BETHPAGE WATER DISTRICT

TOWNS OF OYSTER BAY & HEMPSTEAD NASSAU COUNTY, NEW YORK

VOC TREATMENT IMPROVEMENTS AT PLANT 4

PHASE 1 - CONSTRUCTION OF AIR STRIPPING SYSTEM CONCRETE CLEAR WELL AND FOUNDATIONS PHASE 2 - CONSTRUCTION OF GAC POLISHING SYSTEM CONCRETE FOUNDATION PHASE 3 - FURNISH AND DELIVER GAC POLISHING SYSTEM PHASE 4 - CONSTRUCTION OF GAC POLISHING SYSTEM PHASE 5 - CONSTRUCTION OF AIRSTRIPPING TREATMENT SYSTEM

BOARD OF COMMISSIONERS

WILLIAM J. ELLINGER, CHAIRMAN JOHN R. SULLIVAN, TREASURER **GARY S. BRETTON, SECRETARY**

SUPERINTENDENT

MICHAEL J. BOUFIS

SECRETARY TO THE BOARD OF COMMISSIONERS

SAL GRECO, JR.

ATTORNEY

ANTHONY J. SABINO, ESQ.

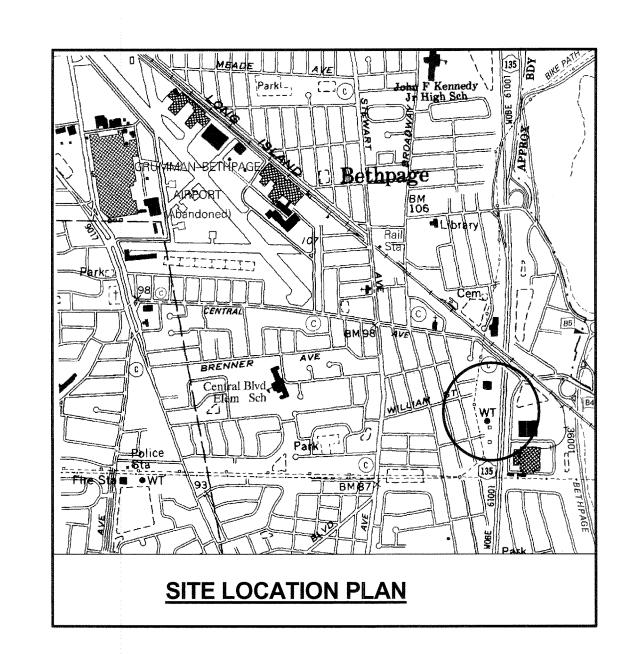
PROJECT NO. **BPWD-0807**

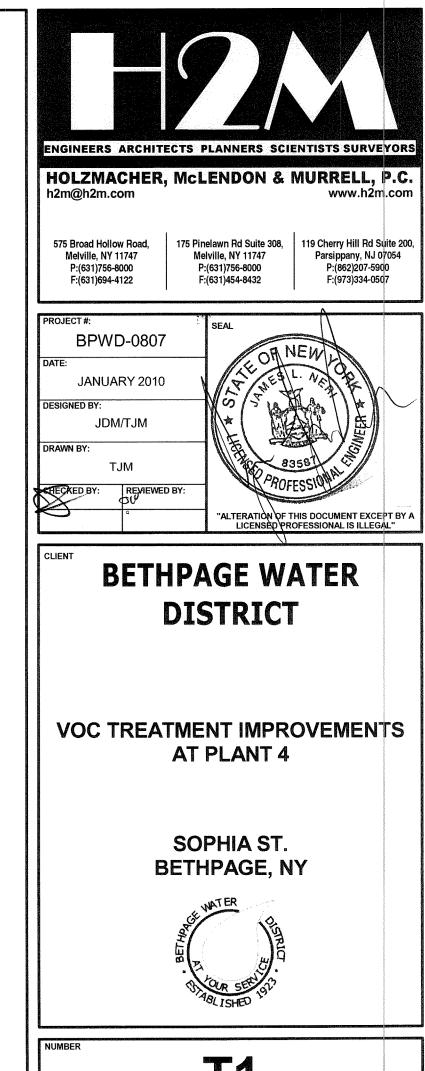
JANUARY 2010

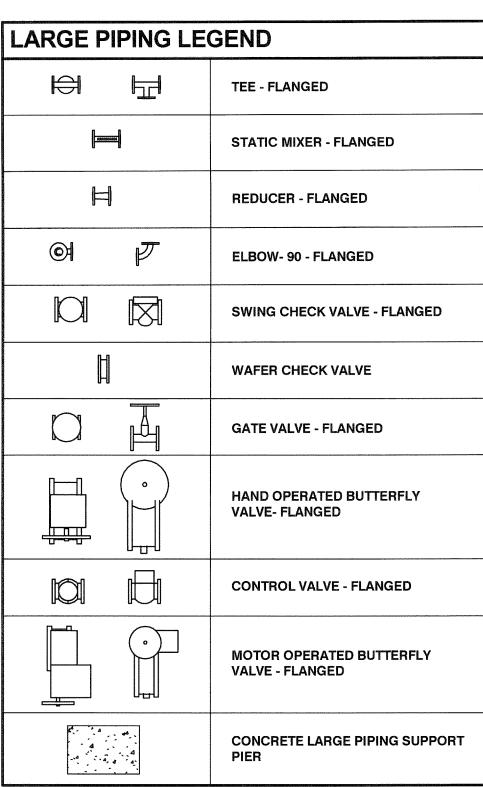
Drawing List

- T1 TITLE SHEET M1 LEGENDS AND NOTES
- M3 GAC VESSEL PLAN AND SECTION
- M4 GAC FLOW SCHEMATIC









SMALLE	PIPING LEG	GEND
IOI		
		TEE - THREADED
aı	đ	ELBOW- 90 - THREADED
D	0	CAP - THREADED
□©a		CHECK VALVE - THREADED
المناسبة المناسبة		BALL VALVE - THREADED
	\bigcirc	GLOBE VALVE - THREADED
		SOLENOID VALVE
D	Œ	ELBOW - PVC
		TEE - PVC
		BALL VALVE - PVC
		BALL CHECK VALVE - PVC
Ţ	5	TRAP - PVC
		UNION - PVC

MISCELLANEOUS EQUIPMENT LEGEND		
	VENTURI METER	
	SUMP PUMP	
⊙ ⇒	PRESSURE GAUGE	
ш.	SUMP PUMP CONTROL PANEL	
	FLOOR DRAIN	
	MAG METER	

	CURB
G	EXISTING NATURAL GAS SERVICE
S	EXISTING SEWER SERVICE
	EXISTING WATER SERVICE
W	NEW WATER SERVICE
T	EXISTING TELEPHONE SERVICE
————E———	EXISTING ELECTRIC SERVICE
O/H ELEC:	EXISTING OVERHEAD WIRES
X	EXISTING FENCE
Х	NEW FENCE
D	EXISTING DRAIN
D	NEW DRAIN
SA	NEW SAMPLE LINE
+	SPOT ELEVATION
\oplus	VERTICAL PIPE
\oplus_{wm}	WATER METER
\oplus_{wv}	WATER VALVE
	INLET
	HYDRANT

SITE PLAN LEGEND

3 I VIBOL3 LEGEND	
102	ROOM DESIGNATION
5 A22	BUILDING SECTION CUT
5 A22	WALL SECTION CUT
5 A2.2	DETAIL KEY
5 A2.2	ELEVATION KEY
——(Н)	COLUMN GRID
	ELEVATION LINE
H TITLE SCALE	DRAWING TITLE
3 A2.2 1	INTERIOR ELEVATION REFERENCE
# #	SEE NOTE # ON DWG. #

SYMBOLS LEGEND

PROCESS CONTROL LEGEND	
FLOW TRANSMITTER	
FLOW SWITCH	
PRESSURE TRANSMITTER	
PRESSURE SWITCH	
LEVELTRANSMITTER	
LEVEL ELECTRODES	
DIFFERENTIAL PRESSURE SWITCH	
SOLENOID VALVE	
PILOT TUBE & AIR PRESSURE SWITCH	
TELEPHONE LINE DISCONNECT SWITCH	
PROPORTIONAL-INTEGRAL- DERIVATIVE SINGLE LOOP CONTROLLER	

GENERAL NOTES

- 1. THE DRAWING AND SPECIFICATION ARE COMPLEMENTARY THE PROJECT SEPARATELY BOUND, CONTAINS THE CONDITIONS OF THE CONTRACT, PROCEDURES AND TECHNICAL SPECIFICATIONS
- 2. All CONTRACTORS ARE TO VISIT THE SITE AND BECOME FAMILIAR WITH THE CONDITIONS OF THE SITE AND DIFFICULTIES ATTENDING THE WORK.
- 3. DO NOT SCALE MEASURE ANY DRAWING. VERIFY THE FIGURES, DIMENSIONS AND DESIGN INTENTION SHOWN ON THE DRAWINGS BEFORE BEGINNING LAYOUT OF THE WORK.
- 4. REPORT ANY ERRORS, INACCURANCES, MISSING DIMENSIONAL REQUIREMENTS OR CONFLICTS
 TO THE ARCHITECT/ENGINEER IN WRITING BEFORE BEGINNING ANY WORK.
- 5. VERIFY EXACT LAYOUT CAPABILITY WITH ALL EXISTING CONDITIONS AND COORDINATE ALL WORK TO BE UNDERTAKEN PRIOR TO BEGINNING ANY WORK. NOTIFY THE ENGINEER IN WRITING BEFORE BEGINNING WORK IF ANY DISCREPANCIES ARE FOUND WITH CONDITIONS ENCOUNTERED, AS WELL AS ITEMS COVERED IN 8 AND 9. CONTRACTOR WILL BE RESPONSIBLE FOR ALL TEMPORARY MEASURES, TIME LOST, CHANGES TO THE WORK SCOPE WITHOUT ANY ADDITIONAL COMPENSATION IF CONTRACTOR FAILS TO PROVIDE AFOREMENTIONED VERIFICATIONS AND COORDINATION PRIOR TO COMMENCING WORK.
- 6. DISTURB ONLY THOSE AREAS OF THE SITE AFFECTED BY NEW CONSTRUCTION, UNLESS NOTED OTHERWISE. PROTECT ALL OTHER AREAS.
- 7. PROTECT ADJOINING PROPERTIES WHEN CONDUCTING WORK.
- 8. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, LAWS, AGENCIES HAVING JURISDICTION, AND STATE AS REQUIRED.
- 9. CONTRACTOR SHALL STRICTLY ADHERE TO MANUFACTURER'S PRINTED INSTRUCTION.
- 10. VERIFY ALL CHANGES TO WORK IN WRITING WITH THE ENGINEER AND OWNER BEFORE BEGINNING RELATED WORK.
- 11. PROVIDE POSITIVE DRAINAGE AWAY FORM THE BUILDING PERIMETER, PITCH 1/4" PER FOOT. NOTIFY ENGINEER OF ANY DISCREPANCIES WITH THIS REQUIREMENT BEFORE PROCEEDING.
- 12. DIMENSIONS NOTED AS "EQUAL" OR "EQ" WITHIN A ROOM REFER TO A DISTANCE RELATIONSHIP CONTAINED ONLY IN THAT ROOM AT AN OPPOSING OR PARALLEL WALL UNLESS NOTED OTHERWISE.
- 13. VERIFY AND ADJUST APPROXIMATE DIMENSIONS (+/-) IN THE FIELD. VERIFY WITH A/E PRIOR TO CONSTRUCTION.
- 14. ALL ITEMS DETAILED OR SPECIFIED TO RUN WITHIN OR ATTACHED TO WALLS AND CEILINGS ARE TO BE CONCEALED OR RECESSED U.N.O.
- 15. CONTRACTOR SHALL LOCATE ALL PENETRATIONS REQUIRED TO ACCOMMODATE ALL WORK DETAILED OR SPECIFIED FOR THEIR SCOPE, AND COORDINATE THIS WORK WITH OTHERS.
- 16. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING WATER-TIGHT WEATHER PROTECTION THROUGHOUT ALL WORK AREA & EXISTING AREAS IMMEDIATELY ADJACENT TO THOSE WORK AREAS, FOR THE DURATION OF THE ENTIRE PROJECT..
- 17. CONTRACTOR SHALL PROTECT ALL ADJACENT EXISTING CONSTRUCTION, ITEMS, FINISHES, ETC. AND SHALL PATCH, REPAIR AND/OR REPLACE, AND REFINISH AS REQUIRED TO RESTORE ANY AND ALL AREAS DAMAGED DURING CONSTRUCTION.
- 18. CONTRACTOR SHALL PROVIDE, AND COORDINATE THE INSTALLATION OF, ALL ACCESS PANELS THAT ARE NEEDED TO ACCESS OR SERVICE FOR ALL ITEMS INSTALLED AS PART OF THEIR SCOPES OF WORK.

REFERENCED MECHANICAL NOTES

- 1. THE CONTRACTOR SHALL SUBMIT DETAILS OF SUPPORT FOR ALL PIPING GREATER THAN OR EQUAL TO 6" IN DIAMETER.
- 2. SNAP-ON PLASTIC PIPE MARKERS WITH FLOW DIRECTION ARROWS SHALL BE FURNISHED AND INSTALLED AS WORK OF SECTION 15190- MECHANICAL INDENTIFICATION. VALVE DESIGNATIONS AND PIPE NAMES SHALL BE AS SHOWN ON MECHANICAL DRAWINGS. FURNISH AND INSTALL FIVE (5) PIPE MARKERS FOR EACH PROCESS LINE.
- 3. ALL MEASUREMENT AND CONTROL PRIMARY ELEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. MAINTAIN MANUFACTURER'S REQUIRED DISTANCE UPSTREAM AND DOWNSTREAM BETWEEN FLOW METERS AND PIPING ELEMENTS SUCH AS FITTINGS AND VALVES. SHOW SEPARATION DISTANCES ON PIPING LAYOUT DRAWINGS SPECIFIED TO BE PROVIDED.
- 4. UNUSED MANUFACTURER SUPPLIED FIELD SERVICES SHALL BE CREDITED TO THE OWNER AS SPECIFIED IN SECTION 01820 DEMONSTRATION AND TRAINING.
- 5. THE CONTACTOR SHALL PROVIDE JOINT RESTRAINT FOR ALL FLANGED ADAPTERS. EACH FLANGED ADAPTER JOINT SHALL BE TIE RODDED USING STELL THREADED ROD. USE ¾" DIA. ROD USE TWO (2) RODS PER JOINT (EQUALLY SPACED) AND RODDED BACK TO THE NEAREST FLANGED JOINT. ALL NUTS SHALL BE STAINLESS STEEL. INSTALL JAM NUTS. THE CONTRACTOR'S METHOD OF INSTALLING RODS SHALL BE MECHANICALLY RESTRAINED.
- 6. ALL MECHANICAL JOINT FITTINGS SHALL BE PROVIDED WITH THRUST BLOCKING AS DETAILED ON THE DRAWINGS. IN ADDITION TO THRUST BLOCKING, EACH MECHANICAL JOINT FITTING SHALL BE MECHANICALLY RESTRAINED.
- 7. CONSTRUCT THRUST BLOCKS WHERE SHOWN ON THE DRAWINGS. DOWEL THRUST BLOCKS INTO SLAB AS SPECIFIED.
- 8. POUR CONCRETE SUPPORT PEDESTALS FOR ALL PIPING IN LOCATIONS SHOWN ON THE PLAN SHEETS. HEIGHT AS REQUIRED TO SUPPORT PIPING. PEDESTALS SHALL BE POURED USING A BAG MIX AND DOWELED INTO THE SLAB WITH FOUR (4) 5/8" DIA. THREADED ROD WITH A MINIMUM PROJECTION OF 6" EQUALLY SPACED.

SITE PLAN NOTES

- 1. CONTRACTOR SHALL INSPECT CONSTRUCTION SITE PRIOR TO SUBMISSION OF BIDS AND SHALL MAKE NO ADDITIONAL CLAIMS REGARDING SITE CONDITIONS THEREAFTER.
- 2. FINAL SITE GRADING, PAVEMENT AND RESTORATION WILL BE COMPLETED UNDER SUBSEQUENT CONTRACTS AFTER THE INSTALLATION OF THE VESSELS UNDER THIS CONTRACT. THEREFORE, THE CONTRACTOR SHALL ANTICIPATE MAKING ANY NECESSARY SITE IMPROVEMENTS TO PERMIT DELIVERY, SETUP AND INSTALLATION OF GAC FOR GAC TREATMENT SYSTEMS.
- 3. CONTRACTOR SHALL HAND DIG TO LOCATE AND EXPOSE EXISTING UTILITIES. ANY DAMAGE TO EXISTING UTILITIES MUST BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER.
- 4. THE CONTRACTOR SHALL BE REQUIRED TO COMPLETE ALL SURVEY, LAYOUT, LINES, GRADES, AS REQUIRED, TO PROPERLY COMPLETE THE WORK. NEITHER H2M NOR THE OWNER SHALL PERFORM ANY LAYOUT.
- 5. THE CONTRACTOR SHALL PERFORM DAILY CLEANUP OPERATIONS WHICH INCLUDE REMOVAL OF DEBRIS AND EXCESS CONSTRUCTION MATERIAL, AND DRIVEWAY / STREET CLEANING TO THE SATISFACTION OF THE OWNER AND THE ENGINEER.
- 6. DURING ALL NON- WORKING HOURS, THE CONTRACTOR WILL BE REQUIRED TO STORE ALL EQUIPMENT AND MATERIALS WITHIN THE AREA DESIGNATED BY THE ENGINEER AT THE PROJECT SITE.
- 7. ALL DIMENSIONS SHOWN ARE APPOROXIMATE AND SUBJECT TO REVISION. ALL DIMENSIONS SHOWN REFER TO THE

FACE OF THE CURB. ALL DIMENSIONS BETWEEN CURVES REFER TO POINT OF CURVATURE AND POINT OF TERMINATION.

- 8. CONSTRUCTION OF FACILITY SHALL CONFORM TO ALL ABBLICABLE STATE AND LOCAL CODE REQUIREMENTS, THE CONTRACT AND SUBJECT TO THE APPROVAL OF THE ENGINEER.
- 9. CONTRACTOR SHALL SECURE CONSTRUCTION SITE IN ACCORDANCE WITH APPLICABLE SAFETY STANDARDS.
- 10.CONTRACTOR SHALL COORDINATE ACTIVITIES WITH THE OWNER/ENGINEER SO AS TO MINMIZE INTERRUPTION TO THE OWNERS OPERATIONS.
- 11.CONTRACTOR IS RESPONSIBLE FOR RESTORATION OF SURROUNDING AREAS DAMAGED DURING CONSTRUCTION. ALL AREAS DISTURBED BY WORK SHALL BE RESTORED TO PRE-EXISTING OR SPECIFIED NEW CONDITIONS.
- 12.REPLACE ANY CURBS, DRIVEWAY, ETC., SCHEDULED TO REMAIN WHICH ARE DAMAGED AS A RESULT OF CONSTRUCTION
- 13.CONTRACTOR SHALL PROVIDE TEMPORARY FENCING TO PROTECT WORK AREAS.

ACTIVITES AT NO COST TO THE OWNER.



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MARK DATE DESCRIPTION

PROJECT#:

BPWD-0807

DATE:

JANUARY 2010

DESIGNED BY:

JDM

DRAWN BY:

TJM

CHECKED.BY: REVIEWED BY:

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BETHPAGE WATER DISTRICT

VOC TREATMENT IMPROVEMENTS
AT PLANT 4

SOPHIA ST. BETHPAGE, NY



CONTRACT

PHASE 3
FURNISH AND DELIVER GAC
POLISHING SYSTEM

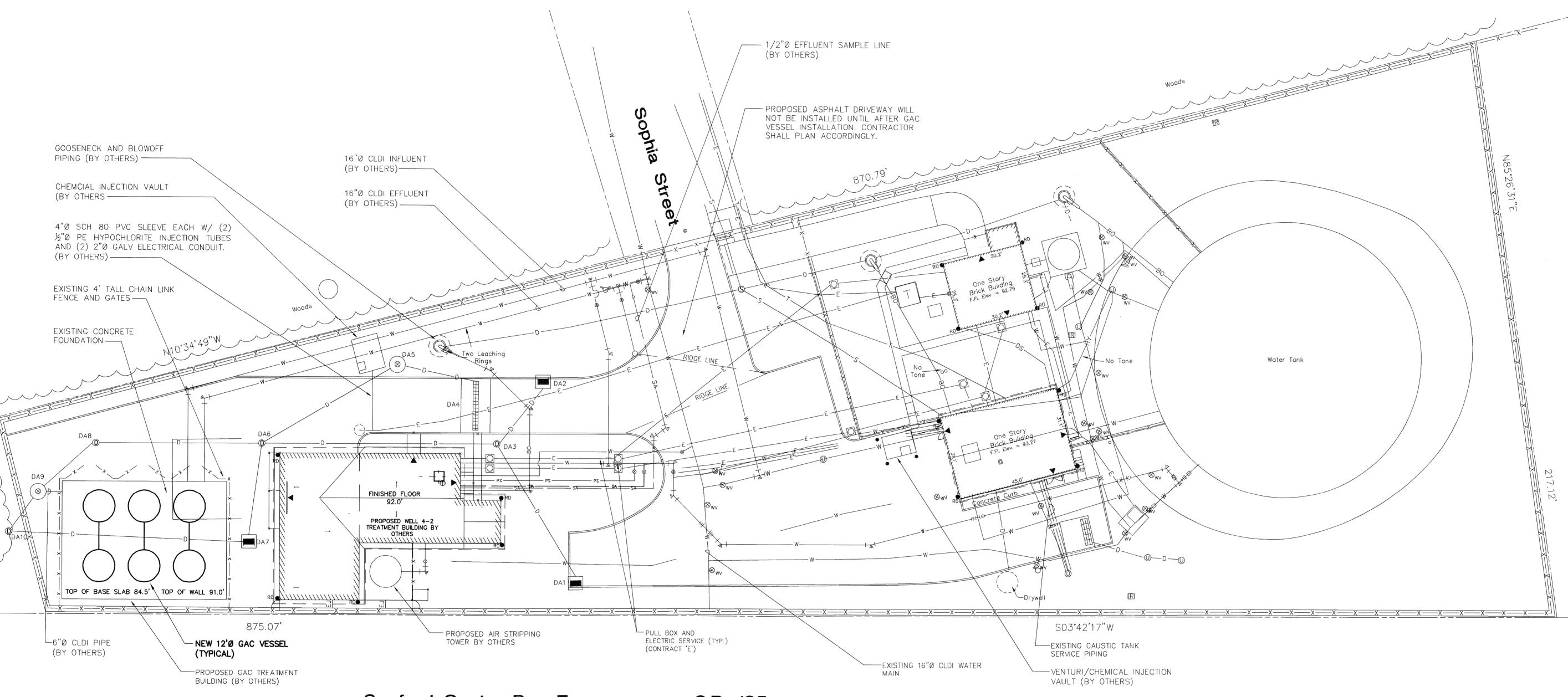
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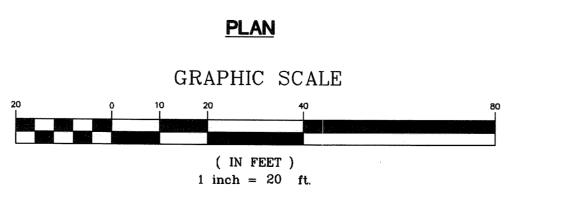
LEGENDS AND NOTES

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Seaford Oyster Bay Expressway - S.R. 135





CONSULTANTS:		
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	JDM BY: BMM	*ALTERATION OF THIS DOCUMENT EXCEPT BY A LICENSED PROFESSIONAL IS ILLEGAL*

BETHPAGE WATER DISTRICT

GAC TREATMENT AT PLANT NO. 4

SOPHIA ST. BETHPAGE, NY 11714



PHASE 3
FURNISH AND DELIVER GAC
POLISHING UNIT

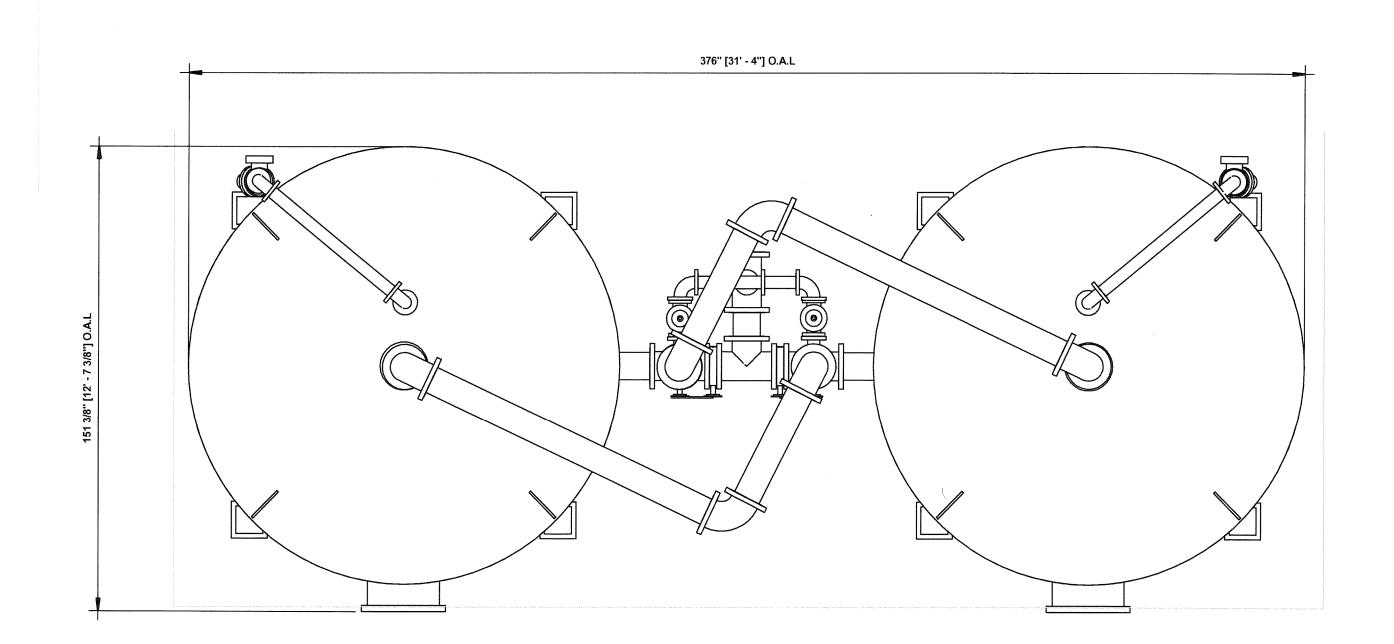
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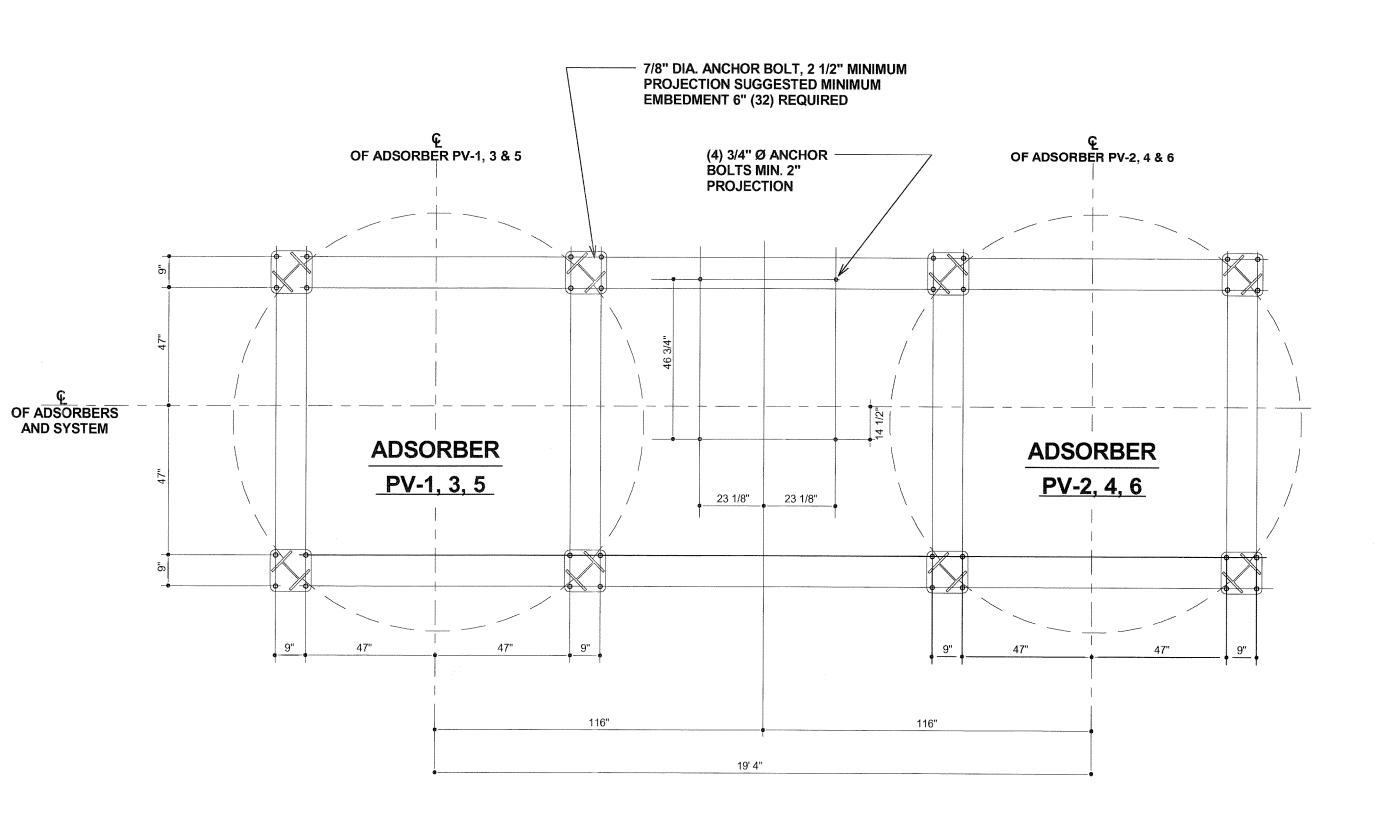
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SITE PLAN

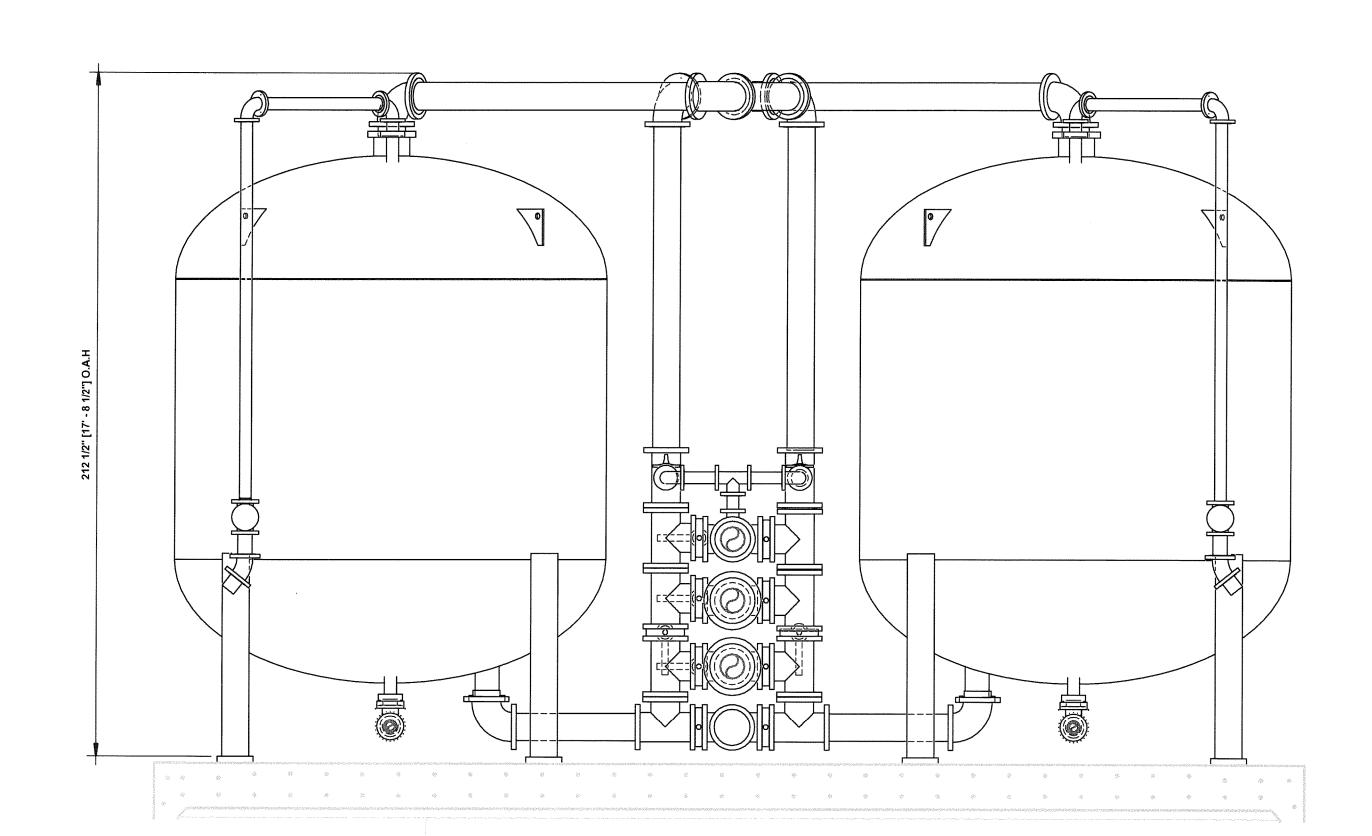
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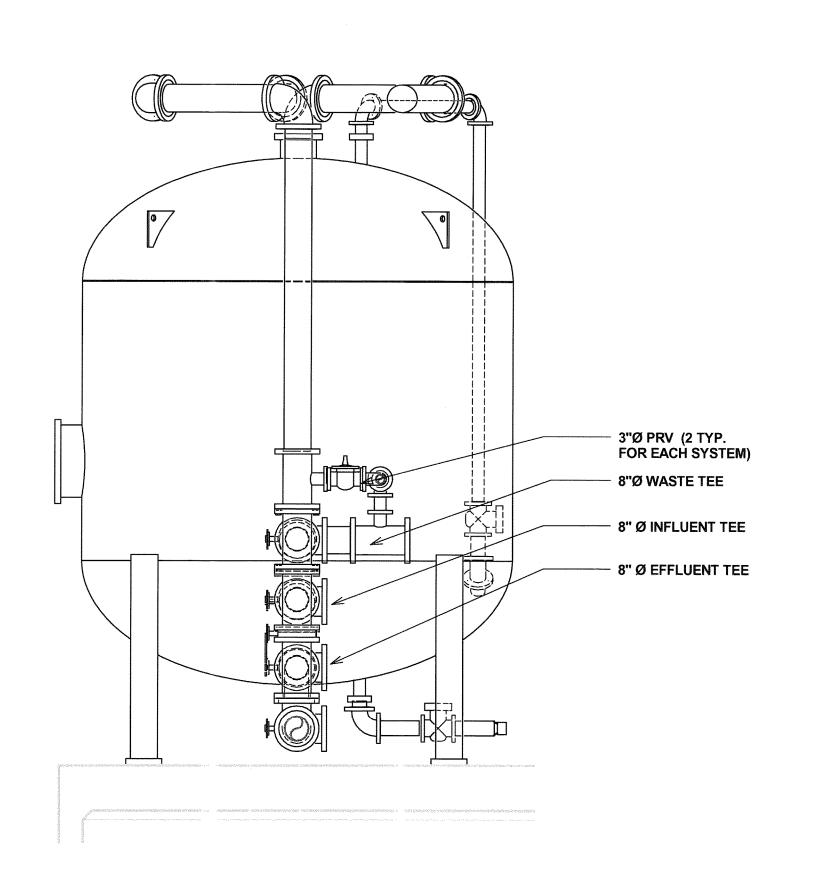
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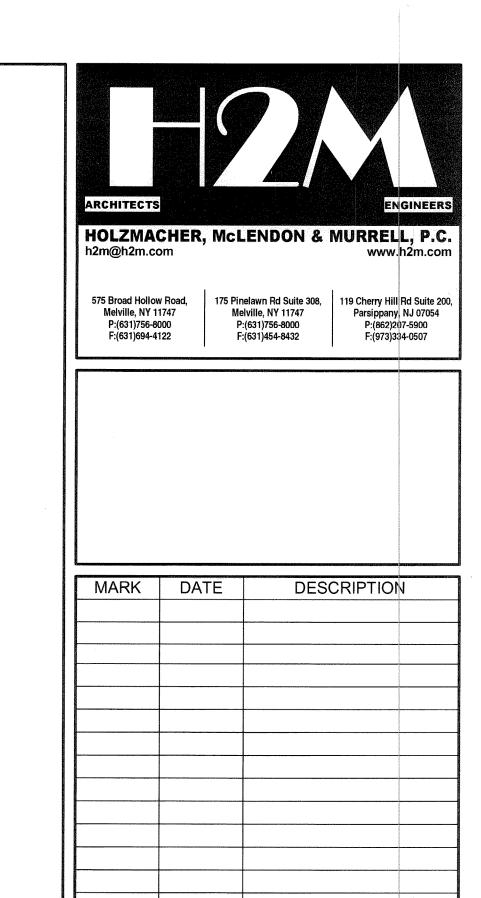


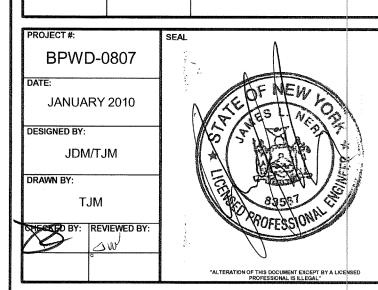


ANCHOR PATTERN SHOWN IS FOR ATTACHMENT OF VESSEL BASEPLATES TO A CONCRETE SLAB IN SIESMIC ZONE 4. THE TWO LARGE CENTER HOLES IN EACH BASEPLATE ARE FOR ATTACHMENT TO STEEL FRAMING. CONTRACTOR SHALL VERIFY ANCHOR BOLT PLAN WITH ADSORBER MANUFACTURER PRIOR TO INSTALLATION.









BETHPAGE WATER DISTRICT

VOC TREATMENT IMPROVEMENTS AT PLANT 4

> SOPHIA ST. BETHPAGE, NY



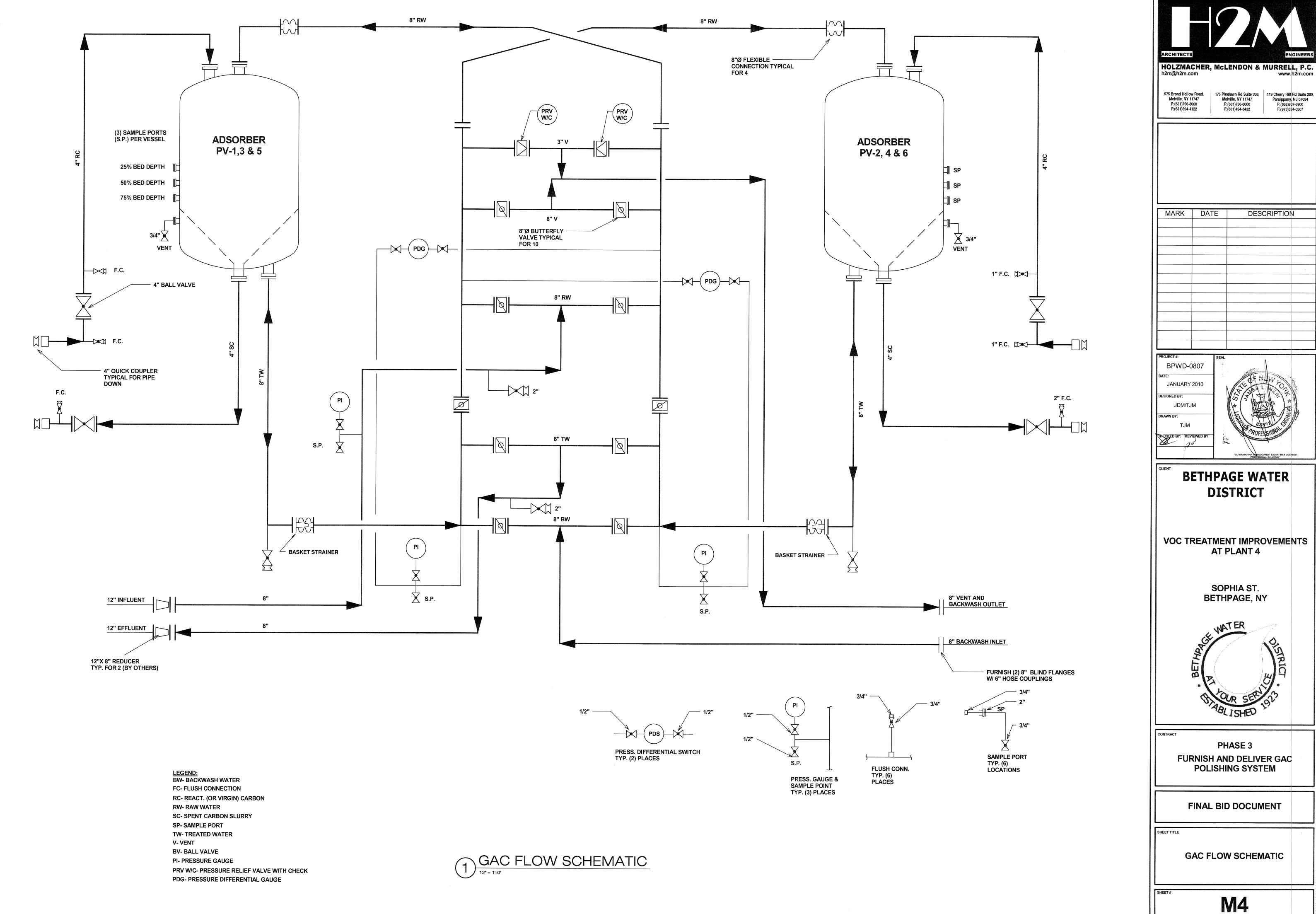
PHASE 3
FURNISH AND DELIVER GAC
POLISHING SYSTEM

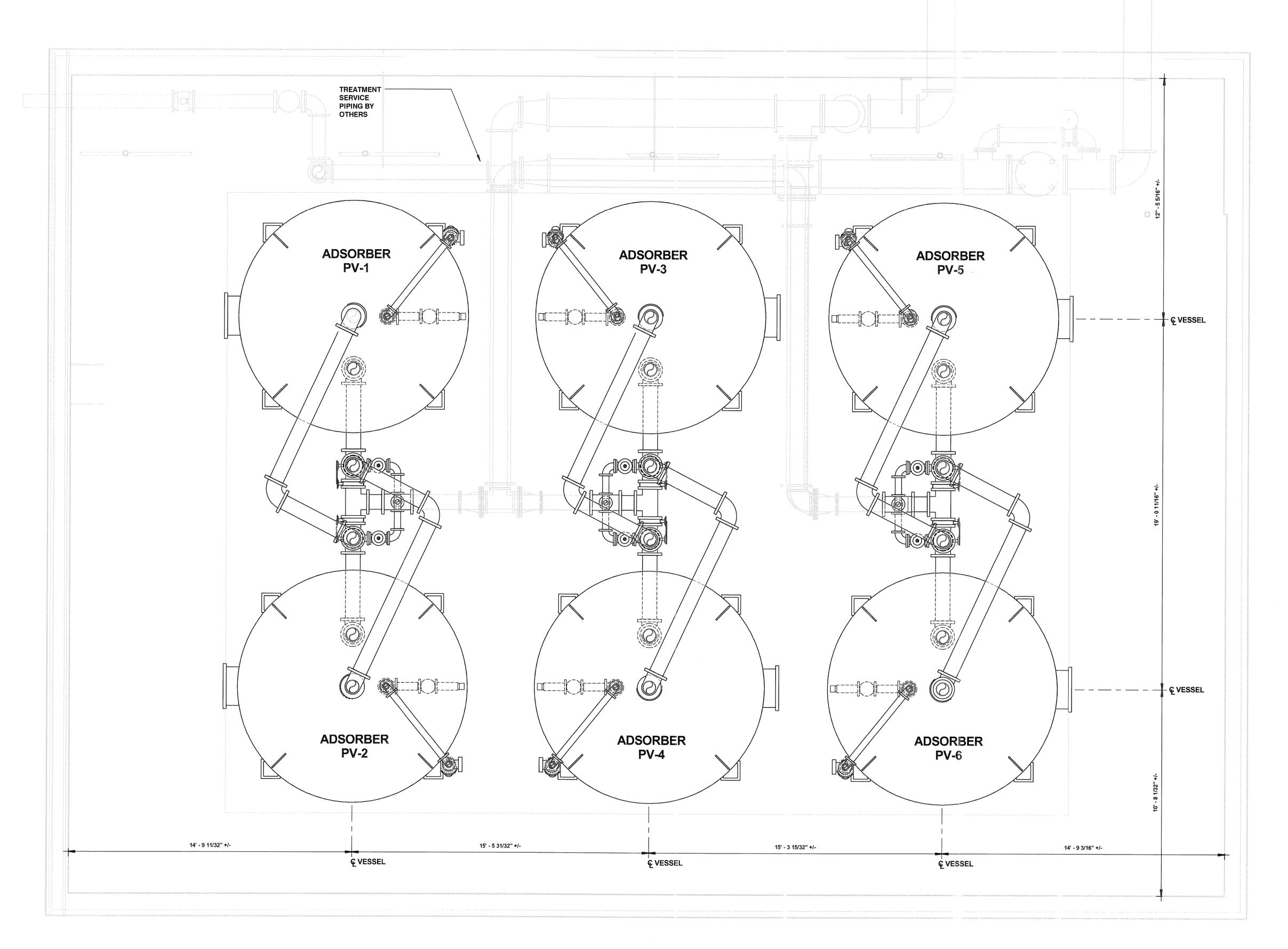
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SHEET T

GAC VESSEL PLAN AND SECTION

M3





GAC VESSEL PIPING PLAN

3/8' = 1'-0"

NOTES: 1. ORIENT VESSEL HATCHES AND TREES AS AHOWN ON THIS SHEET 2. CONTRACTOR TO VERIFY DIMENSIONS PRIOR TO FINAL PIPE UP

