

History and Development of the South Huron Valley Wastewater System

Part II: 2010 - 2016



Presented by Dick Hinshon to:

South Huron Valley Utility Authority Board
June 15, 2016

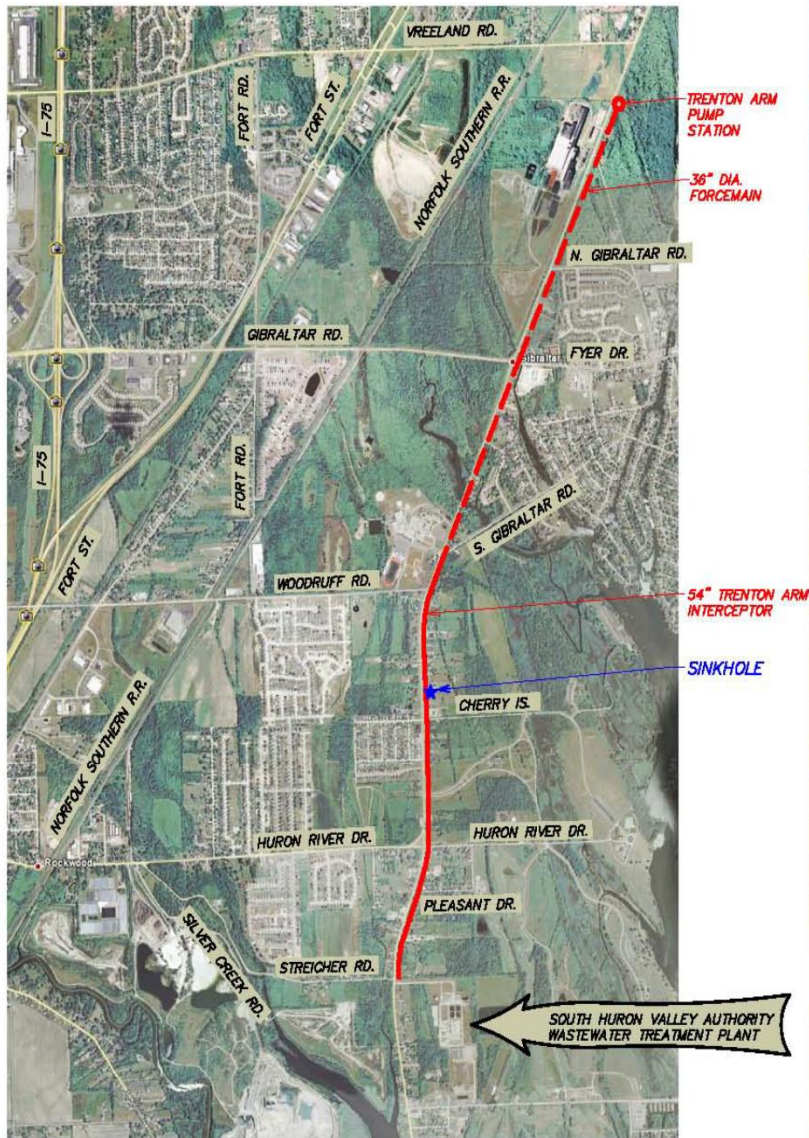
Presentation Topics:

- **System Changes and Improvements**
- **Regulatory Issues/Permit Compliance**
- **System Operation & Maintenance**
- **Billing Meters and Flow Monitoring**
- **Organization and Management Developments**
- **Looking Ahead**
- **Questions?**

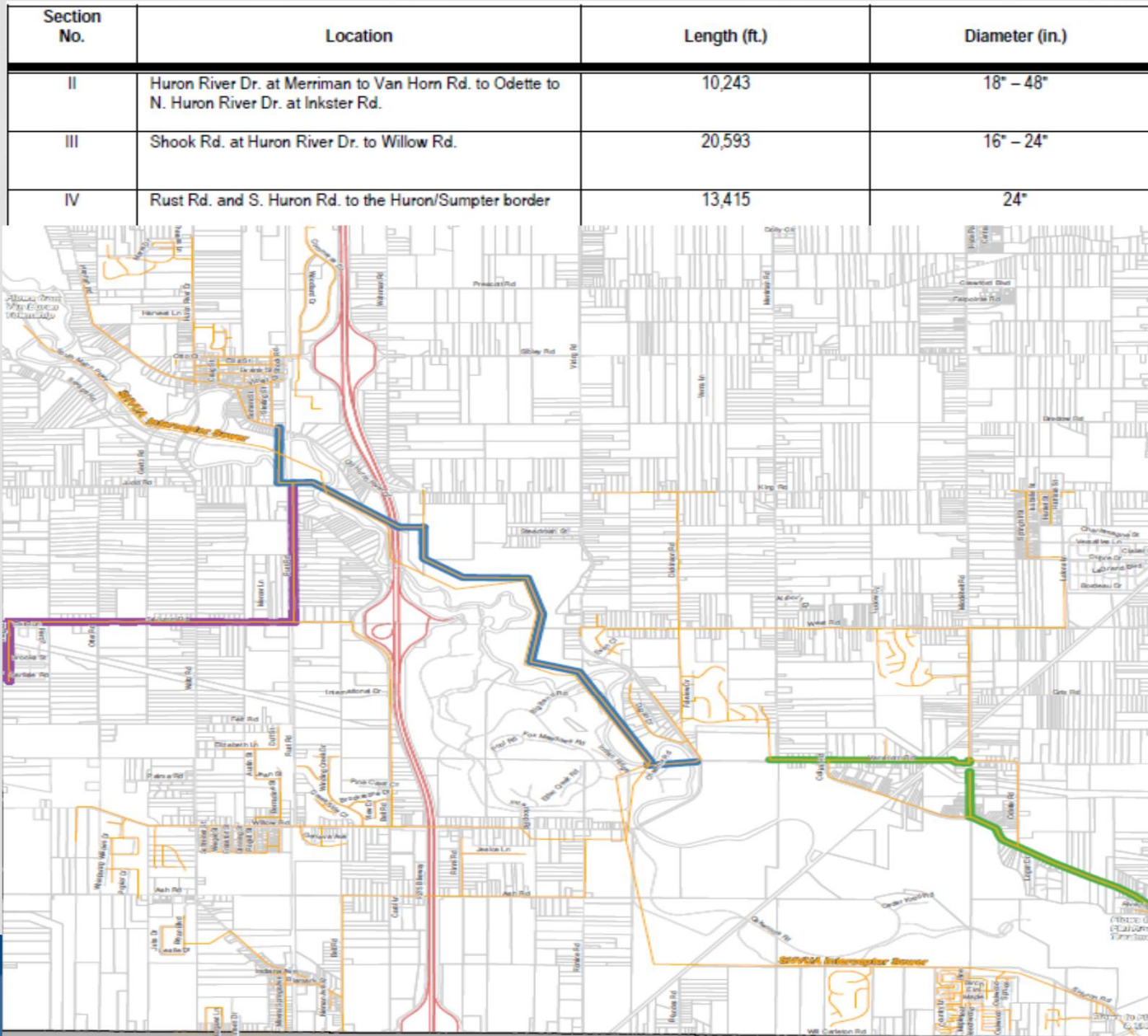
System Changes and Improvements

- **Trenton Arm Interceptor Relining (8,600') 2011**
 - ACO issued by MDEQ to require project construction
 - Litigation from Flat Rock over Cost Allocation
 - SRF Loan Financing: \$2.7 M
 - Carefully sequenced construction for liner installation
- **Orphan Pipe Ownership Agreement 2012**
 - Sections II, III accepted by SHVUA as part of System
 - Section IV accepted by Huron as a Township sewer
 - Adjustment to Huron's I/I credit for additional pipes
 - SHVUA covers one-time inspection/cleaning of pipes

Trenton Arm Relining Project



Orphan Pipe Location



System Changes and Improvements, p.2

- **Sludge Storage Tank Renovations** (Completed 2012)
 - Financed with Revenue Bond: \$2 million
 - United Water O&M Agreement revised to ensure Tax Exempt status preserved (gas, electric “pass through”)
 - Congealed sludge removed to restore capacity
 - Structural integrity of tanks restored
- **Trenton Arm Pump Station Rebuild** (2014)
 - \$1.9 M; Financed by Brownstown as an IPA; SHVUA agrees to reimburse Township for debt payments
 - All 4 Pumps rehabbed and retrofitted w/VFDs
 - Noise issues being addressed

Sludge Storage Tank Deterioration



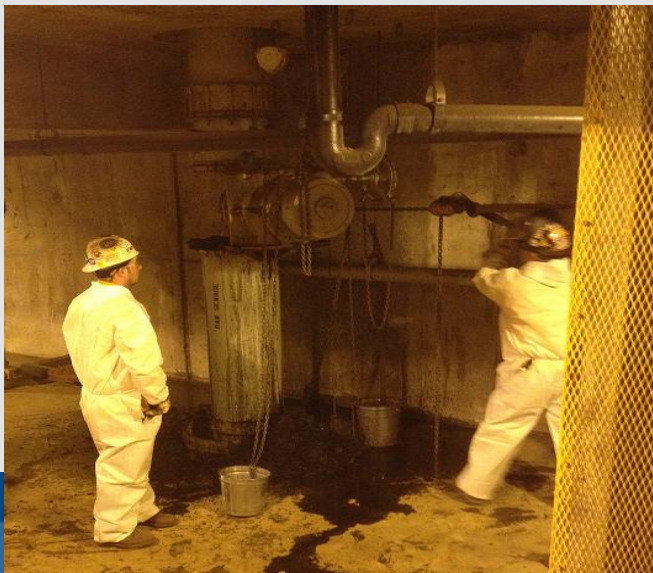
Trenton Arm Pump and Motor Rebuild



Rebuilt Motor #3



Rebuilt Pump #3



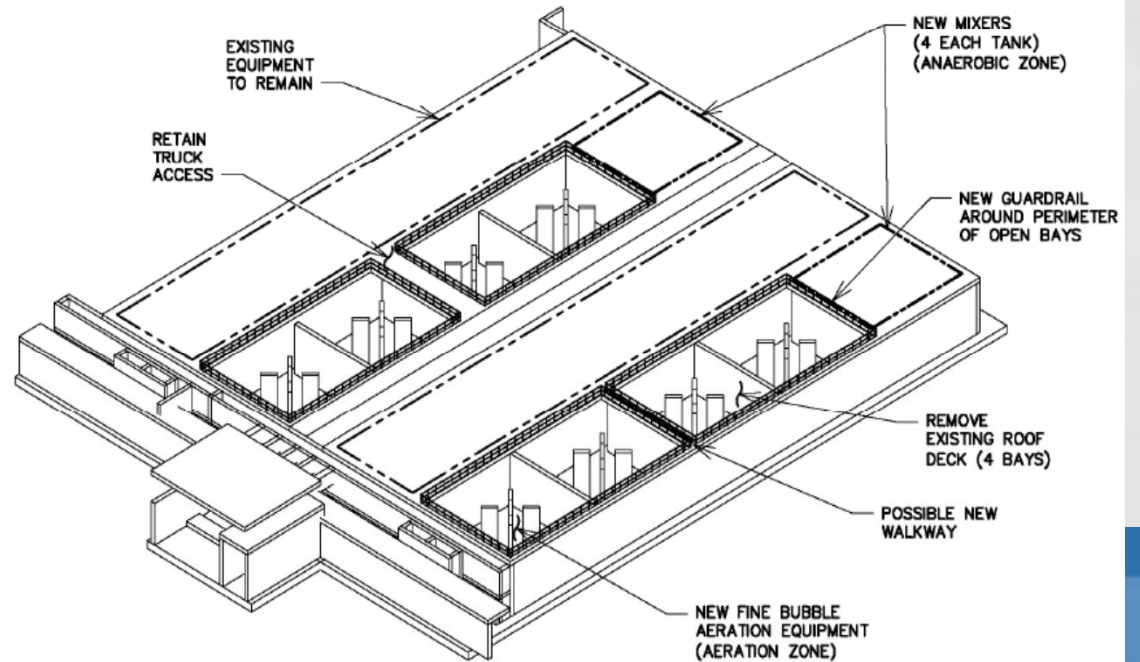
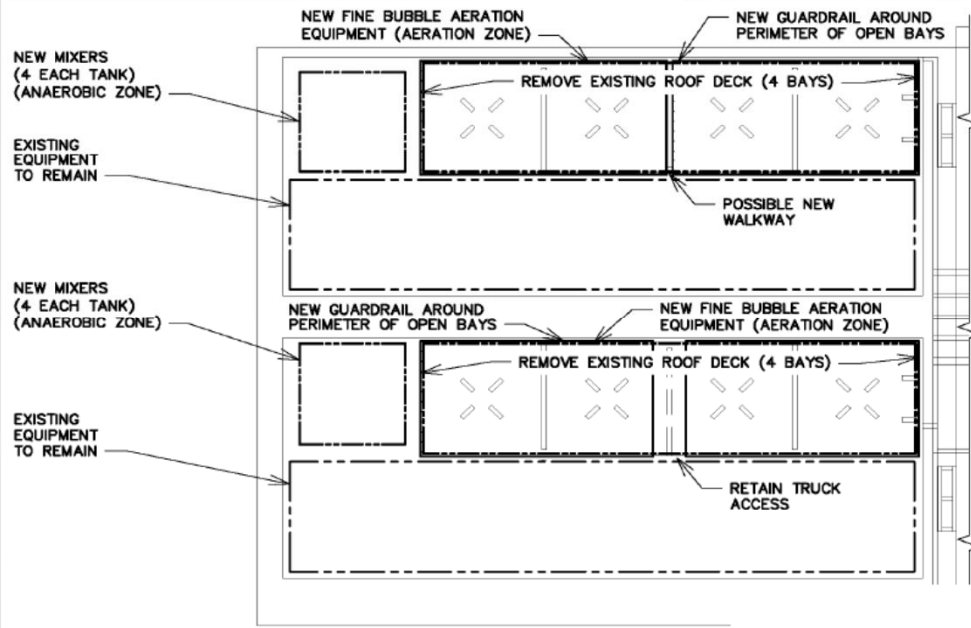
System Changes and Improvements, p.3

- **Sludge Thickener Tank Renovations (2014)**
 - \$1.6 million project
 - Mechanical Equipment replaced/upgraded
 - Structural integrity restored
- **Biodeck Conversion Project (2016)**
 - Low Energy Blower/Diffuser System proposed
 - Two Biodecks to be converted to new technology
 - Mechanical Mixers kept for other two Biodecks
 - To be financed with subsidized QECB loan
 - Treatment capacity constrained during construction

Interior of Sludge Thickener Tank



Schematic Diagrams of Biodeck Conversion



Regulatory Issues/Permit Compliance

- EQ Basin Performance Certification
 - Numerous exchanges between SHVUA/MDEQ
 - MDEQ Acceptance that EQ Basin is adequately sized
- IPP Local Limits revised in 2013 (Phenol; Molybdenum)
- Sludge Storage Tank Drain Leak to storm sewer (2013)
- New NPDES Permit (2014)
 - Storm Water Management Plan required;
 - Asset Management Plan required
 - More restrictive Mercury effluent limit
- Asset Management Plan developed/filed (2016)
 - SAW Grant funds used for AMP development

Sludge Storage Tank Leak Photos



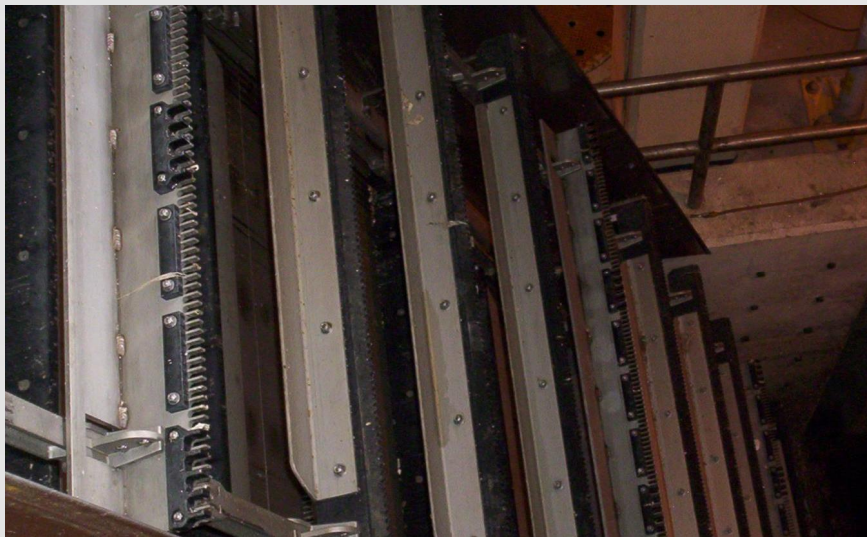
System Operations & Maintenance

- Converted Disinfection System from Chlorine Gas to Sodium Hypochlorite Liquid
- Long term maintenance contract signed with United Water affiliate for Elevated Water Tank
- Initiate Expanded Interceptor Cleaning and Inspection, Manhole Rehabilitation
 - 5 Year Cycle to do entire System
- United Water O&M Agreement extended through 12/31/18
 - Annual escalation fixed rate
 - Removal of gas, electric costs from monthly fee

System Operations & Maintenance, p. 2

- Numerous Minor Capital Improvements undertaken by United Water
 - Driveway replacement
 - Admin Building doors
 - Bar Screens and Conveyors
 - Primary Clarifier renovations
- Synagro initiates on site dewatering of Biosolids using portable belt filter presses
 - SHVUA acceptance of Grosse Ile biosolids to assist that facility (2014)

Minor Capital Improvements



Billing Meters and Flow Monitoring

- CDM Smith Contract re-issued (2014)
 - No escalation in cost for last 2 years (2017-18)
 - Expires 12/31/18
- Evaluation of Available Meter Technology (2012)
- Flow Monitoring Reports expanded to evaluate of Contract Capacity Exceedances (2013)
 - WWTP Capacity exceedances: 24 hr; 72 hr
 - Interceptor Capacity exceedances: 1 hr; 4 hr
- Installation of 1st Laser Meter: SH-04 (2014)

Summary of Capacity Exceedances

2013 - 2015 SUMMARY by COMMUNITY

Community	WWTP Exceedances	Interceptor Exceedances
Brownstown (C + S)	None	1 Hr: 10 Events; 4 Hr: 6 Events
Flat Rock	24 Hr: 2 Events	1 Hr: 4 Events; 4 Hr: 1 Event
Gibraltar	24 Hr: 6 Events	None
Huron	None	None
South Rockwood	24 Hr: 8 Events	1 Hr: 23 Events; 4 Hr: 10 Events
Van Buren	None	None
Woodhaven	24 Hr: 5 Events	None

Organization and Management Developments

- **Romulus** converted to “Customer” Community (2014)
- **Consolidated Service Agreement** adopted (2015)
- **System Manager** position created:
 - Dick Hinshon hired in 2013
 - Firooz Fath-Azam hired in 2016
- **New Policies** put in place:
 - Freedom of Information Act requests
 - Document Retention

SOUTH HURON VALLEY
UTILITY AUTHORITY



CONSOLIDATED
SERVICE
AGREEMENT

December 3, 2014

Consolidated Service Agreement

● Key Provisions:

- Cost Allocation for future Capital Improvements
- Definition of “Exceedance” of Contract Capacity
- Authority able to enforce Contract Capacities
- Conflict of Interest Provision established for Professional Service providers
- Dispute Resolution Procedure put in place
- Approval process established for accepting flow originating outside the Service Area

● Effective Date: January 14, 2015

Looking Ahead

Issues that will need to be addressed in the future:

- Financing arrangements for Biodeck Conversion Project;
- Developing a comprehensive 20 year CIP based on review of the anticipated System needs
- Re-issuance of NPDES Permit in 2017 (which may include more restrictive Phosphorus effluent limits)
- Negotiation of new contracts for O & M and for Billing Meter Maintenance in 2018;
- Eventually replacing the Billing Meters with new technology

QUESTIONS?



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