



King County

Wastewater Treatment Division

Department of Natural Resources and Parks

King Street Center
201 South Jackson Street
Seattle, WA 98104-3855

SEPA DETERMINATION OF NONSIGNIFICANCE (DNS)

**HIDDEN LAKE PUMP STATION REPLACEMENT
AND SEWER IMPROVEMENT PROJECT**

PROJECT DESCRIPTION: The proposed project includes construction of a new pump station to replace the existing Hidden Lake Pump Station, approximately 12,000 linear feet of new 15- to 30-inch pipe to replace or supplement the existing Boeing Creek Trunk sewer pipeline and a facility to store up to 0.5 million gallons of wastewater upstream of the pump station during times of high flows. Construction is anticipated to begin in the second quarter of 2005 and be completed by early 2007.

LOCATION OF PROPOSAL, INCLUDING STREET ADDRESS, IF ANY: The entire project is located within the City of Shoreline in King County. The new pump station site is located at 16700 10th Ave. NW. The proposed storage facility is located in Boeing Creek Park. The majority of the proposed sewer pipeline is located in public street right-of-way. A portion of the pipeline would be located on private property and in Richmond Beach Park.

PROPONENT/LEAD AGENCY: King County Department of Natural Resources, Wastewater Treatment Division

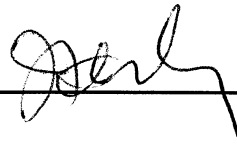
RESPONSIBLE OFFICIAL: Donald Theiler

POSITION/TITLE: Division Director, Wastewater Treatment Division

ADDRESS: 201 South Jackson Street, Seattle, Washington 98104

DATE: March 24, 2004

SIGNATURE:

 J. F. IRBY
Asst. Director, WTD

CONTACT: Katherine McKee at 206-263-3197 regarding the SEPA appeals procedures or for additional information.

The 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 DNS 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 April 9, 2004.** Submit comments to Shirley Marroquin, Supervisor Environmental Planning & Community Relations Unit, 201 South Jackson Street, MS: KSC-NR-0505, Seattle, WA 98104-3855.

Written appeals of this threshold determination must be received by the SEPA Responsible Official at the above address **no later than 5:00 p.m. April 9, 2004 and must be accompanied by a \$250 fee.** The appeal must follow the procedure established in King County Public Rule PUT 7-4. The rule may be viewed at <http://www.metrokc.gov/recelec/archives/policies/put74pr.htm>, or contact Katherine McKee at 206-263-3197 or katherine.mckee@metrokc.gov to obtain a copy.

[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

A. BACKGROUND

1. Name of proposed project, if applicable:

Hidden Lake Pump Station Replacement and Sewer Improvement Project

2. Name of applicant:

King County Wastewater Treatment Division

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

King County Wastewater Treatment Division
201 S. Jackson St., MS KSC-NR-0505
Seattle, WA 98104-3855

CONTACT: Katherine McKee, Telephone: 206-263-3197

4. Date checklist prepared:

March 2004

5. Agency requesting checklist:

King County Wastewater Treatment Division

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

Construction is anticipated to begin in the second quarter of 2005 and be completed by early 2007. Construction of the pump station is anticipated to last approximately 23 months, the Boeing Creek Trunk pipeline 20 months and the storage facility 16 months. All three elements of the project could be under construction simultaneously.

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

The new Hidden Lake Pump Station will have an installed capacity of 6.8 million gallons per day (mgd) but will initially be operated to limit the peak pumping rate to only 5.5 mgd. Future increases in pumping capacity may necessitate additional upgrades in the wastewater system downstream of the Hidden Lake Pump Station. Any future upgrades to the wastewater system resulting from an increase in pumping capacity would be subject to additional environmental review.

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

King County Conveyance System Improvement Project Hidden Lake Basin Phase 2 Subregional Planning Reports, HDR, Inc., May 2000.

Hidden Lake Pump Station Upgrade or Replacement Project Draft
Geotechnical Data Report, CH2M Hill, July 2003.

Technical Memorandum, Hidden Lake Pump Station/Boeing Trunk Project
Geotechnical Engineering Design, CH2M Hill, October 2003.

Boeing Creek Sewage Storage Facility Evaluation of Zone of Influence of
Boeing Creek Park Dam, CH2M Hill, September 2003.

Boeing Creek Storage Facility Alternative Storage Pipe/Outlet Sewer
Alignments, CH2M Hill, January 2004.

Hidden Lake Pump Station Upgrade or Replacement Project - Task 5,
Environmental Services, Assignment B, Field Reconnaissance Summary,
Critical Areas Evaluation, and Permit Summary, CH2M Hill, January 16, 2004

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.

Yes. The City of Shoreline is proposing to upgrade an existing stormwater detention pond in Boeing Creek Park. The proposed King County storage facility would be constructed partially beneath this pond. Construction of the stormwater pond improvements will be closely coordinated with the City of Shoreline.

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

City of Shoreline

- Critical Areas Special Use Permit
- Building Permit
- Right-of-Way Permit
- Clearing and Grading Permit
- Demolition Permit
- Mechanical Permit
- Shoreline Substantial Development Permit Exemption
- Fire Sprinkler permit
- Plumbing Permit

Washington State Department of Ecology

- Construction Dewatering and Stormwater Discharge Permit (NPDES)

King County Department of Natural Resources

- Industrial Waste Discharge Permit

Washington Department of Labor and Industries

- Electrical 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.

King County's existing Hidden Lake Pump Station receives wastewater flows from the Hidden Lake Service area via the Boeing Creek Trunk (BCT). Flows from areas north and east of the pump station are carried by local gravity sewers, intercepted by King County's Boeing Creek Trunk, and delivered to the pump station. Two local Ronald Wastewater District pump stations also discharge directly to the Hidden Lake Pump Station. Downstream of the pump station, wastewater is discharged to the BCT and conveyed to King County's Richmond Beach Pump Station. A number of local sewers also connect to the BCT downstream of the Hidden Lake Pump Station. From the Richmond Beach Pump Station wastewater flows to the Edmonds Treatment Plant where it is treated and discharged to Puget Sound.

The BCT has insufficient capacity to accommodate peak wet weather flows that are caused primarily by infiltration and inflow (I/I) entering the local sewer system. This problem is magnified by a reduction in pipe capacity that occurred in 1991 when the BCT was sliplined to repair internal corrosion reducing the internal diameter of the pipe by approximately 2 inches. Overflows and backups have occurred from the sewer system as a result of these issues.

Overflows have also occurred at the existing Hidden Lake Pump Station. The pump station was constructed in 1962 and currently does not have adequate capacity to convey peak wet weather flows to the BCT. Also, in the event of a power outage, the pump station wet well has inadequate storage volume to provide time for the emergency generator to start and wastewater pumping to resume. The pump station also has been subject to equipment failures and malfunctions and does not meet some current building and other codes.

The proposed project includes construction of a new pump station, approximately 12,000 linear feet of new 15- to 30-inch pipe to replace or supplement the existing BCT pipeline and a facility to store up to 0.5 million gallons of wastewater upstream of the pump station during times of high flows to address the problems identified above. This combination of facilities was selected to minimize both costs and disruption to the project area.

The new Hidden Lake Pump Station would be constructed on the same site as the existing Hidden Lake Pump Station. The pump station will be designed to convey the projected 5.5 million gallon per day (mgd) 5-year peak flow (per King County standards) with the largest pump out of service, and the projected 6.8 mgd 20-year peak flow with all pumps operating. The new pump station building would be approximately 3,500 square feet in size and would house 4 wastewater pumps and their associated piping, electrical equipment and controls, an engine generator to provide a standby source of electric power, odor control and a chemical injection system. An excavation of up to 18 feet deep would be required to construct the cast-in-place reinforced concrete lower portion of the pump station structure. Due to the constrained size, sloped topography and limited access of the site, the pump station excavation would most likely be shored using an augered soldier pile system. A crane, backhoe, dozer, concrete pumps, and trucks are some of the major construction equipment that would be used at the site.

Work at the pump station site would also include construction of a curb, gutter and sidewalk along 10th Avenue NW as required by the City of Shoreline, and new influent pipe and force main connections. The existing Hidden Lake Pump Station will be kept in service until the new pump station is completed. The existing pump station will be demolished after the new pump station has been brought into service.

The existing BCT downstream of the Hidden Lake Pump Station consists of 2,470 feet of 14-inch force main pipe that discharges to gravity pipelines that include, 1,820 feet of double-barreled parallel 16- and 8-inch inverted siphon pipe, and 10,800 feet of 15- to 24-inch gravity sewer pipe that terminates at the Richmond Beach Pump Station. Approximately 12,000 linear feet of 15- to 30-inch pipe is proposed to be constructed downstream of the Hidden Lake Pump Station, along approximately the same route as the existing BCT, to replace or supplement the existing BCT. This includes replacement of all severely corroded and capacity restricted sections of pipe. New manholes would be constructed along the pipeline alignment at approximately 100- to 300-foot intervals.

The majority of the new pipe would be constructed in public right-of-way using open-cut construction techniques. A small segment of new pipe (approximately 300 feet) between two residences would be installed using a bore-and-jack method of construction. Bore-and-jack is a trenchless method of construction in which a pipe casing is hydraulically jacked into the ground from a jacking pit as a horizontal auger inside it excavates soil, and the final carrier pipe can be placed inside the casing. This method of construction is less cost effective but it minimizes surface disruptions.

In addition to corrosion and capacity issues, the existing double-barreled siphon portion of the BCT has issues regarding odor and maintenance accessibility. To address the odor problem, a third parallel pipe is proposed to be constructed adjacent to the existing siphon pipes or barrels. This new 18-inch pipe would provide additional capacity to the siphon portion of the BCT and allow the existing 16-inch pipe to be used as an air jumper pipe. The air jumper would carry the foul air caused by the upstream release of dissolved hydrogen sulfide in the wastewater, downstream and back to the open channel flow of the gravity pipeline. The addition of a third siphon barrel would also improve maintenance accessibility by providing greater flexibility to transfer flows between pipes when a pipe needs to be removed from service for maintenance or inspection.

Construction of the new BCT would generally proceed in 200-foot sections. The sections would move continuously, but at any given time not more than approximately 200 feet of trench would be open for pipe installation. Existing pavement would be cut and removed then the pipe trench would be excavated. Some existing utilities will be temporarily or permanently relocated during construction of the new pipe. The pipe trench would be shored or other methods taken as necessary to avoid damage to adjacent utilities and facilities and protect workers. The pipe would be placed in the excavation in sections then the excavation would be backfilled and a temporary pavement patch installed. To minimize traffic disruption, if feasible, full-width street access would be restored to active construction areas at the conclusion of each work day. Permanent pavement patching and complete street overlays would

follow in sections large enough to allow work to be accomplished economically and with the desired final surface smoothness and appearance.

A storage facility upstream of the new pump station is proposed to be constructed to temporarily store wastewater during times of high flows and subsequently release it at a controlled rate consistent with the flow capacities of the downstream system. Analysis performed during the planning and design of the proposed project determined that 0.5 million gallons of storage would be the volume needed to curb peak flows to the pump station.

The storage facility would be constructed in Boeing Creek Park partially beneath an existing City of Shoreline stormwater detention pond. The main component of the storage facility would consist of approximately 640 feet of 12-foot diameter pipe. It would also include an influent structure at the upstream end of the pipe and a flow control structure at the downstream end of the pipe. The City is currently in the design stages of a project to increase the size of the stormwater detention pond below which a portion of the storage facility will be constructed. King County and the City will closely coordinate construction of the storage facility and the pond improvements.

A shored construction trench approximately 20 feet wide would be excavated to install the 12-foot storage pipe. An unshored excavation may be used for a portion of the storage pipe if there is sufficient room for a wider excavation at the ground surface. The pipe trench shoring would be drilled soldier piles and lagging or a proprietary shoring system. Pile driving will not be allowed in the project area. A crane would be used to lift and place the pipe sections in the trench.

The flow control structure for the storage facility would be located adjacent to NW 175th Street at the downstream end of the 12-foot diameter storage pipe. From there a new approximately 1,400-foot long 24-inch pipe would be constructed in NW 175th Street and 10th Avenue NW to convey wastewater downstream to the Hidden Lake Pump Station. An approximately 50-foot section of this pipe northwest of the intersection of NW 175th Street and 6th Avenue NW would be constructed on private property. Approximately 1,100 feet of this 1,400-foot long section of pipe would be constructed using trenchless methods, including the section on private property, and the remainder by open cut. Bore and jack pits approximately 20 feet wide by 30 feet long would be excavated in four locations along the alignment to provide access for jacking casing pipe, installing carrier pipe and retrieving equipment. Manholes will also be constructed at these locations. These excavations would occur in paved street right-of-way. The new pipeline would connect to the existing 15-inch King County pipeline that carries flows to the Hidden Lake Pump Station.

Equipment for controlling odors from the storage facility would be installed in an approximately 23- by 25-foot underground vault near the storage facility influent structure. An approximately 10-foot square chamber to house appurtenant electrical equipment would be attached to the vault. Access for maintenance and inspection of the influent and flow control structures and odor control vault would be provided via hatches installed in three locations at the ground surface. Each hatch would be metal and measure approximately 4 feet square.

Construction of the storage facility would include some revisions to existing local sewer connections. Currently wastewater is conveyed to the King County system through a 24-inch pipe owned by the Ronald Wastewater District that runs partially beneath the stormwater detention pond. That 24-inch pipe discharges to the BCT system at the intersection of NW 175th Street and 6th Avenue NW. Upon completion of the proposed project, most of the existing 24-inch pipe will be abandoned, and wastewater will enter the King County system at the new inlet structure to the 12-foot storage pipe. The inlet structure would be located along 3rd Avenue NW within Boeing Creek Park. A 12-inch Ronald Wastewater District pipe in 6th Avenue NW also connects to the BCT at the intersection with NW 175th Street. This pipe, together with an 8-inch pipe in NW 175th Street will be redirected to the storage facility flow control structure.

When wastewater needs to be stored, a sluice gate in the storage facility flow control structure would be operated to limit the flow downstream retaining the excess wastewater flow in the 12-foot pipe.

- 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.**

All elements of the proposed project are located within the City of Shoreline, in King County (see attached figure).

The new Hidden Lake Pump Station will be constructed adjacent to the existing pump station on property currently owned by King County. The site is located at 16700 10th Avenue NW, at the intersection of 10th Avenue NW and NW 167th Street.

The new BCT pipeline will be constructed between the Hidden Lake Pump Station and the Richmond Beach Pump Station. The pipe will be constructed in portions of the following streets (please refer to attached map for more information): 15th Avenue NW, 14th Avenue NW, Springdale Court NW, NW 188th Street, NW 190th Street, 22nd Avenue NW, 23rd Avenue NW, NW 196th Street, and Richmond Beach Drive NW. An approximately 700-foot section of pipe between NW 190th Street and the entrance to the Richmond Beach Park would be constructed on private property and park property.

The storage facility would be located within Boeing Creek Park, which is located south of NW 175th Street, and west of 3rd Avenue NW. New piping between the storage facility and the Hidden Lake Pump Station would also be constructed in NW 175th Street and 10th Avenue NW. An approximately 50-foot section of pipe northwest of the intersection of NW 175th Street and 6th Avenue NW would be constructed on private property.

B. ENVIRONMENTAL ELEMENTS

1. Earth

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

The pump station site slopes away from 10th Avenue NW to the north and east at approximately 5 to 15 percent.

Topography at Boeing Creek Park, in the immediate vicinity of the proposed storage pipe, alternates between flat and gently sloping. The existing stormwater detention facility forms a 10-foot deep depression in the northeast corner of the park.

Slopes along the route of the BCT pipeline range from flat to approximately 10 percent. Overall the route generally slopes to the southwest in the northern portion of the route and to the west in the southern portion of the route.

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

The steepest slope on the pump station site is approximately 20 percent.

There are several steep slope areas in Boeing Creek Park. In the immediate vicinity of the storage pipe the steepest slopes are the banks of the stormwater detention pond which range from approximately 25 to 33 percent.

Along the BCT pipe alignment there are several locations outside the street right-of-way where slopes are in excess of 40 percent.

- 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.**

Soils at the pump station site are mapped as advance outwash and transitional beds. Advance outwash consists of mostly clean pebbly sands that typically coarsen upward, with increasing amounts of gravel in the higher section. Transitional beds are glacial and nonglacial deposits that occur in varying thicknesses below advance outwash and consist of clay, silt, and fine to very fine sand.

Soils at the proposed storage facility are mapped as advance outwash (see description above).

Soils along the Boeing Creek Trunk are mapped as recessional outwash, glacial till and advance outwash (described above). Recessional outwash consists mostly of stratified sand and gravel with minor silt and clay layers, but include unstratified to poorly stratified ablation and melt-out deposits. Glacial till consists of a nonsorted mix of clay, silt, sand, pebbles, cobbles and boulders, in variable amounts.

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

Portions of the project are located in areas mapped by the City of Shoreline as landslide, steep slope and erosion hazard areas. There are no surface indications or history of unstable soils at the pump station site or along the Boeing Creek Trunk pipeline alignment.

Native soil at the proposed storage site is erodable and conditions resulting from unusual quantities of snow and rain in 1996 caused severe soil erosion and the washout of portions of 10th Avenue NW and Boeing Creek Park. This washout was repaired and surface water drainage improvements were implemented to lessen the likelihood of reoccurrence due to severe soil erosion.

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

Approximately 20,000 square feet of the 1.15 acre (50,000 square foot) pump station site would be disturbed during construction of the new pump station. Construction activity on the site would include clearing and removal of vegetation and grading to prepare the site for construction of the pump station. Approximately 2,700 cubic yards of material would be excavated from the site. Backfill at the site utilizing native or imported material would total approximately 2,500 cubic yards.

Along the BCT pipeline alignment the majority of the construction would occur in existing paved street right-of-way. A trench approximately 6 to 8 feet wide and varying in depth from 4 to 25 feet would be excavated during installation of the new pipeline. Approximately 45,000 cubic yards of material would be excavated from the pipe trench during construction. Filling would be limited to that required to backfill trenches excavated for pipe placement. Soil conditions would determine whether native or imported material would be utilized to backfill the pipe trench. Backfill would total approximately 38,500 cubic yards.

Excavation and grading during construction of the storage facility in Boeing Creek Park would disturb a total area of approximately 90,000 to 100,000 square feet. Approximately 23,000 cubic yards of material would be excavated during construction of the storage facility and outlet pipe, and an estimated 14,000 cubic yards of that material would be used for backfill. Approximately 4,600 cubic yards of imported controlled density fill (CDF) would be used to backfill a portion of the storage pipe trench to prevent flotation of the pipe and provide an impervious backfill material to minimize influence on the detention pond dam.

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

Yes, construction activities such as site grading and excavation, materials handling and stockpiling could cause erosion on a short-term basis. Operation of the completed project would not result in any erosion.

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

Approximately 14 percent of the pump station site would be covered with impervious surfaces following completion of the project. This impervious area includes the new pump station building and driveway area. This is a net increase of 9 percent. Five percent of the project site is currently covered with impervious surfaces.

No increase in impervious surfaces would be associated with construction of the BCT pipeline. The majority of the pipeline would be constructed in existing paved street right-of-way.

Less than 1 percent of Boeing Creek Park would be impervious surface following completion of the project. The impervious surfaces would consist of several small at grade hatches for access to underground facilities and equipment, and 5 above grade vent pipes.

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

Project construction activities would utilize construction related Best Management Practices (BMPs) such as temporary erosion and sediment control measures. Typical BMPs that could be utilized to minimize the potential for erosion include:

- Installation of filter fabric fences around disturbed areas
- Installation of silt dikes, check dams or hay bales to control siltation
- Installation of silt traps in storm drainage inlets
- Covering soil stockpiles and exposed soils
- Diverting storm water away from exposed soils through the use of berms
- Regular street cleaning for mud and dust control
- Regular inspection and repair of erosion and sedimentation control measures.

Temporary erosion and sediment control measures would be identified in the project plans and specifications and would be implemented as required by the City of Shoreline.

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.

During construction of the project, the primary source of air emissions would include fossil fuel combustion by-products from construction equipment and dust from excavation and grading activity. Some sewage odors may be detectable for short periods during connections to existing sewer service.

- 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 emissions would be addressed by requiring proper equipment maintenance, prudent equipment operation, and onsite dust control.

The completed Hidden Lake Pump Station and storage facility in Boeing Creek Park would include activated carbon odor control units to treat foul air associated with wastewater. Diesel engine emissions would occur during maintenance or operation of the emergency generator at the pump station site.

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 proposed pump station is located approximately 200 feet west of Boeing Creek, a Type 2 stream, and Hidden Lake, a small impoundment formed by the damming of Boeing Creek. There is a 1.5 acre wetland area adjacent to Hidden Lake.

There are four Type 4 streams along the alignment of the proposed Boeing Creek Trunk pipeline. In addition a small undelineated wetland area associated with one of the streams is located adjacent to the proposed project. Puget Sound is located within 200 feet of a portion of the proposed BCT pipeline.

A City of Shoreline stormwater detention pond is located at the site of the proposed storage facility in Boeing Creek Park. The North Branch of Boeing Creek also passes through Boeing Creek Park.

- 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.**

The pump station would be constructed within approximately 200 feet of Boeing Creek and Hidden Lake and its associated Type II wetland. No impacts to these waters are anticipated.

Portions of the new BCT pipeline would be constructed within 200 feet of one wetland area, four Type 4 streams and Puget Sound. Each of the four streams flow through culverts under the existing

roadways where pipe construction would occur. No impacts to the four streams or the small wetland area associated with one of the streams would occur. The pipeline would be constructed either over or under the existing culverts. Puget Sound is separated from the proposed pipeline construction by the Burlington Northern Santa Fe railroad line that runs adjacent to the shoreline.

The proposed storage pipe in Boeing Creek Park would be constructed partially beneath an existing City of Shoreline stormwater detention pond. In addition, the storage pipe would pass under a pipe that carries the North Branch of Boeing Creek through the park. No impacts to the North Branch of Boeing Creek are anticipated.

- 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.**

None.

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

No in-water or stream diversion work will occur during construction of the project.

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

Portions of the service area within the Boeing Creek watershed are within the 100-year floodplain. This area generally follows the channel of Boeing Creek from Shoreview Park downstream to Puget Sound. The proposed project is not located within the 100-year floodplain.

- 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. Construction contract specifications would prohibit the discharge of any waste material into surface waters.

Dewatering flows pumped from excavations at the proposed storage facility site may ultimately reach Boeing Creek if discharged to the City's stormwater system.

b. Ground:

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

Geotechnical analysis performed during project predesign indicated very little groundwater would likely be encountered in the excavations for the pump station. However if groundwater is encountered, dewatering may be necessary to keep excavations free of standing water.

Along the BCT pipeline alignment groundwater is anticipated to be encountered in some locations. Dewatering will be necessary where groundwater is encountered during construction to keep excavations free of standing water or to avoid instability of the adjacent soils. Dewatering discharges would be directed to the King County sewer system, or if permitted by the City of Shoreline, dewatering discharges could also be directed to the City's storm drainage system.

A significant amount of groundwater is anticipated to be encountered during construction of the Boeing Creek storage facility and outlet pipe due to the depth of the excavation for the entire 12-foot diameter storage pipe and approximately 900 linear feet of the outlet pipe from the flow control structure. Groundwater depth is consistently 30 to 35 feet below ground surface and these portions of the storage facility project are required to be installed below these depths. Wells spaced at 40 feet, each pumping 40 gallons per minute (gpm) are anticipated to be required for the storage pipe. Four wells would operate at any given time for a combined 160 gpm discharge rate. It is estimated that this discharge rate will be sustained for 40 days for a total volume of up to 10 million gallons (mg).

For the outlet pipe, using the bore and jack installation method requires that the groundwater table be lowered below the vertical alignment. Construction dewatering is required at each shaft and for 900 feet of pipe from the flow control structure. Wells are estimated to be required at each shaft and at 60-foot spacing along the pipeline alignment. It is estimated that the required pumping rate from each well would range from a minimum of 40 gpm to a 200 gpm maximum. It is estimated that dewatering of this segment of the outlet pipe will be required for 3 months for a total volume of up to 20 mg. Alternative trenchless methods, that do not require dewatering along the pipe alignment, such as microtunneling, will be considered during final design. As with the BCT pipeline, dewatering discharges would be directed to the King County sewer system, or if permitted by the City of Shoreline, dewatering discharges could also be directed to the City's storm drainage system.

Settlement monitoring would be performed along sections of the BCT where bore-and-jack installation is proposed to be used and at the Boeing Creek storage facility. Settlement monitoring will provide measurements of surface ground movement (horizontal and vertical) caused by jacked casing installations and provide the basis for implementation of remedial measures to prevent possible damage to existing structures and utilities. Due to the limited groundwater drawdown (less than 5 feet) anticipated and the dense

nature of the native soils, settlement related impacts are anticipated to be negligible.

- 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.**

None.

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 of the proposed project would be rainfall. During construction, at all project locations, stormwater would infiltrate into the ground or be routed through temporary erosion and sedimentation control facilities prior to discharge to the existing City of Shoreline storm drainage system. Dewatering discharges may be directed to the City of Shoreline's existing storm drainage system.

The majority of the stormwater runoff from the completed pump station would be dispersed into landscaped areas as it currently is. Runoff from the new curb and gutter and sidewalk would flow towards 10th Avenue NW where flows would be intercepted by a new catch basin and piped to an existing drainage ditch on the opposite side of the roadway. Stormwater from roof downspouts on the pump station building and from most of the driveway area would be directed to a new below ground flow dispersion trench where the stormwater would infiltrate into the ground or be uniformly distributed to the ground surface. Stormwater from a chemical spill pad and from the open odor control and chemical addition area would be piped to the pump station wet well.

Following construction of the BCT pipeline, stormwater runoff would continue to be directed to the existing City of Shoreline storm drainage system. In areas outside the improved roadway, in Richmond Beach Park and on private property, stormwater would infiltrate into the ground.

There would be no stormwater runoff associated with the completed underground storage facility.

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

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

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

Section B.1.h discusses typical BMPs that would be used during construction to control erosion and sedimentation resulting from stormwater runoff.

Additional construction BMPs that could be implemented to prevent the introduction of contaminants in street catch basins include:

- Maintain spill containment and clean up materials at all active construction areas and where equipment fueling is conducted
- Conduct fueling operations on paved areas whenever possible
- Store fuels and other potential contaminants away from excavation sites, in secured, containment areas
- Conduct regular inspections, maintenance and repairs on fuel hoses, hydraulically operated equipment, lubrication equipment, and chemical/petroleum storage containers
- Establish a communication protocol for the unlikely event of a spill

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
- other types of vegetation

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

Approximately 17,500 square feet of existing vegetation would be removed during construction of the new pump station.

Approximately 22,000 square feet of grass and Scotch Broom would be removed in Richmond Beach Park and 5,000 square feet of landscaping removed on private property for construction of the new pipeline through the park and adjacent private property.

Approximately 100,000 square feet of grass would be disturbed during construction of the storage facility. Construction of the storage pipe

would also necessitate the removal of up to seven trees within Boeing Creek Park. Six of the trees are less than 8 inches in diameter and four of these same trees are planned for removal for the pond improvements by the City.

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:

Approximately 10,000 square feet of new landscaping would be installed at the pump station site. Plantings would consist of low maintenance native vegetation where possible. The landscape design plan includes vegetation in a planting strip along 10th Avenue NW to help screen, or soften the appearance of the pump station building.

Construction of the BCT pipeline would involve minimal disturbance of vegetation since the majority of the work will occur in existing paved street right-of-way. Landscaping at the King County owned Richmond Beach Pump Station would be restored to its existing condition following completion of the project. Vegetation at Richmond Beach Park would be restored as directed by the City of Shoreline. Restoration of vegetation on the private property would be to pre-construction conditions or as negotiated with the individual property owners.

Following construction of the storage facility in Boeing Creek Park, landscaping would be restored as required by the City of Shoreline. Complete restoration of the site would not occur until both the King County storage facility and the City of Shoreline modified stormwater detention pond are completed. The City is in the process of adopting a new Parks Master Plan and restoration at the site would in accordance with the plan adopted by the City.

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: **small mammals**

fish: bass, salmon, trout, herring, shellfish, other: _____.

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

None.

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

The entire Puget Sound is part of the Pacific flyway migration route.

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

None proposed.

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.

The completed pump station would use electricity and diesel fuel. The completed storage facility would use electricity.

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:

High efficiency equipment would be used where possible.

7. Environmental Health

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

Construction related materials could enter ground or surface waters due to accidental spills, mechanical failures, or if construction activities deviate from the project construction specifications or permit conditions.

1) Describe special emergency services that might be required.

None.

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

Section B.1.h discusses typical BMPs that would be used during construction to control erosion and sedimentation resulting from stormwater runoff.

Additional construction BMPs that could be implemented to prevent the introduction of contaminants in street catch basins include:

- Maintain spill containment and clean up materials at all active construction areas and where equipment fueling is conducted
- Conduct fueling operations on paved areas whenever possible

- Store fuels and other potential contaminants away from excavation sites, in secured, containment areas
- Conduct regular inspections, maintenance and repairs on fuel hoses, hydraulically operated equipment, lubrication equipment, and chemical/petroleum storage containers
- Establish a communication protocol for the unlikely event of a spill

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.

Short-term construction related noise would occur at the pump station site, along the BCT pipeline alignment and in the vicinity of Boeing Creek Park. The main source of noise would be construction equipment performing excavation, grading, etc. These types of equipment typically generate noise in the range of 75-95 dBA at a distance of 50 feet.

Construction activity is generally anticipated to occur between the hours of 7 a.m. and 5 p.m. on weekdays and would comply with all applicable City of Shoreline noise regulations.

Along the BCT pipeline alignment construction would proceed in sections approximately 200 feet long. The entire project alignment would not be under construction for the estimated 14 to 20 month construction period.

During operation of the pump station noise would be produced by the operation of equipment such as the sewage pumps, generator, odor control fans, and ventilation system fans. The generator would operate only during power outages or regular testing. Other equipment would be in operation 24 hours a day.

During operation of the storage facility noise would be produced by the operation of equipment such as the odor control fans and vault ventilation system fans which would be in operation 24 hours a day.

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

Construction activity and noise levels in the project area would be limited to the hours and levels specified by the City of Shoreline. Daytime hours are planned for construction of the project. Work hours outside those allowed by the Shoreline Municipal Code would require a variance from the City of Shoreline.

The pump station building would be designed to minimize the potential noise sources identified above. Mitigation of noise would be accomplished through the design of the building structure and the selection of equipment. The completed pump station would comply with the noise levels specified by the City of Shoreline.

All equipment at the storage facility would be installed in an underground vault. Noise control silencers would be used to minimize noise produced by this equipment. The completed storage facility would comply with the noise levels specified by the City of Shoreline.

8. Land and Shoreline Use

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

The 1.15 acre pump station site is located in a residential area. The existing Hidden Lake Pump Station is located on the site.

The proposed storage facility is located in Boeing Creek Park. Land uses adjacent to the park are primarily residential. An approximately 50-foot section of pipe northwest of the intersection of NW 175th Street and 6th Avenue NW would be constructed on private property.

The BCT pipeline will be mostly located within existing street right-of-way of various streets within the City of Shoreline. Adjacent land uses along the alignment are primarily residential. Approximately 700 feet of the pipe will be constructed through Richmond Beach Park and adjacent private property and approximately 560 feet will be constructed on the Richmond Beach Pump Station site owned by King County.

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

No.

c. Describe any structures on the site.

The existing Hidden Lake Pump Station was constructed in 1962. It is a concrete masonry unit structure. There is also an existing concrete structure on the site that houses an emergency generator and a chemical storage tank adjacent to the pump station building.

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

Yes, at the new pump station site. Following completion of the new pump station the existing pump station and generator building on the site will be demolished.

The existing 24-inch Ronald Wastewater District pipeline through Boeing Creek Park will be abandoned in place following construction of the storage facility.

The existing BCT pipeline and manholes will also be abandoned in place.

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

The pump station site, properties along the BCT pipeline alignment, and Boeing Creek Park are currently zoned R4 by the City of Shoreline.

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

Low Density Residential.

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

Suburban Residential.

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

Yes, portions of the project are located within landslide, erosion and seismic hazard areas. There are also wetlands, four Type 4 streams, and a Type 2 stream in the vicinity of portions of the project.

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

None. King County staff would visit the pump station, approximately 2 to 3 times per week. King County staff would visit the storage facility in Boeing Creek Park 1 to 2 times per year for maintenance and inspection.

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

None.

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

N/A.

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

The proposed project provides additional capacity in the wastewater system to accommodate current and projected land uses according to the state Growth Management Act.

9. Housing

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

None.

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

None.

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

N/A.

10. Aesthetics

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

The tallest height of the new pump station building will be approximately 23 feet above ground level in front of the building and 38 feet above ground level at the rear of the building. The exterior of the building will be composed of architectural concrete masonry units with glass block windows. The roof will be composed of concrete tile.

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

The appearance of the pump station site, streets along the BCT pipeline alignment and portions of Boeing Creek Park and Richmond Beach Park would be temporarily altered during construction. Construction equipment such as cranes, backhoes, dump trucks, concrete trucks, paving machines, etc., would be visible at the construction sites.

The appearance of the pump station site would be permanently altered by construction of the new pump station building. The new building is larger than the existing structure and would be more visible from 10th Avenue NW and Innis Arden Way due to its size. The existing building is much smaller and is screened by existing vegetation.

The storage facility at Boeing Creek Park would be located entirely below ground except for five vent pipes that would extend above ground and 3 at-grade metal hatches.

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

Following completion of the BCT pipeline restoration to pre-construction conditions would occur. These facilities would not have long-term aesthetic impacts since they are located below ground. Restoration in Richmond Beach Park would be as required by the City of Shoreline. Restoration on the private property adjacent to Richmond Beach Park would be as negotiated with the property owners.

The pump station building has been designed using architectural details such a color and materials to help the building blend into the surrounding area. Vegetation and landscaping removed during construction would be restored to the extent possible which would help minimize the long-term aesthetic impacts of the new structure.

Restoration at the storage facility site in Boeing Creek Park would be as required by the City of Shoreline.

11. Light and Glare

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

The BCT pipeline and the storage facility would not produce light or glare. The new pump station would be equipped with exterior lighting that would operate only when manually turned on by King County staff.

- 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:**

Lighting placement and direction at the new pump station would be designed to minimize impacts to adjacent properties.

12. Recreation

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

Boeing Creek Park, Richmond Beach Park and Shoreview Park are located in the vicinity of the proposed project.

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

Portions of Boeing Creek Park and Richmond Beach Park would be unavailable for recreational use during construction of the project.

Construction of the 640-foot storage pipe would impact portions of Boeing Creek Park for up to 13 months. Boeing Creek Park is primarily a passive use park with extensive walking trails but few other park improvements. Some areas of the park would be inaccessible during construction due to the necessity to keep park users out of active construction areas. No portion of the park outside of the area designated for the stormwater detention pond will be restricted from public access for more than a total of 180 days.

Approximately 400 feet of the BCT pipeline would be constructed through the northeast corner of Richmond Beach Park. A jacking pit approximately 10 by 30 feet would be excavated on park property to construct the 300-foot section of pipe between two residences. From that point to the entrance to the park an open trench would be excavated

to install the pipeline. This activity would impact the bluff trail within the park for up to 5 weeks and the paved entrance to the park for up to 2 weeks. Vehicular access at the park entrance would be completely restricted for one day.

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

Access would be maintained to unaffected portions of Boeing Creek Park at all times during construction of the project. Temporary access points may need to be provided to the park at certain times during construction. Trails would be temporarily rerouted through the park in order to minimize impacts to park users.

A section of the bluff trail in Richmond Beach Park may be temporarily rerouted during construction in the park. The pipeline would be constructed across the access road to the park. Access would be maintained at all times to the park by closing only one-half of the access road at a time and using flaggers to control traffic except for the one day closure to vehicular traffic that would be necessary to install the pipe in the trench.

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.

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

N/A.

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

N/A.

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.**

Access to the pump station site is off of 10th Avenue NW. Access to Boeing Creek Park is off of either NW 175th Street or 3rd Avenue NW.

The new BCT pipeline would be constructed in the following street rights-of-way, 15th Avenue NW, 14th Avenue NW, Springdale Court NW, NW 188th Street, NW 190th Street, 22nd Avenue NW, 23rd Avenue NW, NW 196th Street, and Richmond Beach Drive NW.

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

Yes, public transit is available throughout the project area.

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

The completed pump station would have adequate parking for King County maintenance vehicles. There would be no delineated parking spaces. The parking area at the existing pump station would be eliminated.

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).

A new curb, gutter and sidewalk would be constructed on the north side of 10th Avenue NW as part of the pump station construction.

Portions of NW 175th Street and 10th Avenue NW that are excavated during construction of the storage facility would be restored to pre-construction conditions following pipeline construction. Street pavements along the open cut portion of the outlet pipe and revisions to existing Ronald Wastewater District pipes will receive a full width overlay in addition to pavement patching.

Street pavements along the BCT pipeline alignment would receive pavement patching and a full width pavement overlay following installation of the new pipeline.

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.

The completed pump station would generate approximately 2 to 3 vehicle trips per week. Maintenance of the odor control structure associated with the storage facility in Boeing Creek Park would occur one to two times per year.

Construction of the pump station, BCT pipeline and storage facility would result in a short-term increase in traffic volumes on the local street system in the project area. Traffic would be generated by trucks delivering equipment and materials (concrete, pipe sections, etc.) to and from construction sites, and construction workers driving to and from construction sites.

A total of approximately 550 truck trips (round trips) would be generated during construction of the pump station, 5,700 during construction of the BCT pipeline, and 1,600 during construction of the storage facility. These trips would be spread out over the duration of the total 23-month construction period. Worker trips would generate an additional 3,800 trips for the pump station, 3,500 for the BCT pipeline and 3,400 for the storage facility.

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

A traffic control plan, approved by the City of Shoreline, would be implemented during construction of the project to minimize impacts to traffic. Examples of measures that would be specified by the traffic control plan include partial street closure and detour locations, flagger locations, and accommodations for emergency vehicle access and pedestrians. To minimize traffic disruption, if feasible, full-width street access would be restored to active construction areas at the conclusion of each work day.

Some private driveway access may be blocked or limited for short periods along portions of the BCT pipeline alignment. The construction contractor would be required to coordinate with residents to minimize such impacts related to pipeline construction.

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:

None.

16. Utilities

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

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.

The complete pump station would utilize electricity (City Light), water (Seattle Public Utilities), telephone (Verizon), and sanitary sewer (King County).

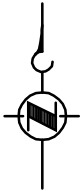
The completed storage facility would utilize electricity.

All required utilities would be available from existing facilities in the rights-of-way adjacent to the facilities.

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: Shirley Marquis
Date Submitted: 13 March 2004



CITY OF SHORELINE

**RICHMOND BEACH
PUMP STATION
(RBPS)**

**BOEING CREEK
TRUNK SEWER
UPGRADE**

**BOEING CREEK
STORAGE FACILITY**

**HIDDEN LAKE PUMP
STATION REPLACEMENT
16700 10TH AVE NW
SHORELINE**

PUGET
SOUND



**BOEING CREEK TRUNK
SEWER SYSTEM
IMPROVEMENTS
PROJECT LOCATION MAP**

CH2MHILL

Section 12, Township 26 North
Range 3 East, WM

March 2004

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