

100% Remedial Design

Volume II – Part IV

Vessel Management Plan Requirements

Outline

Vessel Management Plan Requirements Outline

The Remedial Action Contractor (contractor) will be required to develop a Vessel Management Plan (VMP) as part of their Remedial Action Work Plan (RAWP) to accomplish the following:

- Describe anticipated vessel movements, frequency, and operations.
- Confirm the integrity of vessels.
- Describe barge access points and moorage and anchoring.
- Describe notification procedures, marine navigation traffic control, and navigation safety management and compliance during construction.

The contractor will prepare the VMP to conform with the project requirements described in the Lower Duwamish Waterway (LDW) upper reach Final (100%) Specifications (Volume III) Section 35 10 00 (Navigation Safety and Marine Traffic Control). The RAWP (and VMP) must be submitted to and approved by the Owner, its project representative, and U.S. Environmental Protection Agency (EPA) prior to Construction Notice to Proceed, in accordance with Specification Section 01 33 00 (Submittals). No in-water construction activities may be performed by the contractor prior to the approval of the RAWP.

The contractor's VMP will include the main topics noted in this outline, and the contractor may add additional topics. The contractor's VMP will describe the contractor's means, methods, and procedures to comply with the specification requirements. This outline lists several key specification requirements as examples.

1. Vessel Types, Certifications, and Reporting Procedures:

The contractor's VMP is required to describe the contractor's means and methods to meet Specification 35 10 00 requirements. Example key requirements include the following:

- a. Provide a description of the number, types, and size/capacity of all marine vessel equipment to be used, including names and registration numbers, prior to bringing any vessel (e.g., dredge plant, barges, tugboats, bathymetric survey boat, and work boats) to the Work Site.
- b. Vessel certifications of barges must be obtained from a certified marine surveyor, including, but not limited to, certified barge displacement charts for all barges to be used for tracking tonnage of dredge material, dredge debris, identified debris, and piling.
- c. The contractor must have properly trained and experienced pilots and crews to do the following: 1) inspect, certify, and document each barge load of material prior to transport from the Work Site to the contractor transload facilities to assess whether the barge is properly loaded, is seaworthy, is structurally sound, and has no observable stability issues, such as evidenced by barge listing; and 2) report the real-time position of all of the

contractor's automatic identification system-enabled vessels using real-time vessel tracking system on a continuous 24-hour basis.

- d. Procedures for documentation of seaworthiness of each transport barge (such as estimated tonnages for each barge load of material removed from the Work Site or brought to the Work Site) is required. The contractor must certify in their daily construction report that each barge that has been transported out of the Work Site has been inspected for leakage and proper loading.

2. Roles and Responsibilities:

The contractor's VMP is required to describe the contractor's key personnel and qualifications to meet Specification 35 10 00 requirements. Example key requirements include the following:

- a. The contractor must submit a list of key personnel and describe specific roles for all navigation vessels.
 - i. There will be a single point of contact for coordinating the contractor's vessels, other LDW traffic (project and non-project vessels), and contractor transload facility operations.
 - ii. Personnel experience
 - (a) The contractor must provide a properly trained and experienced pilots and crew responsible for knowing and being able to report the real-time position of all of the contractor's vessels using a real-time vessel tracking system on a continuous 24-hour basis.
 - (b) The crew must have demonstrated knowledge of vessel navigation and location regulations.

3. Vessel Operations:

The contractor's VMP is required to describe the contractor's vessel operations to meet Specification 35 10 00 requirements. Example key requirements include the following:

- a. Procedures for daily compliance with all in-water navigation and spudding/anchoring activities in accordance with applicable U.S. Coast Guard (USCG) regulations (including vessel flagging and Automated Identification System coding to denote encumbered [anchored/spudded] vessels) and state and local regulations.
- b. The contractor must maintain daily USCG-compliant procedures in place for any vessel operations.
- c. The contractor will be required to stop, move, adjust, and/or slow down to accommodate commercial vessel movement and in accordance with project-specific agreements for Tribal fishing activities.
- d. The contractor must adhere to specific sequencing requirements to conduct its remedial operations in a manner that will minimize interference with those commercial shipping and Tribal fishing activities.

- e. The contractor must have a map or maps depicting primary vessel routes within, into, and out of the LDW, as well as vessel routes to all proposed facilities (i.e., contractor transload facilities)
- f. The contractor must adhere to the following navigation requirements when operating vessels:
 - i. Limitations on vessel movement under low visibility conditions (e.g., sufficient visibility to ensure safe operations at all times)
 - ii. Speed limits when repositioning vessels (2 to 3 knots maximum)
 - iii. Speed limit throughout the LDW (7 knots maximum)
- g. The contractor must conduct operations that will minimize interferences with commercial waterway users by monitoring and observing for vessel activity, and warning vessels from entering the Work Site or temporarily pausing operations to prevent unsafe navigation in the Work Site for transiting (e.g., recreational, commercial, fishing) vessels around its floating equipment at all times.
- h. The contractor must use methods, procedures, and equipment that will prevent unsafe navigation around floating equipment for other waterway users (e.g., recreational and commercial vessels).
- i. The contractor is allowed to spud and anchor equipment on the waterway bed during dredging within or adjacent to the sediment management areas (SMAs), except for SMAs where material placement has been completed, within the Enhanced Natural Recovery (ENR)/Activated Carbon (AC) Pilot Plots, and other areas as shown on the Final [100%] Drawings. In addition, the contractor must adhere to the following:
 - i. Spudding of the contractor's equipment on the waterway is not allowed within 30 feet of the South Park Bridge active submarine cable (refer to Final [100%] Drawings for location).
- j. Dredging or material placement near or adjacent to the ENR/AC Pilot Plots must be conducted as follows:
 - i. If land-based equipment is used in this area, no equipment is allowed to be driven directly on top of the ENR/AC Pilot Plots.
 - ii. If the contractor proposes to access adjacent areas through the ENR/AC Pilot Plots, protective measures must be described (e.g., use of steel plates or flexible mat) to protect the ENR/AC Pilot Plots from damage.
- k. The contractor must use the lowest safe operating power for tug operations in shallow-water areas and during dredge plant and barge relocation for dredging, barge transport, and equipment relocations for commercial vessel traffic or wait for a higher tide to move marine equipment in order to minimize disturbance of bottom sediments.

4. Maintenance of Vessel Equipment:

The contractor's VMP is required to describe the contractor's procedures and methods to meet Specification 35 10 00 requirements. Example key requirements include the following:

- a. Procedures must be identified for monitoring contractor vessels and for ensuring marine equipment in the LDW is secure and seaworthy at all times, including after working hours, on the weekend, and during periods when the contractor has no active in-water work. The contractor must also include contact information for after-hours workers who will be available to respond to, mitigate, and correct any issues if equipment is not secure and seaworthy as required.
- b. The contractor must include description of procedures to verify the following:
 - i. Verification of vessel integrity
 - (a) The watertight integrity of the vessel
 - (b) That the vessel is not overloaded, stressed, or loaded in an unbalanced manner
 - (c) The vessel has adequate stability
 - ii. Maintenance, repairs, and relevant surveys are carried out in a timely manner in respect of the vessel's application, onboard equipment, equipment operators, and crew.
 - iii. Maintenance records and reports are available to the project representative within 24 hours of such request.
 - iv. Anticipated timeline for supply and availability of spares, materials, and other resources to implement the maintenance procedures

5. Notifications:

The contractor's VMP is required to describe the contractor's procedures to meet Specification 35 10 00 requirements. Example key requirements include the following:

- a. Notifications and procedures to be used for vessel movements for all portions of the project must be described, including moving dredging/material placement equipment to accommodate inbound and outbound waterway traffic with other project and non-project vessels (commercial and Tribal fishing vessels).
- b. Procedures must be described for notifications to the USCG in accordance with USCG regulations (e.g., via phone or VHF radio vessel traffic channel) and in advance of each construction season, so USCG can issue the Notice to Mariners prior to the start of each construction season.

6. Coordination and Communications:

The contractor's VMP is required to describe the contractor's procedures to meet Specification 35 10 00 requirements. Example key requirements include the following:

- a. The contractor must continuously monitor the Work Site for the presence of other waterway users and must warn waterway users (e.g., commercial and recreational users) of

in-water work activities occurring. The contractor must modify operations if necessary to protect the safety of other waterway users.

- b. The contractor must provide daily coordination of all vessel traffic transiting through the Work Site, including tracking and maintaining communication with project and non-project vessels. The contractor must closely coordinate with the Owner and project representative to understand the Work Site usage and frequency of vessel calls at and around the facilities where remediation work is required to be performed and to coordinate its work around the active Work Site use.
- c. The contractor must communicate daily with the contractor transload facility subcontractor. Prior to the end of the shift, the contractor must coordinate with the contractor transload facility subcontractor for any barge transport to be made during the night shift to sustain transloading operations overnight until the beginning of the next day shift.
- d. The contractor must communicate daily with each Tribe coordinator. Prior to the end of the shift, the contractor must coordinate with each Tribe coordinator for the next day's construction activities and vessel movements. The contractor must provide daily updates to the project representative of Tribe interactions and communications.

7. Aids to Navigation During Dredging and Material Placement Operations:

The contractor's VMP is required to describe the contractor's means and methods to meet Specification 35 10 00 requirements. Example key requirements include the following:

- a. The contractor must describe installation, maintenance, and operation of aids to navigation in accordance with USCG regulations.
 - i. Aids to navigation must be inspected daily and repaired and replaced as necessary or as directed by the project representative.
- b. Prior to the start of work each construction season, the contractor must provide signage at the Turning Basin (river mile [RM] 4.7) and the downstream boundary of the Work Site (RM 3.0), requesting non-project vessels to operate at a maximum speed of 7 knots within the Work Site.
- c. Vessel control requirements (including no-wake, wake restriction, and speed limit signs) must be placed upon project vessels as necessary to alert non-project vessels.

8. Emergency Procedures:

The contractor's VMP is required to describe the contractor's procedures to meet Specification 35 10 00 requirements. Example key requirements include the following:

- a. The contractor must describe emergency management procedures for extreme weather (e.g., wind warnings, gale warnings, high-flow events, and sinking of vessels).
- b. The contractor must describe procedures, including training and familiarization for the vessel's crew, to prepare for and respond to emergency situations and drills.
- c. The contractor must include description of marine emergency response resources.