

**SEATTLE PUBLIC UTILITIES
SEPA ENVIRONMENTAL CHECKLIST**

This SEPA environmental review of Seattle Public Utilities' Tolt Pipeline No. 1 Rehabilitation by Sliplining Project has been conducted in accord with the Washington State Environmental Policy Act (SEPA) (RCW 43.21C), State SEPA regulations [Washington Administrative Code (WAC) Chapter 197-11], City of Seattle SEPA ordinance [Seattle Municipal Code (SMC) Chapter 25.05], and King County Code (KCC) 20.44.

A. BACKGROUND

1. Name of proposed project:

Tolt Pipeline No. 1 Rehabilitation by Sliplining

2. Name of applicant:

Seattle Public Utilities (SPU)

3. Address and phone number of applicant and contact person:

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4. Date checklist prepared:

August 27, 2020

5. Agency requesting checklist:

Seattle Public Utilities (SPU)

6. Proposed timing or schedule (including phasing, if applicable):

Construction of the pipeline rehabilitation would begin July 2021 and be substantially complete by December 2021. Once construction is complete, SPU would continue long-term operation and maintenance of Tolt Pipeline No. 1 for the lifetime of that asset (approximately 50 years). Construction is estimated to require 4.5 months (90 working days).

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

There are no plans for future additions, expansion, or further activity related to or connected with this proposal at this time.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Confluence Environmental Company. 2018. *Seattle Public Utilities Tolt Landslide Complex Wetland and Stream Delineation Report*. Prepared for Seattle Public Utilities. January 23.

Landau Associates. 2011a. Conceptual Geotechnical Design Report, Tolt Access Roadway Slope Stabilization, Tolt Watershed, King County, Washington. Prepared for Seattle Public Utilities Materials Laboratory. September 12.

Landau Associates. 2011b. Groundwater Control Design Report, Tolt Access Roadway Slope Stabilization, Tolt Watershed, King County, Washington. Prepared for Seattle Public Utilities Materials Laboratory. September 12.

SPU Geotechnical Engineering. 2018. Response to PREA18-0150, SPU Tolt Pipeline Slope Stabilization Geologic Hazard Critical Areas Comments. October 31.

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

In 2020, SPU is installing inclined drains at the base of the hillslope in this Project area, which is expected to reduce groundwater levels and reduce the rate of ground movement. The corresponding risk of failure of both SPU water transmission pipelines traversing this area would be subsequently reduced. There are no other pending applications for governmental approvals of other proposals directly affecting the Project or the Project area.

10. List any government approvals or permits that will be needed for your proposal, if known.

The following government approval/permit maybe required:

- King County: Clearing and Grading Permit and Critical Areas review

11. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and 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.

The South Fork Tolt River Municipal Watershed (SFTMW) is managed and largely owned by SPU to source high-quality drinking water in a supply system that serves approximately 1.4 million people in the greater Seattle metropolitan area. This 13,390-acre municipal watershed is near the city of Duvall in unincorporated northeastern King County, Washington, approximately 35 miles east of Seattle (Figure 1).

Two Tolt water transmission pipelines (TPL1 and TPL2) can transmit up to 100 million gallons of water daily from a pressure regulating basin to SPU's Tolt Water Filtration and Treatment Plant and, ultimately, to SPU's drinking water service area. TPL1 is a 66-inch-diameter concrete cylinder pipeline. TPL2 runs generally parallel to TPL1 and is an 89-inch-diameter steel pipeline. Downstream of the regulating basin, approximately 2,700 feet of TPL1 and TPL2 are shallowly buried in a road (Tolt Access Road) that runs transversely across an active but slow-moving landslide area on SPU-owned property. The slide in this area is moving about 1 to 2 inches per year. In the Project location, TPL1 diverges from TPL2 and partially

crosses the slide area while buried in a utility (electrical and water) transmission corridor. TPL1 was taken out of service in 2009 due to leakage that developed in the pipe across the slide zone. TPL2 remains in service and is regularly monitored for movement. In 2009, TPL2 was retrofitted with ball joint connections to allow for large angular movement. The ball joints were repositioned in 2016 to allow continued movement.

Due to concerns over potential failure of TPL2, SPU commissioned a study of alternatives to convey water through the slide zone. The study recommended rehabilitation of TPL1 using a combination of open-cut trenching and sliplining with flexible fusion-joint high-density polyethylene (HDPE) pipe. Sliplining is a trenchless pipe rehabilitation process that installs a smaller 'carrier' pipe within a larger 'host' pipe and seals the ends.

SPU has decided to design and construct this recommended rehabilitation of TPL1 (SPU Project C113010). The carrier pipeline would be approximately 54 inches in outside diameter with an inside diameter of approximately 48 inches. Due to multiple vertical radius bends, sliplining for the complete length of affected pipe may not be feasible. Hence, portions of the middle of the reach might be constructed using open-trench construction between sliplined segments. Each new pipe section would be installed between a launch pit and a receiving pit. Pipe would be laid out, fused, and connected into a continuous pipe string prior to beginning the sliplining process. A winch assembly in the receiving pit would then pull the HDPE pipe section into place within the existing pipe. Based on a 54-inch outside diameter sliplined pipe and an average depth of 10 feet, the launch and receiving pits are estimated to be 80 feet long by 15 feet wide and 20 feet long by 15 feet wide, respectively. Four such pits (two of each) would be needed to install three sections of HDPE pipe. The proposed work would include demolition and removal of four short sections of TPL1; removal of existing valves; and installation of new valves, thrust blocking, and other appurtenances.

- 12. Location of the 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, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a 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.**

The Project is in the North Fork Tolt River Watershed on SPU-owned parcel 292608-9006 that supports management of SFTMW in King County, Washington (Township 29, Range 26, Section 08) (Figures 1 and 2). The Project is in an ancient landslide complex extending approximately 10 acres uphill and 20 acres downhill of the Tolt Access Road at this location.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site:

- Flat Rolling Hilly Steep Slopes Mountainous
 Other:

While site topography is variable, the Project location is generally characterized by steep slopes ranging from 6 to more than 40 percent. Project design accommodates this natural variability and takes advantage of previously graded areas associated with the

Tolt Access Road and existing utility transmission corridor. For example, staging area and pits would be sited in relatively flat, previously graded benches on the hillslope adjacent to steeper slopes. This would minimize ground disturbance.

b. What is the steepest slope on the site (approximate percent slope)?

The steepest slope in the vicinity of the Project is more than 40 percent. The steepest slope in the Project area is about 15%

c. What general types of soils are found on the site (for example, 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 Project area is in an ancient landslide complex with discontinuous soil types due to historical movement of the hillslope. In their 2011 Conceptual Geotechnical Design Report, Landau Associates summarized onsite soil conditions. The report indicated “granular soils consist primarily of silty sand and gravel within zones of cleaner sand, whereas the cohesive soils consist primarily of silt with varying sand content; the majority of soil borings that extend down to the bedrock encountered silt above the contact. The thickness of silt varied among the soil borings, but a significant thickness (60 feet) was encountered.” Depth to bedrock varies, ranging from approximately 80 to 100 feet below the ground surface.

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

The Project area is in an ancient landslide complex. SPU monitors hillslope movement and has observed an incremental but consistent downslope movement averaging 1 to 2 inches each year. SPU expects this annual rate of movement to decrease by an order of magnitude as a result of 80 horizontal groundwater drains being installed downslope in 2020.

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

Grading and excavation are required to construct the launch and receiving pits and staging areas. Grading would occur within the approximately 25-foot-wide grading limits and total less than 1 acre. The launch and receiving pits would be backfilled once work is complete. Backfill would consist of new bedding aggregate and the spoil excavated to create the pits. Up to 2,000 cubic yards of earth would be excavated, and about the same volume of earth and imported aggregate would be used to backfill. Staging areas and pits would be located and designed to minimize ground disturbance, end haul, and imported material. Imported aggregate would be clean and imported from a stockpile in SFTMW or from purveyors licensed to sell such material in the State of Washington. Excess spoil would be exported from the worksite and either landfilled at a location licensed to accept such materials or stockpiled in upland locations owned by SPU.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe:

Erosion could occur during construction. A temporary erosion and sediment control (TESC) plan would be prepared and best management practices (BMPs) would be

deployed, inspected, and maintained as needed throughout construction to minimize impacts from ground disturbance and stockpiling.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Less than 5 percent of the site is impervious surface (compacted graveled and asphalt road surfaces). The Project would replace and repair damaged or demolished existing paved surfaces and would neither create new nor eliminate existing impervious surfaces.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

BMPs would be used as needed during construction to manage stormwater runoff, construction disturbance, and erosion. Proposed measures include:

- Ensuring well-marked clearing boundaries to minimize ground disturbance.
- Installing straw wattles or silt fencing and high-visibility fencing to delineate nearby wetland and stream buffers, as needed.
- Placing straw wattles or silt fencing as needed to disperse water flow, if conditions are particularly rainy during construction.
- Managing temporary stockpiles with coverings, wattles, and other erosion and sediment control measures to minimize erosion and sedimentation.

2. Air

a. What types of emissions to the air would result from the proposal [e.g., dust, automobile, odors, industrial wood smoke, greenhouse gases (GHG)] during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Mobile and stationary equipment would be used to construct the proposed Project, thus generating emissions due to the combustion of gasoline and diesel fuels (such as oxides of nitrogen, carbon monoxide, particulate matter and smoke, uncombusted hydrocarbons, hydrogen sulfide, carbon dioxide, and water vapor). Emissions during construction would also include normal amounts of dust from ground-disturbing activities and exhaust (that is, carbon monoxide, sulfur, and particulates) from construction equipment and are expected to be minimal, localized, and temporary.

This Project would generate greenhouse gas (GHG) emissions in two ways: pipe/aggregate usage (embodied) and construction activity. Total GHG emissions are estimated to be about 113.9 metric tons of carbon dioxide emission (MTCO_{2e}). The GHG emission calculations are shown in Attachment C and summarized in the table below. One metric ton is equal to 2,205 pounds.

The Project would replace approximately 1,000 square feet of demolished and damaged roadway surfaces, which are asphalt and gravel. This replaced asphalt creates an estimated 50 MTCO_{2e} that are a portion of total above (Attachment C). Aggregate used to repair graveled shoulders is included in the fill volumes described in Section B1. Embodied energy in aggregate, pipe materials, and other materials has not been estimated as part of this SEPA environmental review due to the difficulty and inaccuracy of calculating those estimates.

This Project would generate GHG emissions during the 90 working-day construction period through the operation of diesel- and gasoline-powered equipment and to transport materials, equipment, and workers to and from the site. Because construction methods were not completely known at the time this checklist was prepared, the estimates provided here are based on daily vehicle operation times for the estimated construction duration; actual times may be less. Construction activity would generate an estimated 63.9 MTCO₂e.

Once operational, the completed Project is not expected to generate GHG emissions because this water main is not expected to require maintenance beyond what would normally occur in the existing pipeline over its estimated 50-year lifespan.

SUMMARY OF GREENHOUSE GAS (GHG) EMISSIONS

Activity/Emission Type	GHG Emissions (pounds of CO ₂ e) ¹	GHS Emissions (metric tons of CO ₂ e) ¹
Paving (asphalt)	110,250	50
Construction Activities (Diesel)	140,981	63.9
Construction Activities (Gasoline)	0	0
Long-term Maintenance (Diesel)	0	0
Long-term Maintenance (Gasoline)	0	0
Total GHG Emissions	251,231	113.9

¹ Note: 1 metric ton = 2,204.6 pounds of CO₂e. 1,000 pounds = 0.45 metric tons of CO₂e

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

There are no known off-site sources of emissions or odor that would affect the activities proposed under the Project.

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

Construction emissions would be reduced and managed by requiring proper construction equipment maintenance and by minimizing vehicle and equipment idling.

3. Water

a. Surface:

(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 so, describe type and provide names. If appropriate, state what stream or river it flows into.

Three distinct wetland features have been identified and delineated in the historic landslide complex adjacent to the Project area. The wetlands have been rated as Category III and are described as palustrine forested and sloped features (Confluence 2018). Stream channels are in two of the three wetlands. Both streams headwater from groundwater springs and meet the criteria of a Type N stream (Confluence 2018). North Fork Tolt River and North Fork Creek are near the Project location and are watercourses are Shorelines of Statewide Significance.

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

The proposed work would occur in regulatory buffers of wetlands, unnamed streams, North Fork Tolt River, and North Fork Creek. However, the work would occur in existing road prisms, a utility transmission corridor, and within existing pipelines; the extent of work proposed in these regulatory buffers has been minimized through Project design.

- (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.**

Fill material would be placed within the regulatory buffers, but not directly within any watercourses or wetlands. The proposed work would occur in the regulatory buffers of wetlands, unnamed streams, North Fork Tolt River, and North Fork Creek. Work would occur in existing road prisms, a utility transmission corridor, and within existing pipelines. The extent of work proposed in these regulatory buffers has been minimized through Project design but is unavoidable due to the location of TPL1.

- (4) Will the proposal require surface water withdrawals or diversions? If so, give general description, purpose, and approximate quantities if known.**

The Project does not require surface water withdrawals or diversions.

- (5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

No portion of the work would occur in 100-year floodplains.

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

Waste materials would not be discharged to surface waters. As required, temporary erosion and sediment control measures would be placed along the high visibility fencing used to delineate wetlands and watercourses to avoid potential impacts from sediment-laden runoff. However, such runoff would not be considered a waste material.

b. Ground:

- (1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.**

No groundwater would be withdrawn from a well for drinking water or other purposes.

- (2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: domestic sewage; industrial, containing the following chemicals...; agricultural, etc.). 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.**

The Project would not discharge waste material into the ground from septic tanks or other sources.

c. Water Runoff (including storm water):

- (1) Describe the source of runoff (including storm water) 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, describe.**

Stormwater would be the primary source of potential runoff during Project construction. During construction, a TESC plan would be prepared and implemented to minimize potential impacts from stormwater runoff. Straw wattles or silt fencing could be installed as needed along roadway surfaces to disperse water flow if conditions are particularly rainy during construction. Stormwater would follow exiting pathways once construction is complete. Stormwater currently is directed to and passively infiltrates in the heavily vegetated understory of surrounding second-growth forest. No stormwater would be directly discharged to any watercourses or wetlands.

- (2) Could waste materials enter ground or surface waters? If so, generally describe.**

Waste materials would not be discharged to ground or surface waters. Straw wattles or silt fencing would be placed along the high visibility fencing to delineate the wetland and stream buffers and avoid impacts from sediment-laden stormwater runoff.

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

The completed Project would restore disturbed areas to near-original condition (road surfaces and grass) and would not create a need to manage additional stormwater runoff beyond currently existing conditions. Stormwater would follow pre-construction pathways. The current volume, timing, and duration of these stormwater flows are not known.

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

The following measures are incorporated into the Project to avoid and minimize impacts to surface, ground, and runoff water.

- Stormwater Pollution Prevention and TESC plans would be prepared and implemented to minimize potential impacts from stormwater runoff.
- Prior to construction, high visibility fencing would be placed at the limits of construction, in the regulatory buffers, to avoid and minimize ground-disturbing activities in these sensitive resources.

- Straw wattles or silt fencing would be placed along wetland and stream buffers to avoid potential impacts from sediment-laden runoff.
- Access road and staging areas would be designed to convey stormwater runoff to adjacent ditches. Runoff is expected to infiltrate into adjacent forested understories.

4. Plants

a. Types of vegetation found on the site:

- | | | | | |
|--|---|---|----------------------------------|--|
| <input checked="" type="checkbox"/> Deciduous trees: | <input checked="" type="checkbox"/> Alder | <input checked="" type="checkbox"/> Maple | <input type="checkbox"/> Aspen | <input type="checkbox"/> Other: |
| <input checked="" type="checkbox"/> Evergreen trees: | <input checked="" type="checkbox"/> Fir | <input checked="" type="checkbox"/> Cedar | <input type="checkbox"/> Pine | <input checked="" type="checkbox"/> Other: See below |
| <input checked="" type="checkbox"/> Shrubs | | | | |
| <input checked="" type="checkbox"/> Grass | | | | |
| <input type="checkbox"/> Pasture | | | | |
| <input type="checkbox"/> Crop or grain | | | | |
| <input type="checkbox"/> Orchards, vineyards, or other permanent crops | | | | |
| <input checked="" type="checkbox"/> Wet soil plants: | <input type="checkbox"/> Cattail | <input type="checkbox"/> Buttercup | <input type="checkbox"/> Bulrush | <input checked="" type="checkbox"/> Skunk cabbage |
| <input type="checkbox"/> Other: | | | | |
| <input type="checkbox"/> Water plants: | <input type="checkbox"/> water lily | <input type="checkbox"/> eelgrass | <input type="checkbox"/> milfoil | <input type="checkbox"/> Other: |
| <input type="checkbox"/> Other types of vegetation: | | | | |

Project area vegetation is described in the Wetland and Stream Delineation Report (Confluence 2018). Per this report, the Project area is a densely forested slope with mixed second-growth conifers such as western hemlock (*Tsuga heterophylla*), Douglas-fir (*Pseudotsuga menziesii*), and western redcedar (*Thuja plicata*), occasional deciduous trees such as big-leaf maple (*Acer macrophyllum*) and red alder (*Alnus rubra*). The understory is composed of light to moderately dense shrub communities including salmonberry (*Rubus spectabilis*), vine maple (*Acer circinatum*), devil's club (*Oplopanax horridus*), and red huckleberry (*Vaccinium parvifolium*). Herbaceous cover is dominated by sword fern (*Polystichum munitum*), and piggy-back plant (*Tolmiea menziesii*).

b. What kind and amount of vegetation will be removed or altered?

Construction of the sliplining pits and any other open trench construction is anticipated to disturb less than 1 acre. All excavation would be in existing roadway grades or in a developed utility transmission corridor vegetated with periodically mown grass and would require no tree removals. Small areas of clearing and grubbing would be required in regulatory buffers of wetlands, streams, North Fork Tolt River, and North Fork Creek and would impact mostly grass and very small areas of shrub and herbaceous species, including salmonberry, vine maple, devil's club, red huckleberry, piggy-back plant, and sword fern, and non-native grasses.

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

According to a review of the Washington Department of Natural Resources (WDNR) Natural Heritage Program's document called "Sections that Contain Natural Heritage Features, Current as of November 18, 2019" (accessed at www.dnr.wa.gov), there are no documented occurrences of sensitive, threatened, or endangered plant species at or near the Project location.

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

The proposed work would limit plant removal, pruning, and other vegetation disturbance to that required for construction. All removed vegetation would be replaced with site-appropriate and SPU-approved grass species or native plant species.

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

According to the 'Noxious Weed' data layer in King County's iMap website, tansy ragwort (*Jacobaea vulgaris*; a regulated Class B noxious weed) is known from the Project location. The invasive Himalayan blackberry (*Rubus armeniacus*) is found along the shoreline of the North Fork Tolt River in the Project area. To minimize potential for new invasive species to be introduced to SFTMW or adjacent areas, SPU-maintained equipment may be used for construction. SPU equipment used in the City of Seattle's municipal watersheds is inspected to ensure it does not transport noxious weeds and invasive species. Sliplining equipment not SPU-owned or maintained would be inspected and cleaned by SPU staff if it has potential to transport invasive species. These inspections would be completed in accordance with SPU's *Invasive Species Strategic Management Plan for Seattle's Major Watersheds*. Straw and seed mixes used to stabilize and restore temporarily disturbed ground must be approved by an SPU biologist to avoid introducing non-native species to SPU-owned land in or adjacent to SFTMW.

5. Animals

a. List any birds and other animals that have been observed on or near the site or are known to be on or near the site:

- | | | | | |
|-----------------|--|--|---|---|
| Birds: | <input checked="" type="checkbox"/> Hawk | <input checked="" type="checkbox"/> Heron | <input checked="" type="checkbox"/> Eagle | <input checked="" type="checkbox"/> Songbirds |
| | <input checked="" type="checkbox"/> Other: See below | | | |
| Mammals: | <input checked="" type="checkbox"/> Deer | <input checked="" type="checkbox"/> Bear | <input type="checkbox"/> Elk | <input checked="" type="checkbox"/> Beaver |
| | <input checked="" type="checkbox"/> Other: See below | | | |
| Fish: | <input type="checkbox"/> Bass | <input checked="" type="checkbox"/> Salmon | <input checked="" type="checkbox"/> Trout | <input type="checkbox"/> Herring |
| | <input type="checkbox"/> Shellfish | <input checked="" type="checkbox"/> Other: See below | | |

Wildlife known to be in or near SFTMW has been described in the South Fork Tolt Watershed Management Plan (<https://www.seattle.gov/Documents/Departments/SPU/EnvironmentConservation/SouthForkToltMunicipalWatershedManagementPlan.pdf>). The Management Plan notes current information on wildlife species is limited and identifies the following known species: black-tailed deer, common loon, amphibian species in depressional wetlands, cutthroat trout, cutthroat/rainbow hybrids, and torrent sculpin. The Management Plan also notes old-growth-dependent species such as northern spotted owl, marbled murrelet, and norther goshawk are not known to occur on City-owned land in SFTMW.

King County has documented additional wildlife habitat in the greater Tolt River Natural Area, including black bears, cougars, beavers, raccoons, river otters, muskrats, minks, shrews, mice, voles, squirrels, and weasels. Wildlife in the Project area is typical of second-growth forests west of the Cascade Mountains crest.

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

The Project area is in the Snohomish Water Resources Inventory Area (WRIA) 7. Endangered Species Act (ESA)-listed species known to use the North Fork Tolt River include Chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*O. mykiss*), and bull trout (*Salvelinus confluentus*). The U.S. Fish and Wildlife Service Information for Planning and Consultation mapping tool (<https://ecos.fws.gov/ipac/>) indicates the following ESA-listed species may occur in this portion of King County, although there have been no documented sightings in the Project area: gray wolf (*Canis lupus*), North American wolverine (*Gulo luscus*), marbled murrelet (*Brachyramphus marmoratus*), and yellow-billed cuckoo (*Coccyzus americanus*).

Several other State priority species are in the North Fork Tolt River but are not ESA-listed. The Washington State Department of Fish and Wildlife Priority Species on the Web mapping tool was consulted for a recent list, which includes coho salmon (*O. kisutch*), Columbia black-tailed deer (*Odocoileus hemionus*), cutthroat trout (*O. clarki*), Dolly Varden trout (*S. malma*), chum salmon (*O. keta*), and pink salmon (*O. gorbuscha*).

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

The Project is in the Pacific Flyway, a migratory corridor extending from Alaska to South America and known to be used by a wide variety of avian species, including waterfowl, eagles, hawks, falcons, songbirds, sandhill cranes, and shorebirds. Additionally, the North Fork Tolt River serves as a migration corridor for many animal species, aside from salmon and other fish.

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

Construction activities and associated construction noise may temporarily displace wildlife in the immediate vicinity of the Project. However, construction would be temporary and sound levels would resume to background conditions after construction. Given the temporary and short-duration effects of noise exposure during construction and ability for wildlife to move away from increased sound levels, additional measures to preserve or enhance wildlife during construction are not included.

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

No invasive animal species are known to be on or near the site.

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? Describe whether it will be used for heating, manufacturing, etc.

The completed Project would not use energy. All energy needs of the Project are related to construction and infrequent maintenance inspections, both of which are short-term and temporary in nature.

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

The Project would not affect the potential use of solar energy by adjacent properties.

- 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:**

During construction, equipment operators would be encouraged to limit idling on the Project site. No other energy conservation features are included in the Project.

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, describe:**

Materials likely to be present during construction would include gasoline and diesel fuels, hydraulic fluids, oils, lubricants, and other chemical products. A spill of one of these chemicals could potentially occur during construction as a result of either equipment failure or worker error.

- (1) Describe any known or possible contamination at the site from present or past uses.**

There is no known or possible contamination at the site from present or past uses. SFTMW was historically managed for commercial timber harvest. The Project area was logged in the 1950s. Following sale to the City of Seattle in the late 1990s, SFTMW has been managed to source high-quality drinking water and restore forest ecosystem function. There have been no high intensity uses since that time.

- (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.**

There are no known hazardous chemicals or other environmental health conditions that would affect this Project.

- (3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

No toxic or hazardous chemicals would be stored or produced during Project construction, or during long-term operations and maintenance. Gas, oil, and grease required for standard construction equipment would be used. Project construction would occur under an approved spill prevention, control, and countermeasures plan, which would identify procedures to avoid, minimize, and, if necessary, respond to any such releases, especially within close proximity to regulated resources.

- (4) Describe special emergency services that might be required.**

No special emergency services would be required during construction or operation of the Project. Fire or medic services may be required during construction, as well as

possibly during maintenance of the completed Project. Emergency services for medical emergencies are typically provided by Eastside Fire and Rescue. Typical security services are provided by the King County Sheriff's Office (and SPU's construction contractor during construction).

(5) Proposed measures to reduce or control environmental health hazards, if any:

To prevent impacts resulting from an unintentional release of fuel, lubricants, or other hazardous materials, a spill prevention, control, and countermeasures plan would be prepared and implemented for the duration of the Project activities. The That plan would identify construction planning elements, acknowledge potential spill sources at the site, outline response actions in the event of a spill or release, and identify notification and reporting procedures. Additionally, standard operating procedures and BMPs common to SPU crew work would be used to reduce the potential for adverse health hazards.

b. Noise

(1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

The Project area is on SPU-owned land supporting SFTMW. There is low human-generated noise in the Project area. Ambient noise is generated from the nearby North Fork Tolt River, but background sound levels are otherwise commensurate with undeveloped forested areas. Noise in SFTMW would not affect the Project.

(2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Larger construction equipment (such as a bulldozer) emits sound levels close to 90 dBA. Noise from this equipment would be short-term and would occur during standard working hours. Additionally, the closest nearby sensitive receptor (human residences) is more than 1 mile from the Project site. Construction noise would not travel much beyond the immediate work area and, therefore, those sensitive receptors would not be affected. There is no noise associated with long-term operation and maintenance of TPL1.

(3) Proposed measures to reduce or control noise impacts, if any:

Noise impacts are not anticipated; therefore, no proposed measures to reduce or control noise are included in the Project.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The Project area is on SPU-owned land supporting management of SFTMW. SFTMW is managed and largely owned by SPU for the purpose of sourcing a municipal drinking water supply. SPU owns approximately 70 percent of the land in SFTMW. U.S. Forest

Service owns approximately 30 percent and maintains the land as part of the Mt. Baker-Snoqualmie National Forest. Less than 1 percent is owned by Campbell Global LLC and is managed for commercial forestry.

Although the City is the majority landowner in this area, some properties adjacent to the Project area are managed for commercial timber harvest, and there is a shared access agreement with these property owners for use of the Tolt Access Road. The nearest human residence is approximately 1 mile from the Project area.

The Project area is managed to restore forest ecosystem function near SFTMW, and to ensure continued City access to SFTMW and the drinking water infrastructure located there. The Project would not affect current land uses or nearby or adjacent properties. It would be constructed in previously disturbed areas of second-growth forest and would not disrupt those ecosystem functions.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land 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 forest land tax status will be converted to nonfarm or nonforest use?**

The Project area has not been used as working farmlands. The area was historically managed by Weyerhaeuser Company as commercial forestland. The Project area was logged in the 1950s along with much of SFTMW. Limited timber harvest continued from the 1960s until the mid-1990s. The land was purchased by the City over time, transitioning it from working forestland to land managed for municipal water supply.

- (1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?**

Although use of the Tolt Access Road is shared with neighboring timber companies, Project construction and operation would not affect the normal business operations of the foresters and loggers. The Tolt Access Road supports a variety of construction and maintenance equipment, SPU crew trucks, and logging trucks. A nominal increase of truck traffic during Project construction and operation would be consistent with existing use. Additionally, there are alternative routes that bypass this section of the Tolt Access Road with only a nominal increase in travel time.

- c. Describe any structures on the site.**

There are only a few structures in SFTMW and adjacent SPU-owned land, including an earthen dam at the South Fork Tolt Reservoir, pipelines, a pressure regulating basin, filtration plant, the Tolt Access Road, and several gates to restrict unauthorized public access. Aside from the Tolt Access Road and buried TPL1 and TPL 2, there are no structures in the Project area.

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

The Project proposes to demolish four short sections of TPL1 during construction to allow the sliplining.

e. What is the current zoning classification of the site?

The current zoning classification is Forestry.

f. What is the current comprehensive plan designation of the site?

The current comprehensive plan designation is Forestry.

g. If applicable, what is the current shoreline master program designation of the site?

King County's Shoreline Master Program environment designations for North Fork Tolt River and North Fork Creek are Aquatic and Forestry. The Project is not in any Shoreline Management District.

h. Has any part of the site been classified as an "environmentally critical" area? If so, specify.

King County has identified several environmentally critical areas in the Project area, including landslide hazard, potential landslide hazard, erosion hazard, wetlands, and aquatic areas. A critical areas review of the Project would occur as part of the Project's permitting with King County.

i. Approximately how many people would reside or work in the completed project?

No people would reside or work in the completed Project area. Infrequent but recurring visits of SPU staff and its specialty consultants would continue during long-term operation and maintenance of TPL1 and TPL2.

j. Approximately how many people would the completed project displace?

The Project would not result in displacement.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Measures to avoid or reduce displacement impacts are not proposed.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The purpose and need of the proposed Project are compatible with existing and projected land uses and plans in SFTMW and surrounding properties.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

The Project is on an SPU-owned forested hillslope and, once completed, would only require infrequent visits for operation and maintenance. Because impacts to forestlands of commercial significance are not anticipated, proposed measures to ensure compatibility are not included.

9. Housing

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

No housing units would be provided as part of the Project.

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

No housing units would be eliminated as part of the Project.

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

The Project would not provide or eliminate housing. No measures to reduce or control housing impacts are proposed.

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?**

No new structures are proposed as part of the Project.

- b. What views in the immediate vicinity would be altered or obstructed?**

The Project would be located on a forested hillslope. SPU crews, foresters, and loggers using the Tolt Access Road may notice equipment along the roadway during construction, consistent with current uses of the road. The completed Project would not obstruct views.

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

The Project would not result in short-term or permanent aesthetic impacts. No measures to reduce or control aesthetic impacts are proposed.

11. Light and Glare

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

Project construction is expected to occur during daylight working hours and is not expected to require artificial lighting. The completed Project would not require artificial lighting and would not produce light or glare.

- b. Could light or glare from the finished project be a safety hazard or interfere with views?**

The completed Project would not produce light or glare nor interfere with views.

- c. What existing off-site sources of light or glare may affect your proposal?**

There are no known off-site sources of light or glare that would affect the Project.

- d. Proposed measures to reduce or control light and glare impacts, if any:**

The Project would not produce light or glare. No measures to reduce or control light and glare are proposed.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

The Project area is on SPU-owned land supporting SFTMW. This land and access to it are closed to unauthorized public use. No designated or informal recreational opportunities exist in the immediate vicinity.

b. Would the proposed project displace any existing recreational uses? If so, describe.

Neither Project construction nor the completed Project would displace existing recreational uses.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

The Project would not result in recreational impacts. No measures to reduce or control recreational impacts are proposed.

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, state, or local preservation registers? If so, specifically describe.

The Project area was evaluated for potential cultural resources using Washington Information System for Architectural and Archaeological Records Data (WISAARD) managed by the Washington State Department of Archaeology and Historic Preservation (DAHP). SPU also reviewed the SFTMW GIS database to determine if cultural resources have been identified in the Project area. There are no known existing or potential cultural resources in the Project area, including 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, state, or local preservation registers. The proposed work would not affect buildings or known cultural resources. This Project would affect only existing roadway and utility transmission assets. None of those objects are considered historically or culturally significant.

b. Are there any landmarks, features, or other evidence of Indian 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.

There are no known landmarks, features, or other evidence of Indian or historical use or occupation in the Project area. There are no known archaeological sites, cemeteries, Traditional Cultural Properties, or other places of significance in the project area or vicinity. The closest known archaeological site is 1.1 miles from the project area. The DAHP predictive model indicates the project is in a low risk to moderately low risk area for encountering archaeological material. The predictive model indicates archaeological resources may be found along most of the North Fork Tolt River. However, in this reach

of river, intact archaeological resources are unlikely to be discovered. The historic landslide complex has moved soils in the Project area continuously, depositing soil from upslope into downslope areas. Similarly, the river channel has significantly disturbed and changed the shoreline from its historical configuration. Further, construction would only disturb ground that has been previously disturbed and filled by construction of roadways and utilities. The proposed work on previously disturbed and filled ground reduces the chance of encountering contextually significant archaeological materials.

c. Describe the 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 Archaeology and Historic Preservation, archaeological surveys, historic maps, GIS data, etc.

As part of the evaluation of potential cultural resources in the area, SPU consulted these databases: the National Register of Historic Places (NRHP), WISAARD, and SPU’s SFTMW GIS database.

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.

SPU follows a Cultural Resources Management Plan for work in its municipal watersheds. The protocol outlined in this Cultural Resources Management Plan is also implemented on SPU-owned property supporting the municipal watersheds. The Plan provides the following guidance in the event of an unanticipated discovery of cultural materials; these protocols would be implemented during Project construction.

- If any member of the construction crew believes a cultural resource discovery has been made, all work adjacent to the discovery will be stopped, and the work supervisor, SPU’s Public and Cultural Resources Programs Manager, and a Cultural Resources Professional (CRP) will be immediately notified.
- The work supervisor will take appropriate steps to protect the discovery site. At a minimum, the immediate area of the discovery site will be secured. Vehicles, equipment, and unauthorized personnel will not be permitted to traverse the site.
- An area of work restriction will be determined in consultation with the CRP and will be sufficient to provide for security and protection of the cultural materials. SPU will enforce appropriate security measures.
- The CRP will determine whether the discovery meets NRHP eligibility criteria. If the discovery meets NRHP-eligibility criteria, additional steps will be taken, as determined by the CRP.

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.

SFTMW is served by Kelly Road NE, a King County road. At 12760 Kelly Road NE, SPU maintains a secure gated access to the Tolt Access Road that leads to SFTMW. Unauthorized public vehicular use of Tolt Access Road is prohibited. The Project area is accessed via Tolt Access Road, approximately 4 miles east of the gated access at Kelly Road NE. Tolt Access Road would be used for access by vehicles not maintained by SPU

in SFTMW, such as those required to transport imported aggregate or to conduct the sliplining. These vehicles would travel on Kelly Road NE and Tolt Access Road.

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

The Project area is not served by public transit. Snoqualmie Valley Transportation provides a bus shuttle between the cities of North Bend and Duvall. The nearest stop on this shuttle route is on Big Rock Road, approximately 2 miles south of the gated access on Kelly Road NE. There are no pedestrian facilities between the transit stop and that gated access.

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

The Project would neither add nor eliminate parking spaces.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The Project would not construct any new roads but would repair demolished and damaged portions of the existing Tolt Access Road (small areas of asphalt and compacted gravel caused by Project construction. The Project would not require upgrades to public roadways. Transport of imported aggregate and other materials and the movement of end haul would occur over County- and SPU-maintained roads designed for such use.

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

The Project would not use or occur in the immediate vicinity of water, rail, or air transportation.

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 and non-passenger vehicles). What data or transportation models were used to make these estimates?

Construction of the proposed work is estimated to generate about 400 additional vehicular trips, based on details in Attachment C. The completed Project would not create additional vehicular trips beyond what would normally occur for the existing pipeline over its estimated 50-year lifespan.

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, generally describe.

Although use of the Tolt Access Road is shared with neighboring timber companies, Project construction and operation would not affect movement of logging trucks. Tolt Access Road supports a variety of construction and maintenance equipment, SPU crew trucks, and logging trucks. A nominal increase of construction vehicle and truck traffic during Project construction and operation would be consistent with existing use.

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

Construction vehicle trips generated by the Project are not expected to result in significant transportation impacts because most vehicle movement would occur on SPU's Tolt Access Road, which is closed to unauthorized public vehicular access. Some traffic would use King County's Kelly Road NE, which is designed to accommodate such use. Additionally, construction vehicle trips are only associated with the 90 working-day construction period. Impacts associated with additional construction-related vehicle trips are anticipated to be minor and of short duration.

15. Public Services

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

The Project would not result in an increased need for public services.

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

Because the Project would not affect public services, no measures to reduce or control impacts are proposed.

16. Utilities

a. Check utilities available at the site, if any:

- None
 Electricity Natural gas Water Refuse service
 Telephone Sanitary sewer Septic system
 Other (fiber optic and communication cable)

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None

C. SIGNATURE

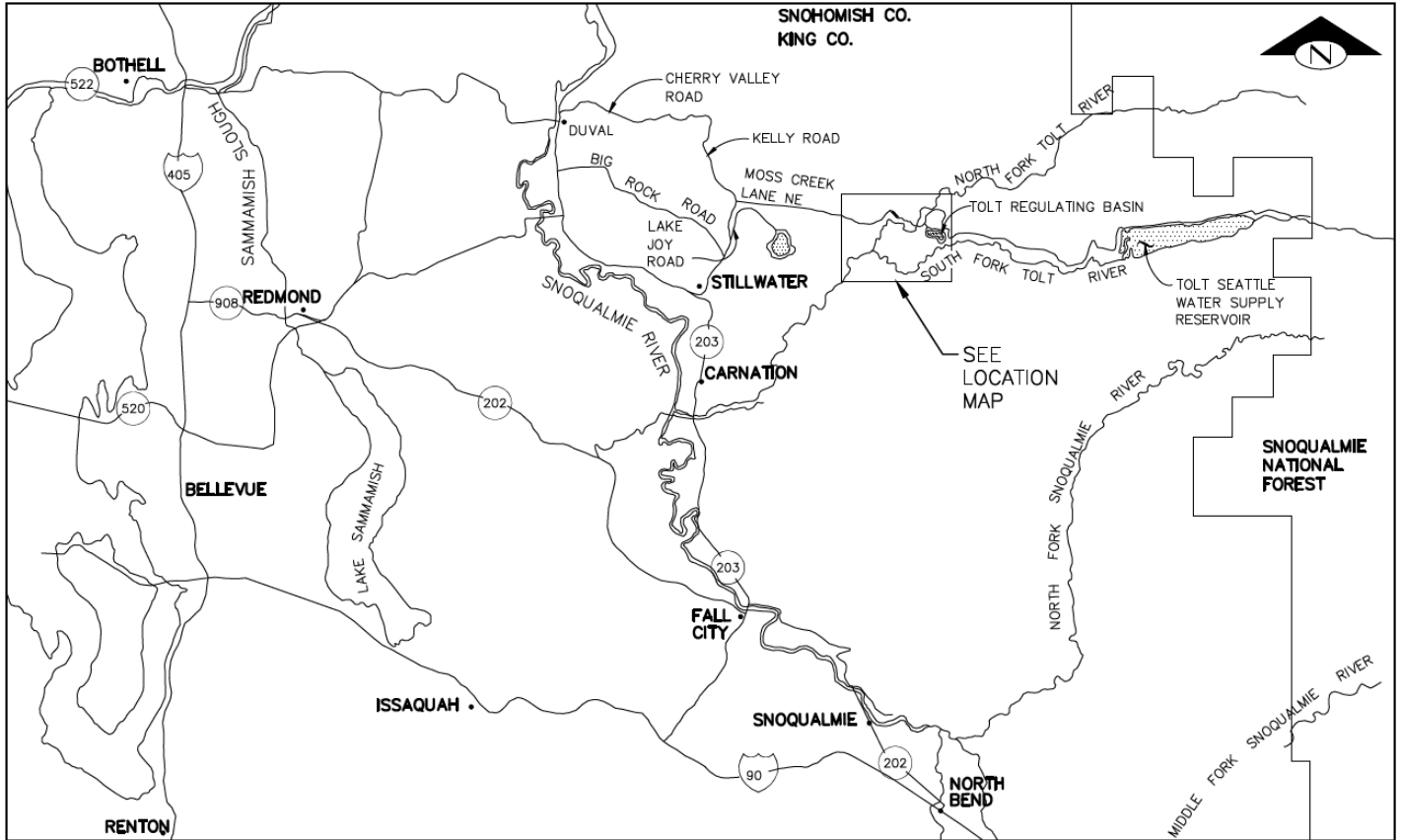
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____
Brent Lackey, Project Manager

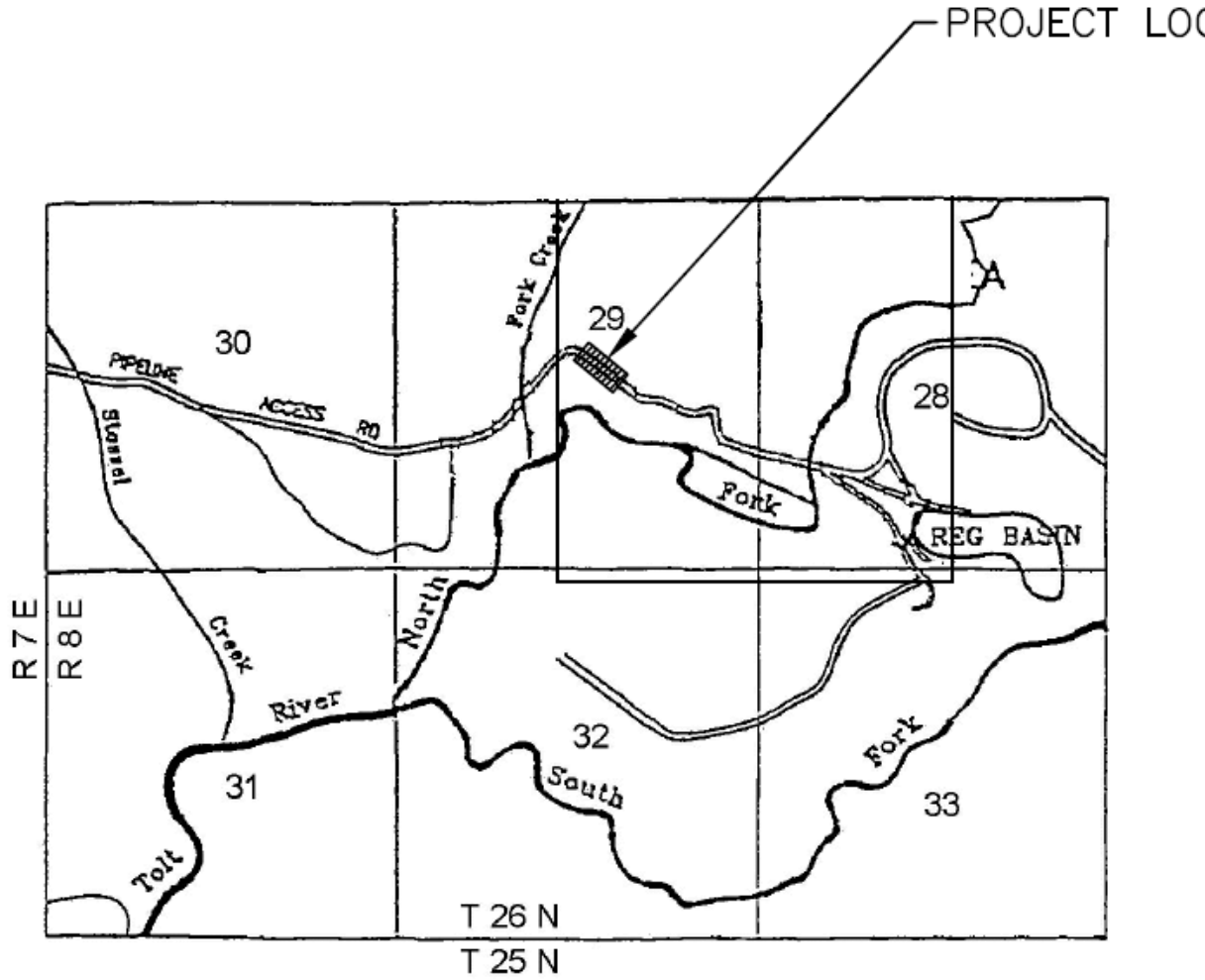
Attachment A – Vicinity Map
Attachment B – Location Map

Attachment C – Greenhouse Gas Emissions Worksheet

Attachment A – Vicinity Map



Attachment B – Location Map



Attachment C – Greenhouse Gas Emissions Worksheet

Section I: Buildings						
Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO ₂ e)			Lifespan Emissions (MTCO ₂ e)
			Embodied	Energy	Transportation	
Single-Family Home	0		98	672	792	0
Multi-Family Unit in Large Building	0		33	357	766	0
Multi-Family Unit in Small Building	0		54	681	766	0
Mobile Home	0		41	475	709	0
Education		0.0	39	646	361	0
Food Sales		0.0	39	1,541	282	0
Food Service		0.0	39	1,994	561	0
Health Care Inpatient		0.0	39	1,938	582	0
Health Care Outpatient		0.0	39	737	571	0
Lodging		0.0	39	777	117	0
Retail (Other than Mall)		0.0	39	577	247	0
Office		0.0	39	723	588	0
Public Assembly		0.0	39	733	150	0
Public Order and Safety		0.0	39	899	374	0
Religious Worship		0.0	39	339	129	0
Service		0.0	39	599	266	0
Warehouse and Storage		0.0	39	352	181	0
Other		0.0	39	1,278	257	0
Vacant		0.0	39	162	47	0
TOTAL Section I Buildings						0

Section II: Pavement						Emissions (MTCO ₂ e)
Concrete/Asphalt (50 MTCO ₂ e/1,000 sq ft with a depth of 6 inches)		1,000 sq ft of replacement asphalt				
TOTAL Section II Pavement						50

Section III: Construction		Emissions (MTCO ₂ e)
(See detailed calculations below)		
TOTAL Section III Construction		63.9

Section IV: Operations and Maintenance		Emissions (MTCO ₂ e)
(See detailed calculations below)		
TOTAL Section IV Operations and Maintenance		0

TOTAL GREENHOUSE GAS (GHG) EMISSIONS FOR PROJECT (MTCO₂e)	113.9
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Attachment C – Greenhouse Gas Emissions Worksheet, continued

Section III: Construction Details		
Construction: Diesel		
Equipment	Diesel (gallons)	Assumptions
Import/Export Dump Truck, 10 CY	200	1 truck x 20 trips x 50 mi/trip ÷ 5 mi/gal
Excavator (JD 2454 D)	1,050	1 Excavator x 150 hrs x 7 gal/hr
Dozer (JD 750)	420	1 dozer x 60 hrs x 7 gal/hr
Onsite Dump Truck, 10 CY	480	1 truck x 120 hrs x 4 gal/hr
Grader (CAT 14G)	140	1 grader x 20 hrs x 7 gal/hr
Rolling Compactor	80	1 compactor x 20 hrs x 4 gal/hr
Crew trucks	1,440	Transport to site = 4 trucks x 60 mi/day x 90 days ÷ 15 mi/gal
Sliplining rig	1,440	1 rig x 10 days x 8 hrs/day x 18 gal/hr
Transport sliplining rig to site	60	Transport to site = 1 roundtrip x 300 miles ÷ 5 mi/gal
Subtotal Diesel Gallons	5,310	
GHG Emissions in lbs CO₂e	140,981	26.55 lbs CO ₂ e per gallon of diesel
GHG Emissions in metric tons CO₂e	63.9	1,000 lbs = 0.45 metric tons

Construction: Gasoline		
Equipment	Gasoline (gallons)	Assumptions
Subtotal Gasoline Gallons		
GHG Emissions in lbs CO₂e	0	24.3 lbs CO ₂ e per gallon of gasoline
GHG Emissions in metric tons CO₂e	0	1,000 lbs = 0.45 metric tons

Construction Summary		
Activity	CO₂e in pounds	CO₂e in metric tons
Diesel	140,981	63.9
Gasoline	0	0
Total for Construction	140,981	63.9

Section IV: Long-Term Operations and Maintenance Details		
Operations and Maintenance: Diesel		
Equipment	Diesel (gallons)	Assumptions
Subtotal Diesel Gallons		
GHG Emissions in lbs CO₂e	0	26.55 lbs CO ₂ e per gallon of diesel
GHG Emissions in metric tons CO₂e	0	1,000 lbs = 0.45 metric tons

Operations and Maintenance Summary		
Activity	CO₂e in pounds	CO₂e in metric tons
Diesel		
Gasoline		
Total for Operations and Maintenance	0	0

**Tolt Pipeline No. 1 Rehabilitation by Sliplining
SEPA Environmental Checklist**

Operations and Maintenance: Gasoline		
Equipment	Gasoline (gallons)	Assumptions
Subtotal Gasoline Gallons		
GHG Emissions in lbs CO₂e	0	24.3 lbs CO ₂ e per gallon of gasoline
GHG Emissions in metric tons CO₂e	0	1,000 lbs = 0.45 metric tons