



King County

Department of Natural Resources and Parks • Wastewater Treatment Division
Community Services and Environmental Planning • 201 South Jackson Street, MS KSC-NR-0505, Seattle, WA 98104-3855 • FAX 206-684-1278

DETERMINATION OF NONSIGNIFICANCE (DNS)

TITLE OF PROPOSAL: North Creek Interceptor Sewer Improvement Project

DESCRIPTION OF PROPOSAL: The King County Wastewater Treatment Division proposes to construct approximately 10,000 linear feet of sewer pipeline between 30-inches and 48-inches in diameter by open-cut construction, pipe ramming, and open-faced shield tunneling. The pipeline will be located in combinations of public right-of-way and easements in residential and commercial areas within the City of Bothell and unincorporated Snohomish County. In addition, the current pipeline alignments have multiple wetland and creek crossings and two state highway crossings (SR 524 and SR 527) in the City of Bothell and Snohomish County. The work includes multiple connections to the existing sewer system, minor and major bypass pumping operations, work in wetlands, extensive dewatering systems, pipe and manhole abandonment, and restoration.

LOCATION OF PROPOSAL, INCLUDING STREET ADDRESS, IF ANY: The project is located in Sections 19, 20, 30, and 29 and Township 27 North and Range 5 East, Willamette Meridian. The new NCI will replace the existing NCI in a generally north to south alignment roughly between 202nd Street SE to the north in Snohomish County, WA to the southern edge of Canyon Park Business Center along 228th Street SE in the Bothell, WA.

Responsible Official:

Pam Elardo, P.E.

Position/Title:

Director, King County Wastewater Treatment Division

Address:

201 South Jackson Street, MS KSC-NR-0501
Seattle, WA 98104-3855

Date:

May 15, 2013

Signature:

Proponent and Lead Agency:

King County Department of Natural Resources and Parks
Wastewater Treatment Division

Contact Person:

Hillary Schafer, Water Quality Planner
King County Wastewater Treatment Division
201 South Jackson Street, MS KSC-NR-0505
Seattle, WA 98104
phone: 206-263-7312; e-mail: Hillary.Schafer@kingcounty.gov

Issue Date:

May 24, 2013

The State Environmental Policy Act (SEPA) lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

☒ This Determination of Nonsignificance is issued under WAC 197-11-340 (2); the lead agency will not act on this proposal for 17 days from the issue date. **Comments must be submitted by June 10, 2013.** Submit comments to Katherine Fischer, Supervisor, Community Services and Environmental Planning, King County Wastewater Treatment Division, 201 South Jackson Street, MS KSC-NR-0505, Seattle, WA 98104-3855.

☒ The King County Wastewater Treatment Division has submitted an application to the City of Bothell for a Shoreline Permit, thus there is no administrative appeal of this DNS pursuant to RCW 43.21C.075, WAC 197-11-680, KCC 20.44.120 and King County Public Rule 7-4-1. The public rule may be viewed at <http://www.kingcounty.gov/operations/policies/rules/utilities/put741pr.aspx>, or contact Hillary Schafer at 206-263-7312 or hillary.schafer@kingcounty.gov to obtain a copy of the rule.

[Statutory authority: RCW 43.21C.110. 84-05-020 (Order DE 83-39), §197-11-970, filed 2/10/84, effective 4/4/84.]

Environmental Checklist
for the
North Creek Interceptor Sewer Improvement Project

May 24, 2013

Prepared in compliance with the State Environmental Policy Act (SEPA) (RCW 43.21C), the SEPA Rules (WAC 197-11), and Chapter 20.44 King County Code, implementing SEPA in King County procedures.

This information is available in accessible formats upon request at 206-684-1280 (voice) or 711 (TTY).



King County

Department of Natural Resources and Parks

Wastewater Treatment Division

King Street Center, KSC-NR-0505

201 South Jackson Street

Seattle, WA 98104

ENVIRONMENTAL CHECKLIST

A. BACKGROUND

1. Name of proposed project, if applicable:

North Creek Interceptor Sewer Improvement Project

2. Name of applicant:

King County Department of Natural Resources and Parks
Wastewater Treatment Division

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

King County Department of Natural Resources and Parks
Wastewater Treatment Division
201 South Jackson St.
Seattle, WA 98104

CONTACT: Hillary Schafer, 206-263-7312, Hillary.Schafer@kingcounty.gov

4. Date checklist prepared:

May 2013

5. Agency requesting checklist:

King County Department of Natural Resources and Parks
Wastewater Treatment Division

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

Construction is scheduled to begin in the Spring of 2014 and will last for approximately 2 years.

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

Sanitary sewer overflows from the North Creek Interceptor (NCI) have occurred during storms in November and December 2012 in the vicinity of 14th Drive Southeast north and south of State Route 524 in unincorporated Snohomish County.

Crews have identified several locations along the NCI where surface water enters the manholes. A team has recently repaired 7 manholes and has plans to repair 15 more this summer, which should reduce the potential for overflows. Crews will continue to

conduct flow monitoring and evaluate manholes during rain events to identify potential sources of surface water inflow into the system, in cooperation with Alderwood Water and Wastewater District (AWWD).

King County has conducted residential side sewer evaluations in a number of homes located along 14th Drive SE north of SR 524. These evaluations include surveys and video inspections. Further work, including possible installation of temporary fixtures and grinder pump systems, is also planned.

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

King County documents:

Biological Assessment, HDR, March 2013

Critical Areas Study, HDR, March 2013

Geotechnical Data Report, Jacobs Associates, February 2013

Stream Scour Study, HDR, January 2013

Fish Habitat Report, HDR, February 2013

City of Bothell Floodplain No Effects Determination, February 2013

Noise Assessment, ESA, March 2013

Dewatering Mitigation Plan, Shannon & Wilson, Inc., February 2013

AWWD documents:

Biological Assessment, HDR, January 2007

Critical Areas Study, HDR, September 2007 (Revised)

Cultural Resources, Landau Associates, April 2008

Phase I Environmental Site Assessment, Landau Associates, October 2005

Existing Geotechnical Conditions Report, Landau Associates, January 2006

Existing Environmental Conditions Technical Memorandum, HDR, May 2006

Geotechnical Report, Landau Associates and Kleinfelder, September 2006

Targeted Drainage Plan, HDR, September 2007

Stormwater Pollution Prevention Plan, HDR, November 2007

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.

To close out past construction work, two construction shafts will be abandoned north of the NCI project in unincorporated Snohomish County. The work will take place along 13th Drive SE, from just south of 202nd Street NE to 196th Street SE, west of North Creek. This work will include removal of two microtunneling shafts and decommissioning 11 dewatering wells and 11 monitoring wells. This work, which includes demolition, excavation, removal of shoring systems, backfilling and restoration, was reviewed under the North Creek Interceptor and Olympus Meadows Trunk Sewer Improvements Determination of Nonsignificance, issued September 6, 2006.

King County and AWWD have surplus pipe stored in the Canyon Park Business Center that is no longer needed due to a change in trenchless construction technologies. AWWD will obtain necessary approvals to dispose of the pipe off-site by the end of 2013.

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

US Army Corps of Engineers
Section 404 Permit

Washington State Department of Fish and Wildlife
Hydraulic Project Approval

Washington State Department of Ecology
Section 401 Water Quality Certification
Coastal Zone Management Consistency Determination
NPDES Construction Stormwater General Permit
Shoreline Conditional Use Permit

Snohomish County
Land Disturbing Activity Permit
Shoreline Substantial Development Permit
Utility Right-of-Way Permit Type D8
Flood Hazard Permit
Public Disturbance Noise Exemption

City of Bothell
Grading Permit
Building (Shoring) Permit
Right-of-Way Permit
Shoreline Substantial Development/Conditional Use Permit
Critical Areas Alteration Permit

King County
Industrial Waste Discharge Permit

11. Give 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. (Lead agencies may modify this form to include additional specific information on project description).

The King County Wastewater Treatment Division (WTD) purchased the NCI from the AWWD in 2001. In 2003 and 2004, WTD determined that portions of the NCI would be under capacity by 2010 and that the existing level of service would not meet the 2050 20-year peak flow design standard stated in the King County Regional

Wastewater Services Plan Conveyance Policies. The purpose of this project is to increase capacity of the NCI to accommodate projected peak flows and meet the planned growth needs of southwestern Snohomish County. Portions of the sanitary sewer pipeline were constructed by AWWD in 2008 and 2009 under previous construction contracts. King County is now completing the project. The proposed project includes the construction of approximately 10,000 linear feet of sanitary sewer pipeline between 36-inches and 48-inches in diameter by open-cut construction, pipe ramming, and open-faced shield tunneling.

The pipeline will be located in combinations of public right-of-way and easements in residential and commercial areas within the City of Bothell and unincorporated Snohomish County. In addition, the current pipeline alignments have multiple wetland and creek crossings and two state highway crossings at State Route 524 (SR 524) and State Route 527 (SR 527). The work includes multiple connections to the existing sewer system, minor and major bypass pumping operations, work in wetlands, extensive dewatering systems, pipe and manhole abandonment, and restoration of disturbed areas including sensitive areas and their associated buffers.

There are six pipe reaches associated with the project. Each reach has a specific pipeline length and diameter and proposed construction method. The northern reaches are located within unincorporated Snohomish County and the City of Bothell. The southern reaches are located within the City of Bothell. Each reach is described in Table 1.

Table 1. Approximate pipe length per reach

| Reach | Approximate Pipe Length (feet) | Construction Method |
|---------------------------|--------------------------------|-------------------------|
| North Reach 1 (NR #1) | 329 | Trenchless and open-cut |
| North Reach 2 (NR #2) | 920 | Trenchless and open-cut |
| South Reach 1 (SR #1) | 2,064 | Open-cut |
| South Reach 2 (SR #2) | 1,881 | Trenchless |
| South Reach 3 (SR #3) | 3,020 | Open-cut |
| South Reach 4 (SR #4) | 1,549 | Trenchless |
| MH1 to MH2 (within SR #4) | 54 | Open-cut |

Snohomish County

The northern portion of the new sewer pipeline located in unincorporated Snohomish County includes approximately 329 feet of 36-inch-diameter pipeline (referred to as North Reach 1, NR #1), inside a 60- to 72-inch casing. The pipeline will be built from the northwest bank of North Creek, pipe rammed under North Creek, and open trenched through wetlands to 14th Drive SE where it will connect to the existing 30-inch-diameter pipeline that was constructed as part of the original contract in 14th Drive SE.

At the southern end of the existing 30-inch-diameter pipeline, a new 30-inch-diameter pipeline will connect to the existing pipeline just north of the intersection of 14th Drive SE and SR 524. Only approximately 10 feet of pipeline and one manhole will be built in unincorporated Snohomish County near this intersection.

Portions of the existing NCI will be abandoned in place. For the portion of the project located in unincorporated Snohomish County under North Creek, approximately 190 feet of 21-inch-diameter sanitary sewer pipeline will be abandoned by filling with controlled density fill. One manhole on the existing 21-inch-diameter pipeline in North Creek will be removed. The work associated with the manhole removal will be isolated from the flowing stream by use of a caisson, or other method. Streambed gravels will be placed to fill the void left by the manhole.

Approximately 740 feet of existing 30-inch-diameter pipeline will be abandoned along 13th Drive SE. Abandonment of this section of pipeline will consist of plugging the pipes at the manholes and filling the manholes with soil for safety.

City of Bothell

The southern portion of the new sewer pipeline located in the City of Bothell includes approximately 9,500 feet of 42- and 48-inch-diameter pipeline that will be built from the north edge of the SR 524 right-of-way to 228th Street SE (includes NR #2, SR #1, SR #2, SR #3, and SR #4). The proposed pipeline crosses under North Creek parallel to SR 524 and two wetlands between SR 524 and 214th Street SE. The pipeline then turns east, crossing SR 527 before entering the Canyon Park Business Center. Trenchless construction methods will be used to install approximately 4,000 feet of pipeline to cross SR 524, North Creek, SR 527, unnamed tributaries to North Creek in four locations, and along portions of the alignment where open-cut construction is infeasible due to the depth of the pipeline. The pipeline will be installed under public roads and within easements, and under private roads in the Canyon Park Business Center.

For the southern portion of the project located in the City of Bothell between SR 524 and 228th Street SE, approximately 10,200 feet of 12-, 21-, 24-, and 30-inch-diameter sewer pipeline will be abandoned in place. These pipes are generally within existing easements and under public and private roads. Abandonment will likely consist of plugging the pipes at the manholes and filling the manholes with soil.

Access will only be required at the manholes for pipe abandonment. Where vehicle access will be possible, trucks will likely drive up to the manhole to perform this work. Where vehicles cannot access a manhole, such as a manhole in a wetland, the work will likely consist of laying a temporary wooden boardwalk to distribute weight over a larger area, then using small off-road vehicles to carry in equipment and materials.

King County is obtaining easements within NR #2 and SR #1. The easement area will be defined with erosion control fencing. No work will be allowed outside the easements except for dewatering discharge piping to the creek that will be placed without mechanical means. Proposed construction methods for work within the wetlands in SR #1 are described in section B.3.

- 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 located in Sections 19, 20, 30, and 29 and Township 27 North and Range 5 East, Willamette Meridian. The new NCI will replace the existing NCI in a generally north to south alignment roughly between 202nd Street SE to the north in Snohomish County, WA to the southern edge of Canyon Park Business Center along 228th Street SE in the Bothell, WA. See Figure 1, attached.

B. ENVIRONMENTAL ELEMENTS

1. Earth

- a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____.**

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

The steepest slope in the project area is approximately 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 prime farmland.**

The North Creek Valley is underlain by Recent and Quaternary sediments deposited by numerous interglacial episodes. Deposition occurred during a number of continental glacial advances and retreats into the Puget Sound Lowlands that created the existing subsurface conditions. The regional sediments consist of very complex interlayer and/or sequential deposits of recent alluvial sediments overlaying Quaternary sediments. There are substantial glacial and interglacial deposits and more limited recent alluvial and man-made fill deposits along the project alignment.

The primary soil type within the project area is the Alderwood–Everett Series, a group of moderate to very deep, well drained soils formed on glacial till, terraces, and outwash plains. The Washington State Department of Ecology's (Ecology) farm soil maps indicate that areas along the alignment could be classified as prime farmland if it is drained or irrigated.

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

The Snohomish County Landslide, Erosion, and Volcanic Hazards map (2007) indicates the presence of Erodible Surficial Geology (erodible soils) throughout the North Creek basin.

The City of Bothell Landslide Prone Deposits Map does not show any known landslides or landslide prone soils in the project area. No landslide hazard areas, seismic hazard areas, mine hazard areas, volcanic hazard areas, tsunami hazard areas, or agricultural hazard areas were identified within the project area.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Approximately 47,000 cubic yards of material will be excavated for construction of the sewer pipeline. Approximately 40,000 cubic yards will be required for bedding and backfill materials once the pipes and casings have been installed.

Native materials may be reused on the project provided they meet the requirements of the fill classification including gradation, moisture content, and can achieve required in-place density. It is anticipated that approximately 10,000 cubic yards of excavated native soils can be reused onsite. Approximately 30,500 cubic yards of bedding and backfill materials will be imported from off site.

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

Some erosion could occur during excavation activities, but erosion control measures will be used to minimize this potential. See Section B.1.h below for typical Best Management Practices (BMPs) and other measures that could be utilized to minimize the potential for erosion.

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

The project will install 13 manholes in existing lawn or grassy areas for a total of approximately 41 square feet of new impervious surface area. The project will remove 10 manhole covers, so approximately 31 square feet of impervious surface can be restored.

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

Appropriate erosion and sediment control measures will be installed prior to clearing, grading, or excavation activities at the site. These control measures will be identified in the project plans and construction specifications and will be implemented as required by the City of Bothell and Snohomish County and the NPDES permit issued by Ecology. Engineering controls will be applied to any excavation activities that take place in unstable soils to minimize the potential for movement of those soils. These controls will also be included in the project plans and construction specifications.

Typical BMPs that could be used to minimize the potential for erosion include:

- Designation of personnel to inspect and maintain temporary erosion and sediment control measures;
- Installation of filter fabric fences around disturbed areas;
- Installation of silt traps in storm drain inlets;
- Covering of soil stockpiles and exposed solids;
- Regular street cleaning for mud and dust control;
- Restoration of disturbed areas by repaving or replanting as soon as practical after construction is completed;
- Use of appropriate means to minimize tracking of sediment onto public roadways by construction vehicles.

2. Air

- a. What types of emissions to the air would result from the proposal (i.e., dust, automobile emissions, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.**

Construction of the proposed project could result in short-term dust emissions from exposed soils and fossil fuel emissions from construction equipment.

A King County Green House Gas Emissions Worksheet is attached.

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

No.

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

Short-term construction related air pollutant emissions will be addressed by requiring proper maintenance of construction equipment, using electrically powered construction equipment where feasible and avoiding prolonged idling of vehicles. Spray water may be used to minimize dust if necessary.

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, or wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The entire project area extends across the North Creek basin, part of the larger Lake Washington watershed. North Creek flows southerly through a gently sloping plateau and continues through a valley that progressively widens into a floodplain near its confluence with the Sammamish River.

Twelve streams have been identified in the project area, including North Creek and several unnamed tributaries, many of which are located in culverts. All unnamed tributaries and ditched streams are located within the City of Bothell. See Figure 3.

Fourteen wetlands have been identified in the project area: three within unincorporated Snohomish County, and eleven within the City of Bothell. See Figure 2. Wetland characteristics are summarized in Table 2.

Table 2. Summary of wetlands in project area

| Wetland | Area* | Ecology Rating | Local Rating | Buffer | USFSW Class | Hydrogeomorphic Class |
|---------------------------------|--|----------------|--------------|--------|-----------------|-----------------------|
| Unincorporated Snohomish County | | | | | | |
| W1 | 1.0 | III | III | 110 | PFO/PEM | Slope |
| W2 | 1.5 | III | III | 110 | PFO/PSS/PEM | Slope |
| W3 | 1.0 | II | II | 110 | PFO/PEM | Riverine |
| City of Bothell | | | | | | |
| AA | 30 | I | I | 125 | PFO/PSS/PEM | Riverine |
| AB | Filled to construct 524 Replacement Bridge | | | | | |
| AC | 0.25 | IV | IV | 50 | PFO/PEM | Slope |
| X | Filled to construct State Route 524 Replacement Bridge | | | | | |
| Y | 60 | I | I | 125 | PSS/PEM | Riverine |
| P | 60 | I | I | 125 | PFO/PSS/PEM | Riverine |
| Q | .2 | III | III | 75 | PEM | Depressional |
| R | 6.0 | II | II | 125 | PFO/PSS/PEM/POW | Riverine |
| S | .1 | III | III | 75 | PEM | Depressional |
| T | 2.2 | III | III | 75 | PEM | Slope |
| V | .1 | IV | IV | 50 | PEM | Depressional |

*approximate, in acres

- 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.**

Yes. The project will require crossing North Creek, tributary to the Sammamish River, in two locations. North Creek is classified as a Type S

Stream at both crossing locations, within NR #1 and NR #2. Unnamed tributaries will be crossed by excavating under the existing culverts, open-face shield tunnels. One tributary will be crossed using open-cut trench methods.

The NR #1 stream crossing, within unincorporated Snohomish County, will require crossing North Creek using trenchless construction methods. Approximately 150 feet of an approximately 300-foot long segment of pipe in NR #1 will be installed under North Creek using trenchless construction methods. See Figure 3. The launch pit for the trenchless construction will be located within the buffer of wetland W2, and will be approximately 15-feet by 50-feet. No receiving pit is necessary.

Approximately 450 square feet will be temporarily excavated for construction within the buffer of wetland W2. The remaining approximate 150 feet of pipeline will be installed using open-cut construction methods on either side of North Creek within the buffers of wetlands W1, W2, and W3. Manhole 57-E, located within North Creek, will be removed as part of this work. Construction equipment will be located on either side of North Creek within wetlands W1, W2, and W3.

The NR #2 crossing, within the City of Bothell, will also require crossing North Creek with trenchless construction methods. Approximately 300 feet of pipe will be installed under North Creek in NR #2 using trenchless construction methods. The trenchless launch pit, located within the buffer of wetland P, will be approximately 20-feet by 20-feet. No receiving pit is necessary.

Installation of approximately 2,300 feet of pipe using open-cut construction in SR #1 will take place within wetlands P and Q and their associated buffers.

Within wetland P, the gravity pipeline will be installed at a depth of approximately 20 feet. Construction will be performed wholly within existing easements, which range from 40 to more than 60 feet in width.

The top layer of hydric soils in wetland P is underlain by soft soils, underlain by deeper, more stable soils. The depth of these more stable soils varies from approximately 0 to 20 feet along the pipeline alignment. Additional soil investigations using non-invasive methods will be conducted prior to construction.

To facilitate construction in the wetland, it is anticipated that a temporary wood platform road will be constructed along the entire pipe route within the easements. Depending on the depth of the soft soils, the temporary road construction method will vary. Where the softer soils are relatively shallow, the soils will be removed and the temporary road will be constructed. In

areas where the soft soils are deep, the temporary roadway will be floated on top of the existing soils to distribute the weight.

From the temporary road, dewatering wells and temporary shoring will be installed to form an open trench. The trench would then be excavated and the pipe would be installed. The trench would be excavated in approximately 300-foot segments. Trench dams would be used to keep water moving toward North Creek rather than flowing down the trench during and after construction. If the soft soils are found to be below the pipe, over-excavation would occur, or the pipe would be placed on piles for support. No more than 50 piles at approximately 20 feet apart would be placed in the wetland. In several locations, manholes would also be installed.

It is anticipated that the top 18 inches of soil containing invasive plant seeds will be removed in the easement area and replaced with soils suitable for wetland restoration. Topsoil conducive to the wetland plantings will be replaced to the pre-existing grade. Soils compressed will be replaced to the pre-existing elevation with topsoil.

Once the pipeline is installed, the dewatering system, shoring, and temporary road would be removed and the area restored.

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.

Excavated quantities for trenchless pits include approximately 570 cubic yards in wetland W1 (NR #1), and approximately 320 cubic yards in wetland Q (SR #2). Open-cut installation will require an additional approximately 180 cubic yards in wetland W1, approximately 9,600 cubic yards in wetland P, and approximately 370 cubic yards in wetland Q. Excavated soil will likely not be stored on site.

Approximately 9,600 cubic yards of bedding and backfill material will be imported to fill the excavations in wetlands W1, P, and Q. Wetland restoration in the temporary construction areas will require approximately 4,600 additional cubic yards of native material to be placed in wetland P and approximately 145 yards in wetland Q.

Within NR #2 and SR #1 approximately 12 square feet of permanent imported soil will be required for the installation of four manholes within wetlands P and Q (approximately 9 square feet in wetland P and 3 square feet in wetland Q).

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

The removal of Manhole 57-E in North Creek, by use of a caisson or other method, will result in temporary surface water diversions. A caisson, steel casing pipe, will likely be installed over the manhole and pushed into the creek bed, isolating the creek flows from the water inside and diverting flows around the caisson. Removal of Manhole 57-E is expected to take less than one day to complete. The caisson would be removed following removal of the manhole, and North Creek will be allowed to flow unobstructed.

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

Yes. A portion of the project lies within the 100-year floodplain of North Creek, between SR 524 (208th Street SE) and 214th Street SE. See Figure 4, attached.

- 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.**

No.

b. Ground:

- 1) Will ground water be withdrawn, or will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.**

Groundwater will need to be withdrawn (dewatering) during excavation activities and will be treated and discharged to North Creek. Table 3 summarizes the approximate dewatering rates per pipeline reach.

Table 3. Summary of Estimated Dewatering Discharge Rates

| Reach | Estimated Maximum Initial Flow Rate (gpm)* | Estimated Stabilized Dewatering Flow Rates** |
|---------------|--|--|
| NR #1 | 1,000 ¹ | 80-800 |
| NR #2 | 2,000 | 1,100-1,400 |
| SR #1 | 1,500 | 100-1,000 |
| SR #2 | 800 | 300-1,000 |
| SR #3 | 1,500 | 100-1,000 |
| SR #4 | 900 | 400-600 |
| Launch Shafts | 1,500 | 50-1,000 |

*rate for first 300 feet of alignment

**for 300 feet of alignment after 21 days of dewatering

¹represents a combined rate for NR #1 launch shaft and open-cut

No groundwater withdrawals will occur once construction of the project is complete.

- 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.**

No waste material will be discharged.

c. Water Runoff (including storm water):

- 1) **Describe 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.**

The main source of runoff during and after construction will be rainfall. Runoff control measures during and after construction will comply with the Snohomish County and the City of Bothell's stormwater management requirements.

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

Construction related materials could enter ground or surface waters due to accidental spills, mechanical failures, or if construction activities deviate from the project specifications or permit conditions. Soils could also enter surface waters if BMPs are not properly implemented or maintained.

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

Erosion and sediment control BMPs will be used during construction to reduce and control stormwater runoff impacts. Examples of typical BMPs that will be used during construction are presented in Section B.1.h.

Additional construction BMPs that could be implemented to prevent introduction of contaminants into surface or groundwater during construction include:

- Establishing communication protocol for handling spills;
- Maintaining spill containment and cleaning up materials in areas where equipment fueling is conducted;
- Refueling construction equipment and vehicles away from surface waters whenever practical;
- Containing equipment and vehicle wash water associated with construction and keeping it from draining to surface waters;
- Storing fuels and other potential contaminants away from excavation sites and surface waters in secured containment areas;
- Conducting regulator inspections, maintenance, and repairs of fuel hoses, hydraulically operated equipment, lubrication equipment, and chemical/petroleum storage containers.

4. **Plants**

a. **Check or circle types of vegetation found on the site:**

- ✓ deciduous tree: **alder**, maple, aspen, **other**
- ✓ evergreen tree: **fir**, cedar, pine, **other**
- ✓ shrubs
- ✓ grass
- _____ pasture
- _____ crop or grain
- ✓ wet soil plants: **cattail**, **buttercup**, bullrush, **skunk cabbage**, other
- ✓ water plants: water lily, eelgrass, milfoil,
- ✓ other types of vegetation **salmon berry**

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

Clearing and grading for the pipeline installation will occur entirely within the project limits, within already disturbed areas, or within wetlands and their associated buffers. Approximately 4 acres of total vegetation will be temporarily removed within wetlands and sensitive area buffers. The project would temporarily impact approximately 2 acres of wetland buffer, and 2 acres of wetland.

Installation of manholes will result in permanent vegetation loss of approximately 13 square feet within wetlands and 16 square feet in wetland buffers. A total of 18 trees are proposed to be removed for construction.

Removal of non-native, invasive species will be done as part of the proposed restoration and mitigation plan. An additional acre of wetland shrub plantings are proposed in SR #1 and conifer plantings are proposed in NR #1 to off-set wildlife habitat impacts associated with the project.

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

None.

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

Proposed site enhancement and preservation measures include:

- Limiting construction to minimum construction corridors through sensitive areas to lessen temporary impacts.
- Minimizing the area of disturbance to the amount necessary for construction of project features.
- Revegetating disturbed areas as soon as possible after grading is completed
- Restoring and/or enhance any sensitive area buffers temporarily disturbed during construction with appropriate plantings where possible.
- Restoring any roadside vegetation damaged during construction with new roadside plantings or hydroseeding.
- Native plants will be used in wetland and buffer areas.
- Wetland and buffer plantings will include additional woody native species.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

birds: **hawk**, **heron**, eagle, **songbirds**, other: _____

mammals: **deer**, bear, elk, **beaver**, other: _____

fish: bass, **salmon**, **trout**, herring, shellfish, other: **Steelhead**.

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

Bull Trout (*Salvelinus confluentus*) – United States Fish and Wildlife Service
Chinook salmon (*Oncorhynchus tshawytscha*) - National Marine Fisheries Service

Steelhead (*Salvelinus confluentus*) - National Marine Fisheries Service

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

Yes. The site is within the Pacific Flyway.

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

The use of trenchless construction methods will allow the project to be constructed without directly impacting North Creek. After construction, the excavated areas will be backfilled with native soil and revegetated. Wetland shrub planting are proposed in SR #1, and conifer planting in NR #1.

The removal of Manhole 57-E in North Creek will allow the creek to flow unobstructed.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, woodstove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

None.

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

No.

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

None.

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.

Contaminated soil and groundwater could be encountered during construction activities.

The project the proposed to eliminate the potential threat to public health associated with sanitary sewer overflows that have occurred during heavy rain and storm events.

1) Describe special emergency services that might be required.

None.

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

As described in items B.1.h and B.3.d. above, BMPs and other measures will be used to avoid or contain and control any accidental spills or releases of hazardous materials during project construction. Project plans and construction specifications include measures to safely handle and dispose of contaminated soil or water in the event any contamination is encountered during construction.

The contractor will also prepare a health and safety plan as a deliverable for the proposed project prior to the start of construction. This plan will comply with all applicable health regulations and will detail measures to control environmental health hazards.

b. Noise

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

None.

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.

Construction activity will generally occur between the hours of 7:00 a.m. and 5:00 p.m. during week days and comply with Snohomish County and City of Bothell ordinances and permit requirements except as noted below.

Short-term construction related noise may include engine and mechanical equipment noises associated with the use of heavy equipment such as bulldozers, graders, loaders, excavators, cranes, drill rigs, and concrete mixers. These noise levels will likely exceed existing background noise. This type of equipment typically generates noise in the range of 80-90 dBA at a distance of 50 feet. Hauling activities to and from the project site will also contribute to traffic noise.

Within NR #1 and NR #2, higher noise levels are anticipated as a result of pipe ramming activities. Typical sound levels associated with equipment proposed for pipe ramming work at a distance of 50 feet is 96 dB. Pipe

ramming would occur intermittently for approximately five (5) days during construction within NR #1 and approximately fifteen (15) days within NR #2. Days of pipe ramming may not be consecutive.

The City of Bothell Right-of-Way Permit for connecting to an existing manhole in 228th Street SE will likely be conditioned to require nighttime construction to reduce the traffic impacts. Ordinance No. 2016 (2009) was issued by the Bothell City Council approving nighttime construction at these locations.

The roadways within Canyon Park Business Center are privately owned by Teachers Insurance Annuity Association of America (TIAA). TIAA has indicated construction will not be allowed between 5 a.m. and 7 p.m. Monday through Friday at the intersection of 220th Street SE and 20th Avenue SE. As restricted by TIAA and the City of Bothell Code, work at this intersection is allowed only on Saturdays. Ordinance No. 2016 (2009) was issued by the Bothell City Council approving work on Sundays from 9 a.m. to 5 p.m. over two weekends.

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

All activities will be performed consistent with the City of Bothell Noise Control Ordinance, and Snohomish County Code for Noise Control. All impacts from noise generated by construction will be short-term and temporary in nature. Construction BMPs will be used to minimize construction noise and could include:

- Locating activities away from sensitive receptors when possible;
- Notifying residents and businesses near active construction areas of upcoming noisy construction activities;
- 24-hour construction hotline to promptly respond to questions and complaints;
- Using effective vehicle mufflers, engine intake silencers, and engine enclosures, and shutting off equipment when not in use;
- Using portable noise barriers around stationary equipment.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties?

Surrounding land uses include single and multi family residential at the north end of the alignment, and Canyon Park Business Center and other commercial uses at the south end of the alignment. A portion of the North Creek Trail is within the project area vicinity.

b. Has the site been used for agriculture? If so, describe.

Yes. During the first half of the 20th century, the North Creek Johnson Dairy was located in the northeastern corner of the SR #1 project area.

c. Describe any structures on the site.

The project will occur primarily in the public right of way, areas designated as open space, and within the Canyon Park Business Center. A variety of structures are located near the proposed project alignment.

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

Yes. A burned single family residence, located at 21214 Bothell-Everett Highway, will be demolished as part of the construction activities. King County will obtain a temporary construction easement for the property.

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

The predominant zoning classifications for the project alignment in the City of Bothell are: OP (Office Professional), LI (Light Industrial), CB (Community Business), and MVSO (Motor Vehicle Sales Overlay).

The project alignment in unincorporated Snohomish County is located in an area zoned urban residential (R 9,600).

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

Snohomish County Comprehensive Plan designation is Urban Low Density Residential.

City of Bothell Comprehensive Plan designations are R5,400a (Residential 5,400 square foot minimum lot size), P, (Park).

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

Within unincorporated Snohomish County, the crossing of North Creek is within a Rural Conservancy shoreline environment.

According to the recently updated City of Bothell Shoreline Master Program, the project crosses and is parallel to North Creek between SR 524 and 214th Street SE with a Natural shoreline environment designation and at 228th Street SE as an Urban Conservancy shoreline environment.

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

Yes. North Creek, a Type S water, and several wetlands are within the project area.

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

None.

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

None.

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

Not applicable.

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

The proposed project consists of underground pipelines that will not be visible following the completion of construction.

9. Housing

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

Not applicable.

- 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:**

None.

10. Aesthetics

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

Not applicable.

b. What views in the immediate vicinity would be altered or blocked?

Temporary visual impacts during construction will include the presence of construction equipment, work crews, dust/exhaust, materials, signage, temporary fencing, staging areas in the construction zone, and traffic congestion along haul routes. No views will be altered or blocked after construction.

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

None. These impacts will be temporary.

11. Light and Glare

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

If construction occurs during fall or winter, active lighting of the construction site may be required at the beginning and end of the work day and for any nighttime construction that will be required.

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

No.

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:

If lighting is necessary during construction activities in the vicinity of residences and/or businesses, measures will be taken to minimize impacts to adjacent property owners.

12. Recreation

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

A portion of the North Creek Trail, a regional multi-purpose trail, lies within the project vicinity. This includes existing trail in Canyon Park Business Center.

The City of Bothell proposes to construct approximately 1,300 linear feet of new trail adjacent to the pipeline alignment SR #1, near Canyon Park Business Center, between SR 524 and 214th Street SE. Construction of the new trail alignment, North Creek Trail Phase 3, is scheduled to begin and be completed in 2014.

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

King County proposes to utilize portions of the trail corridor for access during construction, temporarily impacting approximately 800 linear feet of trail.

Access to the existing section of the trail located in SR #2 and SR #4 will be temporarily disrupted during construction activities.

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

Access to the existing section of the North Creek Trail located in Canyon Park Business Center will be temporarily disrupted during construction activities. A safe detour route will be provided during construction activities adjacent to SR #2 and SR #4. Signage and other directional aides will be utilized to notify park users of construction and direct them to alternative ways to access the trail.

13. Historic and Cultural Preservation

- a. Are there any places or objects listed on, or proposed for, national, state or local preservation registers known to be on or next to the site? If so, generally describe.**

No. There are no known listed sites within the vicinity of the project. See below for additional information.

- b. Generally describe any landmarks or evidence of historic, archaeological, scientific or cultural importance known to be on or next to the site.**

A cultural resources survey will be performed prior to the start of construction.

King County Historic Preservation Program (KCHPP) has reviewed the Washington Information System for Architectural and Archaeological Records Data and determined that there are two archaeological sites in or next to the project area. Four subsurface archaeological surveys have been conducted in and adjacent to parts of the project area (NADB 1343665, 1343666, 1351103, 1681597) and two archaeological sites have been recorded in or next to the project area. There is one prehistoric and historic archaeological site (45SN459) in the northern part of project area and one prehistoric archaeological site (45SN376) next to the northern part of the project area; neither has been evaluated by the Department of Archaeology and Historic Preservation for listing in the Washington Heritage Register or the National Register of Historic Places. KCHPP has recommended that a combination of pre-construction subsurface archaeological survey and archaeological monitoring during construction be used in those parts of the project area that will involve disturbance of Holocene sediments.

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

A combination of pre-construction subsurface archaeological survey and archaeological monitoring during construction (both by professional archaeologists) will be performed in those portions of the project area that will involve disturbance of Holocene sediments. Construction specifications will contain appropriate language for providing proper treatment of historic or archeological materials if they are encountered. If artifacts are uncovered during excavation, work will be stopped pending notification of and response from appropriate agencies.

14. Transportation

a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The public streets/highways serving the project reaches and proposed access are as follows:

NR #1 can be accessed from 14th Drive SE or from SR 527 through the condominium complex.

NR #2 can be accessed from SR 524.

SR #1 can be accessed from SR 524, SR 527, and from 214th Street SE.

SR #2 can be accessed from 214th Street SE, SR 527, and private roadways within the Canyon Park Business Center.

SR #3 can be accessed from SR 527, 228th Street SE, and private roadways within the Canyon Park Business Center.

SR #4 can be accessed from SR 527, 228th Street SE, and private roadways within the Canyon Park Business Center.

b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?

There are Community Transit bus stops located along 204th Ave SE within Canyon Park Business Center.

c. How many parking spaces would the completed project have? How many would the project eliminate?

The proposed project will not create or eliminate any parking spaces.

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

Temporary access will be required to complete work associated with the manholes and pipe abandonment within the wetland areas. Temporary access will likely consist of laying a boardwalk to distribute weight over a larger area. Small off-road vehicles may be utilized to carry equipment and material. Areas will be restored after construction is complete.

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

No.

- f. **How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**

Approximately 14,000 round-trip truck trips are anticipated during construction. These truck trips include large vehicles such as one ton trucks, concrete trucks, dump trucks, fuel trucks, drill rigs, and semi-trucks with trailers for hauling pipe, cranes, track hoes, etc. This does not include smaller vehicles like pickups and cars that would be used by the contractor, King County staff, inspectors, and others.

No vehicular trips will be generated by the completed project.

- g. **Proposed measures to reduce or control transportation impacts, if any:**

Not Applicable.

15. Public Services

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

No.

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

Not Applicable.

16. Utilities

- a. **Circle the utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.**

The proposed project is installation of a new sanitary sewer pipeline. No utility services are available at the site.

- 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 proposed.

C. SIGNATURE

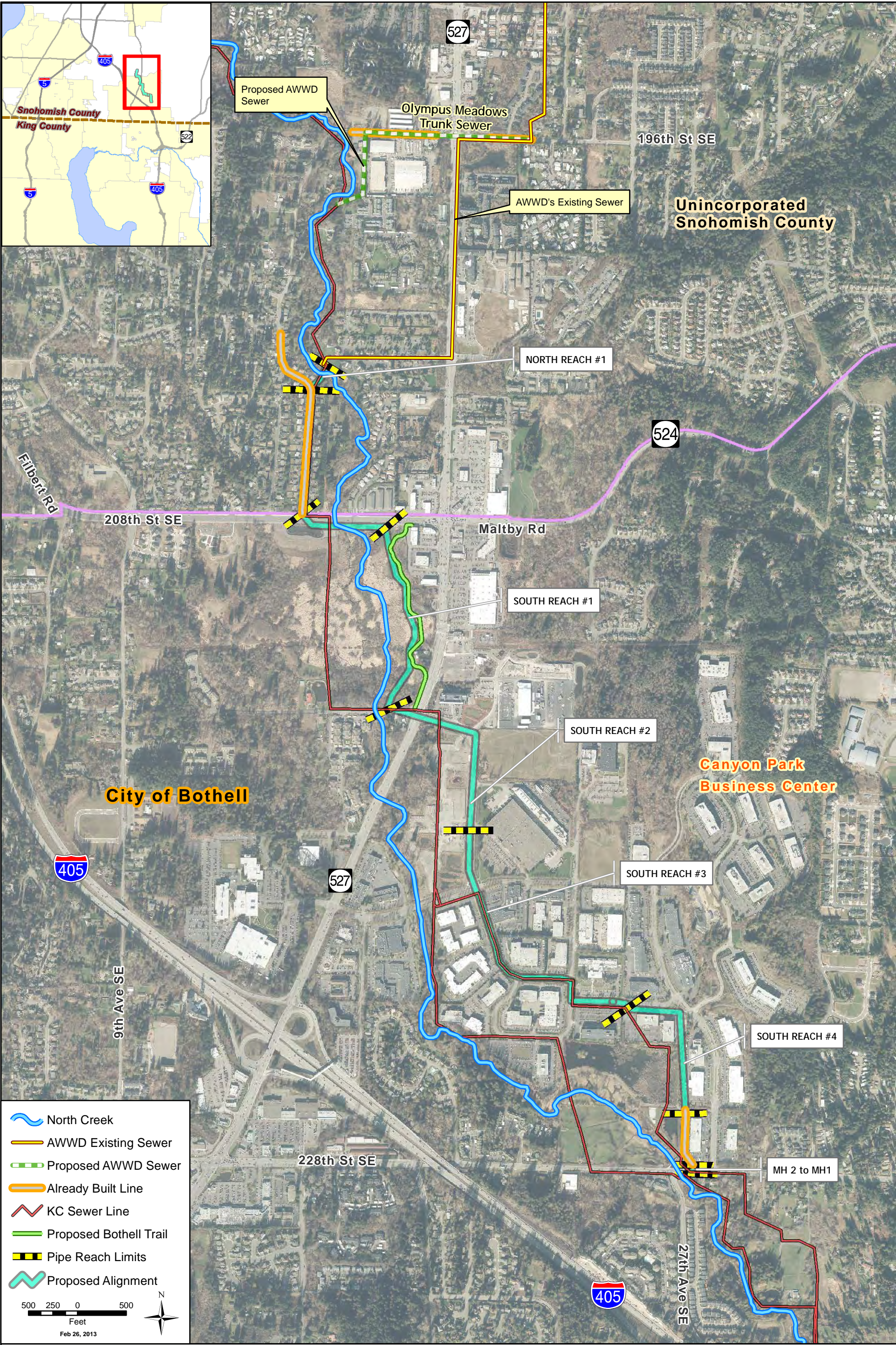
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature:

Kathleen Furler, Acting Supervisor

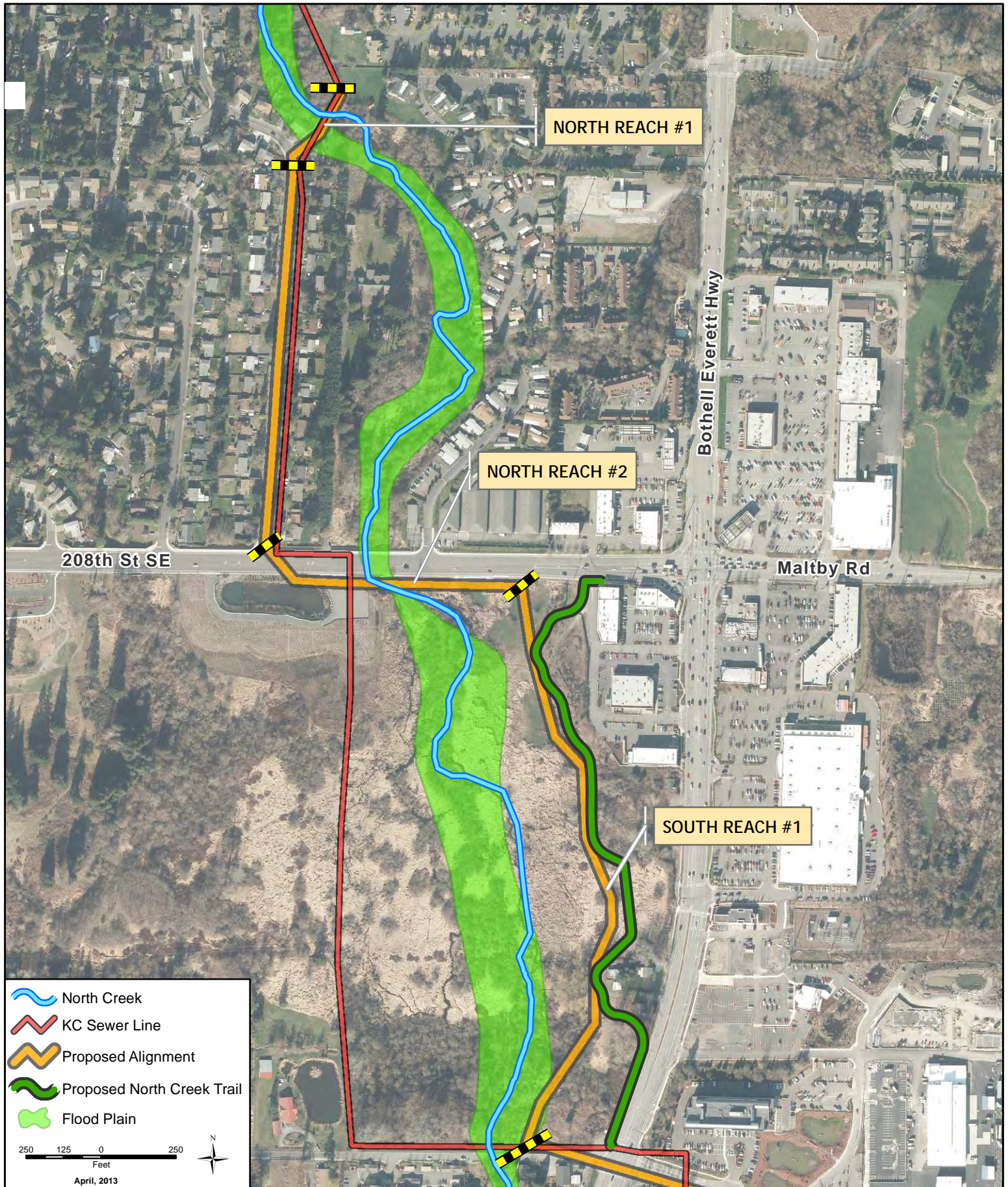
Date Submitted:

May 15, 2013









King County Greenhouse Gas Emissions Worksheet - North Creek Interceptor Sewer Improvement Project

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 | 65 |
| Vacant | | 0.0 | 39 | 162 | 47 | 0 |

Section II: Pavement.....

| | | | | | | |
|---------------|--|------|--|--|--|---|
| Pavement..... | | 0.00 | | | | 0 |
|---------------|--|------|--|--|--|---|

Total Project Emissions:

65

Note: The proposed project consists of installing approximately 10,000 feet of underground sanitary sewer pipeline and 14 square feet of new manhole covers.