



March 4, 2025

City of Rochester Hills
511 E. Auburn Road
Rochester Hills, Michigan 48307

Attn: Tracey Balint, P.E., City Engineer

Re: PRV 20 Improvements
Proposal for Professional Engineering Services

HRC Job No. 20240982

Dear Ms. Balint:

In accordance with your request, we are pleased to present you with a proposal and estimated budget to provide preliminary engineering and design development services for the above referenced project. We have developed a comprehensive understanding and gained valuable insights on the scope of work through prior discussions with your Department of Public Services (DPS) staff, completion of the 2019 Water System Reliability Study and from previous water system improvement projects with the City.

BACKGROUND

The City of Rochester Hills would like to upgrade or replace/relocate the existing underground valve vault at PRV 20 and upsize the pressure reducing valves (PRVs) and piping within the structure. PRV 20 is one of the two main feeds to Pressure District #1 (with PRV #18 being the other supply, and current lead). Pressure District #1 supplies the southeast corner of the City, loosely defined as north of South Blvd, west of Dequindre and diagonally from Rochester Rd and South Blvd to Dequindre Rd. and Avon Rd., containing all of Sections 24, 25, 26, 35 and 36 and portions of Sections 13, 23, 27, and 34.

PRV 20 is located along the west side of Dequindre Rd., just south of Avon Rd. A new 20-inch diameter water main was recently constructed as part of the Avon/Dequindre roundabout project from the 30-inch along Avon Rd to just north of the PRV 20 valve vault. It was discussed during the development of the City's 2019 Water System Reliability Study and subsequent conversations, that the City would like utilize PRV 20 more as the lead supply to Pressure District #1. However, preliminary analysis at that time showed that head losses through the 16-inch water main along Dequindre, and the PRV sizes within the vault at PRV 20, limited the flow that could be provided and proved that PRV 20 was not currently suited to be the lead supply. In addition, it is our understanding that an updated analysis of the capacity at PRV 20 (that included the new 20-inch water main, along with the potential upsizing of the PRVs at PRV 20) is requested as part of this project.

Lastly, it is our understanding that the City would like the location of PRV 20 reviewed as well as the configuration and materials of that valve vault and the control systems. The current valve vault is fairly close to the road in a very congested area. If it is not feasible or desired to reuse the existing valve vault, a new location for the underground vault needs to be considered to maintain water system operations during construction.

PRELIMINARY ENGINEERING (STUDY PHASE)

HRC will provide hydraulic model analyses of the water system to evaluate the effectiveness of recent and proposed improvements in and around PRV 20 to determine the site's ability to serve as the primary supply for Pressure District #1 and/or the benefits that different configurations and PRV sizing may have on water system operations. HRC will provide recommended improvements based on the City's goals and objectives for the PRV 20 site and develop a Basis of Design Report to help scope the proposed project for design development. HRC will also review with the City, the different types of underground valve vaults available, their pros and cons, costs and the available sites in which they could be built.

HRC proposes two (2) meetings during the Preliminary engineering phase; 1) a kickoff meeting to discuss the background of the site and revisit historical operations and review the City's expectations for the project and 2) a Basis of Design review meeting, to assess the draft Basis of Design report prior to beginning design development.

DESIGN DEVELOPMENT SERVICES

HRC will need to supplement as-built topographic survey and utility information completed as part of the Avon/Dequindre roundabout project to collect information in areas needed to determine right-of-way constraints, existing utilities and where best the new PRV facility, if necessary, would fit within the existing features of the area. Additionally, supplementary property and boundary research will need to be done to define the limits of the right-of-way in the area and determine if any property or easement acquisition is necessary as part of the project.

HRC proposes a series of three (3) meetings as the design progresses. A kickoff meeting to discuss project goals and delivery timelines is necessary to program the design process. This kickoff meeting can coincide with the draft Basis of Design Report review meeting if the City desires to expedite the design process. Owner review meetings would be facilitated at approximately the 75% and final design stages to allow opportunity for City staff input into design details such as facility siting, equipment configuration, performance specifications, and sequence of construction. Meeting agendas, notes, attendance sheets, and other project communications would be provided by HRC. HRC will provide all services required to deliver a complete biddable set of construction contract documents for the improvements based on our understanding of the project and the scope of work developed in the preliminary engineering phase and discussed during the project kickoff meeting and subsequent review meetings. This effort will include any necessary field work, equipment review, preparation of permit applications, and identified draft submittals. Additionally, during the bidding process, HRC would assist the City with a pre-bid meeting if it is required.

HRC will request utility data from the companies, including municipal utilities, in the project area and add the necessary line work in plan and profile to the plans. HRC will include additional depth information to be provided by the respective utility companies and will schedule and attend meetings to coordinate existing information and potential conflicts. HRC has assumed that municipal facilities will not require relocation and has not included design and permitting of these facilities in this scope of work.

It is recommended that any long lead time items, such as PRVs, special structures, large diameter pipe and fittings and large valves, be pre-purchased ahead of bidding so that they will be available for incorporation into the work in accordance with the desired construction schedule. It is assumed that any pre-purchasing of materials or equipment from a local vendor will be coordinated through the City. However, HRC will work with the City to determine the appropriate materials and sizes of the equipment and fittings for the new PRV and associated work and review all shop drawings and purchase orders to confirm compliance with the City specifications.

It is our understanding that the City will utilize their existing engineering services agreement with a geotechnical sub-contractor to evaluate the subsurface conditions of the project area and requests that HRC coordinate with this sub-contractor for the geotechnical work required. It is also assumed that the City will handle any necessary mechanical, electrical, and/or plumbing permits internally; however, it will be noted in the Contract Documents that the Contractor will need to pull any that are necessary.

ADDITIONAL SERVICES

HRC has excluded easements and/or right-of-way acquisition services from our proposal. At this time, it is unknown if additional easements or right-of-way will be required to construct the PRV facility. Should additional property be required, HRC can provide a separate proposal for services upon request.

This proposed fee does not include construction engineering services. HRC would welcome the opportunity to provide these services which we feel are vital to the successful construction of the proposed project. We would appreciate the opportunity to discuss these services as the project gets closer to the letting date and can issue a subsequent proposal for these services under separate cover.

ANTICIPATED PROJECT SCHEDULE

HRC estimates that preliminary engineering can be completed within 6 to 8 weeks of the anticipated project start date. Design of this project can be completed within 3 to 4 months following your authorization to proceed, however, EGLE permitting delays will be the main driver of when this project can be constructed. Due to the importance of this connection to the supply to Pressure District #1, it is felt that construction during low demand periods would be most appropriate. Therefore, to meet this projected construction timeline and minimize potential risk of supply issues to Pressure District #1, the following schedule has been developed to help layout our milestones;

Study Phase Kickoff Meeting	January 13, 2026
Draft Basis of Design to City	February 19, 2026
Basis of Design Meeting	March 4, 2026
Finalize BOD, Begin Design Development	March 17, 2026
Topographic Survey	March 23, 2026 – March 27, 2026
75% Plans to City	May 21, 2026
75% Owners Review Meeting	June 2, 2026
Submit for Permits (Part 399, Electrical, etc.)	June 18, 2026
Anticipated Part 399 Permit Approval	October 15, 2026
Final Contract Documents	October 22, 2026
Project Procurement	November 2, 2026 – December 10, 2026
Project Award	January 11, 2027
Project Construction	February 2027 – May 2027

OPINION OF PROBABLE CONSTRUCTION COSTS

A \$620,000-\$825,000 budgetary range of construction cost that includes new underground PRV facility, PRVs, isolation valves and piping, electrical service and water main to connect the new facility to the existing transmission main system is estimated.

FEE SUMMARY

Our proposed Tasks and the estimated hours and fees to complete the work have been identified in Table 1 (attached). As shown, we have budgeted 550 hours for a proposed not-to-exceed fee of \$75,300 (9.1%-12.1%) for our Professional Engineering Services for this project (\$21,000 Study Phase, \$54,300 Design Development Phase). As noted previously, all work would be completed under the terms and conditions of our Agreement for Professional Engineering Services.

Daniel Mitchell, P.E., President will be the Principal In-Charge. We are proposing to utilize Bradley Shepler, P.E., as the Managing Engineer. Other key team members include Beth Clarke, PE, Senior Project Engineer, Michael Roskelley, P.E. Electrical Dept. Manager, Krista Schoonveld, Structural Engineer and Ray Chartouni, Staff Engineer as specialists in water distribution system hydraulic modeling and metering facility design and construction. All HRC staff members listed in this Proposal are familiar with this project and have extensive experience with the municipal water systems in the area. We believe you are familiar with all of these individuals but can provide detailed resumes upon request.

Once the City deems this proposal acceptable, we kindly request your signature on one copy to be promptly returned to our office, while retaining one copy for your records. We sincerely appreciate the opportunity to contribute our expertise to this vital water project and serve the City with utmost dedication.

If you have any questions or require any additional information, please contact the undersigned.

Very truly yours,

HUBBELL, ROTH & CLARK, INC.



Bradley W. Shepler, P.E., CCCA, LEED AP
Senior Associate

Attachment

pc: City of Rochester Hills; A. Hysinger, L. Luedeman, W. Rybak
HRC; D. Mitchell, B. Clarke, File

Accepted By:

Signature: _____

Written Name: _____

Title: _____

Dated: _____

**CITY OF ROCHESTER HILLS
PRV 20 IMPROVEMENTS**

**TABLE 1
ESTIMATED HOURS AND FEES**

March 4, 2025

HRC Job No. 20240982

Task Description	Rate Classification & Estimated Hours								Total Hours
	Managing Engineer	Sr. Project Engineer	Structural Engineer	Electrical Engineer	Staff Engineer	Cadd Technician	Survey Office Supervisor	Survey Crew (2 Person)	
Preliminary Engineering									
1 Review of Background Information/Scoping Confirmation	2	4	-	-	2	-	-	-	8
2 Kickoff Meeting	3	4	-	-	3	-	-	-	10
3 Hydraulic Modeling	4	24	-	-	8	-	-	-	36
4 Valve Vault Selection Evaluation	6	-	8	4	4	-	-	-	22
5 Basis of Design Memorandum	4	16	-	-	8	-	-	-	28
6 Basis of Design Review Meeting	3	6	-	-	3	-	-	-	12
7 Final Study Phase Deliverables	4	10	-	-	8	-	-	-	22
Sub Total	26	64	8	4	36	0	0	0	138
Design Development									
1 Design Kickoff Meeting	4	-	-	-	4	-	-	-	8
2 Topographical Survey & Processing	-	-	-	-	-	4	8	16	28
3 Geotechnical Investigation Coordination	4	-	8	-	2	-	-	-	14
4 Site Visit & Meetings (2)	8	-	4	4	8	-	-	-	24
5 Schematic Design (75%)	12	4	8	8	24	46	-	-	102
6 Design Development & Technical Specifications	16	8	20	12	24	24	-	-	104
7 Permitting	8	4	2	2	16	12	-	-	44
8 Final Design Phase Deliverables	8	-	8	4	24	24	-	-	68
9 Bidding & Procurement Assistance	4	-	2	2	4	8	-	-	20
Sub Total	64	16	52	32	106	118	8	16	412
PROJECT TOTALS	90	80	60	36	142	118	8	16	550

Notes:

- 1) Rates were developed projecting 2026 Calendar Year work.

ESTIMATED FEE SUMMARY

PERSONNEL	HOURS	RATE	TOTAL
Managing Engineer	90	\$ 193.00	\$ 17,400.00
Sr. Project Engineer	80	\$ 148.00	\$ 11,800.00
Structural Engineer	60	\$ 132.00	\$ 7,900.00
Electrical Engineer	36	\$ 139.50	\$ 5,000.00
Staff Engineer	142	\$ 129.00	\$ 18,300.00
Cadd Technician	118	\$ 85.00	\$ 10,000.00
Survey Office Supervisor	8	\$ 165.00	\$ 1,300.00
Survey Crew (2 Person)	16	\$ 225.00	\$ 3,600.00

TOTAL LUMP SUM NOT-TO-EXCEED \$ 75,300.00