

Annual Report

July 1, 2014 – June 30, 2015



3335 Wade Hampton Blvd. Taylors, SC 29687 www.taylorsdistrict.org







History

In order to serve the infrastructure needs of people living outside the municipalities, Special Purpose Districts (SPD's) were created. A Special Purpose District (SPD) is a district created by an Act of the General Assembly or pursuant to general law and which provides any governmental power or function including, but not limited to, fire protection, sewerage treatment, water or natural gas distribution or recreation. A Special Purpose District also means any rural community water district authorized or created under the provisions of Chapter 13 of Title 6. Special Purpose Districts do not include any state agency, department, commission or school district.

On April 28, 1958, Act No. 1099 of the General Assembly of the State of South Carolina for the year 1958, created Taylors Water and Sewer District as a Special Purpose District in Greenville County. The District is operated, managed and governed by a commission. This commission consisted of three resident electors of the district to be elected by the qualified electors of the district. The Commission was charged with the responsibilities of constructing, operating, maintaining, improving and extending a water distribution system, a sewer system, a system for the collection and disposition of garbage and a system for fire protection within the boundaries.

On March 25, 1966, Taylors Water and Sewer District sold its water distribution system to the City of Greenville, South Carolina, Waterworks System (known now as Greenville Water) but continued to provide fire and sewer services. On June 14, 1968, Act No. 1546 of the General Assembly of the State of South Carolina for the year 1968, changed the name of Taylors Water and Sewer District in Greenville County to Taylors Fire and Sewer District and relieved the district of any authority or responsibility with reference to a public water distribution system.

In September 1970, Taylors Fire and Sewer District agreed to sell, Western Carolina Regional Sewer Authority (then Greenville County Sewer Authority, as known now as Renewable Water Resources) all sewer trunk lines, right-of-ways, and sewage treatment plants, including all plant equipment and any land adjacent to the treatment plant for future expansion. This was done to be in compliance with Section 8 of Act No. 745 of 1967, as amended, of the South Carolina Statutes. This left Taylors Fire and Sewer District with the maintenance responsibility of the collector lines which serves each resident and a large number of septic tanks.



Taylors Fire and Sewer District is a Special Purpose District that operates and maintains a wastewater collection and pumping system with a service area of approximately 16 square miles. We are located in central Greenville County, northeast of the City of Greenville, and are adjacent to the western border of the City of Greer. We share district boundaries with Metropolitan Sewer Subdistrict/MetroConnects to our northwest and southeast, and Wade Hampton Fire and Sewer District to our southwest. The wastewater collection system includes approximately 130 miles of gravity line, 3 pump stations and 3,600 manholes.

Our District Office is located at 3335 Wade Hampton Boulevard in Taylors behind the Fire Department Headquarters building.



Our Sewer Operations Shop is located at 405 Brushy Creek Road behind Fire Department Station #2.





Overview

The data included in this report is accurate as of June 30, 2015, which coincides with Taylors Fire and Sewer District's fiscal year end. This report will be updated on an annual basis, using our fiscal year as a data gathering deadline.

Taylors Fire and Sewer District and ReWa's intergovernmental agreement was signed on March 7, 2007 by Ms. Kelly Tucker, Taylors' Director of Sewer Services, and Mr. Ray Orvin, ReWa's Executive Director. After doing some research on the intergovernmental agreement, it was noted that the report was due on December 1, 2007. The reports would run from December 1st to November 30th of the following year. After going through the 2007, 2008, 2009 and 2010 reports, Ms. Samantha Bartow, Taylors' Director of Sewer Services, set up a meeting with Mr. Ray Orvin, ReWa's Executive Director and Mrs. Stacey Flax, ReWa's Customer Service / Contract Manager to discuss the timeline. During this meeting, Ms. Bartow asked if Taylors Fire and Sewer District could change the dates of the agreement so its report could run on fiscal year. Taylors' fiscal year is July 1st to June 30th. This change was requested due to how Taylors reports their financials. Mr. Orvin granted Ms. Bartow permission to change Taylors' report to fiscal year. Since this change was done in 2011 it was also agreed that for the 1st year Taylors Fire and Sewer District would turn in a report for December 1, 2010 to June 30, 2012 to incorporate the new reporting period. From this point forward Taylors Fire and Sewer District reports will run on fiscal year reporting.

As per the established Sanitary Sewer Evaluation Protocols the lines were smoked, inspected utilizing CCTV, and rated as to the amount and location of any damage. Any breaks, open cracks, misalignments, root intrusions, or damaged manholes were marked as inflow and infiltration sources and listed for repair or replacement.



Work Plan Updates

Vehicles Purchases

Purchase Date	Equipment	Cost
4-9-2014	2014 Honda Pilot 4WD EX-L	\$25,961.00
1-9-2014	2014 Ford Cues TV Camera Truck	\$158,470.00
1-14-2013	2013 Chevrolet Silverado 4WD Crew Cab	\$23,100.00
11-7-2012	2013 Chevrolet Silverado 4 Door Pick Up	\$37,083.00
1-27-2012	2012 Freightliner Vac-Con Truck	\$303,274.50
11-3-2010	2011 Chevrolet Silverado L. S. Pickup	\$21,512.00
6-1-2009	2009 Ford Super Duty F250 Service Truck	\$25,274.92
8-27-2008	2009 International 4300 Durastar Dump Truck	\$59 <i>,</i> 673.94
10-30-2006	2007 Ford Ranger Pick Up 4x4	\$15,030.75
12-14-2005	1997 Chevrolet C6500 Dump Truck	\$11,500.00
4-26-2002	2002 Ford Super Duty F350 XL Service Truck	\$27,102.00

Equipment Purchases

Purchase Date	Equipment	Cost	
5-15-2015	Redundancy Computer Backup for TV Data	\$2,915.00	
5-12-2015	B40-25 24x Auto Level	\$450.50	
3-24-2015	Track Replacement for Kobelco SK80CS-1E Compact	\$6.441.80	
5 24 2015	Hydraulic Mini Excavator	Ş0,441.00	
2-25-2015	Light Ring for Manholes	\$2,200.00	
12-17-2014	Cues Pan & Tilt Lateral Launch System	\$110,558.00	
9-1-2014	CMMS Pups Integration (Integrated Cityworks with SC811)	\$12,883.67	
7-30-2014	Replacement Pump (XFP-100G) for Lily Pond P.S.	\$9,746.70	
6-30-2014	CMMS (City Works & ArcGIS) Configuration	\$66,765.00	
3-17-2014	6' High Flow Cutter	\$7,837.64	
2-27-2014	70" Clear Touch Interactive Computer / Panel	\$6 <i>,</i> 956.56	
11-20-2013	Caterpillar Skid Steer CTL 289 Cab Hiflow	\$54,363.00	
11-15-2013	15 – Smart Phones (IPhones) for Work Order Program (CMMS)	\$1,483.86	
11-15-2013	5 each IPads for Work Order Program (CMMS)	\$3,370.74	
7-10-2013	Azteca – City Works GIS Software (CMMS)	\$15,000.00	
7-8-2013	5 – Computers for Sewer Shop plus Software (MS Office)	\$4,939.98	
7-1-2013	Generator for District Office Building	\$23,998.55	
6-21-2013	Degreaser Injector with Inverter Assembly – Ominbus	\$2,341.00	

Purchase Date	Equipment	Cost	
6-14-2013	3 – HTT-900 Cellular Monitor for Pump Stations \$1,750/ea	\$7,525.00	
6-4-2013	ArcGIS Online	\$10,600.00	
6-4-2013	VMC 60" Rotary Head with Hoses	\$3,999.00	
5-31-2013	ArcGIS/ArcEditor for Desktop	\$7,420.00	
5-14-2013	175-195 CFM Skid Mounted Compressor	\$12,953.83	
8-17-2012	Cues Sonde for Existing OZ-3 Camera	\$3,233.00	
7-30-2012	Solar Tech Arrow Board 15 Lamp Solar Power	\$4,028.00	
7-2-2012	Cues OZ-3 Camera with Sonde	\$21,276.32	
7-2-2012	Cues Wheeled WTR Tractor Crawler (Includes 6" Rubber	\$19,011.10	
	Wheels)		
7-2-2012	Cues 8" Steel Wheels for WTR Crawler	\$1,399.20	
6-13-2012	Mi-T-M 1000 psi Steam & Pressure Washer	\$4,234.70	
6-22-2011	2002 Haulmark Trailer for Patch Repair includes:	\$1,800.00	
	10 Marker Cones		
	Porter-Cable Compressor		
	Power House Generator		
	36" Fan		
	10'x10' Canopy		
	1 – 8' Repair Bladder		
	36 – Connector Rods for Bladder		
5-18-2011	John Bean Bulldog 3518D Single Axle Trailer Jetter	\$39,008.00	
1-12-2011	Flo-Dar Flow Monitor	\$10,490.07	
10-1-2010	Flo-Dar Flow Monitor	\$9,370.40	
6-30-2010	Flo-Dar Flow Monitor	\$14,411.20	
6-18-2010	3 – Chicago Submersible Pump 25HP for Lily Pond P.S.	\$22,188.00	
6-7-2010	Hurco Ripcord 8HP Ventilaton Machine	\$1,720.50	
4-22-2010	Flexidata Software Module for ESRI – GIS Program	\$6,270.00	
	Self-Retracting Wire Rope Device with Cast Aluminum		
4-21-2010	Housing, Rescue & Retrieval Three-Way Self-Retracting	\$2 <i>,</i> 356.33	
	Device, 7' Confined Space Aluminum Tripod		
3-8-2010	Insight / Vision Push Camera System	\$7,791.00	
11-13-2009	Carlton 2518 18" Capacity Brush Drum Chipper	\$44,201.62	
10-28-2009	Straw Blower Bale Chopper	\$1,200.00	
7-22-2009	1" Bulldog Nozzle	\$2,226.00	
4-23-2009	Pearpoint Camera to Cues	\$41,128.00	
4-23-2009	Ditch Box & Stacking Bars	\$5 <i>,</i> 826.85	
1-17-2000	GME 6' x 8' x 2" Aluminum Extruded Wall Adjustable 32"-	55 876 85	
4-17-2003	50" (Trench Box)	50,020,65	
9-29-2008	8' Woods Cutter	\$5,000.00	
9-15-2008	D-E Dual Axle Trailer	\$1,669.50	

Purchase Date	Equipment	Cost
9-1-2008	Pipehunter Sidekick Easement Machine	\$23,677.47
8-26-2008	Jet Digger Nozzle	\$3,158.80
6-25-2008	Cues K-2 Portable Camera System	\$60,208.00
6-25-2008	ODEE Portable Camera Enclosure Unit	\$9,222.00
6-23-2008	Bobcat 2200-Diesel ATV	\$8,655.20
6-29-2007	2007 Hudson 10 Ton Trailer	\$7,070.20
6-29-2007	Kobelco 80 SR Excavator with 24" & 36" Buckets	\$78,595.00
2-20-2007	Stanley Hyd. Power Unit with Misc. Tools	\$7 <i>,</i> 575.75
12-1-2005	GME Griswold Trench Box 6	\$5,479.14
8-19-2005	2005 John Deere 6415 Tractor & Boom Mower	\$65 <i>,</i> 653.43
8-12-2005	Godwin CD100M 4" Dri-Prime Pumpset	\$19,142.55
6-28-2004	Mikasa MT-65H Tamping Rammer	\$2,934.75
1-13-2004	Mikasa MVC-88GHW Plate Compactor	\$1,884.75
1-10-2003	Kohler Generator	\$5,500.00
8-28-2002	2002 John Deere 310 SG Backhoe with Cab	\$41,300.00
6-14-2001	Hobart Ironman Welder 250 Wire-Welder	\$1769.79
4-2-2001	Rhino 6'x8' Shoring Shield	\$6,632.45
8-14-1996	Data Logging Rain Gauge with 25' Cable	\$595.00
1-1-1986	1986 Ingersol-Rand Air Compressor (pull behind)	\$6,000.00
	Stone Cement Mixer 655 P.M.	\$3,000.00
	Hurco Smoke Machine	\$2,500.00
	7 – Hach Sigma 910 Flow Monitors	





Administrative Staff

Over the last few years, the District has added employees. Taylors Fire and Sewer District has three classifications for employees: Fire Department Personnel, Sewer Department Personnel and District Administration Personnel. District Administration Personnel work for both the Sewer and Fire Departments, which report to the Director of Sewer Services and Fire Chief. The Sewer Department has changed responsibilities for Crews; each Crew has a Crew Leader to report to. Crew Leaders report to the Operations Coordinator. Due to limited size of each crew, each employee is cross trained in other fields so as to add more manpower to either crew as required by the nature of the project. Due to the State Law (South Carolina Underground Facility Damage Prevention Act) required mandate that we had to be a member of SC811/Pups by June 7, 2015, we requested from our Board an additional employee to assist us to be compliant with this law.



Right-of-Way Crew





Taylors	Taylors		
Mini System #	Miles of Line		
1	12.97		
2	14.07		
3	12.98		
4	6.30		
5	11.08		
6	23.80		
7	19.49		
8	13.70		
9	15.08		
10	0.00		
Total:	129.47		



Taylors Mini System #	ReWa Miles of Line	
1	1.971	
2	0.884	
3	2.861	
4	2.062	
5	2.004	
6	3.425	
7	2.453	
8	1.860	
9	0.347	
10 0.000		
Total:	17.134	



Mini System #1 Data

	Total	Comments
Miles of Taylors Collection Line	12.97	
Miles of 6 inch	0	
Miles of 8 inch	12.97	
Miles of 10 inch	0	
Miles of 12 inch	0	
Miles of 15 inch	0	
Miles of Taylors Force Main	0	
Miles of ReWa Trunk Line	1.92	
Miles of ReWa Force Main	0.54	
Number of Connections to ReWa Trunk Lines	17	
Number of Connections to Metro Lines	1	
Number of Connections to Greer CPW Lines	0	
Number of Connections to Wade Hampton Lines	0	
Number of Taylors Manholes	348	
Number of Taylors Pump Stations	0	
Number of ReWa Pump Stations	1	PS 851
Number of Tax Parcels	1288	
Approximate Number of Businesses/Industries	8	
Number of Public Schools	0	



Mini System #2 Data

	Total	Comments
Miles of Taylors Collection Line	14.07	
Miles of 6 inch	0	
Miles of 8 inch	14.07	
Miles of 10 inch	0	
Miles of 12 inch	0	
Miles of 15 inch	0	
Miles of Taylors Force Main	0	
Miles of ReWa Trunk Line	0.86	
Miles of ReWa Force Main	0	
Number of Connections to ReWa Trunk Lines	7	
Number of Connections to Metro Lines	2	
Number of Connections to Greer CPW Lines	0	
Number of Connections to Wade Hampton Lines	0	
Number of Taylors Manholes	372	
Number of Taylors Pump Stations	0	
Number of ReWa Pump Stations	0	
Number of Tax Parcels	1302	
Approximate Number of Businesses/Industries	16	
Number of Public Schools	2	Eastside High School, Brushy Creek Elementary School



Mini System #3 Data

	Total	Comments
Miles of Taylors Collection Line	12.98	
Miles of 6 inch	0.26	
Miles of 8 inch	12.39	
Miles of 10 inch	0.33	
Miles of 12 inch	0	
Miles of 15 inch	0	
Miles of Taylors Force Main	0	
Miles of ReWa Trunk Line	2.81	
Miles of ReWa Force Main	0	
Number of Connections to ReWa Trunk Lines	33	
Number of Connections to Metro Lines	0	
Number of Connections to Greer CPW Lines	0	
Number of Connections to Wade Hampton Lines	0	
Number of Taylors Manholes	349	
Number of Taylors Pump Stations	0	
Number of ReWa Pump Stations	0	
Number of Tax Parcels	1042	
Approximate Number of Businesses/Industries	143	
Number of Public Schools	1	Brook Glenn Elementary School



Mini System #4 Data

	Total	Comments
Miles of Taylors Collection Line	6.3	
Miles of 6 inch	0	
Miles of 8 inch	6.3	
Miles of 10 inch	0	
Miles of 12 inch	0	
Miles of 15 inch	0	
Miles of Taylors Force Main	0	
Miles of ReWa Trunk Line	2.01	
Miles of ReWa Force Main	0.04	
Number of Connections to ReWa Trunk Lines	8	
Number of Connections to Metro Lines	0	
Number of Connections to Greer CPW Lines	0	
Number of Connections to Wade Hampton Lines	0	
Number of Taylors Manholes	174	
Number of Taylors Pump Stations	0	
Number of ReWa Pump Stations	1	PS 857
Number of Tax Parcels	428	
Approximate Number of Businesses/Industries	42	
Number of Public Schools	1	Academy of the Arts



Mini System #5 Data

	Total	Comments
Miles of Taylors Collection Line	11.08	
Miles of 6 inch	0	
Miles of 8 inch	11.08	
Miles of 10 inch	0	
Miles of 12 inch	0	
Miles of 15 inch	0	
Miles of Taylors Force Main	0.51	
Miles of ReWa Trunk Line	1.79	
Miles of ReWa Force Main	1.17	
Number of Connections to ReWa Trunk Lines	11	
Number of Connections to Metro Lines	0	
Number of Connections to Greer CPW Lines	0	
Number of Connections to Wade Hampton Lines	0	
Number of Taylors Manholes	335	
Number of Taylors Pump Stations	2	Aiken Chapel, Enoree Heights
Number of ReWa Pump Stations	2	PS 876 PS 877
Number of Tax Parcels	1189	
Approximate Number of Businesses/Industries	46	
Number of Public Schools	0	





Mini System #6 Data

	Total	Comments
Miles of Taylors Collection Line	23.8	
Miles of 6 inch	0	
Miles of 8 inch	23.8	
Miles of 10 inch	0	
Miles of 12 inch	0	
Miles of 15 inch	0	
Miles of Taylors Force Main	0	
Miles of ReWa Trunk Line	3.28	
Miles of ReWa Force Main	0	
Number of Connections to ReWa Trunk Lines	30	
Number of Connections to Metro Lines	1	
Number of Connections to Greer CPW Lines	0	
Number of Connections to Wade Hampton Lines	0	
Number of Taylors Manholes	711	
Number of Taylors Pump Stations	0	
Number of ReWa Pump Stations	0	
Number of Tax Parcels	2097	
Approximate Number of Businesses/Industries	40	
Number of Public Schools	1	Taylors Elementary School



Mini System #7 Data

	Total	Comments
Miles of Taylors Collection Line	19.49	
Miles of 6 inch	0.11	
Miles of 8 inch	19.28	
Miles of 10 inch	0	
Miles of 12 inch	0	
Miles of 15 inch	0	
Miles of Taylors Force Main	0	
Miles of ReWa Trunk Line	2.31	
Miles of ReWa Force Main	0	
Number of Connections to ReWa Trunk Lines	27	
Number of Connections to Metro Lines	0	
Number of Connections to Greer CPW Lines	0	
Number of Connections to Wade Hampton		
Lines	3	
Number of Taylors Manholes	503	
Number of Taylors Pump Stations	0	
Number of ReWa Pump Stations	0	
Number of Tax Parcels	1615	
Approximate Number of Businesses/Industries	20	
Public Schools	1	Northwood Middle School



Mini System #8 Data

	Total	Comments
Miles of Taylors Collection Line	13.7	
Miles of 6 inch	0	
Miles of 8 inch	12.22	
Miles of 10 inch	0.28	
Miles of 12 inch	0	
Miles of 15 inch	1.2	
Miles of Taylors Force Main	0	
Miles of ReWa Trunk Line	1.84	
Miles of ReWa Force Main	0	
Number of Connections to ReWa Trunk Lines	5	
Number of Connections to Metro Lines	0	
Number of Connections to Greer CPW Lines	0	
Number of Connections to Wade Hampton Lines	0	
Number of Taylors Manholes	378	
Number of Taylors Pump Stations	0	
Number of ReWa Pump Stations	0	
Number of Tax Parcels	941	
Approximate Number of Businesses/Industries	30	
Number of Public Schools	1	Foothills Career Center



Mini System #9 Data

	Total	Comments
Miles of Taylors Collection Line	15.08	
Miles of 6 inch	0	
Miles of 8 inch	14.87	
Miles of 10 inch	0	
Miles of 12 inch	0.21	
Miles of 15 inch	0	
Miles of Taylors Force Main	0.43	
Miles of ReWa Trunk Line	0.32	
Miles of ReWa Force Main	0	
Number of Connections to ReWa Trunk Lines	5	
Number of Connections to Greer CPW Lines	2	
Number of Connections to Metro Lines	0	
Number of Connections to Wade Hampton Lines	0	
Number of Taylors Manholes	432	
Number of Taylors Pump Stations	1	Lilly Pond
Number of ReWa Pump Stations	0	
Number of Tax Parcels	1397	
Approximate Number of Businesses/Industries	47	
Number of Public Schools	0	



Mini System #10 Data

	Total	Comments
Miles of Taylors Collection Line	0	
Miles of 6 inch	0	
Miles of 8 inch	0	
Miles of 10 inch	0	
Miles of 12 inch	0	
Miles of 15 inch	0	
Miles of Taylors Force Main	0	
Miles of ReWa Trunk Line	0	
Miles of ReWa Force Main	0	
Number of Connections to ReWa Trunk Lines	0	
Number of Connections to Metro Lines	0	
Number of Connections to Greer CPW Lines	0	
Number of Connections to Wade Hampton Lines	0	
Number of Taylors Manholes	0	
Number of Taylors Pump Stations	0	
Number of ReWa Pump Stations	0	
Number of Tax Parcels	103	
Approximate Number of Businesses/Industries	6	
Number of Public Schools	0	



SSE/TV & Cleaning Timeline

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FY FY 2014						ŧ				Tanks
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Mill Hill / Mill Village Project



SEWER IMPROVEMENTS TAYLORS MILL VILLAGE

1000

500

0

Taylors Fire and Sewer District is in the final design stage of a project to Rehab the sanitary sewer serving the Taylors Mill Village area to the west of Bridge Road. Currently this area includes the residences located on North, Center, and South Streets, as well as, a mobile home park. The residences are currently served by lines located in the rear of the houses, not in the streets. The lines ultimately collect and pass through the mobile home park and ultimately connect to a line in Bridge Road. Some of the houses and mobile homes are located on top of the existing sewer lines, making it difficult for the District to maintain the lines. Additionally, the lines and manholes are allowing groundwater infiltration (I and I).

The project is addressing an aging sewer collection system that, due to stoppages, has the potential to overflow at manholes and has the potential to reach the Enoree River during storms. Houses are, in some cases, built immediately adjacent to the existing sewer lines and potentially present health hazards. The majority of the replacement system will be built in the public right-of-way (streets) thus allowing for easier access to the system by the District for repairs and maintenance. The aerial line crossing the Enoree River and connecting to a ReWa trunk line is in poor condition. The project encompasses installing 5,836 LF of new sewer line, primarily in the public right-of-way and provides a new modern free-span aerial crossing at the Enoree River.

W. R. Williams, Jr. Inc. Engineer/Surveyor is completing the final stages of the design to accomplish the following:

On North Street, install a new sewer line running west to east and connect to an existing line in Bridge Road. This section of line in Bridge Road will need to be lowered. On the western half of Center Street install a new sewer line running west to east to Waldrop Drive and then turn southward along Waldrop Drive to South Street. On the westernmost half of the eastern half of Center Street, install a new sewer line running east to west to east and connect to the new line running southward on Waldrop Drive. On the easternmost half of the eastern half of Center Street, install a new sewer line running west to east and connect to the existing (lowered) sewer line in Bridge Road. On the western end of South Street install a new sewer line running west to east to the line running down Waldrop Drive. On the eastern half of South Street install a sewer line running east to west and connect to the line running down Waldrop Drive. Use a new easement on the south side of South Street to install a new line to connect to the lines in the mobile home park. Abandon the sewer lines in the mobile home park and install new sewer in the mobile home park streets. Install a new aerial crossing (bridge) and remove the existing aerial crossing (piers). Connect to the new relocated ReWa system in front of the old Taylors Mill.

Once the new lines are operational each house service will be reversed to connect to the new lines.





Financial Report (FY2015)

According to the budget profile for July 1, 2014 through June 30, 2015, Taylors Fire and Sewer District spent \$1,559,289 on the reduction of inflow and infiltration (I&I).

I & I Reduction Expenditures:	
July 1, 2014 to June 30, 2015	\$1,257,683
Additional Expenditures:	
July 1, 2014 to June 30, 2015	\$301,606
Total Expenditures:	
July 1, 2014 to June 30, 2015	\$1,559,289



The Additional Expenditures listed above include such items as Taylors Fire and Sewer District Shared Overhead, Facilities/Utilities, Pump Station, Septic Tank Repair/Maintenance, Professional Services, and Capital Expenditures. These are all items the District must cover in order to serve our residents.

Taylors Fire and Sewer District uses a combination of methods to ensure and maintain the integrity of our system. Duke's Root Control, Insituform CIPP, Roper Brothers, VacVision Environmental, and SpectraShield Liner Systems are frequent contractors for specific projects.

Taylors Fire and Sewer District has also implemented the use of higher regulations and standards for new construction. Each site is required to seal manholes with either a Uniband or Flex Seal prior to backfilling, and District logo manholes. The entire project is monitored by Contract Engineers representing Taylors Fire and Sewer District, as well as District staff during construction in an effort to minimize and/or eliminate the amount of I&I that enters the system.

Over the past years, the slowing economy has had a direct effect on our permit income. Over the last few years we have seen a steady decline.

12-1-06 to 11-30-07	12-1-07 to 11-30- 08	12-1-08 to 11-30- 09	12-1-09 to 11-30- 10	12-1-10 to 6-30-11	FY2012	FY2013	FY2014	FY2015
\$128,800	\$59,900	\$72,975	\$62,100	\$19,375	\$48,100	\$33,625	\$40,130	\$36,925





Sewer User Fees

Even though the District has steadily increased the tax millage rates each year, the funds have been offset by the decrease in fair market values. During 2007, the Board of Commissioners approved the institution of a sewer user fee, however postponed the implementation. In 2009, the Board of Commissioners felt that the time had come to enact this fee in order to keep on schedule with the major repairs above and beyond regular maintenance of the sewer system.

The challenge was to set the fees low enough as to not create further financial burden on our residents and still be able to fund the improvements to our capital assets. The 2009 Board of Commissioners set a fee schedule with the stipulation that it applies to all properties connected to our sewer system. The 2014 Board of Commissioners reviewed the 2009 Sewer User Fee Schedule and realized that due to inflation, the fees needed to be revisited in order to be more consistent with current cost of materials.

Sewer Oser ree Schedule						
	2009 Fee	2014 Fee				
Residential Unit	\$20	\$30				
Homestead Exemption	\$10	\$10				
Business / Commercial	\$50	\$100				
Church (No Daily Activities)	\$50	\$50				
Church (Daily Activities)	\$100	\$150				
School	\$200	\$250				
Industry	\$250	\$500				

Sewer User Fee Schedule

As you can see from the pie chart below majority of our fees come from Residential users. We still have a majority of residents that don't have access to sewer and are still using septic tanks or they haven't had a failure of their septic tank to tie onto sewer system.



Taylors Fire and Sewer District Summary of Expenditures on Sewer Services July 1, 2014 - June 30, 2015

I & I REDUCTION EXPENDITURE5

GIS/Technology	\$2,784
Maintenance - Equipment	\$313,140
Personnel/Training/Safety	\$750,725
Maintenance - Contract Services	\$170,894
R&M Building and Grounds (ROW's, etc)	\$20,140

Total I & I Expenditures

\$1,257,683 81%

ADDITIONAL EXPENDITURE5

Total Additional Expenditures	\$301,606 19%
Capital Expenditures	\$0
Professional Services	\$6,814
Septic Tank Repair/Maintenance	\$4,500
Pump Station	\$9,746
Facilities/Utilities	\$39,304
TFSD Shared Overhead	\$241,242

Total Expenditures

\$1,559,289







Operations & Maintenance

You may see signs like the following in neighborhoods in the Taylors area when sewer maintenance is being performed:





Taylors Fire & Sewer District

Logo Manhole

You may see our equipment like the following in neighborhoods in the Taylors area when sewer maintenance is being performed:













Taylors Fire & Sewer District is now a member of South Carolina 811 Pups (SC811). On June 7, 2015 it became Mandatory in the State of South Carolina, and that was the day we became members. We are compliant with South Carolina Underground Facility Damage Prevention Act. In order to get ready for this process which was 3 years in the making. We contact our work order management integrator and discussed how to track SC811 calls without having another computer program to use. SC811 partners with KorTerra and pushes their management software KorWeb. We contracted with URS to add this module to our City Works Work Order Program.

We receive an email from Pups that actually emails the Director and GIS Analyst that a locate request has been made. If it is an emergency request it emails the Director and Operations Coordinator. As a redundancy to the system for emergencies only the Director also receives a text that an emergency locate has been submitted. In addition to Pups email, our City Works Work Order System gets this information sent to it and then generates an identical email with a Service Request Number attached. What happens is the Pups ticket is auto generated/typed into our work order system, so all we have to do is open that request number to determine the location.

Below is a screen shot of the Pups email received from SC811:

50	マチャー語				SCB11 15091	143132 Normal T	icket - Message (HTML)		
FILE MESSA	GE								-
🕞 Ignore 🗙	Reply Reply Forward The More -	SC811 PUPS Tic 🕞 To Manager Team Email 🕞 Reply & Delete 👎 Create New	1 1	Move	Rules *	Mark Follow	Translate	Zoom	
Delete	Respond	Quick Steps	G.		Move	Tags r	Editing	Zoom	
N	Ion 9/14/2015 4:08 PM								
t t	ickets@sc1pups.org								
s	C811 1509143132 Normal Ticket								
To TaylorsDistrict.Cl	tyworks@gmail.com								
Message	110649-12694955-1509143132.txt (2 KB)								
-	110649-12694955-1509143132.txt -	Notepad							- c
	File Edit Format View Help								
	SC811								
	Sequence: 19 Notice Number: 1509143132								
	Old Number:								
	ForCode: TFS35								
	Source: Remote								
	Created By: R-CNL								
	Created: 9/14/2015 4:07:27	PM							
	Work Date & Time: 9/17/201	5 11:59:00 PM							
	Good Through: 10/5/2015 11:59:	:59:00 PM							
	CallerCompanyName: TOM'S C	ATV CONSTRUCTION							
	CallerAddress: 285 Gap Cre	ek Rd							
	CallerCity: Duncan								
	CallerZip: 29334								
	OrganizationType: Excavato	r							
	CallerFax: 8644697748								
	Caller: CAROL LAWSON								
	CallerExtension:								
	CallerEmail: CAROL.LAWSON@	TOMSCATV.COM							
	SiteContact: CAROL LAWSON								
	SiteContactPhone: 86446977	46							
	SiteContactEmail:								
	SiteContactCallback: Mon	Eri 8:20 5:20							
	2 🖬 🧕 🌌 📕		AB	4					

Below is a screen shot of the email received from City Works containing the Pups Information:

FILE MESSA	nt uluit est est est a		PW: 5CB11 1509143132 P	Normal Ticket - Cityworks SR# 1150 - Message (H	TML
Signore X	Reply Reply Forward More -	SC811 PUPS Trc Go To Manager Team Email Go Reply & Delete Y Create New	Rules -	Mark Follow Mark Follow Unread Un - Select - Zoc	m
Delete	Respond	Quick Steps	5 Move	Tags to Editing Zoo	m
No.	Ion 9/14/2015 4:08 PM				
1	aylorsDistrict.Citywork	s@gmail.com			
F	W: SC811 1509143132 Normal Tid	cket - Cityworks SR# 1150			
TO KRISTIENHOTAY	LORSDISTRICT.ORG; Semanbieb@Taylors0h	strict.org			
Message	110649-12694955-1509143132.txt (2 KB)				
Í	110649-12694955-1509143132.txt -	- Notepad			- 🗆 x
	File Edit Format View Help				
	Scalerce: 19 Notice Number: 1509143132 Old Number: ForCode: TFS35 Ticket Type: Normal Source: Remote Created By: R-CNL Created: 9/14/2015 4:07:27 Work Date & Time: 9/17/201 UpdateBy: 10/5/2015 11 CallerCompanyName: TOM'S C CallerChy: 10/8/2015 11 CallerCompanyName: TOM'S C CallerChy: Duncan CallerState: SC CallerState: SC CallerState: SC CallerFax: 8644697748 Caller: CAROL LAWSON CallerFmail: CAROL.LAWSON SiteContact: CAROL LAWSON SiteContactEmail: SiteContactEmail:	PM 15 11:59:00 PM 00 PM 1:59:00 PM 1:5			

As you can see the only difference in the emails is the City Works Service Request number that is referenced by the red arrow.



Request J Callers Labor View	• 🖂	🔒 🛃 Save 🐍 New 🗹 C	ose	圈						
Serv	ice Re	quest	4		Incident Inform	ation		Custom Fields		
Description: Sewer Line Locates				Address:	104 BEDFORD DR			Category: PUPS_Locate		×
Request Id: 1115	V			Apt #:		City: TAYLORS		SEQUENCE#	2	
Category: Sewer	V	Priority: High	V	State:		Zip Code:		NOTICE# 1509110736		
Status: Open	V			Landmark:	V			TICKET TYPE Emergency		
Initiated By: WSD. WSD		Date: 9/11/2015 10:08 AM	- 1	Shoo	V	Tile No:		OLD NOTICE#		
Discoules Not Discoules				Mar Danis	<u></u>	District. TECO 2	121	TAKEN DATE 9/11/2015 10:02:54 A	М	
Employee:	•			map rage:		District: 1F30-2	•	UPDATE ON 9/29/2015 11:59:00 P	M	
		Data	-	Location:	Intersection: HEATHWOOD DR. Subdivision:		A	SOURCE Voice		
nivesugauon:		Date:	8		AddressInInstructions: False			CREATED BY LKB		
Emergency:		WO Needed:		Deballer	Directione: NONE		_	WORK DATE 9/11/2015 9:59:00 AN	1	
Submit To: ABLES, RED	×	Date: 9/11/2015 10:08 AM		Decails:	Directions, NONE		. ^	GOOD THROUGH 10/2/2015 11:59:00 P	M	
Dispatch To: MERRELL, MITCHELL	V	Date: 9/11/2015 10:29 AM					8	STTECONTACT NAME JESSE CARSON		
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Cancel Reason:		Cancelled By:		DOOR	BETTY 9/11/201	5 10:02:54 AM RESIDENT	Organizati	SECOND LAT/LONG 34 90/93-82 300892	·	
Classed Day		Deter		<		- interest and and enter	>	CALLERSUPPLIED N		
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Existing By PUPS Email: 9/11	/2015 1	0:02:54 AM EPAIRING OR REPLACING WATER PIP		Create			- 1	DONE BY KEN'S PLUMBING		
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Directions: NONE				Kemove	_		_	DURATION APPROX 1/2 OF A D	AT	
Meet				Work Orders				POSITIVE RESPONSE CODE		
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DPCZ06			V	Carati				TFSD POS. RES. DATE MM/DD/YYYY		

Below is how it looks when we open City Works to view the service request.

When we open the service request we don't have to enter anything about the Pups ticket. It is already typed in. This assist us in order to see if the locate actually needs to be located, if so a work order will be created from this and the proper 360 Positive Response codes are added and closed. We still have to login to 360 Positive Response website to official close out the ticket. If a work order is not needed we add the positive response code and labor and close the service request.

Even though it was mandated that we become members having this added to our City Works Work Order System has saved us tremendous time and able to dispatch out in the field more timely.



We have also been doing cost analysis on Pups since becoming a member per the request of our Commission Board.

How SC811 charges you to be a member? First, you are given an estimated fee DID YOU that is calculated by comparing the actual number of locate notices generated **KNOW**? from the previous year. Taylors Fire & Sewer District was given an estimated calculation of \$2,614.98 a year or a monthly fee of \$217.92. Taylors chose to take the monthly fee approach. The current cost is 82 cents per transmission. Transmission is the keyword. We didn't realize what transmission meant until after the first month of being a Pups member. We received an Excel Spreadsheet of our June transmission and we noticed that the transmission number was more than actual tickets we received from our Work Order System for that time period. This was cause for concern to us. We guestioned SC811 and per Rhonda Dotman, Applications Support Administrator, if they send it out whether it is by text, email, phone call etc...it is considered a transmission and they charge you 82 cents for each. This fee amount is subject to change each year because the SC811 Board of Directors meet in November to determine the per transmission rate for the upcoming year and they use the fiscal year number of transmissions as a multiplier for the rate determined by the Board of Directors.



For Example:

Taylors became a member on June 7, 2015 and for the month of June (which was not a full 30 days) we received, 172 Normal, 1 No Show, 1 Remark, 4 Resends, and 27 Update Tickets. Totaling 205 plus 10 Emergency Tickets which makes us actually receive 215 Tickets, but we were charged for 221 Tickets because this was not just tickets it was Transmissions. We got addition text due to an emergency ticket and at that time we were also receiving calls for after hour, so we actually paid for 6 tickets twice. The key to this example is you can't call these items ticket like most do you have to refer to them as transmissions. So anytime you receive additional text to more crew members, or another email, or an after hour call because of an emergency. No matter how many people it is sent to you are charged another 82 cents for those transactions.

	<mark>June 2015</mark>	<mark>July 2015</mark>	August 2015	Total
Approximate City Works Total: *Note: Includes – Labor, Material and Equipment Cost	\$6,118.51	\$4,205.24	\$3,791.46	\$14,115.21
Approximate Average City Works Cost Per Ticket:	\$28.46	\$15.13	\$13.69	\$57.28
Total Number of Actual Tickets:	215	279	277	771
Total Number of Billed Pups Tickets:	221	288	293	802
Total Number of Normal Tickets:	172	229	219	620
Total Number of Emergency Tickets:	10	8	11	29
Total Number of Emergency No Show Tickets:	0	1	0	1
Total Number of Emergency-Remark Tickets:	0	0	1	1
Total Number of No Show Tickets:	1	0	0	1
Total Number of Remark Tickets:	1	0	0	1
Total Number of Resend Tickets:	4	0	1	5
Total Number of Update Tickets:	27	39	44	110
Total Number of Cancelled Tickets:	0	2	1	3

Cost Analysis for 3 month:

Service Request – Customer Problem Calls:

Starting June 7, 2015 Service Calls increased due to SC811 Tickets.

Service Requests Closed Summary						
	July 1, 2014 to June 30, 2015					
07/09/14	Sewer Line Locates	234 PEBBLE SPRINGS DR Lot 45				
07/10/14	Sewer Line Locates	26 CUNNINGHAM CIR				
07/14/14	Sewer Tap Inspection	704 OLD RUTHERFORD RD				
07/14/14	Sewer Tap Inspection	706 Old Rutherford Road				
07/22/14	Sewer Tap Inspection	234 PEBBLE SPRINGS DR - Lot 45				
07/24/14	Sewer Tap Inspection	26 CUNNINGHAM CIR				
07/28/14	Right-of-Way Problem	405 TANNER RD				
08/01/14	Sewer Related Question	204 JONES RD				
08/01/14	Right-of-Way Problem	15 COACHMAN DR				
08/04/14	Sewer Tap Inspection	5790 WADE HAMPTON BLVD				
08/04/14	Sewer Line Locates	20 E INDIAN TRL				

08/06/14	Right-of-Way Problem	169 McConnell Rd
08/11/14	Sewer Tap Inspection	205 PEBBLE SPRINGS DR
08/14/14	Sewer Line Locates	20 BADGER DR
08/18/14	Waterline Problem	104 BRIDGE RD
08/19/14	Sewer Line Locates	127 ABBA WAY
08/20/14	Manhole Problem	Edwards Mill & Fernwood Dr
08/22/14	Sewer Tap Inspection	615 REID SCHOOL RD
08/26/14	Sewer Line Locates	615 REID SCHOOL RD
08/27/14	Sewer Line Locates	1 FORESTDALE DR
08/29/14	Service Line Problem	107 LYNN DR
09/02/14	Stop Up/Back Up in Building/House	105 BRIDGE RD
09/03/14	Sewer Tap Inspection	204 KARA CT
09/04/14	Sewer Tap Inspection	117 ABBA WAY
09/04/14	Sewer Tap Inspection	127 ABBA WAY
09/04/14	Sewer Line Locates	206 BARRY DR
09/04/14	Sewer Line Locates	222 BARRY DR
09/08/14	Sewer Line Locates	184 MCCONNELL RD
09/08/14	Sewer Line Locates	178 McConnell Rd
09/08/14	Sewer Line Locates	166 MCCONNELL RD
09/08/14	Sewer Line Locates	172 MCCONNELL RD
09/08/14	Sewer Line Locates	190 MCCONNELL RD
09/09/14	Manhole Problem	7 SOUTH ST
09/12/14	Right-of-Way Problem	122 Raintree Drive
09/18/14	Ww Check Sewer Line	1802 E L EE RD
09/18/14	Sewer Tap Inspection	178 McConnell Rd
09/18/14	Sewer Tap Inspection	
09/19/14	Disconnect Service Line	122 STEPHENSON ST EXT
09/23/14	Right-of-Way Problem	213 STONINGTON WAY
09/23/14	Sewer Tap Inspection	190 McConnell Rd
09/25/14	Manhole Problem	EDWARDS RD
09/25/14	Sewer Related Question	2903 RUTHERFORD RD
09/30/14	Sewer Tap Inspection	4 DELLROSE CIR
10/02/14	Sewer Tap Inspection	305 PEBBLE SPRINGS DR
10/03/14	Manhole Problem	406 BROOK GLENN RD
10/07/14	Sewer Line Locates	405 STRANGE RD
10/08/14	Stop Up/Back Up in Building/House	302 HILLBROOK RD
10/08/14	Sewer Related Question	5 Hill Street
10/08/14	Sewer Related Question	12 GROVELAND DR
10/15/14	Manhole Problem	301 CHARING CROSS RD
10/17/14	Sewer Tap Inspection	104 ABBA WAY
10/20/14	Sewer Line Locates	9 McConnell
10/20/14	Service Line Problem	319 W MAIN ST
10/21/14	Stop Up/Back Up in Building/House	212 PINEWOOD DR
10/21/14	Sewer Line Locates	303 Avon Drive
10/21/14	Sewer Line Locates	22 Thames Drive
10/22/14	Sewer Line Locates	Ridge Springs Rd
10/27/14	Ww Check Sewer Line	11 CROWNDALE CT
10/28/14	Sewer Related Question	28 BUCKINGHAM WAY
11/03/14	Sewer Tap Inspection	9 MCCONNELL RD
11/04/14	Ww Check Sewer Line	1004 Havelock Dr
11/05/14	Sewer Tap Inspection	408 BRUSHY CREEK RD
11/06/14	Waste Water Odor Problem Inside Structure	1950 BOLING RD EXT
11/07/14	Stop Up/Back Up in Building/House	3 LEGRAE CT

11/07/14	Sewer Related Question	25 Lakeside Dirve
11/13/14	Sewer Tap Inspection	121 Red Rock Lane
11/14/14	Waste Water Odor Problem Outside Structure	869 N RUTHERFORD RD
11/24/14	Sewer Related Question	2 Taylors Street
11/25/14	Sewer Related Question	22 SUNRISE DR
11/25/14	Broken Sewer Line	7 BENDINGWOOD CIR
11/25/14	Broken Sewer Line	8 BENDINGWOOD CIR
11/26/14	Sewer Tap Inspection	117 EDWARDS ST
12/01/14	Sewer Line Locates	7 BENDINGWOOD CIR
12/01/14	Sewer Line Locates	8 BENDINGWOOD CIR
12/02/14	Sewer Line Locates	Boling Ct & Boling Road
12/02/14	Disconnect Service Line	1 TAYLORS ST
12/03/14	Stop Up/Back Up in Building/House	1 N WALDEN PT
12/04/14	Sewer Related Question	320 FAIRVIEW RD
12/04/14	Sewer Related Question	166 and 172 McConnel Rd
12/09/14	Sewer Related Question	615 OLD RUTHERFORD RD
12/11/14	Sewer Related Question	611 Reid School Rd (T027020106000)
12/12/14	Ww Check Sewer Line	155 HIGHLAND WAY
12/12/14	Ww Check Sewer Line	143 HIGHLAND WAY
12/12/14	Ww Check Sewer Line	144 Highland Ave
12/15/14	Sewer Tap Inspection	7 EASTWOOD DR
12/15/14	Sewer Tap Inspection	9 EASTWOOD DR
12/15/14	Sewer Tap Inspection	12 EASTWOOD DR
12/15/14	Stop Up/Back Up in Building/House	401 FAIRVIEW RD
12/20/14	Sewer Overflow	104 AMY LN
12/30/14	Waterline Problem	Tavlors Rd
12/30/14	Sewer Related Question	145 South Street
01/05/15	Ww Check Sewer Line	208 Idonia Dr
01/07/15	Sewer Line Locates	2 St. Mark Rd
01/07/15	Sewer Tap Inspection	211 Mountain Gap Road
01/07/15	Sewer Tap Inspection	209 Mountain Gap Road
01/12/15	Sewer Tap Inspection	38 FAIRFORD CIR
01/13/15	Stop Up/Back Up in Building/House	104 HAMMETT RD
01/13/15	Sewer Tap Inspection	38 FAIRFORD CIR
01/14/15	Stop Up/Back Up in Building/House	4 NEWINGTON GREEN
01/15/15	Waste Water Odor Problem Inside Structure	9 CASA LOMA DR
01/15/15	Sewer Line Locates	815 E MAIN ST
01/20/15	Sewer Line Locates	4 Taylors St
01/22/15	Waste Water Odor Problem Outside Structure	205 WALKER SPRINGS RD
01/28/15	Sewer Related Question	20 DRIFTWOOD LN
01/29/15	Waste Water Odor Problem Inside Structure	5 BADGER DR
02/03/15	Stop Up/Back Up in Building/House	304 Gray Fox Square
02/04/15	Sewer Tap Inspection	166 McConnell Rd
02/05/15	Sewer Line Locates	7 Randy Drive
02/05/15	Sewer Tap Inspection	12 CASA LOMA DR
02/09/15	Right-of-Way Problem	405 TANNER RD
02/10/15	Manhole Problem	18 JONES AVE
02/11/15	Sewer Tap Inspection	7 RANDY DR
02/11/15	Sewer Tap Inspection	7 SEVERN LN
02/11/15	Waterline Problem	103 MILL ESTATE RD
02/20/15	Sewer Line Locates	4945 Edwards Rd
02/20/15	Sewer Line Locates	104 OAK WOOD AVE
02/25/15	Stop Up/Back Up in Building/House	10 WOOD RD
	· · · · · · ·	•

02/27/15	Ww Check Sewer Line	6 FORESTWOOD DR					
02/27/15	Service Line Problem	178 ELM ST					
02/27/15	Sanitary Sewer System Blockage	700 BRIDGE RD					
02/28/15	Stop Up/Back Up in Building/House	13 CIRCLE ST					
03/02/15	Broken Sewer Line	140 Chick Springs Road					
03/03/15	Sewer Tap Inspection	615 Reid School Road					
03/05/15	Sewer Line Locates	815 E Main Street					
03/09/15	Sewer Line Locates	4945 Edwards Rd					
03/09/15	Sewer Line Locates	106 BRUSHY CREEK RD					
03/13/15	Sewer Related Question	102 ROLLINGWOOD DR					
03/14/15	Broken Sewer Line	11 CIRCLE ST					
03/16/15	Stop Up/Back Up in Building/House	15 CIRCLE ST					
03/17/15	Sewer Line Locates	8 ARMSDALE DR					
03/17/15	Stop Up/Back Up in Building/House	500 St, Mark Rd					
03/17/15	Hole in Street, Right Of Way, or Private Property	11 BENDINGWOOD CIR					
03/17/15	Sewer Tap Inspection	815 E Main St					
03/17/15	Sewer Tap Inspection	104 Oakwood Ave					
03/24/15	Sewer Tap Inspection	9 HOLMSBY LN					
03/29/15	Service Line Problem	2 THORNWOOD DR					
04/02/15	Sewer Line Locates	101 ABBA WAY					
04/07/15	Ww Check Sewer Line	332 PINNACLE DR					
04/07/15	Sewer Line Locates	8 Armsdale Dr					
04/13/15	Hole in Street, Right Of Way, or Private Property	202 Brushy Creek RD					
04/13/15	Locate and Uncover Sewer Manhole	15 Pondsbury					
04/16/15	Sewer Line Locates	11 Marlow Lane					
04/17/15	Right-of-Way Problem	119 Ayersdale					
04/20/15	Ww Check Sewer Line	1407 WINDING WAY					
04/20/15	Sewer Line Locates	20 Circle Street					
04/21/15	Waste Water Odor Problem Inside Structure	1 A TAYLORS ST					
04/21/15	Sewer Tap Inspection	15 PONDSBURY CT					
04/27/15	Ww Check Sewer Line	325 Kimbrell Rd					
04/28/15	Sewer Line Locates	6 BEDFORD LN					
04/30/15	Sewer Line Locates	4945 EDWARDS RD					
05/06/15	Sewer Tap Inspection	611 Reid School Rd					
05/07/15	Ww Check Sewer Line	1703 Winding Way					
05/08/15	Sewer Line Locates	119 AYERSDALE DR					
05/08/15	Manhole Problem	298 PEBBLE SPRINGS DR					
05/12/15	Sewer Line Locates	501 AVON DR					
05/12/15	Right-of-Way Problem	411 Indian Trail					
05/14/15	Sewer Related Question	7 EASTWOOD DR					
05/26/15	Manhole Problem	116 Fairview Place					
05/26/15	Manhole Problem	1701 Winding Way					
05/26/15	Sewer Tap Inspection	7 EASTWOOD DR					
06/01/15	Waste Water Odor Problem Outside Structure	15 CIRCLE ST					
06/04/15	Sewer Tap Inspection	123 ABBA WAY					
06/08/15	Sewer Line Locates	4 Stone Mill Court					
06/08/15	Sewer Line Locates	104 Stone River Way					
06/08/15	Sewer Line Locates	1 FAIRVIEW CT					
06/08/15	Sewer Line Locates	123 ABBA WAY					
06/08/15	Sewer Line Locates	817 FAIRVIEW RD					
06/08/15	Sewer Line Locates	5 BRANCH CT					
06/08/15	Sewer Tap Inspection	290 Pebble Springs Dr					
06/08/15	Sewer Tap Inspection	294 PEBBLE SPRINGS DR					

06/08/15	Sewer Tap Inspection	105 Abba Way
06/08/15	Sewer Line Locates	1712 PINECROFT DR
06/08/15	Sewer Line Locates	HONEYBEE LN
06/09/15	Sewer Line Locates	102 OLD MILL RD
06/09/15	Sewer Line Locates	307 HAVENHURST DR
06/09/15	Sewer Line Locates	114 BELLVIEW DR
06/09/15	Sewer Line Locates	UNKNOWN
06/09/15	Sewer Line Locates	2522 Locust Hill rd
06/09/15	Sewer Line Locates	14 FORESTDALE DR
06/09/15	Sewer Line Locates	W Main Street
06/09/15	Stop Up/Back Up in Building/House	131 OSMOND DR
06/09/15	Sewer Line Locates	22 AMBERJACK CT
06/09/15	Sewer Line Locates	228 SAINT MARK RD
06/09/15	Sewer Line Locates	97 JAMESTOWNE WAY
06/09/15	Sewer Line Locates	39 WAUKEGAN WAY
06/09/15	Sewer Line Locates	133 WAUKEGAN WAY
06/09/15	Sewer Line Locates	2 SAINT MARK RD
06/09/15	Sewer Line Locates	21 HOLMSBY LN
06/09/15	Sewer Line Locates	302 HILLBROOK RD
06/09/15	Sewer Line Locates	111 FORESTDALE DR
06/10/15	Sewer Line Locates	150 LANDMARK DR
06/10/15	Sewer Line Locates	206 WAPPOO LN
06/10/15	Sewer Line Locates	5 LEGRAE CT
06/10/15	Sewer Line Locates	6 WILLOW WOOD CT
06/10/15	Sewer Line Locates	
06/10/15	Sewer Line Locates	129 ROBINSON RD
06/10/15	Sewer Line Locates	123 ABBA WAY
06/10/15	Sewer Line Locates	THORNWOOD DR
06/10/15	Sewer Line Locates	STALLINGS RD
06/10/15	Sewer Line Locates	STATEN LN
06/10/15	Sewer Line Locates	313 Carrollton Court
06/11/15	Sewer Line Locates	EDWARDS ROAD
06/11/15	Sewer Line Locates	OLD MILL RD
06/11/15	Sewer Line Locates	OLD MILL RD
06/11/15	Sewer Line Locates	OLD MILL RD
06/11/15	Sewer Line Locates	EDWARDS MILL RD
06/11/15	Sewer Line Locates	LANDMARK DR
06/11/15	Sewer Line Locates	110 RED ROCK LN
06/11/15	Sewer Line Locates	8 MILFORD CT
06/11/15	Sewer Line Locates	8 ARMSDALE DR
06/11/15	Sewer Line Locates	N SUBER RD
06/11/15	Sewer Line Locates	212 AMBERJACK CT
06/11/15	Sewer Line Locates	651 STRANGE RD
06/12/15	Sewer Line Locates	7 IVANHOE CIR
06/12/15	Sewer Line Locates	BRUSHY CREEK RD
06/12/15	Sewer Line Locates	KIMBRELL RD
06/12/15	Sewer Line Locates	KIMBRELL RD
06/12/15	Sewer Line Locates	STRANGE RD
06/12/15	Sewer Line Locates	BRUSHY CREEK RD
06/12/15	Sewer Line Locates	BRUSHY CREEK RD
06/12/15	Sewer Line Locates	BRUSHY CREEK RD
06/12/15	Sewer Line Locates	KIMBRELL RD
06/12/15	Sewer Line Locates	KIMBRELL RD

06/12/15	Sewer Line Locates	6 OLD HOTEL CT				
06/12/15	Sewer Line Locates	907 STRANGE RD				
06/12/15	Sewer Line Locates	111 FORESTDALE DR				
06/12/15	Sewer Line Locates	21 HOLMSBY LN				
06/12/15	Sewer Line Locates	HOLLY RD				
06/12/15	Sewer Line Locates	306 BELGRAY CT				
06/12/15	Sewer Line Locates	4383 WADE HAMPTON BLVD				
06/12/15	Sewer Line Locates	105 RIVER PARK LN				
06/12/15	Sewer Line Locates	15 PONDSBURY CT				
06/12/15	Sewer Line Locates	103 LEAFWOOD DR				
06/12/15	Sewer Line Locates	103 LEAFWOOD DR				
06/12/15	Sewer Line Locates	3440 WADE HAMPTON BLVD				
06/13/15	Sewer Line Locates	12 DRIFTWOOD LN				
06/14/15	Stop Up/Back Up in Building/House	403 BRIDGE RD				
06/15/15	Sewer Tap Inspection	12 Eastwood Dr.				
06/15/15	Sewer Line Locates	DOLERITE DR				
06/15/15	Sewer Line Locates	17 GRAYSTONE WAY				
06/15/15	Right-of-Way Problem	405 Tanner Rd				
06/15/15	Sewer Line Locates	3553 RUTHERFORD RD				
06/15/15	Sewer Line Locates	115 OSMOND DR				
06/15/15	Sewer Line Locates	11 WOOD CIR				
06/15/15	Sewer Line Locates	104 BOYSENBERRY DR				
06/15/15	Sewer Line Locates	103 LYNN DR				
06/15/15	Sewer Line Locates	140 LAUREN WOOD CIR				
06/15/15	Sewer Line Locates	7 EASTWOOD DR				
06/15/15	Sewer Line Locates	4 LAURA ALISON CT				
06/15/15	Sewer Line Locates	204 WAPPOO LN				
06/15/15	Sewer Line Locates	103 MEADOWVIEW DR				
06/15/15	Sewer Line Locates	17 ROLLING RIVER WAY				
06/16/15	Sewer Line Locates	1209 BRUSHY CREEK RD				
06/16/15	Waste Water Odor Problem Outside Structure	20 ALEXANDER ST				
06/16/15	Sewer Line Locates	102 BURGESS DR				
06/16/15	Sewer Line Locates	8 CORONA CT				
06/16/15	Sewer Line Locates	9 BEDFORD LN				
06/16/15	Sewer Line Locates	167 ROCKCREST DR				
06/16/15	Sewer Line Locates	300 LILY POND LN				
06/16/15	Sewer Line Locates	3406 RUTHERFORD RD EXT				
06/16/15	Sewer Line Locates	114 BELLVIEW DR				
06/16/15	Stop Up/Back Up in Building/House	7 PRYOR RD				
06/17/15	Sewer Line Locates	858 Saint Mark Rd				
06/17/15	Sewer Line Locates	WAPPOO CT				
06/17/15	Sewer Line Locates	WAPPOO LN				
06/17/15	Sewer Line Locates	COOSAW CT				
06/17/15	Sewer Line Locates	334 PINNACLE DR				
06/17/15	Sewer Line Locates	3 Meadowview Dr				
06/17/15	Sewer Line Locates	GAITHBURG SQUARE				
06/17/15	Sewer Line Locates	GAITHBURG SQUARE				
06/17/15	Sewer Line Locates	4 COOSAW CT				
06/17/15	Sewer Line Locates	204 BLACKTOP RD				
06/17/15	Sewer Line Locates	119 AYERSDALE DR				
06/17/15	Sewer Line Locates	110 Red Rock In				
06/18/15	Sewer Line Locates	167 Rockcrest Dr				
06/18/15	Sewer Line Locates	KIMBRELL RD				

06/18/15 Sewer Line Locates 1712 PINECROFT DR 06/18/15 Sewer Line Locates 12 SHREVEWOOD DR 06/18/15 Sewer Line Locates 12 SHREVEWOOD DR 06/18/16 Sewer Line Locates Edwards Rd 06/18/16 Sewer Line Locates Edwards Rd 06/18/15 Sewer Line Locates TBERNWOOD DR 06/18/15 Sewer Line Locates 7 BERNWOOD DR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates 205 ROSEMARY LN 06/19/15 Sewer Line Locates 205 ROSEMARY LN 06/19/15 Sewer Line Locates 2 GEORGETOWN CIR 06/19/15 Sewer Line Locates 15 PONDSBURY CT 06/19/15 Sewer Line Locates 13 SWAIKEGAN WAY 06/19/16 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 13 SWAIKEGAN WAY 06/19/16 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 16 TERRACE RIDGE CT	06/18/15	Sewer Line Locates	407 Boling Rd
06/18/15 Sewer Line Locates 17:12 PINECROFT DR 06/18/15 Sewer Line Locates 12 SHREVEWOOD DR 06/18/15 Sewer Line Locates 27 LEE WAY 06/18/15 Sewer Line Locates 27 LEE WAY 06/18/15 Sewer Line Locates Edwards Rd 06/18/15 Sewer Line Locates 7 BERNWOOD DR 06/19/15 Sewer Line Locates 7 ECHO VALLEY DR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates 20 SO SEMARY LIN 06/19/15 Sewer Line Locates 20 EORGETOWN CIR 06/19/15 Sewer Line Locates 14 HUNTLEY CASTLE CT 06/19/15 Sewer Line Locates 15 PONDSBURY CT 06/19/15 Sewer Line Locates 13 WAUKEGAN WAY 06/19/15 Sewer Line Locates 13 WAUKEGAN WAY 06/19/15 Sewer Line Locates 10 SADDLE RIDGE CT	06/18/15	Sewer Line Locates	299 ROBERTS RD
06/18/15 Sewer Line Locates 12 SHREVEWOOD DR 06/18/15 Sewer Line Locates 27 LEE WAY 06/18/15 Sewer Line Locates Edwards Rd 06/18/15 Sewer Line Locates T BERNWOOD DR 06/18/15 Sewer Line Locates T BERNWOOD DR 06/19/15 Sewer Line Locates T BERNWOOD DR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates 205 ROSEMARY LN 06/19/15 Sewer Line Locates 14 HUNTLEY CASTLE CT 06/19/15 Sewer Line Locates 15 PONDSBURY CT 06/19/15 Sewer Line Locates 15 FONINGTON WAY 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 13 WAUKEGAN WAY 06/19/15 Sewer Line Locates 109 SADDL RIDGE CT 06/19/15 Sewer Line Locates 109 SADDL RIDGE CT 06/19/15 Sewer Line Locates 109 SADDL RIDGE CT 06/22/15 Sewer Line Locates 109 SADDL RIDGE CT	06/18/15	Sewer Line Locates	1712 PINECROFT DR
06/18/15 Sewer Line Locates 27 LEE WAY 06/18/15 Sewer Line Locates Edwards Rd 06/18/15 Sewer Line Locates Y BERNWOOD DR 06/18/15 Sewer Line Locates Y BERNWOOD DR 06/19/15 Sewer Line Locates Y ECHO VALLEY DR 06/19/15 Sewer Line Locates BRUSHY CREEK RD 06/19/15 Sewer Line Locates BRUSHY CREEK RD 06/19/15 Sewer Line Locates 40 Y STONINGTON WAY 06/19/15 Sewer Line Locates 40 Y STONINGTON WAY 06/19/15 Sewer Line Locates 15 PONDSBURY CT 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 13 WAUKEGAN WAY 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 12 HOLLY RD 06/22/15 Sewer Line Locates 12 HOLLY RD	06/18/15	Sewer Line Locates	12 SHREVEWOOD DR
06/18/15 Sewer Line Locates Edwards Rd 06/18/15 Sewer Line Locates 7 BERNWOOD DR 06/18/15 Sewer Line Locates 7 ECHO VALLEY DR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates 205 ROSEMARY LN 06/19/15 Sewer Line Locates 407 STONINGTON WAY 06/19/15 Sewer Line Locates 2 GEORGETOWN CIR 06/19/15 Sewer Line Locates 15 PONDSBURY CT 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 13 WAUKEGAN WAY 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 109 CARY AVE <th>06/18/15</th> <td>Sewer Line Locates</td> <td>27 LEE WAY</td>	06/18/15	Sewer Line Locates	27 LEE WAY
06/18/15 Sewer Line Locates KENSINGTON RD 06/18/15 Sewer Line Locates 7 BERNWOOD DR 06/19/15 Sewer Line Locates 7 CHO VALLEY DR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates BRUSHY CREEK RD 06/19/15 Sewer Line Locates 205 ROSEMARY LN 06/19/15 Sewer Line Locates 407 STONINOTON WAY 06/19/15 Sewer Line Locates 407 STONINOTON WAY 06/19/15 Sewer Line Locates 15 PONDSBURY CT 06/19/15 Sewer Line Locates 13 WAUKEGAN WAY 06/19/15 Sewer Line Locates 13 WAUKEGAN WAY 06/19/15 Sewer Line Locates 13 WAUKEGAN WAY 06/19/15 Sewer Line Locates 109 SADDLE RIDCE CT 06/22/15 Sewer Line Locates 16 TERRACE RIDGE DR 06/22/15 Sewer Line Locates 109 Go	06/18/15	Sewer Line Locates	Edwards Rd
06/18/15 Sewer Line Locates 7 ECHO VALLEY DR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates 205 ROSEMARY LN 06/19/15 Sewer Line Locates 207 STONINGTON WAY 06/19/15 Sewer Line Locates 2 GEORGETOWN CIR 06/19/15 Sewer Line Locates 15 FONDSBURY CT 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 100 SADDE RIDGE CT 06/19/15 Sewer Line Locates 100 SADDE RIDGE CT 06/19/15 Sewer Line Locates 100 SADDE RIDGE CT 06/22/15 Sewer Line Locates 12 HOLLY RD 06/22/15 Sewer Line Locates 12 HOLLY RD 06/22/15 Sewer Line Locates 12 TOLY AVE 06/22/15 Sewer Line Locates 16 TERRACE RIDGE DR 06/22/15 Sewer Line Locates 17 GARY AVE	06/18/15	Sewer Line Locates	KENSINGTON RD
06/19/15 Sewer Line Locates 7 ECHO VÄLLEY DR 06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates BRUSHY CREEK RD 06/19/15 Sewer Line Locates 205 ROSEMARY LN 06/19/15 Sewer Line Locates 407 STONINGTON WAY 06/19/15 Sewer Line Locates 407 STONINGTON WAY 06/19/15 Sewer Line Locates 15 PONDSBURY CT 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 14 HUNTLEY CART 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 12 HOLLY RD 06/22/15 Sewer Line Locates 12 HOLLY RD 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 9 Georgetown Cr 06/22/15 Sewer Line Locates 9 Georgetown Cr <th>06/18/15</th> <td>Sewer Line Locates</td> <td>7 BERNWOOD DR</td>	06/18/15	Sewer Line Locates	7 BERNWOOD DR
06/19/15 Sewer Line Locates 9 WOOD CIR 06/19/15 Sewer Line Locates BRUSHY CREEK RD 06/19/15 Sewer Line Locates 205 ROSEMARY LN 06/19/15 Sewer Line Locates 407 STONINGTON WAY 06/19/15 Sewer Line Locates 407 STONINGTON WAY 06/19/15 Sewer Line Locates 2 GEORGETOWN CIR 06/19/15 Sewer Line Locates 15 FONDSBURY CT 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 13 WAUKEGAN WAY 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 19 SHEIDAN PL 06/22/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 16 TERRACE RIDGE DR 06/22/15 Sewer Line Locates 17 GARY AVE 06/22/15 Sewer Line Locates 17 GARY AVE 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 6 N BANYAN CT <	06/19/15	Sewer Line Locates	7 ECHO VALLEY DR
06/19/15 Sewer Line Locates BRUSHY CREEK RD 06/19/15 Sewer Line Locates 205 ROSEMARY LN 06/19/15 Sewer Line Locates 14 HUNTLEY CASTLE CT 06/19/15 Sewer Line Locates 407 STONINGTON WAY 06/19/15 Sewer Line Locates 2 GEORGETOWN CIR 06/19/15 Sewer Line Locates 15 PONDSBURY CT 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 13 WAUKEGAN WAY 06/19/15 Sewer Line Locates 14 HUNDMARK DR 06/19/15 Sewer Line Locates 19 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 19 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 12 STOSWOLD TERR 06/22/15 Sewer Line Locates 12 CT MOLLY RD 06/22/15 Sewer Line Locates 10 GEORM AVE 06/22/15 Sewer Line Locates 9 Georgetown Cr 06/22/15 Sewer Line Locates 9 Georgetown Cr 06/22/15 Sewer Line Locates 101 REN SCHOL	06/19/15	Sewer Line Locates	9 WOOD CIR
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06/19/15 Sewer Line Locates 14 HUNTLEY CASTLE CT 06/19/15 Sewer Line Locates 407 STONINGTON WAY 06/19/15 Sewer Line Locates 2 GECRGETOWN CT 06/19/15 Sewer Line Locates 15 PONDSBURY CT 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 109 SADDLE RIDE CT 06/22/15 Sewer Line Locates 109 SADDLE RIDE CT 06/22/15 Sewer Line Locates 16 TERRACE RIDE DR 06/22/15 Sewer Line Locates 16 TERRACE RIDE DR 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 6 ST MARK RD 06/22/15 Sewer Line Locates 6 ST MARK RD 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 8 RUSHY CREEK RD<	06/19/15	Sewer Line Locates	205 ROSEMARY LN
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06/19/15 Sewer Line Locates 2 GEORGETOWN CIR 06/19/15 Sewer Line Locates 15 PONDSBURY CT 06/19/15 Sewer Line Locates 5 STONINGTON WAY 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 133 WAUKEGAN WAY 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 1 09 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 1 SHERIDAN PL 06/22/15 Sewer Line Locates 1 SHERIDAN PL 06/22/15 Sewer Line Locates 1 STRACE RIDGE DR 06/22/15 Sewer Line Locates 1 STRACE RIDGE DR 06/22/15 Sewer Line Locates 1 STRACE RIDGE DR 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 6 ST MARK RD 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 8 StMBRELL RD <th>06/19/15</th> <td>Sewer Line Locates</td> <td>407 STONINGTON WAY</td>	06/19/15	Sewer Line Locates	407 STONINGTON WAY
06/19/15 Sewer Line Locates 15 PONDSBURY CT 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 133 WAUKEGAN WAY 06/19/15 Sewer Line Locates 133 WAUKEGAN WAY 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 1 SHERIDAN PL 06/22/15 Sewer Line Locates 1 SHERIDAN PL 06/22/15 Sewer Line Locates 16 TERRACE RIDGE DR 06/22/15 Sewer Line Locates 17 GARY AVE 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 6 ST MARK RD 06/22/15 Sewer Line Locates 6 ST MARK RD 06/22/15 Sewer Line Locates 6 ST MARK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD	06/19/15	Sewer Line Locates	2 GEORGETOWN CIR
06/19/15 Sewer Line Locates 5 STONINGTON WAY 06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 13 WAUKEGAN WAY 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 1 SHERIDAN PL 06/22/15 Sewer Line Locates 1 CT RRACE RIDGE DR 06/22/15 Sewer Line Locates 17 GARY AVE 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 6 ST MARK RD 06/22/15 Sewer Line Locates 6 ST MARK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD	06/19/15	Sewer Line Locates	15 PONDSBURY CT
06/19/15 Sewer Line Locates 17 CARL ST 06/19/15 Sewer Line Locates 133 WAUKEGAN WAY 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 1 SHERIDAN PL 06/22/15 Sewer Line Locates 3 COTSWOLD TERR 06/22/15 Sewer Line Locates 16 TERRACE RIDGE DR 06/22/15 Sewer Line Locates 17 GARY AVE 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 68 ST MARK RD 06/22/15 Sewer Line Locates 61 REID SCHOOL RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates NORTHWAY DR	06/19/15	Sewer Line Locates	5 STONINGTON WAY
06/19/15 Sewer Line Locates 133 WAUKEGAN WAY 06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 4 LANDMARK DR 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 1 SHERIDAN PL 06/22/15 Sewer Line Locates 3 COTSWOLD TERR 06/22/15 Sewer Line Locates 16 TERRACE RIDGE DR 06/22/15 Sewer Line Locates 122 HOLLY RD 06/22/15 Sewer Line Locates 17 GARY AVE 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 611 REID SCHOOL RD 06/22/15 Sewer Line Locates 611 REID SCHOOL RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates 100 MORTHWAY DR	06/19/15	Sewer Line Locates	17 CARL ST
06/19/15 Sewer Line Locates 14 WOODHARBOR DR 06/19/15 Sewer Line Locates 4 LANDMARK DR 06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 1 SHERIDAN PL 06/22/15 Sewer Line Locates 3 COTSWOLD TERR 06/22/15 Sewer Line Locates 16 TERRACE RIDGE DR 06/22/15 Sewer Line Locates 122 HOLLY RD 06/22/15 Sewer Line Locates 17 GARY AVE 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 68 ST MARK RD 06/22/15 Sewer Line Locates 68 ST MARK RD 06/22/15 Sewer Line Locates 611 REID SCHOOL RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates VIMBRELL RD 06/22/15 Sewer Line Locates 100 06/22/15 Sewer Line Locates 100	06/19/15	Sewer Line Locates	133 WAUKEGAN WAY
06/19/15 Sewer Line Locates 4 LANDMARK DR 06/19/15 Sewer Line Locates 109 SADLE RIDGE CT 06/22/15 Sewer Line Locates 1 SHERIDAN PL 06/22/15 Sewer Line Locates 3 COTSWOLD TERR 06/22/15 Sewer Line Locates 16 TERRACE RIDGE DR 06/22/15 Sewer Line Locates 12 HOLLY RD 06/22/15 Sewer Line Locates 17 GARY AVE 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 6 Sorgetown Cir 06/22/15 Sewer Line Locates 68 ST MARK RD 06/22/15 Sewer Line Locates 68 ST MARK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates 100 WOODBURY CIR 06/22/15 Sewer Line Locates 100 WOODBURY CIR	06/19/15	Sewer Line Locates	14 WOODHARBOR DR
06/19/15 Sewer Line Locates 109 SADDLE RIDGE CT 06/22/15 Sewer Line Locates 1 SHERIDAN PL 06/22/15 Sewer Line Locates 3 COTSWOLD TERR 06/22/15 Sewer Line Locates 16 TERRACE RIDGE DR 06/22/15 Sewer Line Locates 122 HOLLY RD 06/22/15 Sewer Line Locates 17 GARY AVE 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 68 ST MARK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates 100 LINC RE 06/22/15 Sewer Line Locates 100 CRE 06/22/15 Sewer Line Locates 100 LINC RE <t< td=""><th>06/19/15</th><td>Sewer Line Locates</td><td>4 LANDMARK DR</td></t<>	06/19/15	Sewer Line Locates	4 LANDMARK DR
06/22/15 Sewer Line Locates 1 SHERIDAN PL 06/22/15 Sewer Line Locates 3 COTSWOLD TERR 06/22/15 Sewer Line Locates 16 TERRACE RIDGE DR 06/22/15 Sewer Line Locates 122 HOLLY RD 06/22/15 Sewer Line Locates 17 GARY AVE 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 68 ST MARK RD 06/22/15 Sewer Line Locates 611 REID SCHOOL RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates 10 DELOSE TRL 06/22/15 Sewer Line Locates 100 COSE TRL 06/23/15 Sewer Line Locates 100 COSE TRL	06/19/15	Sewer Line Locates	109 SADDLE RIDGE CT
06/22/15 Sewer Line Locates 3 COTSWOLD TERR 06/22/15 Sewer Line Locates 16 TERRACE RIDGE DR 06/22/15 Sewer Line Locates 122 HOLLY RD 06/22/15 Sewer Line Locates 17 GARY AVE 06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 68 ST MARK RD 06/22/15 Sewer Line Locates 611 REID SCHOOL RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates 1001 IKES RD 06/22/15 Sewer Line Locates 1001 IKES RD 06/22/15 Sewer Line Locates 1001 IKES RD 06/23/15 Sewer Line Locates 1001 IKES RD 06/23/15 Sewer Line Locates 1001 IKES RD <	06/22/15	Sewer Line Locates	1 SHERIDAN PL
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06/22/15 Sewer Line Locates 6 N BANYAN CT 06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 68 ST MARK RD 06/22/15 Sewer Line Locates 611 REID SCHOOL RD 06/22/15 Sanitary Sewer System Blockage 333 KIMBRELL RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates 4 DELLROSE CIR 06/22/15 Sewer Line Locates 7 GOOSE TRL 06/23/15 Sewer Line Locates 1001 IKES RD 06/23/15 Sewer Line Locates 1001 IKES RD 06/23/15 Sewer Line Locates 102 LEGRAE LN 06/23/15 Sewer Line Locates 3553 RUTHERFORD RD	06/22/15	Sewer Line Locates	17 GARY AVE
06/22/15 Sewer Line Locates 9 Georgetown Cir 06/22/15 Sewer Line Locates 68 ST MARK RD 06/22/15 Sewer Line Locates 611 REID SCHOOL RD 06/22/15 Sanitary Sewer System Blockage 333 KIMBRELL RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates 4 DELLROSE CIR 06/22/15 Sewer Line Locates 310 BOLING RD 06/23/15 Sewer Line Locates 1001 IKES RD 06/23/15 Sewer Line Locates 1001 IKES RD 06/23/15 Sewer Line Locates 102 LEGRAE LN 06/23/15 Sewer Line Locates 102 LEGRAE LN 06/23/15 Sewer Line Locates 109 MONARCH PL 06/23/15 Sewer Line Locates 203 WOODD CIR 06/23/15 Sewer Line Locates 203 WOODBURN DR <t< td=""><th>06/22/15</th><td>Sewer Line Locates</td><td>6 N BANYAN CT</td></t<>	06/22/15	Sewer Line Locates	6 N BANYAN CT
06/22/15 Sewer Line Locates 68 ST MARK RD 06/22/15 Sewer Line Locates 611 REID SCHOOL RD 06/22/15 Sanitary Sewer System Blockage 333 KIMBRELL RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates 4 DELLROSE CIR 06/22/15 Sewer Line Locates 7 GOOSE TRL 06/23/15 Sewer Line Locates 310 BOLING RD 06/23/15 Sewer Line Locates 1001 IKES RD 06/23/15 Sewer Line Locates 1001 IKES RD 06/23/15 Sewer Line Locates 9 WOOD CIR 06/23/15 Sewer Line Locates 102 LEGRAE LN 06/23/15 Sewer Line Locates 102 LEGRAE LN 06/23/15 Sewer Line Locates 203 WOOD CIR 06/23/15 Sewer Line Locates 203 WOOD SUR 06/23/15 Sewer Line Locates 203 WOODBURN DR	06/22/15	Sewer Line Locates	9 Georgetown Cir
06/22/15 Sewer Line Locates 611 REID SCHOOL RD 06/22/15 Sanitary Sewer System Blockage 333 KIMBRELL RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates BRUSHY CREEK RD 06/22/15 Sewer Line Locates NORTHWAY DR 06/22/15 Sewer Line Locates 4 DELLROSE CIR 06/22/15 Sewer Line Locates 7 GOOSE TRL 06/23/15 Sewer Line Locates 310 BOLING RD 06/23/15 Sewer Line Locates 1001 IKES RD 06/23/15 Sewer Line Locates 1001 IKES RD 06/23/15 Sewer Line Locates 1002 LEGRAE LN 06/23/15 Sewer Line Locates 9 WOOD CIR 06/23/15 Sewer Line Locates 102 LEGRAE LN 06/23/15 Sewer Line Locates 109 UINCOLN DR 06/23/15 Sewer Line Locates 203 WOODBURN DR 06/23/15 Sewer Line Locates 203 WOODBURN DR 06/23/15 Sewer Line Locates 203 WOODBURN DR	06/22/15	Sewer Line Locates	68 ST MARK RD
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06/24/15 Sewer Line Locates FALLING CREEK CT	06/24/15	Sewer Line Locates	FALLING CREEK CT
	06/24/15	Sewer Line Locates	FALLING CREEK CT

06/24/15	Sewer Line Locates	20 WOODLEIGH DR				
06/24/15	Sewer Line Locates	20 WOODLEIGH DR				
06/24/15	Sewer Line Locates	102 BURGESS DR				
06/24/15	Sewer Line Locates	1001 IKES RD				
06/24/15	Sewer Line Locates	407 AVON DR				
06/24/15	Sewer Line Locates	361 IKES RD				
06/24/15	Sewer Line Locates	91 CONFEDERATE CIR				
06/24/15	Sewer Line Locates	26 JONQUIL LN				
06/24/15	Sewer Line Locates	31 RANDY DR				
06/24/15	Sewer Line Locates	2523 Rutherford Rd				
06/24/15	Sewer Line Locates	15 ANGEL WING CT				
06/24/15	Sewer Line Locates	2000 BOLING RD EXT				
06/24/15	Sewer Line Locates	112 LAUREN WOOD CIR				
06/24/15	Sewer Line Locates	42 AYERSDALE DR				
06/25/15	Sewer Line Locates	ROLLING RIVER WAY				
06/25/15	Sewer Line Locates	4 RISING SUN CT				
06/25/15	Sewer Line Locates	Kimbrell, Strange Rd.				
06/25/15	Sewer Line Locates	114 Bellview				
06/25/15	Sewer Line Locates	309 WINDING WILLOW TRL				
06/25/15	Sewer Line Locates	1107 WINDING WAY				
06/25/15	Sewer Line Locates	4990 OLD SPARTANBURG RD				
06/25/15	Sewer Line Locates	4 PINEWOOD DR				
06/26/15	Sewer Line Locates	102 CROWNDALE DR				
06/26/15	Sewer Line Locates	66 RIVER PARK LN				
06/26/15	Sewer Line Locates	40 COTSWOLD TER				
06/26/15	Sewer Line Locates	117 S BANYAN CT				
06/26/15	Sewer Line Locates	76 PINE DR				
06/26/15	Sewer Line Locates	8 ENOREE HTS				
06/26/15	Sewer Line Locates	129 CROSSWINDS ST				
06/26/15	Sewer Line Locates	9 VAILLE DR				
06/26/15	Sewer Line Locates	3031 WADE HAMPTON BLVD				
06/26/15	Sewer Line Locates	700 BRIDGE RD				
06/27/15	Sewer Overflow	1235 Taylors Road				
06/28/15	Sewer Line Locates	308 DEVONWOOD CT				
06/29/15	Sewer Line Locates	2 CALICO CT				
06/29/15	Sewer Line Locates	CORBIN CT				
06/29/15	Sewer Line Locates	1 CUNNINGHAM CIR				
06/29/15	Sewer Line Locates	113 CROSSWINDS ST				
06/29/15	Right-of-Way Problem	Creighton Ct. at the culdesac				
06/29/15	Sewer Line Locates	103 OAK DR				
06/29/15	Sewer Line Locates	203 Tumbleweed Terrace				
06/29/15	Sewer Line Locates	2 VAILLE DR				
06/29/15	Sewer Line Locates	5 WAPPOO CT				
06/29/15	Sewer Line Locates	815 E MAIN ST				
06/29/15	Sewer Line Locates	112 BOYSENBERRY DR				
06/29/15	Sewer Line Locates	1488 WADE HAMPTON BLVD				
06/29/15	Sewer Line Locates	36 COTSWOLD TER				
06/29/15	Sewer Line Locates	409 FAIRHAVEN DR				
06/30/15	Sewer Line Locates	1 Carex Court				
06/30/15	Sewer Line Locates	611 OLD RUTHERFORD RD				
06/30/15	Sewer Line Locates	14 TARA AV				
06/30/15	Sewer Line Locates	21 HOLMSBY LN				
06/30/15	Sewer Line Locates	302 HILLBROOK RD				

06/30/15	Sewer Line Locates	1103 WINDING WAY
06/30/15	Sewer Line Locates	111 FORESTDALE DR
06/30/15	Ww Check Sewer Line	15 Amberjack
06/30/15	Sewer Line Locates	122 HOLLY RD
06/30/15	Sewer Line Locates	517A FAIRVIEW RD
06/30/15	Sewer Line Locates	212 N Suber Rd
06/30/15	Sewer Line Locates	CROSSWINDS ST
06/30/15	Sewer Line Locates	CROSSWINDS ST
06/30/15	Sewer Line Locates	CROSSWINDS ST
06/30/15	Sewer Line Locates	CROSSWINDS ST
06/30/15	Sewer Line Locates	140 CHICK SPRINGS RD
06/30/15	Sewer Line Locates	106 ROBERTS HILL DR

Total Number of Service Request / Service Calls for Fiscal Year 2015 is: 394.

ary		ROOT CONTR	4,594	0	8,055	11,691	8,783	11,207	18,214	8,097	6,843	4,006	81,490		
Summ	SNINIT/BIVD	ILS J JYOWS	34,526	65,835	55,846	50,502	55,509	4,346	11,805	15,868	87,620	2,772	384,629	362,560	6%
Order	NOILJJJds	AN AND LE PARTE	42	115	114	250	232	45	189	509	808	66	2,371		
Nork (WI JIOHNWW	244	272	435	297	338	128	590	355	313	149	3,121	2,575	21%
strict /	10	SEPTIC TANK	11	37	31	9	0	0	0	0	0	0	85		
ver Di		ROOT REMO	7,911	11,144	9,766	5,723	7,598	7,616	23,142	6,882	8,461	234	88,477		
& Sev	30	CTEWNING	33,298	166,495	60,653	96,538	131,490	105,588	246,865	130,141	79,772	106,064	1,156,904	362,560	219%
s Fire		REPAIR/REP.	512	7,267	2,322	6,557	643	3,760	7,811	3,992	1,066	1,918	35,848		
Taylor		CCLA	22,734	80,984	77,237	86,444	87,651	92,746	164,439	100,804	63,818	45,922	822,779	362,560	127%
	100 3064 (Elscal Learn) 1006 3064 (Elscal Learn) 4006 3064 3064	RIGHT-OF-W	0	101,210	54,771	152,456	152,099	42,717	148,698	165,715	139,675	156,815	1,114,156	362,560	207%
	I John - Isi John - Is	κενι <u>α</u> , ¹ 00 μ 1. ** ¹ 00 μ 2. * ² 0 μ 2. γενιβ - Decen	05-06	06-07	07-08	08-09	09-10	10-11*	11-12**	12-13**	13-14**	14-15**	Total	Goal	%Above Goal

Note: Figures haved been updated for each year based on research discovery.

300

42,240

Yearly Goal

Right-of-Way Maintenance:

<u>Right-of-Way Clearing</u> – Right-of-Ways (ROW) or easements grant the right and privilege of entering private property to construct, maintain, and operate the components of our wastewater collection system. Although most Taylors Fire and Sewer District sewer lines lie underneath the road, in many cases they are located on private property. We must maintain our lines even in these areas of private property via the right-of-way/easement. Therefore, in areas where the brush and foliage is not cut back by the property owner, our crews must maintain and cut down the plant and tree growth. If this is done, we know we are able to get our heavy equipment and large trucks down through the easement to make repairs, clean lines, or conduct inspections.



Per our agreement with ReWa, Taylors Fire and Sewer District will be working and/or inspecting at least 8 miles or 42,240 L.F. per year of right-of-way maintenance. As the chart above demonstrates we have exceeded our yearly goal. 2005 to 2010 (indicated by the blue column) were reported from December 1st to November 30th. 2010 to 2011 (indicated by the red column) was reported from December 1st to June 30th. 2011 to 2015 (indicated by the green column) was reported based off of Taylors' fiscal year, July 1st to June 30th. Our yearly goal is indicated in purple.

CCTV:

<u>CCTV</u> – On a daily basis, the CCTV Crew uses a Closed Circuit Television Camera to inspect and record the conditions within sewer pipes. Any defects or maintenance problems can be seen via a television monitor inside the TV truck. Taylors Fire and Sewer District has one CCTV unit. CCTV data is used to view defects within the pipes and schedule maintenance, repair, and replacement of sewer infrastructure.



Per our agreement with ReWa, Taylors Fire and Sewer District will be working and/or inspecting at least 8 miles or 42,240 L.F. per year of CCTV. As the chart above demonstrates we have exceeded our yearly goal. 2005 to 2010 (indicated by the blue column) were reported from December 1st to November 30th. 2010 to 2011 (indicated by the red column) was reported from December 1st to June 30th. 2011 to 2015 (indicated by the green column) was reported based off of Taylors' fiscal year, July 1st to June 30th. Our yearly goal is indicated in purple.

Cleaning Maintenance:

<u>Sewer Line Cleaning</u> - Regular cleaning of sewer lines is important to reduce I/I and keep the lines clear of foreign material. Sewer lines are cleaned using high velocity pressurized water to wash away most grit, grease, and debris. Keeping sewer lines clean is also important to allow the CCTV camera to travel through the sewer line to inspect for any problem areas to repair or rehabilitate and reduce I/I.



Per our agreement with ReWa, Taylors Fire and Sewer District will be working and/or inspecting at least 8 miles or 42,240 L.F. per year of cleaning maintenance. As the chart above demonstrates we have exceeded our yearly goal. 2005 to 2010 (indicated by the blue column) were reported from December 1st to November 30th. 2010 to 2011 (indicated by the red column) was reported from December 1st to June 30th. 2011 to 2015 (indicated by the green column) was reported based off of Taylors' fiscal year, July 1st to June 30th. Our yearly goal is indicated in purple.

Manhole Inspections

<u>Manhole</u> – A sewer manhole is a hole that serves as entry points for sewer employees to clean, televise, and otherwise inspect the sewer mainlines. They can be located in the road or in a right-of-way. Although there are many subterranean parts to a manhole, the only visible part of the manhole is the lid. In the bottom of the manhole there is a connection to the sewer pipe, and sewer flows through the manhole from one section of pipe to the next. As part of Operations & Maintenance and Rehabilitation, we often install, replace, raise, lower, and repair manholes. Manholes are sometimes referred to as access holes or maintenance holes.



Per our agreement with ReWa, Taylors Fire and Sewer District will be working and/or inspecting at least 300 manholes per year. As the chart above demonstrates we have exceeded our yearly goal in 2011 to 2012. 2005 to 2010 (indicated by the blue column) were reported from December 1st to November 30th. 2010 to 2011 (indicated by the red column) was reported from December 1st to June 30th. 2011 to 2015 (indicated by the green column) was reported based off of Taylors' fiscal year, July 1st to June 30th. Our yearly goal is indicated in purple. Due to the time frame of only 7 months in 2010 to 2011, we were not able to reach the goal of 300. We were able to exceed in 2011 to 2012 to make up for not meeting the goal from the previous time frame. We were unable to meet our goal for 2014 to 2015 due to focus on CCTV and being short staffed. We are still working in the system and have done some pre-manhole inspections, which is a three year process. We are currently waiting to do post-manhole inspections when repairs are made.

Smoke Testing:

<u>Smoke Testing</u> – A method of blowing smoke into a closed-off section of a sewer system for the purpose of detecting sources of stormwater inflow into the sewer system. Smoke testing involves the use of a blower which forces air mixed with liquid smoke into a manhole. The smoke generated is nontoxic, has no odor, and is typically foggy white in color. The smoke is forced by the blower through the sewer system and follows the path of least resistance. Typically, the vent stacks of homes and businesses connected to the sewer pipe being testing will release the smoke into the atmosphere.



Per our agreement with ReWa, Taylors Fire and Sewer District will be working and/or inspecting at least 8 miles or 42,240 L.F per year of smoke testing. As the chart above demonstrates we have not met our yearly goal in 2011 to 2012. In March 2011, Taylors Fire and Sewer District received a complaint from a citizen in the District about our smoke testing. Due to a potential law suit, Taylors Fire and Sewer District lawyers advised us to not do any smoke testing until the issue was resolved. As you can see from the chart above, we were only able to do minimal smoke testing for the 2011-2012 year. This issue seems to be resolved for now so we can get back to our smoke testing schedule. 2005 to 2010 (indicated by the blue column) were reported from December 1st to November 30th. 2011 to 2011 (indicated by the green column) was reported based off of Taylors' fiscal year, July 1st to June 30th. Our yearly goal is indicated in purple. We were unable to meet

our goal for 2014 to 2015 due to focus on CCTV and being short staffed. We are still working in the system and have done some smoke testing. We are currently looking to fill another position on the CTTV Crew to make up for the 2014 to 2015 deficit.

I&I Issues / Reduction:

CROSS CONNECTION Address SYSTEM EST I'ST DAY YR. #7 LYNN DR. 7 1-2 1440/2880 525,600 1,051,200 * GREENVILLE BORED THROUGH S.N.C LINE WATER BORED THROUGH S.N.C LINE * DUG UP AND RELATED SVC BELOW GWS PIPE.







2 7 Lynn Dr (Leaks To Service line)

¥

			,		
	ĈLE	ANOUT	REPAIR / RE	PLACE,	
Address	_	SYSTEM	EST. I/	E DAY	YR.
#220 JONES	Rd.	1	,05	72	26,280
#237 JONES	Rd	1	,10	144	57,560
IL	11	1	10	144	52,560
#239 JONES	Rd		,05	72	Z6,Z80
# 828 ST. MARK	s Rd	8	,10	144	52,560
# 2 LAKESIDE	DR.	୪	1-5	1440/7200	525,600/ 3
#301 LINCOLN	DR	8	,05	72	26,280
#510 LINCOLN	DR.	8	.10	144	52,560
# 512 LINCOLN	DR	8	. 10	144	52,560
#9 LAKESIDE	DR.	8	.10	144	25'290
11	()	8	.10	144	52,560
#174 ELM ST.		8	.05	72	24,280
# 9 OLD HOTEL	CT.	4	,05	72	26,280
λ(к	4	.65	72	26,280
#709 BRUSHY CK	K Rd	7	.05	72	Z6,280



after #220 Jones Rd de replace C/out cap. .05 GPM

^{*} MAJOR INFLOW



(Dug on C/O PIRE, LUTIT, PUT on a 22° coupling and a new Clean Out cap)



before

#239 Jones Rd. (cut damaged pipe end and Puton a new clean Dut cap) .05 GPM



#828 ST HARK Rd. (6 Inches Booken (10)



828 ST MARK RD. (Repaired)



(repaired and rised.) 2 Lakeside Dr.






510 Lincoln Dr (Broken (C/Os) \$512 Lincoln Br



510 Lincoln Dr (Repaired)





174 ELH ST (Broken 40) 174 ELH ST. (Repaired) 9012 hotel cr #9 Old Hotel CT



709 Brushy Lieck Rd.

C.I.P.P. MH.- SYSTEM I \$1 EST. 1917 6-542/6-541 6 1.5 2,160 , 20 288 YEAR. 788,400 105,120

,CTV pictures of 1824

for TAYLORS FIRE AND SEWER DIST.

Work Orde	er		Surveyed On 2015/05/05	Se	tup 536
Street Name	ROW off 102 Holburn Lr	1		Video d	vs
City Name	Taylors		Weather Dry		
Location	Easement/Right of Way				
From Manhole 6-542		To Manhole	6-541	Direction	Downstream



 Date:
 2015/09/09
 Distance:
 0.0 Ft
 Obs:
 Start of Survey

 Comments:
 , ZO
 G, P, M.



NO

PiPE

Setup 536 Surveyor Gary Ca	ntrell Certificate #	060-22558	System O	wher		1.
Drainage 6	Survey Customer TAYLORS	FIRE AND SEW	ER DIST.	witer		
P/O # Date 2	015/05/05 Time 13:57	Street R	OW off 102 Holbur	m Ln		
City Taylors	Further location details	warehouses pa	irking lot			
Up 6-542	Rim to invert 8.00	Grade	to invert	Rim to	grade	Ft
Down 6-541	Rim to invert 14.50	Grade	to invert 11.00	Rim to	grade 3.50	Ft
Use Sanitary	Direction Downstream	Flow contr	ol	Med	ia No dvs	
Shape Circular	Height 8 Width	ins P	reclean J	Date Cle	aned	
Material Vitrified Clay Pipe	Joint length 5.0	F1 Total le	ngth 234.9 Ft	Length	Surveyed 23	4.90 F
Lining Cured in Place	Year laid	Year rehab	ilitated	Weather	Dry	
Purpose Pre-Rehabilitation Survey	C	at				
Additional info pre rehab surv Location Easement/Right of Way	vey		Structural Miscellaneous	O & M Hydraulic	Construct	onal
Project MINI SYSTEM 6			Work	Order 950		
Northing	Easting		Elev	vation		
Coordinate System			GPS Accura	cv		





M.H. REHAB							
(LINED)							
MH.	EST. I/I	DAY	YEAR				
 6-542	,50	720	262,800				
6-289	.15	216	78,840				
6-568		1440	525,600				
6-287	,25	360	131,400				
6-286	.25	360	131,400				
6-098B	.15	216	78,840				
6-274	.15	Z16	78,840				
1-302	1.5	2,160	788,400				
1-304	,50	720	262,800				















IN 714 Fairview Rd. MH 9265C Storm Drain Ditch Under Water 29m



Installed a Bolt Down MH Ring (The resed 4" (MH 9-265C) THY Fairview Rd.



714 Fairview Rd. Cover HH Ring and Installed Bolt down HH Ring and (MH 9-2658)

Fairview Rd-N Dill Ave. NH 9-265D Pipe Invert Leaking



CCTV pictures of 9-265D 2 For TAYLORS FIRE AND SEWER DIST.

Work Order			Surveyed On 2014/10/14
Street Name	723 Fairview rd		Video dvs
City Name	Taylors Fire & Sewer D	ist. Weather Heavy Rain	
Location	Easement/Right of Way		
From Manhole 9-	265D	o Manhole 9-265C	Survey Direction Downstream

Setup 570 Counter 270.8 Ft



S:\Snaps\TAYLORS PACP\6076.jpg 2014/10/14

Year Laid	Shape (Circular	Size 8	By ins
Material	Ductile Iron Pipe	Lining	U	se Sanitary
Observation:	End of Survey			
Comments:	inflow mh under water. e	nd of survey		

Pump Stations:

<u>Pump Stations</u> (Also called Lift Stations) – Pump Stations are often found at low points in topography where wastewater must be pumped uphill to a point where it can join other gravity fed lines. A wet well gathers the wastewater, where at different times the pumps will turn on and send the wastewater out through the force main. Taylors Fire and Sewer District owns and maintains three pump stations.

Taylors Fire and Sewer District contracts with Condor Environmental who is responsible for the continuous and efficient operation and maintenance of the collection systems pump stations. If there is a problem at a pump station, they communicate with our Operations Coordinator in the event field crew assistance is needed. Their responsibility includes preventing failures in operations that would result in flooding upstream homes, businesses or streets. Condor Environmental does not have responsibility beyond the pump station site, but they can assist field crews in identifying potential blockages in the gravity line entering the pump station wet well or the force main exiting the pump station.

Taylors Fire and Sewer District staff visits the pump stations in order to perform site maintenance such as cutting grass and maintain the grounds. Field crews also check the pumps in the pump station to ensure they are operating.

In June 2013 we contracted with Pete Duty & Associates to purchase three (3) HTT-900 Cellular Monitoring Systems for our pump stations (Aiken Chapel, Lily Pond, and Enoree Heights). We are now able to receive texts, emails, and phone calls about each station. We can also view each pump station's status and print reports from online.

ift Stations Alarm	s (0) Map	_							
ift Stations									Search
Name	Lastpumpreport	Pump 1 Starts	Runtimes	Pump 2 Starts	Runtimes				
Aiken Chapel PS *	2015-09-13	8118	416.00 hrs	7165	423.68 hrs	Pump 1 Temp O K	Pump 2 Temp O K	High Water O K	Alarm History Service History
Lily Pond PS •	2015-09-13	7819	1294.40 hrs	6920	2842.55 hrs	Pump 1 Temp O K	Pump 2 Temp O K	High Water O K	Alarm History Service History
Enoree Heights PS	2015-09-13	9271	158.77 hrs	9272	156.82 hrs			High Water O K	Alarm History Service History

Pump Station Main Home Screen:

We started monitoring at the end of this fiscal year 2013, so we are able to provide a report for this fiscal year.

Aiken Chapel Alarm Log – 7-1-2014 to 6-30-2015					
Text	Alarm Time				
Mon, Oct 27 2014 01:50:06 PM UTC	External Power Lost				
Mon, Oct 27 2014 02:07:24 PM UTC	External Power Ok				
Mon, Oct 27 2014 02:12:44 PM UTC	External Power Lost				
Mon, Oct 27 2014 02:32:54 PM UTC	External Power Ok				
Mon, Oct 27 2014 02:53:38 PM UTC	Software Reset				
Mon, Oct 27 2014 05:32:50 PM UTC	High Water Alarm				
Mon, Oct 27 2014 05:59:40 PM UTC	High Water O K				
Wed, Feb 18 2015 06:52:44 PM UTC	External Power Lost				
Wed, Feb 18 2015 07:20:18 PM UTC	External Power Ok				
Thu, Feb 19 2015 07:53:40 PM UTC	External Power Lost				
Thu, Feb 19 2015 08:13:54 PM UTC	Low Battery. Battery voltage is 11.4				
Thu, Feb 19 2015 08:24:02 PM UTC	Battery Voltage Ok. Battery voltage is 13.7				
Thu, Feb 19 2015 08:34:52 PM UTC	External Power Ok				
Thu, Feb 19 2015 08:57:12 PM UTC	External Power Lost				
Thu, Feb 19 2015 09:14:16 PM UTC	Low Battery. Battery voltage is 11.4				
Thu, Feb 19 2015 09:52:24 PM UTC	Battery Voltage Ok. Battery voltage is 13.7				
Thu, Feb 19 2015 09:56:34 PM UTC	External Power Ok				
Thu, Feb 19 2015 10:14:54 PM UTC	External Power Lost				
Thu, Feb 19 2015 10:20:54 PM UTC	External Power Ok				

Aiken Chapel Pump Station Data:

Aiken Chapel PS Run Times											
2014-07-01 - 2015-06-30											
	Pump 1 Pump 2 Totals										
	Starts	Runtime(Hours)	Starts	Runtime(Hours)	Starts	Runtime(Hours)					
2014-07-01	5	0.18	6	0.22	11	0.40					
2014-07-02	7	0.27	6	0.20	13	0.47					
2014-07-03	5	0.18	5	0.18	10	0.37					
2014-07-04	3	0.12	4	0.15	7	0.27					
2014-07-05	4	0.15	4	0.15	8	0.30					
2014-07-06	8	0.32	7	0.28	15	0.60					
2014-07-07	9	0.33	9	0.33	18	0.67					
2014-07-08	6	0.22	6	0.22	12	0.43					
2014-07-09	5	0.18	6	0.22	11	0.40					
2014-07-10	7	0.25	6	0.22	13	0.47					
2014-07-11	6	0.22	6	0.22	12	0.43					

2014-07-12	7	0.25	6	0.22	13	0.47
2014-07-13	9	0.37	9	0.38	18	0.75
2014-07-14	9	0.33	10	0.38	19	0.72
2014-07-15	8	0.28	8	0.30	16	0.58
2014-07-16	9	0.32	8	0.28	17	0.60
2014-07-17	7	0.20	6	0.18	13	0.38
2014-07-18	5	0.18	6	0.22	11	0.40
2014-07-19	5	0.18	5	0.18	10	0.37
2014-07-20	10	0.38	9	0.38	19	0.77
2014-07-21	12	0.45	12	0.58	24	1.03
2014-07-22	7	0.25	8	0.28	15	0.53
2014-07-23	8	0.30	8	0.28	16	0.58
2014-07-24	7	0.27	7	0.27	14	0.53
2014-07-25	7	0.27	7	0.25	14	0.52
2014-07-26	4	0.15	4	0.15	8	0.30
2014-07-27	9	0.38	8	0.32	17	0.70
2014-07-28	4	0.15	5	0.18	9	0.33
2014-07-29	6	0.23	5	0.18	11	0.42
2014-07-30	4	0.15	5	0.18	9	0.33
2014-07-31	15	0.62	15	0.63	30	1.25
2014-08-01	25	1.07	24	1.00	49	2.07
2014-08-02	12	0.50	12	0.48	24	0.98
2014-08-03	12	0.50	13	0.58	25	1.08
2014-08-04	8	0.32	7	0.28	15	0.60
2014-08-05	8	0.33	7	0.33	15	0.67
2014-08-06	12	0.52	13	0.55	25	1.07
2014-08-07	9	0.32	9	0.30	18	0.62
2014-08-08	11	0.33	11	0.32	22	0.65
2014-08-09	11	0.38	11	0.42	22	0.80
2014-08-10	29	1.17	30	1.15	59	2.32
2014-08-11	19	0.68	19	0.67	38	1.35
2014-08-12	14	0.48	13	0.43	27	0.92
2014-08-13	13	0.43	14	0.47	27	0.90
2014-08-14	10	0.33	9	0.30	19	0.63
2014-08-15	6	0.20	6	0.20	12	0.40
2014-08-16	5	0.17	5	0.17	10	0.33
2014-08-17	12	0.45	12	0.43	24	0.88
2014-08-18	7	0.23	8	0.27	15	0.50
2014-08-19	7	0.22	7	0.22	14	0.43
2014-08-20	10	0.35	9	0.30	19	0.65
2014-08-21	6	0.20	7	0.22	13	0.42
2014-08-22	6	0.18	6	0.18	12	0.37
2014-08-23	5	0.17	4	0.13	9	0.30

2014-08-24	12	0.45	12	0.45	24	0.90
2014-08-25	7	0.23	7	0.23	14	0.47
2014-08-26	7	0.23	8	0.27	15	0.50
2014-08-27	11	0.35	11	0.37	22	0.72
2014-08-28	8	0.27	7	0.22	15	0.48
2014-08-29	8	0.25	9	0.28	17	0.53
2014-08-30	6	0.18	5	0.15	11	0.33
2014-08-31	8	0.27	9	0.32	17	0.58
2014-09-01	6	0.18	6	0.18	12	0.37
2014-09-02	8	0.27	7	0.22	15	0.48
2014-09-03	13	0.42	13	0.42	26	0.83
2014-09-04	8	0.25	8	0.25	16	0.50
2014-09-05	6	0.20	7	0.22	13	0.42
2014-09-06	7	0.22	6	0.18	13	0.40
2014-09-07	10	0.37	11	0.38	21	0.75
2014-09-08	15	0.52	15	0.53	30	1.05
2014-09-09	8	0.27	8	0.27	16	0.53
2014-09-10	14	0.48	14	0.47	28	0.95
2014-09-11	15	0.48	15	0.47	30	0.95
2014-09-12	9	0.30	8	0.25	17	0.55
2014-09-13	6	0.20	6	0.20	12	0.40
2014-09-14	14	0.50	14	0.50	28	1.00
2014-09-15	11	0.37	11	0.37	22	0.73
2014-09-16	13	0.42	14	0.47	27	0.88
2014-09-17	19	0.67	19	0.65	38	1.32
2014-09-18	8	0.27	8	0.27	16	0.53
2014-09-19	8	0.27	7	0.23	15	0.50
2014-09-20	6	0.20	6	0.20	12	0.40
2014-09-21	7	0.25	7	0.23	14	0.48
2014-09-22	11	0.37	11	0.37	22	0.73
2014-09-23	8	0.27	9	0.30	17	0.57
2014-09-24	13	0.45	13	0.43	26	0.88
2014-09-25	8	0.27	9	0.27	17	0.53
2014-09-26	8	0.28	7	0.25	15	0.53
2014-09-27	5	0.17	5	0.17	10	0.33
2014-09-28	9	0.37	10	0.38	19	0.75
2014-09-29	10	0.35	10	0.37	20	0.72
2014-09-30	8	0.28	7	0.23	15	0.52
2014-10-01	11	0.40	12	0.42	23	0.82
2014-10-02	7	0.25	7	0.25	14	0.50
2014-10-03	8	0.28	7	0.25	15	0.53
2014-10-04	5	0.18	6	0.20	11	0.38
2014-10-05	10	0.40	9	0.37	19	0.77

2014-10-06	11	0.42	12	0.45	23	0.87
2014-10-07	8	0.28	7	0.25	15	0.53
2014-10-08	12	0.45	13	0.47	25	0.92
2014-10-09	9	0.30	9	0.30	18	0.60
2014-10-10	8	0.28	7	0.25	15	0.53
2014-10-11	6	0.22	7	0.23	13	0.45
2014-10-12	10	0.42	9	0.37	19	0.78
2014-10-13	14	0.53	15	0.57	29	1.10
2014-10-14	11	0.40	10	0.37	21	0.77
2014-10-15	19	0.72	20	0.75	39	1.47
2014-10-16	10	0.35	9	0.32	19	0.67
2014-10-17	5	0.17	6	0.22	11	0.38
2014-10-18	4	0.15	4	0.13	8	0.28
2014-10-19	10	0.40	10	0.38	20	0.78
2014-10-20	12	0.45	12	0.47	24	0.92
2014-10-21	11	0.42	11	0.40	22	0.82
2014-10-22	26	1.00	26	1.00	52	2.00
2014-10-23	14	0.53	14	0.53	28	1.07
2014-10-24	7	0.27	7	0.27	14	0.53
2014-10-25	6	0.22	5	0.18	11	0.40
2014-10-26	8	0.33	9	0.38	17	0.72
2014-10-27	6	3.48	7	2.42	13	5.90
2014-10-28	8	0.30	8	0.30	16	0.60
2014-10-29	12	0.45	11	0.42	23	0.87
2014-10-30	7	0.27	7	0.27	14	0.53
2014-10-31	6	0.22	6	0.22	12	0.43
2014-11-01	7	0.25	6	0.22	13	0.47
2014-11-02	22	0.87	22	0.92	44	1.78
2014-11-03	6	0.22	6	0.22	12	0.43
2014-11-04	11	0.42	12	0.45	23	0.87
2014-11-05	7	0.27	6	0.22	13	0.48
2014-11-06	7	0.25	8	0.30	15	0.55
2014-11-07	9	0.33	8	0.30	17	0.63
2014-11-08	8	0.33	9	0.37	17	0.70
2014-11-09	12	0.50	12	0.48	24	0.98
2014-11-10	7	0.28	6	0.23	13	0.52
2014-11-11	11	0.45	12	0.48	23	0.93
2014-11-12	7	0.28	6	0.23	13	0.52
2014-11-13	7	0.28	7	0.27	14	0.55
2014-11-14	5	0.20	5	0.18	10	0.38
2014-11-15	8	0.37	9	0.42	17	0.78
2014-11-16	10	0.43	10	0.42	20	0.85
2014-11-17	7	0.28	7	0.28	14	0.57

2014-11-18	11	0.47	10	0.43	21	0.90
2014-11-19	7	0.28	8	0.33	15	0.62
2014-11-20	7	0.28	6	0.25	13	0.53
2014-11-21	4	0.17	4	0.17	8	0.33
2014-11-22	13	0.63	13	0.60	26	1.23
2014-11-23	18	0.82	18	0.80	36	1.62
2014-11-24	10	0.43	11	0.47	21	0.90
2014-11-25	17	0.77	16	0.72	33	1.48
2014-11-26	8	0.35	9	0.40	17	0.75
2014-11-27	6	0.27	6	0.27	12	0.53
2014-11-28	6	0.27	5	0.22	11	0.48
2014-11-29	9	0.45	9	0.43	18	0.88
2014-11-30	8	0.37	8	0.37	16	0.73
2014-12-01	7	0.32	7	0.30	14	0.62
2014-12-02	10	0.47	11	0.48	21	0.95
2014-12-03	9	0.38	8	0.33	17	0.72
2014-12-04	10	0.42	10	0.42	20	0.83
2014-12-05	8	0.35	9	0.38	17	0.73
2014-12-06	10	0.45	10	0.50	20	0.95
2014-12-07	13	0.58	12	0.52	25	1.10
2014-12-08	7	0.30	8	0.33	15	0.63
2014-12-09	10	0.42	9	0.38	19	0.80
2014-12-10	8	0.33	9	0.37	17	0.70
2014-12-11	7	0.28	7	0.28	14	0.57
2014-12-12	7	0.28	7	0.27	14	0.55
2014-12-13	15	0.53	15	0.58	30	1.12
2014-12-14	10	0.37	9	0.33	19	0.70
2014-12-15	7	0.25	7	0.25	14	0.50
2014-12-16	6	0.20	7	0.23	13	0.43
2014-12-17	7	0.25	6	0.22	13	0.47
2014-12-18	6	0.22	6	0.22	12	0.43
2014-12-19	5	0.17	6	0.20	11	0.37
2014-12-20	9	0.32	9	0.37	18	0.68
2014-12-21	6	0.20	6	0.22	12	0.42
2014-12-22	6	0.20	6	0.22	12	0.42
2014-12-23	19	0.70	19	0.72	38	1.42
2014-12-24	13	0.47	13	0.47	26	0.93
2014-12-25	9	0.32	9	0.33	18	0.65
2014-12-26	6	0.20	6	0.20	12	0.40
2014-12-27	6	0.22	6	0.22	12	0.43
2014-12-28	6	0.22	6	0.22	12	0.43
2014-12-29	7	0.25	7	0.23	14	0.48
2014-12-30	6	0.20	6	0.18	12	0.38

2014-12-31	4	0.13	4	0.12	8	0.25
2015-01-01	6	0.20	5	0.17	11	0.37
2015-01-02	8	0.30	9	0.33	17	0.63
2015-01-03	46	2.27	46	2.13	92	4.40
2015-01-04	26	1.03	25	0.98	51	2.02
2015-01-05	15	0.57	15	0.55	30	1.12
2015-01-06	16	0.62	17	0.63	33	1.25
2015-01-07	8	0.28	7	0.25	15	0.53
2015-01-08	8	0.30	9	0.33	17	0.63
2015-01-09	8	0.30	8	0.30	16	0.60
2015-01-10	9	0.37	8	0.35	17	0.72
2015-01-11	18	0.72	18	0.73	36	1.45
2015-01-12	9	0.35	10	0.40	19	0.75
2015-01-13	14	0.55	13	0.52	27	1.07
2015-01-14	9	0.35	10	0.38	19	0.73
2015-01-15	5	0.18	4	0.15	9	0.33
2015-01-16	5	0.20	6	0.22	11	0.42
2015-01-17	10	0.43	10	0.47	20	0.90
2015-01-18	12	0.48	11	0.43	23	0.92
2015-01-19	7	0.27	8	0.30	15	0.57
2015-01-20	13	0.48	12	0.47	25	0.95
2015-01-21	8	0.28	8	0.28	16	0.57
2015-01-22	9	0.32	9	0.30	18	0.62
2015-01-23	10	0.35	10	0.37	20	0.72
2015-01-24	11	0.48	11	0.48	22	0.97
2015-01-25	12	0.48	13	0.52	25	1.00
2015-01-26	8	0.30	7	0.27	15	0.57
2015-01-27	11	0.43	12	0.47	23	0.90
2015-01-28	9	0.35	9	0.35	18	0.70
2015-01-29	8	0.32	8	0.32	16	0.63
2015-01-30	6	0.23	5	0.18	11	0.42
2015-01-31	10	0.43	10	0.45	20	0.88
2015-02-01	17	0.72	17	0.70	34	1.42
2015-02-02	9	0.35	10	0.38	19	0.73
2015-02-03	13	0.55	13	0.53	26	1.08
2015-02-04	7	0.27	7	0.27	14	0.53
2015-02-05	8	0.32	8	0.32	16	0.63
2015-02-06	9	0.35	8	0.32	17	0.67
2015-02-07	10	0.45	10	0.43	20	0.88
2015-02-08	17	0.77	17	0.75	34	1.52
2015-02-09	9	0.37	10	0.40	19	0.77
2015-02-10	12	0.52	12	0.52	24	1.03
2015-02-11	9	0.37	8	0.33	17	0.70

2015-02-12	7	0.30	8	0.32	15	0.62
2015-02-13	7	0.28	6	0.23	13	0.52
2015-02-14	8	0.37	8	0.40	16	0.77
2015-02-15	11	0.50	12	0.53	23	1.03
2015-02-16	7	0.28	7	0.30	14	0.58
2015-02-17	14	0.82	12	0.68	26	1.50
2015-02-18	7	0.27	7	0.28	14	0.55
2015-02-19	5	0.20	5	0.20	10	0.40
2015-02-20	7	0.28	6	0.25	13	0.53
2015-02-21	9	0.40	10	0.47	19	0.87
2015-02-22	14	0.58	13	0.57	27	1.15
2015-02-23	6	0.23	7	0.28	13	0.52
2015-02-24	9	0.37	9	0.37	18	0.73
2015-02-25	6	0.25	6	0.23	12	0.48
2015-02-26	7	0.27	6	0.23	13	0.50
2015-02-27	5	0.23	5	0.22	10	0.45
2015-02-28	10	0.43	10	0.47	20	0.90
2015-03-01	13	0.58	14	0.58	27	1.17
2015-03-02	7	0.30	6	0.25	13	0.55
2015-03-03	12	0.53	12	0.53	24	1.07
2015-03-04	7	0.30	7	0.28	14	0.58
2015-03-05	6	0.25	7	0.30	13	0.55
2015-03-06	6	0.25	5	0.20	11	0.45
2015-03-07	9	0.38	9	0.42	18	0.80
2015-03-08					0	0.00
2015-03-09	12	0.55	13	0.58	25	1.13
2015-03-10	6	0.25	6	0.25	12	0.50
2015-03-11	12	0.53	12	0.53	24	1.07
2015-03-12	7	0.30	7	0.30	14	0.60
2015-03-13	8	0.33	7	0.30	15	0.63
2015-03-14	7	0.30	7	0.30	14	0.60
2015-03-15	9	0.42	9	0.53	18	0.95
2015-03-16	10	0.45	10	0.45	20	0.90
2015-03-17	7	0.32	7	0.30	14	0.62
2015-03-18	13	0.58	14	0.60	27	1.18
2015-03-19	8	0.35	7	0.30	15	0.65
2015-03-20	6	0.25	7	0.30	13	0.55
2015-03-21	6	0.25	5	0.22	11	0.47
2015-03-22	13	0.62	13	0.58	26	1.20
2015-03-23	13	0.55	13	0.55	26	1.10
2015-03-24	8	0.32	8	0.32	16	0.63
2015-03-25	12	0.52	12	0.50	24	1.02
2015-03-26	9	0.37	10	0.42	19	0.78

2015-03-27	8	0.33	7	0.28	15	0.62
2015-03-28	5	0.20	6	0.22	11	0.42
2015-03-29	10	0.40	10	0.45	20	0.85
2015-03-30	7	0.28	7	0.27	14	0.55
2015-03-31	5	0.20	5	0.20	10	0.40
2015-04-01	5	0.20	5	0.20	10	0.40
2015-04-02	5	0.20	5	0.20	10	0.40
2015-04-03	4	0.17	4	0.15	8	0.32
2015-04-04	4	0.17	3	0.12	7	0.28
2015-04-05	13	0.58	14	0.60	27	1.18
2015-04-06	14	0.62	13	0.57	27	1.18
2015-04-07	10	0.42	11	0.52	21	0.93
2015-04-08	19	0.80	18	0.75	37	1.55
2015-04-09	9	0.37	9	0.37	18	0.73
2015-04-10	7	0.28	8	0.32	15	0.60
2015-04-11	4	0.17	4	0.15	8	0.32
2015-04-12	12	0.53	11	0.52	23	1.05
2015-04-13	11	0.47	12	0.52	23	0.98
2015-04-14	12	0.52	12	0.50	24	1.02
2015-04-15	21	0.97	21	0.97	42	1.93
2015-04-16	20	0.90	20	0.88	40	1.78
2015-04-17	14	0.63	14	0.62	28	1.25
2015-04-18	11	0.50	10	0.45	21	0.95
2015-04-19	20	1.08	20	0.92	40	2.00
2015-04-20	26	1.28	26	1.25	52	2.53
2015-04-21	24	1.10	25	1.08	49	2.18
2015-04-22	21	1.00	20	0.97	41	1.97
2015-04-23	14	0.63	14	0.62	28	1.25
2015-04-24	10	0.45	11	0.48	21	0.93
2015-04-25	9	0.40	8	0.35	17	0.75
2015-04-26	10	0.50	11	0.57	21	1.07
2015-04-27	10	0.45	9	0.37	19	0.82
2015-04-28	7	0.32	8	0.35	15	0.67
2015-04-29	11	0.52	11	0.47	22	0.98
2015-04-30	8	0.35	7	0.30	15	0.65
2015-05-01	10	0.45	10	0.43	20	0.88
2015-05-02	8	0.37	8	0.33	16	0.70
2015-05-03	9	0.43	9	0.47	18	0.90
2015-05-04	10	0.45	11	0.47	21	0.92
2015-05-05	9	0.38	8	0.32	17	0.70
2015-05-06	14	0.63	14	0.63	28	1.27
2015-05-07	11	0.50	11	0.48	22	0.98
2015-05-08	18	0.83	18	0.83	36	1.67

2015-05-09	11	0.52	12	0.53	23	1.05
2015-05-10	11	0.53	11	0.55	22	1.08
2015-05-11	11	0.50	10	0.45	21	0.95
2015-05-12	7	0.32	8	0.37	15	0.68
2015-05-13	9	0.42	9	0.42	18	0.83
2015-05-14	10	0.45	9	0.42	19	0.87
2015-05-15	7	0.32	8	0.35	15	0.67
2015-05-16	5	0.22	5	0.20	10	0.42
2015-05-17	8	0.35	8	0.33	16	0.68
2015-05-18	10	0.48	10	0.43	20	0.92
2015-05-19	8	0.33	8	0.33	16	0.67
2015-05-20	11	0.47	10	0.42	21	0.88
2015-05-21	8	0.35	8	0.33	16	0.68
2015-05-22	7	0.30	7	0.30	14	0.60
2015-05-23	6	0.25	6	0.25	12	0.50
2015-05-24	8	0.38	8	0.35	16	0.73
2015-05-25	4	0.15	5	0.18	9	0.33
2015-05-26	7	0.27	6	0.23	13	0.50
2015-05-27	8	0.32	8	0.30	16	0.62
2015-05-28	6	0.23	7	0.28	13	0.52
2015-05-29	7	0.25	7	0.27	14	0.52
2015-05-30	4	0.13	4	0.15	8	0.28
2015-05-31	9	0.37	8	0.35	17	0.72
2015-06-01	7	0.25	8	0.30	15	0.55
2015-06-02	7	0.27	6	0.22	13	0.48
2015-06-03	8	0.28	8	0.30	16	0.58
2015-06-04	6	0.22	6	0.22	12	0.43
2015-06-05	5	0.18	5	0.18	10	0.37
2015-06-06	5	0.18	6	0.22	11	0.40
2015-06-07	13	0.53	13	0.50	26	1.03
2015-06-08	14	0.55	13	0.52	27	1.07
2015-06-09	13	0.47	13	0.48	26	0.95
2015-06-10	12	0.45	12	0.45	24	0.90
2015-06-11	9	0.33	10	0.37	19	0.70
2015-06-12	5	0.18	5	0.18	10	0.37
2015-06-13	10	0.37	10	0.33	20	0.70
2015-06-14	15	0.62	14	0.57	29	1.18
2015-06-15	6	0.22	7	0.25	13	0.47
2015-06-16	7	0.25	6	0.22	13	0.47
2015-06-17	9	0.35	10	0.38	19	0.73
2015-06-18	12	0.47	12	0.45	24	0.92
2015-06-19	12	0.47	12	0.47	24	0.93
2015-06-20	7	0.27	7	0.27	14	0.53

Totals	3486	142.58	3484	140.33	6970	282.92
2015-06-30	12	0.38	12	0.37	24	0.75
2015-06-29	13	0.38	13	0.37	26	0.75
2015-06-28	15	0.58	16	0.57	31	1.15
2015-06-27	11	0.42	11	0.42	22	0.83
2015-06-26	16	0.62	15	0.60	31	1.22
2015-06-25	16	0.62	17	0.67	33	1.28
2015-06-24	16	0.62	15	0.60	31	1.22
2015-06-23	10	0.38	10	0.38	20	0.77
2015-06-22	10	0.38	10	0.38	20	0.77
2015-06-21	8	0.33	8	0.33	16	0.67

• Lily Pond Pump Station Data:

Lily Pond Alarm Log – 7-1-2014 to 6-30-2015							
Text	Alarm Time						
Mon, Oct 27 2014 05:45:58 PM UTC	External Power Lost						
Mon, Oct 27 2014 06:16:48 PM UTC	External Power Ok						
Tue, Oct 28 2014 02:39:28 PM UTC	External Power Lost						
Tue, Oct 28 2014 03:03:08 PM UTC	External Power Ok						
Wed, Feb 18 2015 08:19:04 PM UTC	External Power Lost						
Wed, Feb 18 2015 08:30:34 PM UTC	External Power Ok						
Tue, Mar 17 2015 05:31:56 AM UTC	Software Reset						
Thu, May 28 2015 06:09:56 PM UTC	External Power Lost						
Thu, May 28 2015 08:41:40 PM UTC	External Power Ok						

Lily Pond PS								
2014-07-01 - 2015-06-30								
	Pun	np 1		Pum	p 2		Т	otals
	Starts	Runtime	e(Hours)	Starts	Runtime(Hour	rs)	Starts	Runtime(Hours)
2014-07-01	9		0.80	9	0.8	80	18	1.60
2014-07-02	9		0.82	9	0.8	82	18	1.63
2014-07-03	9		0.82	9	0.8	83	18	1.65
2014-07-04	10		0.90	10	0.8	87	20	1.77
2014-07-05	10		0.90	9	0.8	88	19	1.78
2014-07-06	10		0.92	10	0.9	93	20	1.85
2014-07-07	9		0.82	10	0.9	90	19	1.72
2014-07-08	8		0.72	8	0.1	73	16	1.45
2014-07-09	10		0.90	9	0.8	83	19	1.73
2014-07-10	9		0.82	9	0.8	83	18	1.65
2014-07-11	9		0.82	9	0.8	80	18	1.62
2014-07-12	9		0.80	9	0.8	80	18	1.60
2014-07-13	10		0.90	10	0.9	92	20	1.82
2014-07-14	9		0.80	10	0.9	92	19	1.72
2014-07-15	8		0.70	8	0.1	70	16	1.40
2014-07-16	9		0.77	8	0.1	72	17	1.48
2014-07-17	8		0.70	9	0.1	78	17	1.48
2014-07-18	9		0.80	9	0.8	80	18	1.60
2014-07-19	10		0.92	11	1.0	03	21	1.95
2014-07-20	9		0.82	9	0.8	83	18	1.65
2014-07-21	12		1.12	11	1.0	05	23	2.17
2014-07-22	8		0.73	9	0.8	82	17	1.55
2014-07-23	8		0.72	8	0.1	73	16	1.45
2014-07-24	9		0.83	8	0.	73	17	1.57
2014-07-25	9		0.83	10	0.9	93	19	1.77
2014-07-26	9		0.83	9	0.8	83	18	1.67

2014-07-27	10	0.95	10	0.95	20	1.90
2014-07-28	8	0.72	8	0.73	16	1.45
2014-07-29	9	0.82	8	0.72	17	1.53
2014-07-30	8	0.72	8	0.73	16	1.45
2014-07-31	12	1.13	13	1.23	25	2.37
2014-08-01	13	1.22	13	1.20	26	2.42
2014-08-02	9	0.82	9	0.82	18	1.63
2014-08-03	10	0.92	10	0.92	20	1.83
2014-08-04	8	0.72	8	0.73	16	1.45
2014-08-05	9	0.82	8	0.72	17	1.53
2014-08-06	9	0.88	10	0.98	19	1.87
2014-08-07	8	0.73	8	0.73	16	1.47
2014-08-08	9	0.80	9	0.80	18	1.60
2014-08-09	11	1.02	10	0.97	21	1.98
2014-08-10	12	1.12	13	1.22	25	2.33
2014-08-11	10	0.90	9	0.82	19	1.72
2014-08-12	8	0.73	9	0.83	17	1.57
2014-08-13	9	0.82	8	0.73	17	1.55
2014-08-14	8	0.73	9	0.83	17	1.57
2014-08-15	9	0.82	9	0.83	18	1.65
2014-08-16	10	0.92	9	0.83	19	1.75
2014-08-17	10	0.95	10	0.93	20	1.88
2014-08-18	9	0.83	10	0.93	19	1.77
2014-08-19	9	0.83	8	0.75	17	1.58
2014-08-20	8	0.75	8	0.73	16	1.48
2014-08-21	9	0.85	9	0.83	18	1.68
2014-08-22	8	0.75	8	0.77	16	1.52
2014-08-23	9	0.85	10	0.97	19	1.82
2014-08-24	9	0.85	9	0.87	18	1.72
2014-08-25	9	0.85	9	0.87	18	1.72
2014-08-26	8	0.77	8	0.75	16	1.52
2014-08-27	9	0.77	8	0.77	17	1.53
2014-08-28	8	0.85	9	0.85	17	1.70
2014-08-29	8	0.75	7	0.67	15	1.42
2014-08-30	11	1.05	10	0.98	21	2.03
2014-08-31	9	0.85	9	0.85	18	1.70
2014-09-01	10	0.95	10	0.95	20	1.90
2014-09-02	8	0.73	9	0.85	17	1.58
2014-09-03	9	0.83	9	0.83	18	1.67
2014-09-04	9	0.82	9	0.82	18	1.63
2014-09-05	8	0.72	8	0.73	16	1.45
2014-09-06	9	0.85	9	0.85	18	1.70
2014-09-07	10	0.92	9	0.85	19	1.77
2014-09-08	8	0.75	9	0.85	17	1.60
2014-09-09	9	0.83	8	0.77	17	1.60
2014-09-10	8	0.73	9	0.83	17	1.57
2014-09-11	8	0.73	8	0.72	16	1.45
2014-09-12	9	0.83	9	0.78	18	1.62

2014-09-13	10	0.93	9	0.88	19	1.82
2014-09-14	10	0.95	11	1.02	21	1.97
2014-09-15	9	0.83	9	0.83	18	1.67
2014-09-16	9	0.82	8	0.73	17	1.55
2014-09-17	8	0.72	8	0.75	16	1.47
2014-09-18	8	0.73	9	0.87	17	1.60
2014-09-19	9	0.83	9	0.83	18	1.67
2014-09-20	10	0.95	9	0.85	19	1.80
2014-09-21	9	0.85	10	0.95	19	1.80
2014-09-22	9	0.87	8	0.75	17	1.62
2014-09-23	10	0.93	10	0.93	20	1.87
2014-09-24	9	0.85	10	0.95	19	1.80
2014-09-25	10	0.85	8	0.75	18	1.60
2014-09-26	9	0.83	9	0.85	18	1.68
2014-09-27	10	0.97	10	0.93	20	1.90
2014-09-28	10	0.98	10	0.95	20	1.93
2014-09-29	10	0.90	9	0.88	19	1.78
2014-09-30	8	0.80	8	0.77	16	1.57
2014-10-01	8	0.77	8	0.78	16	1.55
2014-10-02	8	0.78	9	0.87	17	1.65
2014-10-03	9	0.87	9	0.87	18	1.73
2014-10-04	9	0.87	9	0.88	18	1.75
2014-10-05	9	0.88	9	0.87	18	1.75
2014-10-06	9	0.87	8	0.78	17	1.65
2014-10-07	9	0.85	9	0.88	18	1.73
2014-10-08	9	0.88	10	0.98	19	1.87
2014-10-09	9	0.78	8	0.78	17	1.57
2014-10-10	8	0.85	9	0.85	17	1.70
2014-10-11	10	0.98	10	1.00	20	1.98
2014-10-12	10	0.98	10	0.98	20	1.97
2014-10-13	10	0.97	9	0.90	19	1.87
2014-10-14	10	1.03	11	1.10	21	2.13
2014-10-15	9	0.87	8	0.78	17	1.65
2014-10-16	8	0.77	8	0.78	16	1.55
2014-10-17	9	0.80	9	0.88	18	1.68
2014-10-18	9	0.97	9	0.88	18	1.85
2014-10-19	8	0.82	9	0.90	17	1.72
2014-10-20	9	0.90	9	0.92	18	1.82
2014-10-21	8	0.82	8	0.80	16	1.62
2014-10-22	8	0.80	8	0.80	16	1.60
2014-10-23	8	0.80	7	0.72	15	1.52
2014-10-24	8	0.75	8	0.78	16	1.53
2014-10-25	9	0.98	9	0.92	18	1.90
2014-10-26	9	0.93	10	1.03	19	1.97
2014-10-27	15	1.32	13	1.08	28	2.40
2014-10-28	12	1.05	12	1.07	24	2.12
2014-10-29	9	0.88	9	0.90	18	1.78
2014-10-30	9	0.90	9	0.90	18	1.80

2014-10-31	9	0.90	9	0.92	18	1.82
2014-11-01	10	1.02	9	0.90	19	1.92
2014-11-02	21	2.22	21	2.22	42	4.43
2014-11-03	8	0.88	10	1.08	18	1.97
2014-11-04	9	0.98	8	0.88	17	1.87
2014-11-05	8	0.88	9	1.00	17	1.88
2014-11-06	8	0.87	8	0.88	16	1.75
2014-11-07	9	1.02	8	0.92	17	1.93
2014-11-08	9	1.03	10	1.15	19	2.18
2014-11-09	9	1.05	8	0.92	17	1.97
2014-11-10	8	0.92	9	1.02	17	1.93
2014-11-11	8	0.92	8	0.93	16	1.85
2014-11-12	11	1.68	6	6.53	17	8.22
2014-11-13	10	1.70	5	7.53	15	9.23
2014-11-14	13	2.17	6	7.12	19	9.28
2014-11-15	11	1.88	6	7.95	17	9.83
2014-11-16	13	2.12	6	8.37	19	10.48
2014-11-17	11	1.63	6	9.07	17	10.70
2014-11-18	11	1.98	5	6.17	16	8.15
2014-11-19	10	1.60	6	10.10	16	11.70
2014-11-20	11	1.85	5	8.92	16	10.77
2014-11-21	12	2.07	6	9.10	18	11.17
2014-11-22	17	3.03	8	10.43	25	13.47
2014-11-23	12	2.08	7	8.22	19	10.30
2014-11-24	11	1.97	5	7.62	16	9.58
2014-11-25	15	2.65	8	8.83	23	11.48
2014-11-26	14	2.60	7	8.27	21	10.87
2014-11-27	11	2.07	5	7.88	16	9.95
2014-11-28	12	2.27	6	8.32	18	10.58
2014-11-29	13	2.42	6	10.22	19	12.63
2014-11-30	11	2.05	6	10.62	17	12.67
2014-12-01	11	2.23	5	7.60	16	9.83
2014-12-02	10	1.97	6	11.17	16	13.13
2014-12-03	12	2.37	5	7.07	17	9.43
2014-12-04	10	1.92	6	9.27	16	11.18
2014-12-05	13	2.47	6	8.35	19	10.82
2014-12-06	12	2.63	6	9.57	18	12.20
2014-12-07	11	2.17	5	9.37	16	11.53
2014-12-08	10	2.03	6	7.75	16	9.78
2014-12-09	11	2.32	5	8.38	16	10.70
2014-12-10	11	2.25	5	8.38	16	10.63
2014-12-11	10	2.08	6	9.58	16	11.67
2014-12-12	12	2.52	6	7.58	18	10.10
2014-12-13	13	2.88	6	8.83	19	11.72
2014-12-14	11	2.32	6	9.38	17	11.70
2014-12-15	11	2.45	5	7.45	16	9.90
2014-12-16	11	2.25	6	9.65	17	11.90
2014-12-17	10	2.22	5	7.22	15	9.43

2014-12-18	10	2.20	5	7.57	15	9.77
2014-12-19	12	2.63	5	7.32	17	9.95
2014-12-20	11	2.52	6	8.10	17	10.62
2014-12-21	11	2.37	6	9.53	17	11.90
2014-12-22	13	2.95	6	8.72	19	11.67
2014-12-23	18	4.37	9	9.63	27	14.00
2014-12-24	12	2.67	6	9.02	18	11.68
2014-12-25	11	2.35	5	8.38	16	10.73
2014-12-26	11	2.52	6	8.90	17	11.42
2014-12-27	11	2.42	5	9.92	16	12.33
2014-12-28	12	2.65	6	8.28	18	10.93
2014-12-29	11	2.48	6	8.72	17	11.20
2014-12-30	13	2.90	6	10.70	19	13.60
2014-12-31	12	2.85	7	9.50	19	12.35
2015-01-01	13	3.05	6	8.93	19	11.98
2015-01-02	15	3.33	7	8.95	22	12.28
2015-01-03	17	4.15	9	10.02	26	14.17
2015-01-04	13	2.92	6	9.18	19	12.10
2015-01-05	12	2.62	6	9.03	18	11.65
2015-01-06	12	2.65	6	8.37	18	11.02
2015-01-07	13	2.95	7	8.57	20	11.52
2015-01-08	11	2.40	5	8.60	16	11.00
2015-01-09	13	2.75	7	9.33	20	12.08
2015-01-10	13	2.58	6	8.87	19	11.45
2015-01-11	13	2.73	7	8.90	20	11.63
2015-01-12	12	2.45	6	9.45	18	11.90
2015-01-13	11	2.15	6	8.93	17	11.08
2015-01-14	12	2.45	5	7.37	17	9.82
2015-01-15	11	2.27	6	8.07	17	10.33
2015-01-16	13	2.62	6	9.68	19	12.30
2015-01-17	13	2.78	7	8.78	20	11.57
2015-01-18	13	2.72	6	7.20	19	9.92
2015-01-19	10	2.03	6	9.88	16	11.92
2015-01-20	11	2.33	5	7.90	16	10.23
2015-01-21	11	2.25	5	6.92	16	9.17
2015-01-22	12	2.57	7	12.08	19	14.65
2015-01-23	14	2.95	6	9.12	20	12.07
2015-01-24	13	2.68	7	8.72	20	11.40
2015-01-25	10	2.35	5	6.82	15	9.17
2015-01-26	12	2.50	6	10.27	18	12.77
2015-01-27	11	2.17	5	6.93	16	9.10
2015-01-28	10	2.12	6	10.43	16	12.55
2015-01-29	11	2.33	5	8.02	16	10.35
2015-01-30	13	2.78	6	9.00	19	11.78
2015-01-31	12	2.57	7	8.55	19	11.12
2015-02-01	14	2.95	6	8.65	20	11.60
2015-02-02	11	2.38	6	9.92	17	12.30
2015-02-03	12	2.50	6	9.02	18	11.52

2015-02-04	11	2.27	5	7.47	16	9.73
2015-02-05	11	2.28	6	9.33	17	11.62
2015-02-06	12	2.53	6	10.17	18	12.70
2015-02-07	13	2.70	6	10.02	19	12.72
2015-02-08	13	2.83	7	12.10	20	14.93
2015-02-09	12	2.53	6	10.32	18	12.85
2015-02-10	11	2.22	5	8.52	16	10.73
2015-02-11	13	2.78	7	9.95	20	12.73
2015-02-12	11	2.18	6	9.77	17	11.95
2015-02-13	13	2.62	6	9.73	19	12.35
2015-02-14	13	2.75	6	9.07	19	11.82
2015-02-15	12	2.42	7	9.08	19	11.50
2015-02-16	15	3.27	7	9.77	22	13.03
2015-02-17	15	2.80	9	9.93	24	12.73
2015-02-18	14	2.83	7	9.17	21	12.00
2015-02-19	13	2.33	7	9.98	20	12.32
2015-02-20	14	2.55	6	8.95	20	11.50
2015-02-21	14	2.55	7	9.37	21	11.92
2015-02-22	12	2.13	6	9.97	18	12.10
2015-02-23	12	2.22	7	8.30	19	10.52
2015-02-24	12	2.17	5	7.67	17	9.83
2015-02-25	14	2.67	7	8.28	21	10.95
2015-02-26	13	2.42	7	8.15	20	10.57
2015-02-27	13	2.32	6	9.22	19	11.53
2015-02-28	14	2.73	7	7.67	21	10.40
2015-03-01	11	2.17	6	9.72	17	11.88
2015-03-02	11	2.05	6	7.42	17	9.47
2015-03-03	14	2.72	7	8.77	21	11.48
2015-03-04	12	2.25	5	7.43	17	9.68
2015-03-05	11	2.15	6	9.62	17	11.77
2015-03-06	13	2.50	6	8.92	19	11.42
2015-03-07	14	2.88	7	7.73	21	10.62
2015-03-08					0	0.00
2015-03-09	11	2.25	6	10.22	17	12.47
2015-03-10	11	2.13	5	7.02	16	9.15
2015-03-11	11	2.20	6	11.33	17	13.53
2015-03-12	12	2.60	6	7.82	18	10.42
2015-03-13	13	2.65	6	8.00	19	10.65
2015-03-14	16	3.50	8	9.18	24	12.68
2015-03-15	13	2.98	7	10.78	20	13.77
2015-03-16	11	2.30	6	6.83	17	9.13
2015-03-17	12	2.42	6	5.98	18	8.40
2015-03-18	10	2.22	6	10.78	16	13.00
2015-03-19	12	2.60	5	8.35	17	10.95
2015-03-20	11	2.42	6	9.65	17	12.07
2015-03-21	12	2.57	6	9.82	18	12.38
2015-03-22	13	2.77	6	9.68	19	12.45
2015-03-23	12	2.67	6	9.27	18	11.93

2015-03-24	12	2.58	6	9.82	18	12.40
2015-03-25	12	2.52	6	8.92	18	11.43
2015-03-26	10	2.17	6	10.30	16	12.47
2015-03-27	12	2.57	5	6.38	17	8.95
2015-03-28	13	2.83	7	8.78	20	11.62
2015-03-29	13	2.73	6	8.45	19	11.18
2015-03-30	11	2.18	6	11.13	17	13.32
2015-03-31	11	2.47	5	7.52	16	9.98
2015-04-01	10	2.10	6	10.10	16	12.20
2015-04-02	12	2.52	5	6.72	17	9.23
2015-04-03	11	2.30	6	9.98	17	12.28
2015-04-04	12	2.50	6	10.80	18	13.30
2015-04-05	13	2.70	7	10.50	20	13.20
2015-04-06	13	2.85	6	8.78	19	11.63
2015-04-07	12	2.52	6	8.77	18	11.28
2015-04-08	10	2.15	5	7.55	15	9.70
2015-04-09	12	2.47	6	10.28	18	12.75
2015-04-10	10	2.05	5	7.58	15	9.63
2015-04-11	12	2.43	6	7.73	18	10.17
2015-04-12	13	2.40	6	6.70	19	9.10
2015-04-13	11	2.08	6	10.17	17	12.25
2015-04-14	13	2.37	6	7.28	19	9.65
2015-04-15	14	2.62	8	10.18	22	12.80
2015-04-16	13	2.35	6	8.67	19	11.02
2015-04-17	11	1.90	6	7.08	17	8.98
2015-04-18	14	2.47	7	7.60	21	10.07
2015-04-19	15	2.77	7	8.25	22	11.02
2015-04-20	15	2.67	8	9.32	23	11.98
2015-04-21	12	2.18	5	7.80	17	9.98
2015-04-22	10	1.75	6	9.78	16	11.53
2015-04-23	12	2.12	5	7.12	17	9.23
2015-04-24	10	1.70	6	10.32	16	12.02
2015-04-25	13	2.25	6	8.50	19	10.75
2015-04-26	12	2.03	6	7.93	18	9.97
2015-04-27	11	1.78	6	7.95	17	9.73
2015-04-28	11	1.92	5	8.28	16	10.20
2015-04-29	11	1.78	5	6.65	16	8.43
2015-04-30	10	1.72	6	8.57	16	10.28
2015-05-01	12	2.00	5	6.97	17	8.97
2015-05-02	13	2.27	7	9.92	20	12.18
2015-05-03	12	2.10	6	7.65	18	9.75
2015-05-04	13	2.18	7	7.68	20	9.87
2015-05-05	12	2.03	6	9.27	18	11.30
2015-05-06	12	1.92	5	7.75	17	9.67
2015-05-07	10	1.70	6	9.30	16	11.00
2015-05-08	14	2.25	6	8.07	20	10.32
2015-05-09	12	1.93	6	9.38	18	11.32
2015-05-10	12	1.95	7	9.37	19	11.32

2015-05-11	12	1.92	6	7.72	18	9.63
2015-05-12	11	1.85	5	8.55	16	10.40
2015-05-13	11	1.72	5	6.92	16	8.63
2015-05-14	12	1.88	6	8.77	18	10.65
2015-05-15	12	1.77	6	10.17	18	11.93
2015-05-16	13	2.15	7	11.77	20	13.92
2015-05-17	13	1.95	6	8.25	19	10.20
2015-05-18	12	1.78	6	8.27	18	10.05
2015-05-19	10	1.48	6	11.03	16	12.52
2015-05-20	12	1.82	5	6.38	17	8.20
2015-05-21	11	1.68	6	10.40	17	12.08
2015-05-22	11	1.62	5	9.30	16	10.92
2015-05-23	11	1.75	6	8.25	17	10.00
2015-05-24	11	1.68	5	6.37	16	8.05
2015-05-25	12	1.95	7	10.28	19	12.23
2015-05-26	11	1.77	5	10.48	16	12.25
2015-05-27	11	1.68	6	7.92	17	9.60
2015-05-28	10	1.47	6	4.82	16	6.28
2015-05-29	9	0.95	9	0.98	18	1.93
2015-05-30	9	0.97	8	0.90	17	1.87
2015-05-31	9	0.98	10	1.05	19	2.03
2015-06-01	10	1.02	9	1.07	19	2.08
2015-06-02	8	0.92	8	0.88	16	1.80
2015-06-03	8	0.90	9	1.00	17	1.90
2015-06-04	10	1.07	9	0.98	19	2.05
2015-06-05	8	0.85	9	0.98	17	1.83
2015-06-06	8	0.83	8	0.87	16	1.70
2015-06-07	10	1.07	9	1.00	19	2.07
2015-06-08	9	0.92	10	1.02	19	1.93
2015-06-09	9	0.90	9	0.92	18	1.82
2015-06-10	9	0.88	9	0.88	18	1.77
2015-06-11	9	0.87	8	0.80	17	1.67
2015-06-12	9	0.88	10	0.95	19	1.83
2015-06-13	9	0.88	8	0.85	17	1.73
2015-06-14	9	0.90	9	0.93	18	1.83
2015-06-15	9	0.90	10	0.97	19	1.87
2015-06-16	9	0.87	8	0.77	17	1.63
2015-06-17	8	0.78	9	0.88	17	1.67
2015-06-18	8	0.77	8	0.77	16	1.53
2015-06-19	9	0.88	8	0.78	17	1.67
2015-06-20	9	0.95	10	0.98	19	1.93
2015-06-21	10	1.02	9	0.90	19	1.92
2015-06-22	10	1.02	10	1.03	20	2.05
2015-06-23	9	0.97	9	0.92	18	1.88
2015-06-24	8	0.82	9	0.92	17	1.73
2015-06-25	9	0.95	9	0.92	18	1.87
2015-06-26	7	0.72	8	0.82	15	1.53
2015-06-27	9	0.97	9	0.92	18	1.88

Totals	3894	610.77	2711	1875.87	6605	2486.63
2015-06-30	8	0.82	8	0.80	16	1.62
2015-06-29	9	0.92	9	0.93	18	1.85
2015-06-28	10	1.03	9	0.93	19	1.97

• Enoree Heights Pump Station Data:

Enoree Heights Alarm Log – 7-1-2014 to 6-30-2015						
Text	Alarm Time					
Thu, Jul 17 2014 03:25:28 PM UTC	Software Reset					
Thu, Jul 17 2014 08:35:58 PM UTC	Software Reset					
Thu, Aug 07 2014 09:38:05 AM UTC	Unit has not reported since Thu, Aug 07 2014 12:37:14 AM EDT					
Thu, Aug 07 2014 11:52:24 AM UTC	Software Reset					
Thu, Aug 07 2014 05:29:16 PM UTC	Software Reset					
Tue, Oct 28 2014 11:30:52 AM UTC	Unit has not reported since Tue, Oct 28 2014 02:30:26 AM EDT					
Tue, Oct 28 2014 09:39:36 PM UTC	Software Reset					
Sun, Nov 09 2014 11:12:52 PM UTC	Unit has not reported since Sun, Nov 09 2014 01:12:18 PM EST					
Mon, Nov 10 2014 01:17:50 PM UTC	Software Reset					
Thu, Nov 13 2014 03:17:44 PM UTC	Software Reset					
Tue, Mar 17 2015 05:31:54 AM UTC	Software Reset					
Sun, Apr 19 2015 03:35:44 AM UTC	Software Reset					
Sun, Apr 19 2015 09:00:24 AM UTC	Software Reset					
Wed, Apr 22 2015 02:37:26 AM UTC	Software Reset					

Enoree Heights PS								
2014-07-01 - 2015-07-01								
	Pump 1		Pump 2		Totals			
	Starts	Runtime(Hours)	Starts	Runtime(Hours)	Starts	Runtime(Hours)		
2014-07-01	10	0.17	10	0.17	20	0.33		
2014-07-02	9	0.15	9	0.15	18	0.30		
2014-07-03	8	0.13	8	0.13	16	0.27		
2014-07-04	9	0.15	9	0.15	18	0.30		
2014-07-05	7	0.12	7	0.12	14	0.23		
2014-07-06	7	0.12	7	0.12	14	0.23		
2014-07-07	11	0.18	11	0.18	22	0.37		
2014-07-08	18	0.30	18	0.28	36	0.58		
2014-07-09	8	0.13	8	0.13	16	0.27		
2014-07-10	10	0.17	10	0.17	20	0.33		
2014-07-11	11	0.18	11	0.18	22	0.37		
2014-07-12	11	0.18	11	0.18	22	0.37		
2014-07-13	8	0.13	8	0.13	16	0.27		
2014-07-14	8	0.13	8	0.13	16	0.27		
2014-07-15	8	0.13	8	0.13	16	0.27		
2014-07-16	10	0.17	10	0.17	20	0.33		
2014-07-17	6	0.10	6	0.10	12	0.20		
2014-07-18	10	0.17	10	0.17	20	0.33		
2014-07-19	12	0.20	12	0.20	24	0.40		

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2014-07-20	10	0.17	10	0.17	20	0.33
2014-07-21	23	0.38	23	0.38	46	0.77
2014-07-22	8	0.13	8	0.13	16	0.27
2014-07-23	9	0.15	9	0.15	18	0.30
2014-07-24	8	0.13	8	0.13	16	0.27
2014-07-25	8	0.13	8	0.13	16	0.27
2014-07-26	10	0.17	10	0.17	20	0.33
2014-07-27	9	0.15	9	0.15	18	0.30
2014-07-28	8	0.13	8	0.13	16	0.27
2014-07-29	9	0.15	9	0.15	18	0.30
2014-07-30	9	0.17	9	0.15	18	0.32
2014-07-31	35	0.58	35	0.55	70	1.13
2014-08-01	97	1.68	97	1.63	194	3.32
2014-08-02	9	0.15	9	0.15	18	0.30
2014-08-03	8	0.13	8	0.13	16	0.27
2014-08-04	13	0.22	13	0.22	26	0.43
2014-08-05	8	0.13	8	0.13	16	0.27
2014-08-06	9	0.15	9	0.15	18	0.30
2014-08-07	7	0.12	7	0.12	14	0.23
2014-08-08	9	0.15	9	0.15	18	0.30
2014-08-09	20	0.33	19	0.33	39	0.67
2014-08-10	75	1.32	75	1.25	150	2.57
2014-08-11	9	0.15		0.15	18	0.30
2014-08-12	12	0.20	12	0.20	24	0.40
2014-08-13	11	0.18	11	0.18	22	0.37
2014-08-14	13	0.22	13	0.22	26	0.43
2014-08-15	10	0.17	10	0.17	20	0.33
2014-08-16	10	0.17	10	0.17	20	0.33
2014-08-17	9	0.15	9	0.15	18	0.30
2014-08-18	10	0.17	10	0.17	20	0.33
2014-08-19	10	0.17	10	0.17	20	0.33
2014-08-20	9	0.15	9	0.15	18	0.30
2014-08-21	11	0.20	11	0.20	22	0.40
2014-08-22	9	0.15	9	0.15	18	0.30
2014-08-23	9	0.15	9	0.15	18	0.30
2014-08-24	11	0.18	11	0.18	22	0.37
2014-08-25	8	0.13	8	0.13	16	0.27
2014-08-26	10	0.17	10	0.17	20	0.33
2014-08-27	10	0.17	10	0.17	20	0.33
2014-08-28	12	0.20	12	0.20	24	0.40
2014-08-29	12	0.20	12	0.20	24	0.40
2014-08-30	9	0.15	9	0.15	18	0.30
2014-08-31	9	0.15	9	0.15	18	0.30
2014-09-01	11	0.18	11	0.18	22	0.37
2014-09-02	11	0.18	11	0.18	22	0.37
2014-09-03	10	0.17	10	0.17	20	0.33
2014-09-04	8	0.13	8	0.13	16	0.27
2014-09-05	10	0.18	10	0.18	20	0.37

2014-09-06	12	0.20	12	0.20	24	0.40
2014-09-07	12	0.20	12	0.20	24	0.40
2014-09-08	11	0.18	11	0.18	22	0.37
2014-09-09	11	0.18	11	0.18	22	0.37
2014-09-10	10	0.17	10	0.17	20	0.33
2014-09-11	9	0.15	9	0.15	18	0.30
2014-09-12	11	0.18	11	0.18	22	0.37
2014-09-13	11	0.18	11	0.18	22	0.37
2014-09-14	10	0.17	10	0.17	20	0.33
2014-09-15	10	0.17	10	0.17	20	0.33
2014-09-16	10	0.17	10	0.17	20	0.33
2014-09-17	8	0.13	8	0.13	16	0.27
2014-09-18	11	0.18	11	0.18	22	0.37
2014-09-19	8	0.13	8	0.13	16	0.27
2014-09-20	12	0.20	12	0.20	24	0.40
2014-09-21	10	0.17	10	0.17	20	0.33
2014-09-22	11	0.18	11	0.18	22	0.37
2014-09-23	14	0.23	14	0.23	28	0.47
2014-09-24	9	0.15	9	0.15	18	0.30
2014-09-25	9	0.15	9	0.15	18	0.30
2014-09-26	12	0.20	12	0.20	24	0.40
2014-09-27	9	0.15	9	0.15	18	0.30
2014-09-28	9	0.15	9	0.15	18	0.30
2014-09-29	8	0.13	8	0.13	16	0.27
2014-09-30	8	0.13	8	0.13	16	0.27
2014-10-01	6	0.10	6	0.10	12	0.20
2014-10-02	7	0.12	7	0.12	14	0.23
2014-10-03	10	0.17	10	0.17	20	0.33
2014-10-04	12	0.20	12	0.20	24	0.40
2014-10-05	9	0.15	9	0.15	18	0.30
2014-10-06	9	0.15	9	0.15	18	0.30
2014-10-07	10	0.17	10	0.17	20	0.33
2014-10-08	9	0.15	9	0.15	18	0.30
2014-10-09	10	0.17	10	0.17	20	0.33
2014-10-10	9	0.15	9	0.15	18	0.30
2014-10-11	10	0.17	10	0.17	20	0.33
2014-10-12	10	0.17	10	0.17	20	0.33
2014-10-13	10	0.17	10	0.17	20	0.33
2014-10-14	14	0.23	14	0.23	28	0.47
2014-10-15	10	0.17	10	0.17	20	0.33
2014-10-16	9	0.15	9	0.15	18	0.30
2014-10-17	10	0.17	10	0.17	20	0.33
2014-10-18	8	0.13	8	0.13	16	0.27
2014-10-19	9	0.15	9	0.15	18	0.30
2014-10-20	10	0.17	10	0.17	20	0.33
2014-10-21	14	0.23	14	0.23	28	0.47
2014-10-22	10	0.17	10	0.17	20	0.33
2014-10-23	10	0.17	10	0.17	20	0.33

2014-10-24	8	0.13	8	0.13	16	0.27
2014-10-25	12	0.20	12	0.20	24	0.40
2014-10-26	9	0.15	9	0.15	18	0.30
2014-10-27	10	0.18	10	0.18	20	0.37
2014-10-28	3	0.05	3	0.05	6	0.10
2014-10-29	11	0.18	11	0.18	22	0.37
2014-10-30	13	0.22	13	0.22	26	0.43
2014-10-31	10	0.18	10	0.18	20	0.37
2014-11-01	12	0.22	12	0.20	24	0.42
2014-11-02	10	0.17	10	0.17	20	0.33
2014-11-03	12	0.22	12	0.22	24	0.43
2014-11-04	9	0.15	9	0.15	18	0.30
2014-11-05	12	0.20	12	0.20	24	0.40
2014-11-06	8	0.13	8	0.13	16	0.27
2014-11-07	9	0.15	9	0.15	18	0.30
2014-11-08	12	0.20	12	0.20	24	0.40
2014-11-09	4	0.07	4	0.07	8	0.13
2014-11-10	7	0.12	7	0.12	14	0.23
2014-11-11	11	0.18	11	0.18	22	0.37
2014-11-12	11	0.18	11	0.18	22	0.37
2014-11-13	9	0.15	9	0.15	18	0.30
2014-11-14	11	0.18	11	0.18	22	0.37
2014-11-15	10	0.17	10	0.17	20	0.33
2014-11-16	7	0.12	7	0.12	14	0.23
2014-11-17	11	0.18	11	0.18	22	0.37
2014-11-18	7	0.12	7	0.12	14	0.23
2014-11-19	8	0.13	8	0.13	16	0.27
2014-11-20	9	0.15	9	0.15	18	0.30
2014-11-21	11	0.18	11	0.18	22	0.37
2014-11-22	10	0.17	10	0.17	20	0.33
2014-11-23	18	0.30	18	0.30	36	0.60
2014-11-24	20	0.33	20	0.33	40	0.67
2014-11-25	10	0.17	10	0.17	20	0.33
2014-11-26	17	0.28	17	0.28	34	0.57
2014-11-27	12	0.20	12	0.20	24	0.40
2014-11-28	8	0.13	8	0.13	16	0.27
2014-11-29	10	0.17	10	0.17	20	0.33
2014-11-30	7	0.12	7	0.12	14	0.23
2014-12-01	12	0.20	12	0.20	24	0.40
2014-12-02	10	0.17	10	0.17	20	0.33
2014-12-03	13	0.23	13	0.22	26	0.45
2014-12-04	15	0.25	15	0.25	30	0.50
2014-12-05	9	0.15	9	0.15	18	0.30
2014-12-06	13	0.22	13	0.22	26	0.43
2014-12-07	9	0.15	9	0.15	18	0.30
2014-12-08	9	0.15	9	0.15	18	0.30
2014-12-09	10	0.17	10	0.17	20	0.33
2014-12-10	10	0.17	10	0.17	20	0.33

2014-12-11	9	0.15	9	0.15	18	0.30
2014-12-12	15	0.27	15	0.25	30	0.52
2014-12-13	9	0.15	9	0.15	18	0.30
2014-12-14	10	0.18	10	0.18	20	0.37
2014-12-15	10	0.17	10	0.17	20	0.33
2014-12-16	12	0.20	12	0.20	24	0.40
2014-12-17	14	0.23	14	0.23	28	0.47
2014-12-18	10	0.17	10	0.17	20	0.33
2014-12-19	9	0.15	9	0.15	18	0.30
2014-12-20	13	0.22	13	0.22	26	0.43
2014-12-21	11	0.18	11	0.18	22	0.37
2014-12-22	11	0.20	11	0.20	22	0.40
2014-12-23	14	0.23	14	0.23	28	0.47
2014-12-24	88	1.58	88	1.48	176	3.07
2014-12-25	26	0.43	26	0.43	52	0.87
2014-12-26	10	0.17	10	0.17	20	0.33
2014-12-27	13	0.22	13	0.22	26	0.43
2014-12-28	8	0.13	8	0.13	16	0.27
2014-12-29	9	0.15	9	0.15	18	0.30
2014-12-30	11	0.18	11	0.18	22	0.37
2014-12-31	10	0.17	10	0.17	20	0.33
2015-01-01	12	0.20	12	0.20	24	0.40
2015-01-02	9	0.15	9	0.15	18	0.30
2015-01-03	15	0.25	15	0.25	30	0.50
2015-01-04	82	1.47	82	1.38	164	2.85
2015-01-05	41	0.68	41	0.68	82	1.37
2015-01-06	12	0.20	12	0.20	24	0.40
2015-01-07	11	0.20	11	0.20	22	0.40
2015-01-08	4	0.10	5	0.15	9	0.25
2015-01-09	8	0.17	8	0.17	16	0.33
2015-01-10	12	0.20	12	0.20	24	0.40
2015-01-11	11	0.18	11	0.18	22	0.37
2015-01-12	11	0.22	11	0.22	22	0.43
2015-01-13	15	0.25	15	0.25	30	0.50
2015-01-14	12	0.20	12	0.20	24	0.40
2015-01-15	10	0.17	10	0.17	20	0.33
2015-01-16	9	0.15	9	0.15	18	0.30
2015-01-17	13	0.22	13	0.22	26	0.43
2015-01-18	9	0.15	9	0.15	18	0.30
2015-01-19	14	0.23	14	0.23	28	0.47
2015-01-20	10	0.17	10	0.17	20	0.33
2015-01-21	9	0.15	9	0.15	18	0.30
2015-01-22	13	0.22	13	0.22	26	0.43
2015-01-23	11	0.18	11	0.18	22	0.37
2015-01-24	12	0.20	12	0.20	24	0.40
2015-01-25	10	0.17	10	0.17	20	0.33
2015-01-26	10	0.17	10	0.17	20	0.33
2015-01-27	12	0.20	12	0.20	24	0.40

2015-01-28	10	0.17	10	0.17	20	0.33
2015-01-29	9	0.15	9	0.15	18	0.30
2015-01-30	10	0.17	10	0.17	20	0.33
2015-01-31	7	0.15	6	0.10	13	0.25
2015-02-01	11	0.18	11	0.18	22	0.37
2015-02-02	14	0.23	14	0.23	28	0.47
2015-02-03	9	0.15	10	0.20	19	0.35
2015-02-04	9	0.17	9	0.17	18	0.33
2015-02-05	11	0.18	11	0.18	22	0.37
2015-02-06	5	0.17	5	0.15	10	0.32
2015-02-07	9	0.17	9	0.15	18	0.32
2015-02-08	11	0.18	11	0.18	22	0.37
2015-02-09	10	0.17	10	0.17	20	0.33
2015-02-10	12	0.20	12	0.20	24	0.40
2015-02-11	9	0.15	9	0.15	18	0.30
2015-02-12	12	0.20	12	0.20	24	0.40
2015-02-13	10	0.18	10	0.18	20	0.37
2015-02-14	12	0.18	11	0.18	23	0.37
2015-02-15	6	0.12	7	0.17	13	0.28
2015-02-16	11	0.18	11	0.18	22	0.37
2015-02-17	12	0.20	12	0.20	24	0.40
2015-02-18	12	0.20	12	0.20	24	0.40
2015-02-19	8	0.17	8	0.17	16	0.33
2015-02-20	3	0.12	2	0.07	5	0.18
2015-02-21	2	0.10	3	0.28	5	0.38
2015-02-22	10	0.22	10	0.27	20	0.48
2015-02-23	11	0.18	11	0.18	22	0.37
2015-02-24	11	0.20	11	0.20	22	0.40
2015-02-25	10	0.17	10	0.17	20	0.33
2015-02-26	12	0.22	12	0.20	24	0.42
2015-02-27	9	0.15	9	0.15	18	0.30
2015-02-28	11	0.20	11	0.20	22	0.40
2015-03-01	10	0.17	10	0.17	20	0.33
2015-03-02	12	0.20	12	0.20	24	0.40
2015-03-03	11	0.18	11	0.18	22	0.37
2015-03-04	11	0.18	11	0.18	22	0.37
2015-03-05	10	0.17	10	0.17	20	0.33
2015-03-06	12	0.22	12	0.22	24	0.43
2015-03-07	10	0.18	10	0.17	20	0.35
2015-03-08	10	0.17	10	0.17	20	0.33
2015-03-09	11	0.18	11	0.18	22	0.37
2015-03-10	11	0.18	11	0.18	22	0.37
2015-03-11	11	0.18	11	0.18	22	0.37
2015-03-12	12	0.20	12	0.20	24	0.40
2015-03-13	10	0.17	10	0.17	20	0.33
2015-03-14	12	0.20	12	0.20	24	0.40
2015-03-15	11	0.20	11	0.18	22	0.38
2015-03-16	11	0.20	11	0.20	22	0.40

2015-03-17	12	0.20	12	0.20	24	0.40
2015-03-18	12	0.20	12	0.20	24	0.40
2015-03-19	11	0.18	11	0.18	22	0.37
2015-03-20	9	0.15	9	0.15	18	0.30
2015-03-21	10	0.17	10	0.17	20	0.33
2015-03-22	10	0.17	10	0.17	20	0.33
2015-03-23	10	0.17	10	0.17	20	0.33
2015-03-24	11	0.18	11	0.18	22	0.37
2015-03-25	14	0.25	14	0.23	28	0.48
2015-03-26	12	0.20	12	0.20	24	0.40
2015-03-27	13	0.23	13	0.23	26	0.47
2015-03-28	10	0.17	10	0.17	20	0.33
2015-03-29	8	0.15	8	0.15	16	0.30
2015-03-30	11	0.18	11	0.18	22	0.37
2015-03-31	14	0.23	14	0.23	28	0.47
2015-04-01	11	0.18	11	0.18	22	0.37
2015-04-02	13	0.22	13	0.22	26	0.43
2015-04-03	11	0.18	11	0.18	22	0.37
2015-04-04	12	0.20	12	0.20	24	0.40
2015-04-05	12	0.20	12	0.20	24	0.40
2015-04-06	12	0.20	12	0.20	24	0.40
2015-04-07	15	0.25	15	0.25	30	0.50
2015-04-08	14	0.23	14	0.23	28	0.47
2015-04-09	10	0.17	10	0.17	20	0.33
2015-04-10	16	0.28	16	0.28	32	0.57
2015-04-11	11	0.18	11	0.18	22	0.37
2015-04-12	10	0.17	10	0.17	20	0.33
2015-04-13	12	0.20	12	0.20	24	0.40
2015-04-14	14	0.23	14	0.23	28	0.47
2015-04-15	59	1.15	59	1.07	118	2.22
2015-04-16	69	1.25	69	1.18	138	2.43
2015-04-17	23	0.38	23	0.38	46	0.77
2015-04-18	16	0.27	16	0.27	32	0.53
2015-04-19	33	0.55	33	0.55	66	1.10
2015-04-20	73	1.28	73	1.22	146	2.50
2015-04-21	52	0.97	52	0.90	104	1.87
2015-04-22	12	0.20	12	0.20	24	0.40
2015-04-23	12	0.20	12	0.20	24	0.40
2015-04-24	13	0.22	13	0.22	26	0.43
2015-04-25	10	0.17	10	0.17	20	0.33
2015-04-26	11	0.18	11	0.18	22	0.37
2015-04-27	12	0.20	12	0.20	24	0.40
2015-04-28	13	0.22	13	0.22	26	0.43
2015-04-29	12	0.20	12	0.20	24	0.40
2015-04-30	12	0.20	12	0.20	24	0.40
2015-05-01	12	0.20	12	0.20	24	0.40
2015-05-02	12	0.20	12	0.20	24	0.40
2015-05-03	10	0.17	10	0.17	20	0.33

2015-05-04	12	0.20	12	0.20	24	0.40
2015-05-05	13	0.22	13	0.22	26	0.43
2015-05-06	14	0.23	14	0.23	28	0.47
2015-05-07	10	0.17	10	0.17	20	0.33
2015-05-08	13	0.22	13	0.22	26	0.43
2015-05-09	15	0.25	15	0.25	30	0.50
2015-05-10	13	0.22	13	0.22	26	0.43
2015-05-11	14	0.23	14	0.23	28	0.47
2015-05-12	15	0.25	15	0.25	30	0.50
2015-05-13	12	0.20	12	0.20	24	0.40
2015-05-14	10	0.17	10	0.17	20	0.33
2015-05-15	10	0.17	10	0.17	20	0.33
2015-05-16	13	0.23	13	0.23	26	0.47
2015-05-17	14	0.23	14	0.23	28	0.47
2015-05-18	12	0.20	12	0.20	24	0.40
2015-05-19	14	0.23	14	0.23	28	0.47
2015-05-20	15	0.25	15	0.25	30	0.50
2015-05-21	13	0.22	13	0.22	26	0.43
2015-05-22	12	0.20	12	0.20	24	0.40
2015-05-23	9	0.15	9	0.15	18	0.30
2015-05-24	13	0.22	13	0.22	26	0.43
2015-05-25	14	0.23	14	0.23	28	0.47
2015-05-26	13	0.22	13	0.22	26	0.43
2015-05-27	13	0.22	13	0.22	26	0.43
2015-05-28	15	0.25	15	0.25	30	0.50
2015-05-29	12	0.20	12	0.20	24	0.40
2015-05-30	13	0.22	13	0.22	26	0.43
2015-05-31	15	0.25	15	0.25	30	0.50
2015-06-01	13	0.22	13	0.22	26	0.43
2015-06-02	13	0.22	13	0.22	26	0.43
2015-06-03	17	0.28	17	0.28	34	0.57
2015-06-04	18	0.30	18	0.30	36	0.60
2015-06-05	19	0.32	19	0.32	38	0.63
2015-06-06	14	0.23	14	0.23	28	0.47
2015-06-07	8	0.13	8	0.13	16	0.27
2015-06-08	8	0.13	8	0.13	16	0.27
2015-06-09	7	0.12	7	0.12	14	0.23
2015-06-10	9	0.15	9	0.15	18	0.30
2015-06-11	8	0.13	8	0.13	16	0.27
2015-06-12	7	0.12	7	0.12	14	0.23
2015-06-13	7	0.12	7	0.12	14	0.23
2015-06-14	7	0.12	7	0.12	14	0.23
2015-06-15	6	0.10	6	0.10	12	0.20
2015-06-16	8	0.13	8	0.13	16	0.27
2015-06-17	8	0.13	8	0.13	16	0.27
2015-06-18	7	0.12	7	0.12	14	0.23
2015-06-19	7	0.12	7	0.12	14	0.23
2015-06-20	6	0.10	6	0.10	12	0.20

2015-06-21	8	0.13	8	0.13	16	0.27
2015-06-22	9	0.15	9	0.15	18	0.30
2015-06-23	9	0.15	9	0.15	18	0.30
2015-06-24	5	0.08	5	0.08	10	0.17
2015-06-25	8	0.13	8	0.13	16	0.27
2015-06-26	9	0.15	9	0.15	18	0.30
2015-06-27	9	0.15	9	0.15	18	0.30
2015-06-28	4	0.07	4	0.07	8	0.13
2015-06-29	5	0.08	5	0.08	10	0.17
2015-06-30	7	0.12	7	0.12	14	0.23
Totals	4462	76.03	4462	75.52	8924	151.55

Septic Tanks:

Daylors Fire and Sewer District

3335 Wade Hampton Blvd Taylors, South Carolina 29687

(864) 244-5596 FAX (864) 2924975

Septic Tank Reimbursement Policy Effective Date: May 12, 2009 Amended Date: May 14, 2013

Taylors Fire and Sewer District Commissioners approved the following policy for properties with septic tanks within Taylors Fire & Sewer District:

If sewer is NOT available, a Property Owner may be reimbursed up to \$250.00 within the last three (3) years for pumping septic tanks contingent on the septic tank being certified as a failing system by a licensed plumber. Reimbursement is only given one time in any three year period. In order to get reimbursement, the Property Owner must bring in the original dated paid receipt for the pumping service signed by the plumber doing the service. Reimbursement will only be made if receipts are turned in within 180 days of the date on the receipt. Only septic tank pumping can get reimbursed, if you have failing drain field lines those do not fall in the reimbursement policy,

If sewer IS available, a Property Owner must tie onto the Taylors Fire & Sewer District Sewer System. No Septic Tank Reimbursement will be available.

Any exceptions may be considered on a case by case basis by the Commission Board.

Director of Sewer Services

Commission Chair

Attest:

Commission Secretary

<u>Cityworks (CMMS – Work Order Management Program):</u>

Taylors Fire and Sewer District had a legacy work order system. If you needed to look up what work had been done you had to go to a file cabinet in the back room in hopes of finding what work had been done.



Our work orders were in an Access Database. Work order information was filled out on paper, then input into the Access Database and then the paper was filed in a file cabinet. It was not a functional Asset Management System, but more of a digital paper archive to run reports on. It was not GIS centric. There were a lot of inaccuracies to occur from free-form paper forms in the field. We used paper maps and paper work orders for field crews.

1	Main Menu	
	System Maintenance Main Menu	Reports Main Menu
	System Repairs Main Menu	Work Order Form
	Inspections Main Menu	Permits
	Over Flows and Stopages Main Menu	Septic Tank Information
	Miscellaneous Log and Equipment Service	Records

(C) Methy Latracy	
CCTV Footage Report Monthly Summary	stem
Total Low 40.0 Printing (Part) 40.0 Printing (Part) 10.0 Mark Table 10.0 Mark Table 10.0 Mark Table 40.0 Mark Table 10.0 Mark Table 10.0 Mark Table 10.0 COLPT For a Pare Table 10.01 %	V Reports Hons
	> Previous Menu

We met with several representatives from companies who offer asset and work order management programs. We saw demos from Lucity on April 8, 2013, 311 GIS on April 12, 2013, Telepipe Service program I. T. Pipes on May 2, 2013, and City Works May 7, 2013. We compared cost and services offered of each product to determine which program would most benefit Taylors Fire and Sewer District.



We decided to sign a contract with URS for hosting our data and integrating it with our new work order management system, Cityworks. We met with URS to discuss how the implementation would be handled. URS met with us to gather GIS data and information about the activities and work flow of the Sewer Department. We conferred at length about how our GIS data content and how it would be handled within the Cityworks program. Kristien King, GIS Analyst, worked extensively with URS to calibrate our GIS data into the proper format for integrating it with the work order program. She was considered our Administrator for the program. Working with URS included a lot of activities such as sharing data, installing software, setting up a database, and editing data.

In order to collect the proper data needed, Kristien contacted our neighboring special purpose districts and acquired fresh GIS data so that our knowledge of other districts' infrastructure would be current and correct. Metropolitan Sewer Subdistrict, Greer CPW, Blue Ridge Rural Water

Company, Greenville Water, Wade Hampton Fire and Sewer, and ReWa were very accommodating in providing their data. All of our old data was replaced with the new updates in GIS.

In order to be prepared for this new venture, we realized the sewer personnel didn't have office space in order to take on such a task. The sewer department personnel redesigned our shop area by enclosing one bay area to make a crew leaders office and an office for the Operations Coordinator. The crew leader's office is shared by all four crew leaders. The remodeled sewer shop office space was done all in-house by employees of the department. We also purchased desktop computers, smart phones, and tablets for all personnel involved with using the work order management program. We purchased RAM Mounts for each vehicle so that the crews could dock their tablet while driving or out in the field. We also purchased ArcGIS online so that field crews can access our sewer data while in the field.



Enclosed Shop Bay Area



Operations Coordinator Office



Crew Leaders Office



Break Area



It was projected that this project would take approximately 16 weeks or more as long as no road blocks were encountered. In March 2014, configuration of City Works was nearly complete. Kristien was learning of all of the workings of the program. It was a very detailed process. It took longer than anticipated due to some minor software bugs, but everything was moved forward and progress was made.



Cityworks was in its final setup stages. We scheduled end-user training on April 29-30, 2014. Enduser training was for the sewer department, district personnel, and fire department dispatchers. The training was held in our District Office board room, and included group instruction as well as one-on-one instruction with employees. Fire Department dispatchers were required to learn the program for taking after-hour calls for the sewer department. Once training was finished, we allowed the employees to test/play or get familiar with the system to finish out the fiscal year. Our go live date was July 1, 2014. Our field crews and office staff are now using this program fulltime to track service requests, work orders and maintenance. Prior to our go live date, final changes and preparations were made to the program per the request of crew members and the Director to allow for relation of specific job task to crew task.



Now that our work order management program is in place, we have been adjusting to the change and learning new procedures and the workings of the system.

Flow Monitoring:

In 2007 the Board of Commissioners decided to contract with The Clearwater Group to provide flow monitoring services. After the preliminary review and evaluation of the data, it became apparent that Taylors had a problem with the flow monitor data gathered. It seemed that a large segment of our mains did not have enough flow to obtain an accurate measurement.

In 2013 the Board of Commissioners decided to contract with Frazier Engineering P.A.

Attached at the end of this report is the flow monitoring report from Frazier Engineering P.A.



Public Relations

In June 2013, Taylors Fire and Sewer District launched a website to keep up with public relations. Our website address is <u>www.taylorsdistrict.org</u>. You can find valuable information about our District. Below is a screen shot of our website:



In May 2015, Taylors Fire and Sewer District launched a Facebook and Twitter page to keep up with public relations. Please visit our Facebook page at <u>www.facebook.com/TaylorsDistrict</u> or Twitter page at <u>www.twitter.com/TaylorsSewer</u>. Below are a screen shots of those pages.

Taylors Fire and Sewer District Taylors Fire and Sever Distr... Home Messages Notifications Insights Publishing Tools Page Settings Help * Prom ote THIS WEEK **TAYLORS FIRE &** 50 Post Reaci SEWER DISTRICT 4 Post Ex gageme at 0 Contact Us Recent Timeline About Events More Status Photo / Video Offer, Event + 77 Kes D this week Write something. 50 post reach this week Reach People Nearby Getpeople rearTaylors to like your Page 6 Taylors Fire and Sever District via Upstate Business Journal Publis led by Taylors Sewer 23 lurs : Promote Page Renewable Water Resources is looking for new direct 9 3335 Made Hampton Blud Taylors, Sonth Carolina JACWA 186 0 244-6596 Dper Today S DDAM - 4 DDF M ReWa director to retire, national replacement search begins - Upstate Business Journal Add Price Range http://www.taylorsdistrict.org/ Promiote Viebside a), Ray Orvin The executive director of Renewable Water Resources announced his plan to retire after 22 years of service HOTOS Boost Post 33 people reached Like Comm Shar t Vlaule likes this. Write a comme 411 r in parts Taylors Fire and Sever District shared their event Publis led by Taylors Sever — Argust 21 at 11.24am — Taylors Fire and Recove (Taylors Fire Department Headquarters located at 3335 Wade Hampton Bird) is having an Explorer Open House on Monday. August 24, 2015 between 8309m- 7309m. Current Explorers will be in attendance and it anyone in high school who is at least 15 years old can join the explorer program. Place are top by our Open House. UPCOMING tember Commission Meeting dar. September 15, 2015 at 4:30pr Commission Meeting October 13, 2015 at 4:30pr ber Commission Meeting y, Nouember 10, 2016 at 4:30pt 24 Taylors Fire and Rescue Explorer Open House Mon 6:30 FM - Taylors Fire and Sewer District - Taylors, SC 2 grests REVIEWS 5.0 5.0 of 5 stars - 1 eulew 26 people reache Boost Post Saman tha Ellivon Bartow-Babb — This is a great phone to work. It's like one big family. They ny to keep the Taylors Comminity informed in what is going on ... Hay 20, 2016 - 1 Ruinwi-Like - Comment 0 Com life a comment Anter la post Taylors Fire and Sever District created an event. August21 at11:18am ALSOLIKE đ

https://www.facebook.com/TaylorsDistrict?ref=hl

Taylors Fire and Sewer District

9/11/2015

Page 1 of 2





Summary

Taylors Fire and Sewer District is steadily moving forward and quickly becoming one of the leaders in the local sewer industry. From innovative methodologies to plain old common sense and ingenuity, Taylors has risen to and exceeded the challenge of not only reducing inflow and infiltration but setting a higher standard for others to follow.

Taylors Fire and Sewer District employees are not only dedicated to their positions with the organization, but are also very involved in the Water Environment Association of South Carolina (WEASC) and the Water Environment Federation (WEF).

Taylors Fire and Sewer District was awarded the 2013 Excellence in Collection System Operations Award from the Water Environment Association of South Carolina – Blue Ridge Foothills District. This award is presented to the Collection System that best demonstrates significant, lasting, and measurable excellence in the operation and maintenance of a collection system, or the prevention of the degradation of the water quality in a region, basin, or body of water through improvements or management practices.







Kristien King, GIS Analyst was awarded the 2012-2013 Young Professional of the Year Award from the Water Environment Association of South Carolina – Blue Ridge Foothills District. This award is given annually to an Association member who has demonstrated an active commitment to the organization and to the profession as a whole it is to recognize the contributions of young members whose service and achievements are exceptional for their years of experience. Kristien has also participated in the WEASC-Blue Ridge Foothills Skeet Shoot Tournament and is part of the 2014 Two Man Team Clay Target Challenge Champion.



William "Red" Ables, Operations Coordinator was awarded the 2013 Collection System Operator of the Year Award from the Water Environment Association of South Carolina – Blue Ridge Foothills District. This award is given annually to an Association member for excellent achievement in the maintenance of a wastewater collection system.



Chris Powell, Construction Crew Leader was awarded the 2014 Collection System Operator of the Year Award from the Water Environment Association of South Carolina – Blue Ridge Foothills District.

Our Director of Sewer Services, Samantha Bartow hold many awards and credits to her name. She has served on numerous Committees in different capacities for the WEASC, WEASC-Blue Ridge Foothills District, and Water Environment Federation. She has also presented and/or moderated at many of the WEASC's Conferences and Workshops throughout the years. She has also presented at the National City Works User Conference in Salt Lake City, Utah. She has been recognized in the Water Environment Association of South Carolina, First Quarter *Journal* of 2005 as the Getting to Know You Person.



In 2005, Samantha was awarded the Young Professional of the Year from the WEASC to recognize her contributions to young members and her service and achievements for her years of experience and has demonstrated an active commitment to the organization and to the profession as a whole.



In 2006, Samantha was awarded the Noel M. Hurley Membership Award from the WEASC to recognize her outstanding efforts in new membership recruitment, member retention, and overall service through participating and leadership in the Association.



In 2007, Samantha was inducted into the WEASC South Carolina Chapter of the 5S (Select Society of Sanitary Sludge Shovelers). Selection for membership is recognition of "outstanding, meritorious service above and beyond the call of duty". Selection bestows the accolade of elevation "on the official shovel to the highest ridge on the sludge bed, with the title of *Select Sanitary Sludge Shoveler*, and all the honor, atmosphere, prerequisites, and dignity appertaining thereunto."



In 2009, Samantha was awarded the Collection System Operator of the Year Award from the WEASC-Blue Ridge Foothills District. During this time Samantha was serving as a Blue Ridge Foothills District Officer.



In 2012, Samantha finished her tenure as a WEASC-Blue Ridge Foothills District Officer. To recognition her for all of the hard work and dedication it takes to run an approximately 700 membership District she was awarded with the District's Chairwoman Award The staff has excelled in training opportunities. All of the employees of Taylors Fire and Sewer District's Sewer Department, are currently certified Wastewater Collection System Operators. Four District Administration employees are also certified Wastewater Collection System Operator.

Certification's: Number of Employees & Certification's

Wastewater Collection System Operators: A's <u>4</u> B's <u>6</u> C's <u>3</u> D's <u>3</u>

Biological Wastewater Operator Trainee: 1

Nassco's PACP (Pipeline Assessment Certification Program), MACP (Manhole Assessment Certification Program), and LACP (Lateral Assessment and Certification Program) Certified – <u>6</u>

Taylors Fire and Sewer District is also a member in good standings with the Greenville County Geographic Information Alliance (GCGIA), our very own Kristien King, GIS Analyst, serves as the Secretary. We are also a member in good standings with the Greenville Area Utilities Coordination Committee (GAUCC). Taylors Fire and Sewer District with the other Sewer SPD's in Greenville County sponsor one meeting of the GAUCC each year. In January 2014, Samantha Bartow, Director of Sewer Services was appointed to the Secretary position of the GAUCC and Doug Wavle, Commissioner, was appointed to the Chair position they served in this capacity until November 2014 when new officers were elected. Taylors Fire and Sewer District is also a very active member in the Greenville County Special Purpose District Association. Our Commissioner, Doug Wavle, is currently the Vice-Chair and Director, Samantha Bartow, is the Secretary.

The implementation of a User Fee has been designated for the major capital improvements to ensure the funds needed are available as we continue to not only maintain the integrity of our sewer system, but also expand our services to meet the growth of the Taylors area. We continue to become more creative and seek out alternative avenues to make each investment the most economically feasible.

It continues to be the mission of Taylors Fire and Sewer District to not only improve the quality of life for our residents, but to also be the best stewards of their tax dollars as humanly possible. We believe our records speak for themselves as we consistently exceed our established goals while remaining within, and often below, the confines of our budget.



TAYLORS FIRE AND SEWER DISTRICT

FLOW MONITORING REPORT

AUGUST 18, 2015

6592 Bob White Trail Stanley, NC 2816 | Office: 704.822.8444 | Fax: 704.822.8666

www.Frazier-Engineering.com

TAYLORS FIRE AND SEWER DISTRICT FLOW MONITORING REPORT AUGUST 18, 2015

Taylors Fire and Sewer District monitored flow at five sites within their wastewater collection system. All installations, calibrations, and maintenance were performed by Taylors. Frazier Engineering utilized the data provided by Taylors to develop this report. The purpose of the flow monitoring was to determine average daily flow in the collection system and wet-weather flow (infiltration and inflow (I/I)). This report summarizes the flow monitoring work and sewer system capacity analysis.

Monitor Locations

Five flow meters were installed throughout Taylors' collection system. Appendix A shows the meter locations. Table 1 lists the manholes where each site was located.

Average Daily Dry-Weather Flow During Monitoring Period

Typical, average daily flows provide valuable information on the current sewer system use and operation. Average daily flows facilitate capacity analyses and decisions on whether the sewers can handle additional flow. In addition, average dry-weather flows are critical for proper analyses of wet-weather flow data. The average dry-weather flows are directly compared with flows during rain events, and the difference between the flows is the volume of I/I entering the system.

To develop the average dry-weather flow, Frazier Engineering reviewed flows during each day of the monitoring period. Days that appeared to be typical throughout the period were averaged to obtain the average daily flow. Days with apparent atypical flows (such as flows that appear to be affected by silt/debris over the sensor or by rain events) were excluded from the analyses. If present, daily ground water infiltration into the sewers is included in the average daily flow presented in this report.

Table 1 includes the estimated current sewer capacity at the meter sites. The metered flows and flow depths were used to estimate the current capacity of the sewer. Metered depths were plotted against metered flows. Theoretical capacity curves for that particular diameter pipe were then placed on the metered depths and flows until a best fit was achieved for a specific capacity. Note that the current sewer capacity may be affected by older sewer pipe (higher friction factor), increased silt and debris in the sewer, or obstructions in the sewer. The estimated capacity shown is at the meter site only and does not reflect conditions or capacities above or below the meter site.

As an example, Figure 1 shows the sewer capacity analysis for Site 5. Note that this methodology of estimating capacity is independent of pipe slope. Additional analyses using the original design slope would be necessary to determine how the estimated capacities presented herein compare to design capacities.



Table 1 summarizes the average flow and depth during the monitoring period for each site. The average daily flow as a percentage of the estimated pipe capacity and the average flow depth as a percentage of the pipe diameter are also shown.

				Average Flow		Averag	e Depth	
		Estimated	Pipe					
	Manhole	Capacity	Diameter		% of Est.		% of Pipe	
Site	ID	(mgd)	(in)	mgd	Capacity	in	Diameter	
1	850-200	0.52	8	0.023	4.4%	1.37	17.1%	
2	9-162	0.49	8	0.034	7.0%	1.90	23.7%	
3	9-084	2.81	10	0.077	2.7%	1.69	16.9%	
4	9-284	0.19	10	0.005	2.7%	1.13	11.3%	
5	9-231	2.05	8	0.088	4.3%	1.46	18.2%	

Table 1. Average Dry-Weather Flow Monitoring Summary

Note that the sewer capacity analysis for Site 4 yielded an estimated capacity below the expected minimum. A 10 inch sewer at minimum slope of 0.28% should have an estimated capacity of approximately 0.80 mgd.

Wet-Weather Flow During Monitoring Period

The peak wet-weather flows during a rain event are considered to be caused by inflow. Inflow is generally defined as water other than wastewater that directly enters the sewer system through storm/sewer cross connections, vented manhole covers, roof leader connections to the sewers, service line connections and missing cleanout caps, and other such direct sources. Inflow produces the rapid flow increase after rains begin and the associated high peak flows. Peak I/I flows are typically the main cause of sewer system surcharging and overflows during wet weather. Infiltration is generally defined as water other than wastewater that seeps through the ground and into the sanitary sewers through defects (such as broken pipes, defective pipe joints, service connections and manhole walls). Infiltration is usually slower to enter the sewer and may remain evident in the sewer system for more than a day after a rain event ends. Infiltration generally leads to high volumes of I/I but not high peak flows.

Based on rain data collected at ReWa's Taylors rain gauge, Table 2 summarizes the three rain events that exceeded 1 inch during the monitoring period.

Table 2. Rall Lvelles Bul	mnai y		
	Total	Peak	
	Rain	Intensity	Duration
Date	(in)	(in/hr)	(hrs:min)
October 14, 2014	1.79	0.73	13:00
November 23, 2014	2.14	0.45	16:00
December 23, 2014	2.10	0.52	39:45

Table 2. Rain Events Summary

Figure 2 graphically represents these rain events in comparison to a 1-year average recurrence interval rainfall. As can be noted, these rain events were less than a 1-year recurrence interval rainfall. The average recurrence interval information was obtained from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 2, Version 3 for the Greenville, South Carolina area.



Table 3 shows the peak flow rate and peak flow depth recorded during the three evaluated rain events at each of the meters. The peaking factor (peak hourly flow divided by the average daily dry-weather flow) is also shown. The total estimated volume of I/I measured is shown in Table 3 as well as the duration of time from when I/I flows began until flow returned to normal.

The Babbitt equation peaking factor is also shown in Table 3. The Babbitt equation uses the average daily flow (population) to predict the maximum allowable peaking factor. ReWa uses the Babbitt equation as a benchmark to determine whether peak wet-weather flows from the sub-districts' sewer systems are excessive.

						Pe	ak Hourly F	W	Bab	bitt	Pead	k Depth				
Date	Rain (in)	Basin	Estimated Capacity (mgd)	Avg. Flow (mgd)	Pipe Diameter (in)	mgd	% of Est. Capacity	Peaking Factor'	Allowable Babbitt PF	Does PF Exceed Babbitt?	s	% of Pipe Diameter	I/I Start Date and Time	I/I End Date and Time	Duration (hrs:min)	Total I/I Volume a Meter (gal)
October 14, 2014	1 79	-	0.52	0.023	80					No	Significant	11/1 Reaction t	o the Rain Event			
		2	0.49	0.034	8	0.143	29.4%	4.2	6.0	ON	3.30	41.3%	10/14/14 11:30 AM	10/15/14 7:45 AM	20:15	25,107
	•	3	2.81	0.077	10	0.358	12.7%	4.7	5.2	ON	2.80	28.0%	10/14/14 12:30 PM	10/15/14 7:45 AM	19:15	55,452
		4	0.19	0.005	10					No	Significant	IIII Reaction t	o the Rain Event			
		5	2.05	0.038	8	0.342	16.7%	3.9	5.1	ON	2.29	28.6%	40/14/14 4:00 PM	10/15/14 8:00 AM	16:00	55,702
November 23, 2014	214	-	0.32	0.023	8					No	Significant	IIII Reaction t	o the Rain Event			
		2	0.49	0.034	8	0.193	39.7%	5.7	6.0	ON	3.66	45.7%	11/23/14 11:45 AM	11/24/14 11:00 AM	23:15	47,026
		3	2.81	0,077	10	0.616	18.4%	6.7	5.2	15.0	3.10	31.0%	11/23/14 4/30 PM	11/24/14 7:45 AM	15:15	107.245
		4	0.19	0,005	10	0.015	7.7%	2.9	8.2	ON	1.52	15.2%	11/23/14 1:00 PM	11/24/14 7:45 AM	18:45	2,698
		5	2.05	0.039	43	0.565	27.5%	6.4	5.1	1920	2,99	37.3%	11/23/14 1:30 PM	11/24/14 6:45 AM	17:15	135.758
December 23, 2014	2.10	· · · · ·	0.52	0.023	8					No	Significant	11/1 Reaction t	o the Rain Event			
	1	2	0.49	0.034	80	0.187	38.49M	5.5	6.0	ON	3.67	45.9%	12/23/14 11:30 PM	12/25/14 6:45 AM	31:15	908,86
		3	2.81	0.077	10					No	Significant	1/// Reaction t	o the Rain Event			
		4	0.19	0.005	10					No	Significant	11/1 Reaction t	o the Rain Event			
		5	2.05	0.088	8	0.693	28.9%	6.8	5.1	i a	2.88	36.0%	12/24/14 1:30 AM	12/24/14 11:00 PM	21:30	271,378

Table 3. Taylors Fire and Sewer District Flow Monitoring Summary - Rain Events

Notes: (1) Peaking factor is defined as the peak flow divided by the average daily flow.

Appendix B shows flow during the rain events versus the typical, dry-weather flow for each site.

Conclusions

Average Dry-Weather Flows

The sewers monitored have significant dry-weather capacity available. The average dry-weather flow utilized less than 10% of the estimated pipe capacity at all sites. In addition, the average depth of flow used less than one-quarter of the pipe diameter. It appears that significant capacity is available for future dry-weather flow at all sites.

Wet-Weather Flows

During the October 14, 2014 rain event, none of the sites had peaking factors that exceeded the Babbitt allowable peaking factor. None of the sites surcharged (defined as depth of flow exceeding the pipe diameter) during this rain event and the peak flows used less than 30% of the estimated capacity at all sites. In addition, Sites 1 and 4 did not have any significant I/I reactions.

During the November 23, 2014 rain event, two of the five sites (Sites 3 and 5) had peaking factors that exceeded the Babbitt allowable peaking factor. Site 2 did not exceed the Babbitt but had a high peaking factor of 5.7 (allowable Babbitt peaking factor of 6.0). Site 4 had a low peaking factor that did not exceed the Babbitt. In addition, the peak flows at all sites used less than 40% of the estimated capacity. None of the sites surcharged during this rain event. Site 1 did not have any significant I/I reaction.

During the December 23, 2014 rain event, one of the five sites (Site 5) had a peaking factor that exceeded the Babbitt allowable peaking factor. Site 2 did not exceed the Babbitt but had a high peaking factor of 5.5 (allowable Babbitt peaking factor of 6.0). In addition, the peak flows at all sites used less than 40% of the estimated capacity. None of the sites surcharged during this rain event. Sites 1, 3, and 5 did not have any significant I/I reactions.

From a wet-weather flow perspective and taking into account the flow data from all three evaluated rain events, the areas served by Sites 2, 3, and 5 are the highest priority areas for I/I identification and reduction activities. These basins generally had the largest peaking factors. Sites 1 and 4 had very minimal I/I reactions and should be a lower priority when looking for I/I.

Note that these results are for less than one year average recurrence rain events. I/I rates and volumes will likely increase during larger and/or more intense rain events.

Summary and Recommendations

- 1. <u>Available Pipe Capacity:</u> Based on the flow data collected, all sites appear to have significant dry-weather capacity available for future flows. However and as noted earlier, Site 4 has an estimated capacity that is less than the expected minimum. The estimated capacity is 0.19 mgd, which is only one-fourth of the expected minimum. This may be an indication that the slope of this sewer is less than the minimum design standard. Taylors should consider performing survey of the sewers in this area to determine actual sewer slopes and capacities.
- 2. <u>Babbitt Equation:</u> ReWa compares wet-weather peaking factors with peaking factors computed using the Babbitt equation. The Babbitt equation uses population to compute a peaking factor. Per ReWa, the peaking factor computed by the Babbitt equation is the "allowable" peaking factor in the subdistricts' sewer systems.

Table 3 shows the peak flow and associated peaking factor from each of the sites during the three rain events that exceeded 1 inch. The comparison of the actual peaking factors to the Babbitt equation peaking factors is used to help prioritize areas for rehabilitation as listed below.

3. <u>Basin Priority for Rehabilitation</u>: The basins listed below are recommended for further evaluation and rehabilitation. The initial focus should be on reducing inflow throughout all of the priority basins followed by comprehensive infiltration reduction as needed to achieve the desired reductions. The basins are listed by priority.

For the purposes of this report and to provide Taylors with a phased approach for rehabilitating the system and for budgeting for the rehabilitation work, the basins that generally had the largest peaking factors are listed as Priority 1 areas.

Priority 1 Basins (highest priority): Sites 2, 3, and 5

<u>Basins with Minor I/I Problems Identified from Metering:</u> Sites 1 and 4 (not recommended for inflow identification and reduction activities)

4. <u>Focus on Inflow Reduction and Recommended SSES Work:</u> The initial focus of Taylors' rehabilitation program should be to focus on inflow reduction (reduction of the high peak flows). Reduction of infiltration rates and volumes should also be performed, but the inflow reduction should be the initial focus. The high peak wet-weather flows may lead to sewer system surcharging and overflows.

Inflow identification and reduction activities include manhole inspections and smoke testing. Our recommendations are summarized below.

Priority 1 Basins: We recommend that the manhole inspections and smoke testing proceed in the Priority 1 basins as identified. All significant inflow defects identified from the sewer system evaluation work (SSES) should then be repaired. Television inspections of the sewers may be required to complete the SSES work and/or Taylors may consider simply televising the entire basins to identify all major sewer system defects (depending on available resources). The TV inspections can be identified after the manhole inspections and smoke testing are complete. Wet-weather inspections are also very beneficial for identifying inflow defects.

We recommend that Taylors clearly document all defects that are identified and repaired including estimating volumes of I/I that have been removed from the rehab work.

Post-Rehab Flow Monitoring: After rehabilitation measures are completed in the Priority 1 basins, Taylors should perform post-rehabilitation flow monitoring to document the success of the rehabilitation work and to determine if additional rehabilitation work is required to achieve the required I/I reduction. Peak flows from the post-rehabilitation monitoring should be compared with the peaking factors reported in Table 3 and with the peaking factors computed using the Babbitt equation.

Note that the above plan focuses on inflow reduction. Infiltration reduction may also be required to significantly reduce the peak flows below the Babbitt equation. Infiltration reduction will be identified from the post-rehabilitation metering. Infiltration reduction is much more costly than inflow reduction, and takes significantly more time to achieve.

APPENDIX A

FLOW MONITOR LOCATIONS











APPENDIX B

RAIN EVENT FLOW GRAPHS
Taylors - Site 1 October 14, 2014 Rain Event



Taylors - Site 1 November 23, 2014 Rain Event



Taylors - Site 1 December 23, 2014 Rain Event



Taylors - Site 2 October 14, 2014 Rain Event



Taylors - Site 2 November 23, 2014 Rain Event



Taylors - Site 2 December 23, 2014 Rain Event



Taylors - Site 3 October 14, 2014 Rain Event



Taylors - Site 3 November 23, 2014 Rain Event



Taylors - Site 3 December 23, 2014 Rain Event



Taylors - Site 4 October 14, 2014 Rain Event



Taylors - Site 4 November 23, 2014 Rain Event



Taylors - Site 4 December 23, 2014 Rain Event



Taylors - Site 5 October 14, 2014 Rain Event



Taylors - Site 5 November 23, 2014 Rain Event



Taylors - Site 5 December 23, 2014 Rain Event

