

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

September 2, 2014

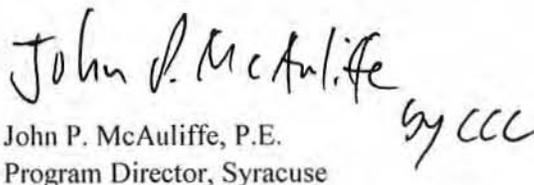
To: Harry Warner, NYSDEC, Region 7 (1 bound)
Holly Sammon, Onondaga County Public Library (1 bound)
Samuel Sage, Atlantic States Legal Foundation (1 bound)
Cara Burton, Solvay Public Library (1 bound)
Mary Ann Coogan, Camillus Town Hall (1 bound)
Moon Library, SUNY ESF (1 bound)
Diane Carlton, NYSDEC, 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. *by CCC*
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

ec: Tim Larson - 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
Valarie Ellis - NYSDEC, Syracuse

Maureen Schuck - NYSDOH
Mark Sergott – NYSDOH
Bob Nunes – USEPA, NYC
Argie Cirillo, Esq. – USEPA, NYC
Patricia Pastella – OCDWEP
Nick Capozza – OCDWEP
Michael Lannon – OCDWEP
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
Steve Miller – Honeywell, Syracuse
Chris Calkins - O'Brien & Gere
Paul Schultz - O'Brien & Gere
Brian White - O'Brien & Gere

ebc: R. Mustico
D. Hesler
J. Gregg – OGC
e-Doc

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

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

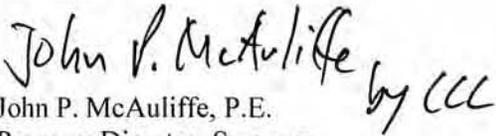
Re: **Onondaga Lake Bottom Subsite – Onondaga County, NY**
Consent Decree 89-CV-815
SCA Water Treatment Plant
Supplemental Treatment and Lake Discharge Design Completion Report

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)
Harry Warner	NYSDEC, Region 7 (1 copy, 1 CD)
Joseph Heath, Esq.	(ec ltr only)
Thane Joyal, Esq.	(1 copy, 1 CD)
Jeanne Shenandoah	Onondaga Nation (1 copy and ec ltr only)
Curtis Waterman	HETF (ec or CD)
Alma Lowry	(ec ltr only)
Steve Miller	Honeywell (CD/ltr ony)
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

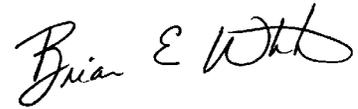


CERTIFICATIONS

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

TABLE OF CONTENTS

Attachments.....	i
1. Introduction	1
2. Design Overview	1
2.1. Supplemental Treatment and Lake Discharge Design Areas	1
2.1.1. Lakeshore Area.....	1
2.1.2. SCA WTP Site.....	1
3. Construction.....	2
3.1. SCA Area Construction.....	2
3.1.1. Rental LGAC Installations.....	2
3.1.2. Mechanical Installations.....	2
3.1.3. Electrical and Controls Installations	2
3.2. Lakeshore Area Construction	2
3.2.1. Piping and Connections	2
3.2.2. Grading and Restoration	3
4. Commissioning	3
5. Supplemental Treatment and Lake Discharge Summary of Operations.....	3

ATTACHMENTS

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

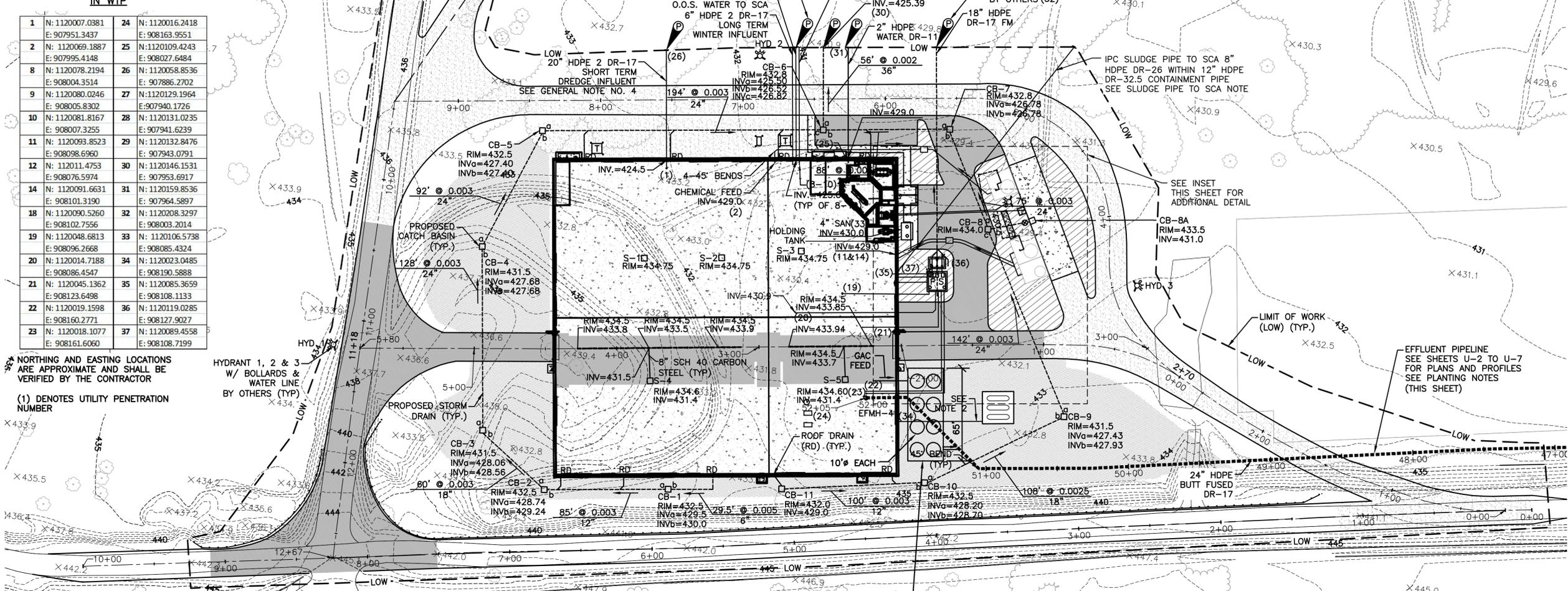
UTILITY PENETRATION IN WTP

1	N: 1120007.0381	24	N: 1120016.2418
	E: 907951.3437		E: 908163.9551
2	N: 1120069.1887	25	N: 1120109.4243
	E: 907995.4148		E: 908027.6484
8	N: 1120078.2194	26	N: 1120058.8536
	E: 908004.3514		E: 907886.2702
9	N: 1120080.0246	27	N: 1120129.1964
	E: 908005.8302		E: 907940.1726
10	N: 1120081.8167	28	N: 1120131.0235
	E: 908007.3255		E: 907941.6239
11	N: 1120093.8523	29	N: 1120132.8476
	E: 908098.6960		E: 907943.0791
12	N: 112011.4753	30	N: 1120146.1531
	E: 908076.5974		E: 907953.6917
14	N: 1120091.6631	31	N: 1120159.8536
	E: 908101.3190		E: 907964.5897
18	N: 1120090.5260	32	N: 1120208.3297
	E: 908102.7556		E: 908003.2014
19	N: 1120048.6813	33	N: 1120106.5738
	E: 908096.2668		E: 908085.4324
20	N: 1120014.7188	34	N: 1120023.0485
	E: 908086.4547		E: 908190.5888
21	N: 1120045.1362	35	N: 1120085.3659
	E: 908123.6498		E: 908108.1133
22	N: 1120019.1598	36	N: 1120119.0285
	E: 908160.2771		E: 908127.9027
23	N: 1120018.1077	37	N: 1120089.4558
	E: 908161.6060		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)



- GENERAL NOTE:**
- ALL PIPELINES SHALL BE INSTALLED A MINIMUM OF 5' BELOW FINISHED GRADE UNLESS OTHERWISE INDICATED.
 - PROPANE VENDOR SHALL PROVIDE TWO 1000 GALLON CONTAINERS WITH ASSOCIATED SUPPORTS, HIGH PRESSURE REGULATORS, AND PIPING FOR A COMPLETE AND OPERATIONAL SYSTEM. INSTALLATION SHALL INCLUDE PROVISIONS FOR A FUTURE 1000 GALLON CONTAINER. VENDOR SHALL ALSO PROVIDE UNDERGROUND PIPING FROM STORAGE TANKS TO EXTERIOR WALL OF THE WATER TREATMENT PLANT BUILDING ALONG WITH SHUT-OFF VALVE AND LOW PRESSURE REGULATOR (REGULATE THE OUTLET PRESSURE TO 11" W.C. TO 14" W.C.). CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCHING AND BACKFILLING OF THE TRENCH FOR THE UNDERGROUND PROPANE PIPING. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR INSTALLATION OF ALL PROPANE PIPING DOWNSTREAM OF THE LOW PRESSURE REGULATOR.
 - COORDINATE PROPANE TANK INSTALLATION AND BOTTOM TANK ELEVATION WITH OWNER. STORM WATER IN THE AREA CAN POND TO ELEV. 434.0 STORM DRAIN PIPE SHALL BE HDPE, BUTT FUSED DR-17.
 - TRENCH DRAIN SHALL BE POLYDRAN BY ABT OR EQUAL WITH EPOXY COATED DUCTILE IRON GRATES RATED FOR H2O LOADING & LOCKING DEVICE. DRAIN SHALL BE INSTALLED IN 4000 PSI CONCRETE TO BOTTOM ASPHALT BINDER COURSE PER MANUFACTURER'S RECOMMENDATIONS. SEE DETAIL SHEET MD-2
 - 20" SHORT TERM INFLUENT & 6" POLYMER MAKE UP SHALL INCLUDE 2-45' BENDS VERTICALLY. THESE LINES SHALL TERMINATE AT PROPOSED GRADE.
 - ALL PIPE LINES TERMINATING AT THE LIMIT OF WORK (LOW) SHALL BE CAPPED AND A 2"x4" MARKER INSTALLED ON EACH, INDICATING THE LINE SIZE & FUNCTION. NORTHING/EASTING COORDINATES SHALL ALSO BE RECORDED BY THE CONTRACTOR & FORWARDED TO THE ENGINEER.

EIGHT TEMPORARY LGAC VESSELS (APPROX. DIMENSIONS)

PLAN SCALE: 1"=40'

PLANTING NOTES

- SPECIAL PLANTINGS ALONG EFFLUENT PIPELINE ROUTE:**
- IN AREAS WHERE SALT MARSH GRASS, LEPTOCHLOA FUSCA SUBSP. FASCICULARIS, OR ANNUAL SALT MARSH ASTER, SYMPHYOTRICHUM SUBULATUM, IS PRESENT AND EXCAVATION OR DISTURBANCE IS TO OCCUR, TOPSOIL TO APPROXIMATELY 4" DEPTH SHALL BE EXCAVATED, STOCKPILED AND SUBSEQUENTLY REPLACED.
 - FOLLOWING SOIL REPLACEMENT, THESE AREAS SHALL BE SEEDED WITH 0.5 POUNDS PER ACRE OF SEEDS FROM THE IMPACTED SPECIES ALONG WITH THE ACCOMPANYING SPECIES IN TABLE 1 AND APPROXIMATELY ONE TON PER ACRE OF STRAW MULCH.
 - SEEDS OF IMPACTED SPECIES SHALL BE COLLECTED AS NEEDED FROM OTHER POPULATIONS ON HONEYWELL PROPERTY. AN O'BRIEN & GERE REPRESENTATIVE SHALL ASSIST IN SEED COLLECTION EFFORTS, SHOULD THEY BE NECESSARY.
 - SEEDS SHALL BE COLLECTED WHEN RIPE, I.E., WHEN THE SEED FALLS READILY FROM THE STEM. SEED MAY COLLECTED, AIR-DRIED AT ROOM TEMPERATURE FOR TWO WEEKS AND STORED AT FORTY DEGREES FAHRENHEIT FOR UP TO EIGHT MONTHS PRIOR TO BROADCASTING.
 - SEED SHALL BE APPLIED ANY TIME EXCEPT DURING THE MONTHS OF SEPTEMBER AND OCTOBER

FOR WETLAND AREAS WITHOUT RTE SPECIES:

- AREAS SHALL BE SEEDED WITH "FLOODPLAIN WILDLIFE MIX: ERNMX-154" FROM ERNST CONSERVATION SEEDS, OR EQUIVALENT AT A RATE OF 35 LBS. PER ACRE. AREAS SHALL THEN BE MULCHED WITH HAY AT A RATE OF 1 TON PER ACRE

TABLE 1: SEED MIX TO BE BROADCAST ALONG WITH SEEDS OF IMPACTED SPECIES.

COMMON NAME (LATIN NAME)	POUNDS PER ACRE
ALKALIGRASS (PUCCINELLIA DISTANS)	10
CREEPING BENTGRASS (ARGOSTIS STOLONIFERA)	10
ANNUAL RYE (LOLIUM MULTIFORUM)	10
TOTAL	30

CHEMICAL LINE NOTES:

- CHEMICAL LINES INTO AND OUT OF MH SA (SULFURIC ACID) INCLUDE 6-1" LINES (5 WORKING & 1 SPARE) CONTAINED IN 8" PVC CONTAINMENT PIPE.
- CHEMICAL LINES INTO AND OUT OF MH A/SH (ALUM/SODIUM HYDROXIDE) INCLUDE 5-1" LINES (4 WORKING & 1 SPARE) INSIDE 8" HDPE FOR SODIUM HYDROXIDE AND 3-1" LINES (2 WORKING & 1 SPARE) INSIDE 6" HDPE FOR ALUM. SEE DETAIL SHEET MD-4

2" WATER LINE NOTE:

- HEAT TRACE AND INSULATE THE 2" WATER LINE IN THE VERTICAL LEG DOWN TO 5' BELOW GRADE.

SLUDGE PIPE TO SCA NOTE:

- TERMINATE 12" CONTAINMENT PIPE 6" BELOW 8" PIPE. INSTALL FLANGED ENDS ON 8" HDPE.

LEGEND

- PROPOSED EFFLUENT PIPELINE (EF)
- EFMH
- PROPOSED ANCHOR BLOCK
- PROPOSED CATCH BASIN
- 18" 145' @ 0.0035 PROPOSED STORM PIPE, SIZE, LENGTH & SLOPE
- PROPOSED POINT OF CONNECTION BY OTHERS
- PROPOSED BITUMINOUS CONCRETE PAVEMENT
- PROPOSED CONCRETE PAD
- PROPOSED HEAVY DUTY GRAVEL PAVEMENT
- LOW LIMIT OF WORK
- (9) NORTHING & EASTING FOR INTERIOR UTILITY PENETRATION WTP

RECORD DRAWINGS

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

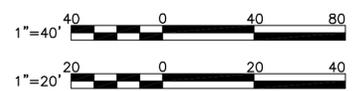
O'BRIEN & GERE ENGINEERS, INC.

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.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT.



NO.	DATE	REVISION	INIT.
8	06/19/14	FINAL DRAWING	
7	08/23/13	FINAL DRAWING WITH STAMP	
6	05/24/13	FINAL DRAWING	
5	02/24/12	FIELD DIRECTIVE NO.6	
4	09/23/11	FIELD DIRECTIVE NO.4	
3	06/17/11	FIELD MODIFICATION NO.3	
2	05/03/11	FIELD MODIFICATION NO.2	
1	04/11/11	ISSUED FOR CONSTRUCTION	
0	10/26/10	DP #3 FINAL DESIGN - NYSDEC SUBMITTAL	



2011 © O'Brien and Gere Engineers, Inc.

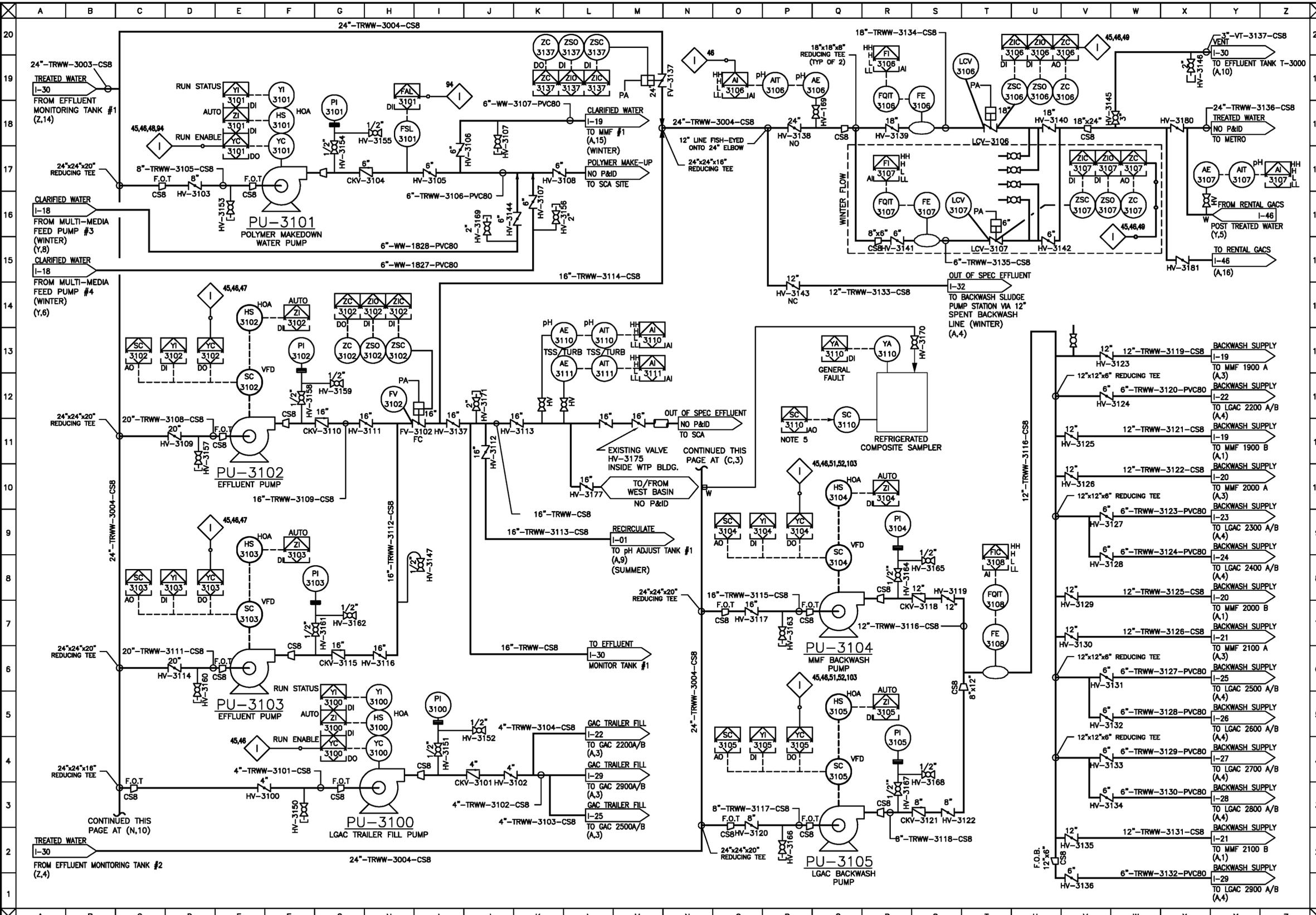
HONEYWELL INTERNATIONAL, INC. DP #3 WATER TREATMENT PLANT TOWN OF CAMILLUS, NEW YORK

UTILITY PLAN

IN CHARGE OF	M.E. REWKOWSKI	FILE NO.	1163.45613-U1
DESIGNED BY	MER	CHECKED BY	RGD
DRAWN BY	SLJ/DOK	DATE	OCT. 26, 2010

U-1

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



- NOTES:**
- REFER TO M-16 FOR SIZING OF SECONDARY CONTAINMENT.
 - EFFLUENT MONITORING TANKS AND ASSOCIATED PUMPS TO BE FOR SUMMER AND WINTER OPERATION.
 - EFFLUENT PUMP SIZED FOR 100% OF PLANT CAPACITY. MAINTAIN LEVEL IN T-3100 VIA VFD CONTROL.
 - WTP INFLUENT LINE, OUT OF SPEC EFFLUENT LINE, AND SLUDGE RETURN LINE TO SCA TO BE SECONDARILY CONTAINED OUTSIDE OF WTP BUILDING.
 - 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.

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	



2010 © O'Brien & Gere

HONEYWELL INTERNATIONAL, INC.

**WATER TREATMENT PLANT
TOWN OF CAMILLUS, NEW YORK**

**PROCESS AND INSTRUMENTATION
TREATED WATER PUMPS
P&ID**

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

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

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

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

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

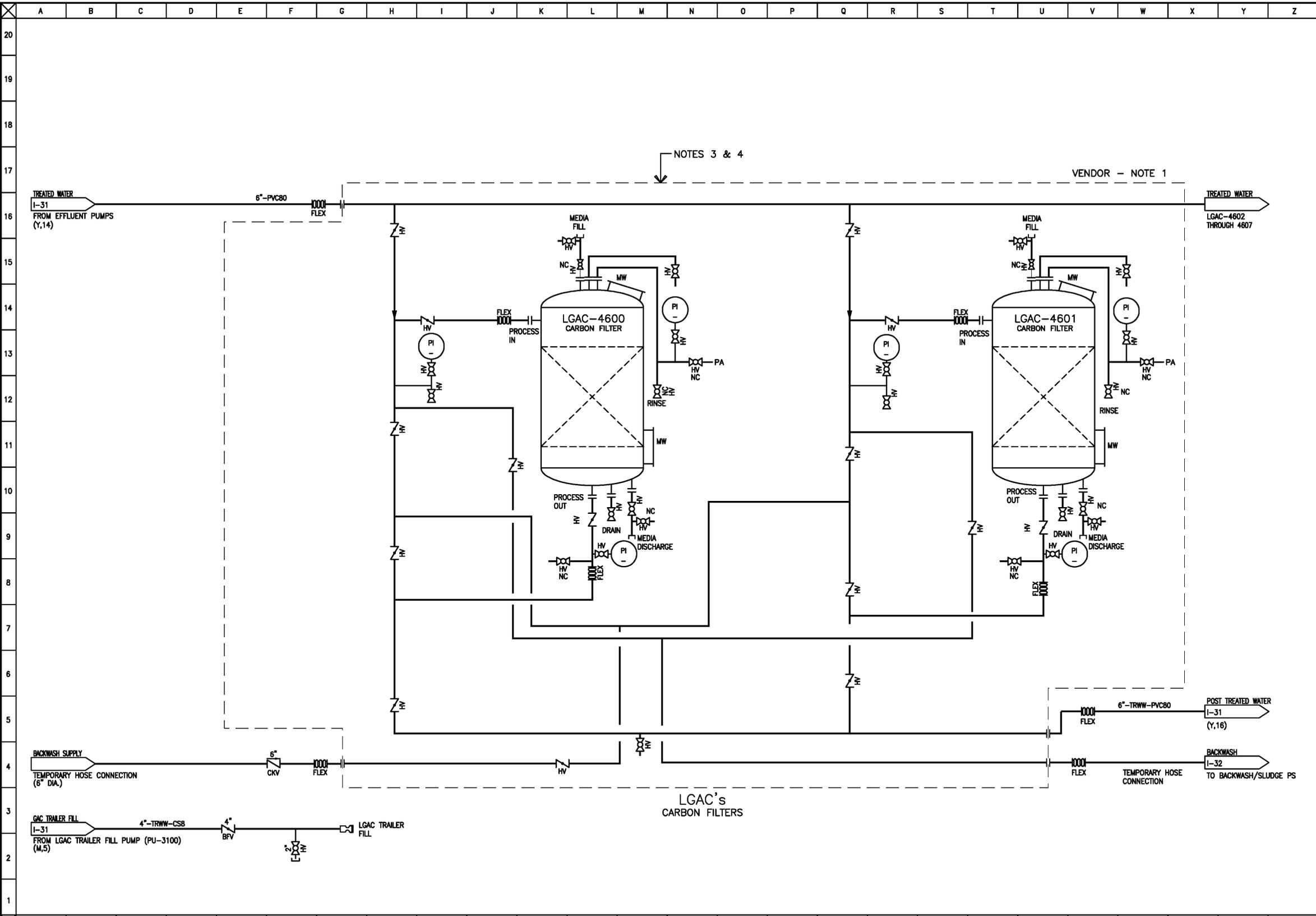
PU-3105
LGAC BACKWASH PUMP
MANUFACTURER: GOULDS
TYPE: CENTRIFUGAL PUMP
CAPACITY: 707 GPM
HP: 25
MCC: 316SS
MOTOR: VAR. SPEED

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT.



IN CHARGE OF	BEW	FILE NO.	1163.45613-110
DESIGNED BY	GBE	CHECKED BY	PDS
DRAWN BY	JAS	DATE	JUNE 3, 2011

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



NOTES 3 & 4

VENDOR - NOTE 1

- NOTES:**
- VENDOR SUPPLIED GAC SYSTEM TO BE INSTALLED PER VENDOR'S APPROVED SHOP DRAWINGS AND INSTRUCTIONS.
 - FLEXIBLE CONNECTORS TO BE PROVIDED AT CONNECTIONS TO EQUIPMENT AND AT MANIFOLD PIPING.
 - 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.
 - 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	



2010 © O'Brien & Gere

HONEYWELL INTERNATIONAL, INC.

WATER TREATMENT PLANT
TOWN OF CAMILLUS, NEW YORK

PROCESS AND INSTRUMENTATION
CARBON FILTERS
P&ID

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

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ENGINEER, TO ALTER THIS DOCUMENT.



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