



February 28, 2022

City of West Linn
Planning Department
22500 Salamo Road
West Linn, Oregon 97068

RE: WRG-21-05 Windham Oaks Gangway Completeness Response

Dear Planning Staff,

Thank you for providing a thorough and timely response to our initial application for a Willamette River Greenway Permit and Flood Management Area Permit to construct a new gangway that will allow the property owners at 2125 and 2115 Windham Oaks Ct. to access an existing shared-use dock. The City of West Linn Incompleteness letter, Dated November 1, 2021, is included with this package as Attachment B; your feedback is greatly appreciated. Please accept this letter and the new and updated exhibits to supplement your review and decision on the proposal.

Please note the following items which have been added, clarified, or amended since our original application was submitted:

1. *CDC Chapter 27.050- Application*

Applications for a flood management area permit must include the following:

CDC 27.050(B). An application initiated by the property owner, or the owner's authorized agent, and accompanied by the appropriate fee.

- a. There is a reference to Exhibit B in the applicant submittal, but this does not seem to be included. Please include an application form signed by each of the property owners on both properties, clearly labeling which property owner has signed off.*

Response: An application form signed by all owners of record for both properties has been included with this submittal as Attachment A. This requirement is met.

- b. The access easement for both property owners is included in Exhibit G. A new access easement will need to be recorded as the proposed gangway does not follow the same private access easement as is currently allowed. Submit the appropriate documentation.*

Response: A revised private access easement is in the process of being drafted satisfying the requirements of Chapter 27.050. The easement will be finalized and recorded prior to the construction of the gangway.

2. *CDC Chapter 27.060- Approval Criteria*

CDC 27.060(B) No net fill increase in any floodplain is allowed. All fill placed in a floodplain shall be balanced with an equal amount of soil material removal. Excavation areas shall not exceed fill areas

by more than 50 percent of the square footage. Any excavation below the ordinary high water line shall not count toward compensating for fill.

There is reference to Sheet P04, but there is no cut and fill shown on the plans. Please label the areas for cut and fill on the plans. Is there an equal amount of both cut and fill?

Response: The proposal does not include areas of cut and fill. A letter, signed by a registered civil engineer, was included in the original application materials attesting to the fact that the project will not impact the Willamette River Floodway. The engineer's letter is included with this response package as Attachment E.

3. *CDC Chapter 27.090- Non-Residential Construction*

New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall either have the lowest floor, including basement, elevated to at least one foot above the level of the base flood elevation; or, together with attendant utility and sanitary facilities, shall:

- A. Be flood-proofed so that below the base flood level the structure is watertight with walls impermeable to the passage of water;*
- B. Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy;*
- C. Be certified by a professional civil engineer licensed to practice in the State of Oregon that the design and methods of construction shall prevent seepage, collapse or cracking of basement walls, prevent buckling of basement floors, prevent backup of water from sewer lines, and have all openings located one foot above the base flood elevation. In addition, all protective features must operate automatically without human intervention;*
- D. Non-residential construction that is elevated, but not flood-proofed (i.e., the foundation is not at least one foot above the 100-year flood elevation) shall also comply with the standards set forth in CDC 27.080.*

Please provide a narrative that addresses CDC 27.090

Response: The proposed gangway is compliant with applicable floodplain management requirements. The attached letter (Attachment E,) written and signed by a professional civil engineer, was included in the initial application package verifying that the structure will be secured with piles designed to anchor the gangway in place without impacting the Willamette River floodway. The gangway is designed to self-adjust in elevation to changing water volumes and the piles will be constructed to equalize hydrostatic pressures by allowing for water to enter and exit the interior of the piles. The above criteria are met.

4. *CDC Chapter 28.030- Applicability*

CDC 28.030(B)- At the confluence of a stream or creek with either the Tualatin or Willamette River, the standards of this chapter shall apply only to those portions of the lot or parcel fronting the river. Meanwhile, development in those portions of the property facing or adjacent to the stream or creek shall meet the transition, setbacks and other provisions of Chapter 32 CDC, Water Resource Area Protection.

- a. *Please show the distance from the stream to the affected area. Show the stream more clearly on all the sheets... there appears to be a stream that runs across the property.*

Response: A memo prepared by a Professional Wetland Scientist (PWS), included in this package as Exhibit H, verifies that the onsite stream has been identified as an intermittent drainageway flowing directly into the Willamette river. The stream has been identified more clearly and the distance between the drainageway and the planned construction has been identified on the revised site plan (Attachment C).

- b. *Clearly indicate the water resource area (see Table 32-2) in CDC 32.060 D for the appropriate water resource area width. Label this width on the proposed plans.*

Response: The stream has been identified as an intermittent drainageway. The appropriate water resource area width per Table 32-2 is 15 feet from the stream thread or centerline, as shown on the revised site plan (Attachment C).

- c. *Revise the narrative as necessary for CDC 28.030(B), indicating the appropriate water resource area width and slope.*

Response: As shown on the plans, the entire construction area is fronting the Willamette River and in compliance with CDC Chapter 28.030(B). The 15-foot water resource area width has been identified on the revised site plan.

5. *CDC Chapter 28.090—Submittal Requirements: Application*

CDC Chapter 28.090 (C2) An application for a protection area permit shall include the completed application and... A site plan, with HCA boundaries shown and by low, moderate, high type shown.

- a. *The Site Plan does not depict the HCA boundaries by low, moderate, high but rather shows HCA boundaries. Revise to show the different HCA boundaries (low, moderate, high).*

Response: The low, moderate, and high HCA boundaries are identified on the revised site plan.

6. *CDC Chapter 28.090(F)—The applicant shall include a map, approved, or acknowledged by DSL, of the preference rights and authorized areas if a water surface structure is proposed.*

- a. *The plan sheets do not show the preference rights/authorized area for the water surface structure. Indicate on the plans where the preference rights/authorized rights are located.*

- b. *It appears that a portion of the proposed gangway will be in the preference rights area; therefore, you will need to include a map that has been approved or acknowledged by DSL.*

Response: No preference rights area pertains to the existing dock and a preference rights area map was never required due to the size of the existing and proposed water-dependent structures. As indicated by the email included as Attachment F, sent by Justin Russell- the Department of State Lands Proprietary Coordinator, the proposed gangway is authorized within the existing dock registration and does not require further authorization.

7. *CDC 28.110- Approval Criteria*

CDC 28.110(F2). Access and Property Rights. Where a legal public access to the river or elsewhere in the protection area exists, that legal public right shall be recognized and respected.

There is an existing 15' public access easement. It is fairly difficult to read on the Site Plan as the dashed lines blend in with the contour lines. If Possible, mark the lines in different colors in order to get a more legible Site Plan.

Response: The existing 15' public access easement has been identified more legibly on the revised site plan.

CDC 28.110(F)(3). To construct a water-dependent structure such as a dock, ramp, or gangway shall require that all pre-existing legal public access or similar legal rights in the protection area be recognized and respected. Where pre-existing legal public access, such as below the OLW, is to be obstructed by, for example, a ramp, the applicant shall provide a reasonable alternate route around, over or under the obstruction. The alternate route shall be as direct as possible. The proposed route, to include appropriate height clearance under ramps/docs and specifications for safe passage over or around ramps and docs, shall be reviewed and approved by the Planning Director for adequacy.

Submit a revised narrative that more specifically addresses public access below the normal OLW.

Response: The existing public access easement will be preserved in accordance with the above specifications. The gangway design accounts for public access underneath the obstruction without requiring an alternate route and allows approximately 15 feet of clearance between the OLW elevation and the planned structure.

8. *CDC 28.120 (A)- Site Plan. All site plans and maps shall include the name, address and telephone number of the applicant, a lineal scale of the plot plan, a north arrow and a vicinity map.*

Include a vicinity map in the proposed plans

Response: A site vicinity map is included with this re-submittal as Attachment D.

CDC 28.120(B2) The lot or parcel boundaries, dimensions, and gross area.

Include the gross area of the total lot.

Response: The gross area of the affected lots has been identified on the revised site plans.

CDC 28.120 (B4). The location, dimensions, and names of all existing and platted streets and other public ways and easements on adjacent property and on the site.

Include all easements on the Site Plan recorded on the property in a legible manner. There is a sanitary sewer main and easement that the proposed gangway will cross. The survey should be revised to show the sewer main and easement. No portion of the footings will be allowed to be over the sewer main or within the easement area. If the sewer main is not located within the easement area, a new easement will be required. Please note that the city will be requiring the dedication of a 20 foot public utility easement centered on the storm line, and no portion of the proposed structure shall be located in the easement area.

Response: The existing easements have been identified more legibly on the revised site plan.

CDC 28.120(B5). *The location, dimensions and setback distances of all:*

- a. *Existing structures, improvements, utility facilities and drainageways on site and on adjoining properties;*

Provide the existing dimensions for the existing metal stairs as well as the existing dock and existing gangway.

Response: The existing metal stairway is ± 65 feet in total length and ± 3.5 feet wide. The existing dock is ± 450 square feet in area with a ± 70 -foot-long access gangway.

- b. *Proposed structures or changes to existing structures, improvements, utility facilities and drainageways on the site.*

Provide the dimensions and setback distances for the proposed gangway.

Response: The proposed gangway will be ± 250 -feet-long and ± 4 -feet wide, connecting the existing metal stairway to the existing dock. Due to the nature of the development, no setbacks are required.

CDC 28.120(B9). *The location of the ordinary high water mark and the ordinary low water mark on the property and on abutting properties.*

Specify the location of both ordinary high water and ordinary low water on the two parcels shown on the Proposed Site Plans.

Response: The ordinary high and low water marks are identified on the revised site plan.

CDC 28.120(B10). *The delineation of areas designated "Habitat and Impact Areas Not Designated as HCA's" and HCA areas by low, moderate, and high designation shall be mapped based on the HCA Map and any necessary verification shall be done by the Planning Director.*

Clearly show the differing habitat conservation areas.

Response: Designated low, moderate, and high HCA areas have been identified on the revised site plan.

9. CDC 28.140- Architectural Drawings

CDC 28.140(A). *Architectural drawings shall be submitted at the same scale as the site plan scale, as described in the site plan, showing:*

1. *Elevations of structure(s). For additions, the drawings should clearly distinguish between existing structure and proposed addition and show distance from addition and existing structure to the protected water resource.*

Depict the distance from the proposed gangway to the Water Resource Area as indicated above in comment #4.

Response: The WRA for the drainage stream has been identified in the revised site plan. As indicated, the structure will be well outside of the protected area.

CDC 28.140(A2). *The exterior building materials: type, color, and texture.*

Add a narrative addressing the exterior materials of the proposed gangway.

Response: The applicable structure location is identified on the site plan. Additional information on the specifications of the gangway is specified in Attachment G.

10. CDC 32—Water Resource Area Protection.

Please provide a narrative that addresses CDC 32: Water Resource Area Protection if comment #4 above applies where the proposed gangway is within the Water Resource Area for the stream that is present on the property.

Response: As addressed above, the proposed gangway does not extend into the 15-foot Water Resource Area for the onsite drainageway.

Thank you for your time and attention. Please don't hesitate to reach out if you have any questions regarding our submitted materials. We look forward to continuing to work together on this project.

Sincerely,

AKS ENGINEERING & FORESTRY, LLC



Daisy Goebel, Land Use Planner
3700 River Road N, Suite 1
Keizer, Oregon 97303
(503) 400-6028 | PelzZ@aks-eng.com

Attachments:

- A. Application Form- Signed
- B. City of West Linn Incomplete Letter
- C. Revised Preliminary Site Plans
- D. Site Vicinity Map
- E. Engineer Certification Letter
- F. DSL Acknowledgment Email
- G. Dock Materials
- H. Intermittent Drainageway Resource Determination

DEVELOPMENT REVIEW APPLICATION

For Office Use Only		
STAFF CONTACT	PROJECT NO(S).	
NON-REFUNDABLE FEE(S)	REFUNDABLE DEPOSIT(S)	TOTAL

Type of Review (Please check all that apply):

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

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

Site Location/Address: 2115 Windham Oaks Court, West Linn, OR 97068 and 2125 Windham Oaks Court, West Linn, OR 97068	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>Assessor's Map No.:</td> <td>2 1E 24DD</td> </tr> <tr> <td>Tax Lot(s):</td> <td>204 and 205</td> </tr> <tr> <td>Total Land Area:</td> <td>±5.5 acres</td> </tr> </table>	Assessor's Map No.:	2 1E 24DD	Tax Lot(s):	204 and 205	Total Land Area:	±5.5 acres
Assessor's Map No.:	2 1E 24DD						
Tax Lot(s):	204 and 205						
Total Land Area:	±5.5 acres						

Brief Description of Proposal: Consolidated application for approval (including FMA, WRG, and HCA of a gangway for access to an existing joint-use dock.

Applicant Name: (please print) KC Marine, LLC	Phone: Contact Applicant's Consultant
Address: 5010 Foothills Road, Apt. E	Email: Contact Applicant's Consultant
City State Zip: Lake Oswego, OR 97034	

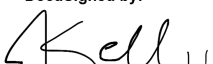

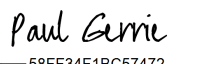
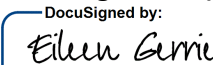
Owner Name (required): (please print) Paul H. Gerrie and Eileen P. Gerrie (TL 204), Jordi X. Kellogg and Lisa Kellogg (TL 205)	Phone: Contact Applicant's Consultant
Address: Same as site Location	Email: Contact Applicant's Consultant
City State Zip: Same as site Location	

Consultant Name: (please print) AKS Engineering & Forestry, LLC	Phone: 503-400-6028
Address: 3700 river Road N, Suite 1 Keizer, OR 97303	Email: GoebelD@aks-eng.com
City State Zip:	

1. All application fees are non-refundable (excluding deposit). Any overruns to deposit will result in additional billing.
2. The owner/applicant or their representative should be present at all public hearings.
3. A decision may be reversed on appeal. The permit approval will not be effective until the appeal period has expired.
4. The City accepts electronic (.pdf) land use applications and project submissions from applicants. Applicants should submit this form and supporting documents through the Submit a Land Use Application web page:
<https://westlinnoregon.gov/planning/submit-land-use-application>

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

Approved applications and subsequent development is not vested under the provisions in this document at the time of the initial application.

<p>DocuSigned by:  292D32F49A284D5... Applicant's signature (JORDI KELLOGG) _____ Date 12/21/2021</p> <p>DocuSigned by:  292D32F49A284D5... (LISA KELLOGG) _____ Date 12/21/2021</p>	<p>DocuSigned by:  58FE34E1BC57472... Owner's signature (required) (PAUL GERRIE) _____ Date 1/11/2022</p> <p>DocuSigned by:  58FE34E1BC57472... (EILEEN GERRIE) _____ Date 1/11/2022</p>
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CITY OF West Linn

November 1, 2021

KC Marine, LLC
5010 Foothills Road, Apt E
Lake Oswego, OR 97034

SUBJECT: WRG-21-05 Application requesting a Willamette River Greenway Permit and Flood Management Area Permit that would allow for a new gangway on 2125 Windam Oaks Ct where there is also joint access by 2115 Windam Oaks

Dear KC Marine, LLC:

You submitted this application on October 5, 2021. The Planning Department finds that this application is **incomplete**. The following items must be addressed:

1. CDC Chapter 27.050- Application

Applications for a flood management area permit must include the following:

CDC 27.050(B). An application initiated by the property owner, or the owner's authorized agent, and accompanied by the appropriate fee.

- a. There is a reference to Exhibit B in the applicant submittal, but this does not seem to be included. Please include an application form signed by each of the property owners on both properties, clearly labeling which property owner has signed off.
- b. The access easement for both property owners is included in Exhibit G. A new access easement will need to be recorded as the proposed gangway does not follow the same private access easement as is currently allowed. Submit the appropriate documentation.

2. CDC Chapter 27.060 –Approval Criteria

CDC 27.060(B) No net fill increase in any floodplain is allowed. All fill placed in a floodplain shall be balanced with an equal amount of soil material removal. Excavation areas shall not exceed fill areas by more than 50 percent of the square footage. Any excavation below the ordinary high water line shall not count toward compensating for fill.

There is reference to Sheet P04, but there is no cut and fill shown on the plans. Please label the areas for cut and fill on the plans. Is there an equal amount of both cut and fill?

3. CDC Chapter 27.090- Non-Residential Construction

Please provide a narrative that addresses CDC 27.090.

4. CDC Chapter 28.030- Applicability

CDC 28.030(B)- At the confluence of a stream or creek with either the Tualatin or Willamette River, the standards of this chapter shall apply only to those portions of the lot or parcel fronting the river. Meanwhile, development in those portions of the property facing or adjacent to the stream or creek shall meet the transition, setbacks and other provisions of Chapter 32 CDC, Water Resource Area Protection.

In your narrative, you state that the stream on the property is located more than 100 feet away from the project area.

- a. Please show the distance from the stream to the affected area. Show the stream more clearly on all the sheets. As you can see below from our maps, there appears to be a stream that runs across the property.
- b. Clearly indicate the water resource area (see Table 32-2) in CDC 32.060 D for the appropriate water resource area width. Label this width on the proposed plans.
- c. Revise the narrative as necessary for CDC28.030 (B), indicating the appropriate water resource area width and slope.



5. CDC Chapter 28.090 - Submittal Requirements: Application

CDC 28.090 (C2) An application for a protection area permit shall include the completed application and:

A site plan, with HCA boundaries shown and by low, moderate, high type shown (CDC 28.120).

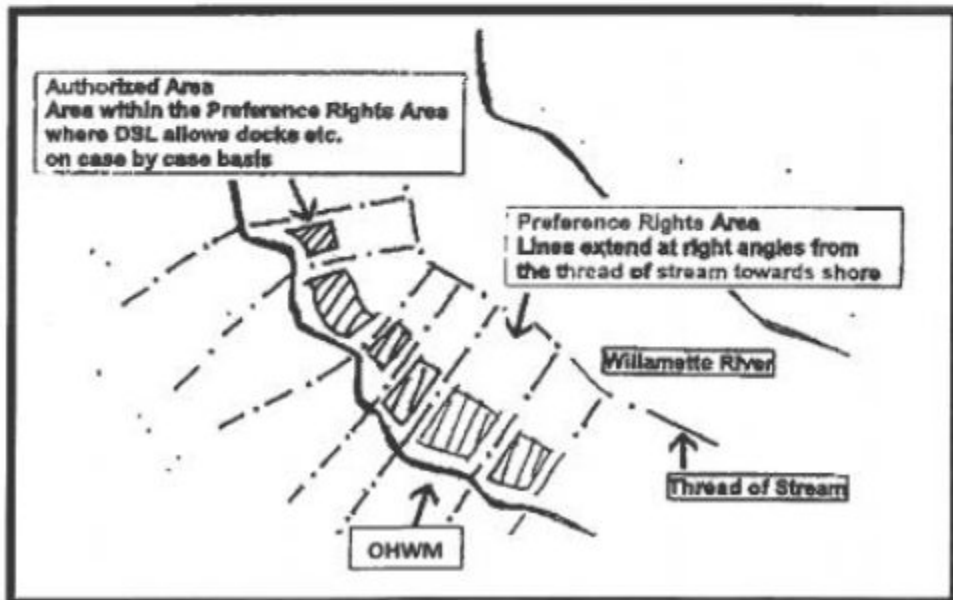
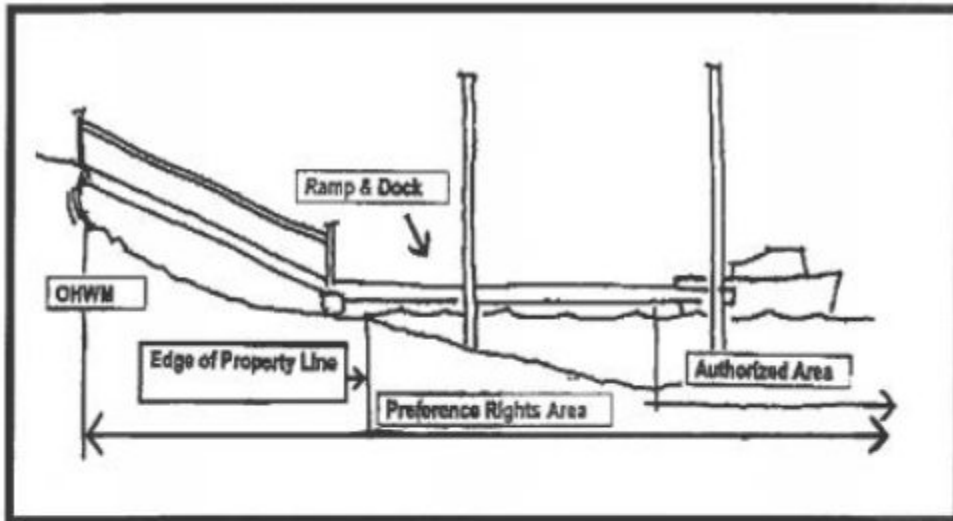
- a. The Site plan does not depict the HCA boundaries by low, moderate, high but rather shows HCA boundaries. Revise to show the different HCA boundaries (low, moderate, high).

6. CDC Chapter 28.090 (F)- Submittal Requirements: Application

CDC 28.090 (F)- The applicant shall include a map, approved or acknowledged by DSL, of the preference rights and authorized areas if a water surface structure is proposed.

The CDC defines preference rights as the following: The preference rights area represents the water surface that is allocated to each riverfront property owner by the Department of State Lands (DSL).

Starting with the center thread of the river, DSL extends lines at right angles from that thread towards the OHW mark of the respective properties along the shoreline. (Because the thread of the river twists and turns, the line extending to shore can vary also in its angle.) The area within the preference rights area that the applicant may place their water-dependent structure (e.g., dock) is called the authorized area. (Also see "Authorized area" definition.)



- a. The Plan sheets do not show the preference rights area or authorized area for the water surface structure. Indicate on the plans where the preference rights/authorized rights are located.
- b. It appears that a portion of the proposed gangway will be in the preference rights area; therefore, you will need to include a map that has been approved or acknowledged by DSL.

7. CDC 28.110 - Approval Criteria

CDC 28.110 (F). Access and property rights.

2. Where a legal public access to the river or elsewhere in the protection area exists, that legal public right shall be recognized and respected.

There is an existing 15' public access easement. It is fairly difficult to read on the Site Plan as the dashed lines blend in with the contour lines. If possible, mark the lines in different colors in order to get a more legible Site Plan.

CDC 28.110(F)(3)

3. To construct a water-dependent structure such as a dock, ramp, or gangway shall require that all pre-existing legal public access or similar legal rights in the protection area be recognized and respected. Where pre-existing legal public access, such as below the OLV, is to be obstructed by, for example, a ramp, the applicant shall provide a reasonable alternate route around, over or under the obstruction. The alternate route shall be as direct as possible. The proposed route, to include appropriate height clearances under ramps/docks and specifications for safe passage over or around ramps and docks, shall be reviewed and approved by the Planning Director for adequacy.

Submit a revised narrative that more specifically addresses public access below the normal OLV.

8. CDC 28.120 (A)- Site Plan

All site plans and maps shall include the name, address and telephone number of the applicant, a lineal scale of the plot plan, a north arrow and a vicinity map.

Include a vicinity map in the proposed plans.

CDC 28.120(B2) The lot or parcel boundaries, dimensions and gross area.

Include the gross area of the total lot.

CDC 28.120 (B4) The location, dimensions, and names of all existing and platted streets and other public ways and easements on adjacent property and on the site.

Include all easements on the Site Plan recorded on the property in a legible manner.

There is a sanitary sewer main and easement that the proposed gangway will cross. The survey should be revised to show the sewer main and easement. No portion of the footings will be allowed to be over the sewer main or within the easement area. If the sewer main is not located within the easement area, a new easement will be required.

Please note that the city will be requiring the dedication of a 20 foot public utility easement centered on the storm line, and no portion of the proposed structure shall be located in the easement area. Please contact Amy Pepper at APepper@westlinnoregon.gov or 503-722-3437 for more information regarding the sewer main and easement.

CDC 28.120(B5). The location, dimensions and setback distances of all:

a. Existing structures, improvements, utility facilities and drainageways on site and on adjoining properties;

Provide the existing dimensions for the existing metal stairs as well as the existing dock and existing gangway.

b. Proposed structures or changes to existing structures, improvements, utility facilities and drainageways on the site.

Provide the dimensions and setback distances for the proposed gangway.

CDC 28.120 (B9). The location of the ordinary high water mark and the ordinary low water mark on the property and on abutting properties.

Specify the location of both ordinary high water and ordinary low water on the two parcels shown on the Proposed Site Plans.

CDC 28.120 (B10). The delineation of areas designated “Habitat and Impact Areas Not Designated as HCAs” and HCA areas by low, medium and high designation shall be mapped based on the HCA Map and any necessary verification shall be done by the Planning Director.

Clearly show the differing habitat conservation areas.

9. CDC 28.140 – Architectural Drawings

CDC 28.140 (A). Architectural drawings shall be submitted at the same scale as the site plan scale, as described in the site plan, showing:

1. Elevations of structure(s). For additions, the drawings should clearly distinguish between existing structure and proposed addition and show distance from addition and existing structure to the protected water resource.

Depict the distance from the proposed gangway to the Water Resource Area as indicated above in comment #4.

CDC 28.140 (A2). The exterior building materials: type, color, and texture.

Add a narrative addressing the exterior materials of the proposed gangway.

10. CDC 32 – Water Resource Area Protection

Please provide a narrative that addresses CDC 32: Water Resource Area Protection if comment #4 above applies where the proposed gangway is within the Water Resource Area for the stream that is present on the property.

* Pursuant to CDC 99.035, the Planning Director may require information in addition to that required by a specific chapter in the Community Development Code or may waive a specific requirement for information or a requirement to address a certain approval standards.

Pursuant to ORS 227.178 “If an application for a permit, limited land use decision or zone change is incomplete, the governing body or its designee shall notify the applicant in writing of exactly what information is missing within 30 days of receipt of the application and allow the applicant to submit the missing information. The application shall be deemed complete for the purpose of subsection (1) of this section upon receipt by the governing body or its designee of:

- (a) All of the missing information;
- (b) Some of the missing information and written notice from the applicant that no other information will be provided; or
- (c) Written notice from the applicant that none of the missing information will be provided.

You now have until May 2, 2022 to make the application complete by providing the information outlined above or submit written notice that additional information will not be provided. If the application is not made complete by the deadline, it will become void.

Please contact me at 503-742-6057, or by email at bavila@westlinnoregon.gov if you have any questions or comments.

Sincerely,

Betty Avila

Betty Avila
Associate Planner

NOTES:

- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER MARK IT OUT, LLC. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
- FIELD WORK WAS CONDUCTED FEBRUARY 17-18 AND MARCH 2, 2021.
- HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM STATE PLANE OREGON NORTH 3601 NAD83(2011) EPOCH: 2010.0000 BY MULTIPLYING BY A PROJECT MEAN GROUND COMBINED SCALE FACTOR OF 1.0000965303 AT A CENTRAL PROJECT POINT WITH INTERNATIONAL FOOT STATE PLANE GRID COORDINATES N631354.121 E765666.616 AND A MERIDIAN CONVERGENCE ANGLE OF -1'30"20". STATE PLANE COORDINATES WERE DERIVED FROM GPS OBSERVATIONS USING THE TRIMBLE VRS NOW NETWORK. DISTANCES SHOWN ARE INTERNATIONAL FOOT GROUND VALUES.
- VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS BENCHMARK NO. RD0259, LOCATED AT THE NORTH CORNER OF 8TH ST. AND MAIN ST. ELEVATION = 66.22 FEET (NAVD 88).
- THIS IS NOT A PROPERTY BOUNDARY SURVEY TO BE RECORDED WITH THE COUNTY SURVEYOR. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
- BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
- CONTOUR INTERVAL IS 1 FOOT.
- TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BRESTH HEIGHT. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.
- BY GRAPHIC OVERLAY, ONLY THIS PROPERTY IS IN ZONES AE AND X OF THE FLOOD INSURANCE RATE MAP, COMMUNITY NO. 410024, MAP NUMBER 4100500380 WHICH BEARS AN EFFECTIVE DATE OF JUNE 17, 2008 AND PARTIALLY IN A SPECIAL FLOOD HAZARD AREA. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE.

TREE NUMBER	TYPE	DBH (IN.)
10242	CONIFEROUS	12
10245	DECIDUOUS	7
10313	DECIDUOUS	8
10361	DECIDUOUS	14
10362	DECIDUOUS	13
10363	DECIDUOUS	12
10368	DECIDUOUS	14
10369	DECIDUOUS	15
10371	DECIDUOUS	14
10373	DECIDUOUS	9
10374	DECIDUOUS	7
10385	DECIDUOUS	6
10386	DECIDUOUS	11
10387	DECIDUOUS	7
10389	DECIDUOUS	18
10392	DECIDUOUS	23
10393	DECIDUOUS	10
10396	DECIDUOUS	9

TREE NUMBER	TYPE	DBH (IN.)
10399	DECIDUOUS	15
10401	DECIDUOUS	20
10403	DECIDUOUS	20
10404	DECIDUOUS	7
10442	DECIDUOUS	8,15
10445	DECIDUOUS	13
10450	DECIDUOUS	21
10456	DECIDUOUS	20
10458	DECIDUOUS	12,15
10513	DECIDUOUS	6,6,8
10519	DECIDUOUS	33
10571	DECIDUOUS	33
10573	DECIDUOUS	35
10587	DECIDUOUS	6,7,7
10627	DECIDUOUS	16
10638	DECIDUOUS	10
10645	DECIDUOUS	8

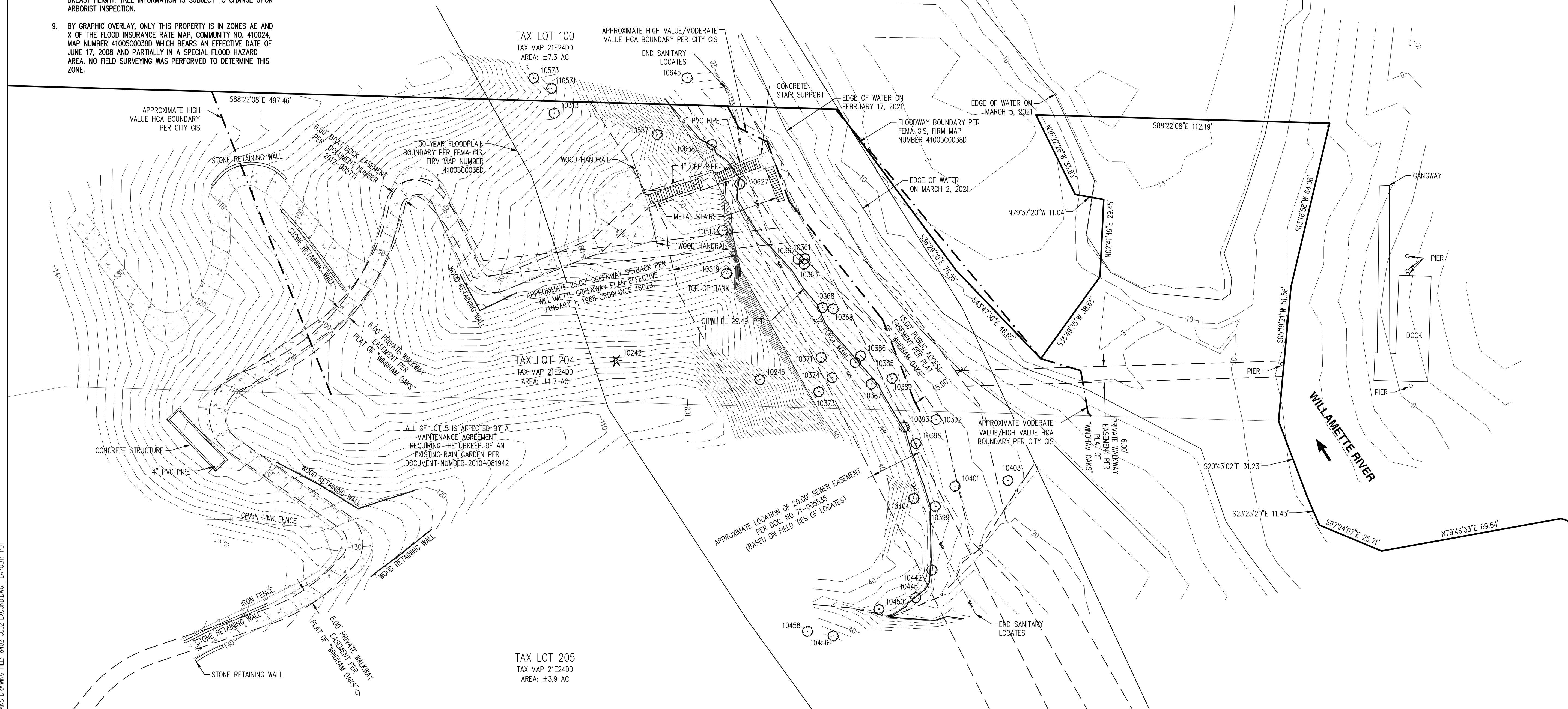
LEGEND

EXISTING GROUND CONTOUR (2 FT)

EXISTING GROUND CONTOUR (10 FT)

N

SCALE: 1" = 20 FEET



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WINDHAM OAKS CT.
WEST LINN OREGON
 TAX LOTS 204 & 205
 ENGINEERING - SURVEYING - NATURAL RESOURCES
 FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

EXISTING CONDITIONS PLAN

DESIGNED BY: RB
 DRAWN BY: RB
 MANAGED BY: RB
 CHECKED BY: NSW
 DATE: 3/23/2021

REGISTERED PROFESSIONAL LAND SURVEYOR

 NICK WHITE
 7065215
 RENEWS: 6/30/22

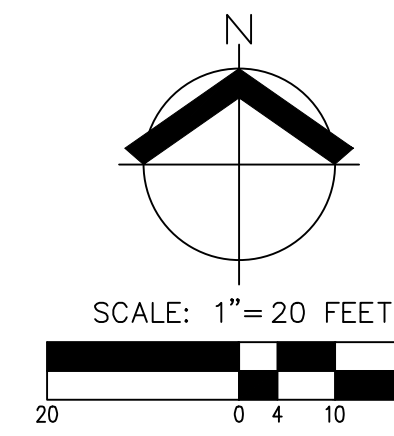
REVISIONS:

JOB NUMBER: 8402
 SHEET: P01

AKS DRAWING FILE: 8402_0002_EXCOND.DWG | LAYOUT: P01

NOTES:

- UTILITIES SHOWN ARE BASED ON UNDERGROUND UTILITY LOCATE MARKINGS AS PROVIDED BY OTHERS, PROVIDED PER MARK IT OUT, LLC. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND LOCATES REPRESENT THE ONLY UTILITIES IN THE AREA. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION.
- FIELD WORK WAS CONDUCTED FEBRUARY 17-18 AND MARCH 2, 2021.
- HORIZONTAL DATUM: A LOCAL DATUM PLANE DERIVED FROM STATE PLANE OREGON NORTH 3601 NAD83(2011)EPOCH: 2010.0000 BY MULTIPLYING BY A PROJECT MEAN GROUND COMBINED SCALE FACTOR OF 1.0000965303 AT A CENTRAL PROJECT POINT WITH INTERNATIONAL FOOT STATE PLANE GRID COORDINATES N631354.121 E7656666.616 AND A MERIDIAN CONVERGENCE ANGLE OF -1'30"20". STATE PLANE COORDINATES WERE DERIVED FROM GPS OBSERVATIONS USING THE TRIMBLE VRS NOW NETWORK. DISTANCES SHOWN ARE INTERNATIONAL FOOT GROUND VALUES.
- VERTICAL DATUM: ELEVATIONS ARE BASED ON NGS BENCHMARK NO. RD0259, LOCATED AT THE NORTH CORNER OF 8TH ST. AND MAIN ST. ELEVATION = 66.22 FEET (NAVD 88).
- THIS IS NOT A PROPERTY BOUNDARY SURVEY TO BE RECORDED WITH THE COUNTY SURVEYOR. BOUNDARIES MAY BE PRELIMINARY AND SHOULD BE CONFIRMED WITH THE STAMPING SURVEYOR PRIOR TO RELYING ON FOR DETAILED DESIGN OR CONSTRUCTION.
- BUILDING FOOTPRINTS ARE MEASURED TO SIDING UNLESS NOTED OTHERWISE. CONTACT SURVEYOR WITH QUESTIONS REGARDING BUILDING TIES.
- CONTOUR INTERVAL IS 1 FOOT.
- TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE MEASURED UTILIZING A DIAMETER TAPE AT BREAST HEIGHT. TREE INFORMATION IS SUBJECT TO CHANGE UPON ARBORIST INSPECTION.
- BY GRAPHIC OVERLAY, ONLY THIS PROPERTY IS IN ZONES AE AND X OF THE FLOOD INSURANCE RATE MAP, COMMUNITY NO. 410024, MAP NUMBER 41005C0038D WHICH BEARS AN EFFECTIVE DATE OF JUNE 17, 2008 AND PARTIALLY IN A SPECIAL FLOOD HAZARD AREA. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE.



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 FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

WINDHAM OAKS CT.

OREGON
 TAX LOTS 204 & 205

**EXISTING CONDITIONS
 PLAN WITH AERIAL
 OVERLAY**

DESIGNED BY: RB
 DRAWN BY: RB
 MANAGED BY: RB
 CHECKED BY: NSW
 DATE: 3/23/2021

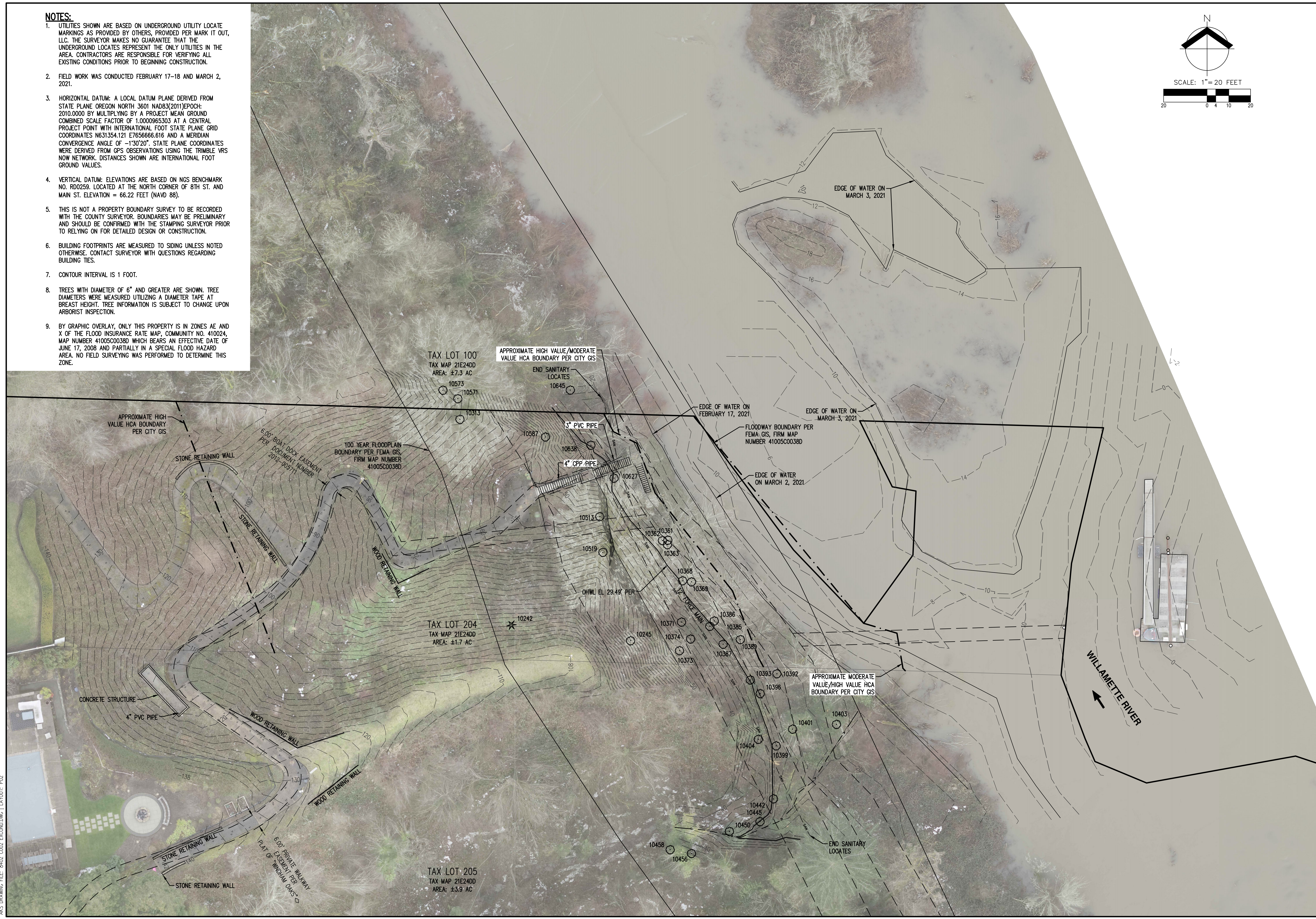
REGISTERED
 PROFESSIONAL
 LAND SURVEYOR

Nick White
 OREGON
 JANUARY 9, 2007
 NICK WHITE
 70652LS
 RENEWS: 6/30/22

JOB NUMBER
8402

SHEET
P02

AKS DRAWING FILE: 8402_0002_EXCOND.DWG | LAYOUT: P02



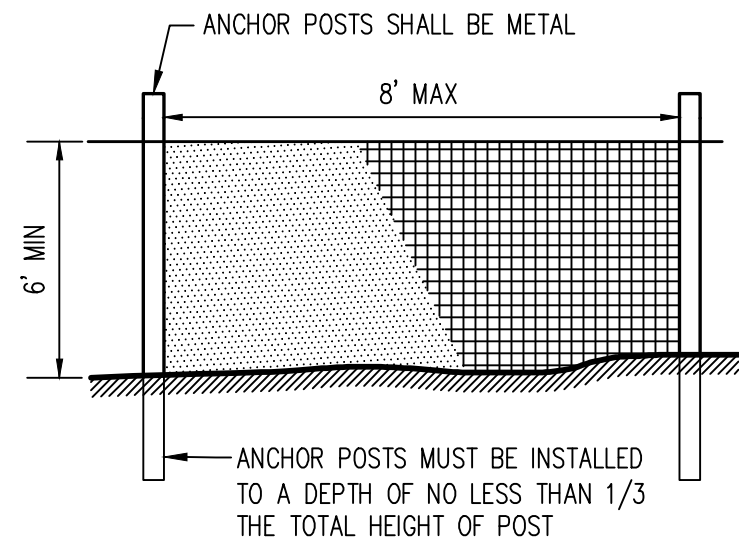
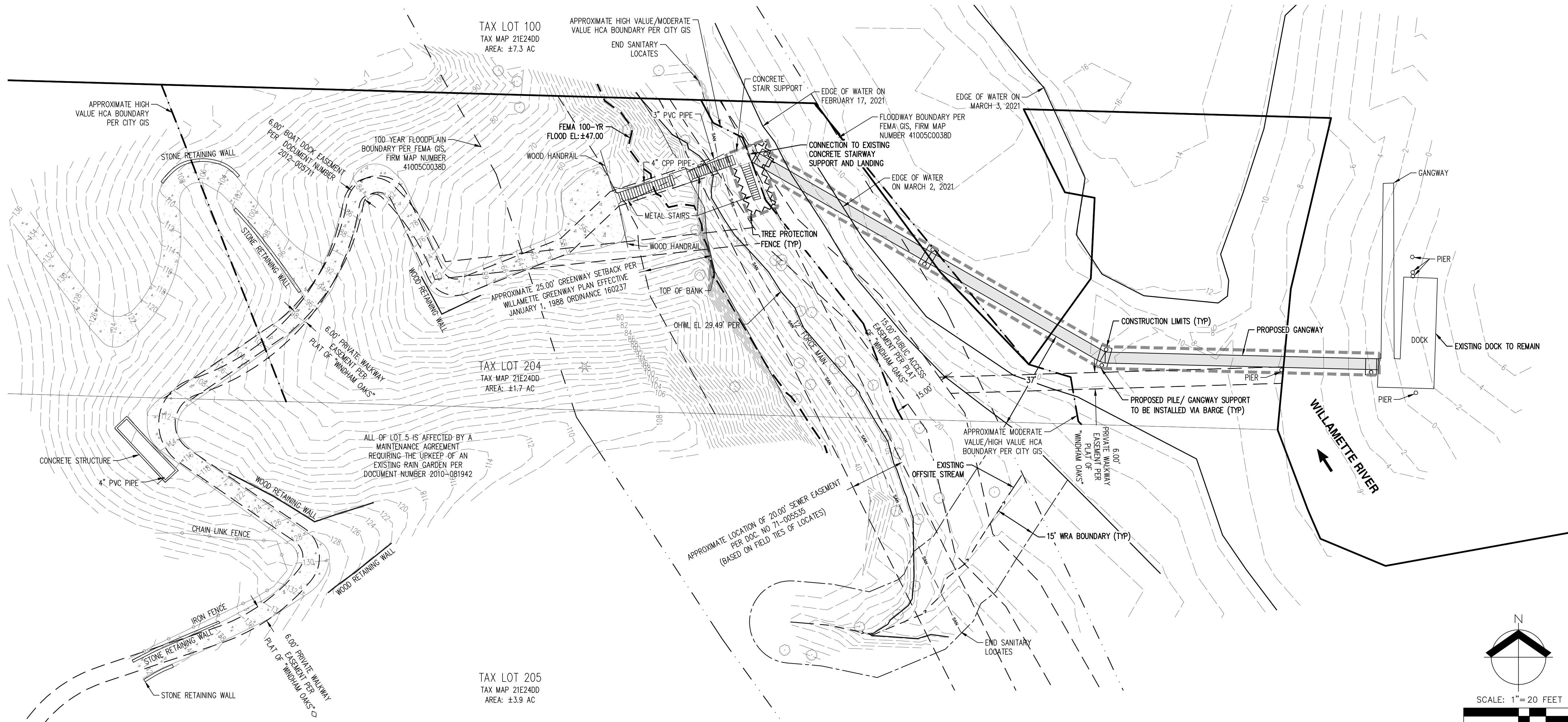
TAX LOT 100
 TAX MAP 21E24DD
 AREA: ±7.3 AC

TAX LOT 204
 TAX MAP 21E24DD
 AREA: ±1.7 AC

TAX LOT 205
 TAX MAP 21E24DD
 AREA: ±3.9 AC

REVISIONS

AKS DRAWING FILE: 8402_C050_ESC.DWG | LAYOUT: P03



- NOTES:
- CHAIN LINK FENCE FOR TREE PROTECTION DEVICE OR APPROVED EQUAL.
 - AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
 - DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

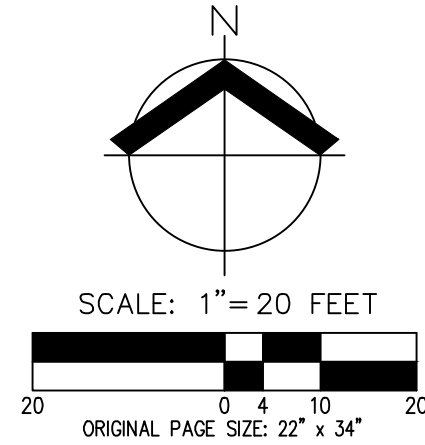
TREE PROTECTION FENCE

EROSION AND SEDIMENT CONTROL GENERAL NOTES:

- APPROVAL OF THIS EROSION AND SEDIMENT CONTROL PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.)
- THE IMPLEMENTATION OF THIS ESCPC AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESCPC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
- THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE APPLICANT/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
- THE ESCPC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
- THE ESCPC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESCPC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.
- THE ESCPC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
- THE ESCPC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 24 HOURS FOLLOWING A STORM EVENT.
- STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

GENERAL CONSTRUCTION NOTES:

- CONSTRUCTION & STAGING WILL BE FROM THE WILLAMETTE RIVER VIA BARGE.
- GANGWAY WILL CONNECT TO AN EXISTING CONCRETE STAIRWAY AND LANDING.
- NO SITE ONSITE GRADING IS PROPOSED AS PART OF THIS PROJECT.
- ALL DOCK AND GANGWAY CONSTRUCTION WILL TAKE PLACE FROM THE WILLAMETTE RIVER WITH THE CONTRACTOR UTILIZING A WORK BOAT. THEREFORE, CONSTRUCTION INGRESS AND EGRESS LOCATIONS WILL NOT APPLY.
- ALL EQUIPMENT MANEUVERING AREAS WILL BE LIMITED TO THE WILLAMETTE RIVER AS ALL CONSTRUCTION WILL BE DONE FROM THE WORK BOAT.
- STAGING AND CONSTRUCTION MATERIALS WILL BE LOCATED ON THE WORK BOAT THEREFORE A TEMPORARY STORAGE AND STAGING AREA IS NOT REQUIRED.
- GROUND DISTURBANCE WILL ONLY BE PRESENT AT THE PROPOSED PILE LOCATIONS. EACH PILE WILL BE INSTALLED WITH A CRANE FROM THE WILLAMETTE RIVER.
- NO TREE REMOVAL IS ANTICIPATED AS PART OF THIS PROJECT.



LEGEND

- EXISTING GROUND CONTOUR (2 FT) - - - - -
- EXISTING GROUND CONTOUR (10 FT) - - - - -350-
- CONSTRUCTION LIMITS - - - - -
- TREE PROTECTION FENCE - - - - -

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WINDHAM OAKS CT.
 WEST LINN OREGON
 TAX LOTS 204 & 205
 CLATSOP COUNTY TAX MAP 21E24DD

**CONSTRUCTION MANAGEMENT,
 EROSION, AND SEDIMENT
 CONTROL PLAN**

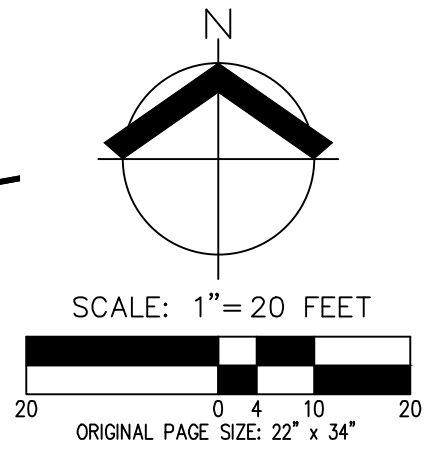
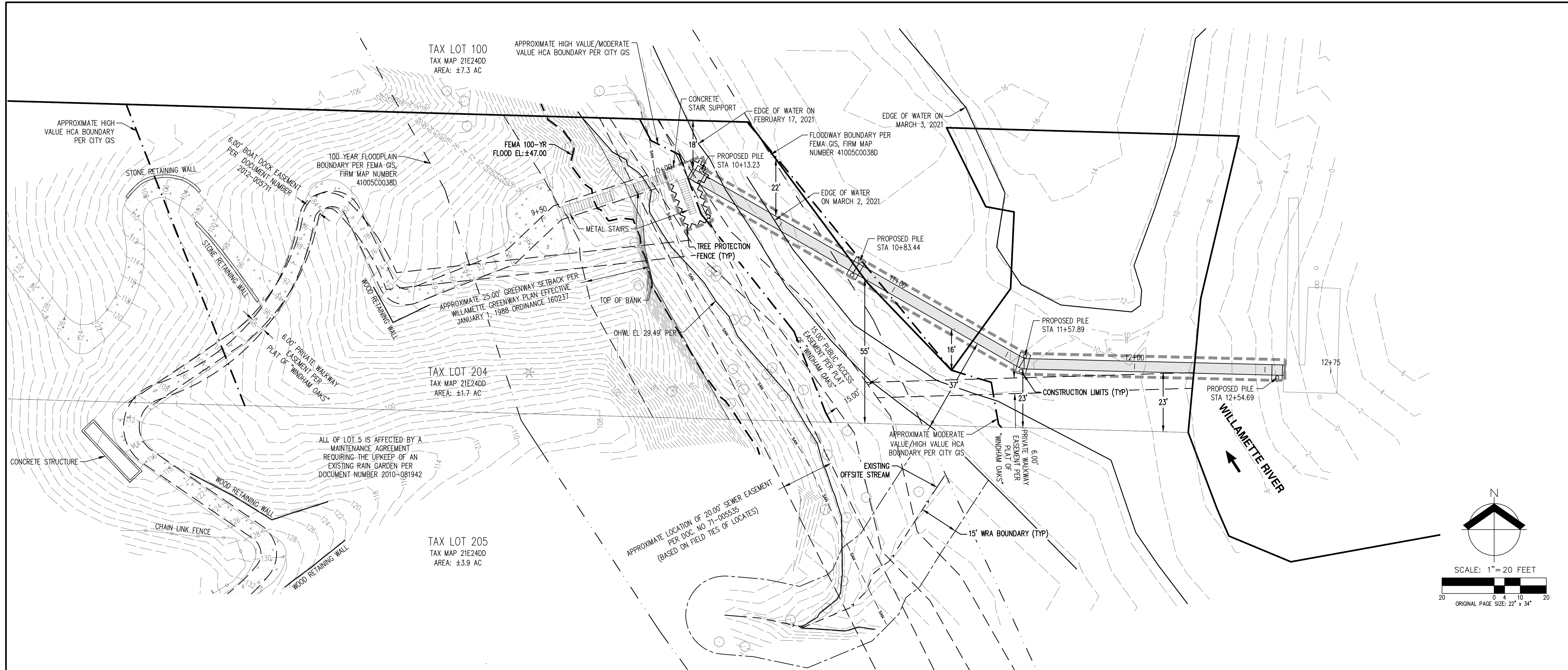
DESIGNED BY: GSH
 DRAWN BY: GSH
 MANAGED BY: JMM
 CHECKED BY: JMM
 DATE: 02/22/2022

REVIEW
 COPY
 RAYMON M. MARRAS

RENEWAL DATE: 12/31/2022
 REVISIONS:

JOB NUMBER
8402
 SHEET
P03

AKS DRAWING FILE: 8402_C100_SITE.DWG | LAYOUT: P04



GENERAL NOTES:

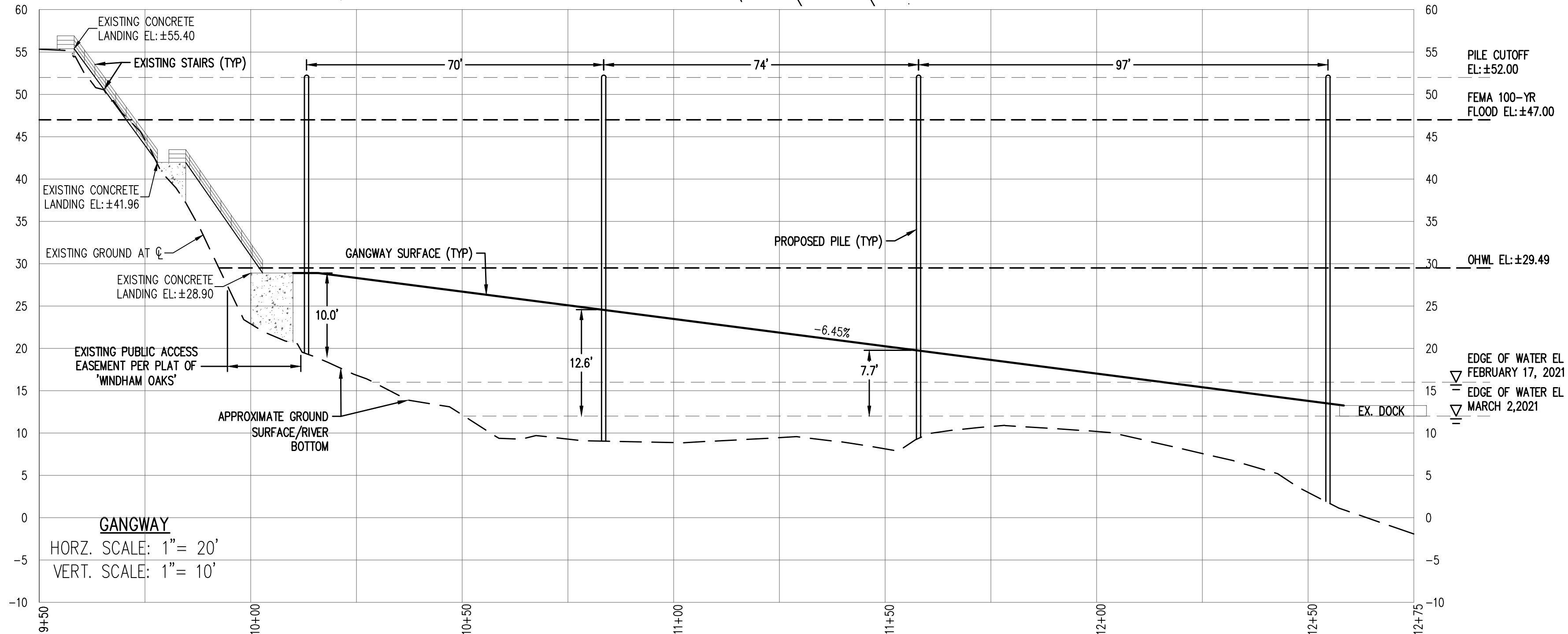
- GANGWAY DECKING WILL CONSIST OF 50% OPEN AREA GRATING.
- THE TOTAL REMOVAL/FILL FOR EACH 12-INCH PILING IS 0.785 CU. FT PER PILE. ASSUMING EACH 12-INCH PILING REQUIRES 10-FT OF EMBEDMENT, THE ESTIMATED FILL WITHIN THE 100-YEAR FLOOD BOUNDARY IS ±47.1 CU FT (±1.71 CY). $(0.785\text{SF}) \times (10\text{FT}) \times (6\text{PILES}) = 47.1$. HOWEVER, THIS VALUE IS HIGHLY VARIABLE AND DEPENDS ON SUBSURFACE SOIL CONDITIONS.
- CONSTRUCTION & STAGING WILL BE FROM THE RIVER AND MINIMAL SOIL DISTURBANCE (ASSOCIATED WITH THE INSTALLATION OF PILES) IS ANTICIPATED.

LEGEND

EXISTING GROUND CONTOUR (2 FT) - - - - -

EXISTING GROUND CONTOUR (10 FT) - - - - - 350

TREE PROTECTION FENCE (TYP) ~~~~~



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WINDHAM OAKS CT.
WEST LINN OREGON
 CLACKAMAS COUNTY TAX MAP 21E24DD
 TAX LOTS 204 & 205

**PRELIMINARY PILE CUT-OFF
 ELEVATION, GANGWAY
 PROFILE, & SITE PLAN**

DESIGNED BY: GSH
 DRAWN BY: GSH
 MANAGED BY: JMM
 CHECKED BY: JMM
 DATE: 02/22/2022

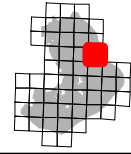
REGISTERED PROFESSIONAL ENGINEER
REVIEW
 COPY
 THOMAS M. MAKE

RENEWAL DATE: 12/31/2022
 REVISIONS:

JOB NUMBER
8402
 SHEET
P04

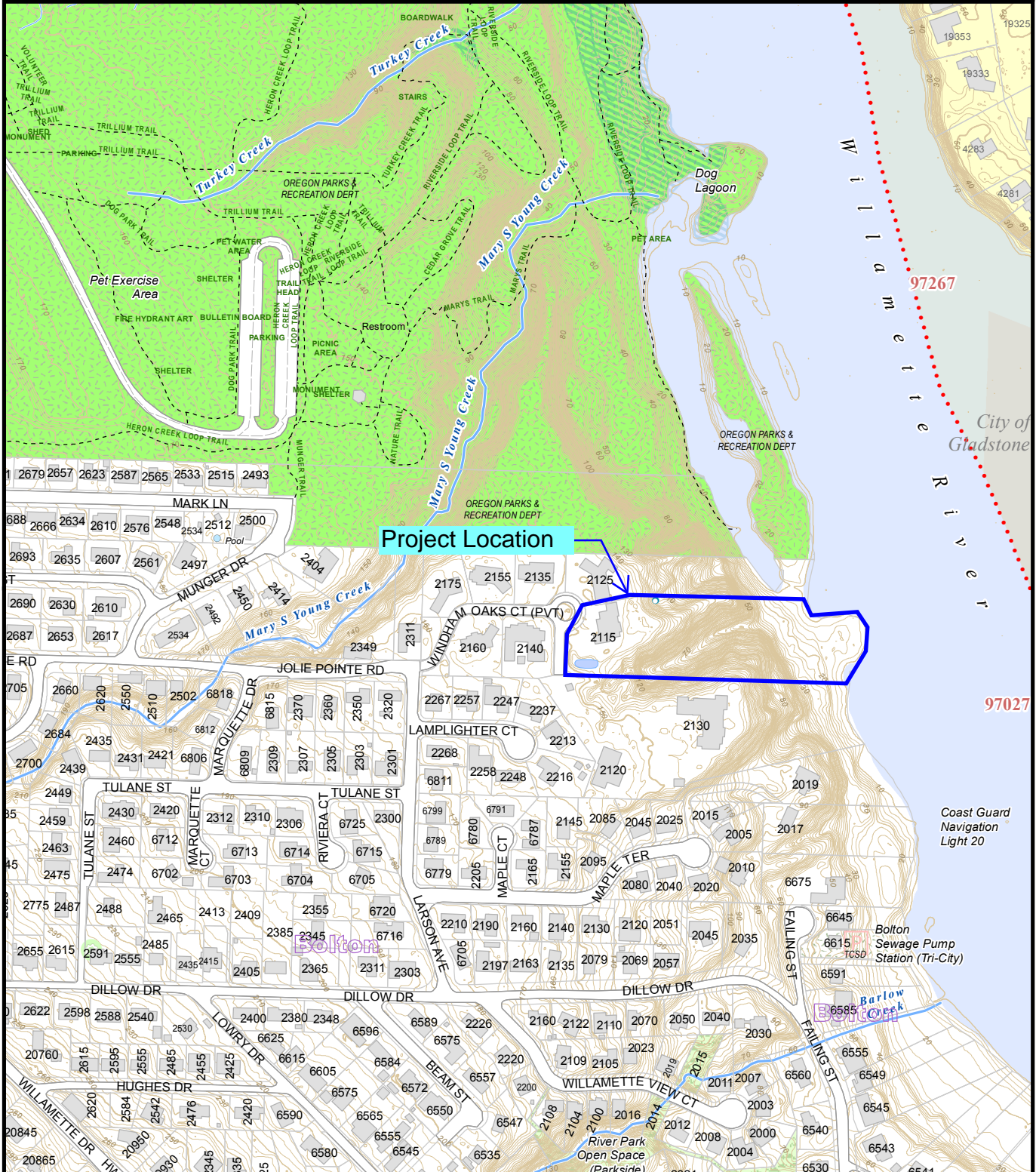
SITE VICINITY MAP

West Linn Street and Address Map



5034
T.R. Section: 2s1e24d

2018 Publication CITY OF WEST LINN PUBLIC WORKS - GEOGRAPHIC INFORMATION SYSTEM (GIS) SEE MAP 4934



Project Location

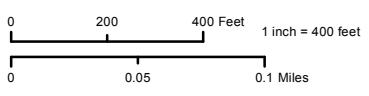
SEE MAP 5033

SEE MAP 5134

ATLAS2018_ALLPAGES_V106.MXD | KAHA, GISP, KAHA | 3/28/2018

GIS Data Coordinate System: NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl

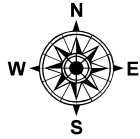
City GIS web maps: westlinnoregon.gov/maps



Legend

For a detailed map legend, see the first page of this atlas.

- West Linn City Limits
- Unincorporated Areas
- Other Unincorp Cities
- Commercial Areas
- Industrial Areas
- Taxlot Lines
- Buildings and Structures
- 22500 Site Addresses
- Metro UGB
- Parks
- Open Space
- Other City Property
- Public, Quasi-P, or Special Use
- Unimproved Right of Way
- Pavement White
- Street Tree Inventory - APWA
- Private Access
- Streams
- Rivers
- Ponds
- Paths and Trails
- 2 Foot Contours
- 97068 Zip Codes
- Swales and Raingardens
- Wetland Inventory 2005 G5
- Heritage Trees
Verify with City Arborist



This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information. Map and data: West Linn GIS, Metro RLIS, Clackamas County GIS





September 29, 2021

City of West Linn
Planning Department
22500 Salamo Road
West Linn, OR 97068

RE: 2115/2125 Windham Oaks Court – Gangway Construction Qualitative No Rise Analysis

Dear Planning Staff:

The purpose of this letter is to address the City's no-rise analysis requirement (see code section below) as it relates to the new gangway structure and associated steel piles in the Willamette River and associated floodplain located at 2115/2125 Windham Oaks Court in West Linn OR.

27.060 (F) Prohibit encroachments, including fill, new construction, substantial improvements, and other development in floodways unless certification by a professional civil engineer licensed to practice in the State of Oregon is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge

The new gangway structure will be constructed between an existing boat dock and an existing pedestrian pathway along the bank of the Willamette River. The gangway will require 6-8 steel piles to be installed below the base flood elevation to secure the gangway structure in place. The piles will be driven into the ground at various locations. The steel piles have a diameter of approximately 1ft and will create a negligible cross-sectional impact to the greater Willamette River floodway. Also, balancing fills associated with piles placed in the floodway with a compensatory cut volume will not be necessary since river water will be allowed to infiltrate the interior of the pile, therefore fill volume is negligible.

It is also worth noting that the existing boat dock is currently secured in place with similar driven piles. Additionally, the new piles installed to secure the planned gangway will utilize float boxes to allow the gangway to self-adjust with the existing dock and changing water elevations to further minimize floodway impacts

AKS Engineering staff has reviewed existing site conditions and FEMA Flood Maps to analyze the potential impacts of the new gangway structure on the 100-year floodway for the Willamette River. AKS has determined that the cross-sectional impact to the floodway is very minor, and it is reasonable to conclude that any rise would be negligible and outside the tolerances of a typical HEC-RAS model.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jonathon Morse', written over a light blue horizontal line.

AKS ENGINEERING & FORESTRY, LLC

Jonathon Morse, PE
12965 SW Herman Road, Suite 100
Tualatin, OR 97062
(503) 563-6151 | jonm@aks-eng.com

Daisy Goebel

From: RUSSELL Justin * DSL <Justin.RUSSELL@dsl.oregon.gov>
Sent: Monday, December 6, 2021 11:49 AM
To: Daisy Goebel
Subject: RE: DSL Acknowledgment

EXTERNAL EMAIL: This email originated from outside AKS Engineering & Forestry.

Hi Daisy,

The existing dock adjacent to 2125 Windham Oaks Ct (Taxlot 204) has been authorized by our Department through registration number 11240-RG. Installing a gangway to the existing dock would conform with the terms of this existing registration and not necessitate any further authorization from DSL. Our Department does not create or publish "preference right maps", and our rules allow an individuals to register a structure without going through the preference right process. The preference right process only applies when applying for a new waterway lease from our Department, which is a separate authorization type than a Dock Registration.

Please let me know if you have other questions.

Thank you,

Justin Russell
Proprietary Coordinator
Oregon Department of State Lands
O:503.986.5219
<http://www.oregonstatelands.us/>

From: Daisy Goebel <goebeld@aks-eng.com>
Sent: Monday, December 6, 2021 9:45 AM
To: RUSSELL Justin * DSL <Justin.RUSSELL@dsl.oregon.gov>
Subject: DSL Acknowledgment

Good Morning Justin,

Thank you for your assistance on navigating DSL requirements for water-dependent structures. I am working to get approval from the City of West Linn to construct a shared gangway for the properties located at 2125 and 2115 Windham Oaks Ct. in West Linn to access an existing dock. Please confirm that the dock is registered and that this use is permitted in accordance with Department of State Lands requirements. It is my understanding that because the Gangway will not be extending further into the applicable body of water, a map showing the preference rights area for the properties is not necessitated or available.

Thank you again for your help,

Daisy Goebel



AKS ENGINEERING & FORESTRY, LLC

3700 River Road N, Suite 1 | Keizer, OR 97303

P: 503.400.6028 Ext. 420 | www.aks-eng.com | Goebeld@aks-eng.com

Offices in: Bend, OR | Keizer, OR | Tualatin, OR | Vancouver, WA

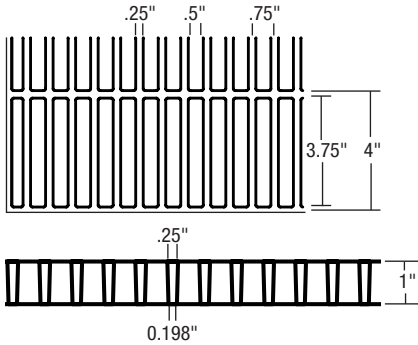
NOTICE: This communication may contain privileged or other confidential information. If you have received it in error, please advise the sender by reply e-mail and immediately delete the message and any attachments without copying or disclosing the contents. AKS Engineering and Forestry shall not be liable for any changes made to the electronic data transferred. Distribution of electronic data to others is prohibited without the express written consent of AKS Engineering and Forestry.



GRATING PACIFIC

ECOGRATE® 62 DETAILS AND LOAD TABLE

ECOGRATE® 62 - 1" Deep, 3/4" x 4" Rectangular Mesh



LOAD BAR WIDTH 1/4" ±
 LOAD BAR CENTERS 3/4"
 CROSS BAR CENTERS 4"
 OPEN AREA 62%
 WEIGHT/SQ. FT. 3.0 LBS.

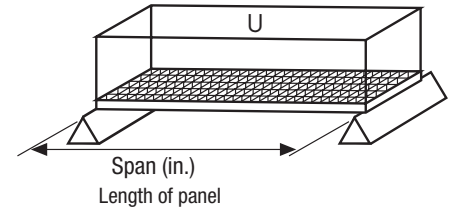


Depth	Mesh	Panel Size	Weight	Resins	Colors
1"	3/4" x 4"	4' x 12'	144#	Corvex	Light Gray Dark Gray

1" Deep, 3/4" x 4" Load Span Table - Uniform Loads

Clear Span (in)	Uniform Load (psf)									Max. Recom. Load (psf)	Ultimate Load (psf)
	50	65	100	150	200	300	500	1000	2000		
12	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.02	0.04	0.08	2800	14040
18	0.01	0.01	0.02	0.03	0.04	0.06	0.10	0.20	0.40	1240	6200
24	0.03	0.04	0.06	0.09	0.12	0.18	0.30	—	—	700	3500
30	0.07	0.10	0.15	0.22	0.30	0.44	—	—	—	440	2200
36	0.15	0.20	0.31	0.46	—	—	—	—	—	310	1500
42	0.28	0.37	—	—	—	—	—	—	—	220	1100
48	0.48	—	—	—	—	—	—	—	—	170	800

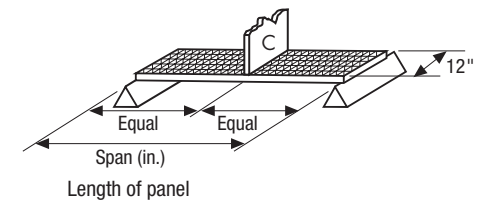
U Uniform load - psf
 U Uniform load deflection (in.)



1" Deep, 3/4" x 4" Load Span Table - Line Loads

Clear Span (in)	Line Load (lb/ft of Width)							Max. Recom. Load (lb/ft)	Ultimate Load (lb/ft)
	50	100	200	300	500	1000	2000		
12	<0.01	<0.01	0.01	0.02	0.03	0.07	0.13	1400	7020
18	0.01	0.02	0.04	0.06	0.11	0.21	0.43	930	4680
24	0.02	0.05	0.10	0.15	0.24	0.48	—	700	3510
30	0.05	0.09	0.19	0.28	0.47	—	—	560	2800
36	0.08	0.16	0.33	0.49	—	—	—	460	2340
42	0.13	0.26	—	—	—	—	—	400	2000
48	0.19	0.39	—	—	—	—	—	3500	1750

C Concentrated line load - lbs/ft of width
 C Concentrated line load deflection (in.)



NOTES:

- All gratings were tested in accordance with the ANSI Standard: FRP Composites Grating Manual for Pultruded and Molded Grating and Stair Treads.
- Maximum Recommended Load represents a 5:1 factor of safety on Ultimate Capacity.



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(503) 400-6028

TUALATIN, OR
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Tualatin, OR 97062
(503) 563-6151

VANCOUVER, WA
9600 NE 126th Avenue, Suite 2520
Vancouver, WA 98682
(360) 882-0419

Date: 2/18/2022
To: City of West Linn Community Development Department
From: Julie Wirth-McGee, Professional Wetland Scientist (PWS)
Project Name: Windham Oaks Gangway
AKS Job No.: 8402
Project Site: 2115 Windham Oaks, West Linn, Oregon 97068
Subject: [WRG-21-05 Intermittent Drainage Documentation](#)

This memorandum was prepared by AKS Engineering & Forestry, LLC (AKS) for the Windham Oaks Gangway project in West Linn, Oregon. The memorandum documents the results of the desktop research and evaluation that was completed to classify the existing drainage that flows in a west-east direction along the southern boundary of Tax Lot 205 of Clackamas County Assessor's Map 21E24DD before flowing northeast towards the Willamette River in the central portion of the parcel. The project area was evaluated by reviewing the following online mapping resources:

- National Wetland Inventory (NWI) – the NWI identifies the subject drainage as a Riverine, intermittent tributary to the Willamette River that is seasonally flooded (R4SBC).
- West Linn Local Wetland Inventory (LWI) – the LWI identifies the subject drainage as an artificial feature (ditch) that flows into the Willamette River. No further classification is provided in the 2005 report.
- United States Geological Survey (USGS) National Map Viewer – based on the National Hydrography Dataset, the drainage is an intermittent tributary to the Willamette River that is approximately 0.14 miles long.
- West Linn Maps – this resource maps the subject drainage as originating at multiple stormwater catch basins in the Windham Oaks Court, Maple Terrace, Lamplighter Court, and Maple Court cul-de-sacs. The drainage flows east through a series of pipes and open ditches, ultimately flowing into the Willamette River.
- StreamNet Mapper – this mapping resource does not identify the subject drainage, and no known fish species are mapped as using this drainage.
- USGS Topographic Maps – the subject drainage is not depicted on USGS topographic maps until 2011. From that point on, the mapping is similar to that of the NWI and USGS National Map Viewer.

Following the review of the above referenced mapping resources, AKS reviewed historic aerial imagery and photographs of the drainage from the February 2021 AKS topographic survey. Based on the photographs, the subject drainage is approximately 2 feet wide and roughly 1.5 feet deep. Only 2 inches of surface water was observed flowing within the drainage during the February survey, despite the above normal rainfall received in the area during January and early February 2021.

Though the drainage has a defined channel, it is believed that a change in the hydrograph due to increased residential development (since the early 2000's) in the upstream watershed has increased the amount of stormwater input and runoff into the drainage. This has directly affected surface water levels and the rate at which water moves through the drainage and into the Willamette River. Increased surface water flows

and flash runoff events after heavy rainfall from the surrounding uplands would cause water to move quickly through the system, contributing over time to a more defined channel bed and bank. Based on the best professional judgment of AKS staff, the flow regime for the drainage is intermittent because surface water input is driven by stormwater runoff. This determination is consistent with the mapping resources analyzed for this project.

If you have any other questions, or need additional information, do not hesitate to contact me at wirthmcgee@aks-eng.com or by phone at 971-707-3783.

Thank you,



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