

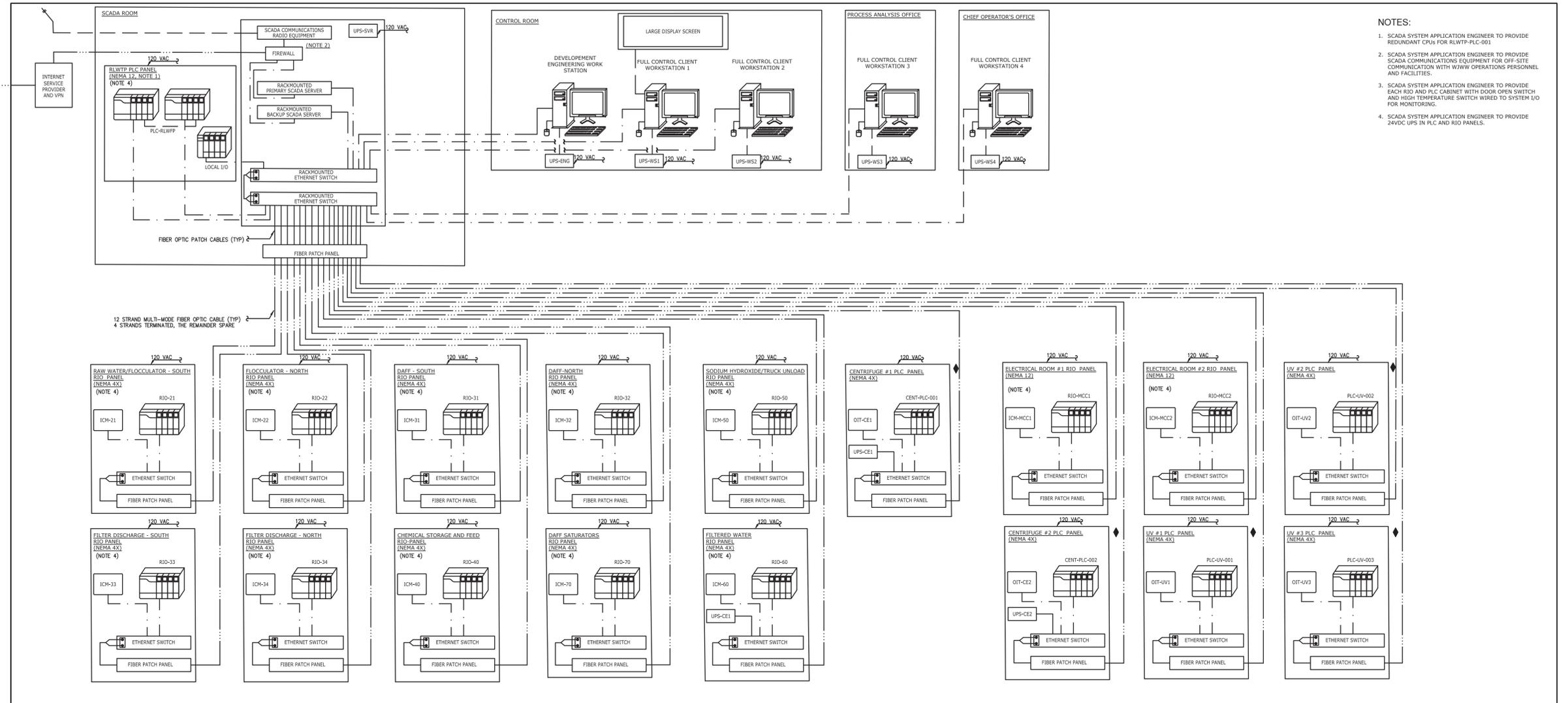
INSTRUMENT AND FUNCTION SYMBOLS					VALVE, GATE, AND ACTUATOR SYMBOLS					PUMP AND EQUIPMENT SYMBOLS					IDENTIFICATION LETTERS						
LOCATION AND ACCESSIBILITY		SHARED DISPLAY/SHARED CONTROL		COMPUTER SYSTEMS AND SOFTWARE	DISCRETE	GATE VALVE		BACKFLOW PREVENTER		CENTRIFUGAL WET PIT PUMP (OR DRY-PIT SUBMERSIBLE)		BLOWER (CENTRIFUGAL)		GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT)		FIRST LETTERS		SUCCEEDING LETTERS			
- LOCATED IN FIELD - NOT PANEL, CABINET, OR CONSOLE MOUNTED - VISIBLE AT FIELD LOCATION - NORMALLY OPERATOR ACCESSIBLE		PRIMARY CHOICE OR BASIC PROCESS CONTROL SYSTEM	ALTERNATE CHOICE OR SAFETY INSTRUMENTED SYSTEM			GLOBE VALVE		PRESSURE RELIEF VALVE		CHOPPER PUMP		PISTON PUMP		DIAPHRAGM PUMP		MEASURED OR INITIATING VARIABLE	VARIABLE MODIFIER	READOUT/PASSIVE FUNCTION	OUTPUT/ ACTIVE FUNCTION	FUNCTION MODIFIER	
- LOCATED IN OR ON FRONT OF CENTRAL OR MAIN PANEL OR CONSOLE - VISIBLE ON FRONT OF PANEL OR ON VIDEO DISPLAY - NORMALLY OPERATOR ACCESSIBLE AT PANEL FRONT OR CONSOLE		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	BUTTERFLY VALVE		VACUUM RELIEF VALVE		ROTARY LOBE PUMP OR BLOWER (POSITIVE DISPLACEMENT)		METERING PUMP		COMPRESSOR		A	ANALYSIS	ALARM			
- LOCATED IN REAR OF CENTRAL OR MAIN PANEL - LOCATED IN CABINET BEHIND PANEL - NOT VISIBLE ON FRONT OF PANEL OR ON VIDEO DISPLAY - NOT NORMALLY OPERATOR ACCESSIBLE AT PANEL OR CONSOLE		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	BALL CHECK VALVE		COMBINATION VACUUM AND PRESSURE RELIEF VALVE		PROGRESSIVE CAVITY PUMP		VERTICAL PUMP		INLINE GRINDER		B	BURNER, COMBUSTION	USER'S CHOICE	USER'S CHOICE	USER'S CHOICE	
- LOCATED IN OR ON FRONT OF SECONDARY OR LOCAL PANEL OR CONSOLE - VISIBLE ON FRONT OF PANEL OR ON VIDEO DISPLAY - NORMALLY OPERATOR ACCESSIBLE AT PANEL FRONT OR CONSOLE		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	CHECK VALVE		PRESSURE-REDUCING REGULATOR		CENTRIFUGAL PUMP		SCREW CENTRIFUGAL PUMP		MIXER		C	CONDUCTIVITY		CONTROL	CLOSE	
- LOCATED IN REAR OF SECONDARY OR LOCAL PANEL - LOCATED IN FIELD CABINET - NOT NORMALLY OPERATOR ACCESSIBLE AT PANEL OR CONSOLE		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	3-WAY VALVE		BACKPRESSURE REGULATOR		ROTARY MOTOR						D	DENSITY (MASS) OR SPECIFIC GRAVITY VOLTAGE (EMF)	DIFFERENCE, DIFFERENTIAL			DEVIATION
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	3-WAY BALL VALVE		AIR RELEASE VALVE		ELECTROHYDRAULIC ACTUATOR						E		SENSOR, PRIMARY ELEMENT			
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	DIAPHRAGM VALVE		ROTARY MOTOR		PNEUMATIC ACTUATOR						F	FLOW, FLOW RATE	RATIO			
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	PINCH VALVE		MANUAL ACTUATOR								G	USER'S CHOICE				
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	NEEDLE VALVE										H	HAND				HIGH
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	SLUICE GATE										I	CURRENT		INDICATE		
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	STOP/SLIDE GATE										J	POWER		SCAN		
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	SOLENOID ACTUATOR										K	TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345	PNEUMATIC ACTUATOR										L	LEVEL				LOW
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											M	MOISTURE OR HUMIDITY	MOMENTARY			MIDDLE, INTERMEDIATE
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											N	TORQUE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											O	USER'S CHOICE		ORIFICE, RESTRICTION		OPEN
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											P	PRESSURE		POINT (TEST CONNECTION)		
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											Q	QUANTITY	INTEGRATE, TOTALIZE		INTEGRATE, TOTALIZE	
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											R	RADIATION		RECORD		RUN
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											T	TEMPERATURE			TRANSMIT	
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											U	MULTIVARIABLE		MULTIFUNCTION		MULTIFUNCTION
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											W	WEIGHT, FORCE		WELL PROBE		
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											X	UNCLASSIFIED	X-AXIS	ACCESSORY DEVICES, UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											Y	EVENT, STATE, PRESENCE	Y-AXIS		AUXILIARY DEVICES	
		ABCD 12345	ABCD 12345	ABCD 12345	ABCD 12345											Z	POSITION, DIMENSION	Z-AXIS, SAFETY INSTRUMENTED SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

MISCELLANEOUS SYMBOLS					PRIMARY ELEMENT SYMBOLS					LINE SYMBOLS AND LEGEND				
<p>SUFFIX (X) TO DIFFERENTIATE BETWEEN INSTRUMENTS AND FUNCTIONS THAT WOULD OTHERWISE HAVE THE SAME IDENTIFICATION.</p> <p>SINGLE INSTRUMENT OR OTHER COMPONENT HAVING MULTIPLE FUNCTIONS OR SHARING A COMMON HOUSING</p> <p>DESIGNATIONS OF CONTROL FUNCTIONS (ZZZ) ASSOCIATED WITH INSTRUMENT OR OTHER COMPONENTS.</p> <p>AHC - AUTO/HOLD/CLOSE    OC - OPEN/CLOSE  AM - AUTO/MANUAL    OSC - OPEN/STOP/CLOSED  CALC - CALCULATION    POT - POTENTIOMETER  DEV - DEVIATION    RL - RAISE/LOWER  MOA - MANUAL/OFF/AUTO    RS - RUN/STOP  HOR - HAND/OFF/REMOTE    RSL - RAISE/STOP/LOWER  LOS - LOCKOUT STOP    SD - SHUTDOWN  LR - LOCAL/REMOTE    SEL - SELECT  LSR - LOCAL/STOP/REMOTE    SP - SET POINT  00 - ON / OFF    SR - START/RESET  SS - STOP/START</p> <p>INSTRUMENT WITH COMPUTING OR CONVERTING FUNCTION    CONTROL SYSTEM COMPUTING FUNCTION</p> <p>CONVERT    E - VOLTAGE    H - HYDRAULIC  I - CURRENT    O - ELECTROMAGNETIC, SONIC  P - PNEUMATIC    R - RESISTANCE (ELECT.)  A - ANALOG    D - DIGITAL  B - BINARY</p> <p>COMPUTE    *    Σ    SUMMING    P    PROPORTIONAL    Δ    DIFFERENCE  -    SUBTRACTOR    R    DERIVATIVE    &gt;    HIGH SELECTING  X    MULTIPLYING    ΣA    AVERAGING    &lt;    LOW SELECTING  ÷    DIVIDING     :     RATIO    ∫    INTEGRAL  √    ROOT EXTRACTION    PID    PID    #    COMPLEX FUNCTION  # = 1, 2, 3, etc.  REFER TO NOTE ON SAME SHEET FOR BRIEF DESCRIPTION</p> <p>ELECTRICAL CONTROL INTERLOCK    AND    AND LOGIC  COMPLEX INTERLOCK    OR    OR LOGIC  # = 1, 2, 3, etc.  REFER TO NOTE ON SAME SHEET FOR BRIEF DESCRIPTION</p> <p>PILOT LIGHT (FRONT PANEL MTD)  PILOT LIGHT (FILED MTD)</p> <p>WARNING  IT IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER IN ANY WAY PLANS, SPECIFICATIONS, PLATS OR REPORTS TO WHICH THE SEAL OF A PROFESSIONAL ENGINEER HAS BEEN APPLIED. IF AN ITEM BEARING THE SEAL OF A PROFESSIONAL ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION ALTERED BY FOLLOWED BY HIS SIGNATURE, THE DATE, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.</p>					<p>EXPANSION JOINT    PULSATION DAMPENER    HORN/STROBE    DIAPHRAGM SEAL    EQUIPMENT OR PANEL TAG    AIR FILTER</p> <p>QUICK CONNECT    BLIND FLANGE    FLEXIBLE HOSE    CALIBRATION CYLINDER    FULL LINE OR TAPPED RING SEAL    MOTOR    FILTER    EDUCTOR</p> <p>RUPTURE DISK    VENT    DRAIN    ROTAMETER WITH INTEGRAL VALVE    SUBMERSIBLE LEVEL SENSOR    FLOAT LEVEL SWITCH</p> <p>NON-CONTACT RADAR LEVEL SENSOR    CAPACITANCE LEVEL SENSOR    GUIDED WAVE RADAR LEVEL SENSOR</p>					<p>MAJOR PROCESS PIPES OR CHANNELS    PROCESS/SIGNALS NOT CONNECTED (CROSSING)</p> <p>SECONDARY PROCESS OR MECHANICAL CONNECTION    PROCESS/SIGNALS CONNECTED</p> <p>AIR SUPPLY OR SIGNAL    OFF-SHEET CONNECTOR</p> <p>ELECTRICAL SIGNAL/ COPPER CABLE    DISCRETE ELECTRICAL SIGNALS</p> <p>DATA LINK OR INTERNAL SOFTWARE LINK    DISCRETE DIGITAL SIGNALS</p> <p>FIBER OPTIC CABLE    ANALOG ELECTRICAL SIGNALS</p> <p>CAT6 CABLE    ANALOG DIGITAL SIGNALS</p> <p>REFER TO SYSTEM ARCHITECTURE SHEETS FOR LINETYPES REPRESENTING OTHER MEDIA AND PROTOCOLS</p> <p>VENDOR EQUIPMENT BOUNDARY</p> <p>EXISTING EQUIPMENT / SIGNALS</p> <p>FUTURE EQUIPMENT / SIGNALS</p>				
<p>ABBREVIATIONS</p> <p>(AXX) (ZZZ) (ZZZ) = ALK - ALKALINITY  CI - CORROSION INHIBITOR  CL - CHLORINE  F - FLUORINE  PH - HYDROGEN ION CONCENTRATION  PO4 - PHOSPHATE  SCD - STREAMING CURRENT DETECTOR  TURB - TURBIDITY  UV - ULTRAVIOLET</p> <p>OIT - OPERATOR INTERFACE TERMINAL  PLC - PROGRAMMABLE LOGIC CONTROLLER  RIO - REMOTE INPUT/OUTPUT  SCADA - SUPERVISORY CONTROL AND DATA ACQUISITION  UPS - UNINTERRUPTIBLE POWER SUPPLY</p>					<p>GENERAL NOTES</p> <ol style="list-style-type: none"> <li>SYMBOLS AND NOMENCLATURE ARE BASED ON ANSI/ISA-5.1-2009.</li> <li>REFER TO LEGEND SHEETS OF OTHER DISCIPLINES FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS.</li> <li>REFER TO SPECIFICATIONS FOR ADDITIONAL DETAIL ON CONTROL SYSTEM FUNCTIONAL REQUIREMENTS.</li> <li>DEVICES DENOTED WITH AN DIAMOND (◆) ARE PROVIDED BY EQUIPMENT VENDOR OR OTHER DISCIPLINES. REFER TO THE DRAWINGS AND SPECIFICATIONS OF OTHER DISCIPLINES FOR ADDITIONAL DETAIL.</li> <li>POWER SUPPLIES FOR LOOPS OR SYSTEMS SHALL BE FURNISHED BY THE INSTRUMENTATION SUPPLIER TO MEET THE PARTICULAR CHARACTERISTICS (E.G., VOLTAGE AND CURRENT REQUIREMENTS) OF COMPONENTS IN EACH LOOP OR SYSTEM.</li> </ol>									

<p>PROJECT ENGINEER: R. FROST</p> <p>DESIGNED BY: F. BEATY</p> <p>DRAWN BY: F. BEATY</p> <p>CHECKED BY: G. MARKOU</p> <p>IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE</p> <p>0 1/2" 1"</p>	<p>BID SET</p>	<p><b>Hazen</b></p> <p>HAZEN AND SAWYER  498 SEVENTH AVENUE, 11th FLOOR  NEW YORK, NEW YORK 10018</p>	<p>WESTCHESTER JOINT WATER WORKS  MAMARONECK, NY</p> <p>RYE LAKE WATER FILTRATION PLANT  HARRISON, NY</p>	<p>DATE: FEB 2025</p> <p>HAZEN NO.: 90388-000</p> <p>CONTRACT NO.: A1364-A</p> <p>DRAWING NUMBER: I-001</p>
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SCADA INTERFACE TO RYE LAKE PUMP STATION AND PURCHASE STREET STORAGE TANKS



- NOTES:**
- SCADA SYSTEM APPLICATION ENGINEER TO PROVIDE REDUNDANT CPUS FOR RLWTP-PLC-001
  - SCADA SYSTEM APPLICATION ENGINEER TO PROVIDE SCADA COMMUNICATIONS EQUIPMENT FOR OFF-SITE COMMUNICATION WITH WJWW OPERATIONS PERSONNEL AND FACILITIES.
  - SCADA SYSTEM APPLICATION ENGINEER TO PROVIDE EACH RIO AND PLC CABINET WITH DOOR OPEN SWITCH AND HIGH TEMPERATURE SWITCH WIRED TO SYSTEM I/O FOR MONITORING.
  - SCADA SYSTEM APPLICATION ENGINEER TO PROVIDE 24VDC UPS IN PLC AND RIO PANELS.

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PROJECT ENGINEER:	R. FROST
DESIGNED BY:	F. BEATY
DRAWN BY:	F. BEATY
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"
REV	ISSUED FOR
	DATE
	BY

BID SET



**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

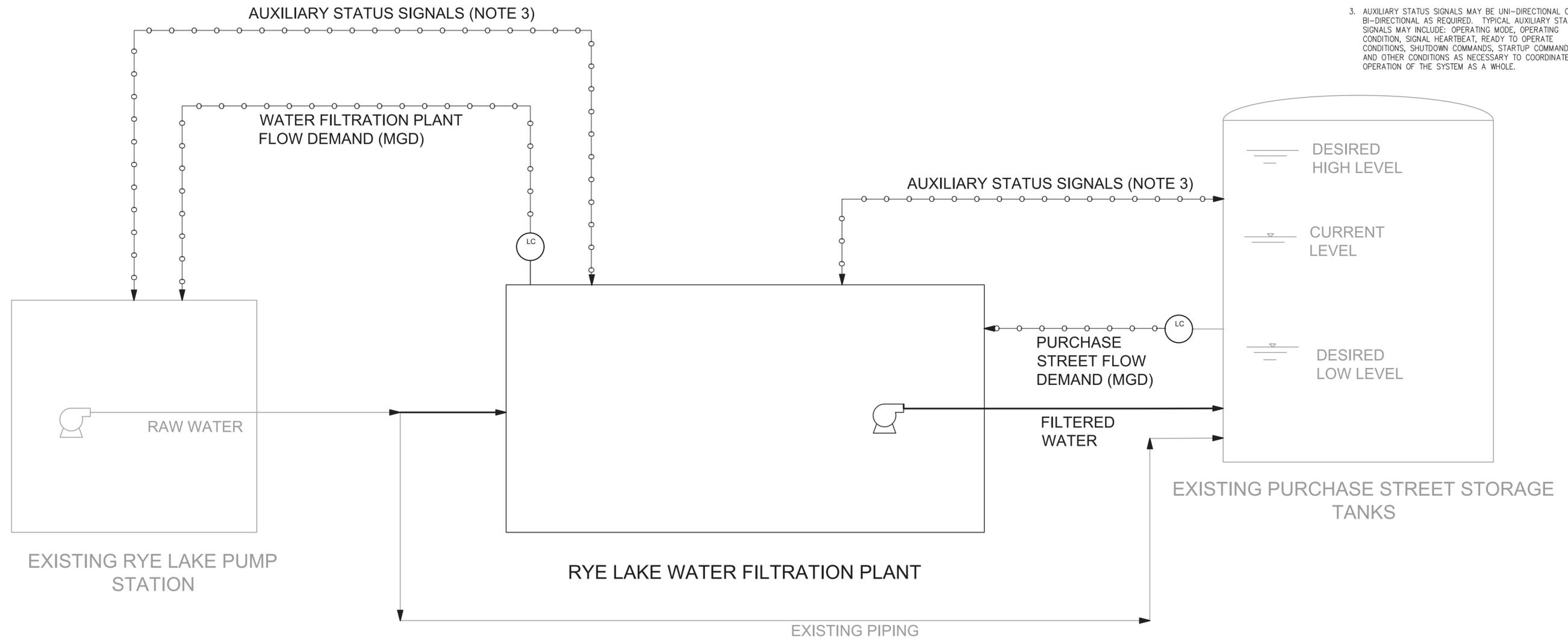
WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY  
RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

INSTRUMENTATION  
CONTROL SYSTEM BLOCK DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-002

**NOTES:**

1. INTERFACE TO EXISTING RYE LAKE PUMP STATION AND EXISTING PURCHASE STREET TANKS BY CONTRACTOR.
2. SCADA COMMUNICATIONS LINK SHALL BE CONFIGURED TO INTEGRATE MULTIPLE COMMUNICATIONS PATHWAYS TO THE EXISTING SCADA SYSTEM.
3. AUXILIARY STATUS SIGNALS MAY BE UNI-DIRECTIONAL OR BI-DIRECTIONAL AS REQUIRED. TYPICAL AUXILIARY STATUS SIGNALS MAY INCLUDE: OPERATING MODE, OPERATING CONDITION, SIGNAL HEARTBEAT, READY TO OPERATE CONDITIONS, SHUTDOWN COMMANDS, STARTUP COMMANDS AND OTHER CONDITIONS AS NECESSARY TO COORDINATE THE OPERATION OF THE SYSTEM AS A WHOLE.



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PLOT DATE: 2/20/2025 1:38 PM BY: FBEATY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	F. BEATY
DRAWN BY:	F. BEATY
CHECKED BY:	G. MAKROU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1" 
REV	ISSUED FOR
	DATE
	BY

BID SET

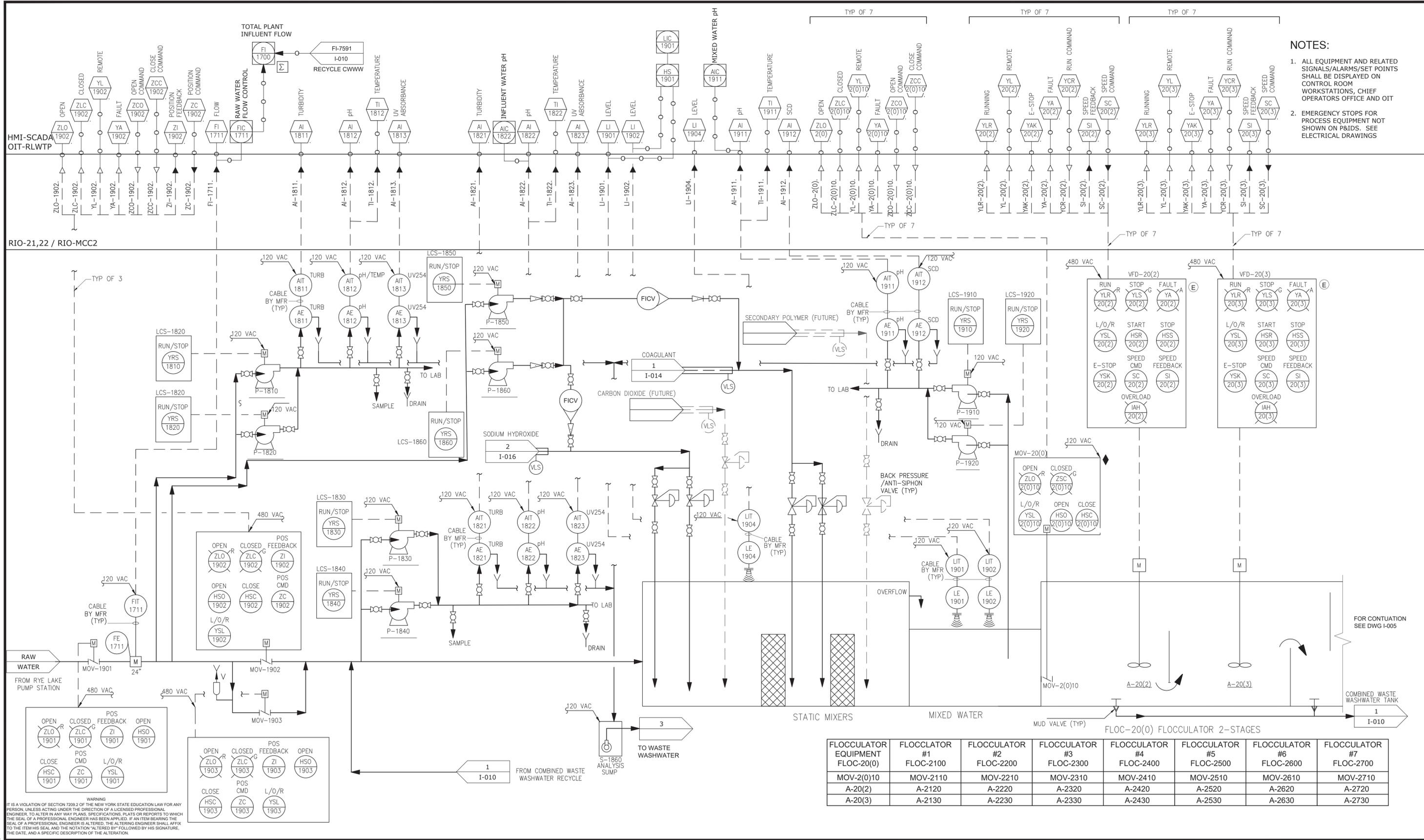


**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY  
RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

FACILITY SIGNAL COORDINATION  
INSTRUMENTATION  
PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-003



PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE			
REV	ISSUED FOR	DATE	BY

BID SET

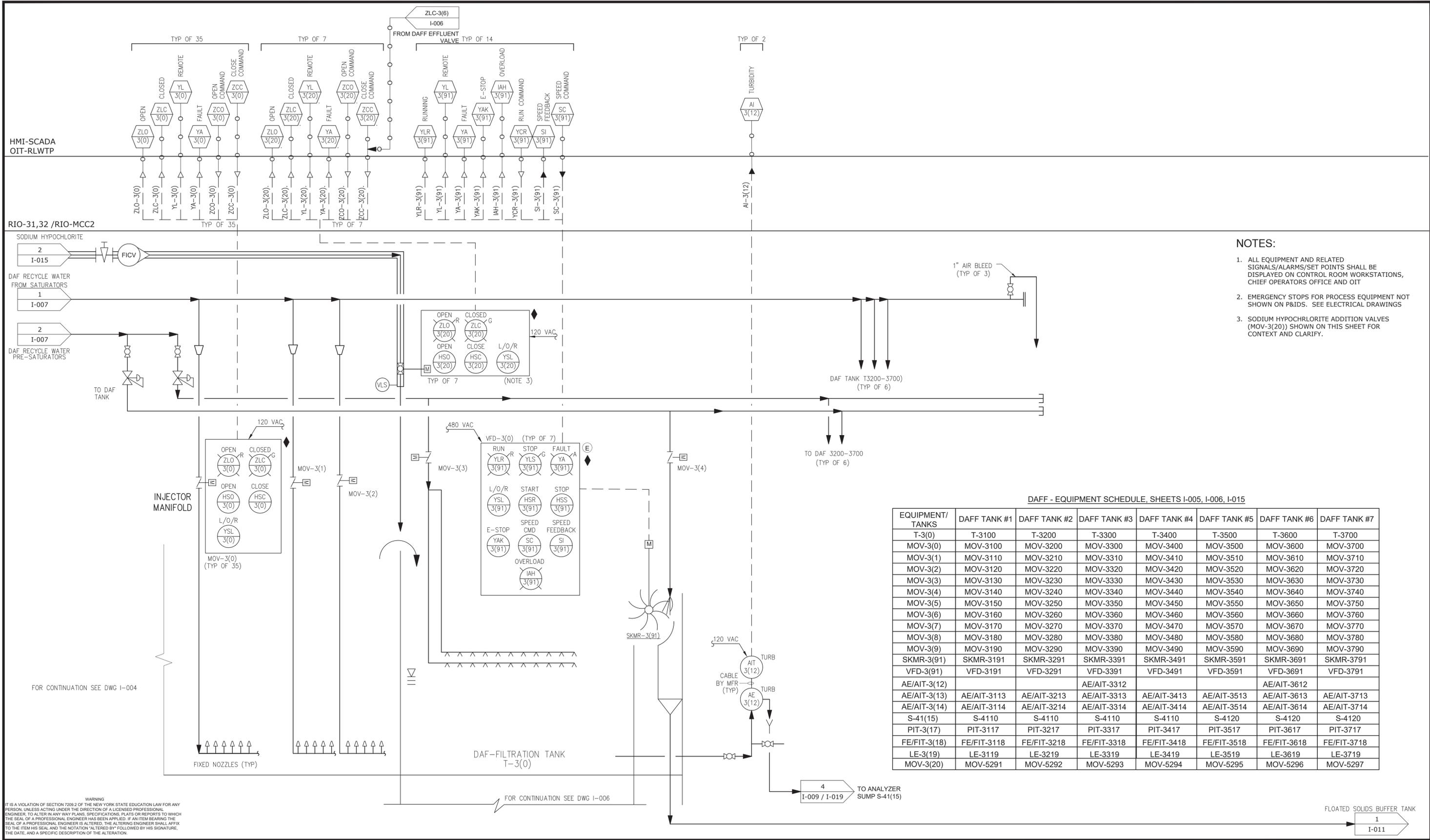
**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11TH FLOOR  
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY  
RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

MIXER AND FLOCCULATORS  
INSTRUMENTATION  
PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-004

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- NOTES:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT
  2. EMERGENCY STOPS FOR PROCESS EQUIPMENT NOT SHOWN ON P&IDS. SEE ELECTRICAL DRAWINGS
  3. SODIUM HYPOCHLORITE ADDITION VALVES (MOV-3(20)) SHOWN ON THIS SHEET FOR CONTEXT AND CLARIFY.

DAFF - EQUIPMENT SCHEDULE, SHEETS I-005, I-006, I-015

EQUIPMENT/TANKS	DAFF TANK #1	DAFF TANK #2	DAFF TANK #3	DAFF TANK #4	DAFF TANK #5	DAFF TANK #6	DAFF TANK #7
T-3(0)	T-3100	T-3200	T-3300	T-3400	T-3500	T-3600	T-3700
MOV-3(0)	MOV-3100	MOV-3200	MOV-3300	MOV-3400	MOV-3500	MOV-3600	MOV-3700
MOV-3(1)	MOV-3110	MOV-3210	MOV-3310	MOV-3410	MOV-3510	MOV-3610	MOV-3710
MOV-3(2)	MOV-3120	MOV-3220	MOV-3320	MOV-3420	MOV-3520	MOV-3620	MOV-3720
MOV-3(3)	MOV-3130	MOV-3230	MOV-3330	MOV-3430	MOV-3530	MOV-3630	MOV-3730
MOV-3(4)	MOV-3140	MOV-3240	MOV-3340	MOV-3440	MOV-3540	MOV-3640	MOV-3740
MOV-3(5)	MOV-3150	MOV-3250	MOV-3350	MOV-3450	MOV-3550	MOV-3650	MOV-3750
MOV-3(6)	MOV-3160	MOV-3260	MOV-3360	MOV-3460	MOV-3560	MOV-3660	MOV-3760
MOV-3(7)	MOV-3170	MOV-3270	MOV-3370	MOV-3470	MOV-3570	MOV-3670	MOV-3770
MOV-3(8)	MOV-3180	MOV-3280	MOV-3380	MOV-3480	MOV-3580	MOV-3680	MOV-3780
MOV-3(9)	MOV-3190	MOV-3290	MOV-3390	MOV-3490	MOV-3590	MOV-3690	MOV-3790
SKMR-3(91)	SKMR-3191	SKMR-3291	SKMR-3391	SKMR-3491	SKMR-3591	SKMR-3691	SKMR-3791
VFD-3(91)	VFD-3191	VFD-3291	VFD-3391	VFD-3491	VFD-3591	VFD-3691	VFD-3791
AE/AIT-3(12)			AE/AIT-3312			AE/AIT-3612	
AE/AIT-3(13)	AE/AIT-3113	AE/AIT-3213	AE/AIT-3313	AE/AIT-3413	AE/AIT-3513	AE/AIT-3613	AE/AIT-3713
AE/AIT-3(14)	AE/AIT-3114	AE/AIT-3214	AE/AIT-3314	AE/AIT-3414	AE/AIT-3514	AE/AIT-3614	AE/AIT-3714
S-41(15)	S-4110	S-4110	S-4110	S-4110	S-4120	S-4120	S-4120
PIT-3(17)	PIT-3117	PIT-3217	PIT-3317	PIT-3417	PIT-3517	PIT-3617	PIT-3717
FE/FIT-3(18)	FE/FIT-3118	FE/FIT-3218	FE/FIT-3318	FE/FIT-3418	FE/FIT-3518	FE/FIT-3618	FE/FIT-3718
LE-3(19)	LE-3119	LE-3219	LE-3319	LE-3419	LE-3519	LE-3619	LE-3719
MOV-3(20)	MOV-5291	MOV-5292	MOV-5293	MOV-5294	MOV-5295	MOV-5296	MOV-5297

REV	ISSUED FOR	DATE	BY

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WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

DISSOLVED AIR FLOTATION (DAF)  
INSTRUMENTATION  
PROCESS AND INSTRUMENT DIAGRAM

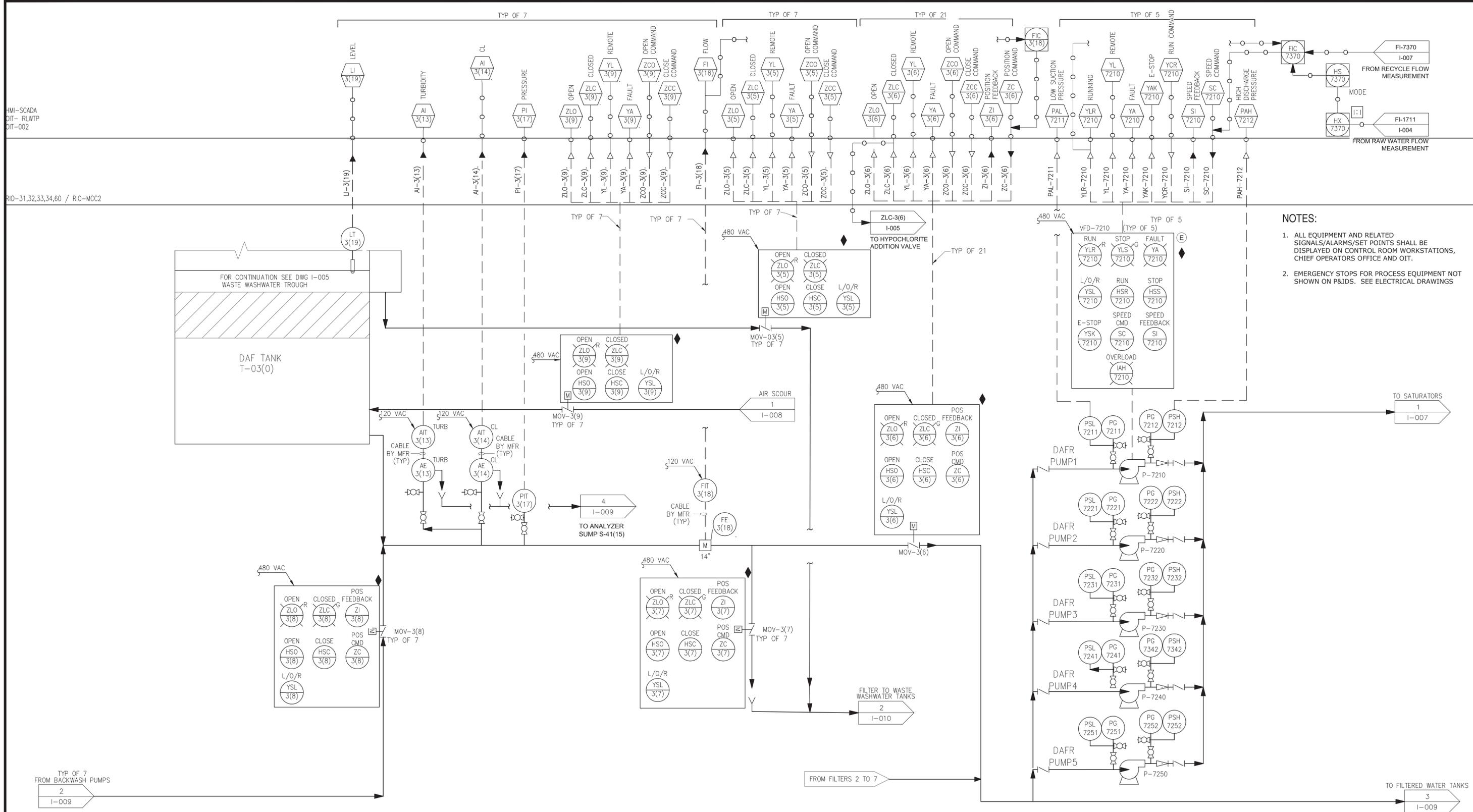
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HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-005

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HMI-SCADA  
OIT-RLWTP  
OIT-002

RIO-31,32,33,34,60 / RIO-MCC2

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  - EMERGENCY STOPS FOR PROCESS EQUIPMENT NOT SHOWN ON P&IDS. SEE ELECTRICAL DRAWINGS

**WARNING**  
IT IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER IN ANY WAY PLANS, SPECIFICATIONS, PLATS OR REPORTS TO WHICH THE SEAL OF A PROFESSIONAL ENGINEER HAS BEEN APPLIED. IF AN ITEM BEARING THE SEAL OF A PROFESSIONAL ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY FOLLOWED BY HIS SIGNATURE, THE DATE, AND A SPECIFIC DESCRIPTION OF THE ALTERATION."

PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY

BID SET

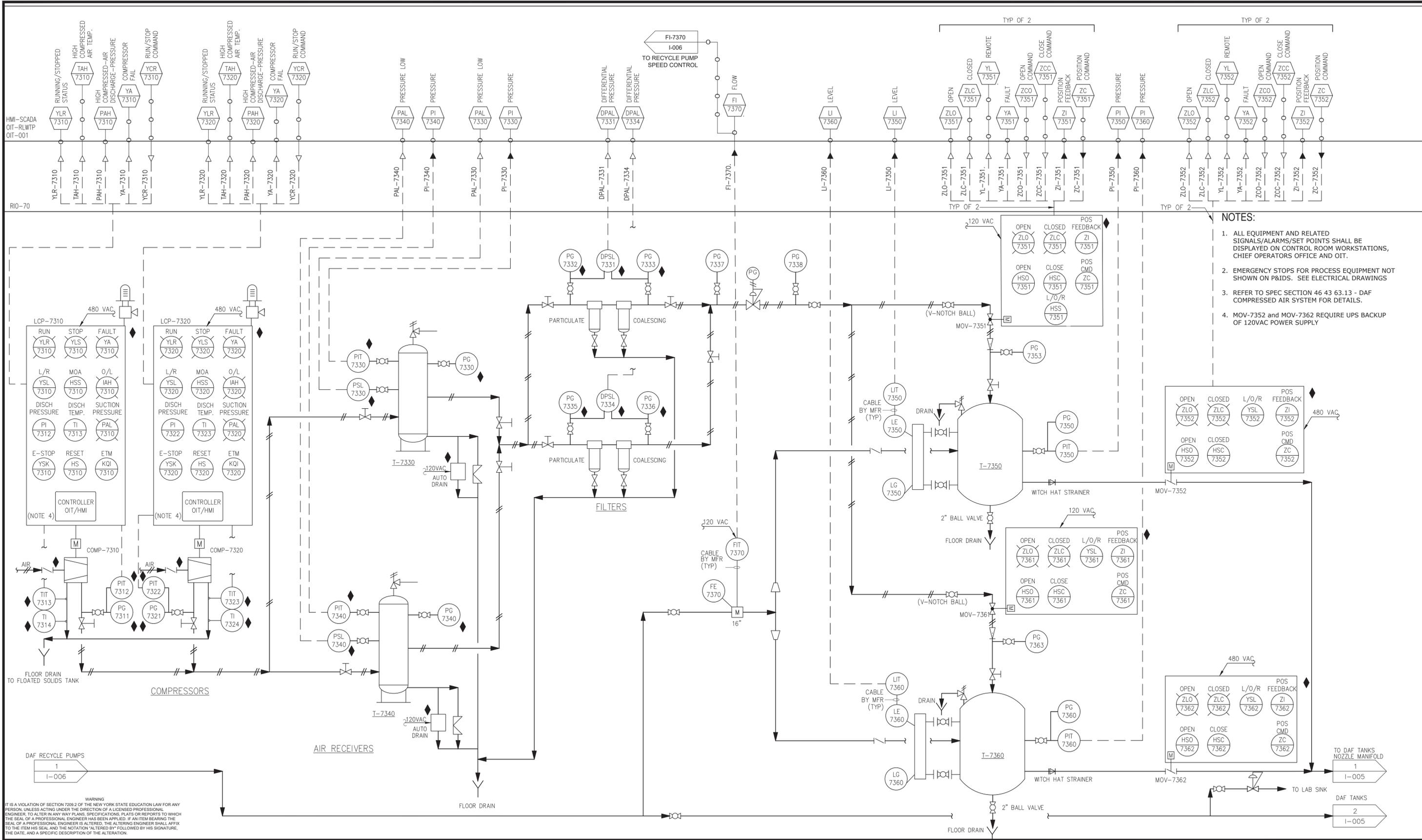


**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY  
RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

FILTERS AND DAF RECYCLE PUMPS  
INSTRUMENTATION  
PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-006



- NOTES:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT.
  2. EMERGENCY STOPS FOR PROCESS EQUIPMENT NOT SHOWN ON P&IDS. SEE ELECTRICAL DRAWINGS
  3. REFER TO SPEC SECTION 46 43 63.13 - DAF COMPRESSED AIR SYSTEM FOR DETAILS.
  4. MOV-7352 and MOV-7362 REQUIRE UPS BACKUP OF 120VAC POWER SUPPLY

WARNING  
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PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY

BID SET

**Hazen**  
 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11th FLOOR  
 NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
 MAMARONECK, NY  
 RYE LAKE WATER FILTRATION PLANT  
 HARRISON, NY

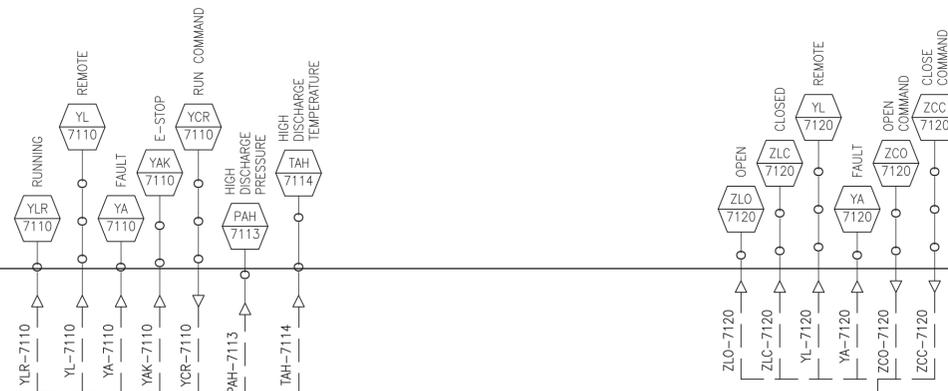
DAF RECYCLE SATURATION SYSTEM  
 INSTRUMENTATION  
 PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-007

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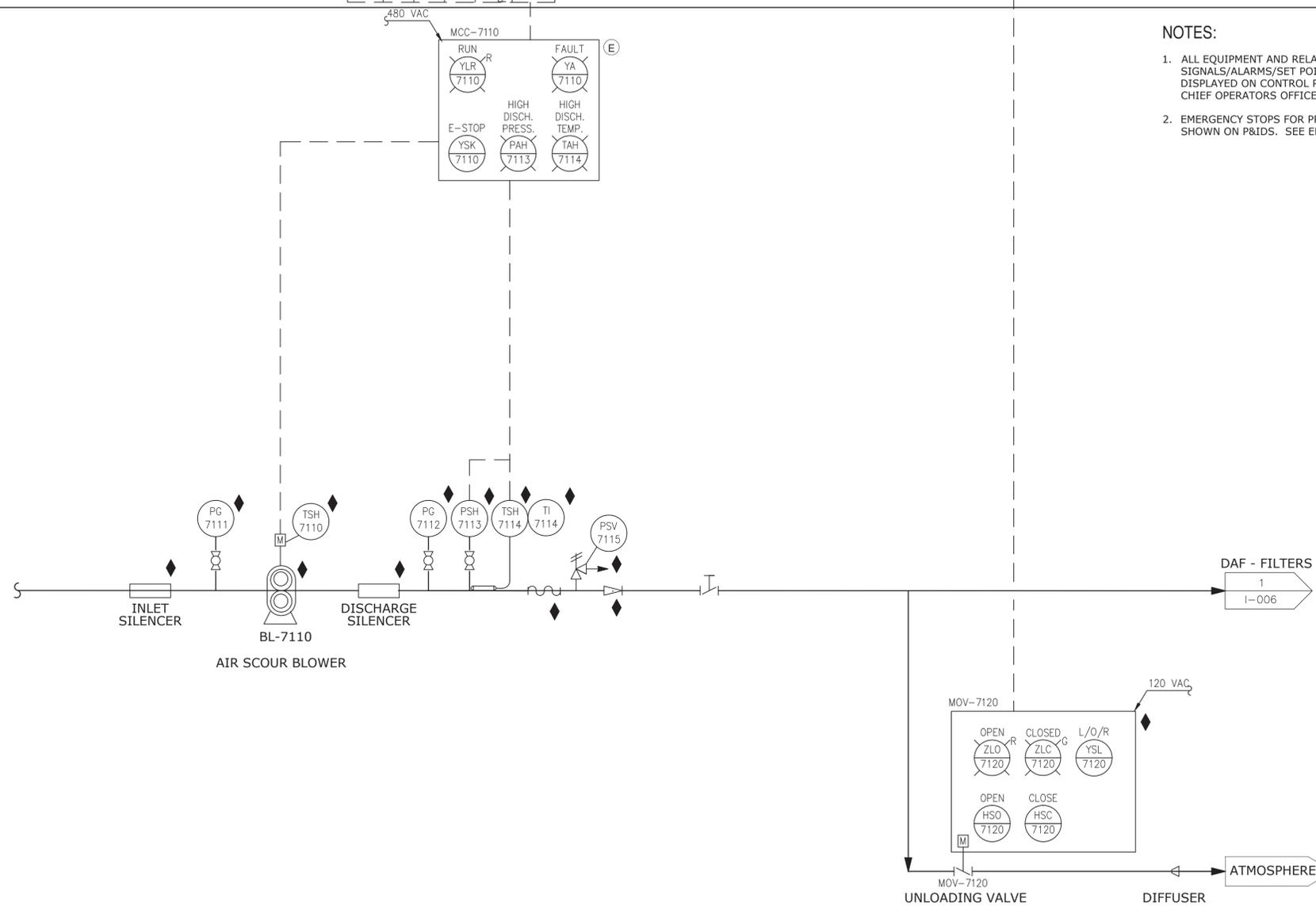
HMI-SCADA  
OIT-RLWTP  
OIT-002

RIO-MCC2



**NOTES:**

1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT.
2. EMERGENCY STOPS FOR PROCESS EQUIPMENT NOT SHOWN ON P&IDS. SEE ELECTRICAL DRAWINGS



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REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	F. BEATY
DRAWN BY:	F. BEATY
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

BID SET



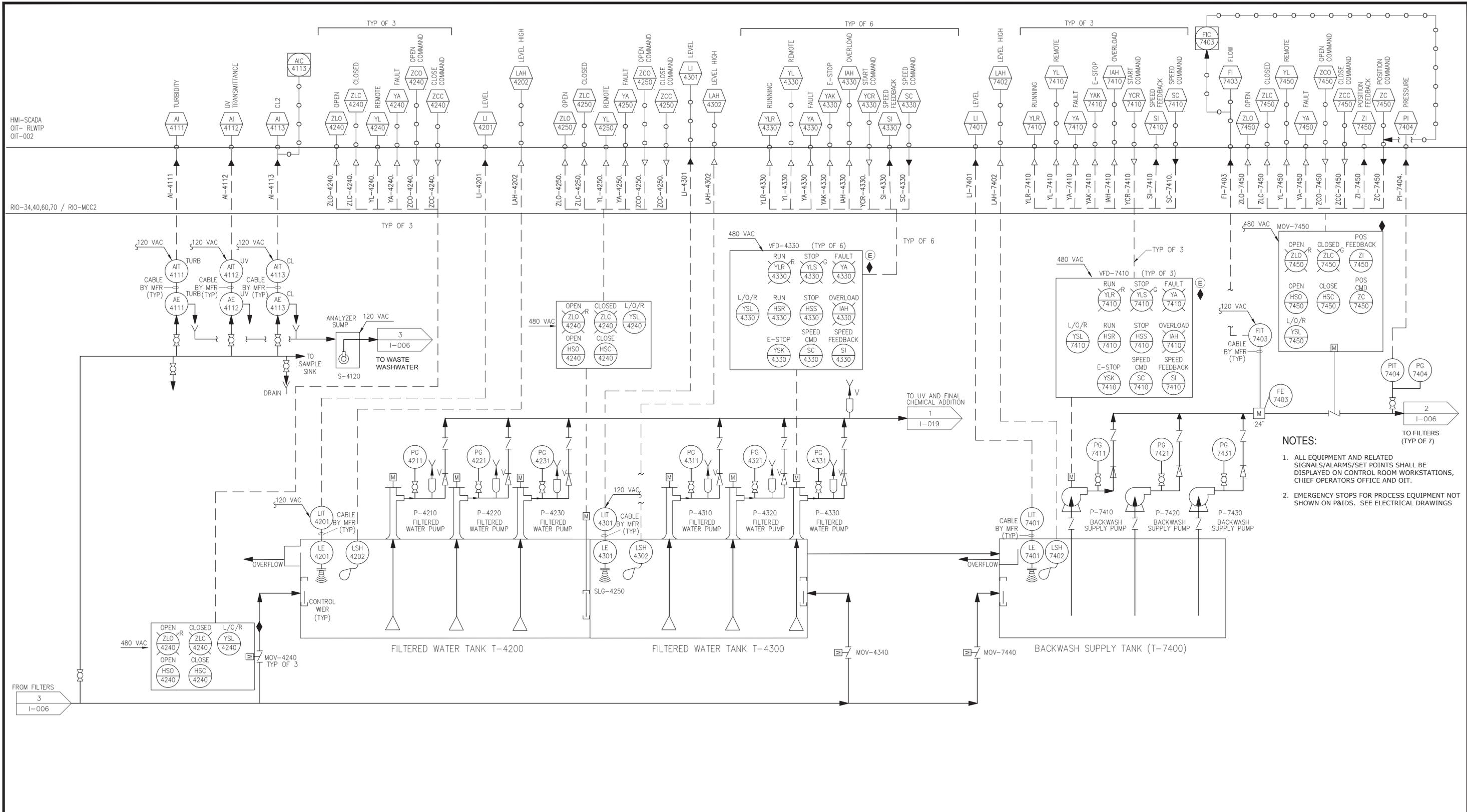
**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY  
RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

AIR SCOUR BLOWER SYSTEM  
INSTRUMENTATION  
PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-008

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- NOTES:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT.
  2. EMERGENCY STOPS FOR PROCESS EQUIPMENT NOT SHOWN ON P&IDS. SEE ELECTRICAL DRAWINGS

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PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY

BID SET

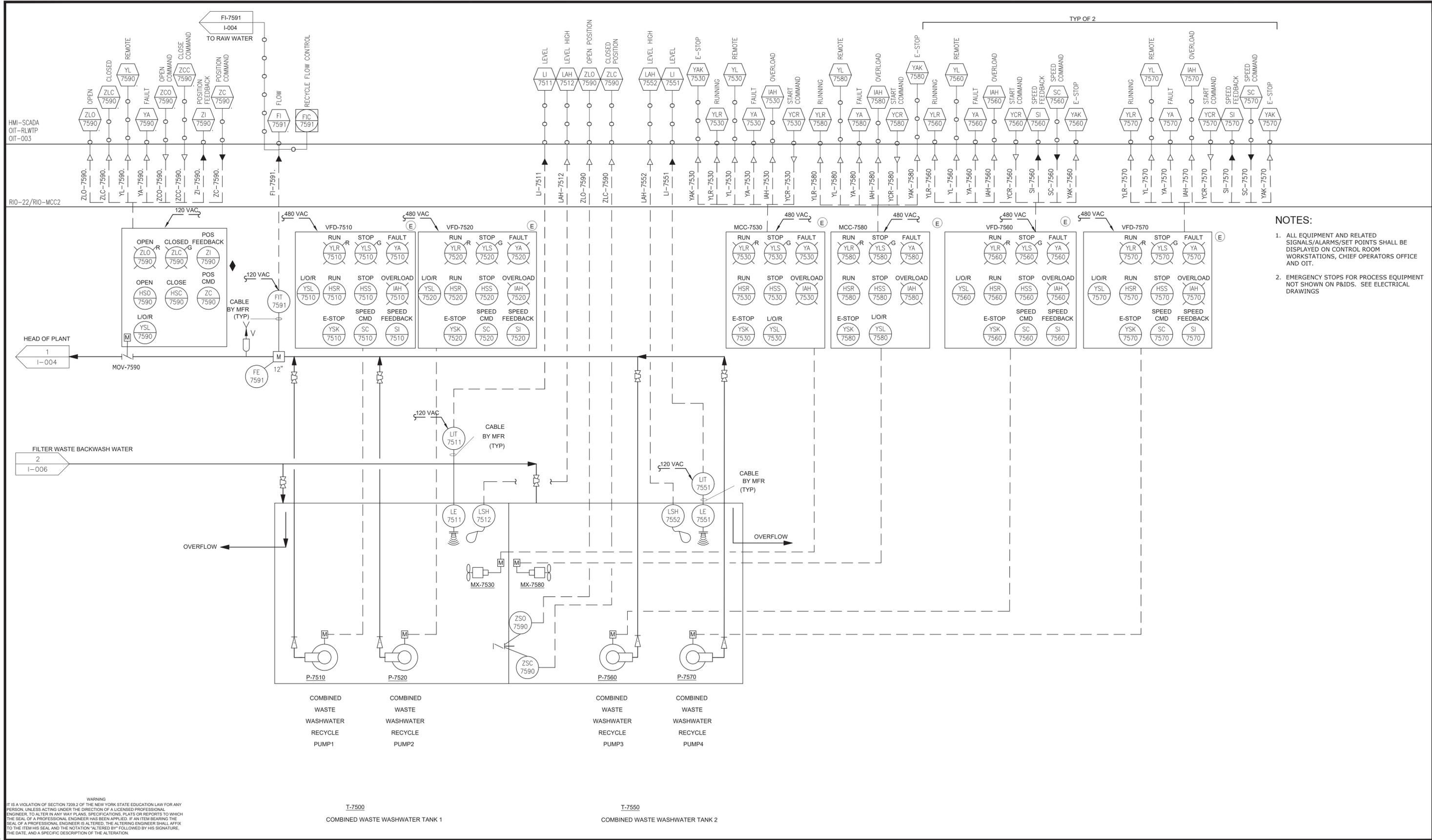
**Hazen**  
 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11th FLOOR  
 NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
 MAMARONECK, NY  
 RYE LAKE WATER FILTRATION PLANT  
 HARRISON, NY

FILTERED WATER AND BACKWASH SYSTEM  
 INSTRUMENTATION  
 PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-009

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD\PLANT\_3D\COLORLABORATION\CACHE\RYE LAKE\FID.DWG I-009 FILTERED WATER Saved by BWALLISCH Save date: 5/20/2024 11:17 AM  
 PLOT DATE: 2/20/2025 1:38 PM BY: FBEATY



- NOTES:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT.
  2. EMERGENCY STOPS FOR PROCESS EQUIPMENT NOT SHOWN ON P&IDS. SEE ELECTRICAL DRAWINGS

WARNING  
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T-7500  
 COMBINED WASTE WASHWATER TANK 1

T-7550  
 COMBINED WASTE WASHWATER TANK 2

PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY

BID SET

**Hazen**  
 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11th FLOOR  
 NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
 MAMARONECK, NY

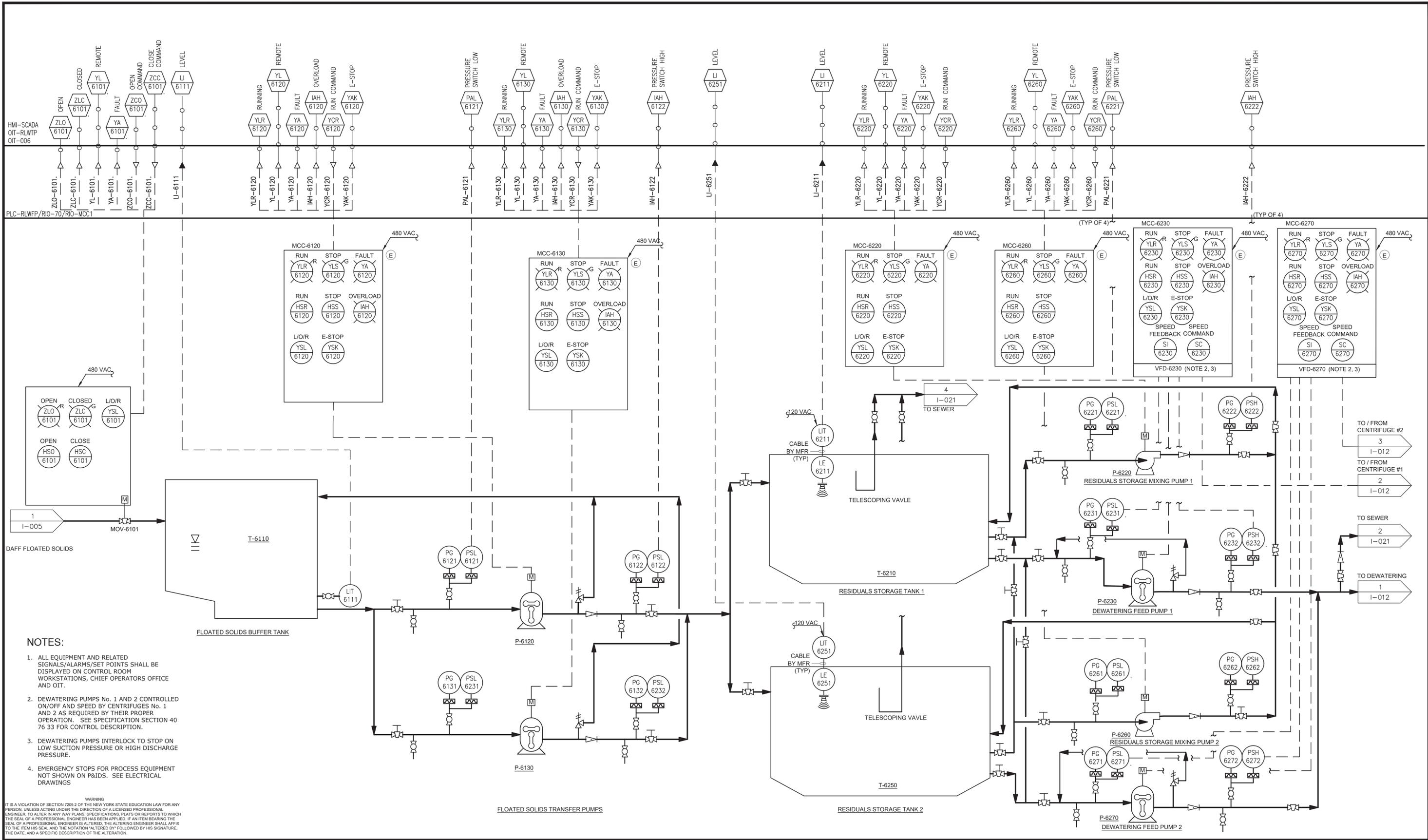
RYE LAKE WATER FILTRATION PLANT  
 HARRISON, NY

COMBINED WASTE WASHWATER SYSTEM  
 INSTRUMENTATION  
 PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-010

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD\PLANT\_3D\COLLABORATION\CACHERVEY LAKEPID.DWG(10) C:\WWW Saved by: BWALLISCH Save date: 5/20/2024 10:58 AM PLOT DATE: 2/20/2025 1:39 PM BY: FBEATY

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD PLANT 3D\CAD\LABORATION\CACHERVEY LAKE\PID\DWG\I-011 FLOATED SOLIDS.dwg Saved by: BWALLISCH Save date: 5/20/2024 10:59 AM PLOT DATE: 2/20/2025 1:39 PM BY: FBEATY



- NOTES:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT.
  2. DEWATERING PUMPS No. 1 AND 2 CONTROLLED ON/OFF AND SPEED BY CENTRIFUGES No. 1 AND 2 AS REQUIRED BY THEIR PROPER OPERATION. SEE SPECIFICATION SECTION 40 76 33 FOR CONTROL DESCRIPTION.
  3. DEWATERING PUMPS INTERLOCK TO STOP ON LOW SUCTION PRESSURE OR HIGH DISCHARGE PRESSURE.
  4. EMERGENCY STOPS FOR PROCESS EQUIPMENT NOT SHOWN ON P&IDs. SEE ELECTRICAL DRAWINGS

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PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY

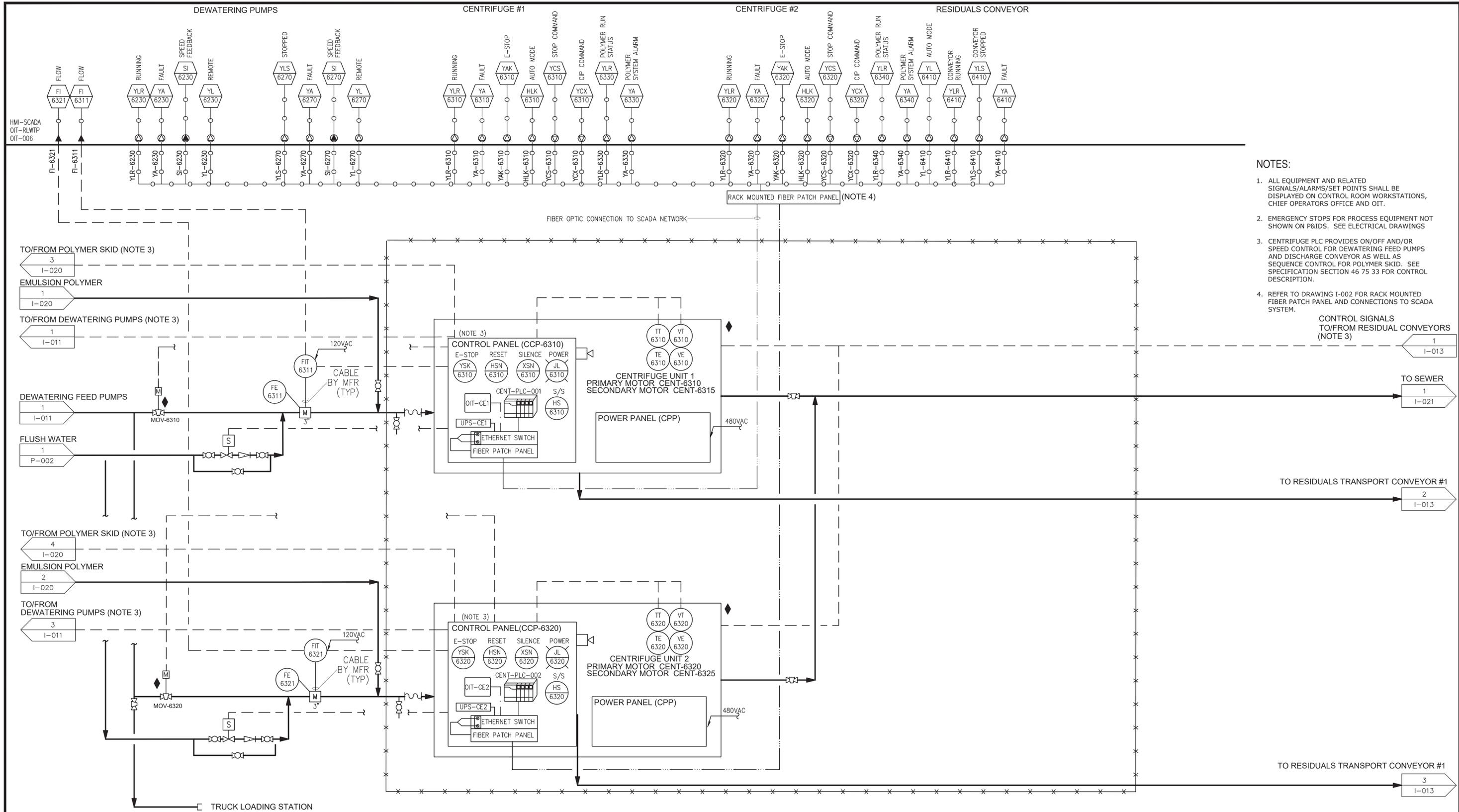
BID SET

**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY  
RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

FLOATED SOLIDS TRANSFER SYSTEM  
INSTRUMENTATION  
PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-011



- NOTES:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT.
  2. EMERGENCY STOPS FOR PROCESS EQUIPMENT NOT SHOWN ON P&IDS. SEE ELECTRICAL DRAWINGS.
  3. CENTRIFUGE PLC PROVIDES ON/OFF AND/OR SPEED CONTROL FOR DEWATERING FEED PUMPS AND DISCHARGE CONVEYOR AS WELL AS SEQUENCE CONTROL FOR POLYMER SKID. SEE SPECIFICATION SECTION 46 75 33 FOR CONTROL DESCRIPTION.
  4. REFER TO DRAWING I-002 FOR RACK MOUNTED FIBER PATCH PANEL AND CONNECTIONS TO SCADA SYSTEM.

CONTROL SIGNALS TO/FROM RESIDUAL CONVEYORS (NOTE 3)

TO SEWER  
1  
I-021

TO RESIDUALS TRANSPORT CONVEYOR #1  
2  
I-013

TO RESIDUALS TRANSPORT CONVEYOR #1  
3  
I-013

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REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	F. BEATY
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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	

BID SET



**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

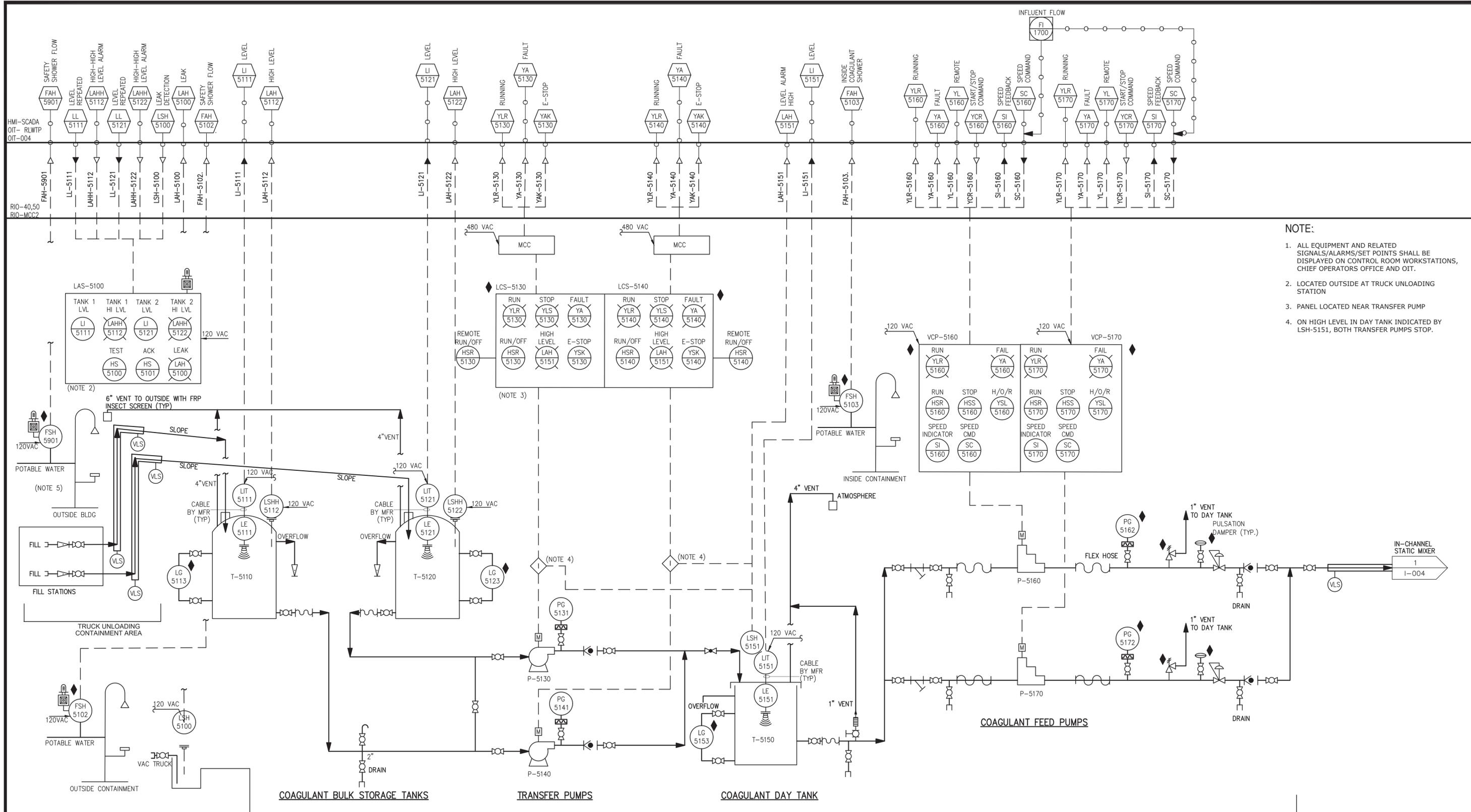
WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY  
RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

DEWATERING CENTRIFUGE  
INSTRUMENTATION  
PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-012



File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD\PLANT\_3D\COLORLABORATION\CACHE\RYE LAKE\PID.DWG I-014 COAGULANT SYSTEM Saved by: BWALLISCH Save date: 5/20/2024 11:02 AM  
PLOT DATE: 2/20/2025 1:39 PM BY: FBEATY



- NOTE:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT.
  2. LOCATED OUTSIDE AT TRUCK UNLOADING STATION
  3. PANEL LOCATED NEAR TRANSFER PUMP
  4. ON HIGH LEVEL IN DAY TANK INDICATED BY LSH-5151, BOTH TRANSFER PUMPS STOP.

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CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY

BID SET



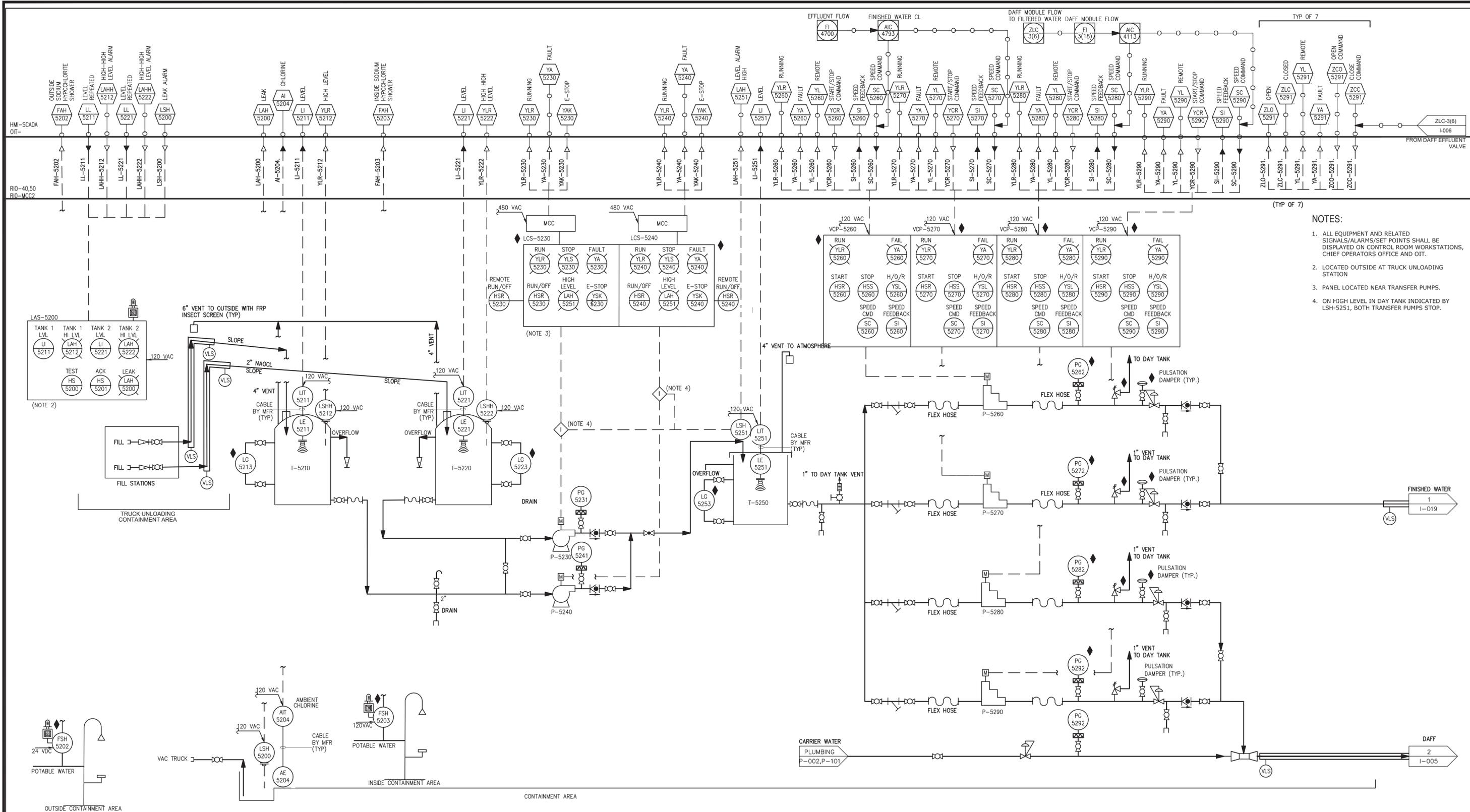
**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY  
RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

CHEMICAL SYSTEMS - COAGULANT  
INSTRUMENTATION  
PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-014

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD\PLANT\_3D\COLLABORATION\CACHE\RYE LAKE\PIID\DWG\1015 SODIUM HYPOCHLORITE SYSTEM.dwg Saved by: BWALLISCH Save date: 5/20/2024 11:17 AM PLOT DATE: 2/20/2025 1:39 PM BY: FBEATY



- NOTES:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT.
  2. LOCATED OUTSIDE AT TRUCK UNLOADING STATION
  3. PANEL LOCATED NEAR TRANSFER PUMPS.
  4. ON HIGH LEVEL IN DAY TANK INDICATED BY LSH-5251, BOTH TRANSFER PUMPS STOP.

**WARNING:**  
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DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY

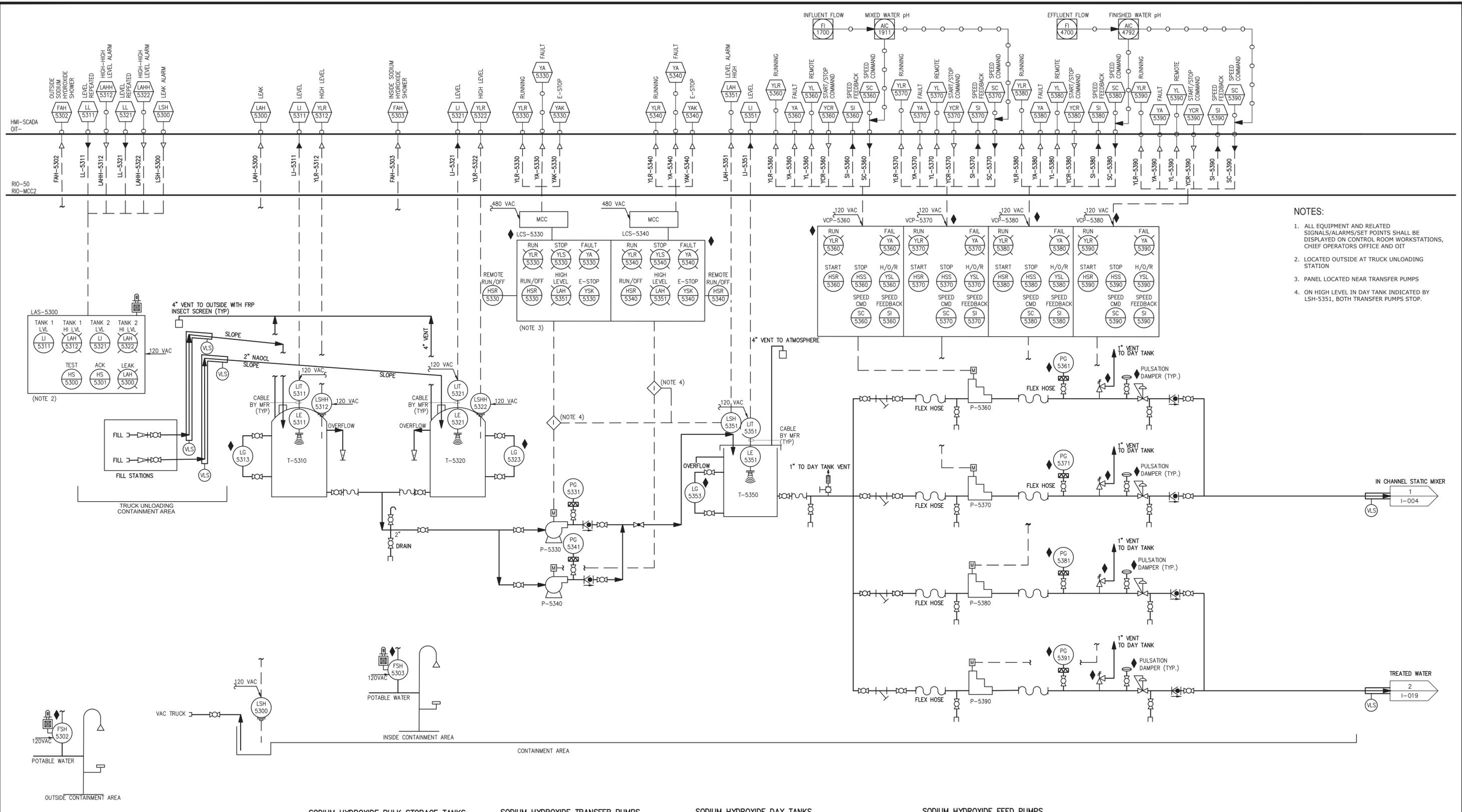
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**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY  
RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

CHEMICAL SYSTEMS - SODIUM HYPOCHLORITE  
INSTRUMENTATION  
PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-015



- NOTES:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT
  2. LOCATED OUTSIDE AT TRUCK UNLOADING STATION
  3. PANEL LOCATED NEAR TRANSFER PUMPS
  4. ON HIGH LEVEL IN DAY TANK INDICATED BY LSH-5351, BOTH TRANSFER PUMPS STOP.

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REV	ISSUED FOR	DATE	BY

BID SET



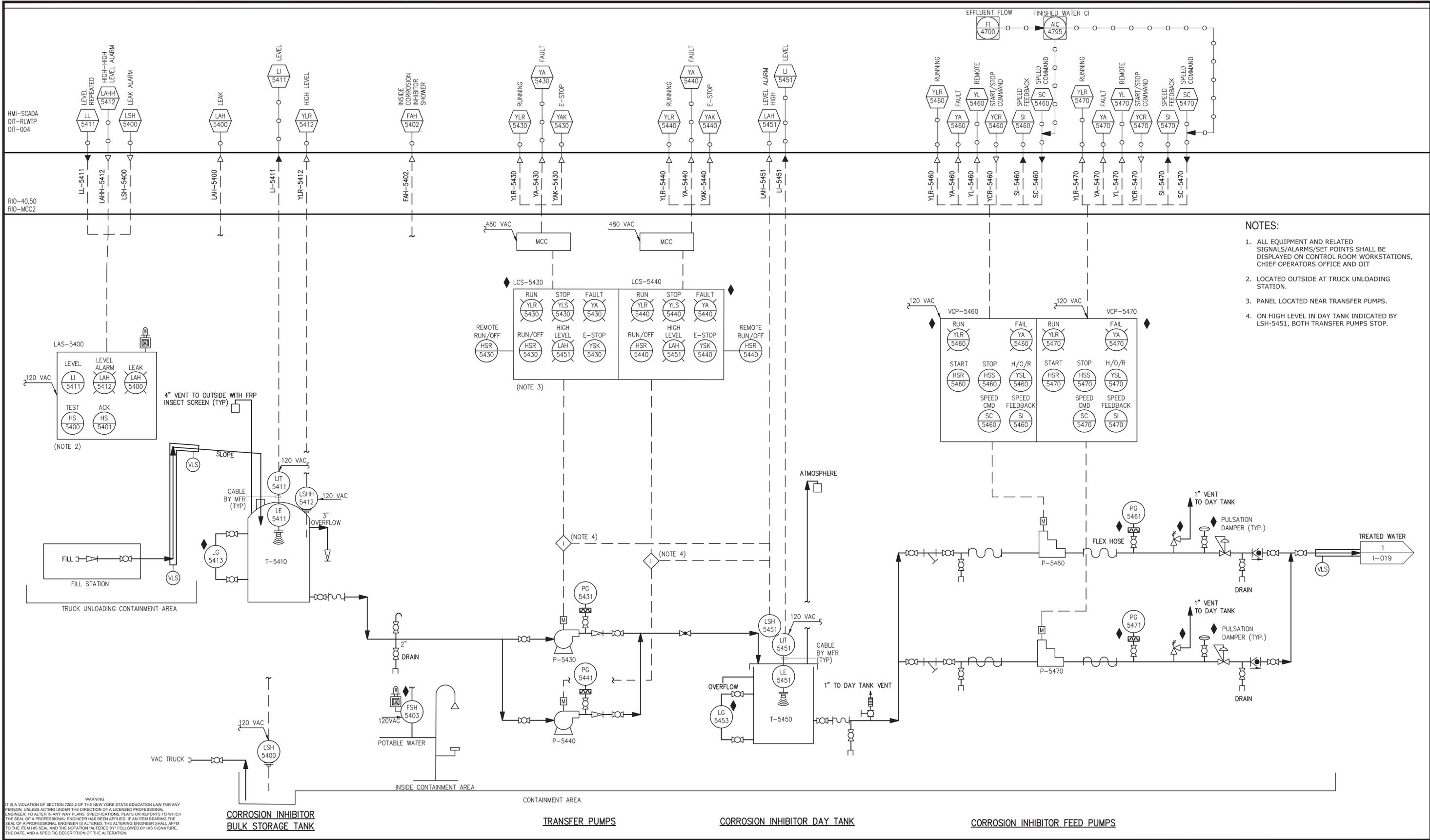
**Hazen**  
 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11TH FLOOR  
 NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
 MAMARONECK, NY  
 RYE LAKE WATER FILTRATION PLANT  
 HARRISON, NY

CHEMICAL SYSTEMS - SODIUM HYDROXIDE  
 INSTRUMENTATION  
 PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-016

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD PLANT 3D\COCALABORATION\CACHERVE LAKE\PID DWG\I-016 SODIUM HYDROXIDE SYSTEM.Saved by: BWALLISCH Save date: 5/20/2024 11:08 AM  
 PLOT DATE: 2/20/2025 1:39 PM BY: FBEATY



- NOTES:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT
  2. LOCATED OUTSIDE AT TRUCK UNLOADING STATION.
  3. PANEL LOCATED NEAR TRANSFER PUMPS.
  4. ON HIGH LEVEL IN DAY TANK INDICATED BY LSH-5451, BOTH TRANSFER PUMPS STOP.

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DESIGNED BY:	F. BEATY
DRAWN BY:	F. BEATY
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

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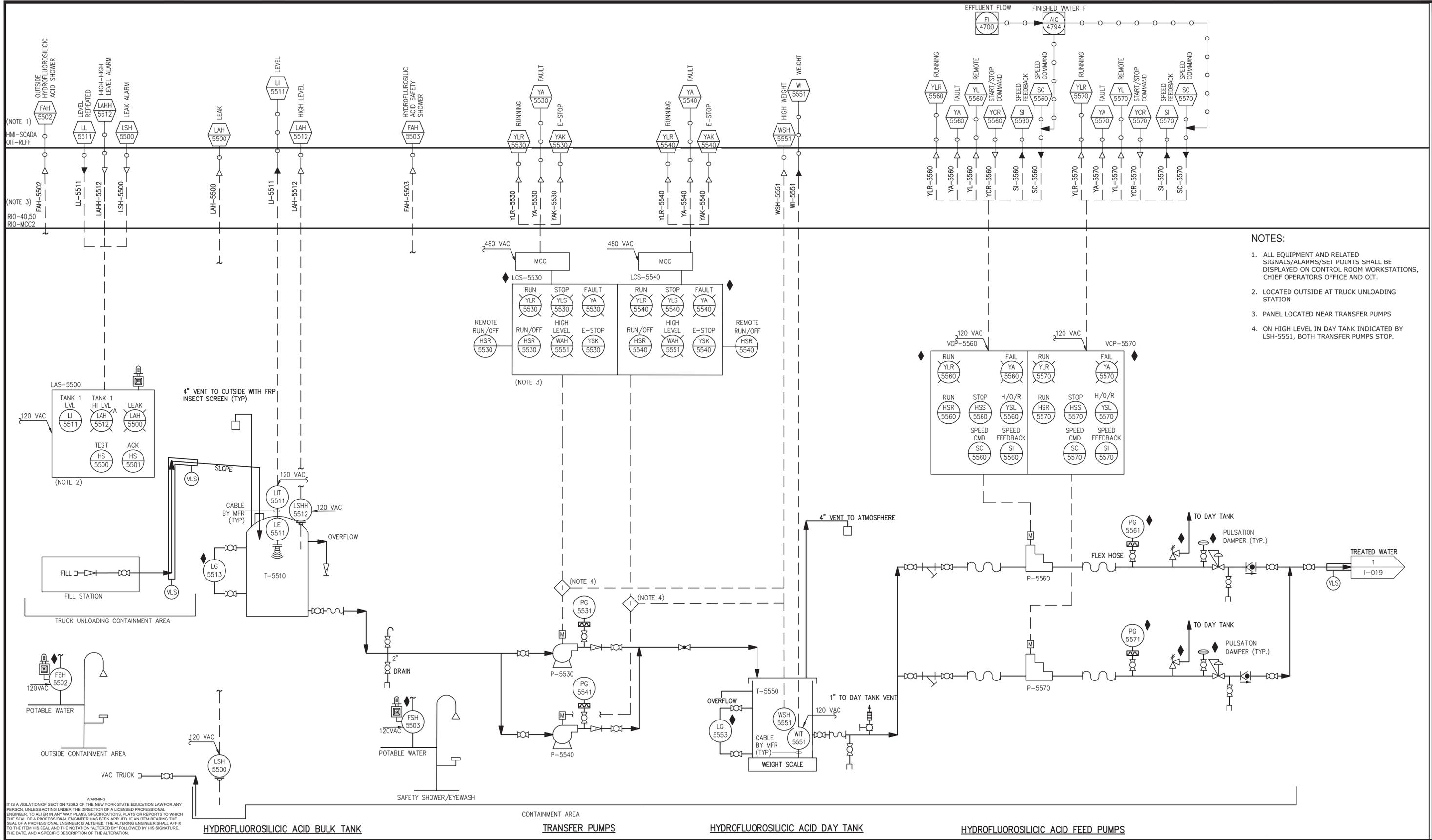
**Hazen**  
 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11th FLOOR  
 NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
 MAMARONECK, NY  
 RYE LAKE WATER FILTRATION PLANT  
 HARRISON, NY

CHEMICAL SYSTEMS - CORROSION INHIBITOR  
 INSTRUMENTATION  
 PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-017

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD PLANT 3D\CORROSION INHIBITOR SYSTEMS\DWG\I-017 CORROSION INHIBITOR SYSTEMS.DWG Save date: 5/20/2024 11:07 AM PLOT DATE: 2/20/2025 1:39 PM BY: FBEATY



- NOTES:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT.
  2. LOCATED OUTSIDE AT TRUCK UNLOADING STATION
  3. PANEL LOCATED NEAR TRANSFER PUMPS
  4. ON HIGH LEVEL IN DAY TANK INDICATED BY LSH-5551, BOTH TRANSFER PUMPS STOP.

PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY

BID SET

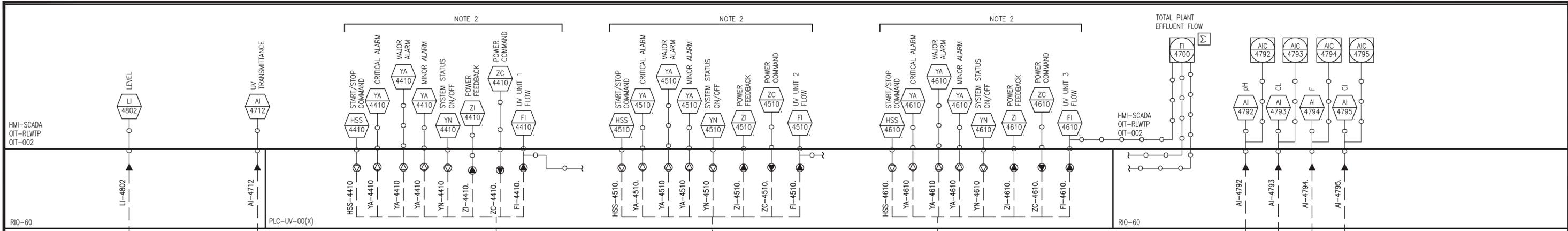
**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY  
RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

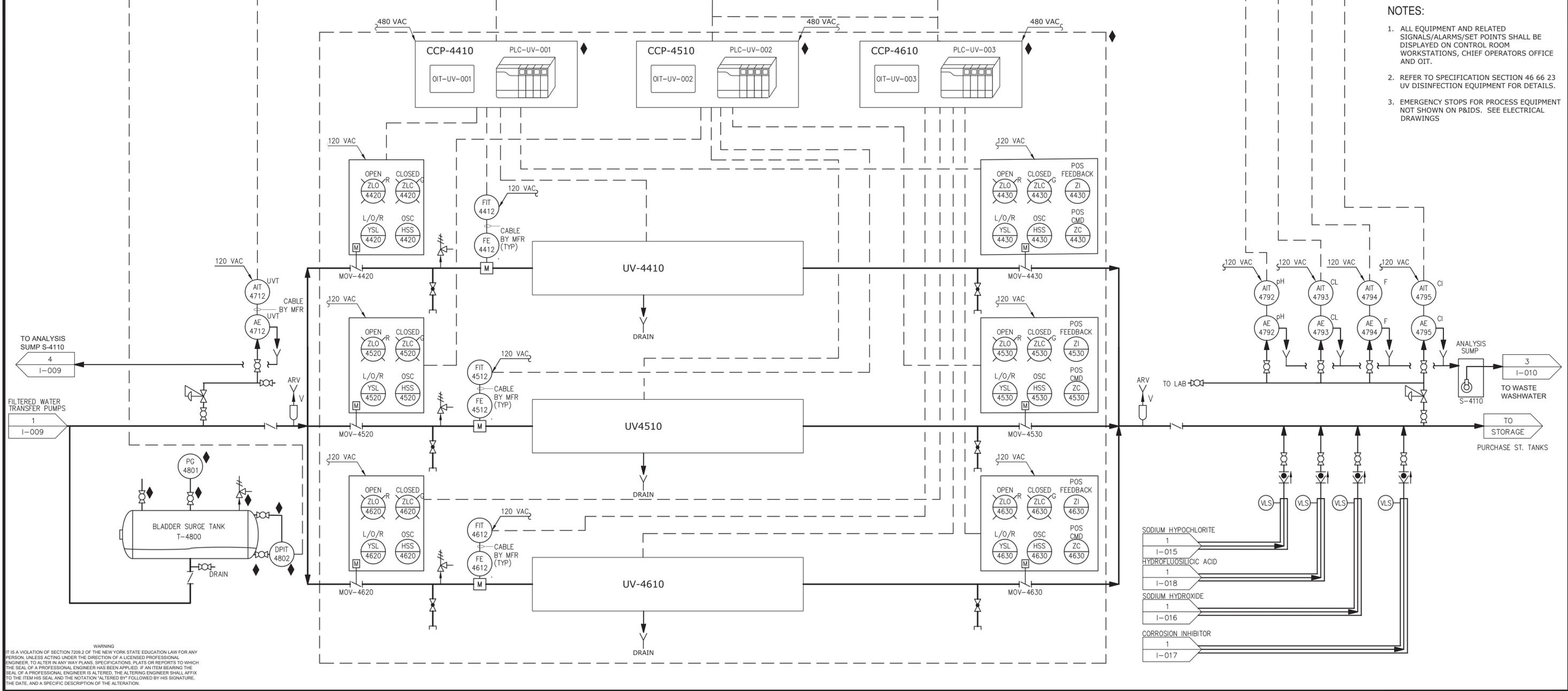
CHEMICAL SYSTEMS - HYDROFLUOROSILICIC ACID  
INSTRUMENTATION  
PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-018

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD\TODCAD\TODCAD.PLT 3D/COLLABORATION/CACHERVE LAKE/RID DWG/I-018 HYDROFLUOROSILICIC ACID SYSTEM.SAVE BY: B.WALLISCH Save date: 5/20/2024 11:09 AM  
 PLOT DATE: 2/20/2025 1:39 PM BY: FBEATY



- NOTES:**
1. ALL EQUIPMENT AND RELATED SIGNALS/ALARMS/SET POINTS SHALL BE DISPLAYED ON CONTROL ROOM WORKSTATIONS, CHIEF OPERATORS OFFICE AND OIT.
  2. REFER TO SPECIFICATION SECTION 46 66 23 UV DISINFECTION EQUIPMENT FOR DETAILS.
  3. EMERGENCY STOPS FOR PROCESS EQUIPMENT NOT SHOWN ON P&IDS. SEE ELECTRICAL DRAWINGS



**WARNING**  
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PROJECT ENGINEER:	R. FROST		
DESIGNED BY:	F. BEATY		
DRAWN BY:	F. BEATY		
CHECKED BY:	G. MARKOU		
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"		
REV	ISSUED FOR	DATE	BY

BID SET

**Hazen**  
 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11th FLOOR  
 NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
 MAMARONECK, NY  
 RYE LAKE WATER FILTRATION PLANT  
 HARRISON, NY

UV AND FINAL CHEMICAL ADDITION  
 INSTRUMENTATION  
 PROCESS AND INSTRUMENT DIAGRAM

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-019

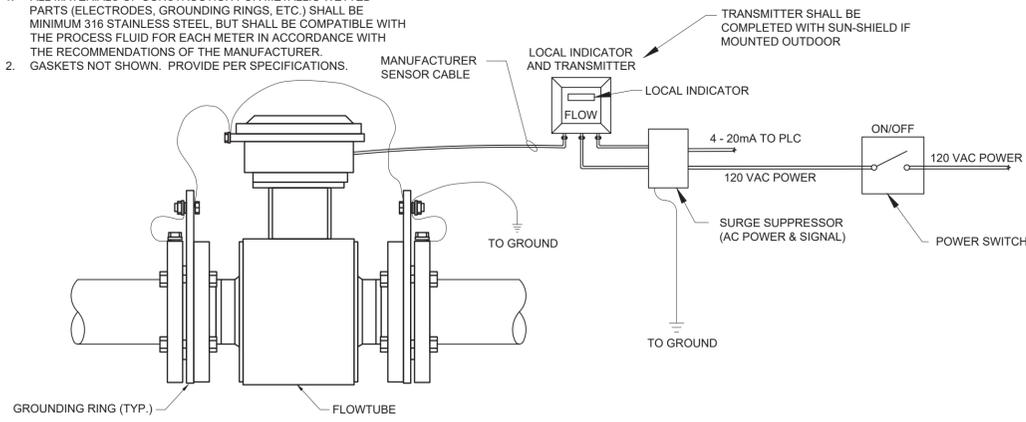
File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD\PLANT\_3D\COLLABORATION\CACHE\RYE LAKE\FID\DWG\I-019\_FINAL\_CHEMICAL\_ADDITION\_SAVED.dwg Date: 5/20/2024 11:10 AM PLOT DATE: 2/20/2025 1:39 PM BY: FBEATY



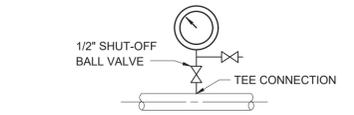


NOTES:

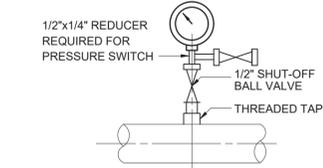
1. ALL MATERIALS OF CONSTRUCTION FOR METALLIC WETTED PARTS (ELECTRODES, GROUNDING RINGS, ETC.) SHALL BE MINIMUM 316 STAINLESS STEEL, BUT SHALL BE COMPATIBLE WITH THE PROCESS FLUID FOR EACH METER IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER.
2. GASKETS NOT SHOWN. PROVIDE PER SPECIFICATIONS.



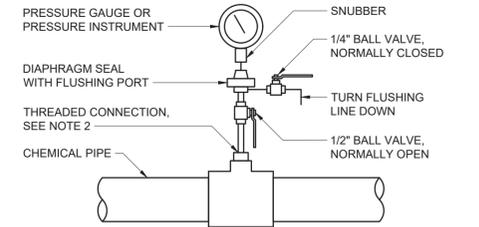
MAGNETIC FLOW METER  
I-40-0106



PRESSURE GAUGE OR SWITCH  
INSTALLATION WITH TEE CONNECTION  
(SHOWN W/O DIAPHRAGM SEAL)  
USED FOR PIPES UNDER 2"



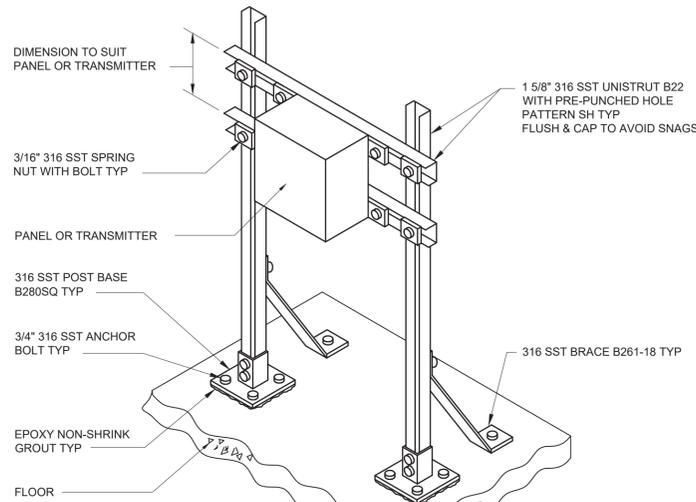
PRESSURE GAUGE OR SWITCH  
INSTALLATION WITH THREADED TAP  
(SHOWN WITHOUT DIAPHRAGM SEAL)  
USED FOR PIPES 2" AND LARGER



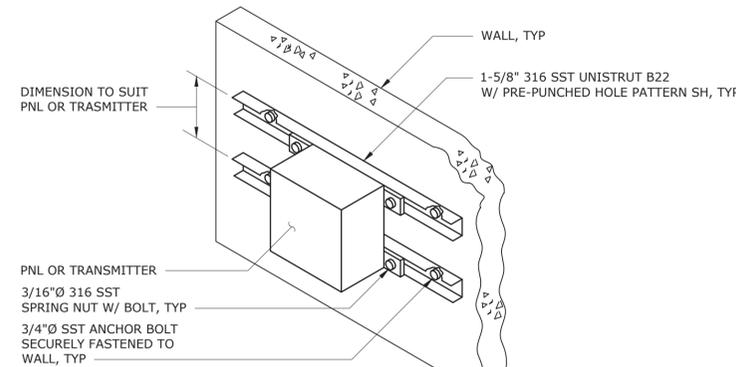
- NOTES:
1. ALL COMPONENTS SHALL BE 316 SST OR HASTELLOY C, DEPENDENT ON CHEMICAL COMPATIBILITY STANDARDS. FITTINGS SHALL BE THREADED. BALL VALVES SHALL BE FULL PORT WITH LEVER STYLE HANDLE.
  2. ASSEMBLY SHALL BE MOUNTED TO CHEMICAL PIPE WITH A THREADED FACTORY WELDED BOSS ON SST PIPE SYSTEMS, OR TEE WITH APPROPRIATE SIZED REINFORCED THREADED BUSHING FOR PVC OR CPVC PIPE SYSTEMS.
  3. FLUSHING LINE, VALVE HANDLES AND GAUGE/INSTRUMENT ARE SHOWN ROTATED FOR CLARITY. CONTRACTOR SHALL ARRANGE COMPONENTS FOR EASY ACCESS TO VALVE HANDLES, WITH GAUGE ORIENTED FOR PROPER READING FROM OPTIMUM OPERATOR STANCE. GENERALLY, FLUSHING LINE SHOULD BE ORIENTED ON THE OPPOSITE SIDE OF THE GAUGE.

DIAPHRAGM SEAL FOR  
CHEMICAL SERVICE

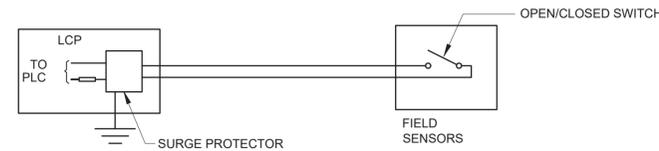
PRESSURE GAUGE / SWITCH / TRANSMITTER  
I-40-0302



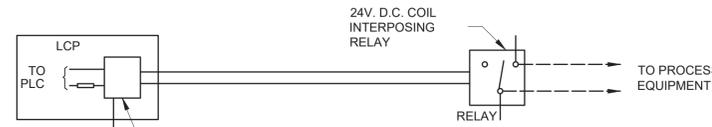
FLOOR MOUNTING SUPPORT FOR PANEL OR TRANSMITTER  
I-40-0200



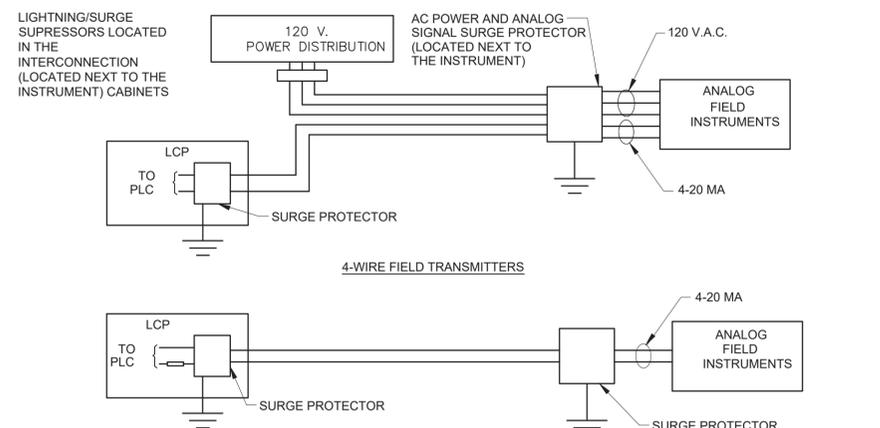
WALL MOUNTING SUPPORT FOR PANEL OR TRANSMITTER  
I-40-0201



DISCRETE PLC/INPUT CIRCUIT



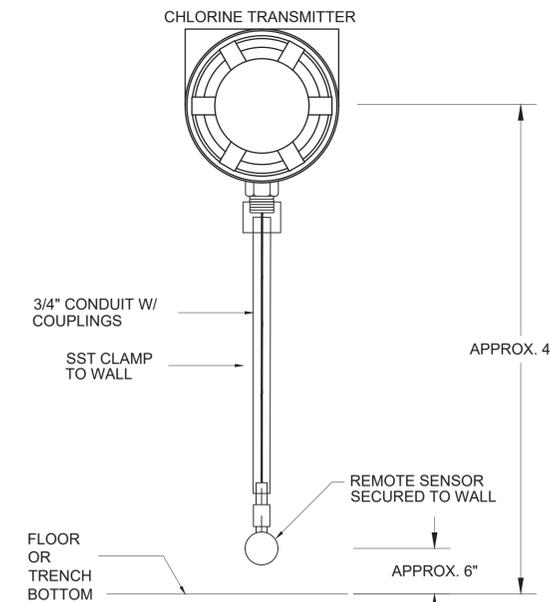
DISCRETE CIRCUIT - SURGE PROTECTORS



4-WIRE FIELD TRANSMITTERS  
ANALOG CIRCUITS - SURGE PROTECTORS



2-WIRE FIELD TRANSMITTERS  
ANALOG CIRCUITS - SURGE PROTECTORS



AMBIENT CHLORINE SENSOR AND ALARM BOX  
I-40-0506

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD PLANT 3D\COLORATION\CACHE\RYE LAKE\FPI\DWG\I4022 INSTALLATION DETAILS - SHEET 1.dwg, Date: 7/31/2024, 3:02 PM

WARNING  
IT IS A VIOLATION OF SECTION 2209.2 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER IN ANY WAY PLANS, SPECIFICATIONS, PLATS OR REPORTS TO WHICH THE SEAL OF A PROFESSIONAL ENGINEER HAS BEEN APPLIED. IF AN ITEM BEARING THE SEAL OF A PROFESSIONAL ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY FOLLOWED BY HIS SIGNATURE, THE DATE, AND A SPECIFIC DESCRIPTION OF THE ALTERATION."

REV	ISSUED FOR	DATE	BY

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	F. BEATY
DRAWN BY:	F. BEATY
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"

BID SET



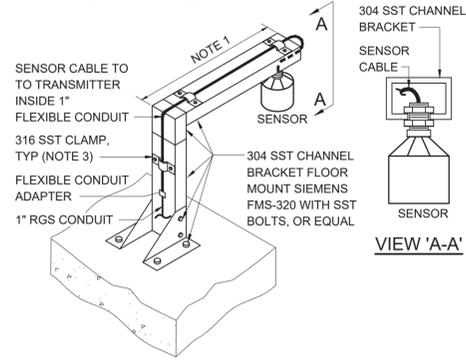
**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY  
RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

INSTRUMENTATION  
INSTALLATION DETAILS SHEET 1

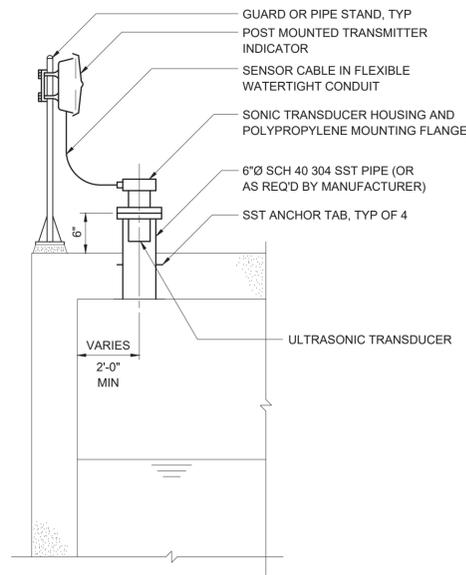
DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-022

- NOTES:  
 1. DIMENSION TO SUIT INSTALLATION. CONTRACTOR TO SUBMIT DRAWING FOR APPROVAL.  
 2. SENSOR BOTTOM TO BE MINIMUM 12" ABOVE MAXIMUM WATER LEVEL.  
 3. MINIMUM 2 CLAMPS. MAXIMUM OF 12" BETWEEN.



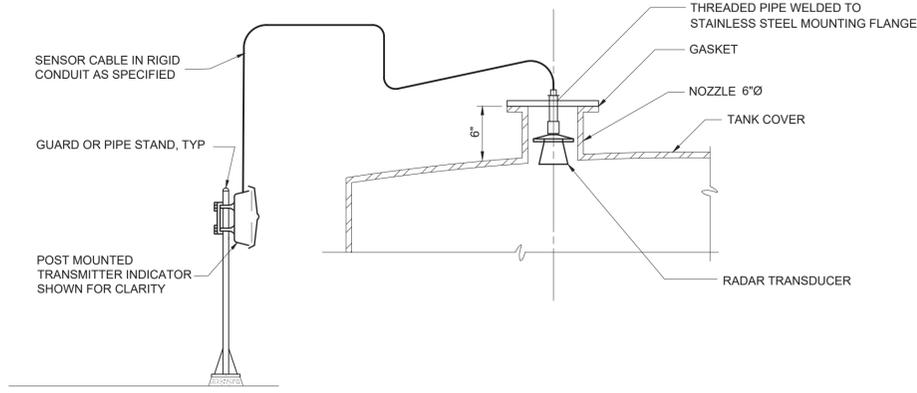
OVER-HUNG ULTRASONIC LEVEL TRANSDUCER

I-40-0217



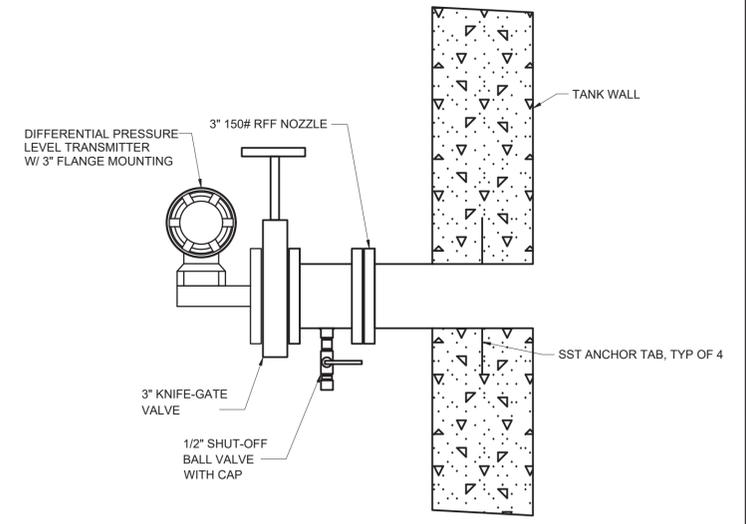
ULTRASONIC LEVEL THROUGH SLAB TRANSDUCER DETAIL

I-40-0211



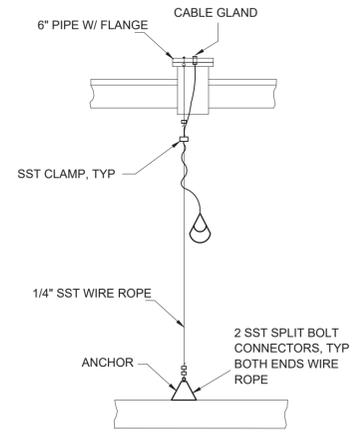
ULTRASONIC LEVEL TRANSDUCER TANK MOUNTING DETAIL

I-40-0218



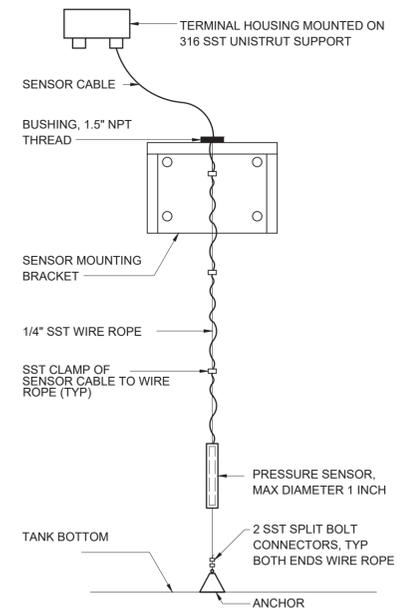
FLANGE MOUNTED DIFFERENTIAL PRESSURE LEVEL TRANSMITTER

I-40-0305



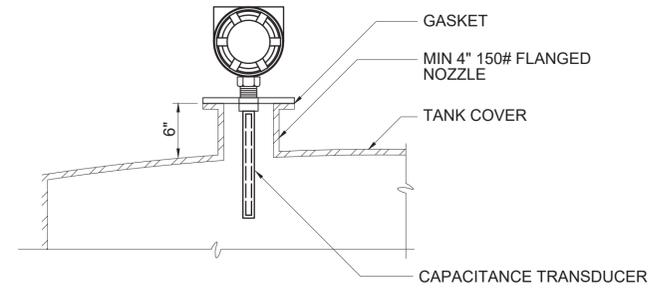
TYPICAL FLOAT TYPE LEVEL SWITCH MOUNTING DETAILS

I-40-0206



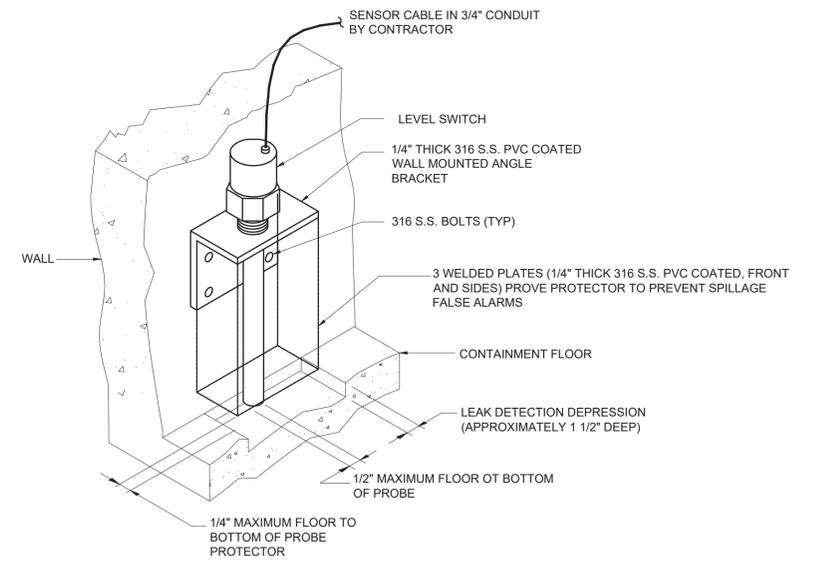
SUBMERSIBLE LEVEL (PRESSURE) TRANSMITTER OPEN CONTAINER WALL MOUNTING DETAIL

I-40-0215



CAPACITANCE LEVEL TRANSDUCER TANK MOUNTING DETAIL

I-40-0216



CONTAINMENT AREA LEAK DETECTOR

I-40-0219

File: C:\USERS\FBEATY\APPDATA\LOCAL\AUTOCAD PLANT\_3D\COCOLLABORATION\CACHERVE LAKE\RPID DWG\I-023 INSTALLATION DETAILS - SHEET 2.dwg Saved by: FBEATY Save date: 7/31/2024 3:01 PM PLOT DATE: 2/20/2025 1:39 PM BY: FBEATY

WARNING  
 IT IS A VIOLATION OF SECTION 7209.2 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER IN ANY WAY PLANS, SPECIFICATIONS, PLATS OR REPORTS TO WHICH THE SEAL OF A PROFESSIONAL ENGINEER HAS BEEN APPLIED. IF AN ITEM BEARING THE SEAL OF A PROFESSIONAL ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY FOLLOWED BY HIS SIGNATURE, THE DATE, AND A SPECIFIC DESCRIPTION OF THE ALTERATION."

PROJECT ENGINEER:	R. FROST
DESIGNED BY:	F. BEATY
DRAWN BY:	F. BEATY
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0 1/2" 1"
REV	ISSUED FOR
	DATE
	BY

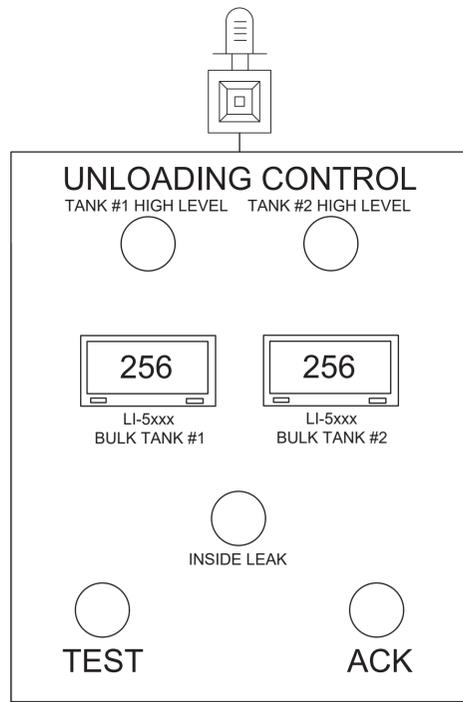
BID SET

**Hazen**  
 HAZEN AND SAWYER  
 498 SEVENTH AVENUE, 11th FLOOR  
 NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
 MAMARONECK, NY  
 RYE LAKE WATER FILTRATION PLANT  
 HARRISON, NY

INSTRUMENTATION  
 INSTALLATION DETAILS SHEET 2

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-023

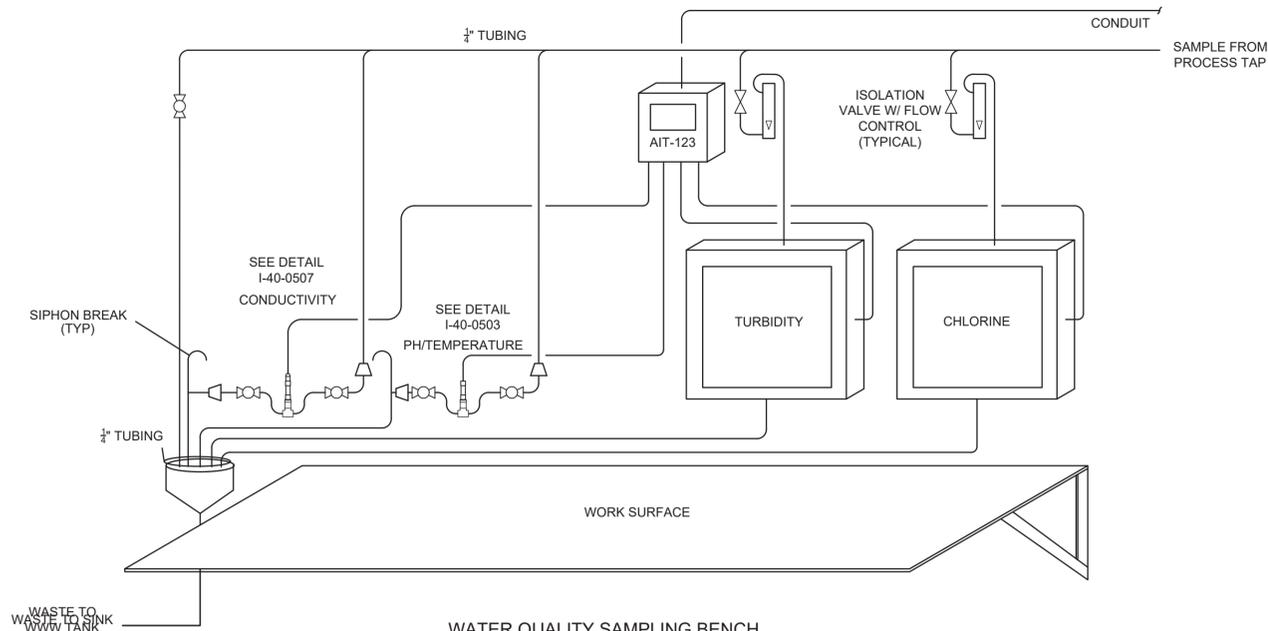


TYPICAL TRUCK UNLOADING PANEL

**I-40-0901**

**NOTES:**

- NUMBER OF LEVEL INDICATORS AND ALARM LIGHTS VARY ACCORDING TO THE NUMBER OF BULK TANKS AVAILABLE.
- TYPICAL FOR TRUCK UNLOADING PANELS LAS-5100, LAS-5200, LAS-5300, LAS-5400, LAS-5500.

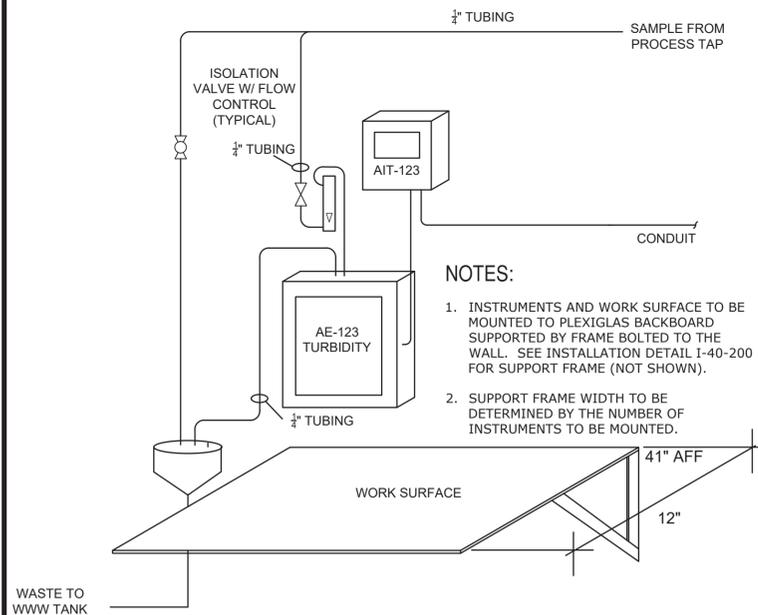


**WATER QUALITY SAMPLING BENCH**

**I-40-0510**

**NOTES:**

- INSTRUMENTS AND WORK SURFACE TO BE MOUNTED TO PLEXIGLAS BACKBOARD SUPPORTED BY FRAME BOLTED TO THE FLOOR. SEE INSTALLATION DETAIL I-40-200 FOR SUPPORT FRAME.
- SUPPORT FRAME SIZE TO BE DETERMINED BY THE NUMBER OF INSTRUMENTS TO BE MOUNTED.

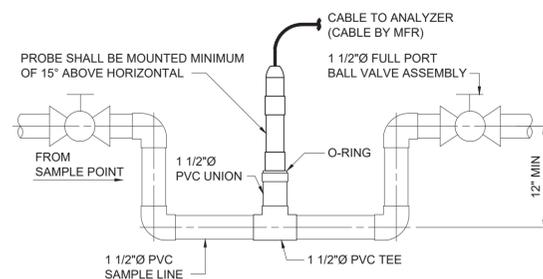


**NOTES:**

- INSTRUMENTS AND WORK SURFACE TO BE MOUNTED TO PLEXIGLAS BACKBOARD SUPPORTED BY FRAME BOLTED TO THE WALL. SEE INSTALLATION DETAIL I-40-200 FOR SUPPORT FRAME (NOT SHOWN).
- SUPPORT FRAME WIDTH TO BE DETERMINED BY THE NUMBER OF INSTRUMENTS TO BE MOUNTED.

**TURBIDITY ANALYZER**

**I-40-0504**



**INLINE pH/ORP PROBE**

**I-40-0503**

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PROJECT ENGINEER:	R. FROST
DESIGNED BY:	F. BEATY
DRAWN BY:	F. BEATY
CHECKED BY:	G. MARKOU
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE	0    1/2"    1"
REV	ISSUED FOR    DATE    BY

BID SET



**Hazen**  
HAZEN AND SAWYER  
498 SEVENTH AVENUE, 11th FLOOR  
NEW YORK, NEW YORK 10018

WESTCHESTER JOINT WATER WORKS  
MAMARONECK, NY

RYE LAKE WATER FILTRATION PLANT  
HARRISON, NY

**INSTRUMENTATION  
INSTALLATION DETAILS SHEET 3**

DATE:	FEB 2025
HAZEN NO.:	90388-000
CONTRACT NO.:	A1364-A
DRAWING NUMBER:	I-024