FINAL/APPROVED/UPDATED

Onondaga County Department of WATER ENVIRONMENT PROTECTION

Metropolitan Syracuse (Metro)Wastewater Treatment Plant

Wet Weather Operating Plan

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Section 1 – Introduction and Overview

This *Wet Weather Operating Plan* has been prepared to fulfill the requirements detailed in the New York State Pollutant Discharge Elimination System (SPDES) permit (# NY0027081) for the Metropolitan Syracuse Wastewater Treatment Plant (Metro). The Metro WWTP serves the City of Syracuse and other Onondaga County communities in the Consolidated Sanitary District. The plant is serviced by both sanitary and combined sewers**.** Consequently, during periods of rain and/or snowmelt, Metro is subjected to flows above the design of 84.2 million gallons per day (MGD).

Metro provides primary, secondary, and tertiary treatment of incoming wastewater, up to 126.3 MGD, prior to being discharged to Onondaga Lake. The plant is divided into two (2) identical treatment trains, Side A and Side B. Wastewater flow is split equally between the two trains; the facility is typically operated in conventional activated sludge mode. Major treatment units include mechanical bar racks and screens, aerated grit chambers, low-lift pumping station, primary clarifiers, aeration tanks (with diffused air), secondary clarifiers, chlorination facilities for bypasses**,** secondary effluent pump station, Biostyr® biological aerated filter (BAF), ACTIFLO® System (High Rate Flocculating System, or HRFS), gravity sludge thickeners, gravity belt thickeners, sludge blending, anaerobic digesters, ultraviolet disinfection, and centrifuges for sludge dewatering and processing.

The SPDES discharge permit requires that flows up to 126.3 MGD receive full tertiary treatment. There are several points within the facility where wastewater can be bypassed with varying degrees of treatment. For organizational purposes, the bypass points will be discussed in order of progressive treatment:

- *Influent (Headworks) Bypass* - Flows in excess of 240 MGD are bypassed as a combined wastewater bypass through outfall 001. During the NYSDEC mandated disinfection period [April 1 through October 15] this bypassed wastewater is chlorinated, but receives little or no other treatment prior to discharge. It should be noted that this type of bypass rarely occurs.

- *Secondary Bypass* - All flows up to approximately 240 MGD receive primary treatment. Flows in excess of 126.3 MGD bypass the secondary treatment system by routing flow to the Bypass Chlorine Contact Tank (BCCT), and ultimately through outfall 002. During the NYSDEC mandated disinfection period [April 1 through October 15] this bypass wastewater is chlorinated and dechlorinated.

- *SEPS Bypass* – As previously stated, all flows up to approximately 240 MGD receive primary treatment, and flows in excess of 126.3 MGD bypass the secondary treatment system by routing flow to the bypass tanks (Secondary Bypass). During extended periods of high flow, flows in excess of the SEPS capacity (approximately 130 MGD) are routed to the old Tertiary Pump Station overflow and discharged to outfall 001. Any SEPS Bypass that exceeds 30 minutes is sampled using the Bypass Sampling Protocol every 4 (four) hours. This bypassed wastewater receives no chlorination.

- *Tertiary Bypass* – As previously stated, all flows up to approximately 240 MGD receive

primary treatment, and flows in excess of 126.3 MGD bypass the secondary treatment system by routing flow to the bypass tanks (Secondary Bypass). In the event that a complete shutdown of the Tertiary Process (BAF/HRFS), or any part of the Biostyr® or Actiflo® process, flow is routed to the old Tertiary Pump Station Overflow and discharged to outfall 001. Bypasses of this type are generally planned and will be sampled using the Effluent Sampling Protocol. This Bypass wastewater receives no chlorination.

Onondaga County also utilizes a tunnel system (Erie Boulevard Storm Sewer, EBSS), two (2) Regional Treatment Facilities (Hiawatha and Midland RTFs), and storage facilities/tanks (Clinton, Lower Harbor Brook, Liverpool Pump Station and Village of East Syracuse) to store [and treat (RTFs)] combined stormwater and wastewater during wet weather events. These combined sewer overflow (CSO) abatement facilities were designed and built with several objectives in mind:

- Intercept any combination of sewer overflows that negatively impact receiving waters.
- Provide storage for the intercepted flows and diminish the amount of excessive flows that impact the Metro's treatment capacity. The ultimate goal is to store the flow until the plant is capable of giving the incoming flow additional treatment before being discharged to Onondaga Lake.
- Provide in-line relief for some of the larger diameter tributary surface sewers. This would help maintain capacity and prevent sewer backups in the basements of local properties.

Following a wet weather event; after influent flow rates have subsided to acceptable rates, combined sewage is pumped from the EBSS and the RTFs and sent to the Metro for treatment. The EBSS and RTF systems have significantly reduced the frequency and volume of combined sewer overflows that would have otherwise been directly discharged to the receiving waters. Refer to Appendix B for the Metro WWTP Storage Facility Dewatering Approval Flow Chart/Guidance document.

Performance Goals

The overall goal of the wet weather operating plan is to prevent and minimize CSOs and bypasses when possible, and reduce the impact of CSOs and bypasses for the protection of receiving waters. The primary goals for protection of receiving waters during high flow storm events are divided into three groups:

- Protection of Onondaga Lake.
  - Prevent or minimize overflows at Spencer Street CSO which relieves the Main Interceptor Sewer (MIS)
  - Prevent or minimize influent (Headworks) Bypass overflows from the METRO Influent diversion weir.
  - Minimize secondary bypasses.
  - Minimize Secondary Effluent Pump Station (SEPS) and tertiary (BAF/HRFS) bypasses.
- Protection of Onondaga Creek.
  - Maximize flows to the plant as early as possible to avoid CSOs.
- Protection of Harbor Brook.
  - Maximize flows to the plant as early as possible to avoid CSOs.

Utilization of the Manual

The purpose of this manual is to provide a set of operating guidelines to assist the Metro WWTP and collection system staff in making operational decisions which will best meet the performance goals and the requirements of the SPDES discharge permit.

During a wet weather event, numerous operational decisions must be made to effectively manage wastewater in the collection system in order to optimize wastewater treatment at Metro. Due to multiple control structures, present condition of specific treatment processes, and the anticipated storm/snow melt intensity and duration, each wet weather event provides potentially unique situations and combination of influent flows that influence plant operations. No manual can describe the decision making process for every possible operating scenario. However, this manual will serve as a useful reference for both new and experienced operators to utilize during wet weather events. Specifically, preparing for a pending wet weather event, a source of ideas for controlling specific processes during the event, and a checklist to avoid missing critical steps in monitoring and controlling processes during an event.

This manual is designed to allow use as a quick reference during wet weather events. It is broken down into sections which cover major unit processes at the METRO facility, influent stream pump stations, satellite and storage facilities, and Floatable Control Facilities (FCF). Each section includes the following information:

- Operational Description – Overview of the designated treatment process and associated equipment.
- Pre-Wet Weather Event Activities – Activities to be performed in anticipation of pending wet-weather event.
- During Wet Weather Activities – Major activities to be performed during the wet-weather event.
- Post Wet Weather Activities – Activities to be performed following the wet weather event, and in anticipation of future events.

This manual is a living document. Users of the manual are encouraged to identify new steps, procedures, and recommendations to improve the overall utility of the manual. All recommendations shall be submitted to the user's immediate supervisor for consideration for inclusion in the manual.

Section 2 - Wet Weather Operational Strategy

In general, prior to any wet weather events, the operational staff monitors storm development via internet access to assist in predicting the onset of a wet weather event. This allows both the head operator and principal operator(s) the ability to review the personnel roster to ensure adequate staff is available and call in additional personnel as required. In addition, the monitoring of storm development allow the operational and maintenance staff to begin pre-wet weather activities as identified herein, and including the preparation and stocking of all sampling bottles necessary to monitor a wet weather event. Specific details regarding the SPDES permit compliance sampling

procedures for bypass events can be found in Appendix D, Standard Operating Procedure (SOP) titled, *Metropolitan-Syracuse WWTP Wet Weather Operating Plan By-pass Sampling and Point Source Discharge Control (Doc. No. 10).*

At this time, the Department does not have a policy, mechanism or corresponding procedure for issuing wet weather related advisories to the municipalities that discharge to the County's collection system. The current inter-municipal agreement does not grant the Department authority to minimize, reduce, or even require the implementation of Best Management Practices (BMPs) by the municipalities that discharge to the Metro service area.

a. Permitted User Notification

In accordance with the Standard Operating Procedure (SOP) titled, *Metropolitan-Syracuse WWTP Wet Weather Operating Plan By-pass Sampling and Point Source Discharge Control (Doc. No. 10),* Metro Board personnel shall contact the ETS Primary Contact or designated back-up to initiate shut down of any interim Point Source Discharges as part of the Wet Weather Operating Plan. The trigger point will be a flow of 115 MGD. For additional information regarding this SOP, please refer to Appendix D, Doc. No. 10, Section VII.

b. Existing (Old) Screen & Grit Building

Operational Description

The Existing Screen & Grit Building (ESG) receives wastewater from the four (4) force main inputs to Metro; Ley Creek, Liverpool, Westside and wet weather flow from Kirkpatrick pump station. Wastewater flow into the ESG is split into three (3) separate channels, each having an automatic climber screen rake and bar rack with ¾" spacing, which directs flow to three (3) aerated grit chambers. Three (3) of the four (4) blowers [one (1) serving as backup] supply air at a constant rate to the grit chambers. Grit removal in each chamber is accomplished using a 12-inch diameter auger conveyor system to move settled grit from the grit collection channels at the bottom of each grit chambers to the suction inlet of a 4-inch grit pump. The three (3) grit pumps run continuously and discharge to three (3) [one spare] cyclone washing and dewatering unit's in the grit loading room. Three (3) of the four (4) cyclone units run continuously and receive grit from a corresponding grit chamber. The fourth unit is standby. These units deposit the solid grit in 1 cubic yard containers. Note: The facility has the ability to chlorinate the effluent from this treatment unit, however, this is rarely utilized.

Pre-Wet Weather Event Activities

- Make sure all channels are in operation.
- Verify all grit pumps are operational.
- Verify grit collections screws are operational.
- Verify grit cyclones are operational.
- Verify adequate dumpster capacity.

During Wet Weather Activities

- Screen rakes are set to run at a more frequent rate. Screen rake operation is more frequent if the Bypass gate at the influent diversion chamber is opened to allow some of the NSG volume flow into ESG to prevent [or delay] a combined sewerage bypass.
- Grit Cyclones are monitored continuously for plugging and cleared as necessary.

Post Wet Weather Activities

- Inspect auger conveyor system, grit pump and slurry line, and cyclone units.
- Return all equipment to dry weather operation.

c. New Screen & Grit Building

Operational Description

The New Screen and Grit Building (NSG) receives wastewater from the Main Intercepting Sewer (MIS) and the Harbor Brook pump station (located on-site). Wastewater flow entering this facility is split between two (2) parallel channels and proceeds through two (2) automated cleaning bar racks (1½" openings). These racks can be operated via automated timing mechanism, manually, and by an ultrasonic level monitor differential system. After passing the bar screens, the wastewater flows to distribution box that divides flow between the two (2) aerated grit chambers. Typically, both chambers operate with both slide gates fully open to permit flow to enter at the north end of the grit chambers and to discharge at the south end of the chambers over the flow weirs. If a chamber needs to be bypassed, flow can be stopped by closing the slide gate in the distribution box that leads to the affected chamber. Each chamber is capable of handling up to 75 MGD. The effluent from the aerated grit chamber passes through [in parallel] two (2) bar screens (¾" openings) and then to the Low-Lift pump station.

Three (3) turbo variable speed blowers supply air to the aerators. Typically, two (2) blowers operate, one (1) for each grit chamber. Grit is removed from the grit collection channels at the bottom of each of the grit chambers by a 12-inch diameter auger conveyor system. The conveyor moves the accumulated grit along the side of each grit chamber to a 4-inch grit pump located at the midpoint of each tank. The grit pump is located in a drywell on the opposite side of the grit chamber baffle. The two (2) grit pumps in each channel run continuously. The grit pumps discharge to four (4) large classifiers; these units deposit the solid grit in roll-off containers.

Pre-Wet Weather Event Activities

- Verify all Influent Screen Machines are operational.
- Verify all Grit Pumps are operational.
- Verify Grit Collection Screws are operational.
- Verify Grit Classifiers are operational.

- Verify all Effluent Screen Machines are operational.
- Verify adequate roll-off capacity.

During Wet Weather Activities

- Adjust Influent Screen rake Run timers to accommodate demand.
- Adjust Influent Screen rake Drain timers to zero (0) seconds.
- Adjust Effluent Screen rake Run timers to accommodate demand.
- Adjust Effluent Screen rake Drain timers to zero (0) seconds.
- Adjustments are made to the cleaning frequency of the bar racks and screens. Specifically, cleaning of the bar racks is increased to prevent combined sewerage bypasses, and to address any "first-flush" effects from the combined sewer system. Acceptance of hauled wastes, which discharge wastewater to this pretreatment unit, are excluded from dumping during influent (headworks) bypasses.
- During periods of high flow (depending on plant capacity and the amount of influent debris) the Bypass gate located at the influent diversion chamber may be opened to allow some of the NSG volume flow into ESG to prevent [or delay] a combined sewerage bypass. This increases the amount of screenings at the ESG racks and will require more frequent run cycles on the rakes.

Post Wet Weather Activities

- Inspect auger conveyor system, grit pump and slurry line, and cyclone units.
- Clean and wash down the floors near screen rakes in ES&G.
- Clean and wash floors near automatically cleaned bar rack (NSG).
- Return all equipment to dry weather operation.

d. Low-Lift Pump Station

Operational Description

The Low Lift Pump Station delivers both the NSG and ESG de-gritted wastewater flow to the two (2) Primary Distribution Structures which split flow equally to eight (8) primary clarifiers for treatment (four (4) clarifiers for each side). Five (5) pumps are located in the Low Lift Pump Station. Under normal conditions, de-gritted wastewater flows by gravity from both screen & grit buildings and enters the low lift pump wet well through the influent channel. When in the automatic mode of operation, the pump operation depends on the wastewater level in the wet well. Any of the three (3) level transmitters in the wet well may be used by selecting the desired signal at the raw waste control panel.

Pre-Wet Weather Event Activities

- Verify all pumps are operational.

During Wet Weather Activities

- During wet weather periods, the automatic pump sequence rotation may be disabled to allow the appropriate pumps to run. Ideally, Pumps #5 and #1 would be lead and lag, and the center wet well level transmitter (#3) would be online to control the pumps.
- Monitor pump operation.

Post Wet Weather Activities

- None.

e. Primary Treatment System

Operational Description

Eight (8) primary clarifiers are arranged in two (2) groups of four (4). Each group is served by a Primary Distribution Structure labeled "A" or "B" to correspond with the two sides of the plant. The primary clarifiers were designed to treat flows between 40 MGD average flow and 60 MGD peak flow per set of four (4) clarifiers under normal conditions. This equates to a total treatment capacity of 80 MGD to 126.8 MGD. The design intent was for any flow above 126.8 MGD to bypass the primary clarifiers to the aeration tanks. However, plant operations staff has found that almost all flow conditions experienced at the plant to date have been adequately treated by the primaries, and the primary bypass has only been used on limited occasions. Floatable scum and foam is collected by the skimmer mechanism mounted on the same rotating arm that drives the sludge collector. The primary scum pit is dewatered frequently and emptied regularly to prevent material buildup, odors, and potential sulfide gas generation, which can corrode the concrete.

Pre-Wet Weather Event Activities

- Verify all sludge pumps are operational.
- Dewater grease pits.

During Wet Weather Activities

- Increase sludge pumping rates to approximately 100 gpm. Monitor sludge discharge for plugging at the pumps.
- Increase operator monitoring of scum accumulation on scum ramps (beaches). Assist scum removal with scraper, shovel or hose.

Post Wet Weather Activities

- Dewater and/or empty scum pit.

- Return sludge pump rate to 70 gpm.

f. Activated Sludge System

Operational Description

Under normal operating conditions, primary clarifier effluent flows to the two (2) secondary distribution structures, which serve four (4) aeration tanks each allowing flow into the two (2) north aeration tanks per side. Weirs and sluice gates in the distribution structures allow for control or isolation of flow to any aeration tank. Under storm flow conditions, the primary clarifiers still treat all the flow under almost all conditions. At the secondary distribution structures, any flow above 63.4 MGD to either distribution structure overflows a bypass weir and is diverted to the Bypass Chlorine Contact Tank (BCCT).

Pre-Wet Weather Event Activities

- None.

During Wet Weather Activities

- No adjustments are made to the ferric chloride dosing (for phosphorus removal) which is injected into the Return Activated Sludge (RAS). Ferric chloride dosing in the aeration tanks are a constant feed, and does not vary with changes in flow.
- RAS rates remain constant regardless of the incoming flow; approximately 6 MGD.

Post Wet Weather Activities

- None.

g. Secondary Treatment System

Operational Description

Aeration tank effluent flows to the clarifiers (one (1) clarifier per treatment train) and enters in the center influent well. Return sludge and waste sludge are drawn from the clarifier underflow, and treated liquid effluent overflows the clarifier weirs to the Secondary Effluent Pump Station (SEPS) and tertiary treatment.

Pre-Wet Weather Event Activities

- None.

During Wet Weather Activities

- Treatable flow is maximized to a flow of 126.3 MGD.
- As needed, increase sludge withdrawal rates, RAS and shut off Waste Activated Sludge (WAS).
- Increase monitoring (e.g., sludge depth gauging), collect floatables where feasible.

Post Wet Weather Activities

- None.

h. Tertiary Treatment System

Operational Description

The Biostyr® Biological Aerated Filter (BAF) process is an aerobic biological treatment system. Influent wastewater is first pumped to a common feed channel above the filters eighteen (18) cells and is evenly distributed to each active cell by influent distribution weirs. Influent to each cell is conveyed by piping to the bottom of the cells and flows up through the filter media bed. Two (2) centralized blower stations provide process air. Each blower station consists of four (4) multi-stage centrifugal blowers. The system is monitored and controlled via a PLC control panel, which is connected to the plant SCADA system.

BAF effluent wastewater enters a common effluent channel that directs the flow to the ACTIFLO® process. The ACTIFLO® System consists of four (4) separate treatment trains. Each is comprised of a coagulation tank with mixer, an injection tank with mixer, a maturation tank with mixer, a settling tank with a sludge scraper, lamella modules, effluent collection troughs, coagulant feed equipment, polymer feed equipment, micro-sand injection system, and micro-sand recirculation circuits with pumps, piping, valves, hydrocyclones and ancillary equipment such as pressure gauges and pressure switches. The system is also monitored and controlled via a PLC control panel, which is connected to the plant SCADA system.

Pre-Wet Weather Event Activities

- Ensure all routine maintenance for the BAF cells or ACTIFLO® trains are completed to allow the complete system to be operational during a wet weather event.

During Wet Weather Activities

- In the event of a rapidly increasing flow, the Biostyr® Biological Aerated Filter (BAF) process may be put into “Constant Cell Mode” with all available cells online. This is to prevent overwhelming the Biostyr® Biological Aerated Filter (BAF) process before the PLC can react.

- During very high flows (125 to 130 MGD to the tertiary process) the ACTIFLO® process polymer addition dose may be adjusted down from 0.6 ml/min to 0.5 ml/min due to the time required to make up and age a batch.
- Postpone any scheduled cleaning of the lamella tubes until the flows are below 90 MGD.

Post Wet Weather Activities

- Initiate manual backwashes to prevent clogging.

i. Ultraviolet Disinfection

Operational Description

The ultraviolet (UV) disinfection system, specifically the UV contact unit, includes UV lamps, reaction chamber, cooling jacket, pivot beams, power supply, and controls. Effluent flows through the reaction chamber and is disinfected as it flows by the lamps and is exposed to the UV light. Lamp cleaning is fully automatic and the frequency is programmed to operate once per hour. Disinfection is not disrupted during the cleaning process. When the UV system is operating in "auto" mode the flow and percent ultraviolet transmittance (UVT) readings are continuously read and evaluated by the controller, as flow and effluent quality change, the required dose to achieve disinfection is automatically adjusted. During "hand' mode, the lamp output is set by the operator.

Pre-Wet Weather Event Activities

- Check bulb "out" count, and write work order as necessary.

During Wet Weather Activities

- No major operational adjustments are made during periods of wet weather.

Post Wet Weather Activities

- Check bulb "out" count, and write work order as necessary.

j. Bypass Disinfection Tanks

Operational Description

The Bypass Disinfection system receives treated effluent from the primary clarifiers when there is a wet weather event in excess of Metro's secondary wastewater treatment system capacity. The bypassed flow is disinfected using Sodium Hypochlorite and dechlorinated with Sodium Bisulfite, then discharged through Outfall 002 to Onondaga Lake. The Bypass Disinfection system consists of a chemical transfer system, chemical

storage and containment system, chemical feed building, and bypass chlorine contact tank with mixers, sample pumps, and chemical inductors.

Pre-Wet Weather Event Activities

- Ensure adequate supply of disinfection chemicals, Sodium Hypochlorite and Sodium Bisulfite, during the disinfection season.
- Ensure the tanks are pumped down as low as possible.
- Configure Bypass Disinfection for use.
- Prepare Log Sheets for bypass.
- Prepare sampling needs.

During Wet Weather Activities

- Start bypass sampling and continue throughout bypass monitoring event.
- Document floatables as best as possible.
- Administer Sodium Hypochlorite for chlorination and Sodium Bisulfite for dechlorination throughout the bypass event, monitoring the automatic disinfection system for proper operation.

Post Wet Weather Activities

- Complete Bypass Report.
- Restock sample containers and Chain of Custodies, as needed.
- Flush disinfection system.
- Clean carrier water strainers.

k. Sludge Dewatering Facilities

Operational Description

WAS is pumped to the Gravity Belt Thickeners, then the thickened WAS is pumped to the Blend Building. Primary sludge and the ACTIFLO waste HRFS sludge are pumped to the gravity thickeners. The gravity thickened sludge is pumped to the Blend Building where it is mixed with thickened WAS and tankered sludge from Oak Orchard, Brewerton and Meadowbrook Limestone WWTPs and then pumped to the Anaerobic Digesters. After digestion, the biosolids are dewatered via centrifuge to >30% solids and conveyed to container for landfill disposal.

Pre-Wet Weather Event Activities

- None.

During Wet Weather Activities

- During wet weather, sludge flows entering the Gravity Thickeners are greatly increased, and screenings must be removed more often. To avoid rising sludge blankets in the Gravity Thickeners, pumping to the Blend Building is also increased, resulting in more biosolids being sent to the Centrifuges.

Post Wet Weather Activities

- None.

Section 3 – Metro Influent Stream Pump Stations

a. Westside Pump Station

Operational Description

The pump station receives flow from five (5) pump stations (Camillus, Lakeside, Hillcrest, Brookside, and Greenfield) and from the 42-inch diameter Westside Interceptor. The pump station includes a mechanical bar screen and six (6) submersible wastewater pumps located in the wet well. Pumped wastewater is conveyed in a 36-inch diameter force main to Metro. The capacity of the pump station is approximately 28 MGD. The station includes an emergency wet-weather bypass, where flow passes over a weir wall, through a trash rack, and discharges into Onondaga Lake.

Pre-Wet Weather Event Activities

- Facility is monitored through SCADA.
- Set lead pump in "hand" mode; station has six (6) pumps, however, only five (5) are programmed to run in "automatic" mode.

During Wet Weather Activities

- Monitor pump operation.
- Monitor flows; and if bypass occurs, document start, end, and flow.

Post Wet Weather Activities

- Clean trash rack as necessary.
- Clean facility as needed with jet truck.
- Return pump that was in "hand" mode to "automatic" mode.
- Immediately following a bypass event, complete an overflow report and submit to superintendent for NYSDEC notification.

b. Liverpool Pump Station

Operational Description

The pump station receives wastewater from a 30-inch diameter gravity collector sewer. The pump station includes a mechanical bar screen, a chemical storage and feed system, a 1 MG storage tank, a 2 MG storage tank, an influent channel with two (2) PLC programmed Hydromatic pumps to divert wastewater into the storage tanks as needed, three (3) centrifugal, vertical, dry-pit, non-clog pumps. Wastewater is pumped to an 18-inch force main to Metro. The Liverpool Pump Station (LPS) design capacity is 8.0 MGD. However, due to the capacity restriction of the downstream force main, the LPS has a capacity of approximately 6.0 MG. A pressure relief valve controls the LPS discharge to the downstream force main. The pressure relief valve needs to be adjusted during wet weather events to keep the force main pressure at an optimum pressure of approximately 70 psi. Flows that exceed the force main capacity are diverted to the storage tanks until the flows recede below the capacity of the downstream force main.

Pre-Wet Weather Event Activities

- Facility is monitored through SCADA.

During Wet Weather Activities

- Adjust pressure relief valve to maintain optimum pressure of approximately 70 psi.
- Monitor pump operation.

Post Wet Weather Activities

- Reset pressure relief valve to "normal" position.
- Refer to Post Wet Weather Activities for Liverpool Storage (Section 4.c).

c. Ley Creek Pump Station

Operational Description

The pump station receives wastewater from a 60-inch diameter gravity sewer that mainly collects wastewater from the Ley Creek Interceptor sewer, Electronics Parkway Trunk Sewer, Bear Trap Trunk Sewer, and Seventh North Trunk Sewer. The pump station includes two (2) mechanical bar screens and three (3) centrifugal wastewater pumps in a wet well-dry well configuration. The pump station capacity is approximately 50 MGD. The wastewater is screened and pumped to a 42-inch diameter force main to Metro. During wet weather if flow begins to exceed the capacity of the pump station, county personnel will operate an 8-inch portable pump. The pump is placed upstream of the pump station and diverts a portion of the flow to Ley Creek.

Pre-Wet Weather Event Activities

- Facility is monitored through SCADA.

During Wet Weather Activities

- Check trash rack in front of two (2) screen racks and clean as necessary.
- Monitor flows and only under supervisor direction, operate 8-inch portable emergency bypass pump; document start, end, and flow.
- Monitor pump operation.
- Monitor dry well and ensure sump pumps operating as necessary.

Post Wet Weather Activities

- Clean trash rack as necessary.
- Immediately following a bypass event, complete an overflow report and submit to superintendent for NYSDEC notification.

Section 4 – Satellite/Storage Facilities

In general, prior to any wet weather events, the Flow Control staff monitors storm development via internet access to assist in predicting the onset of a wet weather event. This allows management and supervisory staff the ability to review the personnel roster to ensure adequate staff is available and call in additional personnel as required. In addition, the monitoring of storm development allows the staff to begin pre-wet weather activities as identified herein.

Specific details regarding the SPDES permit compliance sampling procedures for the Midland and Hiawatha RTF overflow sampling can be found in Appendix D, Standard Operating Procedures (SOP) titled, *Midland RTF Overflow Sampling (Doc. No. 52)* and *Hiawatha RTF Overflow Sampling (Doc. No. 51).*

a. Midland Regional Treatment Facility (RTF)

Operational Description

Combined sewer overflow (CSO) is conveyed to the facility by the 144-inch diameter pipeline from the Midland Avenue upstream CSOs, the 86-inch diameter pipeline from the Tallman Street CSO, and/or the 66-inch diameter pipeline from the Bellevue Avenue CSO. The flow is directed into the 2.5 MG storage tank. At a set level, the PLC program logic calls for the influent pumps to run. The influent pumps lift the wastewater to the influent wet well, where two (2) sluice gates distribute flow to the two (2) vortex separators. As the flow rises and overflows the vortex separator weirs, the flow moves into the disinfection tank. The PLC logic calls for the chemical disinfection system to operate. As the flow fills the 1 MG disinfection tank, eventually overflowing the weir, and discharges to Onondaga Creek. The storage capacity of the facility and ancillary pipe is approximately 5 MG.

Pre-Wet Weather Event Activities

- Fully automated system monitored through SCADA.

During Wet Weather Activities

- Check SCADA to ensure proper operation of facility.
- Fully automated system that is monitored through SCADA; respond to any alarms as necessary.

Post Wet Weather Activities

- Check Main Interceptor Sewer (MIS) level and coordinate with Metro Board as applicable to dewater the facility.
- Check chemical supplies and order as necessary.
- Schedule cleaning and grit removal as necessary.
- Close all dewatering sluice gates as necessary.

b. Hiawatha Regional Treatment Facility (RTF)

Operational Description

Combined sewer overflow (CSO) is conveyed to the facility via a 54-inch influent pipeline, to the influent diversion structure, through a coarse-screen bar rack and into the swirl concentrator. Once the flow reaches the swirl concentrator, settleable solids are conveyed to the underflow pumps and discharged to the Ley Creek Force Main. As the wastewater rises in the swirl concentrator and over the overflow weir, the flow passes into the routing structure to the storage tank. As the flow rises in the storage tank and reaches its capacity, the flow is routed into the disinfection tank. The chemical feed system is manually activated. As the flow subsides, the chemical feed is manually de-activated. After the event, the sluice gates in the flow routing structure are manually opened and the captured CSO within the swirl concentrator, storage tank, and disinfection tank are pumped back to the Metropolitan Syracuse Wastewater Treatment Plant (Metro).

Pre-Wet Weather Event Activities

- Routinely check facility and clear influent bar screen as necessary.
- Facility is monitored through SCADA.
- Verify facility and chemical pumps are ready for operation.

During Wet Weather Activities

- Monitor SCADA for levels in vortex, storage, and disinfection tank.
- As levels rise, staff will be assigned to monitor facility, and as necessary, operate the disinfection system.

Post Wet Weather Activities

- Dewater facility (coordinate with Metro Board as applicable).
- Clean off influent bar rack as necessary.
- Spray down vortex, storage tank, and disinfection tank as necessary.
- Check chemical supplies and order as necessary.

c. Erie Boulevard Storage System (EBSS)

Operational Description

The storage system is equipped with a series of automated sluice gates to store discharge from nine (9) separate CSO diversion manholes. The system temporarily stores wet-weather flows until there is sufficient capacity at Metro; the system is drained to Metro via the Main Intercepting Sewer (MIS) once wet-weather flows have subsided. The storage system capacity is approximately 5 million gallons.

The EBSS consists of three (3) storage units separated by gates (1, 3 and 4). The system control logic is designed to modulate the aforementioned gates to release flows once the storage capacity within the EBSS is reached. In the event that the maximum capacity of the EBSS and MIS are reached, further incoming CSO flows are discharged to Onondaga Creek to prevent flooding.

The EBSS system initiates gate closure once flow is observed at any one of the nine (9) CSO locations. The gates remain closed until flow has subsided at all nine (9) CSO entry points for a period of thirty minutes. The EBSS then enters into a two-hour drain-down sequence, discharging flow to Metro, before returning to normal operating mode.

Pre-Wet Weather Event Activities

- Fully automated system that is monitored through SCADA.

During Wet Weather Activities

- Fully automated system that is monitored through SCADA; respond to any alarms as necessary.

Post Wet Weather Activities

- Fully automated system; check through SCADA to verify operation and automated drain down.
- Operate Gate Chamber 1 sump pump as necessary.
- Verify storage system is ready for the next event.

d. Liverpool Storage

Operational Description

The Liverpool pump station includes a 1 MG and 2 MG storage tank with two (2) PLC programmed Hydromatic pumps to divert wastewater from the influent channel into the storage tanks as needed. Flows that exceed the force main capacity are diverted to the storage tanks until the flows recede below the capacity of the downstream force main.

Pre-Wet Weather Event Activities

- Verify valve is in open position to accept flow and that the drain valve is in the closed position.

During Wet Weather Activities

- Assigned personnel to routinely check and adjust flow rate into the storage tank in order to maintain and acceptable pressure in the Liverpool force main.
- Once the 1 MG storage tank is full, flow will continue into the 2 MG storage tank.

Post Wet Weather Activities

- Open drain valve for storage tank and monitor pressure in force main (coordinate with Metro Board as applicable).
- Drain the 1 MG storage tank first, and then drain the 2 MG storage tank.
- Close drain valve when both storage tanks are empty.
- Schedule cleaning as necessary.

e. Clinton Combined Sewer Overflow (CSO) Storage Facility

Operational Description

Combined sewer overflow (CSO) is conveyed to the facility via the 96-inch diameter West Onondaga Street CSO Transmission pipeline, the 84-inch diameter West Jefferson Street CSO Transmission pipeline, and the 36-inch diameter West Street CSO Transmission pipeline. The flow enters the east and west influent channels. The flow is screened in the west influent chamber by the trash racks and then passes through into the tunnels sequentially so that during a low flow event, only a portion of the storage volume needs to be cleaned. If the storage volume exceeds 6.5 MG, the effluent pumps will activate through the PLC program logic and discharge the excess to Onondaga Creek. Following the event, the storage tunnels will be dewatered by operating the dewatering pumping station to the Main Interceptor Sewer for treatment at the Metropolitan Syracuse Treatment Plant.

Pre-Wet Weather Event Activities

- Fully automated system monitored through SCADA.

During Wet Weather Activities

- Check SCADA to ensure proper operation of facility.
- Fully automated system, respond as necessary to alarms.

Post Wet Weather Activities

- Check Main Interceptor Sewer (MIS) level and coordinate with the Metro Board as applicable to dewater the facility.
- Schedule cleaning and grit removal as necessary.

f. Lower Harbor Brook Combined Sewer Overflow (CSO) Storage Facility

Operational Description

Combined sewer overflow (CSO) is conveyed to the facility via a 60-inch diameter pipeline from CSOs 003 and 063, and a 54-inch diameter pipeline from CSO 004. Flows from these pipelines are combined in the facility junction chamber and enter the storage tank through an 84-inch diameter pipeline. Once the storage volume of 4.9 MG is reached, additional flow will be discharged to Harbor Brook. Following the event, the storage facility will be dewatered by operating the dewatering pumps to the Harbor Brook Intercepting Sewer for treatment at the Metropolitan Syracuse Treatment Plant.

Pre-Wet Weather Event Activities

- Fully automated system monitored through SCADA.

During Wet Weather Activities

- Check SCADA to ensure proper operation of facility.
- Fully automated system, respond as necessary to alarms.

Post Wet Weather Activities

- Check Harbor Brook Interceptor Sewer (HBIS) level and coordinate with the Metro Board as applicable to dewater the facility.
- Schedule cleaning and grit removal as necessary.

g. Village of East Syracuse Storage Facility

Operational Description

The Village of East Syracuse installed an above ground wet weather storage tank of approximately 530,000 gallons along with a submersible pumping station and related appurtenances. The diversion manhole contains an overflow weir with associated 15-inch outlet to discharge to the submersible pump station wet well. The wet well contains two (2) submersible pumps delivering flow into the above ground storage tank via a 12-inch diameter force main. The pumps operate automatically through the use of a level transducer. The tank will normally be empty and only utilized during wet weather conditions. When there is capacity within the collection system, the tank is drained via a pinch valve on the drain line. The facility is integrated into the Department of Water Environment Protection's SCADA system.

Pre-Wet Weather Event Activities

- Per Village of East Syracuse Engineer; Facility Plan submitted to NYSDEC.

During Wet Weather Activities

- Per Village of East Syracuse Engineer; Facility Plan submitted to NYSDEC.

Post Wet Weather Activities

- Drain storage tank when the Ley Creek Trunk Sewer, Ley Creek Pump Station and Metro have capacity available to accept.
- Schedule cleaning as necessary.
- Coordinate with the Metro Board as applicable to dewater the facility.

Section 5 – Floatable Control Facilities and Vortex Regulator

a. Butternut

Operational Description

This in-line facility is designed to catch floatable debris including rags, paper, leaves, sticks, plastics, and sanitary material. Flow from the 72-inch trunk sewer enters the upstream vault; when the level within the upstream vault reaches 2.2 feet, PLC program logic calls for the sluice gate to close. Once the sluice gate is closed, flow is forced through a row of eight (8) net bags. The net bags are retained with stainless steel sleds anchored into the vault structure. The net bags trap the floatable debris, allowing screened flow to pass through the bags into the downstream vault and re-enter the 72-inch trunk sewer. An overflow weir is located downstream of the net bags. When flow within the 72-inch trunk exceeds 1.6 feet, it overtops the weir and is discharged to Onondaga

Creek via a 72-inch overflow. During a wet-weather event, the sluice gate remains closed until the flow level within the upstream vault remains at or below 1.1 ft for a period of 45 minutes. Once satisfied the PLC initiates the gate opening sequence which opens the gate in five step increments over a period of 120 minutes.

Pre-Wet Weather Event Activities

- Facility is routinely checked and monitored through SCADA.

During Wet Weather Activities

- Checked through SCADA for proper gate position and operation.
- Check flow through net bags and verify integrity of nets bags.

Post Wet Weather Activities

- Facility is automated and gate opens when flow levels drop to a set position.
- Check condition of net bags and sleds, schedule net bag removal and replacement as necessary.
- Wash down bar screens, holding tank area well, and walls as necessary.
- Schedule grit removal from channel as necessary.
- Confirm no discharge at outfall in order to verify regulator structure is not plugged.

b. Burnet

Operational Description

This in-line facility is designed to catch floatable debris including rags, paper, leaves, sticks, plastics, and sanitary material. Flow from the 72-inch trunk sewer enters the upstream vault; when the level within the upstream vault reaches 2.2 feet, PLC program logic calls for the sluice gate to close. Once the sluice gate is closed, flow is forces through a row of six (6) net bags. The net bags are retained with stainless steel sleds anchored into the vault structure. The net bags trap the floatable debris, allowing screened flow to pass through the bags into the downstream vault and re-enter the 72-inch trunk sewer. An overflow weir is located downstream of the net bags. When flow within the 72-inch trunk exceeds 1.6 feet, it overtops the weir and is discharged to Onondaga Creek via a 72-inch overflow. During a wet-weather event, the sluice gate remains closed until the flow level within the upstream vault remains at or below 1.1 ft for a period of 45 minutes. Once satisfied the PLC initiates the gate opening sequence which opens the gate in five (5) step increments over a period of 120 minutes.

Pre-Wet Weather Event Activities

- Facility is routinely checked and monitored through SCADA.

During Wet Weather Activities

- Checked through SCADA for proper gate position and operation.
- Check flow through net bags and verify integrity of nets bags.

Post Wet Weather Activities

- Facility is automated and gate opens when flow levels drop to a set position.
- Check condition of net bags and sleds, schedule net bag removal and replacement as necessary.
- Wash down bar screens, holding tank area well, and walls as necessary.
- Schedule grit removal from channel as necessary.
- Confirm no discharge at outfall in order to verify regulator structure is not plugged.

c. Harbor Brook

Operational Description

This in-stream facility is designed to catch floatable debris including rags, paper, leaves, sticks, plastics and sanitary material from Harbor Brook. The pontoon structure is set in a fixed position within Harbor Brook and is equipped with a coarse bar rack and three (3) net bags.

Pre-Wet Weather Event Activities

- Routinely clean bar rack and change net bags as necessary.

During Wet Weather Activities

- As assigned, clear bar racks as necessary and as conditions allow.

Post Wet Weather Activities

- Check condition of net bags and sleds, schedule net bag removal and replacement as necessary.
- Clear bar racks as necessary.
- Schedule removal of any cleared bar rack debris as necessary.

d. Teall Brook

Operational Description

The facility utilizes a Copa bar screen, which is fully automatic and remains idle during dry weather. An ultrasonic level detector mounted within the sewer, monitors the water level as it rises to the storm weir level and initiates the raking mechanism. The start level

is set at 2-inches below the underside of the bar screens. Once the water overtops the storm weir, flow passes through the bar screens, which are continuously kept clean by the raking mechanism. Debris is retained on the sewer side of the bar screens. The stop level is set at 2.5 inches below the underside of the bar screens. As the water levels subsides, and then drops below the storm weir and below the underside of the bar screens, the raking mechanism shuts down.

Pre-Wet Weather Event Activities

- Facility is routinely checked and monitored through SCADA.

During Wet Weather Activities

- Check SCADA for operation of Copa Screen and check status.

Post Wet Weather Activities

- Check facility and Copa Screen operation.
- Schedule spray down of mechanical Copa Screen and underground facility as necessary.

e. Maltbie Street

Operational Description

This end-of-pipe facility is designed to catch floatable debris including rags, paper, leaves, sticks, plastics and sanitary material. Flow from the 30-inch outfall enters an influent chamber and is pushed through a row of three (3) net bags allowing screened flow to pass through an effluent vault that discharges directly to Onondaga Creek. The net bags are retained by stainless steel frames with stainless steel hooks. Since this facility is installed at the outfall pipe, all the flow is conveyed to Onondaga Creek.

Pre-Wet Weather Event Activities

- Facility is routinely checked to verify the integrity of the net bags and sleds.

During Wet Weather Activities

- As assigned, the facility is checked during the event.

Post Wet Weather Activities

- Check Maltbie upstream regulator structure.
- Check condition of net bags and sleds, schedule net bag removal and replacement as necessary.
- Remove rags and debris from outfall rack as necessary.
- Document surcharging creek conditions as necessary.

f. Newell Street (Vortex Regulator)

Operational Description

The Newell Street facility is a vortex separator serving CSO 067. During dry weather, sewage is directed into the swirl concentrator, routed into a wet well and pumped into a 6-inch force main across Newell Street. During wet weather, the flow directed into the swirl concentrator rises, eventually overflows the weir, into the sump and is discharged through a 24-inch diameter outfall pipe to Onondaga Creek.

Pre-Wet Weather Event Activities

- Routinely check facility for proper pump operation.
- Routinely check vortex and remove debris as necessary.

During Wet Weather Activities

- As assigned, check station to verify proper operation.

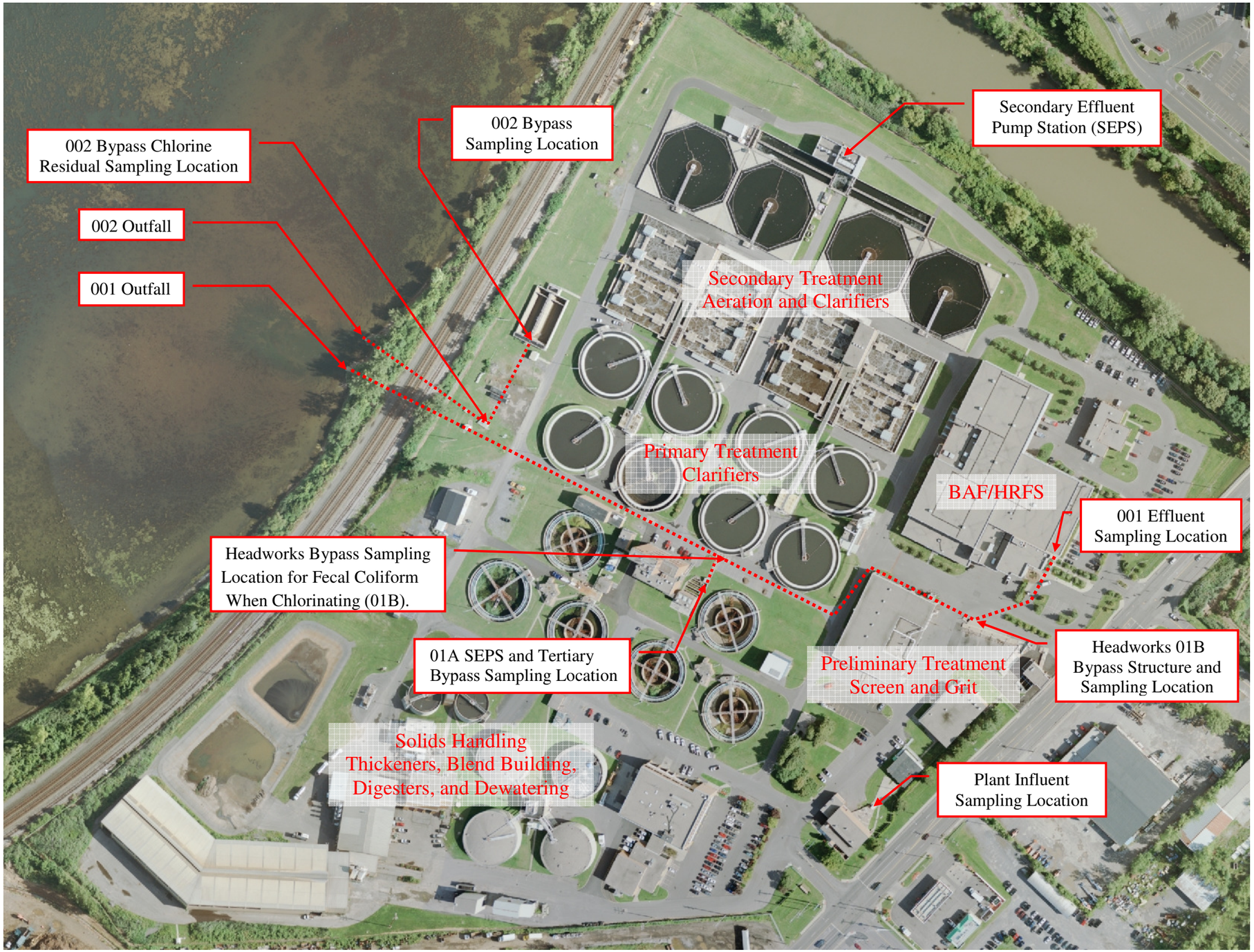
Post Wet Weather Activities

- Spray down vortex separator and clear debris as necessary.
- Schedule pump out of discharge wet well as necessary.
- Schedule cleaning of pump wet well (e.g. floats) as necessary.

Appendix A

Metro Site Plan with Bypass and Sampling Locations

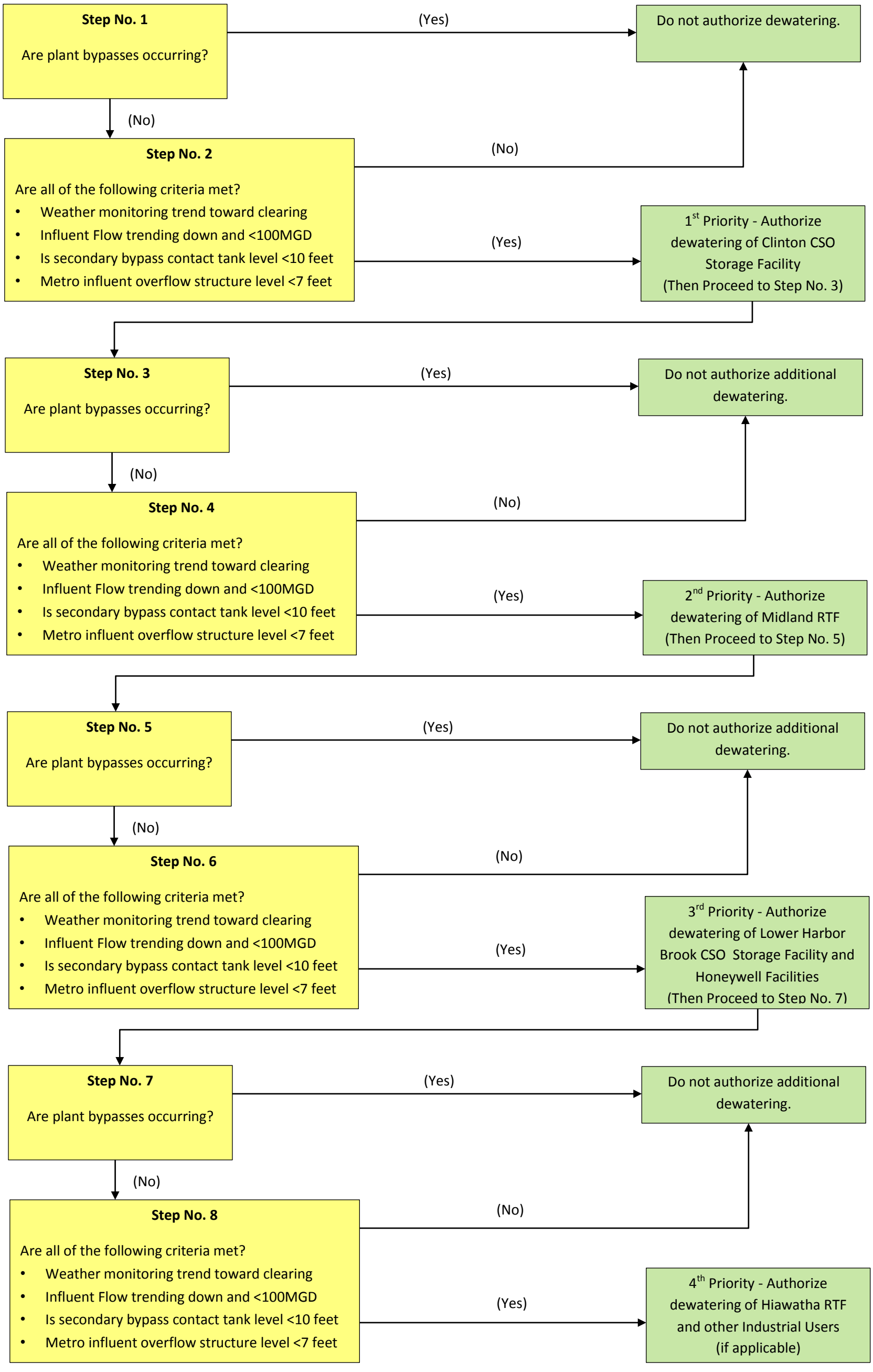
Metro Site Plan with Bypass and Sampling Locations



Appendix B

Metro WWTP - Storage Facility Dewatering Approval Flowchart/Guidance

Metro WWTP WWOP – Storage Facility Dewatering Approval
Flowchart/Guidance



Note: Erie Boulevard Storage System (EBSS) is automated, and Liverpool and Village of East Syracuse Storage dewatering are based on their respective force main capacities for handling the additional volume.

Appendix C

Metro WWTP Operations SOP Summary

The following is a list of Metro Operations Standard Operating Procedures (SOPs) to be used as a reference to supplement the Wet Weather Operating.

- Standard Operating Procedure for Chlorination of the Metro Influent Combined Sewage Overflows (Influent Bypass), (Doc. No. M001).
- Standard Operating Procedure for Preliminary Treatment WWOP, (Doc. No. M002)
- Standard Operating Procedure for Primary Treatment WWOP, (Doc. No. M003).
- Standard Operating Procedure for Secondary Treatment WWOP, (Doc. No. M004).
- Standard Operating Procedure for Advanced Treatment WWOP, (Doc. No. M005).
- Standard Operating Procedure for Tertiary Bypass WWOP, (Doc. No. M006).

Standard Operating Procedure

1. Purpose

The purpose of this SOP is to generally describe the system components, define the primary operational controls and procedures, and list any monitoring logs associated with the Chlorination of the Influent Combined Sewerage Overflows (Influent Bypass) at the Metropolitan Syracuse Wastewater Treatment Plant.

2. Scope

The Scope of this SOP is to document routine activities such as proper valving, pump startup and shutdown, wastewater sampling and record keeping associated with the Chlorination of the Influent Combined Sewerage Overflows (Influent Bypass) at the Metropolitan Syracuse Wastewater Treatment Plant.

3. System Components

Chlorination of the Influent Combined Sewerage Overflows (Influent Bypass)

1. Headworks
    a. Main Interceptor Sewer
    b. Influent Diversion Structure
    c. Influent Overflow Weir
    d. Hypochlorite Feed to NS+G Influent
    e. Hypochlorite Feed to Combined Sewerage Overflows (Influent Bypass)
    f. Combined Sewerage Overflows (Influent Bypass) Bar Rack

2. Existing Screen and Grit Building
    a. 3 Channel Sluice Gates
    b. 3 IDI Climber Screen Rakes
    c. 3 Grit Channels
        i. 3 Grit Pumps
        ii. 3 Grit Screws
        iii. 4 Grit Cyclone Degritters (1 Spare)
        iv. Odor control ducting
            1. 3 Bar Rack Ducts
            2. 3 Grit Channel Ducts
    d. 4 Grit Blowers
    e. Hypochlorite Solution Pipe
        i. Hypochlorite Feed to Influent or Bypass
        ii. Hypochlorite Feed to Effluent of ES+G

3. New Screen and Grit Building
    a. 2 Influent Sluice Gates
    b. 2 Influent automatic Climber screens
    c. 3 Grit Channel Slide Gates
    d. 2 Grit Channels
        i. 4 Grit Pumps
        ii. 4 Grit Screws
        iii. 4 Grit Classifiers
    e. 2 Effluent Climber Screens
    f. 3 Neuros Turbo Blowers

4. System Operational Controls

Chlorination of the Influent Combined Sewerage Overflows (Influent Bypass)

1. Shortly before the Bypass Overflows, start the Influent Bypass Chlorination System
2. Every four (4) hours during the 24 hour Bypass Event, the following samples must be collected:
    a. 1 half gallon plastic for Convention analysis
    b. 1 500 ml TKN
    c. 2 Oil and Grease glass jars (4 jars for first sample)
    d. 1 125 ml plastic Coli
    e. 1 half gallon plastic for Operator's Settleable solids and Cl_2 Residual
    f. Visual Observation of Bypass flow
3. All samples except Coli are taken from small covered hole over overflow weir.
4. Coli sample taken from small hole in grating in road east of POB.

5. Operating Procedures

Chlorination of the Influent Combined Sewerage Overflows (Influent Bypass)

1. Startup of Chlorination of Influent Bypass: When the level at the Metro overflow structure exceeds 8.34 feet, a **Metro Influent Combined Sewage Overflow** (Influent Bypass) has begun. It is critical during the disinfection season (4/1/xx to 10/15/xx) to chlorinate the outfall at the head works for the duration of the bypass. It is highly recommended that operations staff initiate this SOP prior to flow exceeding 8.34 feet when possible. The following is a series of steps based on the default valve settings (appendix A)
    a. Headworks
        i. Verify bypass chlorination valve to outfall at the headworks is open and the valve to influent to NS&G is shut. Both valves are located at the west end of the overflow structure on the waste hauler side (see figures 6-7).

Bypass valve is labeled with a tag, influent valve is labeled with a tag as well.

b. ES+G

i. Verify the valving at ES&G (default valving is set to feed effluent of ES&G). If the event has already started the valve feeding the headworks should be opened and the valve feeding effluent ES&G shut. If it is prior to the start of an influent bypass event leave the valves in the default position until the actual start of the bypass.

c. Chemical Building A

i. In Chemical Building A verify that the Header splitter valve is closed and open the valve on the line labeled "Head of Plant".

ii. Valve hypo pump 3 to feed the line labeled "Head of Plant", and start #3 hypo pump at 1 gpm.

d. **Basement of the POB**

i. Verify valving in big blue galley way is set to go to head of plant (default settings see appendix A).

ii. Open the suction line and discharge valve on effluent pump 4 (or pump 3) and start pump.

2. At this point a chlorine solution is being pumped to ES&G. Based on the valving it is either going to the effluent of ES&G or the outfall at the headworks depending on whether or not you are actually bypassing.

3. **Appendix A**

Default Valve Settings

The following is a list of default valve settings. The valves should be left in these positions or changed to these positions when not in use.

Headworks

The northern most T-handle (tagged as NS&G) goes to the influent channel and should be in the closed position. The other valve (tagged as outfall/bypass) goes to the outfall and should be open. See figure 1.

ES&G

The valves on the line going to ES&G should be open and the valve going to the line labeled headworks shut. See figure 2.

Chemical Building A

The header splitter valve should be in the closed position. See figure 3. The valve on the Line labeled "Head of Plant" should also be closed. See figure 3. The suction and discharge lines on hypo pumps 3 and 4 should be shut.

Big Blue Galley

As you enter the big blue galley way off of the basement of the POB the line from Chemical Building A going to the "Head of Plant" is on the left side of the galley over head level. See figure 4. The lower valve on the pipe labeled "Head of Plant" should be open (valve handle appears closed but handle is backwards). The valve on the line going over the top of the galley should be open (valve handle in line with pipe).

Basement of POB

The suction and discharge lines on effluent pumps 3 and 4 should be shut.

4. Figures

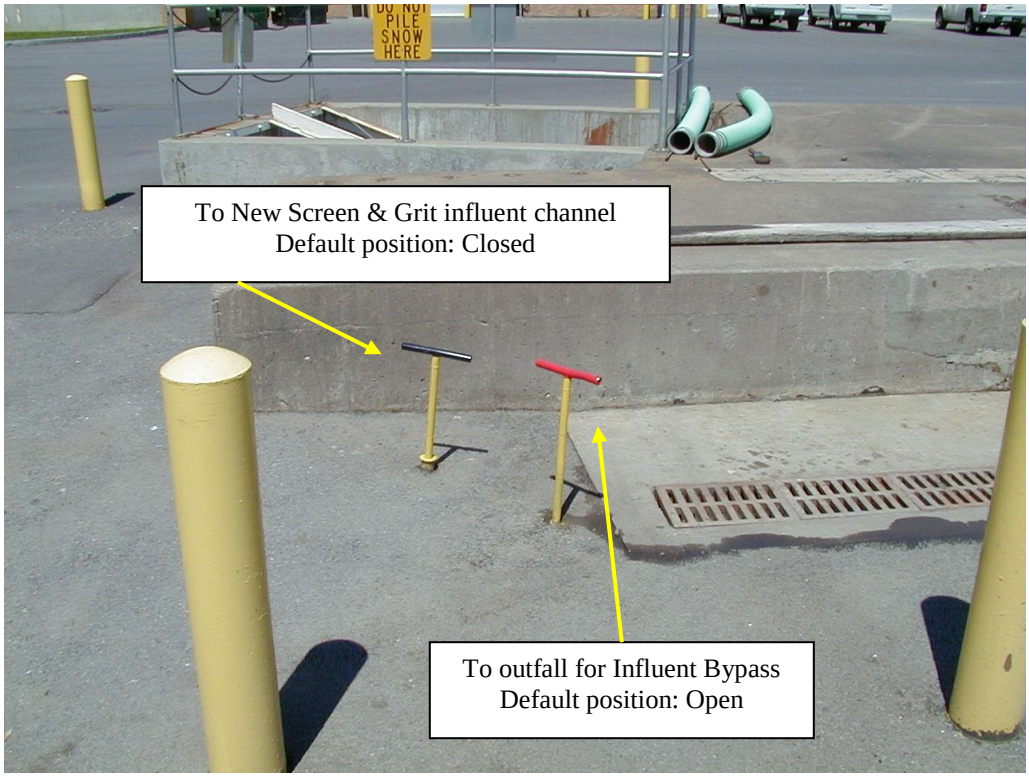


Figure 1: Headworks

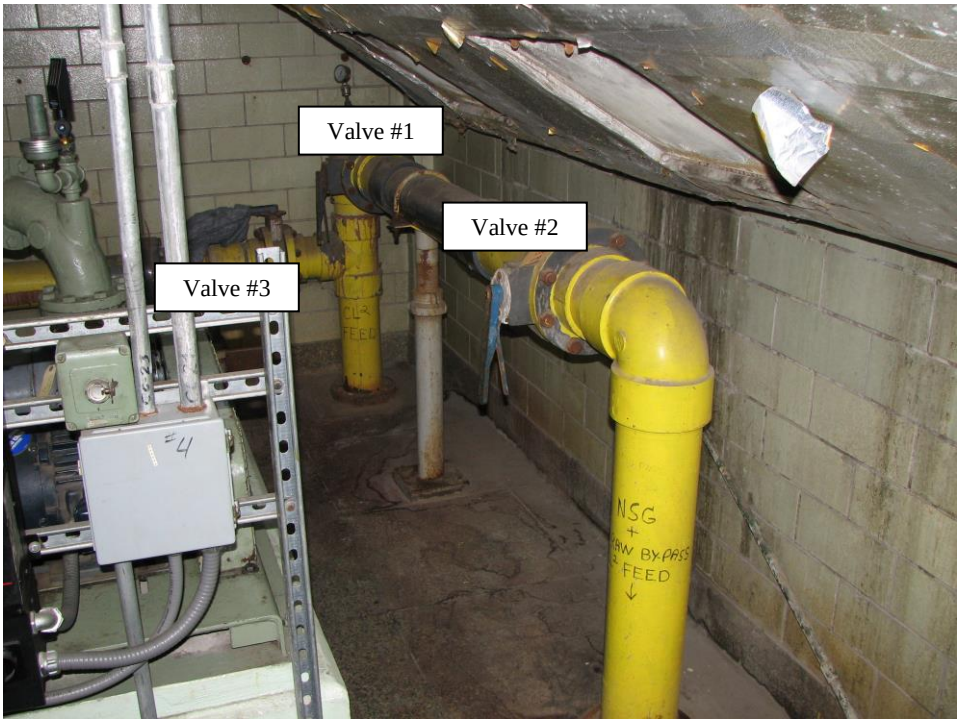


Figure 2: Blower room ES&G: Chlorine solution line to headworks, valves 1 & 2 default position closed. Valve 3 to effluent side of Existing Screen & Grit open.

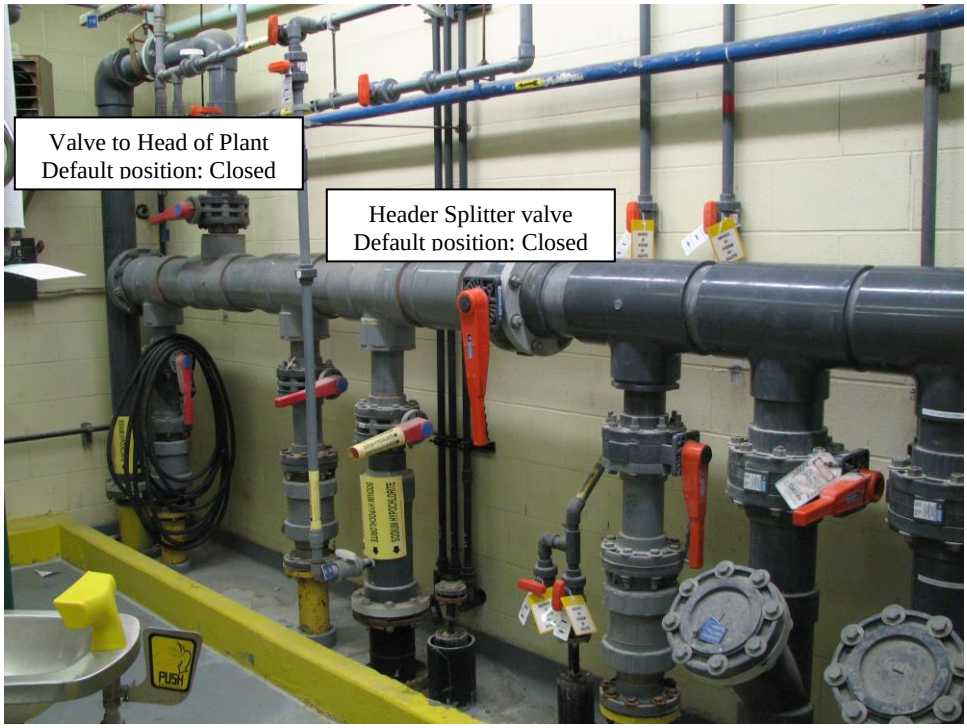


Figure 3: Chemical Building A

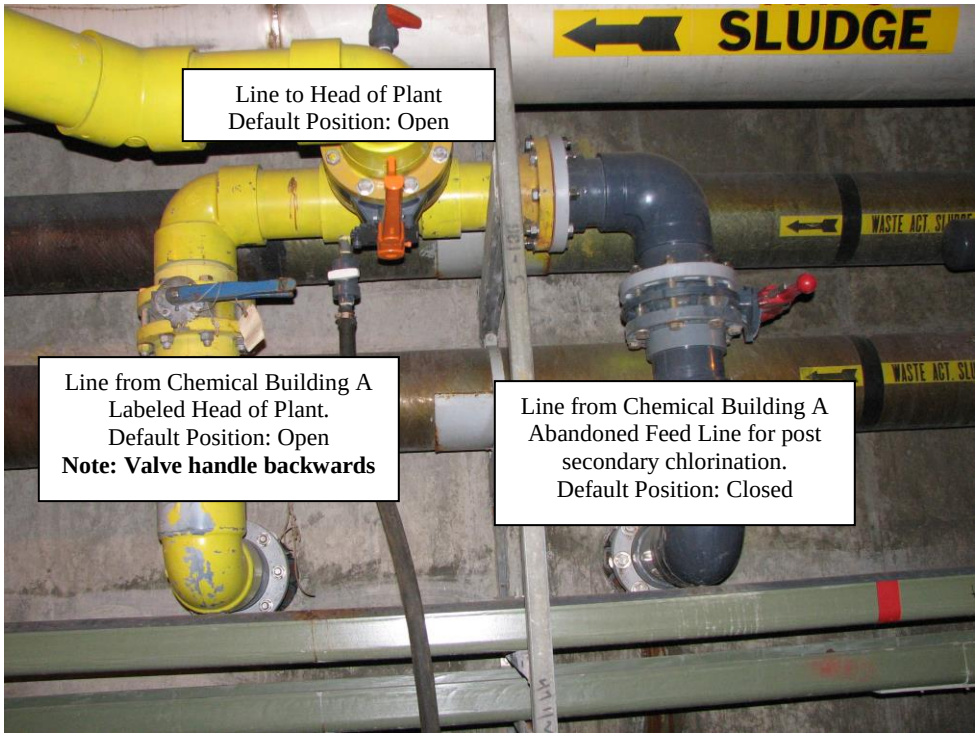


Figure 4: Big Blue Galley

6. Shutdown Procedures

Chlorination of the Influent Combined Sewerage Overflows (Influent Bypass)

1. Isolate Hypo pump #3 from Hypochlorite supply and open flush water valve half way.
2. Flush pump with water for 20 minutes.
3. Close flush water valve and turn off pump
4. Turn off carrier water pump and Isolate

7. Preventative Maintenance

Chlorination of the Influent Combined Sewerage Overflows (Influent Bypass)

PMs are the responsibility of the HVAC Crew of METRO Mechanical Maintenance

8. Regulations

9. Responsibility

HVAC Maintenance Crew Leader has responsibility for repairs and maintenance
Principal Operator, Senior Operator or Operator titles have responsibility for startup, shut down and operation of the system

10. Related Documents

1. Bypass Event Log

3. Change Record

Revision No.	Date	Responsible Person	Description of Change
0	**06/29/2009**		**Initial Release**
1	**07/30/2011**	**Thomas Littlefield**	**Change Valve Picture**
2	**11/06/2015**	**Jim Jones**	**T-handle tags, equip changes in ESG& NSG**

Standard Operating Procedure

1. Purpose

The purpose of this SOP is to generally describe the system components, define the primary operational controls and procedures, and list any monitoring logs associated with the Wet Weather Operation of the Preliminary Treatment Processes.

2. Scope

The Scope of this SOP is to document routine activities such as proper valving, pump startup and shutdown, wastewater sampling and record keeping associated with the Wet Weather Operation of the Preliminary Treatment Processes.

3. System Components

3.1 Harbor Brook Pump Station

- 3.1.1 Influent Sluice Gates (3)
- 3.1.2 Screw Pumps (3)
- 3.1.3 Greaser System (3)

3.2 Diversion Gate

3.3 New Screen and Grit Building

- 3.3.1 Influent Sluice Gates (2)
- 3.3.2 Influent Bar Racks (2)
- 3.3.3 Grit Channel Influent Gates (2)
- 3.3.4 Grit Channels (2)
- 3.3.5 Grit Collection Screws (4)
- 3.3.6 Grit Pumps (4)
- 3.3.7 Grit Classifiers (3)
- 3.3.8 Effluent Bar Screens (2)
- 3.3.9 Grit Diffuser Blowers (4)

3.4 Existing Screen and Grit

- 3.4.1 Influent Sluice Gates (3)
- 3.4.2 Grit Channels (3)
- 3.4.3 IDI Climber Screen Rakes (3)
- 3.4.4 Grit Collection Screws (3)
- 3.4.5 Grit Pumps (3)
- 3.4.6 Grit Cyclones (4)
- 3.4.7 Grit Diffuser Blowers (4)

3.5 **Low Lift Pump Station**
- 3.5.1 Raw Waste Pumps (5)
- 3.5.2 Pump Discharge Butterfly Valves (5)
- 3.5.3 Pump Discharge Isolation Valves (5)
- 3.5.4 Pump and Wet Well Control PLC

4. System Operational Controls

Wet Weather Operational Control of the Preliminary Treatment Process is by monitoring the SCADA system for alarm conditions and responding to PLC generated information.

5. Operating Procedures

5.1. HBPS

- 5.1.1. Prep
  - 5.1.1.1. Verify all pumps available
- 5.1.2. Wet Weather Operation
  - 5.1.2.1. Verify all necessary pumps are operating
- 5.1.3. Post
  - 5.1.3.1. None

5.2. Diversion Gate

- 5.2.1. Prep
  - 5.2.1.1. Verify Diversion Gate is operational
- 5.2.2. Wet Weather Operation
  - 5.2.2.1. Open / Close / Adjust Diversion Gate as necessary to control or prevent an Influent Bypass (CSO)
- 5.2.3. Post
  - 5.2.3.1. Verify Diversion Gate is closed

5.3. New Screen + Grit

- 5.3.1. Prep
  - 5.3.1.1. Verify all Influent Screen Machines are operational
  - 5.3.1.2. Verify all Grit Pumps are operational
  - 5.3.1.3. Verify Grit Collection Screws are operational
  - 5.3.1.4. Verify Grit Classifiers are operational
  - 5.3.1.5. Verify all Effluent Screen Machines are operational
  - 5.3.1.6. Verify enough dumpster space
- 5.3.2. Wet Weather Operation
  - 5.3.2.1. Adjust Influent Screen rake Run timers to accommodate demand
  - 5.3.2.2. Adjust Influent Screen rake Drain timers to zero (0) seconds
  - 5.3.2.3. Adjust Effluent Screen rake Run timers to accommodate demand

5.3.2.4. Adjust Effluent Screen rake Drain timers to zero (0) seconds
5.3.2.5. Increase grit pump flow to ~450 gpm
5.3.2.6. Monitor grit classifiers for proper grit removal (no short circuiting)
5.3.3. Post
5.3.3.1. Return all equipment to dry weather operation

5.4. Existing Screen + Grit

5.4.1. Prep
5.4.1.1. Verify all Grit Pumps are operational
5.4.1.2. Verify Grit Collection Screws are operational
5.4.1.3. Verify Grit Cyclones are operational
5.4.1.4. Verify enough dumpster space for screenings and grit
5.4.1.5. Verify Screen rakes are operational
5.4.2. Wet Weather Operation
5.4.2.1. Lower timers on screen rakes as needed (60 minutes, to 30, then 5, then "hand".)
5.4.2.2. Monitor grit cyclones for plugging – clear as necessary – **It may become necessary to lower the blower speeds if grit appears to be exiting the process downstream. Lower from 50Hz to 45Hz initially, then to 40Hz if needed.**
5.4.3. Post
5.4.3.1. Return all equipment to dry weather operation

5.5. Low Lift PS

5.5.1. Prep
5.5.1.1. Verify all pumps are operational
5.5.2. Wet Weather Operation
5.5.2.1. Monitor pump operation
5.5.3. Post
5.5.3.1. Return wet well set point to 4.5 ft. Enable Auto Alternation.

6. Startup/Shutdown Procedures

There are no Wet Weather Related Startup/Shutdown Procedures

7. Preventative Maintenance

PMs are the responsibility of METRO Mechanical Maintenance.

8. **Regulations – It will be the responsibility of the ETS on-call to shut down SCA, Midland RTF, Hancock Lagoon, Clinton St., especially since the potential for influent bypasses will increase. Operations Board personnel to contact ETS.**

9. **Responsibility**
   Maintenance Crew Leader has responsibility for repairs and maintenance
   Principal Operator, Senior Operator or Operator titles have responsibility for startup, shut down and operation of the system.

10. **Related Documents**

11. **Change Record**

Revision No.	Date	Responsible Person	Description of Change
0	**07/30/2011**	**Thomas Littlefield**	**Initial Release**
1	**07/02/2013**	**James Jones**	**Interim**
2	**10/14/2014**	**James Jones**	**Interim-revision**
3	**11/05/2015**	**James Jones**	**Elimination of construction, Related Tasks**

Standard Operating Procedure

1. Purpose

The purpose of this SOP is to generally describe the system components, define the primary operational controls and procedures, and list any monitoring logs associated with the Wet Weather Operation of the Primary Treatment Processes.

2. Scope

The Scope of this SOP is to document routine activities such as proper valving, pump startup and shutdown, wastewater sampling and record keeping associated with the Wet Weather Operation of the Primary Treatment Processes.

3. System Components

3.1. Primary Influent Cone Valves (2)
3.2. Primary Distribution Structure (2)
3.3. Primary Clarifiers (8)
3.4. Primary Scum Pits (8)
3.5. Primary Scum Pumps (8)
3.6. Primary Sludge Pumps (16)
3.7. Secondary Bypass Overflow Structure (2)
3.8. Automatic 30” Butterfly Valves (flow feed to primary clarifiers) (8)

4. System Operational Controls

Wet Weather Operational Control of the Primary Treatment Process is by monitoring the SCADA system for alarm conditions and responding to PLC generated information.

5. Operating Procedures

5.1. Primary Clarifier

5.1.1. Prep

5.1.1.1.Verify all 30” Butterfly valves are fully open
5.1.1.2.Verify all sludge pumps are operational
5.1.1.3. Dewater grease pits

5.1.2. Wet Weather Operation
5.1.2.1. Check sludge pumps frequently
5.1.2.2. Check grease troughs frequently
5.1.2.3. Increase sludge pump rate to 100 gpm
5.1.3. Post
5.1.3.1. Return all sludge pumping to normal (70 gpm set point)
5.1.3.2. Clear grease and floatables from top of tanks

5.2. Secondary Bypass

5.2.1. Prep
5.2.1.1. Configure Bypass Disinfection for use
5.2.1.2. Prepare sampling needs
5.2.1.3. Prepare Log Sheets for Bypass
5.2.2. Wet Weather Operation
5.2.2.1. Initiate Bypass Disinfection
5.2.2.2. Notify appropriate personnel
5.2.2.2.1. ETS on-call
5.2.2.2.2. Lab on-call
5.2.2.3. Complete sampling protocol
5.2.2.3.1. Sample Collection
5.2.2.3.2. Preservation
5.2.2.3.3. Bottle Labeling
5.2.2.3.4. Chain of Custody
5.2.2.3.5. Record information on log sheets
5.2.3. Post
5.2.3.1. Complete Bypass Report
5.2.3.2. Restock Sample containers / chains of custody
5.2.3.3. Flush disinfection system
5.2.3.4. Clean carrier water strainers
5.2.3.5.Order chlorination/dechlorination chemicals if necessary

6. Startup/Shutdown Procedures

There are no Wet Weather Related Startup/Shutdown Procedures

7. Preventative Maintenance

PMs are the responsibility of METRO Mechanical Maintenance.

8. Regulations

9. Responsibility

Maintenance Crew Leader has responsibility for repairs and maintenance
Principal Operator, Senior Operator or Operator titles have responsibility for startup, shut down and operation of the system.

10. Related Documents

11. Change Record

Revision No.	Date	Responsible Person	Description of Change
0	**07/30/2011**	**Thomas Littlefield**	**Initial Release**
1	**11/05/2015**	**James Jones**	**New equip, Procedure change**

Standard Operating Procedure

1. **Purpose**
   The purpose of this SOP is to generally describe the system components, define the primary operational controls and procedures, and list any monitoring logs associated with the Wet Weather Operation of the Secondary Treatment Processes.

2. **Scope**
   The Scope of this SOP is to document routine activities such as proper valving, pump startup and shutdown, wastewater sampling and record keeping associated with the Wet Weather Operation of the Secondary Treatment Processes.

3. **System Components**
   3.1. **Aeration System**
      3.1.1. Aeration Tank Influent Sluice Gates (12)
      3.1.2. Aeration Tanks (8)
      3.1.3. Aeration Tank Center Sluice Gates (12)
      3.1.4. Aeration Blower Houses (16)
      3.1.5. Aeration Blowers (32)
      3.1.6. Aeration Tank DO Probes (16)
   3.2. Secondary Clarifier System
      3.2.1. Secondary Clarifier
      3.2.2. Secondary Clarifier Blanket Probe

4. System Operational Controls
Wet Weather Operational Control of the Secondary Treatment Process is by monitoring the SCADA system for alarm conditions and responding to PLC generated information.

5. Operating Procedures Aeration System
5.1. Aeration Tanks
   5.1.1. Prep
      5.1.1.1. Ensure MLSS concentration is appropriate for increased loading
   5.1.2. Wet Weather Operation
      5.1.2.1.RAS flows are kept constant at 6.0 MGD for conventional mode
   5.1.3. Post

5.1.3.1. Monitor MLSS - increase/decrease wasting ASAP

5.2. Secondary Clarifier

5.2.1. Prep

5.2.1.1.None

5.2.2. Wet Weather Operation

5.2.2.1. Monitor sludge blanket, RAS adjustments may be necessary

5.2.3. Post

5.2.3.1. Clean weirs in longer sunlight months

6. Startup/Shutdown Procedures

There are no Wet Weather Related Startup/Shutdown Procedures

7. Preventative Maintenance

PMs are the responsibility of METRO Mechanical Maintenance.

8. Regulations

9. Responsibility

Maintenance Crew Leader has responsibility for repairs and maintenance
Principal Operator, Senior Operator or Operator titles have responsibility for startup, shut down and operation of the system.

10. Related Documents

11. Change Record

Revision No.	Date	Responsible Person	Description of Change
0	**07/30/2011**	**Thomas Littlefield**	**Initial Release**
1	**11/05/2015**	**James Jones**	**No contact/stab mode**

Standard Operating Procedure

1. Purpose

The purpose of this SOP is to generally describe the system components, define the primary operational controls and procedures, and list any monitoring logs associated with the Wet Weather Operation of the Advanced Treatment Processes.

2. Scope

The Scope of this SOP is to document routine activities such as proper valving, pump startup and shutdown, wastewater sampling and record keeping associated with the Wet Weather Operation of the Secondary Treatment Processes.

3. System Components

3.1. Secondary Effluent Pump Station (SEPS)

- 3.1.1. Secondary Effluent Pumps (4)
- 3.1.2. Secondary Effluent Pump Discharge Valves (4)

3.2. Biostyr® Biological Aerated Filter (BAF)

- 3.2.1. Influent Channel
- 3.2.2. BAF Cells (18)
- 3.2.3. Cell Inlet Valves (18)
- 3.2.4. Cell Backwash Valves (36)
- 3.2.5. Cell Process Air Valves (18)
- 3.2.6. Process Air Blowers (8)
- 3.2.7. Process Air Blower Inlet Valves (8)
- 3.2.8. Instrument Air Compressors (2)
- 3.2.9. Backwash 48” Control Valves (2)
- 3.2.10. Backwash Tanks (2)
- 3.2.11. Backwash Tank Dewatering Pumps (3)
- 3.2.12. Effluent Sluice Gates (18)
- 3.2.13. Effluent Channel
- 3.2.14. Cross Channel

3.3. Actiflo® High Rate Flocculated Settling (HRFS)

- 3.3.1. Influent Channel
- 3.3.2. Influent Sluice Gates (4)
- 3.3.3. Train Drop Box (4)
- 3.3.4. Train Coagulation Tank (4)
- 3.3.5. Train Coagulation Tank Mixer (4)
- 3.3.6. Train Injection Tank (4)

3.3.7. Train Injection Tank Mixer (4)
3.3.8. Train Maturation Tank (4)
3.3.9. Train Maturation Tank Mixer (4)
3.3.10. Train Clarifier Tank (4)
3.3.11. Train Clarifier Tank Scraper Drive (4)
3.3.12. Sand Recirculation Pumps (12)
3.3.13. Sand Recovery Cyclones (12)
3.3.14. Polymer Feed Pumps (6)
3.3.15. Coagulant Feed Pumps (6)

3.4. UltraViolet Disinfection (UV)
3.4.1. UV Lamp Bank (2)
3.4.2. UV Transmittance Meter
3.4.3. Modulating Sluice Gates (2)

4. System Operational Controls

Wet Weather Operational Control of the Secondary Treatment Process is by monitoring the SCADA system for alarm conditions and responding to PLC generated information.

5. Operating Procedures

5.1. Secondary Effluent PS

5.1.1. Prep
5.1.1.1.None
5.1.2. Wet Weather Operation
5.1.2.1.Monitor flow rate – adjust to 130 mgd maximum as necessary
5.1.3. Post
5.1.3.1.None

5.2. BioStyr™ BAF

5.2.1. Prep
5.2.1.1.Ensure all BAF Cell filters are in "auto" and online.
5.2.2. Wet Weather Operation
5.2.2.1.Monitor filter hours- manually Backwash cells with 36+ hours.
5.2.3. Post
5.2.3.1.Initiate manual Backwashes as necessary

5.3. Actiflo™ HRFS

5.3.1. Prep
5.3.1.1.Verify all available HRFS Trains are in service
5.3.2. Wet Weather Operation

5.3.2.1.Monitor process

5.3.3. Post

5.3.3.1.Check Sand concentration – add sand as necessary

5.3.3.2.Hose Lamella tubes as necessary

5.4. UV Disinfection

5.4.1. Prep

5.4.1.1.Verify all UV modules are available

5.4.1.2.Verify no more than 6 bulbs out

5.4.2. Wet Weather Operation

5.4.2.1.Monitor UV system status

5.4.3. Post

5.4.3.1.Check bulb out count – write Work Order as necessary

6. Startup/Shutdown Procedures

There are no Wet Weather Related Startup/Shutdown Procedures

7. Preventative Maintenance

PMs are the responsibility of METRO Mechanical Maintenance.

8. Regulations

9. Responsibility

Maintenance Crew Leader has responsibility for repairs and maintenance
Principal Operator, Senior Operator or Operator titles have responsibility for startup, shut down and operation of the system.

10. Related Documents

11. Change Record

Revision No.	Date	Responsible Person	Description of Change
0	**07/30/2011**	**Thomas Littlefield**	**Initial Release**
0	**11/05/15**	**Jim Jones**	**Reviewed**

Standard Operating Procedure

1. Purpose

The purpose of this SOP is to generally describe the system components, define the primary operational controls and procedures, and list any monitoring logs associated with the Wet Weather Operation of the Tertiary Treatment Bypass.

2. Scope

The Scope of this SOP is to document routine activities such as proper valving, pump startup and shutdown, wastewater sampling and record keeping associated with the Wet Weather Operation of the Tertiary Treatment Bypass.

3. System Components

3.1. Tertiary Bypass Overflow to Outfall 001
3.2. 84" Diameter Gravity Main to Overflow

4. System Operational Controls

Wet Weather Operational Control of the Tertiary Treatment Bypass is by monitoring the SCADA system for alarm conditions and responding to PLC generated information.

5. Operating Procedures

5.1. Prep
- 5.1.1. Prepare sampling needs
- 5.1.2. Prepare Log Sheets for Bypass

5.2. Wet Weather Operation
- 5.2.1. Notify appropriate personnel
  - 5.2.1.1. ETS on-call
  - 5.2.1.2. Lab on-call
- 5.2.2. Complete sampling protocol
  - 5.2.2.1. Sample Collection
  - 5.2.2.2. Preservation
  - 5.2.2.3. Bottle Labeling
  - 5.2.2.4. Chain of Custody
  - 5.2.2.5. Record information on log sheets

5.3. Post
- 5.3.1. Complete Bypass Report
- 5.3.2. Restock Sample containers / chains of custody

6. Startup/Shutdown Procedures

6.1. There are no Wet Weather Related Startup/Shutdown Procedures

7. Preventative Maintenance

7.1. PMs are the responsibility of METRO Mechanical Maintenance.

8. Regulations

9. Responsibility

9.1. Maintenance Crew Leader has responsibility for repairs and maintenance

9.2. Principal Operator, Senior Operator or Operator titles have responsibility for startup, shut down and operation of the system.

10. Related Documents

11. Change Record

Revision No.	Date	Responsible Person	Description of Change
0	**07/30/2011**	**Thomas Littlefield**	**Initial Release**
0	**11/05/15**	**Jim Jones**	**Reviewed**

Appendix D

Engineering and Technical Services (ETS)
Sampling and Notification SOPs

The following is a list of Engineering and Technical Services (ETS) Standard Operating Procedures (SOPs) to be used as a reference to supplement the Wet Weather Operating Plan.

- Standard Operating Procedure (SOP) for Metropolitan-Syracuse WWTP Wet Weather Operating Plan By-pass Sampling and Point Source Discharge Control (Doc. No. 10)
- Standard Operating Procedure (SOP) for Midland RTF Overflow Sampling (Doc. No. 52)
- Standard Operating Procedure (SOP) for Hiawatha RTF Overflow Sampling (Doc. No. 51).

APPENDIX II-D

Standard Operating Procedure:

Metropolitan-Syracuse WWTP Bypass Monitoring

(Outfall #002 - Secondary Bypass FC# 630, 1630)

(Outfall #01A - Tertiary Bypass FC# 625)

(Outfall #01B - Headworks Bypass FC# 728, 784)

And

Wet Weather Point Source Discharge Procedure

1. APPROVED:	Michael Mulvihill	M. Mulvihill	12/1/15	
Author	Printed Name	Signature	Date	
2. APPROVED:	Jeanne C Powers	Jeanne C Powers	12/3/15	
Supervisor (DS)	Printed Name	Signature	Date	
3. APPROVED:	Mark Fowkes	Mark Fowkes	12-8-15	
QC Mgr.	Printed Name	Signature	Date	
4. APPROVED:	C. Jeffrey Noce	C. Jeffrey Noce	12/8/15	
Lab. Dir.	Printed Name	Signature	Date	

Change Record

Revision	Date	Responsible person	Description of change
1	12/24/02	Stephen Bray	Change to SOP Format
2	5/05/04	Stephen Bray	Changes re new Lab; tert bypass
3	5/21/04	Stephen Bray	Include additional sample to verify dechlorination during Site A by-pass.
4	7/28/04	Stephen Bray	Added IC#'s; modified Call proc.
5	12/28/04	Stephen Bray	Dropped Tech II Names; added Std to Site B description.
6	3/9/05	Stephen Bray	Modified start time from 0715 to 0730 for ETS technicians. Added new Tech II info
7	12/27/05	Stephen Bray	Added New Head Operator
8	12/20/07	Stephen Bray	Added New Tech II; minor clarifications re monitoring locations.
9	1/3/08	Stephen Bray	Adjust call-in time re bypasses After 0130 hrs, call SE2.
10	12/18/08	Stephen Bray	Wet Weather procedures added w/contact names for cancelling interim discharges during high flows. Minor name changes.
11	8/20/09	Stephen Bray	Add procedures for handling conditional Point Source Discharges; update references to other county facility discharges.
12	12/28/09	Stephen Bray	Modify Division Name and update call-in contacts.
13	3/31/10	Stephen Bray	New back-up; minor changes
14	12/29/2010	Stephen Bray	Add SRP to routine Bypass samples re Mon-Fri day hrs.
15	12//27/2011	Stephen Bray	New back-up
16	4/4/2012	Stephen Bray	New Requirements per SPDES Permit # NY 002 7081 EDP 3/21/2012
17	1/07/2013	Stephen Bray	New Contact List
18	05/22/2013	Stephen Bray	Pg. 5 – Changed time from 0130 hrs. to 0300 hours to reflect new holding time re F. Coli samples.
19	8/15/13	Stephen Bray	New Contact List
20	5/05/14	Stephen Bray	New Contact List
21	11/25/15	Michael Mulvihill	Major Revision of Format

1. SCOPE

To establish standard operating procedures for both Operations and ETS personnel to collect samples of wastewater that bypass all or part of the Metropolitan Syracuse WWTP treatment processes and to eliminate pre-established, controllable Point Source Discharges during high flow conditions to maximize treatment capacity at the POTW (Wet Weather Point Source Discharge Procedure –see Section 5 herein). Include reference to Regional Treatment Facility (RTF) procedures for collection of samples during Wet Weather events (Hiawatha and Midland RTFs) as they discharge to Metro POTW.

2. PURPOSE

In accordance with SPDES Permit requirements (SPDES Permit # NY 002 7081 EDP 3/21/2012), all bypass events are to be documented and sampled. All pre-established wet weather related point source discharges are to be curtailed during a bypass period to maximize treatment capacity during high flow events.

3. RESPONSIBILITIES

Name	Title	Home Phone	Cell Phone	Project Involvement
Stephen Bray	**Sanitary Engineer II**	**673-1610**	**263-4972**	**ETS Primary Contact***
David Colbert	**Sanitary Engineer II**	**NA**	**567-6637**	**ETS Primary Contact***
Janaki Suryadevara	**Sanitary Engineer II**	**699-0467**	**420-7259**	**ETS Primary Contact***
Chris Gandino	Sanitary Engineer II	622-2056	383-5364	ETS Back-up Contact
Daniel Jean	Operations Superintendent	436-3509	263-7467	Operations Supervisor
Metro Board	Metro Operators	435-3142		Make alarm notifications.
Refer -Call-in List	Wastewater Technician II		263-8491	Technician Supervisor
Technicians Group	Wastewater Technician I			Collect samples

*Monthly Rotation – refer to current Monthly Rotational List schedule attached.

4. METRO BYPASS MONITORING PROCEDURES

4.1 BY-PASS MONITORING LOCATIONS

Outfall # 002: **FC# 630 –SECONDARY TREATMENT BYPASS**
Bypass Tank Outfall - (downside of weir)

Outfall # 002: **FC# 1630 – SECONDARY TREATMENT BYPASS**
Bypass Tank Bunker – (site for chlorine residual collection only)

Outfall # 01A: **FC# 625 - TERTIARY SYSTEM BYPASS (downside of "A" side weirs)**
Includes SEPS bypass.

Outfall # 01B: **FC# 728 -HEADWORKS BYPASS (NS&G Influent Bunker)**
Use small round access hatch located 15' upstream from bar racks.

Outfall # 01B: **FC# 784 - HEADWORKS CHLORINATED BYPASS (plant outfall channel)**
Located in roadway approximately 25' upstream from Tertiary A Outfall, opening in grate **(site for fecal coli and chlorine residual collection only)**.

4.2. BY-PASS DESCRIPTION:

A. **Outfall #002 Secondary Treatment Bypass** – A bypass starts at the moment wastewater overflows the bypass tank and continues until the overflow from the bypass tank stops. Sampling during each event shall occur within the first 30 minutes of the bypass and every four (4) hours thereafter. ***(If the bypass does not occur for more than 30 minutes, it is not necessary to continue sampling).*** Following the end of any wastewater overflow: if wastewater begins to overflow the bypass tank again, this will be considered the beginning of a new bypass event and shall be sampled as described above until the wastewater overflow stops. An ultrasonic level detector will alert Metro Board personnel as to when an Outfall #002 bypass is imminent. Operations personnel shall define the start and end of each bypass event.

B. **Outfall #01A Tertiary System Bypass** - occurs when wastewater is prevented from entering the Tertiary treatment process building (BAF, HRFS, UV). A bypass starts at the moment wastewater overflows the bypass tank (Tertiary "A" Weirs) and continues until the overflow from the bypass tank stops. Sampling during each event shall occur within the first 30 minutes of the bypass and every four (4) hours thereafter. ***(If the bypass does not occur for more than 30 minutes, it is not necessary to continue sampling).*** Following the end of any wastewater overflow: if wastewater begins to overflow the bypass tank again, this will be considered the beginning of a new bypass event and shall be sampled as described above until the wastewater overflow stops. An ultrasonic level detector will alert Metro Board personnel as to when an Outfall #01A bypass is imminent. Operations personnel shall define the start and end of each bypass event.

C. **Outfall #01B Headworks Bypass** - occurs when there is an extended, heavy wet weather event and influent flow breaches the weir adjacent to the NS&G Influent Channel. A bypass starts at the moment wastewater overflows the NS&G Influent Channel Weir and continues until the overflow of the weir stops. Sampling during each event shall occur within the first 30 minutes of the bypass and every four (4) hours thereafter. ***(If the bypass does not occur for more than 30 minutes, it is not necessary to continue sampling).*** Following the end of any wastewater overflow: if wastewater begins to overflow the weir again, this will be considered the beginning of a new bypass event and shall be sampled as described above until the wastewater overflow stops. An ultrasonic level detector will alert Metro Board personnel as to when an Outfall #01B bypass is imminent. Operations personnel shall define the start and end of each bypass event.

4.3. RESPONSIBILITIES: Once a by-pass event start has been established, responsibilities relating to notification and sample collection are as follows:

A. Notifications: Whenever a Metro By-pass is imminent, Metro Board personnel shall contact the ETS Primary Contact per current rotation schedule or designated Back-up. **Note: contact all rotational contacts before contacting Back-up**).

B. Sampling Duties:

1. **ETS Watewater Technicians - Daytime Hours (0730hrs to 1430hrs)**: During this time ETS Technicians shall be responsible for bypass monitoring. Metro Operations personnel shall notify a Wastewater Technician II when a by-pass event begins. If for any reason a Wastewater Technician II (Supervisor) cannot be contacted, the Primary Contact or Back-up should be contacted (in that order). On weekends and holidays during working hours, Metro Board personnel shall notify the Wastewater Technician on duty that day.

2. **Metro Operations Personnel – Evening Hours (1430 hrs-0730 hrs)**: During this time Metro Operations personnel shall be responsible for bypass monitoring. Due to holding times for F. coli samples, Metro Operations personnel shall notify the Lab Supervisor (see attached call-in memo) to arrange for a lab technician to come in and pick up the samples being stored at the Metro Operations refrigerator for transport to the Henry Clay Lab facility. Bypass samples collected after 0330 hrs. or later maybe picked up by ETS technicians. **If any bypass event occurs during the evening and/or samples have been collected, Operations personnel must make contact with the ETS Primary Contact by 0700 hrs. Metro Operations will provide information regarding bypass events and sample pick-up.**

   If for any reason Metro Operations personnel are unable to collect bypass grab samples, the designated ETS Primary Contact or Back-up shall be contacted in that order. **Do not just leave a message, actual voice communication with this individual must be made. The ETS person contacted will then assume responsibility for arranging sample collection.**

3. **Weekends & Holidays**: During the hours between **1000-1430 hrs.**, the Wastewater Technician (WWTI) on duty shall be responsible for bypass sample collection. Metro Board personnel shall notify the on-duty Wastewater Technician of any bypass event. If the ETS technician is unavailable, then Metro Operations will collect samples in a back-up role.

4.4. SAMPLING REQUIREMENTS

A. Collect the following grab samples **for all bypass** locations within the first 30 minutes from the start of a bypass event (any location) and every four (4) hours thereafter until transfer of duties.

METRO BYPASS OUTFALL SAMPLING Outfalls # 002, 01A, 01B		
ANALYTES	**SAMPLE TYPE**	**FREQUENCY**
Conventional - ½ gallon Conv.	Grab (1)	Each Event (every 4 hr.)
SRP - 125 plastic - collect every 4hrs during ***Day Only***	Grab (1)	Each Event (every 4 hr.) ETS Only
TKN/NH_3 - 1 L plastic	Grab (1)	Each Event (every 4 hr.)
Oil & Grease - 1 quart glass (O&G) Note: 1st grab requires QC sample	Grab (1)	Each Event (every 4 hr.)
Fecal Coliform - 125 ml plastic pre-preserved bottles	Grab (1)	Each Event (every 4 hr.) (2)
Chlorine Residual - ½ gallon Conv.	Grab (1) (3)	Each Event (every 4 hr.) (2)
Settleable Solids - ½ gallon Conv.	Grab (1) (3)	Each Event (every 4 hr.)
Visual Observations (Floatable Materials)	Visual	Each Event (every 4 hr.)
Metals – ***Day Only, first event of month***	Grab (1)	(1) event per month - ETS Only
Cyanides – ***Day Only, first event of month***	Grab (1)	(1) event per month - ETS Only
Total Phenolics – ***Day Only, first event of month***	Grab (1)	(1) event per month - ETS Only

(1) Refer to current OCDWEP Environmental Laboratory-Field Preservation Guide.
(2) Samples to be collected during disinfection season (4/1 – 10-15) only.
Outfall #002 Secondary Bypass - FC# 1630 - collect chlorine residual at this location only
Outfall #01B Headworks Chlorin. Bypass - FC# 784 – collect fecal coli and chlorine residual at this location only
Outfall # 01A Tertiary Bypass – FC# 625 – collect fecal coli and chlorine residual at this location, also
(3) These samples are delivered to Metro Board for analysis. Use separate bottle for each parameter:

NOTE- ETS Technicians: Additional Sampling during Tributary Event - samples are to be collected by ETS Technicians from the Outfall # 002 Secondary Bypass location (IC#630) and (IC#1630 –chlorine residual only) by the assigned tributary crew as part of routine tributary sampling, see the Annual Sampling Schedule and AMP Sampling Schedule. Collect corresponding tributary parameters.

B. General Requirements: Sample Tracking Log/C of C Form/Sample Preservation.

1. Grab Sample Tracking Log is stationed at Metro Board. During an event, this is updated after each (4-hour) inspection/sampling of the bypass tank. A C-of-C Form must be completed for each sample event/inspection. C-of-C Forms must accompany all samples to the Henry Clay Environmental Lab. Preserve all samples according to procedures listed on the most current OCDWEP Environmental Lab - Field Preservation Guide. All samples must be stored at 4^0 C prior to delivery to the Henry Clay Lab (keep in refrigerator at Board).

2. Composite Samples: Laboratory personnel will make up all composite samples from the 4-hour grabs sets collected during a bypass event.

4.5. LAB NOTIFICATION:

Contact the designated contact person between 1530-0300 hours if fecal coliform analysis is required so that arrangements can be made to begin the analytical procedures (See attached Inter-office Letter dated 12/20/2013 re lab call-in procedures). If the designated contact person is unavailable, call the Sr. Chemist at 441-3659 (Beeper). After 0330 hours, notify the ETS Primary Contact or Back-up to alert them that a sample will need to be delivered ASAP to the Henry Clay Lab at the start of the morning shift; all samples must be stored at 4^0C prior to delivery (keep in Metro Board Refrigerator). **See attached Call-in Procedures for OCDWEP Environmental Laboratory.**

5. WET WEATHER POINT SOURCE DISCHARGE PROCEDURES

Metro Board shall notify the Operations Superintendent and the ETS Primary Contact or Back-up when a Secondary By-pass Event is imminent or has started at Metro WWTP. The trigger point will be a flow of 115 MGD (See Section 4.I). The ETS Primary Contact or designated Back-up will initiate cancellation of any/all identified conditional Point Source Discharges that are in progress concurrent with said by-pass. ASAP after receiving the by-pass notification call from Metro Board personnel, the Primary Contact or designated Back-up will notify the appropriate personnel at all the permitted discharge sites identified on a current list to cease discharges until further notice. Once the by-pass condition has passed, the approved discharges from the listed conditional discharge locations will be allowed to resume. Source Engineers will notify appropriate personnel at the permitted discharge sites that their discharge can resume **only after receiving approval to resume discharge(s) from Metro Board**.

The following sites are currently identified as permitted conditional point source discharges that are routinely accepted at Metro (there may be other sites not included herein- refer to the most current list; see Section VIII below, procedure for keeping the interim point source discharge site list up to date). Metro Board shall notify the ETS On-call Contact or backup (refer to list in Section III herein) when a Secondary By-pass Event has started.

5.1 Honeywell; (IC# 801 Overflow; LCP Groundwater Treatment Plant (IC# 813); Willis-Semet Groundwater Treatment Plant (IC#800); Wastebeds 10-12): The ETS Primary Contact will initiate cancellation of any of the Honeywell Discharges listed above that are in progress concurrent with said by-pass. The ETS Contact will notify the following designated personnel Mike Stout – 558-4018; Pat Higgins 212-0570 (3^{rd} Shift); John Formoza (OMI) – 532-5608] to cease discharges from all listed facilities until further notice. Once the by-pass condition has passed, the approved discharges from the above listed locations will be allowed to resume with Metro Board permission. Source Engineers will notify designated Honeywell personnel after receiving word from Metro Board that the discharge(s) can resume.

5.2. SCA – Wastebed 13: The ETS Contact will notify the SCA Operations Control Room (487-2495; 487-2547) to cease discharges from all listed facilities until further notice. Once the by-pass condition has passed, the approved discharges from the above listed locations will be allowed to resume with Metro Board permission. Source Engineers will notify designated Honeywell personnel after receiving word from Metro Board that the discharge(s) can resume.

5.3 SU Chilled Water Plant (IC# 585): Contact Chilled Water Plant Operator (24 Hr. Phone – 443-3714; SU Asst. Mgr. Steve Richards – 952-9502. Refer to attached S.U/ Chilled Water Plant Wet Weather Plan for more detail.

5.4 Hancock Airport: Metro Board shall notify the Operations Superintendent and the ETS Primary Contact or Backup (refer to list in Section III herein) when a Secondary By-pass Event has started. The ETS Primary Contact or backup contact will initiate cancellation of any Lagoon Discharges in progress from Hancock Airport concurrent with said by-pass. The ETS Primary Contact or backup will notify Hancock Airport personnel (K. Walker – 559-7528; John Carni – 454-3263; Airport Operations – 455-3666 as of 8/1/09) to cease all lagoon discharges until further notice. Once the by-pass condition has passed, the approved discharge from Hancock Airport will be allowed to resume (**Source Engineers will notify Hancock Airport personnel after receiving word from Metro Board that the discharge can resume**). Note: Hancock de-ices during the cold-weather months).

5.5 Regional Treatment Facilities – Hiawatha and Midland RTFs; Note: these facilities are **alarmed** and require Metro Board personnel to contact the ETS Primary Contact or designated Back-up when an alarm is received at Metro Board. Refer to the SOP # 00051 –Hiawatha RTF and #00052 – Midland RTF for more details (see attached).

5.6 Waste Hauler Facility: Metro Board shall notify the ETS Primary Contact or Back-up that the plant is approaching a by-pass condition at the Headworks, i.e., when the level of the influent flow reaches 7.5 ft. This level, in conjunction with predicted weather conditions of more rain, is the trigger to begin WHCF closure procedures (8.34 ft. is actual overflow level). The ETS Primary Contact will immediately notify the Division Head or designee of the existing condition. The Waste Hauler Facility will be closed just before the actual by-pass starts. Preparation for closure involves posting a sign at the Metro Waste Hauler Office that the WHCF is closed or that closing is imminent (Haulers who are already at the plant or arrive shortly thereafter will be allowed to discharge on a case by case basis as long as a Headworks by-pass is not occurring-clear any discharge with Metro Board). ETS Source Control Engineering staff shall immediately begin notifying all the permitted Waste Haulers by phone of the situation and discourage bringing any loads to Metro until further notice (Note: an up-to-date phone/checklist of Waste Haulers must be ready at all times). Once a hauler has been contacted, place a check by their name on the list. The closure shall be in effect until the by-pass ends and the threat of high flows has passed. Metro Board will verify that the flow has dropped to acceptable levels before the facility re-opens. Once the event has ended, ETS Source Control Engineering staff will again notify each hauler that the WHCF has re-opened and normal operations have resumed (refer to latest WasteHauler SOP). On weekends and holidays, the Wastewater Tech I may be assigned to make calls to haulers when the facility is shutting down.

5.7 Other Point Source Discharges (Interim; short term). These may include but are not limited to short-term permitted discharges such as groundwater typically from construction excavation sites and wastewater from masonry restoration sites, asbestos abatement sites, and swimming pools. Permits shall contain requirements for WWOP contingencies. Finally, Sewer System Overflows (SSO's) that discharge

to receiving waters may require sampling of receiving waters (above/below- this is a NYSDEC jurisdiction- decision to sample needs management approval).

5.8 Industry Shutdowns: During a catastrophic weather event and/or Metro WWTP unanticipated unit process shutdown(s), there is the possibility that industrial discharges will need to be curtailed or flow limited due to the lack of treatment capacity at the Metro POTW. In such a rare case, the Operations Manager or designee will notify the Commissioner of said conditions and wait for approval to proceed as directed.

5.9 The Town of Salina Landfill (IC #1821) is designed with a wet weather storage tank. To cease flows from the landfill, call the Highway Department answering service at 315-455-5525.

6. UPDATING LIST OF INTERIM POINT SOURCE DISCHARGES

ETS Source Engineering Staff will notify the ETS Primary Contact or the designated Back-up via e-mail ASAP that a known point source has been permitted to batch discharge into the collection system. Please include the following information:

1. The Project Name/address of the discharge location.
2. The date the discharge will begin as well as the expected duration of the discharge.
3. The gallons/ minute of the discharge.
4. The designated site contact(s) along with their phone numbers (All hours).
5. The date the discharge will be terminated.

It is the responsibility of the Primary Contact and Back-up to actively maintain a list tracking all current short-term permitted discharges to the Metro WWTP along with contact information to allow the shutdown of said flows during a Wet Weather By-pass Event. It is the responsibility of ETS Source Control staff to forward any/all information regarding said discharges to the Primary Contact and designated Back-up in a timely manner.

7. RELATED DOCUMENTS

Attached Memo: Call-in Procedures for OCDWEP Environmental Laboratory Personnel

Attached: Metro Site Plan Schematic

A. SOP # 00052 Midland RTF Overflow

B. SOP # 00051 Hiawatha RTF Overflow

C. SOP # 00027 Process Control Wastewater Grab Sample Collection

D. OCDWEP Environmental Laboratory-Field Preservation Guide (most current issue)

E. ETS Annual Sampling Schedule (most current issue)

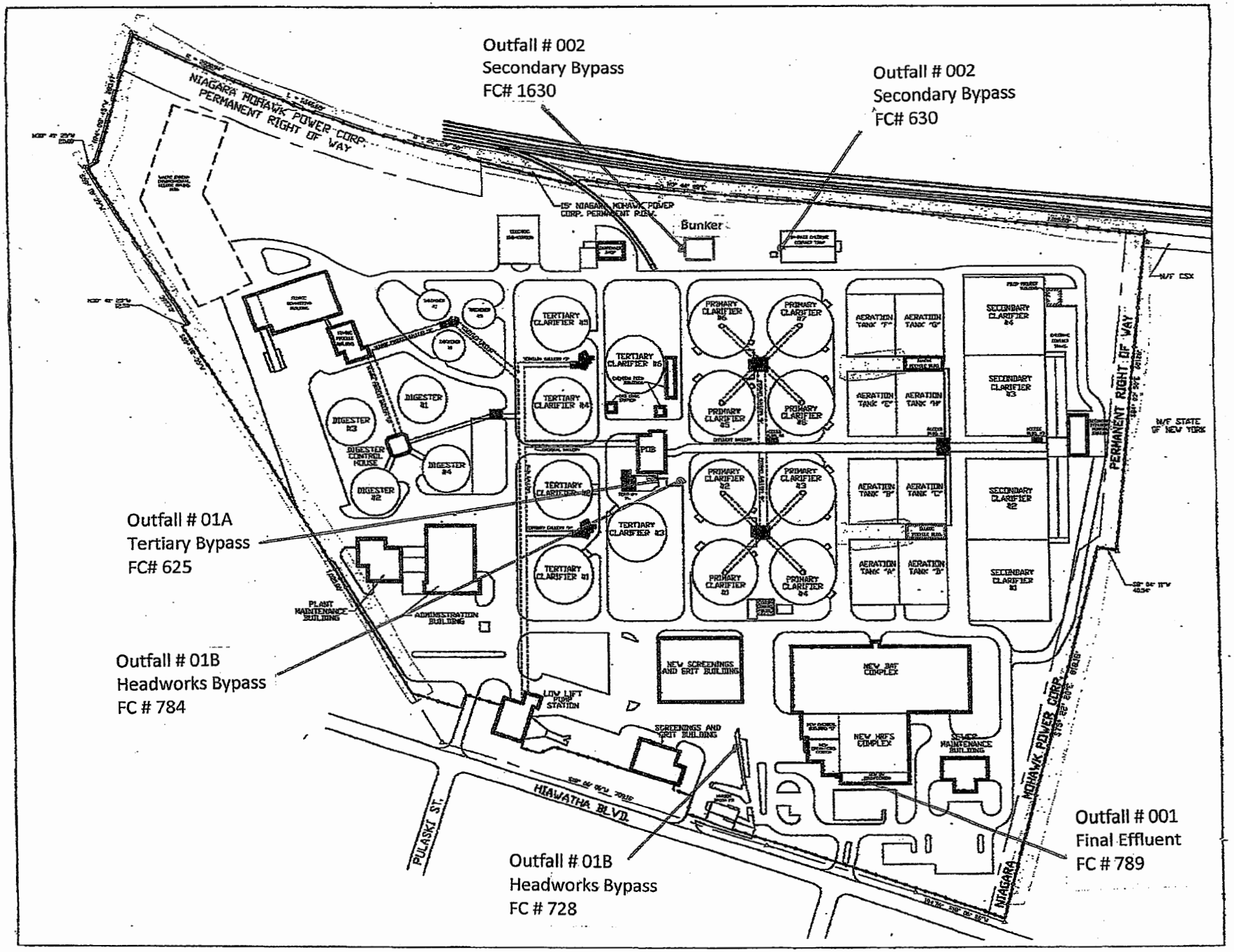
8. TRAINING CERTIFICATION RECORD

I certify that the requirements of this SOP have been communicated to me and that I am trained in its use.

Employee Name (print)	Signature	Job Title	Date
Mark Halbritter		WWT-II	12/11/15
Jason Shaw		WWT-I	12/11/15
Theresa M French		WWT II	12/11/15
Melanie Bain		WWT-I	12/11/15
Alex Studdert		WWT-I	12/14/15
Dan Walpole		WWT-II	12/14/15
Nathan Talucci		WWT-I	12/15/15
Kevin Stager		WWT-I	12/17/15
Travis Henn		WWT-I	12/17/15
Robert M. D'Argenio		WWT-I	12-17-15
Brittney Lindley		WWT-I	12/17/15
Tim Larkin		WWT-I	12/21/15
Barbara Yeager		WWT-I	12/22/15

Attachment

Metropolitan-Syracuse WWTP



Attachment

Onondaga County
Department of Water Environment Protection

Inter-Office Letter

Subject: **Call-in Procedures for OCDWEP Environmental Laboratory**

To: **All Laboratory Personnel**
From: **C. Jeffrey Noce; Laboratory Director**
Date: **November 4, 2015**

Following are the updated call-in procedures for the OCDWEP Environmental Laboratory:

The Supervisors will distribute the call-in duties on a monthly, rotational basis. The rotation will be seniority driven and a beeper will be shared. The backup will be the Senior Sanitary Chemist, who will also utilize a beeper. It should be noted that I would also remain available for emergency backup if the situation warrants.

C. Gagliardo	**Apr '16**	**Sept '16**	
P. Strader	**May '16**	**Oct '16**	
J. Burnette	**Jan '16**	**June '16**	**Nov '16**
T. Pauley	**Feb '16**	**July '16**	**Dec '16**
K. Stock	**Mar '16**	**Aug '16**	

The proper sequence for notification is as follows:

1) Contact the Supervisor that is designated on call for that month (see chart above)

   C. Gagliardo (beeper 441-3683, phone 652-7245)
   P. Strader (beeper 441-3683, phone 699-8561)
   J. Burnette (beeper 441-3683 phone 395-9064)
   T. Pauley (beeper 441-3683 phone 481-0730)
   K. Stock (beeper 441-3683, phone 673-4114 cell 727-3281)

2) If the Supervisor on call is unavailable, call the Senior Chemist:
   M. Fowkes (beeper 441-3659, phone 488-8574)

3) If all else fails, call the Laboratory Director:
   Jeff Noce (phone 487-2643, cell 317-3831)

Standard Operating Procedure:

MIDLAND RTF

OVERFLOW SAMPLING

FC# 820, 821, 822

1. APPROVED: Stephen Bray Stephen Bray 5/13/14
Author — Printed Name — Signature — Date

2. APPROVED: Jeanne Powers Jeanne Powers 5/8/14
Supervisor — Printed Name — Signature — Date

3. APPROVED: Mark Fowkes Mark Fowkes 5-27-14
QC Mgr. — Printed Name — Signature — Date

4. APPROVED: C. Jeffrey Noce C. Jeffrey Noce 5/28/14
Lab. Dir. — Printed Name — Signature — Date

Change Record

Revision	Date	Responsible person	Description of change
0	6/13/08	Stephen Bray, SE II	First Issue
1	8/24/09	Stephen Bray, SE II	Add alarm definition and procedures; call-in trigger criteria; update names/numbers.
2	03/23/2010	Stephen Bray, SE II	Update Names/numbers
3	01/11/2011	Stephen Bray, SE II	Drop seasonal limitations re F. coli sample; collect every overflow event. Added Lab comments re settleable solids. Attached Updated Lab Call-in Memo to 01/04/2011
4	03/23/2011	Stephen Bray, SE II	Change initial Alarm from Infl. Pump to Cell 4 level alarm. Add Flow Control on-call contact and safety reminders; Gate lock to lot.
5	02/02/2012	Stephen Bray, SE II	Changed ETS Backup to Chris Gandino
6	05/31/2012	Stephen Bray, SEII	Updated re new requirements in SPDES Permit # NY 02 7081 EDP 3/21/2012 and Lab Call-in Memo 09/19/2013.
7.	11/5/20212	Stephen Bray, SEII	Updated Contact List
8.	10/25/2013	Stephen Bray, SEII	Pg. 5 – Changed time from 0300 hrs. back to 0130 hrs to reflect new holding time re F. Coli samples.
9.	10/25/2013	Stephen Bray, SEII	Added Cell #1 level indicator to initiate sampling response in addition to Cell # 4 indicator (Section 4.4). Update Responsibilities Section; Drop Raw Influent Sampling 4.2.1; drop Underflow Sampling 4.2.4. Incl. call to J. Powers and call back to Primary Contact by Crew at site; Added B. Burke as rotating contact and dropped C. Gandino; also modify CoC to include space for recording CL2 Res readings and floatables.
10.	01/17/2014	Stephen Bray, SEII	Modified wording in Section 4.6.7 re collection of F. coli if auto sampler has collected a sample but there is no flow at time of arrival.
11.	04/21/2014	Stephen Bray, SEII	Pg. 5 – Changed time range from 0130 hrs. to 0300 hrs. per new holding time criteria - F. Coli samples. Dropped info call to JCP. Change Primary Contact List - added Janaki, dropped TOD, BB.

Distribution List (via meeting or circulation to individuals)

1) Source Engineering SOP Reference Book

1. **SCOPE** – To establish standard operating procedures for collecting samples of wastewater that discharges from the Midland Regional Treatment Facility (Midland RTF-emergency bypass outfall and/or treated effluent) into receiving waters (Onondaga Creek) in accordance with current SPDES Permit # NY 002 7081.

2. **PURPOSE** – Under extreme weather conditions, it is possible that too much flow in a short period of time could result in a treatment facility bypass/discharge event. The County is required to monitor Combined Sewer Overflows (CSO) and WWTP system by-pass/discharge events as part of SPDES Permit requirements to determine the impact of such discharges on receiving waters.

3. RESPONSIBILITIES

Name	Title	Home Phone	Cell Phone	Project Involvement
Stephen Bray	Sanitary Engineer II	673-1610	263-4972	ETS Primary Contact *
David Colbert	Sanitary Engineer II		567-6637	ETS Primary Contact *
Janaki Suryadevara	Sanitary Engineer II	699-0467	391-6741	ETS Primary Contact *
Daniel Jean	Operations Superintendent	436-3509	263-7467	Supervisor – Cty Operations
Jim Jones	Metro Head Operator **x208**	435-3142		Metro Operations Supervisor
Flow Control on-call Personnel	Contact Metro Board and have them make call (see above)	435-3142		High Cl2 Res readings or any unusual facility issues at RTF.
Metro Operators	Metro Operators	435-3142		Make alarm notifications.
Refer-Contact List	Wastewater Technician II	See Attached		Technician Supervisor
Technicians Group	Wastewater Technician I			Collect samples

* Monthly Rotation – refer to current ETS Primary Contact Monthly Rotational List (Attached).

4. PROCEDURE

4.1. SAFETY:

4.1.1. Hard Hat, Safety Glasses, Steel Toe Boots; Air monitoring device; Flashlight. Note: Although the facility has ventilation, an air monitor must be carried at all times inside the facility in case the ventilation system is not working (open sewer channels); do not enter the facility after hours unless absolutely necessary (the composite sampler in the facility can be serviced and reset during daylight hours).

4.1.2. NOTE: When collecting grab samples from the Midland RTF Main Outfall location, i.e., Access hatch in Parking Lot (IC# 821 – Permit designation MO1), the orange man-catch grate must be in place (no exceptions); removing said grate creates a serious safety hazard (see attached site photo).

4.2. MONITORING LOCATION(s)

4.2.1 IC# 820 – Midland RTF Influent Emergency Bypass Outfall (Permit Outfall MO2) – Sampling point to collect wastewater that is bypassing the treatment portion, i.e., bar rakes, swirl concentrators, disinfection process, and discharging untreated wastewater directly into Onondaga Creek (see attached schematic for sampling locations). All samples collected at this location are grab samples. (Emergency overflows are generally a result of influent pump failure; notify Flow Control).

4.2.2 IC# 821 – Midland RTF Main Outfall (Permit Outfall MO1) - Sampling point where treated facility effluent wastewater overflows the disinfection tank final weir and discharges to the receiving waters, i.e., Onondaga Creek (see attached schematic). Grab samples are collected from this wastestream from either the Access Hatch in the parking lot (preferred) or the outfall at creek side (alternate). The alternate location is necessary because a vehicle could end up blocking access to the manhole. A refrigerated automatic 24-bottle composite sampler with pH monitoring capability is also stationed in the Chemical Storage Area and is triggered to start when sample pump #2 activates as water level in the disinfection tank reaches a preset level. The purpose of the composite sampler is to provide backup in case technicians are unable to get to the facility in time to collect grab samples during active facility discharge.

4.2.3 IC# 822 – Midland RTF Underflow: This is the high solids fraction of wastewater created by the swirl concentrator liquid/solids separation process. This wastewater is held in a wet well and then pumped to Metro for further treatment. Grab samples can be collected if necessary from this stream at the spigot installed for sampling purposes.

4.3. **DISCHARGE DESCRIPTION:** A Main Outfall discharge event starts once the RTF actually begins discharging to receiving waters after treatment and ends when the discharge of wastewater stops. If a discharge event does not occur for more than 30 minutes (start/end), it is not necessary to collect a sample. Sampling a Main Outfall discharge event shall commence within the first 60 minutes after the initial discharge. However, if the initial discharge stops and another starts up before stored RTF water is completely pumped back to Metro WWTP, sampling shall resume within 30 minutes and can be considered part of the same outfall event. An ultrasonic level detector alarm will alert Metro Board personnel as to when a Main Outfall discharge event is imminent. Any discharge event **will be confirmed visually by responding ETS personnel** and/or Sewer Maintenance personnel at the time of arrival. For Lab notification, refer to Section 6.0 of this document.

4.4. The **trigger to initiate a sampling response at the Midland RTF** will be based on when the **Cell #1** level indicator in the SCADA reaches the overflow point at **370 feet**. The **Cell #4** level (also 370 ft.)

in the SCADA System at Metro Board will be a second indicator (Cell #1 will provide an earlier focus point for the ETS designated on-call Primary Contact to make a decision). Metro Board will call the ETS on-call contact at both points. This will allow more time to mobilize wastewater technicians before the influent pumps are activated and the treatment process starts. When the initial alarm (Cell #1) is enacted, Metro Board personnel shall call the **ETS Primary Contact or designated Backup** (based on attached ETS San. Engineer Primary Contact Monthly Rotational List). A second distinct alarm has been established to indicate when an **Influent Emergency Bypass Outfall event (Influent Sump Bypass)** is imminent. This alarm is referred to as the **Diversion Weir High Level Alarm**, and indicates that a treatment by-pass discharge is near (this could be resulting from influent pump failure). Refer to Section 4.5 below for call-in protocol. The trigger for the Final Effluent composite sampler will be when Sample Pump #2 at the disinfection tank outfall starts up (**IC# 821**). Sample Pump #2 is an indicator that there is actual flow discharging to Onondaga Creek when said pump has activated; when the flow has stopped, the pump shuts down. It is a reasonable indicator of when a by-pass starts and ends.

4.5. RESPONSE (Times)

4.5.1 Day - Evening (24 Hours) and Holidays: During an alarm event, i.e., Cell #1 (at any time), **Metro Board personnel** will notify the designated ETS Primary Contact first; if unavailable, the Board shall contact the ETS Back-up Contact; **do not just leave a message, actual voice communication with this individual must be made (refer to Section 3 herein for phone numbers).** The ETS person contacted (Primary Contact) will then assume responsibility for arranging sample collection. Metro Board shall also perform a follow-up call to the on-call ETS Primary Contact when Cell #4 reaches 370' level. All samples will be collected by ETS Wastewater Technician staff. Once the initial alarm has been received, the responsible party (**ETS Primary Contact**) shall notify the eligible Wastewater Tech II (***refer to Tech 2 Monthly Rotational Contact List***) to arrange collecting the sample by calling in a 2-person sample crew; (**Note: for safety reasons, the crew must be 2-person**). Once a set of grab samples has been collected by said crew, Wastewater Technician responders shall notify the ETS WWT2 supervisor or ETS Primary Contact to confirm, if possible, that the duration of the overflow was greater than 30 minutes per SPDES. **NOTE: It is important to verify the overflow, and collect samples before calling in Lab personnel after hours; visually check the effluent weir and the outfall channel at creek side.** ***Once the sampling event has ended but before leaving the facility, ETS Wastewater Technicians who responded to said event will call the WWT2 or ETS Primary Contact or Backup regarding the status of the event, i.e., whether samples were collected; if the duration of overflow meets SPDES criteria; and to receive further instructions as necessary.*** If it is deemed a viable sample, i.e., over 30 minutes overflow duration, WW Technician responders shall notify **Metro Board personnel between 1530 hours through 0300 hrs.** and request that they notify the Lab Supervisor on-call (see attached Lab Call-in memo dated ***12/20/13***) to arrange for a lab technician to come in to the Henry Clay Lab facility and analyze the collected samples based on holding times for F. coli samples. Techs will then follow-up on any instructions as well as transport all field samples back to the Henry Clay Lab facility. *If no lab personnel were called in (i.e., after 0300 hours), the WW Technician shall check with ETS supervisor (WW Tech2) or Primary Contact to make certain that the samples meet criteria and are placed in Lab Sample Sign-in Room*

refrigerator; Tech II should notify Lab personnel re samples collected overnight at ***beginning of shift on the following day.***

4.5.2 Midland RTF Site Access: To enter through the access gate, a pass card must be used (Ley Creek Scan Card). Once through the main gate, take a right turn and go to side parking lot where the Access Hatch cover is located (IC# 821 - see schematic). **NOTE**: to drive to this parking lot, turn right after entering the Midland Compound Main Gate; there is a gate that may need to be unlocked before accessing said parking lot – tumbler lock code is 1.7.9.4. This lot is used by the bus company. Once the technician reaches the Midland RTF Effluent Access Hatch, a tool is needed to open the hatch (this is stored at Final Effluent sampler at Midland and also at the Metro Waste Hauler Office (designated staging area – **refer to safety notice listed herein at 4.1.2**). The facility building can be entered using an AE1 Key at the main door opposite the entry gate. **BEFORE INITIALLY ENTERING THE BUILDING after hours, entry must be through the Main Door and Metro Board must be called first because the doors are alarmed (tell them to *DISREGARD* alarm before you open it). Once inside the building, the alarm must be deactivated; use the entry door key in the slot provided in the alarm box and turn to deactivate while you are in the building (To disarm, turn Key to activate Green Light); when leaving the facility, the alarms must be reactivated. Again, use key to activate the alarm (Turn Key to activate Red Light) and then leave immediately (make sure the door has fully latched). Finally, let Metro Board know the alarm has been re-armed, i.e., should now be *REGARDED*.**

4.6. REQUIRED SAMPLING - ETS Personnel exclusively: Wastewater Technicians are to collect the following samples during an RTF overflow discharge event. **When arriving on site, WW Techs need to confirm that an overflow is occurring. To do this, open the access hatch in the parking lot and/or check the effluent outfalls (diversion weir and disinfection tank) near the stream bed and confirm that flow is discharging (see attached facility schematic).**

4.6.1. Half gallon Plastic (Conv) – Grab sample: deliver to HC Lab for BOD5/TSS.

4.6.2. One-quart Glass (O&G) - Grab sample. Note: 1st grab requires QC sample; refer to OCDWEP Environmental Lab Field Preservation Guide.

4.6.3. 125ml Plastic (F. Coli) - Grab Sample. Note: needs Cl_2 Res - use Hach Colorimeter II at time of grabs; record on the Chain of Custody. **Collect during all overflow events every four hours per requirements (refer to Note below for seasonal requirements. Parameters include: Total Chlorine Residual, Monochloramine, Chloramines, Total Dichloramine, and Chlorine (per Chlorine DPD Colorimetric Method 4500-Cl G). Add results to CoC in space provided. Refer to Field Chlorine Calculations Form attached; use form to also record calcs and results; include w/CoC.** ***Note: If the Cl_2 Residual is greater than 0.2 ppm, then any flow control personnel on site at the time of sampling shall be notified; if no flow control personnel are on site, then call Metro Board and have them notify on-call Flow Control personnel with the Cl_2 Residual information. [Note: the disinfection period for IC#821 – Midland RTF Main Outfall (Permit Outfall MO1) runs from 4/1 through October 15. During this period, F. coli***

samples must be collected. However, collection of F. coli samples are still required all year at IC#820 – Midland RTF Influent Emergency Bypass Outfall (Permit Outfall MO2).]

4.6.4. One Liter Plastic (TKN/NH3/TP) – Grab Sample: deliver to HC Lab.

4.6.5. Half gallon Plastic (Conv) – Grab sample; deliver to Henry Clay Lab w/ CoC for Settleable Solids test. Lab will perform analysis.

4.6.6. Event Visual Observations (Overflow verification &start/stop time of 30 minute period, sample grab times, location, and sample descriptions) - taken at the time of sample collection; record on any Chain of Custody that accompanies a sample. Also, Floatables at both the sampling location and the receiving water **MUST** be observed and noted on C-o-C (important).

4.6.7. Collect grab samples for all parameters from the Final Effluent discharge location (IC# 821) during all overflow response events. Any samples from the automated Final Effluent refrigerated sampler will be collected for all listed parametersduring the next available business day if needed (purpose of Isco sampler is to provide backup in case technicians are unable to get to the facility in time to collect grabs from the **active outfall discharge**). If there is only minimal flow (small stream) at time of arrival to collect grab samples but the automated refrigerated sampler has collected samples, then make attempt to collect F. coli and O&G samples (grab) from remaining overflow stream if possible; if no minimal stream available, then note on C-o-C that there was no flow available to collect a grab sample. To ensure that sufficient volume is being collected for all analyses, the refrigerated sampler shall be set at 3 bottles per sample with a sample being collected every hour (only collect sample in bottles that conform to time of event; confirm actual period of event, which must be a discharge equal to or greater than 30 minutes, via SCADA information from supervisory contact; refer to Section 6.2 herein). The automated refrigerated sampler will need to be reset with clean set of 24 bottles on the following day after each event.

4.7. SAMPLING PARAMETERS

MIDLAND RTF BYPASS SAMPLING ANALYTES *(For OCDWEP Laboratory use only)*		
ANALYTES	**SAMPLE TYPE**	**FREQUENCY**
Conventional (BOD_5, TSS)	Grab/Composite	Each Event (1 every 4 hrs)
TKN/NH_3 /TP	Grab/Composite	Each Event (1 every 4 hrs)
Oil & Grease **(1)**	Grab	Each Event (1 every 4 hrs)
Fecal Coliform **(2)**	Grab	Each Event (1 every 4 hrs)
Chlorine Res./ Settleable Solids **(3)**	Grab	Each Event (1 every 4 hrs)
Visual Observations (Floatable Materials)	Visual	Each Event (1 every 4 hrs)

(1) Refer to current OCDWEP Environmental Laboratory-Field Preservation Guide.
(2) Samples to be collected at the weir outfall from the disinfection tank of the Midland RTF (see attached schematic & photo). Collect F. coli grabs every 4 hours during each event; use the Hach Colorimeter II to determine chlorine residual parameters after dechlorination at the time of F. coli grab; Record on CoC (use current method; refer to 4.63 and 5.6 herein). (3) Settleable Solids samples are delivered to HC Lab; Lab will perform analysis. Disinfection Period for IC# 821 is from **4/1 – 10/15**; Note disinfection period does not apply **for IC# 820 – Emergency Bypass Outfall; collect F. coli all year; not just disinfection period.**

5.0 GENERAL REQUIREMENTS (ETS Personnel and Metro Board): Overflow Event Tracking Log/Chain of Custody Form/Sample Preservation.

5.1 C-of-C Forms must be completed for each sample set collected; include visual observations of sample and note if there are any floatables as well (refer to 4.6.6 above). C-of-C Forms must accompany all samples to the Henry Clay Lab. Completed data sheets recording observations/grab samples must also be delivered to HC Lab. It is important to fill out a C-of-C Form even if no sample was collected during the call-in event; note reasons why sample not collected (helps keep track of events).

5.2 Preserve samples according to procedures listed on the most current OCDWEP Environmental Lab - Field Preservation Guide. All samples must be stored at 4^0 C prior to delivery to the Henry Clay Lab. **NOTE: If the Henry Clay Lab is not staffed at the time of sample delivery (i.e. after 0300 hrs., store samples in the under-counter refrigerator located in the Henry Clay Lab sample sign-in room; keep chain of custody forms with the samples. When Lab personnel are called in after hours, they should check said refrigerator for samples; if samples collected after 0300 hrs., Lab personnel need to be notified at start of shift next day.**

5.3 The Fecal coli containers are pre-preserved; do not rinse or overfill containers. Collect sample in one clean F. coli bottle and then pour into a second clean F. coli bottle. Store samples at 4^0 C prior to delivery to the Henry Clay Lab. (Refer to current OCDWEP Environmental Laboratory - Field Preservation Guide).

5.4 Note that the TKN/NH3/TP grab samples are to be de-chlorinated in accordance with the most current OCDWEP Environmental Laboratory - Field Preservation Guide. Document de-chlorination in the space provided on the latest Chain of Custody Form.

5.5 Settleable Solids: Deliver a half-gallon plastic container with a C-of-C Form to the Henry Clay Environmental Lab; the Lab will perform analysis.

5.6 Cl_2 Residual test must be performed on all Emergency By-pass samples collected (FC# 820) and on any Main Outfall samples (# 821) during the disinfection season that runs from 4/1 – 10/15. The Hach Colorimeter II tester shall be used (Record results on C-of-C form). New SPDES Permit requires the following: Use Method Chlorine by DPD Colorimetric Method (4500-Cl G) for Total Chlorine residual and also for the four additional analytes: Monochloramine, Chloramines, Total Dichloramine and Chlorine. *Add results to C-o-C in space provided and also record in logbook at Midland site.*

5.7 Refer to procedures for Oil & Grease samples in the most current OCDWEP Environmental Laboratory - Field Preservation Guide.

5.8 Composite Samples: Composite samples will be collected from the Refrigerated Automated 24 Bottle Composite Sampler if needed once the event has ended (qualifying period to be determined by ETS Primary Contact) and delivered to the Lab. The grab samples collected at the time of arrival at the site are to be preserved and delivered to the Lab ASAP (all parameters **including composite parameters**). **Note: Lab will composite all grab samples.**

6.0 LAB NOTIFICATION

6.1 Wastewater Technician responders will notify Metro Board and have them call the designated Lab call-in contact person between 1530 - 0300 hours so that arrangements can be made to begin the analytical procedures for **F. coli samples. See attached Call-in Procedures for OCDWEP Environmental Laboratory dated 12/20/13.** If the designated call-in person is unavailable, contact the Sr. Chemist at 441-3659 (Beeper). After 0300 hours, WW Techs shall notify the ETS Primary Contact or Back-up to alert him that a sample will need to be delivered ASAP to the Henry Clay Lab at the start of the morning shift; all samples must **be stored at 4^0C prior to delivery (If the lab is not staffed, keep in ETS Garage Refrigerator (Locked) – Tech II's to make sure the sample is delivered the next morning).**

6.2 During scheduled work hours, the lab will be notified by the Wastewater Technician Supervisor (WWT2) and/or the Sanitary Engineer II on call. **The event period will be determined by the ETS Primary Contact and WW Technicians based on data received from SCADA monitor and/or Flow Control Engineers.**

7.0 RELATED DOCUMENTS

7.1 Attachment: Call-in Procedures for OCDWEP Environmental Lab (~~09/19/2013~~) 12/20/2013

7.2 Attachment: Midland RTF Schematic.

7.3 Sample Event Summary Sheet

7.4 Site Photos

8.0 REFERENCE

8.1 Metropolitan-Syracuse WWTP Wet Weather Operating Plan

8.2 OCDWEP Environmental Laboratory Field Preservation Guide (Latest Revision)

9.0 TRAINING CERTIFICATION RECORD

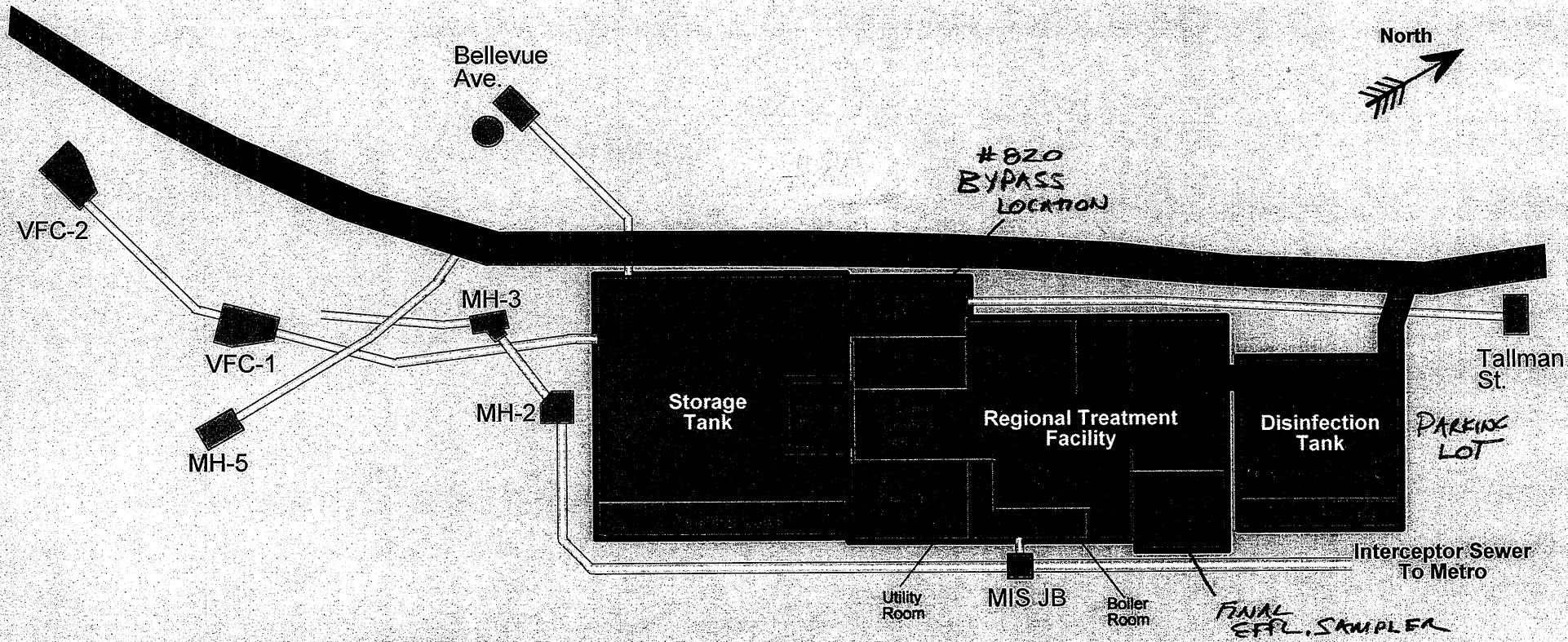
I certify that the requirements of this SOP have been communicated to me and that I am trained in its use.

Employee Name (print)	Signature	Job Title	Date
Theresa m French	Theresa m French	WWTP II	6/19/14
Mark Halbritter		WWT II	6/24/14
Travis Henn		WWT I	6/24/14
Barbara Yeager		WWT I	6/24/14
Jason Jhaw		WWT I	6/24/14
Nathan Talucci		WWT I	06/24/14
Jason Terbush		WWT-I	6/24/14
Alex Studdest		WWT-I	6/24/14
Kevin Stager		WWT I	6/24/14
Robert D'Argenio		WWT I	6/26/14
Diane Hausch	Diane Hausch	WWT-I	6/27/14
Timothy Larkin	Timothy Larkin	WWT I	7-24-14

DATE
USER
ROLE

Onondaga County Dept. of Water Environment Protection
Midland Ave. Regional Treatment Facility
Overview

TIME
PROJECT Project



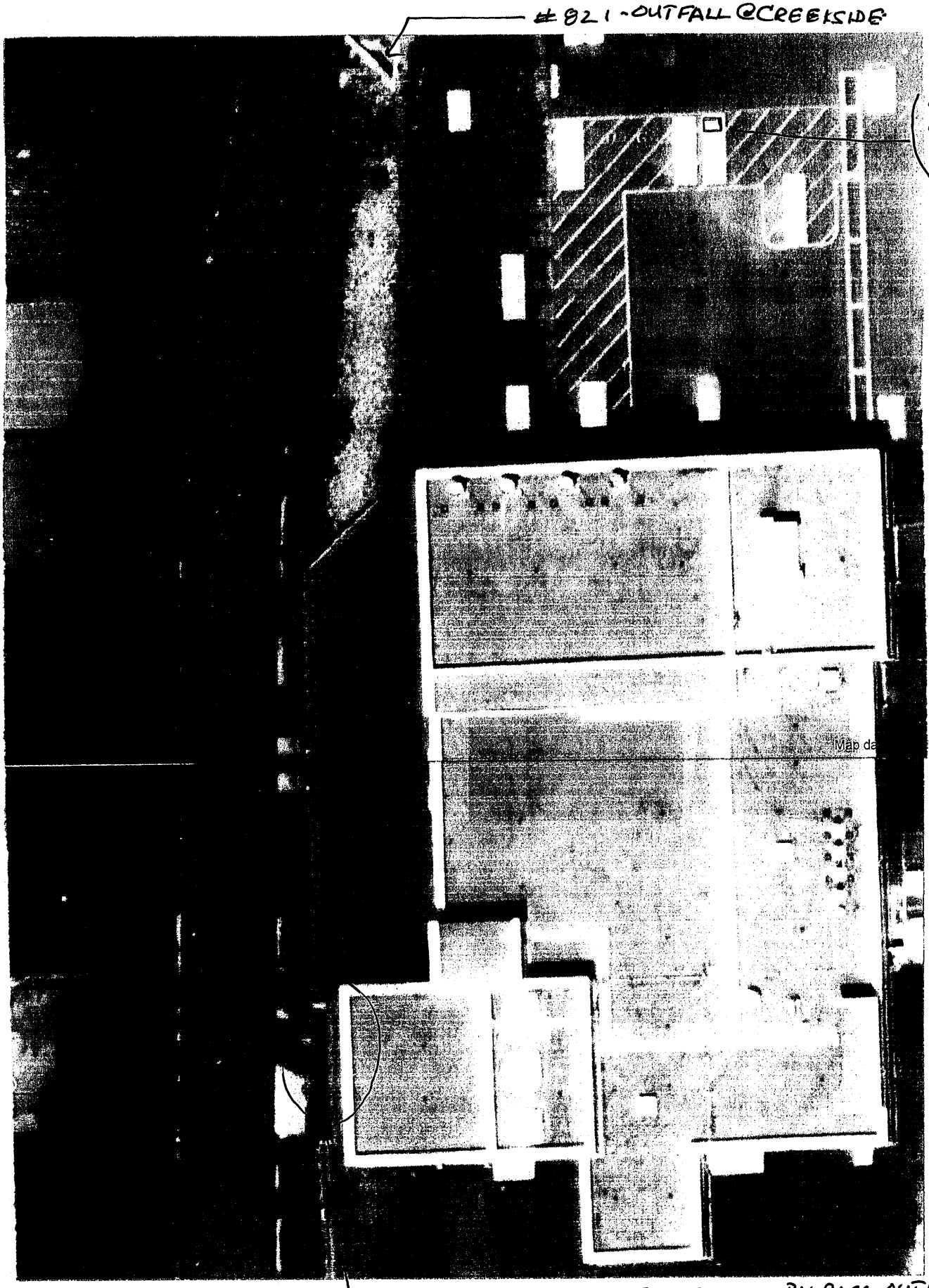
Influent Pump Remote Stop/ Lockout:

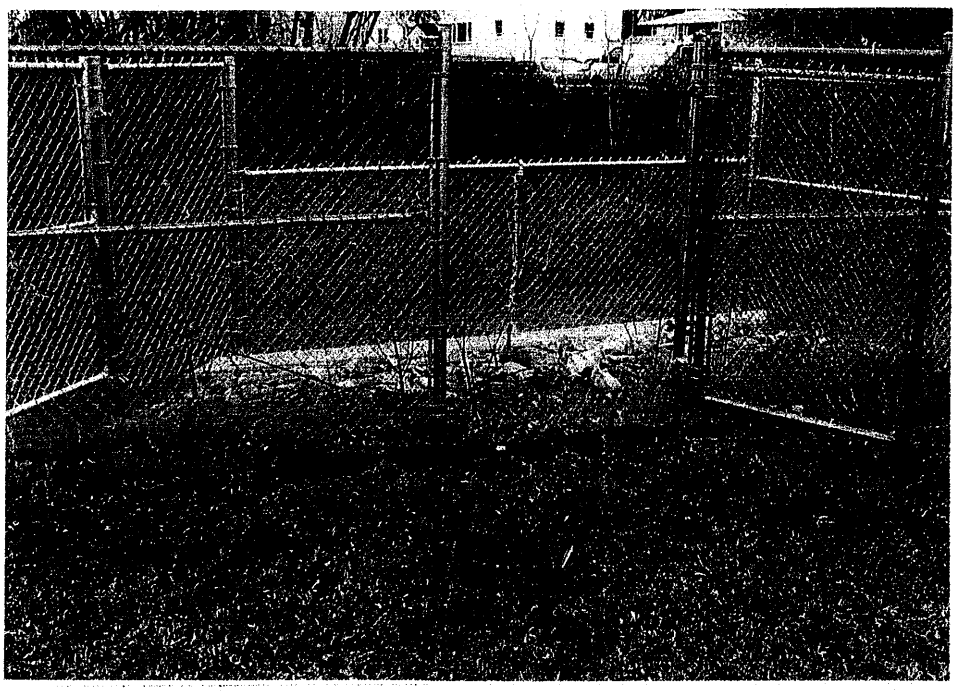
Legend

VFC - Vacuum Flusing Chamber
MH - Manhole
MIS JB - Main Interceptor Sewer Junction Box

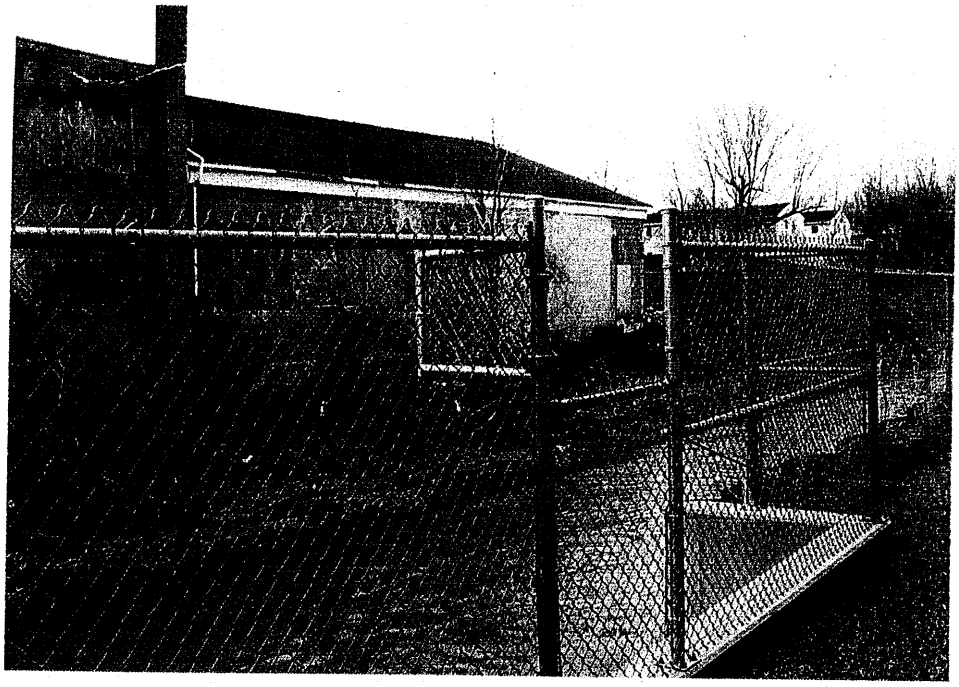
C:\Screens\Midland.cim
12:04:36 PM 4/24/2012

MIDLAND AVE. RTF SAMPLE SITES OVERVIEW





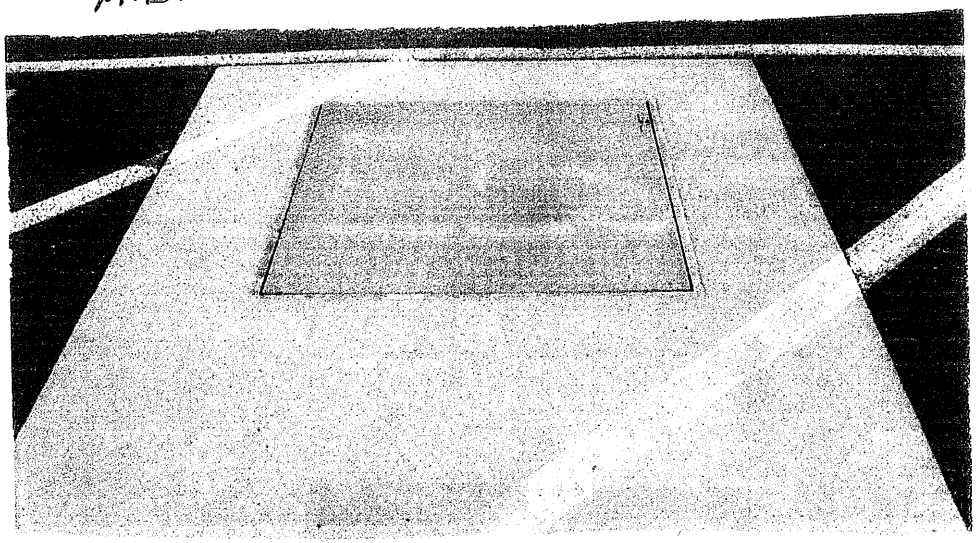
IC #821
Outfall
@ Creekside.



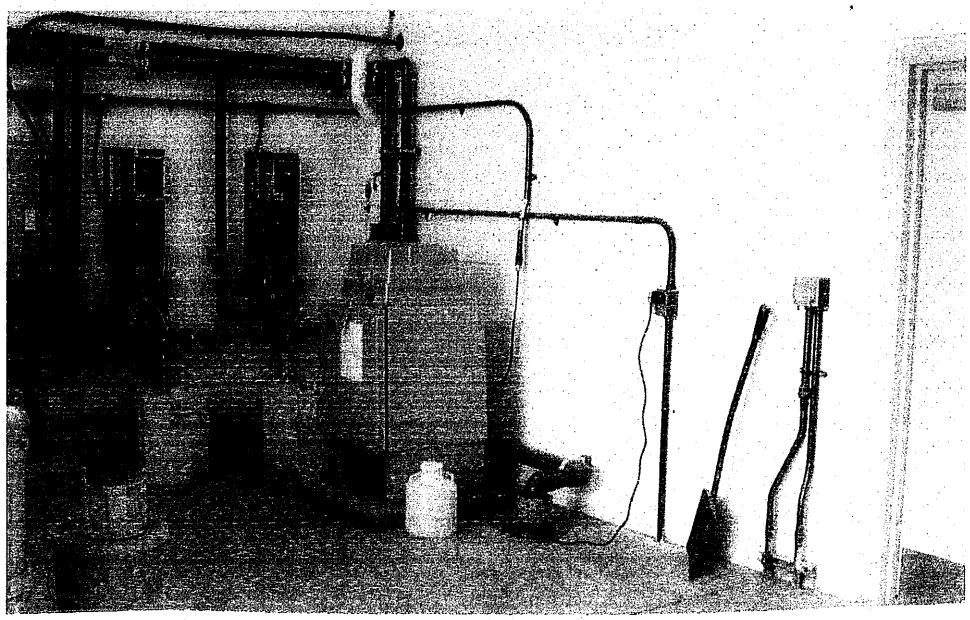
820
Influent
Emergency
By-Pass
outfall

MIDLAND RTF

MIDLAND RTF SAMPLING LOCATIONS



ACCESS HATCH IN PARKING LOT (DISINFECTION TANK OVERFLOW WEIRS / Grab SAMPLE LOCATION



IC #821
FINAL EFFL. SAMPLER (CHEMICAL Rm.)

Midland RTF Overflow Sampling Procedure Outline

Locations

- **IC#821 – Midland RTF Main Outfall (Permit Outfall MO1)**
  - Collect sample at weir outfall within *Access Hatch* in Parking Lot (preferred location). **NOTE: When collecting samples from this location, the orange man-catch grate must be in place (no exceptions); removing said grate creates a serious safety hazard!** (See attached site photo).
  - Facility Discharge Outfall pipe at creek side; alternative location that can be used if access hatch in parking lot is not accessible (car or bus could be parked on hatch). 3769 Key will be necessary to unlock gate.
- **IC#820 – Midland RTF Emergency Bypass Outfall (MO2)**; middle of building at creek side; see site schematic & photos. 3769 Key will be necessary to unlock access gate.

Event Description

- Event starts once RTF actually begins discharging to Onondaga Creek. WW Technicians are called in by supervisor (**WWT2**) when it is likely that an overflow discharge will occur. **Primary Contact** will make judgment call based on Midland RTF tank levels, weather conditions and notify on-call WWT2.
  - IC# 820 (MO2) – All samples are grab samples from this sampling point.
  - IC# 821 (MO1) – Samples are either collected by automated Isco Sampler (qualifies as grab over a 15 minute period) or as grab samples by WW Tech at pre-designated locations ***at time of arrival.*** Isco sampler (Refrigerated, 24 bottles) is located in Chemical Storage area.
    - Triggered to start when Sample Pump #2 is activated.
      - Programmed to collect at least 3 full bottles per hour once triggered by event. **Only collect sample in bottles that conform to time of event.**
    - Purpose is to provide backup in case WW Techs are delayed in getting to facility *and miss active discharge.* **NOTE**: **O&G and F. coliform samples must be collected as grabs (no pumping –can't use samples drawn by automated sampler).**

Metro Board

- Event Notification
  - When **Cell #1 level indicator reaches 370'**, Alarm sounds at **Metro Board** and Metro Board personnel will refer to ETS Primary Contact Rotational Monthly On-Call List and notify Sanitary Engineer listed as Primary Contact for said month (any time day or night). This alarm refers to IC# 821 location. **Cell #4 Alarm (370')** will also trigger an alarm and call for Outfall MO1 (back up alarm).
  - **Diversion Weir High Level Alarm** indicates an Emergency Bypass Event; this location bypasses treatment portion of Midland RTF (Outfall MO2) – call ETS Primary Contact.
  - **Metro Board will log all calls relating to Wet Weather Response at Midland RTF.**

ETS Primary Contact (ETS Sanitary Engineer 2)

- Response to receiving a Wet Weather Alarm from Metro Board.
  - Check the following on-line Web Sources for information **ASAP**. (NOTE: All personnel listed on Primary Contact List should have access to the following websites listed below from Home).
    - **Weather.gov** (NOAA Website to check current forecast and real time radar to get a "fix" on weather conditions and timeline.

  - **Metro_Welcome.cim** (view realtime status of OCDWEP facilities, i.e., current tank levels, pump status, discharge flows).
- Based on above information, i.e., a forecast of rain along with high Midland tank levels, the Primary Contact shall call WW Technician 2 from Monthly Rotational Tech II On-Call list and have that person arrange for a 2-person crew to respond to Midland RTF facility to collect samples.
- ETS Primary Contact shall review and finalize the Wet Weather Response Summary Report completed by WWT2 (Field supervisor); use existing Unusual Discharge Report format.

Wastewater Technician II

- Once you have received request from Primary Contact, canvas WWTI Technician Rotational Overtime List and call in 2-man Sample Crew to alarmed facility (Midland RTF).
- Call back Primary Contact and inform as to who has responded.
- Keep in contact with crew and handle any problems during event. If there is any question on whether the event qualifies, i.e., minimum 30 minute discharge, call the Primary Contact. **The indicator of when the discharge to Onondaga Creek starts and stops is Sample Pump #2; when pump is on, assume discharge is occurring, if pump is off, then discharge has ended.**
- Complete an Event Summary Report (use ETS Unusual Discharge Response Summary Report Form) and forward to Primary Contact when completed (see attached Form).

Wastewater Technicians (Responding Sampling Crew)

- Upon arrival at Midland RTF.
  - Let Metro Board know when you have arrived at Midland RTF (no exceptions).
  - Confirm that flow to Onondaga Creek is occurring; check access hatch in parking lot and/or check effluent outfalls near creekside (note on CoC forms re time observed). Collect sample **ASAP**.
  - **Note**: If entering building, notify Metro Board 1st to "**disregard**" door alarm, then turn off alarm using the AE1 Key to activate Green light in Alarm Box; when exiting building for final time, activate door alarm using AE1 Key to activate Red light in Alarm Box, then notify Metro Board to have them "**regard**" said door alarm.
  - **Chain of Custody Form:** Record any sample collection related information; also include time of arrival, departure, who contacted during event, any issues/problems (even if samples not collected). Essentially use CoC form as Technician record of event; send copy to supervisor (WWT2) after event completed.
  - **If samples are collected, WW Technician responders** shall check with **WWT2 contact** to confirm that the discharge period is equal to or greater than 30 minute minimum requirement for a qualifying event (per SPDES Permit criteria). If the discharge event meets SPDES Permit criteria, the WW Technician responders shall notify **Metro Board** personnel between **1530 hours and 0300 hours** and request that they **notify the Lab Supervisor on-call** (Metro Board shall refer to current Lab Call-in Memo on file) to call in Lab personnel to prep F. coli sample.
- Equipment needed.
  - Facility Access and Sampling related.
    - Ley Creek Facility Access Card; needed to get in front gate at Midland.
    - To access Parking Lot to right of entry gate, unlock the tumbler lock on gate using code 1.7.9.4.
    - Facility Keys

- **AE1** – needed to enter building.
- **3769 Key** – use on all Padlocks at facility.

▪ Safety Related
- Safety glasses
- Steel toe boots
- Nitrile gloves or equivalent.
- Air monitoring device for entering facility.
- Flashlight
- Effluent Access Hatch Tool
  - Located at Final Effluent Composite Sampler location in Midland facility and also at Metro Waste Hauler Office.

- Sampling Requirements
  - Sampling containers and parameters (**all samples are grab samples; preserve per Field Preservation Guide Requirements. NOTE: as mentioned above, do not open man-catch safety device in manhole; keep in place!**).
    - One-half gallon plastic (Conventional Parameters – BOD5,TSS)
    - F. coli bottle
    - One-quart glass (Oil & Grease)
    - 1 Liter Plastic (TKN/NH3N/TP)
    - One-half gallon plastic – Settleable Solids.
    - Chlorine Residual *Method – DPD Colorimetric Method 4500 Cl G (parameters include: Total Chlorine Residual, Monochloramine, Chloramines, Total Dichloramine, and Chlorine); Record in space provided on CoC form.* *
    - 1 quart glass jar with string for collecting grab samples. Use for collecting grabs samples from IC# 821 (MO1) manhole location.
    - **NOTE:** do not pump O&G or F. coli samples or use sample from automated sampler; must be actual grab samples. *Collect/preserve all samples in accordance with proper procedures (refer to current Preservation Guide).*

NOTE: If chlorine residual is > 0.2 ppm, then notify any Flow Control personnel on site, if said personnel are not available, then call Metro Board and have them notify Flow Control Personnel.

Onondaga County
Department of Water Environment Protection

Inter-Office Letter

Subject: **Call-in Procedures for OCDWEP Environmental Laboratory**
To: **All Laboratory Personnel**
From: **C. Jeffrey Noce; Laboratory Director**
Date: Friday, December 20, 2013

Following are the updated call-in procedures for the OCDWEP Environmental Laboratory:

The Supervisors will distribute the call-in duties on a monthly, rotational basis. The rotation will be seniority driven and a beeper will be shared. The backup will be the Senior Sanitary Chemist, who will also utilize a beeper. It should be noted that I would also remain available for emergency backup if the situation warrants.

F. Falsey	**Apr '14**	**Sep '14**	
C. Gagliardo	**May '14**	**Oct '14**	
P. Strader	**Jan '14**	**June '14**	**Nov '14**
J. Burnette	**Feb '14**	**Aug '14**	**Dec '14**
T. Pauley	**Mar '14**	**July '14**	

The proper sequence for notification is as follows:

1) Contact the Supervisor that is designated on call for that month (see chart above)

   F. Falsey (beeper 441-3683, phone 255-1394)
   C. Gagliardo (beeper 441-3683, phone 652-7245)
   P. Strader (beeper 441-3683, phone 699-8561)
   J. Burnette (beeper 441-3683) phone 395-9064)
   T. Pauley (beeper 441-3683, phone 481-0730)

2) If the Supervisor on call is unavailable, call the Senior Chemist:
   M. Fowkes (beeper 441-3659, phone 488-8574)

3) if all else fails, call the Laboratory Director:
   Jeff Noce (phone 487-2643, cell 317-3831)

CC: Mike Lannon
Jeanne Powers
Laboratory Policy Manual

Standard Operating Procedure:

HIAWATHA RTF

OVERFLOW SAMPLING

FC# 1100

1. APPROVED: Stephen Bray Stephen Bray 5/13/14
Author — Printed Name — Signature — Date

2. APPROVED: Jeanne Powers Jeanne Powers 5/8/14
Supervisor — Printed Name — Signature — Date

3. APPROVED: Mark Fowles Mark Fowler 5-27-14
QC Mgr. — Printed Name — Signature — Date

4. APPROVED: C. Jeffrey Noce C. Jeffrey Noce 5/28/14
Lab. Dir. — Printed Name — Signature — Date

Change Record

Revision	Date	Responsible person	Description of change
0	07/20/05	Stephen Bray	Initial Release
1	07/25/06	Stephen Bray	Redefined Diversion Weir Level Alarm w/ T. Morse, modified SOP (see Pg. 3/6 Section 4.3)
2	2/20/08	Stephen Bray	Minor updates to call procedures, sample routing, event records. Lab comments included.
3	8/25/09	Stephen Bray	Update contact names and any dated references; also changed sample frequency to 1/24 hrs. Added automated sampler component.
4	2/04/2010	Stephen Bray	Minor changes (Contact names; Division Name)
5	01/11/2011	Stephen Bray	Drop seasonal limitations re F. coli sample; collect every event. Added Lab changes re settleable solids analyses. Attached updated Lab Call-in Memo (01/04/2011)
6	3/23/2011	Stephen Bray	Updated Section 3 call numbers.
7	2/02/2012	Stephen Bray	Updated Section 3 call numbers.
8	4/04/2012	Stephen Bray	Updated to reflect new requirements in SPDES Permit # NY02 7081 EDP 3/21/2012 and Lab Call-in Memo 12/22/2012.
9	11/6/2012	Stephen Bray	Update On-call Personnel List
10	5/22/2013	Stephen Bray	On Pg. 4 & 8, Evenings chg'd 0130 hrs. to 0300 per Lab Req.
11	5/02/14	Stephen Bray	Changed Primary Contact listing (added Janaki); reference to latest (12/20/13) Lab Call-in List

Distribution List (via meeting or circulation to individuals)

1) Process Engineering SOP Reference Book

1. SCOPE – To establish standard operating procedures for collecting samples of wastewater that discharges (overflows) from the Hiawatha Regional Treatment Facility (Hiawatha RTF) into receiving waters (Ley Creek) in accordance with current SPDES Permit # NY 002 7081.

2. PURPOSE – Under extreme weather conditions, it is possible that too much flow in a short period of time could result in a treatment facility overflow discharge event. The County is required to monitor Sanitary Sewer Overflows (SSO) and WWTP system by-pass/discharge events as part of SPDES Permit requirements to determine the impact of such discharges on receiving waters.

3. RESPONSIBILITIES

Name	Title	Home Phone	Cell Phone	Project Involvement
Stephen Bray	Sanitary Engineer II	673-1610	263-4972	ETS Primary Contact*
David Colbert	Sanitary Engineer II	NA	567-6637	ETS Primary Contact*
Janaki Suryadevara	Sanitary Engineer II	699-0467	420-7259	ETS Primary Contact*
Daniel Jean	Operations Superintendent		263-7467	Supervisor – Cty Operations
Flow Control Call-in Personnel	*Contact Metro Board and have them call (see above)*	435-3142		Unusual issues at RTF
Metro Operators	*Metro Operators*	435-3142		Make alarm notifications.
Refer-Contact List	Wastewater Technician II	See Attached		Technician Supervisor
Technicians Group	Wastewater Technician I			Collect samples

* Monthly Rotation – refer to current rotational schedule.

4. PROCEDURE

4.1. SAFETY

4.1.1. Safety glasses, Steel Toe Boots, Air monitoring device, Flashlight.

4.2. Monitoring Location(s):

4.2.1. IC# 1100 – Hiawatha RTF Dechlorination Tank at point of overflow discharge to the receiving waters (see attached schematic).

4.3. OVERFLOW DISCHARGE DESCRIPTION: An effluent discharge event starts once the RTF actually begins discharging to receiving waters from the dechlorination tank and ends when the discharge of wastewater stops. If a bypass does not occur for more that 30 minutes (start/end), it is not necessary to collect a sample. Sampling during initial by-pass discharge event shall commence within the first 60 minutes after the initial overflow. However, if another by-pass occurs before stored RTF water is

completely discharged back to Metro WWTP, sampling shall resume within 30 minutes and can be considered part of the same by-pass event. If all RTF water has been discharged to Metro, then a new event will be declared. An ultrasonic level detector alarm will alert Metro Board personnel as to when an overflow is imminent. The overflow discharge event will be confirmed visually by responding ETS personnel and/or Sewer Maintenance personnel. For Lab Notification, refer to Section 4.8 of this document.

4.4. The trigger to initiate sampling at the Hiawatha RTF will be based on a level alarm of 6 feet in the dechlorination tank. The level needed to overflow is 11.81 feet without **stop log in place at the Effluent Box Culvert (> 12' w/ stop log in place)**. When the level rises to six feet (6'), the **Hiawatha RTF Diversion Weir Level Alarm** will be triggered in the SCADA system at Metro Board. When this alarm is enacted, Metro Board personnel shall notify the ETS Primary Contact or designated Back-up. (Refer to Section 3.0 above).

4.5. RESPONSE (Times)

4.5.1. Day - Evening (24 Hours) and Holidays: During an alarm event (at any time), **Metro Board personnel** will notify the designated ETS Primary Contact first. If unavailable, the Board shall contact the ETS Back-up Contact; **do not just leave a message, actual voice communication with this individual must be made (refer to Section 3 herein for phone numbers)**. The ETS person contacted will then assume responsibility for arranging sample collection per requirements. All samples will be collected by ETS Wastewater Technician staff. Once the alarm has been received, the responsible party (ETS Primary Contact) shall notify the available Tech II (refer to the attached Tech 2 Contact List) to arrange collecting the sample by calling in a 2-person Wastewater Technician crew. Note: for safety reasons, the crew must be 2-person). Once a set of grab samples has been collected, Wastewater Technicians shall notify **Metro Board personnel between 1530 hrs through ~~0130~~ 0300 hrs** and request that they notify the Lab Supervisor on-call (see attached Lab On-call memo dated **12/20/13**) to arrange for a lab technician to come in and analyze the collected samples due to holding times for F. coli samples. (NOTE: It is important to verify the discharges and collect samples before holding over or calling in Lab personnel after hours); visually check the effluent weir and the outfall channel. ETS Wastewater Technician personnel will transport all field samples back to the Henry Clay Lab facility and call ETS Primary Contact or Backup, to inform him that samples were collected and to receive further instructions. **Note**: at the time of initial response, the sampling crew shall also set up a 24 hour bottle sampler to collect a composite sample of the discharge over the 24 hour period (if a refrigerated sampler has not been permanently established at the site – 2 samples/bottle every 30 minutes). At the end of the 24 hour period, the sample shall be collected and delivered to the OCDWEP Environmental Lab for composite parameters listed herein.

4.5.2. **Hiawatha RTF Site Access**: If the gate to enter the back parking lot from the Regional Market main entrance that leads to the Hiawatha facility is locked, use the alternate back entrance road (see attached photos/map). Once the sampling crew reaches the Hiawatha RTF Entry Gate, a

#3769 key is needed to open the lock on the gate to access the sampling location. (Be sure to re-lock the gate when leaving the facility).

4.6. REQUIRED SAMPLING

4.6.1. ETS Personnel exclusively: Wastewater Technicians are to collect the following samples (grab and composite) when an RTF overflow discharge event has started (for grab samples, it is important to get to the site ASAP, within 60 minutes of alarm notification). **To confirm that a dechlorination tank effluent discharge is occurring, check the Stop Log at the Effluent Box Culvert and confirm that flow is discharging (see attached facility schematic).** Collect grab samples for **all parameters** (including composite parameters); later, pick up composite samples and deliver to lab for composite parameters (see below).

4.6.1.1. Half-gallon Plastic (Conv) – deliver to HC Lab for BOD5/TSS. **Note**: at the time of initial response, the sampling crew shall also set up a 24 hour bottle sampler to collect a composite sample of the discharge over the 24 hour period (if an automated 24 bottle refrigerated sampler has not been permanently established at the site). At the end of the 24 hour period, the sample shall be collected and delivered to the OCDWEP Environmental Lab for composite parameters listed herein.

4.6.1.2. One-quart Glass (O&G) Note: 1st grab requires QC sample; refer to OCDWEP Environmental Lab Field Preservation Guide.

4.6.1.3. 125ml Plastic (F. Coli); need Cl_2 Res - use Hach Colorimeter II at time of grabs; record on the Chain of Custody. **Collect during all overflow events every four hours. Parameters include: Total Chlorine Residual, Monochloramine, Chloramines, Total Dichloramine, and Chlorine (per Chlorine DPD Colorimetric Method 4500-Cl G). Refer to Field Chlorine Calculations Form attached; use form to record calcs and results; include w/CoC.**

4.6.1.4. One Liter Plastic (TKN/NH3/TP) – Grab and Composite Sample; deliver to HC Lab.

4.6.1.5. Half-gallon Plastic (Conv) – deliver to Henry Clay Lab w/ CoC for Settleable Solids test. Lab will perform analysis.

4.6.1.6. Event Visual Observations (Overflow verification/grab times and floatables) - taken at time of grab sample; record on the Chain of Custody for grab samples.

4.6.2. Sampling Parameters

HIAWATHA RTF BYPASS SAMPLING ANALYTES
(For OCDWEP Laboratory use only)

ANALYTES	SAMPLE TYPE	FREQUENCY
Conventional (BOD_5, TSS)	Grab/Composite	Each Event (1 every 4 hrs)
TKN/NH_3/TP	Grab/Composite	Each Event (1 every 4 hrs)
Oil & Grease **(1)**	Grab	Each Event (1 every 4 hrs)
Fecal Coliform **(2)**	Grab	Each Event (1 every 4 hrs)
Chlorine Res./ Settleable Solids **(3)**	Grab	Each Event (1 every 4 hrs)
Visual Observations (Floatable Materials)	Visual	Each Event (1 every 4 hrs)

(1) Refer to current OCDWEP Environmental Laboratory-Field Preservation Guide. Composite Samples to be collected in the dechlorination tank of the Hiawatha RTF (see attached schematic & photo). Collect grabs at the outfall point. F. coli to be collected during every event every 4 hours. Use the Hach Colorimeter II to determine chlorine residual requirements (see above) after dechlorination at the time of F. coli grab; Record on CoC. (3) Settleable Solids samples are delivered to HC Lab; Lab will perform analysis.

4.7. **General Requirements (ETS Personnel and Metro Board):** Overflow Event Tracking Log/Chain of Custody Form/Sample Preservation.

4.7.1. A C-of C Form must be completed for each sample set collected. C-of-C Forms must accompany all samples to the Henry Clay Lab. Include visual observations of sample (important). C-of-C Forms must accompany all samples to the Henry Clay Lab. Completed data sheets recording observations/grab samples must also be delivered to HC Lab.

4.7.2. Preserve samples according to procedures listed on the most current OCDWEP Environmental Lab - Field Preservation Guide. All samples must be stored at 4^0 C prior to delivery to the Henry Clay Lab. **NOTE: If the Henry Clay Lab is not staffed at the time of sample delivery, store samples in the refrigerator located in the Henry Clay ETS garage; keep chain of custody forms with the samples. When Lab personnel are called in after hours, they should check said refrigerator for samples. Key is located in the top drawer next to the refrigerator.**

4.7.3. The Fecal Coli containers are preserved, do not rinse or overfill containers. Collect sample in one bottle and pour into another clean preserved F. Coli bottle. Store samples at 4^0 C prior to delivery to the Henry Clay Lab. (Refer to OCDWEP Environmental Laboratory - Field Preservation Guide in ETS Annual Sampling Schedule – Section III).

4.7.4. Note that the TKN/NH3/TP samples (grab/composite) are to be de-chlorinated in accordance with the most current OCDWEP Environmental Laboratory - Field Preservation Guide. Document de-chlorination in the space provided on the latest Chain of Custody Form.

4.7.5. Settleable Solids: Deliver a half gallon plastic container with a C-of-C Form to the Henry Clay Environmental Lab; the Lab will perform analysis

4.7.6. Cl_2 Residual test must be performed on all Final Effluent samples collected (FC# 1100) using the Hach Colorimeter II tester (Record results on C-of-C form). New Permit requires the following: Use Method Chlorine by DPD Colorimetric Method (4500-Cl G) for Total Chlorine residual and also for the four additional analytes: Monochloramine, Chloramines, Total Dichloramine and Chlorine.

4.7.7. Refer to procedures for Oil & Grease samples in the most current OCDWEP Environmental Laboratory - Field Preservation Guide..

4.7.8. Composite Samples: Sample will be collected from a 24 hour composite sampler set up at the disinfection tank once the event has ended (period determined by SE2) and delivered w/ CoC documentation and required preservation to HC Lab. (Deliver for composite parameters only).

4.8. Lab Notification

4.8.1. Contact the designated Lab on-call contact person between 1530 - ~~0130~~ 0300 hours so that arrangements can be made to begin the analytical procedures for F. coli samples. **See attached Call-in Procedures for OCDWEP Environmental Laboratory (12/20/13).** If the designated on-call person is unavailable, contact the Sr. Chemist at 441-3659 (Beeper). After ~~0130~~ 0300 hours, WW Techs shall notify the ETS Primary Contact or designated Back-up to alert him that a sample will need to be delivered ASAP to the Henry Clay Lab at the start of the morning shift; all samples must **be stored at 4^0C prior to delivery (If the lab is not staffed, keep in ETS Garage Refrigerator (Locked)– Tech II's to make sure the sample is delivered the next morning).**

4.8.2. **During scheduled work hours, the lab will be notified by the Wastewater Technician Supervisor (WWT2) and/or the Sanitary Engineer II on call. The event period will be determined by the Sanitary Engineer II based on data received from SCADA monitors and/or Flow Control Engineers.**

5. RELATED DOCUMENTS

5.1. Attachment: Call-in Procedures for OCDWEP Environmental Lab

5.2. Attachment: Hiawatha RTF Schematic (as-built); Map re back entrance if main gate to back lot is locked. Also refer to Site Photos

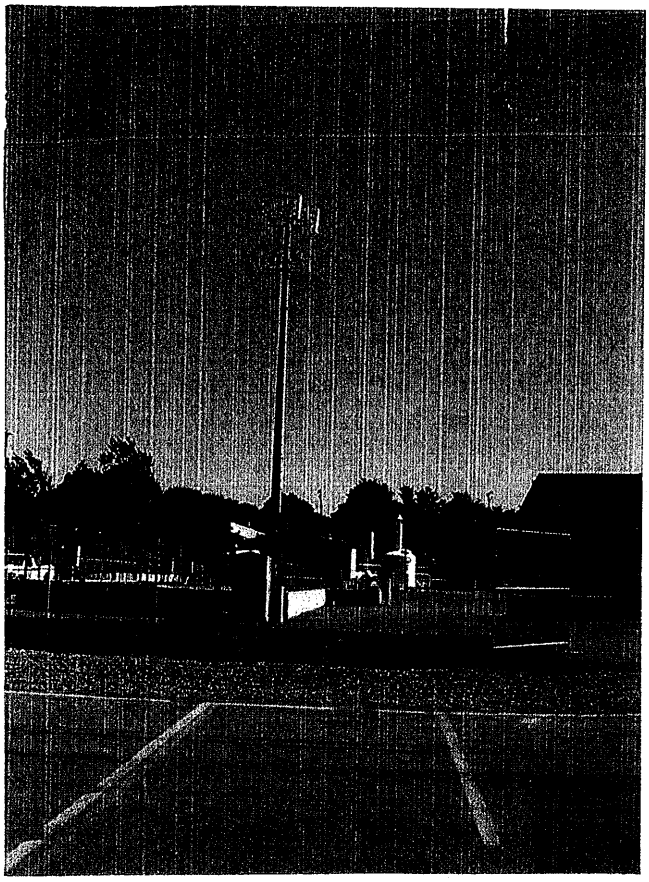
5.3. OCDWEP Environmental Laboratory Field Preservation Guide (Latest Revision)

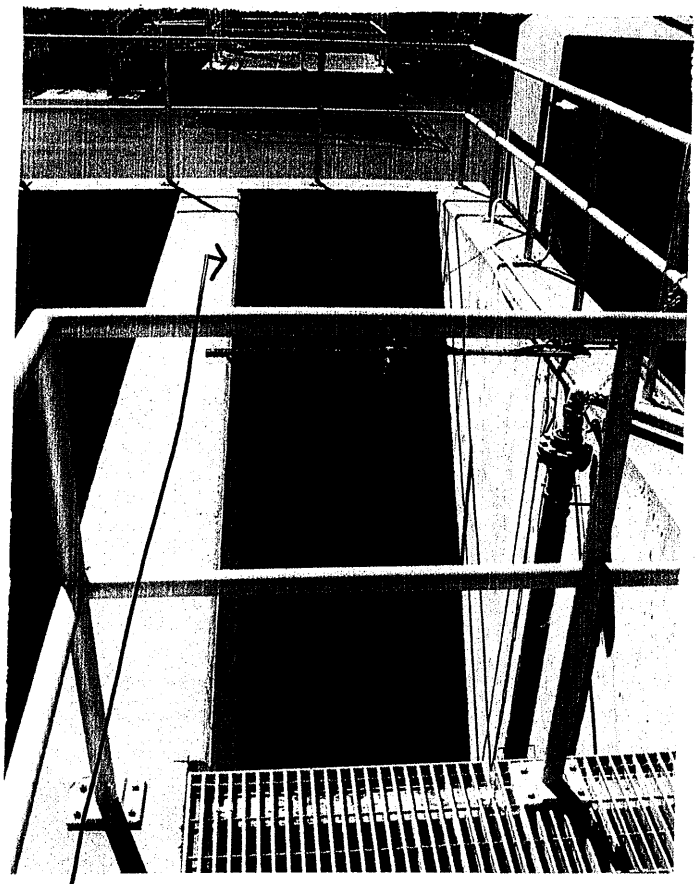
6. TRAINING CERTIFICATION RECORD

I certify that the requirements of this SOP have been communicated to me and that I am trained in its use.

Employee Name (print)	Signature	Job Title	Date
Diane Hausch	Diane Hausch	WWT-1	5-30-14
Mark Halbritter		WWT-2	5/30/14
Nathan Talucci		WWT-1	05/30/14
Kevin Stager		WWT-1	6/9/14
Jason Teribury		WWT-I	6/9/14
Alex Studdert		WWT-I	6/09/14
Travis Henn		WWT-1	6/9/14
Robert M. D'Argenio		WWT-1	6/9/14
Jason Shaw		WWT1	6/9/14
Theresa M French	Theresa M French	WWT	6/16/14
Barbara Stager	Barbara Stager	WWT1	6/24/14
	Dan Wolfgang	WWT-II	7/22/14
TRL Tim Larkin	Timothy Larkin	WWT1	7-21-14

HIAWATHA RTF (behind Regional Market)





GRAB SAMPLE LOCATION

Onondaga County
Department of Water Environment Protection

Inter-Office Letter

Subject: **Call-in Procedures for OCDWEP Environmental Laboratory**
To: **All Laboratory Personnel**
From: **C. Jeffrey Noce; Laboratory Director**
Date: Friday, December 20, 2013

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The proper sequence for notification is as follows:

1) Contact the Supervisor that is designated on call for that month (see chart above)

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   J. Burnette (beeper 441-3683) phone 395-9064)
   T. Pauley (beeper 441-3683, phone 481-0730)

2) If the Supervisor on call is unavailable, call the Senior Chemist:
   M. Fowkes (beeper 441-3659, phone 488-8574)

3) if all else fails, call the Laboratory Director:
   Jeff Noce (phone 487-2643, cell 317-3831)

CC: Mike Lannon
Jeanne Powers
Laboratory Policy Manual

Appendix E

Flow Control SOP Summary

The following is a list of Flow Control Standard Operating Procedures (SOPs) to be used as a reference to supplement the Wet Weather Operating Plan.

- Floradale Road Wet Weather Operating Work Plan, dated May 19, 2010.

Original

ONONDAGA COUNTY
DEPARTMENT OF WATER ENVIRONMENT PROTECTION

FLORADALE ROAD WET WEATHER OPERATING WORK PLAN

May 19, 2010

This work plan was prepared to meet the requirements set forth in Appendix A, Item 4, of the Floradale Road Order on Consent - CO-7-20070706-4, dealing with alleged sanitary sewer overflows (SSOs) in the Floradale Road tributary area. The effective date of the Order on Consent is May 7, 2009.

This work plan was developed by Stearns & Wheler GHD with involvement by Onondaga County Department of Water Environment Protection (OCDWEP) staff.

WORK PLAN

1. **Operational Procedures for Storms Exceeding the Design Capacity of the Floradale Road Pump Station.**

   a. **Pump Station Design Capacity**. The design capacity of the Floradale Road Wet Weather Pump Station is 800 gallons per minute as derived from the Liverpool Pump Station Improvements Engineering Report developed by Blasland, Bouck & Lee in May 2003.

   b. **SCADA Alarm System**. The pump station is equipped to transmit alarms through the OCDWEP SCADA system when one of several events occurs at the pump station. These events include the following.

      - **Pump Activation.** If the pumping system is activated an alarm is sent via the SCADA system. The pumping system is activated when the floats or ultrasonic level monitor in the wet well detect certain water levels.

      - **Float Switch.** A float switch in the wet well at the "high" level is triggered. When this switch activates, an alarm is sent via the SCADA system.

      - **Ultrasonic Level Monitor.** The ultrasonic system is a redundant system in tandem with the floats, and sends an alarm if a high wet well condition is detected.

      - **Loss of Power to the Pump Station.** If normal power to the pump station is interrupted, an alarm is sent via the SCADA system. The pump station alarm system is equipped with a backup power system to energize the SCADA system and send alarms. The backup power system is not capable of operating the pumps.

These SCADA alarms are monitored by a duty operator at all times and alert the operator when the Floradale Road Wet Weather Pump Station begins operation. When the pump station is activated, staff is dispatched to the trunk sewer and pump station to monitor flow and install a portable pump if necessary (the portable pump will only be started when surcharge conditions in the trunk sewer or wet well are observed). Under almost all circumstances this plan will allow staff adequate time to monitor flows and then install and operate an additional pump if surcharging conditions appear imminent. The events which could result in surcharging conditions not being prevented by this proposed plan include unpredicted storms of high intensity and very short duration, which may result in surcharges prior to staff and equipment being deployed (large thunderstorms with highly localized intense rain), or extremely large storms which so overload the trunk sewer and wet weather pump station that the additional portable pump may not be able to prevent surcharging.

c. **Historical Activations and Other Large Storms.** Historical data reveals that the Floradale Road Wet Weather Pump Station has activated on only two occasions since it was completed in June 2006. The dates of these two events were July 12, 2006 and December 23, 2007. Details of each event are given below.

- On July 12, 2006, 4.29 inches rain fell in the City of Syracuse as reported on the National Weather Service on the NOAA website: http://www.erh.noaa.gov. This rainfall amount is much higher than the proposed trigger criteria in this work plan of 1.5 inches of rain during periods when there is no snow cover, and 0.75 inches of rain when there is snow cover.

- On December 23, 2007, 0.77 inches of rain fell and a significant snowmelt event occurred. This rainfall event is more than the trigger criteria of 0.75 inches of rain proposed in the work plan. Approximately 10 inches of snow melted on this day, and so the equivalent rainfall for this day was approximately 1.77 inches (0.77 inches of actual rain plus 10 inches of snowmelt with each inch equivalent to approximately 0.1 inches of rainfall per engineering judgment).

- On August 9/10, 2009, a large rainfall event occurred which did not result in activation of the Floradale Road Wet Weather Pump Station. On August 9, 2009, 1.35 inches of rain was recorded and on August 10, 2009 an additional 1.13 inches of rain fell. This large storm included a one hour period from 10:50 PM to 11:50 PM on August 9, 2009 when 1.0 inches of rain fell.

d. **Rainfall Events which are likely to Trigger Floradale Road Wet Weather Pump Station Activation.** Based on the historical storms described above it appears that intense rain events that produce more than 1.75 inches may induce flows in the Bloody Brook Trunk Sewer which could trigger activation of the Floradale Road Wet Weather Pump Station. In this work plan we propose to begin special operations to monitor and respond to high flow conditions when high rainfall events are predicted, or when actual alarms are triggered. Our assumptions that predicted rain events of 1.5 inches or more during periods with no snow cover or events of 0.75 inches or more during periods of snow cover justify increased observation of the trunk sewer and pump station wet wells are

based on engineering judgment after review of the known activation events and other large storms. Pump station activation depends on many factors, with precipitation being the most easily measured factor. For this reason predicted precipitation was chosen as one of the items which will trigger special operations. Previous rainfall, snow cover, ambient temperature, and the intensity and duration of an actual storm are all major factors affecting the likelihood of pump station activation. The OCDWEP operating staff also draw from their own experience in determining when conditions exists that make pump station activation more likely. All of these factors are considered when making the decision to deploy field personnel to inspect and monitor the flow condition of the Bloody Brook Trunk Sewer.

e. **Special Operational Procedure Trigger Criteria**. For the purposes of initiating the pre-emptive actions listed later in this work plan, the OCDWEP will use the following trigger events to begin special operational procedures:

- Predicted rain events of more than 1.5 inches in a 24-hour period during periods when there is no snow cover
- Predicted rain events of more than 0.75 inches in a 24-hour period when there is snow cover
- Floradale Road Pump Station Pump Activation Alarm
- Floradale Road Pump Station High Wet Well Alarm via Float Switch
- Floradale Road Pump Station High Wet Well Alarm via Ultrasonic Sensor.

f. **Responsibilities for Implementation**. An organizational chart for the Flow Control Division at the OCDWEP is attached. As the organization chart shows, the Sewer Maintenance Engineer (SME) has primary responsibility for the entire Division, which is charged with monitoring flows and responding to high flow events. The names of the people currently holding each key position are shown below.

Sewer Maintenance Engineer	Nicholas Capozza Daytime Telephone: 315-435-5402, ext. 204 Off-Hours Telephone: 315-263-3532 Work Hours: Monday-Friday, 8:00 a.m. to 4:00 p.m. On-Call Hours: Always on call Responsibility: Primary overall responsibility
Sewer Maintenance Superintendent	Chris Deitman Daytime Telephone: 315-435-5402, ext. 202 Off-Hours Telephone: 315-263-4974 Work Hours: Monday-Friday, 8:00 a.m. to 4:00 p.m. On-Call Hours: Always on call Responsibility: Primary responsibility for dispatch of staff and equipment

Sanitary Engineer 3	Eric Schultheis Daytime Telephone: 315-435-5402, ext. 205 Off-Hours Telephone: 315-263-4921 Work Hours: Monday-Friday, 8:00 a.m. to 4:00 p.m. On-Call Hours: Always on call Responsibility: Backup Overall Responsibility if Sewer Maintenance Engineer is not available.
Sewer Maintenance Supervisor	Mark Russell Daytime Telephone: 315-435-5402, ext. 208 Off-Hours Telephone: 315-430-1791 Work Hours: Monday-Friday, 8:00 a.m. to 4:00 p.m. On-Call Hours: Primary/backup on rotation Responsibility: Backup responsibility for dispatch of staff and equipment
Sewer Maintenance Supervisor	Andy Gunnip Daytime Telephone: 315-435-5402, ext. 207 Off-Hours Telephone: 315-263-1959 Work Hours: Monday-Friday, 8:00 a.m. to 4:00 p.m. On-Call Hours: Primary/backup on rotation Responsibility: Backup responsibility for dispatch of staff and equipment
Sewer Maintenance 24-Hour Dispatch	Daytime Telephone: 315-435-3157 Off-Hours Telephone: 315-435-3157 Full Radio Dispatch Capabilities Work Hours: 24 hours/7 days, including holidays On-Call Hours: 2 shifts, 11:00 p.m. to 7:00 a.m., rollover to Metropolitan WWTP

g. **Special Operational Procedures**. The Special Operational Procedures proposed consist of the following steps.

- **Identification of Potential High Flow Events.** The Sewer Maintenance Engineer will remain aware of predicted rain events and the condition of the snow pack by checking weather forecasts on a daily basis. If a large storm or weather conducive to a snowmelt is predicted the SME will check weather forecasts and actual conditions every 2 hours to determine if implementation of Special Operating Procedures are warranted.

- **Monitoring of High Flow Events.** Once a rain or snowmelt event with the potential to create high flows is in progress, the Sewer Maintenance Supervisors and Sewer Maintenance Workers (SMW) will monitor the wet well level at the Floradale Pump Station via the SCADA system on an hourly basis as well as with field observations of the sewer system. The supervisory staff will inform the SME if the pumps activate or if a high wet well or other alarm is registered.

- **Determination that Special Operational Procedures are Warranted.** If the supervisory staff informs the SME that one of the trigger events established in this work plan has occurred, or is likely to occur based on SCADA data and observations of weather and flow conditions, the SME will initiate Special Operational Procedures.

- **Initiation of Special Operation Procedures.** The SME will initiate the Special Operational Procedures by contacting the Sewer Maintenance Superintendent (SMS) and instructing him/her to implement the Special Operation Procedures, which consist of the following actions.

    - **Dispatch of Two Sewer Maintenance Workers** (two people, dispatched in vehicles) to gather emergency response equipment and bring it to the Floradale Road area. Once the teams have travelled to the Floradale Road area, they will begin to pull manhole covers to observe the flow in the manholes in the area. The teams will contact the SMS by radio or cell phone to relay information on sewage levels in the manholes.

    - If directed by the SMS, the SMWs will set up a portable pump at the manhole determined to be the most likely to overflow. The team will prepare the pump, attach hoses, and test run the engine. The team will then report to the SMS that they can initiate bypass pumping if needed.

    - If the SMW's report that conditions exist that will cause surcharging or an exceedence of the capacity of the Floradale Road Wet Weather Pump Station, the SME or SMS will direct them to begin bypass pumping. The time that bypass pumping begins and ends will be recorded by the SMW's in their Daily Time Reports (DTRs). The rated capacity of the pump will be used as the flow rate to calculate a total volume of bypass pumping once the event has ended. The SMWs will remain in the Floradale Road area and monitor the flow in the manholes while bypass pumping is in progress.

      When the surcharge condition in the manhole diminishes they will cease bypass pumping and record the time when the pump was stopped. The portable pump will be left in place and ready for operation for a minimum period of 4 hours after pumping ceases. The SMWs will continue to monitor flow in the Floradale area manholes for that period and will report to the SME or SMS on an hourly basis.

    - Once the SMS determines that the threat of an SSO has passed, he/she will direct the SMWs to return the emergency equipment to the storage area and return to normal maintenance work.

h. **Reporting to Agencies.** The SMS or SME will report the bypass pumping per the terms of the existing SPDES Permit #NY-0027081, which includes e-mail notification followed by written requirements as listed below.

- **NYSDEC Region 7.** Contact the Region 7 Water Engineer, currently Mr. Joseph Zalewski, within 24 hours of discharge occurrence by e-mail contact.

- **Additional NYSDEC Staff.** Include the following NYSDEC Region 7 staff in the initial notification either by e-mail or additional telephone calls: Ms. Mary Jane Peachey and Mr. Saiban Mahamooth.

- **Written Incident Report.** Submit a written incident report showing the details of the bypass pumping event, reviewed and signed by the Commissioner, SME, and SMS to the NYSDEC Region 7 Water Engineer within 5 days of the occurrence.

i. **Emergency Equipment.** The OCDWEP maintains a large supply of emergency equipment that can be used for bypass pumping. The following equipment is stored at the Henry Clay Wastewater Collection Operation Center at 7120 Henry Clay Boulevard Liverpool, New York and the Ley Creek Pump Station at 5157 Ley Creek Drive Syracuse, New York; both of these locations are approximately 2 miles from the Floradale Road area.

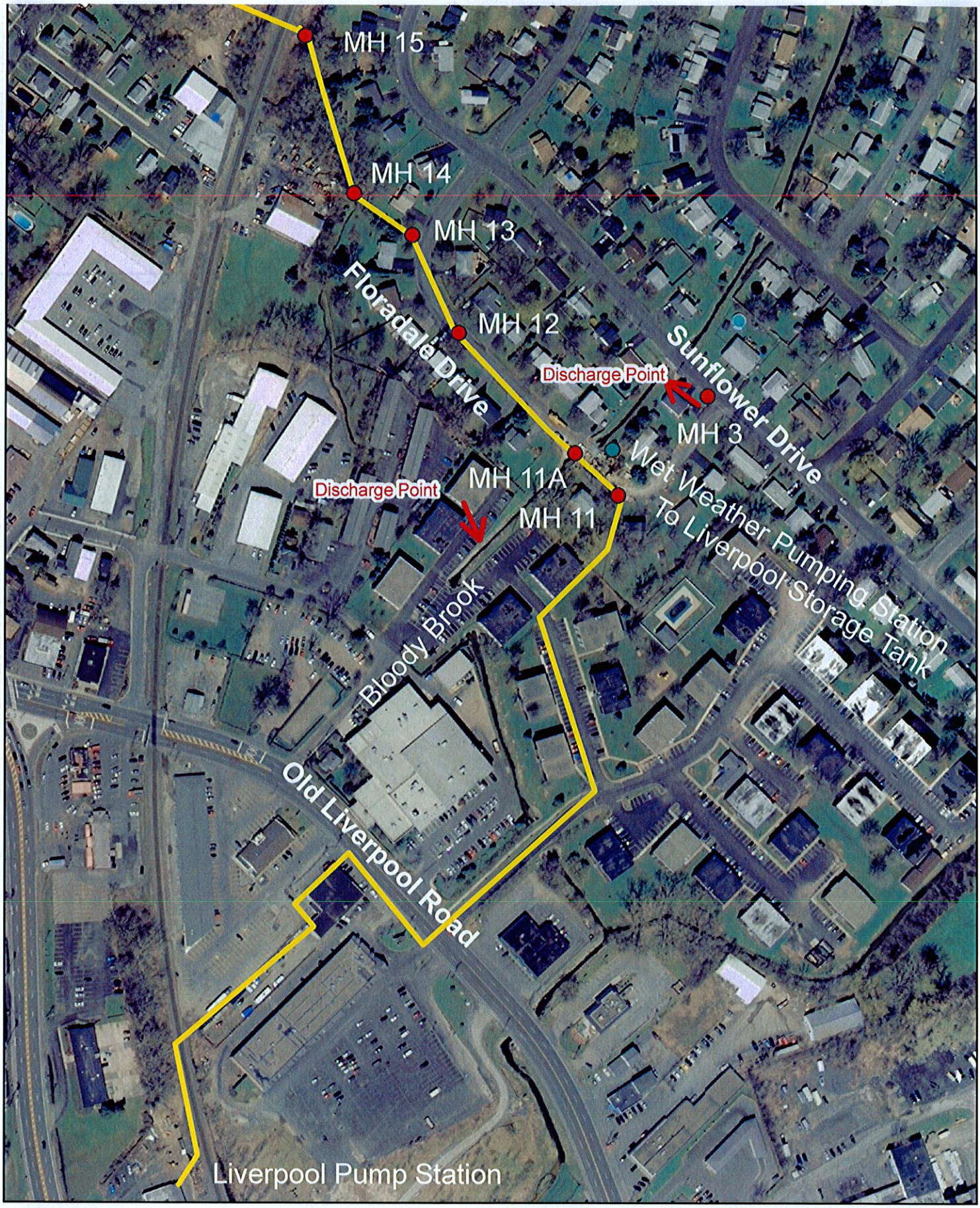
- One 4-inch Godwin portable pump, rated capacity of 1,500 gpm
- One 6-inch Godwin portable pump, rated capacity of 2,200 gpm
- Four 50-foot lengths of 4-inch discharge piping
- Four 50-foot lengths of 6-inich discharge piping
- Four trucks capable of towing either pump.

j. **Map of Floradale Sanitary Area**. The attached map of the area shows the location of the sewer mains and Manholes 3 (Sunflower Drive) 11, 11A, 12, 13, 14, and 15 (Floradale Road). The location of Bloody Brook is also shown on the map. Manholes 3 and 11A are the ones which will be monitored, and which may potentially have bypass pumping equipment installed during high flow events.

k. **Training.** Upon approval of this work plan, the OCDWEP will conduct training for all OCDWEP personnel involved in the Special Operating Procedures, and will maintain a copy of the training agenda and employee sign in sheet with the OCDWEP Training Officer. An annual training update for the Special Operating Procedures will be included in the training template administered to OCDWEP employees.

ONONDAGA COUNTY DEPARTMENT OF WATER ENVIRONMENT PROTECTION

Nicholas A. Capozza
Sewer Maintenance Engineer



Bloody Brook Trunk Sewer
High Flow Discharge Points, Salina

KEY

Bloody Brook Trunk Sewer 24" - 27"

ONCDWEP 1/29/10 CE