SHEET NO.	DRAWING NO.	DESCRIPTION
		GENERAL
1	00G01	COVER SHEET
2	00G02	DRAWING INDEX
3	00G03	NOTES, LEGEND AND SYMBOLS
4	00G04	ABBREVIATIONS
5	00G05	DESIGN CRITERIA 1
6	00G06	DESIGN CRITERIA 2
7	00G07	PROCESS FLOW DIAGRAM
8	00G08	SOLIDS HYDRAULIC PROFILE
9	00G09	PIPING SCHEDULE
10	00G10	EQUIPMENT AND VALVE SCHEDULES
		DEMOLITION - CIVIL
11	01DC01	SITE PLAN
12	02DC01	YARD PIPING
		DEMOLITION - STRUCTURAL
13	70DS01	DEWATERING BUILDING LOWER PLAN
		DEMOLITION - PROCESS MECHANICAL
14	70DM01	DEWATERING BUILDING PLAN
15	70DM02	DEWATERING BUILDING SECTION 1
16	70DM03	DEWATERING BUILDING SECTION 2
		DEMOLITION - ELECTRICAL
17	03DE01	MCC-22 ELEVATION
18	03DE02	MCC- 22 ONE-LINE DIAGRAM 1
19	03DE03	MCC- 22 ONE-LINE DIAGRAM 2
20	70DE01	DEWATERING BUILDING LOWER LEVEL PLAN
21	70DE02	DEWATERING BUILDING LOWER LEVEL PHOTOS
		DEMOLITION - INSTRUMENTATION
22	00DN01	DEMOLITION P&ID EXISTING GRAVITY THICKENER THU-921
23	00DN02	DEMOLITION P&ID EXISTING GRAVITY THICKENER THU-922
24	00DN03	DEMOLITION P&ID EXISTING THICKENED SLUDGE FEED PUMP 1
25	00DN04	DEMOLITION P&ID EXISTING THICKENED SLUDGE FEED PUMP 2
26	00DN05	DEMOLITION P&ID EXISTING THICKENED SLUDGE FEED PUMP 3
27	00DN06	DEMOLITION P&ID RECYCLE DECANT PUMP STATION
28	00DN07	DEMOLITION P&ID UNDER DRAIN PUMP STATION
		CIVIL
29	00GC01	NOTES, LEGEND AND SYMBOLS
30	00GC02	OVERALL SITE PLAN
31	00GC03	SITE PLAN AND SITE COORDINATES
32	01C01	EXCAVATION PLAN
33	01C02	EXCAVATION SECTION A
34	01C03	EXCAVATION SECTION B
35	01C04	EXCAVATION SECTION C
36	01C05	OVERALL GRADING, PAVING AND DRAINAGE PLAN
37	02C01	TEMPORARY UTILITIES
38	02C02	OVERALL PIPING PLAN AND PIPE COORDINATES
39	03C01	YARD PIPING PROFILE 1
40	03C02	YARD PIPING PROFILE 2
41	04C01	CIVIL DETAILS
		ARCHITECTURAL
42	65A01	SLUDGE PUMP STATION CODE COMPLIANCE, EGRESS PLAN, AND SCHEDULES
43	65A02	SLUDGE PUMP STATION BASEMENT PLAN
44	65A03	SLUDGE PUMP STATION FLOOR PLAN
45	65A04	SLUDGE PUMP STATION REFLECTED CEILING PLAN
46	65A05	SLUDGE PUMP STATION ROOF PLAN
47	65A06	SLUDGE PUMP STATION NORTH AND EAST ELEVATIONS
48	65A07	SLUDGE PUMP STATION SOUTH AND WEST ELEVATIONS

SHEET NO.	DRAWING NO.	DESCRIPTION
		STRUCTURAL
49	00GS01	GENERAL NOTES
50	65S01	SLUDGE PUMP STATION FOUNDATION PLAN
51	65S02	SLUDGE PUMP STATION FLOOR PLAN
52	65S03	SLUDGE PUMP STATION ROOF PLAN
53	65S04	SLUDGE PUMP STATION SECTIONS AND DETAILS 1
54	65S05	SLUDGE PUMP STATION SECTIONS AND DETAILS 2
55	65S06	SLUDGE PUMP STATION SECTIONS AND DETAILS 3
56	67S01	SLUDGE DAY TANK FOUNDATION PLAN
57	67S02	SLUDGE DAY TANK TOP PLAN
58	67S03	SLUDGE DAY TANK SECTIONS
59	67S04	SLUDGE DAY TANK SECTIONS
		PROCESS MECHANICAL
60	00GM01	GENERAL LEGEND AND SYMBOLS
61	65M01	SLUDGE PUMP STATION DRAINAGE PLAN
62	65M02	SLUDGE PUMP STATION PLAN
63	65M03	SLUDGE PUMP STATION SECTIONS AND DETAILS 1
64	65M04	SLUDGE PUMP STATION SECTIONS AND DETAILS 2
65	67M01	SLUDGE DAY TANK LOWER PLAN
66	67M02	SLUDGE DAY TANK TOP PLAN
67	67M03	SLUDGE DAY TANK SECTIONS AND DETAILS 1
68	67M04	SLUDGE DAY TANK SECTIONS AND DETAILS 2
69	70M01	EXISTING DEWATERING BUILDING PLAN
70	70M02	EXISTING DEWATERING BUILDING SECTION 1
71	70M03	EXISTING DEWATERING BUILDING SECTION 2
		BUILDING MECHANICAL
72	00GH01	GENERAL NOTES, ABBREVIATIONS AND SYMBOLS
73	65H01	SLUDGE PUMP STATION EQUIPMENT SCHEDULES
74	65H02	SLUDGE PUMP STATION UPPER LEVEL PLAN
75	65H03	SLUDGE PUMP STATION FOUNDATION LEVEL PLAN
		ELECTRICAL
76	00GE01	LEGEND
77	00GE02	ABBREVIATIONS
78	01E01	OVERALL SITE PLAN
79	02E01	DUCT BANK SECTIONS
80	03E01	SSG-2 OVERALL ONE-LINE DIAGRAM
81	03E02	MCC-22 ELEVATION - MODIFICATIONS
82	03E03	MCC- 22 ONE-LINE DIAGRAM - MODIFICATIONS 1
83	03E04	MCC- 22 ONE-LINE DIAGRAM - MODIFICATIONS 2
84	03E05	MCC-65 ELEVATION
85	03E06	MCC- 65 ONE-LINE DIAGRAM 1
86	03E07	MCC- 65 ONE-LINE DIAGRAM 2
87	04E01	PANELBOARD SCHEDULES
88	05E01	LUMINAIRE SCHEDULES, DISCONNECT, AND HANDHOLE SCHEDULES
89	65E01	SLUDGE PUMP STATION LOWER LEVEL POWER AND CONTROL PLAN
90	65E02	SLUDGE PUMP STATION LOWER LEVEL POWER AND CONTROL SECTIONS
91	65E03	SLUDGE PUMP STATION UPPER LEVEL POWER AND CONTROL PLAN
92	65E04	SLUDGE PUMP STATION LOWER LEVEL LIGHTING AND GROUNDING PLAN
93	65E05	SLUDGE PUMP STATION UPPER LEVEL LIGHTING AND GROUNDING PLAN
94	66E01	GRAVITY THICKENERS 1 & 2 POWER AND CONTROL PLAN
95	66E02	RECYCLED DECANT PUMP STATION POWER AND CONTROL PLAN
96	66E03	CENTRATE PUMP STATION POWER AND CONTROL PLAN
97	66E04	UNDER DRAIN PUMP STATION POWER AND CONTROL PHOTO
98	67E01	SLUDGE DAY TANK POWER AND CONTROL PLAN
99	67E02	SLUDGE DAY TANK LIGHTING AND GROUNDING PLAN
100	70E01	DEWATERING BUILDING UPPER LEVEL POWER AND CONTROL PLAN

SHEET NO.	DRAWING NO.	DESCRIPTION
		INSTRUMENTATION
101	00GN01	SYMBOLS AND ABBREVIATIONS 1
102	00GN02	SYMBOLS AND ABBREVIATIONS 2
103	00GN03	SYMBOLS AND ABBREVIATIONS 3
104	00GN04	SYMBOLS AND ABBREVIATIONS 4
105	00GN05	SCHEMATIC SYMBOLS
106	00GN06	SAMPLE LOOP DRAWING
107	03N01	PCM-910 NETWORK CONNECTION DIAGRAM
108	05N01	PCM-910 EXTERNAL LAYOUT
109	05N02	PCM-910 INTERNAL LAYOUT
110	06N01	CONTROL SCHEMATIC 1
111	06N02	CONTROL SCHEMATIC 2
112	06N03	CONTROL SCHEMATIC 3
113	06N04	CONTROL SCHEMATIC 4
114	06N05	CONTROL SCHEMATIC 5
115	65N01	P&ID IN-LINE SLUDGE GRINDER
116	65N02	P&ID THICKENED SLUDGE TRANSFER PUMPS 1 AND 2
117	65N03	P&ID SLUDGE DAY TANKS
118	65N04	P&ID THICKENED SLUDGE FEED PUMPS
119	65N05	P&ID SLUDGE PUMP STATION SUMP
120	65N06	P&ID SLUDGE THICKENER THU-921
121	65N07	P&ID SLUDGE THICKENER THU-922
122	65N08	P&ID SLUDGE DEWATERING FACILITY CENTRATE PUMP STATION
123	65N09	P&ID RECYCLE DECANT PUMP STATION
124	65N10	P&ID UNDER DRAIN PUMP STATION
125	70N01	P&ID PCM-910
		TYPICAL DETAILS
126	00TA01	ARCHITECTURAL1
127	00TA02	ARCHITECTURAL 2
128	00TA03	ARCHITECTURAL 3
129	00TA04	ARCHITECTURAL 4
130	00TC01	CIVIL 1
131	00TC02	CIVIL 2
132	00TC03	CIVIL 3
133	00TE01	ELECTRICAL 1
134	00TE02	ELECTRICAL 2
135	00TE03	ELECTRICAL 3
136	00TE04	ELECTRICAL 4
137	00TE05	ELECTRICAL 5
138	00TH01	HVAC 1
139	00TM01	MECHANICAL 1
140	00TM02	MECHANICAL 2
141	00TM03	MECHANICAL 3
142	00TM04	MECHANICAL 4
143	00TM05	MECHANICAL 5
144	00TN01	INSTRUMENTATION 1
145	00TN02	INSTRUMENTATION 2
146	00TN03	INSTRUMENTATION 3
147	00TN04	INSTRUMENTATION 4
148	00TN05	INSTRUMENTATION 5
149	00TN06	INSTRUMENTATION 6
150	00TS01	STRUCTURAL 1
151	00TS02	STRUCTURAL 2
152	00TS03	STRUCTURAL 3
153	00TS04	STRUCTURAL 4
154	00TS05	STRUCTURAL 5
155	00TS06	STRUCTURAL 6
156	00TS07	STRUCTURAL 7
157	00TS08	STRUCTURAL 8
158	00TS09	STRUCTURAL 9
159	00TS10	STRUCTURAL 10
160	00TS11	STRUCTURAL 11
161	00TS12	STRUCTURAL 12
162	00TS13	STRUCTURAL 13

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MG
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 4804445
ALAN M. DOMONOSKE
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

GENERAL

DRAWING INDEX

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00G02
SHEET NO. 2 OF 162

LAST SAVED BY:

PROJECT NO. 203356 FILE NAME: 203356_00G02.dwg

GENERAL NOTES

1. FOLLOWING NOTES ARE GENERAL AND APPLY TO ALL SHEETS OF THESE CONTRACT DOCUMENTS AS IF THEY WERE WRITTEN IN THEIR ENTIRETY ON EACH SHEET.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES. CONTRACTOR SHALL NOTIFY ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONSTRUCTION BEFORE PROCEEDING WITH WORK.
3. UNLESS DETAILED, SPECIFIED, OR OTHERWISE INDICATED ON THE DRAWINGS, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS SHALL APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS.
4. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF WORK, DETAILS SHALL BE IN THE SAME AS FOR OTHER SIMILAR WORK.
5. CONTRACTOR SHALL COMPLY WITH LOCAL CONSTRUCTION STORM WATER DISCHARGE REGULATIONS AND REQUIREMENTS.
6. PRIOR TO EXCAVATION FOR NEW STRUCTURES, ELECTRICAL CONDUIT, FABRICATION OF NEW PIPING AND/OR OTHER PROPOSED UTILITIES, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING PIPING AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL TEMPORARILY RELOCATE CONFLICTING EXISTING UTILITIES AT TIE-IN/CONNECTION LOCATIONS AND REINSTALL THEM AS REQUIRED TO ELIMINATE THE CONFLICT AT NO ADDITIONAL COST TO THE OWNER.
7. ALL PIPELINES 12" AND LARGER SHALL HAVE A MINIMUM COVER OF 36" UNLESS THE COVER DEPTH IS SPECIFICALLY INDICATED ON THE DRAWINGS. PIPE SMALLER THAN 12" SHALL HAVE A MINIMUM COVER OF 30" UNLESS NOTED OTHERWISE. PIPES SHALL BE ROUTED AS SHOWN UNLESS MINOR REVISIONS ARE NECESSARY TO MISS EXISTING PIPES, STRUCTURES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL FITTINGS AND ADAPTERS REQUIRED TO MAKE THE ROUTING CHANGES AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL INCLUDE COST FOR THIS IN THE BID.
8. EXISTING FACILITY AND UTILITY INFORMATION SHOWN ON THE DRAWINGS WAS OBTAINED FROM AVAILABLE RECORDS OR ELECTRONIC FILES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR FACILITIES AND UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN. THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS, SIZES, MATERIAL TYPES, AND ELEVATIONS SHOWN AROUND OR NEAR AREAS OF NEW CONSTRUCTION PRIOR TO START OF CONSTRUCTION.
9. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT FROM DAMAGE EXISTING FACILITIES AND UTILITIES SHOWN OR NOT SHOWN THAT ARE TO REMAIN IN PLACE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ORIGINAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
10. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING PIPE, EQUIPMENT, ETC. AS REQUIRED AND SHALL PROVIDE ALL FITTINGS, ADAPTERS, AND APPURTENANCES REQUIRED TO MAKE THE CONNECTIONS. PROVIDE ALL SUPPORTS REQUIRED FOR A RIGIDLY SUPPORTED COMPLETE AND WORKING SYSTEM.
11. ADJUST ALL VALVE BOXES, VAULTS, PULL BOXES, AND MANHOLES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED. MANHOLES IN OPEN FIELDS SHALL BE SET TWELVE INCHES ABOVE FINISHED GRADE AND VAULTS SHALL BE SIX INCHES ABOVE FINISHED GRADE.
12. THE CONTRACTOR SHALL CONTACT BLUE STAKES OF UTAH 811 TO COORDINATE LOCATION OF UNDERGROUND UTILITIES.
13. CONTRACTOR SHALL VERIFY THAT PIPING SHOWN TO BE ABANDONED OR AS ABANDONED PREVIOUSLY IS NO LONGER IN SERVICE. LINES IN SERVICE SHALL BE MAINTAINED UNTIL NO LONGER REQUIRED BY THE PLANT.
14. ALL EXISTING PIPES THAT ARE TO BE ABANDONED IN PLACE OR REMOVED MAY NOT BE SHOWN. WHERE PIPING IS TO BE ABANDONED AND MUST REMAIN IN SERVICE UNTIL COMPLETION OF OTHER PHASES OF WORK, AND IT CONFLICTS WITH NEW PIPING, TEMPORARILY RELOCATE PIPING AS REQUIRED TO MAINTAIN SERVICE BY THE PLANT.
15. CONTRACTOR SHALL REROUTE THE EXISTING PIPING IF REQUIRED TO MISS THE PROPOSED STRUCTURES. THE EXISTING PIPE SHALL REMAIN IN SERVICE UNTIL NEW PIPING IS READY TO BE PLACED INTO SERVICE. DOWNTIME SHALL BE A MAXIMUM OF 2 HOURS, UNLESS SPECIFIED OR SHOWN OTHERWISE.
16. THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS IN THE VICINITY OF ANY OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL ABIDE BY THE NATIONAL ELECTRIC CODE AND ANY REQUIREMENT BY THE OWNER OF THE ELECTRIC LINES.
17. PROVIDE ALL SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES.
18. CONTRACTOR SHALL VERIFY LOCATION OF ALL ARCHITECTURAL, MECHANICAL, AND ELECTRICAL ITEMS BEFORE PLACING ANY STRUCTURAL STEEL OR CONCRETE. ALSO, STRUCTURAL DIMENSIONS AND OPENINGS CONTROLLED BY ARCHITECTURAL, MECHANICAL, OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
19. MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES, AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS, THAT ARE REQUIRED BY OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED PRIOR TO CASTING CONCRETE.
20. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS BEFORE COMMENCING.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING, DISPOSE, REPAIRING OR REPLACING AND REMOVING AND DISPOSING ANY DAMAGED ITEMS INCLUDING, BUT NOT LIMITED TO, DRIVEWAYS, SIDEWALKS, BOLLARDS, SIGNS, STORM CULVERTS, FENCES AND LANDSCAPING AS REQUIRED BY OWNER, ENGINEER OF RECORD, AND/OR OTHER GOVERNING ENTITIES.
22. ALL DISTURBED AREAS SHALL BE RESTORED, INCLUDING REGRADING, TO THEIR ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE NOTED.
23. CONTRACTOR SHALL BE RESPONSIBLE FOR REGRADING AND REPLANTING VEGETATION IN ALL AREAS DISTURBED BY THE CONSTRUCTION.
24. CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, TOOLS, MATERIALS AND SERVICES NEEDED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES. THESE MEASURES SHALL CONFORM TO THE PLANS AND SPECIFICATIONS AND ALL STATE AND LOCAL REQUIREMENTS.
25. EXCAVATION MUST MEET OSHA REQUIREMENTS AND CONTRACTOR SHALL CONFORM TO THE GUIDELINES SET FOR IN THE TRENCH SAFETY ACT THROUGHOUT THE DURATION OF THE PROJECT. CONTRACTOR SHALL PROVIDE WRITTEN ASSURANCE THAT THE TRENCH EXCAVATION WILL COMPLY WITH THE APPLICABLE TRENCH SAFETY STANDARDS.

DETAIL REFERENCES

PLAN/VIEW TITLE: A PLAN (VIEW DESCRIPTION, AS NECESSARY; VIEW; DESCRIPTION; FILE: FILE; PLAN NOT REFERENCED)

SECTION CUT: C (VIEW; - = SHOWN ON SAME DRAWING; ##X## = SEE INDICATED DRAWING)

SECTION OR DETAIL VIEW TITLE W/ REFERENCE: C/1 (##X##) SECTION/DETAIL (ALPHA = SECTION, NUMERIC = DETAIL; VIEW DESCRIPTION, AS NECESSARY; DESCRIPTION; SCALE: SCALE; FILE: FILE; DRAWING CUT ORIGINATION)

DETAIL OR ENLARGED PLAN CALL OUT: 1 (##X##) (ALPHA = ENLARGED PLAN, NUMERIC = DETAIL; SEE INDICATED DRAWING)

DRAWING REFERENCE: ##X## (AREA DESIGNATOR (WHEN APPLICABLE); DISCIPLINE DESIGNATOR; SHEET NUMBER)

TYPICAL DETAIL REFERENCE: ? / TYP (TYP) (TYPICAL DETAIL #; (TYP) - INDICATES THE TYPICAL DETAIL IS USED IN MULTIPLE LOCATIONS WITHIN THE DRAWING)

EXTERIOR ELEVATION VIEWS: A (##X##) (SEE INDICATED DRAWING)

PHOTO LOCATION: # (##X##) (ARROW INDICATES POINT OF VIEW; SEE INDICATED DRAWING)

GRID BUBBLE: A 1

TYPICAL DETAIL NUMBER: ? / TYP — LINE 3 / LINE 1 / LINE 2 (TYPICAL DETAIL TITLE)
- MOD — MODIFICATION NOTE: S = STANDARD; J = JOB SPECIFIC; R = REVISED; N = NOTE TO TYPICAL DETAIL USER
- SHT # OF # — SHEETS IN DETAIL
- VER DATE — DATE CREATED (REVISED)
- INDICATES LOCATED ON TYPICAL DETAIL SHEETS

SYMBOLS

BRACKET

BREAK LINE

PIPE BREAK PLAN VIEW

PIPE BREAK CROSS SECTION

SCALE: 0 50' 100' 200'

NORTH ARROW/PLANT NORTH: 30° NORTH / NORTH; TRUE / PLANT

EQUIPMENT/DEVICE TAG AND NUMBER: XXX-XX-XXXX (E)or (F)
EQUIPMENT
(E) = EXISTING EQUIPMENT
(F) = FUTURE EQUIPMENT

PIPE TAG: PIPE SIZE — FLOW STREAM; X" XXX (E)or (F)
SIZE FLOW STREAM
(E) = EXISTING FLOW STREAM
(F) = FUTURE FLOW STREAM

PIPE CONTINUATION (SINGLE LINE)

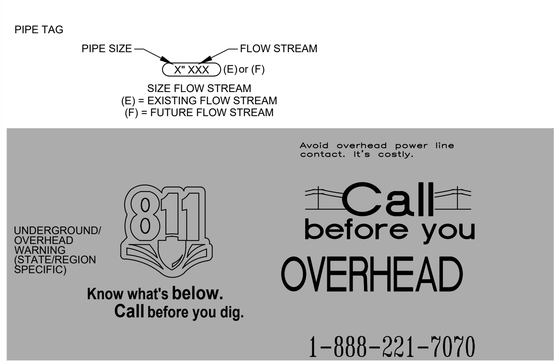
KEY TAG: X

KEY NOTE: 34

REVISION DELTA: 2

EXISTING ELEVATION: T.O.W. XXXX.X+ (EXIST)

ELEVATION: TOC XXXX.XX



HATCH PATTERNS

- AGGREGATE BASE COURSE (ABC)
- ASPHALT PAVING
- BEDROCK
- BRICK OR BLOCK
- CAST IRON OR FIBERGLASS
- CLSM
- CONCRETE (ALL CLASSES)
- DRAIN ROCK
- GRAVEL
- GRATING (SPAN)
- LANDSCAPING
- SAND OR GROUT
- EXISTING/ UNDISTURBED SOIL
- STRUCTURAL FILL OR BACKFILL
- STEEL
- TREAD PLATE

LINE WORK

	NEW	EXISTING
CONSTRUCTION		
PIPING (TRIPLE LINES)		
PIPING (SINGLE LINE)		
CONTOURS	310	310
FENCE	X	X
GUARDRAIL		
FUTURE CONSTRUCTION		
CENTER LINE		
HIDDEN LINE		
REMOVE AND/OR ABANDON		
GATE		
POWER POLE & LINE	OHE — PP	
CABLE TV (UNDERGROUND)	CTV	
FIBER OPTIC	FO	
NATURAL GAS	G	
UNDERGROUND ELECTRIC	UGE	
SANITARY SEWER	SS	
FORCEMAIN SANITARY SEWER	FM	
STORM DRAIN	SD	
TELEPHONE	TEL	
WATER	W	
PROPERTY LINE OR RIGHT OF WAY		

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MG
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 4804445 — ALAN M. DOMONOSKE — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

GENERAL

NOTES, LEGEND, AND SYMBOLS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00G03
SHEET NO. 3 OF 162

LAST SAVED BY: KMarshall

PROJECT NO.

FILE NAME: ProjNum00G03.dwg

@	AT (MEASUREMENT)
△	DEFLECTION ANGLE, CENTRAL ANGLE
#	NUMBER (REBAR Ø)

A

AB	ANCHOR BOLT
ABC	AGGREGATE BASE COURSE
ABS	ACRYLONITRILE BUTADIENE STYRENE
AC	ASPHALTIC CONCRETE
ACB	AIR CIRCUIT BREAKER
ACI	AMERICAN CONCRETE INSTITUTE
ACP	ASBESTOS CEMENT PIPE
ACU	AIR CONDITIONING UNIT
AD	AREA DRAIN
ADDL	ADDITIONAL
ADJ	ADJACENT, ADJUST, ADJUSTABLE
ADMIN	ADMINISTRATION
ADR	ACCESS DOOR
AED	AREA EQUIPMENT DRAIN
AER	AERAT(ION)(OR)
AFC	AFTERCOOLER
AFF	ABOVE FINISHED FLOOR
AFM	AIR FLOW MONITOR
AHU	AIR HANDLING UNIT
AIC	AIR COMPRESSOR
AIL	AIR INTAKE LOUVER
ALT	ALTERNATE
AL	ALUMINUM
ANCH	ANCHOR
ANV	ANGLE VALVE
APPROX	APPROXIMATE, APPROXIMATELY
ARCH	ARCHITECTURAL
ARV	AIR RELEASE VALVE
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AV	ACID VENT
AVG	AVERAGE
AVV	AIR AND VACUUM VALVE
AW	ACID WASTE

B

BC	BEGIN CURVE, BRASS CAP, BACK OF CURB, BOLT CIRCLE
BCKR	BACKER BOARD
BCM	BATCHMETER
BD	BOARD
BDD	BACKDRAFT DAMPER
BDR	BASIN DRAIN LINE
BF	BLIND FLANGE
BFG	BELOW FINISHED GRADE
BFP	BELT FILTER PRESS
BFV	BUTTERFLY VALVE
BG	BREAK GLASS HAND SWITCH
BKW	BACKWASH
BLDG	BUILDING
BLK	BLOCK
BLKHD	BULKHEAD
BLR	PROCESS BLOWER
BM	BEAM, BENCH MARK
BO	BOTTOM OF
BOTT	BOTTOM
BOTTS	BOTTOM SLUDGE
BPV	BACK PRESSURE VALVE
BRG	BEARING
BSP	BLACK STEEL PIPE
BTU	BRITISH THERMAL UNITS
BTWN	BETWEEN
BV	BALL VALVE
BWCCP	BAR-WRAPPED CONCRETE CYLINDER PIPE

C

C	CLOSE, CONDUIT CHANNEL (STRUCTURAL)
CA	CONCRETE ANCHOR
CAUSTIC	CAUSTIC SOLUTION (CONCENTRATED OR DILUTE)
CB	CATCH BASIN
CC	CENTER OF CURVATURE, CENTER TO CENTER
CCB	CHLORINE CONTACT BASIN
CD	CEILING DIFFUSER, CONDENSATE DRAIN
CDL	CHEMICAL DRAIN LINE
CDT	CONDUIT
CEF	CEILING EXHAUST FAN
CF	CUBIC FEET
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHEMD	CHEMICAL DRAIN
CHF	CHEMICAL FEEDER
CHKD PL	CHECKERED PLATE
CI	CAST IRON
CIP	CAST IRON PIPE
CIRC	CIRCUMFERENTIAL/CIRCUMFERENCE
CJ	CONSTRUCTION JOINT
CKA	CHECK VALVE, ANGLE
CKB	CHECK VALVE, BALL
CKF	CHECK VALVE, FLAP
CKS	CHECK VALVE, SWING
CL	CENTER LINE
CLK	CHAIN LINK
CLD	CHLORINE LEAK DETECTOR
CLL	CHLORINE LIQUID
CLP	CHLORINE GAS (PRESSURE)
CLR	CLEAR
CLS	CHLORINE SOLUTION
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CLV	CHLORINE GAS (VACUUM)
CML	CEMENT MORTAR LINED
CMLC	CEMENT MORTAR LINED AND COATED
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CNV	CONVEYOR
CO	CLEANOUT
COL(S)	COLUMN(S)
CONC	CONCRETE
CONN	CONNECT, CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS OR CONTINUATION OR (D) (OUS)
CORR	CORRUGATE(D), CORROSION
CP	CONTROL POINT
CPLG	COUPLING
CPT	CARPET
CPVC	CHLORINATED POLYVINYL CHLORIDE
CS	CARBON STEEL, CIRCULATING SLUDGE
CSP	CHEMICAL SUMP PUMP, CORRUGATED STEEL PIPE
CT	CURRENT TRANSFORMER, CERAMIC TILE
CTJ	CONTROL JOINT
CTL	CONTROL
CTR	CENTER, CENTERED
CTSK	COUNTERSUNK
CU	CUBIC
CUP	COPPER PIPE
CV	CHECK VALVE
CW	COLD WATER
CWV	COMBINATION WASTE AND VENT
CY	CUBIC YARD

D

D	DEPTH, DIGITAL OR DISCRETE, DRAIN
D/W	DRIVEWAY
DBL	DOUBLE
DDR	DESICCANT DRYER
DEG or °	DEGREE
DEMO	DEMOLISH, DEMOLITION
DET	DETAIL
DFL	DECANT/FILTRATE
DG	DOOR GRILLE
DIA or Ø	DIAMETER
DIAG	DIAGONAL
DIF	DIFFUSER
DIG	DIGESTER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DISCH	DISCHARGE
DIW	DEIONIZED WATER
DL	DEAD LOAD, DRAIN LINE
DLV	DOOR LOUVER
DMP	DAMPER
DMS	DIAPHRAGM SEAL
DN	DOWN
DNWTP	DAVIS NORTH WATER TREATMENT PLANT
do	DITTO
DO	DOOR OPENING
DP	DEEP (OR DEPTH)
DPV	DIAPHRAGM VALVE
DR	DOOR, DRAIN
DRT	DRIP TRAP
DRV	DRAIN VALVE
DS	DIGESTED SLUDGE, DOWN SPOUT
DSW	DISTILLED WATER, DOOR SWITCH
DUC	DUST COLLECTOR
DUH	DUCT HEATER UNIT
DW	DISTILLED WATER
DWD	DEWATERING DRAIN
DWG(S)	DRAWING(S)
DWL(S)	DOWEL(S)

E

E	EAST
EA	EACH
EC	END OF CURVE
ECC RED	ECCENTRIC REDUCER
ECU	EVAPORATOR COOLING UNIT
ED	EQUIPMENT DRAIN
EF	EXHAUST FAN, EACH FACE
EFF	EFFLUENT
EG	EXHAUST GRILLE
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EJR	INJECTOR/EDUCTOR
EL	ELEVATION
ELEC	ELECTRICAL
ELL	ELBOW
EMBED	EMBEDMENT
EMH	ELECTRICAL MANHOLE
EP	EDGE OF PAVEMENT
EPS	EXPANDED POLYSTYRENE
EPV	ECCENTRIC PLUG VALVE
EQ	EQUAL
EQUIP	EQUIPMENT
ER	EXHAUST REGISTER
ES	EACH SIDE
ESEW	EMERGENCY SHOWER AND EYE WASH
ESMT	EASEMENT
ESS	EMERGENCY HAND SWITCH
ET	ELECTRICALLY HEAT TRACED
EUH	ELECTRIC UNIT HEATER
EVR	EVAPORATOR
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EWEF	EACH WAY EACH FACE
EWH	ELECTRIC WATER HEATER, EXHAUST
EX	EXISTING
EXIST	EXISTING
EXP	EXPANSION, EXPANSION TANK
EXPO	EXPOSED
EXT	EXTERIOR

F

FACT	FACTORY
FAD	FOUL AIR DUCT
FB	FLAT BAR
FBW	FILTER BACKWASH
FC	FACE OF CURB, FLEXIBLE COUPLING
FCA	FLANGE COUPLING ADAPTER
FCO	FLOOR CLEANOUT
FCU	FAN COIL UNIT
FD	FIRE DAMPER, FLOOR DRAIN, FOUND
FDC	FIRE DEPARTMENT CONNECTION
FDL	FLOOR DRAIN LINE
FDR	FEEDER
FEFF	FINAL EFFLUENT
FG	FLAP GATE
FH	FIRE HYDRANT
FILT	FILTRATE
FIN	FINISH
FIN FL	FINISHED FLOOR
FIN GR	FINISHED GRADE
FL	FLOOR, FLOW LINE
FLA	FOUL AIR
FLD	FILTER DRAIN
FLE	FILTER EFFLUENT
FLEX	FLEXIBLE
FLG	FLANGE, OR FLANGED
FLR	FILTER
FM	FORCE MAIN
FND	FOUNDATION
FO	FUEL OIL
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPM	FEET PER MINUTE
FPP	FLEXIBLE PLASTIC PIPE
FRP	FIBERGLASS REINFORCED PLASTIC
FRPP	FIBERGLASS REINFORCED PLASTIC PIPE
FRS	FROTH SPRAY
FS	FAR SIDE
FSTN	FASTEN(ED)
FT or '	FOOT, FEET
FTG	FOOTING
FUP	FUEL DISPENSER
FV	FLAP VALVE
FW	FLUSHING WATER, FINISHED WATER
FX	FIRE EXTINGUISHER
FXC	FIRE EXTINGUISHER CABINET
FXE	FIRE EXTINGUISHER - ELECTRICAL

G

G	GAS, GROUND, GUTTER
GA	GAUGE or GAGE
GAL	GALLONS
GALV	GALVANIZE(D)
GAV	GRAVITY VENTILATOR
GB	GRADE BREAK
GBT	GRAVITY BELT THICKENER
GC	GROOVED COUPLING
GEL	GRAVITY EXHAUST LOUVER
GEN	GENERAL, GENERATOR
GL	GLASS
GLV	GLOBE VALVE
GM	GAS METER
GND	GROUND
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
GR	GRADE
GRTG	GRATING
GRV	GRAVITY VENTILATOR
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
GYP	GYPSUM

H

H	EXPLOSION-PROOF, HIGH, HORIZONTAL
H1E	HOOK ONE END
H2E	HOOK TWO ENDS
HAS	HEADED ANCHOR STUD
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HDW	HARDWARE
HDWL	HEADWALL
HEF	HOOD EXHAUST FAN
HGT	HEIGHT
HORIZ	HORIZONTAL
HP	HEAT PUMP, HORSEPOWER, HIGH PRESSURE
HPA	HIGH PRESSURE AIR
HPT	HIGH POINT
HPU	HEAT PUMP UNIT AIR
HR	HANDRAIL, HOSE REEL, HOUR
HSF	HOOD SUPPLY FAN
HSS	HOLLOW STRUCTURAL SECTION (STEEL)
HTX	HEAT EXCHANGER
HV	HOSE VALVE
HW	HOT WATER
HWL	HIGH WATER LEVEL
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HxW	HEIGHT BY WIDTH
HYD	HYDRANT

I

IA	INSTRUMENT AIR
ID	INSIDE DIAMETER, INSIDE DIMENSION, IDENTIFICATION
I.F.	INSIDE FACE
IN or "	INCHES
INCL	INCLUDE, INCLUDING
INF	INFLUENT
INJ	INJECTOR
INSTR	INSTRUMENTATION
INSUL	INSULAT(E)(ED)(ING)(ION)
INT	INTERIOR
INV	INVERT
IP	IRON PIPE
ISR	INTRINSICALLY SAFE RELAY

J

JST	JOIST
JT	JOINT

K

KGV	KNIFE GATE VALVE

L

L	ANGLE (STRUCTURAL), LENGTH, LOUVER
LAB	LABORATORY
LAV	LAVATORY
LB(S)	POUND(S)
LDF	LIQUID DIESEL FUEL
LDFR	LIQUID DIESEL FUEL RETURN
LF	LINEAL FEET
LG	LONG
LH	LEFT HAND
LHR	LEFT HAND REVERSE
LHRA	LEFT HAND REVERSE ACTIVE
LHRB	LEFT HAND REVERSE BEVEL
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW PRESSURE
LPA	LOW PRESSURE AIR
LPG	LIQUIFIED PROPANE GAS
LPT	LOW POINT
LR	LONG RADIUS
LS	LAB SINK
LT	LEFT
LWL	LOW WATER LEVEL

M

M	MOTOR
MAINT	MAINTENANCE
MAN	MANUAL
MASY	MASONRY
MATL	MATERIAL
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MECHANICAL COUPLING
MCJ	MASONRY CONTROL JOINT
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MET	METAL
MFR	MANUFACTURER
MG/L	MILLIGRAMS PER LITER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MIX	MIXER
MJ	MECHANICAL JOINT
MK	MARK
ML	MIXED LIQUOR
MO	MASONRY OPENING
MOD	MODIFIED
MOIST	MOISTURE
MON	MONUMENT
MOS	MOISTURE SEPARATOR
MPM	METERING PUMP
MS	MOP SINK
MTD	MOUNTED

N

N	NORTH, NEUTRAL
NA	NOT APPLICABLE
NC	NORMALLY CLOSED
NEV	VALVE, NEEDLE
NG	NATURAL GRADE, NATURAL OR LP GAS
NIC	NOT IN CONTRACT
NO., #	NUMBER
NOM	NOMINAL
NPT	NATIONAL PIPE THREAD
NPW	NON-POTABLE WATER
NS	NEAR SIDE
NTS	NOT TO SCALE

O

O	OPEN
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER, OUTSIDE DIMENSION
OED	OPEN EQUIPMENT DRAIN
O.F.	OUTSIDE FACE
OFL	OVERFLOW
OPNG	OPENING
OPP	OPPOSITE
OPP HND	OPPOSITE HAND
OZ	OUNCE

P

P	POLE
PBL	POLYMER BLENDER
PC	POINT OF CURVATURE
PCC	PLANT CONTROL CENTER
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PCP	PROGRESSIVE CAVITY PUMP
PD	POSITIVE DISPLACEMENT, PLANT DRAIN
PD, PLD	PULSATION DAMPENER
PDP	POSITIVE DISPLACEMENT PUMP
PE	PLAIN END
PERP	PERPENDICULAR
PG	PRESSURE GAUGE
PH	PHASE, PHYSICALLY HANDICAPPED
PI	POINT OF INTERSECTION
PIV	POST INDICATOR VALVE
PL	PLATE, PROPERTY LINE
PLAS	PLASTIC
PLCS	PLACES
PLS	POLYMER SOLUTION
PLWD	PLYWOOD
PMP	PUMP
PNL(S)	PANEL(S)
POL	POLYMER
POLY	POLYETHYLENE
POS	POSITION
POW	POTABLE WATER
PP	POWER POLE
PPMV	PARTS PER MILLION (VOLUME)
PRC	POINT OF REVERSE CURVATURE
PREFAB	PREFABRICATED
PRG	PRESSURE REGULATOR
PRI	PRIMARY
PROJ	PROJECTION
PRR	PRESSURE OR VACUUM RELIEF VALVE
PRV	PRESSURE REDUCING VALVE, PRESSURE REGULATION VALVE, PRESSURE RELIEF VALVE
PS	PUMP STATION, PIPE SUPPORT
PSF	POUNDS PER SQUARE FOOT
PSG	PRESSURE GAUGE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PT	POINT, POINT OF TANGENCY
PV	PLUG VALVE
PVC	POINT OF VERTICAL CURVATURE, POLYVINYL CHLORIDE
PVDF	POLYVINYLIDENE FLUORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVT	POINT OF VERTICAL TANGENCY
PLW	PLANT WATER

Q

QTY	QUANTITY

R

R	RISER
R/W or R.O.W.	RIGHT OF WAY
RAD	RADIUS, RADIAL
RAS	RETURN ACTIVATED SLUDGE
RCP	REINFORCED CONCRETE PIPE
RCCP	REINFORCED CONCRETE CYLINDER PIPE
RD	ROOF DRAIN
RDL	ROOF DRAIN LINE
RDOF	ROOF DRAIN OVERFLOW
RECIRC	RECIRCULATING
RED	REDUCER, ROOF EQUIPMENT DRAIN
REF	REFERENCE
REG	REGULATOR, REGULATING
REINF	REINFORCE(D)(ING)(MENT)
REJ	RUBBER EXPANSION JOINT
REQD	REQUIRED
RER	REACTOR
RES	RESERVOIR
REV	REVISION, REVERSE
RF	RETURN FAN
RG	RETURN GRILLE RUBBER GASKET
RH	RIGHT HAND
RHR	RIGHT HAND REVERSE
RHRA	RIGHT HAND REVERSE ACTIVE
RHRB	RIGHT HAND REVERSE BEVEL
RLS	REGISTERED LAND SURVEYOR
RM	ROOM
RO	ROUGH OPENING
ROT	ROTAMETER
RP	RADIUS POINT
RPM	REVOLUTIONS PER MINUTE
RPMP	REINFORCED PLASTIC MORTAR PIPE
RR	RETURN REGISTER
RT	RIGHT
RTF	ROTARY FEEDER
RTU	ROOF TOP UNIT
RUD	RUPTURE DISK
RW	RECLAIMED WATER, REUSE WATER
RWR	RECLAIMED WATER RETURN
RWW	RAW WASTEWATER

S

S/W	SIDEWALK
S	SOUTH, SWITCH, SLOPE
SA	SAMPLE
SC	SECONDARY CLARIFIER
SCB	SCRUBBER
SCD	SMOKE CONTROL DAMPER
SCFM	STANDARD CUBIC FEET PER MINUTE
SCH	SCHEDULE
SCO	SURFACE CLEANOUT
SCR	BAR SCREEN
SCR	SILICON CONTROL RECTIFIER
SD	SMOKE DETECTOR, SPLITTER DAMPER, STORM DRAIN
SDL	SUMP DISCHARGE DRAIN LINE
SDO	SLUDGE DRAWOFF
SE	SECONDARY EFFLUENT
SEC	SECONDARY, SECOND
SECT	SECTION
SED	SEDIMENTATION
SEP	SEPTAGE
SF	SUPPLY FAN
SFW	SOFTENED WATER
SG	SUPPLY GRILLE
SGS	STORE FRONT GLAZING SYSTEM
SHD	SHOWER DRAIN
SHDR	SOLIDS HANDLING-RECYCLE
SHR	SHOWER
SHT	SHEET
SIM	SIMILAR
SK	SKIMMINGS
SL	SLOPE, SLUDGE
SLC	SLUDGE COLLECTOR DRIVE
SLG	SLIDE GATE
SLV	SLEEVE VALVE
SMP	SAMPLER, SUMP PUMP
SN	SUPERNATANT OR SUBNATANT
SOL	SOLUTION
SP	STATIC PRESSURE, SET POINT
SPD	SUMP PUMP DRAIN
SPDT	SINGLE POLE DOUBLE THROW
SPEC(S)	SPECIFICATION(S)
SPL	SPLITTER BOX
SPR	SPARE
SPS	SAMPLE SINK
SPW	SAMPLE WATER
SQ	SQUARE
SQ FT	SQUARE FEET
SQ IN(S)	SQUARE INCH(ES)
SR	SHORT RADIUS, SUPPLY REGISTER
SRL	SCRUBBER RECIRCULATION LIQUID (CAUSTIC)
SS	SANITARY SEWER, SELECTOR SWITCH
SSK	SERVICE SINK
SSL	SECONDARY SLUDGE
SST	STAINLESS STEEL
ST	SLUDGE TRANSFER
STA	STATION
STB	STABILIZER
STD(S)	STANDARDS(S)
STIFF	STIFFENER
STIR	STIRRUPS
STL	STEEL
STM	STEAM
STP	STEEL PIPE
STR	STRAINER
STRUCT	STRUCTURAL
SUG	SLUICE GATE
SUPT	PIPE SUPPORT, SUPPORT
SV	SERVICE VALVE, SHUTOFF VALVE, SOLENOID VALVE
SW	SANITARY WASTE
SWR	SEAL WATER
SYM	SYMMETRICAL
SYN	SYNTHETIC

T

T	TANGENT LENGTH, THERMOSTAT, TIMER, TREAD
T&B	TOP AND BOTTOM
TAS	THREADED ANCHOR STUD
TBM	TEMPORARY BENCHMARK
TC	TOP OF CURB
TCV	TEMPERATURE CONTROL VALVE
TDH	TOTAL DYNAMIC HEAD
TDR	TIME DELAY RELAY, TOWEL DISPENSER/RECEPTACLE
TEL	TELEPHONE
TH	TEST HOLE
THK	THICKENER, THICKNESS, THICK
TKS	THICKENED SLUDGE
TLV	TELESCOPING VALVE
TMH	TELEPHONE MANHOLE
TMP	TEMPERATURE
TNK	TANK
T.O.	TOP OF
TOC	TOP OF CONCRETE
TOG	TOP OF GRATING
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
T.O.W.	TOP OF WALL
TR	TRIAD (THREE CONDUCTOR SHIELDED CABLE), TIMING RELAY
TS	THICKENER SUPERNATANT OR SUBNATANT
TSD	THICKENED SLUDGE DECANT
TSPL	TURBIDIMETER SAMPLE
TSTAT	THERMOSTAT
TTB	TELEPHONE TERMINAL BOARD
TUR	TURBINE
TV	TURNING VANES
TWV	THREE-WAY VALVE
TYP	TYPICAL

U

UC	UNDERCUT
UG	UNDERGROUND
UHMWPE	ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE
UHMW	ULTRA HIGH MOLECULAR WEIGHT
UNO	UNLESS NOTED OTHERWISE
US	UTILITY SINK

V

V	VALVE
VAR	VARIES
VB	VALVE BOX
VCP	VITRIFIED CLAY PIPE
VEC	VINYL ESTER COATING
VERT	VERTICAL
VFR	VOLUMETRIC FEEDER
VG	VACUUM GAUGE, VALLEY GUTTER
VOL	VOLUME
VRV	VACUUM REGULATING VALVE
VTR	VENT THROUGH ROOF

W

W	WEST, WIDTH
W/	WITH
W/O	WITHOUT
WAS	WASTE ACTIVATED SLUDGE
WBWCD	WEBER BASIN WATER CONSERVANCY DISTRICT
WCO	WALL CLEANOUT
WEF	WALL EXHAUST FAN
WF	WALL FITTING, WASH FOUNTAIN
WH	WATER HEATER
WI	WEIGHT INDICATOR
WL	WALL LOUVER, WATER LEVEL
WM	WATER METER
WOD	WASTE OIL DRAIN
WP	WEATHERPROOF, WATERPROOF
WPT	WORKING POINT
WRG	WEIR GATE
WRS	WATER SOFTENER
WS	WATER SURFACE
WSTP	WATERSTOP
WT	WALK THROUGH, WEIGHT
WTF	WATER TREATMENT FACILITY
WTP	WATER TREATMENT PLANT
WTR	WATER
WV	WATER CONTROL VALVE
WW	WASTEWATER
WWF	WELDED WIRE FABRIC
WWTF	WASTEWATER TREATMENT FACILITY
WWTP	WASTEWATER TREATMENT PLANT

Y

Y	WYE
YCO	YARD CLEANOUT
YH	YARD HYDRANT

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MG
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 4804445
ALAN M. DOMONOSKE
STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

GENERAL

ABBREVIATIONS

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 00G04
SHEET NO. 4 OF 162

LAST SAVED BY: KMarshall

PROJECT NO.
FILE NAME: ProjNum00G04.dwg

		UNITS	VALUE NEW	VALUE FUTURE	NOTES
PLANT FLOW					
MAXIMUM		MGD	30.0	60.0	
MINIMUM		MGD	15.0	30.0	
RAW WATER QUALITY					
TURBIDITY					
	MAXIMUM	NTU	90.0	90.0	HIGH TURBIDITY EVENTS CAN OCCUR IN THE SPRING
	AVERAGE	NTU	12.5	12.5	
TSS/TURBIDITY FACTOR			1.3		
TSS					
	MAXIMUM	mg/L	117.0	117.0	
	AVERAGE	mg/L	17.0	17.0	
CHEMICAL DOSING					
PAC					
	MAXIMUM	mg/L	5.0	5.0	
	AVERAGE	mg/L	0.0	0.0	
TOCR					
	MAXIMUM	mg/L	1.0	1.0	
	AVERAGE	mg/L	1.0	1.0	
FERRIC SULFATE					
	MAXIMUM	mg/L	57.0	57.0	
	AVERAGE	mg/L	14.2	14.2	
COAGULANT FACTOR			0.5		COAGULANT FACTOR: (1) 0.33 TO 0.38 FOR ALUM; (2) 0.5 TO 0.6 FOR FERRIC
PEC					
	MAXIMUM	mg/L	1.0	1.0	
	AVERAGE	mg/L	1.0	1.0	
PEA					
	MAXIMUM	mg/L	0.0	0.0	
	AVERAGE	mg/L	0.0	0.0	
PLANT SLUDGE PRODUCTION					
UNIT SLUDGE PRODUCTION					
	MAXIMUM	LBS/DAY/MG	1,291	1,291	
	AVERAGE	LBS/DAY/MG	222	222	
DAILY SLUDGE PRODUCTION					
	MAXIMUM	LBS/DAY	19,363	38,762	MAXIMUM (POOR) WATER QUALITY IN SPRING WHEN PLANT FLOW IS LOW
	AVERAGE	LBS/DAY	6,672	13,345	AVERAGE WATER QUALITY IN SUMMER WHEN PLANT FLOW IS HIGH
EXISTING SYSTEM BASIS OF DESIGN					
	MAXIMUM	LBS/DAY	50,000		MAX DAY
		GPM	250		ASSUMES 5% TS CONCENTRATION; 8 HOURS/DAY
	AVERAGE	LBS/DAY	9,380		
		GPM	47		ASSUMES 5% TS CONCENTRATION; 8 HOURS/DAY

			UNITS	VALUE NEW	VALUE FUTURE	NOTES
EXISTING GRAVITY THICKENERS						
THICKENERS ON-LINE						
	MAXIMUM		NO.	1	2	WBWCD TYPICALLY RUNS ONE GRAVITY THICKENER AT A TIME
	AVERAGE		NO.	1	1	
DIMENSIONS						
	DIAMETER		FT	60.0	60.0	
	HEIGHT		FT	12	12	SIDEWALL HEIGHT
	AREA		FT^2	2,827	2,827	PER THICKENER
	MAX USABLE DEPTH		FT	8.8	8.8	WORKING DEPTH, BETWEEN HIGH AND LOW WATER LEVELS
	MAX VOLUME		FT^3	24,878	24,878	
			GALS	186,087	186,087	
LOADING RATES						
	INSTANT HYDRAULIC LOADING RATE					
		MAXIMUM	GPM /FT^2	0.3	0.1	ASSUMES BLOWDOWNS DO NOT OVERLAP;
		AVERAGE	GPM /FT^2	0.3	0.3	
	AVERAGE HYDRAULIC LOADING RATE					FLOWRATE AVERAGED OVER DAY
		MAXIMUM	GPD /FT^2	137	137	RECOMMEND KEEPING BELOW 300 GPD/FT^2
		AVERAGE	GPD /FT^2	57	113	
	AVERAGE HYDRAULIC LOADING RATE PER THICKENER					
		MAXIMUM	GPM/FT^2	0.1	0.1	REFERENCE: 0.12 TO 0.15 GPM/FT^2 HYDRAULIC LOADING RATE PER SUSUMU
		AVERAGE	GPM/FT^2	0.0	0.1	
	SOLIDS LOADING RATE					
		MAXIMUM	LBS/FT^2/DAY	6.8	6.9	REFERENCE: SOLIDS LOADING RATE SHOULD BE LESS THAN 10 LBS/FT^2/DAY
		AVERAGE	LBS/FT^2/DAY	2.4	4.7	
THICKENED SOLIDS						
	CONCENTRATION		%	5%	5%	
	PERCENT CAPTURE		%	90%	90%	
TOTAL DAILY SOLIDS PRODUCED						
	MAXIMUM		GALS/DAY	46,434	92,954	
	AVERAGE		GALS/DAY	16,000	32,002	
DAILY THICKENER DEPTH						
	MAXIMUM		FT/D/THICK	2.2	2.2	
	AVERAGE			0.8	1.5	
STORAGE CAPACITY						
	MAXIMUM		DAYS	4.0	4.0	
	AVERAGE		DAYS	11.6	5.8	

REV	DATE	BY	DESCRIPTION

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GENERAL

DESIGN CRITERIA 1

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JOB NO. 203356
DRAWING NO. 00G05
SHEET NO. 5 OF 162

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FILE NAME: ProjNum_Sheet.dwg

	UNITS	VALUE NEW	VALUE FUTURE	NOTES
SLUDGE PUMP STATION				
THICKENED SLUDGE TRANSFER PUMPS				
GRAVITY THICKENER BLOWDOWN				
FLOWRATE	GPM	100	100	
DURATION	MIN	13	13	
VOLUME	GALS	1,300	1,300	
SOLIDS TRANSFER	LBS/CYCLE	542.1	542.1	
DAILY CYCLES				
MAXIMUM	CYCLES/THICKENER	35.7	35.8	
AVERAGE	CYCLES/THICKENER	12.3	24.6	
TIME BETWEEN CYCLES				
MAXIMUM	MIN	40.3	40.3	
AVERAGE	MIN	117.0	58.5	
THICKENED SLUDGE FEED PUMPS				
DEWATERING EQUIPMENT FEED				
FLOWRATE				
MAXIMUM	GPM	200	200	
AVERAGE	GPM	150	150	ASSUMED 5:1 PUMP TURNDOWN
MINIMUM	GPM	40	40	
SOLIDS FEEDRATE				
MAXIMUM	LBS/HOUR	5,004	5,004	ASSUMES 5% TS
AVERAGE	LBS/HOUR	3,753	3,753	ASSUMES 5% TS
MINIMUM	LBS/HOUR	1,001	1,001	
SLUDGE DAY TANK				
CELLS	NO.	2		
WIDTH	FT	30	30	
LENGTH	FT	22	22	
AREA	FT²	660	660	PER CELL
MAXIMUM USABLE DEPTH	FT	15.0	15.0	
VOLUME	FT³	9,900	9,900	PER CELL
	GALS	74,000	74,000	PER CELL
TOTAL VOLUME	GALS	148,000	148,000	
DAILY TRANSFER DEPTH				
MAXIMUM	FT	9.4	18.8	
AVERAGE	FT	3.2	6.5	
TOTAL STORAGE				
MAXIMUM	DAYS	1.6	0.8	
AVERAGE	DAYS	4.6	2.3	
TOTAL SLUDGE STORAGE CAPACITY				
MAXIMUM	DAYS	5.5	4.8	SOLIDS STORED IN BOTH GRAVITY THICKENERS AND DAY TANKS
AVERAGE	DAYS	16.3	8.1	
EXISTING SLUDGE DEWATERING W/ CENTRIFUGES				
NUMBER	NO.	3	3	
UNIT CAPACITY				
MAXIMUM	LBS/HOUR/UNIT	2,250	2,250	
AVERAGE	LBS/HOUR/UNIT	2,000	2,000	
MINIMUM		1,500	1,500	
RUNTIME				
MAXIMUM	HOURS/DAY	4	8	ASSUMES FIRM CAPACITY W/ ONE UNIT OUT OF SERVICE AND 7 DAY/WEEK OPERATION
AVERAGE	HOURS/DAY	8	12	ASSUMES FIRM CAPACITY W/ ONE UNIT OUT OF SERVICE AND 5 DAY/WEEK OPERATION
PERCENT SOLIDS CAPTURE	%	90	90	
DEWATERED CAKE PERCENT SOLIDS				
MAXIMUM	%	25	25	
AVERAGE	%	20	20	

	UNITS	VALUE NEW	VALUE FUTURE	NOTES
SLUDGE HAULING				
STORAGE BIN/HOPPER				
CAPACITY	TONS	15.0	15.0	WET
TIME TO FILL				
MAXIMUM	MIN	30.0	30.0	USING FUTURE BELT PRESS EQUIPMENT
AVERAGE	MIN	60.0	60.0	
HAUL TRUCK				
NUMBER	NO.	2	2	
DAILY HAUL WEIGHT				
MAXIMUM	LBS/DAY	645	1,292	WET
AVERAGE	LBS/DAY	334	667	WET
CAPACITY	TONS	15	15	FIRM; WET
DAILY TRUCK LOADS				
MAXIMUM	NO.	3	5	
AVERAGE	NO.	1	2	
FUTURE SLUDGE DEWATERING W/ BELT PRESSES				
NUMBER	NO.	2	2	
BELT SIZE				
MAXIMUM	METER	2.0	2.0	
AVERAGE	METER	2.0	2.0	
UNIT CAPACITY				
	LBS/HOUR/METER	1,000	1,000	
MAXIMUM	LBS/HOUR/UNIT	2,000	2,000	
AVERAGE	LBS/HOUR/UNIT	1,500	1,500	
MINIMUM		1,000	1,000	
RUNTIME				
MAXIMUM	HOURS/DAY	9.7	19.4	ASSUMES FIRM CAPACITY W/ ONE UNIT OUT OF SERVICE
AVERAGE	HOURS/DAY	4.4	8.9	"
PERCENT SOLIDS CAPTURE	%	90	90	
DEWATERED CAKE PERCENT SOLIDS				
MAXIMUM	%	30	30	
AVERAGE	%	20	20	

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REGISTERED PROFESSIONAL ENGINEER — No. 4804445 — ALAN M. DOMONOSKE — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

GENERAL

DESIGN CRITERIA 2

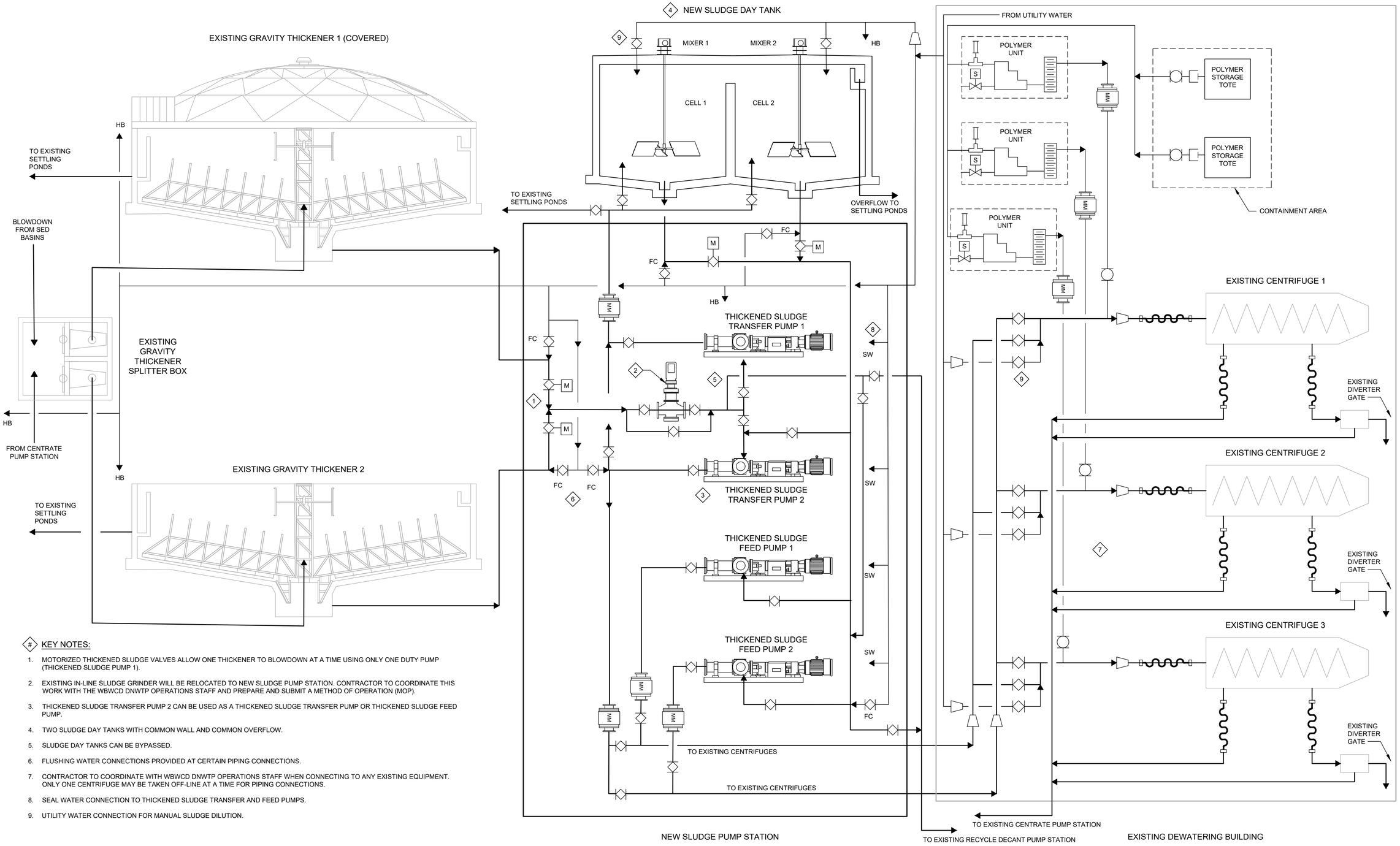
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DRAWING NO. 00G06
SHEET NO. 6 OF 162

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KEY NOTES:

1. MOTORIZED THICKENED SLUDGE VALVES ALLOW ONE THICKENER TO BLOWDOWN AT A TIME USING ONLY ONE DUTY PUMP (THICKENED SLUDGE PUMP 1).
2. EXISTING IN-LINE SLUDGE GRINDER WILL BE RELOCATED TO NEW SLUDGE PUMP STATION. CONTRACTOR TO COORDINATE THIS WORK WITH THE WBWCD DNWTP OPERATIONS STAFF AND PREPARE AND SUBMIT A METHOD OF OPERATION (MOP).
3. THICKENED SLUDGE TRANSFER PUMP 2 CAN BE USED AS A THICKENED SLUDGE TRANSFER PUMP OR THICKENED SLUDGE FEED PUMP.
4. TWO SLUDGE DAY TANKS WITH COMMON WALL AND COMMON OVERFLOW.
5. SLUDGE DAY TANKS CAN BE BYPASSED.
6. FLUSHING WATER CONNECTIONS PROVIDED AT CERTAIN PIPING CONNECTIONS.
7. CONTRACTOR TO COORDINATE WITH WBWCD DNWTP OPERATIONS STAFF WHEN CONNECTING TO ANY EXISTING EQUIPMENT. ONLY ONE CENTRIFUGE MAY BE TAKEN OFF-LINE AT A TIME FOR PIPING CONNECTIONS.
8. SEAL WATER CONNECTION TO THICKENED SLUDGE TRANSFER AND FEED PUMPS.
9. UTILITY WATER CONNECTION FOR MANUAL SLUDGE DILUTION.

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

GENERAL

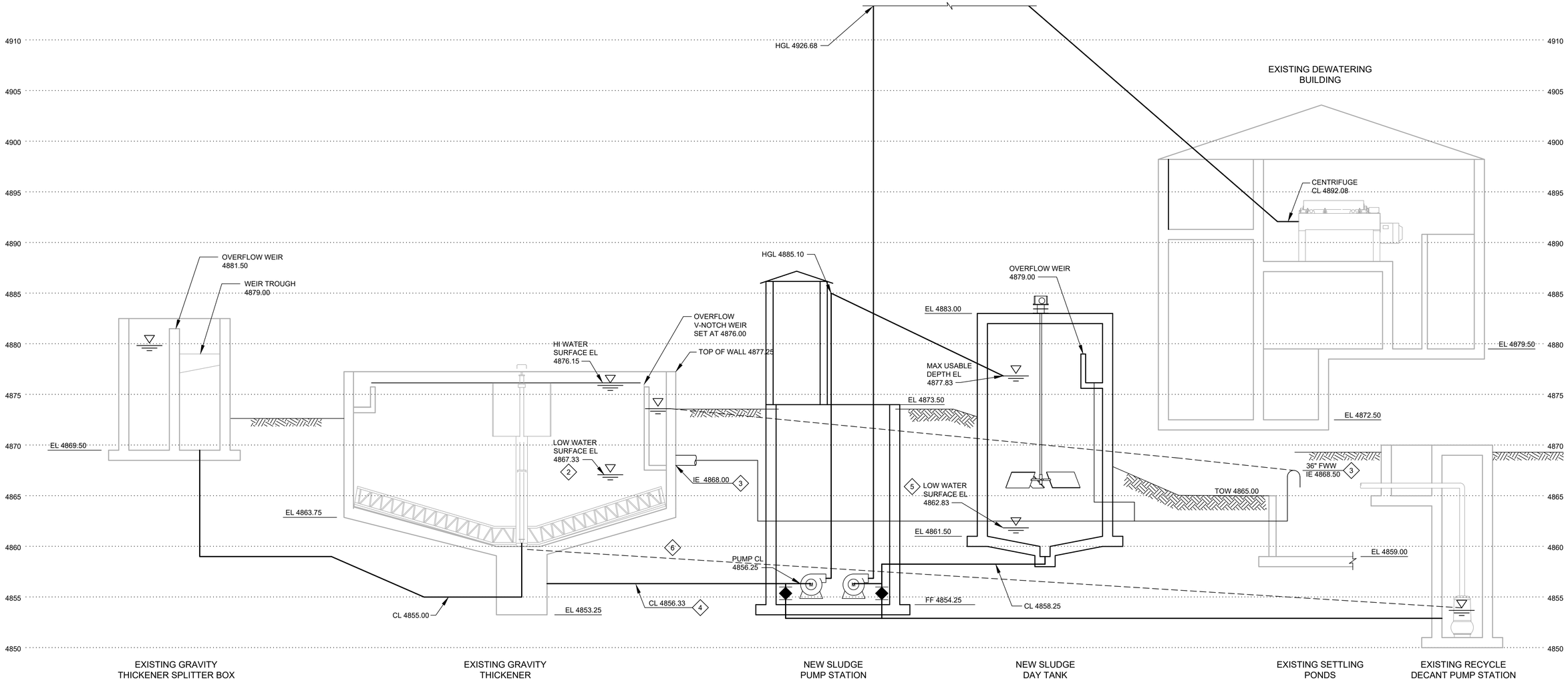
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KEY NOTES:

1. THE HYDRAULIC GRADE LINE WAS CALCULATED ASSUMING THE FOLLOWING:
   A. SOLIDS CONCENTRATION: 5% TOTAL SOLIDS (TS)
   B. FLOWRATE: MAXIMUM FLOWRATE 200 GPM
   C. PIPE FRICTION COEFFICIENT: 120
2. ESTIMATED WATER LEVEL AT WHICH 5% TS SLUDGE LINE WILL FLOW BY GRAVITY FROM GRAVITY THICKENERS TO THE NEW THICKENED SLUDGE TRANSFER PUMPS AT 200 GPM. IT IS RECOMMENDED THAT GRAVITY THICKENER OPERATE WITH A SLUDGE DEPTH ABOVE THE RAKE ARMS.
3. THE 12" TE (D1) LINE WILL BE REROUTED AND CONNECTED TO THE 36" FWW (S2) AT THE SETTLING PONDS. THE MAXIMUM WATER SURFACE IN THE 36" FWW IS WELL BELOW THE GRAVITY THICKENER OVERFLOW WEIR.
4. ESTIMATED ELEVATION BASED ON 2001 WBWCD DAVIS NORTH WATER TREATMENT PLANT EXPANSION DRAWINGS: (1) MECHANICAL DRAWING 6M-02 - GRAVITY THICKENER SECTION AND DETAILS AND CIVIL DRAWING C-3 - SITE COORDINATED (SEE POINT 460).
5. ESTIMATED WATER LEVEL AT WHICH 5% TS SLUDGE LINE WILL FLOW BY GRAVITY FROM THE SLUDGE DAY TANK TO THE NEW THICKENED SLUDGE FEED PUMPS AT 200 GPM.
6. HYDRAULIC GRADE LINE WHEN DRAINING EXISTING GRAVITY THICKENERS TO EXISTING RECYCLE DECANT PUMP STATION WHERE DRAIN LINES PASS THROUGH THE NEW SLUDGE PUMP STATION.

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GENERAL

SOLIDS HYDRAULIC PROFILE

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PIPE SCHEDULE ABBREVIATIONS

ABBREVIATIONS TO DESIGNATE TEST PRESSURE/METHOD PER SPECIFICATION SECTION 15956:	
AM	AIR METHOD
GR	GRAVITY METHOD
HH	HIGH HEAD METHOD
LH	LOW HEAD METHOD
SC	SPECIAL CASE
ABBREVIATIONS TO DESIGNATE PIPE MATERIAL:	
BSP	BLACK STEEL PIPE
CI	CAST IRON
CISP	CAST IRON SOIL PIPE
CL	CLASS, FOLLOWED BY THE DESIGNATION
CPVC	CHLORINATED POLYVINYL CHLORIDE
DIP	DUCTILE IRON PIPING
FRP	FIBERGLASS REINFORCED PIPE
GA	GAUGE, PRECEDED BY THE DESIGNATION
GE	GROOVED END JOINT
GSP	GALVANIZED STEEL PIPE
HDPE	HIGH DENSITY POLYETHYLENE
PVC	POLYVINYL CHLORIDE
SCH	SCHEDULE, FOLLOWED BY THE DESIGNATION
SST	STAINLESS STEEL
VCP	VITRIFIED CLAY PIPING
ABBREVIATIONS TO DESIGNATE CLASS, SCHEDULE, OR THICKNESS:	
SDR	STANDARD DIMENSION RATIO
ABBREVIATIONS TO DESIGNATE PIPING JOINTS/FITTINGS:	
B&SP	BELL & SPIGOT
BFW	BUTT FUSION WELD
BW	BUTT-WRAPPED
BZD	BRAZED
CF	COMPRESSION FITTING
FL	FLANGED
FLR	FLARED
GE	GROOVED END
MJ	MECHANICAL JOINT
NH	NO HUB
PO	PUSH ON
PRF	PRESS FIT
RMJ	RESTRAINED MECHANICAL JOINT
RPO	RESTRAINED PUSH ON
SCRD	SCREWED
SFW	SOCKET FUSION WELD
SLD	SOLDERED
SW	SOLVENT WELD
WLD	WELDED
ABBREVIATIONS TO DESIGNATE LINING AND COATINGS:	
CEP	CERAMIC EPOXY
CTP	COAL TAR PITCH
CM	CEMENT MORTAR
EPP	EPOXY AND POLYURETHANE COATING SYSTEM PER SECTION 09960
FBE	FUSION BONDED EPOXY
GL	GLASS LINING
PEN	POLYETHYLENE ENCASED
PTW	POLYETHYLENE TAPE WRAP
WAE	WATERBORNE ACRYLIC EMULSION

PIPE SCHEDULE

ABBREVIATION	SERVICE	DIAMETER (INCHES)	MATERIALS	PRESSURE CL, SPECIAL THICKNESS CL, OR SCHEDULE	JOINTS/FITTINGS	TEST PRESSURE/METHOD	LINING	COATING	PIPE SPEC SECTION	VALVES 4" AND SMALLER	COMMENTS
DR	DRAIN										
	EXPOSED/BELOW STRUCTURES	ALL	PVC	SCH 40	SW	10 FEET/GR	NONE	NONE	40_05_31.01		NO 90 DEGREE BENDS. CONCRETE ENCASED BELOW STRUCTURES.
	BURIED	6 TO 10	DIP	SCH 40	SW	20 FEET/GR	NONE	NONE	40_05_31.01		
NG	NATURAL GAS										
	EXPOSED	2 AND SMALLER	STEEL, BLACK ASTM 53	SCH 40	SCRD OR WLD	PER APPLICABLE FUEL GAS CODES	NONE	NONE	40_05_24.02	ECCENTRIC PLUG VALVE	
	BURIED	ALL	ASTM D2513	SDR 11	BFW OR SFW		NONE	NONE	40_05_24.02		
OF	OVERFLOW										
	EXPOSED OR SUBMERGED	4 TO 8	DIP	150	WLD, FL, OR GE	20 FEET/GR	CM	EPP	40_05_19.01		
	BURIED	4 TO 24	DIP	150	MJ		CM	PEN	40_05_19.01		
SD	STORM DRAIN										
	BURIED	12 TO 24	PVC	AWWA C900	B&SP	5 FEET/GR	NONE	NONE	40_05_31.01		
SPD	SUMP PUMP DISCHARGE										
	EXPOSED	ALL	PVC	SCH 80	SW/SCRD	50 SPI/HH	NONE	NONE	40_05_31.01		
TE	THICKENED EFFLUENT										
	BURIED	12 TO 24	DIP	150	MJ	5 FEET/GR	CM	PEN	40_05_19.01		
TS	THICKENED SLUDGE										
	EXPOSED	4 AND SMALLER	DIP	150	FL OR GE	75 PSI/HH	CM	EPP	40_05_19.01	ECCENTRIC PLUG VALVE	
	EXPOSED	6 AND LARGER	DIP	150	FL OR GE	20 FEET/GR	CM	EPP	40_05_19.01		
	BURIED	4 AND SMALLER	HDPE	SDR 17	BFW	75 PSI/HH	NONE	NONE	33_05_33.14	ECCENTRIC PLUG VALVE	CONCRETE ENCASED BELOW STRUCTURES.
	BURIED	6 AND LARGER	HDPE	SDR 17	BFW	20 FEET/GR	NONE	NONE	33_05_33.14		CONCRETE ENCASED BELOW STRUCTURES.
UW2	UTILITY WATER 2										
	EXPOSED	3 AND SMALLER	CPVC	SCH 80	SW	125 PSI/HH	NONE	NONE	40_05_31.01	PVC BALL VALVE	
	EXPOSED	4 AND LARGER	DIP	150	FL OR GE		CM	EPP	40_05_19.01	ECCENTRIC PLUG VALVE	
	BURIED	3 AND SMALLER	CTS POLY	ASTM D2737	BFW OR CF		NONE	NONE	40_05_31.01	PVC BALL VALVE	
	BURIED	4 AND LARGER	HDPE	SDR 17	BFW		NONE	NONE	33_05_33.14	BUTTERFLY VALVE OR GATE VALVE	CONCRETE ENCASED BELOW STRUCTURES.
VT	VENT										
	ALL	ALL	STEEL, GALVANIZED A53	SCH 40	SCRD OR WLD	NONE	NONE	EPP	40_05_24.02		

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GENERAL
PIPING SCHEDULE

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VALVE SCHEDULE (4 INCHES AND LARGER)

VALVE NO.	LOCATION	SERVICE	TYPE	SIZE (IN.)	CLASS	OPERATOR	REMARKS
65-FV-930A	SLUDGE PUMP STATION	TS	PV	6	150	O/C E	GRAVITY THICKENER 1 ISOLATION; SEE SPEC 40_05_62
65-FV-930B	SLUDGE PUMP STATION	TS	PV	6	150	O/C E	GRAVITY THICKENER 2 ISOLATION; SEE SPEC 40_05_62
65-HVA-930	SLUDGE PUMP STATION	TS	PV	6	150	HWO	
65-HVB-930	SLUDGE PUMP STATION	TS	PV	6	150	HWO	
65-HVC-930	SLUDGE PUMP STATION	TS	PV	6	150	HWO	
65-HVA-931	SLUDGE PUMP STATION	TS	PV	6	150	HWO	
65-HVA-932	SLUDGE PUMP STATION	TS	PV	6	150	HWO	
65-HVA-990	SLUDGE PUMP STATION	TS	PV	6	150	HWO	
65-HVA-940	SLUDGE PUMP STATION	TS	PV	6	150	HWO	
65-HVC-931	SLUDGE PUMP STATION	TS	PV	6	150	HWO	
65-HVB-931	SLUDGE PUMP STATION	TS	PV	4	150	HWO	
65-HVB-932	SLUDGE PUMP STATION	TS	PV	4	150	HWO	
65-HVD-940	SLUDGE PUMP STATION	TS	PV	4	150	HWO	
65-HVA-981	YARD PIPING	TS	PV	4	150	HWO	
65-HVA-982	YARD PIPING	TS	PV	4	150	HWO	
65-HVB-940	SLUDGE PUMP STATION	TS	PV	6	150	O/C E	SLUDGE DAY TANK CELL 1 ISOLATION; SEE SPEC 40_05_62
65-HVC-940	SLUDGE PUMP STATION	TS	PV	6	150	O/C E	SLUDGE DAY TANK CELL 1 ISOLATION; SEE SPEC 40_05_63
65-HVA-941	SLUDGE PUMP STATION	TS	PV	6	150	HWO	
65-HVC-932	SLUDGE PUMP STATION	TS	PV	4	150	HWO	
65-HVB-941	SLUDGE PUMP STATION	TS	PV	4	150	HWO	
65-HVA-942	SLUDGE PUMP STATION	TS	PV	6	150	HWO	
65-HVB-942	SLUDGE PUMP STATION	TS	PV	4	150	HWO	
65-HVC-942	SLUDGE PUMP STATION	TS	PV	4	150	HWO	
65-HVC-941	SLUDGE PUMP STATION	TS	PV	4	150	HWO	
65-HVC-933	SLUDGE PUMP STATION	TS	PV	4	150	HWO	
65-HVD-930	SLUDGE PUMP STATION	UW2	PV	4	150	HWO	FLUSHING WATER CONNECTION
65-HVE-930	SLUDGE PUMP STATION	UW2	PV	4	150	HWO	FLUSHING WATER CONNECTION
65-HVF-930	SLUDGE PUMP STATION	UW2	PV	4	150	HWO	FLUSHING WATER CONNECTION
65-HVD-940	SLUDGE PUMP STATION	UW2	PV	4	150	HWO	FLUSHING WATER CONNECTION
65-HVE-940	SLUDGE PUMP STATION	UW2	PV	4	150	HWO	FLUSHING WATER CONNECTION
65-HVB-941	SLUDGE PUMP STATION	UW2	PV	4	150	HWO	FLUSHING WATER CONNECTION

NOTES:

1. TYPE: BFV = BUTTERFLY VALVE
   GV = GATE VALVE
   PV = PLUG VALVE
   GL = GLOBE VALVE
   PRV = PRESSURE REDUCING VALVE
2. OPERATOR: BVB = BURIED VALVE BOX W/ NUT
   HLO = HAND LEVER OPERATOR
   HWO = HAND WHEEL OPERATOR
   NUT = OPERATING NUT WITH STEM EXTENSION
   O/C E = OPEN/CLOSED (ELECTRIC ACTUATED)
   O/C P = OPEN/CLOSED (PNEUMATIC ACTUATED)
   MOD E = (MODULATING ELECTRIC ACTUATED)
   MOD P = (MODULATING PNEUMATIC ACTUATED)
   O/C H = OPEN / CLOSED (HYDRAULIC ACTUATED)
   MOD H = MODULATING HYDRAULIC ACTUATED)
3. DESIGN PRESSURE FOR VALVE SHALL BE THE SAME AS THE TEST PRESSURE LISTED IN THE PIPE SCHEDULE.
4. REFER TO PIPE SCHEDULE AND CIVIL / MECHANICAL DRAWINGS TO DETERMINE VALVE MATERIAL.

METER SCHEDULE ◇1

METER NO.	LOCATION	SERVICE	TYPE	SIZE (IN.)	ENDS	FLOW (GPM)	REMARKS
65-FE/FIT-921	SLUDGE PUMP STATION	TS	MAGNETIC	4	FLANGE	150	SEE SPEC 40_71_15
65-FE/FIT-922	SLUDGE PUMP STATION	TS	MAGNETIC	4	FLANGE	150	SEE SPEC 40_71_15
65-FE/FIT-930	SLUDGE PUMP STATION	TS	MAGNETIC	3	FLANGE	150	SEE SPEC 40_71_15
65-FE/FIT-934	SLUDGE PUMP STATION	TS	MAGNETIC	3	FLANGE	150	SEE SPEC 40_71_15

◇# KEY NOTES:

1. MANUFACTURER TO CONFIRM METER DIAMETER OVER ENTIRE RANGE OF PUMP.

PUMP SCHEDULE

PUMP NO.	LOCATION	DESCRIPTION	TYPE	FLOW (GPM)	TDH (FT.)	HP (MIN.)	REMARKS
65-PMP-931	SLUDGE PUMP STATION	THICKENED SLUDGE TRANSFER PUMP 1	PROGRESSING CAVITY	150		10	SEE SPEC 43_23_57.10
65-PMP-932	SLUDGE PUMP STATION	THICKENED SLUDGE TRANSFER PUMP 2	PROGRESSING CAVITY	150		10	SEE SPEC 43_23_57.10
65-PMP-941	SLUDGE PUMP STATION	THICKENED SLUDGE FEED PUMP 1	PROGRESSING CAVITY	150		10	SEE SPEC 43_23_57.10
65-PMP-942	SLUDGE PUMP STATION	THICKENED SLUDGE FEED PUMP 2	PROGRESSING CAVITY	150		10	SEE SPEC 43_23_57.10
65-PMP-981	SLUDGE PUMP STATION	SUMP PUMP 1	SUBMERSIBLE	15	25	1	SEE SPEC 43_25_00.10
65-PMP-982	SLUDGE PUMP STATION	SUMP PUMP 2	SUBMERSIBLE	15	25	1	SEE SPEC 43_25_00.10

MISCELLANEOUS EQUIPMENT SCHEDULE

EQUIPMENT NO	DESCRIPTION	LOCATION	TYPE	SIZE	HP (MIN)	REMARKS
65-GDR-930	SLUDGE GRINDER	SLUDGE PUMP STATION	INLINE	6 IN.		REPURPOSED FROM DEWATERING BUILDING
65-MIX-981	MIXER NO. 1	HOMOGENIZATION TANK	VERTICAL		15	TOP ENTRY TANK; SEE SPEC 46_41_34.01
65-MIX-982	MIXER NO. 2	HOMOGENIZATION TANK	VERTICAL		15	TOP ENTRY TANK; SEE SPEC 46_41_34.01

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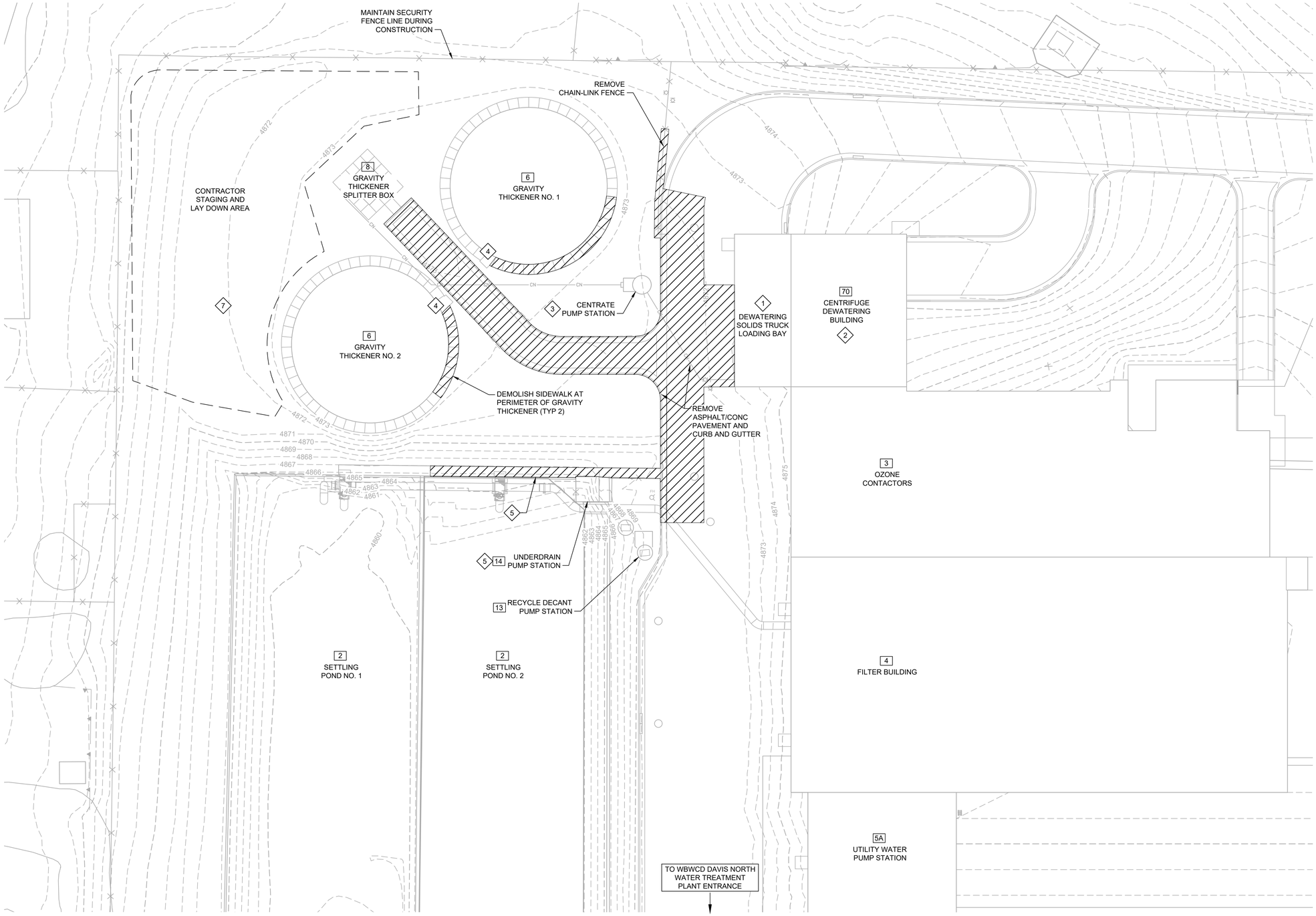
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EQUIPMENT AND VALVE SCHEDULES

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PLAN

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GENERAL NOTES:

1. BEFORE DIGGING CALL BLUE STAKES OF UTAH. SEE WWW.BLUESTAKES.ORG FOR CONTACT INFORMATION.
2. YARD PIPING THAT IS TO BE TAKEN OUT OF SERVICE WILL BE REMOVED DURING EXCAVATION FOR NEW FACILITIES OR ABANDONED IN PLACE.
3. THE PLANT MUST REMAIN IN OPERATION DURING CONSTRUCTION. DEMOLITION OF STRUCTURES AND PIPING MUST BE COORDINATED WITH NEW CONSTRUCTION TO ALLOW CONTINUOUS PLANT OPERATIONS. SEE WORK RESTRICTIONS IN SPECIFICATION SECTION 01_14_00.
4. ALL GENERAL NOTES LISTED ON DRAWING 00G03 APPLY TO THIS AND OTHER CIVIL DRAWINGS.

KEY NOTES:

1. MAINTAIN AN OPEN ROAD AT ALL TIMES DURING NORMAL WORKING HOURS TO ACCOMMODATE OWNER'S VEHICLE AND OTHER TRAFFIC, INCLUDING SLUDGE HAULING TRUCKS.
2. REFER TO PROCESS MECHANICAL DEMOLITION DRAWING FOR DEMOLITION WORK INSIDE THE EXISTING DEWATERING BUILDING.
3. PROTECT AND MAINTAIN IN SERVICE DURING DEMOLITION AND CONSTRUCTION OF THE NEW SLUDGE PUMP STATION.
4. PROTECT EXISTING STAIRS AND STAIR LANDING. PROVIDE OWNER SAFE ACCESS TO EACH GRAVITY THICKENER DURING CONSTRUCTION.
5. PROTECT EXISTING SETTLING POND CAST-IN-PLACE CONCRETE WALL (NORTH WALL) DURING EXCAVATION FOR THE NEW SLUDGE DAY TANK. PROTECT WALL AND PROVIDE THE OWNER SAFE ACCESS DURING CONSTRUCTION.
6. THE UNDERDRAINS BELOW THE SETTLING PONDS NO LONGER WORK AND THE PUMP STATION HAS BEEN ABANDONED. LOCAL ELECTRICAL IS USED TO POWER TRASH PUMPS THAT ARE SOMETIMES PLACED INSIDE THE SETTLING PONDS.
7. DEMO CHAIN-LINK FENCE BETWEEN SETTLING PONDS AND NORTH PROPERTY LINE FENCE.

EXISTING FACILITY CODES:

2	SETTLING POND
3	OZONE CONTACTORS
4	FILTER BUILDING
5A	UTILITY WATER PUMP STATION
6	GRAVITY THICKENER
8	GRAVITY THICKENER SPLITTER BOX
13	RECYCLE DECANT PUMP STATION
14	UNDERDRAIN PUMP STATION
70	CENTRIFUGE DEWATERING FACILITY

NEW FACILITY CODES:

65	SLUDGE PUMP STATION
67	SLUDGE DAY TANK

LEGEND:

TO BE DEMOLISHED

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SCALE

0 10' 20' 40'

SCALE: 1" = 20'

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION - CIVIL

SITE PLAN

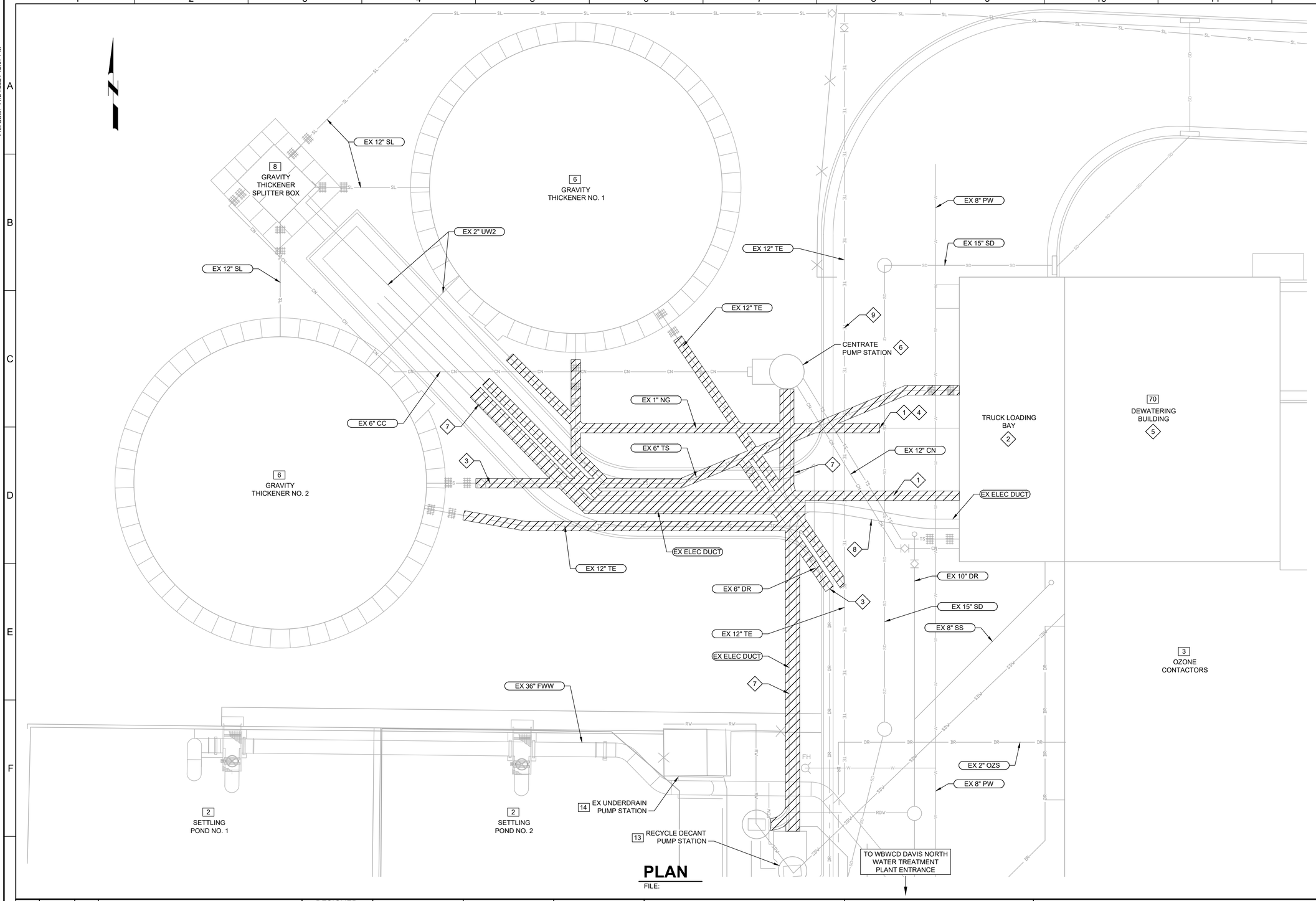
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 01DC01
SHEET NO. 11 OF 162

Plot Date: 11/21/2024 12:57 PM

LAST SAVED BY: bdupre

PROJECT NO. 203356 FILE NAME: 203356_01DC01.DWG



PLAN

FILE:

GENERAL NOTES:

1. BEFORE DIGGING CALL BLUE STAKES OF UTAH. SEE WWW.BLUESTAKES.ORG FOR CONTACT INFORMATION.
2. SEE ELECTRICAL FOR DEMOLITION AND/OR REROUTE REQUIREMENTS FOR EXISTING ELECTRICAL DUCTBANK.
3. REMOVE AND PROPERLY DISPOSE OF ALL EXCAVATED PIPING AND VALVES.
4. ALL GENERAL NOTES LISTED ON DRAWING 00G03 APPLY TO THIS AND OTHER CIVIL DRAWINGS.

KEY NOTES:

1. REROUTE PIPING AROUND EXCAVATION FOR NEW SLUDGE PUMP STATION. REFER TO THE EXCAVATION PLAN FOR EXTENTS OF WORK.
2. MAINTAIN AN OPEN ROAD AT ALL TIMES DURING NORMAL WORKING HOURS TO ACCOMMODATE OWNER'S VEHICLE AND OTHER TRAFFIC, INCLUDING SLUDGE HAULING TRUCKS.
3. SEE SPECIFICATIONS FOR CONSTRUCTION SEQUENCING REQUIREMENTS AND WHEN EXISTING SLUDGE PIPING CAN BE DEMOLISHED.
4. COORDINATE DEMOLITION AND CONSTRUCTION OF NATURAL GAS LINES WITH THE LOCAL UTILITY. SEE SPECIFICATIONS FOR UTILITY CONTACT INFORMATION.
5. REFER TO PROCESS MECHANICAL DEMOLITION DRAWING FOR DEMOLITION WORK INSIDE THE EXISTING DEWATERING BUILDING.
6. PROTECT AND MAINTAIN IN SERVICE DURING DEMOLITION AND CONSTRUCTION OF THE NEW SLUDGE PUMP STATION.
7. DEMOLISH EXISTING ELECTRICAL DUCTBANKS EXTENDING POWER/CONTROL CONDUCTORS FROM THE DEWATERING BUILDING (MCC 22) TO THE UNDERDRAIN PUMP STATION, THE RECYCLE DECANT PUMP STATION, THE CENTRATE PUMP STATION AND TO EACH GRAVITY THICKENER. PROVIDE TEMPORARY POWER TO THESE FACILITIES DURING CONSTRUCTION. SEE ELECTRICAL SPECIFICATIONS AND DRAWINGS FOR DETAILS.
8. PROTECT AND PRESERVE EXISTING PARTIAL DUCT BANK DURING DEMOLITION OF THE OTHER EXISTING DUCT BANKS. REFER TO ELECTRICAL DRAWINGS FOR DETAILS.
9. DEMOLISH PORTION OF EXISTING 12" TE PIPELINE TO INSTALL NEW YARD PIPE CONNECTION. SEE YARD PIPING DRAWINGS FOR DETAILS.

LEGEND:

TO BE DEMOLISHED

EXISTING FACILITY CODES:

2	SETTLING POND
3	OZONE CONTACTORS
8	GRAVITY THICKENER SPLITTER BOX
13	RECYCLE DECANT PUMP STATION
14	UNDERDRAIN PUMP STATION
70	CENTRIFUGE DEWATERING FACILITY

NEW FACILITY CODES:

65	SLUDGE PUMP STATION
67	SLUDGE DAY TANK

811 Know what's below. Call before you dig. usanorth811.org

SCALE

0 5' 10' 20'

SCALE: 1" = 10'

REV	DATE	BY	DESCRIPTION

DESIGNED MF
DRAWN CSM
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 270473-2202 RANDAL L. ZOLLINGER STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

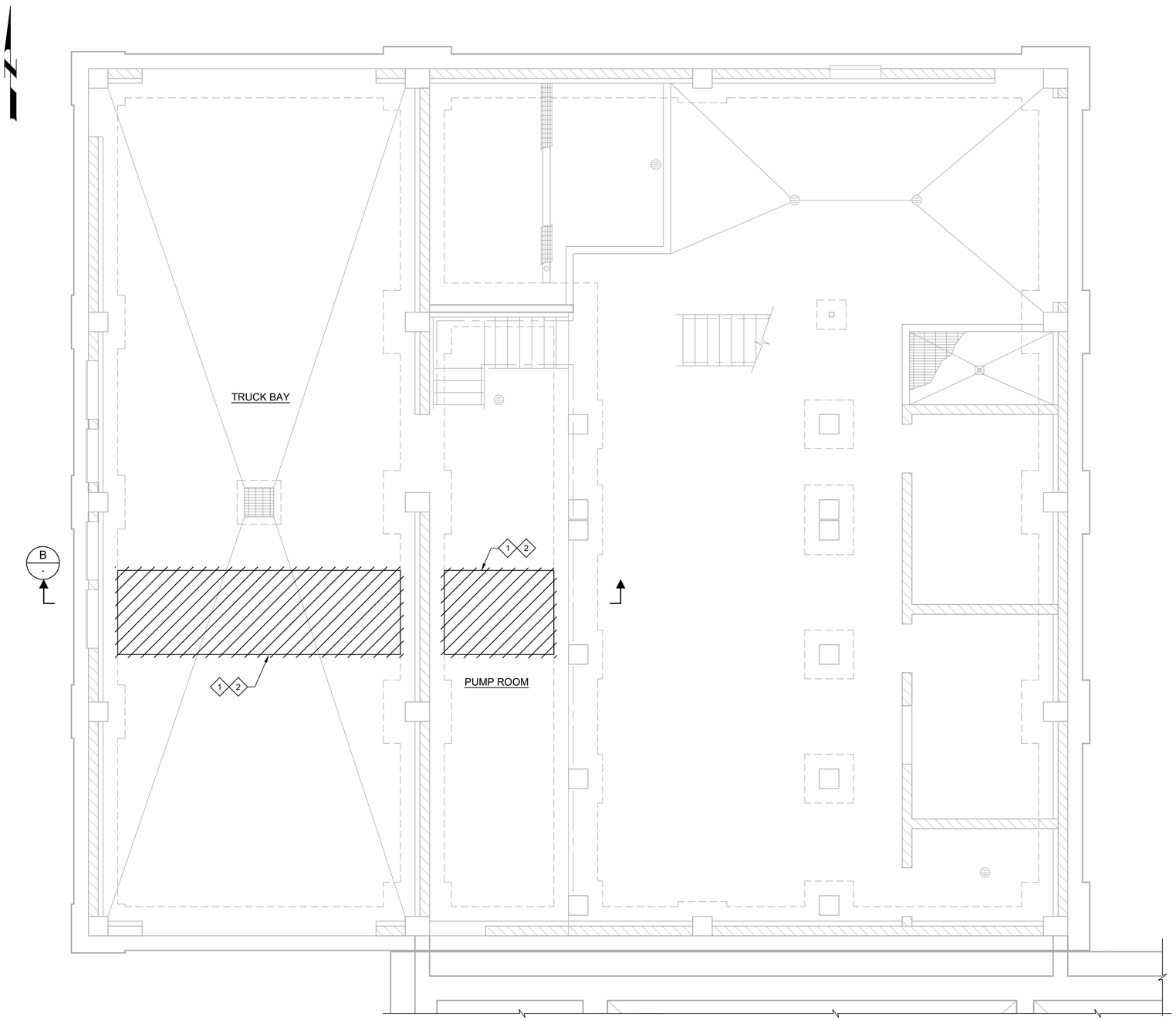
DEMOLITION - CIVIL

YARD PIPING

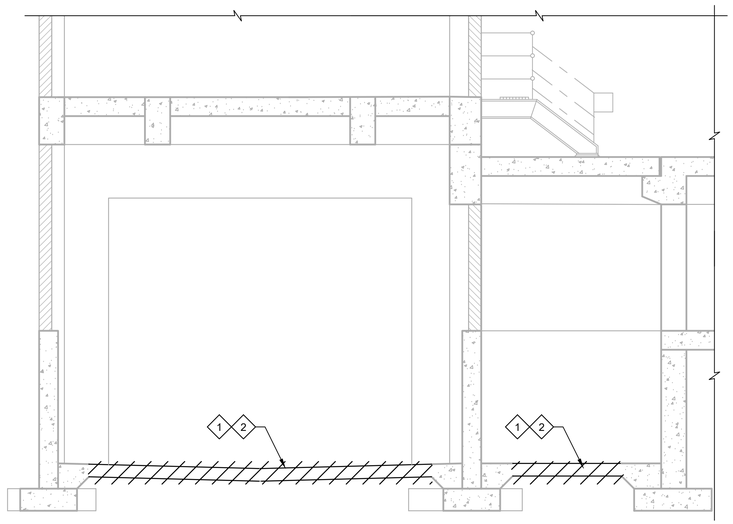
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 02DC01
SHEET NO. 12 OF 162

Plot Date: 11/21/2024 12:57 PM
LAST SAVED BY: bdupre
PROJECT NO. 203356
FILE NAME: 203356_02DC01.DWG



A PLAN
SCALE: 1/4" = 1'-0"
FILE: 203356_70S9101



B - DETAIL
SCALE: 1/4" = 1'-0"
FILE: 203356_70S9301

GENERAL NOTES:

1. SEE DRAWING 00GS01 FOR GENERAL STRUCTURAL NOTES.
2. UNLESS NOTED OTHERWISE, REMOVE AND PROPERLY DISPOSE OF ALL DEMOLISHED MATERIALS.
3. ALL GENERAL NOTES LISTED ON DRAWING 00G03 APPLY TO THIS AND OTHER DEMOLITION DRAWINGS.

KEY NOTES:

1. CUT AND DEMOLISH THE FLOOR SLAB INSIDE THE DEWATERING BUILDING TO INSTALL NEW SLUDGE LINES. COORDINATE WORK WITH OWNER TO ACCOMMODATE SLUDGE DEWATERING AND HAULING OPERATIONS. CONFIRM LOCATION OF EXISTING ELECTRICAL DUCTBANKS WITH THE OWNER PRIOR TO CUTTING THE FLOOR SLAB.
2. EXISTING CONCRETE SLAB IS 8 INCH THICK WITH SINGLE MATT OF #4 BARS SPACED AT 6 INCHES O.C. EACH WAY. THE CONCRETE SLAB IS THICKENED AT EDGES, NEAR WALLS. PROTECT #5 BARS AT WALLS THAT ARE SPACED AT 12 INCHES O.C.

REV	DATE	BY	DESCRIPTION

DESIGNED RLZ
DRAWN JRL
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 11390122-2202
J. MATTHEW YATES
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION - STRUCTURAL

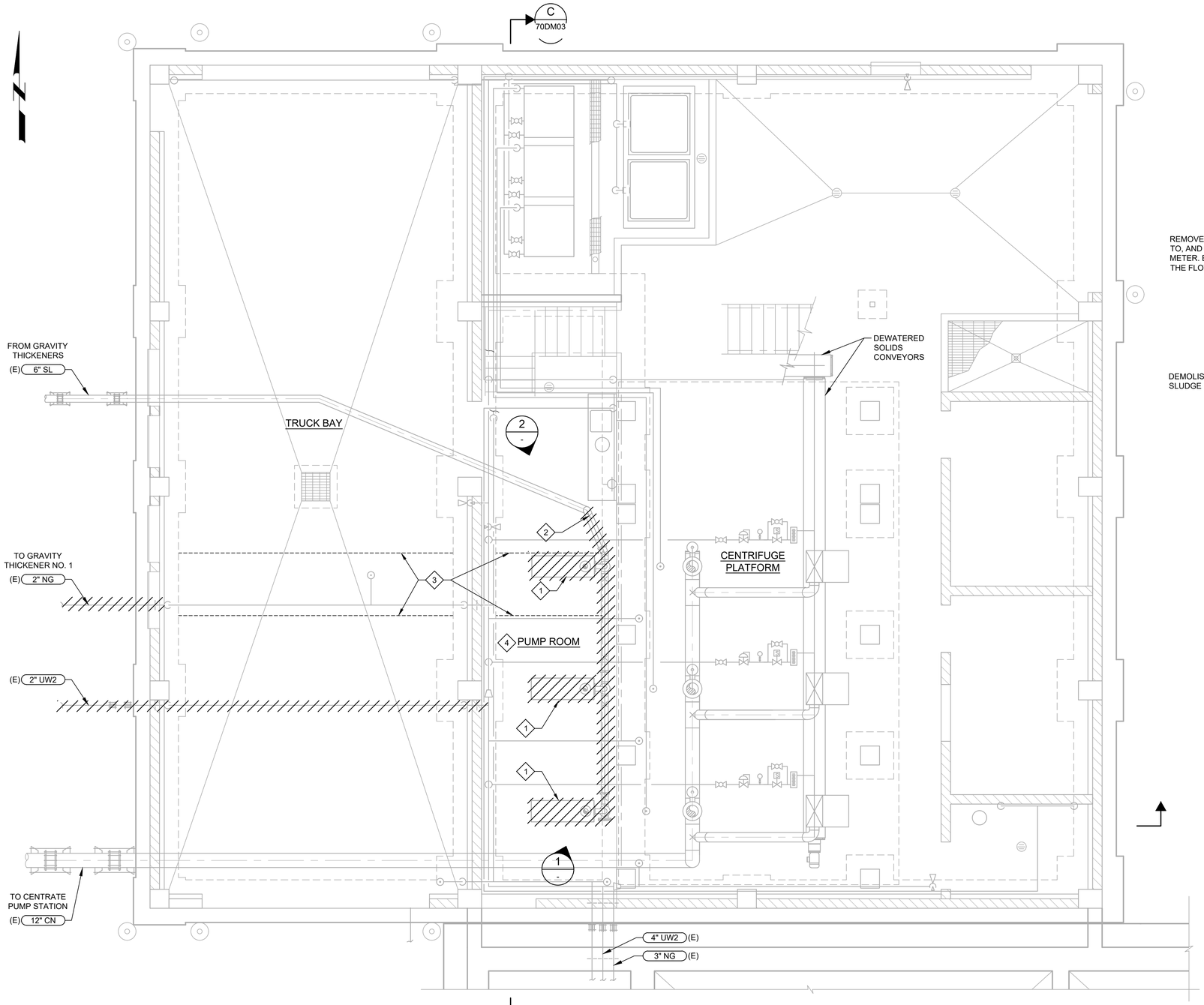
DEWATERING BUILDING
LOWER PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 70DS01
SHEET NO. 13 OF 162

LAST SAVED BY: KMarshall

PROJECT NO. 203356 FILE NAME: ProjNum_Sheet.dwg



A PLAN
SCALE: 1/4" = 1' -0"
FILE: 203356_70DM0801

GENERAL NOTES:

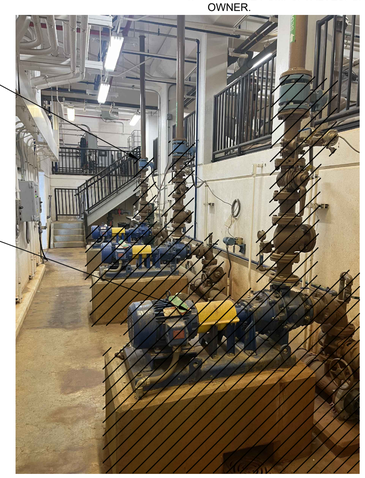
1. UNLESS NOTED OTHERWISE, REMOVE AND PROPERLY DISPOSE OF ALL DEMOLISHED MATERIALS.
2. ALL GENERAL NOTES LISTED ON DRAWING 00G03 APPLY TO THIS AND OTHER DEMOLITION DRAWINGS.

KEY NOTES:

1. DEMOLISH EXISTING THICKENED SLUDGE FEED PUMPS, CONCRETE EQUIPMENT PADS AND 3" SUCTION AND DISCHARGE PIPING ON SIDE OF PUMPS, RESPECTIVELY.
2. DEMOLISH EXISTING 6" SLUDGE LINE FROM GRAVITY THICKENERS AND CAP PIPE AT FLOOR WITH BLIND FLANGE.
3. SEE DEMOLITION - STRUCTURAL DRAWINGS FOR REMOVAL OF FLOOR SLAB.
4. SALVAGE PUMPS, VALVES, GRINDER, AND FLOW METERS TO OWNER.

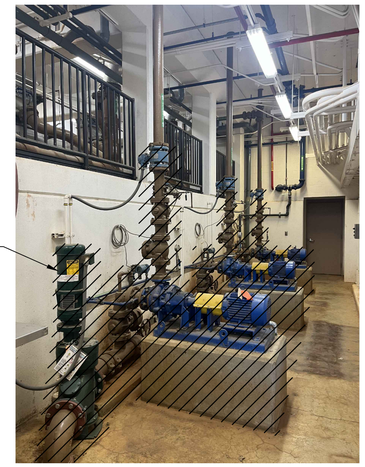
REMOVE EXIST TS PIPING UP TO, AND INCLUDING, THE FLOW METER. EXISTING PIPING ABOVE THE FLOW METER REMAINS.

DEMOLISH EXISTING THICKENED SLUDGE FEED PUMPS (TYP OF 3)



1 - PHOTO
SCALE: NO SCALE
FILE: 203356_70DM0401

PROTECT EXISTING IN-LINE GRINDER. THIS IN-LINE GRINDER WILL BE INSTALLED IN THE NEW SLUDGE PUMP STATION.



2 - PHOTO
SCALE: NO SCALE
FILE: 203356_70DM0402

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 270473-2202 — RANDAL L ZOLLINGER — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION - MECHANICAL

DEWATERING BUILDING PLAN

VERIFY SCALES
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0 1"
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JOB NO. 203356
DRAWING NO. 70DM01
SHEET NO. 14 OF 162

LAST SAVED BY: KMarshall

PROJECT NO.

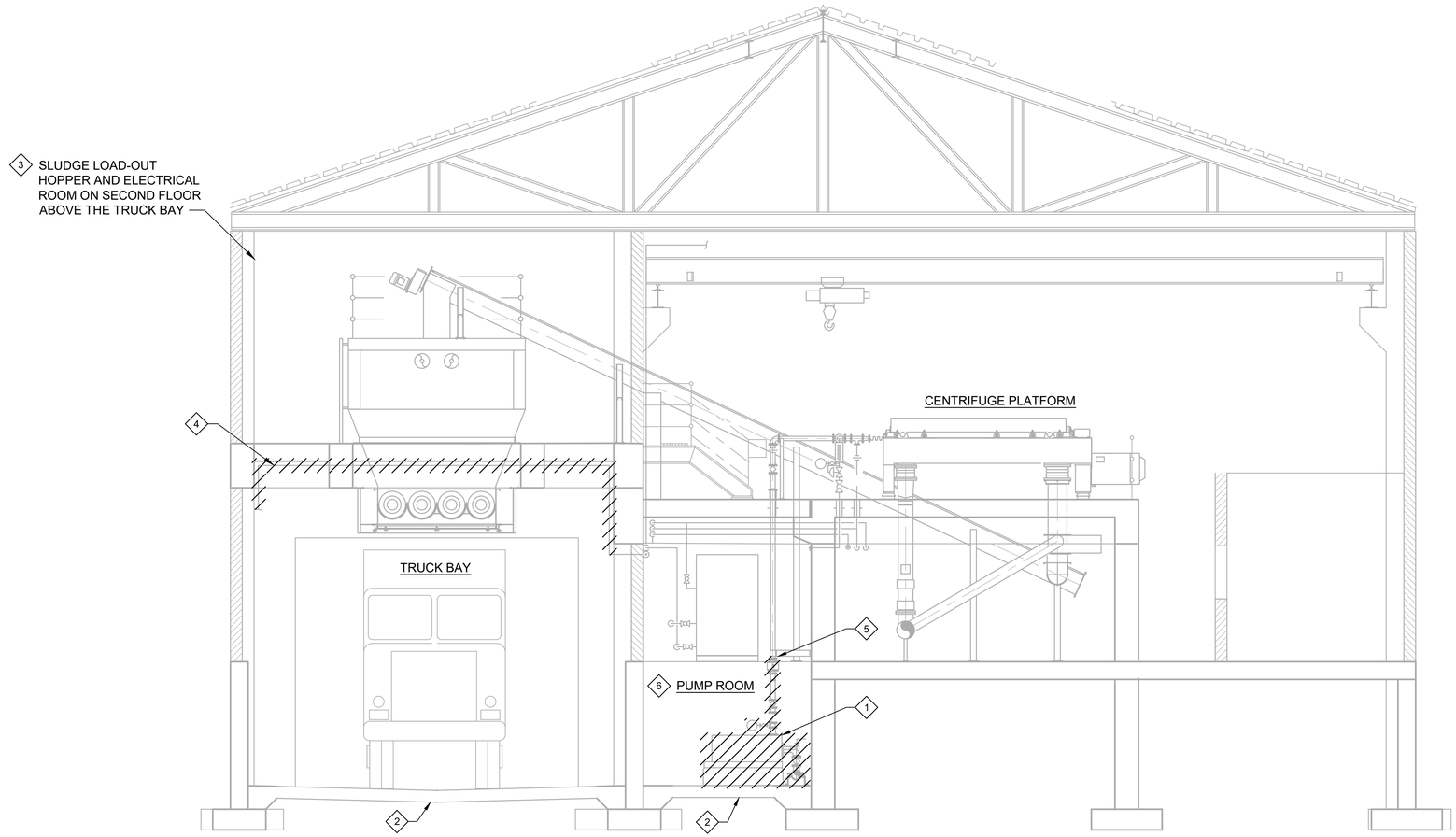
FILE NAME: ProjNum00GM02.dwg

GENERAL NOTES:

1. UNLESS NOTED OTHERWISE, REMOVE AND PROPERLY DISPOSE OF ALL DEMOLISHED MATERIALS.
2. COORDINATE WORK WITH OWNER TO ACCOMMODATE SLUDGE DEWATERING AND HAULING OPERATIONS THROUGH CONSTRUCTION.
3. ALL GENERAL NOTES LISTED ON DRAWING 00G03 APPLY TO THIS AND OTHER DEMOLITION DRAWINGS.

◇# KEY NOTES:

1. DEMOLISH EXISTING THICKENED SLUDGE FEED PUMPS, CONCRETE EQUIPMENT PADS AND 3" SUCTION AND DISCHARGE PIPING ON SIDE OF PUMPS, RESPECTIVELY.
2. SEE DEMOLITION - STRUCTURAL DRAWINGS FOR REMOVAL OF CONCRETE SLAB IN TRUCK BAY AND PUMP ROOM.
3. REFER TO DEMOLITION - ELECTRICAL FOR DEMOLITION DETAILS IN ELECTRICAL ROOM LOCATED ON SECOND FLOOR ABOVE THE TRUCK BAY.
4. REMOVE EXISTING 2" UW WATER LINE.
5. REMOVE EXISTING TS PIPING UP TO, AND INCLUDING, THE FLOW METER. EXISTING PIPING ABOVE THE FLOW METER REMAINS.
6. SALVAGE PUMPS, VALVES, GRINDER, AND FLOW METERS TO OWNER.



B 70DM02 SECTION
SCALE: 1/4" = 1'-0"
FILE: 203356_70DM9301

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
RANDALL L. ZOLLINGER
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION - MECHANICAL

DEWATERING BUILDING
SECTION 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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JOB NO. 203356
DRAWING NO. 70DM02
SHEET NO. 15 OF 162

LAST SAVED BY: KMarshall

PROJECT NO.

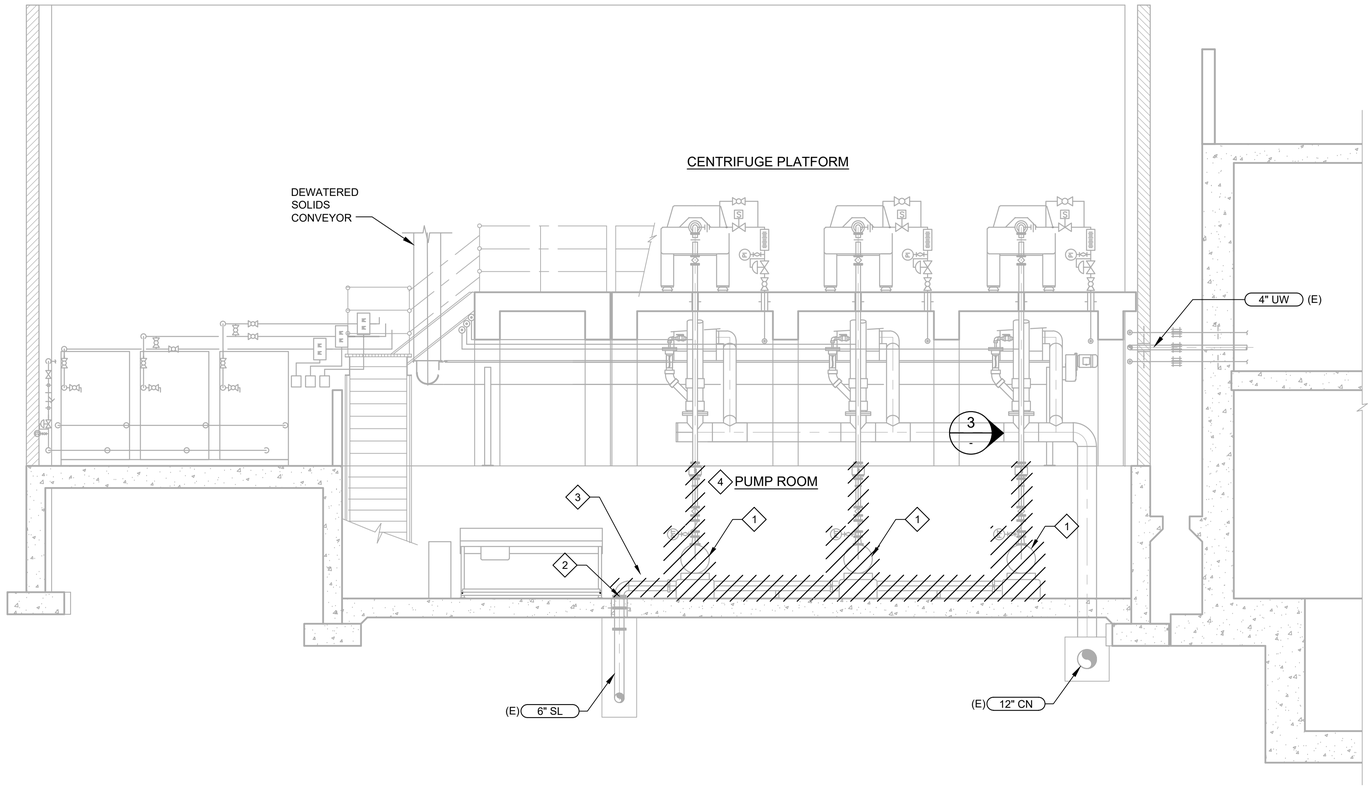
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GENERAL NOTES:

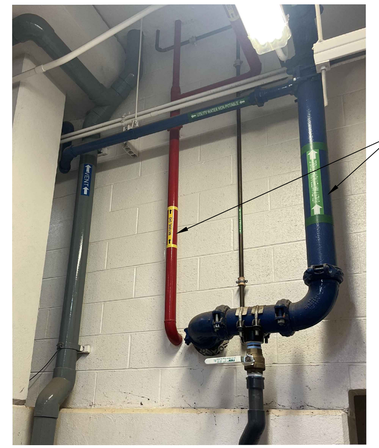
1. UNLESS NOTED OTHERWISE, REMOVE AND PROPERLY DISPOSE OF ALL DEMOLISHED MATERIALS.
2. ALL GENERAL NOTES LISTED ON DRAWING 00G03 APPLY TO THIS AND OTHER DEMOLITION DRAWINGS.

KEY NOTES:

1. DEMOLISH EXISTING THICKENED SLUDGE FEED PUMPS, CONCRETE EQUIPMENT PADS AND 3" SUCTION AND DISCHARGE PIPING ON SIDE OF PUMPS, RESPECTIVELY.
2. DEMOLISH EXISTING 6" SLUDGE LINE FROM GRAVITY THICKENERS AND CAP PIPE AT FLOOR WITH BLIND FLANGE.
3. EXISTING IN-LINE GRINDER NOT SHOWN. SEE PHOTO 2/70DM01.
4. SALVAGE PUMPS, VALVES, GRINDER, AND FLOW METERS TO OWNER.



C 70DM01 SECTION
SCALE: 1/4" = 1'-0"
FILE: 203356_70DM9302



3 - PHOTO
SCALE: NO SCALE
FILE: 203356_70DM0405.jpg

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
RANDALL L. ZOLLINGER
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION - MECHANICAL

DEWATERING BUILDING SECTIONS 2

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 70DM03
SHEET NO. 16 OF 162

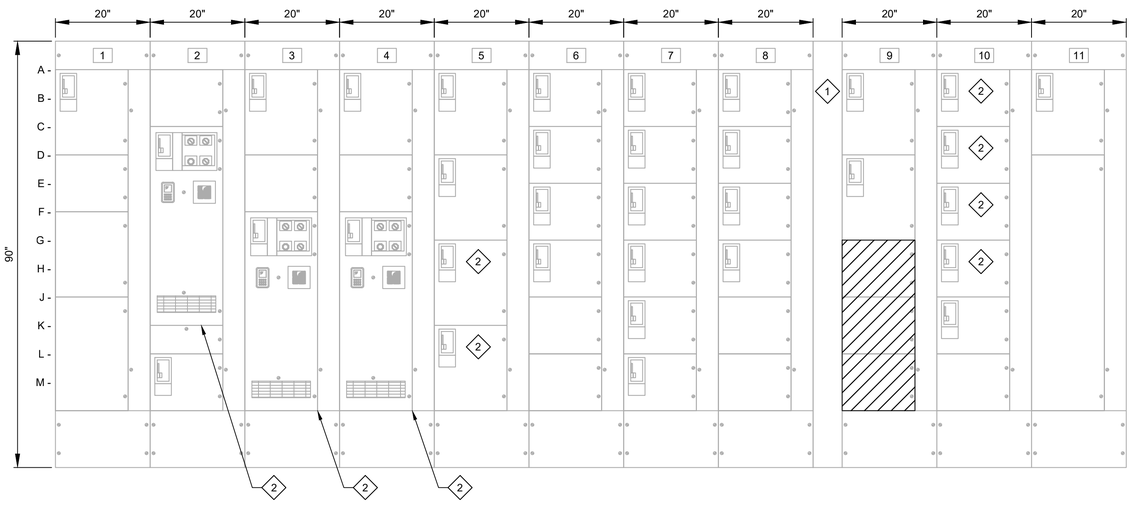
LAST SAVED BY: KMarshall

PROJECT NO.

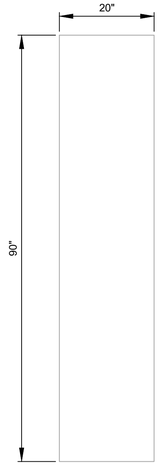
FILE NAME: ProjNum00GM02.dwg

KEY NOTES:

1. CORNER SECTION.
2. DISCONNECT AND REMOVE CONDUCTORS FROM EXISTING BUCKETS, THEN LABEL BUCKETS AS SPARE.



FRONT VIEW
SCALE: 3/4" = 1'-0"



SIDE VIEW
SCALE: 3/4" = 1'-0"

1A- VCP-932 CENTRIFUGE NO.1 CONTROL PANEL	2A- SPACE	3A- VCP-942 CENTRIFUGE NO.2 CONTROL PANEL	4A- VCP-952 CENTRIFUGE NO.3 CONTROL PANEL	5A- CVU-961 COLLECTOR CONVEYOR	6A- EF-14 EXHAUST FAN NO.2	7A- CVUA-967 DISCHARGE CONVEYOR NO.1	8A- CVUG-967 DISCHARGE CONVEYOR NO.7	9A- TR-LP-221 LP-221 LIGHTING PANEL	10A- RDP-991 PLANT DRAIN PUMP NO.1	11A- PP-221 BREAKER
1D- SPACE	2C- PMP-931 THICKENED SLUDGE PUMP NO.1	3D- SPACE	4D- SPACE	5D- CVU-962 INCLINED CONVEYOR	6C- EF-13 EXHAUST FAN NO.1	7C- CVUB-967 DISCHARGE CONVEYOR NO.2	8C- CVUH-967 DISCHARGE CONVEYOR NO.8	9D- CVU-966 LEVELING CONVEYOR	10C- RDP-992 PLANT DRAIN PUMP NO.2	11D- PP-221 DISTRIBUTION PANELBOARD
1F- SPACE	2K- SPACE	3F- PMP-941 THICKENED SLUDGE PUMP NO.2	4F- PMP-951 THICKENED SLUDGE PUMP NO.3	5G- THU-921 THICKENER NO.1	6E- EF-15 EXHAUST FAN NO.3	7E- CVUC-967 DISCHARGE CONVEYOR NO.3	8E- CVUA-966 LEVELING CONVEYOR	9G- MCC-65	10E- VCP-971 CENTRATE PUMP VCP	
1J- MAIN LUGS ONLY	2L- TVSS			5K- THU-922 THICKENER NO.2	6G- EF-16 EXHAUST FAN NO.4	7G- CVUD-967 DISCHARGE CONVEYOR NO.4	8G- CVUB-966 LEVELING CONVEYOR		10G- VCP-1311 DRAIN PUMP VCP	
					6J- SPACE	7J- CVUE-967 DISCHARGE CONVEYOR NO.5	8J- SPACE		10J- TR-LP-222 LP-222 LIGHTING PANEL	
					6L- SPACE	7L- CVUF-967 DISCHARGE CONVEYOR NO.6	8L- SPACE		10L- SPACE	

REV	DATE	BY	DESCRIPTION

DESIGNED BT
DRAWN DM
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5329023
GUY C. EHLERS
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION - ELECTRICAL

MCC-22 ELEVATION - DEMOLITION

VERIFY SCALES
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0 1"
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JOB NO. 203356
DRAWING NO. 03DE01
SHEET NO. 17 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_03DE01.dwg

MCC-22, 1200 AMPS, 480 VOLTS, 3 (Ø), 3 WIRE, 60 HZ, 65 KASC RMS

CONTINUED AT LOWER LEFT

SPD

MAIN LUGS ONLY
FROM SSG-2
SEE DWG 03E01

3P 20 AT	TM 65 KAIC	3P 20 AT	TM 65 KAIC	3P 20 AT	TM 65 KAIC	225 AF 3P 200 AT	TM 65 KAIC	225 AF 3P 200 AT	TM 65 KAIC	225 AF 3P 200 AT	TM 65 KAIC		
LL VFD-6 LR		LL VFD-6 LR		LL VFD-6 LR									
7.5		7.5		7.5		30	100	30	100	30	100		
VFD-931 PMP-931	1	VFD-941 PMP-941	1	VFD-951 PMP-951	1	VCP-932 CBB-932	CND-932	VCP-942 CBB-942	CND-942	VCP-952 CBB-952	CND-952		
THICKENED SLUDGE PUMP NO.1		THICKENED SLUDGE PUMP NO.2		THICKENED SLUDGE PUMP NO.3		CENTRIFUGE BACK DRIVE NO.1	CENTRIFUGE BOWL DRIVE NO.1	CENTRIFUGE BACK DRIVE NO.2	CENTRIFUGE BOWL DRIVE NO.2	CENTRIFUGE BACK DRIVE NO.3	CENTRIFUGE BOWL DRIVE NO.3		

CONTINUED AT UPPER RIGHT

CONTINUED ON NEXT SHEET

3P 3 AC	MCP 65 KAIC FVNR SIZE 1	3P 3 AC	MCP 65 KAIC FVNR SIZE 1	3P 3 AC	MCP 65 KAIC FVNR SIZE 1	3P 3 AC	MCP 65 KAIC FVNR SIZE 1	3P 15 AC	MCP 65 KAIC FVNR SIZE 1	3P 30 AC	MCP 65 KAIC FVNR SIZE 1	3P 7 AC	MCP 65 KAIC FVNR SIZE 1	3P 7 AC	MCP 65 KAIC FVNR SIZE 1
3/4		3/4		1/2		1/2		5		10		3		3	
EF-13		EF-14		EF-15		EF-16		CVU-961		CVU-962		CVUA-967		CVUB-967	
EXHAUST FAN NO.1		EXHAUST FAN NO.2		EXHAUST FAN NO.3		EXHAUST FAN NO.4		COLLECTOR CONVEYOR		INCLINED CONVEYOR		DISCHARGE CONVEYOR NO.1		DISCHARGE CONVEYOR NO.2	

3P 7 AC	MCP 65 KAIC FVNR SIZE 1	3P 7 AC	MCP 65 KAIC FVNR SIZE 1	3P 7 AC	MCP 65 KAIC FVNR SIZE 1	3P 7 AC	MCP 65 KAIC FVNR SIZE 1	3P 7 AC	MCP 65 KAIC FVNR SIZE 1	3P 7 AC	MCP 65 KAIC FVNR SIZE 1	3P 7 AC	MCP 65 KAIC FVNR SIZE 1	3P 7 AC	MCP 65 KAIC FVNR SIZE 1
3		3		3		3		3		3		3		3	
CVUC-967		CVUD-967		CVUE-967		CVUF-967		CVUG-967		CVUH-967					
DISCHARGE CONVEYOR NO.3		DISCHARGE CONVEYOR NO.4		DISCHARGE CONVEYOR NO.5		DISCHARGE CONVEYOR NO.6		DISCHARGE CONVEYOR NO.7		DISCHARGE CONVEYOR NO.8					

KEY NOTES:

1. DEMOLISH EXISTING THICKENED SLUDGE PUMPS. DISCONNECT AND DEMOLISH EXISTING CONDUCTORS AND ASSOCIATED CONDUITS BETWEEN MCC-22 AND THICKENED SLUDGE PUMPS AS SHOWN HERE.

REV	DATE	BY	DESCRIPTION

DESIGNED BT
DRAWN DM
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 5329023 GUY C. EHLERS STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION - ELECTRICAL

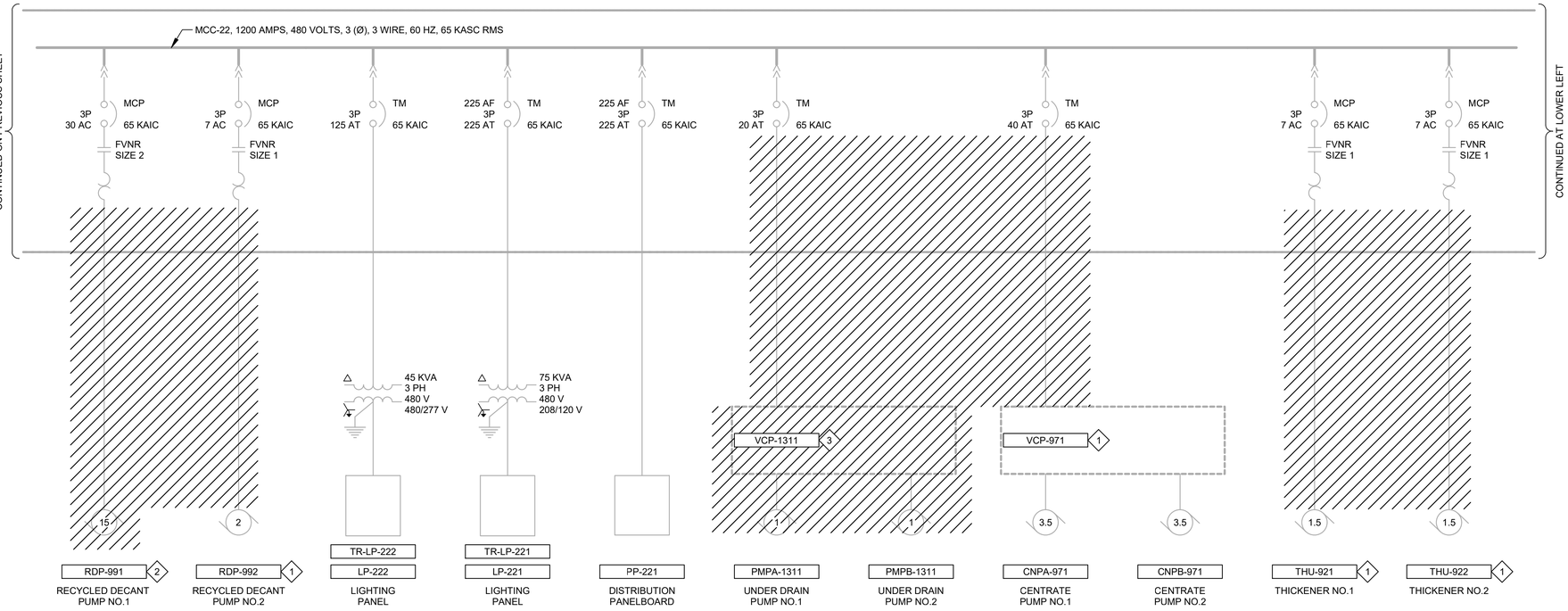
MCC-22 ONE-LINE DIAGRAM - DEMOLITION 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 03DE02
SHEET NO. 18 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_03DE02.dwg



KEY NOTES:

1. DISCONNECT AND DEMOLISH EXISTING CONDUCTORS BETWEEN MCC-22 AND LOAD AS SHOWN HERE. EXISTING LOAD WILL BE FED FROM NEW MCC-65 LOCATED IN THE SLUDGE PUMP STATION ELECTRICAL ROOM. REFER TO MCC-65 ONE-LINE DIAGRAM FOR RECONNECTED LOADS.
2. DEMOLISH EXISTING RECYCLE DECANT PUMP NO.1 AND ASSOCIATED CONDUITS AND CONDUCTORS. REFER TO DRAWING 66E02 FOR DETAILS.
3. DEMOLISH EXISTING VENDOR CONTROL PANEL VCP-1311 AND ASSOCIATED CONDUITS AND CONDUCTORS. REFER TO DRAWING 66E04 FOR DETAILS.

REV	DATE	BY	DESCRIPTION

DESIGNED BT
DRAWN DM
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5329023
GUY C. EHLERS
STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION - ELECTRICAL

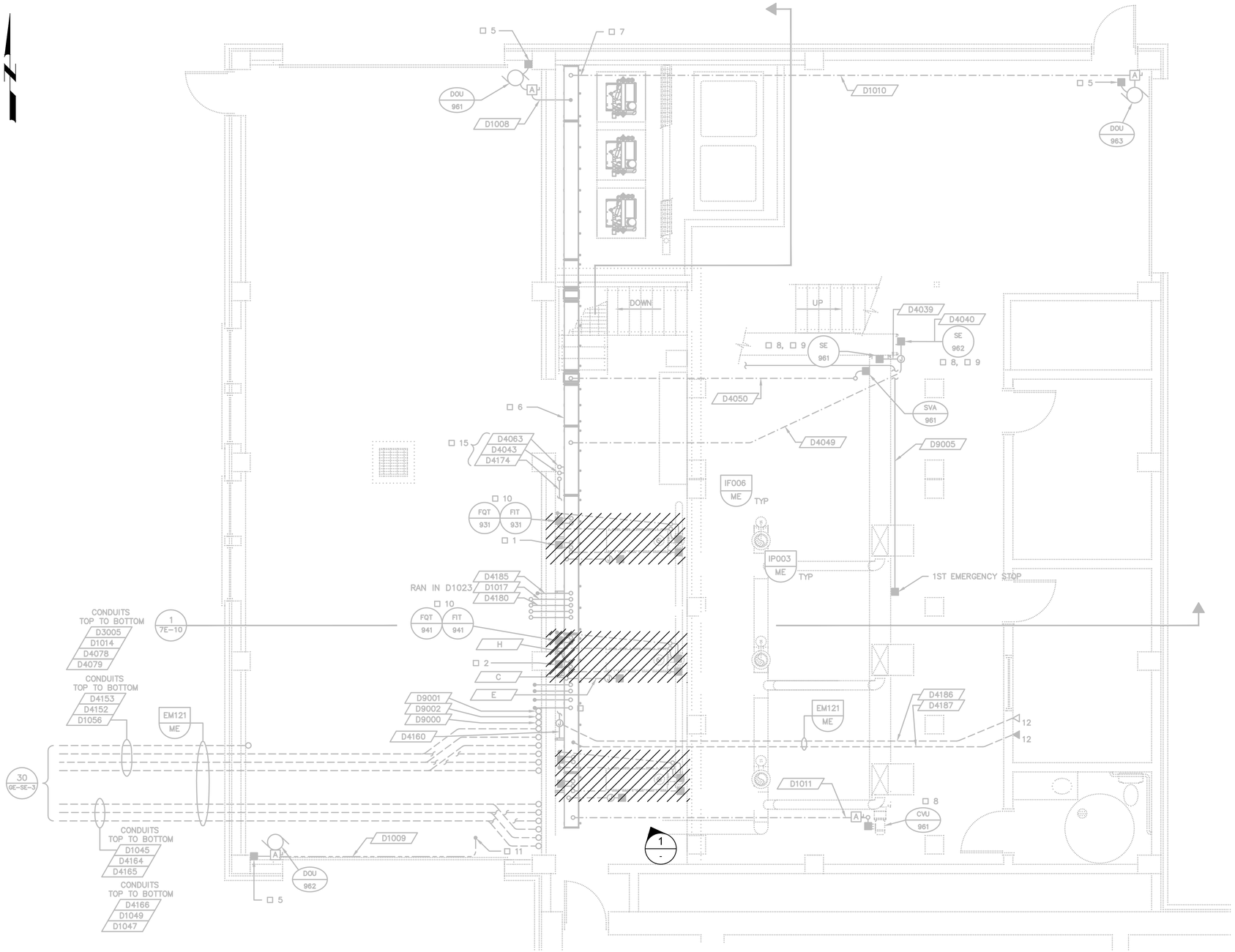
MCC-22 ONE-LINE DIAGRAM - DEMOLITION 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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JOB NO. 203356
DRAWING NO. 03DE03
SHEET NO. 19 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_03DE03.dwg



A 01E01 PLAN
SCALE: NO SCALE

GENERAL NOTES:

1. THIS PLAN DRAWING IS TAKEN FROM WATER TREATMENT PANT NO. 3 EXPANSION 2001 RECORD DRAWINGS.
2. DEMOLISH EXISTING THICKENED SLUDGE FEED PUMPS (PMP-931, PMP-941, AND PMP-951), ALONG WITH ASSOCIATED INSTRUMENTATION, LOCAL CONTROL PANELS, AND DISCONNECT. REMOVE EXISTING POWER, CONTROL, AND SIGNAL CONDUCTORS FROM EXISTING CONDUITS. DEMOLISH EXPOSED CONDUITS AND CAP THEM AT FLOOR LEVEL.

REV	DATE	BY	DESCRIPTION

DESIGNED BT
DRAWN DM
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5329023
GUY C. EHLERS
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION - ELECTRICAL

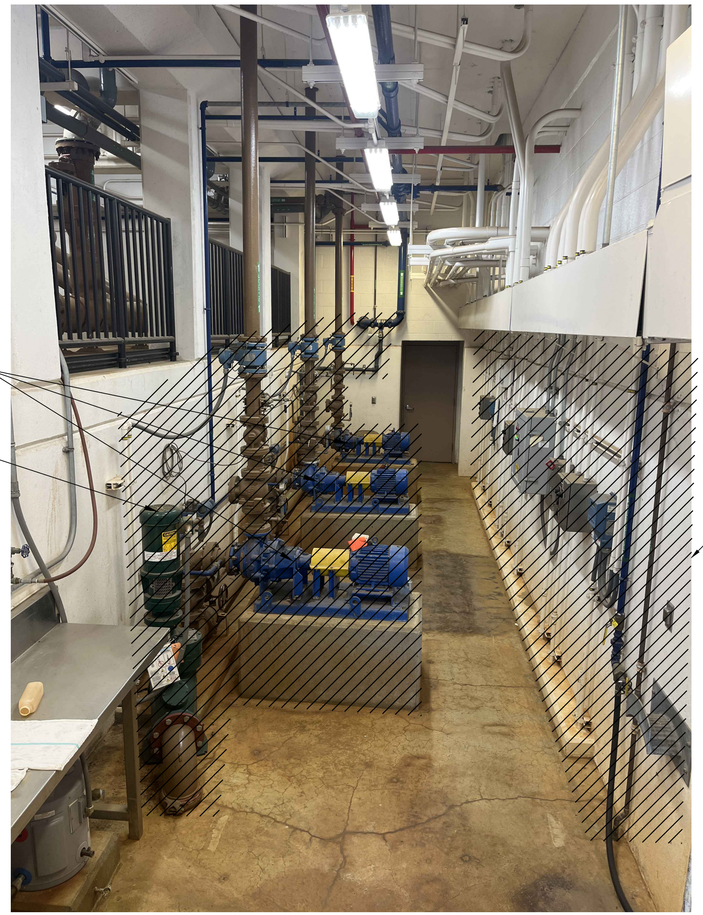
DEWATERING BUILDING LOWER LEVEL DEMOLITION PLAN

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 70DE01
SHEET NO. 20 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_70DE01.dwg



B PHOTO
70DE01 SCALE: NO SCALE

GENERAL NOTES:

1. DEMOLISH EXISTING SLUDGE PUMPS, IN-LINE SLUDGE GRINDER, AND ASSOCIATED VALVES. SALVAGE ALL COMPONENTS AND RETURN TO OWNER.

KEY NOTES:

1. CONTRACTOR SHALL LOCATE AND REMOVE ALL INSTRUMENTS, DISCONNECTS, AND LOCAL CONTROL PANELS ON THIS WALL THAT ARE ASSOCIATED WITH THE SLUDGE PUMPS AND IN-LINE SLUDGE GRINDER

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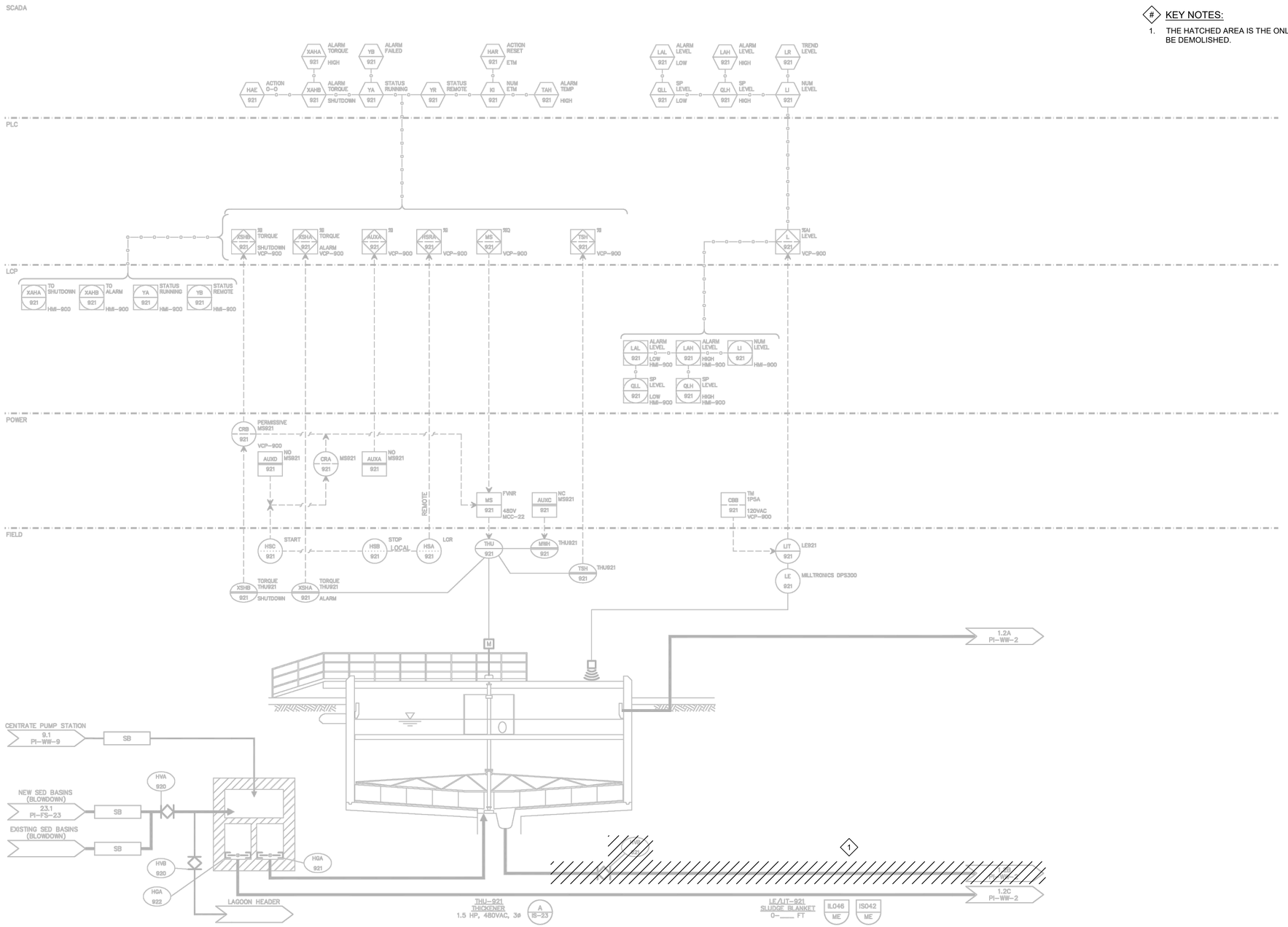
WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
DEMOLITION - ELECTRICAL
DEWATERING BUILDING LOWER LEVEL
DEMOLITION PLAN PHOTOS

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 70DE02
SHEET NO. 21 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_70DE02.dwg



KEY NOTES:

1. THE HATCHED AREA IS THE ONLY PORTION OF THE P&ID THAT IS TO BE DEMOLISHED.

REV	DATE	BY	DESCRIPTION

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DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION

DEMOLITION P&ID
EXISTING GRAVITY THICKENER THU-921

VERIFY SCALES
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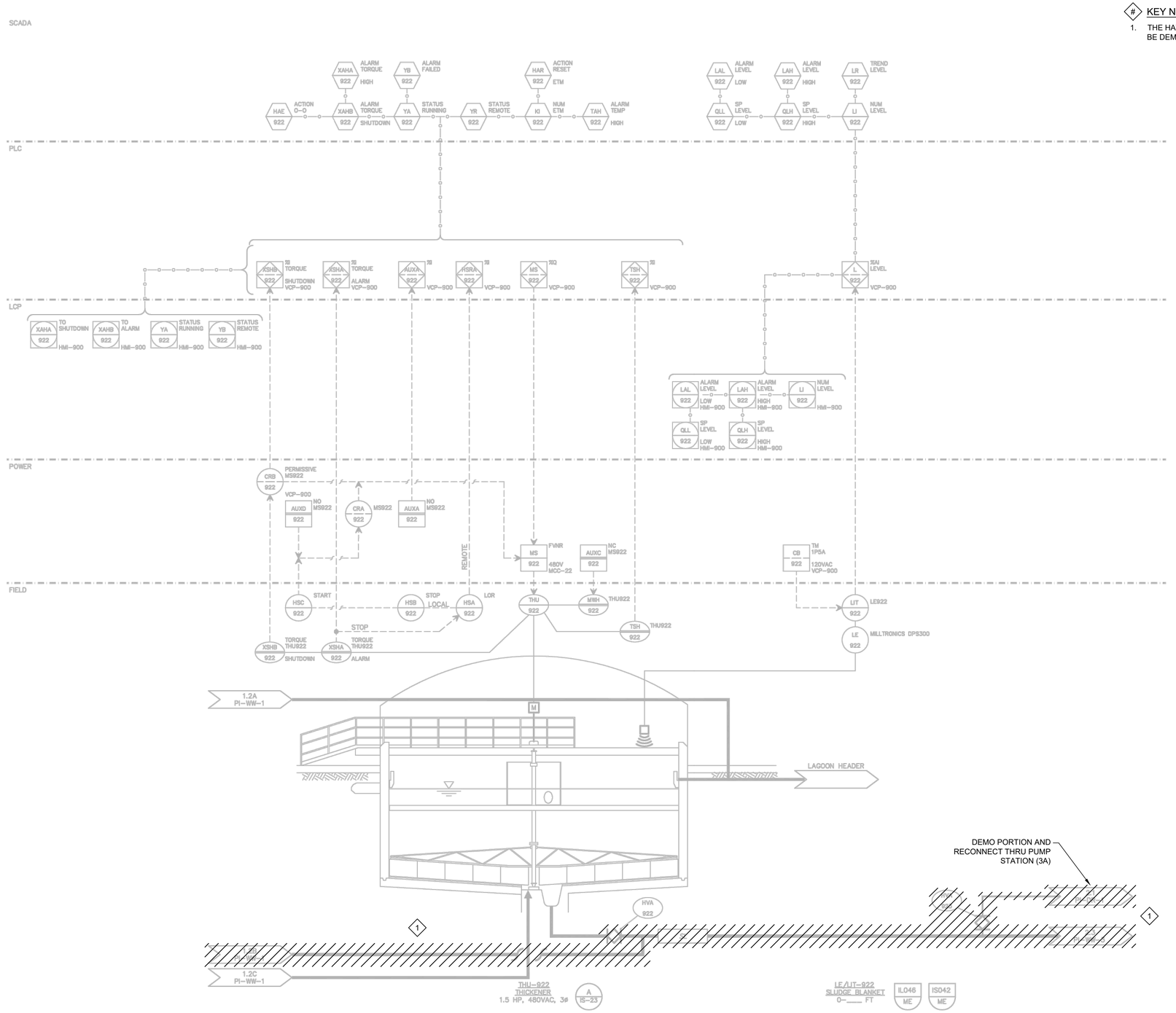
JOB NO. 203356
DRAWING NO. 00DN01
SHEET NO. 22 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_00DN01.dwg

KEY NOTES:

1. THE HATCHED AREA IS THE ONLY PORTION OF THE P&ID THAT IS TO BE DEMOLISHED.



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MATTHEW G. HATCH
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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION

DEMOLITION P&ID
EXISTING GRAVITY THICKENER THU-922

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 00DN02
SHEET NO. 23 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_00DN02.dwg

LOOP DESCRIPTIONS

PI-WW-3,5,7
2-05-01

LOOP 931, 941, 951

Legend:
* = 931 for thickener pump 931
* = 941 for thickener pump 941
* = 951 for thickener pump 951

ABSTRACT:
Controls the feed of sludge to the centrifuges based on a given flow rate.

FIELD LEVEL:
With HSA-* in the Local position PMP-* shall be started via HSC-* and stopped via HSB-*, and the speed shall be adjusted by HSS-*.
With HSA-* in the Off position PMP-* shall be prohibited from running.
With HSA-* in the Remote position PMP-* shall be started, stopped, and the speed controlled via the PLC.

PMP-* through CRA-873 shall act as a hardwired permissive CHF-873 to prevent feeding polymer if the thickener pump isn't running.

PLC LEVEL:
With HAD-* in the Hand position the operator shall command PMP-* on and/or off via action HAE-* and the speed set via QS-*.
With HAD-* in the Off position PMP-* shall be held off.
With HAD-* in the Auto position PMP-* shall be cycled on and off and the speed adjusted to maintain the setpoint flow rate QFA-*.
SP = QF-*.
PV = F-*.
CV = SS-*.

PI-WW-4,6,8
2-05-01

LOOP 932, 942, 952

Legend:
* = 932 for centrifuge 932
* = 942 for centrifuge 942
* = 952 for centrifuge 952

ABSTRACT:
Dewaters the primary coagulant sludge, based on a given flow rate.

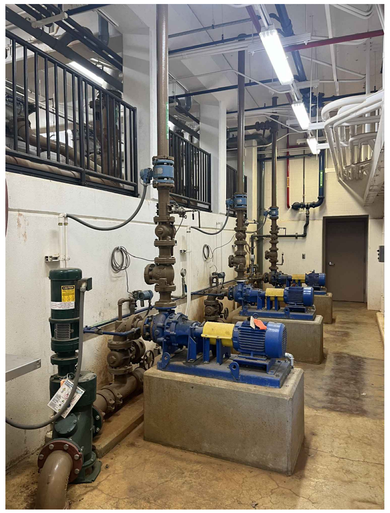
FIELD LEVEL:
With HSM-* in the Manual position CNU-* shall be started via HSCM-* and stopped via HSBM-*.
With HSM-* in the Auto position CNU-* shall be started, stopped, and the speed controlled via the PLC.

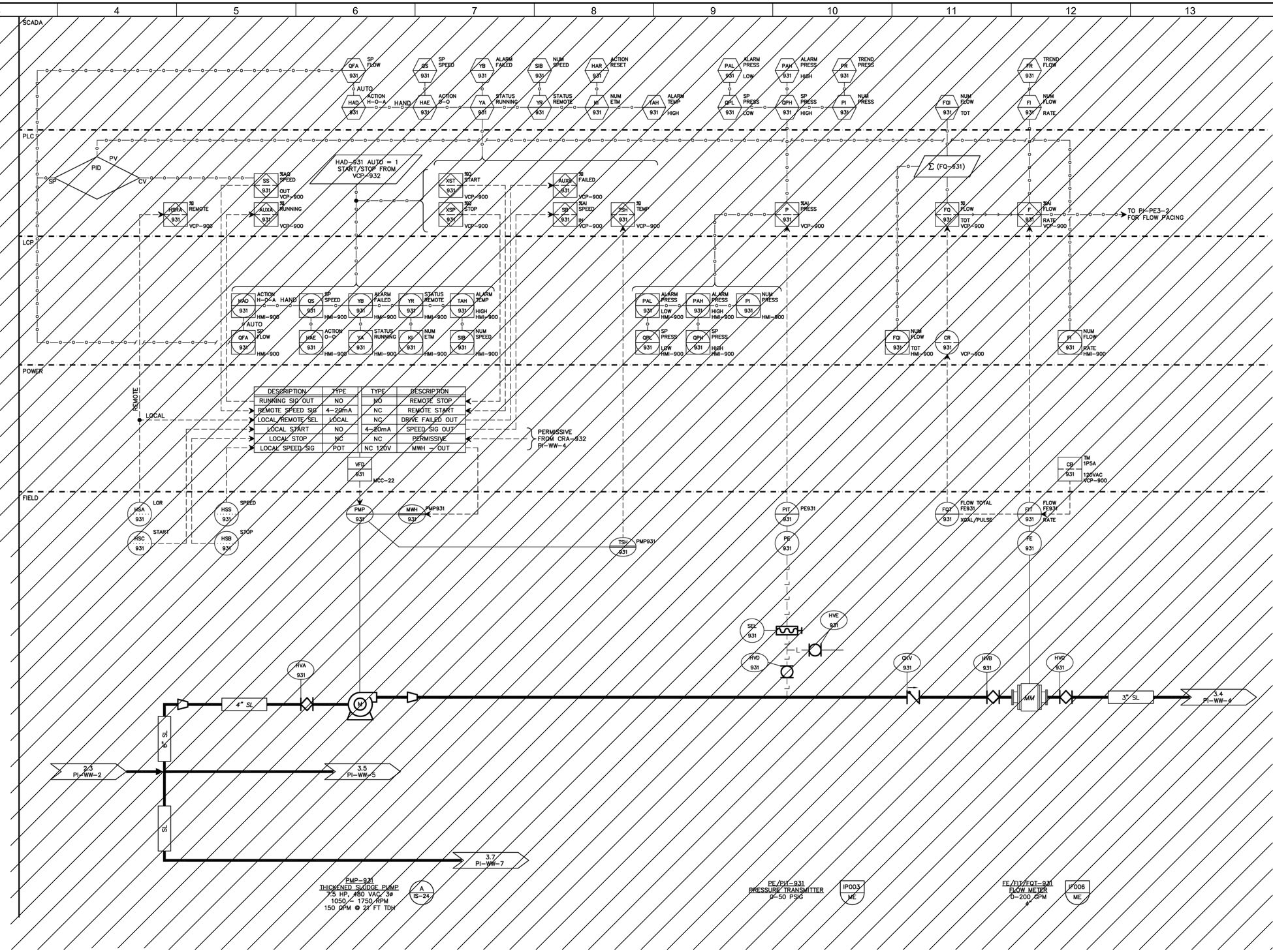
XA-* shall provide a permissive signal to the associated thickened sludge pump and polymer pump for CNU-*. The thickened sludge pump and polymer pump shall not run unless CNU-* is running.

PLC LEVEL:
With HSM-* in the Auto position CNU-* shall be cycled on and off and the speed adjusted to maintain the setpoint flow rate QFA-*.
With HSM-* in the Manual position CNU-* shall be started, stopped, and the speed controlled via the PLC.
With HSBA-* in the Off position CNU-* shall be held off.

GENERAL NOTES:

1. TYPICAL OF THREE SLUDGE FEED PUMPS.
2. COORDINATE DEMOLITION WITH OWNER WHEN NEW SLUDGE PUMP STATION AND FEED PUMP ARE READY FOR START-UP.
3. TERMINATE ALL CONTROL CONDUCTORS AT PLC-XXXX.





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MATTHEW G. HATCH
STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION

DEMOLITION P&ID
EXISTING THICKENED SLUDGE FEED PUMP 3

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JOB NO. 203356
DRAWING NO. 00DN03
SHEET NO. 24 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_00DN03.dwg

LOOP DESCRIPTIONS

Refert to PI-WW-3

SCADA

PLC

LCP

POWER

FIELD

REMOTE

LOCAL

DESCRIPTION	TYPE	TYPE	DESCRIPTION
RUNNING SIG OUT	NO	NO	REMOTE STOP
REMOTE SPEED SIG	4-20mA	NC	REMOTE START
LOCAL/REMOTE SEL	LOCAL	NC	DRIVE FAILED OUT
LOCAL START	NO	4-20mA	SPEED SIG OUT
LOCAL STOP	NC	NC	PERMISSIVE
LOCAL SPEED SIG	POT	NC /120V	MWH OUT

PERMISSIVE FROM CRA-942 PI-WW-6

HAD-941 AUTO = 1 START/STOP FROM VCP-942

Σ (FQ-941)

TO PI-PE3-2 FOR FLOW PACING

3.5 PI-WW-3 | 6" SL | 4" SL | HVA 941 | M | 3" SL | MM | HVC 941 | HVB 941 | CKV 941 | 5.6 PI-WW-6

PMP-941
THICKENED SLUDGE PUMP
7.5 HP, 480 VAC, 3ø
1050 - 1750 RPM
150 GPM @ 21 FT TDH

PE/PIT-941
PRESSURE TRANSMITTER
0-50 PSIG

FE/FIT/FQT-941
FLOW METER
0-200 GPM
4"

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WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION

DEMOLITION P&ID
EXISTING THICKENED SLUDGE FEED PUMP 2

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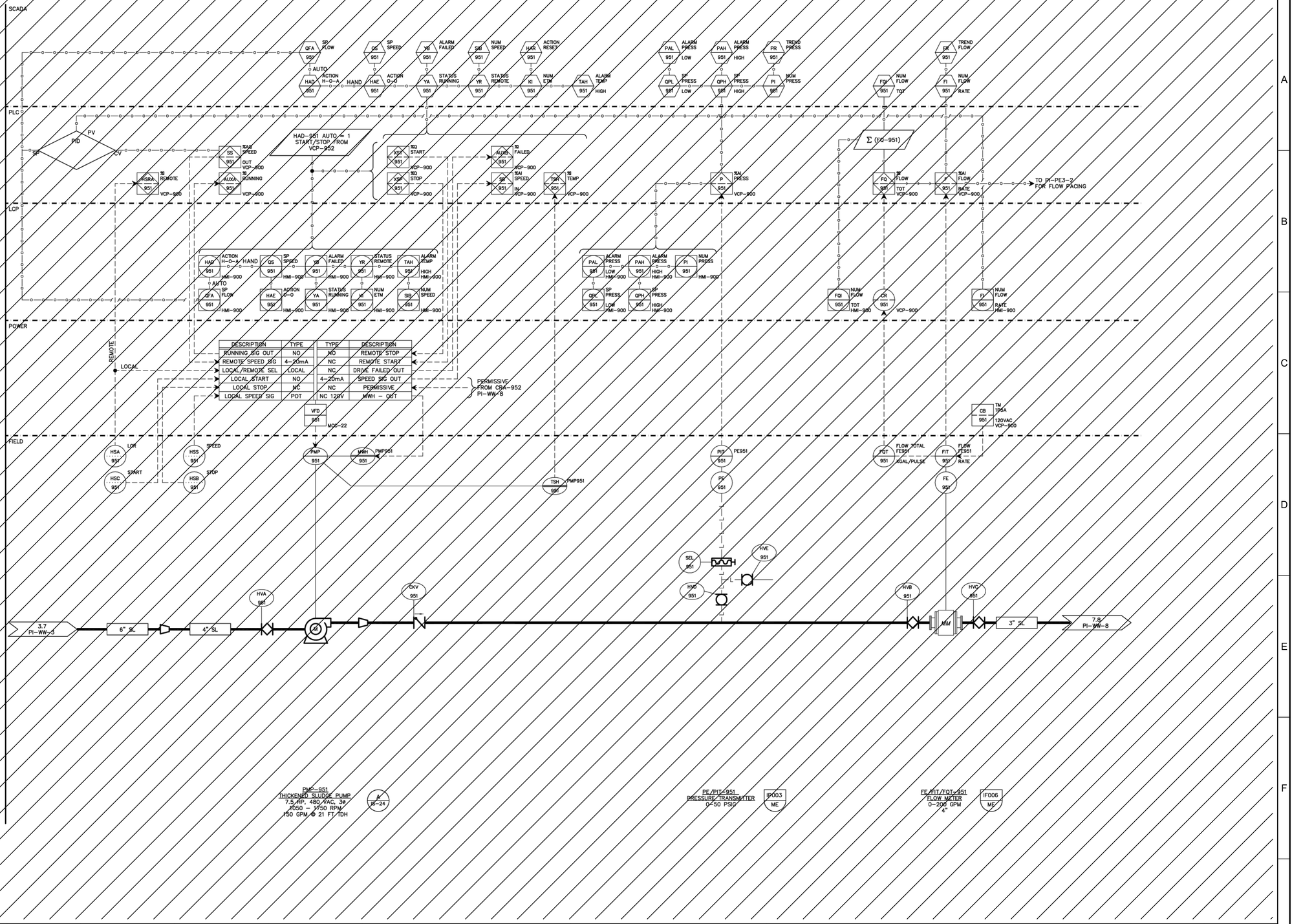
JOB NO. 203356
DRAWING NO. 00DN04
SHEET NO. 25 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_00DN04.dwg

LOOP DESCRIPTIONS

Refer to PI-WW-3



DESCRIPTION	TYPE	TYPE	DESCRIPTION
RUNNING SIG OUT	NO	NO	REMOTE STOP
REMOTE SPEED SIG	4-20mA	NC	REMOTE START
LOCAL/REMOTE SEL	LOCAL	NC	DRIVE FAILED OUT
LOCAL START	NO	4-20mA	SPEED SIG OUT
LOCAL STOP	NC	NC	PERMISSIVE
LOCAL SPEED SIG	POT	NC 128V	MWH - OUT

REV	DATE	BY	DESCRIPTION

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No. 5612657
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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

DEMOLITION

DEMOLITION P&ID
EXISTING THICKENED SLUDGE FEED PUMP 3

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JOB NO. 203356
DRAWING NO. 00DN05
SHEET NO. 26 OF 162

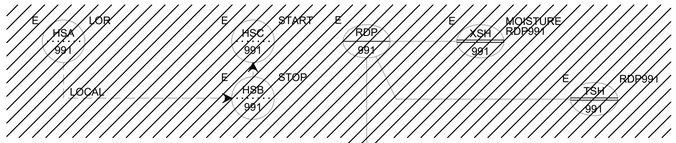
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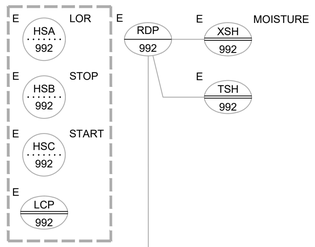
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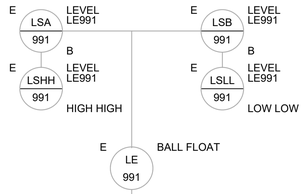
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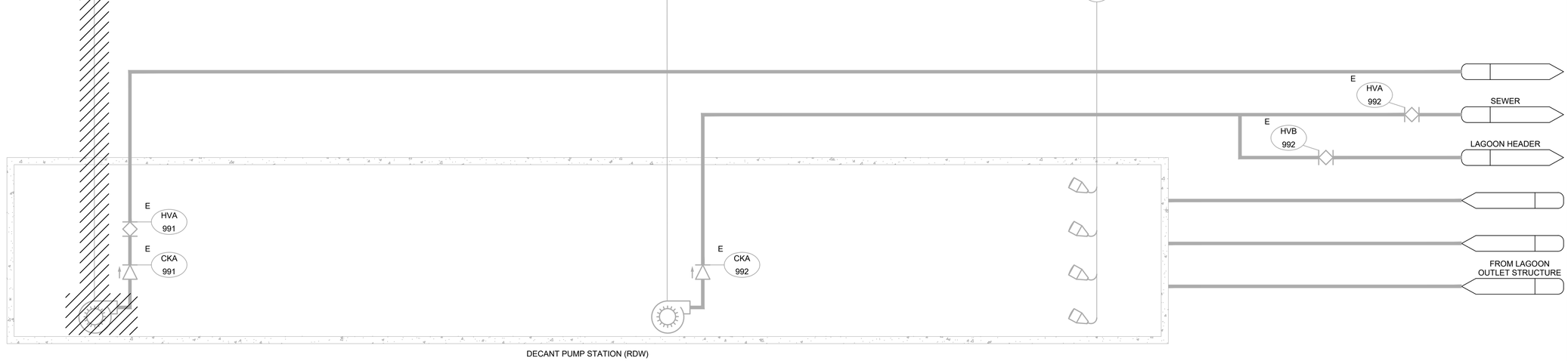
POWER SOURCE

FIELD









RDP-991
RECYCLE DECANT WATER PUMP NO. 1
2.0HP 480VAC 3PH

RDP-992
RECYCLE DECANT WATER PUMP NO. 2
2.0HP 480VAC 3PH

LE-991
LEVEL FLOATS

REV	DATE	BY	DESCRIPTION

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REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

DEMOLITION P&ID
RECYCLE DECANT PUMP STATION

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JOB NO. 203356
DRAWING NO. 00DN06
SHEET NO. 27 OF 162

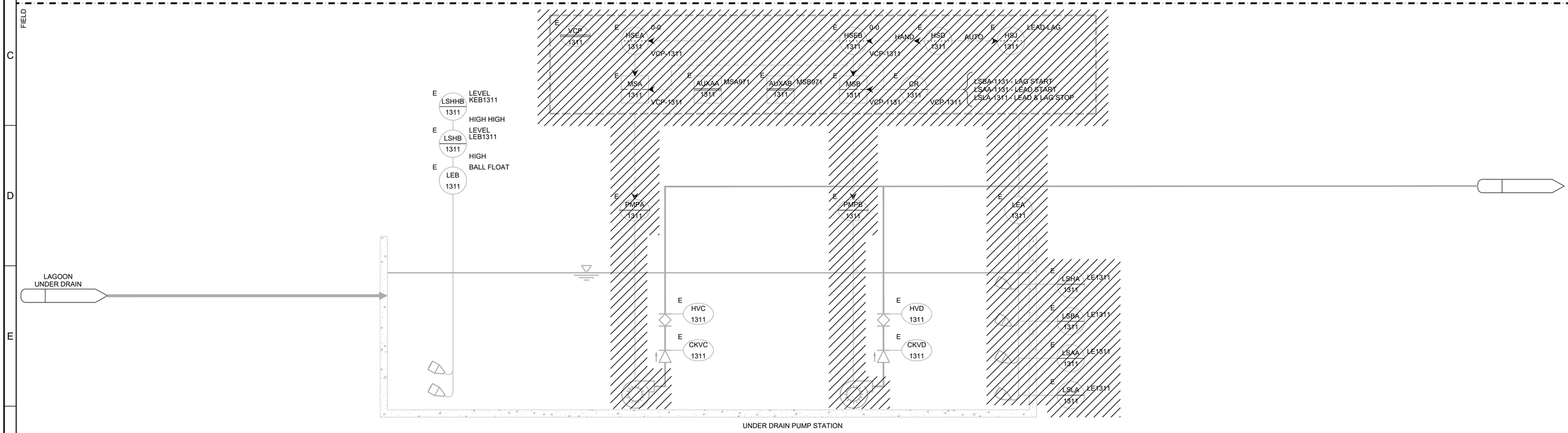
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PROJECT NO. 203356-100000 FILE NAME: 203356_00DN06.dwg

I/O

POWER SOURCE

FIELD



LEB-1311
LEVEL FLOATS

PMPA-1311
UNDER DRAIN PUMP NO.1
1HP 480VAC 3PH

PMPB-1311
UNDER DRAIN PUMP NO.2
1HP 480VAC 3PH

REV	DATE	BY	DESCRIPTION

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

DEMOLITION P&ID
UNDER DRAIN PUMP STATION

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JOB NO. 203356
DRAWING NO. 00DN07
SHEET NO. 28 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_00DN07.dwg

Plot Date: 10/5/2022 8:20:41 AM

GENERAL NOTES

1. ALL MATERIAL AND CONSTRUCTION METHODS USED FOR THE PROPOSED IMPROVEMENTS SHALL CONFORM WITH WBWCD. THE APPROVED TECHNICAL STANDARDS AND SPECIFICATIONS, AND ALL FEDERAL STATE, AND LOCAL REGULATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGH THE DURATION OF CONSTRUCTION FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPLICABLE PERMITS BEFORE COMMENCING WORK.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING, DISPOSE, REPAIRING OR REPLACING AND REMOVING AND DISPOSING ANY DAMAGED ITEMS INCLUDING, BUT NOT LIMITED TO, DRIVEWAYS, SIDEWALKS, BOLLARDS, SIGNS, STORM CULVERTS, FENCES AND LANDSCAPING AS REQUIRED BY OWNER, ENGINEER OF RECORD, AND/OR OTHER GOVERNING ENTITIES.
5. ALL DISTURBED AREAS SHALL BE RESTORED, INCLUDING REGRADING, TO THEIR ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE NOTED.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR REGRADING AND REPLANTING VEGETATION IN ALL AREAS DISTURBED BY THE CONSTRUCTION.
7. CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT, TOOLS, MATERIALS AND SERVICES NEEDED TO ENSURE ADEQUATE EROSION AND SEDIMENT CONTROL MEASURES. THESE MEASURES SHALL CONFORM TO THE PLANS AND SPECIFICATIONS AND ALL STATE AND LOCAL REQUIREMENTS.
8. NO FIELD CHANGES OR DEVIATION FROM DESIGN SHALL BE MADE WITHOUT PRIOR APPROVAL OF WBWCD.
9. NO CONNECTIONS TO, OR ANY OTHER CONSTRUCTION SHALL BE PERFORMED ON AN EXISTING UTILITY MAIN OR STRUCTURE WITHOUT THE PRESENCE OF WBWCD.
10. CONTRACTOR SHALL CONFIRM LIMITS OF STAGING ARE ACCEPTABLE TO PLANT MANAGER.
11. CONTRACTORS SHALL BE RESPONSIBLE FOR THE LOCATION AND IDENTIFICATION OF ALL EXISTING UTILITIES AND UNDERGROUND PIPELINES IN CONSTRUCTION AREA. ANY DAMAGES TO EXISTING UTILITIES OR UNDERGROUND PIPELINES ON OR OFF THE PROPERTY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL REPAIR WORK SHALL MEET THE APPROVAL OF THE OWNER OF THE DAMAGED UTILITY. NO REIMBURSEMENT WILL BE ALLOWED FOR UTILITY/ PIPE REPAIR OR REPLACEMENT. CONTRACTOR SHALL BE AWARE THAT THIS IS AN EXISTING WATER TREATMENT PLANT SITE. NEW WORK HAS BEEN DESIGNED BASED ON THE BEST AVAILABLE INFORMATION TO UTILITIES MAY REQUIRE MINOR FIELD ADJUSTMENTS OR HAND DIGGING TO MINIMIZE DAMAGE TO EXISTING FEATURES.

HATCH PATTERNS

- AGGREGATE BASE COURSE (ABC)
- ASPHALT PAVING
- OR
- (WITH AERIAL)
- BEDROCK
- CLSM
- CONCRETE (ALL CLASSES)
- DRAIN ROCK
- GRAVEL
- GRATING
- SPAN
- LANDSCAPING
- RIPRAP
- EXISTING/ UNDISTURBED SOIL
- STRUCTURAL FILL OR BACKFILL
- STEEL
- STAGING AREA
- TREAD PLATE

LINE WORK

	NEW	EXISTING
STRUCTURES OR EDGE OF PAVEMENT		
PIPING (TRIPLE LINES)		
PIPING (SINGLE LINE)		
HIDDEN LINE OR TRAIL EDGE		
CONTOURS	310	310
FENCE	X	X
ROAD		
EASEMENT		
GRADE (PROFILE)		
CENTER, MONUMENT, OR SURVEY LINE		
GUARDRAIL		
REMOVE OR ABANDONED (CROSS HATCHING: FENCE SHOWN AS EXAMPLE)		
POWER POLE & LINE	OHE PP OHE	
CABLE TV (UNDERGROUND)	CTV	CTV
FIBER OPTIC	FO	FO
FUEL	F	F
NATURAL GAS	G	G
UNDERGROUND ELECTRIC	UGE	UGE
SANITARY SEWER	SS	SS
FORCEMAIN SANITARY SEWER	FM	FM
STORM DRAIN	SD	SD
TELEPHONE	TEL	TEL
WATER	W	W
PROPERTY LINE OR RIGHT OF WAY		
SILT FENCE	SF	SF
CITY LIMITS		

REV	DATE	BY	DESCRIPTION

DESIGNED MF
DRAWN BSD
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DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
RANDAL L. ZOLLINGER
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

CIVIL

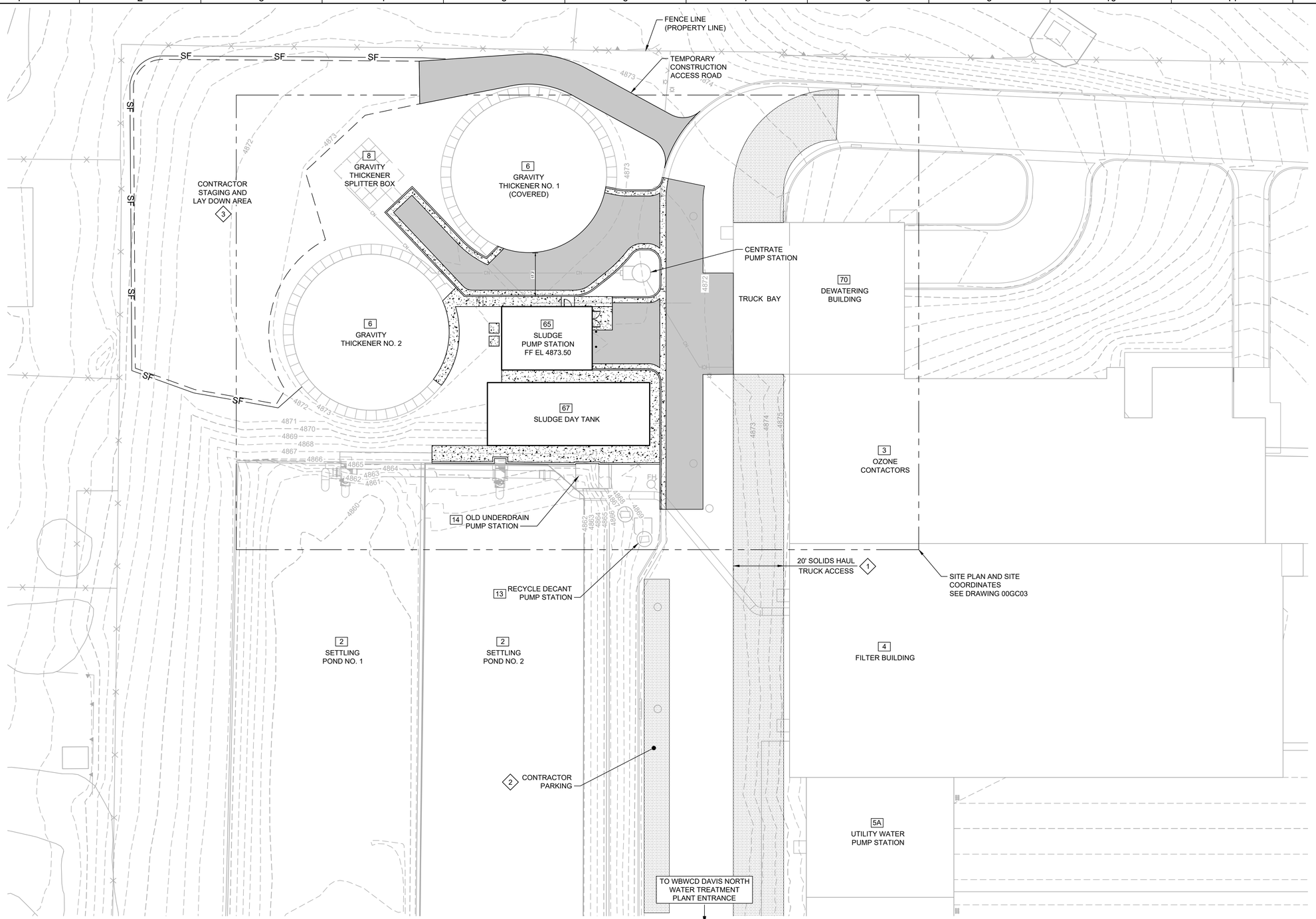
NOTES, LEGEND, AND SYMBOLS

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JOB NO. 203356
DRAWING NO. 00GC01
SHEET NO. 29 OF 162

LAST SAVED BY: pw_admin

PROJECT NO. 201341-100000 FILE NAME: ProjNum_NOTES LEGEND AND SYMBOLS.dwg



PLAN

FILE:

GENERAL NOTES:

1. CONTRACTOR SHALL RESTORE ALL STAGING AREAS TO THEIR PRE-CONSTRUCTION CONDITION AFTER THE PROJECT IS COMPLETE.
2. ALL GENERAL NOTES LISTED ON DRAWING 00GC01 - NOTES, LEGEND, AND SYMBOLS APPLY TO THIS AND OTHER CIVIL DRAWINGS.

KEY NOTES:

1. MAINTAIN MINIMUM 20-FT ROADWAY WIDTH OPEN AS INDICATED TO ACCOMMODATE WBWCD SOLIDS HAUL TRUCKS DURING CONSTRUCTION. IF THIS ROAD NEEDS TO BE CLOSED FOR ANY REASON, NOTIFY WBWCD AT LEAST TWO WEEKS IN ADVANCE.
2. DURING CONSTRUCTION WORKERS MAY PARK VEHICLES ALONG THE EAST SIDE OF THE SETTLING PONDS AS DIRECTED BY WBWCD STAFF.
3. COORDINATE WITH CONSTRUCTION MANAGER FOR EXACT LIMITS OF THE STAGING AREA. CONSTRUCTION TRAILERS AND EXCAVATED MATERIAL MAY BE PLACED IN THIS AREA. CONTRACTOR SHALL MAINTAIN ACCESS TO THE EXISTING GRAVITY THICKENERS AT ALL TIMES.
4. SURVEY BENCHMARK: LOCATED NEW FINISH WATER RESERVOIR. CONTRACTOR TO CONFIRM LOCATION WITH OWNER AND ESTABLISH NEW BENCHMARK NEAR EXISTING GRAVITY THICKENERS FOR SURVEY CONTROL DURING CONSTRUCTION.

EXISTING FACILITY CODES:

2	SETTLING POND
3	OZONE CONTACTORS
4	FILTER BUILDING
5A	UTILITY WATER PUMP STATION
6	GRAVITY THICKENER
8	GRAVITY THICKENER SPLITTER BOX
13	RECYCLE DECANT PUMP STATION
14	UNDERDRAIN PUMP STATION
70	CENTRIFUGE DEWATERING FACILITY

NEW FACILITY CODES:

65	SLUDGE PUMP STATION
67	SLUDGE DAY TANK

Know what's below. Call before you dig. usanorth811.org

SCALE

0 10' 20' 40'

SCALE: 1" = 20'

REV	DATE	BY	DESCRIPTION

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DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 270473-2202 RANDAL L. ZOLLINGER STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

CIVIL

OVERALL SITE PLAN

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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00GC02
SHEET NO. 30 OF 162

Plot Date: 11/21/2024 12:57 PM

LAST SAVED BY: bdupre

PROJECT NO. 203356 FILE NAME: 203356_00GC02.DWG

Plot Date: 11/21/2024 12:57 PM

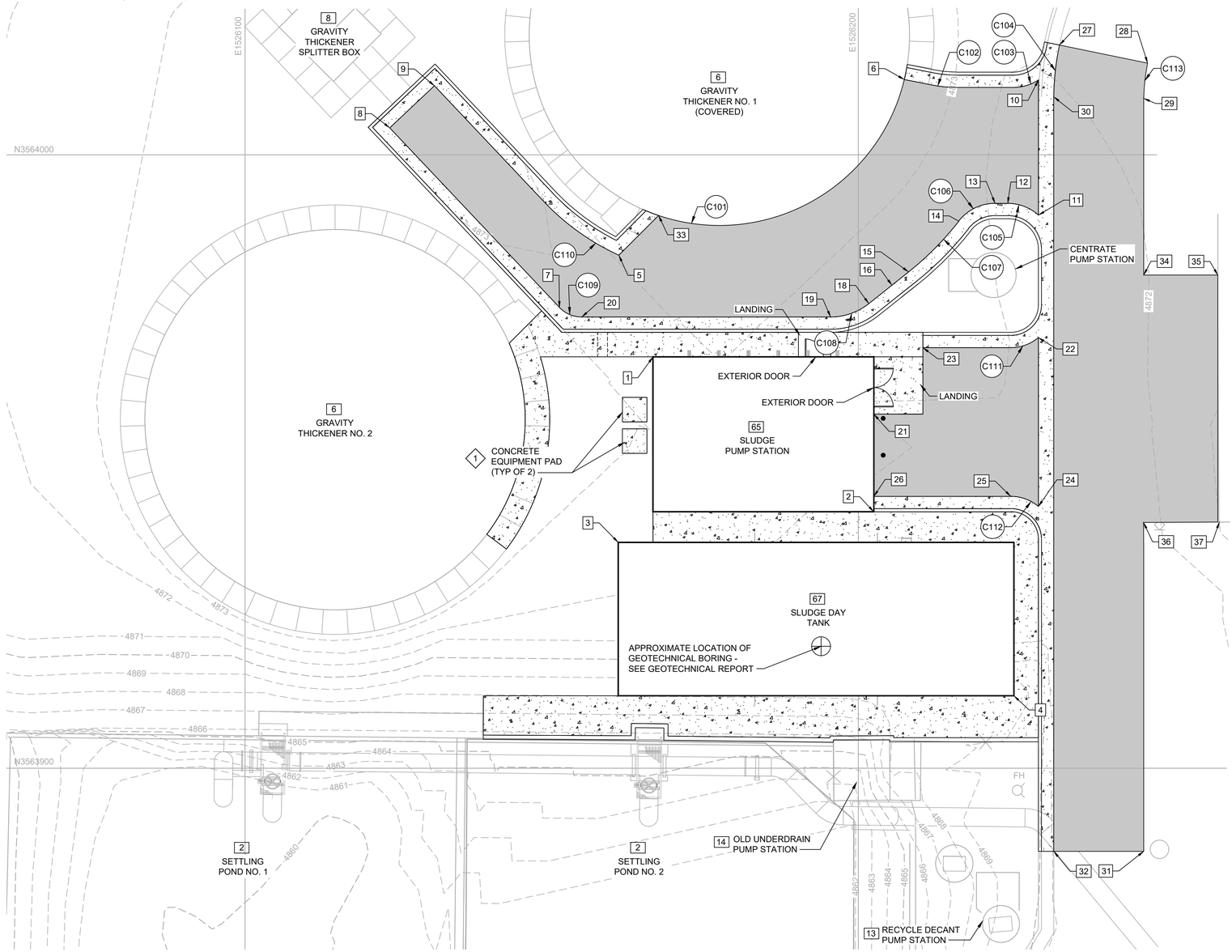
CURVE CONTROL DATA						
CXXX	PC	PT	RADIUS PT	Δ	R	L
C101	N= 3563991.09 E= 1526164.88	N= 3564014.73 E= 1526207.98	N= 1526177.34 E= 3564019.48	104.88	31.00	56.74
C102	N= 3564011.41 E= 1526211.84	N= 3564010.98 E= 1526216.22	N= 1526216.22 E= 3564033.48	11.22	22.50	4.41
C103	N= 3564010.98 E= 1526225.26	N= 3564012.20 E= 1526229.35	N= 1526225.26 E= 3564018.48	33.10	7.50	4.33

CURVE CONTROL DATA						
CXXX	PC	PT	RADIUS PT	Δ	R	L
C104	N= 3564009.46 E= 1526231.86	N= 3564017.89 E= 1526232.79	N= 1526277.85 E= 3564008.64	10.58	46.00	8.49
C105	N= 3563990.16 E= 1526229.35	N= 3563992.07 E= 1526224.35	N= 1526224.35 E= 3563984.57	41.81	7.50	5.47
C106	N= 3563992.07 E= 1526222.30	N= 3563989.19 E= 1526216.39	N= 1526222.30 E= 3563984.57	52.05	7.50	6.81

CURVE CONTROL DATA						
CXXX	PC	PT	RADIUS PT	Δ	R	L
C107	N= 3563980.91 E= 1526208.19	N= 3563989.19 E= 1526216.39	N= 1526177.35 E= 3564019.63	13.51	49.50	11.67
C108	N= 3563973.56 E= 1526195.47	N= 3563975.74 E= 1526201.70	N= 1526195.47 E= 3563983.56	38.54	10.00	6.73
C109	N= 3563975.13 E= 1526151.26	N= 3563973.56 E= 1526154.90	N= 1526154.90 E= 3563978.56	46.62	5.00	4.07

CURVE CONTROL DATA						
CXXX	PC	PT	RADIUS PT	Δ	R	L
C110	N= 3563992.10 E= 1526148.98	N= 3563983.63 E= 1526160.95	N= 1526177.34 E= 3564019.48	21.44	39.42	14.75
C111	N= 3563968.56 E= 1526224.85	N= 3563970.20 E= 1526229.35	N= 1526224.85 E= 3563975.56	40.01	7.00	4.89
C112	N= 3563942.67 E= 1526229.35	N= 3563944.31 E= 1526224.85	N= 1526224.85 E= 3563937.31	40.01	7.00	4.89

CURVE CONTROL DATA						
CXXX	PC	PT	RADIUS PT	Δ	R	L
C113	N= 3564009.20 E= 1526246.53	N= 3564014.94 E= 1526247.16	N= 1526277.85 E= 3564008.64	10.58	31.33	5.79



PLAN

FILE:

COORDINATE CONTROL POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
1	3563967.06	1526166.52	SLUDGE PS
2	3563941.81	1526202.52	SLUDGE PS
3	3563936.81	1526160.85	SLUDGE DAY TANK
4	3563911.81	1526225.35	SLUDGE DAY TANK
5	3563983.63	1526160.95	EP
6	3564012.27	1526207.49	EP
7	3563975.13	1526151.26	EP
8	3564004.40	1526123.61	EP
9	3564011.26	1526130.89	EP
10	3564012.20	1526229.35	EP
11	3563990.16	1526229.35	EP
12	3563992.07	1526224.35	EP
13	3563992.07	1526222.30	EP
14	3563989.19	1526216.39	EP
15	3563980.91	1526208.19	EP
16	3563978.74	1526205.47	EP
18	3563975.74	1526201.70	EP
19	3563973.56	1526195.47	EP
20	3563973.56	1526154.90	EP
21	3563957.73	1526202.52	EP
22	3563970.20	1526229.35	EP
23	3563968.56	1526210.52	EP
24	3563942.67	1526229.35	EP
25	3563944.31	1526224.85	EP
26	3563944.31	1526202.52	EP
27	3564017.89	1526232.79	EP
28	3564014.94	1526247.16	EP
29	3564009.20	1526246.53	EP
30	3564009.46	1526231.85	EP

COORDINATE CONTROL POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
31	3563886.45	1526246.52	EP
32	3563886.45	1526231.85	EP
33	3563990.11	1526167.43	EP
34	3563980.39	1526246.52	EP
35	3563980.39	1526258.60	EP
36	3563940.06	1526246.49	EP
37	3563940.14	1526258.86	EP

SURVEY CONTROL POINTS				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
800	3563730.53	1526685.33	4893.36	PK NAIL
801	3563679.06	1526995.54	4896.10	SE CORNER BASIN DECK

GENERAL NOTES:

1. ALL GENERAL NOTES LISTED ON DRAWING 00GC01 - NOTES, LEGEND, AND SYMBOLS APPLY TO THIS AND OTHER CIVIL DRAWINGS.

KEY NOTES:

1. REFER TO HVAC/MECHANICAL DRAWINGS FOR LOCATION OF EQUIPMENT.
2. SEE DRAWING 02C02 FOR YARD PIPING COORDINATES.

EXISTING FACILITY CODES:

2	SETTLING POND
3	OZONE CONTACTORS
8	GRAVITY THICKENER SPLITTER BOX
13	RECYCLE DECANT PUMP STATION
14	UNDERDRAIN PUMP STATION
70	CENTRIFUGE DEWATERING FACILITY

NEW FACILITY CODES:

65	SLUDGE PUMP STATION
67	SLUDGE DAY TANK

811 Know what's below. Call before you dig. usanorth811.org

SCALE

0 5' 10' 20'

SCALE: 1" = 10'

REV	DATE	BY	DESCRIPTION

DESIGNED MF
DRAWN BSD
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 270473-2202 RANDAL L. ZOLLINGER STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

CIVIL

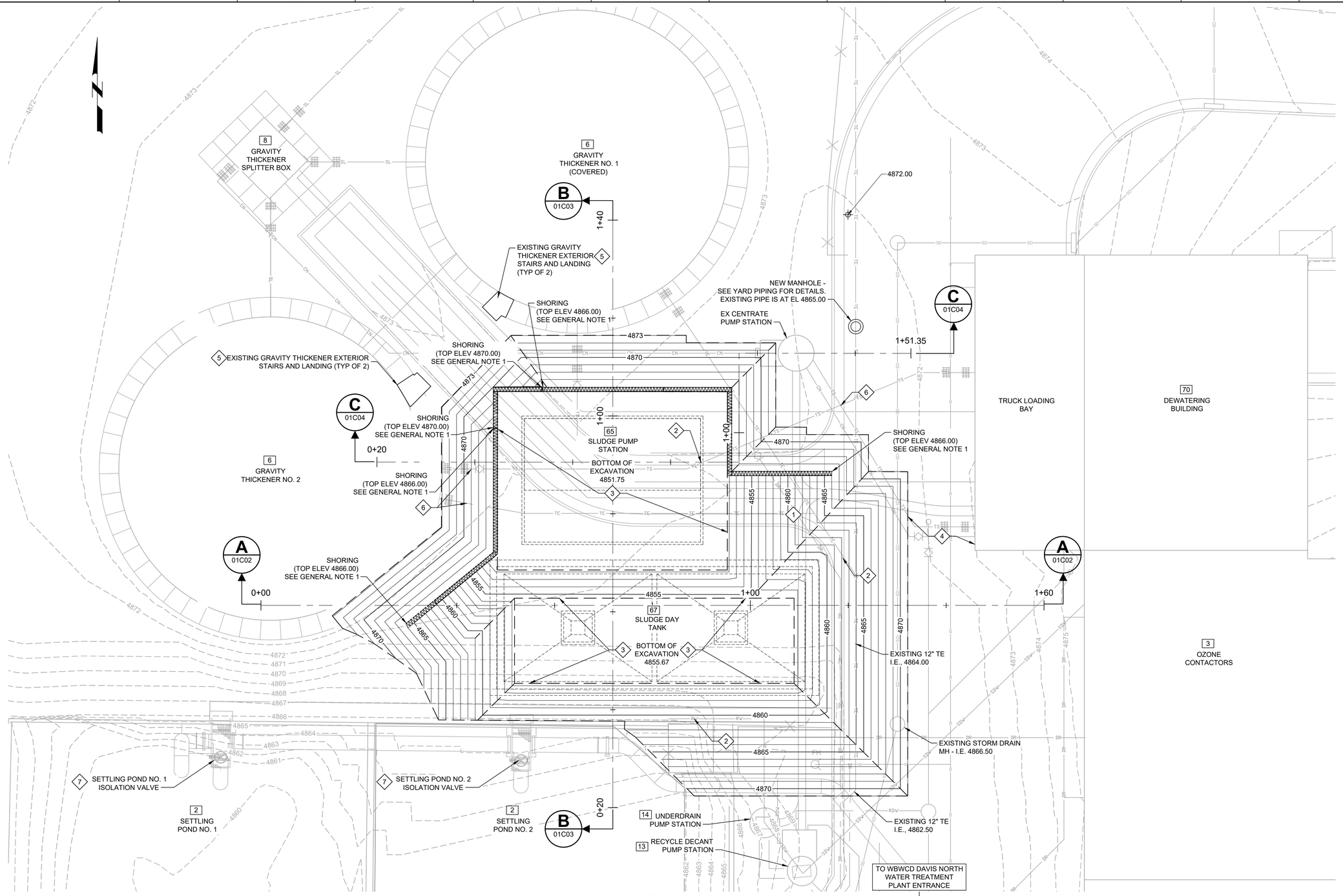
SITE PLAN AND SITE COORDINATES

VERIFY SCALES
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0 1"
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JOB NO. 203356
DRAWING NO. 00GC03
SHEET NO. 31 OF 162

LAST SAVED BY: bdupre

PROJECT NO. 203356 FILE NAME: 203356_00GC03.DWG



PLAN

FILE:

GENERAL NOTES:

1. THIS EXCAVATION PLAN SERVES AS AN EXAMPLE ONLY FOR CONTRACTOR REFERENCE. PREPARE AND SUBMIT EXCAVATION PLAN IN ACCORDANCE WITH SECTION 31_50_00 - EXCAVATION SUPPORT AND PROTECTION. CONTRACTOR SHALL TAKE STEPS TO ENSURE EXISTING STRUCTURES ARE NOT UNDERMINED, DO NOT SETTLE AND ARE NOT DAMAGED DURING EXCAVATION WORK.
2. SEE GEOTECHNICAL ENGINEER'S REPORT FOR SOIL CONDITIONS. A COPY OF THE GEOTECHNICAL REPORT MAY BE REQUESTED FROM THE OWNER.
3. ALL GENERAL NOTES LISTED ON DRAWING 00GC01 - NOTES, LEGEND, AND SYMBOLS APPLY TO THIS AND OTHER CIVIL DRAWINGS.

KEY NOTES:

1. AT THE CONTRACTOR'S OPTION, STEEL SHEET PIPING MAY BE USED MORE THAN THE OPEN CUT EXCAVATION APPROACH DEFINED HERE.
2. SUPPORT PIPELINES IN/OUT OF FACILITIES WHERE EXCAVATION WORK MAY DAYLIGHT PIPING.
3. NEW SLUDGE PUMP STATION WILL BE EXCAVATED FIRST AND THEN THE SLUDGE DAY TANK. CONSTRUCTION OF THE SLUDGE DAY TANK CANNOT START UNTIL AFTER THE SLUDGE PUMP STATION FOUNDATION AND CONCRETE WALLS HAVE BEEN CONSTRUCTED. REFER TO CONSTRUCTION SEQUENCING REQUIREMENTS IN SPECIFICATIONS.
4. MAINTAIN SITE ACCESS ROADWAY OPEN DURING CONSTRUCTION AT ALL TIMES, MINIMUM 12-FT.
5. MAINTAIN ACCESS TO EACH EXISTING GRAVITY THICKENER DURING EXCAVATION AND CONSTRUCTION OF NEW FACILITIES. EXISTING EXTERIOR STAIRS AND LANDINGS TO REMAIN IN PLACE AND ACCESSIBLE.
6. DEVELOP AND SUBMIT FOR REVIEW AND APPROVAL A STANDARD OPERATING PROCEDURE TO KEEP EXISTING SLUDGE LINES, UTILITY WATER, THICKENER EFFLUENT AND NATURAL GAS LINES IN SERVICE DURING CONSTRUCTION. PROVIDE TEMPORARY PIPING, PROTECTION AND SUPPORTS AS NECESSARY. SEE DRAWING 02C01 - TEMPORARY UTILITIES FOR PROPOSED TEMPORARY PIPING PLAN.
7. MAINTAIN ACCESS FOR OWNER DURING EXCAVATION AND CONSTRUCTION OF NEW FACILITIES.

EXISTING FACILITY CODES:

2	SETTLING POND
3	OZONE CONTACTORS
6	GRAVITY THICKENER
8	GRAVITY THICKENER SPLITTER BOX
13	RECYCLE DECANT PUMP STATION
14	UNDERDRAIN PUMP STATION
70	DEWATERING FACILITY

NEW FACILITY CODES:

65	SLUDGE PUMP STATION
67	SLUDGE DAY TANK

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SCALE

0 5' 10' 20'

SCALE: 1" = 10'

REV	DATE	BY	DESCRIPTION

DESIGNED MF
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CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 270473-2202 — RANDAL L. ZOLLINGER — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

CIVIL

EXCAVATION PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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JOB NO. 203356
DRAWING NO. 01C01
SHEET NO. 32 OF 162

Plot Date: 4/14/2025 9:32 AM
LAST SAVED BY: bdupre
PROJECT NO. 203356
FILE NAME: 203356_01C01.DWG

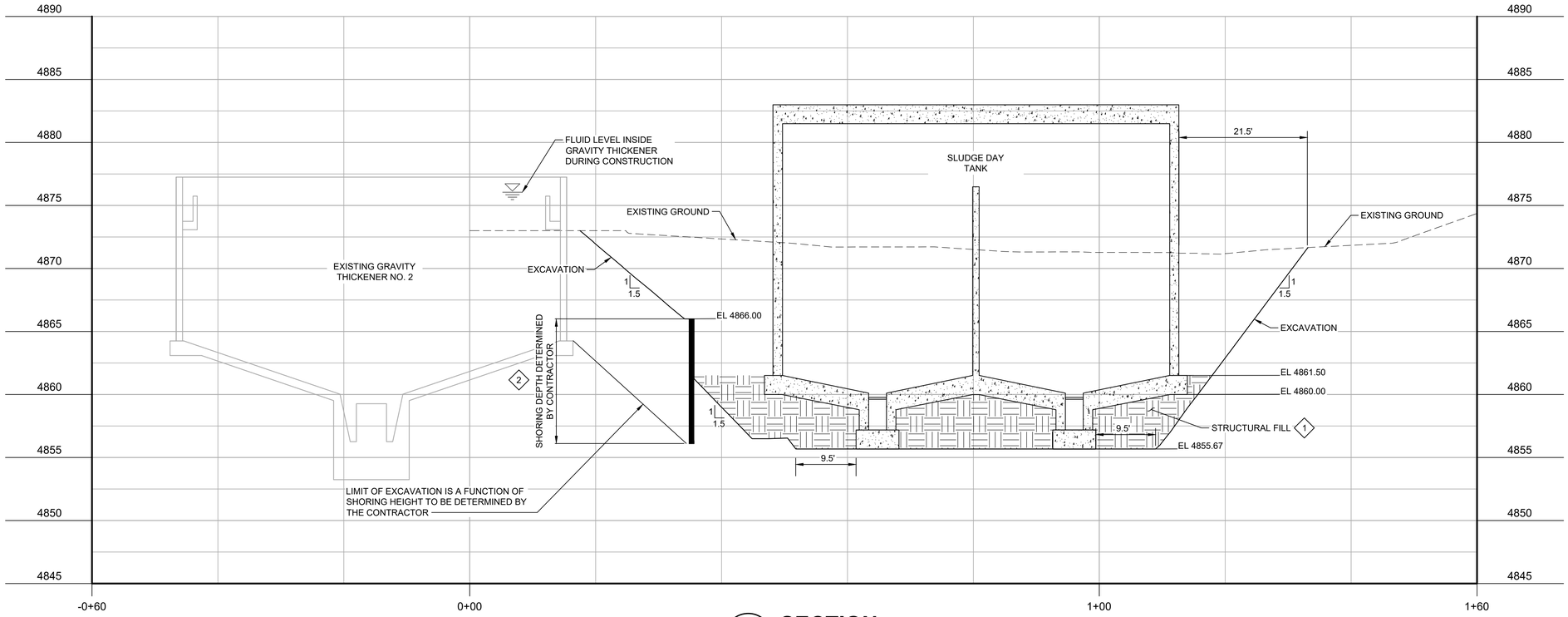
Plot Date: 11/21/2024 12:57 PM

GENERAL NOTES:

1. THIS EXCAVATION PLAN SERVES AS AN EXAMPLE ONLY FOR CONTRACTOR REFERENCE. PREPARE AND SUBMIT EXCAVATION PLAN IN ACCORDANCE WITH SECTION 31_50_00 - EXCAVATION SUPPORT AND PROTECTION. CONTRACTOR SHALL TAKE STEPS TO ENSURE EXISTING STRUCTURES ARE NOT UNDERMINED, DO NOT SETTLE AND ARE NOT DAMAGED DURING EXCAVATION WORK.
2. REFER TO SECTION 31_50_00 - EXCAVATION SUPPORT AND PROTECTION FOR ENGINEERED TEMPORARY SHORING REQUIREMENTS. A COPY OF THE GEOTECHNICAL SOILS REPORT CAN BE OBTAINED FROM THE OWNER.

KEY NOTES:

1. NEW SLUDGE PUMP STATION WILL BE EXCAVATED FIRST AND THEN THE SLUDGE DAY TANK. CONSTRUCTION OF THE SLUDGE DAY TANK CANNOT START UNTIL AFTER THE SLUDGE PUMP STATION FOUNDATION AND CONCRETE WALLS HAVE BEEN CONSTRUCTED. REFER TO SECTION 01_14_00 - WORK RESTRICTIONS.



A 01C01 **SECTION**
SCALE: 1"=10'
FILE:

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0 5' 10' 20'
SCALE: 1" = 10' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION

DESIGNED MF
DRAWN BSD
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
RANDAL L. ZOLLINGER
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
CIVIL
EXCAVATION SECTION "A"

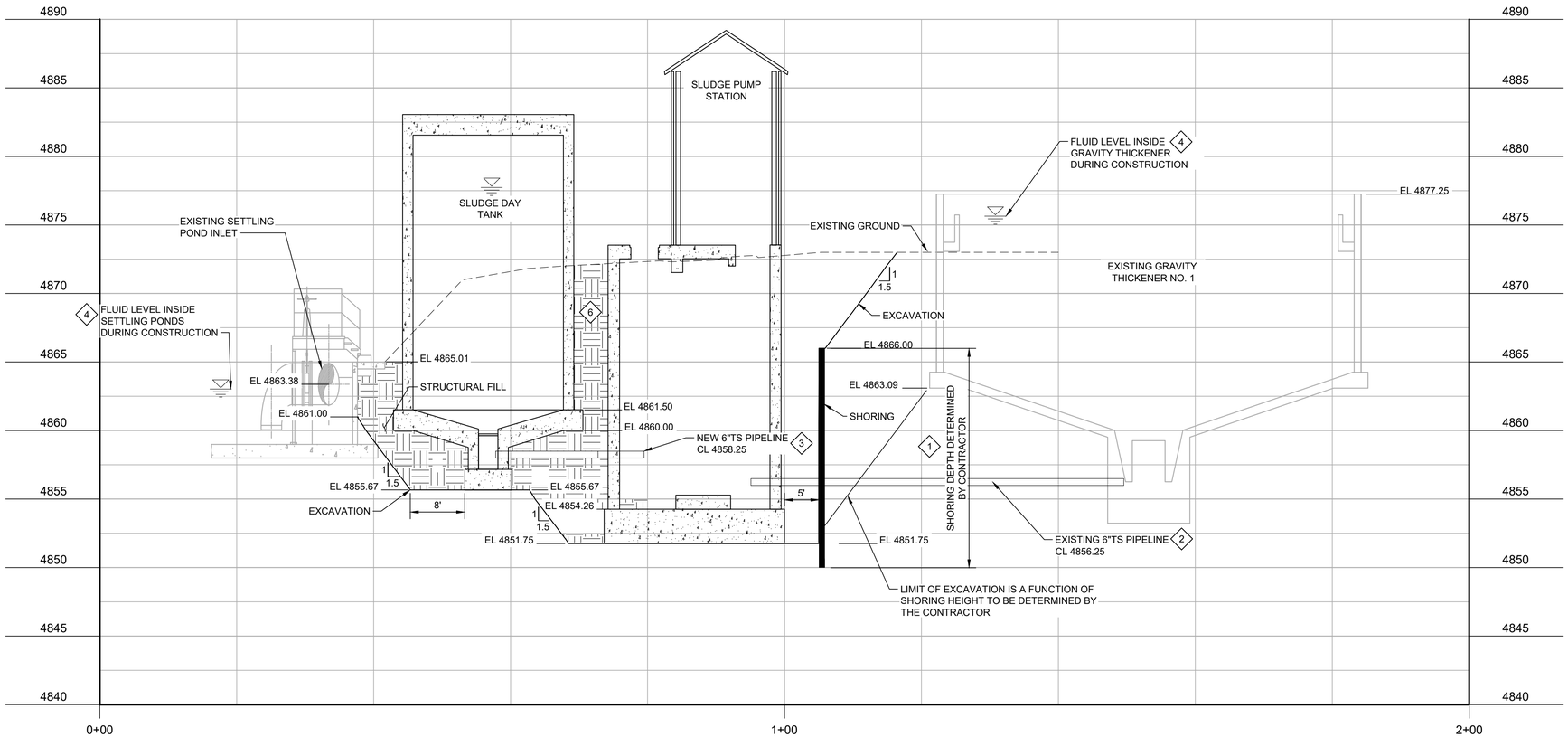
VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 01C02
SHEET NO. 33 OF 162

LAST SAVED BY: avalenzuela

PROJECT NO. 203356 FILE NAME: 203356_01C02.DWG

Plot Date: 11/21/2024 12:57 PM



B 01C01 SECTION

SCALE: NTS
FILE:

GENERAL NOTES:

1. THIS EXCAVATION PLAN SERVES AS AN EXAMPLE ONLY FOR CONTRACTOR REFERENCE. PREPARE AND SUBMIT EXCAVATION PLAN IN ACCORDANCE WITH SECTION 31_50_00 - EXCAVATION SUPPORT AND PROTECTION.
2. PROTECT EXISTING FACILITIES DURING EXCAVATION AND CONSTRUCTION.
3. PROVIDE OWNER ACCESS TO ALL EXISTING FACILITIES THAT REMAIN IN USE DURING CONSTRUCTION.

KEY NOTES:

1. REFER TO SECTION 31_50_00 - EXCAVATION SUPPORT AND PROTECTION FOR ENGINEERED TEMPORARY SHORING REQUIREMENTS. A COPY OF THE GEOTECHNICAL SOILS REPORT CAN BE OBTAINED FROM THE OWNER.
2. SEE TEMPORARY PIPING DRAWING FOR PROPOSED ROUTING OF TEMPORARY 6" SL PIPELINES FROM EACH GRAVITY THICKENER TO EXISTING SLUDGE FEED PUMPS LOCATED INSIDE THE DEWATERING BUILDING.
3. NEW SLUDGE LINES LOCATED UNDER THE NEW SLUDGE DAY TANK SHALL BE CONCRETE ENCASED.
4. EXISTING FACILITY WILL REMAIN IN SERVICE THROUGHOUT CONSTRUCTION. FIELD VERIFY MAXIMUM OPERATING FLUID LEVEL IN EACH STRUCTURE TO REMAIN IN SERVICE DURING CONSTRUCTION AND INCORPORATE INTO SHORING REQUIREMENTS AS NECESSARY.
5. COMPACT GRANULAR NATIVE SOIL AT BOTTOM OF EXCAVATION TO 92% PROCTOR. CONTRACTOR WILL REPLACE OVER EXCAVATED NATIVE MATERIAL WITH COMPACTED (95% PROCTOR) STRUCTURAL FILL.
6. FILL WITH CLSM 60 - 90 PSI BETWEEN SLUDGE PUMP STATION AND SLUDGE DAY TANK

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0 5' 10' 20'
SCALE: 1" = 10' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION

DESIGNED MF
DRAWN BSD
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 270473-2202 RANDAL L. ZOLLINGER STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
CIVIL
EXCAVATION SECTION "B"

VERIFY SCALES
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 01C03
SHEET NO. 34 OF 162

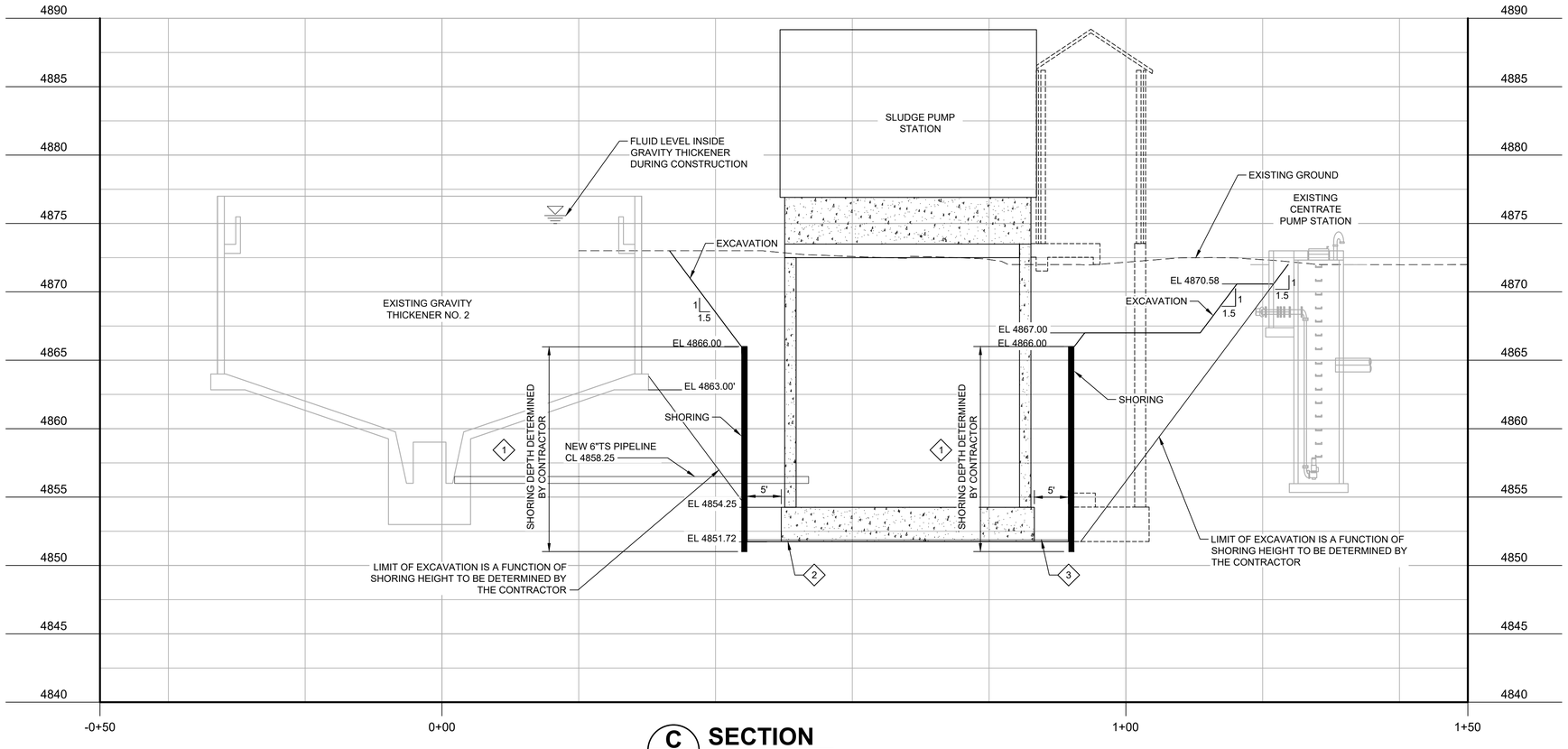
LAST SAVED BY: bdupre

PROJECT NO. 203356 FILE NAME: 203356_01C03.DWG

Plot Date: 11/21/2024 12:57 PM

GENERAL NOTES:

1. THIS EXCAVATION PLAN SERVES AS AN EXAMPLE ONLY FOR CONTRACTOR REFERENCE. PREPARE AND SUBMIT EXCAVATION PLAN IN ACCORDANCE WITH SECTION 31_50_00 - EXCAVATION SUPPORT AND PROTECTION.
2. PROTECT EXISTING FACILITIES DURING EXCAVATION AND CONSTRUCTION.
3. PROVIDE OWNER ACCESS TO ALL EXISTING FACILITIES THAT REMAIN IN USE DURING CONSTRUCTION.



C 01C01 **SECTION**
SCALE: NTS
FILE:

KEY NOTES:

1. REFER TO SECTION 31_50_00 - EXCAVATION SUPPORT AND PROTECTION FOR ENGINEERED TEMPORARY SHORING REQUIREMENTS. A COPY OF THE GEOTECHNICAL SOILS REPORT CAN BE OBTAINED FROM THE OWNER.
2. COMPACT GRANULAR NATIVE SOIL AT BOTTOM OF EXCAVATION TO 92% PROCTOR. CONTRACTOR WILL REPLACE OVER EXCAVATED NATIVE MATERIAL WITH COMPACTED (95% PROCTOR) STRUCTURAL FILL.
3. PLACE A SEPARATION GEOTEXTILE FABRIC AND GEOSYNTHETIC REINFORCEMENT (GEOGRID) AT THE BOTTOM OF THE EXCAVATION.

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0 5' 10' 20'
SCALE: 1" = 10' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION

DESIGNED MF
DRAWN BSD
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
RANDALL L. ZOLLINGER
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
CIVIL
EXCAVATION SECTION "C"

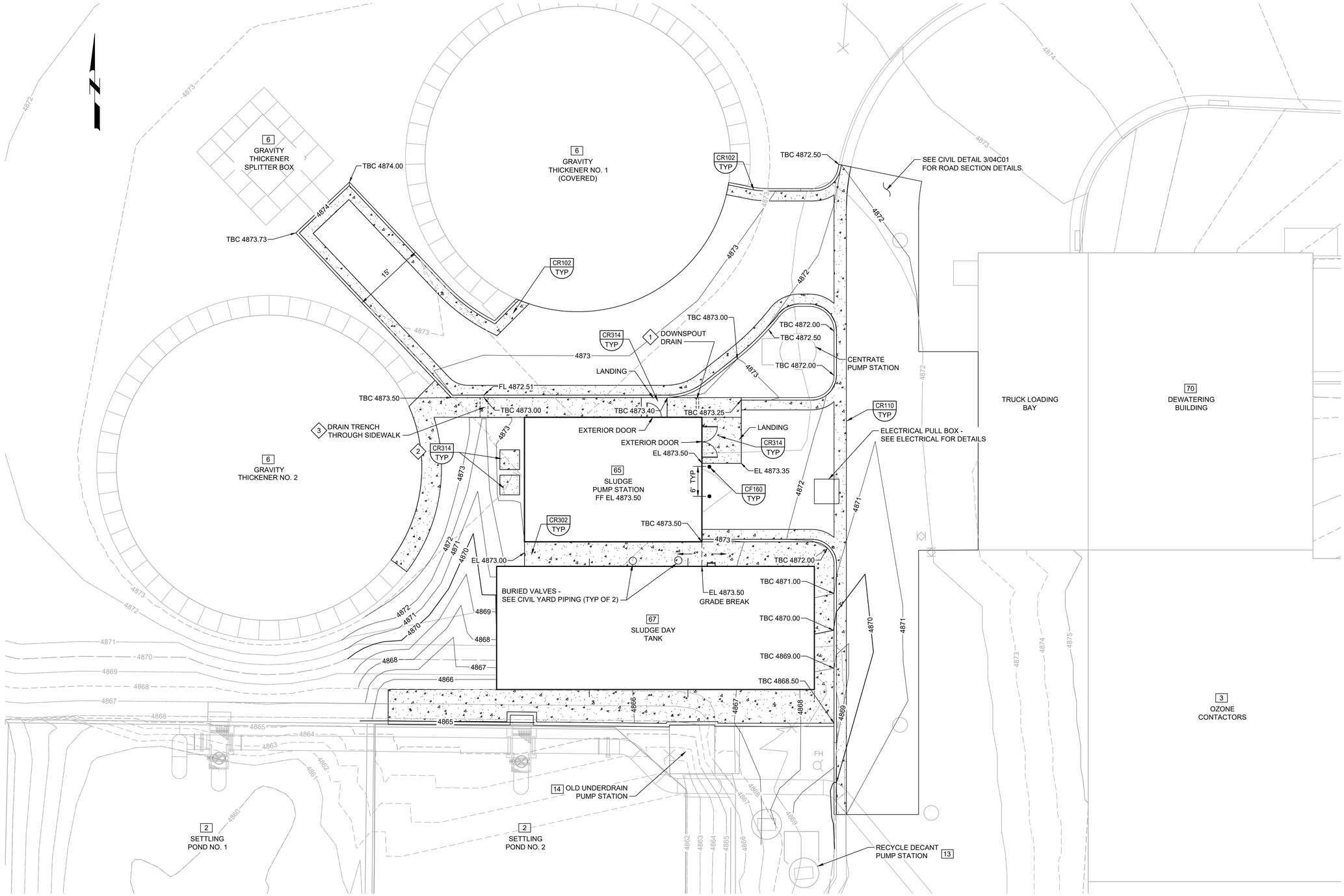
VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 01C04
SHEET NO. 35 OF 162

LAST SAVED BY: bdupre

PROJECT NO. 203356 FILE NAME: 203356_01C04.DWG

Plot Date: 12/26/2024 2:16 PM



PLAN

FILE:

GENERAL NOTES:

1. ALL GENERAL NOTES LISTED ON DRAWING 00GC01 - NOTES, LEGEND, AND SYMBOLS APPLY TO THIS AND OTHER CIVIL DRAWINGS.

KEY NOTES:

1. COORDINATE DRAINS WITH ROOF DRAINS - SEE ARCHITECTURAL.
2. CONCRETE EQUIPMENT PAD; 4-FT X 4-FT. TYP OF 2. REFER TO HVAC/MECHANICAL DRAWINGS FOR LOCATION OF EQUIPMENT.
3. SIDEWALK DRAIN, EVERGREEN T-12 SERIES OR EQUAL.

EXISTING FACILITY CODES:

2	SETTLING POND
3	OZONE CONTACTORS
8	GRAVITY THICKENER SPLITTER BOX
13	RECYCLE DECANT PUMP STATION
14	UNDERDRAIN PUMP STATION
70	CENTRIFUGE DEWATERING FACILITY

NEW FACILITY CODES:

65	SLUDGE PUMP STATION
67	SLUDGE DAY TANK

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SCALE

0 5' 10' 20'

SCALE: 1" = 10'

REV	DATE	BY	DESCRIPTION

DESIGNED MF
DRAWN BSD
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
RANDAL L ZOLLINGER
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

CIVIL

OVERALL GRADING, PAVING AND DRAINAGE PLAN

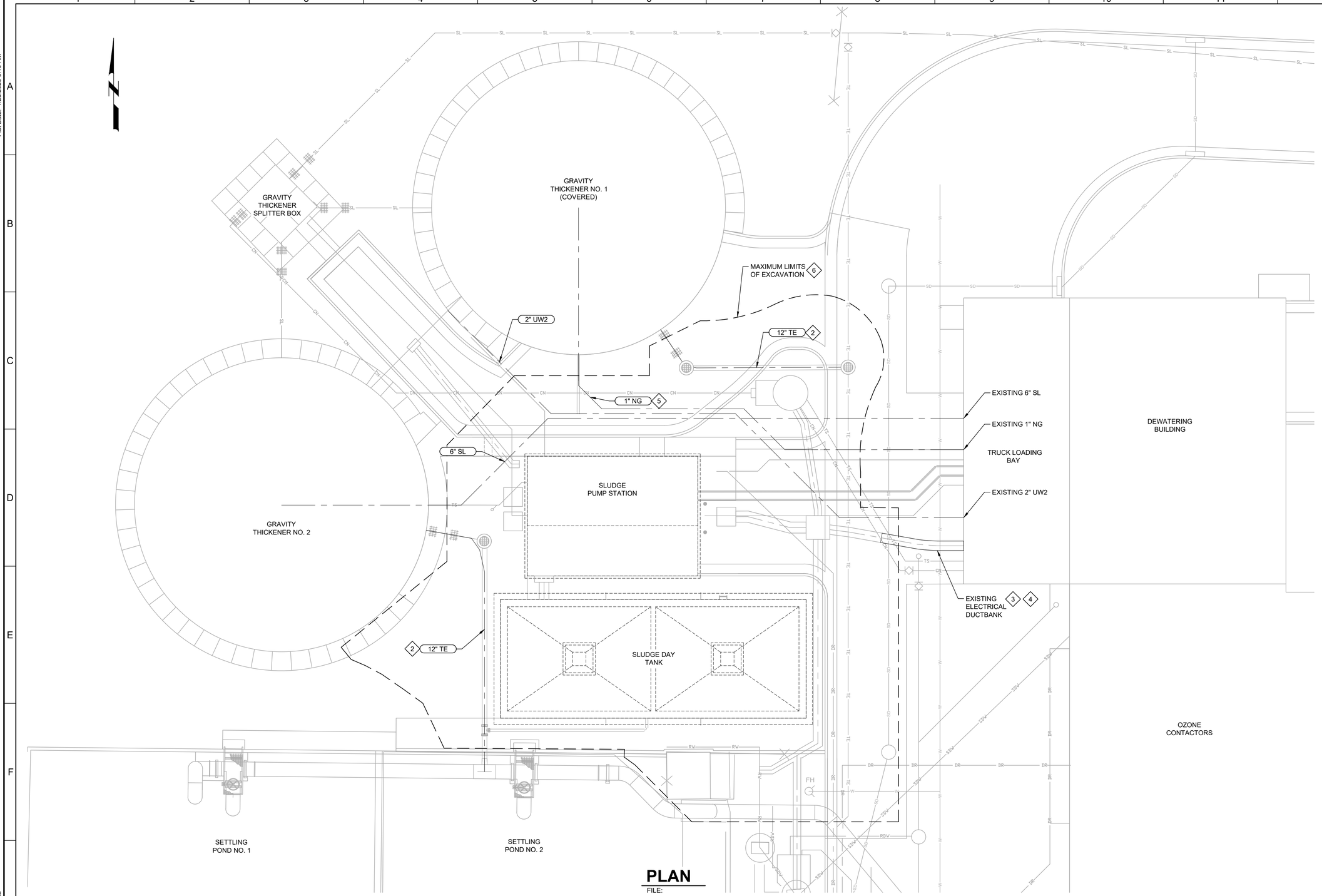
VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 01C05
SHEET NO. 36 OF 162

LAST SAVED BY: bdupre

PROJECT NO. 203356 FILE NAME: 203356_01C05.DWG

Plot Date: 1/23/2025 8:16 AM



PLAN

FILE:

GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY PIPING PLANS AND ROUTES TO KEEP EXISTING FACILITIES IN OPERATION DURING CONSTRUCTION.
2. LOCATION OF EXISTING PIPELINES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE PREPARING TEMPORARY PIPING PLANS.
3. ALL GENERAL NOTES LISTED ON DRAWING 00GC01 - NOTES, LEGEND, AND SYMBOLS APPLY TO THIS AND OTHER CIVIL DRAWINGS.

KEY NOTES:

1. SEE SPECIFICATION 01_14_00 - WORK RESTRICTIONS FOR ADDITIONAL REQUIREMENTS. PREPARE AND SUBMIT METHOD OF OPERATION PER SPECIFICATION FOR OWNER REVIEW AND APPROVAL.
2. TO LIMIT TEMPORARY PIPING, INSTALL NEW PERMANENT PIPING AS SHOWN ON YARD PIPING PLANS AS EXCAVATION WORK PROGRESSES.
3. CONNECT TO EXISTING ELECTRICAL DUCTBANK JUST BEYOND EXISTING ROAD, INSIDE OF LIMITS OF EXCAVATION. PULL EXISTING WIRES, CUT/DEMOLISH EXISTING DUCTBANK, REPULL WIRES THROUGH REMAINING DUCTBANK AND TEMPORARY CONDUIT AND RECONNECT.
4. TEMPORARY POWER SUPPLY FOR CONTRACTOR'S USE DURING CONSTRUCTION WILL BE EXTENDED FROM EXISTING MCC-22. COORDINATE THIS WORK WITH THE OWNER.
5. COORDINATE THE TEMPORARY NATURAL GAS PIPELINE INSTALLATION WITH THE OWNER.
6. LIMITS OF EXCAVATION ARE A FUNCTION OF CONTRACTORS EXCAVATION PLAN. REFER TO DRAWING 01C01.

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SCALE

0 5' 10' 20'

SCALE: 1" = 10'

REV	DATE	BY	DESCRIPTION

DESIGNED MF
DRAWN CSM
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 270473-2202 RANDAL L ZOLLINGER STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

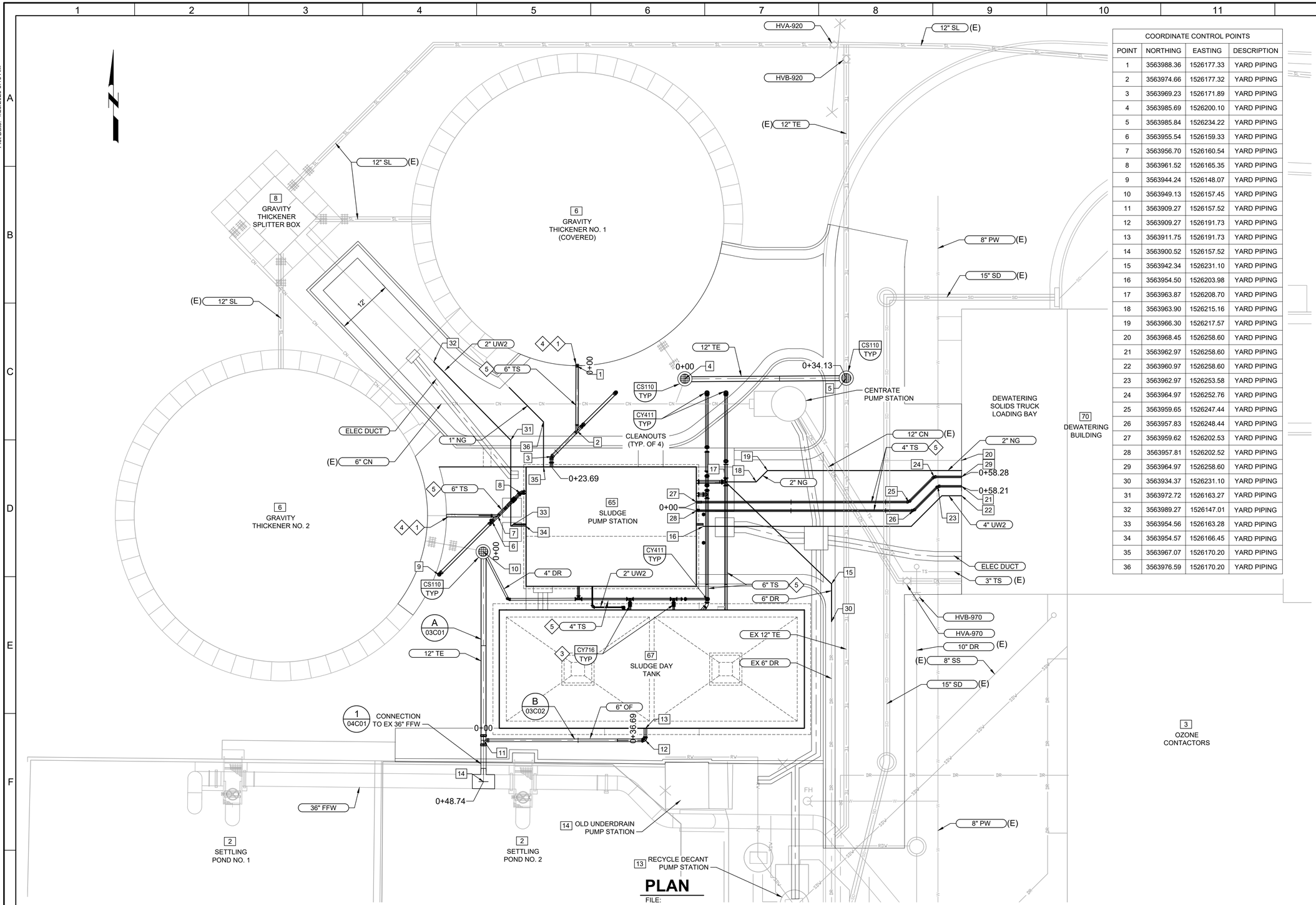
CIVIL

TEMPORARY UTILITIES

VERIFY SCALES
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0 1"
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JOB NO. 203356
DRAWING NO. 02C01
SHEET NO. 37 OF 162

LAST SAVED BY: avalenzuela



PLAN

FILE:

COORDINATE CONTROL POINTS			
POINT	NORTHING	EASTING	DESCRIPTION
1	3563988.36	1526177.33	YARD PIPING
2	3563974.66	1526177.32	YARD PIPING
3	3563969.23	1526171.89	YARD PIPING
4	3563985.69	1526200.10	YARD PIPING
5	3563985.84	1526234.22	YARD PIPING
6	3563955.54	1526159.33	YARD PIPING
7	3563956.70	1526160.54	YARD PIPING
8	3563961.52	1526165.35	YARD PIPING
9	3563944.24	1526148.07	YARD PIPING
10	3563949.13	1526157.45	YARD PIPING
11	3563909.27	1526157.52	YARD PIPING
12	3563909.27	1526191.73	YARD PIPING
13	3563911.75	1526191.73	YARD PIPING
14	3563900.52	1526157.52	YARD PIPING
15	3563942.34	1526231.10	YARD PIPING
16	3563954.50	1526203.98	YARD PIPING
17	3563963.87	1526208.70	YARD PIPING
18	3563963.90	1526215.16	YARD PIPING
19	3563966.30	1526217.57	YARD PIPING
20	3563968.45	1526258.60	YARD PIPING
21	3563962.97	1526258.60	YARD PIPING
22	3563960.97	1526258.60	YARD PIPING
23	3563962.97	1526253.58	YARD PIPING
24	3563964.97	1526252.76	YARD PIPING
25	3563959.65	1526247.44	YARD PIPING
26	3563957.83	1526248.44	YARD PIPING
27	3563959.62	1526202.53	YARD PIPING
28	3563957.81	1526202.52	YARD PIPING
29	3563964.97	1526258.60	YARD PIPING
30	3563934.37	1526231.10	YARD PIPING
31	3563972.72	1526163.27	YARD PIPING
32	3563989.27	1526147.01	YARD PIPING
33	3563954.56	1526163.28	YARD PIPING
34	3563954.57	1526166.45	YARD PIPING
35	3563967.07	1526170.20	YARD PIPING
36	3563976.59	1526170.20	YARD PIPING

GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY PIPING PLANS AND ROUTES TO KEEP EXISTING FACILITIES IN OPERATION DURING CONSTRUCTION PLACE TEXT.
2. LOCATION OF EXISTING PIPELINES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE PREPARING TEMPORARY PIPING PLANS.
3. ALL GENERAL NOTES LISTED ON DRAWING 00GC01 - NOTES, LEGEND, AND SYMBOLS APPLY TO THIS AND OTHER CIVIL DRAWINGS.

KEY NOTES:

1. REMOVE EXISTING FLEXIBLE COUPLINGS AND INSTALL NEW HDPE TO EXISTING DIP WITH A FLANGE ADAPTER AND BACKER RING. USE MEGALUG 2100 MEGAFLANGE OR EQUAL.
2. SEE DRAWING 70DM01 FOR DEMOLITION OF EXISTING MECHANICAL EQUIPMENT AND PIPING. SEE DRAWING 70M01 FOR NEW PROCESS MECHANICAL PIPING.
3. BURIED PLUG VALVES (TYP OF 2) UNDER SIDEWALK.
4. CONTRACTOR TO FIELD VERIFY PIPE ALIGNMENT BETWEEN EXISTING SLUDGE LINE AND CONNECTION TO NEW SLUDGE PUMP STATION.
5. ALL BURIED THICKENED SLUDGE LINES CONNECT TO NEW STRUCTURES USING FLANGE X FLANGE (W/ BACKER RING) CONNECTION.

EXISTING FACILITY CODES:

2	SETTLING POND
3	OZONE CONTACTORS
8	GRAVITY THICKENER SPLITTER BOX
13	RECYCLE DECANT PUMP STATION
14	UNDERDRAIN PUMP STATION
70	CENTRIFUGE DEWATERING FACILITY

NEW FACILITY CODES:

65	SLUDGE PUMP STATION
67	SLUDGE DAY TANK

Know what's below. Call before you dig. usanorth811.org

SCALE

0 5' 10' 20'

SCALE: 1" = 10'

REV	DATE	BY	DESCRIPTION

DESIGNED MF
DRAWN CSM
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 270473-2202 — RANDAL L. ZOLLINGER — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

CIVIL

OVERALL PIPING PLAN & PIPE COORDINATES

VERIFY SCALES
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0 1"
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JOB NO. 203356
DRAWING NO. 02C02
SHEET NO. 38 OF 162

LAST SAVED BY: bdupre

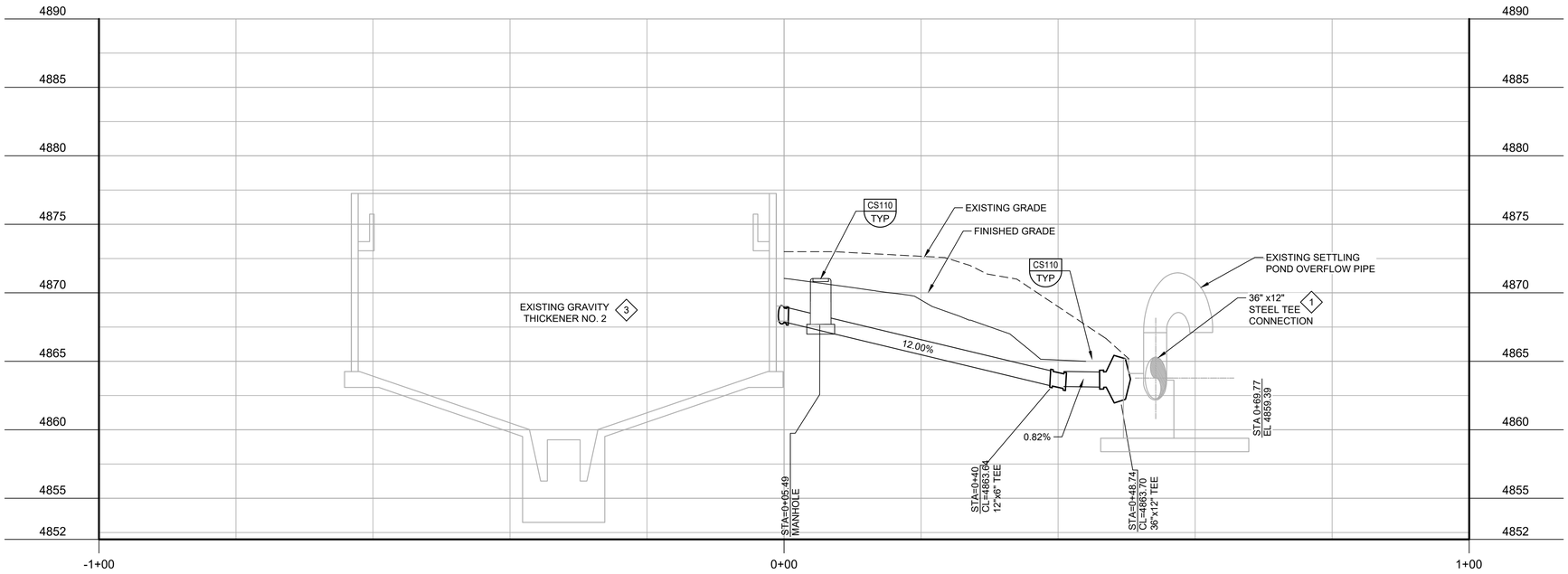
Plot Date: 1/23/2025 8:16 AM

PROJECT NO. 203356 FILE NAME: 203356_02C02.DWG

Plot Date: 1/23/2025 8:16 AM

KEY NOTES:

1. WELD ON A 12" ROMAC FTS445 WELD-ON TAPPING SLEEVE OR EQUAL. FOLLOW MANUFACTURER INSTRUCTIONS FOR WELDING INSIDE AND OUT OF SLEEVE. VERIFY THICKNESS AND INTERIOR COATING OF EXISTING STEEL PIPE.. REFER TO SPECIFICATIONS FOR WORK RESTRICTIONS AND COORDINATE INSTALLATION WITH OWNER AS THE EXISTING 36" PIPE MUST REMAIN IN OPERATION TO ACCOMMODATE FILTER BACKWASHING.
2. INSTALL NEW 12" TE PIPELINE AS PERMANENT WHEN ROUTING AROUND CONSTRUCTION AREA. LEAVE BLIND FLANGE ON TEE WHERE FUTURE 6" OF FROM NEW SLUDGE DAY TANK CONNECTS
3. EXISTING GRAVITY THICKENER MUST BE TAKEN OFF-LINE TO MAKE NEW PIPING CONNECTIONS.



12" TE PROFILE 2

A 02C02 **PROFILE**

FILE: FILE

0 5' 10' 20'
SCALE: 1" = 10' (HORIZ)

0 2.5' 5' 10'
SCALE: 1" = 5' (VERT)

REV	DATE	BY	DESCRIPTION

DESIGNED MF
DRAWN BSD
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
RANDALL L. ZOLLINGER
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

CIVIL

YARD PIPING PROFILE 1

VERIFY SCALES
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0 1"
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JOB NO. 203356
DRAWING NO. 03C01
SHEET NO. 39 OF 162

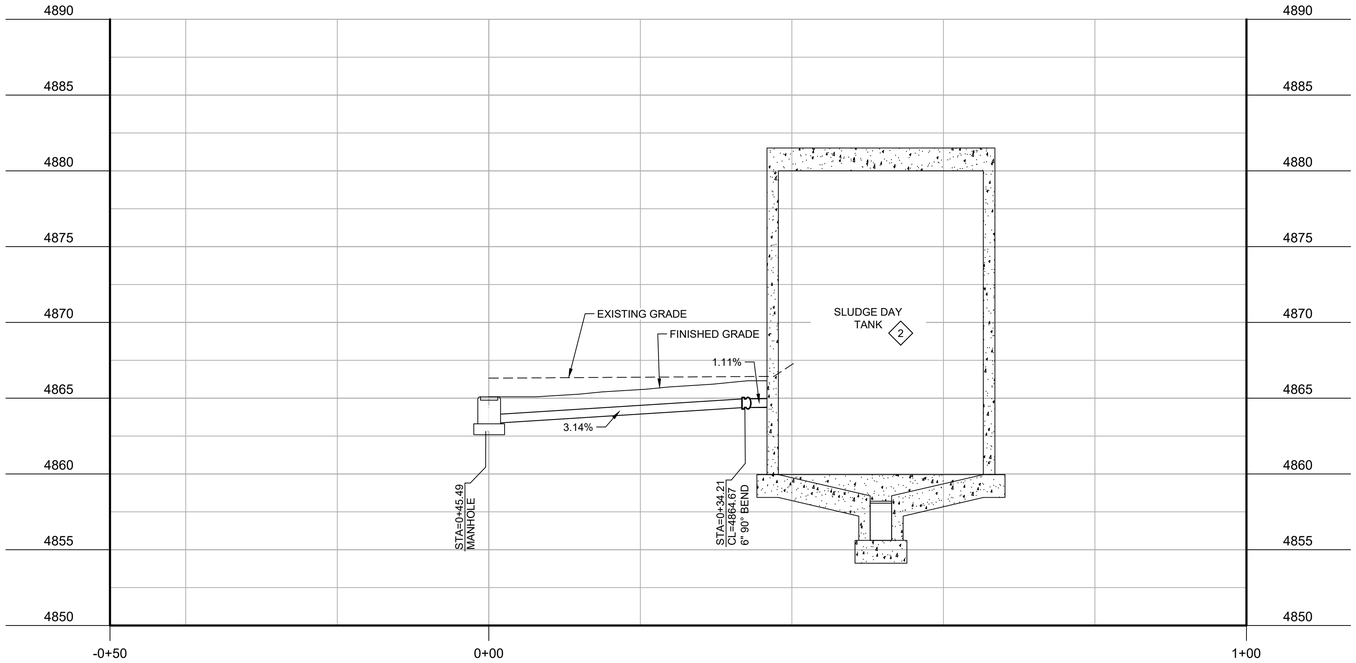
LAST SAVED BY: bdupre

PROJECT NO. 203356 FILE NAME: 203356_03C01.DWG

Plot Date: 1/23/2025 8:16 AM

KEY NOTES:

1. INSTALL NEW 12" TE PIPELINE AS PERMANENT WHEN ROUTING AROUND CONSTRUCTION AREA. LEAVE BLIND FLANGE ON TEE WHERE FUTURE 6" OF FROM NEW SLUDGE DAY TANK CONNECTS.
2. INTERIOR OVERFLOW BOX NOT SHOWN INSIDE THE SLUDGE DAY TANK.



6" OF 1

B PROFILE

02C02 FILE: FILE

SCALE: 1" = 10' (HORIZ)

0 5' 10' 20'

SCALE: 1" = 5' (VERT)

0 2.5' 5' 10'

REV	DATE	BY	DESCRIPTION

DESIGNED MF
DRAWN BSD
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
RANDAL L. ZOLLINGER
STATE OF UTAH

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

CIVIL

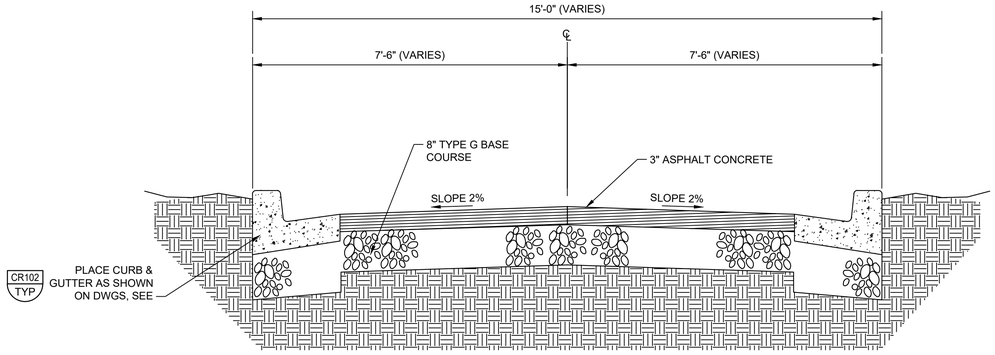
YARD PIPING PROFILE 2

VERIFY SCALES
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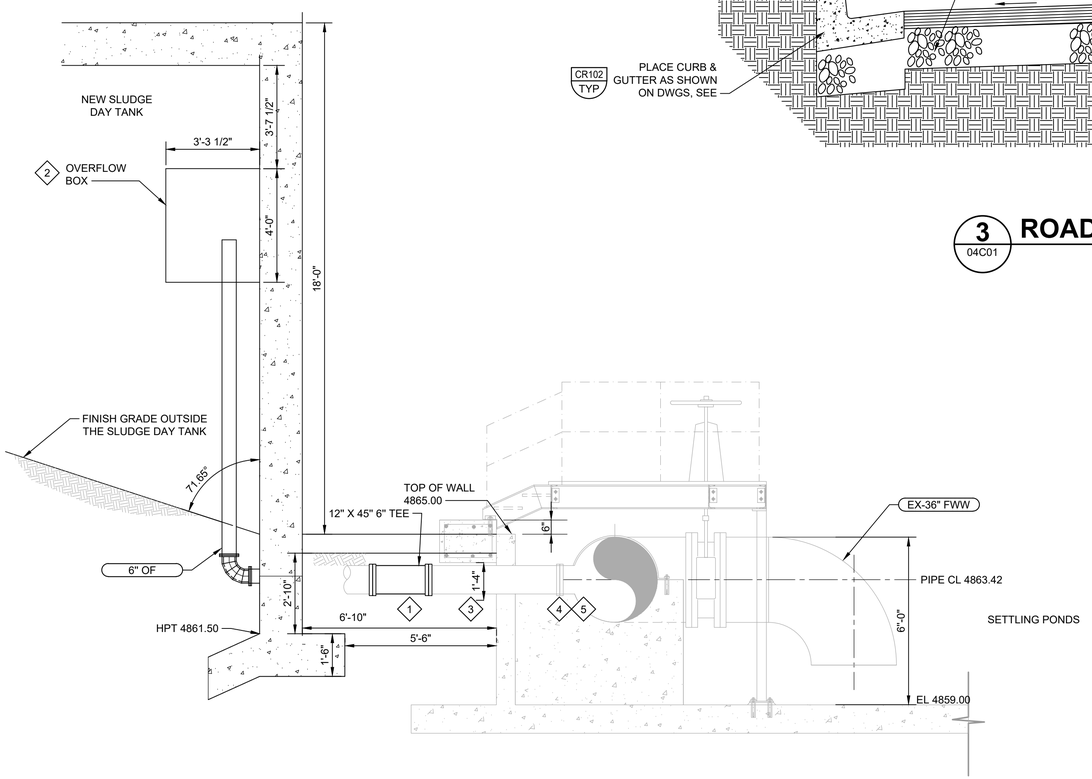
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DRAWING NO. 03C02
SHEET NO. 40 OF 162

LAST SAVED BY: avalenzuela

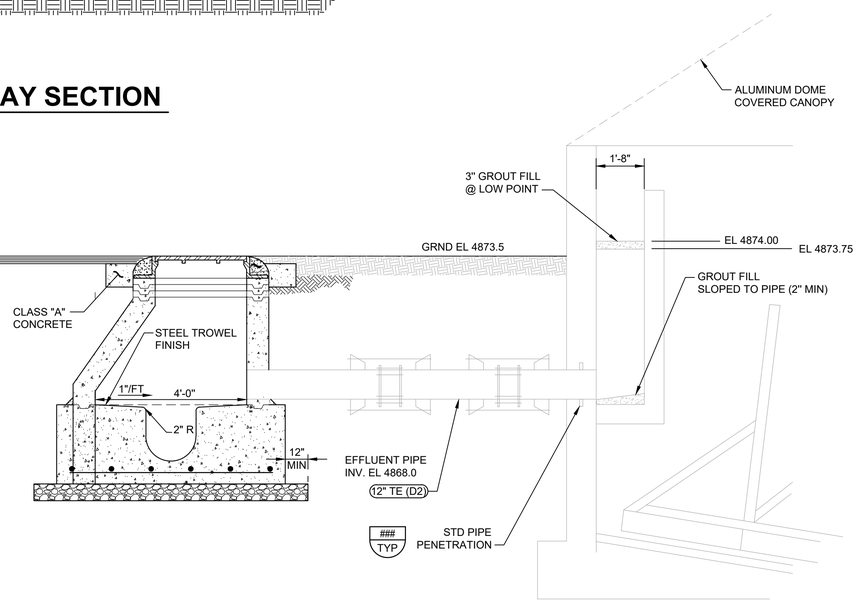
PROJECT NO. 203356 FILE NAME: 203356_03C02.DWG



3 ROADWAY SECTION
04C01



CIVIL PIPE
1 DETAIL
04C01
SCALE: 3/8"=1-FT
FILE: 203356_04C01.DWG



CIVIL PIPE
2 DETAIL
04C01
SCALE: 3/8"=1-FT
FILE: 203356_04C01.DWG

GENERAL NOTES:

1. PLACE TEXT
2. PLACE TEXT
3. PLACE TEXT

KEY NOTES:

1. CONNECT 6" OVERFLOW PIPELINE FROM THE SLUDGE DAY TANK TO THE 12"TE FROM GRAVITY THICKENER NO. 2 AT PIPE CL 4863.42 AS THE EXISTING 36"FWW PIPELINE IN THE SETTLING PONDS.
2. SEE PROCESS MECHANICAL DRAWINGS FOR OVERFLOW PIPING DETAILS WHERE LOCATED INSIDE THE NEW SLUDGE DAY TANK.
3. CORE EXISTING SETTLING POND CONCRETE WALL FOR 12"TE PIPE FROM GRAVITY THICKENER NO. 2.
4. WELD ON A 12" ROMAC FTS445 WELD-ON TAPPING SLEEVE OR EQUAL. FOLLOW MANUFACTURER INSTRUCTIONS FOR WELDING INSIDE AND OUT OF SLEEVE. VERIFY THICKNESS AND INTERIOR COATING OF EXISTING STEEL PIPE. THIS WORK MAY ONLY BE PERFORMED WITHIN 36 HOURS DURING LOW WATER DEMAND PERIODS DURING THE WINTER MONTHS WHERE PLANT FILTER BACKWASHES ARE REDUCED. PREPARE AND SUBMIT AN MOP TO THE OWNER AT LEAST TWO WEEKS IN ADVANCE SO OWNER CAN SCHEDULE FILTER BACKWASHES TO ACCOMMODATE THIS WORK.
5. INSULATED FLANGE CONNECTION FOR DISSIMILAR METALS.

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KEY PLAN



SCALE



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REGISTERED PROFESSIONAL ENGINEER No. 270473-2202 RANDAL L ZOLLINGER STATE OF UTAH

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CIVIL
CIVIL DETAILS

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 04C01
SHEET NO. 41 OF 162

LAST SAVED BY: avalenzuela
Plot Date: 1/23/2025 8:16 AM
PROJECT NO. 203356
FILE NAME: 203356_04C01.DWG

BUILDING CODE ANALYSIS

2018 INTERNATIONAL BUILDING CODE

BUILDING NAME, ROOM #, & ROOM WITHIN STRUCTURE		CONST. TYPE	OCCUPANCY CLASSIFICATION	ALLOW. STORIES/ HEIGHT	ACTUAL STORIES/ HEIGHT	ALLOW. AREA (EA. FLOOR)	ACTUAL FLOOR AREA (EA. FLOOR)	OCCUPANT LOAD FACTOR	ACTUAL OCCUPANT LOAD	NO. OF EXITS (REQ/PROVIDED)	OCCUPANCY SEPARATION	FIRE SUPPRESSION	ACCESSIBILITY
ROOM #	ROOM NAME												
SLUDGE PUMP STATION - REFERENCE DRAWINGS 65A02 & 65A03													
001	PUMP ROOM	II-B	F-1	2/55'-0"	1/16'-0"	15,500	716 SF	300	3	1 + LADDER	NR	NO	NR
101	ELECTRICAL ROOM	II-B	F-1	2/55'-0"	1/16'-0"	15,500	336 SF	300	2	1/1	NR	NO	NR
102	UPPER STAIR	II-B	F-1	2/55'-0"	1/16'-0"	15,500	24 SF	300	1	1/1	NR	NO	NR

2018 INTERNATIONAL ENERGY CONSERVATION CODE

ENVELOPE COMPONENT	REQUIRED	PROVIDED
CLIMATE ZONE 5-B		
MASS WALLS	R-11.4 ci	R-11.4 ci
INSULATION ABOVE ROOF	R-30.0 ci	R-30.0 ci
OPAQUE DOORS	R-4.7	R-4.7

ARCHITECTURAL SCHEDULES

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOOR		BASE	NORTH		EAST		SOUTH		WEST		CEILING			REMARKS
		MATL	FINISH	MATL	MATL	FINISH	MATL	FINISH	MATL	FINISH	MATL	FINISH	MATL	INT CLR	FINISH	
SLUDGE PUMP STATION - REFERENCE DRAWINGS 65A02 & 65A03																
001	PUMP ROOM	CONC	SEALER	N/A	CONC	EXPO	CONC	EXPO	CONC	EXPO	CONC	EXPO	CONC	18'-3"	EXPO	
101	ELECTRICAL ROOM	CONC	SEALER	RESIL	CMU/GYP	PAINTING	CMU	PAINTING	CMU	PAINTING	CMU	PAINTING	GYP	11'-1"	PAINTING	RESIL BASE AT GYP
102	UPPER STAIR	CONC	SEALER	RESIL	CMU	PAINTING	GYP	PAINTING	GYP	PAINTING	GYP	PAINTING	GYP	11'-1"	PAINTING	RESIL BASE AT GYP

DOOR & HARDWARE SCHEDULE

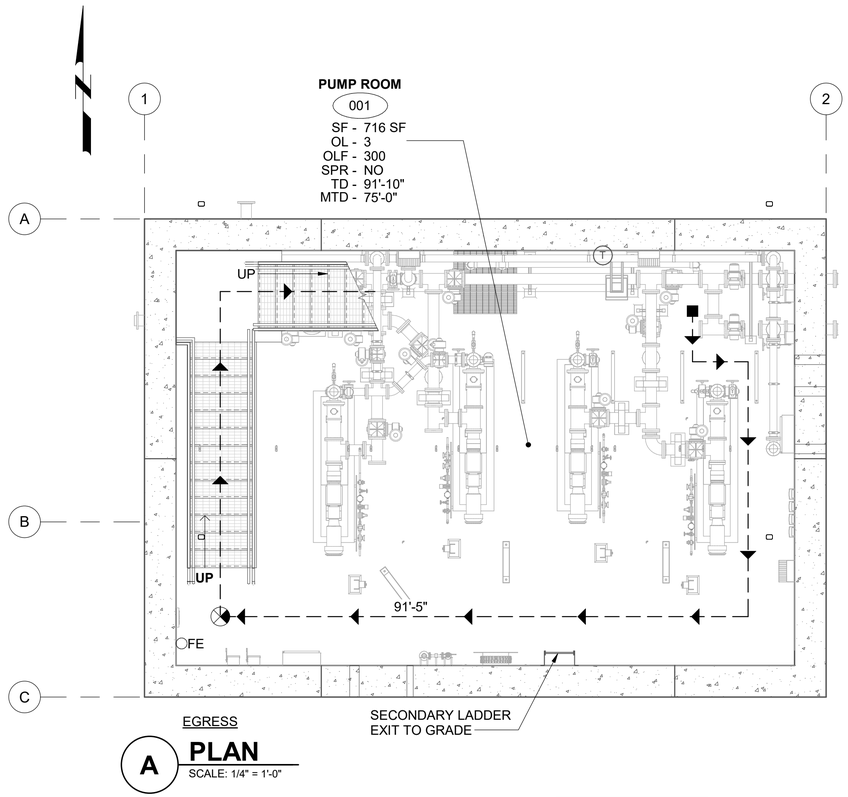
DOOR NUMBER	POSITION INT/EXT	DOOR						FRAME						DETAILS			UL LABEL	LOUVER SIZE	CARD READER	PANIC HARDWARE (REQ/PROVIDED)
		WIDTH	HEIGHT	THICK	TYPE (AJ103/TYP)	MATL	FINISH	WIDTH	HEIGHT	DEPTH	TYPE (AJ100/TYP)	MATL	FINISH	HEAD (AJ105/TYP)	JAMB (AJ107/TYP)	SILL (AJ109/TYP)				
SLUDGE PUMP STATION - REFERENCE DRAWINGS 65A03																				
101-01	EXT	PR @ 3'-2"	9'-2"	1 3/4"	F	HM	COATING	6'-8"	9'4"	8"	R	HM	COATING	H	H	E	NR	NR	YES	REQ/YES
102-01	EXT	3'-0"	7'-2"	1 3/4"	F	HM	COATING	3'-4"	7'-4"	8"	R	HM	COATING	H	H	E	NR	NR	YES	REQ/YES
102-02	INT	3'-0"	7'-2"	1 3/4"	N	HM	COATING	3' 4"	7'-4"	5 3/4"	R	HM	COATING	A	A	B	NR	NR	NO	NR/NO

EGRESS ABBREVIATION & SYMBOLS LIST:

- SF: SQUARE FEET
- OL: OCCUPANT LOAD
- OLF: OCCUPANT LOAD FACTOR
- SPR: AUTOMATIC SPRINKLER
- NA: NOT APPLICABLE
- NR: NOT REQUIRED
- TD: TOTAL TRAVEL DISTANCE
- MTD: MAX TRAVEL DISTANCE
- EXIT, REFERENCE ELECTRICAL DRAWINGS FOR LOCATION OF ILLUMINATED SIGNS
- FE / EFE: FIRE EXTINGUISHER, TYPE AS INDICATED, REFERENCE DETAIL AN400/TYP AND SPECIFICATION SECTION 10_44_00
- (#): FIRE RATED WALL: HOUR AS # INDICATES
- MEANS OF EGRESS PATH OF TRAVEL
  - X'-X" TRAVEL DIRECTION
  - TOTAL TRAVEL DISTANCE
  - COMMON PATH TERMINATION
  - PATH START / MOST REMOTE POINT

SCHEDULE ABBREVIATION LIST:

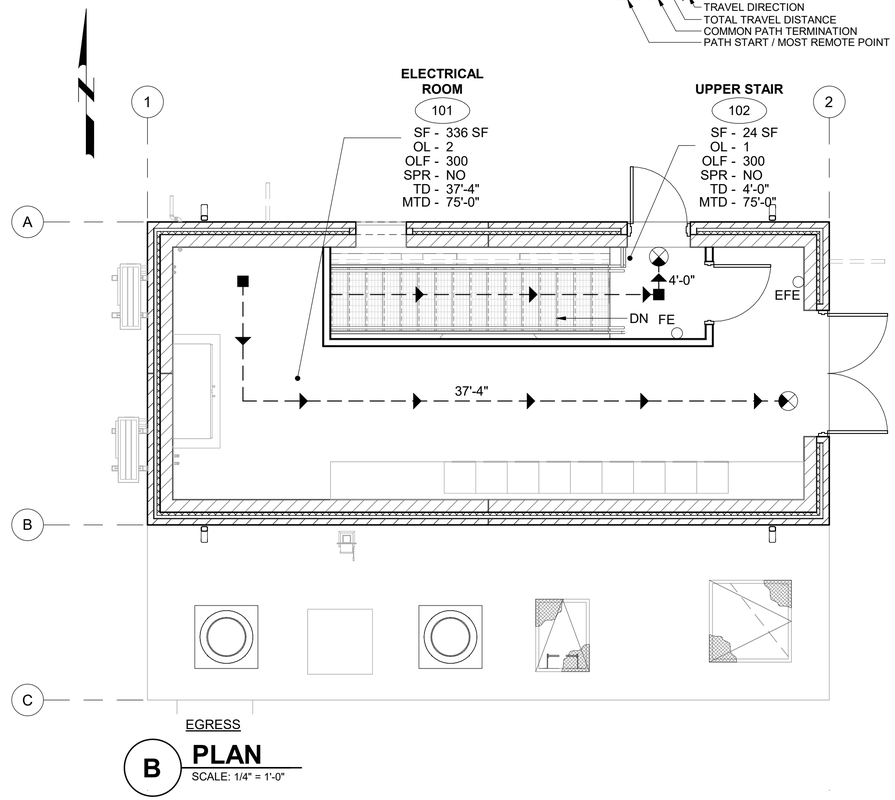
- ci: CONTINUOUS INSULATION
- CMU: CONCRETE MASONRY UNIT, REFERENCE SPECIFICATION SECTION 04_22_00
- CONC: CONCRETE
- EXPO: EXPOSED CONSTRUCTION
- F.F.: FINISHED FLOOR
- GYP: GYPSUM WALL BOARD, REFERENCE SPECIFICATION SECTION 09_29_00
- HM: HOLLOW METAL
- HW: HARDWARE GROUP, REFERENCE SPECIFICATION SECTION 08_71_00
- MATL: MATERIAL
- N/A: NOT APPLICABLE
- NR: NOT REQUIRED
- PAINT/PAINTED: REFERENCE SPECIFICATION SECTION 09_91_00
- PR: PAIR
- R-VALUE: THERMAL RESISTANCE IS THE INVERSE OF THE TIME RATE OF HEAT FLOW THROUGH A BODY FROM ONE OF ITS BOUNDING SURFACES TO THE OTHER SURFACE FOR A UNIT TEMPERATURE DIFFERENCE BETWEEN THE TWO SURFACES, UNDER STEADY STATE CONDITIONS, PER UNIT AREA
- RESIL: RESILIENT
- REQ: REQUIRED
- SEALER: FLOOR COATING, REFERENCE SPECIFICATION SECTION 03_35_29



EGRESS

A PLAN

SCALE: 1/4" = 1'-0"



EGRESS

B PLAN

SCALE: 1/4" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED MEH
DRAWN JCZ
CHECKED JCA
DATE JUNE 2025

STATE OF UTAH — MICHELE E. HOLLENBAUGH — No. 9334258 — LICENSED ARCHITECT

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ARCHITECTURAL

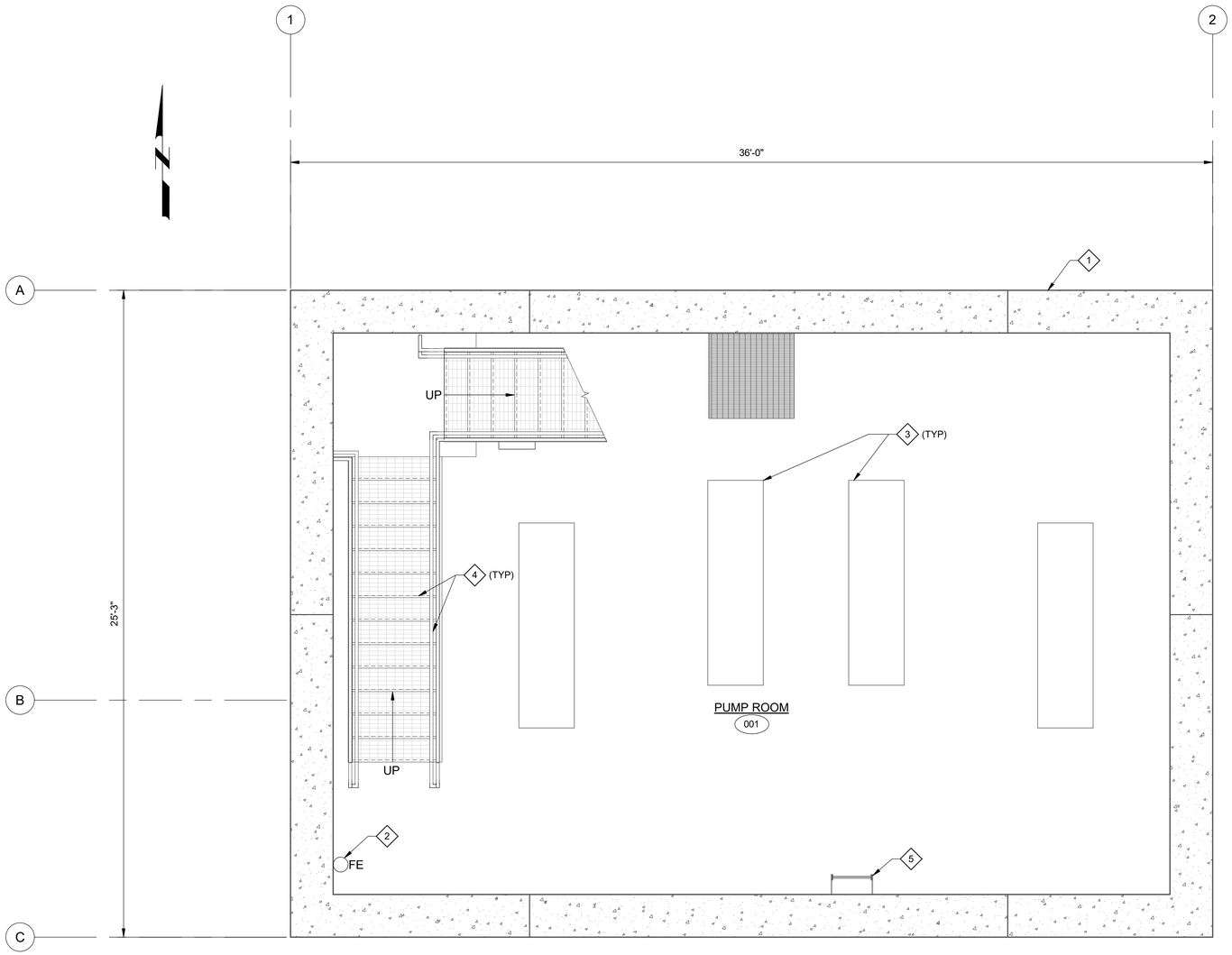
SLUDGE PUMP STATION CODE COMPLIANCE, EGRESS PLAN, AND SCHEDULES

VERIFY SCALES
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0 — 1"
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JOB NO. 203356
DRAWING NO. 65A01
SHEET NO. 42 OF 162

PLOT DATE: 6/10/2025 3:44:02 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65A801.rvt



BASEMENT

C **PLAN**

SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. FOR BUILDING CODE, DOOR AND HARDWARE, AND ROOM FINISH SCHEDULES, REFERENCE DRAWING 65A01.
2. REFERENCE CIVIL DRAWINGS FOR EXTERIOR ENTRANCE PADS, SIDEWALKS AND DRIVEWAYS.
3. REFERENCE SPECIFICATION SECTION 10_14_00 AND TYPICAL DETAIL AN500/TYP FOR SIGNAGE REQUIREMENTS.

KEY NOTES:

1. CAST-IN-PLACE CONCRETE WALL, REFERENCE STRUCTURAL DRAWINGS
2. FOR EXTINGUISHER REQUIREMENTS, REFERENCE SPECIFICATION SECTION 10_44_00 FIRE PROTECTION SPECIALTIES AND TYPICAL DETAIL AN400/TYP
3. CAST-IN-PLACE CONCRETE SLABS, PADS, COLUMNS, AND CURBS, REFERENCE STRUCTURAL DRAWINGS
4. FOR EXTENT AND TYPE OF HANDRAIL, RAILING AND STAIR REQUIREMENTS, REFERENCE STRUCTURAL DRAWINGS
5. EMERGENCY LADDER TO ROOF HATCH IN CONCRETE DECK ABOVE, REFERENCE STRUCTURAL DRAWINGS FOR DETAILS

REV	DATE	BY	DESCRIPTION

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DATE JUNE 2025

STATE OF UTAH
MICHELE E HOLLENBAUGH
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ARCHITECTURAL

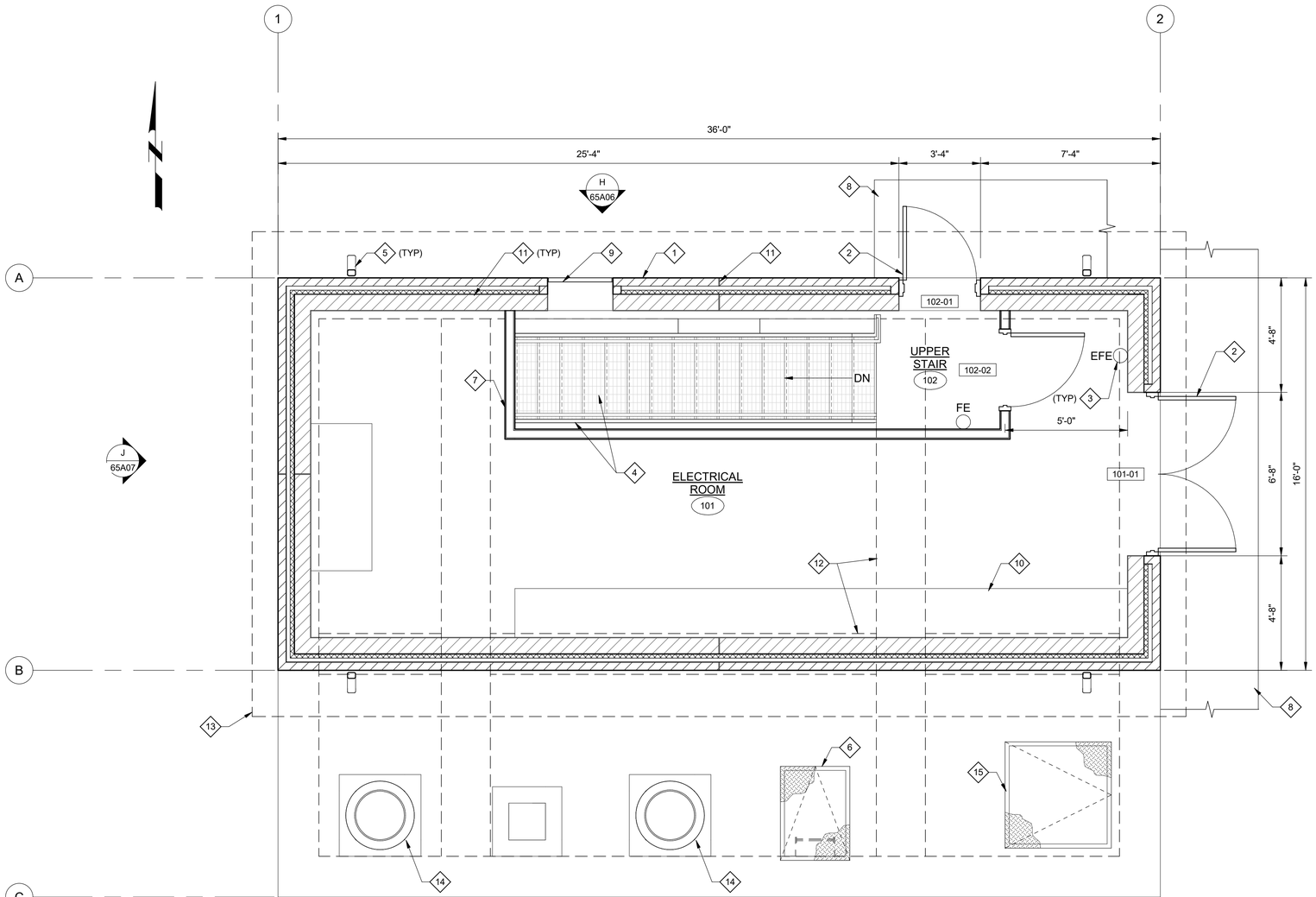
SLUDGE PUMP STATION
BASEMENT PLAN

VERIFY SCALES
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0 1"
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JOB NO. 203356
DRAWING NO. 65A02
SHEET NO. 43 OF 162

PLOT DATE: 6/10/2025 3:44:03 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65A801.rvt



K
65A07

FLOOR
D PLAN
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. FOR BUILDING CODE, DOOR AND HARDWARE, AND ROOM FINISH SCHEDULES, REFERENCE DRAWING 65A01.
2. REFERENCE CIVIL DRAWINGS FOR EXTERIOR ENTRANCE PADS, SIDEWALKS AND DRIVEWAYS.
3. REFERENCE SPECIFICATION SECTION 10_14_00 AND TYPICAL DETAIL AN500/TYP FOR SIGNAGE REQUIREMENTS.

KEY NOTES:

1. CAVITY WALL - 4" X 2" X 8" BRICK VENEER, 2" RIGID INSULATION, 2" AIR SPACE, AND 8" X 8" X 16" CONCRETE MASONRY UNIT, INTEGRAL COLOR TO BE SELECTED BY OWNER, REFERENCE SPECIFICATIONS SECTION IN DIVISION 04
2. HOLLOW METAL DOOR AND FRAME, REFERENCE SPECIFICATIONS SECTION 08_11_13
3. FOR EXTINGUISHER REQUIREMENTS, REFERENCE SPECIFICATION SECTION 10_44_00 FIRE PROTECTION SPECIALTIES AND TYPICAL DETAIL AN400/TYP
4. FOR EXTENT AND TYPE OF HANDRAIL, RAILING AND STAIR REQUIREMENTS, REFERENCE STRUCTURAL DRAWINGS
5. FOR GUTTER AND DOWNSPOUT, REFERENCE TYPICAL DETAILS AG227/TYP AND STORM DRAIN DISCHARGE AG228/TYP
6. EMERGENCY ROOF HATCH AND LADDER FROM LOWER LEVEL, REFERENCE STRUCTURAL DRAWINGS FOR DETAILS
7. 3 5/8" 20 GAUGE METAL STUDS 16" OC WITH 5/8" GYP BD AND FULL BATT INSULATION FLOOR TO UNDERSIDE OF GYP BD CEILING
8. CONCRETE SIDEWALK, REFERENCE CIVIL DRAWINGS
9. REFERENCE HVAC DRAWINGS FOR EQUIPMENT, PENETRATIONS AND LOUVER REQUIREMENTS
10. CONCRETE EQUIPMENT PAD, REFERENCE STRUCTURAL DRAWINGS FOR DETAILS
11. MASONRY CONTROL JOINT, REFERENCE STRUCTURAL DRAWINGS FOR DETAILS
12. BEAMS BELOW, REFERENCE STRUCTURAL DRAWINGS
13. ROOF ABOVE, REFERENCE DRAWING 65A05
14. SKYLIGHT, SOLATUBE MODEL 750 DS, 21" DIAMETER ON CONCRETE CURB WITH ROUND SELF FLASHING KIT FOR ATTACHMENT TO CONCRETE, (2 UNITS REQUIRED)
15. ROOF HATCH FOR EQUIPMENT REMOVAL, REFERENCE STRUCTURAL DRAWINGS FOR DETAILS

REV	DATE	BY	DESCRIPTION

DESIGNED MEH
DRAWN JCZ
CHECKED JCA
DATE JUNE 2025

STATE OF UTAH
MICHELE E. HOLLENBAUGH
No. 9334258
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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ARCHITECTURAL
SLUDGE PUMP STATION
FLOOR PLAN

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 65A03
SHEET NO. 44 OF 162

PLOT DATE: 6/11/2025 7:32:14 AM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65A801.rvt

REFLECTED CEILING LEGEND:

*REFERENCE 'E' DRAWINGS FOR REQUIREMENTS
**REFERENCE 'HVAC' DRAWINGS FOR REQUIREMENTS

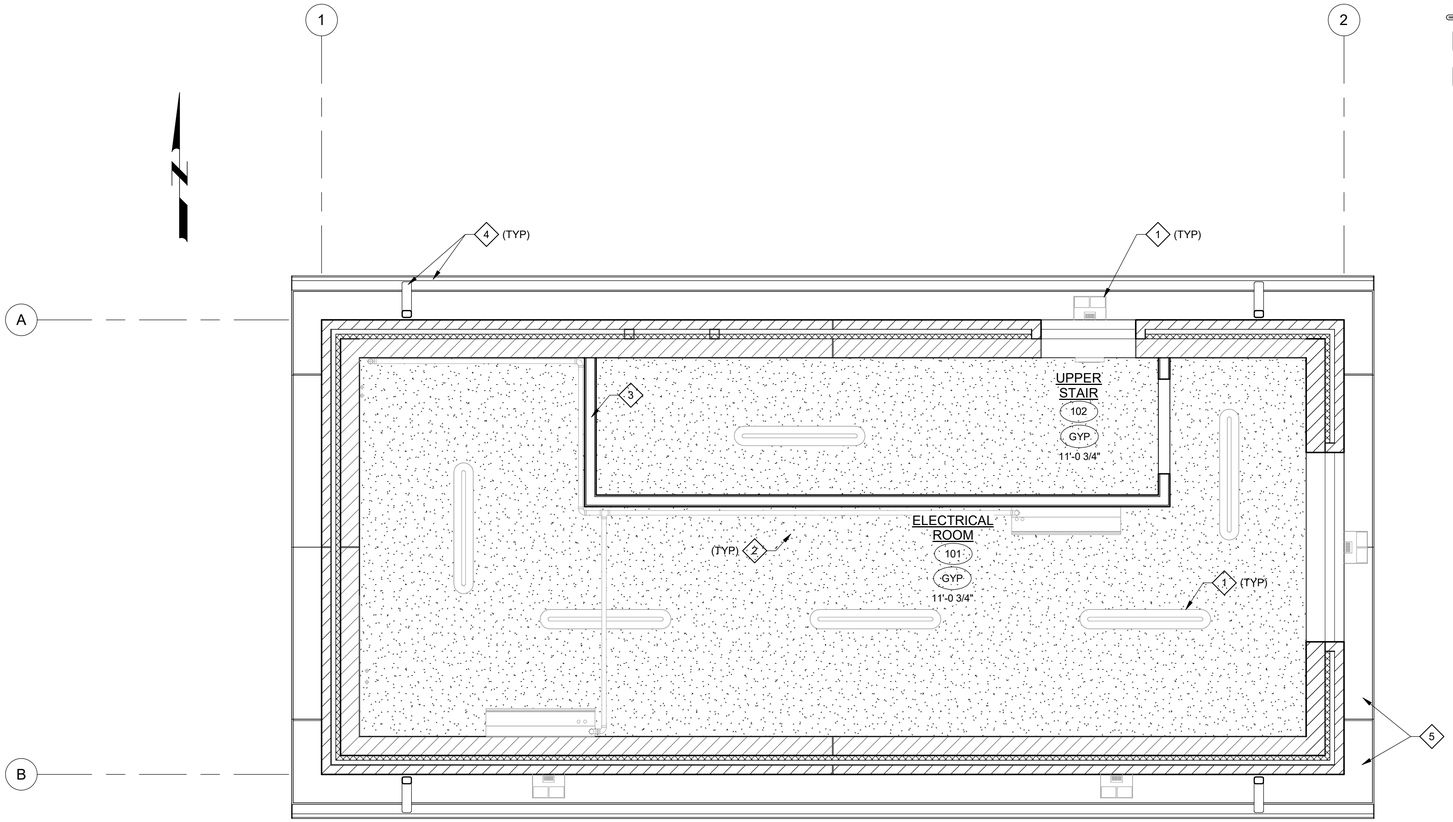
- GYP — GYPSUM BOARD CEILING, PAINTED
- CEILING MOUNTED FIXTURE*
- HVAC RETURN**
- HVAC SUPPLY**

GENERAL NOTES:

1. FOR BUILDING CODE, DOOR AND HARDWARE, AND ROOM FINISH SCHEDULES, REFERENCE DRAWING 65A01.
2. REFERENCE CIVIL DRAWINGS FOR EXTERIOR ENTRANCE PADS, SIDEWALKS AND DRIVEWAYS.
3. REFERENCE SPECIFICATION SECTION 10_14_00 AND TYPICAL DETAIL AN500/TYP FOR SIGNAGE REQUIREMENTS.

KEY NOTES:

1. FOR INTERIOR AND EXTERIOR LIGHT FIXTURES, REFERENCE ELECTRICAL DRAWINGS
2. REFERENCE HVAC DRAWINGS FOR EQUIPMENT, PENETRATIONS AND LOUVER REQUIREMENTS
3. 3 5/8" 20 GAUGE METAL STUDS 16" OC WITH 5/8" GYP BD AND FULL BATT INSULATION FLOOR TO UNDERSIDE OF GYP BD CEILING
4. FOR GUTTER AND DOWNSPOUT, REFERENCE TYPICAL DETAILS AG227/TYP AND STORM DRAIN DISCHARGE AG228/TYP
5. METAL FASCIA MATCHING STANDING SEAM ROOF REFERENCE SPECIFICATION SECTION 07_61_13



REFLECTED CEILING PLAN

E **PLAN**

SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED MEH
DRAWN JCZ
CHECKED JCA
DATE JUNE 2025

STATE OF UTAH — MICHELE E HOLLENBAUGH — No. 9334258 — LICENSED ARCHITECT

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ARCHITECTURAL

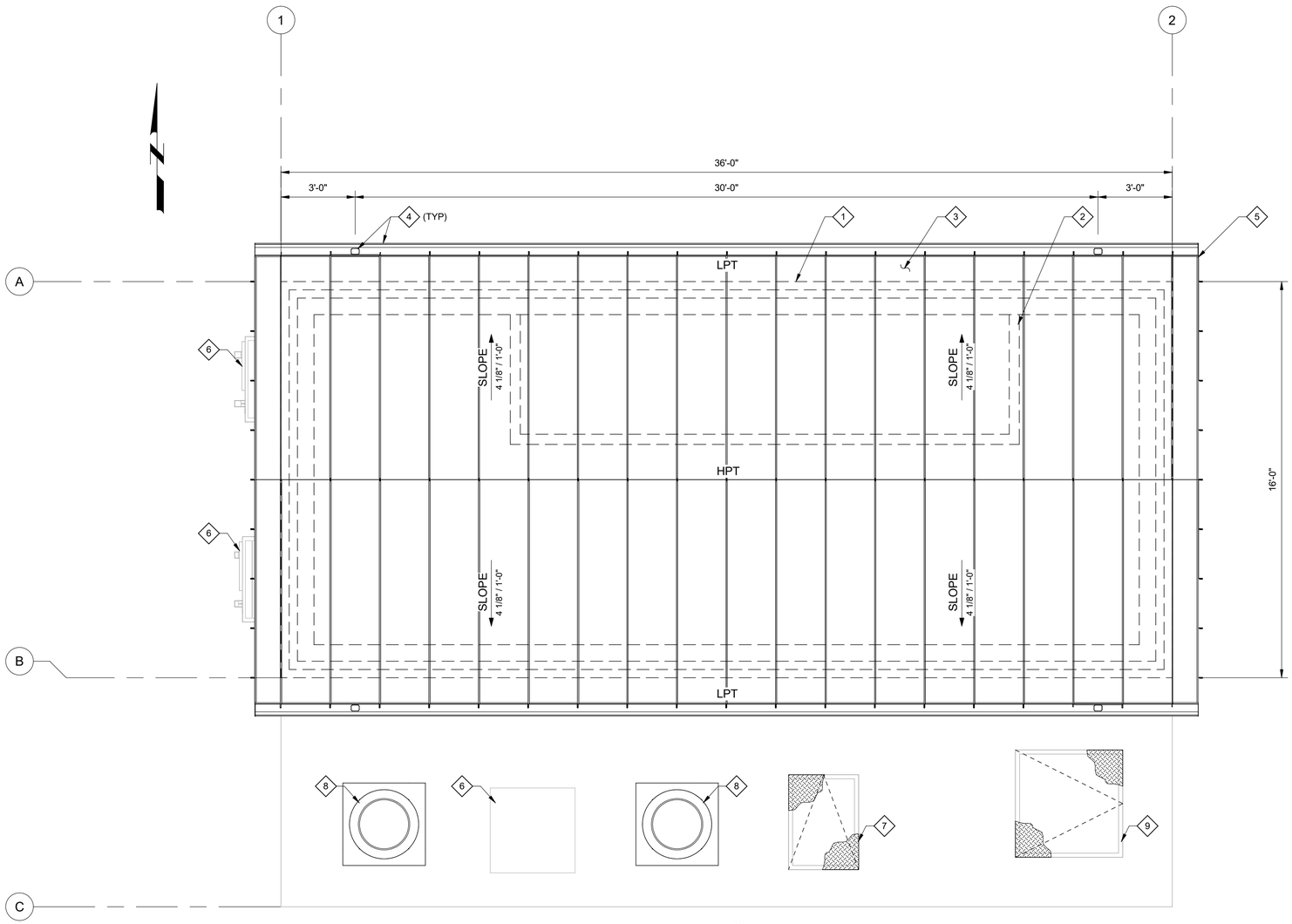
SLUDGE PUMP STATION
REFLECTED CEILING PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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JOB NO. 203356
DRAWING NO. 65A04
SHEET NO. 45 OF 162

PLOT DATE: 6/10/2025 3:44:04 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65A801.rvt



ROOF

F PLAN

SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. FOR BUILDING CODE, DOOR AND HARDWARE, AND ROOM FINISH SCHEDULES, REFERENCE DRAWING 65A01.
2. REFERENCE CIVIL DRAWINGS FOR EXTERIOR ENTRANCE PADS, SIDEWALKS, AND DRIVEWAYS.
3. REFERENCE SPECIFICATION SECTION 10_14_00 AND TYPICAL DETAIL AN500/TYP FOR SIGNAGE REQUIREMENTS.

KEY NOTES:

1. CAVITY WALL - 4" X 2" X 8" BRICK VENEER, 2" RIGID INSULATION, 2" AIR SPACE, AND 8" X 8" X 16" CONCRETE MASONRY UNIT BELOW, COLOR TO BE SELECTED BY OWNER, REFERENCE SPECIFICATIONS SECTION IN DIVISION 04
2. 3 5/8" 20 GAUGE METAL STUDS 16" OC WITH 5/8" GYP BD AND FULL BATT INSULATION FLOOR TO UNDERSIDE OF GYP BD CEILING
3. STANDING SEAM METAL ROOF SYSTEM OVER 5" RIGID INSULATION, REFERENCE SPECIFICATION SECTION 07_61_13 AND 07_22_00, MATCH PROFILE AND COLOR OF EXISTING ON SITE
4. FOR GUTTER AND DOWNSPOUT, REFERENCE TYPICAL DETAIL AG227/TYP AND STORM DRAIN DISCHARGE AG228/TYP
5. METAL FASCIA MATCHING STANDING SEAM ROOF, REFERENCE SPECIFICATION SECTION 07_61_13
6. REFERENCE HVAC DRAWINGS FOR EQUIPMENT, PENETRATIONS AND LOUVER REQUIREMENTS
7. EMERGENCY ROOF HATCH AND LADDER FROM LOWER LEVEL, REFERENCE STRUCTURAL DRAWINGS FOR DETAILS
8. SKYLIGHT, SOLATUBE MODEL 750 DS, 21" DIAMETER ON CONCRETE CURB WITH ROUND SELF FLASHING KIT FOR ATTACHMENT TO CONCRETE, (2 UNITS REQUIRED)
9. ROOF HATCH FOR EQUIPMENT REMOVAL, REFERENCE STRUCTURAL DRAWINGS FOR DETAILS

REV	DATE	BY	DESCRIPTION

DESIGNED MEH
DRAWN JCZ
CHECKED JCA
DATE JUNE 2025

STATE OF UTAH
MICHELE E. HOLLENBAUGH
No. 9334258
LICENSED ARCHITECT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ARCHITECTURAL

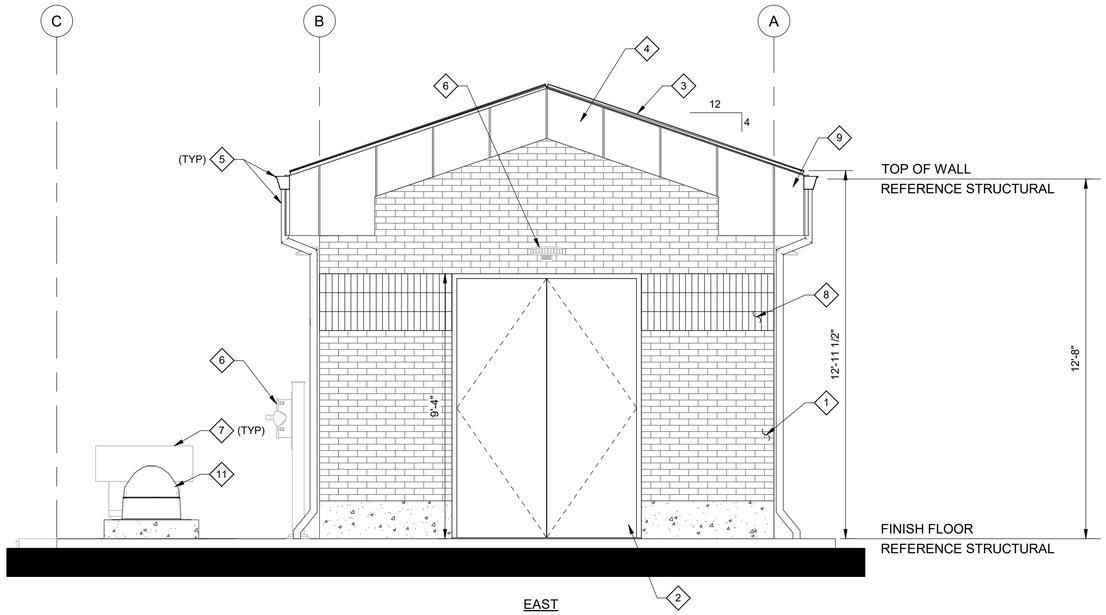
SLUDGE PUMP STATION
ROOF PLAN

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 65A05
SHEET NO. 46 OF 162

PLOT DATE: 6/10/2025 5:09:19 PM

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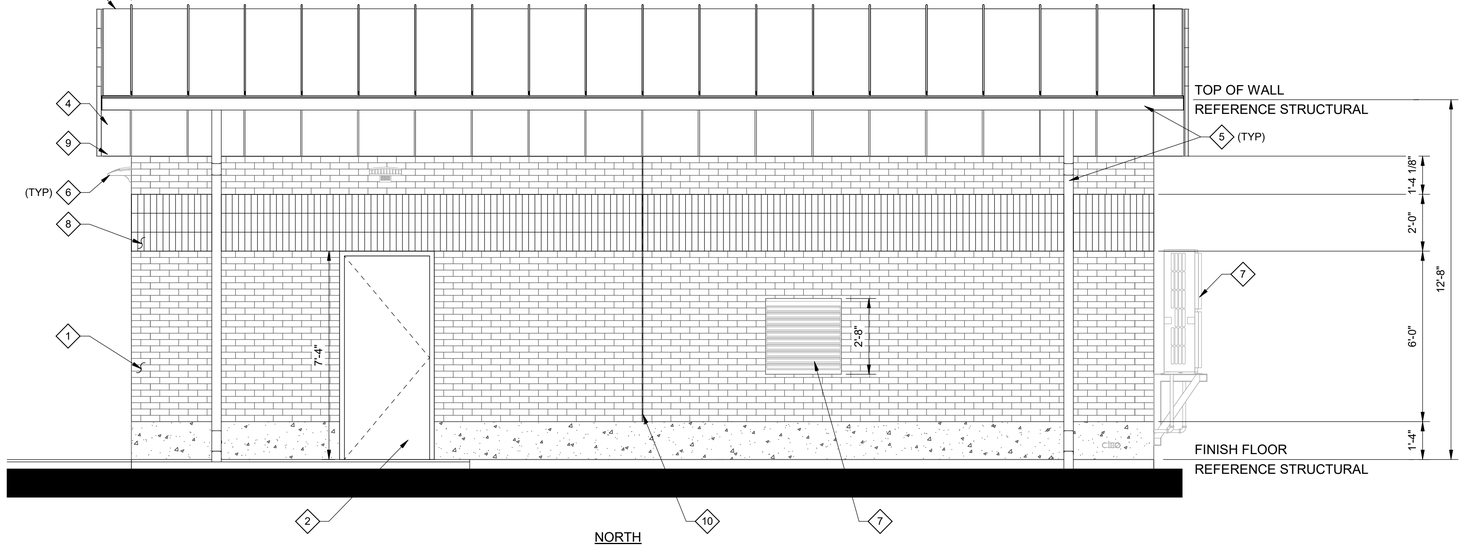


EAST

G ELEVATION

65A03

SCALE: 3/8" = 1'-0"



NORTH

H ELEVATION

65A03

SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. FOR BUILDING CODE, DOOR AND HARDWARE, AND ROOM FINISH SCHEDULES, REFERENCE DRAWING 65A01.
2. REFERENCE CIVIL DRAWINGS FOR EXTERIOR ENTRANCE PADS, SIDEWALKS, AND DRIVEWAYS.
3. REFERENCE SPECIFICATION SECTION 10_14_00 AND TYPICAL DETAIL AN500/TYP FOR SIGNAGE REQUIREMENTS.

KEY NOTES:

1. CAVITY WALL - 4" X 2" X 8" BRICK VENEER, 2" RIGID INSULATION, 2" AIR SPACE, AND 8" X 8" X 16" CONCRETE MASONRY UNIT. COLOR TO BE SELECTED BY OWNER, REFERENCE SPECIFICATION SECTION IN DIVISION 04
2. HOLLOW METAL DOOR AND FRAME, REFERENCE SPECIFICATION SECTION 08_11_13 AND DETAIL AA201/TYP
3. STANDING SEAM METAL ROOF SYSTEM OVER 5" RIGID INSULATION, REFERENCE SPECIFICATION SECTION 07_61_13 AND 07_22_00, MATCH PROFILE AND COLOR OF EXISTING ON SITE
4. METAL FASCIA MATCHING STANDING SEAM ROOF REFERENCE SPECIFICATION SECTION 07_61_13
5. FOR GUTTER AND DOWNSPOUT, REFERENCE TYPICAL DETAILS AG227/TYP AND STORM DRAIN DISCHARGE AG228/TYP
6. FOR EXTERIOR LIGHT FIXTURES AND EQUIPMENT, REFERENCE ELECTRICAL DRAWINGS
7. REFERENCE HVAC DRAWINGS FOR EQUIPMENT, PENETRATIONS AND LOUVER REQUIREMENTS
8. SOLDIER COURSE BRICK, MATCH EXISTING ADJACENT BUILDINGS
9. REFERENCE STRUCTURAL DRAWINGS FOR DETAILS OF STEEL FRAMING FOR ATTACHMENT OF SOFFIT AND FASCIA PANELS
10. MASONRY CONTROL JOINT, REFERENCE STRUCTURAL DRAWINGS FOR DETAILS
11. SKYLIGHT, SOLATUBE MODEL 750 DS, 21" DIAMETER ON CONCRETE CURB WITH ROUND SELF FLASHING KIT FOR ATTACHMENT TO CONCRETE, (2 UNITS REQUIRED)

REV	DATE	BY	DESCRIPTION

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ARCHITECTURAL

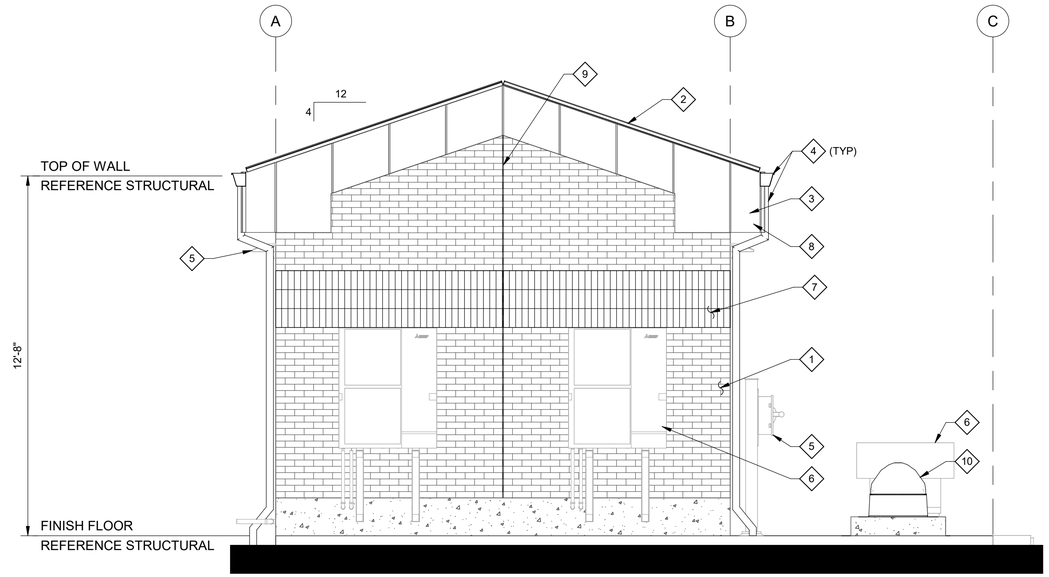
SLUDGE PUMP STATION
NORTH AND EAST ELEVATIONS

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 65A06
SHEET NO. 47 OF 162

PLOT DATE: 6/10/2025 3:44:06 PM

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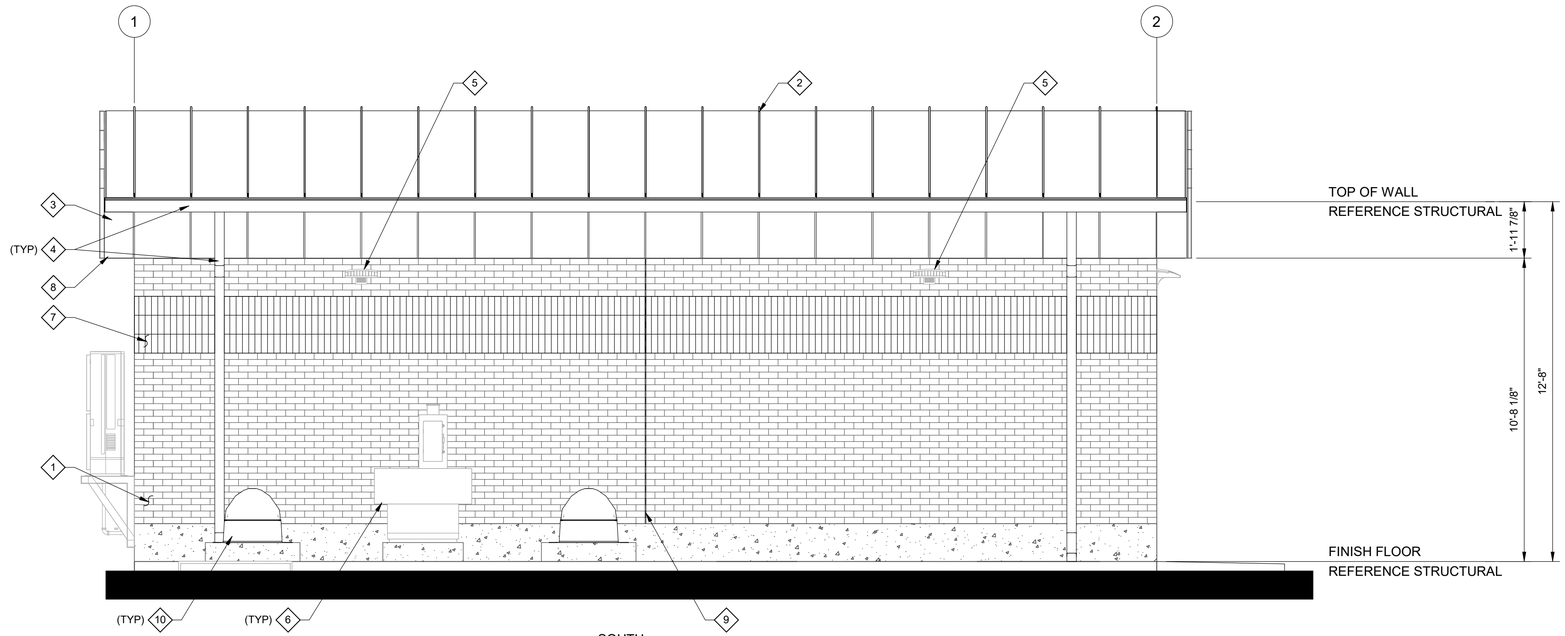


WEST

J ELEVATION

65A03

SCALE: 3/8" = 1'-0"



SOUTH

K ELEVATION

65A03

SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. FOR BUILDING CODE, DOOR AND HARDWARE, AND ROOM FINISH SCHEDULES, REFERENCE DRAWING 65A01.
2. REFERENCE CIVIL DRAWINGS FOR EXTERIOR ENTRANCE PADS, SIDEWALKS AND DRIVEWAYS.
3. REFERENCE SPECIFICATION SECTION 10_14_00 AND TYPICAL DETAIL AN500/TYP FOR SIGNAGE REQUIREMENTS.

KEY NOTES:

1. CAVITY WALL - 4" X 2" X 8" BRICK VENEER, 2" RIGID INSULATION, 2" AIR SPACE, AND 8" X 8" X 16" CONCRETE MASONRY UNIT, COLOR TO BE SELECTED BY OWNER, REFERENCE SPECIFICATION SECTION IN DIVISION 04
2. STANDING SEAM METAL ROOF SYSTEM OVER 5" RIGID INSULATION, REFERENCE SPECIFICATION SECTION 07_61_13 AND 07_22_00, MATCH PROFILE AND COLOR OF EXISTING ON SITE
3. METAL FASCIA MATCHING STANDING SEAM ROOF, REFERENCE SPECIFICATION SECTION 07_61_13, MATCH PROFILE AND COLOR OF EXISTING ON SITE
4. FOR GUTTER AND DOWNSPOUT, REFERENCE TYPICAL DETAILS AG227/TYP AND STORM DRAIN DISCHARGE AG228/TYP
5. FOR EXTERIOR LIGHT FIXTURES AND EQUIPMENT, REFERENCE ELECTRICAL DRAWINGS
6. REFERENCE HVAC DRAWINGS FOR EQUIPMENT, PENETRATIONS AND LOUVER REQUIREMENTS
7. SOLDIER COURSE BRICK, MATCH EXISTING ADJACENT BUILDINGS
8. REFERENCE STRUCTURAL DRAWINGS FOR DETAILS OF STEEL FRAMING FOR ATTACHMENT OF SOFFIT AND FASCIA PANELS
9. MASONRY CONTROL JOINT, REFERENCE STRUCTURAL DRAWINGS FOR DETAILS
10. SKYLIGHT, SOLATUBE MODEL 750 DS, 21" DIAMETER ON CONCRETE CURB WITH ROUND SELF FLASHING KIT FOR ATTACHMENT TO CONCRETE, (2 UNITS REQUIRED)

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ARCHITECTURAL

SLUDGE PUMP STATION
SOUTH AND WEST ELEVATIONS

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 65A07
SHEET NO. 48 OF 162

PLOT DATE: 6/10/2025 3:44:08 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65A801.rvt

GENERAL NOTES:

1. USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH PROJECT DRAWINGS BY OTHER DISCIPLINES AND WITH THE SPECIFICATIONS.

2. UNLESS DETAILED, SPECIFIED, OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE GENERAL NOTES AND TYPICAL DETAILS.

3. PRESENTATION CONVENTIONS FOR STRUCTURAL DRAWINGS:

   A. SCREENED LINE WORK INDICATES EXISTING CONDITIONS.
   B. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED SIZES.
   C. PLANS ARE TREATED AS HORIZONTAL SECTIONS. (I.E.: "PLAN AT ELEVATION 110" SHOWS CONSTRUCTION AT AND BELOW ELEVATION 110.)

4. VERIFY DIMENSIONS AND CONDITIONS BEFORE BEGINNING WORK. ADVISE ENGINEER IMMEDIATELY OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DIMENSIONS, AND INFORMATION SHOWN ON THESE DRAWINGS. CONFIRM THE FOLLOWING BEFORE PREPARATION AND SUBMITTAL OF SHOP DRAWINGS:

   A. DIMENSIONS AND WEIGHTS FOR EQUIPMENT SELECTED.
   B. SIZES AND LOCATIONS OF EQUIPMENT PADS FOR EQUIPMENT SELECTED.

5. TYPICAL DETAILS ARE INCLUDED ON THE "TS" DRAWINGS.

   A. TYPICAL DETAILS ARE INTENDED TO APPLY AT LOCATIONS DESCRIBED BY THEIR TITLES, EVEN WHEN NOT SPECIFICALLY REFERENCED ON THE DRAWINGS.
   B. IN STRUCTURAL TYPICAL DETAILS, ORIENTATION OF BARS IN EACH MAT OF REINFORCEMENT (WHETHER "LINES" OR "DOTS"ARE CLOSER TO THE FACE OF THE CONCRETE) IS GENERALLY ARBITRARY. SEE DRAWINGS OF EACH STRUCTURE FOR ORIENTATION REQUIRED AT THAT STRUCTURE.

6. SEE CIVIL DRAWINGS FOR STRUCTURE COORDINATES. POINTS ON THE STRUCTURES TO WHICH SITE COORDINATES REFER ARE SHOWN ON THE STRUCTURAL PLANS.

7. DRAWINGS PREPARED BY OTHER DISCIPLINES INCLUDE OPENINGS, ANCHORS, PIPES, CONDUITS, AND OTHER ITEMS THAT ARE EMBEDDED INTO OR PASS THROUGH STRUCTURES.

   A. CONFIRM SIZE AND LOCATIONS OF OPENINGS, PENETRATIONS AND EMBEDMENT FOR ITEMS AND EQUIPMENT FURNISHED.
   B. IN GENERAL, OPENINGS, EMBEDMENTS, AND PENETRATIONS LESS THAN 12 INCHES IN DIAMETER ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.
   C. SEE MECHANICAL DRAWINGS FOR DETAILS OF PIPE PENETRATIONS, PIPE SUPPORTS, AND ASSOCIATED STRUCTURAL REQUIREMENTS.
   D. SEE MECHANICAL DRAWINGS FOR EQUIPMENT PADS AND PIPE SUPPORTS.

8. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS AND SIZES OF DOOR AND WINDOW OPENINGS.

STRUCTURAL DESIGN CRITERIA - GENERAL:

SEE DRAWINGS OF INDIVIDUAL STRUCTURES FOR SPECIFIC DESIGN CRITERIA BASED ON THESE OVERALL CRITERIA FOR THE SITE.

1. BUILDING CODE:

   A. 2021 INTERNATIONAL BUILDING CODE ("IBC 2021") WITH ASCE 7-16.
   B. LOCAL AMENDMENTS: UTAH TITLE CODE 15A.

2. STRUCTURE RISK CATEGORY: SEE PLANS FOR EACH STRUCTURE.

3. DEAD LOADS: CALCULATED FOR STRUCTURE SELF-WEIGHT.

4. LIVE LOADS: (REDUCTIONS NOT USED)

   A. FLOOR LIVE LOADS: SEE PLANS.
   B. GRATING AND CHECKER PLATE LIVE LOAD: 100 PSF (UNO).
   C. ROOF LIVE LOADS: SEE PLANS (20 PSF MINIMUM).
   D. EQUIPMENT LOADS: SEE PLANS.
   E. CONCENTRATED AND IMPACT LOADS: SEE PLANS.

5. FLUID PRESSURE LOADS: 63 PSF/FT (UNO).

6. SNOW LOAD DATA:

   A. GROUND SNOW LOAD, Pg = 48 PSF (UTAH STATE STUDY).
   B. SURFACE ROUGHNESS CATEGORY: B.
   C. SNOW EXPOSURE FACTOR, Ce =1.0 (PARTIALLY EXPOSED, UNO).

7. WIND DESIGN DATA:

   A. SPECIAL WIND REGION: NO.
   B. WIND-BORNE DEBRIS REGION: NO.
   C. BASIC WIND SPEED (3 SEC GUST, 33 FEET ABOVE GROUND): V = 110 MPH.

8. EARTHQUAKE DESIGN DATA:

   A. SITE CLASS: CD (ASCE 7-22).
   B. SITE RESPONSE ANALYSIS REQUIRED: NO.

	0.2 SECOND	1.0 SECOND
SPECTRAL RESPONSE ACCELERATIONS:		
C. MAPPED MECR:*	Ss = 1.35 g	Sd1 = 0.48 g
D. ADJUSTED FOR SITE CLASS EFFECTS MCER:*	Sms =1.45 g	Sm1 =0.90 g
E. DESIGN:	Sds = 0.967 g	Sd1 = 0.60 g

   (* 5% DAMPED)

9. FLOOD LOADS:

   A. FLOOD ZONE AREA: NO.
      1) REFERENCE MAP ("FIRM"): 49011C0231F (09/15/2022).
      2) HAZARD ZONE CATEGORY: X (UNSHADED).
      3) DESIGN FLOOD ELEVATION: N/A FT. RETURN INTERVAL: N/A YR.

10. RAIN LOADS:

    A. DESIGN RAINFALL INTENSITY: i = 2.35 IN / HR (100 YEAR/1 HOUR EVENT).

11. ICE LOADS:

    A. NOMINAL UNIFORM ICE THICKNESS: t = 0.25 IN W/ 40 MPH 3-SEC WIND GUST.
    B. ICE DENSITY FOR ICE WEIGHT: 56 PCF (MIN).

12. CONSTRUCTION LOADS:
    STRUCTURES HAVE BEEN DESIGNED FOR OPERATING LOADS ON COMPLETED FACILITIES. UNTIL CONSTRUCTION IS COMPLETE AND MEMBERS HAVE ACHIEVED THEIR DESIGN STRENGTH, PROTECT STRUCTURES AS REQUIRED BY SHORING, BRACING, AND BALANCING.

GEOTECHNICAL REPORT / FOUNDATION DESIGN CRITERIA:

1. GEOTECHNICAL INVESTIGATION REPORT:

   TITLE: WBWCD DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT.
   PREPARED BY: RB&G ENGINEERING, INC.
   REPORT NO: 202101-039. DATED: OCTOBER 2024.

2. FOUNDATION DESIGNS ARE BASED ON RECOMMENDATIONS IN THE GEOTECHNICAL INVESTIGATION REPORT.

   A. NET ALLOWABLE BEARING PRESSURE SEE PLANS.

   B. FROST DEPTH: 30 IN.

   C. LATERAL EARTH PRESSURE (UNO):
      SURCHARGE: EQUIVALENT TO 2 FEET OF SOIL ABOVE FINISHED GRADE.

	ON-SITE	IMPORTED
UNIT SOILS WEIGHT, γ: 125 PCF	SILTY SAND	SANDY GRAVEL
ACTIVE K_A (PSF/FT):	0.28 (35)	0.27 (34)
AT-REST, K_O (PSF/FT):	0.44 (55)	0.43 (54)
PASSIVE, K_P (PSF/FT):	3.5 (437)	3.6 (450)
SEISMIC ACTIVE ADDITION, ΔK_{AE} (PSF/FT):	0.25 (31)	0.24 (30)
SEISMIC PASSIVE REDUCTION, ΔKAE (PSF/FT):	0.65 (81)	0.61 (76)
SLIDING COEFFICIENT OF FRICTION, μ	0.67	0.67

   D. GROUNDWATER EL 4806.00 FT (70 FT BGS).

TYPICAL STRUCTURAL MATERIALS:

1. MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

2. SEE PROJECT SPECIFICATIONS AND NOTES ON DRAWINGS OF SPECIFIC STRUCTURES FOR DETAILED AND LOCATION-SPECIFIC REQUIREMENTS.

REINFORCING STEEL (FOR CONCRETE AND MASONRY):

1. DEFORMED BARS:
   A. TYPICAL: ASTM A615, GRADE 60.
   B. WHERE INDICATED ON THE DRAWINGS: ASTM A706.

2. WELDED WIRE FABRIC: ASTM A064.

3. HORIZ SEISMIC JOINT REINF AND HOOK (FOR VENEER: ASTMA 951, 3/16"DIA TRUSS WIRE)

CONCRETE:

1. NORMAL DENSITY.

2. MINIMUM SPECIFIED CONCRETE COMPRESSIVE STRENGTH, f'c (AT 28 DAYS UNO).

   A. STRUCTURES: "CLASS A" OR "CLASS A-NA" f'c = 4500 PSI
   B. FILL AND THRUST BLOCKS: "CLASS C" f'c = 2500 PSI.
   C. PIPE ENCASEMENT: "CLASS A-NA" f'c = 4000 PSI.
   D. ELECTRICAL DUCT ENCASEMENT: "CLASS CE" f'c = 3000 PSI.

MASONRY:

1. CONCRETE MASONRY

A. UNITS: ASTM C90, NORMAL WEIGHT.
B. MORTAR: ASTM C270, TYPE S.
C. GROUT: ASTM C476. MINIMUM 28-DAY COMPRESSIVE STRENGTH = 2000 PSI.
D. MINIMUM SPECIFIED COMPRESSIVE STRENGTH, f'm (AT 28 DAYS).
1. SOLID GROUTED: f'm = 2000 PSI.

STRUCTURAL STEEL:

1. SECTIONS

   A. SHAPES W, WT: ASTM A 992 (Fy = 50 KSI)
   B. SHAPES S, ST, M, MT, HP, C, MC, L: ASTM A 36 (Fy = 36 KSI)
   C. PLATES AND BARS: ASTM A 36 (Fy = 36 KSI)
   D. PIPES: ASTM A 53, GRADE B (Fy = 35 KSI)
   E. HOLLOW STRUCTURAL SECTIONS:
      ROUND: ASTM A 500, GRADE C (Fy = 46 KSI)
      SQUARE AND RECTANGULAR: ASTM A 500, GRADE C (Fy = 50 KSI)

2. CONNECTIONS:

   A. BOLTS - STEEL TO-STEEL:
      ASTM F 3125 GRADE A325 HIGH-STRENGTH BOLTS, WITH LOAD INDICATOR WASHERS.
   B. BOLTS - STEEL TO CONCRETE OR MASONRY:
      ANCHOR BOLTS WITH HEX FORGED HEAD.
      ASTM F 593, STAINLESS TYPE 316 (304)
      ASTM F 1554, GRADE 36 GALVANIZED.
   C. WELDS - SHIELDED METAL ARC PROCESS USING E70-XX ELECTRODES.

STAINLESS STEEL:

1. ANSI TYPE 316/316L EXCEPT WHERE TYPE 304/304L IS INDICATED ON THE DRAWINGS.

2. SECTIONS: SHAPES AND BARS: ASTM A276.

3. BOLTED CONNECTIONS - BOLTS AND ANCHOR BOLTS:

   A. MATCH ALLOY OF THE STRUCTURAL MEMBERS CONNECTED.
   B. TYPE 316/316L: ASTM F593, GRADE B8M, CLASS 1, HEAVY HEX.
   C. TYPE 304/304L: ASTM F593, GRADE B8, CLASS 1, HEAVY HEX.

4. WELDED CONNECTIONS:

   A. TYPE 316L: E316L-15 ELECTRODES.
   B. TYPE 304L: E304L-15 ELECTRODES.

STRUCTURAL ALUMINUM:

1. SECTIONS

   A. SHAPES: ASTM B308, ALLOY 6061-T6.
   B. SHEET AND PLATE: ASTM B209, ALLOY 6061-T6.

2. BOLTED CONNECTIONS - BOLTS AND ANCHOR BOLTS:

   A. STAINLESS STEEL - TYPE 316, ASTM F593, GRADE B8M, CLASS 1, HEAVY HEX.

3. WELDED CONNECTIONS:

   A. GAS METAL ARC (MIG) OR GAS TUNGSTEN ARC (TIG) PROCESS USING FILLER ALLOY 4043 ELECTRODES.

CONSTRUCTION:

CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

EXCAVATION AND BACKFILLING:

1. EXPOSE AND PREPARE SUBGRADE AS SHOWN ON THE DRAWINGS AND SPECIFIED. OBTAIN ENGINEER'S OBSERVATION OF SUBGRADE SURFACES, AS EXPOSED AND AS PREPARED, BEFORE PROCEEDING WITH FOUNDATION CONSTRUCTION.

2. DO NOT PLACE BACKFILL AGAINST WALLS UNTIL STRUCTURES SUPPORTING THE TOP OF THE WALL ARE IN PLACE, ARE COMPLETE, AND (IN THE CASE OF CONCRETE) HAVE CURED TO THEIR MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH.

3. WHERE BACKFILL MUST BE PLACED AGAINST WALLS BEFORE STRUCTURES ABOVE ARE COMPLETE, PROVIDE BRACING FOR WALLS. KEEP BRACING IN PLACE UNTIL THE STRUCTURE ABOVE IS COMPLETE AND (IN THE CASE OF CONCRETE) HAS CURED TO ITS MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH.

CONCRETE:

1. SEE SC001/TYP FOR CONCRETE NOTES, INCLUDING CLEAR COVER AND LAP SPLICE LENGTH REQUIREMENTS FOR REINFORCING.

2. SUBMIT LOCATIONS OF CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS FOR ACCEPTANCE BY THE ENGINEER BEFORE FORM LAYOUT.

3. PROVIDE CHAMFER AT EXPOSED EDGES OF CAST-IN-PLACE CONCRETE. SEE SPECIFICATION (03_11_07) FOR CHAMFERS.

4. PROVIDE REINFORCING:

A. AT CORNERS AND JUNCTIONS - AS INDICATED IN SC310/TYP, SUPPLEMENT WITH ADDED BARS WHERE INDICATED ON THE DRAWINGS.
B. AT OPENINGS - AS INDICATED IN SC012/TYP.

5. WELDING OF REINFORCING IS NOT PERMITTED UNLESS DETAILED ON THE DRAWINGS OR ACCEPTED IN ADVANCE BY THE ENGINEER.

6. MAINTAIN MINIMUM 3 INCHES CLEAR CONCRETE COVER BETWEEN REINFORCING AND EMBEDMENTS.

7. FINISH CONCRETE AS SPECIFIED IN SECTION (03_35_29).

8. CONCRETE PADS

   A. (E) EQUIPMENT PAD SEE SD512/TYP.

   B. (H) HOUSEKEEPING PAD FOR ELECTRICAL EQUIPMENT SEE SD702/TYP.

MASONRY:

1. SEE SF002/TYP FOR MASONRY NOTES, INCLUDING LAP SPLICE LENGTHS.

2. PROVIDE REINFORCING:

A. AT CORNERS AND JUNCTIONS AS INDICATED IN SF230/TYP.
B. AT OPENINGS AS INDICATED IN SF220/TYP.

3. WELDING OF REINFORCING IS NOT PERMITTED UNLESS DETAILED ON THE DRAWINGS OR ACCEPTED IN ADVANCE BY THE ENGINEER.

4. GROUTING:

A. FULLY GROUTED.

STEEL, STAINLESS STEEL, AND ALUMINUM - CONNECTIONS:

1. BOLTED:

A. MADE USING 3/4-INCH DIAMETER BOLTS.
B. HAVING A MINIMUM OF 2 BOLTS, SPACED NOT CLOSER THAN 3 INCHES ON CENTER.
C. WITH A DISTANCE OF AT LEAST 1 1/2 INCHES FROM CENTER OF BOLT TO ANY EDGE OF A PLATE OR STRUCTURAL ELEMENT.

2. WELDED:

A. FILLET WELDS: PER AWS CODE BASED ON THE THICKNESS OF THE MATERIALS BEING JOINED, AND FULL LENGTH OF THE JOINT.

3. INTERFACE BETWEEN MATERIALS:

A. AT BOLTED CONNECTIONS THAT INCLUDE DIFFERENT METALS (E.G.: STEEL AND STAINLESS STEEL, OR ALUMINUM AND STEEL) PROVIDE ISOLATING SLEEVES AND WASHERS AS SPECIFIED IN SECTION (05_05_24).
B. WHERE ALUMINUM IS IN CONTACT WITH MASONRY OR CONCRETE, COAT ALUMINUM SURFACES AS SPECIFIED IN SECTION (09_96_01).

4. POST-INSTALLED ANCHORS IN CONCRETE AND MASONRY:

A. INSTALL IN FULL COMPLIANCE WITH ACCEPTED BUILDING CODE EVALUATION REPORT AND MANUFACTURER'S INSTRUCTIONS.
B. DO NOT CUT, DAMAGE, OR INTERRUPT EXISTING REINFORCEMENT TO INSTALL ANCHORS. USE NON-DESTRUCTIVE TESTING EQUIPMENT TO IDENTIFY LOCATIONS OF REINFORCEMENT IN MEMBERS BEFORE DRILLING HOLES FOR ANCHORS.

METAL FABRICATIONS:

1. HANDRAILS AND GUARDRAILS:

   A. ALUMINUM, EXCEPT WHERE OTHER MATERIALS ARE NOTED.

2. GRATING:

   A. ALUMINUM WITH TYPE 316 STAINLESS STEEL FASTENERS, UNLESS OTHERWISE NOTED.
   B. GRATING AND ITS SEATS OR SUPPORTS SHALL BE OF THE SAME MATERIAL.
   C. UNLESS INDICATED ON THE DRAWINGS AS "REMOVABLE GRATING", SECURELY FASTEN GRATING TO SUPPORTS AS INDICATED IN SR601/TYP.

3. COVER PLATES:

   A. ALUMINUM WITH TYPE 316 STAINLESS STEEL FASTENERS, UNLESS OTHERWISE NOTED.
   B. COVER PLATE AND ITS SEATS OR SUPPORTS SHALL BE OF THE SAME MATERIAL.

SPECIAL INSPECTION:

1. SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING STRUCTURAL MATERIALS AND CONSTRUCTION. SEE SPECIFICATION SECTION (01_45_24) FOR DETAILS.

2. DIVISION 2(31) SITE CONSTRUCTION (EARTHWORK)

   A. EXCAVATION DEPTH.
   B. ADEQUACY OF EXPOSED SURFACE TO PROVIDE REQUIRED SUPPORT.
   C. PREPARATION OF SOILS/SURFACES SUPPORTING CONSTRUCTION.
   D. FILL AND BACKFILL.

3. DIVISION 3(03) CONCRETE:

   A. LOCATIONS.
   B. FORMWORK AND MEMBER SIZES.
   C. REINFORCING STEEL.
   D. ANCHORS: CAST-IN AND POST-INSTALLED.
   E. CONCRETE MIX AND PLACEMENT.
   F. PROTECTION AND CURING PROCEDURES.

4. DIVISION 4(04) MASONRY

   A. LOCATIONS.
   B. MEMBER SIZES.
   C. REINFORCING STEEL.
   D. ANCHORS: BUILT-IN AND POST-INSTALLED.
   E. MORTAR AND JOINTS.
   F. GROUT AND GROUTING.
   G. PROTECTION AND CURING PROCEDURES.

5. DIVISION 5(05) METALS

   A. GENERAL ALL METALS:
      1) MEMBER LOCATIONS.
      2) MEMBER SIZES/TYPES.
      3) ANCHORS - CAST-IN AND BUILT-IN ANCHOR BOLTS.
      4) ANCHORS - POST-INSTALLED MECHANICAL AND ADHESIVE.

   B. STRUCTURAL STEEL (CARBON AND STAINLESS).
      1) HIGH-STRENGTH BOLTING.
      2) WELDING.

   C. STRUCTURAL ALUMINUM.
      1) BOLTING.
      2) WELDING.

   D. STEEL JOISTS AND JOIST GIRDERS.
      1) CONNECTIONS.
      2) BRACING.

   E. STEEL DECKING.
      1) CONNECTIONS TO SUPPORTS.
      2) SIDE CONNECTIONS BETWEEN ADJACENT SHEETS.

   F. COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION.

6. DIVISION 6(06) WOOD, PLASTICS AND COMPOSITES.

STRUCTURAL OBSERVATION:

1. STRUCTURAL OBSERVATION IS REQUIRED DURING AND AT SPECIFIC STAGES OF CONSTRUCTION. SEE SPECIFICATION SECTION (01_45_24) FOR DETAILS.

STRUCTURAL SYMBOLS:

1. SEE DRAWING 00G03 FOR KEY TO DRAWING TITLES AND SECTION CUTS, AND FOR DEFINITION OF MATERIALS SHADING PATTERNS.

2. WELDING: SYMBOLS: IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) A2.4.

STRUCTURAL ABBREVIATIONS:

1. SEE DRAWING 00G04 FOR GENERAL LIST OF ABBREVIATIONS USED ON DRAWINGS.

2. ABBREVIATIONS FOR NAMES OF TECHNICAL GROUPS MAY BE FOUND IN THE PROJECT SPECIFICATIONS.

3. STRUCTURAL MEMBERS:

A. STEEL: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION'S STEEL CONSTRUCTION MANUAL, CURRENT EDITION.

B. ALUMINUM: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION'S ALUMINUM DESIGN MANUAL, CURRENT EDITION.

DEFERRED DESIGN SUBMITTALS

AS DEFINED IN THE BUILDING CODE, DEFERRED DESIGN SUBMITTALS ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION, AND
THAT ARE TO BE REVIEWED BY THE REGISTERED DESIGN PROFESSIONAL AND SUBSEQUENTLY SUBMITTED TO THE BUILDING OFFICIAL.

DEFERRED DESIGN SUBMITTALS FOR THIS PROJECT INCLUDE:

1. DIVISION (31) SITE CONSTRUCTION (EARTHWORK).

A. (31_50_00) EXCAVATION SUPPORT AND PROTECTION (SHORING).

2. DIVISION (03) CONCRETE.

A. (03_11_07) CONCRETE FORMWORK (FORMWORK).
B. (03_21_17) ADHESIVE ANCHORAGE (CONCRETE ANCHORAGE).
C. (03_30_00) CAST-IN-PLACE CONCRETE (MIX DESIGN AND TESTING).

3. DIVISION (04) MASONRY.

A. (04_05_18) ADHESIVE ANCHORAGE (MASONRY ANCHORAGE).
B. (04_05_17) MASONRY MORTAR AND GROUT (MIX DESIGNS AND TESTING).

4. DIVISION (05) METALS.

A. (05_05_24) MECHANICAL ANCHORAGE AND FASTENING (ANCHORAGE).
B. (05_21_19) OPEN WEB STEEL JOISTS.
C. (05_50_00) METAL FABRICATIONS (ACCESS, SAFETY ACCESS, LIFTING LUGS, AND CONNECTIONS).

5. DIVISIONS (07) AND (08) PROTECTIVE BARRIERS AND PENETRATIONS.

A. (08_31_14) FLOOR ACCESS DOORS.

6. ALL DIVISIONS.

A. (40_05_07) PIPE HANGERS AND SUPPORTS.
B. (26_05_29) HANGERS AND SUPPORTS.
C. ALL EQUIPMENT HANGERS, SUPPORTS AND ANCHORAGE.
D. ALL PIPE, DUCTS, AND CONDUIT HANGERS, SUPPORTS, AND ANCHORAGE.

7. LIFTING EYES: SUBMIT DETAILS WITH CALCULATIONS DEMONSTRATING THE SPECIFIED LOAD CAPACITY TO ENGINEER. DELIVER REMOVABLE EYES TO OWNER AFTER INSTALLATION OF REMOVABLE PANELS.

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 1139122-2202
J. MATTHEW YATES
STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

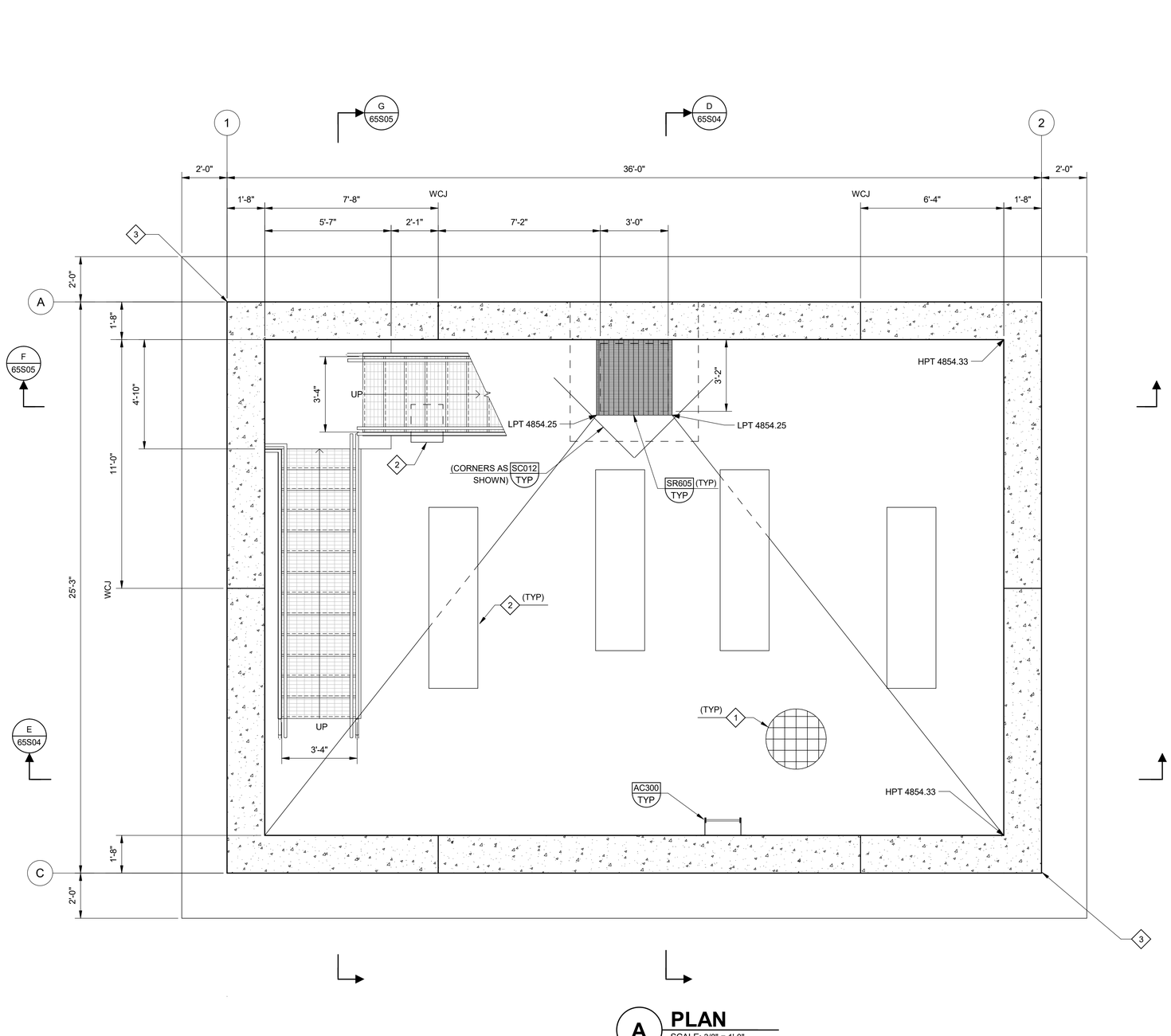
WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
STRUCTURAL
GENERAL NOTES

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00GS01
SHEET NO. 49 OF 162

LAST SAVED BY: KMarshall

PROJECT NO.
FILE NAME: ProjNum_00GS01.dwg



A PLAN
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. SEE DRAWING 00GS01 FOR GENERAL STRUCTURAL NOTES.
2. SEE DRAWING 00GS02 AND CIVIL DRAWINGS FOR TYPICAL STRUCTURAL SUBGRADE AND CIVIL DETAILS.
3. NOT ALL OPENINGS AND PENETRATIONS ARE SHOWN AND/OR DIMENSIONED ON THESE DRAWINGS. COORDINATE ALL OPENINGS, PENETRATIONS, AND EQUIPMENT SUBMITTALS WITH ARCHITECTURAL, MECHANICAL, HVAC, AND ELECTRICAL DRAWINGS. PROVIDE ADDITIONAL BARS PER DETAIL SC012/TYP AT OPENINGS, UNLESS NOTED OTHERWISE.
4. SEE ELECTRICAL, HVAC, AND MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF EQUIPMENT PADS. CONTRACTOR SHALL COORDINATE WITH EQUIPMENT MANUFACTURER FOR EXACT LOCATION AND SIZES OF EQUIPMENT PADS. PROVIDE EQUIPMENT PADS PER DETAIL SD512/TYP AND ELECTRICAL PADS DETAIL PER DETAIL SD702/TYP, UNLESS NOTED OTHERWISE.
5. CONCRETE JOINTS DESIGNATED AS FOLLOWS:
   WCJ = CONCRETE CONSTRUCTION JOINT PER DETAIL SD102/TYP
   MCJ - MASONRY CONTROL JOINT PER DETAIL SF722/TYP
   REINFORCING BAR LAP SPLICING SHALL CLEAR CONSTRUCTION JOINTS.

STRUCTURAL DESIGN CRITERIA:

REFER TO DRAWING 00GS01 FOR GENERAL STRUCTURAL DESIGN CRITERIA. STRUCTURE SPECIFIC DESIGN CRITERIA AS FOLLOWS:

I. RISK CATEGORY: = III
   A. TYPE: WATER TREATMENT FACILITY

II. EQUIPMENT LOADS:
   A. PUMP ASSEMBLY WEIGHT = 1,500 LBS EA.

III. LIVE LOADS:
   A. ROOF LIVE LOAD (EL = 4886.17 FT) = 20 PSF.
   B. STAIRS, GRATING AND PLATFORMS LIVE LOAD = 100 PSF.
   C. FLOOR LIVE LOAD (EL = 4873.50 FT) = 150 PSF.

IV. SNOW LOADS DATA:
   A. NEAR GROUND SNOW LOAD, IsPg = 53 PSF.
   B. SNOW THERMAL FACTOR, Ct = 1.2 (UNHEATED ROOF).
      i. THERMAL FACTOR, Ct = 1.1 (COLD ROOF, HEATED BLDG).
      ii. ROOF SLOPE FACTOR, Cs = 1.0 (OTHER SURFACE).
   C. UNIFORM SLOPED ROOF SNOW LOAD, Pf = 41 PSF.
   D. UNBALANCED SNOW LOAD = 45 PSF / 0 PSF.
   E. DRIFT:
      i. DRIFT LOAD = 37 PSF (EL = 4873.50)
      ii. DRIFT LENGTH = 7.25 FT.

V. WIND LOADS:
   A. WIND DIRECTIONALITY FACTOR, Kd = 0.85.
   B. EXPOSURE CATEGORY = C.
   C. TOPOGRAPHIC FACTOR, Kzt = 1.00.
   D. GROUND ELEVATION FACTOR, Ke = 0.84 (EL = 4771.00 FT).
   E. INTERNAL PRESSURE COEFFICIENT, GCpi = ±0.55 (PARTIAL).
   F. VELOCITY PRESSURE, qh = 18.5 PSF.

VI. SEISMIC DESIGN VALUES: (ASCE 7-22).
   A. SEISMIC IMPORTANCE FACTOR, Ie 1.25.
   B. NONBUILDING SIMILAR TO BUILDING STRUCTURE:
      i. SEISMIC FORCE RESISTING SYSTEM: PER § 15.5 SPECIALLY REINFORCED MASONRY.
      ii. RESPONSE MODIFICATION FACTOR, R = 5
      iii. OVERSTRENGTH FACTOR, Qo = 2 1/2
      iv. DEFLECTION AMPLIFICATION FACTOR, Cd = 3 1/2
      v. SEISMIC BASE SHEAR COEFFICIENT, Cs = 0.604 W
      vi. DESIGN BASE SHEAR, V = 58 KIPS

VII. GEOTECHNICAL DESIGN DATA:
   A. ALLOWABLE BEARING PRESSURE = 2,000 PSF (AVERAGE).
   B. SETTLEMENT: < 1" (CONTROLS).
   C. SUBGRADE MODULUS = 100 PCI.

KEY NOTES:

1. 24" MIN THICK SLAB WITH #6@6" EW, T&B.
2. EQUIPMENT PAD PER DETAIL SD512/TYP W/ ANCHORS EMBED INTO SLAB.
3. COORDINATE CONTROL POINT, SEE CIVIL DRAWINGS.

REV	DATE	BY	DESCRIPTION

DESIGNED JMY
DRAWN JRL
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 11390122-2202
J. MATTHEW YATES
STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

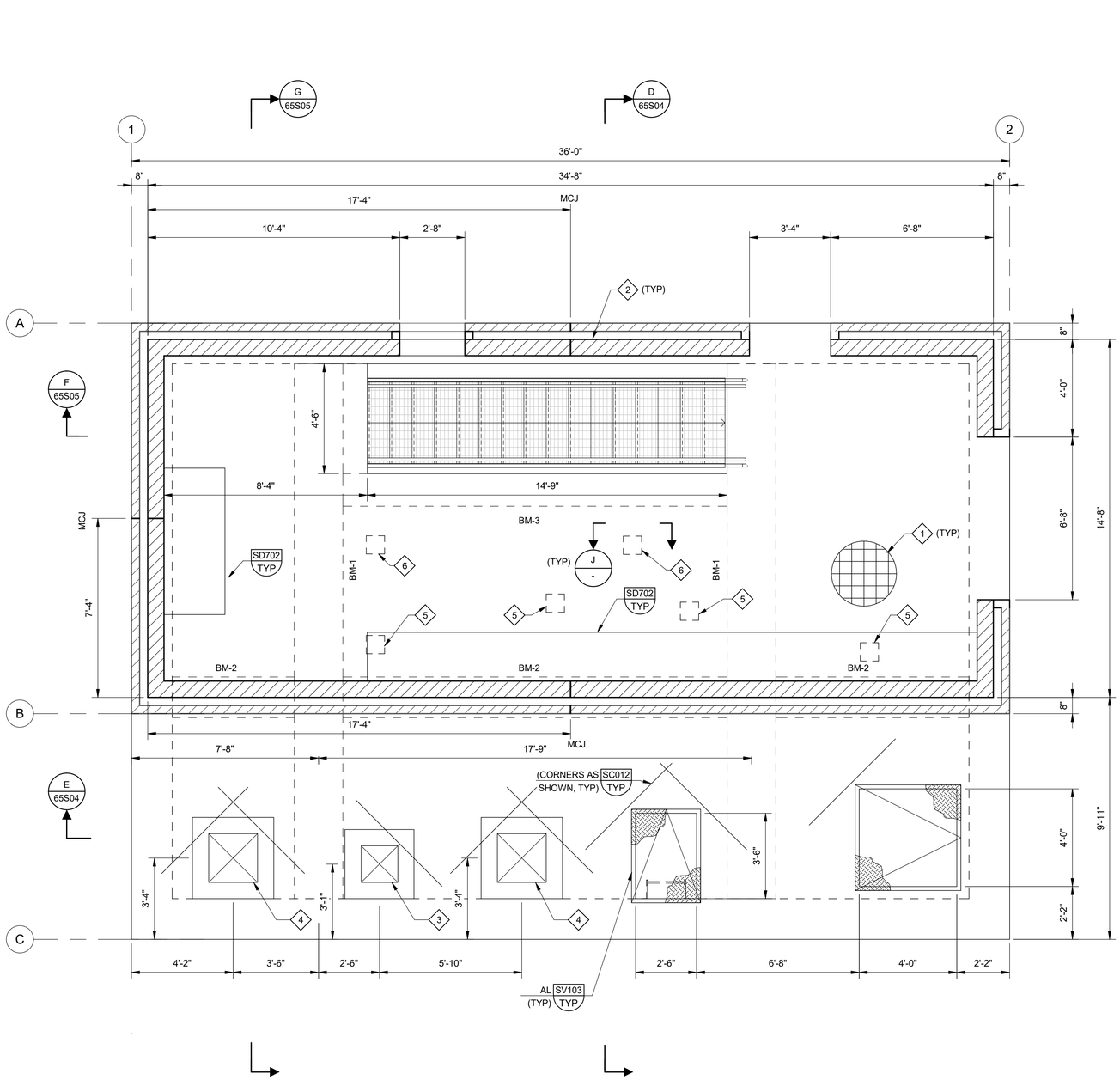
WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
STRUCTURAL
SLUDGE PUMP STATION FOUNDATION PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65S01
SHEET NO. 50 OF 162

PLOT DATE: 6/9/2025 5:00:17 PM

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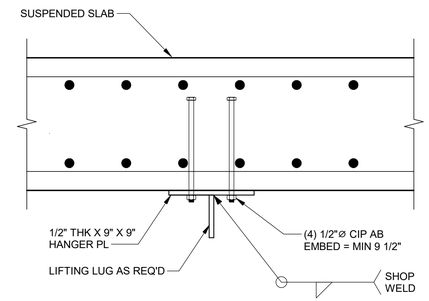
B PLAN
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. SEE DRAWING 00GS01 FOR GENERAL STRUCTURAL NOTES.
2. NOT ALL OPENINGS AND PENETRATIONS ARE SHOWN AND/OR DIMENSIONED ON THESE DRAWINGS. COORDINATE ALL OPENINGS, PENETRATIONS, AND EQUIPMENT SUBMITTALS WITH ARCHITECTURAL, MECHANICAL, HVAC, AND ELECTRICAL DRAWINGS. PROVIDE ADDITIONAL BARS PER DETAIL SC012/TYP AT OPENINGS, UNLESS NOTED OTHERWISE.
3. SEE ELECTRICAL, HVAC, AND MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF EQUIPMENT PADS. CONTRACTOR SHALL COORDINATE WITH EQUIPMENT MANUFACTURER FOR EXACT LOCATION AND SIZES OF EQUIPMENT PADS. PROVIDE EQUIPMENT PADS PER DETAIL SD512/TYP AND ELECTRICAL PADS DETAIL PER DETAIL SD702/TYP, UNLESS NOTED OTHERWISE.
4. CONCRETE JOINTS DESIGNATED AS FOLLOWS:
   SCJ = SLAB CONSTRUCTION JOINT PER DETAIL SD102/TYP
   WCJ = WALL CONSTRUCTION JOINT PER DETAIL SD102/TYP
   MCJ - MASONRY WALL CONTROL JOINT PER DETAIL SF722/TYP
   REINFORCING BAR LAP SPLICING SHALL CLEAR CONSTRUCTION JOINTS.
5. FOR MORE LIFTING LUGS THAN SHOWN, CONSULT WITH THE EOR.

KEY NOTES:

1. 14" THICK SUSPENDED SLAB WITH #6@12" EW, T&B.
2. PROVIDE CMU WALL REINFORCEMENT AS FOLLOWS:
   A. 8" CMU WALL = #5@24" HORIZ; #5@24" VERT WITH DOWELS TO MATCH PER DETAIL SF270/TYP.
   B. SHEAR WALLS (SRMSW) PER DETAIL SF220/TYP AND DETAIL SF221/TYP.
   C. CORNERS AND INTERSECTIONS PER DETAIL SF230/TYP.
3. PROVIDE HVAC MAX 18" X 18" OPENING W/ 8" X 8" HIGH CURB AT THE PERIMETER AND REINF #4@6" EF HOOKED INTO SLAB W/ MIN (2) #4 TIES EF.
4. PROVIDE SOLATUBE MAX 24" X 24" OPENING W/ 8" X 12" CURB AT THE PERIMETER AND REINF #4@6" EF EW HOOKED INTO SLAB W/ MIN (2) #4 TIES EF.
5. PERFORM LIFTING LUGS W/ ANCHORAGE DESIGN FOR HOISTING PUMPS BY CONTRACTOR. REFER TO DRAWING 00GS01 AND STRUCTURAL SPECIFIC INFORMATION FOR DESIGN CRITERIA.
   A. HOIST RATED LIFTING LOAD = 1 TON.
   B. HOIST WT = 100 LBS.
6. PERFORM LIFTING LUGS W/ ANCHORAGE DESIGN FOR HOISTING VALVES AND FLOW METERS BY CONTRACTOR. REFER TO DRAWING 00GS01 AND STRUCTURAL SPECIFIC INFORMATION FOR DESIGN CRITERIA.
   A. HOIST RATED LIFTING LOAD = 1/2 TON.
   B. HOIST WT = 100 LBS.



NOTES:

1. DETAIL IS PROVIDED AS A CONCEPT WITH MINIMUM REQUIREMENTS FOR USE IN THE DELEGATED DESIGN OF THE LIFTING LUG AND ANCHORAGE.
2. POST INSTALLED (EPOXY OR MECHANICAL) ANCHORAGE IS NOT PERMITTED.
3. LIFTING LUG DESIGN SHALL MEET THE REQUIREMENTS OF ASME BTH-1 WITH DOWNWARD PULL AND A 45 DEGREE PULL FROM DOWNWARD IN ANY DIRECTION.
4. CONTRACTOR TO LOCATE EACH LUG AS NEEDED TO SAFELY HOIST EQUIPMENT.
5. LOCATE A MINIMUM 2" CLEAR FROM CONCRETE BEAMS FOR SUSPENDED SLABS.

LIFTING LUG

J - SECTION
SCALE: 1 1/2" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED JMY
DRAWN JRL
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 11390122-2202 — J. MATTHEW YATES — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

STRUCTURAL

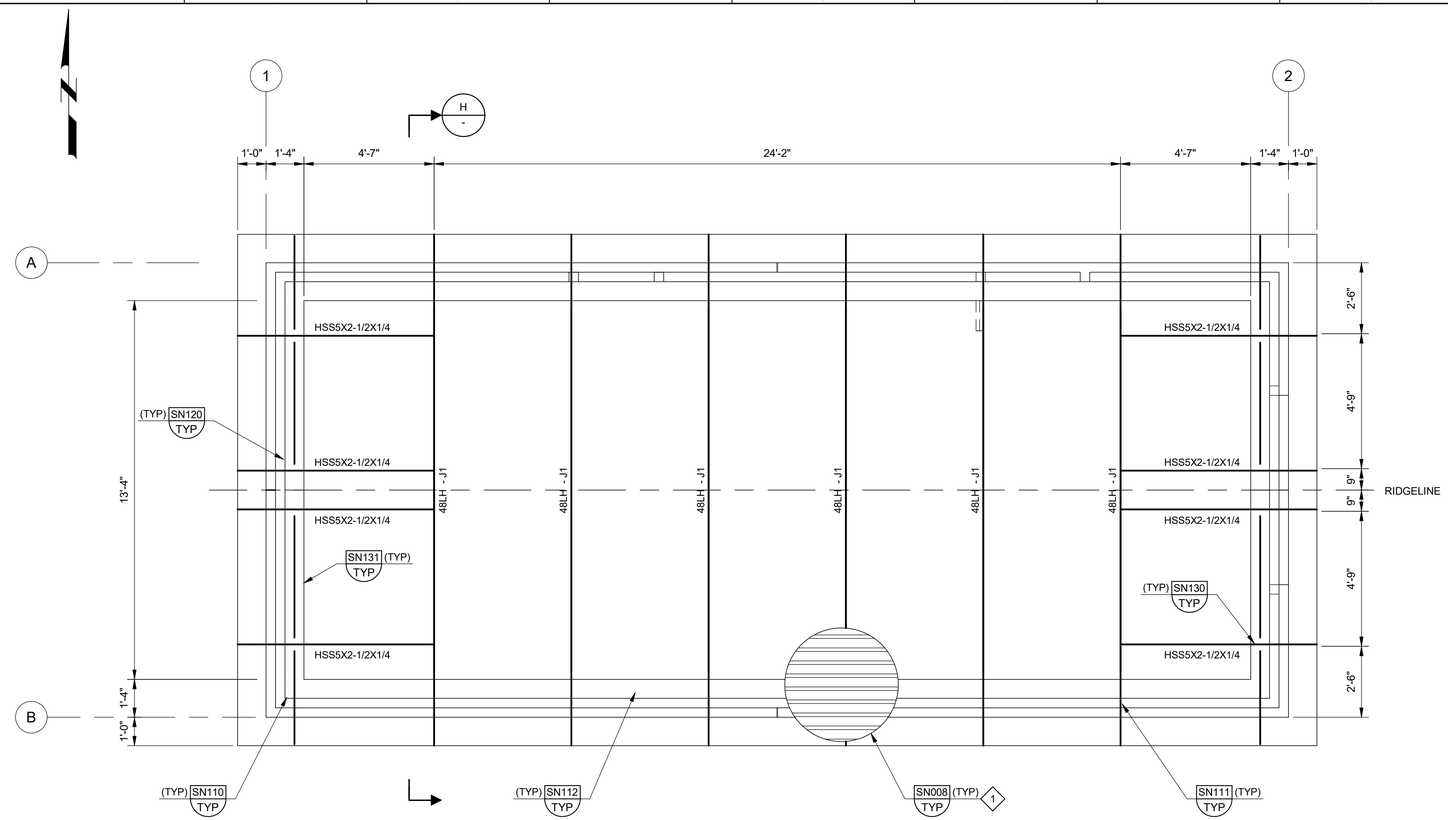
SLUDGE PUMP STATION FLOOR PLAN

VERIFY SCALES
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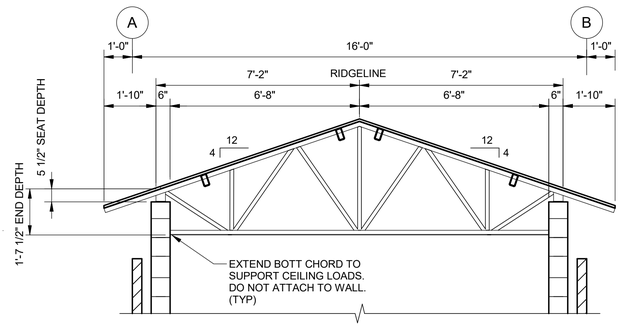
JOB NO. 203356
DRAWING NO. 65S02
SHEET NO. 51 OF 162

PLOT DATE: 6/11/2025 8:11:40 AM

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C PLAN
SCALE: 3/8" = 1'-0"



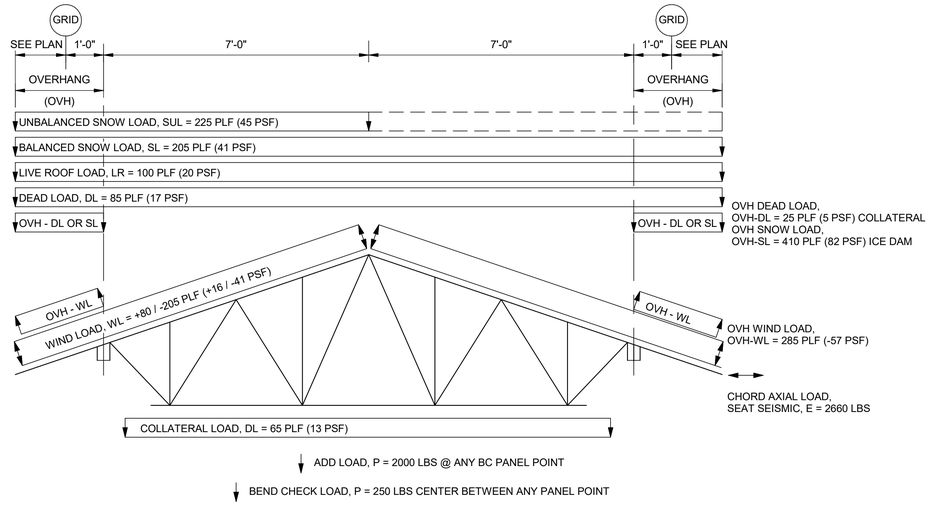
H - SECTION
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. SEE DRAWING 00GS01 FOR GENERAL STRUCTURAL NOTES.
2. JOIST BRIDGING CONFIGURATION AND DETAILING BY JOIST MANUFACTURER PER SJI SPECIFICATIONS FOR LH AND DLH JOISTS. BRIDGING TO BE PROVIDED FOR STABILITY, INCLUDING TO RESIST THE WIND UPLIFT LOADS GIVEN IN THE SCHEDULE.
3. DIAGRAM LOADS PROVIDED FOR USE WITH THE ASCE 7-16 LOAD COMBINATIONS. LOADS TO ACT IN THE DIRECTIONS SHOWN IN THE LOAD DIAGRAMS (WITH PLUS SIGN ACTING TOWARDS AND MINUS SIGN ACTING AWAY FOR THE JOIST).
   a. LIVE ROOF LOADS, LR, IS NOT REDUCIBLE.
   b. UNBALANCED SNOW LOADS, SUL, MAY OCCUR ON EITHER SIDE OF THE RIDGE.
   c. DESIGN THE JOIST CENTER SPAN AND OVERHANG CANTILEVERS FOR THE WORST-CASE COMBINATION OF LOADS. NO OTHER CENTER SPAN LOADS EXCEPT FOR DEAD LOAD SHALL BE PRESENT WHEN OVERHANG LOADS ARE APPLIED.
4. JOIST SELF-WEIGHT TO BE ADDED TO THE DESIGN DEAD LOAD BY THE JOIST MANUFACTURER.
5. SHORT TERM (LIVE OR SNOW) LOAD DEFLECTION NOT TO EXCEED L/360. TOTAL LOAD DEFLECTION NOT TO EXCEED L/240.
6. DRIPS AND RUNS FROM THE PAINT PRIMING PROCESS WILL NOT BE ACCEPTABLE. THE CONTRACTOR SHALL WORK WITH THE FABRICATOR TO TAKE SPECIAL PRECAUTION TO AVOID AND/OR ELIMINATE DRIPS.
7. JOIST SEAT AXIAL LOAD IN THE SCHEDULE IS APPLIED AT THE BOTTOM OF THE JOIST SEAT. JOIST DESIGN SHALL ACCOUNT FOR BENDING DUE TO ECCENTRICITY. JOIST SEAT AXIAL LOAD IS ALREADY MULTIPLIED BY 1.4 TO MEET ASCE 7 REQUIREMENT FOR STEEL ELEMENT OF STRUCTURAL ANCHORAGE SYSTEMS.

KEY NOTES:

1. METAL DECK ROOF
   PROFILE: 22 GA 1.5-BI-36 GR50 BY VULCRAFT.
   FINISH: G90 GALV.
   SUPPORT FASTENING: (LAPPED ENDS).
   END/LAP SUPPORTS = 5/8" ASW 36/4.
   INTERMEDIATE SUPPORTS = 5/8" ASW 36/4.
   SIDE SUPPORTS = 5/8" ASW @ 20" SPCG.
   SIDELAPS = 1-1/12" TSW @ 24" SPCG.
   NOTE: MIN SHEAR STRENGTH ϕS = 770 PLF
   MIN STIFFNESS G' = 126 KIP/IN.



48LH-J1

LOAD DIAGRAM
SCALE: NO SCALE

REV	DATE	BY	DESCRIPTION

DESIGNED JMY
DRAWN JRL
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 11390122-2202 J. MATTHEW YATES STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

STRUCTURAL

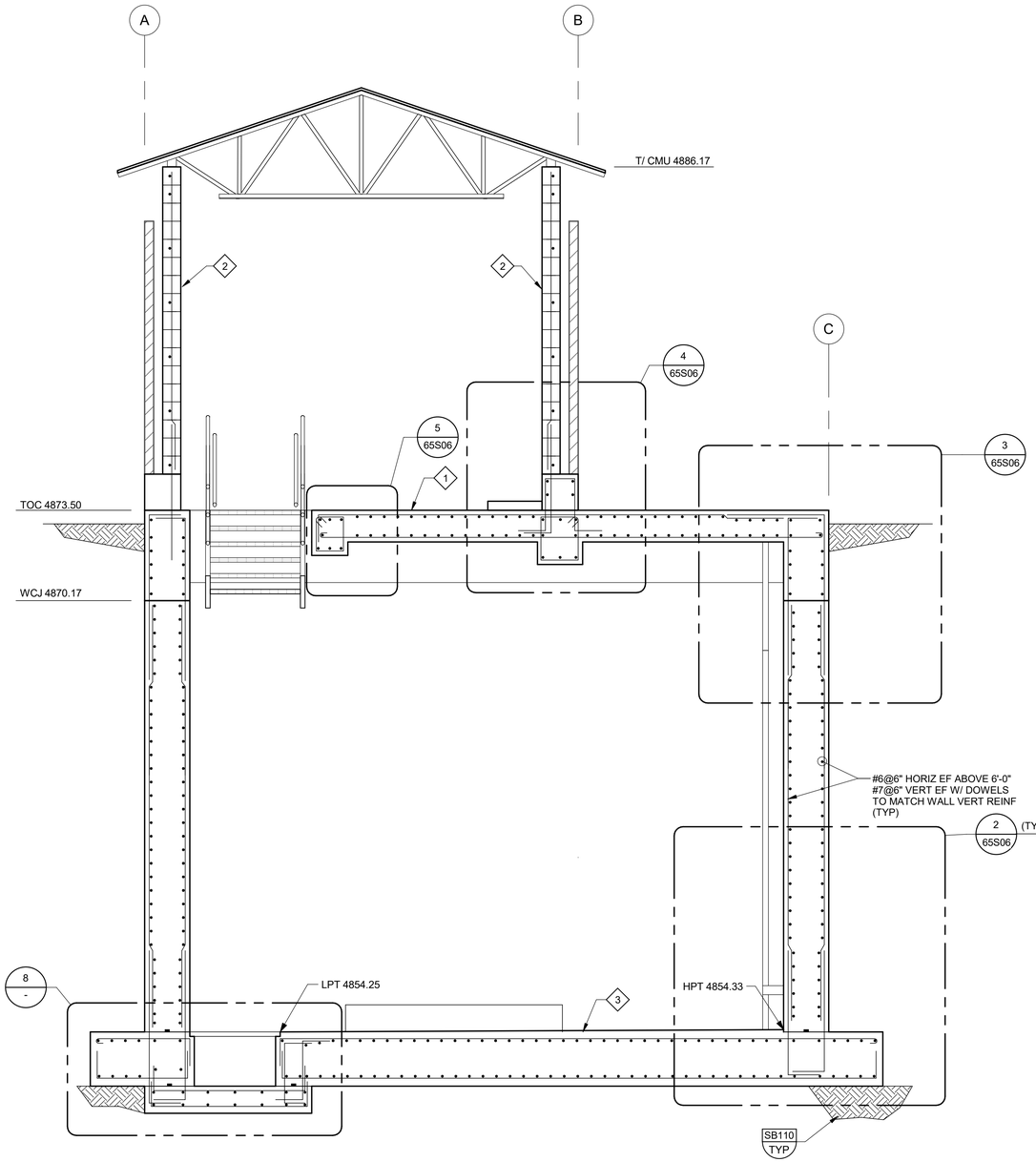
SLUDGE PUMP STATION ROOF PLAN

VERIFY SCALES
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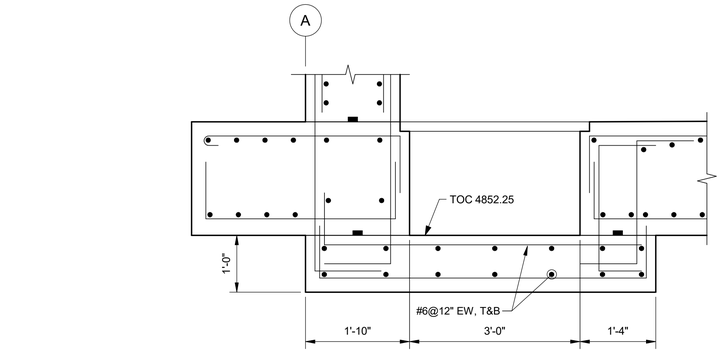
JOB NO. 203356
DRAWING NO. 65S03
SHEET NO. 52 OF 162

PLOT DATE: 6/9/2025 5:00:18 PM

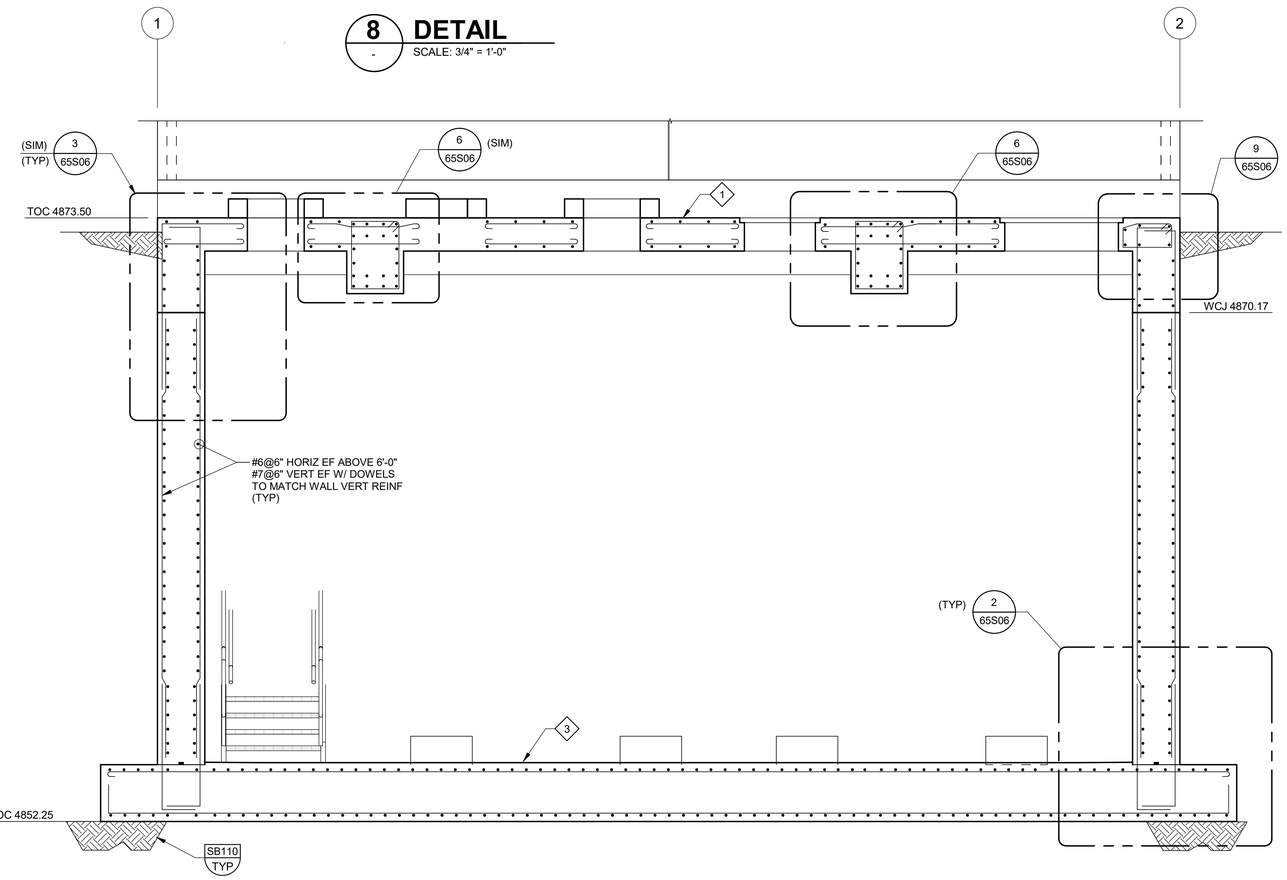
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D SECTION
65S01 — SCALE: 3/8" = 1'-0"



8 DETAIL
\- — SCALE: 3/4" = 1'-0"



E SECTION
65S01 — SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. SEE DRAWING 00GS01 FOR GENERAL STRUCTURAL NOTES.

KEY NOTES:

1. SEE PLAN FOR SUSPENDED SLAB REINFORCING.
2. SEE PLAN FOR MASONRY WALL REINFORCING.
3. SEE PLAN FOR MAT SLAB REINFORCING.

REV	DATE	BY	DESCRIPTION

DESIGNED JMY
DRAWN JRL
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 11390122-2202 — J. MATTHEW YATES — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
STRUCTURAL
SLUDGE PUMP STATION
SECTIONS AND DETAILS 1

VERIFY SCALES
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0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

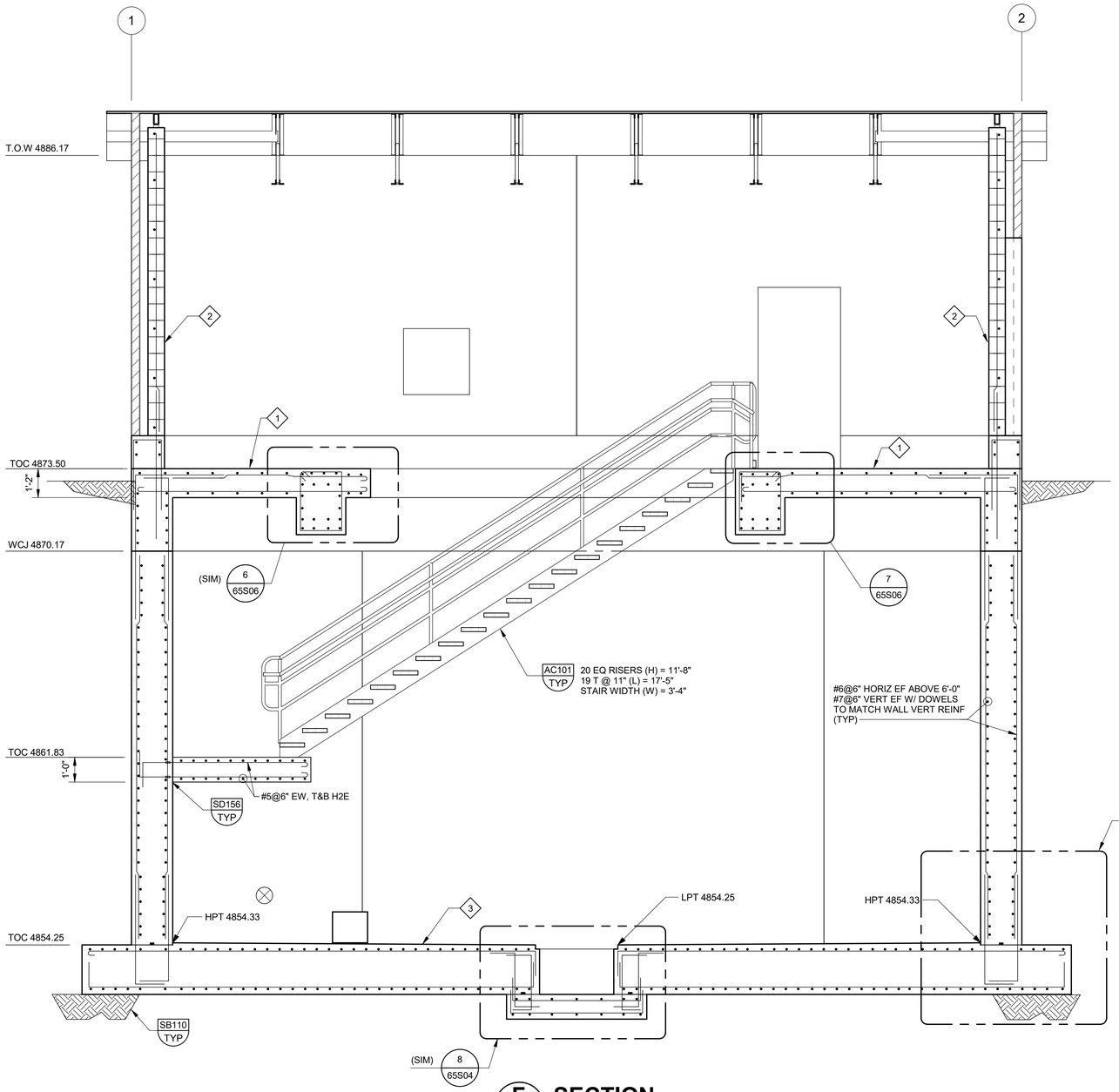
JOB NO. 203356
DRAWING NO. 65S04
SHEET NO. 53 OF 162

PLOT DATE: 6/9/2025 5:00:18 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65S0801.rvt

GENERAL NOTES:

1. SEE DRAWING 00GS01 FOR GENERAL STRUCTURAL NOTES.



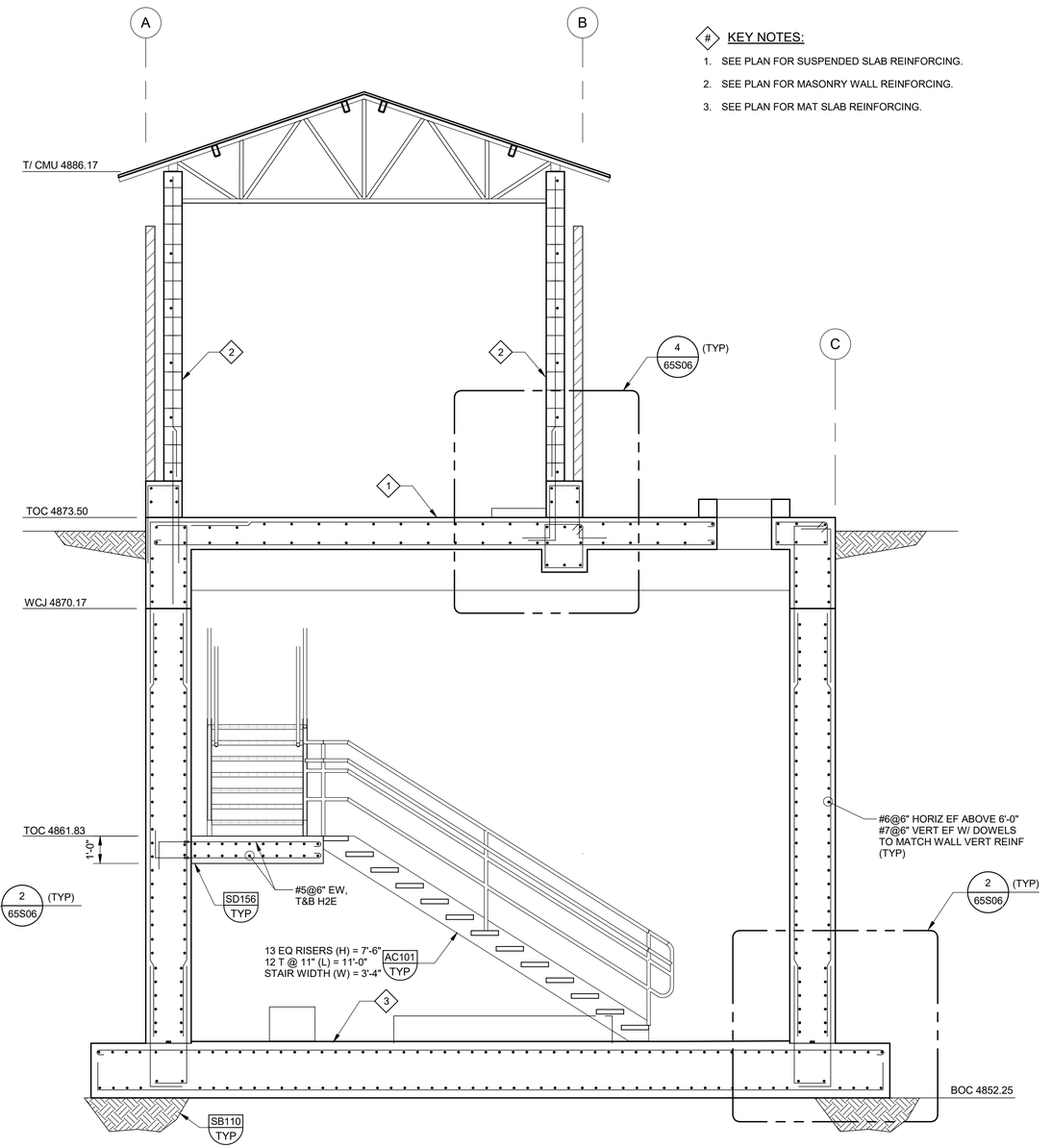
F SECTION

F 65S01

SCALE: 3/8" = 1'-0"

KEY NOTES:

1. SEE PLAN FOR SUSPENDED SLAB REINFORCING.
2. SEE PLAN FOR MASONRY WALL REINFORCING.
3. SEE PLAN FOR MAT SLAB REINFORCING.



G SECTION

G 65S01

SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED JMY
DRAWN JRL
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 11390122-2202
J. MATTHEW YATES
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

STRUCTURAL

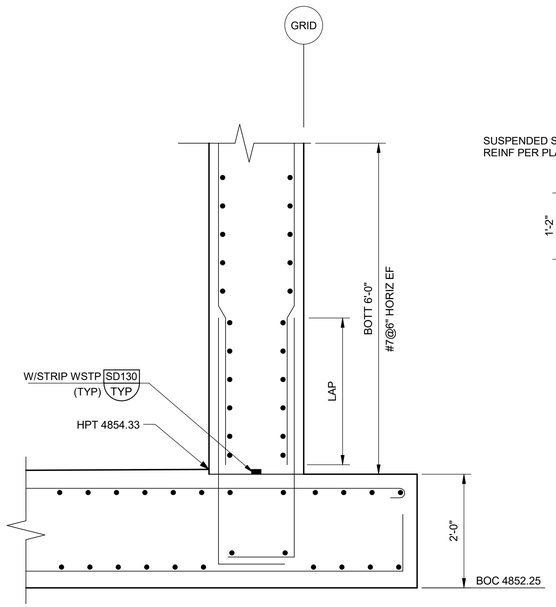
SLUDGE PUMP STATION
SECTIONS AND DETAILS 2

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

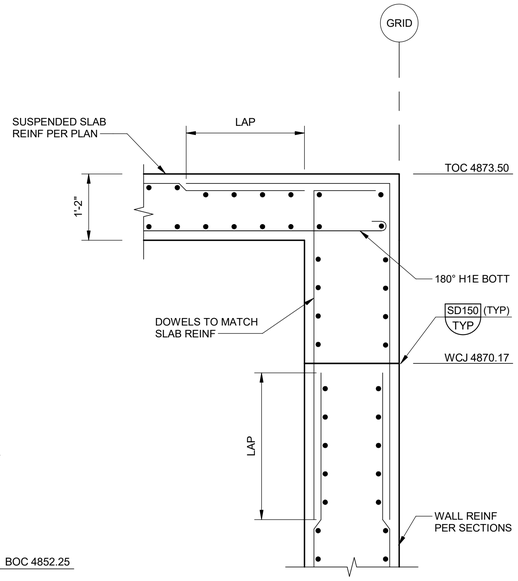
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DRAWING NO. 65S05
SHEET NO. 54 OF 162

PLOT DATE: 6/9/2025 7:54:02 PM

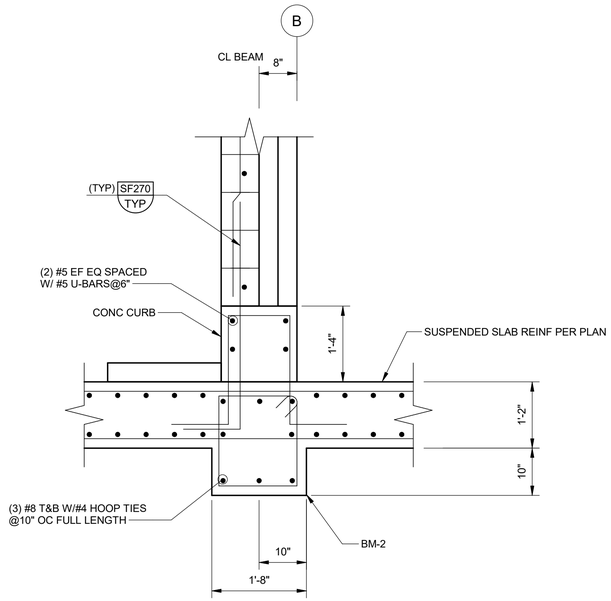
FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65S0801.rvt



2 DETAIL 65S04 SCALE: 3/4" = 1'-0"

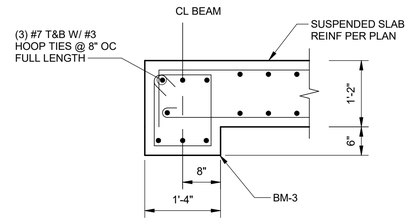


3 DETAIL 65S04 SCALE: 3/4" = 1'-0"



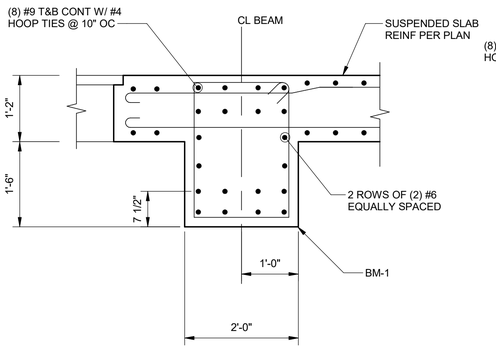
BM-2

4 DETAIL 65S04 SCALE: 3/4" = 1'-0"



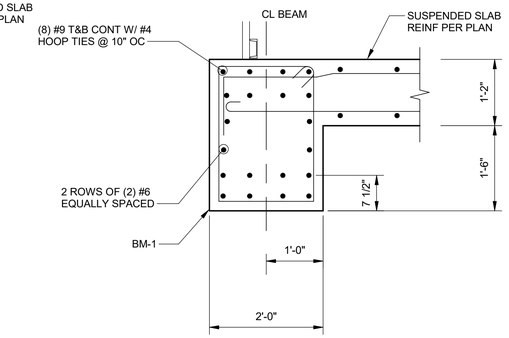
BM-3

5 DETAIL 65S04 SCALE: 3/4" = 1'-0"



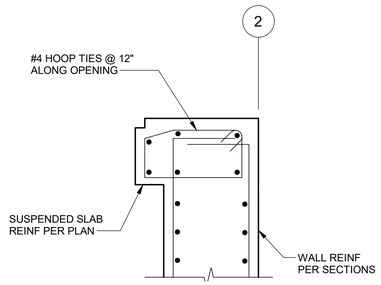
BM-1

6 DETAIL 65S04 SCALE: 3/4" = 1'-0"



BM-1

7 DETAIL 65S05 SCALE: 3/4" = 1'-0"



9 DETAIL 65S04 SCALE: 3/4" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED JMY
DRAWN JRL
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 11390122-2202 — J. MATTHEW YATES — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

STRUCTURAL

SLUDGE PUMP STATION
SECTIONS AND DETAILS 3

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65S06
SHEET NO. 55 OF 162

PLOT DATE: 6/9/2025 5:00:19 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65S0801.rvt

STRUCTURAL DESIGN CRITERIA:

REFER TO DRAWING 00GS01 FOR GENERAL STRUCTURAL DESIGN CRITERIA. STRUCTURE SPECIFIC DESIGN CRITERIA AS FOLLOWS:

I. RISK CATEGORY: = III
   A. TYPE: WATER TREATMENT FACILITY
   B. FLUID DENSITY, p = 69 PCF (SG = 1.10)

II. EQUIPMENT LOADS:
   A. SLUDGE MIXER ASSEMBLY:
      i. STATIC WEIGHT = 4,500 LBS EA.
      ii. STATIC MOMENT = 2,500 FT-LBS EA.
      iii. DYNAMIC MOMENT = 3,500 FT-LBS EA.
      iv. DYNAMIC TORQUE = 4,100 FT-LBS EA.
      v. DYNAMIC SHEAR = 300 LBS EA.

III. LIVE LOADS:
   A. STAIRS, GRATING AND PLATFORMS LIVE LOAD = 100 PSF.
   B. SUSPENDED SLAB LIVE LOAD (EL = 4883.00 FT) = 150 PSF.

IV. SNOW LOADS DATA:
   A. NEAR-GROUND SNOW LOAD, IsPg = 53 PSF.
   B. UNIFORM FLAT ROOF SNOW LOAD, Pf = 41 PFS.
      i. THERMAL FACTOR, Ct = 1.2 (UNHEATED ROOF).

V. SEISMIC DESIGN DATA: (ACI 350-20 AND ASCE 7-22)
   A. SEISMIC IMPORTANCE FACTOR, Ie 1.25
   B. NONBUILDING STRUCTURE:
      i. SEISMIC-FORCE RESISTING SYSTEM: PER ACI 350-20 REINFORCED CONCRETE TANK, FIXED BASE.
      ii. IMPULSIVE RESPONSE MODIFICATION FACTOR, Ri = 2.43
      iii. CONVECTIVE RESPONSE MODIFICATION FACTOR, Rc = 1.0
      iv. IMPULSIVE COMPONENT SEISMIC COEFFICIENT, Sai = 0.967 g
      v. CONVECTIVE COMPONENT SEISMIC COEFFICIENT, Sac = 0.412 g
      vi. DESIGN LIQUID HEIGHT, H = 18.00 FT (MAX EL = 4878.25 FT)
      vii. DESIGN BASE SHEAR, Vx = 1,206 KIPS Vz = 1,001 KIPS

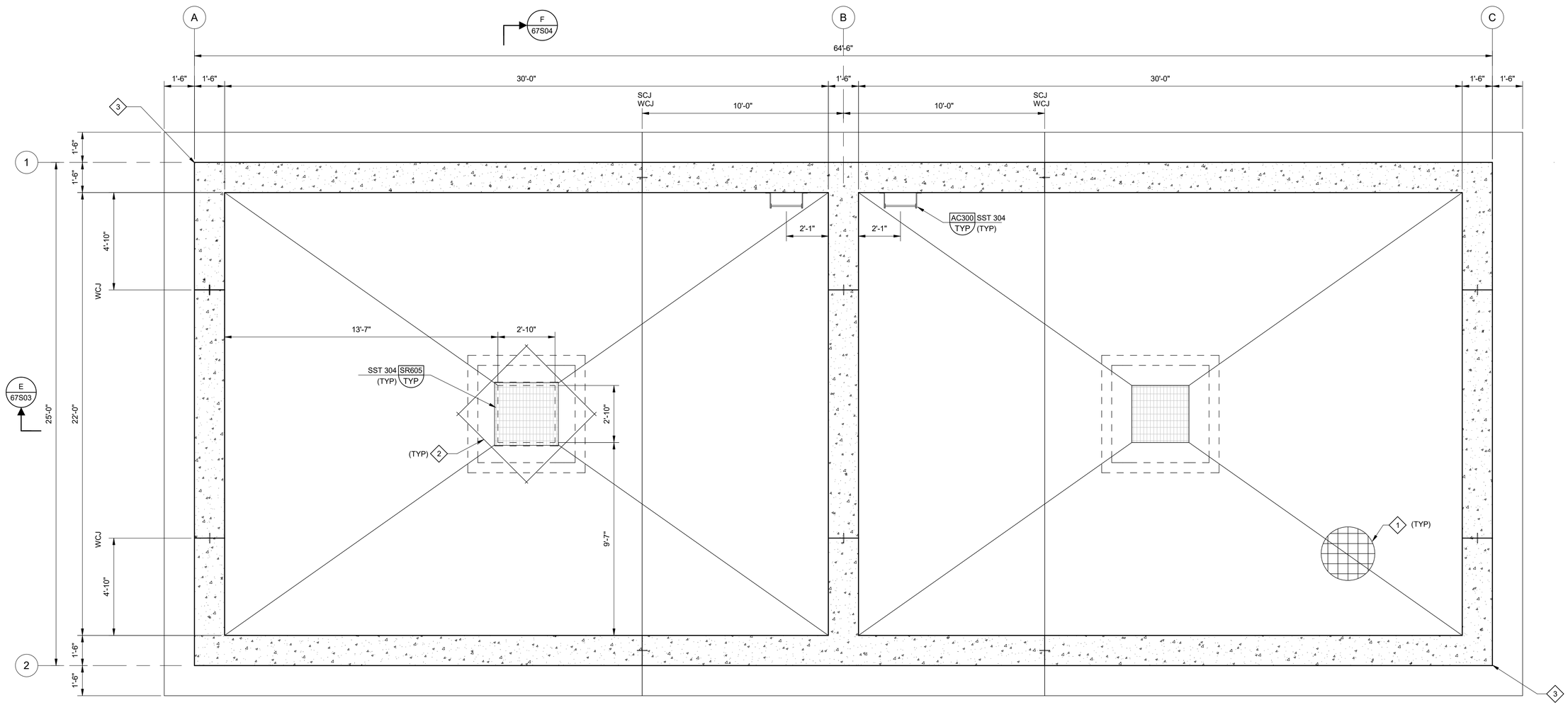
VI. GEOTECHNICAL DESIGN DATA:
   A. ALLOWABLE BEARING PRESSURE = 2,000 PSF (AVERAGE) (SETTLEMENT <1" CONTROLS)
   B. SUBGRADE MODULUS = 100 PCI

GENERAL NOTES:

1. SEE DRAWING 00GS01 FOR GENERAL STRUCTURAL NOTES.
2. SEE DRAWING 00GS02 AND CIVIL DRAWINGS FOR TYPICAL STRUCTURAL SUBGRADE AND CIVIL DETAILS.
3. PROVIDE ADDITIONAL REINFORCEMENT BARS PER DETAIL SC012/TYP AT OPENINGS, UNLESS NOTED OTHERWISE HEREIN. COORDINATE ALL OPENINGS, PENETRATIONS, AND EQUIPMENT SUBMITTALS WITH OTHER DISCIPLINE DRAWINGS. NOT ALL OPENINGS AND PENETRATIONS ARE SHOWN AND/OR DIMENSIONED HEREIN.
4. PROVIDE EQUIPMENT PADS PER DETAIL SD512/TYP AND ELECTRICAL PADS PER DETAIL SD702/TYP, UNLESS NOTED OTHERWISE. SEE ELECTRICAL, HVAC, AND MECHANICAL DRAWINGS FOR LOCATION AND SIZE OF EQUIPMENT PADS. CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF EQUIPMENT WITH OTHER DISCIPLINE DRAWINGS AND THE EQUIPMENT MANUFACTURER.
5. PROVIDE JOINTS AS DESIGNATED:
   SCJ = SLAB CONSTRUCTION JOINT PER DETAIL SD102/TYP
   WCJ = WALL CONSTRUCTION JOINT PER DETAIL SD102/TYP
   MCJ - MASONRY WALL CONTROL JOINT PER DETAIL SF722/TYP

KEY NOTES:

1. 18" THICK SUSPENDED SLAB WITH #6@6" EW T&B
2. ADD (4) #5x5'-0" DIAGONAL CORNER BARS EACH FACE.
3. COORDINATE CONTROL POINT. SEE CIVIL DRAWINGS.



A PLAN
SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED JMY
DRAWN JRL
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 11390122-2202 J. MATTHEW YATES STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

STRUCTURAL
SLUDGE DAY TANKS
FOUNDATION PLAN

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 67S01
SHEET NO. 56 OF 162

PLOT DATE: 6/6/2025 2:07:52 PM

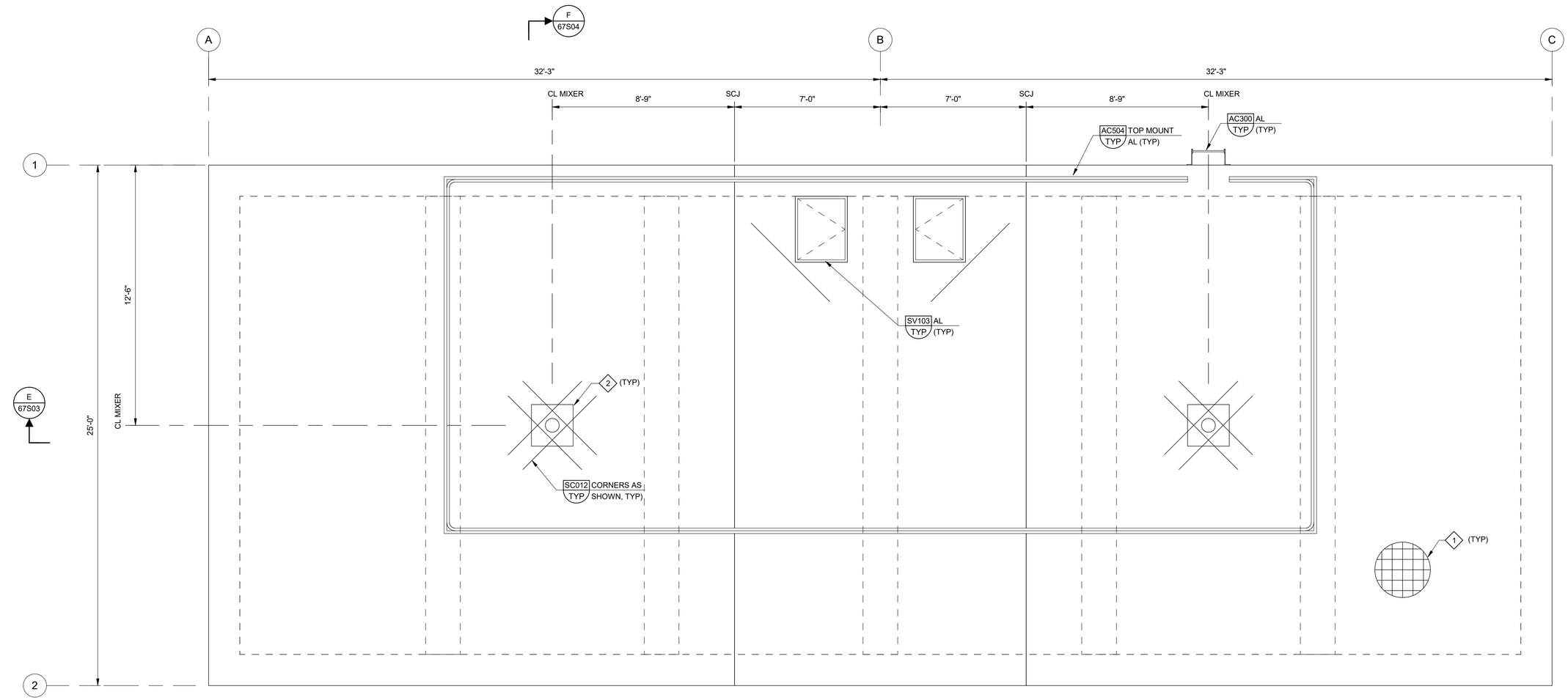
FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_67S0801.rvt

KEY NOTES:

1. 14" THICK SUSPENDED SLAB WITH #5@6" EW T&B.
2. EQUIPMENT PAD PER DETAIL SD512/TYP W/ ANCHORS EMBED INTO SLAB.

GENERAL NOTES:

1. SEE DRAWING 00GS01 FOR GENERAL STRUCTURAL NOTES.
2. SEE DRAWING 00GS02 AND CIVIL DRAWINGS FOR TYPICAL STRUCTURAL SUBGRADE AND CIVIL DETAILS.
3. PROVIDE ADDITIONAL REINFORCEMENT BARS PER DETAIL SC012/TYP AT OPENINGS, UNLESS NOTED OTHERWISE HEREIN. COORDINATE ALL OPENINGS, PENETRATIONS, AND EQUIPMENT SUBMITTALS WITH OTHER DISCIPLINE DRAWINGS. NOT ALL OPENINGS AND PENETRATIONS ARE SHOWN AND/OR DIMENSIONED HEREIN.
4. PROVIDE JOINTS AS DESIGNATED HEREIN:
   SCJ = SLAB CONSTRUCTION JOINT PER DETAIL SD102/TYP
   WCJ = WALL CONSTRUCTION JOINT PER DETAIL SD102/TYP
   MCJ - MASONRY WALL CONTROL JOINT PER DETAIL SF722/TYP



B PLAN
SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED JMY
DRAWN JRL
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 11390122-2202
J. MATTHEW YATES
STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

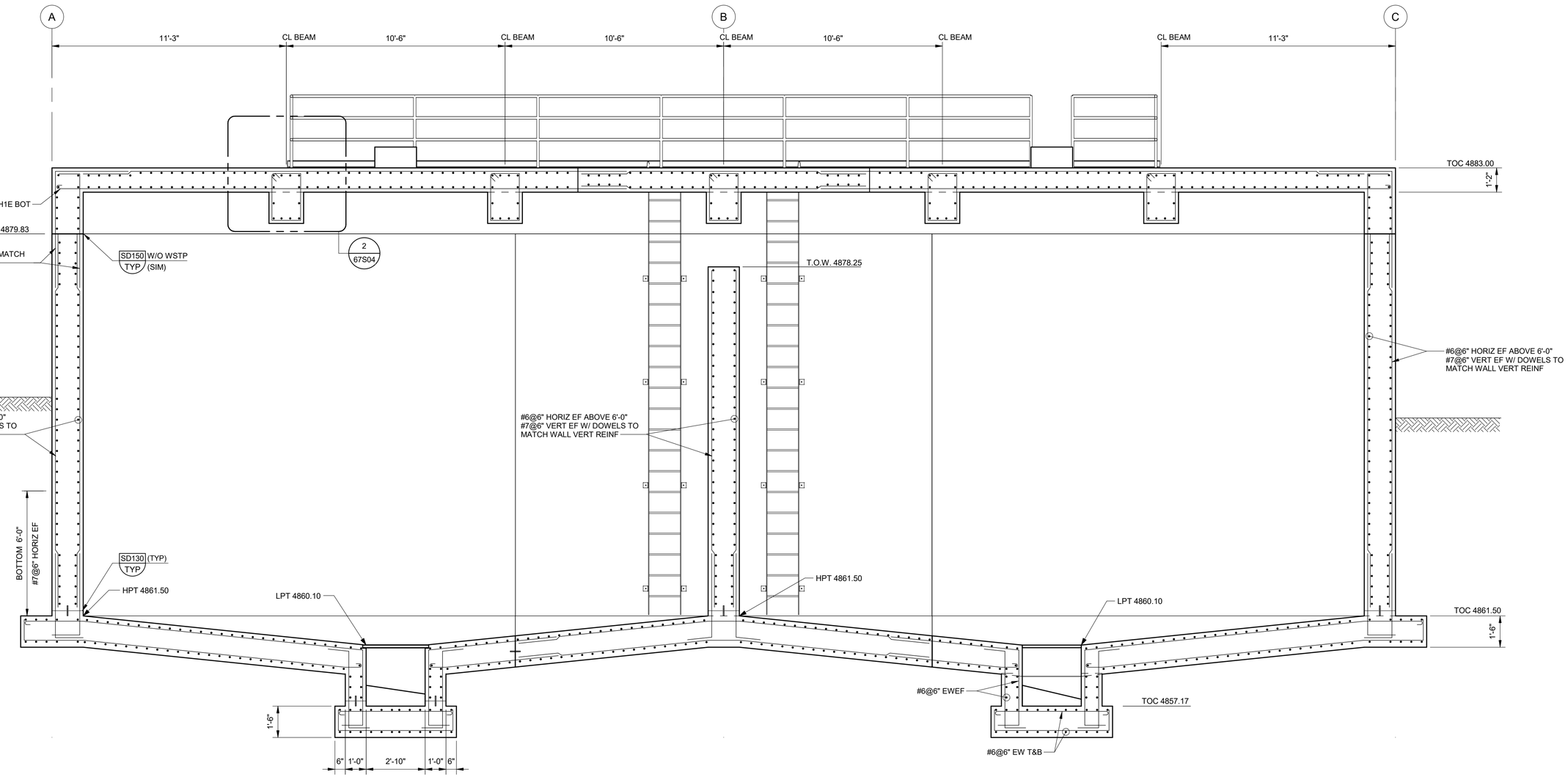
WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
STRUCTURAL
SLUDGE DAY TANKS
TOP PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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JOB NO. 203356
DRAWING NO. 67S02
SHEET NO. 57 OF 162

PLOT DATE: 6/6/2025 2:07:53 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_67S0801.rvt



E SECTION

67S01

SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED JMY
DRAWN JRL
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 11390122-2202
J. MATTHEW YATES
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

STRUCTURAL

SLUDGE DAY TANKS
SECTIONS

VERIFY SCALES
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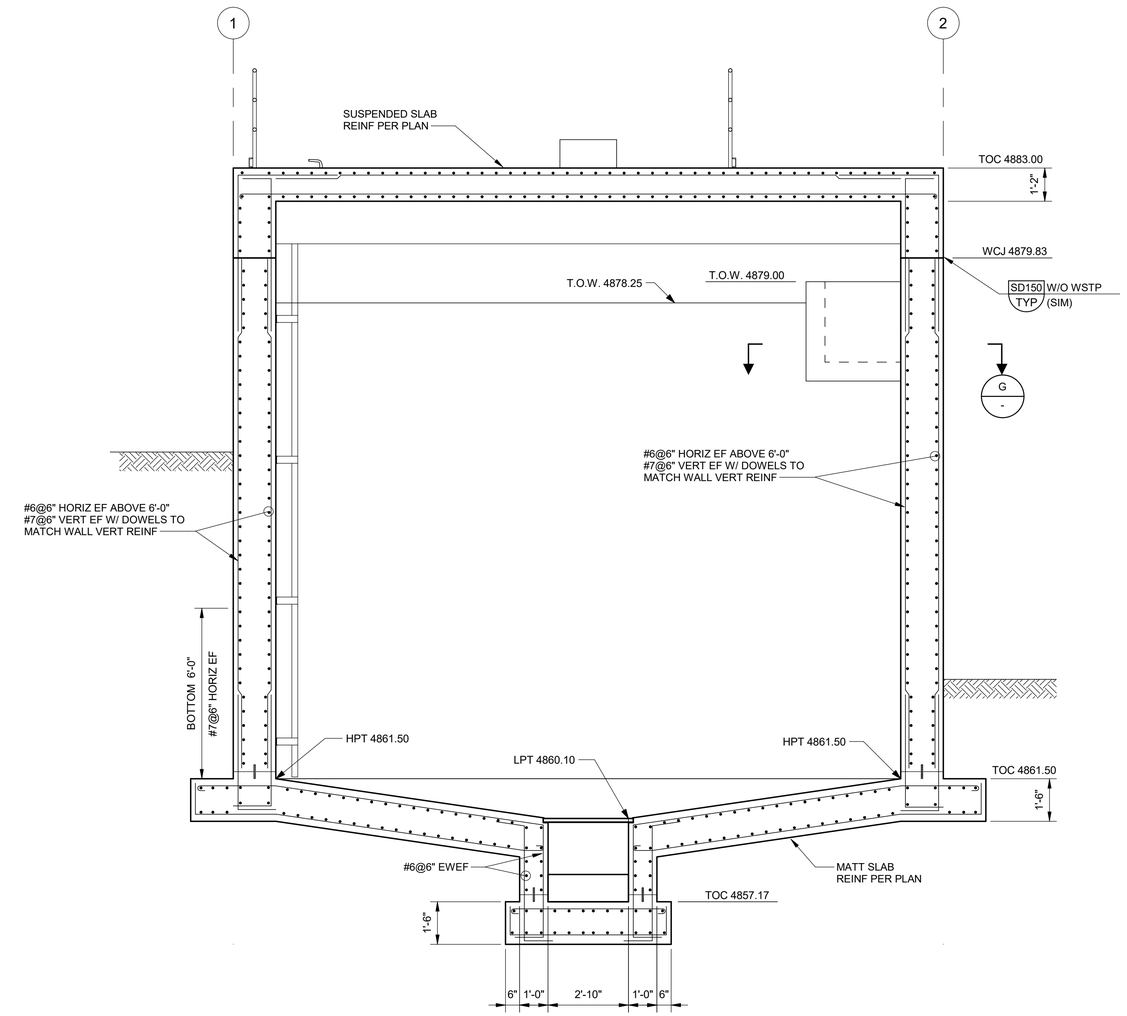
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SHEET NO. 58 OF 162

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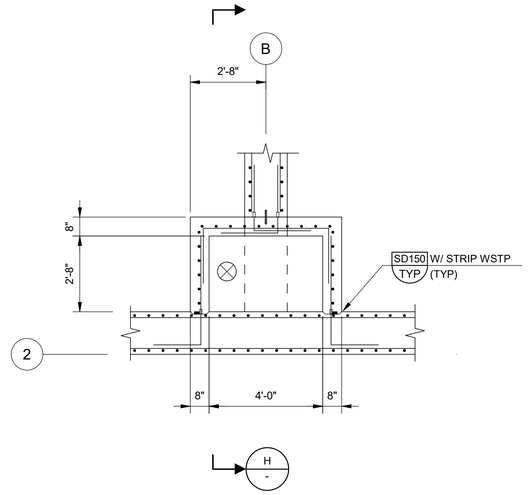
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GENERAL NOTES:

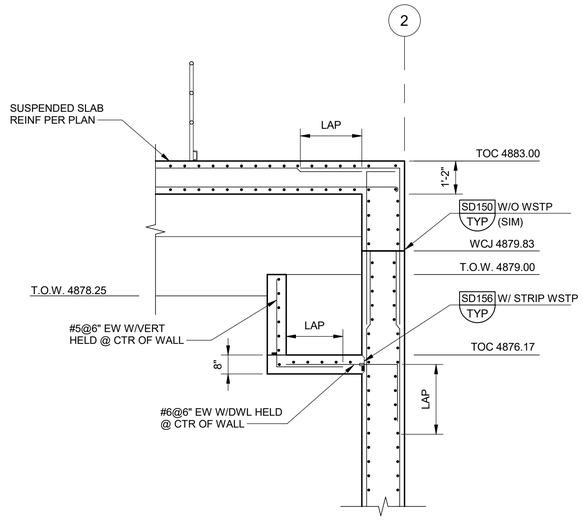
1. SEE DRAWING 00GS01 FOR GENERAL STRUCTURAL NOTES.



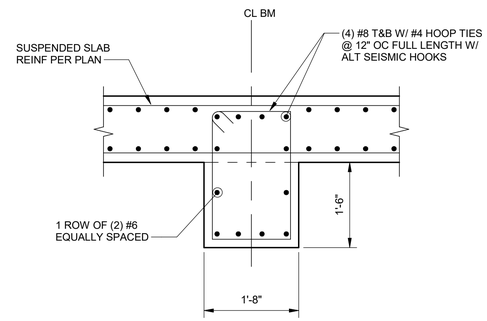
F SECTION
67S01
SCALE: 3/8" = 1'-0"



G SECTION
-
SCALE: 3/8" = 1'-0"



H SECTION
-
SCALE: 3/8" = 1'-0"



2 DETAIL
67S03
SCALE: 3/4" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED JMY
DRAWN JRL
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 11390122-2202
J. MATTHEW YATES
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

STRUCTURAL

SLUDGE DAY TANKS
SECTIONS

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 67S04
SHEET NO. 59 OF 162

PLOT DATE: 6/6/2025 2:07:54 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_67S0801.rvt

PIPING SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		WELDED JOINT
		GROOVED END JOINT
		FLANGED JOINT
		HUB & SPIGOT JOINT (RUBBER GASKET)
		PUSH-ON JOINT (RESTRAINED)
		ADAPTER SIDE GROOVED END ADAPTER FLANGE
		FLANGED COUPLING ADAPTER
		FLANGED COUPLING ADAPTER WITH THRUST TIES
		FLEXIBLE COUPLING
		FLEXIBLE COUPLING WITH THRUST TIES
		METAL BELLOWS EXP JOINT
		ELASTOMER BELLOWS EXP JOINT
		FLEXIBLE COUPLING ADAPTER
		DISMANTLING JOINT
		EXPANSION COMPENSATOR
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER (FOT. FOB)
		UNION
		CAP
		ANCHOR
		ELBOW, 90 DEGREE
		CROSS
		TEE
		ELBOW, 45 DEGREE
		ELBOW, 22.5 DEGREE
		ELBOW, 11.25 DEGREE
		LATERAL

SINGLE LINE	DESCRIPTION
	GATE VALVE
K	KNIFE GATE VALVE
	BUTTERFLY VALVE
V	CHARACTERIZED BALL CONTROL VALVE
	BALL VALVE
	GLOBE VALVE
	3-WAY GLOBE TYPE MIXING VALVE
	FOUR WAY VALVE
	PINCH VALVE
	DIAPHRAGM VALVE
	PLUG VALVE
	LUBRICATED PLUG VALVE
	ECCENTRIC PLUG VALVE
	CONCENTRIC PLUG VALVE
	SWING CHECK VALVE
	WAFER CHECK VALVE
	BALL CHECK VALVE
	DUAL CHECK VALVE
	CHECK BACKFLOW PREVENTER
	HOSE VALVE
	MUD VALVE (PLAN VIEW)
	NEEDLE VALVE
	CONE VALVE
	PRESSURE RELIEF PRESSURE-REDUCING REGULATOR
	TELESCOPING VALVE
	THREE WAY VALVE AIR OPERATED
M	THREE WAY VALVE MOTOR OPERATED
S	THREE WAY VALVE SOLENOID OPERATED
	VACUUM VALVE
	BACKPRESSURE REGULATOR SELF-CONTAINED
	BACKPRESSURE REGULATOR W/ EXTERNAL PRESSURE TAP
	PRESSURE-REDUCING REGULATOR: SELF-CONTAINED
	PRESSURE-REDUCING REGULATOR W/EXTERNAL PRESSURE TAP

MECHANICAL SYMBOLS

SINGLE LINE	DESCRIPTION
	AIR OR CHEMICAL DIFFUSER
	QUICK DISCONNECT HIGH PRESSURE AIR OR FLUSHING
	BATCHMETER
	AIR VENT
	BASKET STRAINER
	BLOWER
	CALIBRATION COLUMN
	COMPRESSOR/TURBINE
	COMPRESSOR: RECIPROCATING
	DIAPHRAGM SEAL
	DRAIN
	EJECTOR OR EDUCTOR
M	ELECTRIC MOTOR
	EQUIPMENT DRAIN
	EXPANSION JOINT, FLEXIBLE VIBRATION JOINT
	FAN: EXHAUST/SUPPLY
	FILTER
	FIRE HYDRANT
	FLAME ARRESTER
	FLAME ARRESTER WITH THERMALLY OPERATED VALVE
	FLOOR DRAIN
	FLOW SWITCH
	GAUGE: PRESSURE
	GAUGE: DIFFERENTIAL PRESSURE
	WEIR
	MIXER
	OIL OR MOISTURE TRAP
	PRIMARY LEVEL ELEMENT: BUBBLER
	PRIMARY LEVEL ELEMENT: ELECTRODE
	PRIMARY LEVEL ELEMENT: FLOAT SWITCH
	PRIMARY LEVEL ELEMENT: FLUID
	PRIMARY LEVEL ELEMENT: INVERTED COLUMN

SINGLE LINE	DESCRIPTION
	PRIMARY LEVEL ELEMENT: RADAR
	PRIMARY LEVEL ELEMENT: ULTRASONIC
	PRIMARY FLOW ELEMENT: FLUME
X	PRIMARY FLOW ELEMENT: X = C - CORIOLIS X = M - MAGNETIC X = P - PROPELLER X = PT - PITOT TUBE X = R - ROTAMETER X = T - TURBINE X = TH - THERMAL X = U - ULTRASONIC X = D - DENSITY
	PRIMARY FLOW ELEMENT: ORIFICE PLATE
	PRIMARY FLOW ELEMENT: VENTURI TUBE
	PRIMARY FLOW ELEMENT: WEIR
	PULSATION DAMPENER
	PUMP: CENTRIFUGAL
	PUMP: DIAPHRAGM
	PUMP: METERING
	PUMP: PLUNGER
	PUMP: PERISTALTIC TUBE METERING
	PUMP: PROGRESSIVE CAVITY
	PUMP: RECIPROCATING
	PUMP: ROTARY
	PUMP: SCREW
	PUMP: SUBMERSIBLE
	PUMP: VERTICAL LIFT
	PIPE REDUCER: CONCENTRIC
	PIPE REDUCER: ECCENTRIC (FOT, FOB)
	ROTARY CHEMICAL FEEDER
	RUPTURE DISK
	SAMPLE PORT
	SIGHT GLASS
	SLIDE GATE
	SLUICE GATE
	STRAINER: WYE TYPE

SINGLE LINE	DESCRIPTION
	STRAINER: WYE TYPE WITH BLOWOFF
	THERMOMETER
	VALVE: ANGLE
	VALVE: AIR RELIEF
	PIPE MATERIAL CHANGE

IDENTIFICATION SYMBOLS

CHEMICAL INJECTION POINT — CHEMICAL / DWG NO.

PIPE DESIGNATOR — PIPE SIZE, FLOW STREAM, X" XXX

CONTINUATION TAG — UNIQUE IDENTIFIER, CONTINUATION FROM DWG NO., CONTINUATION TO DWG NO., A, B, C

EQUIPMENT / VALVE TAG — XXX-XX-XXXX

KEY TAG — X

LINE SYMBOLS

PIPE ABOVE OR BELOW GROUND

PIPE UNDERNEATH SLAB OR STRUCTURE

FUTURE

EXISTING

DEMO

PROCESS LINE SYMBOLS

PRIMARY PROCESS FLOW IN PIPE

SECONDARY PROCESS FLOW IN PIPE

PRIMARY PROCESS FLOW IN CHANNEL

SECONDARY PROCESS FLOW IN CHANNEL

FLOW STREAM IDENTIFIER

ABBREVIATION		DESCRIPTION
DR	=	DRAIN
NG	=	NATURAL GAS
OF	=	OVERFLOW
SD	=	STORM DRAIN
SL	=	SLUDGE LINE
SPD	=	SUMP PUMP DISCHARGE
TE	=	THICKENED EFFLUENT
TS	=	THICKENED SLUDGE
UW2	=	UTILITY WATER 2
VT	=	VENT

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 270473-2202 — RANDAL L ZOLLINGER — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

MECHANICAL

GENERAL LEGEND AND SYMBOLS

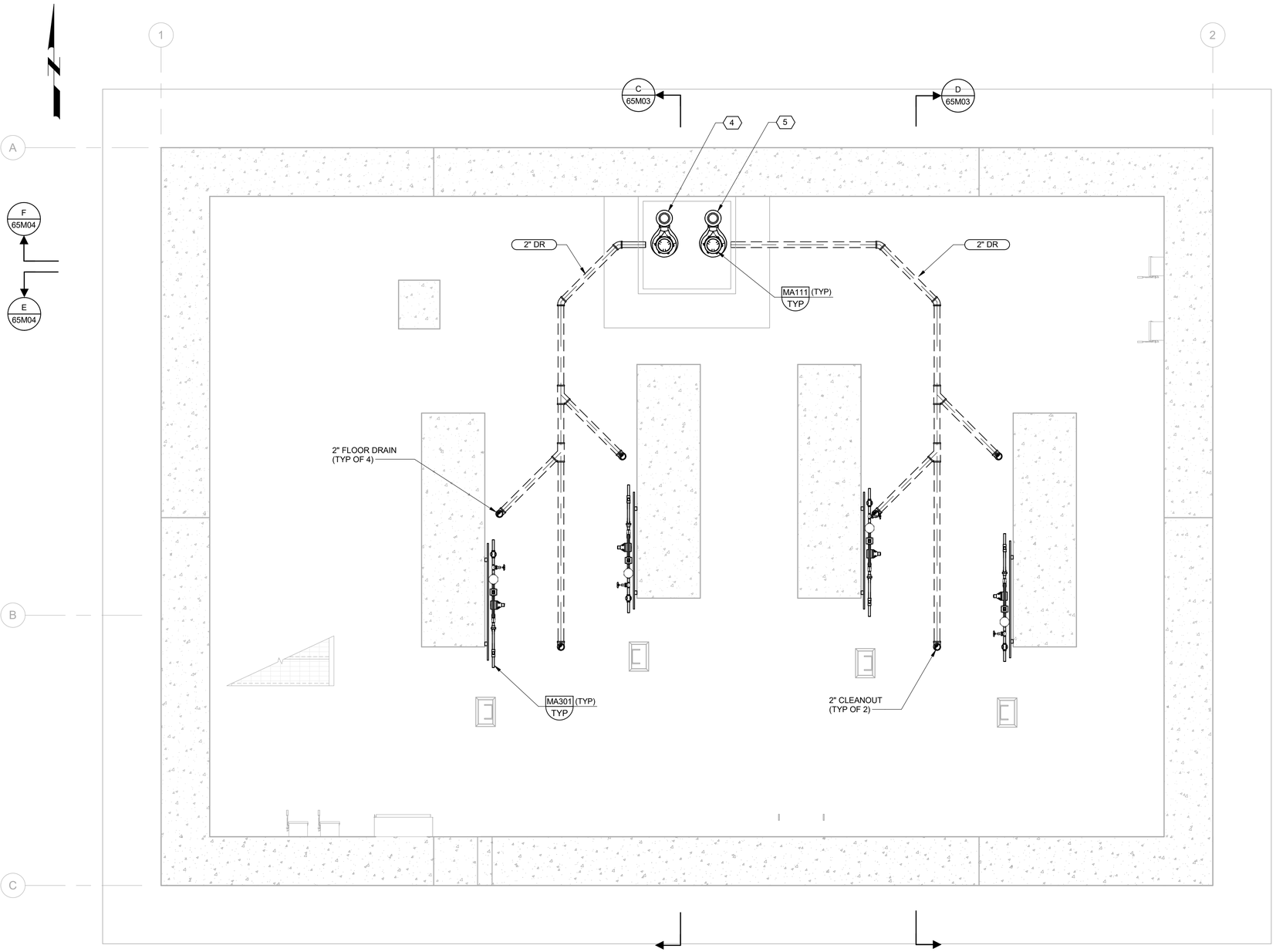
VERIFY SCALES
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0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00GM01
SHEET NO. 60 OF 162

LAST SAVED BY: KMarshall

PROJECT NO.

FILE NAME: ProjNum00GM02.dwg



GENERAL NOTES:

1. ALL PIPING SHOWN TO BE INSTALLED IN THE FLOOR SLAB.
2. SLOPE ALL DRAIN PIPING AT A MINIMUM OF 1/4" PER FOOT.

KEY TAGS:

4	65-PMP-981	PUMP
5	65-PMP-982	PUMP

DRAINAGE

A PLAN

SCALE: 1/2" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
RANDAL L. ZOLLINGER
STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

MECHANICAL

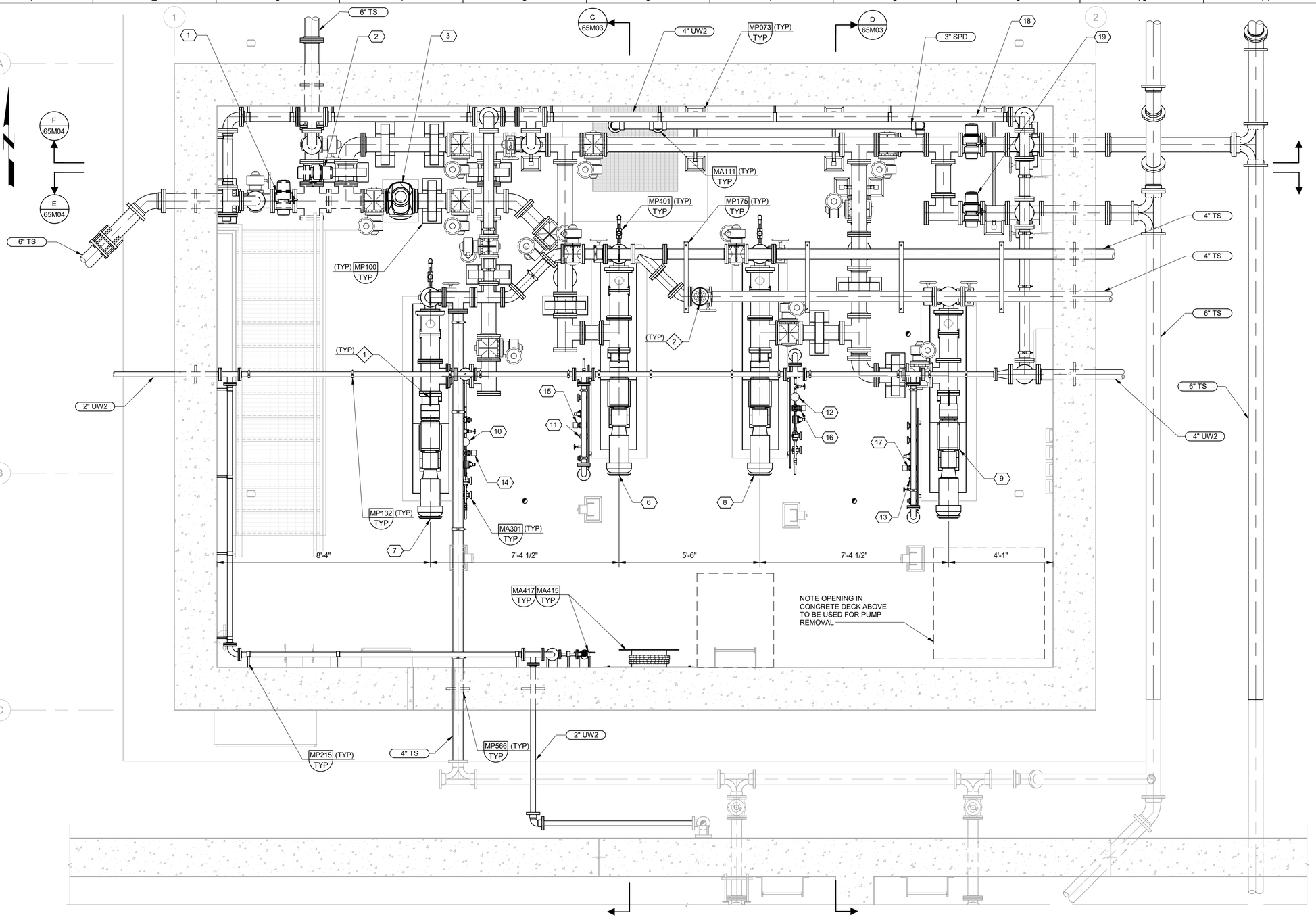
SLUDGE PUMP STATION DRAINAGE PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65M01
SHEET NO. 61 OF 162

PLOT DATE: 6/10/2025 1:36:50 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65M0801.rvt



B PLAN
SCALE: 1/2" = 1'-0"

KEY NOTES:

1. LIFTING LUGS LOCATED ABOVE EACH PUMP (TOTAL 4) ARE USED TO REMOVE PUMPS FROM THE CONCRETE EQUIPMENT PADS AND ONTO A CART WHERE THEY CAN BE MOVED UNDERNEATH THE EQUIPMENT HATCH FOR EXTRACTION.
2. LIFTING LUGS LOCATED ABOVE OVERHEAD VALVES AND FLOW METERS (TOTAL 6) ARE USED TO ASSIST OPERATORS DURING MAINTENANCE OF EQUIPMENT.

KEY TAGS:

1	65-FV-930B	PLUG VALVE
2	65-FV-930A	PLUG VALVE
3	65-GDR-930	GRINDER
4	65-PMP-981	PUMP
5	65-PMP-982	PUMP
6	65-PMP-932	PUMP
7	65-PMP-931	PUMP
8	65-PMP-941	PUMP
9	65-PMP-942	PUMP
10	65-FSL-931	FLOW SWITCH
11	65-FSL-932	FLOW SWITCH
12	65-FSL-941	FLOW SWITCH
13	65-FSL-942	FLOW SWITCH
14	65-SV-931	SOLENOID VALVE
15	65-SV-932	SOLENOID VALVE
16	65-SV-941	SOLENOID VALVE
17	65-SV-942	SOLENOID VALVE
18	65-HVB-940	PLUG VALVE
19	65-HVC-940	PLUG VALVE

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
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MECHANICAL

SLUDGE PUMP STATION PLAN

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

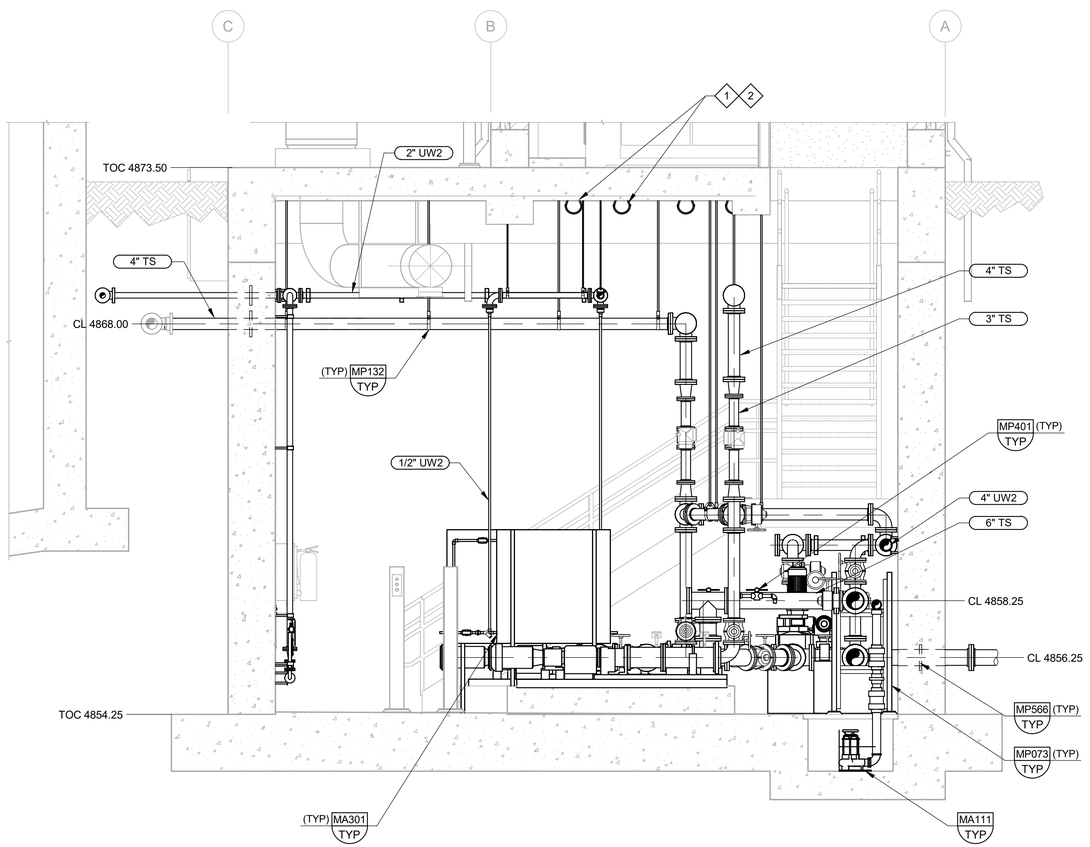
JOB NO. 203356
DRAWING NO. 65M02
SHEET NO. 62 OF 162

PLOT DATE: 6/10/2025 1:36:56 PM

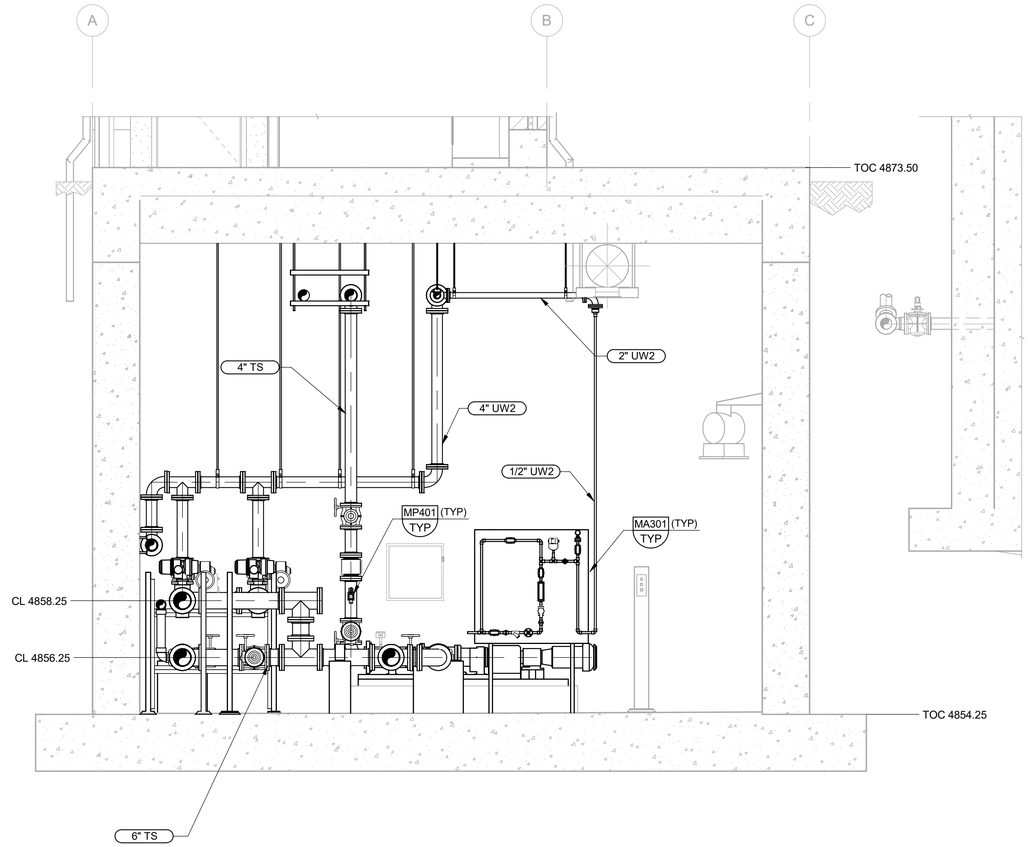
FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65M0801.rvt

KEY NOTES:

1. LIFTING LUGS LOCATED ABOVE EACH PUMP (TOTAL 4) ARE USED TO REMOVE PUMPS FROM THE CONCRETE EQUIPMENT PADS AND ONTO A CART WHERE THEY CAN BE MOVED UNDERNEATH THE EQUIPMENT HATCH FOR EXTRACTION.
2. SUSPEND CHAIN FROM EACH OF THE FOUR PUMP LIFTING LUGS, DOWN TO 7' 6" ABOVE THE FINISHED FLOOR. ONE MANUAL HOIST (CAPACITY 1 TON) TO BE MOVED FROM CHAIN TO CHAIN TO LIFT PUMPS.



C SECTION
65M01
SCALE: 3/8" = 1'-0"



D SECTION
65M01
SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
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MECHANICAL

SLUDGE PUMP STATION SECTIONS AND DETAILS 1

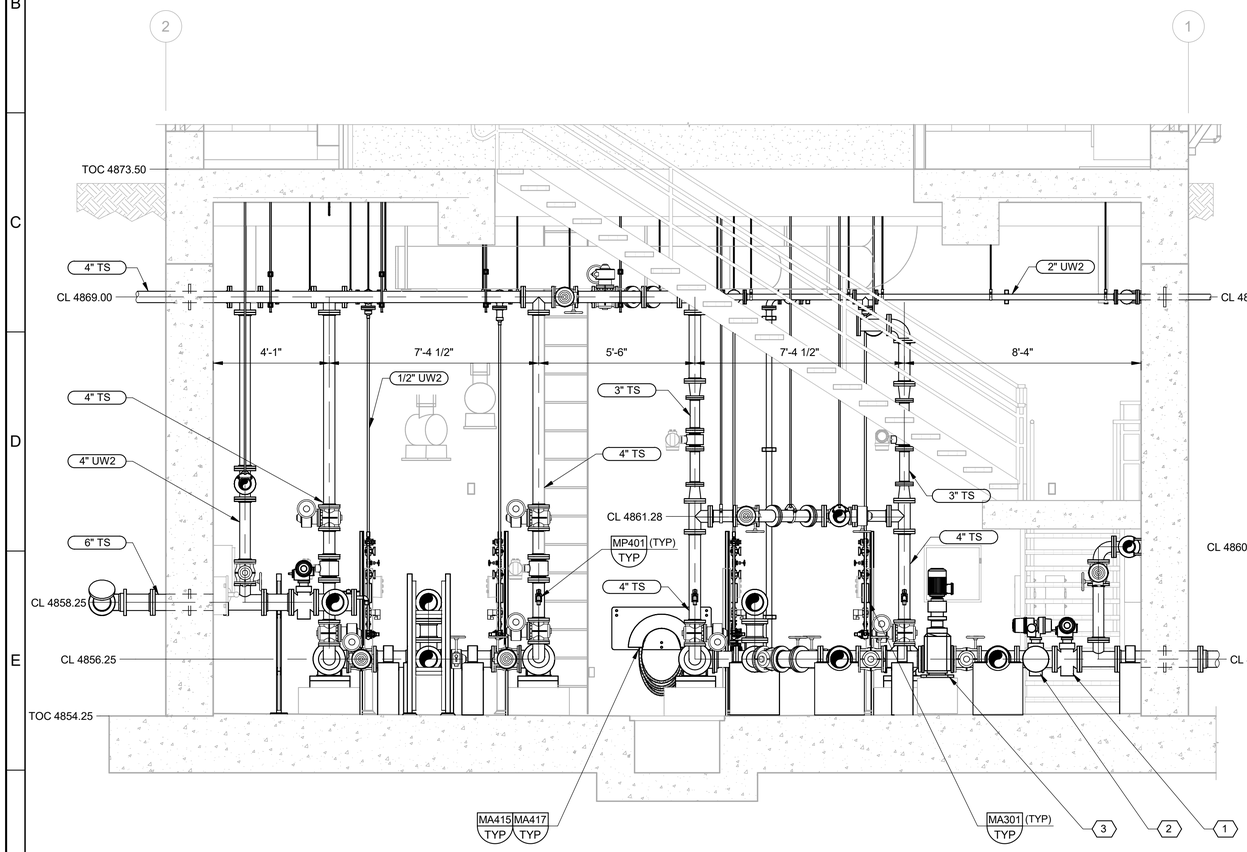
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65M03
SHEET NO. 63 OF 162

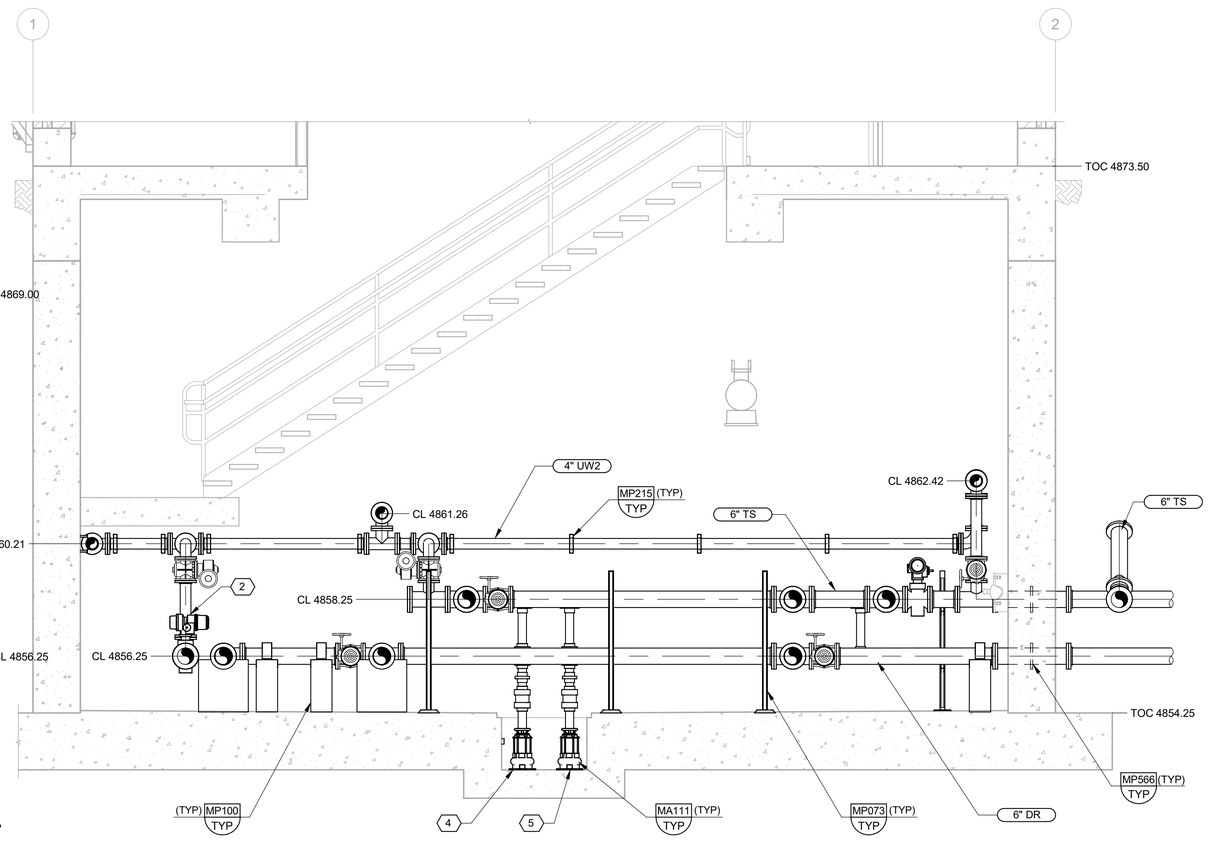
PLOT DATE: 6/10/2025 1:36:59 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65M0801.rvt

#	KEY TAGS:	
1	65-FV-930B	PLUG VALVE
2	65-FV-930A	PLUG VALVE
3	65-GDR-930	GRINDER
4	65-PMP-981	PUMP
5	65-PMP-982	PUMP



E 65M01 **SECTION**
SCALE: 3/8" = 1'-0"



F 65M01 **SECTION**
SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

MECHANICAL

SLUDGE PUMP STATION SECTIONS AND DETAILS 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

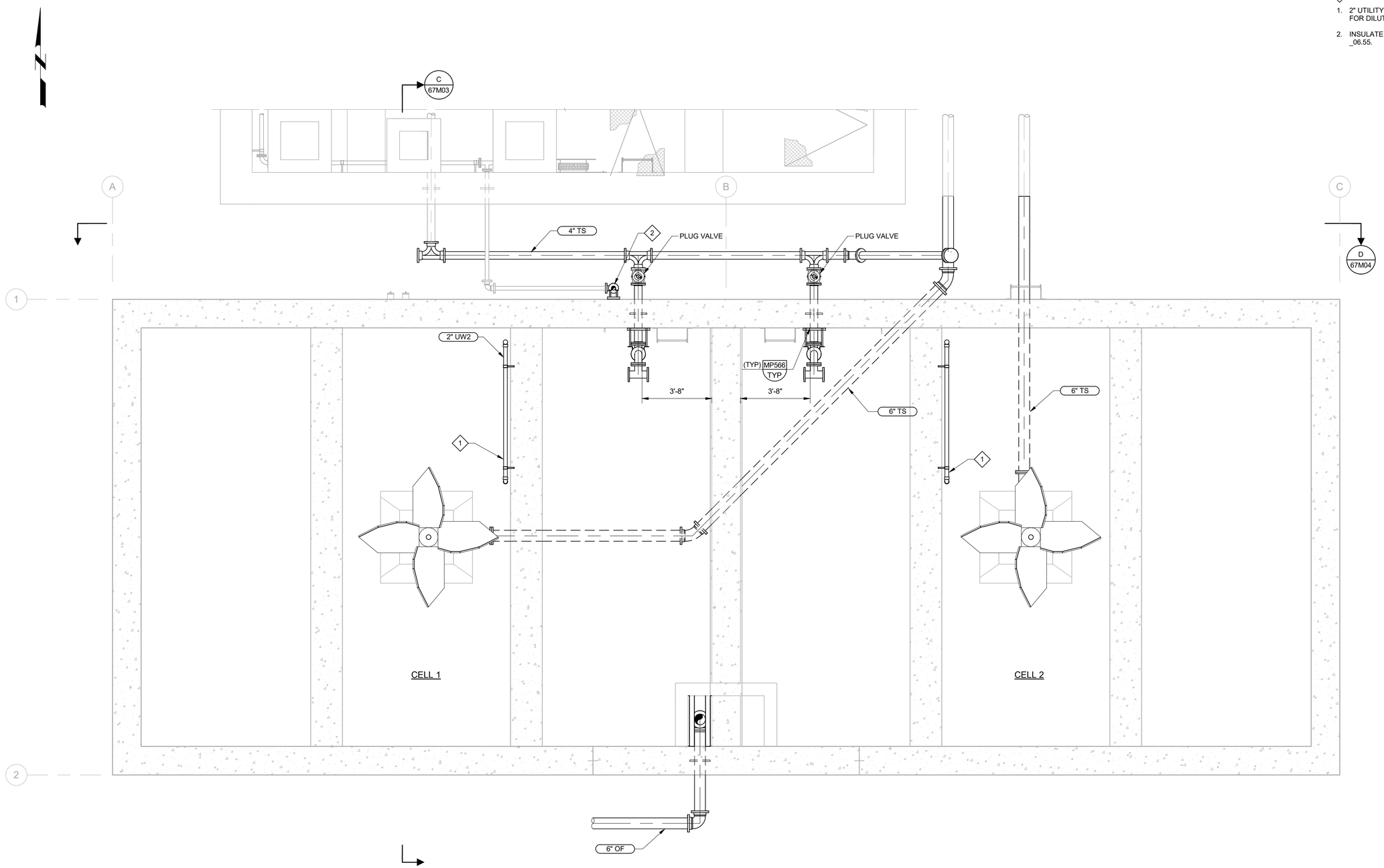
JOB NO. 203356
DRAWING NO. 65M04
SHEET NO. 64 OF 162

PLOT DATE: 6/10/2025 1:37:02 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65M0801.rvt

KEY NOTES:

1. 2" UTILITY WATER SPOUT TO MANUALLY ADD WATER TO DAY TANK FOR DILUTION.
2. INSULATE EXPOSED UTILITY WATER LINE PER SPECIFICATION 40_05 _06.55.



A PLAN
SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

MECHANICAL

SLUDGE DAY TANK
LOWER PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

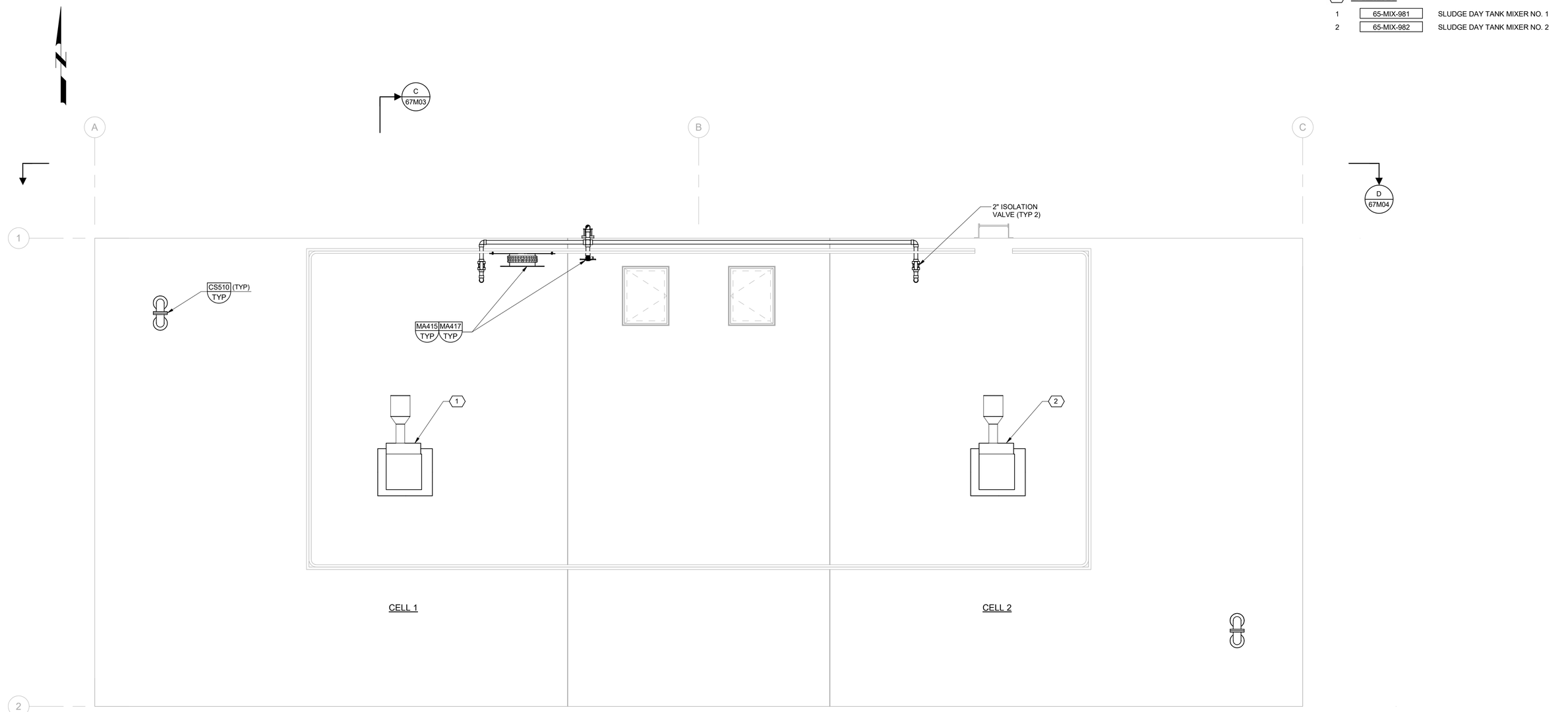
JOB NO. 203356
DRAWING NO. 67M01
SHEET NO. 65 OF 162

PLOT DATE: 6/11/2025 2:03:14 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_67M0801.rvt

KEY TAGS:

#		
1	65-MIX-981	SLUDGE DAY TANK MIXER NO. 1
2	65-MIX-982	SLUDGE DAY TANK MIXER NO. 2



B PLAN
SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

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MECHANICAL

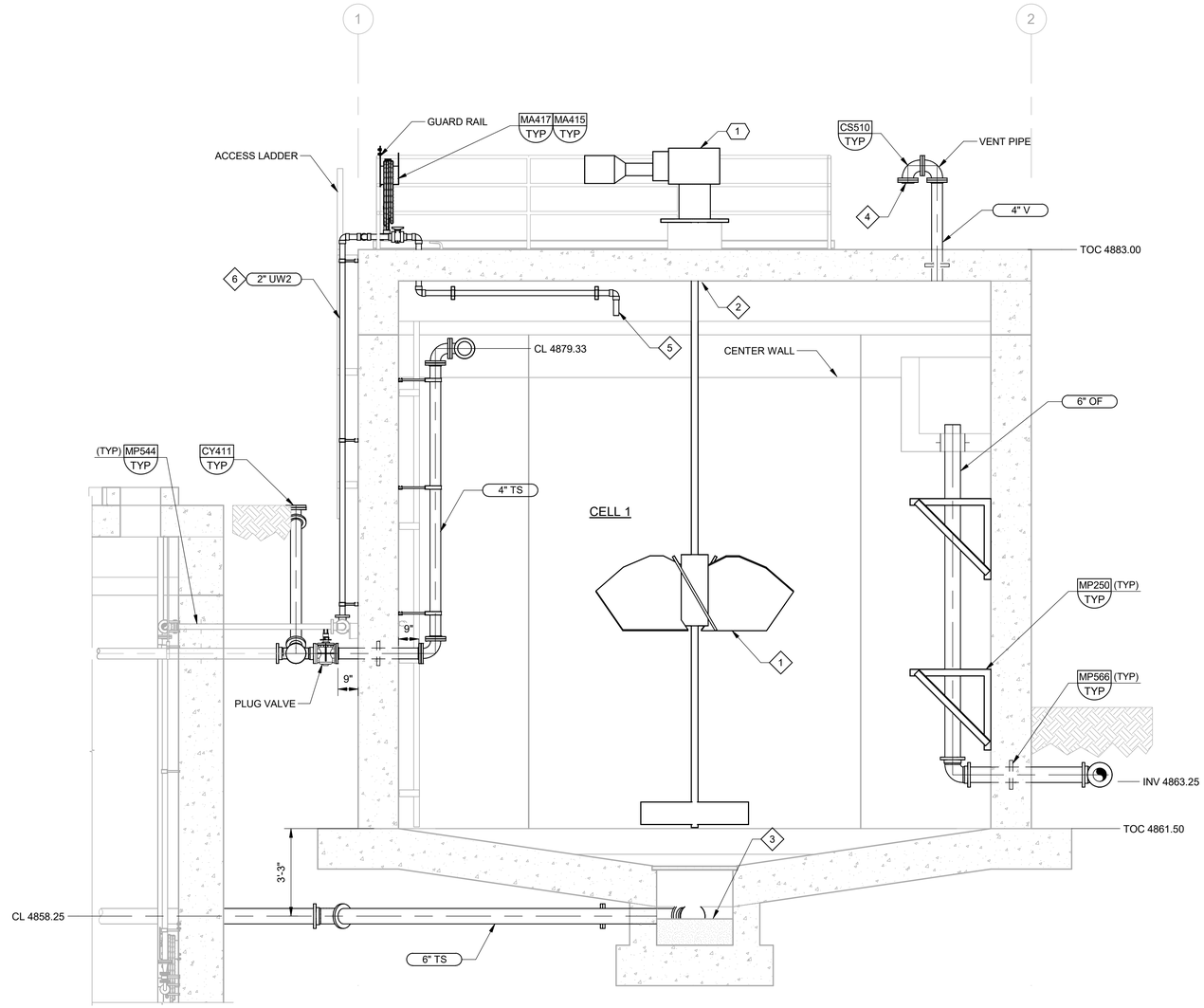
SLUDGE DAY TANK
TOP PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 67M02
SHEET NO. 66 OF 162

PLOT DATE: 6/11/2025 2:03:15 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_67M0801.rvt



C 67M01 **SECTION**

SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. SEE CIVIL DRAWING C-19 FOR CONTINUATION OF PIPING.
2. FOR SUBMERGED PIPING, PROVIDE HIGH SOLIDS EPOXY COATING SYSTEM IN ACCORDANCE WITH SPECIFICATION 09_96_01.

KEY NOTES:

1. HEIGHT OF IMPELLER ABOVE FLOOR AS SPECIFIED IN SECTION 46_41_34.01 - VERTICAL SHAFT FLOCCULATOR UNITS
2. DIMENSIONS FOR SLUDGE MIXER PER MANUFACTURER AND IN ACCORDANCE WITH SPECIFICATIONS.
3. FILL WITH NON-SHRINK GROUT. SLOPE TO OUTLET PIPE INVERT.
4. TERMINATE 3'-0" ABOVE SLAB. PROVIDE BIRD SCREEN ON END OF VENT.
5. 2" UTILITY WATER SPOUT TO MANUALLY ADD WATER TO DAY TANK FOR DILUTION.
6. INSULATE EXPOSED UTILITY WATER LINE PER SPECIFICATION 40_05_06.55.

KEY TAGS:

1	65-MIX-981	SLUDGE DAY TANK MIXER NO. 1

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
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CHECKED MSF
DATE JUNE 2025

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

MECHANICAL

SLUDGE DAY TANK
SECTIONS AND DETAILS 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 67M03
SHEET NO. 67 OF 162

PLOT DATE: 6/11/2025 2:03:17 PM

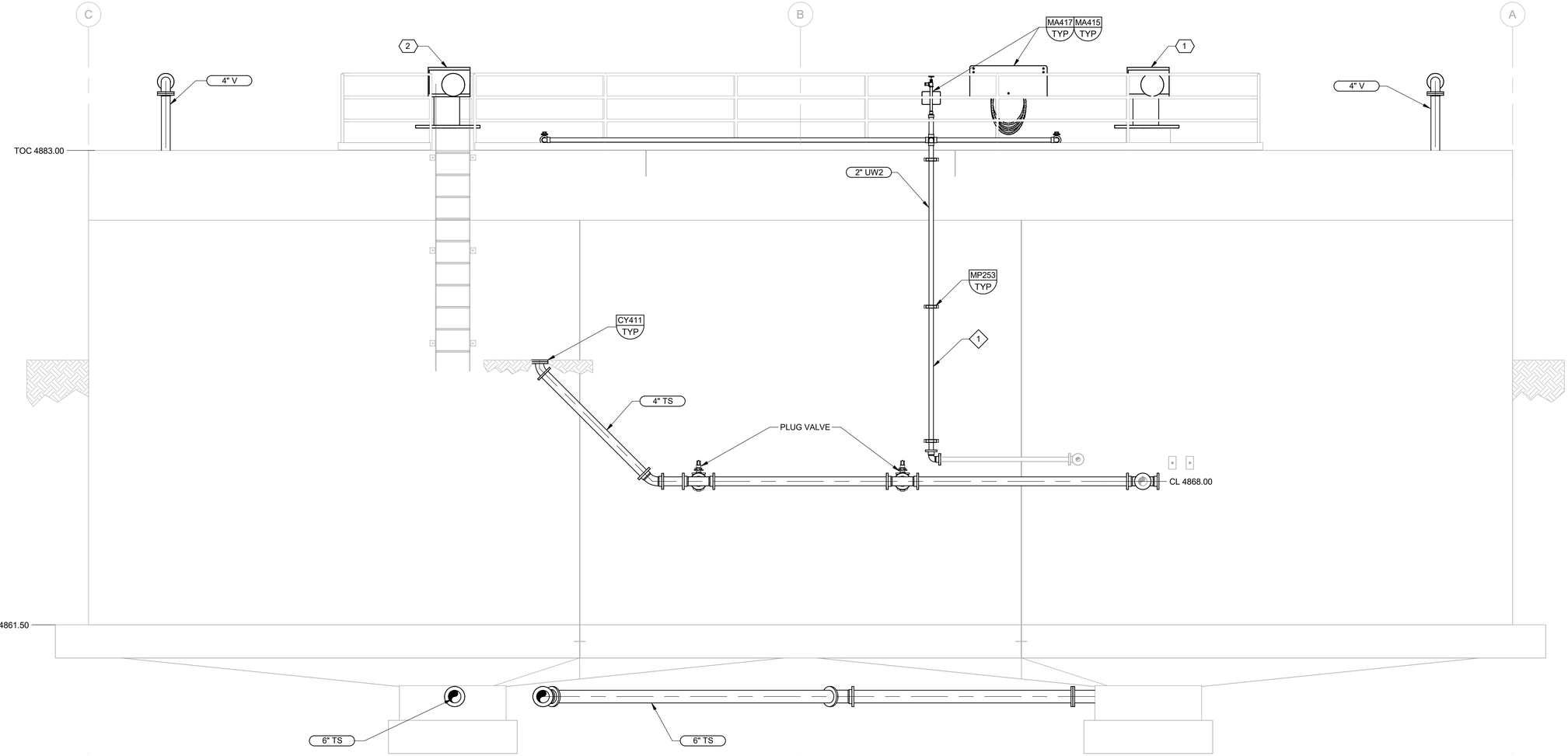
FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_67M0801.rvt

KEY NOTES:

1. INSULATE EXPOSED UTILITY WATER LINE PER SPECIFICATION 40_05 _06.55.

KEY TAGS:

1	65-MIX-981	SLUDGE DAY TANK MIXER NO. 1
2	65-MIX-982	SLUDGE DAY TANK MIXER NO. 2



D SECTION

67M01

SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

MECHANICAL

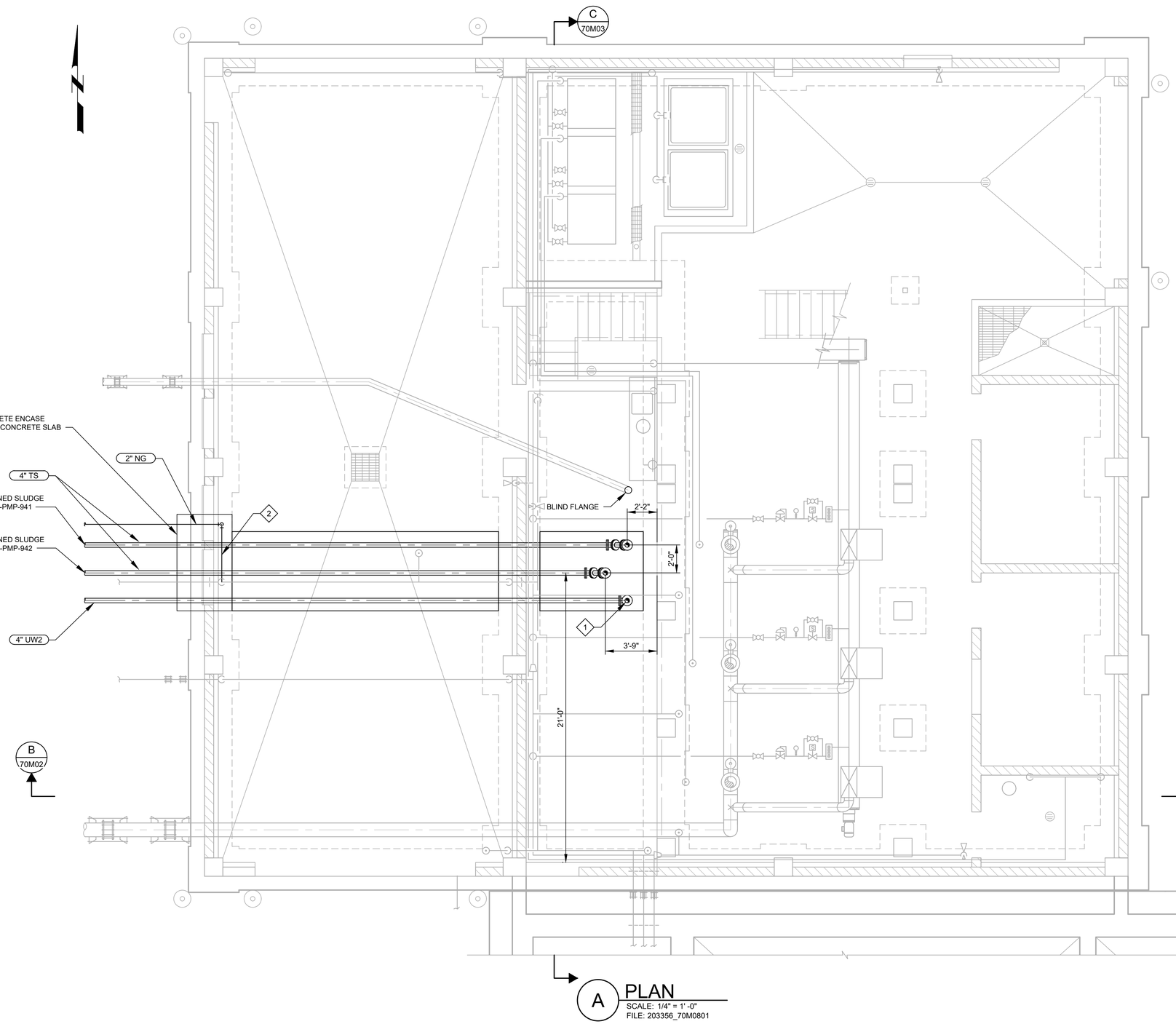
SLUDGE DAY TANK
SECTIONS AND DETAILS 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 67M04
SHEET NO. 68 OF 162

PLOT DATE: 6/11/2025 2:03:18 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_67M0801.rvt



A PLAN
SCALE: 1/4" = 1' -0"
FILE: 203356_70M0801

KEY NOTES:

1. TIE INTO EXISTING 4" UTILITY WATER LINE AND ROUTE OUT CUT FLOOR SLAB TO NEW PUMP STATION.
2. TIE INTO EXISTING 2" NATURAL GAS LINE AND ROUTE OUT CUT FLOOR SLAB TO NEW PUMP STATION.

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

MECHANICAL

EXISTING DEWATERING BUILDING PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 70M01
SHEET NO. 69 OF 162

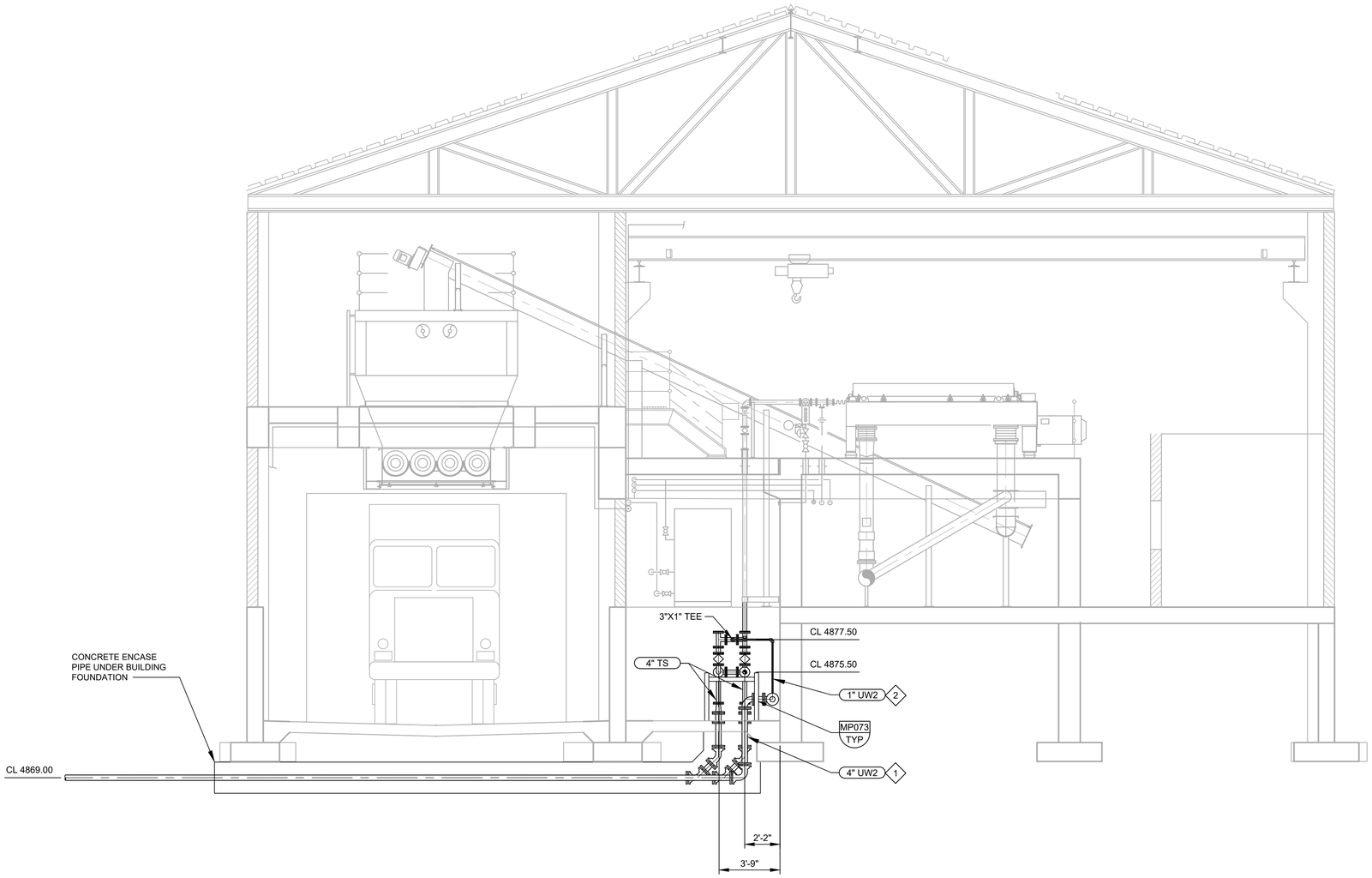
LAST SAVED BY: KMarshall

PROJECT NO.

FILE NAME: ProjNum00GM02.dwg

KEY NOTES:

1. TIE INTO EXISTING 4" UTILITY WATER LINE AND ROUTE OUT CUT FLOOR SLAB TO NEW PUMP STATION.
2. 1" UTILITY WATER WITH ISOLATION VALVE CONNECTION TO 4" TS LINES. ALLOWS FOR MANUAL DILUTION OF SLUDGE BEFORE CENTRIFUGES.



B SECTION

70M01

SCALE: 1/4" = 1'-0"
FILE: 20335_70M0301

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
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CHECKED MSF
DATE JUNE 2025

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

MECHANICAL

EXISTING DEWATERING BUILDING
SECTION 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 70M02
SHEET NO. 70 OF 162

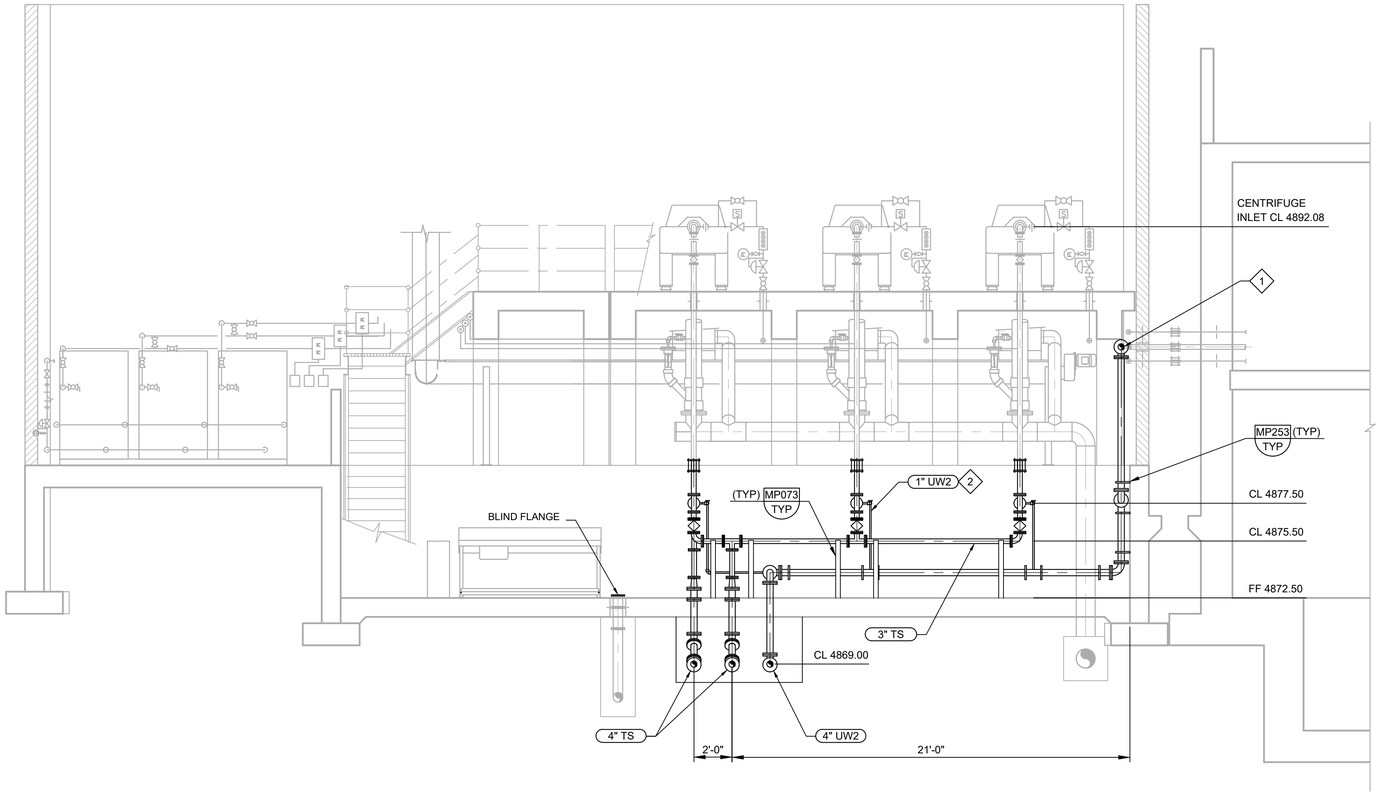
LAST SAVED BY: KMarshall

PROJECT NO.

FILE NAME: ProjNum00GM02.dwg

KEY NOTES:

1. TIE INTO EXISTING 4" UTILITY WATER LINE AND ROUTE OUT CUT FLOOR SLAB TO NEW PUMP STATION.
2. 1" UTILITY WATER WITH ISOLATION VALVE CONNECTION TO 4" TS LINES. ALLOWS FOR MANUAL DILUTION OF SLUDGE BEFORE CENTRIFUGES.



C SECTION

70M01

SCALE: 1/4" = 1'-0"
FILE: 203356_70M0302

REV	DATE	BY	DESCRIPTION

DESIGNED MSF
DRAWN DCS
CHECKED MSF
DATE JUNE 2025

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
MECHANICAL
EXISTING DEWATERING BUILDING SECTIONS 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 70M03
SHEET NO. 71 OF 162

LAST SAVED BY: KMarshall

PROJECT NO.
FILE NAME: ProjNum00GM02.dwg

NOTES

1. SIZES OF EQUIPMENT PADS INDICATED ON THE DRAWINGS ARE APPROXIMATE. EXACT DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR FOR THE EQUIPMENT FURNISHED. ALL FLOOR MOUNTED EQUIPMENT SHALL BE SET ON CONCRETE PADS CONFORMING TO DETAILS SHOWN ON THE TYPICAL STRUCTURAL DRAWINGS.
2. DIELECTRIC COUPLINGS, FLANGES OR UNIONS SHALL BE INSTALLED AT ALL CONNECTIONS OF COPPER PIPE TO OTHER TYPES OF METALLIC PIPING.
3. HVAC PIPING AND DUCTWORK DRAWINGS DO NOT SHOW ALL DRAINS, VENTS, OFFSETS AND FITTINGS ETC. REQUIRED FOR THE COMPLETE SYSTEM. SMALL PIPING IS SHOWN APPROXIMATELY TO SCALE BUT NOT EVERY FITTING AND OFFSET IS SHOWN. THE CONTRACTOR SHALL FURNISH, INSTALL AND TEST ALL HVAC SYSTEMS TO PROVIDE THE COMPLETE SYSTEM.
4. UNLESS OTHERWISE SHOWN ON THE DRAWINGS ALL FLOOR SLAB AND WALL PENETRATIONS SHALL BE AS SHOWN ON THE TYPICAL DETAILS.
5. NOT ALL AND ONLY CERTAIN TYPES OF SUPPORTS ARE SHOWN ON THE HVAC DRAWINGS. UNLESS OTHERWISE DETAILED ON THE DRAWINGS ALL PIPE AND DUCT SUPPORTS SHALL BE DESIGNED, FURNISHED AND INSTALLED BY THE CONTRACTOR AS SPECIFIED.
6. THIS IS A GENERAL LIST OF SYMBOLS. NOT ALL ITEMS SHOWN HERE APPEAR ON CONTRACT DRAWINGS.
7. TYPICAL DETAILS SHALL BE USED FOR ALL PERMANENT WORK EVEN THOUGH THEY ARE NOT CALLED OUT AT ALL LOCATIONS WHERE THEY APPLY.
8. COORDINATE FINAL LOUVER SIZE AND LOCATION WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
9. PROVIDE TURNING VANES IN ALL ELBOWS. (SHOWN OR NOT)

ABBREVIATIONS

A	@	AT
	AC	AIR CONDITIONING
	AFF	ABOVE FINISHED FLOOR
	AFS	AIR FLOW SWITCH
	AHU	AIR HANDLING UNIT
B	BD	BALANCING DAMPER
	BDD	BACKDRAFT DAMPER
	BLR	BOILER
	BOD	BOTTOM OF DUCT
C	CH	CHILLER
	CL	CENTER LINE
	CO	CARBON MONOXIDE DETECTOR
	CT	COOLING TOWER
	CS	CURRENT SENSOR
	CU	CONDENSING UNIT
D	DG	DOOR GRILLE
	DP	DIFFERENTIAL PRESSURE
E	EA	EXHAUST AIR
	ECU	EVAPORATIVE COOLING UNIT
	EF	EXHAUST FAN
	ER	EXHAUST REGISTER OR GRILLE
	EUH	ELECTRIC UNIT HEATER
F	FA	FOUL AIR
	FCU	FAN COIL UNIT
	FD	FIRE DAMPER
G	GUH	GAS UNIT HEATER
H	HP	HEAT PUMP
L	LV	LOUVER
M	MAU	MAKEUP AIR UNIT
	MCA	MINIMUM CIRCUIT AMPACITY
	MD	MOTORIZED DAMPER
	MOP	MAXIMUM OVERCURRENT PROTECTION
N	NC	NORMALLY CLOSED
	NO	NORMALLY OPEN
O	OA	OUTSIDE AIR
	OCF	ODOR CONTROL FAN
P	PPU	POSITIVE PRESSURIZATION UNIT
R	RA	RETURN AIR
	RR	RETURN REGISTER OR GRILLE
	RTD	RESISTANCE TEMPERATURE DETECTOR
S	SA	SUPPLY AIR
	SD	SMOKE DAMPER OR SMOKE DETECTOR
	SF	SUPPLY FAN
	SFD	SMOKE & FIRE DAMPER COMBINATION
	SR	SUPPLY REGISTER, GRILLE OR DIFFUSER
V	VAV	VARIABLE AIR VOLUME
W	WUH	WATER UNIT HEATER

DUCTWORK SYMBOLS

FEATURE	SYMBOL
DIRECTION OF FLOW	
DUCT SIZE- FIRST NUMBER IS SIDE SHOWN	12x20
ROUND DUCT	12 DIA OR 12"Ø
DUCT SECTION, POSITIVE PRESS FIRST NUMBER IS TOP	20x12
DUCT SECTION, NEGATIVE PRESS FIRST NUMBER IS TOP	20x12
SIDE MOUNT DEVICE	
ELEVATION CHANGE (R) RISE, (D) DROP	R
ACCESS DOOR	AD / AD
BOTTOM MOUNT DEVICE REGISTER, GRILLE, DIFFUSER OR DUCT TAKEOFF	
FLEXIBLE CONNECTION	
FLEXIBLE DUCT	OR
TURNING VANES	
RECTANGULAR TO RECTANGULAR TRANSITION	20x12 16x8
RECTANGULAR TO ROUND TRANSITION	20x12 16 DIA
POSITIVE PRESSURE DUCT - ELBOW TURNED UP (USE ONE DIAGONAL FOR NEGATIVE PRESSURE)	
POSITIVE PRESSURE DUCT - ELBOW TURNED DOWN (USE ONE DIAGONAL FOR NEGATIVE PRESSURE)	
SMOKE DETECTOR CONFIRM ORIENTATION OF INSTALLATION	
DAMPERS	
BACKDRAFT	
BALANCING	
FIRE W/ ACCESS DOOR	FD
MOTORIZED	M
SMOKE CONFIRM ORIENTATION OF INSTALLATION	
COMBINATION SMOKE AND FIRE CONFIRM ORIENTATION OF INSTALLATION	

EQUIPMENT SYMBOLS

FEATURE	SYMBOL
CONDENSER UNIT OR HEAT PUMP COMPRESSOR	
CENTRIFUGAL FAN	
CONTROL PANEL	
COOLING COIL	C / C
CURRENT SENSOR	CS
DIRECT EXPANSION COIL	D / X
DUCT SMOKE DETECTOR	
ELECTRIC HEATER	
FILTER	
AIR FLOW SWITCH	AFS
GAS HEATER	
HUMIDISTAT	H
INLINE/AXIAL FAN	
MOTOR OPERATED VALVE	M
PRESSURE DIFFERENTIAL SWITCH	PD
RESISTANCE TEMPERATURE DETECTOR	RTD
ROOF/SIDEWALL FAN	
ROOF VENT OR ROOF FAN	
SMOKE DETECTOR	SD
SOLENOID VALVE	S
THERMOSTAT 60" ABOVE FINISH FLOOR	T
UNIT HEATER (HORIZONTAL TYPE)	
UNIT HEATER (VERTICAL TYPE)	

NOTE: THIS IS A GENERAL LIST OF SYMBOLS AND ABBREVIATIONS. NOT ALL ITEMS SHOWN HERE APPEAR ON THE CONTRACT DRAWINGS.

REGISTERS, GRILLES & LOUVERS SYMBOLS

FEATURE	SYMBOL
LOUVER/BRICK VENT - AIRFLOW SCHEMATIC	
LOUVER/BRICK VENT - FIXED	
LOUVER/BRICK VENT - OPERABLE	M
TRANSFER GRILLE	
TO SPACE	
FROM SPACE	
SUPPLY DIFFUSER OR GRILLE ARROWS INDICATE FLOW DIRECTION	
RETURN DIFFUSER OR GRILLE ARROWS INDICATE FLOW DIRECTION	
EXHAUST DIFFUSER OR GRILLE ARROWS INDICATE FLOW DIRECTION	

LEGEND FOR REGISTERS & GRILLES

TYPE OF REGISTER OR GRILLE (AS DESCRIBED IN SPECIFICATIONS) — GRILL SIZE

SR-1/12x12

400/4

CFM — DIRECTION OF FLOW

RECTANGLE DUCT:	SUPPLY	RETURN	EXHAUST
DUCT UP THRU ROOF OR FLOOR			
DUCT UP			
DUCT DOWN			

ROUND DUCT:	
DUCT UP THRU ROOF OR FLOOR	
DUCT UP	
DUCT DOWN	

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REGISTERED PROFESSIONAL ENGINEER — No. 12753699-2202 — TYE C. WEBER — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

HVAC

GENERAL NOTES, ABBREVIATIONS, AND SYMBOLS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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JOB NO. 203356
DRAWING NO. 00GH01
SHEET NO. 72 OF 162

LAST SAVED BY: chernandez

PROJECT NO.

FILE NAME: 203356_00GH01.dwg

AIR CONDITIONING / HEAT PUMP SCHEDULE

EQUIPMENT TAG	AREA SERVED	AIRFLOW (CFM)	WEIGHT (LB)	ESP (IN. W.C.)	COOLING DATA							HEATING DATA			FILTER DATA		ELECTRICAL DATA				BASIS OF DESIGN	NOTES
					OA DB (°F)	EAT DB (°F)	EAT WB (°F)	LAT DB (°F)	LAT WB (°F)	NET TOTAL CAPACITY (MBH)	NET SENSIBLE CAPACITY (MBH)	OA DB (°F)	EAT DB (°F)	MECHANICAL HEATING CAPACITY (MBH)	TYPE	THICKNESS (IN.)	VOLTAGE	PHASE	MCA (AMPS)	MOP (AMPS)		
65-AHU-993	ELECTRICAL ROOM	PER MFR	50	PER MNFR	95	80	67	56	55	24	18.5	17	70	15.7	PER MFR	PER MFR	208	1	1	-	MITSUBISHI - PKA-A24KA8	1, 2, 4, 5, 6
65-AHU-994	ELECTRICAL ROOM	PER MFR	50	PER MNFR	95	80	67	56	55	24	18.5	17	70	15.7	PER MFR	PER MFR	208	1	1	-	MITSUBISHI - PKA-A24KA8	1, 2, 4, 5, 6
65-HP-993	ELECTRICAL ROOM	PER MFR	175	PER MNFR	95	-	-	-	-	-	-	17	-	-	-	-	208	1	19	25	MITSUBISHI - PUZ-A24NHA7	1, 3, 4, 7
65-HP-994	ELECTRICAL ROOM	PER MFR	175	PER MNFR	95	-	-	-	-	-	-	17	-	-	-	-	208	1	19	25	MITSUBISHI - PUZ-A24NHA7	1, 3, 4, 7

NOTES:

1 ELECTRICAL CONTRACTOR TO PROVIDE A NEMA 4X DISCONNECT.
2 HARD-WIRED THERMOSTAT PROVIDED BY AC UNIT MANUFACTURER.
3 WALL MOUNTED MINI SPLIT HEAT PUMP.
4 OUTDOOR UNIT TO POWER ASSOCIATED INDOOR AIR HANDLER.
5 WALL MOUNTED MINI SPLIT AIR HANDLER
6 PROVIDE WITH INTEGRAL CONDENSATE DRAIN LIFT PUMP.
7 MANUFACTURER TO PROVIDE WALL MOUNTING BRACKET KIT.

FAN SCHEDULE

EQUIPMENT TAG	AREA SERVED	FAN TYPE	AIR FLOW (CFM)	WEIGHT (LB)	ESP (IN. W.C.)	FAN RPM	NOISE (SONES)	MOTOR			DRIVE TYPE	ELECTRICAL DATA		LOAD TYPE	BASIS OF DESIGN	NOTES
								HP	RPM	ENCLOSURE		VOLTAGE	PHASE			
65-SF-997	PUMP ROOM	TYPE 4	1800	245	0.35	774	12.2	1/2	1800	TEFC	BELT	480	3	DUTY	GREENHECK - RSF-100	1, 2, 3, 4, 5, 6, 7

NOTES:

1 PROVIDE CURB CAP FOR FAN MOUNTING ON CONCRETE CURB.
2 PROVIDE INSECT SCREEN.
3 PROVIDE BACKDRAFT DAMPER, COUNTERBALANCED FOR MINIMUM PRESSURE LOSS.
4 ELECTRICAL CONTRACTOR TO PROVIDE EXTERIOR DISCONNECT SWITCH AT FAN, NEMA TYPE 4X.
5 PROVIDE THERMOSTAT AS SPECIFIED IN SECTION 23_09_13.
6 PROVIDE PROTECTIVE COATING PER SECTION 23_34_01.
7 MOTORIZED LOUVER INTERLOCKED WITH FAN.

ELECTRIC UNIT HEATER SCHEDULE

EQUIPMENT TAG	AREA SERVED	WEIGHT (LB)	HEATING CAPACITY (KW)	AIRFLOW (CFM)	MCA (AMPS)	VOLTAGE	PHASE	BASIS OF DESIGN	NOTES
65-EUH-995	PUMP ROOM	180	5	700	8	480	3	234-U11N-0050U	1, 2, 3
65-EUH-996	PUMP ROOM	180	5	700	8	480	3	234-U11N-0050U	1, 2, 3

NOTES:

1 THERMOSTAT PROVIDED BY MANUFACTURER
2 WALL MOUNTED BRACKET PROVIDED BY MANUFACTURER.
3 SIDE AIR DISCHARGE.

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STATE OF UTAH

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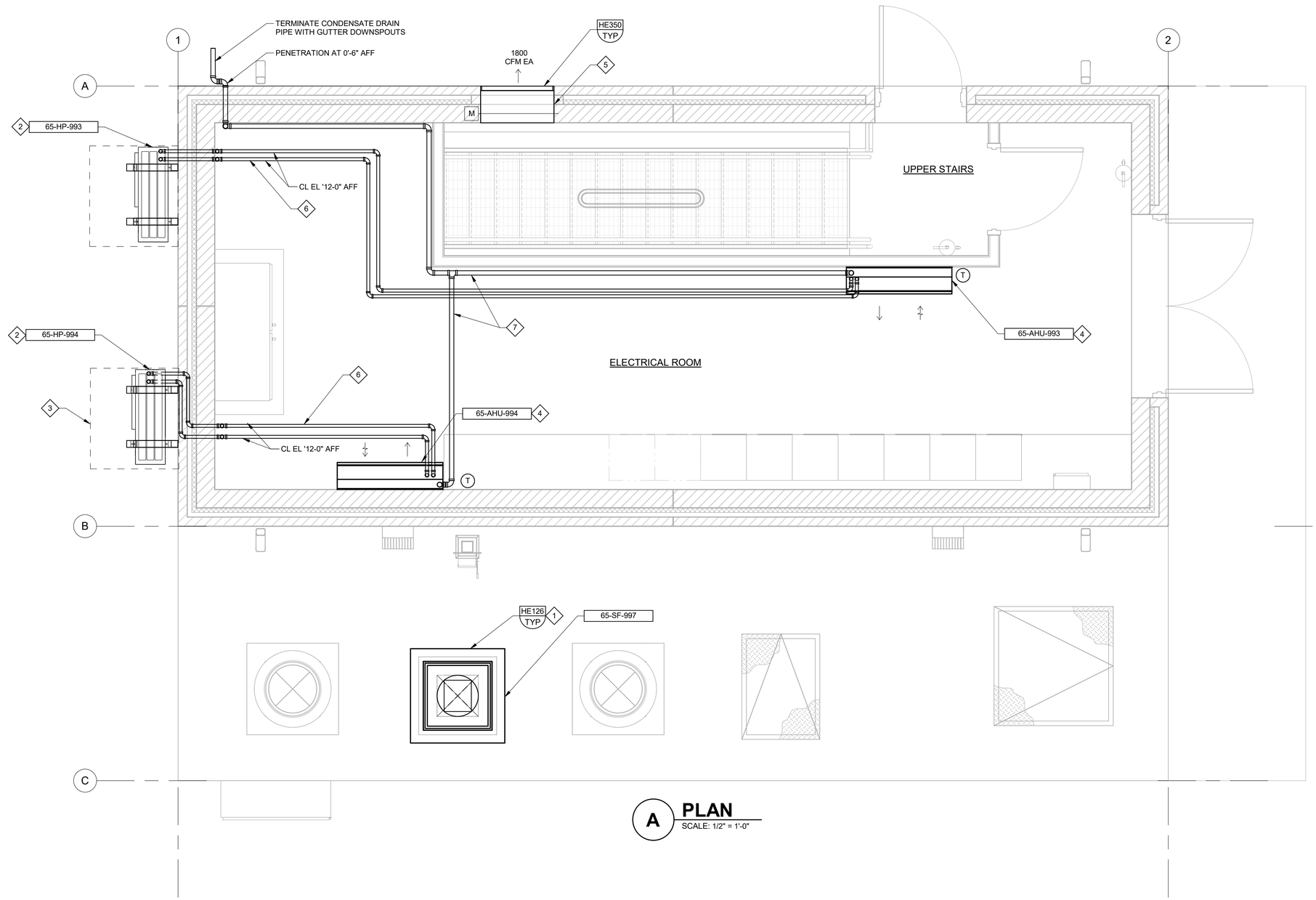
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HVAC
SLUDGE PUMP STATION
EQUIPMENT SCHEDULES

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JOB NO. 203356
DRAWING NO. 65H01
SHEET NO. 73 OF 162

PLOT DATE: 6/10/2025 6:18:11 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65H0801.rvt



A **PLAN**
SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. MOUNT THERMOSTATS AT 60" AFF AND LABEL WITH ITS CONTROLLING DEVICE.
2. ALL OUTDOOR EQUIPMENT SHALL BE RESTRAINED IN ACCORDANCE WITH WIND AND SEISMIC DESIGN LOADS.

KEY NOTES:

1. ROOF MOUNTED SUPPLY FAN WITH BACKDRAFT DAMPER. SUPPLY FAN MOUNTED ON CONCRETE EQUIPMENT CURB PER DETAILS.
2. MINI-SPLIT HEAT PUMP MOUNTED ON MANUFACTURER PROVIDED WALL MOUNT ASSEMBLY. MOUNT BOTTOM OF HEAT PUMP AT 3'-0" ABOVE GRADE.
3. MANUFACTURER REQUIRED CLEARANCE. DO NOT BLOCK.
4. WALL MOUNTED MINI SPLIT AHU. UNIT TO BE MOUNTED AT 9'-0" AFF.
5. 32"X32" COMBINATION EXHAUST LOUVER WITH MOTORIZED ACTUATOR. MOUNT LOUVER AT 3'-0" AFF.
6. REFRIGERANT LINES TO BE ROUTED PER MANUFACTURER REQUIREMENTS AND EXIT BUILDING AT MATCHING ELEVATION TO OUTDOOR UNIT. INSULATE PER CONTRACT DOCUMENT REQUIREMENTS. DO NOT ROUTE ABOVE ELECTRICAL EQUIPMENT.
7. 3/4" SCH 40 PVC CONDENSATE DRAIN PIPING SLOPED AT 2% TO TERMINATION. DO NOT ROUTE ABOVE ELECTRICAL EQUIPMENT.

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

HVAC

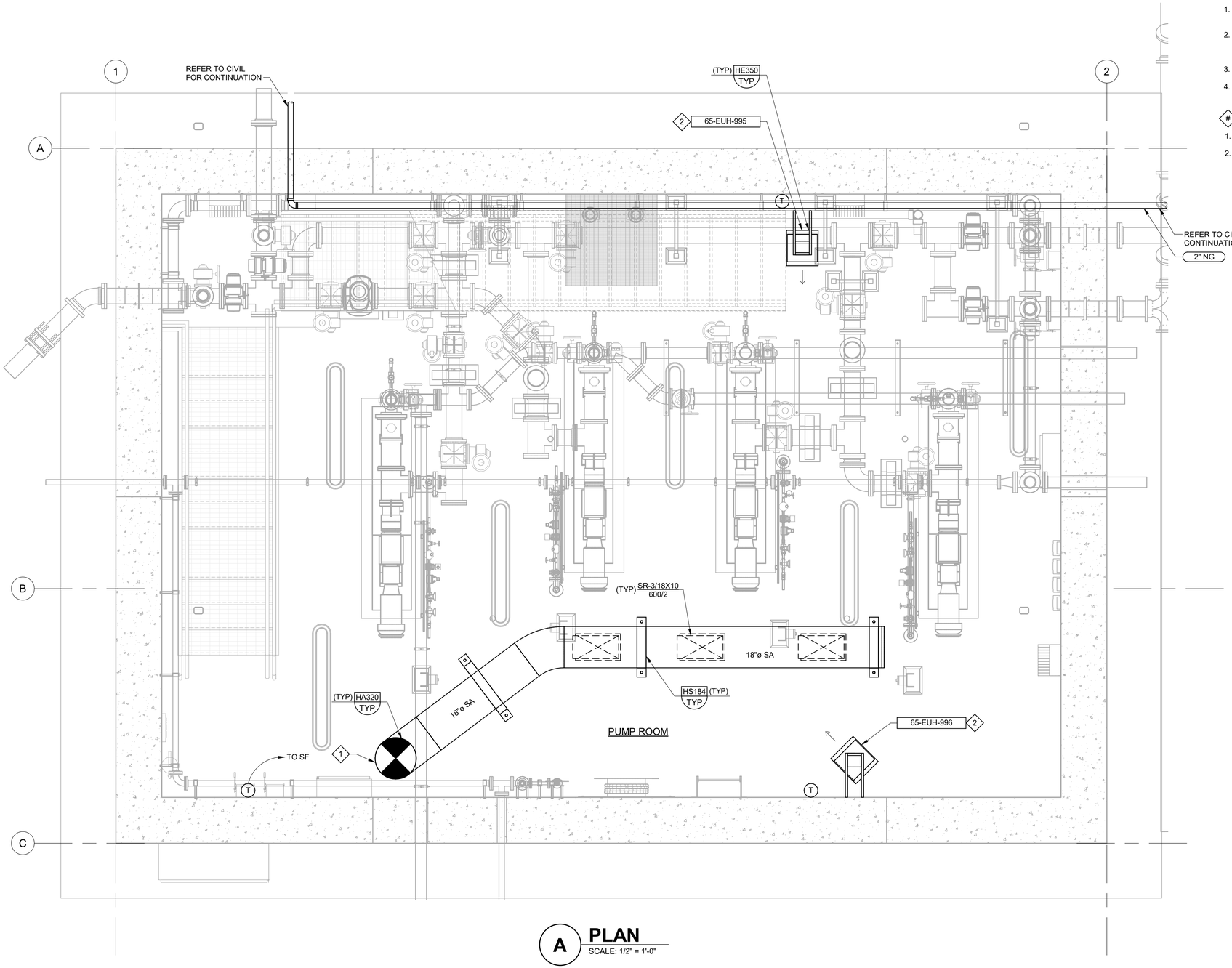
SLUDGE PUMP STATION
UPPER LEVEL PLAN

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JOB NO. 203356
DRAWING NO. 65H02
SHEET NO. 74 OF 162

PLOT DATE: 6/10/2025 6:18:12 PM

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GENERAL NOTES:

1. MOUNT THERMOSTATS AT 60" AFF AND LABEL WITH ITS CONTROLLING DEVICE.
2. DUCT SUPPORTS SHOWN FOR REFERENCE ONLY. REFER TO SPECIFICATION SECTION 23_31_13, TYPICAL DETAILS, AND SMACNA FOR ADDITIONAL REQUIREMENTS
3. ALL INTERIOR DUCTWORK IN PUMP ROOM SHALL BE ALUMINUM.
4. ALL SUPPLY REGISTERS SHALL HAVE OPPOSED BLADE BALANCING DAMPERS.

KEY NOTES:

1. 18" Ø SUPPLY AIR DUCT DOWN FROM ROOF MOUNTED SUPPLY FAN.
2. WALL MOUNTED ELECTRIC UNIT HEATER. HEATER TO BE MOUNTED AT 10'-0" AFF.

A PLAN

SCALE: 1/2" = 1'-0"

REV	DATE	BY	DESCRIPTION

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REGISTERED PROFESSIONAL ENGINEER
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FOUNDATION LEVEL PLAN

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ELECTRICAL PLAN SYMBOLS

IDENTIFICATION SYMBOLS

EQUIP # — EQUIPMENT AND INSTRUMENT IDENTIFICATION

EQUIPMENT/INSTRUMENT LOCATOR

LUMINAIRE IDENTIFICATION
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED FROM
c = MOUNTING HEIGHT IN FEET TO BOTTOM OF FIXTURE
X = LUMINAIRE TYPE, REFER TO THE LUMINAIRE SCHEDULE

XXXX — CONDUIT IDENTIFICATION
XXXX = CONDUIT NUMBER, REFER TO CONDUIT SCHEDULE
UNLESS OTHERWISE NOTED, GROUPED CONDUITS ARE LABELED LEFT TO RIGHT OR TOP TO BOTTOM.

INDICATES KEYNOTE X
(PERTAINS ONLY TO SHEET WHERE NOTE IS FOUND)

DISCONNECT SWITCH
A = TYPE, REFER TO DISCONNECT SCHEDULE

CAMERA

LUMINAIRES

LINEAR FIXTURE

2' X 2' LAY-IN TROFFER

2' X 4' LAY-IN TROFFER

LUMINAIRE POLE MOUNTED

LUMINAIRE, EMERGENCY BATTERY-POWERED

LUMINAIRE, EMERGENCY/EXIT BATTERY-POWERED

LUMINAIRE, EMERGENCY BATTERY-POWERED REMOTE

LUMINAIRE, SURFACE OR PENDANT MOUNTED

LUMINAIRE, WALL MOUNTED

LUMINAIRE, FLOOD/SPOT

LUMINAIRE, EXIT ONE OR TWO FACES AS INDICATED. ARROW POINTS IN DIRECTION OF EGRESS.

SWITCHES/RECEPTACLES

SINGLE POLE SWITCH
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED DESIGNATION
c = TYPE
2 = DOUBLE POLE SWITCH
3 = THREE-WAY SWITCH
3P = THREE POSITION SWITCH
4 = FOUR-WAY SWITCH
K = KEY OPERATED SWITCH
F = SWITCH AND FUSESTAT HOLDER
P = SWITCH AND PILOT LIGHT
T = THERMOSTAT
D = DIMMER SWITCH
L = LOW VOLTAGE LIGHT SWITCH
M = MANUAL MOTOR STARTER
N = NETWORKED SINGLE OR MULTIPLE SWITCH LOCATIONS
WP = WEATHER PROOF
REFER TO ABBREVIATIONS LEGEND FOR ALL OTHER DESIGNATIONS.

OCCUPANCY SENSOR
X = REFERENCE LIGHTING CONTROL COMPONENT SCHEDULE
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED DESIGNATION
c = MOUNTING HEIGHT IN FEET TO BOTTOM OF SENSOR

PE — PHOTOCELL

SWITCH AND SINGLE RECEPTACLE
a = CIRCUIT DESIGNATION
b = DEVICE TYPE DESIGNATION

DUPLEX RECEPTACLE

QUADRUPLEX RECEPTACLE

IN FLOOR DUPLEX RECEPTACLE

IN FLOOR QUADRUPLEX RECEPTACLE

DUPLEX RECEPTACLE w/SPLIT WIRE

DEDICATED RECEPTACLE

SPECIAL PURPOSE RECEPTACLE

WELDING RECEPTACLE
a = CIRCUIT DESIGNATION
b = DISCONNECT TYPE

TWIST LOCK RECEPTACLE
a = AMP RATING

TELEPHONE OUTLET

DATA COMMUNICATIONS OUTLET
a = NETWORK SWITCH

FIRE ALARM

FACP — FIRE ALARM CONTROL PANEL

RACEWAY

EXPOSED CONDUIT

BREAK AND CONTINUATION IN CONDUIT RUN

EXPOSED CONDUIT HIDDEN BEHIND WALLS, FLOORS OR OTHER STRUCTURES

UNDERGROUND CONDUIT, DIRECT BURIED OR IN DUCT BANK

CONDUIT IN SLAB

CONDUIT VERTICAL CHANGE IN DIRECTION

CONDUIT CAP

J — JUNCTION BOX

CONDUIT SEAL

CONDUIT TEE

DUCT BANK
APPROXIMATE DIMENSIONS SHOWN ON DUCT BANK SECTIONS

CONDUIT SIZE AND CONDUCTORS

INDIVIDUAL CONDUCTORS

W"C-(3-X (Ø), 1-Y (N) & 1-Z (G))

W"C (WHERE INDICATED): W = CONDUIT TRADE SIZE

3-X (Ø):
3 = QUANTITY
X = SIZE OF CONDUCTORS
(Ø) = DESIGNATES PHASE CONDUCTORS

1-Y (N) (WHERE INDICATED):
1 = QUANTITY
Y = SIZE OF CONDUCTORS
(N) = DESIGNATES NEUTRAL CONDUCTORS

1-Z (G) (WHERE INDICATED):
1 = QUANTITY
Z = SIZE OF CONDUCTORS
(G) = DESIGNATES GROUND CONDUCTORS

U{3-X (Ø) & 1-X (G)}
U = NUMBER OF PARALLEL RUNS

VFD CONDUCTORS

U{[N/C-X (Ø) & INTEGRAL (G)]:VFD}
U = NUMBER OF PARALLEL RUNS
N/C = NUMBER OF PHASE CONDUCTORS IN CABLE
X = SIZE OF CONDUCTORS
VFD = VFD CABLE

MULTI CONDUCTOR CABLES

K/2/C#16S
K (WHERE INDICATED) = NUMBER OF PAIRS
2/C#16S = TWO CONDUCTOR, 16 GAUGE, TWISTED SHIELDED PAIR

K/3/C#16S
K (WHERE INDICATED) = NUMBER OF TRIPLETS
3/C#16S = THREE CONDUCTOR, 16 GAUGE, TWISTED SHIELDED TRIPLETS

U{[N/C-X (Ø) & INTEGRAL (G)]:MC}
U = NUMBER OF PARALLEL RUNS
MC = MULTICONDUCTOR CABLE
N/C = NUMBER OF PHASE CONDUCTORS IN THE CABLE
X = SIZE OF CONDUCTORS

FIBER OPTIC CABLES

FO/N
N = NUMBER OF INDIVIDUAL FIBERS

GROUNDING

UNDERGROUND GROUND CABLE
#4/0 SDBC UNLESS OTHERWISE NOTED

GROUND ROD

GROUND ROD AND GROUND WELL

ELECTRICAL ONE-LINE SYMBOLS

MEDIUM VOLTAGE

52 — CIRCUIT BREAKER, MEDIUM VOLTAGE
a = CIRCUIT BREAKER NUMBER
b = FRAME SIZE

ANSI RELAY DEVICE
a = ANSI DEVICE FUNCTION
b = QUANTITY

MEDIUM VOLTAGE DISCONNECT SWITCH NON-FUSED CUT OUT

MEDIUM VOLTAGE DISCONNECTING FUSE SINGLE FUSE CUT OUT

MEDIUM VOLTAGE DISCONNECTING FUSE DOUBLE FUSE CUT OUT

MEDIUM VOLTAGE SINGLE FUSE

MEDIUM VOLTAGE DOUBLE FUSE

MEDIUM VOLTAGE LIVE FRONT TERMINATOR

MEDIUM VOLTAGE ELBOW

MEDIUM VOLTAGE TEE

MEDIUM VOLTAGE CONTACTOR

MEDIUM VOLTAGE STARTER

MOV-ELBOW ARRESTER

LOW VOLTAGE

LOW VOLTAGE CIRCUIT BREAKER
a = TYPE
MCP = MOTOR CIRCUIT PROTECTOR
TM = THERMAL MAGNETIC
SS = SOLID STATE
b = FRAME SIZE (MANUFACTURER TO DETERMINE FRAME SIZE UNLESS INDICATED)
c = NUMBER OF POLES
d = TRIP SETTING (AT = AMP TRIP) (AC = MCP CONTINUOUS RATING)
e = DESIGNATION
f = INTERRUPTING RATING

LOW VOLTAGE CIRCUIT BREAKER AUXILIARY OPERATOR
* = S = SHUNT TRIP
= G = GROUND FAULT INTERRUPTER
= V = SOLENOID KEY RELEASE

A — DISCONNECT SWITCH
A = TYPE, REFER TO DISCONNECT SCHEDULE

B — FUSED DISCONNECT SWITCH
B = TYPE, REFER TO DISCONNECT SCHEDULE
b = FUSE RATING

FUSE

COMBINATION STARTER WITH CONTROL POWER TRANSFORMER
a = CIRCUIT BREAKER DISCONNECT, TYPE AS NOTED
b = STARTER TYPE REFER TO THE SPECIFICATIONS FOR STARTER DEFINITIONS.
c = NEMA STARTER SIZE
d = OVERLOAD

MOTOR STARTER/DRIVES:
a = DEVICE TYPE
VFD-6 = 6-PULSE VFD
VFD-18 = 18-PULSE VFD
VFD-RH = REDUCED HARMONIC VFD (18-PULSE OR ACTIVE FRONT END AS DEFINED IN THE SPECIFICATIONS)
RVSS = REDUCED VOLTAGE SOLID STATE STARTER
RVAT = REDUCED VOLTAGE AUTO TRANSFORMER
a/B = DEVICE WITH BYPASS STARTER. REFER TO THE SPECIFICATIONS

b = INPUT OPTIONS
LL = LINE REACTOR
PHF = PASSIVE HARMONIC FILTER

c = OUTPUT OPTIONS
LR = LOAD REACTOR
DV/DT = Dv/dt FILTER
SWF = SINE WAVE FILTER

EQUIPMENT ENCLOSURE

MISCELLANEOUS

HP — MOTOR
HP = HORSEPOWER RATING
FULL LOAD AMPS AS NOTED

PACKAGED EQUIPMENT
LOAD RATING AS INDICATED
a = RATED LOAD
b = UNIT(HP, KW, KVA) AS INDICATED

TRANSFORMER
a = DEVICE I.D.
b = KVA RATING
c = NUMBER OF PHASES
d = PRIMARY VOLTAGE
e = SECONDARY VOLTAGE
f,g = CONNECTION TYPE SYMBOL
h = IMPEDANCE

GROUNDED WYE CONNECTION

DELTA CONNECTION

G — ENGINE-GENERATOR RATINGS AS INDICATED ON THE DRAWINGS
a = KVA/KW
b = VOLTAGE/CONNECTION
c = PHASE
d = WIRE
e = PF

CURRENT TRANSFORMER WITH SHORTING TERMINAL BLOCK
a = QUANTITY
b = RATIO

POTENTIAL TRANSFORMER
a = QUANTITY
b = RATIO
c,d = CONNECTION TYPE SYMBOL

SSM — SOLID STATE MULTIFUNCTION METER

ATP — AMPERE TEST POINT

VTP — VOLTAGE TEST POINT

UTILITY METER

LIGHTNING ARRESTER

SPD — SURGE PROTECTIVE DEVICE

DRAWOUT CONNECTION

GROUND

CAPACITOR

BATTERY

K — KIRK KEY INTERLOCK

LOAD BANK

REV	DATE	BY	DESCRIPTION

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CHECKED GM
DATE JUNE 2025

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ELECTRICAL

LEGEND

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JOB NO. 203356
DRAWING NO. 00GE01
SHEET NO. 76 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_00GE01.dwg

ABBREVIATIONS

A	AMP
ABS	ABSOLUTE
AC	ALTERNATING CURRENT
ACK	ACKNOWLEDGE
ACTR	ACTUATOR
AF	AMP FRAME
AFC	AUTOMATIC FREQUENCY CONTROL
AIC	AMP INTERRUPTING CAPACITY
AM	AMMETER
ANN	ANNUNCIATOR
ANT	ANTENNA
APU	AUXILIARY POWER UNIT
ARM	ARMORED CABLE
AS	AMMETER SWITCH
ASYM	ASYMMETRICAL
AT	AMP TRIP
ATO	AUTOMATIC THROW OVER
ATP	AMMETER TEST POINT
ATS	AUTOMATIC TRANSFER SWITCH
AUTO XFMR	AUTOMATIC TRANSFORMER
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
B	BELL
BAT	BATTERY
BFG	BELOW FINISHED GRADE
BHP	BRAKE HORSEPOWER
BKR	BREAKER
BRF	BELOW RAISED FLOOR
C	CONDUIT / CONTINUOUS LOAD
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CCW	COUNTER CLOCKWISE
CKT	CIRCUIT
COAX	COAXIAL CABLE
COM	COMMON
COMM	COMMUNICATION
CPT	CONTROL POWER TRANSFORMER
CR	CONTROLLED RECEPTACLE
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CV	CONTROL VALVE
CW	CLOCKWISE / COOL WHITE
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU - X	DISTRIBUTED CONTROL UNIT NO. X
DEMO	DEMOLITION
DISC	DISCONNECT SWITCH
DM	DEMAND METER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DS	DOOR SWITCH
E/G	EMERGENCY GENERATOR
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ENG	ENGINE
ENT	ELECTRICAL NON-METALLIC TUBING
EP	EXPLOSION PROOF
ETM	ELAPSED TIME METER
F	SUB-FED
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FLA	FULL LOAD AMPS
FLX	FLEXIBLE CONDUIT
FO	FIBER OPTIC
FRC	FIBERGLASS RIGID CONDUIT
FREQ	FREQUENCY
FU	FUSE
FU SW	FUSED SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
FWD	FORWARD

G	GROUND / EQUIPMENT GROUND / GROUND FAULT
GEN	GENERATOR
GRC	GALVANIZED STEEL RIGID CONDUIT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER (RECEPTACLE)
GFI	GROUND FAULT INTERRUPTER (BREAKER)
GFR	GROUND FAULT RELAY
H	HOT-LEG
HF	HIGH FREQUENCY
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HR	HOUR
HSTAT	HUMIDISTAT
HV	HIGH VOLTAGE
HVAC	HEATING/VENTILATION/AIR CONDITIONING
HZ	HERTZ
I	INSTANTANEOUS / INTERMITTENT LOAD
IC	INTERRUPTING CAPACITY
IJB	INSTRUMENT JUNCTION BOX
IMC	INTERMEDIATE METAL CONDUIT
INST	INSTANTANEOUS
INT	INTERLOCK
INTERCOM	INTERCOMMUNICATION
J	JUNCTION BOX
K	KEY INTERLOCK
KA	KILOAMP
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVAR (REACTANCE)
KW	KILOWATT
KWD	KILOWATT DEMAND
KWH	KILOWATT HOUR
L	LONG-TIME
L-B	LINE-BUS
L-G	LINE-GROUND
LA	LIGHTNING ARRESTOR
LBL	LABEL
LC	LIGHTING CONTACTOR
LCP- X	LOCAL CONTROL PANEL NO. X
LL	LEAD-LAG LOAD REACTOR
LP	LIGHT POLE
LP - X	LIGHTING PANEL NO. X
LTG	LIGHTING
LV	LOW VOLTAGE
LVL	LEVEL
M-X	MOTOR CONTROLLER NO. X
MA	MILLIAMPERE
MCA	MOTOR CIRCUIT AMPS
MCC - X	MOTOR CONTROL CENTER NO. X
MCP	MOTOR CIRCUIT PROTECTOR
MH	MANHOLE / MOUNTING HEIGHT
MLO	MAIN LUGS ONLY
MOD	MOTOR OPERATED DAMPER
MOV	METAL OXIDE VARISTOR
MPR	MOTOR PROTECTION RELAY
MS-X	MOTOR STARTER NO. X
MSP	MOTOR STARTING PANEL
MTO	MANUAL THROW OVER
MTR-X	MOTOR NO. X
MTS	MANUAL TRANSFER SWITCH
MV	MEGAVOLT
MVA	MEGAVOLT-AMPERES
MVS	MEDIUM VOLTAGE SWITCH
MW	MEGAWATT
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NFC	NONMETALLIC FLEXIBLE CONDUIT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NP	NAMEPLATE

O	OPEN OR OPENED
OH	OVERHEAD
OL	OVERLOAD RELAY
P	POLE
PA	PUBLIC ADDRESS
PB	PUSHBUTTON / PULL BOX
PCS	PVC COATED GALVANIZED STEEL CONDUIT
PCM	PROCESS CONTROL MODULE
PE	PHOTOCELL
PF	POWER FACTOR
PFCC	POWER FACTOR CORRECTION CAPACITOR
PFR	PHASE FAILURE RELAY
PH	PHASE
PNL	PANEL
PPX	POWER PANEL NO. X
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE RIGID PLASTIC CONDUIT
PWR	POWER
RAC	RIGID ALUMINUM CONDUIT
RECPT	RECEPTACLE
REV	REVERSE
RF	RADIO FREQUENCY
RMS	ROOT MEAN SQUARED
RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
RVNR	REDUCED VOLTAGE NON-REVERSING
RVSS	REDUCED VOLTAGE SOLID STATE
S	SHIELD / SHORT-TIME
SA	SURGE ARRESTER
SC	SHORT CIRCUIT
SDBC	SOFT DRAWN BARE COPPER
SFL	SUB FEED LUGS
SLT	SEALTIGHT LIQUIDTIGHT FLEXIBLE CONDUIT
SM	SURFACE MOUNTED
SP	SINGLE POLE
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SPKR	SPEAKER
SS	SOLID STATE
STB	SHORTING TERMINAL BLOCK
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
TACH	TACHOMETER
TB - X	TERMINAL BLOCK - UNIT X
TC	THERMOCOUPLE / TIME CLOCK / TRAY CABLE
TD	TEMPERATURE DETECTOR RELAY
TE	TOTALLY ENCLOSED
TEFC	TOTALLY ENCLOSED FAN COOLED
TENV	TOTALLY ENCLOSED NON-VENTILATED
TERM	TERMINAL
TJB	TERMINAL JUNCTION BOX
TM	THERMAL MAGNETIC
TP	TWISTED PAIR
TS	TEMPERATURE SWITCH
TS1W	TWO SPEED CONSEQUENT POLE, ONE WINDING
TS2W	TWO SPEED SEPARATE WINDING
TSTAT	THERMOSTAT
UHF	ULTRA HIGH FREQUENCY
UNG	UNGROUNDED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UVR	UNDER VOLTAGE RELAY

V	VOLT
VA	VOLT AMPERE
VAR	VARMETER
VCP	VENDOR CONTROL PANEL
VFD	VARIABLE FREQUENCY DRIVE
VHF	VERY HIGH FREQUENCY
VM	VOLTMETER
VP	VAPORPROOF
VR	VOLTAGE REGULATOR
VS	VOLTAGE SWITCH
VT	VOLTAGE TRANSFORMER
VTP	VOLTAGE TEST POINT
W	WATT / WEST
WT	WATER TIGHT
WP	WEATHER PROOF
XFMR	TRANSFORMER

NOTES:

1. REFER TO SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL ABBREVIATIONS.

POWER DEVICE FUNCTION NUMBERS

1	MASTER ELEMENT
2	TIME-DELAY STARTING OR CLOSING RELAY
3	CHECKING OR INTERLOCKING RELAY
4	MASTER CONTACTOR
5	STOPPING DEVICE
6	STARTING CIRCUIT BREAKER
7	ANODE CIRCUIT BREAKER
8	CONTROL POWER DISCONNECTING DEVICE
9	REVERSING DEVICE
10	UNIT SEQUENCE SWITCH
11	MULTIFUNCTION DEVICE
12	OVER-SPEED DEVICE
13	SYNCHRONOUS-SPEED DEVICE
14	UNDER-SPEED DEVICE
15	SPEED OR FREQUENCY MATCHING DEVICE
16	DATA COMMUNICATIONS DEVICE
17	SHUNTING OR DISCHARGE SWITCH
18	ACCELERATING OR DECELERATING DEVICE
19	STARTING-TO-RUNNING TRANSITION CONTACTOR
20	ELECTRICALLY OPERATED VALVE
21	DISTANCE RELAY
22	EQUALIZER CIRCUIT BREAKER
23	TEMPERATURE CONTROL DEVICE
24	VOLTS PER HERTZ RELAY
25	SYNCHRONIZING OR SYNCHRONISM-CHECK DEVICE
26	APPARATUS THERMAL DEVICE
27	UNDERVOLTAGE RELAY
27N	GROUND FAULT UNDERVOLTAGE RELAY
28	FLAME DETECTOR
29	ISOLATING CONTACTOR
30	ANNUNCIATOR RELAY
31	SEPARATE EXCITATION DEVICE
32	DIRECTIONAL POWER RELAY
33	POSITION SWITCH
34	MASTER SEQUENCE DEVICE
35	BRUSH-OPERATING OR SLIP-RING SHORT-CIRCUITING DEVICE
36	POLARITY DEVICE
37	UNDERCURRENT OR UNDERPOWER RELAY
38	BEARING PROTECTIVE DEVICE
39	MECHANICAL CONDITION MONITOR
40	FIELD RELAY
41	FIELD CIRCUIT BREAKER
42	RUNNING CIRCUIT BREAKER
43	MANUAL TRANSFER OR SELECTOR DEVICE
44	UNIT SEQUENCE STARTING RELAY
45	ABNORMAL ATMOSPHERIC CONDITION MONITOR
46	REVERSE-PHASE OR BALANCE CURRENT RELAY
47	PHASE-BALANCE OR PHASE-SEQUENCE VOLTAGE RELAY
48	INCOMPLETE SEQUENCE RELAY
49	MACHINE OR TRANSFORMER THERMAL RELAY
50	INSTANTANEOUS OVERCURRENT RELAY
51	AC TIME OVERCURRENT RELAY
52	AC CIRCUIT BREAKER
53	FIELD EXCITATION RELAY
54	TURNING GEAR ENGAGING DEVICE
55	POWER FACTOR RELAY
56	FIELD APPLICATION RELAY
57	SHORT-CIRCUITING OR GROUNDING DEVICE
58	RECTIFICATION FAILURE RELAY
59	OVERVOLTAGE RELAY
60	VOLTAGE OR CURRENT BALANCE RELAY
61	DENSITY SWITCH OR SENSOR
62	TIME-DELAY STOPPING OR OPENING RELAY
63	PRESSURE SWITCH
64	GROUND DETECTOR RELAY
65	GOVERNOR
66	NOTCHING OR JOGGING DEVICE
67	AC DIRECTIONAL OVERCURRENT RELAY
68	BLOCKING OR OUT OF STEP RELAY
69	PERMISSIVE CONTROL DEVICE
70	RHEOSTAT
71	LIQUID LEVEL SWITCH
72	DC CIRCUIT BREAKER
73	LOAD-RESISTOR CONTACTOR
74	ALARM RELAY
75	POSITION CHANGING MECHANISM
76	DC OVERCURRENT RELAY
77	TELEMETERING DEVICE
78	PHASE-ANGLE MEASURING RELAY
79	AC RECLOSING RELAY
80	FLOW SWITCH
81	FREQUENCY RELAY
82	DC LOAD MEASURING RECLOSING RELAY
83	AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY
84	OPERATING MECHANISM
85	PILOT COMMUNICATIONS, CARRIER OR PILOT-WIRE RELAY
86	LOCKOUT RELAY
87	DIFFERENTIAL PROTECTIVE RELAY
88	AUXILIARY MOTOR OR MOTOR GENERATOR
89	LINE SWITCH
90	REGULATING DEVICE
91	VOLTAGE DIRECTIONAL RELAY
92	VOLTAGE AND POWER DIRECTIONAL RELAY
93	FIELD-CHANGING CONTACTOR
94	TRIPPING OR TRIP-FREE RELAY

COMMONLY USED SUFFIX LETTER APPLIED TO POWER DEVICE FUNCTION NUMBERS

A	ALARM ONLY
B	BUS PROTECTION
G	GROUND FAULT PROTECTION (RELAY CT IN A SYSTEM NEUTRAL CIRCUIT OR GENERATOR PROTECTION)
GS	GROUND FAULT PROTECTION (RELAY CT IN TOROIDAL OR GROUND SENSOR TYPE)
L	LINE PROTECTION
M	MOTOR PROTECTION
N	GROUND FAULT PROTECTION (RELAY COIL CONNECTED IN RESIDUAL CT CIRCUIT)
T	TRANSFORMER PROTECTION
V	VOLTAGE
P	PHASE PROTECTION

ABBREVIATIONS

AFD	ARC FLASH DETECTOR
CLK	CLOCK OR RIMING SOURCE
DDR	DYNAMIC DISTURBANCE RECORDER
DFR	DIGITAL FAULT RECORDER
ENV	ENVIRONMENTAL DATA
HIZ	HIGH IMPEDANCE FAULT DETECTOR
HMI	HUMAN MACHINE INTERFACE
HST	HISTORIAN
LGC	SCHEME LOGIC
MET	SUBSTATION METERING
PDC	PHASOR DATA CONCENTRATOR
PMU	PHASOR MEASUREMENT UNIT
PQM	POWER QUALITY MONITOR
RIO	REMOTE I/O DEVICE
RTU	REMOTE TELEMETRY UNIT/REMOTE TERMINAL UNIT
SER	SEQUENCE OF EVENTS RECORDER
TCM	TRIP CIRCUIT MONITOR

REV	DATE	BY	DESCRIPTION

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ELECTRICAL

ABBREVIATIONS

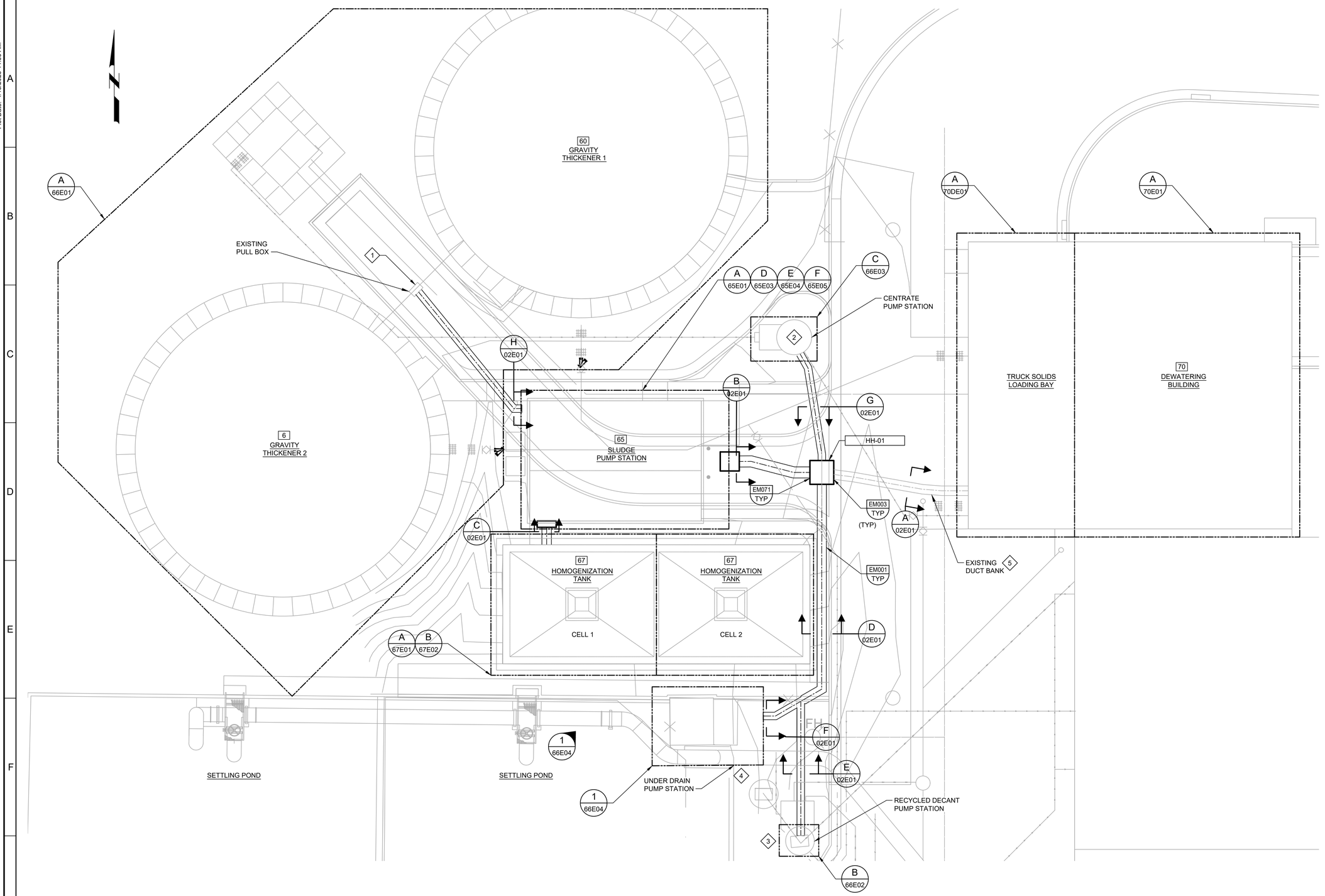
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JOB NO. 203356
DRAWING NO. 00GE02
SHEET NO. 77 OF 162

LAST SAVED BY: LMorris

PROJECT NO. 203356-100000 FILE NAME: 203356_00GE02.dwg

Plot Date: 4/15/2025 11:55 AM



GENERAL NOTES:

1. REFER TO DRAWING 02C01 FOR YARD PIPING DETAILS.
2. CONTRACTOR SHALL PROVIDE TEMPORARY POWER TO GRAVITY THICKENERS 1&2, CENTRATE PUMP STATION, UNDER DRAIN PUMP STATION AND RECYCLED DECANT PUMP STATION DURING THE REMOVAL OF EXISTING DUCTBANK, INSTALLATION OF NEW DUCTBANK, PULLING OF NEW CONDUCTORS AND REWIRING. REFER TO SPECIFICATIONS 01_14_00 - WORK RESTRICTIONS AND 01_50_00- TEMPORARY FACILITIES AND CONTROLS FOR DETAILS.

KEY NOTES:

1. TIE INTO EXISTING PULLBOX. UTILIZE EXISTING CONDUITS FROM PULLBOX TO GRAVITY THICKENERS. REFER TO DRAWING 66E01 FOR MORE DETAILS.
2. TIE INTO EXISTING VCP-971. UTILIZE EXISTING CONDUITS FROM VCP-971 TO CENTRATE PUMPS AND INSTRUMENTS. REFER TO DRAWING 66E03 FOR MORE DETAILS.
3. TIE INTO EXISTING PULLBOX. UTILIZE EXISTING CONDUITS FROM PULLBOX TO DECANT PUMPS AND INSTRUMENTS. REFER TO DRAWING 66E02 FOR MORE DETAILS.
4. TIE INTO EXISTING PULLBOX. UTILIZE EXISTING CONDUITS FROM PULLBOX TO DRAIN PUMPS AND INSTRUMENTS. REFER TO DRAWING 66E04 FOR MORE DETAILS.
5. INTERCEPT EXISTING CONDUITS AT THE HANDHOLE HH-01 LOCATION AND REUSE EXISTING CONDUITS BETWEEN HH-01 AND DEWATERING BUILDING MCC-22 AND VCP-900. REFER TO CONDUIT SCHEDULE FOR DETAILS.

Know what's below. Call before you dig. usanorth811.org

KEY MAP

KEY MAP NORTH

SCALE

0 5' 10' 20'

SCALE: 1" = 10'

REV	DATE	BY	DESCRIPTION

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DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 5329023 GUY C. EHLERS STATE OF UTAH

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

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OVERALL SITE PLAN

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JOB NO. 203356
DRAWING NO. 01E01
SHEET NO. 78 OF 162

LAST SAVED BY: dmacari

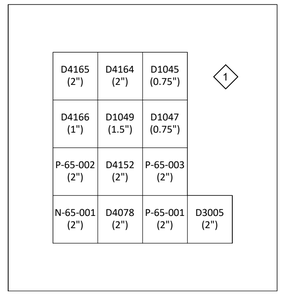
PROJECT NO. 203356 FILE NAME: 203356_01E01.DWG

GENERAL NOTES:

1. CONSTRUCT DUCT BANK PER DETAIL EM001/TYP UNLESS OTHERWISE INDICATED.

KEY NOTES:

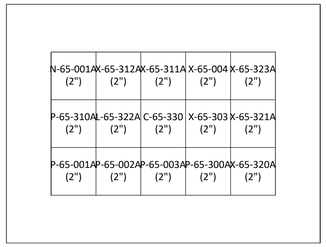
1. ALL CONDUITS ARE EXISTING. REUSE SOME OF THE EXISTING "DXXXX" CONDUITS FOR MCC-65 POWER AND PCM-910 NETWORK CONDUCTORS. REFER TO CONDUIT SCHEDULE FOR DETAILS.



Width: 2'-4"
Height: 3'-2"

A DUCT BANK SECTION

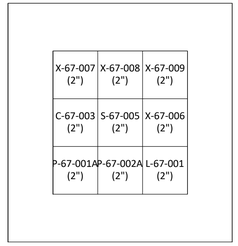
01E01



Width: 2'-9"
Height: 2'-2"

B DUCT BANK SECTION

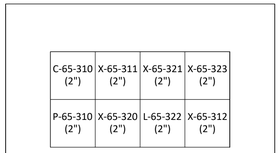
01E01, 65E03, 65E05



Width: 1'-11"
Height: 2'-2"

C DUCT BANK SECTION

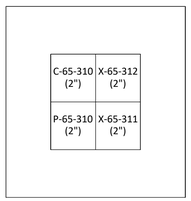
01E01, 65E03, 65E05, 67E01



Width: 2'-4"
Height: 1'-9"

D DUCT BANK SECTION

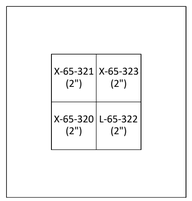
01E01



Width: 1'-7"
Height: 1'-9"

E DUCT BANK SECTION

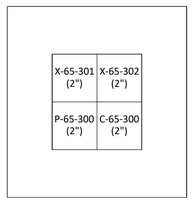
01E01,66E02



Width: 1'-7"
Height: 1'-9"

F DUCT BANK SECTION

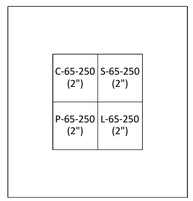
01E01, 66E04



Width: 1'-7"
Height: 1'-9"

G DUCT BANK SECTION

01E01, 66E03



Width: 1'-7"
Height: 1'-9"

H DUCT BANK SECTION

01E01, 65E03, 65E05, 66E01

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STATE OF UTAH

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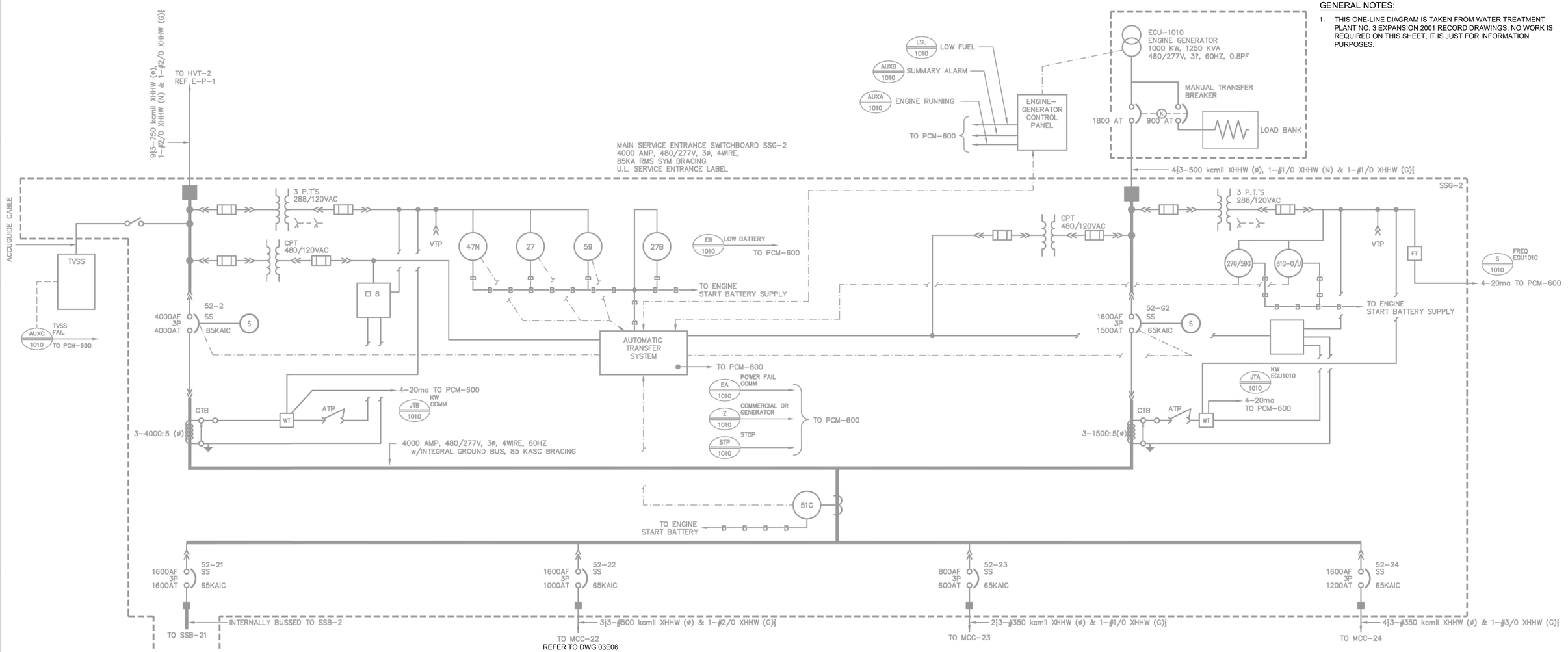
DUCT BANK SECTIONS

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DRAWING NO. 02E01
SHEET NO. 79 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_02E01.dwg



GENERAL NOTES:

1. THIS ONE-LINE DIAGRAM IS TAKEN FROM WATER TREATMENT PLANT NO. 3 EXPANSION 2001 RECORD DRAWINGS. NO WORK IS REQUIRED ON THIS SHEET, IT IS JUST FOR INFORMATION PURPOSES.

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SSG-2 OVERALL ONE-LINE DIAGRAM

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DRAWING NO. 03E01
SHEET NO. 80 OF 162

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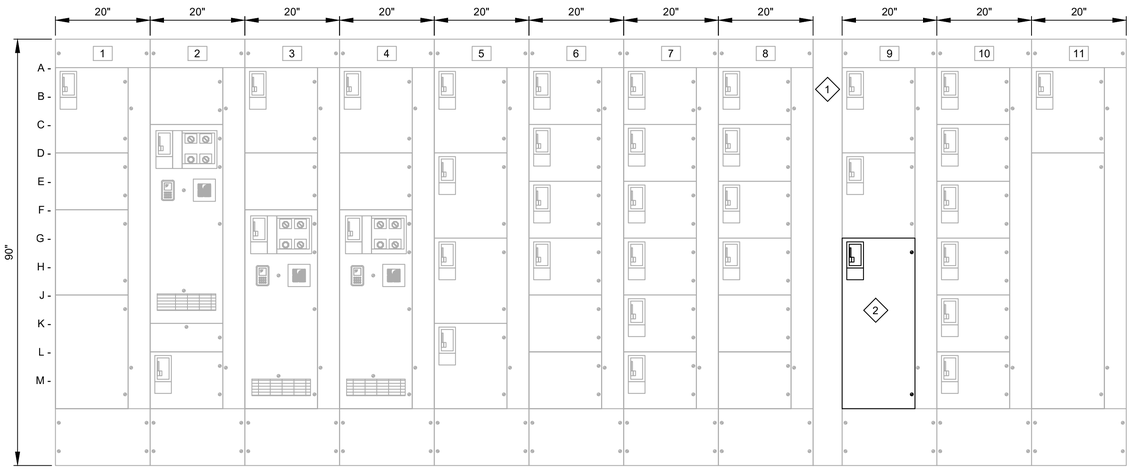
PROJECT NO. 203356-100000 FILE NAME: 203356_03E01.dwg

GENERAL NOTES:

1. EXISTING IS GE 8000 LINE MOTOR CONTROL CENTER.

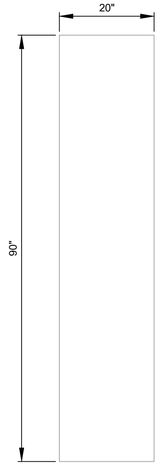
KEY NOTES:

1. CORNER SECTION.
2. PROVIDE A 600AF, 480V, 3 POLE, 3-PHASE FEEDER BREAKER FOR MCC-65.



FRONT VIEW

SCALE: 3/4" = 1'-0"



SIDE VIEW

SCALE: 3/4" = 1'-0"

1A- VCP-932 CENTRIFUGE NO.1 CONTROL PANEL	2A- SPACE	3A- VCP-942 CENTRIFUGE NO.2 CONTROL PANEL	4A- VCP-952 CENTRIFUGE NO.3 CONTROL PANEL	5A- CVU-961 COLLECTOR CONVEYOR	6A- EF-14 EXHAUST FAN NO.2	7A- CVUA-967 DISCHARGE CONVEYOR NO.1	8A- CVUG-967 DISCHARGE CONVEYOR NO.7	9A- TR-LP-221 LP-221 LIGHTING PANEL	10A- SPARE STARTER	11A- PP-221 BREAKER
1D- SPACE	2C- SPARE VFD	3D- SPACE	4D- SPACE	5D- CVU-962 INCLINED CONVEYOR	6C- EF-13 EXHAUST FAN NO.1	7C- CVUB-967 DISCHARGE CONVEYOR NO.2	8C- CVUH-967 DISCHARGE CONVEYOR NO.8	9D- CVU-966 LEVELING CONVEYOR	10C- SPARE STARTER	11D- PP-221 DISTRIBUTION PANELBOARD
1F- SPACE	2K- SPACE	3F- SPARE VFD	4F- SPARE VFD	5G- SPARE STARTER	6E- EF-15 EXHAUST FAN NO.3	7E- CVUC-967 DISCHARGE CONVEYOR NO.3	8E- CVUA-966 LEVELING CONVEYOR	9G- MCC-65	10E- SPARE	
1J- MAIN LUGS ONLY	2L- TVSS			5K- SPARE STARTER	6G- EF-16 EXHAUST FAN NO.4	7G- CVUD-967 DISCHARGE CONVEYOR NO.4	8G- CVUB-966 LEVELING CONVEYOR		10G- SPARE	
					6J- SPACE	7J- CVUE-967 DISCHARGE CONVEYOR NO.5	8J- SPACE		10J- TR-LP-222 LP-222 LIGHTING PANEL	
					6L- SPACE	7L- CVUF-967 DISCHARGE CONVEYOR NO.6	8L- SPACE		10L- SPACE	

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MCC-22 ELEVATION - MODIFICATIONS

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DRAWING NO. 03E02
SHEET NO. 81 OF 162

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MCC-22, 1200 AMPS, 480 VOLTS, 3 (Ø), 3 WIRE, 60 HZ, 65 KASC RMS

CONTINUED AT LOWER LEFT

	SPD	3P 20 AT TM 65 KAIC LR VFD-6 LL	3P 20 AT TM 65 KAIC LR VFD-6 LL	3P 20 AT TM 65 KAIC LR VFD-6 LL	225 AF 3P 200 AT TM 65 KAIC	225 AF 3P 200 AT TM 65 KAIC	225 AF 3P 200 AT TM 65 KAIC	3P 3 AC MCP 65 KAIC FVNR SIZE 1	3P 3 AC MCP 65 KAIC FVNR SIZE 1			
					VCP-932	VCP-942	VCP-952					
					30	30	30	3/4	3/4			
MAIN LUGS ONLY FROM SSG-2 SEE DWG 03E01	SPARE	SPARE	SPARE	CBB-932 CENTRIFUGE BACK DRIVE NO.1	CND-932 CENTRIFUGE BOWL DRIVE NO.1	CBB-942 CENTRIFUGE BACK DRIVE NO.2	CND-942 CENTRIFUGE BOWL DRIVE NO.2	CBB-952 CENTRIFUGE BACK DRIVE NO.3	CND-952 CENTRIFUGE BOWL DRIVE NO.3	EF-13 EXHAUST FAN NO.1	EF-14 EXHAUST FAN NO.2	

CONTINUED AT UPPER RIGHT

CONTINUED ON NEXT SHEET

3P 3 AC MCP 65 KAIC FVNR SIZE 1	3P 3 AC MCP 65 KAIC FVNR SIZE 1	3P 15 AC MCP 65 KAIC FVNR SIZE 1	3P 30 AC MCP 65 KAIC FVNR SIZE 1	3P 7 AC MCP 65 KAIC FVNR SIZE 1	3P 7 AC MCP 65 KAIC FVNR SIZE 1	3P 7 AC MCP 65 KAIC FVNR SIZE 1	3P 7 AC MCP 65 KAIC FVNR SIZE 1	3P 7 AC MCP 65 KAIC FVNR SIZE 1	3P 7 AC MCP 65 KAIC FVNR SIZE 1	3P 7 AC MCP 65 KAIC FVNR SIZE 1	3P 7 AC MCP 65 KAIC FVNR SIZE 1	3P 30 AC MCP 65 KAIC FVNR SIZE 2
1/2	1/2	5	10	3	3	3	3	3	3	3	3	
EF-15 EXHAUST FAN NO.3	EF-16 EXHAUST FAN NO.4	CVU-961 COLLECTOR CONVEYOR	CVU-962 INCLINED CONVEYOR	CVUA-967 DISCHARGE CONVEYOR NO.1	CVUB-967 DISCHARGE CONVEYOR NO.2	CVUC-967 DISCHARGE CONVEYOR NO.3	CVUD-967 DISCHARGE CONVEYOR NO.4	CVUE-967 DISCHARGE CONVEYOR NO.5	CVUF-967 DISCHARGE CONVEYOR NO.6	CVUG-967 DISCHARGE CONVEYOR NO.7	CVUH-967 DISCHARGE CONVEYOR NO.8	SPARE

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1. DRAWING IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO WORK IS REQUIRED ON THIS SHEET.

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

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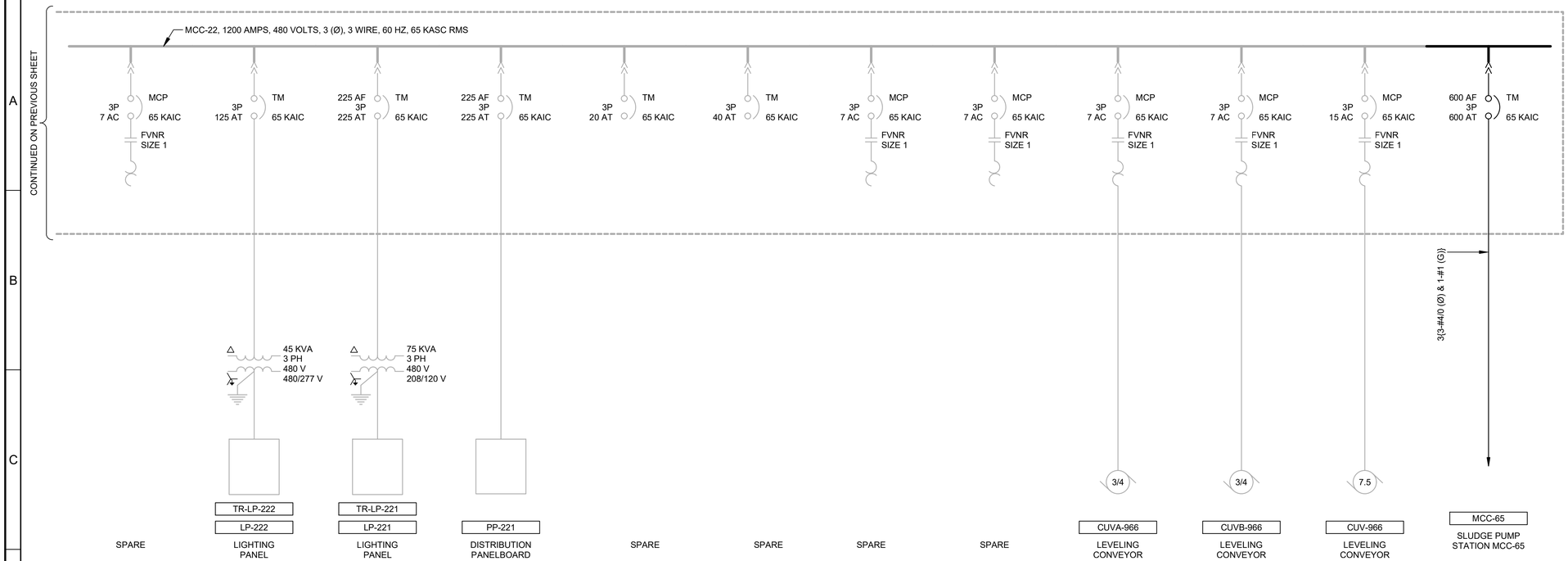
MCC-22 ONE-LINE DIAGRAM - MODIFICATIONS 1

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JOB NO. 203356
DRAWING NO. 03E03
SHEET NO. 82 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_03E03.dwg



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STATE OF UTAH

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ELECTRICAL

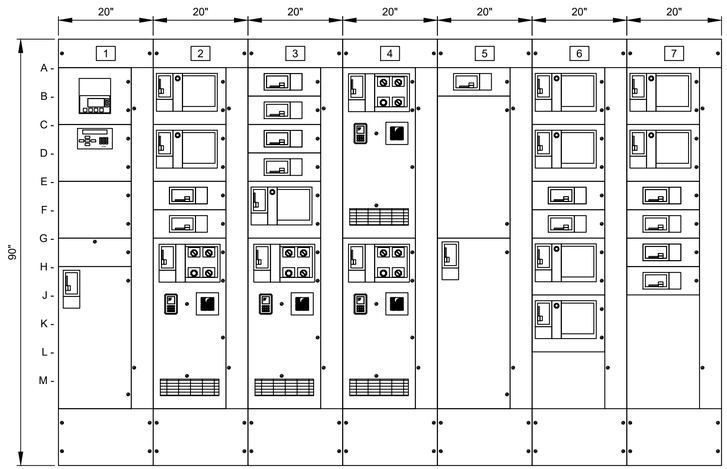
MCC-22 ONE-LINE DIAGRAM - MODIFICATIONS 2

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 03E04
SHEET NO. 83 OF 162

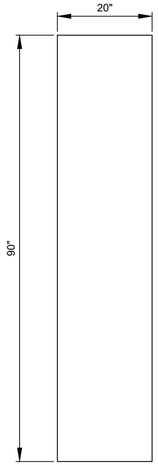
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FRONT VIEW

SCALE: 3/4" = 1'-0"



SIDE VIEW

SCALE: 3/4" = 1'-0"

1A- SPD	2A- 67-MIX-981 SLUDGE DAY TANK MIXER NO.1	3A- 65-FV-930A GRAVITY THICKENER VALVE NO.1	4A- 65-PMP-941 THICKENED SLUDGE FEED PUMP NO.1	5A- SPARE	6A- SPARE STARTER	7A- THU-921 THICKENER NO.1
1C- POWER MONITOR	2C- 67-MIX-982 SLUDGE DAY TANK MIXER NO.2	3B- 65-FV-930B GRAVITY THICKENER VALVE NO.2	4G- 65-PMP-942 THICKENED SLUDGE FEED PUMP NO.2	5B- 65-PNL-01 LIGHTING PANELBOARD	6C- RDP-992 PLANT DRAIN PUMP NO.2	7C- THU-922 THICKENER NO.2
1E- SPACE	2E- 65-VCP-930 GRINDER CONTROL PANEL	3C- 67-FV-940A SLUDGE DAY TANK VALVE NO.1		5G- 65-XFMR-01 65-PNL-01 LIGHTING PANELBOARD	6E- SPARE	7E- SPARE
1G- SPACE	2F- 65-VCP-980 SUMP PUMP CONTROL PANEL	3D- 67-FV-940B SLUDGE DAY TANK VALVE NO.1			6F- VCP-971 CENTRATE PUMP VCP	7F- SPARE
1H- MAIN BREAKER	2G- 65-PMP-931 THICKENED SLUDGE TRANSFER PUMP NO.1	3E- 65-SF-997 SUPPLY FAN NO.1			6G- SPARE STARTER	7G- SPARE
		3G- 65-PMP-932 THICKENED SLUDGE TRANSFER PUMP NO.2			6J- SPARE STARTER	7H- SPARE
						7J- SPACE

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

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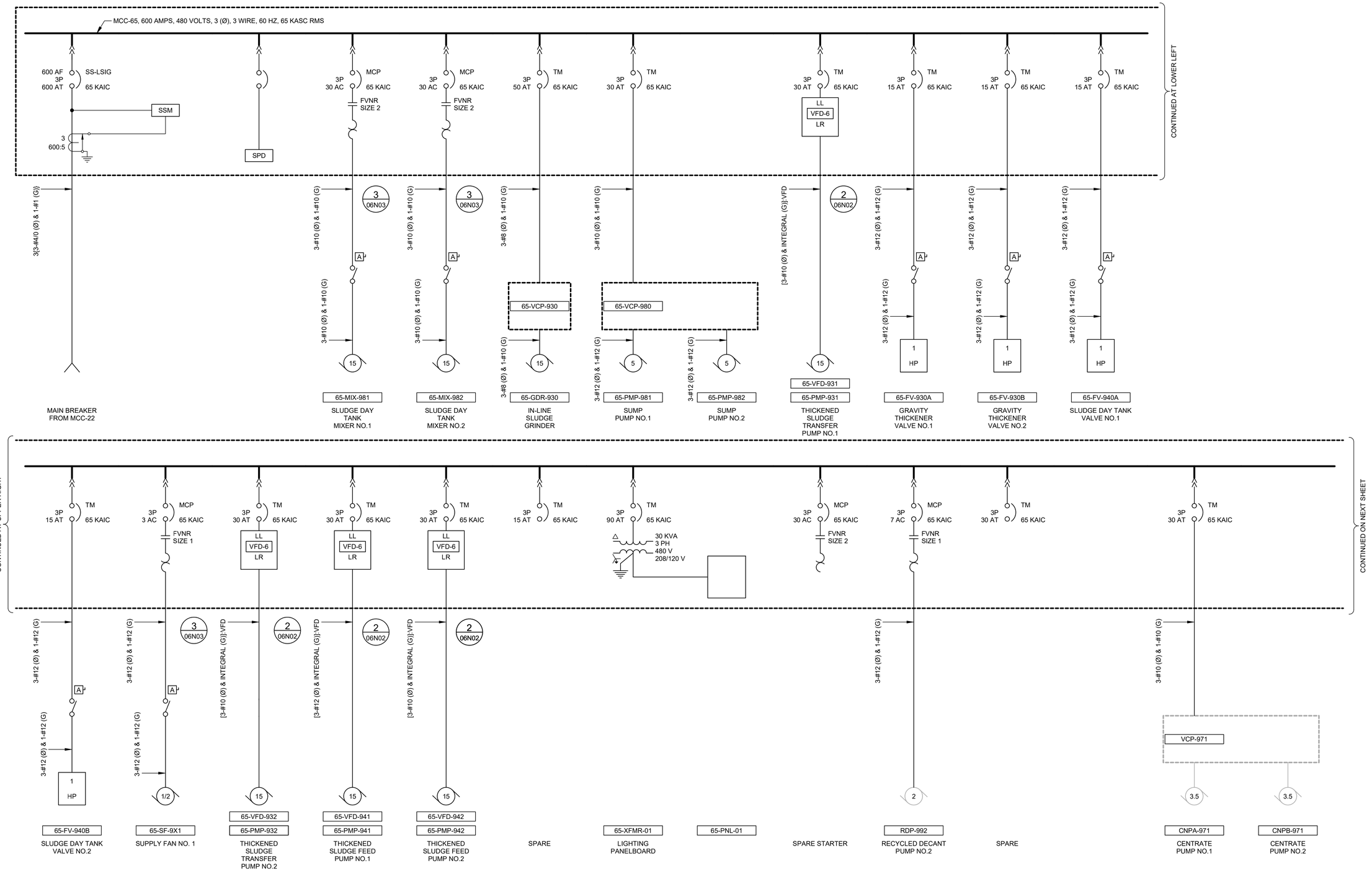
MCC-65 ELEVATION

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DRAWING NO. 03E05
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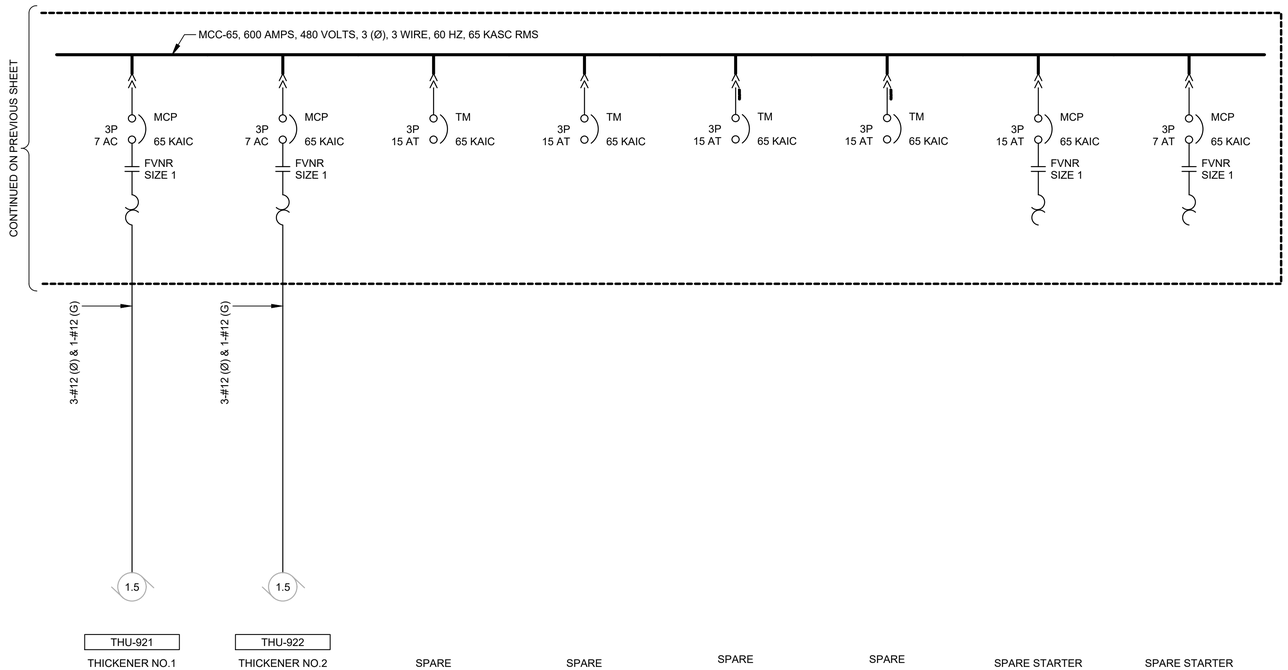
MCC-65 ONE-LINE DIAGRAM 1

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JOB NO. 203356
DRAWING NO. 03E06
SHEET NO. 85 OF 162

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MCC-65 ONE-LINE DIAGRAM 2

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JOB NO. 203356
DRAWING NO. 03E07
SHEET NO. 86 OF 162

PROJECT NO. 203356-100000 FILE NAME: 203356_03E07.dwg

PANEL LP-221 (2)

PANEL INFORMATION

LOCATION	MCC-22	NEMA RATING	1	35286.0	TOTAL CONNECTED VA	A PHASE	13034
VOLTAGE	208 /120V	WIRE	4	32396.3	TOTAL CONTINUOUS VA	B PHASE	13243
PHASE	3	PANEL AMP RATING		8370.0	TOTAL INTERMITTENT VA	C PHASE	9009
MAIN	LUG	FEED	BUS	40766.3	TOTAL PANEL VA		
INTERRUPT	65 KAIC	MTG.	MCC	113.2	TOTAL PANEL AMPS		
GENERAL ELECTRIC							

PANEL CALCULATIONS

I/C	L	R	DESCRIPTION	LOAD (VA)	BKR	CIR	ø	CIR	BKR	LOAD (VA)	DESCRIPTION	R	L	I/C
C		1	CMX-841 – PE3 MIX TANK NO.1	720	1P-20A	1	A	2	1P-20A	1350	SAMPLE STATION WATER HEATER	1		C
C		1	CMX-482 – PE3 MIX TANK NO.2	720	1P-20A	3	B	4	1P-20A	1220	REST ROOM LIGHTS/EXHAUST FAN		1	C
I		4	NORTH AND SOUTH OFFICES RECEPTACLES	720	1P-20A	5	C	6	1P-20A	1350	REST ROOM WATER HEATER	1		I
I		4	NORTH AND SOUTH OFFICES RECEPTACLES	720	1P-20A	7	A	8	1P-20A	1440	SPARE			C
I		4	TRUCK BAY & POLYMER RECEPTACLES	720	1P-20A	9	B	10	1P-20A	180	RESTROOM RECEPTACLES	1		I
I		3	TRUCK BAY, SINK, & LOWER LEVEL RECEPTACLES	540	1P-20A	11	C	12	1P-20A	720	ELEC ROOM RECEPTACLES	4		I
I		5	SPARE	900	1P-15A	13	A	14	1P-20A	900	MEZZANINE RECEPTACLES	5		I
I		3	(1) THICKENER RECEPTACLES & RH-3	540	1P-20A	15	B	16	1P-20A	1920	DRINKING FOUNTAIN RECEPTACLE	1		C
C			CEILING FAN	1920	1P-20A	17	C	18	1P-20A	360	SPARE			C
C			POLYMER, VCP-800	1920	1P-20A	19	A	20	2P-20A	1664	EXTERNAL HEAT PUMP			C
C			HEAT TRACE NORTH	1920	1P-20A	21	B	22		1664	EXTERNAL HEAT PUMP			C
C			UH-5, UH-6, LOWER LEVEL L-1	900	1P-20A	23	C	24	1P-20A		SPARE			
			UH-7		1P-20A	25	A	26	1P-20A	1200	UH-3, UH-4			C
C			OFFICE HEATER	1500	2P-20A	27	B	28	2P-20A	999	RESTROOM ELECTRIC WALL HEATER			C
C				1500		29	C	30		999	SPARE			
C			SPARE	1500	2P-20A	31	A	32	1P-20A	720	NORTH RECEPTACLES	4		I
C				1500		33	B	34	1P-20A	360	MEZZANINE	2		I
			SPARE		1P-20A	35	C	36	1P-20A ☐ 1	1500	AIR DRYER COMPRESSOR	1		C
			SPARE		1P-20A	37	A	38	1P-20A ☐ 1	1500	HEAT TRACE WEST	1		C
			SPARE		1P-20A	39	B	40	1P-20A ☐ 1	1500	SAMPLE PLUG MOLD	1		C
			SPARE		1P-20A	41	C	42	1P-20A ☐ 1	1500	HEAT TRACE EAST	1		C

LP-222 (2)

PANEL INFORMATION

LOCATION	MCC-22	NEMA RATING	1	12768	TOTAL CONNECTED VA	A PHASE	4321
VOLTAGE	480 /277	WIRE	3	15960	TOTAL CONTINUOUS VA	B PHASE	5119
PHASE	3	PANEL AMP RATING	125A	0	TOTAL INTERMITTENT VA	C PHASE	3328
MAIN	CB	FEED	BOTTOM	15960	TOTAL PANEL VA		
INTERRUPT	65 KAIC	MTG.	SURFACE	19.2	TOTAL PANEL AMPS		
MANUFACTURER							

PANEL CALCULATIONS

I/C	L	R	SW	DESCRIPTION	LOAD (VA)	BKR	CIR	ø	CIR	BKR	LOAD (VA)	DESCRIPTION	SW	R	L	I/C
C	4		a	(1) THICKENER LIGHTS	444	1P-20A	1	A	2	1P-20A	212	LIGHTS – STORAGE ROOM	b		4	C
C	5		e	EXTERIOR LIGHTS – DEWATERING BLDG	1110	1P-20A	3	B	4	1P-20A	330	LIGHTS – OFFICE	c		4	C
C	R		l	MEZZANINE	388	1P-20A	5	C	6	1P-20A	582	LIGHTS – CENTRIFUGE (LOWER)	d		6	C
C	6		h	LIGHTS – HOPPER ROOM	1220	1P-20A	7	A	8	1P-20A	2445	LIGHTS – TRUCK BAY	f		9	C
C	5		m	LIGHTS – POLYMER	2355	1P-20A	9	B	10	1P-20A	582	LIGHTS – ELECTRICAL ROOM	g		5	C
C	2		NL	NIGHT LIGHTS – THICKENER PUMPS	194	1P-20A	11	C	12	1P-20A	2164	LIGHTS – CENTRIFUGE (UPPER)	k		8	C
				SPARE		1P-20A	13	A	14	1P-20A		SPARE				C
C	2		NL	NIGHT LIGHTS – CENTRIFUGE	354	1P-20A	15	B	16	1P-20A	388	LIGHTS – THICKENER PUMPS	o		4	C
				SPARE		1P-20A	17	C	18	1P-20A		SPARE				
				SPARE		1P-20A	19	A	20	1P-20A		SPARE				
				SPARE		1P-20A	21	B	22	1P-20A		SPARE				
				SPARE		1P-20A	23	C	24	1P-20A		SPARE				
				SPARE		1P-20A	25	A	26	1P-20A		SPARE				
				SPARE		1P-20A	27	B	28	1P-20A		SPARE				
				SPARE		1P-20A	29	C	30	1P-20A		SPARE				
				SPARE		1P-20A	31	A	32	1P-20A		SPARE				
				SPARE		1P-20A	33	B	34	1P-20A		SPARE				
				SPARE		1P-20A	35	C	36	1P-20A		SPARE				
				SPARE		1P-20A	37	A	38	1P-20A		SPARE				
				SPARE		1P-20A	39	B	40	1P-20A		SPARE				
				SPARE		1P-20A	41	C	42	1P-20A		SPARE				

PANEL 65-PNL-01

4/18/2025

LOCATION:	INSIDE MCC-65	NEMA:	1	PH A WEIGHTED VA	7426
VOLTS:	208/120	FEED:	BOTTOM	PH B WEIGHTED VA	7355
PHASE & WIRE:	3 PH 4W	MTG.	MCC	PH C WEIGHTED VA	6180
INTERRUPT:	18 KAIC	BUS RATING:	100		
OPTIONS:	SPD	MAIN:	CB	EQUIP SIZING VA	22278
		MAIN RATING:	100 AF 80 AT	PANEL AMPS	61.8

I/C/S	DESCRIPTION	LOAD (VA)	BKR	CIR	Ø	CIR	BKR	LOAD (VA)	DESCRIPTION	I/C/S
C	PUMP STATION - PUMP AREA LIGHTS	360	20A-1P	1	A	2	20A-1P	500	65-ACP-910 - ACCESS CONTROL PANEL	C
C	PUMP STATION - ELECTRICAL ROOM LIGHTS	258	20A-1P	3	B	4	20A-1P	1260	PUMP STATION - ELECTRICAL ROOM RECEPTACLES	I
C	PCM-910 CKT 1	1000	20A-1P	5	C	6	20A-1P	500	PCM-920 CKT 2	C
I	HOMOGENIZATION TANK RECEPTACLES	36	20A-1P	7	A	8	15A-1P	20	EXIT SIGNS	C
C	HOMOGENIZATION TANK LIGHTS	74	20A-1P	9	B	10	20A-1P	52	PUMP STATION - UPPER LEVEL OUTDOOR LIGHTS	C
	SPARE		20A-1P	11	C	12	20A-1P	1200	PUMP STATION - PUMP AREA RECEPTACLES	I
C	65-HP-993 - HEAT PUMP NO.1	1976	25A-2P	13	A	14	20A-1P	540	THICKENER RECEPTACLES AND RH-3	C
C		1976		15	B	16	20A-1P GFCI	540	HEAT TRACE EAST	C
C	THICKENER LIGHTS	444	20A-1P	17	C	18	20A-1P GFCI	540	HEAT TRACE NORTH	C
C	65-HP-994 - HEAT PUMP NO.2	1976	25A-2P	19	A	20	20A-1P GFCI	540	HEAT TRACE SOUTH	C
C		1976		21	B	22	20A-1P		SPARE	
C	HEAT TRACE WEST	540	20A-1P GFCI	23	C	24	15A-1P	600	65-LVR-997 - MOTORIZED LOUVER 1	C
	SPARE		20A-1P	25	A	26	20A-1P		SPARE	
	SPARE		20A-1P	27	B	28	20A-1P		SPARE	
	SPARE		20A-1P	29	C	30	20A-1P	360	UNDER DRAIN PS LIGHT & TRASH PUMPS	C

(#) KEY NOTES:

1. DISCONNECT AND REMOVE EXISTING CONDUCTORS FROM PANELBOARD LP-221, CIRCUIT 15, AND PANELBOARD LP-222, CIRCUIT 1, AND LABEL THESE CIRCUITS AS SPARE. THE THICKENER LIGHTS AND RECEPTACLES WILL NOW BE SUPPLIED BY THE NEW PANELBOARD 65-PNL-01 LOCATED INSIDE MCC-65 AT THE SLUDGE PUMP STATION. REFER TO PANEL 65-PNL-01 FOR DETAILS.
2. EXISTING PANELBOARD SCHEDULE. FOR REFERENCE ONLY.

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ELECTRICAL

PANELBOARD SCHEDULES

VERIFY SCALES
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DRAWING NO. 04E01
SHEET NO. 87 OF 162

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LUMINAIRE SCHEDULE

4/15/2025

ITEM	DESCRIPTION	MOUNTING METHOD	LED LUMENS	LED COLOR TEMPERATURE	LED CRI	LUMINAIRE SPECIFICATIONS MANUFACTURER	CATALOG	VOLTS	VA
A	FEM LED ENCLOSED AND GASKETED INDUSTRIAL LINEAR FIXTURE, SUITABLE FOR WET LOCATIONS, VAPOR-TIGHT, ACRYLIC CLEAR DEEP LENS, MEDIUM DISTRIBUTION, RATED FOR AMBIENT TEMPERATURES 5°C TO 35°C	SUSPENDED	6687	4000K	80	LITHONIA LIGHTING	FEM L48 6000LM IMACD MD MVOLT GZ10 40K 80CRI	120	43
A1	FEM LED ENCLOSED AND GASKETED INDUSTRIAL LINEAR FIXTURE, SUITABLE FOR WET LOCATIONS, VAPOR-TIGHT, ACRYLIC CLEAR DEEP LENS, MEDIUM DISTRIBUTION, RATED FOR AMBIENT TEMPERATURES 5°C TO 35°C, 10W CONSTANT POWER BATTERY PACK	SUSPENDED	6687	4000K	80	LITHONIA LIGHTING	FEM L48 6000LM IMACD MD MVOLT GZ10 40K 80CRI BE6WCP	120	43
B	D-SERIES SIZE 1 LED WALL LUMINAIRE, IP65 RATED, CORROSION RESISTANT, TYPE II MEDIUM DISTRIBUTION, RATED FOR AMBIENT TEMPERATURE -40°C MINIMUM, PHOTOELECTRIC CELL BUTTON TYPE, EMERGENCY BATTERY BACKUP, BLACK	WALL	1840	3000K	80	LITHONIA LIGHTING	DSXW1 LED P1 30K 80CRI T2M 120 SRM PE E10WH DBLXD	120	13
C	DELEON DLTL WET LOCATION EXIT SIGN, WHITE COMPACT WITH GREEN LETTERS, RATED FOR AMBIENT TEMPERATURES -20°C TO 50°C, MAINTENANCE FREE NICKEL-CADMIUM BATTERY DELIVERS 90 MINUTES RATED CAPACITY	WALL				HOLOPHANE	DLTL W 1 G EL	120	4
D	WALLCONNECT LED, FULLY GASKETED, SUITABLE FOR WET LOCATIONS, POLYCARBONATE LENS, TYPE 3 MEDIUM DISTRIBUTION, RATED FOR AMBIENT TEMPERATURES -40°C TO 50°C, 10KV SURGE PROTECTOR, SCREW CLOSURE, EMERGENCY BATTERY BACKUP	WALL	2024	4000K	70	HOLOPHANE	WCNP P1 40 K T3M 120 10KV BKSDP SCRW NTR ELSW	120	18
E	D-SERIES SIZE 0 LED AREA LUMINAIRE, UL LISTED FOR WET LOCATIONS, ZERO UPLIGHT, FORWARD THROW MEDIUM DISTRIBUTION, RATED FOR AMBIENT TEMPERATURES -40°C MINIMUM, MAST ARM ADAPTER, NATURAL ALUMINUM FINISH 8 FOOT SWIVEL POLE	POLE	4698	3000K	70	LITHONIA LIGHTING	DSX0 LED 30K 70CRI TFTM 120 MA DNAXD C1-M1-2400-T-HG-AL	120	37

DISCONNECT SCHEDULE

4/15/2025

TAG	VOLTAGE	POLES	AMPS	NEMA TYPE	TYPE	HORSEPOWER	FUSE SIZE	BREAKER AF/AT	ACCESSORIES
A	600 VAC	3P	30A	4X-SS	NON-FUSED				3

ACCESSORIES
1= "B" TYPE ELECTRICAL INTERLOCK FOR POSITION INDICATION
2= INSULATED GROUNDABLE NEUTRAL KIT
3= DRAIN AND BREATHER KIT WHEN OUTDOORS
4= EARLY BREAK AUXILIARY CONTACT

ELECTRICAL HANDHOLE AND MANHOLE SCHEDULE

6/9/2025

TAG NO	MINIMUM INTERIOR DIMENSIONS (INCHES) WIDTH	LENGTH	DEPTH	CONSTRUCTION	TYPICAL DETAIL	SURFACE LOADING	COMMENTS
HH-01	60	60	60	PRECAST	EM056	ROADWAY	
65-PB-01	48	48	60	PRECAST	EM056	ROADWAY	
65-PB-02	16	48	60	PRECAST	EM056	ROADWAY	

NOTES:
1. SEE SPECIFICATION 03_48_55 and 03_48_53 FOR PRECAST ELECTRICAL HANDHOLES AND MANHOLES.
2. ALTERNATES: PROVIDE PER TYPICAL DETAIL EM062 IF INDICATED UNDER "COMMENTS".

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
ELECTRICAL
LUMINAIRE, DISCONNECT, AND HANDHOLE SCHEDULES

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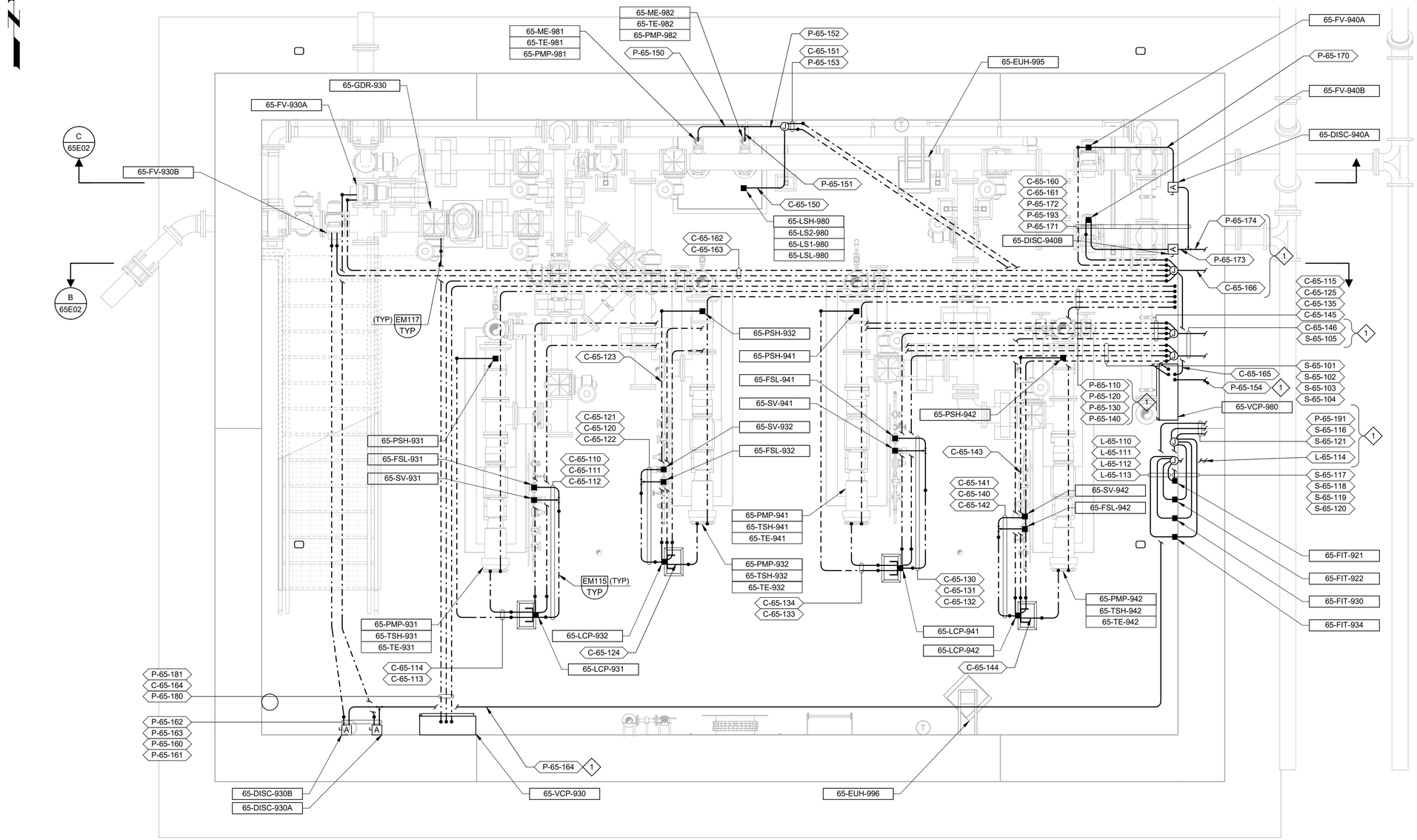
JOB NO. 203356
DRAWING NO. 05E01
SHEET NO. 88 OF 162

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KEY NOTES:

1. CONDUITS CONTINUE ON DRAWING 65E02.



A PLAN
A / 01E01

SCALE: 1/2" = 1'-0"

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

18 - ELECTRICAL

SLUDGE PUMP STATION LOWER LEVEL POWER AND CONTROL PLAN

VERIFY SCALES
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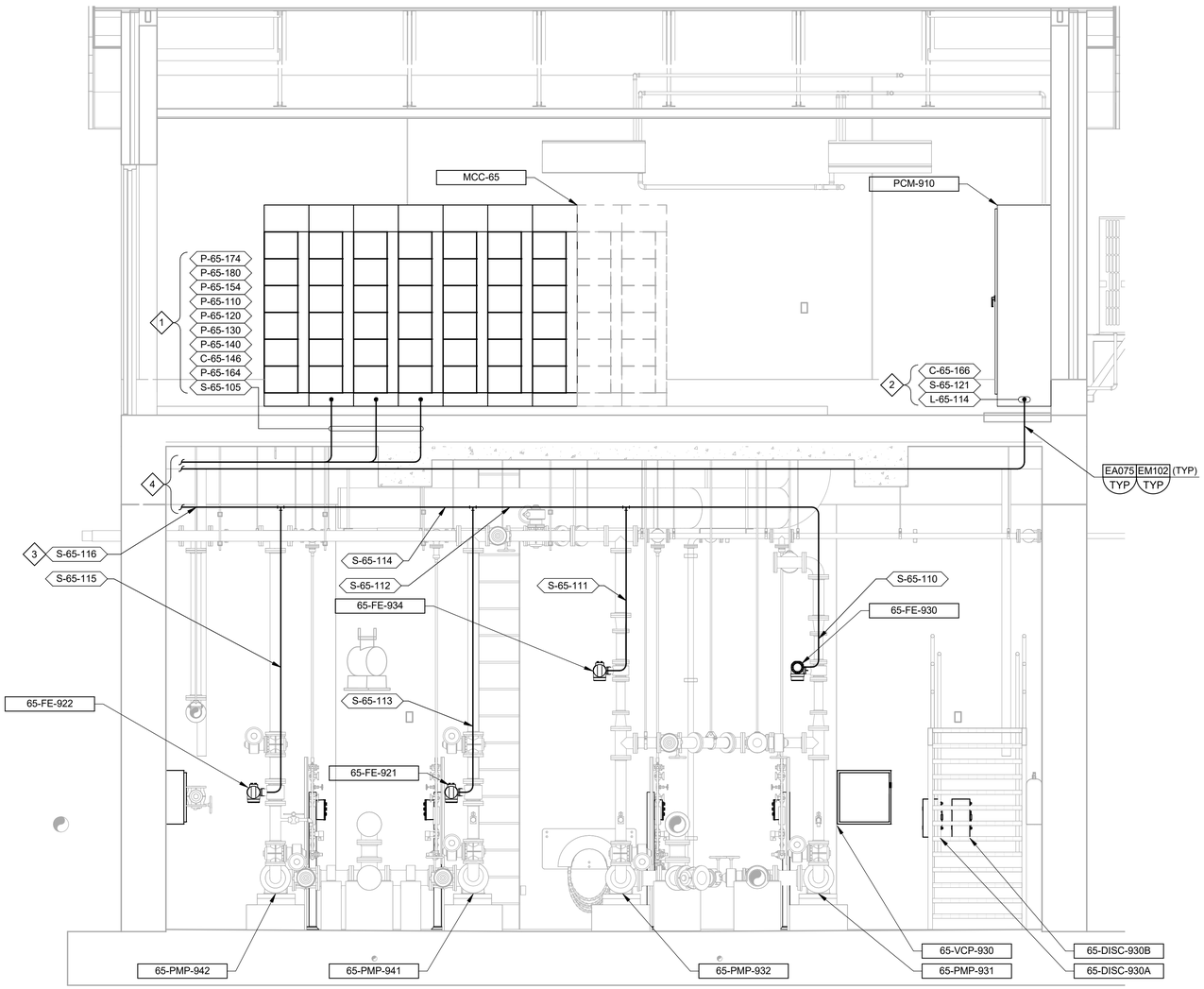
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SHEET NO. 89 OF 162

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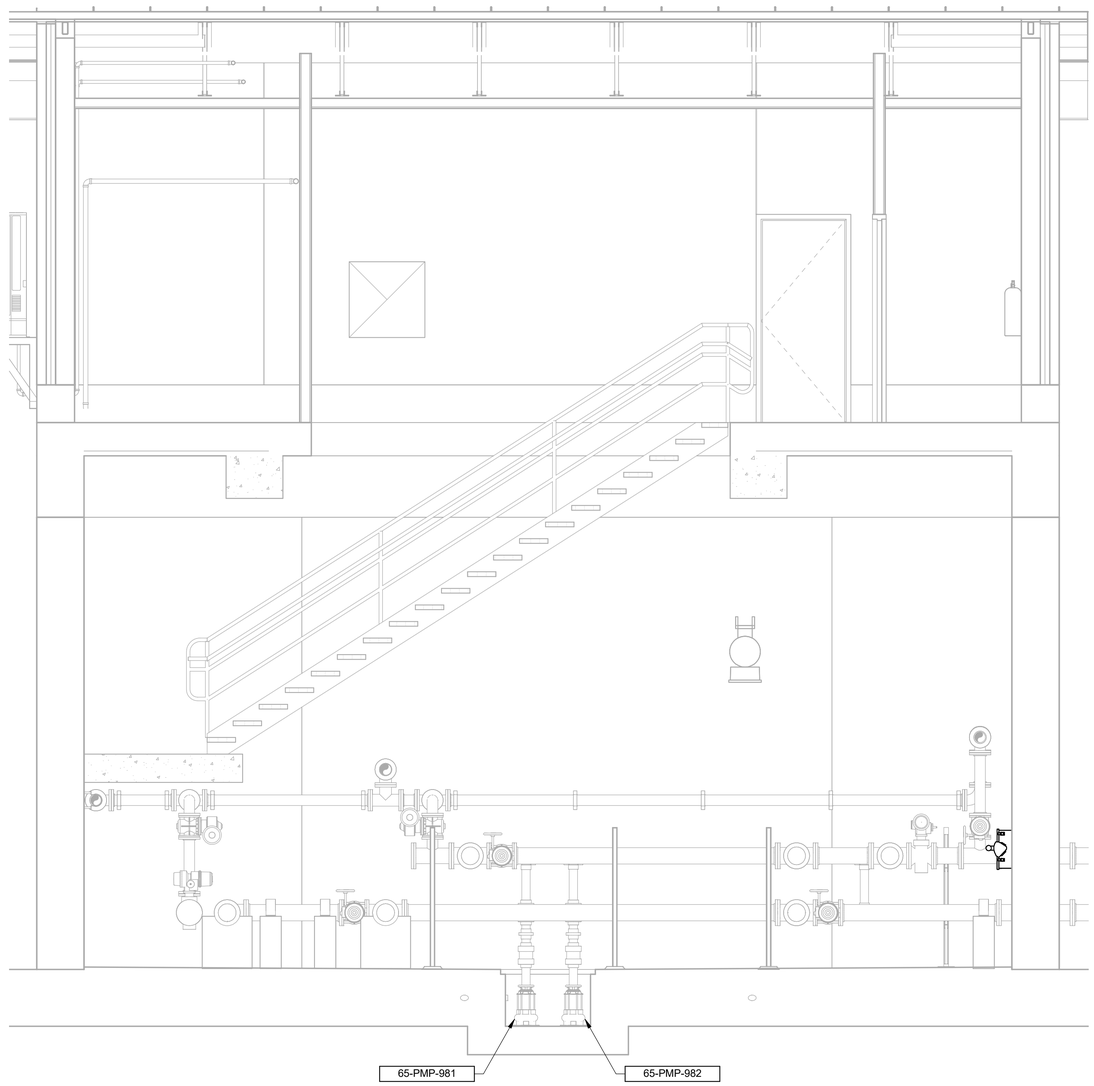
FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65E0801.rvt

KEY NOTES:

1. ROUTE CONDUITS FROM THE PUMP STATION EXPOSED BENEATH THE CEILING AND EXTEND THEM UPWARD BENEATH THE CORRESPONDING SECTION OF MCC-65. SUPPORT THE CONDUITS FROM THE CEILING PER TYPICAL DETAIL EM102 AND EA075/TYP. REFER TO DRAWING 65E03 FOR CONDUIT TERMINATION.
2. ROUTE CONDUITS FROM THE PUMP STATION EXPOSED BENEATH THE CEILING AND EXTEND THEM UPWARD BENEATH PCM-910. SUPPORT THE CONDUITS FROM THE CEILING PER TYPICAL DETAIL EM102 AND EA075/TYP. REFER TO DRAWING 65E03 FOR CONDUIT TERMINATION.
3. SUPPORT CONDUITS ALONG THE PIPE, TYPICAL.
4. CONDUITS CONTINUED ON DRAWING 65E01.



B SECTION
65E01 SCALE: 3/8" = 1'-0"



C SECTION
65E01 SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED BT
DRAWN LLM
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5329023
GUY C. EHLERS
STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

18 - ELECTRICAL

SLUDGE PUMP STATION LOWER LEVEL POWER AND CONTROL SECTIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65E02
SHEET NO. 90 OF 162

PLOT DATE: 6/9/2025 3:43:47 PM

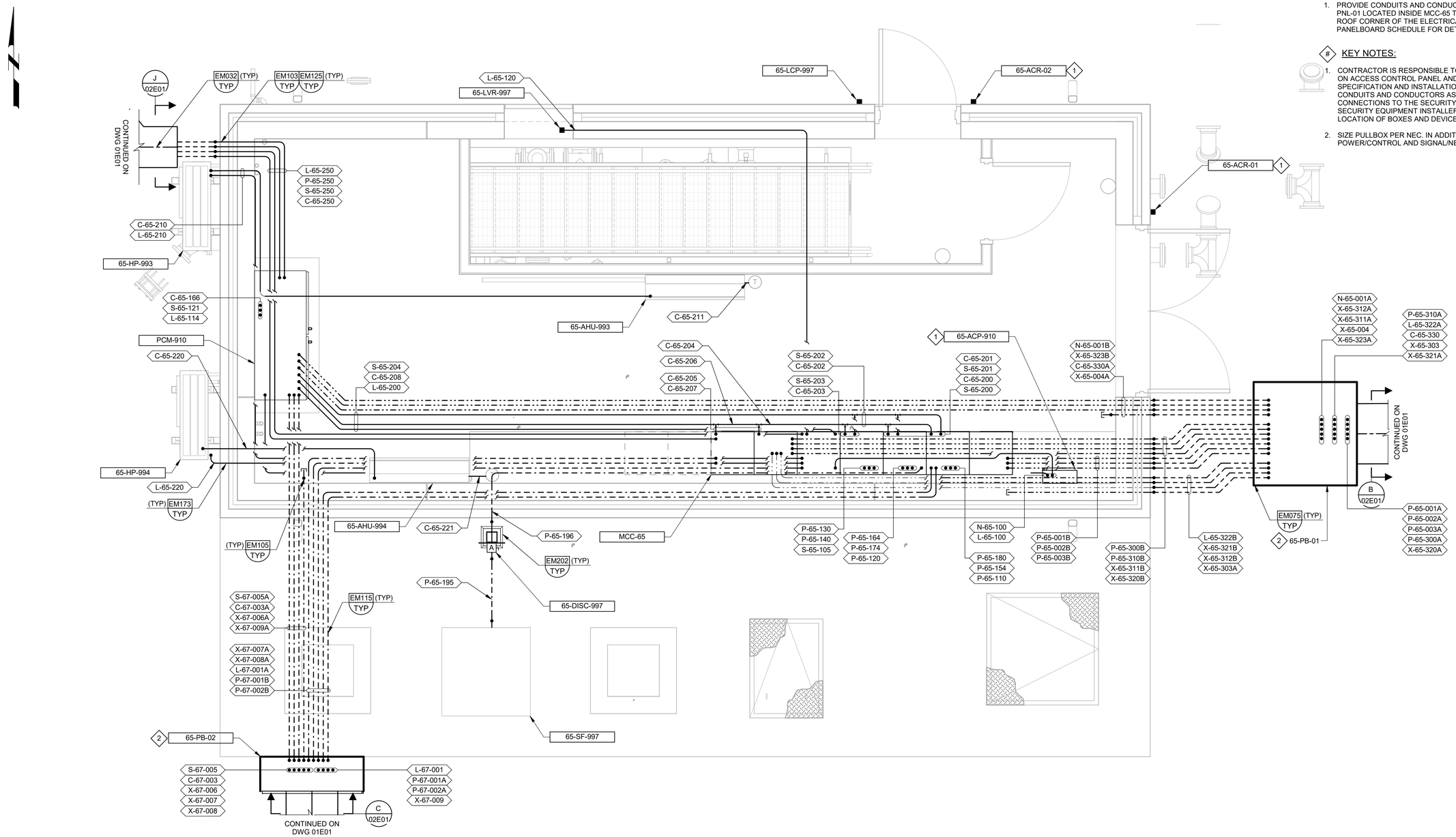
FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65E0801.rvt

GENERAL NOTES:

1. PROVIDE CONDUITS AND CONDUCTORS FROM PANELBOARD 65-PNL-01 LOCATED INSIDE MCC-65 TO EACH HEAT TRACE AT EVERY ROOF CORNER OF THE ELECTRICAL BUILDING. REFER TO THE PANELBOARD SCHEDULE FOR DETAILS.

KEY NOTES:

1. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER ON ACCESS CONTROL PANEL AND SECURITY CARD READERS SPECIFICATION AND INSTALLATION DETAILS. PROVIDE ADDITIONAL CONDUITS AND CONDUCTORS AS NEEDED TO MAKE THE FINAL CONNECTIONS TO THE SECURITY DEVICES. WORK WITH THE SECURITY EQUIPMENT INSTALLER TO DETERMINE THE EXACT LOCATION OF BOXES AND DEVICES.
2. SIZE PULLBOX PER NEC. IN ADDITION PROVIDE BARRIER BETWEEN POWER/CONTROL AND SIGNAL/NETWORK CONDUCTORS.



D 01E01 PLAN

SCALE: 1/2" = 1'-0"

REV	DATE	BY	DESCRIPTION

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DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5329023
GUY C. EHLERS
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ELECTRICAL

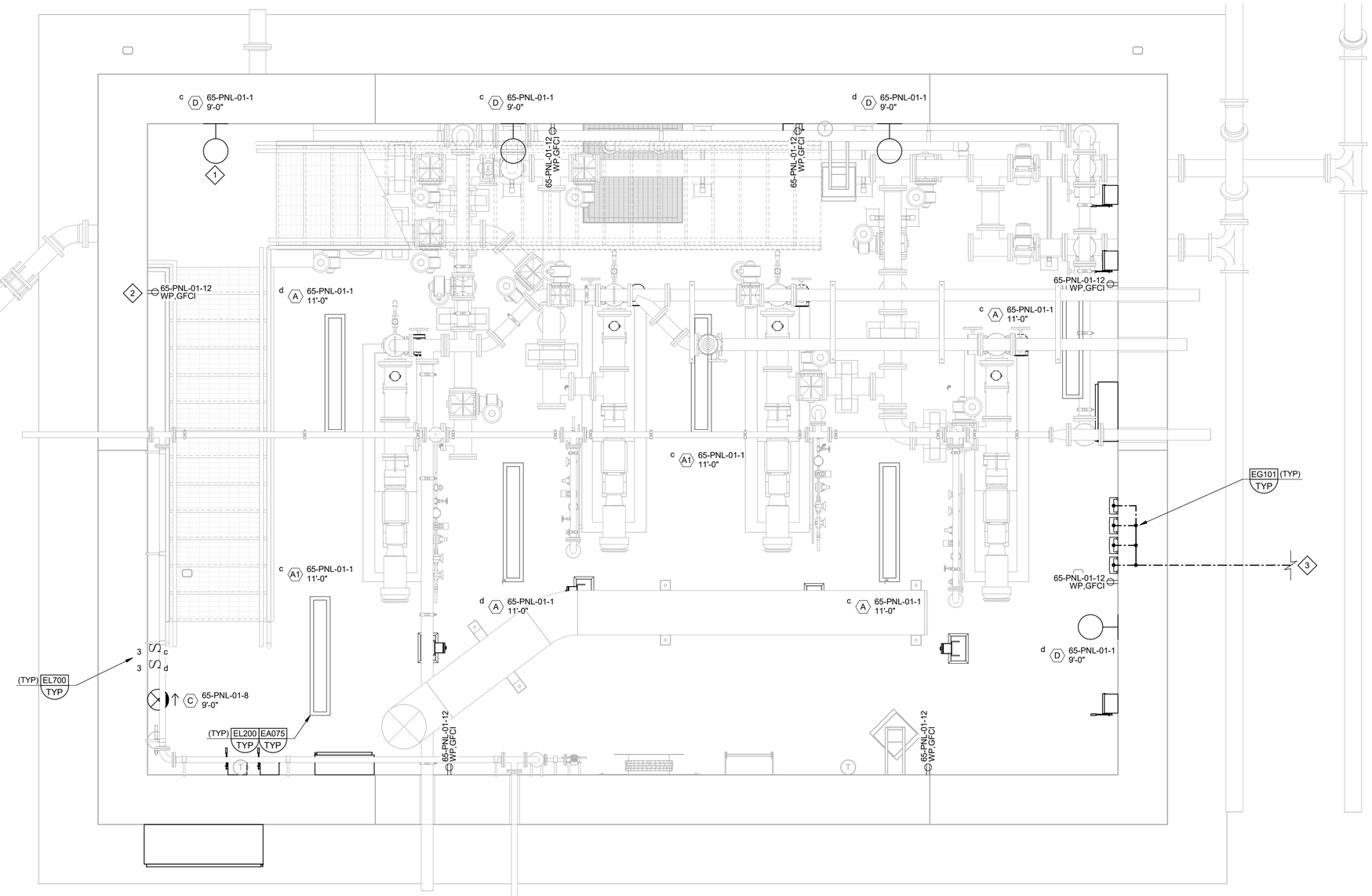
SLUDGE PUMP STATION UPPER LEVEL POWER AND CONTROL PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65E03
SHEET NO. 91 OF 162

PLOT DATE: 6/9/2025 3:47:14 PM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65E0801.rvt



KEY NOTES:

1. MOUNTING HEIGHT IS FROM STAIR LANDING DIRECTLY BELOW FIXTURE.
2. RECEPTACLE IS LOCATED BELOW THE STAIRS.
3. BOND FLOW TRANSMITTERS 65-FIT-921, 65-FIT-922, 65-FIT-930 AND 65-FIT-934 TO THE GROUNDING SYSTEM ON DWG 65E05 PER DETAIL NF135/TYP. GROUNDING IS SHOWN TO THE TRANSMITTERS FOR CLARITY PURPOSE, CONNECTION SHOULD BE MADE TO THE FLOW TUBES.

E PLAN

SCALE: 1/2" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED BT
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GUY C. EHLERS
STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

18 - ELECTRICAL

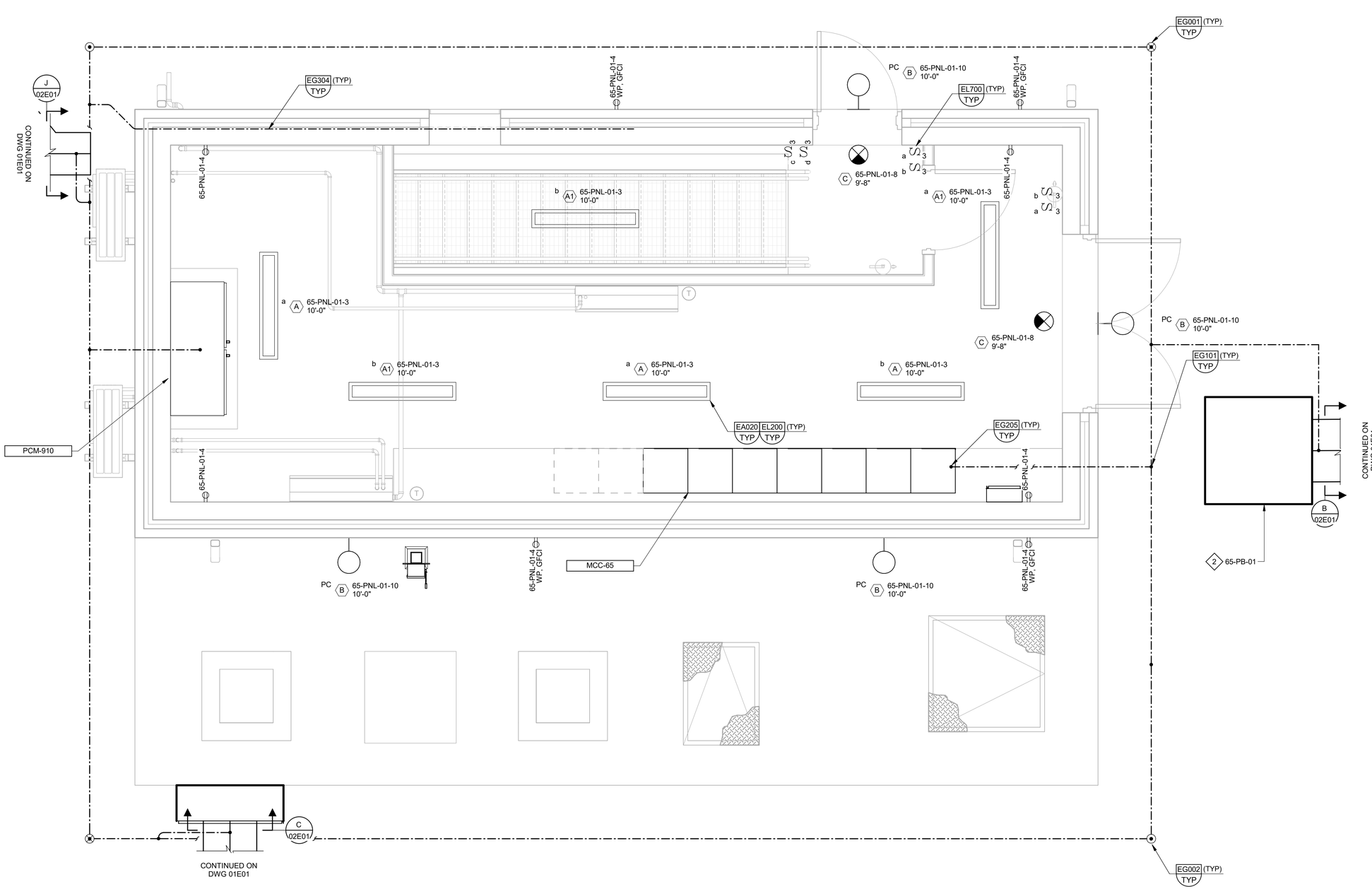
SLUDGE PUMP STATION LOWER LEVEL LIGHTING AND GROUNDING PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65E04
SHEET NO. 92 OF 162

PLOT DATE: 6/5/2025 10:12:13 AM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65E0801.rvt



F PLAN

01E01 SCALE: 1/2" = 1'-0"

REV	DATE	BY	DESCRIPTION

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CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
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GUY C. EHLERS
STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ELECTRICAL

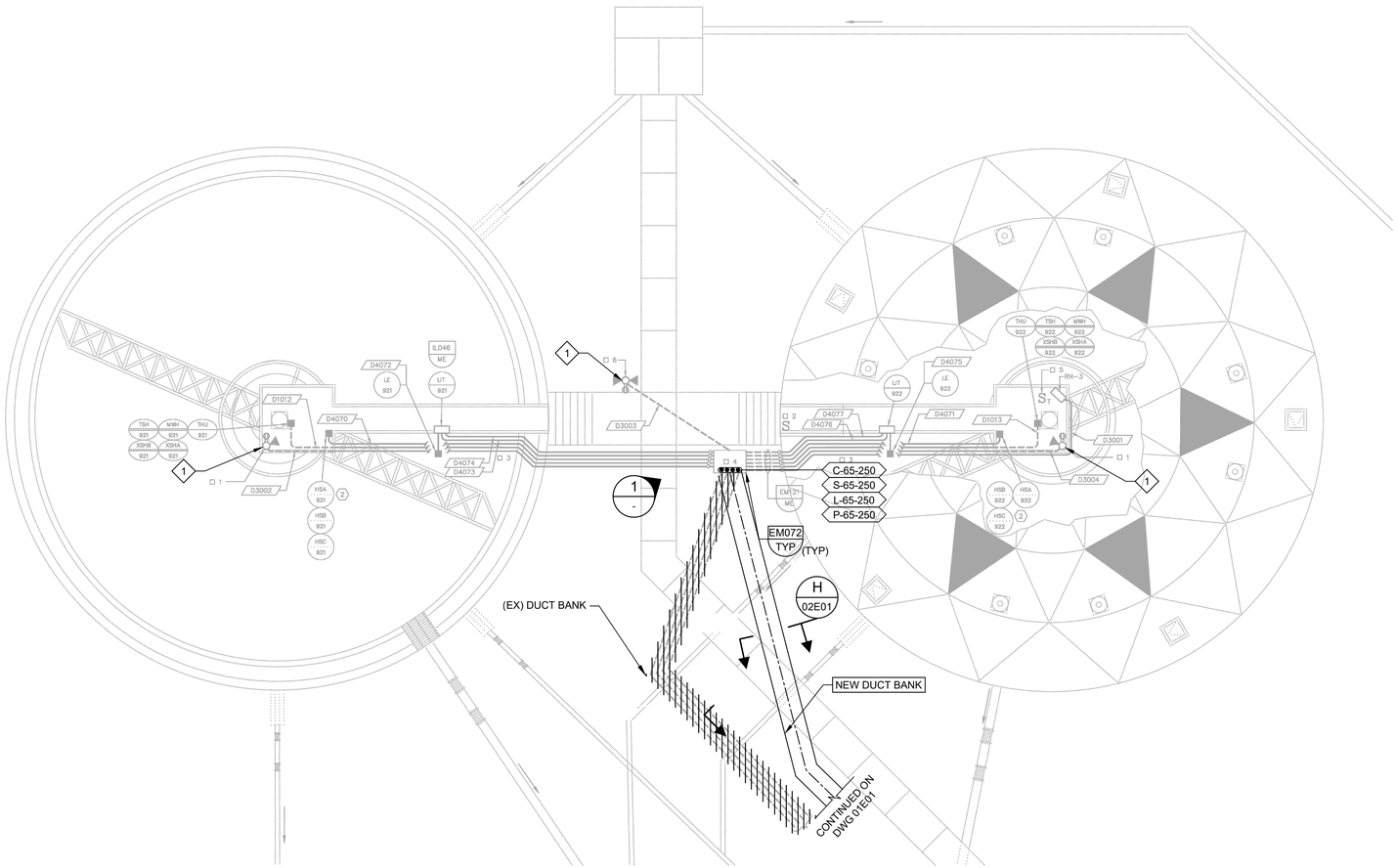
SLUDGE PUMP STATION UPPER LEVEL LIGHTING AND GROUNDING PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65E05
SHEET NO. 93 OF 162

PLOT DATE: 6/6/2025 10:12:14 AM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_65E0801.rvt



A 01E01 PLAN
SCALE: NO SCALE
FILE: 203356_66E0101



1 - PHOTO
SCALE: NO SCALE
FILE: 203356_66E0402

GENERAL NOTES:

1. REFER TO THE WORK SEQUENCE BELOW FOR DEMOLITION OF THE EXISTING DUCT BANK AND INSTALLATION OF THE NEW DUCT BANK BETWEEN THE PULLBOX AND THE SLUDGE PUMP STATION. COORDINATE WITH THE DEMOLITION WORK SHOWN ON THE DEMOLITION DRAWINGS.
2. DEMOLITION WORK SEQUENCE:
   - A. PROVIDE TEMPORARY POWER AND CONTROL FOR THE THICKENERS DURING THE DEMOLITION OF THE EXISTING DUCT BANK AND INSTALLATION OF THE NEW DUCT BANK BETWEEN THE PULLBOX AND SLUDGE PUMP STATION. COORDINATE WITH THE OWNER TO DEFINE THE SCOPE OF TEMPORARY POWER AND CONTROL.
   - B. TURN OFF FEEDER BREAKERS SUPPLYING POWER TO THICKENERS THU-921 AND THU-922 AT MCC-22. DISCONNECT AND REMOVE EXISTING CONDUCTORS FROM THE CONDUITS BETWEEN MCC-22 IN THE DEWATERING BUILDING AND THE THICKENERS AS SHOWN ON THE PLAN. ENSURE ALL CONDUCTORS ARE DE-ENERGIZED BEFORE BEGINNING REMOVAL.
   - C. DISCONNECT AND REMOVE ALL SIGNAL AND CONTROL WIRES BETWEEN THE INSTRUMENTS/EQUIPMENT AT THE THICKENERS AND VCP-900 IN THE DEWATERING BUILDING.
   - D. DISCONNECT AND REMOVE LIGHTING AND RECEPTACLE WIRES FROM PANELBOARDS LP-221 AND LP-222 FOR THE THICKENERS. THE LIGHTS AND RECEPTACLES WILL NOW BE FED BY PANELBOARD 65-PNL-01 LOCATED INSIDE NEW MCC-65. SEE THE PANELBOARD SCHEDULE FOR MORE DETAILS.
   - E. DEMOLISH THE EXISTING DUCT BANK BETWEEN THE PULLBOX SHOWN ON THIS PLAN DRAWING AND THE NEW HANDHOLE HH-01. SAWCUT CONDUITS AT HANDHOLE HH-01 PER DETAIL EM003/TYP, AND PRESERVE THE EXISTING CONDUITS FROM THE HANDHOLE TO THE DEWATERING BUILDING. REFER TO THE SITE PLAN FOR HANDHOLE HH-01 LOCATION AND COORDINATE WORK WITH THE DEMOLITION NOTES ON THE DEMOLITION DRAWINGS.
3. INSTALLATION WORK SEQUENCE:
   - A. INSTALL THE NEW DUCT BANK BETWEEN THE SLUDGE PUMP STATION AND THE EXISTING PULLBOX SHOWN ON THIS PLAN DRAWING.
   - B. INSTALL NEW CONDUCTORS BETWEEN THE THICKENER EQUIPMENT/INSTRUMENTS AND MCC-65 AND PCM-910 IN THE ELECTRICAL ROOM OF THE SLUDGE PUMP STATION, UTILIZING THE EXISTING CONDUITS BETWEEN THE THICKENER EQUIPMENT/INSTRUMENTS AND THE PULLBOX, AND NEW CONDUITS FROM THE PULLBOX TO THE ELECTRICAL ROOM AT THE SLUDGE PUMP STATION. REFER TO THE INSTRUMENTATION DRAWINGS AND CONDUIT SCHEDULE FOR WIRING DETAILS.
   - C. INSTALL NEW CONDUCTORS FOR THE THICKENER LIGHTS AND RECEPTACLES USING EXISTING CONDUITS BETWEEN LIGHTS/RECEPTACLES AND PULLBOX AND NEW CONDUITS FROM THE PULLBOX TO PANELBOARD 65-PNL-01 INSIDE NEW MCC-65. REFER TO THE PANELBOARD SCHEDULE FOR DETAILS.
   - D. TEST EQUIPMENT AND ALL TERMINATION TO VERIFY PROPER INSTALLATION.

KEY NOTES:

1. REPLACE EXISTING 277V LIGHTS WITH 120V TYPE E LUMINAIRE. REFER TO PANELBOARD AND LUMINAIRE SCHEDULES FOR DETAILS.

REV	DATE	BY	DESCRIPTION

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REGISTERED PROFESSIONAL ENGINEER — No. 5329023 — GUY C. EHLERS — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

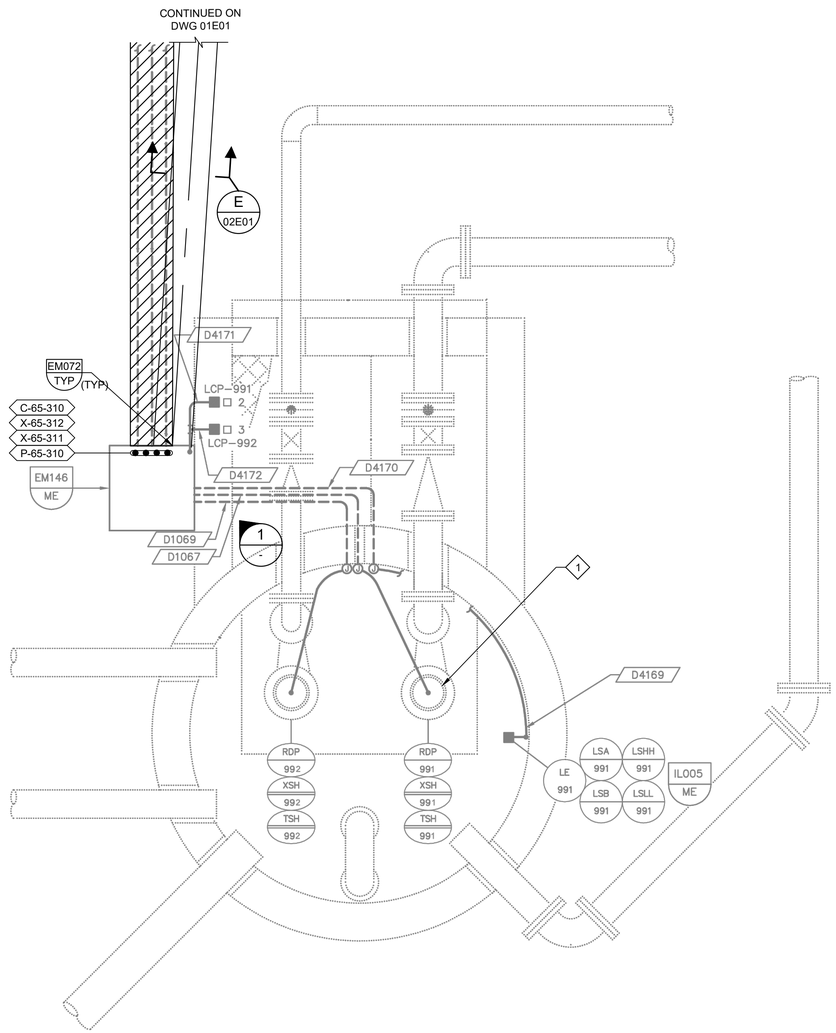
WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
ELECTRICAL
GRAVITY THICKENERS 1 & 2
POWER AND CONTROL PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 66E01
SHEET NO. 94 OF 162

LAST SAVED BY: LMorris

PROJECT NO. 203356-100000 FILE NAME: 203356_66E01.dwg



B PLAN
01E01
SCALE: NO SCALE
FILE: 203356_66E0102



1 PHOTO
-
SCALE: NO SCALE
FILE: 203356_66E0402

GENERAL NOTES:

1. REFER TO THE WORK SEQUENCE BELOW FOR DEMOLITION OF THE EXISTING DUCT BANK AND INSTALLATION OF THE NEW DUCT BANK BETWEEN THE PULLBOX AND THE SLUDGE PUMP STATION. COORDINATE WITH THE DEMOLITION WORK SHOWN ON THE DEMOLITION DRAWINGS.
2. DEMOLITION WORK SEQUENCE:
   - A. PROVIDE TEMPORARY POWER AND CONTROL FOR THE RECYCLED DECANT PUMP STATION DURING THE DEMOLITION OF THE EXISTING DUCT BANK AND INSTALLATION OF THE NEW DUCT BANK BETWEEN THE EXISTING HANDHOLE AND SLUDGE PUMP STATION. COORDINATE WITH THE OWNER TO DEFINE THE SCOPE OF TEMPORARY POWER AND CONTROL.
   - B. TURN OFF FEEDER BREAKERS SUPPLYING POWER TO RECYCLED DECANT PUMPS RDP-991 AND RDP-992 AT MCC-22. DISCONNECT AND REMOVE EXISTING CONDUCTORS FROM THE CONDUITS BETWEEN MCC-22 IN THE DEWATERING BUILDING AND THE RECYCLED DECANT PUMPS AS SHOWN ON THE PLAN. ENSURE ALL CONDUCTORS ARE DE-ENERGIZED BEFORE BEGINNING REMOVAL.
   - C. DISCONNECT AND REMOVE ALL SIGNAL AND CONTROL WIRES BETWEEN THE INSTRUMENTS/EQUIPMENT AT THE RECYCLED DECANT PUMP STATION AND VCP-900 IN THE DEWATERING BUILDING.
   - D. DEMOLISH THE EXISTING DUCT BANK BETWEEN THE PULLBOX SHOWN ON THIS PLAN DRAWING AND THE NEW HANDHOLE HH-01, SAWCUT CONDUITS AT HANDHOLE HH-01 PER DETAIL EM003/TYP, AND PRESERVE THE EXISTING CONDUITS FROM THE HANDHOLE TO THE DEWATERING BUILDING. REFER TO THE SITE PLAN FOR HANDHOLE HH-01 LOCATION AND COORDINATE WORK WITH THE DEMOLITION NOTES ON THE DEMOLITION DRAWINGS.
3. INSTALLATION WORK SEQUENCE:
   - A. INSTALL THE NEW DUCT BANK BETWEEN THE SLUDGE PUMP STATION AND THE EXISTING PULLBOX SHOWN ON THIS PLAN DRAWING.
   - B. INSTALL NEW CONDUCTORS BETWEEN THE RECYCLED DECANT PUMP STATION EQUIPMENT/INSTRUMENTS AND MCC-65 AND PCM-910 IN THE ELECTRICAL ROOM OF THE SLUDGE PUMP STATION, UTILIZING THE EXISTING CONDUITS BETWEEN THE RECYCLED DECANT PUMP STATION EQUIPMENT/INSTRUMENTS AND THE EXISTING HANDHOLE, AND NEW CONDUITS FROM THE PULLBOX TO THE ELECTRICAL ROOM AT THE SLUDGE PUMP STATION. REFER TO THE INSTRUMENTATION DRAWINGS AND CONDUIT SCHEDULE FOR WIRING DETAILS.
   - C. TEST EQUIPMENT AND ALL TERMINATION TO VERIFY PROPER INSTALLATION.

KEY NOTES:

1. RECYCLE DECANT PUMP NO. 1 (RDP-991, 15HP) IS OUT OF SERVICE. REMOVE THE PUMP, ASSOCIATED CONDUITS, CONDUCTORS, AND LOCAL CONTROL PANEL.

REV	DATE	BY	DESCRIPTION

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REGISTERED PROFESSIONAL ENGINEER
No. 5329023
GUY C. EHLERS
STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

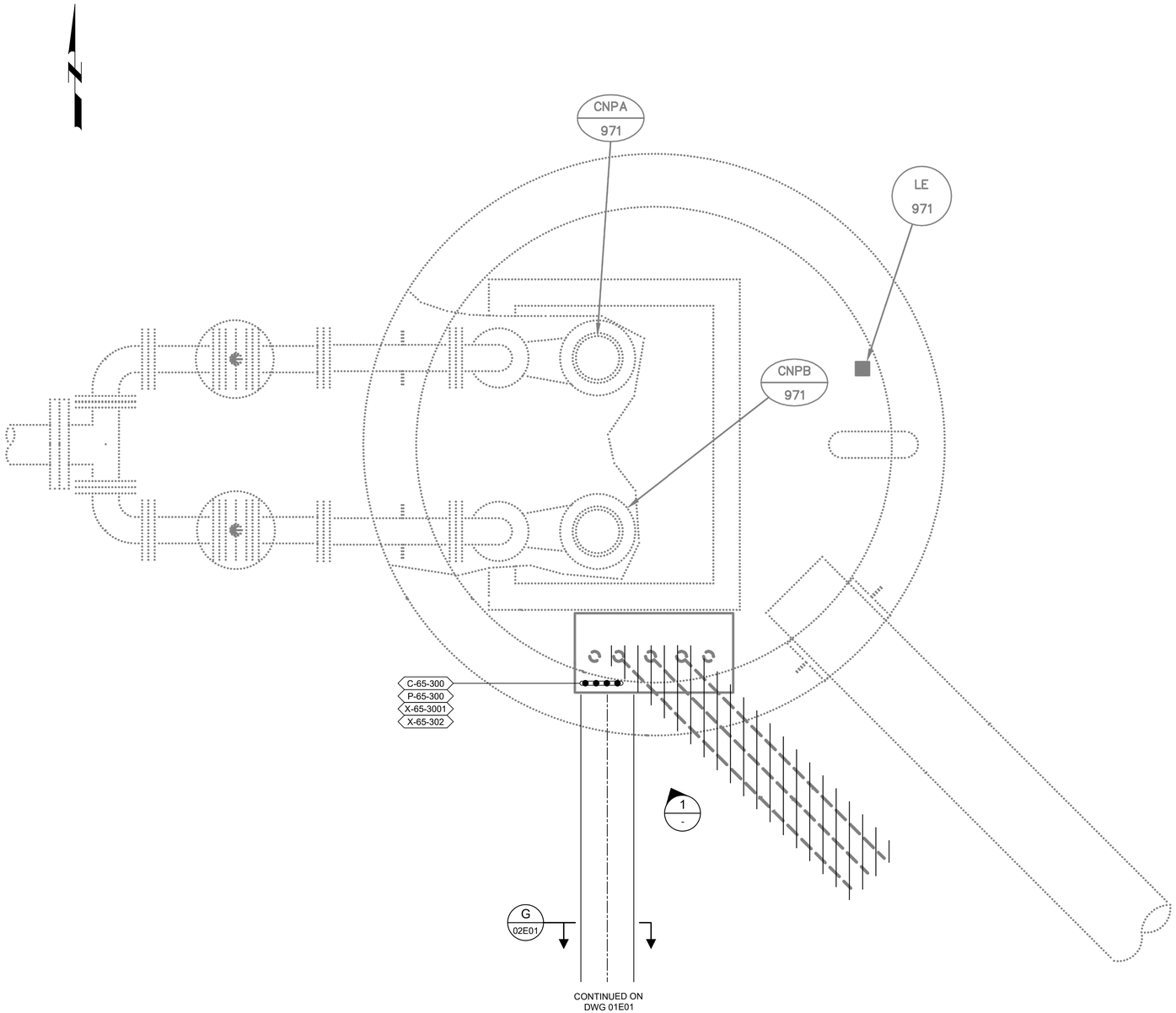
WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
ELECTRICAL
RECYCLED DECANT PUMP STATION
POWER AND CONTROL PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 66E02
SHEET NO. 95 OF 162

LAST SAVED BY: LMorris

PROJECT NO. 203356-100000 FILE NAME: 203356_66E02.dwg



C 01E01 PLAN
SCALE: NO SCALE
FILE: 203356_66E0103

GENERAL NOTES:

1. REFER TO THE WORK SEQUENCE BELOW FOR DEMOLITION OF THE EXISTING DUCT BANK AND INSTALLATION OF THE NEW DUCT BANK BETWEEN THE PULLBOX AND THE SLUDGE PUMP STATION. COORDINATE WITH THE DEMOLITION WORK SHOWN ON THE DEMOLITION DRAWINGS.
2. DEMOLITION WORK SEQUENCE:
   A. PROVIDE TEMPORARY POWER AND CONTROL FOR THE CENTRATE PUMP STATION DURING THE DEMOLITION OF THE EXISTING DUCT BANK INSTALLATION OF THE NEW DUCT BANK BETWEEN CONTROL PANEL VCP-971 AND SLUDGE PUMP STATION. COORDINATE WITH THE OWNER TO DEFINE THE SCOPE OF TEMPORARY POWER AND CONTROL.
   B. TURN OFF FEEDER BREAKERS SUPPLYING POWER TO CENTRATE PUMP STATION CONTROL PANEL VCP-971 AT MCC-22. DISCONNECT AND REMOVE EXISTING CONDUCTORS FROM THE CONDUITS BETWEEN MCC-22 IN THE DEWATERING BUILDING AND THE CENTRATE PUMP STATION CONTROL PANEL VCP-971 AS SHOWN ON THE PLAN. ENSURE ALL CONDUCTORS ARE DE-ENERGIZED BEFORE BEGINNING REMOVAL.
   C. DISCONNECT AND REMOVE ALL SIGNAL AND CONTROL WIRES BETWEEN CONTROL PANEL VCP-971 AT THE CENTRATE PUMP STATION AND VCP-900 IN THE DEWATERING BUILDING.
   D. DEMOLISH THE EXISTING DUCT BANK BETWEEN CONTROL PANEL VCP-971 AND THE NEW HANDHOLE HH-01. SAWCUT CONDUITS AT HANDHOLE HH-01 PER DETAIL EM003/TYP, AND PRESERVE THE EXISTING CONDUITS FROM THE HANDHOLE TO THE DEWATERING BUILDING. REFER TO THE SITE PLAN FOR HANDHOLE HH-01 LOCATION AND COORDINATE WORK WITH THE DEMOLITION NOTES ON THE DEMOLITION DRAWINGS.
3. INSTALLATION WORK SEQUENCE:
   A. INSTALL THE NEW DUCT BANK BETWEEN THE SLUDGE PUMP STATION AND THE EXISTING CONTROL PANEL VCP-971 SHOWN ON THIS PLAN DRAWING.
   B. INSTALL NEW CONDUCTORS BETWEEN CONTROL PANEL VCP-971 AND MCC-65 AND PCM-910 IN THE ELECTRICAL ROOM OF THE SLUDGE PUMP STATION USING NEW CONDUITS FROM VCP-971 TO THE ELECTRICAL ROOM. REFER TO THE INSTRUMENTATION DRAWINGS AND CONDUIT SCHEDULE FOR WIRING DETAILS.
   C. TEST EQUIPMENT AND ALL TERMINATION TO VERIFY PROPER INSTALLATION.

1 - PHOTO
SCALE: NO SCALE
FILE: 203356_66E0402

REV	DATE	BY	DESCRIPTION

DESIGNED BT
DRAWN LM
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5329023
GUY C. EHLERS
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
ELECTRICAL
CENTRATE PUMP STATION
POWER AND CONTROL PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 66E03
SHEET NO. 96 OF 162

LAST SAVED BY: LMorris

PROJECT NO. 203356-100000 FILE NAME: 203356_66E03.dwg

KEY NOTES:

1. DEMOLISH EXISTING VENDOR CONTROL PANEL VCP-1311, TRANSFORMER AND ASSOCIATED CONDUITS AND CONDUCTORS AS SHOWN. THE UNDERDRAIN PUMPS DON'T EXIST ANY MORE. ENSURE ALL CONDUCTORS ARE DE-ENERGIZED PRIOR TO COMMENCING THE DEMOLITION WORK.
2. PROVIDE NEW CONDUITS AND CONDUCTORS FROM PANELBOARD 65-PNL-01 LOCATED INSIDE MCC-65 AT THE SLUDGE PUMP STATION TO PROVIDE POWER FOR THE POLE LIGHT AND 120V PORTABLE TRASH PUMPS. SEE DUCT BANK SECTIONS AND CONDUIT SCHEDULES FOR DETAILS
3. PROVIDE SPARE CONDUITS FOR FUTURE POWER AND CONTROL USE AS SHOWN IN DUCT BANK SECTION F AND STUB THEM UP AT THIS LOCATION.



1 / 01E01 PHOTO
SCALE: NO SCALE
FILE: 203356_66E0402

REV	DATE	BY	DESCRIPTION

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DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5329023
GUY C. EHLERS
STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ELECTRICAL

UNDER DRAIN PUMP STATION
POWER AND CONTROL PLAN

VERIFY SCALES
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

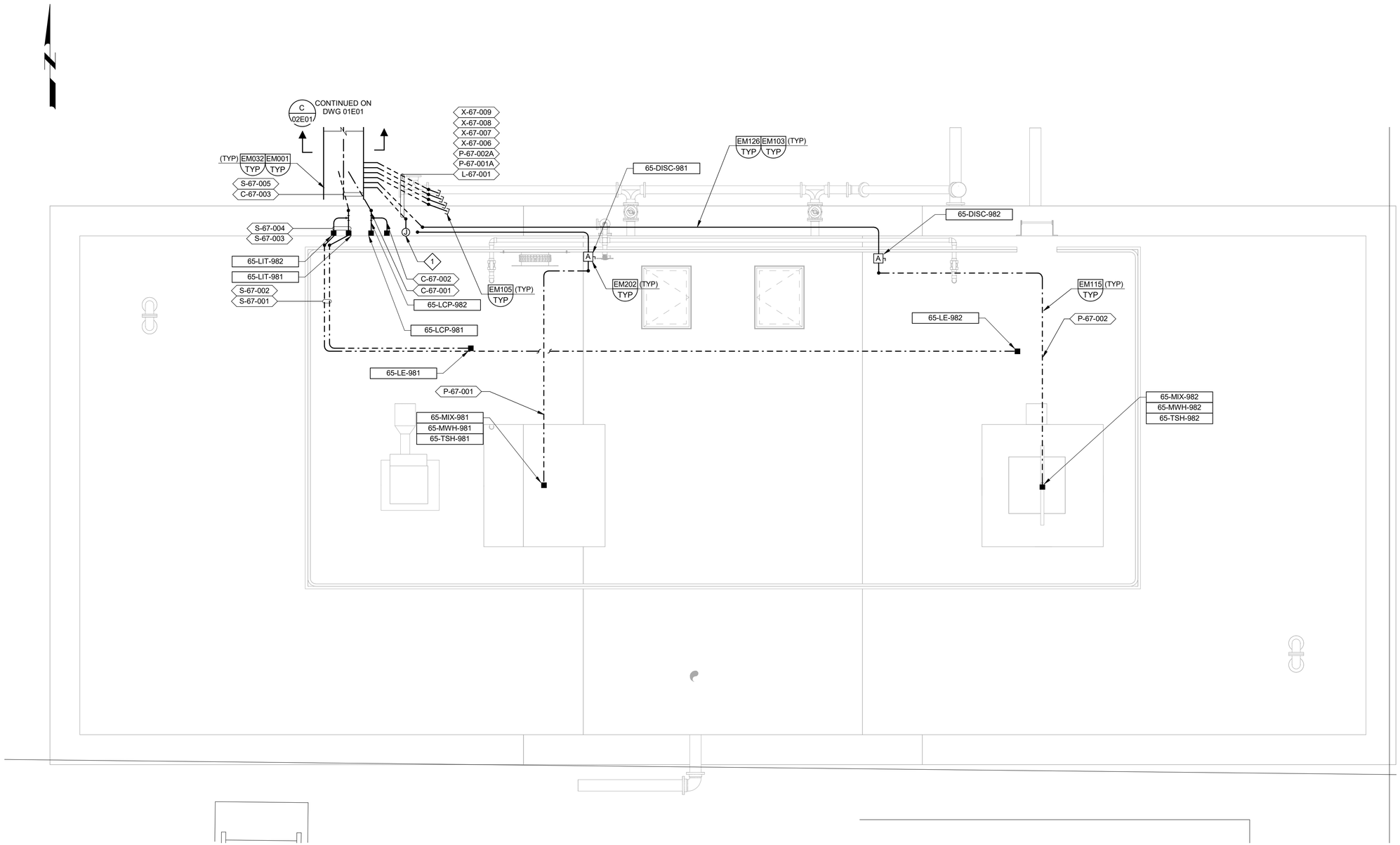
JOB NO. 203356
DRAWING NO. 66E04
SHEET NO. 97 OF 162

LAST SAVED BY: LMorris

PROJECT NO. 203356-100000 FILE NAME: 203356_66E04.dwg

KEY NOTES:

1. CONTINUE CONDUITS FOR LIGHTING AND RECEPTACLES. REFER TO DRAWING 67E02 FOR LIGHTING AND RECEPTACLES DETAILS.



A PLAN
SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED BT
DRAWN LM
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5329023
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STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

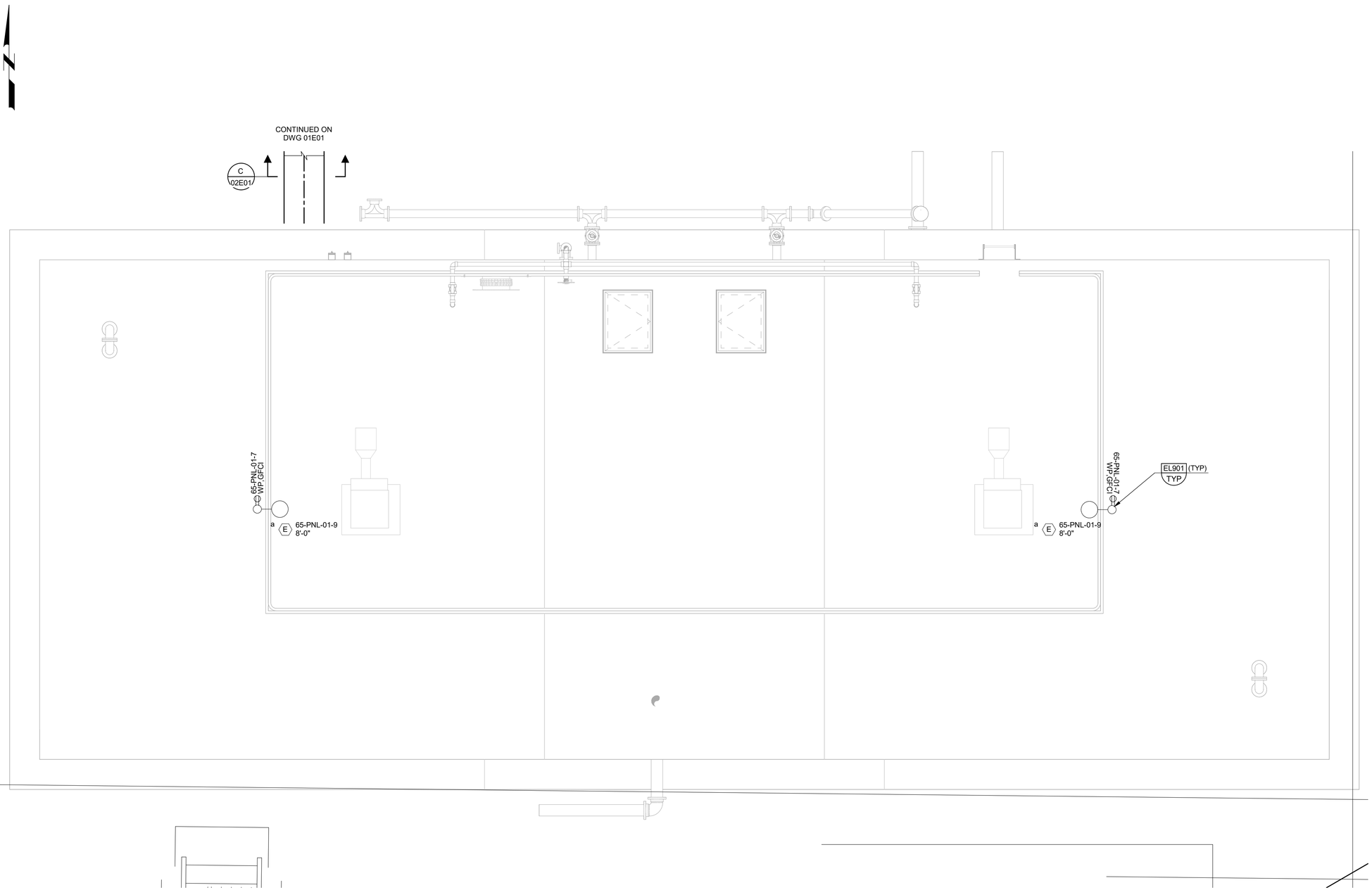
WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
ELECTRICAL
SLUDGE DAY TANK POWER AND CONTROL PLAN

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 67E01
SHEET NO. 98 OF 162

PLOT DATE: 6/5/2025 11:07:19 AM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_67E0801.rvt



B PLAN

SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

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WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ELECTRICAL

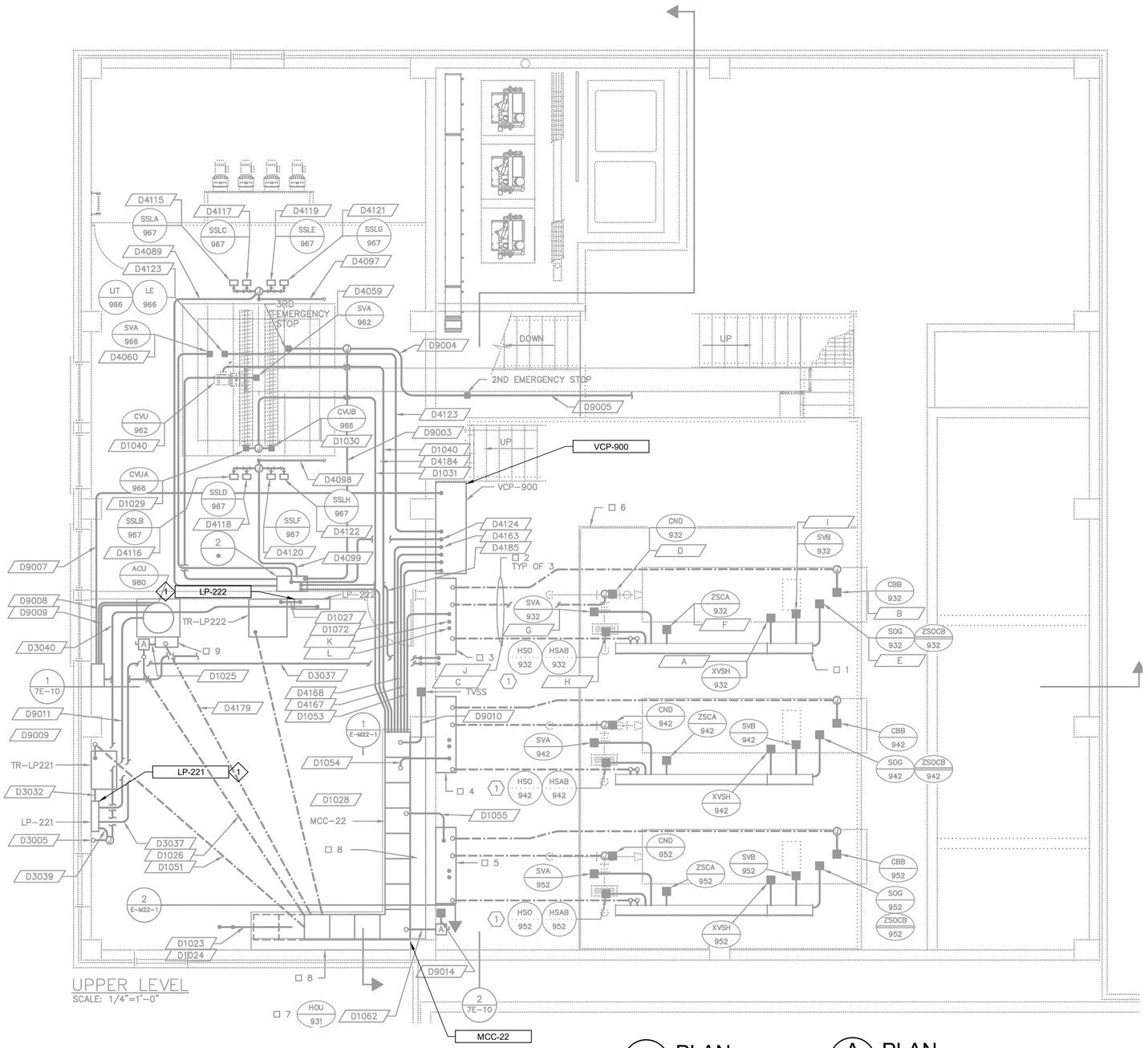
SLUDGE DAY TANK LIGHTING AND GROUNDING PLAN

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 67E02
SHEET NO. 99 OF 162

PLOT DATE: 6/5/2025 11:07:19 AM

FILE NAME: Autodesk Docs://WBWCD 203356 Davis North WTP/203356_67E0801.rvt



A PLAN
FILE: FILE

A 01E01 PLAN
SCALE: NO SCALE
FILE: 203356_70E0101

GENERAL NOTES:

1. PLAN DRAWING IS TAKEN FROM WATER TREATMENT PANT NO. 3 EXPANSION 2001 RECORD DRAWINGS PROVIDED BY OTHERS. ACCURACY OF EXISTING DRAWINGS CANNOT BE GUARANTEED. FIELD VERIFY ALL CONDITIONS PRIOR TO PERFORMING THE WORK.
2. UTILIZE EXISTING CONDUITS FROM MCC-22 TO HANDHOLE HH-01 FOR POWER CONDUCTORS BETWEEN MCC-65 AND MCC-22 . REFER TO CONDUIT SCHEDULE FOR DETAILS.
3. UTILIZE EXISTING CONDUITS FROM VCP-900 TO HANDHOLE HH-01 FOR NETWORK CONDUCTORS BETWEEN PCM-910 AND VCP-900. REFER TO CONDUIT SCHEDULE FOR DETAILS.
4. PLAN IS REFERENCED ON 01E01 AS AREA 70 DEWATERING BUILDING.

KEY NOTES:

1. DISCONNECT AND REMOVE EXISTING CONDUCTORS FROM PANELBOARD LP-221, CIRCUIT 15, AND PANELBOARD LP-222, CIRCUIT 1, AND LABEL THESE CIRCUITS AS SPARE. THE THICKENER LIGHTS AND RECEPTACLES WILL NOW BE SUPPLIED BY THE NEW PANELBOARD 65-PNL-01 LOCATED INSIDE MCC-65 AT THE SLUDGE PUMP STATION. REFER TO PANEL 65-PNL-01 FOR DETAILS.

REV	DATE	BY	DESCRIPTION

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DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5329023
GUY C. EHLERS
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

ELECTRICAL

DEWATERING BUILDING UPPER LEVEL POWER AND CONTROL PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 70E01
SHEET NO. 100 OF 162

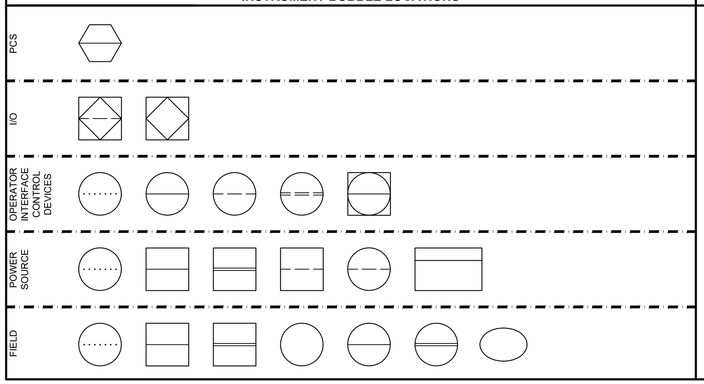
LAST SAVED BY: LMorris

PROJECT NO. 203356-100000 FILE NAME: 203356_70E01.dwg

SYMBOL	DRAWING VISIBLE FIELDS	FIELD - 1	FIELD - 2	FIELD - 3	FIELD - 4	FIELD - 5	FIELD - 6	FIELD - 7	FIELD - 8
HMI/SCADA SYSTEM OPERATOR INTERFACE TERMINAL	1 - TAG111 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - DESCRIPTION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	ACTION ALARM SP - NUMERIC STATUS - SET POINT TREND	DESCRIPTION 2 5	DESCRIPTION	E - EXISTING F - FUTURE		
HARDWIRED I/O POINT	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE 7 - IO TABLE	REFER 1 2 4	REFER 3	AI - ANALOG INPUT AO - ANALOG OUTPUT DI - DISCRETE INPUT DO - DISCRETE OUTPUT RTD - RTD INPUT	DESCRIPTION	PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE I/O VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		
NETWORK / SOFT I/O	1 - TAG 2 - LOOP NUMBER 3 - PROTOCOL 4 - PANEL 5 - PLC 6 - EXISTING/FUTURE 7 - IO TABLE 8 - SWITCH/SEGMENT	REFER 1 2	REFER 3	COMMUNICATION PROTOCOL CNET - CONTROLNET DNET - DEVICENET EIP - ETHERNET/IP FF - FOUNDATION FIELDBUS HART-IP - HART OVER ETHERNET MANF - MFR. PROPRIETARY MBRTU - MODBUS RTU MB+ - MODBUS PLUS MBTCP - MODBUS TCP DP - PROFIBUS DP PA - PROFIBUS PA PNET - PROFINET SNMP - SNMPv3 HTTP - WEB SERVER (TCP/IP)	DESCRIPTION	PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE I/O VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		
LOCAL OPERATOR INTERFACE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	ACTION ALARM SP - NUMERIC STATUS - SET POINT TREND	DESCRIPTION	LOI - LOCAL OPERATOR INTERFACE NO. LCP - LOCAL CONTROL PANEL NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		
PILOT DEVICE OPERATOR INTERFACE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	AM - AUTO/MANUAL BYPASS - BY PASS ESD - EQUIPMENT SHUTDOWN HOA - HAND/OFF/AUTO LOR - LOCAL/OFF/REMOTE LOS - LOCK OUT STOP LS - LEAD/STANDBY LSR - LOCAL/STOP/REMOTE OC - OPEN/CLOSE OO - OFF/ON OSC - OPEN/STOP/CLOSE RST - RESET SEL - SELECT SPD - SPEED SS - START/STOP ST - STOP	DESCRIPTION 2 5	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. RVSS - REDUCED VOLTAGE SOLID STARTER NO. VCP - VENDOR CONTROL PANEL NO. VFD - VARIABLE FREQUENCY DRIVE NO.	E - EXISTING F - FUTURE		
POWER DEVICE PRIMARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE-POLE 5 - LOCATION 6 - EXISTING/FUTURE	CB - CIRCUIT BREAKER DISC - DISCONNECT FU - FUSE	REFER 3	TM - THERMAL MAGNETIC CIRCUIT BREAKER	24VDC - 1P 24VDC - 2P 24VAC - 1P 48VDC - 2P 120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	DP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. LP - LIGHTING PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		
POWER DEVICE AUXILIARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - DESCRIPTION 4 - DESCRIPTION 5 - DESCRIPTION 6 - EXISTING/FUTURE	DISC - DISCONNECT	REFER 3	DESCRIPTION	DESCRIPTION	DESCRIPTION	E - EXISTING F - FUTURE		
POWER DEVICE PRIMARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE-POLE 5 - LOCATION 6 - EXISTING/FUTURE	CB - CIRCUIT BREAKER FU - FUSE	REFER 3	MCP - MOTOR CIRCUIT PROTECTOR SS - SOLID STATE CIRCUIT BREAKER TM - THERMAL MAGNETIC CIRCUIT BREAKER	24VDC - 1P 24VDC - 2P 24VAC - 1P 48VDC - 2P 120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	DP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. LP - LIGHTING PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		
FIELD EQUIPMENT STARTER / DRIVE CUBICLE / CABINET	1 - TAG 2 - LOOP NUMBER 3 - TYPE 4 - VOLTAGE-POLE 5 - POWER SOURCE 6 - EXISTING/FUTURE	MS - MOTOR STARTER RVAT - REDUCED VOLTAGE AUTO TRANSFORMER STARTER RVSS - REDUCED VOLTAGE SOLID STATE STARTER VFD - VARIABLE FREQUENCY DRIVE	REFER 3	FVNR - FULL VOLTAGE NON-REVERSING STARTER FVR - FULL VOLTAGE REVERSING STARTER PWS - PART-WINDING STARTER RVAT - REDUCED VOLTAGE AUTO RVSS - REDUCED VOLTAGE SOLID STATE STARTER TS1W - TWO SPEED SINGLE WINDING TS2W - TWO SPEED TWO WINDINGS VFD - VARIABLE FREQUENCY DRIVE	120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE		

SYMBOL	DRAWING VISIBLE FIELDS	FIELD - 1	FIELD - 2	FIELD - 3	FIELD - 4	FIELD - 5	FIELD - 6	FIELD - 7	FIELD - 8
INSTRUMENT PRIMARY ELEMENT	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION 5	DESCRIPTION 6 7	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE		
INSTRUMENT/ CONTROL ELEMENT PRIMARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION 5	DESCRIPTION 6 7	DESCRIPTION INT - INTEGRAL REM - REMOTE	E - EXISTING F - FUTURE		OUT - OUTDOOR
INSTRUMENT/ CONTROL ELEMENT AUXILIARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION	DESCRIPTION 6 7	DESCRIPTION	E - EXISTING F - FUTURE		
INSTRUMENT/ CONTROL ELEMENT PRIMARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 3 XR - PROTECTION RELAY CR - CONTROL RELAY XR - INTERPOSING RELAY	REFER 3	DESCRIPTION	DESCRIPTION 6 7	DESCRIPTION	E - EXISTING F - FUTURE		
INSTRUMENT/ CONTROL ELEMENT AUXILIARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 3 XR - PROTECTION RELAY CR - CONTROL RELAY XR - INTERPOSING RELAY	REFER 3	DESCRIPTION	DESCRIPTION 6 7	DESCRIPTION	E - EXISTING F - FUTURE		
FIELD EQUIPMENT NON-POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION/SIZE 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION	DESCRIPTION 6 7	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE		
FIELD EQUIPMENT PRIMARY FUNCTION POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION	DESCRIPTION 6 7	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE		
FIELD EQUIPMENT AUXILIARY FUNCTION POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	MWH - MOTOR WINDING HEATER TSH - TEMPERATURE SWITCH XSH - TORQUE SWITCH	REFER 3	DESCRIPTION	DESCRIPTION 6 7	DESCRIPTION	E - EXISTING F - FUTURE		

INSTRUMENT BUBBLE LOCATIONS



NOTES

1. INSTRUMENT TAG IDENTIFICATION LETTERS TABLE
2. OPERATOR PILOT DEVICE LEGEND
3. EQUIPMENT TAGGING TABLE
4. I/O TYPE DESIGNATIONS
5. INSTRUMENT TYPE DESIGNATIONS TABLE
6. FURNISHED BY:
   - FBO FURNISHED BY OWNER
   - FBV FURNISHED BY VENDOR
7. PROVIDED BY:
   - PBO PROVIDED BY OWNER
   - PBV PROVIDED BY VENDOR

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

SYMBOLS AND ABBREVIATIONS 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00GN01
SHEET NO. 101 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_00GN01.dwg

INSTRUMENT TAG IDENTIFICATION LETTERS

MEASURED VARIABLE / INSTRUMENTATION FUNCTION		ELEMENT	TRANSMITTER	INDICATING TRANSMITTER	CONVERTER TRANSDUCER, RELAY SPECIAL DEVICES	INDICATOR	RECORDER	CONTROL/COMMAND	INDICATING CONTROLLER	RECORDING CONTROLLER	SWITCH	SWITCH LOW LOW	SWITCH LOW	SWITCH HIGH	SWITCH HIGH HIGH	SWITCH COMBINATION HIGH LOW	ACTION	ALARM LOW LOW	ALARM LOW	ALARM HIGH	ALARM HIGH HIGH	TOTALIZE INDICATOR TRANSMITTER	VALVE	GAUGE	LIGHT	SPEED SETTING
A	ANALYSIS	AE	AT	AIT	AY	AI	AR	AC	AIC	ARC	AS	ASLL	ASL	ASH	ASHH	ASHL		AALL	AAL	AAH	AAHH				AL	
C	CONDUCTIVITY	CE	CT	CIT	CY	CI	CR	CC	CIC	CRC	CS	CSLL	CSL	CSH	CSHH	CSHL		CALL	CAL	CAH	CAHH				CL	
D	DENSITY	DE	DT	DIT	DY	DI	DR	DC	DIC	DRC	DS	DSLL	DSL	DSH	DSHH	DSHL		DALL	DAL	DAH	DAHH				DL	
E	VOLTAGE												ESL													
F	FLOW	FE	FT	FIT	FY	FI	FR	FC	FIC	FRC	FS	FSLL	FSL	FSH	FSHH	FSHL		FALL	FAL	FAH	FAHH	FQI	FCV	FG	FL	
H	HAND (MANUAL)*							HC			HS*						HA*						HV		HL	HSS
I	CURRENT		IT	IIT	IY	II	IR	IC	IIC	IRC	IS	ISLL	ISL	ISH	ISHH			IALL	IAL	IAH	IAHH				IL	
J	POWER					JS																				
K	TIME				KY	KI	KR	KC	KIC	KRC	KS	KSLL	KSL	KSH	KSHH			KALL	KAL	KAH	KAHH		KV		KL	
L	LEVEL	LE	LT	LIT	LY	LI	LR	LC	LIC	LRC	LS	LSLL	LSL	LSH	LSHH	LSHL		LALL	LAL	LAH	LAHH		LCV	LG	LL	
M	MOISTURE OR HUMIDITY	ME	MT	MIT	MY	MI	MR	MC	MIC	MRC	MS	MSLL	MSL	MSH	MSHH			MALL	MAL	MAH	MAHH				ML	
N	USER'S CHOICE																									
P	PRESSURE OR VACUUM	PE	PT	PIT	PY	PI	PR	PC	PIC	PRC	PS	PSLL	PSL	PSH	PSHH	PSHL		PALL	PAL	PAH	PAHH		PCV		PL	
PD	DIFFERENTIAL PRESSURE		PDT	PDIT	PDY	PDI	PDR	PDC	PDIC	PDRC	PDS	PDSLL	PDSL	PDSH	PDSHH			PDALL	PDAL	PDAH	PDAHH		PDCV		PDL	
Q	QUANTITY	QE	QT	QIT	QY	QI	QR				QS	QSLL	QSL	QSH	QSHH			QALL	QAL	QAH	QAHH					
R	RADIATION																									
S	SPEED	SE	ST	SIT	SY	SI	SR	SC	SIC	SRC	SS	SSLL	SSL	SSH	SSHH			SALL	SAL	SAH	SAHH					
T	TEMPERATURE	TE	TT	TIT	TY	TI	TR	TC	TIC	TRC	TS	TSLL	TSL	TSH	TSHH	TSHL		TALL	TAL	TAH	TAHH		TCV		TL	
TD	DIFFERENTIAL TEMPERATURE		TDT	TDIT	TDY	TDI	TDR	TDC	TDIC	TDRC	TDS	TDSLL	TDSL	TDSH	TDSHH			TDALL	TDAL	TDAH	TDAHH		TDCV		TDL	
U	MULTIVARIABLE					UI	UR	UC	UIC	URC	US														UL	
V	VISCOSITY	VE	VT	VIT	VY	VI	VR	VC	VIC	VRC	VS	VSLL	VSL	VSH	VSHH			VALL	VAL	VAH	VAHH				VL	
W	WEIGHT	WE	WT	WIT	WY	WI	WR				WS	WSLL	WSL	WSH	WSHH			WALL	WAL	WAH	WAHH					
X	UNCLASSIFIED	XE	XT	XIT	XY	XI	XR	XC	XIC	XRC	XS	XSLL	XSL	XSH	XSHH			XALL	XAL	XAH	XAHH		XCV	XG	XL	
XV	VIBRATION	XVE	XVT		XVY	XVI	XVR				XVS			XVSH	XVSHH					XVAH	XVAHH				XVL	
Y	STATUS					YI																			YL	
Z	POSITION	ZE	ZT	ZIT	ZY	ZI		ZC**			ZS**												ZV		ZL**	

OPERATOR PILOT DEVICE LEGEND

DEVICE TYPE / PILOT DEVICE FUNCTION	LOCAL-OFF-REMOTE (LOR) OR LOCAL-STOP-REMOTE (LSR)	STOP(SP)	START (ST)	HAND-OFF-AUTO (HOA) HAND-OFF-REMOTE (HOR)	OFF-ON (OO)	SELECT (SEL)	OPEN-STOP-CLOSE (OSC)	JOG OPEN-HOLD-CLOSE (JOHC)	SEMIAUTO-AUTO-MANUAL (SAAM)	LEAD-LAG-STANDBY (LLGS)	AUTO-MANUAL (AM)	OPEN-CLOSE (OC)	LOW-HIGH (LH)	RESET (RST)	SPEED (SPD)	START-STOP (STSP)	EQUIPMENT SHUTDOWN (ESD)	BYPASS (BYP)			SILENCE	POSITION (POS)
PILOT DEVICE TAG (HAND SWITCHES)	HSA	HSB	HSC	HSD	HSE	HSF	HSG	HSH	HIS	HSJ	HSM	HSO	HSQ	HSR	HSS	HST	HSU	HSV	HSW	HSX	HSY	HSZ

I/O TYPE DESIGNATIONS

RNG	RUNNING	SPDC	SPEED COMMAND
FAIL	FAILED/FAULT	SPDF	SPEED FEEDBACK
FWD	RUNNING FORWARD	REM	LOR IN REMOTE
FAST	RUNNING HIGH	LOC	LOR IN LOCAL
SLOW	RUNNING LOW	AUTO	HOA IN AUTO
REV	RUNNING REVERSE	HAND	HOA IN HAND
SVC	SOLENOID VALVE CLOSE	RST	RESET
SVO	SOLENOID VALVE OPEN		
RUN	RUN		
SLWC	MOTOR START LOW		
REVC	MOTOR START REVERSE		

INSTRUMENT TYPE DESIGNATIONS

CGD	COMBUSTIBLE GAS DETECTOR	PTOF	PULSE TIME OF FLIGHT
COND	CONDUCTIVITY	RTD	RESISTANCE TEMP DETECTOR
DO	DISSOLVED OXYGEN	SB	SLUDGE BLANKET
FMCW	FREQ. MODULATED CONT. WAVE	SC	STREAMING CURRENT
ISB	INTRINSIC SAFETY BARRIER	SD	SLUDGE DEPTH
LEL	LOWER EXPLOSIVE LIMIT	TDR	TIME DOMAIN REFLECTOMETRY
MLSS	MIXED LIQUOR SUSPENDED SOLIDS	TOC	TOTAL ORGANIC CARBON
ORG	UV 504	TSS	TOTAL SUSPENDED SOLIDS
ORP	OXIDATION REDUCTION POTENTIAL	TURB	TURBIDITY
PSUB	PRESSURE SUBMERSIBLE	UVI	UV INTENSITY
PC	PARTICLE COUNTER	UVT	UV TRANSMITTANCE

SPECIFIC ABBREVIATIONS

HTR	HEATER
HTU	HEAT TRACE UNIT
MWH	MOTOR WINDING HEATER
SV	SOLENOID VALVE
SPD	SURGE PROTECTIVE DEVICE
UPS	UNINTERRUPTIBLE POWER SUPPLY
YLA	STATUS AUTO PILOT LIGHT
YLR	STATUS REMOTE PILOT LIGHT
YL1	STATUS RUNNING PILOT LIGHT
YL2	ALARM FAILED/FAULT PILOT LIGHT

P&ID LINE SYMBOLS

INSTRUMENT OR CONNECTION TO PROCESS

PNEUMATIC SIGNAL

ELECTRIC SIGNAL

HYDRAULIC SIGNAL

CAPILLARY TUBE

INTERNAL SYSTEM LINK (SOFTWARE OR DATA LINK)

PROCESS LINE SYMBOLS

PRIMARY PROCESS FLOW IN PIPE

SECONDARY PROCESS FLOW IN PIPE

PRIMARY PROCESS FLOW IN CHANNEL

SECONDARY PROCESS FLOW IN CHANNEL

HEAT TRACE

DESIGNATIONS

EQUIPMENT ENCLOSURE

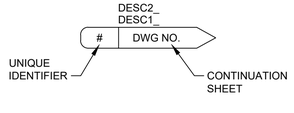
EXISTING

FUTURE

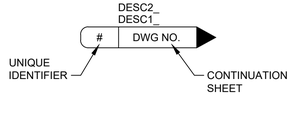


MISCELLANEOUS P&ID SYMBOLS

PROCESS CONTINUATION



SIGNAL CONTINUATION



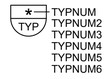
PIPE CALLOUT



SCHEMATIC DETAIL



TYPICAL DETAIL



REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

SYMBOLS AND ABBREVIATIONS 2

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356

DRAWING NO. 00GN02

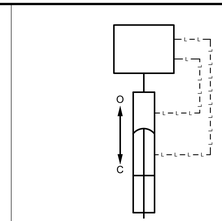
SHEET NO. 102 OF 162

LAST SAVED BY: kkwarsick

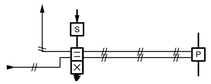
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ACTUATORS

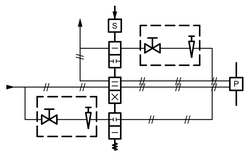
- DIAPHRAGM
- ELECTRIC HYDRAULIC
- ELECTRIC
- HAND
- HYDRAULIC
- MOTOR
- PNEUMATIC
- SOLENOID



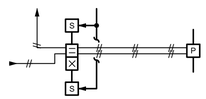
HYDRAULIC MODULATING



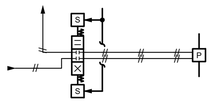
PNEUMATIC SINGLE SOLENOID OPEN/CLOSE



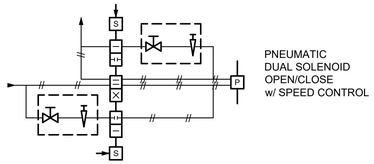
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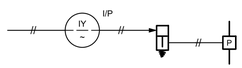
PNEUMATIC DUAL SOLENOID OPEN/CLOSE



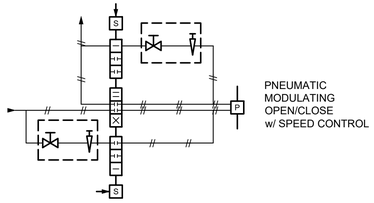
PNEUMATIC DUAL SOLENOID OPEN/HOLD/CLOSE



PNEUMATIC DUAL SOLENOID OPEN/CLOSE w/ SPEED CONTROL



PNEUMATIC MODULATING



PNEUMATIC MODULATING OPEN/CLOSE w/ SPEED CONTROL

PIPING

- AIR GAP
- BLIND FLANGE
- CAPPED OR PLUGGED
- CONCENTRIC INCREASER
- CONCENTRIC REDUCER
- DRAIN
- ECCENTRIC INCREASER
- FLANGED CONNECTION
- TEE
- UNION
- ECCENTRIC REDUCER
- EXPANSION COUPLING
- EXPANSION JOINT VIBRATION CENTER
- FLEXIBLE CONNECTION
- QUICK DISCONNECT

PUMPS

- AIR DRIVEN
- CENTRIFUGAL
- CHEMICAL FEED DIAPHRAGM
- DIAPHRAGM
- GEAR
- LOBE
- PERISTALTIC OR HOSE
- PISTON
- PROGRESSIVE CAVITY
- OR SUBMERSIBLE
- VERTICAL TURBINE
- VERTICAL CHOPPER
- WATER CHAMP

BLOWERS/ COMPRESSORS/FANS

- CENTRIFUGAL SINGLE STAGE BLOWER/FAN
- CENTRIFUGAL MULTI STAGE BLOWER
- RECIPROCATING COMPRESSOR
- SCREW COMPRESSOR
- FAN
- LIQUID RING COMPRESSOR
- ROTARY LOBE BLOWER

CHECK VALVES

- BACK FLOW PREVENTER
- BALL
- DIAPHRAGM CHECK
- DOUBLE FLAP
- FLAPPER
- SLANTING CHECK VALVE
- SPRING LOADED GENERAL
- SPRING LOADED SWING
- SWING

PRESSURE VALVES

- BACKPRESSURE REGULATING SELF CONTAINED
- BACKPRESSURE REGULATING EXTERNAL TAP
- PRESSURE REDUCING SELF CONTAINED
- PRESSURE REDUCING EXTERNAL PRESSURE TAP
- REGULATING
- PRESSURE RELIEF
- VACUUM RELIEF

VALVES

- 3-WAY
- 3-WAY PLUG
- 4-WAY
- AIR-RELIEF
- ANGLE
- BALL
- BALL V-NOTCH
- BUTTERFLY
- BUTTERFLY-BURIED VALVE BOX
- CONE
- DIAPHRAGM
- FLOAT
- GATE
- GATE-BURIED VALVE BOX
- GLOBE
- HOSE
- MISCELLANEOUS
- MUD
- NEEDLE
- PINCH
- PLUG ECCENTRIC
- PLUG ECCENTRIC w-VALVE BOX
- PLUG ECCENTRIC LUBRICATED
- PLUG ECCENTRIC LUBRICATED BURIED VALVE BOX
- PLUG CONCENTRIC
- PLUG CONCENTRIC -BURIED VALVE BOX
- PLUG CONCENTRIC LUBRICATED
- PLUG CONCENTRIC LUBRICATED BURIED VALVE BOX
- PUMP DISCHARGE
- TELESCOPING

VALVE DESIGNATIONS

NO	NORMALLY OPEN
NC	NORMALLY CLOSED
FO	FAIL OPEN
FC	FAIL CLOSE
FLP	FAIL LAST POSITION

MISC

- AIR / CHEMICAL DIFFUSER
- BASKET STRAINER
- BLOW-OFF SILENCER
- CALIBRATION COLUMN
- COALESCER
- DESICCANT DRYER
- EDUCTOR/EJECTOR
- EQUIPMENT/ INSTRUMENT LOCATOR
- EYEWASH
- FILTER
- FILTER SEPARATOR
- FINE FILTER
- FIRE ALARM/SENSOR
- FLAME ARRESTER
- FLAME ARRESTER w/THERMALLY OPERATED VALVE
- FLOW CONDITIONER
- GAS CANNON
- GRINDER
- HEAT EXCHANGER
- HOIST
- HORIZONTAL MIXER
- HOSE CONNECTION
- INLET STRAINER
- INLINE STATIC MIXER
- INLINE DUCT BALANCING DAMPER
- LOUVER OR BACKDRAFT DAMPER
- MATERIAL CHANGE
- MIXER
- NOZZLE
- ORIFICE RESTRICTION
- PERISTALTIC COMPOSITE SAMPLER
- OR PULSATION DAMPENER
- REFRIGERATED DRYER
- RUPTURE DISK
- SAMPLE PORT
- SIGHT TUBE
- SMOKE DETECTOR
- STRAINER - MECHANICALLY CLEANED
- STRAINER WITH BLOW OFF
- STRAINER WYE TYPE
- VAPOR HEATER
- VAPORIZER
- VENT
- VENT TO ATMOSPHERE

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
INSTRUMENTATION
SYMBOLS AND ABBREVIATIONS 3

VERIFY SCALES
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DRAWING NO. 00GN03
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FLOW

- CORIOLIS
- MAGNETIC
- ORIFICE
- PADDLE WHEEL
- PISTON
- ANNUBAR
- PITOT TUBE
- POSITIVE-DISPLACEMENT
- PROPELLER-TURBINE
- ROTAMETER
- SHUTTLE
- THERMAL
- ULTRASONIC
- ULTRASONIC BIOGAS
- V-CONE
- VENTURI TUBE OR FLOW NOZZLE
- VORTEX

FLUMES

- LEOPOLD-LAGCO
- PALMER-BOWLUS
- PARSHALL
- REGULAR CUTTHROAT
- TRAPEZOIDAL

GATES

SIDE VIEW	PLAN VIEW
	FLAP
	KNIFE
SLIDE	SLIDE
SLUICE	SLUICE
STOP	STOP
	WEIR
	BUTTERFLY

LEVELS

- BUBBLER
- CAPACITANCE
- DIFFERENTIAL PRESSURE (TANK)
- DISPLACEMENT
- ELECTRODE
- BALL FLOAT
- INVERTED COLUMN
- PROBE
- RADAR PTOF
- RADAR (FREQUENCY MODULATED CONTINUOUS WAVE)
- RADAR TDR
- SUSPENDED/ SUBMERSIBLE
- TUNING FORK
- ULTRASONIC

NETWORKS

CABLE CALLOUTS AND ABBREVIATIONS

- 24/FO-SM — F — F — FIBER LINE REPRESENTS ONE 24-STRAND FIBER OPTIC CABLE
- (2) 24/FO-SM — F — F — FIBER LINE REPRESENTS TWO 24-STRAND FIBER OPTIC CABLES
- (1) 24/FO-SM EA. — F F — F F — EACH FIBER LINE REPRESENTS ONE 24-STRAND FIBER OPTIC CABLE
- (4) — C — C — COPPER LINE REPRESENTS FOUR COPPER ETHERNET CABLES
- (2) EA. — F F — F F — EACH COPPER LINE REPRESENTS TWO COPPER ETHERNET CABLES

FIBER ABBREVIATIONS

##/FO-XX
- ## = STRAND COUNT
- FO = FIBER OPTIC

XX = MODE
- SM = SINGLE MODE
- MM = MULTIMODE

NETWORK ABBREVIATIONS

BMS	= BUILDING MANAGEMENT SYSTEM
BSN	= BUSINESS NETWORK
FCN	= FIELD CONTROL NETWORK
MIN	= MAINTENANCE INFORMATION NETWORK
PCN	= PROCESS CONTROL NETWORK
PLCN	= PLC NETWORK
SCN	= SECURITY CONTROL NETWORK
PCN-W	= WIRELESS PROCESS CONTROL NETWORK
NR	= NETWORK RACK
NP	= NETWORK PANEL
ES	= ETHERNET SWITCH
FPP	= FIBER PATCH PANEL

VLAN SYMBOLS

- = BUSINESS NETWORK
- = SECURITY CONTROL NETWORK
- = BUILDING MANAGEMENT SYSTEM
- = PROCESS CONTROL NETWORK
- = WIRELESS PROCESS CONTROL NETWORK
- = MAINTENANCE INFORMATION NETWORK
- = PLC NETWORK
- = FIELD CONTROL NETWORK

PRESSURE/VACUUM

PRESSURE

- PI — GAUGE
- PSH / PE — PRESSURE SWITCH
- PIT / PE — PRESSURE TRANSMITTER
- MANOMETER

DIFFERENTIAL PRESSURE

- PDI — GAUGE DIFFERENTIAL INDICATOR
- PDSL / PDE — DIFFERENTIAL PRESSURE SWITCH
- PDIT / PDE — DIFFERENTIAL PRESSURE TRANSMITTER

PRESSURE SEALS

- SEAL ANNULAR
- SEAL DIAPHRAGM
- SEAL SANITARY

EXAMPLE

PSH / PE — PRESSURE SWITCH

TEMPERATURE

- TEMPERATURE w/THERMOWELL
- TEMPERATURE GAUGE
- T — THERMOMETER

WEIGHT

- PLATFORM SCALE

WEIRS

SIDE VIEW	PLAN VIEW
RECTANGULAR w/o END CONTRACTIONS	RECTANGULAR w/o END CONTRACTIONS
RECTANGULAR w/ END CONTRACTIONS	RECTANGULAR w/ END CONTRACTIONS
V-NOTCH (TRIANGULAR)	V-NOTCH (TRIANGULAR)
TRAPEZOIDAL (CIPOLLETTI)	TRAPEZOIDAL (CIPOLLETTI)

NETWORK LINE SYMBOLS

- COPPER ETHERNET — C C C C C C
- DUPLEX FIBER PATCH — FP FP FP FP FP FP
- FIBER OPTIC ETHERNET — F F F F F F
- WIRELESS — W W W W W W
- PROFIBUS DP — PBD PBD PBD PBD PBD PBD
- PROFIBUS PA — PBA PBA PBA PBA PBA PBA
- SERIAL DATA — o o o o o o o o o o o o

MISCELLANEOUS NETWORK SYMBOLS

NETWORK CABLE CONTINUATIONS

TOP OF PAGE STYLE CONTINUATION

DESC 3
DESC 2
DESC 1 — CONTINUATION SHEET
DWG NO. — UNIQUE IDENTIFIER
(#)

BOTTOM/LEFT OF PAGE STYLE CONTINUATION

(#) — UNIQUE IDENTIFIER, CONTINUATION SHEET
DWG NO.
DESC 1
DESC 2
DESC 3

FIELD NETWORK DEVICE

PLC TAG / PANEL TAG — PROTOCOL / SEGMENT #
DEVICE SPECIFIC SYMBOL
TAG
DESC 1
DESC 2
DESC 3
P&ID DRAWING REFERENCE

NETWORK EQUIPMENT CALLOUT

TAG
DESC 1

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INSTRUMENTATION

SYMBOLS AND ABBREVIATIONS 4

VERIFY SCALES
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DRAWING NO. 00GN04
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PROCESS SWITCHES

TAGGING IDENTIFICATION
1 = FUNCTION
2 = DESCRIPTION
3 = LOCATION


LEVEL SWITCH
CLOSE ON RISING LEVEL


LEVEL SWITCH
OPEN ON RISING LEVEL


PRESSURE SWITCH
CLOSE ON RISING PRESSURE


PRESSURE SWITCH
OPEN ON RISING PRESSURE


TEMPERATURE SWITCH
CLOSE ON RISING TEMPERATURE


TEMPERATURE SWITCH
OPEN ON RISING TEMPERATURE


FLOW SWITCH
CLOSE ON INCREASE IN FLOW


FLOW SWITCH
OPEN ON INCREASE IN FLOW


VIBRATION SWITCH
OPEN ON RISING VIBRATION


VIBRATION SWITCH
CLOSE ON RISING VIBRATION


TORQUE SWITCH
OPEN ON HIGH TORQUE


TORQUE SWITCH
CLOSE ON HIGH TORQUE


NORMALLY CLOSED
LIMIT SWITCH


NORMALLY CLOSED
HELD OPEN LIMIT SWITCH


NORMALLY OPEN
LIMIT SWITCH


NORMALLY OPEN
HELD CLOSED LIMIT SWITCH

HAND SWITCHES

TAGGING IDENTIFICATION
1 = FUNCTION
2 = DESCRIPTION
3 = LOCATION
a/b/c = POSITION
x = DENOTES POSITION CONTACTS CLOSED IN


NORMALLY OPEN
MOMENTARY PUSHBUTTON


NORMALLY CLOSED
MOMENTARY PUSHBUTTON


MUSHROOM HEAD PUSHBUTTON
NORMALLY OPEN


MUSHROOM HEAD PUSHBUTTON
NORMALLY CLOSED


PUSH-PULL PUSHBUTTON
MAINTAINED CONTACT


PUSH-PULL PUSHBUTTON
NORMALLY CLOSED


PADLOCK SWITCH


PULL CORD SWITCH


STOP-LOCKOUT PUSHBUTTON


THREE POSITION SELECTOR SWITCH


TWO POSITION SELECTOR SWITCH
NORMALLY OPEN


TWO POSITION SELECTOR SWITCH
NORMALLY CLOSED


SPRING-RETURN

RELAYS

TAGGING IDENTIFICATION
1 = FUNCTION
2 = DESCRIPTION
3 = LOCATION
a = TYPE
CR- CONTROL RELAY
TD- TIME DELAY RELAY
M - MOTOR STARTER COIL
L - MOTOR STARTER COIL - LOW SPEED
H - MOTOR STARTER COIL - HIGH SPEED
F - MOTOR STARTER COIL - FORWARD
R - MOTOR STARTER COIL - REVERSE

b = TIME DELAY STATE
TDON - TIME DELAY ON ENERGIZATION
TDOFF - TIME DELAY ON DEENERGIZATION

c = TIMING RANGE/SETTING


RELAY COIL


NORMALLY OPEN
CONTROL CONTACT


NORMALLY CLOSED
CONTROL CONTACT


TIME DELAY CONTACT
NORMALLY OPEN
TIMED CLOSING


TIME DELAY CONTACT
NORMALLY CLOSED
TIMED OPENING


TIME DELAY CONTACT
NORMALLY OPEN
TIMED OPENING


TIME DELAY CONTACT
NORMALLY CLOSED
TIMED CLOSING

I/O

TAGGING IDENTIFICATION
1 = FUNCTION
2 = DESCRIPTION
3 = LOCATION
a = INPUT/OUTPUT
b = I/O VOLTAGE


PLC DISCRETE


PLC ANALOG


DIGITAL BUS

MISC

TAGGING IDENTIFICATION
1 = FUNCTION
2 = DESCRIPTION
3 = LOCATION


SOLENOID


CIRCUIT BREAKER


DISCONNECT


FUSE


TRANSIENT SURGE
PROTECTION


MOTOR WINDING HEATER

MOTORS

TAGGING IDENTIFICATION
1 = FUNCTION
2 = DESCRIPTION
3 = LOCATION
a = HORSEPOWER


MOTOR - 1 PHASE



MOTOR - 3 PHASE

INDICATORS

TAGGING IDENTIFICATION
1 = FUNCTION
2 = DESCRIPTION
3 = LOCATION
a = LENS COLOR
R - RED
G - GREEN
W - WHITE
A - AMBER
B - BLUE
Y - YELLOW
C - CLEAR


PILOT LIGHT


PUSH-TO-TEST LIGHT


BEACON


HORN


VARISTOR


CAPACITOR


RESISTOR


BATTERY


DIODE

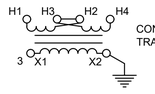

MOTOR OVERLOAD
HEATERS


OVERLOAD CONTACT

DRAWOUT CONNECTION


GROUND

LIGHTNING ARRESTOR



CONTROL POWER
TRANSFORMER


ELAPSED TIME METER


RTD


MISC PORT


ETHERNET PORT


SURGE PROTECTION DEVICE


TRANSFORMER
LINE/LOAD REACTOR

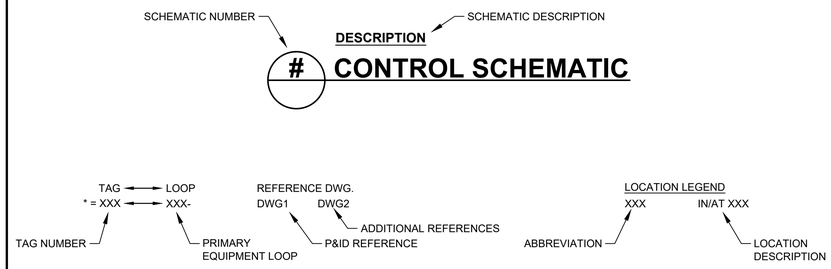

SPEED SWITCH


SPEED POTENTIOMETER


SHIELDED WIRE


LOOP

MOTORS



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MATTHEW G. HATCH
STATE OF UTAH

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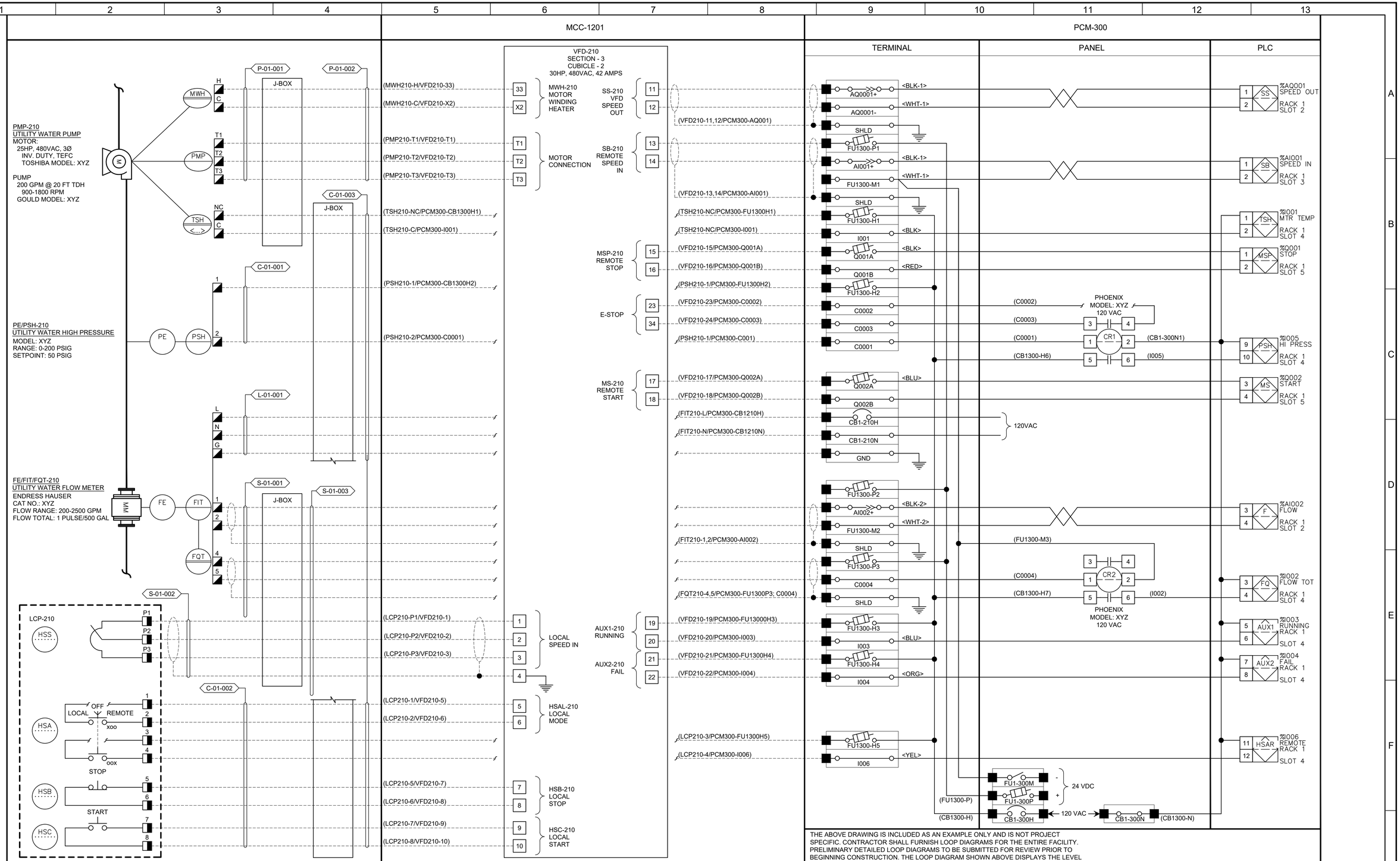
WEBER BASIN WATER CONSERVANCY DISTRICT
DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT
INSTRUMENTATION
SCHEMATIC SYMBOLS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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JOB NO. 203356
DRAWING NO. 00GN05
SHEET NO. 105 OF 162

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INSTRUMENTATION

SAMPLE LOOP DRAWING

VERIFY SCALES
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DRAWING NO. 00GN06
SHEET NO. 106 OF 162

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VCP-900
DEWATERING ROOM

XX

1

NEW SLUDGE PUMP STATION BUILDING
ELECTRICAL ROOM

F

12/FO-MULTIMODE, ARMORED, ORANGE

F

F

FPE-910

FIBER OPTIC WALL MOUNT ENCLOSURE
WITH (2) 6 PORT DUPLEX SC 62.5 MM PANELS

F

PCM-910

3/FO-SM

F

FPP-910

FIBER PATCH PANEL

F

C

ESP-910

PLC SWITCH

C

C

PLC-910

PROGRAMMABLE LOGIC CONTROLLER

C

C

LOI-910

LOCAL OPERATOR INTERFACE

C

C

ESF-910

FIELD SWITCH

GENERAL NOTES:

1. PROVIDE DUPLEX PATCH CABLES FOR ALL INTERNAL FIBER CONNECTIONS, UNLESS NOTED OTHERWISE.
2. ALL COPPER CONNECTIONS FROM DEVICES EXTERNAL TO THE ENCLOSURE SHALL BE MADE THROUGH COPPER PATCH PANELS (NOT SHOWN FOR CLARITY) OR SURGE PROTECTION DEVICE AND PATCHED THROUGH TO DEVICES AS SHOWN.
3. COMMUNICATION PROTOCOL SHALL BE ETHERNET/IP, UNLESS NOTED OTHERWISE.
4. PROVIDE ADDITIONAL HARDWARE AND CONFIGURATION AS NEEDED FOR A FULLY FUNCTIONAL SYSTEM.

KEY NOTES:

1. FIELD VERIFY LOCATION OF FIBER OPTIC PATCH PANEL.

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

PCM-910 NETWORK CONNECTION DIAGRAM

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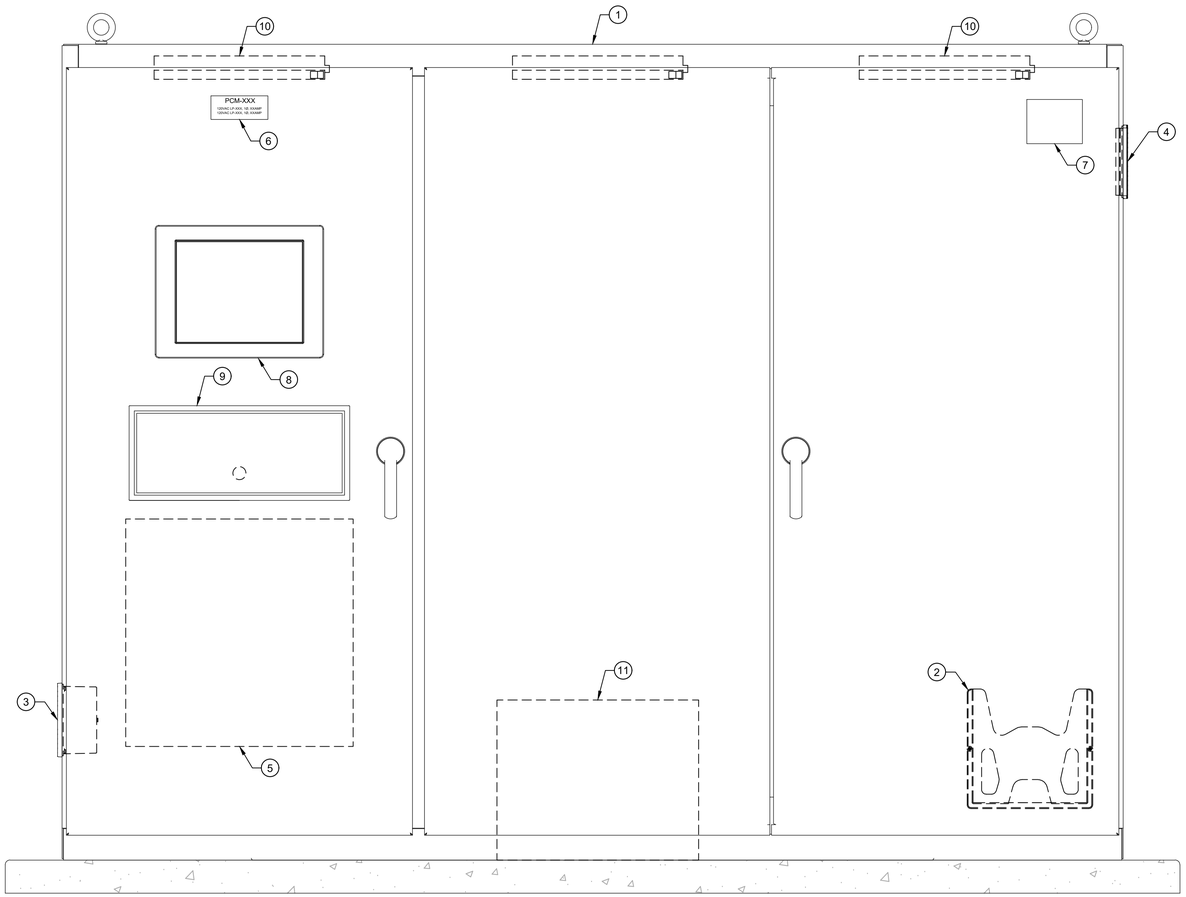
JOB NO. 203356
DRAWING NO. 03N01
SHEET NO. 107 OF 162

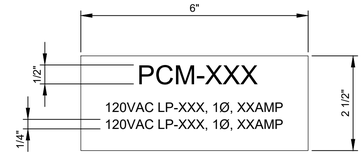
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GENERAL NOTES:

1. PROVIDE LABEL INDICATING INTEGRATOR'S LOGO WITH COMPANY NAME AND ADDRESS MOUNTED ON THE FRONT OF THE ENCLOSURE.
2. FOLLOW ALL UL 508 AND 508A SUPPLEMENT SB REQUIREMENTS TO DETERMINE SHORT CIRCUIT RATINGS.
3. REFER TO ELECTRICAL PLANS FOR LOCATION OF ALL ENCLOSURES.
4. SECURE ENCLOSURE TO FLOOR FOLLOWING MANUFACTURER'S RECOMMENDATIONS. ADHERE TO ALL SEISMIC INSTALLATION REQUIREMENTS FOR THE APPROPRIATE LOCATIONS.
5. ALL ENCLOSURES SHALL BE MOUNTED ON A HOUSEKEEPING PAD.





NAMEPLATE SCHEDULE
PCM-910

MAJOR EQUIPMENT SCHEDULE	
ITEM	DESCRIPTION
1	ENCLOSURE, NEMA 12, FREE STANDING
2	DATA POCKET
3	COOLING FAN
4	EXHAUST GRILLE
5	FOLDING SHELF
6	NAMEPLATE
7	MANUFACTURER'S LABEL
8	LOCAL OPERATOR INTERFACE
9	KEYBOARD BOX
10	LIGHT W/ INTRUSION SWITCH
11	UNINTERRUPTIBLE POWER SUPPLY

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

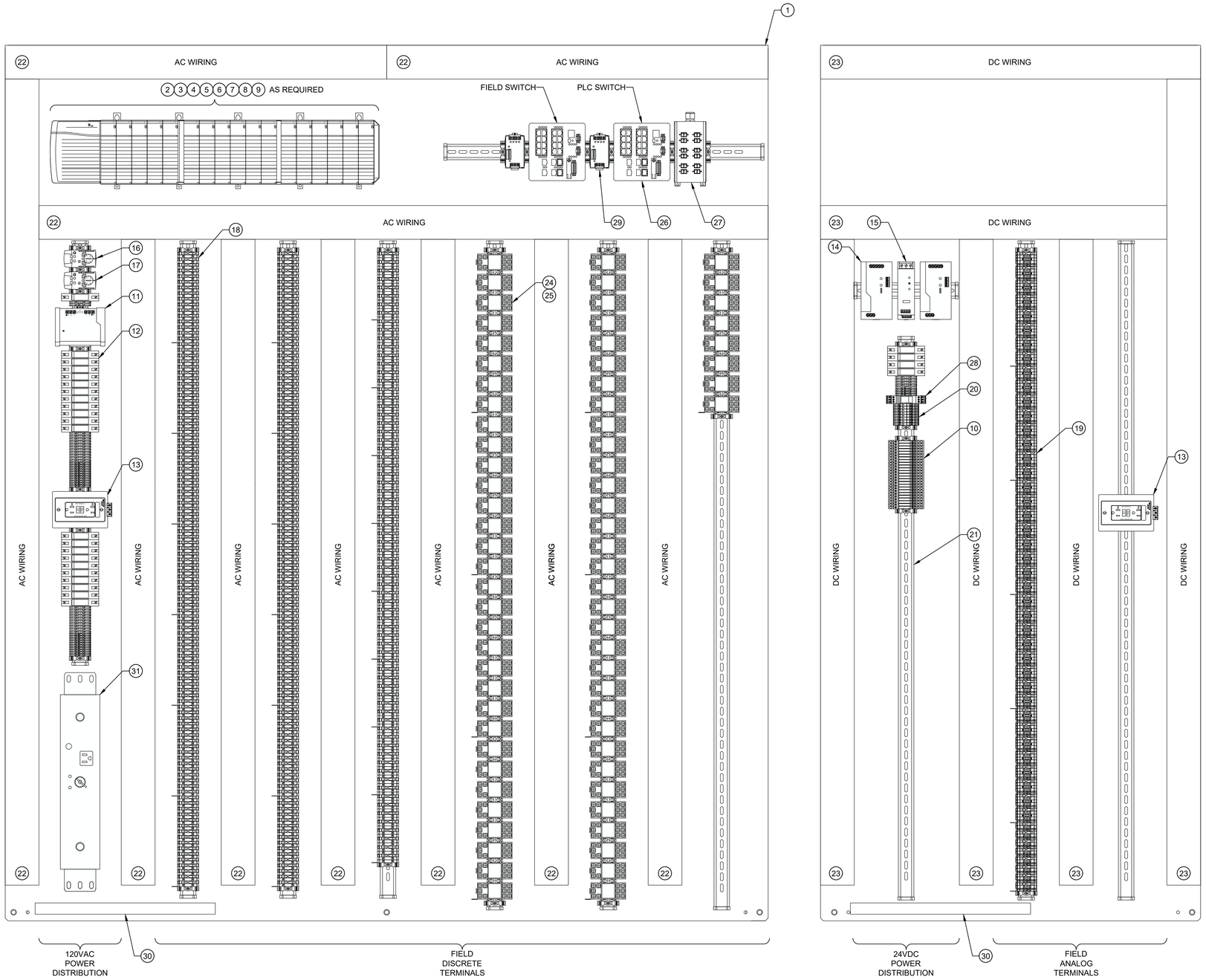
PCM-910 EXTERNAL LAYOUT

VERIFY SCALES
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0 1"
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JOB NO. 203356
DRAWING NO. 05N01
SHEET NO. 108 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_05N01.dwg



GENERAL NOTES:

1. ENCLOSURE DRAWING REPRESENTS DESIGN INTENT. CONTRACTOR TO SUPPLY AS-BUILT DRAWINGS SHOWING FINAL ENCLOSURE LAYOUT WITH ALL EQUIPMENT, MANUFACTURERS, AND PART NUMBERS.
2. REFER TO ELECTRICAL PLANS FOR LOCATION OF ALL ENCLOSURES. CONSTRUCT PANEL TO MEET THE FULL INTENT OF ARTICLE 409 OF THE NATIONAL ELECTRICAL CODE.
3. FOLLOW ALL UL 508 AND 508A SUPPLEMENT SB REQUIREMENTS TO DETERMINE SHORT CIRCUIT RATINGS.
4. CIRCUIT BREAKERS SHALL BE COORDINATED TO TRIP BRANCH CIRCUIT BREAKER PRIOR TO THE MAIN PANEL CIRCUIT BREAKER.
5. ALL TIE WRAPS SHALL BE LOCATED OUTSIDE OF THE WIRE DUCTS. INSTALLATION OF ALL NYLON TIE WRAPS SHALL BE TENSIONED AND TRIMMED FLUSH.
6. ELEVATE ALL TERMINAL BLOCK DIN RAIL A MINIMUM OF 2 INCHES OFF OF BACK PANEL.
7. NO 480VAC CIRCUITS SHALL TERMINATE IN OR PASS THROUGH CONTROL CABINETS.
8. NO CAMERA OR TELEPHONE CABLES SHALL TERMINATE IN OR PASS THROUGH CONTROL CABINETS.
9. ALL CONDUIT PENETRATIONS SHALL BE LOCATED AT THE TOP OR BOTTOM OF THE ENCLOSURE. NO SIDE, FRONT, OR REAR PENETRATIONS ALLOWED.
10. QUANTITY OF COMPONENTS VARY AS REQUIRED FOR EACH CABINET.
11. REFER TO INSTRUMENTATION TYPICAL DETAILS FOR PANEL CONSTRUCTION AND WIRING REQUIREMENTS.
12. PROVIDE PANEL SURGE PROTECTION FOR ALL INSTRUMENT SIGNAL LINES LOCATED OUTDOORS OR OTHERWISE INDICATED IN THE DRAWING OR SPECIFICATIONS.
13. REFER TO DETAILS NE101/TYP, NE102/TYP, NE104/TYP, NE105/TYP, NE304/TYP, NE305/TYP, NE306/TYP, NE307/TYP, NE308/TYP, NE310/TYP, NE311/TYP, NE314/TYP, NE315/TYP, NE350/TYP, NE351/TYP, NE352/TYP, NE353/TYP, NE354/TYP.

MAJOR EQUIPMENT SCHEDULE

ITEM	DESCRIPTION
1	BACK PANEL
2	PLC BACKPLANE
3	PLC PROCESSOR
4	PLC POWER SUPPLY
5	PLC ETHERNET COMMUNICATION MODULES
6	PLC DI MODULES
7	PLC DO MODULES
8	PLC AI MODULES
9	PLC AO MODULES
10	SIGNAL CONDITIONERS
11	120VAC PANEL SURGE PROTECTOR
12	CIRCUIT BREAKERS
13	RECEPTACLE, 5A
14	24VDC POWER SUPPLY
15	REDUNDANCY MODULE
16	HVAC CONTROL
17	ENCLOSURE TEMPERATURE SWITCH
18	DISCRETE TERMINAL BLOCKS
19	ANALOG TERMINAL BLOCKS
20	24VDC FUSED TERMINAL BLOCKS
21	DIN RAIL
22	GRAY WIRE DUCT
23	WHITE WIRE DUCT
24	TIMER/CONTROL RELAYS
25	INTERPOSING RELAYS
26	ETHERNET SWITCH
27	FIBER PATCH PANEL
28	24VDC PANEL SURGE PROTECTOR
29	ELECTRONIC CIRCUIT PROTECTOR
30	GROUND BAR
31	UPS MAINTENANCE BYPASS SWITCH

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

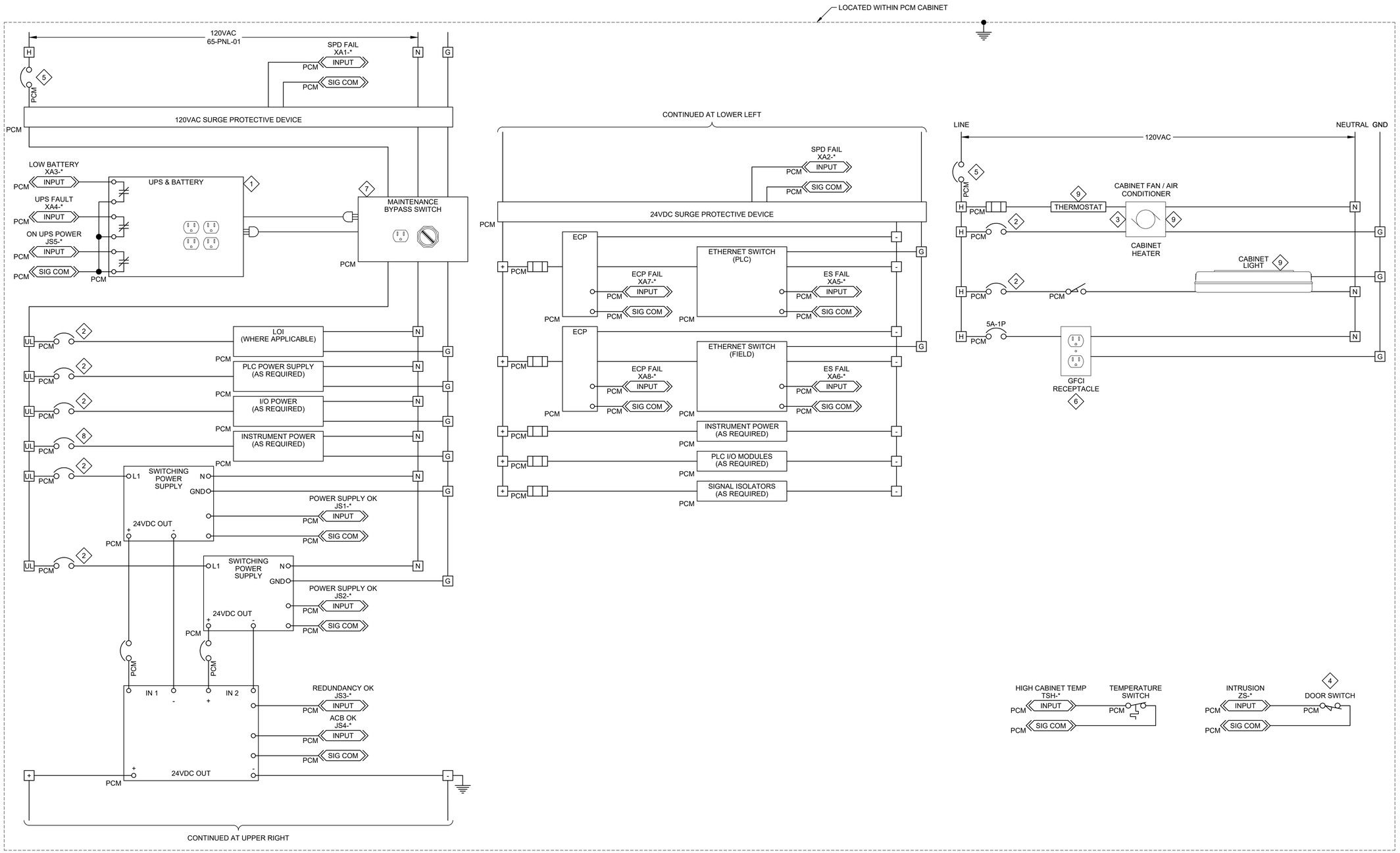
PCM-910 INTERNAL LAYOUT

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 05N02
SHEET NO. 109 OF 162

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GENERAL NOTES:

1. SCHEMATIC ILLUSTRATES DESIGN INTENT ONLY. PROVIDE ALL NECESSARY COMPONENTS TO MEET PROJECT REQUIREMENTS.

KEY NOTES:

1. SIZE UPS AND BATTERY BASED ON UPS SPECIFICATION REQUIREMENTS.
2. SIZE BASED ON PROTECTION NEEDS.
3. VERIFY LOADS BASED ON TEMPERATURE CALCULATIONS. PROVIDE ADDITIONAL CIRCUIT IF REQUIRED.
4. INSTALL SWITCH ON OUTERMOST DOOR OF OVERLAPPING DOORS. PROVIDE ADDITIONAL SWITCHES, WIRED IN SERIES, FOR NON-OVERLAPPING DOORS.
5. SIZE BASED ON LOAD REQUIREMENT.
6. PROVIDE QUANTITY REQUIRED PER SPECIFICATIONS. SIZE RECEPTACLE FOR LAPTOP.
7. PROVIDE HARDWIRED CONNECTIONS OR RECEPTACLE/PLUG AS REQUIRED BY MAINTENANCE BYPASS SWITCH.
8. SIZE BASED ON PROTECTION NEEDS. PROVIDE SEPARATE CIRCUIT BREAKERS FOR EACH INSTRUMENT POWERED FROM THE PCM CABINET.
9. PROVIDE QUANTITY REQUIRED PER SPECIFICATIONS.

TERMINAL BLOCK LEGEND

H	120VAC
N	NEUTRAL
G	GROUND
UL	UPS 120VAC
+	24VDC (+)
-	24VDC (-)

TAG ◄——► LOOP
* = 910 ◄——► PCM-910

REFERENCE DWG.
05N02 70N01

LOCATION LEGEND

PCM	PCM OR DCS
MCC	MOTOR CONTROL CENTER
FLD	FIELD DEVICE
LCP	LOCAL CONTROL PANEL
STR	FREE-STANDING STARTER
VFD	FREE-STANDING VFD

PCM, PLC CABINET AND INSTRUMENT POWER

1 CONTROL SCHEMATIC

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

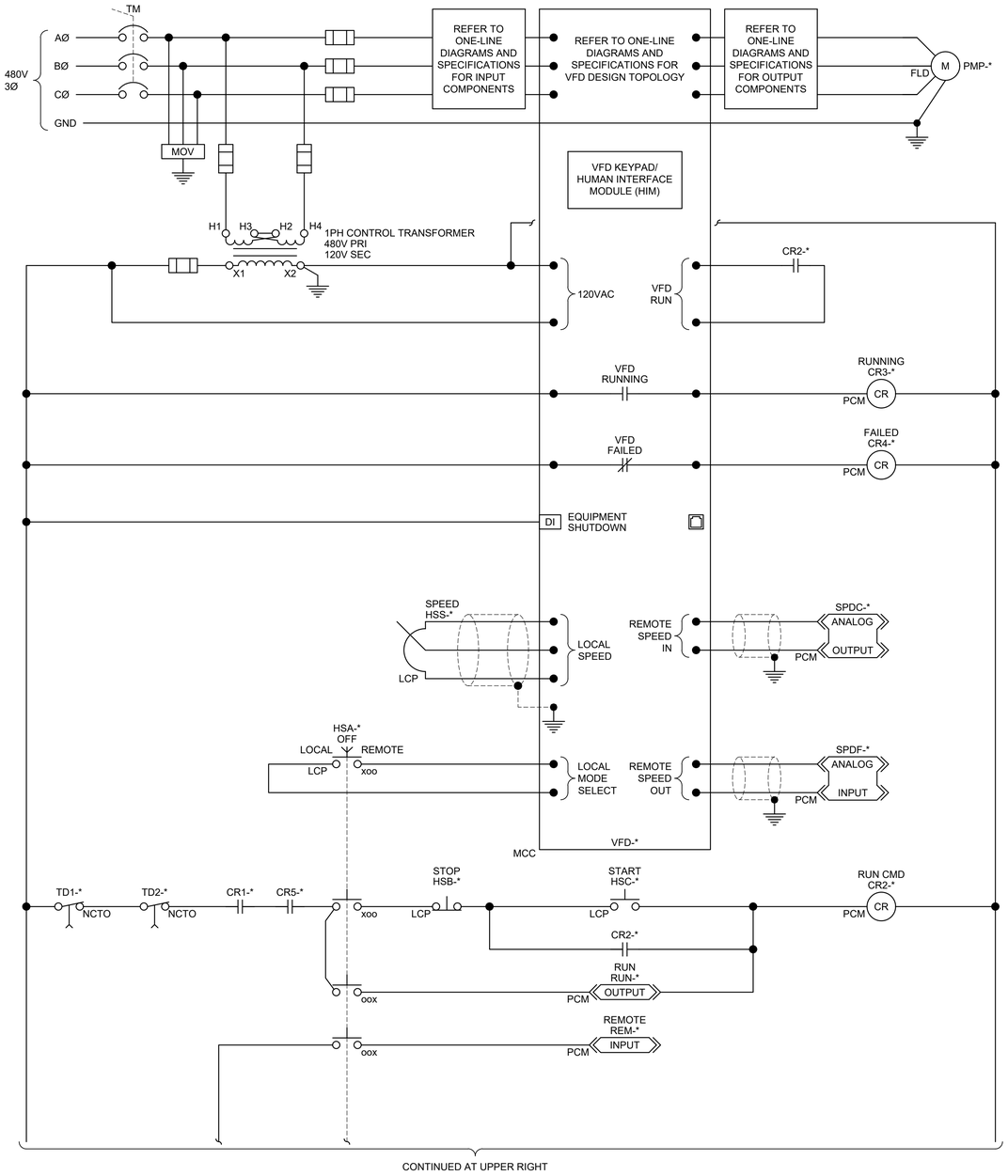
CONTROL SCHEMATIC 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

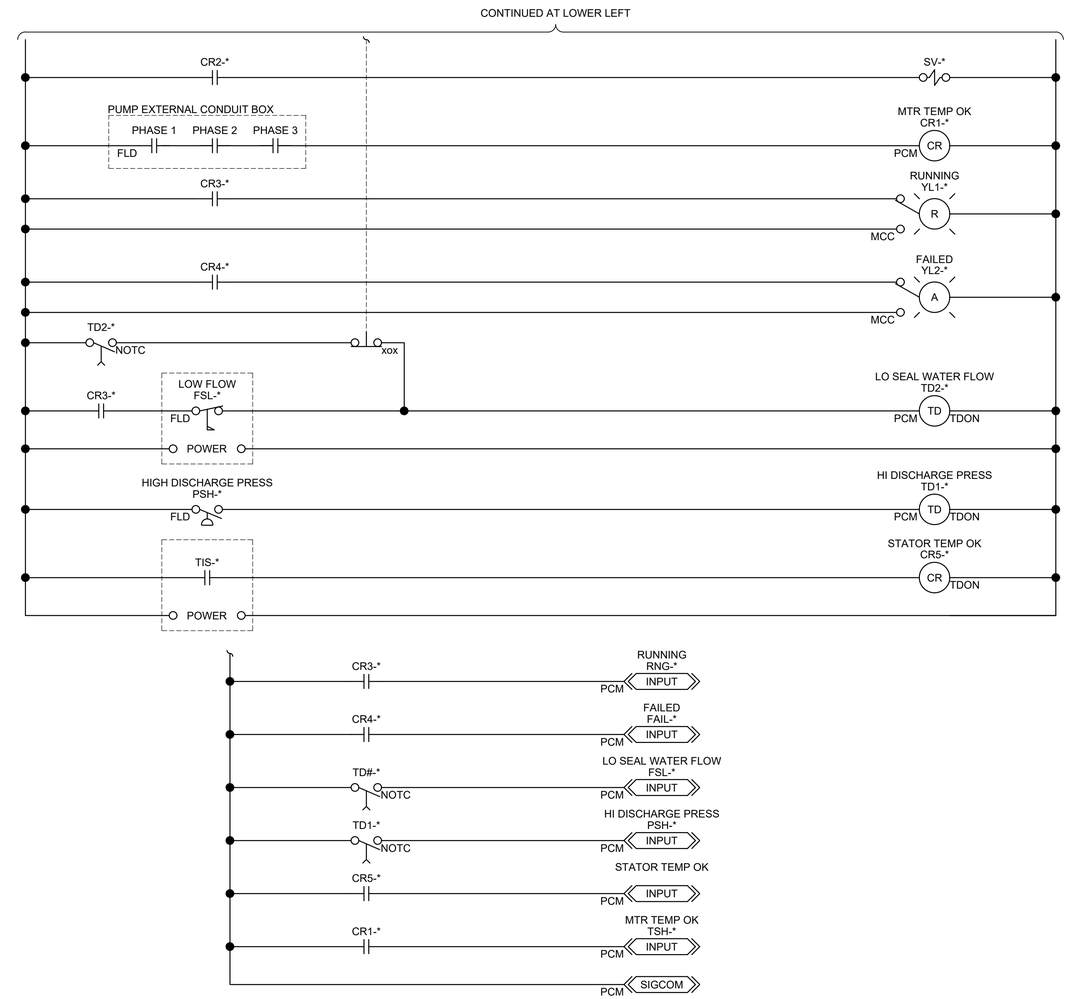
JOB NO. 203356
DRAWING NO. 06N01
SHEET NO. 110 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_06N01.dwg



CONTINUED AT UPPER RIGHT



GENERAL NOTES:

1. ALL TAGS ARE PREFIXED WITH "65-".

TAG	LOOP	REFERENCE DWG.
* = 931	PMP-931	65N02
* = 932	PMP-932	65N02
* = 941	PMP-941	65N04
* = 942	PMP-942	65N04

LOCATION LEGEND

PCM	PCM-910
MCC	MOTOR CONTROL CENTER
FLD	FIELD DEVICE
LCP	LOCAL CONTROL PANEL
STR	FREE-STANDING STARTER
VFD	FREE-STANDING VFD

THICKENED SLUDGE TRANSFER & THICKENED SLUDGE FEED PUMPS

2 CONTROL SCHEMATIC

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

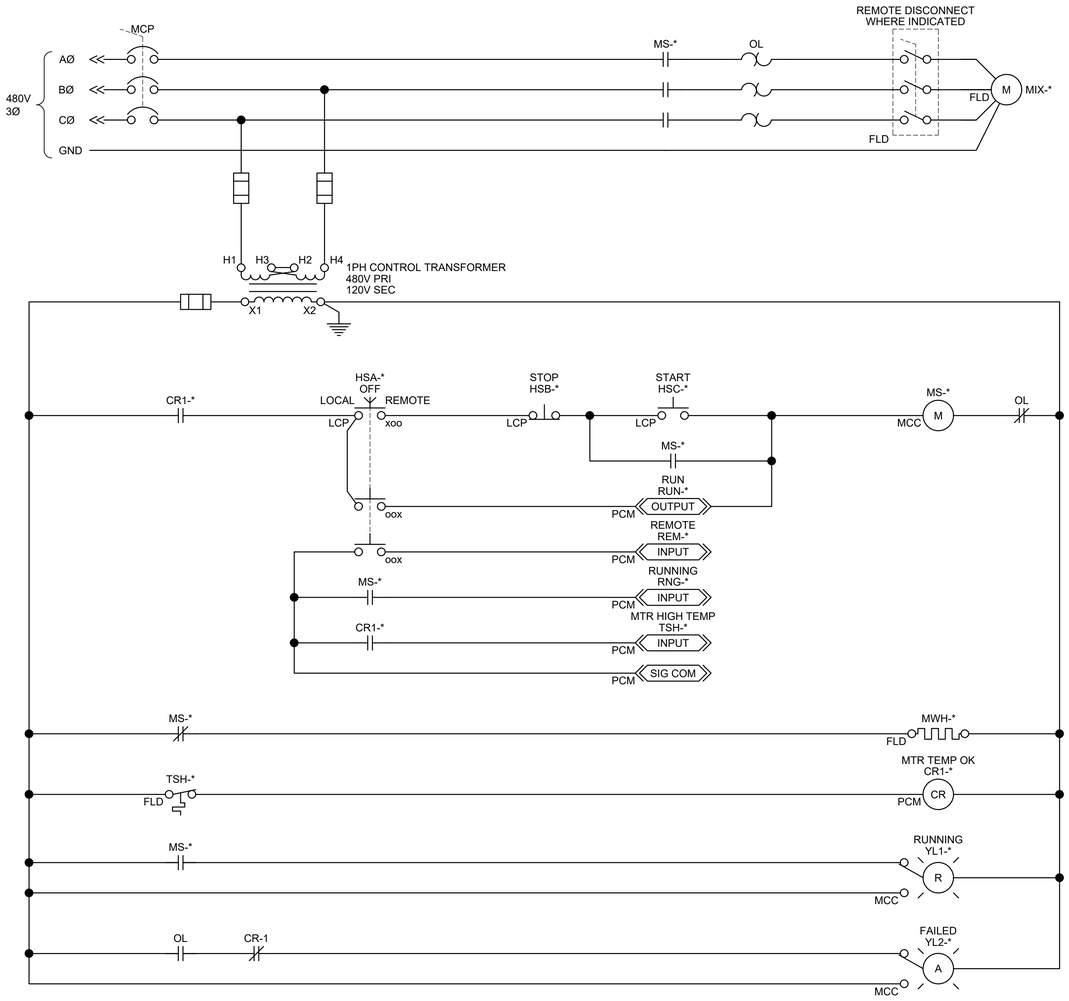
CONTROL SCHEMATIC 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 06N02
SHEET NO. 111 OF 162

LAST SAVED BY: sshepard

PROJECT NO. 203356-100000 FILE NAME: 203356_06N02.dwg



GENERAL NOTES:

1. ALL TAGS ARE PREFIXED WITH "65-".

TAG	LOOP	REFERENCE DWG.
* = 65-981	MIX-981	65N03
* = 65-982	MIX-982	65N03

LOCATION LEGEND

PCM	PCM-910
MCC	MOTOR CONTROL CENTER
FLD	FIELD DEVICE
LCP	LOCAL CONTROL PANEL
STR	FREE-STANDING STARTER
VFD	FREE-STANDING VFD

SLUDGE DAY TANK MIXERS

3 CONTROL SCHEMATIC

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

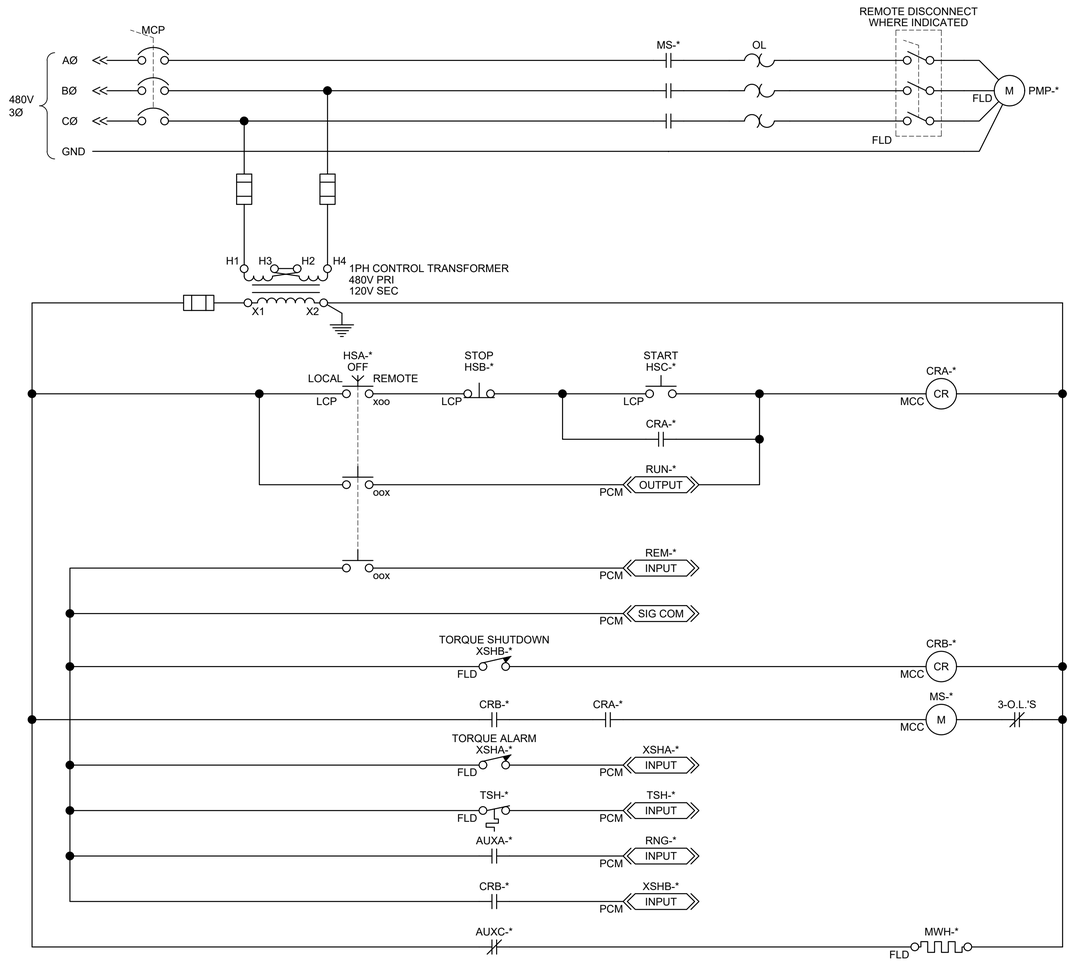
CONTROL SCHEMATIC 3

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 06N03
SHEET NO. 112 OF 162

LAST SAVED BY: sshepard

PROJECT NO. 203356-100000 FILE NAME: 203356_06N03.dwg



GENERAL NOTES:

1. ALL TAGS ARE PREFIXED WITH "65-".

TAG	LOOP	REFERENCE DWG.
* = 921	THU-921	65N06
* = 992	THU-922	65N07

LOCATION LEGEND

PCM	PCM-910
MCC	MOTOR CONTROL CENTER
FLD	FIELD DEVICE
LCP	LOCAL CONTROL PANEL
STR	FREE-STANDING STARTER
VFD	FREE-STANDING VFD

THICKENER

4 CONTROL SCHEMATIC

E-M22-4

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

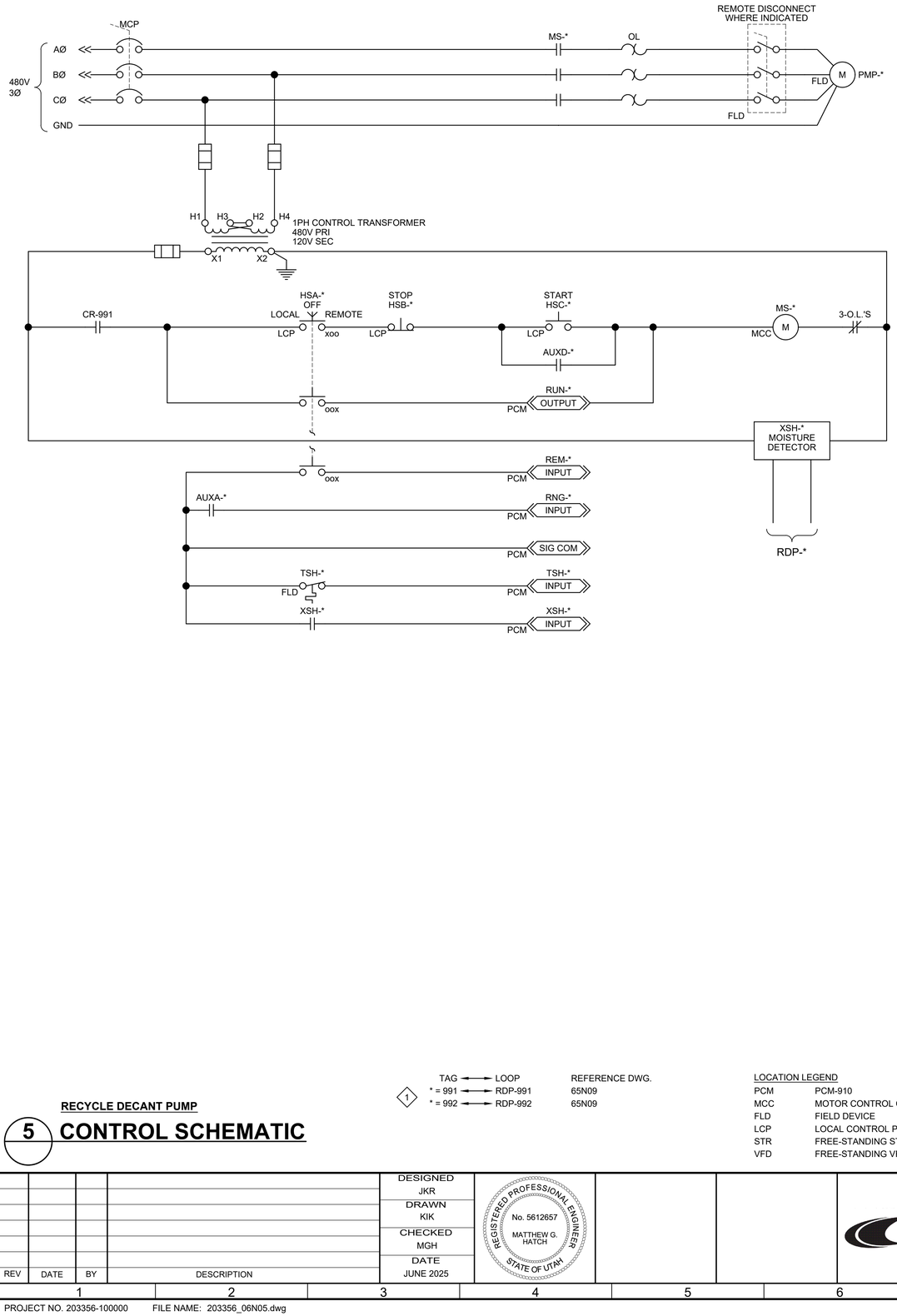
CONTROL SCHEMATIC 4

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 06N04
SHEET NO. 113 OF 162

LAST SAVED BY: sshepard

PROJECT NO. 203356-100000 FILE NAME: 203356_06N04.dwg



GENERAL NOTES:

1. ALL TAGS ARE PREFIXED WITH "65-".

KEY NOTES:

1. RDP-991 IS BEING DEMOLISHED BUT THE EXISTING MOTOR STARTER IS BEING REPLACED.

TAG	LOOP	REFERENCE DWG.
1 * = 991	RDP-991	65N09
* = 992	RDP-992	65N09

LOCATION LEGEND

PCM	PCM-910
MCC	MOTOR CONTROL CENTER
FLD	FIELD DEVICE
LCP	LOCAL CONTROL PANEL
STR	FREE-STANDING STARTER
VFD	FREE-STANDING VFD

RECYCLE DECANT PUMP

5 CONTROL SCHEMATIC

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

CONTROL SCHEMATIC 5

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 06N05
SHEET NO. 114 OF 162

LAST SAVED BY: sshepard

PROJECT NO. 203356-100000 FILE NAME: 203356_06N05.dwg

KEY NOTES:

1. THE EFFLUENT OF THE GRAVITY THICKENER WILL BE RE-PIPED TO THE NEW THICKENED SLUDGE TRANSFER PUMPS.

I/O

POWER SOURCE

FIELD

65-ZCO DO OPEN 930A PLC-910
65-ZCC DO CLOSE 930A PLC-910
65-ZSO DI OPENED 930A PLC-910
65-ZSC DI CLOSED 930A PLC-910
65-REM DI REMOTE 930A PLC-910
65-CB TM 480VAC-3P 930A MCC-65
65-HSA LSR 930A
65-HSG OSC 930A
65-ZSOC 930A
65-FV 930A
65-DISC 930A

65-ZCO DO OPEN 930B PLC-910
65-ZCC DO CLOSE 930B PLC-910
65-ZSO DI OPENED 930B PLC-910
65-ZSC DI CLOSED 930B PLC-910
65-REM DI REMOTE 930B PLC-910
65-CB TM 480VAC-3P 930B MCC-65
65-HSA LSR 930B
65-HSG OSC 930B
65-ZSOC 930B
65-FV 930B
65-DISC 930B

65-XA DI FAIL 930 PLC-910
65-RNG DI RUNNING 930 PLC-910
65-REM DI REMOTE 930 PLC-910
65-RUN DO RUN 930 PLC-910
65-CB TM 480VAC-3P 930 MCC-65
65-VCP 930
65-GDR 930

1 GRAVITY THICKENER 1
1 GRAVITY THICKENER 2
E 65-VAL 930A
E 65-VAL 930B
65-HVA 930
65-HVB 930
65-HVC 930
65-HVA 931
65-HVA 932
65-HVA 990
65-HVA 940
65-HVA 980

THICKENED SLUDGE TRANSFER PUMP 1 — 1 — 65N02
THICKENED SLUDGE TRANSFER PUMP 2 — 2 — 65N02
SUMP PUMP DISCHARGE — 11 — 65N05
RECYCLE DECANT PUMP STATION
THICKENED SLUDGE FEED PUMPS — 4 — 65N04
UTILITY WATER — 21 — 65N03
UTILITY WATER — 22 — 65N02

65-FV-930A
GRAVITY THICKENER VALVE NO.1
1HP 480VAC 3PH

65-FV-930B
GRAVITY THICKENER VALVE NO.2
1HP 480VAC 3PH

65-GDR-930
IN-LINE SLUDGE GRINDER
15HP 480VAC 3PH

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

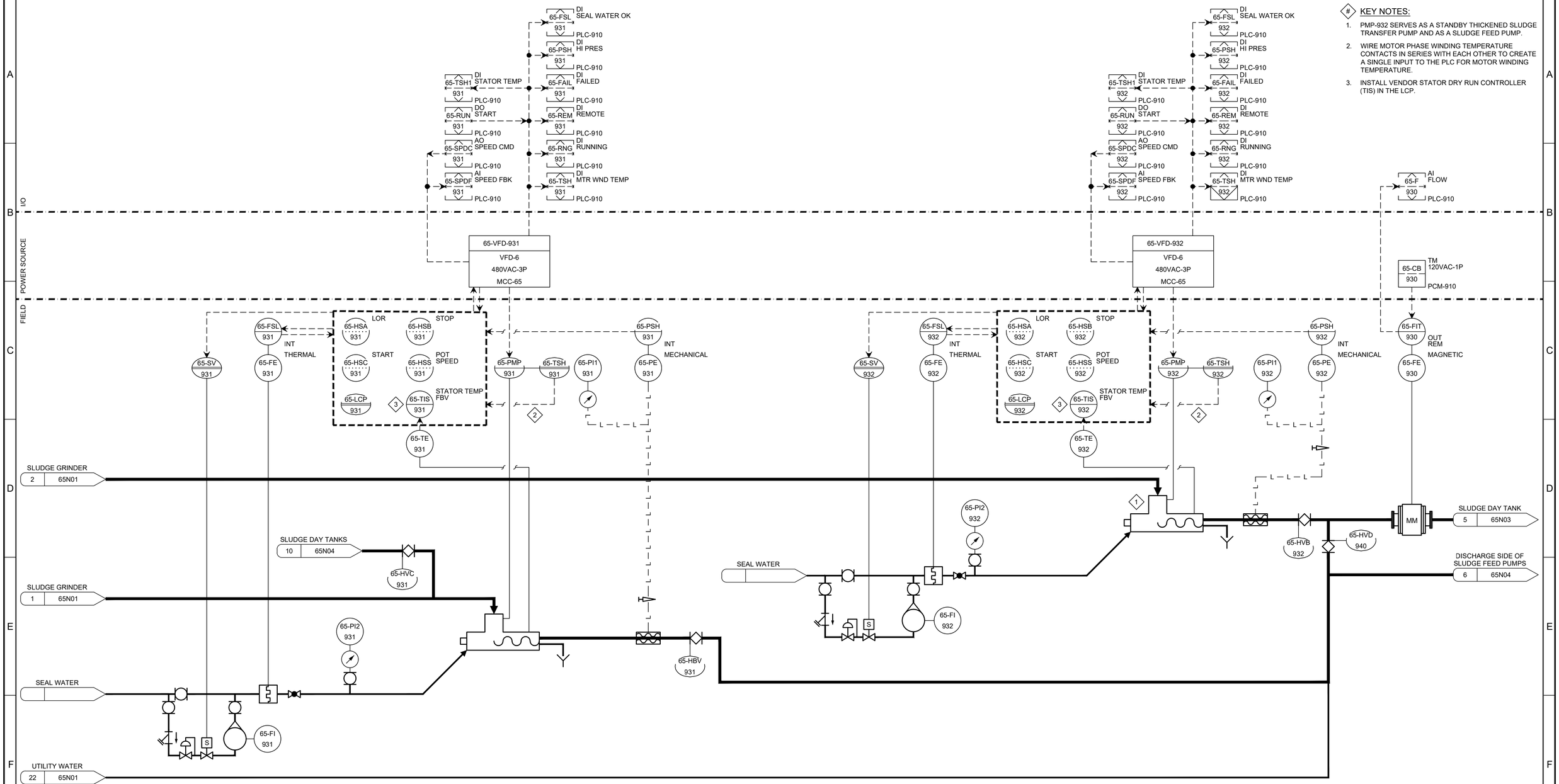
P&ID
IN-LINE SLUDGE GRINDER

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65N01
SHEET NO. 115 OF 162

LAST SAVED BY: LRwas

PROJECT NO. 203356-100000 FILE NAME: 203356_65N01.dwg



KEY NOTES:

1. PMP-932 SERVES AS A STANDBY THICKENED SLUDGE TRANSFER PUMP AND AS A SLUDGE FEED PUMP.
2. WIRE MOTOR PHASE WINDING TEMPERATURE CONTACTS IN SERIES WITH EACH OTHER TO CREATE A SINGLE INPUT TO THE PLC FOR MOTOR WINDING TEMPERATURE.
3. INSTALL VENDOR STATOR DRY RUN CONTROLLER (TIS) IN THE LCP.

65-FE-931 THERMAL FLOW SWITCH 0-10GPM — * TYP — NF111

65-FI-931 ROTAMETER 0-10GPM

65-PI2-931 PRESSURE INDICATOR 0-100 PSI — * TYP — NP503

65-PMP-931 THICKENED SLUDGE TRANSFER PUMP NO.1 10HP 480VAC 3PH — 1 / 06N02

65-PI1-931 PRESSURE INDICATOR 0-100 PSIG

65-PE-931 PRESSURE SWITCH HIGH 50 PSIG OPEN — * TYP — NP124

65-FI-932 ROTAMETER 0-10GPM

65-FE-932 THERMAL FLOW SWITCH 0-10GPM — * TYP — NF111

65-PI2-932 PRESSURE INDICATOR 0-100 PSI — * TYP — NP503

65-PMP-932 THICKENED SLUDGE TRANSFER PUMP NO.2 15HP 480VAC 3PH — 2 / 06N02

65-PI1-932 PRESSURE INDICATOR 0-100 PSIG

65-PE-932 PRESSURE SWITCH HIGH 50 PSIG OPEN — * TYP — NP124

65-FE-930 MAGNETIC FLOW METER 50-200 GPM 4" — * TYP — NF130 NF135

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

P&ID

THICKENED SLUDGE TRANSFER PUMPS 1 AND 2

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 — 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356

DRAWING NO. 65N02

SHEET NO. 116 OF 162

LAST SAVED BY: LRivas

PROJECT NO. 203356-100000 FILE NAME: 203356_65N02.dwg

KEY NOTES:

1. HOSE BIB.

I/O

POWER SOURCE

FIELD

67-RUN 981 — DO RUN — PLC-910
67-REM 981 — DI REMOTE — PLC-910
67-TSH 981 — DI HI TEMP — PLC-910
67-RNG 981 — DI RUNNING — PLC-910
67-L 981 — AI LEVEL — PLC-910

67-FVNR-981
FVNR
480VAC-3P
MCC-65

LOR
67-HAS 981
STOP
67-HSB 981
START
67-HSC 981
67-LCP 981

67-DISC 981
67-MIX 981
67-MWH 981
67-TSH 981

67-LIT 981 — LEVEL — OUT INT
67-LE 981 — RADAR PTOF

67-RUN 982 — DO RUN — PLC-910
67-REM 982 — DI REMOTE — PLC-910
67-TSH 982 — DI HI TEMP — PLC-910
67-RNG 982 — DI RUNNING — PLC-910
67-L 982 — AI LEVEL — PLC-910

67-FVNR-982
FVNR
480VAC-3P
MCC-65

LOR
67-HAS 982
STOP
67-HSB 982
START
67-HSC 982
67-LCP 982

67-DISC 982
67-MIX 982
67-MWH 982
67-TSH 982

67-LIT 982 — LEVEL — OUT INT
67-LE 982 — RADAR PTOF

67-ZCO 940A — DO OPEN — PLC-910
67-ZCC 940A — DO CLOSE — PLC-910
67-ZSO 940A — DI OPENED — PLC-910
67-ZSC 940A — DI CLOSED — PLC-910
67-REM 940A — DI REMOTE — PLC-910

67-CB 940A — TM 480VAC-3P — MCC-65

67-HAS 940A — LSR
67-HSG 940A — OSC
67-ZSOC 940A
67-FV 940A
67-DISC 940A

67-ZCO 940B — DO OPEN — PLC-910
67-ZCC 940B — DO CLOSE — PLC-910
67-ZSO 940B — DI OPENED — PLC-910
67-ZSC 940B — DI CLOSED — PLC-910
67-REM 940B — DI REMOTE — PLC-910

67-CB 940B — TM 480VAC-3P — MCC-65

67-HAS 940B — LSR
67-HSG 940B — OSC
67-ZSOC 940B
67-FV 940B
67-DISC 940B

UTILITY WATER → 23 | 65N04
UTILITY WATER → 21 | 65N01
THICKENED SLUDGE FEED PUMPS → 8 | 65N04
TO SLUDGE LAGOONS

UTILITY WATER
THICKENED SLUDGE TRANSFER PUMPS 5 | 65N02

67-HVA 981
67-HVA 982

OVERFLOW

SLUDGE DAY TANK CELL 1

SLUDGE DAY TANK CELL 2

67-VAL 940A
67-VAL 940B

67-MIX-981 SLUDGE DAY TANK MIXER NO. 1 — 15HP 480VAC 3PH — 3 / 06N03
67-LE-981 RADAR PTOF 0-20FT — * TYP — NL153
67-MIX-982 SLUDGE DAY TANK MIXER NO. 2 — 15HP 480VAC 3PH — 3 / 06N03
67-LE-982 RADAR PTOF 0-20FT — * TYP — NL153
67-FV-940A SLUDGE DAY TANK VALVE NO. 1 — 1HP 480VAC 3PH
67-FV-940B SLUDGE DAY TANK VALVE NO. 1 — 1HP 480VAC 3PH

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

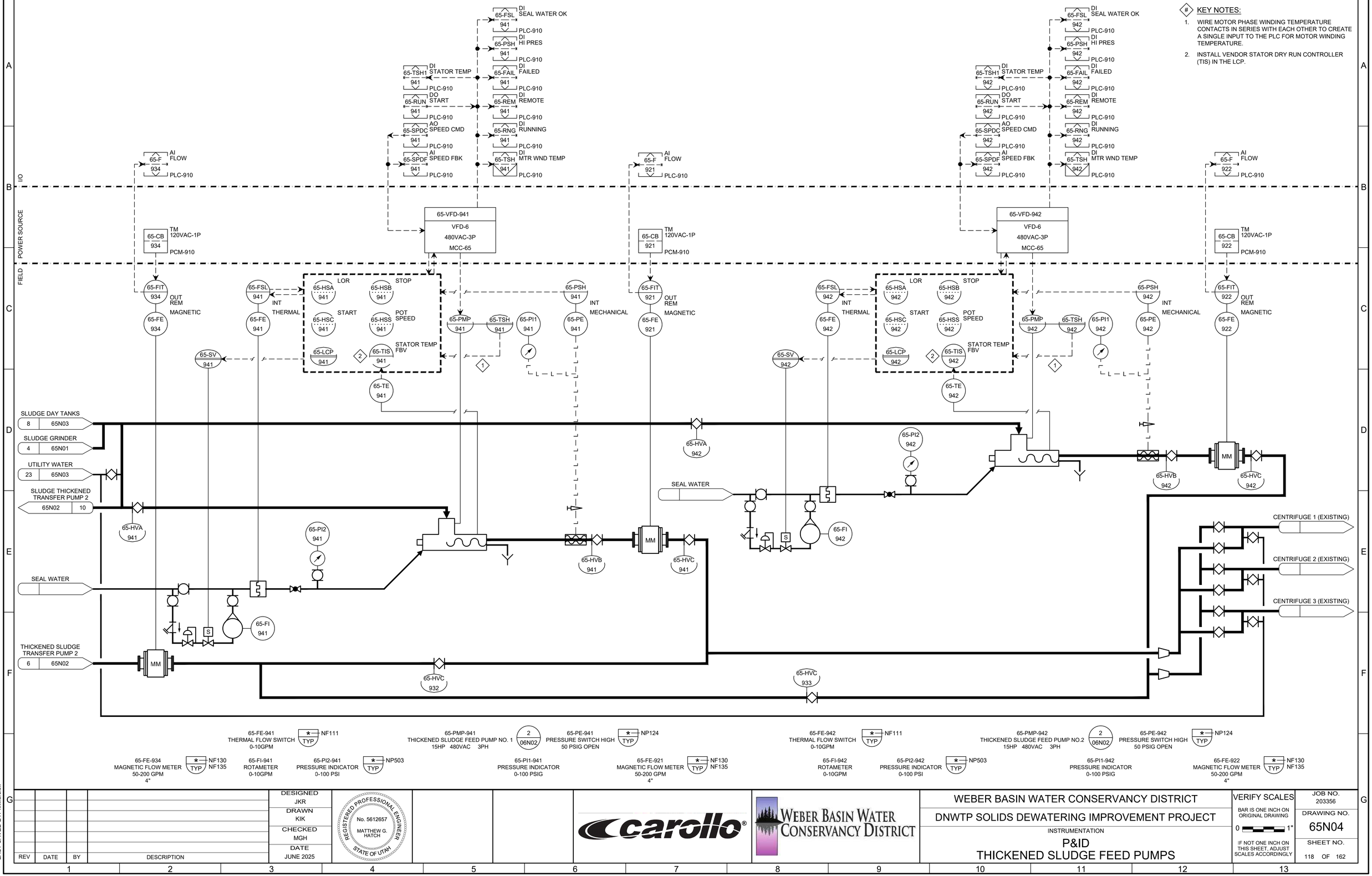
P&ID
SLUDGE DAY TANKS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65N03
SHEET NO. 117 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_65N03.dwg



KEY NOTES:

1. WIRE MOTOR PHASE WINDING TEMPERATURE CONTACTS IN SERIES WITH EACH OTHER TO CREATE A SINGLE INPUT TO THE PLC FOR MOTOR WINDING TEMPERATURE.
2. INSTALL VENDOR STATOR DRY RUN CONTROLLER (TIS) IN THE LCP.

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

P&ID

THICKENED SLUDGE FEED PUMPS

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 — 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356

DRAWING NO. 65N04

SHEET NO. 118 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_65N04.dwg

I/O

POWER SOURCE

FIELD

65-AUTO 980 — DI AUTO — PLC-910
65-LAH 980 — DI HI LEV — PLC-910
65-FAIL 982 — DI FAULT — PLC-910
65-RNG 982 — DI RUNNING — PLC-910
65-FAIL 981 — DI FAULT — PLC-910
65-RNG 981 — DI RUNNING — PLC-910

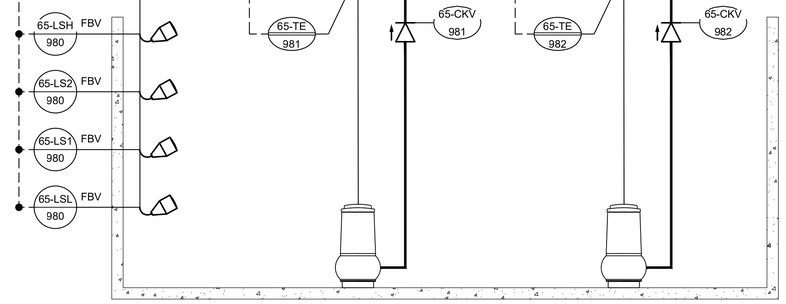
65-CB 980 — TM 480VAC-3P — MCC-65

65-VCP 980

RECYCLE DECANT PUMP STATION 11 | 65N01

65-LE 980 — FLOAT FBV
65-LSH 980 — FBV
65-LS2 980 — FBV
65-LS1 980 — FBV
65-LSL 980 — FBV

65-ME 981 — 65-PMP 981 — 65-TE 981 — 65-HVA 981 — 65-CKV 981
65-ME 982 — 65-PMP 982 — 65-TE 982 — 65-HVA 982 — 65-CKV 982



THICKENED SLUDGE BUILDING SUMP

65-LE-980 SUMP LEVEL — * TYP — NL100

65-PMP-981 SUMP PUMP NO.1 5HP 480VAC 3PH

65-PMP-982 SUMP PUMP NO.2 5HP 480VAC 3PH

LAST SAVED BY: kkwarsick

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

P&ID

SLUDGE PUMP STATION SUMP

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65N05
SHEET NO. 119 OF 162

PROJECT NO. 203356-100000 FILE NAME: 203356_65N05.dwg

GENERAL NOTES:

1. THE I/O IS BEING REROUTED TO THE NEW PCM-910 CONTROL PANEL AND THE POWER IS BEING SUPPLIED BY THE NEW MCC-65.

I/O

POWER SOURCE

FIELD

XSHA 921 — DI TORQUE — ALARM PLC-910

XSHB 921 — DI TORQUE — SHUTDOWN PLC-910

RUN 921 — DO RUN — PLC-910

REM 921 — DI REMOTE — PLC-910

TSH 921 — DI HI TEMP — PLC-910

RNG 921 — DI RUNNING — PLC-910

L 921 — AI LEVEL — PLC-910

FVNR-921
FVNR
480VAC-3P
MCC-65

CBB 921 — TM 1P5A — 120VAC PCM-910

E XSHB 921 TORQUE

E XSHA 921 TORQUE

E HSA 921 LOR

E HSB 921 STOP

E HSC 921 START

E LCP 921

E THU 921

E MWH 921

E TSH 921

E LIT 921 LE921

E LE/LIT 921 MILLTRONICS DPS300

M

LAGOON HEADER — 13 — 65N07

CENTRATE PUMP STATION — SB

NEW SED BASINS (BLOWDOWN) — SB

EXISTING SED BASINS (BLOWDOWN) — SB

E HVA 920

E HGA 922

E HGA 921

E HVB 920

E HVB 921

LAGOON HEADER

SLUDGE DEWATERING FACILITY — 15 — 65N07

THICKENER 2 — 17 — 65N07

THU-921
THICKENER 1
1.5HP 480VAC 3PH

4
06N04

LE/LIT-921
SLUDGE BLANKET

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

P&ID SLUDGE THICKENER THU-921

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65N06
SHEET NO. 120 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_65N06.dwg

GENERAL NOTES:

1. THE I/O IS BEING REROUTED TO THE NEW PCM-910 CONTROL PANEL AND THE POWER IS BEING SUPPLIED BY THE NEW MCC-65.

I/O

POWER SOURCE

FIELD

XSHA 922 — DI TORQUE ALARM PLC-910

XSHB 922 — DI TORQUE SHUTDOWN PLC-910

RUN 922 — DO RUN PLC-910

REM 922 — DI REMOTE PLC-910

TSH 922 — DI HI TEMP PLC-910

RNG 922 — DI RUNNING PLC-910

L 922 — AI LEVEL PLC-910

FVNR-922
FVNR
480VAC-3P
MCC-65

CBB 922 — TM 1P5A 120VAC PCM-910

E XSHB 922 TORQUE

E XSHA 922 TORQUE

E HSA 922 LOR

E HSB 922 STOP

E HSC 922 START

E LCP 922

E THU 922

E MWH 922

E TSH 922

E LIT 922 LE921

E LE/LIT 922 MILLTRONICS DPS300

THICKENER 1
13 | 65N06

M

LAGOON HEADER

E HVA 922

E HVA 923

SOLIDS HANDLING RECYCLE DECANT PUMP STATION

SLUDGE DEWATERING FACILITY
19 | 65N08

THICKENER 1
17 | 65N06

SPLITTER BOX
15 | 65N06

THU-922
THICKENER 2
1.5HP 480VAC 3PH
4 / 06N04

LE/LIT-922
SLUDGE BLANKET

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

P&ID SLUDGE THICKENER THU-922

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 65N07
SHEET NO. 121 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_65N07.dwg

GENERAL NOTES:

1. THE I/O IS BEING REROUTED TO THE NEW PCM-910 CONTROL PANEL AND THE POWER IS BEING SUPPLIED BY THE NEW MCC-65.

I/O

POWER SOURCE

FIELD

RNGA 971 DI RUNNING PLC-910

RNGB 971 DI RUNNING PLC-910

LLSL 971 DI LEVEL LOW LOW PLC-910

LSH 971 DI LEVEL HIGH PLC-910

CB 971 TM 480VAC-3P MCC-65

E VCP 971

E CNPA 971

E CNPB 971

E LE 971

SLUDGE THICKENER 19 65N07

E HVA 970

E HVB 970

SEWER

E HVC 971

E CKVC 971

E HVD 971

E CKVD 971

E LSH 971 LE971

E LSB 971 LE971

E LSA 971 LE971

E LSL 971 LE971

CENTRATE PUMP STATION

CNPA-971
CENTRATE PUMP NO.1
3.5HP 480VAC 3PH
275GPM @ 24FT TDH

CNPB-971
CENTRATE PUMP NO.2
3.5HP 480VAC 3PH
275GPM @ 24FT TDH

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 5612657 MATTHEW G. HATCH STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

P&ID SLUDGE DEWATERING FACILITY CENTRATE PUMP STATION

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 65N08
SHEET NO. 122 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_65N08.dwg

GENERAL NOTES:

1. THE I/O IS BEING REROUTED TO THE NEW PCM-910 CONTROL PANEL AND THE POWER IS BEING SUPPLIED BY THE NEW MCC-65.

KEY NOTES:

1. CONTRACTOR SHALL VERIFY AND DUPLICATE EXISTING WIRING FOR RELAY CR-991.
2. RDP-991 IS BEING DEMOLISHED BUT ITS EXISTING MOTOR STARTER IS TO BE REPLACED AND WIRED TO PLC-910.

I/O

POWER SOURCE

FIELD

XSH 991 — DI MOIST — PLC-910
RUN 991 — DO RUN — PLC-910
REM 991 — DI REMOTE — PLC-910
TSH 991 — DI HI TEMP — PLC-910
RNG 991 — DI RUNNING — PLC-910

2
FVNR-991
FVNR
480VAC-3P
MCC-65

XSH 992 — DI MOIST — PLC-910
RUN 992 — DO RUN — PLC-910
REM 992 — DI REMOTE — PLC-910
TSH 992 — DI HI TEMP — PLC-910
RNG 992 — DI RUNNING — PLC-910

FVNR-992
FVNR
480VAC-3P
MCC-65

PERMISSIVE (CR-991) LSL-991

LSHH 991 — DI LEVEL — HIGH HIGH PLC-910
LSA 991 — DI LEVEL — START PUMPING PLC-910
LSLL 991 — DI LEVEL — LOW LOW PLC-910
LSB 991 — DI LEVEL — STOP PUMPING PLC-910

1 CR 991 — PERMISSIVE MS-991/992 — PCM-910

E HSA 992 — LOR
E HSB 992 — STOP
E HSC 992 — START
E LCP 992

E RDP 992
E XSH 992 — MOISTURE
E TSH 992

E LSA 991 — LEVEL LE991 — B — E LSHH 991 — LEVEL LE991 — HIGH HIGH
E LSB 991 — LEVEL LE991 — B — E LSLL 991 — LEVEL LE991 — LOW LOW

E LE 991 — BALL FLOAT

E HVA 991
E CKA 991

E CKA 992

E HVA 992 — SEWER
E HVB 992 — LAGOON HEADER

FROM LAGOON OUTLET STRUCTURE

DECANT PUMP STATION (RDW)

RDP-992
RECYCLE DECANT WATER PUMP NO. 2
2.0HP 480VAC 3PH
5 / 06N05

LE-991
LEVEL FLOATS

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

P&ID RECYCLE DECANT PUMP STATION

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JOB NO. 203356
DRAWING NO. 65N09
SHEET NO. 123 OF 162

LAST SAVED BY: lbordelon

PROJECT NO. 203356-100000 FILE NAME: 203356_65N09.dwg

GENERAL NOTES:

1. THE I/O IS BEING REROUTED TO THE NEW PCM-910 CONTROL PANEL AND THE POWER IS BEING SUPPLIED BY THE NEW MCC-65.

KEY NOTES:

1. VCP IS BEING DEMOLISHED BUT ITS EXISTING CIRCUIT BREAKER IS TO BE REPLACED.

I/O

POWER SOURCE

FIELD

LSHHB 1311 — DI LEVEL HIGH HIGH PLC-910

LSHB 1311 — DI LEVEL HIGH PLC-910

1 — CB 1311 — TM 480VAC-3P MCC-65

E LSHHB 1311 — LEVEL KEB1311 HIGH HIGH

E LSHB 1311 — LEVEL LEB1311 HIGH

E LEB 1311 — BALL FLOAT

LAGOON UNDER DRAIN

E HVC 1311

E CKVC 1311

E HVD 1311

E CKVD 1311

UNDER DRAIN PUMP STATION

LEB-1311
LEVEL FLOATS

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

P&ID UNDER DRAIN PUMP STATION

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 65N10
SHEET NO. 124 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_65N10.dwg

KEY NOTES:

1. SUPPLY FAN IS ELECTRICALLY INTERLOCKED WITH THE EXHAUST LOUVER.

I/O

POWER SOURCE

FIELD

- IA 65-997 — DI SF CURRENT — PLC-910
- SECURITY — ACP 65-910 — PLC-910
- ZS 65-910 — DI INTRUSION — PLC-910
- JS1 65-910 — DI PWR SUP OK — PLC-910
- JS2 65-910 — DI PWR SUP OK — PLC-910
- JS3 65-910 — DI REDUNDANCY OK — PLC-910
- JS4 65-910 — DI ACB OK — PLC-910
- TSH 65-910 — DI HIGH CABINET TEMP — PLC-910
- XA1 65-910 — DI SPD FAIL — PLC-910
- XA2 65-910 — DI SPD FAIL — PLC-910
- XA5 65-910 — DI ES FAIL — PLC-910
- XA6 65-910 — DI ES FAIL — PLC-910
- XA7 65-910 — DI ECP FAIL — PLC-910
- XA8 65-910 — DI ECP FAIL — PLC-910
- JS5 65-910 — DI ON UPS POWER — PLC-910
- XA3 65-910 — DI LOW BATTERY — PLC-910
- XA4 65-910 — DI UPS FAULT — PLC-910
- CB3 65-910 — TM 120VAC-1P — 65-PNL-01
- CB1 65-910 — TM 120VAC-1P — 65-PNL-01
- CB2 65-910 — TM 120VAC-1P — 65-PNL-01
- 1 — SF 65-997 — SUPPLY FAN
- ACP 65-910
- UPS 65-910
- PCM 65-910

SF-65-997
SUPPLY FAN

PCM-65-910
PCM CABINET
1
06N01

UPS-65-910
UPS POWER STATUS

REV	DATE	BY	DESCRIPTION

DESIGNED JKR
DRAWN KIK
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

INSTRUMENTATION

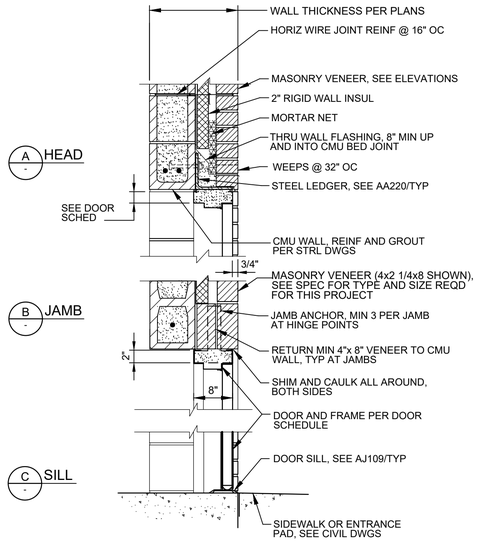
P&ID
PCM-910

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 70N01
SHEET NO. 125 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_70N01.dwg

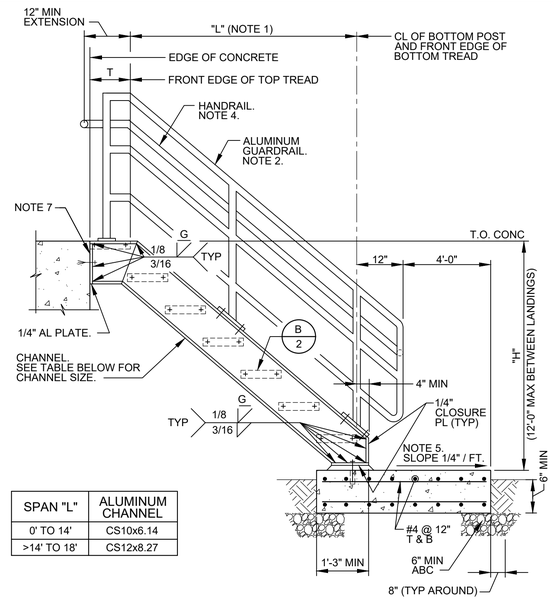


NOTE:

1. SEE AA220/TYP FOR RELATED MASONRY VENEER DETAILS.

AA201 TYP — MASONRY - VENEER - DOOR

09/20/23

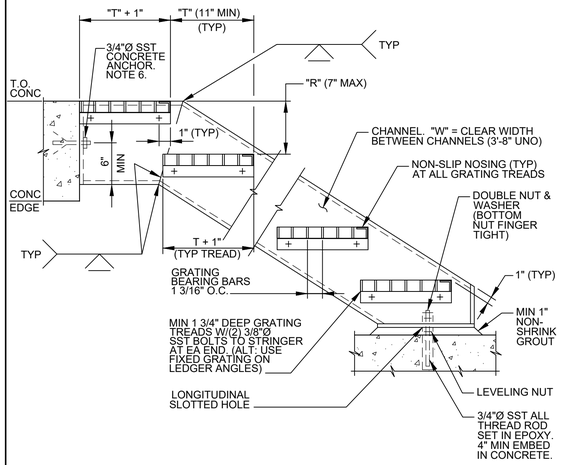


SPAN "L"	ALUMINUM CHANNEL
0' TO 14'	CS10x6.14
>14' TO 18'	CS12x8.27

A - ELEVATION - STAIRS

AC101 TYP — STAIRS - ALUMINUM - FLUSH TOP - THREE RAIL

N SHEET 1 OF 3 06/10/22



B 1 - SECTION - STAIR TREADS

AC101 TYP — STAIRS - ALUMINUM - FLUSH TOP - THREE RAIL

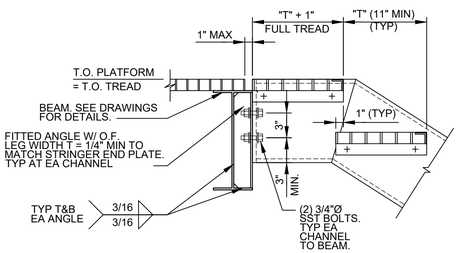
N SHEET 2 OF 3 06/10/22

NOTES:

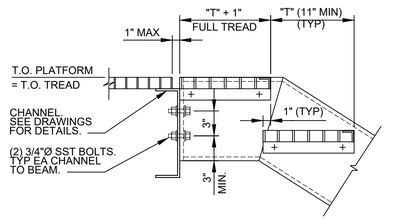
1. SEE DRAWINGS FOR DIMENSIONS "H", "L", "R", "T" AND "W".
2. SEE DETAIL AC500/TYP FOR ALUMINUM GUARDRAIL NOTES AND DETAIL AC504/TYP FOR ALUMINUM GUARDRAIL DETAILS.
3. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE, AND INSTALL ISOLATION SLEEVES AND WASHERS BETWEEN DISSIMILAR METALS AS SPECIFIED.
4. PROVIDE HANDRAIL EXTENSIONS AS SHOWN AT BOTH SIDES OF STAIR, UNLESS HANDRAIL IS CONTINUOUS (AS AT SWITCHBACK STAIR).
5. AT EXTERIOR STAIRS, PROVIDE CONCRETE SLAB ON GRADE UNLESS OTHERWISE INDICATED ON THE DRAWINGS. MINIMUM CONCRETE SLAB WIDTH = STAIR CLEAR WIDTH ("W") PLUS 2'-0" (12" EACH SIDE). EDGE TOP CORNERS OF SLAB TO 1/4" RADIUS.
6. INSTALL CONCRETE ANCHORS MIN 6" FROM BOTTOM AND 6" FROM SIDES/EDGES OF CONCRETE.
7. CONNECTION TO CONCRETE SHOWN. SEE DETAIL AC120/TYP FOR CONNECTION AT METAL FRAMING.

AC101 TYP — STAIRS - ALUMINUM - FLUSH TOP - THREE RAIL

N SHEET 3 OF 3 06/10/22



A - CONNECTION TO BEAM



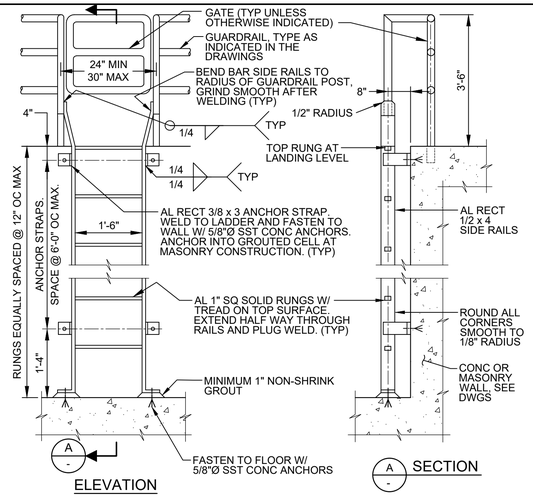
B - CONNECTION TO ALUMINUM CHANNEL

NOTES:

1. INSTALL ISOLATION SLEEVES AND DIELECTRIC BREAKS BETWEEN DISSIMILAR METALS. SEE SPECIFICATIONS.

AC120 TYP — STAIRS - ALUMINUM - FLUSH TOP

N 10/10/22



A - ELEVATION

A - SECTION

NOTES:

1. INSTALL FALL PREVENTION SYSTEM PER SPEC WHERE HEIGHT OF LADDER EXCEEDS 24'-0".
2. MINIMUM CLEARANCE TO ANY OBSTRUCTION ADJACENT TO LADDER: 2'-6" ON CLIMBING SIDE (2'-3" AT SMOOTH WALL). 1'-3" EACH SIDE OF CENTER LINE, ON EACH SIDE OF LADDER.
3. COAT ALL AL SURFACES IN CONTACT W/ CONC AND MASONRY, AND INSTALL ISOLATION SLEEVES AND WASHERS AT DISSIMILAR METALS, AS SPECIFIED.
4. WHERE GUARDRAIL IS SST, BOLT PIPE TO RAIL W/ 2 - 1/2"Ø SST BOLTS.

AC300 TYP — LADDER - ALUMINUM - WALL

12/28/20

NOTES:

1. PROVIDE GUARDRAILS AT STAIRS AND AT OPEN SIDED WALKING SURFACES THAT ARE ELEVATED MORE THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION.
2. WHERE EQUIPMENT IS LOCATED LESS THAN 10' FROM EDGE OF ROOF AND ELEVATED MORE THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION, PROVIDE 42" HIGH GUARDRAIL FORMING A PROTECTIVE BARRIER. PARAPET WALL 42" OR MORE IN HEIGHT MAY BE THE GUARDRAIL AT ROOF LOCATIONS.
3. SEE DRAWINGS AND SPECIFICATIONS FOR GUARDRAIL MATERIAL TYPE(S).
4. PROVIDE HANDRAIL AT BOTH SIDES OF EVERY STAIR HAVING 2 OR MORE RISERS.
5. PROVIDE CONTINUOUS HANDRAIL GRIPPING SURFACES FOR THE FULL LENGTH OF THE STAIR.
6. PROVIDE HANDRAIL EXTENSIONS AT BOTH SIDES OF STAIRS AT TOP AND BOTTOM. HANDRAIL EXTENSION ON STAIR MOUNTED GUARDRAIL MAY BE OMITTED WHERE IT IS PERPENDICULAR TO AND IMPEDES EXIT FLOW.
7. MAKE INSIDE HANDRAIL ON SWITCHBACK STAIRS CONTINUOUS.
8. FOR WALL MOUNTED HANDRAILS, PROVIDE SINGLE RAIL WITH TOP OF RAIL AT 2'-10" HEIGHT ABOVE LANDINGS OR TREAD NOSINGS. PROVIDE MATCHING HANDRAIL ON OPPOSITE SIDE.
9. GUARDRAIL SHALL BE FIXED UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
10. PLACE CENTER OF EMBEDDED POSTS 6" FROM EDGE OF CONCRETE AND 6" FROM FRONT EDGE OF CONCRETE STAIR NOSINGS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
11. PLACE GUARDRAIL POSTS OPPOSITE EACH OTHER WHERE RAILINGS ARE PARALLEL.
12. FOR GUARDRAIL POSTS MOUNTED TO BEAM OR STAIR CHANNEL, PROVIDE MANUFACTURERS REINFORCED CONNECTION FROM POST TO PLATE. PLATE AND REINFORCED INSERTS SHALL BE ALUMINUM OR STAINLESS STEEL.
13. PROVIDE SLIDING JOINTS AT 24' MAX SPACING FOR EXPANSION OF RAIL AND KICKPLATE. LOCATE SLIDING JOINTS NEAR FACE OF POST. GAP AT TIME OF INSTALLATION SHALL BE BASED ON TEMPERATURE OF GUARDRAIL. PROVIDE 1/4" GAP AT 100°F AND 5/8" GAP AT 0°F. INTERPOLATE GAP FOR OTHER INSTALLATION TEMPERATURES. AT CONCRETE EXPANSION JOINTS, PROVIDE MINIMUM 1" GAP IN SLIDING JOINTS BUT NOT LESS THAN WIDTH OF CONCRETE EXPANSION JOINT. MAKE INSERT SLEEVES IN RAILS LONG ENOUGH TO ALLOW FOR THE FULL RANGE OF MOVEMENT.
14. MATERIAL FOR KICKPLATE CHANNEL SLIDING JOINT PLATES, SHALL BE OF THE SAME MATERIAL AS THE GUARDRAIL.
15. JOINTS FOR STAINLESS STEEL GUARDRAIL AND HANDRAIL SHALL BE COPED, WELDED, AND GROUND SMOOTH.
16. PROVIDE KICKPLATE AT ALL LOCATIONS EXCEPT AT SLOPING GUARDRAIL ON STAIRS AND WHERE GUARDRAIL IS MOUNTED ON A 4" MIN CURB. KICKPLATE MAY BE EXTRUDED OR BENT PLATE AND SHALL BE ATTACHED WITH SST BOLTS IN 5/16" x 3/4" SLOTTED HOLES. BOLT KICKPLATE TO POST WITH BOTTOM 1/4" CLEAR ABOVE FLOOR. FOR SIDE MOUNTED GUARDRAIL, PROVIDE STANDARD SPACER BLOCK BETWEEN POST AND KICKPLATE TO MAINTAIN 1/4" MAX CLEAR SPACING. HAND TIGHTEN AND CENTER PUNCH BOLT THREADS TO LOCK.
17. COAT SURFACES OF ALUMINUM IN CONTACT WITH CONCRETE AS SPECIFIED. PROVIDE NEOPRENE GASKET BETWEEN ALUMINUM AND STEEL.

AC500 TYP — GUARDRAIL - HANDRAIL - NOTES

N 06/21/19

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED JCA
DATE JUNE 2025

STATE OF UTAH — MICHELE E. HOLLENBAUGH — No. 9334258 — LICENSED ARCHITECT

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

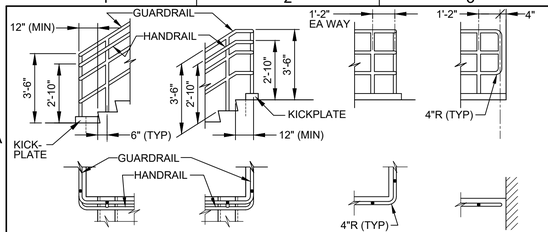
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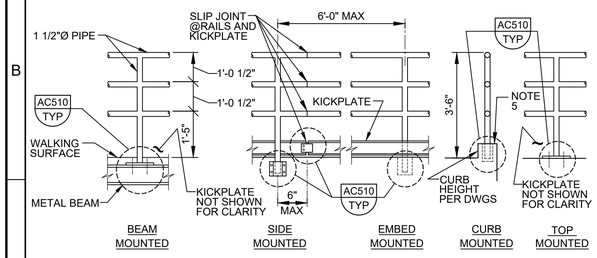
VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 00TA01
SHEET NO. 126 OF 162

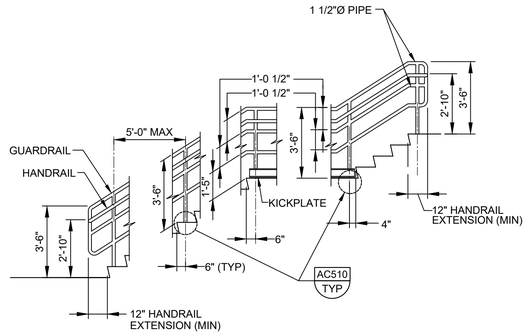
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PROJECT NO. 203356-100000 FILE NAME: 203356_00TA01.dwg





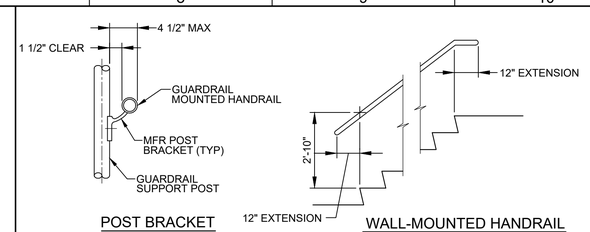
GUARDRAIL ELEVATION

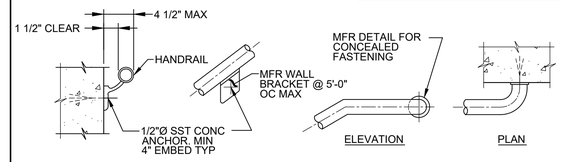


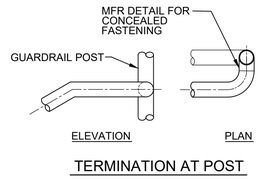
STAIR GUARDRAIL/HANDRAIL ELEVATION

NOTES:

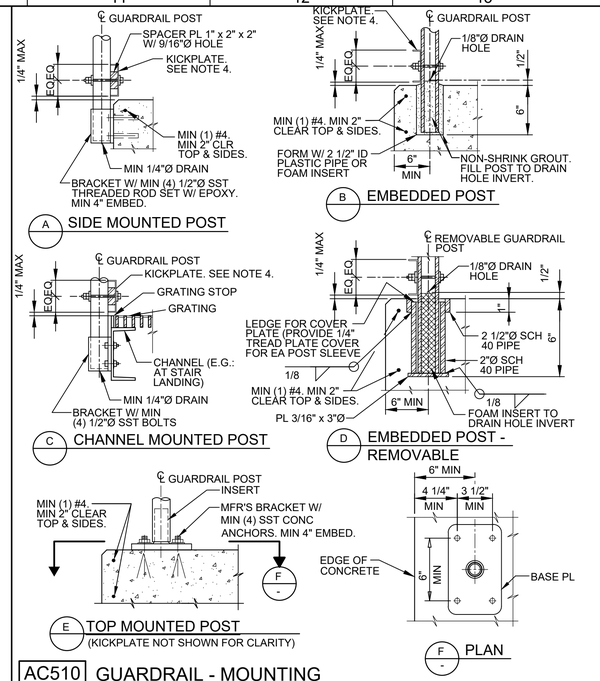
1. THIS DETAIL IS APPLICABLE AT PRIVATE STAIRS IN F, H, AND S OCCUPANCIES WHERE OPERATOR ONLY ACCESS IS REQUIRED. DETAILS AND INSTALLATION SHALL COMPLY WITH THE BUILDING CODE.
2. SEE SPECIFICATIONS AND DETAIL AC500/TYP FOR ADDITIONAL REQUIREMENTS.
3. VARIOUS POST MOUNTING DETAILS ARE ILLUSTRATED. SEE DRAWINGS AND DETAIL AC510/TYP FOR SPECIFIC MOUNTING REQUIREMENTS.
4. HANDRAIL EXTENSIONS ARE REQUIRED ON BOTH SIDES OF STAIR, EXCEPT WHERE INSIDE HANDRAIL IS CONTINUOUS AT SWITCHBACK STAIR.
5. AT CURB, USE EMBEDDED OR TOP MOUNTED POST AS INDICATED ON THE DRAWINGS.

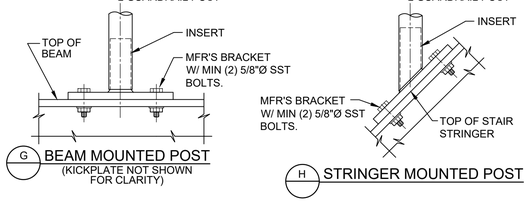


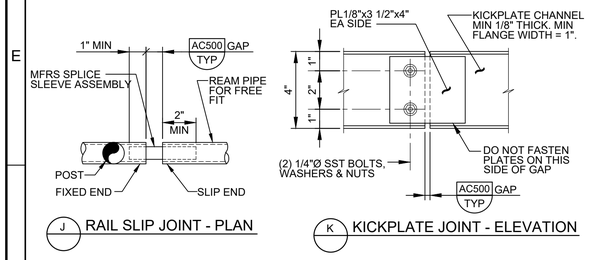




HANDRAIL DETAILS

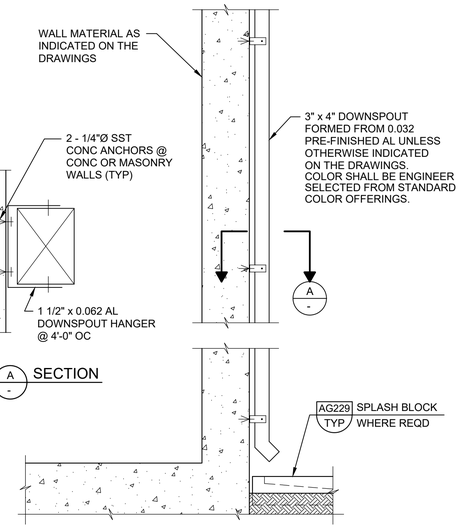






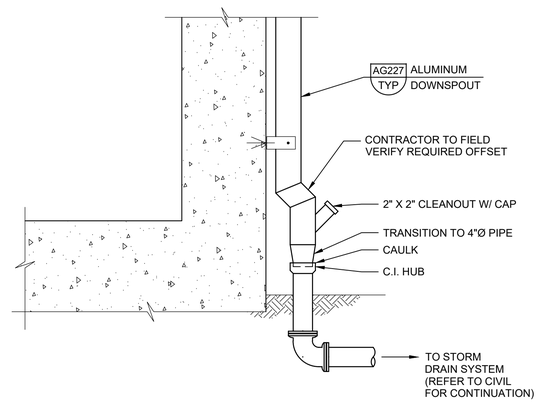
NOTES:

1. FOR ADDITIONAL REQUIREMENTS, SEE DETAIL AC500/TYP.
2. SEE DRAWINGS FOR MATERIAL TYPES.
3. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR DISSIMILAR METALS AS SPECIFIED.
4. KICKPLATE CONNECTION AT POST: MIN 3/4" HORIZONTAL SLOTTED HOLE IN CHANNEL W/ MIN 1/4"Ø BOLT. PROVIDE WASHER AND DOUBLE NUTS. INSIDE NUT FINGER-TIGHT TO PERMIT EXPANSION AND CONTRACTION.



NOTE:

1. PROVIDE SPLASH BLOCK AS SHOWN EXCEPT AT PAVING AND SIDEWALKS.
2. ALTERNATE SIZE DOWNSPOUTS WILL BE REQUIRED, IF SO INDICATED ON THE DRAWINGS.
3. COAT AL IN CONTACT WITH CONC AND CMU AS SPECIFIED.



REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED JCA
DATE JUNE 2025

STATE OF UTAH — MICHELE E. HOLLENBAUGH — No. 9334258 — LICENSED ARCHITECT

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

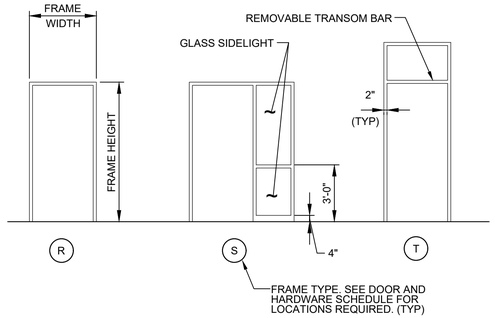
ARCHITECTURAL 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TA02
SHEET NO. 127 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TA02.dwg

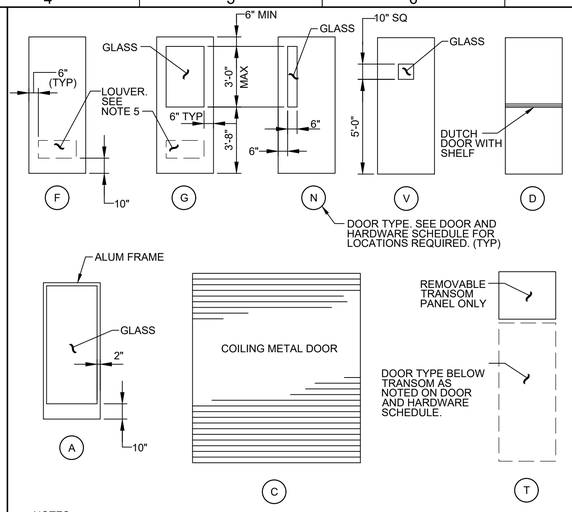


NOTES:

1. SEE DOOR AND HARDWARE SCHEDULE FOR FRAME SIZE, MATERIAL, AND DETAILS.
2. SIDELIGHT MAY BE ON EITHER SIDE OF DOOR. SEE DRAWINGS FOR REQUIRED SIDELIGHT LOCATION.
3. GLASS AT SIDELIGHTS SHALL BE TEMPERED.
4. GLASS AT INTERIOR SIDELIGHTS SHALL BE CLEAR. GLASS AT EXTERIOR SIDELIGHTS SHALL BE TINTED INSULATING GLASS.

AJ100 TYP — DOOR - FRAME - STICK

06/21/19

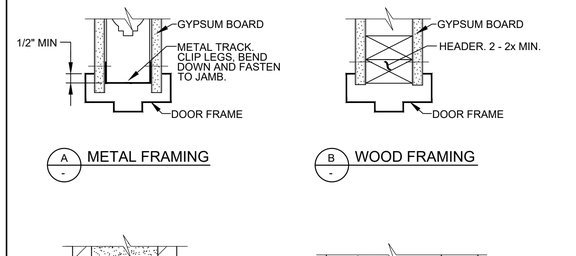


NOTES:

1. DOOR SIZE AND TYPE SHALL BE IN ACCORDANCE WITH DOOR AND HARDWARE SCHEDULE.
2. GLASS AT DOORS SHALL BE TEMPERED UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
3. GLASS AT INTERIOR DOORS SHALL BE CLEAR. GLASS AT EXTERIOR DOORS SHALL BE TINTED.
4. PROVIDE WIRE GLASS AT LABELED DOORS.
5. LOUVER MAY BE REQD AT ANY DOOR TYPE. IF A LOUVER IS REQUIRED, SIZES AND LOCATIONS WILL BE NOTED ON DOOR AND HARDWARE SCHEDULE.
6. PROVIDE LABELED DOORS IN ACCORDANCE WITH DOOR AND HARDWARE SCHEDULE.

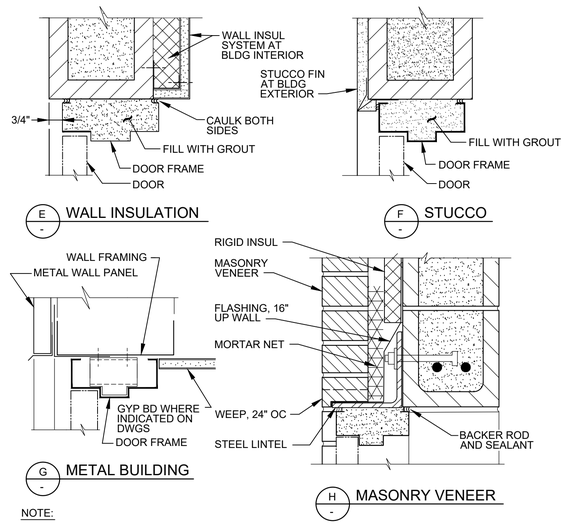
AJ103 TYP — DOOR - ELEVATIONS - TYPES

06/21/19



AJ105 TYP — DOOR - HEAD - DETAILS

SHEET 1 OF 2 06/21/19

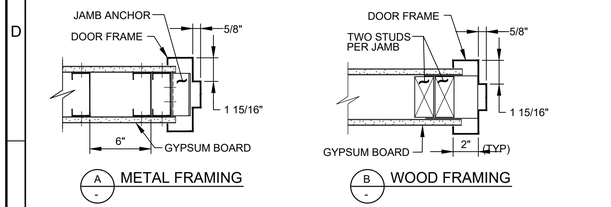


NOTE:

1. DOOR AND FRAME SIZE AND MATERIAL SHALL BE IN ACCORDANCE WITH DOOR AND HARDWARE SCHEDULE.
2. FRAME DIMENSIONS SHALL MATCH THOSE OF JAMB DETAILS ON AJ107/TYP.
3. SEE SPEC FOR WALL INSULATION SYSTEM DETAILS.
4. SEE STRUCT DRAWINGS FOR LINTEL DETAILS.

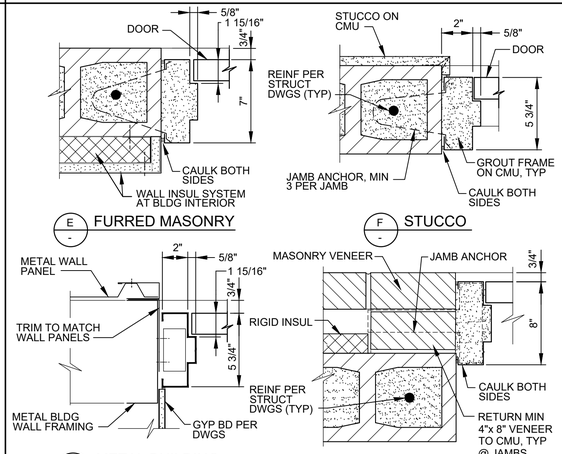
AJ105 TYP — DOOR - HEAD - DETAILS

SHEET 2 OF2 06/21/19



AJ107 TYP — DOOR - JAMB - DETAILS

SHEET 1 OF 2 09/20/23

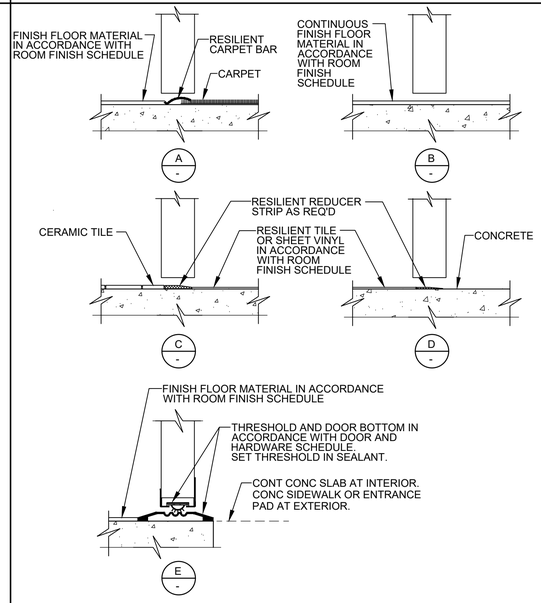


NOTES:

1. DOOR AND FRAME SIZE AND MATERIAL SHALL BE IN ACCORDANCE WITH DOOR AND HARDWARE SCHEDULE.
2. PROVIDE 2" FRAME WIDTH, FRAME DEPTH AS INDICATED AND 1/2" BACKBEND TYPICAL UNLESS OTHERWISE SCHEDULED.
3. PROVIDE MINIMUM 3 ANCHORS PER JAMB AT MASONRY AND 4 ANCHORS PER JAMB AT STUD OR CONCRETE CONSTRUCTION. FILL FRAMES IN MASONRY WITH GROUT.
4. 4"x2 1/4"x8" VENEER SHOWN, SIZE VARIES WITH PROJECT, SEE SPEC FOR REQUIRED SIZE.

AJ107 TYP — DOOR - JAMB - DETAILS

SHEET 2 OF 2 09/20/23



NOTE:

1. DOOR CLEARANCE AT BOTTOM OF DOOR SHALL BE 1/4" MIN AND 3/8" MAX.

AJ109 TYP — DOOR - SILL - DETAILS

06/21/19

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STATE OF UTAH — MICHELE E. HOLLENBAUGH — No. 9334258 — LICENSED ARCHITECT

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

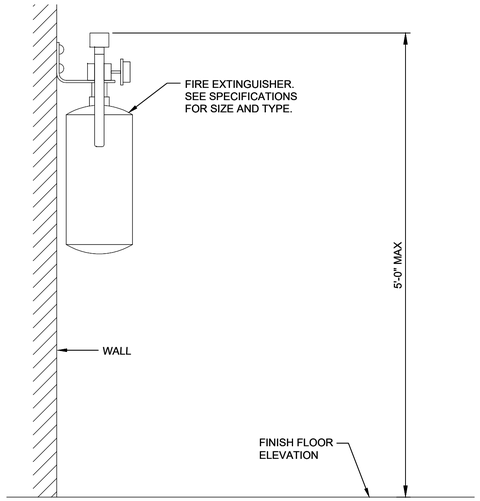
ARCHITECTURAL 3

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TA03
SHEET NO. 128 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TA03.dwg

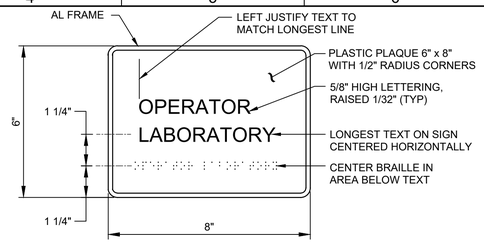


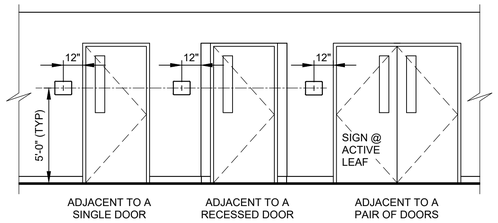
NOTES:

1. MOUNT TO WALL WITH NUMBER AND SIZE OF ANCHORS TO MATCH BRACKET. USE CONCRETE ANCHORS FOR MASONRY OR CONCRETE WALLS. AT MASONRY INSTALL AT GROUTED CELL. MOUNT TO STUD WITH LAG BOLTS, OR WOOD SCREWS FOR WOOD PARTITION WALL.
2. SEE SPECIFICATIONS FOR SIGNAGE REQUIREMENTS ABOVE FIRE EXTINGUISHERS.

AN400 TYP — FIRE EXTINGUISHER WALL-MOUNTED

06/21/19





TYPICAL SIGN LOCATIONS

NOTES:

1. ALL PERMANENT SIGNAGE ON THE ACCESSIBLE ROUTE SHALL MEET ADA REQUIREMENT 4.30.
2. FOR SIGN QUANTITIES, SEE SIGN SCHEDULE.
3. LOCATE SIGNS AT LATCH SIDE OF DOOR. AT DOUBLE DOORS AND WHERE THERE IS NO WALL SPACE ADJACENT TO THE DOOR, PLACE SIGNS ON NEAREST ADJACENT WALL.

AN500 TYP — SIGNAGE - INTERIOR - PLASTIC

06/21/19

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DRAWN CE
CHECKED JCE
DATE JUNE 2025

STATE OF UTAH
MICHELE E. HOLLENBAUGH
No. 9334258
LICENSED ARCHITECT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

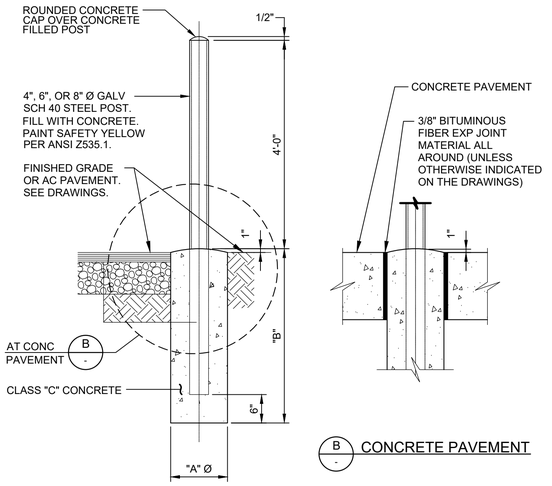
ARCHITECTURAL 4

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TA04
SHEET NO. 129 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TA04.dwg



A AC PAVEMENT OR FINISHED GRADE

B CONCRETE PAVEMENT

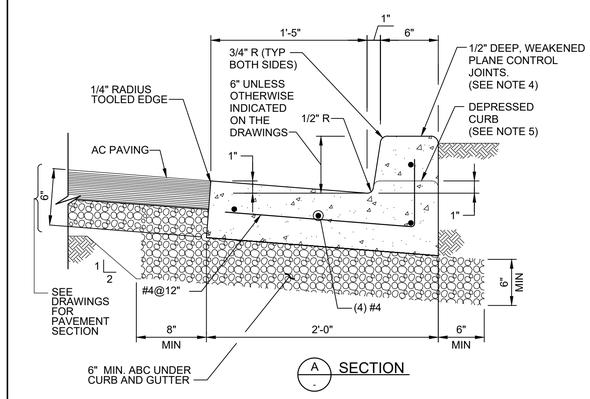
SIZE	"A"	"B"
4"Ø	1'-3"	3'-0"
6"Ø	1'-6"	4'-0"
8"Ø	1'-9"	5'-0"

CF160 GUARD POST

TYP

N

03/22/2021



A SECTION

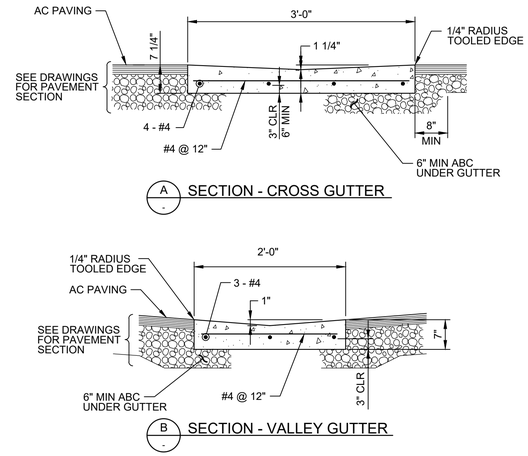
NOTES:

1. FINISH CURB ON TOP, DOWN FRONT FACE AND ACROSS GUTTER TO PAVING, AND 2" DOWN BACK.
2. PROVIDE 3/4" EXPANSION JOINTS AT ENDS OF CONCRETE PLACEMENT, AT POINTS OF CURVATURE, AT BOTH SIDES OF DRIVEWAYS AND WALKWAYS, AT CURB RETURNS, AT STRUCTURES, AND AT MAXIMUM SPACING OF 30 FEET. EXPANSION JOINTS SHALL BE 3/4" WIDE WITH 1/4" RADIUS CONCRETE EDGES AT BOTH SIDES OF JOINT. USE BITUMINOUS FIBER EXPANSION JOINT MATERIAL.
3. DO NOT PASS REINFORCING BARS THROUGH EXPANSION JOINTS.
4. PROVIDE WEAKENED PLANE JOINTS AT 10 FEET OC MAXIMUM. AT FRONT, TOP AND BACK FACES, PROVIDE 1/2" RADIUSED EDGE EACH SIDE AT JOINTS.
5. DEPRESS CURB AT DRIVEWAYS, ROADWAYS, SIDEWALKS FOR HANDICAPPED ACCESS, AND WHERE INDICATED ON THE DRAWINGS.

CR102 YARD CURB AND GUTTER

TYP

12/24/2020



A SECTION - CROSS GUTTER

B SECTION - VALLEY GUTTER

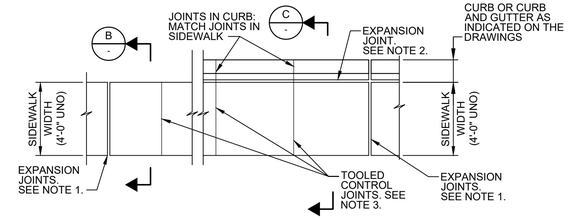
NOTES:

1. PROVIDE 3/4" EXPANSION JOINTS AT ENDS OF CONCRETE PLACEMENT, AT POINTS OF CURVATURE. AT INTERSECTIONS, AND AT MAXIMUM SPACING OF 30 FEET. EXPANSION JOINTS SHALL BE 3/4" WIDE WITH 1/4" RADIUS CONCRETE EDGES AT BOTH SIDES OF JOINT. USE BITUMINOUS FIBER EXPANSION JOINT MATERIAL.
2. DO NOT PASS REINFORCING BARS THROUGH EXPANSION JOINTS.
3. PROVIDE WEAKENED PLANE JOINTS AT 10 FEET OC MAXIMUM. AT FRONT, TOP AND BACK FACES, PROVIDE 1/2" RADIUSED EDGE EACH SIDE AT JOINTS.

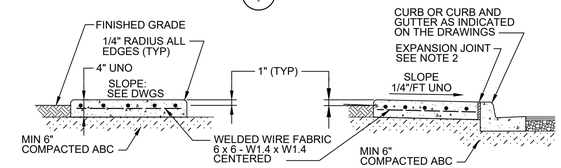
CR110 GUTTER - CROSS AND VALLEY

TYP

12/29/2020



A PLAN



B TYPICAL SECTION

C SECTION AT CURBS

NOTES:

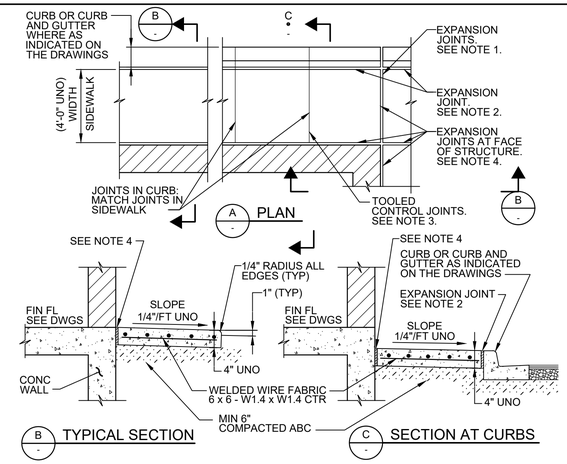
1. PROVIDE EXPANSION JOINTS AT ENDS OF CONCRETE PLACEMENT, AT POINTS OF CURVATURE, AT BOTH SIDES OF DRIVEWAYS, AT INTERSECTIONS, AT CORNERS OF STRUCTURES, AND AT MAXIMUM SPACING OF 30 FEET. EXPANSION JOINTS SHALL BE 3/4" WIDE BITUMINOUS FIBER WITH 1/4" RADIUS CONCRETE EDGES AT EACH SIDE.
2. PROVIDE EXPANSION JOINT AT CURB. JOINT SHALL BE 3/8" WIDE BITUMINOUS FIBER WITH 1/4" RADIUS CONCRETE EDGE AT SIDEWALK.
3. PROVIDE WEAKENED PLANE JOINTS AT UNIFORM SPACING EQUAL TO 1.0 TO 1.25 TIMES SIDEWALK WIDTH, BUT NOT GREATER THAN 10 FEET OC MAXIMUM. PROVIDE 1/4" RADIUS CONCRETE EDGES EACH SIDE AT JOINTS.
4. TOP OF CONCRETE ELEVATIONS: AS INDICATED ON THE DRAWINGS.

CR302 SIDEWALK

TYP

N

12/24/2020



A PLAN

B TYPICAL SECTION

C SECTION AT CURBS

NOTES:

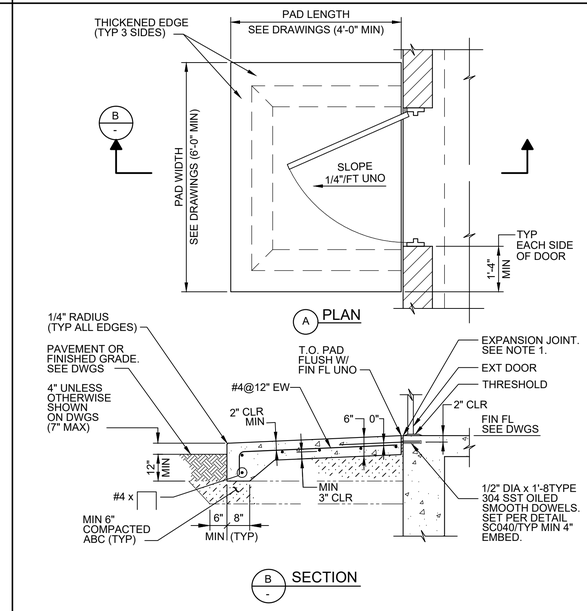
1. PROVIDE EXPANSION JOINTS AT ENDS OF CONCRETE PLACEMENT, AT POINTS OF CURVATURE, AT BOTH SIDES OF DRIVEWAYS, AT INTERSECTIONS, AT CORNERS OF STRUCTURES, AND AT MAXIMUM SPACING OF 30 FEET. EXPANSION JOINTS SHALL BE 3/4" WIDE BITUMINOUS FIBER WITH 1/4" RADIUS CONCRETE EDGES AT EACH SIDE.
2. PROVIDE EXPANSION JOINT AT CURB. JOINT SHALL BE 3/8" WIDE BITUMINOUS FIBER WITH 1/4" RADIUS CONCRETE EDGE AT SIDEWALK.
3. PROVIDE WEAKENED PLANE JOINTS AT UNIFORM SPACING EQUAL TO 1.0 TO 1.25 TIMES SIDEWALK WIDTH, BUT NOT GREATER THAN 10 FEET OC MAXIMUM. PROVIDE 1/4" RADIUS CONCRETE EDGES AT EACH SIDE AT JOINTS.
4. PROVIDE EXPANSION JOINT AT FACE OF STRUCTURE. CONTINUE JOINTS THROUGH ADJACENT SIDEWALKS. JOINTS SHALL BE 3/8" WIDE BITUMINOUS FIBER.
5. TOP OF CONCRETE ELEVATIONS: AS INDICATED ON THE DRAWINGS.

CR306 SIDEWALK - AT STRUCTURES

TYP

N

07/26/21



A PLAN

B SECTION

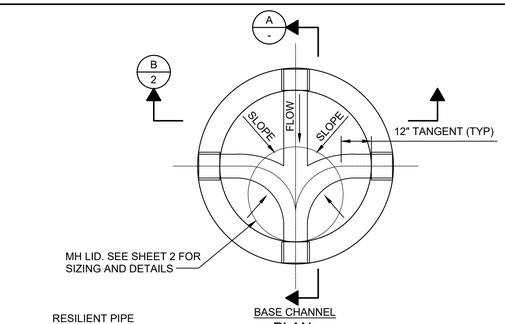
NOTES:

1. EXPANSION JOINT AT FACE OF STRUCTURE: 3/8" WIDE AND AS INDICATED IN DETAIL 1.

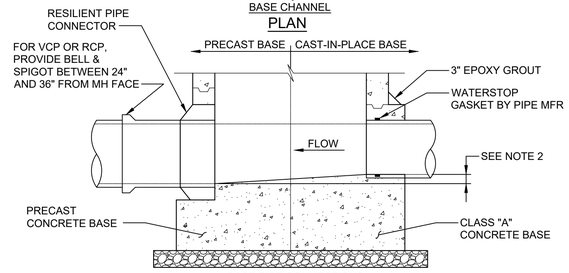
CR314 SIDEWALK - ENTRANCE PAD

TYP

12/18/2023



PLAN



BASE PIPE CONNECTIONS

SECTION A-A

NOTES:

1. BASES SHALL BE PRECAST UNO ON THE DRAWINGS.
2. DROP ACROSS MANHOLE SHALL BE 0.1' MINIMUM. WHERE PIPE SIZES ARE DIFFERENT, MATCH CROWNS.

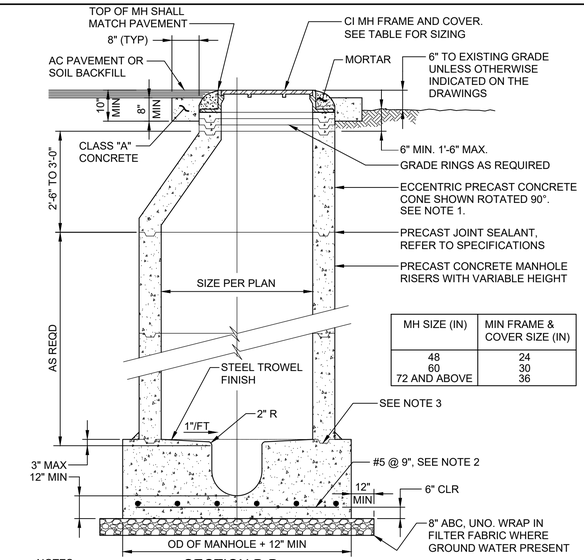
CS110 MANHOLE

TYP

N

SHEET 1 OF 2

04/09/24



MH SIZE (IN)	MIN FRAME & COVER SIZE (IN)
48	24
60	30
72 AND ABOVE	36

SECTION B-B

NOTES:

1. LOCATE MANHOLE COVER ON DOWNSTREAM SIDE OF MANHOLE. WHERE INDICATED ON THE PLANS, INSTALL A REINFORCED CONCRETE FLAT TOP IN LIEU OF A CONE.
2. FOR PRECAST BASES, REINFORCEMENT DESIGN SHALL BE DETERMINED BY THE MANUFACTURER AND CERTIFIED BY A PROFESSIONAL ENGINEER.
3. FOR CAST-IN-PLACE MANHOLES FORM GROOVE IN MANHOLE BASE WITH STEEL OR ALUMINUM BASE RING PER MANUFACTURER'S DETAIL.

CS110 MANHOLE

TYP

N

SHEET 2 OF 2

04/09/24

REV	DATE	BY	DESCRIPTION

DESIGNED CE

DRAWN CE

CHECKED JB

DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 270473-2202 — RANDAL L ZOLLINGER — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

CIVIL 1

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

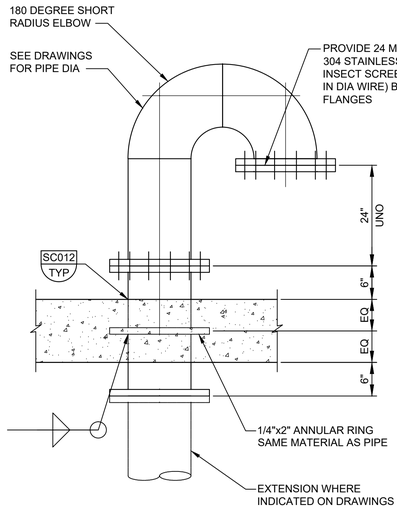
JOB NO. 203356

DRAWING NO. 00TC01

SHEET NO. 130 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_00TC01.dwg

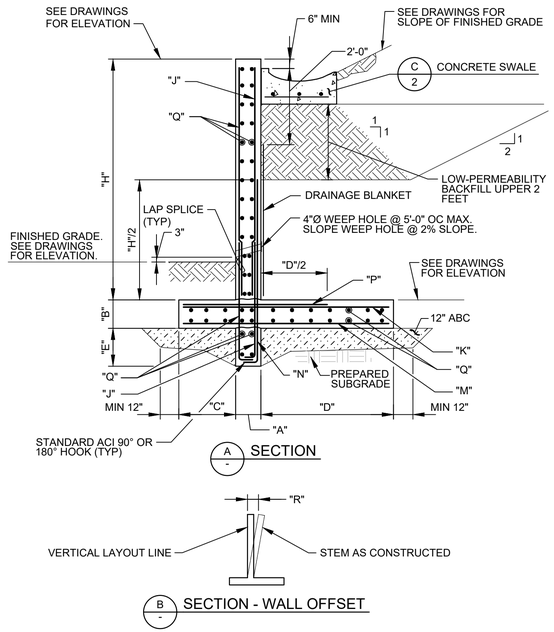


NOTES:

1. MATERIAL: SCHEDULE 10 STEEL, HOT-DIP GALVANIZED AFTER FABRICATION, UNLESS OTHERWISE NOTED.

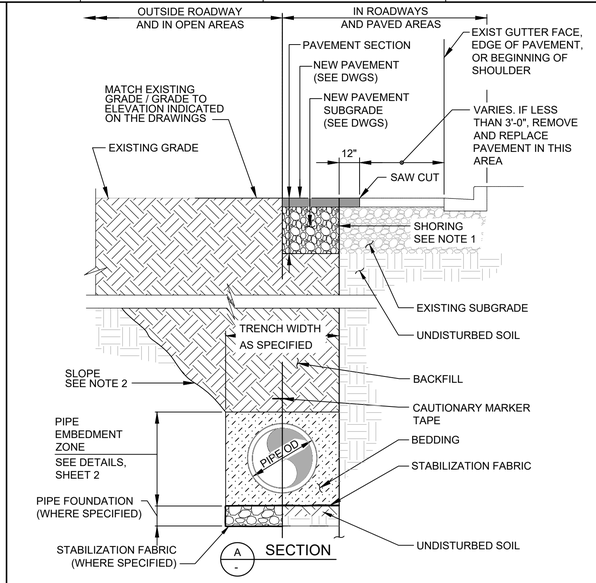
CS510 TYP — VENT - STEEL GOOSENECK - ROOF SLAB

10/09/20



CS602 TYP N — RETAINING WALL

SHEET 1 OF 3 07/06/2021

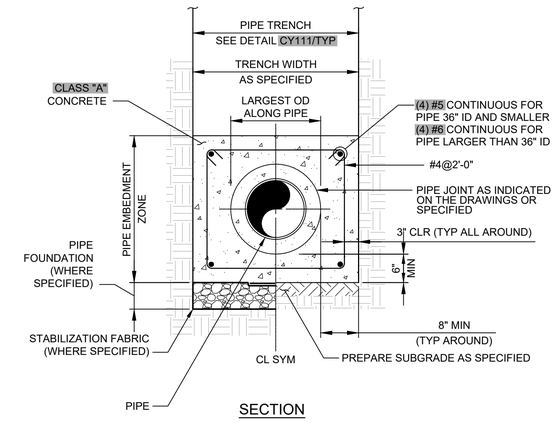


NOTES:

1. SEE SPECIFICATIONS FOR SHORING REQUIREMENTS.
2. SEE SPECIFICATIONS FOR SLOPE REQUIREMENTS.
3. SEE SPECIFICATIONS FOR TRENCH DEPTH AND WIDTH REQUIREMENTS.

CY111 TYP N — PIPE TRENCH

SHEET 1 OF 2 9/12/2024

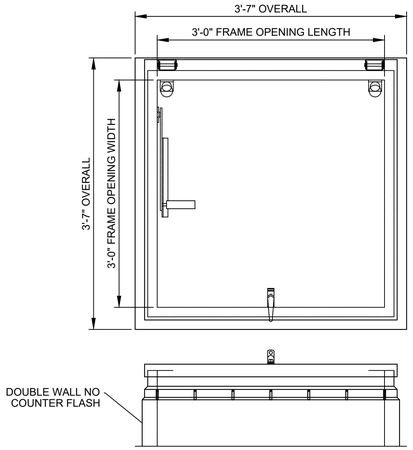


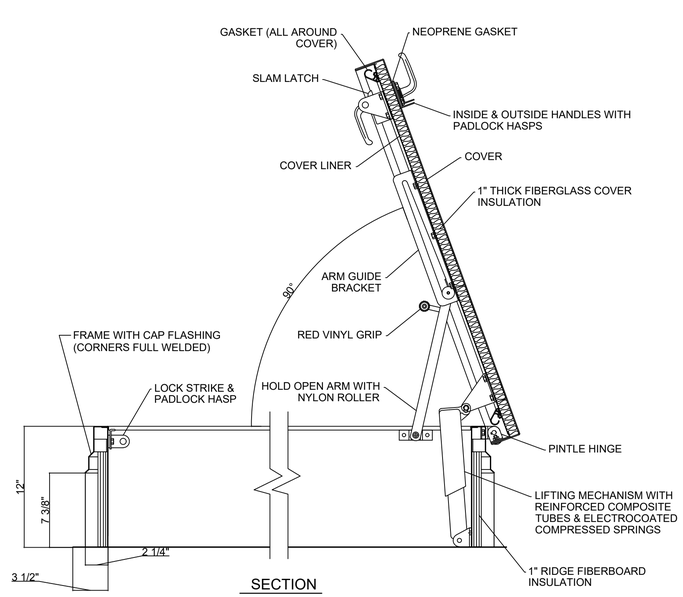
NOTE:

1. PIPE MATERIAL AND TYPE OF PIPE JOINTS OR COUPLERS AS INDICATED ON THE DRAWINGS.
2. SEE MP003/TYP THROUGH MP024/TYP FOR PIPE ENCASEMENT CONNECTIONS TO STRUCTURES.

CY119 TYP S — PIPE ENCASEMENT - CONCRETE

9/12/2024





CY309 TYP J — BILCO TYPE E-50 ROOF SCUTTLE

02/21/20

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 270473-2202 — RANDAL L ZOLLINGER — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

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DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

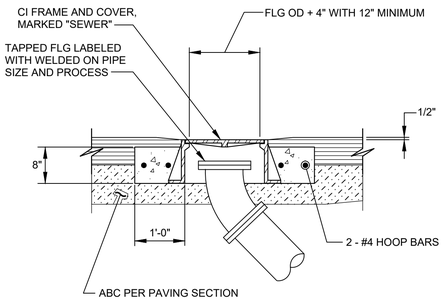
CIVIL 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TC02
SHEET NO. 131 OF 162

LAST SAVED BY: bdupre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TC02.dwg



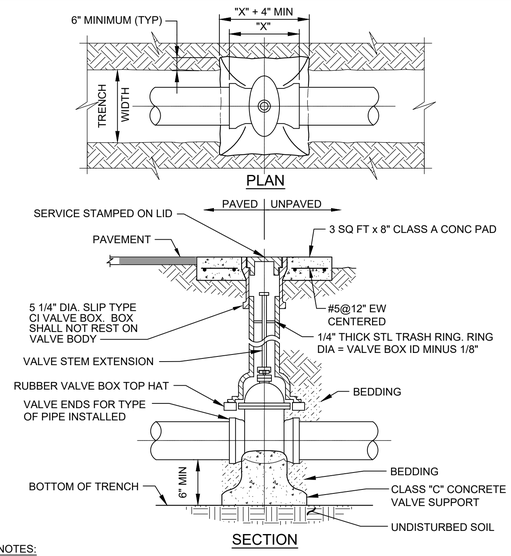
TERMINATION IN PAVEMENT
ALL TYPES FOR 4"Ø TO 12"Ø

NOTES:

1. ALL THRUST BLOCKS SHALL BE PLACED PER TYPICAL DETAIL CY131.
2. CONCRETE RING SHALL BE PLACED AFTER PAVEMENT PLACEMENT.
3. ALL FLANGES SHALL BE TAPPED TO ALLOW THE INSTALLATION OF BLIND FLANGES WITH BOLTS.
4. CLEANOUT PIPE SHALL BE SAME SIZE AS LINE PIPE.
5. FOR CLEANOUTS IN YARD AREA, PLACE 12" SQUARE BY 4" THICK CONCRETE PAD.

CY411 TYP — CLEANOUTS

SHEET 2 OF 2 12/29/2020

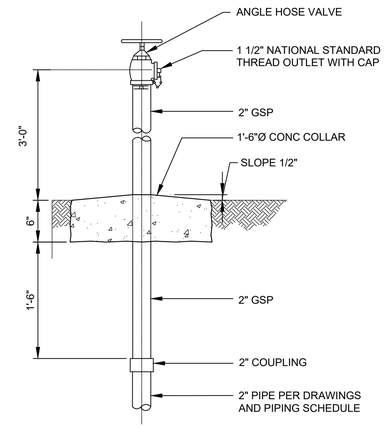


NOTES:

1. ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM OPERATION WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
2. COAT BURIED PIPE AND VALVE BOX AS SPECIFIED.
3. CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.
4. VALVE TYPE AS INDICATED ON THE DRAWINGS.

CY716 TYP — GATE VALVE - DIRECT BURY

S 10/20/20



NOTE:

1. PAINT PIPE ABOVE GROUND AND VALVE ANSI RED.

CY723 TYP — YARD HYDRANT

N SHT 08/22/22

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED JB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
RANDAL L. ZOLLINGER
STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

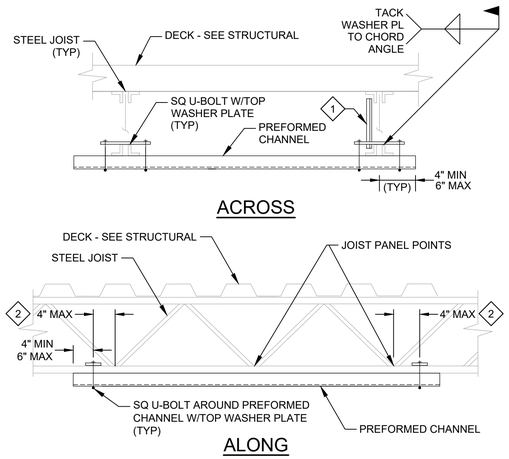
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VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 00TC03
SHEET NO. 132 OF 162

LAST SAVED BY: bdupre

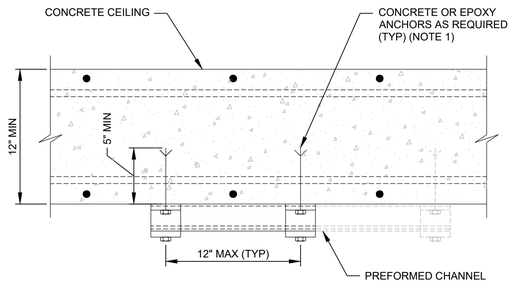
PROJECT NO. 203356-100000 FILE NAME: 203356_00TC03.dwg



KEY NOTES:

1. WHERE CHANNEL IS OFFSET FROM JOIST PANEL POINT BY MORE THAN 4" ADD LOAD POINT BRACE PER SM802 (TYP).
2. LOCATE U-BOLTS MAX 4" PAST JOIST PANEL POINTS NEAREST EACH END OF LUMINAIRE AND MAX 48" ALONG PREFORMED CHANNEL.

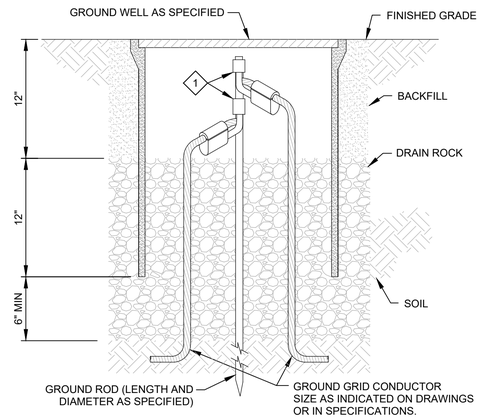
EA020 TYP — ATTACHMENT TO STEEL JOISTS



GENERAL NOTES:

1. A FOOT UNISTRUT SUPPORT WITH TWO CONCRETE OR EPOXY ANCHORS 12" APART IS RATED FOR 500 LBS.
2. EACH EXTENSION WITH ADDITIONAL ANCHORS AT 12" INCREMENTS INCREASES THE LOADING CAPACITY BY 500 LBS.
3. SUBMIT ANCHORAGE CALCULATIONS WHEN LOAD EXCEEDS 500 LBS. REFER TO THE SPECIFICATIONS.

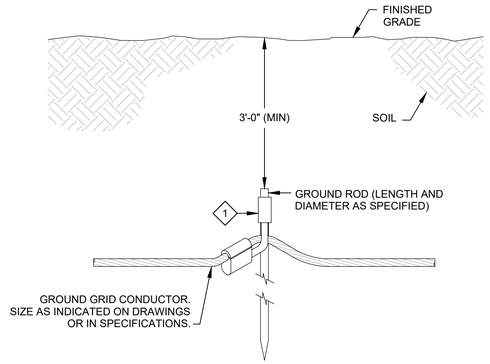
EA075 TYP — PREFORMED CHANNEL ATTACHMENT TO CONCRETE CEILING



KEY NOTES:

1. GROUND ROD TO GROUND GRID CROSS CONNECTOR. SIZE FOR ROD AND CABLE PER CONNECTOR MANUFACTURERS GUIDELINES.

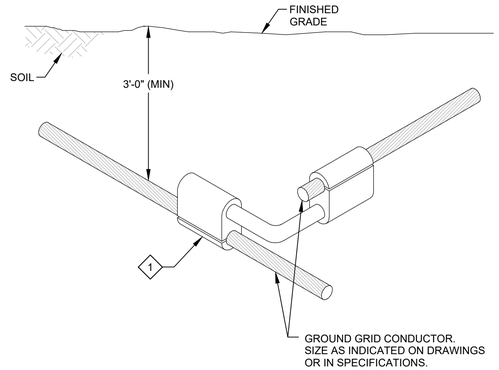
EG001 TYP — GROUND ROD AND GROUNDWELL COMPRESSION CONNECTION



KEY NOTES:

1. GROUND ROD TO GROUND GRID CROSS CONNECTOR. SIZE FOR ROD AND CABLE PER CONNECTOR MANUFACTURERS GUIDELINES.

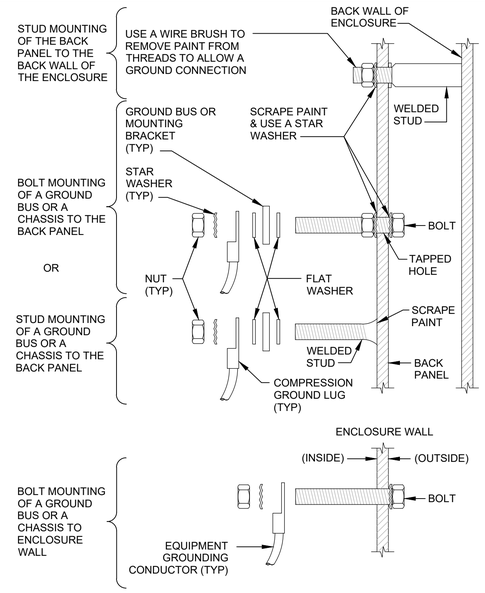
EG002 TYP — GROUND ROD COMPRESSION CONNECTION



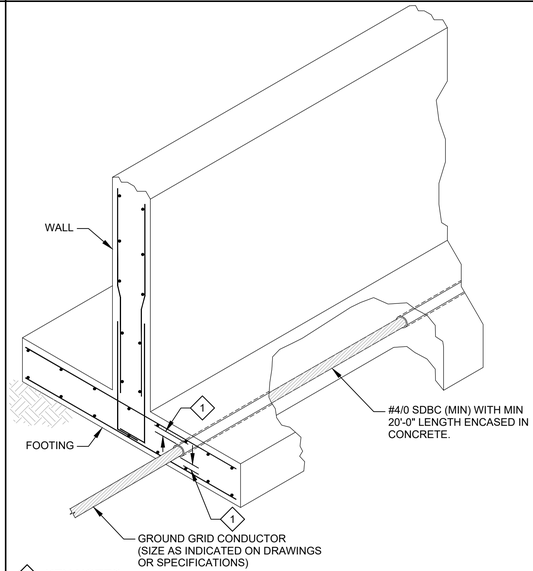
KEY NOTES:

1. GROUND GRID CROSS CONNECTOR. SIZE FOR CABLE PER CONNECTOR MANUFACTURERS GUIDELINES.

EG101 TYP — COPPER GROUNDING CABLE CONNECTION COMPRESSION CONNECTION



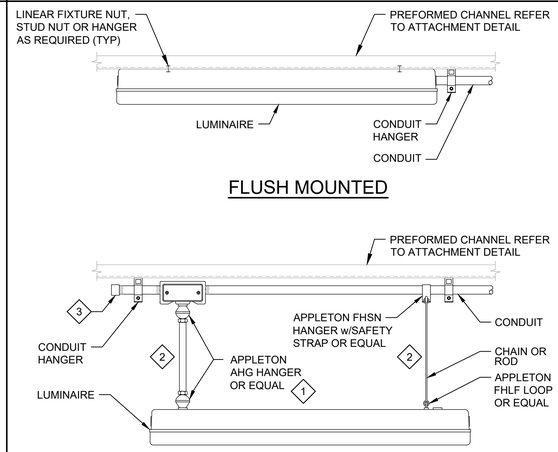
EG205 TYP — ENCLOSURE GROUNDING DETAILS



KEY NOTES:

1. GROUND GRID CONDUCTOR TO BE FULLY ENCASED IN CONCRETE. PROVIDE MIN 1 1/2" CLEAR BETWEEN CONDUCTOR & REINFORCING BARS, OR BETWEEN CONDUCTOR AND FACE OF CONCRETE.

EG304 TYP — GROUNDING CONNECTION TO FOOTING (UFER)



KEY NOTES:

1. USE MEYERS HUB IN WET AND/OR CORROSIVE AREAS.
2. LENGTH AS REQUIRED FOR INDICATED MOUNTING HEIGHT.
3. CAP END CONDUIT AS REQUIRED.

EL200 TYP — LINEAR LUMINAIRE MOUNTING

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5329023 — GUY C. EHLERS — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

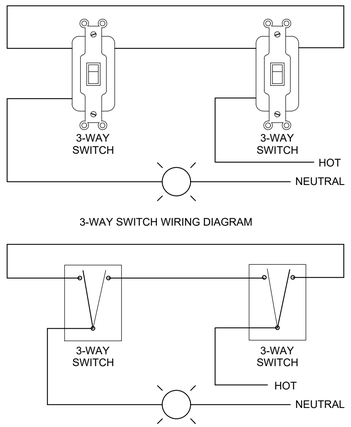
ELECTRICAL 1

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JOB NO. 203356
DRAWING NO. 00TE01
SHEET NO. 133 OF 162

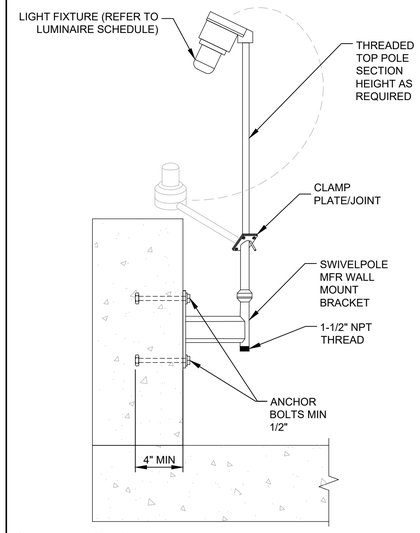
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3-WAY SWITCH WIRING DIAGRAM

EL700 TYP — 3-WAY SWITCH ONE-LINE DIAGRAM

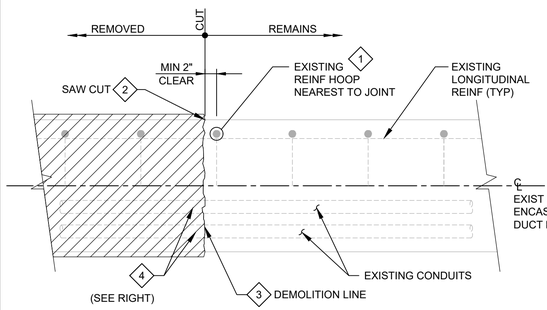


GENERAL NOTES:

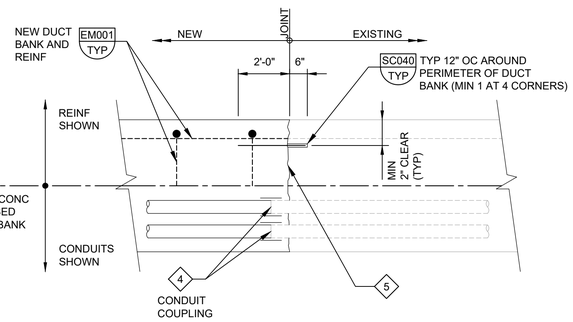
1. SWIVELPOLE C1 MAXIS M1 COLUMN/WALL MOUNT OR EQUAL. HOT DIPPED GALVANIZED STEEL. REFER TO SPECIFICATIONS.
2. ROUTE CABLE THROUGH WALL BRACKET OR UP FROM BASE. REFER TO PLAN DRAWINGS FOR CONDUIT ROUTING REQUIREMENTS.
3. REFER TO SPECIFICATIONS FOR MOUNTING HARDWARE MATERIAL REQUIREMENTS.

EL901 TYP — SWIVEL JOINT STANCHION ON CONCRETE WALL

03/24/2025



PLAN - DEMOLITION

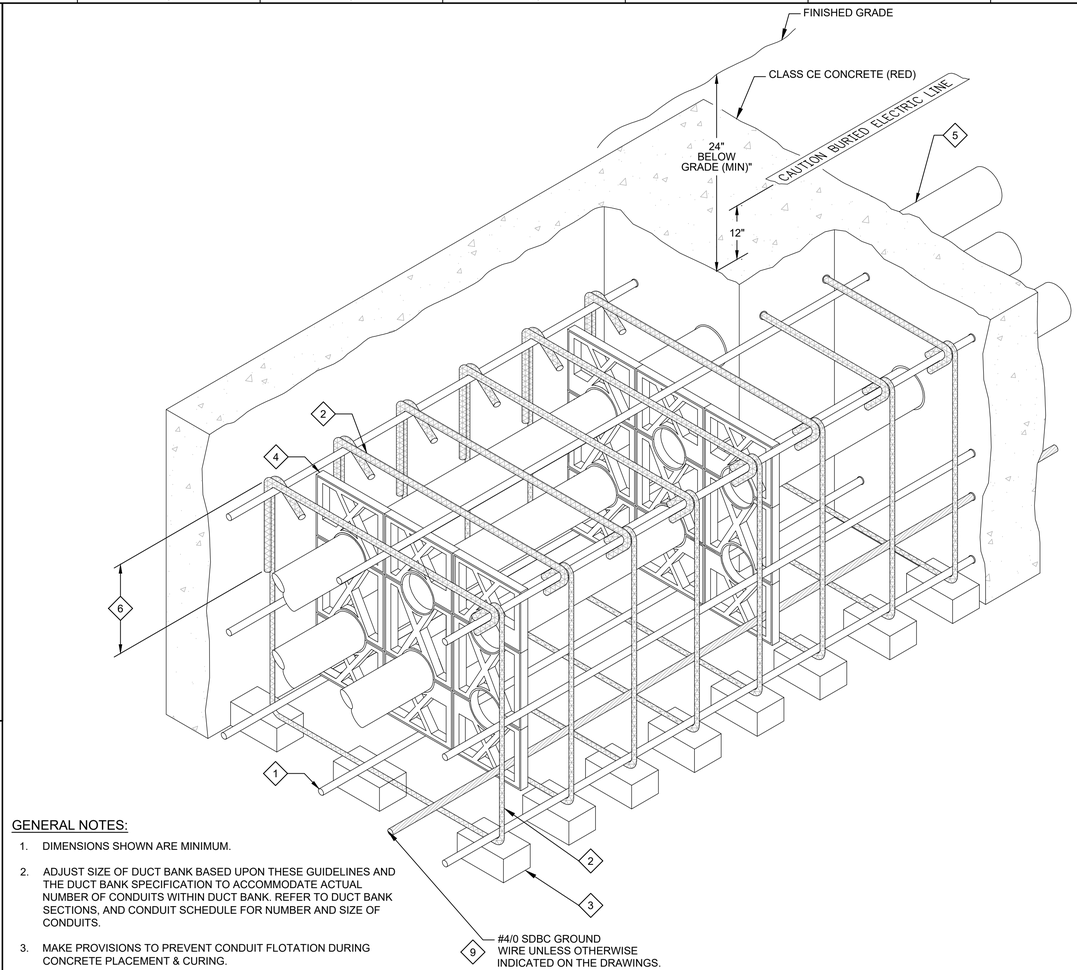


PLAN - NEW CONNECTION

KEY NOTES:

1. USE REBAR LOCATOR TO IDENTIFY LOCATION OF REINFORCING HOOP NEAR PROPOSED JOINT.
2. SAW CUT TOP AND SIDES OF DUCT BANK APPROX 2" DEEP. CUT MAY EXTEND THROUGH EXISTING LONGITUDINAL REINFORCING. DO NOT CUT EXISTING CONDUITS.
3. BREAK CONCRETE ALONG DEMOLITION LINE TO PROVIDE ROUGHENED VERT FACE.
4. FOR STEEL CONDUIT, LEAVE STUB PROJECTING 4" PAST CONCRETE FACE. CONNECT NEW CONDUIT TO EXISTING WITH COUPLING (TYPE TO BE DETERMINED ONCE CONDUIT IS EXPOSED).
5. BEFORE PLACING NEW CONCRETE ENCASEMENT INSTALL DOWELS AS SHOWN. COAT FACE OF EXISTING DUCT BANK WITH EPOXY RESIN/PORTLAND CEMENT BONDING AGENT AND PLACE NEW CONCRETE.

EM003 TYP — CONNECTION TO EXISTING REINFORCED CONCRETE DUCT BANK

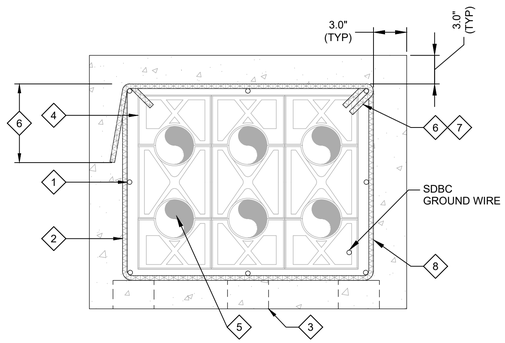


GENERAL NOTES:

1. DIMENSIONS SHOWN ARE MINIMUM.
2. ADJUST SIZE OF DUCT BANK BASED UPON THESE GUIDELINES AND THE DUCT BANK SPECIFICATION TO ACCOMMODATE ACTUAL NUMBER OF CONDUITS WITHIN DUCT BANK. REFER TO DUCT BANK SECTIONS, AND CONDUIT SCHEDULE FOR NUMBER AND SIZE OF CONDUITS.
3. MAKE PROVISIONS TO PREVENT CONDUIT FLOTATION DURING CONCRETE PLACEMENT & CURING.

KEY NOTES:

1. #4 REINFORCING STEEL 12" MAXIMUM ON CENTER AROUND ENTIRE PERIMETER OF DUCT BANK.
2. #4 REINFORCING STEEL TIES MAXIMUM 24" ON CENTER ALONG LENGTH OF DUCT BANK.
3. MINIMUM OF TWO PRECAST CONCRETE BAR SUPPORTS PLACED UNDER A TIE AT EACH PVC CONDUIT SPACER ALONG LENGTH OF DUCT BANK. PROVIDE PRECAST BAR SUPPORTS AT INTERVALS OF 24" TO REDUCE DEFLECTION.
4. PVC CONDUIT SPACERS ON 8'-0" CENTERS (MAXIMUM). LOCATE 12" FROM TIES.
5. REFER TO DUCT BANK SECTIONS AND SPECIFICATIONS FOR CONDUIT REQUIREMENTS.
6. 1'-4" OR 135 DEGREE HOOK FOR SHALLOW DUCT BANKS SHALLOWER THAN 21"
7. CONTRACTOR'S OPTION TO PROVIDE 1'-4" LAP LENGTH EACH SIDE OF HORIZONTAL TIE.
8. LOWER PORTION OF TIES COULD BE U-BARS IF UPPER PORTIONS PROVIDES 1'-4" VERTICAL LEGS EACH SIDE.
9. BOND THE DUCT BANK GROUND WIRE TO THE GROUNDING SYSTEM AT BOTH ENDS OF THE DUCT BANK.



EM001 TYP — REINFORCED CONCRETE DUCT BANK

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5329023 — GUY C. EHLERS — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

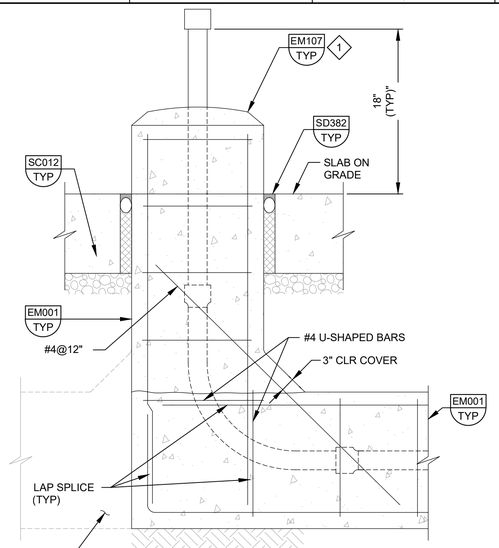
ELECTRICAL 2

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 00TE02
SHEET NO. 134 OF 162

LAST SAVED BY: LMorris

PROJECT NO. 203356-100000 FILE NAME: 203356_00TE02.dwg



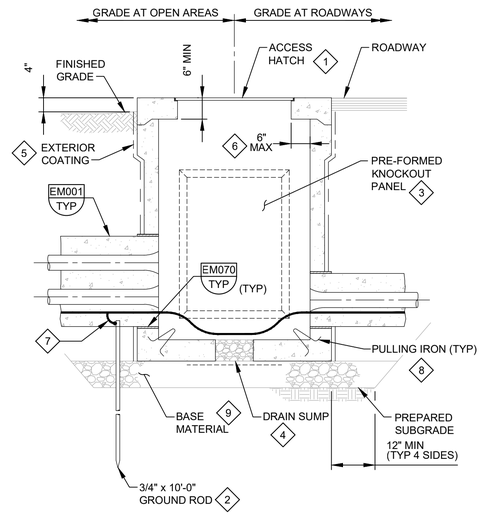
GENERAL NOTES:

1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

KEY NOTES:

1. PROVIDE CONDUIT HOUSE KEEPING CURB AT ALL LOCATIONS WHERE THE CONDUIT IS NOT PROTECTED BY AN EQUIPMENT PAD.

EM032 TYP N DUCT BANK RISER THROUGH SLAB ON GRADE



GENERAL NOTES:

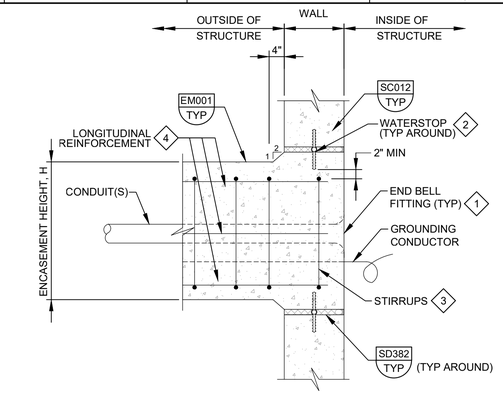
1. PROVIDE MINIMUM INTERIOR DIMENSIONS AS SHOWN IN THE ELECTRICAL HANDHOLE AND MANHOLE SCHEDULE.
2. BOND ALL METALLIC ITEMS INSIDE HANDHOLE TO GROUND ROD USING #4 AWG BARE COPPER CABLE.
3. SEE DRAWINGS FOR ORIENTATION, NUMBER, AND SIZE OF DUCT BANKS AT EACH HANDHOLE.

KEY NOTES:

1. SEE THE MANHOLE AND HANDHOLE SCHEDULE FOR REQUIRED LOAD RATING OF HATCH.
2. BOND DUCT BANK GROUND CABLE TO GROUND ROD. REFER TO THE SPECIFICATIONS FOR CONNECTION REQUIREMENTS.
3. INSTALL DUCT BANKS ONLY THROUGH CAST-IN OPENINGS OR PREFORMED KNOCKOUT PANELS. PROVIDE KNOCKOUTS ON EACH WALL AROUND HANDHOLE.
4. PROVIDE MINIMUM 4 INCH DIAMETER, GRAVEL FILLED PENETRATION THROUGH FLOOR OF HANDHOLE. SET SUMP OPENING OVER MINIMUM 18" SQUARE FILTER FABRIC TO ISOLATE GRAVEL FROM BASE MATERIAL BELOW.
5. COAT EXTERIOR WALLS BELOW GRADE WITH BITUMINOUS DAMP PROOFING.
6. MAXIMUM TOP SLAB OVERHANG IS TYPICAL AROUND 4 SIDES OF HANDHOLE.
7. GROUNDING CABLE CONNECTION. REFER TO THE SPECIFICATIONS FOR CONNECTION REQUIREMENTS.
8. PROVIDE ONE PULLING IRON ON EACH WALL OF HANDHOLE.
9. BASE MATERIAL: PROVIDE MIN 12" COMPACTED AGGREGATE BASE COURSE.

EM056 TYP N ELECTRICAL HANDHOLE PRECAST CONCRETE W/HATCH

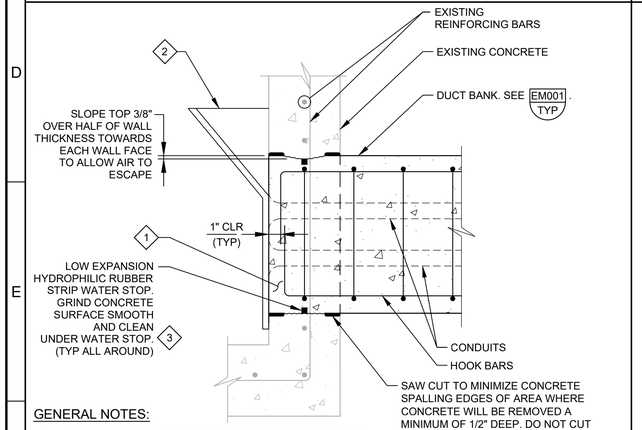
12/23/24



KEY NOTES:

1. PROVIDE GROUNDING FITTING FOR METALLIC CONDUITS ENTERING MANHOLE. BOND GROUNDING FITTING TO DUCTBANK GROUNDING CONDUCTOR.
2. 6" PVC CENTERBULB WATERSTOP TYPICAL AROUND PERIMETER OF ENCASEMENT.
3. FOR FIRST 12'-0" FROM INSIDE FACE OF STRUCTURE, STIRRUP SPACING, IN INCHES = (H-4)/2, WHERE H = CONCRETE ENCASEMENT HEIGHT IN INCHES.
4. ADDITIONAL #4 x 12'-0" @ 12" ON ALL FOUR FACES OF ENCASEMENT. ALTERNATE WITH TYPICAL REINFORCEMENT FOR 6" SPACING.

EM071 TYP ENCASED CONDUITS AT MANHOLES OR STRUCTURES - WITH WATERSTOP



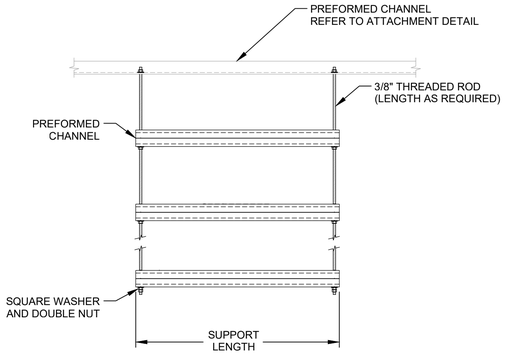
GENERAL NOTES:

1. ADJUST LOCATION OF CONDUITS IN DUCT BANK TO MISS EXISTING REINFORCING BARS IN WALL.
2. ROUGHEN CONCRETE TO 1/4" AMPLITUDE AND COAT WITH EPOXY RESIN/PORTLAND CEMENTS BONDING AGENT.

KEY NOTES:

1. REMOVE CONCRETE AS SHOWN FOR NEW DUCT BANK PENETRATION THROUGH WALL. DO NOT CUT EXISTING REINFORCING BARS.
2. USE THE "BIRDS BEAK" FORM FOR ACCESS FOR VIBRATOR AND TO ALLOW CONCRETE TO BE PLACED UNDER SLIGHT PRESSURE. AFTER FORMS ARE REMOVED, REMOVE PROJECTING CONCRETE AND FINISH TO MATCH FINISH OF EXISTING CONCRETE.
3. SIKA SWELLSTOP OR EQUAL. FOLLOW MANUFACTURER'S INSTALLATIONS DETAILS. MINIMUM 2" CONCRETE COVER ON EITHER SIDE.

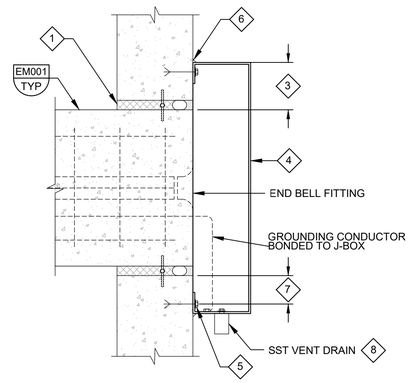
EM072 TYP N DUCT BANK CONNECTION TO EXISTING HANDHOLE, PULL BOX, OR WALL



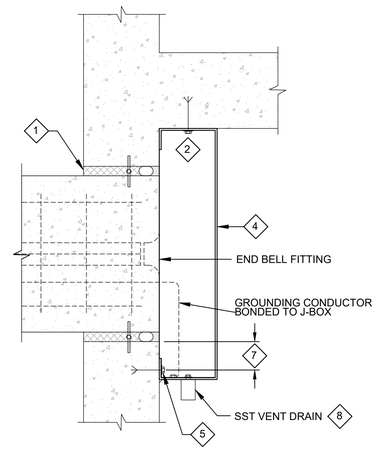
GENERAL NOTES:

1. PROVIDE NUMBER AND LENGTH OF PREFORMED CHANNEL SUPPORTS AS REQUIRED BY EQUIPMENT AND MATERIALS TO BE INSTALLED.
2. PROVIDE SEISMIC BRACING PER THE SPECIFICATIONS.
3. REFER TO SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

EM102 TYP TRAPEZE SUPPORT



SECTION - WALL



SECTION - NEAR CEILING

KEY NOTES:

1. EM070 OR EM071 AS INDICATED ON THE DRAWINGS.
2. WHERE SPACE ABOVE DUCT BANK OPENING DOES NOT ALLOW FOR 3 INCH SPACING BETWEEN BOLTS AND OPENING, EXTEND BOX TO CEILING AND ANCHOR TO CEILING.
3. 5" MINIMUM OVERLAP BOX TO DUCT BANK (TYPICAL AROUND).
4. J-BOX WITH OPEN BACK SIZE PER N.E.C., NEMA TYPE PER AREA CLASSIFICATION.
5. ANCHORAGE TO BE DESIGNED BY CONTRACTOR IN ACCORDANCE WITH SPECIFICATIONS.
6. CAULK JOINT BETWEEN BOX AND CONCRETE (TYPICAL ALL SIDES).
7. 3" MINIMUM DISTANCE BETWEEN CENTER LINE OF ANCHOR BOLTS AND DUCT BANK OPENING. THIS WILL DETERMINE MINIMUM SIZE OF J-BOX.
8. WHERE DUCT BANK IS FLAT OR SLOPES TOWARD STRUCTURE, PROVIDE SST NEMA 4X J-BOX AND SST VENT DRAIN.

EM075 TYP JUNCTION BOX/PULL BOX AT DUCT BANK ENTRY INTO STRUCTURE

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5329023 — GUY C. EHLERS — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

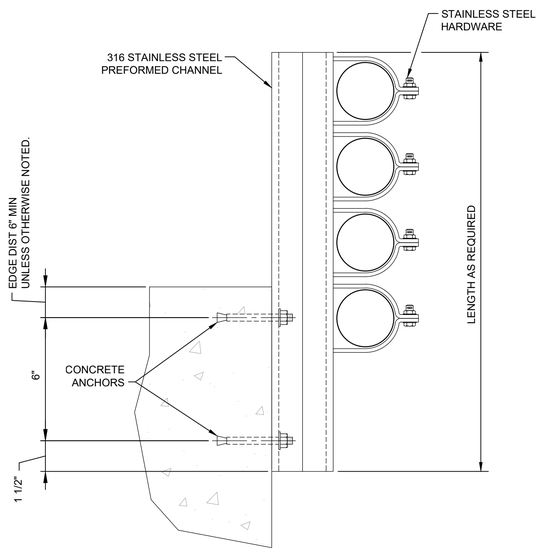
ELECTRICAL 3

VERIFY SCALES
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JOB NO. 203356
DRAWING NO. 00TE03
SHEET NO. 135 OF 162

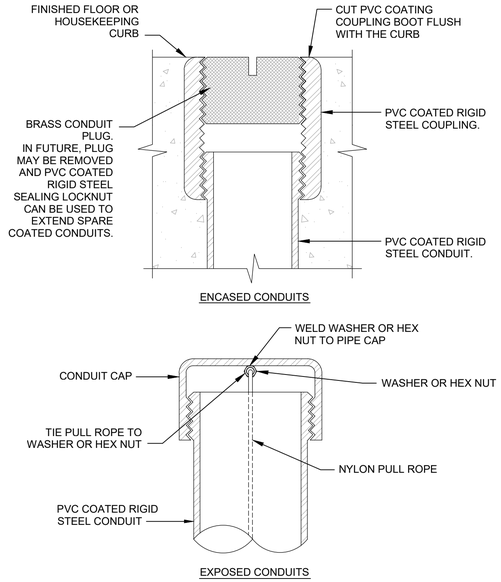
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EM103 CONDUIT SUPPORT

TYP

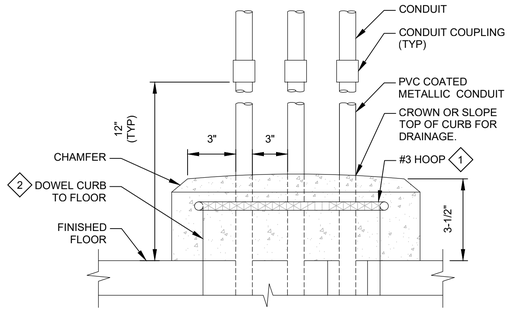


GENERAL NOTES:

1. PROVIDE 2" MIN CLEAR BETWEEN ADJACENT CONDUITS

EM105 SPARE CONDUIT DETAIL

TYP N



GENERAL NOTES:

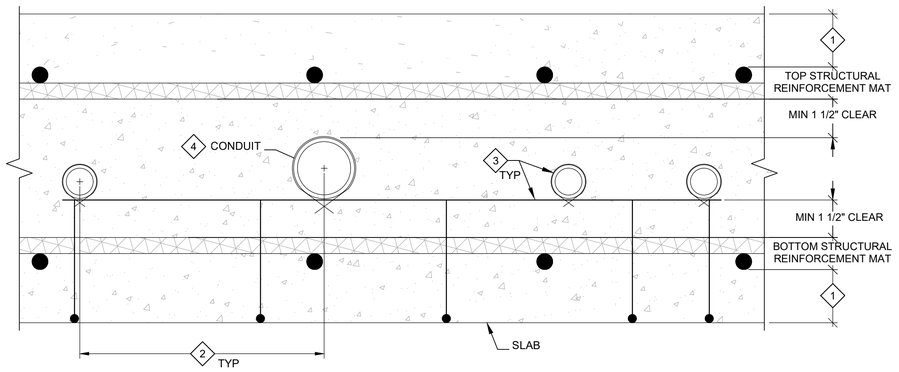
1. PROVIDE THE HOUSEKEEPING CURB FOR ALL CONDUITS EITHER LEAVING OR PENETRATING THROUGH THE SLAB.
2. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

KEY NOTES:

1. TYPICAL BOTH SIDES, FRONT AND REAR.
2. COORDINATE REINFORCING STEEL REQUIREMENTS WITH THE CONTRACTOR.

EM107 CONDUIT HOUSEKEEPING CURB

TYP N



GENERAL NOTES:

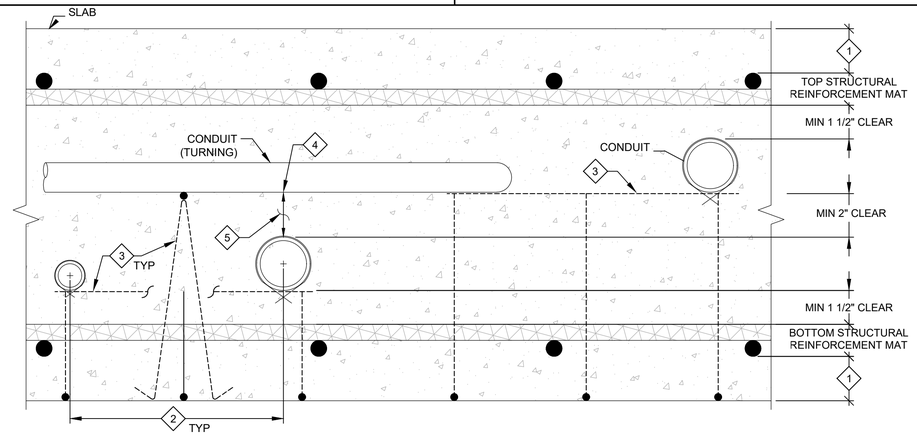
1. MOVE CONDUITS TO AVOID CONFLICTS WITH WATERSTOPS. WHERE HORIZONTAL AND VERTICAL CLEARANCES CANNOT BE MAINTAINED, CONTACT ENGINEER FOR INSTRUCTION'S BEFORE PLACING CONCRETE.

KEY NOTES:

1. FOR REQUIRED TOP AND BOTTOM COVER OVER REINFORCEMENT SEE TYPICAL DETAIL SC001.
2. MINIMUM ON CENTER HORIZONTAL SPACING OF PARALLEL CONDUITS = 4X OUTSIDE DIAMETER OF THE LARGER CONDUIT.
3. SUPPORT CONDUITS ON ADDED REINFORCEMENT CHAIRS OR BOLSTERS. TIE CONDUITS TO SUPPORTS AND ANCHOR TO PREVENT FLOTATION.
4. CENTER LARGEST DIAMETER CONDUIT BETWEEN TOP AND BOTTOM REINFORCEMENT MATS.

EM115 EMBEDDED CONDUIT IN CONCRETE SLAB SINGLE RUN

TYP



GENERAL NOTES:

1. MOVE CONDUITS TO AVOID CONFLICTS WITH WATERSTOPS. WHERE HORIZONTAL AND VERTICAL CLEARANCES CANNOT BE MAINTAINED, CONTACT ENGINEER FOR INSTRUCTION'S BEFORE PLACING CONCRETE.

KEY NOTES:

1. FOR REQUIRED TOP AND BOTTOM COVER OVER REINFORCEMENT SEE TYPICAL DETAIL SC001.
2. MINIMUM ON CENTER HORIZONTAL SPACING OF PARALLEL CONDUITS = 4X OUTSIDE DIAMETER OF THE LARGER CONDUIT.
3. SUPPORT CONDUITS ON ADDED REINFORCEMENT BOLSTERS, OCM METAL BAR SUPPORT PRODUCT TYPE OR EQUAL. TIE CONDUITS TO SUPPORTS AND ANCHOR TO PREVENT FLOTATION.
4. WHERE CONDUITS CROSS, PROVIDE MIN HORIZONTAL SPACING BETWEEN PARALLEL CONDUITS NOT LESS THAN DIAMETER OF THE LARGER CONDUIT IN THE SAME HORIZONTAL PLAN.
5. SUPPORT CONDUITS AT CROSSING TO PREVENT SAG AND MAINTAIN CLEARANCE SHOWN.
6. WHERE MORE THAN 2 RUNS ARE STACKED, PROVIDE HORIZONTAL AND VERTICAL SPACING SHOWN BETWEEN EACH PAIR.

EM117 EMBEDDED CONDUIT IN CONCRETE SLAB CROSSING RUNS

TYP

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 5329023 GUY C. EHLERS STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

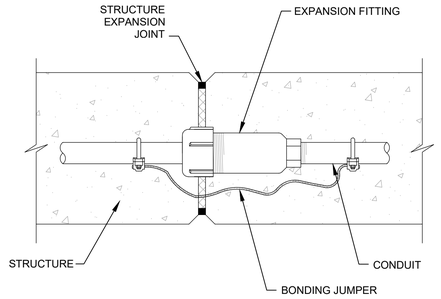
ELECTRICAL 4

VERIFY SCALES
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TE04
SHEET NO. 136 OF 162

LAST SAVED BY: LMorris

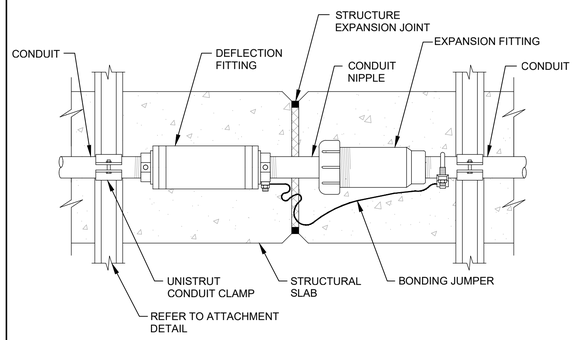
PROJECT NO. 203356-100000 FILE NAME: 203356_00TE04.dwg



GENERAL NOTES:

1. WHERE SEVERAL CONDUITS ARE INSTALLED, FITTINGS MAY BE STAGGERED. BUT, IN NO CASE SHALL FITTINGS BE MORE THAN 5'-0" FROM STRUCTURE'S EXPANSION JOINT.
2. FOR PVC COATED CONDUIT, USE PVC COATED EXPANSION FITTING BY CONDUIT MANUFACTURER.

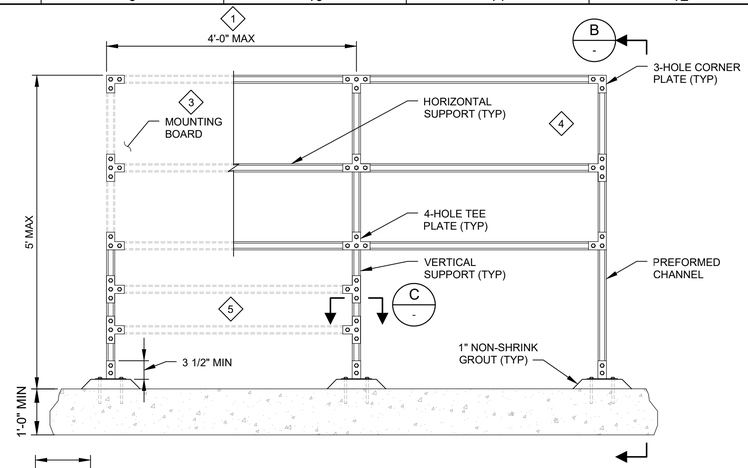
EM125 TYP — EXPOSED CONDUIT EXPANSION FITTING

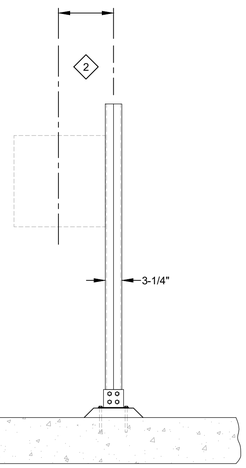


GENERAL NOTES:

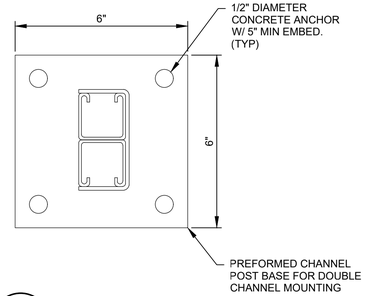
1. WHERE SEVERAL CONDUITS ARE INSTALLED, FITTINGS MAY BE STAGGERED, BUT IN NO CASE SHALL A FITTING BE MORE THAN 3'-0" FROM THE EXPANSION JOINT.

EM126 TYP — EXPOSED EXPANSION/DEFLECTION FITTING AT CONCRETE WALL EXPANSION JOINT





B SECTION



C POST BASE
SCALE:
FILE:

GENERAL NOTES:

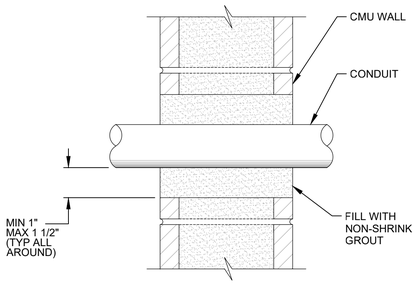
1. AS SHOWN, THE MOUNTING STAND IS SUITABLE FOR THE FOLLOWING DESIGN CRITERIA.
   - STAINLESS STEEL OR HOT-DIPPED GALVANIZED PREFORMED CHANNEL
   - BASIC WIND SPEED (3 SECOND GUST. 33 FEET ABOVE GROUND) : 120 MPH
   - WIND EXPOSURE CATEGORY: C
   - NON -SPECIAL WIND REGIONS
   - SEISMIC DESIGN CATEGORY: A THROUGH D
   - RISK CATEGORY: III AND IV
   - MAXIMUM EQUIPMENT LOAD OF 100 LBS PER VERTICAL SUPPORT

   SUBMIT DESIGN CALCULATIONS FOR EACH INSTALLATION THAT EXCEEDS THE SPECIFIED DESIGN CRITERIA OR DIMENSIONAL LIMITATIONS IN THIS DETAIL. REFER TO THE SPECIFICATIONS FOR DESIGN CALCULATION SUBMITTAL REQUIREMENTS.
2. THE TOTAL SURFACE AREA OF ALL EQUIPMENT AND MOUNTING BOARDS SHALL NOT EXCEED 12 SQUARE FEET PER VERTICAL SUPPORT.
3. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
4. WHERE CONCRETE ANCHORS COME IN CONTACT WITH DISSIMILAR METALS, ISOLATE DISSIMILAR METALS AS SPECIFIED IN THE SPECIFICATIONS.
5. VERTICAL SUPPORTS SHALL CONSIST OF PREFORMED DOUBLE CHANNELS. HORIZONTAL SUPPORTS SHALL CONSIST OF PREFORMED SINGLE CHANNELS.

KEY NOTES:

1. FOR MOUNTING STANDS WIDER THAN 4 FEET PROVIDE EQUALLY SPACED VERTICAL SUPPORTS AT 4 FOOT MAXIMUM SPACING.
2. MAXIMUM OFFSET TO THE CENTERLINE OF EQUIPMENT OR ENCLOSURES IS 1'-6".
3. PROVIDE A MOUNTING BOARD FOR INSTRUMENTS AND DEVICES WEIGHING LESS THAN 20 POUNDS THAT CANNOT BE MOUNTED DIRECTLY TO PREFORMED CHANNEL. EQUIPMENT ANCHORAGE TO THE MOUNTING BOARD SHALL BE DESIGNED BY THE CONTRACTOR.
4. PROVIDE ADDITIONAL PREFORMED CHANNEL SUPPORTS FOR ENCLOSURES THAT CAN BE MOUNTED DIRECTLY TO THE PREFORMED CHANNEL.
5. OPTIONAL HORIZONTAL SUPPORTS AND AVAILABLE SPACE FOR JUNCTION BOXES.

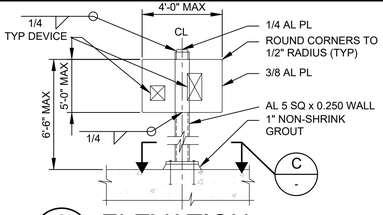
EM211 TYP — OUTDOOR EQUIPMENT MOUNTING STAND



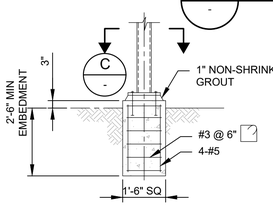
GENERAL NOTES:

1. PROVIDE NON-DESTRUCTIVE TESTING TO DETERMINE LOCATIONS OF REINFORCEMENT. MAINTAIN MIN 2" CLEAR BETWEEN CORE DRILLED OPENING AND REINFORCEMENT.
2. ROUGHEN SURFACE OF OPENING TO A 1/4" AMPLITUDE AND APPLY EPOXY CEMENT BONDING AGENT IMMEDIATELY PRIOR TO GROUTING.
3. PROVIDE 8" MINIMUM CENTER-TO-CENTER SPACING FOR CONDUITS.

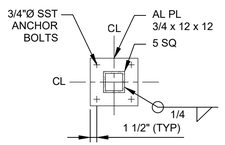
EM173 TYP N — CORE HOLE PENETRATION FULLY GROUTED CMU WALL



A - ELEVATION



B - ELEVATION



C - SECTION

GENERAL NOTES:

1. USE ELEVATION B WHERE A SEPARATE FOUNDATION IS REQUIRED.
2. COAT ALUMINUM SURFACES IN CONTACT W/ CONCRETE PER SPECIFICATIONS.
3. USE STAINLESS STEEL FASTENERS FOR MOUNTING DEVICES.
4. WEIGHT OF DEVICE(S) SHALL NOT EXCEED 300 POUNDS.

EM202 TYP — DEVICE SUPPORT AND MOUNTING

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED GE
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5329023 — GUY C. EHLERS — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

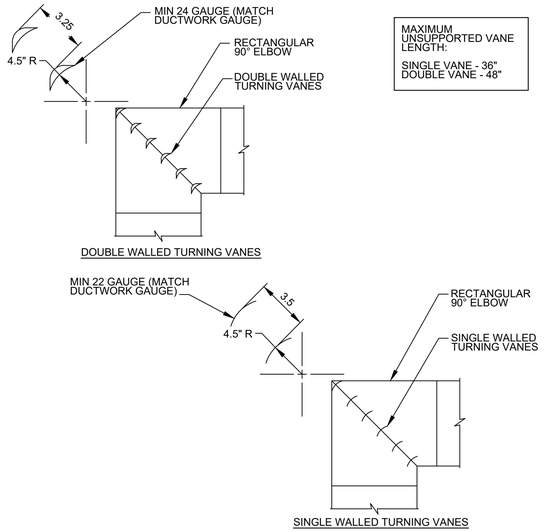
ELECTRICAL 5

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JOB NO. 203356
DRAWING NO. 00TE05
SHEET NO. 137 OF 162

LAST SAVED BY: LMorris

PROJECT NO. 203356-100000 FILE NAME: 203356_00TE05.dwg

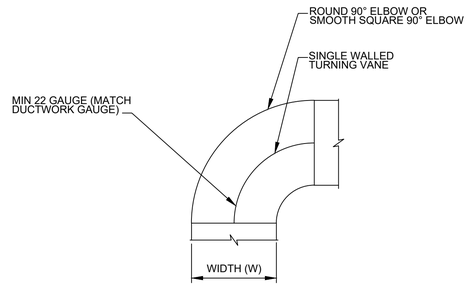


NOTES:

1. INSTALL VANES IN SECTIONS OR USE TIE RODS TO LIMIT THE UNBRACED VANE LENGTH.
2. VANES SHALL BE SECURELY FASTENED TO RUNNERS.
3. ALL VANES SHALL BE SECURE AND STABLE IN INSTALLED OPERATING POSITION. IF NECESSARY, AT CERTAIN VELOCITIES OR PRESSURES WELD VANES TO RUNNERS ON APPROPRIATE INTERVALS ALONG RUNNERS.
4. OTHER VANE SIZES, SPACINGS OR CONFIGURATIONS CAN BE REVIEWED BY ENGINEER OF RECORD FOR APPROVAL.

HA320 TYP — TURNING VANES FOR METAL DUCT

SHEET 1 OF 2 5/17/18



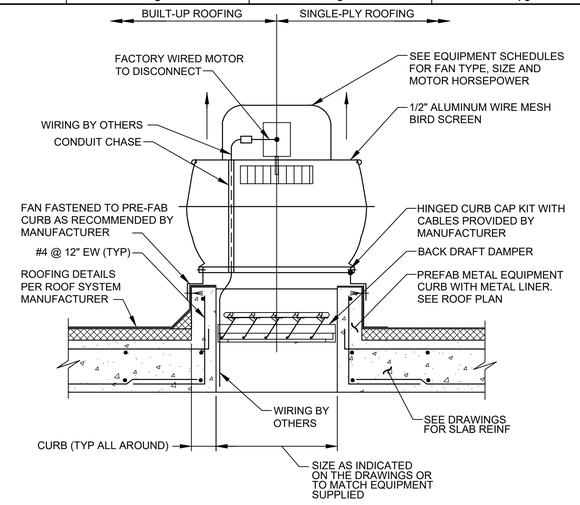
CENTERLINE R = 3W/2 UNLESS OTHERWISE SPECIFIED - IS NOT RESTRICTED TO 90° SQUARE THROAT OR SMOOTH RADIUS ELBOW.

NOTES:

1. INSTALL VANES IN SECTIONS OR USE TIE RODS TO LIMIT THE UNBRACED VANE LENGTH.
2. VANES SHALL BE SECURELY FASTENED TO RUNNERS.
3. ALL VANES SHALL BE SECURE AND STABLE IN INSTALLED OPERATING POSITION. IF NECESSARY, AT CERTAIN VELOCITIES OR PRESSURES WELD VANES TO RUNNERS ON APPROPRIATE INTERVALS ALONG RUNNERS.
4. OTHER VANE SIZES, SPACINGS OR CONFIGURATIONS CAN BE REVIEWED BY ENGINEER OF RECORD FOR APPROVAL.

HA320 TYP — TURNING VANES FOR METAL DUCT

SHEET 2 OF 2 5/17/18



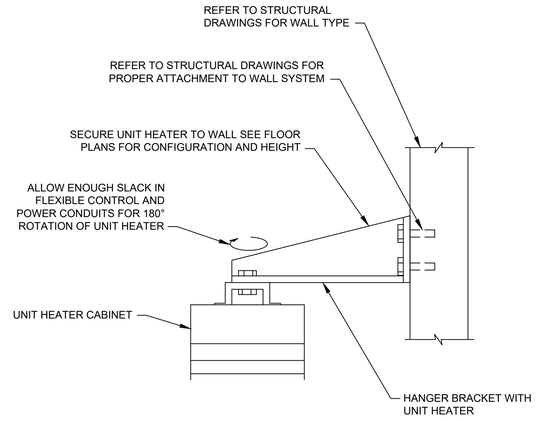
CONCRETE ROOF DECK

NOTES:

1. BACKDRAFT DAMPER LOCATED IN CURB, PROVIDED BY EXHAUST FAN MANUFACTURER. REFER TO SCHEDULES AND SPECIFICATIONS FOR TYPE REQUIRED.
2. SEE FLOOR PLANS AND/OR SECTIONS FOR EXACT DUCT CONFIGURATION AND SIZING.
3. FAN SHALL BE HIGH WIND RATED. CURB SHALL BE HIGH WIND RATED AND PROVIDED BY FAN MANUFACTURER. REFER TO MANUFACTURER FOR INSTALLATION REQUIREMENTS.
4. TOP OF CURB SHALL BE LEVEL. TAPER SIDES OF PREFAB CURB AS REQUIRED.
5. REFER TO FAN SPECIFICATION FOR CURB HEIGHT.

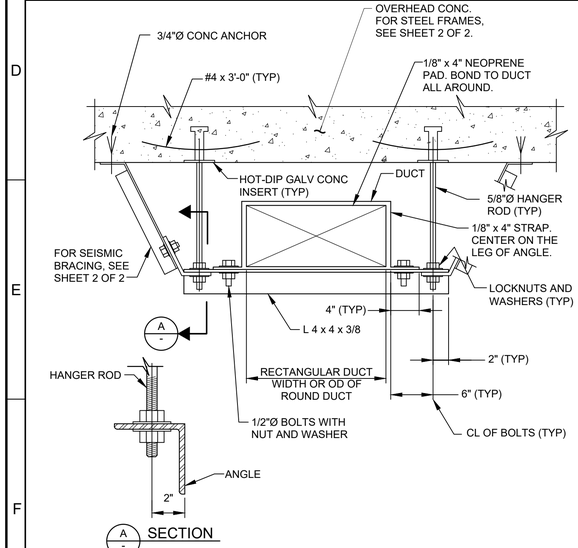
HE126 TYP — FAN - ROOF MOUNTED CENTRIFUGAL FAN

4 OF 4 11/18/20



HE350 TYP — UNIT HEATER - WALL MOUNT - ELECTRIC

5/23/18

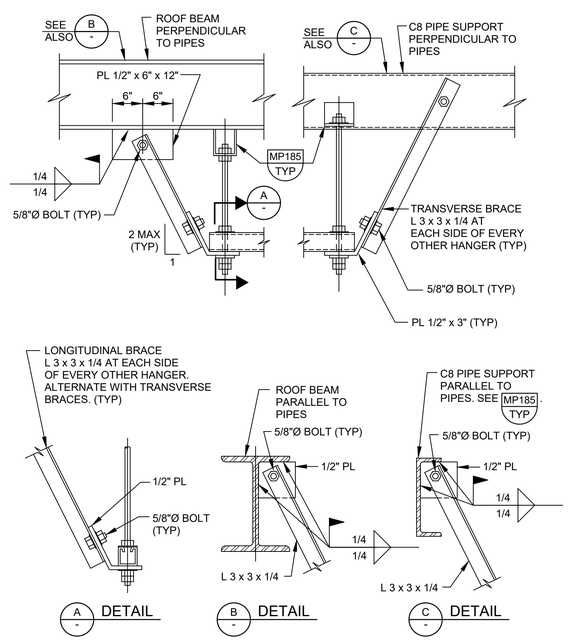


NOTES:

1. ALL METAL SHALL BE HOT-DIP GALV STEEL UNLESS OTHERWISE INDICATED ON THE DWGS.
2. SEE DRAWINGS FOR THE SIZE OF DUCT.
3. TO APPLY TO ALL RECTANGULAR DUCTS & ALL ROUND DUCTS 18" AND LARGER.
4. DUCT SUPPORT FOR RECTANGULAR/ROUND DUCT - TRAPEZE FROM OVERHEAD THROUGH WOOD CEILING JOIST TO WOOD TRUSS.

HS184 TYP — DUCT SUPPORT FOR RECTANGULAR/ROUND DUCT - TRAPEZE FROM OVERHEAD

SHEET 1 OF 2 12/26/24



HS184 TYP — DUCT SUPPORT FOR RECTANGULAR/ROUND DUCT - TRAPEZE FROM OVERHEAD

SHEET 2 OF 2 12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED DH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 12753699-2202 — TYE C. WEBER — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

HVAC

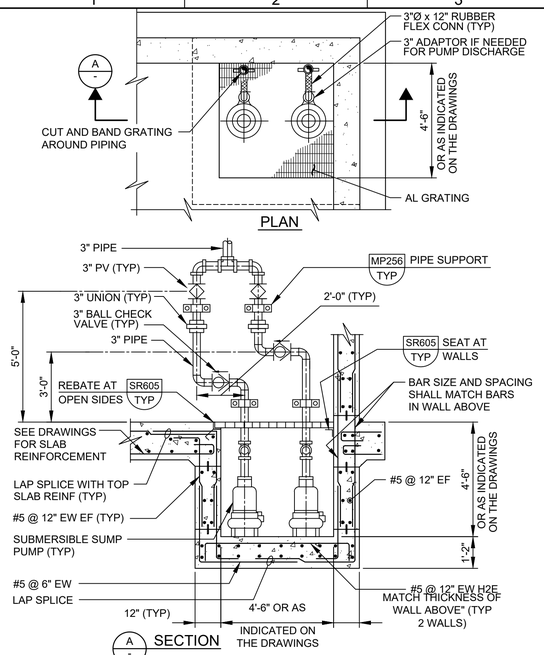
HVAC 1

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JOB NO. 203356
DRAWING NO. 00TH01
SHEET NO. 138 OF 162

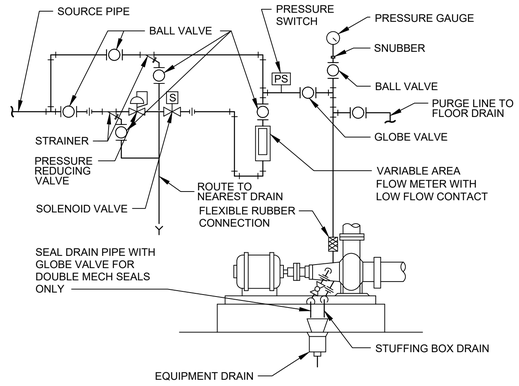
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PROJECT NO. 203356-100000 FILE NAME: 203356_00TH01.dwg



MA111 TYP DUPLEX SUMP PUMP

12/18/2023

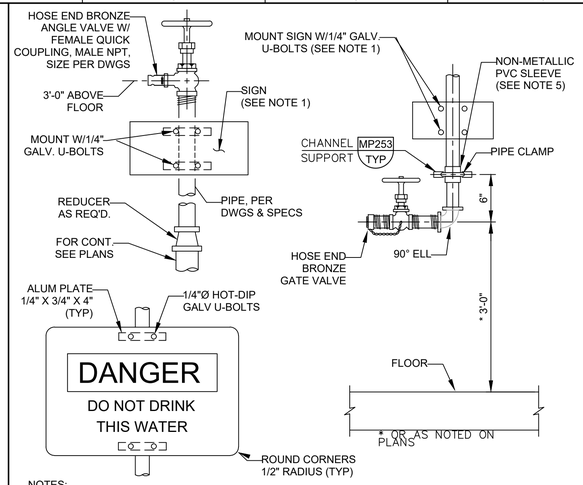


NOTES:

1. UNLESS SPECIFIED OTHERWISE, ALL PIPING VALVES, AND FITTINGS SHALL BE 1/2" 304 STAINLESS STEEL.
2. WHERE A DRIP PAN IS PROVIDED ON THE PUMP BASE, A SEPARATE DRAIN LINE TO THE EQUIPMENT DRAIN SHALL BE PROVIDED.
3. SEE P&ID AND CONTROL DESCRIPTION FOR SOLENOID VALVE OPERATION (POWER-OPEN/ POWER-CLOSE) TYPE.

MA301 TYP SEAL WATER - PIPING SCHEMATIC

06/26/23



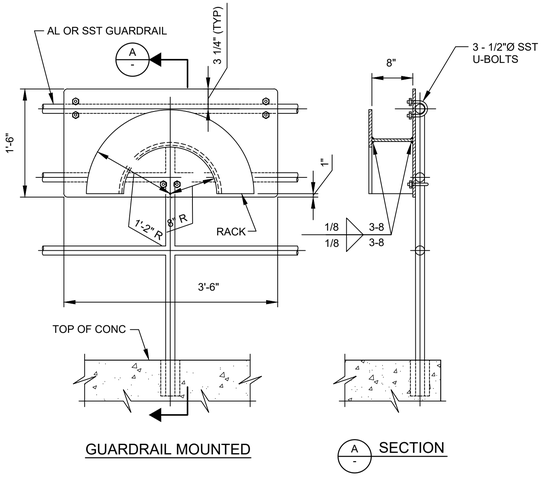
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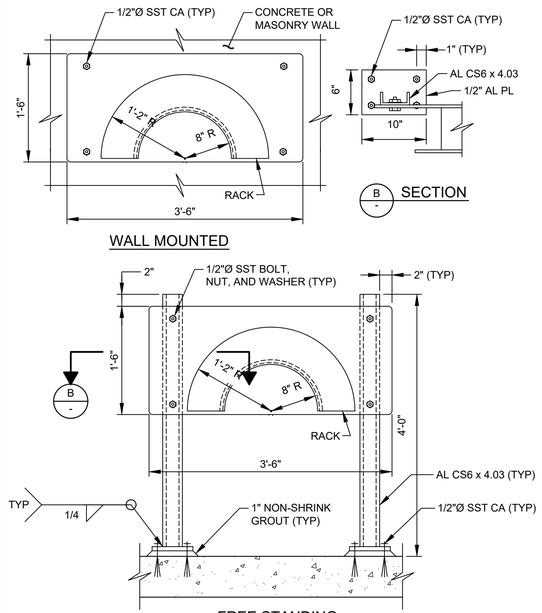
1. SIGN SHALL BE 3/8" THICK LAMINATED PLASTIC. PLASTIC SHALL BE TREATED TO RESIST SUNLIGHT (ULTRAVIOLET) DETERIORATION. MOUNTING: FOUR GROMMETED HOLES FOR 1/4" GALV U-BOLTS.
2. SIGN SHALL BE 7" x 10" & SHALL CONFORM TO THE SPECIFICATIONS.
3. SIGN AS SHOWN IS ROTATED 90° OFF TRUE POSITION. SIGN SHALL BE MOUNTED TO PERMIT EASY READING.
4. INSTALL HOSE RACK, MA417/TYP AT EACH HOSE VALVE.
5. SLEEVE REQUIRED FOR DISSIMILAR METALS.

MA415 TYP WASHDOWN - HOSE BIBB WITH NPW SIGN

N

05/03/23





NOTES:

1. HOSE RACK SHALL BE FABRICATED FROM 3/16" ALUMINUM PLATE. ROUND ALL EDGES SMOOTH.
2. HOSE RACKS INSTALLED IN YARD LOCATIONS SHALL BE FREESTANDING. ANCHOR TO A 4'-6" LONG x 2'-0" WIDE x 12" DEEP CONCRETE PAD WITH #5@12" EW, T&B.
3. WALL MOUNTED HOSE RACKS ON MASONRY WALL SHALL BE FASTEN TO GROUTED CELLS.

MA417 TYP WASHDOWN - HOSE RACK

SHEET 1 OF 2 12/01/22

MA417 TYP WASHDOWN - HOSE RACK

SHEET 2 OF 2 12/01/22

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 270473-2202
RANDAL L. ZOLLINGER
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

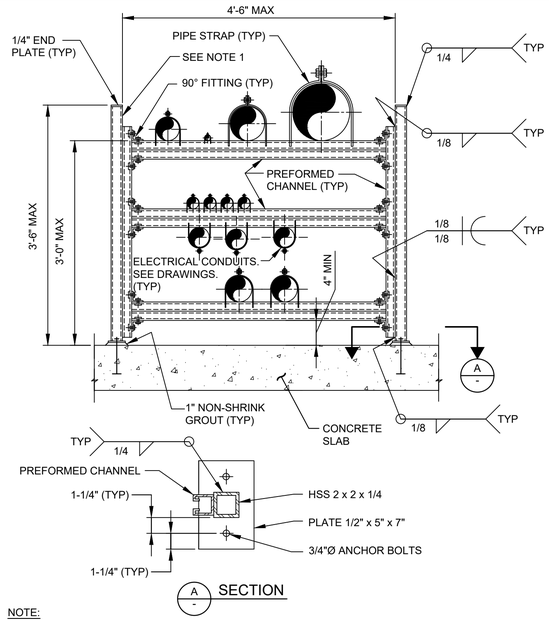
MECHANICAL 1

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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TM01
SHEET NO. 139 OF 162

LAST SAVED BY: dscheele

PROJECT NO. 203356-100000 FILE NAME: 203356_00TM01.dwg

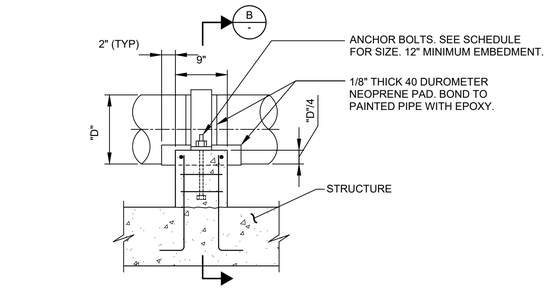


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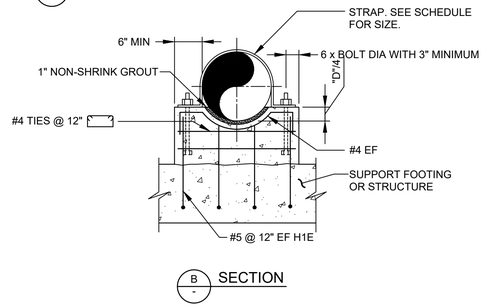
1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

MP073 TYP N — PIPE SUPPORT - FLOOR RACK: STEEL W/ PREFORMED CHANNELS

09/18/23



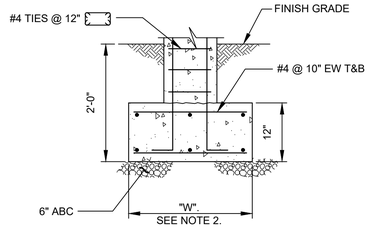
A — SECTION-SUPPORT AT STRUCTURE



B — SECTION

MP100 TYP N — CONCRETE PIPE SUPPORT

SHEET 1 OF 2 10/12/23



C — SECTION-ISOLATED SUPPORT WITH FOOTING

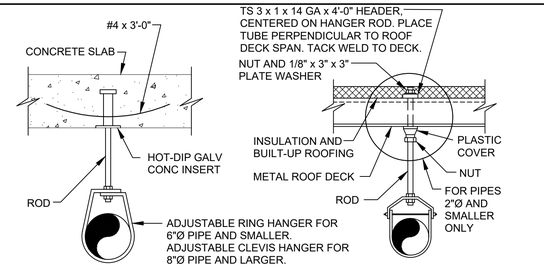
SCHEDULE		
PIPE SIZE	STRAP SIZE	ANCHOR BOLT DIA
8" - 12"	FB 1/4" x 4"	1/2"
14" - 24"	FB 5/16" x 4"	5/8"
26" - 36"	FB 3/8" x 4"	3/4"

NOTES:

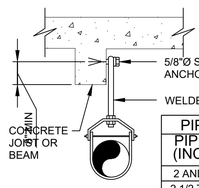
1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
2. THE WIDTH OF THE FOOTING "W" = 2'-6". THE LENGTH OF THE FOOTING = "D" + 2'-0".
3. FOR INSTALLATION ON AN EXISTING CONCRETE FLOOR, VERTICAL #5 BARS SHALL BE EPOXY BONDED WITH MINIMUM EMBED DEPTH OF 6". ROUGHEN EXISTING CONCRETE AND COAT WITH BONDING AGENT AT INTERFACE WITH NEW CONCRETE.

MP100 TYP N — CONCRETE PIPE SUPPORT

SHEET 2 OF 2 10/12/23



AT CONC SLAB — AT METAL DECK



AT CONC JOIST OR BEAM

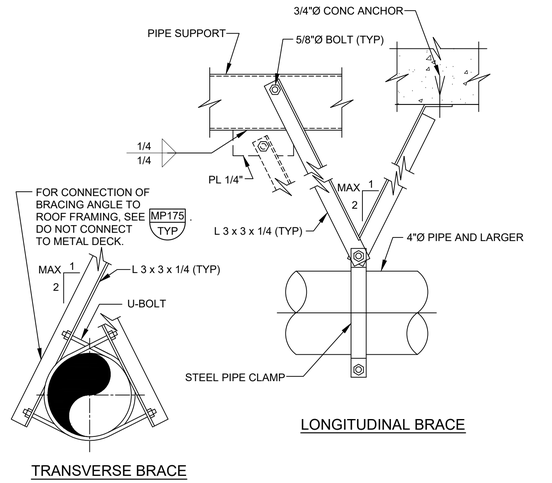
PIPE HANGER RODS AND SUPPORT SPACING		
PIPE DIA (INCHES)	ROD DIA (INCHES)	MAX SUPPORT SPACING
2 AND LESS	3/8	5 FEET
2 1/2 TO 3 1/2	1/2	10 FEET
4 TO 5	5/8	10 FEET
6	3/4	10 FEET
8	7/8	10 FEET
10	7/8	10 FEET
12	7/8	10 FEET

NOTES:

1. ISOLATE ALL COPPER PIPE FROM SUPPORT WITH PVC TAPE.
2. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
3. PROVIDE ADDITIONAL HANGER AT EACH SIDE OF ALL VALVES 4 INCHES AND LARGER.

MP132 TYP N — PIPE SUPPORT - OVERHEAD ROD W/ ADJUSTABLE RING OR CLEVIS

SHEET 1 OF 2 09/18/23



LONGITUDINAL BRACE

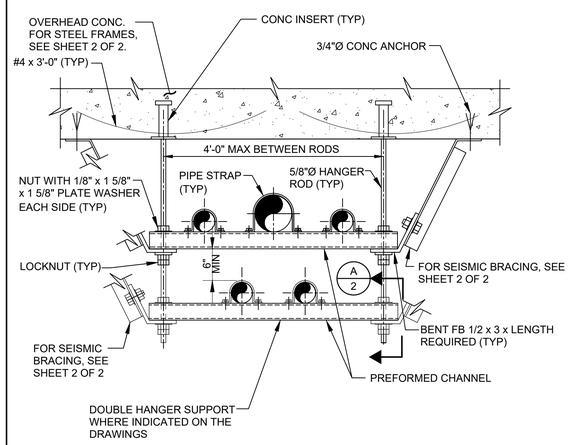
TRANSVERSE BRACE

NOTES:

1. MAXIMUM LONGITUDINAL BRACE SPACING = 20'-0".
2. MAXIMUM TRANSVERSE BRACE SPACING = 20'-0".
3. DO NOT CONNECT BRACE TO BOTTOM OF ROOF BEAM OR C8 PIPE SUPPORT, EXCEPT AS SHOWN IN MP175 TYP .
4. USE LONGITUDINAL AND TRANSVERSE BRACES FOR PIPES 4" AND LARGER.

MP132 TYP N — PIPE SUPPORT - OVERHEAD ROD W/ ADJUSTABLE RING OR CLEVIS

SHEET 2 OF 2 09/18/23

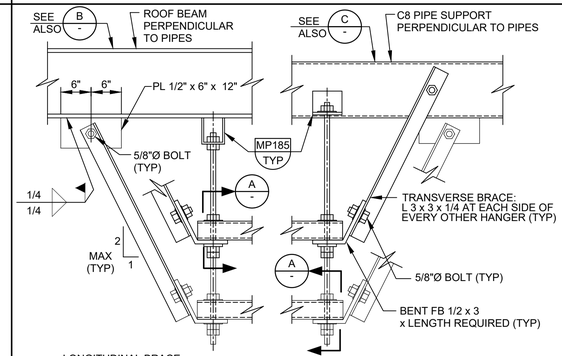


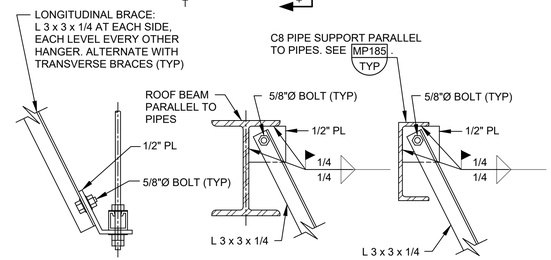
NOTES:

1. HANGER SPACING SHALL BE BASED ON MAXIMUM SPAN ALLOWABLE FOR ANY INDIVIDUAL PIPE.
2. ALL-THREAD ROD SHALL BE USED ONLY FOR DOUBLE SUPPORTS.
3. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

MP175 TYP N — PIPE SUPPORT - OVERHEAD TRAPEZE - DOUBLE BEAM

SHEET 1 OF 2 10/05/23





A — SECTION B — SECTION C — SECTION

MP175 TYP N — PIPE SUPPORT - OVERHEAD TRAPEZE - DOUBLE BEAM

SHEET 2 OF 2 10/05/23

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 270473-2202 — RANDAL L ZOLLINGER — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

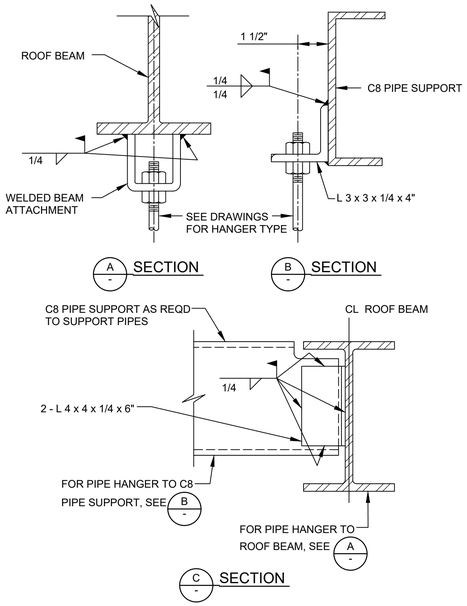
MECHANICAL 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TM02
SHEET NO. 140 OF 162

LAST SAVED BY: dscheele

PROJECT NO. 203356-100000 FILE NAME: 203356_00TM02.dwg

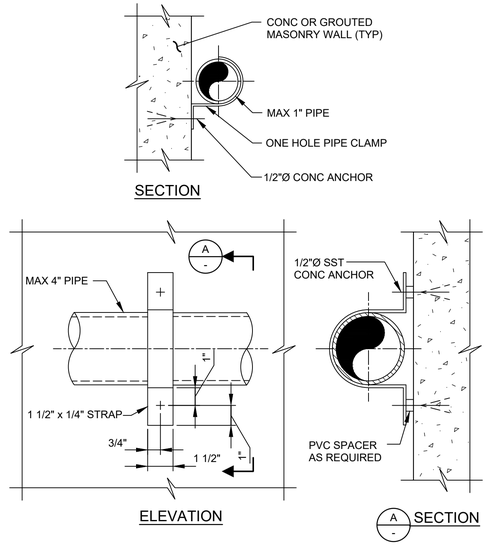


NOTES:

1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

MP185 TYP — PIPE SUPPORT - OVERHEAD CONNECTIONS TO STEEL FRAMING

10/05/23

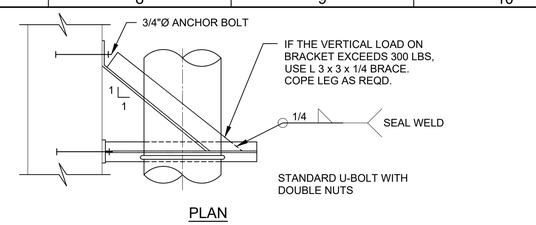


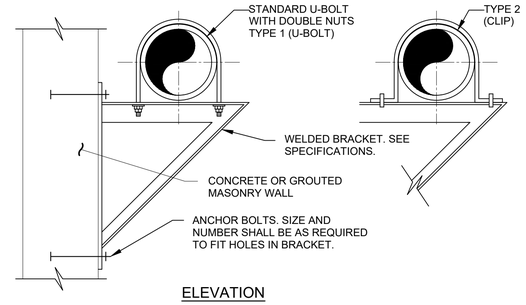
NOTE:

1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

MP215 TYP — PIPE SUPPORT - WALL - PIPE CLIP

10/12/23



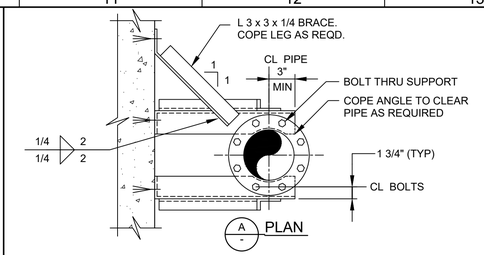


NOTES:

1. MAXIMUM ALLOWABLE VERTICAL LOAD IS THE SMALLER OF 1500 POUNDS AND THE MANUFACTURERS MAXIMUM ALLOWABLE BRACKET LOAD.
2. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
3. ISOLATE ALL COPPER PIPE WITH PVC TAPE.

MP220 TYP N — PIPE SUPPORT - WALL - PREFORMED BRACKET W/ PIPE U-BOLT OR CLIP ABOVE

10/12/23

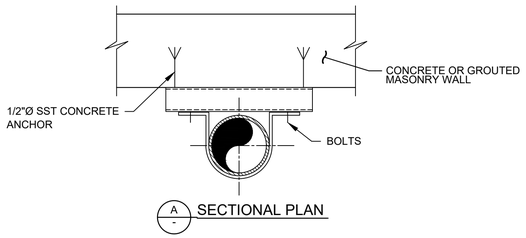


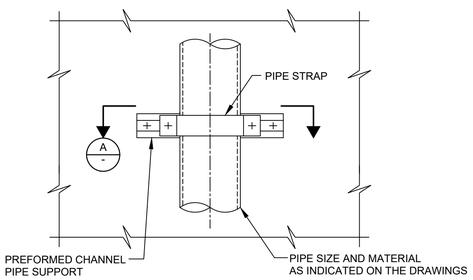
NOTE:

1. IF THE SUPPORT IS SUBMERGED OR BELOW THE TOP OF THE WALL IN A WATER BEARING STRUCTURE, ALL MATERIALS SHALL BE ASTM A240 TYPE 316L STAINLESS STEEL. OTHERWISE, MATERIALS SHALL BE HOT DIP GALVANIZED STEEL, HOT DIP GALVANIZE AFTER FABRICATION.

MP250 TYP N — PIPE SUPPORT - WALL - VERTICAL PIPE ON FABRICATED SUPPORT AT FLANGES

06/26/23



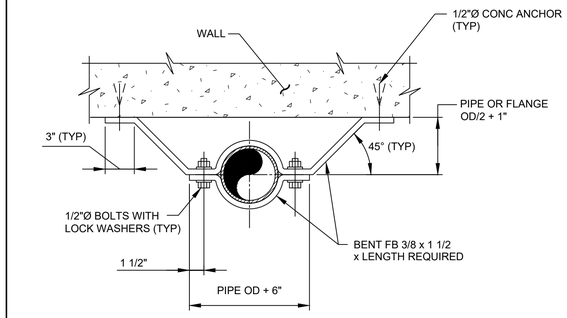


NOTE:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.

MP253 TYP — PIPE SUPPORT - PREFORMED CHANNEL: SURFACE MOUNTED

08/08/23

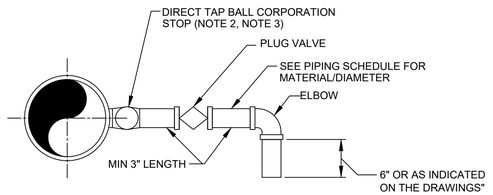


NOTE:

1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

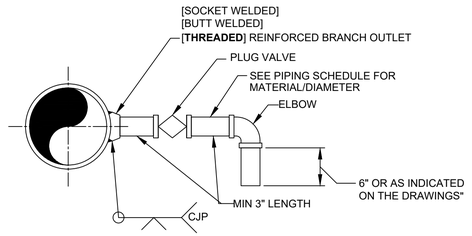
MP256 TYP — PIPE SUPPORT - WALL - VERTICAL PIPE ON CLAMP SWAY BRACE

12/01/2022



DIP NOMINAL DIAMETER	FLUSHING CONNECTION DIAMETER
4"	3/4"
6" - 14"	1"
16"	1 1/2"
18" AND ABOVE	2"

DETAIL A - DUCTILE IRON PIPE FLUSHING CONNECTION



DETAIL B - STEEL PIPE FLUSHING CONNECTION

NOTE:

1. SAMPLE PIPE AND FITTINGS SHALL BE SCHEDULE 40 GSP.
2. CORPORATION STOP SHALL BE FURNISHED WITH AWWA TAPER THREADS PER AWWA C800. PIPE SHALL BE TAPPED ACCORDINGLY.
3. CONNECTIONS GREATER THAN 2" SHALL REQUIRE A TAPPING SADDLE.

MP401 TYP — PIPE CONNECTION - SAMPLING

11/03/23

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 270473-2202 — RANDAL L. ZOLLINGER — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

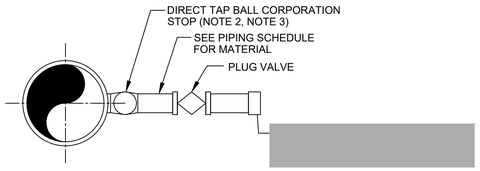
MECHANICAL 3

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 — 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TM03
SHEET NO. 141 OF 162

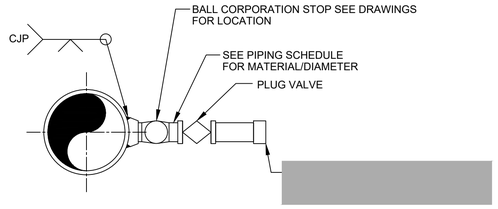
LAST SAVED BY: dscheele

PROJECT NO. 203356-100000 FILE NAME: 203356_00TM03.dwg



DIP NOMINAL DIAMETER	FLUSHING CONNECTION DIAMETER
4"	3/4"
6" - 14"	1"
16"	1 1/2"
18" AND ABOVE	2"

DETAIL A - DUCTILE IRON PIPE FLUSHING CONNECTION



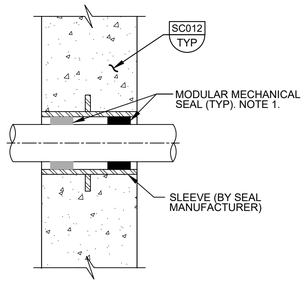
DETAIL B - STEEL PIPE FLUSHING CONNECTION

NOTE:

1. CJP = COMPLETE JOINT PENETRATION.
2. CORPORATION STOP SHALL BE FURNISHED WITH AWWA TAPER THREADS PER AWWA C800. PIPE SHALL BE TAPPED ACCORDINGLY.
3. CONNECTIONS GREATER THAN 2" SHALL REQUIRE A TAPPING SADDLE.

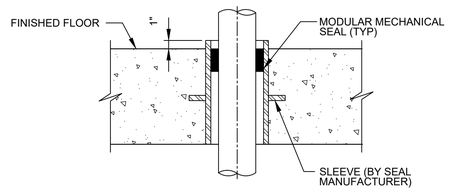
MP405 TYP — PIPE CONNECTION - FLUSHING

12/01/22



NEW

A - WALL PENETRATION



NEW

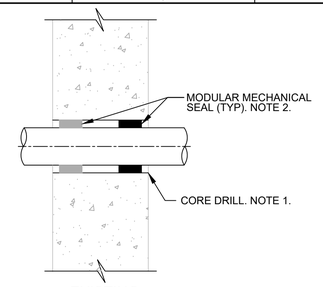
B - SLAB PENETRATION

NOTES:

1. WALLS THICKER THAN 12" INSTALL MODULAR MECHANICAL SEAL AT BOTH ENDS OF WALL SLEEVE.

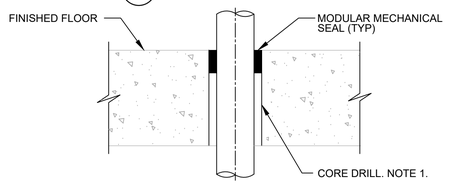
MP544 TYP — WALL PENETRATION - CAST-IN SLEEVE W/ BARRIER SEALS

SHEET 1 OF 2 12/11/24



EXISTING

A - WALL PENETRATION



EXISTING

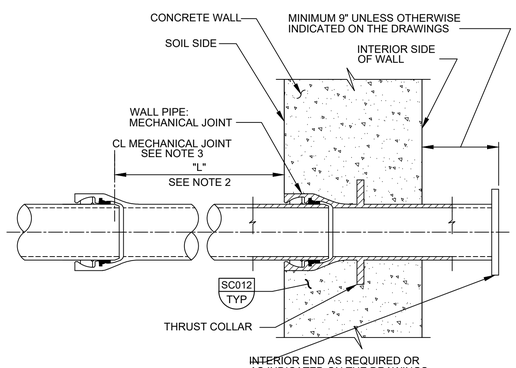
B - SLAB PENETRATION

NOTES:

1. CORE DRILL DIAMETER, PROCEDURES, AND POST-DRILLING SURFACE PREPARATION PER MODULAR MECHANICAL SEAL MANUFACTURER'S RECOMMENDATIONS FOR SPECIFIC PIPE OD.
2. WALLS 12" OR THICKER INSTALL MODULAR MECHANICAL SEAL AT BOTH ENDS OF PENETRATION.

MP544 TYP — WALL PENETRATION - CAST-IN SLEEVE W/ BARRIER SEALS

SHEET 2 OF 2 12/11/24



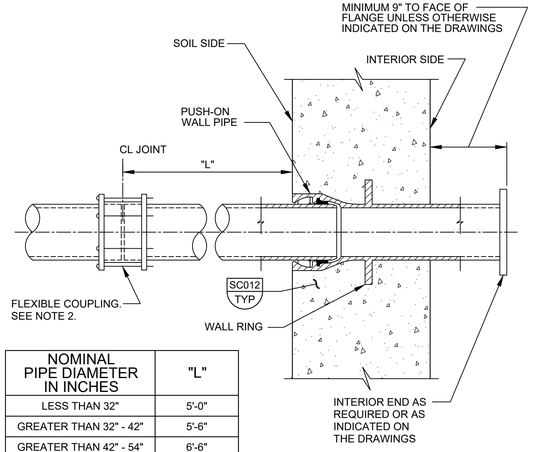
PIPE SIZE (NOM. DIA.)	MFG MAX DEFLECTION-DEGREES	DESIGN ALLOWABLE DEFLECTION-DEGREES	JOINT DEFLECTION INCHES	MIN DISTANCE TO FIRST JOINT "L" IN FEET
3"-4"	8	4	2	2.38
6"	7	3.5	2	2.72
8"-12"	5	2.5	2	3.82
14"-20"	3	1.5	2	6.36
24"	2	1	2	9.55

NOTES:

1. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.
2. "L" = LENGTH FROM TABLE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
3. IN LIEU OF MECHANICAL JOINT, A FLEXIBLE COUPLING.

MP554 TYP — UNRESTRAINED DIP FLEXIBLE CONNECTION AT WALL PENETRATION

SHEET 1 OF 4 10/26/23



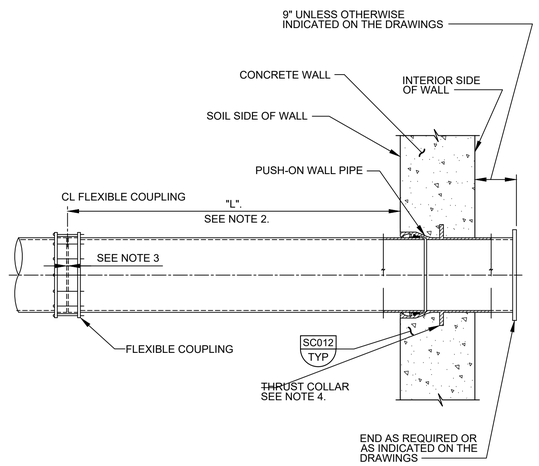
NOMINAL PIPE DIAMETER IN INCHES	"L"
LESS THAN 32"	5'-0"
GREATER THAN 32" - 42"	5'-6"
GREATER THAN 42" - 54"	6'-6"
GREATER THAN 54" - 64"	7'-9"

NOTES:

1. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.
2. IN LIEU OF FLEXIBLE COUPLING, A UNRESTRAINED MECHANICAL OR PUSH ON JOINT MAY BE UTILIZED.

MP554 TYP — UNRESTRAINED DIP FLEXIBLE CONNECTION AT WALL PENETRATION

SHEET 2 OF 4 10/26/23



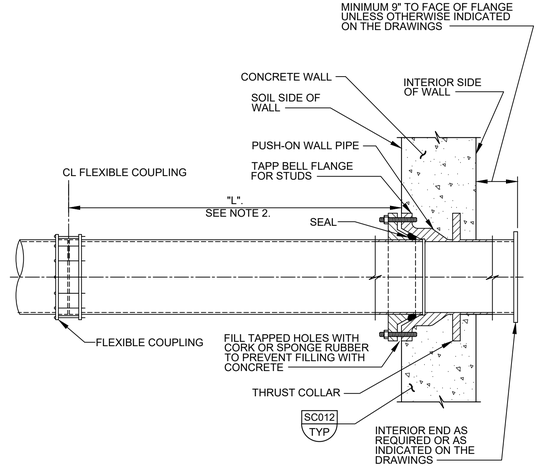
SECTION

NOTES:

1. INSTALL PIPE SECTIONS STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION OF COUPLING AND WALL PIPE TO MAKE UP FOR MISALIGNED PIPE.
2. "L" = LENGTH INDICATED ON THE DRAWINGS.
3. MAINTAIN GAP AS RECOMMENDED BY COUPLING MANUFACTURER.
4. WALL PIPE WITH WEEP RING (THRUST COLLAR) SHALL BE CAPABLE OF RESISTING THRUST.

MP554 TYP — UNRESTRAINED DIP FLEXIBLE CONNECTION AT WALL PENETRATION

N SHEET 3 OF 4 10/26/23



SECTION

NOTES:

1. INSTALL PIPE SECTIONS STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION OF COUPLING AND WALL PIPE TO MAKE UP FOR MISALIGNED PIPE.
2. "L" = LENGTH INDICATED ON THE DRAWINGS.
3. MAINTAIN GAP AS RECOMMENDED BY COUPLING MANUFACTURER.

MP554 TYP — UNRESTRAINED DIP FLEXIBLE CONNECTION AT WALL PENETRATION

N SHEET 4 OF 4 10/26/23

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 270473-2202 — RANDALL L. ZOLLINGER — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

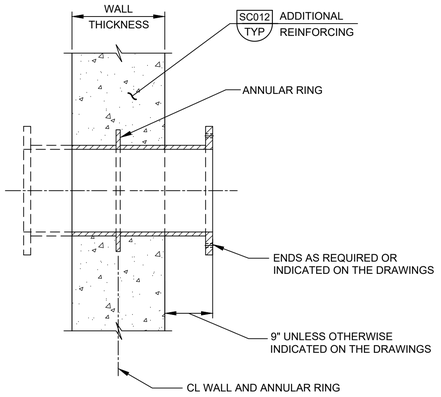
MECHANICAL 4

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TM04
SHEET NO. 142 OF 162

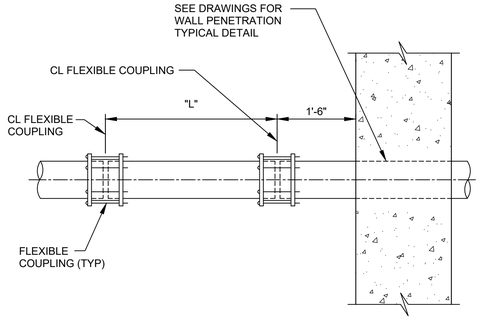
LAST SAVED BY: dscheele

PROJECT NO. 203356-100000 FILE NAME: 203356_00TM04.dwg



MP566 TYP — WALL PENETRATION - DIP - FABRICATED WALL PIPE

12/01/22



NOMINAL PIPE DIAMETER IN INCHES	"L"
LESS THAN 31"	5'-0"
GREATER THAN 31"- 42"	5'-6"
GREATER THAN 42"- 54"	6'-6"
GREATER THAN 54"- 66"	7'-9"
GREATER THAN 66"- 100"	12'-9"

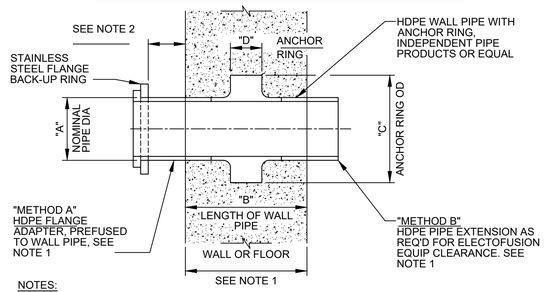
NOTE:

1. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.

MP580 TYP N — WALL CONNECTION - STEEL - UNRESTRAINED FLEXIBLE COUPLINGS

12/01/22

"A" NOMINAL SIZE IPS & DIPS	"B"	"C"	"D"
2"	12.0	3.90	2.00
3"	12.0	5.00	2.00
4"	12.0	6.60	2.00
6"	12.0	8.50	2.00
8"	16.0	10.65	2.00
10"	18.0	12.75	2.00
12"	22.0	15.00	2.00
14"	22.0	17.50	2.00
16"	24.0	20.00	2.00
18"	24.0	21.12	2.00
20"	24.0	23.50	2.00
22"	24.0	25.60	2.00
24"	28.0	28.00	2.00
26" IPS	28.0	30.00	2.00
28" IPS	28.0	32.30	2.00
30" IPS	28.0	34.30	2.00
32" IPS	30.0	36.50	2.00
34" IPS	30.0	40.80	2.00
36" IPS	30.0	40.80	2.25
42" IPS	30.0	47.50	2.50
48" IPS	30.0	54.00	2.50
54" IPS	30.0	60.00	2.50

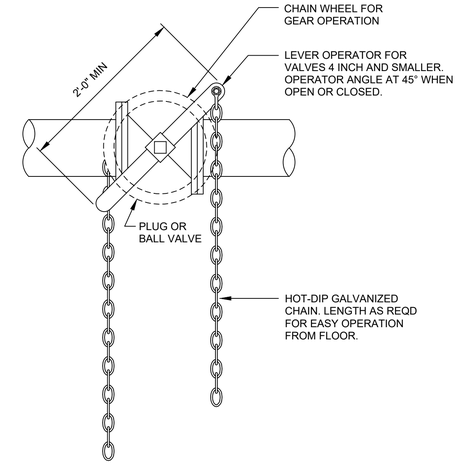


NOTES:

1. COORDINATE STANDARD WALL PIPE LENGTHS WITH WALL OR FLOOR THICKNESS AND INSTALL EXTENSION LENGTH AS REQUIRED BY MFR.
2. MAINTAIN 6" MIN DIMENSION.

MP646 TYP — WALL PENETRATION - HDPE - FABRICATED WALL PIPE

12/01/22



MP880 TYP — PIPING - VALVE - CHAIN OPERATOR

12/01/22

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MSF
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 270473-2202 — RANDAL L. ZOLLINGER — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

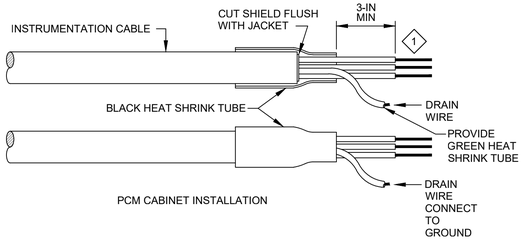
MECHANICAL 5

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

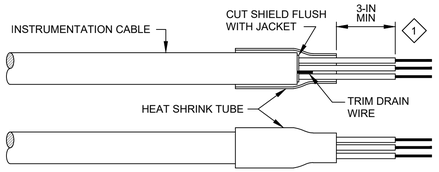
JOB NO. 203356
DRAWING NO. 00TM05
SHEET NO. 143 OF 162

LAST SAVED BY: dscheele

PROJECT NO. 203356-100000 FILE NAME: 203356_00TM05.dwg



PCM CABINET INSTALLATION

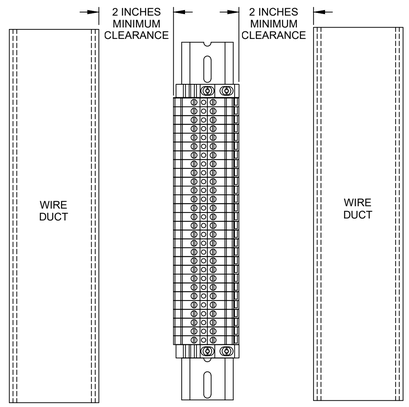


FIELD INSTALLATION

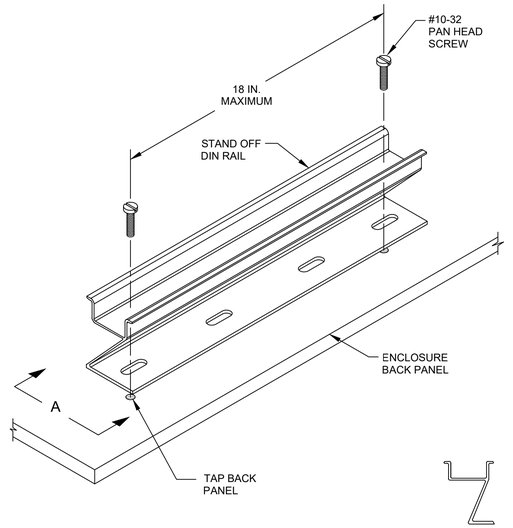
KEY NOTES:

1. SIMILAR FOR 2-CONDUCTOR SHIELDED CABLE.

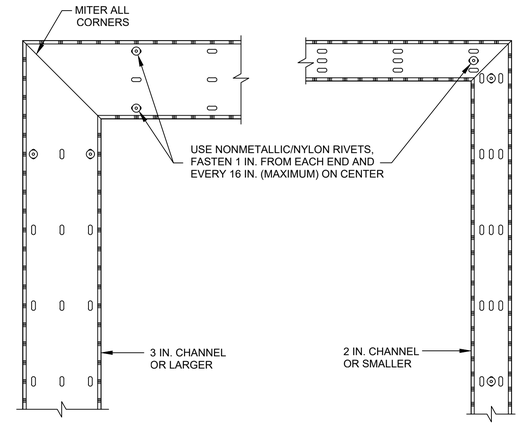
NE101 TYP — TERMINATION DETAILS INSTRUMENTATION SHIELDED CABLE



NE102 TYP — TERMINAL BLOCK CLEARANCE



NE104 TYP — RAISED DIN RAIL MOUNTING



NE105 TYP — PANEL WIRING DUCT MOUNTING

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

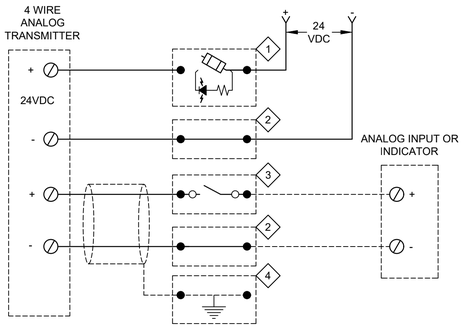
INSTRUMENTATION 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TN01
SHEET NO. 144 OF 162

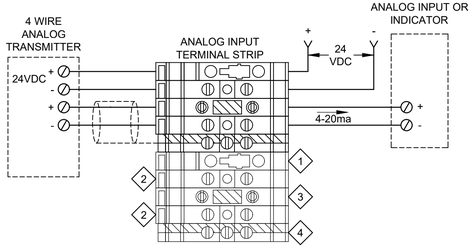
LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_00TN01.dwg



KEY NOTES:

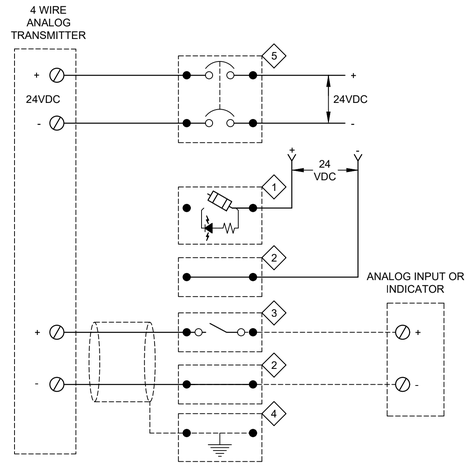
1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH.
4. GROUNDING TERMINAL BLOCK.



GENERAL NOTES:

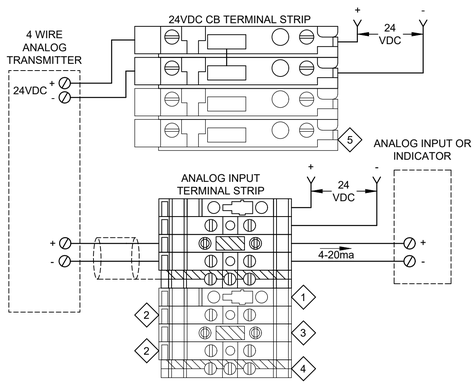
1. GROUND SHIELD AT ANALOG TERMINAL STRIP INSIDE PCM PANEL.
2. (-)24VDC RETURNS OR COMMONS CAN'T BE PROTECTED OR HAVE A DISCONNECTING MEANS ON SYSTEMS WITH GROUNDED 24VDC POWER SUPPLIES.

FOUR WIRE TRANSMITTER WITH (GROUNDED) 24VDC POWER SUPPLY SCHEMATIC



KEY NOTES:

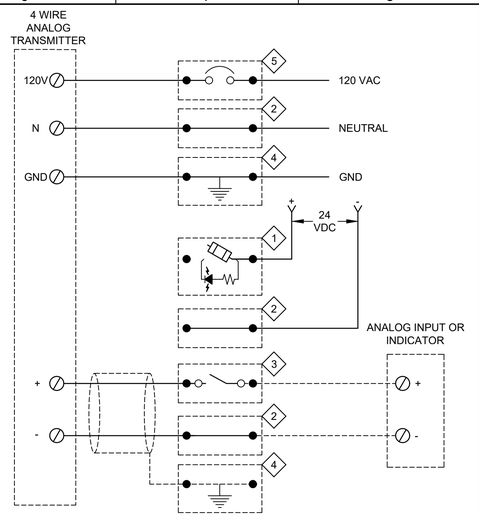
1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH.
4. GROUNDING TERMINAL BLOCK.
5. 2-POLE 24VDC CIRCUIT BREAKER.



GENERAL NOTES:

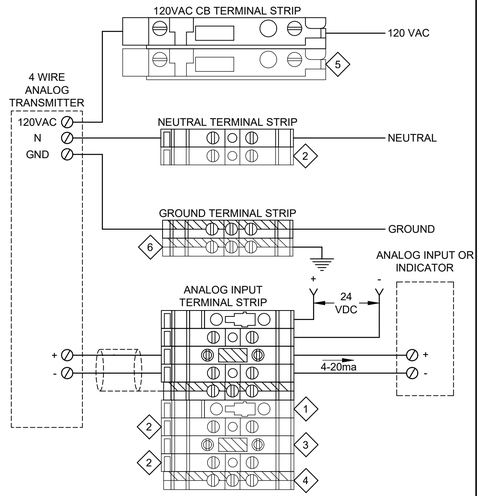
1. GROUND SHIELD AT ANALOG TERMINAL STRIP INSIDE PCM PANEL.
2. PROVIDE (-)24VDC RETURNS WITH PROTECTION ON ALL UN-GROUNDED 24VDC POWER SUPPLIES.

FOUR WIRE TRANSMITTER WITH (UN-GROUNDED) 24VDC POWER SUPPLY SCHEMATIC



KEY NOTES:

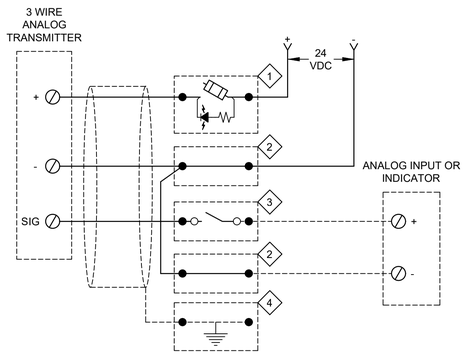
1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH.
4. GROUNDING TERMINAL BLOCK.
5. 120VAC CIRCUIT BREAKER.



GENERAL NOTES:

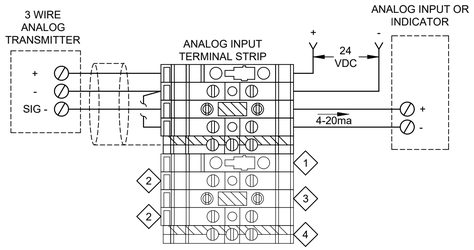
1. GROUND SHIELD AT ANALOG TERMINAL STRIP INSIDE PCM PANEL.
2. PROVIDE 120VAC CIRCUIT BREAKER FOR EACH INSTRUMENT.

FOUR WIRE (120VAC) TRANSMITTER SCHEMATIC



KEY NOTES:

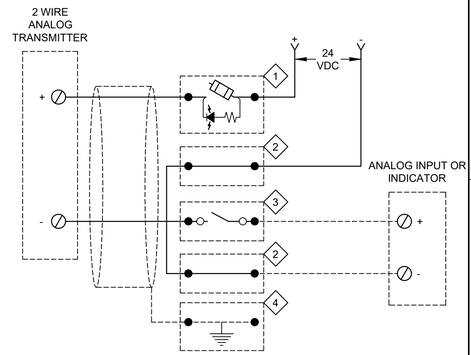
1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH.
4. GROUNDING TERMINAL BLOCK.



GENERAL NOTES:

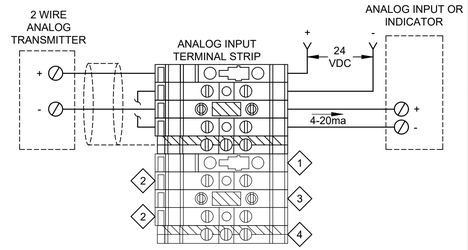
1. GROUND SHIELD AT ANALOG TERMINAL STRIP INSIDE PCM PANEL.

24VDC THREE WIRE ANALOG TRANSMITTER SCHEMATIC



KEY NOTES:

1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH.
4. GROUNDING TERMINAL BLOCK.



GENERAL NOTES:

1. GROUND SHIELD AT ANALOG TERMINAL STRIP INSIDE PCM PANEL.

24VDC TWO WIRE TRANSMITTER SCHEMATIC

NE304 TYP

ANALOG INPUT TERMINAL DETAILS

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

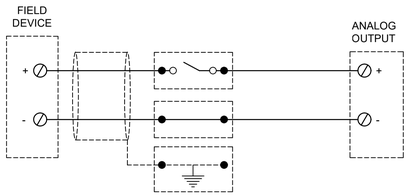
INSTRUMENTATION 2

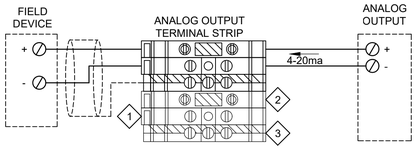
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TN02
SHEET NO. 145 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_00TN02.dwg





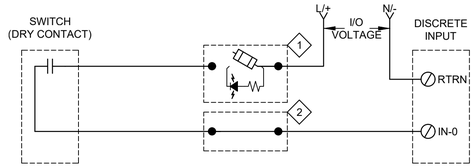
GENERAL NOTES:

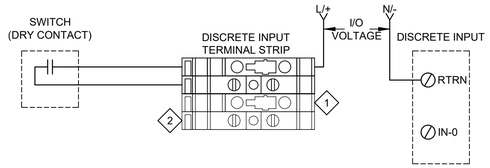
1. GROUND SHIELD AT ANALOG TERMINAL STRIP INSIDE PCM PANEL.

KEY NOTES:

1. FEED THROUGH TERMINAL BLOCK.
2. TEST BLOCK WITH KNIFE DISCONNECT SWITCH.
3. GROUNDING TERMINAL BLOCK.

NE305 TYP — ANALOG OUTPUT TERMINAL DETAILS
24VDC ANALOG OUTPUT SCHEMATIC





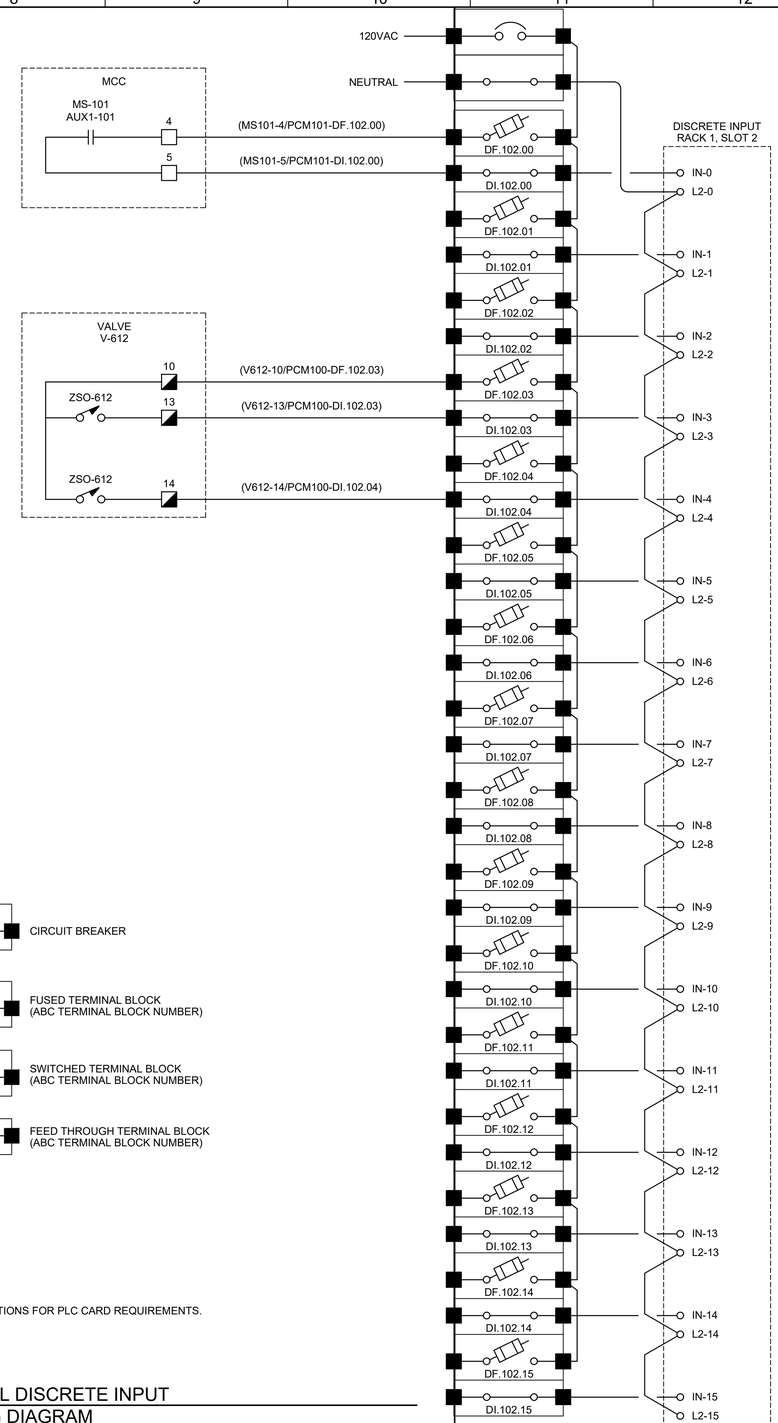
GENERAL NOTES:

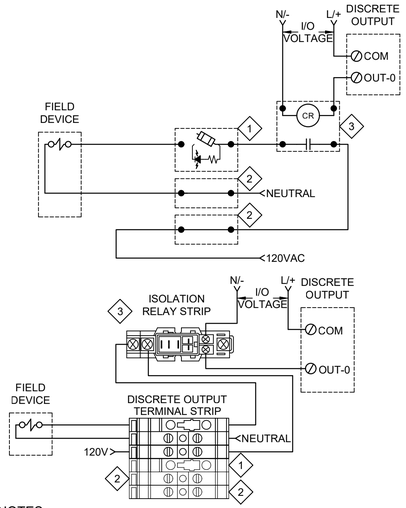
1. REFER TO SPECIFICATIONS FOR PLC DISCRETE I/O VOLTAGE.

KEY NOTES:

1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.

NE306 TYP — DISCRETE INPUT TERMINAL DETAILS
(DRY CONTACT) SCHEMATIC





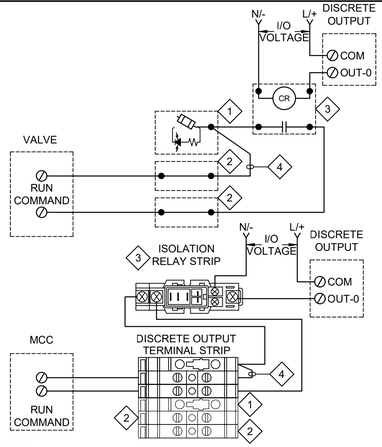
GENERAL NOTES:

1. REFER TO SPECIFICATIONS FOR PLC DISCRETE I/O VOLTAGE.

KEY NOTES:

1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. ISOLATION RELAY.

NE307 TYP — DISCRETE OUTPUT TERMINAL DETAILS
(PANEL SOURCED) SCHEMATIC



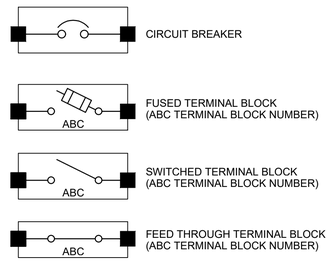
GENERAL NOTES:

1. REFER TO SPECIFICATIONS FOR PLC DISCRETE I/O VOLTAGE.
2. USE MANUFACTURED SPADE OR PIN STYLE JUMPER. WIRE JUMPERS ARE NOT ACCEPTABLE.

KEY NOTES:

1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. ISOLATION RELAY.
4. JUMPER.

NE308 TYP — DISCRETE OUTPUT TERMINAL DETAILS
(EXTERNALLY SOURCED) SCHEMATIC



GENERAL NOTES:

1. REFER TO SPECIFICATIONS FOR PLC CARD REQUIREMENTS.

NE310 TYP — TYPICAL DISCRETE INPUT
WIRING DIAGRAM

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

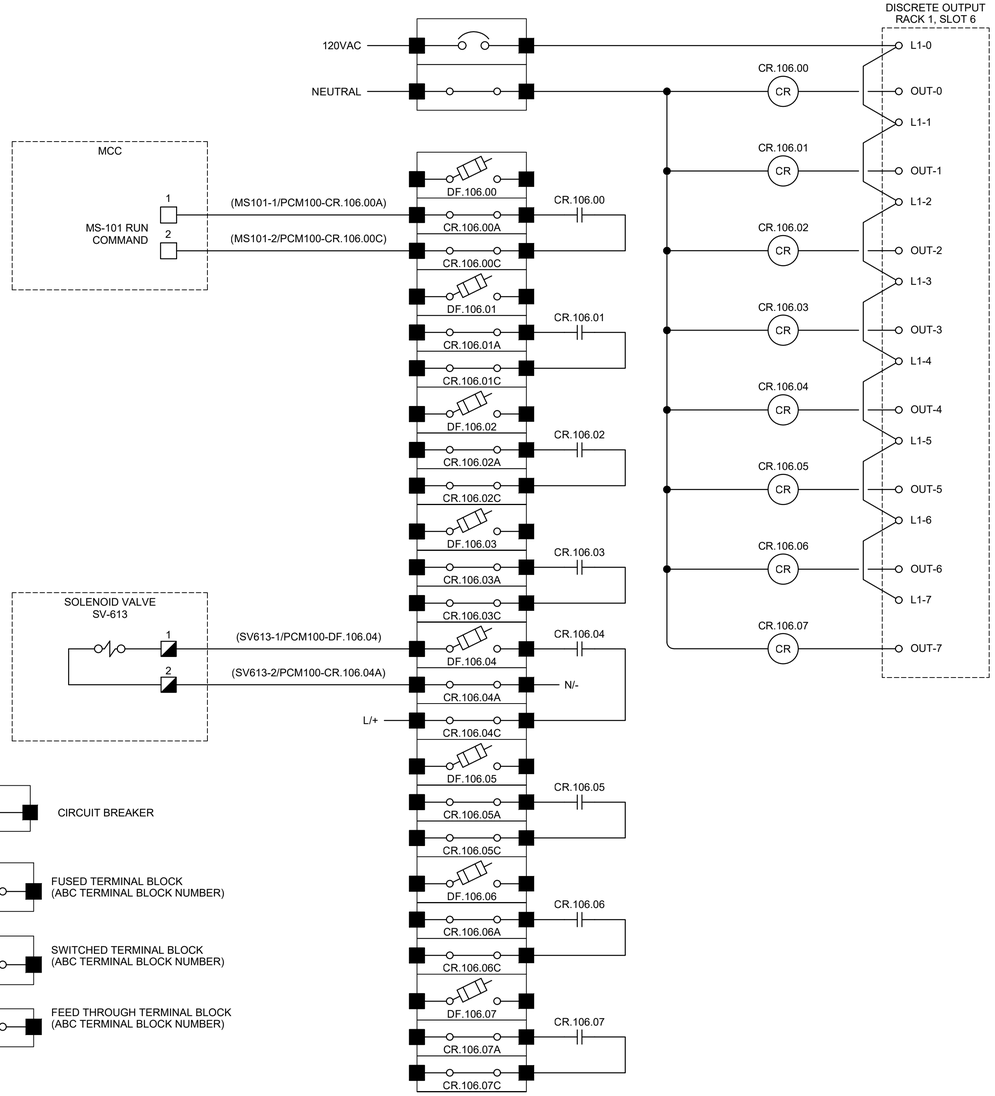
INSTRUMENTATION 3

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TN03
SHEET NO. 146 OF 162

LAST SAVED BY: kkwarsick

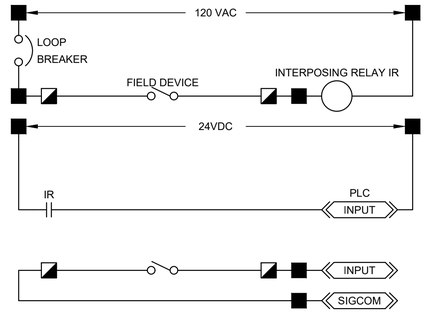
PROJECT NO. 203356-100000 FILE NAME: 203356_00TN03.dwg



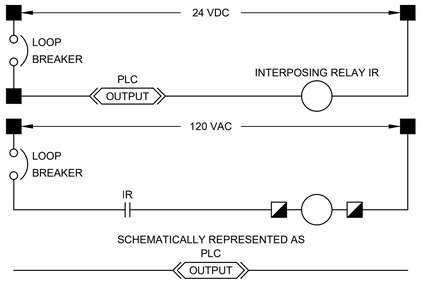
GENERAL NOTES:

1. REFER TO SPECIFICATIONS FOR PLC CARD REQUIREMENTS.

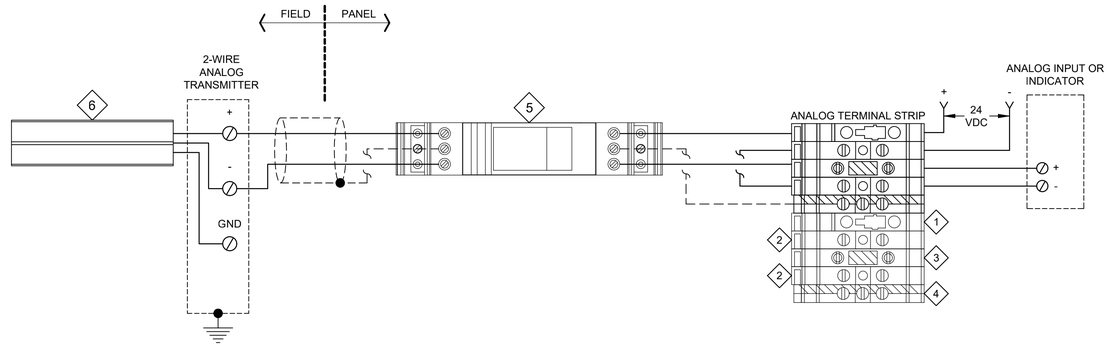
NE311 TYP — TYPICAL DISCRETE OUTPUT WIRING DIAGRAM



NE314 TYP — TYPICAL PLC 24VDC INPUT SCHEMATIC



NE315 TYP — TYPICAL PLC 24VDC OUTPUT SCHEMATIC



KEY NOTES:

1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH.
4. GROUNDING TERMINAL BLOCK. BONDED TO EQUIPMENT GROUND VIA DIN RAIL MOUNTING FOOT.
5. PANEL MOUNTED SURGE PROTECTIVE DEVICE. BONDED TO EQUIPMENT GROUND VIA DIN RAIL MOUNTING FOOT.
6. FIELD DEVICE MOUNTED SURGE PROTECTIVE DEVICE. BONDED TO EQUIPMENT GROUND VIA FIELD DEVICE GROUND TERMINAL.

NE350 TYP — TYPICAL SURGE PROTECTION WIRING 2-WIRE ANALOG TRANSMITTER

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

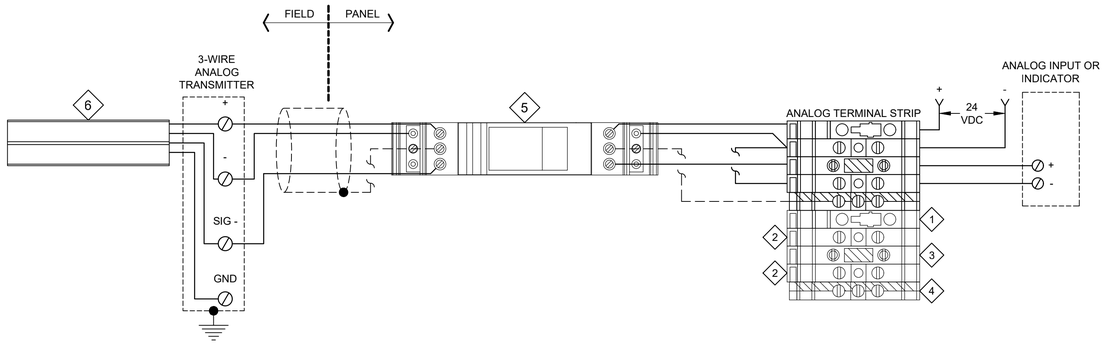
INSTRUMENTATION 4

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TN04
SHEET NO. 147 OF 162

LAST SAVED BY: kkwarsick

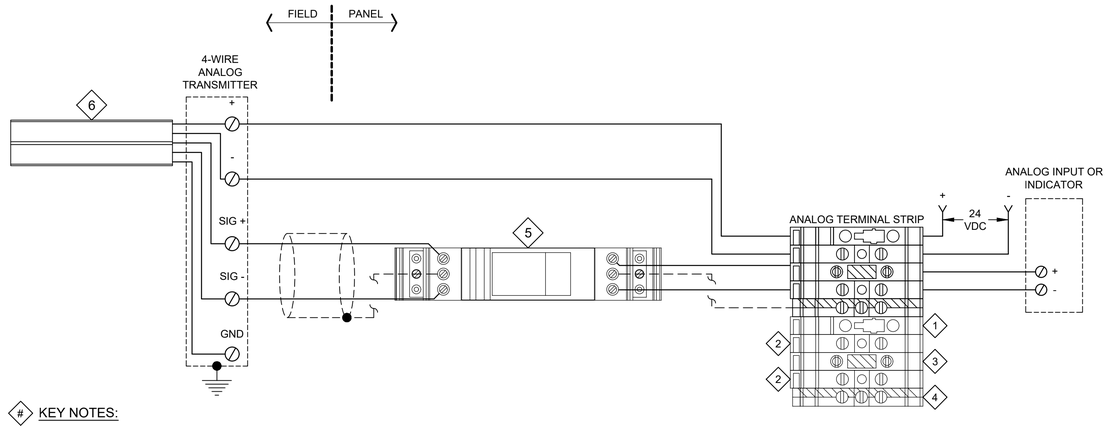
PROJECT NO. 203356-100000 FILE NAME: 203356_00TN04.dwg



KEY NOTES:

1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH.
4. GROUNDING TERMINAL BLOCK. BONDED TO EQUIPMENT GROUND VIA DIN RAIL MOUNTING FOOT.
5. PANEL MOUNTED SURGE PROTECTIVE DEVICE. BONDED TO EQUIPMENT GROUND VIA DIN RAIL MOUNTING FOOT.
6. FIELD DEVICE MOUNTED SURGE PROTECTIVE DEVICE. BONDED TO EQUIPMENT GROUND VIA FIELD DEVICE GROUND TERMINAL.

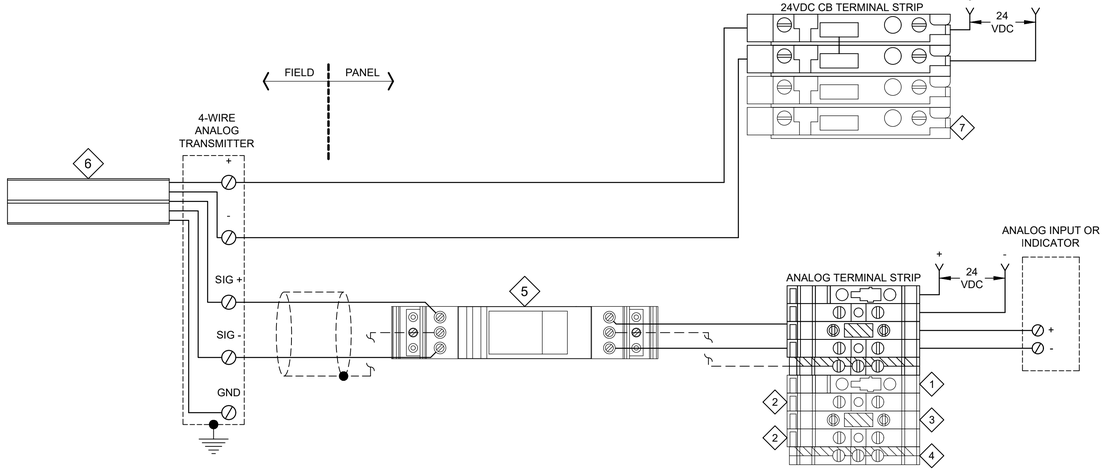
NE351 TYP — TYPICAL SURGE PROTECTION WIRING 3-WIRE ANALOG TRANSMITTER



KEY NOTES:

1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH.
4. GROUNDING TERMINAL BLOCK. BONDED TO EQUIPMENT GROUND VIA DIN RAIL MOUNTING FOOT.
5. PANEL MOUNTED SURGE PROTECTIVE DEVICE. BONDED TO EQUIPMENT GROUND VIA DIN RAIL MOUNTING FOOT.
6. FIELD DEVICE MOUNTED SURGE PROTECTIVE DEVICE. BONDED TO EQUIPMENT GROUND VIA FIELD DEVICE GROUND TERMINAL.

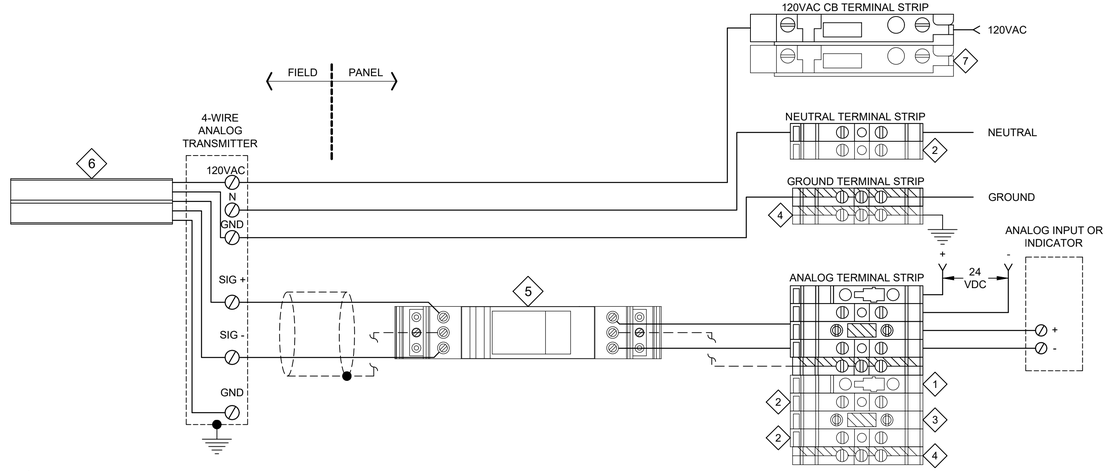
NE352 TYP — TYPICAL SURGE PROTECTION WIRING 4-WIRE ANALOG TRANSMITTER WITH GROUNDED 24VDC POWER SUPPLY



KEY NOTES:

1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH.
4. GROUNDING TERMINAL BLOCK. BONDED TO EQUIPMENT GROUND VIA DIN RAIL MOUNTING FOOT.
5. PANEL MOUNTED SURGE PROTECTIVE DEVICE. BONDED TO EQUIPMENT GROUND VIA DIN RAIL MOUNTING FOOT.
6. FIELD DEVICE MOUNTED SURGE PROTECTIVE DEVICE. BONDED TO EQUIPMENT GROUND VIA FIELD DEVICE GROUND TERMINAL.
7. 2-POLE 24VDC CIRCUIT BREAKER.

NE353 TYP — TYPICAL SURGE PROTECTION WIRING 4-WIRE ANALOG TRANSMITTER WITH UN-GROUNDED 24VDC POWER SUPPLY



KEY NOTES:

1. FUSED TERMINAL/DISCONNECT BLOCK.
2. FEED THROUGH TERMINAL BLOCK.
3. TEST BLOCK WITH KNIFE DISCONNECT SWITCH.
4. GROUNDING TERMINAL BLOCK. BONDED TO EQUIPMENT GROUND VIA DIN RAIL MOUNTING FOOT.
5. PANEL MOUNTED SURGE PROTECTIVE DEVICE. BONDED TO EQUIPMENT GROUND VIA DIN RAIL MOUNTING FOOT.
6. FIELD DEVICE MOUNTED SURGE PROTECTIVE DEVICE. BONDED TO EQUIPMENT GROUND VIA FIELD DEVICE GROUND TERMINAL.
7. 120VAC CIRCUIT BREAKER.

NE354 TYP — TYPICAL SURGE PROTECTION WIRING 4-WIRE ANALOG TRANSMITTER 120VAC POWER SUPPLY

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 5612657 — MATTHEW G. HATCH — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

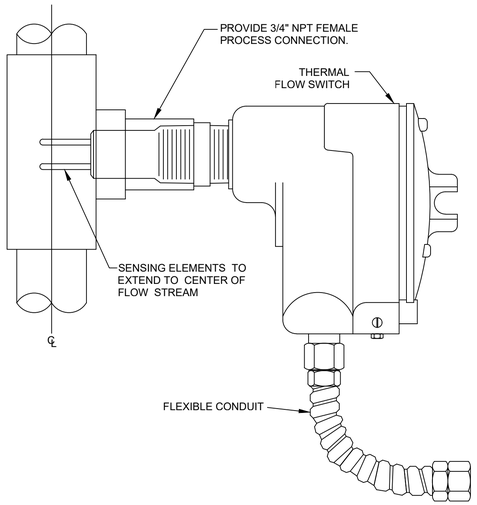
INSTRUMENTATION 5

VERIFY SCALES
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

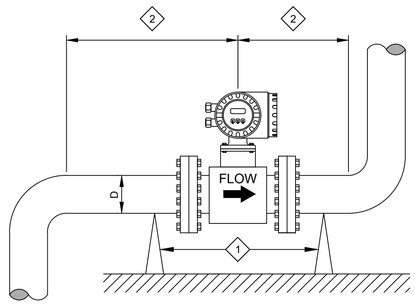
JOB NO. 203356
DRAWING NO. 00TN05
SHEET NO. 148 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_00TN05.dwg



NF111 TYP THERMAL FLOW SWITCH MOUNTING DETAIL



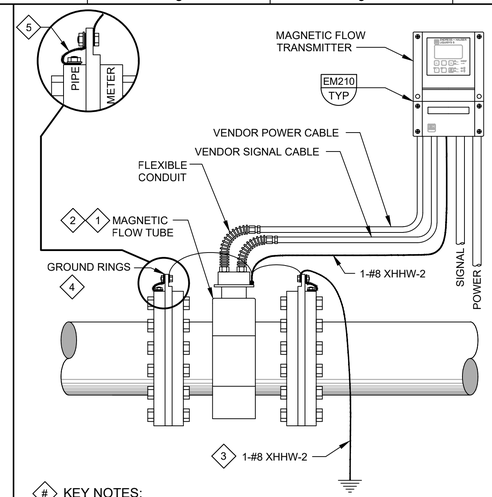
GENERAL NOTES:

1. FOLLOW MANUFACTURER'S RECOMMENDED MAXIMUM TORQUE SETTINGS. DO NOT OVER-TORQUE FLANGE BOLTS. OVERTIGHTENING THE FASTENERS WILL DEFORM SEALING FACES OR DAMAGE THE LINE.
2. ALWAYS TIGHTEN FLANGE BOLTS UNIFORMLY AND IN DIAGONALLY OPPOSITE SEQUENCE.
3. MOUNT METER SO THAT IT REMAINS FULLY FLOODED.
4. FOR METERS SPECIFIED WITH ZERO DIAMETER FEATURE, REFER TO THE MECHANICAL DRAWINGS FOR INSTALLATION.

KEY NOTES:

1. PIPE SUPPORTS BY MECHANICAL CONTRACTOR. NO SUPPORTS SHALL BE INSTALLED AT THE METER HOUSING.
2. INSTALL METER SUCH THAT THERE ARE NO PIPE BENDS FOR 5 PIPE DIAMETERS UPSTREAM AND 3 PIPE DIAMETERS DOWNSTREAM OF THE METER.

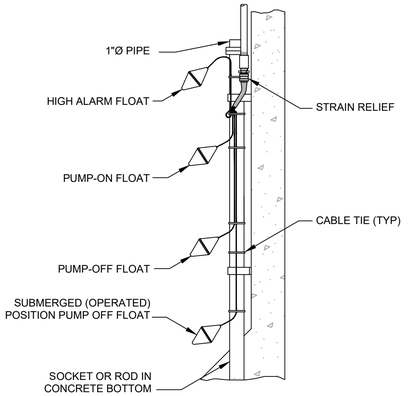
NF130 TYP MAGNETIC FLOWMETER MOUNTING DETAIL



KEY NOTES:

1. CONTRACTOR SHALL VERIFY ZERO POTENTIAL BETWEEN FLOW TUBE, EARTH GROUND AND TRANSMITTER GROUND TERMINAL.
2. CONNECT TRANSMITTER GROUND TERMINAL TO GROUND RINGS.
3. CONNECT METER BODY TO EARTH GROUND POTENTIAL.
4. EQUALIZE POTENTIAL VIA GROUND RINGS BETWEEN FLUID AND MAGMETER.
5. PROVIDE BONDING JUMPER ON CONDUCTIVE PIPES.

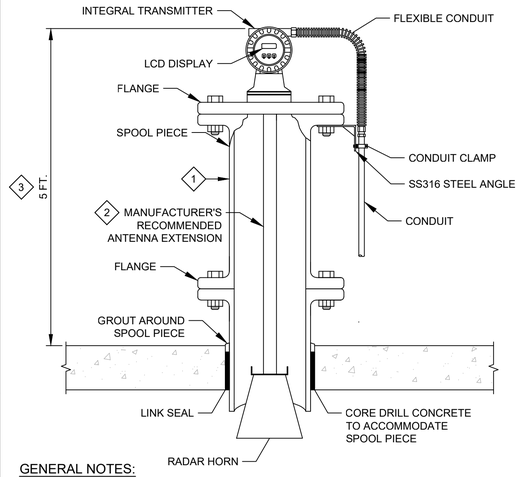
NF135 TYP REMOTE TRANSMITTER MAGNETIC FLOWMETER GROUNDING DETAIL



GENERAL NOTES:

1. NUMBER OF FLOATS SHALL BE AS SHOWN ON SCHEMATICS AND P&IDS.
2. FLOATS SHOWN IN FREE HANGING POSITION.

NL100 TYP FLOAT SWITCH INSTALLATION



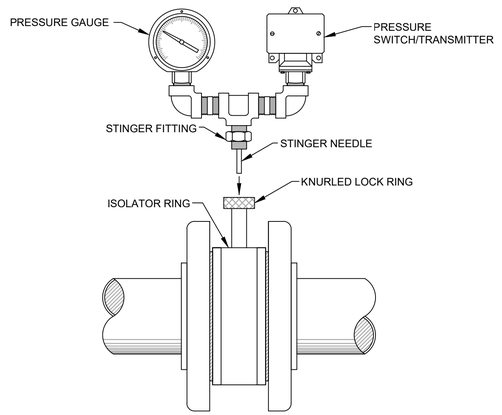
GENERAL NOTES:

1. LENGTH OF ANTENNA EXTENSION AND SPOOL PIECE SHALL BE AS REQUIRED TO INSTALL LCD DISPLAY.

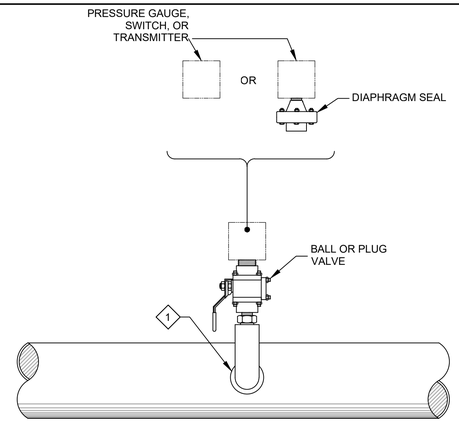
KEY NOTES:

1. 1 INCH LARGER THAN DIAMETER OF RADAR HORN.
2. PROVIDE ANTENNA EXTENSION SUCH THAT THE RADAR HORN EXTENDS INTO THE STRUCTURE, PER MANUFACTURER'S RECOMMENDATION.
3. VERIFY SUITABLE ANTENNA EXTENSION IS AVAILABLE.

NL153 TYP RADAR INSTRUMENT MOUNTING DETAIL



NP124 TYP PRESSURE SWITCH & GAUGE DETAIL



GENERAL NOTES:

1. USE THE INSTRUMENT DATA SHEETS AND INSTRUMENTATION SPECIFICATIONS TO IDENTIFY REQUIREMENTS FOR DIAPHRAGM SEALS.
2. PROVIDE INSTRUMENT ASSEMBLY WITH 1" VALVES AND PIPING, OR AS APPROVED BY ENGINEER. USE STAINLESS STEEL OR AS REQUIRED FOR COMPATIBILITY WITH PROCESS FLUID. PROVIDE FITTINGS FOR INSTRUMENT CONNECTIONS AS REQUIRED.
3. REFER TO MECHANICAL DRAWINGS FOR INSTRUMENT LOCATION AND PROCESS PIPE ORIENTATION.

KEY NOTES:

1. PROVIDE SIDE-TAP PROCESS CONNECTION. THREADED TAP OR SADDLE CONNECTION FOR DUCTILE IRON PIPE. WELD-O-LET OR THREAD-O-LET FOR WELDED PIPE. TEE OR REDUCING TEE FOR NON-METALLIC PIPE AND PIPES 1" OR SMALLER.

NP503 TYP S ISOLATING PRESSURE INSTRUMENT MOUNTING DETAIL

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MGH
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

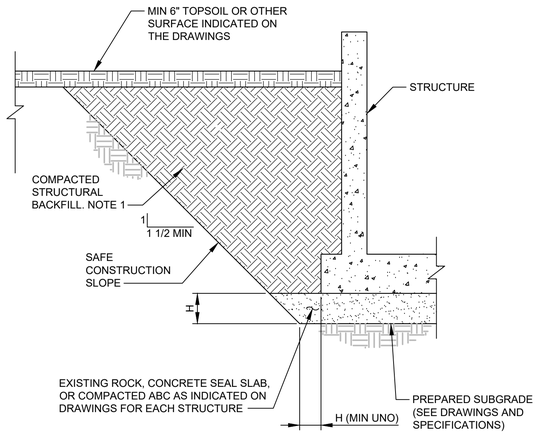
INSTRUMENTATION 6

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TN06
SHEET NO. 149 OF 162

LAST SAVED BY: kkwarsick

PROJECT NO. 203356-100000 FILE NAME: 203356_00TN06.dwg



NOTES:

1. SEE SPECIFICATIONS FOR ACCEPTABLE BACKFILL MATERIALS.

SB110 TYP — STRUCTURAL EXCAVATION & BACKFILL

12/18/2023

1. SEE DIVISION 03 SPECIFICATION FOR REQUIREMENTS FOR CONCRETE CONSTRUCTION.
2. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MINIMUM REINFORCEMENT OF CONCRETE WALLS OR SLABS SHALL BE AS FOLLOWS. CONTACT ENGINEER FOR LOCATIONS INSIDE CONCRETE.
   - 10" THICK OR LESS: .....#5 @ 12" EACH WAY.
   - MORE THAN 10" THICK: .....#5 @ 12" EACH WAY, EACH FACE.
3. WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAP SPLICED, OR TERMINATED IN AN ACI STANDARD 90 DEGREE HOOK. SEE DETAIL SC310/TYP.
4. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, DOWELS BETWEEN ADJACENT CONCRETE PLACEMENTS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS SPLICED TO THE DOWELS.
5. SLAB, BEAM AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318 AND ACI 350.
6. PROVIDE STIRRUP SUPPORT BARS SHALL BE TO SECURE TOP BARS AGAINST DISPLACEMENT AS REQUIRED.
7. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER OVER #11 AND SMALLER REINFORCING BARS SHALL BE AS FOLLOWS:

A. SLABS AND JOISTS:

FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES FOR DRY CONDITIONS
- #7 BARS AND SMALLER.....1"
- #8 BARS AND LARGER.....1 1/2"

FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR LOCATED OVER FLUIDS.....2"

B. BEAMS AND COLUMNS:

FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
- STIRRUPS, SPIRALS, AND TIES.....1 1/2"
- PRINCIPAL REINFORCEMENT.....2"

FORMED CONCRETE SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR IN BEAMS LOCATED OVER FLUIDS:
- STIRRUPS AND TIES.....2"
- PRINCIPAL REINFORCEMENT.....2 1/2"

C. WALLS:

FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
- #7 BARS AND SMALLER.....1"
- #8 BARS AND LARGER.....1 1/2"

FORMED CONCRETE SURFACES EXPOSED TO WEATHER, OR IN CONTACT WITH SOIL OR FLUIDS.....2"

SC001 TYP — REINFORCED CONCRETE - NOTES

SHEET 1 OF 3 12/18/2023

D. FOOTINGS AND SLABS ON GRADE:

FORMED VERTICAL CONCRETE SURFACES.....2"

AT UNFORMED CONCRETE SURFACES CAST AGAINST SOIL, ROCK, OR CONCRETE WORK MATS.....3"

TOP SURFACE OF FOOTINGS AND SLABS.....SAME AS SLABS

8. WATERSTOPS:
   - A. PROVIDE WATERSTOPS AT JOINTS IN SLABS AND WALLS OF LIQUID-CONTAINING STRUCTURES, AND PORTIONS OF STRUCTURES BELOW THE DESIGN GROUNDWATER LEVEL. MAKE WATERSTOPS CONTINUOUS THROUGH STRUCTURE, SPLICING WATERSTOPS IN SLABS WITH WATERSTOPS IN WALLS.
   - B. END WATERSTOPS 3" BELOW TOP OF WALLS. WHERE TOP OF WALL IS COVERED BY A SLAB WITHOUT WATERSTOPS, CONTINUE WATERSTOP TO WALL/SLAB JOINT. WHERE TOP OF WALL IS COVERED BY A SLAB WITH WATERSTOPS, MAKE WATERSTOPS CONTINUOUS, SPLICING WATERSTOPS IN WALLS WITH WATERSTOPS IN SLAB.
9. CURE CONCRETE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE WATER CURING IS SPECIFIED, MEMBRANE CURING IS NOT ALLOWED.
   - A. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. STUDY SPECIFICATION REQUIREMENTS AND FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED.
   - B. KEEP WATER CURED SURFACES VISIBLY MOIST AT ALL TIMES. FLOOD TOPS OF WALLS NOT LESS THEN 3 TIMES DAILY.
10. DO NOT PLACE BACKFILL AGAINST WALLS UNTIL:
    - A. WALLS HAVE BEEN CAST TO FULL HEIGHT OF STRUCTURE AND CONCRETE HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f'c).
    - B. CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND CONCRETE IN THOSE ELEMENTS HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f'c).
11. LAP SPLICES:
    - A. SEE TABLE 1 OF THIS DETAIL FOR LAP SPLICE LENGTHS.
    - B. WHEN MULTIPLE BARS ARE SPLICED AT THE SAME SECTION, THE "CLEAR BAR SPACING" IS DEFINED AS THE MINIMUM CLEAR DISTANCE BETWEEN THE BARS OUTSIDE THE SPLICE LENGTH MINUS ONE BAR DIAMETER.
    - C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS AT A LAP SPLICE SHALL BE IN CONTACT WITH EACH OTHER.
    - D. "TOP BARS" ARE HORIZONTAL REINFORCEMENT AT LOCATIONS WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
12. FORM EXPOSED CONCRETE CORNERS AND EDGES WITH 3/4" CHAMFER UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

SC001 TYP — REINFORCED CONCRETE - NOTES

SHEET 2 OF 3 12/18/2023

TABLE 1: REINFORCING BAR LAP SPLICES: f'c = 4000 PSI, Fy = 60,000 PSI

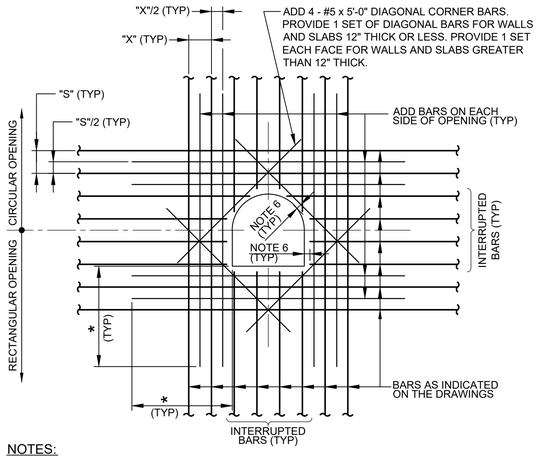
BAR SIZE	MINIMUM COVER (BAR DIA)	MINIMUM CLEAR BAR SPACING (BAR DIA)	LAP SPLICE LENGTH (INCHES)	
			TOP BARS	OTHER BARS
#4	MORE THAN 1	MORE THAN 2	32 *	25 *
	MORE THAN 2	MORE THAN 4	20	16
#5	MORE THAN 1	MORE THAN 2	40 *	31 *
	MORE THAN 2	MORE THAN 4	26	20
#6	MORE THAN 1	MORE THAN 2	48 *	37 *
	MORE THAN 2	MORE THAN 4	30	24
#7	MORE THAN 1	MORE THAN 2	70 *	54 *
	MORE THAN 2	MORE THAN 4	43	33
#8	MORE THAN 1	MORE THAN 2	81 *	62 *
	MORE THAN 2	MORE THAN 4	50	38
#9	MORE THAN 1	MORE THAN 2	90 *	70 *
	MORE THAN 2	MORE THAN 4	56	42
#10	MORE THAN 1	MORE THAN 2	104 *	81 *
	MORE THAN 2	MORE THAN 4	62	48
#11	MORE THAN 1	MORE THAN 2	114 *	88 *
	MORE THAN 2	MORE THAN 4	69	54

REINFORCING BAR LAP SPLICE TABLE NOTES:

1. TABULATED SPLICE LENGTHS ARE APPLICABLE ONLY WHEN BOTH REQUIREMENTS FOR MINIMUM COVER AND FOR MINIMUM CLEAR BAR SPACING ARE SATISFIED.
2. * = IF THE CLEAR BAR SPACING IS LESS THAN OR EQUAL TO TWO BAR DIAMETERS, OR THE COVER IS LESS THAN OR EQUAL TO ONE BAR DIAMETER, THE LAP SPLICE LENGTH SHALL BE INCREASED BY 50 PERCENT.

SC001 TYP — REINFORCED CONCRETE - NOTES

SHEET 3 OF 3 12/18/2023

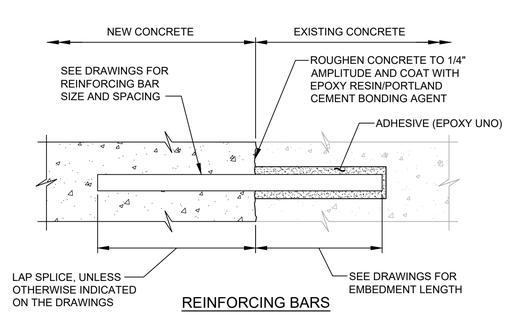


NOTES:

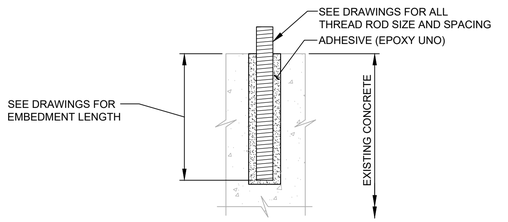
1. AREA OF ADD BARS AT EACH EDGE OF OPENING IN EACH DIRECTION SHALL BE EQUAL TO OR GREATER THAN 1/2 THE CROSS SECTIONAL AREA OF THE INTERRUPTED BARS.
2. PROVIDE STANDARD ACI HOOKS ON BARS IF STRAIGHT EXTENSION PAST THE OPENING, CANNOT BE ACHIEVED.
3. PLACE ADD BARS IN SAME PLANES AS INTERRUPTED REINFORCING.
4. PLACE #5 DIAGONAL BARS ON INSIDE OF INTERRUPTED REINFORCING.
5. * DIMENSION EQUALS OPENING DIMENSION MEASURED PERPENDICULAR TO ADD BARS PLUS LAP SPLICE LENGTH.
6. 2" CLEAR TO CONCRETE OPENINGS OR OUTSIDE FACE OF PIPES AND PIPE SLEEVES. DO NOT OVERCUT REINFORCEMENT FOR EASIER PLACEMENT OF WEEP RINGS AND FLANGES.
7. ADD BARS ARE NOT REQUIRED AT SIDES OF OPENINGS PARALLEL TO AND WITHIN 6" OF A WALL OR BEAM.

SC012 TYP N — CONCRETE - REINFORCEMENT - ADDITIONAL REINF AT OPENINGS - SLABS AND WALLS

12/18/2023



REINFORCING BARS



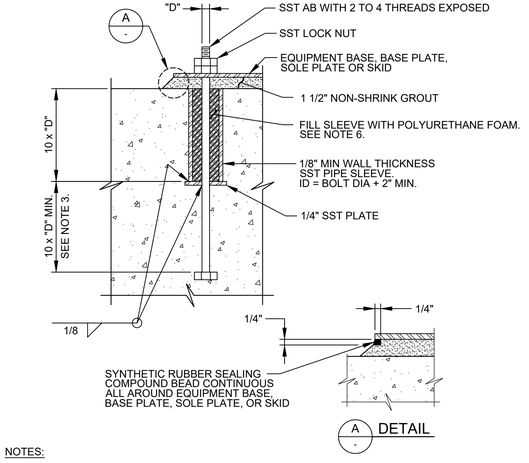
ALL-THREAD RODS

NOTE:

1. INSTALLATION OF REINFORCING BARS AND ALL THREAD RODS AS INDICATED IN THE SPECIFICATIONS.

SC040 TYP — CONCRETE REINFORCEMENT - ADHESIVE-BONDED BARS AND ALL-THREAD RODS

12/18/2023



A DETAIL

NOTES:

1. "D" = DIAMETER OF ANCHOR BOLT.
2. ANCHOR BOLT DIAMETER AS INDICATED ON THE DRAWINGS. IF NOT INDICATED ON THE DRAWINGS, THE ANCHOR BOLT SIZE SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
3. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS OF SLAB OR BEAM.
4. DO NOT USE ALL THREAD RODS AS A SUBSTITUTE FOR BOLTS WITH A BOLT HEAD. SMOOTH RODS THREADED AT THE ENDS MAY BE USED IF ACCEPTABLE TO THE ENGINEER. DO NOT WELD NUTS TO THE THREADED RODS.
5. COMPLETELY REMOVE ANY POLYURETHANE FOAM FROM CONCRETE, EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID, AND ANCHOR BOLTS ABOVE TOP OF CONCRETE.
6. DO NOT USE LEVELING NUTS TO SUPPORT AND LEVEL EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID.

SC064 TYP N — ANCHOR BOLT - SLEEVE PLUS EMBED

12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 11390122-2202 — J. MATTHEW YATES — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

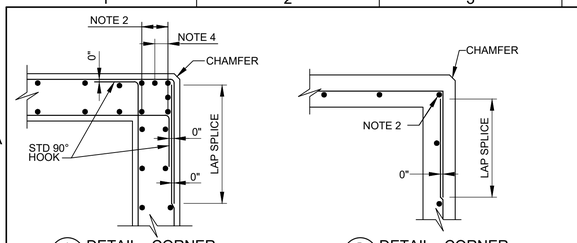
STRUCTURAL 1

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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TS01
SHEET NO. 150 OF 162

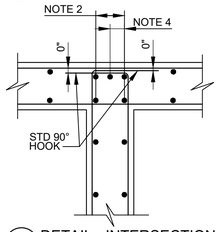
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PROJECT NO. FILE NAME: 203356_00TS01.dwg

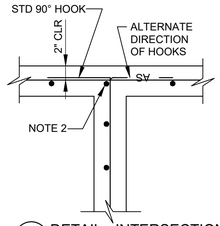


A DETAIL - CORNER: DOUBLE MAT

B DETAIL - CORNER: SINGLE MAT



C DETAIL - INTERSECTION: DOUBLE MAT



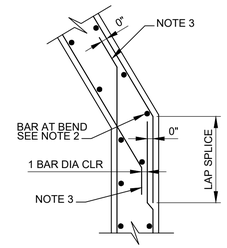
D DETAIL - INTERSECTION: SINGLE MAT

NOTES:

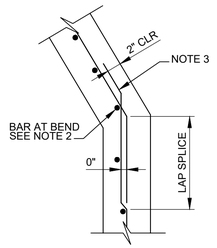
1. BAR SIZE, SPACING, AND ORIENTATION OF BAR LAYERS SHALL BE AS INDICATED ON THE DRAWINGS.
2. AT INTERSECTION, MAKE BAR SIZE THE LARGER OF BAR SIZES IN CONNECTING WALLS. PLACE BARS IN SAME LAYERS AS AT CONNECTING WALLS (TYP).
3. BAR TAILS: 12 BAR DIAMETERS PLUS 12".
4. EXTERIOR VERTICAL BARS SHALL BE PROVIDED AT A SPACING THAT DOES NOT EXCEED THE SPACING SPECIFIED ON THE DRAWINGS REGARDLESS OF THE WALL THICKNESS.

SC310 TYP — CONCRETE - REINFORCEMENT - WALL CORNERS AND INTERSECTIONS

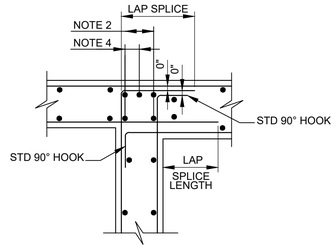
SHEET 1 OF 2 12/18/2023



E DETAIL - INTERSECTION: DOUBLE MAT



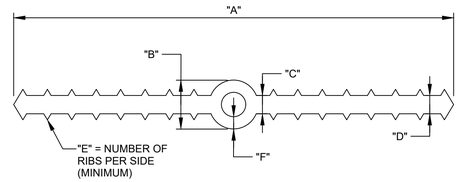
F DETAIL - INTERSECTION: SINGLE MAT



G DETAIL - INTERSECTION: CHANGE IN WALL THICKNESS

SC310 TYP — CONCRETE - REINFORCEMENT - WALL CORNERS AND INTERSECTIONS

SHEET 2 OF 2 12/18/2023



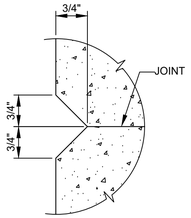
TYPE	"A"	"B"	"C"	"D"	"E"	"F"	APPLICATION
W/O CENTER BULB	6"	-	3/8"	3/8"	7	-	CONSTRUCTION AND CONTROL JOINTS
CENTER BULB	6"	7/8"	3/8"	3/8"	7	9/32"	FOR USE WITH DETAIL EM071/TYP ONLY
CENTER BULB	9"	1"	3/8"	3/8"	7	1/4"	EXPANSION JOINTS 1" AND NARROWER
CENTER BULB	9"	2"	3/8"	3/8"	7	1/4"	EXPANSION JOINTS WIDER THAN 1" AND TENSION/COMPRESSION RING BEAM AT DIGESTERS

NOTES:

1. SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
2. DIMENSIONS ARE MINIMUM, UNLESS OTHERWISE NOTED.

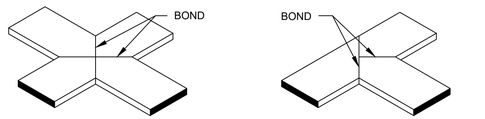
SD004 TYP — CONCRETE JOINTS - PVC WATERSTOPS - SCHEDULE

12/18/2023

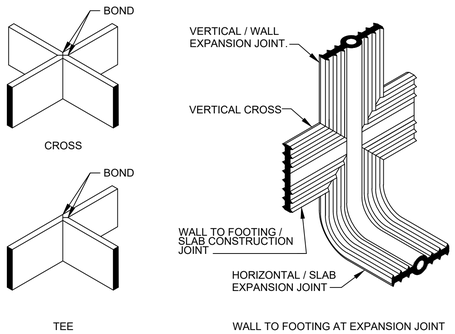


SD050 TYP N — CONCRETE JOINTS - V-GROOVE

12/18/2023



IN-PLANE JOINTS



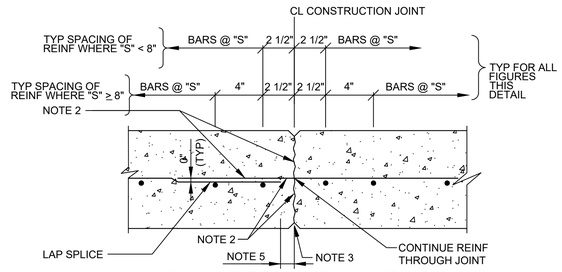
OUT-OF-PLANE JOINTS

NOTES:

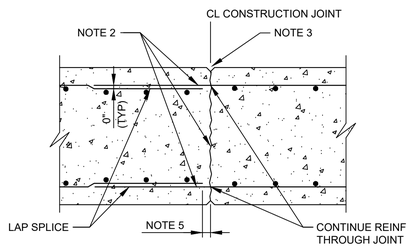
1. MAKE WELDS AS SPECIFIED AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. CROSSES AND TEES SHALL BE FACTORY PREFABRICATED BY THE MANUFACTURER. FIELD WELDS SHALL BE BUTT WELDS ONLY.

SD008 TYP — CONCRETE JOINTS - PVC WATERSTOPS - PREFABRICATED JOINTS

12/18/2023



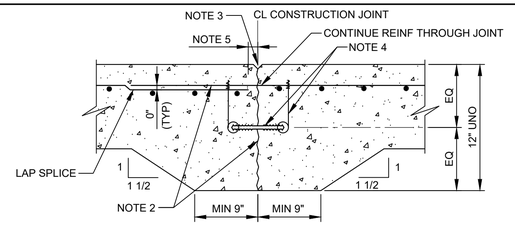
NON-WATER BEARING WALL OR SLAB
SINGLE LAYER REINFORCEMENT



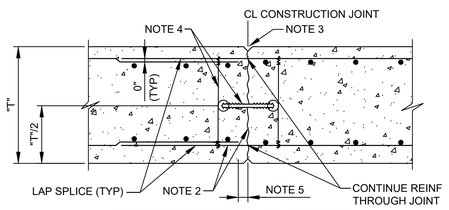
NON-WATER BEARING WALL OR SLAB
DOUBLE LAYER REINFORCEMENT

SD102 TYP — CONCRETE JOINTS - CONSTRUCTION JOINT - WALL OR SLAB

SHEET 1 OF 2 12/18/2023



WATER BEARING SLAB LESS THAN 12" THICK



WATER BEARING SLAB OR WALL

NOTES:

1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS. "T" EQUALS SLAB OR WALL THICKNESS.
2. WATER-BLAST EXPOSED JOINT FACE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
3. JOINT EDGES:
   A. FOR WALLS AND BOTTOM OF EXPOSED SLABS: FORM EDGES WITH 1/2" CHAMFER.
   B. FOR SLABS: EDGE TOP AND ENDS WITH 1/4" RADIUS.
4. 6" WATERSTOP CENTERED ON JOINT - SEE DETAIL SD004/TYP. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE IN SECOND POUR.
5. STOP REINFORCING 2" CLEAR OF JOINT.

SD102 TYP — CONCRETE JOINTS - CONSTRUCTION JOINT - WALL OR SLAB

SHEET 2 OF 2 12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 11390122-2202 J. MATTHEW YATES STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

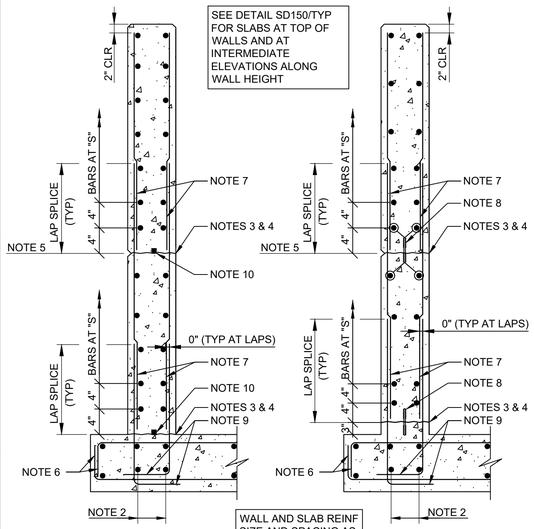
STRUCTURAL 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TS02
SHEET NO. 151 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TS02.dwg



A SECTION

B SECTION - "W/ WSTP"

SD130 TYP R — CONCRETE JOINTS - CONSTRUCTION JOINT - WALLS - STARTER WALL AT WATERSTOP

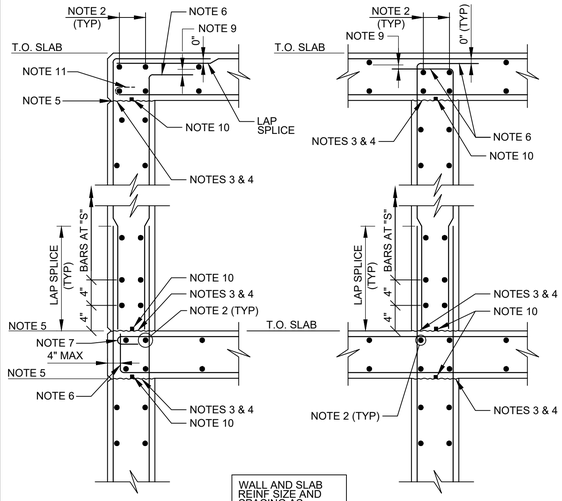
SHEET 1 OF 2 09/30/2024

NOTES:

1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS.
2. PLACE AND ALIGN BARS BEFORE PLACING DOWELS. BAR SIZE TO MATCH SLAB BARS.
3. WATER-BLAST JOINT FACE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
4. PLACE CEMENT GROUT OVER JOINT FACE IMMEDIATELY BEFORE PLACING CONCRETE. (SEE SPECIFICATIONS.)
5. CONSTRUCTION JOINT WHERE INDICATED ON THE DRAWINGS. WHERE WALL SURFACE IS EXPOSED TO VIEW IN THE FINISHED WORK, PROVIDE V-GROOVE PER DETAIL SD050/TYP.
6. STANDARD 90° HOOK WHERE INDICATED ON THE DRAWINGS. (ALTERNATE: PROVIDE 180° HOOK WHERE REQUIRED BY SLAB THICKNESS.)
7. DOWELS: SAME SIZE AND SPACING AS VERTICAL WALL BARS, UNLESS OTHERWISE NOTED.
8. 6" WATERSTOP CENTERED VERTICALLY ON JOINT. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE.
9. STANDARD 90° HOOK UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
10. WHERE DRAWINGS INDICATE "W/ STRIP WSTP" PROVIDE LOW EXPANSION HYDROPHILIC WATERSTOP AT TOP SURFACE OF JOINT AND CENTERED BETWEEN VERTICAL BARS.

SD130 TYP R — CONCRETE JOINTS - CONSTRUCTION JOINT - WALLS - STARTER WALL AT WATERSTOP

SHEET 2 OF 2 09/30/2024

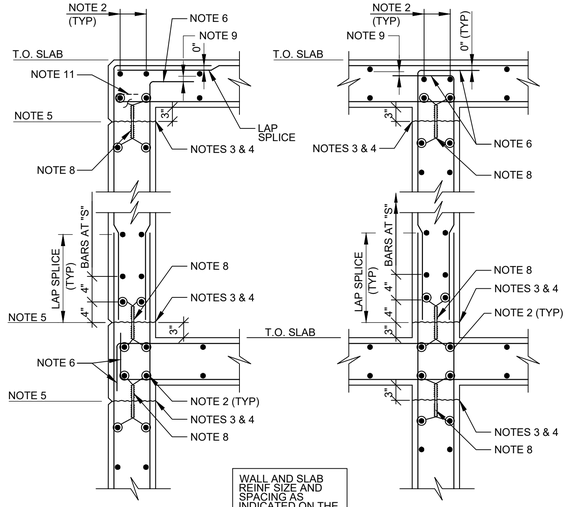


SLAB AT 1 SIDE SLAB AT 2 SIDES

A SECTION

SD150 TYP N — CONCRETE JOINTS - CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS

SHEET 1 OF 3 12/18/2023



SLAB AT 1 SIDE SLAB AT 2 SIDES

B SECTION - "W/ WSTP"

SD150 TYP N — CONCRETE JOINTS - CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS

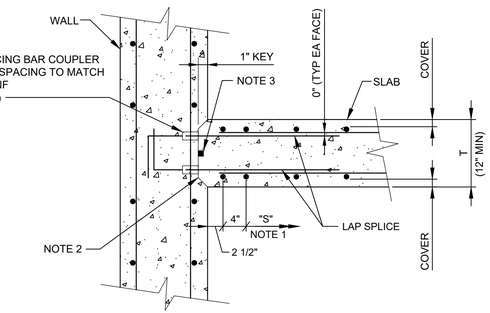
SHEET 2 OF 3 12/18/2023

NOTES:

1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS.
2. AT INTERSECTION, MAKE BAR SIZE THE LARGER OF BAR SIZES IN ADJACENT SLAB OR WALL. PLACE BARS AT SAME LAYERS AS IN ADJACENT SLAB OR WALL.
3. WATER-BLAST JOINT FACE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
4. PLACE CEMENT GROUT OVER JOINT FACE IMMEDIATELY BEFORE PLACING CONCRETE. (SEE SPECIFICATIONS)
5. CONSTRUCTION JOINT WHERE INDICATED ON THE DRAWINGS. WHERE WALL SURFACE IS EXPOSED TO VIEW IN THE FINISHED WORK, PROVIDE V-GROOVE PER DETAIL SD050/TYP.
6. STANDARD 90° HOOK UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
7. STANDARD 180° HOOK (ALTERNATE: 90° HOOK ROTATED OUT OF VERTICAL PLANE IF APPROVED BY ENGINEER.)
8. 6" WATERSTOP CENTERED VERTICALLY ON JOINT. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE.
9. 1 BAR DIAMETER CLEAR.
10. WHERE DRAWINGS INDICATE "W/ STRIP WSTP" PROVIDE LOW EXPANSION HYDROPHILIC WATERSTOP AT TOP SURFACE OF JOINT AND CENTERED BETWEEN VERTICAL BARS.
11. STANDARD 180° HOOK WHERE INDICATED ON THE DRAWINGS.

SD150 TYP R — CONCRETE JOINTS - CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS

SHEET 3 OF 3 09/30/2024



WALL AND SLAB REINF SIZE AND SPACING AS INDICATED ON THE DRAWINGS

NOTES:

1. "S" = BAR SPACING INDICATED ON THE DRAWINGS.
2. WATER-BLAST JOINT THOROUGHLY AND PROVIDE "SATURATED SURFACE DRY" (SSD) CONDITIONS BEFORE PLACING CONCRETE SLAB.
3. WHERE DRAWINGS INDICATE "W/STRIP WSTP," PROVIDE LOW EXPANSION HYDROPHILIC WATERSTOP CENTERED BETWEEN REINF DOWELS.

SD156 TYP N — CONCRETE JOINTS - CONSTRUCTION JOINT - WALL W/ REINF COUPLERS AT SLAB

12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 11390122-2202 — J. MATTHEW YATES — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

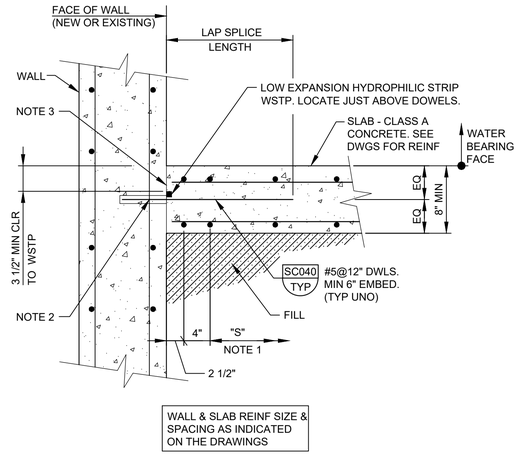
STRUCTURAL 3

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TS03
SHEET NO. 152 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TS03.dwg



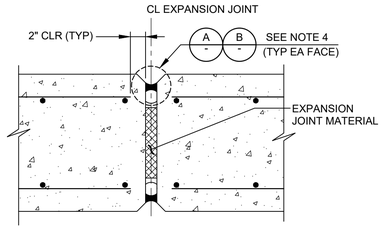
SECTION

NOTES:

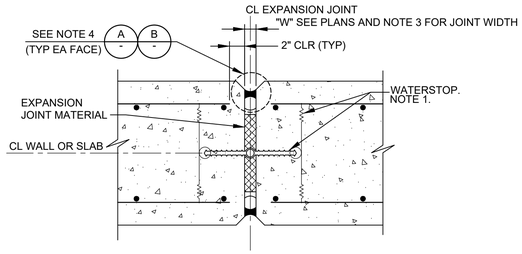
1. "S" = BAR SPACING INDICATED ON DRAWINGS.
2. LOCATE WALL REINFORCEMENT BEFORE DRILLING. ADJUST ADHESIVE DOWEL LOCATIONS TO AVOID DRILLING THROUGH WALL BARS.
3. WATER-BLAST JOINT THOROUGHLY AND PROVIDE "SATURATED SURFACE DRY" (SSD) CONDITIONS BEFORE PLACING CONCRETE SLAB.

SD256 TYP — CONCRETE JOINTS - CONTRACTION JOINT - WALL W/ INFILL SLAB OVER FILL

12/18/2023



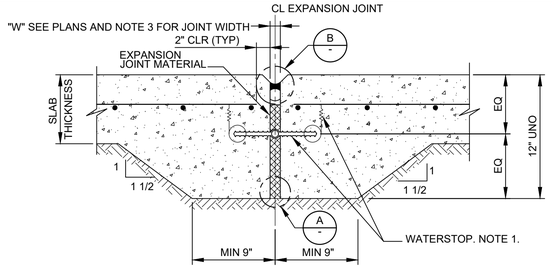
NON-WATER BEARING SLAB OR WALL



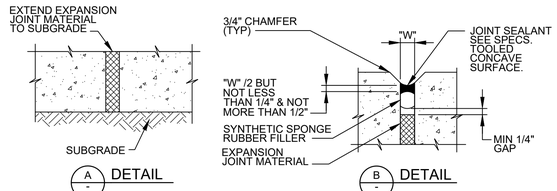
WATER BEARING SLAB OR WALL

SD382 TYP — CONCRETE JOINTS - ISOLATION JOINT - WALL OR SLAB

SHEET 1 OF 2 12/18/2023



WATER BEARING SLAB LESS THAN 12" THICK

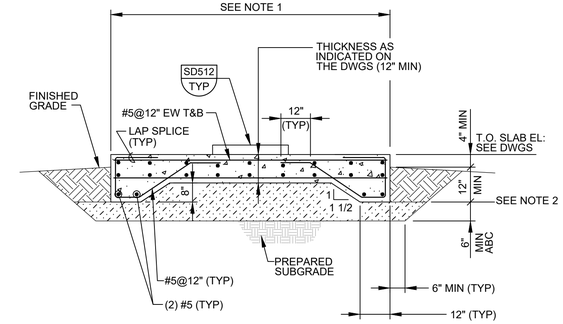


NOTES:

1. 9" WATERSTOP WITH CENTER BULB CENTERED ON JOINT - SEE DETAIL SD004/TYP. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE IN SECOND POUR.
2. JOINT EDGES:
   A. FOR WALLS AND BOTTOM OF EXPOSED SLABS, FORM EDGES WITH 3/4" CHAMFER.
   B. FOR SLABS: EDGE TOP AND ENDS WITH 1/4" RADIUS.
3. "W"=1" UNLESS OTHERWISE INDICATED ON PLANS. (MIN JOINT WIDTH = 3/8", MAX JOINT WIDTH = 2")
4. USE DETAIL A ONLY AT SOIL SIDE OF SLABS ON GRADE. USE DETAIL B AT ALL OTHER LOCATIONS.

SD382 TYP — CONCRETE JOINTS - ISOLATION JOINT - WALL OR SLAB

SHEET 2 OF 2 12/18/2023

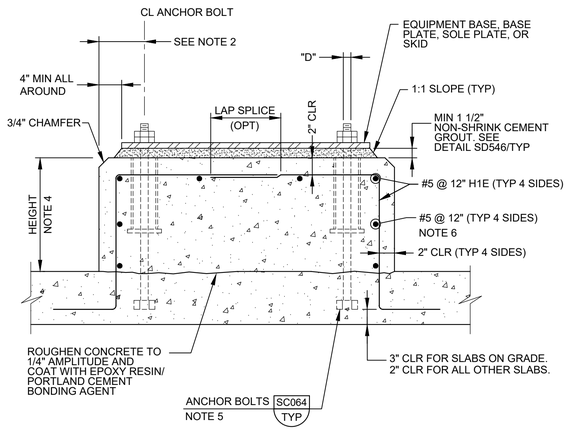


NOTE:

1. DIMENSIONS AS REQUIRED TO SUIT EQUIPMENT OR AS INDICATED ON THE DRAWINGS.
2. MAKE ELEVATION AT BOTTOM OF THICKENED EDGE UNIFORM AROUND PAD. SET ELEVATION TO PROVIDE INDICATED HEIGHT ABOVE AND DEPTH BELOW FINISHED GRADES INDICATED ON THE DRAWINGS.

SD503 TYP — CONCRETE - EQUIPMENT SLAB

12/18/2023

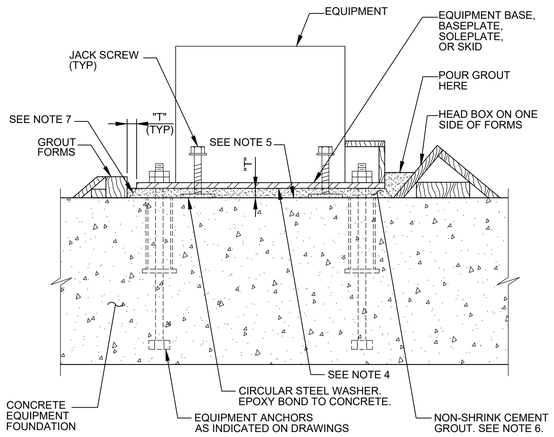


NOTES:

1. "D" = DIAMETER OF ANCHOR BOLT.
2. THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".
3. PAD DIMENSIONS AND ANCHOR BOLT SIZE SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS.
4. HEIGHT TO SUIT EQUIPMENT FURNISHED OR AS INDICATED ON THE DRAWINGS.
5. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS FOR SLAB OR BEAM.
6. PROVIDE HOOPS OR CORNERS PER DETAIL SC310/TYP.

SD512 TYP — CONCRETE - EQUIPMENT BASE - DEEP ANCHORS

12/18/2023



NOTES:

1. "T" = EQUALS GROUT THICKNESS INDICATED ON THE DRAWING. 1" MINIMUM GROUT THICKNESS.
2. FILL ANCHOR SLEEVES WITH POLYURETHANE FOAM BEFORE GROUTING.
3. DO NOT USE LEVELING NUTS ON EQUIPMENT ANCHORS.
4. PREPARE SURFACE OF EQUIPMENT BASES, BASE PLATES, SOLE PLATES, AND SKIDS IN CONTACT WITH GROUT PER SPECIFICATIONS.
5. PREPARE SURFACES OF CONCRETE FOUNDATION IN CONTACT WITH GROUT PER SPECIFICATIONS.
6. PLACE NON-SHRINK GROUT PER SPECIFICATIONS.
7. AFTER GROUT SETS, TRIM GROUT TO 45 DEGREE CHAMFER.

SD546 TYP — CONCRETE - EQUIPMENT GROUTING

12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 11390122-2202 — J. MATTHEW YATES — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

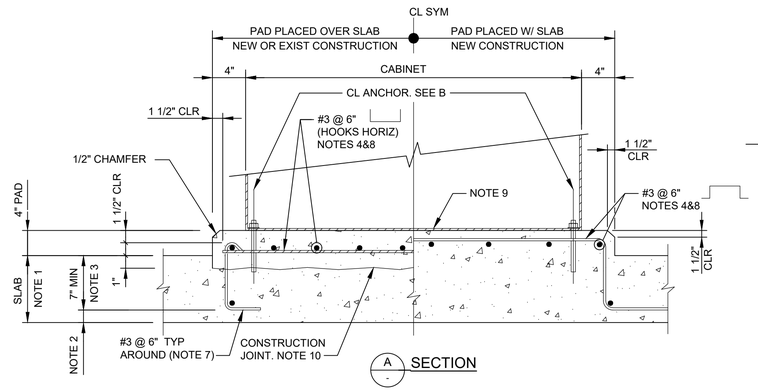
STRUCTURAL 4

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

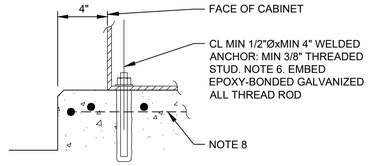
JOB NO. 203356
DRAWING NO. 00TS04
SHEET NO. 153 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TS04.dwg



A SECTION



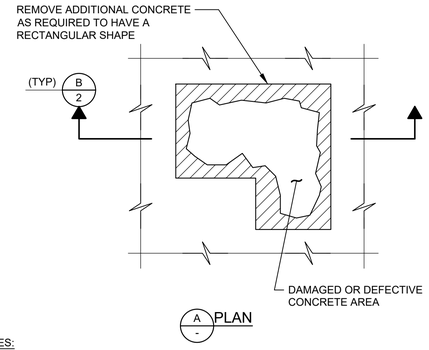
B POST-INSTALLED ANCHOR

NOTES:

1. SEE STRUCTURAL DRAWINGS FOR THICKNESS OF SLAB BELOW PAD. SLAB REINFORCEMENT NOT SHOWN.
2. SEE SC001/ TYP FOR MIN CONCRETE COVER REQUIREMENTS.
3. CONTACT ENGINEER FOR INSTRUCTIONS WHERE EMBEDMENT IS LESS THAN DIMENSION SHOWN.
4. FOR EQUIPMENT WITH CONDUIT WINDOWS BELOW, ADJUST BAR LOCATIONS TO FIT BETWEEN WINDOWS.
5. NOT USED.
6. NOT USED.
7. FOR NEW PAD ON EXIST SLAB, PROVIDE DOWELS WITH VERTICAL LEG SET IN ADHESIVE USING DETAIL SC040/TYP. DO NOT CUT EXISTING SLAB REINF.
8. POST-INSTALLED ANCHORS: POSITION REINFORCEMENT SO THAT IT WILL NOT BE CUT DURING ANCHOR PLACEMENT.
9. SEE DRAWINGS FOR REQUIRED PENETRATION DETAILS.
10. ROUGHEN CONCRETE TO ICRI CSP-7. SATURATE BONDING SURFACES AND CONCRETE 12" BEYOND FOR MINIMUM 24 HOURS. REMOVE WATER AND PREPARE CONCRETE TO "SATURATED SURFACE DRY" (SSD) CONDITION. PLACE PAD AND WATER CURE MINIMUM 7 DAYS.

SD702 TYP R — CONCRETE - EQUIPMENT - ELECTRICAL - HOUSEKEEPING PAD AT ELECTRICAL CABINETS

4/30/2025



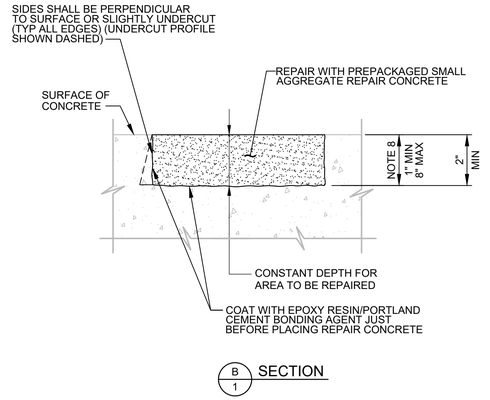
A PLAN

NOTES:

1. SAW CUT EDGES OF AREA WHERE CONCRETE WILL BE REMOVED A MINIMUM OF 1/2" DEEP. DO NOT CUT REINFORCING BARS. DO NOT SAW CUT PAST OUTSIDE CORNERS.
2. CHIP OUT DAMAGED OR DEFECTIVE CONCRETE WITH HAND HELD PNEUMATIC CHIPPING GUN. DO NOT CUT OR DAMAGE REINFORCING BARS.
3. IF MORE THAN 1/3 OF BAR DIAMETER IS EXPOSED DURING REMOVAL OF DAMAGED OR DEFECTIVE CONCRETE, REMOVE ADDITIONAL CONCRETE TO A MINIMUM 1" BEHIND/AROUND THE EXPOSED BARS.
4. CONCRETE SURFACES TO BE REPAIRED SHALL BE CLEANED AND ROUGHENED TO ICRI SURFACE PROFILE CSP 7 (±1/8") UNLESS OTHERWISE RECOMMENDED BY REPAIR CONCRETE MANUFACTURER.
5. SOAK CONCRETE IN REPAIR AREA AND MIN 2" BEYOND WITH WATER FOR MIN 24 HOURS JUST BEFORE PLACING REPAIR CONCRETE. CONCRETE IN REPAIR AREA TO BE REPAIRED SHALL BE "SATURATED SURFACE DRY" (SSD) WHEN REPAIR CONCRETE IS PLACED.
6. WATER CURE REPAIR FOR MINIMUM OF 7 DAYS AFTER PLACEMENT. KEEP REPAIRED AREA CONTINUOUSLY MOIST.
7. SEE DRAWINGS FOR ESTIMATED REPAIR DEPTH. REQUIRED REPAIR DEPTH MAY BE ADJUSTED FOR FIELD CONDITIONS. PROVIDE REPAIR DEPTH WITHIN REPAIR CONCRETE MANUFACTURER'S RECOMMENDED LIMITS FOR MAX/MIN THICKNESS.

SD810 TYP R — CONCRETE REPAIR - SURFACE

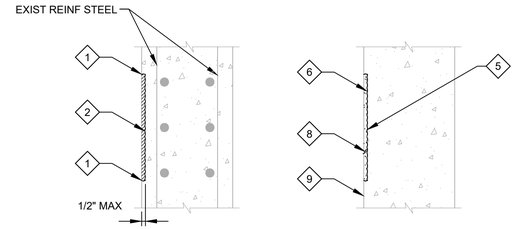
SHEET 1 OF 4 02/21/2024



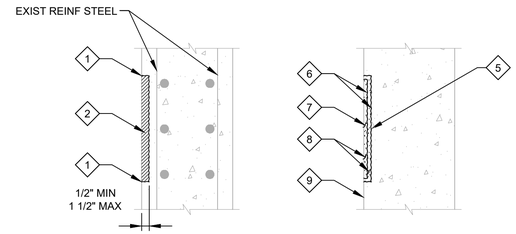
B SECTION

SD810 TYP D — CONCRETE REPAIR - SURFACE

SHEET 2 OF 4 02/21/2024



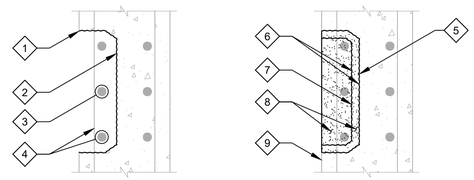
TYPE 1 - CONCRETE REPAIR DETAIL



TYPE 2 - CONCRETE REPAIR DETAIL

SD810 TYP R — CONCRETE REPAIR - SURFACE - PREPACKAGED SMALL AGGREGATE REPAIR CONCRETE

SHEET 3 OF 4 02/21/2024



TYPE 3 - CONCRETE REPAIR DETAIL

KEY NOTES:

1. SAWCUT 1/2" DEEP OR AS INDICATED ON DETAIL.
2. REMOVE DAMAGED OR DEFECTIVE CONCRETE IN ACCORDANCE WITH SECTION 03_01_04.
3. REMOVE 1" INCH BEHIND STEEL FOR MORTAR.
4. CLEAN STEEL TO REMOVE CORROSION. REPAIR OR REPLACE REINFORCING STEEL AS SPECIFIED IN SECTION 03_01_04 AS DIRECTED BY THE ENGINEER.
5. CONCRETE SURFACE SHOULD BE SATURATED SURFACE DRIED.
6. APPLY A SCRUB COAT, FILLING ALL PORES AND VOIDS.
7. SCORE THE TOP OF EACH LIFTS TO PRODUCE A ROUGHENED SURFACE FOR THE NEXT LIFT.
8. WHILE SCRUB COAT IS STILL WET APPLY REPAIR MORTAR IN LIFTS NOT EXCEEDING 1 1/2 INCH THICKNESS.
9. COAT SURFACES AS SHOWN ON THE DRAWINGS AND AS SPECIFIED IN SECTION 09960.

SD810 TYP R — CONCRETE REPAIR - SURFACE - PREPACKAGED SMALL AGGREGATE REPAIR CONCRETE

SHEET 4 OF 4 02/21/2024

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 11390122-2202 J. MATTHEW YATES STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

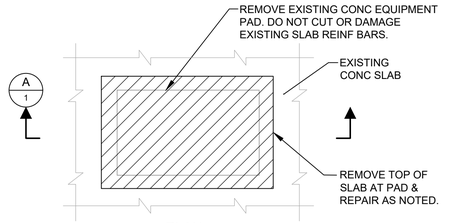
STRUCTURAL 5

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

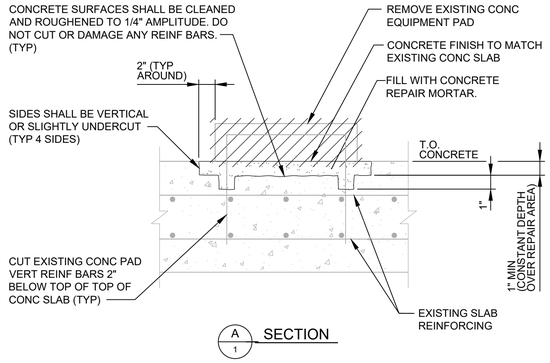
JOB NO. 203356
DRAWING NO. 00TS05
SHEET NO. 154 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TS05.dwg



PLAN



SECTION

SD820 TYP N CONCRETE REPAIR - SLAB AT REMOVED EQUIPMENT PAD

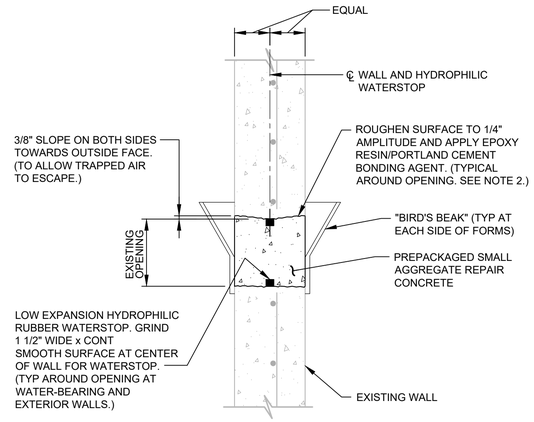
SHEET 1 OF 2 12/18/2023

NOTES:

1. SAW CUT EDGES OF AREA WHERE CONCRETE WILL BE REMOVED A MINIMUM OF 1/2" DEEP. DO NOT CUT REINFORCING BARS. DO NOT CUT PAST OUTSIDE CORNERS.
2. CHIP OUT CONCRETE WITH A HAND HELD PNEUMATIC CHIPPING DEVICE. DO NOT CUT OR DAMAGE REINFORCING BARS.
3. ROUGHEN BONDING SURFACES TO 1/4" AMPLITUDE. CLEAN PREPARED SURFACES.
4. SOAK CONCRETE SURFACES IN AND 12" BEYOND REPAIR AREA WITH WATER FOR MINIMUM 24 HOURS JUST BEFORE PLACING CONCRETE REPAIR MORTAR. AREA TO BE REPAIRED SHALL BE SATURATED AND SURFACE DRY WHEN BONDING AGENT AND REPAIR MORTAR IS PLACED.
5. COAT CONCRETE SURFACES RECEIVING REPAIR WITH EPOXY RESIN/PORTLAND CEMENT BONDING AGENT JUST BEFORE PLACING REPAIR MORTAR.
6. WATER CURE REPAIR FOR MINIMUM OF 7 DAYS. KEEP REPAIR AREA AND SURFACES 12" BEYOND PERIMETER CONTINUOUSLY WET.

SD820 TYP N CONCRETE REPAIR - SLAB AT REMOVED EQUIPMENT PAD

SHEET 2 OF 2 12/18/2023

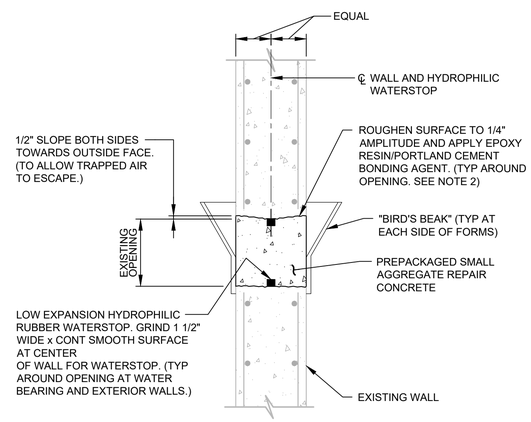


NOTES:

1. PLACE CONCRETE THROUGH "BIRD'S BEAK" ON FORM. REMOVE EXCESS CONCRETE AND FINISH TO MATCH EXISTING SURFACE.
2. REMOVE ANY LOOSE OR FRACTURED AGGREGATE OR CONCRETE ON SURFACE OF ROUGHENED CONCRETE.

SD870 TYP N CONCRETE REPAIR - WALL - FILL OPENING W/ 1 MAT REINF - SMALL OPENING

12/18/2023

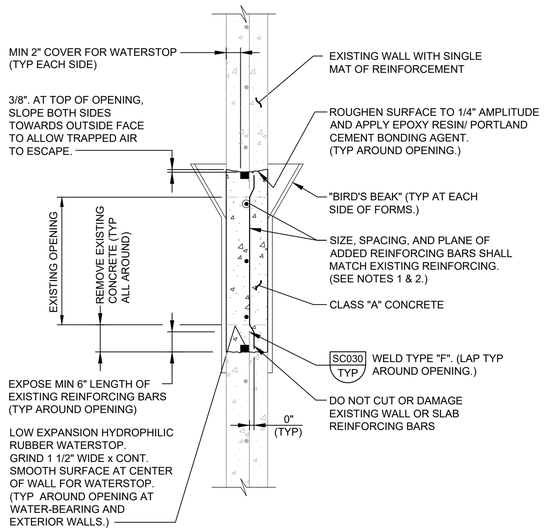


NOTES:

1. PLACE CONCRETE THROUGH "BIRD'S BEAK" ON FORM. REMOVE EXCESS CONCRETE AND FINISH TO MATCH EXISTING SURFACE.
2. REMOVE ANY LOOSE OR FRACTURED AGGREGATE OR CONCRETE ON SURFACE OF ROUGHED CONCRETE.

SD871 TYP N CONCRETE REPAIR - WALL - FILL OPENING W/ 2 MATS REINF - SMALL OPENING

12/18/2023

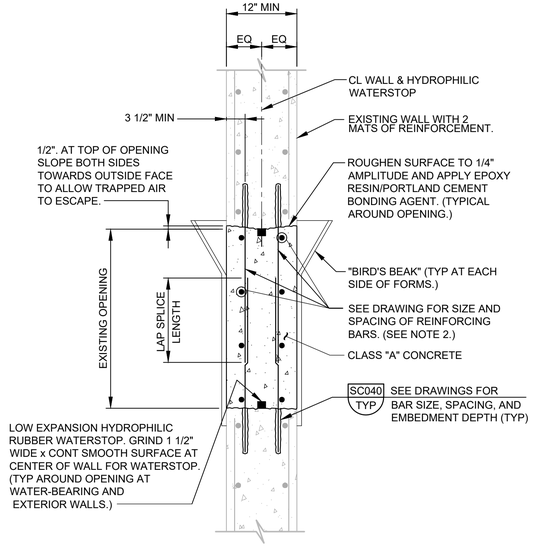


NOTES:

1. ADDED REINFORCING BARS SHALL BE ASTM A706.
2. FOR CIRCULAR WALL, ROLL CIRCUMFERENTIAL REINFORCING BARS AS REQUIRED TO MATCH WALL RADIUS.
3. PLACE CONCRETE THROUGH "BIRD'S BEAK" ON FORM. REMOVE EXCESS CONCRETE AND FINISH TO MATCH EXISTING SURFACE.

SD874 TYP N CONCRETE REPAIR - WALL - FILL OPENING W/ 1 MAT REINF - WELDED BAR SPLICES

12/18/2023



NOTES:

1. PLACE CONCRETE THROUGH "BIRD'S BEAK" ON FORM. REMOVE EXCESS CONCRETE AND FINISH TO MATCH EXISTING SURFACE.
2. FOR CIRCULAR WALL, ROLL CIRCUMFERENTIAL REINFORCING BARS AS REQUIRED TO MATCH WALL RADIUS.

SD879 TYP N CONCRETE REPAIR - WALL - FILL OPENING W/ 2 MATS REINF - DOWELS & LAP SPLICES

12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER No. 1139122-2202 J. MATTHEW YATES STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

STRUCTURAL 6

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TS06
SHEET NO. 155 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TS06.dwg

1. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL WALLS SHALL BE REINFORCED WITH A MINIMUM OF NUMBER 5 VERTICAL REINFORCING BARS EACH FACE AT 2'-0" AND NUMBER 4 HORIZONTAL REINFORCING BARS EACH FACE AT 2'-8". SEE NOTE 2 FOR ADDITIONAL REINFORCING BARS ADJACENT TO WALL OPENINGS.
2. TWO VERTICAL BARS SHALL BE PLACED AT ALL WALL CORNERS AND WALL INTERSECTIONS, AND TWO VERTICAL BARS SHALL BE PLACED IN EACH OF THE FIRST TWO CELLS AT EACH JAMB OF ALL WALL OPENINGS. THE BAR SIZE SHALL BE NUMBER 5 MINIMUM, BUT NOT SMALLER THAN THE TYPICAL VERTICAL WALL REINFORCING BARS.
3. CONCRETE BLOCK MASONRY SHALL BE LIGHT WEIGHT, HOLLOW UNITS CONFORMING TO ASTM C 90. SIZE OF UNITS, COLOR AND TEXTURE SHALL BE PER THE SPECIFICATIONS.
4. GROUT ALL CELLS OF CONCRETE BLOCK MASONRY UNLESS OTHERWISE NOTED ON DRAWINGS.
5. UNLESS OTHERWISE INDICATED, REINFORCEMENT LAPS SPLICES SHALL FOLLOW THE LENGTHS INDICATED IN THE REINFORCING BAR LAP SPLICES SCHEDULE.
6. MORTAR SHALL BE IN ACCORDANCE WITH ASTM C 270, TYPE S, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 1,900 PSI.
7. GROUT SHALL BE IN ACCORDANCE WITH ASTM C 476, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
8. SPECIAL INSPECTION SHALL BE PROVIDED PER THE SPECIFICATIONS FOR ALL MASONRY WORK.
9. THE COMBINED MASONRY ASSEMBLAGE COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE A MINIMUM OF f'm= 2000 PSI.
10. REINFORCEMENT SHALL BE TIED OR OTHERWISE SECURED IN POSITION PRIOR TO GROUTING.
11. ALL HORIZONTAL AND VERTICAL REINFORCEMENT SHALL BE CONTINUOUS OVER THE FULL EXTENT OF THE WALL WITH STANDARD SPLICES LOCATED AS NEEDED. WHERE IT IS NECESSARY TO INTERRUPT AN INDIVIDUAL BAR, AN EQUAL SIZED BAR SHALL BE LOCATED AS CLOSE AS POSSIBLE AND SHALL EXTEND A MINIMUM OF ONE SPLICE LENGTH BEYOND EACH SIDE OF THE INTERRUPTION.
12. UNLESS OTHERWISE INDICATED IN THE DRAWINGS, PROVIDE MASONRY PIER REINFORCEMENT AS SPECIFIED IN SF221/TYP WITH PIER VERTICAL REINFORCEMENT EXTENDING THE FULL HEIGHT OF THE WALL.
13. SUPPORT VERTICAL BARS IN POSITION AT INTERVALS NOT EXCEEDING 200 BAR DIAMETERS AND AT THE BOTTOM OF EACH GROUT POUR.
14. ALL GROUT IS TO BE CONSOLIDATED BY MECHANICAL VIBRATION.
15. GROUT IN MASONRY BEAMS SHALL BE VIBRATED AS IT IS PLACED. WHERE FULL DEPTH GROUTING OF BEAMS IS REQUIRED, THE GROUTING SHALL EXTEND TO THE END OF THE HORIZONTAL BARS AT REINFORCEMENT LOCATIONS.
16. MASONRY REINFORCING STEEL SHOP DRAWINGS SHALL INCLUDE FULL WALL ELEVATIONS SHOWING SPECIFIED SIZE AND LOCATION OF ALL VERTICAL AND HORIZONTAL REINFORCEMENT.

SF002 TYP J — REINFORCED MASONRY NOTES

SHEET 1 OF 2 09/30/2024

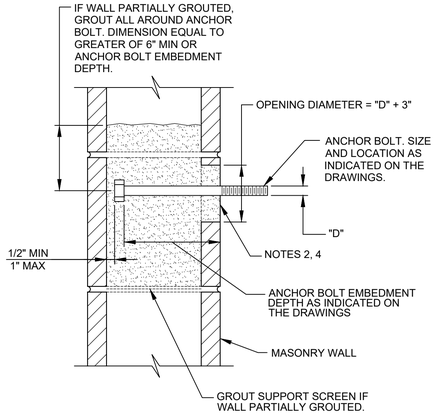
LAP SPLICES:

A. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, THE BARS AT A LAP SPLICE SHALL BE IN CONTACT WITH EACH OTHER.
B. THE MASONRY SIDE COVER OVER THE REINFORCING BARS SHALL NOT BE LESS THAN 2 INCHES FROM FACE OF MASONRY TO THE EXTERIOR FACE OF THE BAR.

REINFORCING BAR LAP SPLICES: f'm = 2000psi, Fy = 60,00psi						
BAR SIZE	LAP SPLICE LENGTH (INCHES)				HOOK	EMBEDMENT
	8" CMU: BAR CENTERED IN WALL	8" CMU: BAR @ FACE OF WALL	12" CMU: BAR CENTERED IN WALL	12" CMU: BAR @ FACE OF WALL		
#3				19"	6"	19"
#4	21"	26"	21"	34"	8"	34"
#5	26"	40"	26"	45"	10"	45"
#6	42"	54"	40"	54"	12"	54"
#7	58"	63"	46"	63"	14"	63"
#8				72"	16"	72"

SF002 TYP J — REINFORCED MASONRY NOTES

SHEET 2 OF 2 09/30/2024

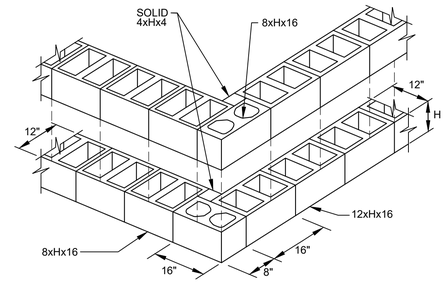


NOTES:

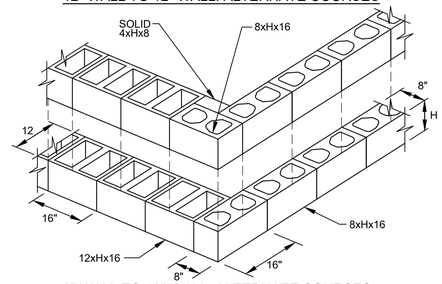
1. "D" = DIAMETER OF ANCHOR BOLT.
2. SET ANCHOR BOLTS WITH TEMPLATE. DO NOT EMBED ADJUSTMENT NUTS IN GROUT AT FACE OF MASONRY.
3. CUT MASONRY WEBS AS REQUIRED TO ALLOW MINIMUM 1/2" GROUT BETWEEN ANCHOR BOLT AND MASONRY SURFACE.
4. REMOVE EXCESS GROUT. LEAVE FINISHED SURFACE FLUSH WITH FACE OF WALL.

SF052 TYP — MASONRY - CMU - ANCHOR BOLTS - BUILT IN

12/18/2023



12" WALL TO 12" WALL: ALTERNATE COURSES



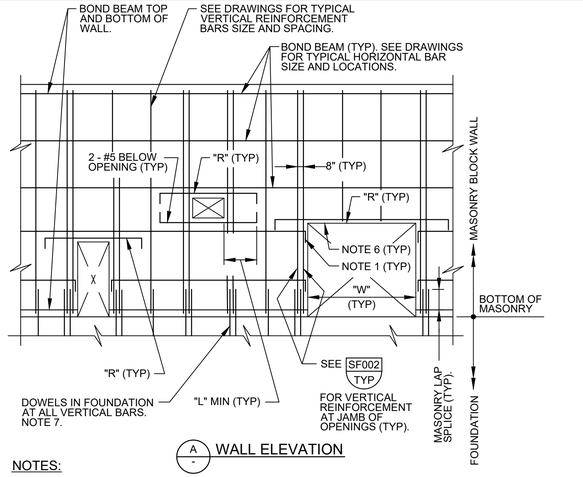
8" WALL TO 12" WALL: ALTERNATE COURSES

NOTES:

1. WALL THICKNESS AS INDICATED ON THE DRAWINGS.
2. BLOCK OR COURSE HEIGHT "H" EQUALS 8" OR 4" AS INDICATED ON THE DRAWINGS.

SF206 TYP N — MASONRY - CMU - L-CORNER AT 12" UNITS

12/18/2023



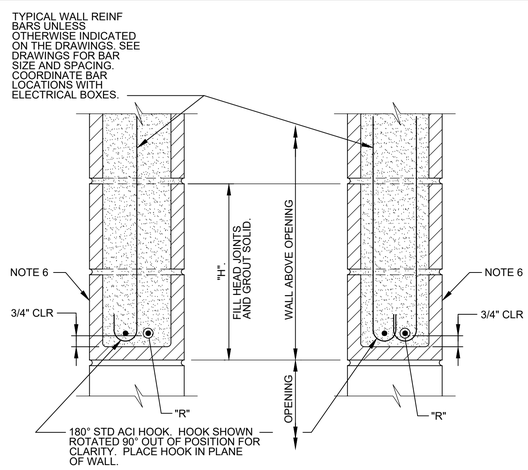
A - WALL ELEVATION

NOTES:

1. ACI STANDARD 90° HOOK ON HORIZONTAL BARS AT OPENINGS.
2. SEE DRAWINGS FOR VERTICAL AND HORIZONTAL REINFORCEMENT SIZE AND SPACING AT EACH STRUCTURE.
3. DO NOT PLACE VERTICAL CONDUITS IN CELLS WITH VERTICAL REINFORCING BARS.
4. SEE DETAIL SF230/TYP FOR BOND BEAM REINFORCEMENT AT CORNERS AND INTERSECTIONS.
5. "R" BARS: EXTEND BAR TO "L" DIMENSION INDICATED ON SHEET 2. PROVIDE VERTICAL HOOK AT END IF "L" CANNOT BE ACHIEVED.
6. CHANNEL LINTEL MASONRY UNITS ACROSS OPENINGS. KNOCK-OUT BOND BEAM UNITS BEYOND OPENINGS TO "L."
7. EMBED DOWELS IN CONCRETE PER DETAIL SF270/TYP.

SF220 TYP J — MASONRY - CMU - SPECIAL REINF MASONRY SHEAR WALL (SRMSW)

SHEET 1 OF 2 09/30/2024



B - LINTEL AT OPENING WITH VERTICAL REINF

C - LINTEL AT OPENING WITH VERTICAL REINF EACH FACE

LINTEL REINFORCEMENT SCHEDULE		
"W"	"R"	"H"
LESS THAN 5'-0"	2 - #5	16"
GREATER THAN 5'-0" TO 7'-0"	2 - #6	32"
GREATER THAN 7'-0" TO 12'-0"	2 - #7	40"

SF220 TYP J — MASONRY - CMU - SPECIAL REINF MASONRY SHEAR WALL (SRMSW)

SHEET 2 OF 2 09/30/2024

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 11390122-2202 — J. MATTHEW YATES — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

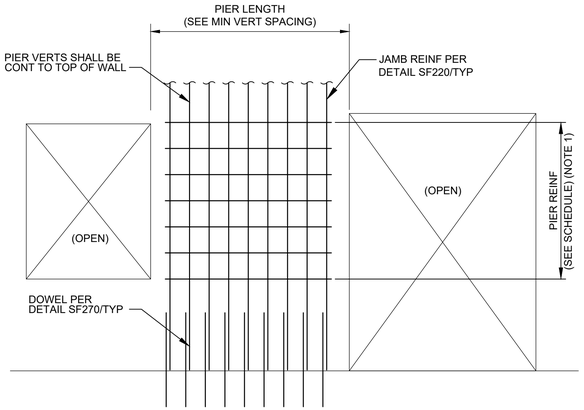
STRUCTURAL 7

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TS07
SHEET NO. 156 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TS07.dwg

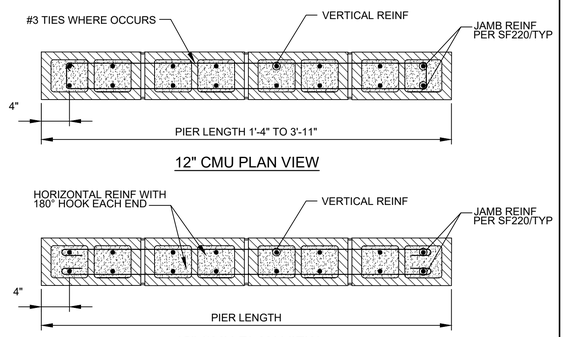


PIER ELEVATION

NOTES:
1. REBAR SPLICES ARE NOT PERMITTED IN THIS REGION OF THE PIER.

SF221 TYP J — MASONRY PIER REINFORCING

SHEET 1 OF 3 4/14/2025



12" CMU PLAN VIEW

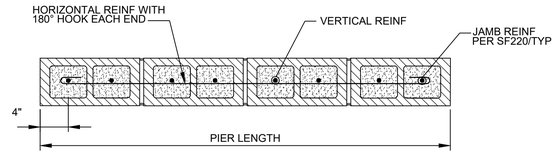
12" CMU PLAN VIEW

MINIMUM WALL PIER REINFORCEMENT AND SPACING			
PIER	PIER LENGTH	VERTICAL	HORIZONTAL
P1	1'-4" TO 3'-11"	#5 @ 8" OC EF	#3 CLOSED TIES @ 8" OC
P2	4'-0" TO 5'-11"	#5 @ 8" OC EF	(2) #4 @ 16" OC
P3	6'-0" TO 7'-11"	#5 @ 16" OC EF	(2) #4 @ 24" OC
P4	≥ 8'-0"	SEE DRAWINGS	SEE DRAWINGS

NOTES:
1. PIER LENGTH IS ANY SECTION OF WALL BETWEEN TWO OPENINGS, BETWEEN AN OPENING AND A CONTROL JOINT, OR BETWEEN A CONTROL JOINT AND THE END OF THE WALL.
2. REINFORCEMENT IN TABLE REFERS TO THE MINIMUM REQUIRED REINFORCEMENT. USE MORE IF THE DRAWINGS INDICATES MORE.

SF221 TYP J — MASONRY PIER REINFORCING

SHEET 2 OF 3 4/14/2025



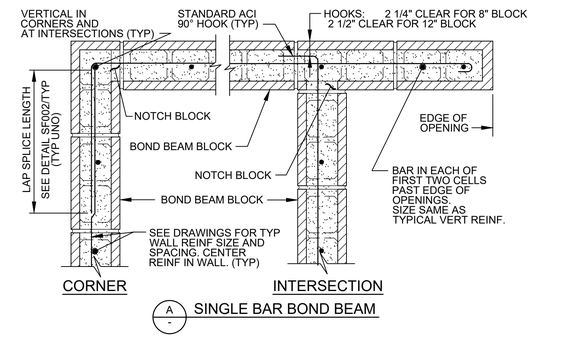
8" CMU PLAN VIEW

MINIMUM WALL PIER REINFORCEMENT AND SPACING			
PIER	PIER LENGTH	VERTICAL	HORIZONTAL
P1	1'-4" TO 3'-11"	#5 @ 8" OC	#3 @ 8" OC
P2	4'-0" TO 5'-11"	#5 @ 8" OC	#4 @ 16" OC
P3	6'-0" TO 7'-11"	#5 @ 16" OC	#4 @ 24" OC
P4	≥ 8'-0"	SEE DRAWINGS	SEE DRAWINGS

NOTES:
1. PIER LENGTH IS ANY SECTION OF WALL BETWEEN TWO OPENINGS, BETWEEN AN OPENING AND A CONTROL JOINT, OR BETWEEN A CONTROL JOINT AND THE END OF THE WALL.
2. REINFORCEMENT IN TABLE REFERS TO THE MINIMUM REQUIRED REINFORCEMENT. USE MORE IF THE DRAWINGS INDICATES MORE.

SF221 TYP J — MASONRY PIER REINFORCING

SHEET 3 OF 3 4/14/2025

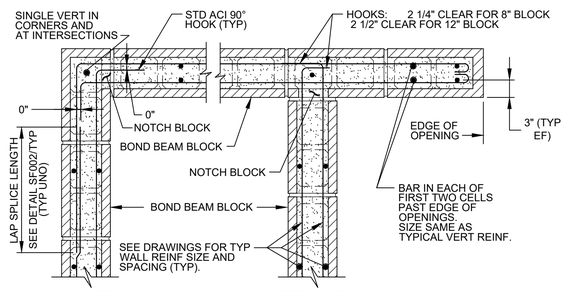


A — SINGLE BAR BOND BEAM

NOTES:
1. CONSTRUCT BOND BEAMS IN WALL USING BOND BEAM BLOCKS.
2. SEE DETAIL SF220 - REINFORCED MASONRY WALL, FOR REINFORCEMENT AT OPENINGS AND JAMBS.
3. LOCATE LAPS BEYOND CORNERS AND HOOK EXTENSIONS.
4. CLEARANCE BETWEEN PARALLEL BARS AT HOOKS: MIN 1/2 INCH / MAX 1 INCH.

SF230 TYP J — MASONRY - CMU - SPECIAL REINF MASONRY SHEAR WALL (SRMSW) - BOND BEAMS

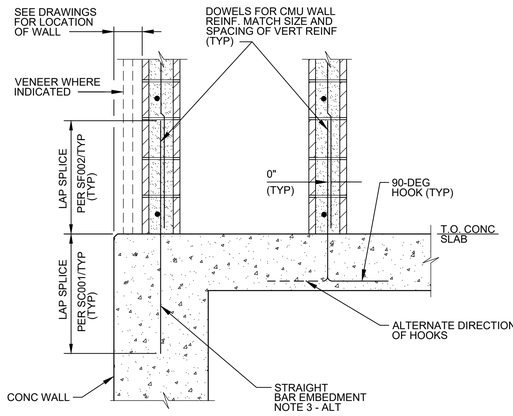
SHEET 1 OF 2 09/30/2024



B — DOUBLE BAR BOND BEAM (12" CMU ONLY)

SF230 TYP J — MASONRY - CMU - SPECIAL REINF MASONRY SHEAR WALL (SRMSW) - BOND BEAMS

SHEET 2 OF 2 09/30/2024

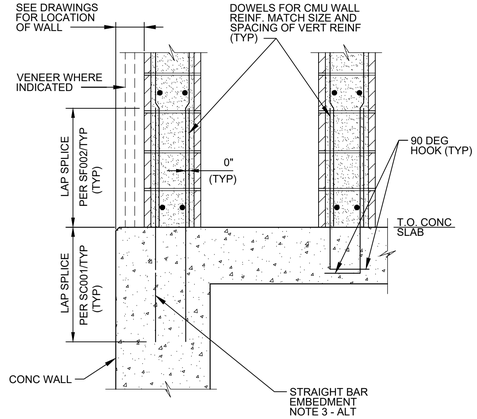


A — SECTION: 8" CMU

NOTES:
1. FOR CMU WALL REINFORCING SIZE AND SPACING, SEE PLANS.
2. VENEER IS NOT SHOWN FOR CLARITY.
3. WHERE STRAIGHT BAR EMBEDMENT IS NOT AVAILABLE, PROVIDE 90-DEGREE HOOKS. ROTATE HOOKS TO PROVIDE REQUIRED CONCRETE COVER.

SF270 TYP J — MASONRY - CMU - REINFORCEMENT AT BOTTOM OF WALL - CONCRETE SUPPORT

SHEET 1 OF 2 09/30/2024



B — SECTION: 12" CMU

SF270 TYP J — MASONRY - CMU - REINFORCEMENT AT BOTTOM OF WALL - CONCRETE SUPPORT

SHEET 2 OF 2 09/30/2024

REV	DATE	BY	DESCRIPTION

DESIGNED CE
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CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 11390122-2202 — J. MATTHEW YATES — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

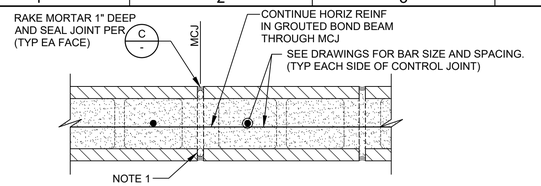
STRUCTURAL 8

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

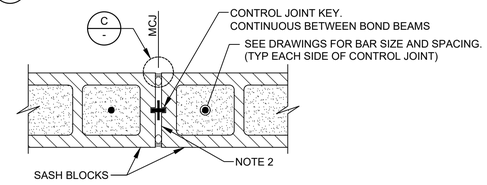
JOB NO. 203356
DRAWING NO. 00TS08
SHEET NO. 157 OF 162

LAST SAVED BY: JLeFevre

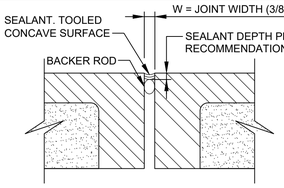
PROJECT NO. 203356-100000 FILE NAME: 203356_00TS08.dwg



A - PLAN - BOND BEAM W/SINGLE WALL REINF MAT



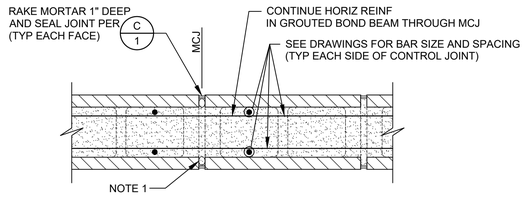
B - PLAN ABOVE OR BELOW BOND BEAM W/SINGLE WALL REINF MAT



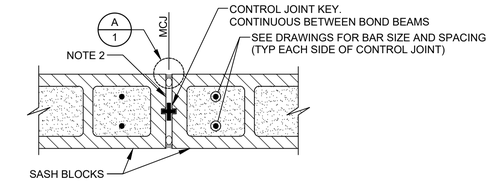
C - DETAIL

SF722 TYP MASONRY - CMU - MASONRY CONTROL JOINT - VERT JOINT - BOND BEAM REINF CONTINUES

SHEET 1 OF 2 12/18/2023



D - PLAN - BOND BEAM W/DOUBLE WALL REINF MAT



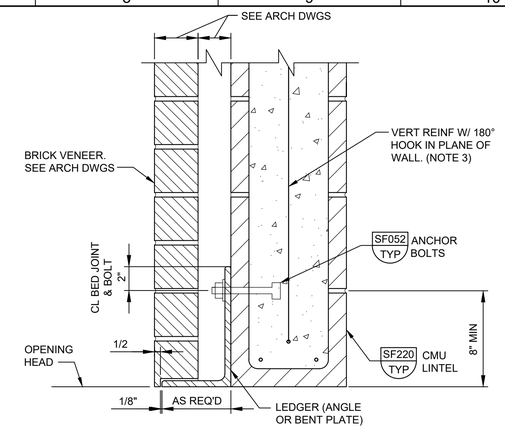
E - PLAN - ABOVE OR BELOW BOND BEAM W/DOUBLE WALL REINF MAT

NOTES:

1. INSTALL REMOVABLE FORMS TO CONFINE GROUT TO FILLED AREA OF BOND BEAMS BEYOND JOINT. AFTER GROUTING, REMOVE FORMS AND SEAL AS INDICATED.
2. OMIT GROUT IN VERTICAL JOINTS BETWEEN BOND BEAMS.

SF722 TYP MASONRY - CMU - MASONRY CONTROL JOINT - VERT JOINT - BOND BEAM REINF CONTINUES

SHEET 2 OF 2 12/18/2023



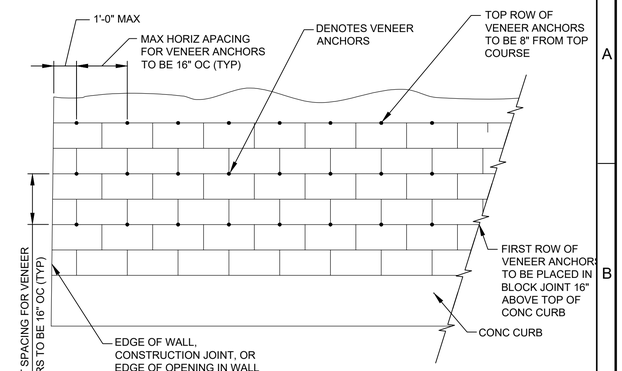
LEDGER & ANCHOR BOLTS		
HEIGHT ABOVE OR BETWEEN OPENINGS	LEDGER THICKNESS	BOLT DIAMETER & SPACING
8'-0"	3/8"	3/4" DIA @16"
TO 16'-0"	1/2"	3/4" DIA @16"
TO 28'-0"	3/4"	1" DIA @16"

NOTES:

1. PROVIDE HOT DIP GALVANIZED LEDGER, ANCHOR BOLTS, & HARDWARE.
2. LEDGER EXTENDS ACROSS CLEAR WIDTH AT OPENINGS. (DO NOT EXTEND LEDGER PAST OPENING.)
3. PROVIDE ADDITIONAL VERT REINFORCEMENT W/ HOOK AT ANCHOR BOLTS.

SG175 TYP VENEER LEDGER AT MASONRY OPENING

J 08/29/2024

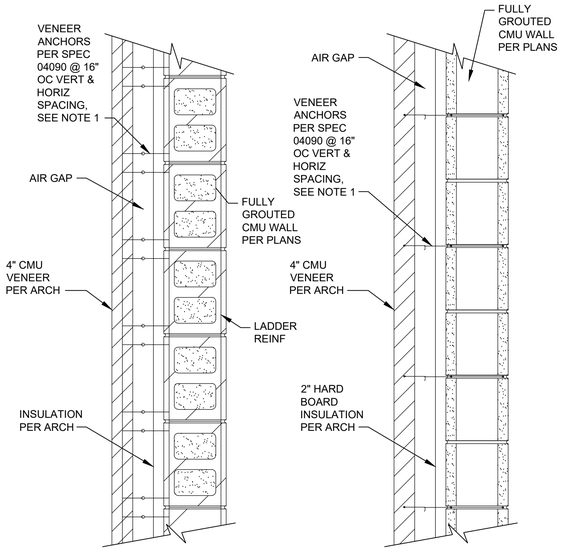


NOTE:

1. MAXIMUM VERTICAL AND HORIZONTAL SPACING FOR VENEER ANCHORS TO BE 16" OC IN BOTH DIRECTIONS.
2. PROVIDE ADDITIONAL ANCHORS AT WALL EDGES AND AROUND OPENINGS LARGER THAN 16". LOCATE WITHIN 12" OF EDGES AND OPENINGS AND SPACE AT 16" MAX AROUND THE PERIMETER.

SG301 TYP CMU VENEER TIE SPACING REQUIREMENTS

J 01/27/2025

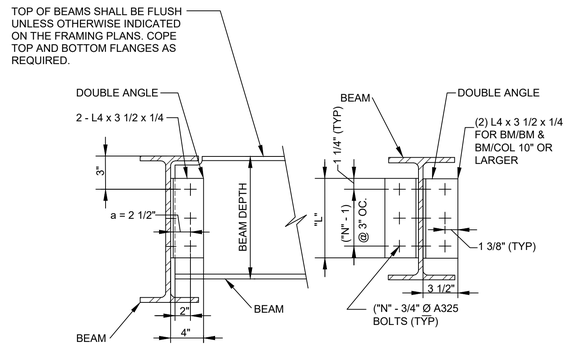


NOTE:

1. PROVIDE ADDITIONAL ANCHORS AT WALL EDGES AND AROUND OPENINGS LARGER THAN 16". LOCATE WITHIN 12" OF EDGES AND OPENINGS.

SG302 TYP CMU VENEER TIES AT CMU BACKING

J 01/27/2025



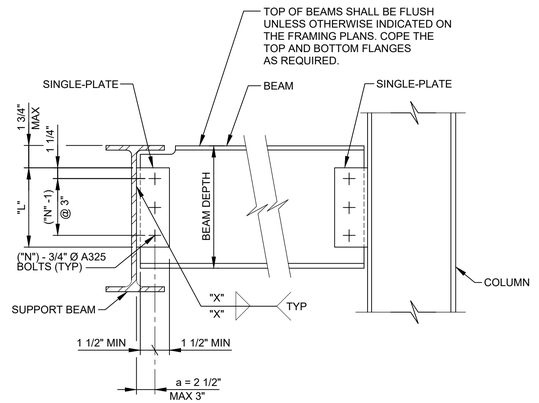
BEAM DEPTH (INCHES)	NUMBER "N" OF BOLTS PER LEG	ANGLE LENGTH "L"
8	2	5 1/2
10 - 14	3	8 1/2
16	4	11 1/2
18	5	14 1/2
21	6	17 1/2

NOTE:

1. SCHEDULE APPLIES TO ALL BEAMS UNLESS NUMBER OF BOLTS PER LEG IS OTHERWISE INDICATED ON THE FRAMING PLAN BY ⬡.

SH505 TYP STEEL – CONNECTION – W BM TO W BM / COL 2 ANGLES - ALL BOLTED

I 12/18/2023



BEAM DEPTH (INCHES)	NUMBER "N" OF BOLTS PER PLATE	PLATE (INCHES) THICK X LENGTH "L"	FILLET WELD SIZE "X" (INCHES)	AISC TABLE 10-10A SINGLE PLATE CONN CAPACITY
8	2	1/4 X 5 1/2	3/16	24.5 K
10 & 12	3	1/4 X 8 1/2	3/16	38.3 K
14	4	5/16 X 11 1/2	1/4	63.3 K
16 & 18	5	5/16 X 14 1/2	1/4	80.2 K
21	6	5/16 X 17 1/2	1/4	95.4 K

NOTE:

1. SCHEDULE APPLIES TO ALL BEAMS UNLESS NUMBER OF BOLTS PER LEG IS OTHERWISE INDICATED ON THE FRAMING PLAN BY (#) WHERE NUMBER INSIDE SYMBOL = NUMBER OF BOLTS.

SH601 TYP STEEL SINGLE PLATE CONNECTION – BM TO BM / COL BM BLTD / SUPPT WELDED

J 09/30/2024

REV	DATE	BY	DESCRIPTION

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CHECKED DCB
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REGISTERED PROFESSIONAL ENGINEER — No. 11390122-2202 — J. MATTHEW YATES — STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

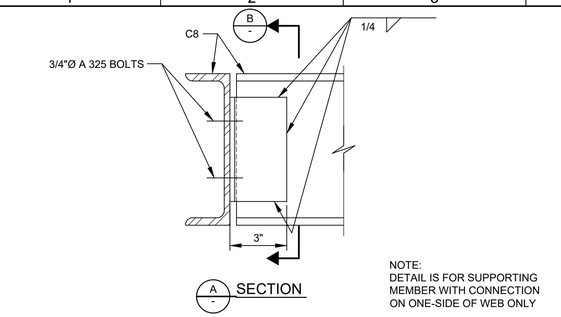
STRUCTURAL 9

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TS09
SHEET NO. 158 OF 162

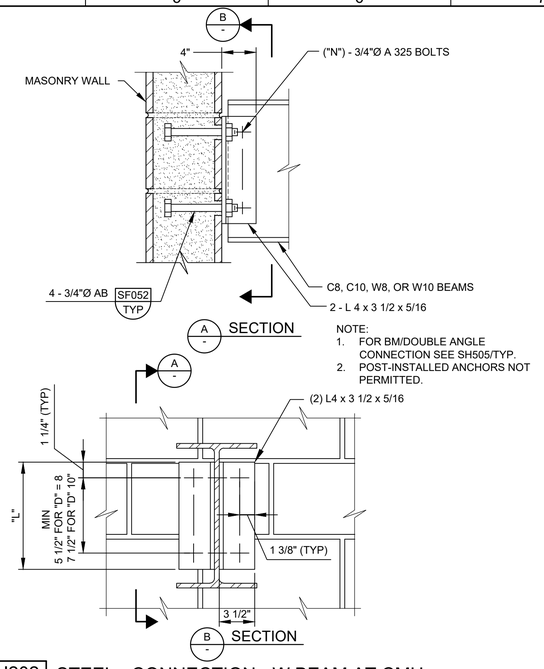
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PROJECT NO. 203356-100000 FILE NAME: 203356_00TS09.dwg



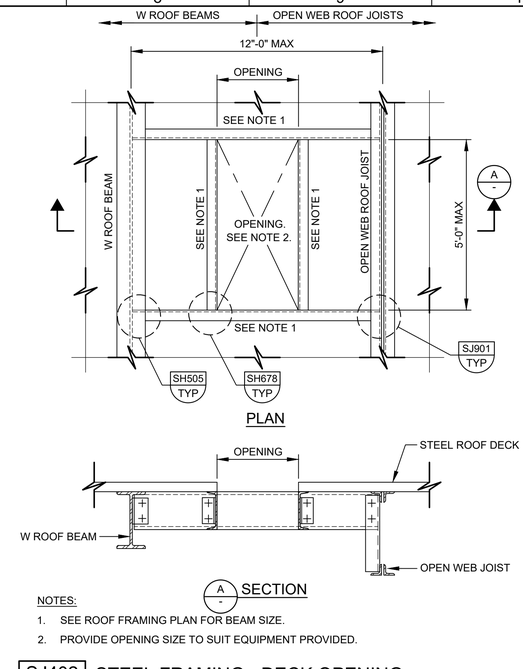
SH678 TYP — STEEL - CONNECTION - CHANNEL TO CHANNEL
1 ANGLE - BEAM BOLTED / SUPPORT WELDED

J 12/18/2023



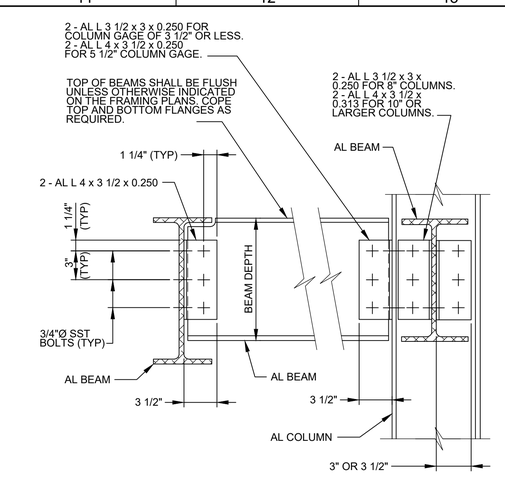
SJ202 TYP — STEEL - CONNECTION - W BEAM AT CMU -
BOLTED / BUILT-IN ANCHORS

J 12/18/2023



SJ402 TYP — STEEL FRAMING - DECK OPENING
BETWEEN BEAMS OR JOISTS

R 09/30/2024

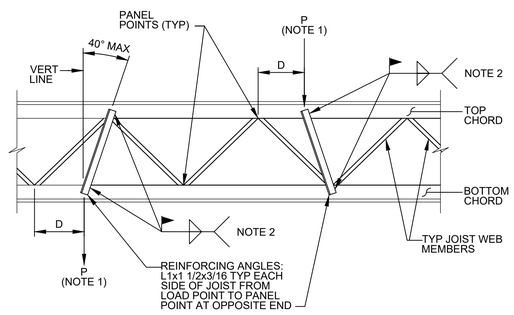


BEAM DEPTH (INCHES)	NUMBER OF BOLTS PER LEG
8 AND 10	2
12	3

NOTE:
1. SCHEDULE APPLIES TO ALL BEAMS UNLESS NUMBER OF BOLTS PER LEG IS OTHERWISE INDICATED ON THE FRAMING PLAN BY ⬡

SL205 TYP — ALUMINUM – CONN – W BM TO W BM / COL
2 ANGLES - ALL BOLTED

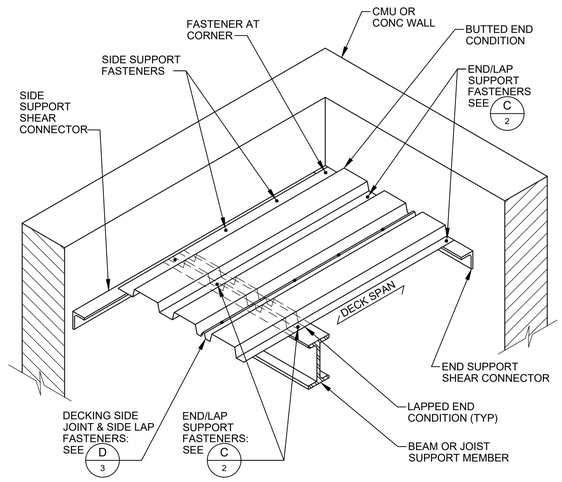
12/18/2023



NOTES:
1. "P" REPRESENTS CONCENTRATED LOAD FROM EQUIPMENT OR FIXTURES. WHERE P IS 50 POUNDS OR MORE AND WHERE THE DISTANCE FROM LOAD POINT TO PANEL POINT (D) EXCEEDS 4". INSTALL REINFORCING ANGLE FROM LOAD POINT TO PANEL POINT ON OPPOSITE CHORD OF JOIST.
2. WELD: EFFECTIVE THROAT: THICKNESS OF THINNER STEEL MEMBER MINUS 1/16". LENGTH: MINIMUM 3/4" EACH SIDE.

SM802 TYP — STEEL JOISTS - REINFORCEMENT -
ADDED WEBS AT VERT LOADS TO CHORD

12/18/2023

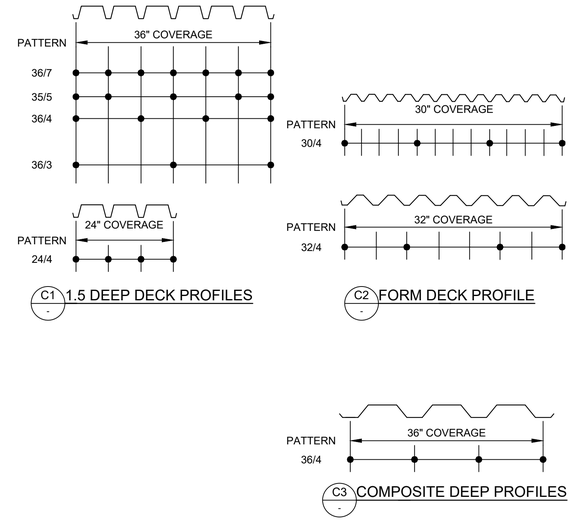


A - DETAIL - AT WALLS

NOTES:
1. DECK SUPPORTS (BEAMS AND ANGLES SHOWN) MAY VARY. SEE DRAWINGS FOR SUPPORTS.
2. FOR GABLE ROOF SYSTEMS SEE DETAIL SN110/TYP, SN120/TYP AND SN130/TYP.

SN008 TYP — STEEL DECK - FASTENING SCHEMATIC

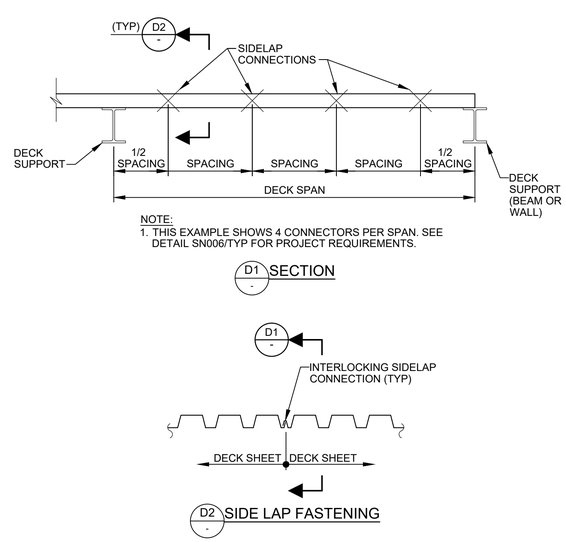
SHEET 1 OF 3 4/14/2025



C FASTENER PATTERNS AT DECK SUPPORTS

SN008 TYP — STEEL DECK - FASTENING SCHEMATIC

J SHEET 2 OF 3 12/18/2023



NOTE:
1. THIS EXAMPLE SHOWS 4 CONNECTORS PER SPAN. SEE DETAIL SN006/TYP FOR PROJECT REQUIREMENTS.

D1 SECTION

D2 SIDE LAP FASTENING

D FASTENER PATTERNS AT DECK SIDE LAPS

SN008 TYP — STEEL DECK - FASTENING SCHEMATIC

J SHEET 3 OF 3 12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
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CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 1139122-2202 — J. MATTHEW YATES — STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

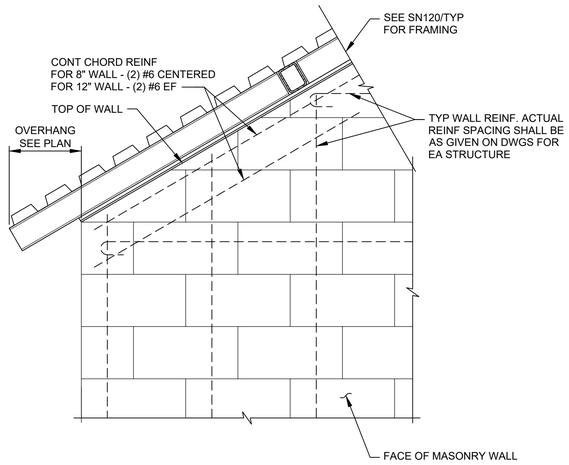
STRUCTURAL 10

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TS10
SHEET NO. 159 OF 162

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PROJECT NO. 203356-100000 FILE NAME: 203356_00TS10.dwg

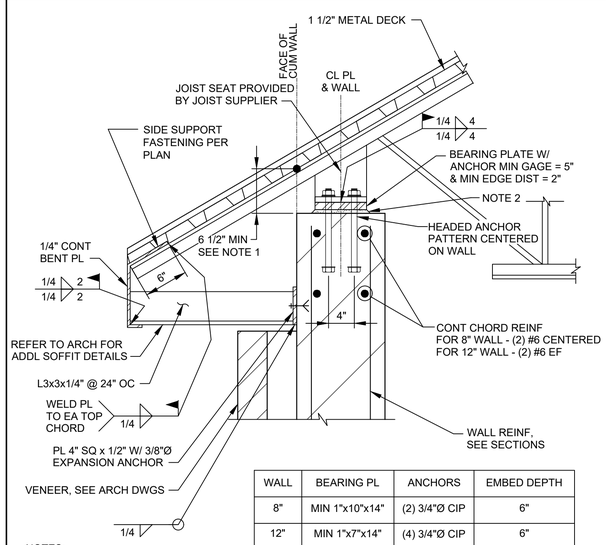


NOTE:

1. REFER TO SN120/TYP FOR TYPICAL GABLED WALL TOP REQUIREMENTS.

SN110 TYP J — GABLED END WALL

04/08/25



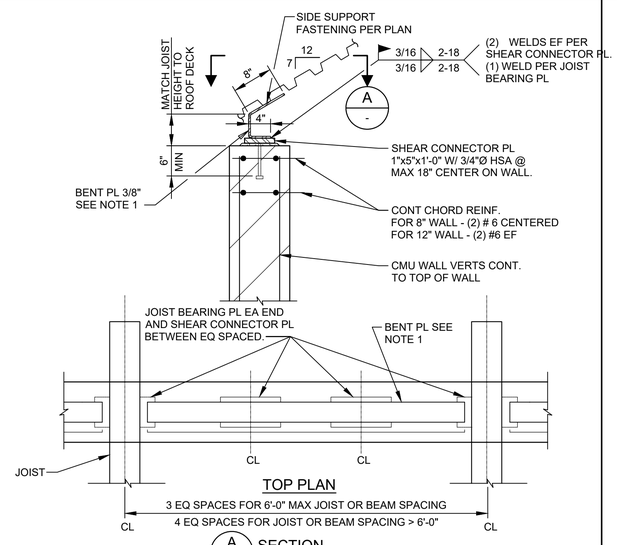
WALL	BEARING PL	ANCHORS	EMBED DEPTH
8"	MIN 1"x10"x14"	(2) 3/4"Ø CIP	6"
12"	MIN 1"x7"x14"	(4) 3/4"Ø CIP	6"

NOTES:

1. CONTRACTOR SHALL VERIFY BEARING ELEVATION AND ROOF DIMENSION SHOWN AND COORDINATE WITH THE JOIST SUPPLIER. JOIST SEAT DEPTH PROVIDED IS A MINIMUM PER THE JOIST SCHEDULE.
2. PROVIDE MIN 0" TO MAX 1" NON-SHRINK GROUT TO PROVIDE A UNIFORM BEARING AREA. CONTRACTOR TO DETERMINE AND PROVIDE THICKNESS AT TOP OF WALL.

SN111 TYP J — ROOF JOIST AT EAVE

04/08/25

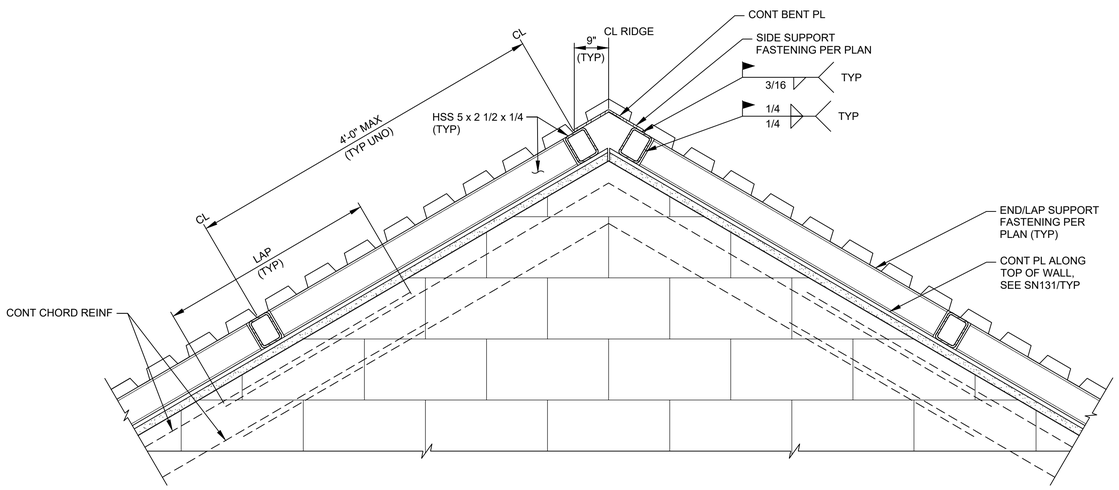


NOTES:

1. BENT PLATE SHALL BE CONTINUOUS BETWEEN JOISTS STOP PLATE 1 1/2" BEFORE ANCHOR BOLT CL AT EACH JOIST BEARING PLATE.
2. THIS CONNECTION IS PART OF THE LATERAL FORCE RESISTING SYSTEM AND ALL WORK REQUIRES SPECIAL INSPECTION AND STRUCTURAL OBSERVATION IN ACCORDANCE WITH SPECIFICATION SECTION 01455.

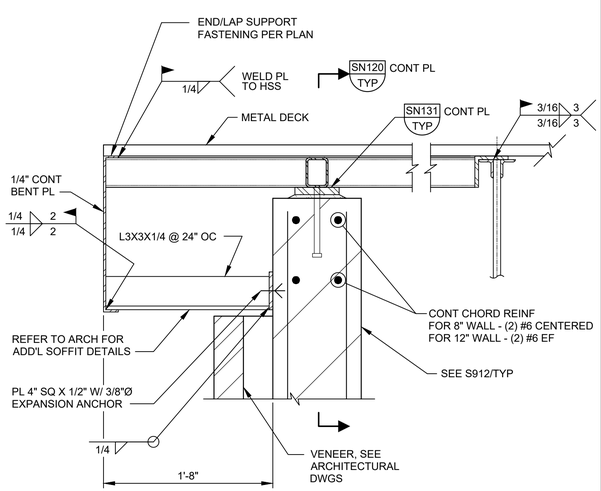
SN112 TYP J — METAL DECK TO WALL ATTACHMENT BETWEEN ROOF SUPPORTS

06/12/23



SN120 TYP J — GABLED END WALL

04/08/25

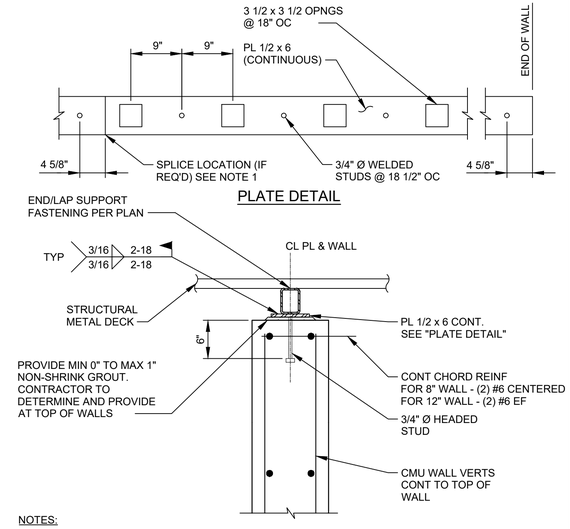


NOTES:

1. WELD METAL DECK TO HSS. IF DECK PLATE DOES NOT BEAR ON HSS, PROVIDE 16 GA x 4" PL CONTINUOUS ALONG HSS. FASTEN PL TO JOIST AND HSS AT ENDS AND DECK TO PLATE W/ PUDDLE WELDS AT 12" OC FOR PARALLEL TO FLUTE.

SN130 TYP J — ROOF OUTRIGGER AT GABLED END WALL

04/08/25



NOTES:

1. EACH PLATE SECTION BETWEEN SPLICES SHALL HAVE A MINIMUM OF 2 WELDED STUDS. SPLICE LOCATIONS SUBJECT TO THE APPROVAL OF THE ENGINEER.
2. THIS CONNECTION IS PART OF THE LATERAL FORCE RESISTING SYSTEM AND ALL WORK REQUIRES SPECIAL INSPECTION AND STRUCTURAL OBSERVATION IN ACCORDANCE WITH SPECIFICATION SECTION 01455.
3. TOP SURFACE OF WALL SHALL MATCH ROOF SLOPE. TOP SURFACE OF CMU BLOCK SHALL BE CUT TO MATCH ROOF SLOPE.

SN131 TYP J — METAL DECK TO WALL ATTACHMENT AT GABLED ENDS BETWEEN OUTRIGGERS

04/08/25

REV	DATE	BY	DESCRIPTION

DESIGNED CE
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DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 11390122-2202 — J. MATTHEW YATES — STATE OF UTAH

carollo

WEBER BASIN WATER CONSERVANCY DISTRICT

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

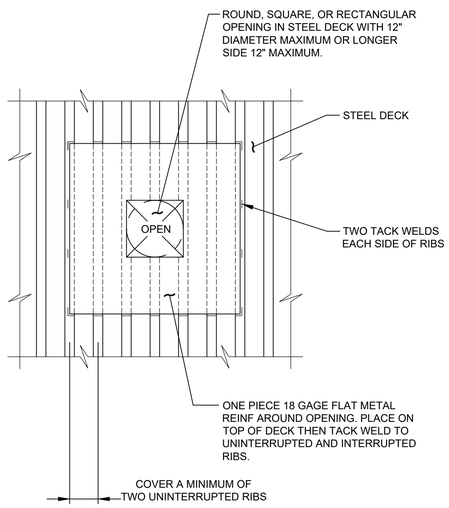
STRUCTURAL 11

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TS11
SHEET NO. 160 OF 162

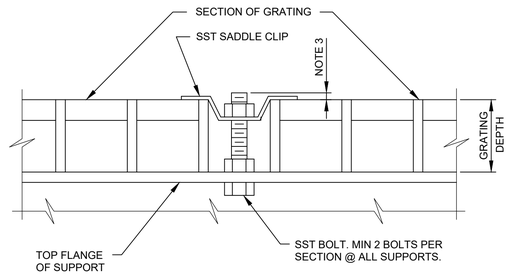
LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TS11.dwg



SN638 TYP — STEEL DECK - OPENINGS TO 12" - REINFORCING PLATE AT TOP

J 12/18/2023

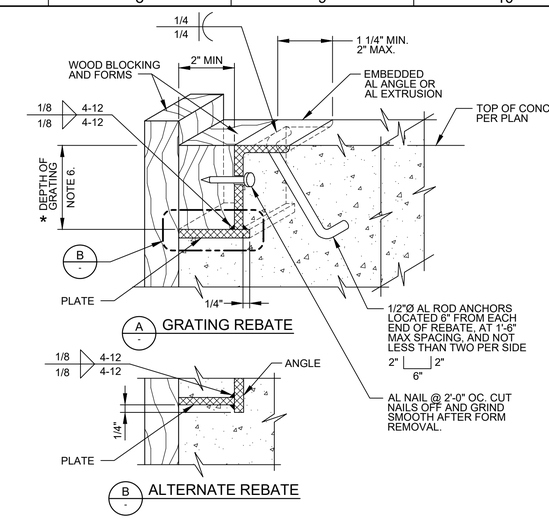


NOTES:

1. GRATING FASTENERS SHALL BE INSTALLED WHERE INDICATED ON THE DRAWINGS.
2. GRATING FASTENERS SHALL BE INSTALLED AT EACH CORNER OF EACH PANEL AND AT SPACING NOT TO EXCEED 8'-0".
3. RECESS THE GRATING CLIP WITHIN THE DEPTH OF THE GRATING TO AVOID A TRIPPING HAZARD.

SR601 TYP — GRATING - FASTENERS

12/18/2023

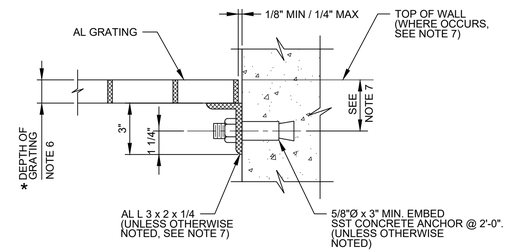


NOTES:

1. SEE SPECIFICATIONS FOR ALUMINUM GRATING.
2. MAKE REBATE AND/OR SEAT CONTINUOUS AROUND OPENING.
3. EMBEDDED REBATE ANGLE AND PLATE SHALL BE 1/4" MINIMUM THICKNESS.
4. REBATE MAY BE EXTRUDED, SUBJECT TO ENGINEER'S ACCEPTANCE.
5. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE AS SPECIFIED.
6. * = DIMENSION AS REQUIRED BY GRATING MANUFACTURER. SEE SPECIFICATIONS.

SR605 TYP — GRATING - ALUMINUM - REBATE

N SHEET 1 OF 2 12/18/2023



NOTES:

1. WHERE INDICATED ON THE PLANS, PROVIDE MINIMUM EDGE DISTANCE OF 4-INCHES. ADJUST GRATING AND/OR ANGLE SIZE AS REQUIRED.

SR605 TYP — GRATING - ALUMINUM - REBATE

N SHEET 2 OF 2 12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER — No. 11390122-2202 — J. MATTHEW YATES — STATE OF UTAH

carollo®

WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

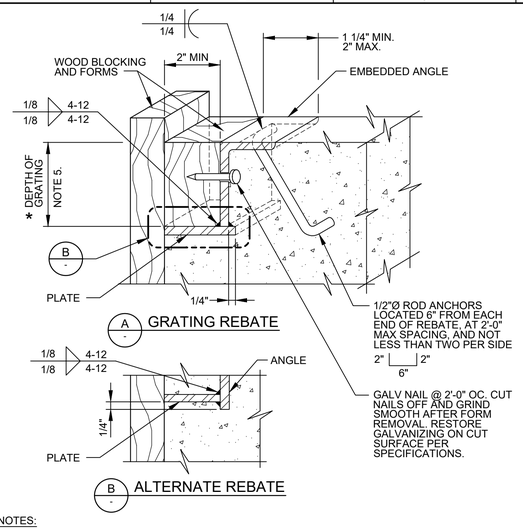
STRUCTURAL 12

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TS12
SHEET NO. 161 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TS12.dwg

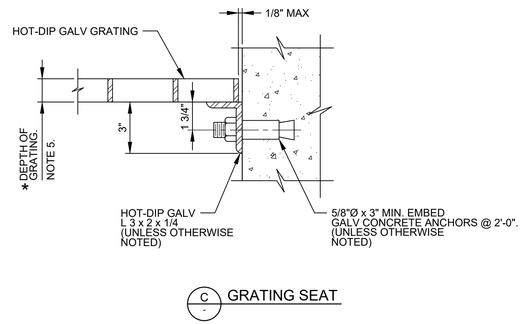


NOTES:

1. SEE SPECIFICATIONS FOR HOT-DIP GALVANIZED STEEL GRATING.
2. MAKE REBATE AND/OR SEAT CONTINUOUS AROUND OPENING.
3. EMBEDDED REBATE ANGLE AND PLATE SHALL BE 1/4" MINIMUM THICKNESS.
4. HOT-DIP GALVANIZED AFTER FABRICATION.
5. * = DIMENSION AS REQUIRED BY GRATING MANUFACTURER. SEE SPECIFICATIONS.

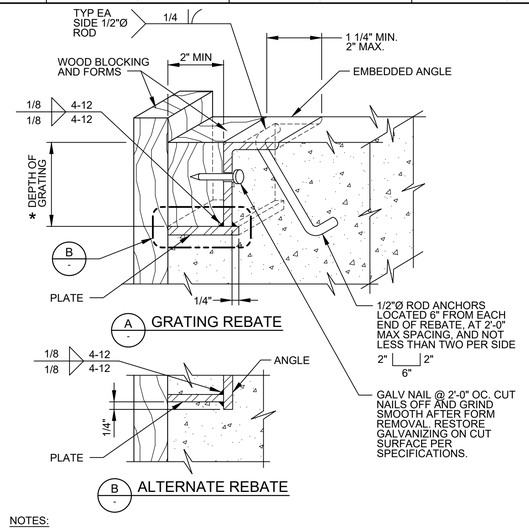
SR607 TYP — GRATING - HOT DIP GALVANIZED - REBATE

SHEET 1 OF 2 07/24/2024



SR607 TYP — GRATING - HOT DIP GALVANIZED - REBATE

SHEET 2 OF 2 07/24/2024

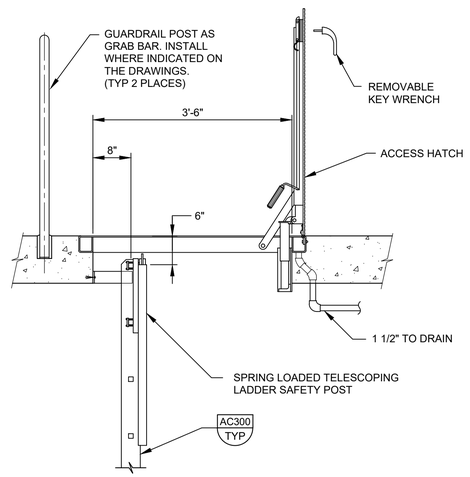


NOTES:

1. SEE SPECIFICATIONS FOR H-20 HEAVY DUTY HOT-DIP GALVANIZED STEEL GRATING.
2. MAKE REBATE AND/OR SEAT CONTINUOUS AROUND OPENING.
3. EMBEDDED REBATE ANGLE AND PLATE SHALL BE 1/4" MINIMUM THICKNESS.
4. HOT-DIP GALVANIZED AFTER FABRICATION.
5. * = DIMENSION AS REQUIRED BY GRATING MANUFACTURER. SEE SPECIFICATIONS.

SR609 TYP — GRATING - GALVANIZED FOR H20 LOADS - REBATE

12/18/2023



SV103 TYP — ACCESS DOOR - CONCRETE DECK - FLUSH HATCH W/ LADDER

12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED DCB
DATE JUNE 2025

REGISTERED PROFESSIONAL ENGINEER
No. 11390122-2202
J. MATTHEW YATES
STATE OF UTAH

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WEBER BASIN WATER CONSERVANCY DISTRICT

DNWTP SOLIDS DEWATERING IMPROVEMENT PROJECT

TYPICAL DETAILS

STRUCTURAL 13

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 203356
DRAWING NO. 00TS13
SHEET NO. 162 OF 162

LAST SAVED BY: JLeFevre

PROJECT NO. 203356-100000 FILE NAME: 203356_00TS13.dwg