

**HIGHLINE WATER DISTRICT
KING COUNTY, WASHINGTON**

RESOLUTION 19-7-3B

RESOLUTION AUTHORIZING AMENDMENT #5 TO CONTRACT #16-60-09 WITH RH2 ENGINEERING, INC. FOR ADDITIONAL DESIGN AND PERMITTING SERVICES FOR THE MANSION HILL PUMP STATION AND TO COMBINE PROJECT INTO THE PUMP STATION NO. 8 CONSTRUCTION PROJECT

WHEREAS, Resolution 16-3-2C authorized Contract #16-60-09 with RH2 Engineering, Inc. for Phase 1 - Predesign of Project 16-2 Pump Station No. 8 (Crestview); and

WHEREAS, Resolution 17-1-18B authorized Amendment #1 for Phase 2 - Design, Permitting Assistance and Services During Bidding; and

WHEREAS, Resolution 17-8-2C authorized Amendment #2 for Architectural Design for Pump Station Exterior; and

WHEREAS, Resolution 18-10-17 authorized Amendment #3 for a design change to relocate the backup power generator from an outdoor location to inside the proposed building to improve sound requirements (Tukwila Municipal Code 8.22.110.A.7); and

WHEREAS, Resolution 19-2-6C authorized Amendment #4 for permitting assistance and the final design phase including, but not limited to: water main realignment; site and storm water conveyance redesign; and overall detailing of the design plans associated with the indoor emergency generator; and

WHEREAS, the District requested RH2 Engineering, Inc. submit a Scope of Services and Fee Estimate proposal for Amendment #5 to cover additional permitting services for Pump Station No. 8 and to combine the Mansion Hill Pump Station to the construction contract for economics and efficiencies; and

WHEREAS, the Mansion Hill Pump Station will be reimbursed by Sound Transit through agreement between Highline Water District and Sound Transit; and

WHEREAS, the General Manager and District Engineer have reviewed the 06/27/19 Scope of Work and Fee Estimate, submitted by RH2 Engineering, Inc. for the additional predesign and design services and recommend approval of this resolution.

NOW, THEREFORE, BE IT RESOLVED:

1. The Board of Commissioners approves Amendment #5 to Contract 16-60-09 with RH2 Engineering, Inc., for a not-to-exceed amount of \$234,474.00 (referenced as Attachment 1 and incorporated herein).
2. The General Manager or Designee is authorized to execute Amendment #5 for additional design and permitting assistance for Project 16-2 Pump Station No. 8 and Mansion Hill Pump Station.

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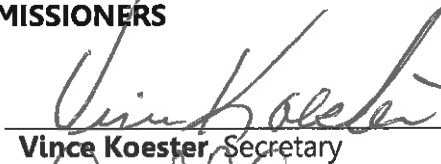
3. The General Manager and/or the District's legal counsel are authorized to make minor changes to Amendment #5 if required.
4. The Board of Commissioners authorizes combining the Mansion Hill Pump Station into the Pump Station No. 8 construction contract as a separate schedule.

ADOPTED BY THE BOARD OF COMMISSIONERS of Highline Water District, King County, Washington, at an open public meeting held on this **3rd** day of July **2019**.

BOARD OF COMMISSIONERS



Kathleen Quong-Vermeire, President



Vince Koester, Secretary



Todd Fultz, Commissioner



Daniel Johnson, Commissioner

George Landon, Commissioner



AMENDMENT #5

**CONSULTANT AGREEMENT FOR SERVICES
RH2 ENGINEERING, INC. – CONTRACT # 16-60-09
PROJECT 16-2 PUMP STATION NO. 8 (CRESTVIEW) AND
MANSION HILL PUMP STATION**

RH2 Engineering, Inc. has requested additional compensation (**Exhibit(s) A and B**), attached, and incorporated herein, for the following design services:

Task	Description	Amount
2	Permitting Assistance for Pump Station No. 8 and Water Main	\$ 9,634.00
8	Mansion Hill Pump Station Hydraulic Analysis	\$ 9,350.00
9	Mansion Hill Pump Station Preliminary Design (30-Percent)	\$ 18,994.00
10	DOH Coordination	\$ 24,981.00
11	Permitting Assistance	\$ 8,704.00
12	Mansion Hill Pump Station Final Design	\$ 154,769.00
13	Services During Bidding	\$ 8,042.00
	Contract Revision Total	\$ 234,474.00
	Previous Contract Amount	\$ 583,228.00
	Revised Contract Amount	\$ 817,702.00

RH2 Engineering, Inc. will undertake the above-referenced additional work on a time-and-expense basis. The same standard general terms and conditions will apply as agreed to in Contract #16-60-09 dated 3/09/16.

Effective Date. The effective date of this Amendment shall be the date signed by an authorized representative of the District.

HIGHLINE WATER DISTRICT

RH2 ENGINEERING, INC.

By: _____
Matt Everett

By: _____
Richard L. Ballard, PE

Title: General Manager

Title: Director

Date: _____

Date: _____

EXHIBIT A
Scope of Work
Amendment No. 5
Highline Water District
Pump Station No. 8 and Mansion Hill Pump Station
Additional Predesign and Design
June 2019

Background

Contract Summary to Date:

Original Contract:	\$74,296
Amendment No. 1:	\$397,042
Amendment No. 2:	\$15,000
Amendment No. 3:	\$59,890
Amendment No. 4:	\$37,000
This Amendment No. 5:	\$234,475 4
	(\$9,634 for Pump Station No. 8; \$224,840 for Mansion Hill Pump Station)
Revised Contract Amount:	\$817,703 2

RH2 Engineering, Inc., (RH2) was retained by the Highline Water District (District) to provide professional services for the design and permitting of the Pump Station No. 8 project.

Due to the proposed alignment of the Federal Way Link Light Rail project, the District relocated its 5.0 million gallon (MG) 490 Zone reservoir at its Mansion Hill Tank site. Since relocating this reservoir conflicted with the existing 0.25 MG elevated tank, the District demolished the 0.25 MG tank and decided to construct a new pump station to provide similar functionality to the existing Mansion Hill Pump Station for redundancy.

The new pump station will be evaluated to boost pressure in the Mansion Hill area from the 490 Pressure Zone to the 560 Pressure Zone, as well as to a future 600 Pressure Zone as part of overall water system improvements. To obtain economy of scale during construction and management, the District decided to combine the Mansion Hill Pump Station project with the Pump Station No. 8 project.

The following Scope of Work details the approach RH2 will use to design the Mansion Hill Pump Station, assist the District with permits for this project, and assist the District during the bidding process for the combined Mansion Hill Pump Station and Pump Station No. 8 projects.

Services during construction are not included in this Scope of Work and will be prepared under a separate amendment at the District's request.

Task 2 – Permitting Assistance for Pump Station No. 8 and Water Main

Task 2 is amended to cover additional services in association with the permitting assistance task including, but not limited to, additional permitting coordination with the City of Tukwila Planning and Public Works Departments and additional permitting coordination for the City of SeaTac (SeaTac) right-of-way permit.

Task 8 – Mansion Hill Pump Station Hydraulic Analysis

Objective: Perform hydraulic analyses to size the proposed pump station improvements. Maintain existing functionality to boost to the 560 Pressure Zone and identify improvements for boosting to the future 600 Pressure Zone.

Approach:

- 8.1 Confirm that the District's existing hydraulic model is up to date. Confirm that the facility setpoints and demands match the descriptions provided by District staff and its most recent *Water System Plan*.
- 8.2 Update the hydraulic model with the proposed improvements to pump from the 490 Pressure Zone to the 560 Pressure Zone to retain existing system functionality. Confirm the operation of the existing system to accommodate the proposed improvements. Perform hydraulic analyses to develop system head curves and the net positive suction head available for the pump station.
- 8.3 Update the hydraulic model with the proposed improvements to pump from the 490 Pressure Zone to the future 600 Pressure Zone to determine necessary upgrades for proposed water system improvements. Confirm the operation of the existing system to accommodate the proposed improvements. Perform hydraulic analyses to develop system head curves and the net positive suction head available for the pump station.
- 8.4 Prepare a technical memorandum summarizing pump station configuration and associated costs.

Assumptions:

- *RH2 will rely upon the accuracy and completeness of information, data, and materials generated or produced by the District or others in relation to this Scope of Work.*
- *The upper zone flow rate for the pump station will be determined from the hydraulic model and will be discussed with the District.*
- *It is assumed that the existing system (upper zone) has adequate capacity to accommodate the proposed pump station improvements. Hydraulic modeling will be performed only to confirm this capacity and/or identify additional distribution system improvements. Distribution system improvements are not included in this Scope of Work.*
- *It is assumed that the hydraulic model provided by the District is up to date with all system improvements and has been calibrated to industry standards.*

District Deliverables:

- Hydraulic model calibrated in 2018 and H2ONET compatible.
- Existing operational description and setpoints of existing reservoirs and wells.
- Distribution system as-builts and pertinent distribution system information.
- Desired operational description of proposed system.

RH2 Deliverables:

- Two (2) hard copies and one (1) electronic copy of the technical memorandum summarizing pump options, including pump curves.

Task 9 – Mansion Hill Pump Station Preliminary Design (30-Percent)

Objective: Prepare preliminary pump station construction plans and an estimate of probable construction cost for review by the District. *Specifications will not be provided as part of this Task. The design criteria developed during preliminary design will be expanded further based on the District's preferences established as part of preliminary design.*

Approach:

- 9.1 Develop a design criteria checklist with the pertinent information for the pump station design, including mechanical, appurtenances, electrical, and controls. Attend one (1) meeting with the District to discuss design criteria and options.
- 9.2 Prepare the preliminary site design based on survey completed for the reservoir project. Review geotechnical information from projects located nearby and summarize findings in a technical memorandum.
- 9.3 Based on the requirements contained in Washington Administrative Code (WAC) 246-290-235 and the current Washington State Department of Health (DOH) *Water System Design Manual*, calculate the size of the proposed pump station. Prepare the preliminary mechanical design, including piping layout and minor mechanical equipment sizing for the booster pumps.
- 9.4 Attend one (1) meeting and participate in discussions for providing power options to the site with the power utility. Include a preliminary cost analysis for construction and service costs as part of the preliminary construction cost estimate. Establish electrical equipment dimensions for determining the size of the building.
- 9.5 Prepare the preliminary electrical power supply requirements and backup power supply requirements. Develop an electrical one-line diagram identifying the electrical equipment and interconnections between equipment.
- 9.6 Develop a process and instrumentation diagram (P&ID) identifying the instrumentation equipment and interconnections between the instrumentation components and control equipment. Design of the District's supervisory control and data acquisition (SCADA) improvements will be performed by the District's integrator, S&B, Inc., who will contract with the District directly.
- 9.7 Prepare a preliminary estimate of probable construction cost based on the extent of the improvements identified in the preliminary design phase. Prepare overall project schedule.

Assumptions:

- *RH2 will rely upon the accuracy and completeness of information, data, and materials generated or produced by the District or others in relation to this Scope of Work.*

District Deliverables:

- Survey drawing in CAD format.
- Mansion Hill reservoir geotechnical report.

RH2 Deliverables:

- One (1) electronic copy of the design criteria checklist (PDF).
- One (1) electronic copy of the technical memorandum summarizing site design and geotechnical review (PDF).
- One (1) electronic copy of meeting minutes for design criteria meeting (PDF).
- Two (2) half-size hard copies and one (1) electronic copy of 30-percent pump station design plans (PDF).
- One (1) electronic copy of preliminary estimate of probable construction cost and project schedule (PDF).

Task 10 – DOH Coordination

Objective: Develop a project report that meets DOH requirements for construction of a new pump station and amend the District’s latest *Water System Plan* (WSP) with this improvement.

Approach:

- 10.1 Prepare hydraulic profile diagrams, including the existing system and the existing system with the Mansion Hill Pump Station Improvements.
- 10.2 Prepare an existing system figure with pipes color-coded by pressure zone.
- 10.3 Prepare a DOH project report based on applicable WAC report requirements. Document the background of the project and objectives, pump station recommendations, design criteria, schedule, and cost estimates.
- 10.4 Prepare an amendment to the District’s latest WSP to include the proposed pump station improvements.
- 10.5 Submit the project report and WSP amendment to DOH. If necessary, respond to DOH comments by letter to help obtain project report and WSP approval. *RH2 cannot guarantee agency approvals. It is assumed that there will be only one (1) round of review comments from DOH.*
- 10.6 Submit project report and WSP amendment to King County and SeaTac to obtain consistency statements.

Provided by the District:

- PDF and Word Doc of current *Water System Plan*.

RH2 Deliverables:

- Two (2) hard copies and one (1) PDF file of the final project report/WSP Amendment documents to DOH.
- Two (2) hard copies and one (1) PDF file of the final project report/WSP Amendment documents to King County.
- One (1) PDF file of the DOH Local Government Consistency Determination Form to King County.

- Two (2) hard copies and one (1) PDF file of the final project report/WSP Amendment documents to SeaTac.
- One (1) PDF file of the DOH Local Government Consistency Determination Form to SeaTac.
- Letter responses to DOH review comments, if necessary.

Task 11 – Permitting Assistance

Objective: Provide permitting assistance to the District to construct the proposed Mansion Hill Pump Station.

Approach:

- 11.1 Coordinate with SeaTac regarding planned project improvements and anticipated permits.
- 11.2 Prepare a commercial building permit application for the project and submit to SeaTac. *The building permit will be submitted during final design. The effort estimated for this subtask is based on RH2's current understanding of the requirements for commercial building permits in SeaTac; project-specific requirements may require more or less effort related to the building permit.*
- 11.3 Coordinate with agency staff (including SeaTac) to review applications and respond to requests for additional information following permit submittals. If necessary, respond to SeaTac comments by letter to help obtain approval. *RH2 cannot guarantee agency approvals. The level of effort that will be necessary for agency coordination is difficult to estimate; therefore, RH2 has estimated a level of effort that is typical for permit coordination and facilitation. It is assumed that there will be up to two (2) rounds of review comments from SeaTac. If additional coordination is needed, RH2 can prepare an amendment to this Scope of Work.*

Assumptions:

- *No planning documentation is required with SeaTac.*
- *One (1) City of SeaTac building permit will be required for this project. The District has already obtained a permit for site improvements.*
- *The proposed Mansion Hill Pump Station site does not contain wetland and/or stream features, or other critical areas. A critical areas study will not be required for this project.*
- *Since the project is not receiving state funding, compliance with Governor's Executive Order (GEO) 05-05 will not be required.*
- *The project will not be disturbing over one (1) acre of land. A Construction Stormwater General Permit through the Washington State Department of Ecology will not be required.*

Provided by the District:

- Payment of all permit fees directly.
- One (1) electronic copy of the findings of the SeaTac pre-application meeting in PDF format.
- Attendance at permit submittal meetings.

RH2 Deliverables:

- One (1) electronic copy of the commercial building permit application in PDF format.

- One (1) electronic copy of records of all correspondence and coordination with agency staff in PDF format.

Task 12 – Mansion Hill Pump Station Final Design

Objective: Prepare the final design for the Mansion Hill Pump Station and related improvements.

Approach:

- 12.1 Finalize the design criteria for the pump station based on the results of project predesign, DOH Project Report, and SeaTac pre-application meeting.
- 12.2 Review Mansion Hill site and related documents in preparation for pump station and water main design, including geotechnical report and survey information.
- 12.3 Prepare site and utility design plans, including demolition plan, site grading, access to the proposed pump station, utilities, and stormwater improvements.
- 12.4 Identify structural design criteria and prepare structural calculations and plans, including building elevations, foundation plan, floor plan, roof plan, structural sections, and structural details. *It is assumed that the pump station will be a single story, concrete masonry unit (CMU) structure.*
- 12.5 Prepare mechanical design plans of supply and discharge water supply pipelines, valves, and pumps (plan view, sections, and mechanical details). Prepare mechanical design plans for ventilation, heating, and dehumidification equipment and conduits.
- 12.6 Prepare electrical and control design plans (legend, one-line diagram, power distribution and signal plan, lighting and receptacle plan, details, schedules, control logic diagrams, and telemetry/control panel details).
- 12.7 Prepare emergency generator design plans and details. *It is assumed that the engine generator set will be above-grade and in a sound-attenuating enclosure.*
- 12.8 Update Pump Station No. 8 non-technical and technical specifications for the Mansion Hill Pump Station addition as a separate schedule.
- 12.9 Finalize the Engineer's Estimate of probable construction cost.
- 12.10 Prepare and submit 60-percent complete plans and specifications to the District for review and comment, and submit with building permit application. Perform in-house quality assurance/quality control (QA/QC) review and revision. Meet with District staff to receive comments on 60-percent design plans and specifications.
- 12.11 Respond to comments and develop 90-percent complete plans and specifications. Perform in-house QA/QC review and revision. Submit 90-percent complete plans and specifications to the District for review and comment. Meet with District staff to receive comments on 90-percent design plans, bidding documents, and specifications.
- 12.12 Finalize construction documents. Respond to District and permit review comments.

Provided by the District:

- District comments on 60- and 90-percent design plans and specifications.
- Meeting attendance at 60- and 90-percent plan completion levels.

RH2 Deliverables:

- Three (3) hard copies and one (1) PDF of the 60-percent Mansion Hill Pump Station design plans (11-inch by 17-inch), and one (1) PDF of the 60-percent specifications for the District's review. One (1) meeting with the District for 60-percent review comments.
- Three (3) hard copies and one (1) PDF of 90-percent Mansion Hill Pump Station design plans (11-inch by 17-inch), and one (1) PDF of the 90-percent specifications for the District's review. One (1) meeting with the District for 90-percent review comments.
- Three (3) hard copies and one (1) PDF of final Mansion Hill Pump Station final design plans (11-inch by 17-inch) and one (1) full-size copy (22-inch by 34-inch).
- Three (3) hard copies and one (1) PDF of bid documents and specifications.
- One (1) electronic copy of the Engineer's Estimate of probable construction cost in PDF format.

Task 13 – Services During Bidding

Objective: Assist the District with project advertisement and bidding.

Approach:

- 13.1 Prepare electronic bid documents and distribute to bidders via online posting site. Prepare three (3) half-size plans and bidding documents for use by RH2 and the District during bidding.
- 13.2 Prepare advertisement and submit to the Daily Journal of Commerce (DJC) and Builders Exchange of Washington for advertising.
- 13.3 Respond to technical questions from bidders, including attendance at a pre-bid meeting on site, if necessary.
- 13.4 Prepare and transmit up to two (2) addenda, if necessary.
- 13.5 Compile bid results review the lowest three (3) bids, check references for the lowest bidder, and prepare a letter of recommendation of award to the District. *It is assumed that the District will handle bid award and construction contract execution.*

Assumptions:

- *It is assumed that the District will pay the online posting and advertisement fees directly.*

Provided by the District:

- The District will conduct the bid award and handle construction contract execution.

RH2 Deliverables:

- Preparation of plans, specifications, and bid documents for the District and RH2. Three (3) hard copies and one (1) PDF of 11-inch by 17-inch plan sets. Three (3) hard copies and one (1) PDF of bid documents and specifications.
- Electronic posting of bid documents.
- Assist vendors and bidders, via phone, during the advertisement phase.
- Preparation of up to two (2) addenda in electronic PDF format.
- One (1) electronic copy of the bid tabulation in PDF format.
- Reference check of lowest bidder.
- One (1) electronic copy of the project award recommendation letter in PDF format.

EXHIBIT B

Highline Water District

Pump Station No. 8 and Mansion Hill Pump Station

Amendment No. 5 - Additional Predesign and Design

Fee Estimate

Description Classification	Total Hours	Total Labor	Total Subconsultant	Total Expense	Total Cost
Task 2 Permitting Assistance for Pump Station No. 8 and Water Main	50	\$ 9,356	\$ -	\$ 278	\$ 9,634
Subtotal Pump Station No. 8 Tasks	50	\$ 9,356	\$ -	\$ 278	\$ 9,634
Task 8 Mansion Hill BPS Hydraulic Analysis	50	\$ 9,101	\$ -	\$ 249	\$ 9,350
Task 9 Mansion Hill BPS Preliminary Design (30-Percent)	92	\$ 16,890	\$ -	\$ 2,104	\$ 18,994
Task 10 DOH Coordination	132	\$ 24,215	\$ -	\$ 766	\$ 24,981
Task 11 Permitting Assistance	42	\$ 7,944	\$ -	\$ 760	\$ 8,704
Task 12 Mansion Hill BPS Final Design	756	\$ 142,104	\$ -	\$ 12,665	\$ 154,769
Task 13 Services During Bidding	41	\$ 7,844	\$ -	\$ 198	\$ 8,042
Subtotal Mansion Hill Pump Station Tasks	1113	\$ 202,098	\$ -	\$ 16,742	\$ 224,840
PROJECT TOTAL	1163	\$ 217,454	\$ -	\$ 17,021	\$ 234,475

Agenda Item No.: 5.2
Agenda Date: 07/03/19
Reviewed By: 

RE: Authorize Amendment #5 – RH2 Engineering, Inc. - Contract #16-60-09
Project 16-2 Pump Station No. 8 (Crestview) and Mansion Hill Pump Station

CATEGORY	
<i>Executive</i>	<input type="checkbox"/>
<i>Administrative</i>	<input type="checkbox"/>
<i>Engineering/Operations</i>	<input checked="" type="checkbox"/>

FINANCIAL						
<i>Expenditures?</i>	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A	<input type="checkbox"/>
<i>Budgeted?</i>	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A	<input type="checkbox"/>
<i>Estimated Amount:</i>		\$		<u>234,474.00</u>		
Excludes sales tax						

ATTACHMENTS:

1. Resolution 19-7-3B w/Attachment 1

COMMENTS:

At the request of the District, RH2 Engineering, Inc., submitted submit a Scope of Services and Fee Estimate proposal for Amendment #5 to cover additional services to add Mansion Hill Pump Station to the Pump Station No. 8 project.

The General Manager and District Engineer have reviewed the 06/27/19 Scope of Services and Fee Estimate and recommend approval of this resolution.

Staff is recommending combining the work of Pump Station No. 8 and the Mansion Hill Pump Station into one construction contract for economics and efficiencies in managing the contract.