**READ THIS FIRST**

**Changes to this specification shall be approved by the Senior Manager, Marine Stormwater Utility.**

**This specification is for Port of Seattle Maritime Small Works construction projects located within the City of Seattle limited to pavement maintenance, utility projects, and other maintenance/repair projects. Designer to verify with Maritime Environmental if there are additional environmental permit requirements. The Design Engineer shall modify this specification to address project specific needs.**

All Maritime projects must be designed and completed pursuant to City of Seattle Stormwater Code SMC 22.800 – SMC 22.808 as required by the Port of Seattle’s Phase I National Pollutant Discharge Elimination System (NPDES) Permit WAR044701.

Each project must comply with the City of Seattle Stormwater Code 22.805.020.D Minimum Requirements for Construction Site Stormwater Pollution Prevention Control. Evaluate applicability of best management practices (BMPs) from City of Seattle Stormwater Manual Volume 2 Construction Stormwater Control and Volume 4 Source Control and include in the Construction Stormwater Control Plan (CSCP) or Pollution Prevention Plan as required.

Note specific requirements related to the amount of new plus replaced hard surface for the project, and consider exemptions for pavement maintenance, utility facilities and railroad maintenance.

• 750 square feet: Submit project for Port of Seattle Stormwater Review or City of Seattle Drainage Control Review (dependent on project discharge location)

• 1,500 square feet: Complete on-site stormwater management evaluation

• 5,000 square feet: Treatment required

This Project Spec Document may need additional modifications to suit your project. It is recommended that you proofread each section, paying attention to any “Notes” boxes such as this one--you should remove these “Notes” sections as you go. Also, do a search for all bracket characters “ [ ] “ as they are used to show you areas containing options or project specific details (you can use Microsoft Word’s Find feature {Ctrl-F} to jump to an open bracket “ [ “ character quickly). Again, these bracket characters should be removed.

1. GENERAL
   1. SUMMARY
      1. This item shall consist of planning, installing, inspecting, maintaining, upgrading and removing temporary erosion and sediment control Best Management Practices (BMPs) as shown on the drawings in the Contractor Erosion and Sediment Control Plan (CESCP), or as ordered by the Engineer to prevent pollution of air and water, and control, respond to, and manage eroded sediment and turbid water during the life of the work order/contract. These BMPs shall meet the requirements of the City of Seattle Stormwater Manual Volume 2 Construction Stormwater Control.
      2. This item shall consist of evaluating and implementing applicable Source Control BMPs from the City of Seattle Stormwater Manual Volume 4 Source Control.
      3. The provisions and intent of the Contract, including the General Conditions, Supplementary Conditions, and General Requirements, apply to this work as if specified in this section.
      4. This work shall apply to all areas associated with contract work including, but not limited to the following:
         1. Work areas
         2. Equipment and material storage areas
         3. Staging areas
         4. Stockpiles
         5. Access Roads
         6. For in-water work, upland areas used for laydown, storage, or other project support activities
   2. DESCRIPTION OF WORK
      1. In order to comply with the requirements of this section, the Contractor shall:
         1. Develop and submit a Contractor Erosion and Sediment Control Plan (CESCP) that meets the requirements of City of Seattle Stormwater Code.   
            The CESCP shall, at a minimum, include and address the following:
            1. Site Description and Drawings
            2. Contractor Erosion and Sediment Control Personnel
            3. Schedule and Sequencing
            4. BMP Installation
            5. BMP Maintenance
            6. BMP Inspection
            7. Recordkeeping
            8. BMP Removal
            9. Emergency Response
            10. Construction Dewatering
            11. Fugitive Dust Planning
            12. Utilities Planning
            13. Education
         2. Revise and modify the CESCP during the life of the project and maintain records.
         3. Install, maintain, and upgrade all erosion prevention, containment, and countermeasures BMPs during the life of the project, and removal at the end of the project.
         4. Contain, cleanup and dispose of all sediment and convey turbid water to existing or proposed detention/treatment facilities.
         5. Perform other work shown on the project drawings, in the CESCP, or as directed by the Engineer.
         6. Inspect to verify compliance with the CESCP requirements including BMPs; facilitate, participate in, and implement directed corrective actions resulting from inspections conducted by others including outside Agencies and Port employees/consultants.
         7. Educate all project personnel (including contractor and sub-contractor staff) in environmental compliance issues at regular meetings and document attendance and content.
   3. SUBMITTALS
      1. As part of the required Preconstruction Submittals, Section 01 32 19 - Preconstruction Submittals and before NOTICE TO PROCEED is given, the Contractor shall submit the following:

1. Contractor Erosion and Sediment Control Plan (CESCP)

B. The following shall be submitted in accordance with Section 01 33 00 – Submittals:

1. Oil Absorbent Pads

2. Silt Fence

3. Straw Wattle

4. Catch Basin Protection

5. CESCL Certification Cards

6. CESCL Qualifications

* 1. ADMINISTRATIVE REQUIREMENTS
     1. The provisions of this section shall apply to the Contractor, subcontractors at all tiers, suppliers and all others who may have access to the work site by way of the contractor’s activities.
     2. Failure to install, maintain, and/or remove BMPs shown on the drawings, in the approved CESCP and specified herein, or by order of the Engineer; or failure to conduct project operations in accordance with this specification section will result in the suspension of the Contractor's operations by the Engineer in accordance with Section 00 70 00 - General Conditions, paragraph G-10.04.
     3. The Contractor shall be solely responsible for any damages, fines, levies, or judgments incurred as a result of Contractor, subcontractor, or supplier negligence in complying with the requirements of this section.
     4. Any damages, fines, levies, or judgments incurred as a result of Contractor, subcontractor, or supplier negligence in complying with the requirements of this section will be deducted from payment due by Modification.
     5. Any time and material costs incurred by the Port due to damages, fines, levies, or judgments incurred as a result of Contractor, subcontractor, or supplier negligence in complying with the requirements of this section will be deducted from payment due by Modification.
     6. The Contractor shall be solely responsible for any schedule impacts from damages, fines, levies, judgments, or stop work orders incurred as a result of Contractor, subcontractor, or supplier negligence in complying with the requirements of this section. The project schedule will not be changed to accommodate the time lost.
     7. Contractor shall not clear, grub, grade, demolish, or perform any earthwork after NOTICE TO PROCEED until the following has been installed per the project drawings, the approved CESCP, or as directed by the Engineer:
        1. Water flows from off site are tight lined and directed away from work area.
        2. All construction entrances are stabilized and operational.
        3. Catch basin inserts are installed in all catch basins that receive drainage from the Work area and haul routes within the project drainage basin on Maritime property.
        4. Materials on hand, in quantities sufficient to cover all bare soil, divert all flows, contain all sediments, and prevent turbid discharges from the site during all stages of construction. These materials include, but are not limited to the following:
           1. Reinforced 6 mil plastic sheeting
           2. Straw bales
           3. 6” pipe
           4. Sandbags, filled
  2. AUTHORITY OF ENGINEER
     1. The Engineer has the authority to limit the surface area of erodible earth material exposed by clearing, excavation, and fill operations, and to direct the Contractor to provide immediate permanent or temporary pollution control measures to prevent contamination of adjacent streams or other watercourses, lakes, ponds, wetlands or other areas of water impoundment.
     2. In the event that temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or are ordered by the Engineer, such work shall be performed by the Contractor at his/her own expense.
     3. The Engineer may increase or decrease the area of erodible earth material to be exposed at one time as determined by analysis of project conditions.
     4. In the event that areas adjacent to the work area are suffering degradation due to erosion, sediment deposit, water flows, or other causes, the Engineer may stop construction activities until the situation is rectified.
     5. In the event that the Washington State Department of Ecology issues an Inspection Report, a Notice of Non-Compliance, Notice of Violation or Enforcement Action, the Engineer may stop all construction activities until it has been determined that the project is in compliance.  The Engineer may require the Contractor to send additional staff to successfully complete Contractor Erosion and Sediment Control Lead (CESCL) training before construction activities may begin.  The number of working days will not be changed to accommodate the work stoppage.  All costs associated with work stoppages, mitigation of the event, and/or training shall be paid by the Contractor.
     6. In the event that the Contractor discharges storm water, ground water, or process water to storm drains, ditches, gutters or any conveyance that discharges to a receiving water as defined by the Department of Ecology without prior approval of the Engineer, the Engineer may stop all construction activities and require additional Contractor staff training and may require that all parties involved in the unapproved discharge be removed from the project for a time determined by the Engineer.  The project schedule will not be changed to accommodate the time lost.  All costs associated with mitigation of the unauthorized discharge, work stoppages, training and/or removal of personnel from the project shall be paid by the Contractor.

1. PRODUCTS
   1. GENERAL:
      1. All products used to construct the Contractor selected BMPs shall be suitable for such use and submitted to the Engineer for approval.
   2. OIL ABSORBENT PADS:
      1. Oil absorbent pads shall be made of white, 100 % polypropylene fabric that absorbs oil-based fluids and repels water-based fluids. Each pad shall be a minimum of 15x19 inches in size and absorb no less than 50 ounces of oil-based fluids.
   3. WATTLES:
      1. Wattles shall consist of cylinders of biodegradable plant material, such as straw, coir, or compost encased within biodegradable or photodegradable netting.  Wattles shall be a minimum of 5 inches in diameter, unless otherwise specified.  Encasing material shall be clean, evenly woven, and free of debris or any contaminating material, such as preservative and free of cuts, tears or damage.  Compost filler shall meet material requirements specified in Washington State Department of Transportation (WSDOT) Section 9-14.4(8) Coarse Compost.  Straw filler shall be 100% free of weed seeds.
   4. CATCH BASIN PROTECTION:
      1. Catch basin protection shall be designed and installed for the purpose of preventing sediment from entering the storm system. Protection shall:
2. Be constructed of non-woven geotextile fabric with sewn seams;
3. Contain a built-in lifting strap;
4. Have a built-in, high flow bypass;
5. Be sized such that all water draining to the catch basin flows into the insert and does not flow directly into the storm.
   * 1. Catch basin covers shall be 30 mil PVC liner material.
   1. PLASTIC SHEETING
      1. Plastic sheeting shall be clear, reinforced, and a minimum of 6 mil thick. Sandbags or other Engineer-approved material shall be used to secure the plastic sheeting in place. Black plastic may be used to cover stockpiles.
6. EXECUTION
   1. GENERAL
      1. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other Federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.
      2. No discharge of water shall be allowed that increases volume, velocity, or peak flow rate of receiving water background conditions, or that does not meet state of Washington water quality standards.
      3. The Contractor’s Erosion and Sediment Control Plan (CESCP) required by this section shall be based upon the Temporary Erosion and Sediment Control (TESC) requirements of the contract but shall specifically phase, adjust, improve and incorporate the TESC requirements into the Contractor’s specific schedule and plan for accomplishing the work. The CESCP shall be modified as changes are made to improve, upgrade and repair best management practices used by the Contractor and as the work progresses and TESC needs change.
      4. The Contractor shall be wholly responsible for control of water onto and exiting the construction site and/or staging areas, including groundwater, stormwater, and process water. Stormwater from offsite shall be intercepted and conveyed around or through the project and shall not be combined with onsite construction stormwater.
      5. Modifications to project hydraulic conveyances, detention facilities, and TESC plan sheets shall be stamped by a Professional Engineer (P.E.) licensed by the State of Washington. All other changes to the CESCP shall be signed by the CESCL.
   2. CONTRACTOR’S CESCP

In order to comply with these requirements, the Contractor shall include and address the following in the CESCP:

* + 1. Site Description and Drawings
       1. Included in the CESCP shall be a written description of the construction site, including location of staging areas, stockpile areas, material storage areas, natural and constructed drainage systems within the work area and staging areas, and proximity to other construction projects.
       2. Drawings shall be included in the CESCP which show the location of the construction site, including location of staging areas, stockpile areas, material storage areas, natural and constructed drainage systems within the work area and staging areas, and proximity to other construction projects.
       3. The drawings shall show locations of BMPs during each phase of construction as identified by the Contractor in the Project Schedule.
       4. The drawings and written description shall detail temporary stormwater conveyance facilities and other measures proposed by the Contractor to limit the contributing drainage areas to not exceed the capacity of each of the stormwater ponds.
    2. Contractor Erosion and Sediment Control Personnel
       1. The Contractor shall designate sufficient employees as the responsible representatives in charge of erosion and sedimentation control. These employees’ responsibility will be the oversight of all water and air quality issues. One of these designees shall be onsite at all times when any work activity is taking place.
       2. One of the designated employees responsible for erosion and sedimentation control as discussed above shall be the Contractor Erosion and Sediment Control Lead (CESCL) who is responsible for developing, maintaining and modifying the CESCP for the life of the Contract and ensuring compliance with all requirements of this section.
       3. The CESCL shall have authority to direct all Contractor and sub-contractor personnel.
       4. Qualifications of the CESCL shall be as follows:
          1. Have successfully completed Contractor Erosion and Sediment Control Lead (CESCL) training given by a Washington State Department of Ecology-approved provider.
       5. Duties and responsibilities of the CESCL shall include:
          1. Maintaining permit file on site at all times which includes the CESCP, and any associated permits and plans;
          2. Directing BMP installation, inspection, maintenance, modification, and removal;
          3. Availability 24 hours per day, 7 days per week by telephone;
          4. Updating all drawings with changes made to the plan;
          5. Keeping weekly logs;
          6. Prepare and submit for approval a CESCP;
          7. Immediately notify the Engineer should any point be identified where storm water runoff potentially leaves the site, is collected in a surface water conveyance system (i.e., road ditch, storm sewer), and enters receiving waters of the State;
          8. If water sheet flows from the site, identify the point at which it becomes concentrated in a collection system.
          9. Inspect CESCP requirements including BMPs as required to ensure adequacy; facilitate, participate in, and take corrective actions resulting from inspections performed by outside agencies, Port employees, and Port consultants.

9. The CESCL shall have authority to act on behalf of the Contractor and shall be available, on call, 24 hours per day throughout the period of construction.

10. The CESCP shall include the name, office and mobile telephone numbers, fax number, and address of the designated CESCL and all Contractor personnel responsible for erosion and sediment control.

* + 1. Schedule and Sequencing
       1. Erosion control work activities consistent with the CESCP shall be included in the Project Schedule for each work area and project activity as shown on the drawings.
    2. BMP Installation
       1. The CESCP shall include installation instructions and details for each BMP used during the life of the Project;
       2. To prepare or modify Contractor’s CESCP, use BMPs from the City of Seattle Stormwater Manual Volume 2 Construction Stormwater Control (Current Version). May be downloaded from the City of Seattle’s stormwater website at: <http://www.seattle.gov/dpd/codesrules/codes/stormwater/>
    3. BMP Maintenance
       1. The CESCP shall include a description of the maintenance and inspection procedures to be used for the life of the project.
       2. BMPs shall be maintained for the life of the project, the completion of a work phase and/or until removed by direction of the Engineer;
       3. BMPs shall be maintained during all suspensions of work and all non-work periods;
       4. BMPs shall be maintained and repaired as needed to assure continued performance of their intended function and in accordance with the approved CESCP;
       5. Sediments removed during BMP maintenance shall be placed away from natural and constructed storm water conveyances and permanently stabilized.
       6. All maintenance shall be completed within 24 hours of inspection
    4. BMP Inspection
       1. The Contractor shall inspect all TESC best management practices on a weekly basis and anytime 0.5” of rainfall has occurred within 24 hours on weekends, holidays, and after hours. Rainfall amounts can be obtained from the Airport rain gauge (206) 787-4360 or a local weather service such as the National Weather service. The source of rainfall amount must be documented.
    5. Record keeping
       1. Reports summarizing the scope of inspections, the personnel conducting the inspection, the date(s) of the inspection, major observations relating to the implementation of the CESCP, and actions taken as a result of these inspections shall be prepared and retained as a part of the CESCP;
       2. All inspection reports shall be kept on-site during the life of the project and available for review upon request of the Engineer.
       3. Copies of all inspection records and updated CESCP shall be submitted to the Engineer weekly or other agreed upon timeframe.
    6. BMP Removal
       1. After cleaning and removal, the drainage system shall not be used for temporary construction stormwater conveyance or storage.
       2. Temporary BMPs shall be removed upon permanent stabilization or as directed by the Engineer.
    7. Construction Dewatering
       1. Storm water and construction dewatering operations shall not discharge to the Municipal Separate Storm Sewer System (MS4) unless free from pollutants. Before discharge, water shall be visually observed to be non-turbid.
       2. The CESCP shall address how the Contractor plans to manage clean and polluted water during the life of the project. Specific procedures shall be developed and included in the CESCP when work includes excavation within 10 feet of any water, sewer, or storm system. Procedures shall address, at a minimum, locating, protecting, and connecting to existing pipes, as well as response plans for broken pipes.
       3. The Engineer shall be notified before any disposal, hauling, pumping, or treatment of water occurs. Notification shall include location of disposal and methods of treatment.
       4. Water shall not be pumped into ditches, gutters, drainage conveyance, catch basins, or any area that drains to one of these unless it meets the specifications outlined in this section and with prior approval of the Engineer.
       5. Chlorinated water used for disinfecting water pipes shall not be discharged to the storm drain system.
    8. Fugitive Dust Planning:
       1. The CESCP shall detail the Contractor proposed approach to fugitive dust management. The plan shall include the following:
          1. Identification of all fugitive dust sources for each work activity.
          2. Description of the fugitive dust control measures to be used for each source.
          3. Schedule, rate of application and calculations to identify how often, how much, and when the control method is to be used.
          4. Provisions for monitoring and recordkeeping.
          5. Contingency plan in case the first control plan does not work or is inadequate.
          6. Name and telephone number of the person responsible for fugitive dust control.
          7. Source and availability of fugitive dust control materials.
       2. The Contractor shall provide whatever means is necessary to keep fugitive dust on site and at an absolute minimum during working hours, non-working hours and any shut-down periods.
       3. The Contractor’s methods for fugitive dust control will be continuously monitored and if the methods are not controlling fugitive dust to the satisfaction of the Port, the Contractor shall improve the methods or utilize new methods at no additional cost.
       4. The Contractor shall maintain as many water trucks on a site during working and non-working hours as required to maintain the site free from fugitive dust.
       5. During time periods of no construction activity, water trucks must be ready with on-site Contractor’s personnel available to respond immediately to a dust or debris problem as identified by the Engineer.
       6. At no time shall there be more than a 10-minute response time to calls concerning fugitive dust/debris problems during work hours and a 90-minute response at all other times on a 24-hour basis.
    9. Utilities Planning:

The CESCP shall identify when and how all underground utility work will be conducted so that water quality compliance is maintained. At a minimum, the Contractor shall:

* + - 1. Have all shut off valves located and have procured the means to shut off valves within 10 minutes of a water line break.
      2. Before cutting into an existing water line, the Contractor shall verify to the Engineer that the water line is not pressurized.
      3. The Contractor shall not cut into an existing storm drain or connect new stormwater conveyance systems into existing systems until it has been verified to the Engineer there will be no discharge of non-compliant water during and after cutting and connection operations.
      4. The Contractor shall grout all holes, seams, cracks, joints, cast iron rings and grates within 24 hours of installation of each item.
      5. Storm systems to be demolished in place shall be first blocked at the point of connection to existing section to prevent contamination of existing storm system.
      6. Chlorinated water shall be discharged to sanitary sewer upon approval of a discharge authorization or permit from King County Wastewater Treatment Division or removed from the site and properly disposed of.
      7. Air plugs shall not be utilized for more than 24 hours and shall be in new condition with no leaks and monitored daily for proper air pressure.
      8. Mechanical plugs shall not be utilized for more than 5 calendar days and shall be used according to the manufacturer’s instructions and engineering parameters. The Contractor shall submit instructions and engineering documentation before use.
      9. When a plug needs to remain in place longer than 5 days, the Contractor shall utilize grout. The grout shall be installed so that the length is one and a half times the diameter of the pipe.
  1. CONSTRUCTION REQUIREMENTS
     1. Saw cutting
        1. Saw cut slurry and cuttings shall be vacuumed during cutting operations;
        2. Saw cut slurry and cuttings shall not remain on permanent concrete or asphalt pavement overnight;
        3. Saw cut slurry and cuttings shall not drain to MS4 or any other natural or constructed drainage conveyance;
        4. Collected slurry and cuttings are the responsibility of the Contractor and shall be disposed of off-site in a manner that does not violate groundwater or surface water quality standards.
     2. Soil and Construction Debris Stockpiles
        1. Soils and construction debris, including broken concrete and asphalt paving, shall be stockpiled within the work site or off site.
        2. Stockpiles shall be covered with plastic and secured from blowing wind or jet blast.
        3. Plastic shall be a minimum thickness of 6 mil.
        4. Materials to be stockpiled on pavement shall be placed on plastic and contained within a bermed area.
        5. Clean storm water runoff from the plastic covering shall be directed away from bare soil using pipes, sandbags, or other temporary diversion devices.
     3. Construction Roads, Entrances, and Exits
        1. Before leaving project site, all trucks and equipment shall be inspected for mud and debris. All mud and debris shall be removed as per Section 01 50 00 - Temporary Facilities and Controls.
        2. At no time shall mud, debris, or visible sediment be allowed outside of the project boundaries and on any Port-owned and public roads.
        3. Mud and debris shall be removed from pavement by vacuum sweeping and shoveling and transported to a controlled sediment disposal area identified in the CESCP.
        4. If the mud and debris are contaminated by fuels, grease, metals or other pollutants, they shall be disposed of in accordance with Section 01 57 23 - Pollution Prevention Planning and Execution.
        5. Use of water to wash concrete or asphalt pavement shall be allowed only after sediment has been removed by vacuum sweeping and shoveling, and a Road Wash Plan has been submitted and accepted by the Engineer.
        6. Water used to wash pavement shall not drain into the MS4 or any other natural or constructed storm water conveyance and shall be removed from Port property and disposed of off-site in accordance with local, state, and federal regulations.
        7. Power brooms shall not be utilized without prior approval by the Engineer.
        8. Contractor shall have sufficient working vacuum sweepers on site at all times work is being performed. All sweepers shall have on-board water spray systems that shall be operating at all times.
        9. Vacuum sweepers shall be dedicated to this project and shall not be utilized by any other contract, nor be hired out to another contractor.
        10. If, in the Engineer’s opinion, the Contractor does not adequately manage the tracking of sediment, the Port may subcontract out the control of sediment tracking at the Contractor’s expense.
     4. Catch Basin Protection
        1. All catch basins within the project limits, and outside the project limits but within the project drainage basin, including haul roads, shall be protected
        2. Catch basin protection shall be installed where shown in the project drawings, in all storm drainage structures within the work area, or as otherwise directed by the Engineer.
     5. Concrete Truck and Equipment Washing
        1. Concrete truck chutes, concrete pumps, hand tools, screeds, floats, trowels, rollers and all other tools shall be washed out only into Washington State Department of Ecology (Ecology)-approved covered steel containers.
        2. All contained concrete waste shall be disposed of offsite in a manner that does not violate groundwater or surface water quality standards.
        3. All water used for washing, is defined by Ecology as “process water” and shall be collected and disposed of in a manner that complies with all locate, state and federal regulations.
     6. Straw Wattle
        1. The installation of straw wattles shall be per WSDOT Standard Plan I-30.30-00 “Wattle Installation on Slope”, or as directed by the Engineer.
        2. Straw wattles shall not be recognized as an effective BMP when used on concrete or asphalt.

1. MEASUREMENT AND PAYMENT

No separate measurement or payment will be made for the work required by this section. The cost for this portion of the Work will be considered incidental to and included in the payments made for the applicable bid items in the Lump Sum price bid for the Project.

End of Section