

TESC Template Instructions (to be deleted prior to TESC plan finalization)

WSDOT uses a temporary erosion and sediment control (TESC) plan and a spill prevention, control and countermeasures (SPCC) plan to meet the Stormwater Pollution Prevention Plan (SWPPP) requirements in S9 of the NPDES Construction Stormwater General Permit (*Permit*). All projects are required to have an SPCC plan in accordance with Standard Specification 1-07.15(1). A TESC plan must be prepared in accordance with Chapter 2 of the *TESC Manual* (TESCM).

A TESC plan includes a narrative section and plan sheets - some of the required content may not be known at the time of contract development (e.g., discharge sample locations, off-site support areas) and must be added by the contractor as required by the contract and Permit once construction begins.

This template is for the narrative section of the TESC plan only; the contract plan sheets must be created in accordance with Chapter 2 of the TESCM and the *Plans Preparation Manual*. It is important that each TESC plan identify site specific risks that may impact waters of the state to ensure the contractor can plan for and bid anticipated work. While there is no required format for a TESC plan, there is required content.

The following information must be included in every TESC plan narrative:

- **Information about existing site conditions** – include information relevant to erosion related risks or potential impacts to waters of the state, such as; topography, climate, drainage, soil type, vegetation, waterbody impairment, existing contamination etc.
- **Potential erosion problem areas** – high risk or hard to manage areas or work activities.
- **13 planning elements** – include a risk analysis and BMP selections made to manage risks.
- **Construction schedule** – include information about construction phasing relevant to erosion and sediment control and a general BMP implementation schedule.
- **Contingency planning** – identify actions to be taken if performance goals are not achieved.
- **Engineering calculations** – include for designed structures like ponds or treatment systems.

The template includes *instructions and questions in purple italics that should be deleted and replaced with project specific information prior to finalizing the TESC plan*. The questions are intended to get the TESC plan designer thinking about risks and appropriate best management practices (BMPs). The questions **do not** represent all of the potential risks for any given project and some questions **may not** be applicable to a project. This template assumes the TESC plan designer is knowledgeable about the construction activity and erosion related risks of the project, approved erosion and sediment control BMPs, and Permit requirements.

Additional Guidance:

Construction Manual: <http://www.wsdot.wa.gov/Publications/Manuals/M41-01.htm>

Standard Specifications for Road, Bridge, and Municipal Construction:

<http://www.wsdot.wa.gov/Publications/Manuals/M41-10.htm>

Standard Plans: <http://www.wsdot.wa.gov/Publications/Manuals/M21-01.htm>

Erosion Control Internet: <http://www.wsdot.wa.gov/environment/environmental-technical/environmental-disciplines/water-resources-erosion-control#DMRs>

TMDL Internet: <http://www.wsdot.wa.gov/environment/environmental-technical/environmental-disciplines/water-resources-erosion-control/water>

Hazardous Materials Internet: <http://www.wsdot.wa.gov/environment/environmental-technical/environmental-disciplines/hazardous-materials>

Environmental Commitments & Compliance: <http://www.wsdot.wa.gov/environment/technical/commitments-compliance>

TEMPORARY EROSION SEDIMENT CONTROL PLAN NARRATIVE

(Project Name)

Washington State Department of Transportation

Permit: WAR *XXXXXX*

Contractor: *Name*

Date TESC plan was finalized

Project Engineer:

Name

TESC Plan Designer:

Name

PROJECT INFORMATION

Project name:

Location:

Transfer of Coverage: *Yes/No* Permittee: *Contractor or WSDOT*

Total disturbed acreage identified in the Notice of Intent (NOI):

Existing contamination identified in the NOI: *Yes/No*

If yes, include information in table below. If no, delete table below.

Information About Contamination	Additional Environmental Commitments Required?
e.g. Petroleum hydrocarbons are known to be in the soil and groundwater in the NW quadrant along I-5 at depths from 5 – 10 feet below the surface.	Yes an Administrative Order was issued with the Permit. Contract language was added to require containment and testing prior to discharge or disposal.

Permitted construction outfalls identified in the NOI:

Receiving Surface Waterbody Name	Latitude Longitude Coordinates

Waterbody impairments or approved TMDLs applicable to construction outfalls: *Yes/No*

If yes, include information in table below. If no, delete table below.

Impaired Waterbody Name	Impairment	Additional Action Required?
e.g. Beaver Creek	303(d) listing for phosphorus	Yes, additional environmental commitments were made in the Proposed New Discharge to Impaired Waterbody form submitted to Ecology and were incorporated into elements 1, 4, and 5 of the TESC narrative. Discharge sampling must be done in accordance with S8 of the Permit.

CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL)

CESCL(s) that will perform permit required site inspections and discharge sampling during construction may not be known during the TESC plan design process. This section is intended to be used during construction to identify the CESCL(s) in accordance with S4.B.4 of the permit.

Name:

CESCL ID#:

Expiration Date:

Contact Number:

Name:

CESCL ID#:

Expiration Date:

Contact Number:

Name:

CESCL ID#:

Expiration Date:

Contact Number:

Existing CESCL certification information can be found: <https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Certified-erosion-sediment-control>

CONSTRUCTION SCHEDULE

Provide a general project schedule. Include plans for sequencing or phasing work that may be relevant to erosion and sediment control. Consider the following questions:

- *When is the project planned to start construction? How long is the project expected to be active?*
- *Will the project be active during the wet season? Are large amounts of earth disturbing activities planned during the wet season? If there is schedule creep – what impacts might there be for erosion related risks?*
- *Are there construction milestones worth noting? Are there high priority activities that must be completed in a timely manner to keep the risk level manageable? For example, once X is complete the erosion related risk in the surrounding area will decrease dramatically.*
- *Is construction phased? Which phases have the highest erosion related risks? Can construction be phased in a way that minimizes erosion related risk?*

EXISTING SITE CONDITIONS

Provide information and analyze how each factor may impact potential risks to waters of the state. Think critically about the planned construction activity when considering risks and management strategies.

Soils

- *Use available resources to determine the soil types on the project (geotechnical reports, soil surveys, GIS Workbench, experience from past projects in the area).*
- *How will these various soil types affect erosion potential (cohesion and erodibility)?*
- *How will soil type affect infiltration rates (permeability)?*
- *How will soil particle size affect sediment control BMP effectiveness (small particles don't gravity settle quickly or filter out very well)?*
- *Soil saturation can pose a problem on cut/fill slopes and haul routes. Will soil saturation be a concern for any areas of the project?*
- *Is there a lot of clay in the soil? If so, is advanced chemical treatment or a sanitary sewer permit necessary to manage high volumes of turbid water?*

Climate

- *How will the frequency, intensity, and duration of storm events affect erosion related risks?*
- *Can freeze and thaw cycles or fugitive dust generation be expected?*
- *Can riskier earthwork work activities be scheduled for the dry season?*
- *How will timing, phasing, or soil covering requirements affect the project and BMP installation?*
- *Will some BMPs be installed at specific times to manage high precipitation events (e.g., tanks and pumps)?*
- *Will there be adequate detention area to contain the expected runoff volumes for the design storm event?*
- *Is there a time period where the project expects to stop work because of frozen conditions?*

Topography

- *What potential risks exist associated with length, gradient and stability of slopes on the project?*
- *Are there land features that can reduce the risk of turbid discharges (e.g., closed depressions, flat areas or gently sloped/heavily vegetated areas where water can disperse and infiltrate)?*
- *Are there topographical design elements that could be implemented to lessen risks (e.g., gradient terraces, vegetated swales)?*

Vegetation

- *Can vegetated areas be preserved to protect soil and provide an area for dispersal/infiltration?*
- *Could vegetation removal be completed in phases to minimize the amount of exposed soil at one time?*
- *Can permanent vegetation be added early in some areas to speed up the soil stabilization process?*
- *Are there any non-native invasive species on-site? Will methods be used to remove them or prevent them from spreading?*
- *If non-invasive vegetation is removed, can it be used as a mulch to cover exposed soil?*

Drainage

- *Is the surrounding area vegetated or impervious surface?*
- *How might adjacent properties impact the project?*
- *How might the project impact neighboring properties?*
- *Are there any sources of off-site water run-on? Can these sources be prevented, diverted, or tight-lined through the project?*
- *Are there seasonal springs or jurisdictional ditches that may be impacted by work?*

Groundwater

- *Are high groundwater levels expected to impact work? Ability to infiltrate? Pond storage capacity?*
- *How will sources of groundwater dewatering be managed?*
- *How far below the ground surface is the groundwater level throughout the year? Is the level different in throughout the project?*
- *Are underground seeps anticipated on any of the newly cut slopes?*
- *Will infiltration be relied on as a BMP for stormwater? How will this change during the wet season?*

Sensitive Areas

- *What types of sensitive/critical areas are within the project and where are they located?*
- *Which areas need to be protected from impacts and which areas are permitted for temporary or permanent impacts?*
- *What measures can be taken to minimize impacts to these areas?*
- *Are there aquifer-sensitive areas, sole-source aquifer, or wellhead protection zones in the project area?*
- *Are there any impaired surface water bodies that have the potential to be impacted by construction?*

Existing Encumbrances

- *Are there utilities, wells, or drain fields that need to be protected?*
- *Will there be an agreement made with the utilities for managing erosion in these areas?*
- *How will utility work impact construction schedules and compliance challenges?*
- *Is there a contingency plan for managing potential water or sewer line breaks?*

High Risk Activities and Potential Problem Areas

High risk activities and potential problem areas will be different for every project. Consider the following:

- *Geotechnical: cut/fill slopes, high risk soil type, permanent stabilization etc.*
- *Hydrologic: offsite water run-on, seasonal springs, underground seeps, high groundwater etc.*
- *Environmental: Impaired waterbodies, existing contamination, sensitive or critical areas etc.*
- *Construction: shaft drilling, excavation, rock blasting, schedule or phasing challenges etc.*

Contingency Planning

Contingency planning can be discussed in this section if they relate to the overall work or contingency planning can be discussed in the Planning Elements section if they are more closely related to a specific element.

- *Can higher risk activities or areas be identified as needing additional preventative measures or controls to ensure compliance (e.g., tire wash, chemical treatment systems, temporary storage tanks, pumps)?*
- *If the prescribed BMPs and control measures fail, what are the contingency plans for these activities or project areas (explain actions to be taken to achieve compliance)?*
- *Will high pH stormwater be generated, how will high pH stormwater be prevented from discharging?*
- *How much soil will be exposed in the wet season? How does this impact risk management strategies and back up planning needs?*

Engineering Calculations

Include calculations for designed structures that will be used to manage construction stormwater.

- *What are the sizing calculations for the ponds or other designed stormwater facilities?*
- *Advanced chemical treatment systems such as Chitosan Enhanced Sand Filtration and Electrocoagulation have specific design requirements to ensure proper function. If such a system will be used, the operational documentation must include sizing calculations and be kept onsite.*

13 PLANNING ELEMENTS

The questions below are intended to help TESC designers think about potential risks, develop a risk analysis narrative for each element and select appropriate BMPs. Each element must be included in the TESC plan; if an element is not applicable a justification must be included. For example, element 13 may not be applicable because there are no low impact development (LID) BMPs existing onsite or planned as part of construction. The BMPs listed for each element are examples of commonly used approved BMPs (experimental BMPs must be approved by Ecology prior to use). Selecting BMPs is required by the permit; it helps provide a baseline plan and estimate a TESC budget. The BMP selections do not necessarily dictate what will be used during construction because the TESC plan is adaptively managed during construction to ensure compliance. Referencing General Special Provisions (GSPs), Special Provisions, or other contract documents related to Permit compliance may help clarify how specific risks or environmental commitments (e.g. outfalls to impaired waterbodies, existing site contamination) will be managed per the contract.

Element 1: Preserve Vegetation/Mark Clearing Limits (Permit Condition S9.D.1)

Risk Analysis:

- *Are there sensitive areas (including buffers) in or adjacent to the project area that needs to be protected from construction related impacts?*
- *Does the project require clearing to the edge of WSDOT right-of-way?*
- *Are there areas where existing site vegetation and native topsoil can be protected and undisturbed?*
- *Are there applicable local ordinances or permits relevant to this element (e.g. buffers, clearing/grading, critical areas)?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Preserving natural vegetation
- Buffer zones
- Silt fence
- High visibility fence

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 2: Establish Construction Access (Permit Condition S9.D.2)

Risk Analysis:

- *Can access points be minimized? How many will be needed? Will access points change throughout construction or will temporary access points be needed for specific work activities?*
- *Can access points be controlled as 'entrance' only to minimize sediment track-out locations?*
- *Is there adequate footprint for the stabilized construction entrance to extend the full 100' as required by Standard Plan I-80? If no, can a tire wash or steel rumble plate be used to enhance performance? If yes, can it be extended further if sediment track-out becomes a compliance issue?*
- *Are any access points located next to sensitive areas? Are some access points at higher risk for creating a compliance issue?*
- *Is soil work being done in the wet season? Are there high traffic 'exit' points from soil work areas that should be managed with a tire wash to prevent ongoing compliance issues?*
- *If sediment track-out becomes a compliance issue, how will it be managed? Will street sweeping or washing be used?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Parking/staging area stabilization
- Stabilized construction entrance
- Construction road stabilization
- Steel rumble plates
- Street cleaning
- Tire wash

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 3: Control Flow Rates (Permit Condition S9.D.3)

Risk Analysis:

- *How do topography, drainage and other site conditions affect risk associated with this element?*
- *How can downstream properties and waterways be protected from erosion and increased flow rates associated with the discharge of construction stormwater? Are there applicable local ordinances or permits applicable to this element?*
- *Will a detention/infiltration pond(s) be installed and functional prior to major grading activities to control construction stormwater?*
- *If existing ponds will be used during construction, how will they be protected from siltation?*
- *Are there natural depressions or vegetated areas (excluding sensitive areas) where stormwater can be dispersed and/or infiltrated?*
- *Have sources of offsite water run-on been identified so they can be diverted or tight lined as required by Standard Specification 8-01.3(1)C, or will the project need to manage these sources of water in accordance with the permit?*
- *How can concentrated flows be prevented from developing within the site? Which areas are vulnerable to concentrated flows developing – bare soil on slopes, in conveyances, around structures? Will erosion control BMPs (e.g. hydro-mulch, blankets) be vulnerable to concentrated flows? Will plastic covering increase flow rates and runoff volumes?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Temporary sediment pond
- Temporary curbs
- Check dams
- Outlet protection
- Straw wattles
- Compost socks
- Filter berms
- Water pumps
- Brush barrier
- Interceptor dike and swale
- Vegetated strip
- Surface roughening
- Temporary containment or mobile storage tanks
- Dispersion and infiltration
- Subsurface drains, French drains, sump systems
- Temporary sediment trap
- Stormwater infiltration/dispersion

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 4: Install Sediment Controls (Permit Condition S9.D.4)

Risk Analysis:

- *Where are the potential discharge points? Is there a surface waterbody or wetland within the site? Will storm drains be active during construction?*
- *What sediment controls can be used to provide effective treatment (sediment removal) prior to a discharge to surface waters (directly or indirectly through a conveyance system)?*
- *Will a detention/infiltration pond(s) be installed and functional prior to major grading activities to control construction stormwater?*
- *How does the soil type affect risk? Are there different soil types throughout the project? Are some BMPs preferable in certain areas based on the soil type? For example, will compost socks be preferable to silt fence due to rocky soil type?*
- *Are there natural depressions or vegetated areas (excluding sensitive areas) where stormwater can be dispersed and/or infiltrated?*
- *Is contaminated soil a known risk? Will there be outfalls in surface waters impaired for turbidity, fine sediment, or phosphorus? Will advanced chemical treatment be appropriate to prevent environmental impacts?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Silt fence
- Wattle
- Check dam
- Compost sock
- Dispersion and infiltration
- Temporary sediment pond
- Sediment trap

- Street cleaning
- Surface roughening
- Level spreader
- Inlet protection
- Outlet protection
- Brush barrier
- Sedimentation bags
- Pond skimmers
- Preserving natural vegetation
- Temporary containment or mobile storage tanks
- Vegetated strip
- Stormwater chemical treatment
- Filter berm

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 5: Stabilize Soils (Permit Condition S9.D.5)

Risk Analysis:

- *How will soil type, topography, climate and other site conditions affect risk associated with this element?*
- *How will the project location and duration impact risk? What are the unworked soil covering timelines? Will there be wet season earthwork?*
- *Will plastic covering be used to temporarily cover soils? If so, consider risks associated with plastic covering (no infiltration/increased runoff volumes and velocity)?*
- *How will erosion control BMPs such as blankets and hydro-mulch be protected from damaging concentrated flows?*
- *How will areas vulnerable to erosion be stabilized (e.g. channels, outlets)?*
- *How will climate impact soil stabilization methods? Does the site experience high winds (dust), freezing conditions, or limited sunlight?*
- *Will the soil need amendments to grow grass or other vegetation? Can permanent stabilization methods be implemented early?*
- *Where can stockpiles be located to minimize risks to surface waters?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Preserving natural vegetation
- Sodding
- Topsoil
- Mulching
- Check dam
- Soil binding using polyacrylamide
- Wattles
- Biodegradable erosion control blanket
- Compost blanket
- Stabilized construction entrance
- Plastic covering
- Construction road stabilization
- Seeding and planting

- Dust control
- Bonded fiber matrix
- Mechanically bonded fiber matrix

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 6: Protect Slopes (Permit Condition S9.D.6)

Risk Analysis:

- *How will soil type and other site conditions affect risk associated with this element?*
- *Are the geotechnical concerns that affect risk?*
- *Will cut/fill slopes be constructed?*
- *Will concentrated flow hit slopes? Can top of slope be used to disperse or divert concentrated flows? Can slopes be broken up with wattles or compost socks to prevent concentrated flows from developing? Can temporary pipe slope drains be used to prevent flows from hitting slope?*
- *Can permanent stabilization methods be implemented early?*
- *Are there sloped channels that will be vulnerable to erosion and concentrated flows developing?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Channel lining
- Erosion control blanket on slope
- Water Management
- Subsurface drain
- Temporary pipe slope drain
- Level spreader
- Straw wattle
- Compost sock
- Brush barrier
- Plastic covering
- Hydraulically-applied erosion control products (HECPs)
- Temporary curb
- Live fascines
- Interceptor dike and swale
- Gradient terraces

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 7: Protect Drain Inlets (Permit Condition S9.D.7)

Risk Analysis:

- *How will drainage and other site conditions affect risk associated with this element?*
- *Are there existing drain inlets on the project? Will new ones be installed during construction? Which will be active during construction?*
- *Can inlets be covered or plugged in areas of active construction without causing a safety hazard?*
- *How will stormwater be kept as clean as possible before reaching an active drain inlet?*

- *Inlet protection devices are a BMP that require regular maintenance, are some drain inlets expected to require more maintenance than other (e.g. located in active work areas)?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Inlet protection devices
- Compost sock
- Check dam
- Silt fence
- Temporary curb
- Filter berm
- Water pumps

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 8: Stabilize Channels and Outlets (Permit Condition S9.D.8)

Risk Analysis:

- *How will soil type, topography, drainage, and other site conditions affect risk associated with this element?*
- *Are there existing stormwater conveyances onsite? Will conveyances (temporary/permanent) be added?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Conveyance stabilization
- Erosion control blanket in channel
- Level spreader
- Sodding
- Check dam
- Outlet protection
- Temporary seeding and planting
- Quarry spalls

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 9: Control Pollutants (Permit Condition S9.D.9)

Risk Analysis:

- *Is existing site contamination (soil and/or groundwater) a known risk?*
- *Will over 1000 cubic yards of of poured concrete and/or the use of recycled concrete or engineered soils be used during construction? How can impacts to surface and groundwater be prevented?*
- *Will resurfacing of existing concrete be required during construction?*
- *Can a sanitary sewer permit be obtained to dispose of water not authorized to discharge under the permit?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Spill prevention control and countermeasures (SPCC) plan

- Concrete washout areas
- High-pH stormwater neutralization
- Concrete cutting and grinding pollution prevention
- Concrete handling
- Materials handling, storage, and containment

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 10: Control Dewatering (Permit Condition S9.D.10)

Risk Analysis:

- *How will soil type, drainage and other site conditions affect risk associated with this element?*
- *Is dewatering expected to be high in pH or contaminated?*
- *Are there active seeps or high groundwater onsite?*
- *How can water sources be managed separately in accordance with 8-01.3(1)C?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Water pumps
- Temporary containment or mobile storage tanks
- Sedimentation bag

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 11: Maintain BMPs (Permit Condition S9.D. 11)

Risk Analysis:

- *How will soil type and other site conditions affect risk associated with this element?*
- *How will active work during the wet season impact maintenance needs of onsite BMPs?*
- *What BMPs are expected to require the most maintenance?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Materials on hand
- Site inspections done by a CESCL

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 12: Manage the Project (Permit Condition S9.D.12)

Risk Analysis:

- *Are any unique circumstances foreseen that would render the ESC Lead specification (Section 8-01.3(1)B) insufficient and require an Environmental Compliance Lead (ECL)?*
- *Are there any unique environmental commitments that need to be considered for erosion and sediment control planning or to protect water resources?*

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Materials on hand
- On-site CESCL
- Scheduling and coordinating work activity

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*

Element 13: Protect Low Impact Development (LID) Facilities (Permit Condition S9.D.13)

Risk Analysis:

- Are there existing LID facilities in the work area? Will LID facilities or BMPs be added as part of the project?
- How can these facilities be protected from sedimentation and soil compaction?

BMPs: *(Examples listed - delete or add to list as needed for project specific needs)*

- Silt fence
- Compost socks
- Temporary curbs
- Filter berms
- Buffer zone
- Interceptor dike or swale
- High visibility fence

GSP's: *reference if applicable*

Special Provisions: *reference if applicable*