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ENGINEERS, INC.

MEMORANDUM

To: Mark Person, City of Kalama

Date: October 31, 2016

PND Project No: 154038

From: Nicole White, Environment Scientist

Subject: Kalama Marina Renovation

Dear Mark Person,

PND Engineers, Inc. has received your email regarding the Kalama Marina Renovation permits. With this letter it is my intent to provide you with all of the required information for the processing of the application materials, including the SEPA Environmental Checklist and Shoreline permit. Below is an itemized summary of the information that you requested:

Itemized Summary:

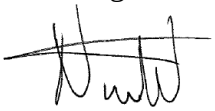
Comment No.	Comment/Request	Response &/or Description of Revision
1	Plans and specifications for the new fueling dock	Design in progress. Plans and specifications will be provided upon completion.
2	Please either submit a Floodplain Development Permit (FDP) application (or provide justification for why one is not required). Although no "structures" are proposed, the scope of work falls under the City's definition of "development" per KMC 14.16.030. Additional materials needed besides the application form is some substantiation of how docks, piles, and bridge abutments will be designed to withstand flood flow and hydrologic pressure related to debris hangups, per KMC 14.16.100(F).	Please see the attached FDP below. The docks and piles, will be designed to withstand flood flow and hydrologic pressure related to debris hangups, per KMC 14.16.100(F). 1. There are no bridge abutments included as part of this projects. 2. The BFE change caused by new piles is negligible. 3. New piles will be sized and designed to withstand a BFE event and the new piles will be taller than the timber piles. 4. Hydrologic pressure from debris hangups is expected to be minimal due to the location

		of the project in a protected basin.
3	If changes to sewer pump-out equipment proposed, the application materials will need to address general conformance with applicable state and local regulations (DSHS, ECY, Cowlitz County Health Department, etc.) per 'Sewage Collection and Treatment' of the Cowlitz County SMP.	There are no proposed changes to the sewer pump-out equipment. New floats will be installed to support the existing equipment, but plumbing and equipment will remain the same.
4	Throughout all submitted materials, basic erosion control measures need to be referenced and included. Although earthwork is extremely limited in scope (ex. replacement of abutments, floats, gangways, etc.), this still needs to be addressed based on proximity to and work within OHWM.	Please see attached Basic Erosion Control Measures memorandum below.
5	On-going management practices, which will protect critical fish and wildlife habitat after the project site has been fully developed, per Appendix D of Chapter 15.02 KMC, needs to be referenced or included in the Habitat Management Plan section of the Critical Areas Report.	Please see the attached Critical Areas Report Addendum I below.

Should you require any additional information, please don't hesitate to contact me via email at NWhite@PNDEngineers.com or at (206) 624-1387.

Sincerely,

PND Engineers, Inc.| Seattle Office



Nicole White, Environmental Scientist

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ENGINEERS, INC.

Floodplain Development Permit

To: Mark Person, City of Kalama

Date: October 31, 2016

PND Project No: 154038

From: John Olson, Senior Engineer

Subject: Kalama Marina Renovation - Floodplain Development Permit

Dear Mark Person,

The purpose of this letter is to provide the City of Kalama a Floodplain Development Permit (FDP) application for the Kalama Marina Improvements project, per Kalama Municipal Code (KMC) 14.16.050. This application will be evaluated based on the four standards seen below:

1. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures recorded on a current elevation certificate (FF 81-31) with Section B completed by the local official.
2. Elevation in relation to mean sea level to which any structure has been flood proofed;
3. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria in Section 14.16.100(B); and
4. Description of the extent to which a watercourse will be altered or relocated as a result of proposed development.

As discussed between you and Nicole White, on October 17, 2016, of these four standards #1 and #2 have been covered within the application materials. For this reason, I will address #3 and #4.

As a registered professional engineer, I certify that the floodproofing methods meet the floodproofing criteria of KMC 14.16.100(B). The majority of the project scope addresses docks and dock structures which float on the surface of the Kalama Marina basin and will not be affected by the rise or fall of the water level. While the piles that support these floating structures will be built in the floodway and floodplain, the anticipated effects on the floodwater level are minimal. A total of 26 new 12’ steel piles are to be installed as part of the project, which will displace approximately 837 cubic feet of water at the flood level. This displacement, when spread out over several thousand square feet of floodplain becomes negligible. In addition to this displacement, floats are anticipated to displace a similarly minimal amount of water, as float freeboard is constant across all water levels.

Of greater importance is the ability of new construction to resist hydrodynamic and hydrostatic loads during a flood event. Hydrodynamic forces caused by debris hangups and other drag forces during a flood event are anticipated to be small, due to the location of the project within a

protected basin in the Kalama Marina. Figure 1, below, shows the protection offered to the basin by the breakwater during a flood event. The project will be designed such that the forces exerted on the piles by the drag of the floating elements of the marina will not cause the piles to fail.

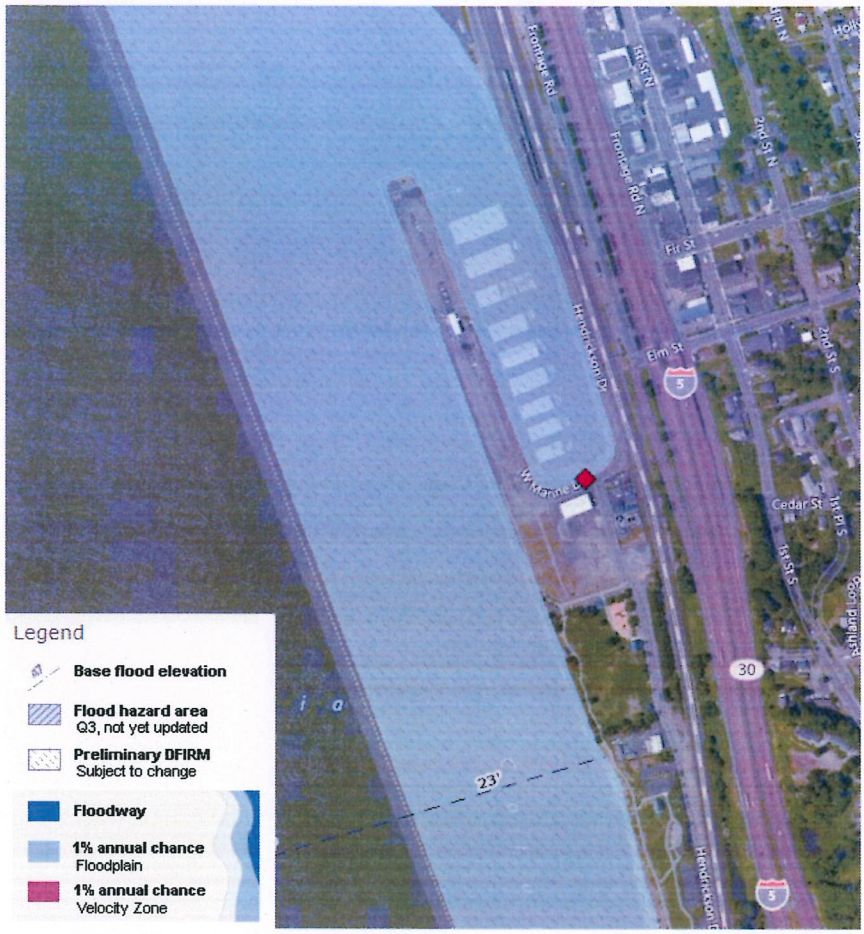


Figure 1. Department of Ecology's Flood Hazard Areas of this Project Site.

Should you require any additional information, please don't hesitate to contact me via email at JOlson@PNDEngineers.com or at (206) 624-1387.

Sincerely,

PND Engineers, Inc.| Seattle Office

John Olson, Senior Engineer

Basic Erosion Control Measures

To: Mark Person, City of Kalama

Date: October 31, 2016

PND Project No: 154038

From: Nicole White, Environment Scientist

Subject: Kalama Marina Renovation, Basic Erosion Control Measures

Dear Mark Person,

With this document it is PND Engineers' intent to provide the City of Kalama with the basic erosion control measures that will be implemented throughout the construction of the Port of Kalama Marina Renovations project. BMP's have been identified and will be implemented to help minimize soil erosion and keep eroded sediments from leaving the project site.

The following erosion control measures will be taken during construction; as written in the project's Biological Evaluation (dated August 18, 2016) Construction Avoidance and Minimization Measures section:

1. "New floats will be primarily be manufactured offsite, delivered, splashed, floated, and assembled final in place.
2. All manmade construction debris will be collected and not allowed to enter waters of the state/US.
3. Methods for containing debris during overwater demolition work may include use of tarps or shrouds. Other methods may be identified by the City, Engineer, or Contractor.
4. Land-based equipment will not be operated on the substrate below the waterline.
5. Project construction will be completed in compliance with Washington State Water Quality Standards WAC 173-201A.
6. Contractor will use vegetable-oil based hydraulic fluid for equipment working over or in the water.
7. Contractor will check equipment for leaks and other problems that could result in discharge of petroleum-based products, hydraulic fluid, or other material to the waterway.
8. Contractors conducting in-water and overwater work, including demolition, will be familiar with BMP implementation and permit conditions typical of working in the aquatic environment.
9. The contractor will have a spill containment kit, including oil-absorbent materials, onsite to be used in the event of a spill or if any oil product is observed in the water.
10. Piles will be removed using vibratory extraction to greatest extent possible. Piles which cannot be extracted will be cut below the mudline.
11. Piles will be removed slowly so as to minimize sediment disturbance and turbidity in the water column.

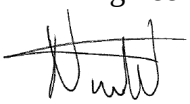
12. Where possible, extraction equipment will be kept out of the water to avoid "pinching" the pile below the waterline to minimize creosote release during extraction.

Detailed examinations of the structures in relation to OHWM can be found on pages 5 and 6 of the Biological Evaluation.

Should you require any additional information, please don't hesitate to contact me via email at NWhite@PNDEngineers.com or at (206) 624-1387.

Sincerely,

PND Engineers, Inc.| Seattle Office



Nicole White, Environmental Scientist

Critical Areas Report Addendum I

For the for the Port of Kalama Marina Renovation project, per Kalama Municipal Code (KMC) 15.02.240 Appendix D, this Critical Areas Report and Habitat Management Plan Addendum I (hereafter, CAR) will address on-going management practices, which will protect critical fish and wildlife habitat after the project site has been fully developed.

KMC 15.02.240(D):

Habitat Management Report Requirements. All areas found to contain or adjoin a habitat conservation area as set forth in Section 15.02.130 of this chapter shall submit a critical areas report prepared by a qualified professional. All items required by the report must be addressed in the report. If an item is not applicable to an application then indicate NA and why it is not applicable. The report shall include all of the following: (1-9)

1. *The applicant must submit all information required by KMC 15.02.090 (Appendix A);*

   KMC 15.02.090(A): Complete Application for Critical Area Determination. A complete application for a critical area determination will include all of the following:

   1) *A completed master application with applicable land use application, including a critical area checklist;*
      Included, as this is referring to the Critical Areas Report dated August 18, 2016.

   2) *A vicinity map;*
      Included in drawing set.

   3) *A site drawing showing property boundaries, and existing plus proposed development locations on-site;*
      Included in drawing set.

   4) *A critical area determination fee.*
      Fee can be paid as soon as one is applied.

2. *A description of state or federally designated endangered, threatened or sensitive fish or wildlife species, or species of local importance, on-site or adjacent to the subject property within a distance typical of the normal range of the species;*
   See CAR section 'Priority Species and Habitats near the Project Site' beginning on page 14.

3. *A description of the critical wildlife habitat for the identified specifies known or expected to be located on-site or immediately adjacent to the subject property;*
   See CAR pages 9-10.

4. *The site plan as required in Appendix A shall clearly identify and delineate critical fish and wildlife habitats;*

5. *An evaluation of the project's effects on critical fish and wildlife habitat both on and adjacent to the subject property;*
   The project's effects on critical wildlife habitat begins on page 15 of the CAR.

6. *A summary of any federal, state or local management recommendations which have been developed for the critical fish or wildlife species or habitats located at the site;*
   See CAR page 16 for 'Management Recommendations'.

7. *A statement of measures proposed to preserve existing habitats and restore area degraded as a result of proposed activities;*
   See Impact Avoidance and Minimization Measures on page 7 of the CAR and JARPA Section 8.

   Additionally from the Shoreline Substantial Development Permit Application (dated: August 18, 2016): "Habitat Function: Replacing the solid concrete floats with new grated deck surfaces will improve aquatic habitat by reducing shaded areas that may be used by predatory fish to ambush juvenile salmon. Replacing the concrete deck and fuel float access gangway with a new grated gangway will also reduce shading. Nine of the existing anchor piles are creosote treated timber piles, which will be removed and replaced with new steel pipe piles. The new visitor float and gangway will have grated deck surfaces, which will improve aquatic habitat by reducing shaded areas."

8. *A description of proposed measures that mitigate the impacts of the project;*
   See JARPA Section 8. Additionally, pages 12-13 contain the following statement:

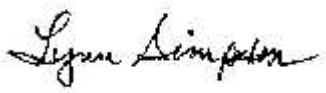
   "Based on this analysis and preliminary feedback from National Marine Fisheries Services (NMFS), Washington Department of Fish and Wildlife (WDFW), and the City of Kalama, this project is self-mitigating."

9. *An evaluation of on-going management practices which will protect critical fish and wildlife habitat after the project site has been fully developed, including proposed monitoring and maintenance programs of the subject property.*

There are no monitoring requirements for this project. The Port has maintenance programs in place that will keep the marina facilities in good condition, which will protect critical fish and wildlife habitat.

Statement of Responsibility

I, Lynn Simpson a Senior Environmental Scientist for Ecological Land Services, Inc. and author of the Critical Areas Report and Habitat Management Plan for the for the Port of Kalama Marina Renovation project, confirm that I have read and commented on Addendum I above and find that it is in concurrence with the aforementioned document.



Lynn Simpson, Environmental Scientist
Ecological Land Services, Inc.

October 19, 2016