



MEMORANDUM

TO: JEFFREY HERCZEG, DIRECTOR OF PUBLIC WORKS
FROM: REBECCA RUNKEL, PROJECT ENGINEER
SUBJECT: 2022 ENGINEERING DIVISION ANNUAL REPORT
DATE: MARCH 23, 2023

The Engineering Division strives to provide quality engineering services to the community in a fiscally responsible manner. The Engineering Division works closely with consultants, developers, local agencies, and other City departments to design and construct safe and efficient infrastructure.

Engineering Division Duties

In 2022, the Engineering Division consisted of five full-time professionals and one seasonal intern. The Engineering team reviews private development site plans, public infrastructure plans, and oversees private and public infrastructure construction.

Below are the 2022 team members and their primary responsibilities:

- Ben Croy, PE; City Engineer – responsible for overseeing the Engineering Division and serves as the City's Traffic Engineer.
- Aaron Staup; Construction Engineer – responsible for the construction phase of public infrastructure projects.
- Rebecca Runkel; Project Engineer – responsible for the design phase of public infrastructure projects.
- Victor Boron, EIT; Project Engineer – responsible for engineering plan review and the construction phase of private development projects.
- Humna Anjum; Project Engineer – responsible for engineering plan review and the construction phase of private development projects plus right-of-way permitting.
- Tia Jokic, Engineering Intern – seasonal intern, assisted with right-of-way permitting and inspections, and various engineering tasks as assigned.

Annual Overview

The main responsibilities of the Engineering Division are detailed in this section. The following table provides a summary of the Engineering Division's activities during 2022:

Activity	2021	2022
Grant Funding Obtained	\$1,504,540	\$2,299,411
Private Site Plan Reviews	98	129
Final Site Plan Approvals	31	37
Right-of-Way Permits Processed	208	222
Soil Erosion Permit Reviews Completed	23	44
Private Development Pre-Construction Meetings Held	10	7
Private Development Utilities Accepted	3 affidavits	9 affidavits
Private Development Streets Accepted	7 segments	10 segments
New Street Light Installations	10	1
Average PASER Rating	5.8	5.8
Number of Capital Construction Projects Substantially Completed	6	7
Dollar Value of Capital Construction Projects Substantially Completed	\$21,118,303	\$10,304,274

- **Grant Funding**

In 2022, the following projects were approved for funding through the Oakland County Federal Aid Committee (FAC) Surface Transportation Program (STP) for obligation in 2025:

- **13 Mile Road Rehabilitation, M-5 to Haggerty** (\$523,745 in federal aid allocated to project)
- **West Park Drive Rehabilitation, 12 Mile Rd to West Rd** (\$576,978 in federal aid allocated to project)
- **West Park Drive Rehabilitation, West Rd to Pontiac Trl** (\$1,198,688 in federal aid allocated to project)

- **Private Development Site Plan Review**

Plan reviews for private development are completed by in-house City Engineering Staff, saving upwards of \$80,000 per year in engineering consulting fees. In 2022, the Engineering Division reviewed 129 private site plans; of which, 37 final site plans were approved. Site plan submittals come in the form of pre-applications, preliminary site plans, and final site plans.

- **Private Development Construction**

The Engineering Division hosted 7 pre-construction meetings for private developments. Staff managed the site inspections, legal document reviews, and responded to community inquiries. The City accepted 9 affidavits for water and/or sanitary sewer systems from developments for the year. The City accepted 10 public street segments from private developments in 2021.

- **Soil Erosion and Sedimentation Control Permit Review**

All full-time City engineering staff are certified for Soil Erosion and Sedimentation Control (SESC) reviews. Bringing reviews in-house saves the City anywhere from \$300 to \$800 in consultant review fees per site. Engineering staff is responsible for the review and approval of all soil erosion and sedimentation control (SESC) permits associated with site developments and public projects. There were 34 SESC permit applications reviewed for private development projects and 10 SESC permits issued for the City's public infrastructure projects.

- **Right-of-Way Permitting**

Staff reviewed 222 right-of-way applications for franchise utility installation (electric, gas, fiber), private development projects, residential driveway replacements, and other miscellaneous work in the right-of-way. The right-of-way permitting process minimizes impact to public water mains, sanitary sewer, storm sewer, ditches, roads, sidewalks and verifies that restoration within the public right-of-way is completed per City standards.

- **Capital Improvements Program (CIP)**

Engineering staff develops and manages multiple projects relating to roads, intersections, pathways, storm water, sanitary sewer, and water distribution sections as outlined in the City's Capital Improvement Program. Preparation for each project includes detailing the project scope, justification, public benefits, and cost estimates that include any necessary right-of-way acquisition, design, geotechnical services, etc. Please refer to the list of capital projects presented beginning on Page 5.

- **Street Lighting**

Each year, engineering staff works with homeowner's associations (HOAs) and developers to facilitate the installation of street lighting by DTE Energy. The Street Lighting Policy states that the City will pay for the installation and ongoing annual costs of a single standard street light at each subdivision entrance on a major street. In 2022, Engineering assisted with the addition of street lighting at one subdivision entrance. Additionally, the last phase of the City's Street Light Installation Program occurred in 2022. Phase 5 of the program added nineteen (19) street lights to seventeen (17) intersections.

- **Transportation Asset Management**

The Pavement Surface Evaluation and Rating System (PASER) is one component of the City's asset management approach. PASER ratings are on a scale from 1 to 10, with 10 being the best (road does not require any maintenance) and 1 being the worst (road has failed and requires reconstruction).

The average PASER rating is an indicator of the overall condition of the road pavements within the City network. OHM Advisors evaluated City roads in November 2022. Roads that are under the jurisdiction of the governing county/road agency were excluded from the evaluation. As shown in the table below, there was no change in the average PASER rating from 2020 to 2022.

Evaluation Year	2012	2013	2014	2015	2017	2018	2019	2020	2022
Average PASER Rating	6.0	5.9	5.6	5.6	5.5	5.5	5.5	5.8	5.8

City roads will be rated again in fall 2024.

2022 Public Projects

Neighborhood Roads Program

The Neighborhood Roads Program (NRP) consists of asphalt and concrete rehabilitation and reconstruction of local roads. Spalding DeDecker assisted the Engineering Division with preparing a list of streets for the 2022 and 2023 Neighborhood Roads Program (NRP). The program is divided into two contracts: one focusing on concrete roads, and the other focusing on asphalt roads. The program was advertised as a two-year contract to lower the overall cost of bidding and design, and to lock in unit prices. The two-year contract also allows the City flexibility in scheduling the different project areas.

2022 NRP – Concrete Streets

The construction contract was awarded to Mattioli Cement Company. No major problems were encountered during the construction process. The project included reconstruction of the streets listed below, which were completed in 2022.

Street Segment	From	To	Treatment
Laramie Dr	11 Mile Dr	Cheyenne Dr	Full Reconstruction
Lancaster Ct	Galway Dr	End of Cul-de-Sac	Full Reconstruction
Gen Mar	Novi Rd	Dead End	Full Reconstruction
Cumberland Dr	Center St	Center St	Full Reconstruction
Ironside Ct	Cumberland Dr	End of Cul-de-Sac	Full Reconstruction

Engineering Consultant: Spalding DeDecker
Construction Contractor: Mattioli Cement Company

Original Contract Price: \$ 1,130,126
Current Contract Price: \$ 1,689,084

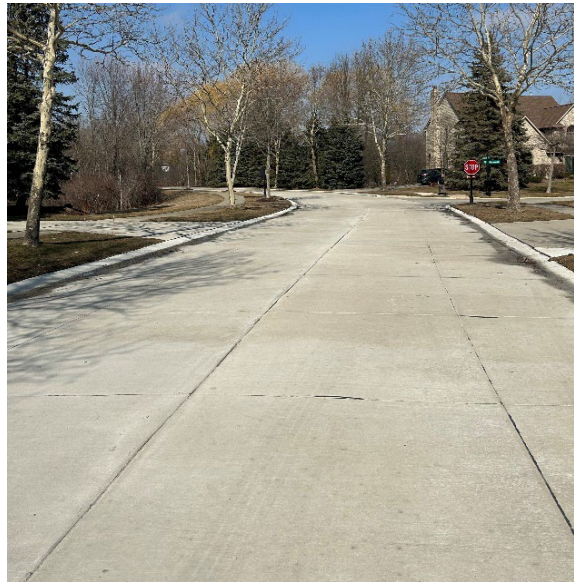
Project Start Date: May 31, 2022
Project Completion Date: November 31, 2022

2022 NRP – Concrete Streets, continued

Laramie Drive – Before



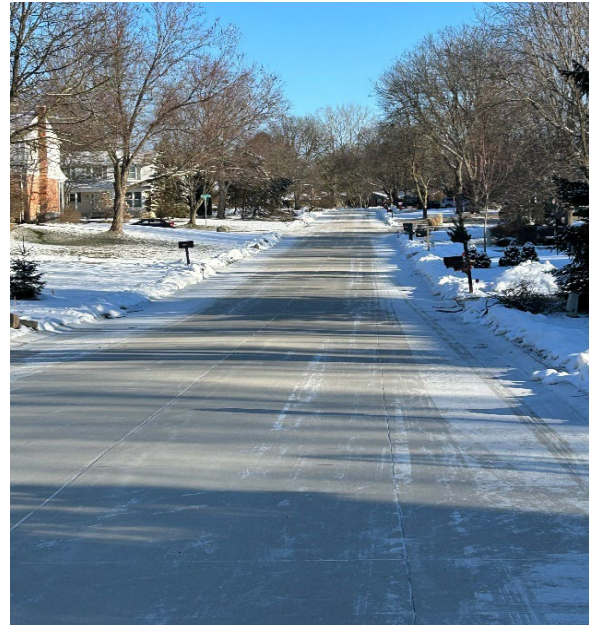
Laramie Drive – After



Cumberland Drive – Before



Cumberland Drive – After



2022 NRP – Asphalt Streets

The construction contract was awarded to Asphalt Specialists, Inc. The project included reconstruction of the streets listed below, which were completed in 2022.

Street Segment	From	To	Subdivision
Sandstone Dr	Hearthstone Dr	Stonewall Ct	Vista Hills
Lochmoor Ln	Glenmoor	Groveland	Lochmoor Village
Groveland	Lochmoor Ln	Glenmoor	Lochmoor Village
Glenhurst	Groveland	Laramie Dr	Lochmoor Village
Mulberry Ln	Glenmoor	Groveland	Lochmoor Village
Christina Ln	10 Mile Rd	Sullivan Ln	Cedarspring Estates No.2
Park Place Dr	Napier Rd	Roberts Rd	Park Place
Roberts Rd	9 Mile Rd	Park Place Dr	Park Place
Galway Dr	Rathlone Dr	Connemara Dr	Connemara Hills
Galway Dr	Novi Rd	Westridge Ln	Westridge Downs
Marks Dr	Meadowbrook Rd	Phillip Dr	Charrington Green
Phillip Dr	Todd Ln	Marks Dr	Charrington Green
Todd Ln	Marks Dr	Phillip Dr	Charrington Green

Engineering Consultant: Spalding DeDecker
Construction Contractor: Asphalt Specialists, Inc.

Original Contract Price: \$1,419,868
Current Contract Price: \$1,709,539

Project Start Date: May 31, 2022
Project Completion Date: October 31, 2022

Park Place Drive – Before



Park Place Drive - After



2022 NRP – Asphalt Streets, continued

Marks Drive – Before



Marks Drive – After



Nine Mile Road and Taft Road Roundabout

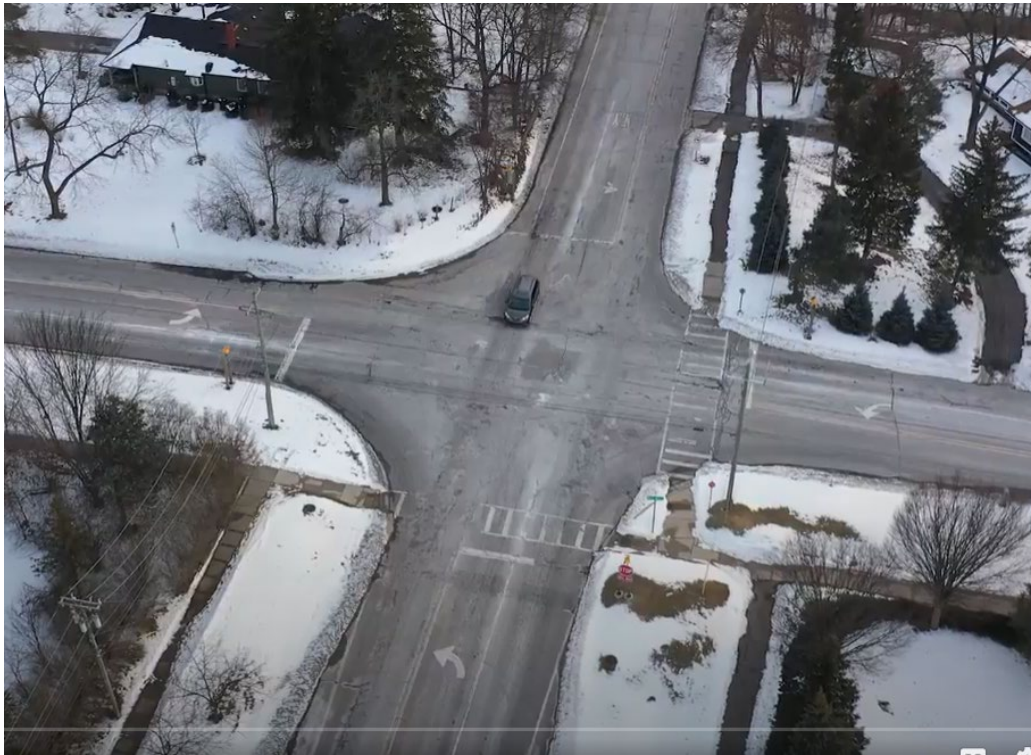
The City was awarded \$600,000 in federal funding through the Highway Safety Improvement Program (HSIP) for construction of a single-lane roundabout at the 9 Mile Rd and Taft Rd intersection to replace the existing four-way stop.

Engineering Consultant: OHM Advisors
Construction Contractor: Cadillac Asphalt, LLC

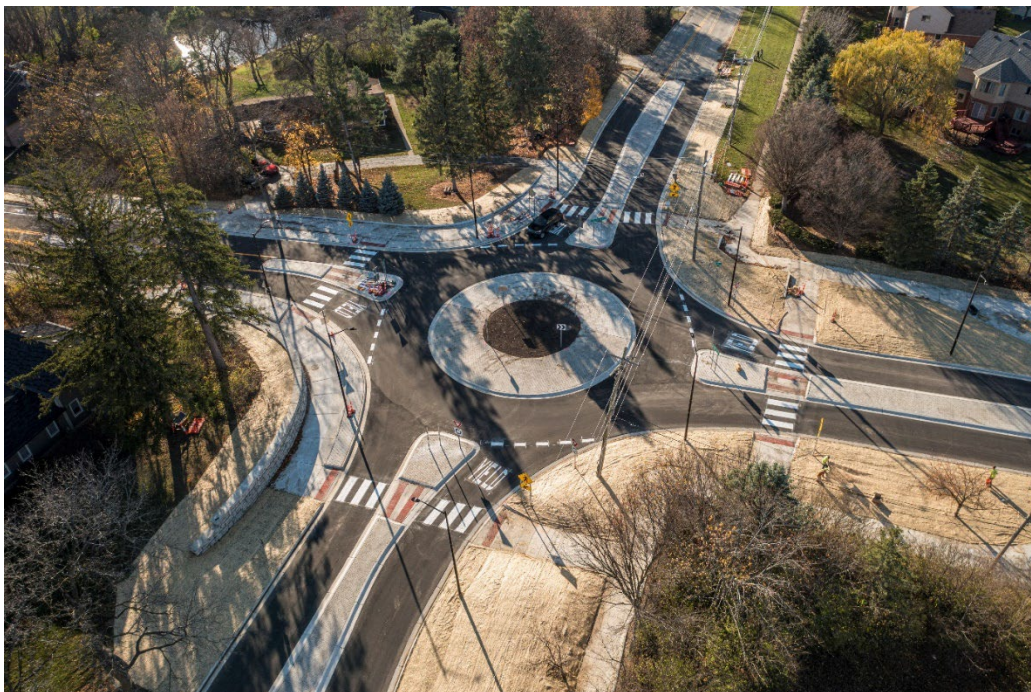
Original Contract Price: \$4,693,945
Current Contract Price: \$4,756,831

Project Start Date: August 16, 2022
Project Completion Date: November 30, 2022

9 Mile Rd & Taft Rd Intersection – Before



9 Mile Rd & Taft Rd Intersection - After



Twelve Mile Road Paving, Medina Blvd to City Limits

The gravel portion of Twelve Mile Road, from Medina Blvd to the east City limits was paved in 2023. Two sidewalk gaps along the south side of Twelve Mile Rd were filled in as part of the project, and a gravel parking lot was constructed for the future Northwest Park playground and trails.

Engineering Consultant: OHM Advisors
Construction Contractor: Springline Excavating, LLC

Original Contract Price: \$1,434,189
Current Contract Price: \$1,364,834

Project Start Date: September 6, 2022
Project Completion Date: November 5, 2022

12 Mile Rd – Before



12 Mile Rd - After



10 Mile Road Water Main, Sidewalk and Culvert

This project consisted of installation of approximately 1,250 feet of 12-inch water main to fill two existing gaps in the water main system along the north side of 10 Mile Rd, crossing Wixom Road and west of Wixom Road along the frontage of Oak Pointe church. Two sidewalk gaps along the same stretch of 10 Mile Rd were also completed and a 24-foot extension and headwall were added to the existing 48-inch culvert at the Novi-Lyon Drain.

Engineering Consultant: AECOM
Construction Contractor: Bidigare Construction

Original Contract Price: \$ 519,872
Current Contract Price: \$ 582,039

Project Start Date: March 1, 2022
Project Completion Date: June 30, 2022

Water Main Work at 10 Mile/Wixom



Sidewalk Gap Infill & Culvert Extension



Hilton Pump Station Forcemain Replacement

Approximately 2,700 feet of new sanitary sewer force main was installed downstream of the Hilton Pump Station near Haggerty Road and Orchard Hill Place to replace the existing 38-year-old force main.

Engineering Consultant: Spalding DeDecker
Construction Contractor: D & D Water & Sewer, Inc.

Original Contract Price: \$ 881,250
Current Contract Price: \$ 881,250

Project Start Date: July 13, 2022
Project Completion Date: June 30, 2023

Location of Force Main Replacement



I-96 Sanitary Sewer Crossing and West Oaks Pump Station Abandonment

This project involved the construction of a 15-inch diameter gravity sanitary sewer under I-96, to allow for the abandonment of the existing West Oaks sanitary sewer pump station and force main.

Engineering Consultant: OHM Advisors
Construction Contractor: L. D'Agostini & Sons, Inc.

Original Contract Price: \$ 791,735
Current Contract Price: \$ 791,735

Project Start Date: August 22, 2022
Project Completion Date: November 16, 2022

Former West Oaks Pump Station Location



Wildlife Woods Park to ITC Connector Trail

This pathway connection between Wildlife Woods Park and the ITC Trail was selected for funding through the Southeast Michigan Council of Governments (SEMCOG) Transportation Alternatives Program (TAP) grant. The project also included a connection to Ascension Providence's future pathway system.

Engineering Consultant: AECOM
Construction Contractor: Superior Contracting Group

Original Contract Price: \$209,987
Current Contract Price: \$201,946

Project Start Date: May 16, 2022
Project Completion Date: July 1, 2022

New Pathway Connection



Other Notable Projects in Novi

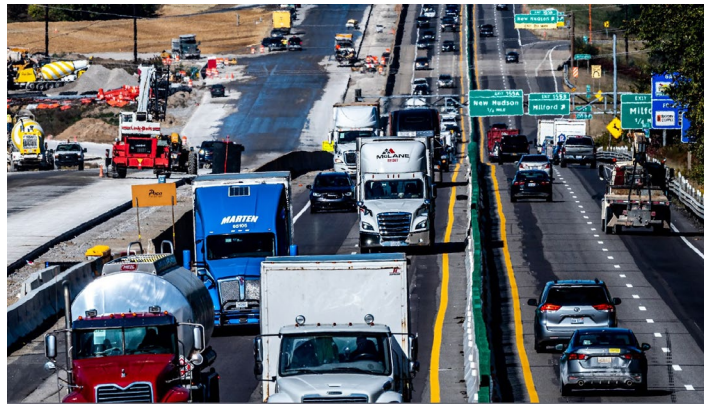
The City of Novi shares the responsibility of maintaining the roads inside the city limits with its neighbors and the Road Commission for Oakland County (RCOC). The City is also a crossroads for state highways under the jurisdiction of the Michigan Department of Transportation (MDOT). A summary of state and/or county road projects done in 2022 is as follows:

- **I-275 Repair and Rehabilitation Improvements (MDOT)**

MDOT began repairing and rebuilding 24 miles of I-275 between Will Carlton Rd and 6 Mile Rd in 2021. Improvements to interchanges and bridges is also included in the project. Work is expected to be complete in November 2024.

- **I-96 Flex Route (MDOT)**

In 2022, MDOT began construction on a flex lane and ramp metering on I-96 between Kent Lake Road and the I-275/I-696/M-5 interchange. The flex lane will allow for median shoulders to be used as an additional lane during peak travel times, special events, maintenance activities, and incidents/crashes. The project is expected to be complete in November 2024.



- **Rebuilding Michigan I-696 Project, I-275 to Lahser Rd (MDOT)** – Reconstruction project started in late 2022 and will continue through 2025.

- **Great Lakes Water Authority (GLWA) 54-Inch Water Transmission Main Loop**

GLWA started work in 2022 on construction of a 54-inch transmission water main to interconnect two existing transmission mains at 14 Mile Rd and 8 Mile Rd. The project is expected to continue into 2024.

- **2022 Asphalt Resurfacing and Concrete Slab Replacement Programs (RCOC)**

The RCOC completed pavement overlays or concrete panel replacement on the following roads in Novi:

- 12 Mile Road, east of Grand River Ave to dead end at I-96
- Pontiac Trail, west of Wixom Rd, to West Maple Rd
- Grand River Ave, between Novi Rd and Wixom Rd
- Novi Rd, north of Grand River Ave to Crescent Blvd

2023 Construction Projects in the City of Novi

The following projects are expected to be constructed during 2023:

- **2023 NRP Concrete Streets** – Construction spring/summer 2023
- **2023 NRP Asphalt Streets** – Construction spring/summer 2023
- **8 Mile Road Pavement Preservation Overlay, Napier Rd to Taft Rd (RCOC)** – Construction TBD 2023
- **10 Mile Road Widening and Rehabilitation, Meadowbrook Rd to Haggerty Rd (RCOC)** – Construction began in late 2022 and will continue through November 2023.
- **Bond Street Construction (SW Ring Road), Phase 2** – Construction began in late 2022 and will continue into spring/summer 2023
- **Drakes Bay/Lannys Sanitary Sewer Upgrade and Wixom Road and Drakes Bay Pump Station Rehabilitation** – Construction summer/fall 2023
- **Howell's Walled Lake Subdivision Water Main, Road and Sanitary Sewer Improvements** – Construction spring/summer 2023
- **Lakeshore Park Pedestrian Tunnel Replacement** – Construction March – May 2023
- **Middle Rouge Streambank Stabilization (south of Chattman Rd) and Meadowbrook Lake Sediment Dredging** – Construction summer/fall 2023
- **Novi Road Bridge Preventative Maintenance, over CSX Railroad** – TBD 2023
- **Novi Road Rehabilitation, 9 Mile Rd to 10 Mile Rd (RCOC)** – Construction March – November 2023
- **Novi Road Pavement Preservation Overlay, Grand River Ave to 12 Mile Rd (RCOC)** – Construction TBD 2023
- **Taft Road Rehabilitation, City limits to 10 Mile Rd** – Construction July - September 2023
- **Water Main Replacement Program** – Construction on the 2022 program started in late 2022 and is expected to continue through June 2023. The 2023 program is expected to start in fall 2023.
- **Westminster Water Main Rehabilitation** – Construction spring/summer 2023