



**CITY of NOVI CITY COUNCIL**

**Agenda Item 3  
July 7, 2014**

**SUBJECT:** Approval to award an engineering services agreement with Orchard, Hiltz & McCliment for the construction phase engineering services related to the Water Storage Facility Project in the amount of \$231,600, subject to and contingent upon the City's acquisition of all required property for construction as proposed, including parcel 22-09-451-022, with the final form of the agreement to be reviewed and approved by the City Manager and City Attorney.

**SUBMITTING DEPARTMENT:** Department of Public Services, Water and Sewer Division

**CITY MANAGER APPROVAL:** 

<b>EXPENDITURE REQUIRED</b>	\$ 130,600 (Construction Administration and Engineering) \$ 101,000 (Construction Observation Services) \$ 231,600 (Total)
<b>AMOUNT INCLUDED IN C.I.P.</b>	\$ 5,500,000 (Water Storage Facility) \$ 303,200 (Water SCADA System) \$ 5,803,200 (Total)
<b>LINE ITEM NUMBER</b>	592-592.00-976.003 (Water Storage Facility) 592-592.00-976.004 (Water SCADA System)

**BACKGROUND INFORMATION:**

In an effort to reduce water rates from the Detroit Water and Sewerage Department (DWSD), the City proposes to construct a water storage facility to reduce peak usage from DWSD. A previous analysis that was shared with City Council indicated that a ground storage tank at the corner of West Park Drive and 12 Mile is the most cost effective option to achieve the desired rates savings. A location map of the site of the proposed storage tank and a layout of the proposed tank are provided as an attachment.

Bids were received and opened on June 24, 2014 for the proposed water storage facility following project design efforts and a public bid solicitation period with a low bid amount of \$3,363,889 submitted by Sorensen Gross Construction Services. The award of the construction contract is addressed as a separate action item. In order to verify that the proposed water storage facility is constructed per the construction contract documents and specifications, field observation and construction administration/ engineering services are needed from the project's consulting engineer, Orchard Hiltz and McCliment.

The construction phase engineering fees are established based on two components:

1. Contract Administration and Engineering Fee  
Typically, this fee is established determined using the fee percentage in Exhibit B of the Agreement for Professional Engineering Services for Public Projects. For a project of this type and size, Exhibit B indicates that the construction administration and engineering fee should be 4.5% of construction cost, which would equate to \$151,375 given the low bid price for the project of \$3,363,889. The consultant has

provided a fee proposal of \$130,600 for this component of the project, which is below the fee curve estimate.

2. Construction Observation Fee (Resident Project Representative)

Typically, this cost is established using a cost per inspection (crew) day from Exhibit B of the consultant's agreement that is then multiplied by the number of days of inspection specified by the contractor. For this construction contract, crew days were not used as the crew day specification does not cover projects of a complex nature such as this project. For this reason, the construction observation fee was established based on an allowance of \$101,000 for construction observation, which provides for full-time inspection through substantial completion and part-time inspection from substantial completion through final completion of the project over the project's estimated 10-month duration.

The two components for this project sum to a total fee of \$231,600 for the construction phase of the project.

Construction is scheduled to begin in mid-July 2014 and substantial completion is anticipated in late spring of 2015. The construction contract calls for final restoration of the site to be completed by May 15, 2015 in time for the high water usage season in the summer.

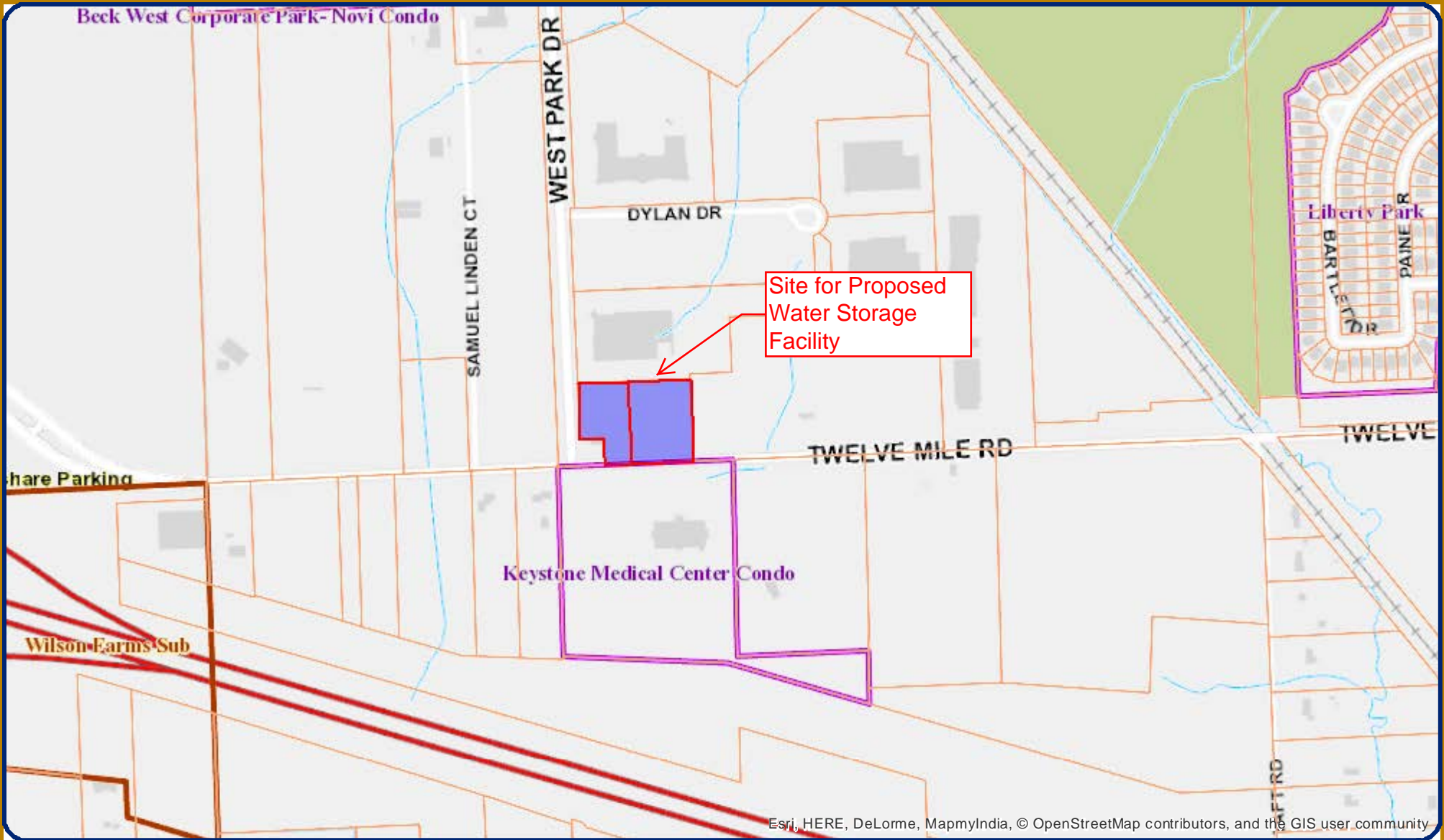
It should be noted that commencement of this construction project is contingent on the City completing property acquisition of the Novi Corporate Park, LLC (NCP) parcel (parcel ID 50-22-09-451-022) at the scheduled July 7, 2014 property closing. If the acquisition is not completed by this date, the City may need to grant a conditional award of the construction phase engineering services related to the Water Storage Facility Project.

**RECOMMENDED ACTION:** Approval to award an engineering services agreement with Orchard, Hiltz & McCliment for the construction phase engineering services related to the Water Storage Facility Project in the amount of \$231,600, subject to and contingent upon the City's acquisition of all required property for construction as proposed, including parcel 22-09-451-022, with the final form of the agreement to be reviewed and approved by the City Manager and City Attorney.

	1	2	Y	N
Mayor Gatt				
Mayor Pro Tem Staudt				
Council Member Casey				
Council Member Fischer				

	1	2	Y	N
Council Member Markham				
Council Member Mutch				
Council Member Wrobel				

# Proposed Water Storage Site Map



Map Produced Using the  
City of Novi, Michigan  
Internet Mapping Portal



0 350 700 1,400  
Feet  
1 inch = 706 feet



Author: Kuhns  
Date: 6/30/2014

## 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. This map was produced under the terms of the City's Internet Site Use Policy available at <http://cityofnovi.org/Resources/SiteUsePolicy.asp>

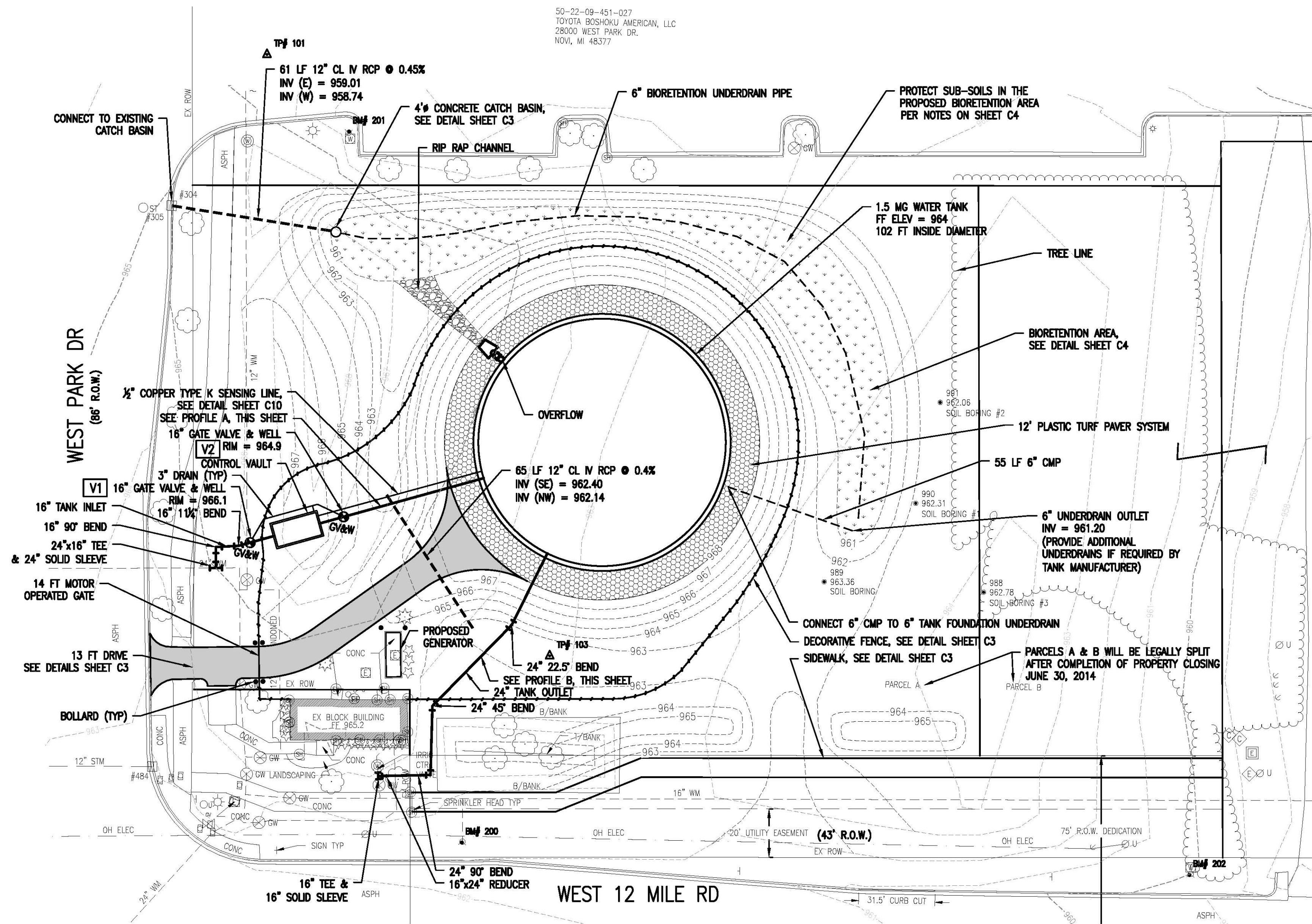
JOB BENCHMARK #200 ARROW ON HYDRANT AT THE NE COR OF W 12 MILE & W PARK DR ELEV 964.71
JOB BENCHMARK #201 ARROW ON HYDRANT AT SE SIDE OF ENT TO "BOSHOKU TOYOTA" ELEV 965.24
JOB BENCHMARK #202 ARROW ON HYDRANT N SIDE OF 12 MILE RD 6' S OF ROW 450' E OF CL W PARK DR ELEV 961.64
TRAVERSE POINT #100 N 363642.54 E 1335510.42 ELEV 962.88
TRAVERSE POINT #101 N 364058.61 E 13355587.93 ELEV 964.93
TRAVERSE POINT #102 N 363663.23 E 13355041.86 ELEV 959.85
TRAVERSE POINT #103 N 363817.05 E 13355717.29 ELEV 963.38

**STORM SEWER STRUCTURE INVENTORIES**

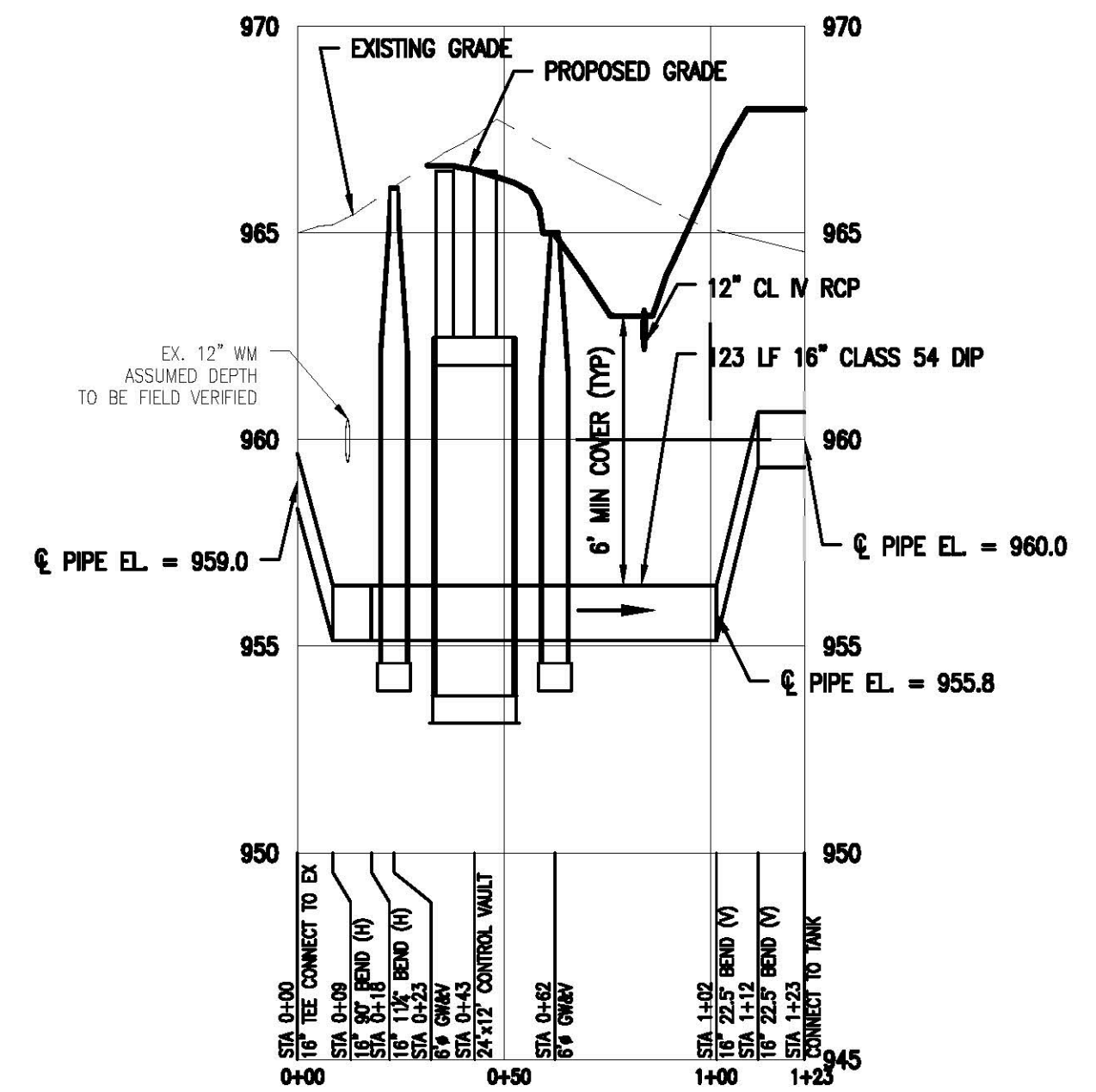
- #304 CATCH BASIN-IN CURB T/CAST 964.84  
12" CONC INV W 956.54
- #305 STORM MANHOLE T/CAST 965.07  
12" CONC INV E 960.87
- #484 CATCH BASIN-IN CURB T/CAST 962.43  
12" CONC INV W 957.63

**WATER MAIN STRUCTURE INVENTORIES**

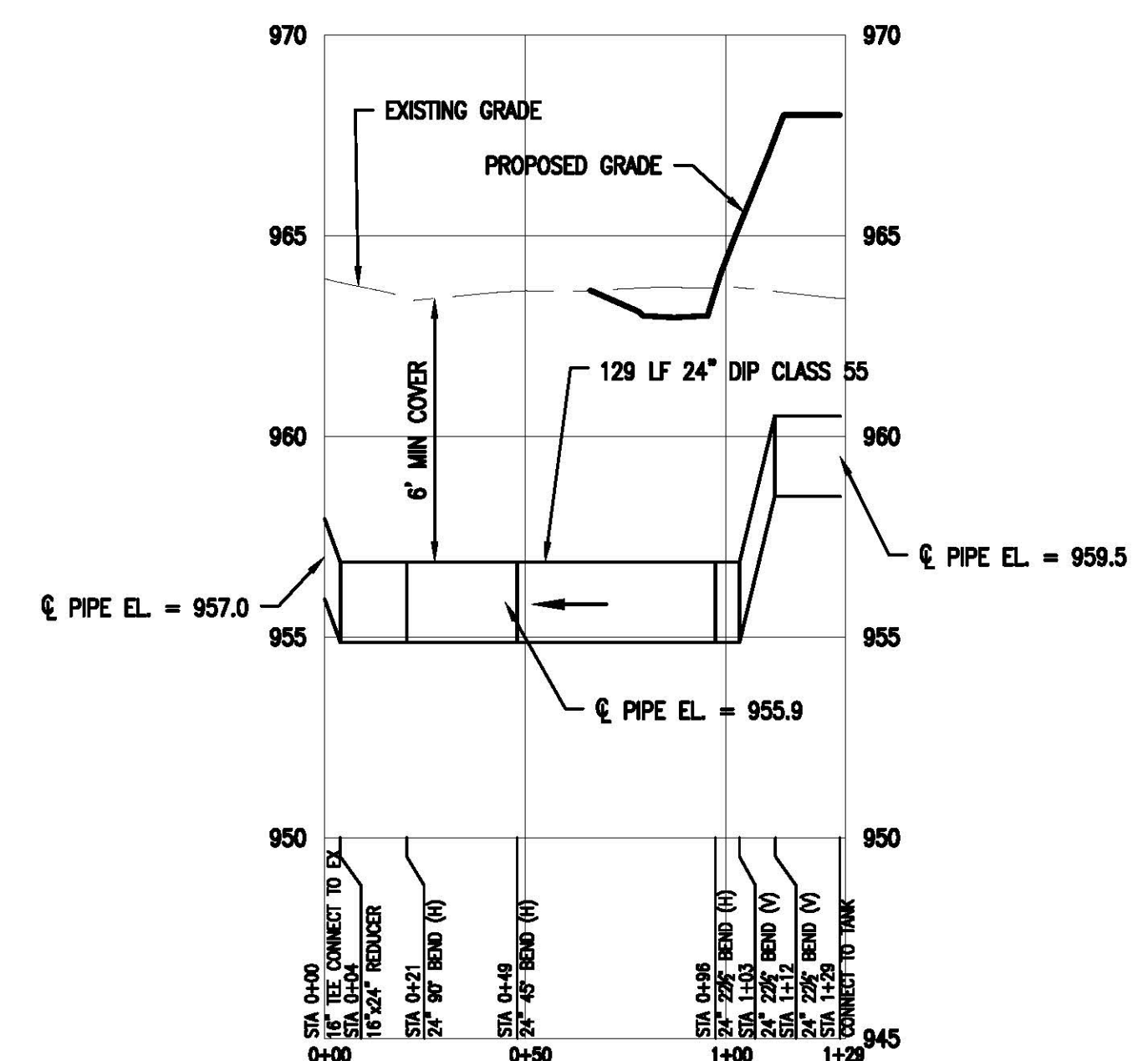
- #533 FIRE HYDRANT F.G. 962.28
- #721 FIRE HYDRANT F.G. 962.75
- #939 FIRE HYDRANT F.G. 959.09
- #500 GATE WELL T/CAST 963.00  
D.I.P T/P E-W 957.70  
FULL OF WATER, CAN'T TELL SIZE OF PIPE
- #563 GATE WELL T/CAST 963.04  
D.I.P T/P E-W 956.04  
FULL OF WATER, CAN'T TELL SIZE OF PIPE
- #566 GATE WELL T/CAST 963.74  
D.I.P T/P N-S 957.04  
FULL OF WATER, CAN'T TELL SIZE OF PIPE
- #581 GATE WELL T/CAST 964.33  
D.I.P T/P N-S 967.43  
FULL OF WATER, CAN'T TELL SIZE OF PIPE
- #582 GATE WELL T/CAST 963.87  
D.I.P T/P N-S 957.67  
FULL OF WATER, CAN'T TELL SIZE OF PIPE
- #640 GATE WELL T/CAST 964.36  
D.I.P T/P E-W 958.36  
FULL OF WATER, CAN'T TELL SIZE OF PIPE
- #641 GATE WELL T/CAST 965.27  
D.I.P T/P N-S 959.67  
FULL OF WATER, CAN'T TELL SIZE OF PIPE
- #798 GATE WELL T/CAST 962.12  
D.I.P T/P N-S 956.12  
FULL OF WATER, CAN'T TELL SIZE OF PIPE



**PROPOSED SITE PLAN**  
SCALE: 1" = 30'



**PROFILE A - 16" TANK INLET**  
SCALE: HORIZ 1"=40'  
VERT 1"=4'



**PROFILE B - 24" TANK OUTLET**  
SCALE: HORIZ 1"=40'  
VERT 1"=4'

- NOTES:**
- REMOVE ALL TREES, BUSHES, AND OTHER VEGETATION IN ACCORDANCE WITH SHEET C5.
  - RESTRAIN ALL PIPE.



**OHM**

DATE 10/29/2013	CADD SK	ENG/ARCH KA	PROJ/MGR KA	SECTION 9	TOWN 1N	RANGE 1N	COUNTY OAKLAND	CITY/VILLAGE/TOWNSHIP CITY OF NOVI	VERT DATUM NAVD83	HORIZ DATUM NAD83 (2011)	SCALE V:AS NOTED H:AS NOTED	JOB # 0163-12-0210
REVISIONS												
CITY OF NOVI												
REVISIONS												
VIDEO PERMIT SUBMITTAL: APRIL 18, 2014 SITE PLAN REVIEW SUBMITTAL MAY 5, 2014												
CLIENT: 34000 Plymouth Road   Livonia, MI 48150   P (734) 522-6711   F (734) 522-6427												
WWW.OHM-ADVISORS.COM												
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**WEST PARK DRIVE WATER STORAGE  
RESERVOIR & PUMPING STATION MODIFICATIONS  
PROPOSED SITE PLAN AND PIPE PROFILES**

SHEET  
**C8**  
OF 27

DRAWING PATH: P:\0126\_01680\163120210\_Nov\_Misc\_Storage\_Tank\dwgPlans\_Consent\2012\CON\_01.dwg Jun 12, 2014 - 10:08am

### Project Understanding

The City of Novi has embarked upon a program to reduce their peak water draw from the Detroit Water and Sewerage Department (DWSD) in order to reduce their overall cost for purchasing water. Previous work has indicated substantial savings if the City constructs a water storage facility and then uses this stored water during peak water demand periods such as summer irrigation. The City has received bids for a construction project that includes the following items:

- A 1.5 million gallon ground-based water storage tank
- A fill control vault and site improvements at the site of the storage tank
- Modifications to the West Park Drive Booster Pumping Station
- Two new metering vaults in the vicinities of NV-04 and NV-05
- Electrical and plumbing modifications at Island Lake Booster Pumping Station, Ten Mile PRV and Grand River PRV
- SCADA System Upgrades

The construction activities will be sufficiently completed so that the new system can be operational by the end of February 2015. The goal is to be able to demonstrate to DWSD that the City can properly manage their peak demands through a summer season; thereby allowing a reduction in water rates beginning in 2016.

OHM proposes to provide the necessary engineering services during the construction phase of this project.

### Work Plan

The following tasks are proposed as part of the work plan.

#### Task 1: Construction Services

Construction services are expected to include the following items:

- a. Prepare executable construction contract documents including the City's standard forms for bonds and insurance. Review contract documents signed by contractor for completeness and provide to the City for legal review and contract execution.
- b. Notify parties of the pre-construction meeting. Conduct the pre-construction meeting, prepare and distribute meeting minutes to attendees.
- c. Prepare progress payments and change orders based on the observed construction progress. Review pay request items with the contractor prior to each monthly progress payment and final payment.
- d. Request and collect contractor's declaration, contractor's affidavit, waivers from suppliers and subcontractors, release of surety, and release from other public agencies for which permits have been obtained under this contract.
- e. Perform shop drawing submittal review for equipment and components installed on the project for conformance with contract documents.
- f. Set two benchmarks and key horizontal control points in the field for construction staking. Provide coordinates to the contractor. All other construction staking to be performed by contractor.
- g. Perform construction observation for the storage tank, pumping station modifications, on-site improvements and off-site improvements to provide documentation that the work is performed in general accordance with the Contract Documents and being performed within the construction schedule. It is expected that both full-time and part-time observation will be employed during the construction depending upon the nature of the construction activity occurring. We estimate that 925 hours of RPR time will be needed.

- h. Produce daily field reports for those days observed by OHM.
- i. Coordinate material and soil testing by the City's selected geotechnical subconsultant.
- j. Schedule and attend progress meetings as needed to ensure communication between the City, contractor and OHM.
- k. Resolve items in need of clarification relating to contract specifications and requirements.
- l. Complete an overall evaluation of the project at substantial completion and develop a punch list for submission to the contractor.
- m. Once the contractor has completed punch list items, perform a final evaluation and provide the City with recommendation for final payment to the contractor.
- n. Compile manufacturer operation and maintenance manuals that are provided by contractor for supplied equipment.
- o. Prepare record drawings based on information provided by the contractor and other third parties and submit to the City. Digital copies of the OHM Drawings will be provided in both AutoCAD and PDF format. Digital copies of record drawings from other sources will be provided in PDF format.

#### **FURTHER CLARIFICATIONS AND ASSUMPTIONS**

The above fee is based on the following assumptions:

1. The project will be funded by City funds and no grants, loans or other outside sources of funding will be utilized that would require administrative work by OHM.
2. OHM's project scope does not include SCADA programming. This is a contract bid allowance within the overall construction contract.

#### **SERVICES NOT INCLUDED**

The following are services that are not included with this proposal:

1. Coordination with utility companies for relocation of their facilities should it be deemed necessary to construct the project.
2. Attendance at public meetings other than those noted within the above scope of services.
3. Geotechnical soil investigation, foundation recommendations and materials testing during construction.

#### **DELIVERABLES**

Construction reports, pay estimates, change orders during construction. Record Drawings will be provided in both electronic and paper versions.

#### **SCHEDULE**

OHM intends to start immediately upon approval of this proposal. Services shall continue throughout the project construction.

#### **FEE SCHEDULE**

OHM proposes to provide the above outlined professional services in accordance with the following fee schedule. Services for Construction Monitoring by a Resident Project Representative (RPR) and Construction Administration and Engineering Services will be performed on an hourly basis in accordance with our standard rate schedule for a not-to-exceed fee. The following budgets are presented for your consideration:



Task 1: Construction Services

A. Resident Project Representative (based on 925 hours)	\$ 101,000
B. Construction Administration and Engineering	\$ 130,600
<b>Total</b>	<b>\$ 231,600</b>

**ADDITIONAL SERVICES**

OHM will be pleased to provide any additional services for this project not specifically described in the scope of work on a time and material basis.


ACCEPTANCE

This document, including any attached Exhibits constitutes the entire Agreement between the Owner and OHM Advisors and shall not be amended, altered or changed, except by written authorization executed by both parties.

Should you find our proposal acceptable, please execute both copies of the attached agreement and return one copy to us for our files.

We thank you for this opportunity to provide professional engineering services. Should there be any questions, please contact us at 734-522-6711.

Sincerely,  
OHM Advisors

  
Vyto Kaunelis, P.E.  
Principal

**SECOND AMENDMENT TO THE  
SUPPLEMENTAL PROFESSIONAL ENGINEERING SERVICES AGREEMENT  
WATER SYSTEM MASTER PLAN, WATER DISTRIBUTION STORAGE FACILITY.  
AND WATER SCADA ENGINEERING SERVICES**

Second Amended Agreement between the City of Novi, 45175 W. Ten Mile Road, Novi, MI 48375-3024, hereafter, "City," and Orchard, Hiltz & McCliment, Inc., whose address is 34000 Plymouth Road, Livonia, Michigan 48150, hereafter, "Consultant," relating to modifications of the fee basis for engineering services. The following sections of the Supplemental Professional Engineering Services Agreement, as made and entered into on December 10, 2012 shall be amended as follows:

**Section 2. Payment for Professional Engineering Services,** The following Paragraphs shall be amended as follows:

1. Basic Fee.
  - a. *Unchanged*
  - b. Delete 1.b. in its entirety and replace with the following language:  
Construction Phase Services: The Consultant shall complete the construction phase services as described herein according to the fee schedule as described below:
    - i. Contract Administration: The Consultant shall complete Contract Administration services for a lump sum fee of \$130,600, per the attached proposal from OHM.
    - ii. Construction Inspection: The Consultant shall complete Construction Inspection services for a lump sum fee of \$101,000, per the attached proposal from OHM.
  
2. *Unchanged*

Except as specifically set forth in this First Amendment, the Supplemental Professional Engineering Services Agreement remains in full force and effect.

WITNESSES

Orchard, Hiltz & McCliment, Inc.

\_\_\_\_\_  
  
\_\_\_\_\_

\_\_\_\_\_  
By:  
Its:

The foregoing \_\_\_\_\_ was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_,



20\_\_\_\_, by \_\_\_\_\_ on behalf  
\_\_\_\_\_.

\_\_\_\_\_  
Notary Public  
\_\_\_\_\_ County, Michigan  
My Commission Expires: \_\_\_\_\_

WITNESSES

CITY OF NOVI

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
By:  
Its:

The foregoing \_\_\_\_\_ was acknowledged before me this \_\_\_\_ day of \_\_\_\_\_,  
20\_\_\_\_, by \_\_\_\_\_ on behalf of the City of Novi.

\_\_\_\_\_  
Notary Public  
Oakland County, Michigan  
My Commission Expires: \_\_\_\_\_