

**PRELIMINARY ENGINEERING REPORT
NEIGHBORHOOD SANITARY SEWER EXTENSIONS
PHASE I**



**USDA
RURAL DEVELOPMENT**

JULY 2017
Project No. 828340



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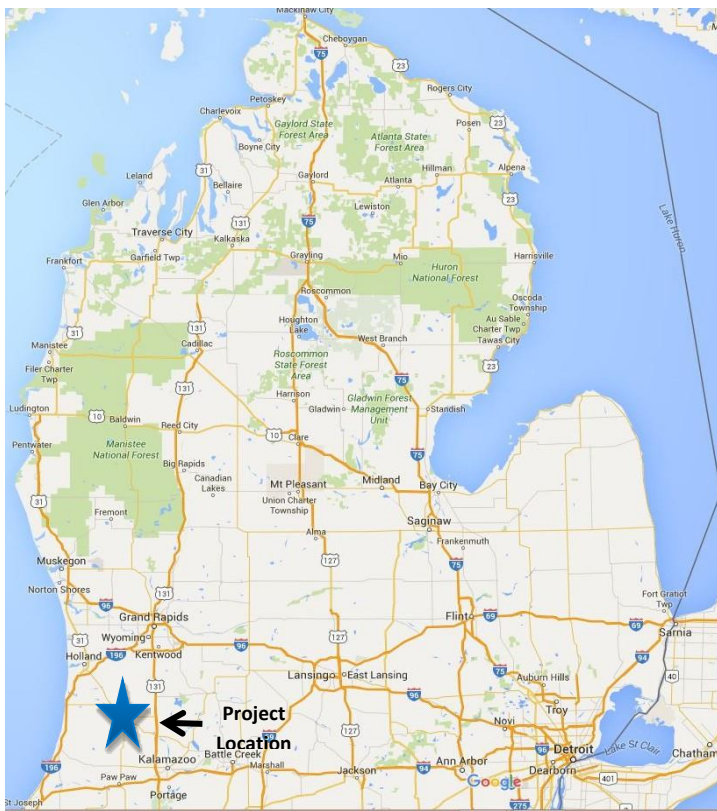
General Information

The Township of Oshtemo's Preliminary Engineering Report (PER) was prepared to fulfill the project planning requirements of the United States Department of Agriculture, Rural Development, Rural Utilities Service – Water and Wastewater Programs. This report provides the basis of evaluation of the Township's proposed construction of the wastewater system for funding from the Water and Wastewater Loan and Grant Program.

Project Narrative

The Township of Oshtemo is located in Southwest Michigan in Kalamazoo County. It is located half way between the cities of Chicago and Detroit, just north of Interstate 94 with US 131 bisecting the eastern end of the township north-to-south. The Township of Oshtemo was incorporated as a Township in 1839. Today the Township covers an area approximately 36.1 square miles, includes several parks and both commercial and industrial areas. According to the 2010 Census, the Township had a population of 21,705. A map showing the location of the Township of Oshtemo is shown below.

The Township of Oshtemo is planning to undertake a project to expand its wastewater collection system throughout several neighborhoods.



Map Source: Google Maps

Project Planning Area

The project planning area is located in select areas on the east side of the Township. The project planning area was developed based on the existing sanitary service area compared to unserved areas located within feasible distance for connection. The Township developed a multi-year plan to provide sanitary sewer to areas most prone to septic failure.

Location Map

The map in Figure 1 shows the project planning area.

Environmental Resources Present

An environmental report which includes the State Historic Preservation application and USDA endangered species search has been completed. The project is a categorical exclusion with an environmental report.

Population Trends

The projected 20 year water demand for the Township was estimated using historical and present population numbers obtained from the U.S. Census Bureau. The population has grown over the last 20 years and is expected to almost double in the next 20 years. The populations in the table below show the historical, and projected population.

OSHTEMO POPULATION TRENDS AND PROJECTIONS

Year	Population
1960 ¹	3,634
1970 ¹	6,237
1980 ¹	10,985
1990 ¹	13,401
2000 ¹	17,003
2010 ¹	21,705
2020 ² (estimate)	26,407
2030 ² (estimate)	35,811

¹Historical population data from U.S. Census

²Projected population data from Township Master Plan.

Community Engagement

The Township held numerous public meetings to discuss sanitary sewer extensions. The following list describes the public meetings where sanitary sewer was discussed.

Board Meetings Inclusive of Sanitary Sewer Capital Improvements Projects & Planning (CIP)
2017-06-27 Board Meeting with discussion on USDA Rural Development Loan Application
2017-06-13 Board Meeting with discussion on USDA Rural Development Loan Application
2017-05-16 Joint Board Meeting with discussion on USDA Rural Development Loan Application
2017-04-11 Board Meeting with authorization to conduct an Environmental Report for the USDA Rural Development Grant and Loan program full application.
2017-03-14 Board Meeting with authorization to bid the 2017 KL Ave Sanitary Sewer Extension Project
2017-02-21 Joint Boards Meeting with discussion on USDA Rural Development Loan Program
2017-02-14 Board Meeting with authorization to sign and submit the Sanitary Sewer USDA Rural Development Pre-Application
2017-01-24 Board Special Meeting with discussion on Rural Development Loan and Sewer Extensions
2016-11-15 Board Meeting with adoption of 6-year CIP and 2017 Capital Budget
2016-10-25 Board Meeting with review of revised CIP
2016-10-11 Board Meeting review of CIP
2016-09-13 Board Meeting with 2017 Budget Workshop (and proposed long-range CIP)
2016-08-25 Board CIP and Budget Workshop
2016-08-23 Board Meeting with Skyking Meadows III - public sewer extension as CIP component
2016-06-28 Board Meeting on USDA Rural Development grant/loan assistance for Sanitary Sewers
2016-03-15 Board Meeting to accept Contracts for 10th and Atlantic sewer extensions
2016-01-12 Board Meeting to Wastewater Ordinance (regarded as the critical step towards sewer system expansion)
2015-12-08 Board's first reading of Wastewater Ordinance
2015-11-10 Board work session on sanitary sewer system expansion (continued)
2015-10-27 Board work session on sanitary sewer system expansion (continued)
2015-10-13 Board work session on sanitary sewer system expansion
2015-10-13 Board Approval of 6-year sewer CIP (unfunded)
2015-02-17 Joint Boards' Meeting (Township, Planning, ZBA) to review CIP needs
2015-01-20 Board Meeting with agenda planning for February Joint Board's meeting on CIP needs
2014-02-11 Board Work Session on CIP planning for sanitary sewers
2013-04-16 Board Retreat – CIP focused and review of needed sewer extensions

Other Public Meetings (Sanitary Sewer CIP)

2016-05-25 Residents Meeting (Atlantic and 10th)
2016-05-17 Capital Improvements Committee with review of sewer CIP project financing options
2016-03-03 Public Bid Openings of Sewer Projects (Atlantic Avenue and North 10th St)
2016-01-19 Capital Improvements Committee Meeting with Mandatory Sewer Connection recommendation to board
2014-03-18 Capital Improvements Committee Meeting with CIC sewer projects planning
2014-02-18 Capital Improvements Committee Meeting with review of Board's direction from recent work session.

Newsletter Stories

- 2017-05 Oshtemo Township Sewer Update
- 2017-03 Brief Sewer Summary
- 2016-12 Board seeking grant or low interest loan for sewer
- 2016-09 Hired Fleis & VandenBrink to help with the Rural Development Loan
- 2016-03 Strategically installing sewer when rebuilding roads

Existing Facilities

Most of Oshtemo township is served by on-site septic systems. These systems were installed primarily by property owners at the time of construction. The Township has been proactive in providing sanitary service as the area continues to grow in density. The sanitary sewer system has approximately 1,617 customers and discharges to the City of Kalamazoo wastewater system. The collection system is operated and maintained by the City of Kalamazoo per a Wastewater Agreement. Oshtemo Township soils are not favorable to on-site septic systems. The soil map on page 11 shows the limitations of absorption due to soil characteristics

History

Oshtemo Township's original wastewater system was expanded from Kalamazoo in the late 1960's. The system is comprised of sewer pipes ranging in size from 6-inch to 27-inch in diameter. The system was initially installed using federal funds. As the Township continued to grow, additional neighborhoods were built with on-site septic systems.

Oshtemo is currently operating under a 1984 Wastewater Agreement with the City of Kalamazoo. The Agreement specified it would remain in effect a minimum of 30 years, to continue indefinitely until terminated by one side.

A summary of the existing wastewater system is shown in the Summary Tables on page 12.

Condition of Facilities

The City of Kalamazoo provides routine cleaning, repair and replacement of the system as part of the Wastewater Agreement.

The existing septic systems in the project area are over 20 years old. Each homeowner is responsible to maintain and repair their septic system. These systems are in the first stages of needing repair and replacement. As these systems continue to age, property owners are faced with the burden to repair or replace. Small lot sizing prevents the home owner from meeting current septic replacement standards. The County Health Department calculated 59.1% of homes have systems which do not comply with current requirements.

The Township has eleven wastewater pump stations, ten with stand-by emergency generators. Each pumping station is operated and maintained by the City of Kalamazoo per the Wastewater Agreement.

The sanitary system is operated under the City of Kalamazoo NPDES permit.

Financial Status of Operating Public Facilities

- Operations and Maintenance Costs
Operations and maintenance costs for the wastewater system are included in the rates set by the City. The City's rate structure establishes separate rates for residents inside and outside the City. Oshtemo Township pays the same rate as every municipality outside the Kalamazoo city limits.
- Debts
Oshtemo Township has no debts on the system at the time of application.

Purpose & Need

The Township of Oshtemo has a Master Capital Plan to expand sanitary service to properties not currently serviced. A high proportion of the area is residential subdivisions located near existing service but currently using private, on-site septic systems. As these systems fail, an additional financial burden is placed on the residents to maintain them. Failed systems in highly populated areas have potential to create health hazards. The Township has delayed street reconstruction and repairs hoping to secure funding for the sanitary updates to include them in the street reconstruction and repairs.

System Operation & Maintenance

The system is currently operated and maintained by the City of Kalamazoo per the 1984 Wastewater Agreement. Operation and maintenance costs are included in the rate structure charged by the City for communities outside the city limits.

Alternatives Considered

Three alternatives were explored for this proposed project. Do nothing; install a vacuum/pressure sewer system; install a gravity system with mechanical pumping stations. Table 1 shows a comparison of the alternatives considered

Wastewater Collection Options

Most of the existing sanitary sewer collection system is believed to be adequate for the present and future conditions.

Table 1 - List of the Alternatives

Alternative	Estimated Costs	Beneficial Environmental Impacts	Potential Adverse Environmental Impacts
1 - No action	\$0.00	None	Some
2 – Vacuum/pressure Sewer Systems	Variable	Improved condition to some sewer sections	Increased energy usage
3 – Neighborhood Sanitary Sewer Expansion	\$25,182,000	Improved reliability of sewer system	None

Alternative 1: No Action

It is not feasible for the Township of Oshtemo to do nothing with regard to their sewer system. If no action is taken, it would leave the residents without connection to sanitary sewer. The current on-site septic tanks will continue to discharge raw effluent into the soil. Eventually these systems will reach the end of useful lives and the Township will be required to construct a sanitary expansion at a great expense to the community.

Alternative 2: Vacuum/Pressure Sewer Systems

The Township considered the option of installing pressure based sewer systems. This option was discussed with the City of Kalamazoo. The City of Kalamazoo determined it would not maintain a pressure/vacuum sewer system.

Administrative obstacles are also significant. The City of Kalamazoo currently provides sanitary sewer O&M services to 11 local jurisdictions outside the City boundary. By individual contract (with common language), O&M costs are proportioned among the local entities. The increased O&M required of a pressure-based sewer system unique to the Township of Oshtemo would disrupt the common, equity-based formula used for the distribution of O&M costs among customer communities.

The Township relies on the City of Kalamazoo for operation, maintenance, and fee collection. The Township does not possess the equipment or staff to operate, maintain, or collect fees for a vacuum/pressure system. Because the City of Kalamazoo indicates they will not maintain a pressure/vacuum system, this option is not feasible.

Alternative 3: Neighborhood Sanitary Sewer Expansion

Gravity sewers with mechanical pump stations are currently the only type of system the City of Kalamazoo is willing to maintain per the Agreement. With no other feasible options, Alternative 3, expansion, is the default choice.

Design Criteria used for the Project

The design criteria to be used for this project will comply with USDA-RUS Design Policies (7 CFR 1780.57); the State of Michigan NREPA, Part 41 of Act 451,1994, as amended, and its administrative rules; EPA Guidelines and the Recommended Standards for Wastewater Facilities (Ten States Standards). Permits will be acquired per the MDEQ regulations for the improvements. Soil borings and a geotechnical analysis of the borings will be completed as part of the design process.

Land Requirements

The proposed sanitary sewer pipes will be located within the street/roadway right of ways. Additional land may be required for construction of the lift stations.

Construction Problems

There are no known high ground water, contaminated soils or other construction problems at this time.

Map

Figure 2 showing the limits of the wastewater system improvements can be found at the end of this report.

Project Cost Estimates

Total project cost is approximately \$25,182,000.

Project cost estimates for each alternative are as follows:

Alternative No. 1 - No Action:

Total Project Cost	\$ 0
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Alternative No. 2 – Vacuum Systems

Total Project Costs	Variable
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Alternative No. 3 – Neighborhood Sanitary Sewer Expansion

Construction Costs Total	\$ 20,527,000
Project Contingencies	\$ 2,053,000
Design & Construction Engineering	\$ 2,361,000
Administrative and Legal Expenses	\$ 241,000
Total Project Cost	\$ 25,182,000

Advantages/Disadvantages

Alternative No. 3, expansion, meets the Township's short and long-term objectives of providing existing users with reliable sanitary service and converting on-site septic properties to the sewer system. The Township is taking a proactive approach to providing reliable access to sanitary sewers. The Community will be better served by the opportunity to provide sanitary sewer connections before individual on-site septic systems fail, risking public health.

Selection of an Alternative

Three alternatives were considered for Oshtemo's Sanitary Sewer Project: No Action; Vacuum/Pressure Sewers; and sewer extensions. Taking no action and Vacuum/Pressure Sewers are not feasible.

Alternative three, expansion, is the only feasible alternative for this project.

Proposed Project

The recommended alternative for the wastewater collection system is the Neighborhood Sanitary Sewer Expansion. This work includes installing new sanitary sewer mains and sanitary laterals to the right-of-way. The locations of these improvements and the estimated costs are as follows:

Collection System Improvements:

- Extend approximately 5,330 feet of sanitary sewer and add 14 sanitary manholes to 5 residential units, 1 Small Commercial, and 2 duplexes along 11th Street and provide each lot with a sanitary lateral. **\$1,015,000**
- Extend approximately 5,800 feet of sanitary sewer and add 14 sanitary manholes and one lift station to 28 residential and 1 small commercial, and 2 Governmental properties along 7th Street and West Main Street and provide each lot with a sanitary lateral. **\$1,474,000**
- Extend approximately 2000 feet of sanitary sewer and add 8 sanitary manholes to 26 residential units on Beech Street and provide each lot with a sanitary lateral. **\$441,000**
- Extend approximately 10,200 feet of sanitary sewer and add 45 sanitary manholes to 105 residential units in the Country Club Subdivision Plat and provide each lot with a sanitary lateral. **\$2,132,000**
- Extend approximately 4300 feet of sanitary sewer and add 17 sanitary manholes to 59 residential units in the Fairlane Subdivision Plat and provide each lot with a sanitary lateral. **\$1,040,000**
- Extend approximately 3200 feet of sanitary sewer and add 46 sanitary manholes to 22 residential units in the Frie and Gibbs Subdivision Plat and provide each lot with a sanitary lateral. **\$1,146,000**
- Extend approximately 4400 feet of sanitary intercepting sewer and add 9 sanitary manholes to 18 residential and 2 small commercial, 1 industrial, and 2 apartment properties along KL Ave and provide each lot with a sanitary lateral. **\$1,144,000**
- Extend approximately 1280 feet of sanitary sewer and add 8 sanitary manholes to 11 residential units in the Meridian Subdivision Plat and provide each lot with a sanitary lateral. **\$282,000**
- Extend approximately 6080 feet of sanitary sewer and add 25 sanitary manholes to 94 residential units in the Sky Ridge Subdivision Plat and provide each lot with a sanitary lateral. **\$1,686,000**
- Extend approximately 38,470 feet of sanitary sewer and add 230 sanitary manholes to 464 residential units in the West Port and Meadowbrook Subdivision Plan and provide each lot with a sanitary lateral. **\$9,096,000**
- Extend approximately 4270 feet of sanitary sewer and add 46 sanitary manholes to 66 residential units in the Whitegate Farms Subdivision Plat and provide each lot with a sanitary lateral. **\$1,071,000**

RURAL DEVELOPMENT CONSTRUCTION COSTS TOTAL:	\$20,527,000
DESIGN AND CONSTRUCTION ENGINEERING:	\$2,361,000
CONTINGENCY	\$2,053,000
ADMINISTRATIVE AND LEGAL FEES:	\$241,000
TOTAL PROJECT COST OF IMPROVEMENTS:	\$25,182,000

Conclusions and Recommendations

The proposed sewer system budget may be greater than the funding available through the USDA Rural Development. The project may be split into phases depending on the amount of funding available. The Preliminary Engineering Report and Environmental Report will be resubmitted with a new application and Engineering Agreement based on the available funds.

This project will take a proactive approach in providing a reliable sanitary sewer collection and treatment system to users. The existing on-site septic systems are aging and most will exceed useful life within the next 10 years.

It is recommended Oshtemo Township move forward with the proposed Neighborhood Sanitary Sewer system expansion project.

Figure 1 Project Planning Area

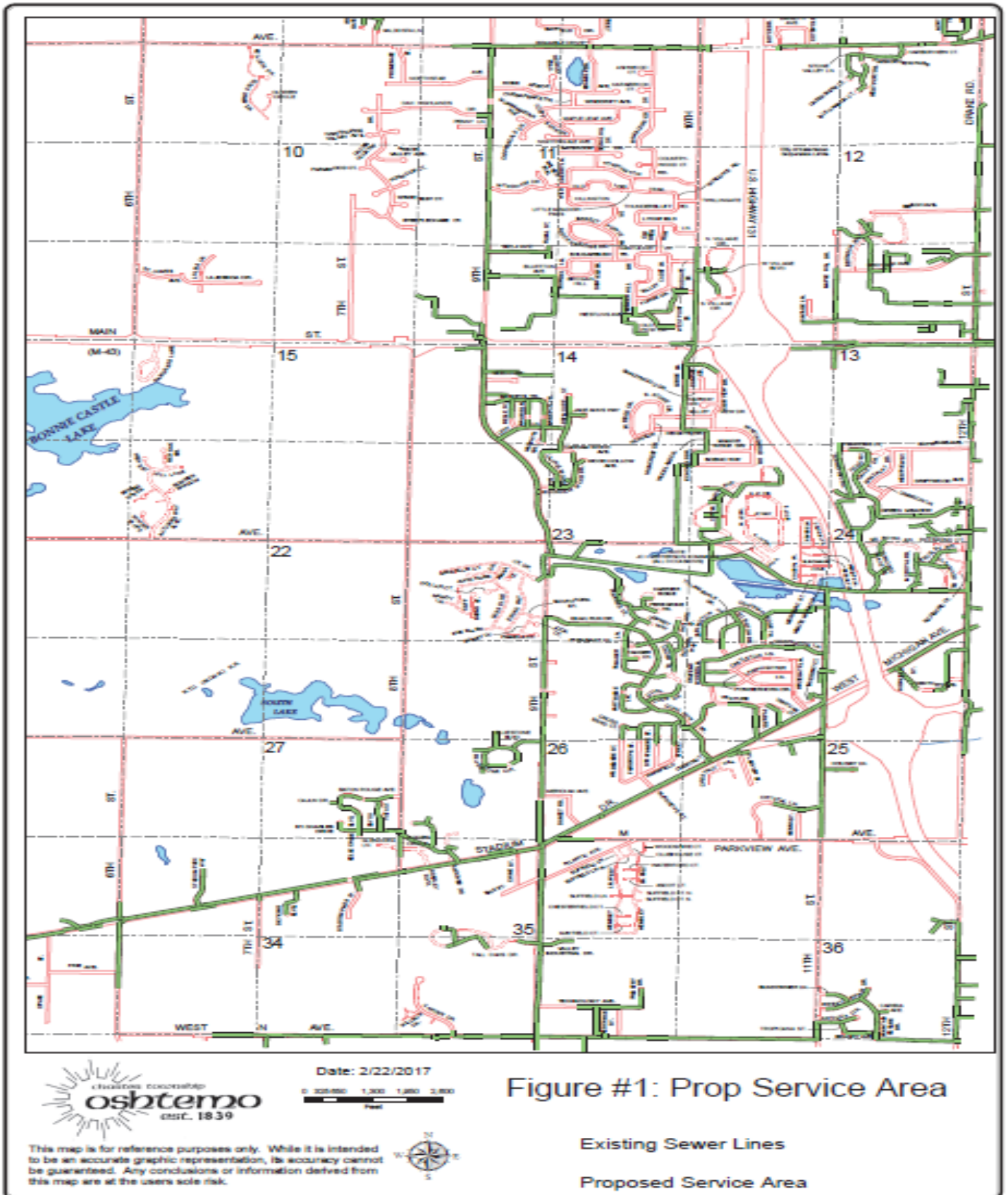


Figure 2 Limits of the Wastewater System Improvements

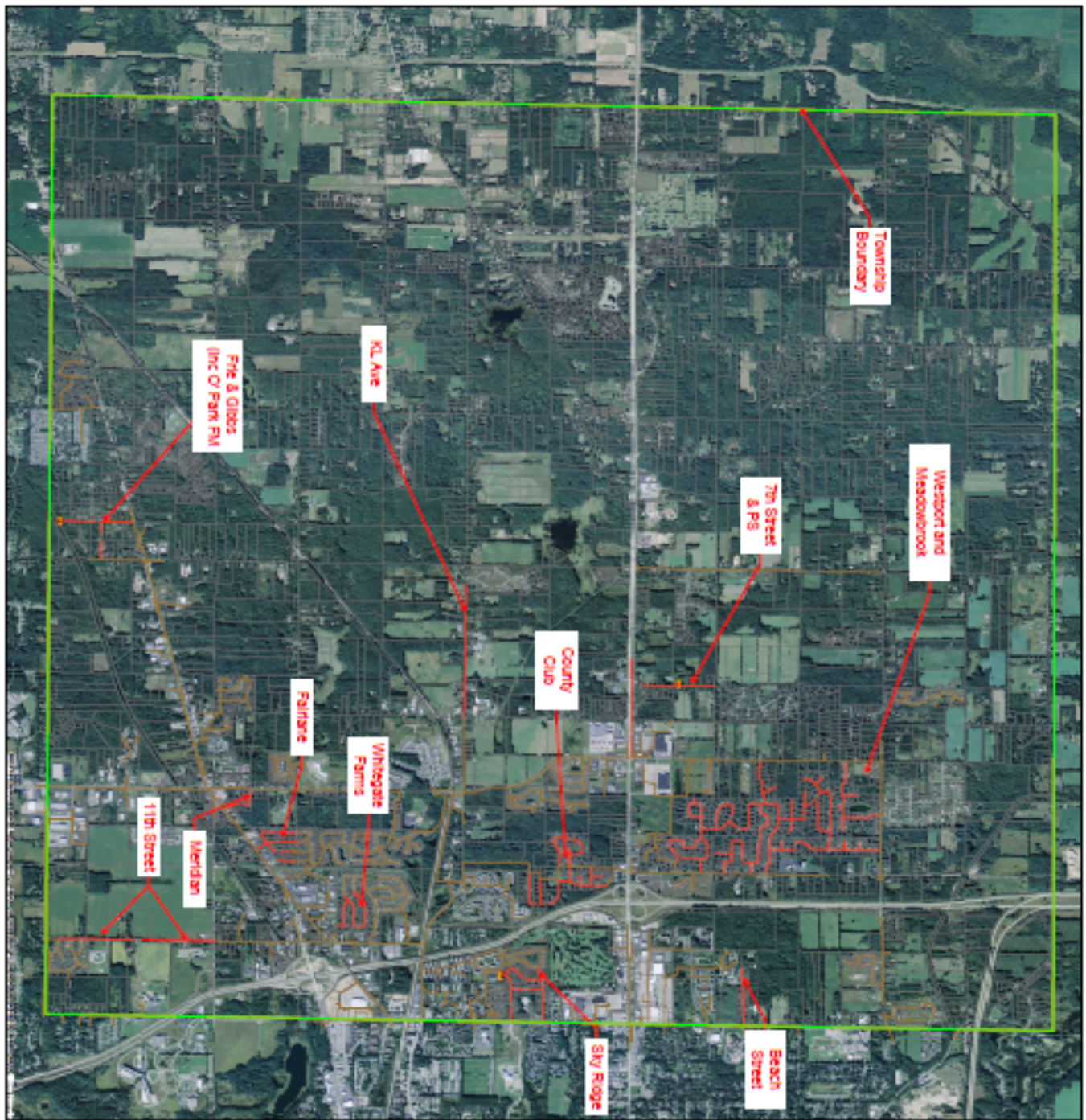
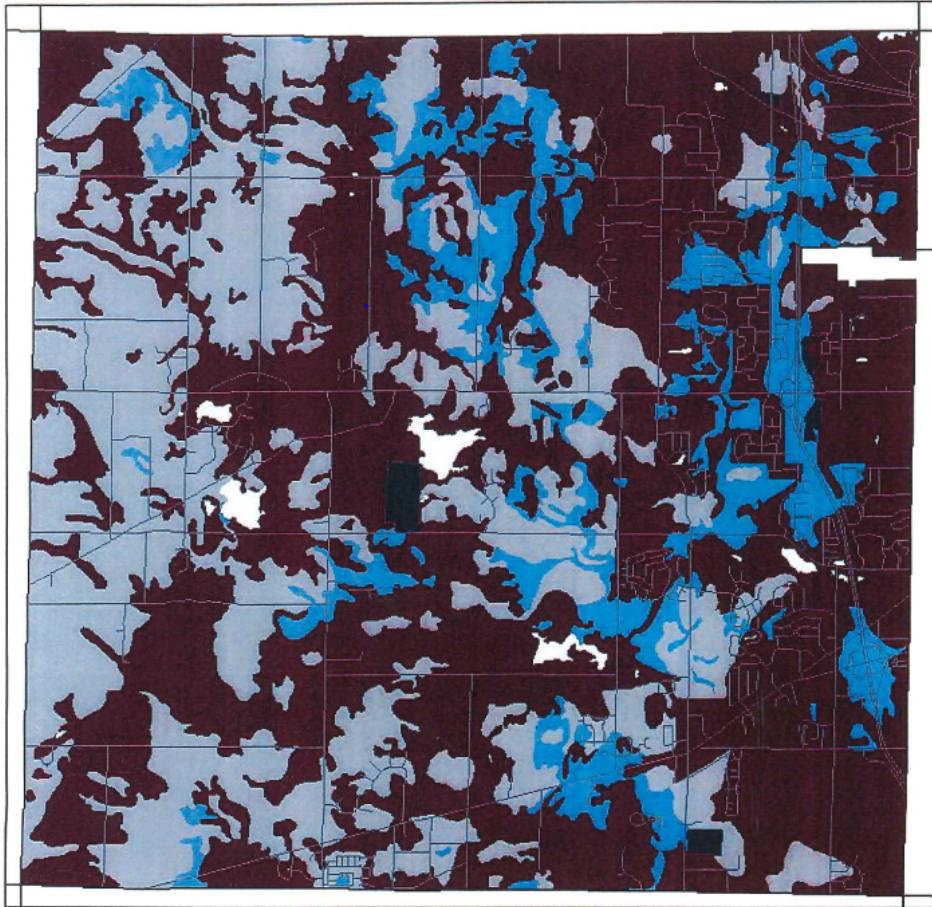


Figure #2		<table border="1"> <tr> <td>DATE</td> <td>NOV 2016</td> </tr> <tr> <td>SCALE</td> <td>1" = 100'</td> </tr> <tr> <td>PROJECT</td> <td>OSHTEMO TOWNSHIP</td> </tr> </table>	DATE	NOV 2016	SCALE	1" = 100'	PROJECT	OSHTEMO TOWNSHIP	SEWER EXTENSION PHASE #1	Legend — Prop Sanitary ■ Prop Lift Station — Ex Sanitary	
			DATE	NOV 2016							
SCALE	1" = 100'										
PROJECT	OSHTEMO TOWNSHIP										
OSHTEMO TOWNSHIP											

Township Soil Map

OSHTEMO TOWNSHIP



Limitations to septic tank absorption fields due to soil characteristics.

Septic System Limitations

-  Severe
-  Moderate
-  Slight
-  Variable

SoilErodibility

Table 1 – Existing System Sewer Summary

Existing System Sewer Summary										
(add or delete rows or cells as necessary)										
Charter Township of Oshtemo										
NPDES Discharge Permit No.		MI002399 (City of Kalamazoo)								
Collection Sewer:										
Type:	Gravity									
Sewers	Footage	Material	Age	Condition	No. of Manholes	Age	Condition			
6-inch	160	PVC/Clay	1-50 years	Good to Deteriorating	1120	1 to 50 years	Fair			
8-inch	146,505	PVC/Clay	1-50 years	Good to Deteriorating						
10-inch	50,454	PVC/Clay	1-50 years	Good to Deteriorating						
12-inch	30,334	PVC/Clay	1-50 years	Good to Deteriorating						
15-inch	1,979	PVC/Clay	1-50 years	Good to Deteriorating						
18-inch	14,288	PVC/Clay	1-50 years	Good to Deteriorating						
21-inch	3,179	PVC/Clay	1-50 years	Good to Deteriorating						
24-inch	1,362	PVC/Clay	1-50 years	Good to Deteriorating						
27-inch	3351	PVC/Clay	1-50 years	Good to Deteriorating						
Lift Stations:										
	Pumping									
L.S. No.	Capacity (gpm)	Condition								
1	180	Good								
2	80	Good								
3	465	Good								
4	1025	Good								
5	176	Good								
6	318	Good								
7	422	Good								
8	437	Good								
9	176	Good								
10	700	Good								
11	200	Good								
Treatment Type and Description:		Wastewater flows to the City of Kalamazoo WWTP.								
		No. of Existing Customer	Monthly Usage (gallons)		No. of Users after Project	Projected Total Usage				
Residential Dwellings		940	5,809,848		1827	10,244,848				
Other Users		677	26,393,136		688	26,547,286				
Totals		1617	32,202,984		2515	36,792,134				
Existing Rate Structure:		City of Kalamazoo Rates				Average Monthly Billing at Current Rates		\$22.90 per REU		
Residential Customers:	\$ 0.757	per cubic meter			(all customers)					
Commercial Customers:	\$ 0.757	per cubic meter								
Industrial Customers:	\$ 0.757	per cubic meter								
Yearly O & M Cost Before Improvements:					0 Yearly O & M Cost After:		0 \$\$\$\$			

Table 2 – Bond Schedule

Bond Schedule			Date: 07/27/17		
Borrower Name:	Oshtemo Township		Type of Bond: General Obligation		
Interest Rate:	3.000%				
Yrs Deferred Principle	0				
Principal:	\$24,952,000 (round to nearest \$1000)				
Ammort. Factor	0.0433				
Ammortized Payment:	\$1,079,483				
Year	1st Interest	2nd Interest	Principal Paid	Total Year Payment	Loan Balance
1	374,280	374,280	331,000	1,079,560	24,952,000
2	369,315	369,315	341,000	1,079,630	24,621,000
3	364,200	364,200	351,000	1,079,400	24,280,000
4	358,935	358,935	362,000	1,079,870	23,929,000
5	353,505	353,505	372,000	1,079,010	23,567,000
6	347,925	347,925	384,000	1,079,850	23,195,000
7	342,165	342,165	395,000	1,079,330	22,811,000
8	336,240	336,240	407,000	1,079,480	22,416,000
9	330,135	330,135	419,000	1,079,270	22,009,000
10	323,850	323,850	432,000	1,079,700	21,590,000
11	317,370	317,370	445,000	1,079,740	21,158,000
12	310,695	310,695	458,000	1,079,390	20,713,000
13	303,825	303,825	472,000	1,079,650	20,255,000
14	296,745	296,745	486,000	1,079,490	19,783,000
15	289,455	289,455	501,000	1,079,910	19,297,000
16	281,940	281,940	516,000	1,079,880	18,796,000
17	274,200	274,200	531,000	1,079,400	18,280,000
17	274,200	274,200	531,000	1,079,400	17,749,000
18	266,235	266,235	547,000	1,079,470	17,202,000
19	258,030	258,030	563,000	1,079,060	16,639,000
20	249,585	249,585	580,000	1,079,170	16,059,000
21	240,885	240,885	598,000	1,079,770	15,461,000
22	231,915	231,915	616,000	1,079,830	14,845,000
23	222,675	222,675	634,000	1,079,350	14,211,000
24	213,165	213,165	653,000	1,079,330	13,558,000
25	203,370	203,370	673,000	1,079,740	12,885,000
26	193,275	193,275	693,000	1,079,550	12,192,000
27	182,880	182,880	714,000	1,079,760	11,478,000
28	172,170	172,170	735,000	1,079,340	10,743,000
29	161,145	161,145	757,000	1,079,290	9,986,000
30	149,790	149,790	780,000	1,079,580	9,206,000
31	138,090	138,090	803,000	1,079,180	8,403,000
32	126,045	126,045	827,000	1,079,090	7,576,000
33	113,640	113,640	852,000	1,079,280	6,724,000
34	100,860	100,860	878,000	1,079,720	5,846,000
35	87,690	87,690	904,000	1,079,380	4,942,000
36	74,130	74,130	931,000	1,079,260	4,011,000
37	60,165	60,165	959,000	1,079,330	3,052,000
38	45,780	45,780	988,000	1,079,560	2,064,000
39	30,960	30,960	1,018,000	1,079,920	1,046,000
40	15,690	15,690	1,046,000	1,077,380	0

Charter Township of Oshtemo
Neighborhood Sanitary Sewer Extensions Phase #1
Engineer's Opinion of Probable Construction Cost



Project No.: 828340
 By: MGJ
 Date: 7/27/2017

Description: Sanitary sewer installation including roadway, curb and gutter, and sidewalk

Line	Item Description	Unit	Qty.	Unit Price	Amount
1	Mobilization	LS	1	\$ 1,757,000.00	\$ 1,757,000.00
2	Traffic Control	LS	1	\$ 50,000.00	\$ 50,000.00
3	Above Ground Video Survey	EA	12	\$ 4,000.00	\$ 48,000.00
4	Surface Restoration	SYD	16,125	\$ 6.00	\$ 97,000.00
5	Sand Subbase	CYD	91,500	\$ 10.00	\$ 915,000.00
6	Aggregate Base	SYD	274,500	\$ 8.00	\$ 2,196,000.00
7	Bituminous mix	TON	65,000	\$ 75.00	\$ 4,875,000.00
8	Concrete Curb and Gutter	FT	17,540	\$ 20.00	\$ 351,000.00
9	Concrete Sidewalk and Ramp	SFT	14,400	\$ 6.00	\$ 87,000.00
10	Curb and Gutter Removal	FT	17,540	\$ 5.00	\$ 88,000.00
11	Sidewalk Removal	SYD	1,600	\$ 5.00	\$ 8,000.00
12	Pavt Removal	SYD	275,000	\$ 1.00	\$ 275,000.00
13	Storm Pipe	FT	5,360	\$ 50.00	\$ 268,000.00
14	Storm Manhole	EA	270	\$ 2,500.00	\$ 675,000.00
15	Sanitary Sewer, 24 inch	FT	4,400	\$ 90.00	\$ 396,000.00
16	Sanitary Sewer, 12 inch	FT	9,300	\$ 50.00	\$ 465,000.00
17	Sanitary Sewer, 8 inch	FT	68,650	\$ 40.00	\$ 2,746,000.00
18	Standard Sanitary Manhole	EA	460	\$ 4,500.00	\$ 2,070,000.00
19	San Cleanouts, Wyes, and Tees	EA	920	\$ 500.00	\$ 460,000.00
20	Sanitary service Lines	FT	26,710	\$ 55.00	\$ 1,470,000.00
21	Connect to existing sanitary sewer	EA	8	\$ 4,000.00	\$ 32,000.00
22	Connect to existing sanitary manhole	EA	9	\$ 4,500.00	\$ 41,000.00
23	Force Main Pipe	FT	2,880	\$ 60.00	\$ 173,000.00
24	Force main Fittings	EA	10	\$ 200.00	\$ 2,000.00
25	Force main Valve and Chamber Box	EA	2	\$ 1,500.00	\$ 3,000.00
26	Submersible Pump Station	EA	3	\$ 225,000.00	\$ 675,000.00
27	Video Tape Sewer	FT	83,000	\$ 1.00	\$ 83,000.00
28	KL Ave Paved Shoulder 3" HMA	TON	740	\$ 75.00	\$ 56,000.00
29	11th Street Paved Shoulder 3" HMA	TON	780	\$ 75.00	\$ 59,000.00
30	Frie and Gibbs Water Main	LS	1	\$ 106,000.00	\$ 106,000.00

Project Cost		
<p><i>The Design Professional has no control over costs or the price of labor, equipment or materials, or over the Contractor's method of pricing. Bid prices may vary significantly based on these factors and market conditions at time of bid.</i></p>	SubTotal:	\$ 20,527,000.00
	Engineering	\$ 2,361,000.00
	Contingency	\$ 2,053,000.00
	Property	\$ 100,000.00
	Township Admin	\$ 10,000.00
	Local Attorney	\$ 15,000.00
	Bond Council	\$ 25,000.00
	Special Council	\$ 15,000.00
	Municipal Advisor	\$ 75,000.00
	Dept of Treasury	\$ 1,000.00
	Total	\$ 25,182,000.00