



March 2026
JELD-WEN Site



Construction Quality Assurance Plan

Prepared for JELD-WEN, Inc., and Washington State Department of Ecology

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FIGURE

Figure 1 Organizational Chart

ABBREVIATIONS

AO	Agreed Order
BMP	best management practice
CAP	Cleanup Action Plan
CAR	Cleanup Action Report
CD	Consent Decree
CHASP	Construction Health and Safety Plan
CM	Construction Manager
Company	JELD-WEN, Inc.
Contractor	General Contractor
CPS	Construction Plans and Specifications
CQA	construction quality assurance
CQAO	Construction Quality Assurance Officer
CQAP	<i>Construction Quality Assurance Plan</i>
CQC	construction quality control
CQCO	construction quality control officer
CWP	Construction Work Plan
Ecology	Washington State Department of Ecology
EDR	<i>Marine Engineering Design Report</i>
EMNR	enhanced monitored natural recovery
EPP	Environmental Protection Plan
MLLW	mean lower low water
MMMP	Marine Mammal Monitoring Plan
MNR	monitored natural recovery
MTCA	Model Toxics Control Act
OMMP	Operations, Maintenance, and Monitoring Plan
PM	Project Manager
RTK	real-time kinematic
Site	JELD-WEN, Inc., site located at 300 West Marine View Drive, Everett, Washington
SMS	Sediment Management Standards
TEQ	toxicity equivalence
USACE	U.S. Army Corps of Engineers
WAC	Washington Administrative Code

1 Introduction

This *Construction Quality Assurance Plan* (CQAP) describes quality assurance protocols and methods that will be used to ensure that cleanup of contaminated sediment in marine and shoreline areas at the JELD-WEN, Inc. (Company), site (Site) are implemented in accordance with the engineering design and associated permitting requirements. This CQAP is part of the 60% design package prepared in accordance with Washington Administrative Code (WAC) 173-340-400(4)(b). The *Marine Engineering Design Report* (EDR; Anchor QEA 2026) describes the approach and criteria for the engineering design of cleanup actions in the intertidal aquatic areas of the Site located at 300 West Marine View Drive, Everett, Washington (Ecology Cleanup Site ID 4402).

The required cleanup actions at the Site are set forth in the JELD-WEN Final Cleanup Action Plan (CAP; Ecology 2023) and in accordance with the requirements of Agreed Order (AO) No. DE 5095 and subsequent First and Second Amendments to the AO between the Company and the Washington State Department of Ecology (Ecology). This CQAP has been prepared to meet the requirements of the Model Toxics Control Act (MTCA; Ecology 2024a) and Sediment Management Standards (SMS; Ecology 2013) regulations administered by Ecology under Chapters 173-340 and 173-204, respectively, of the WAC.

The actions described in this CQAP will be performed by the Company under Ecology oversight, consistent with the requirements of the pending Consent Decree (CD) for the implementation of the cleanup action, currently being negotiated between Ecology and the Company. A draft *Operations, Maintenance, and Monitoring Plan* (OMMP), prepared separately as part of the 60% design package, describes post-construction monitoring and adaptive management to ensure the long-term performance of the cleanup actions. Implementation of this CQAP will be performed in accordance with MTCA requirements and the Washington State SMS.

Marine area cleanup construction activities to be performed at the Site include the following:

- Installation of temporary shoring along the shoreline where required
- Removal and stockpiling of material from marine and shoreline areas
- Construction of shoreline protection, engineered caps, placement of backfill, and placement of thin cover layer over intertidal sediment
- Removal of anthropogenic debris
- Off-Site material disposal

Separate from this CQAP and following Ecology approval of the EDR and receipt of permits for construction activities, the selected General Contractor (Contractor) will develop more detailed Construction Work Plans (CWPs) that describe the construction schedule, a Construction Health and Safety Plan (CHASP), quality control plans, removal and capping plans, borrow source characterization, and Environmental Protection Plans (EPPs).

The remainder of this CQAP is organized into the following sections:

- **Section 2 – Definitions and Use of Terms:** Defines key terms of the Quality Management System
- **Section 3 – Project Organization and Responsibilities:** Presents the roles and responsibilities of the parties involved in the cleanup action, including Ecology and other regulatory agencies
- **Section 4 – Project Manager (PM), Construction Manager (CM)/Construction Quality Assurance Officer (CQAO), Inspectors, and Contractor Qualifications:** Describes the qualifications and experience required for the Contractor and any selected subcontractors, as well as the qualifications of the CQAO and supporting inspection personnel
- **Section 5 – Description of Construction Activities:** Discusses construction activities to be performed in the Knoll Area, the South Shoreline, and the Logway
- **Section 6 – Quality Assurance Program:** Describes the performance objectives and criteria, quality assurance measures, inspection and verification activities, and contingency actions for each construction activity
- **Section 7 – Documentation and Reporting:** Describes the reporting requirements for construction quality assurance (CQA) activities—these requirements include daily and weekly summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports, and final documentation; a description of the provisions for final storage of all records consistent with the requirements of the pending CD is also included in this section

2 Definitions and Use of Terms

Construction quality control (CQC) and CQA are defined as follows:

- CQC is the planned system of inspections and testing by the Contractor's team (or their subcontractors) to monitor and control the characteristics of an item, service, removal, or installation in relation to design requirements. The CQC activities provide for a collection of construction condition measurements.
- CQA is the planned and systematic means and actions that provide confidence that construction materials, methods, and results meet or exceed design criteria and requirements. The CQA activities provide for collection of mutual and independent third-party measurements of construction conditions, as well as review and confirmation of the quality of data collected as part of the CQC activities.

In the context of this document, CQC refers to the following:

- Those actions taken by the Contractor's team (or their subcontractors) to determine compliance of the various components of the bulkhead demolition, shoreline protection, sediment removal, capping, cover placement, and transport and off-Site disposal activities with the requirements of the approved design.

In the context of this document, CQA refers to the following:

- Means and actions to independently assess conformity of the various components of the bulkhead demolition, shoreline protection, sediment removal, capping, cover placement, and transport and off-Site disposal activities with the requirements of the approved design.

3 Project Organization and Responsibilities

The roles and responsibilities of the parties involved in the cleanup action activities are described in Sections 3.1 through 3.6 and presented in Figure 1.

3.1 Washington State Department of Ecology

Ecology is the regulatory authority and the responsible agency for overseeing and authorizing the cleanup action activities described herein. In this capacity, Ecology will review information described in the EDR (Anchor QEA 2025a), the Construction Plans and Specifications (CPS), and this CQAP for consistency with the cleanup standards presented in the CAP, including applicable or relevant and appropriate requirements as set forth in the CAP. The Ecology Project Coordinator, or a designee, will exercise project oversight for Ecology, coordinate comments developed by Ecology and other agencies, and communicate agency observations with the Company (for the purpose of this CQAP) and the Project Engineer. The Ecology Project Coordinator shall notify the Company if they identify any concerns regarding the implementation of the cleanup action. The Company, or a designated representative, will propose response measures or recommendations, as appropriate, to Ecology and the Ecology Project Coordinator. Ecology, as appropriate, will make final decisions to resolve such issues or problems that may change the scope of the cleanup action. Ecology will work cooperatively with other government agencies as necessary.

3.2 The Company

The Company is ultimately responsible for implementing the marine area cleanup actions in accordance with the pending CD. The Company, or a designated representative, will implement the CQAP, review Contractor work products, and be the point of contact with the Ecology Project Coordinator.

Monitoring activities will be the responsibility of the Company, who will be acting in coordination with the Ecology Project Coordinator. Certain aspects of monitoring activities, however, may be performed by the Contractor but overseen by the Company to ensure that the Contractor's construction and monitoring work is completed as stipulated by project permits, approvals, and contract documents.

3.3 Project Manager

The PM will be responsible for communicating with Ecology and the Company regarding construction progress, deviations, and scope adjustments.

3.4 Construction Manager

The CM will be responsible for managing the implementation of the CQAP and confirming that construction and remediation work is done in compliance with the project documents. The roles of CM and CQAO may be performed by the same person.

3.5 Project Engineer

The Project Engineer is responsible for two main tasks:

1. Preparing the design of the marine area cleanup action such that successful implementation of the design will result in achieving CD and construction activity-specific objectives and requirements
2. Providing consultation and observations during construction to assist with implementation of the cleanup action in conformance with Ecology-approved design documents

During implementation of the cleanup action, noncompliant construction activities will be referred to the Project Engineer. The Project Engineer is responsible for determining whether the noncompliant construction is unacceptable or acceptable with a design modification. The Ecology Project Coordinator will have final authority to approve design modifications related to the cleanup action proposed by the Project Engineer, consistent with CD requirements. Ecology's approval of design modifications will be in writing and included in the construction completion documentation.

3.6 Construction Quality Assurance Officer

The CQAO will be responsible for overseeing the implementation of the CQAP and is responsible for monitoring construction performance for compliance with construction performance standards and design requirements during implementation of the cleanup actions. The CQAO is responsible for overseeing required inspection and verification activities and will review documentation submitted by and work completed by the Contractor for adherence to performance standards and design requirements. The CQAO will be sufficiently familiar with the approved design documents and the construction operations to recognize deviations from those documents. The CQAO will also manage and maintain the integrity of the data generated during implementation of the cleanup.

The CQAO will be responsible for identifying those field conditions that may warrant deviation from the approved design documents. In such circumstances, the CQAO will coordinate with the Project Engineer as well as the Ecology Project Coordinator to identify and agree upon any necessary changes to meet the overall objectives of the design. Any agreed-upon changes will be documented in the weekly progress reports to the Ecology Project Coordinator.

The CQAO may use inspectors with the requisite expertise and experience to help perform the duties described above.

3.7 General Contractor

One or more construction contractors will be selected to perform construction activities including bulkhead demolition, shoreline protection, removal and disposal of intertidal sediment, placement of engineered cap material, placement of clean intertidal sand cover, debris removal, and other required cleanup activities. The selected Contractor(s) will have demonstrable experience with demolition, shoreline protection, sediment removal, capping, and intertidal sediment placement and disposal. The Contractor is responsible for its own means and methods in the execution of its work and is responsible for ensuring that the work complies with the requirements of the contract CPS pursuant to the cleanup action approved design and associated permits.

As part of the cleanup implementation, the Contractor will be responsible for developing and implementing a CQC Plan, including the required monitoring, sampling, testing, and reporting needed to implement the project in accordance with the CPS. Independent of the Contractor's quality control program, the Company will implement this CQAP to verify that the cleanup action is implemented in accordance with the approved design and associated permits.

The Contractor will use key personnel to help with the tasks described above, including an on-Site Superintendent, CQC Supervisor, and Health and Safety Manager.

3.7.1 *Contractor On-Site Superintendent*

Direction of the work for the Contractor will be through an on-Site Superintendent who will be responsible for executing the work in full compliance with the CPS. The Superintendent will work to resolve work-related problems and day-to-day project management. The Superintendent may utilize one or more foremen to directly supervise the major construction activities. The Superintendent will exercise supervision over subcontractors if subcontractors are utilized.

3.7.2 *Contractor Construction Quality Control Supervisor*

A CQC Supervisor will be provided by the Contractor as required in the CPS. The CQC Supervisor will develop and implement the CQC Plan, through which the Contractor ensures compliance with the requirements of the CPS. The CQC Plan will identify the duties and responsibilities assigned by the Contractor to the CQC Supervisor and additional quality control staff as needed to monitor that the remedial action is implemented in accordance with the CPS. The CQC Plan will state the chain of command for the CQC team, including identification of responsibilities for each member, to ensure that any actions related to the quality of work will be executed in an accurate and expeditious manner.

3.7.3 *Contractor Health and Safety Manager*

The Contractor will employ a Health and Safety Manager to develop and implement a CHASP. The CHASP will contain details of the chain of command and personnel responsibilities, as discussed in

the CPS. The Health and Safety Manager will be required to have the appropriate current federal and state health and safety training necessary to perform the work.

3.8 Subcontractors

The Contractor will either perform construction elements or use subcontractors to perform selected phases of the work for which special expertise is required. The subcontractors are responsible to the Contractor for the quality of their work, protection of the environment, and adherence to the CQC Plan, EPP, and CHASP. The subcontractors' principals will each designate a job foreman with responsibility to see that the work is conducted in accordance with the contract requirements and the CPS.

4 PM, CM/CQAO, Inspectors, and Contractor Qualifications

Qualifications of the PM, CM/CQAO, supporting inspection personnel, and the Contractor's firm and personnel, including minimum training and experience that will be required, are provided in this section.

4.1 Project Manager

The PM will have demonstrated experience in managing environmental projects of a complexity and magnitude similar to or greater than the cleanup project described in the EDR (Anchor QEA 2025a).

The PM will be thoroughly familiar with the CD, CAP, applicable environmental laws, and the requirements of the approved design documents and associated permits.

4.2 CM/CQAO and Inspector Qualifications

The CM/CQAO will be identified prior to start of work. The CM/CQAO will have demonstrated experience managing construction projects with similar quality assurance requirements. The CM/CQAO will be required to have the appropriate current federal and state health and safety training necessary to perform the work. Additionally, the CQAO will be sufficiently familiar with the approved CPS and associated permits as well as construction operations to recognize deviations from those documents and operations. The CM/CQAO will also manage and maintain the integrity of the data generated during the project. Additional inspectors may be used to help the CQAO. These inspectors will have experience inspecting construction activities for environmental projects and will have current federal and state health and safety training.

4.3 Contractor Qualifications

The Contractor will be selected through a competitive qualifications-based selection process. Each potential Contractor proposing on the project will be required to provide a Statement of Qualifications to the Company with its proposal. This will allow the Company to evaluate whether the proposer is qualified, in terms of experience and capability, to perform the work.

The Contractor will employ (as part of its permanent organization) senior, knowledgeable, and experienced personnel to oversee the project. The journeyman operators, surveyors, and other Contractor personnel performing key jobs must also have the demonstrated ability and skills to satisfactorily perform their respective assignments.

The CQC Supervisor must have documented qualifications and experience to perform independent checks on the Contractor's operations as necessary to determine compliance with the CPS. These documented qualifications will be submitted to the Company for approval prior to identifying the CQC Supervisor. Additionally, any subcontractors utilized in the work must have demonstrated to the satisfaction of the Company that they are qualified and have satisfactorily performed the type of work for which they will be engaged. However, responsibility for the subcontractor's performance

rests with the Contractor. All Contractor and subcontractor personnel working on this project will be required to have current federal and state health and safety training, as applicable to the work they will be doing on this project.

5 Description of Construction Activities

Details of the proposed construction activities at the Site are included within the CPS, and further described in the EDR (Anchor QEA 2025a).

5.1 Sediment Management

There are three Marine Work Zones across the Site, each with three sediment management areas requiring a different remediation approach. Construction activities are summarized as follows:

- **Knoll Area:** The Knoll Area is the marine area adjacent to a vegetated knoll located on the southern end of the Site, created with fill material in the 1970s. The area is primarily tide flat with elevations ranging between 6 and 11 feet mean lower low water (MLLW).
 - **Monitored Natural Recovery (MNR):** Surficial sediments in this management area will be addressed with MNR cleanup technology and monitored according to the OMMP.
 - **Enhanced Monitored Natural Recovery (EMNR):** Sediments in this management area will be remediated using EMNR cleanup technology. A minimum 6-inch-thick layer of clean silty sand, with a maximum 3-inch over-placement tolerance, will be placed across the area, and surface sediments will be monitored according to the OMMP.
 - **Removal and Backfill:** Surficial sediments in this management area will be removed to a depth of 1 to 2 feet below existing grade and backfilled with clean silty sand to 6 inches above the pre-construction grades to match adjacent EMNR area grades. Surface sediments will be monitored according to the OMMP.
- **South Shoreline:** The South Shoreline is the marine area along the Site's southern shoreline. It is a tidal flat with elevations ranging between 2 and 6 feet MLLW.
 - **MNR:** Surficial sediments in this management area will be addressed with MNR cleanup technology and monitored according to the OMMP .
 - **EMNR:** Sediments in this management area will be remediated using EMNR cleanup technology. A minimum 6-inch-thick layer of clean silty sand, with a maximum 3-inch over-placement tolerance, will be placed across the area, and surface sediments will be monitored according to the OMMP.
 - **Removal and Backfill:** Surficial sediments in this management area will be removed to a depth of 2 to 3 feet below existing grade and backfilled with clean silty sand to 6 inches above pre-construction grades to match adjacent EMNR grades. Surface sediments will be monitored according to the OMMP.
- **Logway:** The Logway is the channel along the northern edge of the Site. It is a narrow inlet tidal flat area with an adjacent steep armored slope to the upland portion of the Site. The elevation of the tidal flat area is between 2 and 4 feet MLLW, and the armored slope extends to approximately 14 feet MLLW.

- **MNR:** Surficial sediments in this management area will be addressed with MNR cleanup technology and monitored according to the OMMP.
- **EMNR:** Sediments in this management area will be remediated using EMNR cleanup technology. A minimum 6-inch-thick layer of clean silty sand, with a maximum 3-inch over-placement tolerance, will be placed across the area, and surface sediments will be monitored according to the OMMP.
- **Removal and Capping:** Surficial sediments in this management area will be removed to a depth of 2 to 3 feet below existing grade and backfilled with engineered cap materials, approximately 6 inches above pre-construction grades to match adjacent EMNR grades. Cap integrity and surface sediments will be monitored according to the OMMP.

Removed materials will be stored in stockpiles on the upland portions of the Site until ready for disposal at an approved landfill, as discussed further in Section 6.2.2.2.

Due to the comprehensive contamination bounding achieved during the pre-remedial design investigation (Anchor QEA 2025b) and the requirement to backfill or cap excavated areas within a single tide cycle, there will be no post-removal confirmatory sediment sampling required.

5.2 Structure and Debris Removal

Contractors must remove creosote-treated pilings, remnant barge structure, bulkheads, and other anthropogenic debris from across the Site as shown in the Construction Plans. The types of debris to be removed from each Marine Work Area are summarized as follows:

- **Knoll Area:** The Knoll Area has numerous wood piles that require removal.
- **South Shoreline:** The South Shoreline has numerous wood piles, remnants of a wooden barge, and other anthropogenic debris that require removal. Existing concrete and asphalt debris along the shoreline will be replaced with engineered armoring after removal to prevent erosion in the area.
- **Logway:** The Logway has numerous wood piles, two wooden bulkheads, and other anthropogenic debris that require removal. Temporary shoring will be utilized in this area during debris removal to limit the disturbance of the adjacent slope and protect upland Site area infrastructure, including fiber optic cables and water and sewer lines. Existing concrete and asphalt debris will be replaced with engineered armoring after removal to prevent erosion in the area.

6 Quality Assurance Program

The CQA program is described in this section for each major construction activity. For each activity, the following is provided:

- Specific performance objectives and criteria for the activity
- Inspection and verification activities
- Quality assurance measures
- Contingency actions

Construction elements subject to the quality assurance program include all activities described in Section 5 of this CQAP. For each of these construction elements, inspection and verification activities will be implemented to confirm performance objectives have been met. All equipment used for sediment removal, clean backfill material placement, and cap construction will employ equipment positioning software based on real-time kinematic (RTK) GPS, which typically provides accuracies of plus-1 centimeter horizontally and plus-4 centimeter vertically. RTK corrections will be provided from either a project base station via radio link or link to the state RTK network depending on network availability. All survey data and controls will be referenced to the same datum, unit, and scale as the CPS.

During the construction activities, the quality assurance program will progress as follows:

- The Contractor will submit a CQC Plan, as detailed in Section 7. The CQC Plan will be subject to approval by the Company before construction begins.
- The Contractor and the CM/CQAO will conduct inspection and verification activities (e.g., documentation and survey review, construction observation, measurements, testing, and/or monitoring) to ensure compliance with the approved design documents and to ensure that performance objectives have been met. The Company, in consultation with the CM/CQAO, will have final approval authority for all such inspections and for verifying that corrective actions, if any are warranted, are implemented.
- Any changes to approved design requirements or protocols will require approval by the Ecology Project Coordinator.
- The Contractor will provide documentation to the CM/CQAO to demonstrate that specific components of the approved design documents have been properly implemented. The Company, in consultation with the CM/CQAO, will determine whether the components of the cleanup action are acceptable and complete.

The remainder of this section details performance objectives and criteria, along with quality assurance measures and specific inspection and verification activities that will be performed to confirm that performance objectives have been met at the Site, as shown in the CPS.

6.1 Material Removal

This section describes the construction and oversight activities, including CQC and CQA tasks, which will be undertaken to verify that material removal has been completed in accordance with the approved design documents.

6.1.1 *Performance Objectives*

The following performance objectives apply to sediment removal:

- Achieve the required removal volume (areas and depths) to remove sediments with dioxins/furans toxicity equivalence (TEQ) concentrations greater than 15 nanograms per kilogram or total polychlorinated biphenyls concentrations greater than 130 micrograms per kilogram in the removal areas of the Knoll Area and the South Shoreline and down to 2 feet below existing grade in the Logway.
- Conduct surveying in a timely manner to facilitate approval of removal depths and subsequent covering of removal area with clean cap or backfill material within a single tidal cycle (to minimize potential residual contamination).

6.1.2 *Inspection and Verification*

Post-removal surveying will be conducted to verify that the limits and extents of removal required in the CPS have been achieved. The survey will be conducted on a grid with maximum 5-foot by 5-foot spacing. It will also meet or exceed the accuracy standards for a U.S. Army Corps of Engineers (USACE) Total Station Topographic Survey, as referenced in the USACE *Control and Topographic Surveying* manual (USACE 2007). A RTK GPS will be used to determine the horizontal position of each survey measurement taken. Surveys will be completed using traditional topographic surveying methods, or drone-based surveying technologies (e.g., lidar), meeting the minimum grid and accuracy criteria in the Construction Specifications to meet the needs of future OMMP comparisons.

Daily and weekly removal reports will be prepared to track cumulative volume progress as well as production and coverage. The weekly report will contain the actual removed volumes for that week and the cumulative totals from the start of removal.

6.1.3 *Quality Assurance Measures*

Quality assurance measures for removal include the following:

- GPS equipment aboard construction equipment
- Pre- and post-removal surveying linked to construction software for tracking quantities and locations of material removal

6.1.4 Contingency Measures

If the Contractor does not demonstrate that the limits and extents of removal required in the CPS have been achieved, the Contractor shall be responsible for removing additional material. If clean backfill material has been placed in a removal area prior to inundation during the next high tide, as required by the CPS, and additional removal is deemed necessary, the Contractor shall be responsible for removing the clean backfill material and handling that material as contaminated sediment.

6.2 Removed Material Stockpiling and Management

This section describes the construction oversight activities, including CQC and CQA tasks, which will be undertaken to verify that removed sediment and debris materials stockpiling has been completed and managed in accordance with the approved design documents.

6.2.1 Performance Objectives

The following performance objectives apply to removal and stockpiling:

- Maintaining (not removing surface pavement except as needed for excavations) existing paved surfaces to minimize infiltration and prevent direct contact with subsurface soils.
- Installation of water-tight containment areas to prevent runoff and infiltration of stockpiled contaminated sediment via suspended solids.
- Maintenance (i.e., sweeping) of paved surfaces, including access routes, to minimize runoff of suspended solids and track-out from intertidal cleanup areas.
- Proper design, construction, operations, and maintenance of erosion and sediment control features to ensure no sediment enters the stormwater system(s).

6.2.2 Inspection and Verification

This section describes Site preparation and general best management practices (BMPs), removed materials management and water management plan for stockpiling material from the Knoll Area, the Logway, and the South Shoreline.

6.2.2.1 Site Preparation and General Best Management Practices

As discussed in Section 7.2 of the EDR (Anchor QEA 2025a), specific temporary stockpile configurations within the designated work areas will be at the discretion of the Contractor. However, all temporary stockpile areas will be appropriately contained to prevent uncontrolled runoff of effluent and stormwater from leaving the area. Methods for containing the stockpiles will be described in the CWPs, which will be required Contractor submittals and will detail operations, including set up and breakdown, stormwater management, maintenance of asphalt surfaces, and maintenance and cleaning of upland work areas. Infiltration of water from or in contact with excavated material stockpiles into upland soil will not be permitted.

6.2.2.2 Removed Materials Management and Disposal

As discussed in Section 8.3 of the EDR (Anchor QEA 2025a), removed sediments and all removed structures and debris will be transloaded and transported to a commercial landfill that is permitted to receive the waste. Any properly permitted landfill may be utilized for disposal management. The Contractor will be responsible for the transport of all waste in a safe manner and in accordance with all applicable regulations and guidelines. This includes lining or sealing haul trucks to prevent release of contamination if wet materials are transported, properly tarping and securing waste to minimize the release of dust and odors and prevent spills, and providing a wheel wash or other wash-down area as needed. The Contractor shall also provide the following:

- All manifests and approvals for the transport of contaminated sediments and debris
- Legible copies of all manifests, weight bills, and other records associated with material handling

6.2.2.3 Water Management

As discussed in Section 7.2 of the EDR (Anchor QEA 2025a), effluent from contaminated sediment stockpile dewatering will be contained and not allowed to infiltrate or directly run off. The Contractor will construct separate water-tight stockpile containment areas for contaminated sediment and creosote-treated materials. These areas will be covered to prevent precipitation from collecting in the containment. Other debris removed from shoreline and intertidal areas including asphalt, concrete, and metal will be stockpiled on existing asphalt surfaces, contained with silt fence or wattles and covered to prevent contact with precipitation. If debris cannot be segregated from sediment it will be stockpiled with the contaminated sediment in the water-tight containment.

Areas outside of the contaminated sediment, creosote material, and debris stockpile containment areas (i.e., haul routes and imported material stockpile areas) will be managed by maintaining existing asphalt surfaces, regular sweeping, and installation of temporary BMPs (e.g., silt fence, wattles, berms). Direct runoff from these areas will not be allowed; however, infiltration in existing paved areas will be allowable to the extent that paved areas are not impervious.

Any stormwater from the upland work area collected and conveyed to outfalls (including effluent from contaminated sediment stockpile dewatering) will be treated for turbidity before discharging to surface water, in accordance with the construction stormwater permit. Stockpiles of clean backfill, capping, and armor material will be covered when not in use.

6.2.3 *Quality Assurance Measures*

Quality assurance measures for material stockpiling and management include the following:

- Review and approval of CWP's describing how water management requirements will be met

- Inspection and documentation to confirm adequate containment construction for contaminated material stockpiles, BMP installation (silt fence, wattles, berms, etc.), and BMP implementation (sweeping, maintaining covered stockpiles, etc.)
- Inspection and documentation to confirm impermeable containment liner of contaminated material stockpiles is intact upon deconstruction and removal of the containments system.
- Review construction stormwater sampling results and verify Contractor's conformance with the Construction Stormwater General Permit.

6.2.4 Contingency Measures

Approval of CWP's will be required prior to issuing the Contractor's Notice to Proceed. Approval of water-tight contaminated material stockpile containment construction, and initial Site preparation BMP installation, will be required before demolition or excavation activities can proceed. If BMPs require maintenance or upgrades, based on inspection over the course of construction, the Contractor will be required to make these changes. If the stormwater treatment measures for turbidity fail to meet discharge requirements, the Contractor will be required to implement additional treatment measures.

6.3 Clean Material Placement and Cap Construction

This section describes the construction oversight activities, including CQC and CQA tasks, which will be undertaken to verify that material placement and cap construction have been completed in accordance with the approved design documents.

6.3.1 Performance Objectives

The following performance objectives apply to clean material placement in backfill, EMNR, shoreline protection, and engineered cap areas:

- Meet material gradation and chemical quality specifications for backfill, EMNR, shoreline protection (armor, intermediate, and filter layers), and engineered cap (armor, intermediate, and filter layers).
- Meet the specified placement tolerance for backfill and EMNR material, each layer of the engineered cap construction, and each layer of the shoreline protection.
- Avoid water quality impacts from material placement.

6.3.2 Inspection and Verification

Local upland commercial material sources will be selected by the Contractor. The Contractor must demonstrate that the proposed materials meet chemical quality, gradation, and other requirements (e.g., rounded) presented in the CPS.

The Contractor will conduct a topographic survey prior to removal or EMNR material placement in each Marine Work Zone and another topographic survey after sediment removal actions or EMNR, backfill material, or cap materials have been placed. For the multilayer caps in the Logway, interim surveys will be required to verify the thickness of each layer prior to placement of the overlying layer. The Contractor will also be required to track volume and/or weight of material placed on a daily basis and to make this information available to the Company as part of their daily reports.

The material placement thickness in the EMNR and removal and backfill areas will be confirmed by comparing pre- and post-construction surveys. An additional verification will be conducted by calculating material quantities placed and determining the average thickness. The materials will be visually inspected during placement to ensure consistency throughout the cap areas. Material placement thickness may also be verified by advancing a steel probe, measuring the thickness from the surface to the probe-determined contact with the underlying sediments and soils.

Material will be tested and approved by the CM prior to placement. Materials placement will occur in the dry whenever possible. If material placement must occur in water during periods of higher tide, the Contractor will implement control measures to minimize the spread of turbidity generated during material placement.

6.3.3 *Quality Assurance Measures*

Quality assurance measures for backfill material placement and capping include the following:

- Review Contractor-submitted results for the following:
 - Particle size (grain size) distribution testing
 - Chemical analysis testing
 - Other requirements
- Compare chemical concentrations from laboratory testing to the required suitability criteria presented in the contract documents.
- Conduct on-Site visual observations of materials on a periodic basis to verify the suitability of materials for backfill and capping.
- Review Contractor-provided progress surveys to verify required cap, backfill, or EMNR material placement thickness and coverage.
- Review Contractor-provided measurements of areas for cap or EMNR material placed (on a per ton or per cubic yard basis).
- Have GPS equipment aboard construction equipment that is linked to construction software for tracking quantities and locations of material placement.
- Supplement survey and as-placed volume information with targeted probing and sampling, where appropriate, to provide further verification of placed thickness addressing potential

subgrade settlement below the cap and/or subtidal material placement layer, which may confound bathymetric survey comparisons.

6.3.4 Contingency Measures

If the physical or chemical test results of the proposed backfill, EMNR, cap, or any other materials to be placed does not meet the requirements of the contract, the Company will reject these materials and require the Contractor to seek an alternate source for these materials.

If, based on visual observations, the material appears to have changed compared to the material for which particle size and chemistry results have been submitted, the Company will require the Contractor to run additional tests to confirm that the material continues to meet requirements.

If the required cap, backfill, or placement thickness has not been achieved, the Contractor will be directed to place more material in areas noted as deficient or remove over-placement beyond the allowable thicknesses.

6.4 Pilings, Barge Remnants, Bulkheads, and Other Debris Removal

6.4.1 Performance Objectives

The following performance objectives apply to the removal of pilings, structures, and anthropogenic debris:

- Remove from the Site all necessary pilings, structures, and anthropogenic debris that are identified in the CPS.
- Properly dispose of all removed material including sediment, creosote-treated wood, untreated wood, asphalt, concrete, and metal at an approved landfill.
- Avoid disturbing protected species.

6.4.2 Inspection and Verification

The Contractor shall remove all pilings, barge remnants, bulkheads, and other anthropogenic debris from the Site as discussed in Section 5.2. The CM/CQAO will inspect shoreline protection areas to confirm that surficial asphalt and concrete debris has been removed prior to the Contractor placing engineered armoring as required by the CPS. Proper disposal will be verified by the CM/CQAO when all debris discussed above has been removed from the Site, disposed of at an approved landfill, and required disposal documentation has been submitted.

6.4.3 *Quality Assurance Measures*

Quality assurance measures for piling, barge, bulkhead, and debris removal include the following:

- Inspection of demolition activities to verify and document removal of all pilings, barge remnants, bulkheads, and other anthropogenic debris
- Inspection of demolition activities to verify and document adequate BMPs to prevent the spread of contamination
- Inspection of shoreline protection areas to verify and document that asphalt and concrete debris has been removed prior placement of shoreline protection materials
- Verification of proper disposal of piling, barge, bulkhead, and debris removal at an approved landfill by reviewing disposal documentation

Pile and debris removal will take place during low tide and in the dry as much as possible. However, any removal work that cannot be accomplished in the dry must follow a Marine Mammal Monitoring Plan (MMMP) to comply with the Marine Mammal Protection Act. The MMMP will be developed and implemented specifically for mammals listed under the Endangered Species Act, including Southern resident killer whales (*Orcinus orca*) and humpback whales (*Megaptera novaeangliae*). Marine mammal monitoring will be conducted by a protected species observer in accordance with the MMMP only when debris removal activities must occur in water. Activities that do not require vibratory equipment will not require marine mammal monitoring even if completed in water.

A nesting bird survey shall also be conducted before debris removal activities to identify active nests and avoid disturbing protected species in the Site.

6.4.4 *Contingency Measures*

If all pilings, bulkheads, and other pieces of debris are not removed from the Site, the Contractor will be directed to remove any remaining debris in accordance with local regulations, permits, and monitoring requirements. If a sheen is produced during debris removal, the Contractor shall contain and clean up the sheen in accordance with the CPS. Any pilings that cannot be removed will be cut off 12 inches below the removal design surface or 3 feet below the existing mudline, whichever is greater below the mudline as required by the CPS.

6.5 **Water Quality Monitoring**

A *Water Quality Monitoring Plan* (Anchor QEA 2025c) has been prepared to comply with Washington State's Water Quality Standards for Surface Water (WAC 173-201A) and describe in situ water quality monitoring activities to be conducted in the unlikely event that project demolition or construction activities need to be performed "in water" (during high tide periods when the work area is submerged).

7 Documentation and Reporting

Documentation and reporting for CQA activities will include pre-construction documentation, construction documentation, and post-construction documentation, as detailed below. The Contractor and the CM/CQAO will work closely on a daily basis during construction to complete the project as specified in the approved design documents and to collect the documentation required. The following sections describe documentation that will be required throughout the cleanup action.

7.1 Pre-Construction Documentation

The Contractor will be required to submit a CWP for approval by the Company and the Ecology Project Coordinator. The CWP will contain the following elements:

- Project work plans
- CQC Plan
- CHASP
- Construction EPP
- Project Construction Schedule
- Survey Control Plan

Ecology approval authorities for these plans are defined in the pending CD. CQA and CQC procedures will be addressed in various elements of the CWP. A brief description of the contents of each plan component of the CWP is provided in Sections 7.1.1 to 7.1.6.

7.1.1 *Project Work Plans*

The project work plans will describe, in narrative form, the methods to be employed during each construction activity including equipment types, modes of operation, schedules, sequence of activities, and other aspects necessary to describe how and when the specified work will be performed. The project work plans will have specific sections detailing how the following elements will be completed:

- Sediment removal
- Sloping
- Material placement
- Capping
- Shoreline armoring
- Spill prevention, control, and countermeasures
- Construction stormwater pollution prevention measures
- Waste management, transportation, and disposal
- Temporary facilities and controls
- Air pollution and odor controls

- Soil recontamination controls
- Groundwater controls

The project work plans will describe how each of the quality assurance measures and verification activities identified in Section 6 will be addressed in the field.

7.1.2 Construction Quality Control Plan

The CQC Plan will present the system through which the Contractor ensures that construction activities are being implemented in compliance with the requirements of the contract and specifically how each of the quality assurance measures and verification activities identified in Section 6 will be addressed in the field. The CQC Plan will identify personnel, procedures, methods, instructions, inspections, records, and forms to be used in the CQC system. Specifically, the CQC Plan will include a description of procedures for maintaining and updating daily activity logs, procedures for reporting out-of-spec conditions, recordkeeping procedures for personnel, equipment maintenance and calibration, and daily and weekly reporting requirements.

7.1.3 Construction Health and Safety Plan

The Contractor will submit its CHASP presenting the necessary health and safety requirements for job site activities and the measures and procedures to be employed for protection of on-Site personnel. The plan will cover the controls, work practices, personal protective equipment, and other health and safety requirements that will be implemented by the Contractor in connection with the cleanup action construction activities. The Contractor shall use personnel that are trained to maintain the necessary health and safety protocols for this type of cleanup work.

7.1.4 Construction Environmental Protection Plan

The Contractor will be required to submit an EPP describing the environmental protection measures and monitoring activities that will accompany all construction activities. The EPP will cover potential environmental releases as a result of the Contractor operations, as well as monitoring and corrective actions necessary to control such releases. The EPP will contain separate sections addressing contamination prevention, containment and cleanup, erosion and turbidity control, sound level control, air pollution and dust control, and water quality monitoring as they pertain to the pertinent construction activities described in Section 6.

7.1.5 Project Construction Schedule

A detailed Project Construction Schedule will be submitted by the Contractor for each construction element prior to construction. Periodic schedule updates will be submitted by the Contractor following progress meetings. Additional requirements for the construction schedule are included in the specifications.

7.1.6 Survey Control Plan

The Contractor will submit a Survey Control Plan prior to construction. The plan will detail the specific procedures, equipment, and personnel to be used for all intertidal surveying work. The plan will also discuss quality assurance and quality control measures to confirm surveying results. Additional surveying requirements are included in the specifications.

7.2 Construction Documentation

During construction activities, the Contractor will be required to provide a variety of documentation to the CM/CQAO, including testing results of materials received, weight tickets for shipments of materials removed or imported, survey results, and documentation of pay items completed. The Contractor will also maintain a daily log of activities, as described in Section 7.2.1. The CM/CQAO will maintain a field report of daily activity and complete an internal weekly report. The contents of the report are described in Section 7.2.2. Weekly progress reports will be submitted to the Ecology Project Coordinator. Additional documentation is described in Sections 7.2.3 through 7.2.6. The records described in this section will be maintained in the project files. Monitoring data will be provided electronically to the Ecology Project Coordinator and will be summarized in the Construction Completion Report (CCR).

If, during construction, modification of the approved design is required, modifications will be documented in writing. Undocumented modifications of the design or other deviations from the approved design will not be permitted. Construction surveys, including as-built surveys, will be documented on drawings using the same datum, unit, and scale as design drawings. Record drawings will allow for a direct visual assessment of the quality and completeness of construction.

7.2.1 Contractor's Daily Quality Control Report

During construction activities, the Contractor shall prepare a Daily Quality Control Report and submit it to the CQAO. The Contractor's daily report will record the following information at a minimum:

- Date
- Weather conditions
- Identification of personnel on-Site and appropriate professional certifications
- Description of activities completed as identified by stationing and offset
- Any changes to BMPs or environmental controls
- Materials delivered or used
- Equipment used
- Period covered by the report and hours worked
- Area and quantity of materials removed, stockpiled, and/or disposed of off Site
- Area and quantity of materials placed on Site
- Surveys completed and progress survey data

- Weight tickets
- Results of any quality control inspections, tests, or other monitoring activities
- On-Site/off-Site loading facility activities
- Problems encountered and resolution of problems
- Downtime and delays to the operation
- Health and safety status

The Daily Quality Control Reports will be sent to the Ecology Project Coordinator on a weekly basis as part of the Weekly Summary Reports as discussed in Section 7.2.3.

7.2.2 Construction Quality Assurance Officer's Daily Report

The CQAO will maintain a daily field log to record observations, measurements, inspections completed, and data received; communications with other members of the project team and the Ecology Project Coordinator; any water quality exceedances; additional environmental controls that were implemented; problems encountered; and resolutions. The daily field log will be supported by submittals received from the Contractor, such as survey results and weight tickets, chain-of-custody forms for water quality monitoring samples collected, laboratory data received, inspection reports, and written communication from members of the project team or the Ecology Project Coordinator. Water quality results will also be separately recorded and reported as described in the *Water Quality Monitoring Plan* (Anchor QEA 2025c) in the unlikely event that intertidal sediment removal needs to be performed in water during tidal periods when the work zones are submerged. If in-water work is not needed, water quality monitoring will not be necessary.

7.2.3 Weekly Summary Reports

The CQAO, in cooperation with the Contractor, will prepare weekly summaries of progress. These summaries will facilitate the preparation of the Weekly Summary Reports. The Weekly Summary Report will identify progress organized by activity, as follows:

- Sediment removal
 - Area worked (supported by Contractor's log)
 - Volume of material removed (supported by Contractor's log)
 - Surveys completed (supported by Contractor's log)
 - Schedule confirmation (i.e., confirm that production is compliant with the scheduled activity)
 - Problems encountered
 - Corrective actions
- Backfill, EMNR, and/or capping material placement
 - Area worked (supported by Contractor's log)
 - Weight/volume of material placed

- Schedule confirmation (i.e., confirm that production is compliant with scheduled activity)
- General problems encountered
- Corrective actions
- Environmental controls

7.2.4 Weekly Construction Meetings

Weekly progress meetings will be coordinated with the Ecology Project Coordinator including pre-notification of the time and place of meetings. Conference call access will be provided as needed and meeting minutes will be prepared and made available to attendees.

7.2.5 Import Material Characterization

Prior to any on-Site placement of import materials, the Contractor shall submit a Borrow Site Characterization Report to the CQAO. The characterization report will include identification of the source (including a map documenting the origin of the material), Site inspection, and material sample and characterization (physical and chemical testing, as specified) to ensure that the import material will meet the chemical and physical specifications of its intended use.

7.2.6 Post-construction Documentation

Within 120 days of completion of each construction season, the Company will submit a summary of information that will be presented in the draft CCR. Within 120 days of notification by the Ecology Project Coordinator that all cleanup and restoration action requirements have been fulfilled (excluding long-term post-construction monitoring requirements), the Company will submit the draft CCR. The draft CCR will contain the following information:

- Introduction
 - Site location
 - Environmental setting
 - Relevant operational history
 - Summary of previous investigations and actions
- Cleanup background
 - Basis for the cleanup action (i.e., the CD and CAP)
 - Cleanup performance standards
 - Summary of design basis
 - Summary of deviations from the design, if any
- Construction activities
 - Description of sediment removal activities
 - Description of backfill material placement
 - Description of EMNR material placement

- Description of cap placement
 - Description of transport, offloading, and off-Site disposal
 - Description of construction monitoring activities
 - Description of completion and demobilization
- Chronology of events
 - Description of the timing of construction activities, identifying milestones with reference to a tabular summary of a more detailed construction timeline
- Performance standards and CQC
 - Description of performance objectives and verification activities performed to confirm the cleanup action was implemented in accordance with the CPS
 - Description of actual construction performance relative to performance objectives, including a summary of the results of CQA measurements and analyses
 - Description of contingency actions implemented, if any were necessary
 - Description of Ecology Project Coordinator oversight activities
- Final inspection and certifications
 - Description of final inspections, including the scope of inspections and noting any deficiencies identified and corrective actions implemented
 - Summary of health and safety monitoring during the implementation of the cleanup action with notation of deviations or incidents, if applicable
 - Identification of any institutional or engineering controls that are implemented to maintain the integrity of the cleanup action, including identification of parties responsible for maintaining and enforcing controls
 - If applicable, summary of close out requirements for off-Site offloading facility
- Operation and maintenance activities
 - Description of post-construction monitoring and maintenance requirements
 - Description of contingency measures that would be implemented if post-construction monitoring indicates such measures are warranted
- Observations and lessons learned
 - Identification of problems encountered, if any, in implementing the cleanup action and corrective actions
 - Identification of successes in implementing the cleanup action
 - Analysis of lessons learned that may be applied to future activities
- Project contact information
 - Identification of individuals (contact names, addresses, and phone numbers) for design and construction contractors, Ecology oversight contractors, and key personnel at the Company, Ecology, and other agencies

The CCR will also include copies of record drawings, summaries of waste disposal and analytical results, and the Final Water Quality Monitoring Report. If in-water work is not needed, the Final Water Quality Monitoring Report will not be necessary.

The Company will submit a final CCR within 90 days of receipt of Ecology Project Coordinator comments on the draft CCR.

8 References

Anchor QEA, 2025a. *Marine Engineering Design Report*. JELD-WEN Site. June 2025.

Anchor QEA, 2025b. *Pre-Remedial Design Investigation Data Report, Marine Areas of JELD-WEN Site*. JELD-WEN Site. June 2025

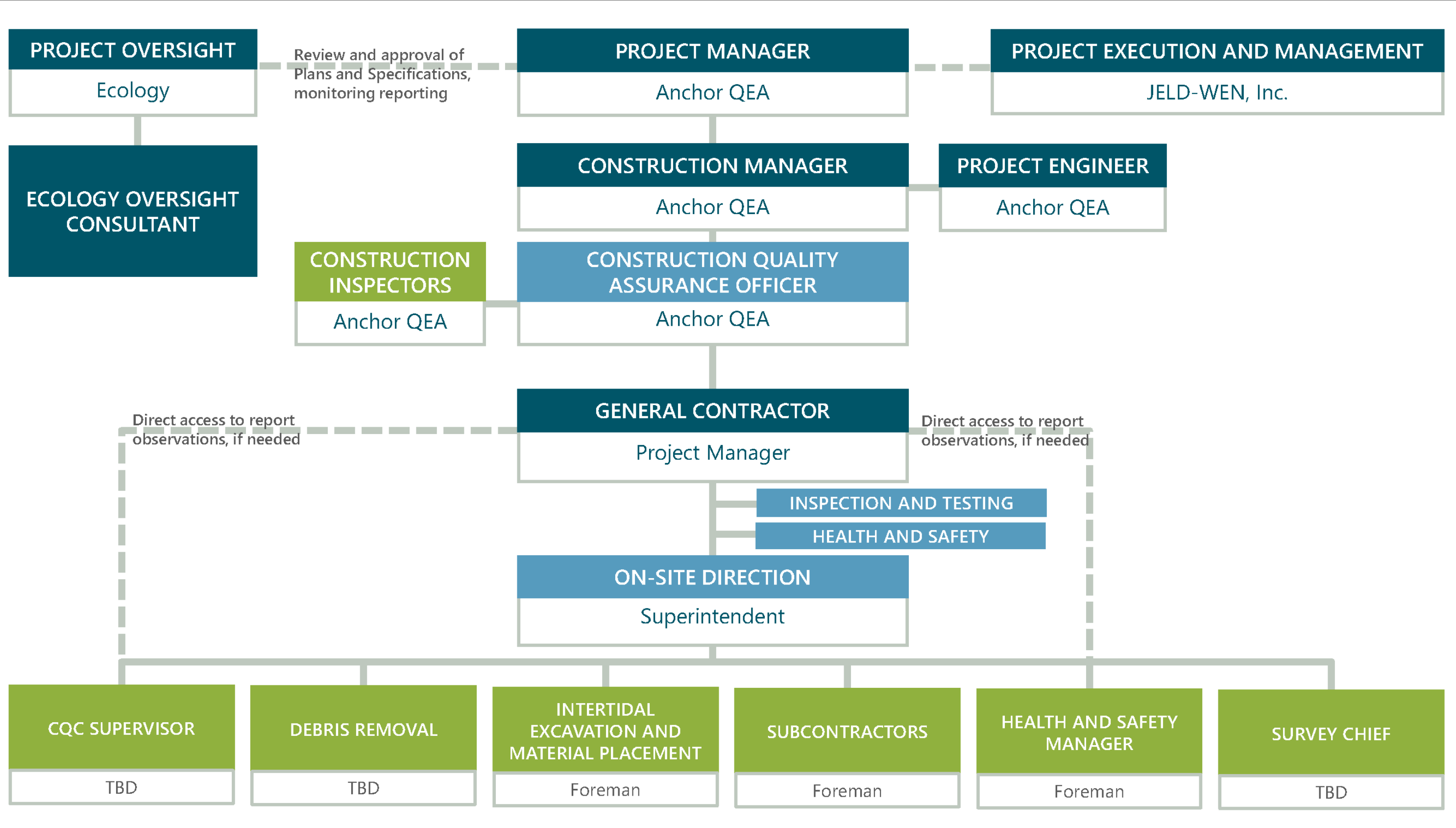
Anchor QEA, 2025c. *Water Quality Monitoring Plan*. JELD-WEN Marine Sediment Cleanup Project. September 2025.

Ecology (Washington State Department of Ecology), 2023. *Final Cleanup Action Plan, Jeld Wen Site*. Exhibit F to the Second Amendment to the Agreed Order No. 5095. August 2023.

Ecology, 2025. *Jeld Wen – Cleanup Action Plan (CAP) Clarifications*. November 4, 2025.

USACE (U.S. Army Corps of Engineers), 2007. *Control and Topographic Surveying*. Engineering Manual. EM 1110-1-1005. January 2007.

Figure



File location: https://anchorqea.sharepoint.com/p:/r/sites/Jeld-Wen/Shared%20Documents/Former%20Nord%20Door%20Facility/Engineering%20Design/60_%20Design/CQAP/Figures/Fig%201_Org%20Chart_20260216.pptx?d=w90fe4506d3f048a695810cbbd20828b8&csf=1&web=1&e=cSR7hf



Figure 1
Organizational Chart
Construction Quality Assurance Plan
JELD-WEN Site