



CITY of NOVI CITY COUNCIL

**Agenda Item 5
August 29, 2016**

SUBJECT: Approval to award engineering design services to Orchard, Hiltz & McCliment for the inspection, analysis and recommendation tasks associated with the Storm water, Asset management and Wastewater grant awarded in 2015, in the amount of \$263,800.

SUBMITTING DEPARTMENT: Department of Public Services, Water and Sewer Division *ZLC* *74*

CITY MANAGER APPROVAL: *PA*

EXPENDITURE REQUIRED	\$ 263,800
AMOUNT BUDGETED	\$ 1,470,167 (FY 2015-16 Rollover)
LINE ITEM NUMBER	592-592.00-936.550

BACKGROUND INFORMATION:

The City received a SAW (Storm water, Asset management and Wastewater) grant through the Michigan Department of Environmental Quality in the fall of 2015 for the cleaning and evaluation of selected areas of the City's sanitary sewer system. The Oakland County Water Resources Commission (OCWRC) also received a SAW grant for the northern portion of the City's sanitary sewer system that they maintain. Although OCWRC applied for their grant separate from the one the City applied for, both were awarded together as one grant. The total grant amount for both areas is \$1,470,167, based on a total estimated project cost of \$1,738,000 and a local match of \$267,833. The local match would be shared by the City and OCWRC.

OHM's services would include a few tasks, with the primary task involving the inspection of 1,330 sanitary sewer manholes utilizing established Manhole Assessment and Certification Program (MACP) standards to identify manholes with excessive inflow/infiltration issues and manholes that are structurally deficient. OHM will also review the reports compiled from the televising of approximately 280,000 feet of sanitary sewer pipe, again to identify areas with inflow/infiltration issues as well as structurally deficient pipe using established Pipe Assessment and Certification Programs (PACP) standards. The televising is being completed by the City's contractor, Metro Environmental, and is eligible for reimbursement per the grant requirements. Following the inspections and evaluations, OHM will then work with staff to prioritize the manholes and pipes to develop the scope for a future rehabilitation project. OHM's efforts would be part of the grant and would be eligible for reimbursement per the grant requirements.

OHM's engineering fees are based on the description provided in the attached proposal. A proposal was requested because an applicable fee schedule is not established in the Agreement for Professional Engineering Services for Public Projects for this type of work. OHM was chosen for this project because they are doing the same type of work for OCWRC's grant, and have agreed to the same unit costs for the inspections required for both grants. Since the two grants are linked together, OHM will be able to coordinate the work being done by both Novi and OCWRC, and will be able to submit for grant

disbursements for all the work being completed in both areas. The engineering fees for this project will be \$263,800. A draft of the Supplemental Professional Engineering Services Agreement for this project is enclosed and includes the project scope and schedule.

RECOMMENDED ACTION: Approval to award engineering design services to Orchard, Hiltz & McCliment for the inspection, analysis and recommendation tasks associated with the Storm water, Asset management and Wastewater grant awarded in 2015, in the amount of \$263,800.

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

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

August 8, 2016

City of Novi
Department of Public Services
26300 Lee Begole Drive
Novi, MI 48375

Attention: Mr. Ben Croy, P.E., Water and Sewer Senior Manager

Subject: Scope of Professional Engineering Services
SAW Sanitary Sewer System Planning

- Manhole MACP Inspections
- Manhole MACP Data Analysis and Recommendations
- Sanitary Sewer PACP QA/QC and Recommendations
- Development of Project Proposal (required deliverable for SAW grant)

Dear Mr. Croy:

Orchard, Hiltz & McCliment, Inc. (OHM Advisors) is pleased to submit this scope of services to the City of Novi for engineering services related to SAW grant reimbursement requests, MACP inspections, data analysis, and recommendation, PACP QA/QC and recommendations, and creation of the overall Project Proposal report which is requirement of the SAW planning grant. This proposal contains several sections that include our Project Understanding, Scope of Services, Assumptions, Schedule, and Budget.

PROJECT UNDERSTANDING

The City of Novi received a SAW grant through the Michigan Department of Environmental Quality (MDEQ) in the fall of 2015. The SAW grant is for three projects including a sanitary sewer system planning project, manhole rehabilitation design project and an asset management plan. The City has previously authorized the manhole rehabilitation design project and has deferred to the Oakland County Water Resources Commissioner's Office (WRC) the SAW asset management plan as that work is associated with the collection system tributary to the Walled Lake Novi WWTP. The City has requested that OHM Advisors prepare a scope of services for several of the work tasks identified in the sanitary sewer system planning project. Please note that our scope of services and estimated fee matches the scope of work and estimated fee that the grant application was based and accepted by City Council and the MDEQ for grant award. We have attached for your reference the budget breakdown that was submitted as part of the grant award.

Scope of Services

Task 1 – MACP Manhole Inspections

Approximately 1330 manholes will be inspected utilizing the Manhole Assessment and Certification Program (MACP). Inspections will be performed by certified MACP personnel. See attached figures for manholes to be inspected and the manhole inventory information to be collected. Specific work efforts are as follows:

- Certified MACP staff will inspect approximately 1330 manholes utilizing attached inspection protocol.
- OHM will assist the City in drafting public notices for inquiries by residents.

Task 2 – Manhole MACP Data Analysis and Recommendations

For the approximately 1330 manholes inspected, specific work efforts for data analysis and recommendations are as follows:

- OHM Advisors will process the MACP results to determine manholes with excessive I/I leading to water quality concerns and/or manholes that are structurally deficient. The review of MACP coding will also identify any current or potential manhole blockages, which are a major cause of sewer backups within the City. This coding will also be utilized to select manholes for rehabilitation.
- Based on the codes and review of the inspection video, various rehabilitation methods will be evaluated.
- Recommendations for rehabilitation with associated cost for that rehabilitation method will be finalized.

Task 3 – Sanitary Sewer PACP QA/QC and Recommendations

The City has an ongoing sewer cleaning and televising program and has already televised much of the desired area. The video has been or will be PACP coded by a trained contractor. As the field work is ongoing, OHM Advisors will perform a 10% QA/QC check to ensure that the contractor is appropriately coding the sanitary sewers. Once the field work and coding is complete, OHM Advisors will process the PACP data to determine sanitary sewers with excessive I/I leading to water quality concerns and/or sewers that are structurally deficient. The review of PACP coding will also identify sewers with existing or potential blockages, which are a major cause of backups within the City. The results will then be used to select sewers for future rehabilitation. Based on the codes and review of inspection video, various rehabilitation methods will be evaluated, and recommendations and cost for selected rehabilitation efforts will be finalized. Specific work efforts included under this task are as follows:

- Coordinate with the City and PACP Contractor to perform a 10% QA/QC check on previously videoed and PACP coded sanitary sewer. Verify that the contractor is appropriately coding the sanitary sewers.
- Obtain the PACP data from the contractor and review the format to ensure that it is transferring appropriately into the City's GIS and into a database. We will work with the contractor to resolve any issues related to data transfer during the course of their work.
- The video will be reviewed for large sources of I/I and significant structural problems based on the contractor's summary information. In addition, spot-checking of the video will be conducted to get a general overview of the condition of the sewers and judgments made by the equipment operators. Recommendations for various rehabilitation methods will be provided along with an estimated cost.

Task 4 – Project Proposal

A Project Proposal will be developed that incorporates the findings from the planning tasks noted above. The Project Proposal will include the requirements described in the SAW grant application. These requirements include:

- Study area identification and description
- Description of existing facilities
- Summary of project need
- Description of project options considered
- Summary of proposed project
- Evaluation of environmental impacts

For the City’s benefit, the Project Proposal will also document locations where rehabilitation or replacement of manholes and sanitary sewers is necessary based on the results of the MACP and PACP inspection. Various repair methods will be evaluated and the environmental impacts, if any, will be noted in the report.

In addition to the above Tasks, OHM Advisors will assist with administering the grant disbursement requests on behalf of the City of Novi. We anticipate the City will provide all necessary information for their force account labor and costs. OHM Advisors will prepare requests once every two months. We anticipate submitting up to 12 disbursements requests.

Assumptions

The following are assumptions associated with the project:

- This project will be funded by the MDEQ SAW grant program and work is anticipated to begin prior to October 2016.
- OHM Advisors will utilize current and past work efforts related to the SAW Grant Application, CMOM program, and SSES to assist in completion of this project.

Budget

Total budget for scope of services herein is summarized in the table below:

Task	Cost
Task 1 – MACP Manhole Inspections	\$146,300
Task 2 – Manhole MACP Data QA/QC, Analysis, and Recommendations	\$49,500
Task 3 – Sanitary Sewer PACP QA/QC and Recommendations	\$43,000
Task 4 – Preparation of Project Proposal	\$25,000
Total Not-to-Exceed Fee	\$263,800

OHM Advisors will invoice the City of Novi monthly for the value of services completed to date, based on OHM Advisors current hourly rate schedule, up to the not-to-exceed amount stated above.

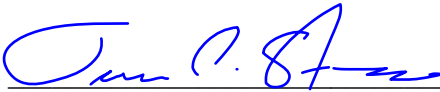
Schedule

The project is anticipated be completed within twenty-four months of acceptance by the City of Novi. Once the project is approved, OHM will develop a detailed schedule with milestones and deliverables that is acceptable to the City.

We appreciate the opportunity to work with the City of Novi on this project. Please feel free to contact us if you have any questions or need any additional information.

Very truly yours,

OHM Advisors



James C. Stevens, PE
Principal

CITY OF NOVI

Sanitary Sewer Inspection & Rehabilitation

Projected Planning and Design Cost from August 29, 2013 to March 30, 2017

PROJECT DESCRIPTION	Estimated Future Costs - City	Estimated Future Costs - Consultant/ Contractor	City prior incurred costs	Consultant/ Contractor prior incurred
Manhole Inspection with MACP	\$5,700	\$195,800	\$0	\$0
Sewer Cleaning and CCTV Work with PACP	\$8,645	\$716,205	\$0	\$0
Project Proposal for Planning Work	\$1,500	\$25,000	\$0	\$0
Manhole Rehab Design	\$5,200	\$25,000	\$0	\$0
OHM SAW Grant Application Assistance	\$0	\$0	\$0	\$4,950
Category Total	\$21,045	\$962,005	\$0	\$4,950

Total Prior Incurred Costs	\$4,950
Total Estimated Future Costs	\$983,050
Grand Total Project Cost	\$988,000
Local Agency Commitment	\$98,800
SAW Grant Amount	\$889,200

General Info	Cover Observations	Adjustment Ring & Frame
Surveyed By	Cover Shape	Adjustment Ring Type
Date	Cover Size	Adjustment Ring Material
Jurisdiction/Ownership	Cover Size Width	Adjustment Ring Condition
Location Reference	Cover Material	Adjustment Ring Height
Structure ID	Cover Type	Frame Material
Structure Use	Gasket	Frame Condition
Pre-cleaning?	Cover Frame Fit	Frame Seal Condition
Structure Location	Cover Condition	Frame Offset Distance
Surface Type	Insert Type	Rim to Grade
Inspection Status	Insert Condition	Frame Depth

Chimney, Cone, & Wall	Bench, Channel, & Steps	Pipe Connections*
Chimney Present?	Bench Present?	Pipe 1 Clock Position
Chimney Material	Bench Material	Pipe 1 Compass Direction
Chimney Depth	Bench Lining	Pipe 1 Invert
Chimney Lining Interior	Channel Installed?	Pipe 1 Flow Direction
Chimney Lining Exterior	Channel Material	Pipe 1 Material
Cone Type	Channel Type	Pipe 1 Shape
Cone Material	Channel Exposure	Pipe 1 Diameter
Cone Depth	Step Number	Pipe 1 Width
Cone Lining Interior	Step Material	Pipe 1 Condition
Cone Lining Exterior	Step Condition	Pipe 1 Seal Condition
Wall Diameter		Pipe 1 Special Condition
Wall Size Width		Pipe 1 Restrictor Plate Size
Wall Material		
Wall Depth		
Wall Lining Interior		
Wall Lining Exterior		

*All fields replicated for each pipe connection

Manhole Inspections

1. 553 manhole inspections already complete
2. 1330 manhole inspections to be completed

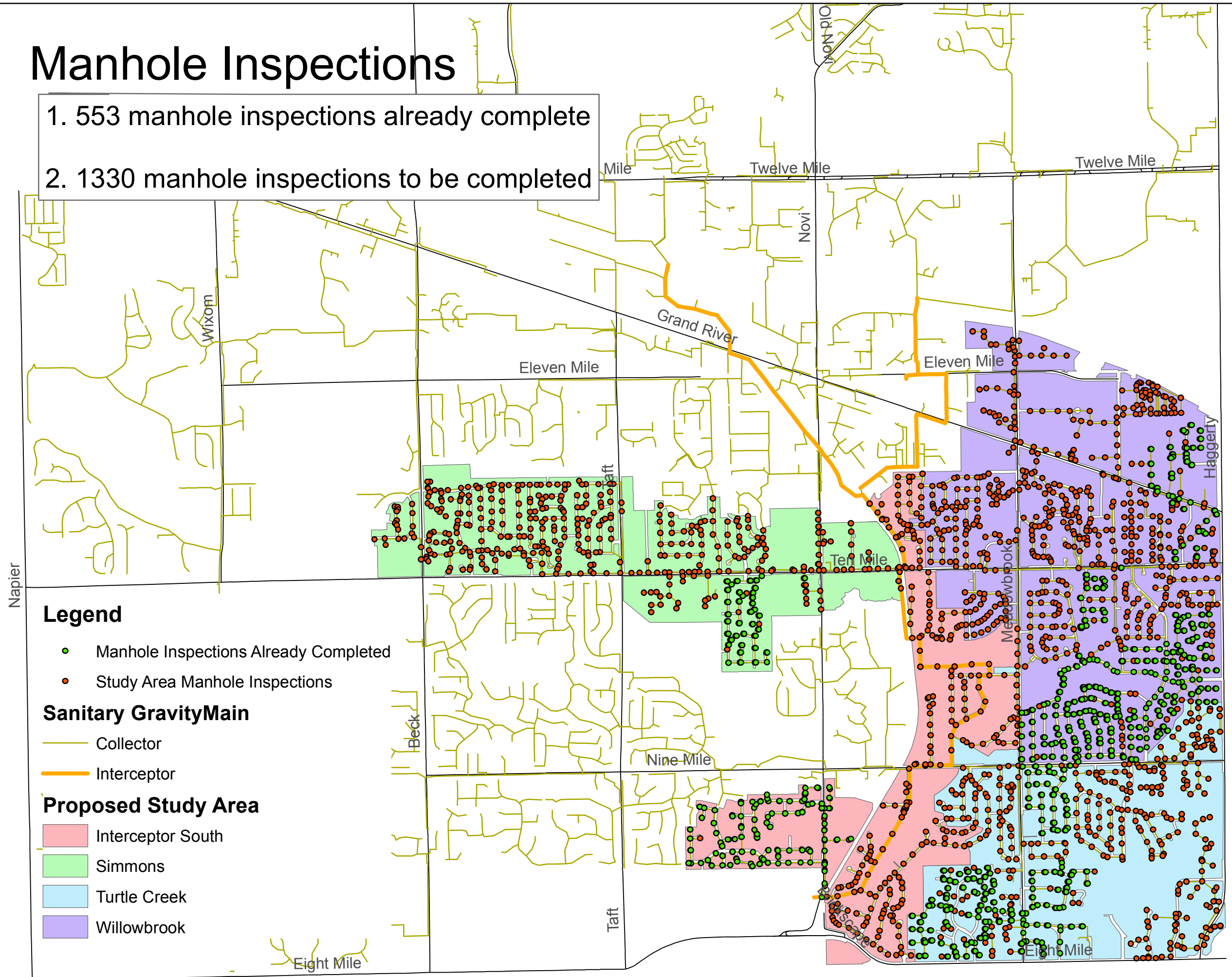


Figure 2
Proposed MACP
MH Inspections

Legend

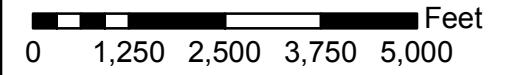
- Manhole Inspections Already Completed
- Study Area Manhole Inspections

Sanitary Gravity Main

- Collector
- Interceptor

Proposed Study Area

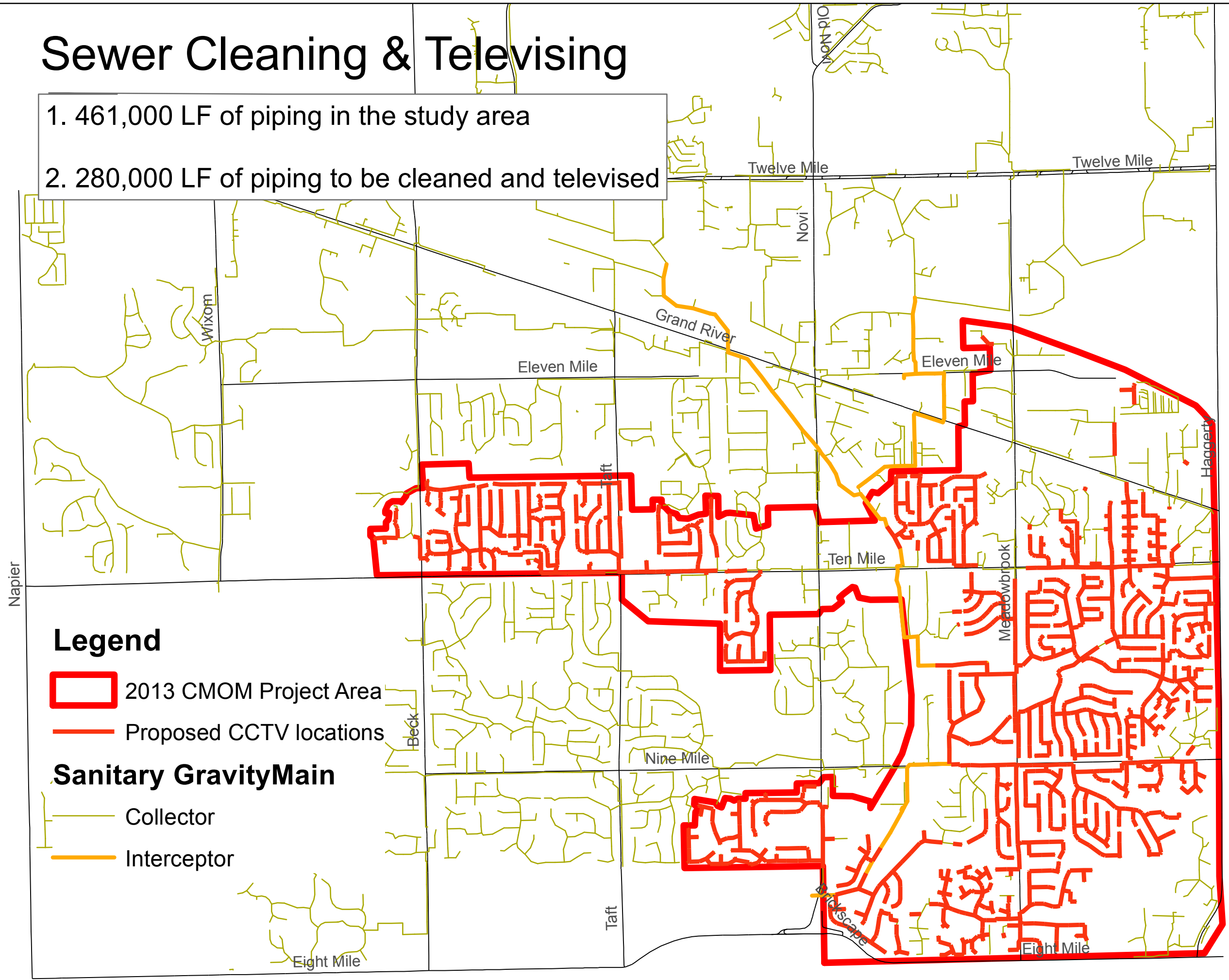
- Interceptor South
- Simmons
- Turtle Creek
- Willowbrook



1 inch = 2,500 feet

Sewer Cleaning & Televising

- 1. 461,000 LF of piping in the study area
- 2. 280,000 LF of piping to be cleaned and televised



Legend

- 2013 CMOM Project Area
- Proposed CCTV locations

Sanitary Gravity Main

- Collector
- Interceptor

Figure 3
Proposed Cleaning
and CCTV Work

NORTH

Feet
0 1,250 2,500 3,750 5,000
1 inch = 2,500 feet

Figure 4
Proposed Manhole Rehab Project Areas

