

CITY AND BOROUGH OF WRANGELL
Wrangell Water Treatment Plant Project

Addendum No. 3
July 12, 2023
(31 pages)

The information in this Addendum modifies and changes the original bidding contract documents. In case of conflicts between this Addendum and previously issued documents, this Addendum shall take precedence.

Sheet AM-203 shall be modified in the following way: Locate the fire alarm panel along the north wall of the water treatment plant, west of the single door 1001D, between gridlines AA and AB.

To request a copy of the existing water treatment plant record drawings, contact Brita Mjos for the file transfer.

The Bid Due Date has been extended to Wednesday, August 9th, 2023 at 11:30 am. Questions will be accepted until July 31st, 2023. Contact Brita Mjos at bmjos@dowl.com with questions.

Questions Received From Interested Parties/Bidders

Question 1: Concerning the AWC provided equipment and coordination for development of the schedule, from the time of award of contract and issuance of purchase order to AWC, what upfront costs may be required by AWC? From issuance of purchase order, how long will it take for AWC to provide final shop drawings and submittals? From approved submittals, what is the lead time for AWC-provided equipment?

Answer: As stated in the pre-bid meeting, AWC expects 4 months for procurement and 9 to 10 months for fabrication. Shop drawings have been completed, and construction drawings will be completed when the contract is awarded.

Question 2: Please clarify the discrepancy between 40 70 00-00 Instrumentation spec which calls out 1495 (single bore) and the instrument index 40 70 00-13 instrument index call out 1595 (4-bore).

Answer: The bid shall include the 1595 orifice plate (4-hole). If Rosemount recommends a single bore orifice plate, the modification shall be managed during the submittal process.

Question 3: Can the Pre-bid meeting recording and photos of site locations be made available?

Answer: The recording and site photos are available at <https://www.wrangell.com/rfps>.

Question 4: Will Native 2D and 3D drawing files from DOWL and AWC be available to the winning contractor to use to produce fabrication drawings?

Answer: DOWL will make CAD files available once the contract is awarded. An AWC contact will be provided for bidders.

Question 5:

- a) 28 31 13 Fire Detection 1.01.A: The specification requires a fire alarm for the filtration building. There are two building drawings provided. What is the intent here?
- b) Shall we monitor any hazardous gases or other inputs requiring “Dual emergency communication appliances”? Similarly, are there required any custom messages or messages other than a “Fire Evacuation Message”?
- c) 28 31 13 Fire Detection 2.05.K.3: states system shall communicate by cellular to PLC system. What is this system, and how is cellular connection to be accomplished? It states in other specs to use panel dry contacts for PLC notification. Also, is cellular communication required for the monitoring? Phone line communication is more reliable and less expensive at install, and over time.
- d) As it appears no guidance is available on the drawings as to fire alarm design and requirements, shall this system design be fully deferred to the fire alarm contractor?
- e) Regarding Question 10 in Addendum 2, are any of these “corrosive environments” considered an explosive atmosphere?
- f) Is the platform level an open metal grate, or a solid floor?

Answer:

- a) Filtration building refers to the new Water Treatment Plant building, not the existing Admin Building
- b) No.
- c) Fire alarm should only communicate to PLC system via dry contacts.
- d) Yes.
- e) The WTP has no explosive areas. The chemical rooms should all be considered corrosive.
- f) Room 2008 Equipment Platform is a concrete floor slab – The platform around the equipment is an open metal grate.

Question 6: Specification 13 34 19, section 1.07, calls for a 10-year weather tight warranty. If using another Pre-Engineered Metal Building (PEMB) manufacturer in lieu of the Butlerib panel, must the standing seam roof have a 10-year weather tight warranty?

Answer: Provide the standard weather tightness warranty of the PEMB manufacturer.

Question 7: Is there a POC for AWC on this project that bidders can contact directly? Also, can a copy of the contract negotiated between the City and AWC for this project be made available?

Answer: The AWC POC is James Edmonds, jamese@awcsolutions.com. In a forthcoming addendum DOWL will provide more information about pre-negotiated arrangement with AWC.

Question 8: Please clarify scope of work on the supply air and return air duct. Specification 20 07 00, 3.07 states to insulate “exposed Supply and Return ducts in Equipment Room”. On the floor plan it appears the equipment is located on an open mezzanine, with no clear distinction for an “equipment room”. Does this mean all the duct off DOAS -1 should have insulation? If not, how much of the supply and return ductwork will we need to plan on insulating in this area?

Answer: Per Specification 23 31 00, 3.02 Application schedule, supply duct shall be double wall galvanized. Return air to DOAS-1 does not need to be insulated. Insulation on the outside air and relief air for DOAS-1 should be 1” thick.

Question 9: I would like to request the Westfall Static Mixer and Saf-T-Flo injection quill be approved as equal for the Wrangell WTP project. I also would like to request a count of how many mixers and how many injection quills would be needed. I did not see either of these called out in the P&ID drawings and if approved, would need to provide a quantity for my quotation.

Answer: The injection quill and the static mixer are not approved as an or equal and will not be accepted. Substitutions and other approved equals will be considered post-bidding. Injection quills are shown on PI-03 and PI-17. The static mixer is shown on PI-17. There is no static mixer upstream of the rapid mix tank (PI-03).

Question 10: Regarding the high service pumps, the specifications call for 790 GPM @ 111 ft/head. Is this flow requirement per pump or a total system flow requirement? Also, will the level in the clear well be allowed to drop to the point that we have a suction lift condition at the high service pumps, or will the level be maintained to provide a flooded suction condition at a minimum?

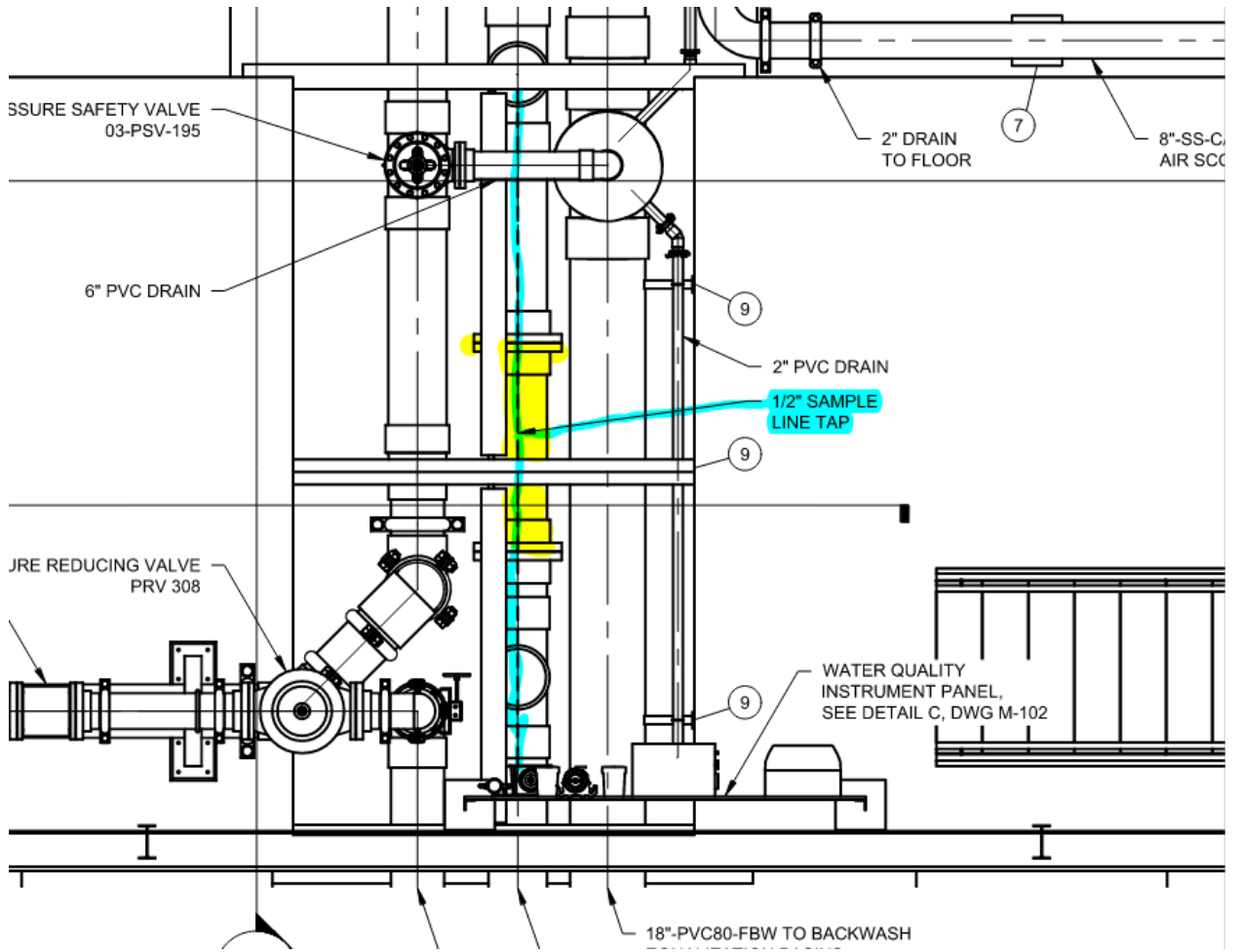
Answer: The specifications are for each pump. The clearwell (suction tank for these pumps), is hydraulically connected to two large contact basins (249,000 gallons each), so the inlet level will be slow to change. That said, there is a low-level alarm and low-low-level interlock to trip these pumps. Pumps are controlled on potable water tank level. See Attachment 5 for additional information about the pre-approved pumps (alternates with engineer approval).

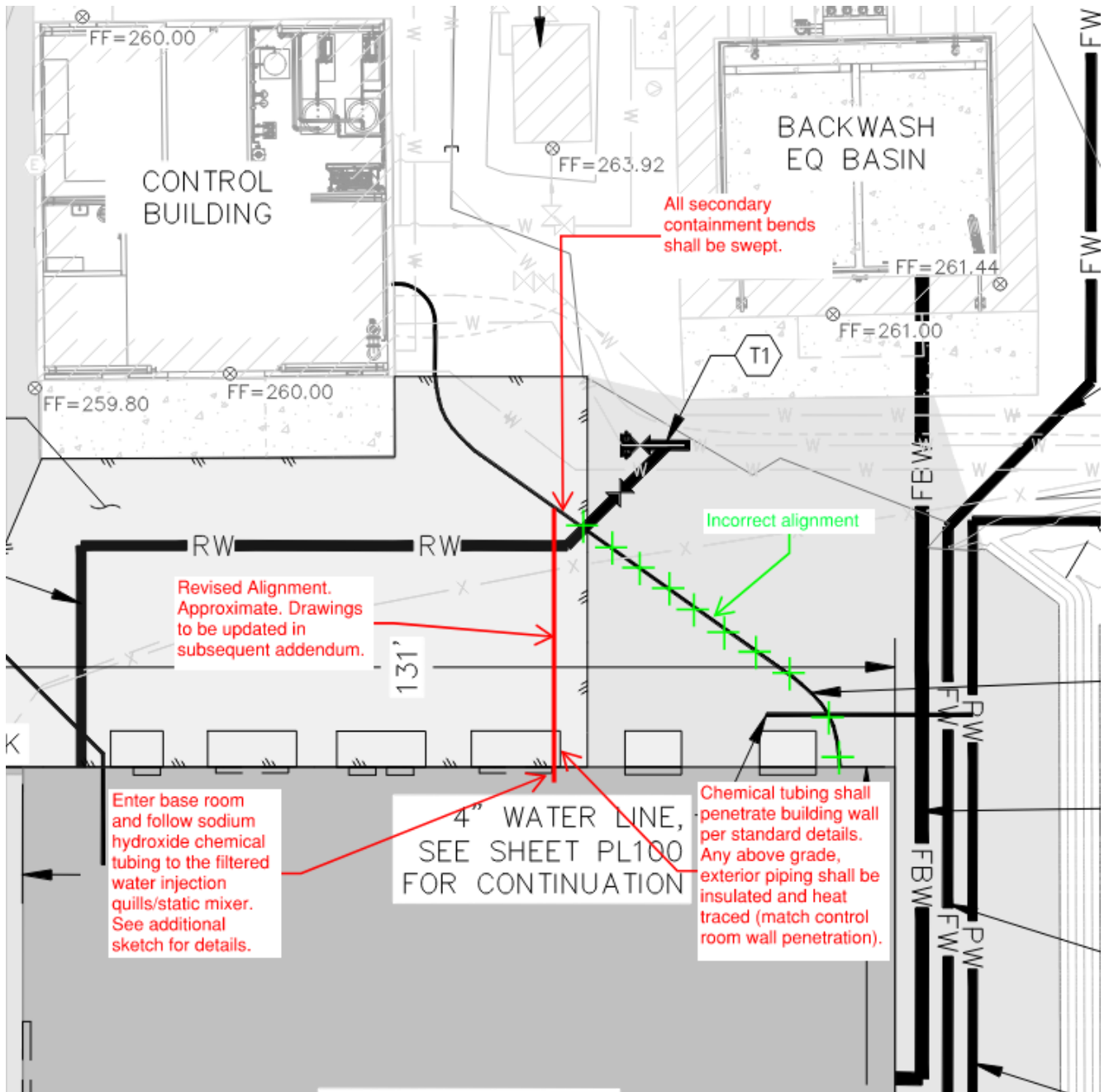
Question 11:

- a) Drawing PI-17 indicates static mixer SM-401 is installed in the 14" FW just after the chemical injection quills and before the sample tap to the FW instrument panel where the FW leaves the new WTP. Please indicate where this static mixer is located on the M drawings. Is it between the two "upright tees" on M-300 and M-301? Also, drawing C-104 illustrates the yard piping path for the OSHG chemical piping from the Control Building to the Blower Room of the new WTP. What is the intended path within the new WTP? The piping is not shown on the M drawings that conforms to the PI drawings. Are the "upright tees" meant to portray the three chemical injection quills in one and the sample tap in the other?
- b) The widest AWC shipped equipment is the filter trains which are a shipping maximum 13' 9" wide and a maximum 10' 8-1/2" high per AWC drawing 17805-PI-GAD-310. The tallest AWC shipped equipment is the DAF tanks which are a shipping maximum height of 12' 1" per AWC drawing 17805-PI-GAD-200. Drawing A-601 in the Large Door Schedule specifies doors 1001 F/G/H as 12' wide and 14' high. Is it possible that the door sizes were meant to be 14' wide and 14' high? Please clarify.

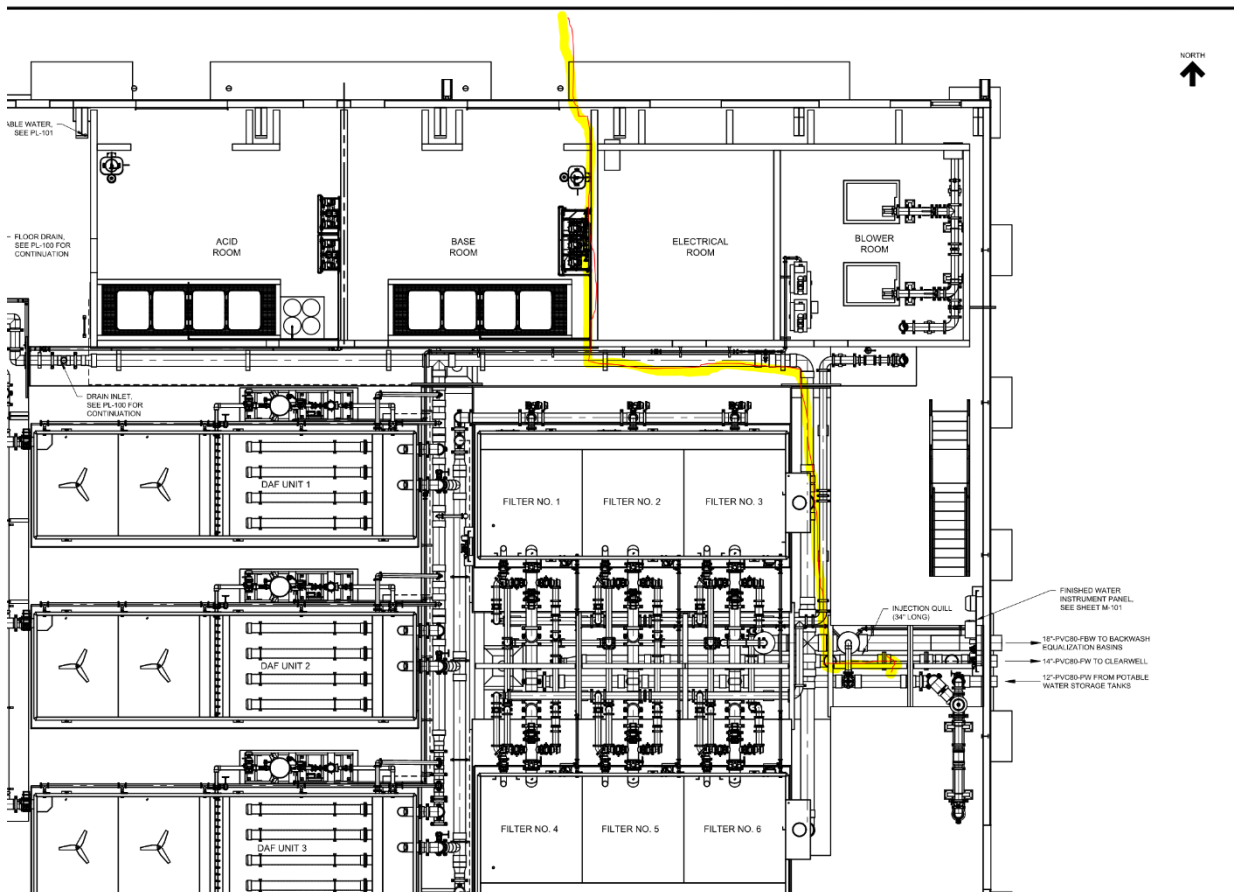
Answer:

- a) The yellow highlighted section in the figure below is the static mixer on sheet M-300. This is not to be confused with the 1/2" sample line tap where the arrow is indicating. All chemistries should be able to route into the static mixer's pre-constructed openings for chemical injectors. The tee in front of the mixer is where the sample tap line comes off as well as the tee after the mixer. The tee in front of the mixer can be found on drawing PI-16.





The OSHG line routes through the "Base" room instead, noted in the picture above, and follows the path to injection as shown in the picture below.



- b) Door 1001F, 1001G, 1001H will be increased to 14'-0" W x 14'-0" H. See Attachment 1 for revised sheets A-101 and A-601.

Question 12:

- a) Detail 4/M-907 is referenced and the detail also shows 1/2" compressed air in addition to the 1" PW and electrical receptacle. Is compressed air required at the utility station in the Backwash EQ Basin?
- b) On drawing PI-20, all the drain piping slopes downhill at 1% or 2% until it reaches the Backwash EQ Basin. This slope is also portrayed on the M-drawings until it exits the new WTP at a centerline elevation of approximately 256.00, which does not provide the required 4' of bury depth as shown on the civil drawings, so insulation board will be required. At drawing C-107, the plan and profile now shows this 18" FBW drain as running uphill at 2.78% which makes it even less bury depth before it penetrates the Backwash EQ Basin. Is there a thicker depth of insulation board required at these shallower depths? Will this long "sag" in the piping be detrimental and begin to collect solids along the length of the sag?
- c) Drawings PI-24 and PI-25 have a peculiar piping arrangement to the top of the calibration columns. This is never done with calibration columns and the correct piping route should come down and tee in under the calibration columns, above HV-543 and HV-573 respectively. Please clarify.

Answer:

a) Compressed air is not required at the utility station. The detail will be corrected in issue for construction drawings.

b) All of the drain piping inside the building should slope down as indicated on the M-drawings inside the new WTP building. The 2% slope indication outside of the new WTP building indicated on sheet PI-20 and M-601 is incorrect. After exiting the new WTP, the pipeline shall be routed per the plan and profile on sheet C-107, pending contractor field verification of the depth of the existing yard piping (Note 1). Due to the depth of cover, insulation board will be required for the entire length of the 18" FBW pipeline.

The comment regarding the adverse grade and solids accumulation in the low point by the building is well taken and was considered during design. The profile is set as is due to the location of the crossing pipes. Hydraulically, there should be adequate head to convey the waste flows, even with adverse grade. The top of the filter to waste air gap is approximately 264.2'. The top of the PW Air gap is currently at 261.7' and should be moved up to match the filter to waste air gap elevation of 264.2'. The overflow of the Backwash EQ basin tank is 261.3'. Worst case scenario, there is 2.9' of elevation difference between the top of the air gaps and the maximum level in the BW EQ Basin tank. This elevation difference is adequate to convey the flows

required. Depending on the pipe crossing elevation, the elevation of the 18" waste header (both inside and outside) may need to change.

c) The duplex peristaltic pump skids detailed on PI-24 and PI-25 are drawn per the specified equipment vendors equipment data sheets. See photo (to right) of specified vendor's piping arrangement and a snippet from the user manual. The calibration column should include a vent or be open to the atmosphere allow the air in the column to vent while it is filling. In some instances, the metering pumps are located above the chemical drums, so the calibration column cannot be filled by gravity off of the chemical drum level. Instead, the column must be filled with the pumps, as described in the snippet below.

Blue-White[®]



To calibrate pump / system.

Open ball valve V-1.

Open ball valve V-7.

Close ball valve V-2, V-6, and V-8.

Start pump and run until calibration cylinder is filled to top calibration line. Do not leave pump unattended during this operation.

Stop pump once calibration cylinder is filled.

Close ball valves V-1 and V-7.

Open ball valve V-2 and V-8 to inject chemical solution into your system.

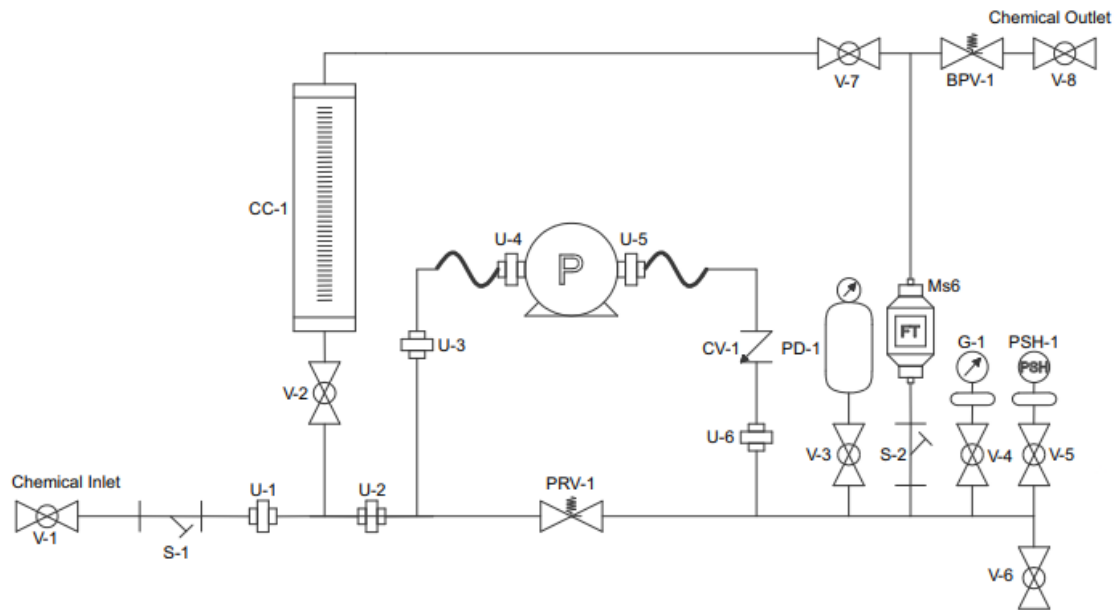
Note the chemical solution level in the calibration cylinder.

To calibrate pump at maximum speed into your system, Press the prime button on pump. The prime mode runs the pump at maximum speed for 60 seconds (1 minute) on all Blue-White® pumps.

To calibrate pump at your desired feed rate, you must pre-program your pump speed before running this routine.

Please refer to the instruction manual for your pump to adjust feed rate and additional calibration instructions.

Repeat process to ensure accuracy of calibration.

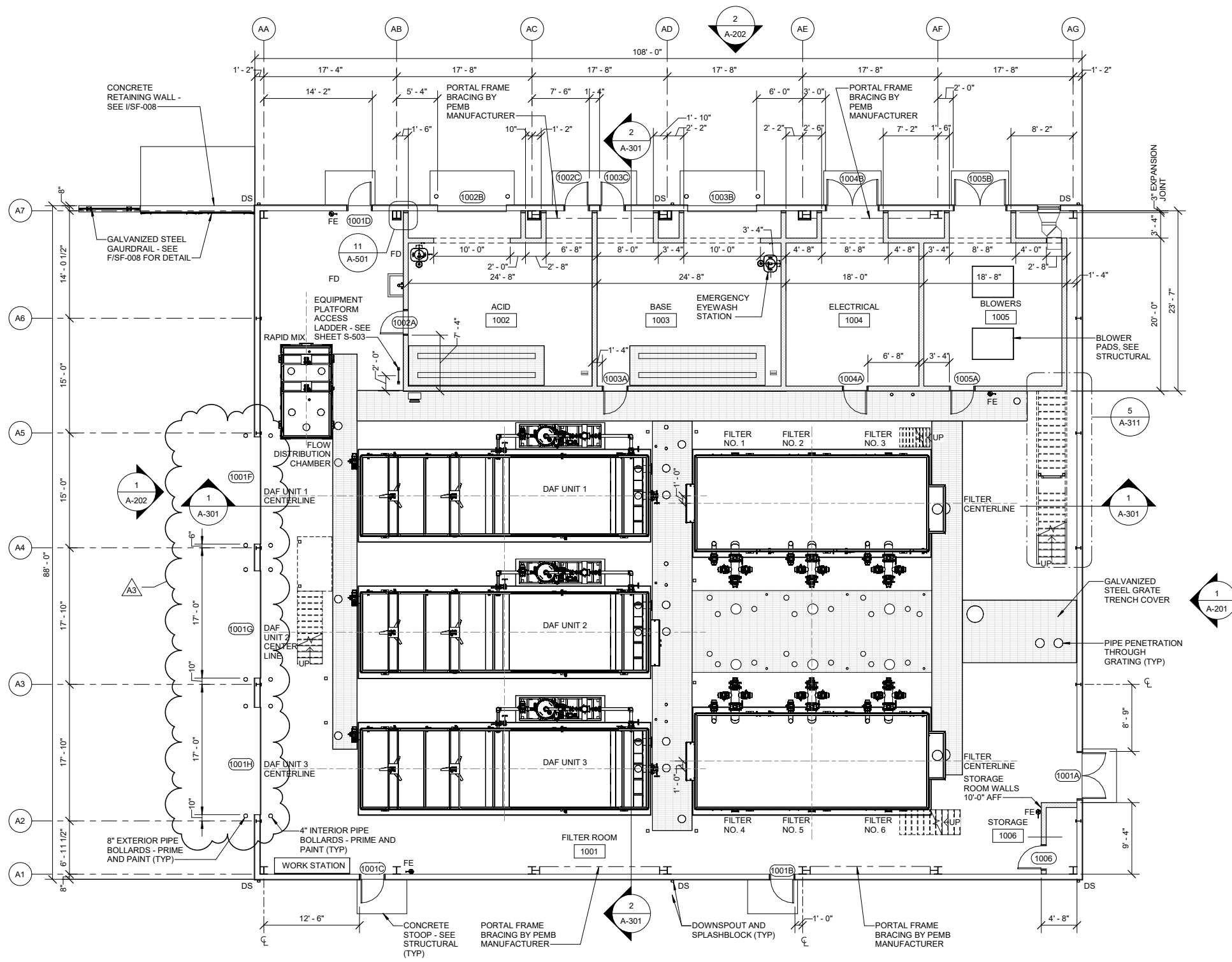



End of Addendum No. 3

Attachments:

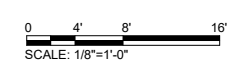
1. Revised sheets A-101, A-601
2. Revised sheets addressing Addendum 2, questions 8 and 9: E-06, E-10, E-11, E-12, E-14, E-20
3. Revised sheets addressing Fire Marshal comments: A-100, A-102, AD-100
4. Pre-approved High Service Pump information
5. Instructions for BABAA Compliance Certification

Attachment 1





GROUND FLOOR PLAN
 SCALE: 1/8" = 1'-0"



BID DOCUMENTS
 AGENCY SUBMITTAL - NOT FOR CONSTRUCTION

- GENERAL NOTES:**
- COORDINATE BUILDING PLAN WITH SITE PLAN.
 - DIMENSIONS ARE TO FACE OF CMU OR FACE OF STRUCTURAL STEEL UNLESS NOTED OTHERWISE.
 - WALL PENETRATIONS:
 - ALLOW FOR EXPANSION WHEN REQUIRED OR AS INDICATED BY OTHER DISCIPLINES.
 - INTERIOR PARTITIONS ARE 8" CMU UNLESS NOTED OTHERWISE. INTERIOR PARTITIONS EXTEND TO BOTTOM OF STRUCTURE UNLESS NOTED OTHERWISE.
 - WHERE FIRE RATING IS REQUIRED, WALLS ARE UL SYSTEM BVUX U905 OR U937. REFERENCE A-100 FOR LOCATION OF RATED WALLS.
 - DOOR RETURN - MINIMUM OF 4" ON HINGE SIDE.
 - FLOOR DRAINS: NOT ALL FLOOR DRAINS ARE SHOWN ON ARCHITECTURAL PLANS. SEE PLUMBING DRAWINGS FOR LOCATION AND TYPE OF FLOOR DRAINS.
 - FOR FIRE RATING, SEE SHEET A-100.
 - SEAL PENETRATIONS THROUGH FIRE RATED CONSTRUCTION WITH APPROPRIATE FIRE SAFING / SEALANT.
 - SEAL PENETRATIONS THROUGH EXTERIOR WALLS FOR AN AIR/WATER TIGHT CONSTRUCTION.
 - SIDEWALK, DOOR PADS AND STEPS, PAVEMENT GRADES AND ELEVATIONS MUST BE COORDINATED WITH CIVIL DRAWINGS.
 - DIMENSIONS TO CMU ARE NOMINAL MASONRY DIMENSIONS UNLESS NOTED OTHERWISE.
 - BUILDING ELEVATION 100'-0" = SITE ELEVATION 260'-0".

REV	DATE	DESCRIPTION	BY
A3	07/11/2023	Addenda 3	MJP



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 www.stanleyconsultants.com

WRANGELL WATER TREATMENT PLANT IMPROVEMENTS
 WRANGELL, ALASKA
GROUND FLOOR PLAN

PROJECT 1528.5026.01
 DATE 06/02/2023

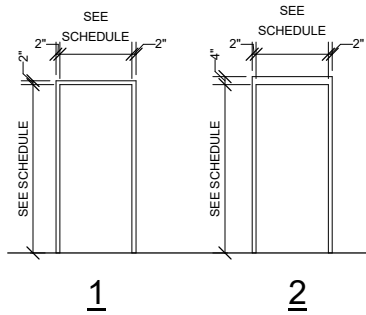


DOOR NO.	DOOR				FRAME					DETAILS			FIRE RATING (in min)	GLAZING TYPE	HARDWARE SET	COMMENTS
	WIDTH	HEIGHT	LEAF COUNT	TYPE	MATL	TYPE	MATL	HEAD	JAMB	SILL	TYPE	TYPE				
1001A	3'-0"	7'-0"	2	HG	HM	1	HM	H3	J3	S3						
1001B	3'-0"	7'-0"	1	HG	HM	1	HM	H3	J3	S3						
1001C	3'-0"	7'-0"	1	HG	HM	1	HM	H3	J3	S3						
1001D	3'-0"	7'-0"	1	HG	HM	1	HM	H3	J3	S3						
1002A	3'-0"	7'-0"	1	F	HM	2	HM	H4	J4	-	90					
1002C	3'-0"	7'-0"	1	F	HM	1	HM	H3	J3	S3	45					
1003A	3'-0"	7'-0"	1	F	HM	2	HM	H4	J4	-	90					
1003C	3'-0"	7'-0"	1	F	HM	1	HM	H3	J3	S3	45					
1004A	3'-0"	7'-0"	1	F	HM	2	HM	H4	J4	-						
1004B	3'-4"	7'-0"	2	F	HM	1	HM	H3	J3	S3						
1005A	3'-0"	7'-0"	1	F	HM	2	HM	H4	J4	-						
1005B	3'-4"	7'-0"	2	F	HM	1	HM	H3	J3	S3						
1006	3'-0"	7'-0"	1	F	HM	2	HM	H4	J4	-						

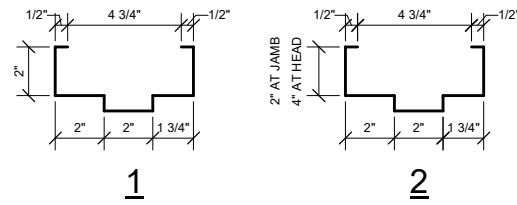
MARK	DOOR			FRAME		FIRE RATING (in min)	DETAILS			COMMENTS
	WIDTH	HEIGHT	TYPE	MATERIAL	TYPE		MATERIAL	HEAD	JAMB	
1001F	14'-0"	14'-0"	SE	STL	-	-	H1	J1	S1	1
1001G	14'-0"	14'-0"	SE	STL	-	-	H1	J1	S1	1
1001H	14'-0"	14'-0"	SE	STL	-	-	H1	J1	S1	1
1002B	7'-0"	14'-0"	CO	ATL	-	-	H5	J2	S2	1
1005B	9'-6"	10'-0"	CO	STL	-	-	H5	J2	S2	1

DOOR SCHEDULE LEGEND:
 HM HOLLOW METAL
 STL STEEL

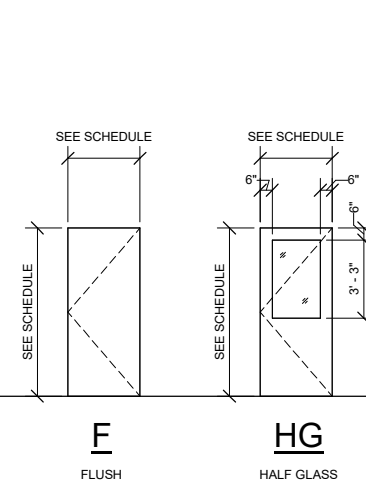
- DOOR SCHEDULE NOTES:**
- MOTOR-OPERATED.
 - FOR DOOR DETAILS, SEE SHEET A-502.
 - FOR HARDWARE SETS, SEE SPECIFICATION SECTION 08 70 00.
 - FOR GLAZING TYPES, SEE SPECIFICATION SECTION 08 80 00.



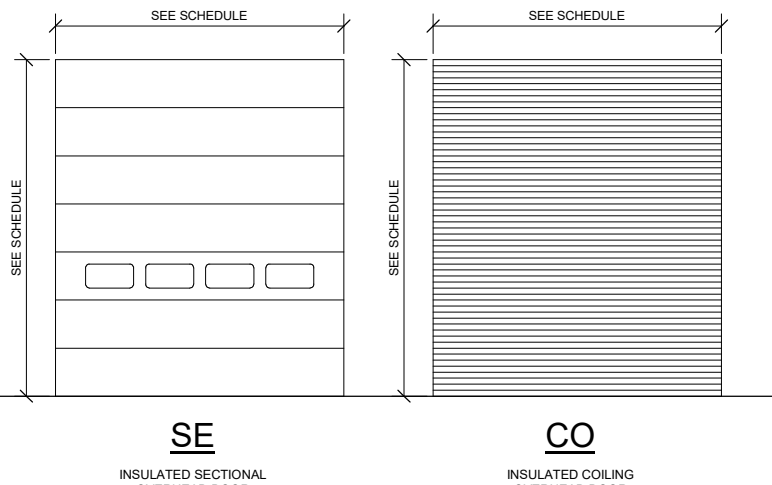
DOOR FRAME TYPES
 SCALE: 1/4" = 1'-0"



FRAME SECTION
 SCALE: 3" = 1'-0"

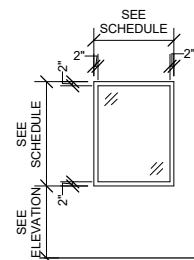


DOOR ELEVATION TYPES
 SCALE: 1/4" = 1'-0"

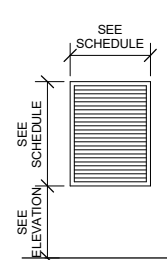


SE
 INSULATED SECTIONAL OVERHEAD DOOR

CO
 INSULATED COILING OVERHEAD DOOR

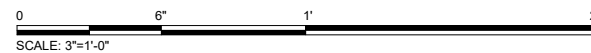
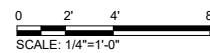


W1 / W2



L1 / L2

WINDOW AND LOUVER TYPES
 SCALE: 1/4" = 1'-0"



ROOM NO.	ROOM NAME	FLOOR	BASE	WALLS	CEILING		COMMENTS
					MATL	HEIGHT	
1001	FILTER ROOM	SC	-	LP / IL	IL	VARIES	LINER PANEL TO 8'-0" AFF
1002	ACID	SC	-	CMU / LP	EXP	12'-0"	LINER PANEL TO UNDERSIDE OF STRUCTURE
1003	BASE	SC	-	CMU / LP	EXP	12'-0"	LINER PANEL TO UNDERSIDE OF STRUCTURE
1004	ELECTRICAL	SC	-	CMU / LP	EXP	12'-0"	LINER PANEL TO UNDERSIDE OF STRUCTURE
1005	BLOWERS	SC	-	CMU / LP	EXP	12'-0"	LINER PANEL TO UNDERSIDE OF STRUCTURE
1006	STORAGE	SC	-	CMU / LP	IL	VARIES	LINER PANEL TO 8'-0" AFF
2008	EQUIPMENT PLATFORM	SC	-	LP / IL	IL	VARIES	LINER PANEL TO 8'-0" AFF

FINISH LEGEND:
 CMU CONCRETE MASONRY UNIT - PAINT
 EXP EXPOSED STRUCTURE - PAINTED
 IL INSULATION LINER
 LP LINER PANEL
 SC SEALED CONCRETE

- FINISH SCHEDULE NOTES:**
- LINER PANEL AT EXTERIOR PEMB WALLS TO 8'-0" AFF HAVE EXPOSED INSULATION LINER ABOVE UNLESS NOTED OTHERWISE.
 - EXPOSED STRUCTURE MUST BE PAINTED UNLESS NOTED OTHERWISE.

MARK	WIDTH	HEIGHT	MATL	DETAILS			GLAZING TYPE	COMMENTS
				HEAD	JAMB	SILL		
W1	3'-0"	4'-0"	AL	H5	J5	S5	TYPE 1	
W2	5'-0"	4'-0"	AL	H5	J5	S5	TYPE 1	

WINDOW SCHEDULE LEGEND:
 AL ALUMINUM

- WINDOW SCHEDULE NOTES:**
- FOR WINDOW DETAILS, SEE SHEET A502.
 - FOR GLAZING TYPES, SEE SPECIFICATION SECTION 08 80 00.

MARK	WIDTH	HEIGHT	DETAILS			COMMENTS
			HEAD	JAMB	SILL	
L1	3'-0"	4'-0"	H6	J6	S6	
L2	3'-0"	2'-0"	H6	J6	S6	

REV	DATE	DESCRIPTION	BY
A3	07/11/2023	Addenda 3	MJP



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WRANGELL WATER TREATMENT PLANT IMPROVEMENTS
 WRANGELL, ALASKA
ROOM FINISH AND OPENING SCHEDULES
 SEC. 31, TOWNSHIP 62S, RANGE 94E
 CITY AND BOROUGH OF WRANGELL, ALASKA

PROJECT 1528.5026.01
 DATE 06/02/2023

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 SHEET

A-601

BID DOCUMENTS
 AGENCY SUBMITTAL - NOT FOR CONSTRUCTION



Attachment 2

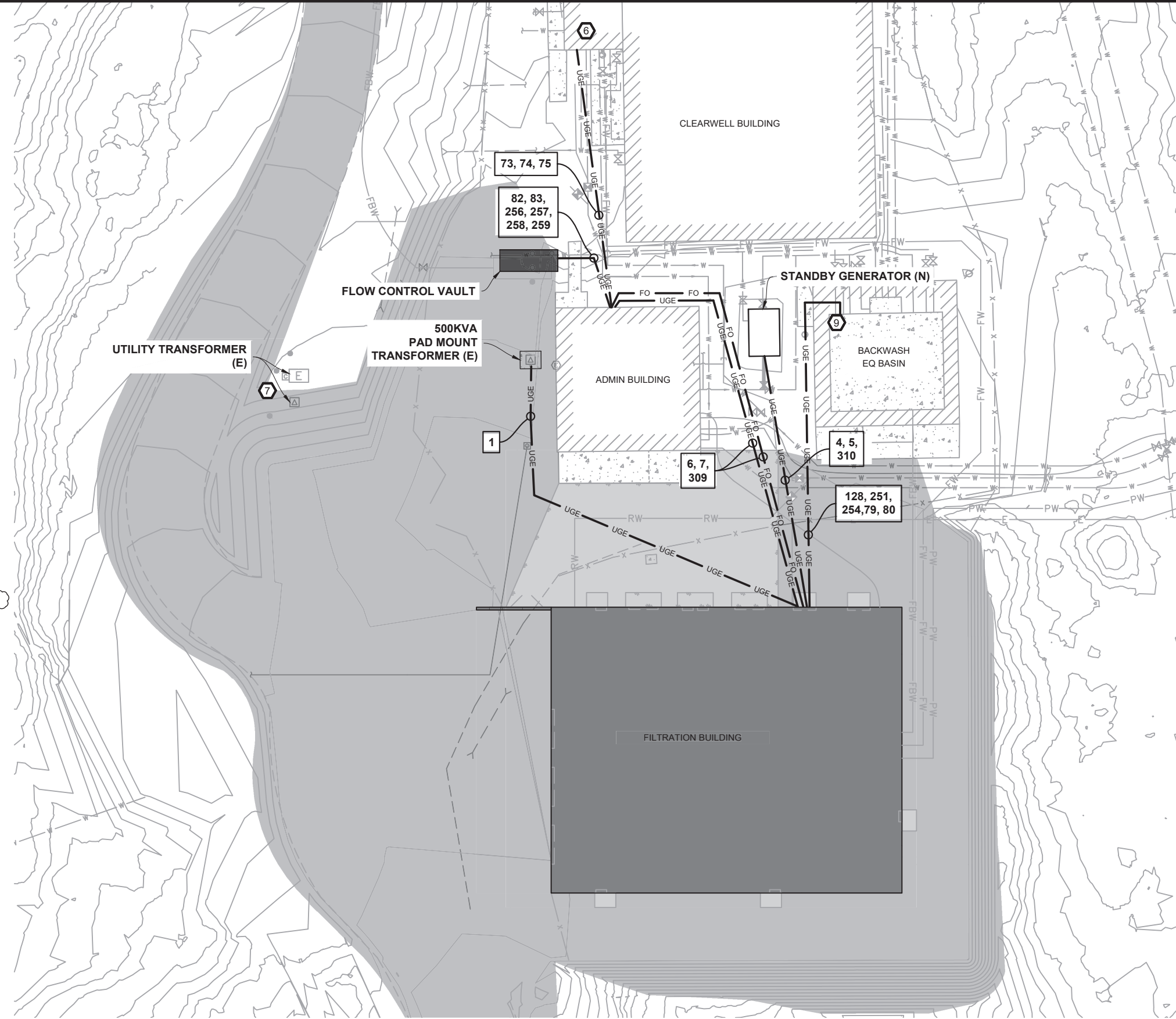
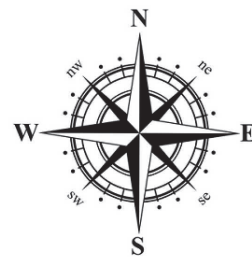
NEW

- LEGEND:**
 (E) EXISTING
 (D) DEMOLISH (DEMOLISH AND DISPOSE OF EQUIPMENT UNLESS NOTED OTHERWISE)
 (N) NEW

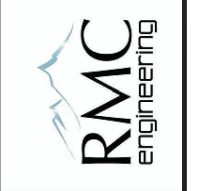
- NOTES:**
- COORDINATE WITH WML&P TO INSTALL SERVICE ENTRANCE CONDUCTORS TO THE NEW FILTRATION BUILDING.
 - WML&P WILL PROVIDE THE NECESSARY MATERIAL AND LABOR TO INSTALL THE SERVICE ENTRANCE CONDUCTORS.
 - THE CONTRACTOR AND WML&P SHALL COORDINATE WITH THE OWNER TO DETERMINE THE EXACT LOCATION OF THE UNDERGROUND ELECTRICAL CONDUITS. CONDUITS SHALL BE INSTALLED IN AREA SO THAT THEY WILL NOT BE DISTURBED BY FUTURE WORK OUTSIDE OF THIS CONTRACT.
 - EXISTING UNDERGROUND UTILITIES MAY NOT BE IN LOCATION SHOWN. FIELD VERIFY LOCATION OF UNDERGROUND UTILITIES PRIOR TO DIGGING.
 - WML&P WILL COMPLETE THEIR SCOPE OF WORK UNDER A SEPARATE CONTRACT WITH THE OWNER.
 - HIGH SERVICE PUMPS 3EA.
 - EXISTING UTILITY TRANSFORMER TO REMAIN IN PLACE. TAKE CARE NOT TO DAMAGE TRANSFORMER DURING CONSTRUCTION.
 - NEW CONTRACTOR PROVIDED STANDBY GENERATOR. PROVIDE FOUNDATION AND SUPPORTS PER THE MANUFACTURERS INSTALLATION REQUIREMENTS.
 - COORDINATE WITH ALL TRADES TO ROUTE CONDUITS INTO BACKWASH EQ BASIN. CORE DRILL IF REQUIRED, SEAL CONDUITS WITH LINK-SEAL OR ENGINEER APPROVED DEVICE.
 - PROVIDE MINIMUM OF ONE SPARE CONDUIT TO EACH LOCATION. SIZE AS SHOWN. COORDINATE WITH ENGINEER.
 - PROVIDE ONE SPARE CONDUIT FOR EACH UNDERGROUND CONDUIT SHOWN FOR EACH LOCATION. INSTALL PULL STRING IN EACH SPARE CONDUIT.

UNDERGROUND CONDUIT SCHEDULE

ID	Size	Conductors	Location 1	Location 2
1			TRANSFORMER	CT CABINET
6, 7	3"	4NO. 3/0, 1NO. 3 AWG GND	MDP	PANEL B
309	2"	FIBER OPTIC, 6 STRAND, MULTI MODE	10-NP-01	10-NP-02
73	2"	VFD CABLE - 3NO. 6AWG, 1NO. 8AWG GND	MCC-B	HIGH SERVICE PUMP 1
74	2"	VFD CABLE - 3NO. 6AWG, 1NO. 8AWG GND	MCC-B	HIGH SERVICE PUMP 1
75	2"	VFD CABLE - 3NO. 6AWG, 1NO. 8AWG GND	MCC-B	HIGH SERVICE PUMP 1
4, 5	4"	3NO. 350KCMIL, 1NO. 4/0, 1NO. 1AWG GND	TRANSFER SWITCH	GENERATOR
310	1"	CAT 6	10-NP-01	GENERATOR
128	1"	2NO. 12AWG, 1NO. GND	PANEL A-1	EQ BASIN
251, 254	1.5"	3 Ea. TWISTED SHIELDED PAIR	10-CP-01	EQ BASIN
79	1"	VFD CABLE - 3NO. 10AWG, 1NO. 12 AWG GND	MCC-A	EQ BASIN P-601A
80	1"	VFD CABLE - 3NO. 10AWG, 1NO. 12 AWG GND	MCC-A	EQ BASIN P-601B
84	1"	2NO. 12AWG, 1NO. GND	PANEL B-1	FLOW CONTROL VAULT
82, 83	1"	4NO. 14 AWG, 1NO. 14 AWG GND	10-CP-02	FLOW CONTROL VAULT
256, 258	1.5"	12NO. 14 AWG, 1NO. 14 AWG GND	10-CP-02	FLOW CONTROL VAULT
257, 259	1.5"	3 Ea. TWISTED SHIELDED PAIR	10-CP-02	FLOW CONTROL VAULT



REV	DATE	DESCRIPTION	BY
1	07/11/23	ADDENDUM #3	VM



WRANGELL WATER TREATMENT PLANT IMPROVEMENTS
 WRANGELL, ALASKA
SITE PLAN ELECTRICAL (NEW)
 SEC. 31; TOWNSHIP 62S; RANGE 84E
 CITY AND BOROUGH OF WRANGELL, ALASKA

PROJECT J000541
 DATE 06/02/2023

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E-06

1 SITE PLAN (NEW)

BID DOCUMENTS
 AGENCY SUBMITTAL - NOT FOR CONSTRUCTION

G:\My Drive\Jobs\DWG\Jobs\000541 - Wrangell WTP Design\Drawings\Master\000541 E-06 Electrical Site Plan (New).dwg PLOT DATE 2023-07-11 12:07 SAVED DATE 2023-07-11 10:57 USER: vince

G:\My Drive\Jobs\DWL\Jobs\000541 - Wrangell WTP Design\Drawings\Master\000541 E-10 Panel Schedules MDP A.dwg PLOT DATE 2023-07-11 12:07 SAVED DATE 2023-07-11 10:57 USER: vince

PANEL MDP VOLTAGE: 480/277 AIC: 35KA ENCLOSURE: NEMA 1													PHASE: 3 BUS AMPACITY: 600 A			WIRE: 4 MAIN CB: 600 A MOUNTING: Surface		
CKT. NO.	DESCRIPTION	LOAD		CKT BREAKER			PHASE			CKT BREAKER			LOAD		DESCRIPTION	CKT. NO.		
		VA	TYPE	P	A	OPT	A	B	C	OPT	A	P	TYPE	VA				
1	Panel B (Control Building)	52877	N	3	400		57877							H	5000	2	Acid Room Heater (UH-1)	
3		52877	N											H	5000	4		
5		52877	N											H	5000	6		
7	Air Cooled Condensing Unit (ACCU-1)	5546	H	3	20		10546							H	5000	8	Base Room Heater (UH-2)	
9		5546	H											H	5000	10		
11		5546	H											H	5000	12		
13	Transformer T1 / Panel A	12412	N	3	100		13412							N	1000	14	Electrical Room Heat (UH-3)	
15		12412	N											N	1000	16		
17		12412	N											N	1000	18		
19	MCC	31652	M	3	400		32652							N	1000	20	Blower Room Heater (UH-4)	
21		31652	M											N	1000	22		
23		31652	M											N	1000	24		
25	Overhead Lighting	304	L	1	20		5304							H	5000	26	Process Room (UH-5)	
27	Outdoor Lighting	304	L	1	20		5304							H	5000	28		
29		4670	H											H	5000	30		
31	DOAS Unit	4670	H	3	30		9670							H	5000	32	Process Room (UH-6)	
33	Preheat Electric Heater	4670	H											H	5000	34		
35														H	5000	36		
37							5000							H	5000	38	Process Room (UH-7)	
39														H	5000	40		
41														H	5000	42		

LOAD SUMMARY					
CONNECTED			DEMAND		
KVA	FACTOR	KVA	LOAD TYPE	FACTOR	KVA
A PHASE: 134.5	0.61	0.00	LIGHTING (L)	1.25	0.76
B PHASE: 134.5	0.00	0.00	RECEPTACLE (R)	1.00	0.00
C PHASE: 134.2	0.00	0.00	REC (>10000VA) (LR)	0.50	0.00
TOTAL: 403.1		105.65	HVAC (H)	1.25	132.06
		0.00	LARGEST MOTOR (LM)	1.25	0.00
		94.96	REMAIN MOTOR (M)	1.00	94.96
		201.87	KNOW DEMAND (N)	1.00	201.87
		0.00	EXISTING LOAD (E)	1.00	0.00
		0.00	ADDITIONAL LOAD (A)	1.00	0.00
TOTAL:		403.08			429.64 <- TOTAL KVA
					516.8 <- TOTAL A/PH

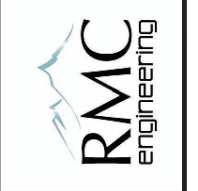
1 PANEL MDP (FILTRATION BUILDING)

PANEL A VOLTAGE: 208/120 AIC: 35KA ENCLOSURE: NEMA 1													PHASE: 3 BUS AMPACITY: 200 A			WIRE: 4 MAIN CB: 200 A MOUNTING: Surface		
CKT. NO.	DESCRIPTION	LOAD		CKT BREAKER			PHASE			CKT BREAKER			LOAD		DESCRIPTION	CKT. NO.		
		VA	TYPE	P	A	OPT	A	B	C	OPT	A	P	TYPE	VA				
1	DOAS Unit	2370	M											H	2000	2	Water Heater	
3		2370	M	3	30			4370						H	2000	4		
5		2370	M											H	2000	6		
7	Compressor C-08-AC-810	1242	M	3	20			1482						N	240	8	Coagulant Skid Recep	
9		1242	M											N	240	10	Coagulant Skid-502	
11		1242	M											N	240	12	Caustic Dosing Skid Recep	
13		1242	M											N	240	14	Caustic Dosing Skid-501	
15	Compressor C-08-AC-820	1242	M	3	20			1482						L	304	16	Base Room Lighting	
17		1242	M											L	304	18	Acid Room Lighting	
19														L	304	20	Electrical Room Lighting	
21														L	304	22	Blower Room Lighting	
23														N	304	24	Platform Lighting	
25								1000						N	1000	26	10-NP-01 (Network Panel)	
27														M	100	28	Circ Pump CP-1	
29														N	600	30	Raw Water Instrument Panel	
31	Orthophosphate Skid Recep	240	N	1	20			840						N	600	32	Raw Water Instrument Panel	
33	Orthophosphate Skid-502	240	N	1	20			840						N	600	34	Clarified Water Instrument Panel	
35	DOAS Controller	100	N	1	20									N	600	36	Clarified Water Instrument Panel	
37	02-ICP-001 (DAF Control Panel)	1000	N	1	40			1600						N	600	38	Filtrate Water Instrument Panel	
39	03-RCR-101 (DAF Remote Panel)	1000	N	1	40			1600						N	600	40	Filtrate Water Instrument Panel	
41	03-RCR-201 (DAF Remote Panel)	1000	N	1	40									N	600	42	Outside Recept	
43	Acid Room Exhaust Fan (EF-1)	100	N	1	20			700						N	600	44	Inside Recept	
45	Base Room Exhaust Fan (EF-2)	100	N	1	20			700						N	600	46	Work Station Recep	
47	Electrical Room Fan (EF-3)	125	N	1	20			725						N	600	48	Acid Room, Base Room Recep	
49	Roof Blower (EF-4)	185	N	1	20			785						N	600	50	Electrical Room Recep	
51														N	600	52	Platform Recep	
53														N	120	54	FACT	
55																56		
57																58		
59																60		
61																62		
63																64		
65																66		

LOAD SUMMARY					
CONNECTED			DEMAND		
KVA	FACTOR	KVA	LOAD TYPE	FACTOR	KVA
A PHASE: 12.6	1.22	0.00	LIGHTING (L)	1.25	1.52
B PHASE: 11.5	0.00	0.00	RECEPTACLE (R)	1.00	0.00
C PHASE: 11.4	0.00	0.00	REC (>10000VA) (LR)	0.50	0.00
TOTAL: 35.6		6.00	HVAC (H)	1.25	7.50
		0.00	LARGEST MOTOR (LM)	1.25	0.00
		14.66	REMAIN MOTOR (M)	1.00	14.66
		13.67	KNOW DEMAND (N)	1.00	13.67
		0.00	EXISTING LOAD (E)	1.00	0.00
		0.00	ADDITIONAL LOAD (A)	1.00	0.00
TOTAL:		35.55			37.36 <- TOTAL KVA
					103.7 <- TOTAL A/PH

2 PANEL A (FILTRATION BUILDING)

REVISIONS			
REV	DATE	DESCRIPTION	BY
1	07/11/23	ADDENDUM #3	VM



WRANGELL WATER TREATMENT PLANT IMPROVEMENTS
 WRANGELL, ALASKA
PANEL SCHEDULES
 SEC. 31; TOWNSHIP 62S; RANGE 84E
 CITY AND BOROUGH OF WRANGELL, ALASKA

PROJECT: J000541
DATE: 06/02/2023

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E-10

ID	UNDER GROUND	CONDUIT	CONDUCTORS	LOCATION 1		LOCATION 2	
				BUILDING	EQUIPMENT	BUILDING	EQUIPMENT
1	YES	Provided by Utility		OUTSIDE	UTILITY TRANSFORMER	FILTRATION	CT CABINET
2	YES	4"	3NO. 350 MCM, 1NO. 4/0 AWG, 1NO. 1 AWG GND	FILTRATION	CT CABINET	FILTRATION	MAIN CIRCUIT BREAKER
3	YES	4"	3NO. 350 MCM, 1NO. 4/0 AWG, 1NO. 1 AWG GND	FILTRATION	CT CABINET	FILTRATION	MAIN CIRCUIT BREAKER
4	YES	4"	3NO. 350 MCM, 1NO. 4/0 AWG, 1NO. 1 AWG GND	OUTSIDE	GENERATOR	FILTRATION	TRANSFER SWITCH
5	YES	4"	3NO. 350 MCM, 1NO. 4/0 AWG, 1NO. 1 AWG GND	OUTSIDE	GENERATOR	FILTRATION	TRANSFER SWITCH
6	YES	3"	4NO. 3/0, 1NO. 3 AWG GND	FILTRATION	MDP	ADMIN	PANEL B
7	YES	3"	4NO. 3/0, 1NO. 3 AWG GND	FILTRATION	MDP	ADMIN	PANEL B
8			3NO. 3 AWG, 1NO. 8 AWG GND	FILTRATION	MDP	FILTRATION	TRANSFORMER T1
9	YES	3"	4NO. 3/0, 1NO. 3 AWG GND	FILTRATION	MDP	FILTRATION	MCC-A
10	YES	3"	4NO. 3/0, 1NO. 3 AWG GND	FILTRATION	MDP	FILTRATION	MCC-A
11			4NO. 3/0, 1NO. 3 AWG GND	FILTRATION	TRANSFORMER T1	FILTRATION	PANEL A
12			2NO. 12 AWG, 1NO. 12 AWG GND, 1NO. 12 AWG	FILTRATION	MDP	FILTRATION	OVERHEAD LIGHTING
13			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	PLATFORM LIGHTING
14			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MDP	FILTRATION	OUTDOOR LIGHTING
15			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	ACID ROOM LIGHTING
16			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	BASE ROOM LIGHTING
17			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	ELECTRICAL ROOM LIGHTING
18			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	BLOWER ROOM LIGHTING
19			3NO. 8 AWG, 1NO. 10 AWG GND	FILTRATION	MDP	FILTRATION	AIR COOLED CONDENSING UNIT, ACCU-1
20			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	ACID ROOM EXHAUST FAN (EF-1)
21			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	BASE ROOM EXHAUST FAN (EF-2)
22			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	ELECTRICAL ROOM EXHAUST FAN (EF-3)
23			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	ROOF BLOWER EXHAUST FAN (EF-4)
24			3NO. 10 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	WATER HEATER
25			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	CIRC PUMP CP-1
26			3NO. 10 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	DOAS UNIT
27			3NO. 6 AWG, 1NO. 8 AWG GND	FILTRATION	PANEL A	FILTRATION	DOAS UNIT PREHEAT ELECTRIC HEATER
28			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	DOAS CONTROLLER
29			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	10-NP-01
30			2NO. 8 AWG, 1NO. 10 AWG GND	FILTRATION	PANEL A	FILTRATION	02-LCP-001
31			2NO. 8 AWG, 1NO. 10 AWG GND	FILTRATION	PANEL A	FILTRATION	03-RCP-101
32			2NO. 8 AWG, 1NO. 10 AWG GND	FILTRATION	PANEL A	FILTRATION	03-RCP-201
33			3NO. 10 AWG, 1NO. 12 AWG GND	FILTRATION	MDP	FILTRATION	ACID ROOM UNIT HEATER (UH-1)
34			3NO. 10 AWG, 1NO. 12 AWG GND	FILTRATION	MDP	FILTRATION	BASE ROOM UNIT HEATER (UH-2)
35			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MDP	FILTRATION	ELECTRICAL ROOM UNIT HEATER (UH-3)
36			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MDP	FILTRATION	BLOWER ROOM UNIT HEATER (UH-4)
37			3NO. 10 AWG, 1NO. 12 AWG GND	FILTRATION	MDP	FILTRATION	PROCESS ROOM UNIT HEATER (UH-5)
38			3NO. 10 AWG, 1NO. 12 AWG GND	FILTRATION	MDP	FILTRATION	PROCESS ROOM UNIT HEATER (UH-6)
39			3NO. 10 AWG, 1NO. 12 AWG GND	FILTRATION	PANEL A	FILTRATION	PROCESS ROOM UNIT HEATER (UH-7)
40			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	10-NP-01	FILTRATION	10-CP-01
41			2NO. 14 AWG, 1NO. 14 AWG GND	FILTRATION	02-LCP-001	FILTRATION	RAW WATER FLOW METER 01-FIT-013
42			2NO. 14 AWG, 1NO. 14 AWG GND	FILTRATION	02-LCP-001	FILTRATION	RAW WATER CONTROL VALVE 02-FV-014
43			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	Panel A	FILTRATION	RAW WATER INSTRUMENT PANEL
44			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	Panel A	FILTRATION	RAW WATER INSTRUMENT PANEL
45			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	RAPID MIXER 01-MX-021
46			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	RAPID MIXER 01-MX-022
47			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #1 FLOC #1 02-MX-103
48			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #1 FLOC #2 02-MX-105
49			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #1 SKIMMER 02-MX-111
50			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #1 RECYCLE PUMP 02-P-120
51			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #2 FLOC #1 02-MX-203
52			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #2 FLOC #2 02-MX-205
53			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #2 SKIMMER 02-MX-211
54			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #2 RECYCLE PUMP 02-P-220
55			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #3 FLOC #1 02-MX-303
56			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #3 FLOC #2 02-MX-305
57			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #3 SKIMMER 02-MX-311
58			3NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	MCC-A	FILTRATION	DAF #3 RECYCLE PUMP 02-P-320
59			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	Panel A	FILTRATION	CLARIFIED WATER INSTRUMENT PANEL
60			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	Panel A	FILTRATION	CLARIFIED WATER INSTRUMENT PANEL
61			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	Panel A	FILTRATION	FILTRATE WATER INSTRUMENT PANEL
62			2NO. 12 AWG, 1NO. 12 AWG GND	FILTRATION	Panel A	FILTRATION	FILTRATE WATER INSTRUMENT PANEL
62			2NO. 14 AWG, 1NO. 14 AWG GND	FILTRATION	10-CP-01	FILTRATION	FILTER #1 FILTERED WATER FIT-313
63			2NO. 14 AWG, 1NO. 14 AWG GND	FILTRATION	10-CP-01	FILTRATION	FILTER #2 FILTERED WATER FIT-314
64			2NO. 14 AWG, 1NO. 14 AWG GND	FILTRATION	10-CP-01	FILTRATION	FILTER #3 FILTERED WATER FIT-315
65			2NO. 14 AWG, 1NO. 14 AWG GND	FILTRATION	10-CP-01	FILTRATION	FILTER #4 FILTERED WATER FIT-316
66			2NO. 14 AWG, 1NO. 14 AWG GND	FILTRATION	10-CP-01	FILTRATION	FILTER #5 FILTERED WATER FIT-317
67			2NO. 14 AWG, 1NO. 14 AWG GND	FILTRATION	10-CP-01	FILTRATION	FILTER #6 FILTERED WATER FIT-318
68			2NO. 14 AWG, 1NO. 14 AWG GND	ADMIN	10-CP-03	CLEARWELL	CLEARWELL VALVE MV-435
69			2NO. 14 AWG, 1NO. 14 AWG GND	ADMIN	10-CP-03	CLEARWELL	CLEARWELL VALVE MV-436
70			2NO. 14 AWG, 1NO. 14 AWG GND	ADMIN	10-CP-03	CLEARWELL	CLEARWELL VALVE MV-437

NOTES:

1. THE EQUIPMENT SUPPLIED MAY AFFECT THE POWER CABLE SCHEDULE.
2. THE CONTRACTOR SHALL REVIEW ALL CONTRACT DOCUMENTS, ELECTRICAL SUBMITTALS, AND EQUIPMENT MANUFACTURERS' INSTALLATION INSTRUCTIONS TO IDENTIFY AND ACCOUNT FOR ALL ELECTRICAL CONDUCTORS REQUIRED FOR THE CONSTRUCTION OF THE WATER PLANT.
3. THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES INVOLVED IN THE WATER PLANT CONSTRUCTION, INCLUDING MECHANICAL, STRUCTURAL, AND CIVIL CONTRACTORS, TO ENSURE THAT ALL ELECTRICAL REQUIREMENTS ARE CONSIDERED.
4. ALL ELECTRICAL WORK SHALL BE PROPERLY DOCUMENTED, INCLUDING AS-BUILT DRAWINGS, TEST RESULTS, AND COMMISSIONING REPORTS.
5. ALL ELECTRICAL WORK SHALL BE COMPLETED TO THE OWNER'S SATISFACTION, AND THE FINAL PRODUCT SHALL MEET ALL DESIGN REQUIREMENTS AND SPECIFICATIONS.
6. THE POWER CABLE SCHEDULE SERVES AS A GENERAL REFERENCE FOR THE CONTRACTOR AND DOES NOT ENCOMPASS ALL OF THE CONDUCTORS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR ON-SITE VERIFICATION AND PROVISION OF ALL NECESSARY CONDUCTORS AND CONDUITS TO ENSURE THE DELIVERY OF A FULLY OPERATIONAL FILTRATION SYSTEM.
7. FIELD VERIFY ALL CONDUCTORS.



REV	DATE	DESCRIPTION	BY
1	07/11/23	ADDENDUM #3	VM



WRANGELL WATER TREATMENT PLANT IMPROVEMENTS
WRANGELL, ALASKA
CABLE SCHEDULE
SEC. 31; TOWNSHIP 62S; RANGE 84E
CITY AND BOROUGH OF WRANGELL, ALASKA

PROJECT J000541
DATE 06/02/2023

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E-12

1 POWER CONDUCTORS SCHEDULE

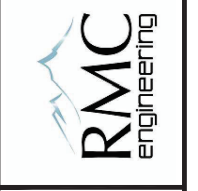
NO	TAG	DESCRIPTION	CONDUCTORS			LOCATION 1	LOCATION 2	
			TYPE	V O R I	QTY			
200	01-AIT-001	RW TOTAL ORGANIC CARBON	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	RW SAMPLE PANEL
201	01-AIT-002	RW pH & TEMPERATURE	ANALOG	4-20 mA	2	#18 TSP	10-CP-01	RW SAMPLE PANEL
202	01-AIT-003	RW ALKALINITY	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	RW SAMPLE PANEL
203	01-AIT-004	RW TURBIDITY	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	RW SAMPLE PANEL
204	01-FIT-013	RW FLOW RATE	ANALOG	4-20 mA	1	#18 TSP	02-LCP-001	RW PIPING
205	01-FV-014	RW FLOW CONTROL VALVE	ANALOG	4-20 mA	2	#18 TSP	02-LCP-001	RW PIPING
206	01-LSH-023	TRENCH FLOAT SWITCH	CONTROL	24 VDC	2	#14 AWG	10-CP-01	TRENCH
207	01-MX-021	RAPID MIX TANK STAGE 1 MIXER	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
208	01-MX-022	RAPID MIX TANK STAGE 2 MIXER	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
209	01-LIT-020	RAPID MIX TANK LEVEL	ANALOG	4-20 mA	1	#18 TSP	02-LCP-001	RAPID MIX TANK
210	02-MX-103	DAF UNIT #1 STAGE 1 MIXER	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
211	02-MX-105	DAF UNIT #1 STAGE 2 MIXER	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
212	02-MX-111	DAF UNIT #1 SOLIDS SKIMMER	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
213	02-P-120	RECYCLE PUMP #1	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
214	02-MX-203	DAF UNIT #2 STAGE 1 MIXER	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
215	02-MX-205	DAF UNIT #2 STAGE 2 MIXER	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
216	02-MX-211	DAF UNIT #2 SOLIDS SKIMMER	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
217	02-P-220	RECYCLE PUMP #2	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
218	02-MX-303	DAF UNIT #3 STAGE 1 MIXER	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
219	02-MX-305	DAF UNIT #3 STAGE 2 MIXER	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
220	02-MX-311	DAF UNIT #3 SOLIDS SKIMMER	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
221	02-P-320	RECYCLE PUMP #3	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
222	FIT-313	FILTER #1 FILTERED WATER	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	FILTERED WATER MANIFOLD
223	FIT-314	FILTER #2 FILTERED WATER	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	FILTERED WATER MANIFOLD
224	FIT-315	FILTER #3 FILTERED WATER	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	FILTERED WATER MANIFOLD
225	FIT-316	FILTER #4 FILTERED WATER	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	FILTERED WATER MANIFOLD
226	FIT-317	FILTER #5 FILTERED WATER	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	FILTERED WATER MANIFOLD
227	FIT-318	FILTER #6 FILTERED WATER	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	FILTERED WATER MANIFOLD
228	02-AIT-201	CLARIFIED TOTAL ORGANIC CARBON	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	CW SAMPLE PANEL
229	02-AIT-202	CLARIFIED pH & TEMPERATURE	ANALOG	4-20 mA	2	#18 TSP	10-CP-01	CW SAMPLE PANEL
230	03-AIT-301	FILTRATE TOTAL ORGANIC CARBON	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	FW SAMPLE PANEL
231	03-AIT-302	FILTRATE pH & TEMPERATURE	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	FW SAMPLE PANEL
232	03-AIT-303	FILTRATE TURBIDITY	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	FW SAMPLE PANEL
233	03-AIT-304	FILTRATE TURBIDITY	ANALOG	4-20 mA	2	#14 AWG	10-CP-01	FW SAMPLE PANEL
234	AIT-401	EFFLUENT TO CCB pH & TEMPERATURE	ANALOG	4-20 mA	2	#14 AWG	10-CP-01	
235	AIT-402	EFFLUENT TO CCB CHLORINE RESIDUAL	ANALOG	4-20 mA	2	#14 AWG	10-CP-01	
236	MV-435	CCB #1 INLET VALVE	CONTROL		6	#14 AWG	10-CP-03	
237	MV-436	CCB BYPASS VALVE	CONTROL		6	#14 AWG	10-CP-03	
238	MV-437	CCB#2 INLET VALVE	CONTROL		6	#14 AWG	10-CP-03	
239	MV-438	CCB #1 OUTLET VALVE	CONTROL		6	#14 AWG	10-CP-03	
240	MV-439	CCB #2 OUTLET VALVE	CONTROL		6	#14 AWG	10-CP-03	
241	LIT-410	CCB #1 LEVEL	POWER	4-20 mA	1	#18 TSP	10-CP-03	CCB #1 TK-401A
242	LIT-420	CCB #2 LEVEL	POWER	4-20 mA	1	#18 TSP	10-CP-03	CCB #2 TK-401B
243	LIT-430	CLEARWELL LEVEL	POWER	4-20 mA	1	#18 TSP	10-CP-03	CLEARWELL TK-402
244	P-401A	HIGH SERVICE PUMP #1	CONTROL	24 VDC	3	#14 AWG	10-CP-02	MCC-B
245	P-401B	HIGH SERVICE PUMP #2	CONTROL	24 VDC	3	#14 AWG	10-CP-02	MCC-B
246	P-401C	HIGH SERVICE PUMP #3	CONTROL	24 VDC	3	#14 AWG	10-CP-02	MCC-B
247	AIT-1001	CLEARWELL TO STORAGE TURBIDITY	ANALOG	4-20 mA	1	#18 TSP	10-CP-03	
248	LT-1002	STORAGE TANK LEVEL	ANALOG	4-20 mA	1	#18 TSP	10-CP-03	
249	FIT-1004	CLEARWELL TO STORAGE FLOW RATE	ANALOG	4-20 mA	1	#18 TSP	10-CP-03	
250	AIT-1003	STORAGE TO WTP CHLORINE RESIDUAL	ANALOG	4-20 mA	1	#18 TSP	10-CP-03	
251	LSH-601	BW EQ BASIN HIGH LEVEL SWITCH	CONTROL	24VDC	2	#14 AWG	10-CP-01	BW EQ BASIN TK-601
252	P-601A	BACKWASH FLOOR SCOUR PUMP #1	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
253	P-601B	BACKWASH FLOOR SCOUR PUMP #2	CONTROL	24 VDC	3	#14 AWG	10-CP-01	MCC-A
254	LIT-601	BW EQ BASIN LEVEL	ANALOG	4-20 mA	1	#18 TSP	10-CP-01	BW EQ BASIN TK-601

NOTES:

1. THE CONTROL CABLE SCHEDULE COULD BE AFFECTED BY EQUIPMENT THAT IS SUPPLIED.
2. THE CONTRACTOR SHALL REVIEW ALL ELECTRICAL SUBMITTALS AND PROJECT REQUIREMENTS TO ENSURE THEY HAVE A FULL UNDERSTANDING OF THE SCOPE OF CONSTRUCTION.
3. IDENTIFY AND ACCOUNT FOR ALL ELECTRICAL CONDUCTORS REQUIRED FOR THE CONSTRUCTION OF THE WATER PLANT. COORDINATE WITH THE OTHER TRADES INVOLVED IN THE CONSTRUCTION OF THE WATER PLANT, INCLUDING MECHANICAL, STRUCTURAL AND CIVIL CONTRACTORS, TO ENSURE THAT ALL ELECTRICAL REQUIREMENTS ARE TAKEN INTO CONSIDERATION.
5. ENSURE THAT ALL ELECTRICAL WORK IS PROPERLY DOCUMENTED, INCLUDING AS-BUILT DRAWINGS, TEST RESULTS, AND COMMISSIONING REPORTS.
6. ENSURE THAT ALL ELECTRICAL WORK IS COMPLETED TO THE SATISFACTION OF THE CLIENT AND THAT THE FINAL PRODUCT MEETS ALL DESIGN REQUIREMENTS AND SPECIFICATIONS.
7. THE CONTROL CONDUCTOR SCHEDULE SERVES AS A GENERAL REFERENCE FOR THE CONTRACTOR AND DOES NOT ENCOMPASS ALL OF THE CONDUCTORS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR ON-SITE VERIFICATION AND PROVISION OF ALL NECESSARY CONDUCTORS AND CONDUITS TO ENSURE THE DELIVERY OF A FULLY OPERATIONAL FILTRATION SYSTEM.



REV	DATE	DESCRIPTION
1	07/11/23	ADDENDUM #3

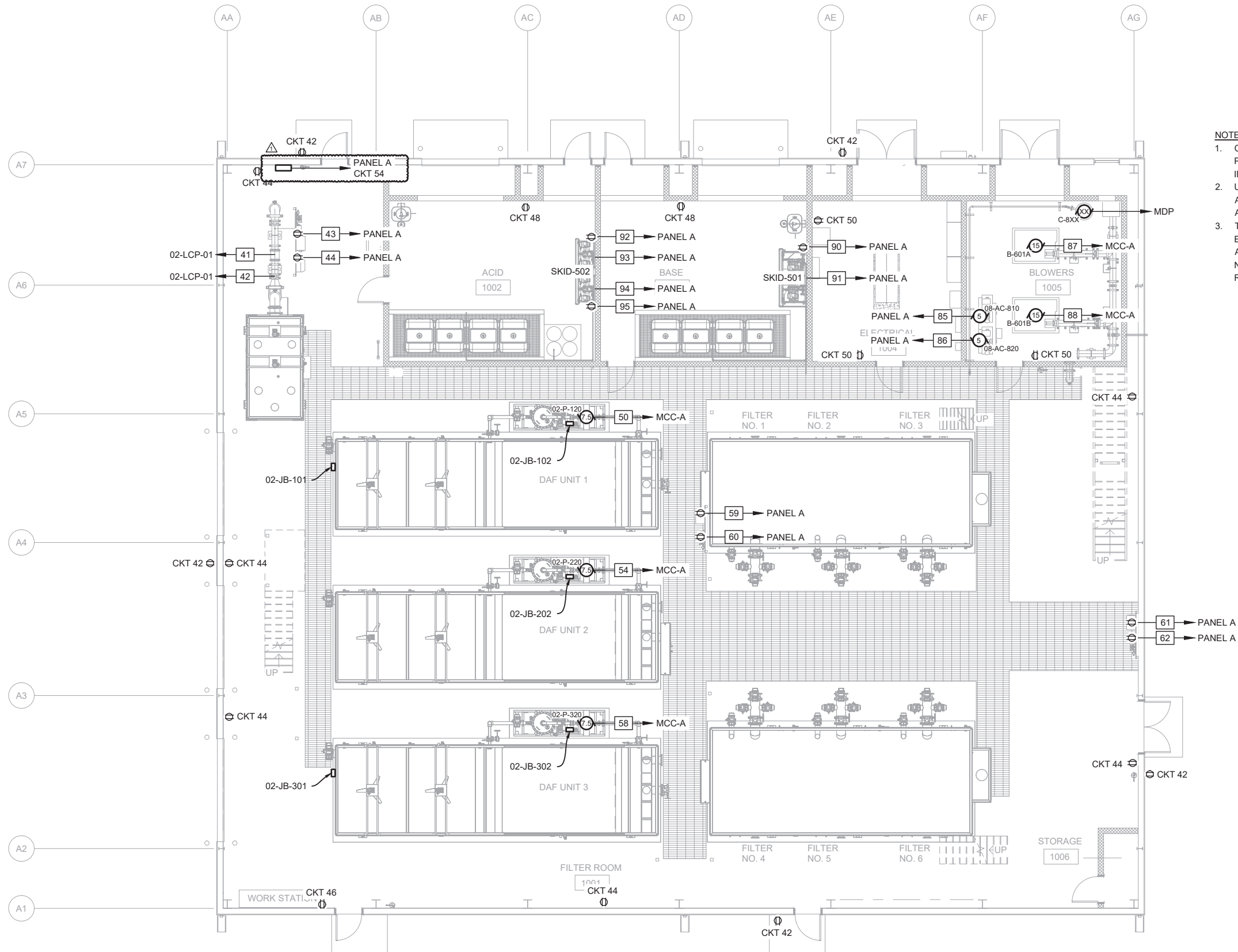


WRANGELL WATER TREATMENT PLANT IMPROVEMENTS
WRANGELL, ALASKA
CABLE SCHEDULE
PROJECT J000541
DATE 06/02/2023

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1 CONTROL CONDUCTORS SCHEDULE

G:\My Drive\Jobs\DWG\Jobs\000541 - Wrangell WTP Design\Drawings\Master\000541 E-20 Ground Floor Power Plan.dwg PLOT DATE 2023-07-11 10:55 USER: vince



NOTES:

1. CONTRACTOR TO PROVIDE CONDUIT ROUTING PLAN FOR ENGINEER APPROVAL PRIOR TO INSTALLATION.
2. UNDERGROUND / IN SLAB CONDUITS ARE ALLOWED WITHIN THE FACILITY WITH ENGINEER APPROVAL AND NO CHANGE IN COST.
3. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL CONDUITS ARE INSTALLED IN ACCORDANCE THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE, STATE AND LOCAL REQUIREMENTS.

1 GROUND FLOOR POWER PLAN



BID DOCUMENTS
AGENCY SUBMITTAL - NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY
1	07/11/23	ADDENDUM #3	VM



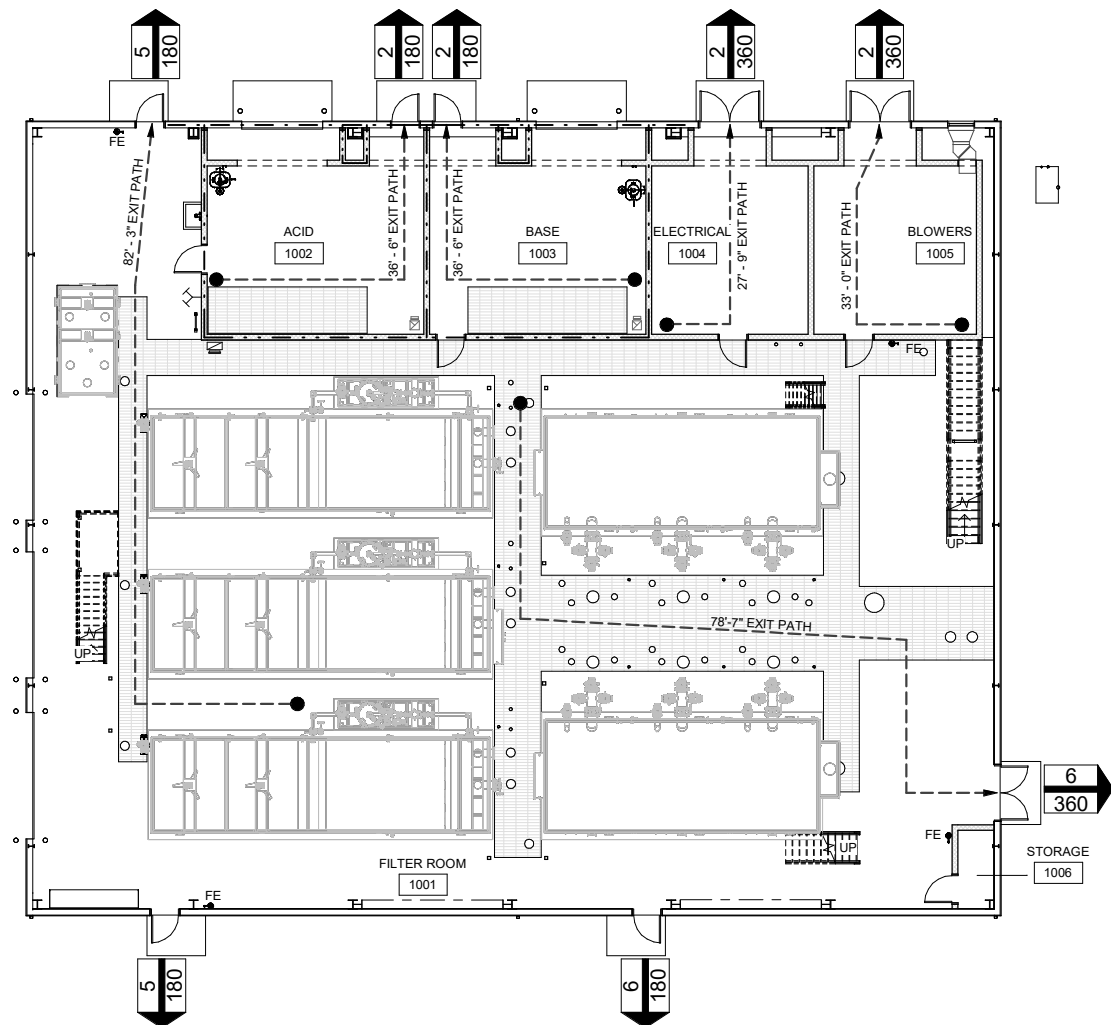
WRANGELL WATER TREATMENT PLANT IMPROVEMENTS
WRANGELL, ALASKA
GROUND FLOOR POWER PLAN
SEC. 31; TOWNSHIP 62S; RANGE 84E
CITY AND BOROUGH OF WRANGELL, ALASKA

PROJECT J000541
DATE 06/02/2023

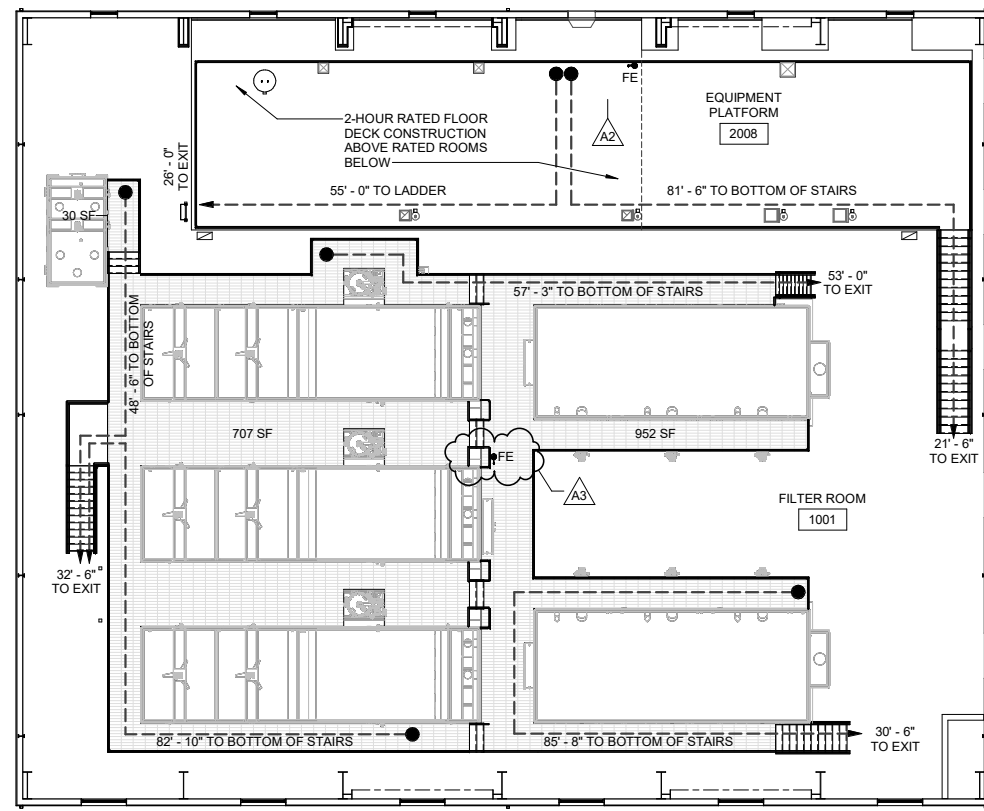
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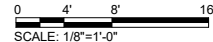
Attachment 3



GROUND FLOOR EGRESS PLAN
SCALE: 3/32" = 1'-0"



PLATFORM EGRESS PLAN
SCALE: 3/32" = 1'-0"



APPLICABLE BUILDING CODES

IBC	INTERNATIONAL BUILDING CODE	2021
IFC	INTERNATIONAL FIRE CODE	2021
IMC	INTERNATIONAL MECHANICAL CODE	2021
UPC	UNIFORM PLUMBING CODE	2018
ADA	AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES	2010
NFPA 13	INSTALLATION OF SPRINKLER SYSTEMS	2019
NFPA 70	NATIONAL ELECTRICAL CODE	2017
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE	2019
NFPA 90A	STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS	2018
NFPA 101	LIFE SAFETY CODE	2018

USE GROUP / OCCUPANCY - Chapter 3 (IBC 2021)

F-1	MODERATE HAZARD FACTORY INDUSTRIAL	8,307 SF (GROSS AREA)
H-4	HIGH HAZARD GROUP H-4	1,197 SF (GROSS AREA)
	TOTAL BUILDING	9,504 SF (GROSS AREA)

HEIGHT / STORIES - Chapter 5 (IBC 2021)

ALLOWABLE HEIGHT (TABLE 504.3):	F-1 @ NS, H-4 @ NS = 55'-0"	DESIGNED HEIGHT:	29' +/-
ALLOWABLE STORIES (TABLE 504.4):	F-1 @ NS = 2 / H-4 @ NS = 3	DESIGNED STORIES:	1

AREA - Chapter 5 (IBC 2021)

ALLOWABLE AREA (TABLE 506.2):	F-1 @ NS = 15,500 SQ. FT.	DESIGNED AREA:	8,306 SQ. FT.
	H-4 @ NS = 17,500 SQ. FT.	DESIGNED AREA:	1,197 SQ. FT.

OCCUPANCY SEPARATION - Chapter 5 - Table 508.4 (IBC 2021)

SEPARATION OF F-1 @ NS AND H-4 @ S OCCUPANCY = 2 HOUR

CONSTRUCTION TYPE - Chapter 6 (IBC 2021)

TYPE IIB

FIRE RESISTANCE RATINGS - Chapter 6 - Table 601 (IBC 2021)

STRUCTURAL FRAME	0
BEARING WALLS	0
INTERIOR	0
EXTERIOR	0
NON-BEARING WALLS AND PARTITIONS	0
FLOOR CONSTRUCTION	0
ROOF CONSTRUCTION	0

EXTERIOR WALL RATINGS - Chapter 7 - Table 705.5 (IBC 2021)

FIRE SEPARATION DISTANCE	TYPE OF CONSTRUCTION	REQUIRED	DESIGNED
GREATER THAN 30'	IIB	0	0

FIRE SUPPRESSION - Chapter 9 (IBC 2021)

903.2.5.1 AN AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED IN GROUP H OCCUPANCIES.

NO SPRINKLERS REQUIRED FOR F-1 OCCUPANCY.

OCCUPANCY CALCULATIONS - Chapter 10 (Table 1004.5) - IBC 2018

OCCUPANT ANALYSIS

MARK	NAME	AREA	AREA PER OCC	OCC COUNT	COMMENT
1001	FILTER ROOM	4623 SF	300	16	
1002	ACID	449 SF	300	2	
1003	BASE	449 SF	300	2	
1004	ELECTRICAL	325 SF	300	2	
1005	BLOWERS	337 SF	300	2	
1006	STORAGE	35 SF	0		
2008	EQUIPMENT PLATFORM	1664 SF	300	6	EQUIPMENT PLATFORM AREA NOT INCLUDED IN BUILDING AREA, NUMBER OF STORIES, OR FIRE AREA PER 2012 IBC 505.3
TOTAL		7883 SF		30	

505.3.1 THE AGGREGATE AREA OF ALL EQUIPMENT PLATFORMS WITHIN A ROOM SHALL BE NOT GREATER THAN TWO-THIRDS OF THE AREA OF THE ROOM IN WHICH THEY ARE LOCATED.

1,664 + 945 + 707 + 30 = 3,346 SF EQUIPMENT PLATFORM
7,166 SF * 2/3 = 4,777 SF
3,346 SF < 4,777 SF

EXIT ACCESS TRAVEL DISTANCE - Chapter 10 - Table 1017.2 (IBC 2021)

F-1 OCCUPANCY	NON-SPRINKLERED FULLY SPRINKLERED COMMON PATH OF EGRESS TRAVEL	200 FEET 250 FEET 75 FEET
H-4 OCCUPANCY	NON-SPRINKLERED FULLY SPRINKLERED COMMON PATH OF EGRESS TRAVEL	NOT PERMITTED 175 FEET 75 FEET

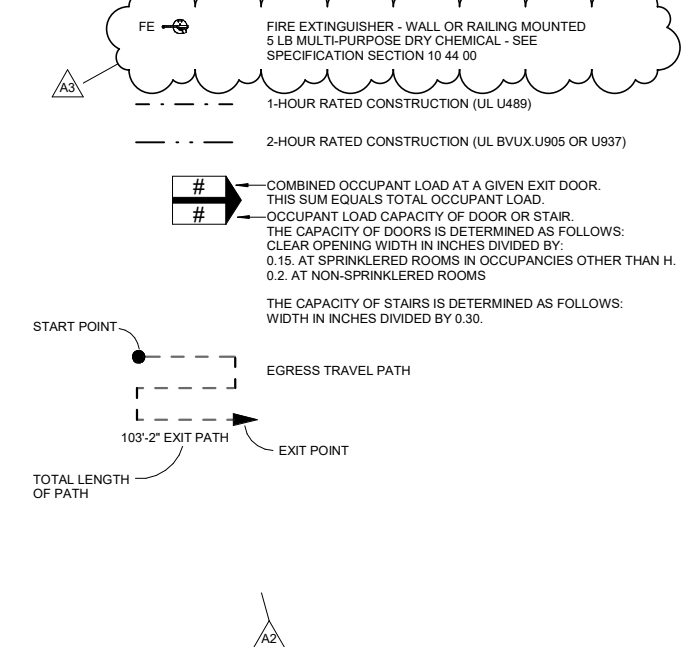
EXIT WIDTH REQUIREMENTS - Chapter 10 - Section 1005 (IBC 2021)

Door Egress	# of Occ.	Inches/Occ.	Min. Width	# of Exits	Min. Width / Exit	Design Width
	31	0.2"	6.4"	8	36"	396"
Stair Egress	6	0.3"	1.8"	1	36"	36"

PLUMBING FIXTURES - Chapter 29 - Table 2902.1 (IBC 2018)

REQUIRED PLUMBING FIXTURES ARE PROVIDED IN ADJACENT BUILDING - 48'-0" TRAVEL DISTANCE.

EGRESS LEGEND



REV	DATE	DESCRIPTION	BY
A3	07/11/2023	Addenda 3	MJP

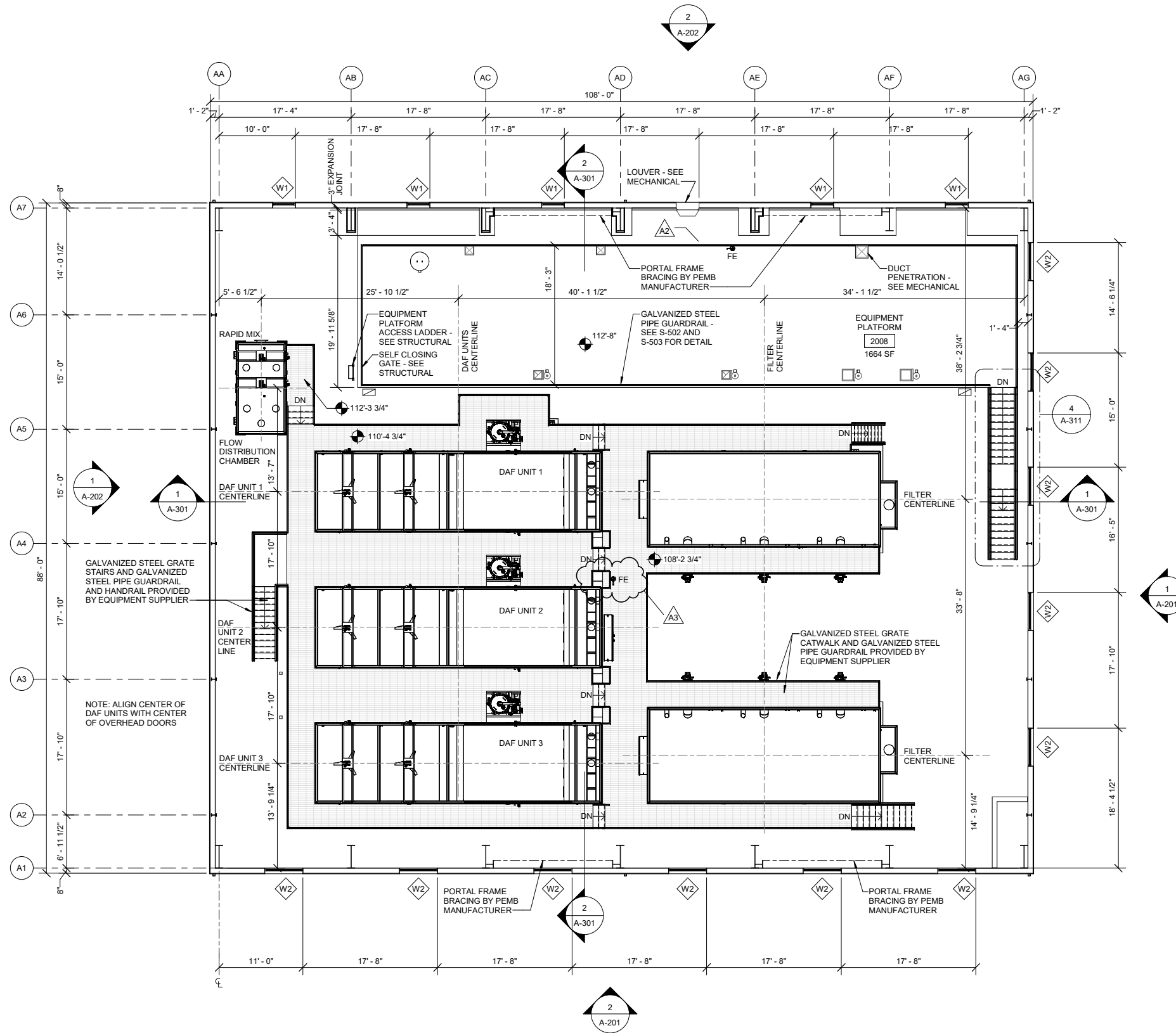


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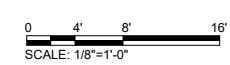
WRANGELL WATER TREATMENT PLANT IMPROVEMENTS
WRANGELL, ALASKA
BUILDING CODE AND LIFE SAFETY ANALYSIS
SEC. 31, TOWNSHIP 62S, RANGE 94E
CITY AND BOROUGH OF WRANGELL, ALASKA

PROJECT	1528.5026.01
DATE	06/02/2023





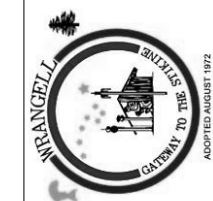
PLATFORM PLAN
SCALE: 1/8" = 1'-0"



GENERAL NOTES:

- DIMENSIONS ARE TO FACE OF CMU OR FACE OF STRUCTURAL STEEL UNLESS NOTED OTHERWISE.
- WALL PENETRATIONS:
 - ALLOW FOR EXPANSION WHEN REQUIRED OR AS INDICATED BY OTHER DISCIPLINES.
- INTERIOR PARTITIONS ARE 8" CMU UNLESS NOTED OTHERWISE. INTERIOR PARTITIONS EXTEND TO BOTTOM OF STRUCTURE UNLESS NOTED OTHERWISE.
- DOOR RETURN - MINIMUM OF 4" ON HINGE SIDE.
- FLOOR DRAINS: NOT ALL FLOOR DRAINS ARE SHOWN ON ARCHITECTURAL PLANS. SEE PLUMBING DRAWINGS FOR LOCATION AND TYPE OF FLOOR DRAINS.
- FOR FIRE RATING, SEE SHEET A-100.
- SEAL PENETRATIONS THROUGH FIRE RATED CONSTRUCTION WITH APPROPRIATE FIRE SAFING / SEALANT.
- SEAL PENETRATIONS THROUGH EXTERIOR WALLS FOR AN AIRWATER TIGHT CONSTRUCTION.
- BUILDING ELEVATION 100'-0" = SITE ELEVATION 260'-0".

REV	DATE	DESCRIPTION	BY
A3	07/11/2023	Addenda 3	MJP



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WRANGELL, ALASKA
PLATFORM PLAN
SEC. 31, TOWNSHIP 62S, RANGE 94E
CITY AND BOROUGH OF WRANGELL, ALASKA

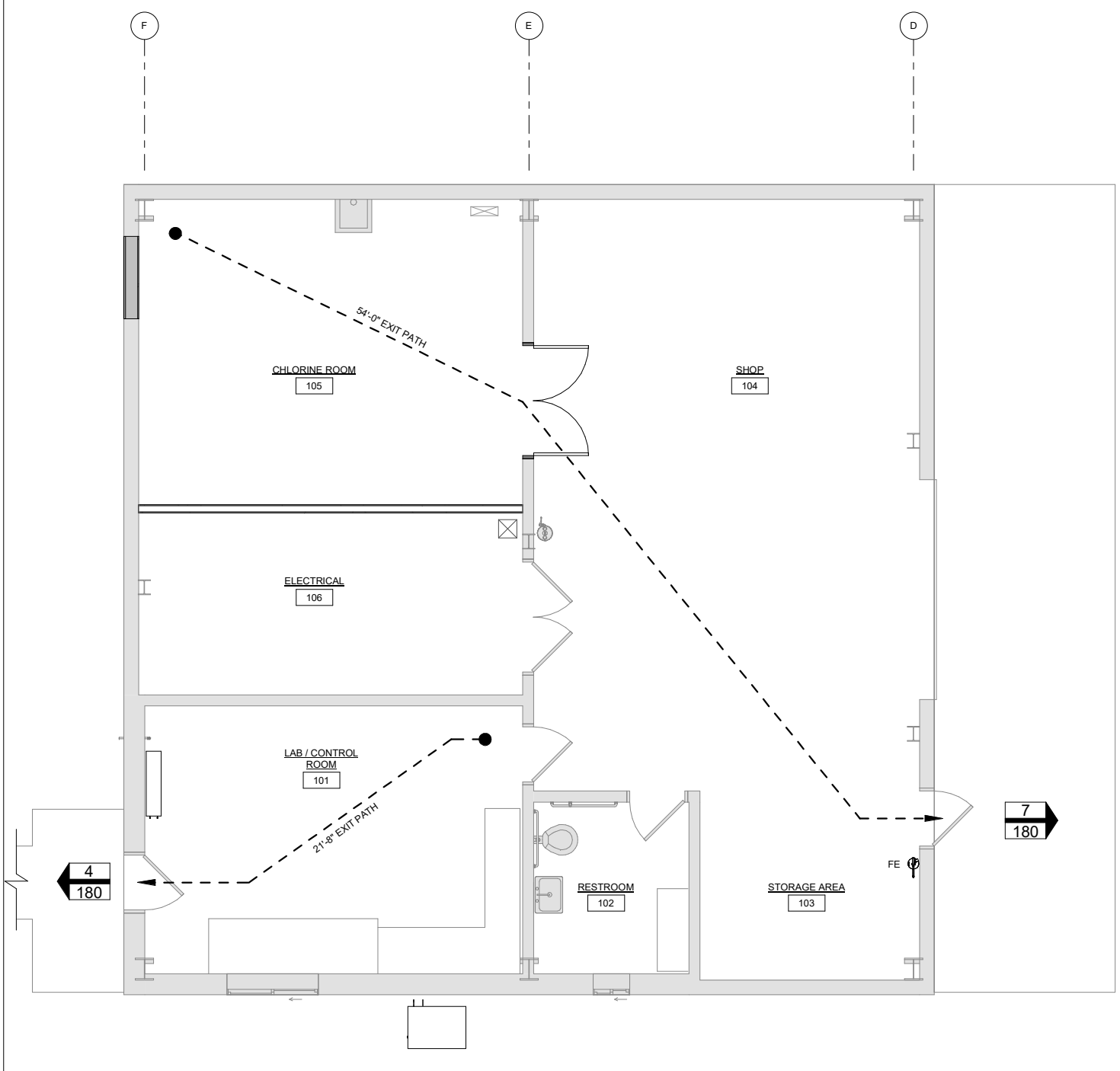


PROJECT 1528.5026.01
DATE 06/02/2023

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A-102

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CONTROL BUILDING EGRESS PLAN
SCALE: 1/4" = 1'-0"



APPLICABLE BUILDING CODES

IBC	INTERNATIONAL BUILDING CODE	2021
IFC	INTERNATIONAL FIRE CODE	2021
IMC	INTERNATIONAL MECHANICAL CODE	2021
UPC	UNIFORM PLUMBING CODE	2018
ADA	AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES	2010
NFPA 13	INSTALLATION OF SPRINKLER SYSTEMS	2019
NFPA 70	NATIONAL ELECTRICAL CODE	2017
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE	2019
NFPA 90A	STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS	2018
NFPA 101	LIFE SAFETY CODE	2018

USE GROUP / OCCUPANCY - Chapter 3 (IBC 2021)

F-2 LOW-HAZARD FACTORY INDUSTRIAL ENTIRE BUILDING 1,943 SF (GROSS AREA)

CONSTRUCTION TYPE - Chapter 6 (IBC 2021)

TYPE IIB

FIRE SUPPRESSION - Chapter 9 (IBC 2021)

NO SPRINKLERS REQUIRED FOR F-2 OCCUPANCY.

HEIGHT / STORIES - Chapter 5 (IBC 2021)

ALLOWABLE HEIGHT (TABLE 504.3): F-2 @ NS = 55'-0" DESIGNED HEIGHT: 14' +/-
DESIGNED STORIES: 1

AREA - Chapter 5 (IBC 2021)

ALLOWABLE AREA (TABLE 506.2): F-2 @ NS = 23,000 SQ. FT. DESIGNED AREA: 1,943 SQ. FT.

FIRE RESISTANCE RATINGS - Chapter 6 - Table 601 (IBC 2021)

STRUCTURAL FRAME	0
BEARING WALLS	0
INTERIOR	0
EXTERIOR	0
NON-BEARING WALLS AND PARTITIONS	0
FLOOR CONSTRUCTION	0
ROOF CONSTRUCTION	0

EXTERIOR WALL RATINGS - Chapter 6 - Table 602 (IBC 2021)

FIRE SEPARATION DISTANCE BETWEEN 10' AND 30'	TYPE OF CONSTRUCTION	REQUIRED	DESIGNED
	IIB	0	0

OCCUPANCY CALCULATIONS - Chapter 10 (Tables 1004.5) - IBC 2021

OCCUPANT ANALYSIS					
MARK	NAME	AREA	AREA PER OCC	OCC COUNT	COMMENT
101	LAB / CONTROL ROOM	302 SF	100	4	
102	RESTROOM	79 SF	0		
103	STORAGE AREA	124 SF	300	1	
104	SHOP	681 SF	300	3	
105	CHLORINE ROOM	350 SF	300	2	
106	ELECTRICAL	209 SF	300	1	
TOTAL		1745 SF		11	

EXIT ACCESS TRAVEL DISTANCE - Chapter 10 - Table 1017.2 (IBC 2021)

F-2 OCCUPANCY	NON-SPRINKLERED	200 FEET
	FULLY SPRINKLERED	250 FEET
	COMMON PATH OF EGRESS TRAVEL	75 FEET

EXIT WIDTH REQUIREMENTS - Chapter 10 - Section 1005 (IBC 2021)

Door Egress	# of Occ.	Inches/Occ.	Min. Width	# of Exits	Min. Width / Exit	Design Width
	11	0.2"	2.2"	2	36"	72"

PLUMBING FIXTURES - Chapter 29 - Table 2902.1 (IBC 2021)

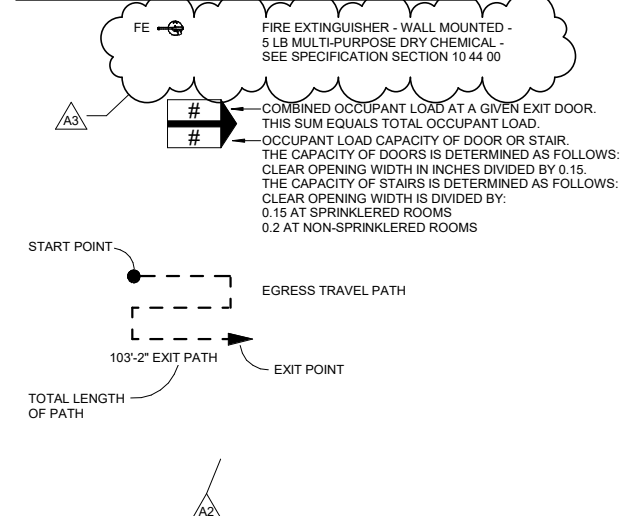
OCCUPANTS FROM AN ADJACENT BUILDING WILL BE INCLUDED IN THE FIXTURE COUNTS FOR THE PLUMBING FIXTURE COUNTS IN THIS BUILDING.

30 OCCUPANTS FROM THE NEW FILTER BUILDING ARE INCLUDED IN THIS CALCULATION.

2902.1.1 EXCEPTION - THE TOTAL OCCUPANT LOAD SHALL NOT BE REQUIRED TO BE DIVIDED IN HALF WHERE APPROVED STATISTICAL DATA INDICATE A DISTRIBUTION OF THE SEXES OTHER THAN 50 PERCENT OF EACH SEX.

PLUMBING FIXTURE COUNT												
FIXTURE USER	WATER CLOSETS			URINALS			LAVATORIES			DRINKING FOUNTAINS		
	REQUIRED	EXISTING	NEW	REQUIRED	EXISTING	NEW	REQUIRED	EXISTING	NEW	REQUIRED	EXISTING	NEW
MALE: 41	1	1	0	0	0	0	1	1	0			
FEMALE: 0	0	0	0				0	0	0			
COMBINED	1	1	0				1	1	0	1	1	

EGRESS LEGEND




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CONTROL BUILDING CODE AND LIFE SAFETY ANALYSIS
SEC. 31, TOWNSHIP 62S, RANGE 94E
CITY AND BOROUGH OF WRANGELL, ALASKA

PROJECT	1528.5026.01
DATE	06/02/2023



Attachment 4

 222 N. 32nd Street, Suite 700 Billings, MT 59101				CENTRIFUGAL PUMP			
REV		PREPARED BY	DATE	APPROVAL	CLIENT	EQUIP. NO	PAGE
A		SAB	22-Apr-22		C&B of Wrangell, AK	P-401 A/B	
B					W.O.	PROJECT NUMBER	SPECIFICATION NO.
					UNIT	AREA	PROCURED BY
							INSTALLED BY
High Service Pumps							
1	General						
2	Fluid Service	Water			Pump Manufacturer	Grundfos (or equal)	
3	Number Required	3			Model Number	TBD	
4	Pump Type	Vertical Centrifugal			Size	TBD	
5	Location	WTP clearwell room					
6	Process Data						
7	Fluid Pumped						
8	Normal Flow Rate	gpm	789.5	Corrosive or Non-Corrosive	Non-corrosive		
9	Design Flow Rate	gpm	795.0	Corrosive Compounds	NaOH		
10	Pumping Temperature	deg F	60.0	Solids	None		
11	Vapor Pressure @ P.T.	psia	0.3				
12	Viscosity @ P.T.	cP	0.2	Hazards	None		
13	Specific Gravity @ P.T.	water=1	1.0				
14	Pumping Conditions						
15		Suction			Discharge		
16	Terminal Pressure	psia	14.7		14.7		
17	Static Head	ft / psi	10.0	4.4	112.0	49.2	
18	Equipment Loss (see sketch)	ft / psi	-	-	-	-	
19	Line Loss (per 100 equiv ft)	ft / psi	5.07	2.2	0.43	0.2	
20	Equiv. Line Length	ft	20		645		
21	Safety Factor in Line Loss (%)		5%		15%		
22	Total friction Loss	ft / psi	1.1	0.5	3.2	1.4	
23	Control Valve	ft / psi	-	-	-	-	
24	Net Suction Pressure	psia	18.6				
25	NPSH available	ft / psia	43.1	18.4			
26	Total Discharge Pressure	psia			65.3		
27	Differential Pressure (TDH)	ft / psi	109.6	46.7			
28	Design Flow Rate	gpm	795.0				
29							
30	Mechanical Data						
31		Type	Material	Sketch			
32	Pump Head			See schematic sheets			
33	Impeller			Enter suction and discharge pipe conditions on other tabs.			
34	Shaft						
35	Seal						
36	Baseplate						
37							
38	Connections	Suction	Case Drn.				
39		Discharge					
40	Electrical Data						
41	Area Classification	Class	Group	Division	Enclosure		
42	Power	Volts	480	Phases	3	Cycles	60
43	Horsepower	Calculated	21.66	BHP	30.94	Nominal	40.0
44		Efficiency	70%			RPM	VFD
45	Notes						
46	1. Unclassified electrical area / non-hazardous. All electrical components shall be rated for water spray as equipment is						
47	located in a water treatment plant.						
48	2. Preference for Grundfos booster package pumps to maintain consistency throughout the various sites.						
49	3. Preference for Grundfos integrated VFD drive package (wall mount).						
50	4. Contractor to verify voltage available.						
51							
52							

Hydro MPC E (CUE) with CR pumps

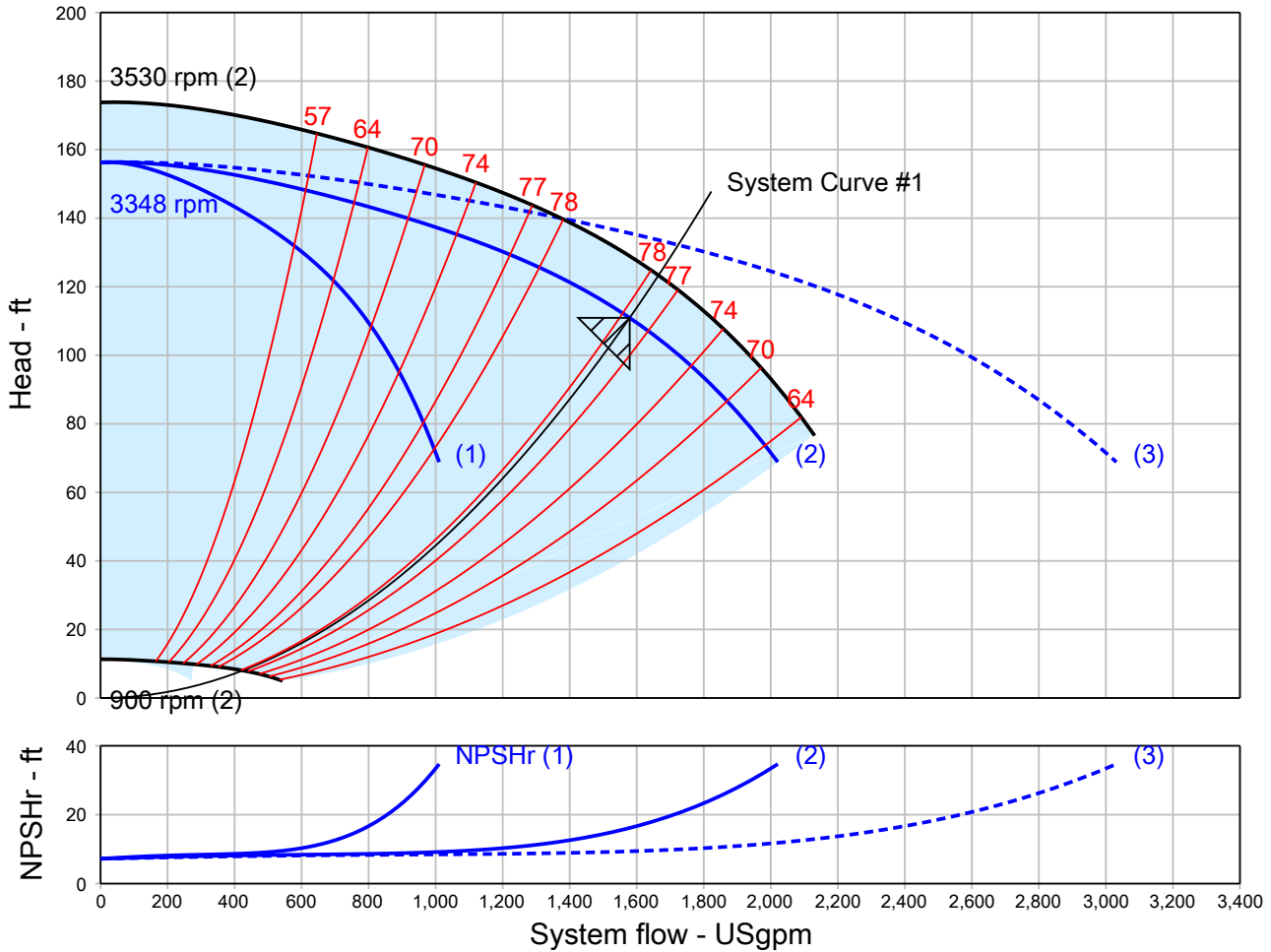
QUOTE NUMBER / ID 140497	UNIT TAG 001	QUANTITY 1
REPRESENTATIVE ENGINEER	SERVICE	
CONTRACTOR	SUBMITTED BY	DATE
	APPROVED BY	DATE
	ORDER #	DATE



**Hydro MPC-EC (CUE)
3CR 155-1 3x460V 60Hz
3530 rpm**

Part Number N/A

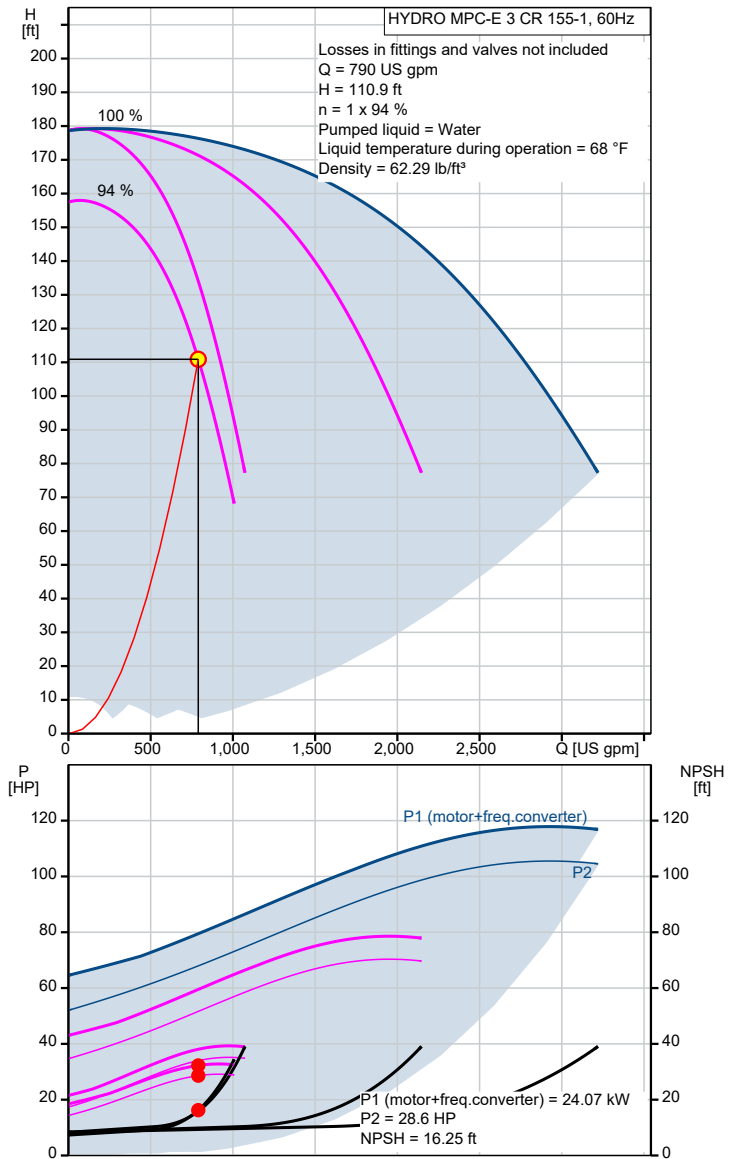
Conditions of Service		Pump Data		Motor Data	
Flow Per Pump	789.5 USgpm	Material	Standard - Cast	Nameplate HP	40 HP
Head	110.9 ft		Iron / 304 Stainless	Rated Power	28.42 HP
Liquid	Cold Water		Steel	Enclosure	TEFC
Temperature	68.00 deg F	Pump shut off pressure	69.67 psi.g	Voltage	230/460 V
NPSHr	16.15 ft	Max Allowable Suction Pressure	217.6 psi.g	Phase	3 Phase
Viscosity	1.00 cP	Pump Efficiency	77.78 %		
Specific Gravity	1.000 SG	PEI (VL)	0.59		
		ER (VL)	41		



Project: Wrangell WTP
Reference number: P-901 A/B/C

Client: City and Borough of Wrangell
Client number:
Contact:

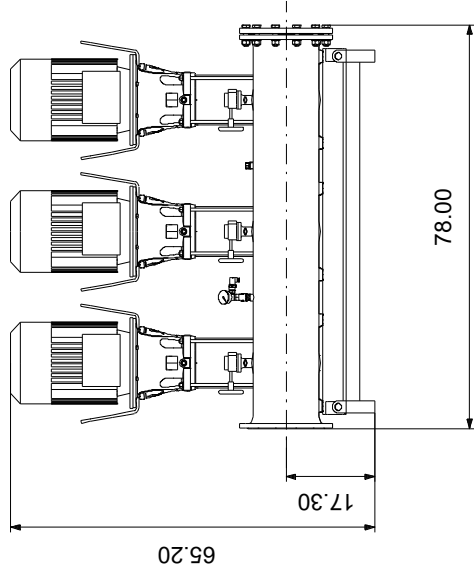
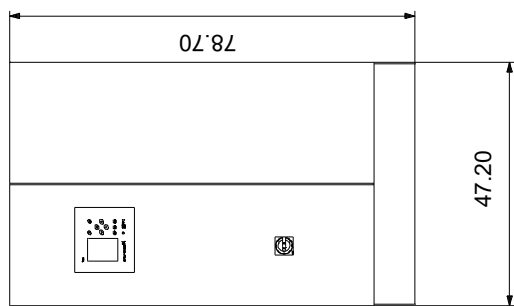
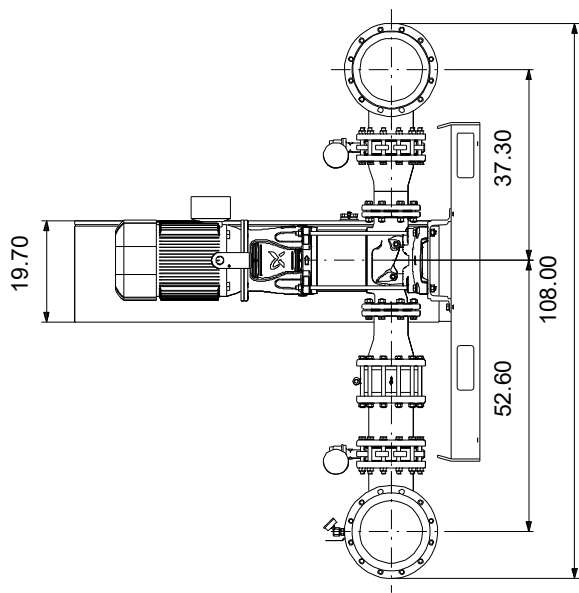
Description	Value
General information:	
Product name:	HYDRO MPC-E 3 CR 155-1
Product No.:	99441209
EAN:	5713829179714
Technical:	
Actual calculated flow:	790 US gpm
Max flow:	3200 US gpm
Max flow:	3200 US gpm
Resulting head of the pump:	110.9 ft
Head max:	177.2 ft
Main pump name:	CR 155-1
Main pump Number:	99143488
Number of pumps:	3
Materials:	
Manifolds:	EN/DIN 1.4571/ AISI 316 Ti
Installation:	
Range of ambient temperature:	41 .. 113 °F
Maximum operating pressure:	232.06 psi
Manifold inlet:	DN300
Manifold outlet:	DN300
Pressure stage:	PN 16
Earth connection:	PE
System design:	C
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	41 .. 140 °F
Selected liquid temperature:	68 °F
Density:	62.29 lb/ft³
Electrical data:	
Power (P2) main pump:	40.2 HP
Main frequency:	50 / 60 Hz
Rated voltage:	3 x 380-415 V
Rated current of system:	165,6A-400V A
Start. method:	Variable frequency drives
Enclosure class (IEC 34-5):	IP54
Radio interference supression:	EMC DIRECTIVE(2014/30/EU)
Number of phases of main pump:	3
Controls:	
Control type:	E
Dry running protection, mechanical:	NONE
Tank:	
Diaphragm tank:	No
Others:	
Net weight:	5690 lb
Gross weight:	5940 lb
Config. file no:	99406311
Configuration file Control MPC:	98271947
Configuration file Hydro MPC:	98272018



Project: Wrangell WTP
Reference number: P-901 A/B/C

Client: City and Borough of Wrangell
Client number:
Contact:

99441209 HYDRO MPC-E 3 CR 155-1

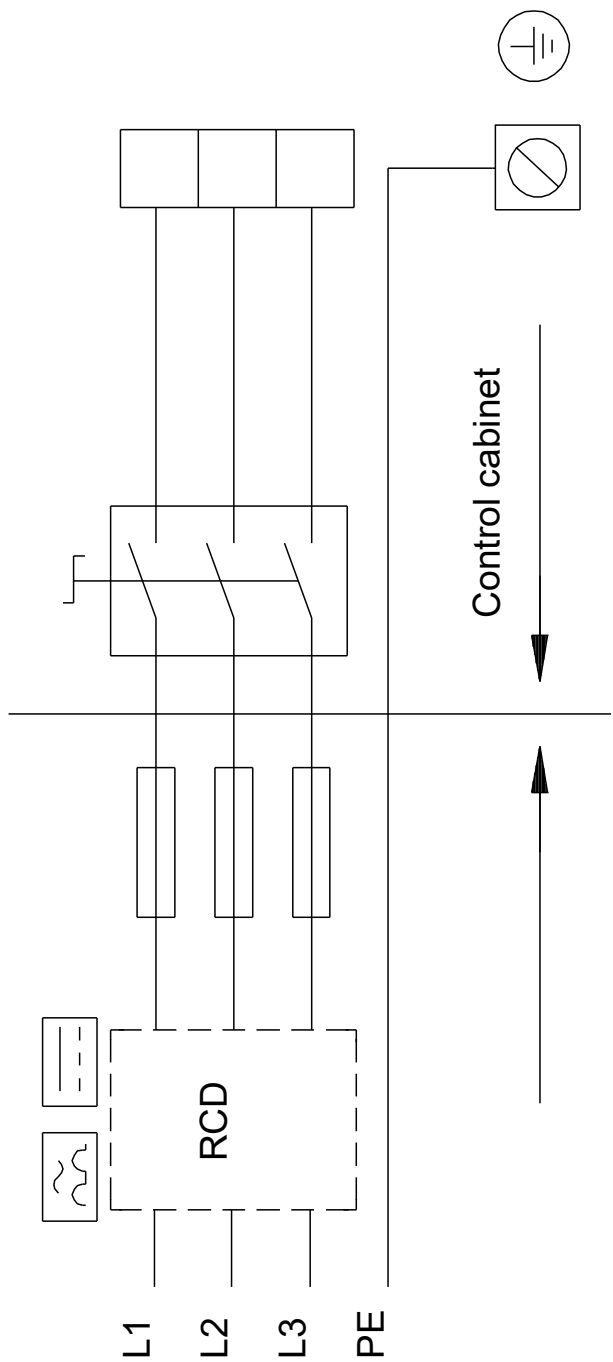


Note! All units are in [in] unless otherwise stated.
 Disclaimer: This simplified dimensional drawing does not show all details.

Project: Wrangell WTP
Reference number: P-901 A/B/C

Client: City and Borough of Wrangell
Client number:
Contact:

99441209 HYDRO MPC-E 3 CR 155-1



Attachment 5

Instructions for Submitting Build America Buy America Act Certifications

The Made in America Office of the OMB has established evidentiary recommendations to substantiate compliance with BABAA. The following instructions present those requirements allowing the designated parties to provide tailored certifications of their compliance to the specifics of the iron, steel, manufactured products, or construction materials under consideration.

INSTRUCTIONS FOR SUBMITTING A BABAA COMPLIANCE CERTIFICATION

Notes to User: Following are instructions to enable the "Contractor," "Subcontractor," "Seller," Or "Material Supplier," to produce a valid certification of compliance with Build America, Buy America Act domestic preference requirements. A certification should be provided to the Owner and Agency.

The following are to be carried out by an individual(s) with the necessary knowledge of the composition, fabrication and pricing of all Iron, Steel, Manufactured Products, and Construction Materials installed on the project.

BABAA Compliance Certification Checklist:

Step 1: Preparation

The "Contractor," "Subcontractor," "Seller," Or "Material Supplier," should collect country-of-origin information on all the materials and components of products. For those elements and items not satisfying the BABAA requirement, separate requests for BABAA waivers must be submitted.

Step 2: Assemble the Data

Create a table containing the country-of-origin for all materials and components of products employed in the project. Immediately below the material and product country-of-origin table, place the authorized and knowledgeable individual(s) signatory space and date over their printed name(s). Below each signature should appear the title of the certifying individual(s), the company's name, and the contact information including a telephone number and email address at which the individual(s) may be reached.

Step 3: Documentation

Prepare a document, either paper or electronic, on the letterhead of the company titled "BABAA Compliance Certification". Include the project designation in the second line. Then insert the following statement:

I hereby certify that to the best of my knowledge and belief all Iron, Steel, Manufactured Products, and Construction Materials installed on this project by my company and by any and all subcontractors and

suppliers for this project comply with the Build America, Buy America Act (BABAA) requirements of the Infrastructure Investment and Jobs Act of 2021 (Pub. L. 117- 58, §§ 70901-70953), or are the subject of a waiver approved by the Secretary of Agriculture or designee.

Step 4: Compilation

The information tabulated in step 2, Assemble the Data, for all materials and components of products employed in the project should then be inserted.

Step 5: Certifying

After compiling all information and documentation, each certifying individual(s) provides wet signature and date.
