



Acme Township

6042 Acme Road | Williamsburg, MI | 49690

Phone: (231) 938-1350 Fax: (231) 938-1510 Web: www.acmetownship.org

APPROVED

ACME TOWNSHIP **SPECIAL** BOARD MEETING

ACME TOWNSHIP HALL

6042 Acme Road, Williamsburg MI 49690

Tuesday, December 19, 2023, 10:30 a.m.

CALL TO ORDER WITH PLEDGE OF ALLEGIANCE at 10:39 a.m.

ROLL CALL: Members present: D. Hoxsie, A. Jenema, D. Stevens (arrived at 10:45 a.m.), L. Swanson, D. White

Members excused: J. Aukerman, P. Scott

Staff present: Cristy Danca, Recording Secretary

A. LIMITED PUBLIC COMMENT: None

B. APPROVAL OF AGENDA:

Motion by Swanson, supported by Hoxsie, to approve the agenda as presented. No discussion. Voice vote. Motion carried unanimously.

C. NEW BUSINESS:

1. Sewer study work session

Timothy Korson and Mark Hurley of Gosling Czubak gave a power point presentation (included in packet) summarizing the Sanitary Sewer Capacity Study that occurred primarily over the past summer. Data gathered and shared in detail with board members included that from pump testing, pump station flow monitoring, temporary flow metering, manhole inspections, evaluation of pipes and pumps, and usage distribution. The Acme Township sewer map was also used as a visual aid. Board discussion occurred throughout the presentation.

Recommendations to the Board included installing instrumentation at pump stations 1 and 6 to continuously monitor pumpage and the Lanny Johnson gravity flow meter to provide continuous flow readings; maintenance at pump stations 3, 4, and 6, confirm pump station 10 pumping rate following impeller upgrades; coordinate future growth with East Bay Township; and evaluate system upgrade options to redirect flow from the Lanny Johnson sewer to Acme pump station 1.

The Board agreed to discuss the recommendations at the next board meeting. A request will also be made at that time for Gosling Czubak to obtain quotes for costs related to those

recommendations.

PUBLIC COMMENT & OTHER BUSINESS:

Public Comment opened at 12:37 p.m.

Brian Kelley, Acme resident

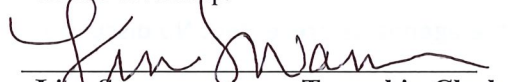
Public Comment closed at 12:41 p.m.

**Motion by Stevens, supported by Hoxsie, to adjourn the meeting. No discussion. Voice vote.
Motion carried unanimously.**

The meeting was adjourned at 12:41 p.m.

CERTIFICATION

I hereby certify that the foregoing is a true and complete copy of a document from the official records of the township.



Lisa Swanson, Acme Township Clerk

December 19, 2023



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6042 Acme Road, Williamsburg MI 49690
Tuesday, December 19, 2023, 10:30 a.m.

GENERAL TOWNSHIP MEETING POLICIES

- A. All cell phones shall be switched to silent mode or turned off.
- B. Any person may make a video, audio, or other record of this meeting. Standing equipment, records, or portable microphones must be located so as not to block audience view.

CALL TO ORDER WITH PLEDGE OF ALLEGIANCE

ROLL CALL

A. LIMITED PUBLIC COMMENT:

Public Comment periods are provided at the beginning and end of each meeting agenda. Members of the public may address the Board regarding any subject of community interest during these periods. Comment during other portions of the agenda may or may not be entertained at the moderator's discretion.

B. APPROVAL OF AGENDA:

C. NEW BUSINESS:

1. Sewer study work session

PUBLIC COMMENT & OTHER BUSINESS THAT MAY COME BEFORE THE BOARD:

ADJOURN

Acme Township

December 19, 2023

Sanitary Sewer Capacity Study

Introduction

- Pump Testing
- Pump Station Flow Monitoring – Daily Reads
- Temporary Flow Metering
- Manhole Inspections
- Evaluation of Pipes and Pumps
- Usage Distribution

Pump Testing

- Pump Testing Results

Pump Station	Rated Flow (GPM)	Tested Flow (GPM)
Acme PS 1	800	632
Acme PS 2	250	238
Acme PS 3	150	290
Acme PS 4	350	280
Acme PS 6	775	672
Acme PS 10	90	52

- Acme PS 1 – Running below its current maximum flow of 800 GPM. Appears to be due to station VFD settings.
- Acme PS 2 – Operating near its rated point, no action recommended.
- Acme PS 3 – Operating above its rated point, recommend pump settings are checked.
- Acme PS 4 – Operating below its rated point, recommend maintenance.
- Acme PS 6 - Operating below its rated point, recommend maintenance.
- Acme PS 10 - Operating below its rated point, DPW replaced impeller.

Pump Station Monitoring

- Daily Flow Monitoring Summary June 16th through August 22nd

Pump Station	Pump Station Monitoring 2023 Average Day (GPD)	Pump Station Monitoring Average Day (GPM)	Pump Station Monitoring 2023 Maximum Day (GPD)	Average Day GPD per REU
Acme PS 1	180,988	125.69	233,858	130.46
Acme PS 2	27,299	18.96	52,613	136.46
Acme PS 3	8,436	5.86	21,874	59.41
Acme PS 4	5,249	3.65	19,113	141.87
Acme PS 6	55,724	38.70	98,184	123.70
Acme PS 10	2,714	1.88	5,417	118.01

- Observed GPD per REU well below the 200 GPD value used for sewer flow calculations.

Pump Station Monitoring (Cont.)

- DPW Data 2020 through 2023

Pump Station	Pump Station GPD per REU	GTC Data 2020 - 2023 Average (GPM)	GTC Data 2020 - 2023 Max Hour x 4 (GPM)
Acme PS 1	120	116	464
Acme PS 2	203	28.25	113
Acme PS 4	167	4.25	17
Acme PS 6	99	31	124

- Pump Station 2 exceeds the 200 GPD used for sewer flow calculations. However, if data from 2020 is not used, GPD per REU is 136 for this station. Coincides with lake levels dropping and repairs to station wet well.

Manhole Inspections

- Manhole Summary
 - 485 manholes,
 - 252 were located and inspected,
 - 6 were located and buried,
 - 7 were located and paved over,
 - and 220 were not located or were inaccessible.
 - The inspections show the manholes are generally in good to fair condition.
- The manhole inspections and flow monitoring studies do not show areas with infiltration, therefore no further video inspection of the system or smoke testing is recommended.

Sewer Service Areas

- Pump Station 1 – Discharges to TC WWTP
 - Pump Station 2 – Growth anticipated
 - Pump Station 3 – Built out
 - Pump Station 10 – Minimal Growth to Buildout
 - Gravity
- Lanny Johnson - Discharges to East Bay
 - Pump Station 4 – Minimal Growth to Buildout
 - Pump Station 6 – Growth anticipated (VGT, KOTI)
 - Gravity – Growth Anticipated (Granger Group)
- Holiday Road Gravity – Discharges to East Bay
 - Limited growth anticipated

Pump Station 1 Service Area

- Existing Flow

PUMP STATION #1			
Existing Flows, PS 2, PS 3 and PS 10			
Known REU			
		Avg	
REU	GPD	GPM	Peak GPM
1417.20	283,440	197	787
Pump Station Capacity			
Capacity (GPM)	Percent Capacity Used		Peak Factor
800	98%		4.0
Pump Capacity 1,500 GPM limited by PS piping			

- Calculated peak flow exceeds observed by a significant margin.

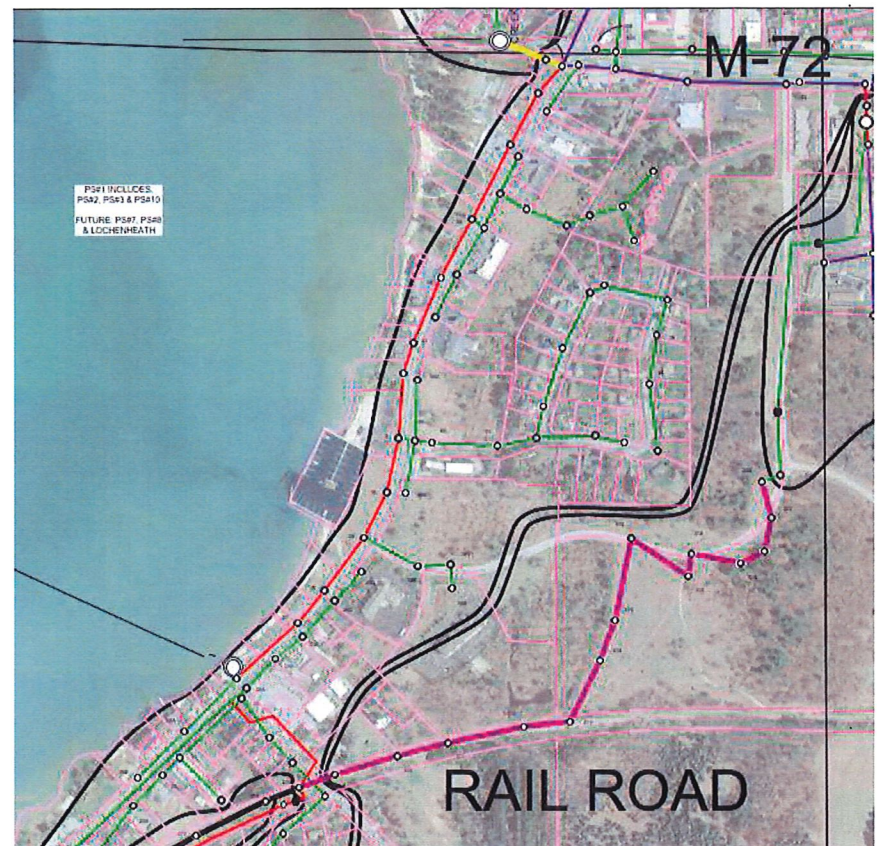
Pump Station 1 Service Area (Cont.)

- Future Flows

PUMP STATION #1			
Existing Flows, PS 2, PS 3, PS 10 build out & Lochenheath and Acme Flats			
Known REU			
REU	GPD	Avg GPM	Peak GPM
1,839	367,892	255	1,022
Pump Station Capacity			
Capacity (GPM)	Percent Capacity Used		Peak Factor
800	128%		4.0
1500	68%		4.0
Pump Capacity 1,500 GPM limited by PS piping			

Pump Station 1 Service Area (Cont.)

- The limiting gravity to Acme PS 1 is a 12 inch pipe between MH 28 and MH 27 installed at a 0.155% grade and has a 904,300 GPD capacity or 628 GPM. This is the same gravity pipe that is the downstream limit for Acme PS 2, 3 and 10.



Lanny Johnson Service Area

- Existing Flow

Lanny Johnson Sewer				
Existing Flows, PS 4 and PS 6				
Known REU				
REU	GPD	Avg GPM	Peak GPM	
813	162,600	113	452	
Sewer Line Capacity				
Capacity (GPM)	Percent Capacity Used		Peak Factor	
960	47%		4.0	

Lanny Johnson Service Area (Cont.)

- Future Flow from Granger Group (Acme Flats)

Lanny Johnson Sewer			
Existing Flows, PS 4 and PS 6, KOTI Phase 1 plus Acme Flats			
Known REU			
		Avg	
REU	GPD	GPM	Peak GPM
1,282	256,350	178	712
Sewer Line Capacity			
Capacity (GPM)	Percent Capacity Used	Peak Factor	
960	74%	4.0	

Lanny Johnson Service Area (Cont.)

- Future Flow Granger Group (Acme Flats), KOTI, VGT

Lanny Johnson Sewer				
Existing Flows, PS 4 and PS 6 plus Acme Flats KOTI and VGT				
Known REU				
			Avg	Peak
REU	GPD	GPM	GPM	GPM
2,112	422,350	293	1,173	
Sewer Line Capacity				
Capacity	Percent Capacity		Peak	
(GPM)	Used		Factor	
960	122%		4.0	

Lanny Johnson Sewer				
Existing Flows, PS 4 and PS 6 plus Acme Flats KOTI and VGT				
Known REU				
			Avg	Peak
REU	GPD	GPM	GPM	GPM
2,112	422,350	293	880	
Sewer Line Capacity				
Capacity	Percent Capacity		Peak	
(GPM)	Used		Factor	
960	92%		3.0	

East Bay Sewer

- Existing Flow Lanny Johnson and Holiday Hills flow to East Bay

Acme Gravity Flow to East Bay Gravity				
Existing Flows				
Known REU				
			Avg	
REU	GPD		GPM	Peak GPM
951	190,100		132	528
East Bay Gravity Line Capacity				
Capacity (GPM)	Percent Capacity Used		Peak Factor	
1,063	50%		4.0	

East Bay Sewer

- Future Flow Lanny Johnson and Holiday Hills flow to East Bay

Acme Gravity Flow to East Bay Gravity				
Build Out				
Known REU				
		Avg	Peak	
REU	GPD	GPM	GPM	
2,332	466,450	324	1,296	
East Bay Gravity Line Capacity				
Capacity	Percent Capacity	Peak		
(GPM)	Used	Factor		
1,063	122%	4.0		

Acme Gravity Flow to East Bay Gravity				
Build Out				
Known REU				
		Avg	Peak	
REU	GPD	GPM	GPM	
2,332	466,450	324	972	
East Bay Gravity Line Capacity				
Capacity	Percent Capacity	Peak		
(GPM)	Used	Factor		
1,063	91%	3.0		

- Future growth coordinated with East Bay Township as part of permitting.

Recommendations

- Recommend maintenance at pump stations 3, 4, and 6. Confirm pump station 10 pumping rate following impeller upgrades.
- Install instrumentation at Acme PS 1, Acme PS 6 to continuously monitor pumpage and the Lanny Johnson gravity flow meter to provide continuous flow readings.
- Coordinate future growth with East Bay Township.
- Evaluate system upgrade options to redirect flow from the Lanny Johnson sewer to Acme PS 1.

Questions?