

CHARTER TOWNSHIP OF BRIGHTON

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CAPITAL IMPROVEMENT PLAN AND FISCAL ANALYSIS

2015/2016 – 2020/2021

Adopted: July 17, 2017

**CAPITAL IMPROVEMENT PLAN
AND
FISCAL ANALYSIS
2015/2016 – 2020/2021**

TABLE OF CONTENTS

CAPITAL IMPROVEMENT PLAN	2
SANITARY SEWER SYSTEM	8
WATER SUPPLY SYSTEM	17
ROADS	27
PUBLIC FACILITIES AND BUILDING AUTHORITY	34
CEMETERIES, PARKS AND PATHWAYS	36
APPENDIX A - SANITARY SEWER SYSTEM DEBT SCHEDULE	43
APPENDIX B - WWTP 10 YEAR CIP (UPDATED EXCERPT)	47

**CAPITAL IMPROVEMENT PLAN
AND
FISCAL ANALYSIS
2015/2016 – 2020/2021**

INTRODUCTION/LEGAL AUTHORITY

The Capital Improvement Plan (CIP) is an essential planning tool for the development of the social, physical, fiscal and economic well-being of the Charter Township of Brighton. This plan is a positive effort to strengthen the sustainability of public facilities and services and provides a framework for the realization of community goals and objectives as envisioned in the Township's Master Plan for future land use adopted May 19, 2014.

In a practical sense, the CIP process allows the Township to identify, prioritize and implement capital projects and funding over multiple years. Public improvements originating from the CIP process will serve to improve the quality of life for all Township residents. As the community matures, policy makers will look to the CIP for answers in addressing public needs.

Legal authority for capital improvement planning is found in State law. Specifically, Act 168 of the Public Acts of 1959, the Township Planning Act, and reaffirmed in Act 33 of the Public Acts of 2008; which essentially provide that:

“For the purpose of furthering the desirable future development of a local unit of government after adoption of a master plan, the community shall prepare a coordinated and comprehensive program of public improvements. The program will show public capital expenditures and improvements, in the general order of their priority that may be needed or desirable and can be undertaken within a six-year period for the purpose of furthering the community's desired development.”

CIP GOAL

**TO PLAN FOR AND GUIDE NEEDED CAPITAL IMPROVEMENTS AND EXPENDITURES
IN A FISCALLY SOUND MANNER AND TO ENSURE THAT THESE IMPROVEMENTS ARE
CONSISTENT WITH THE GOALS AND POLICIES OF THE CHARTER TOWNSHIP OF
BRIGHTON, THE EXPECTATIONS OF ITS RESIDENTS AND ARE FINANCIALLY
REALISTIC AND ACHIEVABLE.**

BRIGHTON TOWNSHIP TODAY

Brighton Township is located on the southeast side of Livingston County, and is within a short driving distance of a number of metropolitan areas such as Detroit, Lansing, Ann Arbor and Flint. The Township has the benefit of having access to both I-96 and US-23, making it a logical center for residences and businesses. Benefiting from its desirable location, Brighton is one of Livingston County's most populated Townships.

The Township has experienced steady growth over the last three decades, partly due to its location, but more significantly due to its highly attractive topography and natural features. Most of the community consists of gently rolling hills, an abundance of woodlands, wetlands and several small bodies of water, over 20 named small lakes, many small ponds and streams. The environment has allowed Brighton Township to draw the interest of new single family housing developments making the community one of the most desirable places to live in southeast Michigan. Much of the housing stock is relatively new with almost 80% of the single family homes built since 1970. Over 50% of the land use consists of larger lot single family housing, 12% vacant, 12% industrial, 19% wetlands and 5% water surface.

As of the 2010 census, there were 17,791 people residing in the Township consisting of 5,950 households. SEMCOG has projected the 2020 population to be 19,300 persons. For years Brighton Township enjoyed steady population growth but by the end of 2008, growth in terms of new housing starts slowed dramatically. The slowdown was consistent with new housing decline seen throughout southeast Michigan and the rest of the nation.

Fortunately, Brighton Township as well as the rest of Southeast Michigan has experienced resurgence in new housing starts and related growth. The Township issued Land Use Permits for new home construction as follows: 77 in 2014, 65 in 2015 and 70 in 2016 and witnessed the opening of a newly constructed 98,000 square foot headquarters for Lake Trust Credit Union to house over 300 employees in 2015. It is hoped by all that the Great Recession of this past decade is over and that economic recovery will continue.

Today, Brighton Township offers a range of community facilities to its residents and businesses and cooperates with different agencies to provide important public utilities. The quality, availability and cost of these services are among the many factors influencing growth and redevelopment. Residential, commercial, and especially industrial users make location decisions based, in part, upon the ability of a community to meet present and future needs in a cost-effective manner. As competition between communities grows and as technology advances, citizens and business owners expect more from their local government to keep pace with its societal advances and to continually upgrade its facilities and services.

Therefore, Township officials have worked continuously to capitalize on funding and economic opportunities to assist with the demands imposed on the infrastructure and services the Township has in place or desires for the future. Challenges include planning, financing, operating and maintaining all community assets and thus the critical need for a capital improvement plan which will offer a wide view of needs, goals and hopefully a blue print that will achieve continued community success.

DEFINITION: BUDGET VS. PLAN

The Capital Improvement Plan identifies major capital projects with cost estimates anticipated in capital over a six-year period. The program is intended to serve existing and anticipated development in the Township. Projects are listed on a priority basis and reflect the fiscal year in which they are proposed. The Plan also includes a financial analysis of various capital funds and discussion for providing the financial means for implementing planned projects. Note that typical of any community, some projects may remain unfunded.

The representations contained in this plan reflect input from the Township's administration. The actual budgets, however, for the designated years are determined annually by the Township Board in accordance with State law. The Board may add, delete, or otherwise change priorities as they deem necessary within the annual budget review and approval process.

Each year as a capital budget is implemented, the next five-year cycle is reevaluated and an additional year is added to comprise a six-year plan. Capital improvements in the fourth, fifth and sixth years are often projects desired but not yet ready for implementation.

CAPITAL IMPROVEMENT PLANNING – AN OVERVIEW

Capital improvement planning 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.
- **Establishing Goals and Objectives** – asking the questions: What do we want to accomplish? How can we get there? And, how do we pay for it?
- **Develop a Schedule** – look at a logical sequence, relating needs with financial resources.
- **Garner Support** – from appropriate local officials, other funding or cooperating agencies and, most importantly, the community.
- **Implement the Plan** – consider incorporating the first year of the capital plan into the next operating budget.
- **Review and Update** – each year review and update both the capital budget and six-year plan.

THE BENEFITS OF CAPITAL IMPROVEMENT PROGRAMMING

All communities need to develop a capital improvement program. With time, public facilities need major repair, replacement, or expansion. Maintaining and upgrading a community's capital stock requires significant financial investment. This investment must be weighed against other community needs and analyzed in light of community goals. Brighton Township, like many townships, is under pressure to make efficient use of capital resources and must make difficult choices. There are more needs than can be satisfied at once, and the selection of one investment over another may shape the development of the Township for years to come. The benefits of this systematic approach to planning capital projects include the following:

- Focuses attention on community goals, needs, and capacities.
- Optimizes use of the taxpayer's dollar.
- Encourages the most efficient government by requiring multi-year planning.
- Assists in maintaining a sound and stable community financial program.
- Enhances opportunities for participation in federal or state grant-in-aid programs.
- Calls attention to the unmet needs of the Township.

CIP CRITERIA

The CIP is a planning tool and not a promise of funding. Significant capital projects are identified with cost estimates and prioritized. Lesser capital expenditures for such things as copiers and personal computers, are anticipated in the Township's general fund.

The following criteria are used to include a capital project or expenditure within the CIP:

- The project must impact the Township-at-large or address a major need.
- The project represents a public facility.
- The project represents a physical improvement.
- The project requires the expenditure of at least \$20,000. Some CIP projects under \$20,000 may be included if they are part of a larger network or system.

From year to year, CIP projects are subject to change in response to community needs and available funding. Cost estimates for projects contained herein are based on current dollars.

ONGOING COSTS

Many capital improvements require ongoing operational and/or maintenance costs. When projects are implemented, it is assumed in the CIP that individual departments would include these costs in their operating budgets.

CAPITAL PROGRAM FUNDING

Government, like private industry, must generate adequate revenues to fund operations, capital improvements, and debt retirement. Revenues available to local government are taxes, fees, user charges, state and federal revenue sharing including grants, special assessments, and contributions from developers.

Capital improvements can be financed through existing budgetary appropriations (pay as you go) or debt financing. The two approaches are explained as follows.

Pay-as-you-go

Under this approach, capital projects are financed from monies dedicated specifically for capital improvements. Annual tax levies and fund balances can be used to implement capital projects or purchases. Funding may be derived from:

- Approved annual budgetary capital outlay.
- Dedicated millage approved by voters and earmarked for specific purposes such as roads, parks, drains, etc.
- Existing accumulated fund balances or funds reserved for capital improvements.

Debt Financing

The following debt financing instruments are available:

General Obligation Bonds (GO Bonds)

Perhaps the most flexible of all capital funding sources, GO bonds can be used for the design or construction of any capital project. These bonds are financed through property taxes. In financing through this method, the taxing power of the Township is pledged to pay interest and principal to retire the debt. Voter approval is required. To minimize the need for property tax increases, the Township can make every effort to coordinate new bond issues with the retirement of previous bonds. GO bonds are authorized by a variety of state statutes.

Capital Improvement Bonds

A relatively new bond available is the sale of so called “capital improvement bonds.” However, these bonds require funding from an existing source of money such as any authorized but not levied millage or a portion of any existing

millage or revenue stream that can be pledged for bond debt retirement. While these do not require voter approval, they are subject to referendum and most communities have few excess funds to utilize this tool.

Revenue Bonds (Rev Bonds)

Revenue bonds are sold for projects, such as water and sewer systems, that produce revenues. Revenue bonds depend on user charges and other project-related income to cover their costs. Unlike GO bonds, revenue bonds are not included in the Township's state-imposed debt limits. Revenue bonds are authorized by Public Act 94 of 1933, the Revenue Bond Act.

Special Assessment Districts(SADs) and Bonds

Payable from assessments on property deriving a special benefit from a public improvement: water and sewer lines, street paving, street lighting, etc. Length for street SAD's are usually 10 to 15 years, and water and sewer SAD's usually not over 25 years. Care must be given to assigning benefit, and formulas must be equitable, fair and substantiate true value. There are extensive Township Administrative Policies on Special Assessments and deferring payments over time.

Federal Funds (Grants)

The federal government makes funds available to communities through numerous grants and programs. The Township may be able to qualify for one of the many programs offered and if so may pursue a grant opportunity. The Township may also wish to pursue roadway improvements seeking 80% grants if the local 20% share was available and if supported by the Livingston County Road Commission.

County Contract Bonds

Under Act 185 of 1957, Act 342 of 1939, or Act 40 of 1965 Drain Code, this method of issuing bonds is similar to the Revenue Bond Act. A municipality may contract with the County for the repayment of bond debt issued by the County. The municipality pledges its limited tax credit to the repayment of the bonds in a contract. The County, in turn, pledges its limited tax full faith and credit to the *issuance of County bonds*. The advantage is that the County credit may be more acceptable to the potential purchasers of bonds. Also, ratings agencies may give the County a higher credit rather than the individual municipality due to a broader tax base. This advantage needs to be weighed against the potential for additional cost and time with the County's involvement. Again, various sources of revenues may be used for repayment from the Township to the County.

Developer Contributions

Sometimes capital improvements are required to serve new development. Where funding is not available for the Township to construct such improvements,

developers may agree to voluntarily contribute their share or to install the facilities themselves so the development can proceed.

SANITARY SEWER SYSTEM

Brighton Township owns and operates its own sanitary sewer system. Construction began in 2000 and consists of approximately 31 miles of sanitary sewers including low pressure service lines, force main and gravity sewers, ten pump stations and a 650,000 gallon per day wastewater treatment plant located at 5901 Pleasant Valley Road. The Township also owns and maintains all grinder pumps that service 90% of sanitary sewer customers. As of December 31, 2016, there are approximately 1,190 residential and 260 non-residential customers connected to the system, or approximately 20% of all Township households. The treatment plant was originally sized to serve up to 2,500 residential equivalent units (REU's) and the current customer load equates to 2,236 (REU's).

The original "Basis of Design" for the sanitary sewer system including the waste water plant, was prepared by the Township's consultant Tetra Tech, Inc. (TTMPS) prior to 2000, and was based on serving 2,500 REUs (residential equivalent units), for a predicted flow of 260 gallons per day per residence, resulting in the 650,000 gallon per day treatment plant capacity.

Revenues to support the annual financial obligations of the sanitary sewer system come from three primary sources. First, from the Special Assessment Districts enacted for the original sanitary system and the Spencer Road Extension. Second, from tap-in-fees paid by new users connecting to the system. Third, from a specific debt service charge component of the quarterly sewer bill paid by all who have paid for an REU. A fourth source of revenue could be the use of the Township general fund to supplement revenue for annual sewer bond debt payments.

The need to meet the long-term financial obligations of the Sanitary Sewer System Fund has been and is today the most challenging problem facing the Township.

In the year 2000, Brighton Township issued bonds in the amount of \$27,800,000 to finance the construction of the original sanitary sewer system. These bonds were financed in cooperation with Livingston County through Act 40 of the Public Acts of 1956, the Michigan Drain Code, Chapter 20, and included the initial sewer collection system and the Township's 650,000 gallon per day waste water treatment facility.

In 2005, the original bonds were refinanced with a new issue in the principal amount of \$17,900,000. This was done through Livingston County through limited tax general obligation drain refunding bonds. The 2005 series bond retired the original 2000 bond in

2009. To take advantage of favorable interest rates, in 2015 the Township Board requested that the Brighton Township Sanitary Sewer Drainage District proceed with issuing refunding bonds in the amount of \$7,900,000 which will be paid off in 2020. This action did not extend the bond payment obligation beyond the original 2020 payoff date.

Also in 2004, the Spencer Road Sewer Bond Issue was sold in the amount of \$760,000 through Livingston County using Act 40, Chapter 20 of the Michigan Drain Code.

The following illustrates the future debt payment schedule related to the series 2015 refunding bonds and total annual amortization requirements:

<u>Period Ending</u>	<u>Principal</u>	<u>Interest</u>	<u>Debt Service</u>
4/1/2016		\$ 136,933.33	\$ 136,933.33
10/1/2016	\$ 1,620,000.00	\$ 126,400.00	\$ 1,746,400.00
4/1/2017		\$ 94,000.00	\$ 94,000.00
10/1/2017	\$ 1,625,000.00	\$ 94,000.00	\$ 1,719,000.00
4/1/2018		\$ 77,500.00	\$ 77,500.00
10/1/2018	\$ 1,580,000.00	\$ 77,500.00	\$ 1,657,500.00
4/1/2019		\$ 45,900.00	\$ 45,900.00
10/1/2019	\$ 1,560,000.00	\$ 45,900.00	\$ 1,605,900.00
4/1/2020		\$ 30,300.00	\$ 30,300.00
10/1/2020	\$ 1,515,000.00	\$ 30,300.00	\$ 1,545,300.00
	<hr/>	<hr/>	<hr/>
	\$ 7,900,000.00	\$ 758,733.33	\$ 8,658,733.33

With annual operating costs running at about \$700,000 and user charges allocated to Operations and Maintenance (O & M), and related income running about the same, the obvious biggest challenge for the Township is to meet the required debt retirement obligations of \$1,883,333.33 in 2016 - 2017 with similar amounts in the ensuing next few years plus the repayment of the \$2,031,000 that was loaned from the General Fund.

The Township Board and Utilities Committee annually review the revenue from new REU purchases in relation to the bond payment schedule to ensure that the obligations will be met. Aside from the annual rate analysis, quarterly financial reports are provided by the Township auditor to ensure that financial fluctuations throughout the year are monitored. These quarterly reports, which track the number of REU and the quarterly user rates, are available on the Township website.

The conclusion to be drawn here is that to meet the annual sanitary sewer debt obligations for the bond repayment (2020) and General Fund repayment (2021) additional revenue must be derived from a combination of the following sources:

1. Debt Service Charges – The charges levied to a User and/or potential User who has purchased an REU, to pay principal, interest and administrative costs of retiring the debt incurred for construction of the System. The Debt Service Charge is a readiness to serve charge and shall be in addition to the User Charge, Sewer Connection Fee and Sewer Tap Fee. As seen on the Financial Analysis, the Debt Service Charge is projected to continue at the 2015 rate and collecting such charges on SAD vacant lots will continue.
2. Continuation of existing special assessments and the possibility of expanding special assessment district areas without incurring new Township indebtedness.
3. Collection of tap fees for new REU's within the sewer service area, although caution should be used in counting on any revenue or any substantial revenue from this source in light of the historic economic fluctuations.¹
4. Possible utilization of loan funds from the Township general fund.

Sanitary Sewer Capital Improvement Program

The foregoing discussion is important to capital planning for the future because as the sanitary sewer system ages, reserve funds should be accumulated for repairs, major maintenance, and replacement. This is especially important for the treatment plant, pump stations, and grinder pump replacement.

In August 2015 the Township Board adopted the “Brighton Township Wastewater System Asset Management Plan”. The purpose of the Asset Management Plan (AMP) is to provide a basis for determining needed annual capital reserves for asset replacement of Brighton Township Wastewater Treatment Plant (WWTP), sanitary sewage pump stations, and individual sanitary grinder pumps. The AMP also serves as a basis for the 10 year wastewater capital improvement plan.

The Township’s overall goal is to have adequate capital reserves to maintain the WWTP, sanitary sewage pump stations, and individual sanitary grinder pumps throughout the Township. An asset inventory for 219 WWTP and pump station assets, as well as 796 active grinder pumps, has been developed to help support this goal. The Ten Year CIP is labeled as Appendix H of the AMP. Years 1-5 are listed below:

¹ It should be noted that the Township regularly has developments in varying stages of application approval. Currently, two developments of significant size are pending: (1) Deerfield Preserve, a 100 REU development, has received preliminary site plan approval and (2) Encore Development, a 475 REU development has received conditional rezoning approval. However, tentative REU's for these and other pending projects will not be included into forecasts at this time.

YEARS 1-5 (Current – 2019)

<u>Asset #</u>	<u>Asset Name</u>	<u>Cost to Replace or Rehabilitate</u>
36	Return Activated Sludge (RAS)/ Pump 3 & Motor	\$17,500
38	WAS Plug Control Valve	\$18,000
216	Sludge Storage Tank Decant / Valves	\$40,000
34	Return Activated Sludge (RAS) / Pump 1 & Motor	\$20,000
102	Lift Station 3 Motor Controls Pump Station 3	\$15,000
123	Pump 1 Pump Station 6	\$9,000
29	Secondary Effluent Sample - Pump 1	\$2,500
24/35	Return Activated Sludge (RAS) - pump 2 and motor	\$22,500
185	Parshall Flume Indicator	\$8,000
26	RAS Flowmeter #1	\$5,500
27	RAS Flowmeter #2	\$5,500
28	WAS Flowmeter	\$5,500
32	Building Sump Pumps 1 and 2	\$35,000
49 / 50	Scum Pump and Motor	\$35,000
60	Oxidation Ditch #2 Rotor #3	\$80,000
61	Oxidation Ditch #2 Rotor #4	\$80,000
FIVE YEAR CIP TOTAL		\$399,000

For illustrative purposes, the Township would want to budget no less than \$80,000 per year to meet this five year CIP schedule. This figure does not include setting aside funds for anticipated grinder pump replacements. The asset replacement schedule is based upon numerous factors such as: a “projected year of failure”, the probability of failure based on percentage of remaining useful life, and the consequence of failure. Therefore, the replacement is not guaranteed to take place in a specific year unless the component fails or it has been budgeted for replacement. Either way, the purpose of the AMP and Capital Reserve Fund is to ensure that money is available to replace the system components when needed.²

Sewer System Capital Reserve

At the inception of the sewer system operation, it was recommended that approximately \$70,000 be transferred annually from operating revenues to a capital reserve fund to build up

² Appendix B of this CIP takes the 10 year AMP (CIP) and condenses it to show the assets listed on pages 13-15 in this document. Including Appendix B is to identify the impact of inflation on the 10 year CIP figures. Inflationary impact is also detailed in Table 4 of the AMP

monetary resources so that as the system aged and required major repairs, maintenance or replacement, that resources would be available for such needs.

Annual transfers will be made following the completion of annual audits and the amount transferred will be based upon maintaining an adequate cash reserve in the O & M Fund. As of December 2016, there was a balance of \$757,490 in the sewer capital reserve fund.

The Township may wish to consider renaming this reserve to better identify its purpose to something like "Sewer System Capital Repair and Replacement Reserve."

The current capital plan contains a recommendation to budget for the transfer of \$80,000 per year into the reserve fund. Grinder pump replacements/repairs necessitate budgeting an additional \$80,000 per year to address the pumps that are reaching the end of their useful life.

Per Appendix I of the Asset Management Plan, approximately 477 grinder pumps may need to be replaced within the next ten years. The AMP estimates that \$1,489,400 would be needed to cover grinder pump replacements in years 1-5. Currently, this obligation is not fully funded and will necessitate additional revenue. However, in addition to the \$757,490 in the sewer capital reserve fund the Township has assigned \$500,000 of General Fund reserve dollars as Sewer Capital Reserve Fund, in the event that an emergency loan necessitates the use of those funds toward the grinder pump solution.

It is important that the Township continuously build reserve fund savings. Wastewater treatment and facilities such as pumps, electrical panels, and HVAC equipment operate in a very corrosive environment and at about the 20 year life cycle, major parts replacement is usually required. This figure could easily exceed \$1,000,000. It is therefore important now, after 10 years of operation, that the Township follow the adopted asset management plan for the treatment plant and collection system.

Financial Considerations

For a continued analysis of the financial challenges of the sewer fund and its debt and future capital improvement financing, refer to Appendix A of this document.

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Brighton Township Asset Management Plan
Wastewater Treatment Plant and Pump Stations
10-YEAR CAPITAL IMPROVEMENTS PLAN

Based on the Asset Inventory Assessment, the following assets were determined to have a high Business Risk Factor and should be included in a 10-year Capital Improvement Plan. The Business Risk factor was calculated by using the current condition to predict a "Projected Year of Failure", the probability of failure based on percent remaining useful life, and the consequence of failure. A total of 219 assets were assessed and analyzed as a part of the development of this Capital Improvements Plan.

The assets to be included in the 10-year CIP are listed below from highest risk factor to lowest risk factor. It should be noted that this list does not include all assets with less than 10 years remaining useful life, only the ones with a "Business Risk Factor" higher than "7". A number of assets did not have "Business Risk Factors" above "7", and may be in need of replacement within the next 10 years. These assets have been listed in a "Watch List" also included in this appendix. Note that the asset's projected year to fail does not necessarily mean it must be replaced by that year. Actual year of replacement will be based on individual assessment of asset condition.

Note: The asset's Projected Year to Fail is only a projection and does not necessarily mean that it will occur in that year. The actual year of replacement will be based on actual asset condition and not the Projected Year to Fail. Brighton Township Board will approve any expenditures in the CIP.

YEARS 1-5 (Current – 2019)

Asset No.	Asset Name	Asset Location	Cost to Replace/			Notes
			Projected Year to Fail	Cost to Rehabilitate	Risk Factor	
25/36	Return Activated Sludge (RAS) Pump 3 & Motor	Filter Building – Pump Room	*2012	**\$17,500	15.0	Township is in the process of replacing pump and motor (2015)
38	WAS Plug Control Valve	Filter Building – Pump Room	*2012	\$18,000	15.0	Valve no longer functional
216	Sludge Storage Tank Decant Valves	Sludge Holding Tank	2015	\$40,000	15.0	8 total plug valves (Replacement - some valves are non-functional)
23/34	Return Activated Sludge (RAS) Pump 1 & Motor	Filter Building – Pump Room	2015	\$20,000	15.0	Replacement of pump and motor

**These assets are already in failed condition*

***Based on recent bid prices*

Asset No.	Asset Name	Asset Location	Projected Year to Fail	Cost to Replace/		Risk Factor	Notes
				Cost to Rehabilitate			
102	Lift Station 3 Motor Controls	Pump Station 3 – Old 23 South of Hilton	2015	\$15,000	15.0		
123	Pump 1	Pump Station 6	2015	\$9,000	10.0	Submersible Pump 1, bid out, awarded and scheduled for 2015 replacement	
29	Secondary Effluent Sample Pump 1	Filter Building – Pump Room	2015	\$2,500	10.0	Replacement	
24/35	Return Activated Sludge (RAS) Pump 2 & Motor	Filter Building – Pump Room	2017	\$22,500	12.7	Replacement	
185	Parshall Flume Indicator	Service Building - Garage	2018	\$8,000	7.8	Replacement of electronics	
26	RAS Flowmeter #1	Filter Building – Pump Room	2018	\$5,500	15.5		
27	RAS Flowmeter #2	Filter Building – Pump Room	2018	\$5,500	15.5		
28	WAS Flowmeter	Filter Building – Pump Room	2018	\$5,500	15.5		
32	Building Sump Pumps 1 and 2	Filter Building – Pump Room	2018	\$35,000	11.6	Replacement	
49/50	Scum Pump & Motor	Final Settling Tanks	2018	\$35,000	10.6	Replacement	
60	Oxidation Ditch #2 Rotor #3	Oxidation Ditches	2019	\$80,000	7.5	Replacement	
61	Oxidation Ditch #2 Rotor #4	Oxidation Ditches	2019	\$80,000	7.5	Replacement	
5-YEAR CIP TOTAL				\$399,000			

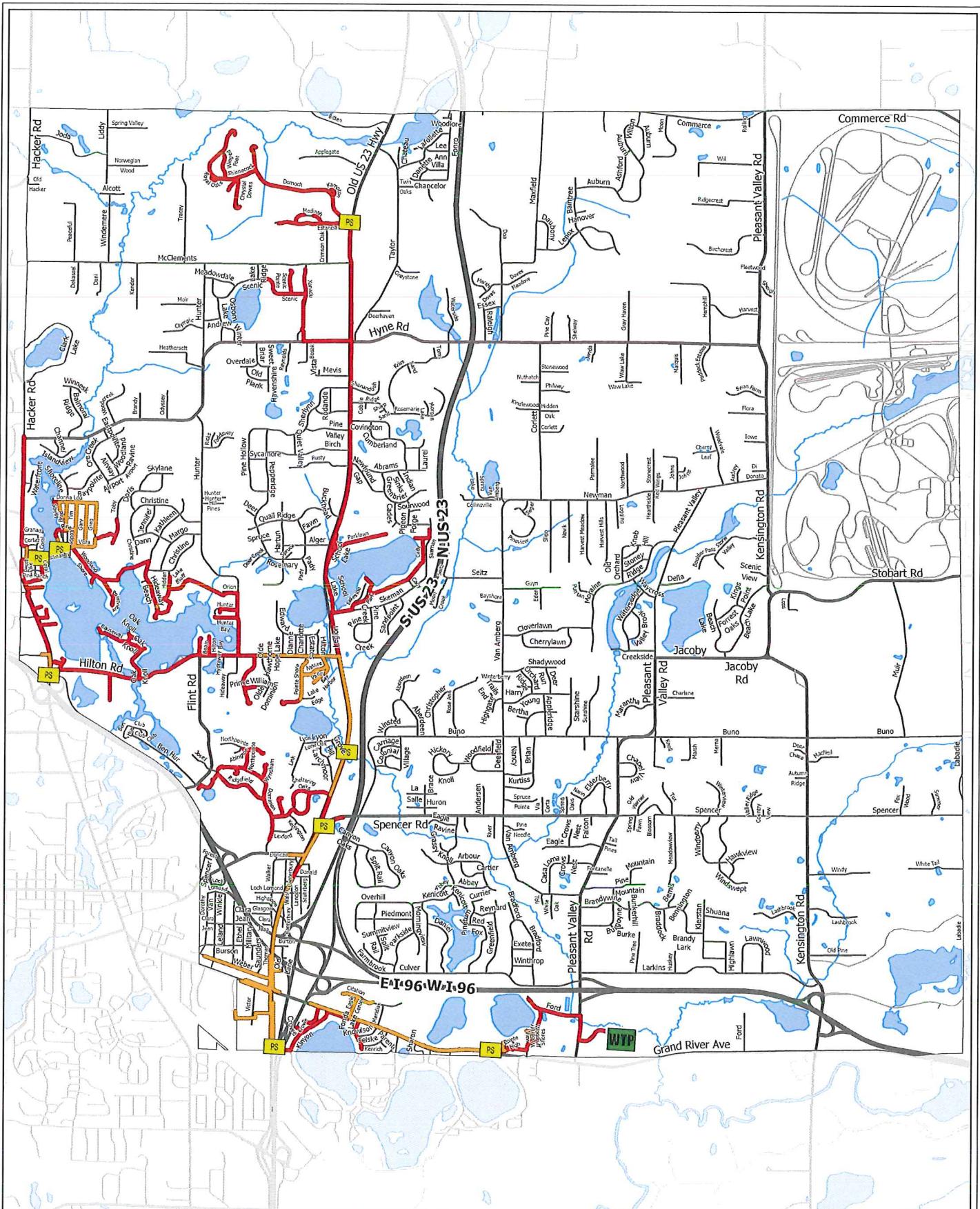
*These assets are already in failed condition

**Based on recent bid prices

Asset No.	Asset Name	Asset Location	Projected Year to Fail	Cost to Replace/		Risk Factor	Notes
				Cost to Rehabilitate			
102	Lift Station 3 Motor Controls	Pump Station 3 – Old 23 South of Hilton	2015	\$15,000		15.0	
123	Pump 1	Pump Station 6	2015	\$9,000	10.0		Submersible Pump 1, bid out, awarded and scheduled for 2015 replacement
29	Secondary Effluent Sample Pump 1	Filter Building – Pump Room	2015	\$2,500	10.0		Replacement
24/35	Return Activated Sludge (RAS) Pump 2 & Motor	Filter Building – Pump Room	2017	\$22,500	12.7		Replacement
185	Parshall Flume Indicator	Service Building - Garage	2018	\$8,000	7.8		Replacement of electronics
26	RAS Flowmeter #1	Filter Building – Pump Room	2018	\$5,500	15.5		
27	RAS Flowmeter #2	Filter Building – Pump Room	2018	\$5,500	15.5		
28	WAS Flowmeter	Filter Building – Pump Room	2018	\$5,500	15.5		
32	Building Sump Pumps 1 and 2	Filter Building – Pump Room	2018	\$35,000	11.6		Replacement
49/50	Scum Pump & Motor	Final Settling Tanks	2018	\$35,000	10.6		Replacement
60	Oxidation Ditch #2 Rotor #3	Oxidation Ditches	2019	\$80,000	7.5		Replacement
61	Oxidation Ditch #2 Rotor #4	Oxidation Ditches	2019	\$80,000	7.5		Replacement
5-YEAR CIP TOTAL				\$399,000			

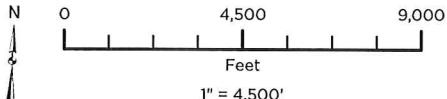
*These assets are already in failed condition

**Based on recent bid prices



- Gravity Line
- Force Main
- PS Pump Station
- WTP Treatment Plant

Sanitary Sewer System



Source: Data provided by Brighton Township and the State of Michigan. OHM Advisors does not warrant the accuracy of the data and/or the map. This document is intended to depict the approximate spatial location of the mapped features within the Community and all use is strictly at the user's own risk.

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Int'l

Map Published: October 24, 2017

WATER SUPPLY SYSTEM

The predominant drinking water supply in Brighton Township is provided by individual private well systems. Some of the older and more densely developed subdivisions are provided with water via community wells. These areas include Harvest Hills, Greenfield Pointe, and Osborn, Fonda, Island, and Briggs Lakes. More specifically, the Fonda, Island, and Briggs Lakes systems are incorporated as one water authority, known as the Fonda, Island and Briggs Lake Joint Water Authority (FIB). In addition, the Township is a member of, the Livingston Community Water Authority (LCWA) and a portion of the Township is served by the City of Brighton.

In 2002, Township officials made a decision to make available a public water supply to more densely developed areas of the Township. This involved purchasing capacity and participating in the LCWA, which member communities include Brighton Township, Green Oak and Hamburg Townships (the City of Brighton was also included at that time). The current service area includes developed areas east and north of the city of Brighton, in the area of Grand River Avenue along Old US-23. Today there are over 255 commercial and residential properties accounting for approximately 400 water service REU's purchased through LCWA. Originally, the Township purchased a filtration capacity from LCWA of 400 REU's. In 2015, LCWA conducted a Water Reliability Study and General Plan which focused on planning items including population and water demand for three separate planning periods (existing, 5 year, and 20 year). In April of 2015, it was the consensus of the Brighton Township Board that future demand for LCWA water in Brighton Township should be based upon the following projection: 150 REU's within years 1-5 and another 250 REU's in years 6-20. In November of 2015, the Brighton Township Board authorized the purchase of filtration capacity for 135 additional REU's which brings the total Brighton Township allotment to 535. Plans for future expansion of this system are outlined in a later section of this document.

In 2008, water service was further extended into the Township. Sparked by a private land redevelopment project, municipal water was constructed from the City of Brighton system to the area of Conference Center Drive, West Grand River, and Hilton Roads.

History of Significant Events

Prior to 2002, an area of the Township, a subdivision called “Country Club Annex,” served by a private well, began to have issues with their pumps and well system. As a result, the Township began municipal water supply service to this area which was 100% built through a special assessment district. Water supply service was purchased from the City of Brighton, through an August 28, 2002 contract and provided the capacity for 280 REU's. The Township retained the ability to purchase up to 310 REU's, conditional upon the City's ability to provide enough capacity.

In 2003, the Township sold a bond for \$1,620,000 to finance the initial building of the LCWA infrastructure. The first “call” date on this bond issue was May 1, 2013, and in 2014, the township budgeted funds via the General Fund to retire the entire bond debt.

In 2004, excess land on Challis Road in Genoa Township was sold by the Township which was originally acquired as a future well site for a Township water system. The property was considered “excess” when the Township became part of LCWA and proceeds from the land sale were \$1,008,608. One of the conditions of participating in the original bond involved Township Board resolution 04-01 which passed February 3, 2004 and called for reimbursement to the general fund for engineering and other preliminary expenses associated with the original bond issue. It was assumed in 2004 that there would be a future bond issue to extend the LCWA system into Brighton Township and if sold, the Board resolution would increase the amount of a new bond issue by \$106,318 to reimburse the general fund for those preliminary expenses used to initiate participation with LCWA. To date no such bond has been sold.

In 2005, the Township completed a Water System Master Plan for the extension of the LCWA system into Brighton Township. The plan provides four phases of water system expansion that address public concerns, accommodate the Township's needs, and manage growth within the Township. The first phase of this Plan identifies a water service area within the southwestern portion of the Township along Old US 23 to Spencer Road. When constructed, the transmission system would consist of 20-inch water mains, 8-inch distribution mains, and a booster station. For this phase, a booster station is required to meet fire demands and maximum day flows to the water service area.

The second Phase of water system expansion would extend from Phase I along E. Grand River to Kensington Road to the east and along Old 23 to McClements Road to the north. The second phase improvements would consist of transmission system water mains that vary in size from 12-inches to 20-inches in diameter, a 1-million gallon elevated storage tank, and upgrades to the booster station installed in Phase I. As future phases are planned for service, these should be reviewed with LCWA.

In 2006 a 20-inch waterline was built along Old US-23 from the southern Township border to Grand River Avenue to serve seven properties (approx. 72 REU's). This line was paid for by the State of Michigan who allegedly polluted good water wells in this area through outdoor storage of salt and other materials. This was the first extension of LCWA water main into the Township. Also as part of this project, the Township paid for an additional extension of the 20-inch water main north across Grand River Ave to Weber Dr., so that the Country Club Annex subdivision could be connected to the LCWA system, and those REU's removed from the capacity contracted through the City of Brighton. This entire southern service area of the Township is serviced by LCWA, with LCWA having complete responsibility for all billing and operations. However, the Township has the ultimate responsibility for planning and financing of any extensions of the water supply service area i.e. through SADs, developer contributions, or bonding. In 2015, Brighton Township property owners accounted for 404 REU's (Residential Equivalent Units) serviced by the LCWA system.

Implementation of Phase 1 began in 2014 as part of a Water Development Agreement executed between Lake Trust Credit Union and the Township. This water service extension project (5,400 feet along Old US 23 from Old Lane to the east leg of Spencer Road) extended the Old US 23 water main. The project was designed to accommodate demand for the near future but would accommodate future phase expansions. The new main consisted of 1,600 feet of 16 inch and 3,800 feet of 12 inch ductile iron pipe and a new booster station. The system became operational in the spring of 2015. The project cost approximately \$1.9 million to design and construct.

As stated previously, in 2002 the Township had purchased 280 REUs of capacity from the City for the Country Club Annex (CCA). The actual transfer of CCA to LCWA took place in late 2007 and as part of this transfer, the Township and City agreed to modify their water service contract to "relocate" the use of the capacity to the area of West Grand River and Hilton Road. The amendment to the Contract is dated September 18, 2008. That same year, the Township built an extension of the water supply system from the City of Brighton water tower east along Conference Center Drive to Grand River Avenue, south along Grand River to Hilton Road, and east along Hilton Road for a few hundred feet at a cost of \$311,000. For this project, the Township received a U.S. EPA grant of \$171,000 with the remainder of the costs paid for by private developers and the Township. To date there are 4 customers connected to the system, which accounts for 40 REU's. There exists the potential of serving at least 280 REU's, a likely combination of commercial and residential customers.

In another action, in order for the Township to participate in the LCWA construction of a water treatment facility, the Township Board adopted resolution 07-028 on August 20, 2007, to advance \$128,000 to LCWA. To date, two payments have been made to pay back the Township general fund and the current balance owed is \$46,030.

Capital Improvement Program

In 2015, the LCWA member communities approved fulfilling the phase 1 components of the LCWA Master Operating Agreement (MOA). This included construction of filters (7 & 8) and settling the financial obligations (e.g. filters 5 & 6, historic balance due from the original construction, and partial booster station payment) by each member community. Each member community settled the financial obligation for Phase 1 as of April 30, 2017. One component of this phase 1 obligation that will remain open until such time as user demand dictates is the “build-out” of the booster station to the MOA level. Cost sharing for the booster station buildout between the LCWA member communities is detailed in the MOA.

Looking ahead to the more immediate future, there are no Township initiated capital projects anticipated at this time. However, the Township remains open to developer inquiries and potential system expansions. Future expansion/capital projects will be entertained on a case by case basis in relation to the Water System Master Plan.

Financial Considerations

With the approval of the 2009 – 2010 annual fiscal year budget resolution, unused contingent liability reserve funds for the Collett Dump settlement were reserved in the general fund with \$1,500,000 set aside for Water System Debt Retirement.

Using \$1,300,000 of the Collett Dump unused funds plus existing fund balance, the Township made bond payments for 2010, 2011, 2012 and 2013 and “call” the water system bonds and pay off the remainder of the debt obligation. As a final note, for more immediate financial planning, Township officials should not lose track of the two prior general fund advances (loans) to assist in the water system development. These must be paid back with interest at some future point and they are:

February 3, 2004	Resolution 04-01	\$106,318 Balance Due
August 20, 2007	Resolution 07-028	\$105,000 Balance Due

Future Expansion

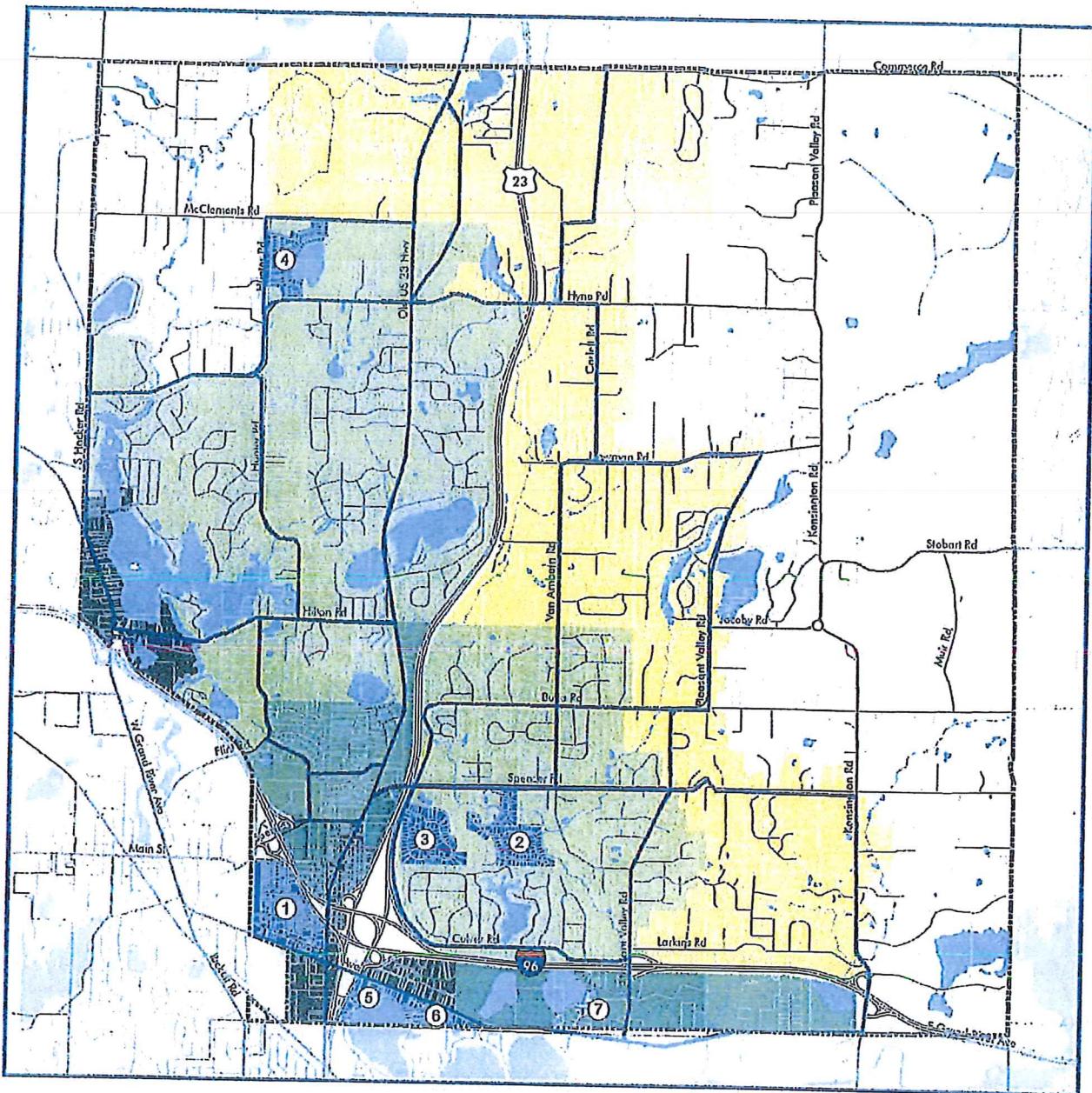
A final consideration could involve the extension of the water system to gain new customers. The Township does have in place a connection fee of \$5,700 per REU. In theory, if the system were extended and new connections were made to the system, new revenue would be generated. This scenario only works if a land developer were to front the capital to extend the system. Care must be exercised here as given the long-term economic uncertainty; the Township should not incur new debt. Development, whether residential or commercial, is too risky as the Township already witnessed in the Great Recession (e.g. with home

foreclosures, business failures, delinquent payments from taxes and special assessments, and failed development agreements).

If future expansion were to occur, it should be in accordance with the Township's 2005 Water System Master Plan, which identifies a phased expansion of the water system. The "Water Service Areas" map excerpted from the Township Master Plan indicates water service districts identified as Immediate, Phase 1, and others. The Immediate District is not yet entirely served with municipal water, and should be provided water prior to proceeding to Phase 1, and so on. While a significant portion of water main along Grand River, west of Hilton Road is not served with water, water main through that corridor is designed, and can be constructed on relatively short notice if demand arises.

It should be noted that on January 1, 2020, the FIB Authority will expire unless extended by Resolution of the legislative bodies of the Townships the system is located in, Brighton and Green Oak. Although physical connections have been put in place to accommodate the integration of the FIB system into the LCWA system, discussions about the expiration of the authority have not yet taken place between the two respective Townships. The area served by the FIB authority is depicted on the attached "Water Service Areas" map excerpted from the Township Master Plan.

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Map Five

Water Service Areas

Brighton Township Master Plan

Availability of Water Service

Existing Water Service

Immediate District

1. Country Club Annex

2. Greenfield Pointe

3. Harvest Hills

4. Osborn Lake

5. Fonda Lake

6. Island Lake

7. Briggs Lake

Phase I

Phase II

Phase III

Phase IV

Water Main

January 2008

Data Sources: MCGI,
Brighton Township

0 0.5 1 2
Miles

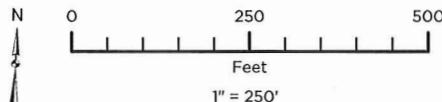




Existing Water Main

Township Tax Parcel

Water Service Area Brighton City-Supplied

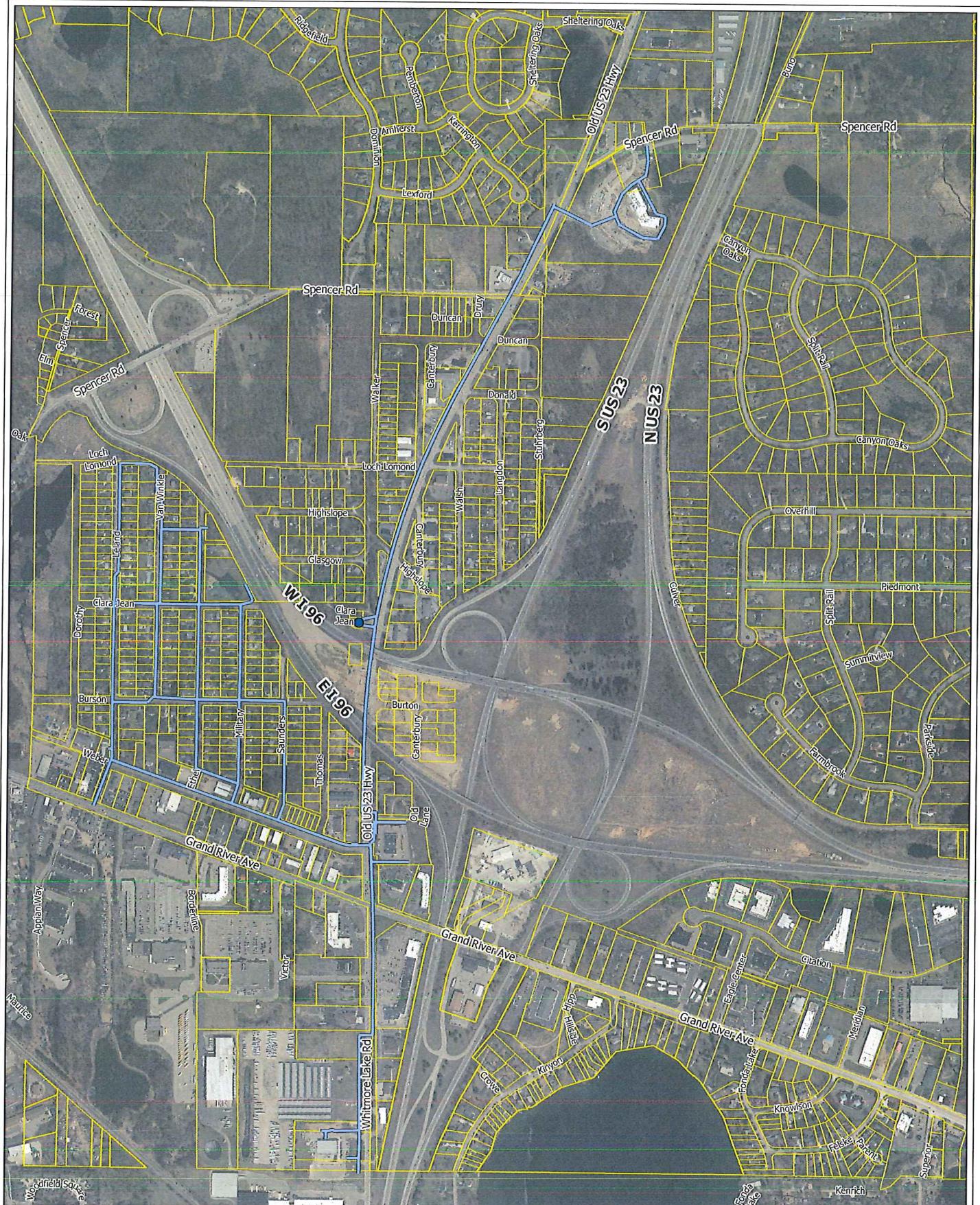


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Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Int'l

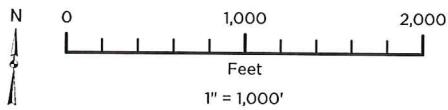
Map Published: October 23, 2017





- Existing Water Main
- Booster Station
- Township Tax Parcel

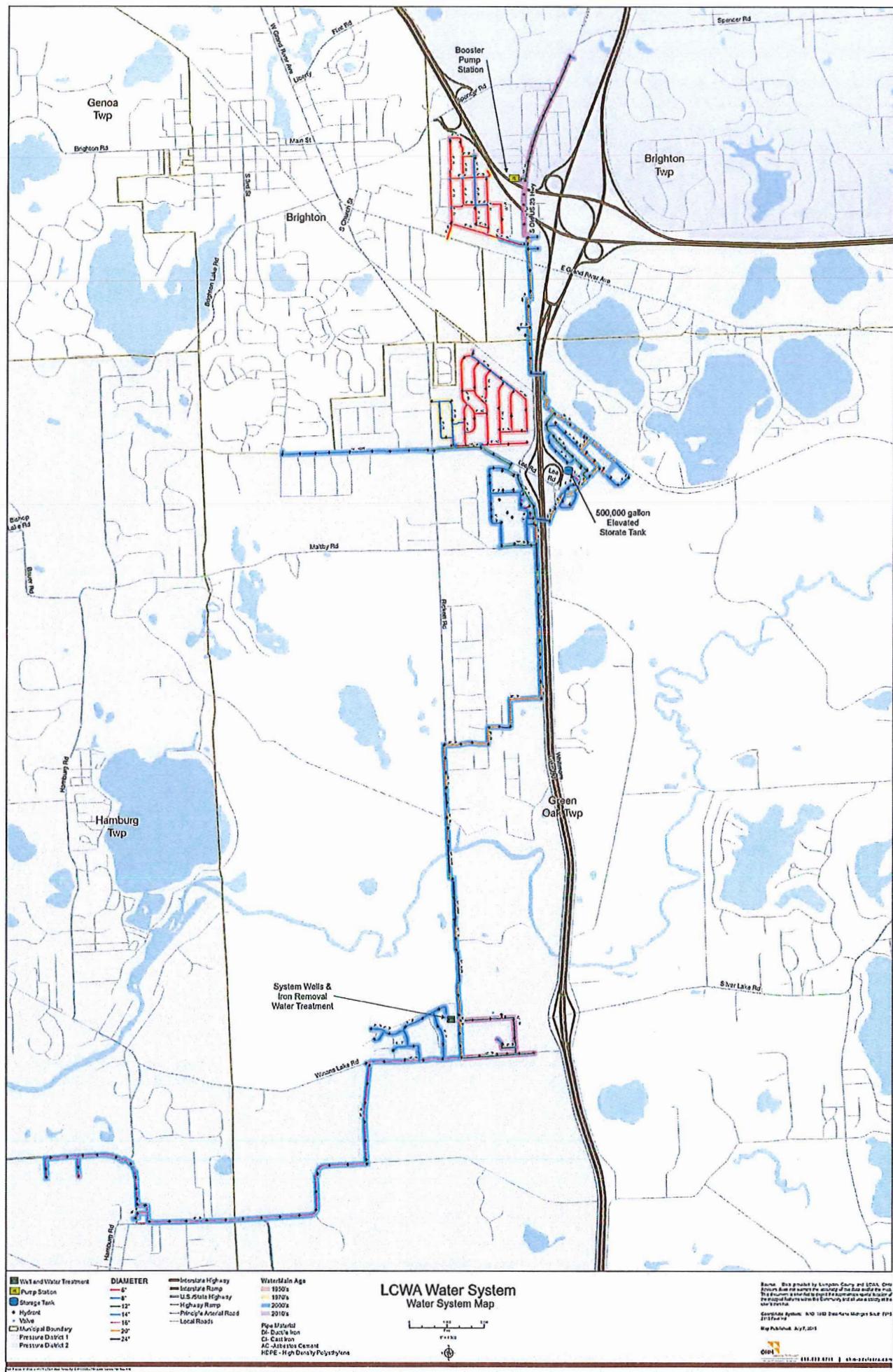
Water Service Area LCWA-Supplied

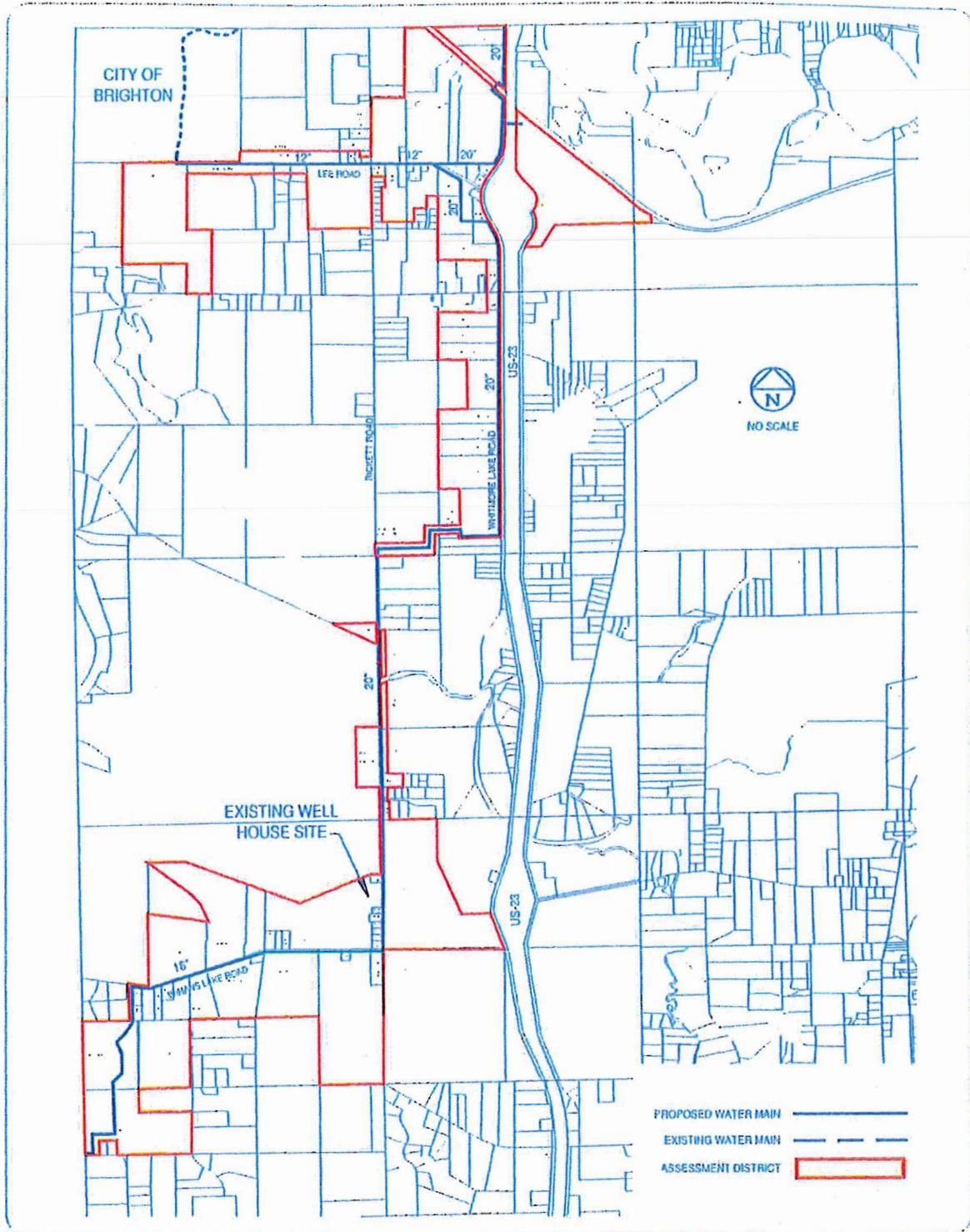


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Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Int'l

Map Published: October 24, 2017





LIVINGSTON COMMUNITY JOINT WATER AUTHORITY
PRELIMINARY ASSESSMENT DISTRICT
PHASE 1 WATER IMPROVEMENTS

BRIGHTON, GREEN OAK, AND HAMBURG TOWNSHIPS

DECEMBER 2002



ROADS

By state law, all public roads in townships are under the jurisdiction and ownership of county road commissions. Therefore, Brighton Township must look to the Livingston County Road Commission (LCRC) for all road maintenance and improvements. As many townships like Brighton have grown in population changing from very rural to more suburban, so have the demands on road maintenance and the need for surface paving improvements. At the same time, largely because of state mandated limits on revenues and finance formulas, financial resources available to county road agencies have been severely restricted and in fact today, LCRC, like all of Michigan's county road commissions, is under great financial duress with actual revenues stagnant and operating costs increasing. This is not a new phenomenon and is a situation that has placed more and more burden on local communities if road improvements are to be undertaken.

The primary source of money for road maintenance and new road construction has traditionally been funds received from the Michigan gas tax and vehicle registration fees, through Act 51 of 1951. For LCRC and all other Michigan county road agencies, this source of funding alone has proved woefully inadequate just for proper maintenance, let alone major reconstruction. In fact, from 2000 to 2007 Act 51 receipts grew by only 1% per year, far from annual cost increases for equipment, asphalt, concrete, and manpower wages and benefits. Beginning in 2007, and again in 2008, Act 51 monies have together dropped as much as 10%. This decline in revenue poses a real challenge to capital planning for roads for all units of local government in Livingston County and all of Michigan.

For years, Brighton Township officials have recognized that in order to advance desired local road improvements that local community financial contributions would improve opportunities for LCRC to actually move projects forward. Local contributions can take the form of special assessment districts, developer contributions, and Township contributions from the general fund, or in the future, a dedicated road millage could be a possibility if approved by voters.

Currently, the Township has no bonded indebtedness for any road projects. Historically funds have been saved for projects and implemented only after sufficient funds to pay for the Township's share of a project have been available. With the exception of FY 2014-15, during which the General Fund transferred \$350,000, prior years have seen a transfer of \$250,000 into the Roads Fund. It should be noted that road improvement projects where Township general fund dollars have been used in the past involve improvements to both county primary roads and secondary or subdivision roads.

The ability to allocate general fund money to the Road Fund has allowed the Township to contribute toward Livingston County Road Commission road projects over the past few years. That involvement included:

- Hunter Road (Hilton to Hyne) in 2014
- Van Amberg Road (Spencer to Newman) in 2014
- Spencer Road (Buno to Van Amberg) in 2014
- Hilton Road in 2014 and 2015
- Spencer Road (Van Amberg to Pleasant Valley) in 2015
- Hyne Road (Kensington Road to Old US 23) in 2015
- Pleasant Valley (Culver to Spencer) in 2015
- Kensington Road (Buno to Roundabout) in 2016

In 2007, the Township Board studied roads and developed criteria for prioritizing when a road segment would become a candidate for heavy maintenance, paving, or rehabilitation based on average daily traffic (ADT) and the Livingston County Road Commission's (LCRC) PASER rating scale. Since 2014, the Township Board will consider a road for rehabilitation based on a smaller ADT and PASER Surface rating as described in the table below.

- ▼ A gravel road segment shall become a candidate for rehabilitation (maintenance) when it experiences a traffic count of 450 ADT (average daily traffic) or more, and shall become a candidate for paving when it experiences a traffic count of 1000 ADT or more. The roads with the highest traffic count in each candidate category should be prioritized highest. A paved road shall become a candidate for rehabilitation when it experiences a surface rating equal to or less than 3 on the PASER¹ rating scale. The roads with the lowest surface rating and highest traffic count should be prioritized highest. Traffic count on these segments will largely determine the recommended rehabilitation strategy.
- ▼ The following chart summarized these criteria

Surface Type	Average Daily Traffic Count*	PASER Surface Rating	Candidate for:
Gravel	450-999	-	Gravel Maintenance
Gravel	1000+	-	Paving
Paved	-	Less than 4	Pavement Rehabilitation**
Paved	-	4 or greater	NA

* Highest average daily traffic counts on county local road for segment indicated.

** Exact rehab strategy will be based on traffic count

Capital Improvement Program

1. The Township has had the foresight in the past to establish and annually budget money into a road fund for future needed improvements and this practice should be continued. In FY 2009 – 2010, \$250,000 was budgeted to be placed into the Road Fund. The capital plan displays continuation of this practice. The annual contribution should range from \$150,000- \$250,000 given other budget demands.

Every two years, the Livingston County Road Commission prepares a PASER report for all of the County Primary Roads in Brighton Township. The most recent analysis was done in 2016. This report provides a rating for road surface conditions on a ten point scale from 1 (failed) to 10 (excellent). Sections of roads receiving a rating of 1 (failed) 2 (very poor) or 3 (poor) are listed below:

<u>Road Segment</u>	<u>Cross Streets</u>	<u>Length in Miles</u>	<u>Rating</u>
Jacoby - Kensington- Stobart*		2.5	2/3
Hyne*	Hacker Road to Old US 23	2.5	2/3
Spencer Road**	I-96 to Old US 23	0.4	2
Old US 23*	South from Hilton	1.5	3
Spencer Road**	Old US 23 to US 23 bridge	0.1	3
Hacker***	Grand River to Clark Lake	1.1	3

*Brighton Township has budgeted funds in the FY17-18 budget for these projects.

** LCRC project targeted for 2017.

***Pavement Preservation Project in 2017 in conjunction with LCRC, Brighton Township, and Genoa Township.

Each year during the budget work session, the Township Board, in conjunction with the Livingston County Road Commission, work towards setting the road projects for the upcoming construction season based upon available funds, contract pricing, and other infrastructure projects throughout the Township. The Capital Improvement Plan recommends continuing with an annual transfer of \$250,000 into the Road Fund.

MDOT I-96 / US-23 Interchange Improvement

In 2015, the Michigan Department of Transportation (MDOT) began work on the long anticipated I-96/US-23 interchange improvement project. This major construction project directly impacts Old US 23, one of the Township's most important transportation corridors. This MDOT project was planned to accommodate the construction of improvements along Old US 23 once the MDOT project was completed.

The plan is to widen Old US 23 from Grand River north to five lanes to connect to the existing five lane cross section south of the western leg of Spencer Road. The project would narrow to four lanes under the I-96 bridges and include a sidewalk on the west side of Old US 23.

It is anticipated that the project will be eligible for federal highway grant funding with local cost sharing. Due to the deteriorated roads throughout the county, the limited federal dollars available for all projects, and the recent influx of local communities offering matching dollars from locally approved road millages, these federal dollars are very competitive. The Township Board has assigned \$3,200,000 in budget resolution 16-003 in Fund 792 toward project cost sharing. The County Federal Aid Committee has selected this project for Federal Funding in the Transportation Improvement Program (TIP) in program year 2020.

Pleasant Valley Road Culvert

In May of 2014, the Livingston County Road Commission closed Pleasant Valley Road between Della and Moraine Drive due to structural concerns with the 11 foot culvert where the creek flows into Lake Moraine. New design standards required by MDEQ have pushed the cost of rebuilding this culvert to approximately \$475,000. LCRC has informed the Township that funds have not been available to put toward this project, in part, due to the low traffic count (approximately 400 per day). At the April 3, 2017, Township Board Work Session with the LCRC, the LCRC Director informed the Township Board that potential funding of approximately 50% may become available but would necessitate the Township to participate with a matching 50%.

Financial Considerations

Today, Brighton Township has a population in the range of just under 18,000 persons (2010 census). While traffic congestion does not appear to be a big issue, many of the Township's improved road surfaces appear to be aging. Good roads affect a community's quality of life, and specifically, safety, motorized and non-motorized safety, property values, the attractiveness of a community, and convenience. Consider the fact that as far as population is concerned, Brighton Township has the same population as Auburn Hills or Birmingham, twice the population of Albion or Howell, and almost three times the population of the City of Brighton. The city of Farmington stands at 10,372 persons (2010 census) and the City of Fenton stands at 11,756 persons (2010 census) and the point here is that roads in a community the size of the Township, are a big deal and can be an asset or detraction, depending on their condition. Given the economic condition of Michigan's road agencies and stagnant revenues facing road commissions, many local communities, cities, villages, and

townships are successfully seeking separately authorized millages to have funds available for construction and re-construction of roads, both local streets and primary collector roads. The evidence is clear that roads throughout southeast Michigan are in poor condition and the prospect for the future, unless something changes, are dire. The point here is that someday this may be an issue if the Township is to preserve the attractiveness and quality of life residents have come to expect.

Yet another concept is to place a bond issue before the voters for certain specific road improvements. If a bond is approved, the Township may levy whatever millage is required to meet the annual debt principal and interest payments. The problem generally with this approach is it usually involves a road or two which may only generate support from voters who use such road or roads. On the other hand, if several major roads appealing to a large segment of voters were proposed in a bond issue, this might garner wide spread community support. The advantage of a bond over a millage is that with a bond issue, road improvement projects can be undertaken within a two to three year time frame. With a millage, funds must be saved up over time and projects will take a longer time frame.

* Proposes continuation of \$150,000- 250,000 General Fund contribution.



2017 Projects
Past Projects

Road Projects 2014 - 2017

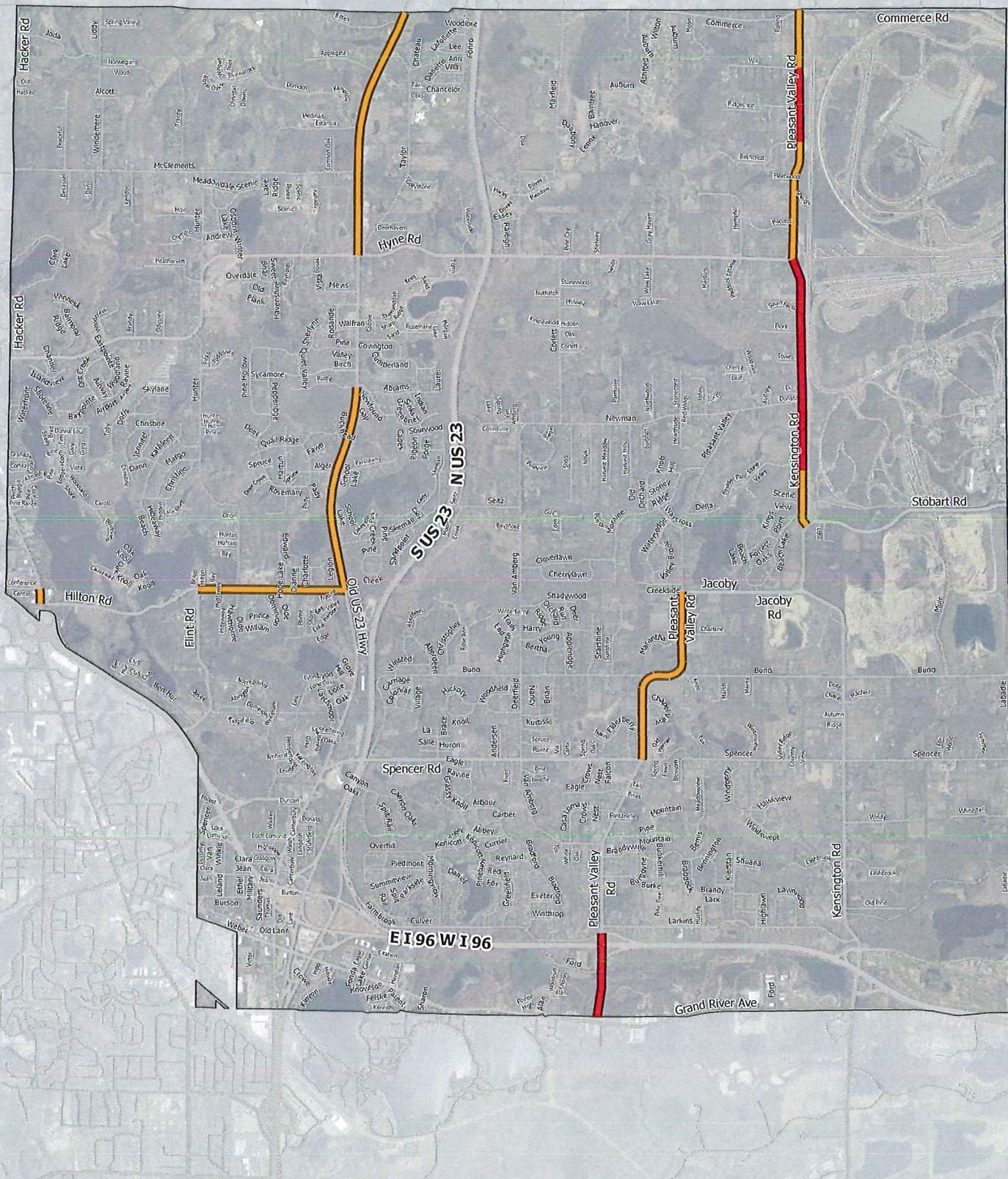
N 0 4,500 9,000
Feet
1" = 4,500'

Source: Data provided by Brighton Township, SEMCOG, and the State of Michigan. OHM Advisors does not warrant the accuracy of the data and/or the map. This document is intended to depict the approximate spatial location of the mapped features within the Community and all use is strictly at the user's own risk.

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Map Published: October 26, 2017

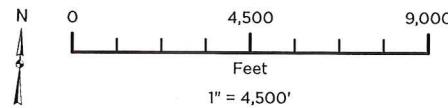
OHM



PASER Rating 2

PASER Rating 3

Primary County Roads in Poor Condition (2017)



Source: Data provided by Brighton Township, SEMCOG, and the State of Michigan. OHM Advisors does not warrant the accuracy of the data and/or the map. This document is intended to depict the approximate spatial location of the mapped features within the Community and all use is strictly at the user's own risk.

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Int

Map Published: October 11, 2017

PUBLIC FACILITIES AND BUILDING AUTHORITY

The Township's community facilities and resources must be maintained and allowed to evolve and expand in harmony with development of the Township and change as the population and their needs change. Adequate modern building and working space is required to both maintain the Township's existing services and accommodate changes in service levels as may be reflected with new technology or the way Township business is done. This portion of the CIP addresses the buildings owned by the Township including Township Hall on Buno Road and fire stations located at Weber Road and at Old US-23 at Hyne.

Over the last decade, society has witnessed numerous changes in the needs of public facilities such as wiring and space for new data technology, energy and green technology and improvements, outfitting for ADA compliance for the disadvantaged, improved access, improved safety considerations, and changes in the way public business is conducted.

The Building Authority Fund is the fund that was used to finance the Township Hall and Fire Department buildings. All payments come from the Township's General Fund.

Public Act 31 of 1948 authorizes townships to establish a building authority, which is a separate public entity with a three member board. Building authorities are used as an instrument to finance public buildings such as town halls, fire stations, courts, public works garages, etc., where sufficient funds exist that can be pledged to retire bonded debt to take on larger building projects. These bonds do not require a vote of the electorate since an existing revenue stream is being pledged to retire new debt. Under this arrangement, the building authority issues bonds to finance a building, or major improvements to a building, which is then owned by the Authority, and rented to the Township. Rent paid is used to retire the debt and once paid off, the building is transferred to the Township.

In 1999, the Township Hall was expanded. At the same time, the Fire Station at Hyne and Old US-23 was torn down and the new Station built (# 32). Financing of these two structures was done after selling a Building Authority Bond whose principal sum was \$3,160,000.00.

The balance on the bond issue was paid off in April 2010. As of December 2015, the Township has no Building Authority debt.

Public Facility Capital Improvement Program

There are no public facility capital improvements planned during the six year timeframe of this CIP.

Capital Improvement Estimates for Future Projects

Description	Estimate
New Paint for Township Hall	\$25,000
Carpet Replacement	\$35,000
Concrete replacement & expansion for Twp. Hall dumpster	\$6,000
Twp. Hall & MSP parking lot sealcoating & striping	\$8,000
Election Equipment - Replacement	\$100,000
HVAC replacements for Township Hall	\$63,000
HVAC replacements for Station 32	\$22,500
Township Hall front parking lot resurfacing	\$60,000
Kensington Cemetery fence - Black Chain Link Fence	\$15,000
Kensington Cemetery fence - Ultra Comm. UAS 100 Fence	\$25,000
Twp. Hall & MSP parking lot resurfacing (upper shared lot)	\$60,000
Township Hall roof	\$40,000
Township Vehicle (each)	\$25,000

CEMETERIES, PARKS AND PATHWAYS

CEMETERIES

Brighton Township is responsible for maintenance and operation of three cemeteries that all have their origins dating back to the 1800's. The cemeteries are as follows:

The Bird Cemetery is in Section 14 on the south side of Pleasant Valley Road just west of Kensington Road.

Pleasant Valley Cemetery is in Section 22 and is located on Pleasant Valley Road between Waycross and Jacoby Roads.

Kensington Baptist Cemetery is in Section 35 on the west side of Kensington Road north of East Grand River.

There currently is no indebtedness in the Cemetery Fund. There is however a continuing need for maintenance and occasional repair. In 2007 – 2008, the Township set up a Perpetual Care Fund with an expected annual allocation of \$10,000. The thought is that someday the fund will generate sufficient interest to provide for annual maintenance and care.

Capital Improvement Program

There are no capital improvements planned at this time to any of the cemeteries.

Financial Considerations

The cemeteries do not present fiscal issues for the Township at this time.

* Proposes continuation of \$10,000 General Fund contribution.

PARKS

Currently, there are no developed Township-owned parks or recreation facilities in the community. Township residents rely on County or State parks, schools, privately owned facilities, or Township lakes and streams for recreation.

The only Township-owned parkland is “Sunset Park,” located along Kensington Road just south of Jacoby Road, which was established through a public/private development agreement between Brighton Township and Sunset Sand and Gravel and its assignee, Eclipse Excavating, LLC. This 61 acre site was acquired as part of a consent agreement and the land is designated to only be used as a park in the future. A site plan was developed in 2004 in anticipation of future development and at that time proposed both active and passive recreation areas, picnic areas, a fishing dock, wading beach, tot lot, jogging path, fitness course, sledding hill, cross country skiing areas, and an active recreation area with tennis courts and fields for sports like soccer, lacrosse, and rugby.

The Joint Planned Unit Development Agreement (Agreement) with Sunset Sand and Gravel was assumed by Clearwater Development as a result of acquisition of the property. As of December 2015, the Township and Clearwater are in arbitration towards the resolution of the Joint Planned Unit Development Agreement as the Township is seeking Clearwater to abide by the terms of that Agreement. Access to the site, preliminary site grading, and infrastructure installation by the owner of the Sunset/Clearwater property must be completed prior to the Township investing any resources in the future park. The original intent was to develop and open the park to the public once mining operations were completed. However, given the pending arbitration, any plans for park development are on hold until the lawsuit is resolved.

The Township’s plans for Phase I of the park which were included in the DNR Trust Fund grant requests, included walking paths, a fishing deck, picnic area at waters edge, three (3) 180 ft. by 270 ft. multi-purpose athletic fields, construction of a 2,300 sq. ft. building to include concession, restrooms, and storage, and service to the building which includes septic, well, electrical system and site restoration (seeding) for an estimated cost of \$650,000 (2008 figure).

A second series of Phase I improvements includes the construction of an entry road off of Jacoby Road, a 175 space athletic field parking lot, park sign, asphalt and woodchip paths, storm drainage, and site restoration with three inches (3") of top soil depth over the entire area for an estimated cost of \$760,000 (2008 figure).

Some years ago a Parks Fund was set up with revenues going into the Fund from a \$75,000 payment from Sunset Sand and Gravel, Inc. and from the Township’s general fund through annual budgetary appropriations. As of March 31, 2015, the fund had a balance of

\$877,477.31. The 2016-2017 appropriation added \$50,000 to that sum for a current estimated fund balance of \$930,200, to which interest earning should be added. Continuing to add to this fund on an annual basis may be prudent depending on the fiscal priorities of the Township as a whole.

It should be noted that under the Joint Planned Development Agreement between Sunset Sand and Gravel Inc. and the Township, Clearwater Development, who assumed the Agreement, shall install on-site well and sewage disposal systems for the park up to \$30,000, bring electrical service to the site up to \$10,000, rough grade athletic field areas, construct access roads and parking areas, pay for improvements at the Jacoby and Kensington Road intersection, pay for and install an entrance sign, and seed and mulch perimeter slopes. There are more details in the Agreement and at such time as park development becomes a reality, it is recommended that Township officials review the Agreement to insure proper enforcement of all the terms and obligations contained therein.

The Township is a member of the Southeast Livingston County Recreation Authority (SELCRA) and has twice applied for grant assistance to develop Sunset Park through the Michigan Natural Resources Trust Fund. It is the Township's intent to continue to pursue grant funding to assist in development of the park in the future.

One question that remains unclear is who will ultimately fund the park's operations and maintenance once the park property is ready for use. It was the original intent that SELCRA would operate and maintain the park. However at present the funding role and fiscal capability of SELCRA is not clear. Will this Authority fund all recreation operations and maintenance or just recreational programming? Will the Township have funding responsibility for some operations and some maintenance? Will SELCRA fund all maintenance? It seems that this matter must be clearly defined as park development goals move closer to achievement. Costs for maintenance could be substantial depending on the size and use of facilities.

Capital Improvement Program

1. Phase I development at Sunset Park.

Improvements are noted above. This CIP displays improvements to be made over a two-year period. However, the start of constructing improvements is unknown at this time.

2. The CIP anticipates the ongoing desire of Township residents to see Sunset Park development move forward at a reasonable rate; therefore, it includes the continuation of budgeting for a phased development at the rate of \$50,000 per year.

Financial Considerations

Although unsuccessful twice before, it is felt that an amended grant application should be submitted to the DNR for an MDNRTF grant assistance when the timing is right to proceed. Township staff should review DNR prior evaluations and explore if there may not be adjustments in the grant request that will enable the Township to secure grant assistance, as so many other local communities in Southeast Michigan have.

A final reminder is to give appropriate consideration to the operating cost issue before improvements are undertaken. Once facilities are built, the public will expect them to be adequately maintained. This includes mowing grass in fields, daily cleaning of restrooms, litter removal, etc. Several area communities have placed such an item on the ballot for park development, maintenance and recreation programming, with a five or ten year sunset or renewal provision. This would be one way to protect the fiscal stability of the Township. This will become the trend for communities, to place new initiatives before the voters as the economy continues to impact the operation and budgets of local communities.

* Proposes continuation of \$50,000 General Fund contribution.

PATHWAYS

A Pathways Fund has been set up to receive monies from the general fund, grants, or contributions from individuals or property developers in order to set aside funds for future sidewalks or bike paths. Expenditures are to be paid from this Fund to build Township Board approved pathways pursuant to the Pathways Master plan adopted in September 2006 and revised in December 2009 which will include sidewalk or pathway along E. Grand River; along Old 23 from E. Grand River north to Spencer, and along Kensington from E. Grand River north to Sunset Park.

In 2005 and 2006, Township officials worked to prepare and reach consensus on a Pathways Plan. In December 2009, the plan was revised to reflect the highest priority pathway and sidewalk areas. The Township recognized the importance of such a Plan to offer residents opportunity for a safer means of non-motorized travel, opportunities for exercise and connectivity with pathways in adjacent communities. The Plan is a well-conceived professional document and included in its review was a Pathways Committee, the Planning Commission, the Township Board, consultants, and the public. The Plan includes numerous goals and describes pathways to connect residents to parks activities. The Plan includes a discussion of funding opportunities that includes contributions from the general fund, developer funds, donations, the possibility of coordination with State (MDOT) and County (LCRC) road improvement projects, and a listing of numerous possible grant agencies, programs and opportunities.

As of March 31, 2017, there was \$119,530 in the fund. In 2015, the Township completed construction of the first phase of the Planned Pathway Plan Project, the East Grand River Sidewalk. This project involved construction of a five foot wide sidewalk along the north side of Grand River from east of US-23 to the Township sewer pump station (#1) driveway totaling approximately \$240,000. In 2016, the Township constructed Phase 2 of the sidewalk along Grand River from east of Woodruff Creek near Delphi Drive to Kensington Road (approx. 5,000 feet). Also, the first stretch of pathway was installed on the east side of Kensington, north from Grand River to Kensington Metro Park entrance (approximately 1,700 feet).

To implement a Pathway network, the Pathways Plan identified as funding opportunity goals:

- a. Coordinate with State and County agencies to apply for relevant transportation grants through MDOT and state recreation and land acquisition grants through the Department of Natural Resources.
- b. Develop public-private partnerships to generate funds toward pathway development.

- c. Establish a fund to dedicate development fees toward pathways.

In addition to the goals identified in the Pathways Plan, the Township should continue to work with adjacent communities to ensure that logistics (timing, funding, and collaboration) are accounted for. Specifically, the Township should continue to coordinate with Green Oak Township towards the installation of a continuous pathway along Grand River from Woodruff Creek (Delphi Drive) towards Alan Drive and work with the City of Brighton to ensure that connectivity to the downtown is continuous.

Capital Improvement Program

1. Proposes budgeting \$100,000 from the General Fund to the Pathways Fund.
2. East Grand River Corridor Sidewalk West of US 23 and Old US 23 sidewalk from Grand River north to Spencer.

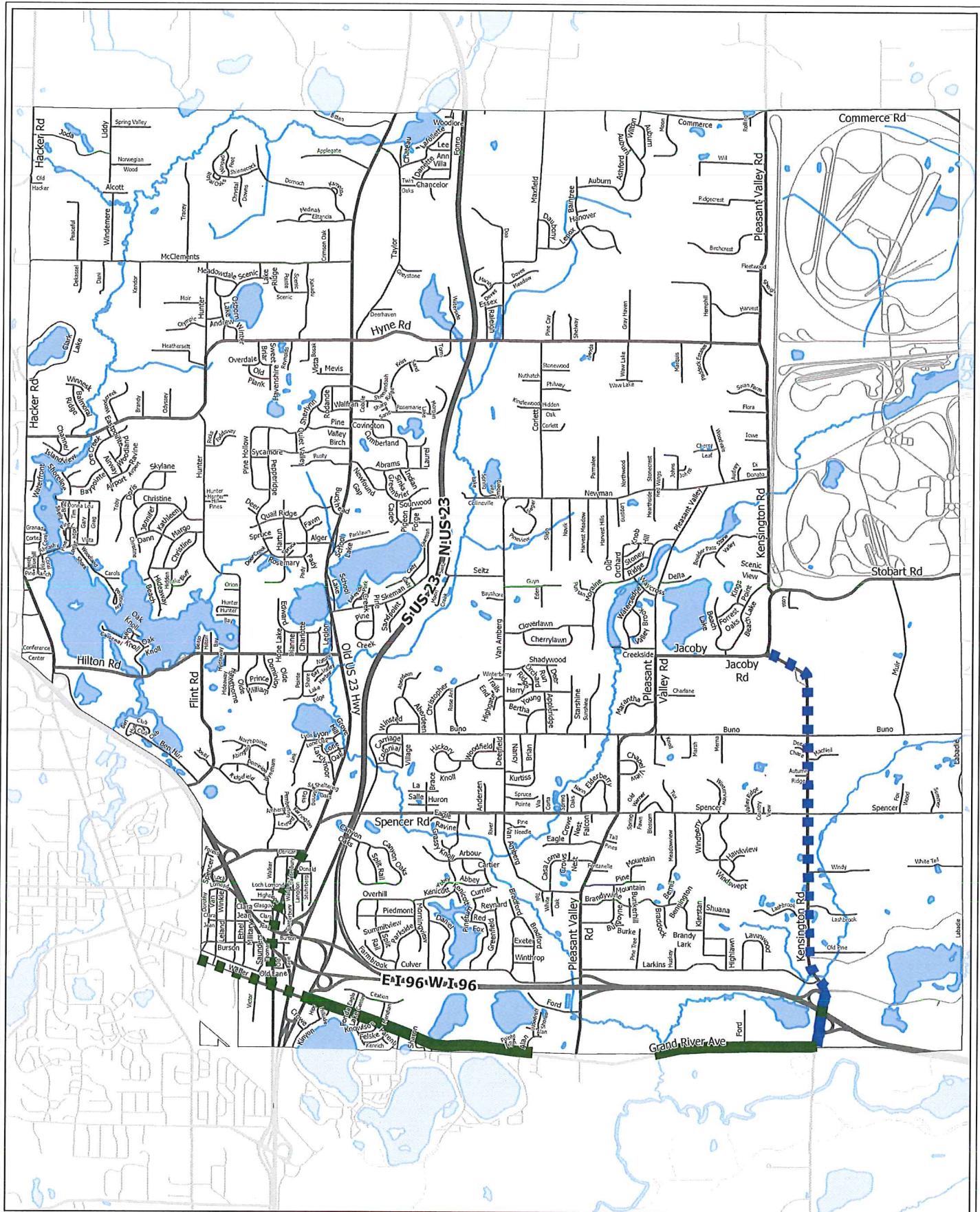
Financial Considerations

Pathway construction is expensive. Elements to consider when planning for pathway projects is the anticipated amount of use, safety, and connectivity. Construction cost factors that can cause projects to escalate in price are wetland and drain crossings, intersection crossings, frequency of driveways, and severe gradient changes. Once enough funds are accumulated to construct a project, there is the possibility of securing grant assistance through the federally sponsored, MDOT administered Transportation Enhancement Grant (TE) Program where 65% to 75% grants are available on a competitive basis for non-motorized transportation projects. Other grant programs are also possible.

Probable costs for pathway construction per mile for a 10-foot wide asphalt path (3 inches of asphalt on 6 inches of aggregate base) is approximately \$475,000 with no drain and wetland crossings and for a 5-foot wide concrete sidewalk (4 inches of concrete on 6 inches of sand base) it is \$315,000. Generally, concrete provides a longer lasting surface with less maintenance on the 5-foot wide cross-section but is designed to accommodate pedestrian traffic only while a 10-foot wide cross section is intended as a shared-use facility for pedestrians, bicyclists, and other non-motorized recreational uses.

* Numerous Pathway projects are listed and prioritized in the Pathways Master Plan but funding is not sufficient to start.

** Proposes \$100,000 General Fund contribution.



- ■ ■ Proposed Sidewalk
- ■ ■ Completed Sidewalk
- ■ ■ Proposed Asphalt
- ■ ■ Completed Asphalt

Proposed Pathway System

1" = 4,500' 9,000

Source: Data provided by Brighton Township and the State of Michigan. OHM Advisors does not warrant the accuracy of the data and/or the map. This document is intended to depict the approximate spatial location of the mapped features within the Community and all use is strictly at the user's own risk.

Coordinate System: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl

Map Published: October 24, 2017

APPENDIX A

SANITARY SEWER DEBT

Throughout the past decade, Township officials have concentrated and expended considerable time and effort seeking feasible alternatives to address the predictable shortfall in Sanitary Sewer System revenues to meet debt requirements. This has been the most critical issue facing the Township.

To recap, in 2000, Township officials along with numerous residents and property owners, together, made a decision to construct a sanitary sewer system including a wastewater treatment plant and issued municipal bonds in the principal amount of \$27,800,000. Ten years ago the economy was sound, Livingston County communities were rapidly growing and desirable areas like Brighton Township were the focus of land developer activity. The assumption in the year 2000 was that growth would continue at an unprecedented rate.

What happened?

Needless to say, economic factors, and assumptions, have all dramatically changed since the year 2000. Just a few years ago, Michigan led the nation in unemployment, many major area corporations were in bankruptcy, and most local communities, including counties and the State were in fiscal crises. Tax revenues at all levels were declining, property tax rolls were declining, State revenue sharing was cut, home foreclosure rates were at all-time highs and new land development was non-existent. This is not what was expected in 2000 and sets the stage for steps that needed to be undertaken to move forward plan, and decide on the measures the Township would out of necessity have to implement to meet the sanitary sewer system debt obligations.

Prior Financial considerations

Since the summer of the 2003 calendar year, after receiving the prior year audit report, the Township Administration has been committed to addressing the sanitary sewer system cash flow issues and analyzing various options to meet long term debt obligations. Efforts to examine alternatives have also involved the Township's auditors and professional municipal bond financial advisors. The combined conclusions and recommendations of all involved, is outlined in the 2009-2010 Township Capital Improvement Plan and its Appendix dated January 2017.

Key to understanding this schedule is to recall the sequence of debt financing that has taken place. In 2000, a bond in the amount of \$27,800,000 was issued to finance the construction of the original sanitary sewer system including the sewer collection system and the Township's 650,000 MGD wastewater treatment facility. In 2005, the original bond was refinanced with a new issue in the principal amount of \$17,900,000. The 2005 series bond would retire the original bond in 2009 and continue to exist until it is paid off in 2020. It was noted that refinancing of the 2005 sewer bond could take place in 2015 which was the first call date for the bond issue. In 2004, the Spencer Road Sewer Bonds were also issued in the amount of \$760,000.

New Financial Considerations

The economic and financial outlook for the six year period contemplated in this Capital Improvement Plan is much more favorable than the five years proceeding. The economy as a whole is much improved, new home starts are rebounding, new commercial and industrial developments are increasing, and accordingly, the financial condition of the Sewer Debt Fund as evidenced by the September 30, 2016 quarterly sewer report is trending in a positive direction. Looking forward, a decision has been made to forecast ten (10) new sewer tap fees collected each year and that revenue deposited in the Sewer Debt Fund. At the current rate of \$10,260 per REU that equates to an annual revenue stream of \$102,600 towards bond debt retirement.

Sanitary Sewer Debt Schedule

Each year, the Township Board directs the auditors to perform a cash flow summary to forecast the financial condition of the sewer system given various assumptions towards the goal of retiring the Township Sanitary Sewer Debt. New to the 2015 analysis was the inclusion of the updated schedule of principal and interest payments as a result of the 2015 Refunding Bonds in the amount of \$7,900,000. The attached Schedule (cash flow summary) incorporates the following assumptions:

- 1) No significant changes with original assessments.
- 2) Includes several contracts for payments of REU's over time.
- 3) 10 new REU per year.
- 4) Quarterly Debt Service Rate remains at \$80.50 throughout the schedule.
- 5) Sewer Tap Fee remains at \$10,260 throughout the schedule.
- 6) No interest from Investments.
- 7) Current loan balance from General Fund is \$2,031,000 (not including chargebacks).
No additional loans needed.

Conclusions

Without raising the Sewer Tap Fee or quarterly debt service charge, and given the current debt service fund balance, payoff, and retiring the remaining principal and interest on all sewer bonds by October 2020.

Pay back to the Township General Fund of the \$2,031,000 loaned to the Sewer Fund by October 2021.

It is recommended that the Township Board continue the annual cash flow analysis to confirm that assumptions are realized and if the assumptions are either not met or exceeded that they be adjusted accordingly.

BRIGHTON TWP SEWER - ORIGINAL DISTRICT
CASH FLOW SUMMARY
PER REQUEST OF UTILITY COMMITTEE
STARTING 10/1/16
PREPARED 12/17

No significant differences with original assumptions.
Includes several contracts paying over time.
Rate remains at \$10.50, 10 REUs added per year (starting at 2,230 REUs)
Rate remains at \$10.200, 10 REUs added per year
No interest from investments.
Current loan balance from GSF is \$2,031,000. No additional loans needed. Loans would be paid back by 2021.
Bonds are paid off by 2020.
Misc changeback-Offices: projected \$10,000 per year; \$30,242 covered by GSF for prior yr's changebacks.

SCENARIO 1

PERIOD	BEGINNING BALANCE	ORIGINAL ASSESSMENT ASSESSMENT	(1) ORIGINAL SPENCER ASSESSMENT	(2) INDIVIDUAL ASSESSMENTS	(3) QTRLY DS CHARGES	(\$0.220 NEW USER TAP FEE)	(4) INTEREST FROM BANKS	(5) GFC LOANS	TOTAL RECEIPTS	(7) BOND PAYMENTS	(8) OTHER FEES & CHARGES	(9) PRIN & INTEREST PAYMENTS TO GSF	(10) TOTAL DISBURSEMENTS	ENDING BALANCE
10/01/2016 THRU 12/31/2017	84,473.92	19,875	46,435	359,489	51,300	0	0	0	1,211,775	94,000	44,212	12,310	150,522	2,983,827
4/1/2017 THRU 9/30/2017	2,885,837	0	0	380,238	51,300	0	0	0	411,538	1,719,000	5,000	12,310	1,735,310	1,059,055
10/01/2017 THRU 3/31/2018	1,655,055	19,1020	44,370	361,043	51,300	0	0	0	1,272,749	77,500	5,000	12,310	94,610	2,836,594
4/1/2018 THRU 9/30/2018	2,343,594	0	0	361,848	51,300	0	0	0	413,148	1,657,500	5,000	12,310	1,674,810	1,575,332
10/01/2018 THRU 3/31/2019	1,573,312	748,710	43,508	362,653	51,300	0	0	0	414,758	1,635,500	5,000	12,310	2,734,519	0
4/1/2019 THRU 9/30/2019	2,784,515	0	0	383,459	51,300	0	0	0	1,182,244	30,300	5,000	12,310	1,623,210	1,526,057
10/01/2019 THRU 3/31/2020	1,523,657	707,304	42,045	354,253	51,300	0	0	0	365,058	1,445,300	5,000	12,310	47,670	123,044
4/1/2020 THRU 9/30/2020	2,964,071	0	0	365,058	51,300	0	0	0	403,851	0	5,000	12,310	50,000	505,794
10/01/2020 THRU 3/31/2021	122,044	0	0	365,873	51,300	0	0	0	417,070	0	5,000	12,310	138,000	333,035
4/1/2021 THRU 9/30/2021	51,051	0	0	365,678	51,300	0	0	0	417,070	0	5,000	12,310	131,000	182,000
10/01/2021 THRU 3/31/2022	383,038	15,844	0	367,433	51,300	0	0	0	424,227	0	5,000	12,310	752,566	0
4/1/2022 THRU 9/30/2022	782,616	0	0	368,288	51,300	0	0	0	424,227	0	5,000	12,310	500	1,177,254
10/01/2022 THRU 3/31/2023	1,177,254	15,049	0	369,035	51,300	0	0	0	425,442	0	5,000	12,310	500	1,607,656
4/1/2023 THRU 9/30/2023	1,897,795	0	0	369,886	51,300	0	0	0	426,158	0	5,000	12,310	500	2,023,864
10/01/2023 THRU 3/31/2024	2,020,894	0	0	370,637	51,300	0	0	0	426,255	0	5,000	12,310	500	2,023,449
4/1/2024 THRU 9/30/2024	2,033,149	0	0	371,388	51,300	0	0	0	426,352	0	5,000	12,310	500	2,023,349
10/01/2024 THRU 3/31/2025	2,033,149	0	0	372,139	51,300	0	0	0	426,450	0	5,000	12,310	500	2,023,149
4/1/2025 THRU 9/30/2025	2,033,149	0	0	372,890	51,300	0	0	0	426,547	0	5,000	12,310	500	2,023,049
10/01/2025 THRU 3/31/2026	2,033,149	0	0	373,641	51,300	0	0	0	426,645	0	5,000	12,310	500	2,022,949
4/1/2026 THRU 9/30/2026	2,033,149	0	0	374,392	51,300	0	0	0	426,742	0	5,000	12,310	500	2,022,849
10/01/2026 THRU 3/31/2027	2,033,149	0	0	375,143	51,300	0	0	0	426,839	0	5,000	12,310	500	2,022,749
4/1/2027 THRU 9/30/2027	2,033,149	0	0	375,894	51,300	0	0	0	426,936	0	5,000	12,310	500	2,022,649
10/01/2027 THRU 3/31/2028	2,033,149	0	0	376,646	51,300	0	0	0	427,033	0	5,000	12,310	500	2,022,549
4/1/2028 THRU 9/30/2028	2,033,149	0	0	377,397	51,300	0	0	0	427,130	0	5,000	12,310	500	2,022,449
10/01/2028 THRU 3/31/2029	2,033,149	0	0	378,148	51,300	0	0	0	427,227	0	5,000	12,310	500	2,022,349
4/1/2029 THRU 9/30/2029	2,033,149	0	0	378,899	51,300	0	0	0	427,324	0	5,000	12,310	500	2,022,249
10/01/2029 THRU 3/31/2030	2,033,149	0	0	379,650	51,300	0	0	0	427,421	0	5,000	12,310	500	2,022,149
4/1/2030 THRU 9/30/2030	2,033,149	0	0	380,401	51,300	0	0	0	427,518	0	5,000	12,310	500	2,022,049
10/01/2030 THRU 3/31/2031	2,033,149	0	0	381,152	51,300	0	0	0	427,615	0	5,000	12,310	500	2,021,949
4/1/2031 THRU 9/30/2031	2,033,149	0	0	381,903	51,300	0	0	0	427,712	0	5,000	12,310	500	2,021,849
10/01/2031 THRU 3/31/2032	2,033,149	0	0	382,654	51,300	0	0	0	427,809	0	5,000	12,310	500	2,021,749
4/1/2032 THRU 9/30/2032	2,033,149	0	0	383,405	51,300	0	0	0	427,906	0	5,000	12,310	500	2,021,649
10/01/2032 THRU 3/31/2033	2,033,149	0	0	384,156	51,300	0	0	0	428,003	0	5,000	12,310	500	2,021,549
4/1/2033 THRU 9/30/2033	2,033,149	0	0	384,907	51,300	0	0	0	428,099	0	5,000	12,310	500	2,021,449
10/01/2033 THRU 3/31/2034	2,033,149	0	0	385,658	51,300	0	0	0	428,196	0	5,000	12,310	500	2,021,349
4/1/2034 THRU 9/30/2034	2,033,149	0	0	386,409	51,300	0	0	0	428,293	0	5,000	12,310	500	2,021,249
10/01/2034 THRU 3/31/2035	2,033,149	0	0	387,160	51,300	0	0	0	428,390	0	5,000	12,310	500	2,021,149
4/1/2035 THRU 9/30/2035	2,033,149	0	0	387,911	51,300	0	0	0	428,487	0	5,000	12,310	500	2,021,049
10/01/2035 THRU 3/31/2036	2,033,149	0	0	388,662	51,300	0	0	0	428,584	0	5,000	12,310	500	2,020,949
4/1/2036 THRU 9/30/2036	2,033,149	0	0	389,413	51,300	0	0	0	428,681	0	5,000	12,310	500	2,020,849
10/01/2036 THRU 3/31/2037	2,033,149	0	0	389,662	51,300	0	0	0	428,778	0	5,000	12,310	500	2,020,749
4/1/2037 THRU 9/30/2037	2,033,149	0	0	389,413	51,300	0	0	0	428,875	0	5,000	12,310	500	2,020,649
10/01/2037 THRU 3/31/2038	2,033,149	0	0	389,662	51,300	0	0	0	428,972	0	5,000	12,310	500	2,020,549
4/1/2038 THRU 9/30/2038	2,033,149	0	0	389,413	51,300	0	0	0	429,069	0	5,000	12,310	500	2,020,449
10/01/2038 THRU 3/31/2039	2,033,149	0	0	389,662	51,300	0	0	0	429,166	0	5,000	12,310	500	2,020,349
4/1/2039 THRU 9/30/2039	2,033,149	0	0	389,413	51,300	0	0	0	429,263	0	5,000	12,310	500	2,020,249
10/01/2039 THRU 3/31/2040	2,033,149	0	0	389,662	51,300	0	0	0	429,360	0	5,000	12,310	500	2,020,149
4/1/2040 THRU 9/30/2040	2,033,149	0	0	389,413	51,300	0	0	0	429,457	0	5,000	12,310	500	2,020,049
10/01/2040 THRU 3/31/2041	2,033,149	0	0	389,662	51,300	0	0	0	429,554	0	5,000	12,310	500	2,019,949
4/1/2041 THRU 9/30/2041	2,033,149	0	0	389,413	51,300	0	0	0	429,651	0	5,000	12,310	500	2,019,849
10/01/2041 THRU 3/31/2042	2,033,149	0	0	389,662	51,300	0	0	0	429,748	0	5,000	12,310	500	2,019,749
4/1/2042 THRU 9/30/2042	2,033,149	0	0	389,413	51,300	0	0	0	429,845	0	5,000	12,310	500	2,019,649
10/01/2042 THRU 3/31/2043	2,033,149	0	0	389,662	51,300	0	0	0	429,942	0	5,000	12,310	500	2,019,549
4/1/2043 THRU 9/30/2043	2,033,149	0	0	389,413	51,300	0	0	0	430,039	0	5,000	12,310	500	2,019,449
10/01/2043 THRU 3/31/2044	2,033,149	0	0	389,662	51,300	0	0	0	430,136	0	5,000	12,310	500	2,019,349
4/1/2044 THRU 9/30/2044	2,033,149	0	0	389,413	51,300	0	0	0	430,233	0	5,000	12,310	500	2,019,249
10/01/2044 THRU 3/31/2045	2,033,149	0	0	389,662	51,300	0	0	0	430,330	0	5,000	12,310	500	2,019,149
4/1/2045 THRU 9/30/2045	2,033,149	0	0	389,413	51,300	0	0	0	430,427	0	5,000	12,310	500	2,019,049
10/01/2045 THRU 3/31/2046	2,033,149	0	0	389,662	51,300	0	0	0	430,524	0	5,000	12,310	500	2,018,949
4/1/2046 THRU 9/30/2046	2,033,149	0	0	389,413	51,300	0	0	0	430,621	0	5,000	12,310	500	2,018,849
10/01/2046 THRU 3/31/2047	2,033,149	0	0	389,662	51,300	0	0	0	430,718	0	5,000	12,310	500	2,018,749
4/1/2047 THRU 9/30/2047	2,033,149	0	0	389,413	51,300	0	0	0	430,815	0	5,000	12,310	500	2,018,649
10/01/2047 THRU 3/31/2048	2,033,149	0	0	389,662</										

APPENDIX B

Brighton Township Asset Management Plan
 Wastewater Treatment Plant and Pump Stations
 10-YEAR CAPITAL IMPROVEMENTS PLAN

Based on the Asset Inventory Assessment, the following assets were determined to have a high Business Risk Factor and should be included in a 10-year Capital Improvement Plan. The Business Risk factor was calculated by using the current condition to predict a "Projected Year of Failure", the probability of failure based on percent remaining useful life, and the consequence of failure. A total of 219 assets were assessed and analyzed as a part of the development of this Capital Improvements Plan.

The assets to be included in the 10-year CIP are listed below from highest risk factor to lowest risk factor. It should be noted that this list does not include all assets with less than 10 years remaining useful life, only the ones with a "Business Risk Factor" higher than "7". A number of assets did not have "Business Risk Factors" above "7", and may be in need of replacement within the next 10 years. These assets have been listed in a "Watch List" also included in this appendix. Note that the asset's projected year to fail does not necessarily mean it must be replaced by that year. Actual year of replacement will be based on individual assessment of asset condition.

Note: The asset's Projected Year to Fail is only a projection and does not necessarily mean that it will occur in that year. The actual year of replacement will be based on actual asset condition and not the Projected Year to Fail. Brighton Township Board will approve any expenditures in the CIP.

YEARS 1-5 (Current - 2019)

<u>Asset No.</u>	<u>Asset Name</u>	<u>Asset Location</u>	<u>Projected Year to Fail</u>	<u>Cost to Replace/</u>		<u>Risk Factor</u>	<u>Notes</u>
				<u>Cost to Rehabilitate</u>	<u>Cost to Replace</u>		
25/36	Return Activated Sludge (RAS) Pump 3 & Motor	Filter Building – Pump Room	*2012	**\$17,500	15.0	Township is in the process of replacing pump and motor (2015)	
38	WAS Plug Control Valve	Filter Building – Pump Room	*2012	\$18,000	15.0	Valve no longer functional	
216	Sludge Storage Tank Decant Valves	Sludge Holding Tank	2015	\$40,000	15.0	8 total plug valves (Replacement - some valves are non-functional)	
23/34	Return Activated Sludge (RAS) Pump 1 & Motor	Filter Building – Pump Room	2015	\$20,000	15.0	Replacement of pump and motor	

*These assets are already in failed condition

**Based on recent bid prices

<u>Asset No.</u>	<u>Asset Name</u>	<u>Asset Location</u>	<u>Projected Year to Fail</u>	<u>Cost to Replace/</u>		<u>Risk Factor</u>	<u>Notes</u>
				<u>Cost to Rehabilitate</u>	<u>Cost to Replace</u>		
102	Lift Station 3 Motor Controls	Pump Station 3—Old 23 South of Hilton	2015		\$15,000	15.0	
123	Pump 1	Pump Station 6	2015		\$9,000	10.0	Submersible Pump 1, bid out, awarded and scheduled for 2015 replacement
29	Secondary Effluent Sample Pump 1	Filter Building – Pump Room	2015		\$2,500	10.0	Replacement
24/35	Return Activated Sludge (RAS) Pump 2 & Motor	Filter Building – Pump Room	2017		\$23,409	12.7	Replacement
185	Parshall Flume Indicator	Service Building - Garage	2018		\$8,490	7.8	Replacement of electronics
26	RAS Flowmeter #1	Filter Building— Pump Room	2018		\$5,837	15.5	
27	RAS Flowmeter #2	Filter Building— Pump Room	2018		\$5,837	15.5	
28	WAS Flowmeter	Filter Building – Pump Room	2018		\$5,837	15.5	
32	Building Sump Pumps 1 and 2	Filter Building— Pump Room	2018		\$37,412	11.6	Replacement
49/50	Scum Pump & Motor	Final Settling Tanks	2018		\$37,412	10.6	Replacement
60	Oxidation Ditch 112 Rotor #3	Oxidation Ditches	2019		\$86,595	7.5	Replacement
61	Oxidation Ditch #2 Rotor #4	Oxidation Ditches	2019		\$86,595	7.5	Replacement
5-YEAR CIP TOTAL (Adjusted for Inflation)					\$419,154		

*These assets are already in failed condition

**Based on recent bid prices

Updated June 8, 2017

YEARS 6-10 (2020-2025)

<u>Asset No.</u>	<u>Asset Name</u>	<u>Asset Location</u>	<u>Projected Year to Fail</u>	<u>Cost to Replace/ Cost to Rehabilitate</u>	<u>Risk Factor</u>	<u>Notes</u>
11	Tertiary Filter Butterfly Valves	Filter Building – Filter Room	2022	\$48,245	7.5	Replacement
12	Tertiary Filter Plug Valves	Filter Building – Filter Room	2022	\$13,784	7.5	Replacement
54	Oxidation Ditch #2 Drive #3	Oxidation Ditches	2022	\$40,204	7.5	Replacement
57	Oxidation Ditch #1 Drive #2	Oxidation Ditches	2022	\$40,204	7.5	Replacement
160	Fine Screen Control Panel	Service Building – Blower Room	2022	\$8,041	7.5	Replacement
172	Chemical Storage Tank 1 (Ferric Tank)	Service Building – Chemical Room	2022	\$28,717	7.5	Replacement
195	Vacuum Pump	Service Building- Mechanical Room	2022	\$3,446	7.5	Replacement
207	Cylindrical Screen	Service Building – Screen Room	2022	\$126,355	7.5	Replacement
213	Reject Water Submersible Pumps	Site	2022	\$28,717	7.5	Replacement
215	Sludge Storage Tank Butterfly Valves	Sludge Holding Tank	2022	\$22,974	7.5	Replacement
4	UltraViolet Unit #1	Filter Building – Disinfection Room	2022	\$51,691	9.9	Replacement with larger unit
5	UltraViolet Unit #2	Filter Building – Disinfection Room	2022	\$51,691	9.9	Replacement with larger unit
45	Final Settling Tank #1 Drive	Final Settling Tanks	2022	\$34,461	9.9	Replacement
46	Final Settling Tank #2 Drive	Final Settling Tanks	2022	\$34,461	9.9	Replacement
21	Tertiary Filters Nos. 1-8 Media	Filter Building – Filter Room	2024	\$358,528	10	Replacement
YEAR 6-10 CIP TOTAL (Adjusted for Inflation)					\$891,519	

*These assets are already in failed condition

**Based on recent bid prices

CIP Appendix "B" Continued

The following work has been performed since the AMP was adopted in August 2015

<u>Asset No</u>	<u>Asset Name</u>	<u>Date Replaced</u>	<u>Approximate Replacement Cost</u>
25/36	RAS Pump 3 & Motor	2016	\$15,000
102	Motor Controls @ PS #3	2017	\$14,000
123	Pump #1 @ PS #6	2015	\$10,000
29	Secondary Effluent Sample - Pump #1	2016	\$13,000
213	Reject Water Submersible Pumps	2016	\$6,500