



**CITY OF NOVI CITY COUNCIL**  
**FEBRUARY 7, 2022**

**SUBJECT:** Approval to award engineering design services to OHM Advisors for the design and implementation of operational improvements at the West Park Booster Station, in the amount of \$39,000.00.

**SUBMITTING DEPARTMENT:** Department of Public Works, Water & Sewer Division

<b>EXPENDITURE REQUIRED</b>	<b>\$ 39,000</b>
<b>AMOUNT BUDGETED</b>	<b>\$ 200,520</b>
<b>APPROPRIATION REQUIRED</b>	<b>\$ 0</b>
<b>LINE ITEM NUMBER</b>	<b>592-592.00-976.139</b>

**BACKGROUND INFORMATION:**

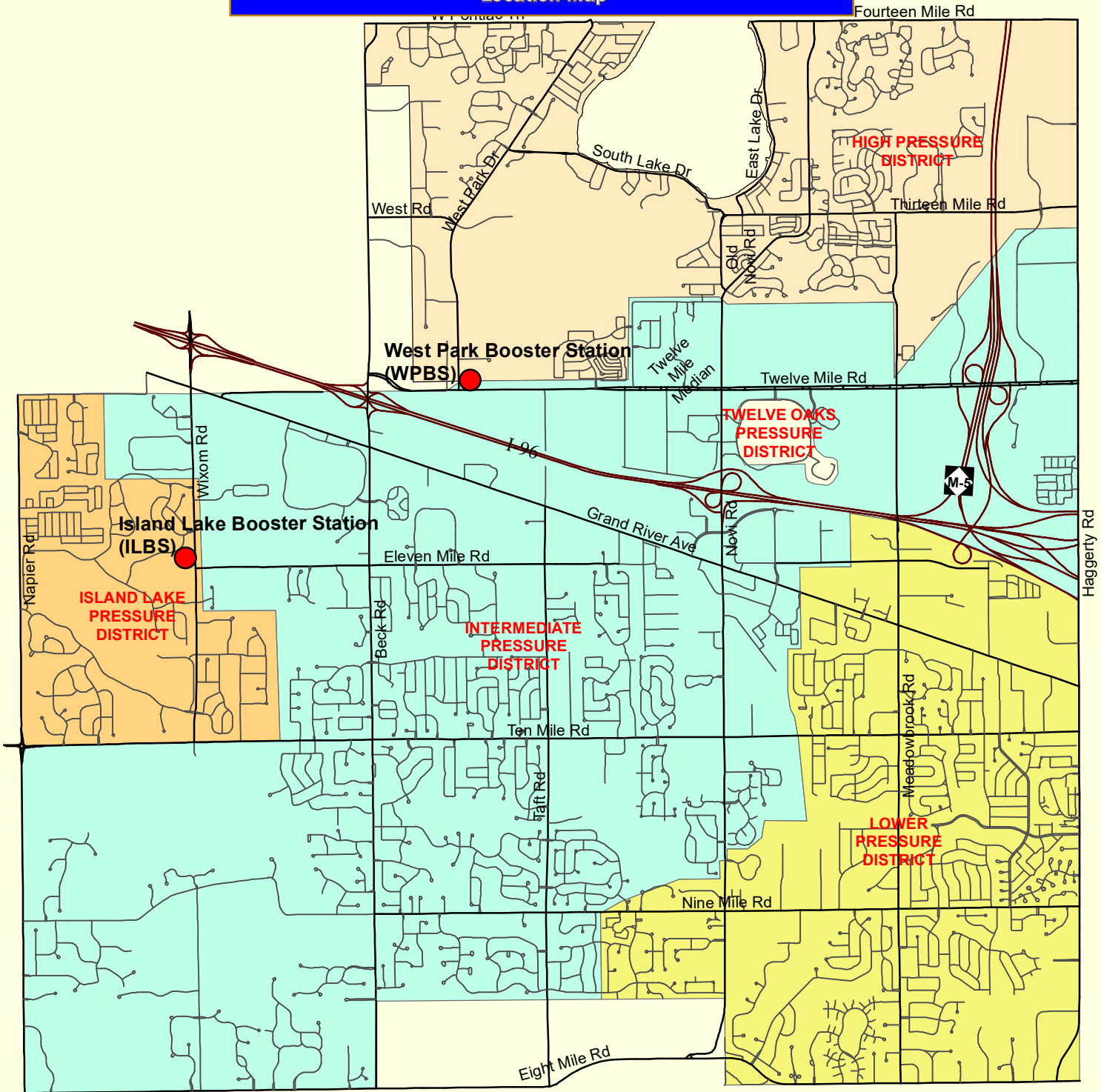
The 2014 Water System Master Plan update identified an expansion of the Island Lake Pressure District, one of four system pressure districts, to help with pressures and flows in the southwestern area of the City. A recent assessment of the operational changes associated with this improvement determined the analysis needed to include both water booster stations (Island Lake and West Park). In fact, the initial focus should be on the West Park Booster Station (WPBS), as improvements to this station may minimize the required improvements at the Island Lake Booster Station. A detailed analysis of West Park Booster Station will be completed to develop a process control narrative (PCN) to use for reprogramming and future operation of the WPBS. Development of the PCN will identify the physical improvements necessary for the station, which will then be completed as a second phase of this project. The estimate for these modifications to the station is \$153,700.

The attached design engineering services proposal outlines the detailed scope of services. The design fee for this project will be \$39,000, as described in the attached proposal. The goal is to implement these improvements this spring before the irrigation season begins allowing the modifications to be tested before the high demand period.

**RECOMMENDED ACTION:** Approval to award engineering design services to OHM Advisors for the design and implementation of operational improvements at the West Park Booster Station, in the amount of \$39,000.00.

# West Park/Island Lake Booster Stations

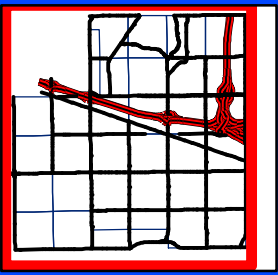
## Location Map



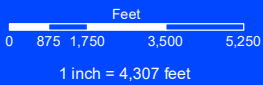
Map Author: Croy  
 Date: 1/26/2022  
 Project: WPBS Improvements  
 Version #: v1.0

**Map Legend**

- High
- Intermediate
- Island Lake
- Lower



**City of Novi**  
 Engineering Division  
 Department of Public Services  
 26300 Lee BeGole Drive  
 Novi, MI 48375  
 cityofnovi.org



**MAP INTERPRETATION NOTICE**  
 Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.



January 18, 2022

Ben Croy, PE  
City Engineer  
City of Novi  
26300 Lee BeGole Drive  
Novi, MI 48375

Regarding: PO Amendment Request for Professional Engineering Services for Pump Station Assessment  
**Improved Operational Flexibility at West Park Pump Stations**

Dear Mr. Croy,

OHM Advisors (OHM) is pleased to provide this contract amendment request for professional engineering services. Novi authorized OHM on May 10, 2021 for engineering services associated with the assessment of Island Lake and West Park pump stations. The intent of the assessments were to provide Novi with a better understanding of feasible pump station improvements that increase the stations' functionality and reliability. The findings of the assessment recognized the immediate focus should be towards improvements at West Park, as those improvements may minimize issues at Island Lake. This amendment request relates to the follow-on design for West Park pump station improvements.

To facility your review, this proposal is organized as follows:

- ▼ Project Understanding & Scope of Services
- ▼ Assumptions and Clarifications
- ▼ Schedule
- ▼ Fee

## **PROJECT UNDERSTANDING & SCOPE OF SERVICES**

In mid to late 2021, OHM completed an assessment of Island Lake and West Park pump stations. The findings of those assessments were provided in our July 26 and December 13, 2021 technical memorandums (and are not restated herein). The intent of this current authorization request is to advance on the engineer's scope of services outlined in the December 13, 2021 memorandum.

### Task 1: Assess & Recommend Project's Critical Path

- ▼ Novi seeks to have the West Park improvements completed by May 1<sup>st</sup>. As such, commissioning should proceed by early April 2022. As part of Task 1, we will develop an overall Project Schedule with notation of Task Owners to assess if the project can be completed before 2022's irrigation season begins. We will also develop an Equipment Schedule for the project's critical parts, along with anticipated manufacturer and model number. Select equipment may be directly procured by Novi to assist with meeting the project's May 1 deadline. Anticipated lead times for all major equipment will be included on the Schedules.
- ▼ In parallel with development of the Schedules, OHM will assess and recommend a final selection for flow metering at the station. The recommendation will consider equipment's lead time, accuracy, future maintenance needs, and cost.
- ▼ Coordinate with appropriate trades identified by the City of Novi as potential project Task Owners. The Task Owners were discussed during our January 14, 2022 call with the City. The Task Owners are to support project implementation. The vendors are expected to include Novi's as-needed mechanical contractor (unnamed), as-needed electrical contractor (Great Lakes), and SCADA integrator (ICS).



- Task 1 Deliverables: Project Schedule, Equipment Schedule, and (brief) Flow Metering Comparison Matrix Recommendation memorandum.

Task 2: Process Control Narrative

- Write a detailed process control narrative (PCN) for the contractor to use for programming the station and as a reference for Operators and Programmers. The PCN shall include loop summaries, equipment logic, control summary, alarms, set points, data displays, permissives, and interlocks.
- Task 2 Deliverables: Detailed PCN

Task 3: Implementation Services

- Support commissioning of the upgraded control system (up to five 8-hr days by one Engineer)
- Test and verify newly programmed operation modes
- Coordinate and review set points and alarming protocols
- Coordinate and review SCADA screens
- Write a brief commissioning report to describe the completed work and testing of the control system modifications and newly programmed operation modes
- Task 3 Deliverables: Commissioning report

Task 4: Pump Station Operations Manual

- Develop Operations Manual based on Process Control Narrative
- Provide updates to manual based on changes made during commissioning.
- Task 4 Deliverables: Operations manual

OHM will hold up to three, 1-hour conference call with Novi to support implementation of this project.

**ASSUMPTIONS AND CLARIFICATIONS**

The above-listed scope of services was prepared with the following assumptions:

- The City will provide OHM access to the site as part of Task 3
- Electronic deliverables are encouraged and suitable for Novi’s use as opposed to hard copies.
- Preparation of permits are not by Engineer. An EGLE Act 399 permit is not anticipated or included. Electrical or mechanical permits will be prepared and pulled by associated contractors.
- Due to the aggressive implementation timeline, Novi’s as-needed contractors shall be used. As such, a formal bidding process is not assumed or included.
- Attendance at public meetings is not necessary or included.
- If additional labor effort or change in schedule is required beyond described herein, OHM will negotiate an amendment with Novi. OHM will not proceed with additional services without written authorization to proceed from Novi.

**SCHEDULE**

The following table outlines the task durations for major project milestones.

TASK	TASK DURATION (IN WEEKS)
Task 1: Assess & Recommend Project’s Critical Path	2
Task 2: Process Control Narrative	2-4
Task 3: Implementation Services	2-4
Task 4: Pump Station Operations Manual	2



We are prepared to commence Task 1 upon receipt of your written authorization to proceed. If the results of Task 1's efforts identify the project cannot be implemented by May 1, 2022 then OHM will work with Novi to assess if the remaining Tasks will immediately proceed or be postponed to the next winter period.

**FEE**

Our professional services will be performed in accordance with the *Civil Engineering Consulting Services Agreement between the City and OHM Advisors*. OHM Advisors will provide the above-outlined services for a not-to-exceed fee of thirty nine thousand dollars (\$39,000), based on the task breakdown shown below:

Task 1 – Assess & Recommend Project's Critical Path	\$ 5,000
Task 2 – Process Control Narrative	\$ 12,000
Task 3 – Implementation Services	\$ 15,000
Task 4 – Pump Station Operations Manual	\$ 7,000
<b>Total</b>	<b>\$ 39,000</b>

This pricing is consistent with the engineer's estimate noted in our December 2021 memorandum.

Thank you for giving us the opportunity to be of service. We look forward to working with you on this project. If you have any questions or comments, please contact me at Lambrina.Tercala@ohm-advisors.com or 734-674-1607 (cell phone). Should you find our proposal acceptable, please sign the authorization page below and return a copy of this signed proposal to us for our file.

Sincerely,

OHM Advisors

  
Lambrina Tercala, P.E.  
Senior Project Manager

Authorization to Proceed

\_\_\_\_\_  
Signature Date

\_\_\_\_\_  
Printed Name Title

Cc: Jeff Herczeg, Director of Public Works  
Timothy J. Juidici, P.E., Principal in Charge, OHM Advisors



## Project Summary Engineer's Opinion of Probable Project Costs

Owner: City of Novi  
 Project: West Park Booster Station Control Modifications  
 Work: Design & Install new instrumentation and update PLC/SCADA program, as defined

Date: 1/27/2022  
 Project No. 0163-21-0032  
 Prepared By: M. Morianti  
 Reviewer: L. Tercala

Item No.	Item Description	Vendor	Estimated Quantity	Unit	Unit Price	Total Cost
<b>SCHEDULED WORK</b>						
1	Provide system integration services and instrumentation devices (see attached estimate for full description)	ICS	1	LS	\$58,900.00	\$58,900.00
2	Electrical work (materials and labor to wire new devices)	TBD Electrical Contractor	1	LS	\$3,200.00	\$3,200.00
3	Allowance for additional analog input card	TBD Electrical Contractor	1	EA	\$1,000.00	\$1,000.00
4	Install pressure, position, and flow monitoring at Meadowbrook PRV	TBD Electrical Contractor	1	LS	\$10,000	\$10,000.00
5	OPTIONAL – Move fill valve PLC and controls to above grade rack	ICS/Electrical Contractor	1	LS	\$15,000	\$15,000.00
6	OPTIONAL - Install pilot at North PRV to switch between high and low pressure operation through SCADA	ICS/Electrical Contractor	1	LS	\$10,000	\$10,000.00
7	OPTIONAL - Install pilot at Meadowbrook PRV to switch between high and low pressure operation through SCADA (OPTIONAL)	ICS/Electrical Contractor	1	LS	\$10,000	\$10,000.00
<b>SCHEDULED WORK SUBTOTAL</b>						<b>\$108,100.00</b>
<b>CONTRACTUAL REQUIREMENTS</b>						
8	General Conditions	TBD Electrical Contractor	10%			\$11,000.00
9	General Requirements	TBD Electrical Contractor	8%			\$9,000.00
<b>CONSTRUCTION COST (BID CONTRACT)</b>						<b>\$20,000.00</b>
<b>TECHNICAL REQUIREMENTS</b>						
10	Legal/Financial Service Fees		0%			\$0.00
11	Bond Council Fees		0%			\$0.00
12	Bid Advertisement Cost		0%			\$0.00
13	Engineering Services (Attachment B)	OHM Advisors	15%			\$17,000.00
14	Construction Administration & Oversight Services (Attachment B)	OHM Advisors	20%			\$22,000.00
<b>TECHNICAL COST SUBTOTAL</b>						<b>\$39,000.00</b>
15	Project Contingencies		20%			\$33,000.00
16	Inflation		0%			\$0.00
<b>ENGINEER'S OPINION OF TOTAL CONSTRUCTION COST (+/- 20%)</b>						<b>\$200,100.00</b>

**NOTES:**

1. Values are rounded up to the nearest \$100s.

**ASSUMPTIONS:**

1. No software costs are included
2. Construction work will be completed during non-peak season with major testing in March/April and prove out in June/July months.
3. No electrical service panel modifications are required