

## **Engineering Department**

*Gary E. West, Director*

The Engineering Department is responsible for planning, designing, bidding, funding, and the construction management for all Public Works Projects within the City of Mishawaka and review of all private development and utility companies' projects for conformance with Engineering Standards, such as storm water management, sanitary construction and connection, and right-of-way access and improvements. Our office also manages the traffic signal system, traffic cameras, right-of-way records and as-built records for locating right-of-way infrastructure, such as the City's fiber-optic system and the storm and sanitary sewer systems.

### **Engineering Staff**

The Engineering Department staff includes the Director and Assistant Director of Engineering; a Construction Manager, a Project Manager, a Traffic Manager, an MS4 Coordinator; a Project Coordinator, an Office Manager, and a Locate/Permit Coordinator.

The Director of Engineering is responsible for the day-to-day management of the Engineering Department. The Director also serves at the City's representative on the following boards and committees:

- President of Board of Public Works and Safety/Utility Board
- Technical Advisor & Member, City of Mishawaka Plan Commission
- Technical Advisor & Member, City of Mishawaka Traffic Commission
- Member of the City's Solid Waste Committee
- Member of the Transportation Technical Advisory Committee, Michiana Area Council of Governments
- Mayor Wood has also designated the Director of Engineering as Deputy Mayor

The Assistant Director of Engineering's responsibilities include all site plan reviews, including storm water management, site access, sanitary sewer connections, and construction plan reviews. These plan reviews include new residential and industrial subdivisions documenting compliance with storm water regulations, subdivision infrastructure requirements, sanitary sewer engineering standards, and to ensure that adequate sanitary sewer capacity is available to serve the proposed development. Delegation of responsibilities allows for a more timely response to developer, engineer, and contractor inquiries, while enabling the Director of Engineering to focus on project planning, right-of-way, and funding future Public Works Projects. The Assistant Director also:

- reviews storm water management calculations and designs submitted by developers
- reviews construction plans and specifications for development of improvements of public streets, sewers, and drainage within proposed subdivisions
- administers the sanitary sewer use ordinance for connection of new customers
- coordinates with Wastewater Treatment staff, consultant Lawson-Fisher Associates of South Bend, and Bethel College staff in the development and implementation of the MS4 Program
- participates in the Michiana Stormwater Partnership, which is the regional MS4

Education Committee, which includes members from St. Joseph County, City of South Bend, Bethel College, Ivy Tech, and Soil and Water Conservation District

- works with consultants to complete design plans and construction cost estimates for various public infrastructure projects

The Construction Manager oversees City construction projects within the Tax Incremental Financing (TIF) District to ensure compliance with construction documents and addresses construction concerns reported by the public.

The Project Manager is responsible to oversee smaller Public Works projects, the curb and sidewalk program, the summer street paving project, assigns all City addresses in conjunction with the 911 emergency systems, and troubleshoots citizen complaints. The Project Manager also shares responsibility with the Project Coordinator for the Department's purchase orders and processing of claims for consulting services and construction projects. The Project Manager also manages the allocation of funding from multiple funding sources to ensure adequate monies are available to complete smaller local construction projects.

The Traffic Manager oversees the operation of the City's traffic signal management system and coordinates repairs by the City's maintenance contractor. The Traffic Manager is also responsible for signal timings, traffic studies, and traffic work orders for sign installation as well as for the management of emergency vehicle pre-emption systems and seventeen City traffic cameras.

The MS4 Coordinator is responsible for compliance with the IDEM/EPA Rule 5 and Rule 13 requirements and is the City's coordinator for the City MS4 Program. The MS4 Coordinator presents MS4 education programs and processes approval of erosion control plans, and monitors their compliance during, and following construction.

The Project Coordinator is responsible for coordinating and maintaining project files, processing payment applications, sanitary sewer construction and connection applications, utility excavation and sewer permits, and other duties as required.

The Office Manager is responsible for managing phone and front counter inquiries from the public, maintaining sewer insurance records, updating the locate database, assisting with excavation permits and sewer permits, and other duties as assigned. The Office Manager also serves as the Clerk for the Traffic Commission.

The Locate/Permit Coordinator is responsible for reviewing all locate e-mails, updating the locate database, and gathering historic sewer as-built information to distribute to the Sewer Department staff to accurately locate the sewers in the field. The Locate/Permit Coordinator also issues excavation permits, maintains City as-built records, and assists with phone and front counter inquiries from the public. The Sewer Maintenance Department continues to perform the field locating duties for storm and sanitary sewers prior to any excavation in the public right-of-way. As the number of locate tickets continues to increase, this work could impact the amount of maintenance work which can be performed by the Sewer Department, and therefore, is monitored for potential reconfiguration of responsibilities.

## ENGINEERING SERVICES

In addition to engineering public works projects such as curb, sidewalks, street improvements, traffic signals, school warning devices, and sanitary and storm sewers, the Department also ensures compliance with job-site safety, maintenance of traffic, erosion control issues, and restoration of City and public utility projects. Follow-up inspections ensure proper site restoration.

The Department also investigates complaints received from residents throughout the city to resolve concerns within their neighborhood including local and area-wide drainage, traffic, and parking issues.



A significant responsibility is the underground public works utilities locate service for the City. The facilities located are the sanitary trunk sewers, lateral connections, storm sewers, fiber optic interconnects, traffic signal control systems, and the Metronet shared conduit system. In 2014 over 9,900 locate tickets were processed, resulting in over 1,500 sites which required underground facilities to be located. When these locates are required for an ongoing project, remarking of the facilities is required every 3 weeks.

Engineering ensures contractor and individual compliance with the City of Mishawaka Excavation and Public Works Bonding Ordinances and permitting requirements. The Department issues permits for all excavation within all City public rights of way to ensure the motoring public and the existing infrastructure are protected, as well as ensuring proper restoration of street cuts. The Engineering Department provides engineering assistance for municipal utility projects on request and on other major public works capital improvement projects.

Our office receives copies of traffic accident reports that involve City-owned property damage, such as guardrails, traffic signs, traffic signals, trees, and other City property, for restitution of damaged property through insurance claims or personal payment plans. In 2014, \$12,516.62 was collected for damaged public property at seven locations.

### ***Excavation and Sanitary Sewer Connections***

Sanitary Sewer connection fees are designed to assess a fee on the developer's site based on the size of the property and the impact the proposed development will have on the capacity of the sanitary sewer collection system and the Wastewater Treatment Plant. The money collected is used for oversizing and extending sanitary sewers, as well as making improvements at the Wastewater Treatment Plant.

In 2014 Engineering issued 612 Excavation Permits with fees totaling \$18,860.00 for all categories of excavation, such as telephone, cable, gas, electric, fiber optic, boring, street, sewer, water, and irrigation. This is an increase from 2013 when \$14,630.00 was collected from 453 Excavation Permits. In addition, there were 89 Sanitary Sewer Connection and Inspection Permits obtained in 2014 that totaled \$165,234.98 compared to \$76,985.33 collected from 102 permits in 2013. This Sewer Connection and Inspection Permits increase is directly related to an increase in private property development.

### ***Sewer Insurance Program***

The Engineering Department maintains all sewer records and provides administrative assistance to the Sewer Lateral Insurance Program. This program, which began in 1986, protects single family residents from paying catastrophic sewer lateral repair costs. The homeowner is responsible for paying all routine sewer lateral cleaning costs, and if the line requires repair, they pay the \$250 deductible fee. The Sewer Insurance Fund pays all repair costs in excess of the \$250 for the repair of a private sewer lateral connection between the foundation wall of the home to the trunk sewer main. The costs of removal and replacement of public streets, curbs, and sidewalks as a result of the repair are included. The monthly fee for residential sewer insurance was increased to \$1.50 per month in 2008.

The fund is also occasionally used to replace existing sewer laterals that are located within sewer main replacement projects to minimize the need to excavate a sewer lateral in a newly reconstructed street. Fees collected in 2014 totaled \$224,295.08 with expenses of \$169,195.58. In 2014, the Sewer Department received 261 complaints of sewer lateral issues where 43 residents signed up for the Sewer Insurance Program. Of the 43 residents, there were 24 residential contractor repairs performed with an ending balance in the fund of \$222,355.77.

A summary of the 2014 Sewer Insurance Program is provided below:

<b>Summary of 2014 Sewer Insurance Program</b>					
<b>Date Initiated</b>	<b>Job Number</b>	<b>Address</b>	<b>Action Taken</b>	<b>Total Cost</b>	<b>Work Completed</b>
1/3/14	1291	502 E. Jefferson Blvd	Line opened, no guarantee	516.00	1/3/14
1/8/14	1292	313 N. Oakland	Contractor repaired	7280.00	5/23/14
1/9/14	1293	1414 Margaret Ave.	Contractor repaired	3399.24	7/16/14
1/13/14	1294	1735 Linden Ave.	Line opened, no guarantee	483.00	1/13/14
1/31/14	1295	1607 Lynn St.	Contractor repaired	2109.93	2/5/14
2/7/14	1296	522 Imus Dr	Contractor repaired	2239.85	2/14/14
2/7/14	1297	617 Webster	Line opened, 1yr. root guarantee	540.00	2/7/14
2/12/14	1298	205 Hendricks	Line opened, no guarantee	270.00	2/13/14
2/14/14	1299	808 Conner Dr.	Contractor repaired	1850.00	4/4/14
3/10/14	1300	701 W. Broadway	Contractor repaired	4220.19	3/13/14
3/17/14	1301	326 W. 9 <sup>th</sup> St	Line opened, no guarantee	405.00	3/17/14
3/17/14	1302	1021 Liberty Dr	Line opened, no guarantee	450.00	3/17/14
3/20/14	1303	438 N. Mason St.	Contractor repaired	8267.10	4/18/14
3/25/14	1304	920 N. Logan St.	Contractor repaired	7082.08	5/5/14
3/31/14	1305	1703 Delaware St.	Contractor repaired	1850.00	5/9/14
4/9/14	1306	418 N. Wenger Ave.	Pending		
4/15/14	1307	1014 Pleasant St.	Pending		
4/16/14	1308	740 E. 11 <sup>th</sup> St.	Contractor repaired	3981.72	5/20/14
4/16/14	1309	2017 Linden Ave.	Contractor repaired	14057.07	5/8/14
4/28/14	1310	308 E. Broadway	Line opened, 1yr. root guarantee	360.00	4/28/14
6/19/14	1311	920 S. Main St.	Contractor repaired	2322.46	6/23/14
6/19/14	1312	720 Fairmont Ave.	Contractor repaired	1885.00	7/8/14

Summary of 2014 Sewer Insurance Program (cont.)					
7/1/14	1313	1015 W. 6 <sup>th</sup> St.	Contractor repaired	5795.00	7/23/14
7/11/14	1314	228 W. Lawrence St.	Line opened, no guarantee	540.00	7/11/14
7/28/14	1315	601 E. Lawrence St.	Contractor repaired	6140.00	8/7/14
7/30/14	1316	3011 Marrett Dr.	Line opened, no guarantee	450.00	7/30/14
8/21/14	1317	133 Helen Ave.	Line opened, no guarantee	490.00	8/21/14
9/4/14	1318	714 S. Ironwood	Refunded, City problem		
9/4/14	1319	113 E. 12 <sup>th</sup> St.	Contractor repaired	8990.00	10/15/14
9/8/14	1320	925 W. Mishawaka Ave.	Contractor repaired	5285.00	9/12/14
9/22/14	1321	523 W. Broadway	Line opened, 1yr. root guarantee	245.00	9/24/14
9/24/14	1322	552 Behney Ave.	Contractor repaired	1045.00	10/1/14
10/6/14	1323	418 W. Edgar Ave.	Contractor repaired	2450.00	10/17/14
10/10/14	1324	2710 Ewing Ave.	Line opened, no guarantee	245.00	10/10/14
10/13/14	1325	502 Lawrence St.	Contractor repaired	10605.00	11/7/14
10/16/14	1326	335 W. Broadway	Contractor repaired	4763.09	10/29/14
10/17/14	1327	334 W. Lawrence St.	Contractor repaired	6961.25	10/20/14
10/30/14	1328	609 E. Lawrence St.	Contractor repaired	6517.00	11/24/14
11/4/14	1329	909 Hubbard Ave.	Contractor repaired	1725.00	11/7/14
12/2/14	1330	814 Laurel St.	Pending		
12/26/14	1331	2126 E. Third St.	Pending		
12/11/14	1332	502 E. Grove St.	Line opened, no guarantee	368.00	12/11/14
12/30/14	1333	1005 E. Third St.	Line unopened, pending	367.50	12/30/14

### ***Review of Industrial, Commercial, and Residential Developments***

2014 experienced an increase in proposed larger commercial property developments in addition to a specific sector in commercial development, i.e. senior assisted living facilities. The City experienced a more balance combination than in recent years between rehabilitation of existing sites and new construction. Some of the commercial development projects approved in 2014 were Costco (625 University Drive), Primrose/Heritage Woods Senior Living (820 Fulmer Road), Bell Tower Health & Rehabilitation Center (5805 Fir Road), Holiday Inn & Conference Center (1208 Douglas Road), and Candlewood Suites (1220 Douglas Road).

### ***MS4 (Municipal Separate Storm Sewer System)***

During 2014, the MS4 program began preparations for an IDEM audit expected in 2015 of the City's Good Housekeeping practices at municipal facilities. As preparation for the audit, MS4 staff attended an IDEM Audit Preparation Workshop held at Notre Dame in June. In addition, staff attended a Good Housekeeping and Pollution Prevention workshop in December. In preparation for the audit, the MS4 Coordinator is reviewing municipal housekeeping operations to ensure compliance with local and State regulations.

The City hired Lawson-Fisher Associates to create an adaptive GIS layer to assist developing, storing, and retrieving MS4 program data. The GIS layer was further enhanced to include the locations of industries that have a potential to impact storm water. The GIS layer will serve as a tool going forward to target areas for enhanced monitoring of illicit discharges, and will also be a useful screening tool if an illicit discharge is detected.

The City continued its participation in the Michiana Stormwater Partnership (MSP), which is a consortium of all MS4s within St. Joseph County, to ensure consistent messaging and a pooling of resources. MSP works collectively to implement the public education and outreach programs required by each entity's NPDES permit. In March 2014, the MSP partnered with the Greater Elkhart County Stormwater Partnership for a regional contractor education effort entitled "The

Basics of Erosion and Sediment Control on Construction Sites”, which was well-attended and positioned the City as a strategic partner in a regional coalition. Additionally, the City continued its partnership with St. Joseph County for SWPPP reviews.

In conjunction with the MSP, the City of Mishawaka completed a long anticipated sign campaign which is designed to identify various water bodies throughout the City. The signs, bearing the MSP logo and the slogan “A Resource Worth Protecting” under the water body name, have been placed at most major road and waterway crossings in the City. As weather and access permits, additional signs will be placed along the Riverwalk in 2015 and in locations that were not accessible due to construction projects. The signs are intended to alert residents to the abundant surface water bodies in the area, and to serve as a reminder to protect these vulnerable resources clean and free of pollutants.



*Water Resource Signs*

An application for renewal of the NPDES permit was submitted to IDEM in November 2013, making 2014 the first year of the City’s third 5-year NPDES permit term. IDEM has indicated that their MS4 permit program may undergo restructuring that may bring changes to the local MS4 programs, including the potential for revised permit requirements during the next five-year permit term. Program efforts throughout 2015 will focus on resolving IDEM audit concerns and educating City staff in making any necessary adjustments to the City’s MS4 program that result from program changes made at IDEM.

### ***Fats, Oils, and Grease (FOG)***

The Common Council approved revisions to the Sewer Use Ordinance to cover fats, oils, and grease (FOG) in the summer of 2010, which established maintenance requirements and provided a regulatory framework for recovering costs incurred by the City to deal with problem facilities. The program is evaluated at the end of each calendar year to develop upgrades or modifications for implementation the following year. In a continued effort to educate restaurant operators about the City’s expectations, the Wastewater, Sewer, and Engineering staff printed an educational pamphlet for distribution with the 2014 January restaurant license renewal. Additionally, permit applications and letters detailing program requirements were updated and provided to the Controller’s office for distribution throughout 2014.

### ***Traffic Engineering Services***

Traffic Engineering is responsible for operation and maintenance of all of the 62 City-owned traffic signals, 13 school warning devices, as well as two intersections with four-way red flashers and two with all-way yellow warning flashers. Traffic Engineering received several requests for additional or modified signage through the Mishawaka Police Department, concerned motorists, and citizens. In 2014, these requests were investigated and resulted in the issuance of 39 work orders for the installation of new or modified signage and pavement markings.

### *Traffic Signal and Flasher Maintenance*

In 2014 one hundred thirty two (132) traffic signal maintenance repairs were completed in addition to repairs and maintenance of luminaries and guardrails. All 62 traffic signal cabinets received an annual cleaning to protect the cabinet electronics, which includes replacing air filters and evaluating the LED bulbs and battery back-up system. The Engineering Department also responded to numerous 4-way flash problems involving the resetting of traffic controllers and conflict monitors.

### *Signage*

New sign retro-reflectivity standards were adopted by the Federal Highway Administration (FHWA). These changes were established for the aging population to promote safety while providing sufficient flexibility for agencies to choose a compliance method that best fits their specific conditions. MACOG assisted in providing a reflectometer and has been training personnel on its use to identify signs that do not meet new guidelines.

### *Indiana Safe Routes to School Program*

Funded by INDOT's SRTS Program, these projects provide school-aged children a healthy and safe route to walk or bike to school. Working collectively with school officials, parents, and the Mishawaka Police Department, it is our intent to design, develop, and maintain safe routes that are well-maintained encouraging children to walk or bike to and from school. The City of Mishawaka is an all walk-on school system with minimal bus transportation for the students. Each school within Mishawaka has been studied to identify a safe route for that particular school.



ADA Crosswalks

A different elementary school is targeted each year throughout the life of this program.

Specifically, sidewalk improvements are performed along the route most utilized by the students to access schools and include ADA-compliant curb ramps, replacement of deteriorated sidewalks, signage, pavement markings at crosswalks, and provide educational materials to the children in connection with the DARE officers of Mishawaka. The City will continue to apply for this program in the future and incorporate these improvements in conjunction with other City projects.

In 2014 the City applied to MACOG to utilize TAP funding for Beiger School and Twin Branch School. The Beiger School project was completed in 2014 with a final contract amount of \$500,458.27, with 80% being paid by the grant. All sidewalk improvements were completed on the Twin Branch School project with only landscaping to be completed in early 2015. The Twin Branch School project cost approximately \$325,000, with 80% being paid by the grant.

### *School Signage*

Each year the Engineering Department inventories all traffic control signage near public and private schools. This process involves replacing damaged, faded, or missing signs and repainting school crosswalks. This enables Engineering to maintain safe and effective traffic control signage in compliance with Federal guidelines as outlined in the Indiana Manual on Uniform Traffic Control Devices for all schools in Mishawaka.

### *Traffic Studies and Activities*

Requests for four-way stops, time-limited parking, restricted parking, etc. require a recommendation by the Traffic Commission and in many instances, action by the Mishawaka Common Council before implementation. The Engineering Department conducts a thorough investigation to determine the merits of each request. These studies are then presented to the Traffic Commission for review and recommendation and to the Common Council. Upon adoption of an Ordinance by the Mishawaka Common Council, the Engineering Department issues a work order to install the appropriate signage.

In an effort to protect motorists and neighborhoods, the Engineering Department monitors placement of dumpsters in the streets. Thirty-six (36) dumpster permits were issued in 2014. The Engineering Department also received requests for additional signage from the Street Department and the Mishawaka Police Department in various neighborhoods. There were two speed limit signs added. There were also three requests for no parking signs.

The Engineering Department continues to work with the Mishawaka City Police Department to resolve truck problems. With several streets detoured or in various stages of repair (Church/Union Street improvements) during the 2014 construction year, excessive truck traffic occurred on non-truck route streets. Police enforcement assisted in curbing these truck problems in residential areas.

MACOG (Michiana Area Council of Governments) partners with the City to gather traffic count data for various corridors throughout Mishawaka. This data assists in documenting changes in traffic volumes and may possibly be used to justify upgrades in infrastructure.

### *Disabled Parking Approvals*

With the assistance of the Mishawaka Police Traffic Division, the Engineering Department coordinates the application process for designated disabled parking spaces on public streets. In 2014 the Board of Public Works and Safety approved the designation of 12 new disabled parking spaces and the removal of 6 spaces that were no longer required.

## **CONSTRUCTION PROJECTS**

Engineering is responsible for plan development and construction management of Public Works Projects. These construction projects are funded from several sources. In 2014 projects under construction were funded with Long-Term Control Funds, Tax Incremental Funds, Cumulative Sewer, Redevelopment CDBG Funds, Local Road and Street Funds, Sewer Maintenance Funds,

and INDOT/FHWA including SRTS Grant/TAP funding, HSIP, and LPA Funds. Construction completion in 2014 totaled approximately \$20 million. Specific details of the 2014 construction projects are highlighted in the following sections. In addition, projects that were in the design and land/easement acquisition phase during 2014 are also discussed with intent of 2015 construction.

**TIF Projects**

***West Street Area Sewer Master Plan and Storm Sewer Improvements***

The West Street Area Sewer Master Plan includes an evaluation of the existing storm, sanitary, and combined sewer systems within a 365 acre area bounded by Spring Street, Lincolnway West, Logan Street, and Dragoon Trail. The Master Plan includes recommendations on rehabilitation of the existing sewers and construction of a separate storm sewer system to address basement flooding and surface flooding experienced in certain areas. The phases for the West Street Area are shown in the chart below.

<b>Division Name</b>	<b>Project Description</b>	<b>Schedule/Status</b>
Phase IA: First Street to Lincolnway West	54" storm sewer constructed as part of the First Street Area Improvements project.	Completed 2012
Phase IB: Front Street to First Street	54" (equivalent) trunk storm sewer connecting to existing 90" outfall.	Completed 2013
Phase II : Lincolnway to Sixth Street	The extension of the 54" and 42" storm sewer from Phase IA including a bore and jack under the railroad.  Reconstruction of West Street including pavement, curb, and sidewalk.	Completed 2014
Additional Phases	From Sixth Street to Rose Park 15 <sup>th</sup> and 16 <sup>th</sup> Streets around Rose Park 8 <sup>th</sup> Street from West Street to Logan	TBD



Project construction for West Street Phase II began in August 2013 and is a continuation of the storm trunk sewer that will provide storm relief for areas south of Lincolnway West. Primary work elements included the installation of 42" and 54" storm sewer, including a bore/jack operation beneath the Norfolk Southern Railway, and pavement reconstruction on West Street

between Lincolnway West and Sixth Street. Work was completed in the fall of 2014 with the final investment cost of \$2,499,842.52.

### ***Church/Union Street Improvements***

The Church Street Improvements project is a continuation of the projects in the Main/Church/Union corridor. Highlights of this project include the addition of left-turn lanes, repair of the underpass underdrain system, and the construction of a shelf at the back of the curb to facilitate snow removal under the railroad overpass. This project also includes new concrete pavement between Lincolnway and Seventh Street, driveway approaches, sidewalks, and curb ramps. Sanitary and storm sewers were relocated on Fourth Street to allow for the placement of the proposed LTCP storage-conveyance tunnel. In 2015 concrete pavers, fencing, and sanitary sewer structure rehabilitation will be completed. This project was substantially complete in the fall of 2014 with an estimated total City investment \$5.3 million.



*Church/Union Improvements*

### ***Church/Union Street Improvements Phase 2***

This project, which began in the spring of 2014, has continued the five lane street south of Seventh Street through Ninth Street. The street includes two through-lanes for each direction and a center left-turn lane that transitions to protected left-turn lanes at intersections. A right-turn lane was added at the intersection of Union Street and Eighth Street in anticipation of the Watson Central Services Facility opening in 2015. The existing concrete pavement, curbs, and sidewalks were replaced along with new improvements to the traffic signals and street lighting. The existing retaining walls along the east side of Church Street south of the railroad bridge were refaced with an architectural finish.



*Underpass Improvements*

In addition, retaining walls were constructed behind the sidewalk along the east side of Church Street, north of the railroad bridge, to terrace the existing slope and allow for a right-turn lane onto Fourth Street. Several items along the west side of the underpass remain for completion in 2015: re-facing the existing retaining walls, constructing new retaining walls, installing sidewalk, and installing fencing. In 2015 the aesthetics of the corridor will be completed with the addition of landscape plantings and street lighting. Also remaining for completion in 2015 is the site work associated with the new Watson Central Services Facility, including items such as storm water retention basin, sanitary sewer,

storm sewer, and asphalt. The project will be completed in June 2015 with an estimated investment of \$5.1 million.

### ***Fir-Capital Connector and Fir Road Widening Projects***

The Fir-Capital Connector was designed as a new gateway into the City from Capital Avenue at the Toll Road Interchange. In 2013, the contractor completed clearing of the new right-of-way; excavation of the drainage basins; installation of the new water main, sanitary sewer, storm sewer, and conduits for fiber; and partial construction of the new street and curb. In 2014, AEP relocated its electric power corridor, allowing completion of the parkway and installation of a new traffic signal at the intersection of the Fir-Capital connector and Fir Road.



*Fir-Capital Connector*

In 2015, the landscaping in the medians will be planted and the street lighting will be installed. The connector is scheduled to be opened to traffic in March 2015 with a total estimated City investment of approximately \$3,500,000.



*Fir Road Widening*

The Fir Road Widening project north of Cleveland Road to the Fir-Capital connector was delayed due to NIPSCO and AT&T utility relocations, and the majority of their work was completed in 2014. The project includes widening the street to five lanes including a left-turn lane, installation of storm sewer, extending the sanitary sewer, and extending the water main. This project was completed in July 2014 with a total investment of approximately \$1,100,000.

### ***Traffic Signal Progression Study for Grape Road, Main Street, and Douglas Road***

With the 2013 implementation of the north-side traffic control/monitoring system upgrades completed within the Main Street Phase VI project, it provided an opportunity to update the traffic progression plan for the Grape Road, Main Street, and Douglas Road corridors. As a result, a progression study was initiated for Grape Road from SR 23 to McKinley Avenue, Main Street from SR 23 to McKinley Avenue, and Douglas Road from the western City limits to the eastern City limits. Traffic counts, including turning movements at each intersection, were obtained and modeled with the goal of providing new signal timings that would result in more efficient traffic progression through the corridors. In November 2013, the new Grape Road

corridor signal timings were uploaded into the control system with an improved result for the north-south progression in the corridor. Even though the Grape Road progression was improved; it did not fulfill anticipated results at a few key intersections. Therefore additional data was obtained during December 2013 and January 2014 resulting in further modeling. In August 2014 small modifications to the Grape Road corridor signal timings were uploaded into the system, which achieved the anticipated results. The modeling for the Main Street and Douglas Road corridors were delayed until 2014 with implementation completed November 2014. As with the Grape Road corridor, additional data during the 2014 holiday season was also collected after initial upload of new timings for the Main Street corridor in anticipation of further modeling and additional corrections to be implemented in 2015.

### ***Bremen Highway South Gateway***

The Bremen Highway Project removed two lanes of asphalt pavement as well as an old concrete road underneath from the north side of the US 20 Bypass bridge abutment to Fulmer Road. The project constructed a new four-lane concrete street including concrete curb and gutter, storm sewer, pavement underdrains, and additional right- and left-turn lanes. In addition, new landscaped channelization islands have been constructed to separate northbound and southbound traffic and provide a roadway consistent with downtown and Main Street. Additional travel lanes and new turn lanes provide access to the existing Autumn Lakes apartment complex, the Meijer store and gas station, Bruno's pizza, hair salon, and the new McDonald's restaurant. The new turn lane added on Fulmer Road for westbound traffic at the Bremen Highway intersection allows for righthand turns and results in reduced wait times at the signal. New double left-turn lanes have been provided for southbound traffic onto Meijer Drive for Meijer shoppers and Autumn Lakes residents.



*The Bremen Highway Project*

The project also includes new LED lighting at the intersections and new street lighting along the corridor. Traffic signals were upgraded at both the Meijer Drive and Fulmer Road/Ireland Road intersections. As part of this project, fiber optic cable was installed from the Dragoon intersection in order to connect both intersection signals with the rest of the City's traffic signal system. The project was intended to be complete by end of 2013; however, difficulties with relocating various utilities slowed the progress such that the project wasn't complete until fall of 2014. The total investment was \$2,615,983.18.

### ***Fulmer Road Area Drainage Improvements***

The Fulmer Road Area Drainage project was initiated in early 2013 prior to the start of the Bremen Highway project to complete significant drainage improvements for the area that includes capacity for the Bremen Highway improvements, Autumn Ridge neighborhood, future Meijer and Autumn Lakes outlet development, and the two hundred plus acres west of Bremen Highway that drains into the Euztler Legal Drain. The drainage improvements focused on enlarging the Meijer basin with improvements to the outflow structure to control release rates and provide flood routing. Also, new underdrains were added to both Bremen Highway and Meijer Drive to replace collapsed pipes, eliminate the “weeping pavement”, and provide a more efficient outlet respectively. The project was substantially complete in 2013 and completed in 2014, with a total investment of \$801,658.08.



*Fulmer Road Area Drainage project*

### ***Gumwood Road Sewer Extension to Brick Road***

The St. Joseph County Regional Water and Sewer District had plans to extend the municipal water main for purposes of fire protection within St. Joseph County’s Gumwood Road improvements projects. Sanitary sewer would need to be installed deeper than this water main, so an emergency award was issued to allow sanitary sewer to be installed first, thereby minimizing restoration costs. The Gumwood Road Sewer Extension included installation of 2,637 feet of 8” and 12” gravity sanitary sewer including manholes and 752 feet of 6” service taps north of the City limits to Brick Road. Work started in the spring and was complete in the summer of 2014. The final investment cost was \$304,925.25.

### ***Gumwood Road Widening***

The new property owner of the land located at the northwest corner of Gumwood Road and State Road 23 was ready to proceed with development and dedicated additional right-of-way on the west side of Gumwood Road. Therefore, the City could complete the widening of Gumwood Road for 2,345 feet from State Road 23 to the northern City limits. The construction operations commenced in August, 2014. Infrastructure improvements



*Fulmer Road Area Drainage project*

consisted of widening Gumwood Road to two through-lanes in each direction, dedicated right-turn and left-turn lanes, new concrete curb, and concrete drive approaches. In addition, the project extended existing utilities such as storm sewer, sanitary sewer, and water main. Aesthetics and safety improvements were achieved by installing decorative street lighting, providing an irrigation system for the new landscaped median, and installing a new traffic signal at Heritage Square Drive and Gumwood Road. This project was substantially complete in the fall of 2014. Final project completion is scheduled for the spring of 2015 with an estimated total investment of \$1,477,770.00.

### ***Cleveland Road Water Main (Fir to State Road 23)***

A 12” water main was installed in Cleveland Road connecting the State Road 23 water main to the Fir-Capital connector. In conjunction with this work, Cleveland Road was reconstructed from 250 feet east of State Road 23 to the Fir Road intersection. Primary work elements included the reconstruction of 3,300’ of asphalt pavement, installation of 1,995 feet of 8” and 12” water main, construction of 56 feet of 42” storm sewer, and installation of 1,022 feet of concrete curb. Project construction commenced and was completed in 2014 with a final City investment of \$666,106.10.

### ***University Drive Lift Station and Force-main***

With new development interest increasing within the service area for the University Drive Lift Station; a review of the current wastewater demand determined it prudent to provide additional sanitary sewer capacity at this time. The University Drive Lift Station was initially designed for expansion when demand required. The existing 6” force-main, which terminated in the Juday Creek Lift Station service area, was designed to be re-routed and upsized appropriately when necessary.



*University Drive Improvements*

Therefore, the lift station upgrade and force-main improvements completed in 2014 included larger pumps, upgraded communication, and a new 12” HDPE force-main rerouted to Douglas Road, which is within the Holy Cross Lift Station service area. This new force-main corridor is approximately 5,400 linear feet in total extending from University Drive, under the Toll Road, south within a 20’ wide 2,722 feet long easement, and terminating in the 18” gravity sewer main at Douglas Road. These improvements will also provide additional capacity in the Juday Creek Lift Station service area, which includes the Main Street and Grape Road sewer main corridors. The City’s total investment was \$936,466.

### ***Mishawaka Avenue, Phase I (Main Street to Division Street)***

This complete project includes Mishawaka Avenue from Main Street to the St. Joseph River Bridge, Pine Street, Ell Street, and Cedar Street from Grove Street to Park Avenue. Phase I of this project began in the fall of 2014 and includes Mishawaka Avenue from Main Street to Cedar Street, Pine Street, and Ell Street. Project highlights include the upgrade of the street pavement and sidewalks, installation of new storm sewer, and rehabilitation of the sanitary sewer system. Many significant aesthetic improvements are included in this corridor; specifically, relocating the electric and communication lines carried by power poles to underground service with transformers, Central Park entrance widening, converting the ornamental street lighting to LED lights, and replacing concrete with brick pavers adjacent to the curbs in the commercial blocks.



*Mishawaka Avenue Improvements*

Completion of Phase I is anticipated for 2015 with an investment of approximately \$3.7 million. Phase II of this project begins on the east side of Mishawaka Avenue from Cedar Street to the St. Joseph River bridge and Cedar Street from Grove Street to Mishawaka Avenue. This work is scheduled for completion in 2015 with an investment of approximately \$2.6 million. Phase III of this project is programmed for construction in 2016 and will include improvements to Cedar Street from Mishawaka Avenue south to Park Avenue with an estimated investment of \$1.2 million.

## **2014 TIF Design Projects**

### ***University Drive and Fir Road Intersection***

University Drive and Fir Road Intersection Upgrade design is at 95% complete with the land acquisition phase completed in 2013. The project includes additional turn lanes on Fir Road at the intersection with University Drive, an additional left-turn lane for University Drive, traffic signal upgrade, fiber optic and Metronet conduit, City fiber optic cabling, and new lane transition to the improved intersection at Cleveland and Fir Road completed by the County in 2011. Construction was delayed due to funding and is currently scheduled for the 2015 construction season with an estimated City investment of \$1.6 million.

## PUBLIC WORKS PROJECTS

### *Summer Street Paving Program*

The Engineering Department assisted the Street Department in prioritizing and overseeing 19,935 linear feet of street milling and resurfacing projects. The summary of the Summer Street material bid prices are detailed in the table below:

2014 Summer Street Unit Prices				
Materials:			Walsh & Kelly, Inc	
Description	Qty	Unit	Unit Price	Extension
<b>BITUMINOUS MATERIALS:</b>				
Hot Mix Asphalt Pavement, Surface 9.5MM Type "A"	4,000	TON	\$52.50	\$210,000.00
Hot Mix Asphalt Pavement, Surface 9.5MM PG, Type "B"	4,000	TON	\$52.50	\$210,000.00
Hot Mix Asphalt Pavement, Surface 9.5MM - PG, Type "C" Polymer Additive	1500	TON	\$57.00	\$85,500.00
Hot Mix Asphalt Pavement, Surface 905MM, Type "A" Limestone FOB	200	TON	\$48.00	\$9,600.00
HMA Surface - Alley Paving (2")	400	TON	\$70.00	\$28,000.00
HMA Surface - Alley Paving (2") Resurfacing	400	TON	\$70.00	\$28,000.00
HMA Surface Patching -Type "A" Local Street	500	TON	\$73.00	\$36,500.00
HMA Surface Patching -Type "B" High Volume	1000	TON	\$75.00	\$75,000.00
HMA Pavement, Surface - Type "A" B.F. Slag	250	TON	\$65.00	\$16,250.00
HMA Pavement, Type "A" Intermediate 19MM	100	TON	\$48.00	\$4,800.00
HMA Pavement, Intermediate 19MM FOB	100	TON	\$44.00	\$4,400.00
HMA Pavement, Type "A" Base 25MM	200	TON	\$46.00	\$9,200.00
HMA Pavement, Base 25MM FOB	100	TON	\$42.00	\$4,200.00
Bituminous Material Tack	20	TON	\$1.00	\$20.00
Bituminous Material Crack Pouring FOB	2,000	GAL	No Bid	
Bituminous Material Dust Pallative FOB	2,000	GAL	No Bid	
Bituminous Patch Material FOB	500	TON	\$90.00	\$45,000.00
Emulsified Asphalt FOB	20,000	GAL		
<b>AGGREGATE:</b>				
Course Aggregate #73 stone or slag	150	TON	No Bid	
Course Aggregate #73 stone or slag FOB	150	TON	No Bid	
Course Aggregate #73 or #53 Gravel	150	TON	No Bid	
Course Aggregate #73 or #53 Gravel FOB	150	TON	No Bid	
Course Aggregate #11 or #12 LS or Slag Chips	150	TON	No Bid	
Course Aggregate #11 or #12 LS or Slag FOB	150	TON	No Bid	
Fine Aggregate #23 or #24	150	TON	No Bid	
Fine Aggregate #23 or #24 FOB	150	TON	No Bid	
<b>ROTO-MILLING:</b>				
Contractor Retain Materials 0"-2"	85,000	SYD	\$1.25	\$106,250.00
Contractor Retain Materials 2"-4"	500	SYD	\$2.25	\$1,125.00
Contractor Retain Materials 4"-6"	500	SYD	\$2.75	\$1,375.00
City Retain Materials 0"-2"	15,000	SYD	\$1.25	\$18,750.00

City Retain Materials 2"-4"	500	SYD	\$2.25	\$1,125.00
City Retain Materials 4"-6"	500	SYD	\$2.75	\$1,375.00
<b>MISCELLANEOUS ITEMS:</b>				
Street Excavation	300	TON	\$15.00	\$4,500.00
Bituminous Curbs	500	LF	\$10.00	\$5,000.00

**TOTAL AMOUNT OF BID: \$905,970.00**

The following table summarizes the streets that were resurfaced in 2014. All streets were either edge milled six feet along the curb line or the entire surface removed 1" to 1.5" to retain as much curb exposure as possible.

### 2014 Street Resurfacing Summary

Street Name / Section	Length (Feet)
Dragoon Trail – Fir Road to Clover Road	1400
Elder Street – Vistula Road to Lincolnway	1000
Filbert Road – Day Road to City Limits	1300
Filbert Road – McKinley Avenue to City Limits	1375
Fir Road – RR Spur Line to Day Road	2100
Fir Road – Arbor Lane to Climbing Rose Lane	1000
Franklin Street – Elder Street to Oakland Avenue	300
Grape Road – SR 23 South 700 feet	700
Grove Street – Division Street to Locust Street	300
Home Street – Mckinley Avenue to Stone Court	2300
Lawrence Street – Division Street to Locust Street	300
Logan Street – Milburn Street to Panama Street	1260
Twelfth Street – Downey Avenue to Beiger Street	2000
Union Street – Thirteenth Street to Dragoon Trail	2500
Vistula Road – Lincolnway East to Ballard Avenue	2100
<b>Total Linear Feet</b>	<b>19,935</b>
<b>Total Cost of Resurfacing</b>	<b>\$114,372.27</b>
<b>Total Cost of Milling</b>	<b>\$335,076.81</b>
<b>Grand Total for Summer Street Paving Program</b>	<b>\$449,449.08</b>

### *Alley Paving Program*

The Alley Paving Program pays half of the costs of paving alleys with residents who request their alley be paved. Typically, a field inspection of the alley is conducted to determine the feasibility of paving the alley. A list of all property owners adjacent to the alley is obtained from the County Assessor's Office and is provided to a designee of the property owners who is responsible for collecting the per linear foot assessment from each property owner along the alley. The residents along the alley benefit from this work because of the reduction of the dirt and dust generated by traffic. The Street Department also benefits by not having to grade or oil

the paved alley for many years. There are approximately 48.5 total miles of alley that are open to the public, and a significant number of these have been paved by property owners. In 2014 no alleys were paved as all funding was directed to street paving.

### ***Curb and Sidewalk Program***

Instituted in 1986, this program encourages single-family homeowners to repair or replace deteriorated public curb and sidewalks adjacent to their property and provides for a 50/50 split of the repair cost of curbs, sidewalks, and drive approaches between the homeowner and the City. Since the beginning of this program, the cost for reconstruction of approximately 97,426 linear feet of new curb and sidewalk has been shared by the City and its residents. Additionally, several areas of sidewalk and curb were replaced due to drainage issues or damages. This year a total of \$175,146.39 was invested in neighborhoods on curb and sidewalk improvements.

The Department of Redevelopment had funds available for curb and sidewalk improvements within the low to moderate income census tracts. With these funds the City was able to make improvements at 21 locations including replacing 1,400 linear feet of sidewalk and 410 linear feet of curb, and, to meet the current ADA standards, installing new handicap ramps at four intersections. The total cost of these improvements was \$59,099.75.

## **LONG-TERM CONTROL PLAN PROJECTS**

The City's Long-Term Control Plan (LTCP) continues to evolve with the target to improve wastewater treatment and the sewer collection system to reduce the combined sewer overflows (CSO) to less than 1 per year upon the plan's complete implementation. In 1990 the City diverted 350 million gallons of combined sewer overflow (CSO) to the St. Joseph River during wet weather. In 2008 the City experienced 50 CSO events per year. Since 1990, the City has steadily completed sewer separation projects and has currently reduced the discharge to an estimated 4 million gallons of CSO to the St. Joseph River during wet weather in years with typical rainfall. The City has committed and will continue to improve the collection system to achieve the limits the Consent Decree set forth.

From 2007 through 2014 construction in the Milburn Area concentrated on Divisions A, B, C, D, E, F, G, H, and J Phases I and II of the collection system. Within the Milburn Area, Cured-in-Place-Pipe (CIPP) lining rehabilitation of the main sewer lines and the sewer laterals were completed between 2011 and 2014. In 2013 and 2014, the Middleboro Lift Station was upgraded. In both 2011 and 2012 work concentrated on finalizing the Storage Tunnel sizing master plan in relation to constructability. In 2013 construction shifted to the Wilson Boulevard Area with the redirection of four CSOs to River Crossing 3.

### ***Milburn Boulevard Area Sewer Improvement Projects***

The first element identified by the LTCP was the Milburn Boulevard Area, which is bounded by Ironwood Drive, Dragoon Trail/Panama Street, Logan Street, and the St. Joseph River. This area is 348 acres including approximately 1,300 residents. The study resulted in eight divisions, A-H, and eleven projects that were included in the Consent Decree, including main line CIPP lining to rehabilitate the remaining sanitary sewer system. The emphasis of the work in the Milburn Area

was to provide a new storm sewer system to separate the storm flow from the sanitary flow. A new underdrain system was installed to provide an outlet for the ground water, which historically flowed into the deteriorated sewer system, providing protection from possible foundation issues. The streets and sidewalks were reconstructed providing compliance with current ADA standards.

Discoveries and investigations during the initial projects resulted in the need for additional projects to address deficiencies remaining in the main line sanitary sewer system and contributing laterals in addition to final separation of the storm inlets from the sanitary system. These additions included Divisions J, K, L, M, N, P and R, and CIPP Lateral Lining for Lincolnway West and Phases I and II. Divisions J, K, and M include the final storm inlet separation. Lateral replacements and surface restoration are included in all the remaining Divisions.



*Milburn Area Reconstruction*

The completion of the eight originally defined projects has significantly reduced the wet weather flow to the Wastewater Treatment Plant from the Milburn Boulevard Area and virtually eliminated combined sewer overflow at the Middleboro Lift Station. Rehabilitation of the Middleboro Lift Station was completed in 2014 as a part of the overall plan. GPS data collection was added to assist the City in developing accurate maps of these underground facilities. The Water Department has also utilized this opportunity to replace lead water services with copper. Beautification of the Milburn Boulevard islands with trees and improved street lighting was added to the projects to showcase the area. The total investment to date in the Milburn Area is approximately \$32 million. Future investment is projected to be \$5 million. Exhibit A illustrates the extensiveness of this project area.



*Milburn Liftstation Rehabilitation*

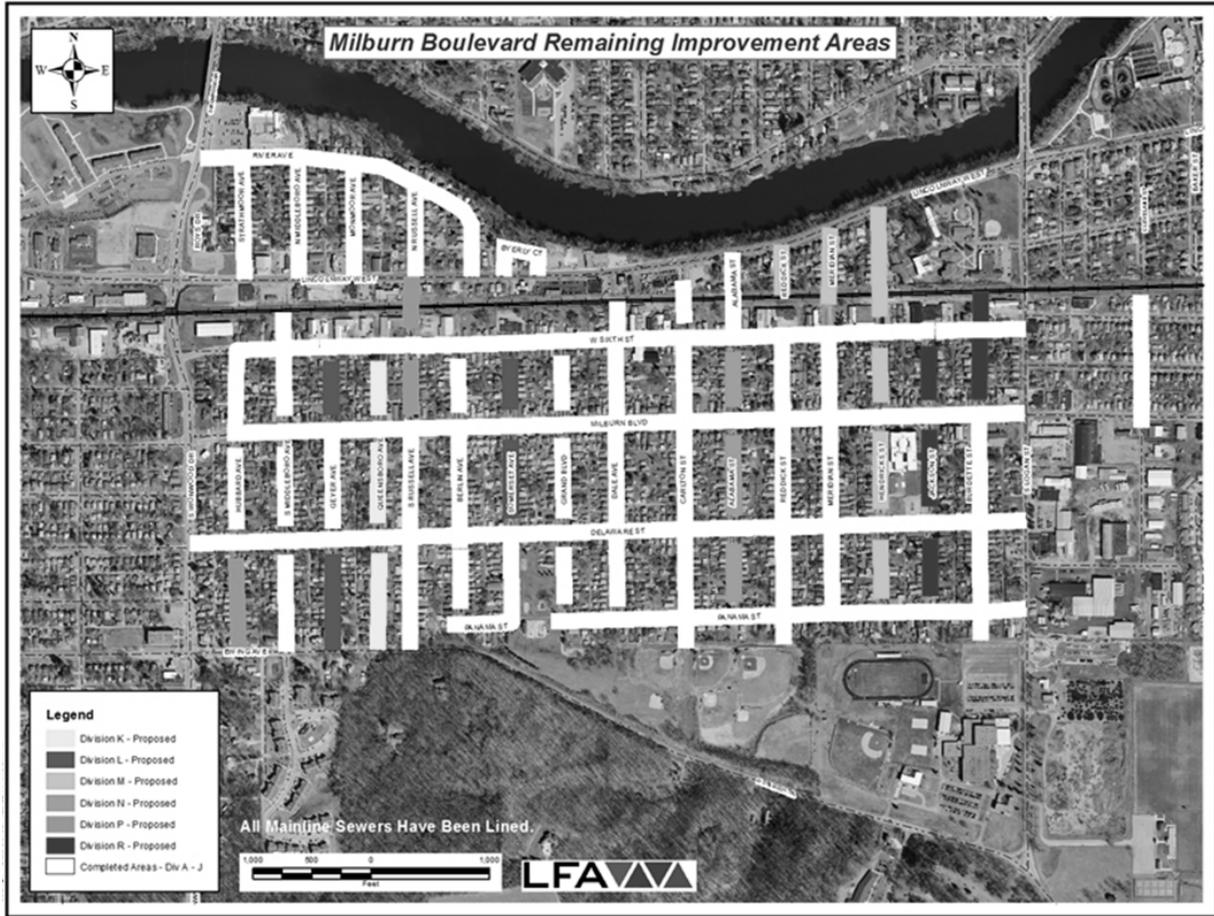


Exhibit A

### *Wilson Boulevard Area*

The Wilson Boulevard Area is an element of the LTCP. This area contained four Combined Sewer Overflow (CSO) structures and associated outfall piping to the St. Joseph River along with an additional 12 storm outfalls from Logan Street to Forest Avenue. The project began in 2013 and included the removal of two CSO structures and the reconfiguration of the remaining two CSO structures. The reconfiguration of the CSO structures along with the extension and redirection of the sanitary sewer system will provide capacity to convey the design storm with zero overflows to the river in this area.



*Milburn Liftstation Rehabilitation*

Additionally a storm sewer system was developed along Wilson Boulevard to separate the storm flows and allow consolidation of the storm outfalls in the area. At completion, of the 16 original

outfalls to the river, only five (5) storms and one (1) CSO will remain. This project was completed in 2014 with a final City investment total of \$3,435,012.71. The next phase of the project includes extension of the newly constructed 24” sanitary sewer to continue CSO consolidation, rehabilitation as required of the remaining outfall pipes, Battell Park upgrades, and beautification including trees within the overall area. Projected future investment is estimated at \$2.2 million and is scheduled for the 2015 construction season.

***Milburn Boulevard Area Improvement Projects***

<b>Division or Project Name</b>	<b>Project Description</b>	<b>Schedule/Status</b>
Divisions A - H Sixth, Milburn, Delaware, Panama, Meridian, Reddick, Carlton, Dale, River, Strathmoor, Monmoor; and portions of Burdette, Alabama, Somerset, Berlin, Russell, Geyer, Hubbard, and Middleboro	<ul style="list-style-type: none"> <li>• 72” and 24” borings under railroad</li> <li>• 60” storm outfall at St. Joseph River</li> <li>• 41,000 linear feet new 12”-60” storm sewers and associated structures</li> <li>• 13,000 linear feet new 12”-24” underdrain system and associated structures</li> <li>• new pavement</li> <li>• new curb</li> <li>• new ADA compliant sidewalk</li> <li>• main line CIPP for Divisions C and G</li> </ul>	Completed between 2007 and 2013
CIPP Main Line Lining Phases I and II	53,000 linear feet 10”-42” main line sanitary sewer and structure rehabilitation for Divisions A, B, D, E, F, H, streets not disturbed in previous projects, and the Biosolids Forcemain; Lateral investigation and GPS data collection for the whole project area	Completed between 2011 and 2012
CIPP Lateral Lining – Lincolnway West	Rehabilitation of 40 laterals protecting Lincolnway West from emergency repairs	Completed 2012
CIPP Lateral Lining Phases I and II	Rehabilitation of 262 laterals in Phase I and 335 laterals in Phase II. This includes all laterals under streets rehabilitated in Divisions A-F and H. Interconnected laterals are separated as discovered.	Phase I completed 2013 and Phase II completed 2014
Division J – Phase I Carlton and Reddick	New 12” storm sewer, replacement of the sanitary laterals, and reconstruction of the pavement, curb, and sidewalks	Completed 2012
Division J – Phase II Hubbard, Middleboro, Berlin, Grand, Cleveland	New storm sewer, replacement of the sanitary laterals, and reconstruction of the pavement, curb, and sidewalks	Completed 2014
Divisions K, L, M, N, P, R	Sewer separation, lateral replacement, and pavement, curb, and sidewalk replacement	TBD
Middleboro Lift Station Improvement	Roof replacement, exterior brick replacement and tuck pointing, and pump and controls replacement	Completed 2014

***Phasing and Implementation Plan for Remaining LTCP Elements***

The preliminary engineering to identify major elements of the LTCP was completed in 2011. Following a more detailed assessment, it was determined that the several elements initially identified in the study required modification due to high groundwater, existing infrastructure conflicts, constructability due to grade limitations, and overall maintainability issues. Therefore, the following table outlines the phasing with brief descriptions of the revised Recommendation and Implementation Plan, which has been accepted by the USEPA and Department of Justice in

December 2013, City Council endorsement in January 2014, and the United States District Court's Final Judgment filed on May 23, 2014.

### Long-Term Control Plan - Recommendation and Implementation Plan

Location	Project	Description	Capital Cost Estimate <sup>1</sup> (\$Millions)	Size <sup>2</sup>	Start Date <sup>3</sup>	End Date <sup>4</sup>
Milburn Boulevard Area	Divisions A thru H	Sewer separation and rehabilitation of the area south of the St. Joseph River, bounded by Ironwood, River Ave, and Lincolnway	2.6	N/A	2007	Dec 2026
Wilson Boulevard Area	Wilson Boulevard	Parallel interceptor to redirect flows from CSO 004, 005, 006, 007, and 008 and consolidate into one overflow location at River Crossing RC-4. Upgrade RC-4 if needed based upon flow monitoring upon completion of interceptor. Closure of RC-3.	5.0	N/A	Oct 2011	Dec 2020
River Center CSO 009	Storage/Conveyance Tunnel (Phase I)	Storage/Conveyance Sewer from Main St. to the WWTP	22.6	96"-120"	Feb 2012	Dec 2020
	Storage/Conveyance Tunnel (Phase II)	Storage/Conveyance Sewer from Merrifield Ave. to Main St.	18.7	72"-120"	Dec 2014	Dec 2022
	Storage/Conveyance Tunnel (Phase III)	Storage/Conveyance Sewer from Fourth or Third Street to Merrifield Park (Linden Ave)	5.7	60"-84"	Dec 2015	Dec 2023
East Area	Linden Area Sewer Separation (Phase I)	Sewer separation of approximately 152 acres north of Lincolnway East between Merrifield Park and Roosevelt Ave.	4.8	N/A	Dec 2014	Dec 2028
	Linden Area Sewer Separation (Phase II)		4.8	N/A	Dec 2016	Dec 2028
	Linden Area Sewer Separation (Phase III)		4.8	N/A	Dec 2018	Dec 2028
	Linden Area Sewer Separation (Phase IV)		4.8	N/A	Dec 2020	Dec 2028
	Alley Conveyance Sewer from Capital Ave. to Merrifield Ave.	Conveyance from the outfall of the Mariellen Lift Station to the storage/conveyance sewer along Merrifield Ave. at Fourth St.	5.8	30"-48"	Dec 2015	Dec 2028
	Northeast River Crossing to Merrifield Park (Linden Ave.)	Conveyance sewer which intercepts flow from the Daisy Road Lift Station Forcemain/Northeast River Crossing	2.3	42"-48"	Dec 2021	Dec 2031
Central Park Area	Daisy Road Lift Station, Forcemain, and RC-5 (Phase I)	Lift Station with 15.8 MGD capacity.	9.3	18"-24"	Jan 2021	Dec 2027

<sup>1</sup> Capital cost includes 20% contingency and 20% engineering, admin, and legal costs. ENR 8000

<sup>2</sup> The final facilities will be sized within the stated ranges to achieve zero overflows during the typical year (1992). The sizes shown were preliminarily determined by sub-basin flow monitoring during preliminary design of each project component.

<sup>3</sup> Engineer under contract to design the facility.

<sup>4</sup> Facility is operational.

## **LPA CONSTRUCTION PROJECTS (20% Local Match)**

### ***Twelfth Street/Harrison Road, Phase I***

In 2009 the City identified the Twelfth Street corridor, from Union Street to Blackberry Road, as needing upgrades to carry the increased traffic volumes through the corridor. An environmental impact study was completed for the entire corridor, which was approved in 2010 and enabled the City to program Phase I for federal funding through MACOG. Due to the construction costs for these phases, the City will continue to seek federal funding for subsequent phases.

Phase I of the improvements along Twelfth Street/Harrison Road, between Lexington Boulevard



*Twelfth Street Corridor*

and Blackberry Road, was awarded in late fall 2013. Utility relocation began in early 2014, allowing construction to begin in April 2014. This project consists of a total reconstruction of Twelfth Street/Harrison Road along with partial reconstruction

to adjoining streets between Lexington Boulevard and Blackberry Road. Construction included asphalt pavement, new storm sewer, sanitary sewer and water main extensions, concrete curb and gutter, concrete sidewalk, new street lighting, traffic signal work, and two new drainage basins. This project was substantially complete in November 2014 with final completion anticipated in the spring of 2015 with an estimated cost of \$3.7 million.

### **2014 LPA Design Project**

#### ***Twelfth Street (Campbell to Downey)***

Phase II of the improvements on Twelfth Street, between Campbell and Downey, are currently being designed. The main goal is to widen the street from its present two lanes to three lanes including a continuous two-way left-turn lane. The roadway will be reconstructed along with curb and gutter, storm sewer, and street lighting. Currently there is insufficient right-of-way to construct this project; therefore, additional right-of-way will be purchased along the length of the project. The construction is estimated to cost \$6.3 million, with 80% being federally funded. The project is presently in the design phase with the preliminary field check scheduled for February 2015. Then a public hearing will be scheduled to present this project to the citizens of Mishawaka and gain their input on the project. The design may be modified as a result of that public hearing. Due to the federal procedures for design and right of way acquisition, it is anticipated that this project will begin construction in late summer of 2018.

## LONG RANGE PROJECTS

<u>Project</u>	<u>Completion Date</u>	<u>Est. Cost</u>
<b><u>TIF Area</u></b>		
Mishawaka Ave. Storm Separation & Reconstruction Phase II	Nov 2015	\$3,620,000
Mishawaka Ave. (Main to Liberty) & Grove St. (Main to Ann)	Nov 2015	\$2,400,000
Logan St. Corridor Study (Dragoon to Lincolnway)	Nov 2015	\$202,600
Cedar St. Improvements (Mishawaka Ave. to Madison St.)	Aug 2016	\$1,200,000
State Road 23 (Gumwood Rd./Main St. to Leo St.)	Nov 2016	\$4,600,000
Fir Road Improvements (Fir-Capital to SR 23)	Oct 2017	\$2,100,000
West St. Storm Relief Sewer – West St. (6th St. to 15th St.)	Nov 2017	\$2,450,000
West St. Storm Relief Sewer – 8th St. (West St. to Logan St.)	Nov 2018	\$1,850,000
West St. Storm Relief Sewer – 15th St. & 16th St. (Rose Park)	Nov 2019	\$3,200,000
LTCP – Flow Control Structure at WWTP head-works	Nov 2019	\$5,250,000
LTCP – Storage/Conveyance Tunnel (WWTP to Merrifield Ave.)	Oct 2019	\$45,000,000
LTCP – Conveyance tunnel, Merrifield Interceptor	Nov 2022	\$6,000,000
<u>Project</u>	<u>Completion Date</u>	<u>Est. Cost</u>
<b><u>TIF Area (cont.)</u></b>		
Division St. (north to Catalpa Dr.)	Oct 2018	\$1,657,500
Catalpa Dr. Extension (Division St. to Filbert Rd.)	Nov 2019	\$607,500
McKinley Ave. Widening (Division St. to Went St.)	Oct 2017	\$1,850,000
McKinley Ave. Widening (Cedar St. to Elder Rd.)	Nov 2018	\$8,950,000
McKinley Ave. Overpass over CN RR – Design/RW/Permits	July 2018	\$10,875,000
McKinley Ave. Overpass over CN RR – Construction	Aug 2021	\$22,500,000
<b><u>LPA Projects (FHWA w/ 20% Local Share)</u></b>		
Twelfth St. Ph II (Downey Ave. to Campbell St.) – Design & R/W Acquisition	Oct 2017	\$2,150,000
Twelfth St. Ph II (Downey Ave. to Campbell St.) – Construction (80% Federal funds)	Nov 2019	\$6,300,000