Design Report
Sewage Treatment Plant (STP) Upgrade

6526-460-132-REP-002

In Accordance with Licence 2AM-MEL1631 Part D, item 1 & 2

Prepared by:

Agnico Eagle Mines Limited – Meliadine Division

DOCUMENT CONTROL

Version	Date (YMD)	Section	Page	Revision
R0	17/07/2019			Design report

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1 INTRODUCTION

1.1 SITE LOCATION AND ACCESS

Agnico Eagle Mines Limited (Agnico Eagle) is developing the Meliadine gold mine located approximately 25 km north of Rankin Inlet, and 80 km southwest of Chesterfield Inlet in the Kivalliq Region of Nunavut. The project site is located on the peninsula between the East, South, and West basins of Meliadine Lake (63°01'23.8"N, 92°13'6.42"W). The area is accessible from the all-weather gravel road linking the Meliadine mine site with Rankin Inlet.

A general location plan for the project is shown in Figure 1.

1.2 SITE FACILITIES

The current mine plan focuses on the development of the Tiriganiaq gold deposit which will be mined using both conventional open-pit and underground mining operations. Current mining facilities to support the Mine include a plant site and accommodations, tailings storage facility, waste rock storage facilities, ore storage pads, process plant, power plant, maintenance facilities, water management treatment plants and supporting infrastructures.

Such infrastructures include water retention dikes, berms, culverts, channels, collection ponds, pumping stations, fresh water intake and water treatment plants are required to manage water during pre-production, operation, and interim mine closure.

To support the camp accommodation, upgrading the current sewage treatment (STP) plant unit would be required.

1.3 PURPOSE OF DOCUMENT

This report includes the final design and construction drawings for the STP upgrade.

1.4 SCOPE OF WORK

H2O innovation was selected to supply the STP upgrade. Construction drawings of the listed infrastructure are presented in appendices of this report. Note that the STP concept stays the same but an additional aerobic tank and membrane filtration unit are added.

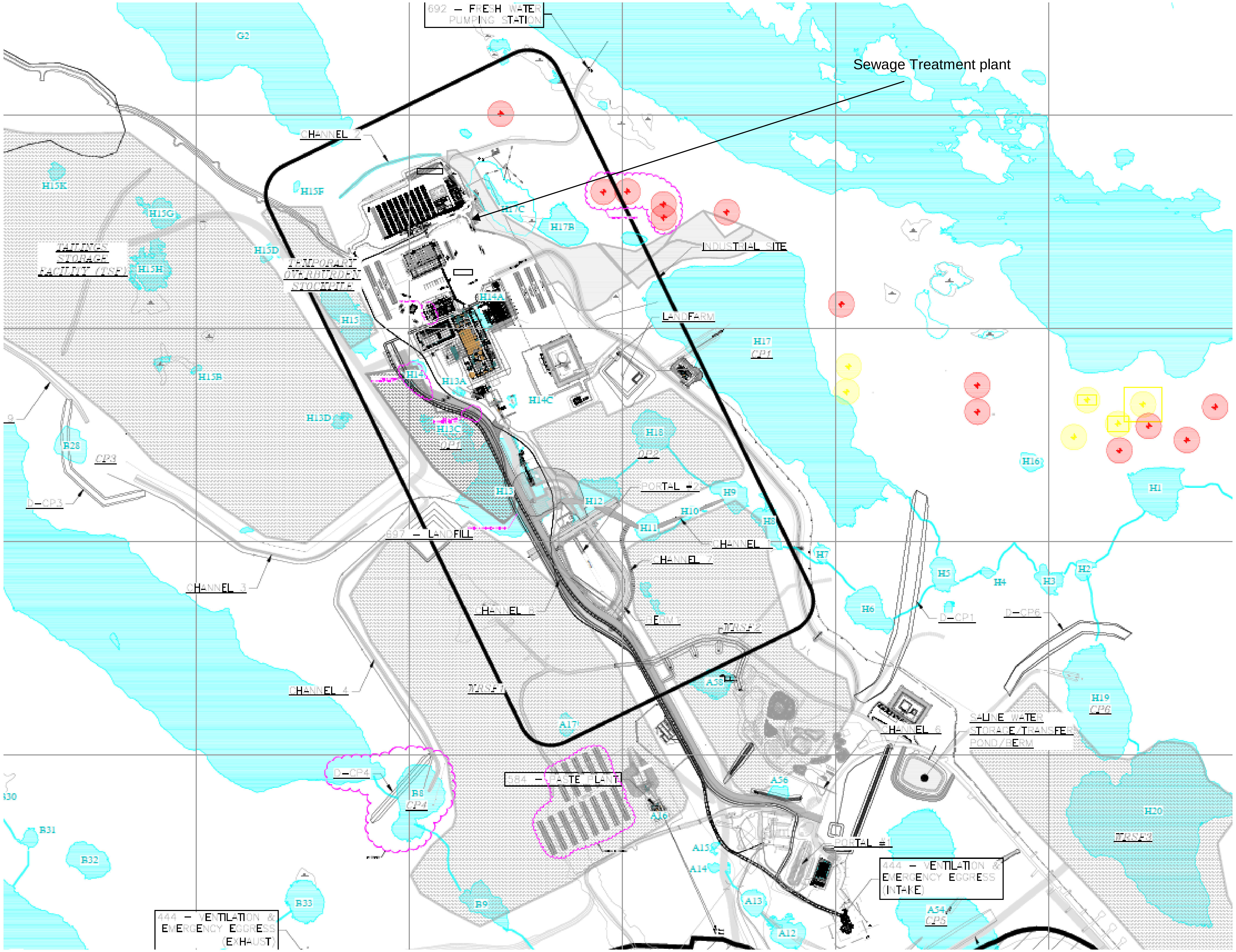

Figure 1 : General location plan

2 DESIGN METHODOLOGY

2.1 DESIGN RATIONALE, REQUIREMENTS, CRITERIA AND PARAMETERS

The design rationales are the following:

- Provide additional sewage treatment capacity for the camp;
- Limit extent of required modifications of the current infrastructure;
- Ensure the system is containerized for simplicity.

Table 1 presents the target effluent concentration at the exit of the STP. Note that these parameters are operational targets and no effluent are discharged to the environment.

Table 1: Expected operational parameters

Parameter	Unit	Effluent target
BOD_5	mg/L	<25
TSS	mg/L	<25
pH	units	6-9
Ammonia Nitrogen (N-NH3)	mg/L	0.89
Fats, Oils and Grease	mg/L	15

2.2 DESIGN STANDARDS ANALYSIS AND METHODS

STP upgrade equipment were selected to manage an equivalent of 200 additional people in the camp (the current STP is designed for 520 persons). The selection of each of these components was based on a typical process used in the industrial water treatment sector and synergy with the current STP set up was prioritized. The robustness and redundancy of equipment were also taken into account during equipment/supplier selection.

2.3 DESIGN ASSUMPTIONS AND LIMITATIONS

The current treatment plant is able to treat a maximum daily flow of 216 000 L per day (maximum design flow). The upgrade STP equipment will be able to handle an additional 83 076 L per day.

2.4 WASTE WATER CHARACTISITICS

Table 2 presents the raw sewage water characteristic used for the design.

Table 2: Raw Water

Parameter	Unit	Raw water
BOD_5	mg/L	200-360
TSS	mg/L	50-350
pH	unit	6.5-8.5
Ammonia Nitrogen (N-NH3)	mg/L	40-50
Fats, Oils and Grease	mg/L	20-50
TKN	mg/L	45-60
Ptotal	mg/L	5-12
Alkalinity	mg/L	250-500

2.5 WATER MANAGEMENT STRATEGY

Sewage will be collected from the facilities and pumped to the STP. The objective of the STP is to treat sewage to an acceptable level for discharge to CP1 via a sewage water discharge pipeline. The STP is housed in a prefabricated (modular) structure, located on the east side of the industrial pad (Figure 1).

The treated sewage from the STP will be pumped through a heat traced insulated pipeline to CP1 pond which is designed to receive all the surface contact waters on site. This water is pumped to the final effluent treatment plant for TSS control prior to discharge into Meliadine Lake.

The composition of the sewage and grey water entering the plant and the Effluent water quality exiting the units will be monitored on a regular basis to determine plant efficiency. Sewage sludge removed from the STP will be added to the landfarm as nutrient amendment, on an as needed basis. Excess sludge will be disposed of in the waste rock storage facility (WRSF) primarily, however alternate disposal options are possible such as the Tailings Storage Facility or shipment south for disposal.

3 DESCRIPTION

3.1 CONCEPT

The STP relies on bacterial activity. The process is composed of five (5) steps described below:

- flow equalization and screening,
- aerobic biological treatment,
- membrane filtration,
- ultraviolet disinfection,
- and sludge handling/dewatering.

PIDs are available in appendices.

3.2 FLOW EQUALIZATION AND SCREENING

The influent wastewater is pumped to the two (2) aerated equalization tanks. The equalization system is able to manage a variation in flows. It provides raw wastewater storage to store feed during high flow periods and to ensure feed supplementation during low flow periods. It provides a stable and consistent raw feed for the downstream processes. Equalized water is pumped via two (2) equalization pumps into a standpipe inside the second tank and flows from that pipe by gravity to the fine screens. The fine screens are rotary drum screens with 2 mm perforated plate openings that operate continuously. The screens will ensure the removal of large debris to protect downstream equipment. Pressurized wash water is used intermittently to clean the screens and screenings.

3.3 AEROBIC REACTOR

Screened raw water flows by gravity from the screens into the sump tank, where it is pumped to the aerobic tank, which is located outdoors. Aerobic biological treatment removes the organic load (measured as BOD) of the wastewater. Bacteria grown in the bioreactor remove unwanted organic pollutants to produce a treated water of high quality. Oxygen is supplied by regenerative blowers and is injected by fine bubble diffusers in the tank. The diffusers are designed for a wide range of air flows, according to the system’s demand in oxygen. It keeps a dissolved oxygen concentration of at least 2 mg/L at any time to satisfy the needs of the biomass. The mixed liquor suspended solids (MLSS) overflows into a standpipe inside the tank and flows by gravity to the membrane filtration trains. The target MLSS in the aerobic reactor is 10 g/L.

The dry bacteria product, BEC105, could be used in the treatment process to stimulate biological activity when needed. To start up of the new bioreactor, sludge from the current plant can be used too.

The equipment added in the STP upgrade is an aerobic tank with fine bubble diffusor.

3.4 MEMBRANE FILTRATION

Membrane filtration is used to separate the bacteria from the water to ensure keeping them in the process at the desired concentration. Activated sludge is returned at a constant flow rate to the aerobic tank to prevent a build-up of sludge in the membrane tank. The return activated sludge (RAS) is pumped at a higher flow rate than the design flow rate of the plant, to make sure that there is good circulation in the whole system and that there is no accumulation of solids.

The membranes are totally submerged and have a pore size of 0.4 microns, which remove all suspended solids in the effluent.

The permeation pumps are provided to suction the effluent through the membrane modules and transport it to the permeate tank. The permeation pumps are supplied with variable speed drives to overcome any changes in transmembrane pressure and achieve the design at all times.

The operating cycle for the selected modules is to suction effluent water for seven (7) minutes and to relax the membrane for one (1) minute. The cycle optimizes the long-term operation of the membrane modules. The housings are constructed with an integrated diffuser at the bottom to aerate the membrane continuously and prevent clogging and accumulation of sludge. The relaxation of the membranes allows extending the interval between cleanings (CIP or Clean-In- Place). CIP cleans are done about twice a year. Washes are performed with permeate stored in the permeate storage tank while a cleaning chemical (either sodium hypochlorite or citric acid) is added. Chemical solutions are backflushed through the membranes, which are soaked for a few hours after. After washing, the permeation is restarted. While a train is washing, the other train can continue to treat water and ensure a continuous production of effluent.

Once a week, a chemically enhanced back pulse (CEB) should be performed on the membrane modules with sodium hypochlorite to mitigate membrane fouling. Permeate flow is reversed to flow back into the membranes while the cleaning chemical is added inline.

An additional sea can with a membrane train and utilities (instrumentation, blower, pumps, UV, CIP tank, sodium hypochlorite system) are added to the current STP system. This allows the filtration area to increase from 900 m^2 (current system) to 1350 m^2 (upgraded system).

3.5 UV DISINFECTION

From the permeate pumps, each membrane bioreactor train sends permeate through an inline ultraviolet disinfection system. It is a physical process that inactivates instantaneously microorganisms. The UV system process adds no chemicals to the water, and therefore, has no impact on the chemical composition of the effluent. From here, effluent is sent to a common permeate storage tank. The permeate tank acts as a reservoir for treated water that is pumped to the discharge location. This tank can also be used for CEB and CIP process, as previously mentioned.

3.6 SLUDGE STORAGE AND DEWATERING

Since bacteria continue to reproduce as they consume organics and nutrients, the concentration of biomass, measured as Mixed Liquor Suspended Solids (MLSS), increases with time. Periodic sludge wasting is required to control the MLSS concentration in the bioreactor tanks. Sludge is sent to the sludge storage tank by redirecting the flow of the RAS pump (approximately at 1% solid content). A blower and coarse bubble diffuser system maintains an aerobic environment within the sludge tank to minimize the proliferation of odors. Periodic settling is used to facilitate the thickening of the waste activated sludge. The supernatant (upper portion of the tank) is sent back to the sump tank by opening a valve, where it will re-enter the treatment process. This operation (called decanting) reduces the volume of sludge that needs to be handled and extends the period of time that the sludge tank can be used before thickened sludge is disposed (approximately at 2-3 % solid content).

A Sludge Dewatering System (Volute) system is also available to remove the solid fraction out of the sludge storage tank. Basically, the flocculated sludge pass through a screw press that utilizes a screw inside a moving casing. Water collected during the dewatering is sent back to the STP equalization tank. The cake is then collected in a solid-waste bin for disposal in the Waste Rock Storage Facility. Alternative disposal locations can include: Tailings Storage Facility, use at the landfarm as nutrient amendment or shipment south during the barge season for disposal. The system is designed to treat 3 to 5 m^3 per 12 h and will produce approximately 0.28 m^3 per day of sludge cake at approximately 18% solid. The cationic polymer consumption is estimated at 0.5 kg per day.

4 CONSTRUCTION METHODS

4.1 CONSTRUCTION METHOD AND EQUIPMENT

No building construction is expected for the upgrade. An additional container and tank will be placed close to the current infrastructure. Installation of equipment will be done on the existing industrial pad.

4.2 QUALITY CONTROL/ASSURANCE

A record of as-built drawings will be produced.

4.3 TESTING AND INSPECTION

Prior to start up, the indoor pipe will be tested for leaks. If leaks are found, the pipe will be repaired.

After start up, a periodic inspection, performed by Agnico Eagle personnel, will be done to ensure piping and plant integrity.

4.4 TIMELINE

The expected date of construction is September 1st 2020, commissioning completion is planned for mid-September 2020.

Appendix A : STP upgrade

NO. DESSIN DRAWING NO. 65-460-210-200_R0_XREF

FORMAT ARCHD

EXPANSION - SITE VIEW
SCL: 1:125

PLAN CLÉ
KEY PLAN

1075, 3th AVENUE EAST
VAL-D'OR (QUEBEC) CANADA J9P 0J7
PHONE. : 1-819-825-4274 | FAX. : 1-819-824-1514 | WWW.WSP.COM
Ref. 201-00413-01

NOTES GÉNÉRALES / GENERAL NOTES

POUR CONSTRUCTION
FOR CONSTRUCTION
AGNICO EAGLE
DATE : 2020-05-22

DESSINS EN RÉFÉRENCE / REFERENCE DRAWINGS

TITRE / TITLE	# DWG
WASTE WATER CONTAINER	20C1131-B01-0001
	–
	–
	–
	–
	–

0	2020-05-22	ISSUED FOR CONSTRUCTION	P.R.	P.R.	
REV.	DATE	DESCRIPTION	PAR/BY	APP.	CLIENT

REVISIONS

TITRE / TITLE
AGNICO EAGLE - MELIADINE DIVISION
460 - SEWAGE TREATMENT PLANT
210 - GENERAL ARRANGEMENT
EXPANSION
SITE VIEW

DESSINÉ PAR DRAWN BY	CARINE BEAULIEU	DATE	2020-05-20
VÉRIFIÉ PAR CHECKED BY	PAUL RIVEST, P.Eng.		2020-05-22
APPROUVÉ PAR APPROVED BY	PAUL RIVEST, P.Eng.		2020-05-22
ÉCHELLE SCALE	INDICATED	DATE	2020-05-20

NO. DESSIN DRAWING NO. 65-460-210-200

NO. PROJET PROJECT NO.	REVISION	FEUILLE / SHT
6526	0	1 / 1

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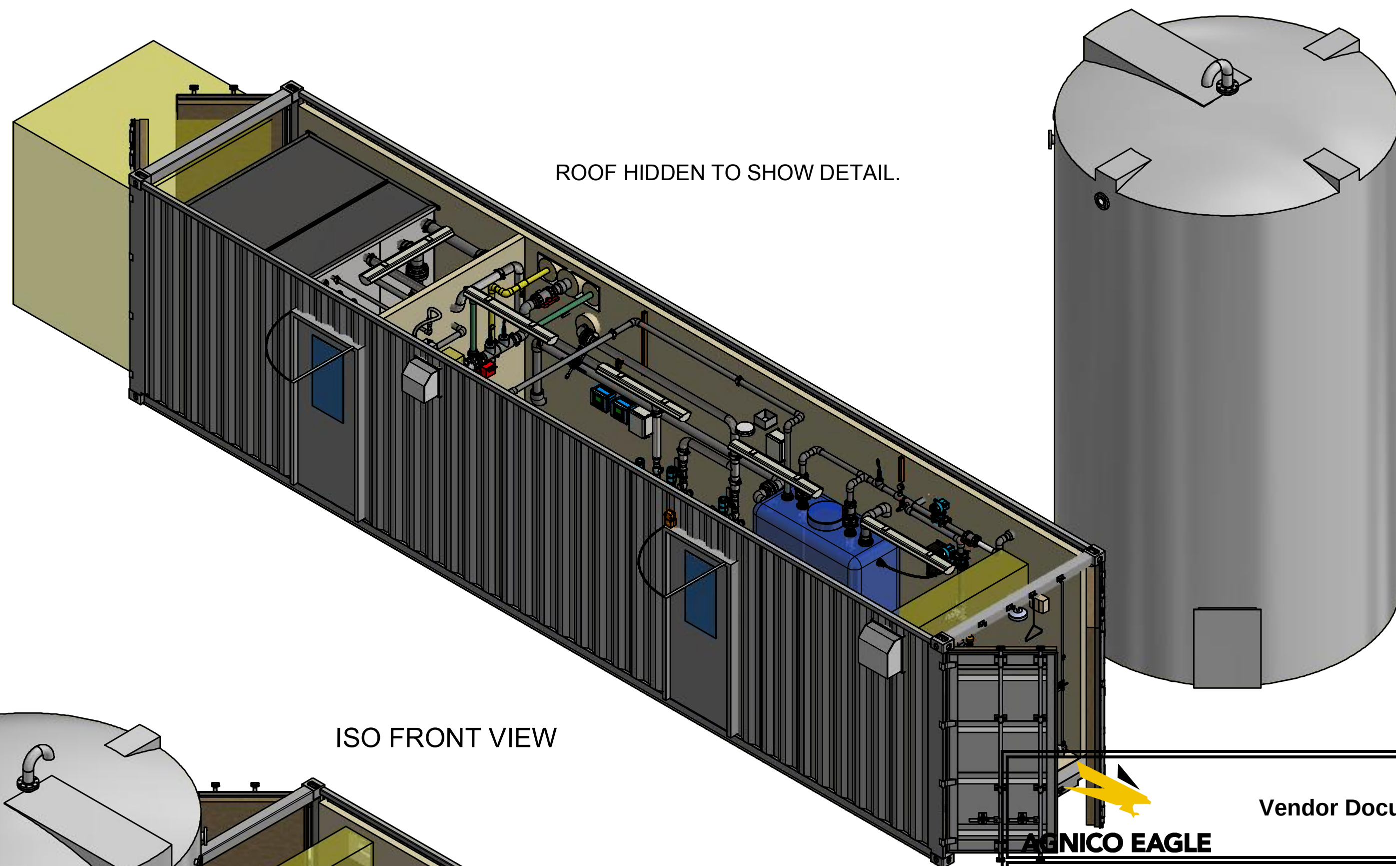
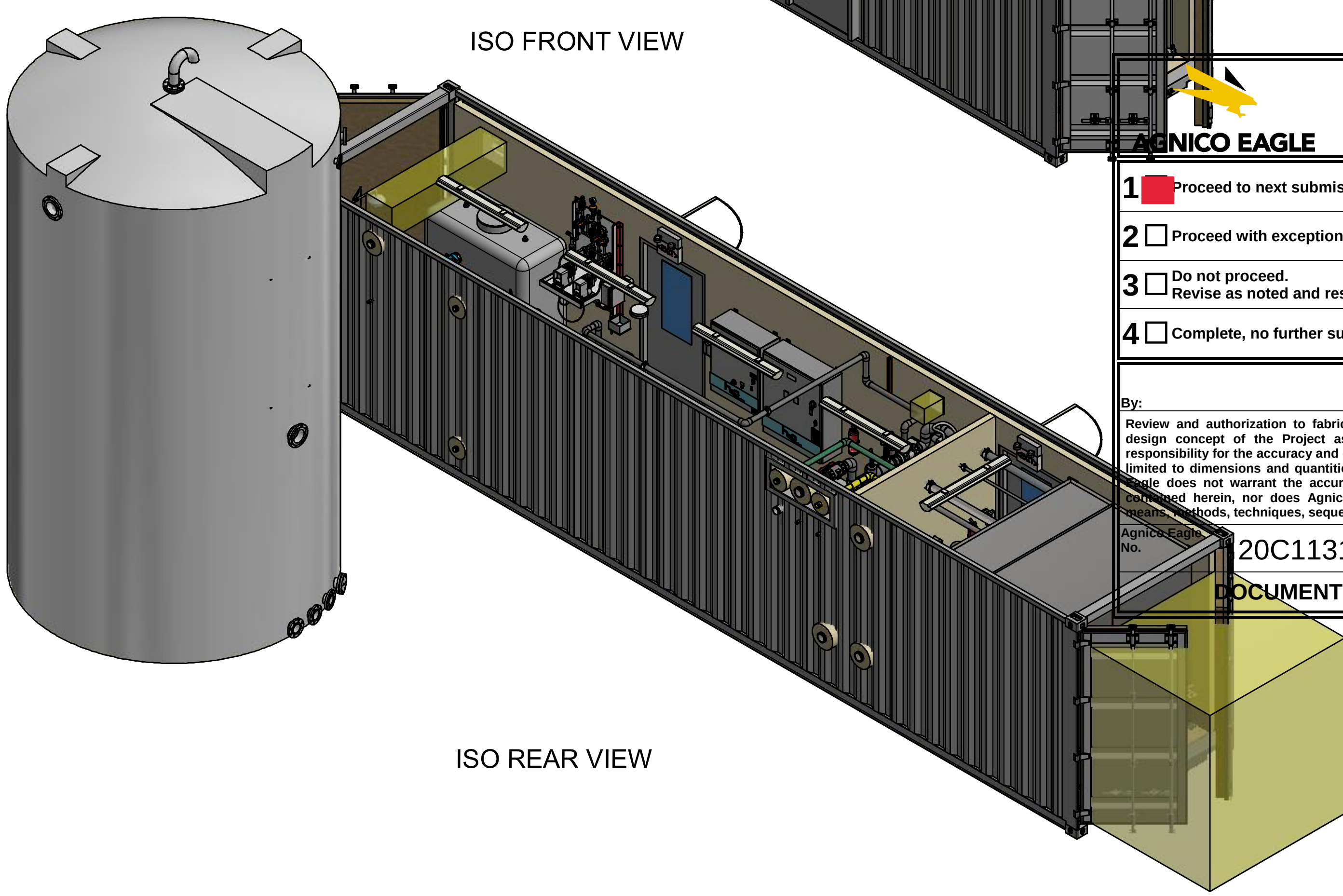
ROOF HIDDEN TO SHOW DETAIL.



ISO FRONT VIEW



ISO REAR VIEW

NOTES:

1. REFERENCE P&ID: XXX
2. APPROXIMATE SHIPPING WEIGHT: XXX LB.
3. ROOF INSULATION TO BE MINIMUM R20.
4. WALL INSULATION TO BE MINIMUM R20.
5. FLOOR INSULATION TO BE MINIMUM R20.
6. MINIMUM INSIDE DIMENSIONS ARE 84'5" WIDE X 102" HIGH AND XXX" LONG.
7. ENSURE THAT LIFTING LUGS ARE USED FOR LIFTING TANKS AND/OR BUILDINGS. LIFTING LUGS FOR TANKS ARE LOCATED AT THE TOP OF THE TANK.
8. CLEARANCE FOR AIR FLOW AND SERVICE REQUIRED AROUND PANEL AIR CONDITIONERS. REFER TO ELECTRICAL DRAWINGS FOR REQUIREMENTS.
9. ALL WELDS, EXCEPT FILLET WELDS, ARE TO BE GROUND FLUSH IN THE FLAT POSITION WITHOUT DISHING.
10. ALL WELDS ARE TO BE 100% VISUALLY INSPECTED.
11. COMPLIANCE WITH CSA W47.1 CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STEEL AND CSA W59 WELDED STEEL CONSTRUCTION REQUIRED.
12. NO VERTICAL DOWN WELDS ARE ALLOWED UNLESS CERTIFIED PER CSA W59 AND APPROVED BY H2O INNOVATION.
13. STITCH WELDS ARE NOT ALLOWED UNLESS PRE-APPROVED BY H2O INNOVATION.
14. NO VERTICAL DOWN WELDS ARE ALLOWED UNLESS CERTIFIED PER AWS D1.6 AND APPROVED BY H2O INNOVATION.
15. STRUCTURAL STEEL WELDING AS PER STRUCTURAL WELDING CODE - STAINLESS STEEL, AWS D1.6.
16. MATERIAL IS TYPE 304L SS. THE MINIMUM YIELD STRENGTH REQUIRED FOR ALL MATERIAL IS 36 KSI.
17. HOLLOW STRUCTURAL STEEL SECTIONS PER ASTM A269.
18. ANGLES AND CHANNELS PER ASTM A276, AND PLATE PER ASTM A240 OR A666. SHAPES FORMED FROM PLATE ARE ACCEPTABLE.
19. STRUCTURAL FRAME WELDS AND AREAS WITH IRON CONTAMINATION TO BE TREATED WITH PICKLE PASTE COMPOUND AND WASHED CLEAN.
20. PUT 1/8" RADIUS ON ALL CORNERS, FOR SAFETY.
21. BREAK ALL SHARP EDGES, AND REMOVE SPATTER.
22. SINGLE MEMBERS TO BE CONTINUOUS. SEAMED MEMBERS ARE NOT ACCEPTABLE.
23. ALL STAINLESS STEEL PIPING TO BE ASTM A312. ALL STAINLESS STEEL FITTINGS TO BE ASTM A403. FLANGES TO BE ASTM A182 AND ANSI B 16.5.
24. CLASS 150 FITTINGS SHALL MEET MSS SP114 STANDARDS FOR SIZES 1/8" THRU 4". THREADS SHALL MEET ANSI B1.20.1. MATERIAL IS ASTM A351 GRADE CF8M OR ASTM A182 GRADE 316 OR ASTM A276.
25. ALL STAINLESS STEEL PIPING TO BE WELDED TO ASME B31.1, 100% PENETRATION AND BACK GASSED WITH ARGON.
26. WELDER CERTIFICATIONS FOR ALL WELDERS MUST BE PROVIDED TO H2O INNOVATION.
27. COMPLETED ASSEMBLY MUST BE LEAK TESTED TO 50 PSIG.
28. TANK 4 HOUR FILL AND HOLD HYDRO TEST REQUIRED.
29. UNWITNESSED TEST REPORT MUST BE PROVIDED.
30. ALL STAINLESS STEEL TO BE PICKLED (DIPPED) AND PASSIVATED TO ASTM A380.
31. BOLTS AND NUTS ARE STAINLESS STEEL TYPE 316.
32. MECHANICAL PROPERTIES PER CONDITION CW OF ASTM F593/F594.
33. THREADS PER ANSI/ASME B1.1 CLASS 2A.
34. WASHERS AND & LOCK WASHERS ARE STAINLESS STEEL TYPE 316 WITH DIMENSIONS PER ASME B18.21.1.
35. ALL PVC PIPE TO BE SCHEDULE 80, GRAY. PIPE MATERIAL TO CONFORM TO ASTM D1784. PHYSICAL DIMENSIONS, SCHEDULES, AND TOLERANCES TO CONFORM TO ASTM D1785.
36. ALL PVC FITTINGS TO BE SCHEDULE 80, GRAY. SOCKET FITTINGS TO CONFORM TO ASTM D2467.
37. PVC FLANGES 3" AND LARGER TO BE VAN STONE STYLE WITH GLASS FILLED PVC RING. PVC FLANGES 2" AND SMALLER TO BE VAN STONE STYLE WITH PVC RING, PVC FLANGES TO MEET CLASS 150 BOLT HOLE PATTERN PER ANSI B16.5.
38. PVC PRIMER TO CONFORM TO ASTM F656. PVC SOLVENT CEMENT TO CONFORM TO ASTM D2564.
39. EXPOSED PVC PIPING REQUIRES SUITABLE UV PROTECTIVE COATING ON SITE. NOT BY H2O INNOVATION.
40. ALL GASKETS TO CONFORM TO ASTM F477.
41. TAP (1/2" NPT OR SMALLER ONLY) INTO PVC / CPVC FITTING IS ALLOWED, BUT ONLY IN SPECIFIC LOCATIONS WHERE NO ADEQUATE FITTING IS PROVIDED.
42. TUBING MATERIAL IS NYLON.
43. ELECTRICAL CONDUIT MATERIAL IS RIGID PVC.

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1 ■ Proceed to next submission and status.

2 ☐ Proceed with exceptions as noted to next submission and status.

3 ☐ Do not proceed. Revise as noted and resubmit next submission and status.

4 ☐ Complete, no further submission required.

By: Date:

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INTERPRETATION: ANSI Y14.5
TOLERANCES
FRACTIONS: ±1/16"
DECIMALS 0.X: ±0.030
0.XX: ±0.015
ANGLES: ±0.5°
HOLE SIZES: ±1/32"
HOLE CENTERS: ±1/32"
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MELIADINE WW EXPANSION

MELIADINE , NU

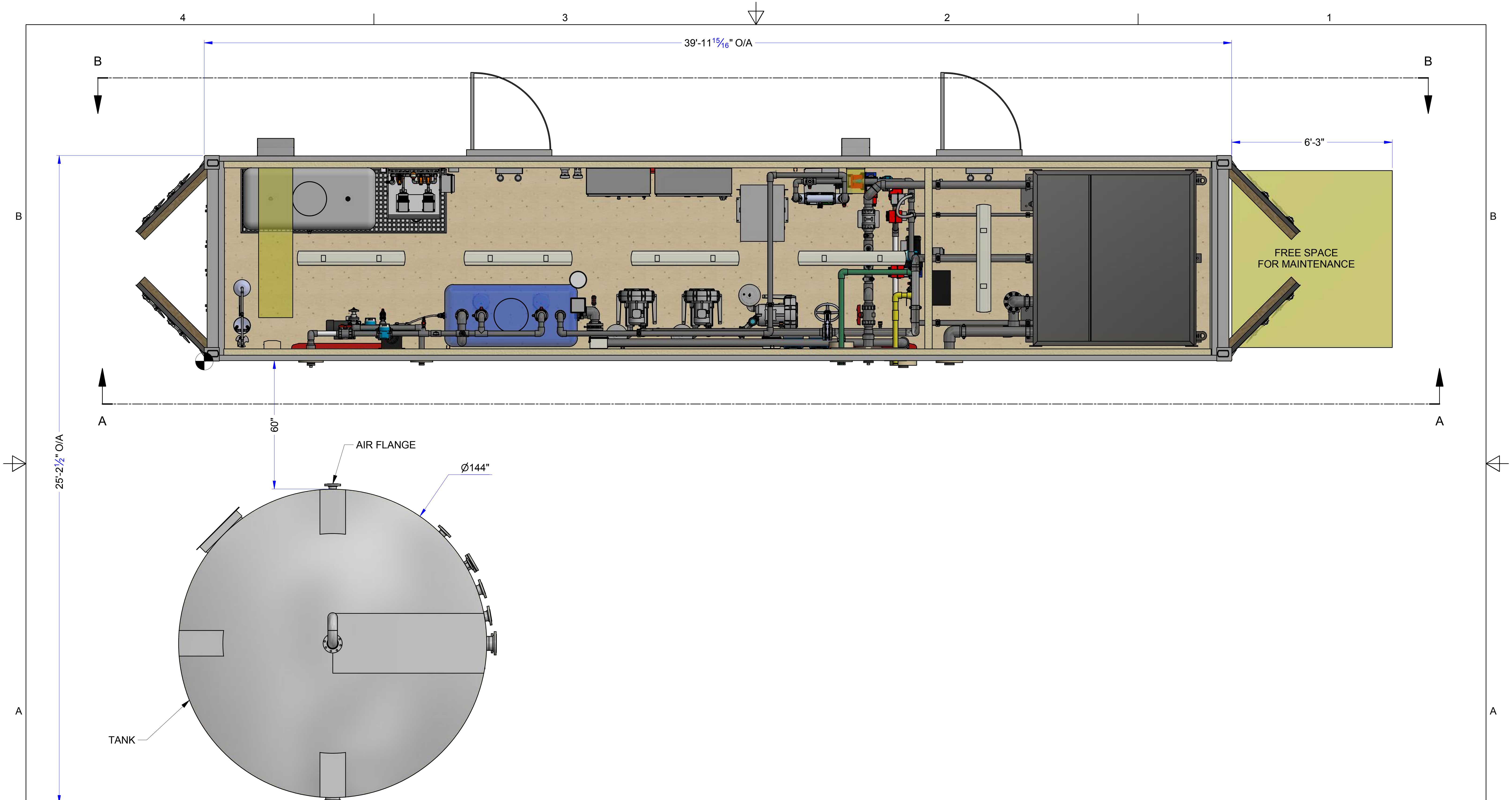
TITLE: WASTE WATER CONTAINER
GENERAL ARRANGEMENT

SCALE: N/A

DRAWING NUMBER: 20C1131-B01-0001

SHEET: 1 OF 5

REVISION: 01



TOP VIEW

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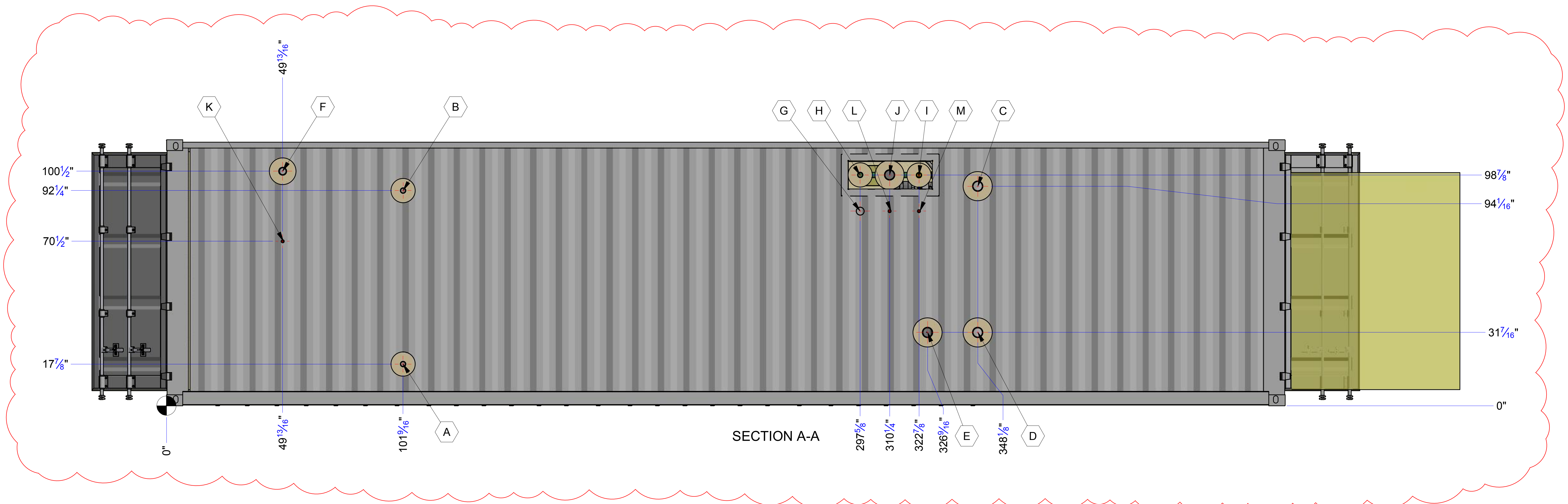
MELIADINE WW EXPANSION

MELIADINE , NU

TITLE: WASTE WATER CONTAINER
GENERAL ARRANGEMENT

SCALE: N.T.S
DRAWING NUMBER: 20C1131-B01-0001
SHEET: 2 OF 5
REVISION 01

NOZZLE#	DESCRIPTION	MATERIAL	DIAMETER	CONNECTION
A	EQUALIZED WATER FROM MAIN PLANT SUMP PUMPS DISCHARGE LINE	PVC, SCH.80	2"	CUT GROOVE
B	EQUALIZED WATER TO EXPANSION AEROBIC TANK	PVC, SCH.80	2"	CUT GROOVE
C	MEMBRANE TANK VENT TO OUTSIDE	PVC, SCH.80	4"	CUT GROOVE
D	MEMBRANE TANK OVERFLOW	PVC, SCH.80	4"	CUT GROOVE
E	PERMEATE TANK OVERFLOW	PVC, SCH.80	4"	CUT GROOVE
F	PERMEATE EFFLUENT TO DISCHARGE	PVC, SCH.80	3"	CUT GROOVE
G	BIOREACTOR AIR TO EXPANSION AEROBIC TANK	SS 304, SCH.10	3"	CUT GROOVE
H	WAS TO MAIN PLANT SLUDGE TANK	PVC, SCH.80	2"	CUT GROOVE
I	RAS TO EXPANSION AEROBIC TANK	PVC, SCH.80	2"	CUT GROOVE
J	PRETREATED WATER FROM EXPANSION AEROBIC TANK	PVC, SCH.80	4"	CUT GROOVE
K	POTABLE WATER	PVC, SCH.80	1/2"	FNPT
L	CITRIC ACID	PVC, SCH.80	1/2"	FNPT
M	HYPOCHLORITE	PVC, SCH.80	1/2"	FNPT



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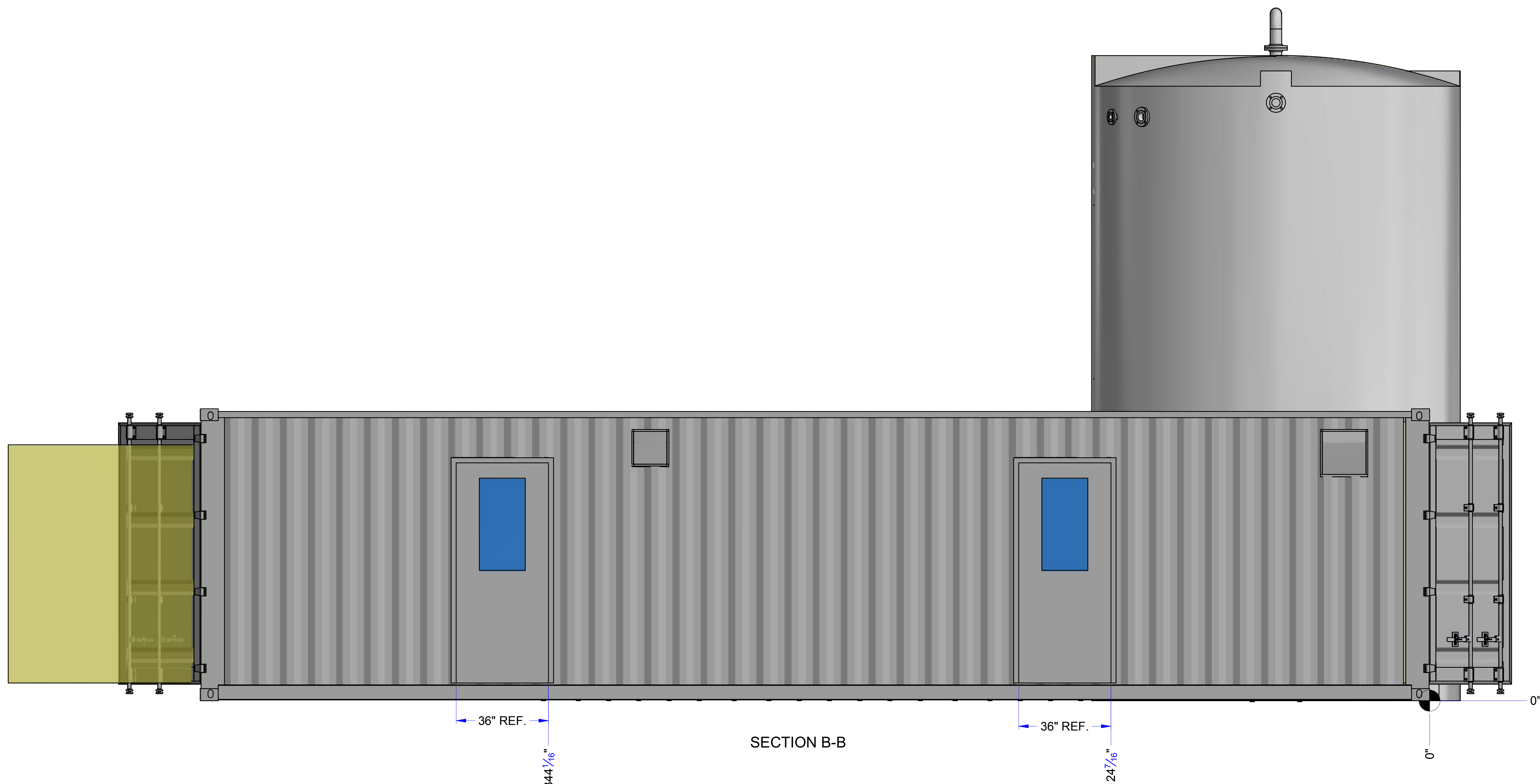
MELIADINE WW EXPANSION

MELIADINE , NU

TITLE:
WASTE WATER CONTAINER
GENERAL ARRANGEMENT

SCALE:	DRAWING NUMBER:	REVISION
N/A	20C1131-B01-0001	01

SHEET: 3 OF 5



SECTION B-B

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00	2020-05-21	INITIAL RELEASE	M.C.	R.D.	R.D.	A.M.

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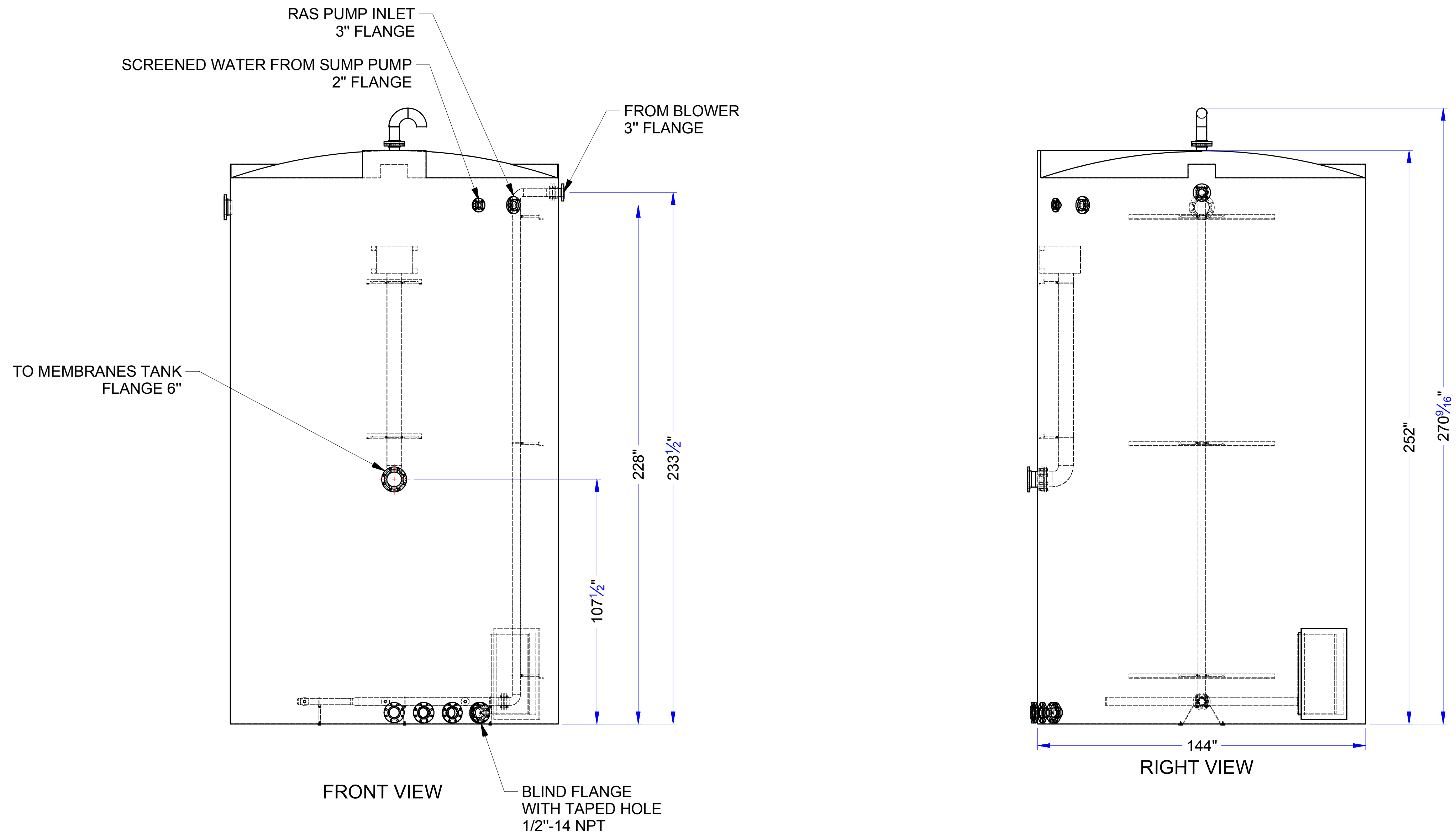
INTERPRETATION: ANSI Y14.5
TOLERANCES
FRACTIONS: ±1/16"
DECIMALS 0.X: ±0.030
0.XX: ±0.015
ANGLES: ±0.5°
HOLE SIZES: ±1/32"
HOLE CENTERS: ±1/32"
DO NOT SCALE PRINTS

MELIADINE WW EXPANSION

MELIADINE , NU

TITLE:
WASTE WATER CONTAINER
GENERAL ARRANGEMENT

SCALE: N/A
DRAWING NUMBER: 20C1131-B01-0001
SHEET: 4 OF 5
REVISION 01



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DRAWING REVISION

REV	DATE (DD/MM/YYYY)	REVISION DESCRIPTION	DRAWN	PEER	ENG	APPVD
01	2020-06-02	REVISED AS PER ENGINEER COMMENTS	M.C	R.D.	R.D.	A.M.
00	2020-05-21	INITIAL RELEASE	M.C.	R.D.	R.D.	A.M.

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INTERPRETATION: ANSI Y14.5

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MELIADINE WW EXPANSION

MELIADINE , NU

TITLE:
WASTE WATER CONTAINER
GENERAL ARRANGEMENT

SCALE: N/A

DRAWING NUMBER: 20C1131-B01-0001

SHEET: 5 OF 5

REVISION 01

VALVE SYMBOLS

N.OPEN N.CLOSED

- BALL
- V-BALL
- BUTTERFLY
- DIAPHRAGM
- GATE
- GLOBE
- NEEDLE
- PLUG
- SAMPLE/DRAIN
- CHECK
- BACKFLOW PREVENTER
- 3-WAY, 4-WAY
- PRESSURE REGULATING
- BACK PRESSURE REGULATING
- FLOW CONTROL
- 2-WAY SOLENOID
- 3-WAY SOLENOID (S, EXH)
- 4-WAY SOLENOID (S, EXH)
- AIR RELEASE
- VACUUM BREAKER
- PRESSURE RELEASE
- SLUICE GATE/WEIR

VALVE ACTUATOR SYMBOLS

- PNEUMATIC (FAIL LAST POSITION)
- PNEUMATIC FAIL CLOSE
- PNEUMATIC FAIL OPEN
- ELECTRIC (M)
- DIAPHRAGM
- POSITIONER (ANY ACTUATOR TYPE)
- HAND OVERRIDE (ANY ACTUATOR TYPE)
- TRAVEL STOPS (ANY ACTUATOR TYPE)

FLOWMETER SYMBOLS

INTEGRAL | CLOSE COUPLED | REMOTE

- MAGNETIC (FT nnnnn, M)
- PADDLE (FT nnnnn)
- VORTEX (FT nnnnn)
- DP/ORIFICE (FT nnnnn)
- THERMAL (FT nnnnn)
- ROTAMETER (FI nnnnn)

INSTRUMENTATION SYMBOLS

LOCALLY MOUNTED	IN CONTROL PANEL	DESCRIPTION
X nnnnn	X nnnnn	DISCRETE INSTRUMENT
	X nnnnn	PRIMARY PLC OR DCS SHARED CONTROL
	X nnnnn	SECONDARY PLC OR DCS SHARED CONTROL
	X nnnnn	COMPUTER FUNCTION

INSTRUMENT FUNCTIONS

- K — SIGNAL PROCESSING FUNCTION
- A/M — AUTO/MANUAL
- Σ — ADDITION/SUMMATION
- Δ — DIFFERENTIAL
- I — INTERLOCK LOGIC FUNCTION
- Σ/n — AVERAGING

INSTRUMENT CONNECTIONS

- SOCKETWELD
- THREADED
- WELDED

PIPING SYMBOLS

- FLANGED CONNECTION
- THREADED CONNECTION
- BLIND FLANGE
- DOUBLE CONTAINMENT
- QUICK DISCONNECT VICTAULIC
- INSULATION (x" INSULATION THICKNESS)
- QUICK DISCONNECT CAMLOK
- HEAT TRACING (x" INSULATION THICKNESS) E=ELECTRIC S=STEAM G=GLYCOL
- CAPPED PIPE END
- UNION
- DRAIN OUTLET
- EXPANSION/FLEXIBLE/ ISOLATION JOINT
- REDUCER
- ECCENTRIC REDUCER

PIPING ABBREVIATIONS

316 SS	316 STAINLESS STEEL
304 SS	304 STAINLESS STEEL
316L SS	LOW CARBON 316 STAINLESS STEEL
304L SS	LOW CARBON 304 STAINLESS STEEL
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
DI	DUCTILE IRON
HDPE	HIGH-DENSITY POLYETHYLENE
PE	POLYETHYLENE
PVC	POLYVINYL CHLORIDE
RLCS	RUBBER LINED CARBON STEEL
SCH.	SCHEDULE
SDR	STANDARD DIMENSION RATIO
CML	CEMENT MORTAR LINED

LINE SYMBOLOGY

- MAIN PROCESS LINE
- SECONDARY PROCESS LINE
- PROCESS LINE, BY OTHERS
- COMM LINK (EX. PLC TO HMI)
- COMM LINK (EX. PLC TO DCS)
- ELECTRIC WIRING
- PNEUMATIC LINE
- LINE JUMPER
- PIPE DISCONTINUATION
- FLOW DIRECTION ARROWS
- 4" 316 SS SCH.10 — LINES SIZE/ MATERIAL IDENTIFIER
- SKID BOUNDARY — BY OTHERS / SKID BY H_2O Innovation
- REVISION
- LINES TO/FROM OTHER SHEETS: DESCRIPTION, C01-0001 SHT 1, DESTINATION

PUMP SYMBOLS

- CENTRIFUGAL
- CHEMICAL METERING
- DIAPHRAGM
- POSITIVE DISPLACEMENT
- VACUUM
- SUBMERSIBLE OR FLOATING
- VERTICAL TURBINE
- PERISTALTIC/HOSE

MISCELLANEOUS EQUIPMENT SYMBOLS

- CARTRIDGE FILTER HOUSING
- IMMERSED HEATER (TC nnnnn)
- IN-LINE HEATER (TC nnnnn)
- AUTOMATIC STRAINER
- ULTRASONIC LEVEL TRANSMITTER (LIT nnnnn)
- SILENCER
- FLOAT-STYLE LEVEL TRANSMITTER (LIT nnnnn)
- MIXER (M)
- CHEMICAL CONTAINMENT (ST-nnnnn)
- STATIC MIXER
- CALIBRATION COLUMN
- RESIN TRAP
- MOTOR (M)
- MEMBRANE
- EDUCTOR OR VENTURI
- Y STRAINER
- UV STERILIZER
- CONICAL OR TEMPORARY STRAINER
- DIFFUSERS: COARSE BUBBLE
- PULSATION DAMPENER
- FINE BUBBLE
- DIAPHRAGM
- FLOW ORIFICE
- POSITIVE DISPLACEMENT BLOWER
- AIR COMPRESSOR
- RUPTURE DISK (PRESSURE)
- REGENERATIVE BLOWER
- RUPTURE DISK (VACUUM)
- SPECTACLE BLIND (NORMALLY OPEN, NORMALLY CLOSED)
- CENTRIFUGAL BLOWER
- INJECTION QUILL
- TURBOCHARGER
- FILTER
- BIO-WHEEL
- REFRIGERATED AIR DRYER
- MMF TANK
- TANK
- MANWAY

FLOW INSTRUMENTS

FAH	FLOW ALARM HIGH
FAL	FLOW ALARM LOW
FCV	FLOW CONTROL VALVE
FE	FLOW ELEMENT
FI	FLOW INDICATOR
FIC	FLOW INDICATING CONTROLLER
FIT	FLOW INDICATING TRANSMITTER
FR	FLOW RECORDING
FSH	FLOW SWITCH HIGH
FSL	FLOW SWITCH LOW
FV	FLOW CONTROL OR ON/OFF VALVE
FQ	FLOW TOTALIZER
FX	ELEMENT CONTROLLED BY FLOW
FY	FLOW SIGNAL CONVERT, I/P, OR SOLN

PRESSURE INSTRUMENTS

PAH	PRESSURE ALARM HIGH
PAL	PRESSURE ALARM LOW
PC	PRESSURE CONTROLLER
PCV	SELF REG PRESS CONTROL VALVE
PDH	DIFFERENTIAL PRESSURE HIGH
PDI	DIFFERENTIAL PRESSURE INDICATOR
PDIT	DIFF PRESS INDICATING TRANSMITTER
PDSH	DIFFERENTIAL PRESS SWITCH HIGH
PG	PRESSURE GAUGE
PI	PRESSURE INDICATOR
PIC	PRESSURE INDICATING CONTROLLER
PIT	PRESSURE INDICATING TRANSMITTER
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
PSV	SELF REG PRESS SAFETY VALVE
PT	PRESSURE TRANSMITTER
PX	ELEMENT CONTROLLED BY PRESSURE
PY	PRESS SIGNAL CONVERT, I/P, OR SOLN
PSLH	PRESSURE SWITCH LOW HIGH

LEVEL INSTRUMENTS

LAH	LEVEL ALARM HIGH
LAL	LEVEL ALARM LOW
LCV	SELF REG LEVEL CONTROL VALVE
LE	LEVEL ELEMENT
LG	LEVEL GAUGE
LI	LEVEL INDICATOR
LIC	LEVEL INDICATING CONTROLLER
LIT	LEVEL INDICATING TRANSMITTER
LSH	LEVEL SWITCH HIGH
LSL	LEVEL SWITCH LOW
LT	LEVEL TRANSMITTER
LV	LEVEL CONTROL OR ON/OFF VALVE
LX	ELEMENT CONTROLLED BY LEVEL
LY	LEVEL SIGNAL CONVERT, I/P, OR SOLN

TEMPERATURE INSTRUMENTS

TAH	TEMPERATURE ALARM HIGH
TAL	TEMPERATURE ALARM LOW
TC	TEMPERATURE CONTROLLER
TE	TEMPERATURE ELEMENT
TG	TEMPERATURE GAUGE
TI	TEMPERATURE INDICATOR
TIC	TEMP INDICATING CONTROLLER
TIT	TEMP INDICATING TRANSMITTER
TSH	TEMPERATURE SWITCH HIGH
TSL	TEMPERATURE SWITCH LOW
TT	TEMPERATURE TRANSMITTER
TV	TEMP CONTROL OR ON/OFF VALVE
TX	ELEMENT CONTROLLED BY TEMP
TY	TEMP SIGNAL CONVERT, I/P, OR SOLN

ELECTRICAL ABBREVIATIONS

JB	JUNCTION BOX
MCP	MAIN CONTROL PANEL
RIO	REMOTE I/O PANEL
PP	POWER PANEL
VFD	VARIABLE FREQUENCY DRIVE
HOA	HAND-OFF-AUTO

ANALYTICAL INSTRUMENTS

AAH	ANALYTICAL ALARM HIGH
AAL	ANALYTICAL ALARM LOW
AE	ANALYTICAL ELEMENT
AI	ANALYTICAL INDICATOR
AIC	ANAL INDICATING CONTROLLER
AIT	ANAL INDICATING TRANSMITTER
ASH	ANALYTICAL SWITCH HIGH
ASL	ANALYTICAL SWITCH LOW
AT	ANALYTICAL TRANSMITTER
AX	ELEMENT CONTROLLED BY ANALYTICAL
AY	ANALYTICAL SIGNAL CONVERT, I/P, OR SOL

MISCELLANEOUS INSTRUMENTS

HS	HAND SWITCH
HI	HAND SWITCH POSITION INDICATOR
II	CURRENT INDICATOR
QQI	TOTALIZER INDICATOR
SC	SPEED CONTROLLER
SI	SPEED INDICATOR
YA	MOTOR ALARM
YC	MOTOR CONTROL
YI	MOTOR ON/OFF INDICATOR
ZIC	SWITCH CLOSE INDICATOR
ZIO	SWITCH OPEN INDICATOR
ZSC	POSITION SWITCH CLOSED
ZSO	POSITION SWITCH OPEN
ZT	POSITION TRANSMITTER
ZI	POSITION INDICATOR

VALVES & EQUIPMENT

AC	AIR COMPRESSOR
ARV	AIR RELEASE VALVE
AS	AIR SUPPLY
B	BLOWER
BT	BULK TOTE
CBD	COARSE BUBBLE DIFFUSER
CV	CHECK VALVE
ED	EDUCTOR
F	FILTER
FBD	FINE BUBBLE DIFFUSER
FL	FAIL LAST (DEFAULT IF NOT SHOWN)
FC	FAIL CLOSED
FO	FAIL OPEN
FQG	CALIBRATION COLUMN
H	HEATER
HCV	HAND CONTROL VALVE
HTR	HEATER
HV	HAND VALVE
M	MOTOR
MX	MIXER
P	PUMP
RT	RESIN TRAP
ST	SPILL TANK
STR	STRAINER
T	TANK
UV	ULTRAVIOLET
HV	HAND VALVE
MV	MULTI FUNCTION VALVE

OTHER ABBREVIATIONS

CAP	CAPACITANCE
CIP	CLEAN-IN-PLACE
COND	CONDUCTIVITY
DO2	DISSOLVED OXYGEN
ESP	EMERGENCY STOP
IA	INSTRUMENT AIR
I/P	CURRENT TO PNEUMATIC CONVERTER
ORP	OXIDATION REDUCTION POTENTIAL
pH	HYDROGEN ION
RES	RESISTIVITY
RTD	RESISTANCE TEMP DETECTOR
SOL	SOLENOID
SP	SET POINT
uS	MICROSIEMENS
MIT	MEMBRANE INTEGRITY TEST

DRAWING REVISION

REV	DATE (DD/MM/YYYY)	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
01	13/05/2020	MODIFIED PER COMMENTS, MODIFIED INTERCONNECTION WITH MAIN PLANT	G.B.	R.D.	R.D.	A.M.
00	04/23/2020	INITIAL RELEASE	Y.D.	R.D.	H.C.	A.M.

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MELIADINE STP EXPANSION

83 M3/DAY

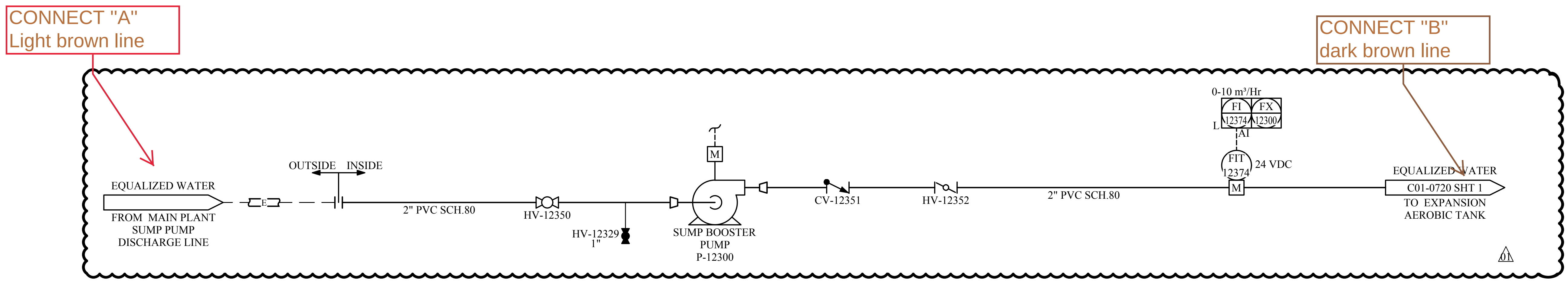
TITLE: PIPING AND INSTRUMENTATION DIAGRAMS LEGEND

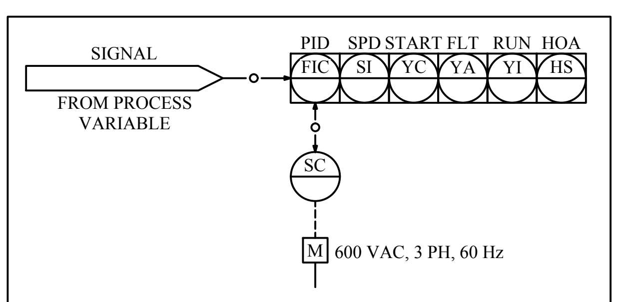
SCALE: N/A

DRAWING NUMBER: 20C1131-C01-0001

SHEET: 1 of 1

REVISION: 01





TYPICAL PUMP MOTOR (WITH VFD)

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0.XX: ±0.015
ANGLES: ±0.5°
HOLE SIZES: ±1/32"
HOLE CENTERS: ±1/32"
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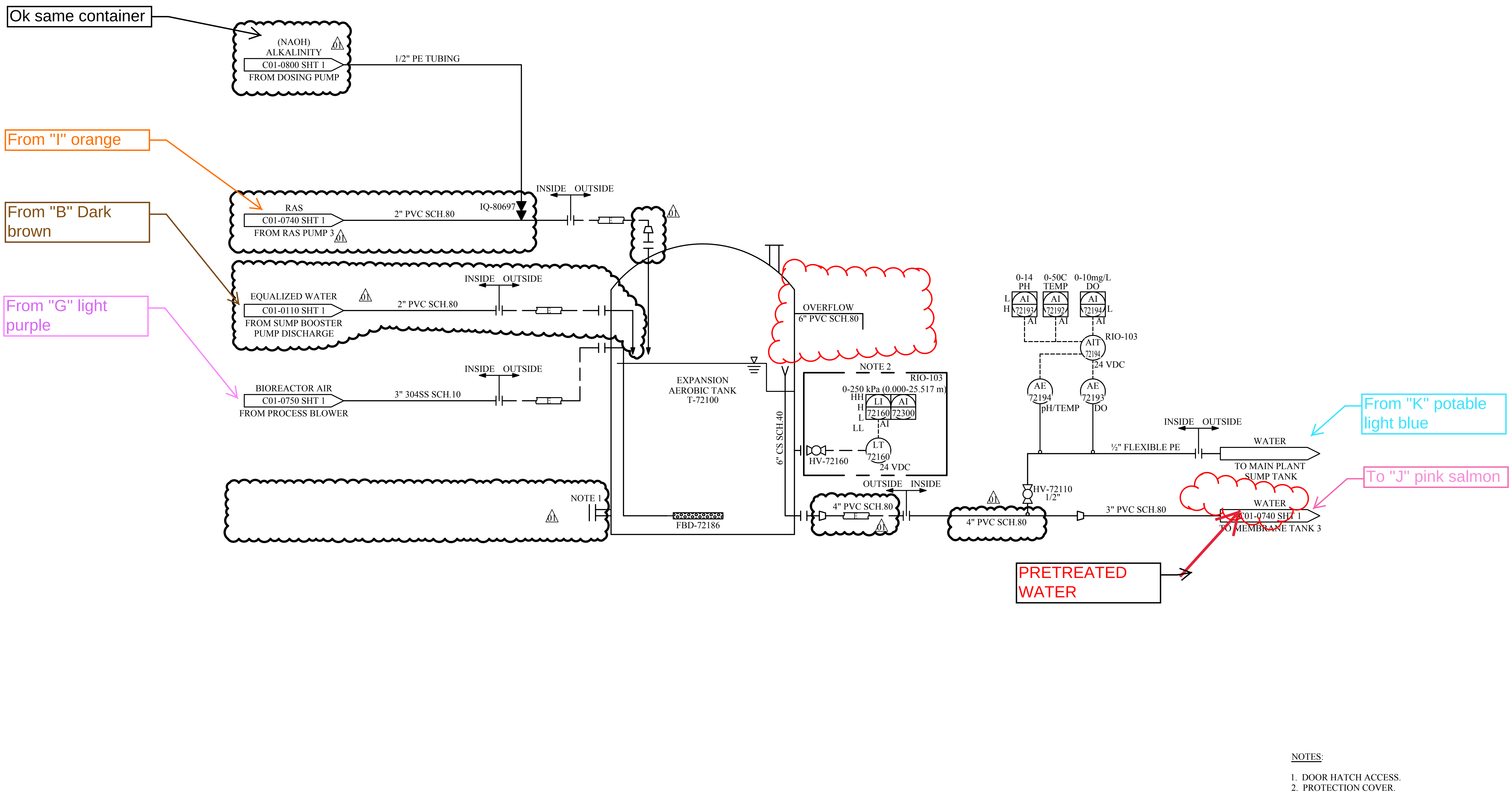
MELIADINE STP EXPANSION

83 M3/DAY

TITLE:
SUMP BOOSTER PUMP
PIPING & INSTRUMENTATION DIAGRAM

SCALE: N/A
DRAWING NUMBER: 20C1131-C01-0110
REVISION: 01
SHEET: 1 of 1



NOTES:

1. DOOR HATCH ACCESS.
2. PROTECTION COVER.

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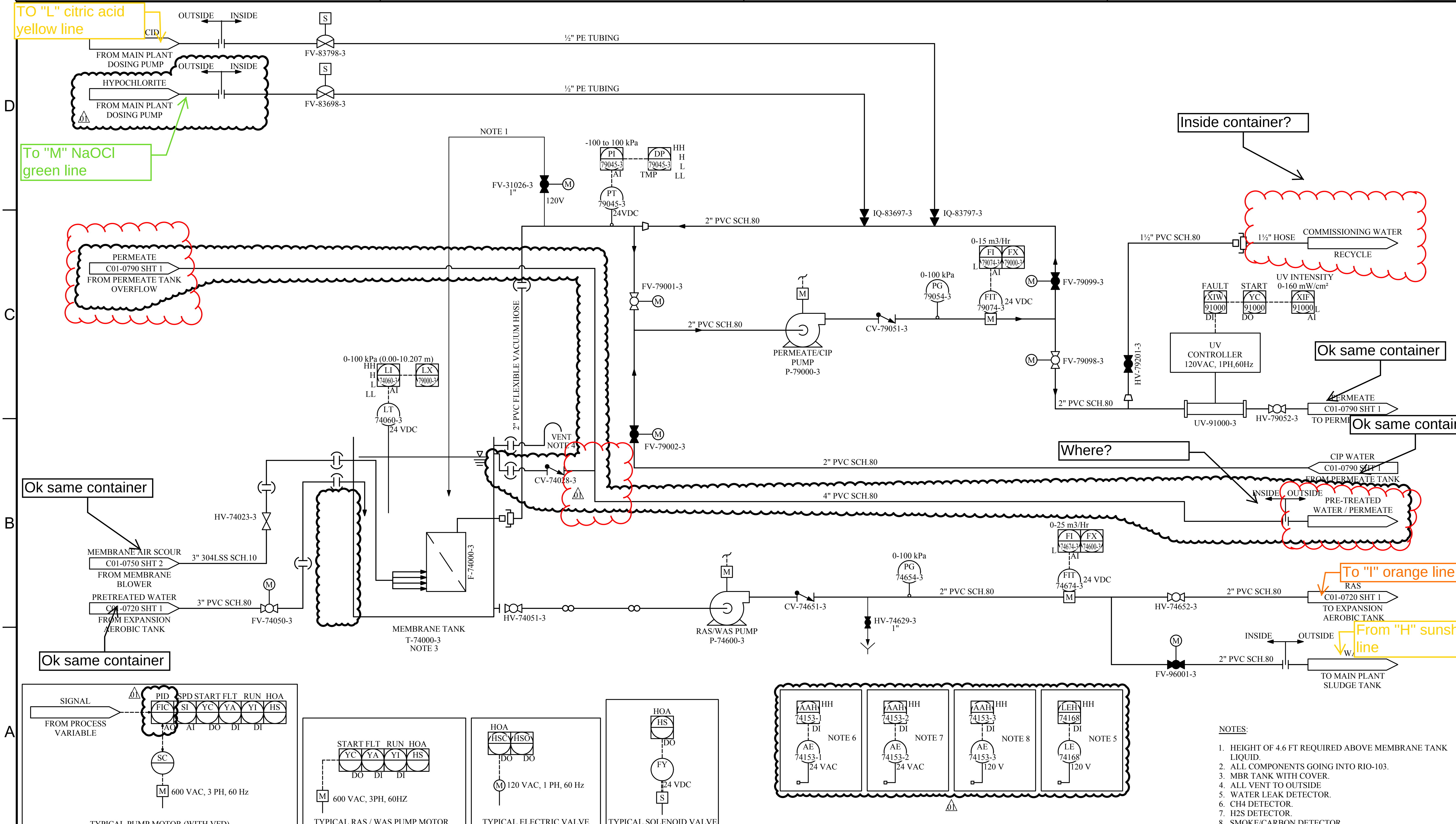
MELIADINE STP EXPANSION

83 M3/DAY

TITLE:
PIPING AND INSTRUMENTATION
PROCESS & INSTRUMENTATION DIAGRAM

SCALE: N/A
DRAWING NUMBER: 20C1131-C01-0720
REVISION: 01
SHEET: 1 of 1



NOTES:

1. HEIGHT OF 4.6 FT REQUIRED ABOVE MEMBRANE TANK LIQUID.
2. ALL COMPONENTS GOING INTO RIO-103.
3. MBR TANK WITH COVER.
4. ALL VENT TO OUTSIDE
5. WATER LEAK DETECTOR.
6. CH4 DETECTOR.
7. H2S DETECTOR.
8. SMOKE/CARBON DETECTOR.

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01	13/05/2020	MODIFIED PER COMMENTS, MODIFIED INTERCONNECTION WITH MAIN PLANT	G.B.	R.D.	R.D.	A.M.
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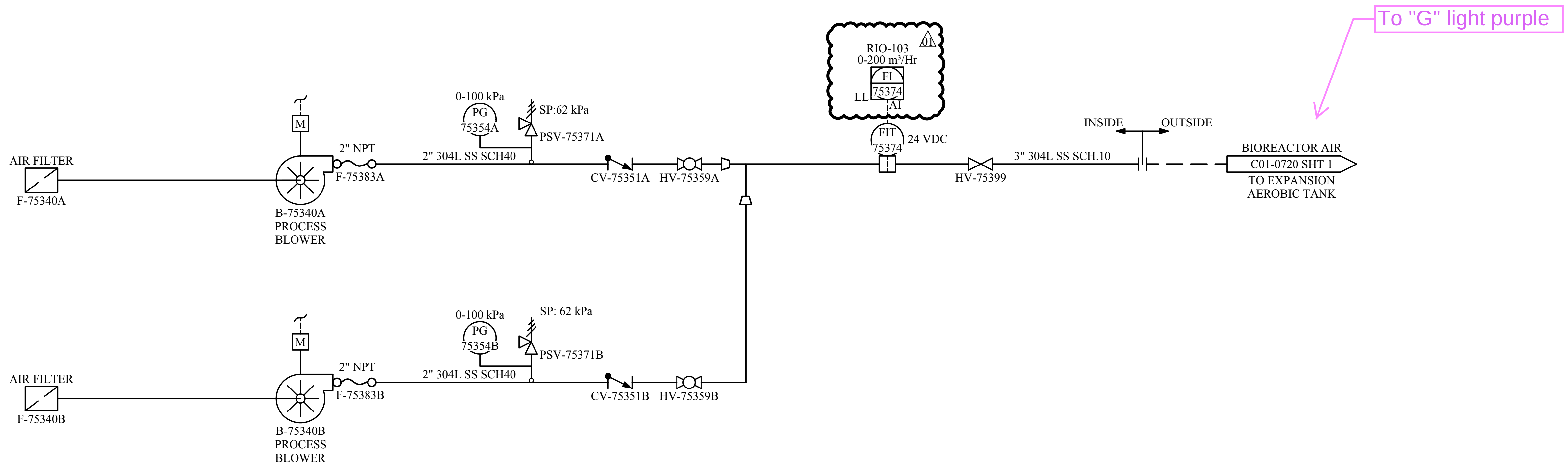
MELIADINE STP EXPANSION

83 M3/DAY

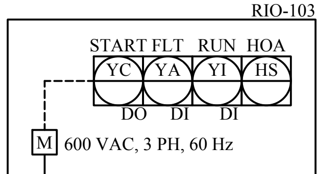
TITLE:
PIPING AND INSTRUMENTATION
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	20C1131-C01-0740	01

SHEET: 1 of 1



RIO-103



TYPICAL BLOWER MOTOR

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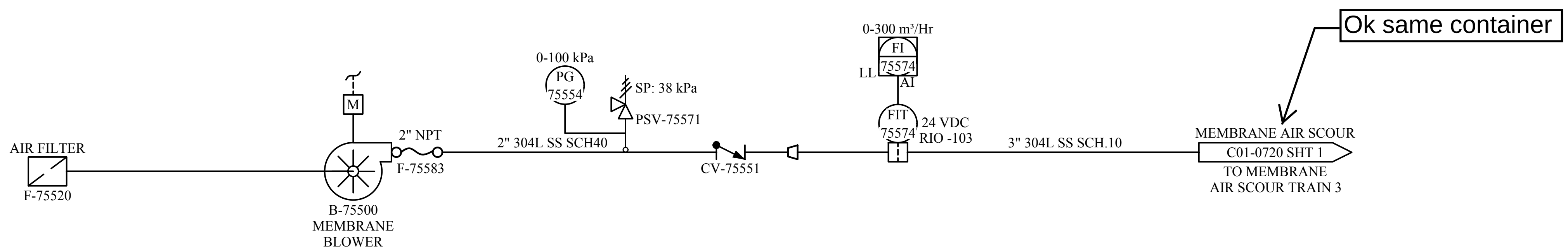
MELIADINE STP EXPANSION

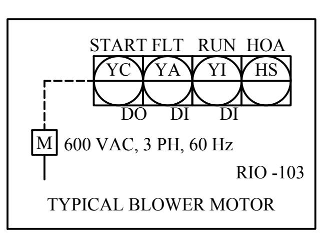
83 M3/DAY

TITLE:
PIPING AND INSTRUMENTATION
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	20C1131-C01-0750	01

SHEET: 1 of 2





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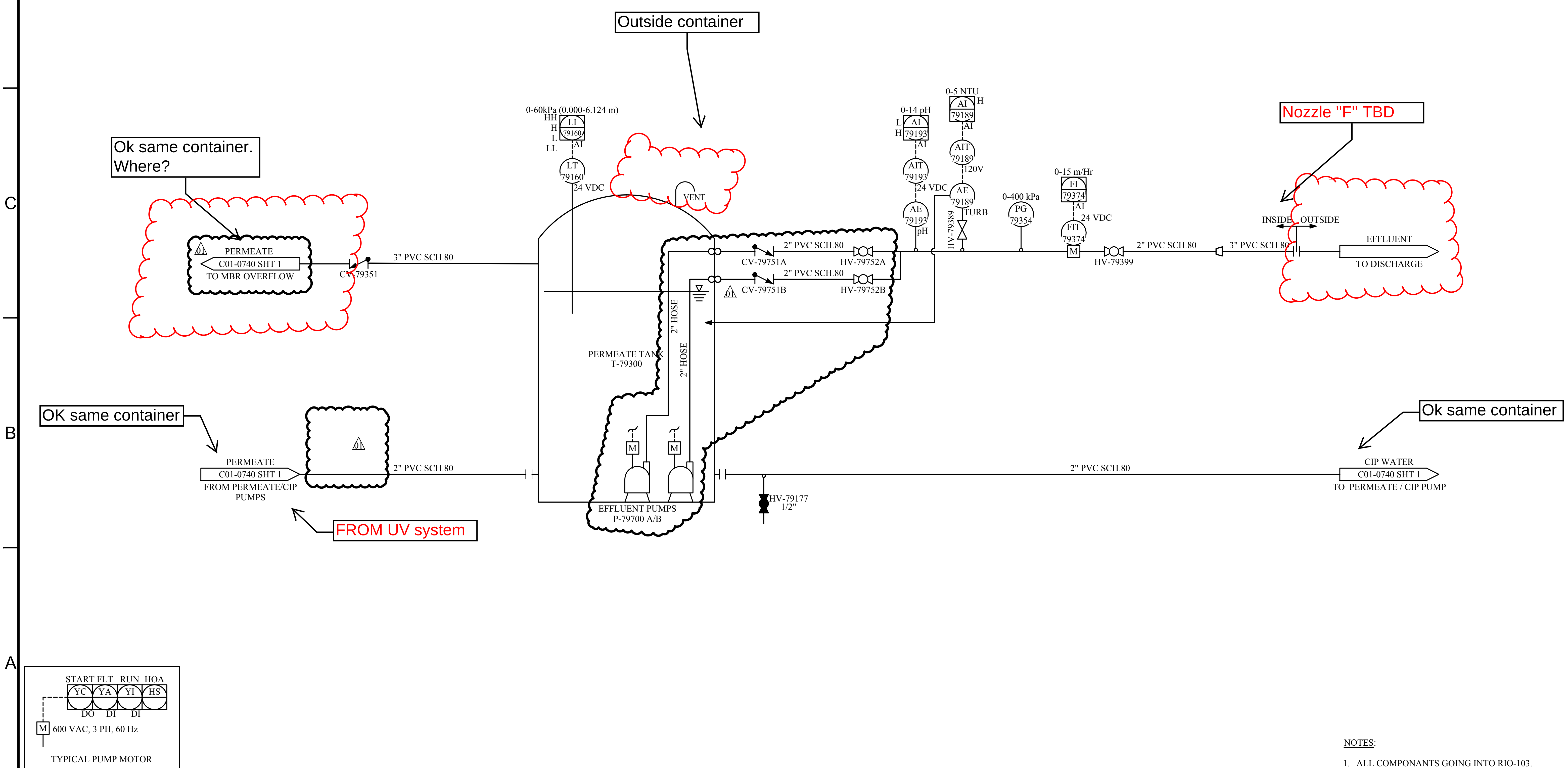
MELIADINE STP EXPANSION

83 M3/DAY

TITLE:
PIPING AND INSTRUMENTATION
PROCESS & INSTRUMENTATION DIAGRAM

SCALE: N/A
DRAWING NUMBER: 20C1131-C01-0750
SHEET: 2 of 2
REVISION 01



NOTES:

1. ALL COMPONANTS GOING INTO RIO-103.

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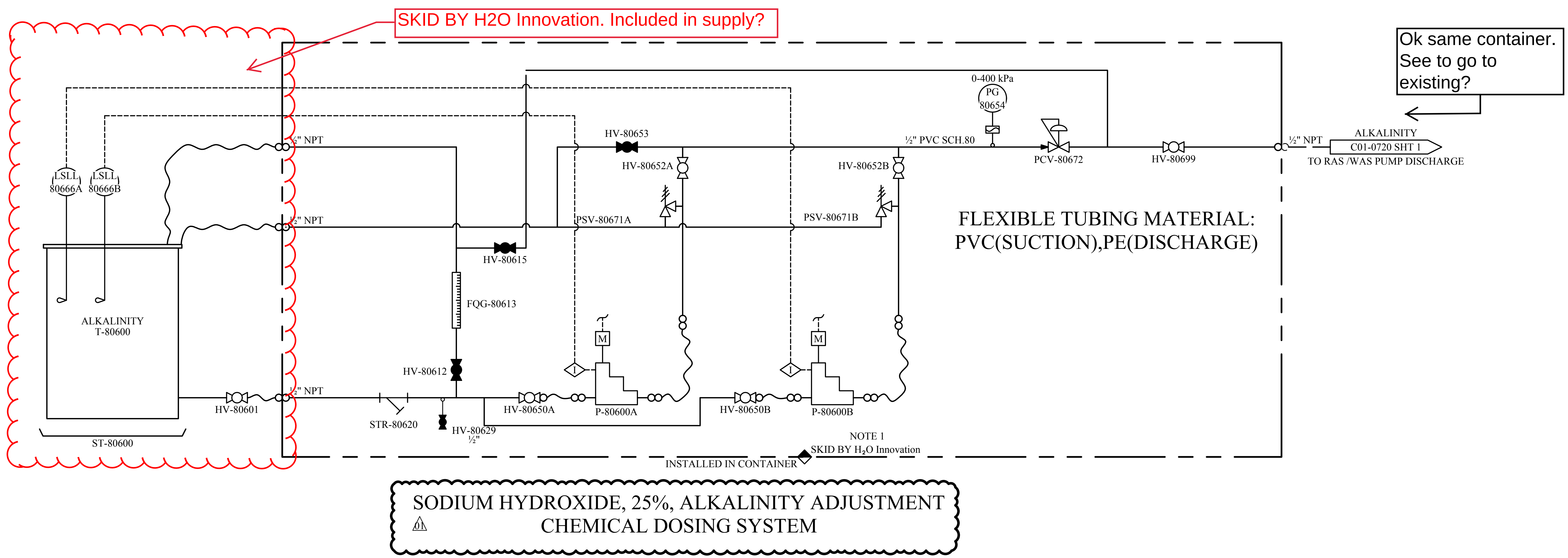
MELIADINE STP EXPANSION

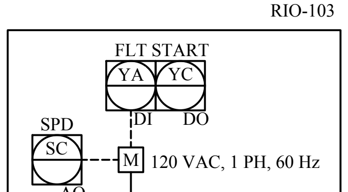
83 M3/DAY

TITLE: PIPING AND INSTRUMENTATION
PROCESS & INSTRUMENTATION DIAGRAM

SCALE: N/A
DRAWING NUMBER: 20C1131-C01-0790
REVISION: 01
SHEET: 1 of 1



RIO-103



TYPICAL PUMP MOTOR

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DRAWING REVISION

REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
01	13/05/2020	MODIFIED PER COMMENTS, MODIFIED INTERCONNECTION WITH MAIN PLANT	G.B.	R.D.	R.D.	A.M.
00	04/23/2020	INITIAL RELEASE	Y.D.	R.D.	H.C.	A.M.

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MELIADINE STP EXPANSION

83 M3/DAY

TITLE:
PIPING AND INSTRUMENTATION
PROCESS & INSTRUMENTATION DIAGRAM

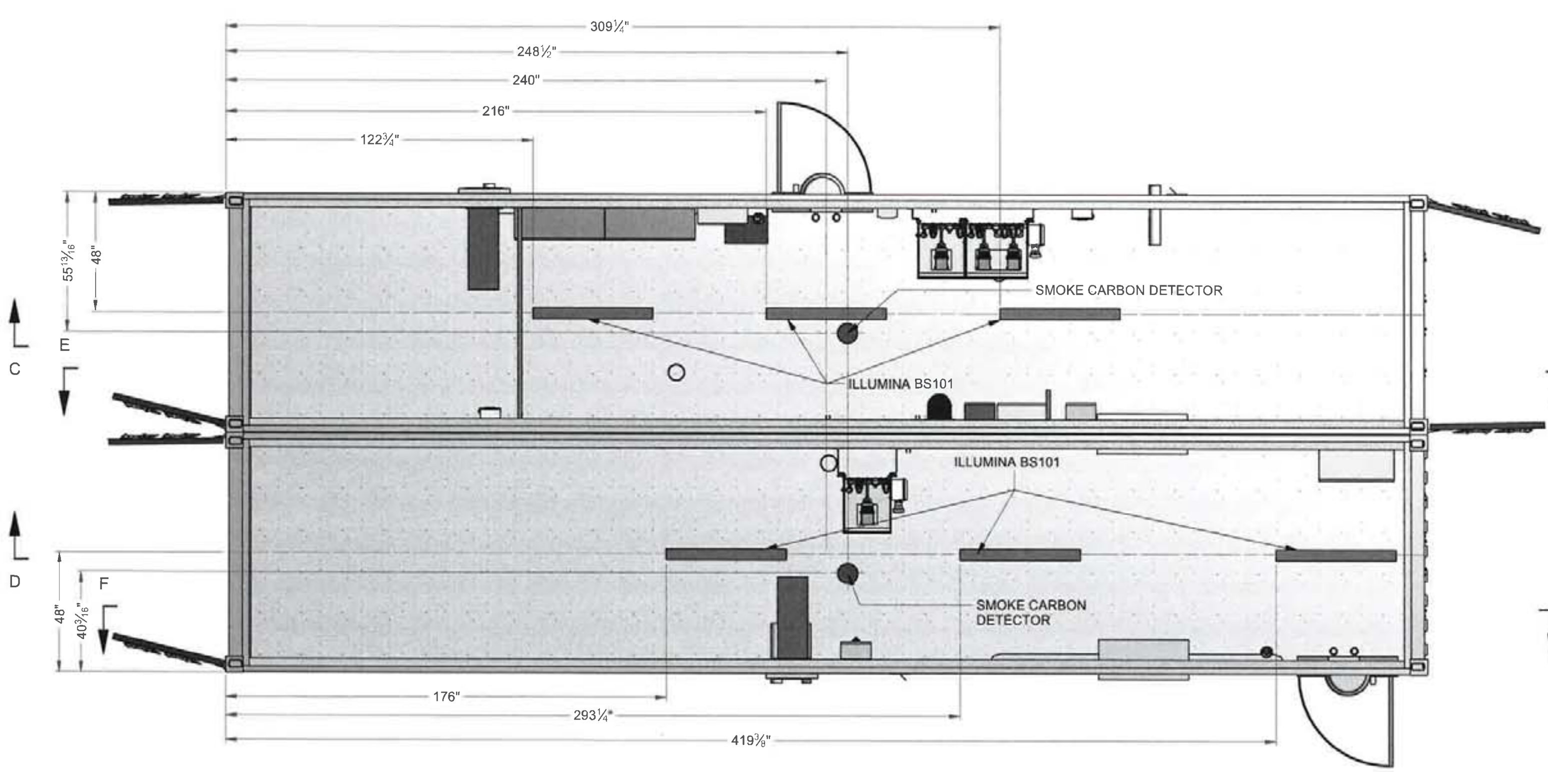
SCALE: N/A

DRAWING NUMBER: 20C1131-C01-0800 SHT 2

SHEET: 1 of 1

REVISION 01

Appendix B : Current STP



TOP VIEW
ÉLECTRICAL COMPONENTS

AGNICO EAGLE — Vendor Document Status

1 ☐ Proceed to next submission and status.
2 ☐ Proceed with exceptions as noted to next submission and status.
3 ☐ Do not proceed. Revise as noted and resubmit next submission and status.
4 ☐ Complete, no further submission required.

By: Date:

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Agnico Eagle No. 6515-C-250-010-275-DGM-0015 R: Sub001

DOCUMENT FOR INFORMATION

PROFESSIONAL ENGINEER — R. DESGAGNÉ — LICENSEE — NT/NU — REGISTERED

26/10/2016

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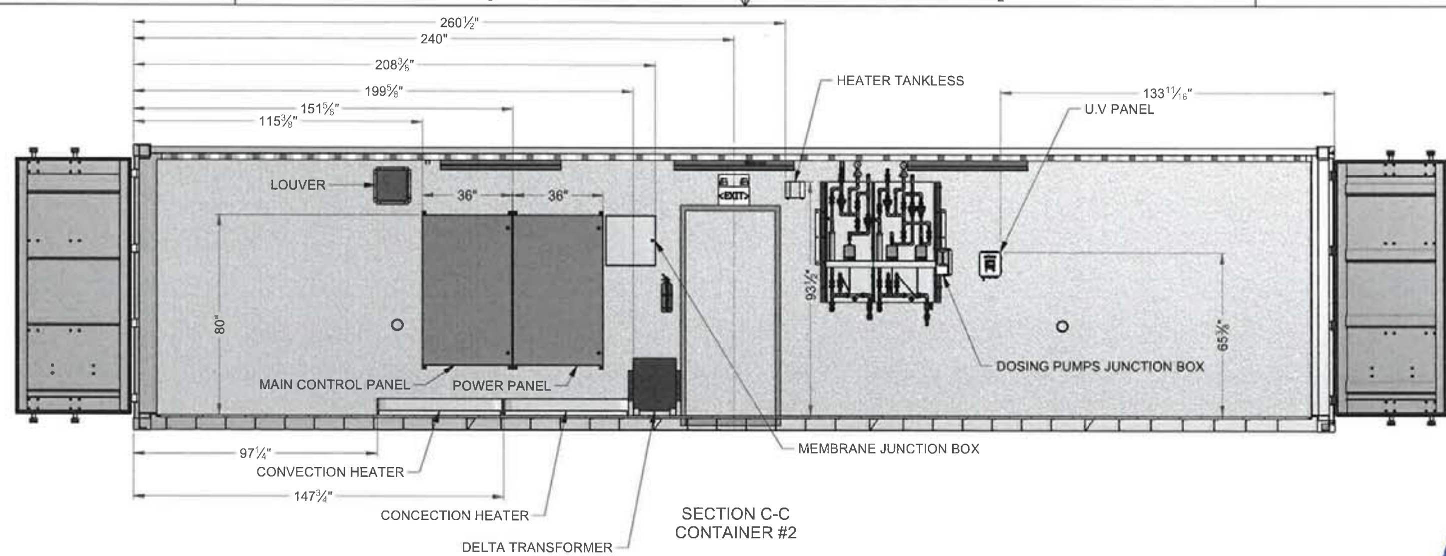
MELIADINE, NU

216 m3/day

TITLE: WASTE WATER CONTAINER
ELECTRICAL GENERAL ARRANGEMENT

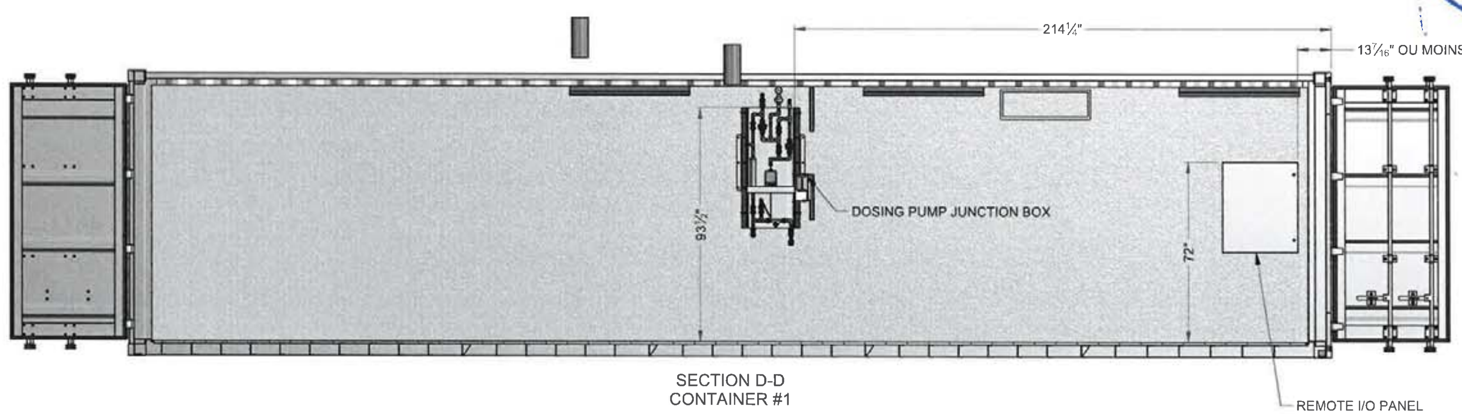
SCALE:	DRAWING NUMBER:	REVISION
N.T.S	U65875-B01-0002	00

SHEET: 1 OF 9



SECTION C-C
CONTAINER #2

REGISTERED PROFESSIONAL ENGINEER
R. DESGAGNÉ
LICENSEE
NT/NU
26/10/2016



SECTION D-D
CONTAINER #1

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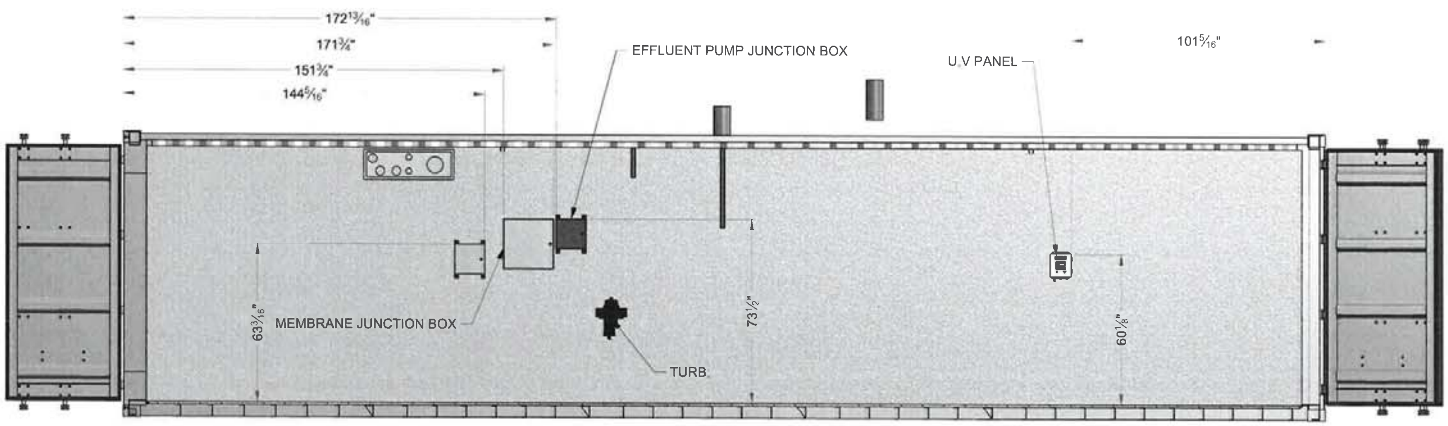
MELIADINE, NU

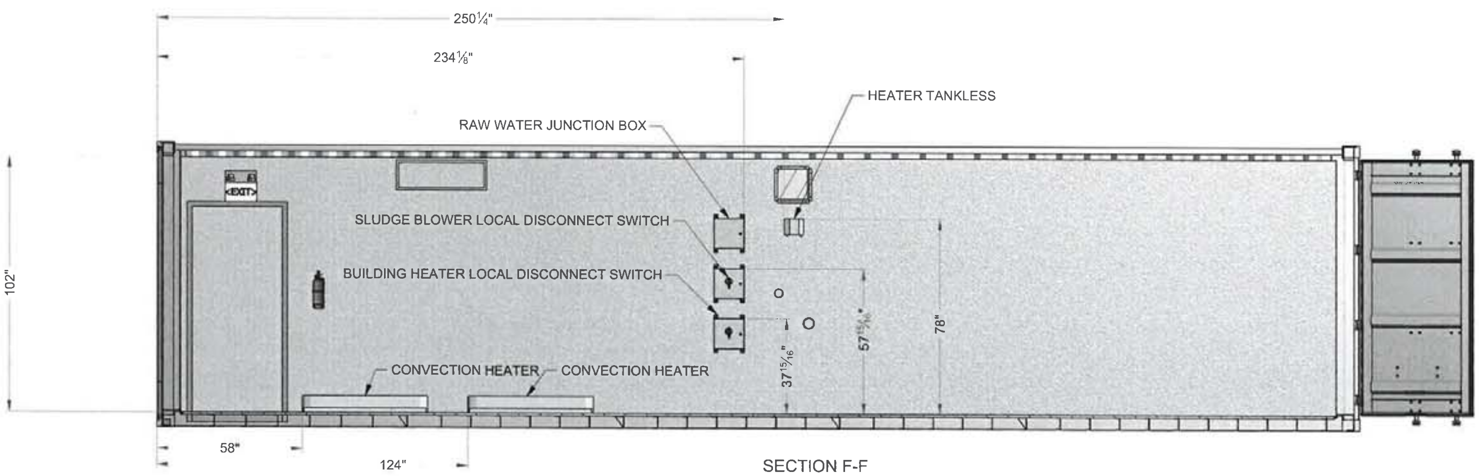
216 m3/day

TITLE:
WASTE WATER CONTAINER
ELECTRICAL GENERAL ARRANGEMENT

SCALE:	DRAWING NUMBER	REVISION
N.T.S	U65875-B01-0002	00



SECTION E-E
CONTAINER #2



SECTION F-F
CONTAINER #1

R. DESGAGNÉ
26/10/2016

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TITLE: WASTE WATER CONTAINER
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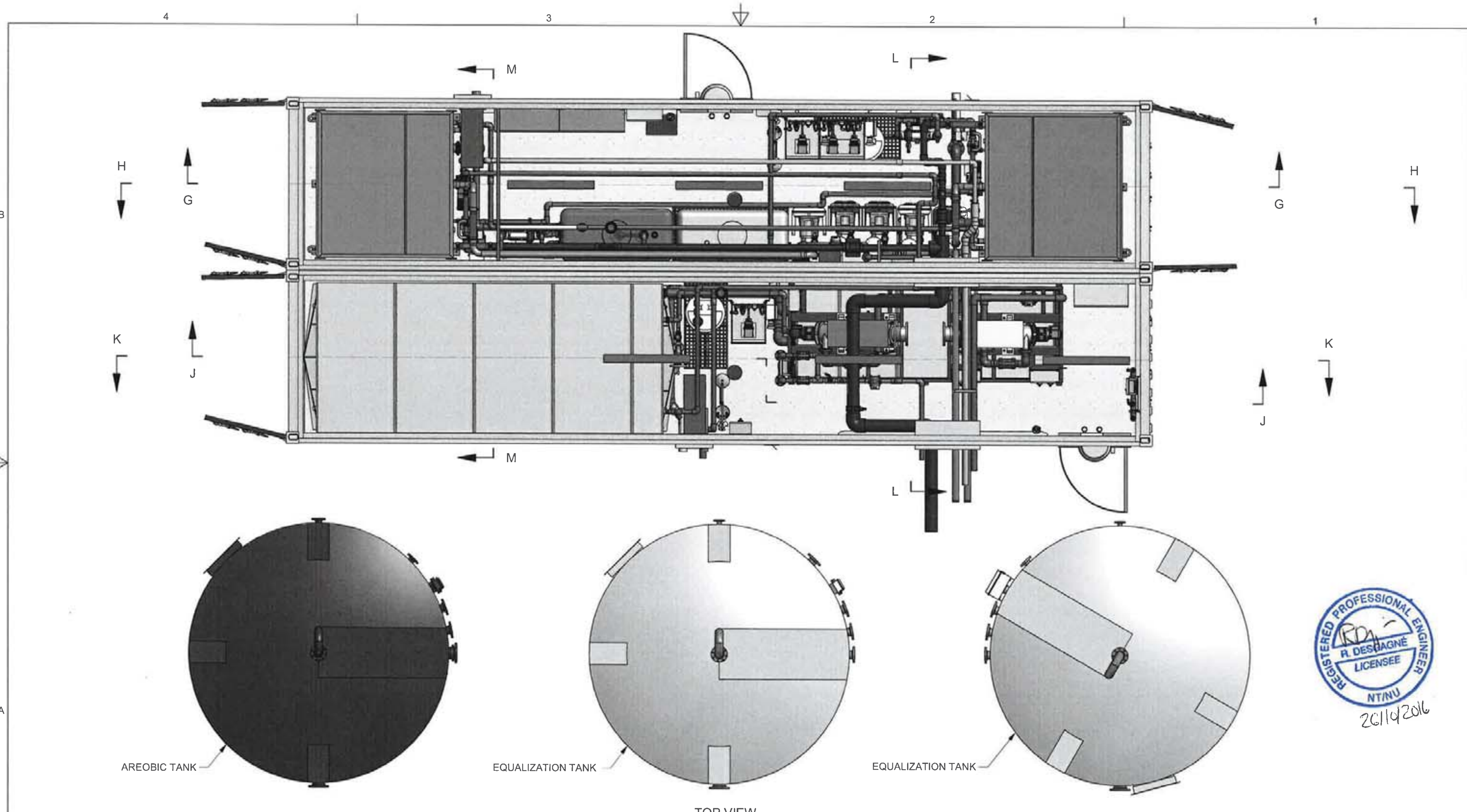
SCALE:	DRAWING NUMBER:	REVISION
N.T.S	U65875-B01-0002	00



TOP VIEW

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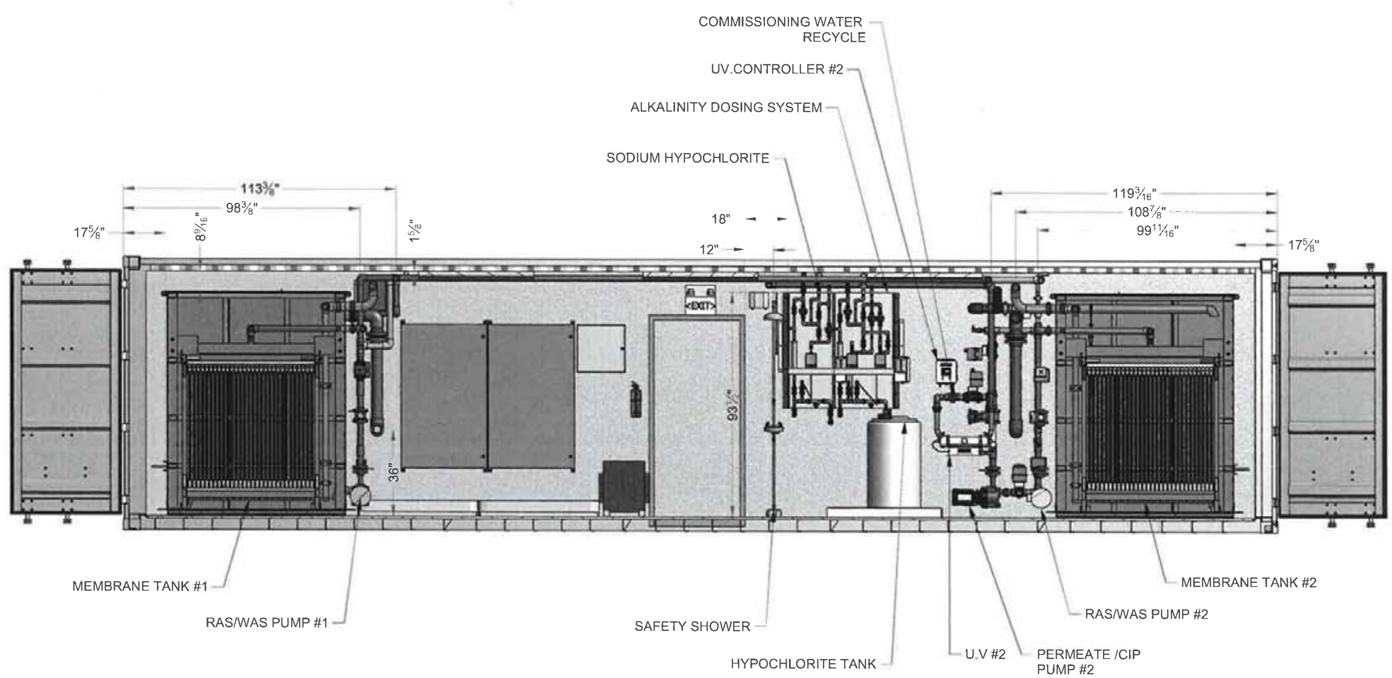

SECTION G-G
CONTAINER #2

REGISTERED PROFESSIONAL ENGINEER
R. DESGAGNÉ
LICENSEE
NT/NU

26/10/2016

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TITLE:
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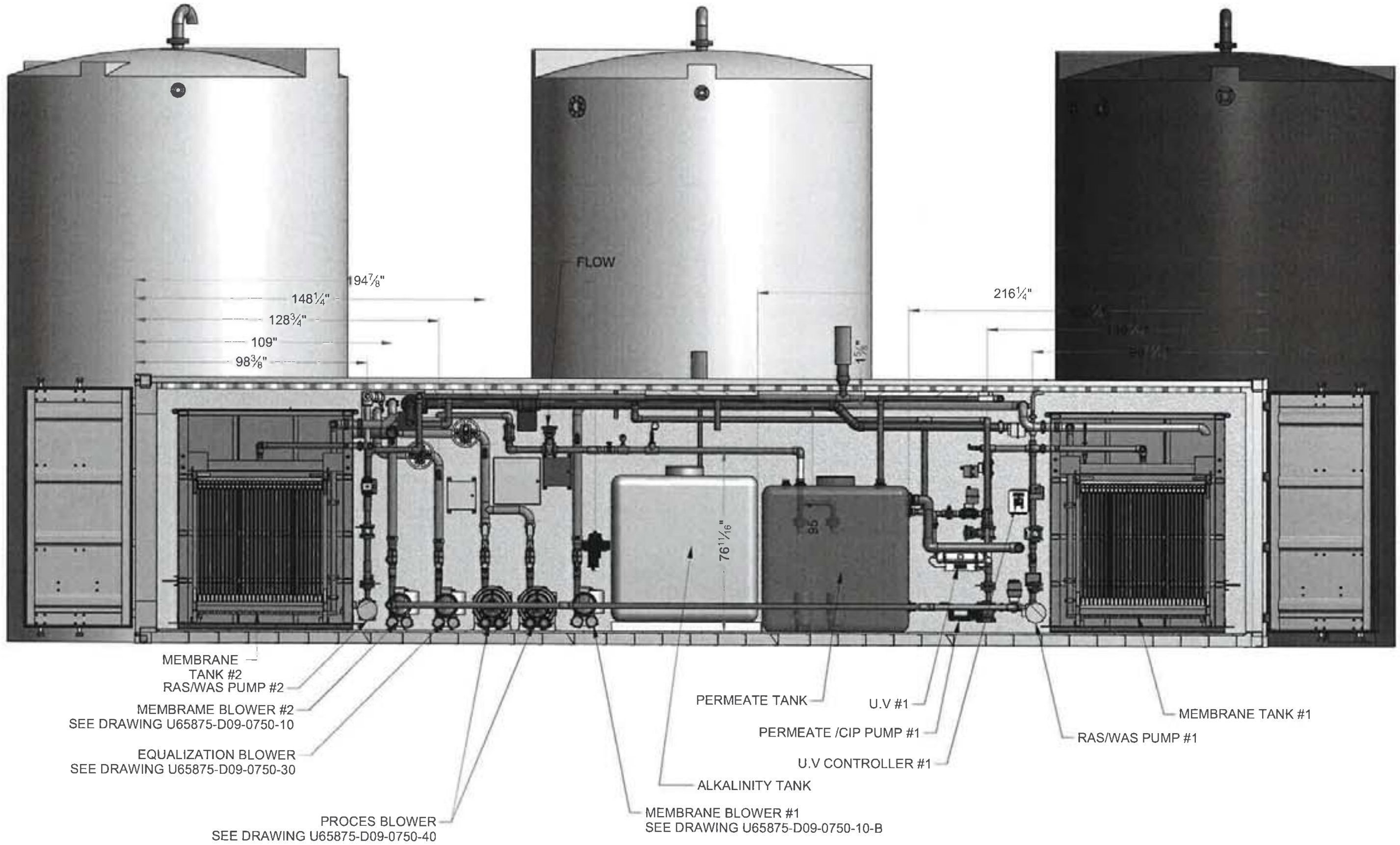

SECTION H-H
CONTAINER #2

REGISTERED PROFESSIONAL ENGINEER
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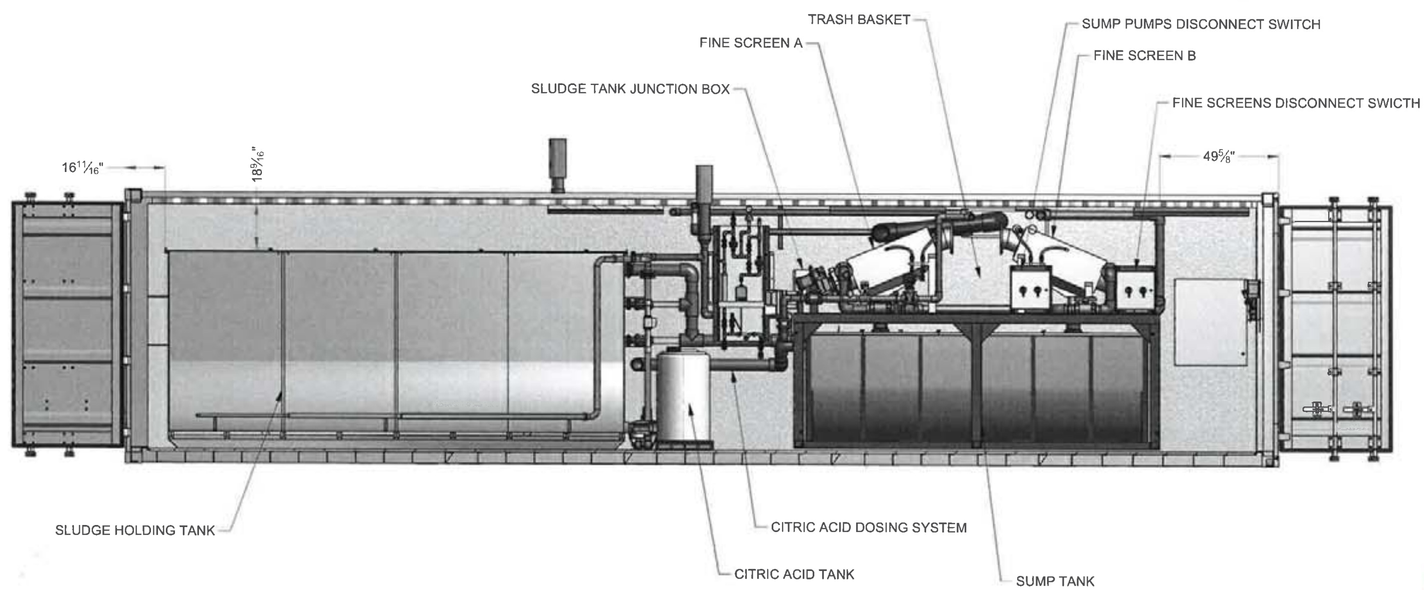

SECTION J-J
CONTAINER #1

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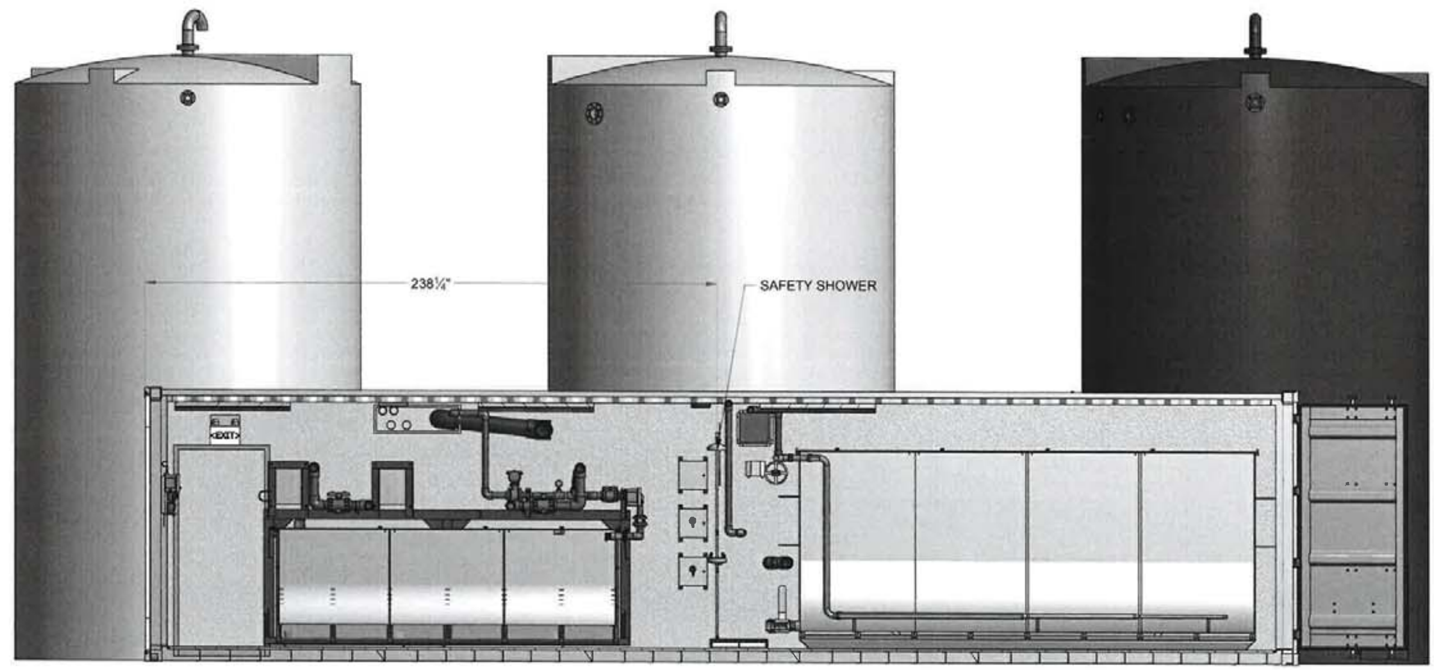

SECTION K-K
CONTAINER #1

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ELECTRICAL GENERAL ARRANGEMENT

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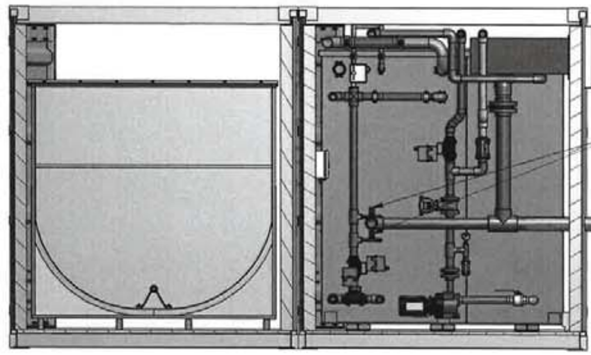
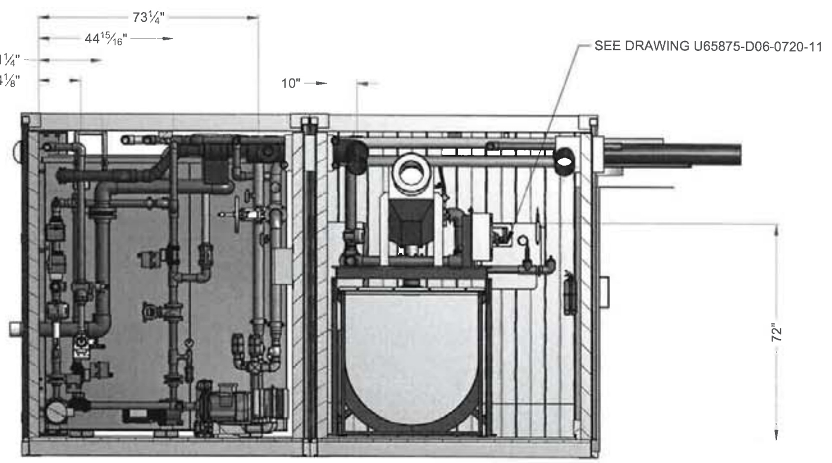


SECTION M-M



SECTION L-L

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LICENSEE
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26/10/2016

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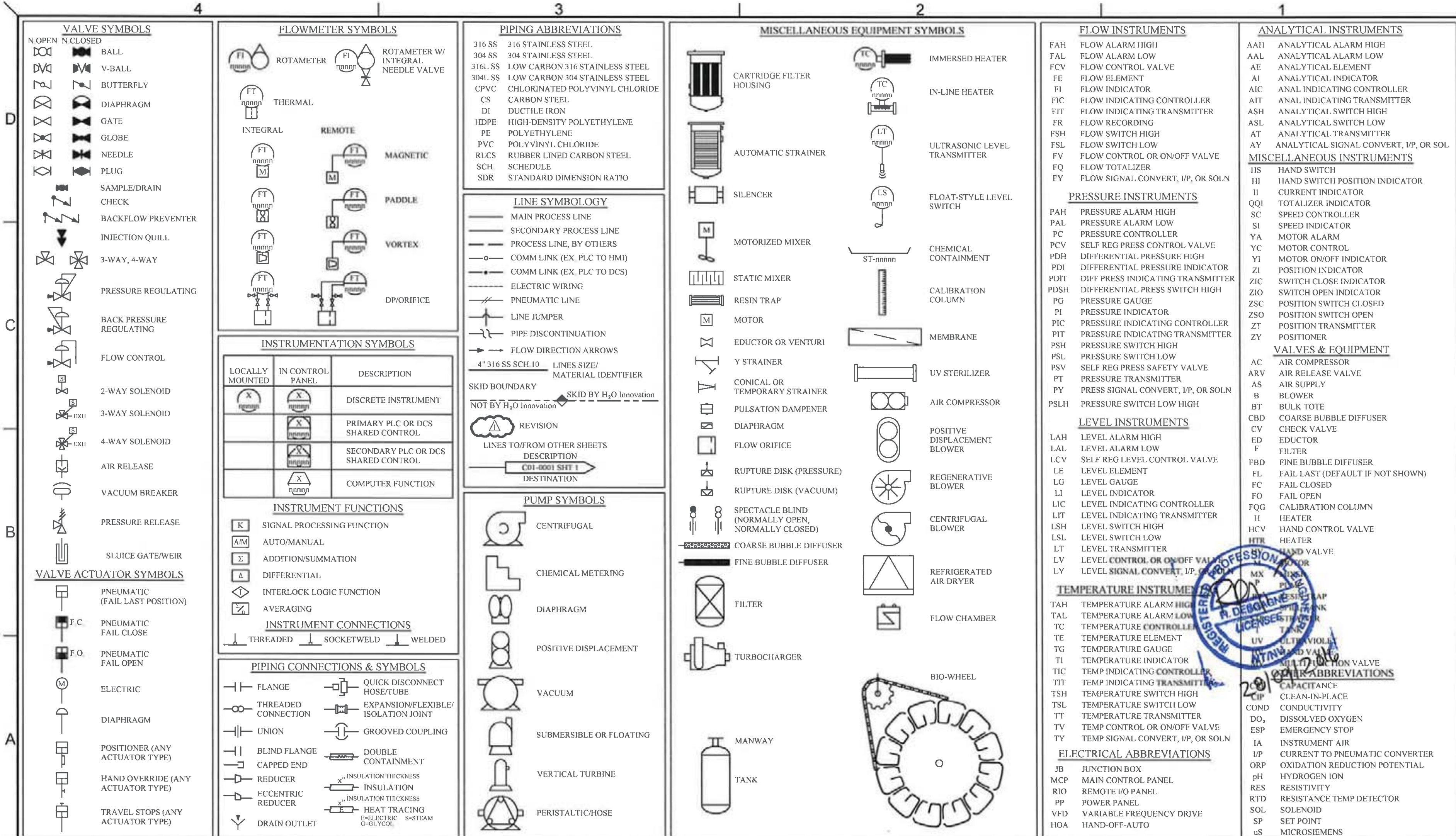

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03	09/08/2016	AS BUILT	M.P.	S.B.	R.D.	A.M.
02	25/07/2016	REVISED AS PER COMMENTS	M.P.	S.B.	R.D.	A.M.
01	29/06/2016	AS PER COMMENTS	M.P.	S.B.	R.D.	A.M.
00	13/06/2016	INITIAL RELEASE	M.P.	S.B.	R.D.	A.M.

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WTP CONTAINERIZED UNIT

TITLE: PROCESS AND INSTRUMENTION DIAGRAMS LEGEND

SCALE: N/A

DRAWING NUMBER: P65873-C01-0001

SHEET: 1 of 1

REVISION: 03

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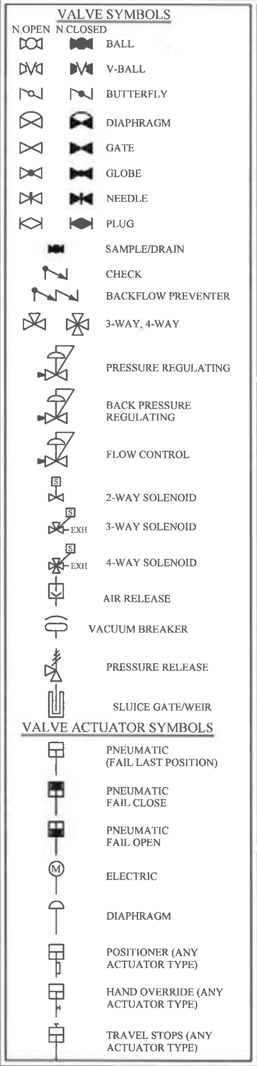
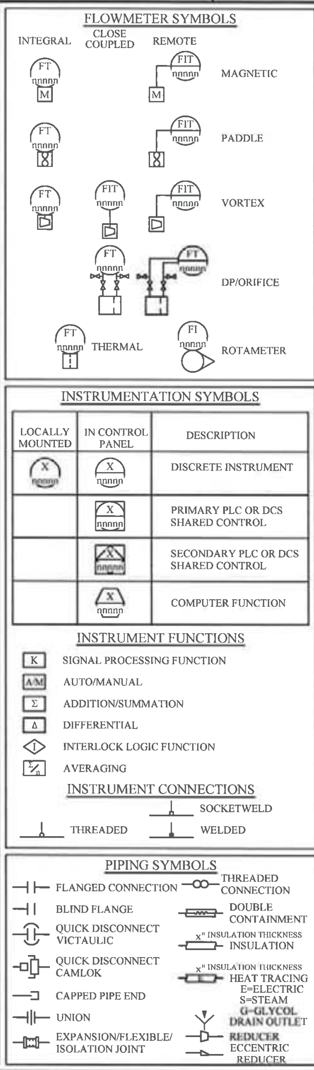
6515-C-250-010-205-PID-0002 Sub002

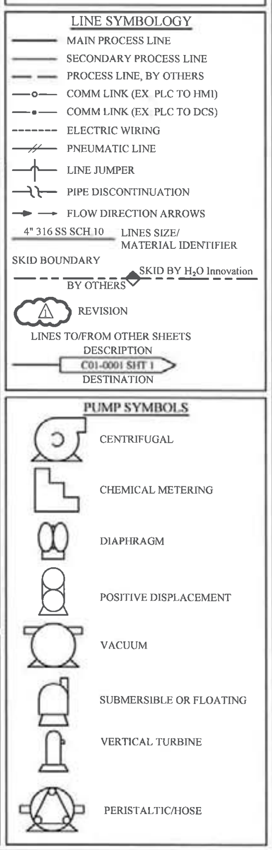
DOCUMENT FOR INFORMATION

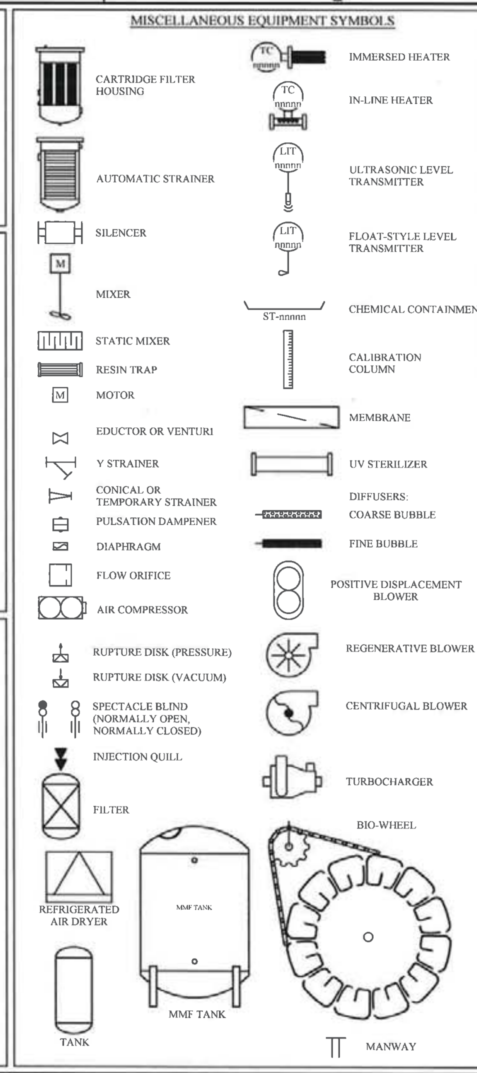




PIPING ABBREVIATIONS

316 SS	316 STAINLESS STEEL
304 SS	304 STAINLESS STEEL
316L SS	LOW CARBON 316 STAINLESS STEEL
304L SS	LOW CARBON 304 STAINLESS STEEL
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL
DI	DUCTILE IRON
HDPE	HIGH-DENSITY POLYETHYLENE
PE	POLYETHYLENE
PVC	POLYVINYL CHLORIDE
RLCS	RUBBER LINED CARBON STEEL
SCH.	SCHEDULE
SDR	STANDARD DIMENSION RATIO
CML	CEMENT MORTAR LINED





FLOW INSTRUMENTS

FAH	FLOW ALARM HIGH
FAL	FLOW ALARM LOW
FCV	FLOW CONTROL VALVE
FE	FLOW ELEMENT
FI	FLOW INDICATOR
FIC	FLOW INDICATING CONTROLLER
FIT	FLOW INDICATING TRANSMITTER
FR	FLOW RECORDING
FSH	FLOW SWITCH HIGH
FSL	FLOW SWITCH LOW
FV	FLOW CONTROL OR ON/OFF VALVE
FQ	FLOW TOTALIZER
FX	ELEMENT CONTROLLED BY FLOW
FY	FLOW SIGNAL CONVERT, I/P, OR SOLN

PRESSURE INSTRUMENTS

PAH	PRESSURE ALARM HIGH
PAL	PRESSURE ALARM LOW
PC	PRESSURE CONTROLLER
PCV	SELF REG PRESS CONTROL VALVE
PDH	DIFFERENTIAL PRESSURE HIGH
PDI	DIFFERENTIAL PRESSURE INDICATOR
PDIT	DIFF PRESS INDICATING TRANSMITTER
PDSH	DIFFERENTIAL PRESS SWITCH HIGH
PG	PRESSURE GAUGE
PI	PRESSURE INDICATOR
PIC	PRESSURE INDICATING CONTROLLER
PIT	PRESSURE INDICATING TRANSMITTER
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
PSV	SELF REG PRESS SAFETY VALVE
PT	PRESSURE TRANSMITTER
PX	ELEMENT CONTROLLED BY PRESSURE
PY	PRESS SIGNAL CONVERT, I/P, OR SOLN
PSLH	PRESSURE SWITCH LOW HIGH

LEVEL INSTRUMENTS

LAH	LEVEL ALARM HIGH
LAL	LEVEL ALARM LOW
LCV	SELF REG LEVEL CONTROL VALVE
LE	LEVEL ELEMENT
LG	LEVEL GAUGE
LI	LEVEL INDICATOR
LIC	LEVEL INDICATING CONTROLLER
LIT	LEVEL INDICATING TRANSMITTER
LSH	LEVEL SWITCH HIGH
LSL	LEVEL SWITCH LOW
LT	LEVEL TRANSMITTER
LV	LEVEL CONTROL OR ON/OFF VALVE
LX	ELEMENT CONTROLLED BY LEVEL
LY	LEVEL SIGNAL CONVERT, I/P, OR SOL

TEMPERATURE INSTRUMENTS

TAH	TEMPERATURE ALARM HIGH
TAL	TEMPERATURE ALARM LOW
TC	TEMPERATURE CONTROLLER
TE	TEMPERATURE ELEMENT
TG	TEMPERATURE GAUGE
TI	TEMPERATURE INDICATOR
TIC	TEMP INDICATING CONTROLLER
TIT	TEMP INDICATING TRANSMITTER
TSH	TEMPERATURE SWITCH HIGH
TSL	TEMPERATURE SWITCH LOW
TT	TEMPERATURE TRANSMITTER
TV	TEMP CONTROL OR ON/OFF VALVE
TX	ELEMENT CONTROLLED BY TEMP
TY	TEMP SIGNAL CONVERT, I/P, OR SOLN

ELECTRICAL ABBREVIATIONS

JB	JUNCTION BOX
MCP	MAIN CONTROL PANEL
RIO	REMOTE I/O PANEL
PP	POWER PANEL
VFD	VARIABLE FREQUENCY DRIVE
HOA	HAND-OFF-AUTO

ANALYTICAL INSTRUMENTS

AAH	ANALYTICAL ALARM HIGH
AAL	ANALYTICAL ALARM LOW
AE	ANALYTICAL ELEMENT
AI	ANALYTICAL INDICATOR
AIC	ANAL INDICATING CONTROLLER
AIT	ANAL INDICATING TRANSMITTER
ASH	ANALYTICAL SWITCH HIGH
ASL	ANALYTICAL SWITCH LOW
AT	ANALYTICAL TRANSMITTER
AX	ELEMENT CONTROLLED BY ANALYTICAL
AY	ANALYTICAL SIGNAL CONVERT, I/P, OR SOL

MISCELLANEOUS INSTRUMENTS

HS	HAND SWITCH
HI	HAND SWITCH POSITION INDICATOR
II	CURRENT INDICATOR
QQI	TOTALIZER INDICATOR
SC	SPEED CONTROLLER
SI	SPEED INDICATOR
YA	MOTOR ALARM
YC	MOTOR CONTROL
YI	MOTOR ON/OFF INDICATOR
ZIC	SWITCH CLOSE INDICATOR
ZIO	SWITCH OPEN INDICATOR
ZSC	POSITION SWITCH CLOSED
ZSO	POSITION SWITCH OPEN
ZT	POSITION TRANSMITTER
ZI	POSITION INDICATOR

VALVES & EQUIPMENT

AC	AIR COMPRESSOR
ARV	AIR RELEASE VALVE
AS	AIR SUPPLY
B	BLOWER
BT	BULK TOTE
CBD	COARSE BUBBLE DIFFUSER
CV	CHECK VALVE
ED	EDUCTOR
F	FILTER
FBD	FINE BUBBLE DIFFUSER
FL	FAIL LAST (DEFAULT IF NOT SHOWN)
FC	FAIL CLOSED
FO	FAIL OPEN
FQG	CALIBRATION COLUMN
H	HEATER
HCV	HAND CONTROL VALVE
HTR	HEATER
HV	HAND VALVE
[illegible]	[illegible]
MX	MIXER
P	PUMP
RT	RESIN TRAP
[illegible]	[illegible]
STR	STRAINER
T	TANK
UV	ULTRAVIOLET
HV	HAND VALVE
MV	MULTIFUNCTION VALVE

OTHER ABBREVIATIONS

CAP	CAPACITANCE
CIP	CLEAN-IN-PLACE
COND	CONDUCTIVITY
DO2	DISSOLVED OXYGEN
ESP	EMERGENCY STOP
IA	INSTRUMENT AIR
I/P	CURRENT TO PNEUMATIC CONVERTER
ORP	OXIDATION REDUCTION POTENTIAL
pH	HYDROGEN ION
RES	RESISTIVITY
RTD	RESISTANCE TEMP DETECTOR
SOL	SOLENOID
SP	SET POINT
uS	MICROSIEMENS
MIT	MEMBRANE INTEGRITY TEST

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DESGAGNE
LICENSEE
NT/NU
2016/12/…

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05	21/09/2016	REVISED AS BUILT	M.P.	H.S.	H.C.	R.D.
04	08/02/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
03	25/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
02	13/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
01	11/07/2016	CHANGE SUMP TANK BALL TO GATE VALVE,SOLENOID TO ELECTRIC VALVE,TURBIDITY METER TO 120V	M.P.	H.S.	H.C.	H.C.

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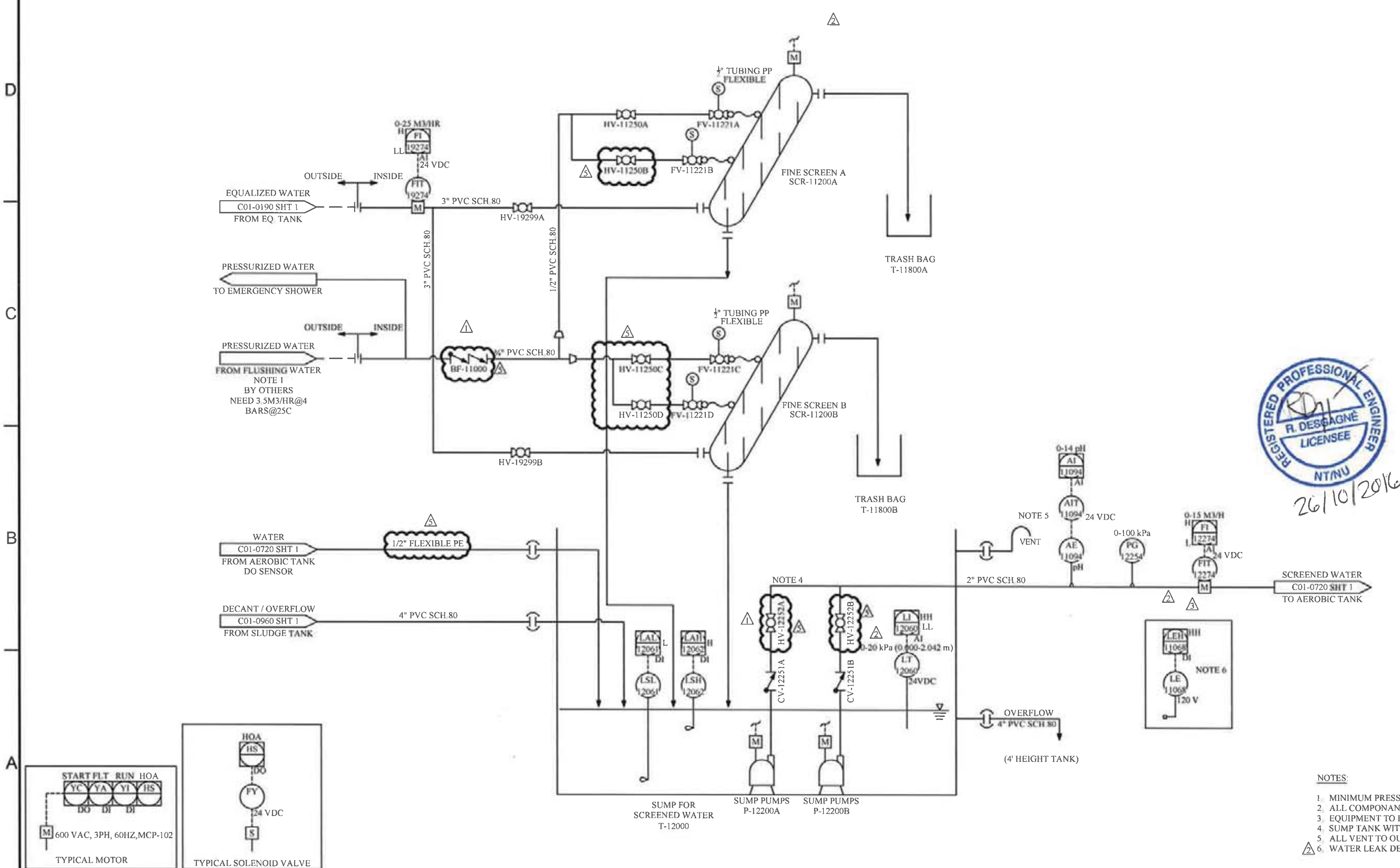
MELIADINE STP

216 M3/DAY

TITLE: PROCESS AND INSTRUMENTION DIAGRAMS LEGEND

SCALE	DRAWING NUMBER	REVISION
N/A	U65875--C01-0001	05

SHEET: 1 of 1



NOTES:

1. MINIMUM PRESSURE OF 40 PSIG REQUIRED.
2. ALL COMPONANTS GOING IN TO THE RIO-101.
3. EQUIPMENT TO BE PLACED IN CONTAINER #1.
4. SUMP TANK WITH COVER.
5. ALL VENT TO OUTSIDE.
6. WATER LEAK DETECTOR.

DRAWING REVISION

REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
05	21/09/2016	REVISED AS BUILT	M.P.	H.S.	H.C.	R.D.
04	08/02/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
03	25/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
02	13/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
01	11/07/2016	CHANGE SUMP TANK BALL TO GATE VALVE,SOLENOID TO ELECTRIC VALVE,TURBIDITY METER TO 120V	M.P.	H.S.	H.C.	H.C.

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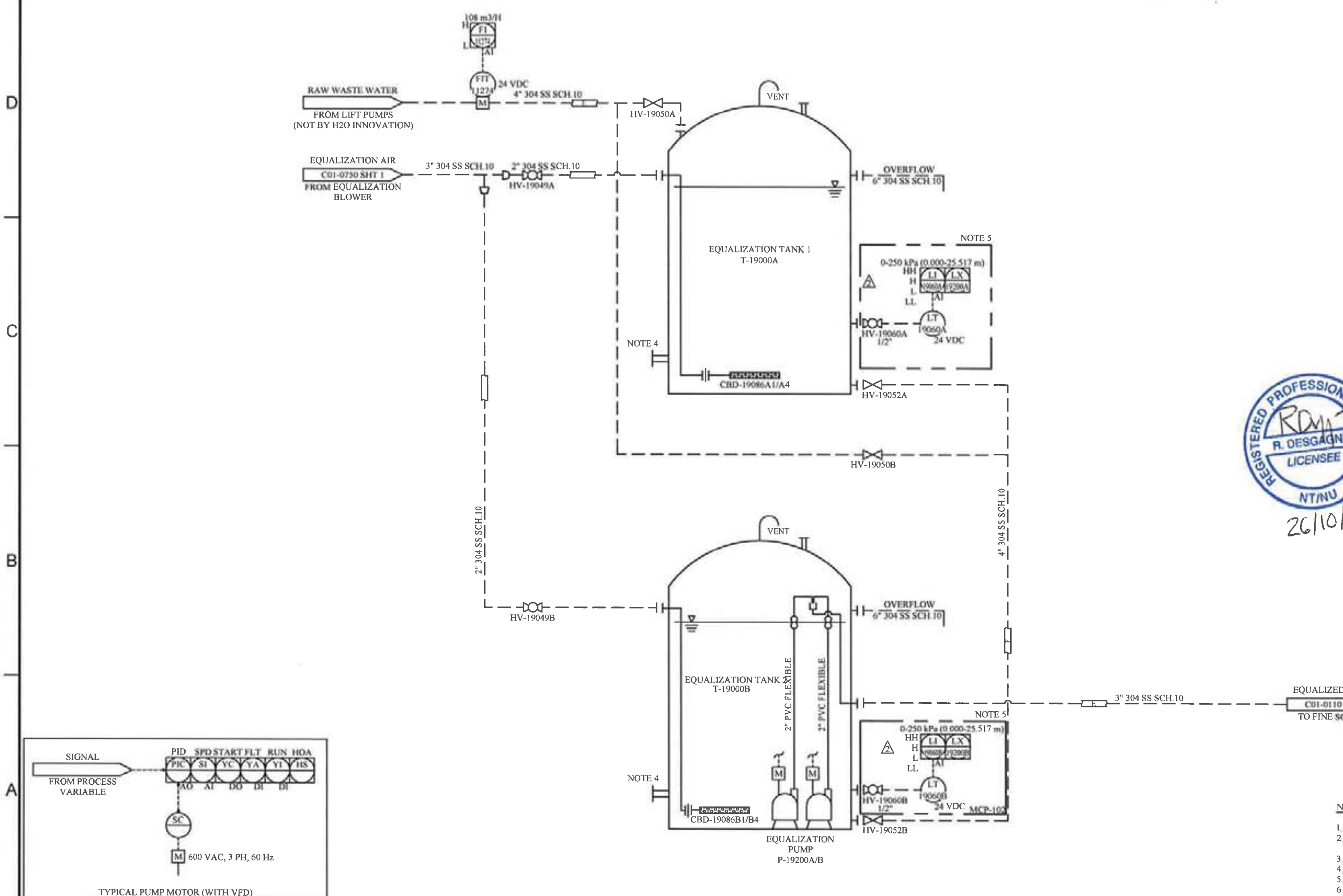
MELIADINE STP

216 M3/DAY

TITLE:
RAW WATER SCREENING
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	U65875-C01-0110	05

SHEET: 1 of 1



REGISTERED PROFESSIONAL ENGINEER
R. DESGAGNÉ
LICENSEE
NT/NU
26/10/2016

NOTES:

1. COVERT PROVIDE BUT NOT INSTALL.
2. GREASE TRAP TO BE INSTALLED UPSTREAM OF STP (SUPPLIED BY H2O INNOVATION, INSTALLED BY OTHERS)
3. THE JONCTION BOX IS HOOK ON THE EQUALIZATION TANK.
4. DOOR HATCH ACCESS.
5. PROTECTION COVER.
6. ALL COMPONANTS GOING INTO THE MCP-102

DRAWING REVISION

REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
05	21/09/2016	REVISED AS BUILT	M.P.	H.S.	H.C.	R.D.
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03	25/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
02	13/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
01	11/07/2016	CHANGE SUMP TANK BALL TO GATE VALVE,SOLENOID TO ELECTRIC VALVE,TURBIDITY METER TO 120V	M.P.	H.S.	H.C.	H.C.

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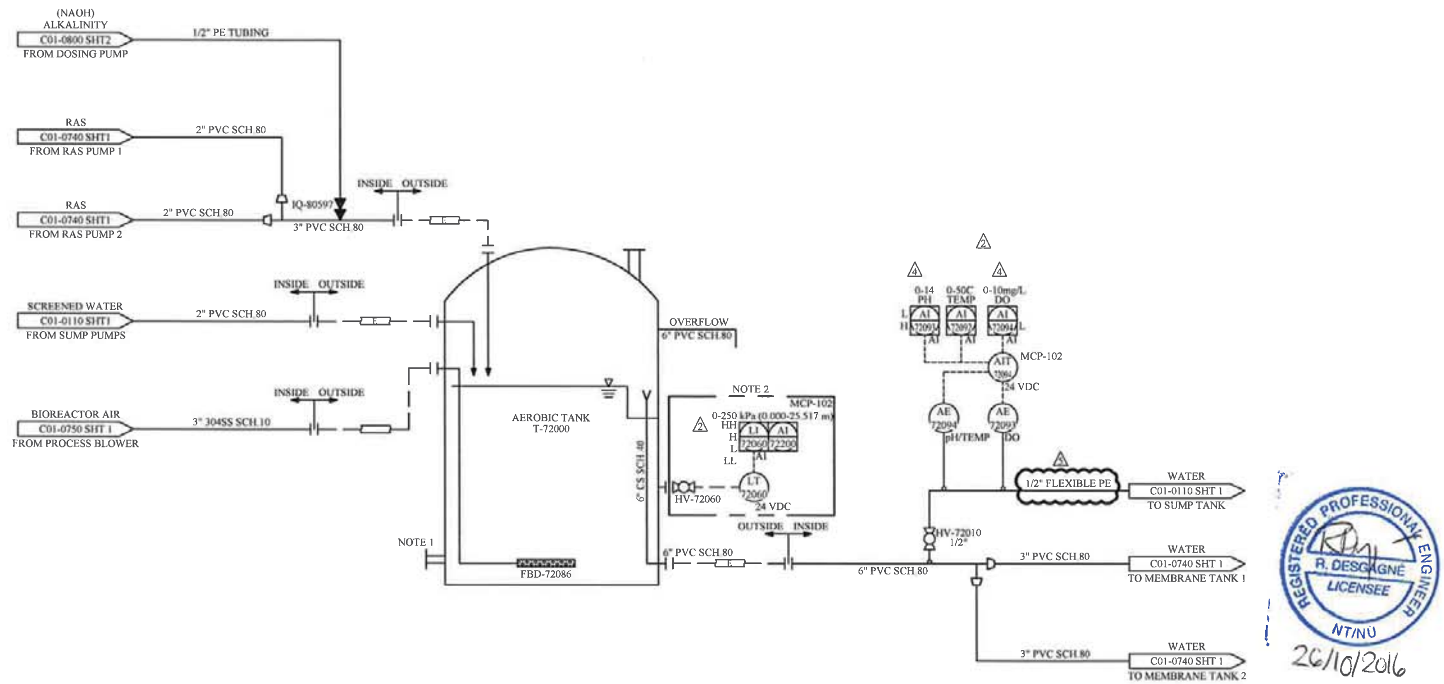
MELIADINE STP

216 M3/DAY

TITLE:
FEED WATER EQUALIZATION
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	U65875-C01-0190	05

SHEET: 1 of 1



NOTES:

1. DOOR HATCH ACCESS.
2. PROTECTION COVER.

DRAWING REVISION

REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
05	21/09/2016	REVISED AS BUILT	M.P.	H.S.	H.C.	R.D.
04	09/02/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
03	25/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
02	13/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
01	11/07/2016	CHANGE SUMP TANK BALL TO GATE VALVE, SOLENOID TO ELECTRIC VALVE, TURBIDITY METER TO 120V	M.P.	H.S.	H.C.	H.C.

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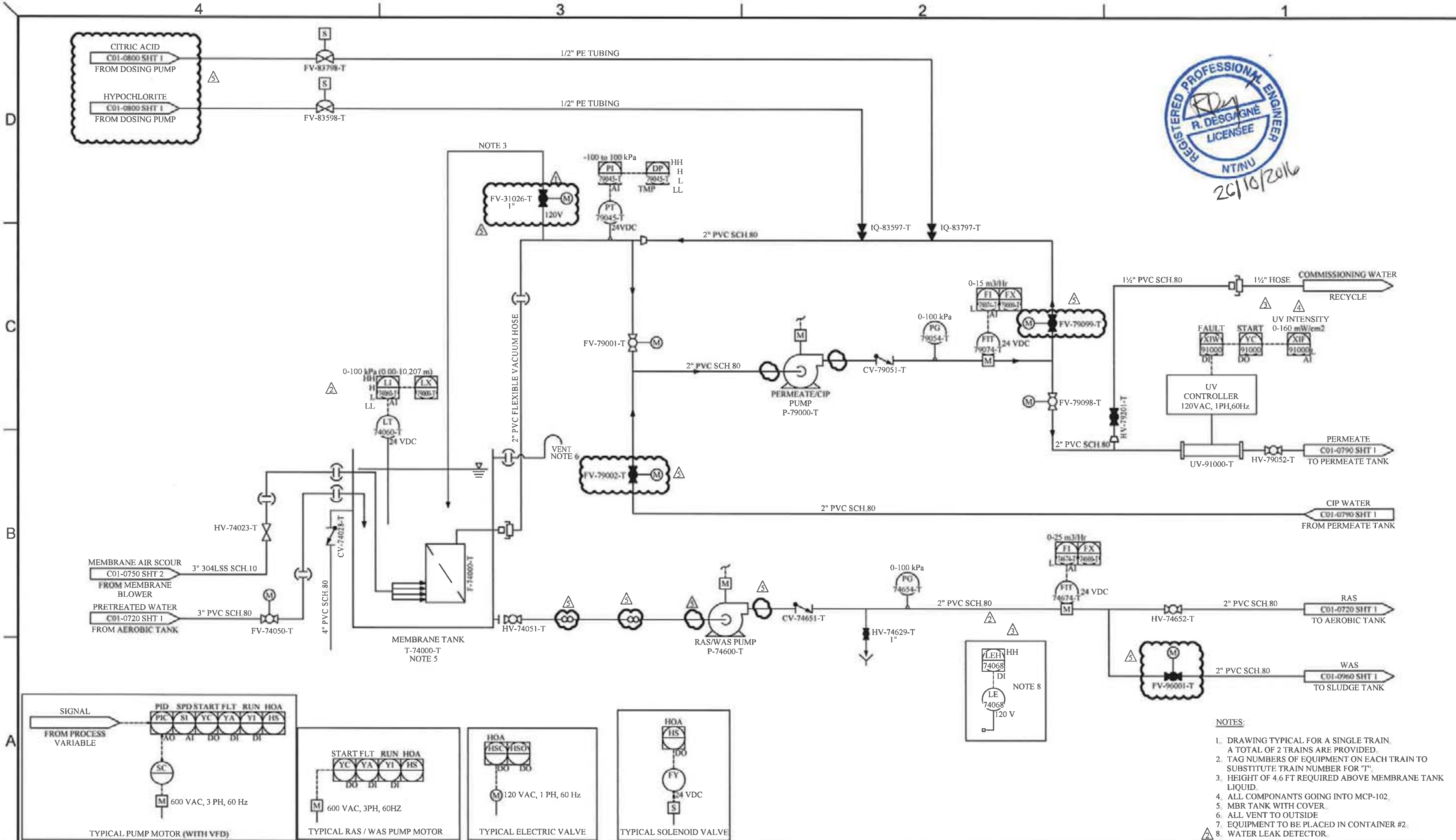
MELIADINE STP
216 M3/DAY

TITLE:
AEROBIC TANK
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	U65875-C01-0720	05

SHEET: 1 of 1



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03	25/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
02	13/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
01	11/07/2016	CHANGE SUMP TANK BALL TO GATE VALVE,SOLENOID TO ELECTRIC VALVE,TURBIDITY METER TO 120V	M.P.	H.S.	H.C.	H.C.

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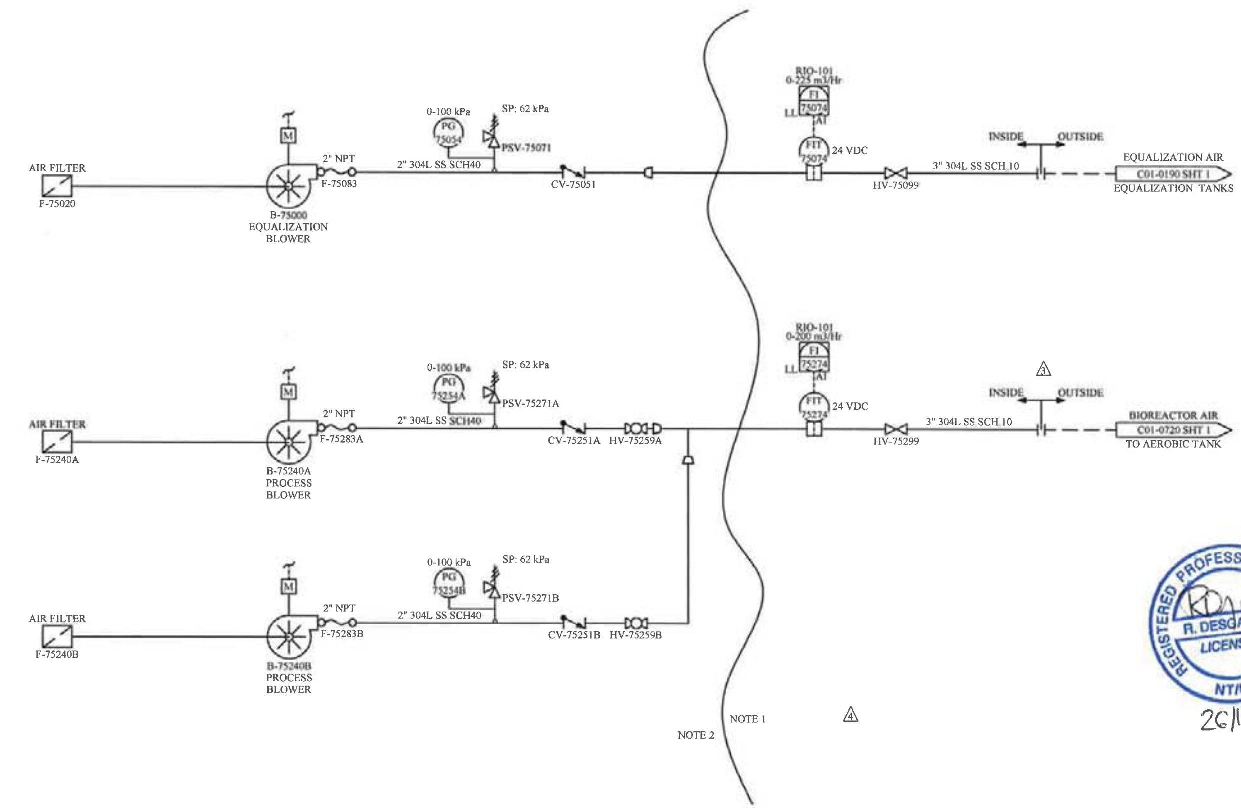
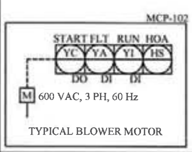
MELIADINE STP

216 M3/DAY

TITLE:
MEMBRANE FILTRATION
PROCESS & INSTRUMENTATION DIAGRAM

SCALE: N/A
DRAWING NUMBER: U65875-C01-0740
SHEET: 1 of 1
REVISION 05





REGISTERED PROFESSIONAL ENGINEER
R. DESGAGNÉ
LICENSEE
NT/NU
26/10/2016

NOTES:

1. EQUIPMENT TO BE PLACED IN CONTAINER #1.
2. EQUIPMENT TO BE PLACED IN CONTAINER #2.

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02	13/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
01	11/07/2016	CHANGE SUMP TANK BALL TO GATE VALVE,SOLENOID TO ELECTRIC VALVE,TURBIDITY METER TO 120V	M.P.	H.S.	H.C.	H.C.

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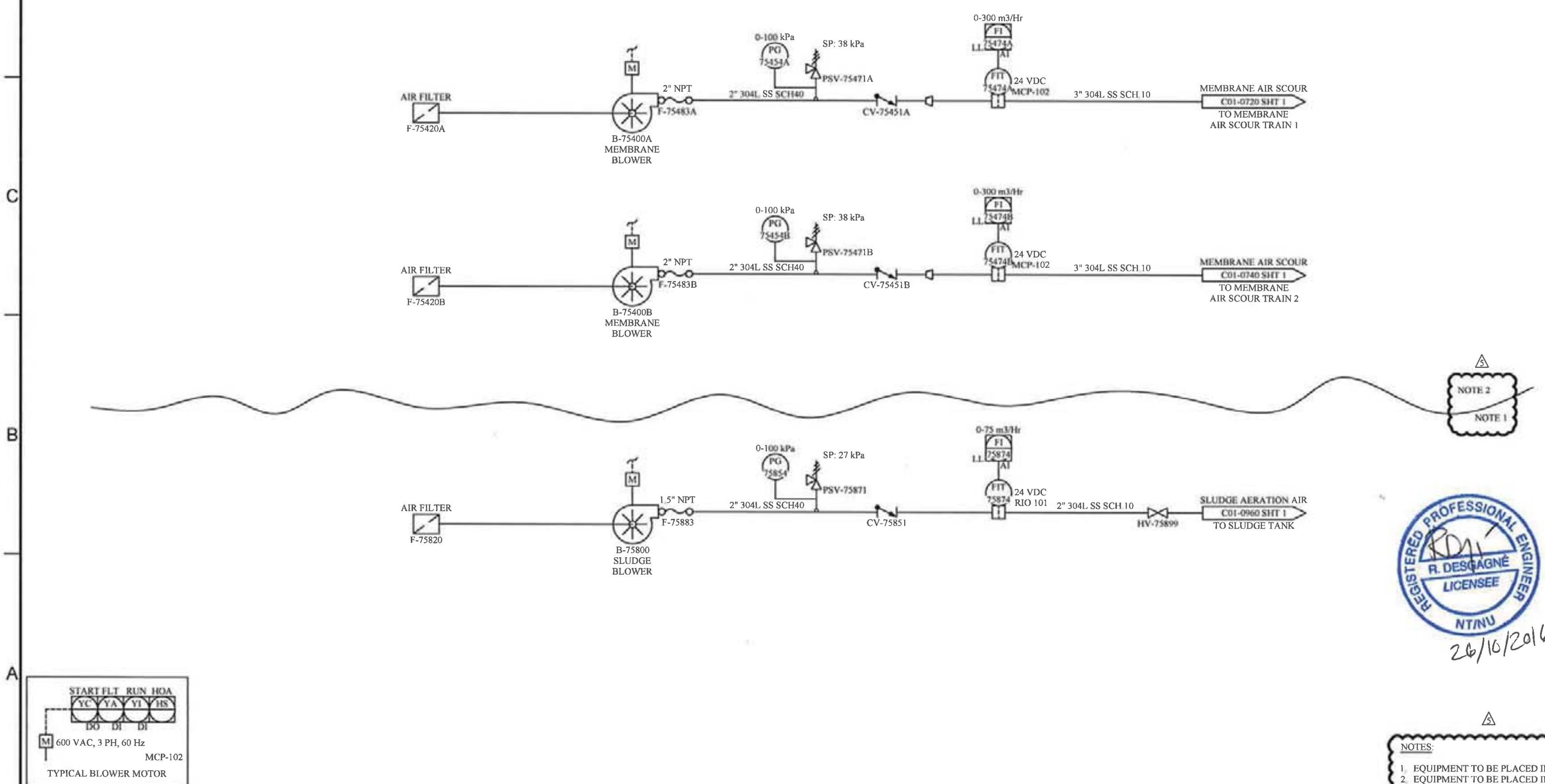
MELIADINE STP

216 M3/DAY

TITLE:
BLOWERS FOR MBR SYSTEM
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	U65875-C01-0750	05
	SHEET: 1 of 2	



REGISTERED PROFESSIONAL ENGINEER
R. DESGAGNÉ
LICENSEE
NT/NU
26/10/2016

NOTES:
1. EQUIPMENT TO BE PLACED IN CONTAINER #1.
2. EQUIPMENT TO BE PLACED IN CONTAINER #2.

DRAWING REVISION

REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
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03	25/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
02	13/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
01	11/07/2016	CHANGE SUMP TANK BALL TO GATE VALVE,SOLENOID TO ELECTRIC VALVE,TURBIDITY METER TO 120V	M.P.	H.S.	H.C.	H.C.

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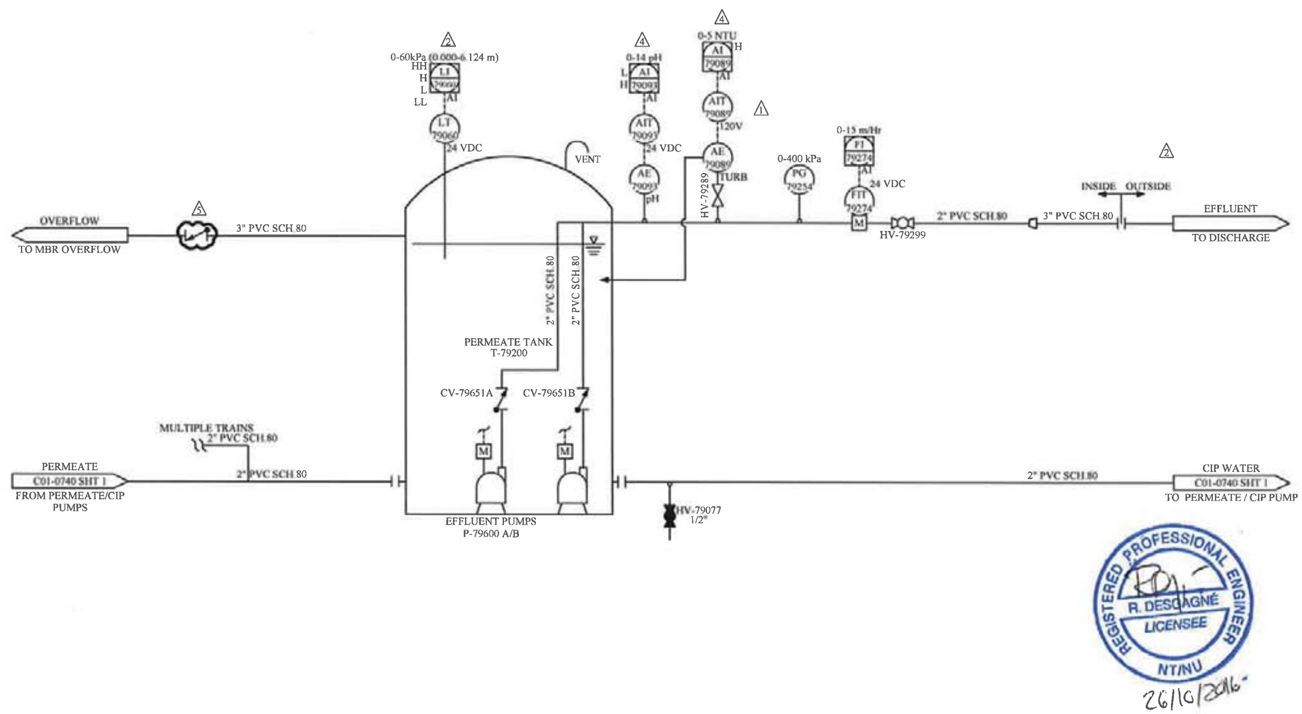
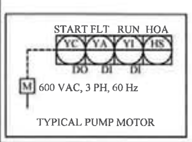
MELIADINE STP
216 M3/DAY

TITLE:
BLOWERS FOR MBR SYSTEM
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	U65875-C01-0750	05

SHEET: 2 of 2





NOTES:

1. ALL COMPONANTS GOING INTO MCP-102.
2. EQUIPMENT TO BE PLACED IN CONTAINER #2.

DRAWING REVISION

REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
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02	13/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
01	11/07/2016	CHANGE SUMP TANK BALL TO GATE VALVE,SOLENOID TO ELECTRIC VALVE,TURBIDITY METER TO 120V	M.P.	H.S.	H.C.	H.C.

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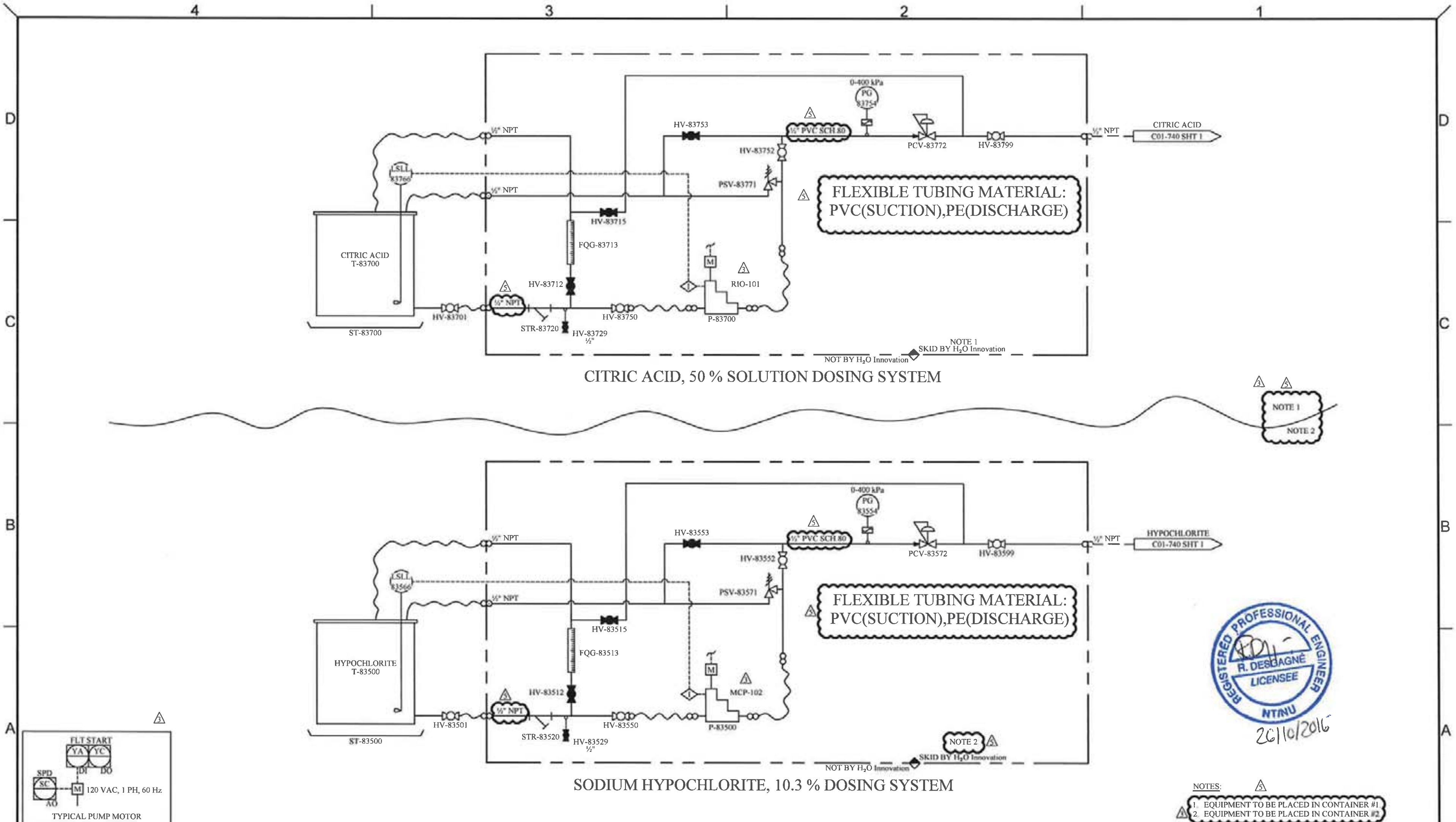
MELIADINE STP

216 M3/DAY

TITLE:
PERMEATE TANK
PROCESS & INSTRUMENTATION DIAGRAM

SCALE: N/A
DRAWING NUMBER: U65875-C01-0790
REVISION: 05
SHEET: 1 of 1



NOTES:
1. EQUIPMENT TO BE PLACED IN CONTAINER #1
2. EQUIPMENT TO BE PLACED IN CONTAINER #2

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03	25/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
02	13/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
01	11/07/2016	CHANGE SUMP TANK BALL TO GATE VALVE,SOLENOID TO ELECTRIC VALVE,TURBIDITY METER TO 120V	M.P.	H.S.	H.C.	H.C.

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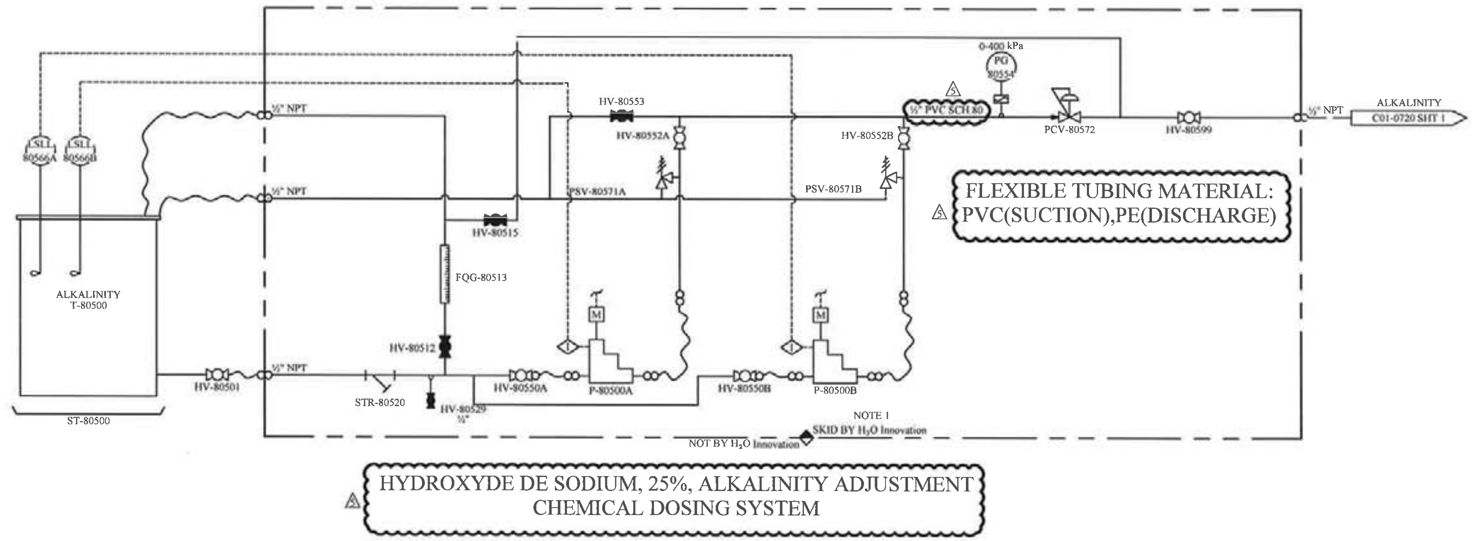
MELIADINE STP

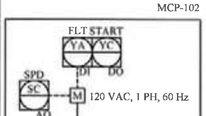
216 M3/DAY

TITLE:
DOSING SKIDS - CLEANING CHEMICALS
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	U65875-C01-0800	05
	SHEET: 1 of 2	



MCP-102



TYPICAL PUMP MOTOR

R. DESGAGNÉ LICENSEE — REGISTERED PROFESSIONAL ENGINEER — NT/NU

26/10/2016

NOTES:

1. EQUIPMENT TO BE PLACED IN CONTAINER #2.

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03	25/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
02	13/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
01	11/07/2016	CHANGE SUMP TANK BALL TO GATE VALVE,SOLENOID TO ELECTRIC VALVE,TURBIDITY METER TO 120V	M.P.	H.S.	H.C.	H.C.

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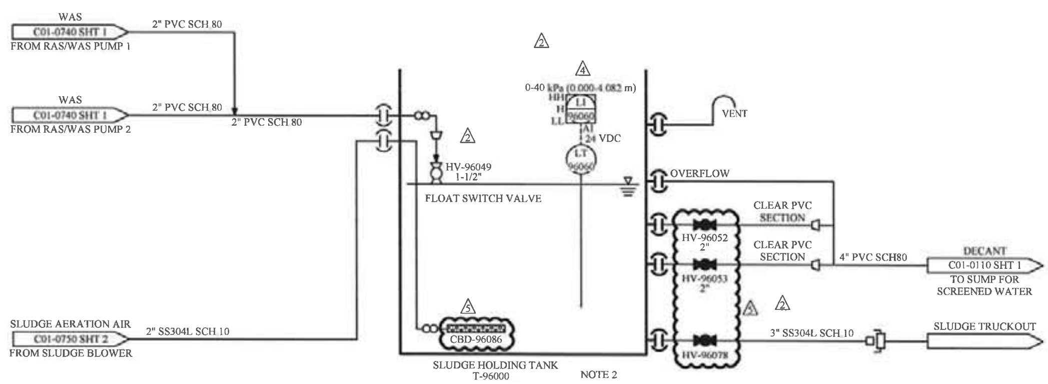
MELIADINE STP

216 M3/DAY

TITLE:

DOSING SKIDS - ALKALINITY
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	U65875-C01-0800 SHEET 2 of 2	05



REGISTERED PROFESSIONAL ENGINEER
R. DESGAGNÉ
LICENSEE
NT/NU
26/10/2016

NOTES:

1. ALL COMPONANTS GOING INTO RIO 101.
2. SLUDGE HOLDING TANK WITH COVER.
3. ALL VENT TO OUTSIDE.

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02	13/07/2016	REVISED AS PER COMMENT	M.P.	H.S.	H.C.	H.C.
01	11/07/2016	CHANGE SUMP TANK BALL TO GATE VALVE,SOLENOID TO ELECTRIC VALVE,TURBIDITY METER TO 120V	M.P.	H.S.	H.C.	H.C.

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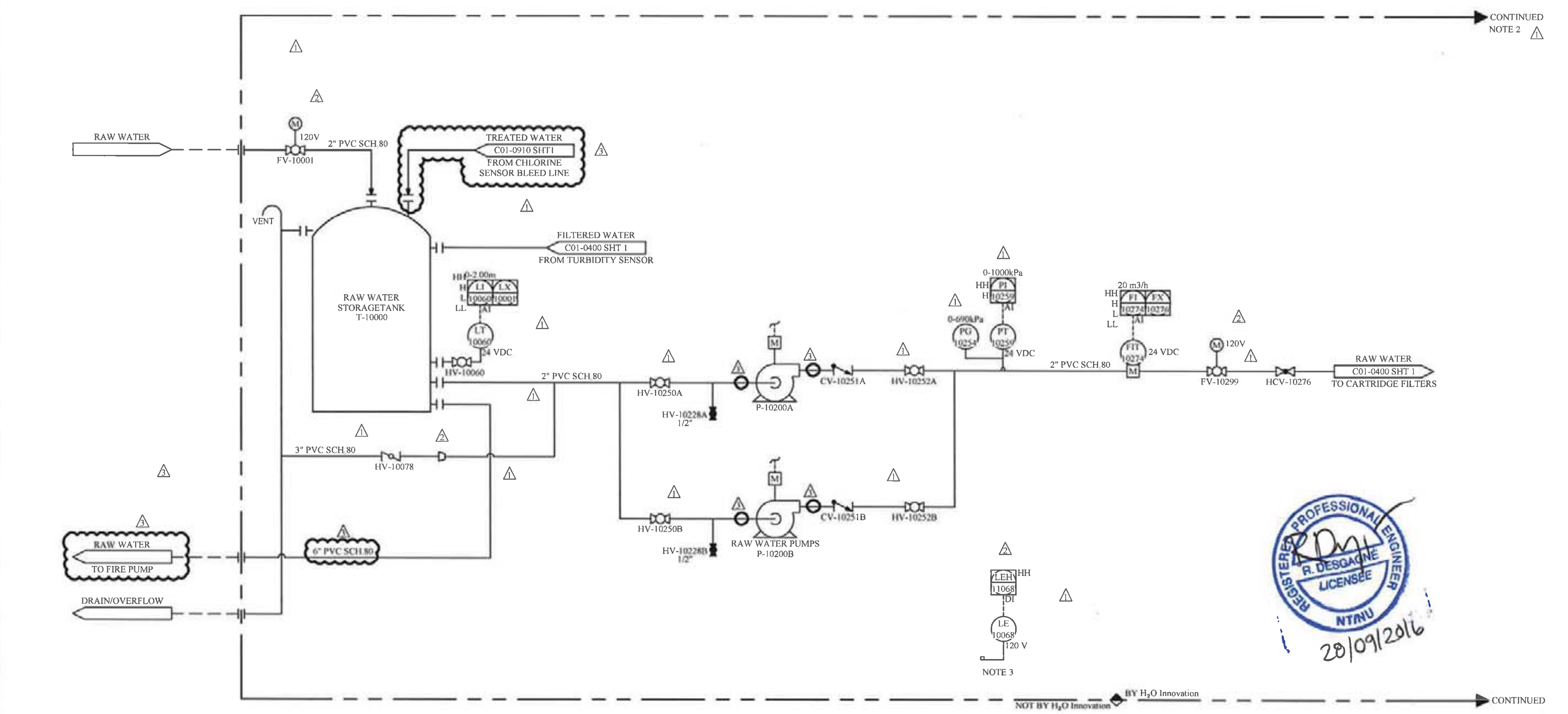
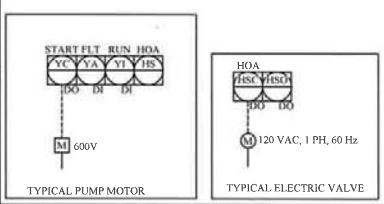
MELIADINE STP
216 M3/DAY

TITLE:
SLUDGE HANDLING SYSTEM
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	U65875-C01-0960 SHEET: 1 of 1	05





NOTES:

1. ALL SIGNALS GOING INTO MCP-101.
2. EQUIPEMENT TO BE PLACED IN CONTAINER #1.
3. WATER LEAK DETECTOR

REGISTERED PROFESSIONAL ENGINEER
R. DESGAGNE
LICENSEE
NT/NU
28/09/2016

DRAWING REVISION

REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
03	09/08/2016	AS BUILT	M.P.	S.B.	R.D.	A.M.
02	25/07/2016	REVISED AS PER COMMENTS	M.P.	S.B.	R.D.	A.M.
01	29/06/2016	AS PER COMMENTS	M.P.	S.B.	R.D.	A.M.
00	13/06/2016	INITIAL RELEASE	M.P.	S.B.	R.D.	A.M.

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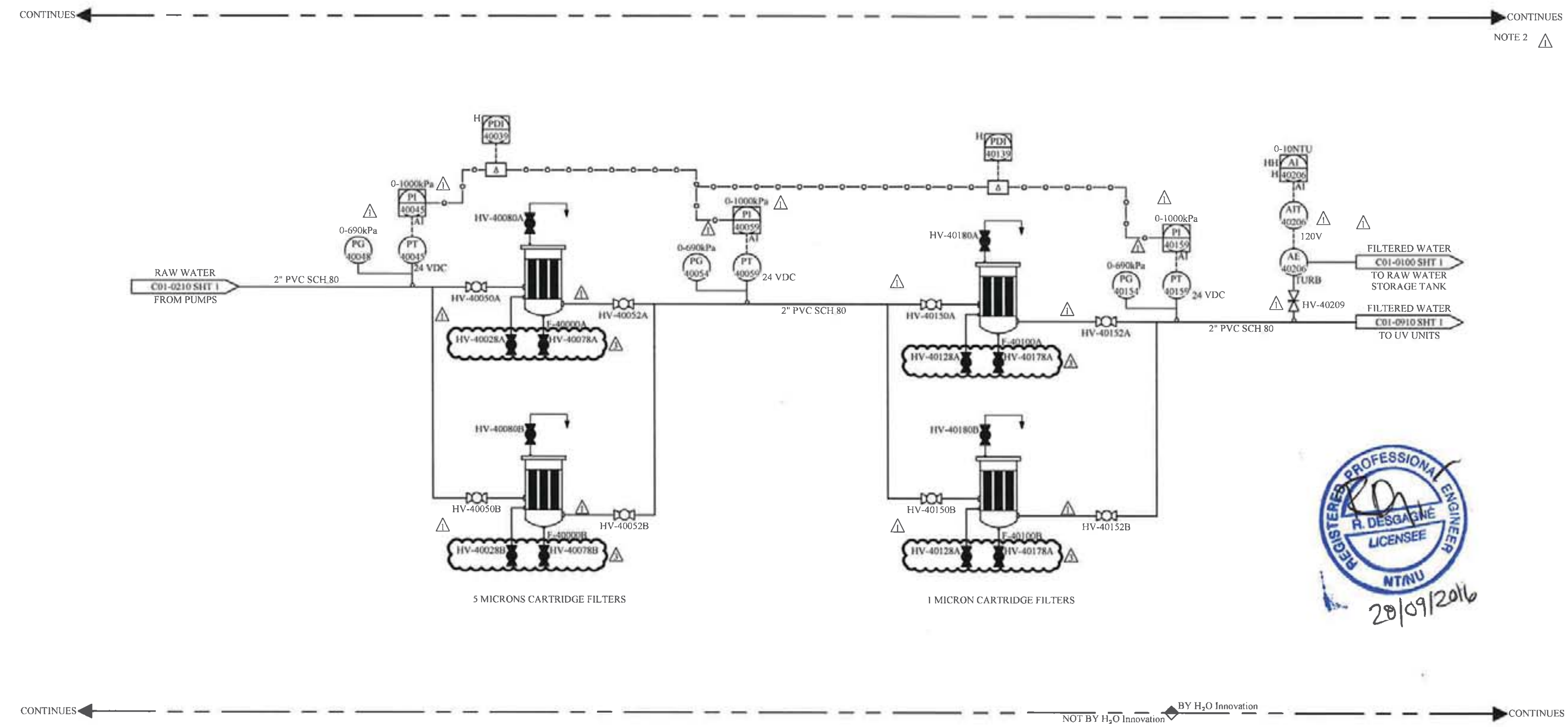
MELIADINE

WTP CONTAINERIZED UNIT

TITLE:
RAW WATER FEED SYSTEM
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	P65873-C01-0100	03

SHEET: 1 of 1



REGISTERED PROFESSIONAL ENGINEER
R. DESGAGNÉ
LICENSEE
NT/NU
20/09/2016

NOTES:

1. ALL SIGNALS GOING INTO MCP-101.
2. EQUIPEMENT TO BE PLACED IN CONTAINER #1.

DRAWING REVISION

REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
03	09/08/2016	AS BUILT	M.P.	S.B.	R.D.	A.M.
02	25/07/2016	REVISED AS PER COMMENTS	M.P.	S.B.	R.D.	A.M.
01	29/06/2016	AS PER COMMENTS	M.P.	S.B.	R.D.	A.M.
00	13/06/2016	INITIAL RELEASE	M.P.	S.B.	R.D.	A.M.

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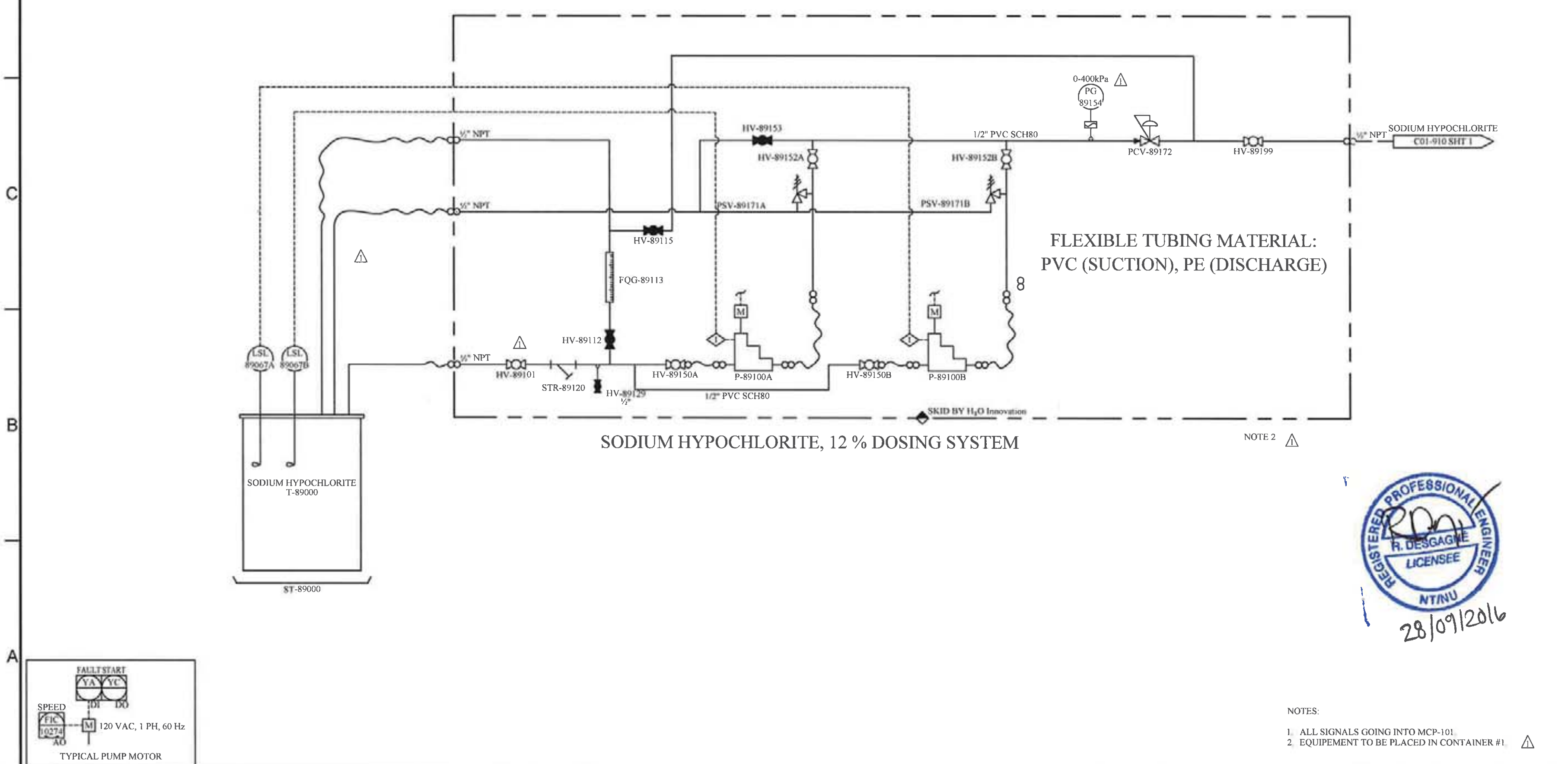
MELIADINE

WTP CONTAINERIZED UNIT

TITLE:
CARTRIDGE FILTERS
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	P65873-C01-0400	03
	SHEET: 1 of 1	



PROFESSIONAL ENGINEER
R. DESGAGNÉ
LICENSEE
REGISTERED
NT/NU

28/09/2016

NOTES:

1. ALL SIGNALS GOING INTO MCP-101.
2. EQUIPEMENT TO BE PLACED IN CONTAINER #1.

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01	29/06/2016	AS PER COMMENTS	M.P.	S.B.	R.D.	A.M.
00	13/06/2016	INITIAL RELEASE	M.P.	S.B.	R.D.	A.M.

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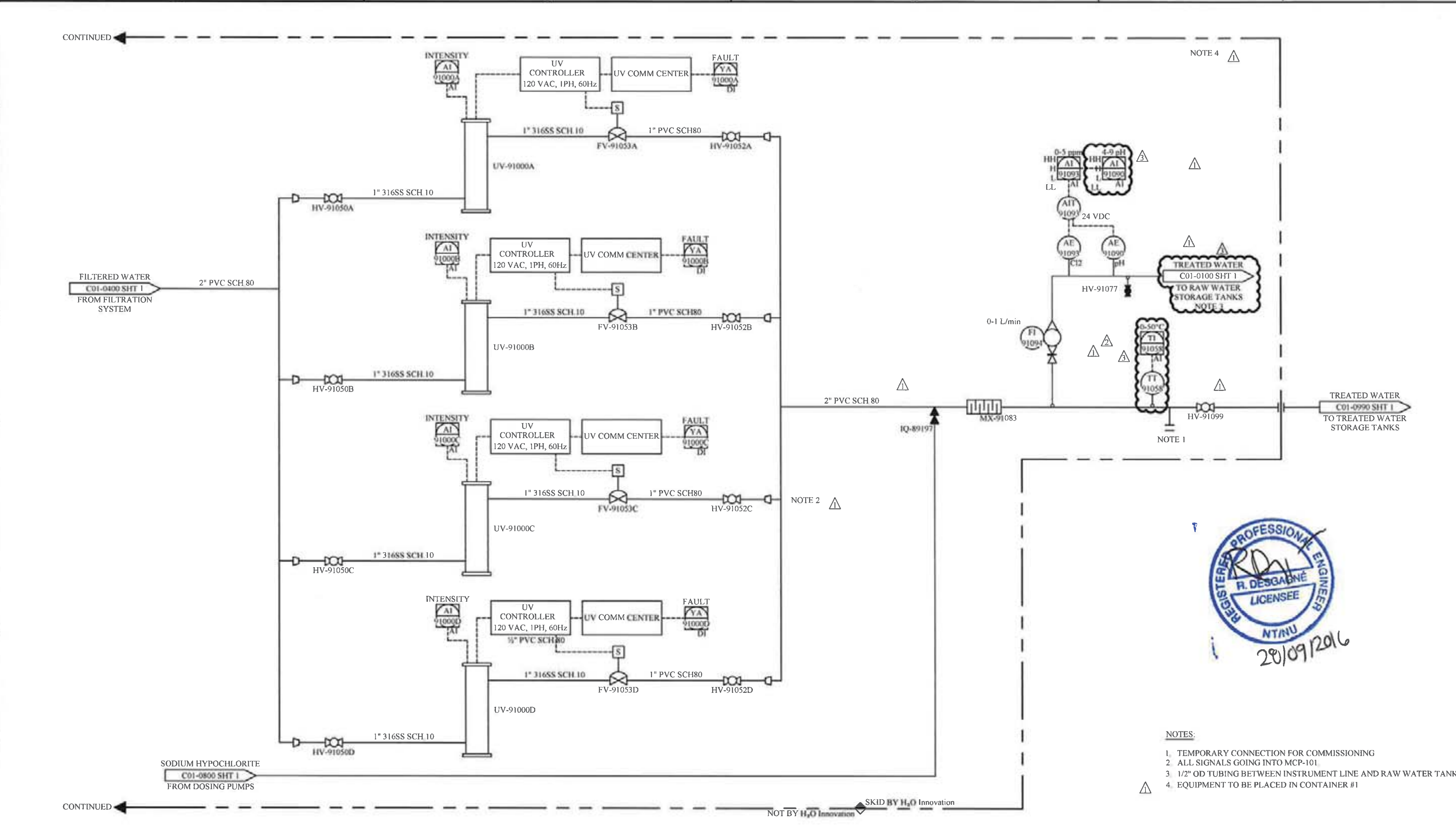
MELIADINE

WTP CONTAINERIZED UNIT

TITLE:
DOSING SKIDS - DUPLEX SOLENOID
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	P65873-C01-0800	03
	SHEET: 1 of 1	



NOTES:

1. TEMPORARY CONNECTION FOR COMMISSIONING
2. ALL SIGNALS GOING INTO MCP-101.
3. 1/2" OD TUBING BETWEEN INSTRUMENT LINE AND RAW WATER TANK.
4. EQUIPMENT TO BE PLACED IN CONTAINER #1

DRAWING REVISION

REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
03	09/08/2016	AS BUILT	M.P.	S.B.	R.D.	A.M.
02	25/07/2016	REVISED AS PER COMMENTS	M.P.	S.B.	R.D.	A.M.
01	29/06/2016	AS PER COMMENTS	M.P.	S.B.	R.D.	A.M.
00	13/06/2016	INITIAL RELEASE	M.P.	S.B.	R.D.	A.M.

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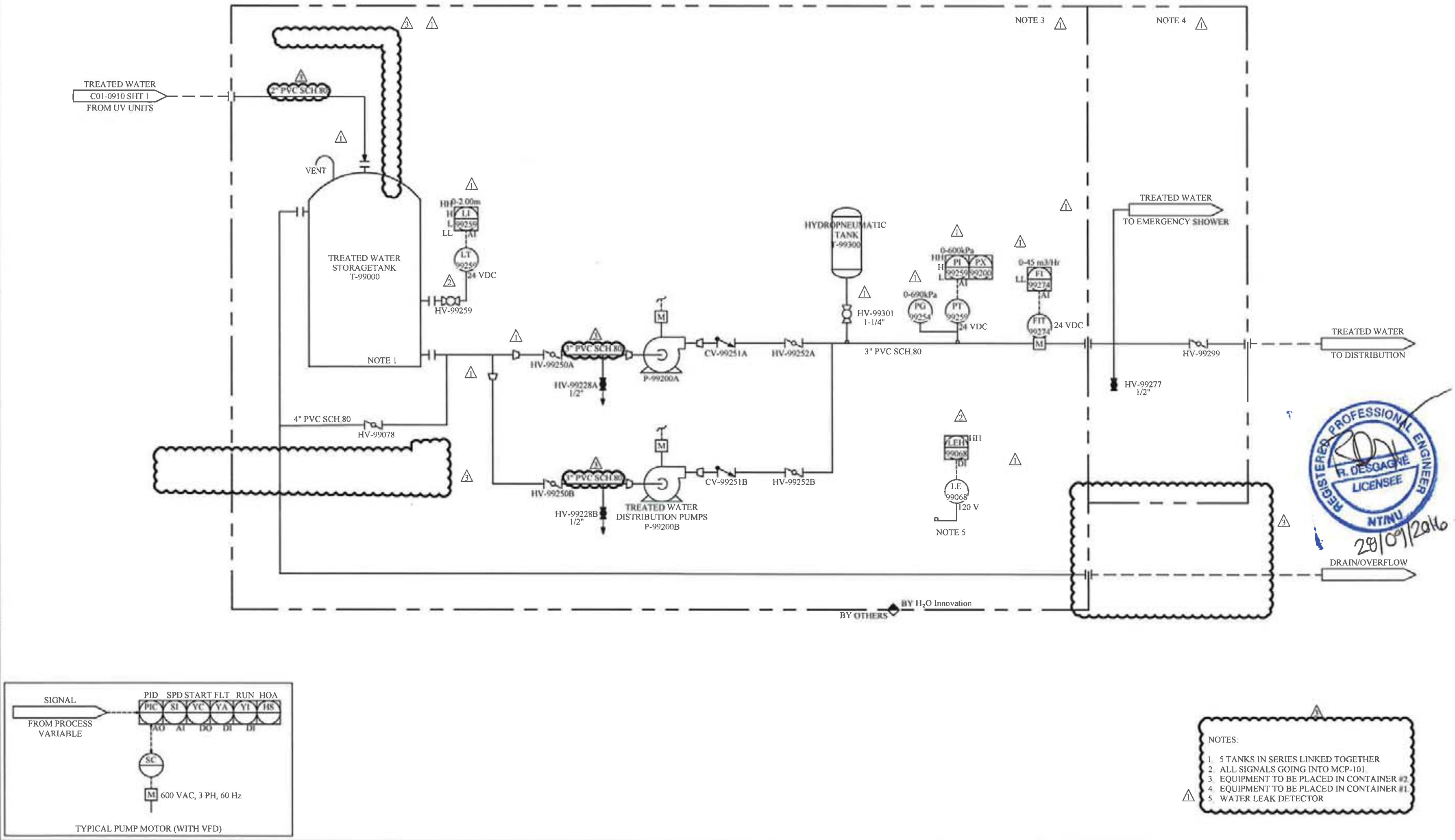
MELIADINE

WTP CONTAINERIZED UNIT

TITLE: UV TREATMENT UNITS
PROCESS & INSTRUMENTATION DIAGRAM

SCALE: N/A
DRAWING NUMBER: P65873-C01-0910
REVISION: 03
SHEET: 1 of 1



NOTES:

1. 5 TANKS IN SERIES LINKED TOGETHER
2. ALL SIGNALS GOING INTO MCP-101
3. EQUIPMENT TO BE PLACED IN CONTAINER #2
4. EQUIPMENT TO BE PLACED IN CONTAINER #1
5. WATER LEAK DETECTOR

DRAWING REVISION

REV	DATE	REVISION DESCRIPTION	DRAWN	CHKD	ENG	APPVD
03	09/08/2016	AS BUILT	M.P.	S.B.	R.D.	A.M.
02	25/07/2016	REVISED AS PER COMMENTS	M.P.	S.B.	R.D.	A.M.
01	29/06/2016	AS PER COMMENTS	M.P.	S.B.	R.D.	A.M.
00	13/06/2016	INITIAL RELEASE	M.P.	S.B.	R.D.	A.M.

h2O innovation
knowledge to share du savoir à partager

UNLESS NOTED OTHERWISE
DO NOT SCALE PRINTS

MELIADINE

WTP CONTAINERIZED UNIT

TITLE:
TREATED WATER DISTRIBUTION SYSTEM
PROCESS & INSTRUMENTATION DIAGRAM

SCALE:	DRAWING NUMBER:	REVISION
N/A	P65873-C01-0990	03

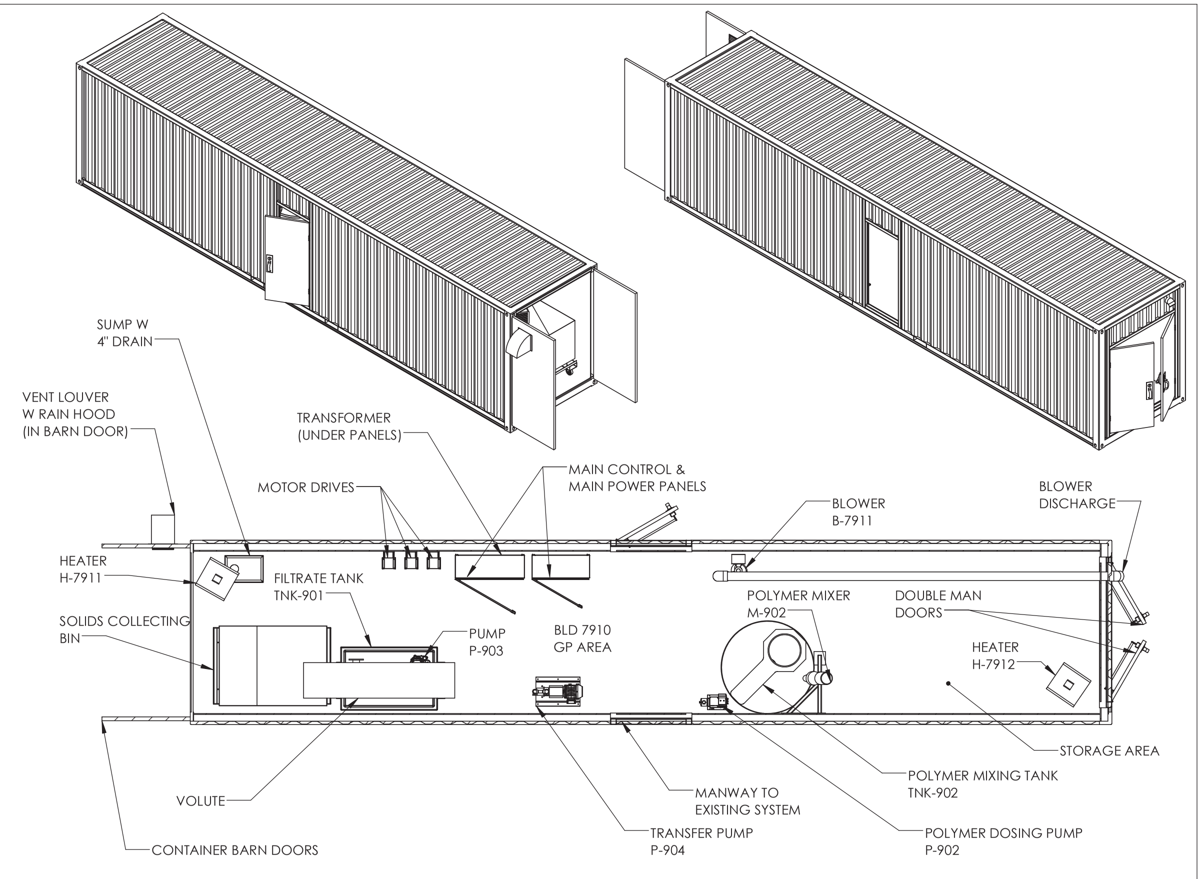
SHEET: 1 of 1

Civil Construction Notes
- install sump at location indicated.
- install grating between building fans and outside louvers.
- thermal insulation on walls and ceiling.
- door colour to be the same as building.

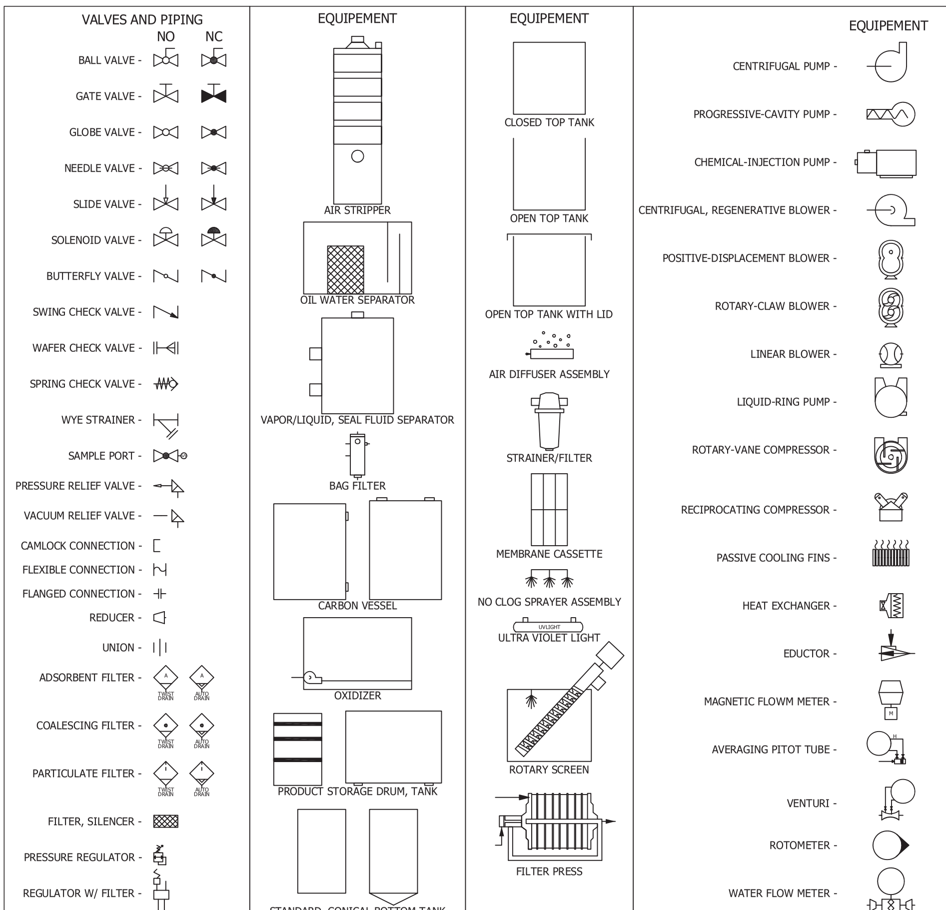
Mech/Elec. Construction Notes
- locate cooling thermostat in the warmest location at ceiling level.
- locate heating thermostat at floor level.
- plug and seal (with washers) any holes in the floor to contain water spills.
- maximum width for shipping is 102". this includes all connections that protrude through the sides of the enclosure.

Commissioning Notes
- fan and louver hoods need to be installed on site. cannot ship with hoods attached.
- some flow meters such as rmc meters will be shipped with the unions in the process piping loosened to ensure meters are not damaged during shipment.
- buildings need to be shimmed on site to allow doors to open freely. please have shimming material ready during building installation.
- for buildings in cold weather climates, where the building is elevated, a skirt must be built around the base to prevent the floor from freezing.
- newterra recommends pad be at least 12" larger than enclosure in all directions. local codes may require alternate dimensions.

newterra standard system labels
- flow direction labels
- air line labels
- water line labels
- air/water line labels
- hot surface label (lines >= 140 degf)
- hearing protection labels
- warning label: this machine is automatically controlled
- arc flash warning label

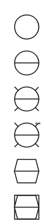


newterra	GENERAL TOLERANCES .XX ± 1/8" .XXX ± 1/16" UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	STATUS: As Built		DRAWING TITLE: System Layout	DRAWING NUMBER: -
		LEVEL: C-01 · REVISED BY: NM · REVISED ON: 28/8/2019 · APPROVED BY: · APPROVED ON:		PROJECT TITLE: Agnico Eagle Volute	PROJECT NUMBER: 1905884
				CUSTOMER: Agnico Eagle Mines Limited	DRAWN BY: NM DATE: Jul 30, 2019 SHEET 1 OF 1



INSTRUMENTATION IDENTIFIERS

	FIRST LETTERS		SUCCEEDING LETTERS		
	MEASURED/INITIATING VARIABLE	VARIABLE MODIFIER	READOUT/PASSIVE FUNCTION	OUTPUT/ACTIVE FUNCTION	FUNCTION MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION				
C	CYCLE	CONTROL		CONTROL	CLOSE
D		DIFFERENCE, DIFFERENTIAL			DEVIATION
E	VOLTAGE		SENSOR, PRIMARY ELEMENT		
F	FLOW, FLOW RATE	RATIO			
G	GAS (LEL)		GLASS, GAUGE, VIEWING DEVICE		
H	HAND			HAND	HIGH
I	CURRENT		INDICATE		
J	POWER		SCAN		
K	TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MONITOR			MOTORIZED	MIDDLE, INTERMED
N					
O			ORIFICE, RESTRICTION		OPEN
P	PRESSURE		POINT(TESTCONNEC'N)	PNEUMATIC	
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH, SOLENOID	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	VIBRATION, MECHANICAL ANALYSIS, VACUUM			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL, PROBE		
X	UNCLASSIFIED	X-AXIS	ACCESSORY DEVICES, UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, PRESENCE	Y-AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z-AXIS, SAFETY INSTRUMENTED SYSTEM		DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	



- INDICATING INSTRUMENT
- DIGITAL INPUT TO CONTROL PANEL
- DIGITAL INPUT CAUSING ALARM
- DIGITAL INPUT CAUSING SYSTEM SHUTDOWN ALARM
- ANALOG INPUT TO CONTROL PANEL
- ANALOG OUTPUT FROM CONTROL PANEL

VFD - VARIABLE FREQUENCY DRIVE
SWD - SIDE WATER DEPTH
HRT - HYDRAULIC RETENTION TIME
AS - AIR STRIPPER
BLD - BUILDING, TRAILER, OR SKID
FLT - FILTER VELLEL
LPC - LIQUID-PHASE CARBON VESSEL
MFD - MANIFOLD
OWS - OIL/WATER SEPARATOR
OX - OXIDIZER
PST - PRODUCT STORAGE TANK
SOS - SEAL OIL SEPARATOR
SWS - SEAL WATER SEPARATOR
TNK - TANK
VLS - VAPOR/LIQUID SEPARATOR
VPC - VAPOR-PHASE CARBON VESSEL

NOTES:

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BROCKVILLE ONTARIO
CANADA K6V 5Y6
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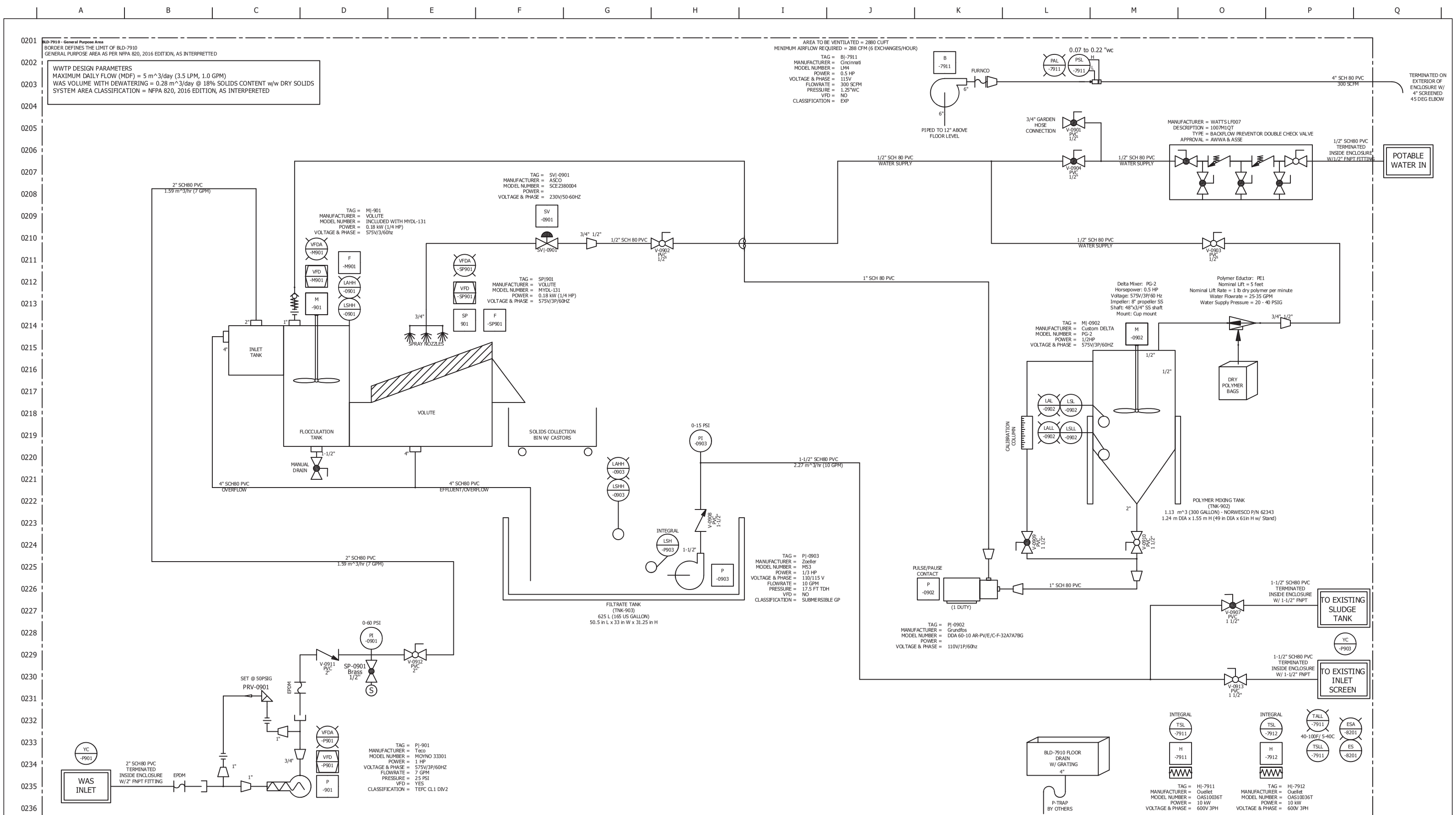
www.newterra.com

LEVEL	REVISION	DATE (dd/mm/yy)	BY
C01	AS BUILT	03/09/2019	jeaton
B01	FOR PRODUCTION	02/08/2019	jeaton
A01	FOR CUSTOMER REVIEW	30/07/2019	jeaton

PROJ. NO: 1905884
TITLE AND LOCATION: LEGEND
CUSTOMER: Agnico Eagle Mines Agnico Eagle Volute
SCALE NTS | SHEET 6 | SHEETS 3

A-4



NOTES:
- Water flow meters: Install as per manufactures recommendations. Ensure that throttling valves are not in direct line of the meter.
- Pitot Air flow meters: Provide 8 Dia. of straight pipe before and 3 Dia. of straight pipe after meters. Avoid tees and elbows before and after meters.
- Materials of valves and piping is to be as specified on the diagram.
- There are no special piping requirements outside of newterra's standards unless specified on the diagram.
- Flexible hose is to be as specified on the diagram. If a flexible connection is preferred please consult Engineering to ensure selected hose is rated for the operating conditions.
- Do not use PVC pipe on air lines over 5 PSIG.
- All female PVC threaded adaptors must be re-enforced female adaptors.
- No dissimilar metals are to be in direct contact on water lines. Follow ENG.SOP.010
- All PVC must be schedule 80

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C01	AS BUILT	03/09/2019	jeaton
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PROJ. NO: 1905884

TITLE AND LOCATION: PROCESS AND INSTRUMENTATION DIAGRAM

CUSTOMER: Agnico Eagle Mines Agnico Eagle Volute

SCALE	SHEET	SHEETS
NTS	2	3