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2004-311

ATTACHMENT A

MEMORANDUM OF AGREEMENT
BETWEEN KING COUNTY AND LAKE FOREST PARK WATER DISTRICT
REGARDING
MITIGATION FOR THE BRIGHTWATER PROJECT

This Agreement is made and entered into by King County, a municipal corporation acting through the King County Wastewater Treatment Division, hereinafter referred to as "County," and the Lake Forest Park Water District, a municipal corporation, hereinafter referred to as "District." County and District may also be collectively referred to as the "Parties."

I. Purpose

This Agreement requires the County to engage in specific tasks relating to geotechnical investigation, design, construction, operation and providing community incentives and mitigation for the County's Brightwater wastewater treatment system project ("Project"), an essential public facility which may impact the District's water source aquifer. This Agreement defines work ("Work") to be conducted as part of the Project as described in Exhibit 1 that is incorporated by reference as if set forth in full herein. The geotechnical and water quality monitoring work are part of the four following distinct project stages as set forth in Exhibit 1: Section 1, Hydrogeologic Exploration and Testing; Section 2, Tunnel Bore and Portal Design Criteria; Section 3, Construction; and Section 4, Operation. A potable water supply replacement plan is included as Section 5 to Exhibit 1. Exhibit 2, which is attached hereto and incorporated by reference, contains certain definitions that are used in this Agreement and in Exhibit 1. Exhibit 3 describes a list of pre-authorized services that the District may utilize and be reimbursed for during the course of the Project. Exhibit 4 consists of a map of the proposed Project tunnel alignment. Exhibit 5 illustrates the tunnel lining parameters described in Exhibit 1, Section 2.

II. Project Management

The County shall let, pay for, manage and administer all contracts, personnel and contractors engaged in the Work except as mutually agreed otherwise.

III. Responsibilities

A. The District shall:

1. Review reports and data generated by the County as result of the Work, and when appropriate or required by this Agreement, issue comments or decisions with respect to such reports and data.

2. Not have any obligation to the County except as expressly provided herein.

B. The County shall:

1. Perform the Work whether through its own personnel or through contracts with third parties for the Work.
2. Give due consideration to the District's comments regarding the Work.
3. Pay for any expenses incurred by the District as the result of Work that has been preauthorized by the County, whether on a case-by-case basis or as set forth in Exhibit 3.
4. Provide access to the tunnel within and near the District's well field during the course of the tunnel construction for evaluation and inspection purposes, subject to reasonable advance notice by the District. While such access shall not be unreasonably withheld, safety and construction considerations require an advance request for such access with permission to be granted for an appropriate time. Such access shall be led by County staff or designee.
5. Promptly deliver to the District one (1) written copy of every, as appropriate, written report, summary, log, map and other documents containing facts, analysis or findings concerning the District's water supply that is generated as part of the Work or otherwise prepared in connection with the Project. This obligation shall not include routine field notes unless specifically requested by the District.

IV. Definitions

The terms and definitions in Exhibit 2 to this Agreement shall apply.

V. Costs, Billing and Payment

The Parties agree to the following regarding project costs:

- A. The County shall pay the entire actual costs for the Work.
- B. The District shall pay for all costs of its consultants, provided, however, the County shall within 30 days after receipt of appropriate documentation pay to the District up to the sum of \$40,000 as reimbursement for eligible documented costs incurred to date. The County shall further reimburse the District for its reasonable and continuing costs of participating in the County project meetings as invited; reviewing and commenting on the progress of the monitoring of tunnel construction and operation through the term of the

Project; and other requested reviews according to the scope of services and rate and reimbursement schedule in Exhibit 3. The District shall provide written documentation of such costs. Any consultants and/or subcontractors used by the District to fulfill its obligations under this Agreement shall be retained solely by the District, shall be identified in any billings, and shall be subject to the scope of services and the total cost ceiling set forth Exhibit 3. Any such consultant or subcontractor must be qualified and if applicable, licensed in the state of Washington to perform the services for which they are engaged. Such consultant or subcontractor will perform work consistent with the expectations of their profession and applicable regulations. Such consultant or subcontractor shall be considered an independent contractor for the District. They shall not be deemed to have any contractual relationship with the County and the County shall have no obligation to pay such consultants or subcontractors. The District may submit consultant and or subcontractor invoices for reimbursement. All such invoices for consultants and subcontractor services shall be submitted to the County for reimbursement without markup.

The District shall be responsible for ensuring the accuracy and propriety of all billings. The County shall have the right to audit the District's invoices and all supporting documentation for purposes of compliance with this Agreement for a period of six (6) years following the completion of the work under this Agreement. All books, records, documents and other material relevant to this Agreement will be retained for six (6) years, and the County, the Office of the State Auditor, and federal auditors shall have full access and the right to examine any of these materials during this period.

- C. The County represents that funds to pay the costs of the Work are currently included in the Project budget and are committed and available. To the extent that the Work requires the approval of, existence and continuation of the Project, the Parties' obligations under this Agreement are contingent upon the continuation of the Project along the preferred alternative as described in the Final Environmental Impact Statement (FEIS). If the Project is terminated for any reason or is modified so that the tunnel does not pass or is not bored near the District's water source, then this Agreement will also terminate effective immediately, and certain activities undertaken as part of this Agreement then in progress will be closed as soon as possible. If the Agreement is terminated for the reasons set forth herein, then the County's obligation will be only for payment in accordance with the terms of this Agreement for services rendered until activities related to this Agreement can be closed.

Notwithstanding any other provision hereof, the County's obligations hereunder shall nevertheless survive the termination of this Agreement or the Project if the tunnel is bored in the proximity of an aquifer that supplies the District with water or an aquifer that has a hydraulic connection to such an aquifer.

- D. All equipment produced or acquired with funds provided by the County, except as specifically identified within the Agreement, shall be the property of the County and shall be disposed of as instructed by the County.

VI. Duration, Termination, Amendment and Other

- A. This Agreement shall be effective and commence upon mutual execution by the Parties and shall, unless terminated as set forth above, remain in effect until the Work in Exhibit 1 is completed.
- B. This Agreement may be amended, altered, clarified, or extended only by the written agreement of the Parties hereto.
- C. This Agreement shall not be assignable by either Party, either in whole or in part except in the event of assumption, consolidation, merger or operation of law.
- D. This Agreement is the complete expression of the understanding of the Parties regarding the subject matter hereof and any oral or written representations or understandings not incorporated herein are hereby expressly excluded. The Parties recognize that time is of the essence in the performance of the provisions of this Agreement. Waiver of any default shall not be deemed to be waiver of any subsequent default. Waiver of breach of any provision of this Agreement shall not be deemed to be a waiver of any other or subsequent breach and shall not be construed to be a modification of the terms of the Agreement unless stated to be such through written amendment approved by the Parties.
- E. The Parties shall use reasonable efforts to mediate any dispute arising under this Agreement. In the event of such a dispute, the aggrieved party shall prepare and deliver to the other party a brief written statement of its claims. Such statement shall not be admissible in evidence in any subsequent court proceedings. Each party shall then designate, in writing, not more than three (3) candidates it proposes to act as a non-binding mediator within ten (10) days following delivery of the written claim. If the Parties cannot agree on one (1) of the mediators from the combined list within five (5) days, the Parties shall promptly meet and select a mediator by blind draw. Upon selection of the mediator, the Parties shall within thirty (30) days or as soon thereafter as possible, meet and engage in a mediation of the dispute with the assistance of the mediator. The mediator shall determine reasonable procedures. Testimony and briefing provided to the mediator shall be inadmissible in subsequent court proceedings. If mediation fails to resolve the dispute, the Parties may thereafter seek redress in court. Venue and jurisdiction shall lie with the King County Superior Court in Seattle, Washington. The prevailing party in such litigation as determined by the court may recover its reasonable attorney fees

and costs from the other party, provided that such recovery shall not include the cost of mediation. The Parties shall have the right of specific performance of the terms of this Agreement.

F. Exhibits 1 through 5 attached hereto are hereby incorporated by reference as if set forth in full herein.

VII. Indemnification and Hold Harmless

Each Party shall protect, defend, indemnify, and save harmless the other Party, its officers, officials, employees, and agents, while acting within the scope of its employment as such; and from any and all costs, claims, judgments, and/or awards of damages arising out of or in any way resulting from either Party's own negligent acts or omissions. Each Party agrees that its obligations under this paragraph extend to any claim, demand, and/or cause of action brought by, or on behalf of, any of its employees or agents. For this purpose, each Party, by mutual negotiation, hereby waives, with respect to the other Party only, any immunity that would otherwise be available against such claims under the industrial insurance provisions of Title 51 RCW. In the event that either Party incurs any judgment, award, and/or cost arising therefrom, including attorneys' fees, to enforce the provisions of this Article, all such fees, expenses, and costs shall be recoverable from the responsible Party to the extent of that Party's culpability.

IN WITNESS WHEREOF, the Parties hereto have executed this agreement on the _____ day of _____, 20____.

Lake Forest Park Water District:

King County:

By: _____

By: _____

Title: _____

Title: Director, King County, Department of Natural Resources and Parks

Exhibit 1

The following sections 1-4 define particular geotechnical and water quality monitoring work to be conducted as part of the tunnel geotechnical investigation, design, construction and operations. Section 5 describes a potable water supply replacement plan.

1. Hydrogeologic Exploration and Testing (Tunnel Design Stage)

The objective of this section is to define the approach and scope of the hydrogeologic exploration and testing planned for the District's source aquifer area. The intent of these investigations is to characterize the topology and hydrogeologic properties in portions of the District's source aquifer, as currently understood in the vicinity of the conveyance alignment (as defined in Exhibit 2 and mapped in Exhibit 4). The findings will be used to establish tunnel design parameters and to establish benchmark conditions and monitor changing conditions in the aquifer. The County will perform this investigation under the immediate direction of a licensed hydrogeologist specializing in water resource development. Input on the investigation scope will be obtained from the District and modifications to the program will be made as reasonable and practicable. Based on the current conveyance alignment and understanding of subsurface conditions as defined specifically in the Geology and Groundwater Technical Memorandum released on August 6, 2003, it was agreed that risk classes S1, S2, and S3 are not considered likely. (See Exhibit 2 for definition of risk classes.) The current conveyance alignment does subject the District's resources to risk classes S4 or S5. Additional information may adjust this conclusion. Alternatives for the design and location of the conveyance alignment are still being considered; provided, however, the County shall use its best efforts in preparing the final design of the tunnel alignment to avoid the District's source aquifer. All data collected from this investigation will be shared with the District on an ongoing basis.

The following parameters are considered minimum components of this investigation program and will complement the overall pre-design subsurface investigation:

- A. Monitor wells. Monitor wells will be drilled to depths of at least two (2) times the tunnel diameter below the invert in immediate proximity to and within the District's source aquifer. These wells are required for several purposes, including profiling of geology, hydrogeologic mapping of aquifers and underground strata, and water quality sampling. The boring locations shall also include two (2) monitoring wells up-gradient and down-gradient of the proposed tunnel boring that will be used to monitor pump testing. Planned monitoring well locations will be reviewed with the District's hydrogeologist. The design of these wells, including drilling, sealing, casing, cap and other appurtenances, shall be consistent with industry practice and meet regulatory standards. The wells shall be sealed from vertical migration of water while providing a sampling tube and conduit for data logging transducers. Data obtained shall be reciprocally shared between the District and the County. The

minimum number of monitor wells within the District's water service area shall be based on the risk class as follows (this applies to all risk class scenarios.):

Risk Class	Monitor Wells/Points
S1	6
S2	4
S3	4
S4	3
S5a	3
S5b	2
S5c	2

- B. Short-term data logging at each monitor well. Data logging equipment will be installed to record water levels in multiple monitoring wells in addition to wells located in the District's wellfield. The number of wells monitored and duration of monitoring at each location will be reviewed with the District as data are obtained. It is anticipated that instruments will be rotated periodically between wells to maximize coverage of the data collection effort. The portable data loggers shall be capable of capturing hydraulic head readings every 15 minutes continuously over a period of several weeks during testing. Individual piezometers equipped with pressure transducers shall be installed at levels dictated by the strata. Each transducer shall have a minimum accuracy of 0.10 percent of full scale. Design of the data-logging program shall be reviewed with the District's hydrogeologic consultant. Monitoring will be initiated with data loggers at each of the District's four (4) deep wells and at one (1) location in the shallow artesian system. The number of data loggers installed in the District's wells may be reduced after a mutually agreed period of time if it appears that data obtained from a lesser number of standby wells provides a representative measure of local conditions. Short-term logging is required for all scenarios and shall be completed immediately following drilling and thereafter.
- C. Pumping tests. Several types of hydraulic testing shall be performed in the area where the tunnel goes underneath or in the vicinity of the District's water supply aquifer to assess aquifer properties and hydraulic continuity between the District well field and the conveyance alignment and portals. These tests shall be conducted using transducer-equipped piezometers in wells located in the vicinity of District's source aquifer. The tests shall record both drawdown and recovery data. The testing program will include the following:
- (1) Hydraulic conductivity (slug) tests completed in standpipe piezometers in the general and immediate vicinity of the District's source aquifer. These tests will provide values for hydraulic conductivity at multiple locations in the area to assess variability within and between water bearing units. Approximately five (5) to ten (10) slug tests are planned in the area.
 - (2) One (1) pumping test coordinated with the District to monitor hydraulic response to a sustained 24-hour "constant-rate" production event from the District's

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wellfield. Testing will be coordinated with the District and its hydrogeologist and the test will run for 24 hours (depending on pumping rate and water storage capacity). Data loggers will be used to monitor hydraulic response to pumping at multiple depths and locations in piezometers installed along the preferred alignment.

- (3) One 24-hour aquifer pumping test shall be performed that includes a four (4)-hour step rate test and a 24-hour constant rate pumping test to evaluate aquifer properties and potential well interference effects. Selected wells, including District wells, shall be equipped with data loggers for monitoring water levels during the test.
 - (4) One shorter-term, constant-rate pumping test that consists of an eight (8)-hour pumping period followed by eight (8) hours of recovery measurements will also be conducted. Projection of long-term response to appreciably greater pumping stresses during construction requires that even small responses be appropriately defined. If the initial test shows any significant boundary effects, it shall be extended as required to clarify the trend.
 - (5) Pumping wells for both the eight (8)-hour and 24-hour tests will be capable of sufficient production rates to induce observable drawdown responses within the practical constraints of the hydrogeology. Several hundred gallons per minute is anticipated to be necessary. This could require an eight (8)-inch or greater bore size to accomplish. Two (2) additional off-alignment observation wells are planned for installation for use as water level monitoring points during testing. Design and evaluation of the pumping test program shall be carried out in conjunction with the District's hydrogeologic consultant prior to drilling. (Pumping tests are required for all risk class scenarios.)
- D. Water quality sampling. The intent of initial water quality sampling is to define baseline conditions. At a minimum, groundwater quality samples will be collected near the end of both the eight (8)-hour and 24-hour pumping tests and field parameters (pH, temperature and conductivity) will be measured periodically as the tests proceed. The groundwater quality samples will be tested for major ions, drinking water inorganic and physical parameters, and phosphate. If any odors or sheen are noted, the samples will also be tested for total petroleum hydrocarbons and volatile organic compounds.
- E. Data reduction and analysis from investigation program. Results of the investigation program will be summarized in a written report with graphical presentation of the geology in the vicinity of the District's source aquifer as determined by bore holes and hydrogeologic testing. The report provided to the District shall present at a minimum:
- (1) Geologic profile data surrounding the District well field from land surface to 50 feet below sea level.

- (2) Detailed hydrogeologic cross-sections from land surface to two (2) times the tunnel diameter below the tunnel invert oriented roughly 90-degrees from each other and running through the District's well field.
- (3) Groundwater elevation data.
- (4) Potentiometric contour maps.
- (5) Estimates of aquifer properties at multiple depths and locations.
- (6) Assessment of hydraulic continuity between proposed tunnel alignment/portal areas and the District well field.
- (7) Data to support dewatering or depressurization analyses for potential inflow.
- (8) Data reduction and analysis applies to all scenarios.

2. Tunnel Bore and Portal Design Criteria

The objective of this section is to define parameters used by the designers in specifying tunnel bore and portal design in accordance with the County's tunnel performance requirements to ensure compliance with the Water Quality Standards for Ground Waters of the State of Washington as identified in WAC Chapter 173-200. The issues and criteria stated in the following sections take into consideration the current conveyance alignment. They have been developed to set forth design criteria acceptable to both the District and the County.

- A. In the event that risk classes S1, S2, or S3 are likely to exist, the design will require that additional hydrogeological evaluation be performed to show that the proposed structures will not impact the hydraulic behavior of the District's source aquifer.
- B. In the event that risk classes S1, S2, or S3 are likely to exist, the County will develop and implement a more extensive hydraulic, groundwater level and water quality monitoring program than that proposed above in Section 1. The monitoring program will provide piezometric data for both overlying and underlying strata in addition to the District's aquifer unit. This program will include probes and sampling ports in at least five (5) locations in addition to those located along the tunnel alignment.
- C. The tunnel lining design shall in all circumstances meet the minimum criteria for infiltration and exfiltration set forth in the Washington State Department of Ecology and King County codes and rules regardless of risk class. In the event that, during the design of the Project, hydrogeologic inspection and testing shows that hydrogeologic separation cannot be met so that S1, S2, and or S3 risk classes are likely to exist, the County shall propose other additional measures to protect the aquifer such as the installation of a secondary tunnel lining system within the tunnel. These additional

measures shall be continuous through those portions of the tunnel where the distance above the tunnel crown and the District's source aquifer is less than two (2) times the tunnel inside diameter in immediate proximity to and within the District's source aquifer and at least 100 feet on both sides of the said aquifer boundaries as illustrated in Exhibit 5.

- D. Pressurized face tunneling methods, ground freezing or other equivalent stabilizing techniques shall be utilized during tunnel boring to prevent silt migration and cavity formation from occurring adjacent to the tunnel. These techniques shall be utilized within and at least 100 feet on either side of the District's source aquifer boundaries.
- E. Portal structures within 500 feet of the District's source aquifer boundaries or within the aquifer area itself shall be designed to include water stop rings incorporated into the structure at a spacing to reflect the site-specific geology, but with minimum spacing of 20 vertical feet. Such water stop rings shall be designed to eliminate vertical flow between aquifers, and/or differing geological strata, along the outside of the structure. Alternative construction methods will be considered by the District provided they can be shown to provide equivalent protection.
- F. The tunnel lining design shall require injection of grout, under moderate pressure, to fill any excavated annulus outside of precast tunnel liner structure. (Applies to all risk class scenarios.)
- G. Joints, which exist within the tunnel lining, shall have flexible gaskets incorporated into them that allow differential settlement without leakage. (Applies to all risk class scenarios.)

3. Construction

The County agrees to develop and implement a groundwater level and water quality monitoring program upon start of tunnel construction in the vicinity of the District's source aquifer and during construction.

- A. The monitoring program will include:
 - (1) Groundwater level monitoring points along the conveyance alignment within the District's source aquifers
 - (2) Groundwater level and water quality monitoring in at least one (1) monitoring well located between the tunnel and District wells.
 - (3) Groundwater level monitoring in three (3) of the District's existing wells.

Groundwater level monitoring will be performed using redundant or replaceable submersible transducers connected to a portable data logger. The portable data logger shall be capable of recording hourly hydraulic head readings. Each transducer shall

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have a minimum accuracy of 0.10 percent of scale. Water quality monitoring shall be performed quarterly and include indicator parameters for organic and inorganic compounds as mutually agreed with the District.

B. The County agrees to require that the following reporting procedures and construction materials be provided by the contract for the tunnel work performed in the vicinity of the District's source aquifer:

- (1) Standard progress reports as provided to the County by the tunneling contractor including details of soil type, groundwater encountered, and records of construction activities and any unusual problems.
- (2) Standard records of excavated and pumped grout volumes as provided to the County.
- (3) Standard project photographic record of construction progress as provided to the County provided on a regular basis.
- (4) Hydraulic oils and lubricants, used within the tunnel, must meet Washington State Department of Ecology standards for use in immediate proximity to potable water.
- (5) Cement grout, waterproof coatings, and any other materials associated with the tunnel lining tunnel construction must conform to Washington State Department of Ecology standards for use in water supply environment.
- (6) Quarterly reports on groundwater level and water quality monitoring.

C. If, following hydrogeologic inspection and testing during tunnel construction, the results show that risk classes S1, S2 or S3 actually exist, the County shall, at minimum, install a secondary tunnel lining system that provides a redundant source of protection against infiltration and exfiltration. This secondary lining system shall consist of reinforced concrete (designed as a water retaining structure), continuous pipe sealed at all joints and fully encapsulated in cement grout, or a plastic or composite membrane system. This secondary lining system shall be continuous through those portions where risk classes S1, S2, or S3 exist and 100 feet on either side.

4. **Operation**

The County agrees to the following operation monitoring and inspection procedures and intervals after construction is complete:

Following Project start up, the Parties shall confirm that either the County or the District shall assume responsibility for any future monitoring of the District's source aquifer. If the District continues with the monitoring program, the cost of adding a sampling point to

its existing monitoring program, reporting efforts and other appropriate expenses of the District will be reimbursed by the County except as specified in Subsection A below. In this event, the County shall have no direct monitoring obligations except as noted below for major seismic events or as specified in Subsection C below. Absent a subsequent agreement for the District to assume monitoring and reporting responsibilities, the County will include such activities in its regular monitoring and inspection regime with copies of all tests forwarded promptly to the District based on the following table:

Task	Interval for Monitoring and Sampling After Project Startup	Additional Monitoring Triggered by Major Seismic Event (Richter, R) -
Monitor well hydrographic updates and analyses	Ongoing data logging of monitor wells, annual review	Risk class S1,S2,S3 R>6.0 Risk class S4,S5 R>7.0
Water quality sampling (parameters – nitrates, chloride, coliform, conductivity)	Risk class S1,S2,S3 – six months Risk class S4,S5 – five years	Risk class S1,S2,S3 R>6.0 Risk class S4,S5 R>7.0

- A. If the District assumes responsibility for long-term monitoring, based on a statistical evaluation of historical data obtained from the sampling points assumed by the District during the groundwater level monitoring program and the water quality monitoring program criteria related to expected water level changes in the District's source aquifer near the tunnel, and expected water quality changes will be established by the Parties. Water level fluctuations or water quality changes exceeding these criteria shall result in the County resuming responsibility for groundwater level monitoring and water quality monitoring for a minimum of one year. The County shall take other actions as appropriate such as tunnel inspection to determine if the changes result from the leakage into or out of the tunnel.
- B. The County will conduct a thorough final construction inspection prior to routing flows through the tunnel. The District will be invited to participate in this inspection. The County will also conduct a comprehensive inspection of the tunnel ten (10) years after system start-up and at a minimum, every ten (10) years thereafter.
- C. In addition, the County will undertake an inspection of the tunnel after the occurrence of any major seismic event outside of the tunnel design parameters for risk classes S4 and S5. For risk classes S1, S2 and S3, the County will undertake an inspection of the tunnel after a major seismic event where $R \geq 7.5$ or the tunnel design parameter, whichever is less.

5. Water Supply Replacement Program

Following issuance of a Draft EIS ("DEIS") for the Project, the District submitted comments, posed many questions, and called for additional studies in a number of areas.

The District agrees that the technical reports subsequently issued by the County address a number of issues that had been raised in the DEIS comments relating to the District's source aquifer. The District has received the Final EIS ("FEIS") and believes that it adequately addresses the probable significant adverse environmental impacts of the tunnel that relate to the District's source aquifer. The District also believes that the FEIS, together with this Agreement, does a reasonable job of addressing the measures, which will be needed to mitigate the environmental impacts of the tunnel. Accordingly, the District agrees that it will not file an administrative appeal of the adequacy of the Brightwater State Environmental Policy Act (SEPA) FEIS.

The District has a duty to the Lake Forest Park community and a legal interest in protecting its water sources and supply resources. It wishes, at this early stage in the tunnel planning process, to address the future possibility that the tunneling within the Lake Forest Park area may in fact turn out to have impacts not contemplated in the FEIS. The Parties agree that the likelihood of these impacts actually occurring appears to be remote and speculative based on the analysis contained within the FEIS. Nonetheless, the Parties agree to address, in advance, possible mitigation measures that the County will commit to as a reasonable safeguard. The County's willingness to make this offer at this time is one form of community incentive and mitigation for this essential public facility. It will address general community incentives and stated needs. For communities along the tunnel route, the state Growth Management Act regulations in Chapter 365-195 WAC authorize and encourage such community incentives and mitigation for communities affected by essential public facilities.

Therefore, the County agrees to perform at its sole expense the following options of mitigation: (1) drilling and development of a new deep well water source and, (2) in the event that this mitigation measure is technically or legally infeasible, creating an intertie for the District to obtain potable water from Seattle Public Utilities, and assume the costs related to this endeavor so there is no net loss to the District compared to its existing water source.

The District understands that securing either of these additional mitigation measures may take several years and involve numerous steps with third parties. The Parties specifically acknowledge that obtaining a change in its water rights is outside of the control of the County and that jurisdiction over that determination is exclusively accorded to the Washington State Department of Ecology. The Parties also specifically acknowledge that both the well and the intertie options require permits authorized and approved by permitting authorities other than the County. Accordingly, the Parties specifically acknowledge that there is no assurance that either the new well or the intertie mitigation option will in fact be legally feasible. Nonetheless, the Parties agree that the County will exercise good faith efforts to make the District whole, as defined herein, by applying for such approvals and permits, constructing such facilities and paying all costs pursuant to this Agreement within a reasonable time. The County's "good faith efforts" are defined as performing requisite engineering and planning, applying for appropriate permits and approvals and, if appeals are necessary, prosecuting or defending those permits and

approvals using competent counsel and experts. Permitting shall be done in consultation with the District and with assistance of the District as needed.

A. Construction of Replacement Facilities

- (1) New well. As set forth above, the County shall at its sole cost, drill and develop an additional back-up water supply well or wells within the District or in the vicinity of the District that will meet the District's current annual and instantaneous ground water withdrawal rights. The County will drill and develop a new well or wells to meet the appropriate Washington State Department of Ecology standards or requirements at the County's sole expense. The new well or wells will meet the appropriate (current at time of tunnel commissioning) Washington State Department of Ecology, Environmental Protection Agency and Washington State Department of Health requirements without treatment. The County will also construct and pay the actual costs of any new pumps, piping, electrical service or other appurtenances that are required to connect the new well or wells to the District's water distribution system in accordance with accepted public utility standards, including the costs of design and permitting. Any such improvements and replacement or supplemental water rights, if any, would be vested in the District at no cost to the District. All designs and specifications for such work would be subject to the District's prior written approval, which shall not be unreasonably withheld. The County shall reimburse the District for its costs of review and ancillary support as identified in Exhibit 3.
- (2) Upgrade interties. If the new well drilling and development program defined in paragraph (1) above is unsuccessful in meeting the District's current annual and instantaneous ground water withdrawal rights, then the County will create an intertie with Seattle Public Utilities (SPU). The County will install a new water main, pumps and appurtenances if necessary, so that they will be capable of providing a permanent water service to existing customers of the District. The County, with the District's support, shall be responsible for designing, obtaining permits and constructing such improvements. The District shall be given the opportunity for review and timely comment on the specifications and must participate in the project's design and constructability reviews and field inspections. The County shall reimburse the District for its costs of review as identified in Exhibit 3.
- (3) Such facilities shall be constructed in a good and workmanlike manner. The District shall own and operate the above facilities upon completion.

Exhibit 2

Definitions:

- A. Project shall mean design, construction and commissioning of the Brightwater wastewater conveyance and treatment system.
- B. Tunnel shall mean the sewage effluent conveyance tunnel that runs from the Brightwater sewage treatment plant to a marine outfall discharging to Puget Sound.
- C. Conveyance alignment shall mean the route and depth of the tunnel.
- D. Water quality shall be based on Washington State Department of Health criteria as it may be amended from time to time.
- E. Design criteria shall mean sound and accepted tunnel construction standards for municipally owned and operated underground sewer effluent conveyance tunnels.
- F. Risk and risk classes shall mean risk has been expressed as the product of probability and potential loss. A comprehensive program for limiting risk must account for the product of these factors. i.e. risk = probability of failure x magnitude of potential loss.
- G. S1. Tunneling or portals within the District's source aquifer.
- H. S2. Tunneling that crosses through the District's source aquifer.
- I. S3. Tunneling through the confining materials below the District's source aquifer or where there is a potential for exfiltration.
- J. S4. Tunneling through the confining materials below the District's source aquifer.
- K. S5. Tunneling below the District's source aquifer with natural silt or clay aquitard separating the District's aquifer from the proposed tunnel or portals.
- L. Aquifer shall mean the District's source aquifer to be determined by testing and completing as defined in Section 1 of Exhibit 1 attached to this Agreement and as otherwise found by subsequent activities.
- M. Major seismic event. An earthquake which has an epicenter within 100 miles of the conveyance alignment, and which also has a magnitude 6.0 or 7.0 or greater depending on the risk category, as measured by the Richter Scale as determined by the University of Washington Pacific Northwest Seismograph Network.
- N. Richter Scale. A logarithmic scale for expressing the magnitude of a seismic event in terms of energy dissipated. Defined by the United States Geological Survey (USGS) as ML local ("Richter") magnitude $ML = \log A - \log A_0$. Defined by Richter (1935) where A is the maximum trace amplitude in millimeters recorded on a standard short-period seismometer and is a standard value as a function of distance where distance ≤ 600 kilometers.
- O. EPA shall mean Environmental Protection Agency.
- P. "To make the District whole" is defined as the County ensuring there is no financial burden incurred or borne by the District due to reduced water quality or capacity from the

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District's water source aquifer caused directly or indirectly by the installation or operation of the tunnel. The County's obligation "to make the District whole" shall include, but not be limited to, reimbursement of costs incurred or borne by the District as a result of such reduction.

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Exhibit 3

Scope of Services December 1, 2003 to December 31, 2011

Work Task	Dates Start (End)	Professional Services	Estimated Hours per Year	Nominal Rate	Estimated Total Hours	Extension
Participating in County project meetings as invited	11/25/2003 (12/31/2011)	Professional Services	58	\$87.50	410	\$35,880
Consulting on the tunnel project with the District as required and providing comments and recommendations to the Project design and construction teams	11/25/2003 (12/31/2011)	Professional Services	67	\$87.50	480	\$42,080
Review/comment on the progress of the monitoring of tunnel construction	12/31/2008 (12/31/2009) (est.)	Professional Services	160	\$76.67	161.7	\$12,400
Review and ancillary assistance with development of alternate water supply or intertie	12/31/2003 (12/31/2008)	Professional Services	235	\$87.50	934	\$81,750
Total						\$172,110

14968

Exhibit 4

