

Appendix 2.5-1
Draft Stormwater Pollution Prevention Plan

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**Stormwater Pollution
Prevention Plan (SWPPP)**

Skookumchuck Wind Project

RES Americas, Inc.

Lewis and Thurston County, WA

February 2018

**SWPPP Must Be
Kept On Site**



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Certificate of Engineer

RES America, Inc. Skookumchuck Wind Energy Project Stormwater Pollution Prevention Plan

I hereby certify that this Stormwater Pollution Prevention Plan for Renewable Energy Systems America Inc. (RES) for the Skookumchuck Wind Energy Project has been prepared by me or under my supervision and meets minimum standards of the Washington and normal standards of engineering practice.

Ty M. Johnson, P.E.
Senior Project Engineer
HDR, Inc.

1 Project Overview

1.1 Introduction

This Construction Stormwater Pollution Prevention Plans (SWPPP) has been prepared in accordance with Minimum Requirement No. 2 of the Department of Ecology's Stormwater Management Manual for Western Washington (Manual).

This erosion control/construction SWPPP was developed to prevent the occurrence of environmental degradation due to the construction of the wind turbines at 38 locations near the Skookumchuck River and associated tributaries in Lewis County Washington. The overall site plan is included in Appendix A. This SWPPP outlines Best Management Practices (BMPs) that will be implemented on-site during construction to achieve the following goals:

- Minimize stormwater flows to offsite.
- Prevent onsite soil erosion.
- Capture sediment that has been unavoidably released from exposed soils.
- Protect nearby water quality from on-site pollutants.

This erosion control/SWPPP was developed in the following manner as described in the Manual:

1. Collection of pertinent data.
2. Analysis of data and selection of appropriate BMPs.
3. Construction SWPPP development and implementation.

1.2 Project Overview

The overall Project consists of the construction of wind energy facilities, which will temporarily disturb approximately 60 Acres of land. The 38 wind turbines and associated infrastructure will be constructed within Lewis and Thurston County and at a minimum contain the following construction activities:

- Installation of pre-construction/perimeter control BMPs and Vehicle Tracking Controls (VTCs) at site entrances and exits.
- Improving existing gravel access roads to allow for mobilization to work sites.
- Construction of two (2) equipment laydown areas.
- Construction of one (1) 20-acre operations and maintenance (O&M) facility.
- Construction of one (1) concrete batch plant.
- Construction of one (1) electrical substation.
- Hauling of construction equipment and material to material storage yards.

- Clearing and grubbing and site excavation.
- Installation of 38 wind turbine foundations.
- Construction of wind turbines.
- Surface roughening of disturbed areas, phased with construction.
- Stabilization of impacted areas, phased with construction. Removal of temporary BMPs when final stabilization is achieved. Final stabilization is defined in the Manual as: the completion of all soil disturbing activities at the site and the establishment of a permanent vegetation cover that consists of at least 70% of the pre-development cover, or equivalent permanent stabilization measures (such as pavement, riprap, gabions, or geotextiles) which will prevent erosion.

The proposed Project features are illustrated in Appendix B. The following details are included on the detailed site maps:

- Limits of Construction; Boundaries where construction activity and soil disturbance will occur.
- Locations of streams, rivers, waterbodies and wetlands.
- Topography of the site with 30-meter contour intervals.
- Locations of approved Stormwater Best Management Practices (BMPs).
- Designated ingress and egress areas for access to the proposed sites.

2 Data Collection

The initial step in the development of the SWPPP involves data collection at the Project site to identify issues that will need to be addressed for stormwater control during construction.

2.1 Site Location and Existing Conditions

The Project is located within Lewis and Thurston counties in southwestern Washington, approximately 27 miles southeast of Olympia, 14 miles southwest of Eatonville, and 21 miles east of Chehalis. The majority of the Project is located on land managed for timber production leased by the Weyerhaeuser Company. The Public Land Survey System (PLSS) locations of the wind turbines (T1- T38) and associated construction are shown in Table 1. A detailed site location map is located in Appendix A.

Table 1. Location of Major Construction Activities

Project Element	Location
T1, T2, T3	T15N, R1E, S27
T4	T15N, R1E, S26
T5	T15N, R1E, S35
T6, T7, T8	T15N, R1E, S36
Laydown/Batch Plant	T15N, R1E, S36
T9, T10, T11 ,T12, JB 1/2	T14N, R1E, S1
T13, T14, T15, JB 1/1	T14N, R2E, S6
Laydown/Batch Plant	T14N, R2E, S6
T16, T17, JB 2/1	T14N, R2E, S7
T18, T19, T20, T21, JB 2/1	T14N, R2E, S8
Substation and Laydown/Batch Plant	T14N, R2E, S8
T24, T25, T26, JB 6/1	T14N, R2E, S9
T21, T22, T23	T14N, R2E, S17
T27, T28, T29, T30, T31, JB 6/2	T14N, R2E, S15
T32, T33, T34	T14N, R2E, S14
T35	T14N, R2E, S23
T36, T37, T38	T14N, R2E, S24
O&M Area, Laydown Yards	T16N, R1E, S27

3 Data Analysis

The second step in development of an erosion control/SWPPP involves analyzing the information previously collected to anticipate potential problems and limitations of the site. During this step, areas that have critical erosion potential are identified.

The topography around the Project area varies in grade from elevation 400 feet to 3,450 feet NAVD 88. The topography features moderate to significant slopes, ranging from 2 to 20%. The majority of the wind turbines will be constructed on top of ridge lines, generally characterized by flat topography adjacent to moderate to steep slopes.

Based on information obtained from the National Resources Conservation Service (NRCS) Web Soil Survey, the most prominent types of soil in the Project area include Pheeny gravelly loam, Baumgard loam, Jonas gravelly silt loam, Vailton silt loam, and Pheeny-Jonas complex. A majority of the soils are classified as a hydrologic soil group (HSG) B and C, which indicates a moderate infiltration potential and medium runoff rate.

Figure 1 in Appendix C includes a map illustrating HSG classifications. The BMP Location Map in Appendix B also contains soil type and texture information.

The Project area is primarily zoned as Forest Resource Land, characterized by a mix of recently harvested areas and timber strands of varied ages, shrubs, grasslands. The area is mostly rural and unpopulated. Privately maintained gravel roads and county roads are located throughout the proposed wind farm. The closest public road is Vail Loop Road SE, and it provides access to the O&M Facility and laydown areas. Access to the remainder of the site is achieved from the north through Gordon Road SE.

The Project spans two major drainage basins. The O&M Building, northern laydown areas, and a portion of the access road are located within the Lake Lawrence-Deschutes River Subbasin of the Deschutes Basin. The majority of the Project area and all of the wind turbine installations are within the Upper Chehalis Basin. The Project spans several subbasins of the Upper Chehalis Basin:

- Middle Skookumchuck River
- Hanaford Creek
- North Fork Newaukum River
- Upper South Fork Newaukum River
- Upper Skookumchuck River
- Headwaters Skookumchuck River

Stormwater generated from construction sites located at high points will sheet flow down moderate slopes consisting of forested areas towards small tributaries. Run-on generated from all construction sites will be limited due to the location of construction activities atop ridge lines. A majority of the runoff will flow toward the Skookumchuck River and ultimately discharge to the Chehalis River south of the Project area. A Water Resources Map is included in Appendix C, Figure 2.

3.1 Precipitation Records

The climate in the region is mild. Temperatures in the area range from an average low monthly temperature of 35°F in February to an average monthly high of 80°F in August. The average annual rainfall is 47 inches¹. Table 2 lists average monthly precipitation for Thurston and Lewis County, Washington.

¹ U.S. Climate Data. Lewis County, WA. Accessed online 1/29/2018.
<https://www.usclimatedata.com/climate/centralia/washington/united-states/uswa0067>

Table 2. Average Monthly Precipitation for Thurston and Lewis County, Washington².

Month	Precipitation (in)
January	10.40
February	7.79
March	7.38
April	4.98
May	3.12
June	2.26
July	1.20
August	1.60
September	3.08
October	6.56
November	10.45
December	10.87
2-year, 24-hour storm event	3.20
100-year, 24-hour storm event	6.30

4 Construction SWPPP Development and Implementation

The development of the erosion control/SWPPP includes implementation of Department of Ecology (Ecology) approved erosion control measures which will be installed and maintained in accordance with the County and Department of Ecology's stormwater requirements to reduce project impact to the existing site conditions.

The erosion control BMP Location Maps and details are included in this report in Appendix B. Incorporated into this document were the following twelve elements that must be included in the development of a successful erosion control/SWPPP.

1. Mark Clearing Limits
2. Establish Construction Access
3. Control Flow Rates
4. Install Sediment Controls
5. Stabilize Soils
6. Protect Slopes
7. Protect Drain Inlets
8. Stabilize Channels and Outlets
9. Control Pollutants
10. Control Dewatering
11. Maintain BMPs
12. Manage the Project.

² Western Regional Climate Center

This step involves the final development of the SWPPP through the consideration of the twelve elements outlined in the Manual. The following sections summarize these considerations.

All BMPs shall be in place, in working condition, and inspected prior to any ground disturbing activities. Restoration plans are in development and will be provided in the final SWPPP (to be provided to appropriate agencies during construction permit review).

4.1 Element 1: Mark Clearing Limits

Clearing limits for each of the projects will be delineated utilizing high visibility fencing. These areas will limit disturbance to any areas outside the construction footprint.

- High Visibility Fence (BMP C103)

BMP C103: High Visibility Fence

Purpose: Fencing is intended to: (1) restrict clearing to approved limits; (2) prevent disturbance of sensitive area, their buffers and other areas required to be left undisturbed; (3) limit construction traffic to designated construction entrances or roads; and (4) protect areas where marking with survey tape may not provide adequate protection.

Conditions of Use: To establish clearing limits, plastic or metal fence may be used:

- As necessary to control vehicle access to and on the site.

Alternative BMPs are included in Appendix E as a quick reference.

4.2 Element 2: Establish Construction Access

Construction access and activities will primarily occur on gravel roads. Therefore access points shall be stabilized to minimize the tracking of sediment onto public roads. All stream crossings and site entrances and exits will be inspected daily for off-site sediment deposition.

After construction, the roads and site access will be restored to a condition equal or better than the pre-construction condition.

- Stabilized Construction Entrance/Exit (BMP C105)

BMP C105: Stabilized Construction Entrance/Exit

Purpose: Stabilized Construction entrances are established to reduce the amount of sediment transported onto paved roads by vehicles or equipment. This is done by constructing a stabilized pad of quarry spalls at entrances and exits for construction sites. Stabilized construction entrances will be used at both entrances at 5th and C Street. A wheel wash is proposed for the northerly entrance near C Street.

Conditions of Use: Construction entrances shall be stabilized wherever traffic will be entering or leaving a construction site if paved roads or other paved areas are within 1,000 feet of the site.

On large commercial, highway, and road projects, the designer should include enough extra materials in the contract to allow for additional stabilized entrances not shown in the initial Construction SWPPP. It is difficult to determine exactly where access to these projects will take place; additional materials will enable the contractor to install them where needed.

- Wheel Wash (BMP C106)

BMP C106: Wheel Wash

Purpose: Wheel washes reduce the amount of sediment transported onto paved roads by motor vehicles.

Conditions of Use: When a stabilized construction entrance (See BMP C105) is not preventing sediment from being tracked onto pavement.

- Wheel washing is an effective BMP when installed with careful attention to topography.
- Pressure washing combined with an adequately sized and surfaced pad with direct discharge to a large 10-foot x 10-foot sump can be very effective.

Alternative BMPs are included in Appendix E as a quick reference.

4.3 Element 3: Control Flow Rates

The Contractor shall be responsible for effective erosion and sediment control, and compliance with all applicable conditions of federal, state, and local permits. Since many of the details of the construction sequencing and schedule are at the discretion of the Contractor, this section provides the Owner with a degree of flexibility regarding the type, and amount of erosion and sediment control systems that will be installed on the site. For this reason, the SWPPP provides the Contractor with descriptions, strengths, and weaknesses of various erosion and sediment control techniques that the Owner may require. At a minimum, downstream properties and waterways must be protected from erosion and sedimentation associated with the discharge of turbid waters due to increases in flow rate and volume of stormwater runoff.

The Contractor is encouraged to communicate early and regularly with the Owner regarding any questions on erosion and sediment control systems. The benefits of clear and early communication with the Contractor and the Owner are clear: the project will be more likely to remain in compliance with all applicable water quality standards.

4.4 Element 4: Install Sediment Controls

The Contractor shall install silt and filter fabric fence as necessary in locations on-site prior to commencement of work. Silt fence and other perimeter control measure

locations are illustrated on the BMP Location Maps in Appendix B. At a minimum, perimeter control will be installed at the toe of any disturbed slopes and along the low areas adjacent to the limits of construction disturbance. Perimeter controls will be installed to protect areas adjacent to rivers or tributaries and any existing wetlands.

- Silt Fence (BMP C233)

BMP C233: Silt Fence

Purpose: Use of a silt fence reduces the transport of coarse sediment from a construction site by providing a temporary physical barrier to sediment and reducing the runoff velocities of overland flow.

Conditions of Use: Silt fence may be used downslope of all disturbed areas.

- Silt fence shall prevent soil carried by runoff water from going beneath, through, or over the top of the silt fence, but shall allow the water to pass through the fence.
- Silt fence is not intended to treat concentrated flows, nor is it intended to treat substantial amounts of overland flow. Convey any concentrated flows through the drainage system to a sediment pond.
- Do not construct silt fences in streams or use in V-shaped ditches. Silt fences do not provide an adequate method of silt control for anything deeper than sheet or overland flow.

Alternative BMPs are included in Appendix E as a quick reference.

4.5 Element 5: Stabilize Soils

Exposed and unworked soils shall be temporarily or permanently stabilized as soon as practicable by application of effective BMPs that protect the soil from the erosive forces of raindrops, flowing water, and wind.

No soils should remain exposed and unworked for more than the time periods set forth below to prevent wind and water erosion:

- During the dry season (May 1 to September 30): 7 days
- During the wet season (October 1 through April 30): 2 days
- Soil stabilization BMPs shall be appropriate for site conditions, time of year, and the duration of the project.
- Soil stockpiles shall be stabilized and protected with erosion and sediment control BMPs.
- Soils will be stabilized before a holiday or weekend if needed based upon forecasts of precipitation in the Grays Harbor area.

To meet the requirements listed above, the Contractor may need to stabilize additional areas on-site. The Contractor will be responsible for selecting the most appropriate BMP based upon construction-site conditions, amount of time each area will require

stabilization, and seasonal considerations with input from the Owner. These BMPs from the Manual may include:

- Temporary and Permanent Seeding (BMP C120)
- Mulching (BMP C121)
- Nets and Blankets (BMP C122)
- Plastic Covering (BMP C123)
- Dust Control (BMP C140)

Alternative BMPs are included in Appendix E as a quick reference.

4.6 Element 6: Protect Slopes

Slope protection BMPs are included in Appendix D as a quick reference tool for the onsite inspector in the event BMPs are required during construction.

4.7 Element 7: Protect Drain Inlets

No storm drain inlets are anticipated to be affected or within the vicinity of the projects, however, all culverts shall remain operable during construction and be protected to prevent unfiltered or untreated water from leaving the project site.

The Certified Erosion and Sediment Control Lead shall implement an approved BMP or alternative BMP to protect failure of existing stormwater infrastructure.

4.8 Element 8: Stabilize Channels and Outlets

Channel and outlet stabilization BMPs are included in Appendix D as a quick reference tool for the onsite inspector in the event BMPs are required during construction. To avoid potential erosion and sediment control issues that may cause a violation(s) of the NPDES Construction Stormwater permit, the Certified Erosion and Sediment Control Lead will initiate the implementation of one or more of the alternative BMPs listed in Appendix E within 10 days after the first sign that existing BMPs are ineffective or failing.

4.9 Element 9: Control Pollutants

All pollutants, including waste materials and demolition debris, that occur onsite shall be handled and disposed of in a manner that does not cause contamination of stormwater. Good housekeeping and preventative measures will be taken to ensure that the site will be kept clean, well-organized, and free of debris. Streets must be cleaned daily before the end of the workday; however, if in the opinion of the CESCL sediment tracking is excessive or if rain is expected, clean streets as often as necessary to keep clean at all times or as directed by the Engineer. The following specific BMP's will be used to control pollutants that may be released during the proposed project:

- Street Sweeping
- Concrete Handling (BMP C151)

- Material Delivery, Storage and Containment (BMP C153)

BMP C151: Concrete Handling

Purpose: Concrete work can generate process water and slurry that contain fine particles and high pH, both of which can violate water quality standards in the receiving water. Use this BMP to minimize and eliminate concrete, concrete process water and slurry from entering waters of the state.

Conditions of Use: Any time concrete is used, utilize these management practices. Concrete construction project include, but not limited to, the following:

- Foundations

BMP C153: Material Delivery, Storage and Containment

Purpose: Prevent, reduce, or eliminate the discharge of pollutants to the stormwater system or watercourses from material delivery and storage. Minimize the storage of hazardous materials on-site, store materials in a designated area, and install secondary containment.

Conditions of Use: These procedures are suitable for use at all construction sites with delivery and storage of the following materials:

- Petroleum products such as fuel, oil and grease
- Soil stabilizers and binders (e.g. Polyacrylamide)
- Fertilizers, pesticides and herbicides
- Detergents
- Asphalt and concrete compounds
- Hazardous chemical such as acids, lime, adhesives, paints, solvents and curing compounds
- Any other material this may be detrimental if released to the environment

Contaminated media stockpiling:

- Containers and stockpiles shall be lined and covered, when not in use to eliminate contact with precipitation and to prevent blowing dust.
- The Contractor shall provide earthen berms or an equivalent to prevent surface or stormwater from entering the stockpile areas or open excavations.
- The Contractor shall minimize water content of excavated soils prior to placement in containers or stockpiles in order to control free liquids so that they are not released to the environment (e.g., soils or surface water).
- Free liquids in containers or draining from stockpiles shall be controlled by the Contractor and shall not be released to the environment (e.g., soils or surface water).
- The Contractor shall test any free liquid for contamination and dispose of it accordingly.

- The Contractor shall provide suitable barricades, fencing, signing and other warning and safety devices to protect the public and other site workers from stockpiles, contaminated media, open excavations, heavy equipment, and other construction activities.

Vehicles, construction equipment, and/or petroleum product storage/dispensing:

- All vehicles, equipment, and petroleum product storage/dispensing areas will be inspected regularly to detect any leaks or spills, and to identify maintenance needs to prevent leaks or spills.
- On-site fueling tanks and petroleum product storage containers shall include secondary containment.
- Spill prevention measures, such as drip pans, will be used when conducting maintenance and repair of vehicles or equipment.
- In order to perform emergency repairs on site, temporary plastic will be placed beneath and, if raining, over the vehicle.
- Contaminated surfaces shall be cleaned immediately following any discharge or spill incident.

Excavation and tunneling spoils and dewatering waste:

- Although dewatering within the project area is not anticipated, dewatering BMPs and BMPs specific to the excavation and tunneling (including handling of contaminated soils) are discussed under Element 10.

Concrete and grout:

- Process water and slurry resulting from concrete work will be prevented from entering the waters of the State by implementing Concrete Handling measures (BMP C151).

Solid Waste:

- Solid waste will be stored in secure, clearly marked containers. Solid wastes will be prevented from entering the waters of the State by implementing Material Delivery, Storage and Containment measures (BMP C153, see Appendix D). Contractor shall prepare a Spill Prevention Control and Countermeasure (SPCC) Plan according to the Washington State Department of Transportation (WSDOT) Requirements (see the *WSDOT Standard Specifications for Road, Bridge, and Municipal Construction 2014*).

Alternate pollutant control BMPs are included in Appendix E as a quick reference tool for the onsite inspector in the event the BMP(s) listed above are deemed ineffective or inappropriate during construction to satisfy the requirements set forth in the CSWGP. To avoid potential erosion and sediment control issues that may cause a violation(s) of the CSWGP, the Certified Erosion and Sediment Control Lead will initiate the implementation of one or more of the construction BMPs (Appendix D) or alternative BMPs (Appendix E) within 10 days after the first sign that existing BMPs are ineffective or failing.

4.10 Element 10: Control Dewatering

Dewatering BMPs are included in Appendix D as a quick reference tool for the onsite inspector in the event BMP(s) are needed during construction. To avoid potential erosion and sediment control issues that may cause a violation(s) of the CSWGP, the Certified Erosion and Sediment Control Lead will initiate the implementation of one or more of the BMPs listed in Appendix D or E within 10 days after the first sign that existing BMPs are ineffective or failing.

4.11 Element 11: Maintain BMPs

Management of erosion and sediment control systems is a dynamic process that does not end after a specific item has been installed. The system as a whole has to be evaluated on a regular basis to ensure that the project will meet the overall goals described above. The evaluation process includes the diligent maintenance of existing erosion and sediment control systems because the system as a whole depends on the proper functioning of all of its parts. Therefore, the Contractor shall be responsible for the proper maintenance of all of the erosion and sediment control systems on the construction site.

The Contractor shall inspect and maintain all temporary erosion and sediment controls (TESC) and water pollution control facilities at least weekly, or if necessary on a daily or hourly basis during significant storm events, and after each precipitation event of 0.5 inches or more in 24 hours. Inspection and maintenance activities shall be recorded, and reports shall be made available to the Owner on request. The Owner's Consultant will perform a series of site inspections throughout the construction process to ensure that erosion and sediment control systems are in compliance with federal, state, and local requirements.

The release of poor quality water to any waters/wetlands or to any adjacent properties is not allowable under current water quality standards for the state of Washington. For a construction site, compliance with the water quality standards is measured against a turbidity benchmark in the Construction Stormwater General Permit. A benchmark of 25 nephelometric turbidity units (NTU) applies as stormwater discharges from the site. If the discharge exceeds 25 NTUs, steps must be taken to reduce the discharge. These steps include ensuring that the BMPs are implemented, inspected, and maintained in accordance with the SWPPP.

If the discharge exceeds 250 NTUs, the Department of Ecology must be contacted immediately, and daily monitoring shall occur until the discharge returns to 25 NTUs or less.

The Contractor will be responsible for maintaining BMPs during construction per directions in each of the BMPs (Appendix D). Any BMP determined to be in need of maintenance will be cleaned, rebuilt, or modified to bring it back into operation within 10 days after the first sign that existing BMPs are ineffective or failing.

All temporary erosion and sediment control BMPs shall be removed within 30 days after the final site stabilization is achieved or after the temporary BMPs are no longer needed. Trapped sediment shall be removed or stabilized on site. Disturbed soil resulting from removal of BMPs shall be permanently stabilized.

4.12 Element 12: Manage the Project

Scheduling of Construction

Measures pertaining to the control of erosion and sediment will be constructed before any work is performed on-site.

The Contractor shall appoint an erosion control lead who will ensure that the SWPPP is implemented properly. This individual will:

1. Be responsible for communicating with the Owner regarding the regular inspections
2. Respond to the Contractor's 24-hour emergency response phone numbers
3. Be responsible for the proper installation and maintenance of the erosion and sediment control systems
4. Be knowledgeable of the basics of erosion and sediment control
5. Be briefed on all relevant safety procedures.

Seasonal Work Limitations

From October 1 through April 30, clearing, grading, and other soil disturbing activities shall only be permitted if shown to the satisfaction of the local permitting authority that the transport of sediment from the construction site to receiving waters will be prevented through a combination of the following:

1. Site conditions including existing vegetative coverage, slope, soil type, and proximity to receiving waters;
2. Limitations on activities and the extend of disturbed areas; and
3. Proposed erosion control and sediment control measures.

Maintenance of the SWPPP

The erosion control plans/SWPPP shall be retained on-site and will be updated whenever there is a significant change in the design, construction, operation, or maintenance of any BMP.

Inspection

All BMPs shall be inspected, maintained, and repaired as needed to ensure effective performance. Whenever inspection and/or monitoring reveals that BMPs identified in the SWPPP are inadequate, the BMPs will be repaired as required in a timely manner.

The Contractor will designate at least one employee as being responsible for erosion and spill control. The designated Contractor Erosion and Spill Control Lead (CESCL) will be responsible for ensuring compliance with applicable erosion and sediment control requirements. The CESCL will have certification proving attendance at a "Construction Site Erosion and Sediment Control Certification Course" or equivalent. The CESCL will:

- Have authority to act on behalf of the Contractor
- Be on call 24-hours per day, seven days per week during construction
- Maintain the SWPPP and any associated permits and plans on-site
- Direct BMP installation, inspection, maintenance, modification, and removal
- Update all project drawings and the SWPPP according to changes made
- Record findings of BMP inspections in reports.

5 Construction Phasing and BMP Implementation

The BMP implementation schedule listed below is keyed to proposed phases of the construction project, and reflects differences in BMP installations and inspections that relate to wet season construction.

- Estimate of Construction start date: November 1, 2018, break in winter, begin March 2019 weather allowing
- Estimate of Construction finish date: July-October 2019
- Mobilize equipment on site: November 1, 2018
- Mobilize and store all ESC and soil stabilization products: November 2018 & March 2019
- Install ESC measures: November 1, 2018

6 Pollution Prevention Team

6.1 Roles and Responsibilities

The pollution prevention team consists of personnel responsible for implementation of the SWPPP, including the following:

- Certified Erosion and Sediment Control Lead (CESCL) – primary contractor contact, responsible for site inspections (BMPs, visual monitoring, sampling, etc.); to be called upon in case of failure of any ESC measures.
- Resident Engineer – For projects with engineered structures only (sediment ponds/traps, sand filters, etc.): site representative for the owner that is the project's supervising Engineer responsible for inspections and issuing instructions and drawings to the contractor's site supervisor or representative.
- Emergency Ecology Contact – individual to be contacted at Ecology in case of emergency. Go to the following website to get the name and number for the Ecology contact information: <http://www.ecy.wa.gov/org.html>.

- Emergency Owner Contact – individual that is the site owner or representative of the site owner to be contacted in the case of an emergency.
- Non-Emergency Ecology Contact – individual that is the site owner or representative of the site owner than can be contacted if required.
- Monitoring Personnel – personnel responsible for conducting water quality monitoring; for most sites this person is also the CESCL.

6.2 Team Members

Names and contact information for those identified as members of the pollution prevention team are provided in the following table.

Title	Name(s)	Phone Number
Certified Erosion and Sediment Control Lead (CESCL)	Juan Ortiz	(806) 977-0009
Resident Engineer	Mohamed Nofal	(303) 439-4287
Emergency Ecology Contact	Southwest Region	(360) 407-6300
Emergency Owner Contact	Josh Bollinger	(205)438-4565
Non-Emergency Ecology Contact	Southwest Region	(360) 407-6300
Monitoring Personnel	Juan Ortiz	(806) 977-0009

7 Site Inspections and Monitoring

Monitoring includes visual inspection, monitoring for water quality parameters of concern and documentation of the inspection and monitoring findings in a site log book. A site log book will be maintained for all on-site construction activities and will include:

- A record of the implementation of the SWPPP and other permit requirements;
- Site inspections; and,
- Stormwater quality monitoring.

For convenience, the inspection form and water quality monitoring forms included in this SWPPP include the required information for the site log book. This SWPPP may function as the site log book if desired, or the forms may be separated and included in a separate site log book. However, if separated, the site log book but must be maintained on-site or within reasonable access to the site and be made available upon request to Ecology or the local jurisdiction.

7.1 Site Inspection

All BMPs will be inspected, maintained, and repaired as needed to assure continued performance of their intended function. The inspector will be a CESCL per BMP C160. The name and contact information for the CESCL is provided in Section 6 of this SWPPP.

Site inspection will occur in all areas disturbed by construction activities, all points of vehicle entrance and exit, and at all stormwater discharge points. Stormwater will be examined for the presence of suspended sediment, turbidity, discoloration, and oily sheen. The site inspector will evaluate and document the effectiveness of the installed BMPs and determine if it is necessary to repair or replace any of the BMPs to improve the quality of stormwater discharges. All maintenance and repairs will be documented in the site log book or forms provided in this document. All new BMPs or design changes will be documented in the SWPPP as soon as possible.

7.1.1 Site Inspection Frequency

Site inspections will be conducted at least once a week and within 24 hours of 0.5 inch rain event or following any discharge from the site.

7.1.2 Site Inspection Documentation

The site inspector will record each site inspection using the site log inspection forms provided in Appendix F. The site inspection log forms may be separated from this SWPPP document, but will be maintained on-site or within reasonable access to the site and be made available upon request to Ecology or the local jurisdiction.

8 Reporting and Recordkeeping

8.1.1 Site Log Book

A site log book will be maintained for all on-site construction activities and will include the following:

- A record of the implementation of the SWPPP and other permit requirements;
- Site inspections; and,
- Stormwater quality monitoring.

For convenience, the inspection form and water quality monitoring forms included in this SWPPP (see Appendix F) include the required information for the site log book.

8.1.2 Records Retention

Records of all monitoring information (site log book, inspection reports/checklists, etc.), this Stormwater Pollution Prevention Plan, and any other documentation of compliance with permit requirements will be retained during the life of the construction project and for a minimum of three years following the termination of permit coverage.

8.1.3 Access to Plans and Records

The SWPPP, General Permit, Notice of Authorization letter, and Site Log Book will be retained on site or within reasonable access to the site and will be made immediately available upon request to Ecology or the local jurisdiction. A copy of this SWPPP will be provided to Ecology within 14 days of receipt of a written request for the SWPPP from Ecology. Any other information requested by Ecology will be submitted within 7 days. A copy of the SWPPP or access to the SWPPP will be provided to the public when requested in writing.

8.1.4 Updating the SWPPP

The SWPPP will be modified within seven days of determination based on inspection(s) that additional or modified BMPs are necessary to correct problems identified, and an updated timeline for BMP implementation will be prepared.

8.2 Reporting

8.2.1 Discharge Monitoring Report

The Contractor will report via Ecology's Web Discharge Monitoring Report online reporting tool by the 15th day of each month. If there was no discharge during a given monitoring period, the form will be submitted with the words "no discharge" entered in place of the monitoring results. If a benchmark was exceeded, a brief summary of inspection results and remedial actions taken will be included.

8.2.2 Notification of Noncompliance

If any of the terms and conditions of the permit are not met, the Contractor will inform the Owner of any noncompliance, and will follow the notification process necessary to notify Ecology of the noncompliance.

9 References

Washington State Department of Ecology. December 2014. Stormwater Management Manual for Western Washington.

U.S. Climate Data. Lewis County, WA. Accessed online 1/29/2018.

<https://www.usclimatedata.com/climate/centralia/washington/united-states/uswa0067>.

Western Regional Climate Center. Accessed online 1/29/2018. <https://wrcc.dri.edu/>.

Appendix A. Site Maps

Appendix B. BMP Location Maps

Appendix C. Soils and Water Resources Maps

Figure 1. Soils Map

Figure 2. Water Resources Map

Appendix D. Construction BMPs

- High Visibility Fence (BMP C103)
- Stabilized Construction Entrance (BMP C105)
- Wheel Wash (BMP C106)
- Silt Fence (BMP C233)
- Storm Drain Inlet Protection (BMP C220)
- Temporary and Permanent Seeding (BMP C120)
- Mulching (BMP C121)
- Nets and Blankets (BMP C122)
- Plastic Covering (BMP C123)
- Dust Control (BMP C140)
- Street Sweeping
- Concrete Handling (BMP C151)
- Sawcutting and Surfacing Pollution Prevention (BMP C152)
- Material Delivery, Storage and Containment (BMP C153)
- Certified Erosion and Sediment Control Lead (BMP C160)

Appendix E. Alternative BMPs

The following includes a list of possible alternative BMPs for each of the 12 elements not described in the main SWPPP text. This list can be referenced in the event a BMP for a specific element is not functioning as designed and an alternative BMP needs to be implemented.

3.1.1 Element #1 – Mark Clearing Limits

- Preserving Natural Vegetation (BMP C101)
- Buffer Zones (BMP C102)
- Stake and Wire Fence (BMP C104)

3.1.2 Element #2 – Establish Construction Access

- Construction Road/Parking Area Stabilization (BMP C107)

3.1.3 Element #3 – Control Flow Rates

- Sediment Trap (BMP C240)
- Temporary Sediment Pond (BMP C241)

3.1.4 Element #4 – Install Sediment Controls

- Brush Barrier (BMP C231)
- Gravel Filter Berm (BMP C232)
- Vegetative strip (BMP C234)
- Straw Wattles (BMP C235)
- Sediment Trap (BMP C240)

3.1.5 Element #5 – Stabilize Soils

- Sodding (BMP C124)
- Topsoiling (BMP C125)
- Polyacrylamide for Soil Erosion Protection (BMP C126)
- Surface Roughening (BMP C130)

3.1.6 Element #6 – Protect Slopes

- Surface Roughening (BMP C130)
- Gradient Terraces (BMP C131)
- Interceptor Dike and Swale (BMP C200)
- Grass-Lined Channels (BMP C201)
- Channel Lining (BMP C202)
- Pipe Slope Drain (BMP C204)
- Subsurface Drains (BMP C205)
- Level Spreader (BMP C206)
- Check Dams (BMP C207)
- Triangular Silt Dike (Geotextile-Encased Check Dam (BMP C208))

3.1.7 Element #7 – Protection Drain Inlets

Drop Inlet protection

- Excavated Drop Inlet Protection
- Block and Gravel Drop Inlet Protection
- Gravel and Wire Drop Inlet Protection

3.1.8 Element #8 – Stabilize Channels and Outlets

- Channel Lining (BMP C202)
- Outlet Protection (BMP C209)

Appendix F. Site Inspection Forms (and Site Log)

The results of each inspection shall be summarized in an inspection report or checklist that is entered into or attached to the site log book. It is suggested that the inspection report or checklist be included in this Attachment to keep monitoring and inspection information in one document, but this is optional.

However, it is mandatory that this SWPPP and the site inspection forms be kept onsite at all times during construction, and that inspections be performed and documented as outlined below.

At a minimum, each inspection report or checklist shall include:

- a. Inspection date/times
- b. Weather information: general conditions during inspection, approximate amount of precipitation since the last inspection, and approximate amount of precipitation within the last 24 hours.
- c. A summary or list of all BMPs that have been implemented, including observations of all erosion/sediment control structures or practices.
- d. The following shall be noted:
 - i. locations of BMPs inspected,
 - ii. locations of BMPs that need maintenance,
 - iii. the reason maintenance is needed,
 - iv. locations of BMPs that failed to operate as designed or intended, and
 - v. locations where additional or different BMPs are needed, and the reason(s) why
- e. A description of stormwater discharged from the site. The presence of suspended sediment, turbid water, discoloration, and/or oil sheen shall be noted, as applicable.
- f. A description of any water quality monitoring performed during inspection, and the results of that monitoring.
- g. General comments and notes, including a brief description of any BMP repairs, maintenance or installations made as a result of the inspection.
- h. A statement that, in the judgment of the person conducting the site inspection, the site is either in compliance or out of compliance with the terms and conditions of the SWPPP and the NPDES permit. If the site inspection indicates that the site is out of compliance, the inspection report shall include a summary of the remedial actions required to bring the site back into compliance, as well as a schedule of implementation.
- i. Name, title, and signature of person conducting the site inspection; and the following statement: "I certify under penalty of law that this report is true, accurate, and complete, to the best of my knowledge and belief".

When the site inspection indicates that the site is not in compliance with any terms and conditions of the NPDES permit, the Permittee shall take immediate action(s) to: stop, contain, and clean up the unauthorized discharges, or otherwise stop the noncompliance; correct the problem(s); implement appropriate Best Management Practices (BMPs), and/or conduct maintenance of existing BMPs; and achieve compliance with all applicable standards and permit conditions. In addition, if the noncompliance causes a threat to human health or the environment, the Permittee shall comply with the Noncompliance Notification requirements in Special Condition S5.F of the permit.