

GOOD MORNING....



Welcome to  
YOUR  
Department of Public Services  
Facility

The presentation will begin shortly.

# Introductions

## Public Services Personnel

- Tom MacDonald, Director of Public Works
- Dave Linderman, Water and Sewer
- Scott Skorupa, Water and Sewer
- Ron Liggett, Water and Sewer

## Engineering Personnel

- Tim Zebell, City Engineer
- Alex Austin, Assistant City Engineer

## Asset Management Consultant

- Shawn Keough, Wade Trim



# Stormwater, Asset Management & Wastewater Grant (SAW) - Status

## Summary of the Ten Tasks Identified in the SAW Grant Scope of Work:

- 1) Asset Management Policy Development – Underway
- 2) Initial Collection of Existing Data/Base Plan Development (GIS) – Complete
- 3) GPS Structure (GIS) – Sanitary Sewer Complete, Storm Sewer Underway
- 4) Condition Assessment (eg. Sewer Televising) – Near Completion
- 5) Build the GIS System (GIS) – Near Completion
- 6) GIS Implementation – Near Completion
- 7) Asset Management Evaluation – Underway
- 8) Develop Capital Improvement Plan – Underway**
- 9) Rate and Fund Management – Underway**
- 10) Selection and Implementation of CMMS Software – Complete**

The Asset Management Plan is a dynamic program that will evolve over time. The SAW Grant activities focus on infrastructure in Right-of-Way. Items listed as complete are from the perspective of the SAW Grant, in reality they should be ongoing items that continue and improve over time.





# URBAN WATER CYCLE





# Infrastructure Funding Sources – Streets & Drainage

## Street & Stormwater/Drainage Project Funding:

Act 51 Funding: ~ \$600,000 for both local and major streets – spent on operations & maintenance/public works activities

## City General Fund:

- \$125,000 to \$175,000 from General Fund for local road operations and maintenance
- \$160,000 to alleys, parking lots and PW facility

Street Improvement Fund: 1 Mill deposited directly, ~\$440,000/year for reconstruction and preventative maintenance projects, includes the biennial sidewalk replacement project (\$50,000+/year)

TIP Funding: Average ~\$400,000 to \$500,000 every 3 year TIP cycle (more strings and more competitive)



### Act 51 Funding - Anticipated Increase

FY 15	FY 17	FY 18	FY 19	FY 20	FY 21
\$ 566,526	\$ 700,159	\$ 742,686	\$ 794,526	\$ 854,748	\$ 948,805



The City of St. Joseph owns 43 miles of roads and 34 miles of storm sewer gravity mains. This does not include MDOT roads (Main Street, Niles Rd, etc.)

# Infrastructure Funding Sources - Wastewater

## Sewer Funding (590 Fund):

- FY 16-17 Revenue: ~\$1.8 Million/year
- FY-16-17 Expenditures (unless noted otherwise):
  - ~\$700,000/year to City Operations & Maintenance
  - ~\$800,000/year JWWTP for Wastewater Treatment
  - ~\$50,000 Annual CSO Debt Service Payment
- Lift Station/Sewer Projects/Street Reconstruction Projects: ~\$1.4 Million Requested in 17/18
  - Significant Expenditures include: Harrison Sewer Replacement, Dunham Lift Station Replacement and Wallace Ave Reconstruction Project
  - Includes transfer to CSO Fund (450): 2017 CSO Project, CSO Compliance



The City of St. Joseph wastewater collection system includes 48 miles of gravity sewer, 3 miles of forcemain and 10 wastewater lift stations

# Infrastructure Funding Sources – Drinking Water

## Water Funds: (FY 16-17 )

### Water System Funding (591 Fund)

- Revenue: \$4.7 million/year system-wide revenue.
- 2017 Anticipated Expenditures:
  - \$1.66 million/year to Water Treatment Plant
  - \$1.47 million/year to Distribution System and O&M
  - \$838,000/year to Administration
  - \$490,000/year to Capital Improvement
  - \$546,500/year Drinking Water Treatment Plant Debt Service

The City of St. Joseph water distribution system includes 62 miles of water main, 460 fire hydrants and a 1.5 Million Gallon Water Tower. The City's Water Plant can treat ~16 million gallons of water per day and serves St. Joseph Charter Township, Lincoln Charter Township, Royalton Township, and the Villages of Shoreham and Stevensville

### City Water Improvement Funding (592 Fund)

- Revenue: \$675,000/year generated from System Improvement Fee
  - \$170,000/year Operating & Maintenance
  - \$300,000/year to City capital improvements (often transferred to 204 municipal street fund),
  - \$200,000/year Debt Service (Water Tower)





# SAW Grant – 1<sup>st</sup> Public Meeting: PW Equipment



Front End Loader  
New: \$162,900  
Hourly Rate: \$58.13/Hour  
Operator: \$21.83/Hour+Benefits



Dump Truck  
New: \$108,000  
Hourly Rate: \$42.61/Hour  
Operator: \$21.12/Hour+Benefits

Information on boards next to equipment



# Infrastructure Activities & Capital Improvements

## Operations & Maintenance – Day to Day Activities

- Roads: Street sweeping, snow plowing, pothole patching, pavement striping, sand removal, sign replacement
- Alleys and Parking Lots: Pothole patching, seal coating, pavement markings
- Storm Sewer: Catch basin cleaning, cleaning (jetting, root cutting, etc.) sewers, culverts/ravine stream crossings
- Sanitary Sewer: Cleaning (jetting, root cutting, root chemical treatment, etc.) sewers, cleaning manholes
- Sanitary Lift Stations: Lift station inspections, generator tests, alarm testing
- Water Main: Water main break repair, hydrant flushing

## Preventative Maintenance and Capital Improvements

- Roads: Crack sealing, asphalt resurfacing, concrete spot replacement, concrete joint repair, reconstruction
- Storm Sewer: Repairing failures, replacement, meeting current MS4 storm water requirements
- Sanitary Sewer: CSO Projects, open cut replacement, trenchless repairs
- Sanitary Lift Stations: Rehabilitation and replacement projects
- Water Main: Valve turning, hydrant assessment and comprehensive flushing programs

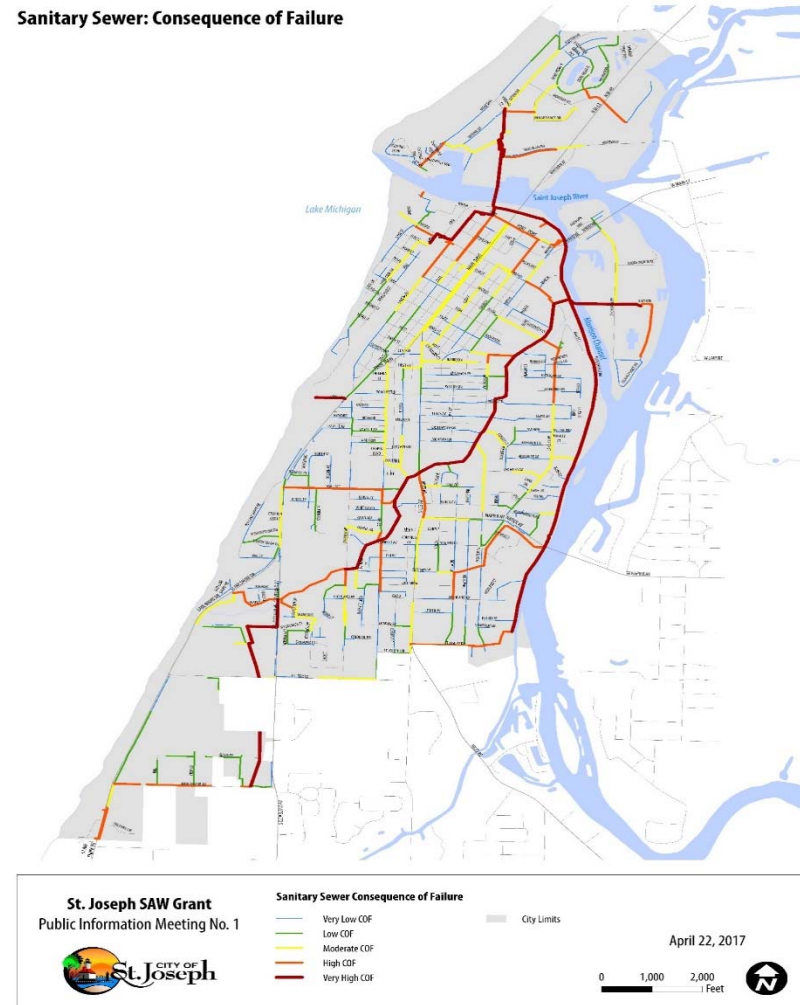


# Infrastructure Consequence of Failure Map

Some Assets have a higher consequence of failure than others.

It is important to know which Assets are most Critical to your system

Sanitary Sewer: Consequence of Failure



# Infrastructure Storm Sewer Condition Map

Over 34 miles of Storm Sewer City wide

56% of the System is greater than 20 years old

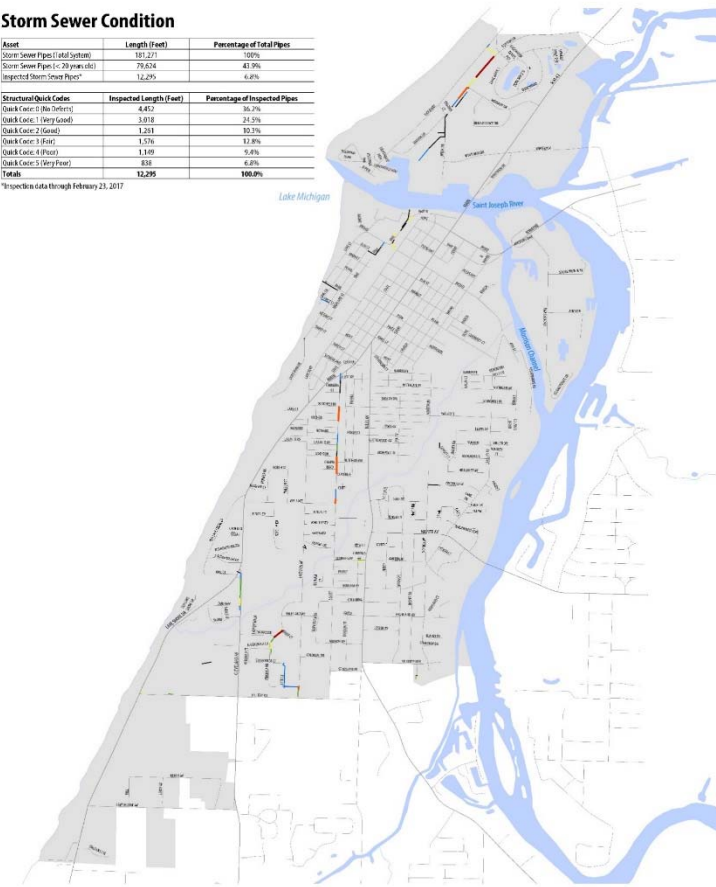
## Storm Sewer Condition

Asset	Length (Feet)	Percentage of Total Pipes
Storm Sewer Pipes (Total Section)	193,271	100%
Storm Sewer Pipes (< 20 years old)	79,624	41.2%
Inspected Storm Sewer Pipes*	12,295	6.4%

Structural Quick Codes	Inspect Length (Feet)	Percentage of Inspected Pipes
Quick Code 0 (No Defects)	4,412	36.2%
Quick Code 1 (Very Good)	3,818	31.2%
Quick Code 2 (Good)	1,291	10.7%
Quick Code 3 (Fair)	1,576	12.8%
Quick Code 4 (Poor)	1,149	9.4%
Quick Code 5 (Very Poor)	638	5.2%
<b>Totals</b>	<b>12,295</b>	<b>100.0%</b>

\*Inspection data through February 23, 2017



**St. Joseph SAW Grant**  
Public Information Meeting No. 1

**Condition Assessment: Storm Sewer**

**Structural Quick Code:**

- No Defects
- Very Good
- Good
- Fair
- Poor
- Very Poor

**Base Data:**

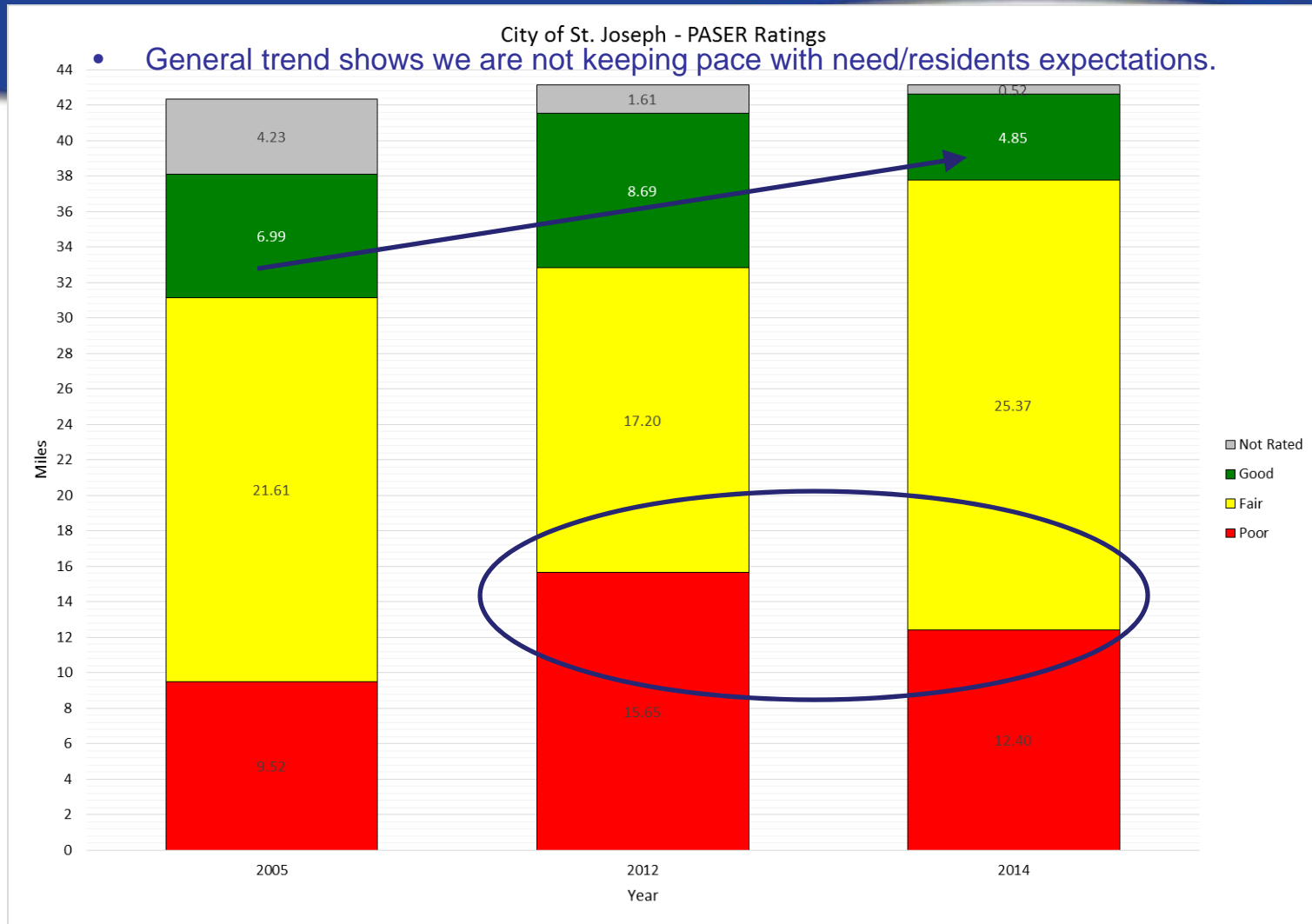
- City Limits

April 22, 2017

0 1,000 2,000 Feet



# Road Condition – PASER Rating Trends



- Improvement in the fair rating is more due to subjectivity of PASER Rating System than actual pavement condition.

# Infrastructure Water main Age/Break History Map

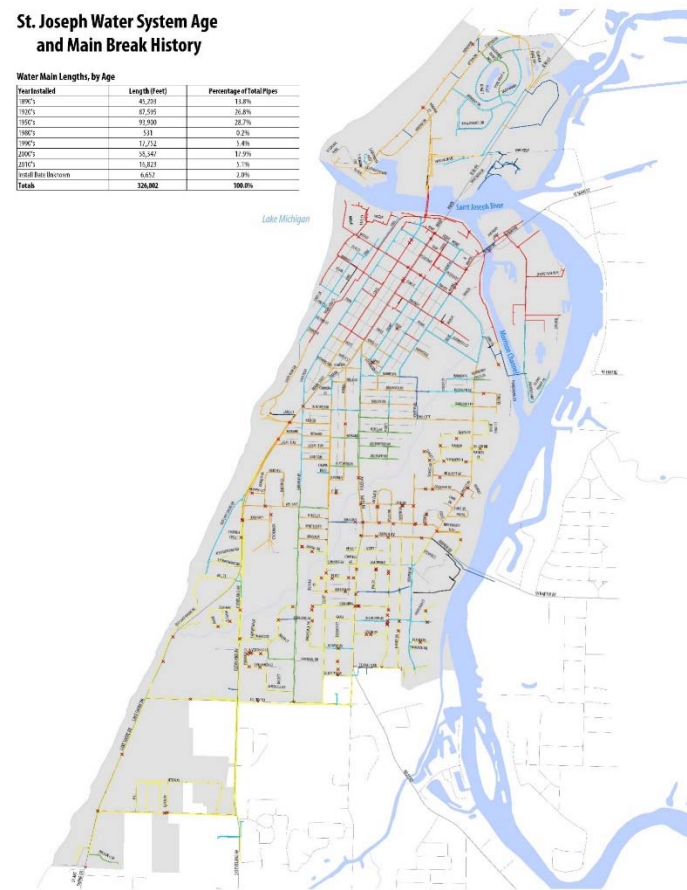
Nearly 70% of the City's Public Water System is over 60 years old.

Nearly 40% of the system dates back to the 1920's or older.

Nearly 190 Water Main Breaks have been mapped since 2009.

**St. Joseph Water System Age and Main Break History**

Year Installed	Length (Feet)	Percentage of Total Pipes
1900's	41,293	11.8%
1910's	87,293	26.4%
1920's	91,500	28.7%
1980's	531	0.2%
1990's	12,232	3.6%
2000's	38,347	11.6%
2010's	10,823	3.1%
Total Main Breaks	6,617	2.0%
<b>Total</b>	<b>326,992</b>	<b>100.0%</b>



**St. Joseph Water System**  
Public Information Meeting No. 1

**Water Mains by Decade Installed:**

- 1900's
- 1910's
- 1920's
- 1980's
- 1990's
- 2000's
- 2010's

Water Main Break Locations  
City Limits

Install Date Unknown

April 22, 2017

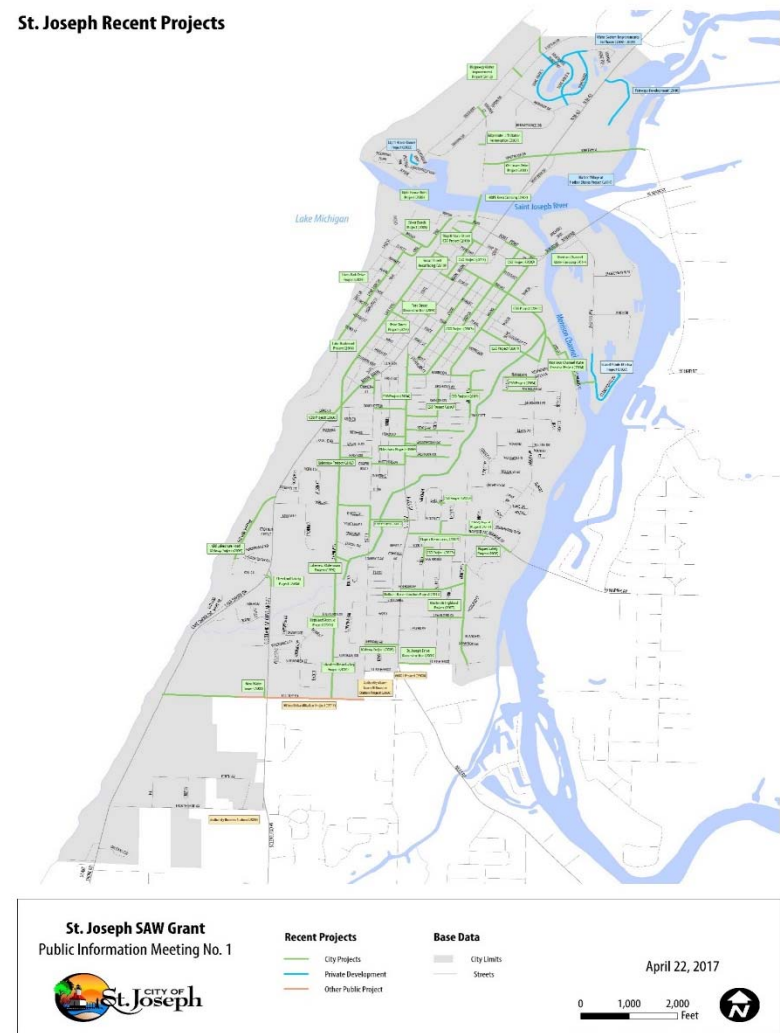
0 1,000 2,000 Feet

# Infrastructure Recent Projects Map

We are currently putting together a Capital Improvement Plan to maintain and update your infrastructure.

We welcome you to view the recently completed projects map.

St. Joseph Recent Projects





# Public Information Meeting #1 – SAW Grant

Thank you for attending today!

Public Information Meeting #2 is  
May 24, 2017



Your Asset Management Plan is just  
beginning

# Infrastructure – Supporting Information

Type	Total Length		Length Built 1950 or Earlier		Length TV'd by RedZone (Data as of Feb 2017)	
	Feet	Miles	Feet	Miles	Feet	Miles
Sanitary Sewer Gravity Mains	253,731.07	48.06	153,226.45	29.02	64,350.58	12.19
Storm Sewer Gravity Mains	181,270.55	34.33	75,496.50	14.30	12,367.72	2.34
Water Mains	326,802.51	61.89	226,697.51	42.94	n/a	n/a

# SAW Grant – Act 51 Funding in Berrien County

	Actual MTF	Estimated Additional**	Estimated Additional**	Estimated Additional**	Estimated Additional**	Estimated Additional**	Total
	Revenues	Revenues in FY 2017	Revenues in FY 2018	Revenues in FY 2019	Revenues in FY 2020	Revenues in FY 2021	Revenues
County with City/Village	Fiscal Year 2015	Above 2015 Actual	Above 2015 Actual	Above 2015 Actual	Above 2015 Actual	Above 2015 Actual	in FY 2021
Berrien	10,834,507.98	2,606,802.67	3,439,695.55	4,449,979.40	5,625,828.17	7,462,247.17	18,296,755.15
Baroda	73,668.27	15,331.37	20,210.36	26,157.71	33,066.62	43,857.35	117,525.62
Benton Harbor	761,053.19	180,214.37	237,564.82	307,473.75	388,685.33	515,526.11	1,276,579.30
Berrien Springs	129,307.14	30,501.58	40,208.24	52,040.44	65,785.63	87,253.65	216,560.79
Bridgman	180,727.32	42,013.76	55,383.99	71,682.00	90,615.04	120,185.69	300,913.01
Buchanan	352,055.51	83,035.38	109,460.10	141,671.27	179,090.22	237,533.24	589,588.75
Coloma	123,320.51	29,085.79	38,341.89	49,624.89	62,732.07	83,203.60	206,524.11
Eau Claire	55,443.55	13,076.41	17,237.78	22,310.40	28,203.13	37,406.74	92,850.29
Galien	51,279.37	12,094.12	15,942.89	20,634.44	26,084.52	34,596.77	85,876.14
Grand Beach	56,230.43	13,260.74	17,480.77	22,624.90	28,600.69	37,934.03	94,164.46
Michiana	48,716.52	11,486.79	15,142.30	19,598.26	24,774.66	32,859.44	81,575.96
New Buffalo	197,334.72	46,541.05	61,352.02	79,406.26	100,379.46	133,136.57	330,471.29
Niles	827,162.30	191,427.29	252,346.07	326,604.73	412,869.28	547,602.09	1,374,764.39
Shoreham	50,427.60	11,087.08	14,615.38	18,916.29	23,912.56	31,716.01	82,143.61
<b>St. Joseph</b>	<b>566,523.35</b>	<b>133,635.51</b>	<b>176,162.94</b>	<b>228,002.97</b>	<b>288,224.33</b>	<b>382,281.38</b>	<b>948,804.73</b>
Stevensville	109,096.92	25,728.43	33,916.12	43,896.71	55,490.95	73,599.46	182,696.38
Three Oaks	114,684.92	27,052.78	35,661.93	46,156.28	58,347.31	77,387.95	192,072.87
Watervliet	131,201.42	30,946.57	40,794.84	52,799.65	66,745.38	88,526.58	219,728.00
<b>County-Wide Total</b>	<b>\$14,662,741.02</b>	<b>\$3,503,321.69</b>	<b>\$4,621,517.99</b>	<b>\$5,979,580.35</b>	<b>\$7,559,435.35</b>	<b>\$10,026,853.83</b>	<b>\$24,689,594.85</b>

\*\*Estimated additional future revenues are incremental and should be added to actual revenues for 2015.

