

Honeywell
301 Plainfield Road
Suite 330
Syracuse, NY 13212
315-552-9700
315-552-9780 Fax

September 2, 2014

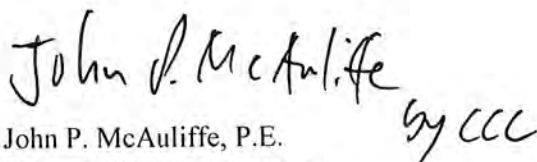
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Holly Sammon, Onondaga County Public Library (1 bound)
Samuel Sage, Atlantic States Legal Foundation (1 bound)
Cara Burton, Solvay Public Library (1 bound)
Mary Ann Coogan, Camillus Town Hall (1 bound)
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Diane Carlton, NYSDEC, Region 7 (1 PDF)
Joseph J. Heath, Esq., Onondaga Nation (1 bound)

Re: Letter of Transmittal – Onondaga Lake Repository Addition

The below document has been approved by the New York State Department of Environmental Conservation (NYSDEC) and is enclosed for your document holdings:

- Onondaga Lake Bottom Site – Supplemental Treatment and Lake Discharge Completion Report, Honeywell SCA WTP dated June 2014

Sincerely,


John P. McAuliffe, P.E.
Program Director, Syracuse

Enc.

cc: Timothy J. Larson – NYSDEC
Chris Fitch, Communications (cov ltr – email)

New York State Department of Environmental Conservation

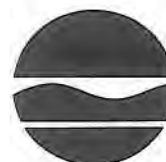
Division of Environmental Remediation

Remedial Bureau D, 12th Floor

625 Broadway, Albany, New York 12233-7013

Phone: (518) 402-9676 • **Fax:** (518) 402-9020

Website: www.dec.ny.gov



Joe Martens
Commissioner

August 22, 2014

Mr. John P. McAuliffe, P.E.
Program Director, Syracuse
Honeywell International
301 Plainfield Road, Suite 330
Syracuse, NY 13212

Re: Onondaga Lake Bottom Site - Supplemental Treatment and Lake Discharge Completion Report, Honeywell SCA WTP, June 2014 (Site No. 7-34-030)

Dear Mr. McAuliffe:

The New York State Department of Environmental Conservation (Department) has reviewed the June 2014 Supplemental Treatment and Lake Discharge Completion Report, Honeywell SCA WTP. This document was submitted to the Department *via* your June 19, 2014 letter. The report is hereby approved.

Copies of the document, along with the cover letter, should be placed in the site document repositories. If you have questions regarding this letter, please feel free to call me at 518-426-9676.

Sincerely,

Richard A. Mustico, P.E.

Project Manager

Remedial Bureau D

Division of Environmental Remediation

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Honeywell
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June 19, 2014

Mr. Richard Mustico
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau D
625 Broadway
Albany, NY 12233-7013


Re: **Onondaga Lake Bottom Subsite – Onondaga County, NY**
Consent Decree 89-CV-815
SCA Water Treatment Plant
Supplemental Treatment and Lake Discharge Design Completion Report

Dear Mr. Mustico:

Included in this submittal is the SCA WTP Supplemental Treatment and Lake Discharge Completion Report with Final/Record Drawings.

If you have any other questions, please contact Brian White at (315) 956-6862 or me at (315) 552-9700.

Sincerely,


John P. McAuliffe, P.E.
Program Director, Syracuse

| | | |
|-----|-------------------------|--------------------------------|
| cc: | Brian D. Israel, Esq. | Arnold & Porter (ec or CD) |
| | William Hague | Honeywell (ec or CD) |
| | Larry Somer | Honeywell (ec or CD) |
| | Patricia Pastella | OCDWEP, Syracuse (ec) |
| | Nick Capozza | OCDWEP, Syracuse (ec) |
| | Michael Lannon | OCDWEP, Syracuse (ec) |
| | Argie Cirillo, Esq. | USEPA (ec ltr only) |
| | Donald J. Hesler | NYSDEC, Albany (ec ltr only) |
| | Mary Jane Peachey | NYDEC, Region 7 (ec ltr only) |
| | Tim Larson | NYSDEC, Albany (ec ltr only) |
| | Tara Blum | NYSDEC, Region 7 (ec ltr only) |
| | Reggie Parker | NYSDEC, Region 7 (ec ltr only) |
| | Margaret A. Sheen, Esq. | NYSDEC, Region 7 (ec ltr only) |
| | Sandra Lizlovs | NYSDEC, Region 7 (1 copy) |
| | Brian Baker | NYSDEC (ec and 1 copy) |
| | Catherine Hardison | NYSDEC (ec and 1 copy) |

Mr. Richard Mustico
June 19, 2014
Page 2

| | |
|------------------------|--|
| Mark Sergott | NYSDOH (1 copy, 1 CD) |
| Maureen Schuck | NYSDOH (ltr only) |
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| Joseph Heath, Esq. | (ec ltr only) |
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| Jeanne Shenandoah | Onondaga Nation (1 copy and ec ltr only) |
| Curtis Waterman | HETF (ec or CD) |
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| Steve Miller | Honeywell (CD/ltr only) |
| Christopher C. Calkins | O'Brien & Gere (ec or ec ltr only) |
| Paul D. Schultz | O'Brien & Gere |
| Brian E. White | O'Brien & Gere |

SUPPLEMENTAL TREATMENT AND LAKE DISCHARGE COMPLETION REPORT

Honeywell SCA WTP

**Honeywell International, Inc.
Syracuse, NY**

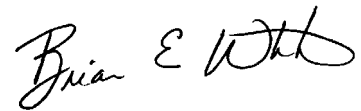
June 2014

CERTIFICATIONS

I, Brian White, am currently a registered professional engineer licensed by the State of New York. I had primary direct responsibility for implementation of the associated with construction of the SCA WTP Supplemental Treatment and Lake Discharge, and I certify that the Design was implemented and that construction activities were completed in substantial conformance with the Department-approved design and subsequent modifications.

072730

June 19, 2014



NYS Professional Engineer #

Date

Signature

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ATTACHMENTS

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| 1 | Honeywell Outfall 15B – Effluent Limits, Levels, and Monitoring |
| 2 | Supplemental Treatment and Lake Discharge Drawings U-1, I-31, I-46, G-4, and G-14 |
| 3 | NYSDEC Approval of Supplemental Treatment System and Lake Discharge |
| 4 | SCA WTP STS Standard Operating Procedures (SOPs) |

1. INTRODUCTION

The Honeywell Sediment Containment Area (SCA) Water Treatment Plant (WTP) normally discharges treated effluent to the Metropolitan Syracuse Wastewater Treatment Facility (Metro) for supplemental treatment, prior to discharge to Onondaga Lake. The design average and peak discharge flows are 6.5 and 10 million gallons per day (MGD), respectively. During wet weather events, the hydraulic capacity of the Metro facility may be reached. This periodically results in Metro being unable to receive flow from the SCA WTP.

In order to maximize operational up-time for future dredging operations, provisions (supplemental treatment) have been made to facilitate discharge of up to 6.5 MGD of SCA WTP effluent to Onondaga Lake. A permit for discharge to Onondaga Lake via Outfall 15B is included as Attachment 1 to this document. This discharge only occurs during wet weather shutdowns or during periods of testing at Metro during wet weather shutdowns.

2. DESIGN OVERVIEW

2.1. SUPPLEMENTAL TREATMENT AND LAKE DISCHARGE DESIGN AREAS

The design included modifications at two existing locations

- Lakeshore area
- SCA WTP site

2.1.1. Lakeshore Area

Outfall 15B conveys SCA WTP treated effluent to Onondaga Lake. The outfall has been constructed in the vicinity of the lakeshore, via a connection to the Outfall 15 piping. Refer to drawing G-4 included in Attachment 2. A tie-in was performed at an existing blind flange on the 24" effluent line from the SCA WTP to Metro. Another tie-in occurred at a 36" connection point on the 48" storm water pipe to Outfall 15. 24" diameter HDPE pipe was installed above grade between these tie-ins.

2.1.2. SCA WTP Site

Eight 20,000 lb (each) liquid granular activated carbon (LGAC) vessels were installed downstream of the SCA WTP Treated Water Tanks as the supplemental treatment. Refer to drawings U-1, I-31, and I-46 included in Attachment 2. These vessels are only used during supplemental treatment and lake discharge events, and are bypassed during normal operations. During supplemental treatment and lake discharge events, the plant effluent flow is directed through the eight vessels, configured in parallel. A new pH instrument (AE/AIT/AI-3107) has been installed on the header pipe downstream of the eight LGAC vessels. This device is utilized for out-of-spec alarming. Weekly compliance samples are collected during the first supplemental treatment and lake discharge event of the week. The week begins on Sunday and ends on Saturday. Flow measurement and totalization continues to be performed by flow meter FE/FQIT-3106 (located within the SCA WTP building).

3. CONSTRUCTION

3.1. SCA AREA CONSTRUCTION

The construction effort at the SCA WTP consisted of three main tasks:

- Rental LGAC Installations
- Mechanical Installations
- Electrical and Controls Installations

3.1.1. Rental LGAC Installations

Rental LGAC installations began with surface preparations of the area. The area was inspected, regraded and compacted as required to minimize collection of storm water around the equipment. Temporary crane mats were placed on the stone area to provide a stable, level surface to place the equipment. The rental LGAC units were rigged into the final location and connected with carbon steel, HDPE, and PVC piping as required. The piping included influent and effluent, as well as backwash supply and return lines.

3.1.2. Mechanical Installations

Four major mechanical tie-in points were installed for this project (two at the SCA WTP and two at the lakeshore). One tie-in connects the existing effluent line at the 90 degree elbow just prior to the line going below ground and exiting the SCA WTP building. A new tee and valve (HV-3181) were installed upstream of the 90 degree elbow on the effluent line. Valve (HV-3180) is closed and valve (HV-3181) opened when directing effluent water to the new LGACs. The HDPE pipe installed for the purpose of this project was placed on blocking and supports and directly on grade.

A second tie-in includes a new tee, which has been installed outdoors at the existing underground 24" HDPE effluent line. The discharge from the rental LGACs is connected to the new tee.

An existing fire hydrant supplies backwash water to the LGACs. Spent/dirty backwash water from the LGACs is directed to the backwash pump station.

3.1.3. Electrical and Controls Installations

Electrical power and control requirements for the upgrade were minimal. Power was needed for the instrumentation located with the new LGACs. Power originates from the existing panel inside of the WTP building. Conduits and conductors were routed to the new equipment. All valves on new LGACs are manual valves which do not require power or controls. No other utility modifications were necessary for this upgrade.

3.2. LAKESHORE AREA CONSTRUCTION

The construction effort at the lakeshore consisted of two main tasks:

- Piping and Connections
- Grading and Restoration

3.2.1. Piping and Connections

Single walled 24" HDPE pipe was fusion butt welded to the required length as shown on drawing G-4 included in Attachment 2. The HDPE pipe was placed on blocking and supports and directly on grade between the tie-ins. One tie-in was completed at an existing blind flange on the 24" effluent line from the SCA WTP. Refer to the tie-in detail on drawing G-14 included in Attachment 2. The second tie-in occurred at a 36" connection point on the 48" storm water pipe to Outfall 15. Isolation valves were installed on the new 24" HDPE pipe to enable isolation of the connection points. The HDPE pipe crosses a road near the lakeshore with a cased crossing which ensures continued safe use of the road by site vehicles. Anchors and guides were installed as required to secure the pipe.

3.2.2. Grading and Restoration

Prior to the installation of the piping, the routing was inspected and any rough or uneven areas were regraded accordingly. At the road crossing, the road was stabilized and the crossing protected with a ductile iron casing to allow continued traffic. Signage and high visibility markings were implemented to identify the crossing and pipe. At the completion of construction activities, debris was removed and equipment was demobilized.

4. COMMISSIONING

At the completion of construction activities, the modified system was commissioned. The installation commissioning (IC) phase included an exterior visual examination of the new work. During this phase, the new LGAC vessels and the new 24" pipeline remained empty and isolated with no flow occurring. Newly constructed and/or modified systems were walked and compared to the design drawings. Each affected vessel, equipment, and ancillary item was examined. The complete installation of each component (e.g., valve, instrument, etc.) depicted on the P&IDs was confirmed and documented.

The operational commissioning (OC) phase was a dynamic system check. Each pipeline and affected vessel was leak tested (pressurized or static level checks with water). The leak test of the new header at the lakeshore consisted of a two hour test to 70 psig. The individual operation of each equipment item (e.g., LGAC vessels) and instrument (e.g., pH device) was confirmed and documented. Instrument alarm conditions were also tested (via simulation or actual conditions).

Performance commissioning (PC) focuses on the simultaneous operation of all components for an extended duration to achieve a treatment objective. PC activities included operation of the WTP with the new LGAC vessels (while discharging to Metro). Sample collection and analyses were performed to demonstrate compliance with the Outfall 15B limits. Upon completion of PC commissioning, analytical results from sample collection confirmed compliance with the Outfall 15B limits. Subsequently, the New York State Department of Environmental Conservation (NYSDEC) approved use of the Supplemental Treatment System with discharge to Onondaga Lake. A copy of the approval letter from the NYSDEC is included as Attachment 3.

5. SUPPLEMENTAL TREATMENT AND LAKE DISCHARGE SUMMARY OF OPERATIONS

The new LGACs are manually operated (manual valves, local gauges, etc.), and operators periodically observe the inlet and outlet pressure gauge readings at each vessel. After an elevated differential pressure is calculated, the affected vessel will be backwashed manually. These LGACs are normally off-line/idled and are periodically flushed to avoid biological growth or other issues. The vessels are located outdoors and will either be emptied and drained or removed from the site in the winter.

At the onset of a wet weather event, communications are initiated by Metro personnel. Advance notice of approximately one hour is typically given to the SCA WTP personnel prior to the required Metro shutdown.

Detailed standard operating procedures (SOPs) for operation of the supplemental treatment system have been developed and reviewed with Onondaga County Department of Water Environment Protection (OCDWEP) and Willis Ave GWTP staff. These SOPs prescribe actions for switching to supplemental treatment and lake discharge and the subsequent return to Metro discharge. Additional requirements for observations, samples collection, analyses (on-site and/or laboratory), and record keeping is included. The SOPs for the supplemental treatment system are included as Attachment 4.

Attachment 1
*Honeywell Outfall 15B –
Effluent Limits, Levels, and
Monitoring*

EFFLUENT LIMITS, LEVELS AND MONITORING: CONVENTIONALS AND METALS

| OUTFALL | WASTEWATER TYPE | RECEIVING WATER | EFFECTIVE | EXPIRING |
|---------|--|-----------------|-----------|-------------------|
| 15B | Wastewater from Dredged Sediment Dewatering Operations | Onondaga Lake | EDPE | December 31, 2015 |

| PARAMETER | MINIMUM | MAXIMUM | UNITS | SAMPLE FREQUENCY | SAMPLE TYPE | FOOTNOTES (FN) |
|-----------|---------|---------|-------|------------------|-------------|----------------|
| pH | 6.0 | 9.0 | SU | Weekly | Grab | |

| PARAMETER | EFFLUENT LIMIT or CALCULATED LEVEL | | COMPLIANCE LEVEL/ ML | ACTION LEVEL | UNITS | SAMPLE FREQUENCY | SAMPLE TYPE | FN |
|------------------------------------|------------------------------------|-----------|----------------------|--------------|----------|------------------|-------------|----|
| | Monthly Avg | Daily Max | | | | | | |
| Flow | Monitor | 6.5 | | | MGD | Continuous | Meter | |
| Solids, Total Suspended | Monitor | 50 | | | mg/L | Weekly | Grab | |
| Solids, Total Dissolved | Monitor | Monitor | | | mg/L | Weekly | Grab | |
| Chloride | Monitor | Monitor | | | mg/L | Weekly | Grab | |
| Nitrate, as N | Monitor | Monitor | | | mg/L | Weekly | Grab | |
| Ammonia, Total; as NH ₃ | Monitor | 27 | | | mg/L | Weekly | Grab | 8 |
| Ammonia, Total; as NH ₃ | Monitor | 4890 | | | lb/month | Monthly | Calculated | 8 |
| Phosphorus, Total; as P | Monitor | 0.2 | | | mg/L | Weekly | Grab | |
| COD | Monitor | Monitor | | | mg/L | Weekly | Grab | |
| Chlorine, Total Residual | Monitor | 2.0 | | | mg/L | Weekly | Grab | |
| Aluminum, Total | Monitor | 4.0 | | | mg/L | Weekly | Grab | |
| Arsenic, Total | Monitor | 0.1 | | | mg/L | Weekly | Grab | |
| Cadmium, Total | Monitor | 0.1 | | | mg/L | Weekly | Grab | |
| Chromium, Total | Monitor | 0.5 | | | mg/L | Weekly | Grab | |
| Copper, Total | Monitor | 0.4 | | | mg/L | Weekly | Grab | |
| Iron, Total | Monitor | 4.0 | | | mg/L | Weekly | Grab | |
| Lead, Total | Monitor | 0.4 | | | mg/L | Weekly | Grab | |
| Mercury, Total | Monitor | 50 | | | ng/L | Weekly | Grab | 4 |
| Nickel, Total | Monitor | 2.0 | | | mg/L | Weekly | Grab | |
| Thallium, Total | Monitor | 0.1 | | | mg/L | Weekly | Grab | |
| Vanadium, Total | Monitor | 0.1 | | | mg/L | Weekly | Grab | |
| Zinc, Total | Monitor | 0.4 | | | mg/L | Weekly | Grab | |
| Cyanide, Free | Monitor | 0.1 | | | mg/L | Weekly | Grab | |

FOOTNOTES: See pages 3 and 4 of this Permit.

EFFLUENT LIMITS, LEVELS AND MONITORING: VOLATILES AND SEMIVOLATILES

| OUTFALL | WASTEWATER TYPE | RECEIVING WATER | EFFECTIVE | EXPIRING |
|---------|---|-----------------|-----------|-------------------|
| 15B | Wastewater from Dredged Sediment Dewatering Operations | Onondaga Lake | EDPE | December 31, 2015 |

| PARAMETER | EFFLUENT LIMIT or CALCULATED LEVEL | | COMPLIANCE LEVEL/ ML | ACTION LEVEL | UNITS | SAMPLE FREQUENCY | SAMPLE TYPE | FN |
|------------------------------|---------------------------------------|-----------|-------------------------|-----------------|-------|---------------------|----------------|----|
| | Monthly Avg | Daily Max | | | | | | |
| Benzene | Monitor | 5.0 | | | µg/L | Weekly | Grab | |
| Chlorobenzene | Monitor | 10 | | | µg/L | Weekly | Grab | |
| Dichlorobenzene; 1,2- | Monitor | 10 | | | µg/L | Weekly | Grab | |
| Dichlorobenzene; 1,3- | Monitor | 10 | | | µg/L | Weekly | Grab | |
| Dichlorobenzene; 1,4- | Monitor | 10 | | | µg/L | Weekly | Grab | |
| Trichlorobenzene; 1,2,3- | Monitor | 10 | | | µg/L | Weekly | Grab | |
| Trichlorobenzene; 1,2,4- | Monitor | 10 | | | µg/L | Weekly | Grab | |
| Trimethylbenzene; 1,3,5- | Monitor | 10 | | | µg/L | Weekly | Grab | |
| Toluene | Monitor | 5.0 | | | µg/L | Weekly | Grab | |
| Xylenes, Total | Monitor | 15 | | | µg/L | Weekly | Grab | |
| Naphthalene | Monitor | 10 | | | µg/L | Weekly | Grab | |
| Phenol | Monitor | 25 | | | µg/L | Weekly | Grab | |
| Phenols, Total Unchlorinated | Monitor | Monitor | | | µg/L | Weekly | Grab | |
| Phenols, Total Chlorinated | Monitor | Monitor | | | µg/L | Weekly | Grab | |
| PCB, Aroclor 1016 | Monitor | 0.2 | | | µg/L | Weekly | Grab | 9 |
| PCB, Aroclor 1221 | Monitor | 0.2 | | | µg/L | Weekly | Grab | 9 |
| PCB, Aroclor 1232 | Monitor | 0.2 | | | µg/L | Weekly | Grab | 9 |
| PCB, Aroclor 1242 | Monitor | 0.2 | | | µg/L | Weekly | Grab | 9 |
| PCB, Aroclor 1248 | Monitor | 0.2 | | | µg/L | Weekly | Grab | 9 |
| PCB, Aroclor 1254 | Monitor | 0.2 | | | µg/L | Weekly | Grab | 9 |
| PCB, Aroclor 1260 | Monitor | 0.2 | | | µg/L | Weekly | Grab | 9 |

FOOTNOTES: See page 3 and 4 of this Permit.

Special Conditions and Footnotes

1. Discharge is not authorized until such time as an engineering submission showing the method of treatment is approved by the Department. The discharge rate may not exceed the effective or design treatment system capacity. All monitoring data, engineering submissions and modification requests must be submitted to:

Project Manager, Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, NY 12233-7010

With copies sent to:

Region 7 Regional Water Engineer
NYSDEC
615 Erie Boulevard West
Syracuse, NY 13204

2. Only site-generated wastewater is authorized for treatment and discharge.
3. Authorization to discharge is valid only for the period noted, but may be renewed if appropriate. A request for renewal must be received six (6) months prior to the expiration date to allow for a review of monitoring data and reassessment of monitoring requirements.
- 4a. Mercury Limit: The water quality-based effluent limit for Total Mercury is 0.7 ng/L. However, the enforceable compliance limit for Total Mercury at Outfall 15B is 50 ng/L (ppt), which conforms to the Multiple Discharge Variance for Total Mercury found in NYSDEC policy DOW 1.3.10.
- 4b. Analytical Method: The permittee shall use USEPA Method 1631E to analyze Total Mercury and report the results for compliance purposes.
- 4c. Additional Monitoring and Pollutant Minimization: Periodic monitoring must be designed to quantify and, over time, track the reduction of discharges of Mercury. Minimum required monitoring is as follows: monthly monitoring of wastewater treatment system influent and sludge. This monitoring shall be performed using USEPA Method 1631E and shall be coordinated with routine compliance monitoring, if applicable, so that the results can be compared. For sludge sampling, USEPA Method SW-846 7471A or other sampling method as approved by DER may be used in lieu of USEPA Method 1631E. Additional Mercury monitoring must be completed as may be required elsewhere in this document.
- 4d. Treatment System Operation: The periodic monitoring required in Item 4c. and elsewhere in this permit equivalent shall also be used, and supplemented if appropriate, to determine the most effective way to operate the wastewater treatment system(s) to ensure the greatest removal of Mercury while maintaining compliance with other permit equivalent requirements.
5. Both concentration (mg/L or µg/L) and mass loadings (lbs/day) must be reported to the Department for all parameters except flow and pH.
6. Any use of corrosion/scale inhibitors or biocidal-type compounds in the treatment process must be approved by the Department prior to use.
7. This discharge and the administration of this discharge must comply with the substantive requirements of 6NYCRR Part 750.
8. The total maximum allowable loading of Total Ammonia as NH₃ from Honeywell Outfalls 15A and 15B (i.e., Willis Avenue GWTP and SCA Treatment System) is 4,890 lb/month. The loading is derived from the January 2013 Amendment to the Total Maximum Daily Load for Ammonia in Onondaga Lake. For each Total Ammonia sample taken, Honeywell shall calculate the individual loading for that sample. The individual Total Ammonia as NH₃ loadings from Honeywell Outfalls 15A and 15B shall be summed to determine the Total Ammonia as NH₃ loading to Onondaga Lake. This calculated value is to be reported on the monthly Discharge Monitoring Reports for Honeywell Outfalls 15A and 15B.

Special Conditions and Footnotes (continued)

- 9a. Polychlorinated Biphenyl (PCB) Limits: The water quality-based effluent limit for Total PCBs is 0.001 ng/L. However, the enforceable compliance limit for each PCB Aroclor at Outfall 15B is 200 ng/L (ppt). The effluent limitation is the analytical Minimum Level for USEPA Method 608.
- 9b. Analytical Method: The permittee shall use USEPA Method 608 to analyze Total PCBs and report the results for compliance purposes.
- 9c. Additional Monitoring and Pollutant Minimization: Periodic monitoring must be designed to quantify and, over time, track the reduction of discharges of Total PCBs. Minimum required monitoring is as follows: quarterly monitoring of wastewater treatment system influent and sludge. This monitoring shall be performed using USEPA Method 608 and shall be coordinated with routine compliance monitoring, if applicable, so that the results can be compared. For sludge sampling, another sampling method as approved by DER may be used in lieu of USEPA Method 608. Additional PCB monitoring must be completed as may be required elsewhere in this document.
- 9d. Treatment System Operation: The periodic monitoring required in Item 4c. and elsewhere in this permit equivalent shall also be used, and supplemented if appropriate, to determine the most effective way to operate the wastewater treatment system(s) to ensure the greatest removal of Total PCBs while maintaining compliance with other permit equivalent requirements.

Attachment 2
***Supplemental Treatment
and Lake Discharge
Drawings U-1, I-31, I-46, G-4,
and G-14***

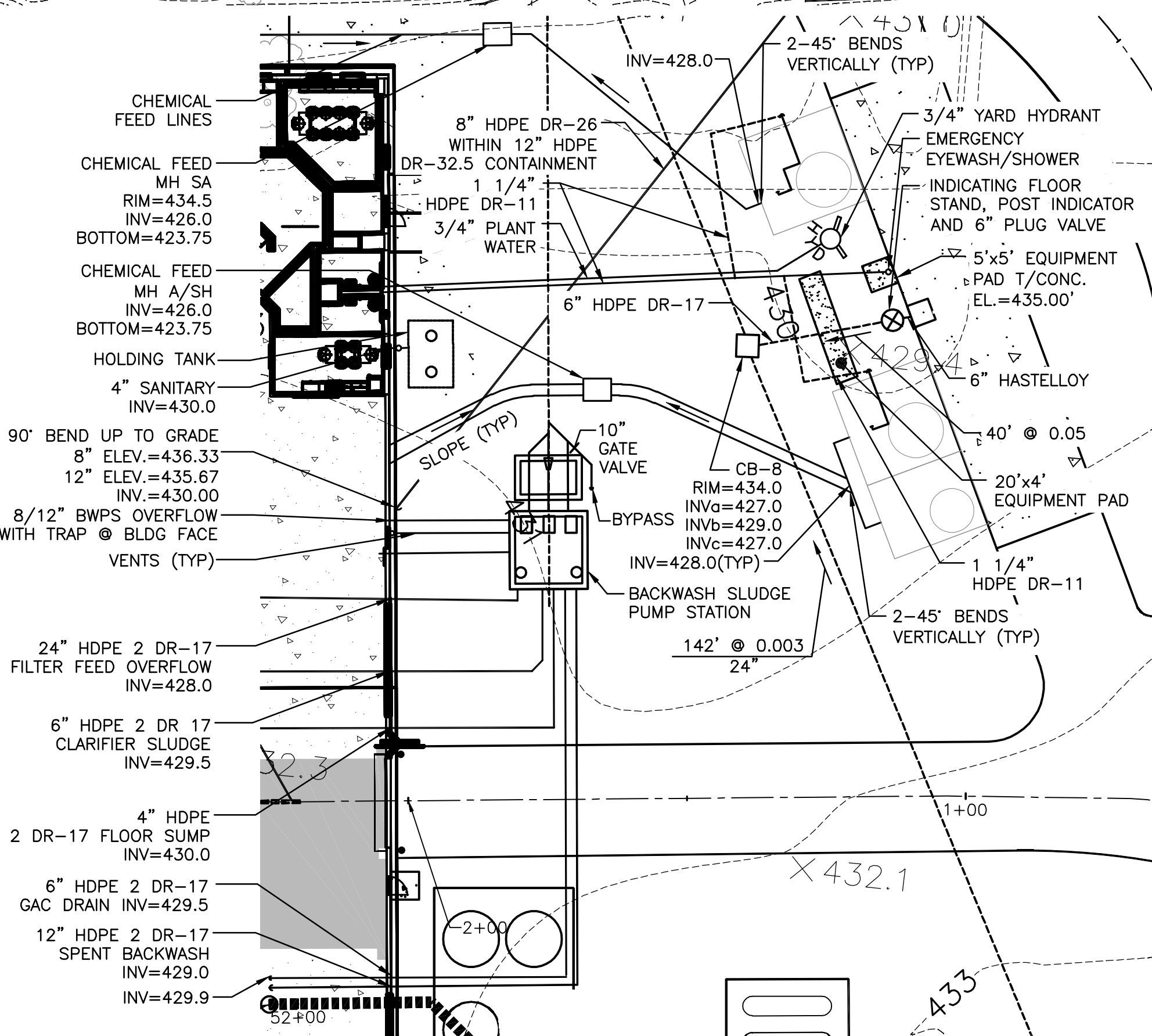
UTILITY PENETRATION IN WTP

| | | | |
|----|-----------------------------------|----|-----------------------------------|
| 1 | N: 1120007.0381 E: 907951.3437 | 24 | N: 1120016.2418 E: 908163.9551 |
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| 8 | N: 1120078.2194 E: 908004.3514 | 26 | N: 1120058.8536 E: 907886.2702 |
| 9 | N: 1120080.0246 E: 908005.8302 | 27 | N: 1120129.1964 E: 907940.1726 |
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| 22 | N: 1120019.1598 E: 908160.2771 | 36 | N: 1120119.0285 E: 908127.9027 |
| 23 | N: 1120018.1077 E: 908161.6060 | 37 | N: 1120089.4558 E: 908108.7199 |

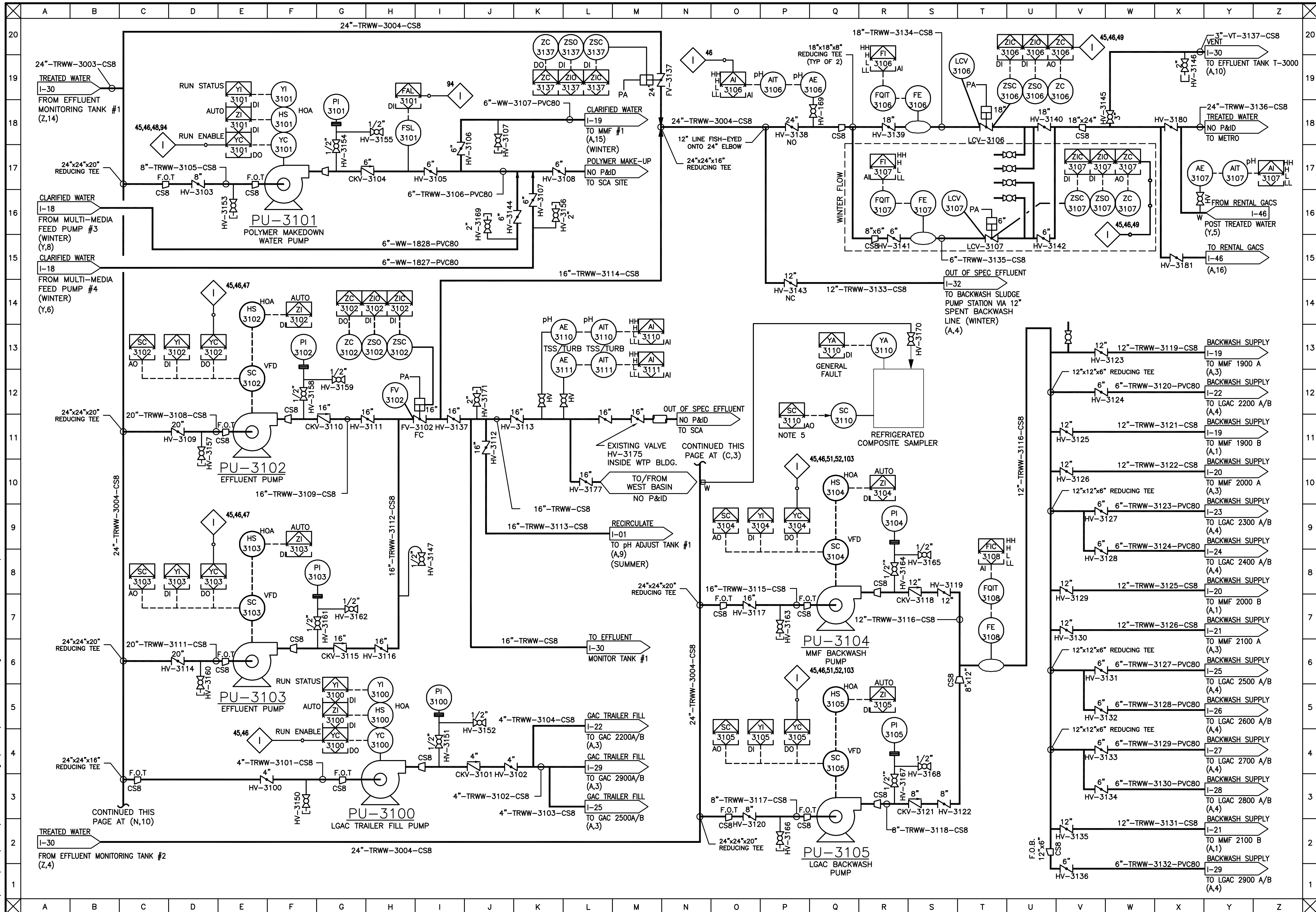
NORTHING AND EASTING LOCATIONS
ARE APPROXIMATE AND SHALL BE
VERIFIED BY THE CONTRACTOR

(1) DENOTES UTILITY PENETRATION
NUMBER

HYDRANT 1, 2 & 3
W/ BOLLARDS &
WATER LINE
BY OTHERS (TYP)



I:\Honeywell\1163\45613.Sca-Wtp-Detail\Docs\DWG\DP-3\Record Drawings\Pat\44523-131RD.dwg Jun 19, 2014 - 1:40pm



NOTES:

1. REFER TO M-16 FOR SIZING OF SECONDARY CONTAINMENT.
2. EFFLUENT MONITORING TANKS AND ASSOCIATED PUMPS TO BE FOR SUMMER AND WINTER OPERATION.
3. EFFLUENT PUMP SIZED FOR 100% OF PLANT CAPACITY. MAINTAIN LEVEL IN T-3100 VIA VFD CONTROL.
4. WTP INFLUENT LINE, OUT OF SPEC EFFLUENT LINE, AND SLUDGE RETURN LINE TO SCA TO BE SECONDARILY CONTAINED OUTSIDE OF WTP BUILDING.
5. SAMPLE RATE PROPORTIONAL TO EFFLUENT FLOW AS MEASURED BY FI-3106 (SUMMER) OR FI-3107 (WINTER).

INTERLOCKS:

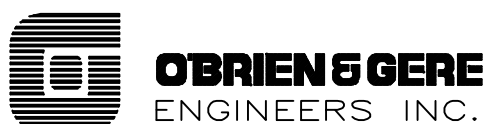
REFER TO SHEET I-C

RECORD DRAWINGS

To the best of our knowledge, information and belief, these record drawings substantially represent the project as constructed.

O'BRIEN & GERE
ENGINEERS, INC.
By: _____

| NO. | DATE | REVISION | INIT. |
|-----|----------|---------------------------------------|-------|
| 7 | 6/19/14 | RECORD DRAWING | |
| 6 | 8/23/13 | RECORD DRAWING | |
| 5 | 5/24/13 | RECORD DRAWING | |
| 4 | 02/24/12 | FIELD DIRECTIVE NO.6 | |
| 3 | 11/11/11 | FIELD DIRECTIVE NO.5 | |
| 2 | 09/23/11 | FIELD DIRECTIVE NO.4 | |
| 1 | 06/17/11 | ISSUED FOR CONSTRUCTION | |
| 0 | 10/26/10 | DP #3 FINAL DESIGN - NYSDEC SUBMITTAL | |



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HONEYWELL INTERNATIONAL, INC.

WATER TREATMENT PLANT
TOWN OF CAMILLUS, NEW YORK

PROCESS AND INSTRUMENTATION
TREATED WATER PUMPS
P&ID

| | | | |
|--------------|-----|------------|----------------|
| IN CHARGE OF | BEW | FILE NO. | 1163.45613-I10 |
| DESIGNED BY | GBE | CHECKED BY | PDS |
| DRAWN BY | JAS | DATE | JUNE 3, 2011 |

I-31

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ANY PERSON, UNLESS ACTING UNDER
THE DIRECTION OF A LICENSED ENGI-
NEER, TO ALTER THIS DOCUMENT.



PU-3100
LGAC TRAILER FILL PUMP
MANUFACTURER: TBD
TYPE: HORZ. CENTRIFUGAL
CAPACITY: 200 GPM
HP: 10
MOC: 316SS
MOTOR:

PU-3101
POLYMER MAKEDOWN WATER PUMP
MANUFACTURER: TBD
TYPE: HORZ. CENTRIFUGAL
CAPACITY: 600 GPM
HP: 10
MOC: 316SS
MOTOR:

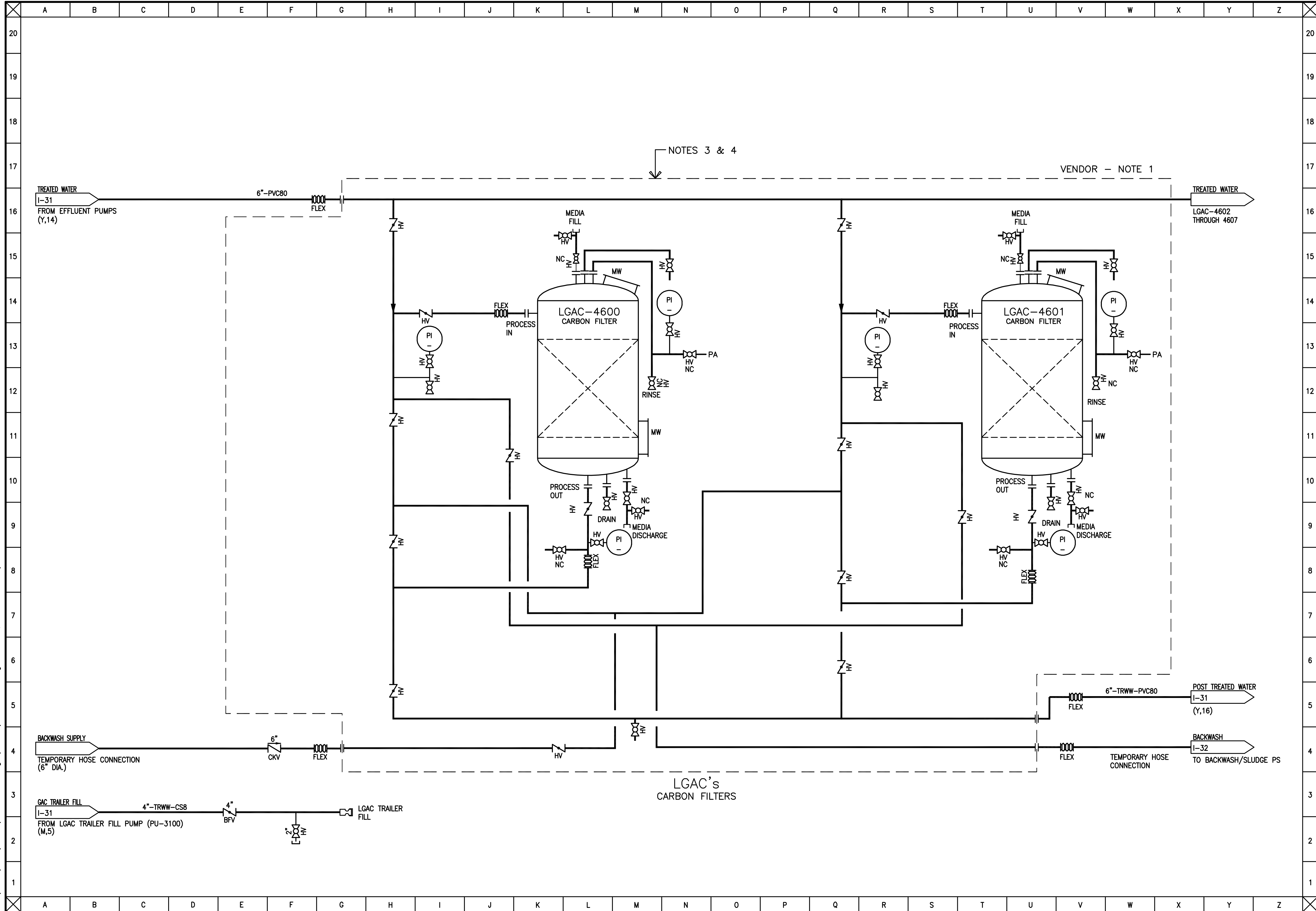
PU-3102
EFFLUENT PUMP
MANUFACTURER: TBD
TYPE: HORZ. CENTRIFUGAL
CAPACITY: 5700 GPM
HP: 150
MOC: 316SS
MOTOR: VAR. SPEED

PU-3103
EFFLUENT PUMP
MANUFACTURER: TBD
TYPE: HORZ. CENTRIFUGAL
CAPACITY: 5700 GPM
HP: 150
MOC: 316SS
MOTOR: VAR. SPEED

PU-3104
MMF BACKWASH PUMP
MANUFACTURER: GOULDS
TYPE: CENTRIFUGAL PUMP
CAPACITY: 2450 GPM
HP: 40
MOC: 316SS
MOTOR: VAR. SPEED

PU-3105
LGAC BACKWASH PUMP
MANUFACTURER: GOULDS
TYPE: CENTRIFUGAL PUMP
CAPACITY: 707 GPM
HP: 25
MOC: 316SS
MOTOR: VAR. SPEED

I:\Honeywell\1163\45613.Sca-Wtp-Detail\Docs\DWG\DP-3\Record Drawings\PaIDs\44523-146.dwg Jun 19, 2014 - 1:40pm



NOTES:

1. VENDOR SUPPLIED GAC SYSTEM TO BE INSTALLED PER VENDOR'S APPROVED SHOP DRAWINGS AND INSTRUCTIONS.
2. FLEXIBLE CONNECTORS TO BE PROVIDED AT CONNECTIONS TO EQUIPMENT AND AT MANIFOLD PIPING.
3. GAC VESSELS WILL BE MANUALLY OPERATED (E.G., MANUAL VALVES AND LOCAL PRESSURE GAUGES ONLY). IF BACKWASHING IS REQUIRED, TEMPORARY PROVISIONS WILL BE MADE WITH HOSES.
4. THIS P&ID DEPICTS ONE PAIR OF LEAD/LAG GAC VESSELS. THE ACTUAL TEMPORARY CONFIGURATION WILL SPLIT THE FLOW THROUGH EIGHT VESSELS OPERATED IN PARALLEL. A HEADER WILL SUPPLY THE EIGHT VESSELS. A SECOND HEADER WILL CONVEY THE EFFLUENT (I.E., "POST TREATED WATER") FROM THE EIGHT VESSELS TO TIE-IN #2.

INTERLOCKS:

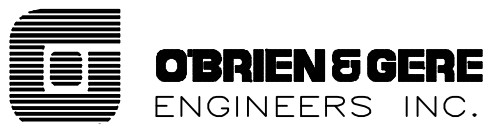
REFER TO SHEET I-C

RECORD DRAWINGS

To the best of our knowledge, information and belief, these record drawings substantially represent the project as constructed.

By: O'BRIEN & GERE ENGINEERS, INC.

| NO. | DATE | REVISION | INIT. |
|-----|---------|---------------------------|-------|
| 1 | 6/19/14 | RECORD DRAWING | |
| 0 | 1/24/14 | DP #3 FIELD DIRECTIVE #15 | |



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HONEYWELL INTERNATIONAL, INC.

WATER TREATMENT PLANT
TOWN OF CAMILLUS, NEW YORK

PROCESS AND INSTRUMENTATION
CARBON FILTERS
P&ID

| | | |
|--|----------------------------|------|
| IN CHARGE OF <u>BEW</u> | FILE NO. 1163.45613-XXX | I-46 |
| DESIGNED BY <u>GBE</u> CHECKED BY <u>PDS</u> | DATE JUNE 3, 2011 | |
| DRAWN BY <u>KJL</u> | | |

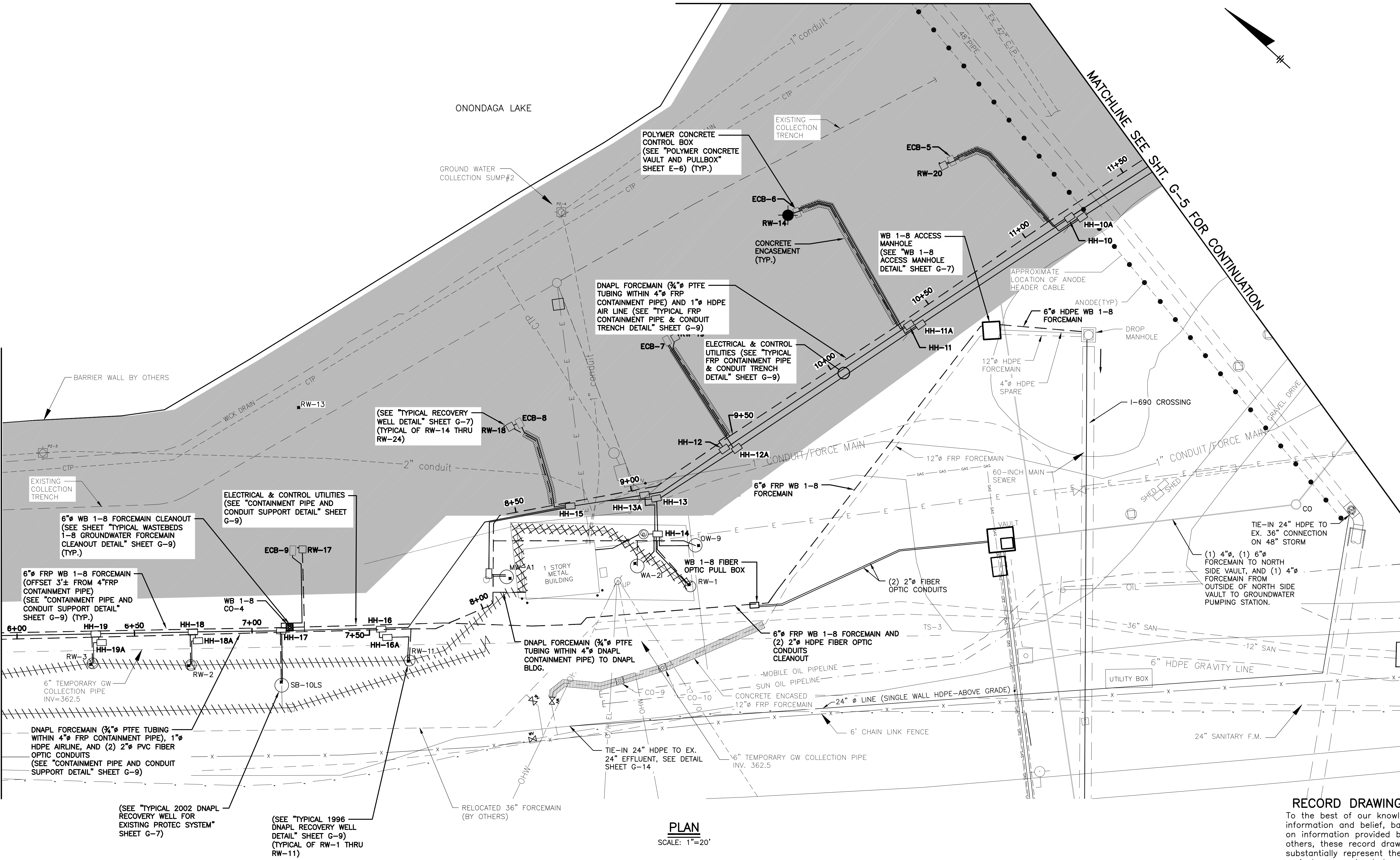
LGAC-4600 THROUGH 4607
CARBON FILTERS
MANUFACTURER: CALSON CARBON (RENTALS)
DESIGN FLOW (SUMMER): APPROX. 620 GPM AVERAGE
DESIGN FLOW (WINTER): NOT USED IN WINTER
BACKWASH FLOW: APPROX. 707 GPM 70° F
P/T RATINGS: 125 PSI @ 150 DEG. F
VESSEL DIMENSIONS: 10' DIA. x 15'4"H
MCC: LINED STEEL
CARBON: 20,000 LBS PER VESSEL

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NEER, TO ALTER THIS DOCUMENT.



MATCHLINE SEE SHT. G-3 FOR CONTINUATION

MATCHLINE SEE SHT. G-5 FOR CONTINUATION



RECORD DRAWINGS
To the best of our knowledge, information and belief, based on information provided by others, these record drawings substantially represent the project as constructed.

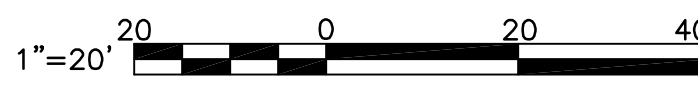
O'BRIEN & GERE
By: ENGINEERS, INC.



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THIS DRAWING WAS PREPARED AT THE SCALE INDICATED IN THE TITLE BLOCK. INACCURACIES IN THE STATED SCALE MAY BE INTRODUCED WHEN DRAWINGS ARE REPRODUCED BY ANY MEANS. USE THE GRAPHIC SCALE BAR IN THE TITLE BLOCK TO DETERMINE THE ACTUAL SCALE OF THIS DRAWING.

IN CHARGE OF BEW
DESIGNED BY EPS CHECKED BY BAK
DRAWN BY SED



| NO. | DATE | REVISION | INIT. |
|-----|------------|------------------------------|-------|
| 4 | 06/19/2014 | FINAL DRAWING | |
| 3 | 12/14/2012 | RECORD DRAWING | |
| 2 | 06/07/2011 | ISSUED FOR CONSTRUCTION | |
| 1 | 03/17/2011 | NYSDEC COMMENTS INCORPORATED | |
| 0 | 02/09/2011 | ISSUED FOR BID | |



HONEYWELL INTERNATIONAL INC.
DNAPL PHASE 1 RECOVERY
SYSTEM MODIFICATIONS
WILLIS/SEMET
LAKESHORE IRM

GENERAL
PARTIAL SITE PLAN

FILE NO.
1163.43783-004
DATE
FEBRUARY 2011

G-4

Attachment 3
*NYSDEC Approval of
Supplemental Treatment
System and Lake Discharge*

New York State Department of Environmental Conservation

Division of Environmental Remediation

Remedial Bureau D, 12th Floor

625 Broadway, Albany, New York 12233-7013

Phone: (518) 402-9676 • Fax: (518) 402-9020

Website: www.dec.ny.gov



Joe Martens
Commissioner

April 18, 2014

Mr. John P. McAuliffe, P.E.
Program Director, Syracuse
Honeywell International
301 Plainfield Road, Suite 330
Syracuse, NY 13212

Re: Onondaga Lake Bottom SCA Water Treatment Plant, Supplemental Treatment and Lake Discharge (No. 7-34-030)

Dear Mr. McAuliffe:

The New York State Department of Environmental Conservation (Department) has reviewed your letter dated April 17, 2014. This letter contains the sampling results from the supplemental treatment system for direct discharge to Onondaga Lake from the Sediment Containment Area Water Treatment Plant. The results meet the effluent limits contained within the approved January 2014 SCA Water Treatment Plant Supplemental Treatment and Discharge Design Work Plan (Work Plan). The direct discharge from the supplemental treatment system to Onondaga Lake during METRO shutdowns per the Work Plan is hereby approved.

The Department looks forward to the submittal and review of the draft construction completion report for the supplemental treatment system. This construction completion report is due to the Department by June 16, 2014. If you have questions regarding this letter, please feel free to call me at 518-426-9676.

Sincerely,

Richard A. Mustico, P.E.
Project Manager
Remedial Bureau D
Division of Environmental Remediation

ec: Tim Larson – NYSDEC
Bob Edwards - NYSDEC
Brian Baker - NYSDEC
Catherine Hardison - NYSDEC
Margaret Sheen, Esq. - NYSDEC, Syracuse
Mary Jane Peachey - NYSDEC, Syracuse
Harry Warner – NYSDEC, Syracuse
Joe Zalewski – NYSDEC, Syracuse
Tara Blum - NYSDEC, Syracuse
Sandra Lizlovs - NYSDEC, Syracuse
Maureen Schuck - NYSDOH
Mark Sergott – NYSDOH
Bob Nunes – USEPA, NYC
Argie Cirillo, Esq. – USEPA, NYC
Joseph Heath, Esq.
Jeanne Shenandoah – Onondaga Nation
Thane Joyal, Esq.
Curtis Waterman – HETF
Alma Lowry, Esq.
William Hague - Honeywell
Larry Somer - Honeywell
Brian Israel, Esq. - Arnold & Porter
Bob Rule - DeMaximis
Chris Calkins - O'Brien & Gere
Paul Schultz - O'Brien & Gere
Brian White - O'Brien & Gere
Tom Conklin – O'Brien & Gere
Mark Byrne – O'Brien & Gere

Attachment 4
SCA WTP STS Standard
Operating Procedures
(SOPs)

RESPONSE TO WET WEATHER OPERATIONS & METRO REQUEST FOR SHUTDOWN

1.0 INTRODUCTION

1.1 DESCRIPTION OF SCA TREATMENT PLANT

The Sediment Consolidation Area (SCA) Water Treatment Plant (WTP) is located at 522 Gere Lock Rd., Syracuse, NY 13209. The SCA WTP is designed to remove solids, metals, and volatile organics from the water accumulated while dredging Onondaga Lake. The dredged material is processed through thickeners and then stored in geo-tubes located in the Sediment Processing Area (SPA). The thickeners and geo-tubes are designed to remove the bulk of the solids and act as primary treatment. The water from the thickeners and geo-tubes is treated by the WTP. The WTP normally discharges treated effluent to the Metropolitan Syracuse Wastewater Treatment Facility (Metro) for supplemental treatment prior to discharge to Onondaga Lake.

2.0 WET WEATHER OPERATIONS

2.1 SCENARIOS & ACTIONS TO BE TAKEN

Rain events, snow thaws and Metro maintenance activities will require various actions by the SCA WTP operator. When requested by Metro operations to secure discharge due to a rain event, it will require the following immediate actions.

- 2.1.1 Make entry into the control room log indicating the following: time of request, reason for request, and requestor's name. Request estimated duration of event.
- 2.1.2 Notify Project Manager/Lead Operator of request, and discuss water management strategies.

3.0 DISCHARGE TO WEST BASIN

3.1 DISCHARGE TO WEST BASIN

- 3.1.1 SPA Operator requests WTP to direct pretreated effluent to the West Basin.
- 3.1.2 WTP Operator confirms West Basin level has sufficient capacity to accept flows <135".
- 3.1.3 WTP Operators establish flow path to West Basin.
 - 3.1.3.1 WTP Technician Opens manual valve to fill West Basin at West Basin Transfer Pump.
 - 3.1.3.2 WTP Technician Closes manual valve at discharge of West Basin Transfer Pump.
 - 3.1.3.3 WTP Technician Closes/verify closed HV-3176 & HV-3113 manual valve on effluent reject line to East Basin.
 - 3.1.3.4 WTP Technician Opens manual valve HV-3117 in WTP to direct flows to the West Basin.
- 3.1.4 WTP Operator Closes HV-3138 block valve to Metro.
- 3.1.5 WTP Operator monitors level in West Basin and communicates to the SPA operator the best estimate of volume available.
- 3.1.6 WTP Operator verifies the effluent Tank PH via AIC 30011 is < 8.7. Adjust PH down as necessary via acid injection system.
- 3.1.7 SPA/SCA Operators Monitor level in the East & West Basins. They will coordinate with OMI Project Management to determine proper water balance strategy. Factors will include forecast, WTP status, dredge solids, Metro CSO pump down schedule, etc.

**At no time may the East Basin exceed 105" or the West Basin exceeds 134".
Exceeding these levels will not allow 12" of freeboard.**

4.0 DISCHARGE THROUGH STS (SUPPLEMENTAL TREATMENT SYSTEM) TO LAKE

STS SYSTEM STEPS

- 4.1 Contact WTP Chief Operator and Project Manager of intentions to direct discharge.
- 4.2 Notify Charles Sharpe, O'Brien & Gere Senior Project Engineer – (315) 263-8827 cell (315) 956-6100 work. Determine if compliance sample of effluent must be taken.
- 4.3 **Contact Willis Ave Ground Water Treatment Plant (GWTP) & Request and/or Verify The Following : (See Contact/Call Out List at the end of this document- Required notice is 1 Hour for verification of shutdown for GWTP & Honeywell Pump Station).**
- 4.4 Verify Honeywell Pump Station is down, pump breakers open and discharge BV closed. This is a chain Valve and is located on the lower floor of the station and is painted yellow.
- 4.5 Verify GWTP is off line or configured for direct lake discharge.
 - 4.5.1 Contact Metro Principal Operator on duty and request Metro Valve #1 - Harbor Brook Interceptor Sewer (HBIS) & Metro Valve #2 - West Side Force Main (WSFM) be closed by Metro personnel. It may take Metro personal up to two hours to perform and verify valves are closed.
 *Inform them that the GWTP, Honeywell Pump Station and SCA WTP HV-3138 BV to Metro are closed and no flow is in the Outfall #15 force main.
- 4.6 In SCA WTP verify STS Inlet BV HV –3181 is in the closed position.
- 4.7 Once confirmation is received from Willis Ave & Metro perform the following:
 - 4.7.1 Close and place control lock on SCA WTP HV-3140.
- 4.8 Go to the Honeywell Pump Station & perform the following:
 - 4.8.1 Verify the two control switches below the VFD's are in the off position.
 - 4.8.2 Verify "Main Disconnect" on panel 1 is open. Place control lock on breaker.
 - 4.8.3 Verify pump discharge is closed. Place control lock on valve.
- 4.9 Go to the Onondaga County Metro Facility Gate. Ring Control Room via intercom & request permission to enter facility.
- 4.10 Proceed to the East & West SCA WTP to Metro Isolation Valves. These valves are on the west side of the property along the fence. Verify valves are in the closed position and place a control lock on Metro Valve #1 - Harbor Brook Interceptor Sewer (HBIS) & Metro Valve #2 - West Side Force Main (WSFM).
- 4.11 Go to the lakefront and locate the Outfall #15 sample port flange. Verify flange is closed, secure and all bolts are in place. Place a control lock and cable on flange to prevent it from being opened during discharge. **Opening out fall sample flange during discharge may cause serious injury due to pressure and flow.**
- 4.12 At the lakefront locate SCA WTP Direct Discharge Isolation Valve STS BV HV-6-1402.
- 4.13 Contact the WTP lead operator and request permission to open STS BV HV-6-1402 (lake discharge) utilizing drill motor. It is about 320 – 330 turns to reposition valve.
- 4.14 Place control lock on STS BV HV-6-1402 when fully open and return to the SCA WTP.
- 4.15 Contact Willis Ave and verify they are prepared to direct discharge. Use contact list at the end of this document.
- 4.16 Verify the following on the STS System:
 - 4.16.1 The inlet and outlet valves are open to the STS vessels located on each of the tank manifolds.

- 4.16.2 The 4 manual discharge BV's are closed.
- 4.16.3 Obtain and record effluent meter readings in WTP STS Discharge Form (attached) and control room log.
- 4.16.4 With permission from the WTP lead operator open the STS Inlet BV HV 3181 very slowly to pressurize STS system. Walk down system for leaks.
- 4.16.5 Slowly, and one at a time, open the 4 STS discharge BV's to establish flow to Outfall #15.
- 4.16.6 Notify SPA operator that the west basin BV HV 3177 is going to be closed to secure flow to west basin.

5.0 SECURING STS SYSTEM & RESTORING FLOW TO METRO

When permission is granted through Metro ETS personnel restoration of normal or partial flow to Metro shall be restored. Perform the following steps in the below order.

- 5.1 If west basin will allow additional capacity < 130" perform the following:
 - 5.1.1 Notify SPA operator of intent to discharge to West Basin.
 - 5.1.2 Notify Metro Principal Operator that we are dispatching an operator to their site to remove locks.
 - 5.1.3 Obtain and record effluent meter readings in STS Discharge Form (attached) & WTP logbook.
 - 5.1.4 Slowly open west basin BV HV 3177 in SCA WTP to establish flow to west basin.
 - 5.1.5 Slowly close the 4 manual STS discharge BV's.
 - 5.1.6 Slowly close STS Inlet BV HV 3181.
 - 5.1.7 At lakeshore remove control lock and close STS BV HV-6-1402 (lake discharge) utilizing drill motor.
 - 5.1.8 Remove control lock from outfall #15B sample port flange.
 - 5.1.9 Go to the Onondaga County Metro Facility Gate. Ring Control Room via intercom & request permission to enter facility.
 - 5.1.10 Proceed to Metro and remove both control locks Metro Valve #1 – Harborbrook Interceptor (HBIS) & Metro Valve #2 – West Side Force Main (WSFM).
 - 5.1.11 Notify Metro Principal Operator that locks are removed and request Metro Valve #1 – Harborbrook Interceptor (HBIS) & Metro Valve #2 – West Side Force Main (WSFM) be returned to normal by **METRO PERSONNEL**. Verify prior to leaving on LED position on readout on end of valve operator. One will indicate 100% open & the other 100% closed.
 - 5.1.12 Go to the Honeywell Pump Station & perform the following
 - 5.1.12.1 Remove control locks from "Main Disconnect" on panel 1 and pump discharge Block Valve.
 - 5.1.12.2 Notify Willis Ave GWTP via contact list at the end of this document that the control locks have been removed.
 - 5.1.13 Return to SCA WTP and open BV HV-3140.
 - 5.1.13.1 Open BV HV-3138 To Metro.
 - 5.1.13.2 Close BV HV-3177 to West Basin.

- 5.1.14 Notify Metro Principal Operator we are realigned to discharge to them, and obtain permission to restore flow.

Note: Depending on plant configuration (west basin, recycle, or shutdown) establish flow to Metro at approved flow rate.

*The intent is to maintain dredge operations during the switching to and from the STS system. However climate conditions and water inventory may result in terminating dredge operations.

6.0 CONTACT / CALL OUT LIST

| HONEYWELL SCA WTP CALL LIST | | |
|---|---|--------------|
| Control Room | 315-487-2495 or 315-487-2547 (staffed 24/7) | |
| Mark Byrne | 315-842-7024 | |
| John Saraceni | 315-706-1571 | |
| Charles Sharpe | 315-263-8827 cell or 315-956-6100 work | |
| SHUTDOWN CALL LIST FOR CAMILLUS AND SEMET WILLIS GWTP (CALL IN THIS ORDER) | | |
| Name | Home | Mobile |
| 1) GWTP Office | | 315-468-1663 |
| 2) John Formoza | 315-638-6234 | 315-532-5608 |
| 3) Mike Stout | 315-469-1504 | 315-558-4018 |
| 4) Wisam Aljoher | | 315-558-8328 |
| 5) Patrick Higgins | | 315-212-0570 |
| 6) James Haas | | 315-530-2342 |
| 7) Jeff Syrmanske | | 315-209-3487 |
| METRO CONTACT LIST FOR PERMISSION TO DISCHARGE (CALL ON-DUTY PERSON) | | |
| 1) David Colbert | 315-435-2260 | |
| 2) Tim O'Dell | 315-391-4115 | |
| 3) Steve Bray | 315-263-4972 | |
| METRO CONTACT LIST FOR REQUESTING VALVE REPOSITIONING | | |
| Control Room | 315-435-3142 | |

| | | |
|--------------------------------|-------------------|--|
| Project Name: | Honeywell SCA WTP | Date of Shutdown Request: |
| Project Number: | 51453 | Time of Request: |
| | | Name of Metro Employee Requesting Shutdown: |
| Dredging (Yes or No) | | OBG Lead WTP Operator: |
| Process Sampling | | Metro Restoration |
| Initial PH Grab (<9) | | Name of Metro Employee |
| Ammonia Grab | | Date & Time |
| Lab Technician | | Call Received By |

Initial Water Inventory

West Basin: _____"

East Basin: _____"

West Sump: _____"

East Sump: _____"

Initial Effluent Meter Reading: _____

Date Taken: _____

Time Taken: _____

Taken By: _____

Midnight Effluent Meter Reading: _____

Date Taken: _____

Time Taken: _____

Taken By: _____

Final Effluent Meter Reading: _____

Date Taken: _____

Time Taken: _____

Taken By: _____

(If event lasts longer than 1 day record midnight reading each night)

Comments:
