DEPARTMENT OF HOMELAND SECURITY
UNITED STATES COAST GUARD

CIVIL ENGINEERING UNIT OAKLAND
OAKLAND, CALIFORNIA 94612-5337

PSN 20041934

SPECIFICATIONS

FOR

REPLACE AND REPAIR ATON IN COLUMBIA RIVER

FOR

CG AIDS TO NAVIGATION TEAM ASTORIA

Civil Engineering Unit Oakland	Initial
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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 10 00 - GENERAL PARAGRAPHS

PART 1 GENERAL

1.01 PROJECT REQUIREMENTS:

A. Provide all materials (excluding Government Furnished Material), labor, equipment and transportation required to accomplish work installing, replacing, or removing ATON structures in the Columbia River Area. Bidders shall hold pricing for 120 days after close of bidding period. Work includes, but is not limited to:

1. Standard ATON Maintenance work which includes removals, replacements, and repairs of damaged ATON structures. See appendix A, appendix B, and this specification for scope requirements.

2. ATON structure fabrication.

3. Surveying of completed range structures to ensure proper positioning.

1.02 CONTRACT SCHEDULE:

A. Structures will be constructed within in-water work window limitations. The in water work windows applicable to this project are as follows:

1. Columbia River: 01 November – 28 February

1.03 BASE BID ITEMS: The following items comprise the base bid of this project. Specific details of the base bid items are detailed in Appendix A and Appendix B.

The following ten (10) items make up BASE CLIN 0001:

A. Stevenson Lower RR LT (LLNR 11830): Demolish & replace w/ epoxy coated 4-pile 10x10 platform with 7x7 tower. Install dayboards, light, safety climbing device, and ladder components in accordance with drawings 6-1, 6-2, 6-3, 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 12-3, 12-4, 14-1, 11-1.

B. Bonneville Pool LT 22 (LLNR 11855): Demolish & replace w/

epoxy coated MPS w/ 5x5 basket. Install dayboards, light, and ladder components in accordance with drawings 03-1, 11-1, 13-1, 9-2.

C. Bonneville Pool LT 23 (LLNR 11860): Demolish & replace w/ epoxy coated MPS w/ reduced header. May be moved within a 30 ft radius of original position. Install dayboards, light, and ladder components in accordance with drawings 3-1, 11-1, 13-1, 9-1.

CI. Wind Mountain Upper RF LT 26 (LLNR 11870): Demolish & replace w/ epoxy coated 4-pile 10x10 platform with 7x7 tower. Install dayboards, light, and ladder components in accordance with drawings 6-1, 6-2, 6-3, 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 12-3, 12-4, 14-1, 11-1.

CII. Wind Mountain Upper RR LT (LLNR 11875): Demolish & replace w/ epoxy coated 4-pile 10x10 platform with 7x7 tower. Install dayboards, light, safety climbing device, and ladder components in accordance with drawings 6-1, 6-2, 6-3, 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 12-3, 12-4, 14-1, 11-1.

CIII. Fashion Reef Lower RF LT (LLNR 11630): Demolish & replace w/ epoxy coated MPS w/ 7x7 basket. Install dayboards, light, and ladder components in accordance with drawings 4-1, 11-1, 13-1, 12-1, 12-2, 9-3, 14-1.

CIV. Fashion Reef Lower RR LT (LLNR 11635): Demolish & replace w/ epoxy coated 4-pile 10x10 platform with 30ft 7x7 tower. Install dayboards, light, and ladder components in accordance with drawings 6-1, 6-2, 6-3, 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 12-3, 12-4, 14-1, 11-1.

CV. Cascade Rapids Upper RF LT 15 (LLNR 11805): Demolish & replace w/ epoxy coated MPS w/ 7x7 basket. Install dayboards, light, and ladder components in accordance with drawings 04-1, 11-1, 13-1, 12-1, 12-2, 9-3, 14-1.

CVI. Elochoman DBN 1 (LLNR 10535): Remove buoy system and replace with epoxy coated SPS w/ reduced header system. Install dayboards, light, and ladder components in accordance with drawings 03-1, 11-1, 13-1, 9-1, 14-1.

CVII. Elochoman DBN 2 (LLNR 10540): Demolish & replace with epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 1-1, 11-1, 13-1, 9-1, 14-1.

The following ten (10) items make up BASE CLIN 0002:

K. Cathlamet North DBN 4 (LLNR 14750): Remove buoy system and replace with epoxy coated SPS w/ reduced header system. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1.

L. Chinook Channel Light 1 (LLNR 14520): Demolish & replace with new epoxy coated MPS w/ reduced header . Install dayboards, light, and ladder components in accordance with drawings 03-1, 11-1, 13-1, 9-1. Conduct Eel grass survey prior to construction in accordance with section 1.14.

M. Chinook Channel Light 2 (LLNR 14525): Demolish & replace with epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1. Conduct Eel grass survey prior to construction in accordance with section 1.14.

N. Chinook Channel Light 3 (LLNR 14527): Remove buoy system and replace with epoxy coated SPS w/ reduced header system. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1. Conduct Eel grass survey prior to construction in accordance with section 1.14.

O. Chinook Channel Light 4 (LLNR 14528): Remove buoy system and replace with epoxy coated SPS w/ reduced header system. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1. Conduct Eel grass survey prior to construction in accordance with section 1.14.

P. Chinook Channel Light 5 (LLNR 14530): Demolish & replace with epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1. Conduct Eel grass survey prior to construction in accordance with section 1.14.

Q. Chinook Channel Light 8 (LLNR 14535): Demolish & replace with epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1. Conduct Eel grass survey prior to construction in accordance with section 1.14.

R. North Channel Daybeacon 10 (LLNR 14635): Demolish & replace with epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1.

S. North Channel Daybeacon 12 (LLNR 14640): Demolish & replace with epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1.

T. Grays Point Light 13 (LLNR 14645): Demolish & replace with epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1.

1.04 OPTION ITEMS: The following items comprises the option bidding item of this project. Specific details of the option bid item are detailed in Appendix A and Appendix B.

The following eight (8) items make up OPTION CLIN 0003:

A. Homly Center Channel LT 1 (LLNR 12985): Demolish & Replace w/ epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1.

B. Lake Wallula LT 30 (LLNR 12995): Demolish & replace w/ epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1. Have a qualified archeological observer on site during construction in accordance with section 1.15.

C. Lake Wallula LT 34 (LLNR 13000): Demolish & replace w/ epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1. Have a qualified archeological observer on site during construction in accordance with section 1.15.

D. Lake Wallula DBN 44 (LLNR 13045): Demolish & replace w/ epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1. Have a qualified archeological observer on site during construction in accordance with section 1.15.

E. Lake Wallula LT 52 (LLNR 13060): Demolish & replace w/ epoxy coated MPS w/ 5x5 basket. Install dayboards, light, and ladder components in accordance with drawings 03-1, 11-1, 13-1, 9-2, 14-1. Have a qualified archeological observer on site during construction in accordance with section 1.15.

F. Lake Wallula DBN 68 (LLNR 13085): Demolish & replace w/ epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 1-1, 11-1, 13-1, 9-1. Have a qualified archeological observer on site during construction in accordance with section 1.15.

G. Lake Wallula West Channel Junction LT "W" (LLNR 12980): Build new epoxy coated MPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 03-1, 11-1, 13-1, 9-1, 14-1. Have a qualified archeological observer on site during construction in accordance with section 1.15.

H. Hood River Boat Basin DBN 1 (Remove Only) (LLNR 11956): Demo only.

The following five (5) items make up OPTION CLIN 0004:

I. Lake Umatilla LT 13 (LLNR 12460): Demolish & replace w/ epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 1-1, 11-1, 13-1, 9-1, 14-1.

J. Lake Umatilla LT 30 (LLNR 12535): Demolish & replace w/ epoxy coated MPS w/ 5x5 basket. Install dayboards, light, and ladder components in accordance with drawings 03-1, 11-1, 13-1, 9-2, 14-1.

K. Lake Umatilla LT 36 (LLNR 12560): Demolish & replace w/ epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 1-1, 11-1, 13-1, 9-1.

L. Lake Umatilla LT 40 (LLNR 12605): Demolish & replace w/ epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 1-1, 11-1, 13-1, 9-1.

M. Irrigon Lower RF LT 60 (LLNR 12665): Demolish & replace w/ epoxy coated MPS w/ 7x7 basket. Install dayboards, light, and ladder components in accordance with drawings 4-1, 11-1, 13-1, 12-1, 12-2, 9-3, 14-1. Have a qualified archeological observer on site during construction in accordance with section 1.15.

The following five (5) items make up OPTION CLIN 0005:

N. Multnomah Channel Daybeacon 3 (LLNR 14830): Demolish & replace with epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-1.

O. Multnomah Falls Bar RF LT (LLNR 11665): Demolish & replace w/ epoxy coated MPS w/ 7x7 basket. Install dayboards, light, and ladder components in accordance with drawings 04-1, 11-1, 13-1, 12-1, 12-2, 9-3, 14-1.

P. Multnomah Falls Bar RR LT (LLNR 11670): Demolish & replace w/ epoxy coated 4-pile 10x10 platform with 7x7 tower. Install dayboards, light, and ladder components in accordance with drawings 6-1, 6-2, 6-3, 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 12-3, 12-4, 14-1, 11-1.

Q. Multnomah Falls Dike LT 82 (LLNR 11680): Demolish & replace w/ epoxy coated SPS w/ 5x5 basket. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11-1, 13-1, 9-2, 14-1.

R. Skamania LT 85 (LLNR 11710): Demolish & replace w/ epoxy coated SPS w/ reduced header. Install dayboards, light, and ladder components in accordance with drawings 01-1, 11- 1, 13-1, 9-1, 14-1.

1.05 CONSTRUCTION COORDINATION:

A. This contract will require the coordination between the contractor, the Contracting Officer's Representative (COR), Coast Guard District Northwest(dpw) office, the Aids-To-Navigation Team (ANT) and/or Coast Guard Buoy Tender. To ensure that ATON structures are properly installed, repaired, removed, and all mariners publications are updated at the time maintenance occurs, all parties must maintain constant communication before,

during, and after the construction phase of each ATON structure. Regular construction schedule updates shall be provided by the contractor as indicated in Section 01 33 00 (Submittals).

B. The Construction Manager (CM), COR, and Point of Contact (POC) information for DNW (dpw), the ANT or Buoy Tender shall be provided to the contractor at the time the Delivery Order is issued.

C. Delivery, Pick Up, or return locations for materials are:

1. DNW Aids to Navigation Hardware Specialist, Base Tongue Point, Astoria, OR (503)-338-9949

1.06 ATON STRUCTURE CONSTRUCTION DETAILS: Each ATON structure has amplifying information in Appendix A and Appendix B. Appendix A is the ATON Structure List, the majority of structure information will be found here. Appendix B has photographs and any additional notes that were not included in Appendix A.

A. The sections B, C, and D, below explain all the columns in the Appendix A spreadsheet, which lists the specific details for each structure. Understanding this is critical to understanding the scope of work.

B. Existing and New Construction General Details:

1. Aid Name (Old Name): No comment

2. Light List Number (LLNR): no comment

3. Navigational Chart No: NOAA Electronic Navigational Chart

4. Existing type of structure: Single-pile, 3-pile, 4-pile w/ tower, etc.

5. Action to Existing structure: demo, tower removal, replace, etc.

6. Current Location: Latitude and Longitude

7. Type of Structure to Build: 3-pile, 4-pile w/ tower, etc.

8. Desired Location: Latitude and Longitude WGS 84

C. Structural Details (all units are in feet):

1. Focal Plane above MHW: Mean High Water

2. Pile Penetration Below Mudline: Piles require a minimum of 30ft.

3. Water MLLW Depth: Minimum Operating Pool (MOP)or MLLW plus tidal range equals MHW. See Appendix B for details.

4. Tidal Range: MLLW plus tidal range equals MHW

5. Out of Water Pile Length: pile length from MHW to platform

6. Focal Plane above Pile: Height of Lantern Stand plus Lantern

7. Length of Pipe per Pile: This includes pile penetration, MLLW depth, tidal range, and out of water length.

8. Number of Piles per structure: Single piles only require 1 pile, multiple piles require at least 3 piles.

9. Total Pipe Length Needed: equals Length of Pipe multiplied by the Number of Piles.

D. Additional Requirement Details:

1. Orientation of Components (Degrees True): Provides orientation direction for ladders, range/day boards, platform, tower assemblies. This is crucial to understand how the entire ATON structure will be oriented. If the orientation is wrong, it may be necessary to completely remove the entire structure, including pipe piles, and re-construct with the correct orientation.

2. Number of Ladder Sections on Pile: number of 7-foot ladder sections to be installed on pipe piles, refer to ATON-STD-11 for details.

3. Type of LEB: Ladder Extension Bracket (quantity): There are several LEBs that correspond to different structures. Refer to ATON-STD-11 for details. These will be provided as GFM.

4. Diving Services as Required: Diving services are required to retrieve old ATON structure debris that are underwater. See Appendix A for additional information regarding if diving services are required of the contractor.

5. Photographs Required after construction: no comment

6. Post-Survey Required: Some structures require a post-survey.

7. Dayboards: Dayboards will be provided as GFM. However, the contractor is responsible for installing the correct equipment on the aid. Refer to ATON-STD-9-1 AND ATON-STD-13 and for details.

8. GFM to be Provided: Government Furnished Material

1.07 CONTRACT PERFORMANCE TIME:

A. NOTIFICATION OF START AND COMPLETION OF WORK: The Contractor shall notify the Contracting Officer in writing fourteen (14) working days in advance of the date he intends to commence work, and five (5) working days prior to the date that work will be ready for final inspection.

B. The contractor shall submit a Bar Chart schedule to the KO as per Section 01 33 00 (Submittals).

C. Notify the COR at least fourteen (14) working days prior to the start of construction to ensure work is coordinated between the contractor and ANT.

D. Notify the ANT POC within one (1) hour after the completed removal/repair/replacement of each individual ATON structure.

E. Notify the COR when maintenance construction is ready for final inspection.

F. Proceed between work sites in the most effective sequence by the most efficient route, factoring in local weather and environmental conditions.

1.08 SITE INVESTIGATION: Investigate the site per FAR 52.236-3 to ascertain the general and local conditions which can affect the work or its cost.

1.09 RECYCLING AND DISPOSAL OF REFUSE: Refuse, excess or waste materials resulting from construction and demolition operations shall become the property of the contractor and shall be recycled and/or disposed of off Government property. All disposals shall be done in accordance with federal, state, and local laws and regulations.

1.10 SALVAGE AND REUSE OF MATERIALS:

A. All lanterns, batteries, battery boxes, solar controllers, flashers, lantern changers, and solar panels shall be salvaged and returned to the ANT POC.

B. Any platforms, ladders, and steel pile that are determined by the COR to be reusable shall be salvaged and returned to the Coast Guard. These items will be pre-determined by the COR.

1.11 CONTRACTOR SECURITY REQUIREMENTS: For each affected Coast Guard facility, The Contractor shall provide a list of all on-site personnel, including sub-contractors (including second and third-tier subcontractors) and suppliers, to the Contracting Officer. The Contractor shall update this list when changes occur. Contractor personnel not listed may be denied access to the Coast Guard facility. Contractor personnel will be restricted to designated working areas. Any personnel violating this policy may lose access to the Coast Guard facility. Contractor personnel shall have photo identification at all times while working on Coast Guard facilities.

Contractor and delivery personnel may be required to present personal photo identification to gain access to a Coast Guard installation. If identification does not indicate United States citizenship, Coast Guard Security may require proof of the legal right to work in the United States. Contractor and delivery personnel also may be subjected to an immigration status and outstanding criminal warrants check.

The Real ID Act of 2005 established minimum security standards for license issuance and production and prohibits Federal agencies from accepting, for certain purposes, driver's licenses and identification cards from states not meeting the Act's minimum standards. Anyone requiring access to a military facility under this contract, to include subcontractors, who holds a driver's license from any state without approved licenses will be

required to provide identification other than that driver's license to gain access. Government IDs annotated with “Federal Limits Apply” will not be accepted for access purposes. It is the responsibility of the Contractor to ensure that their personnel have federally acceptable personal photo identification and comply with any other requirements for base access.

Contractors shall provide the Contracting Officer's Technical Representative with 24 hours of advance notice of every delivery to the site (e.g., concrete, lumber, parts, etc.) and provide the company name, delivery person, and phone number of the firm(s) making deliveries. All vehicle access to government property requires vehicle registration and proof of liability insurance. Otherwise access to the Coast Guard facility may be denied.

1.11 SAFETY: During the execution of this contract, the contractor shall conform to the rules and regulations as set forth by OSHA Safety and Health Standards, 29 CFR Part 1926 - Safety and Health Regulations for Construction and State of Oregon, Division of Occupational Safety and Health, OR-OSHA]. When the standards differ, the more restrictive standard shall apply.

1.12 PROTECTED WORK ENVIRONMENT: The contractor shall maintain a safe and healthy work environment for employees, subcontractors, suppliers and occupants in the areas where work is performed. Contractor shall not allow introduction into the work areas or the air surrounding the work areas any chemical or biological contaminants whether or not visible or detectable by sight or smell that are known to cause or increase the potential for harm to personal health. Contractor shall prohibit anyone from entering the work area who has been exposed to or has contracted a communicable disease which can be passed through physical contact or air borne particulates. Contractor shall comply with all federal, state and local health agency instructions for responses to known threats to personal health. Smoking or vaping shall only be permitted in areas specifically designated by the Station Commander.

1.13 DRAWINGS: The work shall conform to the highlighted drawings listed below which form a part of these specifications.

Drawing Number	Title
ATON-STD-01	Single Pipe Pile Structure (Elevations & Details)
ATON-STD-03	Three Pipe Pile Beacon Structures
ATON-STD-04	Three Pile Range Structure (Elevations & Details)
ATON-STD-06 (1 thru 3)	4 Pipe Pile 10’x10’ Platform Drawings
ATON-STD-08 (1 thru 7)	7’X7’ Structural Tower Drawings
ATON-STD-09 (1 of 3)	Reduced Header (Elevations & Details)
ATON-STD-09 (2 of 3)	5’x 5’ Platform Assembly (Elevations & Details)
ATON-STD-09 (3 of 3)	7’x7’ Platform Assembly
ATON-STD-11	7 Rung Ladder Detail (Elevations & Details)
ATON-STD-12 (1 of 4)	Range Board Frames Pile Structures
ATON-STD-12 (2 of 4)	Range Board Frames Pile Structures
ATON-STD-12 (3 of 4)	Range Board Frames Tower Structures
ATON-STD-12 (4 of 4)	Range Board Frames Tower Structures
ATON-STD-13	Dayboard Mounting Details
ATON-STD-14	Safety Climb Installations

1.13 CHARTS: All ATON structures within each Geographic Area are shown on one or more of the following NOAA/NOS Chart. NOAA ENC Charts can be found here: Office of Coast Survey

RNC chart numbers are listed in Appendix A. For updated ENC charts please visit the NOAA Chart locator here: Chart Locator

1.14 COMMUNICATIONS: While on site provide a means for

immediate communication between the contractor's work platform and the COR, KO, Coast Guard District Northwest (dpw), and ANT or Buoy Tender POC.

A. DAILY SUMMARY NOTIFICATION: The contractor shall e-mail the KO and COR a summary of work at the end of each day as per Section 01 33 00 (Submittals).

B. Broadcast Notice To Mariners (BNM): The construction process for ATON changes their published characteristics. The Coast Guard utilizes the BNM system to properly notify the public of the ATON construction. The contractor shall notify the COR and the Coast Guard District Northwest (dpw) POC upon completion of construction of each structure. The information included shall be the name and light list number of the structure, the position it was built at in Latitude and Longitude format, and the lighting characteristics being shown (i.e. quick flashing yellow light).

1. CG DNW (dpw), Seattle, WA (206) 220-7280

2. Officer in Charge, Aids to Navigation Team Astoria , OR (503) 325-3301

1.15 DEFINITIONS

A. Advertised Characteristics: Those characteristics of the ATON Structure as published in the U.S. Coast Guard Light List for the Pacific Coast and Pacific Islands (COMDTPUB 16502.6) and updated by the Notice to Mariners. COMDTPUB 16502.6 can be found at: http://www.navcen.uscg.gov/?pageName=lightLists

B. Aid: synonym for ATON, and/or structure.

C. ATON: Aid-To-Navigation

D. ATON Equipment: Includes dayboards (plywood with retro-reflective material), lanterns, batteries and battery boxes, flashers, lamp changers, solar panels, and sector lights.

E. ATON Structure: Includes piles, platforms, section towers, foundations, ladders and associated brackets & mountings.

F. Beacon Structure: An ATON structure that marks either a navigable channel or a hazard to navigation.

G. Daybeacon: An unlit ATON structure that only has dayboards mounted on it.

H. Dayboard/Rangeboard: A square, rectangle, triangle, or diamond shaped plywood ATON marker with reflective material and a number or letter marking. These markers are mounted to ATON structures for daylight navigation operations.

I. Demobilize: The return of equipment to home facility after completing final work items at the job site.

J. Lateral Marking System: The system used to determine the markings on ATON structures.

K. Light(LT): A red, green, or white light mounted on a structure for night time navigation operations and to distinguish each light from other structures.

L. LT Structure: An ATON structure that has dayboards and a light mounted on it.

M. Light List Number (LLNR): The property number assigned to each ATON structure used for navigation purposes.

N. Mobilize: Proceed to the job site from the home facility with the appropriate material and equipment ready to accomplish work.

O. Non-Lateral Aid: An ATON structure marking a situation that is not marking a channel. An example of this is a range marker or an obstruction marker.

P. Notice To Mariners (NTM): A weekly publication system used by the Coast Guard to publish changes and discrepancies to all ATON.

Q. Range system: A system of two sister ATON structures that are aligned such that naval vessels can maintain a course that keeps them in the center of a channel. This system consists of a tall rear structure and a shorter front structure. Each structure has rectangular range boards that have a center stripe and a directional light mounted on them for identification and navigation.

R. Transit: Proceed to the next job site with the appropriate material and equipment.

1.16 Government Furnished Material (GFM): The Coast Guard will provide certain materials for this contract. These materials will be arranged for pick-up at a pre-determined location. Hardware for connecting GFM to contractor-erected structures shall be provided by the contractor. The following is a list of GFM materials:

A. Day/Range Boards: The Coast Guard will provide all day/range boards. The contractor shall furnish all bolts, straps, and other fastenings required to mount the day/range boards to the platform.

B. ATON Lights/Sound Signals: The Coast Guard will provide all ATON lights and sound signals. The contractor shall furnish all bolts, straps, and other fastenings required to mount the lights and sound signals to the platform.

C. ATON Platforms: The Coast Guard will provide Reduced Headers, 5'x5’ and 7'x7' aluminum or steel platforms.

D. Steel Ladder Sections and Brackets: The Coast Guard will provide 7' steel ladder sections and associated brackets for pile structures. Contractor shall provide all hardware for connecting the ladder assembly and brackets.

1.17 TEMPORARY BUOYS: In the event of an ATON structure knockdown, the servicing ANT may have placed a temporary buoy to mark the location. The contractor shall remove the temporary buoy prior to installation of the replacement ATON structure. Upon completion of the work, the contractor shall return the temporary buoy and attached sinker to the ANT. Typical sinker sizes do not exceed 1000 pounds.

1.18 TEMPORARY LIGHTING: At no point during construction, shall an ATON be left unattended beyond daytime hours without the installation of a temporary All-Around (360 degree) Quick-Flashing yellow light. This flashing light will reduce the risk of accident or collision at night by making Mariners aware of the obstruction. The contractor shall inform the KO, COR and ANT or Buoy Tender POC whenever an All-Around Quick-Flashing yellow light is installed.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 33 00 - SUBMITTALS

PART 1 GENERAL

1.01 GENERAL

A. Forward all submittals, to the KO, the COR and the CM by e-mail within 10 calendar days after receiving a Delivery Order, unless indicated otherwise in the submittal register. Submittals shall be accompanied with the USCG furnished material submittal form (Appendix C). Submissions shall be presented via e-mail except as specified herein. The contractor shall scan or provide digital photos to the KO and the PM simultaneously. If the digital photo is insufficient to ascertain submittal acceptability, the KO may request a hard copy submittal. The KO will e-mail approval or disapproval of submittals, within 14 calendar days after receipt.

B. The CM will review all submittals for compliance with these specifications. Submittals shall have been approved by the KO before any item is delivered to the job site.

C. Approval of submittals, and corrections or comments made during the review, do not relieve the contractor from compliance with the requirements of the plans and specifications.

D. The schedule of submittals listed in the submittal register and in the individual sections are the submittals required for this contract. Unsolicited submittals may be returned to the contractor without review.

1.02 CATALOG CUTS: Catalog cuts shall contain manufacturer's description, specifications and sketches of the material and equipment provided. The catalog cut shall contain sufficient information which can be used to determine compliance with these specifications.

1.03 SHOP DRAWINGS: Submit shop drawings for tower shapes when constructing towers in accordance with drawings 8.1-8.7. Shop drawings shall indicate layouts, dimensions, materials, and other information required to fully describe the items being installed. In addition to shop drawings for review, submit one reproducible bond paper, full size, set of as-built shop drawings at completion of

contract work. If drawings are prepared using computer aided drafting, electronic files shall be compatible for use with AUTOCAD 2025. Submit electronic files in addition to hard copy drawings.

1.04 ATON CONSTRUCTION RECORD: Maintain a complete and accurate record of the construction of each structure. The record shall include the following information:

1) Structure name and Light List Number (LLNR)

2) Location

3) Pile diameter

4) Method used to drive pile(s)

5) Final elevation of the platform top rail above MLLW

6) Bottom type (i.e.; sand, gravel, shale, etc.)

7) Any unusual pile behavior or circumstances experienced during driving such as re-driving, heaving, weaving, obstructions, and stops

8) If a lens or other feature was encountered during driving

9) Pile tip elevation

10) Depth of water MLLW

11) Type of structure

12) Dimensions of the platform

13) Number of ladder extensions installed

14) Size of the range board bracket(s) (if installed)

15) Height of sectional tower installed (if installed)

16) Number and dimension of dayboards installed

1.05 RECORDS AND REPORTS: Submit one electronic copy (via e-mail or DODSafe) of the following records to the KO and CM within 15 working days after each ATON structure is installed.

A. ATON Construction Record in accordance with Section 01 33 00 Paragraph 1.03.

B. Pile Driving Records

C. As-built digital color photographs detailing the constructed aid from each cardinal direction (North, South, East, and West) at a minimum.

1.06 CERTIFICATES OF COMPLIANCE: Certificates of compliance shall be signed by an authorized officer of the manufacturing company furnishing the material which states that the material being furnished meets all requirements of these specifications and referenced specifications.

1.06 STATEMENTS OF PROCEDURES: Job-specific detailed procedure statements for aspects of the project requiring special attention. The statements shall indicate all methods and materials to be used for proper execution of the work. The statements shall also indicate any limiting criteria and scheduling requirements.

1.07 HAZARDOUS MATERIAL IDENTIFICATION: Submit Safety Data Sheets (SDS) for any materials defined as hazardous under the most current revision of Federal Standard 313. One copy of each SDS shall be submitted to the Contracting Officer's Representative and the CM no later than the delivery date of the product.

1.08 BAR CHART PROGRESS SCHEDULE: Within 15 calendar days after a Delivery Order is issued, submit a bar chart progress schedule. Work shall not begin until a bar chart schedule has been approved. The bar chart shall show the complete sequence of construction by activity (including acquisition of materials and equipment). The chart shall identify the construction start date, the completion date, all work days through the duration of the project, and the permitted in-water work windows that apply to each region (if applicable). The bar chart shall also identify the cost for the various activities which shall be used as the basis for the contractor's periodic request for payments.

The Coast Guard understands that in-water construction work can be very difficult to predict due to weather and sea state. Thus, the original bar chart submitted will be accepted as the "tentative" construction schedule. The

contractor shall submit updated bar chart schedules as weather impedes the construction schedule. At a minimum, the contractor shall submit monthly bar chart schedules after award of delivery order. These monthly schedule updates shall be submitted to the KO and PM via e-mail in Adobe PDF format.

1.09 DAILY SUMMARY NOTIFICATION: The contractor shall e-mail the KO, CM and COR a summary of work at the end of each day that construction takes place. This e-mail shall include, but is not limited to, a list of all construction accomplished, materials used, status of the construction barge(s) used, and activities planned for the next day.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

CEU OAKLAND SUBMITTAL REGISTER	PSN: 20041934	CONTRACT NO.:
REPLACE ATON COLUMBIA RIVER (20041934)	CONTRACTOR NAME:	

NO.	Submittal Reference Location SPEC SECTION	PARA.	PG	DESCRIPTION OF SUBMITTAL	DATE REQUIRED (Days after D.O. Received)	DATE SUBMITTED	ACTION DATE APPROVED	APPROVED AS NOTED	DISAPPROVED	RESUBMITTAL APPROVED	REVIEWER
01	01 33 00	1.03	14	ATON CONSTRUCTION RECORD	30*						
02	01 33 00	1.04	14	PILE DRIVING RECORDS	30*						
03	01 33 00	1.04	14	AS-BUILT DIGITAL COLOR PHOTOGRAPHS	30*						
04	01 33 00	1.08	15	BAR CHART SCHEDULE	15						
06	01 33 00	1.09	15	DAILY REPORT	SEE NOTE 1						
07	01 35 29	1.04	19	BARGE/CRANE INSPECTION CERTIFICATE(S)	15						
08	01 35 29	1.07A	21	COPIES OF THE ACCEPTANCE RECEIPTS FROM THE DISPOSAL SITE	10*						
09	01 35 29	1.07B	21	HW MANIFESTS	10*						
10	01 35 29	1.07C	21	HM/HW HANDLING PLAN	20						
11	01 35 29	1.07D	22	ACCIDENT PREVENTION PLAN	15						
12	01 35 29	1.07E	22	SAFETY DATA SHEETS	15						
14	01 35 29	1.13	32	BIOLOGICAL MONITORING REPORT	30*						
15	01 35 29	1.14	35	EEL GRASS SURVEYS	14**						
16	01 35 29	1.15	35	ARCHEOLOGICAL FINDINGS REPORT							
17	01 35 29	1.15	35	ARCHEOLOGISTS QUALIFICATIONS	15**						
17	01 71 23	1.04A	35	GEODETIC SURVEY	30*						
18	01 71 23	1.04B	36	OPUS DATABSE SUBMITTAL	30*						
19	01 71 23	3.05	38	FINAL AS-BUILT SURVEY	30*						
20	05 50 00	1.03	45	7x7 TOWER/ 10x10 BASE SHOP DRAWINGS	30						

21	05 51 33	1.03A	45	SAFETY CLIMBING DEVICE PRODUCT DATA	15						
22	05 51 33	1.03B	45	SAFETY CLIMBING DEVICE MFR INSTALL GUIDE	15						
23	09 97 18	1.03A	47	COATING APPLICATION PLAN	20						
24	09 97 18	1.03B	47	COATING MATERIALS	20						
25	09 97 18	1.03C	48	QUALIFICATION OF CERTIFIED PROTECTIVE COATINGS SPECIALIST	20						
26	09 97 18	1.03D	48	QUALIFICATIONS OF INDIVIDUALS APPLYING COATINGS	20						
27	09 97 18	1.03E	48	MANUFACTURER'S COATING SYSTEM INSTRUCTIONS	20						
28	10 81 13	1.02	54	BIRD DETERRENCE PLAN	30						
29	10 81 13	1.02	54	BIRD DETERRENCE SYSTEMS PRODUCT DATA SHEETS	30						

* Days after construction completed
** Days before construction commences
NOTE 1: At the end of each construction day

SECTION 01 35 29 - SAFETY, HEALTH, AND ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.01 SECTION INCLUDES: This section applies to all necessary steps taken by the contractor to comply with the safety, health, and environmental protection requirements listed herein.

1.02 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

A. ENVIRONMENTAL PROTECTION AGENCY (EPA) REGULATIONS:

40 CFR 122	National Pollution Discharge Elimination System
40 CFR 204	Noise Abatement Program for Construction Equipment

B. OSHA 1926.550 Cranes and Derricks

C. U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS:

29 CFR 1926.106 Working Over or Near Water

D. ARMY CORPS OF ENGINEERS (ACE) MANUAL:

358-1-1 Safety and Health Requirements

1.03 REFERENCE STATUTES: The statutes listed below form a part of this specification to the extent referenced.

Clean Air Act (CAA) (42 U.S.C. §§ 7401 to 7642)

Clean Water Act (33 U.S.C. §§ 1251 to 1387)

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. §§ 9601 to 9675)

Noise Control Act (NCA) (42 U.S.C. §§ 4901 to 4918)

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. §§ 136 to 139y)

Federal Water Pollution Control Act (CWA) (33 U.S.C. §§ 1251)

Toxic Substance Control Act (TSCA) (15 U.S.C. §§ 2601 to 2654)

Resource Conservation and Recovery Act (RCRA) (42 U.S.C. §§ 6901 to 6991i)

1.04 CONSTRUCTION PLATFORM SAFETY AND CERTIFICATION:

A. Derrick Barges: These barges have a crane mounted as a fixed piece of equipment to the barge. The contractor shall submit an inspection certificate from a licensed engineer who regularly inspects and certifies derrick barges. The certificate shall be current to the time the work will take place. All construction equipment shall be in good working order and shall be used for their intended purposes.

B. Barges with mobile crane: These are barges that have a mobile crane that is not permanently fixed to the barge. The contractor shall provide certification that indicates that the barge and crane are suitable for the construction work described in the Delivery Order. The certificate shall be current to the time the work will take place.

C. The COR shall stop work if unsafe conditions are found in the work place. If the COR determines that the construction platform is no longer a safe working environment he/she shall stop all work. Construction may resume once the unsafe condition is remedied.

D. Mobile cranes on barges shall be tied down effectively in accordance with OSHA Standard 1926.550(f)(l)(iv). Cranes must be positively secured to prevent the crane from tilting under construction loading conditions.

1.05 HAZARDOUS MATERIAL TESTING: If material, not indicated, is found that may be hazardous to human health upon disturbance during construction operations, stop that portion of work and notify the KO immediately.

1.06 DEFINITIONS

A. Sediment: Soil and other debris that has been eroded and transported by runoff water.

B. Solid Waste: Rubbish, debris, sanitary waste, and other discarded solid materials resulting from industrial, commercial, and agricultural operations, and from community activities.

C. Rubbish: A variety of combustible and noncombustible wastes such as paper, boxes, glass, crockery, metal, lumber, cans, and bones.

D. Debris: Includes combustible and noncombustible wastes, such as ashes, waste materials that result from construction or maintenance and repair work, leaves, and tree trimmings.

E. Chemical Wastes: Includes salts, acids, alkalies, herbicides, pesticides, and organic chemicals.

F. Sanitary Wastes:

1) Sewage: Wastes characterized as domestic sanitary sewage.

2) Garbage: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

G. Asbestos and Asbestos Materials: Asbestos means actinolite, amosite, antophyllite, chrysotile, crocidolite, and tremolite. Asbestos material means asbestos or any material containing asbestos such as asbestos waste, scrap, debris bags, containers, equipment, and asbestos-contaminated clothing consigned for disposal. Friable asbestos material means any material that contains more than one percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure.

H. Oily Waste: Includes petroleum products and bituminous materials.

I. PCB (Polychlorinated Biphenyls): Toxic and non-biodegradable materials used extensively under trade names, such as Pyranol or Askarel, as insulating cooling fluids in capacitors and transformers.

J. Hazardous Material (HM): Chemicals defined by OSHA 29 CFR 1926.59 and under the U.S. Department of Transportation (DOT) regulations (Title 49 CFR Parts 100 through 199) which are determined by the Secretary of Transportation

to present risks to safety, health, and property during transportation. The DOT regulations include requirements for shipping papers, package marking, labeling, transport vehicle placarding, and training of personnel handling hazardous materials.

K. Hazardous Substance: Substances defined under the Clean Water Act and CERCLA as chemicals which are harmful to aquatic life or the environment and are regulated, if spilled or otherwise released to the environment. The EPA has designated "reportable quantities" for each hazardous substance under CERCLA. If an amount equal to or greater than the reportable quantity of a hazardous substance is released to the environment, that spill must be reported.

L. Hazardous Waste (HW): Substances which are hazardous and have been discarded are regulated as hazardous waste under RCRA or State Health and Safety Codes and their implementing regulations. A waste is hazardous if it meets certain levels of reactivity, ignitability, corrosivity, or toxicity, or is otherwise listed as a hazardous waste in Title 40 CFR Part 261 or in the respective State Health and Safety Code or Code of Regulations.

M. Lead Containing Paint: Paint or other similar surface coating material containing lead or lead compounds and in which the lead content is in excess of 0.06% by weight of the total nonvolatile content of the paint or the weight of the dried paint film. Abatement of paint containing even trace amounts of lead must meet the requirements of Federal and State laws for protection of employees (e.g., 29 CFR 1926.62).

1.07 SUBMITTALS: Submit the following in accordance with Section 01 33 00, "Submittals":

A. HW Manifests: Upon disposal of hazardous waste, submit a copy of the completed manifests within 10 calendar days of delivery of the wastes to the EPA approved treatment, storage and disposal facility.

B. HM/HW Handling Plan: Comply with all local, state, and federal laws and regulations when handling hazardous materials and disposing of and handling hazardous and other wastes. The contractor shall have a compliance program outlining how the contractor handles and disposes of hazardous materials, petroleum products, hazardous

substances, and hazardous waste. The program shall include, but is not limited to, the following elements as appropriate: a general storage site plan, methods used to analyze whether generated material (blasting debris, paint waste, etc.) is hazardous, any hazardous waste licenses and permits, air district permits, and the identification of hazardous waste and material transportation and disposal contractors. The Coast Guard has the right to require removal from the contract performance of any subcontractor who fails to comply with these laws and regulations or who fails to provide appropriate evidence of compliance with them. The HM/HW Handling Plan shall be submitted to the KO at the post award brief.

C. Accident Prevention Plan: Submit Accident Prevention Plan in accordance with ACE 358-1-1 section 01.A.11, to include hot work requirements. Shall include emergency communications capabilities for the Columbia River. Submittal deadline in accordance with section 01 33 00.

D. Safety Data Sheets (SDS's): Copies of SDS's for all hazardous materials (including petroleum products) shall be submitted along with a listing of quantities of these hazardous materials proposed to be stored.

E. Biological Monitor Report: As determined by the delivery order, copies of the Biological Monitor report shall be submitted in accordance with section 1.13.

1.08 ENVIRONMENTAL PROTECTION REQUIREMENTS: Provide and maintain environmental protection during the life of the Contract to control pollution or to correct conditions that develop during construction. Comply with all Federal, State, and local laws and regulations pertaining to water, air, soil, and noise pollution. All work shall conform to the requirements set forth in the environmental permits provided to the contractor by the Coast Guard; the contractor may not begin work until all permits are received, which may occur after contract award.

A. Environmental Observers: A designated Environmental Observer must be present during the execution of the ATON action. The USCG District Northwest Environmental Protection Specialist (EPS) will be available during the action to provide guidance. Requirements for the environmental observer are as follows:

1) Prior to commencement of the ATON action the designated Environmental Observer must be made available to discuss the Programmatic Biological Opinion Job Aid. During the meeting, the District Northwest EPS will identify the listed marine species, ESA designated critical habitats, and EFH that could potentially occur in the project area.

2) If a different Environmental Observer is identified after commencement of the ATON action, that individual must be made available to discuss the Job Aid with the District Northwest EPS prior to assuming Environmental Observer duties.

3) All contractor crew observations of species or habitat must be reported to the designated Environmental Observer.

B. Spills, Debris, and Turbidity:

1) When operationally feasible, the Contractor should lower and raise all objects (e.g., piles) to/from the bottom in a controlled manner.

2) When lowering or raising all objects, an Environmental Observer must ensure any mobile ESA listed species are not observed within 50 yards of the project area.

3) Contractor must not allow contamination of the marine environment to result from ATON project execution.

4) Vessels engaged in ATON project execution must implement protective measures to prevent all excess materials, equipment, and hazardous substances from entering the surrounding environment.

5) In the event debris or other waste enters the surrounding environment, each contractor must attempt to capture this debris or waste. This includes the removal of hardware, pins, and bolts used to secure any equipment. Those that cannot be completely removed must be cut-off flush with the substrate when possible.

6) All packing bands or other debris which may pose an entanglement risk to protected species must be cut and secured for proper disposal shore-side.

7) Contractor must maintain a contingency plan to control toxic materials aboard all Coast Guard ATON service vessels. Appropriate materials and equipment must be stationed onboard vessels to contain and clean up any spills.

8) All project-related materials and equipment placed in the water must be free of pollutants. Contractor personnel will perform daily pre-work equipment inspections for cleanliness and leaks. All heavy equipment operations will be postponed or halted should a leak with the potential to discharge overboard be detected and will not proceed until the leak is repaired and equipment cleaned.

9) Turbidity and siltation from project-related work must be minimized and contained through the appropriate use of effective silt containment devices (if equipped) and the curtailment of work during adverse tidal and weather conditions.

10) When practical, debris from destroyed aids should be recovered.

C. Vessel Handling and Speed:

1) While underway and on station during the project, all crew members must be on lookout for species or habitats of concern such as ESA-listed whales, turtles, pinnipeds, fish, and invertebrates.

2) While underway, vessels shall remain at least 100 yards from observed whales, and at least 50 yards from other observed ESA-listed marine mammals, sea turtles, sturgeon, sawfish, and sharks, if it is safe to do so. Additionally, all in-water work must be postponed or halted when ESA-listed marine mammals, sea turtles, sturgeon, sawfish, and sharks are observed within these specified distances and may be affected by operations. Activities may not resume until the contractors designated Environmental Observer has observed the protected species move out of the area on their own volition or, if an animal is seen above water then dives below, in-water work will not begin until enough time has elapsed without a sighting (at least 15 minutes for pinnipeds, sea turtles, and fish,

and 30 minutes for cetaceans) to assume the animal has moved beyond these specified distances. ESA-listed marine mammals, sea turtles, sturgeon, sawfish, and sharks must not be encircled or trapped between multiple vessels or between vessels and the shore.

3) Vessel speed must be reduced to less than 10 knots when cetaceans (whales) are observed near an underway vessel, when safety permits. A single cetacean at the surface may indicate the presence of submerged animals in the vicinity; therefore, prudent precautionary measures should always be exercised.

4) Vessel speed must be reduced to less than 5 knots when sea turtles are observed near an underway vessel and have the potential to be impacted by the vessel, when safety permits.

5) ESA-listed species may surface in unpredictable locations or approach vessels. When an animal is sighted in the vessel’s path, slowly maneuver the vessel away to the prescribed distance (set forth in the BMP above), if it is safe to do so.

6) Environmental Observers must record all instances when the aforementioned direct mitigation measures were necessary to avoid impacts to ESA-listed species that occur during ATON activities. For example, altering course to avoid a whale or turtle. Information collected must include species type; any recognizable individual characteristics if possible to discern; time, location, and approximate distance from the observer to the species; species behavior; any impact the sighting had on work activities such as delays, shutdowns, and whether the species was at a sufficient distance that work continued. Information will be compiled and reported to the District Northwest EPS.

1.09 PROTECTION OF NATURAL RESOURCES

A. Preserve the natural resources within the project boundaries and outside the limits of permanent work performed under this contract in their existing condition or restore to an equivalent or improved condition upon completion of the work. Repair or restore to original condition all trees or other landscape features scarred

or damaged by equipment or operations. Obtain KO's approval before repair or restoration. Confine construction activities to areas defined by the work schedule, drawings, and specifications. Federal Acquisition Regulation clause 52.236-9 applies.

B. Except in areas indicated to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without special written permission from the KO. Protect existing trees which may be damaged by construction operations.

C. Construction equipment is to be kept in good repair, without leaks of hydraulic or lubricating fluids. If such leaks or drips do occur, they shall be cleaned up immediately. Drip pans shall be utilized when vehicles are parked. Confine equipment maintenance and/or repair to one location. Control runoff in this area to prevent contamination of soils and water.

D. ESA-Listed Species Interactions:

1) Contractor must not attempt to feed, touch, or otherwise intentionally interact with any ESA-listed species.

2) Any collision with and/or injury to any sea turtle, sawfish, marine mammal, or sturgeon must be reported immediately to District Northwest EPS. Contact information will be provided during the initial discussion with the contractors designated Environmental Observer.

3) Any activity that unexpectedly harms or harasses species under NMFS’s or US FWS authority must be reported immediately to District Northwest EPS.

E. Best Management Practices (BMPS): These BMPs are specific requirements for protection of ESA Listed Species:

1) If a North Pacific Right Whale is observed, do not approach the animal head-on or within 500 yards unless permitted by NMFS. If in areas where right whales may occur, assume all whales are right whales unless the animal is positively identified as another species.

2) All in-water work shall be postponed or halted if a North Pacific Right Whale is spotted within 500 yards. Activities may not resume until the protected species

has departed the project area of its own volition.

3) If a Southern Resident Killer Whale is observed, do not approach the animal head-on or within 200 yards unless permitted by NMFS. If in areas where Southern Resident Killer whales may occur, assume all whales are Southern Resident Killer whales unless the vessel is in an area where a North Pacific Right whale may occur or unless the animal is positively identified as another species.

4) When safe to do so, all in-water work shall be postponed or halted if a Southern Resident Killer whale is spotted within 200 yards. Activities may not resume until the protected species has departed the project area of its own volition.

5) When conducting ATON project actions in critical habitat for salmonids, ATON location must be compared with available data and maps to determine if eelgrass is known to occur in that location or the surrounding area. Unless the contractor has been asked to bid an eelgrass survey as part of the scope, information on eelgrass will be researched and presented by the District Northwest EPS prior to the commencement of work.

6) Avoid anchoring of vessels on eelgrass habitat.

7) During ATON project actions occurring in eelgrass or kelp habitat, the contractor must use the dynamic positioning systems on vessels that are equipped with such systems to maintain position rather than anchoring.

8) In areas where kelp or eelgrass may occur, do not use drag hooks unless necessary to detect and remove a navigational hazard. If possible, use side scan sonar to detect submerged hazards instead of drag hooks.

F. Essential Fish Habitat General BMPs: When applicable the project should follow eelgrass monitoring requirements put forth in the California Eelgrass Mitigation Policy (CEMP) and the Caulerpa Control Protocol whenever possible so that steps can be taken to minimize any adverse effects to any eelgrass that may be present within the project area. Adhere to preestablished work windows unless specifically exempt.

G. Pile Removal BMPs:

1) When possible, remove creosote-coated piles completely rather than cutting at the sediment line or breaking off the pile. Ensure creosote piles are not returned to service and are disposed of as hazardous waste, and in accordance with Local, State, and Federal regulations. Replace any creosote treated piles with non-creosote treated piles.

2) Minimize the suspension of sediments and disturbance of the substrate when removing piles. Measures to help accomplish this include, but are not limited to, the following:

   (a) When feasible, remove piles with a vibratory hammer rather than a direct pull or clamshell method.

   (b) Slowly remove pile to allow sediment to slough off at or near the mudline.

   (c) Shake or vibrate the pile before pulling to break the bond between the sediment and the pile. Doing so will reduce the likelihood that the pile will break, and the amount of sediment sloughed.

   (d) If equipped, encircle the pile with a silt curtain that extends from the surface of the water to the substrate, where appropriate and feasible.

3) Avoid beginning pile driving or pile removal after dark. If pile driving or removal must occur during periods of darkness, use all available means to allow Environmental Observers to detect marine mammals and sea turtles that may be located within that zone (e.g., use thermal imaging or night vision technology). The entire safety zone must be visible to the Environmental Observer for pile driving or removal to commence.

4) Prior to the commencement of pile driving and pile removal, Environmental Observers must perform a visual scan with a radius of 1,000 meters (1,094 yards) around the project site. If any ESA-listed marine mammals, sea turtles, sawfish, sturgeon, or sharks are observed within these safety zones, work will not

begin until the Environmental Observers are confident the animal has moved out of the area on its own volition. If an animal is seen above water, then dives below, the servicing entity will not begin pile driving activities until enough time has elapsed without a sighting (at least 15 minutes for pinnipeds and 30 minutes for cetaceans) to assume the animal has moved beyond the safety zone. Environmental Observers must remain alert for protected species from 30 minutes prior to commencement of work until 30 minutes after shut-down. If ESA-listed marine mammals, sea turtles, sawfish, sturgeon, or sharks move within the safety zone during pile driving and pile removal, or servicing entity must cease the activity when safe to do so and not continue until the Environmental Observers are confident the animal has moved out of the area on its own volition. If an animal is seen above water, then dives below, the Coast Guard or servicing entity will not begin pile driving activities until enough time has elapsed without a sighting (at least 15 minutes for pinnipeds and 30 minutes for cetaceans) to assume the animal has moved beyond the safety zone.

5) When practicable, remove broken/cut piling stubs.

H. Reporting Requirements: Should the contractor's Environmental Observer encounter an endangered or threatened species during ATON project execution, the sighting must be reported to the USCG District Northwest EPS. Reports shall include the following information:

1) Date/time observed (GMT).

2) Location (latitude/longitude in degrees/decimals format, indicating western and southern lat/longs with a negative value).

3) Species name.

4) Description of species.

5) Observed behavior.

6) Any action taken by the contractor to avoid potential impacts.

7) Description of impact (if any) the sighting had on work activities such as delays, shutdowns, and whether the species was at sufficient distance that work continued. Information will be complied and reported to National Marine Fisheries Service (NMFS).

1.10 CONTROL AND DISPOSAL OF WASTES: With the exception of materials specifically indicated or specified to be salvaged for reuse in construction, or turned over to the Government, all wastes and demolished materials become the contractor's property and shall be removed from the job site daily.

A. HM/HW Spill Response: Store chemical waste in corrosion resistant containers labeled to identify type of waste and date filled. Comply with 49 CFR 178. Remove containers from Government property and dispose of in accordance with Federal, State, and local regulations. Submit a certified copy of the acceptance receipts for these materials, indicating quantities. For oil and hazardous material spills which may be large enough to violate Federal, State, and local regulations, notify the Contracting Officer immediately.

B. Dispose of petroleum products and petroleum contaminated soil and water in accordance with procedures meeting Federal, State, and local regulations. Comply with 40 CFR 761 for removal and disposal of PCB containing articles.

C. Comply with 40 CFR 262 and 263, 29 CFR 1910.120, and state regulations for removal, transportation and disposal of hazardous waste as discussed in the Contractor's HM/HW Handling Plan.

1.11 NOISE: Make the maximum use of "low-noise-emission products" as certified by EPA and described at 40 CFR Part 204. No blasting or use of explosives is permitted. Comply with applicable portions of the Noise Control Act (NCA). The contractor shall comply with all other federal, state, and local noise control laws and regulations.

1.12 WORKING OVER OR NEAR WATER: When working over or near water, comply with 29 CFR 1926.106.

1.13 BIOLOGICAL MONITOR: Marine mammals, protected under the Marine Mammal Protection Act, use the project area.

Contractor shall hire a Biological Monitor who shall be on-site during construction. The monitor is not required to be on site for the aids that are only replacing platforms. The Biological Monitor may be any member of the on site team that is not actively occupied with work during the construction/demolition evolution. The monitor shall have the authority to direct the contractor to stop work if necessary to avoid a "take" or "harass" marine mammals. The monitor shall be in an independent boat to allow mobility to ensure that work stops when a marine mammal is within the "shut down" and "buffer" zones as outlined in the USCG Marine Mammal Monitoring Plan (MMMP), Appendix D, for the Replacement of ATON Structures. The Contractor and Biological Monitor shall comply with all procedures and requirements listed within the MMMP. As per the MMMP, copies of the Monitoring report shall be submitted to the Contracting Officer and the Environmental Division within 30 days of completion of the project and prior to final payment.

1.14 EEL GRASS SURVEYS: Contractor shall conduct eel grass surveys on aids in Baker Bay with MLLW depth of less than 20 feet 2 weeks prior to mobilizing for construction to these aids and submit results to the USCG. If it is determined that the new location for the aid is within 25 feet of eelgrass, the contractor shall notify the USCG and the USCG will provide direction to the contractor. All spudding and equipment on the bottom must be more than 25ft from any eelgrass as determined by the survey.

A. The following aids shall have an eel grass survey conducted two weeks prior to the planned construction:

1) Chinook Channel Light 1

2) Chinook Channel Light 2

3) Chinook Channel Light 3

4) Chinook Channel Light 4

5) Chinook Channel Light 5

6) Chinook Channel Light 8

1.15 PROTECTION OF CULTURAL RESOURCES: The project is located on land that has documented sensitivity for archaeological materials. Any ground-disturbing

activity risks the potential to uncover historic and prehistoric archaeological features and human remains. To address this potential issue, the contractor shall be required to hire an archaeologist to conduct research and testing prior to project construction. Archaeological monitoring will be conducted by a qualified 36 CFR 61 Archaeologist with experience in the region . An Archaeological Monitoring Plan has been developed (attached): all archaeological monitoring shall be conducted in accordance with the Plan.

The Archaeologist will monitor all ground-disturbing activities associated with project work: removal of existing fence; excavation of fence-post holes for new fence; installation of new fencing; and trenching for installation of new electrical conduit.

The Archaeologist's responsibilities will include:

A. Brief construction staff on the procedures for monitoring;

B. Keep a daily log of activities performed and any discoveries;

C. Monitor all project ground disturbing activities;

D. Inspect all exposed soil and stratigraphic profiles;

E. Inspect exposed cultural deposits and document them in accordance with the attached Monitoring Plan;

F. Observe and describe exposed features in accordance with the Monitoring Plan;

G. Observe and document exposed artifacts, and collect them if appropriate, in accordance with the Monitoring Plan;

H. If artifacts are collected, handle, treat, and curate in accordance with the Monitoring Plan;

I. If human remains are discovered, stop construction activities within a 50-foot radius of the site and notify the USCG and DAHP in accordance with the Monitoring Plan; If human remains are to be removed or reburied, coordinate with DAHP and USCG to develop a NAGPRA treatment plan; and After project completion, prepare a final report of the

monitoring process and any discoveries, within 90 days of completion of the project.

In the event of an unanticipated archaeological discovery the Contractor shall be responsible for immediately halting ground disturbing activities and securing the vicinity of the discovery (a minimum 50 foot no construction zone in all directions of the discovery shall be protected). The Contractor shall immediately notify the Contracting Officer or Contracting Officer's Representative. The CG representative shall determine if work associated with the project may continue in other areas removed from the discovery locale (minimum 50-feet distance). The CG will notify the State Historic Preservation Officer and interested tribes who will jointly determine the appropriate course of action. If there is reason to believe that human remains are present the Contractor shall immediately notify the Contracting Officer or Contracting Officer's Representative who will notify the Coroner.

SUBMITTALS:

A. Resume for archaeologist.

B. Archaeological Monitoring Report. (this will be provided to SHPO and interested tribes)

The following aids shall require an archeologist present:

1) Irrigon Lower RF LT 60

2) Lake Wallula LT 30

3) Lake Wallula LT 34

4) Lake Wallula DBN 44

5) Lake Wallula LT 52

6) Lake Wallula DBN 68

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

END OF SECTION

SECTION 01 71 23 – FIELD ENGINEERING

PART 1 GENERAL

1.01 SECTION INCLUDES: This section applies to all surveying requirements for ATON structures as required in the specifications. Not all aids require surveying, see Appendix A for specific requirements. A sample geodetic survey is included in Appendix E.

1.02 POSITIONING: The construction (demolition and installation) of ATON structures requires that proper positioning techniques be used. Each ATON listed in the scope of work will have a particular positioning method assigned to it as per the list below. The contractor shall adhere to the following positioning methods:

A. VERTICAL POSITIONING: Height shall be taken from the lantern's focal plane. If there are multiple lanterns, provide the focal plane height for each lantern. Lantern heights shall be referenced to both NAVD88 and Mean High Water (MHW).

B. HORIZONTAL POSITIONING: The position shall be taken from the center of lanterns with horizontal symmetry (like a 155mm, 250mm or 300mm lantern). For directional lanterns (like an RL14) use the center of the lantern's base. It is critical that the surveyed position is on the horizontal centerline of the drum. The surveyor shall describe this spot in the survey report. The surveyor shall also mark this spot on the lantern with a felt-tipped pen, take pictures of the mark, and include the pictures in the survey report.

C. SURVEYOR QUALIFICATIONS: The survey shall be conducted by a surveyor licensed by the State of Oregon.

D. MINIMUM SURVEY REQUIREMENTS: The surveyed position shall have a horizontal accuracy of better than 4 cm (1DRMS). The surveyed position shall be reported in Lat/Long, State Plane Coordinates, and datum. The survey report shall thoroughly describe equipment and procedures used to obtain the position and shall include a complete error analysis that shows a positional accuracy of better than 4 cm at 1DRMS. The error analysis must not be a simple restatement of equipment specifications and shall include

an analysis of the factors germane to the specific survey.

E. The Coast Guard shall provide the following reference information for use by the surveyor during installation:

1) The distance and bearing to the sister range structure (provided in chart).

2) The design position (DP) of the range structure in current datum.

1.03 REFERENCES: The surveyor shall utilize all applicable reference provided by the state of Oregon to conduct surveying. Additionally, the surveyor shall conduct surveying in accordance with US Coast Guard COMDTINST M16500.1D 7-4 and 7-5.

1.04 SUBMITTALS:

A. GEODETIC SURVEY REPORT: Label all submittals with the contract number assigned to the project by the KO. The report shall be typed on 8.5” x 11” paper. The control sketch shall be submitted on 11” x17” paper.

Submit to the KO one hard copy (bound) and one electronic copy (PDF) containing:

1) COVER SHEET: Indicating the structures surveyed and the company that prepared the report. The following statement shall be included in the report and stamped with the surveyor’s seal and signature.

"This survey was conducted by me or under my direction and was performed in accordance with COMDTINST M16500.1D Positioning and Range Surveying Manual and the state of Oregon.”

2) The surveyed horizontal position of the lantern expressed in Latitude and Longitude (WGS 84) and in State Plane Coordinates (SPC). Identify the SPC zone.

3) The surveyed vertical position of the lantern in feet referenced to NAVD88 and Mean High Water.

4) A description of the survey equipment.

5) A description of survey methodologies including:

(a) RTK or post-processed survey?

(b) Identify the type of base station(s)used (i.e. CORS, RTN, own base station set up over monument, etc.)

(c) Identify the specific base station(s) used.

(d) Identify the sampling rate and number of samples collected.

(e) Describe the procedures used to identify and remove bad data.

(f) A description of computational methods and software.

6) An error analysis showing that the horizontal accuracy is 4 cm or better calculated at 1DRMS. The stated accuracy shall NOT be a restatement of equipment specifications or generic process accuracies. Rather, the stated accuracy shall be the product of an analysis of the data and of factors associated with this survey. Include:

(a) The results of the error analysis.

(b) Describe how the error analysis was conducted. Identify software.

(c) If the survey used surveyor’s own equipment as a base station, provide accuracy information for the position of the base station, provide data supporting the claimed accuracy of the base station position, and show how the accuracy of the base station position factored into the calculation of the accuracy of the surveyed position of the lantern.

B. OPUS DATABASE SUBMITTAL: All surveys shall be submitted to NOAA for inclusion in the OPUS (Online Positioning User Service) Database http://www.ngs.noaa.gov/OPUS/view.jsp. Provide verification that the information has been uploaded when submitting the Geodetic Survey Paper copy to the Construction Manager, Contracting Officer and DNW (dpw)

POC.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 POINT TO BE SURVEYED: The portion of the ATON to be surveyed shall be the focal plane height of the light (if a lighted aid) or the apex of the structure (if an unlighted aid).

3.02 TERRISTRIAL RANGE: For ranges built on land, the surveyor shall locate the target position and mark the position with a survey marker. The surveyor shall then mark the positions for the foundations that will support the tower.

3.03 AQUATIC STRUCTURES: For construction of an aquatic range a surveyor will guide the construction barge into position to drive the first pile. The first pile is a reference pile and may be referred to as a "Hurricane Pile or Ice Pile". If a storm destroys the range structure the hurricane pile may be used to position the new range structure. However, the position of the hurricane pile shall not be considered the As-Built Position (ABP) of the range structure. This pile is not permanent.

3.04 ADJUSTMENTS DURING CONSTRUCTION: The design of a structure will often allow for positioning adjustments as a range structure is built. For example:

A. The surveyor guides the construction tender into position. The hurricane pile is established.

B. The surveyor surveys the position of the hurricane pile after it is driven.

C. The range foundation is constructed around the hurricane pile.

D. After the foundation is built, the surveyor climbs the structure and locates the position of the desired range line as it crosses the structure. The tower is positioned on the foundation based on this survey.

E. After the tower is secured, the surveyor climbs the tower and locates the position of the desired range line as it

crosses the tower's platform. The lantern stand is positioned on the platform based on this survey.

3.05 FINAL AS-BUILT SURVEY: After the lantern is installed the surveyor conducts the final as-built survey of the lantern's position.

3.06 TOLERANCE:

C. DESIGN POSITION (DP) VS FINAL AS BUILT POSITION (ABP): When building a new range structure, the positioning process starts with a DP and ends with an ABP. There will always be a difference between DP and ABP.

D. HORIZONTAL TOLERANCE: The maximum allowable difference between DP and ABP will be provided in appendix A for applicable ATON structure.

E. VERTICAL TOLERANCE: The maximum allowable vertical difference between the DP and ABP is 1 foot.

F. Based on COR's determination any pile not positioned in accordance with the delivery order and within the prescribed tolerances shall be extracted and re-driven at the contractor's expense.

G. TIME REQUIREMENT: Provide as-built survey data and results on the installed location of the new ATON structures to the KO within 30 working days after installation. The data and results shall be submitted as directed in paragraph 1.04B of this section.

END OF SECTION

DIVISION 02 – EXISTING CONDITIONS

02 41 13 – MINOR SITE DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES: This section applies to all ATON demolition work required in the scope of work.

A. Damaged platforms and removed steel piling that, in the opinion of the COR, are not reusable, and removed wood piling, shall become the property of the contractor and shall be disposed of in an approved manner. Platforms and steel pile that, in the opinion of the COR, are reusable shall be returned to the contractor’s facility for pickup by the Coast Guard.

1.02 SUBMITTALS:

A. Daily Summary Notifications - Per Section 01 33 00, Paragraph 1.09 (Submittals)

B. ATON Construction Record - Per Section 01 33 00, Paragraph 1.03 (Submittals)

C. As-built digital color photographs - Per Section 01 33 00, Paragraph 1.04 (Submittals)

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

3.01 STANDARD ATON MAINTENANCE

A. STRUCTURE REMOVAL

1) Locate and remove damaged ATON structure(s) and component parts described in Section 01 10 00.

2) Damaged ATON structures shall be removed either by extracting the piles, breaking them off at or below the mudline, or by cutting them off at the mudline. Removal shall be attempted in that order.

3) In the event that a structure has been knocked down, the contractor shall use divers to locate the

structure within a 75 yard radius of the original structure location. If any part of the knock-down structure is located, the contractor shall extract the structure off the bottom as directed by the KO. The contractor shall also ensure that no remaining portion of the pile(s) protrudes from the mudline. If so, the pile(s) shall be removed using the methods described in Paragraph 3.01.A2 of this Section. In the event that structure and/or pile remains are extracted from the bottom for a knock-down situation, the contractor shall submit a claim and provide photographic evidence of the extraction in order to receive payment for demolition.

4) If a pile is broken off above the mudline during removal it is the responsibility of the contractor to remove the remaining portion of the pile either using the original means of removal or with divers cutting off the pile at or below the mudline.

B. ATON STRUCTURE REPAIR

1) Locate the damaged ATON structure at the location indicated.

2) The ATON structure shall be repaired by replacing damaged components as indicated.

3.02 BUOY RECOVERY: The contractor shall recover the existing temporary buoys and associated equipment and return them to the local ANT.

3.03 TEMPORARY BUOY RECOVERY: Temporary buoys are installed by Coast Guard ANT to mark a channel where an ATON structure has been knocked down. The contractor shall recover any temporary buoys and associated equipment and return them to the local ANT.

END OF SECTION

DIVISION 05 – METALS

SECTION 05 50 00 – METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES: Provide all labor, materials, and equipment needed to fabricate steel hardware to construct the aids listed in section 01 10 00.

1.02 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. Latest editions apply.

A. American Welding Society (AWS):

D1.1 Structural Welding Code – Steel

D1.2 Structural Welding Code – Aluminum

B. American Petroleum Institute

RP2A Recommended Practice for Planning, Designing and Constructing Fixed Offshore Platforms

C. ASTM International (ASTM):

ASTM A325 (2014) - Standard Specification for Structural Bolts, Steel, Heat Treated,120/105 ksi Minimum Tensile Strength

ASTM A325M (2014) - Standard Specification for Structural Bolts, Steel, Heat Treated, 830MPa Minimum Tensile Strength (Metric)

ASTM A36/A36M (2014) - Standard Specification for Carbon Structural Steel

A47-99 (2014)- Ferritic Malleable Iron Castings

ASTM A123/A123M (2015)- Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

A153-16a - Zinc Coating (Hot-Dip) on Iron and Steel Hardware

ASTM A307 (2014) - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength

ASTM A563 (2015) - Standard Specification for Carbon and Alloy Steel Nuts

ASTM A780/A780M (2009; R 2015) - Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

ASTM A992/A992M (2011) - Standard Specification for Structural Steel Shapes

F593-17 - Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs

F594-09 (2015) - Standard Specification for Stainless Steel Nuts

D. Code of Federal Regulations (CFR) CFR 29 1910.27 "Fixed Ladders".

1.03 Submittals:

D. SHOP DRAWINGS: Submit shop drawings for tower structures built in accordance with drawings 8.1-8.7. Shop drawings shall show details of complete assembly of tower structures and 10’x10’ platforms.

PART 2 PRODUCTS

2.01 METAL STANDARDS

A. STEEL SHAPES, RODS AND BARS: ASTM A36

B. STEEL PLATE: ASTM A36

C. BOLTS: Hot Dip Galvanized Steel: ASTM A3125, Type 3, 60 ksi

D. NUTS: Hot Dip Galvanized Steel: ASTM A563, Heavy Hex

E. WASHERS: Hot Dip Galvanized Steel: ASTM F436

F. ANCHOR RODS: Hot Dip Galvanized Steel: ASTM F1554, Grade 36

G. GALVANIZING: Shapes, Plates and Bars shall be hot dip galvanized in accordance with ASTM A123. Bolts, Nuts, Washers and Lock Washers shall be hot dip galvanized in accordance with ASTM A153. Field treatment in accordance with Section 05 12 00.

H. Aluminum Plate and Shapes: Shall be fabricated from type 6061-T6 aluminum (except aluminum channel for platform ladder—this will be 6063-T52) and welded in accordance with AWS D1.2.

I. Nuts, Bolts, Washers, and Hardware: ASTM F594 and ASTM F593, Type 316 stainless steel.

PART 3 EXECUTION

3.01 GALVANIZING

A. General: All steel shall be hot dip galvanized after fabrication. Bolts shall be galvanized after threading. Nuts shall be tapped oversize by a diametrical amount sufficient to permit assembly on the galvanized bolt thread and shall be clearance tapped after galvanizing. The minimum weight of coating is 2.0 oz/SF of surface.

B. Field Treatment Repair and Recoat: In accordance with ASTM A780-80.

3.02 STEEL WELDING: Steel welding shall be performed by welders certified by the State of Oregon as being qualified in accordance with AWS D1.1 for full penetration groove welding in all positions, using the procedures, materials, and equipment of the type required for the work. All welding shall conform to AWS D1.1.

3.03 ALUMINUM WELDING: Aluminum welding shall be performed by welders certified by the State of Oregon as being qualified in accordance with AWS D1.2 for full penetration groove welding in all positions, using the procedures, materials, and equipment of the type required for the work. All welding shall conform to AWS D1.2.

3.04 CONSTRUCTION FABRICATION

A. Quality of workmanship and finish shall be equal to the best general practice in modern fabricating shops.

B. Bolt holes shall be drilled or punched 1/16 inch larger in diameter than the nominal diameter of the bolt unless otherwise noted on the drawings. Burrs on the outside surfaces of drilled holes shall be removed.

C. Platforms shall be level and ready to receive the ATON equipment which will be furnished by the government and installed by the contractor.

END OF SECTION

SECTION 05 51 33 – METAL LADDERS

PART 1 GENERAL

1.01 SECTION INCLUDES: This section applies to all work related to the construction of metal ladder accessories for this project. More specifically, this section will cover the requirements for ladder safety climbing devices for this scope of work.

1.02 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. Latest editions apply.

A. Federal Specification:

Federal Specification RR-S-001301 Type I

1.03 SUBMITTALS: Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

A. Safety Climbing Device Product Data Sheet

B. Manufacturer’s Installation Instructions

PART 2 PRODUCTS

2.01 SAFETY CLIMBING DEVICE: Shall comply with the above listed reference. Shall be a cable climb system (3M LAD-SAF system or similar).

PART 3 EXECUTION

3.01 INSTALLATION: Installation shall be per drawing ATON-STD-14 and manufacturer’s installation instructions. Contractor shall show details of separation of dissimilar metals prior to installation. Refer to appendix A for aids requiring installation of safety climbing device.

End of Section

DIVISION 09 – FINISHES

09 97 18 –PILE CORROSION COATING

PART 1 GENERAL

1.01 SECTION INCLUDES: This section applies to all work required for preparing and corrosion coating ATON steel piles, structures, and attachments with abrasion-resistant epoxy, Interzone 954 or similar. All work items to be epoxy coated are delineated in the General Section and Appendix A.

1.02 REFERENCES: The publications listed below form a part of this specification to the extent applicable.

A. ASTM INTERNATIONAL (ASTM)

ASTM D1640	(2009) Drying, Curing, or Film Formation of Organic Coatings at Room Temperature
ASTM D1654	(2017) Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments
ASTM D2369	(2015) Volatile Content of Coatings
ASTM D2370	(2010) Tensile Properties of Organic Coatings
ASTM D3960	(2013) Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings
ASTM D4060	(2014) Abrasion Resistance of Organic Coatings by the Taber Abraser
ASTM D610	(2012) Evaluating Degree of Rusting on Painted Steel Surfaces
ASTM D7091	(2013) Standard Practice for Nondestructive Measurement of Dry Film Thickness of Nonmagnetic Coatings Applied to Ferrous Metals and Nonmagnetic, Nondestructive

	Coatings Applied to Non-Ferrous Metals

B. INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 9001	(2009) Quality Management Systems-Requirements

C. NACE INTERNATIONAL (NACE)

NACE WJ-1	(2012) Waterjet Cleaning of Metals—Clean to Bare Substrate

D. SOCIETY FOR PROTECTIVE COATINGS (SSPC)

SSPC SP6/NACE#3	(2007) Commercial Blast Cleaning (HP)
SSPC Guide 10	(2001) Guide to Specifying Coatings Conforming to Volatile Organic Compound (VOC) Content Requirements
SSPC PA 1	(2016) Shop, Field, and Maintenance Coating of Metals
SSPC QP 1	(2012) Standard Procedure for Evaluating Painting Contractors (Field Application to Complex Industrial Structures)
SSPC SP COM	(2017) Surface Preparation Commentary for Steel and Concrete Substrates

1.03 SUBMITTALS: Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

A. Coating Application Plan (Per 1.04A)

B. Coating Materials: Provide manufacturer's printed coating system instructions including detailed mixing and application procedures, how to achieve specified thickness, minimum and maximum application temperatures, instructions for application in wet zones, and curing procedures.

C. Qualifications of Certified Protective Coatings Specialist (PCS)(Per 1.04B1)

D. Qualifications of Individuals Applying Coatings (Per 1.04B2)

E. Manufacturer's Coating System Instructions

1.04 QUALITY ASSURANCE

A. Coating Application Plan: Provide procedures for verification of materials, surface preparation, coating application and curing, inspection, and documentation. Address setup, surface preparation, coating application, coating initial cure, and correction of non-compliant work. For each process, provide procedures that include appropriate work instructions, material and equipment requirements, personnel qualifications, controls, and process verification procedures. Provide procedures for correcting non-compliant work. Provide procedures for repairing defects in the coating film as well as how to correct coating thickness non-compliance.

B. Qualifications

1) Qualifications of Certified Protective Coatings Specialist (PCS): Submit name, address, telephone number, and e-mail address of the independent third party PCS. Submit documentation that specialist is certified by The Society for Protective Coatings (SSPC) as a PCS, including certification number and date of certification/recertification. The PCS must remain certified during the entire project, and the Contracting Officer must be notified of any change in certification status within 10 days of the change. The PCS must not be the designated coating inspector. The PCS must approve all submittals prior to submission to the government for approval.

2) Qualifications of Coating Subcontractors: All Contractors and Subcontractors that perform surface preparation or coating application must be certified to SSPC QP 1 and SSPC QS 1 for field application, prior to contract award and must remain certified while accomplishing any surface preparation or coating application. The coating Subcontractors must remain so certified for the duration of the project. If a

Subcontractor's certification expires, the firm will not be allowed to perform any work until the certification is reissued. Requests for extension of time for any delay to the completion of the project due to an inactive certification will not be considered and delay damages may apply. Notify the Contracting Officer of any change in Subcontractor certification status. Notify the Contracting Officer of all scheduled and unannounced on-site audits from SSPC and furnish a copy of all audit reports.

PART 2 PRODUCT DATA

2.01 COATING MATERIALS: shall be a two-component epoxy material supplied in separate containers, Interzone 954, or equal. Ship, store, and handle materials in accordance with SSPC PA 1, and manufacturer’s instructions. Inspect materials for damage prior to use and return non-compliant materials to manufacturer. Remove materials with expired shelf life from government property immediately and notify the Contracting Officer.

PART 3 EXECUTION

3.01 SURFACE PREPARATION: Perform all work, rework, and repair in accordance with approved procedures in the Coating Application Plan and the manufacturer’s instructions. Remove all oil or grease from the surface with an appropriate solvent. Remove all dirt, loose paint, spalling rust, marine growth and other contaminants by high pressure (3000 psi to 7000 psi) water jetting and abrasive hand tools, as required. Coat cleaned metal surfaces as soon as possible to minimize new corrosion.

3.02 MIXING AND APPLICATION OF COATING SYSTEM: All materials must be supplied by one supplier. The coating system is intended to be applied in the field as maintenance and repair of existing corroded steel surfaces and protection of surfaces from future corrosion. Remove all damaged surfaces by means of the specified surface preparation followed by application of the coating system. The final surface of any repairs must meet all requirements of the specifications, the manufacturer, and the end use of the surface repaired. Mix and apply per manufacturer’s

printed instructions. Apply the material onto the surface in two minimum 20 to 30 mils thick coating layers. Final coating thickness shall be a minimum of 40 to 60 mils.

3.03 All steel pipe piles shall be epoxy coated unless otherwise specified.

END OF SECTION

DIVISION 10 - SPECIALTIES

10 81 13 – BIRD CONTROL DEVICES

PART 1 GENERAL

1.01 SECTION INCLUDES: This section applies to all work required for designing, procuring, and installing bird deterrence devices on ATON all tower structures to be built within the scope of this project. Single pile and multi-pile structures with baskets and reduced headers do not require bird deterrence systems. Bird deterrence systems are required on tower aids in order to reduce nesting of Double-Crested Cormorants (DCCs) on these aids which are detrimental to salmonoid populations in the Columbia River. For this project, bird deterrence devices are required on the following aids:

1) Fashion Reef Lower RR LT

2) Multnomah Falls Bar RR LT

3) Stevenson Lower RR LT

4) Wind Mountain Upper RR LT

1.02 SUBMITTALS: Submit the following in accordance with section 01 33 00 SUBMITTAL PROCEDURES.

A. Bird Deterrence Plan including proposed bird deterrence type and locations to maximize effectiveness. Plan shall be drafted and reviewed by a person with particular expertise in bird deterrence systems. Plan should at minimum include means of deterring Double-Crested Cormorants from nesting on the tower itself and the platform below.

B. Product Data Sheets: Manufacturer’s product data sheets detailing product qualities and installation procedures.

PART 2 PRODUCTS

2.01 DETERRENCE SYSTEM MATERIALS: Bird deterrence systems shall be either metal or plastic. Systems shall be comprised of a combination of spikes, nets, bird spiders, other commercially available products, or a combination

of the aforementioned products. Electrical deterrence systems are not acceptable for this project. Deterrence means should be non-lethal.

PART 3 EXECUTION

3.01 INSTALLATION: Bird deterrence systems shall be installed in accordance with manufacturers instructions. If a metal system is chosen, dissimilar metals shall be separated to prevent galvanic corrosion. If adhesive is used to install bird deterrence systems epoxy adhesive shall be used.

END OF SECTION

DIVISION 31 - EARTHWORK

SECTION 31 62 16 – STEEL PILES

PART 1 GENERAL

1.01 SECTION INCLUDES: This section applies to all work required to install marine piles for construction or repair of specified ATON structures.

1.02 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only. The latest editions shall apply.

A. American Society for Testing and Materials (ASTM) Publications:

A36-05	Structural Steel
A53-06	Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless
A106-04	Seamless Carbon Steel Pipe for High Temperature service
A123-05	Zinc (Hot-Galvanized) Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars, and Strip
A252-98(2002)	Standard Specification for Welded and Seamless Steel Pipe Piles

PART 2 PRODUCTS

2.01 PILES

A. STEEL PIPE PILE (non-galvanized): Eighteen (18) inch outside diameter, half (1/2) inch wall thickness, spiral,

straight seam or seamless welded pipe in approximately forty-foot lengths conforming to ASTM A252 Grade 2 or 3, with factory beveled ends.

B. STEEL WELDING: Steel welding shall be performed by welders certified by the state in which the ATON construction is taking place. Welders shall be qualified in accordance with AWS D1.1 for full penetration groove welding in all positions, using the procedures, materials, and equipment of the type required for the work. All welding shall conform to AWS D1.1.

PART 3 EXECUTION

3.01 PILE DRIVING EQUIPMENT

A. All piles shall be driven using vibratory equipment.

B. A silt curtain shall be used when driving piles.

3.02 DRIVING

A. Drive piles to the penetration depth specified in Appendix A. Provide the specified length of pile above the datum as specified on the Delivery Order. If there is any question to what height the piles shall be driven, contact the KO immediately. When a question arises with any aspect of installation, the contractor shall seek technical assistance from the COR or KO. Determine and use the appropriate procedure required by the subsurface conditions and nature of the bottom at the site.

1) If the penetration obtained is within 5 feet of the specified penetration depth, the contractor may continue completion of the structure. Notify the COR of the failure to obtain full penetration upon completion of the structure.

2) If the penetration obtained is not within 5 feet of the specified penetration depth, contact the COR for further instructions.

B. Required pile tip elevation:

1) If the contractor achieves a tip elevation of 25 feet, then the contractor shall continue to construct the ATON structure. The contractor shall use the ATON Construction Record to note this tip elevation and the

reason why the specified penetration was not achieved.

2) If the contractor achieves a tip elevation of less than 25 feet, then the contractor shall stop work and contact the COR or KO for direction.

3) Additional aids may be used to obtain the specified tip elevation only upon approval by the KO.

C. Driving batter piles vertically and pulling them to final batter shall not be permitted for 3-Pile structures.

3.03 POSITIONING: Ensure the pile is properly positioned. Accuracy shall be ensured with DGPS or equivalent system to meet the following tolerances:

A. Tolerances for Ranges:

1) Height - One foot maximum variation.

2) Position - The location may vary by a maximum of three feet along the axis of the channel and a maximum of one foot perpendicular to the axis of the channel. The channel axis is defined as the direction of ship traffic within the channel.

B. Tolerances for Lateral Aids:

1) Height - One foot maximum variation.

2) Position - The location may vary by a maximum of eight feet parallel to or perpendicular to the axis of the channel.

C. Based on the COR's determination any pile not positioned in accordance with the delivery order and within the prescribed tolerances shall be extracted and re-driven at the contractor's expense.

D. Driving of piles shall not subject them to excessive and undue abuse. Any pile damaged by reason of internal defects or improper driving or driven out of its proper location, shall be withdrawn and replaced at the Contractor's expense.

3.04 RECORDS

A. Maintain a complete and accurate record, and submit an electronic copy in PDF format to the COR and KO, of each

pile driven. The record shall indicate the following:

1. Pile location
2. Pile diameter
3. Original pile length
4. Final tip elevation
5. Final cutoff elevation
6. Any unusual pile behavior or circumstances experienced during driving such as re-driving, heaving, weaving, obstructions, and stops.

END OF SECTION

APPENDIX A: ATON STRUCTURE LIST

APPENDIX B: ATON STRUCTURE PHOTOS AND LOCATIONS

APPENDIX C: SUBMITTAL APPROVAL FORM

APPENDIX D: USCG MARINE MAMMAL MONITORING PLAN (MMMP)

APPENDIX E: SAMPLE GEODETIC SURVEY

(Recommend Printing on 11" x 17" paper or larger)

PSN 18866153 Rebuild ATON Oakland Harbor

Base/Option Item	Aid Name (Old Name)	LLNR	Chart	Existing Structure	Action to Existing Structure	Current Latitude	Current Longitude	Type of Structure to Build	In Water Work?	New Latitude	New Longitude	Focal Plane above MHW / CRD (As Listed in Appendix B)	Pile Penetration: Below Mudline (ft)	Mudline (ft)	Water MLLW Depth (ft)	Tidal Range (ft)	Out of water Pile Length (ft)	Focal Plane above Pile	Length to Platform	Length of Pipe per Pile	# of Piles	Total Pipe Length Needed	Orientation of Components (Degrees True)	# of Ladder Sections on Pile	Type of LEB: Ladder Extension Bracket (quantity)	Installation of Safety Climb Device	Diving Services Required	Photographs Required after Construction	Survey Required after Construction?	Dayboards	ATON STD Drawing	GFM to be Provided	Notes
	Existing Structure							New Construction				New Construction Structural Details (units in feet)											Additional Requirement Details										
Base 0001	Stevenson Lower RR LT	11830	18532	MPW w/ steel tower	Demolish & replace w/ MPS 7x7 tower w/ 10x10 platform	45-40-27.400N	121-54-31.654W	Four Pile Steel Range w/ 7x7 25ft tower & 10x10 platform	Y	45-40-27.36794N	121-54-31.61870W	20 See Note	30	11	0	20	0	20	61	4	244	Dayboard at 058°; ladder at 238°	2	4	Yes	No	Yes	Yes	(1) 6KRB	6-1, 6-2, 6-3, 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 12-3, 12-4, 14-1, 11-1, 14-1	Dayboard, (2) ladder sections, (4)LEB 10x0-1 (4) U bolts	See Appendix B. Platform shall be 20 ft above MOP with 25 ft 7x7 tower.
Base 0001	Bonneville Pool LT 22	11855	18532	MPC (on shore)	Demolish & replace w/ MPS w/ 5x5 basket	45-41-53.715N	121-48-37.321	Three Pile Steel Structure w/ 5x5 basket	Y	45-41-53.400N	121-48-49.200W	17	30	16	0	12	5	N/A	58	3	174	Dayboards at 325° and 055°; ladder at 235°	2	4	No	No	Yes	No	(2) 6TR	03-1, 11-1, 13-1, 9-2	Dayboard, (2) ladder section, (4)LEB 5x5-3. (4) U bolts	
Base 0001	Bonneville Pool LT 23	11860	18532	MPW w/ wooden basket	Demolish & replace w/ MPS w/ reduced header. May be moved within a 30 ft radius of original position.	45-41-48.291N	121-44-14.035W	Three Pile Steel Structure w/ reduced header	Y	45-41-48.291N	121-44-14.035W	15	30	20	0	10	5	N/A	60	3	180	Dayboards at 145° and 235°; ladder at 325°	1	2	No	No	Yes	No	(2) 4SG	03-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	
Base 0001	Wind Mountain Upper RF LT 26	11870	18532	MPW w/ wooden platform	Demolish & replace w/ MPS w/ 7x7 tower w/ 10x10 platform	45-41-34.443N	121-42-09.203W	Four Pile Steel Range w/ 7x7 35ft tower & 10x10 platform	Y	45-41-34.64637N	121-42-12.60793W	12 See Note	30	18	0	12	0	N/A	60	4	240	Dayboards at 275° and 015°; ladder at 325°	1	2	No	No	Yes	Yes	(1) 8KRB & (1) 4TR	6-1, 6-2, 6-3, 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 12-3, 12-4, 14-1, 11-1	Dayboard, (2) ladder sections, (4)LEB 5x5-3. (4) U bolts	See appendix B. Platform shall be 12 feet above MOP with 10 ft 7x7 tower.
Base 0001	Wind Mountain Upper RR LT	11875	18532	MPW w/ steel tower	Demolish & replace w/ MPS 7x7 tower w/ 10x10 platform	45-41-31.222N	121-41-16.530W	Four Pile Steel Range w/ 7x7 35ft tower & 10x10 platform	Y	45-41-31.63889N	121-41-23.48612W	20 See Note	30	23	0	20	0	20	73	4	292	Dayboard at 275°; ladder at 095°	1	2	Yes	No	Yes	Yes	(1) 8KRB	6-1, 6-2, 6-3, 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 12-3, 12-4, 14-1, 11-1, 14-1	Dayboard, (1) ladder section, (2)LEB 10x10-1. (2) U bolts	See Appendix B. Platform shall be 20 ft above MOP with 35 ft 7x7 tower.
Base 0001	Fashion Reef Lower RF LT	11630	18531	MPW w/ wooden range platform	Demolish & replace w/ MPS w/ 7x7 basket	45-35-06.421N	122-07-37.727W	Three Pile Steel Structure w/ 7x7 basket	Y	45-35-05.46157N	122-07-43.81147W	23	30	17	0	18	5	N/A	65	3	195	Dayboard at 258°; ladder at 078°	2	4	Yes	No	Yes	Yes	(1) 6KRB	04-1, 11-1, 13-1, 12-1, 12-2, 9-3, 14-1	Dayboard, (2) ladder sections, (4)LEB 5x5-3. (4) U bolts	See Appendix B.
Base 0001	Fashion Reef Lower RR LT	11635	18531	MPW tower w/ wooden platform	Demolish & replace w/ MPS w/ 30ft 7x7 tower & 10x10 platform	45-35-10.673N	122-07-09.506W	Four Pile Steel Range w/ 30ft 7x7 tower & 10x10 platform	Y	45-35-11.69498N	122-07-02.57097W	21 See Note	30	8	0	21	0	35	59	4	236	Dayboard at 258°; ladder at 078°	2	4	Yes	No	Yes	Yes	(1) 8KRB	6-1, 6-2, 6-3, 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 12-3, 12-4, 14-1, 11-1, 14-1	Dayboard, (2) ladder sections, (4) LEB 5x5-3. (4) U bolts	See Appendix B. Platform shall be at 21 feet CRD with 30 feet of 7x7 tower.
Base 0001	Cascade Rapids Upper RF LT 15	11805	18532	MPW w/ steel tower	Demolish & replace w/ MPS w/ 7x7 basket	45-41-18.392N	121-53-06.694W	Three Pile Steel Structure w/ 7x7 basket	Y	45-41-17.86214N	121-53-07.16150W	27	30	18	4	22	5	N/A	74	3	222	Dayboards at 211° and 121°; ladder at 031°	2	4	Yes	No	Yes	Yes	(1) 6KRB & (1) 4SG	04-1, 11-1, 13-1, 12-1, 12-2, 9-3, 14-1	Dayboard, (2) ladder sections, (4)LEB 5x5-3. (4) U bolts	See Appendix B
Base 0001	Elochoman DBN 1	10535	18523	3rd class CFR buoy See appendix B	Remove buoy system and replace with SPS w/ reduced header system	46-12-15.733N	123-23-23.687W	Single Pile Steel Structure w/ reduced header	Y	46-12-16.700N	123-23-23.700W	17	30	11	0	12	5	N/A	53	1	53	Dayboards at 010° and 220°; ladder at 100°	1	2	No	No	Yes	No	(3) 4SG	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	
Base 0001	Elochoman DBN 2	10540	18523	Single Pile Steel I-Beam (SPS) with platform.	Demolish & replace with SPS w/ reduced header	46-12-29.450N	123-23-18.733W	Single Pile Steel Structure w/ reduced header	Y	46-12-29.450N	123-23-18.733W	17	30	9	0	12	5	N/A	51	1	51	Dayboards at 145° and 260°; ladder at 220°	1	2	No	No	Yes	No	(2) 3TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	
Base 0002	Cathlamet Bay North DBN 4	14750	18521	FWNFR Buoy See appendix B	Remove buoy system and replace with SPS w/ reduced header system	46-12-17.026N	123-42-20.181W	Single Pile Steel Structure w/ reduced header	Y	46-12-22.700N	123-42.29.100W	15	30	7	7	10	5	N/A	54	1	54	Dayboards at 130T and 285T; ladder at 045T	1	2	No	no	Yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	
Base 0002	Chinook Channel Light 1	14520	18521	SPS w/ 5x5 basket	Demolish & replace with new MPS w/ reduced header	46-15-31.472N	123-58-11.922W	Three Pile Steel Structure w/ Reduced header	Y	46-15-26.800N	123-58-15.3W	17	30	13	7	12	5	N/A	62	3	186	Dayboards at 050° and 215°; ladder at 125°	1	2	No	No	Yes	No	(2) 4SG	03-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Eelgrass survey required
Base 0002	Chinook Channel Light 2	14525	18521	Five Pile Wood (MPW) with wood basket	Demolish & replace with SPS w/ reduced header	46-15-46.915N	123-57-39.001W	Single Pile Steel Structure w/ reduced header	Y	46-15-47.400N	123-57-39.600W	17	30	5	7	12	5	N/A	54	1	54	Dayboards at 040T and 240T; ladder at 330T	1	2	No	No	Yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Eelgrass survey required
Base 0002	Chinook Channel Light 3	14527	18521	FWCFR Buoy See appendix B	Remove buoy system and replace with SPS w/ reduced header system	46-15-49.082N	123-57-41.211W	Single Pile Steel Structure w/ reduced header	Y	46-15-49.200N	123-57-41.200W	17	30	6	7	12	5	N/A	55	1	55	Dayboards at 045T and 245T; ladder at 225T	1	2	No	No	yes	No	(2) 4SG	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Eelgrass survey required
Base 0002	Chinook Channel Light 4	14528	18521	FWNFR Buoy See appendix B	Remove buoy system and replace with SPS w/ reduced header system	46-16-01.722N	123-57-19.105W	Single Pile Steel Structure w/ reduced header	Y	46-15-58.800N	123-57-21.300W	15	30	7	7	10	5	N/A	54	1	54	Dayboards at 010° and 225°; ladder at 260°	1	2	No	No	Yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Eelgrass survey required
Base 0002	Chinook Channel Light 5	14530	18521	Five Pile Wood (MPW) with wood basket	Demolish & replace with SPS w/ reduced header	46-16-02.734N	123-57-21.857W	Single Pile Steel Structure w/ reduced header	Y	46-16-02.900N	123-57-21.300W	15	30	5	6	10	5	N/A	51	1	51	Dayboards at 020T and 225T; ladder at 125T	1	2	No	No	Yes	No	(2) 4SG	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Eelgrass survey required
Base 0002	Chinook Channel Light 8	14535	18521	Five Pile Wood (MPW) with wood basket	Demolish & replace with SPS w/ reduced header	46-16-19.975N	123-57-11.454W	Single Pile Steel Structure w/ reduced header	Y	46-16-20.500N	123-57-11.800W	15	30	5	6	10	5	N/A	51	1	51	Dayboards at 065°, and 335°; ladder at 155°	1	2	No	No	yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Eelgrass survey required

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Base 0002	North Channel Daybeacon 10	14635	18521	Three Pile Wooden Structure (MPW)	Demolish & replace with SPS w/ reduced header	46-15-46.471N	123-47-14.460W	Single Pile Steel Structure w/ reduced header	Y	46-15-46.471N	123-47-14.460W	17	30	10	7	12	5	N/A	59	1	59	Dayboards at 070T and 230T; ladder at 315T	1	2	No	No	yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	
Base 0002	North Channel Daybeacon 12	14640	18521	Two Pile wood structure (MPW)	Demolish & replace with SPS w/ reduced header	46-16-03.256N	123-46-28.009W	Single Pile Steel Structure w/ reduced header	Y	46-16-03.256N	123-46-28.009W	16	30	10	7	11	5	N/A	58	1	58	Dayboards at 060T and 250T; ladder at 320T	1	2	No	No	Yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	
Base 0002	Grays Point Light 13	14645	18521	Single Pile Steel I-Beam (SPS) with platform.	Demolish & replace with SPS w/ reduced header	46-16-23.296N	123-46-00.469W	Single Pile Steel Structure w/ reduced header	Y	46-16-23.296N	123-46-00.469W	16	30	10	7	11	5	N/A	58	1	58	Dayboards at 025T and 240T; ladder at 140T	1	2	No	No	Yes	No	(2) 4SG	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	
Option 0003	Homly Center Channel LT 1	12985	18542	SPS w/ 5x5 basket	Demolish & Replace w/ SPS w/ reduced header	46-08-06.052N	118-58-59.557W	Single Pile Steel Structure wi/ reduced header	Y	46-08-06.052N	118-58-59.557W	17	30	10	0	13	5	N/A	53	1	53	Dayboards at 145°and 335°; ladder at 060°	1	2	No	No	Yes	No	(3) 4SG	01-1, 11-1, 13-1, 9-1	Dayboards, (1) ladder section, (2) LEB 5x5 (2) U-Bolts	Replace structure destroyed and knocked over by the Tug& Barge Cascades (Shaver Transportation). May be moved 25 FT to the southwest to reach depth of 10 FT MPL.
Option 0003	Lake Wallula LT 30	12995	18542	MPW w/ wooden basket	Demolish & replace w/ SPS w/ reduced header	46-07-51.499N	118-57-50.962W	Single Pile Steel Structure w/ reduced header	Y	46-07-51.499N	118-57-50.962W	17	30	15	0	12	5	N/A	57	1	57	Dayboards at 180° and 270°; ladder at 090°	1	2	No	Yes	Yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Demo must be via cutting off at mudline and removing. Vibratory hammer shall not be used due to archealogical nature of this site. Archeological monitor required
Option 0003	Lake Wallula LT 34	13000	18542	MPW w/ wooden basket	Demolish & replace w/ SPS w/ reduced header	46-08-52.718N	118-58-40.700W	Single Pile Steel Structure w/ reduced header	Y	46-08-52.718N	118-58-40.700W	17	30	13	0	12	5	N/A	55	1	55	Dayboards at 170° and 260°; ladder at 080°	1	2	No	Yes	Yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Demo must be via cutting off at mudline and removing. Vibratory hammer shall not be used due to archealogical nature of this site .Archeological monitor required
Option 0003	Lake Wallula DBN 44	13045	18542	MPW w/ dolphin	Demolish & replace w/ SPS w/ reduced header	46-12-09.868N	119-03-31.128W	Single Pile Steel Structure w/ reduced header	Y	46-12-09.100N	119-03-27.900W	17	30	15	0	12	5	N/A	57	1	57	Dayboards at 150° and 240°; ladder at 060°	1	2	No	Yes	Yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Demo must be via cutting off at mudline and removing. Vibratory hammer shall not be used due to archealogical nature of this site. Archeological monitor required
Option 0003	Lake Wallula LT 52	13060	18543	MPW w/ wooden basket	Demolish & replace w/ MPS w/ 5x5 basket	46-14-02.086N	119-11-26.310W	Three Pile Steel Structure w/ 5x5 basket	Y	46-14-02.086N	119-11-26.310W	20	30	25	0	15	5	N/A	70	3	210	Dayboards at 055°, 145° and 235°; ladder at 325°	1	2	Yes	Yes	Yes	No	(3) 4TR	03-1, 11-1, 13-1, 9-2, 14-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Demo must be via cutting off at mudline and removing. Vibratory hammer shall not be used due to archealogical nature of this site. Archeological monitor required
Option 0003	Lake Wallula DBN 68	13085	18543	MPW w/ dolphin	Demolish & replace w/ SPS w/ reduced header	46-16-21.526N	119-15-43.266W	Single Pile Steel Structure w/ reduced header	Y	46-16-21.526N	119-15-43.266W	15	30	15	0	10	5	N/A	55	1	55	Dayboards at 160° and 250°; ladder at 070°	1	2	No	Yes	Yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Demo must be via cutting off at mudline and removing. Vibratory hammer shall not be used due to archealogical nature of this site. Archeological monitor required
Option 0003	Lake Wallula West Channel Junction LT "W"	12980	18542	N/A	Build new MPS w/ reduced header	46-07-34.114N	118-58-18.996W	Three Pile Steel Structure w/ reduced header	Y	46-07-34.098N	118-58-18.936W	20	30	18	0	15	5	N/A	63	3	189	Dayboards at 155° and 335°; ladder at 245°	1	2	Yes	No	Yes	No	(2) 4JG	03-1, 11-1, 13-1, 9-1, 14-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	
Option 0003	Hood River Boat Basin DBN 1 (Remove Only)	11956	18532	MPW w/ wooden platform	Demo only	45-42-59.994N	121-430-34.531W	N/A	Y	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	
Option 0004	Lake Umatilla LT 13	12460	18535	Metal tripod w/ basket	Demolish & replace w/ SPS w/ reduced header	45-42-02.432N	120-26-30.178W	Single Pile Steel Structure w/ reduced header	Y	45-42-02.443N	120-26-30.178W	20	30	12	0	15	5	N/A	57	1	57	Dayboards at 125° and 215°; ladder at 305°	1	2	Yes	Yes	Yes	No	(2) 4SG	01-1, 11-1, 13-1, 9-1, 14-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	Demo must be via cutting off at mudline and removing. Vibratory hammer shall not be used due to archealogical nature of this site.
Option 0004	Lake Umatilla LT 30	12535	18537	Steel I-Beam w/ steel supports & basket	Demolish & replace w/ MPS w/ 5x5 basket	45-49-26.812N	119-55-52.830W	Three Pile Steel Structure w/ 5x5 basket	Y	45-49-26.812N	119-55-52.830W	20	30	28	0	15	5	N/A	73	3	219	Dayboards at 090° and 270°; ladder at 180°	1	2	Yes	No	Yes	No	(2) 4TR	03-1, 11-1, 13-1, 9-2, 14-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	
Option 0004	Lake Umatilla LT 36	12560	18537	Metal tripod w/ basket	Demolish & replace w/ SPS w/ reduced header	45-50-42.563N	119-46-58.881W	Single Pile Steel Structure w/ reduced header	Y	45-50-42.563N	119-46-58.881W	17	30	23	0	12	5	N/A	65	1	65	Dayboards at 045° and 315°; ladder at 225°	1	2	No	No	Yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	
Option 0004	Lake Umatilla LT 40	12605	18537	Steel I-Beam w/ steel supports & basket	Demolish & replace w/ SPS w/ reduced header	45-51-10.936N	119-41-25.740W	Single Pile Steel Structure w/ reduced header	Y	45-51-10.936N	119-41-25.740W	17	30	5	0	12	5	N/A	47	1	47	Dayboards at 040° and 310°; ladder at 220°	1	2	No	No	Yes	No	(2) 4TR	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	
Option 0004	Irrigon Lower RF LT 60	12665	18539	MPS w/ concrete platform & 7x7 tower	Demolish & replace w/ MPS w/ 7x7 basket	45-54-08.893N	119-30-50.138W	Three Pile Steel w/ 7x7 basket	Y	45-54-09.87294N	119-30-52.76042W (NAD83)	20	30	1	0	15	5	N/A	46	3	138	Dayboards at 297° and 027°; ladder at 117°	1	2	Yes	No	Yes	Yes	(1) 6KRW & (1) 4TR	04-1, 11-1, 13-1, 12-1, 12-2, 9-3, 14-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	See Appendix B. Archeological montor required.
Option 0005	Multnomah Falls Bar RF LT	11665	18531	MPW w/ wooden platform	Demolish & replace w/ MPS w/ 7x7 basket	45-34-50.673N	122-06-28.852W	Three Pile Steel Structure w/ 7x7 basket	Y	45-34-51.76059N	122-06-39.93091W	24	30	22	0	19	5	N/A	71	3	213	Dayboard at 278°; ladder at 098°	2	4	Yes	No	Yes	Yes	(1) 6KRB	04-1, 11-1, 13-1, 12-1, 12-2, 9-3, 14-1	Dayboard, (2) ladder sections, (4)LEB 5x5-3. (4) U bolts	See Appendix B.
Option 0005	Multnomah Falls Bar RR LT	11670	18531	MPW (on shore)	Demolish & replace w/ MPS 7x7 tower w/ 10x10 platform	45-34-49.648N	122-06-19.134W	Four Pile Steel Range w/ 15ft 7x7 tower & 10x10 platform	Y	45-34-50.55920N	122-06-28.79303W	21 See Note	30	5	0	21	0	30	56	4	224	Dayboard at 278°; ladder at 098°	2	4	Yes	No	Yes	Yes	(1) 6KRB	6-1, 6-2, 6-3, 8-1, 8-2, 8-3, 8-4, 8-5, 8-6, 8-7, 8-8, 12-3, 12-4, 14-1, 11-1, 14-1	Dayboard, (2) ladder sections, (4) LEB 10x10-1. (4) U bolts	See Appendix B. Platform shall be at 21 ft CRD with 15 ft of 7x7 tower.
Option 0005	Multnomah Falls Dike LT 82	11680	18531	MPW w/ wooden platform	Demolish & replace w/ SPS w/ 5x5 basket	45-34-54.692N	122-06-24.829W	Single Pile Steel Structure w/ 5x5 basket	Y	45-34-55.100N	122-06-24.900W	18	30	15	2	13	5	N/A	60	1	60	Dayboards at 035° and 305°; ladder at 215°	2	4	No	No	Yes	No	(2) 6TR	01-1, 11-1, 13-1, 9-2	Dayboard, (2) ladder sections, (4)LEB 5x5-3. (4) U bolts	

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PSN 18866153 Rebuild ATON Oakland Harbor

Option 0005	Skamania LT 85	11710	18531	MPW w/ wooden platform	Demolish & replace w/ SPS w/ reduced header	45-36-25.214N	122-03-20.521W	Single Pile Steel Structure wi/ reduced header	Y	45-36-24.900N	122-03-19.900W	19	30	10	0	14	5	N/A	54	1	54	Dayboards at 070° and 235°; ladder at 235°	2	4	No	No	Yes	No	(2) 4SG	01-1, 11-1, 13-1, 9-1	Dayboard, (2) ladder sections, (4)LEB 5x5-3. (4) U bolts	
Option 0005	Multnomah Channel Daybeacon 3	14830	18524	Three Pile Wooden Structure (MPW)	Demolish & replace with SPS w/ reduced header	45-51-54.695N	122-47-35.468W	Single Pile Steel Structure w/ reduced header	Y	45-51-54.695N	122-47-35.468W	17	30	5	0	12	5	N/A	47	1	47	Dayboards at 190T and 340T; ladder at 270T	1	2	No	No	yes	No	(2) 3SG	01-1, 11-1, 13-1, 9-1	Dayboard, (1) ladder section, (2)LEB 5x5-3. (2) U bolts	

ATON Construction Columbia River

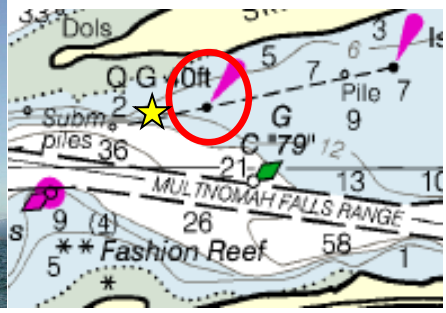
Fashion Reef Lower Range Front Light (LLNR 11630) Chart 18531

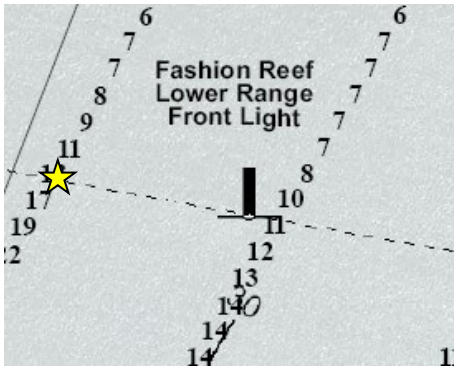
Current Structure Type: Four Pile Wood Range with 15 FT of 7’ x 7’ steel tower.
Current Position: 45-35-06.421N 122-07-37.727W (WGS84)

New Structure Type: Three Pile Steel Structure, with 7’ x 7’ basket.
New Position: 45-35-05.46157N 122-07-43.81147W (NAD83). Construction shall use State Plane Coordinates Oregon North US Feet Y-703526.361; X-7785100.279). Survey required (Pre-build & Final). Range & Bearing to RR: 3000.0 FT at 077.9°. New RF 447 FT bearing 257.6° from old RF.

Water Depth: 17 FT CRD (19 FT MHW)
Tidal Range: 9.65 FT (Flood Stage 16.0 FT)
Dayboards: One 6KRB at 258°

Bottom: Sand/Mud
Height of Top Rail above CRD: 23 FT
Ladder Orientation: 078°





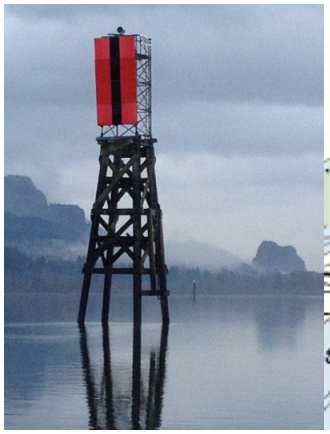
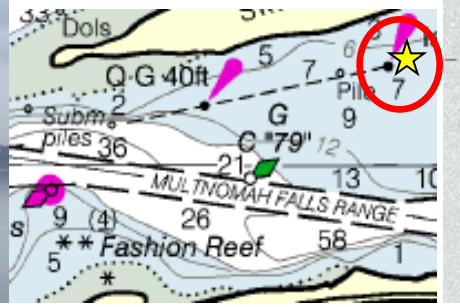
Fashion Reef Lower Range Rear Light (LLNR 11635) Chart 18531

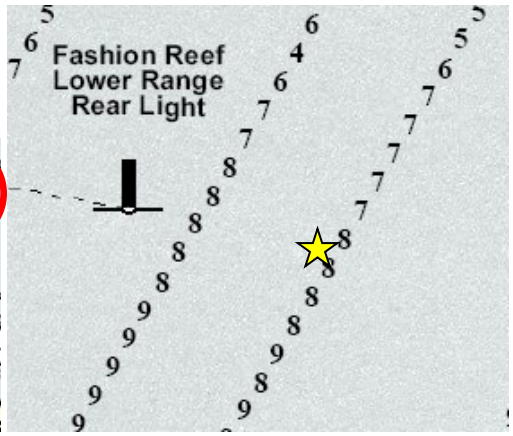
Current Structure Type: Four Pile Wood Range structure (MPW) with 15 FT of 7’ x 7’ tower.
Current Position: 45-35-10.673N 122-07-09.506W (WGS84).

New Structure Type: Four Pile Steel Range, with 10’ x 10’ platform at 21 FT CRD & 30 FT of 7’ x 7’ tower. :Ladder device required.
New Position: 45-35-11.69498N 122-07-02.57097W (NAD83). Construction shall use State Plane Coordinates Oregon North US Feet (SPC OR N, US Feet Y-704098.646; X-7788045.188. Survey required (Pre-build & Final). Range & Bearing to RF: 3000.0 FT at 257.9°. New RR 500 FT bearing 077.9° from old RR.

Water Depth: 8 FT CRD (10 FT MHW)
Tidal Range: 9.65 FT (Flood Stage 16.0 FT)
Dayboards: One 8KRB at 258°

Bottom: Sand/Mud
Height of Top Rail above CRD: 54 FT
Ladder Orientation: 078°



ATON Construction Columbia River

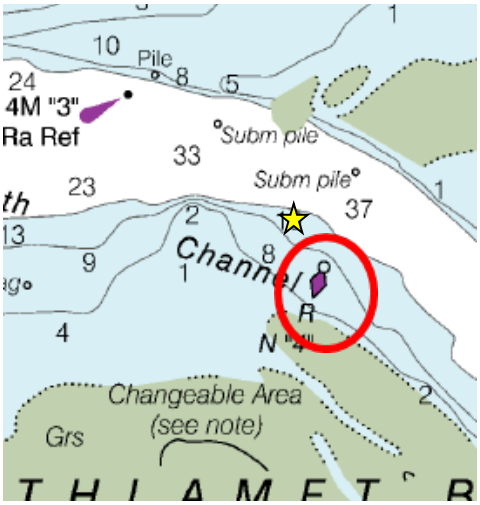
Cathlamet Bay North Channel Buoy 4 to Daybeacon 4 (LLNR 14750) Chart 18521

Current Structure Type: 5th Class FWNFR Buoy, with 45 FT ½" chain, 200lb Steel sinker.
Current Position: 46-12-17.026N 123-42-20.181W (WGS84). No survey required.

New Structure Type: Single Pile Steel (SPS) with Reduced Header system.
New Position: 46-12-22.700N 123-42.29.100W (WGS84), moving 915 FT at 306° to mark the northeast corner of the shoal at the channel entrance. No survey required.

Water Depth: 13 FT MLLW (20 FT MHHW)
Tidal Range: 6.76 FT (Diurnal: 8.61 FT)
Dayboards: Two 4TR at 130° and 285°

Bottom: Sand/Mud
Height of lantern stand above MHW: 15 FT
Ladder Orientation: 045°



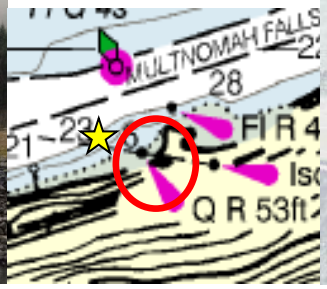
Multnomah Falls Bar Range Front Light (LLNR 11665) Chart 18531

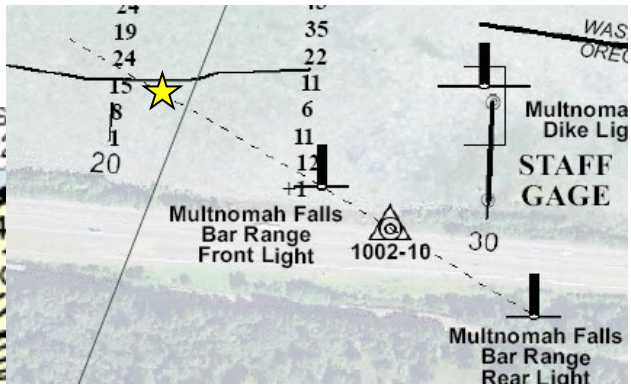
Current Structure Type: Four Pile Wood Range (MPW) structure with 10 FT of 7' x 7' steel tower.
Current Position: 45-34-50.673N 122-06-28.852W (WGS84).

New Structure Type: Three Pile Steel Structure, with 7' x 7' basket.
New Position: 45-34-51.76059N 122-06-39.93091W (NAD83). Construction shall use State Plane Coordinates Oregon North US Feet Y-702947.896; X-7789614.631). Survey required (Pre-build & Final). Range & Bearing to RR: 800.0 FT at 098.0°. New RF 800 RF bearing 278.0° from old RF.

Water Depth: 22 FT CRD (24 FT MHW)
Tidal Range: 9.65 FT (Flood Stage 16.0 FT)
Dayboards: One 6KRB at 278°

Bottom: Sand/Mud
Height of Top Rail above CRD: 24 FT
Ladder Orientation: 098°





ATON Construction Columbia River

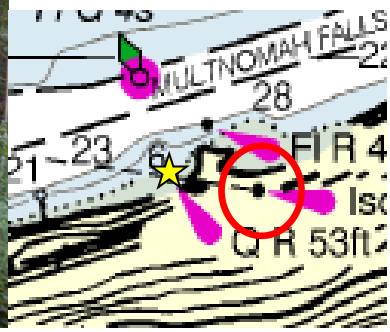
Multnomah Falls Bar Range Rear Light (LLNR 11670) Chart 18531

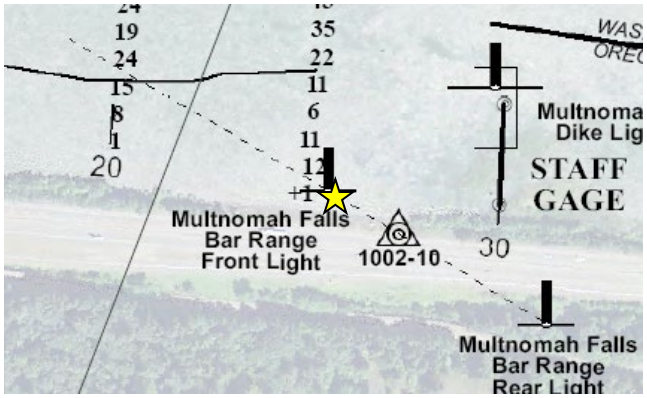
Current Structure Type: Shore structure moving into the water, 15 FT of 7’ x 7’ steel tower (ST-S) on concrete footings.
Current Position: 45-34-49.648N 122-06-19.134W (WGS84).

New Structure: Four pile steel structure (MPS) with 10' x 10' platform at 21 ft CRD and 15 ft of 7' x 7' steel tower. top rail 39 ft CRD, focal plane 40 ft CRD.
New Position: 45-34-50.55920N 122-06-28.79303W (NAD83), moving 699 FT from a cliff on land into the due to shading, brushing issues and access. Construction shall use State Plane Coordinates Oregon North US Feet Y-701920.256; X-7790404.383). Survey required (Pre-build & Final). New Range & Bearing to RF: 800.0 FT at 278.0°. New RR 0.34 FT at 200.8° from previous RF.

Water Depth: 5 FT CRD (7 FT MHW)
Tidal Range: 9.65 FT (Flood Stage 16.0 FT)
Dayboards: One 6KRB at 278°

Bottom: Sand/Mud
Height of Top Rail above CRD: 53 FT
Ladder Orientation: 098°





Multnomah Falls Dike Light 82 (LLNR 11680) Chart 18531

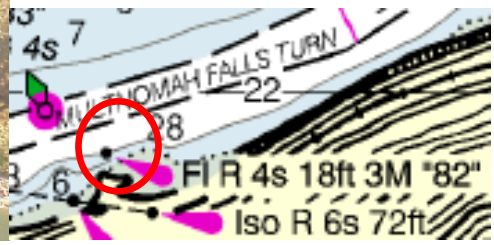
Current Structure Type: Four Pile Wood (MPW) tower with wooden platform
Current Position: 45-34-54.692N 122-06-24.829W (WGS84). No survey required.

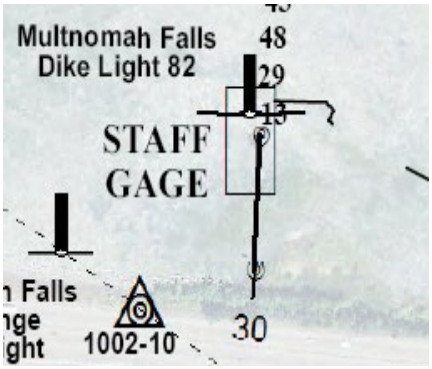
New Structure Type: Single Pile Steel (MPS) with 5’ x 5’ basket for the 6TR.
New Position: 45-34-55.100N 122-06-24.900W (WGS84), moving 40 FT at 000° to be clear of view from the land mass to the east. There is a USACE River Gauge attached to this structure. No survey required.

Water Depth: 15 FT CRD (17 FT MHW)
Tidal Range: 1.74 FT (Flood Stage 16.0 FT)
Dayboards: Two 6TR at 035° and 305°

Bottom: Sand/Mud
Height of Top Rail above CRD: 18 FT
Ladder Orientation: 215°

ATON Construction Columbia River





Skamania Light 85 (LLNR 11710) Chart 18531

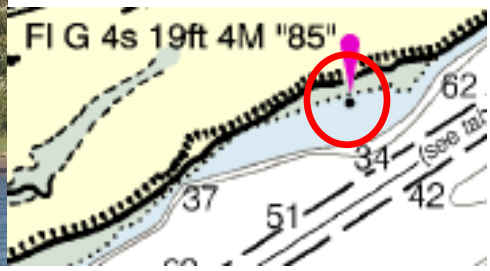
Current Structure Type: Four Pile Wood (MPW) tower with wooden platform
Current Position: 45-36-25.214N 122-03-20.521W (WGS84).

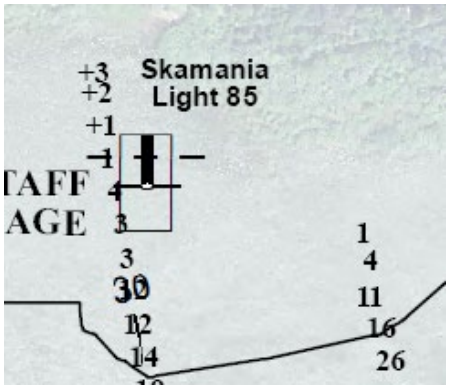
New Structure Type: Single Pile Steel (MPS) with a reduced header system.
New Position: 45-36-24.900N 122-03-19.900W (WGS84), moving 50 FT at 123°. May be moved closer to shore to reach depth. No survey required.

Water Depth: 10 FT CRD (12 FT MHW)
Tidal Range: 1,74 FT (Flood Stage 16.0 FT)
Dayboards: Two 4SG at 070° and 235°

Bottom: Sand/Mud
Height of lantern stand above CRD: 19 FT
Ladder Orientation: 145°

There is a USACE River Gauge attached to this structure.





Geographic order of completion:

The aids to navigation are listed in geographic order from the locks at the Bonneville Dam to the end of the maintained Federal Navigation Channel in Richland, WA on the Columbia River,

If a PSN number is listed in the title, it has been assigned to a Project by CEU.

Depths on the Upper Columbia and Snake Rivers on nautical charts are measured from the Minimum Operating Pool (MOP) for each Pool or body of water between dams. NOAA uses Mean Sea Level (MSL) for the base measurement, while the USACE uses the North American Vertical Datum (NAVD). The Mean Sea Levels and NAVD83 Minimum and difference to Full levels for each pool are listed below:

Bonneville Dam & Pool: MSL 72 FT - USACE Pool 76.7 FT (Range 9.9 FT)
The Dalles Dam & Lake Celilo: MSL 160 FT – USACE Pool 158.3 FT (Range 5.0 FT)
John Day Dam & Lake Umatilla: MSL 265 FT – USACE Pool 260.3 FT (Range 11.0 FT)
McNary Dam & Lake Wallula: MSL 340 FT – USACE Pool 338.3FT (Range 5.0 FT)

Significant changes proposed for the Upper Columbia River ATON

Wind Mountain Lower Range Front Light 17 (LLNR 11840) 4 pile concrete structure on a rock foundation. May not rebuild but will confirm with evaluation.

Hood River Boat Basin Daybeacon 1 is an abandoned Wood Structure that was closed off to river access by shoaling. The dayboards have been removed but the structure, a five pile wooden structure with platform remains. This site may not be easily accessible from the river. While it poses no hazard to navigation, it remains an attractive nuisance.

Messner Upper Range Front Light (LLNR 12615) The current light on this structure is 8' below the top of the 12' tall range. Rebuilding this to a top rail height of 17' will allow the light to move on top into the basket, but might require adding an additional 2 feet to the lantern height of Messner Upper Range Rear Light (LLNR 12620) to prevent blurring of the lights when at the near end of the range channel.

Lake Wallula West Channel Junction Light "W" (LLNR 12980) The current light structure was knocked down on 3/02/2020 and recovered on 8/16/2020. It is currently marked with a temporary lighted buoy.

ATON Construction Columbia River

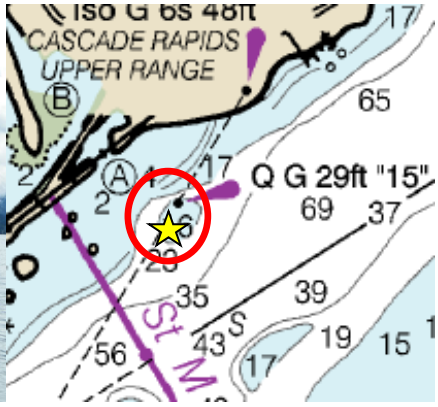
Cascade Rapids Upper Range Front Light 15 (LLNR 11805) Chart 18532

Current Structure Type: Eight Pile Wood Range (MPW) with 10 FT of 7' x 7' Steel Tower.
Current Position: 45-41-18.392N 121-53-06.694W (WGS84).

New Structure Type: Three Pile Steel Structure, with 7' x 7' basket.
New Position: 45-41-17.86214N 121-53-07.16150W (NAD83), Construction shall use State Plane Coordinates Oregon North US Feet Y-740075.827; X-7848080.039). Pre & After Build Survey Required. Range & Bearing to RR: 1350.0 FT at 031.5°, moving 64.2 FT in the direction of 215.7°.

Water Depth: 18FT MPL (22 FT FPL)
Pool Range: 3.7 FT (MAX Pool 9.9 FT)
Dayboards: One 6KRB at 211° and one 4SG at 121°

Bottom: Sand/Gravel/Rock
Height of Top Rail above MOP: 27 FT
Ladder Orientation: 031°



Stevenson Lower Range Rear Light (LLNR 11830) Chart 18532

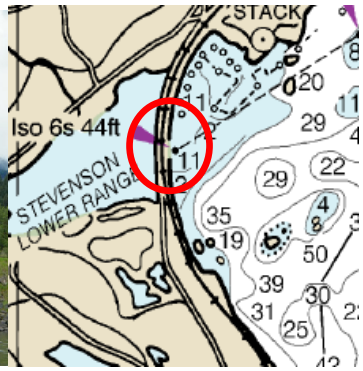
Current Structure Type: Four Pile Wood Range (MPW) with 25 FT of 7' x 7' Steel Tower.
Current Position: 45-40-27.400N 121-54-31.654W (WGS84).

New Structure Type: Four Pile Steel Range, with 10' x 10' platform at 20 FT above MOP & 25 FT of 7' x 7' tower. Ladder Safety Climb Device required on tower.
New Position: 45-40-27.36794N 121-54-31.61870W (NAD83). Construction shall use State Plane Coordinates Oregon North US Feet Y-735065.985; X-7841996.616). Pre & After Build Survey required. Range & Bearing to RF: 2,833.5 FT at 057.8°, moving 1.2 FT in the direction of' 171°.

Water Depth: 11 FT MPL (15 FT FPL)
Pool Range: 3.7 FT (MAX Pool 9.9 FT0
Dayboards: One 6KRB at 058°

Bottom: Sand/Gravel/Rock
Height of Top Rail above MOP: 48 FT
Ladder Orientation: 238°

Change Stevenson Lower Range Front LT dayboard to a 6KRB at the time of rebuilding



ATON Construction Columbia River

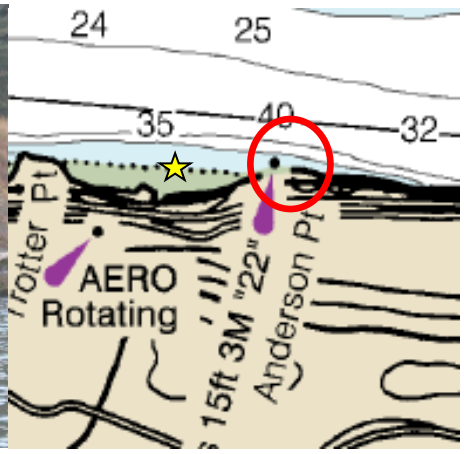
Bonneville Pool Light 22 (LLNR 11855) Move to water Chart 18532

Current Structure Type: Failing concrete pile shore structure, on edge of water.
Current Position: 45-41-53.715N 121-48-37.321 (WGS84)

New Structure: Three Pile Steel (MPS) with 5' x 5' basket for 6TR.
New Position: 45-41-53.400N 121-48-49.200W (WGS84), moving from shore 850 FT at 265°. May be moved 100 FT east or west to reach desired depth. No survey required.

Water Depth: 16 FT MPL (20 FT FPL)
Pool Range: 3.7 FT (MAX Pool 9.9 FT)
Dayboards: Two 6TR at 325° & 055°

Bottom: Sand/Gravel/Rock
Height of Top Rail: 17 FT MOP
Ladder Orientation: 235°



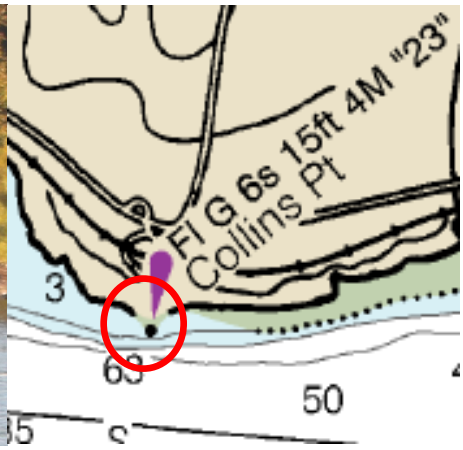
Bonneville Pool Light 23 (LLNR 11860) SSMR 09-017 Chart 18532

Current Structure Type: Five Pile Wood (MPW) with wooden basket
Current and New Position: 45-41-48.291N 121-44-14.035W (WGS84)

New Structure Type: Three Pile Steel (MPS) with a reduced header system. May be moved in a radius of 25 FT.

Water Depth: 20 FT MPL (24 FT FPL)
Pool Range: 3.7 FT (MAX Pool 9.9 FT)
Dayboards: Two 4SG at 145° & 235°

Bottom: Sand/Gravel/Rock
Height of lantern stand above MOP: 15 FT
Ladder Orientation: 325°



ATON Construction Columbia River

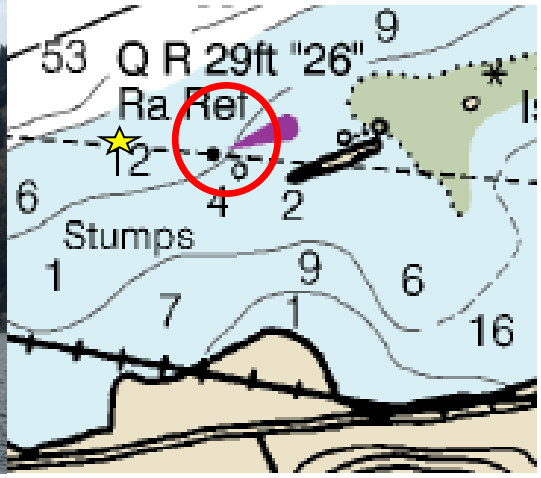
Wind Mountain Upper Range Front Light 26 (LLNR 11870) Chart 18532

Current Structure Type: Four Pile Wooden Range (MPW) with wooden platform.
Current Position: 45-41-34.443N 121-42-09.203W (WGS84).

New Structure Type: Three Pile Steel Structure, with 7' x 7' basket.
New Position: 45-41-34.64637N 121-42-12.60793W (NAD83), moving 247 FT at 275°. Construction shall use State Plane Coordinates Oregon North US Feet Y-741031.218; X-7894563.790). Range & Bearing to RR 3,500 FT at 094.9°. Pre & After Build Survey required.

Water Depth: 18 FT MPL (22 FT FPL)
Pool Range: 3.7 FT (MAX Pool 9.9 FT)
Dayboards: One 8KRB at 275° and one 4TR at 015°

Bottom: Sand/Gravel/Rock
Height of top rail above MOP: 22 FT
Ladder Orientation: 325°



Wind Mountain Upper Range Rear (LLNR 11875) Chart 18532

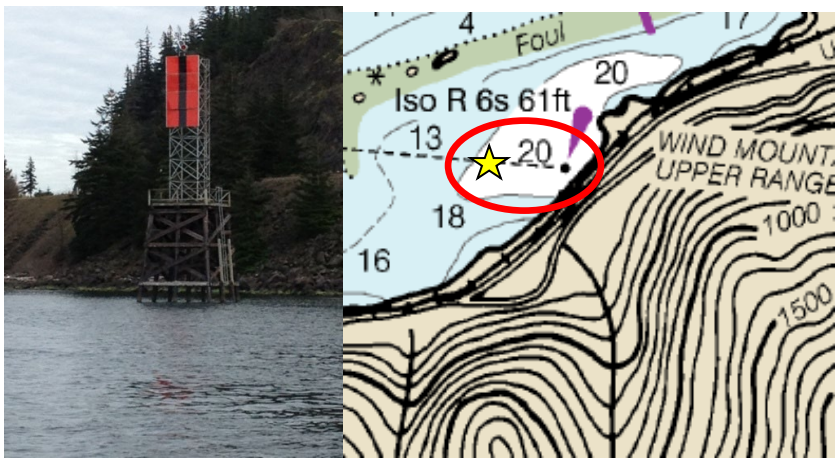
Current Structure Type: Eight Pile Wooden Range (MPW) with 30 FT of 7' x 7' steel tower.
Current Position: 45-41-31.222N 121-41-16.530W (WGS84).

New Structure Type: Four Pile Steel Range, with 10' x 10' platform at 20 FT MOP & 35 FT of 7' x 7' tower. Ladder Safety Climb device required on tower.
New Position: 45-41-31.63889N 121-41-23.48612W (NAD83). Construction shall use State Plane Coordinates Oregon North US Feet Y- 740674.996; X- 7898045.615) Pre & After Build Survey Required. Range & Bearing to RF: 3,500 FT at 274.9°, moving 500 FT in the direction of 275°.

Water Depth: 23 FT MPL (27 FT FPL)
Pool Range: 3.7 FT (MAX Pool 9.9 FT)
Dayboards: One 8KRB at 275°

Bottom: Sand/Gravel/Rock
Height of top rail above MOP: 58 FT
Ladder Orientation: 095°

ATON Construction Columbia River



Hood River Boat Basin Daybeacon 1, Abandoned Wood Structure Chart 18532

Current Structure Type: Five Pile Wood (MPW) with wooden platform
Current Position: 45-42-59.994N 121-430-34.531W (WGS84).

Demo (Remove) Structure only

Water Depth: 2 FT MPL Pool Range: 4 FT Bottom: Sand

Lake Celilo Daybeacon 27 (LLNR 12230) Chart 18533

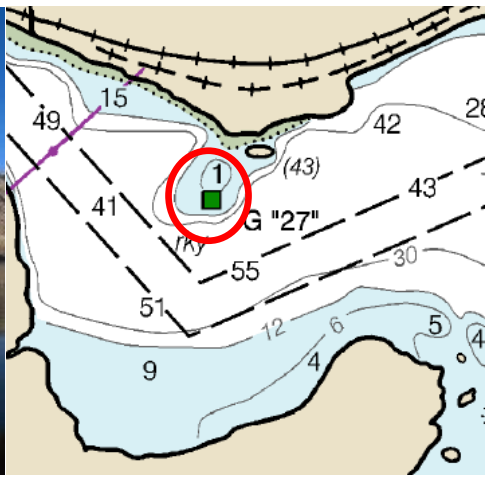
Current Structure Type: Single Steel pile with basket, leaning from aircraft strike.
Current Position: 45-39-44.079N 120-53-07.313W (WGS84).

New Structure Type: Single Pile Steel (SPS) with reduced header. No survey required.
New Position: Same, 45-39-44.079N 120-53-07.313W (WGS84). May be moved northwest 100 FT to reach depth of 15 FT, but not to the north or south.

Water Depth: 15 FT MPL (17 FT FPL)
Pool Range: 1.7 FT (MAX Pool 5.0 FT)
Dayboards: Two 4SG at 180° & 270°

Bottom: Sand/Gravel/Rock
Height of lantern stand above MOP: 17 FT
Ladder Orientation: 000°

ATON Construction Columbia River



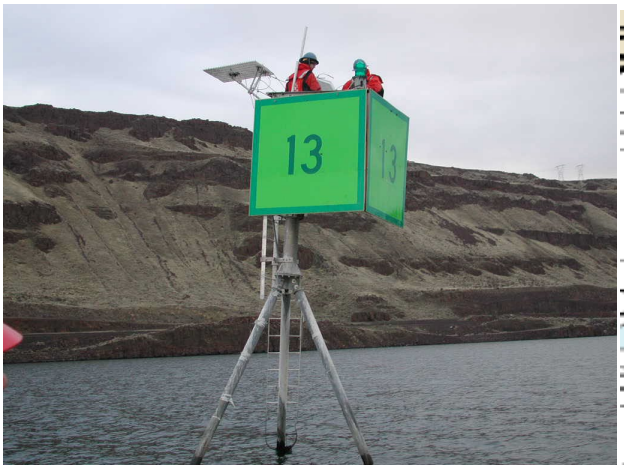
Lake Umatilla Light 13 (LLNR 12460) Chart 18535

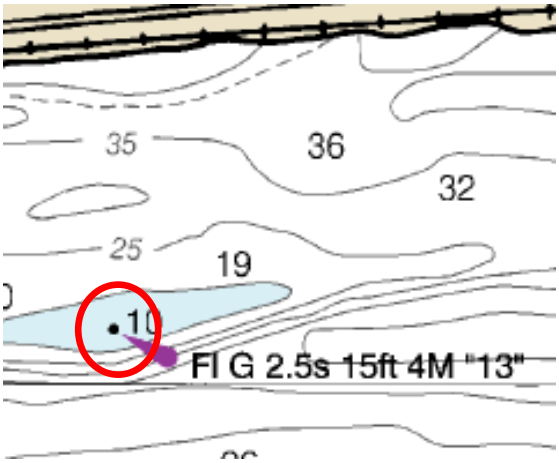
Current Structure Type: Metal Tripod Pole (non-standard) and basket.
Current Position: 45-42-02.432N 120-26-30.178W (WGS84);

New Structure Type: Single Pile Steel (SPS) with reduced header. No survey required.
New Position: 45-42-02.443N 120-26-30.178W (WGS84). May be moved east or west 100 FT to meet depth of 12 FT, but not to the north or south.

Water Depth: 12 FT MOP (17 FT FPL)
Pool Range: 4.7 FT (MAX Pool 11.0 FT)
Dayboards: Two 4SG at 125° & 215°

Bottom: Sand
Height of Lantern Stand above: 20 FT MOP
Ladder Orientation: 305°





Lake Umatilla Light 30 (LLNR 12535) Chart 18537

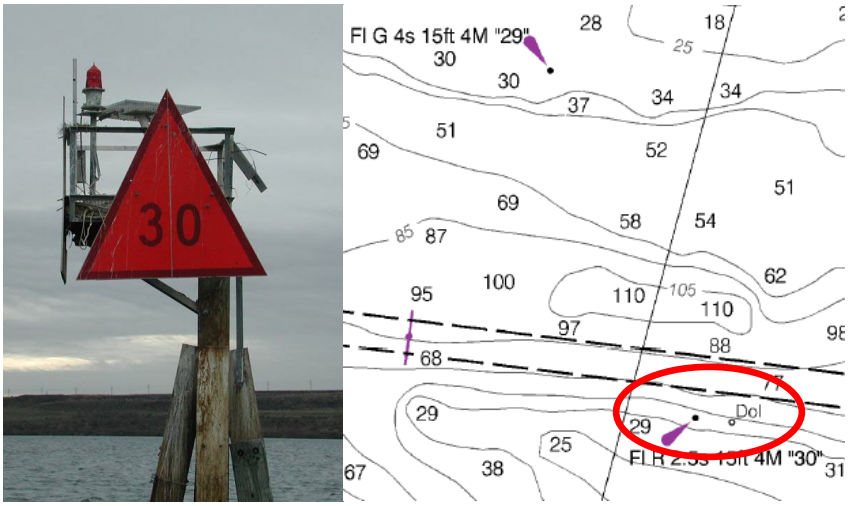
Current Structure Type: Steel I-Beam pile with two steel support beams (non-standard) and basket.
Current Position: 45-49-26.812N 119-55-52.830W (WGS84).

New Structure Type: Three Pile Steel (MPS) with 5' x 5' basket for dayboards. No survey required
New Position: Same, 45-49-26.812N 119-55-52.830W (WGS84). May move eastly up to 200 FT but must not move southerly of the pile dolphin at 45-49-27.335N 119-55-49.001W (WGS84).

Water Depth: 28 FT MOP (33 FT FPL)
Pool Range: 4.7 FT (MAX Pool 11.0 FT)
Dayboards: Two 4TR at 090° & 270°

Bottom: Sand
Height of Lantern Stand above: 20 FT MOP
Ladder Orientation: 180°

ATON Construction Columbia River



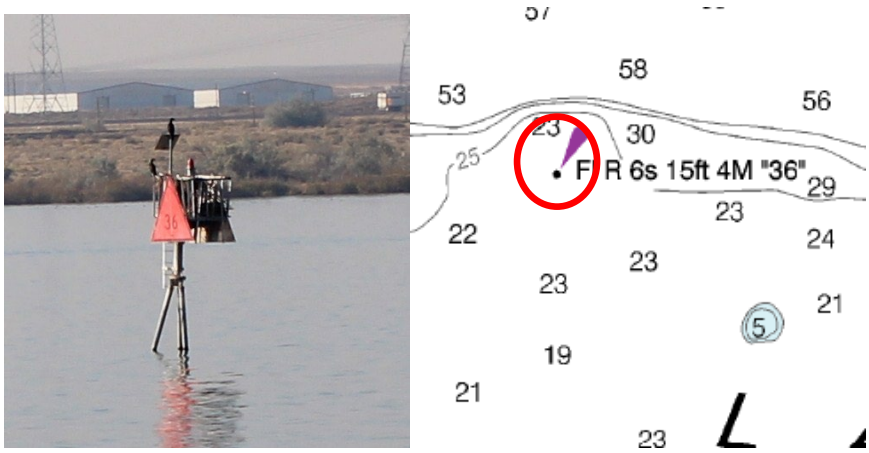
<u>Lake Umatilla Light 36 (LLNR 12560) Chart 18537</u>

Current Structure Type: Metal Tripod Pole (non-standard) and basket.
Current Position: 45-50-42.563N 119-46-58.881W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header System. No survey required.
New Position: Same, 45-50-42.563N 119-46-58.881W (WGS84). Structure may be moved in a 100 FT radius to reach the depth of 23 FT.

Water Depth: 23 FT MOP (28 FT FPL)
Pool Range: 4.7 FT (MAX Pool 11.0 FT)
Dayboards: Two 4TR at 045° & 315°

Bottom: Sand
Height of Lantern Stand above: 17 FT MOP
Ladder Orientation: 225°



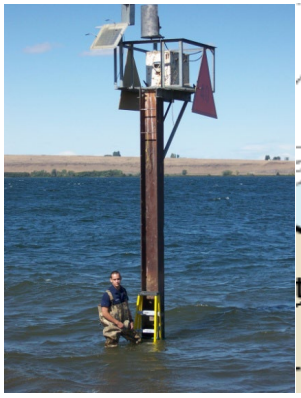
Lake Umatilla Light 40 (LLNR 12605) SSMR02-08 Chart 18537

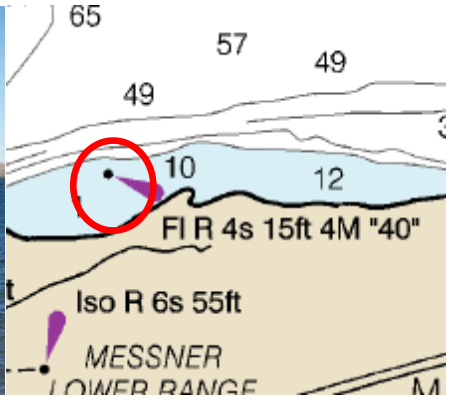
Current Structure Type: Steel I-Beam pile (non-standard) and basket
Current Position: 45-51-10.936N 119-41-25.740W (WGS84). Structure may be moved

New Structure Type: Single Pile Steel (SPS) with Reduced Header System. No survey required.
New Position: Same, 45-51-10.936N 119-41-25.740W (WGS84). Structure may be moved south easterly 100 FT to meet depth of 5 FT.

Water Depth: 5 FT MOP (10 FT FPL)
Pool Range: 4.7 FT (MAX Pool 11.0 FT)
Dayboards: Two 4TR at 040° & 310°

Bottom: Sand
Height of Lantern Stand above: 17 FT MOP
Ladder Orientation: 220°





Irrigon Lower Range Front Light 60 (LLNR 12665) SSMR CR-003A-21 Chart 18539

Current Structure Type: Three I-Beam Steel with a concrete platform and 10 FT of 7' x 7' steel tower.
Current Position: 45-54-08.893N 119-30-50.138W (WGS84).

New Structure Type: Three Pile Steel, with 7' x 7' basket. Pre & After Build Survey Required.
New Position: 45-54-09.87294N 119-30-52.76042W (NAD83). Construction shall use State Plane Coordinates Oregon North US Feet Y-816766.406 X-8452929.187). New Range & Bearing to RR: 1,275 FT at 117.5°. moving 214.8 FT at 072°

Water Depth: 1 FT MOP (12 FT FPL)
Pool Range: 11.0 FT (Max Pool Range 19.5 FT)
Dayboards: One 6KRW at 297° and one 4TR at 027°

Bottom: Sand and Rock
Height of Top Rail above: 20 FT MOP
Ladder Orientation: 117°

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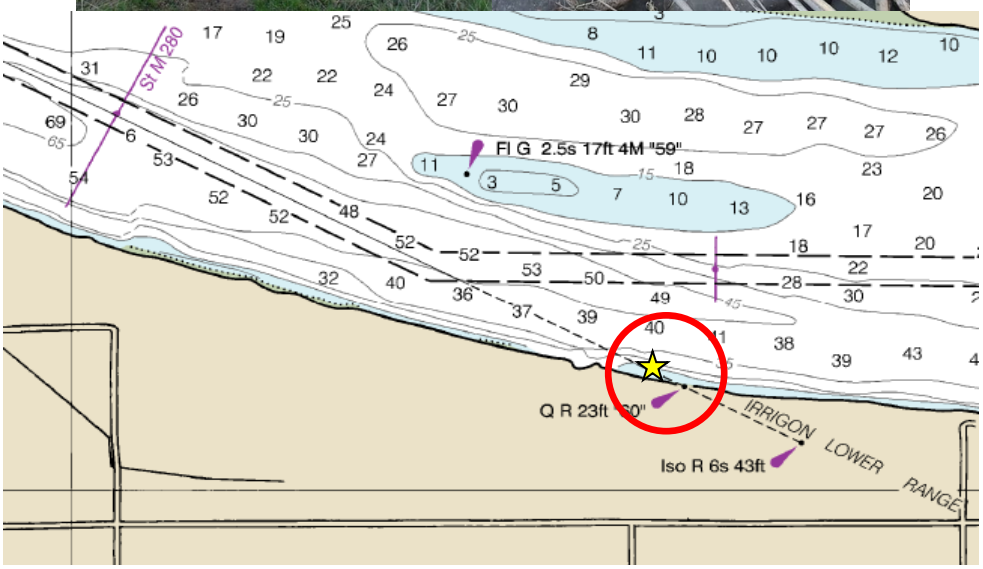


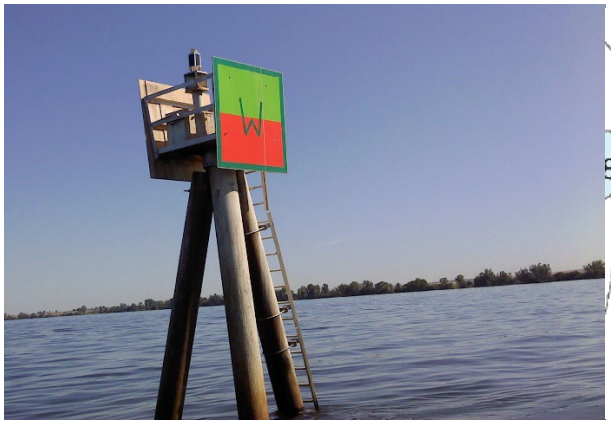
<u>Lake Wallula West Channel Junction Light "W" (LLNR 12980) SSMR CR-005-20 Chart 18542</u>

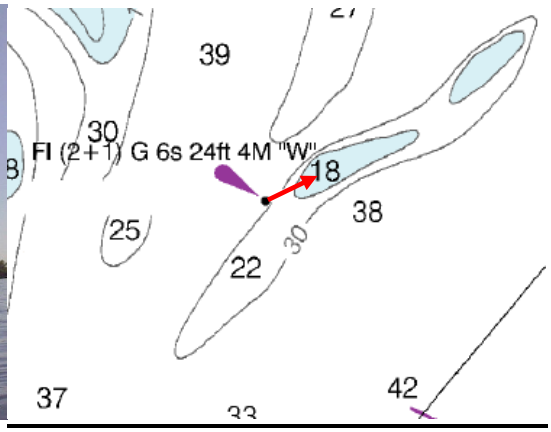
Previous Structure Type: Three Pile Steel (MPS) with 5' x 5' steel basket. Structure was destroyed but recovered.
Current Position: 46-07-34.114N 118-58-18.996W (WGS84).

New Structure Type: Three Pile Steel (SPS) with Reduced Header System and lantern stand.
New Position: Same, 46-07-34.098N 118-58-18.936W. May be moved 275 FT at 025° to the northwest to reach the desired depth. No survey required.

Water Depth: 18FT MOP (20 FT FPL)
Pool Range: 1.7 FT (Max Pool Range 5 FT)
Dayboards: Two 4JG at 155° and 335°

Bottom: Sand and Gravel
Height of Top Rail above: 20 FT MOP
Ladder Orientation: 245°





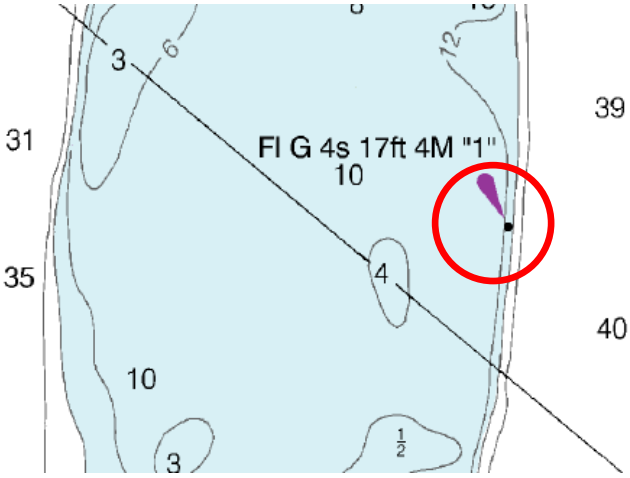
Homly Center Channel Light 1 (LLNR 12985) SSMR CR-001-25 Chart 18542

Current Structure Type: Destroyed Single Pile Steel (SPS) with 5' x 5' steel basket
Current Position: 46-08-06.052N 118-58-59.557W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header System. No survey required
New Position: Same, 46-08-06.052N 118-58-59.557W (WGS84), but may be moved 25 FT to the southwest to reach desired depth of 10 FT.

Water Depth: 10 FT MOP (15 FT FPL)
Pool Range: 5 FT (Max Pool Range 22 FT)
Dayboards: Two 4SG at 145° and 335°

Bottom: Sand and Gravel
Height of lantern stand above: 17 FT MOP
Ladder Orientation: 060°



Lake Wallula Light 30 (LLNR 12995) SSMR 05-08 Chart 18542

Current Structure Type: Five Pile Wood (MPW) with wooden basket
Current Position: 46-07-51.499N 118-57-50.962W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header System. No survey required
New Position: Same, 46-07-51.499N 118-57-50.962W (WGS84). No survey required. May be moved up to 100 FT and closer to shore to reach depth of 15 FT.

Water Depth: 15FT MOP (17 FT FPL)
Pool Range: 1.7 FT (Max Pool Range 5 FT)
Dayboards: Two 4TR at 180° and 270°

Bottom: Sand and Gravel
Height of lantern stand above: 17 FT MOP
Ladder Orientation: 090°

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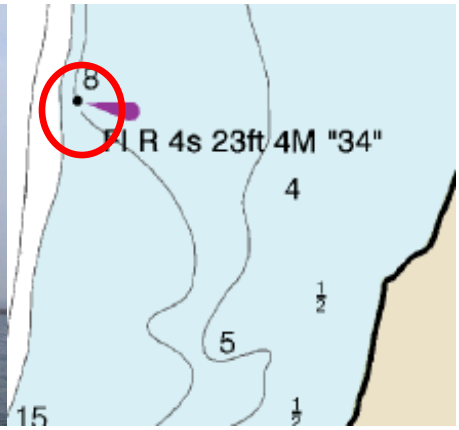
Lake Wallula Light 34 (LLNR 13000) SSMR 06-08 Chart 18542

Current Structure Type: Five Pile Wood (MPW) with wooden basket
Current Position: 46-08-52.718N 118-58-40.700W (WGS84). No survey required.

New Structure Type: Single Pile Steel (SPS) with Reduced Header system.
New Position: Same, 46-08-52.718N 118-58-40.700W (WGS84). No survey required. May be moved 200 FT northeast and closer to shore to reach depth of 13 FT.

Water Depth: 13 FT MOP (15 FT FPL)
Pool Range: 1.7 FT (Max Pool Range 5 FT)
Dayboards: Two 4TR at 170° and 260°

Bottom: Sand and Gravel
Height of lantern stand above: 17 FT MOP
Ladder Orientation: 080°



Lake Wallula Daybeacon 44 (LLNR 13045) SSMR 07-08 Chart 18542

Current Structure Type: Three Pile Wood (MPW) battered pile dolphin.
Current Position: 46-12-09.868N 119-03-31.128W.

New Structure Type: Single Pile Steel (SPS) with Reduced Header System
New Position: 46-12-09.100N 119-03-27.900W (WGS84), moving 245 FT at 108°. No survey required.

Water Depth: 15 FT MOP (17 FT FPL)
Pool Range: 1.7 FT (Max Pool Range 5 FT)
Dayboards: Two 4TR at 150° and 240°

Bottom: Sand and Gravel
Height of lantern stand above: 17 FT MOP
Ladder Orientation: 060°

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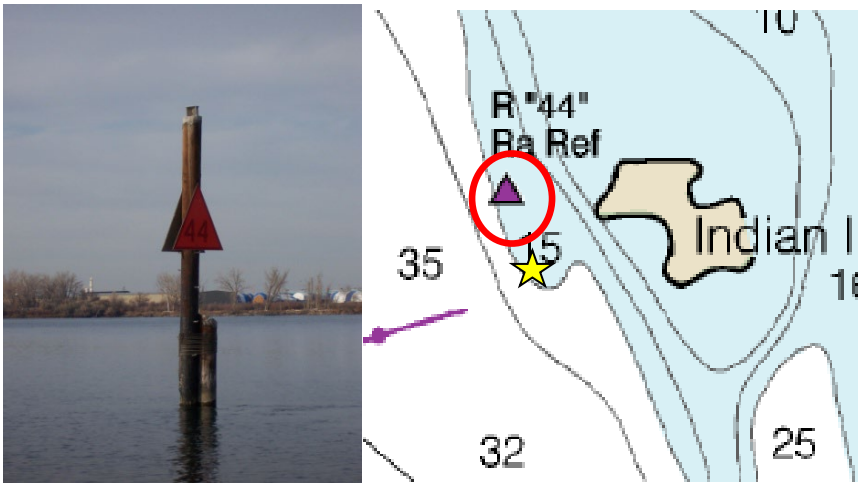

Lake Wallula Light 52 (LLNR 13060) SSMR 13-08 Chart 18543

Current Structure Type: Five Pile Wood (MPW) with wooden basket
Current Position: 46-14-02.086N 119-11-26.310W (WGS84).

New Structure Type: Three Pile Steel (MPS) with 5' x 5' basket for dayboards. No survey required.
New Position: Same, 46-14-02.086N 119-11-26.310W (WGS84). Must stay at current position or just southeast of the charted underwater obstruction.

Water Depth: 25 FT MOP (27 FT FPL)
Pool Range: 1.7 FT (Max Pool Range 5 FT)
Dayboards: Three 4TR at 055°, 145° and 235°

Bottom: Sand and Gravel
Height of top rail above: 20 FT MOP
Ladder Orientation: 325°

Lake Wallula Daybeacon 68 (LLNR 13085) SSMR 04-08 Chart 18543

Current Structure Type: Three Pile Wood (MPW) battered pile dolphin
Current Position: 46-16-21.526N 119-15-43.266W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header System. No survey required.
New Position: Same, 46-16-21.526N 119-15-43.266W (WGS84). May be moved 100 FT closer to shore to reach depth of 15 FT.

Water Depth: 15 FT MOP (17 FT FPL)
Pool Range: 1.7 FT (Max Pool Range 5 FT)
Dayboards: Two 4TR at 160° and 250°

Bottom: Sand and Gravel
Height of top rail above: 15 FT MOP
Ladder Orientation: 070°

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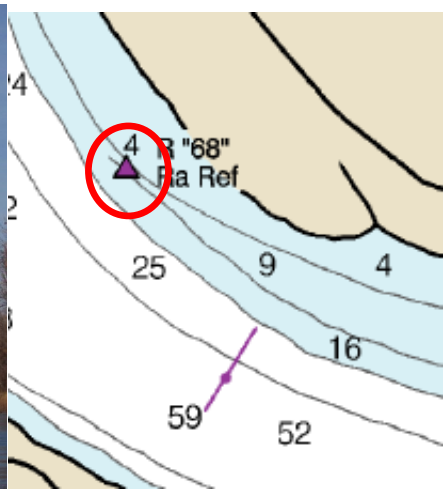

Geographic order of completion:

While no major changes are planned, the purpose of this is to replace the remaining wooden aquatic structures on the Lower Columbia River and Tributaries.

There a number of floating aids to navigation that are being considered for replacement with fixed structures at the request of ANT Astoria. These are:

Chinook Channel Buoy 3 to Light 3 (LLNR 14527)
Chinook Channel Buoy 4 to Light 4 (LLNR 14528)

Of note there are two different types of depth and height measurement used for these aids. Structures that are west of Harrington Point, WA (Chart 18521) use Mean Lower Low Water (MLLW) and Mean High Water (MHW). Structures that are east of Harrington Point (Chart 18523 and on), WA use Columbia River Datum (CRD) and Columbia River Flood Stage. On the Willamette River, use Willamette River Datum (WRD) and Willamette River Flood Stage.

Chinook Channel Light 1 (LLNR 14520) SSMR CR-012A-20 Chart 18521

Current Structure Type: Single Pile Steel (MPS) with 5’ x 5’ steel basket
Current Position: 46-15-31.472N 123-58-11.922W (WGS84).

New Structure Type: Three Pile Steel (MPS) with Reduced Header system. No survey required.
New Position: 46-15-26.800N 123-58-15.300W (WGS84), moving 520 FT at 210° to mark the west end of the charted wreck. ***(Review wreck position with USACE)***

Water Depth: 13 FT MLLW (21 FT MHW)
Tidal Range: 6.62 FT (Diurnal 8.61 FT)
Dayboards: Two 4SG at 050° and 215°

Bottom: Sand/Mud
Height of lantern stand above MHW: 17 FT
Ladder Orientation: 125°

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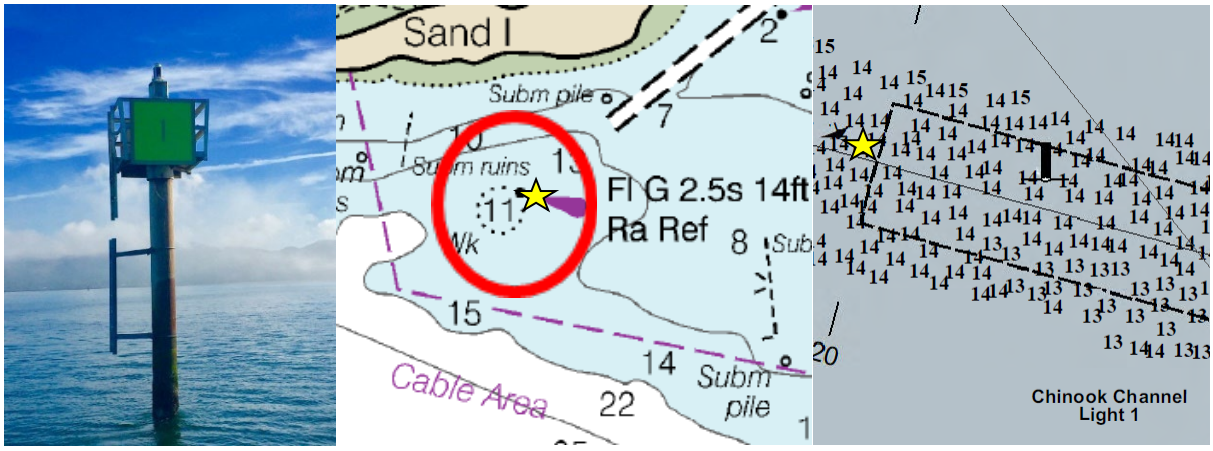


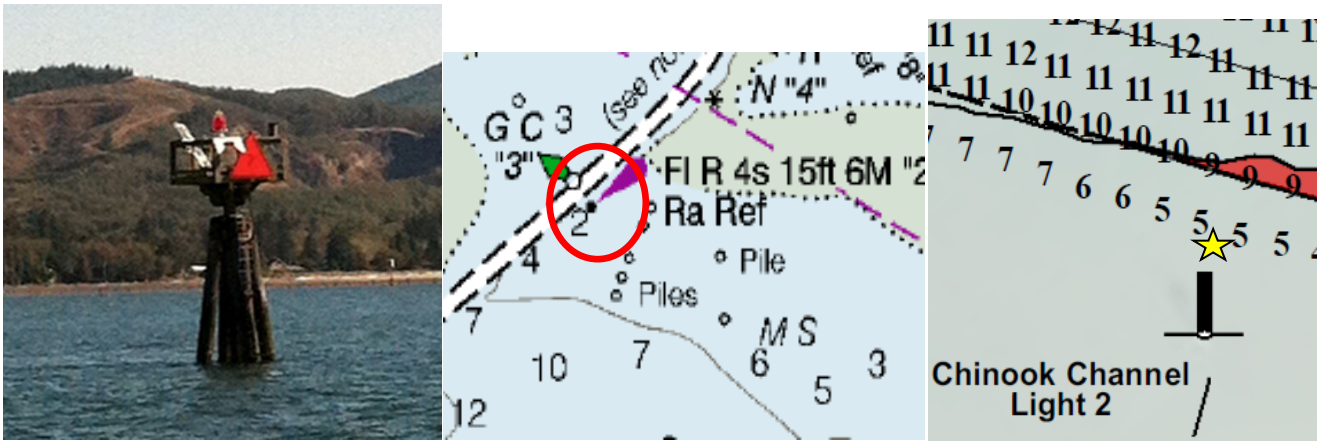
Chinook Channel Light 2 (LLNR 14525) SSMR CR-013A-20 Chart 18521

Current Structure Type: Five Pile Wood (MPW) with wooden basket
Current Position: 46-15-46.915N 123-57-39.001W (WGS84).

New Structure Type: Single Pile Steel (SPS) with reduced header system.
New Position: 46-15-47.400N 123-57-39.600W (WGS84), moving 50 FT at 327° closer to the channel. No survey required.

Water Depth: 5 FT MLLW (12 FT MHW)
Tidal Range: 6.76 FT (Diurnal 8.61 FT)
Dayboards: Two 4TR at 040° and 240°

Bottom: Sand/Mud
Height of lantern stand above MHW: 17 FT
Ladder Orientation: 330°



Chinook Channel Buoy 3 to Light 3 (LLNR 14527) SSMR CR-014A-20 Chart 18521

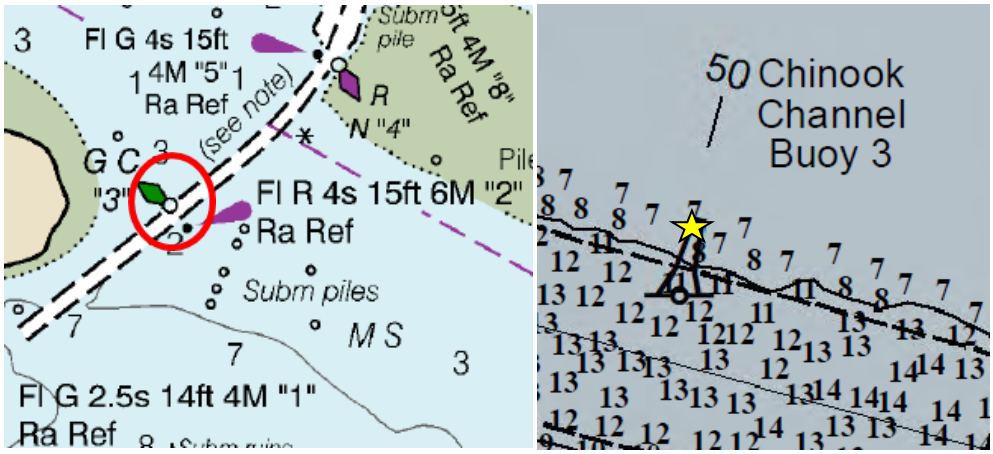
Current Structure Type: 5th Class FWCFR Buoy, with 45 FT ½" chain, & 200lb Steel sinker.
Current Position: 46-15-49.082N 123-57-41.211W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header system.
New Position: 46-15-49.200N 123-57-41.200W (WGS84), moving 30 FT at 327° to move outside the Federal Channel. The buoy is 15 FT inside the Federal Channel. The structure should be built between 30 FT to 25 FT outside the channel. No survey required.

Water Depth: 6 FT MLLW (13 FT MHW)
Tidal Range: 6.31 FT (Diurnal 8.48 FT)
Dayboards: Two 4SG at 045° and 245°

Bottom: Sand/Mud
Height of lantern stand above: 17 FT MHW
Ladder Orientation: 225°

ATON Construction Columbia River



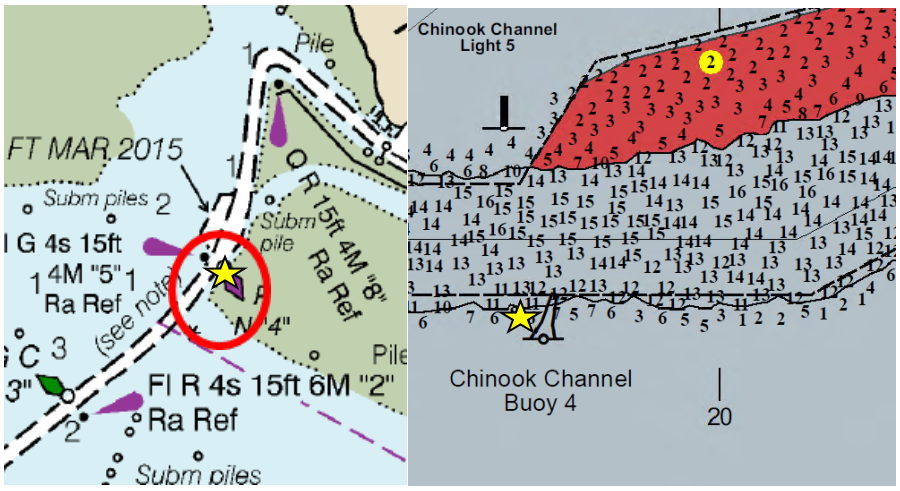
Chinook Channel Buoy 4 to Light 4 (LLNR 14528) SSMR CR-016A-20 Chart 18521

Current Structure Type: 5th Class FWNFR Buoy, with 30 FT ½" chain, & 200lb Steel sinker.
Current Position: 46-16-01.722N 123-57-19.105W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header system..
New Position: 46-15-58.800N 123-57-21.300W (WGS84), moving 325 FT at 205°to mark the southwest corner of the shoal. The current Buoy is 35 FT outside the Federal channel. No survey required.

Water Depth: 7 FT MLLW (14 FT MHW)
Tidal Range: 6.31 FT (Diurnal 8.48 FT)
Dayboards: Two 4TR at 010° and 225°

Bottom: Sand/Mud
Height of stand above: 15 FT MHW
Ladder Orientation: 260°



Chinook Channel Light 5 (LLNR 14530) SSMR CR-015A-20 Chart 18521

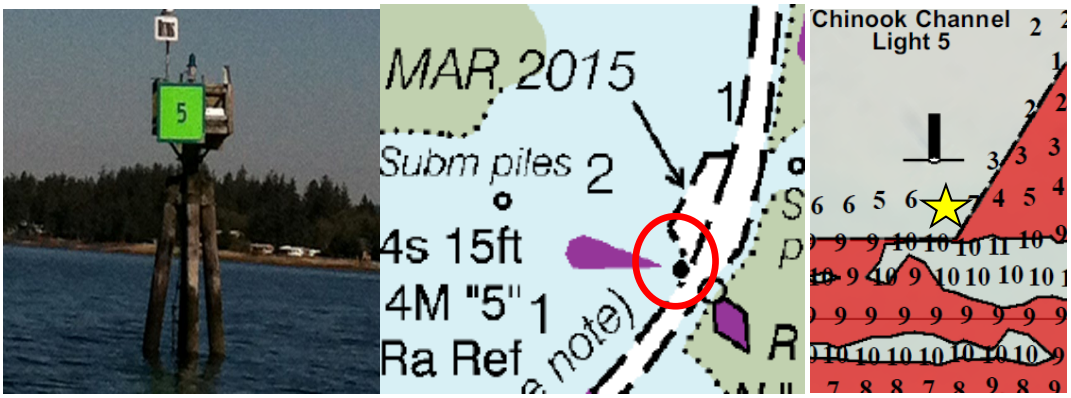
Current Structure Type: Five Pile Wood (MPW) with wooden basket.
Current Position: 46-16-02.734N 123-57-21.857W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header system.
New Position: 46-16-02.900N 123-57-21.300W (WGS84), moving 38 FT at 058° to mark western corner of turning basin. No survey required.

Water Depth: 5 FT MLLW (12 FT MHW)
Tidal Range: 6.31 FT (Diurnal 8.48 FT)

Bottom: Sand/Mud
Height of lantern stand above MHW: 15 FT

Dayboards: Two 4SG at 020° and 225° Ladder Orientation: 125°

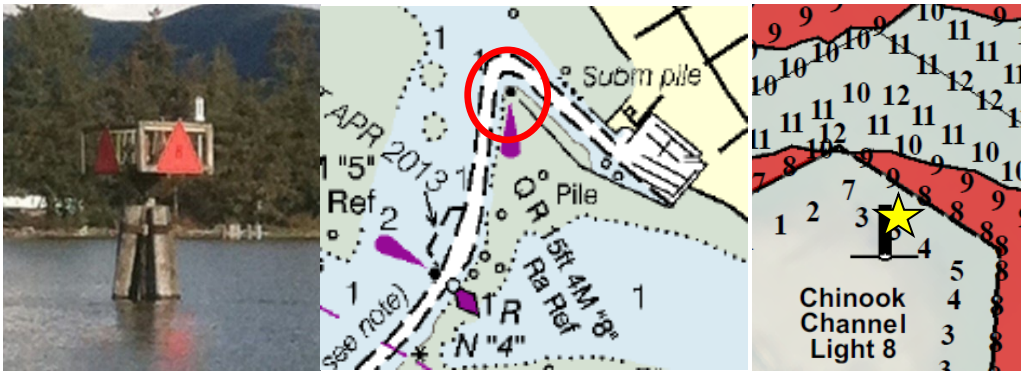


Chinook Channel Light 8 (LLNR 14535) SSMR CR-017A-20 Chart 18521

Current Structure Type: Five Pile Wood (MPW) with wooden basket
Current and New Position: 46-16-19.975N 123-57-11.454W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header system.
New Position: 46-16-20.500N 123-57-11.800W (WGS84), moving 100 FT at 345°. Structure may be moved within a radius of 20 FT to reach depth but not closer than 70 FT to the Federal channel boundary to the north. No survey required.

Water Depth: 5 FT MLLW (14 FT MHW) Bottom: Sand/Mud
Tidal Range: 6.62 FT (Diurnal 8.61 FT) Height of lantern stand above MHW 15 FT
Dayboards: Two 4TR at 065° and 335° Ladder Orientation: 155°



North Channel Daybeacon 10 (LLNR 14635) SSMR CR-020A-20 Chart 18521

Structure Type: Three Pile Wooden structure (MPW).
Current Position: 46-15-46.471N 123-47-14.460W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header system.
New Position: Same, 46-15-46.471N 123-47-14.460W (WGS84). Structure may be moved 25 FT to the northeast or southwest to reach depth. No survey required.

Water Depth: 10 FT MLLW (17 FT MHW) Bottom: Sand/Mud
Tidal Range: 6.78 FT (Diurnal 8.69 FT)) Height of lantern stand above MHW 17 FT
Dayboards: Two 4TR at 060° and 230° Ladder Orientation: 315°

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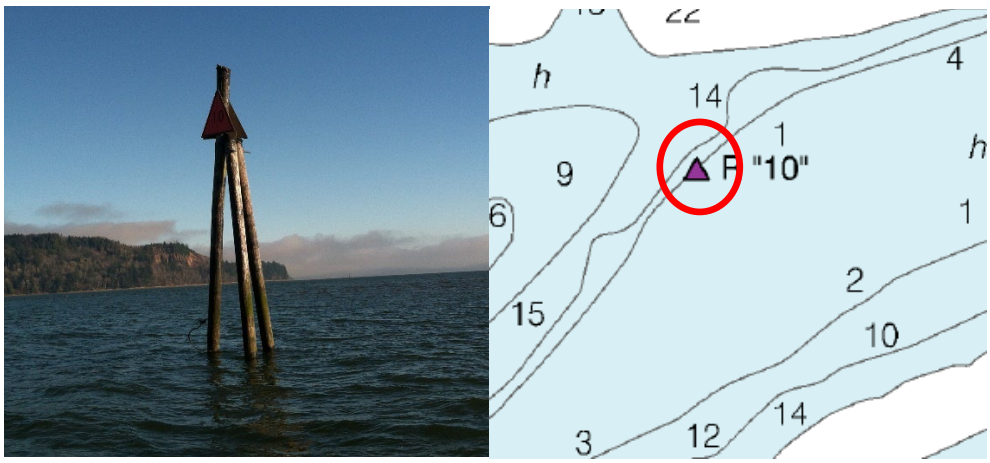


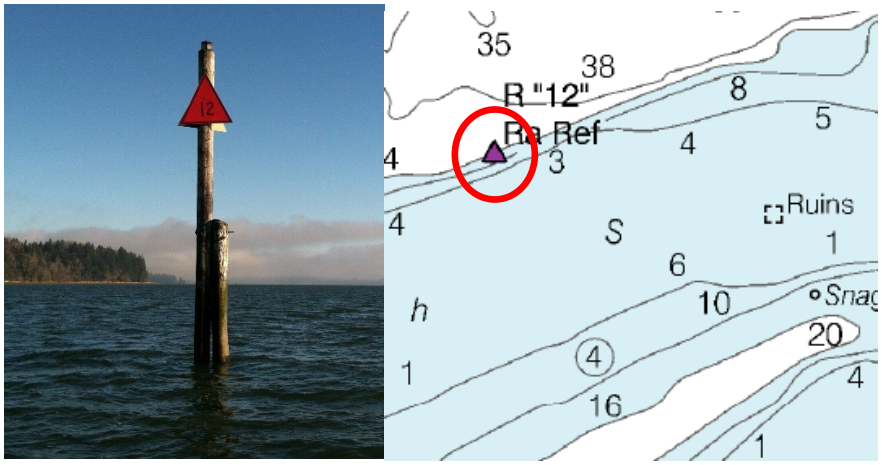
North Channel Daybeacon 12 (LLNR 14640) SSMR CR-020A-20 Chart 18521

Structure Type: Two Pile Battered Wooden structure (MPW).
Current Position: 46-16-03.256N 123-46-28.009W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header system.
New Position: Same, 46-16-03.256N 123-46-28.009W (WGS84). Structure may be moved250 FT to the northeast or southwest to reach depth. No survey required.

Water Depth: 10 FT MLLW (17 FT MHW)
Tidal Range: 6.78 FT (Diurnal 8.69 FT)
Dayboards: Two 4TR at 060° and 250°

Bottom: Sand/Mud
Height of lantern stand above MHW 16 FT
Ladder Orientation: 320°



Grays Point Light 13 (LLNR 14645) SSMR CR-018A-20 Chart 18521

Structure Type: Single Pile Steel I-Beam (SPS) with platform. I-Beam is deteriorating.
Current and New Position: 46-16-23.296N 123-46-00.469W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header system.
New Position: Same, 46-16-23.296N 123-46-00.469. Structure may be moved 20 FT to the north to reach depth. No survey required

Water Depth: 10 FT MLLW (17 FT MHW)
Tidal Range: 6.78 FT (Diurnal 8.69 FT)
Dayboards: Two 4SG at 075° and 240°

Bottom: Sand/Mud
Height of lantern stand above MHW: 16 FT
Ladder Orientation: 140°

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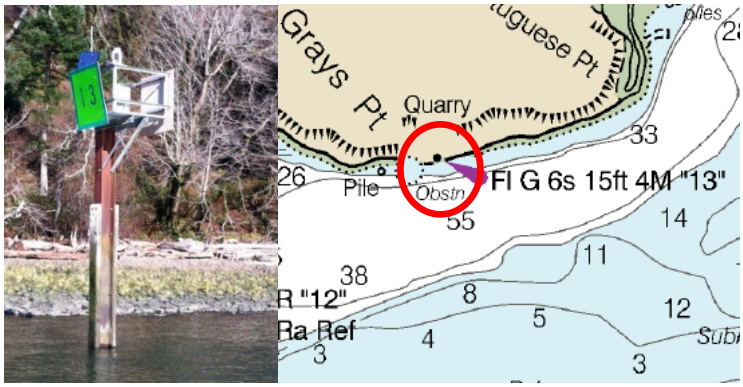


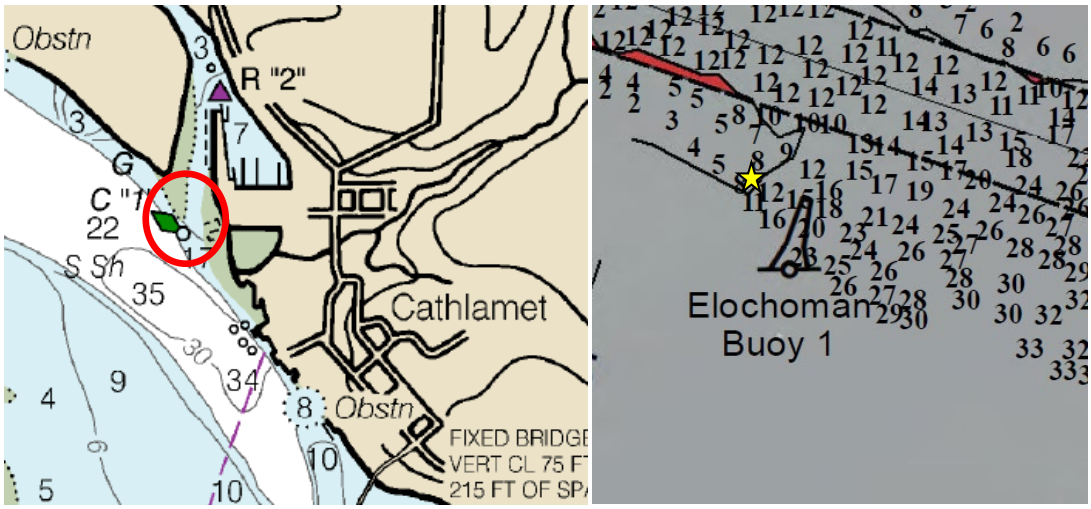
Elochoman Buoy 1 (LLNR 10535) SSMR CR-002-24 Chart 18523

Structure Type: 3rd Class CFR buoy with 55 FT of ¾" chain and 3,000lb concrete sinker.
Current Position: 46-12-15.733N 123-23-23.687W (WGS84).

New Structure Type: Single Pile Steel (SPS) with a reduced header system. No ladder device.
New Position: 46-12-16.700N 123-23-23.700W (WGS84), moving 100 FT at 004° to mark the southern corner of the shoal at the channel entrance. Structure may be moved 20 FT to the northeast to reach the desired depth. No survey required

Water Depth: 11 FT CRD (17 FT MHW)
Tidal Range: 5.96 FT (Flood Stage 12.0 FT)
Dayboards: Two 4SG at 010° and 220°

Bottom: Sand/Mud
Height of lantern stand 17 FT CRD
Ladder Orientation: 100°



Elochoman Daybeacon 2 (LLNR 10540) SSMR CR-003-24 Chart 18523

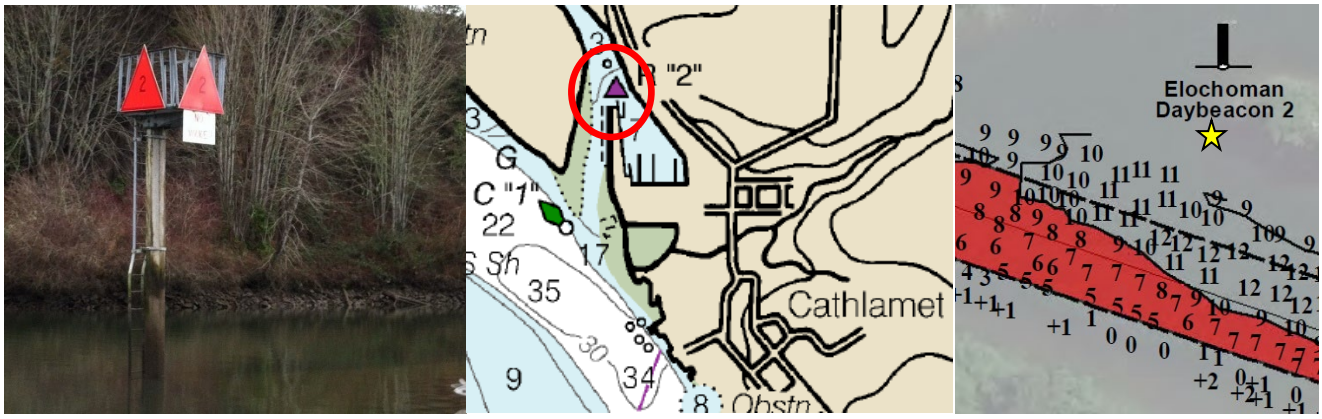
Structure Type: Single Pile Steel I-Beam (SPS) with platform. I-Beam is deteriorating.
Current Position: 46-12-29.450N 123-23-18.733W (WGS84).

New Structure Type: Single Pile Steel (SPS) with Reduced Header system.
New Position: Same, 46-12-29.450N 123-23-18.733W (WGS84). May be moved 20 FT to the southwest to reach the desired depth. No survey required.

Water Depth: 9 FT CRD (15 FT MHW)
Tidal Range: 5.96 FT (Flood Stage 12.0 FT)
Dayboards: Two 3TR at 145° and 260°

Bottom: Sand/Mud
Height of lantern stand 17 FT CRD
Ladder Orientation: 220°

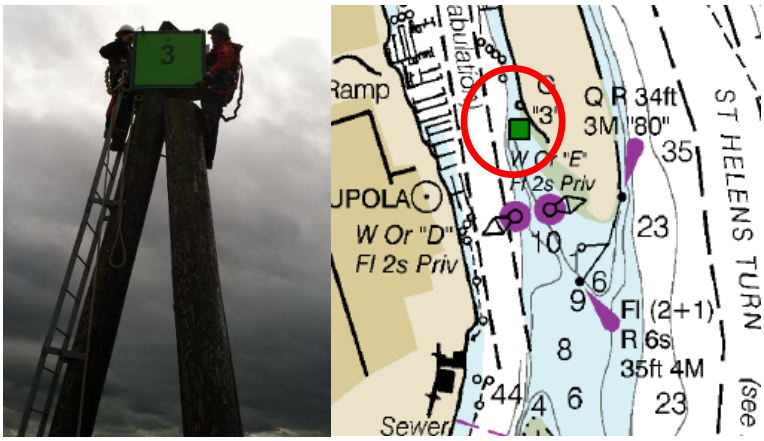
ATON Construction Columbia River



Multnomah Channel Daybeacon 3 (LLNR 14830) SSMR CR-008-21 Chart 18524

Current Structure Type: Three Pile Wood (MPW) no basket
Current Position: 45-51-54.695N 122-47-35.468W (WGS84). Structure destroyed.

New Structure Type: Single Pile Steel (SPS) with Reduced Header system
New Position: 45-51-54.695N 122-47-35.468W (WGS84). Place new structure on site of old structure, regardless of position. No survey required.

Water Depth: 5 FT CRD (8 FT MHW)
Tidal Range: 2.52 FT (Flood Stage 15.5 FT)
Dayboards: Two 3SG at 190° and 340°

Bottom: Sand/Mud
Height of lantern stand 16 FT CRD
Ladder Orientation: 270°