

May 1, 2020

City of Chehalis Community Development Department
Tammy Baraconi, Building and Planning Manager
1321 S. Market Blvd.
Chehalis, WA 98532

RE: McDaniel Cellular Telephone Company (US Cellular)
Conditional Use and Variance Application, SEPA Checklist
Site ID: Chehalis Middle School #367377
Location: 1437 Bishop Road/Parcel ID: 017539001001

Dear Ms. King:

On behalf of McDaniel Cellular Telephone Company, (aka US Cellular), we are submitting an application for a new Wireless Communication Facility (WCF) in the Urban Growth Area of the City of Chehalis.

A Table of Contents that itemizes our documentation submitted with this application is provided with this cover letter.

The application fee will be paid via credit card upon receipt of an invoice from your office.

If you need additional information, or have any questions, please let me know.

Sincerely,

Allen R. Potter
541-821-8846
allen@wirelessitetechology.com

cc: Dan MacKinney/WST

CUP and Variance Application
Wireless Communication Facility
US Cellular Site ID: Chehalis Middle School # 367377
Project Location: 1437 Bishop Road, Chehalis, WA

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Permit Application

Submit this form and any required attachments to:

**City of Chehalis
Community Development Department
1321 S. MARKET BLVD.
CHEHALIS WA 98532
(360) 345-2229**

APPLICANT FILL OUT AND SIGN UPPER SECTION:

JOB ADDRESS: 1437 Bishop Road, Chehalis

APPLICANT:

NAME: McDaniel Cellular Telephone Company
 ADDRESS: 8410 West Bryn Mawr Ave.
 CITY/ST/ZIP: Chicago, IL 60631
 PHONE#: (866) 573-4544
 EMAIL: _____

PROPERTY OWNER *(Same as Applicant? Yes No)*

NAME: The Industrial Commission
 ADDRESS: P.O. Box 1501
 CITY/ST/ZIP: Chehalis, WA 98532
 PHONE#: (360) 748-8857 (Tom Bradley)
 EMAIL: tombr@thomasdbradely.com

CONTACT PERSON *(Same as Applicant? Yes No)*

COMPANY NAME: Wireless Site Technology, LLC
 NAME: Allen Potter, Dan MacKinney
 ADDRESS: 9323 N. Government Way #220
 CITY/STATE/ZIP: Hayden, ID 83835
 PHONE #: (541) 821-8846, (208) 699-0237
 EMAIL: allen@wirelessitetech.com

CONTRACTOR *(Same as Property Owner? Yes No)*

COMPANY: (to be determined at a future date)
 CONTRACTOR REGISTRATION #: _____
 ADDRESS: _____
 CITY/STATE/ZIP: _____
 PHONE #: _____
 EMAIL: _____

DETAILED PROJECT DESCRIPTION: dan@wirelessitetech.com

New Wireless Communication Facility including a 150 ft. tall painted monopole antenna support structure and related ground equipment within a 2,500 sq. ft. fenced enclosures with access to the nearest public right of way over a new driveway to an existing access road.

PROJECT VALUE: \$170,000

Verbal comments made during discovery are not binding. Only the plan(s) submitted will be reviewed for compliance with applicable codes. By signing below, I grant permission for City of Chehalis employees to enter and remain on the property for the purpose of review and approval of this proposal and to conduct inspections related to this proposal.

<u>Signature:</u>	<u>Date:</u>
<u>Name (print):</u> Thomas Bradley, The Industrial Commission Dan MacKinney, Wireless Site Technology, LLC for McDaniel Cellular Telephone Co.	<u>Telephone #:</u> (360)748-8857 (208) 699-0237

OFFICE USE ONLY:

Date Received: 5-1-2020 By: DK Date Reviewed: _____ By: _____
 Parcel #: 017539001001 Zoning: LI Flood Zone: No
 Permit #: UGA-VA-20-002 and UGA-SEPA-20-0003



CITY OF CHEHALIS
Community Development Dept.
1321 S Market Boulevard
Chehalis, WA 98532
(360) 345-2229
www.ci.chehalis.wa.us
email: comdev@ci.chehalis.wa.us

Conditional Use/PUD and Variance Application

17.09.115 Conditional use/planned unit development (PUD).

A. A permit to allow a conditional use or a planned unit development (PUD) may be approved when:

1. The use proposed in the application is not listed on the zoning use chart, CMC [17.78.020](#), or any special or environmental district use criteria (Divisions III and IV of this title) as a prohibited use in the zone or district in which the proposed use would be located; and
2. The procedures set forth in CMC [17.09.130](#), notice, have been followed; and
3. The examiner or planning commission has found that the proposed use is consistent with the objectives and purposes of this title and with the comprehensive plan; and
4. The examiner or planning commission has found that the proposed use is compatible with surrounding land uses and with the general character of the district in which it would be located; and
5. In the case of a conditional use permit allowing the continuance or reestablishment of a nonconforming use:
 - a. The nonconforming use possessed substantial value at the time of discontinuance; and
 - b. The owner can demonstrate substantial hardship if the conditional use is denied; and
 - c. No violations of this title nor any public nuisance would be created by the proposal if approved; and
 - d. The overall community will not be materially damaged by grant of the permit.

B. In considering an application for a conditional use permit or a PUD:

1. If the proposed use is identified in the zoning use chart, CMC [17.78.020](#); the shoreline master program (SMP) (Chapter [17.18](#) CMC and Appendix Chapter R); or any special district (Division IV of this title) as a listed conditional use, the burden to demonstrate that the proposal should be denied rests with the public;
2. If the proposed use is not identified in any use chart in this title as a listed conditional use, the burden to demonstrate that the proposal should be approved rests with the applicant.

C. In considering an application for a conditional use or PUD, the examiner or planning commission may impose modifications or conditions on the application necessary to ensure compliance with this title and the comprehensive plan. Such modifications or conditions may relate to the following:

1. Size and location of the site;
2. Street and road capacities in the area;
3. Ingress and egress to adjoining public streets;
4. Location and amount of off-street parking;
5. Internal traffic circulation system;
6. Fencing, screening, and landscaped buffer areas;
7. Building bulk and location;
8. Usable open space;
9. Signs and lighting;
10. Drainage of storm water;
11. Noise, vibration, air pollution and other environmental influences; and
12. Other pertinent factors.

D. All approved site plans relating to conditional uses and PUDs, including modifications and conditions, shall be made a part of the permanent address file and any development permit for the property.

E. No approved conditional use permit or PUD may be modified, enlarged, or expanded in ground area unless the site plan is amended and approved in accordance with any variance procedures applicable to such proposal.

F. A conditional use permit approved by the examiner and issued by the administrator shall expire 90 days from the date of issuance if no substantial activity has occurred to implement the approved proposal. A PUD approved by the planning commission shall expire 180 days from the date of approval if no substantial activity has occurred to implement the approved proposal. [Ord. 720B § 1, 2002.]

17.09.120 Variance.

A. Where unnecessary hardships or practical difficulties resulting from peculiarities of a specific property render it difficult or inequitable to carry out all provisions of this title, the examiner shall have the authority to grant a variance if all the following conditions are met:

1. The variance will not constitute a grant of special privilege inconsistent with the limitation upon development of other properties in the vicinity and zone in which subject property is located; and
2. Such variance is necessary, because of special circumstances relating to the size, shape, topography, location, or surroundings of the subject property, to provide it with development rights and privileges permitted to other properties in the vicinity and in the zone in which the subject property is located; provided, that such unusual circumstances or conditions have not been created by action or acquiescence of the applicant; and
3. The granting of such variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the vicinity and zone in which the subject property is situated; and
4. The granting of such a variance will not be inconsistent with the comprehensive plan; and
5. The variance, if granted, will not alter the essential character of the neighborhood or district in which the property is located, nor substantially or permanently impair the appropriate use or development of any adjacent property.

B. An application for a variance shall be accompanied by a written statement as to how the request is consistent with subsection (A) of this section and the burden of demonstrating such consistency lies with the applicant. In authorizing a variance, the examiner or planning commission may attach thereto such conditions regarding the location, character, or other features of the proposed structures or uses as it may deem necessary to carry out the intent of this title.

C. Unless another time limit is established during the approval process, a variance so authorized shall become void after 90 days if no substantial construction has taken place in accordance with the plans for which the variance was authorized. [Ord. 720B § 1, 2002.]

THE APPLICANT OR A REPRESENTATIVE MUST ATTEND THE PUBLIC HEARING.

A DIMENSIONED SITE PLAN MUST BE ATTACHED TO THIS APPLICATION SHOWING ALL OF THE FOLLOWING ITEMS:

1. Size and location of the parcel.
2. Streets, roads and external traffic flow routes in the area.
3. Ingress and egress routes.
4. Location and amount of both on-street and on-site parking spaces.
5. Internal traffic flow routes.
6. Fencing, screening and landscaped buffer areas.
7. All existing and proposed buildings.
8. Usable open space.
9. Signs and lighting.
10. Drainage flow of storm water.
11. Noise, air pollution and other environmentally sensitive sources/areas.
12. Directional arrow (north)
13. Any other pertinent factors.

A FLOOR PLAN OF ALL STRUCTURES IS ALSO REQUIRED FOR ANY NEW DEVELOPMENT OR CHANGE OF USE/OCCUPANCY.

APPLICATION FEE –

- **Pass through fee for either Conditional Use or Variance: Submittal fee \$200**
- **The applicant is responsible for Hearings Examiner fees over \$200 not to exceed \$500**
- **Fee for Planned Unit Development is \$300**
- **SEPA fee is \$200.**

(NOTE: A conditional use for non-residential development and/or PUD application will require a SEPA checklist and the SEPA fee. Typically, no SEPA is required for Variances)

Receipt # _____ Date received: 5-1-2020 Project #: UGA-VA-20-002 and UGA-SEPA-20-0003

THE PUBLIC HEARING FOR THIS APPLICATION WILL BE held in the Council Chambers located at Chehalis City Hall, 350 N Market Blvd., Chehalis, WA 98532

ANSWER ALL OF THE FOLLOWING QUESTIONS IN COMPLETE DETAIL:

1. WHAT IS THE USAGE OF OTHER SURROUNDING PROPERTIES IN THE VICINITY OF THIS PROPOSAL?

The subject parcel that will accommodate the WCF site is zoned Light Industrial and is currently used for warehousing. Parcels and structures adjacent to the subject parcel have industrial/commercial type uses: GBW Railcar Services to the north/northeast, Wilson & Flegel Central Warehouse to the east, CalPortland to the north, another warehouse building on the parcel to the south, McCallum Rock Drilling further south, and a cemetery on the west side of Bishop Rd.

2. IS THERE A UNIQUE CIRCUMSTANCE RELATIVE TO YOUR PROPERTY, BUT NOT THE REST OF THE NEIGHBORHOOD, THAT MAKES THE CONDITIONAL USE OR VARIANCE NECESSARY? Such as, size, shape, topography, location, surroundings, etc.

The proposed use, a Wireless Communication Facility, is an accessory use in this zone. The proposal, a new WCF, includes a 150 ft. antenna support structure (tower) which exceeds the 30 ft. height limit of the zone. Please see the attached responses to the applicable Variance Code Section 17.09.120.

3. WILL THIS PROPOSAL, IF GRANTED, AFFECT ANY OTHER ADJACENT PRIVATE OR PUBLIC PROPERTY IN ANY PHYSICAL MANNER OR BE MATERIALLY DETRIMENTAL?

The WCF is an unmanned facility that will occupy a small portion of a larger parcel and will be fenced/gated for security. The facility can be found to be compatible with the surrounding area and uses, will not physically affect adjacent private and public property, will not impair permitted and conditional uses on adjacent properties, will not create hazards, or be materially detrimental to those properties.

4. WILL THIS PROPOSAL, IF GRANTED, AFFECT THE VISUAL CHARACTERISTICS OF THE NEIGHBORHOOD? The proposed WCF will include a 150 ft. tall antenna support tower that will be painted a non-reflective color. The surrounding area consists of warehouses and similar industrial uses. Immediately adjacent to this parcel is the CalPortland facility that has a tall silo structure on site. Photo simulations have been provided with the application documents. The proposed use can be found to be similar to other uses in the neighborhood and therefore can be found to visually compatible.

5. WILL THIS PROPOSAL, IF GRANTED, AFFECT THE COMPREHENSIVE PLAN FOR THE ZONE, VICINITY, OR NEIGHBORHOOD? The proposed WCF will not affect the Comprehensive Plan for the area. The use proposed is an accessory use in this zone, Light Industrial, and can be found to be a suitable and compatible use in this area.

6. IS THIS PROPOSAL A CONTINUANCE OR RE-ESTABLISHMENT OF A PRE-EXISTING NONCONFORMING USE? PLEASE EXPLAIN: The proposed WCF is a new use and not a re-establishment of a pre-existing nonconforming use.

7. WILL A SUBSTANTIAL HARDSHIP BE CREATED IF THIS PROPOSAL IS DENIED? The applicant, McDaniel Cellular Telephone Company, is proposing a new WCF to address coverage and capacity needs in this area of Chehalis. Should this proposal be denied, the applicant will not be able to provide quality, reliable and seamless service in the area to its customers that depend on wireless services for personal and business uses. Also local E911 service relies on robust wireless infrastructure to provide critical emergency communication services in and throughout the area.

8. WILL THIS PROPOSAL, IF GRANTED, CREATE A VIOLATION OF THE CHEHALIS MUNICIPAL CODE OR A PUBLIC NUISANCE AS DEFINED BY TITLE 7? The applicant has reviewed the applicable section of the code in reference to public nuisance and believes that the proposed WCF site will not violate this section of the code. The applicant can install, construct and operate the WCF lawfully and within the framework of the Chehalis Municipal Code.

ADDITIONAL COMMENTS: _____

The city may require additional information to explain the nature and scope of the proposal and its impact on the vicinity or neighborhood in sufficient detail to perform the required analysis.

UGA-SEPA-20-0003

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background

1. Name of proposed project, if applicable:
Chehalis Middle School (367377)
2. Name of applicant:
Wireless Site Technology, LLC on behalf of McDaniel Cellular Telephone Company
3. Address and phone number of applicant and contact person:
Dan MacKinney – Wireless Site Technology, LLC
(208) 699-0237
9323 N. Government Way #220
Hayden, ID 83835
4. Date checklist prepared:
04/13/2020
5. Agency requesting checklist:
City of Chehalis Community Development Department
6. Proposed timing or schedule (including phasing, if applicable):
Late 2020 or Early 2021. Anticipated to be a 60-day project with no phasing.
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.
No additions or expansions are proposed at this time.
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.
FCC National Environmental Policy Act (NEPA) Assessment
Visual Impact Assessment
Cultural Resources Survey Report
Phase I Environmental Site Assessment (ESA)
Phase II Environmental Site Assessment
Wetland Assessment Report
9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.
None known.
10. List any government approvals or permits that will be needed for your proposal, if known.
City of Chehalis Community Development Department

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

Wireless Site Technology, LLC on behalf of McDaniel Cellular Telephone Company proposes the construction of a 150-ft above ground level (AGL) monopole communications tower (156-ft AGL overall w/appurtenances), within an associated 50-ft x 50-ft tower compound lease area to be located at 1437 Bishop Road, east of a portion of Bishop Road, west of a portion of Harbein Road, northeast of a portion of Interstate 5, southeast of the City of Chehalis, within Lewis County, Washington (Parcel # 017539001001). A proposed 46-ft x 16-ft gravel parking/vehicle turnaround area will be located immediately north of the proposed 50-ft x 50-ft tower compound lease area. A proposed 20-ft wide access & utility easement will proceed generally east from a portion of Bishop Road along an existing gravel drive for approximately 551-ft before turning south and proceeding for approximately 105-ft before reaching the proposed tower compound lease area. An additional 10-ft wide x approximately 84-ft long utility easement originating at the northeast corner of the aforementioned tower compound lease area will connect to an existing power line located approximately 84-ft north-northeast of the proposed tower centerline.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

**Address: 1437 Bishop Road, Chehalis, WA 98532 [E of Bishop Rd, W of Harbein Rd, NE of I-5]
Tower Coordinates: N 46° 38' 09.68" ±, W 122° 56' 18.61" ±
PLSS: Section 04, Township 13N, Range 2W, Willamette Meridian, Washington
The proposed tower compound will be located on Parcel # 017539001001**

B. Environmental Elements

1. Earth

a. General description of the site:

Proposed tower compound area is sloping to the northwest on an undeveloped maintained grass field.

(circle one): **Flat**, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)?

0 to 5% slope within leasehold and easement areas.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any

agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

According to the USDA Web Soil Survey of Lewis County, WA, the soil of the proposed action area is identified as Lacamas silt loam, 0 to 3 percent slopes, and Xerothents, spoils. Lacamas silt loam, which is shown as the soil type within the majority of the proposed action areas, is described as being poorly drained and is found on floodplains and/or terraces. A typical profile for Lacamas silt loam consists of silt loam from 0 to 17-inches, silty clay from 17 to 27-inches, and clay from 27 to 60-inches. Xerothents, spoils is described as being well drained and found on hills. A typical project for Xerothents, spoils consists of silty clay loam from 0 to 6-inches and silt loam from 6 to 60-inches.

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

None known or observed.

- e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Proposed project requires minimal amount of cut, and spoils will be deposited on-site. Proposed 50-ft x 50-ft compound lease areas, proposed 46-ft x 16-ft gravel vehicle turnaround area, proposed 10-ft wide x ~84-ft long utility easement, and an associated 20-ft wide x ~656-ft long access & utility easement will consist of certified weed-free gravel and will be brought in from local landscape company or gravel supplier (TBD). Anticipated total area of direct effect is approximately 17,196-ft² (approximately 0.40-acres).

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Yes, but erosion will be controlled with proper best management practices (BMPs), including but not limited to silt fencing and straw wattles.

- g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Less than 1% of parent property and less than 10% of tower compound lease area.

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

Construction BMPs, including but not limited to silt fencing and straw wattles.

2. Air

- a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

During construction, equipment/vehicle emissions and dust are expected. Construction should occur over the course of approximately 6-weeks. Upon completion, the facility will be accessed approximately 1-to-2 times every 3-4 months.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

None known.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

None.

3. Water

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

According to the Wetland Assessment report completed by Land Services Northwest, an unnamed 5,797-ft² palustrine seasonally flooded emergent wetland was observed and delineated on the parent property. The parent property wetland was determined to be a Category IV wetland with an overall score of 25 and a habitat score of 7 and is located approximately 150-ft west of the proposed tower centerline.

According to the Wetland Assessment report completed by Land Services Northwest, an unnamed approximately 0.5-acre depressional wetland was observed on the east adjoining property, located approximately 300-ft northeast of the proposed action area(s).

Drainage from the proposed project area is anticipated to flow northwest off-site into Dillenbaugh Creek.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The proposed project areas and subsequent areas of disturbance are approximately 150-ft east of the delineated palustrine seasonally flooded emergent wetland located on the parent property. The observed depressional wetland area observed on the east adjoining property is located approximately 300-ft northeast of the proposed project areas and subsequent areas of disturbance.

According to the City of Chehalis wetland regulations, a 50-ft buffer with a 10-ft building setback is required for Category IV wetlands (see attached Wetland Assessment). Given the distance of the identified wetland (parent parcel) and distance of the observed wetland area (east adjoining parcel) in relation to the proposed project area(s), the proposed project is not anticipated to impact the identified surface water features or their buffer zones.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

N/A

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

No.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

N/A

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Stormwater runoff will flow off-site and presumably follow local topography to the northwest. An existing ditch was observed to the north of the proposed action area and was determined to primarily drain a portion of the parking lot area to the north. The existing northern ditch was determined to be non-jurisdictional, however, the proposed action is not anticipated to impact the existing northern ditch in a way that alters the hydrology of the area. An additional existing ditch was observed along the southern parent property boundary and was determined to primarily drain stormwater runoff and divert it east, where it is then expected to infiltrate to groundwater, except during the highest flows. Drainage from the proposed project area is anticipated to flow off-site into Dillenbaugh Creek.

2) Could waste materials enter ground or surface waters? If so, generally describe.

No.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

Construction BMPs including but not limited to silt fencing and straw waddles to be utilized during construction activities.

4. Plants

a. Check the types of vegetation found on the site:

At the time of inspection, the proposed project areas were primarily occupied by an undeveloped maintained grass field, existing access drive, and a former railroad spur.

deciduous tree

evergreen tree

shrubs

grass

pasture

crop or grain

Orchards, vineyards or other permanent crops.

wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other

water plants: water lily, eelgrass, milfoil, other

other types of vegetation: **hawthorn (*Crataegus monogyna*), curly dock (*Rumex crispus*), Armenian blackberry (*Rubus armeniacus*), thistles (*Cirsium spp.*), and common grasses.**

b. What kind and amount of vegetation will be removed or altered?

The following vegetation was observed within the proposed action areas: hawthorn (*Crataegus monogyna*), curly dock (*Rumex crispus*), Armenian blackberry (*Rubus armeniacus*), thistles (*Cirsium spp.*), and common grasses

c. List threatened and endangered species known to be on or near the site.

The U.S. Fish & Wildlife Service official species list for the proposed action area listed no (0) federally endangered plant species and three (3) federally threatened plant species: golden paintbrush (*Castilleja levisecta*), Kincaid's lupine (*Lupinus sulphureus ssp. Kincaidii*), and Nelson's checker-mallow (*Sidalcea nelsoniana*). The Washington State Dept. of Natural Resources' Rare Plants List identified ten (10) state threatened and endangered plant species that may occur in Lewis County: pale larkspur (*Delphinium leucophaeum*), Oregon coyote-thistle (*Eryngium petiolatum*), thin-leaved peavine (*Lathyrus holochlorus*), Torrey's peavine (*Lathyrus torreyi*), Pacific pea (*Lathyrus vestitus ochropetalus*), Kincaid's sulphur lupine (*Lupinus oregonus kincaidii*), great polemonium (*Polemonium carneum*), Brewer's cinquefoil (*Potentilla breweri*), bristly-stemmed checkermallow (*Sidalcea hirtipes*), and Nelson's checkermallow (*Sidalcea nelsoniana*).

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

None proposed.

e. List all noxious weeds and invasive species known to be on or near the site.

Thistles (*Cirsium spp.*)

5. Animals

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. **None were observed on or within the immediate vicinity of the proposed action area.**

Examples include:

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other _____

- b. List any threatened and endangered species known to be on or near the site.

None were observed on or within the immediate vicinity of the proposed action area. The USFWS Official Species List for the proposed project indicated the possible presence of three (3) federally threatened terrestrial animal species: marbled murrelet (*Brachyremphus marmoratus*), streaked horned lark (*Eremophila alpestris strigata*), and yellow-billed cuckoo (*Coccyzus americanus*). Additionally, one (1) federally proposed endangered terrestrial species: gray wolf (*Canis lupus*), and one (1) federally proposed threatened terrestrial species: North American wolverine (*Gulo gulo luscus*) were identified by the USFWS as potentially occurring within the proposed project area. Further, the Official Species List indicated the possible presence of one (1) federally threatened aquatic species: bulltrout (*Salvelinus confluentus*), however, due to the nature of the proposed project, the proposed action is not anticipated to have the potential to affect any listed aquatic species identified in Lewis County. It is the opinion of TEP that the proposed action will have no effect on the aforementioned endangered or threatened terrestrial animal species and that the proposed action will not threaten the continued existence of the aforementioned proposed endangered or proposed threatened terrestrial animal species.

- c. Is the site part of a migration route? If so, explain.

No.

- d. Proposed measures to preserve or enhance wildlife, if any:

The proposed tower will be under 200-ft tall, will be unlit, will not utilize guy-wires, and will be located in a previously disturbed area within an industrial portion of the City of Chehalis.

- e. List any invasive animal species known to be on or near the site.

None known.

6. Energy and Natural Resources

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Electric: electric power to be provided by and coordinated by/with Lewis County PUD.

- b. Would your project affect the potential use of solar energy by adjacent properties?

If so, generally describe.

No.

- c. What kinds of energy conservation features are included in the plans of this proposal?
List other proposed measures to reduce or control energy impacts, if any:

None.

7. Environmental Health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

None known.

- 1) Describe any known or possible contamination at the site from present or past uses.
It is the opinion of TEP that the proposed project area's former use as a railroad spur in connection with the historical land uses of the parent property represents a possible source of contamination. Contaminants typically found at former railroad sites include petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), metals, and herbicides.
- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.
None known at this time.
- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.
None known.
- 4) Describe special emergency services that might be required.
Working at-height rescue services.
- 5) Proposed measures to reduce or control environmental health hazards, if any:
None.

b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Project will be unaffected by noise.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Short-term noise during construction phase (during regular business hours). Intermittent noise will originate from operation of ground equipment (all hours) when the cooling fan runs but a sound level at the property line of 50dB(A) or less.

3) Proposed measures to reduce or control noise impacts, if any:

None.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The proposed project area is primarily occupied by an undeveloped maintained grass field, existing access drive, and a former railroad spur. The parent property was primarily occupied by an vacant approximately 245-ft x 80-ft industrial structure with an approximately 65-ft x 40-ft attached outbuilding structure. Signage indicated the observed structure was previously occupied by an orientation building for National Frozen Foods. The parent property was also observed to be occupied by a loading bay area, a portion of a former railroad spur, two (2) apparently decommissioned cement mixers, an approximately 25-ft x 15-ft garage structure observed to be filled with mattresses and assorted trash, and a parking area. The adjacent properties were observed to be primarily occupied by commercial and industrial land uses. The proposed project will not affect current land uses within the immediate vicinity or on nearby/adjacent properties.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

N/A

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

No.

c. Describe any structures on the site.

None within proposed lease area or easement areas.

d. Will any structures be demolished? If so, what?

None known.

e. What is the current zoning classification of the site?

**Designated – City Land/Urban
[28 Manf-Chemical]**

f. What is the current comprehensive plan designation of the site?

1. Urban Growth: encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.

g. If applicable, what is the current shoreline master program designation of the site?

N/A

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.
No.

i. Approximately how many people would reside or work in the completed project?
None. Unmanned facility with 1-to-2 site visits every 3-4 months, each consisting of two-or-less hours.

j. Approximately how many people would the completed project displace?
None.

k. Proposed measures to avoid or reduce displacement impacts, if any: **N/A**

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: **Project will be submitted to the City of Chehalis Community Development Department for applicable review and permits.**

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

Project will be submitted to the City of Chehalis Community Development Department for applicable review and permits. At the time of inspection, the proposed project area was observed to be occupied by an undeveloped maintained grass field, existing access drive, and a former railroad spur. The adjacent land uses primarily consist of commercial and industrial operations.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None.

c. Proposed measures to reduce or control housing impacts, if any:

N/A

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Proposed 150-ft AGL (156-ft AGL with appurtenances) monopole communications tower. Equipment shelters and fencing not anticipated to exceed 10-ft AGL. Proposed tower and appurtenances anticipated to be painted to match surrounding area.

b. What views in the immediate vicinity would be altered or obstructed?

A Visual Impact Assessment and site visit completed by TEP personnel on January 28, 2020 indicated that the proposed tower will be visible from most publicly accessible areas to the north, south, and east of the proposed tower centerline. The assessment indicated that the proposed tower will be visible from Bishop Rd., SW Interstate Ave., Interstate 5, Sturdevant Rd., and most other publicly accessible portions to the North, South, and East within a 0.25-mile radius of the proposed project area. Existing topography and vegetation obscured the view from other portions (N, W, E) between approximately 0.25-miles to 0.5-miles from the site.

- b. Proposed measures to reduce or control aesthetic impacts, if any:

Proposed tower will be <200-ft AGL. Based on the Visual Impact Assessment and site visit completed by TEP personnel on January 28, 2020, the proposed undertaking is not likely to adversely impact local landscape aesthetics as the proposed 150-ft AGL (156-ft AGL overall) monopole tower is anticipated to be unlit, will not utilize guy-wires, will be located in a previously disturbed area within an industrial portion of the City of Chehalis Urban Growth Area, and will be painted to match the surrounding local landscape aesthetics.

11. Light and Glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The proposed tower is anticipated to be an unlit structure, and will be painted and have finishes with low-reflectivity; therefore, is not anticipated to produce significant glare.

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

Unlikely. The proposed tower is not anticipated to produce light or glare that would be considered a safety hazard or interfere with surrounding views.

- c. What existing off-site sources of light or glare may affect your proposal?

None known.

- d. Proposed measures to reduce or control light and glare impacts, if any:

Tower anticipated to be unlit and painted to minimize glare and control light impacts.

12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?

None known. Surrounding land uses are privately owned and zoned commercial/industrial.

- b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None known.

13. Historic and cultural preservation

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe.

None located on or within immediate vicinity of proposed lease/easement areas. One (1) NRHP-eligible cemetery was identified within the 0.5-mile visual area of potential effects (APE). Fern Hill Cemetery (41390) was identified as a “determined eligible” (NRHP-eligible) historic property due to its age and local significance.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

One (1) potentially historic railroad was observed during pedestrian survey and subsurface testing. The abandoned railroad was observed to be transecting the proposed access & utility easement, approximately 125-ft north of the proposed tower centerline. A Cultural Resource Assessment (including archaeology) was completed for the site. Additionally, TEP is in the process of completing the Native American consultation via the FCC’s Tower Construction Notification System (TCNS) and no areas of cultural importance have been identified to date.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

TEP performed a search of the Washington Information System for Architectural & Archaeological Records Data (WISAARD) online database GIS Service and the National Park Service’s NRHP online database on 01/20/2020 to determine whether any historic properties were located within a 0.5-mile radius. One (1) NRHP-eligible cemetery was identified within the 0.5-mile Visual APE. Mr. Garrett Johnson, a Secretary of the Interior qualified archaeologist, completed a field survey and archaeological assessment of the proposed project area on 01/27/2020, and one (1) historic feature (abandoned railroad) was observed within the proposed project area. TEP has sent correspondence to all the applicable tribes with known ancestral and/or aboriginal rights to Lewis County, WA; as per FCC TCNS. Further, TEP has received concurrence from the Washington State Department of Archaeology and Historic Properties (WA SHPO) on March 30, 2020.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

None known. One (1) historic property was identified within the visual APE. Fern Hill Cemetery (41390) is considered NRHP-eligible due to the age of the cemetery and the local significance of the individuals buried there. The proposed tower will be visible from Fern Hill Cemetery, however, it is the opinion of TEP that the proposed project will have no adverse effect on the identified site. TEP has sent correspondence to all the applicable tribes with known ancestral and/or aboriginal rights to Lewis County, WA; as per FCC TCNS. Further, TEP received concurrence of its findings from the WA SHPO on March 30, 2020.

14. Transportation

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

A proposed 20-ft wide access & utility easement will proceed generally east from a portion of Bishop Road along an existing gravel drive for approximately 551-ft before turning south and proceeding for approximately 105-ft before reaching the proposed tower compound lease area. Equipment laydown areas, pull-off areas, and proposed ground disturbance will only take place within the designated lease and easement areas. An additional 10-ft wide x approximately 84-ft long utility easement originating at the northeast corner of the aforementioned tower compound lease area will connect to an existing power line located approximately 84-ft north-northeast of the proposed tower centerline.

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

None known.

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

None. A proposed 46-ft x 16-ft gravel vehicle turnaround area will be located immediately north of the proposed compound lease area.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). **No.**

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

After construction is complete, vehicles will access the site 1 to 2 times every 3-4 months.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No.

- h. Proposed measures to reduce or control transportation impacts, if any:

Traffic to and from the site will be minimal after construction is completed. No additional measures are proposed.

15. Public Services

15. Public Services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

Public services that would be needed for the site are emergency services (police & fire), which already exist in the area, near Chehalis, WA.

- b. Proposed measures to reduce or control direct impacts on public services, if any.

None.

16. Utilities

- a. Circle utilities currently available at the site:

electricity, natural gas, **water**, refuse service, telephone, sanitary sewer, septic system, other _____

None known.

- c. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Electric power to be installed to tower site – Lewis County Power Utility District

Telecommunications fiber optics to be installed to tower site – Noanet

[All utility installation to take place within designated access & utility easement.]

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: *Dan MacKinney*

Name of signee Dan MacKinney

Position and Agency/Organization Consultant to McDaniel Cellular Telephone Company/
Wireless Site Technology, LLC

Date Submitted: May 1, 2020

D. Supplemental sheet for nonproject actions

(IT IS NOT NECESSARY to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Proposed measures to avoid or reduce such increases are:

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

3. How would the proposal be likely to deplete energy or natural resources?

Proposed measures to protect or conserve energy and natural resources are:

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

Proposal Narrative and Site Description

Site ID: US Cellular/Chehalis Middle School #367377

Site Location: 1437 Bishop Road, Parcel ID: 017539001001

McDaniel Cellular Telephone Company, commonly known as US Cellular, is proposing to install, construct and operate a new Wireless Communication Facility (WCF) on private property in Chehalis, Washington. The site location is in a Light Industrial zoned area in the Chehalis Urban Growth Area. The subject parcel is 4.48 acres with a warehouse building in the center south portion, landscaping on the west third of the parcel, generally graveled area north of the building and a grassy area on the east third. Utility poles run along most of the eastern parcel line. CalPortland is to the north. GBW Railcar Services is to the north/northeast. Allied Mineral Products is to the east. A warehouse building is to the immediate south with McCallum Rock Drilling and substation further south on Sturdevant Rd. Fern Hill Cemetery and Baydo's RV sales are across Bishop Rd. to the west.

The proposed facility will be located in the southeast quadrant of the parcel on a 2500 sq. ft. leased site easement within a larger parcel approximately 625' from Bishop Rd., 700' from Sturdevant Rd., and 600' from Haben Rd. This proposed site is in a flat and grassy. The facility will be accessed from a new driveway extension from the existing access road on the property with access to the nearest public right of way (Bishop Rd.). The facility will consist of a 150 ft. tall painted monopole tower support structure along with related ground based equipment. The facility will be fenced and gated for security, 7' high chain link topped by three (3) strands of barbed wire. An approximately 12' gravel driveway will be extended from the existing gravel road to the facility. A minimum of one parking space is provided in the graveled parking area outside the north facility fence (see Zoning plan sheet, Z-3).

In addition to being well-situated to meet RF engineering objectives, this project tower is located in an industrial area distant from public R/W's. The project requires no additional infrastructure development by the City of Chehalis or Lewis County and is compatible with surrounding uses, namely warehouses and industrial uses. The WCF will be an unmanned facility and will not increase traffic or cause any conflicts with existing uses on the subject property or in the general area.

See below exhibits.

Exhibit 1, Vicinity Aerial View, for location of the proposed WCF.

Exhibit 2, Site Plan, plan set Sheet Z-1 for the facility location and access on the parcel.

Exhibit 3, Compound Detail, plan set Sheet Z-2 for detail facility layout.

Exhibit 4, Tower Elevation, plan set Sheet Z-3 for a one line drawing of the tower, antennas & facility.

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Exhibit 1, Vicinity Aerial Map

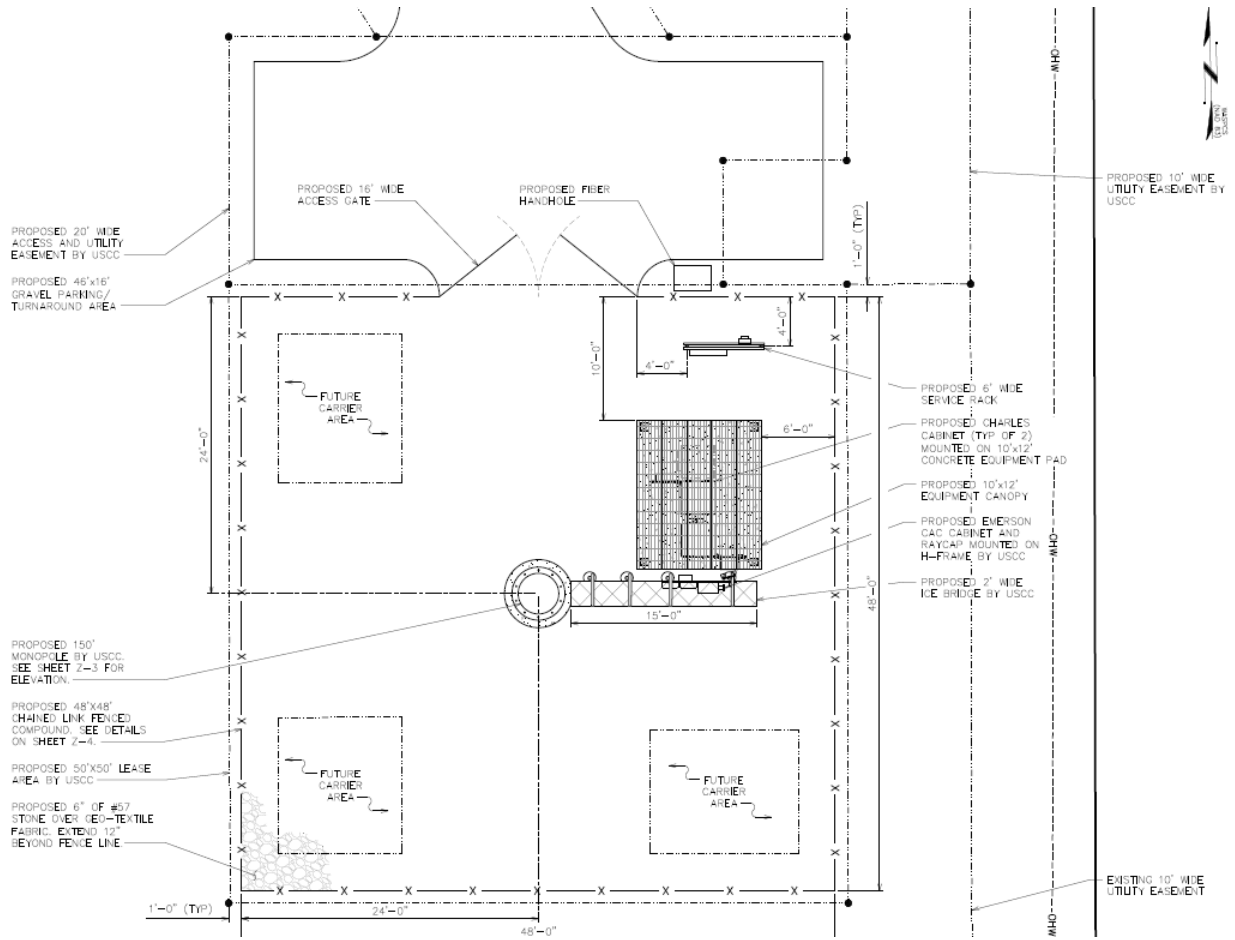


Exhibit 3, Compound Detail

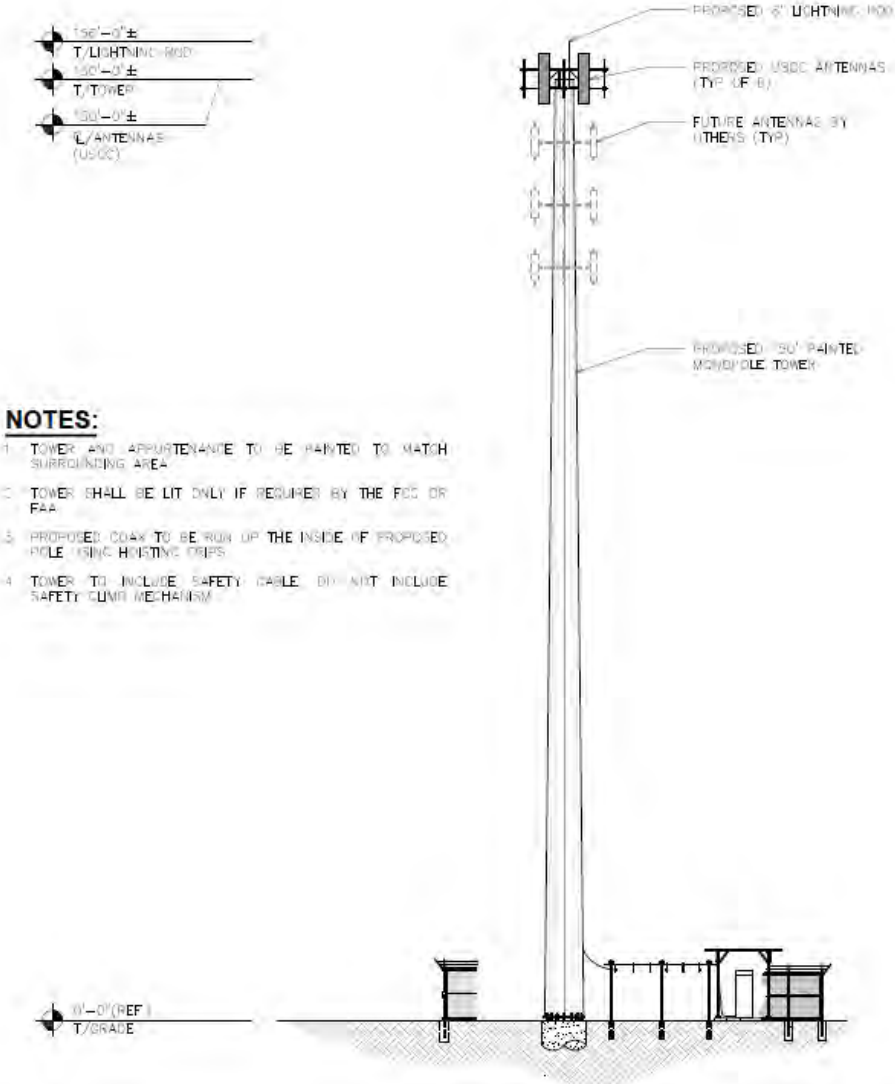


Exhibit 4, Tower Elevation

17.09.115 Conditional use/planned unit development (PUD).

Applicant Responses are in Bold/*italics*.

A. A permit to allow a conditional use or a planned unit development (PUD) may be approved when:

1. The use proposed in the application is not listed on the zoning use chart, CMC 17.78.020, or any special or environmental district use criteria (Divisions III and IV of this title) as a prohibited use in the zone or district in which the proposed use would be located; and
2. The procedures set forth in CMC 17.09.130, notice, have been followed; and
3. The examiner or planning commission has found that the proposed use is consistent with the objectives and purposes of this title and with the comprehensive plan; and
4. The examiner or planning commission has found that the proposed use is compatible with surrounding land uses and with the general character of the district in which it would be located; and
5. In the case of a conditional use permit allowing the continuance or reestablishment of a nonconforming use:
 - a. The nonconforming use possessed substantial value at the time of discontinuance; and
 - b. The owner can demonstrate substantial hardship if the conditional use is denied; and
 - c. No violations of this title nor any public nuisance would be created by the proposal if approved; and
 - d. The overall community will not be materially damaged by grant of the permit.

Response:

The proposal is to install, construct and operate a new Wireless Communication Facility (WCF) on private property in the Light Industrial Zone in the City of Chehalis Urban Growth Area. Chapter 17.72 I-L Light industrial provides for the approval of this use as an allowed use.

Chapter 17.72.010 Uses.

C. Accessory uses and temporary uses listed in CMC 17.78.020, Use chart adopted, are allowed in an I-L zone if they are consistent with all applicable provisions of this title.

The use, per the Use Chart in section CMC 17.78.020 is found and noted as Code: U205, Antenna Tower over 30 feet high, and is found to be an Accessory Use in the I-L zone.

Therefore, as noted in 17.72.010 Uses C, the proposed WCF can be found to an allowed use in the I-L zone if consistent with all applicable provisions of this title.

The proposed use is an unmanned, passive use facility. The proposed use can be found to be consistent with the objectives and purposes of this title and with the comprehensive plan; to be compatible with surrounding land uses and with the general character of the district in which it will be located; and will be a benefit to the overall community at large through the provision of robust wireless broadband services to the public and emergency services.

B. In considering an application for a conditional use permit or a PUD:

1. If the proposed use is identified in the zoning use chart, CMC 17.78.020; the shoreline master program (SMP) (Chapter 17.18 CMC and Appendix Chapter R); or any special district (Division IV of this title) as a listed conditional use, the burden to demonstrate that the proposal should be denied rests with the public;
2. If the proposed use is not identified in any use chart in this title as a listed conditional use, the burden to demonstrate that the proposal should be approved rests with the applicant.

Response:

The proposal for a WCF in this zone that will exceed 30 ft. in height is an allowed use that will require a Conditional Use Permit, but will not require a public hearing because the use is an Accessory Use. (per planning staff email correspondence dated 2/6/20); However, due to the height of the proposed WCF support structure of 150 ft. in height, a Variance request will be required and will require a public hearing. A Variance request application has been submitted as part of this proposed use application documents.

C. In considering an application for a conditional use or PUD, the examiner or planning commission may impose modifications or conditions on the application necessary to ensure compliance with this title and the comprehensive plan. Such modifications or conditions may relate to the following:

1. Size and location of the site;
2. Street and road capacities in the area;
3. Ingress and egress to adjoining public streets;
4. Location and amount of off-street parking;
5. Internal traffic circulation system;
6. Fencing, screening, and landscaped buffer areas;

7. Building bulk and location;
8. Usable open space;
9. Signs and lighting;
10. Drainage of storm water;
11. Noise, vibration, air pollution and other environmental influences; and
12. Other pertinent factors.

Response:

The applicant is proposing a new WCF site that will occupy a small open space portion of a larger parcel and will have access for ingress and egress to the nearest public right of way. It is significantly setback from any public streets and adjacent to open spaces on abutting parcels. The tower is setback from adjacent parcel lines by approximately 45', 45' and 175', and the R/W by 625'. The facility will be fenced and gated for security and will not be accessible by the public. A site technician will visit the site for routine maintenance on a regular basis, approximately once every 3-4 months. The applicant retains the right to access the site 24/7 in the event of an emergency.

No signage is proposed at the facility other than required FCC notices and site owner contact information. The tower will be unlit. An FAA Determination of No Hazard to Air Navigation is included with the application documents. The facility compound will not impact surface drainage patterns. A wetland study has been provided with the application documents. The use does not create significant noise, vibrations, air pollution or any other environmental influences. The applicant can comply with all applicable building code requirements that apply to this facility.

A complete zoning plan set is provided with this application with details of the site design.

D. All approved site plans relating to conditional uses and PUDs, including modifications and conditions, shall be made a part of the permanent address file and any development permit for the property.

Response:

A complete zoning plan set is provided with this application with details of the site design that can be made part of the permanent file for this development.

E. No approved conditional use permit or PUD may be modified, enlarged, or expanded in ground area unless the site plan is amended and approved in accordance with any variance procedures applicable to such proposal.

Response:

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The applicant accepts this provision.

F. A conditional use permit approved by the examiner and issued by the administrator shall expire 90 days from the date of issuance if no substantial activity has occurred to implement the approved proposal. A PUD approved by the planning commission shall expire 180 days from the date of approval if no substantial activity has occurred to implement the approved proposal. [Ord. 720B § 1, 2002.]

Response:

The applicant accepts this provision.

17.09.120 Variance.

Applicant Responses are in Bold/*italics*.

A. Where unnecessary hardships or practical difficulties resulting from peculiarities of a specific property render it difficult or inequitable to carry out all provisions of this title, the examiner shall have the authority to grant a variance if all the following conditions are met:

1. The variance will not constitute a grant of special privilege inconsistent with the limitation upon development of other properties in the vicinity and zone in which subject property is located; and

Response:

The applicant is proposing to install, construct and operate a new Wireless Communication Facility (WCF) that will include a tower support structure that will be 150 ft. tall. The proposal exceeds the height limit of 100 ft. in this zone for a Permitted, Accessory, Conditional or Temporary Use. This request is necessary so that the applicant, McDaniel Cellular Telephone Company - commonly known as US Cellular, can provide coverage and capacity to its customers, EMS personnel and E911 services in this part of Chehalis. The facility will resolve issues with the current operations of the cellular network.

This request does not convey a special privilege to the applicant that is inconsistent with other development potential in the area. The proposed height of the new support structure is the minimum height necessary to achieve efficient wireless capacity/coverage in the area. The applicant has provided a statement from the US Cellular RF engineer that describes in detail the issues and the need for this new WCF along with data demonstrating that a tower constrained to the height limit of the I-L zone does not serve the applicant's site service objectives, and furthermore would possibly require the development of additional WCF's to resolve service issues.

2. Such variance is necessary, because of special circumstances relating to the size, shape, topography, location, or surroundings of the subject property, to provide it with development rights and privileges permitted to other properties in the vicinity and in the zone in which the subject property is located; provided, that such unusual circumstances or conditions have not been created by action or acquiescence of the applicant; and

Response:

The request for the Variance is necessary because the applicant has determined that a tower support structure is needed at this location and must be at least 150 ft. tall in order to provide effective wireless service to the area providing coverage and capacity while also resolving network issues created by the volume of use and lack of a WCF in the area. No unusual circumstances or conditions have been created by action or acquiescence of the applicant.

3. The granting of such variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the vicinity and zone in which the subject property is situated; and

Response:

The proposed WCF is an unmanned facility that will be gated and fenced for security. The facility can be found to be compatible with the surrounding area and will not create hazards or cause conflicts with other properties, developments or uses in the area. The granting of the variance will not be materially detrimental to, but be beneficial to, the public welfare through facilitating the provision of reliable and robust wireless services.

4. The granting of such a variance will not be inconsistent with the comprehensive plan; and

Response:

The proposed WCF will not be inconsistent with the Comprehensive Plan for this area. The use proposed is an accessory use in this zone, LI, and can be found to be a suitable and compatible use in this area. The additional height requested does not change the uses consistency with the goals, intents and objectives of the Comprehensive Plan.

5. The variance, if granted, will not alter the essential character of the neighborhood or district in which the property is located, nor substantially or permanently impair the appropriate use or development of any adjacent property.

Response:

The proposal and this request for a Variance to allow for the tower height of 150 ft. will not alter the character of this immediate area, the neighborhood or district. The additional height requested by the variance does not essentially change the impact of this allowed use, but does permit the facility to be functionally adequate.

The area is industrial in nature and the proposed WCF will blend with the existing uses, namely, warehouses and industrial uses. The proposed WCF is located on the parcel adjacent to CalPortland which has a tall silo on its property. See the photo simulations provided with the application documents for anticipated views of the tower from various vantage points. Also see the aerial view in the Proposal Narrative and Site Description document provided to see the placement of the facility among other industrial uses. The WCF, nor the additional height requested, will not substantially impact or impair the use or development of allowed uses on adjacent properties.

B. An application for a variance shall be accompanied by a written statement as to how the request is consistent with subsection (A) of this section and the burden of demonstrating such consistency lies

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US Cellular Site ID: Chehalis Middle School # 367377
Project Location: 1437 Bishop Road, Chehalis, WA

with the applicant. In authorizing a variance, the examiner or planning commission may attach thereto such conditions regarding the location, character, or other features of the proposed structures or uses as it may deem necessary to carry out the intent of this title.

Response:

The applicant has addressed and responded to subsection (A), above and within this document, as well as in the Variance application form submitted with this application.

C. Unless another time limit is established during the approval process, a variance so authorized shall become void after 90 days if no substantial construction has taken place in accordance with the plans for which the variance was authorized. [Ord. 720B § 1, 2002.]

Response:

The applicant accepts this provision.

US Cellular Cell Tower Wetland Assessment Report Chehalis, WA

Prepared for
Tower Engineering
Thornton, CO
April 29, 2020



Prepared by
Land Services Northwest
120 State Avenue NE #190
Olympia, WA 98501
360.481.4208

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Executive Summary

Site Name: US Cellular Cell Tower

Site Location: 1437 Bishop Road, Chehalis, WA

Acreage, Parcel Number, and Legal Description: 4.8 acre, 017539001001, Section 04 Township 13N Range 02W PT L JOHNSON DLC ELY BISHOP CO RD

Project Staff: Alex Callender, PWS

Field Survey Conducted: February 26, 2020

Project Description: The project proposes a monopole cellular tower for cellular phone and an associated access easement for cellular communications. In order to cross the northern ditch an anticipated 1-foot culvert will be installed for transmission of stormwater under the access easement.

Findings: Onsite Wetland A, Offsite Wetland B and on and offsite ditches were discovered during the reconnaissance. Onsite wetlands and ditches were delineated and the wetlands were rated with the Wetland Rating System for Western Washington (Hruby, 2008).

It was determined that Wetland A is a Category IV wetland with an overall score of 25 and a habitat score of seven. Wetland B is likely an offsite Category IV wetland with an overall score 26 and a habitat score of eight. The characteristics of Wetland B were deduced from observations made from the subject property and review of online resources like the soil survey, NWI mapper, etc because we were not authorized to perform site reconnaissance or delineate wetlands on properties not owned or being leased by the subject property owner, parent property owner, or the Client.

According to Chehalis Municipal Code (CMC), Category IV Wetlands with a low habitat score (<20) carry a fifty-foot buffer with a 10 – foot building setback.

Impacts: No impacts to Wetland A or B or their buffers are expected. The northern ditch will have an anticipated 15x 1 foot culvert installed to enable storm flows to continue under the new access easement

1.0 INTRODUCTION

This report is the result of a critical areas study of the 4.8 - acre parcel # 017539001001 at 1437 Bishop Road with the legal description of Section 04 Township 13N Range 02W PT L JOHNSON DLC ELY BISHOP CO RD in Lewis County, Washington (**Figure 1**). The purpose of this report is to 1) identify and describe the wetlands or other critical areas on-site and within 315 ft off-site of the property 2) identify impacts to wetlands or critical areas and their buffers, and 3) apply mitigation and conservation measures to off-set any critical areas or buffer impacts.

This report was prepared to satisfy the critical areas review process required by the Chehalis Development Regulations Chapter 17.23.020 Review and Reporting Requirements.

The city of Chehalis, Lewis County and possibly other agencies that may evaluate impacts to critical areas from the proposed project will be able to utilize information in this report.



Figure 1-Vicinity Map, Parcel # 017539001001

2.0 GENERAL DESCRIPTION AND LAND USE

2.1 Historical and Current Land Use

Historically, the property has been a warehouse commercial use with a driveway, a decommissioned rail line and outbuildings (Figure 2).



Figure 2 - Current Conditions

3.0 METHODOLOGY

3.1 Existing Information Review

Background information on possible wetlands was reviewed prior to field investigations and included the following:

National Wetlands Inventory (NWI) Map, USFWS Shapefile Data (**Appendix B**)

Lewis County Area Soil Survey, Soil Conservation Service (U.S. Department of Agriculture, 1973) National Resource Conservation Service Shapefiles (NRCS Soils Data Mart, 2006) (**Appendix C**)

USGS 7.5 Minute Quadrangle Topographic Maps (**Appendix E**)

Washington Department of Fish and Wildlife Priority Habitats and Species Database (**Appendix G**)

Washington Department of Fish and Wildlife Salmonscape (**Appendix H**)

NOAA NOW Precipitation Data (**Appendix I**)

Washington Department of Natural Resources Natural Heritage Database

United States Hydric Soils List (U.S. Department of Agriculture 1991)

City of Chehalis Municipal Code 17.23

3.2 Analysis of Existing Information

The following existing information was reviewed to gain a better understanding of on-site conditions and its position in the landscape.

National Wetland Inventory (NWI) Map

The National Wetland Inventory (NWI) map (**Appendix B**), developed by the U.S. Fish and Wildlife Service (USFWS), shows a Palustrine Emergent Seasonally Flooded wetland (Cowardin Classification) to the south and east on and off site.

NRCS Soils Map

The Natural Resources Conservation Service (NRCS) has mapped the site (**Appendix C**) as containing:

Lacamas Soil Series

The Lacamas series consists of very deep, poorly drained soils formed in mixed alluvium weathered from glacial and sedimentary sources. Lacamas soils are on glacial terraces and footslopes and have slopes of 0 to 8 percent. The average annual precipitation is about 55 inches and average annual temperature is about 50 degrees F.

TAXONOMIC CLASS: Fine, mixed, superactive, mesic Typic Glossaqualfs

TYPICAL PEDON: Lacamas silt loam, pasture.

TYPE LOCATION: Lewis County, Washington; about 2.5 miles southwest of Ethel, 25 feet west of north-south fence, 25 feet north of highway ditch 130 feet north and 2,240 feet west of the southeast corner of section 15, T.12N., R.1W.

DRAINAGE AND PERMEABILITY: Poorly drained; medium runoff to ponded; slow permeability in the lower Btg horizon. A perched water table is from the surface to 0.5 feet from November to May unless drained.

USE AND VEGETATION: Used for woodland and pasture. Drained areas are used for hay, pasture, and small grains. Native vegetation is Douglas- fir, red alder, western hemlock, western red cedar, and Oregon ash, with an understory of hardhack, rose, salal, vine maple, western brackenfern, longtube twinflower, violet, trailing blackberry, red huckleberry, salmonberry, western hazel, and insideout flower.

Prather Soil Series

The Prather series consists of very deep, moderately well drained soils formed in weathered glacial drift derived from basic igneous rocks. Prather soils are on terraces and have slopes of 0 to 30 percent. The average annual precipitation is about 55 inches and average annual temperature is about 50 degrees F.

TAXONOMIC CLASS: Fine, mixed, superactive, mesic Aquic Palexeralfs

TYPICAL PEDON: Prather silty clay loam - forest. (Colors are for moist soil unless otherwise stated. Profile was moist when described. All textures are apparent field textures.)

TYPE LOCATION: Lewis County, Washington; near the Logan Hill Grange; 150 feet east and 900 feet north of the south 1/4 corner of sec. 5, T. 13 N., R. 1 W.

RANGE IN CHARACTERISTICS: The solum thickness ranges from 40 to more than 60 inches and the soil thickness overlying slow or very slowly permeable horizons ranges from 20 to 30 inches. Depth to mottles with chroma of 2 or less ranges from 20 to 30 inches. The average annual soil temperature at a depth of 20 inches ranges from 47 to 55 degrees F. These soils are usually moist but they are dry in all parts between depths of 4 and 12 inches for 45 to 60 consecutive days within the 3 months following the summer solstice. The particle-size control section contains 35 to 60 percent clay and is typically silty clay but is silty clay loam or clay in some pedons. Base saturation, by sum of cations, is 35 to 55 percent at depth of 1.25 meters below the upper boundary of the argillic horizon. These soils have 10YR or 7.5YR hue throughout the A, AB, and upper Bt horizons.

GEOGRAPHIC SETTING: Prather soils are on nearly level to moderately steep upland terraces and till plains at elevations of 200 to 1000 feet. The soils formed in very strongly weathered ancient glacial drift deposits derived from basic and acid igneous rocks. The climate is a marine-type having cool dry summers and mild wet winters. Average annual precipitation is 40 to 60 inches. Average annual temperature is 50 degrees F. The average January temperature is 39 degrees F; average July temperature is 65 degrees F. The frost-free season ranges between 150 and 200 days.

DRAINAGE AND PERMEABILITY: Moderately well drained; slow to medium runoff; moderate permeability to the upper 2 feet, slow below about 2 feet. Water stands within 1 and 3.0 feet of the soil surface during the winter.

USE AND VEGETATION About half of the Prather soils are in woodland and half are used for cropland. Small grain, pasture, hay, and corn for silage are common crops. Native vegetation is Douglas-fir, western hemlock, red alder, western redcedar, and bigleaf maple, with an understory of salal, Oregon-grape, western brackenfern, western swordfern, vine maple, red huckleberry, trailing blackberry, trillium, Oregon oxalis, Pacific dogwood, bedstraw, longtube twinflower, creambush oceanspray and deer fern.

[USGS 7.5 Minute Topo Map](#)

The USGS has topographical maps that depict natural and artificial features on the landscape including wetlands. This map does not show any features in this area. (**Appendix D**).

[WDFW Priority Habitats and Species Inventory](#)

The Department of Fish and Wildlife maintains an inventory of priority habitats and species information (**Appendix H**). This database shows the big brown bat (*Eptesicus fuscus*) breeding area as occurring within 330 feet of the subject property. There are no major snags which would be utilized for this purpose, however there are large warehouses, which may be utilized for breeding and the area is probably popular for feeding on the macroinvertebrates that are using the wetlands in the area. No other priority habitats or species were found or discovered within 330 feet of the subject property.

[NOAA NOW Precipitation Data](#)

NOAA maintains a database that graphs the current precipitation against the wettest, driest, and normal accumulations of record. This data shows that the precipitation since January 1, 2020 has been some of the highest recorded from the Mayfield Station. which is due east of the subject property. Even with the wet weather, the property was not exhibiting excessive flooding and there were no extraordinary measures utilized to normalize the situations.

3.3 Field Investigation

[Determination Guidelines](#)

Land Services Northwest personnel based the wetland identification and delineation upon the 1987 Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the regional specificity found in Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (USACE, 2010). Generally, as outlined in the manuals, wetlands are distinguished from other landforms by three criteria: 1) hydrophytic vegetation, 2) hydric soils, and 3) wetland hydrology.

[General Field Guidelines](#)

Plant species were identified according to the taxonomy in *Flora of the Pacific Northwest* (Hitchcock and Cronquist, 1973), and the wetland status of plant species was assigned according to: *The National Wetland Plant List: 2016* (Lichvar, 2016). Wetland classes were determined by the U.S. Fish and Wildlife Service's system of wetland classification (FGDC, 2013). The wetland determination was based mainly on soils, vegetation, and hydrology characteristics indicative of wetland conditions.

The Corps Manual and Supplement describes soil, vegetation, and hydrological indicators of wetlands. A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (National Technical Committee for Hydric Soils, 1994). Anaerobic conditions cause redoximorphic features to develop, which can be

evidenced through the observation of mottling or gleying in the soil. Soils are hydric if they match the indicators in the supplement or meet the technical definition.

A soils evaluation was performed to determine if the area contained hydric soils. Additional test plots were sampled to gage possible wetland indicators and characteristics. Soils are normally excavated to 18 inches or more below the surface within a test pit to evaluate soil characteristics and hydrological conditions in both wetland and upland areas. Soil chroma (color) is evaluated using the *Munsell Color Chart* (Munsell Color, 1988).

The COE describe a wetland rating system for plants. Each plant species is assigned a probability of occurrence within wetlands, which is referred to as its wetland status. The wetland plant indicator system is as follows:

Table 1 Indicator Status Ratings

Indicator Status	Abrv.	Definitions - Short Version (ERDC/CRREL TN-12-1)
Obligate	OBL	Almost always occur in wetlands.
Facultative Wetland	FACW	Usually occur in wetlands, but may occur in non-wetlands.
Facultative	FAC	Occur in wetlands and nonwetlands.
Facultative Upland	FACU	Usually occur in non-wetlands, but may occur in wetlands.
Upland	UPL	Almost never occur in wetlands.
		(USACE, 2016)

In general, under the Federal methodology, more than 50 percent of the predominant plant species within a test plot must be rated FAC or wetter (i.e., FACW, OBL) to satisfy the wetland criteria for hydrophytic vegetation. Dominant species are those when ranked comprise 50% of the total or those that have a percent cover greater or equal to 20 percent within the test plot. Only dominant plant species were considered in the data analysis.

If wetland hydrology, including pooling, ponding, and soil saturation, is not clearly evident, hydrological conditions may be observed through surface or soil indicators. Indicators of hydrological conditions include drainage patterns, drift lines, sediment deposition, watermarks, historic records, visual observation of saturated soils, and visual observation of inundation.

3.4 Wetland Study

Field Survey

A wetland reconnaissance was performed on February 26, 2020 to identify wetlands present on the subject property. Observations were made of the general plant communities, wildlife habitats, and the locations of potential streams and wetland areas. Present and past land-use practices were also noted, as were significant geological and hydrological features

Once likely wetland areas were located, the Routine Onsite Determination Method was used to identify the presence of wetland parameters and to delineate the outer edge of the wetlands using the procedures outlined in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987). The Routine Onsite Determination Method was used in areas that maintained normal circumstances, were not significantly disturbed, and were not potential problem areas. A formal wetland delineation was performed on February 26, 2020 to flag and document on-site. The characteristics of Wetland B were deduced from observations made from the subject property and review of online resources like the soil survey, NWI mapper, etc because we were not authorized to perform site reconnaissance or delineate wetlands on properties not owned or being leased by the subject property owner, parent property owner, or the Client.

Test pits were dug on that same day (**Figure 3**) to develop a better understanding of soil profiles onsite. Soils were excavated to 18 inches or more below the surface within a test pit to evaluate soil characteristics and hydrological conditions throughout the site. Soil chroma (color) is evaluated using the *Munsell Color Chart* (Munsell Color, 1988). These results were entered in wetland data sheets (**Appendix G**).



Figure 3 – Test Pit Locations

4.0 RESULTS

4.1 Existing Conditions

The subject property is located in an industrial park and is surrounded by high intensity uses. The property is flat with a slight slope just offsite to the east. There are some ditches which help direct water to the wetlands. They do not appear to be effective at draining the area and are only seasonally wet.

4.2 Wetlands

Two wetlands, labeled Wetland A and B were identified during a reconnaissance and formally investigated on February 26, 2020.

Wetland A

Wetland A is a small (5797 square foot) palustrine seasonally flooded emergent wetland that is the result of stormwater roof runoff from the nearby warehouse building onsite.

- *Plants*
Cattails (*Typha latifolia*:OBL), Douglas spirea (*Spiraea douglasii*; FACW), Soft rush (*Juncus effuses*; FACW) and Himalayan blackberry (*Rubus armeniacus*; FAC) are the primary plants found in the wetland.
- *Soils*
Soils in Wetland A are a black 10YR 3/1 silt loam underlain with a 10YR 4/2 with 10YR 4/6 redoximorphic features with many concentrations. The delineation of the wetland area closely follows the topography of the site where the hydric soils are limited to the lower portion of the depression.
- *Hydrology*
It was shortly after a rainy season, and hydrology was directly observed.

Wetland B

Wetland B appears to be larger Palustrine emergent seasonally flooded wetland that is the result of precipitation and roof runoff from the area warehouses. This wetland was observed from the subject property, but not entirely. The characteristics of wetland B were deduced from observations made from the subject property and review of online resources like the soil survey, NWI mapper, etc because we were not authorized to perform site reconnaissance or delineate wetlands on properties not owned or being leased by the subject property owner, parent property owner, or the Client.

- *Plants*
The plants like Pacific willow (*Salix lasiandra*; FAC), One seeded hawthorne (*Cratageous monogyna*; FAC), Cattails (*typha latifolia*; OBL), reed canary grass (*Phalaris arundanacea*; FACW), and Colonial bentgrass (*Agrostis tenuis*; FAC), dominate.
- *Soils*
Soils in were likely a silt loam. The are has hydric soils according to the Lewis County Soil Survey Map.

- *Hydrology*
Hydrology was observed in some areas from the subject property.

5.0 WETLAND FUNCTIONAL VALUES

5.1 Wetland Functional Analysis Methodology

Wetlands, in general, provide many valuable ecological and social functions, including 1) stormwater storage, 2) groundwater recharge, 3) erosion control, 4) water quality improvement, 5) natural biological support, 6) overall habitat functions, 7) specific habitat functions, and 8) cultural and socioeconomic value.

Several procedures have been developed for assessing the importance and magnitude of functions and include the Washington Functional Assessment Method (WAFAM) Wetland Evaluation Technique, the Hydrogeomorphic Assessment Method the Habitat Evaluation Procedure (HEP), and numerous regional and/or local procedures. However, none of these methods were consistent with the needs of this project.

Wetland functions were also semi-quantitatively assessed using information gathered while performing the ECY Wetland Rating System for Western Washington (Hruby, 2004). The scores from the analysis of the wetland are found in Appendix H. This method is a comprehensive approach requiring substantial data input and assessment of onsite and landscape functions. The descriptions of wetland functions and the factors and parameters considered by that method are very helpful in interpreting the functioning of the subject wetlands and buffer areas. The methodology is scientifically based, in that its application requires a prior understanding of how wetlands function. Advanced experience, training and scientific objectivity of a wetland scientist applying the method is essential for an accurate assessment. Alex Callender has attended and received credit for the training in this method.

5.2 Wetland Functions

Wetland A

Wetland A is a an approximately 5797 square foot mostly disturbed depressional wetland with a slightly constricted outlet.

- *Water quality*
As mentioned previously, Wetland A is slightly constricted and overflows to the neighboring field. Wetland A receives stormwater discharges and a TMDL for the basin, so it rates high for Water Quality Functions.
- *Hydrologic*
Wetland A is only slightly constricted, but receives stormwater, and it drains to an area that experiences flooding so it performs some flooding functions and receives the multiplier.
- *Habitat*
Wetland A is not diverse with one vegetation class - emergent, one hydrologic class - seasonally flooded, and no real complex structure. The area is in an area of high intensity development, and there are no priority habitats or species found within 330 feet of the wetland.

Wetland B

Some of Wetland B was observed, however, aerial interpretation and other online resources allowed us to estimate that it is approximately ½ acre mostly undisturbed depressional wetland with a slightly constricted outlet. The characteristics of wetland B were deduced from observations made from the subject property and review of online resources like the soil survey, NWI mapper, etc because we were not authorized to perform site reconnaissance or delineate wetlands on properties not owned or being leased by the subject property owner, parent property owner, or the Client.

- *Water quality*
As mentioned previously, Wetland B is slightly constricted its outflows offsite. Wetland B has a buildings which discharges stormwater as well as the neighboring parking lot. Wetland B ultimately discharges to the Chehalis River which is subject to a TMDL so it rates high for Water Quality Functions.
- *Hydrologic*
Wetland B is only slightly constricted, but receives stormwater, and it is in an area that experiences flooding so it performs some flooding functions.
- *Habitat*
Wetland B does not appear to be diverse with one vegetation class - emergent, two hydrologic class - seasonally flooded, and saturated only, and no real complex structure. The area is in an area of high intensity development, and there are no priority habitats or species found within 330 feet of the wetland. It is within a mile of other wetlands, but the connections are disturbed.

6.0 REGULATORY CONSIDERATIONS

The subject property is in the Chehalis UGA and the City of Chehalis has an agreement to regulate critical areas in this zone.

6.1 City of Chehalis Regulations

Wetland A and B

Wetland A is rated as a Category IV wetland with a low habitat functional score of seven. Wetland B is a Category IV wetland with a low habitat functional score of eight. According to the table below, Category IV wetlands with a low habitat score have a fifty-foot standard buffer.

C. Buffer Dimensions.

	Low Wildlife Function (less than 20 points)	Moderate Wildlife Function (20 – 26 points)	High Wildlife Function (27 or more points)

Wetland Category	Buffer Width (feet)		
	Category IV	50	50
Category III	80	100	1501
Category II	100	150	See table in subsection (D) of this section
Category I	100	150	See table in subsection (D) of this section

City of Chehalis Code has relief from the standard buffer using buffer averaging, however this will not be necessary as there is area to build without impacting the wetland or its buffer.

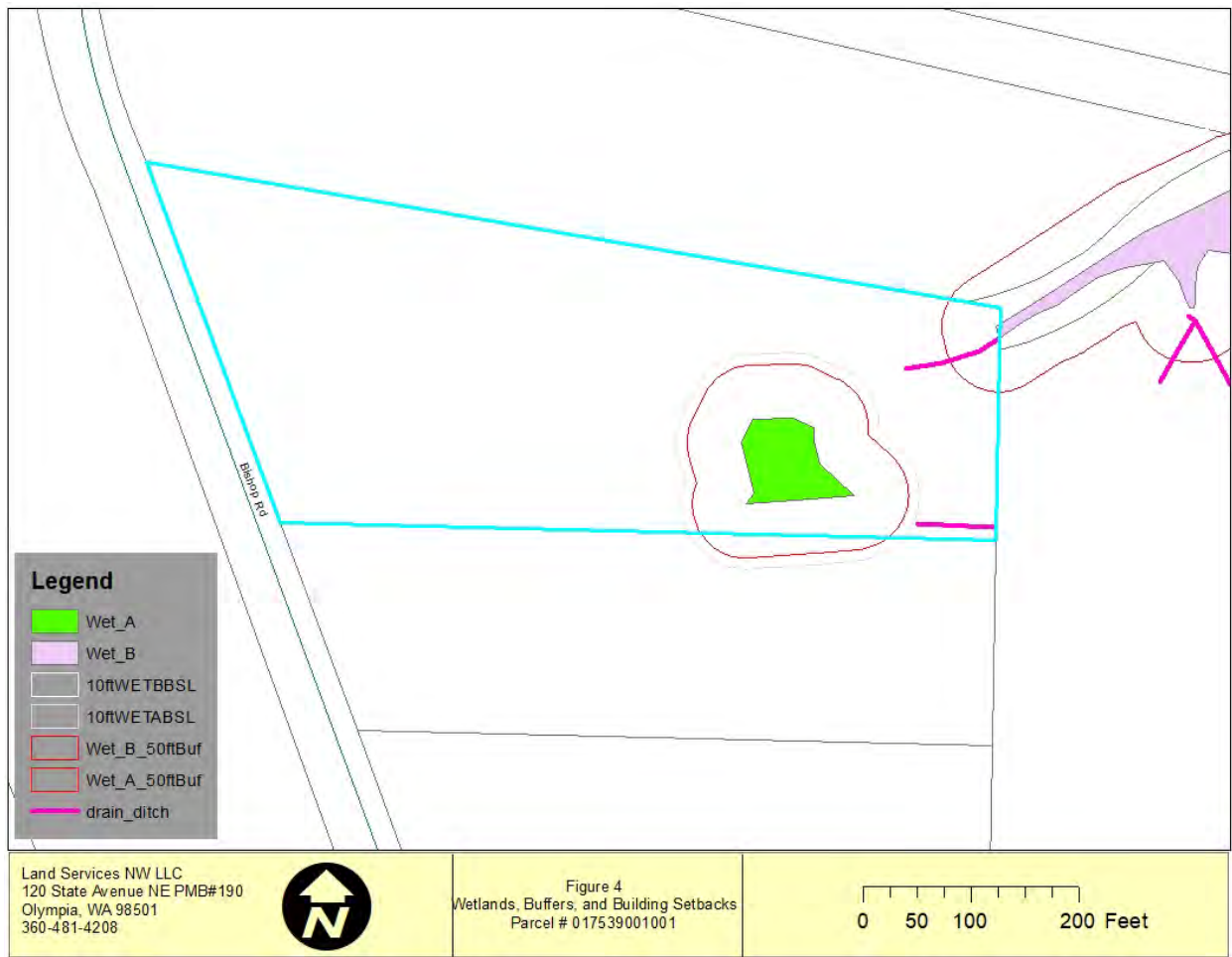


Figure 4 - Wetlands, Buffers, and Building Setbacks

7.23.052 Allowed activities in wetlands and buffers.

The following uses and activities may be allowed in wetlands or buffer areas subject to the priorities, protection, and mitigation requirements of this section:

A. Utility lines and facilities providing local delivery service, not including facilities such as electrical substations, water and sewage pumping stations, water storage tanks, petroleum products pipelines and not including transformers or other facilities containing hazardous substances, may be located in Category II, III, and IV wetlands and their buffers and/or Category I wetland buffers if the following criteria are met:

1. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location within a wetland buffer shall be preferred over a location within a wetlands.
2. The utility line is located as far from the wetland edge as possible and in a manner that minimizes disturbance of soils and vegetation.
3. Clearing, grading, and excavation activities are limited to the minimum necessary to install the utility line, which may include boring, and the area is restored following utility installation.
4. Buried utility lines shall be constructed in a manner that prevents adverse impacts to subsurface drainage. This may include the use of trench plugs or other devices as needed to maintain hydrology.

B. Public and private roadways and railroad facilities, including bridge construction and an anticipated culvert installation, if the following criteria are met:

1. There is no reasonable location or route outside the wetland or wetland buffer based on analysis of system needs, available technology and alternative routes. Location within a wetland buffer shall be preferred over a location within a wetland.

The anticipated culvert will be placed in an area outside of the Wetland B

5. Clearing, grading, and excavation activities are limited to the minimum necessary, which may include placement on elevated structures as an alternative to fill, where feasible.

The clearing and grading will be the minimum necessary to gain access to the site with maintenance equipment. The anticipated culvert will be the minimum needed to maintain flows.

C. Access to private development sites may be permitted to cross Category II, III, or IV wetlands or their buffers, pursuant to the criteria in subsection (B) of this section; provided, that alternative access shall be pursued to the maximum extent feasible, including through the provisions of Chapter [8.24](#) RCW. Exceptions or deviations from technical standards for width or

other dimensions, and specific construction standards to minimize impacts may be specified, including placement on elevated structures as an alternative to fill, if feasible.

The applicant and the owner found the quickest and most efficient way to access the facility with a maintenance road which will require an anticipated culvert installation in the ditch near Wetland B in order to cross it on an ongoing basis. It is outside the buffer of the Wetland A and B and their buffers.

Work will be done in the dry or with silt fences and other stormwater BMP's and minimizing disturbance to the area necessary for installation of the access road. The anticipated culvert will be sized at 1 foot by 15 feet and countersunk 20 percent using the no slope method in order to reduce the possibility of failure.

On and Offsite Ditches

The Northern Ditch primarily drains a portion of the parking area to the north. It was determined to be non-jurisdictional, however it will not be impacted except for unavoidable impacts by the installation of the anticipated culvert pipe under the access road. This will not alter the hydrology of the area and should maintain ditch functions. The southern ditch is a small ditch that occurs along the southern property boundary and flows to the east. This ditch ends offsite and any water in the ditch infiltrates to groundwater except during the highest flows. No impacts are proposed to the southern ditch and it will remain.

Table 2 - Summary of Wetlands and Streams on or in the Vicinity of the Subject Property

Wetland	Size		Category			Building Setback (feet)	Mitigation Ratio		Cowardin Class	Comments
	On-site	Off-site (estimated)	Lewis	County	DOE		Create	Enhance		
Wetland A ¹	5797 sq ft	~	IV		50	10	None needed	None needed	PEM C ¹	No d impacts
Wetland B		22,000 sq feet	IV		50	10	None needed	None needed	PEM C ¹	No impacts

1. Palustrine , Forested Flooded (or Saturated)

6.2 Corps Regulations

Wetland A and B flow off site and into the Puget Sound therefore it would be maintained as a Water of the US and regulated under the Clean Water Act. No impacts are proposed to Wetland A or B.

6.3 Department of Ecology

Under RCW 90.48, the Washington Department of Ecology (DOE) reserves regulatory authority to regulate “waters of the state” under Section 401 of the Clean Water Act. No wetland impacts are proposed.

7.0 WILDLIFE

Wildlife observed during the field investigations are typical of urban/suburban adapted species (Table 2). The European starling, possum, and other species adapted to urbanization may inhabit or visit the site for food and shelter.

No other Federally-listed, or priority species was observed on the subject property or near the site based on the WDFW Priority Habitats and Species (PHS) and field observations during the reconnaissance and delineation. During the limited duration of the site reconnaissance and delineation, no evidence of the Federally-listed Bald Eagle, Marbled Murrelet, or Spotted Owl was observed on-site.

No Federally-listed salmonid species are known to occur on-site, based on the WDFW SalmonScape database, the WDFW PHS database, and site reconnaissance.

No wildlife was observed on site during site visit.

8.0 PROPOSED PROJECT

8.1 Description

The project consists of a monopole cellular tower with associated fence and access/maintenance road easement **Figure 5/** Site Plan.

8.2 Development Impacts

No direct or indirect impacts to the wetlands or their buffers are expected, however it is anticipated that there will be a 1-foot diameter by 15 foot culvert installed in the ditch associated with Wetland B.

8.3 Impact Avoidance and Minimization

The property has an area outside of the wetland buffers which will accommodate the Cellular Tower, however the access road may require installation of an anticipated 1 foot by 15 foot culvert pipe to maintain flows and allow crossing on an ongoing basis as maintenance requires. It appears that this will handle even the highest of flows as the area was just barely wet after a period of rain.

8.4 Minimization of Water Quality Impacts

Implementing water quality and sedimentation best management practices (BMPs) will act to minimize sedimentation and protect water quality on-site and any bare areas will be planted with a cover crop. Silt fences and straw waddles will be used where necessary.

Interstate Ave

Culvert Installation Area

Bishop Rd



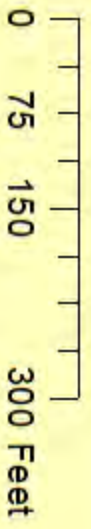
Legend

- Exist. Building
- New Access
- 50x50 Lease Area
- Driveway
- 10HWETABSL
- 10HWETBBSL
- Wet_A_50ftBuf
- Wet_B_50ftBuf
- drain_ditch
- roads
- Wet_A
- Wet_B

Land Services NW LLC
 120 State Avenue NE PMB#190
 Olympia, WA 98501
 360-481-4208



Figure 5
 Site Plan
 Basis of Survey:
 Tower Engineering Professionals



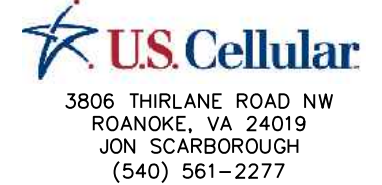
GENERAL NOTES:

1. ALL REFERENCES TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED US CELLULAR OR ITS DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF WASHINGTON.
3. STRUCTURE IS DESIGNED IN ACCORDANCE WITH ANSI/TIA/EIA-222-G, 2009, LOAD. THIS CONFORMS TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
4. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
5. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
6. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
7. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
8. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
9. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
12. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
14. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
15. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOFROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFTER MATERIAL SHALL BE REWORKED OR REPLACED.
16. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
17. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
18. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE RESPONSIBLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

STRUCTURAL STEEL NOTES:

1. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS AND MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
2. UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - A. STRUCTURAL STEEL, ASTM DESIGNATION A36 OR A992 GR50.
 - B. ALL BOLTS, ASTM A325 TYPE 1 GALVANIZED HIGH STRENGTH BOLTS.
 - C. ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
 - D. ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
3. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATIONS AND MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
4. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER.
5. HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED, AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM A153/A153M OR ASTM A653/A653M, G90, AS APPLICABLE.
6. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED, WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS IN STICK OR PASTED; SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.
7. A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
8. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
10. ALL ASSEMBLY BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN SECTION 8.1 OF THE AISC, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", DATED JUNE 30, 2004.
11. FLAT WASHERS ARE TO BE INSTALLED WITH BOLTS OVER SLOTTED HOLES.
12. DO NOT OVER TORQUE ASSEMBLY BOLTS. GALVANIZING ON BOLTS, NUTS, AND STEEL PARTS ;MAY ACT AS A LUBRICANT, THUS OVER TIGHTENING MAY OCCUR AND MAY CAUSE BOLTS TO CRACK AND SNAP OFF.
13. PAL NUTS ARE TO BE INSTALLED AFTER NUTS ARE TIGHT AND WITH EDGE LIP OUT. PAL NUTS ARE NOT REQUIRED WHEN SELF-LOCKING NUTS ARE PROVIDED.
14. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
15. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-2010 STRUCTURAL WELDING CODE - STEEL.

PLANS PREPARED FOR:



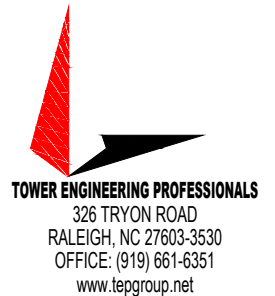
PLANS PREPARED FOR:



PROJECT INFORMATION:



PLANS PREPARED BY:



SEAL:



3	03-03-20	ZONING
2	02-24-20	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: TDS CHECKED BY: GLB

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER: N-1	REVISION: 3 TEP #:240735-219170
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INADVERTENT OR POST-REVIEW DISCOVERY PLAN:

PROCEDURES FOR INADVERTENT DISCOVERY OF AN ARCHEOLOGICAL SITE

- IN THE EVENT THAT ANY USCC EMPLOYEE, CONSULTANT OR CONTRACTOR INADVERTENTLY DISCOVERS WITHIN THE APE FOR DIRECT EFFECTS A PREVIOUSLY UNIDENTIFIED ARCHEOLOGICAL SITE THAT MAY BE ELIGIBLE FOR THE NATIONAL REGISTER AND THAT WOULD BE AFFECTED BY THE PROJECT, THE PERSON DISCOVERING SUCH SITE SHALL IMMEDIATELY NOTIFY USCC, WHICH WILL IN TURN CONFIRM THE STATUS OF THE FIND AS A SITE, AND THAT IT MAY BE ELIGIBLE FOR THE NATIONAL REGISTER, AND IF SO, PROMPTLY NOTIFY THE FCC, THE SHPO AND ANY INDIAN TRIBE THAT IS PARTICIPATING, PREVIOUSLY PARTICIPATED, OR HAS REQUESTED TO BE NOTIFIED ABOUT ANY LATER DISCOVERY OF CULTURAL REMAINS AT THE PROJECT.
- WITHIN A REASONABLE TIME USCC SHALL SUBMIT TO THE FCC, THE SHPO AND ANY POTENTIALLY AFFECTED INDIAN TRIBE A WRITTEN REPORT EVALUATING THE PROPERTY'S ELIGIBILITY FOR INCLUSION IN THE NATIONAL REGISTER. IN PREPARING THIS REPORT, USCC SHALL SEEK THE INPUT OF ANY PARTICIPATING INDIAN TRIBE.
- IF FOUND DURING CONSTRUCTION, ANY CONSTRUCTION THAT MAY AFFECT THE ARCHEOLOGICAL SITE MUST CEASE UNTIL AN EVALUATION HAS BEEN COMPLETED.
- IF USCC AND THE SHPO CONCUR THAT THE DISCOVERED RESOURCE IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER, USCC WILL CONSULT WITH THE SHPO AND ANY PARTICIPATING INDIAN TRIBE TO EVALUATE MEASURES THAT WILL AVOID, MINIMIZE, OR MITIGATE ADVERSE EFFECTS. UPON AGREEMENT REGARDING SUCH MEASURES, USCC SHALL IMPLEMENT THEM AND NOTIFY THE FCC OF ITS ACTION.
- IF USCC AND THE SHPO CANNOT REACH AGREEMENT REGARDING THE ELIGIBILITY OF A PROPERTY, THE MATTER WILL BE REFERRED TO THE FCC FOR REVIEW IN ACCORDANCE WITH SECTION VI.D.3 OF THE NPA. IF USCC AND THE SHPO CANNOT REACH AGREEMENT ON MEASURES TO AVOID, MINIMIZE, OR MITIGATE
- IF ANY USCC EMPLOYEE, CONSULTANT OR CONTRACTOR DISCOVERS ANY HUMAN OR BURIAL REMAINS DURING IMPLEMENTATION OF AN UNDERTAKING, USCC SHALL ENSURE THAT WORK IS IMMEDIATELY CEASED, NOTIFY THE SHPO AND FCC, AND ADHERE TO APPLICABLE STATE AND FEDERAL LAWS REGARDING THE TREATMENT OF HUMAN OR BURIAL REMAINS.

PLANS PREPARED FOR:



3806 THIRLANE ROAD NW
ROANOKE, VA 24019
JON SCARBOROUGH
(540) 561-2277

PLANS PREPARED FOR:

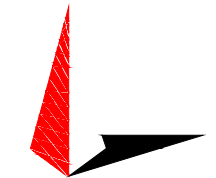
WIRELESS SITE

TECHNOLOGY, LLC
WIRELESS SITE TECHNOLOGY, LLC
9323 N. GOVERNMENT WAY #220
HAYDEN, ID 83835
DAN MACKINNEY
(208) 699-0237

PROJECT INFORMATION:

367377
CHEHALIS MIDDLE SCHOOL
1437 BISHOP RD
CHEHALIS, WA 99532
(LEWIS COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



3	03-03-20	ZONING
2	02-24-20	ZONING
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SHEET TITLE:

INADVERTENT OR POST-REVIEW DISCOVERY PLAN

SHEET NUMBER:

N-2

REVISION:

3

TEP #: 240735-219170

NOTES:

1. THE BASIS OF THE MERIDIANS AND COORDINATES FOR THIS PLAT IS THE WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983 (WASPCS NAD83).
2. VERTICAL INFORMATION SHOWN, BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
3. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED.
4. THE TOWER IS LOCATED IN THE ZONE X AREA, AREAS OF MINIMAL FLOODING (FEMA MAP # 5301021364C, DATED JULY 17, 2006).
5. EXISTING RAIL SECTIONS DO NOT INTERFERE WITH PROPOSED ACCESS DRIVE.

1-A COORDINATES

LATITUDE: N 46° 38' 09.68" (NAD 83)
 LONGITUDE: W 122° 56' 18.61" (NAD 83)
 GROUND ELEVATION: 208.61' (NAVD 88)

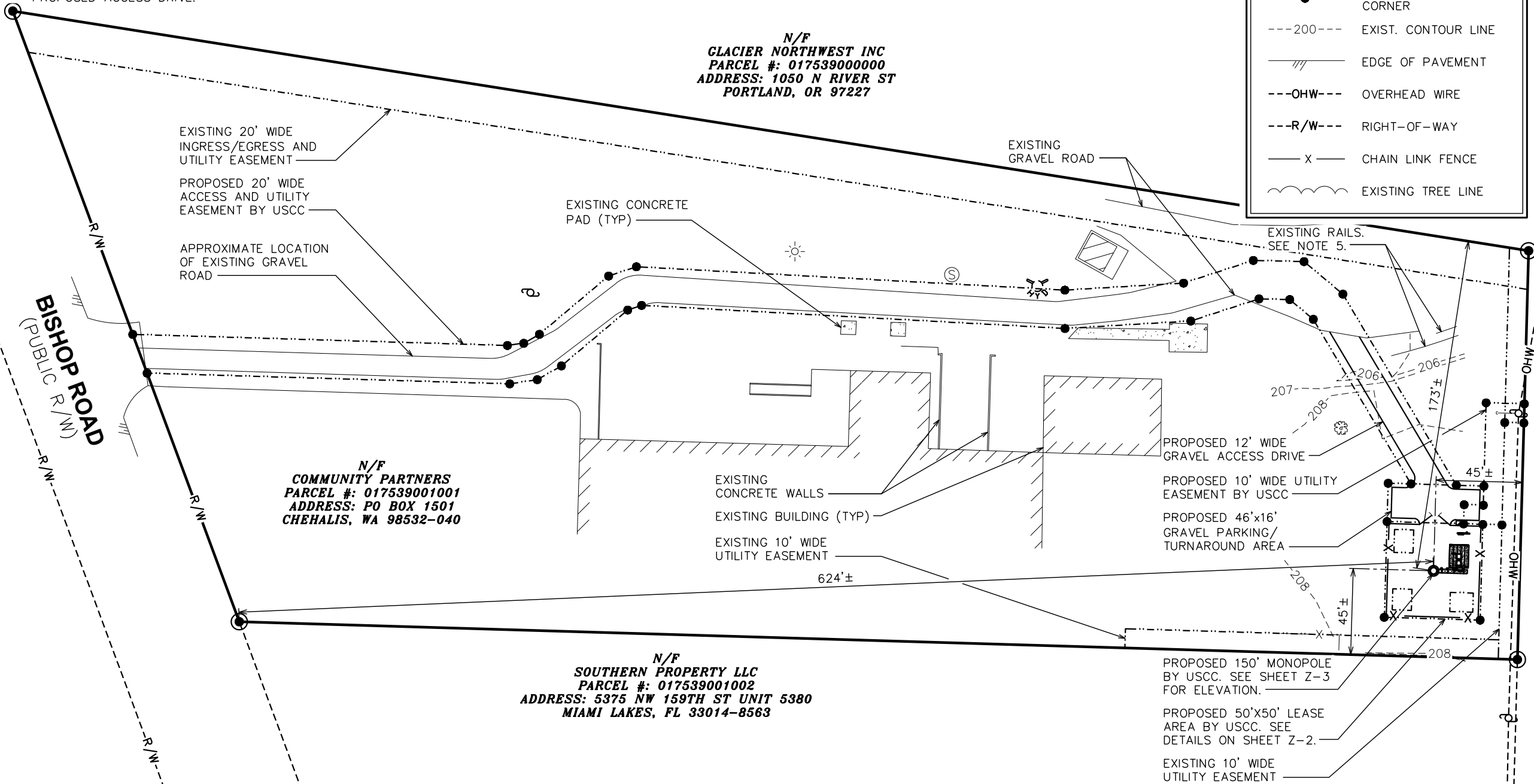
LEGEND

- EXIST. PROPERTY LINE
- ⊕ EXIST. UTILITY POLE
- Ⓜ EXIST. TELCO PEDESTAL
- ⊕ EXIST. HYDRANT
- ☀ EXIST. LIGHT POLE
- Ⓢ EXIST. SAN SEWER MH
- PROPERTY CORNER
- LEASE AREA/EASEMENT CORNER
- - - 200 - - - EXIST. CONTOUR LINE
- ▨ EDGE OF PAVEMENT
- - - OHW - - - OVERHEAD WIRE
- - - R/W - - - RIGHT-OF-WAY
- X - CHAIN LINK FENCE
- ⌋ EXISTING TREE LINE

N/F
GLACIER NORTHWEST INC
 PARCEL #: 017539000000
 ADDRESS: 1050 N RIVER ST
 PORTLAND, OR 97227

N/F
COMMUNITY PARTNERS
 PARCEL #: 017539001001
 ADDRESS: PO BOX 1501
 CHEHALIS, WA 98532-040

N/F
SOUTHERN PROPERTY LLC
 PARCEL #: 017539001002
 ADDRESS: 5375 NW 159TH ST UNIT 5380
 MIAMI LAKES, FL 33014-8563



PLANS PREPARED FOR:

U.S. Cellular
 3806 THIRLANE ROAD NW
 ROANOKE, VA 24019
 JON SCARBOROUGH
 (540) 561-2277

PLANS PREPARED FOR:

WIRELESS SITE TECHNOLOGY, LLC
 WIRELESS SITE TECHNOLOGY, LLC
 9323 N. GOVERNMENT WAY #220
 HAYDEN, ID 83835
 DAN MACKINNEY
 (208) 699-0237

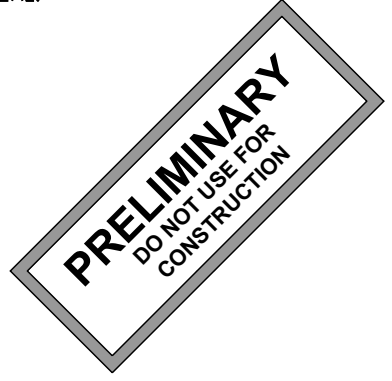
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CHEHALIS MIDDLE SCHOOL
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 CHEHALIS, WA 99532
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 326 TRYON ROAD
 RALEIGH, NC 27603-3530
 OFFICE: (919) 661-6351
 www.tepgroup.net

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SHEET TITLE:
SITE PLAN

SHEET NUMBER: Z-1	REVISION: 3 TEP #: 240735-219170
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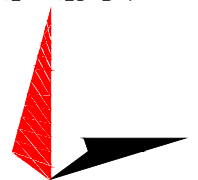
SITE PLAN

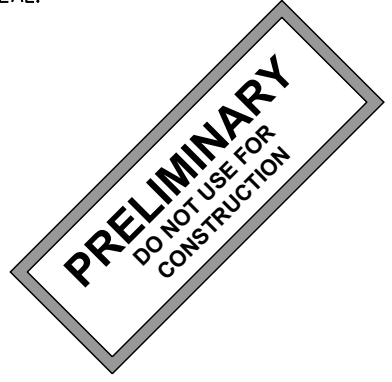
SCALE: 1" = 60'

PLANS PREPARED FOR:

 3806 THIRLANE ROAD NW
 ROANOKE, VA 24019
 JON SCARBOROUGH
 (540) 561-2277

PLANS PREPARED FOR:
WIRELESS SITE
 TECHNOLOGY, LLC
 WIRELESS SITE TECHNOLOGY, LLC
 9323 N. GOVERNMENT WAY #220
 HAYDEN, ID 83835
 DAN MACKINNEY
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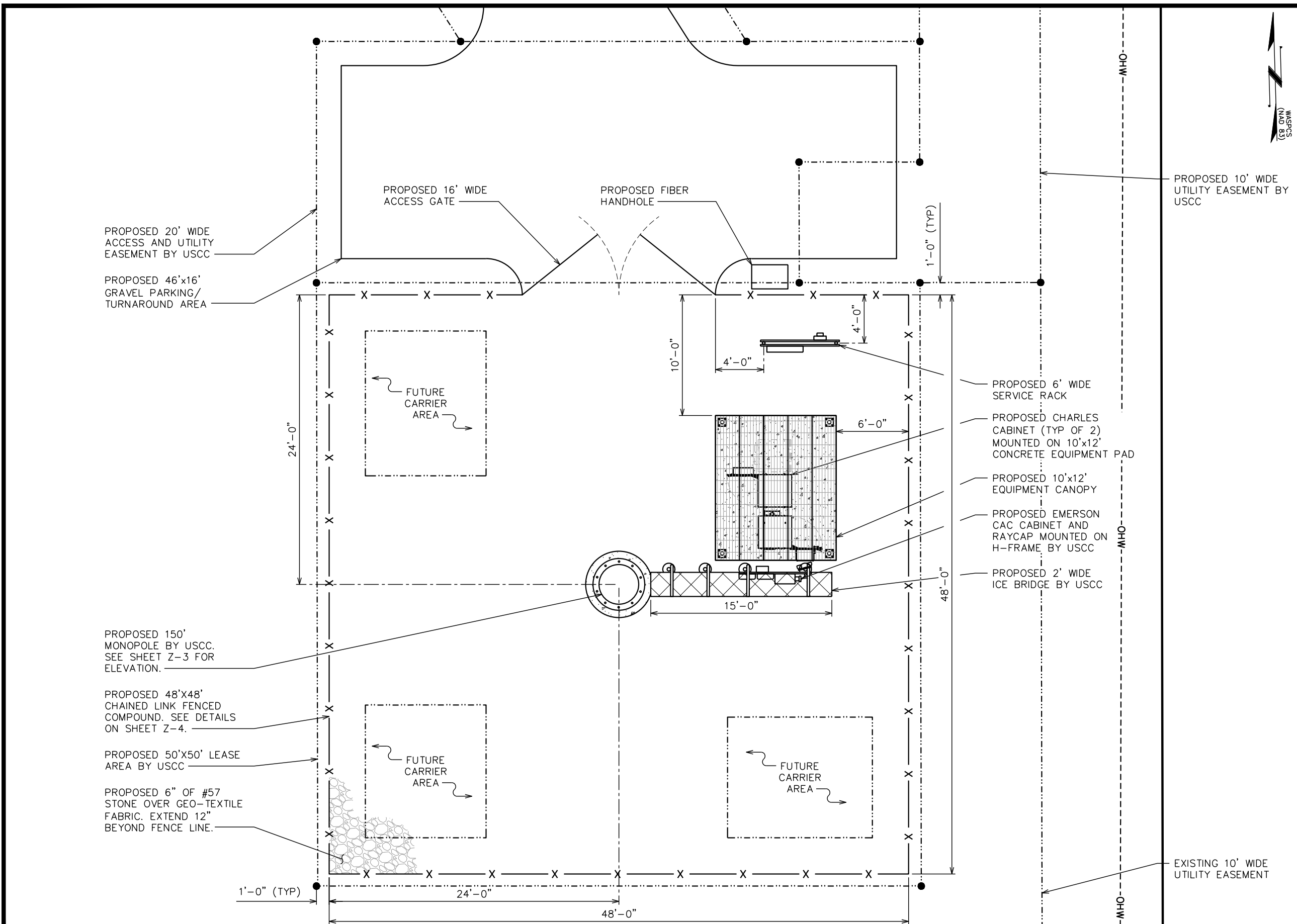
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SHEET TITLE:
COMPOUND DETAIL

SHEET NUMBER: **Z-2** REVISION: **3**
 TEP #: 240735-219170



COMPOUND DETAIL
 SCALE: 1/8" = 1'-0"

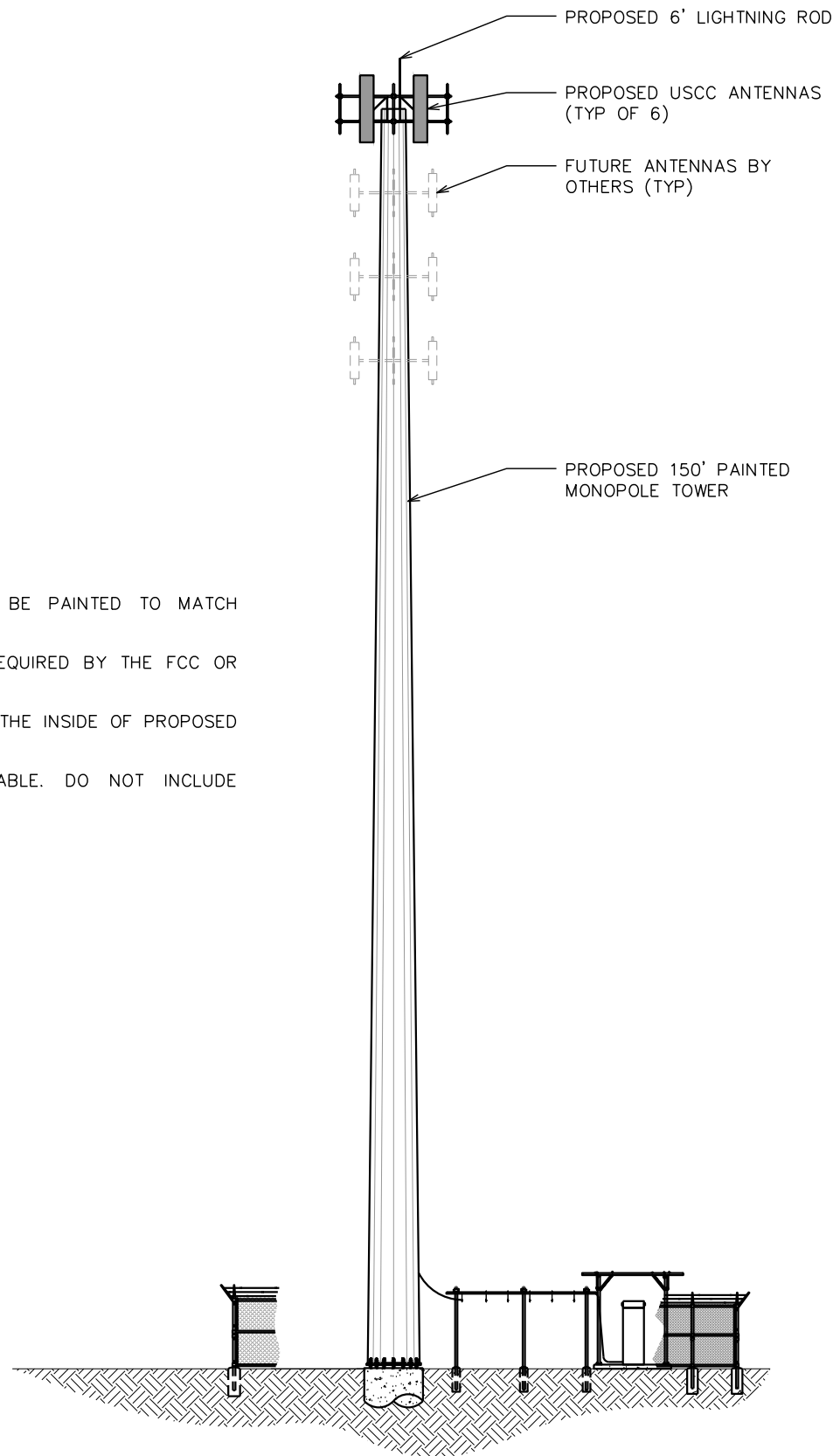


- 156'-0"±
T/LIGHTNING ROD
- 150'-0"±
T/TOWER
- 150'-0"±
CL/ANTENNAS
(USCC)

NOTES:

1. TOWER AND APPURTENANCE TO BE PAINTED TO MATCH SURROUNDING AREA.
2. TOWER SHALL BE LIT ONLY IF REQUIRED BY THE FCC OR FAA.
3. PROPOSED COAX TO BE RUN UP THE INSIDE OF PROPOSED POLE USING HOISTING GRIPS.
4. TOWER TO INCLUDE SAFETY CABLE. DO NOT INCLUDE SAFETY CLIMB MECHANISM.

- 0'-0"(REF.)
T/GRADE



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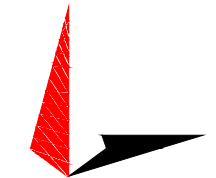
WIRELESS SITE

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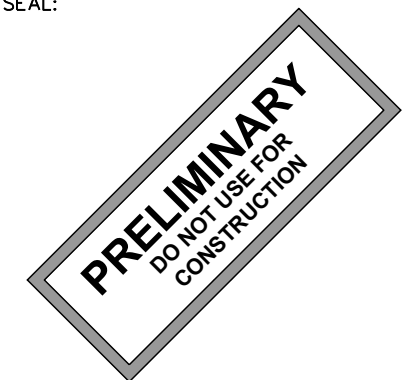
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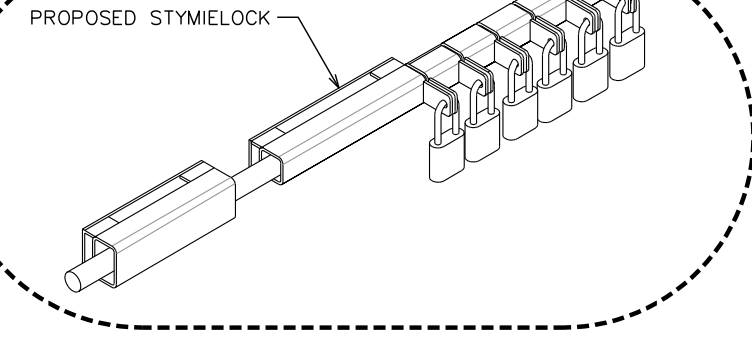
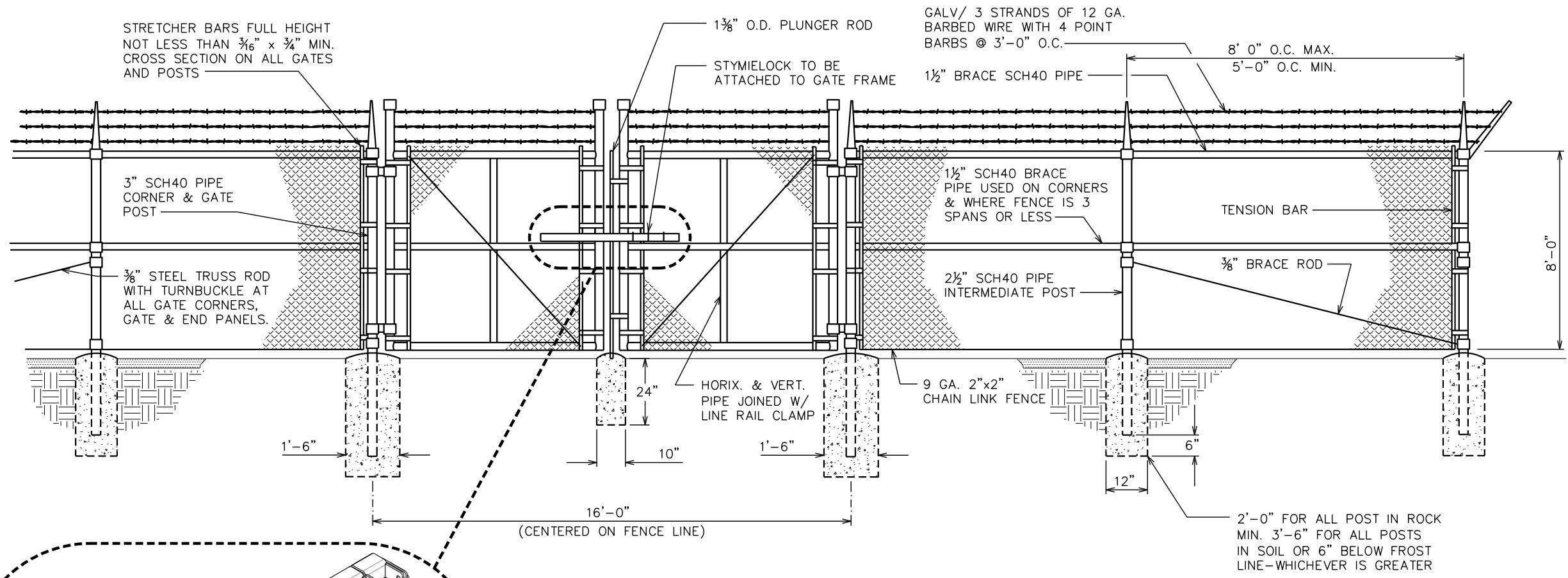
TOWER ELEVATION

SHEET NUMBER:	REVISION:
Z-3	3
	TEP #: 240735-219170

TOWER ELEVATION

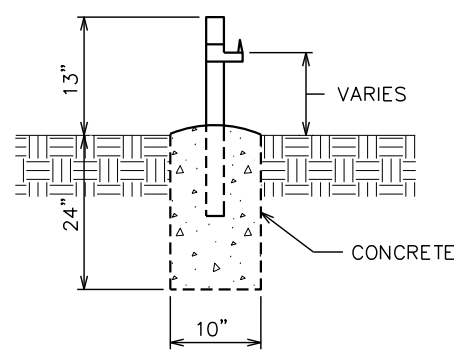
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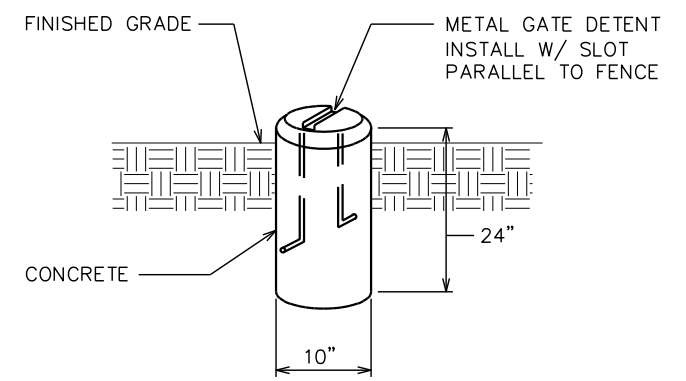
TYPICAL FENCE ELEVATION

SCALE: N.T.S.



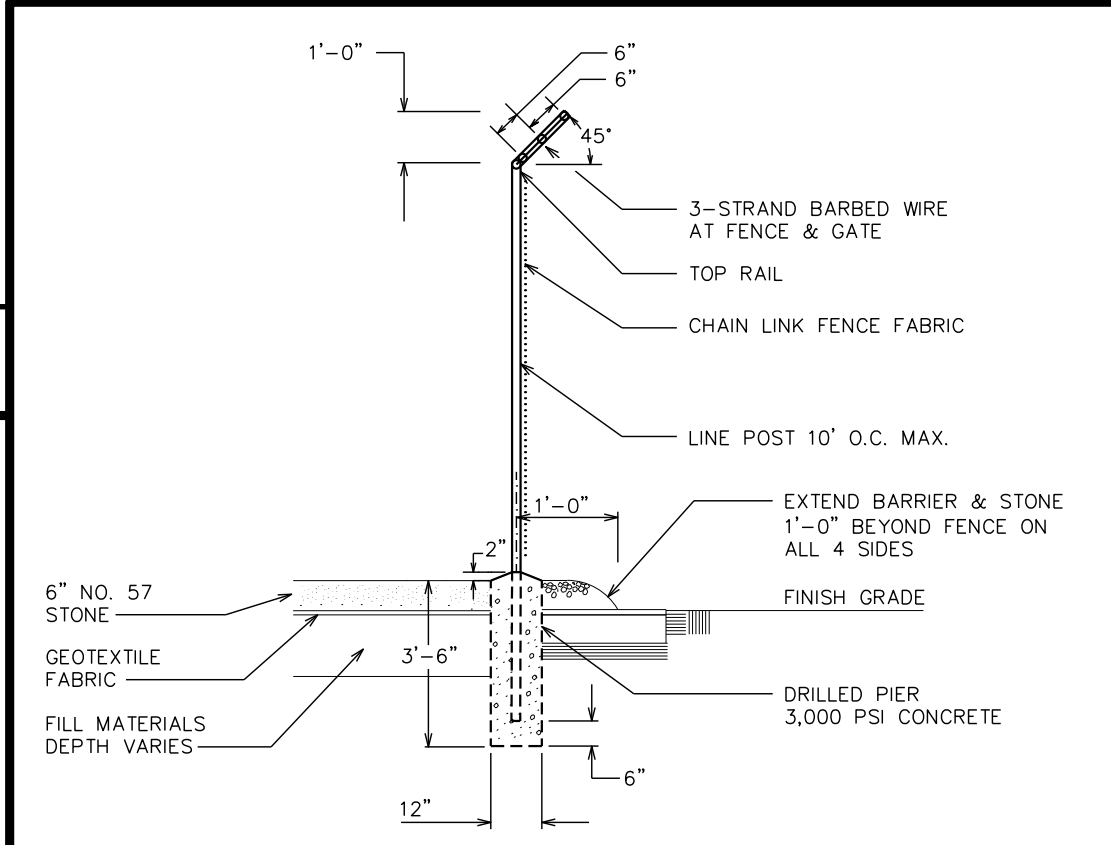
GATE STOP / KEEPER DETAIL

SCALE: N.T.S.



GATE DETENT DETAIL

SCALE: N.T.S.



FENCE / BARBED WIRE ARM DETAIL

SCALE: N.T.S.

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SHEET TITLE:

FENCE DETAILS

SHEET NUMBER: **Z-4** REVISION: **3**
 TEP #: 240735-219170

9.0 SUMMARY AND CONCLUSIONS

Two wetlands were identified within 315 feet of the subject property. Wetland A, and the Wetland B are Category IV wetland maintaining a 50-foot buffer with a ten-foot building setback. The project is a cellular tower monopole an associated access road and security fence which will not impact any wetlands or their buffers. This project will use best management practices in order to limit storm water impacts and other impacts and should result in a proper communications facility which will exist with the amenities provided by the natural resources of the city of Chehalis.

10.0 LIMITATIONS

This report was created with care and best professional judgment using the currently accepted best available science, but the report is subject to interpretation by local state and federal regulators who have the final regulatory authority on wetlands and other critical area boundary determinations. No outcomes are warranted by this report.

11.0 REFERENCE

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Appendix A

Photographs





Monopole Area



Wetland A



Northern Ditch





Southern Ditch

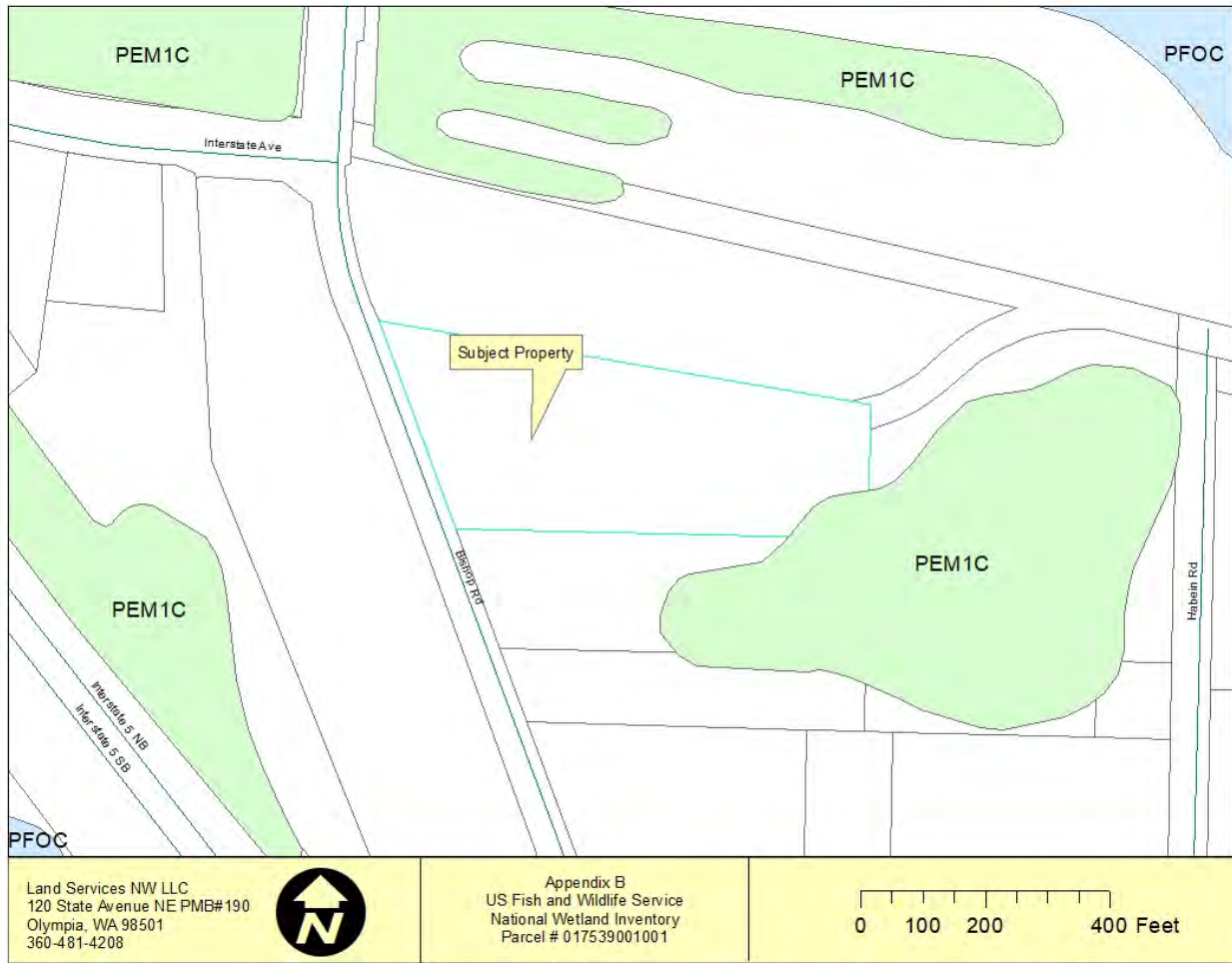




Southern Ditch

Appendix B

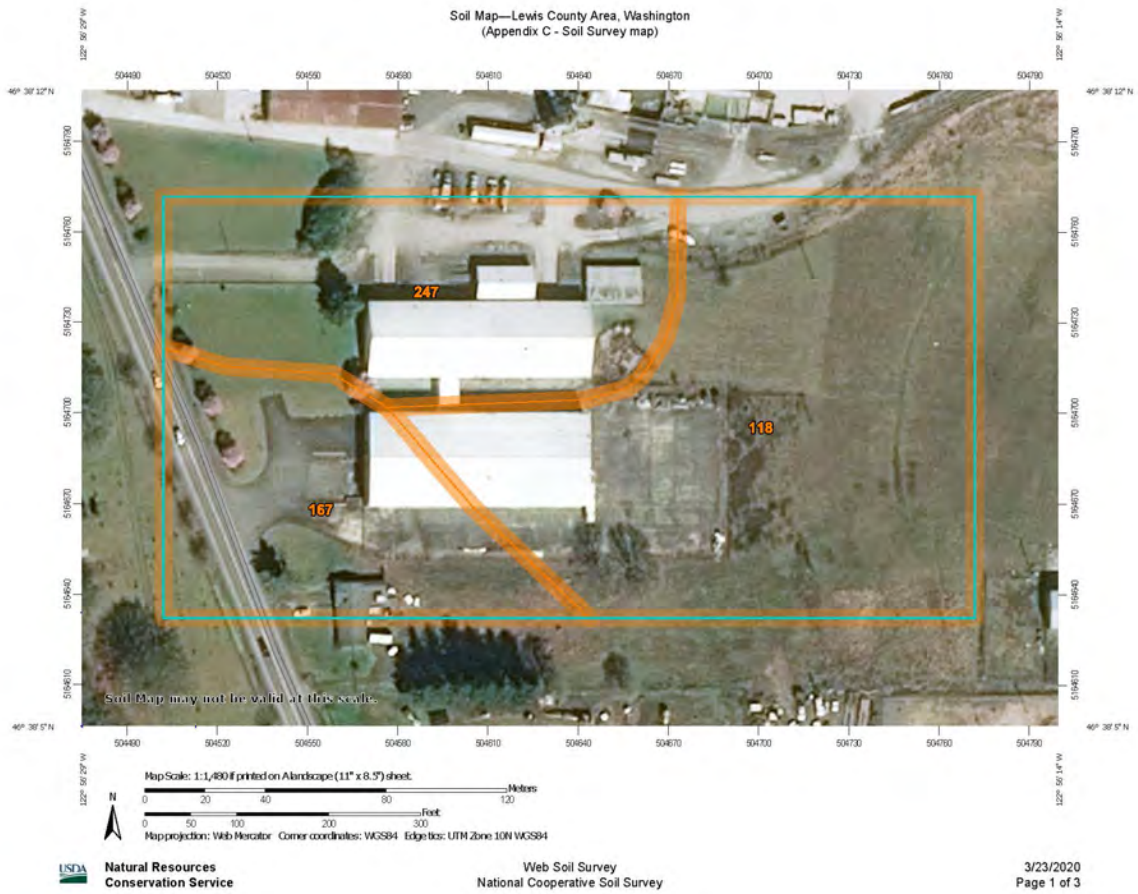
U.S. Fish and Wildlife Service NWI MAP



Appendix C

Lewis County NRCS

Soil Survey Map



Soil Map—Lewis County Area, Washington
(Appendix C - Soil Survey map)

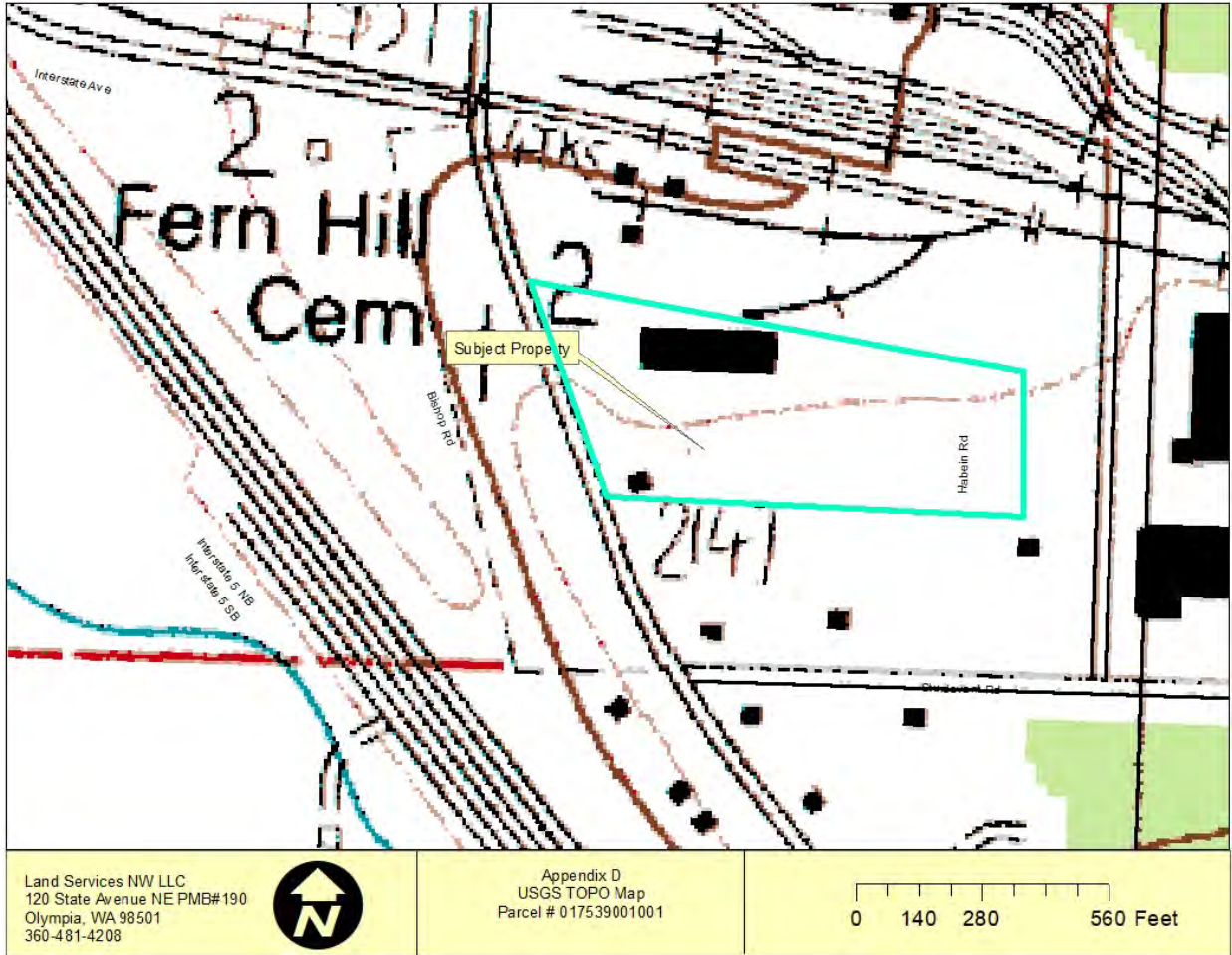


Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
118	Lacamas silt loam, 0 to 3 percent slopes	4.6	49.7%
167	Prather silty clay loam, 0 to 5 percent slopes	2.1	22.0%
247	Xerorthents, spoils	2.6	28.2%
Totals for Area of Interest		9.3	100.0%

Appendix D

USGS 7.5 MINUTE TOPOGRAPHIC MAP



Appendix F

WETLAND DATA SHEETS

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

Project/Site: Tower Eng City/County: Lewis Sampling Date: 2/26/2020
 Applicant/Owner: _____ State: WA Sampling Point: Tp1
 Investigator(s): Alex Callender Section, Township, Range: 14-3 – 2w
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: Wgs84
 Soil Map Unit Name: _____ NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the 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.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	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)
1. _____	_____	<input checked="" type="checkbox"/>		
2. _____	_____	<input type="checkbox"/>		
3. _____	_____	<input type="checkbox"/>		
4. _____	_____	<input type="checkbox"/>		
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Cyrus scoparius</u>	<u>35</u>	<u>Y</u>		
2. _____	_____	<input type="checkbox"/>		
3. _____	_____	<input type="checkbox"/>		
4. _____	_____	<input type="checkbox"/>		
5. _____	_____	<input type="checkbox"/>		
_____ = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Dactylis glomerata</u>	<u>35</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Festuca rubra</u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Hypochaeris radicata</u>	<u>15</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	<input type="checkbox"/>		
5. _____	_____	<input type="checkbox"/>		
6. _____	_____	<input type="checkbox"/>		
7. _____	_____	<input type="checkbox"/>		
8. _____	_____	<input type="checkbox"/>		
9. _____	_____	<input type="checkbox"/>		
10. _____	_____	<input type="checkbox"/>		
11. _____	_____	<input type="checkbox"/>		
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	<input type="checkbox"/>		
2. _____	_____	<input type="checkbox"/>		
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

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

Project/Site: US Cellular City/County: Lewis Sampling Date: 2/26/2020
 Applicant/Owner: Community Partners State: WA Sampling Point: Tp2
 Investigator(s): Alex Callender Section, Township, Range: 14-3-2W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR): 2 Lat: _____ Long: _____ Datum: Wgs84
 Soil Map Unit Name: Lacamas NWI classification: PEMC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Remarks:			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____				
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lotus corniculatus</u>	5	N	FAC	
2. <u>Juncus effusus</u>	15	N	FACW	
3. <u>Agrostis capillaris</u>	70	Y	FAC	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
>50% Dominant Vegetation FAC or Wetter				

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	10yr3/1	100			C	M	Silo	
4-14	10yr42	85	10yr 46					Mixed with 31
16-18	10yr52	85	10yr58					
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)					Indicators for Problematic Hydric Soils³:			
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)				<input type="checkbox"/> 2 cm Muck (A10)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)				<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)				<input type="checkbox"/> 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)				³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			
<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)							
Restrictive Layer (if present):					Hydric Soil Present?			
Type: _____					Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
Depth (inches): _____								
No indicators								

HYDROLOGY

Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)		
Primary Indicators (minimum of one required; check all that apply)					
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)				
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)				
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)				
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)				
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)				
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)				
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)				
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)				
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)				
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)					
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)					
Hydro at 6					

SOIL

Sampling Point:

TP3

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	10yr3/1	100				M	Silt loam	
4-12	10yr42	85	10yr 4/6	15	C	M	Silt loam	
12-16	10YR 4/2	85	7.5 YR 4/6	35		M	Silt loam	
16-18	10YR 5/2	75	7.5YR 5/8	25	C	M	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)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			
<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)				

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

F3 indicators found

HYDROLOGY

Wetland Hydrology Indicators:			Secondary Indicators (2 or more required)		
Primary Indicators (minimum of one required; check all that apply)					
<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) (MLRA 1, 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 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 Tilled 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 12 Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 11	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: hydro at 14

Comments: Hydro at 4

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

Project/Site: US Cellular City/County: Lewis Sampling Date: 2/26/2020
 Applicant/Owner: Community Partners State: WA Sampling Point: Tp4
 Investigator(s): Alex Callender Section, Township, Range: 4-13-2
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR): 2 Lat: _____ Long: _____ Datum: Wgs84
 Soil Map Unit Name: Prather Silt loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>	
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>				
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>				
Remarks:						

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____					
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____				Total % Cover of:	Multiply by:
2. _____				OBL species _____	x 1 = _____
3. _____				FACW species _____	x 2 = _____
4. _____				FAC species _____	x 3 = _____
5. _____				FACU species _____	x 4 = _____
				UPL species _____	x 5 = _____
_____ = Total Cover				Column Totals: _____	(A) _____ (B) _____
				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>Elymus repens</u>	25	Y	FAC	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Agrostis capillaris</u>	35	Y	FAC	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
3. <u>Festuca rubra</u>	25	Y	FAC	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
4. <u>Dactylis glomerata</u>	2	N	FACU	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Rumex crispus</u>	1	N	FAC	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹	
6. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____					
9. _____					
10. _____					
11. _____					
88 = Total Cover					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present?	
1. _____				Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
2. _____					
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					

SOIL

Sampling Point:

TP4

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	10yr4/2	100				M	Silt loam	
16-18	10YR 5/2	85	7.5 YR 4/6	15	C	M	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)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic			
<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)				

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

No indicators found

HYDROLOGY

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

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): 13 Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): >12	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: hydro at 14

Comments: Hydro too deep.

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

Project/Site: US Cellular City/County: Lewis Sampling Date: 2/26/2020
 Applicant/Owner: Community Partners State: WA Sampling Point: Tp5
 Investigator(s): Alex Callender Section, Township, Range: 4-13-2
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): _____
 Subregion (LRR): 2 Lat: _____ Long: _____ Datum: Wgs84
 Soil Map Unit Name: Prather Silt loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No <u>x</u>	Is the 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.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	<input type="checkbox"/>	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____	_____	<input type="checkbox"/>	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	<input type="checkbox"/>	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
4. _____	_____	<input type="checkbox"/>	_____		
_____ = Total Cover					
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. <u>Cytosis scoparius</u>	15	Y	FACU	Total % Cover of:	Multiply by:
2. _____	_____	<input type="checkbox"/>	_____	OBL species _____	x 1 = _____
3. _____	_____	<input type="checkbox"/>	_____	FACW species _____	x 2 = _____
4. _____	_____	<input type="checkbox"/>	_____	FAC species _____	x 3 = _____
5. _____	_____	<input type="checkbox"/>	_____	FACU species _____	x 4 = _____
_____ = Total Cover				UPL species _____	x 5 = _____
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Column Totals:	<u> </u> (A) <u> </u> (B)
1. <u>Dactylis glomerata</u>	25	Y	FACU	Prevalence Index = B/A =	<u> </u>
2. <u>Hypochaeris radicata</u>	35	Y	FACU		
3. <u>Sonchus arvensis</u>	2	N	FACU		
4. <u>vetch</u>	tr	N	FACU		
5. _____	_____	<input type="checkbox"/>	_____		
6. _____	_____	<input type="checkbox"/>	_____		
7. _____	_____	<input type="checkbox"/>	_____		
8. _____	_____	<input type="checkbox"/>	_____		
9. _____	_____	<input type="checkbox"/>	_____		
10. _____	_____	<input type="checkbox"/>	_____		
11. _____	_____	<input type="checkbox"/>	_____		
88 = Total Cover					
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	<input type="checkbox"/>	_____		
2. _____	_____	<input type="checkbox"/>	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
No hydrophytic vegetation found					

APPENDIX G

ECY WETLAND RATING FORMS FOR WESTERN WASHINGTON



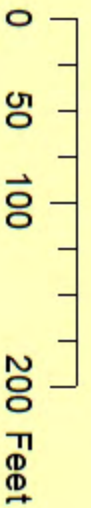
Legend

- Wet_A
- Wet_B
- drain_ditch

Land Services NW LLC
120 State Avenue NE PMB#190
Olympia, WA 98501
360-481-4208



Hydroperiods
Parcel # 017539001001





Legend

- drain_ditch
- roads
- Wet_A
- Wet_B

Emergent

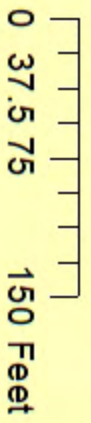
Emergent

Habein Rd

Land Services NW LLC
 120 State Avenue NE PMB#190
 Olympia, WA 98501
 360-481-4208

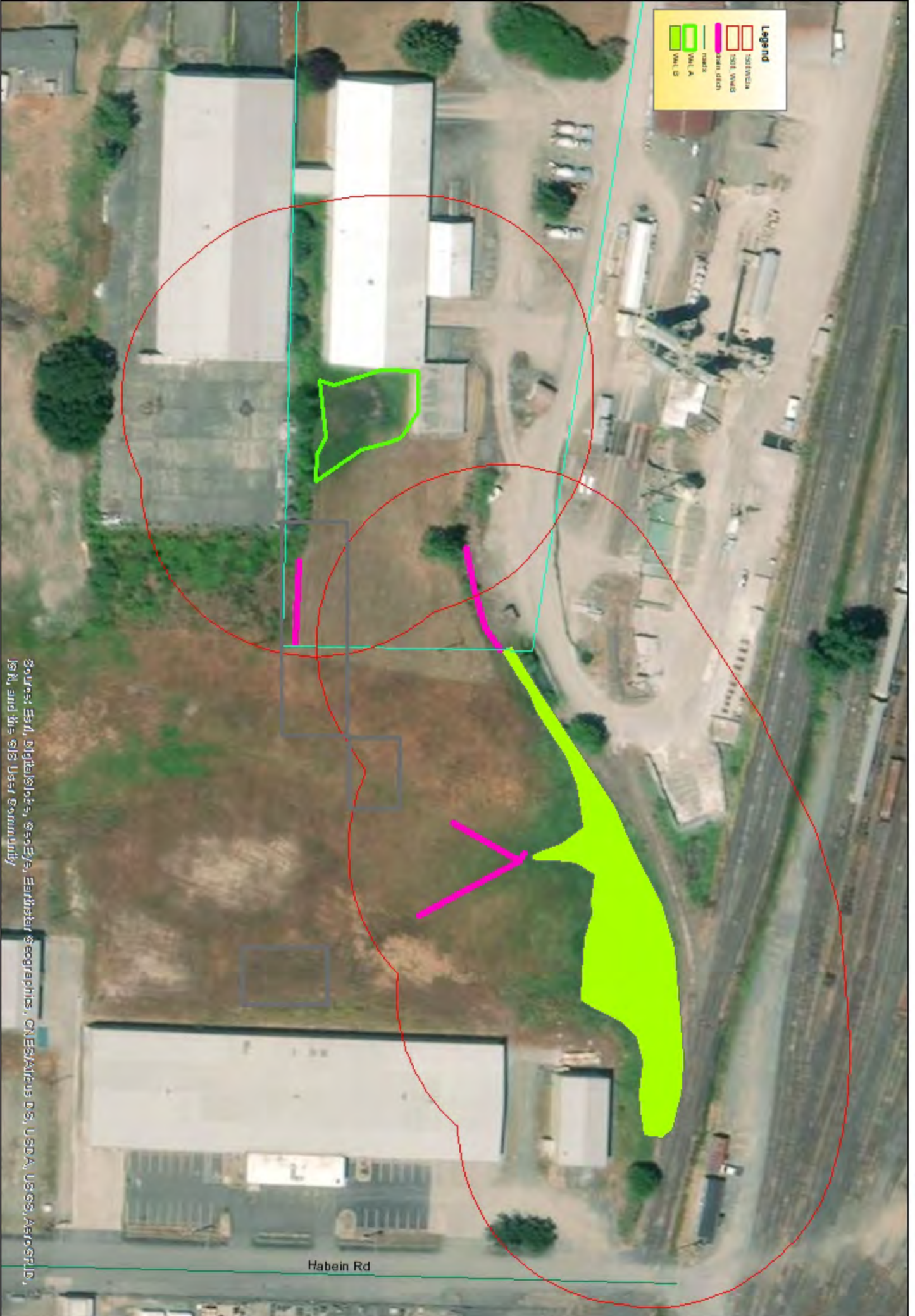


Cowardin



Legend

- 150ft SWMS
- 30ft SWMS
- 10ft SWMS
- 5ft SWMS
- roads
- stream ditch
- SWL A
- SWL B

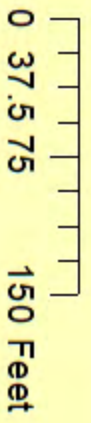


Habein Rd

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

150ft Land Use

Land Services NW LLC
 120 State Avenue NE PMB#190
 Olympia, WA 98501
 360-481-4208



Wetland name or number _____ Wetland A _____

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct. 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): A

Date of site visit: 2/26/2020

Rated by: AC Trained by Ecology? Yes No

Date of training: 3/07

SEC: 14 TOWNSHP: 3 RNGE: 2w

Is S/T/R in Appendix D? Yes No

Map of wetland unit: Figure _____ Estimated size 3.07 (acre unit)

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland: I II III IV

Category I =	Score > 70
Category II =	Score 51 - 69
Category III =	Score 30 – 50
Category IV =	Score < 30

Score for Water Quality Functions	12
Score for Hydrologic Functions	6
Score for Habitat Functions	7
TOTAL Score for Functions	25

Category based on SPECIAL CHARACTERISTICS of Wetland I II Does not apply

Final Category (choose the “highest” category from above”)

IV

Summary of basic information about the wetland unit.

Wetland Unit has Special Characteristics		Wetland HGM Class used for Rating	
Estuarine	<input type="checkbox"/>	Depressional	<input checked="" type="checkbox"/>
Natural Heritage Wetland	<input type="checkbox"/>	Riverine	<input type="checkbox"/>
Bog	<input type="checkbox"/>	Lake-fringe	<input type="checkbox"/>
Mature Forest	<input type="checkbox"/>	Slope	<input type="checkbox"/>
Old Growth Forest	<input type="checkbox"/>	Flats	<input type="checkbox"/>
Coastal Lagoon	<input type="checkbox"/>	Freshwater Tidal	<input type="checkbox"/>
Interdunal	<input type="checkbox"/>		<input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>	Check if unit has multiple HGM classes present	<input type="checkbox"/>

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state or federal database.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands in to those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Vegetated Wetlands for Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?
 NO – go to 2 YES – the wetland class is **Tidal Fringe**
 If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?
 YES – **Freshwater Tidal Fringe** NO – **Saltwater Tidal Fringe (Estuarine)**
*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is a Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were call estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. _____).*
2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
 NO – go to 3 YES – The wetland class is **Flats**
 If your wetland can be classified as a “Flats” wetland, use the form for **Depressional** wetlands.
3. Does the entire wetland meet both of the following criteria?
 The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) where at least 20 acres (8ha) in size;
 At least 30% of the open water area is deeper than 6.6 (2 m)?
 NO – go to 4 YES – The wetland class is **Lake-fringe (Lacustrine Fringe)**
4. Does the entire wetland meet all of the following criteria?
 The wetland is on a slope (*slope can be very gradual*).
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 The water leaves the wetland **without being impounded**?
 NOTE: *Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).*
 NO – go to 5 YES – The wetland class is **Slope**
5. Does the entire wetland meet all of the following criteria?
 The unit is in a valley or stream channel where it gets inundated by overbank flooding from that stream or river.
 The overbank flooding occurs at least once every two years.
 NOTE: *The riverine unit can contain depressions that are filled with water when the river is not flooding..*
 NO – go to 6 YES – The wetland class is **Riverine**
6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time of the year. This means that any outlet, if present is higher than the interior of the wetland.
 NO – go to 7 YES – The wetland class is **Depressional**
7. Is the entire wetland located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
 No – go to 8 YES – The wetland class is **Depressional**
8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.

HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

R Riverine and Freshwater Tidal Fringe Wetlands		Points
WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.		(only 1 score per box)
R 1	Does the wetland have the <u>potential</u> to improve water quality? (see p.52)	
	R 1.1 Area of surface depressions within the riverine wetland that can trap sediments during a flooding event: <ul style="list-style-type: none"> • Depressions cover > 3/4 area of wetland points = 8 <input type="checkbox"/> • Depressions cover > 1/2 area of wetland points = 4 <input type="checkbox"/> (If depressions > 1/2 of area of unit draw polygons on aerial photo or map) • Depressions present but cover < 1/2 area of wetland. points = 2 <input type="checkbox"/> • No depressions present points = 0 <input type="checkbox"/> 	Figure <input type="checkbox"/>
	R 1.2 Characteristics of the vegetation in the unit (areas with >90% cover at person height): <ul style="list-style-type: none"> • Trees or shrubs > 2/3 area of the unit points = 8 <input type="checkbox"/> • Trees or shrubs > 1/3 area of the wetland points = 6 <input type="checkbox"/> • Ungrazed, herbaceous plants > 2/3 area of unit points = 6 <input type="checkbox"/> • Ungrazed herbaceous plants > 1/3 area of unit points = 3 <input type="checkbox"/> • Trees, shrubs, and ungrazed herbaceous < 1/3 area of unit points = 0 <input type="checkbox"/> 	Figure <input type="checkbox"/>
Aerial photo or map showing polygons of different vegetation types		
Add the points in the boxes above		
R 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 53)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. <i>Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i> <ul style="list-style-type: none"> <input type="checkbox"/> Grazing in the wetland or within 150 ft <input type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields or orchards within 150 ft. of wetland <input type="checkbox"/> A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging <input type="checkbox"/> Residential, urban areas, golf courses are within 150 ft. of wetland <input type="checkbox"/> The river or stream linked to the wetland has a contributing basin where human activities have raised levels of sediment, toxic compounds or nutrients in the river water above standards for water quality. <input type="checkbox"/> Other _____ 	Multiplier
YES multiplier is 2 NO multiplier is 1		
◆	TOTAL – Water Quality Functions Multiply the score from R1 by R2; then <i>add score to table on p. 1</i>	0
HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream erosion.		
R 3	Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p.54)
	R 3.1 Characteristics of the overbank storage the wetland provides: <i>Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of unit) / (average width of stream between banks).</i> <ul style="list-style-type: none"> • If the ratio is more than 20..... points = 9 <input type="checkbox"/> • If the ratio is between 10 – 20..... points = 6 <input type="checkbox"/> • If the ratio is 5- <10..... points = 4 <input type="checkbox"/> • If the ratio is 1- <5..... points = 2 <input type="checkbox"/> • If the ratio is < 1 points = 1 <input type="checkbox"/> 	Figure <input type="checkbox"/>
	R 3.2 Characteristics of vegetation that slow down water velocities during floods: <i>Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description. (polygons need to have >90% cover at person height NOT Cowardin classes):</i> <ul style="list-style-type: none"> • Forest or shrub for > 1/3 area OR herbaceous plants > 2/3 area points = 7 <input type="checkbox"/> • Forest or shrub for > 1/10 area OR herbaceous plants > 1/3 area points = 4 <input type="checkbox"/> • Vegetation does not meet above criteria points = 0 <input type="checkbox"/> 	Figure <input type="checkbox"/>
Aerial photo or map showing polygons of different vegetation types		
Add the points in the boxes above		
R 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p.57)
	Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. <i>Note which of the following conditions apply.</i> <ul style="list-style-type: none"> <input type="checkbox"/> There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. <input type="checkbox"/> There are natural resources downstream (e.g. salmon redds) that can be damaged by flooding <input type="checkbox"/> Other _____ (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)	Multiplier
<input type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1		
◆	TOTAL – Hydrologic Functions Multiply the score from R3 by R4; then <i>add score to table on p. 1</i>	_____

Comments: _____

L Lake-fringe Wetlands		Points
WATER QUALITY FUNCTIONS – Indicators that the wetland unit functions to improve water quality.		(only 1 score per box)
L 1	Does the wetland unit have the <u>potential</u> to improve water quality? (see p.59)	
	L 1.1 Average width of vegetation along the lakeshore (use polygons of Cowardin classes): <ul style="list-style-type: none"> • Vegetation is more than 33 ft. (10m) wide points = 6 <input type="checkbox"/> • Vegetation is more than 16 ft.(5m) wide and < 33 ft points = 3 <input type="checkbox"/> • Vegetation is more than 6 ft. (2m) wide and < 16 ft points = 1 <input type="checkbox"/> • Vegetation is less than 6 ft. wide..... points = 0 <input type="checkbox"/> <p style="text-align: center;">Map of Cowardin classes with widths marked</p>	Figure <input type="checkbox"/>
	L 1.2 Characteristics of the vegetation in the wetland: <i>Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of Cover is total cover in the unit, but it can be in patches. NOTE: Herbaceous does not include aquatic bed.</i> <ul style="list-style-type: none"> • Cover of herbaceous plants is > 90% of the vegetated area..... points = 6 <input type="checkbox"/> • Cover of herbaceous plants is > 2/3 of the vegetated area..... points = 4 <input type="checkbox"/> • Cover of herbaceous plants is > 1/3 of the vegetated area..... points = 3 <input type="checkbox"/> • Other vegetation that is not aquatic bed or herbaceous covers > 2/3 of the unit points = 3 <input type="checkbox"/> • Other vegetation that is not aquatic bed in > 1/3 vegetated area points = 1 <input type="checkbox"/> • Aquatic bed cover and open water > 2/3 of the unit..... points = 0 <input type="checkbox"/> <p style="text-align: center;">Map with polygons of different vegetation types</p>	Figure <input type="checkbox"/>
<i>Add the points in the boxes above</i>		
L 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p.61)
	Answer YES if you know or believe there are pollutants in the lake water, or polluted surface water flowing through the unit to the lake. <i>Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i> <ul style="list-style-type: none"> <input type="checkbox"/> Wetland is along the shores of a lake or reservoir that does not meet water quality standards <input type="checkbox"/> Grazing in the wetland or within 150 ft <input type="checkbox"/> Polluted water discharges to wetland along upland edge <input type="checkbox"/> Tilled fields or orchards within 150 ft. of wetland <input type="checkbox"/> Residential or urban areas are within 150 ft. of wetland <input type="checkbox"/> Parks with grassy areas that are maintained, ballfields, golf courses (all within 150 ft. of lake shore) <input type="checkbox"/> Power boats with gasoline or diesel engines use the lake <input type="checkbox"/> Other _____ <p style="text-align: center;"><input type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1</p>	Multiplier
◆	TOTAL – Water Quality Functions Multiply the score from L1 by L2; then add score to table on p. 1	_____
HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce shoreline erosion.		
L 3	Does the wetland have the <u>potential</u> to reduce shoreline erosion?	(see p.62)
	L 3 Average width and characteristics of vegetation along the lakeshore (<i>do not include aquatic bed</i>): (<i>choose the highest scoring description that matches conditions in the wetland</i>) <ul style="list-style-type: none"> • 3/4 of distance is shrubs or forest at least 33 ft. (10m) wide points = 6 <input type="checkbox"/> • 3/4 of distance is shrubs or forest at least 6 ft. (2m) wide..... points = 4 <input type="checkbox"/> • 1/4 of distance is shrubs or forest at least 33 ft. (10m) wide. points = 4 <input type="checkbox"/> • Vegetation is at least 6 ft. (2m) wide (any type except aquatic bed)..... points = 2 <input type="checkbox"/> • Vegetation is less than 6 ft. (2m) wide (any type except aquatic bed) points = 0 <input type="checkbox"/> <p style="text-align: center;">Aerial photo or map with Cowardin vegetation classes</p>	Figure <input type="checkbox"/>
<i>Record the points in the boxes above</i>		
L 4	Does the wetland have the <u>opportunity</u> to reduce erosion?	(see p. 64)
	Are there features along the shore that will be impacted if the shoreline erodes? <i>Note which of the following conditions apply.</i> <ul style="list-style-type: none"> <input type="checkbox"/> There are human structures and activities along the upland edge of the wetland (buildings, fields) that can be damaged by erosion. <input type="checkbox"/> There are undisturbed natural resources along the upland edge of the wetland (e.g. mature forests, other wetlands) that can be damaged by shoreline erosion. <input type="checkbox"/> Other _____ <p style="text-align: center;"><input type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1</p>	Multiplier
◆	TOTAL – Hydrologic Functions Multiply the score from L3 by L4; then add score to table on p. 1	_____

Comments: _____

S Slope Wetlands		Points
WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.		(only 1 score per box) (see p.64)
S 1	Does the wetland have the <u>potential</u> to improve water quality?	
	S 1.1 Characteristics of average slope of unit: • Slope is 1% or less (a 1% slope has a 1 ft. vertical drop in elevation for every 100 ft. horizontal distance).... points = 3 <input type="checkbox"/> • Slope is 1% - 2% points = 2 <input type="checkbox"/> • Slope is 2% - 5% points = 1 <input type="checkbox"/> • Slope is greater than 5% points = 0 <input type="checkbox"/>	
	S 1.2 The soil 2 inches below the surface (or duff layer) is clay, organic (Use NRCS definitions). <input type="checkbox"/> YES = 3 points <input type="checkbox"/> NO = 0 points	
	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. • Dense, uncut, herbaceous vegetation > 90% of the wetland area..... points = 6 <input type="checkbox"/> • Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 <input type="checkbox"/> • Dense, woody, vegetation > 1/2 of area..... points = 2 <input type="checkbox"/> • Dense, uncut, herbaceous vegetation > 1/4 of area points = 1 <input type="checkbox"/> • Does not meet any of the criteria above for vegetation points = 0 <input type="checkbox"/>	Figure <input type="checkbox"/>
Total for S 1		Add the points in the boxes above
S 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 67)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. <input type="checkbox"/> Grazing in the wetland or within 150 ft <input type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields, logging, or orchards within 150 ft. of wetland <input type="checkbox"/> Residential, urban areas, or golf courses are within 150 ft. upslope of wetland <input type="checkbox"/> Other <input type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1	Multiplier
◆ TOTAL – Water Quality Functions		Multiply the score from S1 by S2; then add score to table on p. 1
HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream erosion.		
S 3	Does the wetland have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland (stems of plants should be thick enough (usually > 1/8in), or dense enough to remain erect during surface flows). • Dense, uncut, rigid vegetation covers > 90% of the area of the wetland points = 6 <input type="checkbox"/> • Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3 <input type="checkbox"/> • Dense, uncut, rigid vegetation > 1/4 area..... points = 1 <input type="checkbox"/> • More than 1/4 of area is grazed, mowed, tilled, or vegetation is not rigid points = 0 <input type="checkbox"/>	
	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows. The slope has small surface depressions that can retain water over at least 10% of its area. <input type="checkbox"/> YES = 2 points <input type="checkbox"/> NO = 0 points	
Add the points in the boxes above		
S 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 70)
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply. <input type="checkbox"/> Wetland has surface runoff that drains to a river or stream that has flooding problems <input type="checkbox"/> Other (Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam) <input type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1	Multiplier _____
◆ TOTAL – Hydrologic Functions		Multiply the score from S3 by S4; then add score to table on p. 1

Comments: _____

<i>These questions apply to wetlands of all HGM classes.</i>		Points (only 1 score per box)
HABITAT FUNCTIONS – Indicators that wetland functions to provide important habitat.		
H 1	Does the wetland have the <u>potential</u> to provide habitat for many species?	
H 1.1 <u>Vegetation structure</u> (see P. 72): Check the types of vegetation classes present (as defined by Cowardin) – Size threshold for each class is 1/4 acre or more than 10% of the area if unit is smaller than 2.5 acres. <input type="checkbox"/> Aquatic Bed <input checked="" type="checkbox"/> Emergent plants <input type="checkbox"/> Scrub/shrub (areas where shrubs have > 30% cover) <input type="checkbox"/> Forested (areas where trees have > 30% cover) If the unit has a forested class check if: <input type="checkbox"/> The forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the forested polygon. Add the number of vegetation types that qualify. If you have:	Figure <input checked="" type="checkbox"/>	
4 structures or more points = 4 <input type="checkbox"/> 2 structures points = 1 <input type="checkbox"/>	Map of Cowardin vegetation classes 3 structures points = 2 <input type="checkbox"/> 1 structure points = 0 <input checked="" type="checkbox"/>	0
H 1.2 <u>Hydroperiods</u> (see p.73): Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or 1/4 acre to count (see text for descriptions of hydroperiods). <input type="checkbox"/> Permanently flooded or inundated <input checked="" type="checkbox"/> Seasonally flooded or inundated <input type="checkbox"/> Occasionally flooded or inundated <input type="checkbox"/> Saturated only <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland <input type="checkbox"/> Lake-fringe wetland = 2 points <input type="checkbox"/> Freshwater tidal wetland = 2 points	4 or more types present points = 3 <input type="checkbox"/> 3 or more types present points = 2 <input type="checkbox"/> 2 types present points = 1 <input type="checkbox"/> 1 type present points = 0 <input checked="" type="checkbox"/>	Figure <input checked="" type="checkbox"/>
H 1.3 <u>Richness of Plant Species</u> (see p. 75): Count the number of plant species in the wetland that cover at least 10 ft ² (different patches of the same species can be combined to meet the size threshold) You do not have to name the species. Do not include Eurasian Milfoil, reed canarygrass, purple loosestrife, Canadian Thistle. List species below if you want to:	If you counted: > 19 species points = 2 <input type="checkbox"/> 5 – 19 species points = 1 <input checked="" type="checkbox"/> < 5 species points = 0 <input type="checkbox"/>	1
H 1.4 <u>Interspersion of Habitats</u> (see p. 76): Decided from the diagrams below whether interspersion between Cowardin vegetation (described in H1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, medium, low, or none.		Figure <input type="checkbox"/>
Note: If you have 4 or more classes or 3 vegetation classes and open water, the rating is always “high”. Use map of Cowardin classes.		0
H 1.5 <u>Special Habitat Features</u> (see p. 77): Check the habitat features that are present in the wetland. The number of checks is the number of points you put into the next column.	<input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in. diameter and 6 ft. long) <input type="checkbox"/> Standing snags (diameter at the bottom > 4 inches) in the wetland <input type="checkbox"/> Undercut banks are present for at least 6.6 ft. (2m) and/or overhanging vegetation extends at least 3.3 ft. (1m) over a stream (or ditch) in, or contiguous with the unit, for at least 33 ft. (10m) <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet turned grey/brown) <input type="checkbox"/> At least 1/4 acre of thin-stemmed persistent vegetation or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in each stratum of plants NOTE: The 20% stated in early printings of the manual on page 78 is an error.	0
H 1 TOTAL Score – potential for providing habitat		Add the points in the column above
		1

H 2	Does the wetland have the <u>opportunity</u> to provide habitat for many species?	(only 1 score per box)
	<p>H 2.1 <u>Buffers</u> (see P. 80): <i>Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed".</i></p> <p><input type="checkbox"/> 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use)..... points = 5</p> <p><input type="checkbox"/> 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference points = 4</p> <p><input type="checkbox"/> 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference points = 4</p> <p><input type="checkbox"/> 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference points = 3</p> <p><input type="checkbox"/> 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference points = 3</p> <p>If buffer does not meet any of the criteria above:</p> <p><input type="checkbox"/> No paved areas (except paved trails) or buildings within 25m (80 ft) of wetland > 95% circumference. Light to moderate grazing or lawns are OK points = 2</p> <p><input type="checkbox"/> No paved areas of buildings within 50m of wetland for > 50% circumference. Light to moderate grazing or lawns are OK points = 2</p> <p><input type="checkbox"/> Heavy grazing in buffer points = 1</p> <p><input type="checkbox"/> Vegetated buffers are < 2m wide (6.6 ft) for more than 95% circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) points = 0</p> <p><input checked="" type="checkbox"/> Buffer does not meet any of the criteria above points = 1</p> <p style="text-align: right;">Arial photo showing buffers</p>	<p>Figure <input type="checkbox"/></p> <p style="text-align: center;">1</p>
	<p>H 2.2 <u>Corridors and Connections</u> (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>Dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor.</i>)</p> <p style="text-align: center;"><input type="checkbox"/> YES = 4 points (go to H 2.3) <input checked="" type="checkbox"/> NO = go to H 2.2.2</p> <p>H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;"><input type="checkbox"/> YES = 2 points (go to H 2.3) <input type="checkbox"/> NO = go to H 2.2.3</p> <p>H. 2.2.3 Is the wetland:</p> <ul style="list-style-type: none"> • Within 5 mi (8km) of a brackish or salt water estuary OR • Within 3 miles of a large field or pasture (> 40 acres) OR • Within 1 mile of a lake greater than 20 acres? <p style="text-align: right;"><input checked="" type="checkbox"/> YES = 1 point <input type="checkbox"/> NO = 0 points</p>	<p style="text-align: center;">1</p>

Comments: _____

	<p>H 2.3 <u>Near or adjacent to other priority habitats listed by WDFW</u> (see p. 82): (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)</p> <p>Which of the following priority habitats are within 330 ft. (100m) of the wetland unit? <i>NOTE: the connections do not have to be relatively undisturbed.</i></p> <p><input type="checkbox"/> Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).</p> <p><input type="checkbox"/> Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).</p> <p><input type="checkbox"/> Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.</p> <p><input type="checkbox"/> Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.</p> <p><input type="checkbox"/> Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158).</p> <p><input type="checkbox"/> Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.</p> <p><input type="checkbox"/> Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).</p> <p><input type="checkbox"/> Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.</p> <p><input type="checkbox"/> Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).</p> <p><input type="checkbox"/> Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.</p> <p><input type="checkbox"/> Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.</p> <p><input type="checkbox"/> Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.</p> <p><input type="checkbox"/> Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.</p> <p style="text-align: right;">If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points</p> <p>Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)</p>	0
	<p>H 2.4 <u>Wetland Landscape:</u> Choose the one description of the landscape around the wetland that best fits (see p. 84)</p> <ul style="list-style-type: none"> • There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development.... points = 5 <input type="checkbox"/> • The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile points = 5 <input type="checkbox"/> • There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed. points = 3 <input checked="" type="checkbox"/> • The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within 1/2 mile points = 3 <input type="checkbox"/> • There is at least 1 wetland within 1/2 mile points = 2 <input type="checkbox"/> • There are no wetlands within 1/2 mile..... points = 0 <input type="checkbox"/> 	3
	<p>H 2 TOTAL Score – opportunity for providing habitat <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i></p>	5
	<p style="text-align: right;"><i>TOTAL for H 1 from page 8</i></p>	2
◆	<p>Total Score for Habitat Functions Add the points for H 1 and H 2; then record the result on p. 1</p>	7

Comments: _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	
SC1	<p>Estuarine wetlands? (see p.86)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <p><input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt.</p> <p style="text-align: center;"><input type="checkbox"/> YES = Go to SC 1.1 <input type="checkbox"/> NO</p>
	<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = go to SC 1.2</p>
	<p>SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?</p> <p style="text-align: center;"><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre.</p> <p><input type="checkbox"/> At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland</p> <p><input type="checkbox"/> The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>
SC2	<p>Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (<i>This question is used to screen out most sites before you need to contact WNHP/DNR.</i>)</p> <p style="text-align: center;"><input type="checkbox"/> S/T/R information from Appendix D <input type="checkbox"/> or accessed from WNHP/DNR web site</p> <p style="text-align: center;"><input type="checkbox"/> YES Contact WNHP/DNR (see p. 79) and go to SC 2.2 <input type="checkbox"/> NO</p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species?</p> <p style="text-align: center;"><input type="checkbox"/> YES = Category 1 <input type="checkbox"/> NO not a Heritage Wetland</p>
SC3	<p>Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. <i>If you answer yes you will still need to rate the wetland based on its function.</i></p> <ol style="list-style-type: none"> Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? <input type="checkbox"/> YES = go to question 3 <input type="checkbox"/> NO = go to question 2 Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? <input type="checkbox"/> YES = go to question 3 <input type="checkbox"/> NO = is not a bog for purpose of rating Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the “bog” species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? <p style="text-align: center;"><input type="checkbox"/> YES = Is a bog for purpose of rating <input type="checkbox"/> NO = go to question 4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16” deep. If the pH is less than 5.0 and the “bog” plant species in Table 3 are present, the wetland is a bog.</p> <ol style="list-style-type: none"> Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? <p style="text-align: center;"><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Is not a bog for purpose of rating</p>

<p>SC4</p>	<p>Forested Wetlands (see p. 90) Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its function.</i> <input type="checkbox"/> Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or more). NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. <input type="checkbox"/> Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = not a forested wetland with special characteristics</p>	<p>Cat. I <input type="checkbox"/></p>
<p>SC5</p>	<p>Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? <input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks. <input type="checkbox"/> The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom.</i>) <input type="checkbox"/> YES = Go to SC 5.1 <input type="checkbox"/> NO not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). <input type="checkbox"/> At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland. <input type="checkbox"/> The wetland is larger than 1/10 acre (4350 square ft.) <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p>	<p>Cat. I <input type="checkbox"/> Cat. II <input type="checkbox"/></p>
<p>SC6</p>	<p>Interdunal Wetlands (see p. 93) Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <input type="checkbox"/> YES = Go to SC 6.1 <input type="checkbox"/> NO not an interdunal wetland for rating <i>If you answer yes you will still need to rate the wetland based on its functions.</i> In practical terms that means the following geographic areas: • Long Beach Peninsula -- lands west of SR 103 • Grayland-Westport -- lands west of SR 105 • Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger? <input type="checkbox"/> YES = Category II <input type="checkbox"/> NO = go to SC 6.2 SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? <input type="checkbox"/> YES = Category III</p>	<p>Cat. II <input type="checkbox"/> Cat. III <input type="checkbox"/></p>
<p>◆</p>	<p>Category of wetland based on Special Characteristics Choose the "highest" rating if wetland falls into several categories, and record on p. 1. If you answered NO for all types enter "Not Applicable" on p. 1</p>	<p>_____</p>

Comments: _____

Wetland name or number Wetland B

WETLAND RATING FORM – WESTERN WASHINGTON
Version 2 – Updated July 2006 to increase accuracy and reproducibility among users
Updated Oct. 2008 with the new WDFW definitions for priority habitats

Name of wetland (if known): B

Date of site visit: 2/26/2020

Rated by: AC Trained by Ecology? Yes No

Date of training: 3/07

SEC: 14

TOWNSHP: 3

RNGE: 2w

Is S/T/R in Appendix D? Yes No

Map of wetland unit: Figure _____ Estimated size 3.07 (acre unit)

SUMMARY OF RATING

Category based on FUNCTIONS provided by wetland: I II III IV

Category I =	Score > 70
Category II =	Score 51 - 69
Category III =	Score 30 – 50
Category IV =	Score < 30

Score for Water Quality Functions

12

Score for Hydrologic Functions

6

Score for Habitat Functions

6

TOTAL Score for Functions

24

Category based on SPECIAL CHARACTERISTICS of Wetland I II Does not apply

Final Category (choose the “highest” category from above”)

IV

Summary of basic information about the wetland unit.

Wetland Unit has Special Characteristics		Wetland HGM Class used for Rating	
Estuarine	<input type="checkbox"/>	Depressional	<input type="checkbox"/>
Natural Heritage Wetland	<input type="checkbox"/>	Riverine	<input type="checkbox"/>
Bog	<input type="checkbox"/>	Lake-fringe	<input type="checkbox"/>
Mature Forest	<input type="checkbox"/>	Slope	<input type="checkbox"/>
Old Growth Forest	<input type="checkbox"/>	Flats	<input type="checkbox"/>
Coastal Lagoon	<input type="checkbox"/>	Freshwater Tidal	<input type="checkbox"/>
Interdunal	<input type="checkbox"/>		<input type="checkbox"/>
None of the above	<input checked="" type="checkbox"/>	Check if unit has multiple HGM classes present	<input type="checkbox"/>

Does the wetland being rated meet any of the criteria below? If you answer YES to any of the questions below you will need to protect the wetland according to the regulations regarding the special characteristics found in the wetland.

Check List for Wetlands that Need Additional Protection (in addition to the protection recommended for its category)	YES	NO
SP1. <i>Has the wetland unit been documented as a habitat for any Federally listed Threatened or Endangered animal or plant species (T/E species)?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state or federal database.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SP2. <i>Has the wetland unit been documented as habitat for any State listed Threatened or Endangered animal species?</i> For the purposes of this rating system, “documented” means the wetland is on the appropriate state database. Note: Wetlands with State listed plant species are categorized as Category 1 Natural Heritage Wetlands (see p. 19 of data form).	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SP3. <i>Does the wetland unit contain individuals of Priority species listed by the WDFW for the state?</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SP4. <i>Does the wetland unit have a local significance in addition to its functions?</i> For example, the wetland has been identified in the Shoreline Master Program, the Critical Areas Ordinance, or in a local management plan as having special significance.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

To complete the next part of the data sheet you will need to determine the Hydrogeomorphic Class of the wetland being rated.

The hydrogeomorphic classification groups wetlands in to those that function in similar ways. This simplifies the questions needed to answer how well the wetland functions. The Hydrogeomorphic Class of a wetland can be determined using the key below. See p. 24 for more detailed instructions on classifying wetlands.

Classification of Vegetated Wetlands for Western Washington

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides (i.e. except during floods)?
 NO – go to 2 **YES** – the wetland class is **Tidal Fringe**
 If yes, is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?
 YES – **Freshwater Tidal Fringe** **NO** – **Saltwater Tidal Fringe (Estuarine)**
*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is a Saltwater Tidal Fringe it is rated as an **Estuarine** wetland. Wetlands that were call estuarine in the first and second editions of the rating system are called Salt Water Tidal Fringe in the Hydrogeomorphic Classification. Estuarine wetlands were categorized separately in the earlier editions, and this separation is being kept in this revision. To maintain consistency between editions, the term “Estuarine” wetland is kept. Please note, however, that the characteristics that define Category I and II estuarine wetlands have changed (see p. _____).*
2. The entire wetland unit is flat and precipitation is only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
 NO – go to 3 **YES** – The wetland class is **Flats**
 If your wetland can be classified as a “Flats” wetland, use the form for **Depressional** wetlands.
3. Does the entire wetland meet both of the following criteria?
 The vegetated part of the wetland is on the shores of a body of permanent open water (without any vegetation on the surface) where at least 20 acres (8ha) in size;
 At least 30% of the open water area is deeper than 6.6 (2 m)?
 NO – go to 4 **YES** – The wetland class is **Lake-fringe (Lacustrine Fringe)**
4. Does the entire wetland meet all of the following criteria?
 The wetland is on a slope (*slope can be very gradual*).
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 The water leaves the wetland **without being impounded**?
NOTE: Surface water does not pond in these types of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 foot deep).
 NO – go to 5 **YES** – The wetland class is **Slope**
5. Does the entire wetland meet all of the following criteria?
 The unit is in a valley or stream channel where it gets inundated by overbank flooding from that stream or river.
 The overbank flooding occurs at least once every two years.
NOTE: The riverine unit can contain depressions that are filled with water when the river is not flooding..
 NO – go to 6 **YES** – The wetland class is **Riverine**
6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time of the year. This means that any outlet, if present is higher than the interior of the wetland.
 NO – go to 7 **YES** – The wetland class is **Depressional**
7. Is the entire wetland located in a very flat area with no obvious depression and no overbank flooding. The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.
 No – go to 8 **YES** – The wetland class is **Depressional**
8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a depressional wetland has a zone of flooding along its sides. **GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT** (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within your wetland. *NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the class listed in column 2 is less than 10% of the unit, classify the wetland using the class that represents more than 90% of the total area.*

HGM Classes within the wetland unit being rated	HGM Class to Use in Rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake-fringe	Lake-fringe
Depressional + Riverine along stream within boundary	Depressional
Depressional + Lake-fringe	Depressional
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE under wetlands with special characteristics

If you are unable still to determine which of the above criteria apply to your wetland, or you have more than 2 HGM classes within a wetland boundary, classify the wetland as **Depressional** for the rating.

R Riverine and Freshwater Tidal Fringe Wetlands		Points
WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.		(only 1 score per box)
R 1	Does the wetland have the <u>potential</u> to improve water quality? (see p.52)	
	R 1.1 Area of surface depressions within the riverine wetland that can trap sediments during a flooding event: <ul style="list-style-type: none"> • Depressions cover > 3/4 area of wetland points = 8 <input type="checkbox"/> • Depressions cover > 1/2 area of wetland points = 4 <input type="checkbox"/> (If depressions > 1/2 of area of unit draw polygons on aerial photo or map) • Depressions present but cover < 1/2 area of wetland. points = 2 <input type="checkbox"/> • No depressions present points = 0 <input type="checkbox"/> 	Figure <input type="checkbox"/>
	R 1.2 Characteristics of the vegetation in the unit (areas with >90% cover at person height): <ul style="list-style-type: none"> • Trees or shrubs > 2/3 area of the unit points = 8 <input type="checkbox"/> • Trees or shrubs > 1/3 area of the wetland points = 6 <input type="checkbox"/> • Ungrazed, herbaceous plants > 2/3 area of unit points = 6 <input type="checkbox"/> • Ungrazed herbaceous plants > 1/3 area of unit points = 3 <input type="checkbox"/> • Trees, shrubs, and ungrazed herbaceous < 1/3 area of unit points = 0 <input type="checkbox"/> 	Figure <input type="checkbox"/>
Aerial photo or map showing polygons of different vegetation types		
Add the points in the boxes above		
R 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 53)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland. <i>Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i> <ul style="list-style-type: none"> <input type="checkbox"/> Grazing in the wetland or within 150 ft <input type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields or orchards within 150 ft. of wetland <input type="checkbox"/> A stream or culvert discharges into wetland that drains developed areas, residential areas, farmed fields, roads, or clear-cut logging <input type="checkbox"/> Residential, urban areas, golf courses are within 150 ft. of wetland <input type="checkbox"/> The river or stream linked to the wetland has a contributing basin where human activities have raised levels of sediment, toxic compounds or nutrients in the river water above standards for water quality. <input type="checkbox"/> Other _____ 	Multiplier
YES multiplier is 2 NO multiplier is 1		
◆ TOTAL – Water Quality Functions Multiply the score from R1 by R2; then add score to table on p. 1		
HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream erosion.		
R 3	Does the wetland have the <u>potential</u> to reduce flooding and erosion?	(see p.54)
	R 3.1 Characteristics of the overbank storage the wetland provides: <i>Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of unit) / (average width of stream between banks).</i> <ul style="list-style-type: none"> • If the ratio is more than 20..... points = 9 <input type="checkbox"/> • If the ratio is between 10 – 20..... points = 6 <input type="checkbox"/> • If the ratio is 5- <10..... points = 4 <input type="checkbox"/> • If the ratio is 1- <5..... points = 2 <input type="checkbox"/> • If the ratio is < 1 points = 1 <input type="checkbox"/> 	Figure <input type="checkbox"/>
	R 3.2 Characteristics of vegetation that slow down water velocities during floods: <i>Treat large woody debris as "forest or shrub". Choose the points appropriate for the best description. (polygons need to have >90% cover at person height NOT Cowardin classes):</i> <ul style="list-style-type: none"> • Forest or shrub for > 1/3 area OR herbaceous plants > 2/3 area points = 7 <input type="checkbox"/> • Forest or shrub for > 1/10 area OR herbaceous plants > 1/3 area points = 4 <input type="checkbox"/> • Vegetation does not meet above criteria points = 0 <input type="checkbox"/> 	Figure <input type="checkbox"/>
Aerial photo or map showing polygons of different vegetation types		
Add the points in the boxes above		
R 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p.57)
	Answer YES if the wetland is in a location in the watershed where the flood storage, or reduction in water velocity, it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows. <i>Note which of the following conditions apply.</i> <ul style="list-style-type: none"> <input type="checkbox"/> There are human structures and activities downstream (roads, buildings, bridges, farms) that can be damaged by flooding. <input type="checkbox"/> There are natural resources downstream (e.g. salmon redds) that can be damaged by flooding <input type="checkbox"/> Other _____ (Answer NO if the major source of water to the wetland is controlled by a reservoir or the wetland is tidal fringe along the sides of a dike)	Multiplier
<input type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1		
◆ TOTAL – Hydrologic Functions Multiply the score from R3 by R4; then add score to table on p. 1		

Comments: _____

L Lake-fringe Wetlands		Points
WATER QUALITY FUNCTIONS – Indicators that the wetland unit functions to improve water quality.		(only 1 score per box)
L 1	Does the wetland unit have the <u>potential</u> to improve water quality? (see p.59)	
	L 1.1 Average width of vegetation along the lakeshore (use polygons of Cowardin classes): <ul style="list-style-type: none"> • Vegetation is more than 33 ft. (10m) wide points = 6 <input type="checkbox"/> • Vegetation is more than 16 ft.(5m) wide and < 33 ft points = 3 <input type="checkbox"/> • Vegetation is more than 6 ft. (2m) wide and < 16 ft points = 1 <input type="checkbox"/> • Vegetation is less than 6 ft. wide..... points = 0 <input type="checkbox"/> <p style="text-align: center;">Map of Cowardin classes with widths marked</p>	Figure <input type="checkbox"/>
	L 1.2 Characteristics of the vegetation in the wetland: <i>Choose the appropriate description that results in the highest points, and do not include any open water in your estimate of coverage. The herbaceous plants can be either the dominant form or as an understory in a shrub or forest community. These are not Cowardin classes. Area of Cover is total cover in the unit, but it can be in patches. NOTE: Herbaceous does not include aquatic bed.</i> <ul style="list-style-type: none"> • Cover of herbaceous plants is > 90% of the vegetated area..... points = 6 <input type="checkbox"/> • Cover of herbaceous plants is > 2/3 of the vegetated area..... points = 4 <input type="checkbox"/> • Cover of herbaceous plants is > 1/3 of the vegetated area..... points = 3 <input type="checkbox"/> • Other vegetation that is not aquatic bed or herbaceous covers > 2/3 of the unit points = 3 <input type="checkbox"/> • Other vegetation that is not aquatic bed in > 1/3 vegetated area points = 1 <input type="checkbox"/> • Aquatic bed cover and open water > 2/3 of the unit..... points = 0 <input type="checkbox"/> <p style="text-align: center;">Map with polygons of different vegetation types</p>	Figure <input type="checkbox"/>
<i>Add the points in the boxes above</i>		
L 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p.61)
	Answer YES if you know or believe there are pollutants in the lake water, or polluted surface water flowing through the unit to the lake. <i>Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity.</i> <ul style="list-style-type: none"> <input type="checkbox"/> Wetland is along the shores of a lake or reservoir that does not meet water quality standards <input type="checkbox"/> Grazing in the wetland or within 150 ft <input type="checkbox"/> Polluted water discharges to wetland along upland edge <input type="checkbox"/> Tilled fields or orchards within 150 ft. of wetland <input type="checkbox"/> Residential or urban areas are within 150 ft. of wetland <input type="checkbox"/> Parks with grassy areas that are maintained, ballfields, golf courses (all within 150 ft. of lake shore) <input type="checkbox"/> Power boats with gasoline or diesel engines use the lake <input type="checkbox"/> Other _____ <p style="text-align: center;"><input type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1</p>	Multiplier
◆	TOTAL – Water Quality Functions Multiply the score from L1 by L2; then <i>add score to table on p. 1</i>	_____
HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce shoreline erosion.		
L 3	Does the wetland have the <u>potential</u> to reduce shoreline erosion?	(see p.62)
	L 3 Average width and characteristics of vegetation along the lakeshore (<i>do not include aquatic bed</i>): (<i>choose the highest scoring description that matches conditions in the wetland</i>) <ul style="list-style-type: none"> • 3/4 of distance is shrubs or forest at least 33 ft. (10m) wide points = 6 <input type="checkbox"/> • 3/4 of distance is shrubs or forest at least 6 ft. (2m) wide..... points = 4 <input type="checkbox"/> • 1/4 of distance is shrubs or forest at least 33 ft. (10m) wide. points = 4 <input type="checkbox"/> • Vegetation is at least 6 ft. (2m) wide (any type except aquatic bed)..... points = 2 <input type="checkbox"/> • Vegetation is less than 6 ft. (2m) wide (any type except aquatic bed) points = 0 <input type="checkbox"/> <p style="text-align: center;">Aerial photo or map with Cowardin vegetation classes</p>	Figure <input type="checkbox"/>
<i>Record the points in the boxes above</i>		
L 4	Does the wetland have the <u>opportunity</u> to reduce erosion?	(see p. 64)
	Are there features along the shore that will be impacted if the shoreline erodes? <i>Note which of the following conditions apply.</i> <ul style="list-style-type: none"> <input type="checkbox"/> There are human structures and activities along the upland edge of the wetland (buildings, fields) that can be damaged by erosion. <input type="checkbox"/> There are undisturbed natural resources along the upland edge of the wetland (e.g. mature forests, other wetlands) that can be damaged by shoreline erosion. <input type="checkbox"/> Other _____ <p style="text-align: center;"><input type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1</p>	Multiplier
◆	TOTAL – Hydrologic Functions Multiply the score from L3 by L4; then <i>add score to table on p. 1</i>	_____

Comments: _____

S Slope Wetlands		Points
WATER QUALITY FUNCTIONS – Indicators that wetland functions to improve water quality.		(only 1 score per box) (see p.64)
S 1	Does the wetland have the <u>potential</u> to improve water quality?	
	S 1.1 Characteristics of average slope of unit: • Slope is 1% or less (a 1% slope has a 1 ft. vertical drop in elevation for every 100 ft. horizontal distance).... points = 3 <input type="checkbox"/> • Slope is 1% - 2% points = 2 <input type="checkbox"/> • Slope is 2% - 5% points = 1 <input type="checkbox"/> • Slope is greater than 5% points = 0 <input type="checkbox"/>	
	S 1.2 The soil 2 inches below the surface (or duff layer) is clay, organic (Use NRCS definitions). <input type="checkbox"/> YES = 3 points <input type="checkbox"/> NO = 0 points	
	S 1.3 Characteristics of the vegetation in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the vegetation in the wetland. Dense vegetation means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 inches. • Dense, uncut, herbaceous vegetation > 90% of the wetland area..... points = 6 <input type="checkbox"/> • Dense, uncut, herbaceous vegetation > 1/2 of area points = 3 <input type="checkbox"/> • Dense, woody, vegetation > 1/2 of area..... points = 2 <input type="checkbox"/> • Dense, uncut, herbaceous vegetation > 1/4 of area points = 1 <input type="checkbox"/> • Does not meet any of the criteria above for vegetation points = 0 <input type="checkbox"/>	Figure <input type="checkbox"/>
Aerial photo or map with vegetation polygons		
Total for S 1		<i>Add the points in the boxes above</i>
S 2	Does the wetland have the <u>opportunity</u> to improve water quality?	(see p. 67)
	Answer YES if you know or believe there are pollutants in groundwater or surface water coming into the wetland that would otherwise reduce water quality in streams, lakes or groundwater downgradient from the wetland? Note which of the following conditions provide the sources of pollutants. A unit may have pollutants coming from several sources, but any single source would qualify as opportunity. <input type="checkbox"/> Grazing in the wetland or within 150 ft <input type="checkbox"/> Untreated stormwater discharges to wetland <input type="checkbox"/> Tilled fields, logging, or orchards within 150 ft. of wetland <input type="checkbox"/> Residential, urban areas, or golf courses are within 150 ft. upslope of wetland <input type="checkbox"/> Other <input type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1	Multiplier
◆ TOTAL – Water Quality Functions		Multiply the score from S1 by S2; then add score to table on p. 1
HYDROLOGIC FUNCTIONS – Indicators that wetland functions to reduce flooding and stream erosion.		
S 3	Does the wetland have the <u>potential</u> to reduce flooding and stream erosion?	(see p.68)
	S 3.1 Characteristics of vegetation that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland (stems of plants should be thick enough (usually > 1/8in), or dense enough to remain erect during surface flows). • Dense, uncut, rigid vegetation covers > 90% of the area of the wetland points = 6 <input type="checkbox"/> • Dense, uncut, rigid vegetation > 1/2 area of wetland points = 3 <input type="checkbox"/> • Dense, uncut, rigid vegetation > 1/4 area..... points = 1 <input type="checkbox"/> • More than 1/4 of area is grazed, mowed, tilled, or vegetation is not rigid points = 0 <input type="checkbox"/>	
	S 3.2 Characteristics of slope wetland that holds back small amounts of flood flows. The slope has small surface depressions that can retain water over at least 10% of its area. <input type="checkbox"/> YES = 2 points <input type="checkbox"/> NO = 0 points	
Add the points in the boxes above		
S 4	Does the wetland have the <u>opportunity</u> to reduce flooding and erosion?	(see p. 70)
	Is the wetland in a landscape position where the reduction in water velocity it provides helps protect downstream property and aquatic resources from flooding or excessive and/or erosive flows? Note which of the following conditions apply. <input type="checkbox"/> Wetland has surface runoff that drains to a river or stream that has flooding problems <input type="checkbox"/> Other (Answer NO if the major source of water is controlled by a reservoir (e.g. wetland is a seep that is on the downstream side of a dam) <input type="checkbox"/> YES multiplier is 2 <input type="checkbox"/> NO multiplier is 1	Multiplier
◆ TOTAL – Hydrologic Functions		Multiply the score from S3 by S4; then add score to table on p. 1

Comments: _____

H 2	Does the wetland have the <u>opportunity</u> to provide habitat for many species?	(only 1 score per box)
	<p>H 2.1 <u>Buffers</u> (see P. 80): <i>Choose the description that best represents condition of buffer of wetland unit. The highest scoring criterion that applies to the wetland is to be used in the rating. See text for definition of "undisturbed".</i></p> <p><input type="checkbox"/> 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% of circumference. No structures are within the undisturbed part of buffer (relatively undisturbed also means no grazing, no landscaping, no daily human use)..... points = 5</p> <p><input type="checkbox"/> 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 50% circumference points = 4</p> <p><input type="checkbox"/> 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 95% circumference points = 4</p> <p><input type="checkbox"/> 100m (330 ft) of relatively undisturbed vegetated areas, rocky areas, or open water > 25% circumference points = 3</p> <p><input type="checkbox"/> 50m (170 ft) of relatively undisturbed vegetated areas, rocky areas, or open water for > 50% circumference points = 3</p> <p>If buffer does not meet any of the criteria above:</p> <p><input type="checkbox"/> No paved areas (except paved trails) or buildings within 25m (80 ft) of wetland > 95% circumference. Light to moderate grazing or lawns are OK points = 2</p> <p><input checked="" type="checkbox"/> No paved areas of buildings within 50m of wetland for > 50% circumference. Light to moderate grazing or lawns are OK points = 2</p> <p><input type="checkbox"/> Heavy grazing in buffer points = 1</p> <p><input type="checkbox"/> Vegetated buffers are < 2m wide (6.6 ft) for more than 95% circumference (e.g. tilled fields, paving, basalt bedrock extend to edge of wetland) points = 0</p> <p><input type="checkbox"/> Buffer does not meet any of the criteria above points = 1</p> <p style="text-align: right;">Arial photo showing buffers</p>	<p>Figure <input type="checkbox"/></p> <p style="text-align: right;">2</p>
	<p>H 2.2 <u>Corridors and Connections</u> (see p. 81)</p> <p>H 2.2.1 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 150 ft. wide, has at least a 30% cover of shrubs, forest or native undisturbed prairie, that connects to estuaries, other wetlands or undisturbed uplands that are at least 250 acres in size? (<i>Dams in riparian corridors, heavily used gravel roads, paved roads, are considered breaks in the corridor.</i>)</p> <p style="text-align: center;"><input type="checkbox"/> YES = 4 points (go to H 2.3) <input checked="" type="checkbox"/> NO = go to H 2.2.2</p> <p>H. 2.2.2 Is the wetland part of a relatively undisturbed and unbroken vegetated corridor (either riparian or upland) that is at least 50 ft. wide, has at least 30% cover of shrubs or forest, and connects to estuaries, other wetlands or undisturbed uplands that are at least 25 acres in size? OR a Lake-fringe wetland, if it does not have an undisturbed corridor as in the question above?</p> <p style="text-align: center;"><input type="checkbox"/> YES = 2 points (go to H 2.3) <input type="checkbox"/> NO = go to H 2.2.3</p> <p>H. 2.2.3 Is the wetland:</p> <ul style="list-style-type: none"> • Within 5 mi (8km) of a brackish or salt water estuary OR • Within 3 miles of a large field or pasture (> 40 acres) OR • Within 1 mile of a lake greater than 20 acres? <p style="text-align: right;"><input checked="" type="checkbox"/> YES = 1 point <input type="checkbox"/> NO = 0 points</p>	<p style="text-align: right;">1</p>

Comments: _____

	<p>H 2.3 <u>Near or adjacent to other priority habitats listed by WDFW</u> (see p. 82): (see new and complete descriptions of WDFW priority habitats, and the counties in which they can be found, in the PHS report http://wdfw.wa.gov/hab/phslist.htm)</p> <p>Which of the following priority habitats are within 330 ft. (100m) of the wetland unit? <i>NOTE: the connections do not have to be relatively undisturbed.</i></p> <p><input type="checkbox"/> Aspen Stands: Pure or mixed stands of aspen greater than 0.4 ha (1 acre).</p> <p><input type="checkbox"/> Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report p. 152).</p> <p><input type="checkbox"/> Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.</p> <p><input type="checkbox"/> Old-growth/Mature forests: (Old-growth west of Cascade crest) Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 20 trees/ha (8 trees/acre) > 81 cm (32 in) dbh or > 200 years of age. (Mature forests) Stands with average diameters exceeding 53 cm (21 in) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80 - 200 years old west of the Cascade crest.</p> <p><input type="checkbox"/> Oregon white Oak: Woodlands Stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158).</p> <p><input type="checkbox"/> Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.</p> <p><input type="checkbox"/> Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161).</p> <p><input type="checkbox"/> Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.</p> <p><input type="checkbox"/> Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report: pp. 167-169 and glossary in Appendix A).</p> <p><input type="checkbox"/> Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.</p> <p><input type="checkbox"/> Cliffs: Greater than 7.6 m (25 ft) high and occurring below 5000 ft.</p> <p><input type="checkbox"/> Talus: Homogenous areas of rock rubble ranging in average size 0.15 - 2.0 m (0.5 - 6.5 ft), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.</p> <p><input type="checkbox"/> Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 51 cm (20 in) in western Washington and are > 2 m (6.5 ft) in height. Priority logs are > 30 cm (12 in) in diameter at the largest end, and > 6 m (20 ft) long.</p> <p style="text-align: right;">If wetland has 3 or more priority habitats = 4 points If wetland has 2 priority habitats = 3 points If wetland has 1 priority habitat = 1 point No habitats = 0 points</p> <p>Note: All vegetated wetlands are by definition a priority habitat but are not included in this list. Nearby wetlands are addressed in question H 2.4)</p>	0
	<p>H 2.4 <u>Wetland Landscape:</u> Choose the one description of the landscape around the wetland that best fits (see p. 84)</p> <ul style="list-style-type: none"> • There are at least 3 other wetlands within 1/2 mile, and the connections between them are relatively undisturbed (light grazing between wetlands OK, as is lake shore with some boating, but connections should NOT be bisected by paved roads, fill, fields, or other development.... points = 5 <input type="checkbox"/> • The wetland is Lake-fringe on a lake with little disturbance and there are 3 other lake-fringe wetlands within 1/2 mile points = 5 <input type="checkbox"/> • There are at least 3 other wetlands within 1/2 mile, BUT the connections between them are disturbed. points = 3 <input checked="" type="checkbox"/> • The wetland fringe on a lake with disturbance and there are 3 other lake-fringe wetlands within 1/2 mile points = 3 <input type="checkbox"/> • There is at least 1 wetland within 1/2 mile points = 2 <input type="checkbox"/> • There are no wetlands within 1/2 mile..... points = 0 <input type="checkbox"/> 	3
	<p>H 2 TOTAL Score – opportunity for providing habitat <i>Add the scores from H2.1, H2.2, H2.3, H2.4</i></p>	6
	<p><i>TOTAL for H 1 from page 8</i></p>	2
◆	<p>Total Score for Habitat Functions Add the points for H 1 and H 2; then record the result on p. 1</p>	8

Comments: _____

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate answers and Category.

Wetland Type – Check off any criteria that apply to the wetland. Circle the Category when the appropriate criteria are met.	
SC1	<p>Estuarine wetlands? (see p.86)</p> <p>Does the wetland unit meet the following criteria for Estuarine wetlands?</p> <p><input type="checkbox"/> The dominant water regime is tidal, <input type="checkbox"/> Vegetated, and <input type="checkbox"/> With a salinity greater than 0.5 ppt.</p> <p style="text-align: center;"><input type="checkbox"/> YES = Go to SC 1.1 <input type="checkbox"/> NO</p>
	<p>SC 1.1 Is the wetland unit within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = go to SC 1.2</p>
	<p>SC 1.2 Is the wetland at least 1 acre in size and meets at least two of the following conditions?</p> <p style="text-align: center;"><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p> <p><input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. If the non-native <i>Spartina</i> spp. are only species that cover more than 10% of the wetland, then the wetland should be given a dual rating (I/II). The area of <i>Spartina</i> would be rated a Category II while the relatively undisturbed upper marsh with native species would be a Category I. Do not, however, exclude the area of <i>Spartina</i> in determining the size threshold of 1 acre.</p> <p><input type="checkbox"/> At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland</p> <p><input type="checkbox"/> The wetland has at least 2 of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>
SC2	<p>Natural Heritage Wetlands (see p. 87)</p> <p>Natural Heritage wetlands have been identified by the Washington Natural Heritage Program/DNR as either high quality undisturbed wetlands or wetlands that support state Threatened, Endangered, or Sensitive plant species.</p> <p>SC 2.1 Is the wetland being rated in a Section/Township/Range that contains a natural heritage wetland? (This question is used to screen out most sites before you need to contact WNHP/DNR.)</p> <p style="text-align: center;"><input type="checkbox"/> S/T/R information from Appendix D <input type="checkbox"/> or accessed from WNHP/DNR web site</p> <p style="text-align: center;"><input type="checkbox"/> YES Contact WNHP/DNR (see p. 79) and go to SC 2.2 <input type="checkbox"/> NO</p> <p>SC 2.2 Has DNR identified the wetland as a high quality undisturbed wetland or as a site with state threatened or endangered plant species?</p> <p style="text-align: center;"><input type="checkbox"/> YES = Category 1 <input type="checkbox"/> NO not a Heritage Wetland</p>
SC3	<p>Bogs (see p. 87)</p> <p>Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below to identify if the wetland is a bog. <i>If you answer yes you will still need to rate the wetland based on its function.</i></p> <ol style="list-style-type: none"> Does the unit have organic soil horizons (i.e. layers of organic soil), either peats or mucks, that compose 16 inches or more of the first 32 inches of soil profile? (See Appendix B for a field key to identify organic soils)? <input type="checkbox"/> YES = go to question 3 <input type="checkbox"/> NO = go to question 2 Does the wetland have organic soils, either peats or mucks that are less than 16 inches deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on a lake or pond? <input type="checkbox"/> YES = go to question 3 <input type="checkbox"/> NO = is not a bog for purpose of rating Does the unit have more than 70% cover of mosses at ground level, AND other plants, if present, consist of the “bog” species listed in Table 3 as a significant component of the vegetation (more than 30% of the total shrub and herbaceous cover consists of species in Table 3)? <p style="text-align: center;"><input type="checkbox"/> YES = Is a bog for purpose of rating <input type="checkbox"/> NO = go to question 4</p> <p>NOTE: If you are uncertain about the extent of mosses in the understory you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16” deep. If the pH is less than 5.0 and the “bog” plant species in Table 3 are present, the wetland is a bog.</p> <ol style="list-style-type: none"> Is the unit forested (> 30% cover) with sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Englemann’s spruce, or western white pine. WITH any of the species (or combination of species) on the bog species plant list in Table 3 as a significant component of the ground cover (> 30% coverage of the total shrub/herbaceous cover)? <p style="text-align: center;"><input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Is not a bog for purpose of rating</p>

<p>SC4</p>	<p>Forested Wetlands (see p. 90) Does the wetland have at least 1 acre of forest that meet one of these criteria for the Department of Fish and Wildlife's forests as priority habitats? <i>If you answer yes you will still need to rate the wetland based on its function.</i> <input type="checkbox"/> Old-growth forests: (west of Cascade Crest) Stands of at least two three species forming a multi-layered canopy with occasional small openings; with at least 8 trees/acre (20 trees/hectare) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 inches (81 cm or more). NOTE: The criterion for dbh is based on measurements for upland forests. Two-hundred year old trees in wetlands will often have a smaller dbh because their growth rates are often slower. The DFW criterion is and "OR" so old-growth forests do not necessarily have to have trees of this diameter. <input type="checkbox"/> Mature forests: (west of the Cascade Crest) Stands where the largest trees are 80 – 200 years old OR have an average diameters (dbh) exceeding 21 inches (53 cm); crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth. <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = not a forested wetland with special characteristics</p>	<p>Cat. I <input type="checkbox"/></p>
<p>SC5</p>	<p>Wetlands in Coastal Lagoons (see p. 91) Does the wetland meet all of the following criteria of a wetland in a coastal lagoon? <input type="checkbox"/> The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks. <input type="checkbox"/> The lagoon in which the wetland is located contains surface water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (<i>needs to be measured near the bottom.</i>) <input type="checkbox"/> YES = Go to SC 5.1 <input type="checkbox"/> NO not a wetland in a coastal lagoon SC 5.1 Does the wetland meet all of the following three conditions? <input type="checkbox"/> The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing) and has less than 20% cover of invasive plant species (see list of invasive species on p. 74). <input type="checkbox"/> At least 3/4 of the landward edge of the wetland has a 100 ft. buffer of shrub, forest, or un-grazed or un-mowed grassland. <input type="checkbox"/> The wetland is larger than 1/10 acre (4350 square ft.) <input type="checkbox"/> YES = Category I <input type="checkbox"/> NO = Category II</p>	<p>Cat. I <input type="checkbox"/> Cat. II <input type="checkbox"/></p>
<p>SC6</p>	<p>Interdunal Wetlands (see p. 93) Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <input type="checkbox"/> YES = Go to SC 6.1 <input type="checkbox"/> NO not an interdunal wetland for rating <i>If you answer yes you will still need to rate the wetland based on its functions.</i> In practical terms that means the following geographic areas: • Long Beach Peninsula -- lands west of SR 103 • Grayland-Westport -- lands west of SR 105 • Ocean Shores-Copalis – lands west of SR 115 and SR 109 SC 6.1 Is the wetland one acre or larger, or is it in a mosaic of wetlands that is one acre or larger? <input type="checkbox"/> YES = Category II <input type="checkbox"/> NO = go to SC 6.2 SC 6.2 Is the wetland between 0.1 and 1 acre, or is it in a mosaic of wetlands that is between 0.1 and 1 acre? <input type="checkbox"/> YES = Category III</p>	<p>Cat. II <input type="checkbox"/> Cat. III <input type="checkbox"/></p>
<p>◆</p>	<p>Category of wetland based on Special Characteristics Choose the "highest" rating if wetland falls into several categories, and record on p. 1. If you answered NO for all types enter "Not Applicable" on p. 1</p>	<p>_____</p>

Comments: _____

APPENDIX H

WDFW PRIORITY HABITATS AND SPECIES



WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
PRIORITY HABITATS AND SPECIES REPORT

SOURCE DATASET: PHSPPlusPublic
REPORT DATE: 01/12/2019 9:46

Query ID: P190112214632

Common Name Scientific Name	Site Name Source Dataset Source Record	Priority Area Occurrence Type More Information (URL) Mgmt Recommendations	Accuracy	Federal Status State Status PHS Listing Status	Sensitive Data Resolution	Source Entity Geometry Type
Big brown bat Eptesicus fuscus	WS_OccurPoint 141466 September 28, 2016	Communal Roost Biotic detection http://wdfw.wa.gov/publications/pub.php?	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points
Little Brown Bat Myotis lucifugus	WS_OccurPoint 141076 June 02, 2004	Communal Roost Biotic detection http://wdfw.wa.gov/publications/pub.php?	GPS	N/A N/A PHS LISTED	Y TOWNSHIP	WA Dept. of Fish and Wildlife Points

DISCLAIMER: This report includes information that the Washington Department of Fish and Wildlife (WDFW) maintains in a central computer database. It is not an attempt to provide you with an official agency response as to the impacts of your project on fish and wildlife. This information only documents the location of fish and wildlife resources to the best of our knowledge. It is not a complete inventory and it is important to note that fish and wildlife resources may occur in areas not currently known to WDFW biologists, or in areas for which comprehensive surveys have not been conducted. Site specific surveys are frequently necessary to rule out the presence of priority resources. Locations of fish and wildlife resources are subject to variation caused by disturbance, changes in season and weather, and other factors. WDFW does not recommend using reports more than six months old.

01/12/2019 9:46

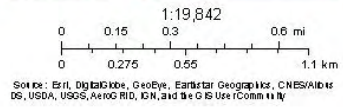
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WDFW Test Map



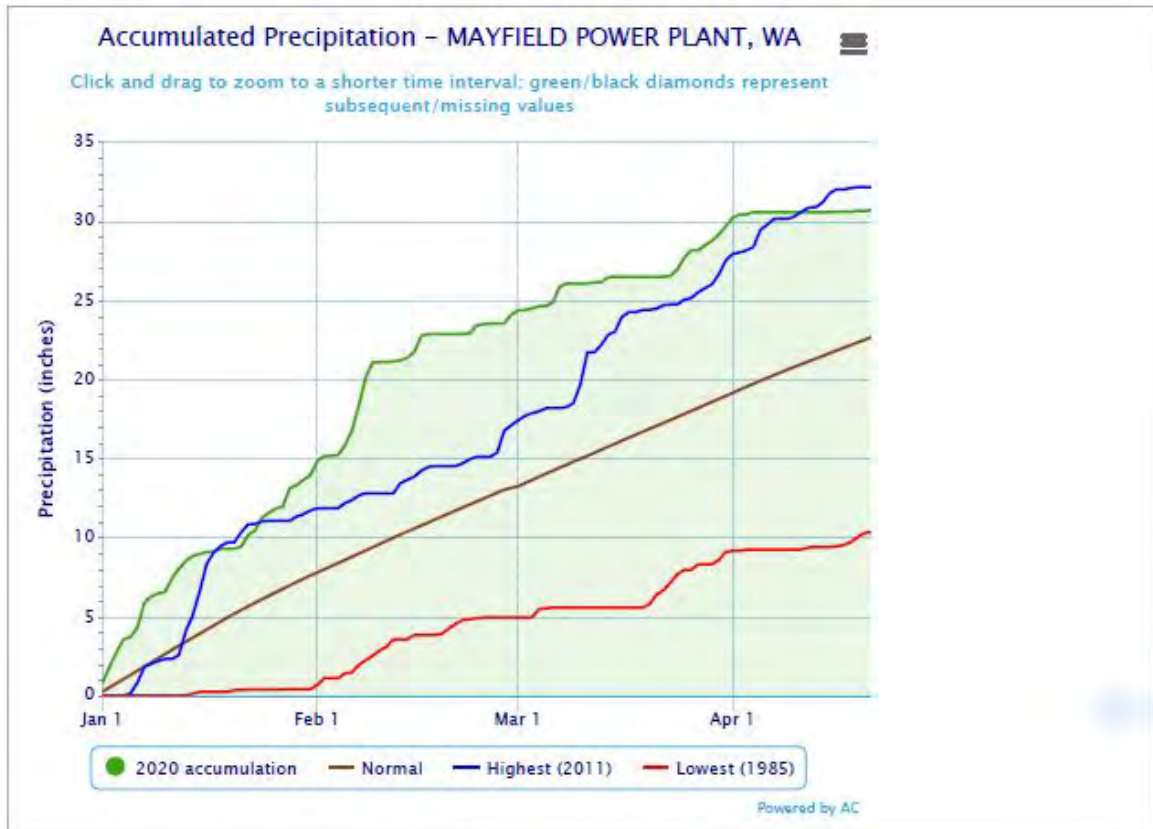
January 12, 2019

- | | | |
|--|---|--|
|  PHS Report Clip Area | POLY |  QTR-TWP |
|  PT |  AS MAPPED |  TOWNSHIP |
|  LN |  SECTION | |



APPENDIX I NOAA NOW DATA

4/21/2020



Note regarding subsequent/missing values

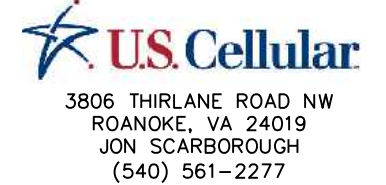
GENERAL NOTES:

1. ALL REFERENCES TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED US CELLULAR OR ITS DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF WASHINGTON.
3. STRUCTURE IS DESIGNED IN ACCORDANCE WITH ANSI/TIA/EIA-222-G, 2009, LOAD. THIS CONFORMS TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
4. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
5. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
6. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
7. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
8. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
9. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
12. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
14. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
15. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOFROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFTER MATERIAL SHALL BE REWORKED OR REPLACED.
16. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
17. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
18. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE RESPONSIBLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

STRUCTURAL STEEL NOTES:

1. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS AND MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
2. UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - A. STRUCTURAL STEEL, ASTM DESIGNATION A36 OR A992 GR50.
 - B. ALL BOLTS, ASTM A325 TYPE 1 GALVANIZED HIGH STRENGTH BOLTS.
 - C. ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
 - D. ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
3. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATIONS AND MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.
4. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER.
5. HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED, AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM A153/A153M OR ASTM A653/A653M, G90, AS APPLICABLE.
6. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED, WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS IN STICK OR PASTED; SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.
7. A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
8. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
10. ALL ASSEMBLY BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN SECTION 8.1 OF THE AISC, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", DATED JUNE 30, 2004.
11. FLAT WASHERS ARE TO BE INSTALLED WITH BOLTS OVER SLOTTED HOLES.
12. DO NOT OVER TORQUE ASSEMBLY BOLTS. GALVANIZING ON BOLTS, NUTS, AND STEEL PARTS ;MAY ACT AS A LUBRICANT, THUS OVER TIGHTENING MAY OCCUR AND MAY CAUSE BOLTS TO CRACK AND SNAP OFF.
13. PAL NUTS ARE TO BE INSTALLED AFTER NUTS ARE TIGHT AND WITH EDGE LIP OUT. PAL NUTS ARE NOT REQUIRED WHEN SELF-LOCKING NUTS ARE PROVIDED.
14. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
15. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-2010 STRUCTURAL WELDING CODE - STEEL.

PLANS PREPARED FOR:



PLANS PREPARED FOR:



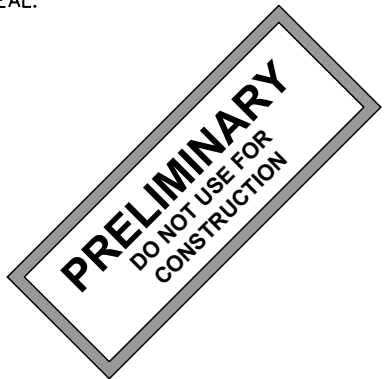
PROJECT INFORMATION:



PLANS PREPARED BY:



SEAL:



3	03-03-20	ZONING
2	02-24-20	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: TDS CHECKED BY: GLB

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER: N-1	REVISION: 3 TEP #:240735-219170
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INADVERTENT OR POST-REVIEW DISCOVERY PLAN:

PROCEDURES FOR INADVERTENT DISCOVERY OF AN ARCHEOLOGICAL SITE

- IN THE EVENT THAT ANY USCC EMPLOYEE, CONSULTANT OR CONTRACTOR INADVERTENTLY DISCOVERS WITHIN THE APE FOR DIRECT EFFECTS A PREVIOUSLY UNIDENTIFIED ARCHEOLOGICAL SITE THAT MAY BE ELIGIBLE FOR THE NATIONAL REGISTER AND THAT WOULD BE AFFECTED BY THE PROJECT, THE PERSON DISCOVERING SUCH SITE SHALL IMMEDIATELY NOTIFY USCC, WHICH WILL IN TURN CONFIRM THE STATUS OF THE FIND AS A SITE, AND THAT IT MAY BE ELIGIBLE FOR THE NATIONAL REGISTER, AND IF SO, PROMPTLY NOTIFY THE FCC, THE SHPO AND ANY INDIAN TRIBE THAT IS PARTICIPATING, PREVIOUSLY PARTICIPATED, OR HAS REQUESTED TO BE NOTIFIED ABOUT ANY LATER DISCOVERY OF CULTURAL REMAINS AT THE PROJECT.
- WITHIN A REASONABLE TIME USCC SHALL SUBMIT TO THE FCC, THE SHPO AND ANY POTENTIALLY AFFECTED INDIAN TRIBE A WRITTEN REPORT EVALUATING THE PROPERTY'S ELIGIBILITY FOR INCLUSION IN THE NATIONAL REGISTER. IN PREPARING THIS REPORT, USCC SHALL SEEK THE INPUT OF ANY PARTICIPATING INDIAN TRIBE.
- IF FOUND DURING CONSTRUCTION, ANY CONSTRUCTION THAT MAY AFFECT THE ARCHEOLOGICAL SITE MUST CEASE UNTIL AN EVALUATION HAS BEEN COMPLETED.
- IF USCC AND THE SHPO CONCUR THAT THE DISCOVERED RESOURCE IS ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER, USCC WILL CONSULT WITH THE SHPO AND ANY PARTICIPATING INDIAN TRIBE TO EVALUATE MEASURES THAT WILL AVOID, MINIMIZE, OR MITIGATE ADVERSE EFFECTS. UPON AGREEMENT REGARDING SUCH MEASURES, USCC SHALL IMPLEMENT THEM AND NOTIFY THE FCC OF ITS ACTION.
- IF USCC AND THE SHPO CANNOT REACH AGREEMENT REGARDING THE ELIGIBILITY OF A PROPERTY, THE MATTER WILL BE REFERRED TO THE FCC FOR REVIEW IN ACCORDANCE WITH SECTION VI.D.3 OF THE NPA. IF USCC AND THE SHPO CANNOT REACH AGREEMENT ON MEASURES TO AVOID, MINIMIZE, OR MITIGATE
- IF ANY USCC EMPLOYEE, CONSULTANT OR CONTRACTOR DISCOVERS ANY HUMAN OR BURIAL REMAINS DURING IMPLEMENTATION OF AN UNDERTAKING, USCC SHALL ENSURE THAT WORK IS IMMEDIATELY CEASED, NOTIFY THE SHPO AND FCC, AND ADHERE TO APPLICABLE STATE AND FEDERAL LAWS REGARDING THE TREATMENT OF HUMAN OR BURIAL REMAINS.

PLANS PREPARED FOR:



3806 THIRLANE ROAD NW
ROANOKE, VA 24019
JON SCARBOROUGH
(540) 561-2277

PLANS PREPARED FOR:

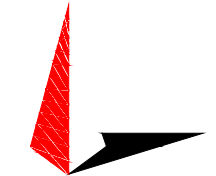
WIRELESS SITE

TECHNOLOGY, LLC
WIRELESS SITE TECHNOLOGY, LLC
9323 N. GOVERNMENT WAY #220
HAYDEN, ID 83835
DAN MACKINNEY
(208) 699-0237

PROJECT INFORMATION:

367377
CHEHALIS MIDDLE SCHOOL
1437 BISHOP RD
CHEHALIS, WA 99532
(LEWIS COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



3	03-03-20	ZONING
2	02-24-20	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: TDS CHECKED BY: GLB

SHEET TITLE:
INADVERTENT OR POST-REVIEW DISCOVERY PLAN

SHEET NUMBER: **N-2** REVISION: **3**
TEP #: 240735-219170

NOTES:

1. THE BASIS OF THE MERIDIANS AND COORDINATES FOR THIS PLAT IS THE WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983 (WASPCS NAD83).
2. VERTICAL INFORMATION SHOWN, BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
3. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED.
4. THE TOWER IS LOCATED IN THE ZONE X AREA, AREAS OF MINIMAL FLOODING (FEMA MAP # 5301021364C, DATED JULY 17, 2006).
5. EXISTING RAIL SECTIONS DO NOT INTERFERE WITH PROPOSED ACCESS DRIVE.

1-A COORDINATES

LATITUDE: N 46° 38' 09.68" (NAD 83)
 LONGITUDE: W 122° 56' 18.61" (NAD 83)
 GROUND ELEVATION: 208.61' (NAVD 88)

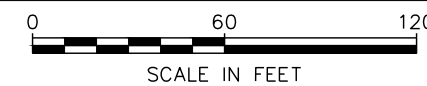
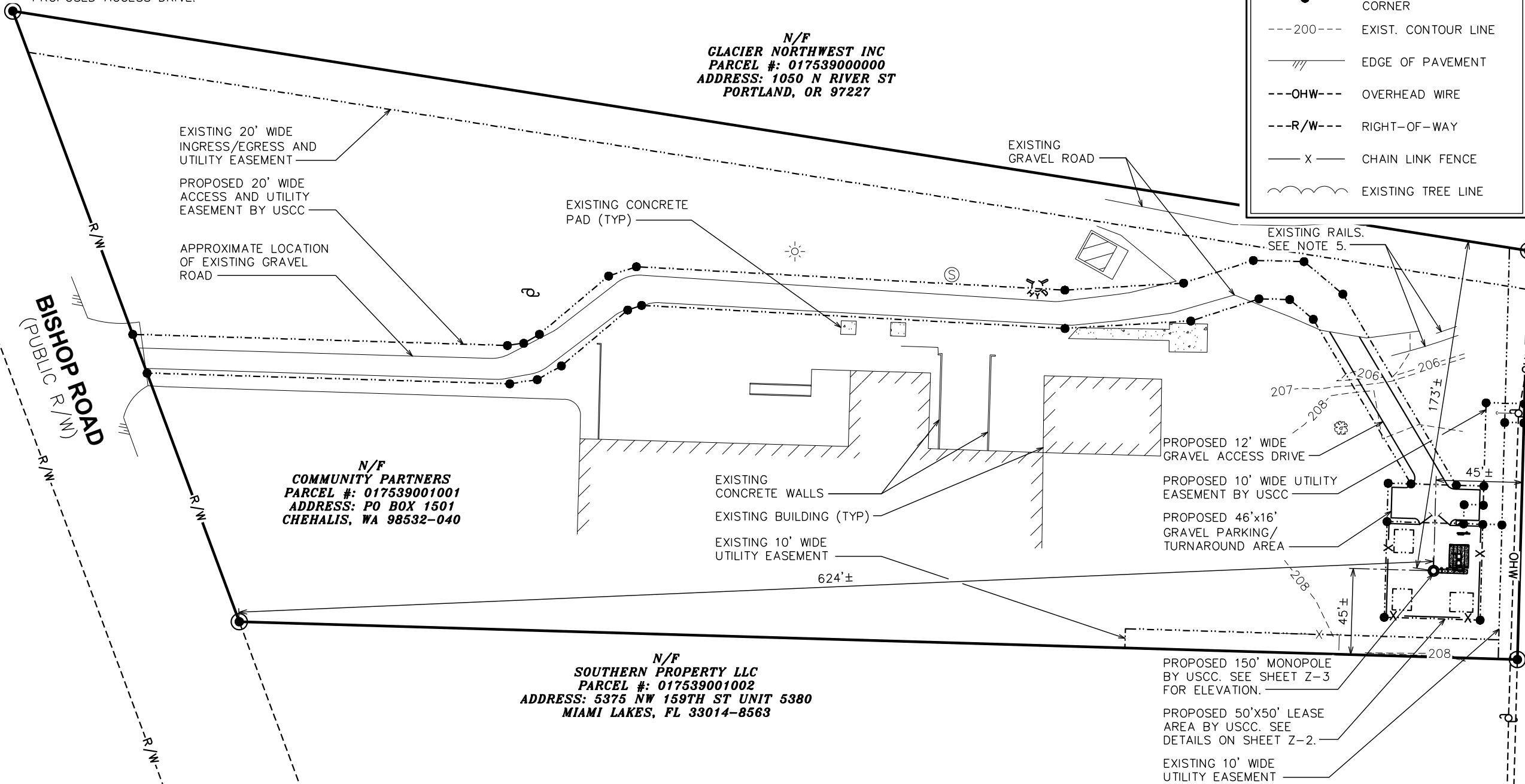
LEGEND

- EXIST. PROPERTY LINE
- ⊕ EXIST. UTILITY POLE
- Ⓜ EXIST. TELCO PEDESTAL
- ⊕ EXIST. HYDRANT
- ☀ EXIST. LIGHT POLE
- Ⓢ EXIST. SAN SEWER MH
- PROPERTY CORNER
- LEASE AREA/EASEMENT CORNER
- - - 200 - - - EXIST. CONTOUR LINE
- ▨ EDGE OF PAVEMENT
- - - OHW - - - OVERHEAD WIRE
- - - R/W - - - RIGHT-OF-WAY
- X - CHAIN LINK FENCE
- ⌋ EXISTING TREE LINE

N/F
GLACIER NORTHWEST INC
 PARCEL #: 017539000000
 ADDRESS: 1050 N RIVER ST
 PORTLAND, OR 97227

N/F
COMMUNITY PARTNERS
 PARCEL #: 017539001001
 ADDRESS: PO BOX 1501
 CHEHALIS, WA 98532-040

N/F
SOUTHERN PROPERTY LLC
 PARCEL #: 017539001002
 ADDRESS: 5375 NW 159TH ST UNIT 5380
 MIAMI LAKES, FL 33014-8563



PLANS PREPARED FOR:

 3806 THIRLANE ROAD NW
 ROANOKE, VA 24019
 JON SCARBOROUGH
 (540) 561-2277

PLANS PREPARED FOR:
WIRELESS SITE TECHNOLOGY, LLC
 WIRELESS SITE TECHNOLOGY, LLC
 9323 N. GOVERNMENT WAY #220
 HAYDEN, ID 83835
 DAN MACKINNEY
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 326 TRYON ROAD
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SEAL:


3	03-03-20	ZONING
2	02-24-20	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: TDS CHECKED BY: GLB

SHEET TITLE:
SITE PLAN

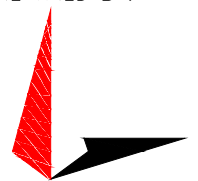
SHEET NUMBER: **Z-1** REVISION: **3**
 TEP #: 240735-219170

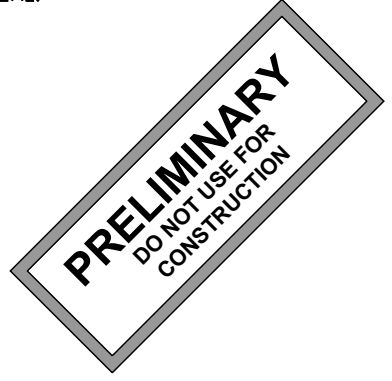
SITE PLAN
 SCALE: 1" = 60'

PLANS PREPARED FOR:

 3806 THIRLANE ROAD NW
 ROANOKE, VA 24019
 JON SCARBOROUGH
 (540) 561-2277

PLANS PREPARED FOR:
WIRELESS SITE
 TECHNOLOGY, LLC
 WIRELESS SITE TECHNOLOGY, LLC
 9323 N. GOVERNMENT WAY #220
 HAYDEN, ID 83835
 DAN MACKINNEY
 (208) 699-0237

PROJECT INFORMATION:
367377
CHEHALIS MIDDLE SCHOOL
 1437 BISHOP RD
 CHEHALIS, WA 99532
 (LEWIS COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
 326 TRYON ROAD
 RALEIGH, NC 27603-3530
 OFFICE: (919) 661-6351
 www.tepgroup.net

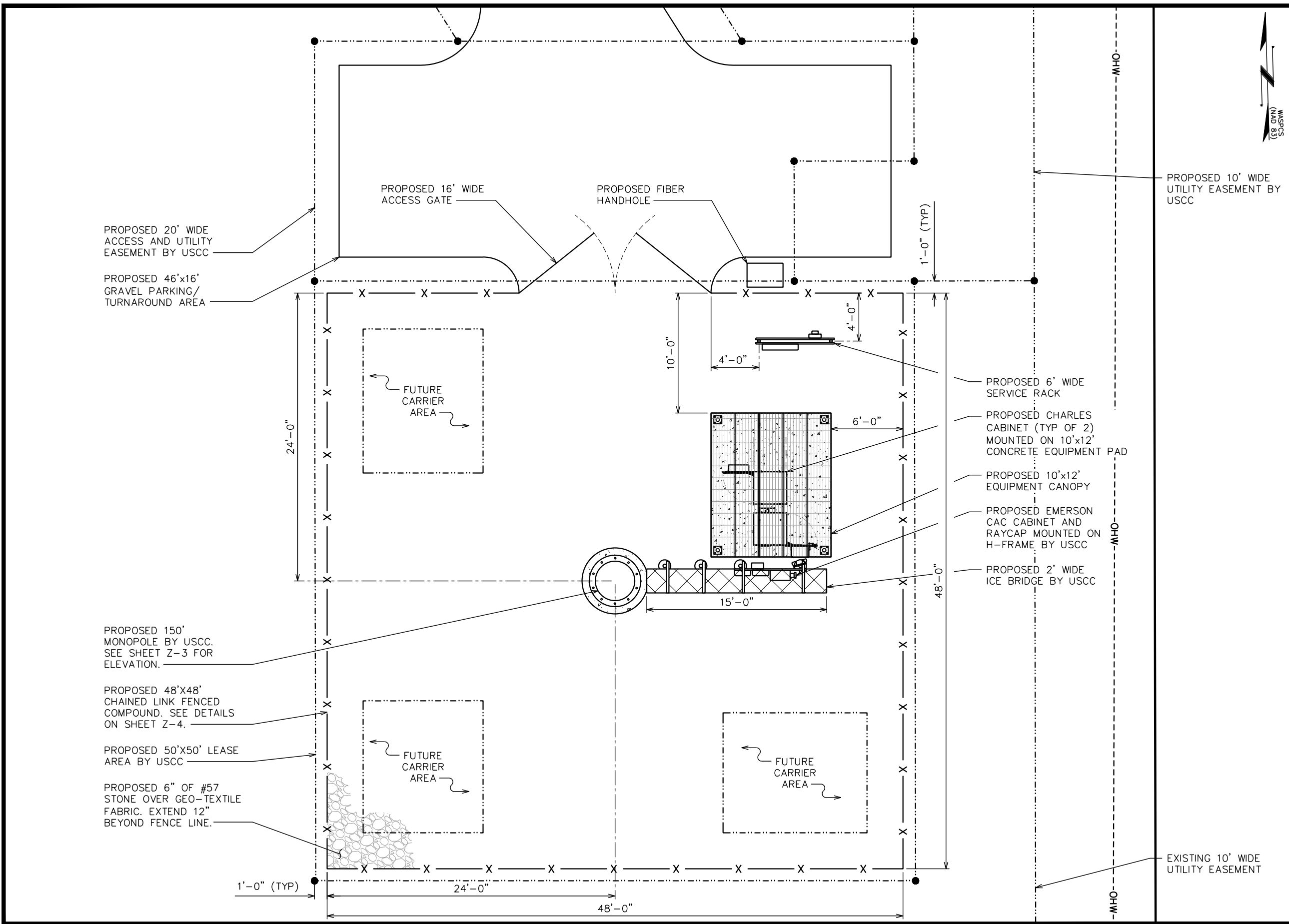
SEAL:


3	03-03-20	ZONING
2	02-24-20	ZONING
REV	DATE	ISSUED FOR:

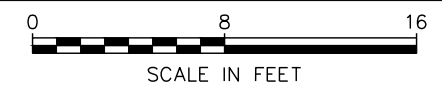
DRAWN BY: TDS CHECKED BY: GLB

SHEET TITLE:
COMPOUND DETAIL

SHEET NUMBER: **Z-2** REVISION: **3**
 TEP #: 240735-219170



COMPOUND DETAIL
 SCALE: 1/8" = 1'-0"

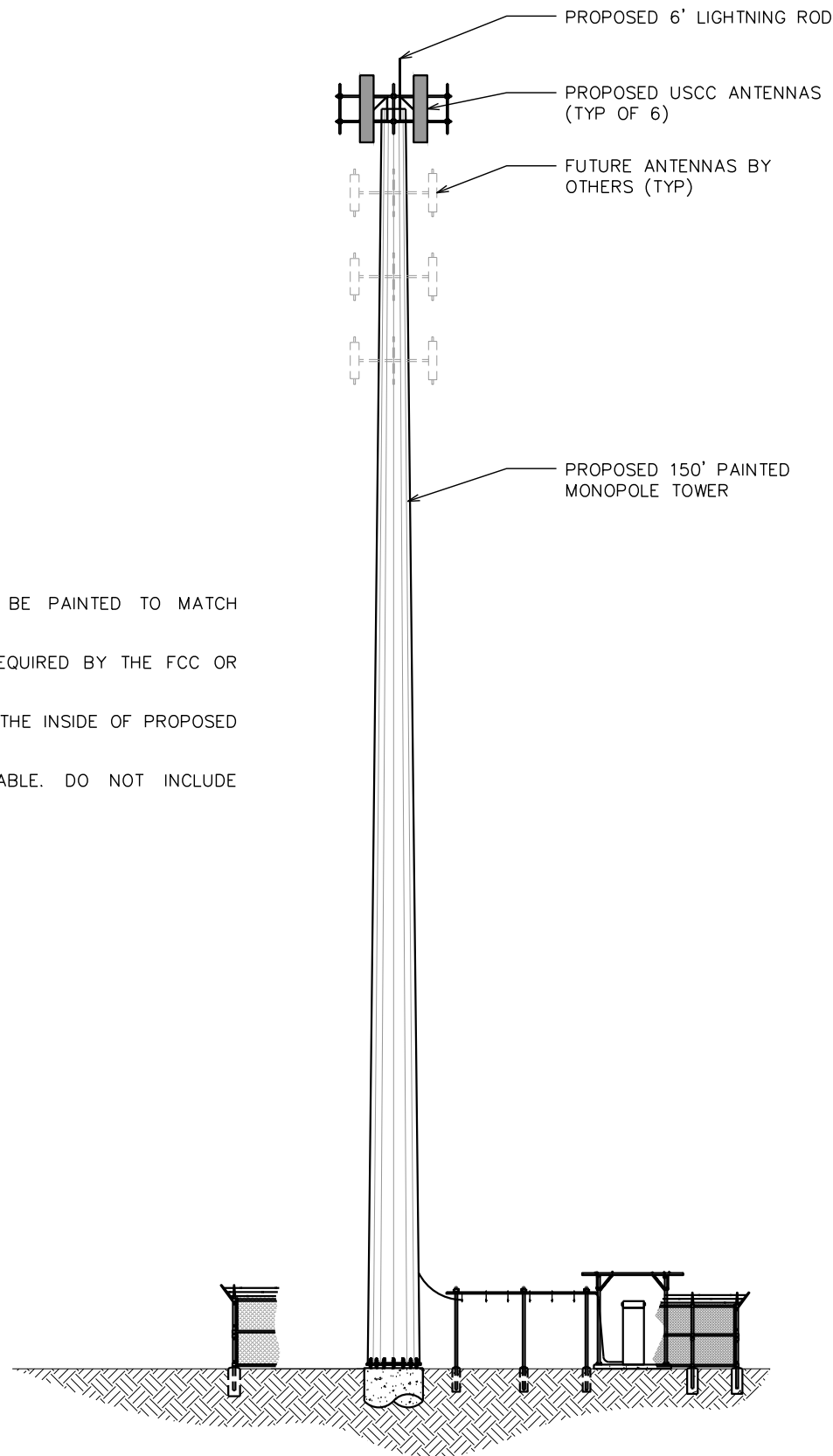


- 156'-0"±
T/LIGHTNING ROD
- 150'-0"±
T/TOWER
- 150'-0"±
CL/ANTENNAS (USCC)

NOTES:

1. TOWER AND APPURTENANCE TO BE PAINTED TO MATCH SURROUNDING AREA.
2. TOWER SHALL BE LIT ONLY IF REQUIRED BY THE FCC OR FAA.
3. PROPOSED COAX TO BE RUN UP THE INSIDE OF PROPOSED POLE USING HOISTING GRIPS.
4. TOWER TO INCLUDE SAFETY CABLE. DO NOT INCLUDE SAFETY CLIMB MECHANISM.

- 0'-0"(REF.)
T/GRADE



PLANS PREPARED FOR:



3806 THIRLANE ROAD NW
ROANOKE, VA 24019
JON SCARBOROUGH
(540) 561-2277

PLANS PREPARED FOR:

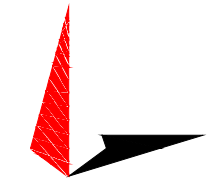
WIRELESS SITE

TECHNOLOGY, LLC
WIRELESS SITE TECHNOLOGY, LLC
9323 N. GOVERNMENT WAY #220
HAYDEN, ID 83835
DAN MACKINNEY
(208) 699-0237

PROJECT INFORMATION:

367377
CHEHALIS MIDDLE SCHOOL
1437 BISHOP RD
CHEHALIS, WA 99532
(LEWIS COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



3	03-03-20	ZONING
2	02-24-20	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: TDS CHECKED BY: GLB

SHEET TITLE:

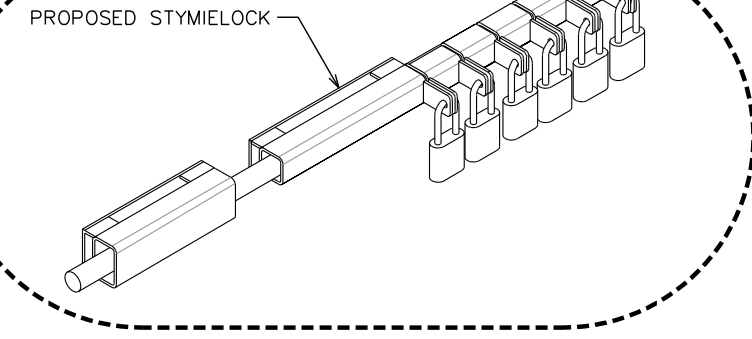
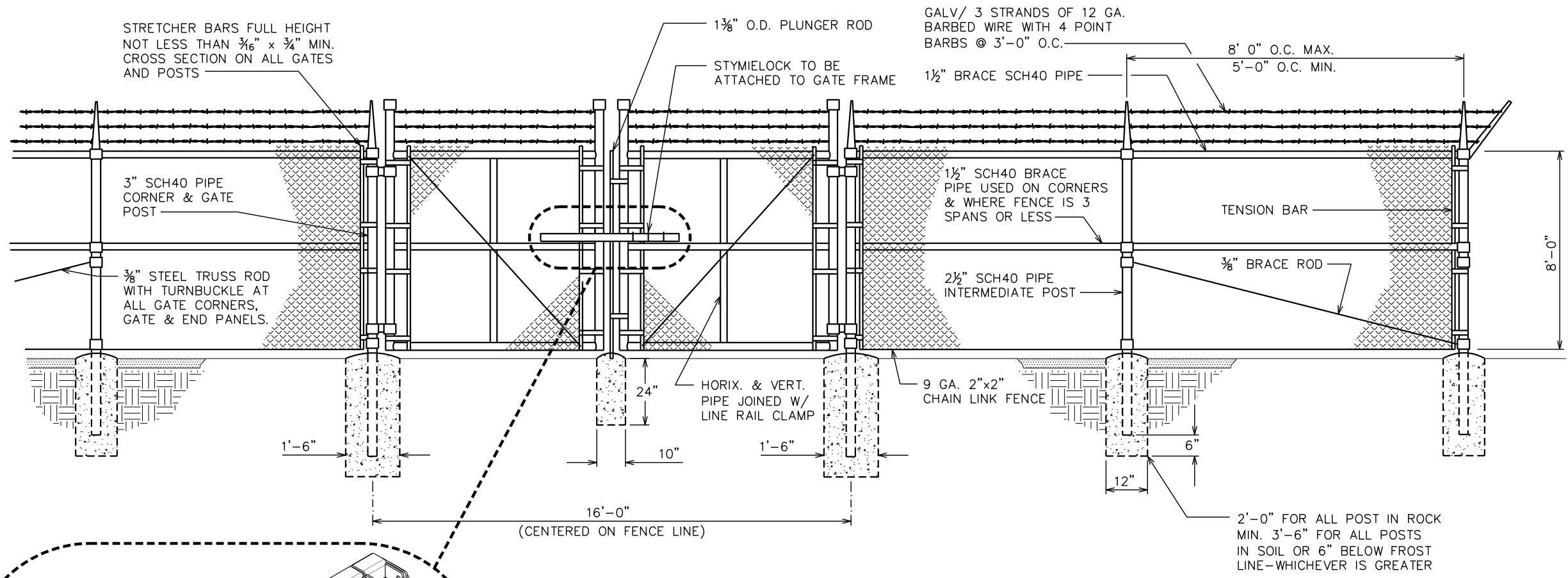
TOWER ELEVATION

SHEET NUMBER: Z-3	REVISION: 3 TEP #:240735-219170
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TOWER ELEVATION

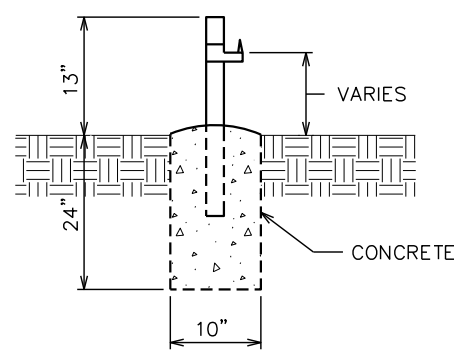
SCALE: 1" = 20'





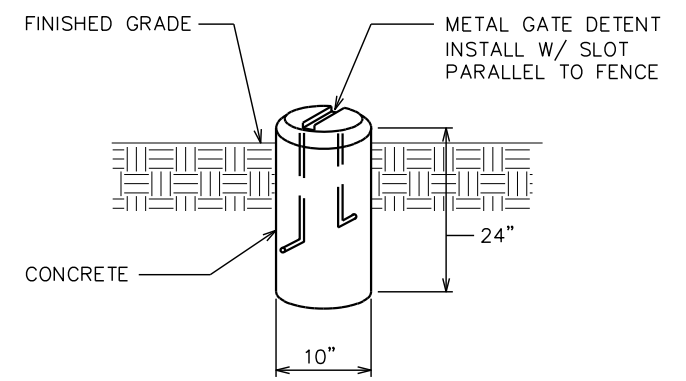
TYPICAL FENCE ELEVATION

SCALE: N.T.S.



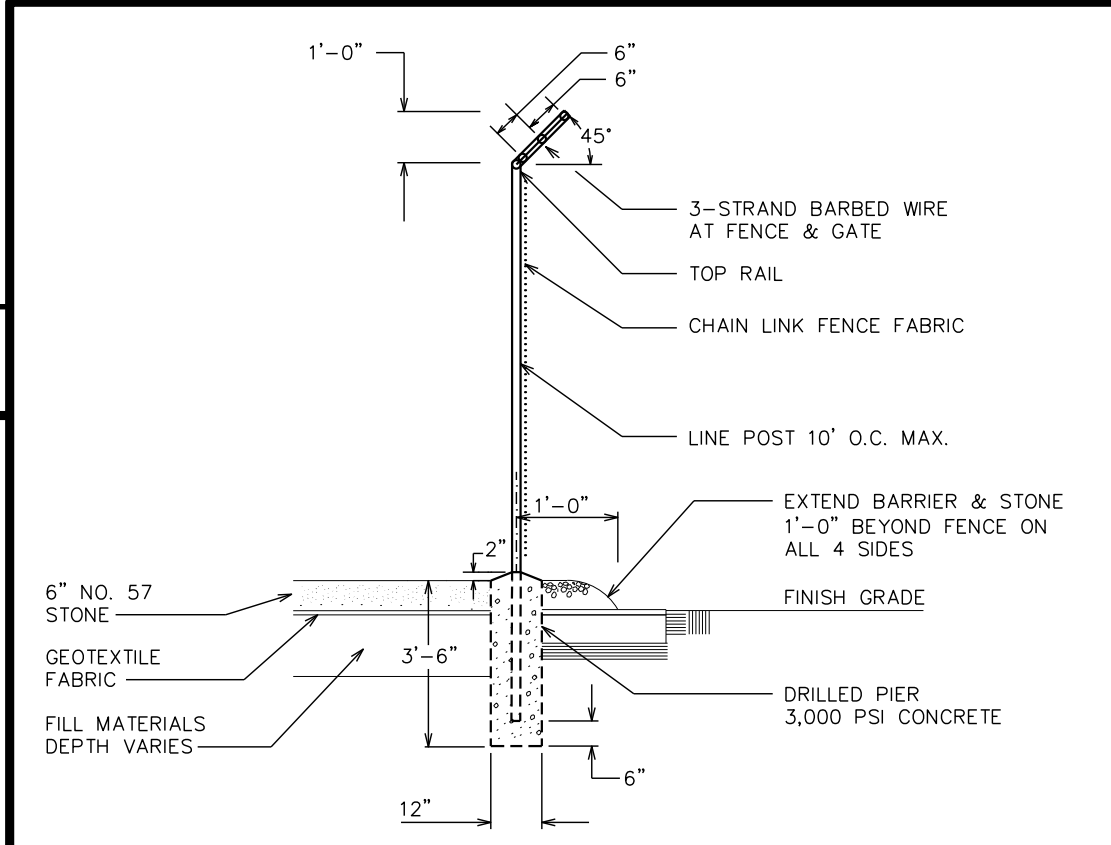
GATE STOP / KEEPER DETAIL

SCALE: N.T.S.




GATE DETENT DETAIL

SCALE: N.T.S.



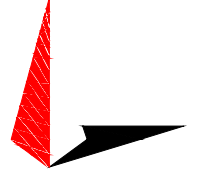
FENCE / BARBED WIRE ARM DETAIL

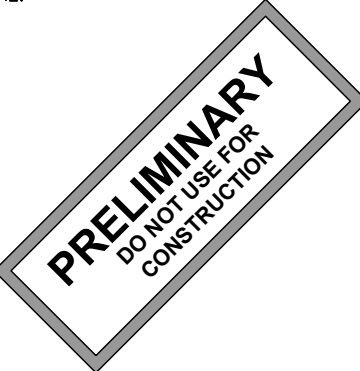
SCALE: N.T.S.

PLANS PREPARED FOR:

 3806 THIRLANE ROAD NW
 ROANOKE, VA 24019
 JON SCARBOROUGH
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PLANS PREPARED FOR:
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PROJECT INFORMATION:
367377
CHEHALIS MIDDLE
SCHOOL
 1437 BISHOP RD
 CHEHALIS, WA 99532
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 326 TRYON ROAD
 RALEIGH, NC 27603-3530
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 www.tepgroup.net

SEAL:


3	03-03-20	ZONING
2	02-24-20	ZONING
REV	DATE	ISSUED FOR:

DRAWN BY: TDS CHECKED BY: GLB

SHEET TITLE:

FENCE
DETAILS

SHEET NUMBER:
Z-4

REVISION:
3
 TEP #: 240735-219170

SITE NAME:

CHEHALIS MIDDLE SCHOOL (367377)

SITE ADDRESS:

BISHOP RD, CHEHALIS, WA 99532

PHOTOGRAPH LOCATION MAP



PHOTO LOCATION 1

EXISTING VIEW



WIRELESS SITE
TECHNOLOGY, LLC

Washington RSA #6, Inc.

SITE NAME:

CHEHALIS MIDDLE SCHOOL (367377)

SITE ADDRESS:

BISHOP RD, CHEHALIS, WA 99532

VIEW FROM:

LOCATION 1

PHOTO RENDERING



PHOTO RENDERING PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC.



PHOTO LOCATION 2

EXISTING VIEW



WIRELESS SITE
TECHNOLOGY, LLC

Washington RSA #6, Inc.

SITE NAME:

CHEHALIS MIDDLE SCHOOL (367377)

SITE ADDRESS:

BISHOP RD, CHEHALIS, WA 99532

VIEW FROM:

LOCATION 2

PHOTO RENDERING



PHOTO RENDERING PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC.



PHOTO LOCATION 3

EXISTING VIEW



WIRELESS SITE
TECHNOLOGY, LLC

Washington RSA #6, Inc.

SITE NAME:

CHEHALIS MIDDLE SCHOOL (367377)

SITE ADDRESS:

BISHOP RD, CHEHALIS, WA 99532

VIEW FROM:

LOCATION 3



PHOTO RENDERING PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC.



PHOTO LOCATION 4

EXISTING VIEW



WIRELESS SITE TECHNOLOGY, LLC
Washington RSA #6, Inc.
SITE NAME: CHEHALIS MIDDLE SCHOOL (367377)
SITE ADDRESS: BISHOP RD, CHEHALIS, WA 99532
VIEW FROM: LOCATION 4

ZOOMED IMAGE



PHOTO RENDERING PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC.



PHOTO LOCATION 5

EXISTING VIEW



WIRELESS SITE
TECHNOLOGY, LLC

Washington RSA #6, Inc.

SITE NAME:

CHEHALIS MIDDLE SCHOOL (367377)

SITE ADDRESS:

BISHOP RD, CHEHALIS, WA 99532

VIEW FROM:

LOCATION 5

PHOTO RENDERING



PHOTO RENDERING PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC.



PHOTO LOCATION 6

EXISTING VIEW



WIRELESS SITE
TECHNOLOGY, LLC

Washington RSA #6, Inc.

SITE NAME:

CHEHALIS MIDDLE SCHOOL (367377)

SITE ADDRESS:

BISHOP RD, CHEHALIS, WA 99532

VIEW FROM:

LOCATION 6



PHOTO RENDERING PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC.



PHOTO LOCATION 7

EXISTING VIEW



WIRELESS SITE
TECHNOLOGY, LLC

Washington RSA #6, Inc.

SITE NAME:

CHEHALIS MIDDLE SCHOOL (367377)

SITE ADDRESS:

BISHOP RD, CHEHALIS, WA 99532

VIEW FROM:

LOCATION 7

PHOTO RENDERING



PHOTO RENDERING PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC.



PHOTO LOCATIONS 8 & 9

PHOTO 8 - BALLOON NOT VISIBLE



WIRELESS SITE
TECHNOLOGY, LLC

Washington RSA #6, Inc.

SITE NAME:

CHEHALIS MIDDLE SCHOOL (367377)

SITE ADDRESS:

BISHOP RD, CHEHALIS, WA 99532

VIEW FROM:

LOCATIONS 8 & 9

PHOTO 9 - BALLOON NOT VISIBLE



PHOTO RENDERING PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC.



PHOTO LOCATIONS 10 & 11

PHOTO 10 - BALLOON NOT VISIBLE



WIRELESS SITE
TECHNOLOGY, LLC

Washington RSA #6, Inc.

SITE NAME:

CHEHALIS MIDDLE SCHOOL (367377)

SITE ADDRESS:

BISHOP RD, CHEHALIS, WA 99532

VIEW FROM:

LOCATIONS 10 & 11

PHOTO 11 - BALLOON NOT VISIBLE



PHOTO RENDERING PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC.



RF Engineering Statement

The following information has been provided by Aditya Khanolkar, US Cellular RF Engineer.

I. SITE PURPOSE

The proposed macro facility is designed to serve dual purposes:

- 1) To resolve coverage issues experienced by customers along Jackson Hwy and along the hill to east of Jackson Hwy, and
- 2) To resolve capacity issues for two existing network sites, the Chehalis site beta sector and the Exit 72 I-5 gamma sector.

Coverage Issue

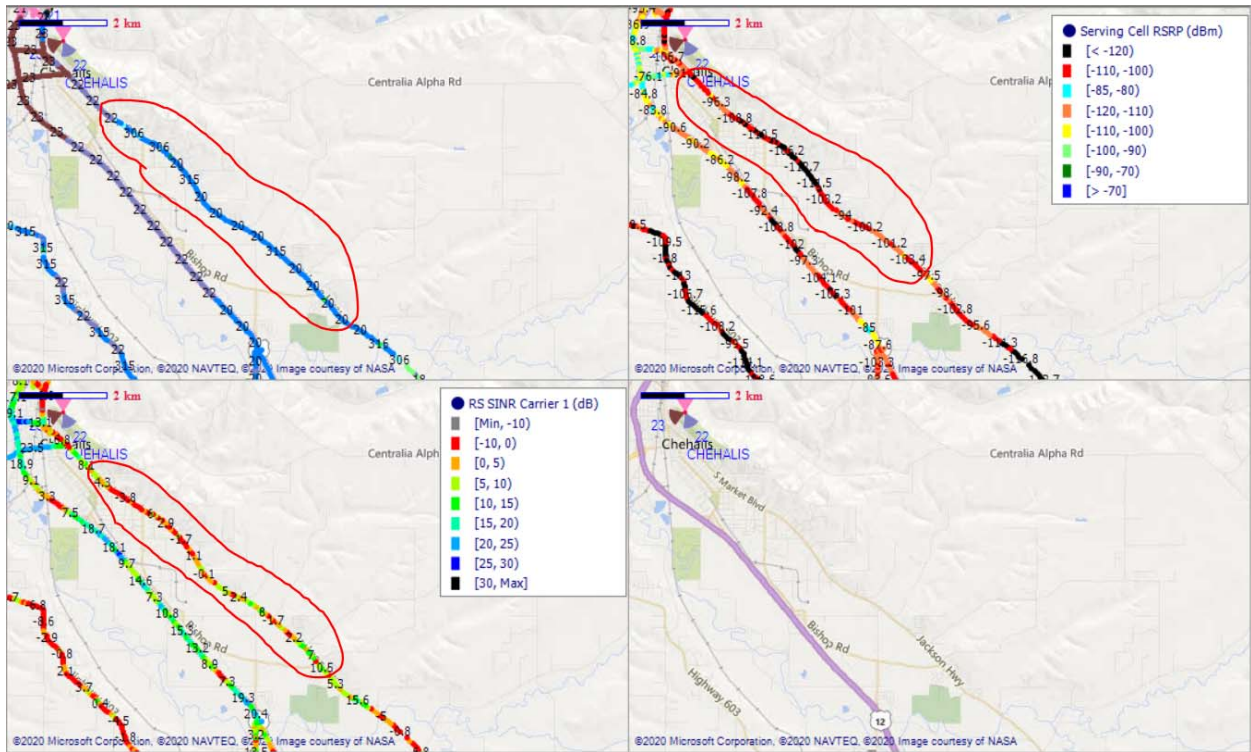
An RSRP threshold of less than -90.89 dBm defines the level where customers may receive service indoors, and we have assurance that VoLTE (Voice Over LTE) calls function with expected customer experience outcomes. As seen from drive data below, the RSRP experienced by users in circled areas is lower than -100 dBm that indicates weak or no cellular coverage for customers.

Also, we do not have a single best (cell site) server in the area. The objective service area is terrain-blocked from receiving signal from some of our network sites. Our existing sites, Curtis Hill and Buckhorn Hill, very distant sites (8-10 miles), are the only ones which provide any cellular signal in the area. Given that there is no single best server in the area, the customer signal connection keeps moving between the different sites (ping-ponging) which results in dropped calls and a degraded call/connection experience. The hill to east of Jackson Hwy has residential users who have experienced especially poor cellular service. All these coverage issues will be addressed by this new site.

Capacity Issue

Capacity Issue: As we see from drive data the cellular signal quality is very poor in highlighted/ targeted coverage areas. As the distant sites attempt to cover this area at the cell edge, the resources required from each of the existing sites to cover users in cell edge increases. As a result, the resources available for each of the sites to serve remaining customers reduces; thereby, degrading the overall experience delivered to the customer by the particular site. Therefore the condition wherein a weak coverage area with significant call demand is drawing resources from multiple sites at the edge of the coverage cells, the RF signal conditions decreases throughout the entire network area served by those particular sites. All sectors currently serving this area are maxed out for resources (PRB: Physical Resource Blocks and PDDCH: Physical Downlink Channel Utilization) as seen from snap below. PDCCH and PDCCH of 75% is a limit when a site starts experiencing degraded performance. The DL throughput experienced by customers in peak traffic is below 1 Mbps. These capacity issues will be addressed by the new site.

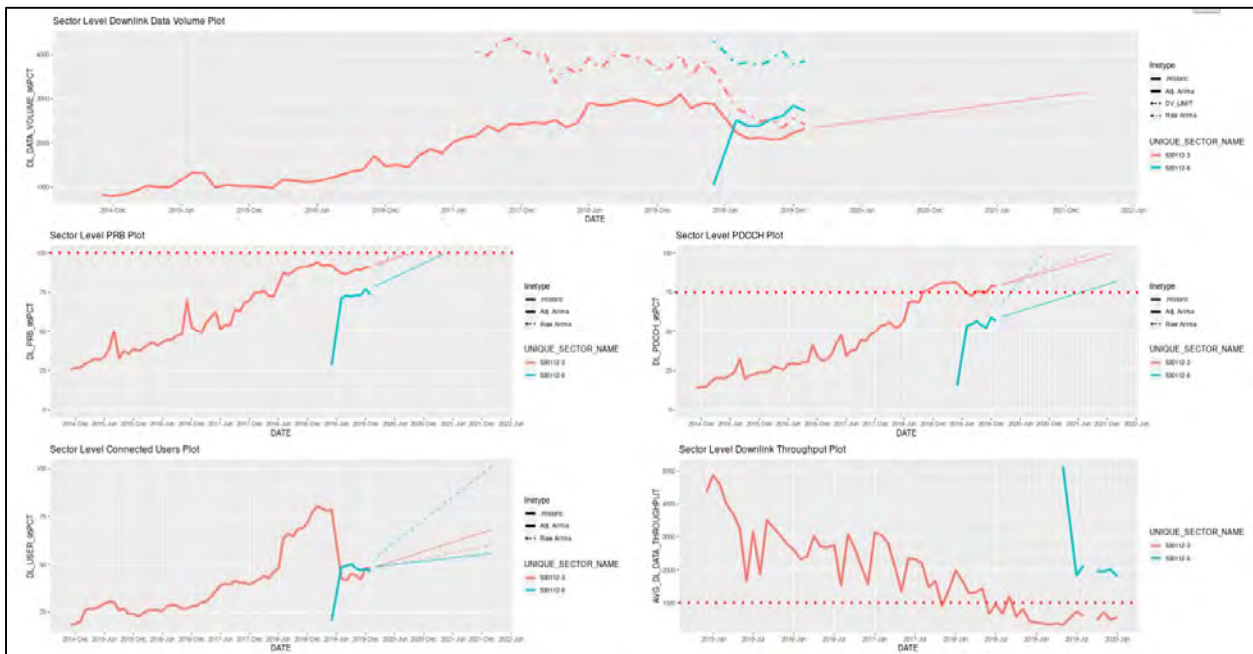
Drive Test Data Plots



Chehalis Beta sector:



Exit-72 I-5 Gamma sector:



Benefit to Community

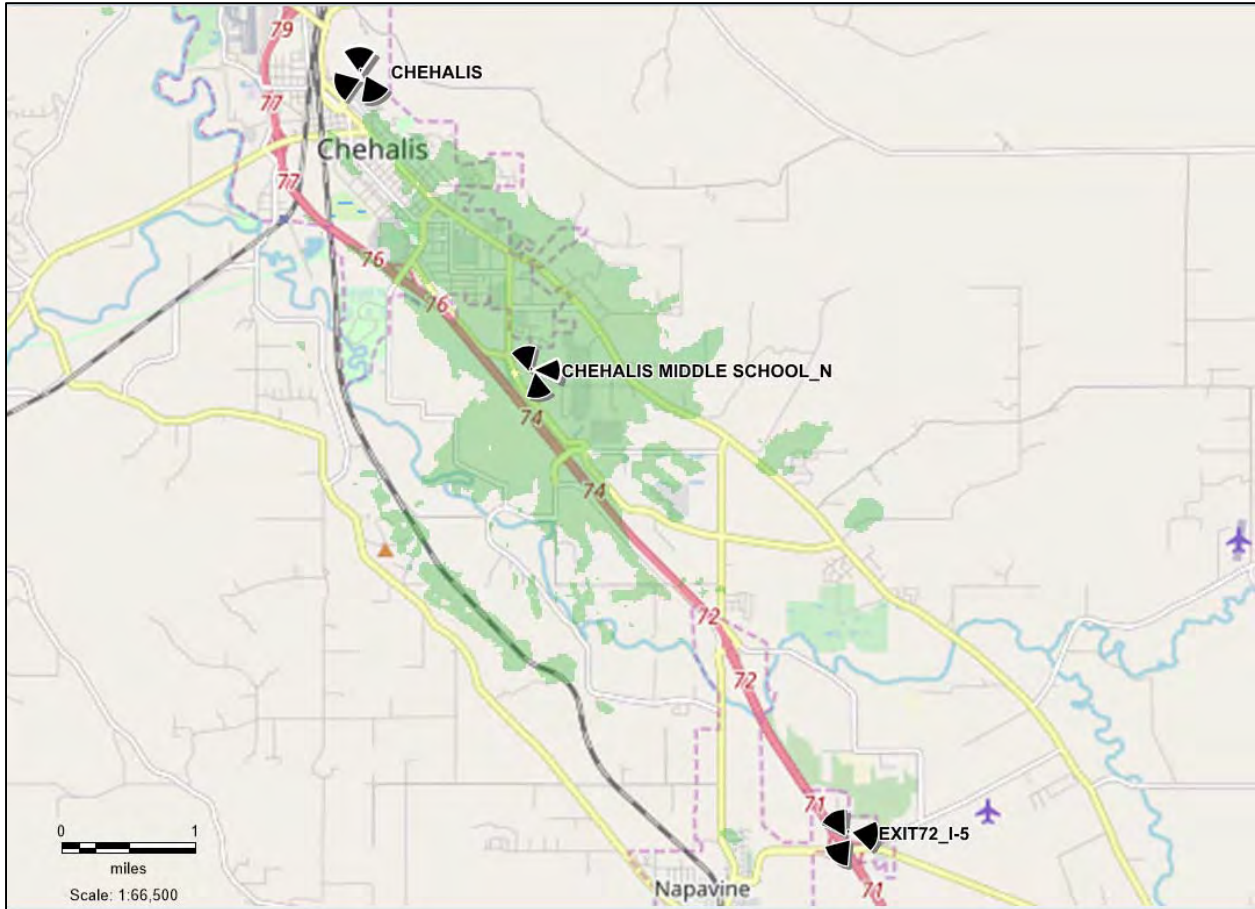
Chehalis Middle School macro site will improve coverage along Jackson Hwy and along the hill to east of Jackson Hwy. This site will also help improve coverage along Interstate I-5 which is a high traffic route (AADT Average Annual Daily Traffic of 67,000 as per 2018 stats). This site will help improve coverage and provide better service to residential users in the vicinity, users in industrial areas near the sites and the south part of Chehalis town. The customer experience will improve in terms of increased throughput, reduced call access failures and reduced dropped calls. The new site will help provide a broadband customer experience.

Also when the facility becomes operational, during an emergency an additional cellular site would be providing coverage to the customers. Given that the customers are currently served with low throughput, have a high number of dropped calls and access failures, a user could suffer from a service failure at a critical time. This site and its contribution to the improvement of the network performance will support citizens and EMS with a robust and reliable E911 and communication service.

II. SIGNAL PROPAGATION (TRANSMISSION) PLOTS

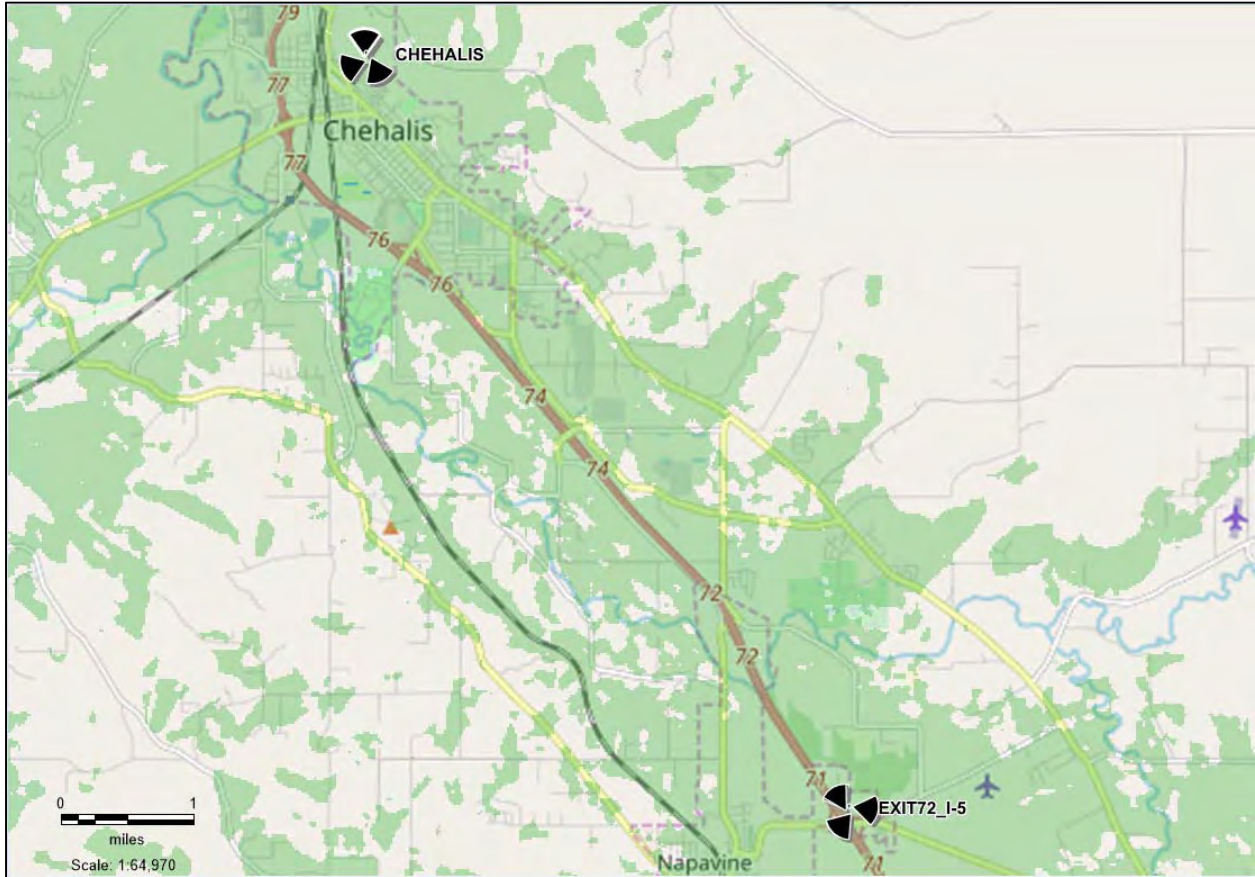
a. Site Alone (@150')

This graphic demonstrates the extents of the RF signal from the site without integration into the network of existing sites.



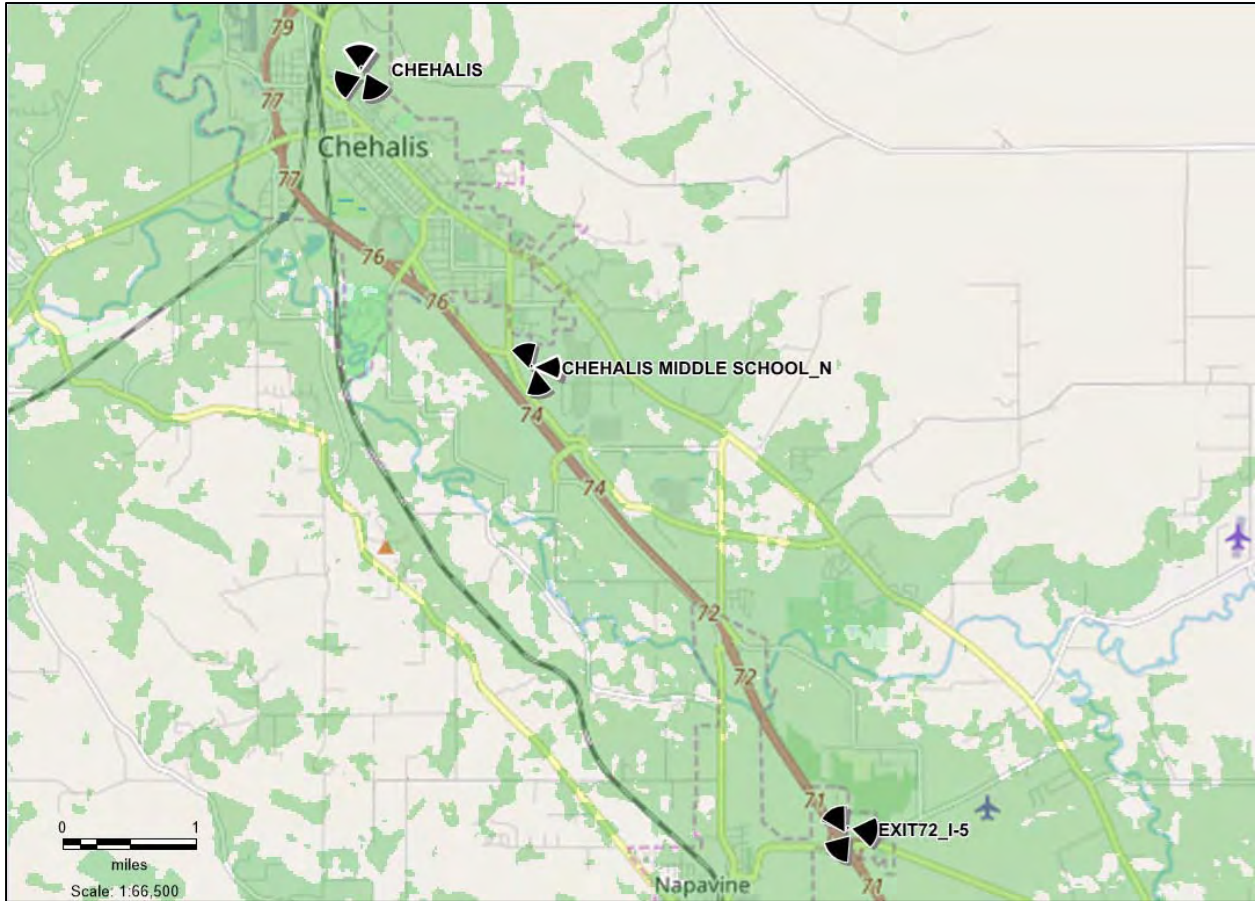
b. Network Before Site (Current Service)

This graphic demonstrates the extents of the RF signal from US Cellular's existing sites without integration into the network of existing sites.



c. Network after site (Predicted Service)

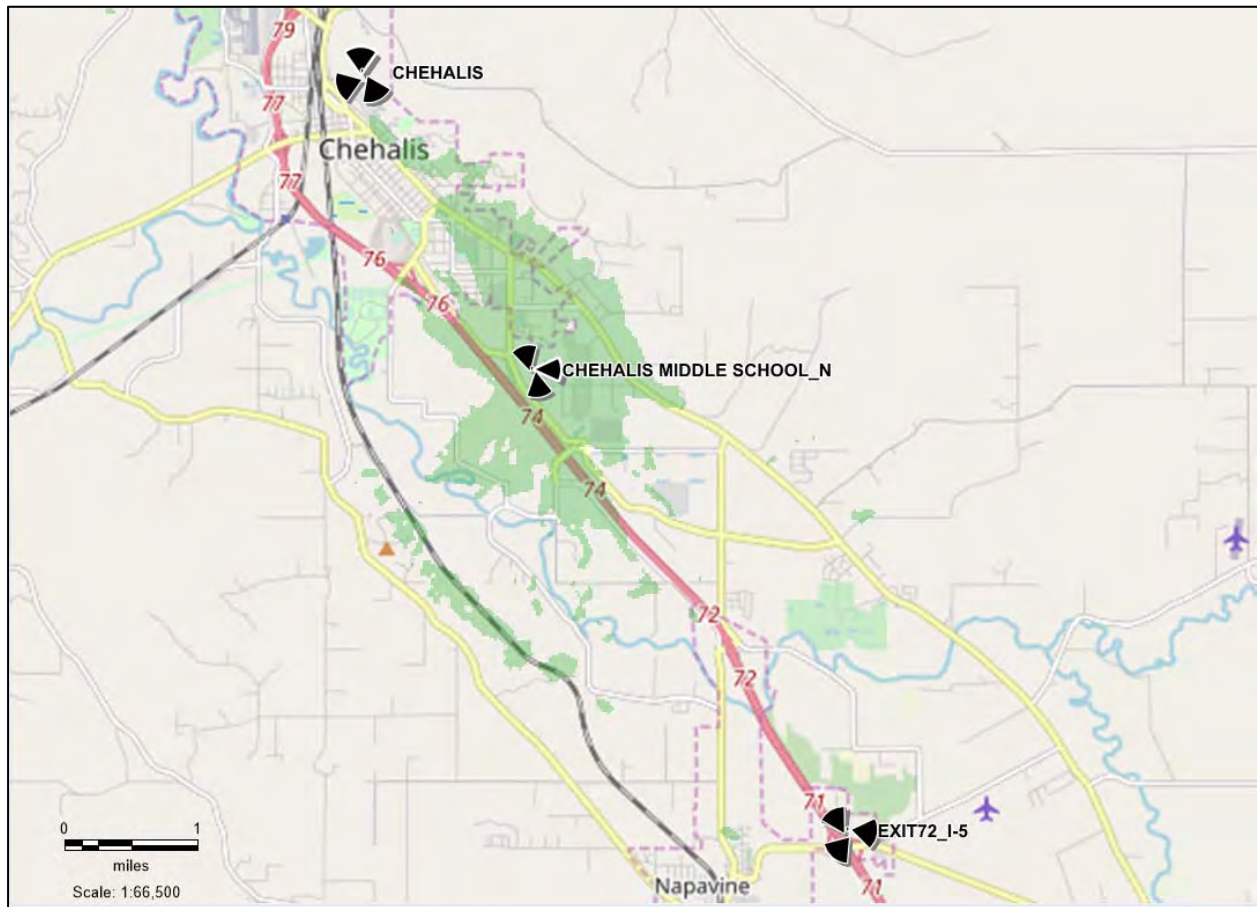
This graphic demonstrates the extents of the RF signal from US Cellular's sites integrating the proposed facility into the network of existing sites constructed at 150'.



2. Height Comparison

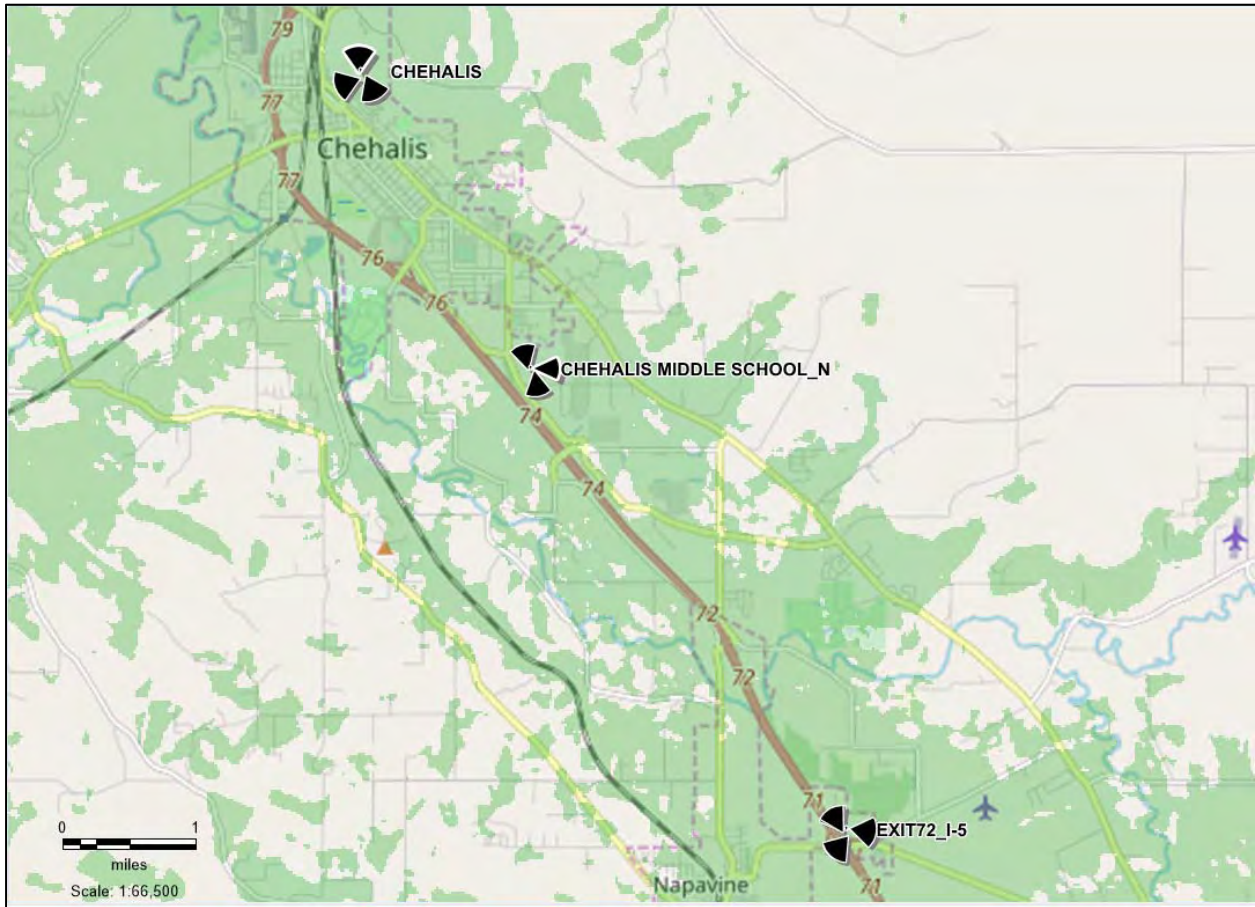
a. Site Alone @100'

This graphic demonstrates the extents of the RF signal from the site without integration into the network of existing sites.

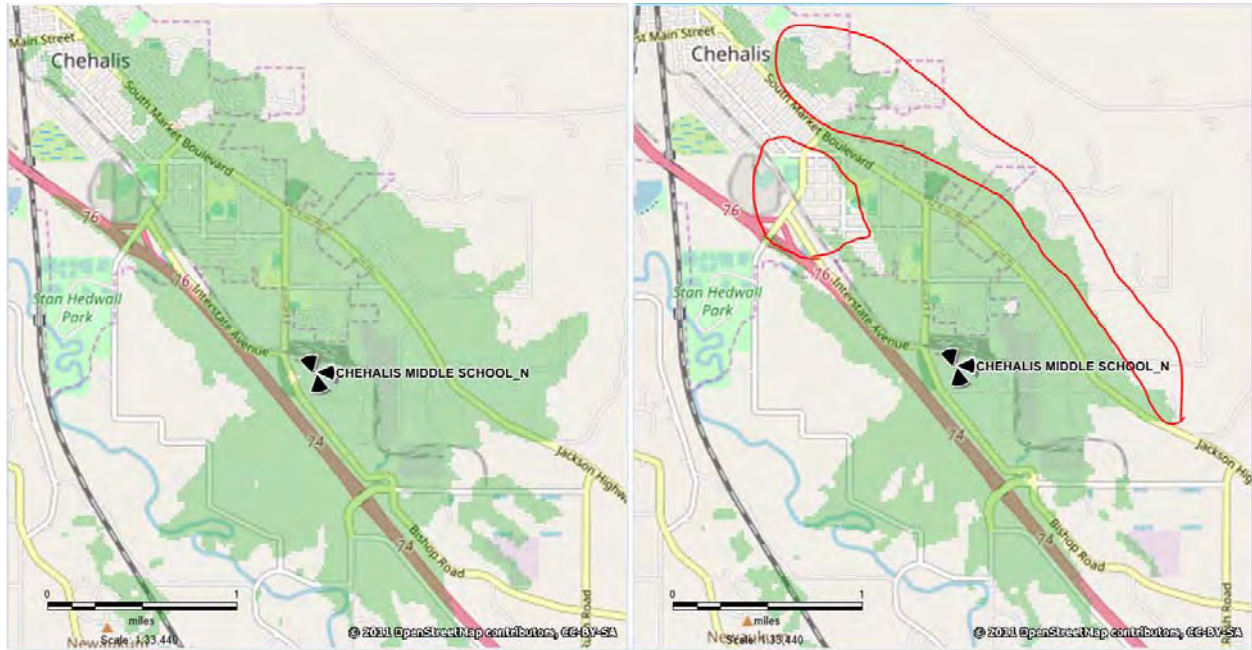


b. Network after site (*Predicted Service*)

This graphic demonstrates the extents of the RF signal from US Cellular's sites integrating the proposed facility into the network of existing sites constructed at 100'

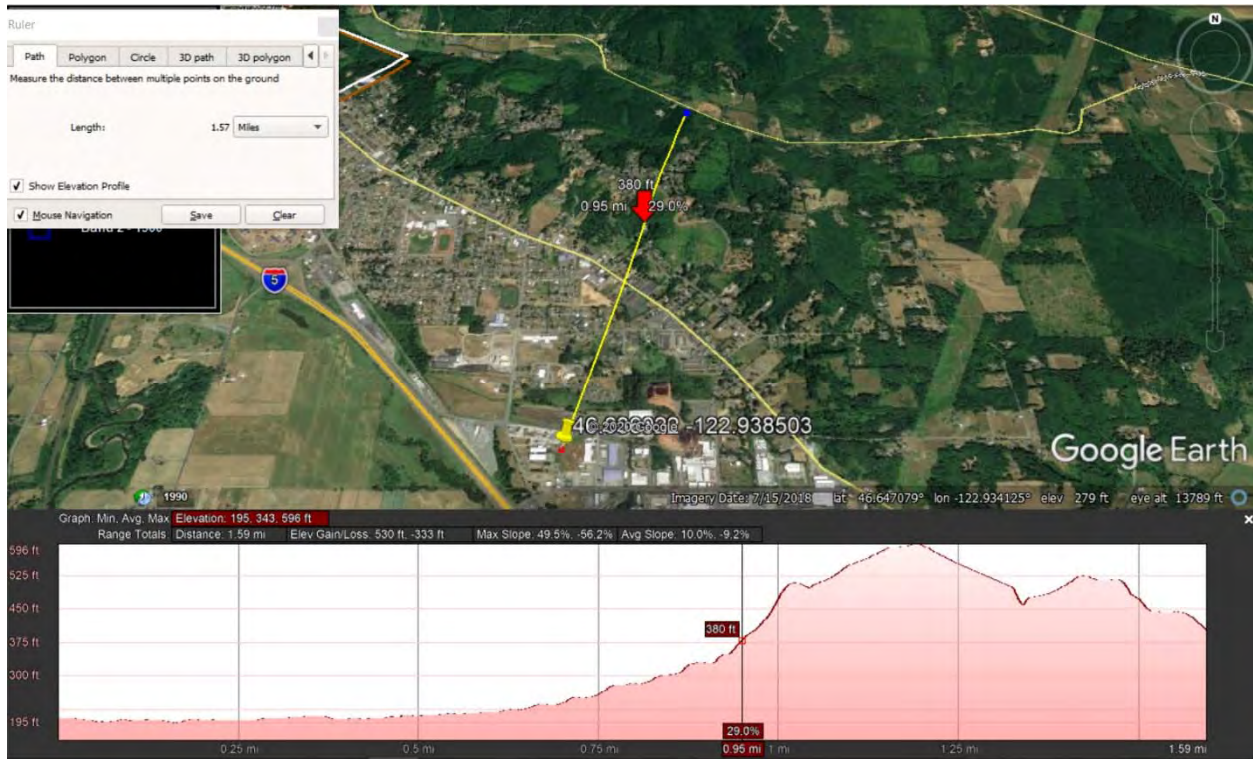


c. Plot: Comparison of Site Coverage at 150' and 100'



The above is the comparison prediction plots evaluating the 150' tower height versus the 100' tower height. There is a significant loss of coverage using a 100' tower, as compared to a 150' tower. There is gradual elevation change along I-5 area contributes to the loss of coverage with shorter tower.

Also along Jackson Hwy to the east, the terrain slopes up along the hill – and approximately 150' plus gain in elevation. As seen from the elevation profile below, within 1 mile going east of the site, the ground elevation increases by 150' (from 206' to 360'). This is the target area for coverage for this new site. This area has high number of residential users that are planned to be covered by the site, which would not be at 100'.



Conclusively, a shorter tower will result in these customers not getting covered, and they will continue to experience poor cellular service. By developing a facility at a lower than a 150' antenna centerline, the RF design team will need to work on new solutions (which could be additional macro sites – new cellular towers) in the very near future due to the inability of the proposed facility to meet coverage and capacity offload needs.

In designing the network placement of new facilities, we aim to plan for meeting the service needs of the community and area for at least five years in the future, an objective that will be unmet with a shorter facility.

Furthermore, a shorter tower impacts the ability for the proposed facility to serve as a colocation opportunity for other operators. Currently there are no other colocation facilities in the area, so our proposed facility is vital to meeting that need and helping to minimize a proliferation of cellular facilities.



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-ANM-7885-OE

Issued Date: 01/08/2020

Kathy Mayhew
US Cellular Corporation - VA
3806 Thirlane Road, NW
Roanoke, VA 24019

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Monopole 367377 Chehalis Middle School
Location: Chehalis, WA
Latitude: 46-38-09.68N NAD 83
Longitude: 122-56-18.61W
Heights: 208 feet site elevation (SE)
160 feet above ground level (AGL)
368 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
 Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 2.

This determination expires on 07/08/2021 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (206) 231-2989, or dan.shoemaker@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-ANM-7885-OE.

Signature Control No: 422561650-427233856

(DNE)

Daniel Shoemaker
Specialist

Attachment(s)
Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2019-ANM-7885-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

