

# WASTEWATER DIVISION ANNUAL REPORT FOR 2014

## Wastewater Division Summary:

During the 2014 the focus for the wastewater department was on completion of phase 2 construction at the wastewater treatment plant. The collections department was tasked with duties outlined in the Sewer Master Plan and some additional stormwater dredging. The following areas were also addressed:

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### WASTEWATER TREATMENT PLANT

- Completed polymer testing of one petroleum based polymer and one bentonite based dry polymer. Polymer usage is tried to up front centrifuge cost as well as overall transportation cost.
- Modified 2 sludge hauling boxes to fit new the hook truck and retrofitted boxes with new unloading (swing) doors and new tarp system.
- Completed fabrication of new boxes for hauling grit, grease, and rags. New boxes are designed to fit the preliminary treatment facility.
- Assisted in with demolition projects in the former Zimpro area, former SO2 building and in the former Microscreen building to minimize associated phase 2 costs.
- Converted disinfection process to UV and began testing of F.Coliform vs E Coli. to reduce testing (cost) of bacterial colony counts.
- Negotiated new permit with OEPA - 3PD00016\* MD, including new Total Nitrogen Limit; negotiated retaining the existing Ammonia Limits both at levels greater than surrounding treatment plants, to provide greater flexibility with Biological Nutrient Removal.
- Assisted with phase 2 construction to minimize construction cost, including: plan review, line electromagnetic location, excavation supervision, construction supervision and inspection, daily, weekly, an monthly coordination meetings, response to RFIs, plant shutdown and modification request, and numerous planning reviews.
- Added new pad for sludge and street sweep storage, addressed/set aside area for future scale for semi tare station.
- Numerous phase 2 reviews and alterations to maintain functionality at the wastewater treatment plant.

- 2014 chemical usage:
  - Sodium Hypochlorite –\$6,413.75.
  - Sodium Bisulfate –\$0
  - Sodium Aluminate –\$42,930.70
  - Chlorine Cylinders for odor control – \$0
  - Caustic Soda for odor control and final pH– \$2,115.85
  - Secondary Polymer – \$ 4,333.80
  - Centrifuge Polymer –\$146,712.80
- The treatment plant replaced 3 operators in 2014 and has 1 current vacancy.

## **Sanitary Sewer System Operation**

Along with normalized duties found in the Sewer Master Plan; as well as, specialized service during major rain events, the system crew completed the following projects:

- Responded to 268 sewer service requests – there are approximately 12,000 total sanitary sewer system connections in North Olmsted.
- Sanitary mains televised 9.8 miles.
- Sanitary laterals televised Launch– 126.
- Sanitary laterals televised Snake- 67.
- Sanitary mains cleaned with sewer jet – 26.7 miles.
- Sanitary manhole sealed – 82 manholes.
- Sewer Main Pipe Patch Repairs 4.
- Moen Pump Station – no significant changes.
- Bradley Pump Station- Updated Communication systems.
- Broxbourne Pump Station- New Sewer Grinder, Updated communications.
- Purchased 2 inline flow-dar combination flow meters, for permanent mounting to monitor flow coming in from Olmsted Township service area tied to 2015 south interceptor study.
- I & I locations of main sewer breaks and cracks were located by our CCTV crew. All were repaired in-house with our trenchless technology patch equipment. 2015 will include a demo for patch areas that include overlapping service laterals.
- 3 new members from collections were transferred from treatment in 2014. 2 additional collection system personnel obtained OEPA licenses.

## Flow

- During the year 2014 the City of North Olmsted WWTP treated 2.467 Billion gallons of wastewater.
  - The estimated peak flow through the WWTP was 44.43 MGD, on May 13<sup>th</sup> 2014.
  - During the 2014 year 40.908 dry tons of biosolids were hauled to the landfill; 871.453 dry tons were transferred to Quasar's French Creek (Methane Generation) Green Waste Facility, we hauled 95% of all biosolids internally for 2014.
  - In 2013 we spent 143,228.17 on disposal of biosolids and 41,349.81 on transportation costs in 2014 we spent 135,943.72 on disposal and 21,355.84 on transportation.
  - Flow at the wastewater plant Achieved 99% compliance with the current National Pollutant Discharge Elimination System permit from January 2014 through December 2014. The treatment plant entered a state of non-compliance 28 times during the year, up from 12 the preceding year. The NOWWTP reported non-compliance for cBod, Ammonia, Phosphorus, Ecoli, and TSS. Reduced treatment capacity along with wet weather was the main reason for the high number of non-compliance reported to OEPA.
  - The wastewater treatment personnel completed a permit renewal for the replacement of the current NPDES operating permit 3PD00016\*MD.
  - There were no changes to the maintenance staffing in 2014.
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## NOWWTP Lab

- All reports were prepared and submitted on time to the Ohio EPA as mandated under our current NPDES permit requirements:
    1. Completed Priority Pollutant Scan including enforcement of local industrial user limitations to prevent the introduction of pollutants into the WWTP which will interfere with the operation of the WWTP, pass-through the WWTP, or limit sludge application.
    2. Completed the USEPA thirty DMRQA Study – USEPA determined that the City's Laboratory performance was accurate for all tested parameters.
    3. Completed all monthly EDMRs and noncompliance follow-up reports.
    4. Completed all pretreatment quarterly and annual reports
    5. Completed all quarterly and annual collection system reports as well as all SSO reports and 24hr bypass reports
  - Normal QC/QA and control study were completed to generate defensible data.
  - Performed Chronic and Acute Toxicity tests to determine compliance with OEPA.
  - Started Local Limits Technical Justifications part of 2015 NPDES permit requirements.
  - Staffing numbers in the laboratory department remained unchanged.
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# Sanitary Sewer Totals

2014

Sanitary Sewer Service Calls: 268

Sanitary Mains Televised: 9.8 Miles

Laterals Launched with T.V. Truck 126

Sanitary Laterals Televised 67

Sanitary Mains Cleaned w/sewer jet  
26.7 Miles

Sanitary Manholes Repaired and  
Chimney Sealed for I&I  
82

Sanitary Main Sewer Trenchless Pipe  
Patch Repairs

4

**:SANITARY SEWER YEARLY AVERAGES:**

**SANITARY SEWER MAINS CLEANED W/JET**

2001 : 16.5 Miles	2006 : 10.6 Miles	2011: 33.1 Miles
2002 : 14.0 Miles	2007 : 12.8 Miles	2012: 39.4 Miles
2003 : 17.5 Miles	2008 : 17.1 Miles	2013: 22.3 Miles
2004 : 23.5 Miles	2009 : 22.6 Miles	2014: 26.7 Miles
2005 : 17.7 Miles	2010 : 25.6 Miles	2015:

**SANITARY SEWER SERVICE CALLS**

2001 : 299	2006 : 249	2011: 162
2002 : 281	2007 : 273	2012: 174
2003 : 256	2008 : 263	2013: 177
2004 : 238	2009 : 205	2014: 268
2005 : 271	2010 : 191	2015:

**SANITARY SEWER HOUSE LATERALS T.V.ed**

2001: 124	2006: 91	2011: 62
2002: 119	2007: 100	2012: 57
2003: 112	2008: 97	2013: 127
2004: 112	2009: 76	2014: 193
2005: 142	2010: 91	2015:

**SANITARY SEWER MAINS TELEVISED**

2001: 0	2006: 2.0 Miles	2011: 10.1 Miles
2002: 0	2007: 2.1 Miles	2012: 12.7 Miles
2003: 0	2008: 5.0 Miles	2013: 7.9 Miles
2004: 3.9 Miles	2009: 6.1 Miles	2014: 9.8 Miles
2005: 5.4 Miles	2010: 11.3 Miles	2015:

**SANITARY MANHOLES INSPECTED**

2008: 162	2009: 112	2010: 78	2011: 216	2012: 385
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:SANITARY SEWER YEARLY AVERAGES:

SANITARY SEWER MAINS CLEANED W/JET

2016 :  
2017 :  
2018 :  
2019 :  
2020 :

SANITARY SEWER SERVICE CALLS

2016 :  
2017 :  
2018 :  
2019 :  
2020 :

SANITARY SEWER HOUSE LATERALS T.V.ed

2016 :  
2017 :  
2018 :  
2019 :  
2020 :

SANITARY SEWER MAINS TELEVISED

2016 :  
2017 :  
2018 :  
2019 :  
2020 :

SANITARY MANHOLES INSPESTED

2013: 179    2014: 206    2015:    2016:    2017:

# STORM DITCH CLEANING 2014

SOUTH SIDE OF LOARAIN RD 6.5 MILES

NORTH SIDE OF LORAIN RD. 7.7 MILES

:DREDGE OUT DITCHES :

BARTON RD BY 5907

BRADLEY BY PUMP STATION

BACK DRIVE ST. BRENDAN CHURCH

SOCCER FIELDS BY BROOK CIR. LAT.

FITCH RD S. OF I480 HEAD WALLS

TENNYSON DITCH

PINE SCHOOL

ROOT RD BOTH SIDES

BRIDGE PORT RETENTION

N.O. REC CENTER

N.O. HIGH SCHOOL TO BURNS RD

TELEVISED STORM SEWERS FOR TEE OR  
LATTERAL LOCATIONS: 28

CHECKED STORM TROUBLE SPOTS ON  
LOG SHEET AFTER EVERY HEAVY RAIN  
FOR A TOTAL THIS YEAR OF 8 VISITS.  
( THERE ARE 30 LOCATIONS ON THE  
LOG SHEET)