



**CITY OF NOVI CITY COUNCIL  
JANUARY 24, 2022**

**SUBJECT:** Consideration of approval to award engineering design services to Spalding DeDecker for the replacement of nine segments of Asbestos Cement main in the City's water distribution system, in the amount of \$292,284.00, and amend the budget.

**SUBMITTING DEPARTMENT:** Department of Public Works, Engineering Division

<b>EXPENDITURE REQUIRED</b>	<b>\$ 292,284</b>
<b>AMOUNT BUDGETED</b>	<b>\$ 91,633</b>
<b>APPROPRIATION REQUIRED</b>	<b>\$ 309,615</b>
<b>LINE ITEM NUMBER</b>	<b>592-592.00-976.082</b>

**BACKGROUND INFORMATION:**

The City's 2017 Water Asset Management Plan and the 2021 Water System Master Plan recommended replacement of the approximately 30 miles of Asbestos-Cement (AC) water main that exists throughout the city. AC water main was installed up until the early 1980s and is now reaching the end of its lifecycle. Although the use of AC water main is not considered to be a health concern, it is considered good practice to eliminate AC pipe from water main networks when practical. AC pipe was commonly used starting in the 1940s due to its corrosion resistance and lightweight construction, but the material is brittle and not sized to standard outside dimensions. This makes AC pipe difficult to repair and connect to contemporary pipe materials, in both water system expansion projects and emergency repairs.

The City's engineering consultant, Spalding DeDecker, recently developed an asset management plan for the replacement of the existing AC water main within the city. The replacement plan prioritizes segments based on existing main conditions, probability of failure and consequence of failure. Spalding DeDecker is also designing the City's 2022-2023 Neighborhood Roads Program, so the road program priority list was used to select segments as well. Where the road and water main projects overlap, the intent would be to replace the AC mains prior to the road work. Replacing the AC main prior to the road program would help minimize the duration and impact of construction, and it would avoid having to replace newly constructed roadway for water main work in the future.

The attached design engineering services proposal outlines the detailed scope of services. The design fee for this project will be \$292,284 (6.25% of the estimated construction cost of \$4,676,549). Spalding DeDecker's engineering fees are based on the fixed fee schedule established in the Agreement for Professional Engineering Services for Public Projects. Design of this project will begin following award. The construction timeline will be coordinated with the 2022-2023 Neighborhood Roads Program construction schedule.

**RECOMMENDED ACTION:** Approval to award engineering design services to Spalding DeDecker for the replacement of nine segments of Asbestos Cement main in the City's water distribution system, in the amount of \$292,284.00 and amend the budget.

**RESOLUTION**

NOW, THEREFORE BE IT RESOLVED that the following Budget Amendment for engineering design services to Spalding DeDecker for the replacement of nine segments of Asbestos Cement main in the City's water distribution system is authorized:

	<b>INCREASE (DECREASE)</b>
<b>WATER &amp; SEWER FUND</b>	
<b>APPROPRIATIONS</b>	
Capital Outlay	309,615
<b>TOTAL APPROPRIATIONS</b>	<u><b>\$ 309,615</b></u>
<b>Net Increase (Decrease) to Fund Balance</b>	<u><u><b>\$ (309,615)</b></u></u>

I hereby certify that the foregoing is a true and complete copy of a resolution adopted by the City Council of the City of Novi at a regular meeting held on January 24, 2022.

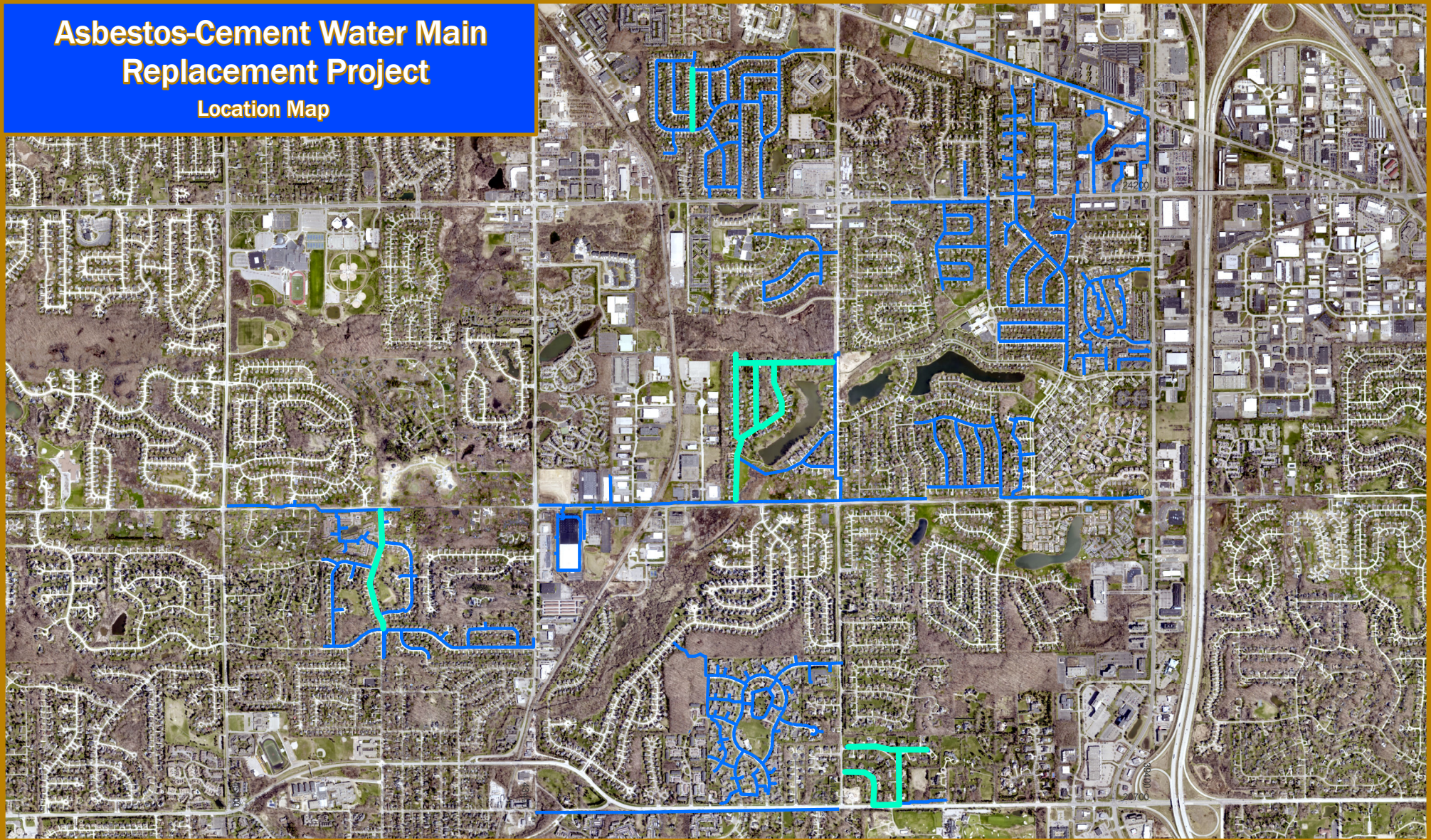
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Cortney Hanson  
City Clerk



# Asbestos-Cement Water Main Replacement Project

## Location Map



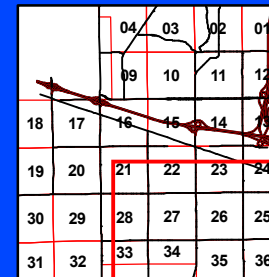
Map Author: Rebecca Runkel  
 Date: 1/10/22  
 Project: AC WM Replacement  
 Version #: 1.0

### 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.

### Map Legend

- Asbestos Cement Water Main
- Proposed Replacement Segment Asbestos Cement Water Main



## City of Novi

Engineering Division  
 Department of Public Works  
 26300 Lee BeGole Drive  
 Novi, MI 48375  
[cityofnovi.org](http://cityofnovi.org)





January 12, 2022

Ben Croy, PE  
Water and Sewer Senior Manager  
City of Novi  
26300 Lee BeGole Drive  
Novi, Michigan 48375

**Re: Asbestos-Cement Water Main Replacement Design – Rev 1  
Proposal for Civil Engineering Services**

Dear Mr. Croy:

Spalding DeDecker (SD) is pleased to provide the following proposal for engineering design services to replace existing asbestos-cement (AC) water main at various locations across the City.

### **Project Understanding**

SD utilized the ranking system from the AC water main as well as the road program priority list to coordinate proposed construction projects ahead of the road program projects. The intent is to replace the AC main in advance of the following year's road construction project to limit disturbance and minimize construction duration and impact. The following are the streets that were identified as candidates for this year's AC water main replacement project:

- Highlands Drive – Cherry Hill Road to Parkridge Road = \$342,595
- Meadowbrook Lake Subdivision (Chattman, Ennishore, Gilbar and Balcombe) = \$2,398,857
- Meadowbrook Manor Subdivision (Llewelyn, Llorac) = \$1,226,066
- Center Street – Nine Mile to Galway = \$709,031
- Total Project Cost = \$4,676,549

Highlands Drive is included in the 2023 concrete replacement program while Meadowbrook Lake and Meadowbrook Manor are included in the 2023 HMA replacement program. The intent would be to replace those mains prior to the road program coming through.

### **Proposed Scope of Services**

SD's scope will include:

#### **PHASE 1 – DATA GATHERING AND TOPOGRAPHIC SURVEY**

The following are the major tasks associated with this phase:

- Provide topographic survey to accommodate water main profiles.
- Coordinate with TEC for pavement cores and soil boring locations.

- Review and map out existing owner/municipal and franchise utilities based on as-builts, MISS DIG requests and GIS. Investigate all existing manhole and catch basin structures for improvements necessary and relay findings as well as potential costs to the City for consideration.

Assumptions:

- Structure cleaning for access to investigate and/or invert information will be provided by the City.

## **PHASE 2 – CONSTRUCTION PLANS**

The following construction plans and documentation will be provided and will be coordinated in advance of the road program (NRP) and will accommodate future roadway fixes from the associated 2023 road rehabilitations.

- Cover Sheet
- Legend/Notes
- Details
- Water Main Construction Plan and Profile
- Water Main Construction Sequencing and Shutdown Plan
- City Standard Details
- Contract Documents
  - Front-end and detailed specifications including Asbestos-Cement handling specifications
  - Bid Book
  - Insurance, Bonds, etc.
- Engineer's estimate ( preliminary, 70% and Final)
- Attend up to 4 design review meetings as well as weekly conference calls and/or project update emails.
- Review proposed valve locations, operations, etc with the water staff as well as review any model information available for potential improvements to the system.
- Visit and walk the project sites at Base plan and 70% plan
- EGLE Water Main Permit
- SESC Permit

## **Proposed Fees**

Based on our pre-qualification status with the City, engineering design fees are typically based on a pre-determined percentage of the pre-design construction cost estimate. A preliminary cost estimate for the project has been generated with an estimated cost of \$4,676,549. Based on this estimated cost, the fee for this project is:



Design Phase Services (6.25% of estimated cost) -

**\$292,284**

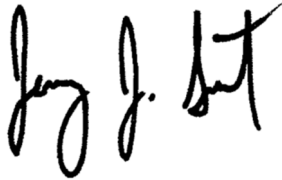
**Project Schedule**

The following summarizes the anticipated schedule for the project:

<u>Milestone</u>	<u>Completed By</u>
Design Project Award	11/22/2021
Initial Meetings and Site Visits	11/23/2021
Survey Field Work	11/24-12/24/2021
30% Preliminary Plans	2/14/2022
MDEQ Permit Submittals	3/11/2022
90% Final Plans	3/21/2022
100% Bid Package & Advertising	4/1/2022
Bid Opening	4/22/2022

Thank you for the opportunity to provide this proposal for Engineering Services. Please don't hesitate to contact me if you have any questions or comments regarding this submittal.

**SPALDING DEDECKER ASSOCIATES, INC.**



**Jeremy Schrot, PE**  
**Vice President/Director of Public Engineering**



**2022-2023 PROPOSED CANDIDATES**

- HMA\_2022
- HMA\_2023
- Concrete\_2022
- Concrete\_2023
- Proposed AC Watermain
- Existing AC Watermain
- Repair\_Boundaries

TOTAL COST: \$4,676,549

