



C I T Y O F C A M E R O N

INFLOW & INFILTRATION REPORT

The City of Cameron owns a 1.6 MGD, oxidation ditch treatment facility, located in DeKalb County, Missouri. The treatment facility operates under Permit # MO-0104299. Daily operations for the plant and lift stations are managed under contract with Alliance Water Resources. The collection system is maintained by City of Cameron staff.

The city's collection system consists of over 40 miles of collection system piping, approximately 796 manholes and 14 lift stations. The plant effluent discharges to a tributary to Brushy Creek on the east property boundary. Actual flow is approximately 1.6 MGD. City population is 9,788 and there are no industrial users requiring an Industrial Pre-treatment Program (IPP).

System Activity Summary

The quantities provided below are from the period October 31, 2010 to March 31, 2011. This information is submitted as required by the permit renewal. Reports are to be submitted with the April and October Discharge Monitoring Report of each year.

Lift Station Maintenance and Repairs

Maintenance

- Performed regularly scheduled monthly lift station maintenance tasks
- Performed regularly scheduled 6 month lift station preventative maintenance tasks
- Performed weekly scheduled lift station changing of seal filters
- Lift Stations are checked 3 times a week or as needed for High Level conditions or other problems.
- Cleaned overflow basin's at lift stations # 1 ,# 2, # 4 and # 8

Repairs

- We have converted to Mission Systems SCADA for all 14 lift stations for more reliability, along with more data availability.
- We have replaced impellers at lift station # 4 to a no clog type impeller on both pumps
- Replaced check valve at lift station # 7
- Replaced suction elbows and stands at lift station # 2
- Replaced alternator at lift station # 4,# 8 and lift station # 10 all went bad
- Replaced bad dehumidifier at lift stations 11 and # 1
- Removed grease from lift stations 12 and 3
- Changed oil in pumps at lift station's 12 and 13
- Power loss at lift station # 2 short in power supply City electric crew made needed repairs
- Replaced cracked oil globe and pressure switch at lift station # 11
- Replaced bad seals at lift stations #1

- Alliance Water Resources staff walked some of the collection system looking for suspect problem areas in Cameron's collection system, reported what we found to City staff.
- Removed grease build up each month from lift station # 12
- Snow removal at all lift station access roads after numerous snow events.

Grease

- Removed grease each month from lift station # 12
- Added degreaser to lift station # 12
- Removed grease from head works

Vehicle Maintenance

- Performed monthly and quarterly maintenance work orders on all vehicles
- Changed oil on all vehicles as required
- Replaced back tires on Terragator

Training

- Hazardous Material Communications
- Confined space
- Lock out Tag Out
- Fire extinguisher and fire safety
- Chemical safety MSDS
- Lock out Tag Out
- Hazard Communications and Emergency Response Plan
- All fire extinguishers had their annual inspection

Other

- Performed weekly cleaning of all clarifiers online
- Performed weekly building and grounds maintenance, snow removal
- Cleaned influent basket once per month
- Submitted monthly MMR's, SSO's and Plant Bypasses as they occurred
- DMRQA study 31 testing in progress
- Removed grease built up in clarifier scum boxes
- Removed grease from head works wet well
- Pulled and inspected all submersible pumps at WWT
- Rotor # 4 gear box rebuilt and new pillow block bearing replaced
- Replaced bad transducer at raw sewage station # 2
- Rebuilding Moyno sludge pump for concentrator #1
- Replaced bad contactor coil on concentrator # 1
- Replaced bearings and brushes on DC concentrator drive motor
- Replaced bad electric drive motor on clarifier # 5
- Removed rags and debris for RAS tubes and clarifier centers
- Shut water off to odor control system for cold months, we have since put water back on as temperatures have warmed back up.
- Changed oil on all clarifier drives

System Activity Summary

The quantities provided below are from the period of October 1, 2010 to March 31, 2011 this information is submitted as required by the permit renewal. Reports are to be submitted with the April and October Discharge Monitoring Report of each year.

Lift Station Inspections

Each of the fourteen lift stations was inspected the following times per month:

October	November	December	January	February	March
13	13	13	13	13	13

Waste Water Treatment Summary (Million Gallons)

Total Waste Water Treated (Million gallons)	October	November	December	January	February	March
	33.34	33.98	32.50	33.44	44.23	50.67

Sanitary Sewer Overflow (SSO) Summary

Lift Stations

Date	BOD5mg/l	TSS mg/l	Temp. C.	DO	Ammonia	PH	Rain
01-22-10	no sample	no sample					0
02-17-11	12.1	16.8	7.5		<0.1		snow melt
03-08-11	28.6	32.8	6.8		0.116		snow melt

February 17th and March 8th were WWTP bypasses

Sanitary System Maintenance

Manholes Cleaned

- 63 manholes were vacuumed-cleaned.

Televising

- Approximately 350' of sanitary main were televised this reporting period.

Root Control

- Root cutter ran 650 feet

Grease Control in System

- 24 Food service establishment grease control inspections were performed this period. The City partnered with Clinton and Tri-County Health Departments to assist with these inspections.
- Bio-Blocks replaced for grease control = 15

Hydraulic "Jet" Cleaning

- 22,529 feet of sewer main cleaned

Sewer Mapping

- Our GIS mapping of the sewer system was updated in a prior reporting period to include manhole and sub-basin/watershed numbering.

SCADA System

Mentioned under “Equipment Purchases,” we have replaced our lift station telemetry with a cellular-based technology provided by Mission SCADA.

Flow Monitoring

- We moved our flow meters to monitor flow from the prison area and the gravity main near the animal shelter. Flow data was sent to our consultant for inclusion with the I/I study work.

Sewer Improvement Projects

On Monday, March 15, 2010, a meeting was held with the Cameron City Council Water/Sewer Committee to update them on sanitary system needs, regulatory compliance and rate setting strategies.

On Thursday, March 31, 2011 a meeting was held with the Cameron City Council Water/Sewer Committee. The plan to initiate an SSES for sub-basin serving Lift Station #1, hiring HDR as engineering consultants to manage the project and subcontract smoke testing, CCTV work, manhole inspections, and pipe inspections. If this project is approved by Council at the April 4, 2011 meeting, our next step will be to submit any rate adjustments to the Council to cover the study expenses.

Equipment Purchases

The City spent approximately \$35,000 in upgrades to our SCADA system by replacing our current telemetry with Mission SCADA. This will give us internet monitoring and reporting capability, as well as increased data.

In April, we plan to purchase two additional flow monitors and updated software to allow us better data management with the consultant. This will bring our total number of flow monitoring meters to 4, with two rain gauges mounted at two lift stations. The rain gauges can be moved as needed.

Fats, Oils & Greases (FOG) Program

No additions/changes at this time.

D. Alliance (Contract operator for treatment plant and lift station) Communications Policy

1-Report all emergency situations (if possible), to Roger Moerke

If Roger cannot be contacted, then call the people on the following list until someone is notified of the emergency situation.

	Work	Mobile	Home
• Shawn Middendorf	816-891-0003	816-215-5690	816-450-3518
• Bob Ross	573-874-8080	573-999-4460	660-263-7210
• Bart Downing	816-891-3457	816-387-3559	816-685-3336

- Richard Weber 660-885-2742 660-492-2144 660-885-2442
- Dick Tuttle 573-874-8080 573-864-9087 573-214-2757

What qualifies as an emergency situation?

Generally speaking, an emergency situation can be anything that has the potential to cause danger to human health, and or damage to property. We can easily extend the meaning of an emergency situation to be anything that has the potential to cause damage to the environment. The practical application thus being: an emergency situation is any situation that has the potential to cause a violation of the NPDES permit.

The NPDES permit is a combination of both numeric and narrative standards that are developed to protect the designated uses of the stream that the Cameron WWT plant discharges into. The permit also contains standards that cover wastewater discharges from the collection system.

The following outline lists some (not all) of the situations that qualify as an emergency situation that should trigger notification.

Surcharge (including discharging from the PO Cell)

Wet Weather

Dry Weather

Loss of treatment

Power Fail

Equipment damage

Toxic Shock

Short Circuit

Sabotage

2 - In an emergency situation the following information shall be communicated:

- What has been damaged,
- If no damage, why is there an emergency,
- Is there a threat to public health,
- Is there damage to public and/or private property,
- Has treatment been affected,
- Are NPDES permit violations occurring,
- Will NPDES permit violations result from the emergency,
- Are there any safety issues due to the emergency,
- Are help and/or equipment needed to eliminate the emergency?

3-The MODNR will have to be contacted when Section B, 2A-B, (noncompliance notification standards, published in the ‘Standard Conditions for NPDES Permits’), have been reached. A copy of these standards is included in the text of this plan on page 44. Follow the directions listed in the ‘notification standards’.

MODNR KC Regional Office
Phone: 1-816-622-7000
500 NE Colbern Road
Lee's Summit, MO 64086

UTILITIES DEPARTMENT
SANITARY SEWER SYSTEM MAINTENANCE
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Always try to notify the City and Corporate before MODNR notification. When notifying the MODNR always record the name of who you are talking to, and the time and date of the notification. Give the following information: what the violation is per notification standards, and what our actions are to eliminate the violation. Be factual; do not assume anything. Finally, find out if the DNR requires written notification concerning the violation.

In the file cabinet that is marked 'reports' (file #33-02) there are two report forms that need to be filled out in any bypass situation, and/or any operations - treatment emergency that reaches notification standards. One report form (Wastewater Bypass Report Form) is for the DNR, and the other report form (Deviation Notification Form) is for AWR corporate. These forms are also included in Appendix 13 of this manual.

E. Emergency Action Plan

- Procedures for reporting a fire or other emergency situations.
 1. Call 911 and report the situation
 2. If the phones don't work use the hand held or vehicle two way radios
 3. Determine if a response is safe and or necessary
 4. Determine whether or not evacuation is necessary

- Procedures for emergency evacuation including type of evacuation and exit route assignments.
 1. If an emergency evacuation is necessary follow the exit routes posted in the buildings.
 2. All evacuees shall meet at the main entrance gate, and determine what action needs to be taken, and if support can be given to emergency response personnel.

- Procedures to be followed by employees who remain to operate critical plant operations before they evacuate.
 1. If employees need to stay behind to operate critical plant operations, they shall establish communications with an employee who has already evacuated. Communications shall be on a routine basis with information conveyed relating to the safety of the remaining employee, current operation conditions, safety related conditions, etc.
 2. The employee who stayed behind shall evacuate if life threatening conditions present themselves, or if there is evidence that a condition may become life threatening.

- Procedures to account for all employees after evacuation.
 1. As specified above, all employees who evacuate shall meet just outside the entrance gate. An accounting of all employees shall be determined.

- Assignments
 1. The on call operator shall be designated as the employee who stays behind.
 2. The local manager shall ensure that communications are being carried out with the employee who stayed behind
 3. The local manager is responsible for making an accounting of all employees.

**UTILITIES DEPARTMENT
SANITARY SEWER SYSTEM MAINTENANCE
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F. Fire Protection Plan

- Assure that hazardous accumulations of combustible waste material are controlled.
 1. Place used rags in the metal used rag container. Keep clean rags in the metal clean rag container.
 2. Keep trash picked up and trash cans empty on a regular basis.
 3. Complete and turn in the required hot work permit for all welding or grinding activities.
 4. Keep a 45 minute fire watch after any welding operation has ended.
 5. Keep combustible liquids in the storage cabinets. Keep the cabinet doors closed.

- Identify high risk areas and develop plans to minimize potential fire hazards.
 1. The highest risk area for fires is in the shop. Plans to minimize the risk of a fire include: use of storage cabinets for gasoline, paints, etc. Use of metal trash cans with lids for the storage of new and used shop rags. And the control of trash accumulation on the floor and in the trash cans.