Snohomish County
Public Works
3000 Rockefeller Avenue
MS 607
Everett, WA 98201

Prepared by:
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October 2017

SEPA CHECKLIST
Maintenance Work Program (RM100-1-13)
Purpose of Checklist:
The State Environmental Policy Act (SEPA), Chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

SUMMARY

A. BACKGROUND

1. Name of proposed project:
   Maintenance Work Program 2018-2023

2. Name of applicant:
   Snohomish County Public Works

3. Address and phone number of applicant and contact person:
   3000 Rockefeller Avenue, M/S 607
   Everett, WA 98201
   Contact Person: Crilly Ritz, Senior Planner
   Transportation and Environmental Services Division
   (425) 262-2476 or crilly.ritz@snoco.org

4. Date checklist prepared:
   October 11, 2017

5. Agency requesting checklist:
   Snohomish County Public Works

6. Proposed timing or schedule (including phasing, if applicable):
   This SEPA Checklist has been prepared to address maintenance activities for the period from April 2018 to December 2023. Maintenance activities may be conducted, as needed, throughout the year. Some maintenance activities are weather-dependent and generally occur during the dry season from April through September. All work that requires governmental approvals or permits will conform to work windows or timing conditions identified in those governmental approvals or permits.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, please explain.
   Maintenance activities occur on an on-going basis and would extend beyond the 2018-2023 timeframe addressed in this SEPA Checklist. Additionally new construction, private development and changes in land use not covered by this SEPA Checklist, sometimes requires the installation of new drainage facilities to alleviate flooding and road hazards. Once installed, these facilities may increase the demand for maintenance activities.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.
Multiple SEPA Environmental Checklists were prepared and multiple Determination of Non-Significance threshold determinations were issued in 2015 that addressed the environmental impacts associated with a wide range of maintenance-related activities that would occur from 2016-2020. These included:

- Snohomish County Road Maintenance Program
- Snohomish County Bridge Maintenance and Repair Program
- Snohomish County Stormwater Drainage Facility Maintenance Program
- Snohomish County Beaver Deterrence, Dam Modification and Removal Program

There are several documents that have been prepared that address the wide range of road maintenance activities related to the proposed activity:

**Regional Road Maintenance Endangered Species Act (RRMESA) Program Guidelines**

The RRMESA Program Guidelines provide a consistent, regional program that is used by Snohomish County Public Works’ Road Maintenance Division to limit, reduce, or eliminate take of threatened species under the 4(d) rule and/or Section 7 of the Endangered Species Act. The RRMESA Program Guidelines provide best management practices (BMPs) for road maintenance activities.

**Snohomish County Road Maintenance Performance Standards and Standard Operating Procedures**

Performance Standards and Standard Operating Procedures provide guidelines for maintenance and repair of the roadway system and drainage facilities. The standards identify outcomes, equipment, materials, techniques and other information used to carry out activities of Snohomish County Public Works’ Road Maintenance Division.

**Snohomish County Drainage Manual**

The Drainage Manual sets forth requirements for identifying, selecting, designing and implementing stormwater BMPs for unincorporated Snohomish County (County) including road maintenance. The manual meets the requirements of Snohomish County codes and state water quality standards, and complies with the Clean Water Act, Puget Sound Water Quality Management Plan, and the National Pollutant Discharge Elimination System (NPDES) Phase 1 Municipal Stormwater Permit.

**Snohomish County Beaver Dam Maintenance Guideline Draft**

The County is currently in the process of drafting a beaver dam maintenance guideline. In the interim, the County uses the 2017 Beaver Restoration Guidebook: Working with Beaver to Restore Streams, Wetlands, and Floodplains, version 2.0 prepared by the United States Fish and Wildlife Service and applicable guidelines as provided for in the Regional Road Maintenance Endangered Species Act (RRMESA) Program Guidelines. Once complete, this guideline would provide policy direction for the selection of management options under the beaver deterrence, dam modification, and removal program. The guideline would also provide maintenance standards for installed beaver deterrence devices.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, please explain.

   No pending governmental approvals or proposals are known to affect the geographic area covered by this proposal at this time.

10. List any government approvals or permits that will be needed for your proposal, if known.
Governmental approvals and permits required for maintenance activities would vary by activity and location. Each activity would be individually reviewed and permits and approvals will be obtained as needed. Required permits and approvals may include:

**Endangered Species Act**
Road maintenance activities must comply with the National Oceanic and Atmospheric Administration Section 2(d) rule for threatened Chinook salmon as well as Section 4(d) which prohibits "take" of endangered species. The Road Maintenance Division participates in the RRMESA Forum which satisfies requirements under Section 4(d). Additionally, when road maintenance activities require a federal authorization or utilize federal funds, a Section 7 consultation may be necessary to ensure activities do not jeopardize the continued existence of an endangered species, or destroy or adversely modify critical habitat [16 U.S.C. §1536(a)(2)].

**Beaver-related State fish and wildlife protections**
Beaver are managed by the Washington Department of Fish and Wildlife under a series of regulations (RCW Chapter 77.15, 77.32 and 77.36). A trapping license is required for all traps, other than live traps. A permit is also required to release a beaver anywhere within the state, other than the property where it was legally trapped. Beaver deterrence, dam modification, and removal activities will comply with all beaver-related fish and wildlife protections.

**Clean Water Act**
Pursuant to the Federal Water Pollution Control Act (Clean Water Act), as amended, a Section 404 permit from the U.S. Army Corps of Engineers would be required for any discharge of dredge or fill material waterward of the ordinary high water mark, or mean higher high tide line in tidal areas, in waters of the United States. A permit may be required in association with river slope protection, culvert replacement and other road maintenance activities. Additionally, Section 402 of the Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) program. Road maintenance activities are covered under the County Phase 1 General Municipal Stormwater Permit. Per the NPDES permit, a Land Disturbing Activity permit may be required.

**Rivers and Harbors Act**
This act regulates any work in, over, or under navigable waters of the United States. A permit from the U.S. Army Corps of Engineers would be required for work that requires dredging or excavation in navigable waters.

**National Flood Insurance Program**
The Federal Emergency Management Agency (FEMA) requires that a permit be issued for activities that occur within designated Flood Hazard Areas. Requirements under the National Flood Insurance Program for road maintenance activities are satisfied by the RRMESA program.

**Hydraulic Project Approval (HPA)**
The Washington Department of Fish and Wildlife must issue an HPA for maintenance activities affecting "waters of the state" (WAC 220-110). Activities may be covered under a General HPA or project specific "Individual" HPA.

**Water Quality Standards for Groundwaters of Washington State and Underground Injection Control Program**
This program regulates subsurface infiltration systems including dry wells, infiltration trenches, and other infiltration systems that are deeper than the widest surface dimension. Underground Injection Control (UIC) wells are required to be registered with the Washington State Department of Ecology and to ensure ground water is not endangered by pollutants in the discharge (WAC 173-200 and WAC 173-218).

**Shoreline Management Act**
Pursuant to the Shoreline Management Act of 1971, road maintenance activities may require a Shoreline Substantial Development Permit for activities that exceed “normal maintenance and repair of existing structures” pursuant to Washington Administrative Code (WAC) 173-27-040.

**Underground Utility Damage Protection Act**
This act requires maintenance activities that have the potential to damage vital utility services to locate and take measures to prevent damage to those services prior to excavation (Chapter 19.122 RCW).

**Snohomish County Code (SCC)**
Road maintenance activities are required to comply with applicable provisions of SCC Chapter 30.62A (Critical Areas Regulations), Chapter 30.63A (Drainage), Chapter 30.63B (Land Disturbing Activity), Chapter 30.44 (Shoreline Permits), and Chapter 30.43C (Flood Hazard Permits).

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11. Give a brief, complete description of your proposal, including the proposed uses and the size of the project site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal; you do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.

Maintenance activities include a wide range of activities. They include:

**General Road Maintenance**

*Road Shoulder Maintenance:* Shoulder maintenance activities would include repair and reshaping the road shoulder by grading or adding gravel, pulling vegetation and sediment, and “grubbing” or digging in the soil to remove vegetation by the root. Work crews would use hand tools; heavy equipment such as graders, backhoes, excavators, trucks, and belt loaders; as well as specialized equipment (e.g. shoulder maintainer) to perform this work. Materials picked up or generated from road shoulder maintenance would be recycled or disposed of at an appropriate facility.

*Embankment Stabilization and Repair:* Erosion, floods, water infiltration or unstable soil conditions caused by decaying organic materials (e.g. logs) or improper construction methods may cause slides, slumping embankments, subgrade failures, unstable road shoulders, and washouts. Work crews would use a variety of techniques and materials to stabilize soils, repair retaining walls and road surfaces. Slide repairs above a road would generally include removal of debris and construction of a rock buttress or support structure at the base of the slide. The slope would then be filled with quarry spalls, compacted and stabilized with fiber netting and reseeded with grass.

Embankment stabilization and repair (including river slope protection) would typically include removing existing asphalt and other unstable materials in the failed area, replacement with suitable materials such as angular rock or quarry spalls, and installation of drainage structures such as filtering medium, gravel drains, perforated pipe, or geotextile fabric. Other bioengineering techniques and habitat enhancement (e.g. installation of Large Woody Material at the toe of river slopes) may be used depending on site conditions. Following stabilization, disturbed soils would be treated with erosion mats, sod and re-seeded or planted with native shrubs. Any damage to the road shoulder and surfaces would be repaired in accordance with County Road Maintenance Performance Standards and Standard Operating Procedures. Work crews would use hand tools, heavy equipment such as backhoes, excavators, mobile cranes and trucks as well as specialized equipment (e.g. Hydroseeder) during construction.

*Gravel Road Maintenance:* Spreading gravel, grading, and dust control would be involved in gravel road maintenance. Work crews may spread a layer of gravel or grade existing road surfaces to even out rough areas (e.g. potholes). Work crews may use hand tools such as shovels and steel brooms as well as heavy equipment such as trucks and graders and Washington State approved dust suppressants.

In accordance with the annual paving plan, work crews may also pre-level roadways to restore the grade and crown of roadways. Work crews would use hand tools and heavy
equipment such as graders, asphalt rollers and pavers to level areas of settlement, depressions or cracking and apply asphalt to the roadway surface.

**Paved Road Maintenance:**
Maintenance of paved roads includes patching asphalt, sealing cracks, chip seal, and minor repaving. Patching involves filling rough areas (e.g. potholes). Sealing cracks and chip sealing involves the application of a hot mix asphalt, cold mix asphalt or other asphalt and rubber compounds into cracks and voids in the existing pavement. In areas where the existing asphalt has worn out or there are numerous failures (e.g. potholes), minor repaving may be warranted. Paving would involve hauling, placing, compacting and finishing asphalt. During paved road maintenance, work crews would use hand tools including asphalt lutes, shovels and brooms as well as heavy equipment such as graders, rollers, pavers, tractors, trailers and trucks.

**Traffic Control System Maintenance:**
Traffic control system maintenance includes painting and paint removal from road surfaces. Examples of painted traffic control devices are: center line stripes, edge lines and traffic lane markings. Traffic control system maintenance also includes repair, removal or installation of signs, guardrails, concrete median “jersey barriers”, raised pavement markers and thermal plastic road symbols. Thermal plastic road symbol maintenance involves using a heated resin-based material and reflective glass beads to create or re-create stop bars, crosswalks, edge lines or other symbols to improve traffic safety. The County operates and maintains these devices in accordance with the standards set forth in the Manual on Uniform Traffic Control Devices (MUTCD).

In order to perform painting maintenance, work crews would use hand tools such as air compressors and portable paint sprayers. Heavy equipment like paint striper trucks would also be used. When needed, paint removal may require sand blasting, burning, grinding or over-painting. Sign maintenance would require the use of hand tools such as posthole diggers and shovels as well as heavy equipment like trucks and trailers. Pressure washers and paint may also be used to remove graffiti from signs and to paint guardrails. Guardrails, jersey barriers, raised pavement markers and thermal plastic symbols are maintained using a variety of heavy and specialized equipment such as vans, cranes, trucks, thermal plastic melter, and glue dispensers.

**Vegetation Management:**
Vegetation management would include mowing of road shoulders, brush cutting, noxious weed control and removal, wetland mitigation, landscape maintenance, tree trimming, management of vegetation in and around stormwater facilities, and removal of dangerous trees to enhance motorist safety, improve drainage, and increase the longevity of roadways, dikes and levees. Wetland mitigation would involve planting and maintaining vegetation at mitigation sites throughout the County. Work crews would use hand tools such as chainsaws, aerial saws, weed eaters and loppers; heavy equipment including tractor mounted mowers and brush cutters, trucks and chippers.

**Road Cleaning and Debris Removal:**
In general, road clearing and debris removal activities would include: street sweeping, permeable pavement cleaning, litter pick-up, hazardous materials identification and dead animal removal. Cleaning crews would use trucks with mechanized brooms to sweep streets. In order to remove litter, dead or dying animals from the road right-of-way cleaning crews would use hand tools, personal safety equipment and trucks. Debris
and garbage removed from the right-of-way and undeveloped County owned parcels would be taken to an appropriate recycling or disposal facility. Work crews may use trucks with a mounted drainage system cleaning device called a “Vactor/Jetter Truck” or new or experimental technology to clean permeable pavement. Vactor/Jetter Trucks have a freshwater supply and pump system used to flush and remove pollutants and sediment from roadways.

Occasionally hazardous materials on the right-of-way or undeveloped County owned parcels are encountered when conducting road cleaning and debris removal activities. If encountered, crews would notify the Washington Department of Ecology and/or Snohomish Health District, who is responsible for identification, clean-up and disposal of hazardous materials. Work crews may assist in initial containment or clean-up of spills.

**Pedestrian and Roadside Fence Maintenance:**
The Road Maintenance Division regularly maintains pedestrian sidewalks and walkways as well as roadside fences. Maintenance may include debris removal as well as filling or grading humps and depressions. Work crews would use hand tools such as concrete saws, shovels, rakes, post-hole diggers and shovels as well as specialized tools and heavy equipment such as trucks and graders to perform maintenance activities. Vactor/Jetter trucks or new or experimental technology would be used to clean permeable pavement sidewalks.

**Ditch Maintenance:**
In order to maintain effective conveyance of water from roadways, the Road Maintenance Division inspects, cleans and reshapes ditches to improve water flow. Some ditches are channelized streams and are included within this maintenance activity. Ditch maintenance may include the use of hand tools such as shovels and rakes, or heavy and specialized equipment such as backhoes, excavators or Ditch Masters to remove sediment and debris. Once removed, sediment and debris is loaded into trucks and hauled to an appropriate recycling or disposal facility. In steep areas, check dams and flow spreaders may be installed to prevent erosion.

**Culvert Cleaning, Repair and Replacement:**
Culverts may become plugged with debris and sediment and require cleaning. Work crews would use hand tools such as a shovel or rake, or heavy equipment such as a backhoe to clean out culvert ends. These tools would also be used to reshape the stream channel or ditch near the culvert ends. If the blockage is inside the culvert, then crews would use a Vactor/Jetter truck to remove debris and sediment. The Vactor/Jetter truck uses a freshwater supply and a high pressure pump system and vacuum to lift water, sediment, pollution and debris from drainage structures.

Culvert repair includes replacing damaged tiles and bands, resetting culvert sections that have become separated, repairing bent or broken culvert ends, and stopping leaks associated with cracks and loose mortar. Work crews may use hand tools and heavy equipment to replace damaged sections, as well as seal, re-mortar or re-grout damaged culvert components.

Culverts in need of replacement are identified through the annual Snohomish County Paving Program or inspections. When culvert replacement is required, they are often replaced by a larger culvert to better convey debris of 100-year storms or to improve fish passage in accordance with Washington State Regulations (WAC 220-110-070).
Typically, the existing culvert will be removed using a backhoe and a dump truck and the new culvert will be installed using the same equipment. The roadway and shoulder would be repaired in accordance with Snohomish County Road Maintenance Performance Standards and Standard Operating Procedures.

_Catch Basin Cleaning, Repair and Replacement:_

Catch basin cleaning, repair and replacement includes catch basins and manholes. Catch basins and manholes must be cleaned regularly to prevent sediment and pollution from washing downstream and clogging the drainage system. Work crews would use hand tools to remove sediment and debris from the areas surrounding the basins and use a Vactor/Jetter truck to clean and remove sediment, debris and pollutants from inside the basin or manhole. The County’s Phase 1 NPDES municipal permit requires annual inspection and, if needed, maintenance of all county-owned or operated catch basins.

Repairs to these facilities include adjusting grate elevation, replacing grates, cleaning and replacing filters, as well as repairing cracks, leaks and other conditions that could cause breakdowns in the drainage system. Work crews may replace non-functional parts of the catch basin or manhole, and re-mortar or re-grout facility components to prevent leaks. In some cases, old and failing catch basins may need to be replaced. Work crews would use hand equipment such as shovels, and heavy equipment such as an excavator, to remove the failing catch basin and replace it with a new catch basin. In general, catch basins are replaced with cast style basins.

The Road Maintenance Division maintains and repairs the County inventory of bridges. Maintenance and repair activities are generally triggered by inspections conducted by the County Engineering Services Division. Typical bridge maintenance and repair activities would include the following:

_Bridge Cleaning:_

Bridge cleaning includes sweeping, using a truck mounted cleaning device called a “Vactor/Jetter Truck,” pressure washing, wire brushes and sand blasting or shot blasting to clean bridge surfaces as well as painting, garbage and graffiti removal. The Vactor/Jetter Truck uses a freshwater supply and a high pressure pump system to lift water, sediment, pollution and debris from structures. Painting generally includes a coat of paint primer as well as one or more coats of paint applied by brush. Garbage would be removed from the bridge deck and beneath the bridge structure. Removed garbage would be taken to an appropriate recycling or disposal facility.

_Debris Removal:_

Debris removal would include removal or repositioning of debris and logs from bridge abutments, wing walls, footings and piers. Work crews would use hand tools such as shovels, rakes, chainsaws and brooms as well as heavy equipment such as dump trucks and cranes. Logs from under the bridge structure may be cut or left whole, and removed or repositioned downstream of the bridge.

_Superstructure Maintenance and Repair:_

Superstructure maintenance and repair would include steel, concrete and timber repairs. Repair activities would depend on the specific bridge material (timber, steel, concrete) and the type of repair. In general, repair crews would use heat straightening, cutting with a torch, and welding to conduct minor repairs of steel bridges. To repair concrete bridges, crews would typically deliver concrete to the site on trucks or mix
small quantities of concrete for minor repairs and patches. Repairs to timber bridges would often include refastening bridge components such as braces, decking and piles with spikes, bolts or metal bands. In some cases replacement of rotted elements such as stringers, caps, cross beams, bulkheads, wing-walls, and pilings would be required. Rotted elements may be replaced with state-approved preservative-treated wood, steel or concrete substitutes.

Damage may occur to fenders and dolphin piles on all bridge types due to floating logs and debris. Repairs generally include removal of the damaged fender or pile, and installation of a new fender or pile. Crews would use both hand tools and heavy equipment such as cranes during all superstructure maintenance and repair activities.

**Railing, Approach Repaving, and Deck Repairs and Replacement:**
Bridge deck surfaces, approach surfaces and railing may require repair and replacement due to wear, age or vehicle collision-damage. Older or damaged rails would be removed and replaced with new parts and in compliance with the manual on Uniform Traffic Control Devices. Work crews would use hand tools as well as a truck-mounted auger and other equipment to repair or replace railings.

Approach repair includes leveling concrete or asphalt approaches to the bridge, replacing sub-grade material, if needed, and repaving. Timber deck surfaces and curbs would be replaced in-kind with state-approved preservative-treated wood. Other road surfaces would be repaired in accordance with County Road Maintenance Performance Standards and Standard Operating Procedures.

**Repair of Deck Expansion Joints and Deck Sealing:**
In order to repair deck expansion joints, work crews may use sand blasting and grinding to remove deteriorating road surfaces, repair concrete edges and apply new joint material. Typically, joints are replaced with in-kind concrete patches or retrofitted with new joints that reduce the need for future maintenance. Deck sealing involves cleaning the deck surface and spreading a sealing compound. The sealing compound protects bridge deck surfaces from freezing and prevents corrosion.

**Scour Protection:**
In order to protect the bridge from water scour, rocks and logs may be placed or secured within the water around bridge abutments, footings and piers. Crews would use heavy equipment such as cranes and back hoes to position rocks and logs as well as hand equipment such as compactors and shovels as needed.

**Drainage Facility Maintenance Program**
The purpose of the Drainage Facility Maintenance Program is to maintain, repair, and improve stormwater conveyance and treatment facilities. Ongoing maintenance, repair, and improvement ensures the constructed drainage system functions properly, reduces risk of road and property flooding, and provides protection to the environment.

Stormwater facilities include inlet and outlet structures that convey stormwater in and out of stormwater facilities; detention/water quality features that include swales, ponds, and underground storage vaults; and catch basins and associated conveyance systems including culverts and ditches. These facilities are located within Snohomish County including, but not limited to, urban and rural areas with commercial, industrial, and residential uses. Because of the variations in facility age, function, sediment load,
vegetation growth, development of lands that the system serves, vandalism and other actions or activities out of the County’s control, the interval between activities at any given facility varies from site to site. Maintenance, repair, or improvement activities may vary for each stormwater facility, but generally consists of the following:

**Sediment removal:** Drainage facilities are vectored to ensure drainage systems remain functional, prevent pollutants from entering the open stream system, and allow new sediment to settle in catch-basin sumps rather than to discharge downstream. When performing routine maintenance, cleaning crews generally use a vectored truck to flush and remove sediment and debris from drainage systems and retention/detention ponds, and haul vectored waste to disposal facilities where a decant process separates solids from liquids for suitable disposal. Some sediment removal is done using backhoes or other types of similar equipment.

**Drainage structure maintenance:** this involves but is not limited to installing, repairing, removing, modifying, and replacing drainage structures, such as catch basins, piping, and trash racks, and other structures directly related to storm water systems.

**Vegetation removal:** this involves removing vegetation, including brush and trees, that impair the functioning of drainage facilities or impede access to the facilities for maintenance or inspection purposes.

**Upgrading existing stormwater facilities:** For existing stormwater facilities to maintain proper function, it is necessary at times to upgrade the system to reflect changes that have occurred to the areas the system serves as well as to reflect changes in regulations. Upgrades and improvements to existing systems that significantly alter how the system functions may have additional environmental review to ensure no adverse impacts result from the project.

**Installing alternative stormwater management systems to reduce road and property flooding and improve water quality:** Facilities, such as culverts, infiltration systems, piped conveyance systems, or Low Impact Development BMPs (such as rain gardens) may be installed in areas where the existing drainage system or network has failed. Upgrades and improvements to existing systems that significantly alter how the system functions may have additional environmental review to ensure no adverse impacts result from the project.

Snohomish County Public Works inspects stormwater facilities to determine which facilities require maintenance or design improvements. In addition, problem areas are identified through drainage complaint response, staff referrals, and through the Master Drainage Planning process. After establishing program priorities, the County proposes projects and activities as part of its annual budget process to repair, maintain, or upgrade or otherwise improve the constructed stormwater system in accordance with both Snohomish County’s NPDES permit requirements and identified drainage problems. The goal of the projects and maintenance actions is to ensure a properly functioning County stormwater system that reduces downstream flooding problems and creates minimal impact to, or improves, the quality of stormwater flowing into downstream lakes, streams, and wetlands.

The County complies with its Phase 1 NPDES General Stormwater Permit requirements, the Snohomish County code permit requirements, and the County’s adopted Drainage Manual for the maintenance, repair, and improvement of the County’s constructed...
stormwater system. The amount, type, and frequency of maintenance of facilities under the County's NPDES permit are proscribed by the permit. The County's NPDES permit requires annual inspection and maintenance as needed, on all County-owned stormwater facilities that fall under the NPDES permit, as well as on all County-owned catch basins, and requires construction of structural stormwater controls. The NPDES permit, code, and Drainage Manual also require the County to adhere to a specific maintenance schedule defined in the permit for those facilities that fall under the NPDES permit. Synchronized County code and Drainage Manual also require specific types of maintenance and maintenance practices for all stormwater facilities.

**Beaver Deterrence Program**

Beaver deterrence, dam modification, and removal are performed on an as needed basis and are triggered by beaver activity in conjunction with the potential to cause damage to County maintained infrastructure. Infrastructure includes, but is not limited to, roads, trails, buildings, utilities and drainage facilities, such as culverts. Typical beaver deterrence, dam modification, and removal activities would include the following:

**Beaver Deterrence:**

Beaver deterrence activities include the use of blinking lights, scent repellants, habitat management techniques, or installation of beaver exclusion devices. Nighttime blinking lights would be temporarily installed in areas of high beaver activity and near drainage features where beavers typically build dams. Scent repellants such as coyote urine may also be temporarily used to deter beaver activity. Habitat management techniques may include removing vegetation, planting native vegetation that offers limited food for beavers, and using barriers to protect plants from beaver damage. Beaver exclusion devices may also be installed on drainage facilities (i.e. culvert inlets) to prohibit beaver activity. These devices are typically constructed of lumber and fence material. Work crews would use hand tools such as hammers and shovels to install and maintain beaver deterrence devices.

**Beaver Dam Modification:**

Beaver dam modification may include notching, installation of pond leveling devices, partial removal of beaver dams, and relocation of woody material. Notching would involve cutting a hole or depression in a beaver dam. A pipe may be installed across the notch to maintain the beaver pond at a lower pond level. Similar to notching, pond leveling devices move collected beaver pond water through the beaver dam and out the other side. Partial removal of the beaver dam and relocation of woody material would involve removing woody debris and mud from beaver dams and drainage facilities. Work crews would use hand held equipment such as winches, grappling hooks, chainsaws and potato forks, and in special circumstances, heavy equipment such as a backhoe to perform beaver dam modification activities.

**Beaver Dam Removal:**

Beaver dam removal may be required when other techniques would not protect County maintained infrastructure. Beaver dam removal would involve relocation of woody material and mud from beaver dams using hand tools and heavy equipment similar to those used for beaver dam modification.

**Experimental Techniques and Technology:**
Beavers are industrious and current management techniques may not work in all circumstances. New techniques and technologies may be used to prevent beaver damage to County maintained infrastructure or reduce environmental impacts of beaver deterrence, dam modification, and removal practices. New techniques and technologies would comply with all applicable government approvals and permits.

12. Location of proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address if any, and section/township/range if known. If a proposal would occur over a range of areas, provide the range or boundaries of the site(s). Provide legal description, site plan, vicinity map, and topographic map if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

Maintenance activities would occur throughout the County and in some cases adjoining counties. Snohomish County works in cooperation with adjoining counties on select surface water drainage facilities that provide benefits to Snohomish County. See Map 1 – Snohomish County – Public Lands, Township/Range Section for further information on the proposal location.

Roadway maintenance activities are performed on an “as needed” and proactive basis. Sometimes these activities are triggered by public comments or inspections conducted by the Road Maintenance Division or Surface Water Management Division.

B. ENVIRONMENTAL ELEMENTS

1. Earth

   a. General description of the site (check one):
      ☑ FLAT
      ☑ ROLLING
      ☐ HILLY
      ☐ STEEP SLOPES
      ☐ MOUNTAINOUS
      ☑ OTHER (please describe):
      Snohomish County encompasses approximately 2,098 square miles. Six major topographic plateaus separated by narrow streams and broad river channels characterize the western portion of the County. Floodplains formed by the Snoqualmie, Skykomish, Snohomish, and Stillaguamish Rivers create topographic boundaries between the plateaus. The land in this area is flat to rolling in bench-like glaciated plains. The eastern portion of the County contains the foothills and mountains of the Cascade Mountain Range. Very steep mountains and narrow valleys characterize this area. The Sauk River forms a floodplain of limited extent along the northeast boundary of the County.

   b. What is the steepest slope on the site (approximate percent slope)?
      Slopes in Snohomish County will vary by individual maintenance sites, ranging from 0 percent to 100 percent. Ditch gradients vary from 0 to 12 percent, while ditch side slopes range from 1 percent to near vertical faces.
c. What general types of soil are found on the site (i.e., clay – sand – gravel – peat – muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has mapped six general soil types in the County.

- Puget-Sultan-Pilchuck: found on flood plains along the major streams in the northern, central and southern parts of the County. This soil type is very deep, and drainage varies from poor to excessive.
- Norma-Lynnwood Custer: found in the north-central part of the County. Very deep, drainage varies from poor to excessive.
- Alderwood Everett: found adjacent to Puget Sound, along the western boundary of the County. Moderately to very deep, moderately to somewhat excessively drained.
- Tokul-Pastik: found in the central, northern, and southern parts of the County. Moderately to very deep, moderately well drained.
- Elwell-Olomount-Skykomish: found in the mountainous eastern part of the County. Moderately to very deep, moderately well drained to somewhat excessively drained.
- Getchell-Oso: found in the mountainous northern and southern edges of the County. Moderately deep and moderately well drained.

These general types have been further defined by approximately 40 different soils series. Soil types would vary by site.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, please describe.

The Puget Sound region, including Snohomish County, is susceptible to several types of hazardous soil or geological conditions including: erosion, landslide, and seismic hazards. Maintenance activities would generally not occur on unstable soils, however certain types of repair activities, such as shoulder repairs and stabilizations, may be required as the result of unstable soils. If work on or in unstable soils is required, slope stabilization and erosion control BMPs would be employed, a Geological Technical Memorandum may also be prepared for major soil disturbing activities.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling excavation and grading proposed. Indicate source of fill.

Road maintenance activities may involve minor filling, excavation, or grading. For most maintenance projects fill would generally not exceed 100 cubic yards and would come from either re-use of existing fill or County-approved sources. However some maintenance activities, such as embankment stabilization and repair or ditch cleaning, do require greater amounts of fill and excavation. The amount of fill and/or excavation would depend on the individual maintenance activity. Filling, grading and excavation activities will comply with all applicable local, state and federal regulations. Imported fill materials and other materials such as gravel borrow, washed gravel, and compost-amended soils would be obtained from permitted commercial sites. Snohomish County Code 30.61.035 (f) exempts from SEPA review any landfill or excavation of 1,000 cubic yards or less throughout the total lifetime of the fill or excavation. The exemption does not apply when undertaken wholly or partly on lands covered by water such as wetlands and streams.

f. Could erosion occur as a result of clearing, construction or use? If so, please generally describe.
Minor amounts of erosion may occur as the result of maintenance and repair activities, such as culvert replacement. Minor amounts of erosion may also occur during bridge maintenance and repair activities. Maintenance of stormwater drainage facilities, by nature of working where water collects and flows, could cause erosion. For proper functioning of these systems, sediment control and erosion prevention are key components of both constructing the project and operation of the system. Best Management Practices (BMPs) and proper erosion control will be used to minimize, reduce and control erosion.

Any increase in erosion or turbidity would be temporary in nature and will be addressed through implementation of the Snohomish County Drainage Manual, RRMESA Program Guideline BMPs and Snohomish County Road Maintenance Standard Operating Procedures.

g. About what percent of the site will be covered with impervious surfaces after project construction (i.e., asphalt or buildings)?
   The amount of impervious surface would vary by each site where maintenance activities occur. In general, maintenance and repair activities would not result in an increase of impervious surfaces.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
   Appropriate BMPs identified in permits, the Snohomish County Drainage Manual, RRMESA Program Guideline and Snohomish County Road Maintenance Standard Operating Procedures will be adhered to during all road maintenance work. Where possible, work where water is present will be performed during no or low flow conditions or flow will be temporarily diverted. Temporary silt control fences, check dams, filter fabric, temporary diversions, or other appropriate erosion control measures would be utilized as necessary to control and minimize erosion and turbidity during maintenance activities. Equipment would be staged from the paved area of the road or equipment staging areas with temporary erosion and sediment control measures. Any slopes or soils exposed by maintenance activities would be hydro-seeded, re-vegetated, or another appropriate BMP would be used to prevent erosion.
   No significant adverse impacts are anticipated. Application of erosion control BMPs would be used throughout maintenance activities. These BMPs would be in place around stockpiles of excavated materials, in proximity to project-area streams and ditches, and in active construction areas, and would be designed to prevent sediments from entering surface water and storm drainage systems. Excavated soils not re-used in the project would be disposed of offsite at a permitted facility. Bare soil areas would be seeded and planted where required after establishment of final grades.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, please generally describe and give approximate quantities if known.
   Construction equipment, construction-related activities, and vehicles carrying workers and equipment to and from the site would result in minor, temporary increases in emissions and dust. There would be no increase in emissions once construction is complete. During grading, dust levels may increase temporarily. In addition, minor temporary increases in emissions would be released from construction equipment.
Hand tools and equipment would primarily be used for beaver deterrence, dam modification, and removal activities. When heavy equipment is required, it may result in minor, temporary increases in emissions as described above. There would be no further emissions once the beaver management activities are complete.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, please generally describe.

Sources of emissions or odors would vary by site, but in general, road maintenance and repair activities, bridge maintenance and repair, and stormwater facility maintenance would not be affected by off-site emissions or odors.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

During road maintenance activities, equipment emissions would not exceed state and national air quality standards and will meet Occupational Safety and Health Administration (OSHA) and Washington Department of Occupational Safety and Health (DOSH) standards. Vehicles would be turned off when idle. Dust control measures, as needed, would be implemented to minimize airborne dust.

3. Water

a. Surface Water:

1. Is there any surface water body on or in the immediate vicinity of the site (including year round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, please describe type and provide names. If appropriate, state what stream or river if flows into.

The western border of the County is formed by Puget Sound. Near Everett, Possession Sound extends further inland, forming Port Gardner Bay. Tidewaters of the Sound mix with freshwater in the Snohomish River estuary (encompassing Ebey, Union, and Steamboat Sloughs).

The County contains two major river basins. The Stillaguamish River and its north and south forks dominate the northern region, while the Snohomish River and its two major sources, the Skykomish and Snoqualmie dominate the south. The Sauk River forms a floodplain north and east of Darrington, in the northeast portion of the County and flows north to the Skagit River in Skagit County. These rivers have their sources in the forested mountain areas and flow generally west through broad agricultural floodplains into Puget Sound.

Smaller stream basins are generally oriented north/south, and several of these, such as North Creek, Swamp Creek, and Quilceda Creek, flow through rapidly developing suburban and urban areas. Streams are classified by the County as shorelines of the State, fish bearing, non-fish bearing perennial or non-fish bearing seasonal, based on a number of factors, including channel width, gradient, flow, impoundment, fish use, diversions, and other factors. The County also contains numerous wetland areas categorized into four types depending on their size and functions (SCC 30.62A.300).

Maintenance activities may occur in the vicinity of surface waters and wetlands. In such cases, a natural resource specialist will review these sites to ensure that maintenance activities will comply with all applicable state, federal, and local regulations.

Most bridge maintenance and repair work would occur in the immediate vicinity and over surface water bodies such as streams and rivers. In general County maintained
bridges occur over tributaries to the Stillaguamish River and its north and south forks, as well as the Snohomish River and its two major sources, the Skykomish and Snoqualmie Rivers. These rivers have their sources in the forested mountain areas and flow generally west through broad agricultural floodplains. Bridge maintenance work may also occur over the Sauk River or its tributaries and areas that are tidally influenced by the Puget Sound. Tidewaters of the Puget Sound mix with freshwater in the Snohomish River estuary (encompassing Eby, Union, and Steamboat Sloughs).

Beaver dams are generally found in low-gradient streams, sometimes associated with wetlands or lakes and ponds. A natural resource specialist would review each site to ensure that beaver deterrence, dam modification and removal activities comply with all applicable state, federal, and local regulations.

2. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Some activities would occur in or adjacent to water. Any activity occurring over, in or adjacent to water will undergo the appropriate level of environmental review and will comply with all applicable federal, state, and local regulations.

Bridge maintenance activities would occur on or adjacent to bridges. In many cases, the work would be done from the bridge deck (e.g., stringer replacements would be accomplished by going down through the deck rather than by working from below, in the streambed). Some work may require a worker (carrying hand tools) to wade into the streambed to access bridge components. Other activities would also require in-stream work. In-stream work would generally be done under no or low flow conditions and would comply with all applicable permit requirements and regulations. While bridge maintenance activities may occur in the vicinity of wetlands, no impacts to wetlands are anticipated. During bridge maintenance activities, equipment (backhoe, excavator, etc.) would not be staged within the ordinary high water mark.

Some stormwater drainage facility maintenance activities will occur in or adjacent to water. Any activity occurring over, in or adjacent to water will undergo the appropriate level of environmental review and will comply with all applicable federal, state and local regulations, including Snohomish County Critical Area (CAR) Regulations.

Most beaver dam related activities would occur in or adjacent to surface water or stormwater drainage features. Any activity occurring in or adjacent to waters of the state or waters of the United States would undergo the appropriate level of environmental review and will comply with all applicable federal, state, and/or local regulations.

3. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

Most road maintenance activities would not require the placement of fill material in surface water or wetlands. However, sediment removal and fill would occur as part of some maintenance activities. For example, ditch cleaning would include excavating accumulated sediment from roadside ditches some of which convey streams. Sediment excavation would not change the original design or flow line of the ditch. The amount of sediment removed during road maintenance activities would vary based on site conditions and the type of infrastructure that requires maintenance. Excavated material
may remain on-site or be removed and disposed of at a County-approved disposal site. Fill and dredge activities will undergo the appropriate level of environmental review and will comply with all applicable federal, state, and local regulations.

Bridge repairs generally do not require fill to be placed in or removed (dredged) from surface waters or wetlands. However, some repair activities may require small quantities of rock or fill such as the construction or replacement of bulkheads or wing-walls. Any sites requiring the placement of riprap (rock), fill or dredging would undergo further environmental review and permitting. Fill would come from either a County quarry or County-approved commercial sources.

Sediment removal and regrading will occur as part of stormwater facility maintenance activities. The amount of sediment removed or regraded from detention facilities, ditches, and culverts will vary depending on the site and the upstream activities. Excavation and backfill occur during the replacement or installation of drainage structures. In some instances, the excavated materials will remain on site to raise or stabilize surrounding areas associated with the stormwater facility. In many instances, the materials will be moved to an approved offsite location. In most cases, fill is not placed within surface waters or wetlands. Fill that is placed within surface waters or wetlands will be placed in accordance with all applicable federal, state and local regulations.

BMPs will be used throughout the maintenance and disposal process. Sediments removed from projects sites will be disposed of properly and in accordance with all applicable federal, state and local regulations.

Sediment, mud and small woody debris used to construct beaver dams may be removed or re-positioned (i.e., floated) downstream during partial or full dam removal activities. Additionally, placement of beaver exclusion devices would require installation of wire fencing, conduit or wooden stakes within streams and wetlands. There typically would be no placement of fill. All work will follow federal, state, and/or local BMPs as listed in applicable permits and approvals.

4. Will the proposal require surface water withdrawals or diversions? Please give a general description, purpose, and approximate quantities if known.

Most road maintenance activities would not result in the withdrawal or diversion of surface water. However, some activities may require temporary diversion of surface waters. Wherever possible, such activities would be done during periods of low or no flow. Any withdrawals or diversions that do occur will comply with all applicable regulatory requirements.

Bridge repairs do not typically require permanent surface water withdrawals or diversions and none are anticipated. However, temporary diversion of flow may be required for some activities. Dewatering may also require the withdrawal of surface water and shallow groundwater during maintenance and repair work. If surface water withdrawal is needed, then water would be discharged in an upland area with appropriate erosion control BMPs. These activities would be done during periods of low or no flow conditions when possible, and in compliance with all permit provisions.

Beaver dam related work may temporarily divert flow during dam modification or removal activities if water is flowing at the site. In general, stream diversions would be avoided due to the environmental impact of installing a pump and bypass. Notching the
beaver dam and slowly releasing the water downstream would be the preferred option in most cases.

5. Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. Depending on the maintenance or repair location, some activities may occur within the 100-year floodplain. All applicable permits and approvals will be acquired before performing maintenance and repair activities, stormwater facility maintenance and bridge repairs, beaver deterrence, dam modification, and removal activities.

6. Does the proposal involve any discharges of waste materials to surface waters? If so, please describe the type of waste and anticipated volume of discharge.

Waste materials generated from bridge maintenance activities would be disposed of off-site in accordance with applicable regulations. Accidental spills may occur during the course of maintenance activities. Spills would be immediately addressed using on-site spill kits, thereby preventing potential discharges to ground or surface waters. No waste materials would be discharged to surface waters.

During stormwater facility maintenance, all appropriate BMPs and containment measures will be used to prevent debris or other waste materials from entering surface waters. No discharge of waste material will occur.

b. Groundwater:

1. Will groundwater be withdrawn from a well for drinking water or other purposes? If so, please give a general description of the well, proposed uses and approximate quantities withdrawn from the well.

Most road maintenance activities including bridge maintenance would not withdraw or discharge to groundwater.

Most stormwater facility sites do not have storm or surface water discharging into the ground. However, there are some sites and specific stormwater facilities that are designated as Underground Injection Control (UIC) wells. In these locations, stormwater is discharged into the ground, where it may (depending on location) eventually discharge to ground water. Projects and maintenance of facilities are governed by the Department of Ecology Underground Injection Control (UIC) Program (WAC 173-218) as well as Chapter 30.62C SCC.

2. Will water be discharged to groundwater? Please give a general description, purpose, and approximate quantities if known.

Not Applicable

3. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (i.e., domestic sewage, industrial, containing the following chemicals..., agricultural, etc.).

Click here to enter text.

4. Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Click here to enter text.

c. Water Runoff (including storm water):
1. Describe the source of runoff (including stormwater) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, please describe.

Stormwater runoff from bridge surfaces typically flows into roadside ditches, vegetated swales or catch basins and is released into the applicable waterway. In general, project work would not increase the amount of runoff or impede its flow.

Stormwater facilities by design function as stormwater collection points. Stormwater facilities collect and convey stormwater runoff from roadways and adjacent contributing surface areas. Runoff is conveyed in ditches, swales, and pipes, and is collected in flow or water quality control facilities that include ponds, swales, and underground storage vaults. Most maintenance and improvement activities do not add additional impervious surface, so increases in stormwater peak flows are unlikely to occur with maintenance activities. SCC Chapter 30.63A will be followed for all activities that increase impervious surfaces to reduce downstream impacts.

2. Could waste materials enter ground or surface waters? If so, please generally describe.

Waste materials generated from bridge maintenance activities would be disposed of off-site in accordance with applicable regulations. Accidental spills may occur during the course of maintenance activities. Spills would be immediately addressed using on-site spill kits, thereby preventing potential discharges to ground or surface waters.

Stormwater facility maintenance would not discharge materials into the ground. However, the sediments that are removed from stormwater facilities during maintenance may include oil, grease, lead, or other heavy metals. These contaminants have the potential to discharge into ground waters if not removed through maintenance. A goal of the maintenance program is to prevent waste materials from entering ground water through regular scheduled maintenance of structures and detention ponds.

In addition, stormwater may be discharged into the ground through construction of infiltration systems or low impact development (LID) projects such as rain gardens. The stormwater discharge will follow all applicable codes and regulations, including the Underground Injection Control Program regulations. Waste material that meets the “hazardous” classification will be disposed of in accordance with the Department of Ecology’s standards or other applicable regulations.

3. Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, please describe.

Road Maintenance activities generally restore or maintain existing drainage patterns. However, some road maintenance activity may result in minor alterations to drainage patterns. Examples of these activities include culvert replacement which may require diversions of water during construction, or installation and cleaning of permeable pavement and sidewalk that would reduce input into the stormwater system. Where possible, maintenance would be completed during low- or no-flow conditions to minimize adverse impacts.
Bridge maintenance activities would not typically alter pre-existing drainage patterns in the vicinity of the bridge site. However, maintenance may indirectly affect drainage by restoring flow under bridges (e.g. as a result of debris removal) or by repairing bridge infrastructure.

Surface Water maintenance activities generally restore or maintain existing drainage patterns. Where possible, work will be done during periods of low or no flow to minimize significant adverse environmental impacts. If existing drainage patterns will be altered additional environmental review would potentially be required.

Beaver dams impound water behind them and promote increased groundwater recharge. Installation of pond leveling devices which allow water to pass through the dam or partial or full dam removal would have a minor impact to these drainage patterns. Beaver dam removal is generally limited to dams less than one year old.

d. Proposed measures to reduce or control surface water, groundwater, runoff water, and drainage impacts, if any:

Appropriate measures would be used during maintenance activities to reduce impacts to surface and groundwater runoff. Where possible drainage systems will be designed to collect and filter runoff, reducing pollutants and the possibility of erosion. BMPs specified in permits and applicable regulatory requirements will be used during all ground-disturbing work. If possible, work will be done during periods of low or no flow to minimize adverse environmental impacts. For any in-stream work where flow is occurring at the time of maintenance activity, applicable permit requirements will be followed such as temporarily diverting flow around work areas. Equipment staging areas would have temporary erosion and sediment control fences or equipment would be staged from the paved area of the road. All project work will adhere to applicable regulatory requirements.

As appropriate, BMPs to be utilized to control and minimize site erosion and turbidity may include but would not be limited to:

- Silt control fencing for perimeter flow containment, check or diversion dams for water flow control and sediment containment, and filter fabric fencing as perimeter sediment containment barrier.
- Hydro-seeding and hand seeding of grass on exposed soil areas to prevent soil loss, and plastic covering of bare soil areas to exclude rain contact with exposed areas.
- Pumping water flows around site to create dry working conditions, and staging machinery use out of water flow areas.

Beaver dam maintenance activities would use appropriate BMPs to minimize impacts to surface water. There may be minor impacts to ground water recharge. Beaver dams would be lowered slowly and gradually to control sediment and scouring downstream. Where possible, work would be done during periods of low or no flow to minimize adverse environmental impacts. Heavy equipment staging areas would have temporary erosion and control BMPs or would be staged from the paved area of the road. The RRMESA Program Guidelines, Snohomish County Drainage Manual, and other pertinent documents provide guidance for the use of erosion control BMPs.

Stormwater drainage and detention facilities are designed to reduce or control surface water impacts. Maintenance of these facilities follows BMPs and Snohomish County code. Maintenance, replacement, upgrade, or construction of stormwater facilities is
also required to comply with County code and the County’s NPDES permit, both of which are designed to reduce impacts to downstream or groundwater systems.

Most stormwater control facilities have catch basins or control structures which minimize impacts to ground and surface water. Maintenance is generally performed in a "self-contained" manner such that no runoff leaves the site. This is most often accomplished by plugging the outlet structure during maintenance activities.

Erosion control BMPs will be used to reduce impacts resulting from drainage facility activities. All appropriate measures will be taken to reduce impacts to surface and ground water and runoff. Where possible, work will be done during periods of low or no flow to minimize significant adverse environmental impacts. For any in-stream work where flow is occurring at the time of construction, such flow will be temporarily diverted. Equipment staging areas will have temporary erosion and sediment control fences or equipment will be staged from the paved area of the road.

All maintenance and repair work will adhere to applicable regulatory requirements. The Regional Road Maintenance Endangered Species Act Program Guidelines, Department of Ecology Stormwater Manual, and other pertinent documents provide guidance for the use of erosion control BMPs. BMPs to be used, as appropriate, to control and minimize site erosion and turbidity will include, but would not be limited to:

- Silt control fencing for perimeter flow containment; check or diversion dams for water flow control and sediment containment; filter fabric fencing as perimeter sediment containment barrier.
- Installing orange barrier fence to demark clearing areas and minimize the amount of vegetation removed.
- Hydro-seeding and hand seeding of grass on exposed soil areas to prevent soil loss
- Plastic covering of bare soil areas to exclude rain contact with exposed areas and or applying mulch to arrest and prevent rainfall impacts to bare soils.
- Performing maintenance activities during the dry season or low flow conditions when possible.
- Pumping water flows around site to create dry working conditions: Staging machinery out of water flow areas.
- Any additional BMP required to contain/control site erosion.

4. Plants

a. Check all types of vegetation below found on or in close proximity to the site:

- ✓ deciduous tree: alder, maple, aspen, other
- ✓ evergreen tree: fir, cedar, pine, other
- ✓ shrubs
- ✓ grass
- ✓ pasture
- □ crop or grain
- □ orchards, vineyards, or other permanent crops
- ✓ wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
- □ water plants: water lily, eelgrass, milfoil, other
- ✓ other types of vegetation present: Vegetation would vary by site. The County has a variety of both native and non-native plant species. Any of the types of vegetation listed above, and others not listed, may occur on or adjacent to a site.
b. What kind and amount of vegetation will be removed or altered?

Vegetation type will vary by site. Snohomish County has a large variety of both native and non-native plant species, including but not limited to the types of vegetation listed above. Minimal clearing of vegetation may be required prior to maintenance activities. Most bridge maintenance and stormwater facility maintenance activities would not require substantial vegetation removal. However, in some cases vegetation trimming or removal is required (e.g. when an undercut or leaning tree poses a threat to the bridge or to enable site access for machinery). Only vegetation required to be removed for maintenance or to maintain the safety of the bridge and worker safety would be removed; the amount trimmed or removed is anticipated to be nominal. Vegetative ground cover would be re-established after work is completed.

c. List threatened and endangered plant species known to be on or near the site.

According to the Washington State Department of Natural Resources Natural Heritage Information System there are 20 state sensitive species, 5 state threatened species and 1 state endangered species in the County.

If any federal or state-listed threatened or endangered plant species is suspected to be on or near a site, an environmental review would be conducted to confirm the presence or absence of the species. Where such species are discovered, all work will comply with the Endangered Species Act and other applicable federal, state, or county regulations. This may include implementation of BMPs developed for federal and state-listed species under the RRMESA.

d. List all noxious weeds and invasive species known to be on or near the site.

Each site may or may not have noxious weeds and/or invasive species present. The species present will vary by site and could include:

- Tansy ragwort,
- Canada and Bull thistle,
- Hawkweed,
- Knapweed,
- Garlic mustard,
- Wild chervil,
- Common fennel,
- Purple loosestrife,
- Policeman’s helmet,
- Poison hemlock,
- Spurge laurel,
- Dalmation toadflax,
- Giant hogweed, and
- Gorse.

Public Works will evaluate sites to determine if control of noxious weeds or invasive species is necessary. Public Works will provide control for specific weeds as needed.

e. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation of the site, if any:

Erosion control and reseeding of excavated areas are part of regular maintenance activities. Sites are sometimes planted with wetland-tolerant species. Wherever possible, native trees and shrubs will be used as visual screens. Maintenance of stormwater facilities is performed in such a manner as to protect and preserve vegetation as much as possible. Any slopes or soils exposed
by construction will be hydro-seeded or otherwise re-vegetated with native species or a mix of appropriate native and non-native grasses to prevent erosion. BMPs will be used whenever applicable. All work will conform to Snohomish County Critical Areas Regulation requirements and/or other applicable regulations. Temporary disturbance to vegetation within critical areas (streams, wetlands and buffers) will be revegetated with native species, as directed by the County’s Critical Areas Regulations. If vegetation is permanently removed from critical areas, mitigation will be conducted per applicable local, state, and federal regulations.

5. Animals

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. (i.e. birds: hawks, heron, eagle, songbirds, owls, ducks, woodpeckers; mammals: deer, bear, elk, beaver, opossum, raccoon, coyote, small rodents; fish: bass, salmon, trout, herring, shellfish, other):

   birds: hawks, heron, eagle, songbirds, other: owls, ducks, woodpeckers, ravens
   mammals: domestic dog, domestic cats, bobcat, deer, bear, elk, beaver, river otter, weasels, bats
   other: opossum, raccoon, coyote, small rodents,
   fish: bass, salmon, lamprey, trout, herring, shellfish, other:

   Any of the above types of wildlife may occur on or adjacent to a site. American Dipper nests are located on several County maintained bridges. Some culverts or roadside ditches may convey fish-bearing streams, or may be tributaries to fish-bearing streams. Many sites would be adjacent to fish-bearing streams (primarily salmon and trout) or their tributaries. Bridge maintenance activities would undergo appropriate review and will comply with all provisions of the Endangered Species Act, HPA, and other applicable regulatory requirements.

b. List any threatened and endangered wildlife species known to be on or near the site.

   The presence of threatened and endangered wildlife would vary by site. Threatened, endangered, sensitive or priority species found within the County include:

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Latin Name</th>
<th>Federal Listing</th>
<th>State Listing</th>
</tr>
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<tbody>
<tr>
<td>Puget Sound ESU Chinook</td>
<td>Onchohynchus tshawytscha</td>
<td>Threatened</td>
<td>Candidate</td>
</tr>
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<td>Puget Sound DPS Steelhead</td>
<td>O. mykiss</td>
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<td>Bull trout</td>
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<td>Sensitive</td>
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<td>Sensitive</td>
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<td>Brachyramphus marmoratus</td>
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<td>Gray wolf</td>
<td>Canis lupus</td>
<td>Endangered</td>
<td></td>
</tr>
<tr>
<td>Grizzly bear</td>
<td>Ursus arctos horribilis</td>
<td>Threatened</td>
<td>Endangered</td>
</tr>
<tr>
<td>Southern resident killer whale</td>
<td>Orcinus orca</td>
<td>Endangered</td>
<td></td>
</tr>
</tbody>
</table>

Where federal threatened and endangered species are found, all work will conform to the requirements of the Endangered Species Act administered by the US Fish and Wildlife Service and the National Marine Fisheries Service. Where state listed species or Priority Habitats and Species (PHS) are found, the Washington Department of Fish and Wildlife Priority Habitats and Species recommendations will be followed, when appropriate. The most current PHS list can be found at: [http://wdfw.wa.gov/conservation/phs/list/](http://wdfw.wa.gov/conservation/phs/list/).

c. Is the site part of a migration route? If so, please explain.

Yes, Snohomish County is located within the Pacific Flyway for migratory birds of all species. The flyway stretches between Alaska and South America. All migratory birds are protected by the Migratory Bird Treaty Act (MBTA) administered by the U.S. Fish and Wildlife Service. Some sites may also be over and adjacent to streams used by fish for spawning, feeding or rearing, or tributaries to such streams.

d. List any invasive animal species known to be on or near the site.

Invasive animal species would vary by site. If an invasive animal species is present on or near a site additional environmental review or analysis may be required prior to maintenance activity, including evaluation prior to beaver deterrence, dam modification or removal activities.

e. Proposed measures to preserve or enhance wildlife, if any:

If in-stream work is required, then it would typically be done in the summer or fall during periods of low or no flow or in accordance with conditions of a HPA. BMPs such as the use of silt fences to control sediments will be used where applicable. Other applicable federal, state or local regulations will be adhered to during bridge maintenance activities.

Every effort will be made to preserve and enhance wildlife during the course of each maintenance activity. Vegetation enhancement will occur as needed. Erosion control BMPs will be implemented to protect water quality as necessary and all disturbed soils re-vegetated to prevent erosion. All applicable federal, state or local regulations will be adhered to during maintenance activities.
Beaver ponds are natural wildlife habitat enhancements; therefore these pond and stream habitat areas would be carefully protected and preserved, where possible. In-stream work would generally be done in the summer or fall during periods of low or no flow, and in accordance with HPA conditions. Erosion control BMPs will be implemented as necessary. An annual review on the status of the program will be conducted upon request by Washington Department of Fish and Wildlife.

6. Energy and Natural Resources
   a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project’s energy needs? Please describe whether it will be used for heating, manufacturing, etc.

   No changes in energy use would result from the completed road maintenance, bridge maintenance, and stormwater facility maintenance activities. No energy is needed to meet the completed maintenance. However, during road maintenance activities, minor amounts of fuel would be used by construction equipment.

   b. Would your project affect the potential use of solar energy by adjacent properties? If so, please generally describe.

      No.

   c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

      Vehicles and equipment will be turned off when idle and in compliance with OSHA and DOSH standards. All equipment is maintained so that fuel efficiency is maximized. Many of the activities and projects are designed for passive water quality protection and improvement, following “green” conservation methods, including preserving vegetation as much as possible.

7. Environmental Health
   a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, please describe.

      Construction hazards common to the use of heavy equipment (such as fires or injury) could occur during maintenance activities. A potential exists for fuel spills and vehicles to leak small amounts of oil onto road surfaces. Spill control kits are carried on County vehicles to contain and clean up spills. Leaks would be promptly repaired upon detection.

      There are no known potentially hazardous materials that have been identified at or in proximity to existing stormwater facilities. Some work, such as cleaning catch basins, may be performed in confined spaces. In these instances, the work will comply with WAC 296-809 (Confined Spaces) or other applicable confined space regulations. Work sites will be accessible to emergency vehicles at all times. Radio communications will also be available while the work is being performed. If an emergency occurs while work is performed in a confined space, ventilation and emergency first aid care will be required.

      Most beaver deterrence activities would be conducted using hand tools, however when heavy equipment is used common construction hazards such as fire or injury may occur. Additionally a potential exists for vehicles to leak small amounts of oil onto the adjacent road surface. Spill control kits would be located on-site when heavy equipment is used to contain and clean up any potential spills.

      1. Describe any known or possible contamination at the site from present or past uses.
There are no known or possible sources of contamination at bridge sites from present or past uses. Bridge maintenance sites could potentially be contaminated from an accidental spill or illegal dumping by others. If a site is found to be contaminated, all work would stop and appropriate measures would be taken to contain the contamination and remove the spill material from the site. Other agencies such as the Washington State Department of Ecology (DOE) would be notified if appropriate.

Similarly, stormwater facilities may be contaminated from an accidental spill or illegal dumping. If a site is found to be contaminated, all work would stop and the appropriate measures taken to contain the contamination and remove the spill material from the site. Other agencies such as the Washington State Department of Ecology (DOE) or Environmental Protection Agency (EPA) would be notified, if appropriate.

Typically beaver activity that threatens County-maintained infrastructure occurs within the roadway right-of-way. This area may become contaminated from normal road use, accidental spills, illegal dumping or adjacent activities (including utilities). If a site is found to be contaminated, all work would stop, the area evaluated for impacts to human health and the environment and appropriate measures taken. In some cases, this may mean containment and site clean-up or issuing appropriate personal protective equipment. Other agencies such as the Washington State Department of Ecology (DOE) would be notified, if appropriate.

2. Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

Some of the materials historically used to construct bridges are now recognized as hazardous. These materials include creosote timbers and lead based paint. Utilities are also typically co-located within the bridge ROW corridor. These utilities may include overhead power lines and utility conduits under the bridge deck. Prior to commencement of bridge maintenance utility providers would be contacted in order to coordinate maintenance activity and if needed request temporary shut off during bridge repairs.

If any hazardous materials are discovered during project construction, they would be handled and disposed of according to adopted state and local codes governing their disposal. Projects occasionally are located near underground gas lines and require coordination with utility provider to maintain safe separation or avoid conflicts.

Beaver deterrence activities do not generally require below ground disturbance. If ground-disturbing activities are required, utilities would be located and avoided where possible.

3. Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project’s development or construction, or any time during the operating life of the project.

Several potentially hazardous materials are used to maintain bridges such as asphalt (for surface and approach paving), joint compound and chip seal oil. Bridge maintenance equipment also utilizes several hazardous materials such as: gasoline, diesel fuel, oil, hydraulic fluid, and engine coolants. Thinners, solvents and other cleaning agents may be used in limited circumstances to maintain equipment.
Maintenance of surface water management sites does not require the use or production of toxic or hazardous chemicals.

4. Describe special emergency services that might be required.
   Emergency response vehicles may be required in the event of a construction accident.

5. Proposed measures to reduce or control environmental health hazards, if any:
   Spill control kits are carried in maintenance vehicles. All equipment would be well-maintained and in good repair to prevent the loss of any petroleum products and will comply with OSHA and DCSH standards. Crew leads are equipped with cellular telephones and operators are trained in the safe use of the equipment. Refueling and vehicle maintenance would generally occur off-site.

b. Noise:

1. What types of noise exist in the area which may affect your project (i.e., traffic, equipment, operation, aircraft, other)?
   Noise would not typically affect road maintenance activities.

2. What types and levels of noise would be created by or associated with the project on a short-term or long-term basis (i.e., traffic, construction, operation, other)? Indicate what hours noise would come from the site.
   Short-term noise would be generated by truck traffic to and from the site, vehicles carrying workers to and from the site, and equipment used during beaver deterrence, dam modification and removal activities. During maintenance activities (short-term) there would be increased noise levels generated by heavy equipment. These noise levels would exceed existing background noise levels associated with the rural residential community in the project area. Typical noise associated with roadway traffic is expected once the roadway is opened to through traffic after bridge replacement construction. There will be no change in the types and levels of noise as a result of constructing the bridge or approach roadway.

3. Proposed measures to reduce or control noise impacts, if any:
   Most noise related to these activities will be a result of equipment operation, and will occur during daylight hours, Monday through Friday. It is possible that some emergency repairs may be required to be performed at night or on weekends. There will be no additional noise impacts once maintenance activity is complete.
   Other than limiting maintenance activities to daytime hours and primarily on weekdays, no additional measures to reduce or control noise impacts are proposed.

8. Land and Shoreline Use

   a. What is the current use of the site and adjacent properties? Will the proposal affect current land use on nearby or adjacent properties? If so, please describe.
   The current use of the multiple locations and sites addressed by this Environmental Checklist include those located within Snohomish County-maintained roadway right-of-way. The current use of the various project sites includes roadway travel lanes, roadway shoulders, bridges, ditches, stormwater conveyance facilities, and flow control (detention) and quality treatment facilities and other stormwater drainage facilities.
Some sites, usually located on residential property, include drainage easements or separate tracts dedicated to the County. The land use type and intensity of development of adjacent properties varies by site.

b. Has the site been used as working farmlands or working forestlands? If so, please describe. How much agriculture or forestland of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forestland tax status will be converted to non-farm or non-forest use?

Many roadways, where County infrastructure is located, were constructed in historic farmlands and forestlands. Snohomish County maintained roadways are not currently used for working farmlands or working forest lands. The maintained roadways provide access to these land uses in rural areas.

1. Will the proposal affect or be affected by surrounding working farmland or forestland’s normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

No effects are anticipated to normal business operations of working farms or forest land from bridge maintenance and repair activities, other than temporary bridge closures. Watershed management practices including forest harvest practices can potentially affect the water and sediment discharge in area streams and rivers. Higher intensity peak flows and debris can potentially cause erosion that damages bridges and increase the need for debris removal.

Surface water maintenance activities will not affect or be affected by adjacent farm or forest land.

Beaver activity may result in ponding in areas currently or historically used for farming or timber production. Beaver deterrence, dam modification and removal activities may result in reduced ponding within the roadway right-of-way adjacent to these properties.

c. Describe any structures on the site.

Structures addressed by this Environmental Checklist include Snohomish County maintained bridges and drainage or roadway structures, which may include but are not limited to catch basins, underground detention pipes and vaults, stormwater pipes, swales or ditches, various control structures such as weirs, roadways, guard rails, and utilities (water, sewer, phone, TV/cable, and electricity).

Snohomish County maintains 202 bridges, which vary in age and materials. Of the bridges currently maintained by the County 42 are of timber construction, 103 are of concrete construction, 21 are predominately of steel construction, 30 are a combination of wood, concrete and steel construction and 4 are culverts of either steel or concrete. County bridges span streams, small tributaries and large rivers.

In many cases when older bridges require replacement the new bridge is built in the same location to align with the road network. Due to this, abandoned bridge components are often found underneath bridges (e.g. old piles).

d. Will any structures be demolished? If so, what?

Bridge structures would not typically be demolished associated with maintenance activities unless catastrophic damage occurs requiring removal. Failing or inadequate stormwater facilities may be removed and replaced or upgraded as part of these activities. Occasionally, beavers build structures that obstruct or modify the flow of
water into or out of drainage facilities. Beaver control activities may need to be implemented. These activities will be coordinated with the WDFW.

e. What is the current zoning classification of the site?
   Zoning will vary by site.

f. What is the current comprehensive plan designation of the site?
   Comprehensive plan designation will vary by site.

g. If applicable, what is the current shoreline master program designation of the site?
   Where applicable, the Shoreline Master Program designation would vary by site. Most maintenance projects are shoreline exempt activities pursuant to the County’s Shoreline Management Master Program (SMMP). Maintenance activities in designated shoreline management areas would undergo appropriate review.

h. Has any part of the site been classified critical area by the city or county? If so, please specify.
   Snohomish County designates streams, wetlands, and geologically hazardous areas (erosion, landslide) as critical areas. These critical areas may occur in the vicinity of or adjacent to public roadways. In general, County bridge sites are located within environmentally sensitive areas, due to their proximity to surface waters.

i. Approximately how many people would reside or work in the completed project?
   None

j. Approximately how many people would the completed project displace?
   Routine maintenance activities would not displace residents because they would be located within existing rights-of-way. On occasion temporary easements may be required to complete certain activities but would not result in displacement of people.
   Right-of-way acquisition of private property is often required to construct capital improvements that extend beyond maintenance. However, if and when acquisition or displacement becomes necessary, a complete and detailed set of relocation and right-of-way plans would be developed. Chapter 8.25 and 8.26 of the Revised Code of Washington would govern right-of-way acquisition proceedings. These laws ensure fair and equitable treatment of those displaced. In addition, right-of-way purchases would be in accordance with Civil Rights Act Title VI legislation and the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended (42 U.S.C.). These laws would provide payment for reasonable and necessary costs to relocate persons displaced by the project and ensure prompt and fair relocation payments and requires agency review of aggrieved parties. Acquisition proceedings include appraisal, determination of just compensation, presentation of an offer and compensating the individual. Acquisition proceedings within the project vicinity would not be initiated until the environmental review process has been completed.

k. Proposed measures to reduce or control impacts to nearby agricultural and forestlands of long-term commercial significance, if any:
   None

l. Proposed measures to ensure the proposal is compatible with existing projected land uses and plans, if any:
   All maintenance work would be consistent with the applicable area comprehensive plans and policies and implementing development regulations.
m. Proposed measures to ensure that the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

All maintenance work would be conducted to avoid impacts to nearby agricultural and forest lands of long-term commercial significance.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None

c. Proposed measures to reduce or control housing impacts, if any:

N/A

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Existing bridge heights vary by bridge type and bridge location. The repair and maintenance of bridges would not affect (i.e. increase or decrease) the height of any structures. Bridges in the County are made of timber, concrete or steel.

b. What view in the immediate vicinity would be altered or obstructed?

Vegetation removal could increase the visibility of some stormwater treatment facilities and drainage structures. Views to and from the roadway would be altered sometimes temporarily by this vegetation clearing and also vegetation clearing required to accommodate construction equipment access. Typically the level of alteration would be similar in scale to the existing site conditions and would not substantially alter or obstruct views.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Clearing of existing vegetation would be limited to that needed for construction access. Any bare soil areas disturbed by maintenance activities will be reseeded or re-vegetated as needed. Vegetation planting and enhancement measures undertaken as a result of construction impacts to critical areas and the implementation of BMPs will reduce the aesthetic impacts associated with the stormwater facility maintenance program.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Maintenance work is usually done during the day. However, during urgent or emergency situations, it may become necessary that some work activity occur at night and require spotlights for illumination.

Most beaver deterrence, dam modification and removal activities would not result in light or glare at sites with beaver activity. When determined necessary, installation of an approximately 7-inch diameter blinking light to deter beaver activity would result in increased light within the immediate vicinity of a beaver deterrence site. The blinking light would typically operate from late dusk until dawn daily until it is removed. Lights
would be removed once beaver activity has ceased or an alternate beaver management strategy is attempted.

b. Could light or glare from the finished project be a safety hazard or interfere with views?
   No. However, on occasion temporary signals may be required. Any temporary signals used or proposed would comply with Illumination Engineering Society of North America (IESNA) standards for roadway illumination that minimize glare impacts.

c. What existing off-site sources of light or glare may affect your proposal?
   None

d. Proposed measures to reduce or control light and glare impacts, if any?
   No measures are proposed.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?
   Recreational opportunities would vary by site. In some areas, parks or other recreational opportunities such as river recreation or bike trails may be located in proximity to maintenance activities.

b. Would the proposed project displace any existing recreation uses? If so, please describe.
   Typically, no existing recreational uses would be displaced, however some maintenance activities could potentially require roadway closures and detours that could affect access to recreational sites. Some activities may temporarily impair access to recreational opportunities during construction or maintenance, for example, if a road closure is required, pedestrian access may also be limited. In these situations, maintenance crews would coordinate with Snohomish County Parks and Recreation and other agencies to ensure that there are minimal effects to recreation.

c. Proposed measures to reduce or control impacts on recreating, including recreation opportunities to be provided by the project or applicant, if any:
   The proposed measures include coordinating with the Snohomish County Department of Parks and Recreation and other agencies to minimize disruptions to existing facilities and recreational users during maintenance work activities. Road closures will be avoided where possible. If a closure is necessary, a detour route will be provided. Every attempt will be made to avoid impairing public access. Traffic control devices (cones, signs, and flaggers) will be used to direct motorists and pedestrians around the site and to alternate access.

13. Historic and Cultural Preservation

a. Are there any buildings, structures, or sites located on or near the site that are over 45 years old listed in or eligible for listing in national, site, or local preservation registers located on or near the site? If so, please general describe.
   The County maintains an inventory of 202 bridges. The vast majority of these bridges are relatively new (constructed since 1971) and do not qualify as historic structures. The Washington State Department of Transportation has developed a list of Washington State Historic Highway Bridges. This list identifies eight bridges maintained by Snohomish County that have been determined eligible or potentially eligible for the National Register of Historic Places. An additional bridge identified on the list has since been demolished and a replacement span constructed.
Bridge maintenance activities such as painting, replacing structural elements, and other measures determined necessary to preserve a span’s structural integrity and functional operation, do not typically adversely affect the historic character of a bridge. If it is determined that a particular maintenance activity could adversely affect a historic bridge’s character, the County would evaluate the feasibility of using prudent and feasible measures to avoid the adverse effect. The County will comply with all applicable regulatory requirements.

Historic buildings, structures or sites may occur in proximity to stormwater facility maintenance projects. Snohomish County evaluates activities where ground disturbance of native soils is required or locations with a higher probability for proximity to recorded cultural locations. Activity locations are mapped and compared to the Geographic Information System (GIS) layer of known cultural sites provided by the Washington Department of Archaeology and Historic Preservation (DAHP) as part of a data sharing agreement. This process identifies projects that may be in proximity to a known cultural site.

If an area planned for maintenance activity is in close proximity to a known cultural site, tribal contacts are notified and information related to inadvertent discoveries is provided to work crews. A professional archeologist would be used for all maintenance activities that directly affect known archeological or historic sites. An archeological survey may also be conducted, if determined necessary, to identify whether any historic and cultural resources could be affected by the maintenance activity. Most maintenance activities are typically in areas that have been extensively disturbed.

b. Are there any landmarks, features or other evidence of Tribal or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

The County evaluates activities where ground disturbance of native soils is required or locations with a higher probability for proximity to recorded cultural locations. Activity locations are mapped and compared to the GIS layer of known cultural sites provided by the DAHP as part of a data sharing agreement. If a project area is in close proximity to a recorded site, a professional archeologist will be consulted. An archeological survey may be conducted if it is determined necessary, to identify whether any resources, otherwise unknown to be in the project area at the present time, could potentially be affected by the project. Stormwater drainage facility maintenance activities typically occur in culverts, ditches and detention ponds where the native soils and vegetation have been removed or extensively modified by construction or other types of development such that there is low probability that work would disturb an intact historic site or other cultural resources.

c. Describe methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with Tribes and the Department of Archeology and Historic Preservation, archaeological surveys, historic maps, GIS data, etc.

Cultural resources screenings use archaeological site GIS data provided by the Washington State Department of Archaeology and Historic Preservation (DAHP) to Snohomish County as part of a data sharing agreement.

When determined to be appropriate, a cultural resources investigation may be conducted by an archaeologist at a particular location within a defined Area of Potential
Effects (APs) to determine the project’s potential effects to below ground resources. Section 106 consultation with area tribes and DAHP would occur when a federal nexus such as an Army Corps of Engineers permit may be required prior to initiating maintenance work.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required:

The following management recommendations would typically be applied to ongoing maintenance activities:

- The proposed work would proceed as planned if no sites are affected by the project. An Unanticipated Discoveries Protocol (UDP) would be used to address unanticipated discoveries. The on-site supervisor would follow the steps specified in the Snohomish County Archeological Sites Advisory (Assistance Bulletin #103) or other inadvertent discovery information provided by the Road Maintenance Environmental Staff to the on-site supervisor.

- If any ground-disturbing activities or other activities uncover protected cultural material (e.g., bones, shell, stone or antler tools), all work in the immediate vicinity would stop, the area should be secured, and any equipment moved to a safe distance away from the location. The on-site superintendent would then follow the steps specified in the UDP.

- If any ground-disturbing activities or other project activities uncover human remains, all work in the immediate vicinity would stop, the area secured, and any equipment be moved to a safe distance away from the location. The on-site superintendent would then follow the steps specified in the UDP developed for the project.

14. Transportation

a. Identify public streets and highways serving the site, or affected geographic area, and describe proposed access to the existing street system. Show on site plans, if any. Snohomish County maintains a system of arterials, collectors, and local access streets throughout the unincorporated areas and associated infrastructure for stormwater conveyance and treatment. All maintenance work would occur within Snohomish County rights-of-way or easements adjacent to these public roads.

b. Is the site or affected geographic area currently served by public transit? If so, please generally describe. If not, what is the approximate distance to the nearest transit stop?

   Transit service will vary by location, with more service provided in urban areas. Four public transit agencies provide service within the County. They are: Sound Transit, Community Transit, Everett Transit, and King County Metro. Sound Transit provides service between King and Snohomish Counties. Everett Transit provides service within the Everett city limits. Metro provides vanpools for King County residents commuting to Snohomish County employers, and Community Transit provides the bulk of transit service in unincorporated Snohomish County as well as providing service to King County.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project proposal eliminate?

   None
d. Will the proposal require any new – or improvements to existing – roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, please generally describe (indicate private or public).

Surface water facility maintenance generally provides maintenance to existing culverts, ditches, stormwater treatment facilities and catch basins. No new roads or large-scale improvements would be needed as part of maintenance activities.

e. Will the project or proposal use (or occur in the immediate of) water, rail, or air transportation? If so, please generally describe.

Several public and private airfields and railroad lines are located within Snohomish County. Bridge maintenance, and the maintenance, replacement, upgrade, and construction of stormwater facilities adjacent to these facilities is essential to ensuring that the stormwater systems do not adversely impact the airports or rail line operations.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial or non-passenger vehicles). What data or transportation models were used to make these estimates?

Vehicular trips generated during maintenance activities will vary by site. There will be vehicles transporting equipment, materials, and workers to the site during maintenance activity. The completed projects would not result in increased daily vehicular trips.

g. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, please generally describe.

Maintenance activities would not typically interfere with or be affected by movement of agricultural and/or forest products. Maintenance of bridges and stormwater drainage facilities help to prevent catastrophic failures which could result in short term and long term road closures.

h. Proposed measures to reduce or control transportation impacts, if any:

If a road closure is necessary during maintenance activity, a detour route will be provided. Traffic control devices (cones, signs, and flaggers) will be used where necessary to protect and direct motorists during construction. Advance notice of road closures or traffic delays will be provided where possible. Traffic control as needed would be provided during maintenance activities to maintain roadway and construction site safety.

15. Public Services

a. Would the project result in an increased need for public services (i.e., fire protection, police protection, public transit, health care, schools, other)? If so, please generally describe.

No additional or increased need for public services is anticipated.

b. Proposed measures to reduce or control direct impacts on public services, if any.

Where possible, advance notification of maintenance activities will be provided. Due to the urgent nature of some repair activities, such advance notice may not always be possible. Traffic control during maintenance work would be planned, sequenced, and administered to allow continuation of basic services during construction activities in the roadway right-of-way.
16. Utilities

a. Check all utilities currently available at the site:

☐ Electricity
☐ Natural Gas
☐ Water
☐ Refuse Service
☐ Telephone
☐ Sanitary Sewer
☐ Septic System

☑ Other (please describe) The type and extent of utilities varies by site. All utilities present at a site are typically marked and located prior to maintenance. Some bridges have utilities, such as water lines or overhead facilities, attached to them. Bridge maintenance activities may require a temporary shut off of utilities, but would not result in permanent impacts to utilities following construction. No new utilities would be required for maintenance.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site of in the immediate vicinity which might be needed. Maintenance activities do not typically require new utilities. In the event that utility pole and attached aerial utility lines would be relocated, coordination as necessary would occur with the affected utility providers.

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: [Signature]
Printed name of signee: Crilly Ritz
Position and Agency/Organization: Senior Planner/Public Works
Date Submitted: 10/11/2017