



**CITY OF NOVI CITY COUNCIL
OCTOBER 10, 2022**

SUBJECT: Consideration of approval to award engineering design services to Spalding DeDecker for phase 2 of the asbestos cement water main replacement program along with ductile iron water main replacement on Roethel Drive, in the amount of \$390,312.50.

SUBMITTING DEPARTMENT: Department of Public Works, Engineering Division

| | |
|-------------------------------|---|
| EXPENDITURE REQUIRED | \$ 350,000.00 AC Water Main Replacement- Phase 2- design \$ <u>40,312.50</u> Roethel Drive Water Main Replacement-design \$ 390,312.50 Total |
| AMOUNT BUDGETED | \$ 385,000.00 AC Water Main Replacement- Phase 2 \$ <u>44,344.00</u> Roethel Drive Water Main Replacement \$ 429,344.00 Total |
| APPROPRIATION REQUIRED | \$ 0 |
| LINE ITEM NUMBER | 592-592.00-976.005 AC Water Main Replacement-Phase 2 592-592.00-976.124 Roethel Drive Water Main Replacement |

BACKGROUND INFORMATION:

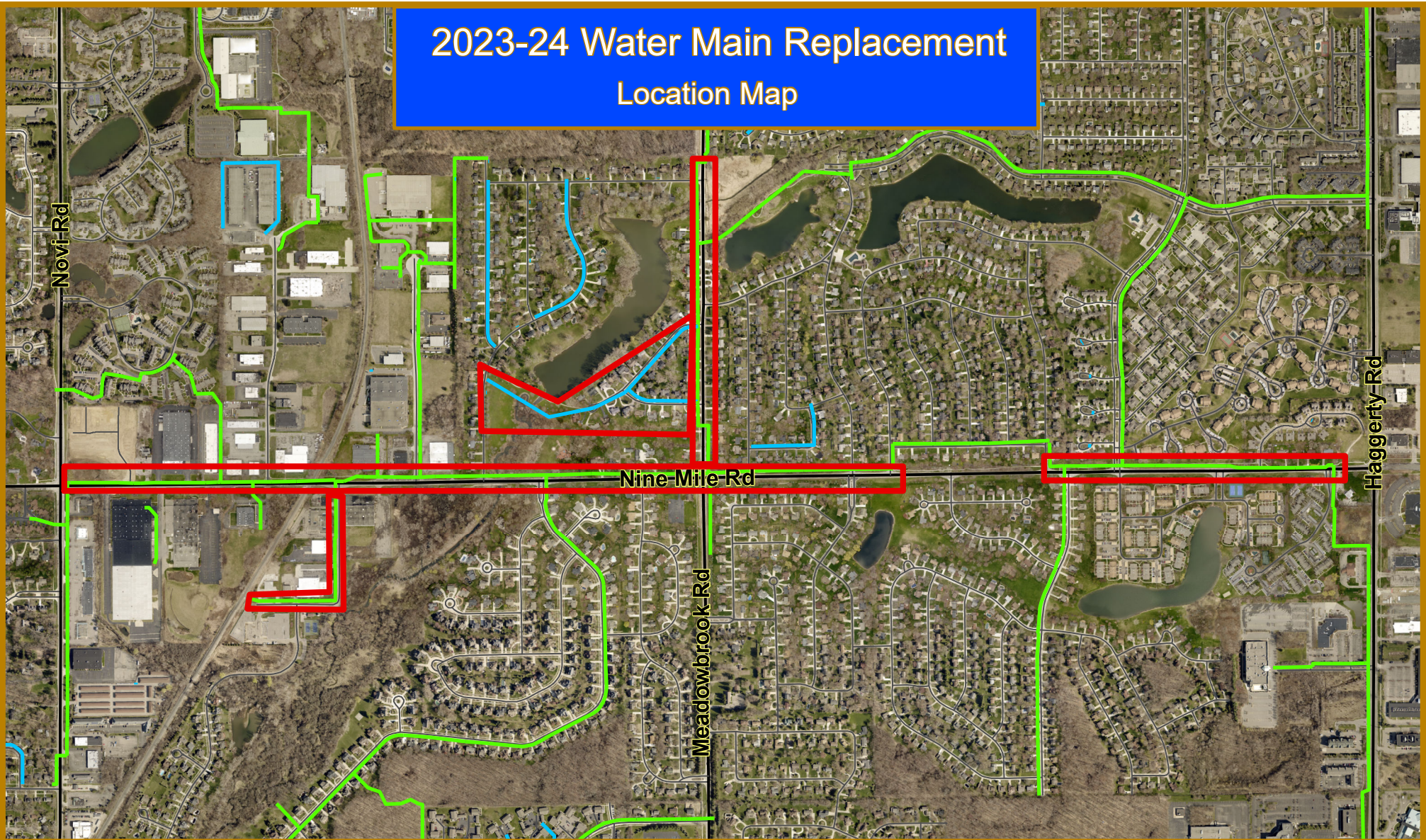
The City's 2017 Water Asset Management Plan and the 2021 Water System Master Plan recommended replacement of the approximately 30 miles of Asbestos-Cement (AC) water main that exists throughout the city. AC water main was installed up until the early 1980s and is now reaching the end of its lifecycle. 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 completed design of the initial phase of the program this year, for which construction will start this fall. This design award is for the next phase of AC water main replacement, which includes segments on Nine Mile Road, Meadowbrook Road and in the Meadowbrook Lake subdivision. Also included in the design is replacement of 12-inch ductile iron water main on Roethel Drive, which has experienced multiple breaks due to corrosion issues and was also recommended for replacement in the 2021 Water System Master Plan. The Roethel Drive segment was added to the scope of the project due to its proximity to the asbestos cement segments which will allow for economies of scale.

The attached design engineering services proposal outlines the detailed scope of services. The design fee for this project will be \$390,312.50 (6.25% of the estimated construction cost of \$6,245,000). 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. Construction would start in the spring of 2023.

RECOMMENDED ACTION: Approval to award engineering design services to Spalding DeDecker for phase 2 of the asbestos cement water main replacement program along with ductile iron water main replacement on Roethel Drive, in the amount of \$390,312.50.

2023-24 Water Main Replacement Location Map



Map Author: Rebecca Runkel
Date: 9-30-22
Project: Water Main Replacement
Version #: 1.0

MAP INTERPRETATION NOTICE

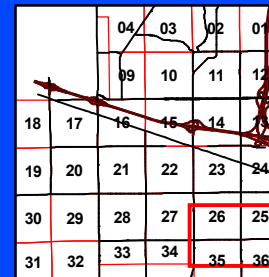
Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate 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.

Legend

Water Main

- 6"
- 12"

Project Area



City of Novi

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



September 28, 2022

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

**Re: 2023 Asbestos-Cement Water Main Replacement – rev1
Proposal for Design 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 reviewing the road program and CIP lists to ensure project coordination and eliminate conflicts. The following are the streets that were identified as candidates for this year's AC water main replacement project include:

- Meadowbrook Road & Meadowbrook Lake Subdivision = \$2,100,000
- Nine Mile Road, Novi Road to Haggerty Road = \$3,500,000
 - Total AC Project Cost = \$5,600,000
- Roethel Drive DI Replacement = \$645,000
 - Total Project Cost = \$6,245,000

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 a Geotech consultant 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.

- 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 the project sites at Base plan, 70% and final plan stages to ensure
- 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 \$6,245,000. Based on this estimated cost, the fee for this project is:

Design Phase Services (6.25% of estimated cost) - **\$390,312.50**

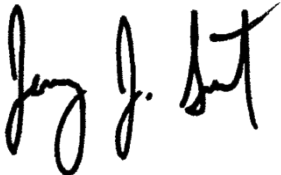
Project Schedule

The following summarizes the anticipated schedule for the project:

| <u>Milestone</u> | <u>Completed By</u> |
|----------------------------------|---------------------|
| Design Project Award | 10/10/2022 |
| Initial Meetings and Site Visits | 10/17/2022 |
| Survey Field Work | 10/11-11/11/2022 |
| 30% Preliminary Plans | 11/20/2022 |
| MDEQ Permit Submittals | 12/05/2022 |
| 90% Plans and Specs | 1/30/2023 |
| 100% Bid Package & Advertising | 3/1/2023 |
| Bid Opening | 3/21/2023 |

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.

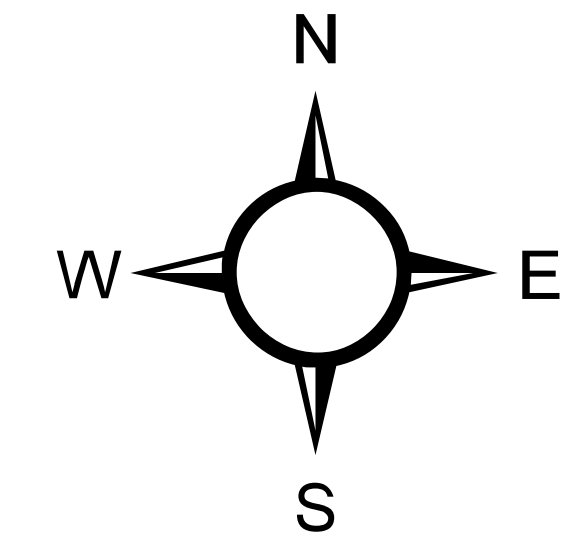
SPALDING DEDECKER ASSOCIATES, INC.



Jeremy Schrot, PE
Vice President/Director of Public Engineering



AC WATER MAIN REPLACEMENT PROGRAM



**SPALDING
DeDECKER**
Engineers | Surveyors

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905 South Blvd. East
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Fax: (248) 844-5404

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Detroit, MI 48243
Phone: (313) 309-7051
Fax: (313) 309-7101

27333 Meadowbrook Rd., Suite 210
Novi, MI 48377
Phone: (248) 844-6274

www.sda-eng.com
(800) 598-1600

0 850 1,700 3,400
FEET
1 INCH = 1,700 FEET

LEGEND

AC WATERMAIN

REPLACEMENT YEAR

- 2022
- 2023
- 2024
- 2025
- AFTER 2025
- REPAIR BOUNDARIES



PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD. CALL MISS DIG 3 WORKING DAYS PRIOR TO CONSTRUCTION.

UTILITY NOTE

UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO THIS FIRM BY THE VARIOUS UTILITY COMPANIES, CITY/COUNTY AGENCIES AND OTHER VARIOUS SOURCES. UNDERGROUND UTILITIES WHICH ARE ON PRIVATE PROPERTY ARE USUALLY NOT DELINEATED UPON A UTILITY COMPANY'S PUBLISHED PLANS. THEIR LOCATION, IF SHOWN UPON THIS SURVEY, ARE APPROXIMATED FROM FOUND PAINT MARKS/STAKES, ETC. AS LOCATED BY THIS FIRM FROM SOURCES WHICH ARE UNKNOWN. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY THEREOF.

AC WATER MAIN REPLACEMENT PROGRAM

CITY OF NOVI
AC BRE RATINGS

TOWN 1 NORTH RANGE 8 EAST
CITY OF NOVI
OAKLAND COUNTY, MICHIGAN

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |
| | | |
| | | |

| VERIFY SCALES | |
|--|---------------------------|
| BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY | |
| DRAFTER J. ROATH | DATE 9-26-22 |
| DESIGNER J. ROATH | DATE 9-26-22 |
| CHECKED T. REYNOLDS | DATE 9-26-22 |
| PROJECT MANAGER J. SCHROT | BIG PLAN DATE |
| DEPARTMENT MANAGER APPROVAL J. SCHROT | DATE 9-26-22 |
| TITLE NV21001 | DRAWING NO. NV21001GIS |
| SCALE 1 IN = 1,700 FEET | SHEET NO. SHEET 1 OF 1 |

| Year | Cost Estimate |
|------|---------------|
| 2023 | \$ 6,245,000 |

