

Charter Township of Superior Capital Improvements Program 2014-2018



UTILITY DEPARTMENT

575 E. Clark Road
Ypsilanti, MI 48198



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Charter Township of Superior Utility Department Capital Improvements Program

2014 – 2018

May 2014

INTRODUCTION

The Capital Improvements Program (CIP) is an essential planning tool for the development of the health, physical and economic well-being of the Charter Township of Superior. This program is an important step in an organized effort to strengthen the quality of public facilities and services in Superior Township, and will provide a framework for the realization of community goals and objectives as envisioned in the Township's Land Use Master Plan.

The goal of this CIP is to plan for and guide needed Utility Department Capital Improvements and expenditures in a fiscally sound manner, and to ensure that these improvements are consistent with the goals and policies of Superior Township and the expectations of its property owners. In a practical sense, the CIP process allows the Township to identify, prioritize and implement capital projects over multiple years. As the community matures, policy makers should look to the CIP for answers in addressing public infrastructure needs.

The Capital Improvements Program identifies all major capital projects with cost estimates anticipated in both capital and future operating costs over a five (5) year period. The program is intended to serve existing and anticipated development in the Township Water and Sewer District. All CIP projects are listed on a priority basis and reflect the fiscal year in which they are proposed. The program also includes a discussion and recommendations for providing financial alternatives for implementing proposed projects.

CAPITAL IMPROVEMENTS PROGRAMMING OVERVIEW

Capital improvement programming involves, to varying degrees, the following steps:

- **Inventory** – an assessment and compilation of existing and future project needs.
- **Financial Analysis** – an analysis of all existing and potential fiscal resources.
- **Determining Priorities** – the task of comparing needs and desired projects against financial resources and other criteria.
- **Establish Level of Service** – determine balance between desired system performance and funding resources
- **Developing a Schedule** – a logical sequence, relating needs with financial resources.
- **Gaining Approval** – from appropriate local officials, other funding or cooperating agencies and the community's citizenry.
- **Implementing the Program** – incorporating the first year of the capital program into the next fiscal year budget program.
- **Review and Update** – each year review and update both the capital budget and multi-year program and take into account changed priorities.

The criteria used in establishing priorities should include:

- Protecting life and property
- Maintaining public health and safety
- Maintaining public property
- Replacing obsolete infrastructure
- Providing public convenience and comfort
- Providing effective and efficient public services
- Reducing operating costs or risk of future increase
- Enhancing the Township's economic value
- Making prudent use of limited financial resources
- Maximizing opportunities for state and federal "grant" opportunities

PROGRAM CRITERIA

The program is a planning tool and not necessarily a promise of funding. Significant capital projects are identified with cost estimates and they are prioritized.

For the purpose of this program, the following criteria are used to include a capital project or expenditure:

- The project must impact the Township's utility service area.
- The project represents a public facility.
- The project represents a physical improvement.
- The project requires the expenditures of at least \$20,000. Some CIP projects under \$20,000 may be included in the program if they are part of a larger network or system of improvements.

From year to year, CIP projects are subject to change in response to changing community needs and available funding. Cost estimates for projects contained herein are based on estimates of probable costs using 2014 construction or purchase cost factors as a base with a 4% inflationary factor applied; depending on the proposed year of implementation.

BACKGROUND

The Charter Township of Superior has experienced a low rate of growth over the past decade, especially where public water and sanitary sewer systems are available. Although significant growth was continuing into the early part of the past decade, the past seven years have also seen a significant slow-down in new development that would drive water and sewer system expansion.

The primary water and sewer service area of Superior Township is contained within Sections 31 through 36. This area is bounded by Geddes Road to the north, Clark Road to the south, Superior Road to the west and Ridge Road to the east. Land use in the area is predominately single family residential and located in Section 31 is the very large St. Joseph Mercy medical complex and related facilities.

The size of the service area and complexity of the infrastructure in Superior Township is similar to those of a medium sized city. Compare the six square miles served with other communities e.g., Saline at 4.2 square miles, the City of Brighton at 3.5 square miles, the City of Farmington at 2.5 square miles or the City of Ypsilanti at 4.2 square miles. While many of the water mains and sanitary sewers have been built over the past twenty years as part of newer subdivisions, there exists some infrastructure built as far back as the Willow Run bomber plant.

POPULATION

The 2010 census population count for Superior Township is 13,058 individuals. This represents a growth in population of 21.6% from the 2000 census count of 10,740. The SEMCOG Regional Development Forecast for Population and Households for Superior Township displays the following:

	<u>2010</u>	<u>2015</u>	<u>2020</u>	<u>2025</u>	<u>2030</u>
Population	13,058	14,200	14,971	16,308	16,317
Households	4,924	5,486	6,396	6,926	7,044

It is estimated that the approximate population in the utility service area of the Township was 6,200 in 2010. It is predicted that by 2030, the utility service area would experience an almost 25% growth in population to 7,750 persons.

LAND DEVELOPMENT

Within the water and sewer service area there are a number of existing developments already constructed that have water and sewer available with vacant lots ready for home construction. Based on known projections, there exists the real potential of approximately 40 new residential equivalent units being developed in the Township in the water and sewer service area between 2014 and 2018.

WATER SUPPLY AND SEWAGE DISPOSAL CAPITAL PROGRAM

The Utilities Department Capital Improvement Plan is intended to preserve the integrity of the water supply and sewage disposal systems to rehabilitate aged components of those, which are deficient or substandard to improve reliability and to extend and make such systems available to the established Township service area.

The development of the list of water and sewer projects has been predicated on the basis of professional engineering studies and from information about system needs and deficiencies received from Township staff and maintenance crews and various property owners. System analysis will continue to be an ongoing program.

PROPOSED WATER SYSTEM PROJECTS

Refer to Appendix A for a location map of planned water system projects.

1. Geddes Road Booster Station Abandonment
 This project will abandon the existing Booster Station and remove the above ground structures. \$50,000

2. Clark Road Water Main Loop Connection
 Replace 650 feet of 6-inch AC pipe with 12-inch ductile iron pipe and extend 1,350 feet to Autumn Woods. This project will replace a section of older, undersized pipe, and provide a loop to increase reliability. \$650,000

3. Ridge Road 16-Inch Water Main (Growth Driven)
 Install 2,800 feet of 16-inch ductile iron pipe on Ridge between Geddes Road and Scarlet Oak Drive. This project will complete a loop of the entire system. \$1,300,000

4. Water Storage Facility

To meet peak demand and fire demand flow conditions for ultimate development 2,000,000 gallons of storage will need to be constructed. Storage will better insure the system's ability to meet peak demand periods and fire flow protection. The storage will also increase the reliability of the supply, particularly during certain emergency events. The cost estimate assumes the elevated storage will be built in two phases and this will provide for the first (see OHM study).

\$4,000,000

5. Harvest Lane Water Main Replacement

Replace 2,400 feet of existing 50-year old water main with 8" ductile iron water pipe from Bazley to McIntosh. This line experiences numerous water main breaks. Note that this project cost also includes the full reconstruction of the roadway and is recommended to be completed with the sewer replacement project.

\$1,650,000

6. Geddes Upsize Prospect to Brookside (Growth Driven)

Upsize 3,400 feet of existing 12-inch water main to 16-inch ductile iron pipe to provide a continuous 16-inch transmission feed from the DWSD 2nd Connection. This will enhance flow and pressure throughout the system.

\$1,200,000

7. Geddes Upsize LeForge to Prospect (Growth Driven)

Replace 5,400 feet of existing 12-inch asbestos cement water pipe to 16-inch ductile iron pipe. This will increase pressure and flow and eliminate the AC pipe.

\$2,000,000

PROPOSED SANITARY SEWER PROJECTS

Refer to Appendix A for a location map of planned sanitary sewer projects.

1. Asset Management Plan

The Township applied for a SAW grant in 2013 and was awarded the grant in 2014 totaling \$505,000 with a 10% local match. Work associated with this includes inventory of assets, GIS system upgrades, cleaning and televising of 450 manholes and 105,000 feet of pipe, condition assessment, rate study, CIP development, and asset management plan report.

\$50,000

2. Annual Sewer Rehabilitation and I/I Removal

The work associated with the previous S-2 grant indicated multiple areas contributing to a large portion of the Township's Inflow and Infiltration. This project will investigate and rehabilitate portions of the sewer system on an annual basis.

\$1,200,000

3. Clark Road Lift Station Rehabilitation

Improve the existing Clark Road Lift Station with a dehumidification system, cleaning and painting of wall and ceiling surfaces, removal of oxidized structural steel materials, application of epoxy concrete overlay system, flowable polymer system injection around station exterior, installation of new sump pump, and monitoring the condition of existing centrifugal sewer pumps.

\$50,000

4. Harvest Lane Sewer Replacement
Remove and replace existing 30-inch sixty-year old sanitary sewer from Bazley to McIntosh with 2,400 feet of new 12-inch sewer. There may be the possibility of SRF loans to help fund this project. Note that this project cost does not include the full road reconstruction and should be completed with the water main replacement project.
\$1,200,000
5. Clark Road Lift Station Replacement
Replace the existing Clark Road Lift Station in its entirety. This project should be funded by developers and timing will be development driven.
\$1,350,000
6. Clark Road Sewer Main Replacement (Growth Driven)
Upgrade 2,500 feet of existing sanitary sewer from 12-inch to 18-inch using either open cut replacement or pipe-bursting technique.
\$1,500,000
7. Prospect Road Sewer Main Replacement (Growth Driven)
Upgrade 1,050 feet of existing sanitary sewer from 10-inch to 15-inch using either open-cut replacement or pipe-bursting replacement technique.
\$650,000

UTILITY DEPARTMENT EQUIPMENT AND MAINTENANCE FACILITIES

Equipment:

1. Acquire Trailer Mounted Diesel Powered Air Compressor
\$35,000
2. Acquire Service Utility Trucks Over 5 Yr Period
\$126,000

Facilities:

3. New Cold Storage Building
New 4,000 square foot storage building on the site of the existing Utility Department Maintenance Building.
\$75,000
4. Administrative Building Parking Lot Repave
Rehabilitate parking lot at existing administrative offices located at 575 E. Clark Road
\$40,000

FINANCIAL ANALYSIS AND SUMMARY

From a historical perspective, years ago Superior Township began to anticipate the need to plan for the financing of water and sewer capital improvements. Since the mid 1990's trunk and transmission fees (capital charges) have been steadily adjusted so as to be able to fund future needed capital outlay. In 2000, the

Township issued \$6,350,000 in Sanitary Sewer System No. 2 bonds and in 2003 issued \$2,000,000 in G.O. Capital Improvement bonds for water system improvements. Taken together the bonds require an approximate annual principal and interest payment of \$650,000, rising very slightly after 2012 through 2018. This is the only existing utility system debt, with bond payments running through 2020 and 2023 respectively. As of December 31, 2013, a balance of \$3,475,403 remained in both bond issues.

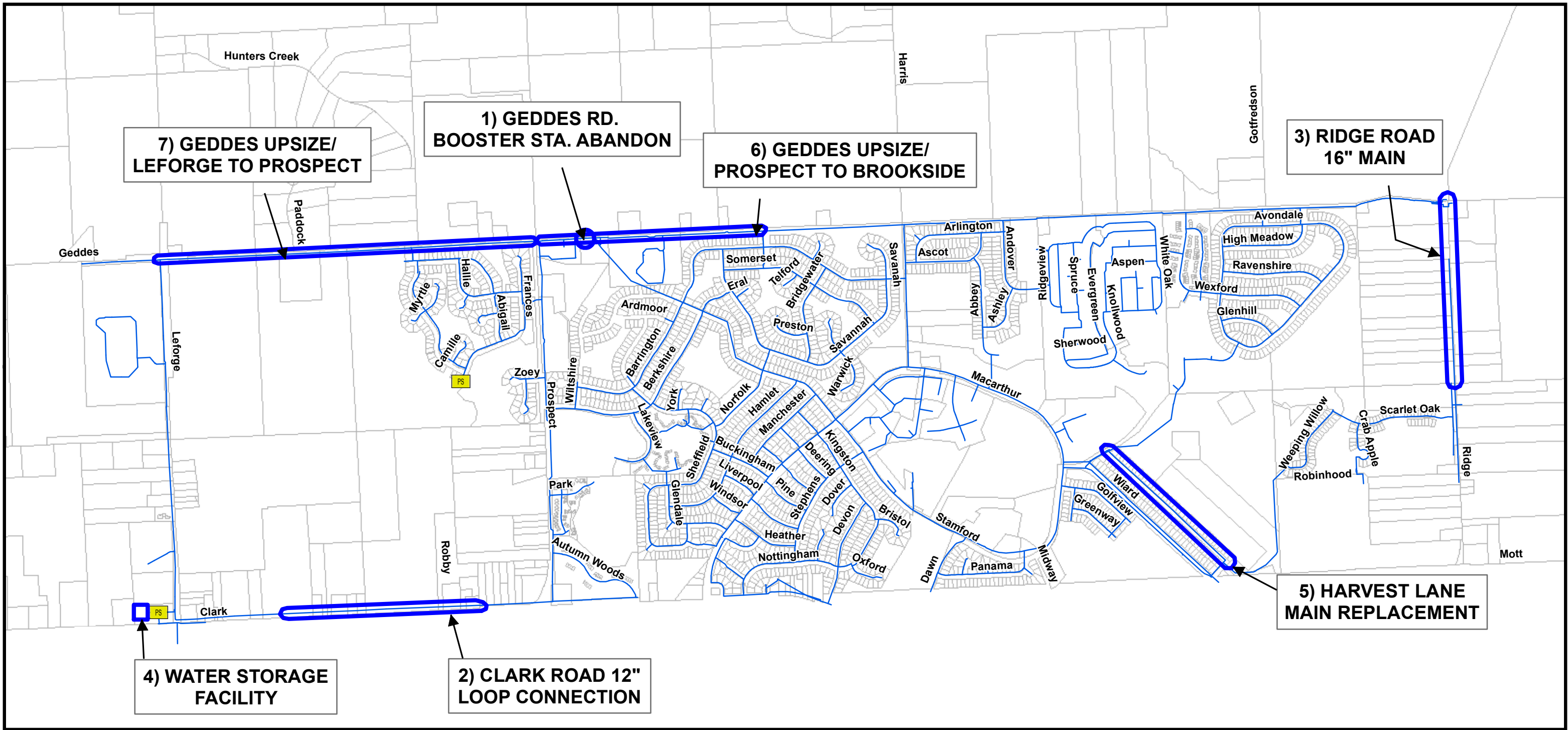
The Township has also accumulated and reserved trunk and transmission fees that at the end of FY 2013 totaled \$2,431,873. This entire sum has never been intended for only capital projects. Reserves have been set up for the debt of \$990,547 and accrued employee benefits \$36,736. In addition, the township has a repair and replacement reserve of \$605,001. Such reserves protect the Township from emergency repairs due to a disaster and to cover debt should the economy stall over a multiple year period. Unreserved fund balance remaining after 2013 would appear to be available for a significant portion of needed capital projects. This could exceed \$3,393,596 as displayed below:

Total Cash Reserves as of 12/31/13	\$4,989,144
Less Debt Reserve	-\$990,547
Less Benefits Reserve	-\$36,736
Less Repair Reserve	<u>-\$605,001</u>
Unreserved (Available)	<u>\$3,356,860</u>

For purposes of this program covering the period of FY 2014 through FY 2018 it will be assumed that all trunk and transmission fees collected by the Township will continue to be available for capital projects and debt. See Appendix B for financial work sheets.

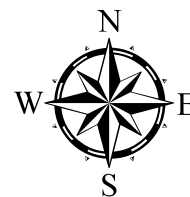
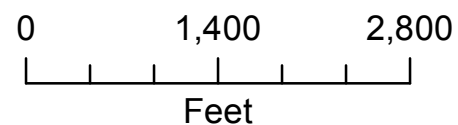
An extensive operating budget analysis has been undertaken with budget projections made through FY 2018. These projections have included annual inflationary factors for operating costs and even included a projection for added staff. The point here is that the analysis of annual operating budget concludes that user fees and other O&M type revenues should be sufficient to balance operating budgets, leaving capital type charges for capital improvements and debt.

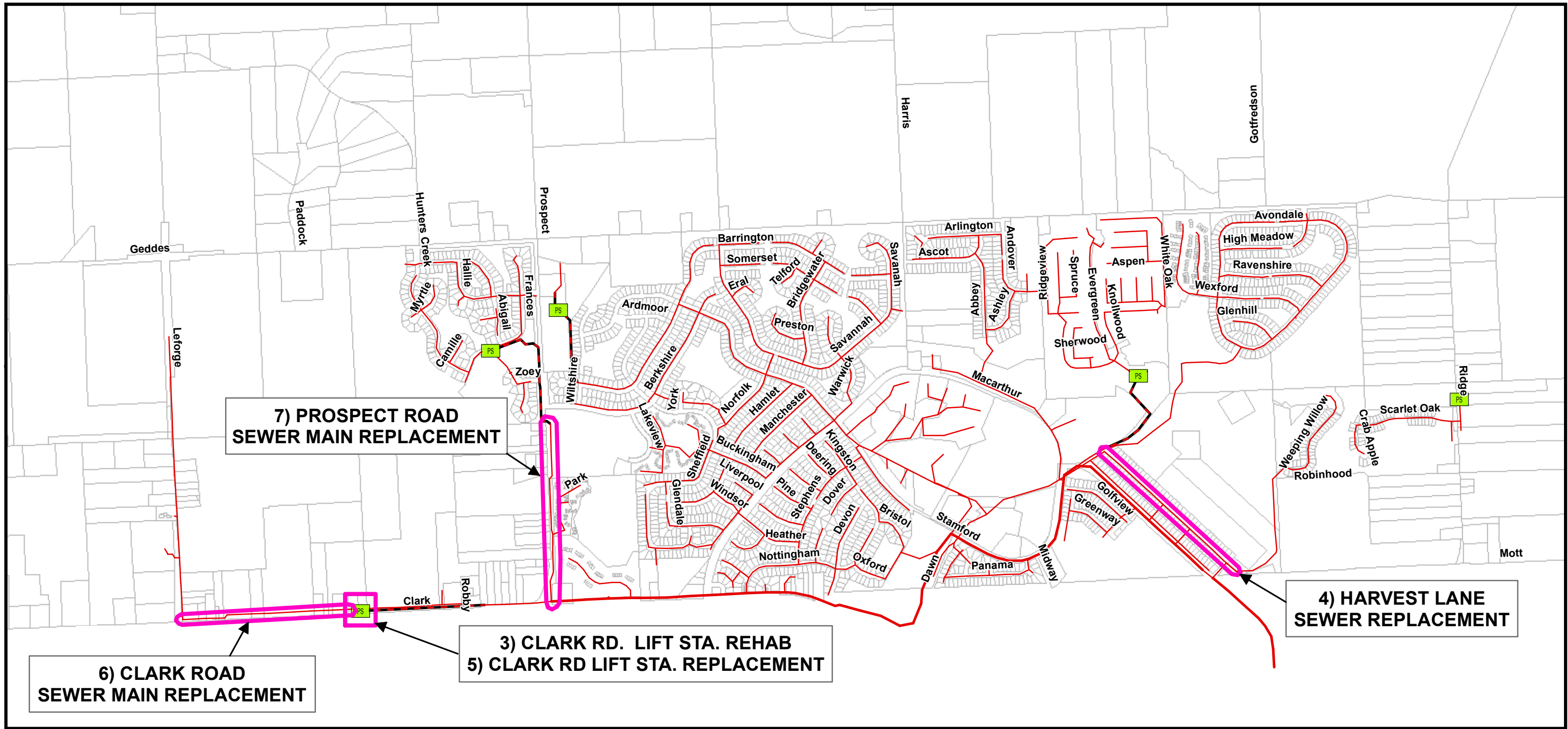
Appendix A
Water and Sewer System
Project Location Maps



2014 SUPERIOR TOWNSHIP CIP WATER PROJECTS

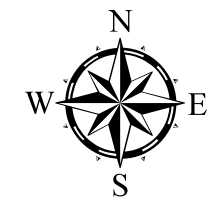
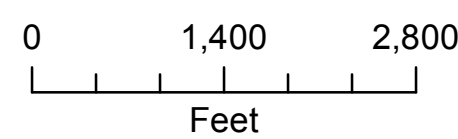
Water Main PS Water Pump Station - Axial Flow
— Distribution — Road
— Transmission □ Parcels





2014 SUPERIOR TOWNSHIP CIP SEWER PROJECTS

- | Sanitary Gravity Main | Sanitary Non-Gravity Main |
|--|--|
| — Collector | — Forced |
| — Interceptor | Parcels |
| PS Sanitary Lift Station | — Road |



Appendix B
Financial Summary

**Superior Charter Township Utility Department
Capital Improvements Program 2014-2018
Revenue and Expenditures**

O&M	ACTUAL	BUDGET	P R O J E C T I O N S			
	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
REVENUE:						
Water & Sewer Income	2,584,556	3,047,232	3,230,066	3,423,870	3,629,302	3,847,060
Meter Sales Income	4,345	3,000	3,090	3,183	3,278	3,377
Miscellaneous Income	9,788	11,435	11,778	12,131	12,495	12,870
Interest Income	2,253	2,000	2,060	2,122	2,185	2,251
TOTAL REVENUE	2,600,942	3,063,667	3,246,994	3,441,306	3,647,261	3,865,558
% Change from Prior Year	N/A	17.8%	6.0%	6.0%	6.0%	6.0%
EXPENDITURES:						
Water/Sewer Purchased	1,591,836	2,147,405	2,276,249	2,412,824	2,557,594	2,711,049
Payroll Expenses	663,411	529,732	545,624	661,993	681,852	702,308
Building & Equipment Expenses	100,985	115,400	118,862	122,428	126,101	129,884
Other Expenses	167,581	170,200	175,306	180,565	185,982	191,562
TOTAL EXPENDITURES	2,523,813	2,962,737	3,116,041	3,377,810	3,551,529	3,734,803
% Change from Prior Year	N/A	17.4%	5.2%	8.4%	5.1%	5.2%
NET ORDINARY INCOME	71,130	100,930	130,953	63,496	95,732	130,755
% Change from Prior Year	N/A	41.9%	29.7%	-51.5%	50.8%	36.6%
Other Income/Expense						
Other Expense						
Transfers Out to Capital Reserves	50,000	100,930	130,953	63,496	95,732	130,755
Total Other Expense	50,000	100,930	130,953	63,496	95,732	130,755
NET OTHER EXPENSE	50,000	100,930	130,953	63,496	95,732	130,755
NET of REVENUES and EXPENDITURES	21,130	0	0	0	0	0

Amount Added to Capital Reserves from Revenues	55,995	105,000	105,000	105,000	52,500	52,500
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TOTAL ADDED TO CAPITAL RESERVES	105,995	205,930	235,953	168,496	148,232	183,255
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Water/Sewer Income = 2014 Budget + 6% Anticipated Increase Each Year
Water/Sewer Expense = 2014 Budget + 6% Anticipated Increase Each Year

**Superior Charter Township Utility Department
Capital Improvements Program 2014-2018
Water/Sewer Income and Expense**

Assumptions: At 2013 year-end, there were 2,018 REUs.

New Houses:		2014	2015	2016	2017	2018
Brookside III (13 units remain)						
Golfside I (30 units)						
Woodland of Geddes Glen (32 units)						
Prospect Pte I (19 units remain)						
Prospect Pte IIA (66 units remain)						
Prospect Pte E. (122 units remain)						
Woodside Village I (49 units remain)						
TOTAL REU's PROJECTED TO BE ADDED		30	35	40	50	50
TOTAL UNITS in TOWNSHIP (2013)	2,018	2,048	2,083	2,123	2,173	2,223
% Increase from previous year		0.5%	0.5%	0.5%	0.2%	0.2%
2013 Actual - Water/Sewer Income	2,584,556					
2013 Actual - Water/Sewer Purchased	1,591,836					

**Superior Charter Township Utility Department
 Capital Improvements Program 2014-2018
 Cash and Equivalents as of 12/31/2013**

CASH - O&M		
	Checking & Cash	\$224,730
	Reserves	\$961,723
	TOTAL O&M	\$1,186,452

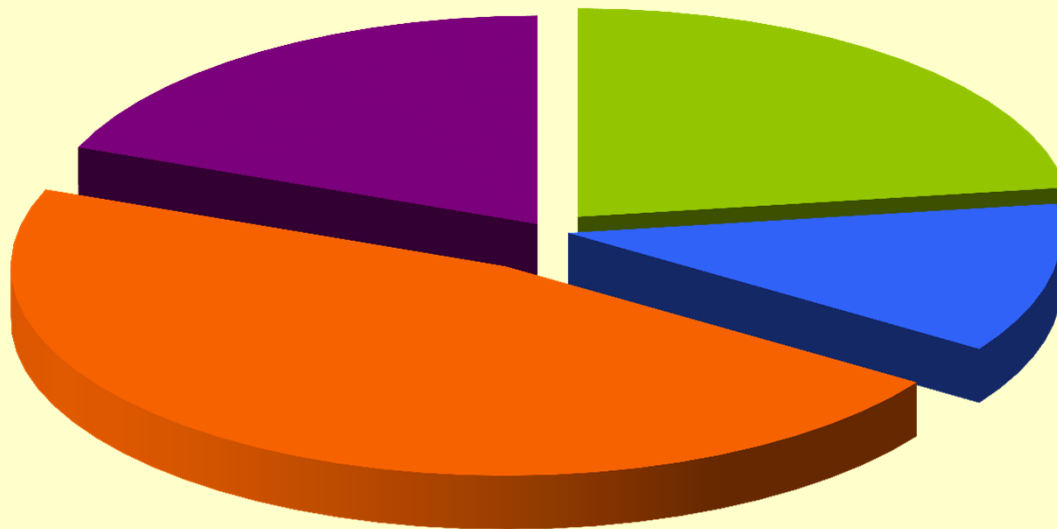
CASH - SYSTEM REPAIR RESERVES		
	Reserves	\$605,001
	TOTAL SYSTEM REPAIR RESERVES	\$605,001

CASH - CAPITAL RESERVES		
	Checking	\$1,791,663
	Reserves	\$640,210
	TOTAL CAPITAL RESERVES	\$2,431,873

CASH - DEBT SERVICE		
	Reserves	\$990,547
	TOTAL DEBT SERVICE	\$990,547

	TOTAL CASH & EQUIVALENTS	\$5,213,874
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Cash & Equivalents - 12/31/13



■ O&M - \$1.19

■ System Repair Res.
- \$.6

■ Capital Reserves -
\$2.43

■ Debt Service - \$.99

**Superior Charter Township Utility Department
Capital Improvements Program 2014-2018
Financing Summary (000s)**

	2014	2015	2016	2017	2018
Available Funds @ Start of Year:	\$4,027	\$3,322	\$2,744	\$2,221	\$1,638
PLUS Annual Revenue from UC Permits	\$105	\$105	\$105	\$53	\$53
O&M Net of Revenues & Expenditures	\$101	\$131	\$63	\$96	\$131
LESS Project Costs:					
<i>Water</i>	\$0	\$50	\$0	\$0	\$0
<i>Sewer</i>	\$300	\$200	\$200	\$200	\$200
<i>Equipment & Facility</i>	\$125	\$75	\$0	\$42	\$0
Total Project Costs	\$425	\$325	\$200	\$242	\$200
LESS Annual Bond Payments	\$486	\$489	\$491	\$489	\$492
Available Funds @ Year End	\$3,322	\$2,744	\$2,221	\$1,638	\$1,129