SHELTON HARBOR SEDIMENT CLEANUP UNIT
INTERIM ACTION

Technical Specifications

Prepared/Designed By:
Anchor QEA, LLC
720 Olive Way, Suite 1900
Seattle, Washington 98101

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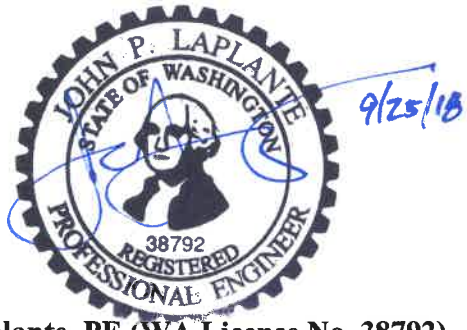
These Technical Specifications were prepared under the supervision of a registered Professional Engineer.



9/25/18

John Laplante, PE (WA License No. 38792)
Anchor QEA, LLC

PROCUREMENT AND CONTRACTING REQUIREMENTS

TECHNICAL SPECIFICATIONS

APPENDICES

END OF SECTION

PART 1 – GENERAL

1.01 DEFINITIONS

A. **Addendum**: A written or graphic document issued by the Owner prior to the opening of Bids that clarifies, corrects, or changes a document contained or referenced within the Contract Documents.

B. **Agreement**: A written form executed by the Owner and the Contractor that binds the Contractor to perform the Work in accordance with the Contract.

C. **Bid**: The offer of a Bidder, on the prescribed Bid Form, properly executed, setting forth the price or prices for the Work to be performed.

D. **Change Order**: A written document issued by the Owner on or after the date of the execution of the Agreement that authorizes and directs an addition, deletion, or other revision in the Work, or an adjustment in the Contract Time or Contract Sum.

E. **Contract**: The Contract is the legal relationship between the Owner and the Contractor, and describes the rights, duties, and obligations of each as set forth in the Contract Documents.

F. **Contract Bonds**: The approved form of security in the form of a Performance Bond and a Payment Bond, furnished by the Contractor and its surety as required by the Contract Documents.

G. **Contract Documents**: The Contract Documents consist of the Advertisement for Bids, Instructions to Bidders, Agreement, Procurement and Contracting Requirements, General Requirements, Drawings, Specifications, General Conditions, Supplementary Conditions, Addenda, Change Orders, form of bond, insurance certificates, the Bid Form, and any other form indicated by the Owner as being part of the Contract Documents. Words and abbreviations that have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

H. **Contract Sum**: The Contract Sum stated in the Agreement Form as amended by Change Order is the total amount payable by the Owner to the Contractor for performance of the Work in accordance with the Contract Documents. The Contract Sum does not include state or local sales tax on the transaction between the Owner and the Contractor.

I. **Contract Time**: Contract Time is the period of time provided in the Contract Documents for the performance of the Work by the Contractor. Contract Time may be changed only by Change Order.

J. **Contractor**: The Contractor is the individual, partnership, firm, corporation, joint venture, or other business entity identified as such in the Agreement that has agreed to perform the Work in accordance with the Contract Documents.

K. **Day**: The term "day" shall mean a calendar day unless otherwise specifically designated.

L. **Designated Representative:** A person identified in writing as Contractor's or Owner's designated representative with full authority to act on behalf of such party in connection with the Contract Documents.

M. **Drawings**: The graphic presentation of the Work or parts thereof that indicates the size, form, location, and arrangement of the various elements of the Work.

N. **Simpson Timber Company**: The term Simpson Timber Company (Simpson) also includes all Simpson directors, officers, employees, consultants, and other authorized representatives.

O. **Engineer**: The Owner's Designated Representative who will administer the project Contract Documents and determine acceptance of the Work.

P. **Final Completion**: Occurs when the Owner's Designated Representative determines that all items on the approved Punch List or otherwise considers all physical work to be fully completed in accordance with the Contract Documents and the Contractor has submitted all documentation required by the Contract and required by law, to allow the Owner to process final acceptance of the Contract.

Q. **Force Account Work**: Work directed by the Owner to be performed on a time and expense basis with concurrent documentation as set forth in paragraph 1-09.6 of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction, current edition.

R. **Hazardous Materials**: Any hazardous or toxic substances, materials, and wastes listed in the U.S. Department of Transportation Hazardous Materials Table (49 Code of Federal Regulations [CFR] 172.101) or listed by the U.S. Environmental Protection Agency as hazardous substances (40 CFR Part 302) and any amendments thereto, and any substances, materials, or wastes that are or become regulated under federal, state, or local law. Hazardous Materials (or substances) shall also include, but not be limited to, regulated substances, petroleum products, pollutants, and any and all other environmental contamination as defined by, and in, any and all federal, state, and/or local laws, rules, regulations, ordinances, or statutes now existing or hereinafter enacted relating to air, soil, water, environmental, or health and safety conditions.

S. **Inspector**: The Owner's Designated Representative's authorized representative assigned to make inspections of the Contractor's performance of the Work.

T. **Liquidated Damages**: The amount of money set forth in the Contract Documents, if any, for failure of Contractor to comply with certain provisions of the Contract Documents.

U. **Owner**: Simson Timber Company.

V. **Product Data**: The illustrations, standard schedules, performance charts, brochures, diagrams, and other information furnished by the Contractor to illustrate a material, product, or system for some portion of the Work.

W. **Project**: The particular work described in the Contract Documents.

X. **Project Manager**: The Owner's Designated Representative, who is located on or near the Work Site and assigned immediate charge of the on-site engineering and administration of the construction project.

Y. **Provide**: The all-inclusive actions required to furnish, install, connect, adjust, test, and make ready for use or occupancy.

Z. **Punch List**: Shall have the meaning set forth in Paragraph FF below.

AA. **Samples**: Physical examples that illustrate materials, equipment, or workmanship and establish standards by which the Work will be judged.

BB. **Schedule of Prices**: Means the unit prices set forth in the Contract Documents.

CC. **Specifications**: Those portions of the Contract Documents consisting of the written technical descriptions of materials, equipment, construction systems, standards, workmanship, and other requirements that govern the quality and performance of the Work.

DD. **Subcontractor**: A business entity that has an agreement with the Contractor to perform a portion of the Work. The term "Subcontractor" means and includes the subcontractor and its authorized representatives.

EE. **Submittals**: Submittals consist of those items required by specification to be presented to the Owner in advance of beginning Work that is contractually dependent on Owner review and approval of the defined submittal content. Submittals may consist of working Drawings, Shop Drawings, erection plans, falsework plans, framework plans, cofferdam plans, stress diagrams, bending diagrams for reinforcing steel, or other diagrams, plans, or data used to illustrate some portion of the Work that the Contractor is required to submit to the Owner for approval. Submittals may also consist of documentation that Work is completed in accordance with the Contract Documents.

FF. **Substantial Completion**: Substantial Completion occurs when the Work as a whole or a designated portion thereof is sufficiently complete, in accordance with the Contract Documents, so that the Owner can use or occupy the Work or a

designated portion thereof for the use for which the Owner intended and the required Operations and Maintenance manuals, Warranties, and all Submittals as required by the Specifications have been provided.

For the purposes of this Contract, in-water work will be considered to be substantially complete when in-water work is no longer required for project work.

When the Work, or a designated portion thereof, is considered by the Contractor to be substantially complete and the Contractor has submitted the documents described above, the Contractor may request that the Owner schedule an inspection. With the request, the Contractor shall provide a preliminary list of items to be completed or corrected in order to make the Work comply with the Contract Documents. The Owner will review the list and determine whether the Work is ready for inspection. The Owner will perform the inspection together with the Contractor. The preliminary list, as revised during the inspection, is referred to as the "Punch List." The Owner may revise the Punch List at any time prior to Final Completion when items needing completion or correction are discovered.

GG. **Supplementary Conditions**: That portion of the Contract Documents that amends or supplements the General Conditions.

HH. **Supplier**: A vendor, supplier, distributor, or material supplier that supplies material or equipment used in the performance of the Work.

II. **Unit-price Work**: Work to be paid for on the basis of unit prices stated in the Bid or a Change Order. Such Work to be measured for payment as described within the Contract Documents.

JJ. **Work**: All services, labor, materials, equipment, and incidentals necessary to successfully complete the work and service required by or reasonably inferable from the Contract Documents, including all materials and equipment to be incorporated in the construction.

KK. **Work Site**: Location where the Work will be performed.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL

1.01 SCOPE

A. The Work under this Contract is to provide all labor and to furnish and/or install all materials and equipment, as may be required, to complete the Work as described in these documents.

B. Simpson Timber Company (Owner) requires removal and disposal of creosote-treated piles and remediation of contaminated sediment within Interim Action capping areas as part of the Shelton Harbor Sediment Cleanup Unit Interim Action in Shelton, Mason County, Washington.

C. The accompanying Drawings and these Specifications show and describe the location and type of work to be performed under this project. Work for this project includes:

1. Development of Contractor work plans.

2. Equipment mobilization and demobilization.

3. Site preparation including material transload area, material processing area, and stockpiling area of the upland construction site.

4. Removal, processing (e.g., cutting if necessary), transportation, and disposal of all visible creosote-treated piles as shown on the Drawings.

5. Placement of intertidal and shallow subtidal capping materials over approximately 43,000 square yards (SY).

D. In-water work must be performed during prescribed work windows. The in-water work windows for this project are as follows:

1. July 16 to February 14 in any year.

E. All work must be performed in compliance with project permits. See Section 014126 – Permits.

1.02 ACCESS TO SITE

A. The Contractor will have access to the Work Site via the uplands through the main entrance off of Highway 3 (East Pine Street) in Shelton, Washington.

B. The Contractor will have access to the Work Site via the water from Hammersley Inlet.

1.03 ENGINEERING AND INSPECTION

A. The Owner and/or its Designated Representative(s) will perform the necessary inspection work except as otherwise specified in the Contract Documents. Refer to Section 014500 – Contractor Quality Control for general requirements.

B. Representatives of regulatory agencies and Owner's Representatives shall be allowed on the Work Site and on Contractor equipment to inspect the work at any time.

1.04 COORDINATION

A. Coordinate marine activity and vessel movements with the U.S. Coast Guard, as required.

B. Coordinate construction activities with the Owner so that interference with Tribal fishing activities will be minimized to the maximum extent practicable.

C. All costs associated with coordination of the Work shall be considered incidental to the prices set forth in the Bid Proposal.

1.05 CURRENT CONDITIONS

A. The Work under this Contract includes placement of an intertidal cap over contaminated sediments with low to moderate contamination levels of chemicals of concern, particularly dioxins/furans in sediments.

1. Dioxin/furan toxic equivalency quotient was measured in concentrations ranging from 1.2 to 413 nanograms per kilogram (ng/kg) in sediments.

B. Additional details on site conditions are provided in the Basis of Design Report and Interim Action Plan conducted for the Site, which are available at the Washington State Department of Ecology's Toxics Cleanup Website (https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=13007).

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. This section describes the uses and restrictions for the premises, Staging Area, parking, vehicle and equipment access, work hours, and inadvertent discovery of archaeological materials.

1.02 USE OF PREMISES

A. Use of the Owner's premises is limited to work in areas indicated on the Drawings. Do not disturb portions of Shelton Harbor outside of the Project Limits as shown on the Drawings. Disturbance outside the Project Limits (as shown on the Drawings) is only to designated access points and storage areas as shown on the Drawings or specified herein.

1. Limits: Confine upland and in-water construction operations to limits as shown on the Drawings.

2. Occupancy: Allow for the Owner and Owner's Designated Representatives access to the Work Site, but the public shall be restricted.

3. Driveways and Entrances: Keep entrances serving premises clear and available to emergency vehicles at all times. Do not use these areas for parking or storage of materials.

4. Move any stored products under Contractor's control that interfere with the other activities and the Work Site.

5. Install and maintain temporary security fencing to secure entrance to the Staging Area.

1.03 STAGING AREA

A. Staging Area are limited to the areas shown on the Drawings. Contractor's use of the designated Staging Area shall be limited to purposes directly related to the construction of the project.

B. Contractor may provide staging off site at Contractor's discretion. If the Contractor opts for providing off-site staging areas, it shall:

1. Provide Owner with locations for approval.

2. Be prepared to demonstrate, if requested by the Owner, that the off-site area is properly permitted for the Contractor's intended use.

1.04 RESTORATION CLAUSE

A. Unless otherwise designated, protect all existing site features to remain from potential Contractor damage above and below grade. If avoidable damage occurs, notify the Owner immediately. The Owner will direct the Contractor as to how the Contractor is to replace or repair the damage at the Contractor's expense.

1.05 PARKING

A. Parking for personnel performing the work will be limited to an area within the Project Limits as shown on the Contract Documents or at other off-site locations arranged by the Contractor. Note that parking is limited within the Project Limits. The Contractor will be responsible for ensuring that no nuisance is created through use of the streets for parking or workers' access.

1.06 TRUCK AND EQUIPMENT ACCESS

A. Limit the access of trucks and equipment to the haul routes shown on the Drawings.

1.07 INADVERTENT DISCOVERY OF ARCHAEOLOGICAL MATERIALS

A. If archaeological materials are discovered at any time during the execution of the Project, stop work in accordance with and the Washington Department of Natural Resources Derelict Creosote Piling Removal Best Management Practices for Pile Removal and Disposal (included in the *Shelton Harbor Interim Action Basis of Design Report*, Appendix A to these Specifications) and Washington law (Revised Code of Washington 27.50). However, rather than notify a Washington State Department of Natural Resources archaeologist as stated in Appendix A, the Contractor shall notify Simpson, who will notify the U.S. Army Corps of Engineers district engineer per the requirements of the Nationwide Permit 38. Upon discovery, the Owner will also notify the Squaxin Island Tribe, Department of Archaeology and Historic Preservation, and the Washington State Department of Ecology project manager.

1.08 WORK HOURS

A. Work shall be accomplished during the work hours listed below:

1. Regular weekday hours are between 7:00 a.m. and 10:00 p.m., and regular weekend hours are between 9:00 a.m. and 10:00 p.m.

2. If it becomes necessary to work later or earlier than these hours to accommodate the project schedule or tidal factors, the Owner will work with the City of Shelton to determine potential mitigating measures, and the Contractor must abide by all noise requirements of the Mason County Code (Chapter 9.36).

B. Submit a schedule of working hours to the Owner at the Preconstruction Meeting in accordance with Section 013300 – Submittal Procedures.

1.09 PERMIT RESTRICTIONS AND REGULATORY REQUIREMENTS

A. Comply with all conditions in approved permits obtained by the Owner and Contractor. See Section 014126 – Permits, and Section 014500 – Contractor Quality Control. In the event of discrepancy between the Permits and the Contract Documents, the more stringent requirements shall prevail.

1.10 ACCESS TO CONTRACTOR'S EQUIPMENT

A. Grant reasonable access to the Contractor's derrick, barge(s), tug(s), and all other equipment mobilized for the work for inspection purposes, to the Owner or to any Owner-designated representative. Regulatory agency staff may also require access to equipment and will be escorted by Owner-designated representatives at all times. Assess conditions of the site and assess specific elements that are necessary to provide safe access to in-water equipment. Comply with all health and safety regulations pertaining to access to in-water equipment.

1.11 MISPLACED MATERIAL

A. Should the Contractor, during the execution of the work, lose, dump, throw overboard, sink, or misplace any material, barge, machinery, or appliance, promptly recover and remove the same. Give immediate verbal notice, followed by written confirmation, to the Engineer of the description and location of such obstructions and mark and buoy such obstructions until they are removed.

B. Should the Contractor refuse, neglect, or delay compliance with this requirement, such obstructions may be removed by the Owner or its agents, and the cost of such operations may be deducted from any money due to the Contractor, or may be recovered from the Contractor's bond.

C. The liability of the Contractor for the removal of a vessel wrecked or sunk without his fault or negligence shall be limited to that provided in Sections 15, 19, and 20 of the Rivers and Harbors Act of 3 March 1899 (33 United States Code [U.S.C.] 410 et seq.).

D. The Contractor shall be responsible for any fees, fines, penalties, or other costs resulting from misplaced materials.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

DIVISION 01—GENERAL REQUIREMENTS
Section 013100—Project Management and Coordination

PART 1 – GENERAL

1.01 SUMMARY

A. This section includes the required attendees, suggested agendas, and locations for the Preconstruction Meeting and progress meetings.

1.02 PRE-CONSTRUCTION MEETING

A. Notification

1. Following Notice of Award, the Owner will notify the selected Bidder of the location, time, and date of a Preconstruction Meeting.

B. Attendance

1. The following parties are requested to attend:

a) Owner's Designated Representatives:

1) Engineer.

2) Contract Administrator.

3) Consultants.

4) Inspectors.

5) Other Owner personnel.

b) Contractor's Designated Representatives:

1) Project Manager (Superintendent).

2) Contract Administrator.

3) Major Subcontractors.

4) Major Suppliers.

c) Third-Party Representatives:

1) Washington State Department of Ecology (Ecology) representatives.

2) Tribal representatives.

3) U.S. Army Corps of Engineers representatives.

4) Other regulatory agency representatives.

2. Suggested Agenda

a) The Engineer will summarize the Contract Document requirements such as:

1) The Work: sequence, phasing, and occupancy.

2) Job communications.

3) Contractor's use of the premises.

4) Special procedures.

5) Procedures and processing:

i. Field decisions.

ii. Submittals.

iii. Change orders.

iv. Application for payment.

6) Record Documents.

7) Construction facilities, controls, and construction aids.

8) Temporary utilities.

9) Security procedures.

10) Safety and first-aid procedures.

11) Housekeeping procedures.

12) Other.

b) The Contractor will present and distribute information indicating:

1) List of major subcontractors and suppliers.

2) Preliminary construction schedule.

3) Schedule of Working Hours.

4) Staging Area proposal.

1.03 PROGRESS MEETINGS

A. The Engineer will schedule and administer periodic progress meetings throughout progress of the Work.

B. The Engineer will arrange meetings, prepare standard agenda with copies for participants, preside at meetings, record minutes, and distribute copies within 10 working days to the Contractor, meeting participants, and others affected by decisions that are made.

C. Attendance is required for the Contractor's job superintendent; major Subcontractors and Suppliers; the Engineer, Designer, and other Owner's Designated Representatives; and Ecology or other regulatory agencies or their representatives, as appropriate to the agenda topics for each meeting.

D. Standard Agenda

1. Review of minutes from previous meeting.
2. Review of work progress.
3. Review of field observations, problems, and decisions.
4. Identification of problems that impede planned progress.
5. Progress schedule (3 weeks ahead; 1 week back).
6. Effect of proposed changes on progress schedule and coordination.
7. Corrective measures to regain projected schedules.
8. Planned progress during succeeding work period.
9. Safety issues.
10. Maintenance of quality and work standards.
11. Demonstration that the Work Site record drawings are up-to-date.
12. Pay request (as required).
13. Other business relating to the Work.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

DIVISION 01—GENERAL REQUIREMENTS
Section 013200—Construction Progress Documentation

PART 1 – GENERAL

1.01 SUMMARY

A. This section includes construction scheduling procedures.

1.02 CONSTRUCTION SCHEDULE

A. Prepare a Construction Schedule as part of the Construction Work Plan in accordance with Section 013300 – Submittal Procedures, which will show specific tasks, dates, and the critical path necessary for completion of the project within the Contract Time limits. Submit the preliminary schedule at the Preconstruction Meeting in accordance with Section 013300 – Submittal Procedures.

1.03 ON-SITE DOCUMENTS

A. Maintain at the Work Site, in good order for ready reference by the Owner, one complete record copy of the Contract Documents, including the Addenda, Change Orders, and permits; all working Drawings; Construction Schedule; and other approved submittals. Generate and keep on site all documents and reports required by applicable permit conditions.

B. Mark the Contract Record Drawings to record all changes made during construction. The location of all existing or new underground piping, valves and utilities, and obstructions, as located during the Work, shall be appropriately marked on the ground until the Contractor incorporates the actual field location dimensions and coordinates into the Record Drawings for the site. Update the project's Record Drawings on a weekly basis and before elements of the Work are covered or hidden from view. After the completion of the Work or portions of the Work and before requesting final inspection, give the Record Drawings to the Owner. The Owner reserves the right to withhold progress payments until such time as the Record Drawings are brought current.

1.04 DOCUMENTATION OF PROGRESS AND DAILY QUANTITIES

A. Provide Daily and Weekly Construction Reports in accordance with Section 013300 – Submittal Procedures.

B. Meet with the Engineer daily to agree upon the quantities of materials or work completed during the day. Both parties shall initial the Project Daily Quantities Report that shows there is agreement (or a lack of agreement) over the amount of work performed that day.

C. Prepare a Daily Construction Report, which will include the following items:

1. Date.

2. Weather conditions.

3. Period covered by the report and hours worked.

4. Equipment used.

5. Staff on site.

6. Description of activity as identified by stationing and offset.

7. Quantity of pilings removed that day and cumulatively.

8. Quantity of debris disposed of off site that day and cumulatively.

9. Area and quantity of material placed that day and cumulatively.

10. Progress survey data.

11. Weight tickets and/or barge displacement measurements.

12. Downtime and delays to the operation.

13. Health and safety status.

14. Other relevant comments concerning conduct of the operation.

D. The Contractor's Superintendent or Quality Control Supervisor shall sign the Daily Construction Report.

E. Submit the Daily Construction Report to the Engineer on the morning following completion of the work for that day.

F. Submit to the Engineer copies of all Certificates of Disposal no later than 3 calendar days after the material has been delivered to the off-site disposal facility(ies).

1. Records shall include copies of all manifests, weight tickets, and other documentation.

2. Documentation shall track the material from the point of leaving the Work Site to final disposal at the disposal facility(ies).

G. Weekly Construction Report: Summarize the week's work in a Weekly Construction Report to be submitted to the Engineer on the following Monday morning. The Weekly Construction Report shall identify work completed to date, anticipated work to be completed in the present week, and the latest progress survey information. The Weekly Report shall include a written Environmental Protection Inspection Report summarizing the daily inspections,

condition of the environmental protection equipment and materials, Temporary Erosion and Sedimentation Control facilities, and repairs or modifications to environmental protection means and methods.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. This section includes the content, procedures, and format for preparing and transmitting submittals.

1.02 SUBMITTALS LIST

A. Individual submittals are required in accordance with the pertinent sections of these Specifications. Other submittals may be required during the course of the project and are considered part of the normal work to be completed under the Contract.

B. This summary list is presented for the Contractor's convenience only, but no warranty is given to its accuracy or completeness. In the event of any discrepancies with the requirements of the individual Specification sections, those individual Specification sections apply.

SECTION NUMBER	DESCRIPTION
013200	• Construction Schedule • Project Daily Quantities • Daily Construction Reports • Certificates of Disposal • Weekly Construction Report
013300	• Construction Work Plan
013529	• Health and Safety Plan (HASP)
014500	• Construction Quality Control (CQC) Plan • Field Superintendent Qualifications
015719	• Environmental Protection Plan (EPP) • Weekly Environmental Protection Inspection Reports • Spill Prevention, Control, and Countermeasures (SPCC) Plan • Construction Stormwater Pollution Prevention Plan (SWPPP) • Temporary Erosion and Sediment Control (TESC) Plan
017000	• Project As-Built Drawings • Warranty • Project Closeout Checklist

SECTION NUMBER	DESCRIPTION
017123	• Survey Plan • Progress Surveys • Pre-Construction Survey • Final As-Built Survey
024100	• Pile Demolition, Removal and Disposal Plan
352026	• Engineered Sediment Capping Plan • Material Barge Information

1.03 PRE-CONSTRUCTION MEETING SUBMITTALS

A. Prepare a preliminary construction schedule showing specific tasks, dates, and the critical path necessary for completion of the Project within the Contract Time limits. Submit the preliminary schedule at the Preconstruction Meeting; the Owner shall approve or return for correction within 5 working days of the Preconstruction Meeting. Within 5 working days, revise the preliminary schedule in accordance with the Owner's corrections and submit the revised schedule for acceptance.

B. Prior to mobilization, submit a proposal at the Preconstruction Meeting for review by the Owner of Staging Area indicating specific use, access, restoration, and anticipated duration of use. No use of the designated Staging Area is permitted until the Owner provides written approval of Contractor's proposal.

C. Submit a schedule of working hours to the Owner at the Preconstruction Meeting for acceptance prior to the start of any work in the Project Limits. Do not perform any activities outside of these hours without prior approval of the Engineer. Said approval shall be requested at least 48 hours prior to the proposed work outside of these hours.

1.04 CONSTRUCTION WORK PLAN

A. Submit a Construction Work Plan that describes the Contractor's means and methods for completing the various parts of the Work.

B. Submit the following individual elements of the Construction Work Plan within 7 calendar days following the Contractor's receipt of the signed Contract for early review to allow for a Limited Notice to Proceed:

1. Construction Work Schedule as specified in Paragraph 1.04.C.1.

2. Pile Demolition, Removal and Disposal Plan as specified in Paragraph 1.04.C.3.

3. CQC Plan as specified in Paragraph 1.04.C.6.

4. HASP as specified in Paragraph 1.05.C.7.

5. Temporary Facilities and Controls Plan as specified in Paragraph 1.04.C.9.

6. EPP as specified in Paragraph 1.04.C.10.

C. Submit all elements of the Construction Work Plan for Engineer review and approval within 10 calendar days after Notice of Award. The plans listed under this article shall comprise the Contractor's Construction Work Plan.

1. Construction Work Schedule in a Gantt chart format, which shows the critical path of work and which will:

a) Identify the work clearly, showing the detailed items of work, specific tasks, dates, and the critical path necessary for completion of the Project within the Contract Time limits.

b) Show all significant design, manufacturing, construction, and installation activities.

c) Include sufficient time for cleaning, Punch List review, and completion of Punch List items prior to the Substantial Completion date.

d) Clearly show the relationship between the work items and the starting and completion dates, as well as include all details of the work within the timeframe shown.

2. Survey Plan, including:

a) The name, address, telephone number, and qualifications of the surveyor, crew chief, superintendent, and all other persons who are proposed to perform survey or survey-related duties.

b) Procedures and equipment for performing topographic and hydrographic surveys.

c) Methods for establishing survey control, benchmarks, tide gage(s) and layout of the work.

3. Pile Demolition, Removal, and Disposal Plan, including:

a) Work sequence.

b) Number, types, and capacity of equipment to be used, including names of marine vessels to be used.

c) Hours of operation.

d) Methods of operation, estimated production rates, and the time required to complete each activity.

e) Means, procedures, and controls for demolition and pile removal including management of debris attached or adjacent to piles (including lights and wires), and demolition material transport.

f) Methods for protection of the environment, including:

1) Details on proposed debris containment boom and oil containment boom.

2) Methods to prevent spillage of demolition debris back into the water during haul barge transport and cleanup of the barge.

3) Methods for containing and disposing of water that comes into contact with pilings on the barge, transload area, and Staging Area.

4. Waste Management, Transportation, and Disposal Plan, including:

a) A list of wastes that will be generated and the proposed recycling facility or disposal site for each waste stream.

b) Methods, procedures, and equipment for transloading and disposal of creosote-treated piles and debris to the off-site disposal facilities as appropriate.

c) Documentation that facilities proposed for off-site disposal or recycling of waste materials are in compliance with applicable regulations. Include copies of permits for waste sites and recycling operations.

d) A list of all subcontractors to be employed in transportation, types of trucks, containers, and liners to be used, inspection procedures prior to transport, and BMPs to prevent any leakage or spillage.

e) A description of all haul routes, transfer facilities, estimated hours and days of operation, estimated number of trucks per day, and on-site traffic control measures.

5. Engineering Sediment Capping Plan, including:

    a) Work sequence.

    b) Number, types, and capacity of equipment to be used, including names of all marine vessels to be used.

    c) Hours of operation.

    d) Methods of operation, estimated production rates, and the time required to complete each activity.

    e) Means and methods for horizontal and vertical control of the Work.

    f) Notification and procedures to be used for moving equipment to accommodate commercial and tribal vessel traffic using the surrounding waterway.

    g) Methods for protection of the environment and existing facilities, including:

        1) Methods, procedures, and controls to protect existing facilities against damage.

        2) BMPs proposed by the Contractor to minimize the potential for water quality exceedance.

    h) Methods for estimating average thickness of cap material placed.

    i) Material barge information:

        1) Certified tonnage versus displacement curve for all material barges.

        2) Name of barge.

        3) Length, beam, and molded depth of each barge.

        4) Material capacity of barge.

        5) Hydrostatic data certified by a naval architect for determining barge displacement in short tons, per each 1 foot of displacement between loaded and light drafts. The barge shall have clear and distinct draft marks.

        6) Expected draft of barge loaded to capacity with cap material.

6. CQC Plan, including:

    a) Organization chart showing the various Quality Control (QC) team members, along with their designated responsibilities and lines of authority.

    b) The name, qualifications, duties, responsibilities, and authorities of each person assigned a primary QC function.

    c) Acknowledgement that the QC staff will conduct inspections for all aspects of the Work specified, and shall report to the QC Supervisor, or someone of higher authority in the Contractor's organization.

    d) Procedures for scheduling and managing submittals, including those of Subcontractors, off-site fabricators, and material Suppliers.

    e) Testing methods, schedules, and procedures used to report QC information to the Owner, including samples of the various reporting forms.

7. HASP, including:

    a) Anticipated chemical and/or physical hazards associated with the Work.

    b) Hazardous Material inventory and Safety Data Sheets for all chemicals that will be brought into the Work Site.

    c) Engineering controls/equipment to be used to protect against anticipated hazards.

    d) Personal protective equipment and clothing including head, foot, skin, eye, and respiratory protection.

    e) Work area housekeeping procedures and personal hygiene practices.

    f) Personnel and equipment decontamination plan.

    g) Administrative controls.

    h) Emergency plan, including locations of and route to nearest hospital and key phone numbers.

    i) Record keeping, including:

1) Documentation of appropriate employee training.

2) Name and qualification of person preparing the HASP and person designated to implement and enforce the HASP.

3) Signatory page for work area personnel to acknowledge receipt, understanding, and agreement to comply with the HASP.

8. Temporary Facilities and Controls Plan, including:

a) Layout of all proposed temporary facilities, including but not limited to, on-site Contractor's office, employee parking, materials delivery area(s), equipment/material lay-down and storage areas, fueling facility, fencing, entry and exit locations, and on-site and off-site transload facility(ies).

b) Utility connections.

c) Methods for temporary facilities maintenance and security.

d) Methods for traffic control, where and when needed.

9. EPP, including:

a) Organization chart and names of persons responsible for EPP compliance.

b) A list of key personnel, including phone numbers (home and office), qualified to act as the emergency coordinator.

c) Location of equipment and personnel decontamination areas.

d) Exclusion zones, contaminant reduction zones, and other zones specified in the Contractor's site-specific HASP.

e) Wastewater collection and storage areas or treatment facilities as necessary.

f) Identify the procedures that the Contractor shall implement if the Contractor encounters suspected hazardous waste during construction.

10. SPCC Plan including:

a) Name of the individual who will be responsible for implementing and supervising spill containment and cleanup.

b) The name and phone number of the Contractor's 24-hour/on-call spill response Subcontractor.

c) Identification of potentially hazardous substances to be used on the Work Site. Identify intended actions to prevent introduction of such materials into air, water, or ground, and identify provisions for complying with federal, state, and local laws, ordinances, and regulations for storage and handling of these materials.

d) Controls and supplies for preventing environmental spill.

e) Controls and supplies for containing and cleanup if a spill should such occur.

f) Methods to protect groundwater from contamination, and methods to protect monitoring wells, as applicable.

g) On-site upland and in-water fueling procedures.

h) Oil spill prevention and response procedures, including the Contactor's notification procedures, to be used in the event of a spill of a regulated substance.

11. SWPPP, including:

a) Potential sources of pollution that may reasonably be expected to affect the quality of stormwater discharge from the Work Site.

b) Methods to manage stormwater at the Work Site and Contractor's on- and off-site transload facility(ies), and on-site Staging Area to comply with all applicable laws, regulations, and permit requirements.

c) Methods that will be used for erosion control and to reduce the pollutants in the stormwater discharge associated with placing clean soil at the Work Site.

d) Methods to direct surface waters that have not contacted potentially contaminated materials to existing surface drainage systems.

e) Methods to contain and collect water from stockpile areas and decontamination facilities and properly dispose of collected water.

f) Contractor shall use the current Ecology SWPPP template as a basis. As of September 2018, this can be found at the following URL: https://ecology.wa.gov/Regulations-Permits/Permits-

certifications/Stormwater-general-permits/Construction-stormwater-permit/eCoverage-packet.

1.05 ADMINISTRATIVE

A. Submit to the Engineer all submittals required for review as described in these Specifications. Submit promptly and in an orderly sequence so as to not cause a delay in work. Failure to submit in ample time is not considered sufficient reason for extension of Contract duration and no claim for extension by reason of such default will be allowed.

B. Allow necessary time for the following:

1. Review of product and sample data.

2. Review of re-submissions as necessary.

3. Ordering of accepted materials and/or products.

C. Allow a minimum of 7 calendar days for Engineer review of each submittal and an additional 7 calendar days for Engineer review of re-submittals. Unless stated otherwise in the Specifications, the Contractor shall be allowed 7 calendar days for revising initial submittals and providing re-submittals to the Engineer. The Contract time shall not be extended on the basis that the Contractor experienced delays due to rejection of submittals.

D. Do not proceed with work affected by a submittal until Engineer review and approval, if appropriate, is complete.

E. Review submittals prior to submission to the Engineer. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and coordinated with requirements of Work and Contract Documents. Submittals with content that does not meet the requirements of the Specifications, or are not signed, dated, and identified as to the specific project, will be returned without being examined and considered rejected. Engineer review time starts only when a complete submittal is received.

F. Notify the Engineer, in writing at the time of submission, identifying deviations from requirements of Contract Documents and stating reasons for deviations.

G. The Contractor’s responsibility for errors and omissions in its submissions is not relieved or diminished by the Engineer’s review and acceptance of the Contractor’s submissions. The Contractor’s responsibility for deviations in submission from requirements of Contract Documents is not relieved by Engineer’s review and acceptance of submittals.

H. Revise all submittals that are determined by the Engineer to be inadequate or non-compliant with the Contract Documents or permit conditions.

I. Re-submittals are the responsibility of the Contractor and shall be compensated at no additional costs to the Owner. Submittals shall be completed to the satisfaction of the Engineer.

J. Keep one reviewed, and approved, if appropriate, copy of each submission at the Work Site.

PART 2 – PRODUCTS

2.01 SAMPLES

A. The sample submitted shall be the exact or precise article proposed to be furnished.

PART 3 – EXECUTION

3.01 TRANSMITTALS

A. Submittals typically provided on paper may be submitted electronically as PDFs. This is the preferred method for the Owner.

B. Preparation: A separate submittal form shall be prepared for each product or procedure and shall be further identified by referencing the Specification section and paragraph number; each submittal shall be numbered consecutively.

C. Whenever materials or equipment are described by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function, and quality required. If the name is followed by the words “or equivalent,” indicating that a substitution is permitted, materials or equipment of other suppliers may be accepted by the Owner. Sufficient information shall be submitted by the Contractor to allow the Owner to determine that the material or equipment proposed is equivalent to that named, subject to the following requirements:

1. The burden of proof as to the type, function, and quality of any such substitute material or equipment shall be upon the Contractor.

2. The Owner will be the sole judge as to the type, function, and quality of any such substitute material or equipment and the Owner’s decision shall be final.

3. The Owner may require the Contractor to furnish, at the Contractor’s expense, additional data about the proposed substitution.

4. Acceptance by the Owner of a substitute item proposed by the Contractor shall not relieve the Contractor of the responsibility for full compliance with the Contract Documents and for adequacy of the substitute item.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. This section includes the requirements for health and safety provisions necessary for all Work.

B. The Work also includes compliance with all laws, regulations, and ordinances with respect to safety, noise, dust, fire and police action, civil disobedience, security, and traffic.

1.02 SUBMITTALS

A. Prior to the start of any work, provide a site-specific Health and Safety Plan (HASP) as part of the Construction Work Plan in accordance with Section 013300 – Submittal Procedures. The HASP shall meet all the requirements of local, state, and federal laws, rules, and regulations and the pertinent regulations listed in the Contract Documents, and shall address all requirements for general health and safety.

1.03 PRESENT SITE CHARACTERIZATION

A. Chemicals that exceed site-specific cleanup levels in sediment include dioxin/furan toxic equivalency (TEQ) as described in Section 011000 – Summary.

B. The nature of the materials and substances present at the Work Site are described in more detail in the Basis of Design Report and Interim Action Plan conducted for the Site, which are available at the Washington State Department of Ecology's Toxics Cleanup Website (https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=13007).

1.04 POTENTIAL PHYSICAL AND OTHER HAZARDS

A. The Work of the Contractor is described elsewhere in these Specifications. Precautions to prevent all anticipated physical and other hazards, including heavy equipment and vessels, shall be addressed in the HASP.

B. Specific aspects of construction resulting in physical hazards anticipated for this project include, but are not limited to, the following:

1. Work over water, presenting hazards of falling overboard, hypothermia from exposure to the elements, and drowning.

2. Operation of land-based and marine equipment, including excavators, winches, derricks, and related equipment that present hazards of entrapment, ensnarement, and being struck by moving parts.

C. Other anticipated physical hazards include, but are not limited to, the following:

1. Heat stress, such as that potentially caused by impermeable clothing (may reduce the cooling ability of the body due to evaporation reduction).

2. Cold stress, such as that potentially caused during times of low temperatures and high winds, especially when precipitation occurs during these conditions.

3. Biological hazards, such as insect stings or bites.

4. Trips and falls.

PART 2 – PRODUCTS

2.01 PRODUCTS SPECIFIED FOR HEALTH AND SAFETY

A. Provide the equipment and supplies necessary to support the work as described in the site-specific HASP. Equipment and supplies may include, but are not limited to, the following:

1. Chemicals to be used on site including dust suppressants or wetting agents, cleaning or degreasing agents, or welding and cutting supplies.

2. Hazardous materials inventory and Safety Data Sheets for the chemicals brought on site.

3. Fencing and barriers.

4. Warning signs and labels.

5. Fire extinguishers.

6. Equipment to support “hot” work.

7. Equipment to support “lock out”/”tag out” procedures.

8. Scaffolding and fall protection equipment.

9. Personal protective equipment (e.g., hard hats, foot gear, and skin, eye, and respiratory protection).

10. Area and personnel exposure monitoring equipment.

11. Demolition equipment and supplies.

12. Decontamination equipment and supplies.

13. First aid equipment.

14. Release prevention equipment.

15. Field documentation logs and supplies.

PART 3 – EXECUTION

3.01 GENERAL

A. Comply with health and safety rules; regulations and ordinances promulgated by the local, state, and federal government; the various construction permits; and other sections of the Contract Documents. Such compliance shall include, but not be specifically limited to, the following:

1. Any and all protective devices, equipment, and clothing.

2. Guards.

3. Restraints.

4. Locks.

5. Latches.

6. Switches.

7. Other safety provisions that may be required or necessitated by state and federal safety regulations.

B. Determine the specific requirements for safety provisions and provide inspections and reports by the appropriate safety authorities to be conducted to ensure compliance with the intent of the regulations.

C. Inform employees and subcontractors and their employees of the potential danger in working with any potentially contaminated materials, equipment, soils, and groundwater at the site.

D. Perform whatever work is necessary for safety and be solely and completely responsible for conditions of the work area, including the safety of all persons and property during the Contract period. This requirement applies continuously and is not limited to normal working hours.

E. The Owner's review of the Contractor's performance does not include an opinion regarding the adequacy of, or approval of, the Contractor's safety supervisor, site-specific HASP, safety program, or any safety measures taken in performance of the Work.

F. Accidents causing death, injuries, or damage must be reported immediately to the Owner in person or by telephone or messenger. In addition, promptly report in writing to the Owner all accidents whatsoever arising out of, or in connection with, the performance of the Work, giving full details and statements of witnesses.

G. If a claim is made by anyone against the Contractor or any Subcontractor because of any accident, the Contractor shall promptly report the facts to the Owner in writing within 24 hours after occurrence, giving full details of the claim.

3.02 SITE SAFETY AND HEALTH OFFICER

A. Provide a person designated as the Site Safety and Health Officer, who is thoroughly trained in construction safety, marine construction safety, rescue procedures, and the use of all necessary safety equipment that the Work requires. The person must be present at all times while work is being performed.

B. The Site Safety and Health Officer shall be empowered with the delegated authority to order any person performing the Work to follow the safety rules. Failure to observe these rules is sufficient cause for removal of the person or worker(s) from this project.

C. The Site Safety and Health Officer is responsible for determining the extent to which any safety equipment must be utilized, depending on conditions encountered during the Work.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. This section describes the Contract-applicable permits.

1.02 PERMITS

A. Keep fully informed of all local ordinances, as well as state and federal laws that in any manner affect the work specified herein. Comply with said ordinances, laws, and regulations at all times, and protect and indemnify the Owner and its officers and agents against any claim or liability arising from, or based on, the violation of such laws, ordinances, or regulations. Secure and pay for any permits, licenses, and inspection fees necessary for prosecution and completion of the work that have not otherwise been obtained by the Owner.

B. Comply with all conditions required and response actions attached to applicable county, federal, state, and local permits and project requirements in Appendix B. The permits obtained by the Owner include the following:

1. State Environmental Policy Act Mitigated Determination of Nonsignificance issued by the Washington State Department of Ecology (Ecology).

2. Nationwide Permit 38 issued by the U.S. Army Corps of Engineers, which includes compliance with the following:

   a) Nationwide Permit 38 Terms and Conditions.

   b) Endangered Species Act: Best management practices (BMPs) and conservation measures are outlined in the Biological Assessment and permitting agencies letters of concurrence.

   c) Section 106 of the National Historic Preservation Act.

3. National Pollutant Discharge Elimination System Construction Stormwater General Permit issued by Ecology (Permit Number WAR306863).

1.03 POSTING PERMITS

A. Retain permits at the Work Site.

1.04 INSPECTIONS

A. Make arrangements for all inspections and testing required by the permits and conditions of the permits.

B. Retain inspection reports at the Work Site.

1.05 RESTORATION OF PROPERTY

A. Comply with all property restoration requirements contained in permits and agreements to complete the Work.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

Not used.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. This section describes the Contractor's Construction Quality Control (CQC) requirements, duties, and responsibilities during execution of the Work. The intent of this section is to require the Contractor to establish a necessary level of control that will provide sufficient information to assure both the Contractor and the Engineer that the Specification requirements are and have been met.

B. Establish, provide, and maintain the CQC Plan as specified herein, detailing the methods and procedures that will be taken to ensure that all materials and completed construction elements conform to the Drawings, these Specifications, and other requirements. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the Specifications, it is the responsibility of the Contractor to ensure that construction and CQC are accomplished in accordance with the stated purpose and these Specifications as described herein.

C. Be prepared to discuss and present the Contractor's understanding of the CQC requirements at the Preconstruction Meeting. No construction shall begin until the CQC Plan has been reviewed and approved by the Engineer.

1.02 SUBMITTALS

A. Submit the qualifications of the personnel identified in Article 2.01 of this section.

B. Submit the CQC Plan in accordance with Section 013300 – Submittal Procedures.

C. Submit Daily Construction Reports in accordance with Section 013200 – Construction Progress Documentation, and Section 013300 – Submittal Procedures.

1.03 QUALITY ASSURANCE – CONTROL OF INSTALLATION

A. Monitor QC over Suppliers, manufacturers, products, services, site conditions, and workmanship to produce work of specified quality.

B. Comply with manufacturers' instructions, including each step in a sequence.

C. Should manufacturers' instructions conflict with the Contract Documents, request clarification from the Engineer before proceeding.

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.

E. Ensure that Work is performed by persons qualified to produce the required and specified quality.

F. Familiarity with Pertinent Codes and Standards: In procuring all items used in this Work, it is the Contractor's responsibility to verify the detailed requirements of the specifically named codes and standards and to verify that the items procured for use in this work meet or exceed the specified requirements.

G. Rejection of Non-Complying Items: The Owner reserves the right to reject items incorporated into the Work that fail to meet the specified minimum requirements. The Owner further reserves the right, and without prejudice to other recourse, to accept non-complying items subject to an adjustment in the Bid Price as approved by the Owner.

1.04 REFERENCES AND STANDARDS

A. Products or workmanship specified by association, trade, or other consensus standards shall comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes or the Contract Documents.

B. Conform to reference standard by date of issue current on date of Contract Documents, except where a specific date is established by code.

C. Obtain copies of standards where required by product Specification sections.

D. Neither the contractual relationships, duties, nor responsibilities of the parties in the Contract, nor those of the Owner, shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

E. All pertinent laws, ordinances, rules, regulations, and codes shall govern construction activities at the site.

F. Construction that is not governed by governmental regulations or the Contract Documents will be governed by the more stringent provisions of the latest published edition or statute adopted edition, at the time of Contract signing, following these applicable codes and standards:

1. Uniform Building Code.

2. National Electrical Code.

3. Uniform Plumbing Code.

4. Uniform Fire Code.

PART 2 – PRODUCTS

2.01 CONTRACTOR PERSONNEL REQUIREMENTS

A. All Contractor personnel shall be trained, experienced, and qualified to perform the tasks assigned to them.

B. Submit the qualifications of the proposed Field Superintendent to the Owner for review and approval. The proposed Field Superintendent shall have a minimum of 5 years of experience as a Field Superintendent, in addition to having been the Field Superintendent on three projects of similar type and size, described using the form below.

Contractor Personnel

Field Superintendent: The Field Superintendent must have successfully completed three projects of similar type and size (describe below).

Name: _____
Address: _____
Phone: _____
Name of Contractor Employed By: _____

1. Project Name: _____
   Owner: _____ Contact Person: _____
   Name of Contractor Employed By: _____
   Completion Date: _____

2. Project Name: _____
   Owner: _____ Contact Person: _____
   Name of Contractor Employed By: _____
   Completion Date: _____

3. Project Name: _____
   Owner: _____ Contact Person: _____
   Name of Contractor Employed By: _____
   Completion Date: _____

PART 3 – EXECUTION

3.01 CQC PLAN

A. Submit a CQC Plan to the Owner as part of the Construction Work Plan in accordance with Section 013300 – Submittal Procedures. The CQC Plan will be reviewed by the Owner and must be approved before any work can start. The

CQC Plan will be used to document inspections, monitoring, surveys, and other actions to be taken by the Contractor to ensure that the Work complies with all Contract requirements.

B. Organization

1. CQC Supervisor: Identify an individual within the Contractor's organization, located at the Work Site, who shall be responsible for overall QC management and have the authority to act in all QC matters for the Contractor.

2. Personnel: Maintain a staff member under the direction of the CQC Supervisor to perform all QC activities. The personnel of this staff shall be fully qualified by experience and technical training to perform their assigned responsibilities and shall be directly hired for the Work by the Contractor.

C. The Contractor is encouraged to add any additional elements to the CQC Plan that are deemed necessary to adequately control all production and/or construction processes required by this Contract.

3.02 DOCUMENTATION

A. Specific Contractor QC Records required for the Contract shall include, but are not necessarily limited to, the following records:

1. QC Records are those documents that have been reviewed and accepted by the Contractor as complete, correct, and legible. QC Records shall include documents such as:

a) Drawings, Specifications, procedures used for construction, procurement documents, inspections, and test records.

b) Submittals.

c) Personnel and procedure qualification records.

d) Material, chemical, and physical property test results.

e) Certificates of Compliance and shipment releases.

f) Non-compliance reports and corrective action.

Identify all QC Records in the CQC Plan and maintain them in the Contractor's site files. Provide the Engineer access to these files when requested. Upon completion of the Contractor's contractual activities, turn these files over to the Engineer.

2. Daily CQC Report: Prepare and maintain a Daily CQC Report of operations. The Daily CQC Report shall be attached to the Contractor's Daily Construction Report, submitted in accordance with Section 013200 – Construction Progress Documentation, and Section 013300 – Submittal Procedures.

3. The Daily CQC Report shall include the results of all inspections, surveys, and monitoring activities and shall be signed by the Contractor's Field Superintendent or CQC Supervisor.

B. Document Control: The Contractor's CQC Plan must require that Contractor-generated documents pertaining to quality-related items be controlled. The following types of documents shall be on controlled distribution to ensure that changes to them are transmitted and received when applicable:

1. Manuals.

2. Instructions.

3. Procedures.

4. Specifications.

5. Drawings.

6. Inspection and test plans.

7. Field change requests.

3.03 CORRECTIVE ACTION REQUIREMENTS

A. The CQC Plan shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control.

3.04 OVERSIGHT BY THE ENGINEER

A. All items of material and equipment shall be subject to oversight by the Engineer at the point of production, manufacture, or shipment to evaluate whether the Contractor, producer, manufacturer, or shipper maintains an adequate QC system in conformance with the requirements detailed herein and the applicable technical Specifications and Drawings. In addition, all items of materials, equipment, and Work in place shall be subject to surveillance by the Engineer at the Work Site for the same purpose.

B. To facilitate oversight by the Engineer, allow the Engineer access to the derrick barge, or other floating equipment at the request of the Engineer while the Work is being performed.

C. Oversight by the Engineer does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or Subcontractors' work.

3.05 NON-COMPLIANCE

A. The Engineer will notify the Contractor of any non-compliance with any of the foregoing requirements. Immediately take corrective action after receipt of such notice. Any notice, when delivered by the Engineer or his/her Designated Representative to the Contractor or his/her Designated Representative at the site of the Work, shall be considered sufficient notice.

END OF SECTION

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

A. This section covers preventing environmental pollution during, and as a result of, the Work. Other Specification sections may also contain specific requirements for environmental protection. Those specific requirements are in addition to the requirements in this section; in the event of a conflict the more stringent requirements shall control. The control of environmental pollution requires consideration of noise levels, air, water, and land.

B. The Contractor is responsible for environmental protection during all construction activities at all locations it performs Work. Work locations include, but are not limited to, the Work Site, on- and off-site transload facility(ies), on- and off-site Staging Area, and during barge transport over water and land-based transportation of materials. This section primarily addresses work conducted at the Work Site, but the Contractor is responsible for complying with environmental protection regulations at all locations that are used in conduct of the Work.

C. Environmental degradation arising from construction activities shall be prevented, abated, controlled, and minimized by complying with all applicable federal, state, and local laws and regulations concerning environmental pollution control and abatement, as well as the specific requirements in the Project permits. The Contractor shall comply with all permit conditions.

D. The Work includes compliance with all controls or local, state, and federal ordinances with respect to safety, noise, odor, dust, fire and police action, civil disobedience, security, or traffic.

E. The Work also includes implementing Temporary Erosion and Sedimentation Control (TESC) measures, including stormwater pollution prevention measures to prevent debris and contaminated stormwater from entering surface waters.

F. The Work also includes providing control measures to prevent or limit, to the extent practicable, recontamination of cleaned-up areas or adjacent non-contaminated areas during construction activities.

G. No separate payment will be made for effort associated with Work described in this Specification section. Work required to comply with this Specification section is considered to be incidental to all other activities described in the Contract Documents.

1.02 REFERENCES

A. Comply with all federal, state, and local environmental statutes, ordinances, and regulations that deal with the prevention of environmental pollution and the

preservation of public natural resources that affect or may affect this Project for the duration of the Project.

1.03 SUBMITTALS

A. Prepare and submit an Environmental Protection Plan (EPP); TESC Plan; Spill Prevention, Control, and Countermeasures (SPCC) Plan; and Construction Stormwater Pollution Prevention Plan (SWPPP) as part of the Construction Work Plan in accordance with Section 013300 – Submittal Procedures that presents the procedures by which the Contractor shall establish and maintain quality control for environmental protection during all construction activities.

1.04 ENVIRONMENTAL RESPONSIBILITY

A. Demonstrate in the performance of the work that the Contractor is environmentally responsible by complying with environmental laws, ordinances, and regulations; being observant for, and immediately notifying the Engineer of, any environmental problems that develop at the Work Site or Contractor facilities; and taking all reasonable and necessary measures in the performance of the Work to avoid causing negative impacts to the environment. Where negative impacts occur, the Contractor must immediately advise the Engineer and shall be solely liable to undertake all reasonable and necessary measures to address such negative impacts.

B. Sequence the Contractor's work to prevent or minimize, to the extent practicable, the potential for recontamination of the Work Site or adjacent non-contaminated areas.

C. Maintain key pollution control systems in working condition throughout the project and undertake all works such that there are no unauthorized discharges of liquids or solids to the marine environment, or of gas to the atmosphere.

D. Maintain a neat work area free of unnecessary debris, tools, equipment, or materials; dispose of sewage, refuse, and chemical wastes in compliance with the applicable regulations and permit requirements for this Work; and remove all tools, equipment, supplies, and wastes from the Work Site upon completion of the Work.

E. Maintain all equipment and machinery in good working order and free of leaks or excess oil, grease, and debris. Ensure that appropriately equipped spill kits are available on all equipment at the Work Site and Contractor facilities, and that workers and supervisory staff are knowledgeable with the provisions of the EPP and are adequately trained to implement the measures contained therein.

1.05 FIRES

A. Fires and burning of rubbish at the Work Site are not permitted.

1.06 WASTEWATER MANAGEMENT AND DISPOSAL

A. Discharges: Comply with applicable discharge limitations and requirements; do not discharge wastewaters to Work Site sewer systems that do not conform to, or are in violation of, such limitations or requirements.

B. Do not discharge wastewater from personnel hygiene or toilet facilities on site.

1.07 DISPOSAL OF NON-PILE-DEMOLITION WASTES

A. Do not bury rubbish or waste materials on the Work Site.

B. Do not dispose of waste or volatile materials, such as mineral spirits, oil, or paint thinner into waterways, storm sewers, or sanitary sewers.

C. Do not discharge wastes into streams or waterways.

D. The Contractor is responsible for storing, separating, handling, transporting, and disposing of all waste materials in accordance with applicable regulations and requirements, and at appropriate disposal facilities or transfer stations.

E. Disposal or recycling of other waste generated during the Project shall be done in compliance with applicable regulations, and the facilities used will need to be reviewed by the Engineer.

1.08 NOTIFICATION

A. The Engineer will notify the Contractor, in writing, of observed non-compliance with federal, state, or local environmental statutes, ordinances or regulations, permits, and other elements of the Contractor's EPP. Notwithstanding this notification process, the Contractor shall be responsible for conducting all construction activities in a manner compliant with these regulations.

B. Inform the Engineer of proposed corrective action after receipt of such notice, and take such action for approval by the Engineer.

C. The Engineer may issue a stop work order until satisfactory corrective action has been taken.

D. No time extensions shall be granted or equitable adjustments allowed to the Contractor for such suspensions.

PART 2 – PRODUCTS

2.01 CATCH BASIN INSERTS

A. Catch basin inserts shall meet the requirements provided on the Drawings.

2.02 TEMPORARY EROSION AND SEDIMENT CONTROLS

A. Components for silt fences shall meet the requirements provided on the Drawings.

B. BMPs shall meet the requirements identified in the construction SWPPP (described in Section 013300 – Submittal Procedures).

2.03 CONTAINMENT BOOM

A. The floating containment boom shall be capable of fully containing all floating debris generated during pile removal activities. Inspect the floating containment boom on a daily basis and maintain the condition of the containment boom throughout the duration of the Work.

2.04 SORBENT BOOM

A. Floating sorbent boom shall be deployed within the containment boom at all times the Contractor is completing pile removal activities. Inspect the sorbent boom on a daily basis, maintain the condition of the sorbent boom throughout the duration of the Work, and replace the sorbent boom once it becomes ineffective at absorbing sheen. The Contractor shall maintain additional sorbent materials and pads to deploy as needed to remove surface sheens.

PART 3 – EXECUTION

3.01 GENERAL

A. Maintain a copy of the EPP at the Work Site and at the Contractor's on- and off-site transload facility(ies).

B. In the event of a conflict between these requirements and environmental and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply as determined by the Engineer.

C. No discharge of water to Shelton Harbor shall be allowed that exceeds the regulated pollutant levels in the National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit. All water discharged to Shelton Harbor shall be in compliance with Washington State Surface Water Quality Standards (173-201A Washington Administrative Code [WAC]).

D. The Contractor shall be solely responsible for any damages and fines incurred because of Contractor, Subcontractor, or Supplier actions in implementing the requirements of this section.

E. The Contractor shall be solely responsible for schedule impacts incurred because of Contractor, Subcontractor, or Supplier actions in implementing the requirements of this section.

F. Supervision

1. During the Work, supervise all activities, including those of Subcontractors, to ensure compliance with the intent and details of the EPP. Conduct weekly environmental compliance meetings for the Contractor and its Subcontractors to ensure that all personnel working at the Work Site are familiar with the environmental protection provisions. Inspect all equipment and materials for environmental protection regularly to ensure that they are in proper order, are being applied correctly, and have not deteriorated.

G. Daily Inspection and Weekly Reporting

1. Conduct daily inspection of the Contractor's environmental protection measures to ensure that all are working properly and are adequately maintained during the duration of construction.

2. Submit written Weekly Environmental Protection Inspection Reports to the Engineer as part of the Contractor's Weekly Construction Report in accordance with Section 013300 – Submittal Procedures.

3.02 NOTIFICATION OF NON-COMPLIANCE

A. The Owner will notify the Contractor of non-compliance with the provisions of this section. Immediate corrective action shall be taken in the event of non-compliance. Such notice, delivered at the Work Site, shall be sufficient for the Contractor to take action. The Owner may issue an order stopping all or part of the Work for failure to comply until corrective action has been taken. No time lost resulting from such stop orders shall be the subject of a claim for extension of time or for costs or damages. The Contractor is required to comply with all environmental requirements whether or not notified by the Owner of non-compliance.

B. Notwithstanding the intended notification by the Owner, the Contractor is responsible for identifying conditions of non-compliance, and notifying the Owner of such. Absence of notification by the Owner does not constitute endorsement by the Owner that the Contractor's activities are fully compliant with environmental protection requirements.

3.03 SUBCONTRACTORS

A. Compliance with this section by Subcontractors will be the responsibility of the Contractor.

3.04 SITE MAINTENANCE

A. Keep the Work Site, on- and off-site transload facility(ies), on-site Staging Area, and Contractor's temporary facilities clean and free from rubbish and debris. Remove materials and equipment from the Work Site when they are no longer necessary. Upon completion of the Work, and before final acceptance, clear the Work Site of equipment, unused materials, and rubbish to present a clean and neat appearance in conformance with the present condition of the Work Site.

B. Catch Basins

1. Clean catch basins of all debris and sediment and dispose of properly.

2. Maintain catch basin covers during construction. Replace catch basin covers if damaged.

C. Stormwater Management

1. Maintain positive drainage to the vegetated swale identified by the Owner.

2. In the event that the Contractor's operations result in stormwater flow away from the vegetated swale, the Contractor shall perform grading or other measures as necessary to direct drainage to the vegetated swale.

D. Cleanup

1. Maintain work in tidy condition, free from accumulation of waste products and debris.

2. Dispose of waste materials and debris in accordance with these Specifications.

3. Waste material of any kind shall not be permitted to remain on the Work Site or on adjacent streets. Immediately upon such materials becoming unfit for use in the Work, they shall be collected, carried off the Work Site, and properly disposed of by the Contractor.

4. Keep all buildings occupied by the Contractor clear of all refuse, rubbish, and debris that may accumulate from any source, and keep them in a neat condition to the satisfaction of the Engineer.

5. Handle paints, solvents, petroleum products, hazardous substances, bulk cement, concrete cure washings, crushed concrete, waste streams generated during construction, and other construction materials with care to prevent entry of contaminants into storm drains, surface waters, or soils. Dispose of excess materials off site in accordance with applicable local, state, and federal regulations.

6. In the event that waste material, refuse, debris, and/or rubbish are not removed from the Work by the Contractor, the Owner reserves the right to have the waste material, refuse, debris, and/or rubbish removed, and the expense of the removal and disposal deducted from payment owed to the Contractor.

E. Street Cleaning

1. Prevent dirt and dust from escaping from trucks departing the Work Site by covering all loads, installing inserts at catch basins, and other reasonable methods. Take all measures necessary to prevent the tracking of mud and other debris from the Work Site to the surrounding streets.

2. When working dump trucks or other equipment are on paved streets and roadways, clean said streets and roadways at the conclusion of each day's operations at a minimum, and as required by the Engineer to prevent tracking of soil or other transported materials on paved roads at no additional cost to the Owner. Properly dispose of all collected material. This shall be the case, whether the vehicles or equipment are owned and/or operated by the Contractor or its Subcontractors, or not.

3. In the event that the above requirements are violated and no action is taken by the Contractor after notification of non-compliance by the Engineer, the Owner reserves the right to have the streets and roadways in question cleaned by others and the expense of the operation deducted from payment owed to the Contractor.

3.05 PROTECTION OF FISH AND WILDLIFE

A. Perform all Work and take all steps to prevent interference or disturbance to fish and wildlife. Do not alter or disturb water flows or habitat outside the Project Limits. Do not remove or alternative trees or shrubs during construction. Protect existing native vegetation on or adjacent to the Work Site prior to and for the duration of construction.

B. Immediately cease capping, or other in-water operations if fish kill or distressed fish are observed, and immediately notify the Owner, Engineer, U.S. Army Corps of Engineers (USACE), Washington Department of Fish and Wildlife, and Washington State Department of Ecology (Ecology).

3.06 AIR POLLUTION AND ODOR CONTROL

A. Do not discharge smoke, dust, odor, or other contaminants into the atmosphere that violate the regulations of any legally constituted authority. Do not allow internal combustion engines to idle for prolonged periods of time. Maintain construction vehicles and equipment in good repair. Repair or replace exhaust emissions that are determined to be excessive by the Engineer.

B. Minimize dust nuisance by cleaning, sweeping, vacuum sweeping, sprinkling with water, or other means. The use of water, in amounts that result in mud on public streets, is not acceptable as a substitute for sweeping or other methods. Keep equipment for this operation on the Work Site or available at all times.

1. Execute Work by methods that minimize raising dust from construction operations.

2. Apply water as required for dust control, and when advised by Engineer. Choose dust control methods such that a minimal amount of water is required.

3. Apply water with distributors equipped with a spray system to ensure uniform application and with means of shut off.

4. Do not allow runoff from water used for dust control to enter storm drains.

C. Conduct all operations and maintain the Work Site so as to minimize and suppress objectionable odors and the potential for organic vapors associated with the Work consistent with all local, state, and federal regulations.

1. Monitor odor as necessary to comply with any applicable health and safety regulations and implement procedures to reduce or eliminate odor from sediment stockpiles if necessary.

2. Implement measures to suppress organic vapor concentrations and/or odors at no additional cost to the Owner. Acceptable measures include backfilling open excavations, and/or application of an odor or organic vapor suppression foam.

3. The Owner reserves the right to suspend Work at any time in the event that the Contractor's operations result in organic vapors or objectionable odors that are deemed to cause a potential safety and/or air quality issue.

3.07 NOISE AND LIGHTING CONTROL

A. Ensure that construction involving noisy operations, including starting and warming up of equipment, is in compliance with local noise ordinances. Schedule noisy operations so as to minimize their duration.

B. Comply with all local controls and noise level rules, regulations, and ordinances that apply to the Work.

C. Enclose each internal combustion engine used for any purpose on the job or related to the job and equip with a muffler and spark arrester of a type recommended by the manufacturer. Do not operate any internal combustion engine during the Project without said muffler and enclosure. Ensure that noise

control devices on construction equipment are properly maintained. Operate all construction equipment with exhaust systems in good repair to minimize noise.

D. Implement the use of lighting shrouds for work to be completed during night-time hours to minimize lighting disruptions to local residents.

3.08 SPILL PREVENTION AND CONTROL

A. Be responsible for prevention, containment, and cleanup of spilling of oil, fuel, and other petroleum products used in the Contractor's operations. All such prevention, containment, and cleanup costs shall be borne by the Contractor.

B. The Contractor is advised that discharge of oil from equipment or facilities into state waters or onto adjacent land is not permitted.

C. Take the following measures, at a minimum, regarding oil spill prevention, containment, and cleanup:

1. Inspect fuel hoses, lubrication equipment, hydraulically operated equipment, oil drums, and other equipment and facilities regularly for drips, leaks, or signs of damage, and maintain and store properly to prevent spills. Maintain proper security to discourage vandalism.

2. Dike or locate all land-based oil and products storage tanks so as to prevent spills from escaping to the water. Line diking and sub-soils with impervious material to prevent oil from seeping through the ground and dikes.

3. Immediately contain all visible floating oils with booms, dikes, oil-absorbent pads, or other appropriate means and remove from the water prior to discharge into state waters. Immediately contain all visible oils on land using dikes, straw wattles, or other appropriate means and remove using sand, ground clay, sawdust, or other absorbent material, and properly dispose. Temporarily store waste materials in drums or other leak-proof containers after cleanup and during transport to disposal. Dispose waste materials off-property at an approved and permitted disposal facility.

4. Use environmentally sensitive hydraulic fluids that are non-toxic to aquatic life and that are readily or inherently biodegradable.

5. In the event of any oil or product discharges into public waters, or onto land with a potential for entry into public waters, immediately notify the Engineer and other required reporting agencies at their listed 24-hour response numbers, including but not limited to:

a) National Response Center: (800) 424-8802

b) Washington Emergency Management Division: (800) 258-5990 or (800) OILS-911

c) Ecology, Northwest Regional Office: (425) 649-7000

d) U.S. Coast Guard: (206) 217-6002

6. Maintain the following equipment and materials on the Work Site in sufficient quantities to address potential spills from the Contractor's floating and land-based equipment:

a) Oil-absorbent booms.

b) Oil-absorbent pads or bulk material.

c) Oil-skimming system.

d) Straw wattles.

e) Oil dry-all, gloves, and plastic bags.

f) Contractor employee personal protective equipment (PPE) for emergency spill response.

g) Concentrated odor neutralizer.

D. Perform construction activities by methods that will prevent entrance or accidental spillage of solid matter, contaminants, debris, or other pollutants or wastes into saltwater bodies, streams, flowing or dry watercourses, lakes, wetlands, reservoirs, or underground water sources. Such pollutants and wastes include, but are not restricted to: refuse, garbage, cement, sanitary waste, industrial waste, hazardous materials, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution.

3.09 TEMPORARY EROSION AND SEDIMENT CONTROL

A. Develop and implement the construction SWPPP as described in Section 013300 – Submittal Procedures, including TESC best management practices (BMPs). Address the following issues as part of developing and implementing the TESC BMPs:

1. The TESC notes and details shown in the Drawings and the information in this section of these Specifications are minimum requirements for the anticipated site conditions during the construction period. During the construction period, upgrade the TESC facilities as needed for unexpected storm events and modify these facilities for changing site conditions (such

as relocation of ditches and silt fences, etc.) at no additional cost to the Owner.

2. Inspect the TESC facilities daily and maintain these facilities to ensure continued proper functioning during the construction period. Submit written records of these inspections to the Engineer as part of the Contractor's Weekly Construction Report on a weekly basis in accordance with Section 013300 – Submittal Procedures.

3. Immediately stabilize any areas of exposed capping material, which will not be disturbed for 2 days during the wet season (October 1 through April 30) or 7 days during the dry season (May 1 through September 30) with the approved TESC measure (e.g., plastic covering, etc.).

4. Employ appropriate erosion control measures, including silt fences, filter fabric, plastic sheeting, sedimentation ponds, and placement of straw wattles along the peripheries of construction sites, temporary detention ponds, and terraced slopes, and ensure that measures are in place prior to any clearing or grading activity.

B. Silt Fences

1. Provide silt fences as a temporary structural practice to minimize erosion and sediment runoff. Properly install silt fences to effectively retain sediment immediately after completing each phase of work where erosion would occur in the form of sheet and rill erosion (e.g., clearing and grubbing, excavation, embankment, and grading).

C. Straw Bales

1. Straw bales are not an acceptable BMP for use in TESC unless another BMP is placed upgradient of the bale.

D. If monitoring or inspection shows that the erosion controls are ineffective, immediately mobilize work crews to make repairs, install replacements, or install additional controls as necessary.

3.10 STORMWATER MANAGEMENT CONTROLS

A. Drainage and Surface Water Management

1. Fully contain the Staging Area to prevent release of unfiltered effluent and suspended sediments, or other potentially contaminated materials from the stockpile area.

2. Suspend work in the rain if such work cannot be performed without causing uncontrolled turbid runoff.

3. Divert stormwater runoff from upslope areas away from stockpiles. Implement practices to divert flows from exposed soils, or otherwise limit runoff and the discharge of pollutants from exposed areas of the Work Site.

4. Use methods of stockpiling capping material that include prevention measures to control silting and erosion, and that will intercept and settle any runoff of soil- or sediment-laden wastewaters.

5. Before construction begins, establish appropriate perimeter barriers to prevent excess surface water flows from causing erosion. Keep work areas free of surface water run-on from adjacent upland areas, and as free from immersion as possible. Unless otherwise specified, remove all temporary facilities, equipment, and structures for care and diversion of water upon completion of the Work, except the permanent drainage features of the project.

6. To avoid solids or turbid runoff from entering surface waters, secure, and/or berm stockpiles and employ other methods as necessary such as straw wattles, silt fence, gravel filter berms, or similar around storm drains or around excavated areas; or use sedimentation basins.

7. Prevent construction site runoff from directly entering any storm drain or the waterway; use silt fence, straw wattles or other protective method suitable to the Engineer.

B. Creosote-treated Piling Processing and Storage Area Stormwater Control Measures

1. Contain all water that comes into contact with demolished creosote piling and dispose of it appropriately in an off-site facility.

2. Discharge of hazardous substances will not be permitted under any circumstances

3.11 FUEL STORAGE TANKS MANAGEMENT

A. Storage tank placement: Place fuel or other petroleum product (hereinafter referred to collectively as fuel) storage tanks or containers at least 20 feet from saltwater bodies, streams, flowing or dry watercourses, wetlands, reservoirs, and any other water source in a discharge area.

B. Storage area dikes: Construct storage area dikes at least 12 inches high or graded and sloped to permit safe containment of leaks and spills equal to the capacity located in each area plus a sufficient amount of freeboard to contain the 25-year rainstorm.

C. Diked area barriers: Provide diked areas with an impermeable barrier at least 50 mils thick. Provide areas used for refueling operations with an impermeable liner at least 50 mils thick buried under 2 to 4 inches of soil.

D. Underground tank prohibitions: Do not use underground storage tanks.

3.12 PROTECTION OF WATER RESOURCES

A. General

1. Compliance with state water quality standards and conditions of any permits and clearances obtained for the Work is the Contractor's responsibility. No uncontrolled effluent will be permitted that results from the Contractor's activities.

B. Disposal

1. Except as provided in the Contract, disposal of any wastes, effluents, trash, grease, chemicals, or other contaminants in waterbodies shall not be allowed. If any waste material is dumped in unauthorized areas, the material shall be removed and the area restored to a condition approximating the adjacent undisturbed area, at no additional expense to the Owner.

3.13 MARINE WATER QUALITY CRITERIA COMPLIANCE

A. The Contractor is responsible for meeting marine water quality criteria for in-water construction activities as defined in the *Water Quality Monitoring Plan* (WQMP) of the *Shelton Harbor Interim Action Basis of Design Report* (Appendix A) and applicable local, state, and federal standards. The Owner will conduct its own marine water quality monitoring during the project to assess the Contractor's compliance, but this does not alleviate the responsibility of the Contractor to comply with the water quality criteria. In the event of a water quality exceedance, the Contractor will be required to modify its procedures, methods, or equipment appropriately so as to remedy the exceedances, at no additional expense to the Owner. The purpose of the specified water quality monitoring is to provide ongoing assessment of water quality impacts during pile removal capping, and other in-water construction activities as specified in the WQMP. The Contractor shall have in place BMPs to respond to water quality exceedances from in-water construction activities.

B. Review and comply with conditions in the Ecology-approved WQMP. The WQMP is available as a reference document to the Contract Documents.

C. In the event that water quality criteria are exceeded during the Work:

1. Modification of Operations: If water quality criteria are exceeded, take immediate steps to correct the exceedance and improve water quality conditions. Such steps may include modified operational practices, engineering controls, and other measures as appropriate. Communicate all modifications proposed by the Contractor to the Engineer prior to implementing them. If corrective actions do not result in water quality criteria being met, be prepared to temporarily suspend operations until water quality comes back into compliance with the criteria.

2. Cessation of Operations: Cease construction activities at the first indication of a regulated substance spill (e.g., oil) within the work area, or at the first indication of distressed or dying fish in the vicinity of construction. When such conditions occur, cease all operations and take all necessary steps to correct the problem. Immediately notify the Engineer of the problem. Operations may resume upon approval of the Engineer after the problem has been corrected.

3. USACE and Ecology will be notified by the Engineer.

D. Marine Water Quality and Sediment Recontamination Controls

1. Procure, design, install, operate, inspect, and maintain BMPs and control measures as necessary to comply with water quality criteria and prevent or minimize to the extent practicable sediment recontamination within the Work Site.

3.14 CONTAMINATED/HAZARDOUS SOILS AND GROUNDWATER

A. Contractor's Responsibility

1. Visually monitor soils, groundwater (seeps), and waste materials by instructing workers to observe and report questionable materials and odors, such as oily sheen or color on soils or water, and oily or chemical odors. If suspected hazardous or contaminated materials (other than debris) are encountered, stop all work in that area and immediately notify the Engineer.

2. Be responsible for all matters related to work safety and for detection of contaminated soils and groundwater encountered during the construction as they relate to worker safety. Ensure the protection of the safety and health of construction workers and other authorized persons at the Work Site from exposure to potentially toxic materials.

3. As part of the Contractor's safety program, workers shall be instructed by a Contractor-provided and qualified specialist on methods or techniques to assist workers in detecting hazardous soils or groundwater during construction of this Project.

B. Notification and Suspension

1. In the event that the Contractor suspects the presence of suspicious materials, the Contractor's Site Safety and Health Officer shall immediately notify the Owner. Following such notification by the Contractor, the Owner or the Owner's Designated Representative will, in turn, notify the various regulatory agencies concerned with the presence of potentially dangerous materials. Depending on the type of problem identified, the Owner may suspend the work in the vicinity of the material discovery under the provisions of the General Conditions.

2. Following completion of any further testing necessary to determine the nature of the materials involved, the Owner or the Owner's Designated Representative will determine how the material shall be handled and disposed. Although the actual procedures used in resuming the work shall depend upon the nature and extent of the questionable material, the following alternate methods of operation are foreseen as possible:

a) Contractor to resume work as before the suspension.

b) Contractor to move its operations to another portion of the Work Site until measures to eliminate any hazardous conditions can be developed and approved by the appropriate regulatory agencies.

c) For dangerous or hazardous waste, or other non-municipal refuse waste, the Engineer will direct the Contractor to dispose of the excavated material in accordance with regulatory requirements. Such work shall be Force Account Work.

3.15 EQUIPMENT DECONTAMINATION

A. Decontaminate equipment after working in potentially contaminated work areas (e.g., pile removal) and prior to subsequent work or travel on clean areas.

B. Perform equipment decontamination on a Contractor-constructed equipment decontamination pad or in watertight barges to prevent cross-contaminating un-impacted areas.

C. Each piece of equipment may be inspected by the Engineer after decontamination and prior to removal from the Work Site or travel on clean areas. The Engineer will have the right to require that additional decontamination be completed if deemed necessary, at no additional cost to the Owner.

D. Collect decontamination wastewaters and sediments that accumulate on the equipment decontamination pad and properly dispose.

E. Furnish and equip personnel engaged in equipment decontamination with PPE including suitable disposable clothing, respiratory protection, and face shields.

END OF SECTION

PART 1 – GENERAL

1.01 TIMING

A. Prior to requesting final inspection, ensure that the Work is complete in all aspects.

1.02 DESCRIPTION OF WORK

A. Ensure that all procedures and actions identified in this section and elsewhere in the Contract Documents necessary to fully complete the Work are accomplished in a timely and effective manner. Lack of compliance with the closeout requirements will result in delays to any or all of the milestones identified herein.

1.03 PRE-FINAL INSPECTION

A. Prepare a Punch List prior to requesting a Pre-Final Inspection by the Engineer. Limit Punch List items to administrative requirements of the Contract and minor deficiencies in the work requiring correction. A Pre-Final Inspection will not be requested or granted if the Work is incomplete.

B. Make the request for Pre-Final Inspection to the Engineer in writing and with the Punch List attached, at least 3 working days prior to the requested date of inspection.

1.04 SUBSTANTIAL COMPLETION

A. Substantial Completion is the stage in the progress of the Work when the Work is complete and in accordance with the Contract Documents; the date of Substantial Completion is the end of Contract Time and the start of the warranty period.

B. The date of Substantial Completion is established in a Certificate of Substantial Completion issued by the Engineer.

C. In order to achieve Substantial Completion, the Contractor must:

1. Satisfactorily complete the Engineer’s Punch List resulting from the Pre-Final Inspection.

2. Submit for approval to the Engineer any Special Warrantees, Bonds, or Follow-on Contracts required by the Contract Documents.

3. Perform final cleaning of the Work Site as required by the Contract Documents.

4. Upon completion of the above items, request a Final Inspection from the Engineer, in writing, at least 3 days prior to the requested date.

5. Satisfactorily pass the Final Inspection and receive the Certificate of Substantial Completion from the Engineer.

1.05 NOTICE OF COMPLETION

A. Notice of Completion will be issued in writing when all the Work is complete, with the exception of claims previously made in writing and identified by the Contractor, a Subcontractor, or material Supplier as unsettled at the time of application for Final Payment.

B. Notice of Completion will be issued in writing by the Owner if:

1. Contractor demobilization is satisfactorily completed.

2. Project Record Documents have been submitted and approved by the Engineer.

3. Final Payment has been requested.

1.06 CONTRACTOR'S CHECKLIST

A. Attached to this section is a Contractor's Project Closeout Checklist for use in tracking completion of the items required herein.

PART 2 – PRODUCTS

2.01 WARRANTY

A. The Contractor warrants the labor, materials, and equipment delivered under the Contract to be free from defects in design, material, or workmanship, and against damage caused prior to final inspection. Unless otherwise specified, this warranty extends for a period of 1 year from the date of Substantial Completion.

B. Promptly (within 48 hours) repair or replace all defective or damaged items delivered under the Contract. Haul away all defective or damaged items prior to Substantial Completion.

C. In the event of equipment failure, during such time or in such a location that immediate repairs are mandatory, respond promptly, irrespective of time. If the Contractor is not available, the Owner will affect repairs. Reimburse the Owner for parts and labor necessary to correct deficiencies as defined within the warranty clause and time.

PART 3 – EXECUTION

3.01 FINAL DOCUMENTS

A. Project As-Built Drawings

1. Compile Project As-Built Drawings and submit to the Owner for translation to the Record Drawings on a monthly basis.

2. Submit the Project As-Built Drawings on full-sized (ANSI D) paper copy.

3. Keep Project As-Built Drawings current, and update at the time materials and equipment are installed. Make annotations to the Record Documents with an erasable colored pencil conforming to the following color code:

   a) Additions – red.

   b) Deletions – green.

   c) Comments – blue.

   d) Dimensions – graphite.

4. Project As-Built Drawings must be complete and accepted by the Owner before Final Completion is issued.

5. As-Built Drawings shall be in accordance with horizontal and vertical control as shown on the Drawings.

B. Record Document Survey

1. See Section 017123 – Surveying, for Final As-Built Survey (post-material placement) requirements. Complete the Final As-Built Survey and submit to the Owner within 30 days of Substantial Completion. The Final As-Built Survey must be complete and accepted by the Owner before Final Completion is issued.

C. The following certificates of conformance shall be submitted by the Contractor prior to Final Completion:

1. Notice of Termination (NOT) Construction Stormwater General Permit: confirmation of termination request acceptance by the Washington State Department of Ecology.

3.02 CLEANUP

A. Provide final cleaning of the Work and Project site prior to final inspection. Complete the following cleaning operations prior to closeout:

1. General: Prior to completion of the Work, remove from the Work Site all tools, surplus materials, equipment, scrap, debris, and waste.

2. In addition to performing debris removal and the cleaning specified in these Specifications, clean exterior exposed-to-view surfaces.

3. Regrade unpaved staging areas as necessary to restore original grades and a level area.

4. Remove waste, debris, and surplus materials from Work Site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean. Rake other exterior surfaces clean.

5. Maintain clean condition until Final Completion.

6. Re-clean areas or equipment after final inspection if such were dirtied as result of Contractor's preparations for final inspection or completion of the Punch List.

END OF SECTION

CONTRACTOR'S PROJECT CLOSEOUT CHECKLIST

ITEM		BY	DATE
1.	Request Pre-Final Inspection – Provide Contractor's Punch List to Engineer		
2.	Final operations and maintenance data and warranties		
3.	Pre-Final Inspection		
4.	Certificates of Compliance		
5.	Submit special warranties, bonds, or follow-on contracts as required by Contract		
6.	Perform final cleaning of Work Site per Contract		
7.	Complete Engineer's Punch List		
8.	Request Final Inspection		
9.	Final Inspection		
10.	Certificate of Substantial Completion		
11.	Demobilization complete		
12.	Project Record Documents submitted and approved by Engineer		
13.	Final progress payment requested 100% (all items complete)		
14.	Notice of Completion		
15.	Contractor's Release of Claims Form Executed		
16.	Subcontractor and Supplier Claims Settled		
17.	Submit Final Payment Request		

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Provide all materials, labor, equipment, and incidentals necessary to conduct the proper surveys required to determine seafloor and shore elevations within the area of the Work.

B. Perform hydrographic and topographic surveys for layout of the Work and cap thicknesses and to verify the grades of final as-built construction for acceptance of completed Work as stipulated in this section.

C. Vertical Datum: All elevations indicated on drawings refer to National Ocean Survey mean lower low water (MLLW) Datum unless otherwise noted.

1.02 REFERENCE STANDARDS

A. 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 most recent version of the reference applies.

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

2. USACE – EM 1110-2-1003 (April 2004). USACE Hydrographic Surveying Engineering Manual.

1.03 LICENSED SURVEYOR QUALIFICATIONS AND RESPONSIBILITIES

A. Retain a licensed surveyor that will be responsible for conducting the Pre-Construction and Final As-Built Surveys. The Contractor's licensed surveyor shall satisfy the following minimum qualification requirements:

1. Professional Land Surveyor with current registration in the State of Washington.

2. Hydrographic surveys shall be supervised by a hydrographer certified by the American Congress on Surveying and Mapping.

3. The surveying firm and Project personnel shall have performed hydrographic surveying services for at least three projects of similar size and complexity (provide list of projects, reference contacts, and phone numbers).

B. The Contractor's proposed licensed surveyor will be subject to review and approval by the Owner.

C. The responsibilities of the Contractor's licensed surveyor shall include, but not be limited to, the following:

1. Establishment of survey control points as required to complete the work.

2. Establishment of supplemental benchmarks, control points, staff gauges, etc., as needed to conduct the Work.

3. Initial layout of all work elements.

4. Initial calibration and verification of survey system accuracy.

5. Pre-Construction and Final As-Built Surveys of all material placement activities.

6. Calculation of final quantities for the Contractor's final payment request.

7. Preparation of as-built construction Record Drawings.

D. Assume full responsibility for the coordination, scheduling, accuracy, and quality of the licensed surveyor's work. The licensed surveyor shall coordinate with the Contractor's quality control (QC) manager as necessary to fulfill project QC requirements, in accordance with Section 013100 – Project Management and Coordination, and Section 014500 – Contractor Quality Control.

E. In addition to the submittals specified in this section, the Owner reserves the right to request, at any time, copies of all other survey data, calculations, and supporting documentation generated by the licensed surveyor in support of the Work.

1.04 SUBMITTALS

A. Submit a Survey Plan to the Engineer for review and acceptance as part of the Construction Work Plan in accordance with Section 013300 – Submittal Procedures.

B. Pre-Construction and Final As-Built Surveys: Provide a submittal to the Engineer within 48 hours of completion. The submittal must include an AutoCAD electronic file, plan view drawings with 1-foot contour intervals, and spot elevations depicting high and low points plotted at 1 foot equal to 50 feet. The AutoCAD electronic file shall include a triangulated irregular network (TIN)-based digital terrain model (DTM). American Standard Code for Information Interchange (ASCII)-format processed survey data shall be provided in x, y, z (easting, northing, elevation) format. Each data file shall include a descriptive header including, but not limited to, software and equipment information, client, project, horizontal and vertical datum, units, tidal correction, survey type, alignment, and stations surveyed.

C. Prior to submitting a request for progress payment, furnish to the Engineer copies of all field notes, computations, any records relating to the quantity survey or to the layout of the Work, and personal computer (PC)-compatible versions of any computer software required to interpret the finished data and records. The Contractor is responsible for converting data and drawing files to a standard software version approved by the Engineer. Standard ASCII format is pre-approved for data files.

D. Maintain on site a complete, accurate log of control of survey work as it progresses.

E. Keep updated survey field notes in a standard field book. These field notes shall include all upland survey work performed by the Contractor's surveyor in establishing line, grade, and slopes for the construction work. Keep separate updated field notes for in-water survey work performed by the Contractor. Copies of these field notes shall be provided to the Engineer upon request.

F. Material Placement Progress Surveys: Submit to the Engineer, within 12 hours of completing placement activity, the results of ongoing progress surveys and records (Windows Offshore Positioning Software [WINOPS], DREDGEPACK by Hypack, Inc., or equivalent) required to document compliance with the minimum capping limits shown on the Drawings.

1.05 PRESERVATION OF STAKES AND MARKS

A. Carefully preserve all primary controls. The Contractor will be charged for the replacement costs of stakes and marks damaged or destroyed by the Contractor's operation. Such charges will be deducted from amounts otherwise due or to become due to the Contractor at the current time and material rates.

B. Do not remove major survey control points without the approval of the Engineer.

1.06 CONTRACTOR SURVEYS

A. Establish such additional lines, grades, and controls as are needed for construction.

B. Perform all work in conformance with the lines, grades, and dimensions indicated on the Drawings. If a discrepancy is noted between the Drawings, immediately bring this to the Engineer's attention. Where tolerances are stated, perform the work within those tolerances. The Engineer will determine if the work conforms to such lines, grades, and dimensions; his/her determination shall be final.

C. The Contractor assumes full responsibility for detailed dimensions and elevations measured from primary control points.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.01 GENERAL

A. Exercise care during the execution of the survey work to minimize any disturbance to existing property and to the landscape and waters in the areas surrounding the Work Site. Survey crews shall comply with all provisions of the site-specific construction Health and Safety Plan when traversing into controlled areas.

1. If the survey work provided by the Contractor does not meet the Contract requirements, the Contractor shall, upon the Engineer's Written Notice, remove and replace the individual or individuals doing the survey work. The Owner may subcontract control of surveying at the Contractor's expense, which will be deducted from moneys due or to become due to the Contractor.

2. The Engineer reserves the right to check all work laid out by the Contractor during the progress of the work, as deemed necessary to verify conformance with the Drawings and Specifications. Allow a reasonable time to permit such checks (24 hours, excluding Sundays and holidays) before completing the work. These checks will be made during the regular working hours.

3.02 SURVEY CONTROL AND REFERENCE POINTS

A. Existing survey control points are noted on the Drawings and may be used by the Contractor to establish project baseline, stationing, offsets, and work limits. The existing survey control points may also be used to establish any supplemental survey control points. For all surveys, use the horizontal datum Washington State Plane Coordinate System North American Datum of 1983 (NAD83) (1991), North zone, in U.S. feet. Show all surveys in MLLW, in U.S. feet.

B. Protect all survey control points prior to starting site work and preserve permanent reference points during construction. Do not relocate site reference points without prior written approval from the Engineer.

C. Promptly report to the Engineer the loss, damage, or destruction of any reference point or relocation required because of changes in grades or other reasons. Replace dislocated survey control points based on original survey control at no additional cost to the Engineer. Replacement of dislocated survey control points shall be done by a land surveyor licensed in the State of Washington.

3.03 INSPECTION

A. Verify locations of site reference and survey control points prior to starting work. Promptly notify the Engineer of any discrepancies discovered. Also verify layouts periodically during construction.

3.04 SURVEY REQUIREMENTS

A. Reference survey and site reference points to the provided control monuments and record locations of survey control points, with horizontal and vertical data, on Project Record Documents.

B. Topographic Surveys

1. Conduct topographic surveys to augment hydrographic surveys, as approved by the Owner, in accordance with USACE Engineering and Design – Control and Topographic Surveying (USACE EM 1110-1-1005 [January 2007]). Along the shoreline bank, conduct these surveys to supplement the hydrographic surveys required for the in-water work. Conduct surveys on a minimum 5-foot by 5-foot grid, including grade breaks from which a 1-foot contour map will be required in an electronic format. The topographic surveys shall cover all work areas with sufficient overlap beyond the work area to allow for tying the survey into existing grades.

2. All control surveys for elevation shall be +/-0.01 foot and, for horizontal, control angles shall be to the nearest 20 seconds +/-10 seconds, and measured distances shall be to +/-0.01 foot. All upland measurement surveys shall be within the following accuracies: horizontal: +/- 0.033 feet +1 parts per million (ppm) at 1 root-mean-square (RMS) (67% confidence level); and vertical: +/- 0.066 feet +1 ppm at 1 RMS (67% confidence level). Real-time kinematic-global positioning system (RTK-GPS) methods are acceptable during positional dilution of precision values of 7.0 feet or less and the utilization of a Geoid model or site calibration. Verify the RTK-GPS system on at least three survey control points near the limits of the site, as established by differential leveling methods from a project benchmark or survey control point. Avoid multi-path environments. Equip range pole tips with a “topo shoe” or device to prevent the tip of the range pole from penetrating the ground surface, or make a conscious effort to capture the ground surface and prevent the tip of the range pole from sinking into the ground.

3. Provide all materials as required to properly perform surveys, including but not limited to: instruments, tapes, rods, measures, mounts and tripods, stakes and hubs, nails, ribbons, other reference markers, and all else

required. All material shall be of good professional quality and in first-class condition.

4. All lasers, transits, and other instruments shall be calibrated and maintained in accurate calibration throughout the execution of the Work. Submit calibration certificates to the Engineer prior to the use of any instrument.

5. Furnish all materials and accessories (i.e., grade markers, stakes, pins, spikes, etc.) required for proper location of grade points and line. All marks given shall be carefully preserved and, if destroyed or removed without the Engineer's approval, they shall be reset, if necessary, at the Contractor's expense.

C. Hydrographic Surveys

1. Conduct Pre-Construction and Final As-Built Surveys using an integrated hydrographic surveying system consisting of a survey grade multibeam fathometer, inertial RTK-GPS with motion platform, tide gauge, and computer and software.

2. Progress surveys may be performed using a single-beam fathometer.

3. Hydrographic survey procedures (positioning modes, electronic positioning system calibration, data reduction, adjustment, processing, and plotting) shall conform to industry standards.

4. Horizontal location observations shall compensate for errors, geodetic corrections, and atmospheric variations.

5. Data recording, record annotating, and processing procedures shall be consistent with recognized hydrographic survey standards, in accordance with USACE Hydrographic Surveying Engineering Manual, for Navigation and Dredging Support Surveys (USACE EM 1110-2-1003 [January 2002]).

6. Failure to perform and process such surveys in accordance with recognized standards will result in a rejection and nonpayment for work performed.

7. Survey deliverables shall indicate which National Oceanic and Atmospheric Administration tide gauge was used to adjust the survey data to MLLW and to compare with the RTK vertical data.

8. Conduct and document the QC procedures recommended by the equipment manufacturer. Install an automatic recording tide gauge with telemetry system for transmitting of data to the survey vessel(s). The tide

gauges shall provide a continuous recording of tidal change for every 15-minute interval or for each 0.1-foot change, whichever occurs first. Record tide levels in the project vertical datum, and visually provide these levels in the operator's cab of the dredge at all times during the dredging and backfilling process to allow proper adjustment of dredge and backfill depth.

9. Soundings

   a) Sounding lines shall extend a minimum of 50 feet beyond the project survey boundaries or as otherwise approved by the Engineer. Intervals between soundings on each line shall not exceed 1 foot during raw data collection and the data shall not be decimated more than 5 feet for the DTM. In areas in which there are breaks in the slope, the 5-foot decimated data may need to be augmented at a denser interval to accurately depict the slope break.

   b) Complete all post-placement completion surveys within the same survey area with the same survey coverage as the Pre-Construction Survey.

   c) All sonar collection procedures, methods, and equipment specifications shall be in accordance with the USACE Hydrographic Surveying Engineering Manual, for Navigation and Dredging Support Surveys (USACE EM 1110-2-1003 [January 2002]).

D. Conduct survey events requiring a licensed surveyor as follows:

1. Pre-Construction Survey: The data derived from the Pre-Construction Survey shall be used in establishing initial conditions, for computing the quantities.

   a) The Owner and Engineer shall be notified at least 5 working days in advance of the Pre-Construction Survey, and the Owner and Engineer shall be permitted to accompany the survey party and to inspect the data and methods used in preparing the baseline map. This survey will serve as the basis for computing payment quantities.

2. Final As-Built Survey: This survey shall document the post-construction elevations and contours at the Work Site. The data derived from this survey shall be used in preparing the Record Drawings in accordance with Section 017000 – Execution and Closeout Requirements.

3. All surveys requiring a licensed surveyor shall be accomplished with the same licensed surveyor and equipment, and use the same data processing and interpolation methods.

3.05 PREPARATION

A. Establish and protect survey control points from traffic, construction equipment, material placement equipment, and vessel traffic.

B. Furnish, set, and maintain, in good order, all ranges, buoys, and other markers necessary to define the Work and to facilitate inspection.

C. Establish a method of horizontal positioning and vertical control before capping begins. The proposed method and maintenance of the horizontal positioning and vertical control system shall be subject to the approval of the Engineer and if, at any time, the method fails to provide accurate location for the capping operation, the Contractor will be required to suspend operations. Lay out all Work using horizontal and vertical measurements from physical structures, as indicated on the Drawings. The accuracy of all measurements taken from these points is the Contractor's responsibility. Furnish and maintain all stakes, templates, platforms, equipment, range markers, transponder stations, and labor as may be required to lay out the Work from the control points or features shown on the Drawings. Maintain all points established for the Work until authorized to remove them.

D. Establish a positioning control system for dredging as described in Section 352026 – Capping and Material Placement.

3.06 PROGRESS SURVEYS

A. Conduct progress surveys for material placement on a daily basis using the equipment and methods specified in Article 3.04, and elsewhere in this section.

B. The areal coverage of daily progress surveys shall encompass the entire area of that day's work, plus an additional area of at least 20 feet beyond the outside perimeter of the day's work (including areas that have been previously capped). Survey and record the toe, crest, and corners of all fill slopes.

C. Submit the results of progress surveys to the Engineer within 24 hours of completing the survey. The Engineer will utilize the progress survey submittals to assess the Contractor's compliance with the Contract Documents. The Owner reserves the right to direct the Contractor to cease work, at no expense to the Owner, in the event that the Contractor fails to submit the results of progress surveys within the specified time frame.

D. The progress surveys shall be submitted in the form of a grid plan and cross-section drawings, as prepared by the Contractor. The grid plan shall indicate the location of each cross-section. The cross-sections shall be computer

generated, and shall conform to the following format and informational requirements:

1. Plot cross-sections at a horizontal scale of 1 inch equals 10 feet (maximum) and vertical scale of 1 inch equals 5 feet (maximum), with axes shown on margins.

2. Note grid line identification number and/or coordinates for each cross section.

3. Show existing grade and cap placement thickness.

4. Show survey point locations.

5. Indicate applicable dates for cap placement and associated surveying activities.

6. Date and sign each cross section prior to submitting to the Engineer.

E. Conduct progress computations for any period for which progress payments are requested. For progress payments, prepare the cap quantity calculations using the TIN volume technique, and using Autodesk Civil 3D, Autodesk Land Development Desktop, HYPACKTM MAX, Terramodel, or other commercially available software, as approved by the Engineer.

F. Survey Records: Prior to submitting a request for progress payment, furnish the Engineer copies of all field notes, computations, any records relating to the quantity survey or to the layout of the Work, and a PC-compatible version of any computer software required to interpret the finished data and records. The Engineer will use them as necessary to verify the progress payment request. Retain copies of all such material furnished to the Engineer.

G. The Owner may conduct independent progress surveys for quality assurance purposes. The Owner will notify the Contractor if review of the survey data indicates a discrepancy between the Contractor's and the Owner's progress survey, and the Owner may request that the Contractor re-survey the area(s) where discrepancies are present. Any re-surveying and associated re-work required due to surveying error(s) on the part of the Contractor or Contractor's independent surveyor shall be provided at no additional cost to the Owner.

H. In the event that the Contractor's or the Owner's progress surveys indicate that the work is out of compliance with the Contract Documents, the Owner may direct the Contractor to adjust placement procedures until compliance is achieved, at no additional expense to the Owner. The Owner further reserves the right to direct the Contractor to stop work if it is determined, in the opinion of the Owner, that the Contractor's methods are not suitable to achieve the specified construction tolerances. In the event that the Owner stops the Work, take

whatever measures are required, including mobilization of alternative equipment, to achieve the specified construction tolerances, at no additional cost to the Owner.

3.07 FINAL AS-BUILT SURVEY

A. Upon completion of the Work, complete a Final As-Built Survey and plan drawings of the Work for inclusion in the construction records report to be prepared by the Engineer.

B. The As-Built Survey shall include a hydrographic survey of all final grades within the Project Limits. The As-Built Survey shall include the location of any cut or broken pile stubs that remain as part of the Work.

C. The results of the As-Built Survey shall be presented in the form of contour plan drawings with 1-foot contour intervals. The location of installed utilities and structures shall be clearly indicated with appropriate symbols. Break points shall be indicated for all slopes. Spot elevations shall be indicated in areas of limited topographic relief, as appropriate. The associated survey data shall also be submitted to the Engineer, in accordance with the requirements of Article 1.06 of this section.

END OF SECTION

PART 1 – GENERAL

1.01 SUMMARY

A. The work described in this section includes removing, cutting, and disposing of creosote-treated timber piles, light poles, light fixtures, and wires identified on the Drawings. The work also includes sorting, stockpiling, removal, recycling, and/or disposal of upland debris.

B. The Contractor shall be prepared to remove visible and encountered creosote-treated and non-creosote-treated piles and light poles in areas of capping as shown in drawings.

C. Contractor shall follow the Washington State Department of Natural Resources BMPs included in the Shelton Harbor Interim Action Basis of Design Report (BODR; Appendix A), with the exceptions listed in Article 3.01.

1.02 EXISTING SITE CONDITIONS

A. The Drawings show existing features and equipment but may not show all equipment and materials existing at the Work Site.

B. Existing Utilities

1. Existing utilities are shown on the Drawings to the best of the Owner's knowledge. The Contractor shall not assume that the Drawings show a complete presentation of existing utilities and shall be responsible for independently locating utilities prior to excavation.

2. Call the Utility Location Request Center (One Call Center) at 1-800-424-5555 for field location of existing utilities not less than 2 or more than 10 business days before the scheduled date for commencement of excavation or pile driving that may affect underground utility facilities, unless otherwise agreed upon by the parties involved. In addition to the One Call service, a private utility locate service may be needed. The Contractor shall include costs for a private utility locate as part of their Bid.

3. Note the location and extent of overhead utilities. Caution should be taken when working near overhead utilities. The Contractor shall be responsible for the safety of his/her employees and equipment when working near overhead utilities.

C. The Drawings indicate the character, general location, and coverage of existing overwater structures and piles. The information provided is general in nature and may not be completely representative of all features present at the Work Site at the time of construction. Prior to submitting their Bid, the Contractor shall

therefore ascertain, to their own satisfaction, the condition and location of structures, piles, and other materials that will need to be removed during the course of demolition.

1.03 SUBMITTALS

A. Prepare and submit a detailed, written Pile Demolition, Removal, and Disposal Plan as part of the Construction Work Plan in accordance with Section 013300 – Submittal Procedures.

PART 2 – PRODUCTS

Not used.

PART 3 – EXECUTION

3.01 GENERAL

A. Remove creosote-treated and non-creosote treated piles and light poles within areas shown on the Drawings in accordance with all applicable regulations, codes, and ordinances using the approach outlined in Article 3.03 of this Specification section.

B. The Contractor shall comply with the Washington State Department of Natural Resources pile removal protocols and best management practices (BMPs) in the BODR (Appendix A to these Specifications). Additional pile removal BMPs are as follows:

1. Should removal methods fail, then the pile may be cut at mudline.

2. Any debris from cutting (e.g., sawdust) will be contained and disposed of along with the cutoff portion of the pile.

3. The Contractor shall be required to take extra care to ensure that demolition debris (e.g., wires and electrical infrastructure associated with lighting), does not enter the water.

4. Stormwater from the pile processing containment area will be disposed of off site.

3.02 CONTAINMENT AND SORBENT BOOM

A. The Contractor shall utilize a containment boom as described in Section 015719 – Temporary Environmental Controls. Maintain a floating containment boom throughout the course of the pile removal activities. Material that inadvertently falls into the water shall be removed on an ongoing basis during

all hours of operation. Remove all floating debris prior to stopping work each day.

B. The Contractor shall utilize a sorbent boom as described in Section 015719 – Temporary Environmental Controls. Maintain a floating sorbent boom throughout the course of pile removal activities. The sorbent boom shall be maintained by the Contractor to contain any sheen that may be generated during completion of the Work.

C. The Contractor shall be prepared to use and implement other temporary environmental controls as necessary in order to meet requirements of the Water Quality Monitoring Plan in the BODR (Appendix A) and permit requirements.

3.03 PILE REMOVAL

A. General

1. Piles and timber pile stubs shall be completely removed by pulling, or shall be cut in a manner consistent with these Specifications.

2. After removal, piles shall be cut to an appropriate length for transport and disposal, transported to the approved transloading facility, and disposed.

3. Any on-site pile cutting necessary before off-site transport shall be conducted within a contained upland area or a contained barge. Stormwater from the containment must be disposed of off site in a permitted facility.

4. Pile removal shall include pile stubs, concrete jackets, and concrete footings used to support piles.

5. Where visible creosote or non-aqueous phase liquid is noted during pile removal, place sand cap over the area as directed by the Engineer.

6. Record the coordinates of any pile stubs that could not be removed for inclusion in the Record Drawings.

3.04 STOCKPILING AND DISPOSAL

A. Do not comingle debris that cannot be disposed of at the same facility. Unless demolition debris will be directly loaded and hauled, sort debris into different stockpiles for disposal based on the intended disposal facility.

B. Line the bottom of debris stockpile areas. Protect stockpiles of debris from rain. Prevent the loss of debris from the stockpile with appropriate perimeter containment.

C. All materials, except those containing substances classified as hazardous or potentially hazardous by local, state, or federal regulating agencies, shall upon their demolition become the property of the Contractor. All such material, including those containing hazardous or potentially hazardous substances, shall be removed and disposed of at an appropriate disposal site(s) away from the Work Site. in accordance with the Contractor's Pile Demolition, Removal and Disposal Plan listed in Article 1.03.

D. Dispose of waste materials and demolition debris by hauling to a waste site obtained and provided by the Contractor in accordance with the Contractor's Pile Demolition, Removal and Disposal Plan listed in Article 1.03.

E. No materials or stormwater from the containment area shall be disposed of in adjoining waterways. Burning of demolition debris is prohibited.

3.05 CLEANUP

A. After removal of structures, piles, and other obstructions designated for demolition, clean the area. There shall be no debris, rubble, or litter left at the Work Site from any of the demolition operations.

END OF SECTION

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

A. The work consists of furnishing all transportation, labor, materials, equipment, and incidentals necessary to construct engineered sediment caps as shown in the Drawings. Capping material will be supplied by the Owner.

1.02 DEFINITIONS

A. Excessive Capping: Material placed outside of the capping limits and/or above the Overplacement Allowance is Excessive Capping. Owner will supply up to 7,200 cubic yards to account for Overplacement Allowance. If additional material is needed beyond the Owner-supplied quantity to achieve the Minimum Required Thickness because of Excessive Capping, Contractor shall purchase and deliver supplemental material meeting the specifications herein, at no additional cost to Owner.

B. Minimum Required Thickness: The Minimum Required Thickness is 24 inches in cap areas, and 36 inches in thickened cap areas.

C. Overplacement Allowance: An additional increment above the Minimum Required Thickness to account for material placement tolerances. Material that is placed within the Overplacement Allowance will not be subject to penalty. The Overplacement Allowance quantity was calculated assuming an average thickness of 6 inches beyond the Minimum Required Thickness. Material placed above the Overplacement Allowance is considered Excessive Capping.

1.03 SUBMITTALS

A. Prepare and submit an Engineered Sediment Capping Plan and Material Barge Information as part of the Construction Work Plan in accordance with Section 013300 – Submittal Procedures.

PART 2 – PRODUCTS

2.01 GENERAL

A. The Owner will provide capping material from a local quarry.

B. Imported material has been tested and has chemical concentrations that meet the criteria identified by the Washington State Department of Ecology.

C. Imported material meets the design criteria developed in the Basis of Design and consists of approximately 1% fines, 26% sand, and 73% gravel based on material gradation tests.

PART 3 – EXECUTION

3.01 ORDER OF WORK

A. Placement work shall be performed from lower elevations to higher elevations to the extent practicable.

B. Placement work shall be conducted in a manner to minimize disturbance and mixing of capping materials with existing contaminated sediment and to minimize the turbidity impacts to the water column. In the event that disturbance is observed, Contractor shall stop work and notify Owner.

C. Capping Material Placement Verification is required. The Contractor shall complete surveys and other measures detailed in Section 017123 – Surveying to confirm that required thickness has been met. If low or thin spots are identified, the Contractor shall place additional material to the satisfaction of the Engineer to achieve the required grade or thickness.

3.02 EQUIPMENT

A. Equipment to be used for capping material placement shall place the materials in a manner that does not disturb the subgrade or previous lifts of capping material.

3.03 QUALITY CONTROL

A. The Contractor shall establish procedures for monitoring the rate of placement of the capping materials including use of a positioning system as described in Section 017123 – Surveying. The methods should be capable of determining the area of capping material coverage on a daily basis.

B. The Contractor shall supply the Engineer with information pertaining to the previous day's material placement activities on a daily basis in the Daily Construction Report in accordance with Section 013300 – Submittal Procedures.

3.04 INSPECTION OF MATERIALS AT THE SITE

A. If the Contractor provides imported material to the Work Site, truck or barge loads of imported materials shall be visually inspected by the Contractor upon delivery for the presence of foreign, recycled, or reprocessed material. The Engineer may, at any and all times, perform an independent inspection. Materials may be rejected if identified as substandard or if test results show it to be substandard.

3.05 SURVEYS AND PLACEMENT CONFIRMATION

A. Material Placement Material Tracking: The Contractor will be required to track the volume and/or weight of capping material placed on a daily basis and to make

this information available to the Owner as part of their Daily Construction Reports.

B. Material Placement Acceptance Surveys: The Contractor shall conduct surveys verifying the thickness and/or elevation of material placement in accordance with Section 017123 – Surveying.

C. Material Placement Bucket Tracking: For in-water placement, the Contractor will use an electronic tracking method (e.g., bucket maps), to assess material coverage across the placement area, or use an alternative method as approved by the Engineer. The Contractor will be required to make this information available to the Owner.

3.06 CONDUCT OF CAPPING

A. Layout of Work:

1. Establish an accurate method of horizontal and vertical control. Conduct Pre-Construction Survey before material placement activities begin.

2. Requirements for positioning equipment and methods of horizontal and vertical control is applicable to material placement operations. The proposed method and maintenance of the horizontal control system shall be subject to the approval of the Engineer and if, at any time, the method fails to provide accurate location for the material placement operations, the Contractor may be required to suspend its operations until such time that accurate control is established.

3. Lay out the work from horizontal and vertical control points indicated on the Drawings and be responsible for all measurements taken from these locations. Furnish, at the Contractor's own expense, all stakes, templates, platforms, equipment, range markers, transponder stations, and labor as may be required to lay out the Work from the control points shown on the Drawings.

4. Maintain all control points established for the Work until authorized to remove them. If such control points are destroyed by the Contractor or disturbed through their negligence prior to an authorized removal, the control points shall be replaced by the Contractor at their own expense.

B. Material Placement

1. Place materials as shown on the Drawings and described in these Specifications. Any capping material that is deposited other than in the area indicated on the Drawings, or as approved by the Engineer, will not be included in the measurement for payment, and the Contractor may be

required to remove such misplaced material and deposit it where directed at their own expense.

2. Construct caps on slopes starting from the toe of the slope and working up the slope towards the top of slope to the extent practicable.

3. Place material in a manner to minimize disturbance and mixing of capping material subgrade. Caution will be used in areas of soft sediment to ensure that native sediment remains in place and is not mixed into the water column or into the capping material.

4. Place material in a manner to minimize turbidity impacts to the water column. The Owner will perform water quality monitoring consistent with the Water Quality Management Plan in Appendix E of the *Shelton Harbor Interim Action Basis of Design Report* (Appendix A to these Specifications).

5. Anchors and spuds shall not be set in areas previously capped.

6. The Contractor shall not place material by rapidly dumping a barge or bucket load onto the placement area.

7. Contractor shall not place capping materials above the Overplacement Allowance Line, as shown on the Drawings.

8. The Contractor shall monitor the materials placement work throughout the course of work for depth, slopes, location, and tolerances, and shall be responsible for damages due to Excessive Capping.

9. The Contractor may drag equipment over capped areas to even out high spots provided that underlying contaminated sediment is not disturbed.

10. Any material that is placed outside of the specified areas as shown on the Drawings, or other than as approved by the Engineer, will not be paid for, and the Contractor may be required to remove such misplaced material and deposit it where directed at its own expense.

3.07 TRANSPORTING CAPPING MATERIAL FOR PLACEMENT

A. Haul barges shall be in good condition with no leaks in the hull. The barge shall be loaded with sufficient freeboard inside the barge so that no material spills over the side walls. Load lines shall be clearly shown on the barge, and loading shall not take the barge below the load lines.

B. The tug shall be of sufficient horsepower for moving the barge and maneuvering through the area.

C. The Contractor shall provide the following information (as part of the Construction Work Plan) on each material barge that will be used. in accordance with Section 013300 – Submittal Procedures.

1. Dimensions and capacity.

2. Barge displacement curve.

3.08 WATER QUALITY MONITORING

A. The Contractor is responsible for meeting water quality criteria as defined in the Water Quality Monitoring Plan included in the *Shelton Harbor Interim Action Basis of Design Report* (Appendix A) in accordance with Section 015719 – Temporary Environmental Controls and applicable local, state, and federal standards.

END OF SECTION