CITY OF MANTECA

ENGINEERING DEPARTMENT

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

CIP NO. 24006 AND 24007

JANUARY 2025

VOLUME 2 OF 2 DRAWINGS

SUBMITTED BY:

KYLE LEONARD
DESIGN MANAGER
CAROLLO ENGINEERS

APPROVED BY:

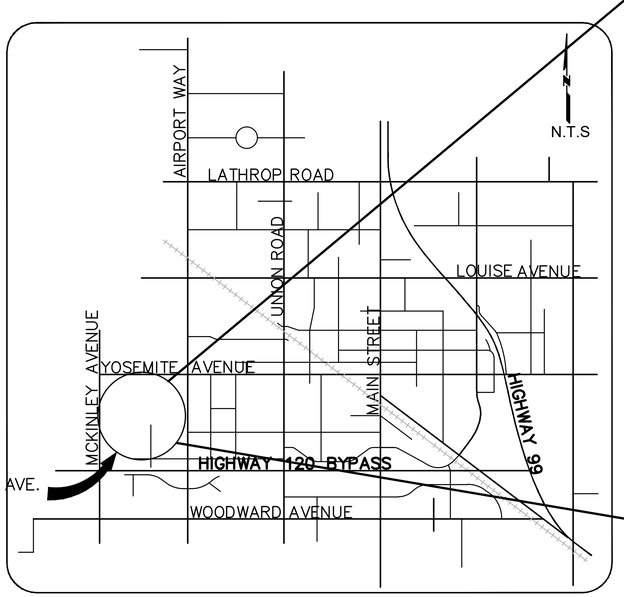
KEVIN JORGENSEN II
DIRECTOR OF ENGINEERING/CITY ENGINEER
DEPARTMENT OF ENGINEERING

RECOMMENDED FOR APPROVAL:

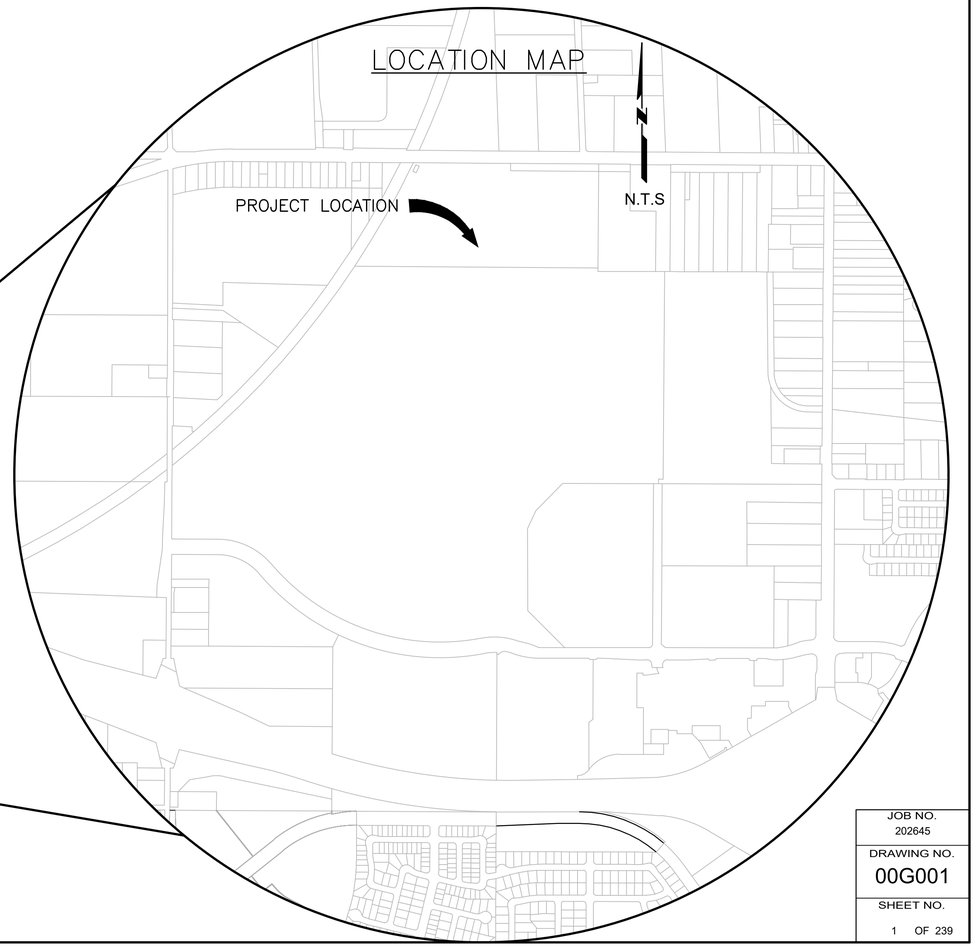
SOMPORN BOONSALAT
DEPUTY DIRECTOR OF ENGINEERING
DEPARTMENT OF ENGINEERING

REGISTERED PROFESSIONAL ENGINEER
KYLE T. LEONARD
No. 86011
CIVIL
STATE OF CALIFORNIA

2450 WEST YOSEMITE AVE.
MANTECA, CA. 95337



VICINITY MAP



JOB NO.
202645
DRAWING NO.
00G001
SHEET NO.
1 OF 239

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AREA INDEX

AREA	AREA NAME
00	SITE/GENERAL
03	BIOLOGICAL TREATMENT
07	SOLIDS TREATMENT

SHEET NO.	DRAWING NO.	DESCRIPTION
		(G) - GENERAL
1	00G001	COVER SHEET, VICINITY MAP, AND LOCATION MAP
2	00G002	DRAWING INDEX 1
3	00G003	DRAWING INDEX 2
4	00G004	NOTES, LEGENDS, AND SYMBOLS
5	00G005	ABBREVIATIONS
6	00G006	SITE PLAN AND SURVEY CONTROL
7	00G007	CONTRACTOR STAGING PLAN
8	00G008	BIOSOLIDS PROCESS SCHEMATIC
9	00G009	NOT USED
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10	00D001	SITE PLAN
11	00D002	PARTIAL SITE PLAN
12	00D003	PARTIAL SITE PLAN YARD PIPING
13	00D004	FLOW METER VAULT PHOTOS
14	03D001	BIOTOWER EFFLUENT CHANNEL STRUCTURAL FOUNDATION PLAN
15	03D002	BIOTOWER EFFLUENT CHANNEL STRUCTURAL TOP PLAN
16	03D003	BIOTOWER PUMP STATION AND EFFLUENT CHANNEL STRUCTURAL PLAN AND SECTIONS
17	03D004	BIOTOWER PUMP STATION AND EFFLUENT CHANNEL PHOTOS
18	03D101	NORTH AERATION BLOWER GALLERY STRUCTURAL BOTTOM PLAN
19	03D102	NORTH AERATION BLOWER GALLERY STRUCTURAL SECTIONS
20	07D101	DISSOLVED AIR FLOTATION THICKENERS STRUCTURAL PLANS AND SECTIONS
21	07D102	DISSOLVED AIR FLOTATION THICKENERS STRUCTURAL SECTIONS
22	07D103	DISSOLVED AIR FLOTATION THICKENERS MECHANICAL PLAN
23	07D104	DISSOLVED AIR FLOTATION THICKENERS MECHANICAL SECTIONS
24	07D105	DISSOLVED AIR FLOTATION THICKENERS MECHANICAL SECTIONS
25	07D106	DISSOLVED AIR FLOTATION THICKENERS PHOTOS
26	07D107	DISSOLVED AIR FLOTATION THICKENERS PHOTOS
27	07D401	DEWATERING FACILITY PHOTOS
28	07D501	DIGESTER CONTROL BUILDING NO. 2 PLAN AND PHOTOS
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29	00GC001	GENERAL CIVIL LEGEND AND SYMBOLS
30	00GC002	GENERAL CIVIL NOTES AND ABBREVIATIONS
31	00C001	PAVING AND GRADING PLAN
32	00C002	YARD PIPING PLAN - NORTH
33	00C003	YARD PIPING PLAN - SOUTH
34	00C004	PLAN AND PROFILE 6" PRIMARY SLUDGE
35	00C005	PLAN AND PROFILE 16" PROCESS DRAIN
36	00C006	PLAN AND PROFILE 12" 3W
37	00C007	PLAN AND PROFILE 8" SD
38	00C008	YARD PIPING DETAIL AND SECTION
39	00C009	YARD PIPING PHOTOS
		(S) - STRUCTURAL
40	00GS001	GENERAL NOTES
41	00GS002	SUBGRADE PREPARATION
42	00GS003	SOIL MITIGATION PLAN
43	07S101	SLUDGE BLEND TANKS LOWER PLAN
44	07S102	SLUDGE BLEND TANKS TOP PLAN
45	07S103	SLUDGE BLEND TANKS SECTIONS
46	07S104	SLUDGE BLEND TANKS SECTIONS AND DETAILS
47	07S201	RDT FACILITY LOWER PLAN
48	07S202	RDT FACILITY INTERMEDIATE PLAN
49	07S203	RDT FACILITY MONORAIL PLAN
50	07S204	RDT FACILITY SECTIONS 1
51	07S205	RDT FACILITY SECTIONS 2
52	07S206	RDT FACILITY DETAILS
53	07S301	THICKENING ODOR CONTROL FACILITY PLAN AND SECTION
54	07S401	DEWATERING FACILITY TOP PLAN
55	07S402	DEWATERING FACILITY MEZZANINE PLAN
56	07S403	DEWATERING FACILITY SECTION
57	07S501	NORTH AERATION BLOWER GALLERY PLAN AND SECTIONS
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58	00GM001	GENERAL MECHANICAL LEGEND AND SYMBOLS
59	00GM002	GENERAL MECHANICAL NOTES
60	07M100	SLUDGE BLEND TANKS PERSPECTIVE VIEWS
61	07M101	SLUDGE BLEND TANKS PLAN
62	07M102	SLUDGE BLEND TANKS SECTIONS
63	07M103	SLUDGE BLEND TANKS SECTIONS
64	07M104	SLUDGE BLEND TANKS SECTIONS
65	07M200	RDT FACILITY PERSPECTIVE VIEWS
66	07M201	RDT FACILITY SUBGRADE PLAN
67	07M202	RDT FACILITY LOWER PLAN
68	07M203	RDT FACILITY UPPER PLAN
69	07M204	RDT FACILITY ENLARGED PLAN
70	07M205	RDT FACILITY SECTIONS
71	07M206	RDT FACILITY SECTIONS
72	07M207	RDT FACILITY SECTIONS
73	07M208	RDT FACILITY DETAILS
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75	07M301	THICKENING ODOR CONTROL FACILITY PLAN
76	07M302	THICKENING ODOR CONTROL FACILITY SECTION
77	07M303	THICKENING ODOR CONTROL FACILITY SECTION
78	07M304	THICKENING ODOR CONTROL FACILITY SECTIONS
79	07M305	THICKENING ODOR CONTROL SCHEMATIC 1
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81	07M401	DEWATERING FACILITY TOP PLAN
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83	07M403	DEWATERING FACILITY SECTIONS
84	07M404	DEWATERING FACILITY SECTIONS
85	07M405	DEWATERING FACILITY DETAILS
86	07M501	DIGESTER CONTROL BUILDING NO. 2 PLAN
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89	00E002	KEY SITE PLAN
90	00E003	ELECTRICAL SITE PLAN - INTERIM SYSTEM
91	00E004	ELECTRICAL SITE PLAN - MODIFICATIONS
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93	00E012	MCC-TEMP SINGLE LINE DIAGRAM
94	00E013	NEW MCC-E SINGLE LINE DIAGRAM 1
95	00E014	NEW MCC-E SINGLE LINE DIAGRAM 2
96	00E015	MCC-TEMP FRONT ELEVATION
97	00E016	NEW MCC-E FRONT ELEVATION
98	00E017	PANELBOARD SCHEDULES
99	00E021	EXISTING MCC-15-01 SINGLE LINE DIAGRAM - MODIFICATIONS 1
100	00E022	EXISTING MCC-15-01 SINGLE LINE DIAGRAM - MODIFICATIONS 2
101	00E023	EXISTING MCC-15-01 FRONT ELEVATION - MODIFICATIONS
102	00E025	EXISTING DIG-MCC-07-001 PARTIAL SINGLE LINE DIAGRAM - DEMOLITION
103	00E026	EXISTING DIG-MCC-07-001 PARTIAL SINGLE LINE DIAGRAM - MODIFICATIONS
104	00E031	CONTROL SCHEMATICS 1
105	00E032	CONTROL SCHEMATICS 2
106	00E033	CONTROL SCHEMATICS 3
107	00E034	CONTROL SCHEMATICS 4
108	00E035	CONTROL SCHEMATICS 5
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110	00E037	CONTROL SCHEMATICS 7
111	00E038	CONTROL SCHEMATICS 8
112	00E039	CONTROL SCHEMATICS 9
113	00E040	CONTROL SCHEMATICS 10
114	00E041	CONTROL SCHEMATICS 11
115	00E042	CONTROL SCHEMATICS 12
116	00E043	CONTROL SCHEMATICS 13
117	00E044	CONTROL SCHEMATICS 14
118	00E045	CONTROL SCHEMATICS 15
119	00E046	CONTROL SCHEMATICS 16
120	00E047	CONTROL SCHEMATICS 17
121	00E051	CIRCUIT SCHEDULES 1
122	00E052	CIRCUIT SCHEDULES 2
123	00E053	CIRCUIT SCHEDULES 3
124	00E054	CIRCUIT SCHEDULES 4
125	00E061	ELECTRICAL DETAILS 1
126	00E062	ELECTRICAL DETAILS 2
127	00E063	ELECTRICAL DETAILS 3
128	00E064	ELECTRICAL DETAILS 4
129	00E065	ELECTRICAL DETAILS 5
130	00E066	ELECTRICAL DETAILS 6
131	00E067	ELECTRICAL DETAILS 7
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133	00E069	ELECTRICAL DETAILS 9
134	00E070	ELECTRICAL DETAILS 10
135	00E071	ELECTRICAL DETAILS 11
136	00E072	ELECTRICAL DETAILS 12
137	07E101	SLUDGE BLEND TANKS POWER AND CONTROL PLAN
138	07E102	SLUDGE BLEND TANKS LIGHTING PLAN
139	07E201	RDT FACILITY LOWER POWER AND CONTROL PLAN
140	07E202	RDT FACILITY UPPER POWER AND CONTROL PLAN
141	07E203	RDT FACILITY LOWER LIGHTING PLAN
142	07E204	RDT FACILITY UPPER LIGHTING PLAN
143	07E301	THICKENING ODOR CONTROL FACILITY POWER AND CONTROL PLAN
144	07E302	THICKENING ODOR CONTROL FACILITY LIGHTING PLAN
145	07E401	DEWATERING FACILITY POWER AND CONTROL PLAN
146	07E501	NORTH AERATION BLOWER GALLERY DEMOLITION PLAN
147	07E502	NORTH AERATION BLOWER GALLERY MODIFICATION PLAN
148	07E601	DIGESTER CONTROL BUILDING NO.2 DEMOLITION PLAN
149	07E602	DIGESTER CONTROL BUILDING NO.2 MODIFICATION PLAN
150	XXEXX1	NOT USED
151	XXEXX2	NOT USED
152	XXEXX3	NOT USED
153	XXEXX4	NOT USED
154	XXEXX5	NOT USED

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Certificate: C=US, O=Carollo Engineers, Inc.
Date: 2025.01.31 15:59:59 -08'00'

CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
GENERAL
DRAWING INDEX 1

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

JOB NO. 202645
DRAWING NO. 00G002
SHEET NO. 2 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_00G002.dwg

SHEET NO.	DRAWING NO.	DESCRIPTION
		(N) - INSTRUMENTATION
155	00N001	LEGEND AND GENERAL NOTES
156	00N002	PARTIAL PLANT COMMUNICATION DIAGRAM - INTERIM SYSTEM
157	00N003	PARTIAL PLANT COMMUNICATION DIAGRAM - MODIFICATIONS
158	00N011	RIO-TEMP: BACKPAN LAYOUT
159	00N012	NEW CPNL-05-01A: BACKPAN LAYOUT
160	00N021	RIO-TEMP: INPUT/OUTPUT SIGNAL LIST
161	00N025	NEW CPNL-05-01A: INPUT/OUTPUT SIGNAL LIST 1
162	00N026	NEW CPNL-05-01A: INPUT/OUTPUT SIGNAL LIST 2
163	00N027	NEW CPNL-05-01A: INPUT/OUTPUT SIGNAL LIST 3
164	00N028	NEW CPNL-05-01A: INPUT/OUTPUT SIGNAL LIST 4
165	00N031	RIO-TEMP: POWER DISTRIBUTION DIAGRAM
166	00N032	NEW CPNL-05-01A: POWER DISTRIBUTION DIAGRAM
167	00N041	NEW CPNL-05-01A: RACK A, SLOT 1 MODULE CONNECTIONS (DI)
168	00N042	NEW CPNL-05-01A: RACK A, SLOT 2 MODULE CONNECTIONS (DI)
169	00N043	NEW CPNL-05-01A: RACK A, SLOT 3 MODULE CONNECTIONS (DI)
170	00N044	NEW CPNL-05-01A: RACK A, SLOT 4 MODULE CONNECTIONS (DI)
171	00N045	NEW CPNL-05-01A: RACK A, SLOT 5 MODULE CONNECTIONS (DI)
172	00N046	NEW CPNL-05-01A: RACK A, SLOT 6 MODULE CONNECTIONS (DI)
173	00N047	NEW CPNL-05-01A: RACK B, SLOT 1 MODULE CONNECTIONS (DI)
174	00N048	NEW CPNL-05-01A: RACK B, SLOT 2 MODULE CONNECTIONS (DI)
175	00N049	NEW CPNL-05-01A: RACK B, SLOT 3 MODULE CONNECTIONS (DI)
176	00N050	NEW CPNL-05-01A: RACK B, SLOT 4 MODULE CONNECTIONS (DI)
177	00N051	NEW CPNL-05-01A: RACK B, SLOT 5 MODULE CONNECTIONS (DI)
178	00N052	NEW CPNL-05-01A: RACK B, SLOT 6 MODULE CONNECTIONS (DI)
179	00N061	NEW CPNL-05-01A: RACK C, SLOT 1 MODULE CONNECTIONS (DO)
180	00N062	NEW CPNL-05-01A: RACK C, SLOT 2 MODULE CONNECTIONS (DO)
181	00N063	NEW CPNL-05-01A: RACK C, SLOT 3 MODULE CONNECTIONS (DO)
182	00N064	NEW CPNL-05-01A: RACK C, SLOT 4 MODULE CONNECTIONS (DO)
183	00N065	NEW CPNL-05-01A: RACK C, SLOT 5 MODULE CONNECTIONS (DO)
184	00N071	NEW CPNL-05-01A: RACK C, SLOT 6 MODULE CONNECTIONS (AI)
185	00N072	NEW CPNL-05-01A: RACK D, SLOT 1 MODULE CONNECTIONS (AI)
186	00N073	NEW CPNL-05-01A: RACK D, SLOT 2 MODULE CONNECTIONS (AI)
187	00N074	NEW CPNL-05-01A: RACK D, SLOT 3 MODULE CONNECTIONS (AI)
188	00N075	NEW CPNL-05-01A: RACK D, SLOT 4 MODULE CONNECTIONS (AI)
189	00N076	NEW CPNL-05-01A: RACK D, SLOT 5 MODULE CONNECTIONS (AI)
190	00N081	NEW CPNL-05-01A: RACK D, SLOT 6 MODULE CONNECTIONS (AO)
191	00N082	NEW CPNL-05-01A: RACK D, SLOT 7 MODULE CONNECTIONS (AO)
192	07N001	P&ID: SLUDGE BLEND TANK 1
193	07N002	P&ID: SLUDGE BLEND TANK 2
194	07N011	P&ID: RDT FEED PUMPS 1 AND 2
195	07N012	P&ID: RDT FEED PUMP 3
196	07N021	P&ID: ROTARY DRUM THICKENER 1
197	07N022	P&ID: ROTARY DRUM THICKENER 2
198	07N023	P&ID: ROTARY DRUM THICKENER 3
199	07N024	P&ID: FUTURE ROTARY DRUM THICKENER 4
200	07N031	P&ID: ROTARY DRUM THICKENER BOOSTER PUMPS
201	07N041	P&ID: THICKENED SLUDGE PUMP 1
202	07N042	P&ID: THICKENED SLUDGE PUMP 2
203	07N043	P&ID: THICKENED SLUDGE PUMP 3
204	07N044	P&ID: FUTURE THICKENED SLUDGE PUMP 4
205	07N051	P&ID: THICKENING POLYMER STORAGE AND BLENDING UNIT 1
206	07N052	P&ID: THICKENING POLYMER BLENDING UNIT 2
207	07N053	P&ID: THICKENING POLYMER BLENDING UNIT 3
208	07N054	P&ID: FUTURE THICKENING POLYMER BLENDING UNIT 4
209	07N061	P&ID: THICKENING ODOR CONTROL FACILITY
210	07N071	P&ID: CENTRIFUGE 3
211	07N072	P&ID: POLYMER DILUTION UNIT 3
212	XXNXX1	NOT USED
213	XXNXX2	NOT USED
214	XXNXX3	NOT USED
215	XXNXX4	NOT USED
216	XXNXX5	NOT USED

SHEET NO.	DRAWING NO.	DESCRIPTION
		(T) - TYPICAL DETAILS
217	00TA001	ARCHITECTURAL 1
218	00TA002	ARCHITECTURAL 2
219	00TC001	CIVIL 1
220	00TC002	CIVIL 2
221	00TC003	CIVIL 3
222	00TE001	ELECTRICAL 1
223	00TE002	ELECTRICAL 2
224	00TH001	HVAC 1
225	00TH002	HVAC 2
226	00TM001	MECHANICAL 1
227	00TM002	MECHANICAL 2
228	00TM003	MECHANICAL 3
229	00TM004	MECHANICAL 4
230	00TM005	MECHANICAL 5
231	00TM006	MECHANICAL 6
232	00TM007	MECHANICAL 7
233	00TM008	MECHANICAL 8
234	00TS001	STRUCTURAL 1
235	00TS002	STRUCTURAL 2
236	00TS003	STRUCTURAL 3
237	00TS004	STRUCTURAL 4
238	00TS005	STRUCTURAL 5
239	00TS006	STRUCTURAL 6

AREA INDEX

AREA	AREA NAME
00	SITE/GENERAL
03	BIOLOGICAL TREATMENT
07	SOLIDS TREATMENT

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Certificate signed by Thomas Inc.
Date: 2025.01.31 15:19:37 -08'00'

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

GENERAL

DRAWING INDEX 2

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. 202645
DRAWING NO. 00G003
SHEET NO. 3 OF 239

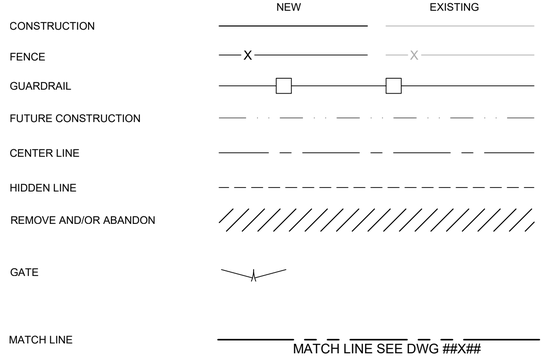
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PROJECT NO. 202645-100000 FILE NAME: 202645_00G003.dwg

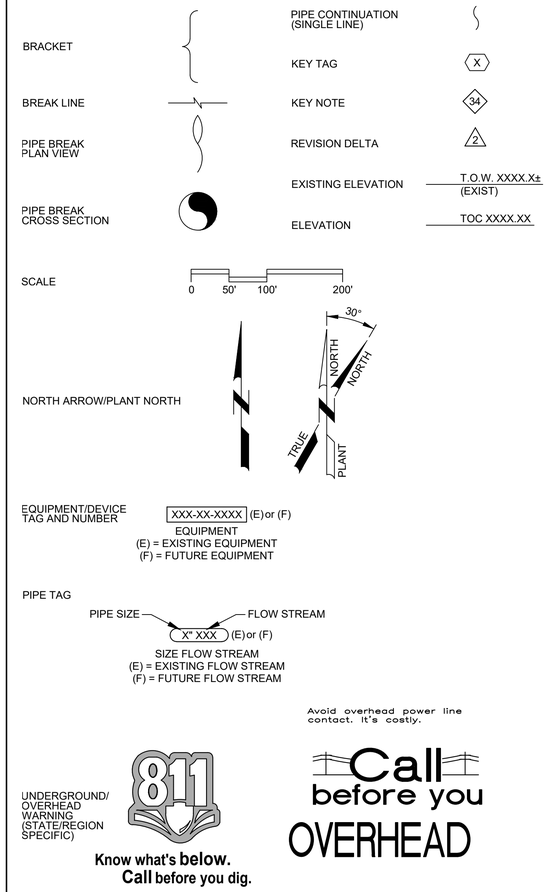
GENERAL NOTES

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. CONTRACTOR SHALL CONTACT THE PROPER UTILITY REPRESENTATIVE FOR QUESTIONS OR COORDINATION OF CONSTRUCTION RELATED TO EXISTING 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 4 HOURS, UNLESS SPECIFIED OR SHOWN OTHERWISE.
16. ALL SIDEWALKS TO BE 3'-0" WIDE UNLESS SHOWN OTHERWISE.
17. THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS IN THE VICINITY OF ANY OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL ABIDE BY THE NATIONAL ELECTRIC CODE, REQUIREMENTS OF JURISDICTIONAL AGENCIES, REGULATIONS, AND ANY REQUIREMENT BY THE OWNER OF THE ELECTRIC LINES.
18. PROVIDE ALL SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES.
19. 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.
20. 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.

LINE WORK



SYMBOLS



UNDERGROUND/ OVERHEAD WARNING (STATE/REGION SPECIFIC)

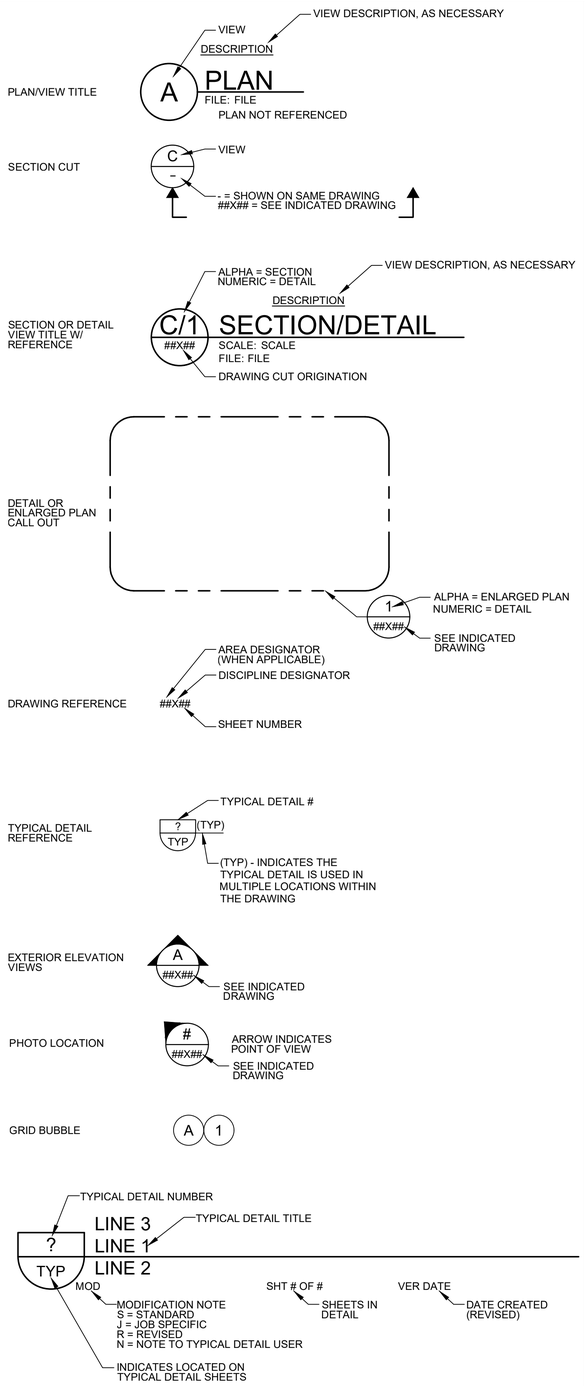
811

Know what's below.
Call before you dig.

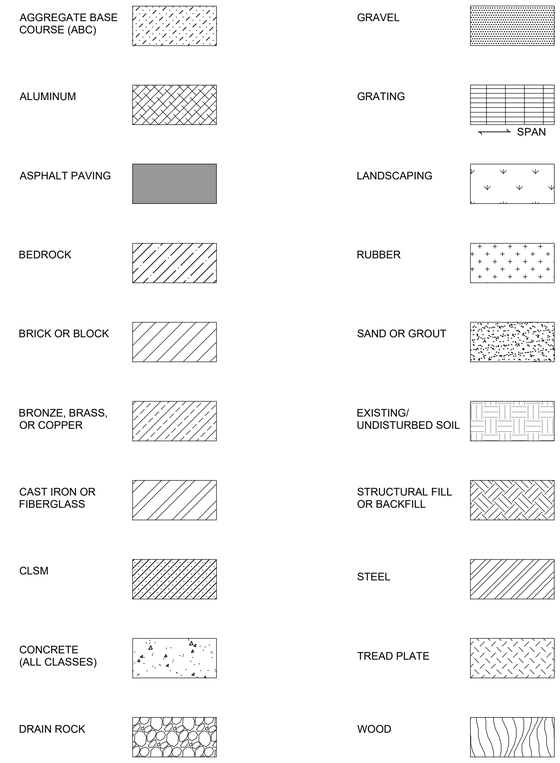
Avoid overhead power line contact. It's costly.

Call before you OVERHEAD

DETAIL REFERENCES



HATCH PATTERNS



REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER
KYLE T. LEONARD
No. 86011
CIVIL
STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.31 14:56:34 -08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

GENERAL

NOTES, LEGENDS, 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. 202645
DRAWING NO. 00G004
SHEET NO. 4 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_00G004.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
DAFT	DISSOLVED AIR FLOTATION
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
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	INSULATE(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
RDT	ROTATING DRUM THICKENER
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
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
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
WQCF	WASTE WATER QUALITY CONTROL FACILITY
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 LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.10 14:49:00 -08'00'

carollo®

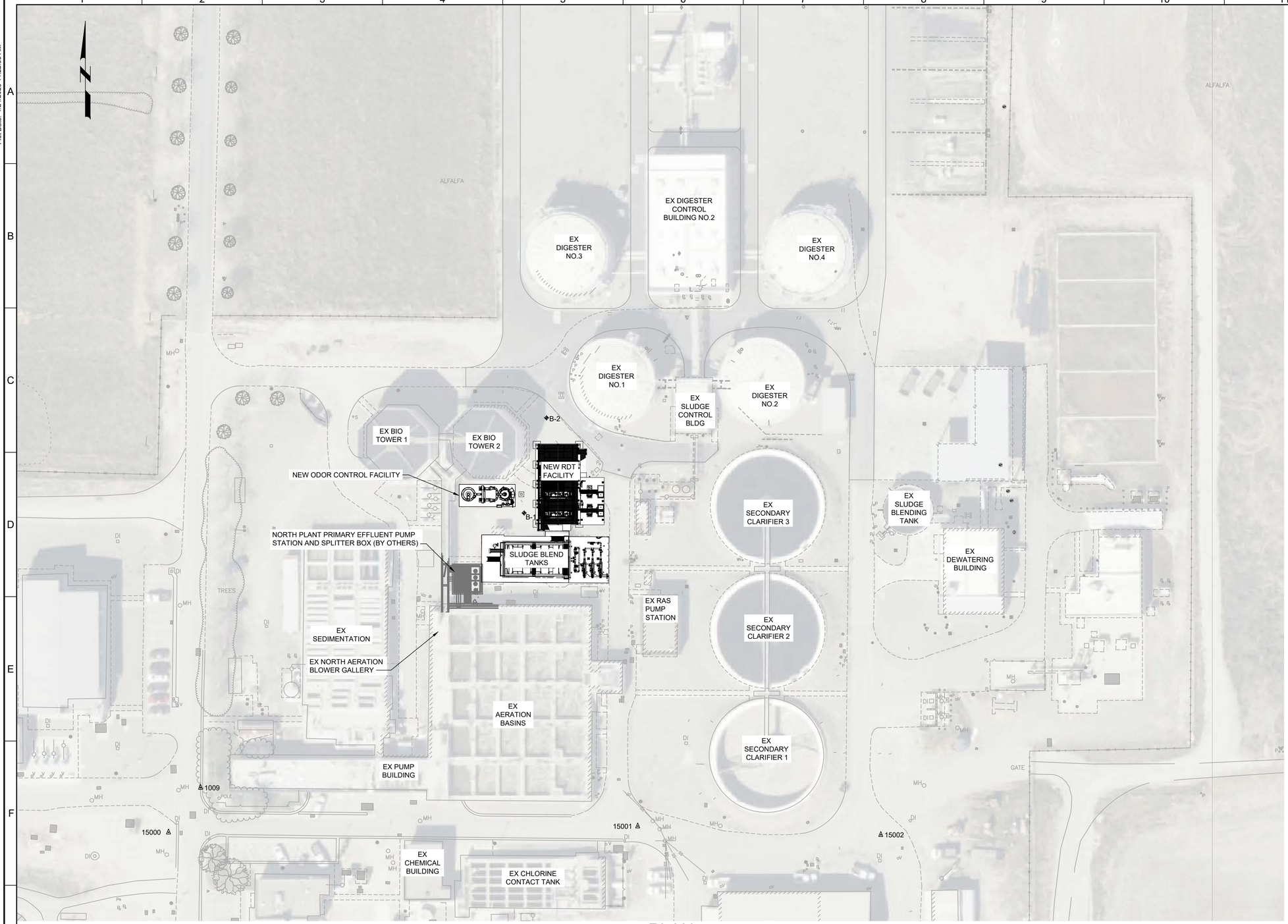
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
GENERAL
ABBREVIATIONS

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

JOB NO. 202645
DRAWING NO. 00G005
SHEET NO. 5 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_00G005.dwg



PLAN

FILE: 202645_00G006

GENERAL NOTES:

1. TOPOGRAPHIC SURVEY PERFORMED BY O'DELL ENGINEERING IN JUNE 2024. GEOTECHNICAL INVESTIGATION PERFORMED BY KLEINFELDER IN AUGUST 2024.
2. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES. CONTRACTOR MUST NOTIFY ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONSTRUCTION BEFORE PROCEEDING WITH WORK.

SURVEY CONTROL:

HORIZONTAL DATUM

NORTH AMERICAN DATUM OF 1983
BASED UPON TIES TO PRIMARY CONTROL POINTS ACCORDING TO THE CITY OF MANTECA RECORD OF SURVEY (33-S-133) DATED JULY 1995.

COORDINATE SYSTEM

COORDINATES SHOWN HEREON ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83), ZONE III. PURSUANT TO THE CALIFORNIA PUBLIC RESOURCES CODE, DIVISION 8, CHAPTER 1, SECTION 8815.5:

POINT	ELEVATION	COMBINED GRID FACTOR	MAPPING ANGLE
1000	23.81	0.9999332306	-0° 27' 58.4"

VERTICAL DATUM

CITY OF MANTECA LOCAL VERTICAL DATUM

PROJECT BENCHMARK

POINT#1009 FOUND 2" BRASS DISK MONUMENT, RECOGNIZED AS POINT#58 BY THE CITY OF MANTECA, IN TOP OF CURB, LOCATED APPROXIMATELY 1470 FEET SOUTHWEST OF THE WEST YOSEMITE AVENUE AND SWANSON ROAD INTERSECTION, 116 FEET SOUTHEAST OF 2600 WEST YOSEMITE AVENUE, 34 FEET NORTHEAST OF A DRAIN INLET, AND 12 FEET NORTHWEST OF A CATCH BASIN.

ELEVATION= 23.62 FEET
(CITY OF MANTECA LOCAL VERTICAL DATUM)

CONTROL POINT TABLE

POINT	NORTHING	EASTING	DESCRIPTION
1009	2112391.59	6341682.06	FD 2" BD CITY OF MANTECA BM 9
15000	2112361.35	6341665.37	SET MAG
15001	2112363.90	6342035.62	SET MAG
15002	2112352.52	6342231.64	SET MAG

LEGEND:

SOIL BORING LOCATION

B-X SURVEY CONTROL POINT

SCALE

0 20' 40' 80'

SCALE: 1" = 40'

REV	DATE	BY	DESCRIPTION

DESIGNED PD
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.24 11:16:16 -07'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

GENERAL

SITE PLAN AND SURVEY CONTROL

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

JOB NO. 202645
DRAWING NO. 00G006
SHEET NO. 6 OF 239

Plot Date: 1/24/2025 11:22:33 AM
LAST SAVED BY: JJabla
PROJECT NO. 202645-100000 FILE NAME: 202645_00G006.dwg

Plot Date: 7/17/2024 7:52:53 AM



PLAN

FILE: 202645_00G007

GENERAL NOTES:

1. DOCUMENT THE EXISTING CONDITION OF THE STAGING AREAS PRIOR TO USING THE STAGING AREA. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF ALL STAGING AREAS TO PRECONSTRUCTION CONDITIONS FOLLOWING COMPLETION OF CONSTRUCTION.
2. CONTRACTOR VEHICLE AND PEDESTRIAN ACCESS TO AND THROUGH PLANT SHALL BE COORDINATED WITH CITY AND IS LIMITED TO PATH SHOWN WITH ARROWS. ONLY CONSTRUCTION VEHICLES (WITH COMPANY LOGO) SHALL BE ALLOWED TO TRAVEL THROUGH PLANT. CONTRACTOR SHALL MAINTAIN SAFE, CONTINUOUS, VEHICLE AND PEDESTRIAN ACCESS AT ALL TIMES.

(#) KEY NOTES:

1. CONTRACTOR MAY PARK ALONG THE NORTH SIDES OF THESE ROADS BUT SHALL NOT OBSTRUCT VEHICLE TRAFFIC ON THE ROADS.
2. CONSTRUCTION TRAILERS SHALL BE LOCATED ON THE NORTH SIDE OF THE PRIMARY SEDIMENTATION TANKS.

LEGEND:

PROJECT STAGING AREA

VEHICLE ACCESS

SCALE

0 50' 100' 400'

SCALE: 1" = 100'

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.27 16:20:49 -08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

GENERAL

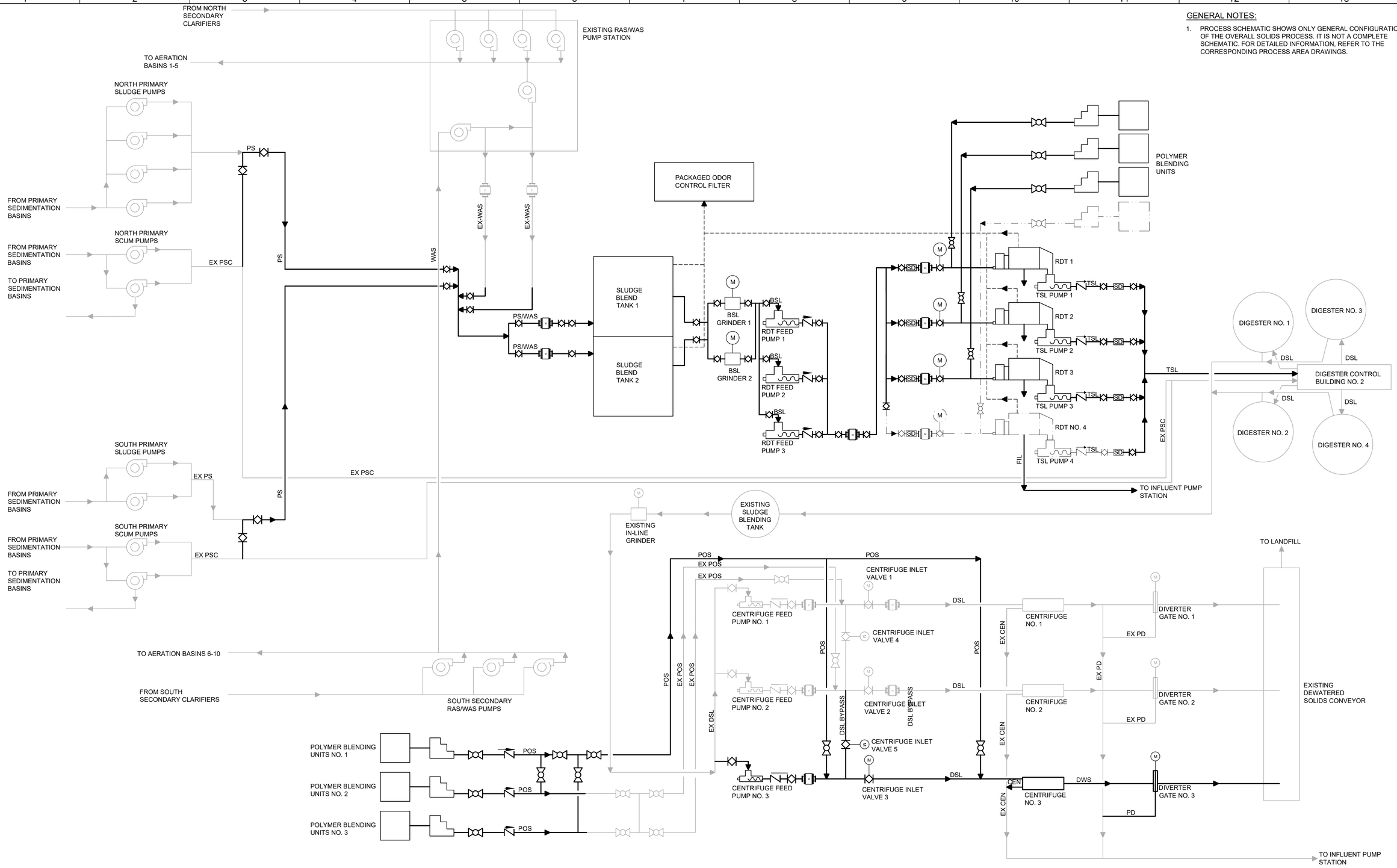
CONTRACTOR STAGING PLAN

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

JOB NO. 202645
DRAWING NO. 00G007
SHEET NO. 7 OF 239

LAST SAVED BY: Jabla

PROJECT NO. 202645-100000 FILE NAME: 202645_00G007.dwg



GENERAL NOTES:

1. PROCESS SCHEMATIC SHOWS ONLY GENERAL CONFIGURATION OF THE OVERALL SOLIDS PROCESS. IT IS NOT A COMPLETE SCHEMATIC. FOR DETAILED INFORMATION, REFER TO THE CORRESPONDING PROCESS AREA DRAWINGS.

REV	DATE	BY	DESCRIPTION

DESIGNED KTL/PDL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.24 14:24:19 -08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

GENERAL

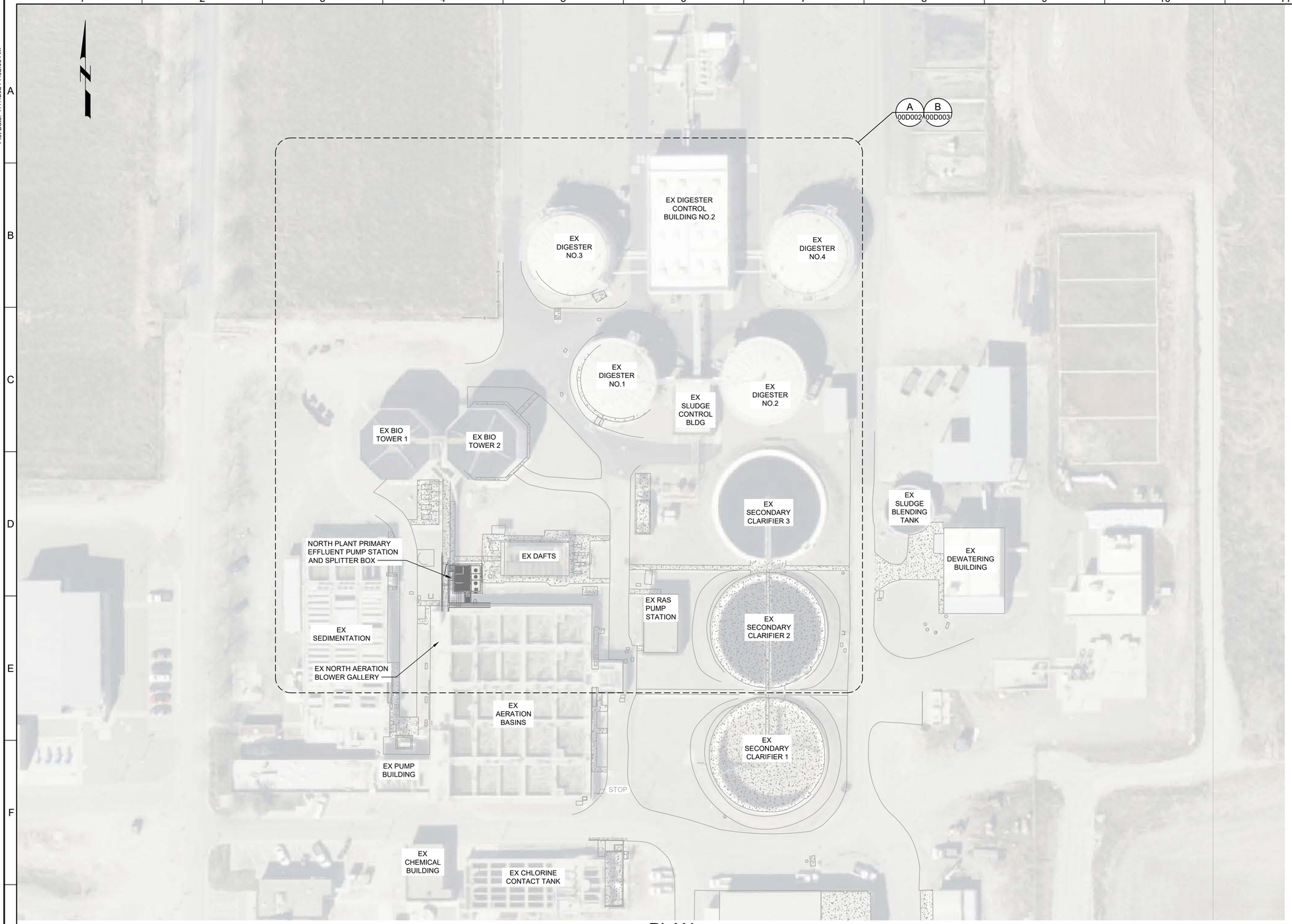
BIOSOLIDS PROCESS SCHEMATIC

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

JOB NO. 202645
DRAWING NO. 00G008
SHEET NO. 8 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_00G008.dwg



PLAN

FILE: 202645_00D001

GENERAL DEMOLITION NOTES:

1. THE DEMOLITION DRAWINGS HEREIN ARE PROVIDED TO THE CONTRACTOR FOR REFERENCE IN DETERMINING THE SCOPE OF DEMOLITION REQUIRED. THE CONTRACTOR SHALL MAKE SUCH FIELD INVESTIGATIONS AS NECESSARY TO SATISFY ITSELF AS TO THE FIELD CONDITIONS. THE USE OF THESE DRAWINGS SHALL BE AT THE CONTRACTOR'S DISCRETION. THE CONTRACTOR IS CAUTIONED TO REVIEW EXISTING REFERENCE DRAWINGS AVAILABLE FROM THE OWNER.
2. THE DEMOLITION DRAWINGS HEREIN HAVE BEEN PRODUCED BY SCANNING DESIGN DRAWINGS OF THE EXISTING ELEMENT(S) TO BE DEMOLISHED. WHERE POSSIBLE, A FIELD VERIFICATION WAS PERFORMED AND MAJOR DEVIATIONS HAVE BEEN NOTED. CONTRACTOR SHALL FIELD VERIFY SITE CONDITIONS TO SATISFY THEMSELVES PER NOTE 1. ORIGINAL DRAWINGS ARE AVAILABLE FROM OWNER FOR CONTRACTOR'S REFERENCE.
3. NOT ALL DEMOLITION WORK REQUIRED ON THIS PROJECT IS SHOWN ON THE DEMOLITION DRAWINGS. REFER TO THE OTHER CONTRACT DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED. REFER TO THE YARD PIPING DRAWINGS FOR ADDITIONAL BELOW GRADE PIPING DEMOLITION.
4. COORDINATE DEMOLITION WORK WITH ALL APPLICABLE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
5. SALVAGE EQUIPMENT PER SPECIFICATION 01738.
6. REFER TO SPECIFICATION SECTION 01140 FOR WORK RESTRICTIONS PRIOR TO DEMOLITION.
7. EXISTING CONDITIONS:
   A. FIELD VERIFY ALL EXISTING DIMENSIONS, ELEVATIONS, AND CONDITIONS RELATED TO WORK PRIOR TO DEMOLITION, SHOP DRAWING PREPARATION, AND FABRICATION.
   B. NOTIFY ENGINEER IMMEDIATELY IF CONDITIONS NOT COVERED BY THESE DRAWINGS ARE EXPOSED DURING CONSTRUCTION INCLUDING BUT NOT LIMITED TO:
      I. SIZE OR DIMENSIONS DIFFERING FROM THE CONTRACT DOCUMENTS.
      II. DAMAGE OR DETERIORATION TO MATERIALS AND COMPONENTS.
      III. CONDITIONS OR DETAILS DIFFERENT FROM THOSE SHOWN ON THE DRAWINGS.
8. RESTORE TO ITS ORIGINAL CONDITION ANY EXISTING CONSTRUCTION THAT IS DAMAGED AS A RESULT OF DEMOLITION.
9. SITE DEMOLITION WILL IMPACT EXISTING DRAINAGE PATTERNS. MAINTAIN SITE DRAINAGE PATTERNS DURING CONSTRUCTION. REROUTE EARTHEN SWALES AND PROVIDE TEMPORARY FACILITIES AS NECESSARY.
10. UNLESS OTHERWISE INDICATED, WHERE EQUIPMENT, BRACKETS, PIPE SUPPORTS, BASE PLATES, CLAMPS, ETC. ARE REMOVED, FASTENER SHALL BE CUT OFF 2-INCHES BELOW SURFACE. PATCH HOLE WITH NON-SHRINK GROUT. WHERE CONCRETE SUPPORTS ARE REMOVED, REPAIR CONCRETE SLAB PER DETAIL SD820/TYP.
11. WHERE ANY EQUIPMENT OR PIPING IS CALLED OUT TO BE DEMOLISHED OR REMOVED, THE ASSOCIATED SUPPORTS FOR THAT EQUIPMENT OR PIPE SHALL ALSO BE REMOVED.
12. DISCONNECT AND DEMOLISH ALL POWER, CONTROL, AND SIGNAL CABLES AND WIRING BETWEEN THE DEMOLISHED EQUIPMENT AND INSTRUMENTS AND ITS ASSOCIATED MCC OR CONTROL PANEL. DEMOLISH ALL EMPTIED EXPOSED CONDUIT, FITTINGS, JUNCTION BOXES, AND SUPPORTS.
13. REMOVE ALL DISCONNECTED CABLES AND WIRING CABLES FROM ABANDONED IN-SLAB OR BURIED CONDUITS. GRIND ABANDONED CONDUITS DOWN AND FILL CONDUIT PENETRATION WITH DRY-PACK MORTAR PER SPECIFICATION SECTION 03600. PLACE DRY-PACK MORTAR IN HOLES IN LAYERS WITH THICKNESS NOT EXCEEDING THE HOLE DIAMETER AND HEAVILY COMPACT EACH LAYER.

SCALE

0 20' 40' 80'

SCALE: 1" = 40'

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN JJ
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.29 09:41:49 -08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

DEMOLITION

SITE PLAN

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

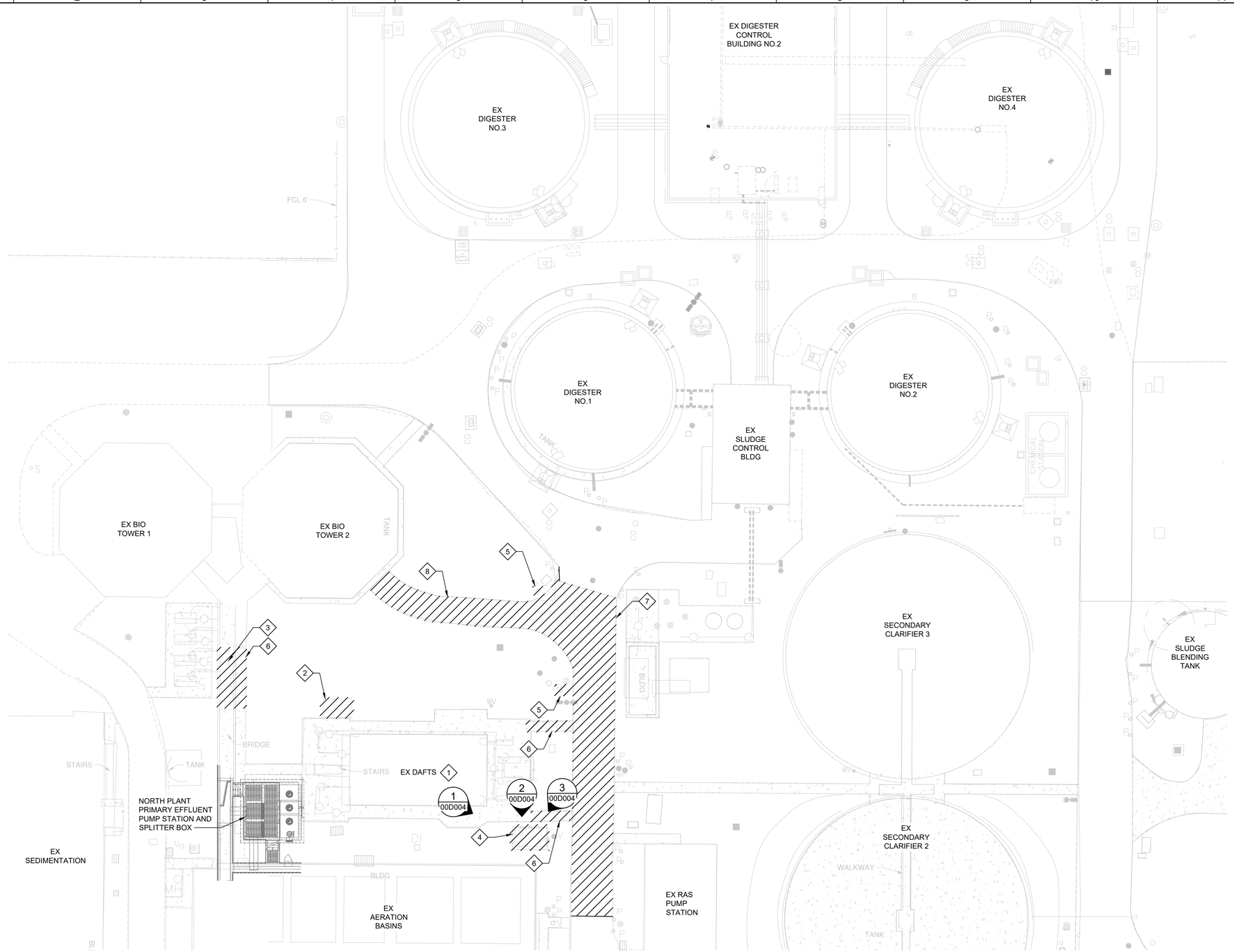
JOB NO. 202645
DRAWING NO. 00D001
SHEET NO. 10 OF 239

LAST SAVED BY: Jjabla

PROJECT NO. 202645-100000 FILE NAME: 202645_00D001.dwg

Plot Date: 7/17/2024 7:52:53 AM

Plot Date: 7/17/2024 7:52:14 AM



A 00D001 PLAN
SCALE: 1" = 20'
FILE: 202645_00D002

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. YARD PIPING DEMOLITION IS NOT SHOWN. REFER TO DRAWING 00D003.

KEY NOTES:

1. DEMOLITION AT THE DAFTS IS NOT SHOWN. REFER TO THE AREA 07 DEMOLITION DRAWINGS.
2. DEMOLISH THE ENTIRE DAFT POLYMER FACILITY. REFER TO THE AREA 07 DEMOLITION DRAWINGS.
3. DEMOLISH A PORTION OF THE BIOTOWER EFFLUENT CHANNEL. REFER TO THE AREA 03 DEMOLITION DRAWINGS.
4. DEMOLISH THE FLOW METER VAULT AND BACKFILL TO GRADE. REFER TO DRAWING 00D004 FOR ADDITIONAL INFORMATION.
5. DEMOLISH BOLLARD AND CONCRETE FOUNDATION.
6. DEMOLISH 4" THICK SIDEWALK.
7. DEMOLISH 4" AC PAVEMENT.
8. DEMOLISH 4" AC PAVEMENT DRIVEWAY.

SCALE

0 10' 20' 40'

SCALE: 1" = 20'

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc
Date: 2025.01.27 14:45:49-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

DEMOLITION

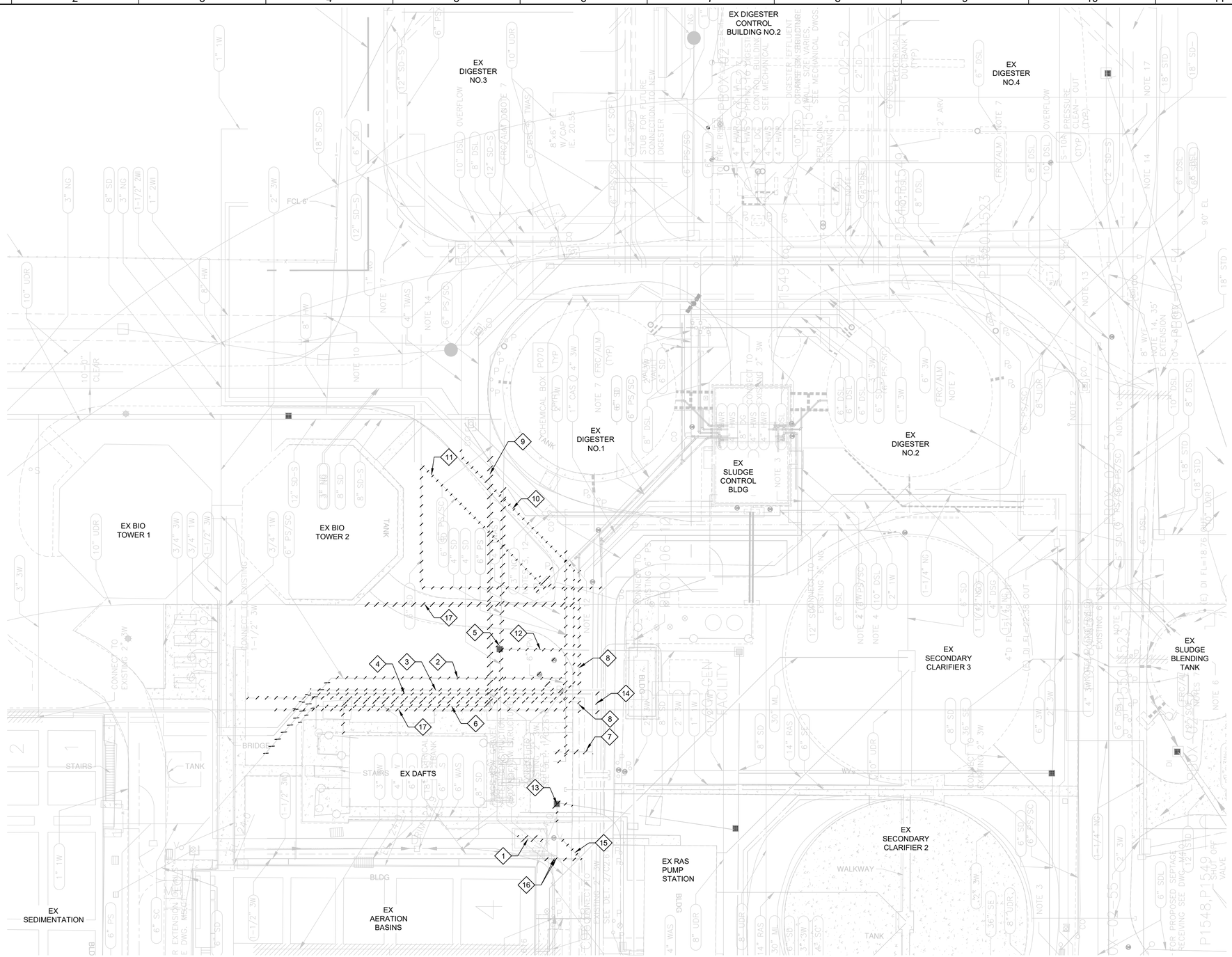
PARTIAL SITE PLAN

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

JOB NO. 202645
DRAWING NO. 00D002
SHEET NO. 11 OF 239

LAST SAVED BY: hvo

PROJECT NO. 202645-100000 FILE NAME: 202645_00D002.dwg



B 00D001 PLAN

SCALE: 1" = 20'

FILE: 202645_00D003

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. ONLY BELOW GRADE PIPING DEMOLITION IS SHOWN. REFER TO THE OTHER DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED.
3. NOT ALL BELOW GRADE PIPING DEMOLITION IS SHOWN. REFER TO THE YARD PIPING DRAWINGS FOR ADDITIONAL BELOW GRADE PIPING DEMOLITION.
4. INSTALL A CAP AND THRUST BLOCK ON ALL ENDS OF DISCONNECTED PIPES.

KEY NOTES:

1. DEMOLISH THE FLOW METER. REFER TO DRAWING 00D004 FOR ADDITIONAL INFORMATION.
2. DEMOLISH EXISTING 6" PS/SC PIPE.
3. DEMOLISH EXISTING 2" 1W PIPE.
4. DEMOLISH EXISTING 2" 3W PIPE.
5. EXISTING 4" SD AND CATCH BASIN TO BE DEMOLISHED TO ACCOMMODATE PROPOSED RDT FACILITY.
6. DEMOLISH EXISTING 4" 3W PIPE.
7. DEMOLISH EXISTING SD PIPE.
8. DEMOLISH EXISTING 1" CAS PIPE.
9. FIELD VERIFY LOCATION AND DEMOLISH EXISTING 4" 3W PIPE.
10. DEMOLISH EXISTING 4" TWAS PIPE.
11. DEMOLISH EXISTING 6" SD PIPE.
12. DEMOLISH EXISTING 8" SD PIPE TO ACCOMMODATE PROPOSED RDT FACILITY.
13. DEMOLISH EXISTING CATCH BASIN AND 8" SD PIPE TO ACCOMMODATE PROPOSED BLEND TANKS.
14. DEMOLISH EXISTING 1" CAS PIPE.
15. DEMOLISH EXISTING 1" CLG PIPE.
16. DEMOLISH EXISTING UNKNOWN PIPE.
17. DEMOLISH EXISTING 10" UD PIPE.

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

SCALE

0 10' 20' 40'

SCALE: 1" = 20'

REV	DATE	BY	DESCRIPTION

DESIGNED BG
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.27 08:49:07 -08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

DEMOLITION

PARTIAL SITE PLAN
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. 202645
DRAWING NO. 00D003
SHEET NO. 12 OF 239

LAST SAVED BY: Jjabla

PROJECT NO. 202645-100000 FILE NAME: 202645_00D003.dwg

Plot Date: 7/17/2024 7:52:14 AM



1 PHOTO
00D002
SCALE: NO SCALE
FILE: 202645_00D0401.JPG



2 PHOTO
00D002
SCALE: NO SCALE
FILE: 202645_00D0402.JPG



3 PHOTO
00D002
SCALE: NO SCALE
FILE: 202645_00D0403.JPG

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. AFTER DEMOLITION OF THE FLOW METER VAULT, BACKFILL TO GRADE.

KEY NOTES:

1. DEMOLISH THE CONCRETE FLOW METER VAULT STRUCTURE COMPLETE, INCLUDING BUT NOT LIMITED TO THE WALLS, BASE SLAB, AND HANDRAIL. HATCHING NOT SHOWN FOR CLARITY.
2. DEMOLISH PIPING AND SUPPORTS INSIDE OF THE VAULT. DEMOLISH THE FLOW METER AND REMOTE TRANSMITTER. INSTALL NEW NEW PIPE SPOOLS WITH A RESTRAINED FLEX COUPLING IN THE MIDDLE AND NEW FLANGE HARDWARE TO REPLACE DEMOLISH PIPE AND FLOW METER. INSTALL POLYETHYLENE ENCASEMENT ON THE NEW PIPE.
3. DEMOLISH SUMP PUMP, SUMP COVER, DISCHARGE PIPING, AND ASSOCIATED ELECTRICAL WIRING AND CONDUIT. DEMOLISH THE DISCHARGE PIPING TO 3' BELOW GRADE OUTSIDE OF THE VAULT AND CAP.
4. DEMOLISH PIPING AND VALVE TO 3' BELOW GRADE OUTSIDE OF THE VAULT AND CAP.
5. DEMO HATCHING IS NOT SHOWN FOR CLARITY.

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc
Date: 2025.01.24 15:53:07 -08'00'

carollo

CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
DEMOLITION
FLOW METER VAULT PHOTOS

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

JOB NO. 202645
DRAWING NO. 00D004
SHEET NO. 13 OF 239

LAST SAVED BY: gleal

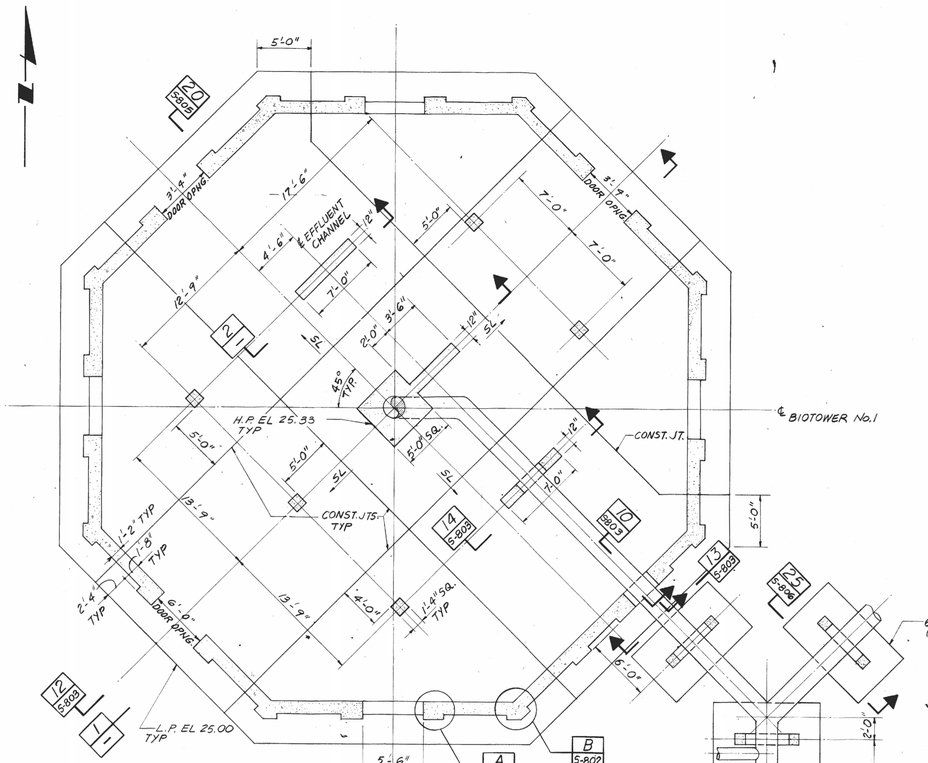
PROJECT NO. 202645-100000 FILE NAME: 202645_00D004.dwg

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 75% OF ORIGINAL SIZE.
3. ONLY STRUCTURAL DEMOLITION IS SHOWN. REFER TO THE OTHER DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED.

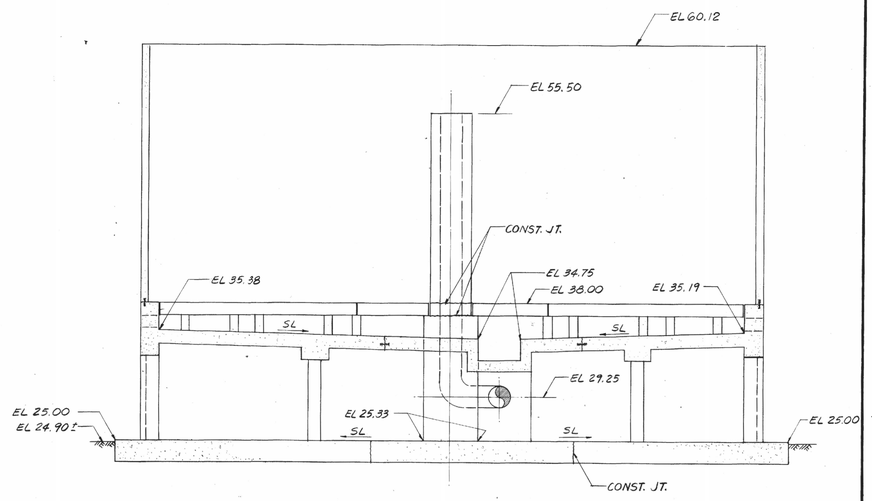
⟨#⟩ KEY NOTES:

1. DEMOLISH BIOTOWER EFFLUENT CHANNEL CONCRETE SUPPORT AND FOUNDATION.

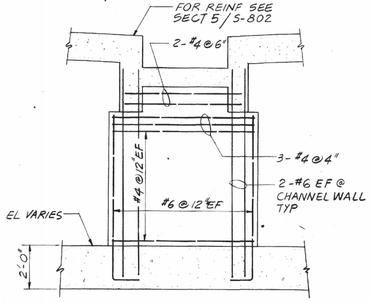


FOUNDATION PLAN
3/16" = 1'-0"

NOTE
BIOTOWER NO.1 FOUNDATION SHOWN.
BIOTOWER NO.2 FOUNDATION IS SAME AND OPPOSITE.



SECTION 1
3/16" = 1'-0"



SECTION 2
3/8" = 1'-0"

RECORD DRAWING
These record drawings have been prepared based on information provided by others. The Engineer has not verified the accuracy of such information and shall not be responsible for any errors or omissions which may be incorporated herein as a result.

REGISTERED PROFESSIONAL ENGINEER — YOGESH B. PATEL — No. 1765 — STRUCTURAL — STATE OF CALIFORNIA

BEYAZ & PATEL, INC.
CONSULTING ENGINEERS
2020 N. Broadway, Suite 200
Walnut Creek, California 94596

REV	DATE	BY	DESCRIPTION
R0	9/8/25	JHF	RECORD DRAWING

SCALE: AS NOTED
DESIGNED Z. BEYAZ
DRAWN E. POSADAS
CHECKED Y. PATEL
SUBMITTED — PROJECT ENGINEER — R.C.E. NO. 24697 — DATE 4-9-25
RECOMMENDED — JAMES M. MONTGOMERY, CONSULTING ENGINEERS, INC. — R.C.E. NO. 24303 — DATE 4/11/25

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.
2235 IGNACIO VALLEY ROAD, WALNUT CREEK, CALIFORNIA 94598

APPROVED — DATE
APPROVED — DATE

CITY OF MANTECA
WQCF - MODIFICATIONS AND ADDITIONS
BIOTOWER FOUNDATION PLAN AND SECTIONS

SHEET S-801 OF SHEETS

JOB NO. FILE CC 7/79

LAST SAVED BY: gleal

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.09.08 14:47:37 -07'00'

carollo

my Manteca — CITY OF MANTECA, CALIFORNIA — the family city — INCORPORATED MAY 21, 1918

CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
DEMOLITION
BIOTOWER EFFLUENT CHANNEL STRUCTURAL FOUNDATION PLAN

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

JOB NO. 202645
DRAWING NO. 03D001
SHEET NO. 14 OF 239

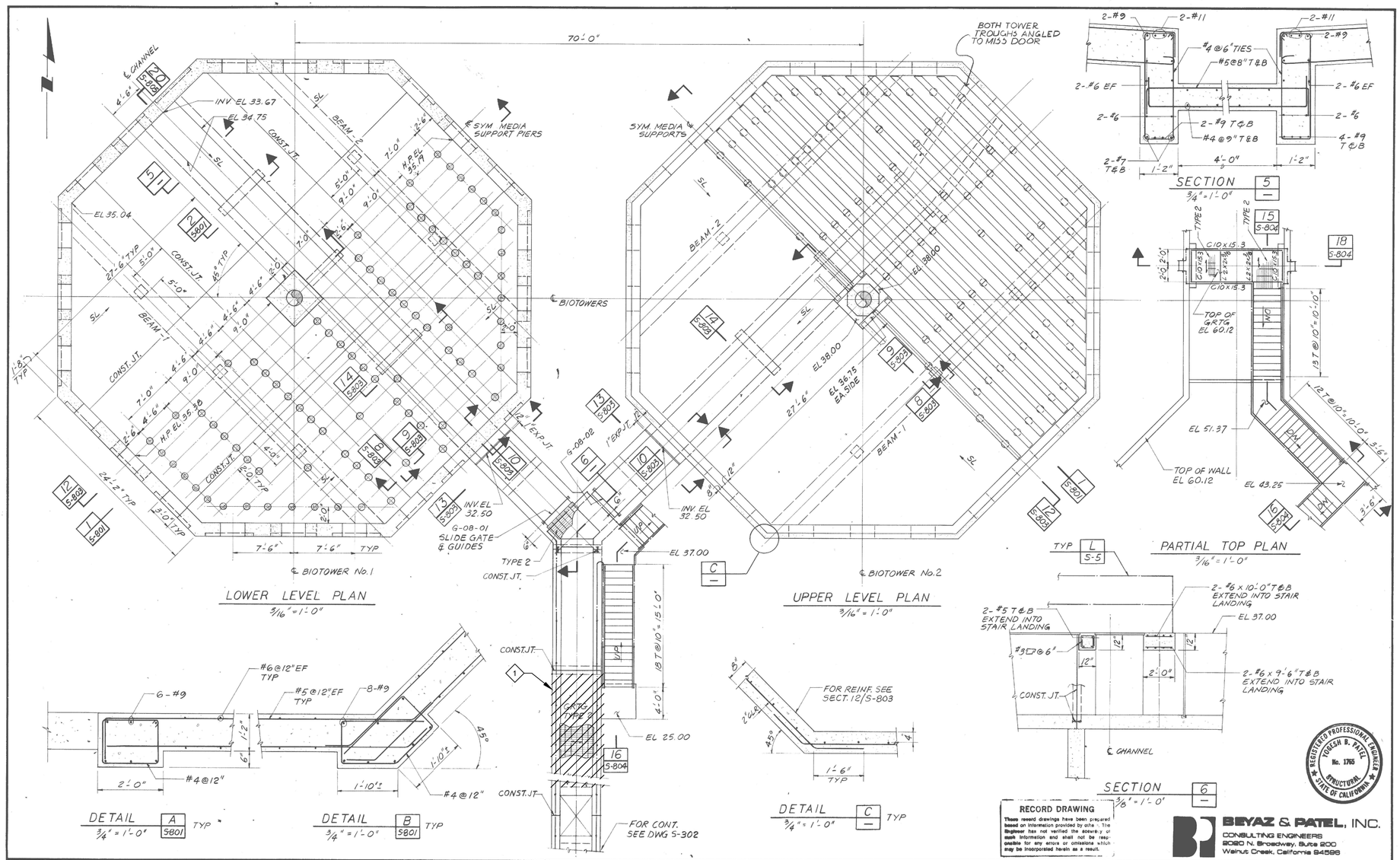
PROJECT NO. 202645-100000 FILE NAME: 202645_03D001.dwg

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 75% OF ORIGINAL SIZE.
3. ONLY STRUCTURAL DEMOLITION IS SHOWN. REFER TO THE OTHER DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED.

(#) KEY NOTES:

1. DEMOLISH A PORTION OF THE BIOTOWER EFFLUENT CHANNEL COMPLETE TO THE EXTENT SHOWN, INCLUDING BUT NOT LIMITED TO CONCRETE CHANNEL, SUPPORT, AND FOUNDATION, GRATING, HANDRAIL, LIGHTING, AND PIPING.



RECORD DRAWING
These record drawings have been prepared based on information provided by othe r. The Engineer has not verified the accuracy of such information and shall not be responsible for any errors or omissions which may be incorporated herein as a result.

REGISTERED PROFESSIONAL ENGINEER — YOGESH B. PATEL — No. 1765 — STRUCTURAL — STATE OF CALIFORNIA

BEYAZ & PATEL, INC.
CONSULTING ENGINEERS
2020 N. Broadway, Suite 200
Walnut Creek, California 94596

REV	DATE	BY	DESCRIPTION
RD	4/28/25	THF	RECORD DRAWING

SCALE: AS NOTED

DESIGNED Z. BEYAZ
DRAWN E. POSADAS
CHECKED Y. PATEL

SUBMITTED — PROJECT ENGINEER — R.C.E. NO. 24499 — DATE 4-9-25
RECOMMENDED — JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC. — R.C.E. NO. 24303 — DATE 4/14/25

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.
2255 YGNACIO VALLEY ROAD, WALNUT CREEK, CALIFORNIA 94598

APPROVED — DATE
APPROVED — DATE

CITY OF MANTECA
WQCF - MODIFICATIONS AND ADDITIONS
BIOTOWER PLANS, SECTIONS AND DETAILS

SHEET S-802 OF SHEETS

JOB NO. FILE CC 3179

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.04.28 14:10:58 -07'00'

carollo

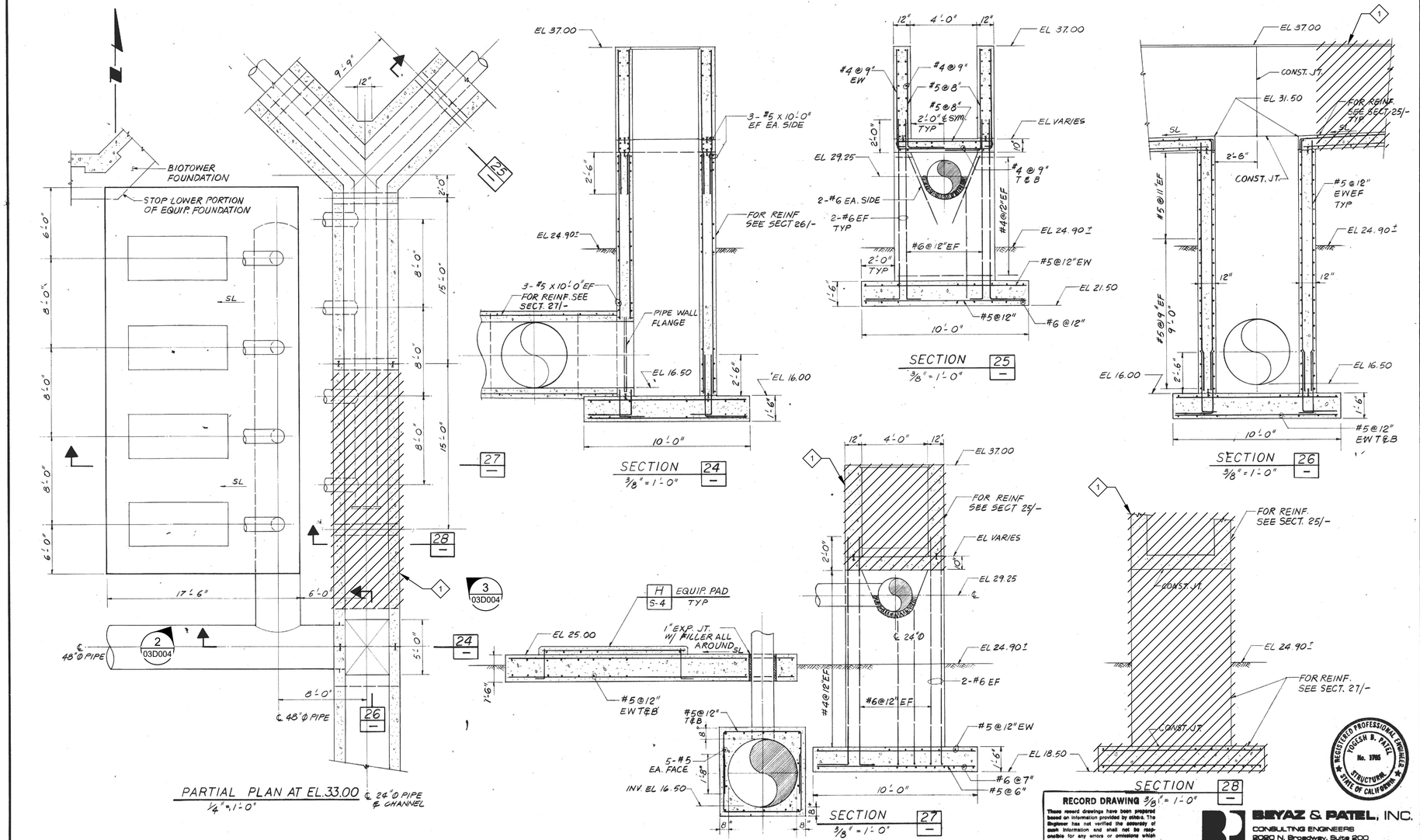
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
DEMOLITION
BIOTOWER EFFLUENT CHANNEL STRUCTURAL TOP PLAN

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

JOB NO. 202645
DRAWING NO. 03D002
SHEET NO. 15 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_03D002.dwg



RECORD DRAWING 3/8"=1'-0"

These record drawings have been prepared based on information provided by others. The Engineer has not verified the accuracy of such information and shall not be responsible for any errors or omissions which may be incorporated herein as a result.

REGISTERED PROFESSIONAL ENGINEER — YOGESH B. PATEL — No. 37165 — STRUCTURAL — STATE OF CALIFORNIA

BEYAZ & PATEL, INC.
CONSULTING ENGINEERS
2020 N. Broadway, Suite 200
Walnut Creek, California 94596

REV	DATE	BY	DESCRIPTION
RD	4/9/25	MJHF	RECORD DRAWING

SCALE: AS NOTED

DESIGNED Z. BEYAZ
DRAWN E. POSADAS
CHECKED Y. PATEL

SUBMITTED — PROJECT ENGINEER — 24699 R.C.E. NO. — 4-9-25 DATE

RECOMMENDED — JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC. — 24403 R.C.E. NO. — 4/14/25 DATE

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.
2295 IGNACIO VALLEY ROAD, WALNUT CREEK, CALIFORNIA 94598

APPROVED — DATE
APPROVED — DATE

CITY OF MANTECA
WQCF - MODIFICATIONS AND ADDITIONS
BIOTOWER PUMP STATION AND CHANNEL PLAN AND SECTIONS

SHEET S-806 OF SHEETS

JOB NO. — FILE — CC 7.79

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 75% OF ORIGINAL SIZE.
3. ONLY STRUCTURAL DEMOLITION IS SHOWN. REFER TO THE OTHER DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED.

⟨#⟩ KEY NOTES:

1. DEMOLISH A PORTION OF THE BIOTOWER EFFLUENT CHANNEL COMPLETE TO THE EXTENT SHOWN, INCLUDING BUT NOT LIMITED TO CONCRETE CHANNEL, SUPPORT, AND FOUNDATION, GRATING, HANDRAIL, LIGHTING, AND PIPING.

LAST SAVED BY: gleal

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.04.09 09:49:09-07'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

DEMOLITION

BIOTOWER PUMP STATION AND EFFLUENT CHANNEL STRUCTURAL PLAN AND SECTIONS

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

JOB NO. 202645
DRAWING NO. 03D003
SHEET NO. 16 OF 239

PROJECT NO. 202645-100000 FILE NAME: 202645_03D003.dwg



1 PHOTO
03D003
SCALE: NO SCALE
FILE: 202645_03D0404.JPG



2 PHOTO
03D003
SCALE: NO SCALE
FILE: 202645_03D0405.JPG



3 PHOTO
03D003
SCALE: NO SCALE
FILE: 2202645_03D0406.JPG

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.

KEY NOTES:

1. DEMOLISH A PORTION OF THE BIOTOWER EFFLUENT CHANNEL COMPLETE TO THE EXTENT SHOWN, INCLUDING BUT NOT LIMITED TO CONCRETE CHANNEL, SUPPORT, AND FOUNDATION, GRATING, HANDRAIL, LIGHTING, AND PIPING.
2. THE BIOTOWER PUMP STATION CONCRETE SLAB IS BEING DEMOLISHED AS PART OF A SEPARATE PROJECT PRIOR TO THIS PROJECT.
3. DEMOLISH 4" THICK SIDEWALK.
4. THE BIOTOWER FEED PUMPS AND EXPOSED SUCTION AND DISCHARGE PIPING ARE BEING DEMOLISHED AS PART OF A SEPARATE PROJECT PRIOR TO THIS PROJECT.
5. THE DISCHARGE HEADER IS BEING DEMOLISHED AS PART OF A SEPARATE PROJECT PRIOR TO THIS PROJECT.
6. DEMOLISH PIPING TO 3' BELOW GRADE AND CAP.

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.10 14:49:00

carollo®

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

DEMOLITION

BIOTOWER PUMP STATION AND EFFLUENT CHANNEL PHOTOS

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

JOB NO. 202645
DRAWING NO. 03D004
SHEET NO. 17 OF 239

LAST SAVED BY: gleal

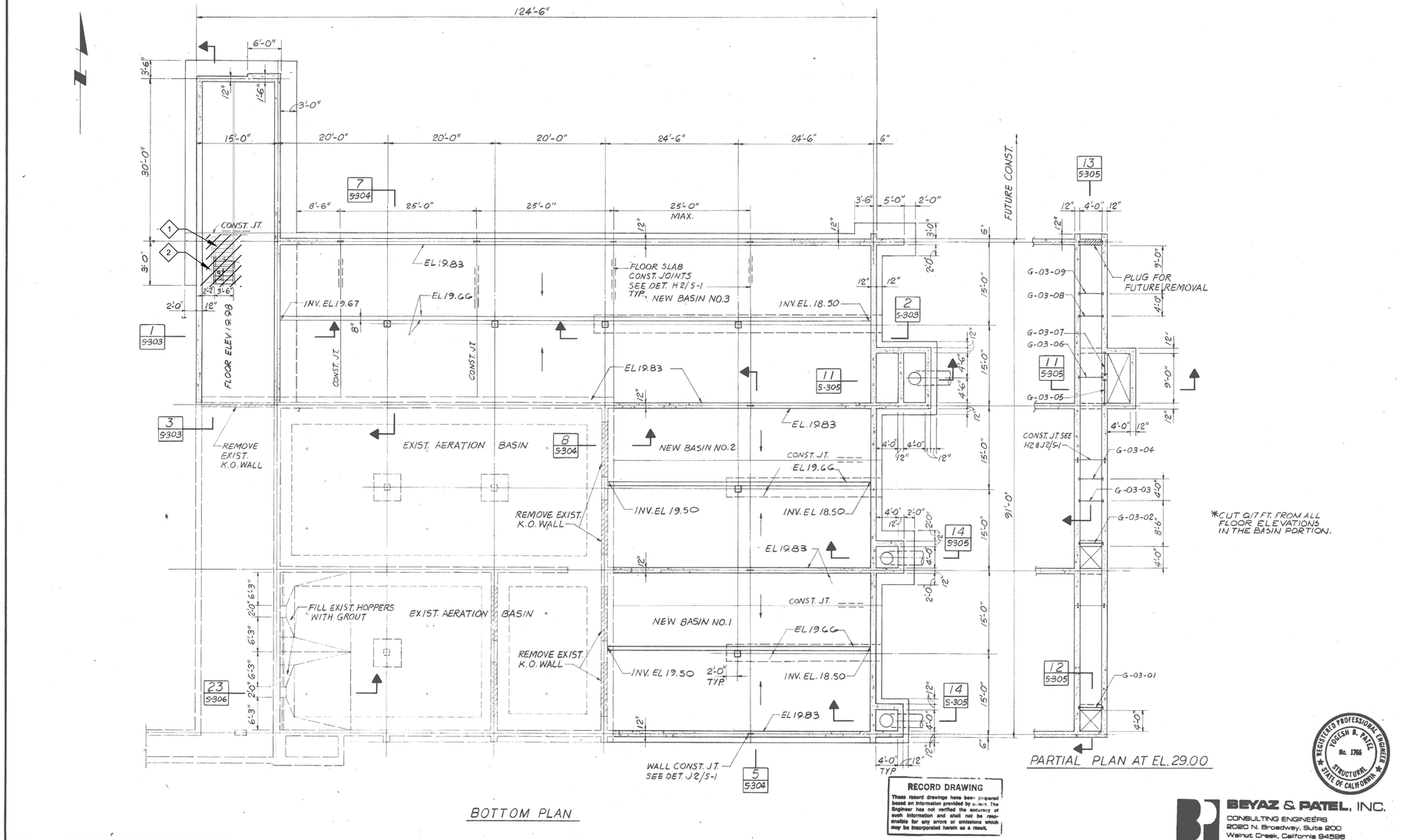
PROJECT NO. 202645-100000 FILE NAME: 202645_03D004.dwg

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 75% OF ORIGINAL SIZE.
3. ONLY STRUCTURAL DEMOLITION IS SHOWN. REFER TO THE OTHER DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED.

⟨#⟩ KEY NOTES:

1. DEMOLISH CONCRETE STAIRS, SUPPORTS, AND HANDRAIL.
2. DEMOLISH HANDRAIL AND SUPPORTS.



BOTTOM PLAN

PARTIAL PLAN AT EL. 29.00

RECORD DRAWING
These record drawings have been prepared based on information provided by others. The Engineer has not verified the accuracy of such information and shall not be responsible for any errors or omissions which may be incorporated herein as a result.

REGISTERED PROFESSIONAL ENGINEER — YOGESH B. PATEL — No. 1765 — STRUCTURAL — STATE OF CALIFORNIA

BEYAZ & PATEL, INC.
CONSULTING ENGINEERS
2020 N. Broadway, Suite 200
Walnut Creek, California 94596

REV	DATE	BY	DESCRIPTION
			RECORD DRAWING

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

DESIGNED R. CARPIZO
DRAWN L. CHING
CHECKED Y. PATEL

SUBMITTED — PROJECT ENGINEER — 24699 R.C.E. NO. — 4-9-25 DATE
RECOMMENDED — JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC. — 24699 R.C.E. NO. — 4/9/25 DATE

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.
2295 YGNACIO VALLEY ROAD, WALNUT CREEK, CALIFORNIA 94598

APPROVED _____ DATE
APPROVED _____ DATE

CITY OF MANTECA
WQCF - MODIFICATIONS AND ADDITIONS
AERATION BASINS BOTTOM PLAN AND PARTIAL PLAN AT EL.29.00

SHEET S-301 OF SHEETS

JOB NO. — FILE — CC 7/79

LAST SAVED BY: Jabla

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.04.14 14:49:50

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

DEMOLITION

NORTH AERATION BLOWER GALLERY
STRUCTURAL BOTTOM PLAN

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

JOB NO. 202645
DRAWING NO. 03D101
SHEET NO. 18 OF 239

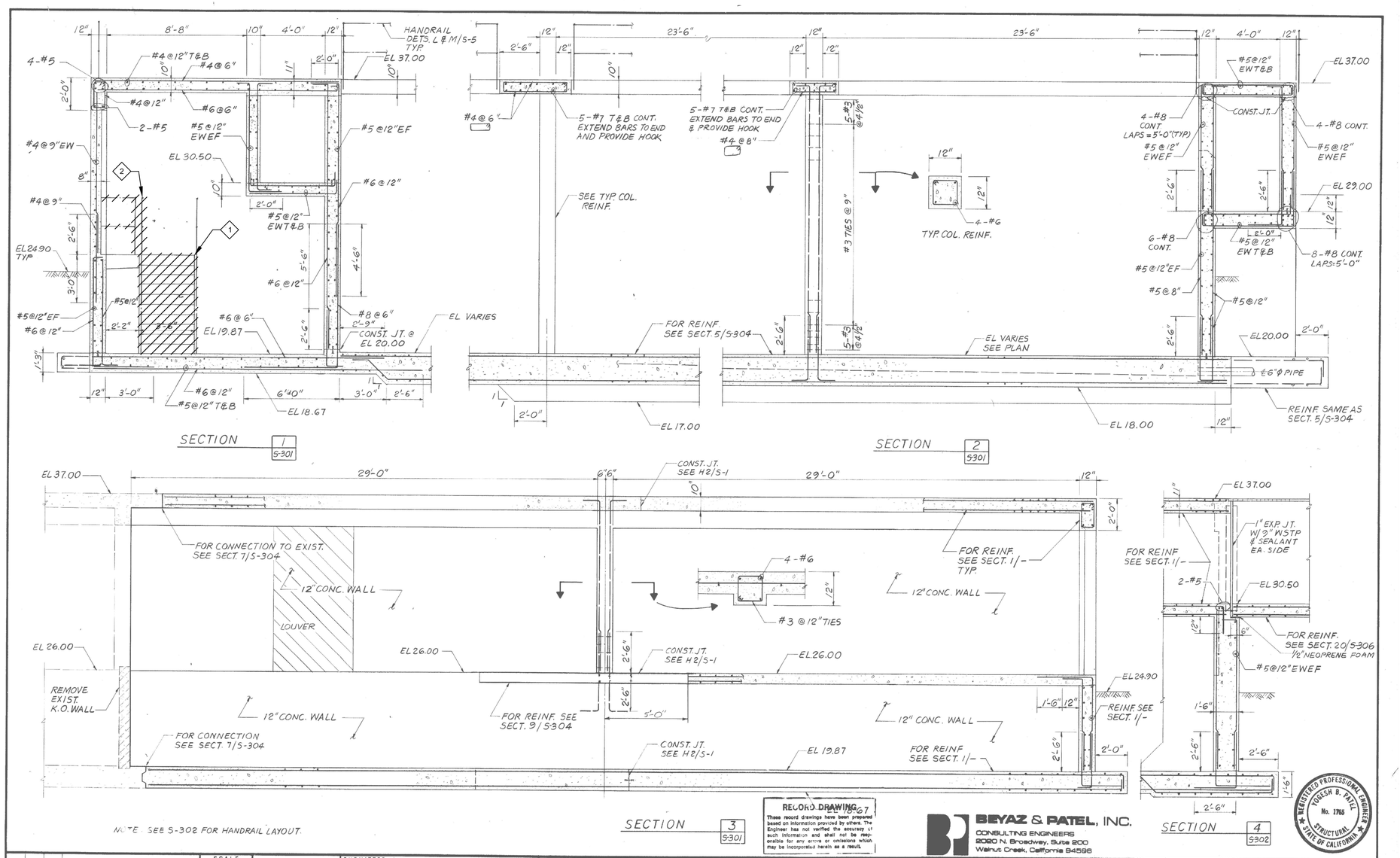
PROJECT NO. 202645-100000 FILE NAME: 202645_03D101.dwg

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 75% OF ORIGINAL SIZE.
3. ONLY STRUCTURAL DEMOLITION IS SHOWN. REFER TO THE OTHER DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED.

◇# KEY NOTES:

1. DEMOLISH CONCRETE STAIRS, SUPPORTS, AND HANDRAIL.
2. DEMOLISH HANDRAIL AND SUPPORTS.



RECORD DRAWING
These record drawings have been prepared based on information provided by others. The Engineer has not verified the accuracy of such information and shall not be responsible for any errors or omissions which may be incorporated herein as a result.

BEYAZ & PATEL, INC.
CONSULTING ENGINEERS
2020 N. Broadway, Suite 200
Walnut Creek, California 94596

REGISTERED PROFESSIONAL ENGINEER YOGESH B. PATEL No. 1755 STRUCTURAL STATE OF CALIFORNIA

JOB NO.	FILE	CC 7179

REV	DATE	BY	DESCRIPTION
RD	3/28/95	TMF	RECORD DRAWING

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

DESIGNED R. CARPIZO
DRAWN L. CHING
CHECKED Y. PATEL

SUBMITTED — PROJECT ENGINEER — R.C.E. NO. 24699 — DATE 4-9-95
RECOMMENDED — JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC. — R.C.E. NO. 24903 — DATE 4/9/95

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.
2255 YGNACIO VALLEY ROAD, WALNUT CREEK, CALIFORNIA 94598

APPROVED — DATE
APPROVED — DATE

CITY OF MANTECA
WQCF - MODIFICATIONS AND ADDITIONS
AERATION BASINS SECTIONS

SHEET S-303 OF SHEETS

LAST SAVED BY: gleal

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.07 14:15:19-08'00'

carollo

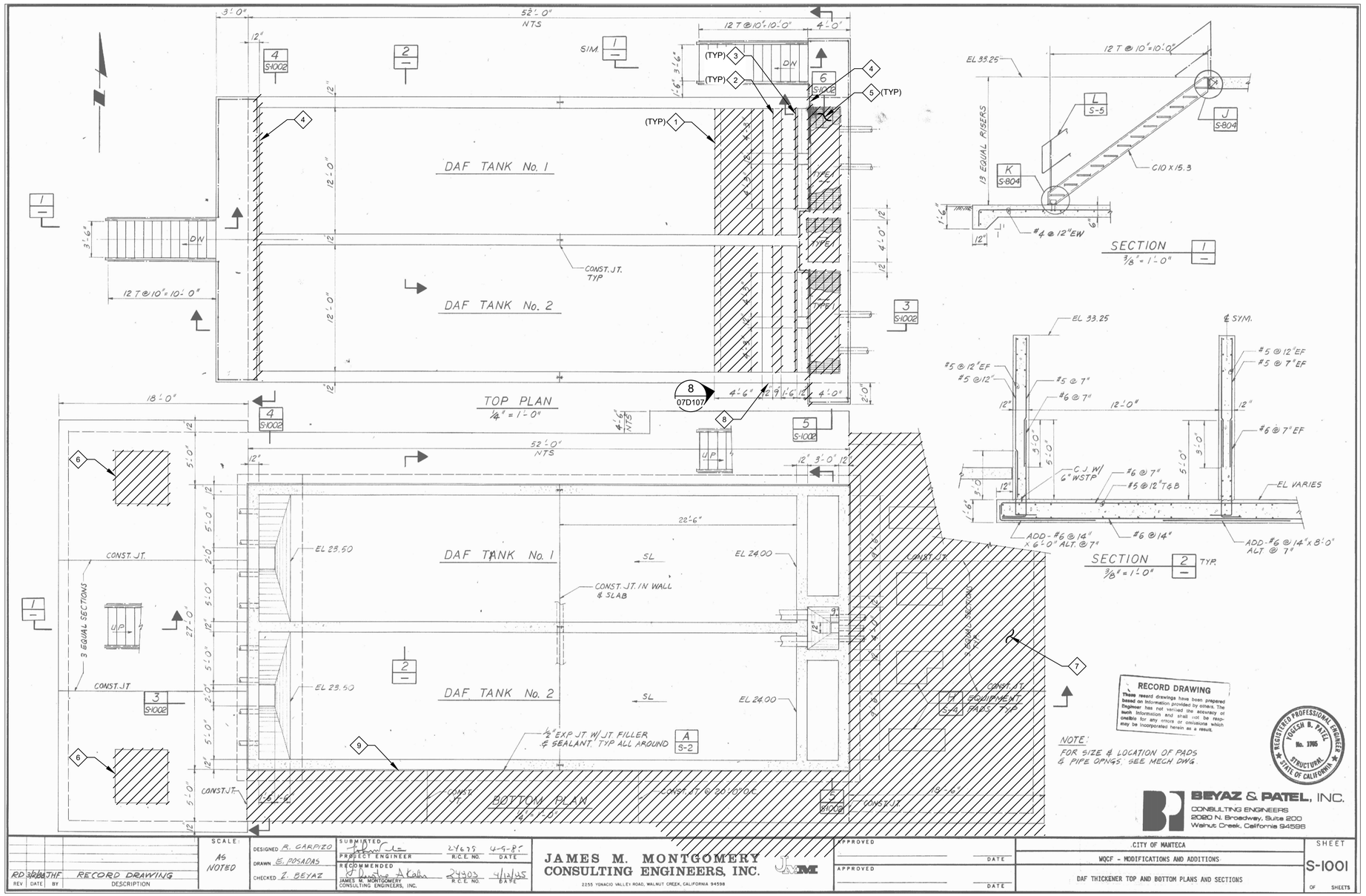
Manteca — CITY OF MANTECA, CALIFORNIA — the family city — INCORPORATED MAY 21, 1918

CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
DEMOLITION
NORTH AERATION BLOWER GALLERY STRUCTURAL SECTIONS

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

JOB NO. 202645
DRAWING NO. 03D102
SHEET NO. 19 OF 239

PROJECT NO. 202645-100000 FILE NAME: 202645_03D102.dwg



GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 75% OF ORIGINAL SIZE.
3. ONLY STRUCTURAL DEMOLITION IS SHOWN. REFER TO THE OTHER DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED.

KEY NOTES:

1. DEMOLISH CONCRETE BEAM, BEACH PLATE, AND GROUT.
2. DEMOLISH CONCRETE BEAM.
3. DEMOLISH WEIR AND SUPPORTS.
4. DEMOLISH HANDRAIL AND SUPPORTS.
5. DEMOLISH GRATING AND SUPPORTS.
6. DEMOLISH EQUIPMENT HOUSEKEEPING PAD AND REPAIR CONCRETE SLAB PER DETAIL SD820/TYP.
7. DEMOLISH CONCRETE SLAB AND EQUIPMENT HOUSEKEEPING PADS.
8. DEMOLISH ELEVATED PLATFORM, LADDER, AND SUPPORTS (NOT SHOWN).
9. DEMOLISH CONCRETE SLAB ON SOUTH SIDE OF TANK.

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.24 14:43:25-08'00'

carollo

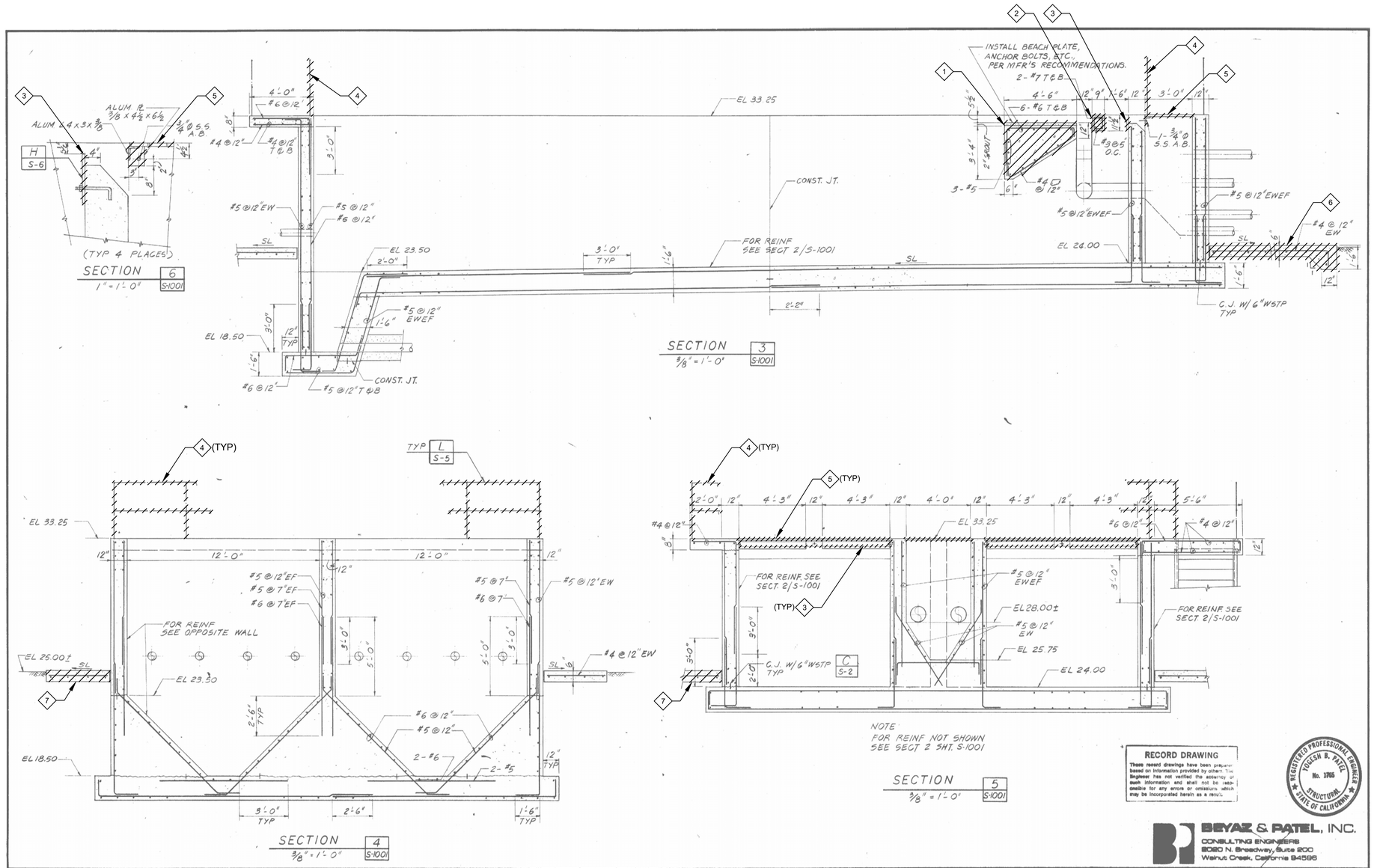
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
DEMOLITION
DISSOLVED AIR FLOTATION THICKENERS
STRUCTURAL PLANS AND SECTIONS

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

JOB NO. 202645
DRAWING NO. 07D101
SHEET NO. 20 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07D101.dwg



GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 75% OF ORIGINAL SIZE.
3. ONLY STRUCTURAL DEMOLITION IS SHOWN. REFER TO THE OTHER DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED.

(#) KEY NOTES:

1. DEMOLISH CONCRETE BEAM, BEACH PLATE, AND GROUT.
2. DEMOLISH CONCRETE BEAM.
3. DEMOLISH WEIR AND SUPPORTS.
4. DEMOLISH HANDRAIL AND SUPPORTS.
5. DEMOLISH GRATING AND SUPPORTS.
6. DEMOLISH CONCRETE SLAB AND EQUIPMENT HOUSEKEEPING PADS.
7. DEMOLISH CONCRETE SLAB ON SOUTH SIDE OF TANK.

RECORD DRAWING
These record drawings have been prepared based on information provided by others. The Engineer has not verified the accuracy of such information and shall not be responsible for any errors or omissions which may be incorporated herein as a result.

REGISTERED PROFESSIONAL ENGINEER — JOSEPH B. PATEL — No. 3765 — STRUCTURAL — STATE OF CALIFORNIA

BEYAZ & PATEL, INC.
CONSULTING ENGINEERS
2020 N. Broadway, Suite 200
Walnut Creek, California 94596

REV	DATE	BY	DESCRIPTION
RD	3/28/25	THF	RECORD DRAWING

SCALE: AS NOTED

DESIGNED R. CARRIZO — SUBMITTED — PROJECT ENGINEER — 24697 R.C.E. NO. — 4-9-25 DATE
DRAWN E. POSADAS
CHECKED Z. BEYAZ — RECOMMENDED — JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC. — R.C.E. NO. — DATE

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.
2255 YGNACIO VALLEY ROAD, WALNUT CREEK, CALIFORNIA 94598

APPROVED — DATE
APPROVED — DATE

CITY OF MANTECA
WQCF - MODIFICATIONS AND ADDITIONS
DAF THICKENER SECTIONS AND DETAILS

SHEET S-1002 OF SHEETS

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Date: 2025.03.28 07:47:37 -07'07'

carollo

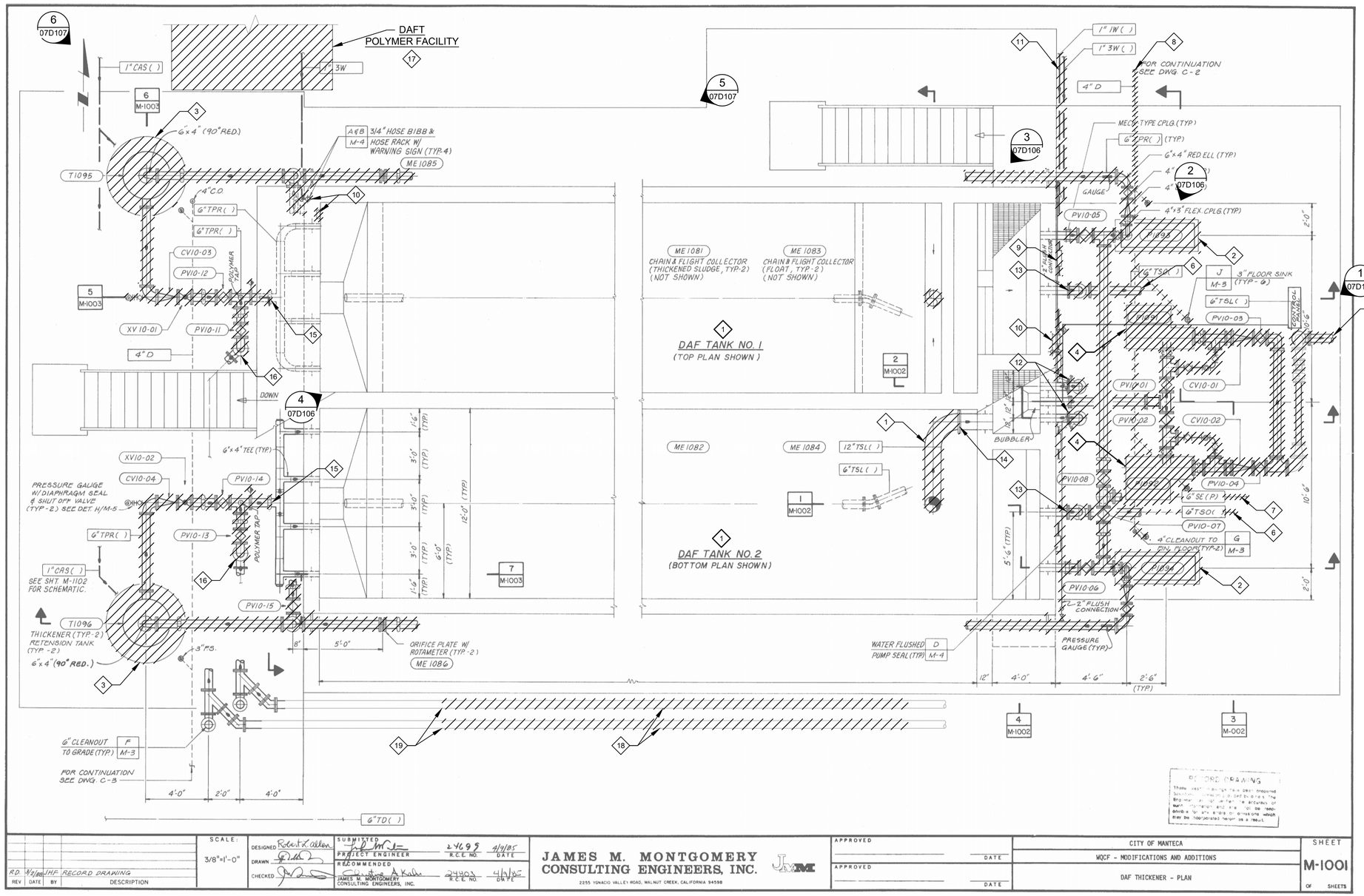
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
DEMOLITION
DISSOLVED AIR FLOTATION THICKENERS STRUCTURAL SECTIONS

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

JOB NO. 202645
DRAWING NO. 07D102
SHEET NO. 21 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07D102.dwg



GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 75% OF ORIGINAL SIZE.
3. ONLY MECHANICAL DEMOLITION IS SHOWN. REFER TO THE OTHER DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED.

KEY NOTES:

1. DEMOLISH ALL DAFT EQUIPMENT (NOT SHOWN), INCLUDING BUT NOT LIMITED TO THE FLOAT CHAIN AND FLIGHT COLLECTOR, THICKENED SLUDGE CHAIN AND FLIGHT COLLECTOR, DEWATERING BEACH, AND ALL ASSOCIATED MOTORS, APPURTENANCES, AND SUPPORTS.
2. DEMOLISH PRESSURE RECYCLE PUMPS, SEAL WATER SYSTEMS AND PIPING, AND ALL EXPOSED TPR PIPING, VALVES, APPURTENANCES, AND SUPPORTS.
3. DEMOLISH AIR RETENTION TANKS AND ALL ASSOCIATED PIPING, VALVES, APPURTENANCES, AND SUPPORTS.
4. DEMOLISH THICKENED SLUDGE PUMPS, SEAL WATER SYSTEMS AND PIPING, AND ALL EXPOSED TSL PIPING, VALVES, APPURTENANCES, AND SUPPORTS.
5. DEMOLISH ALL BURIED 6" TSL PIPING BELOW THE SLAB. REFER TO DRAWING 00D03 FOR CONTINUATION OF BURIED TSL PIPING DEMOLITION.
6. DEMOLISH ALL BURIED 6" TSO PIPING BELOW THE SLAB. REFER TO DRAWING 00D03 FOR CONTINUATION OF BURIED TSO PIPING DEMOLITION.
7. DEMOLISH ALL BURIED 6" SE PIPING BELOW THE SLAB. REFER TO DRAWING 00D03 FOR CONTINUATION OF BURIED SE PIPING DEMOLITION.
8. DEMOLISH ALL FLOOR DRAINS/SINKS, CLEANOUTS, AND BURIED 4" D PIPING BELOW THE SLAB. REFER TO DRAWING 00D03 FOR CONTINUATION OF BURIED D PIPING DEMOLITION.
9. DEMOLISH ALL EXPOSED 1W AND 2W PIPING, VALVES, APPURTENANCES, AND SUPPORTS.
10. DEMOLISH ALL EXPOSED 3W PIPING, VALVES, HOSE BIBS AND HOSE RACKS, APPURTENANCES, AND SUPPORTS.
11. DEMOLISH ALL BURIED 1" 1W AND 1" 3W PIPING BELOW THE SLAB. REFER TO DRAWING 00D03 FOR CONTINUATION OF BURIED 1W AND 3W PIPING DEMOLITION.
12. INSTALL BLIND FLANGE ON EXISTING 6" TSL WALL SPOOL.
13. INSTALL BLIND FLANGE ON EXISTING 6" TSO WALL SPOOL.
14. INSTALL BLIND FLANGE ON EXISTING 12" TSL WALL SPOOL.
15. INSTALL BLIND FLANGE ON EXISTING 6" FLANGE FOR STEEL INLET MANIFOLD.
16. INSTALL BLIND FLANGE ON EXISTING 6" WAS PIPE FLANGE DIRECTLY ABOVE THE SLAB.
17. DEMOLISH THE ENTIRE DAFT POLYMER FACILITY, INCLUDING BUT NOT LIMITED TO THE POLYMER TOTE SUPPORT STRUCTURE, POLYMER PIPING, CANOPY, AND CONCRETE SLAB AND FOUNDATION. CAP ALL POLYMER PIPING 3'-0" BELOW GRADE.
18. DEMOLISH A PORTION OF THE EXISTING 6" WAS PIPING BELOW GRADE AS REQUIRED FOR CONNECTION TO NEW 6" WAS PIPING AND ALLOW ROOM FOR INSTALLATION OF NEW 6" PS PIPING.
19. INSTALL MJ CAPS AT ENDS OF EXISTING 6" WAS PIPES TO BE ABANDONED IN PLACE AND FILL PIPES WITH CLSM.

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc
Date: 2025.04.04 15:50:49-07'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

DEMOLITION

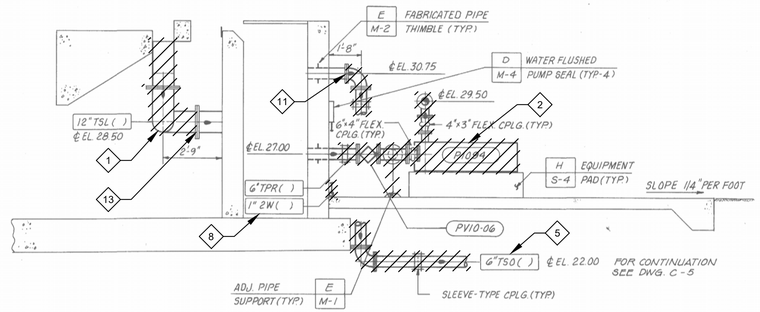
DISSOLVED AIR FLOTATION THICKENERS MECHANICAL PLAN

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

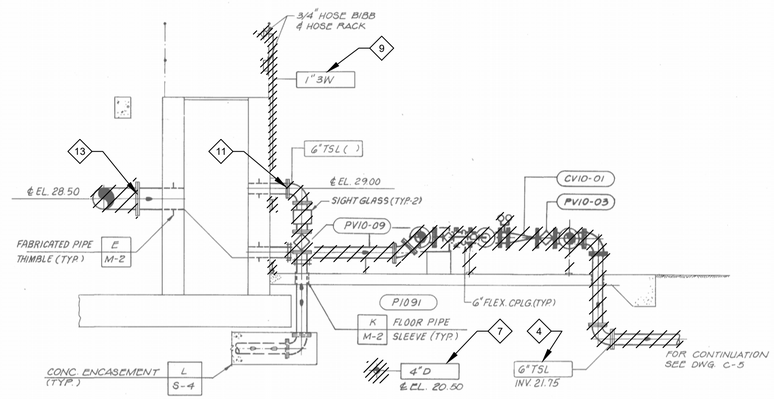
JOB NO. 202645
DRAWING NO. 07D103
SHEET NO. 22 OF 239

LAST SAVED BY: Jiabla

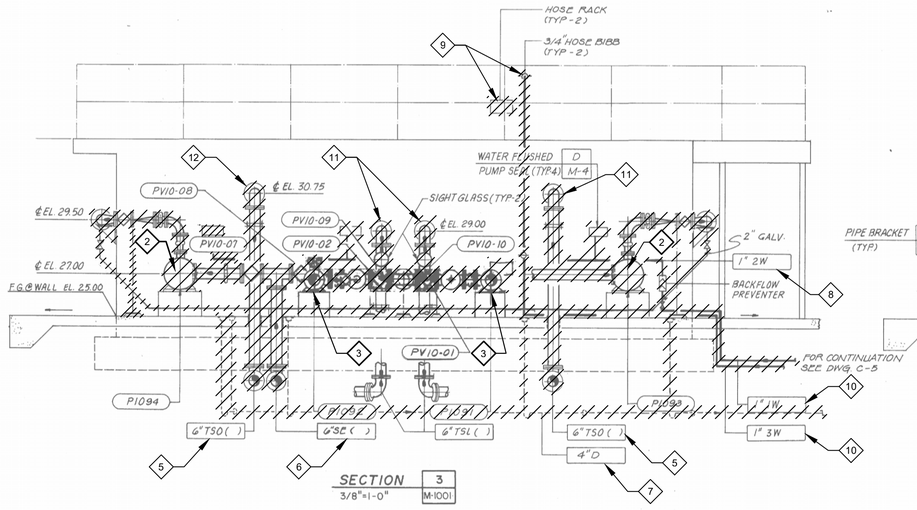
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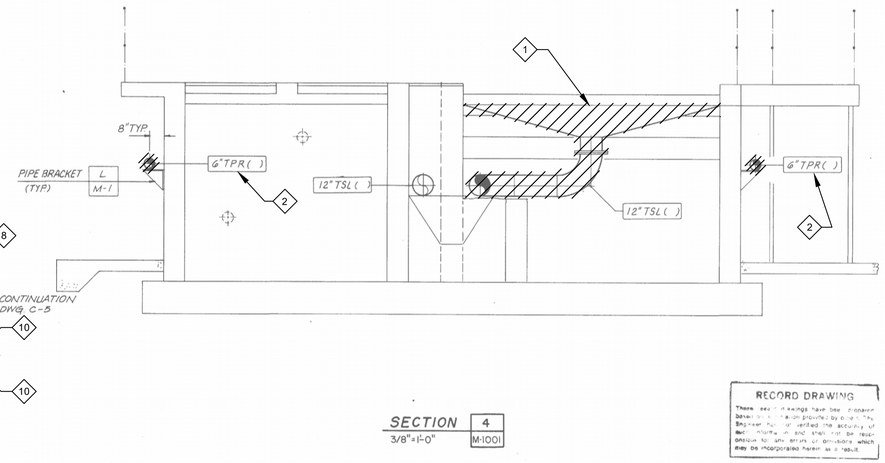
SECTION 1 — 3/8"=1'-0" — M-1001



SECTION 2 — 3/8"=1'-0" — M-1001



SECTION 3 — 3/8"=1'-0" — M-1001



SECTION 4 — 3/8"=1'-0" — M-1001

RECORD DRAWING

There were no changes have been incorporated herein as a result.

RD 3/4/86 JHF RECORD DRAWING
REV | DATE | BY | DESCRIPTION

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

DESIGNED Robert L. Allen
DRAWN
CHECKED

SUBMITTED
PROJECT ENGINEER — 24699 R.C.E. NO. — 4/4/85 DATE
RECOMMENDED
JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC. — 24203 R.C.E. NO. — 4/4/85 DATE

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.
2255 YGNACIO VALLEY ROAD, WALNUT CREEK, CALIFORNIA 94598

APPROVED ____ DATE ____
APPROVED ____ DATE ____

CITY OF MANTECA
WQCF - MODIFICATIONS AND ADDITIONS
DAF THICKENER - SECTIONS

SHEET M-1002 OF SHEETS

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 75% OF ORIGINAL SIZE.
3. ONLY MECHANICAL DEMOLITION IS SHOWN. REFER TO THE OTHER DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED.

(#) KEY NOTES:

1. DEMOLISH ALL DAFT EQUIPMENT (NOT SHOWN), INCLUDING BUT NOT LIMITED TO THE FLOAT CHAIN AND FLIGHT COLLECTOR, THICKENED SLUDGE CHAIN AND FLIGHT COLLECTOR, DEWATERING BEACH, AND ALL ASSOCIATED MOTORS, APPURTENANCES, AND SUPPORTS.
2. DEMOLISH PRESSURE RECYCLE PUMPS, SEAL WATER SYSTEMS, PIPING, AND ALL EXPOSED TPR PIPING, VALVES, APPURTENANCES, AND SUPPORTS.
3. DEMOLISH THICKENED SLUDGE PUMPS, SEAL WATER SYSTEMS AND PIPING, AND ALL EXPOSED TSL PIPING, VALVES, APPURTENANCES, AND SUPPORTS.
4. DEMOLISH ALL BURIED 6" TSL PIPING BELOW THE SLAB. REFER TO DRAWING 00D03 FOR CONTINUATION OF BURIED TSL PIPING DEMOLITION.
5. DEMOLISH ALL BURIED 6" TSO PIPING BELOW THE SLAB. REFER TO DRAWING 00D03 FOR CONTINUATION OF BURIED TSO PIPING DEMOLITION.
6. DEMOLISH ALL BURIED 6" SE PIPING BELOW THE SLAB. REFER TO DRAWING 00D03 FOR CONTINUATION OF BURIED SE PIPING DEMOLITION.
7. DEMOLISH ALL FLOOR DRAINS/SINKS, CLEANOUTS, AND BURIED 4" D PIPING BELOW THE SLAB. REFER TO DRAWING 00D03 FOR CONTINUATION OF BURIED D PIPING DEMOLITION.
8. DEMOLISH ALL EXPOSED 1W AND 2W PIPING, VALVES, APPURTENANCES, AND SUPPORTS.
9. DEMOLISH ALL EXPOSED 3W PIPING, VALVES, HOSE BIBS AND HOSE RACKS, APPURTENANCES, AND SUPPORTS.
10. DEMOLISH ALL BURIED 1" 1W AND 1" 3W PIPING BELOW THE SLAB. REFER TO DRAWING 00D03 FOR CONTINUATION OF BURIED 1W AND 3W PIPING DEMOLITION.
11. INSTALL BLIND FLANGE ON EXISTING 6" TSL WALL SPOOL.
12. INSTALL BLIND FLANGE ON EXISTING 6" TSO WALL SPOOL.
13. INSTALL BLIND FLANGE ON EXISTING 12" TSL WALL SPOOL.

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc
Date: 2025.01.27 14:34:59 -07'00'

carollo

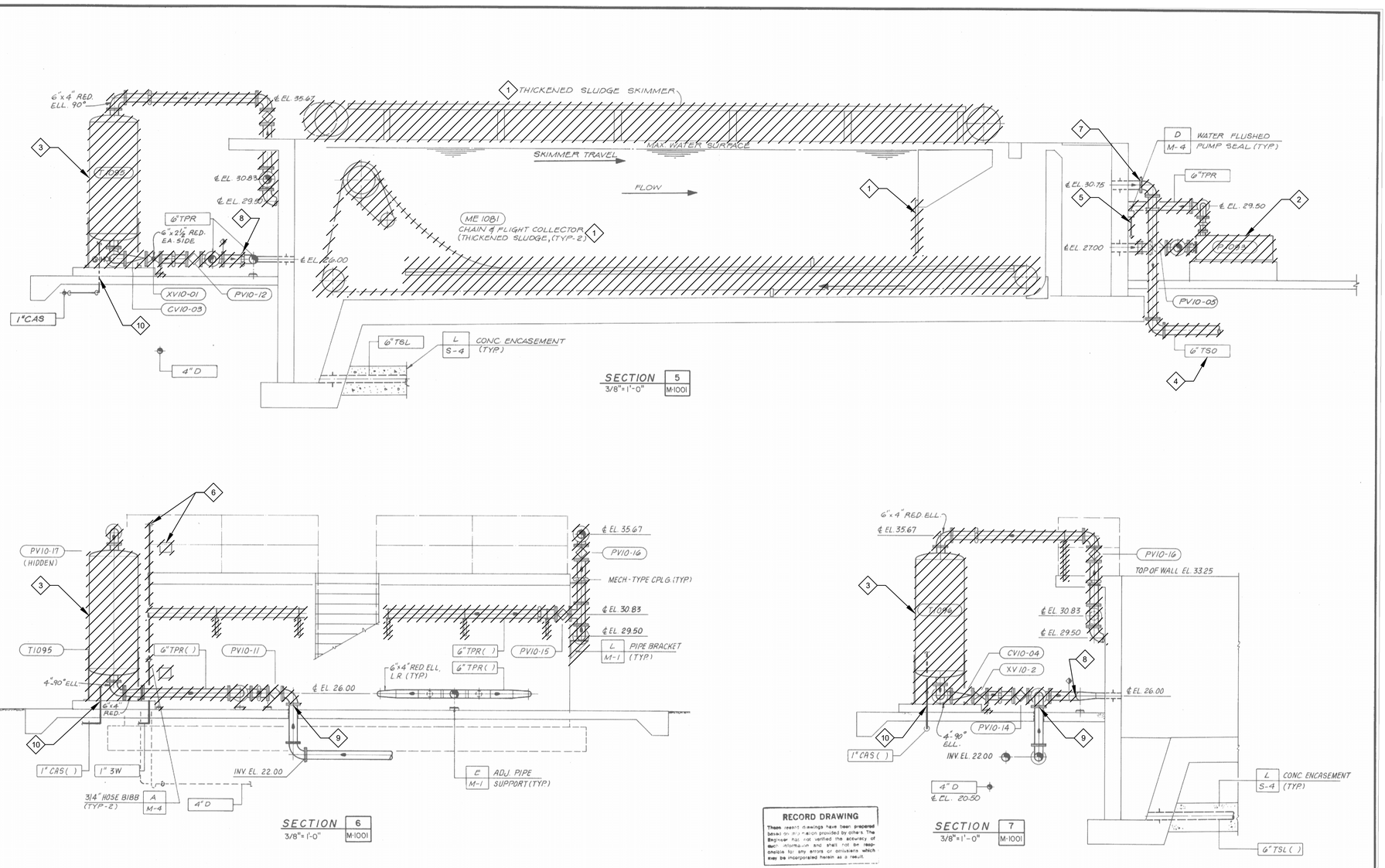
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
DEMOLITION
DISSOLVED AIR FLOTATION THICKENERS MECHANICAL SECTIONS

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

JOB NO. 202645
DRAWING NO. 07D104
SHEET NO. 23 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07D104.dwg



RECORD DRAWING

These record drawings have been prepared based on information provided by others. The Engineer has not verified the accuracy of such information and shall not be responsible for any errors or omissions which may be incorporated herein as a result.

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 75% OF ORIGINAL SIZE.
3. ONLY MECHANICAL DEMOLITION IS SHOWN. REFER TO THE OTHER DEMOLITION DRAWINGS FOR ADDITIONAL DEMOLITION WORK REQUIRED.

KEY NOTES:

1. DEMOLISH ALL DAFT EQUIPMENT (NOT SHOWN), INCLUDING BUT NOT LIMITED TO THE FLOAT CHAIN AND FLIGHT COLLECTOR, THICKENED SLUDGE CHAIN AND FLIGHT COLLECTOR, DEWATERING BEACH, AND ALL ASSOCIATED MOTORS, APPURTENANCES, AND SUPPORTS.
2. DEMOLISH PRESSURE RECYCLE PUMPS, SEAL WATER SYSTEMS AND PIPING, AND ALL EXPOSED TPR PIPING, VALVES, APPURTENANCES, AND SUPPORTS.
3. DEMOLISH AIR RETENTION TANKS AND ALL ASSOCIATED PIPING, VALVES, APPURTENANCES, AND SUPPORTS.
4. DEMOLISH ALL BURIED 6" TSO PIPING BELOW THE SLAB. REFER TO DRAWING 00D03 FOR CONTINUATION OF BURIED TSO PIPING DEMOLITION.
5. DEMOLISH ALL EXPOSED 1W AND 2W PIPING, VALVES, APPURTENANCES, AND SUPPORTS.
6. DEMOLISH ALL EXPOSED 3W PIPING, VALVES, HOSE BIBS AND HOSE RACKS, APPURTENANCES, AND SUPPORTS.
7. INSTALL BLIND FLANGE ON EXISTING 6" TSO WALL SPOOL.
8. INSTALL BLIND FLANGE ON EXISTING 6" FLANGE FOR STEEL INLET MANIFOLD.
9. INSTALL BLIND FLANGE ON EXISTING 6" WAS PIPE FLANGE DIRECTLY ABOVE THE SLAB.
10. CAP 1" CAS PIPE 2" BELOW TOP OF CONCRETE SLAB.

REV	DATE	BY	DESCRIPTION
RD	3/1/00	JHF	RECORD DRAWING

SCALE: AS NOTED

DESIGNED Robert T. Allen
DRAWN
CHECKED

SUBMITTED — PROJECT ENGINEER — 24699 R.C.E. NO. — 4/8/85 DATE
RECOMMENDED — JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC. — 24303 R.C.E. NO. — 4/9/85 DATE

JAMES M. MONTGOMERY CONSULTING ENGINEERS, INC.
2255 YGNACIO VALLEY ROAD, WALNUT CREEK, CALIFORNIA 94598

APPROVED — DATE
APPROVED — DATE

CITY OF MANTECA
WQCF - MODIFICATIONS AND ADDITIONS
DAF THICKENER - SECTIONS

SHEET M-1003 OF SHEETS

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.27 15:36:28 -08'00'

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CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
DEMOLITION
DISSOLVED AIR FLOTATION THICKENERS MECHANICAL SECTIONS

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

JOB NO. 202645
DRAWING NO. 07D105
SHEET NO. 24 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07D105.dwg

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. PHOTOS ARE NOT HATCHED FOR CLARITY.



1 PHOTO
07D103
SCALE: NO SCALE
FILE: 202645_D0406



2 PHOTO
07D103
SCALE: NO SCALE
FILE: 202645_D0407



3 PHOTO
07D103
SCALE: NO SCALE
FILE: 202645_D0408



4 PHOTO
07D103
SCALE: NO SCALE
FILE: 202645_D0409

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER
KYLE T. LEONARD
No. 86011
CIVIL
STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.29 14:49:49 -08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

DEMOLITION

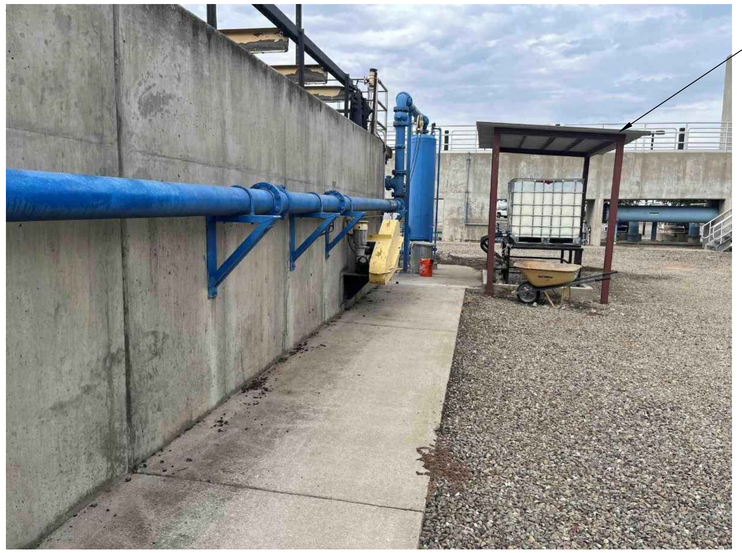
DISSOLVED AIR FLOTATION THICKENERS PHOTOS

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

JOB NO. 202645
DRAWING NO. 07D106
SHEET NO. 25 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07D106.dwg



5 PHOTO
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SCALE: NO SCALE
FILE: 202645_D0410



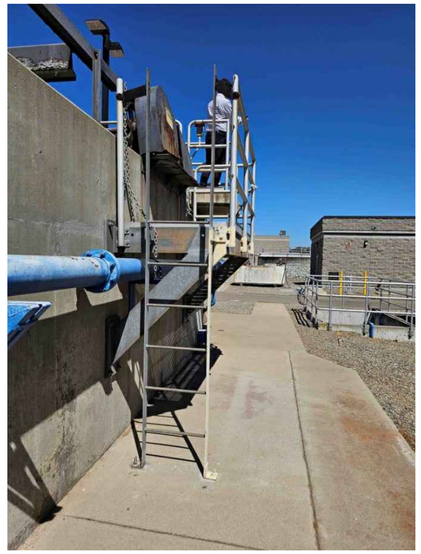
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FILE: 202645_D0411

GENERAL NOTES:

1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. PHOTOS ARE NOT HATCHED FOR CLARITY.



7 PHOTO
07D103
SCALE: NO SCALE
FILE: 202645_D0412



8 PHOTO
07D101
SCALE: NO SCALE
FILE: 202645_D0413

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER
KYLE T. LEONARD
No. 86011
CIVIL
STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc.
Date: 2025.01.16 15:46:07-07'00'

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WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

DEMOLITION

DISSOLVED AIR FLOTATION THICKENERS PHOTOS

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

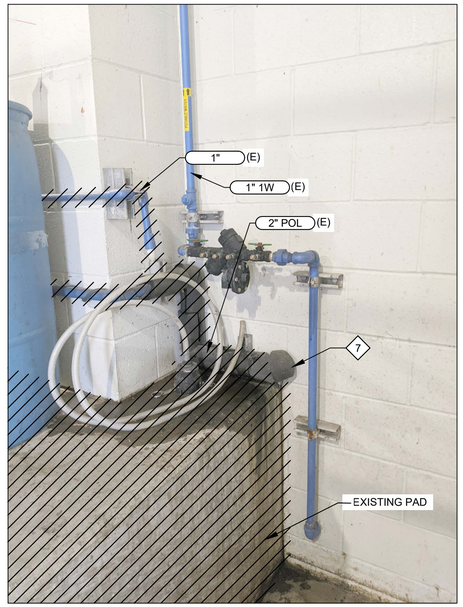
JOB NO. 202645
DRAWING NO. 07D107
SHEET NO. 26 OF 239

LAST SAVED BY: gleal

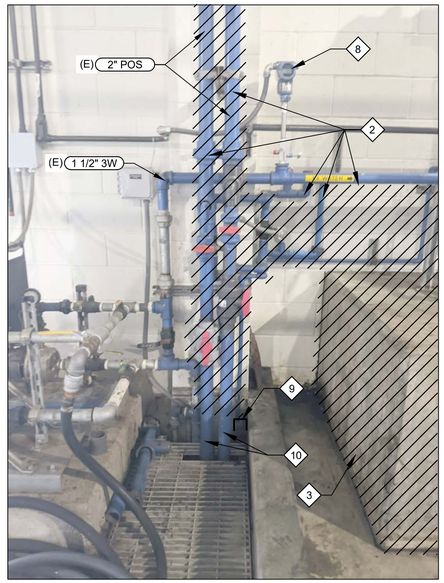
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1 - PHOTO
SCALE: NO SCALE
FILE: IMG_24024



2 - PHOTO
SCALE: NO SCALE
FILE: PXL_20241216_202040325



3 - PHOTO
SCALE: NO SCALE
FILE: PXL_2024126_202626177

KEY NOTES:

1. DEMOLISH TWO EXISTING POLYMER BLENDING UNITS AND ASSOCIATED APPURTENANCES.
2. DEMOLISH EXISTING 2" PVC POS, 1-1/2" GSP 3W, 2" PVC POL, AND 1" PVC AND 1/2" PVC. TERMINATE HEAT TRACING WIRE ON 2" POL INSIDE THE BUILDING.
3. DEMOLISH EXISTING PAD. REPAIR EXISTING SLAB PER DETAIL SD820/TYP.
4. DEMOLISH EXISTING PLATFORM.
5. DEMOLISH EXISTING PUMP PAD AND REPAIR EXISTING SLAB PER DETAIL SD820/TYP.
6. RELOCATE DISCONNECT SWITCH PER DRAWING ELECTRICAL DRAWINGS.
7. LEAVE 2" POL STUB FOR NEW 2" POL CONNECTION.
8. PROTECT EXISTING 3W PRESSURE TRANSMITTER IN PLACE.
9. CAP EXISTING 1/2" PVC WITH 1/2" PVC SCH 80 CAP.
10. LEAVE 2" POS STUB FOR NEW 2" POS CONNECTION.

REV	DATE	BY	DESCRIPTION

DESIGNED MT
DRAWN HV
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.31 15:40:49-08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

DEMOLITION

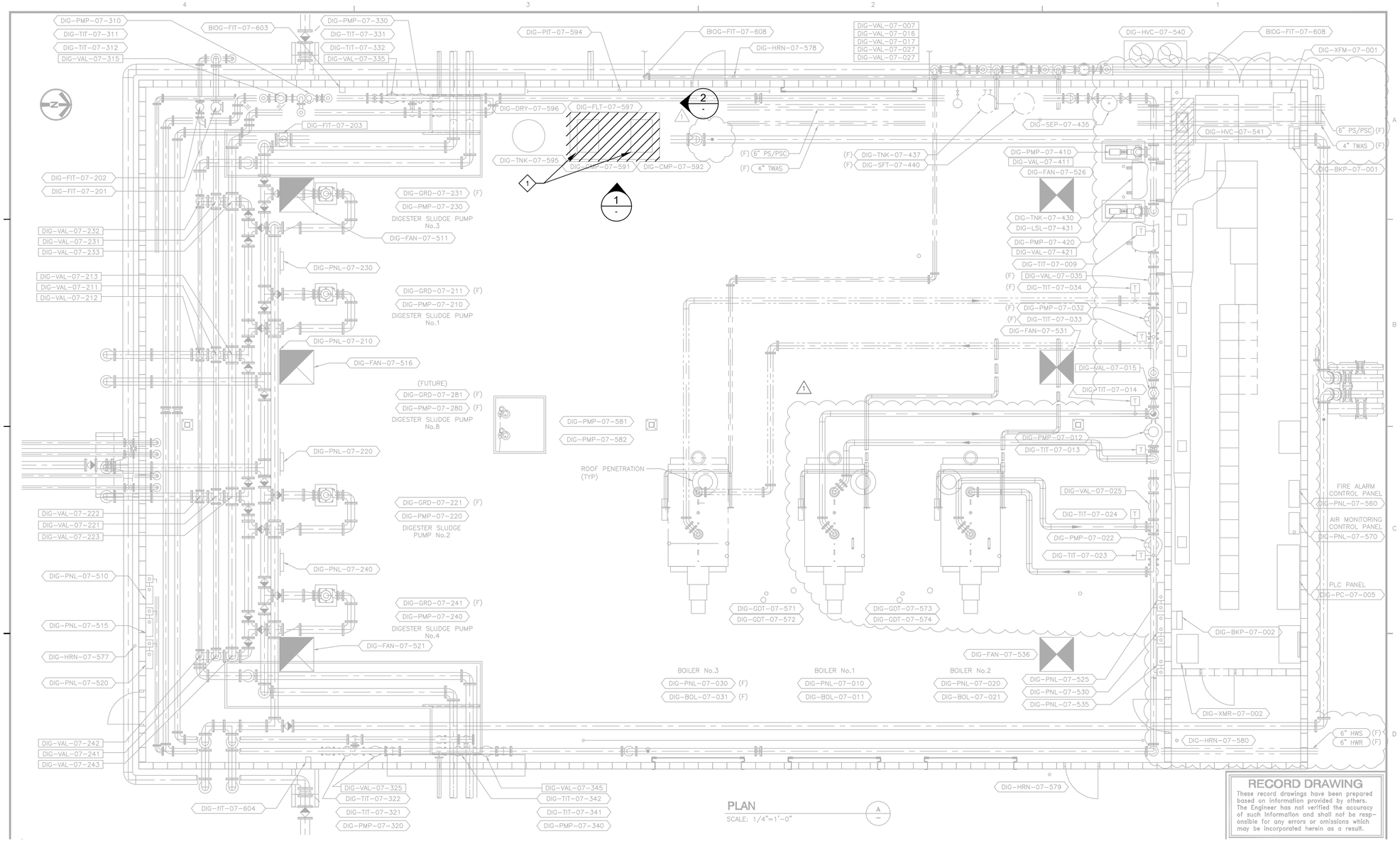
DEWATERING FACILITY PHOTOS

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

JOB NO. 202645
DRAWING NO. 07D401
SHEET NO. 27 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07D401.dwg



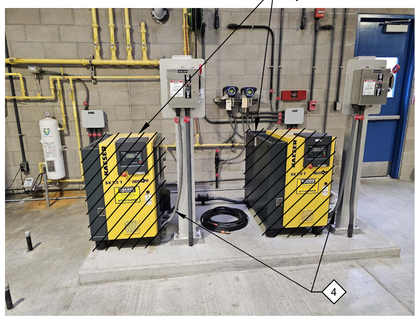
PLAN
SCALE: 1/4"=1'-0"

GENERAL NOTES:

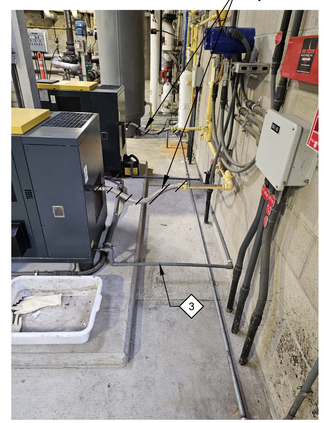
1. REFER TO THE GENERAL DEMOLITION NOTES ON DRAWING 00D001.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 75% OF ORIGINAL SIZE.

#◇ KEY NOTES:

1. REMOVE EXISTING COMPRESSORS AND TRANSFER TO OWNER FOR REUSE.
2. REMOVE BRAIDED SS SUPPLY HOSE AND REPLACE WITH NEW.
3. DISCONNECT CONDENSATION DRAIN ON EACH COMPRESSOR AND PROTECT IN PLACE FOR REUSE WITH NEW AIR COMPRESSORS.
4. CAREFULLY DISCONNECT POWER SUPPLY AND PROTECT FOR REUSE WITH NEW AIR COMPRESSORS.



1 - PHOTO
SCALE: NO SCALE
FILE: 202645_05D401.jpg



2 - PHOTO
SCALE: NO SCALE
FILE: 202645_05D402.jpg

REV	DATE	BY	DESCRIPTION

DESIGNED PG
DRAWN GL
CHECKED LJE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Date: 2025.03.27 09:47:37 -07'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

DEMOLITION

DIGESTER CONTROL BUILDING NO. 2
PLAN AND PHOTOS

VERIFY SCALES
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0 1"
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JOB NO. 202645
DRAWING NO. 07D501
SHEET NO. 28 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07D501.dwg

Plot Date: 10/5/2022 11:08:46 AM

LINE WORK

- NEW STRUCTURES OR EDGE OF PAVEMENT
- EXISTING STRUCTURES (SCREENED)
- NEW PIPING (TRIPLE LINES)
- NEW PIPING (SINGLE LINE)
- EXISTING PIPING (TRIPLE LINES) (SCREENED)
- EXISTING PIPING (SINGLE LINE)(SCREENED)
- HIDDEN LINE OR TRAIL EDGE
- CENTER, MONUMENT, OR SURVEY LINE
- GUARDRAIL
- EXISTING CONTOURS (SCREENED) — 310
- NEW CONTOURS — 310
- NEW FENCE — X — X
- EXISTING FENCE (SCREENED) — X — X
- 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
- SLOPE
- NEW ROAD
- EXISTING ROAD (SCREENED)
- FUTURE ROAD, WATER EDGE OR RIDGE
- CURB & GUTTER
- CURB
- SWALE
- FLOWLINE
- SHORING
- RAILROAD TRACKS
- LIMITS OF CONSTRUCTION — LOC — LOC
- SILT FENCE — SF — SF — SF
- EASEMENT
- EXISTING EASEMENT
- CITY LIMITS
- EXISTING GRADE (PROFILE)
- PROPOSED GRADE (PROFILE)
- MATCH LINE — MATCH LINE STA XXX SEE DWG XXX

COORDINATES / ELEVATION

COORDINATES — XX — N 1600000 E 1000000 — N XXXXXXX.XX E XXXXXXX.XX

CONTROL POINT — XX

SPOT ELEVATION — FG XX.XX

ANY SPECIFIC DESIGNATIONS NOTED WILL NEED TO REFER TO ABBREVIATIONS

EXISTING SPOT ELEVATION — X 1325.00

SLOPE CALLOUT — 2:1 — 2 / 1 — 2.0% — S=0.0020

ROADWAY / PIPE CURVES

ROADWAY / PIPE CURVE

(SEE TABLE ON EACH PAVING AND GRADING OR CIVIL PIPING DWG WITH ROADWAY / PIPE CURVES.)



SYMBOLS

SYMBOL	DESCRIPTION
	EXISTING CONTROL POINT
	EXISTING MONUMENT
XX	CONTROL POINT
B-XX	SOIL BORING LOCATIONS
PH	POTHOLE
PHXX	POTHOLE NUMBER
	FLOW/SLOPE DIRECTION
	MANHOLE (PLAN)
	CATCH BASIN
E	ELECTRICAL MANHOLE AND PULL BOX
M	METER BOX
P	PULL BOX
T	TELEPHONE PEDESTAL

SYMBOL	DESCRIPTION
CTV	CABLE TV
	POWER TOWER
	GATE
	GUARD POST
	HEADWALL
	ROCK WALL
	SHRUB/HEDGE
	TREE
	SIGN/SIGN POST
	LIGHT
	UTILITY POLE
	UTILITY POLE GUY WIRE
PP	POWER POLE
	FIRE HYDRANT
CO	CLEANOUT
	AIR RELEASE VALVE
	BLOW OFF VALVE
	HOSE BIBB / YARD HYDRANT

SYMBOL	DESCRIPTION
	SERVICE CONNECTION
	BURIED VALVE
	FLANGE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
	GATE VALVE
	PLUG VALVE
	PIPE CAP OR CONNECTION
	REDUCER

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — RYAN A. HOOK — No. 68462 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 15:55:09 -08'07'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

CIVIL

GENERAL CIVIL LEGEND AND SYMBOLS

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. 202645
DRAWING NO. 00GC001
SHEET NO. 29 OF 239

LAST SAVED BY: JJabla

PROJECT NO. 202645-100000 FILE NAME: 202645_00GC001.dwg

ABBREVIATIONS

	△	DELTA, DEFLECTION ANGLE, OR CENTRAL ANGLE
	#	NUMBER (REBAR Ø)
	@	AT (MEASUREMENT)
	+/-	PLUS/MINUS
A	ABC	AGGREGATE BASE COURSE
	ABND	ABANDONED
	AC	ASPHALTIC CONCRETE
	ACI	AMERICAN CONCRETE INSTITUTE
	ACP	ASBESTOS CEMENT PIPE
	ADDL	ADDITIONAL
	ADJ	ADJACENT, ADJUST(ABLE)
	AL	ALUMINUM
	APPROX	APPROXIMATE(LY)
	ARV	AIR RELEASE VALVE
	ASSY	ASSEMBLY
	ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
	AVG	AVERAGE
	AVV	AIR AND VACUUM VALVE
B	BC	BEGIN CURB
	BF	BLIND FLANGE
	BFP	BACK FLOW PREVENTER
	BFV	BUTTERFLY VALVE
	BH	BOREHOLE
	BLDG	BUILDING
	BM	BENCH MARK
	BO	BLOW OFF
	BOC	BACK OF CURB
	BOP	BOTTOM OF PIPE
	BOT	BOTTOM
	BV	BALL VALVE
	BVC	BEGINNING OF VERTICAL CURVE
	BYP	BYPASS
C	CATV	CABLE TV
	CAV	COMBINATION AIR VALVE
	CB	CATCH BASIN
	CC	CENTER OF CURVATURE, CENTER TO CENTER, CONCRETE CURB
	CDT	CONDUIT
	CF	CUBIC FEET
	CFM	CUBIC FOOT PER MINUTE
	CFS	CUBIC FEET PER SECOND
	CI	CAST IRON
	CIP	CAST IRON PIPE
	CIPP	CURED IN PLACE PIPE
	CJ	CONSTRUCTION JOINT
	CL	CENTER LINE
	CLK	CHAIN LINK
	CLR	CLEAR / CLEARANCE
	CLSM	CONTROL LOW STRENGTH MATERIAL
	CMLC	CEMENT MORTAR LINED AND COATED
	CMP	CORRUGATED METAL PIPE
	CMU	CONCRETE MASONRY UNIT
	CO	CLEANOUT
	CONC	CONCRETE
	CONN	CONNECT, CONNECTION
	CONST	CONSTRUCTION
	CONT	CONTINUOUS OR CONTINUATION OR (D)
	COORD	COORDINATE
	CP	CONTROL POINT
	CPLG	COUPLING
	CSP	CORRUGATED STEEL PIPE
	CTJ	CONTROL JOINT
	CTL	CONTROL
	CTR	CENTER, CENTERED
	CU	CUBIC
	CULV	CULVERT
	CY	CUBIC YARD
D	D	DRAIN, DEPTH
	D/W	DRIVEWAY APRON
	DEG or °	DEGREE
	DEMO	DEMOLISH, DEMOLITION
	DET	DETAIL
	DI	DROP INLET
	DIA or Ø	DIAMETER
	DIFF	DIFFERENCE
	DIM	DIMENSION
	DIP	DUCTILE IRON PIPE
	DIST	DISTANCE
	DR	DRIVE, DRAIN
	DWG(S)	DRAWING(S)
E	E	ELECTRICAL, EAST
	EA	EACH
	EC	END OF CURB
	ECC	ECCENTRIC REDUCER
	EG	EXISTING GROUND
	EL	ELEVATION
	ELL	ELBOW
	ELEC	ELECTRICAL
	EMH	ELECTRICAL MANHOLE
	EOP	END OF PIPE
	EP	EDGE OF PAVEMENT
	EQ	EQUAL
	EQUIP	EQUIPMENT
	ES	EACH SIDE
	ESMT	EASEMENT
	EVC	END OF VERTICAL CURVE
	EW	EACH WAY
	EX/EXIST	EXISTING
	EXP	EXPANSION
	EXT	EXTERIOR
F	FC	FLEXIBLE COUPLING
	FCA	FLANGE COUPLING ADAPTER
	FF	FINISHED FLOOR
	FG	FINISHED GRADE
	FH	FIRE HYDRANT
	FIN	FINISH
	FL	FLOOR, FLOW LINE
	FLEX	FLEXIBLE
	FLG	FLANGE(D)
	FM	FORCE MAIN
	FND	FOUNDATION
	FO	FIBER OPTIC
	FOB	FLAT ON BOTTOM
	FOC	FACE OF CURB
	FOT	FLAT ON TOP
	FPM	FEET PER MINUTE
	FS	FIRE SERVICES
	FSP	FABRICATED STEEL PIPE
	FT or '	FOOT, FEET
	FTG	FOOTING
G	G	GAS, GUTTER
	GA	GAUGE
	GAL	GALLONS
	GALV	GALVANIZE(D)
	GB	GRADE BREAK
	GC	GROOVED COUPLING
	GEN	GENERAL, GENERATOR
	GM	GAS METER
	GND	GROUND
	GPD	GALLONS PER DAY
	GPM	GALLONS PER MINUTE
	GR	GRADE
	GRTG	GRATING
	GSP	GALVANIZED STEEL PIPE
	GV	GATE VALVE
H	HDPE	HIGH DENSITY POLYETHYLENE
	HORIZ	HORIZONTAL
	HP	HIGH POINT
	HPGM	HIGH PRESSURE GAS MAIN
	HW	HEADWALL, HOT WATER
	HWL	HIGH WATER LEVEL
	HWY	HIGHWAY
	HYD	HYDRANT
I	ID	INSIDE DIAMETER
	IE	INVERT ELEVATION
	IN or "	INCHES
	INCL	INCLUDE, INCLUDING
	INSTR	INSTRUMENTATION
	INV	INVERT
	IP	IRON PIPE
	IRR	IRRIGATION
J	JT	JOINT
L	L	LENGTH
	LAT	LATERAL, LATITUDE
	LB(S)	POUND(S)
	LF	LINEAL FEET
	LH	LEFT HAND
	LONG	LONGITUDINAL
	LP	LOW POINT
	LT	LEFT
	LWL	LOW WATER LEVEL
M	MATL	MATERIAL
	MAX	MAXIMUM
	MECH	MECHANICAL
	MFR	MANUFACTURER
	MGD	MILLION GALLONS PER DAY
	MH	MANHOLE
	MIN	MINIMUM
	MISC	MISCELLANEOUS
	MJ	MECHANICAL JOINT
	MON	MONUMENT
N	N	NORTH, NORTHING
	NA	NOT APPLICABLE
	NE	NORTHEAST
	NG	NATURAL GAS
	NIC	NOT IN CONTRACT
	NO. or #	NUMBER
	NOM	NOMINAL
	NW	NORTHWEST
O	O.F.	OUTSIDE FACE
	OC	ON CENTER
	OD	OUTSIDE DIAMETER, OUTSIDE DIMENSION
	OHE	OVERHEAD ELECTRIC
P	PB	PULLBOX
	PC	POINT OF CURVATURE
	PCC	POINT OF COMPOUND CURVE
	PERP	PERPENDICULAR
	PH	POTHOLE
	PI	POINT OF INTERSECTION
	PL	PLATE, PROPERTY LINE
	POB	POINT OF BEGINNING
	PP	POWER POLE
	PRC	POINT OF REVERSE CURVATURE
	PROP	PROPERTY
	PL	PROPERTY LINE
	PSI	POUNDS PER SQUARE INCH
	PT	POINT, POINT OF TANGENCY
	PV	PLUG VALVE
	PVC	POINT OF VERTICAL CURVATURE
	PVC	POLYVINYL CHLORIDE
	PVI	POINT OF VERTICAL INTERSECTION
	PVMT	PAVEMENT
	PVT	POINT OF VERTICAL TANGENCY
Q	QTY	QUANTITY
R	R	RADIUS
	RAD	RADIAL
	RCB	REINFORCED CONCRETE BOX CULVERT
	RCP	REINFORCED CONCRETE PIPE
	RDT	ROTARY DRUM THICKENER
	RED	REDUCER
	REF	REFERENCE
	REINF	REINFORCE(D)(ING)(MENT)
	REQ'D	REQUIRED
	REV	REVISION
	RFCA	RESTRAINED FLEX COUPLING ADAPTER
	RH	RIGHT HAND
	R/W or ROW	RIGHT OF WAY
	RR	RAILROAD
	RT	RIGHT
S	S	SLOPE, SOUTH
	SCH	SCHEDULE
	SD	STORM DRAIN
	SDDI	STORM DRAIN DROP INLET
	SDMH	STORM DRAIN MANHOLE
	SE	SOUTHEAST
	SECT	SECTION
	SHLD	SHOULDER
	SHT	SHEET
	SIM	SIMILAR
	SL	SLOPE
	SPEC(S)	SPECIFICATION(S)
	SQ	SQUARE
	SS	SANITARY SEWER
	SSCO	SANITARY SEWER CLEANOUT
	SSMH	SANITARY SEWER MANHOLE
	SST	STAINLESS STEEL
	ST	STREET
	STA	STATION
	STD(S)	STANDARD(S)
	STL	STEEL
	STRUCT	STRUCTURAL
	SW	SOUTHWEST
	SWK	SIDEWALK
	SYM	SYMMETRICAL
T	TB	THRUST BLOCK
	TC	TOP OF CURB
	TEL	TELEPHONE
	TOG	TOP OF GRATING
	TMH	TELEPHONE MANHOLE
	TOC	TOP OF CONCRETE
	TOP	TOP OF PIPE
	T.O.W. or TW	TOP OF WALL
	TRD	TREAD
	TYP	TYPICAL
U	UC	UNDERCUT
	UG	UNDERGROUND
	UGE	UNDERGROUND ELECTRIC
	UNKN	UNKNOWN
	UNO	UNLESS NOTED OTHERWISE
	USA	UNDERGROUND SERVICE ALERT
V	V	VERTICAL, VALVE
	VAR	VARIES
	VB	VALVE BOX
	VC	VERTICAL CURVE, VICTAULIC COUPLER
	VCP	VITRIFIED CLAY PIPE
	VERT	VERTICAL
	VLT	VAULT
	VPI	VERTICAL POINT OF INTERSECTION
W	W	WATER, WIDTH OR WEST
	W/	WITH
	W/O	WITHOUT
	WL	WATER LEVEL
	WM	WATER METER
	WS	WATER SURFACE
	WSP	WELDED STEEL PIPE
	WSTP	WATERSTOP
	WV	WATER CONTROL VALVE
	WW	WASTEWATER
X	XFMR	TRANSFORMER
Y	YD	YARD

NOTES

GENERAL PIPELINE NOTES:

1. DIMENSIONS TO STRUCTURES, REFERENCED PIPING, PAVING, AND OTHER IMPROVEMENTS IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS 14 DAYS IN ADVANCE OF THE CONSTRUCTION PROGRESS. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER.
2. CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 10 FEET HORIZONTAL AND 3 FEET VERTICAL BETWEEN THE SEWER LINES AND EXISTING WATER LINES.
3. REFER TO THE GEOTECHNICAL REPORT LOCATED IN THE APPENDIX OF THE SPECIFICATIONS FOR ADDITIONAL INFORMATION ON THE GEOTECHNICAL CONDITIONS AND BORING INFORMATION.
4. IN ALL LOCATIONS WHERE TRENCH PLATE IS USED FOR VEHICULAR OR PEDESTRIAN TRAFFIC, THE CONTRACTOR SHALL APPLY SKID RESISTANT COATING ON THE TRENCH PLATES AND COLD MIX ASPHALT CONCRETE AT THE EDGES. THE TRENCH PLATES SHALL BE NOTCHED INTO THE ASPHALT, CONCRETE, OR TRAVELED SURFACE TO PREVENT SLIPPAGE AND ROCKING UNDER TRAFFIC.
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES ADJACENT TO THE WORK, THROUGHOUT THE CONSTRUCTION PERIOD.
6. ALL OPEN TRENCHES, WORK AREAS AND SHAFTS SHALL HAVE A SHORING SYSTEM IN ACCORDANCE WITH OSHA, STATE AND LOCAL REQUIREMENTS.
7. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, COUNTY, AND LOCAL LAWS AND ORDINANCES RELATING TO THE SAFETY AND CHARACTER OF WORK, EQUIPMENT AND PERSONNEL. THIS INCLUDES BUT IS NOT LIMITED TO SHEETING, SHORING, BRACING, VENTILATION, CONFORMANCE WITH TRAFFIC CONTROL AND MAINTENANCE OF BARRICADES AND WARNING DEVICES.
8. LAYOUT DRAWINGS ARE REQUIRED FOR PIPING INSTALLED.
9. ALL ROAD DITCHES, FENCE LINES, PASTURES AND SIMILAR AREAS SHALL BE RESTORED TO ORIGINAL CONDITIONS.
10. ALL CROPPED AREAS DISTURBED SHALL HAVE THE TOPSOIL REPLACED AND THE ENTIRE AREA DISTURBED SHALL BE RIPPED 2 FT DEEP PER THE LAND OWNERS REQUIREMENTS.
11. CONTRACTOR SHALL TAKE ALL PRACTICAL PRECAUTIONS TO MINIMIZE DISTURBANCES TO STREAMS, VEGETATION, TREES AND CROP LANDS. WHEREVER PRACTICAL LEAVE EXISTING TREES AND VEGETATED AREAS UNDISTURBED.

UTILITY NOTES:

1. EXISTING UTILITIES IN THE PROJECT MAY BE IN A FRAGILE CONDITION. THE CONTRACTOR SHALL EXERCISE NECESSARY CAUTION WHEN WORKING NEAR EXISTING UTILITIES.
2. PLAN LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES ARE BASED ON RECORD DRAWINGS, POTHOLING AND SURVEY INFORMATION AND ARE CONSIDERED APPROXIMATE ONLY. WHERE NO ELEVATIONS ARE SHOWN, NO INFORMATION WAS AVAILABLE DURING THE DESIGN PERIOD.
3. SOME UTILITY SERVICES MAY NOT BE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL TAKE NECESSARY MEASURES TO LOCATE AND PROTECT SERVICE DURING CONSTRUCTION.
4. CONTRACTOR SHALL CONTACT THE PROPER UTILITY REPRESENTATIVE TO MARK EXISTING UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES.
5. THE LOCATION, SIZE, AND MATERIALS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND IS SHOWN FOR BIDDING PURPOSES. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE UTILITY OWNERS SO THAT THOSE UTILITIES MAY MARK THE LOCATION OF THEIR UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT EXISTING UTILITIES.

EARTHWORK NOTES:

1. CLEAR THE CONSTRUCTION AREA OF NATURAL OBSTRUCTIONS EXISTING FOUNDATIONS, BUILDINGS, FENCES, LUMBER, WALLS, STUMPS, BRUSH, WEEDS, RUBBISH, TREES, BOULDERS, AND ANY OTHER ITEMS WHICH INTERFERES WITH CONSTRUCTION OPERATIONS OR ARE DESIGNATED FOR REMOVAL.
2. GRUB OUT AND DISPOSE OF TREE TRUNKS AND ROOT MATERIAL BELOW THE GROUND SURFACE REMAINING AFTER CLEARING.
3. DISPOSE OF THE UNACCEPTABLE BACKFILL MATERIAL FROM THE CLEARING AND GRUBBING OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
4. STRIP AND STOCKPILE THE TOPSOIL. THE DEPTH OF STRIPPING SHALL BE ESTIMATED TO BE 12-INCHES BUT WILL BE DETERMINED IN THE FIELD AS SOIL CONDITIONS DICTATE.
5. REPLACE STOCKPILED SOIL AND RESTORE SITE AS SPECIFIED.
6. ROCK AND AGGREGATE STORAGE AREAS SHALL BE RESTORED BY EXCAVATING ANY SOILS CONTAINING ROCK OR AGGREGATE AND BACKFILLING WITH TOPSOIL. SOIL REMOVED MAY BE USED FOR TRENCH BACKFILL ABOVE THE PIPE ZONE AND 3 FEET BELOW FINISHED GRADE.

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — RYAN A. HOOK — No. 68462 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.24 15:05:24 -08'07'

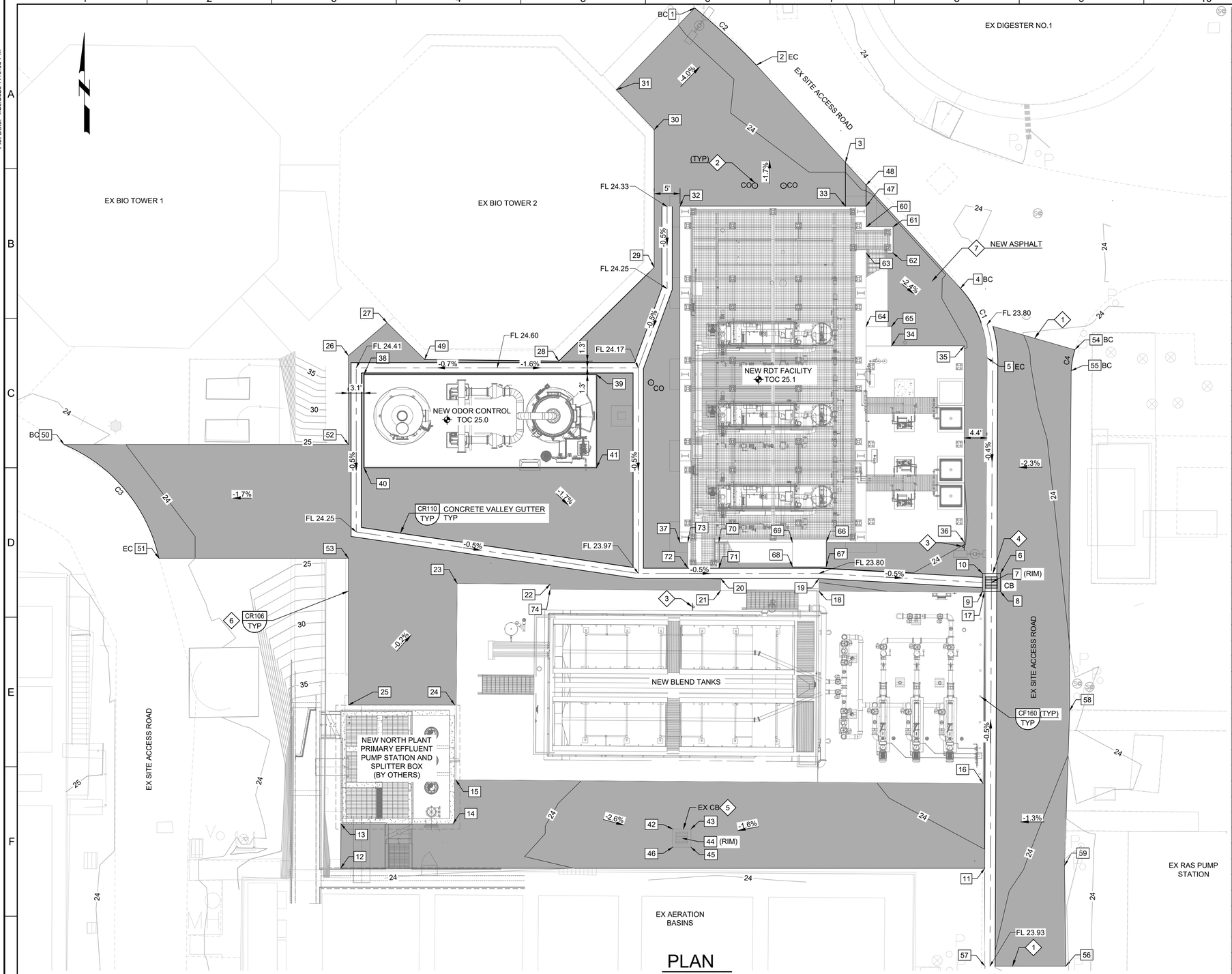
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CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
CIVIL
GENERAL CIVIL NOTES AND ABBREVIATIONS

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

JOB NO. 202645
DRAWING NO. 00GC002
SHEET NO. 30 OF 239

Plot Date: 10/5/2022 11:06:47 AM
LAST SAVED BY: Jabla
PROJECT NO. 202645-100000 FILE NAME: 202645_00GC002.dwg



PLAN

FILE: 202645_00C001

COORDINATE CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION
1	2112708.54	6341951.84	23.800
2	2112697.49	6341963.75	23.800
3	2112678.64	6341980.98	23.890
4	2112654.30	6342003.22	23.890
5	2112640.81	6342008.46	23.930
6	2112599.14	6342010.97	23.650
7	2112597.39	6342009.22	23.570
8	2112595.63	6342010.97	23.650
9	2112595.64	6342007.47	23.650
10	2112599.14	6342007.47	23.650
11	2112542.08	6342007.92	23.920
12	2112542.08	6341883.32	24.720
13	2112550.68	6341883.38	24.620
14	2112550.68	6341905.03	24.420
15	2112559.18	6341905.61	24.520
16	2112558.51	6342007.60	24.275
17	2112595.51	6342007.85	24.000
18	2112595.72	6341975.85	24.250
19	2112598.15	6341975.85	24.250
20	2112598.15	6341956.87	24.250
21	2112595.84	6341956.85	24.500
22	2112597.06	6341923.86	24.650
23	2112597.18	6341905.86	24.650
24	2112573.68	6341905.38	24.840
25	2112573.68	6341884.83	24.720
26	2112641.29	6341884.83	24.720
27	2112647.64	6341892.31	24.720
28	2112640.22	6341925.51	24.720
29	2112658.34	6341943.98	24.710
30	2112685.00	6341943.98	24.710
31	2112692.71	6341936.65	24.760
32	2112670.15	6341948.98	24.390
33	2112670.15	6341980.98	24.390
34	2112643.15	6341989.90	24.300
35	2112643.15	6342003.98	24.020
36	2112605.15	6342003.98	24.020
37	2112605.15	6341948.98	24.670
38	2112637.62	6341887.83	24.500
39	2112637.62	6341932.83	24.500
40	2112619.62	6341887.83	24.500
41	2112619.62	6341932.83	24.500
42	2112549.68	6341947.57	23.420
43	2112549.68	6341951.07	23.420
44	2112547.93	6341949.32	23.340
45	2112546.18	6341951.07	23.420
46	2112546.18	6341947.57	23.420
47	2112670.15	6341984.98	24.300
48	2112674.26	6341984.98	23.890
49	2112640.52	6341899.56	24.720
50	2112624.07	6341829.80	23.800
51	2112602.07	6341848.17	23.830
52	2112624.07	6341884.83	24.720
53	2112602.07	6341884.83	24.720
54	2112642.46	6342025.39	24.200
55	2112638.36	6342024.66	24.180
56	2112523.16	6342023.62	24.280
57	2112523.14	6342007.94	24.010
58	2112572.60	6342024.36	23.960
59	2112542.60	6342023.36	24.100
60	2112666.15	6341984.98	24.480

GENERAL NOTES:

1. REFER TO DRAWING 00GC001 FOR GENERAL AND CIVIL LEGEND AND SYMBOLS.
2. REFER TO DRAWING 00GC002 FOR CIVIL NOTES AND ABBREVIATIONS.
3. APPLY TACK COAT PER SECTION 02742A TO VERTICAL CONCRETE SURFACES ADJACENT TO AC PAVEMENT PLACEMENT.
4. ALL COORDINATE CONTROL POINTS REFERENCE EDGE OF PAVEMENT FINISHED GRADE UNLESS OTHERWISE SPECIFIED.
5. SEE DWG 00D002 FOR DEMOLITION PLAN.

KEY NOTES:

1. SAWCUT EX AC PAVEMENT AND APPLY TACK COAT TO EXPOSED EDGE FOR PLACEMENT OF NEW AC ADJACENT TO EXISTING.
2. SET TOP OF CLEANOUTS FLUSH WITH FINISHED GRADE AND PAVED AREAS. REFER TO CITY MANTECA STANDARD DETAIL S-11.
3. INSTALL TRAFFIC SIGN R3-27 (24"X24") AND R5-3 (24"X24") ON A POST PER CITY OF MANTECA STANDARD PLAN ST-19.
4. INSTALL STORM DRAIN MANHOLE PER CITY OF MANTECA STANDARD PLANS D-1 AND D-4.
5. EXISTING MANHOLE RIM UNKNOWN, BRING OR DROP TO PROPOSED ELEVATION (POINT 44) USING PRECAST REINFORCED MANHOLE RINGS PER DETAIL D-1.
6. INSTALL A WOOD HEADER ON THE OUTSIDE PERIMETER OF NEW ASPHALT PER CAROLLO STANDARD DETAIL CR106.
7. NEW ASPHALT PER CITY OF MANTECA STANDARD DETAIL ST-14.

COORDINATE CONTROL POINTS (CONT)

POINT	NORTHING	EASTING	ELEVATION
61	2112666.15	6341990.15	24.400
62	2112661.15	6341990.15	24.300
63	2112661.15	6341984.98	24.450
64	2112646.90	6341984.98	24.450
65	2112646.90	6341989.90	24.300
66	2112605.17	6341977.24	24.690
67	2112600.46	6341977.24	24.530
68	2112600.46	6341970.73	24.550
69	2112605.13	6341970.73	24.690
70	2112605.15	6341956.48	24.690
71	2112600.15	6341956.48	24.590
72	2112600.17	6341950.50	24.620
73	2112605.17	6341950.50	24.670
74	2112596.06	6341923.85	24.650
75	2112647.61	6342007.20	23.880

CURVE TABLE

CURVE NO.	LENGTH	RADIUS	DELTA	TANGENT
C1	14.81'	20.00'	42°25'17"	7.76'
C2	16.26'	143.24'	6°30'12"	8.14'
C3	29.78'	31.26'	54°35'05"	16.13'
C4	4.18'	16.42'	14°35'02"	2.10'

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

SCALE

0 5' 10' 20'

SCALE: 1" = 10'

REV	DATE	BY	DESCRIPTION

DESIGNED BG
DRAWN JJ
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER RYAN A. HOOK No. 68462 CIVIL STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.29 15:01:27 -08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

CIVIL

PAVING AND GRADING PLAN

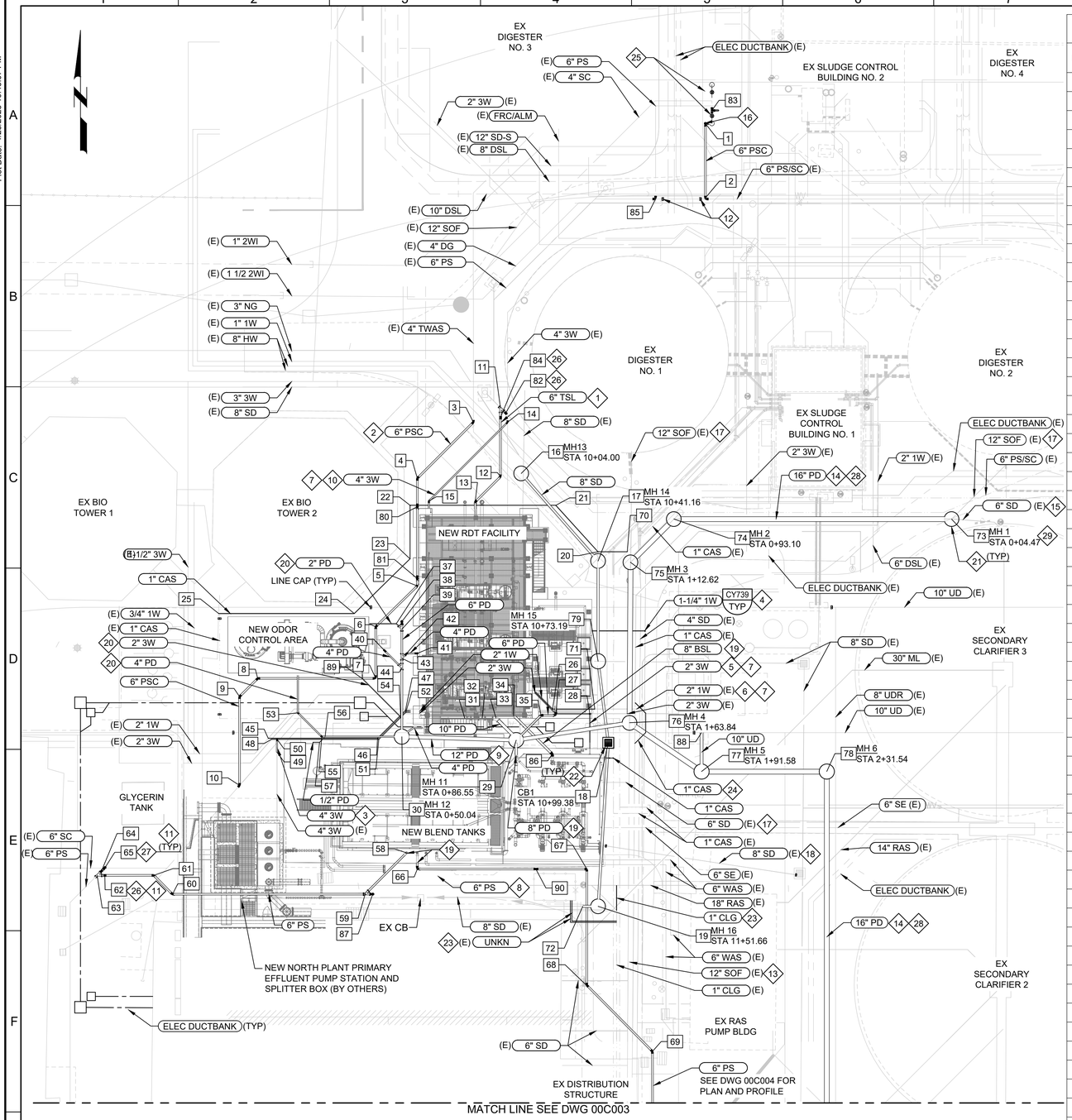
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202645
DRAWING NO. 00C001
SHEET NO. 31 OF 239

Plot Date: 1/29/2025 7:10:05 PM

LAST SAVED BY: Jjabla

PROJECT NO. 202645-100000 FILE NAME: 202645_00C001.dwg



PLAN

FILE: 202645_00C002

COORDINATE CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION CL	DESCRIPTION
1	2112794.98	6342040.22	18.13	6" VERT BEND 90 DEG
2	2112771.55	6342040.49	18.13	6" BEND 90 DEG
3	2112699.66	6341966.19	17.10	6" BEND 45 DEG
4	2112681.76	6341948.29	17.10	6" BEND 45 DEG
5	2112647.42	6341948.29	17.10	6" BEND 45 DEG
6	2112634.40	6341935.02	17.10	6" BEND 45 DEG
7	2112617.93	6341935.02	17.10	6" BEND 90 DEG
8	2112617.93	6341897.38	17.10	6" BEND 45 DEG
9	2112612.12	6341891.57	17.10	6" BEND 45 DEG
10	2112583.78	6341891.57	17.10	6" BEND 45 DEG
11	2112704.24	6341974.82	18.13	6" WYE
12	2112682.28	6341974.85	18.13	6" BEND 45 DEG
13	2112674.22	6341966.76	18.13	6" BEND 45 DEG
14	2112699.64	6341977.10	19.50	4" BEND 45 DEG
15	2112674.52	6341951.98	19.50	4" BEND 45 DEG
16	2112683.30	6341981.44	15.13	MH 13
17	2112655.39	6342005.98	14.93	MH 14
18	2112597.39	6342009.23	14.65	CB 1
19	2112545.20	6342005.98	14.42	MH 16
20	2112658.34	6342005.94	22.44	1" BEND 45 DEG
21	2112673.15	6341992.48	22.44	1" BEND 45 DEG
22	2112673.15	6341945.98	22.44	1" BEND 90 DEG
23	2112656.13	6341945.93	22.44	1" BEND 45 DEG
24	2112638.62	6341928.16	22.44	1" BEND 45 DEG
25	2112638.67	6341884.83	22.44	1" TEE
26	2112608.13	6341991.46	19.60	2" BEND 45 DEG
27	2112606.65	6341992.48	19.60	2" BEND 45 DEG
28	2112606.63	6342003.36	19.60	2" TEE
29	2112598.22	6341979.86	17.00	MH 11
30	2112599.33	6341943.36	23.97	MH 12
31	2112605.26	6341963.43	19.32	6" BEND 90 DEG
32	2112605.30	6341968.98	19.32	12" TEE
33	2112605.26	6341973.40	19.32	12" x 6" RED. WYE
34	2112605.99	6341978.98	19.10	12" x 4" RED WYE
35	2112606.15	6341987.79	19.10	8" BEND 45 DEG
37	2112635.34	6341941.57	15.09	6" x 4" RED. WYE
38	2112636.06	6341943.36	14.63	CLEANOUT
39	2112633.61	6341943.36	14.63	6" x 4" RED. WYE
40	2112626.95	6341937.68	14.99	4" BEND 45 DEG
41	2112625.90	6341948.31	14.63	2" BEND 45 DEG
42	2112625.90	6341944.89	14.63	4" BEND 45 DEG
43	2112624.34	6341943.36	14.92	6" WYE
44	2112621.26	6341943.36	14.63	6" x 4" WYE
45	2112598.80	6341900.74	19.65	2" BEND 45 DEG
46	2112598.85	6341935.63	21.20	2" BEND 45 DEG
47	2112607.65	6341944.50	21.71	2" BEND 45 DEG
48	2112598.52	6341901.83	19.65	2" BEND 45 DEG
49	2112594.35	6341903.52	19.65	6" BEND 45 DEG
50	2112598.52	6341903.51	19.65	2" TEE
51	2112598.52	6341936.00	21.20	2" BEND 45 DEG
52	2112607.15	6341944.63	21.71	2" BEND 45 DEG
53	2112606.94	6341910.16	20.71	4" BEND 45 DEG
54	2112605.62	6341942.99	20.98	2" TEE
55	2112599.33	6341917.78	20.65	4" BEND 45 DEG
56	2112599.34	6341918.85	20.65	4"x1/2" WYE
57	2112597.53	6341917.10	20.65	1/2" BEND 45 DEG
59	2112549.08	6341931.67	18.59	6" WYE
60	2112549.05	6341870.15	18.59	6" BEND 45 DEG

COORDINATE CONTROL POINTS (CONT)

POINT	NORTHING	EASTING	ELEVATION CL	DESCRIPTION
61	2112555.08	6341864.22	18.59	6" BEND 45 DEG
62	2112555.10	6341848.58	18.59	6" PLUG VALVE
63	2112555.07	6341846.13	18.59	6" WYE
64	2112556.45	6341847.50	18.59	6" GATE VALVE
65	2112557.61	6341848.65	18.59	6" PLUG VALVE
66	2112557.09	6341948.29	20.32	6" BEND 90 DEG
67	2112557.09	6342002.38	13.58	6" BEND 90 DEG
68	2112520.04	6342002.25	13.58	6" BEND 45 DEG
69	2112498.90	6342023.32	13.58	6" BEND 45 DEG
70	2112658.33	6342015.29	22.44	1" WYE
71	2112608.13	6342004.91	20.98	2" TEE
72	2112545.20	6342001.09	14.40	8" TIE-IN TO EX SD
73	2112668.74	6342118.76	14.27	MH 1
74	2112668.77	6342030.13	13.84	MH 2
75	2112654.99	6342016.28	13.74	MH 3
76	2112603.78	6342015.99	13.50	MH 4
77	2112588.23	6342038.97	13.36	MH 5
78	2112588.23	6342078.92	13.06	MH 6
79	2112623.37	6342005.98	14.78	MH15
80	2112672.71	6341948.30	28.10	6" VERT BEND 90 DEG
81	2112649.80	6341948.30	28.10	6" VERT BEND 90 DEG
82	2112702.57	6341976.49	21.30	6" PLUG VALVE
83	2112799.13	6342042.32	18.13	6" TEE
84	2112701.12	6341974.82	21.30	6" PLUG VALVE
85	2112770.88	6342024.32	18.13	6" BEND 90 DEG
86	2112593.77	6341991.37	19.10	8" BEND 45 DEG
87	2112549.12	6341934.09	18.59	CLEANOUT
88	2112600.61	6342038.97	12.70	10" TEE
89	2112617.87	6341930.75	20.98	2" BEND 45 DEG
90	2112557.09	6341986.13	20.32	6" VERT BEND 22.5 DEG

GENERAL NOTES:

1. REFER TO DRAWING 00GC001 FOR GENERAL AND CIVIL LEGEND AND SYMBOLS.
2. REFER TO DRAWING 00GC002 FOR CIVIL NOTES AND ABBREVIATIONS.
3. RESTORE DISTURBED PAVEMENT PER CITY OF MANTECA TYPICAL DETAIL ST-14 AND SECTION 02952 OF THE SPECIFICATIONS.
4. RESTRAIN PRESSURE PIPES PER SECTION 15211 AND 02705 OF THE SPECIFICATIONS AND CAROLLO STANDARD DETAIL CY134.
5. INSTALL PIPE IN TRENCH PER CITY OF MANTECA STANDARD DETAILS U-5 AND U-6.

KEY NOTES:

1. 6" TSL LINE TIE-IN INTO EXISTING 6" PS LINE. SEE DWG 07M201 FOR CONNECTION TO RDT FACILITY.
2. NEW 6" PSC LINE AND TIE-IN INTO EXISTING 4" TWAS LINE C/W RESTRAINED TRANSITION COUPLINGS.
3. TIE INTO EXISTING 4" 3W. REDUCE TO 2" AND TIE INTO EXISTING 2" 3W.
4. NEW 1-1/4 1W SERVICE LINE C/W CORP STOP, ISOLATION BALL VALVE. TIE INTO EXISTING 1W LINE. PIPE MATERIAL AND INVERT ELEVATION OF EXISTING 1W LINE TO BE CONFIRMED BY CONTRACTOR.
5. TIE INTO EXISTING 2" 3W LINE.
6. TIE INTO EXISTING 2" 1W LINE.
7. FLOOR PENETRATE LINE. SEE DWG 07M204 FOR PENETRATION LOCATIONS.
8. INSTALL NEW 6" PS LINE. SEE DWG 07M102 FOR PENETRATION TO ABOVEGROUND LOCATION. ALIGNMENT CONTINUES SOUTH (SEE DWG 00C003). SEE DWG 00C004 FOR PROFILE.
9. NEW 12" PROCESS DRAIN LINE. TIE INTO NEW 16" PD LINE. SEE DWG 07M201 FOR CONNECTIONS TO RDT FACILITY.
10. TIE INTO EXISTING EXISTING 4" 3W LINE.
11. TIE IN NEW 6" PS TO EXISTING 6" PS LINE W/ WYE AND RESTRAINED TRANSITION COUPLINGS.
12. CAP EXISTING 6" PS/SC AND FILL WITH CLSM PER SPECIFICATION 01738. INSTALL 90 DEG BEND.
13. MAINTAIN EXISTING 12" SOF IN PLACE DOWNSTREAM OF MH 4. 12" SOF LINE CONNECTS TO NEW 16" PD AT MH7, REFER TO DWG 00C003.
14. REPLACE IN KIND EXISTING 12" SOF, UPSIZE TO A 16 INCH. SEE DWG 00C003 AND 00C005 FOR CONTINUATION REFER TO SECTION 02552 OF THE SPECIFICATIONS FOR BYPASSING DETAILS.
15. RESTORE CONNECTION TO THE NEW 16" PD LINE.
16. BRING 6" PSC PIPE UP ABOVE GRADE TO CORNER OF BUILDING AND TIE IT TOGETHER WITH THE EXISTING 4" SC PIPE ABOVE GRADE. SEE DWG XX FOR CONNECTION TO THE EXISTING 4" SC AND SLUDGE BUILDING NO.2.
17. ABANDON EXISTING CONNECTION TO SOF LINE. CAP AND FILL WITH CLSM PER SPEC 01738.
18. ABANDON 8" SD PIPE AND FILL WITH CLSM PER SPEC 01738. PARTIALLY DEMOLISH, SEE DWG 00D003 FOR DEMOLITION PLAN.
19. SEE DWG 07M101 FOR CONNECTION TO NEW BLEND TANKS.
20. SEE DWG 07M301 FOR CONNECTION TO ODOR CONTROL AREA.
21. CONSTRUCT SEWER MANHOLES IN ACCORDANCE WITH CITY OF MANTECA STANDARD DETAILS S-3 AND S-5. USE MANHOLE COVERS CONFORMING TO CITY OF MANTECA STANDARD DETAIL S-8.
22. CONSTRUCT STORM MANHOLES IN ACCORDANCE WITH CITY OF MANTECA STANDARD DETAIL D-1. USE INLET CONFORMING TO CITY OF MANTECA STANDARD DETAIL D-4.
23. REROUTE LINES TO AVOID CONFLICT WITH M 16. REFER TO DWG 00D003 FOR DEMOLITION PLAN.
24. REROUTE 1" CAS TO AVOID CONFLICT WITH MH 4. REFER TO DWG 00D003 FOR DEMOLITION PLANS.
25. INSTALL BLOWOFF VALVES PER CITY OF MANTECA STANDARD DETAIL W-7.
26. INSTALL VALVES PER CITY OF MANTECA STANDARD DETAIL W-6.
27. INSTALL CLEANOUT AND FRAME AND COVERS PER CITY OF MANTECA STANDARD DETAILS S-10 AND S-11.
28. REFER TO SPECIFICATION 02552 FOR LINE PLUGGING AND BYPASSING DETAILS.
29. PROPOSED BYPASSING SUCTION MANHOLE.

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

SCALE

0 10' 20' 40'

SCALE: 1" = 20'

REV	DATE	BY	DESCRIPTION

DESIGNED BG
DRAWN JJ
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER RYAN A. HOOK No. 68462 CIVIL STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.29 09:45:46 -08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

CIVIL

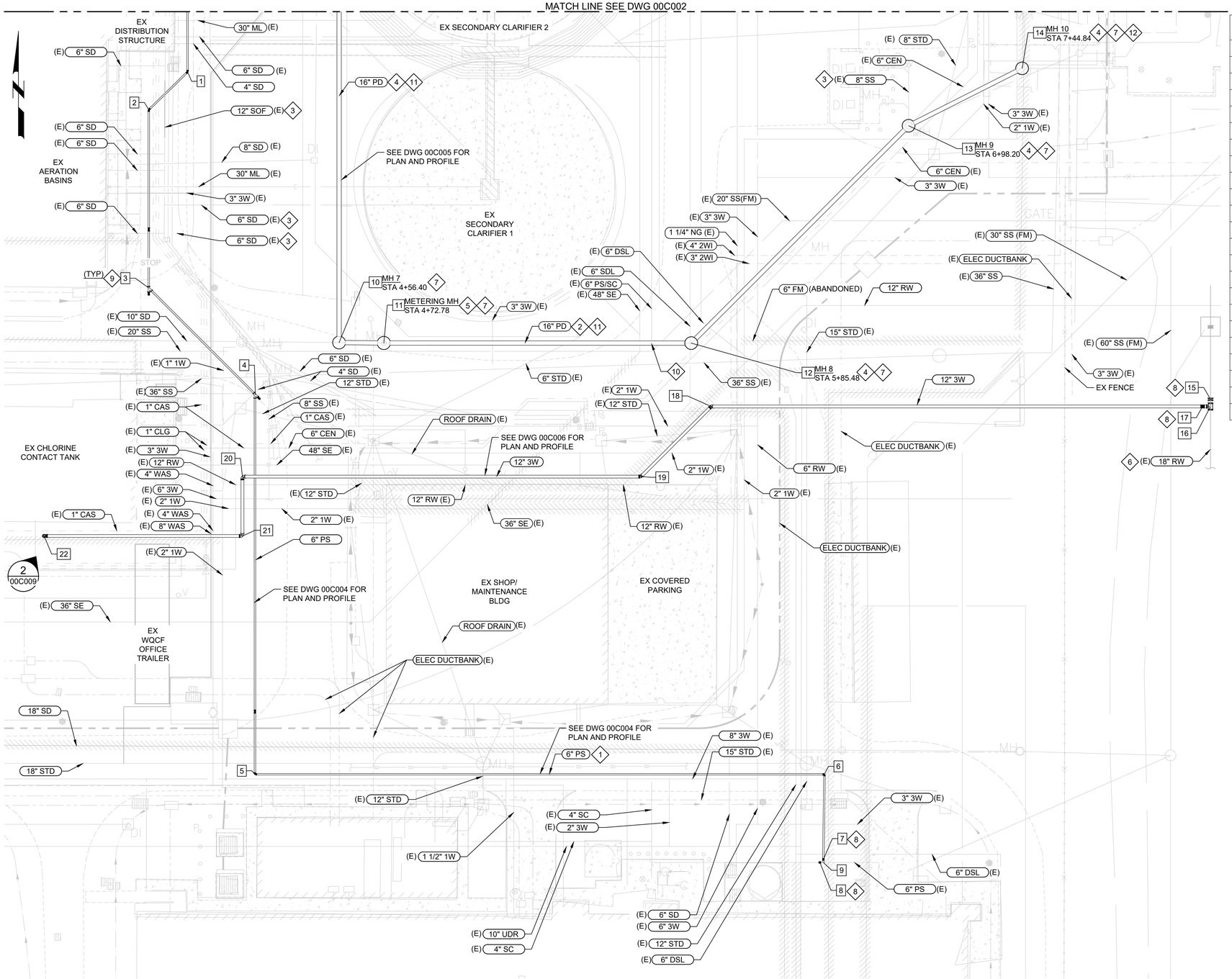
YARD PIPING PLAN - NORTH

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

JOB NO. 202645
DRAWING NO. 00C002
SHEET NO. 32 OF 239

Plot Date: 1/29/2025 10:43:07 PM
LAST SAVED BY: JJabla

PROJECT NO. 202645-100000 FILE NAME: 202645_00C002.dwg



PLAN

FILE: 202645_00C003

COORDINATE CONTROL POINTS

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	2112462.54	6342023.40	13.58	6" BEND 45 DEG
2	2112448.67	6342009.17	13.58	6" BEND 45 DEG
3	2112383.33	6342009.17	20.25	6" WYE
4	2112344.19	6342048.25	19.41	6" WYE
5	2112205.02	6342048.02	20.73	6" BEND 90 DEG
6	2112205.02	6342256.85	20.73	6" BEND 90 DEG
7	2112173.80	6342256.47	20.44	6" PLUG VALVE
8	2112172.68	6342255.22	19.27	6" PLUG VALVE
9	2112172.68	6342256.47	20.50	6" TEE
10	2112363.32	6342078.96	11.42	MH7
11	2112363.15	6342095.34	11.32	METERING MH
12	2112363.10	6342208.04	10.50	MH 8
13	2112442.81	6342287.75	9.50	MH 9
14	2112463.85	6342329.37	8.25	MH 5
15	2112342.49	6342398.43	18.70	12" GATE VALVE
16	2112339.88	6342398.43	18.70	12" TEE
17	2112339.88	6342395.51	18.70	12" GATE VALVE
18	2112339.88	6342215.36	17.00	12" BEND 45 DEG
19	2112314.20	6342189.63	15.93	12" BEND 45 DEG
20	2112314.17	6342043.51	16.00	12" BEND 90 DEG
21	2112292.39	6342043.51	16.00	12" BEND 90 DEG
22	2112292.39	6341970.83	17.00	12" BEND 90 DEG

GENERAL NOTES:

1. REFER TO DRAWING 00GC001 FOR GENERAL AND CIVIL LEGEND AND SYMBOLS.
2. REFER TO DRAWING 00GC002 FOR CIVIL NOTES AND ABBREVIATIONS.

KEY NOTES:

1. TIE INTO EXISTING 6" PS.
2. REMOVE AND REPLACE EXISTING 12" SOF WITH A 16" PIPE. REFER TO SECTION 02552 OF THE SPECIFICATIONS FOR BYPASSING DETAILS.
3. RESTORE CONNECTION TO THE NEW 16" PD LINE.
4. REPLACE MANHOLE AND RESTORE ALL CONNECTIONS.
5. REPLACE METERING MANHOLE AND INSTALL A PARSHALL FLUME PER DETAIL ON DWG 00C008 AND SECTION 11210 OF THE SPECIFICATIONS.
6. CONTRACTOR TO FIELD VERIFY LOCATION OF 18" RW (FORCEMAIN). TIE INTO EXISTING 18" RW LINE W/ 18"x18"x12" TEE AND RESTRAINED TRANSITION COUPLINGS.
7. CONSTRUCT SEWER MANHOLES IN ACCORDANCE WITH CITY OF MANTECA STANDARD DETAILS S-3 AND S-5. USE MANHOLE COVERS CONFORMING TO CITY OF MANTECA STANDARD DETAIL S-8.
8. INSTALL VALVES PER CITY OF MANTECA STANDARD DETAIL W-6.
9. INSTALL CLEANOUT AND FRAME AND COVERS PER CITY OF MANTECA STANDARD DETAILS S-10 AND S-11.
10. ROUTING BETWEEN 6" PS/CS LINE AND NEW 16" PD IS UNKNOWN AT THIS LOCATION. CONTRACTOR TO CONFIRM.
11. REFER TO SPECIFICATION 02552 FOR LINE PLUGGING AND BYPASSING DETAILS.
12. PROPOSED BYPASSING DISCHARGE MANHOLE.

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

SCALE

0 10' 20' 40'

SCALE: 1" = 20'

REV	DATE	BY	DESCRIPTION

DESIGNED BG
DRAWN JJ
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER RYAN A. HOOK No. 68462 CIVIL STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 15:05:33-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

CIVIL

YARD PIPING PLAN - SOUTH

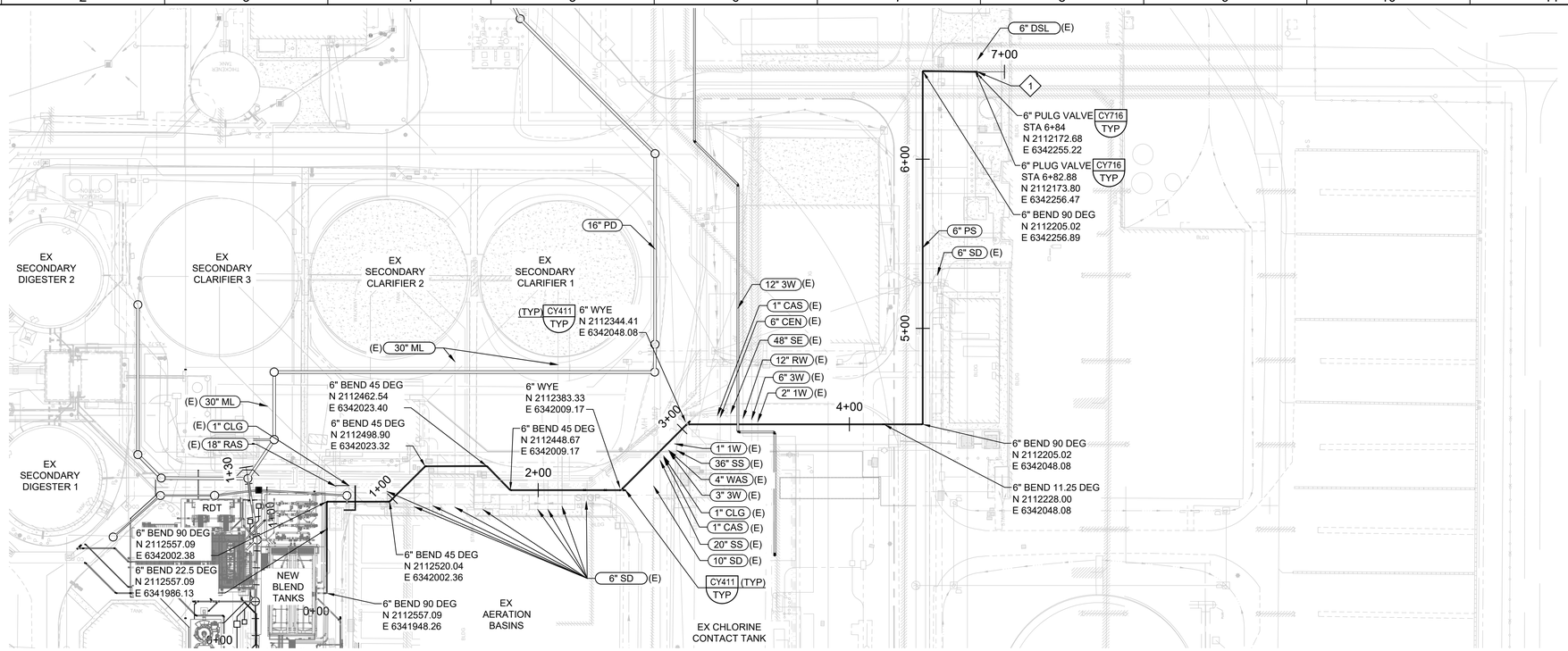
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202645
DRAWING NO. 00C003
SHEET NO. 33 OF 239

LAST SAVED BY: Jlabla

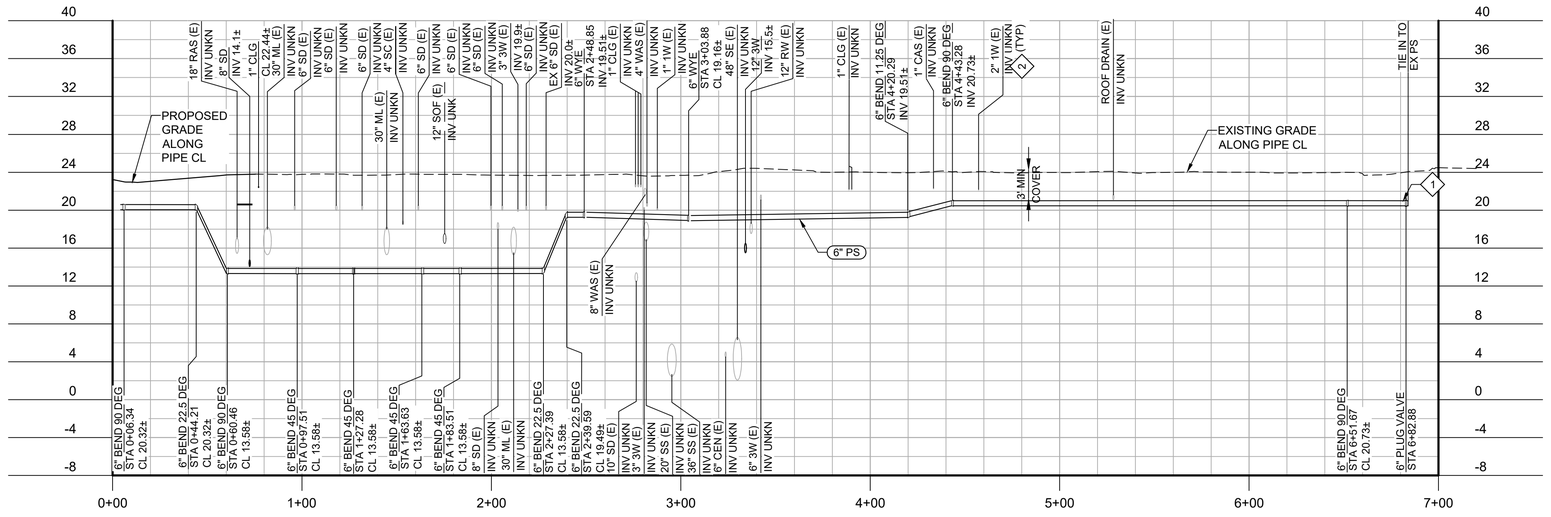
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Plot Date: 7/5/2024 11:56:18 AM



PLAN

FILE: 202645_00C004



PROFILE

FILE: 202645_00C004

GENERAL NOTES:

1. REFER TO DRAWING 00GC001 FOR GENERAL AND CIVIL LEGEND AND SYMBOLS.
2. REFER TO DRAWING 00GC002 FOR CIVIL NOTES AND ABBREVIATIONS.

KEY NOTES:

1. TIE INTO EXISTING 6" PS REPLACE EXISTING ELBOW W/ 6" TEE.
2. PIPE INVERT UNKNOWN, CONTRACTOR TO POTHOLE PRIOR TO CONSTRUCTION PER SECTION 02280 OF THE SPECIFICATIONS.

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

SCALE

0 20' 40' 80'
SCALE: 1" = 40' (HORIZ)

0 4' 8' 16'
SCALE: 1" = 8' (VERT)

REV	DATE	BY	DESCRIPTION

DESIGNED BG
DRAWN JJ
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER RYAN A. HOOK No. 68462 CIVIL STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 09:56:46 -08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

CIVIL

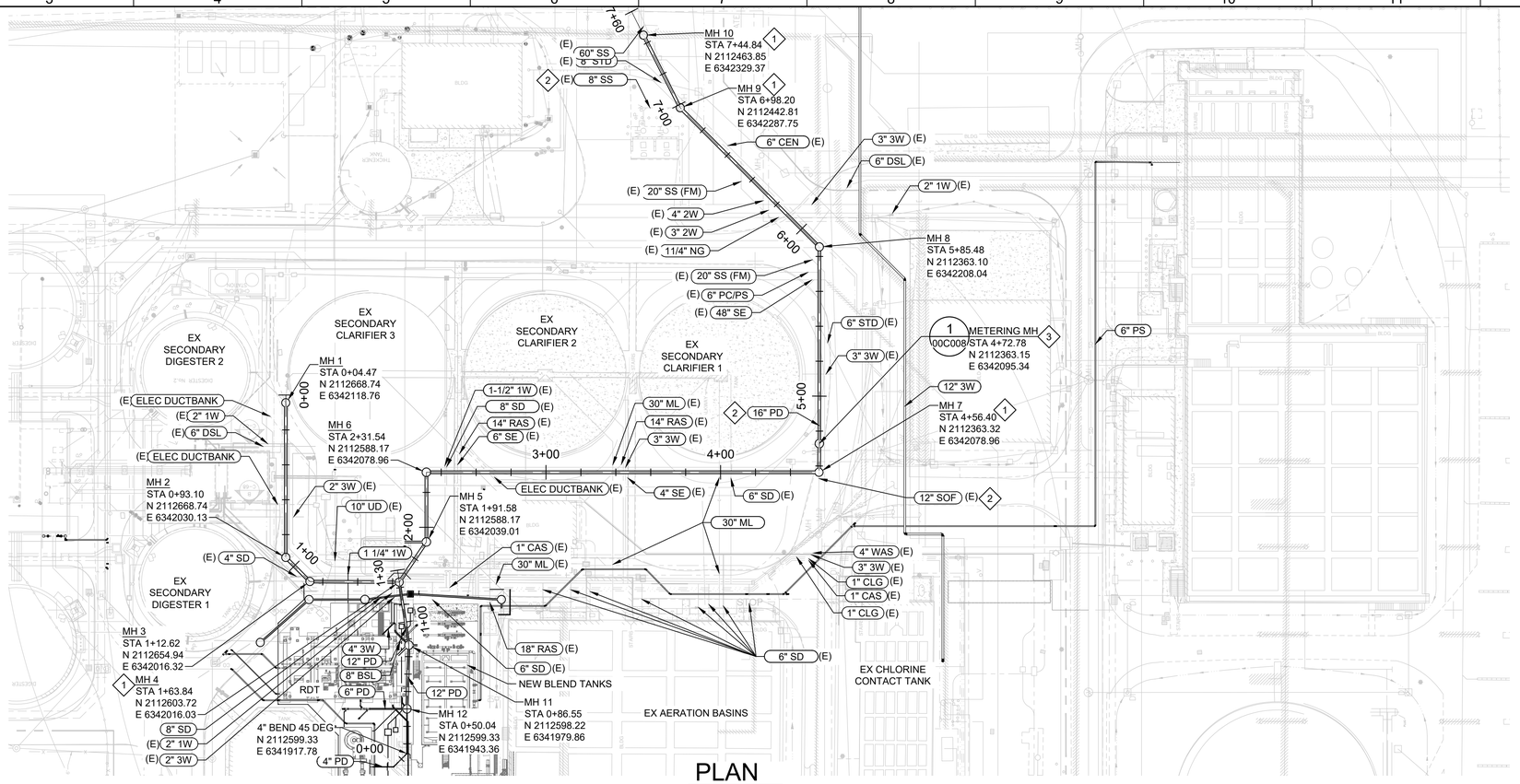
PLAN AND PROFILE
6" PRIMARY SLUDGE

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

JOB NO. 202645
DRAWING NO. 00C004
SHEET NO. 34 OF 239

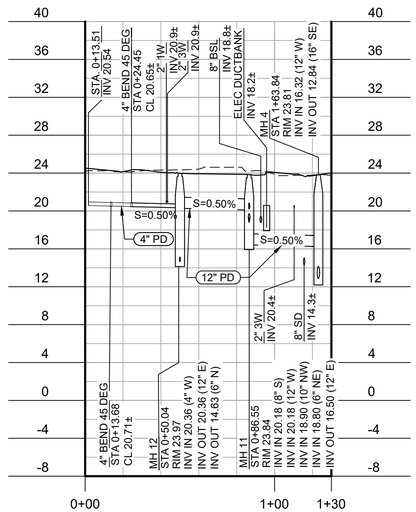
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PROJECT NO. 202645-100000 FILE NAME: 202645_00C004.dwg



PLAN

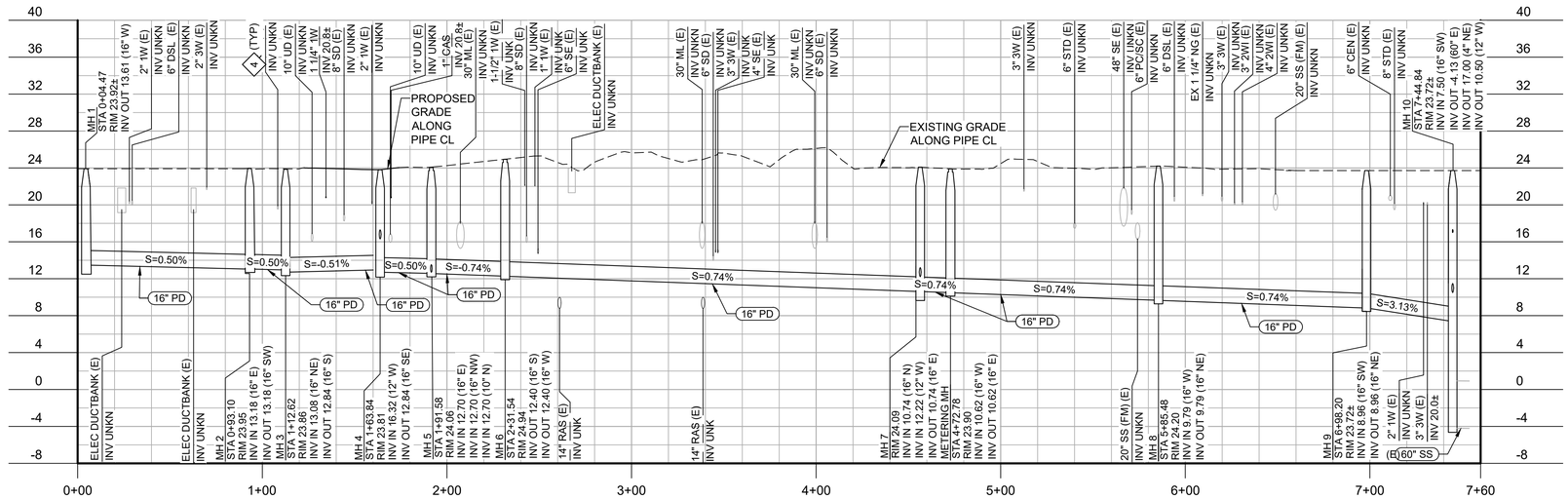
FILE: 202645_00C005



12" PD

PROFILE

FILE: 202645_00C005



16" PD

PROFILE

FILE: 202645_00C005

GENERAL NOTES:

1. REFER TO DRAWING 00GC001 FOR GENERAL AND CIVIL LEGEND AND SYMBOLS.
2. REFER TO DRAWING 00GC002 FOR CIVIL NOTES AND ABBREVIATIONS.

KEY NOTES:

1. REPLACE MANHOLE AND RESTORE ALL CONNECTIONS.
2. RESTORE CONNECTION TO THE NEW 16" PD LINE.
3. REPLACE METERING MANHOLE AND INSTALL A PARSHALL FLUME PER DWG 00C008 AND SECTION 11210 OF THE SPECIFICATIONS.
4. PIPE INVERT UNKNOWN, CONTRACTOR TO POTHOLE PRIOR TO CONSTRUCTION PER SECTION 02280 OF THE SPECIFICATIONS.

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

SCALE

0 20' 40' 80'

SCALE: 1" = 40' (HORIZ)

0 4' 8' 16'

SCALE: 1" = 8' (VERT)

REV	DATE	BY	DESCRIPTION

DESIGNED BG
DRAWN JJ
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER RYAN A. HOOK No. 68462 CIVIL STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 09:27:33-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

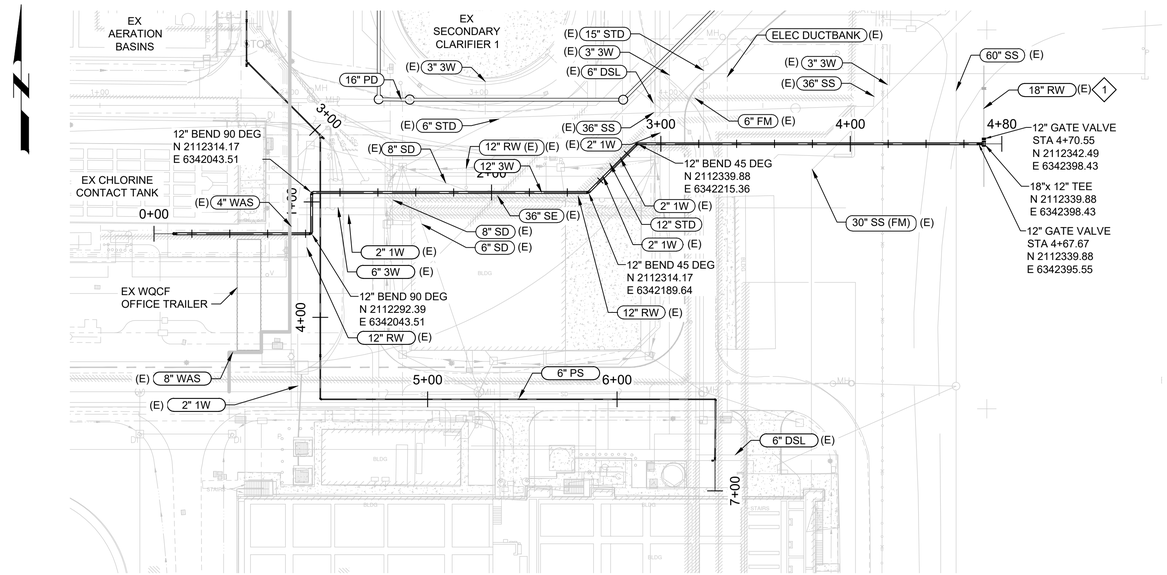
CIVIL

PLAN AND PROFILE
16" PROCESS DRAIN

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

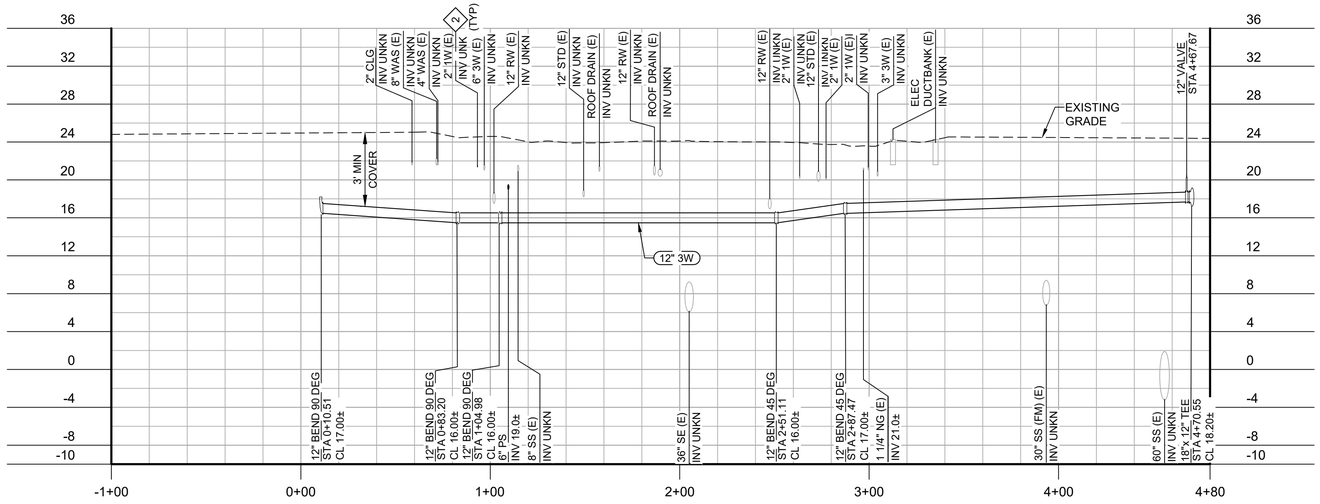
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DRAWING NO. 00C005
SHEET NO. 35 OF 239

Plot Date: 1/27/2025 10:47:46 AM
LAST SAVED BY: JJabla



PLAN

FILE: 202645_00C006



PROFILE

FILE: 202645_00C006

GENERAL NOTES:

1. REFER TO DRAWING 00GC001 FOR GENERAL AND CIVIL LEGEND AND SYMBOLS.
2. REFER TO DRAWING 00GC002 FOR CIVIL NOTES AND ABBREVIATIONS.

KEY NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION OF 18" RW (FORCEMAIN). TIE INTO EXISTING 18" RW LINE W/ 18"x18"x12" TEE AND RESTRAINED TRANSITION COUPLINGS.
2. PIPE INVERT UNKNOWN, CONTRACTOR TO POTHOLE PRIOR TO CONSTRUCTION PER SECTION 02280 OF THE SPECIFICATIONS.

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

SCALE

0 20' 40' 80'
SCALE: 1" = 40' (HORIZ)

0 4' 8' 16'
SCALE: 1" = 8' (VERT)

REV	DATE	BY	DESCRIPTION

DESIGNED BG
DRAWN JJ
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER RYAN A. HOOK No. 68462 CIVIL STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 15:57:51 -08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

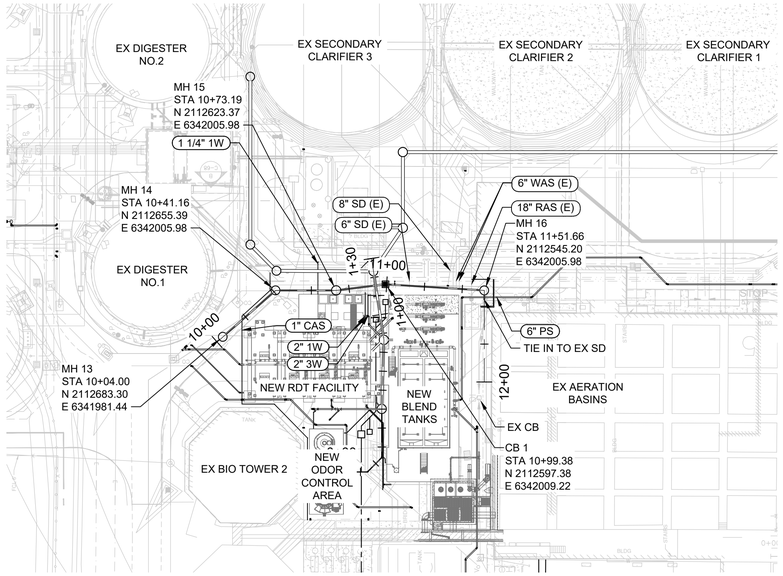
CIVIL

PLAN AND PROFILE
12" 3W

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

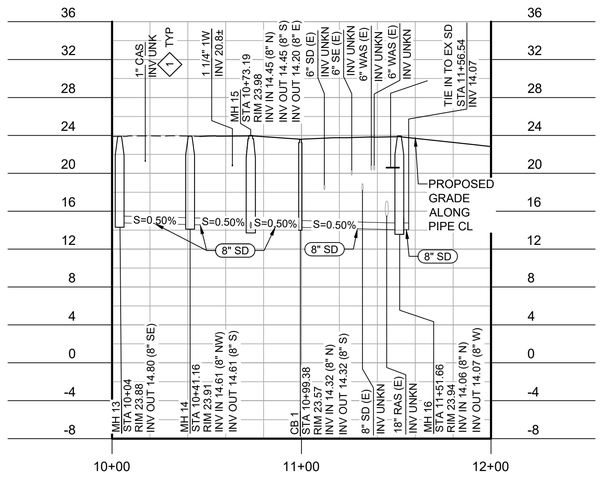
JOB NO. 202645
DRAWING NO. 00C006
SHEET NO. 36 OF 239

Plot Date: 1/27/2025 7:44:41 AM
LAST SAVED BY: JJabla
PROJECT NO. 202645-100000 FILE NAME: 202645_00C006.dwg



PLAN

FILE: 202645_00C007



PROFILE

FILE: 202645_00C007

GENERAL NOTES:

1. REFER TO DRAWING 00GC001 FOR GENERAL AND CIVIL LEGEND AND SYMBOLS.
2. REFER TO DRAWING 00GC002 FOR CIVIL NOTES AND ABBREVIATIONS.

KEY NOTES:

1. PIPE INVERT UNKNOWN, CONTRACTOR TO POTHOLE PRIOR TO CONSTRUCTION PER SECTION 02280 OF THE SPECIFICATIONS.

Know what's below. Call before you dig.
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SCALE

0 20' 40' 80'
SCALE: 1" = 40' (HORIZ)

0 4' 8' 16'
SCALE: 1" = 8' (VERT)

REV	DATE	BY	DESCRIPTION

DESIGNED BG
DRAWN JJ
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER RYAN A. HOOK No. 68462 CIVIL STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 15:58:20 -08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

CIVIL

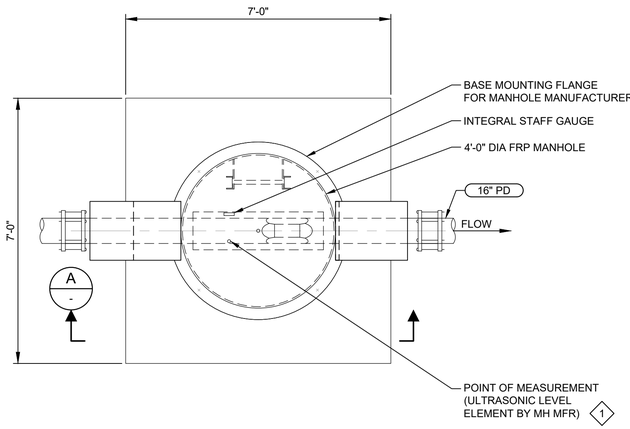
PLAN AND PROFILE 8" SD

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

JOB NO. 202645
DRAWING NO. 00C007
SHEET NO. 37 OF 239

Plot Date: 7/5/2024 11:56:18 AM
LAST SAVED BY: JJabla

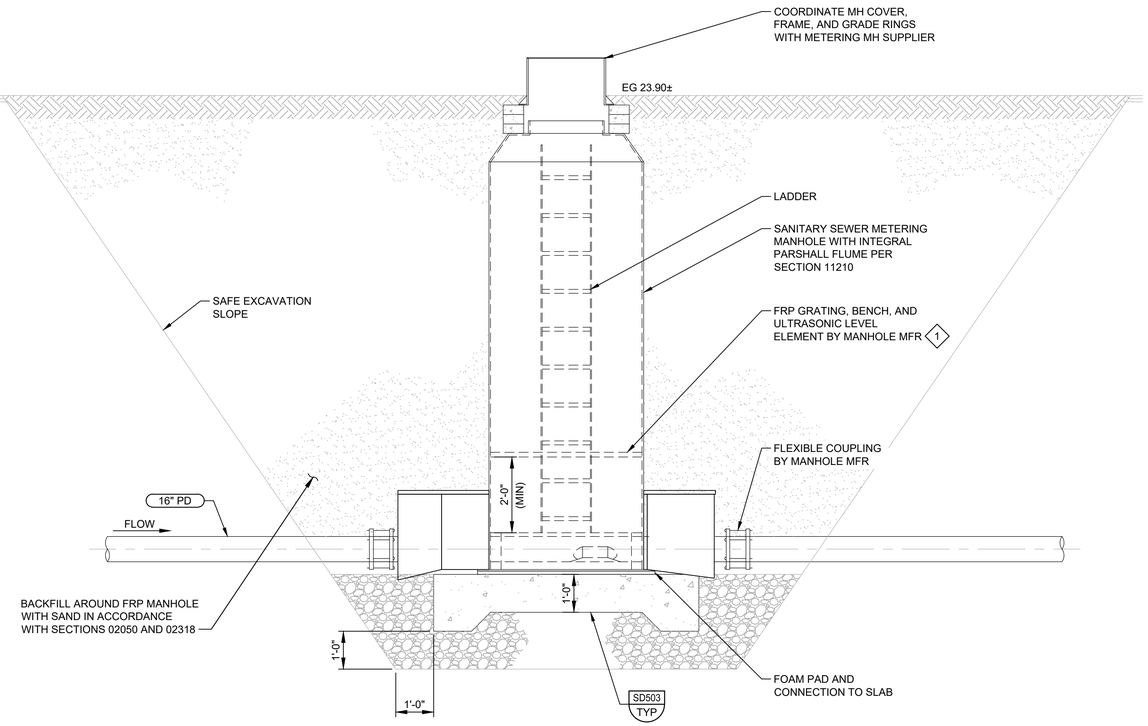
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16" METERING MANHOLE

1 / 00C005 DETAIL

SCALE: 1/2" = 1'-0"
FILE: 202645_00C008



A / - SECTION

SCALE: 1/2" = 1'-0"
FILE: 202645_00C008

GENERAL NOTES:

1. REFER TO DRAWING 00GC001 FOR GENERAL AND CIVIL LEGEND AND SYMBOLS.
2. REFER TO DRAWING 00GC002 FOR CIVIL NOTES AND ABBREVIATIONS.

KEY NOTES:

1. ULTRASONIC LEVEL ELEMENT SHALL BE NEMA 6P RATED CAPABLE OF BEING IMMERSED W/O DAMAGE TO THE DEVICE.

SCALE

0 1' 2' 4'

SCALE: ½" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED BG
DRAWN JJ
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER RYAN A. HOOK No. 68462 CIVIL STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.30 08:57:07 -08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

CIVIL

YARD PIPING DETAIL AND SECTION

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

JOB NO. 202645
DRAWING NO. 00C008
SHEET NO. 38 OF 239

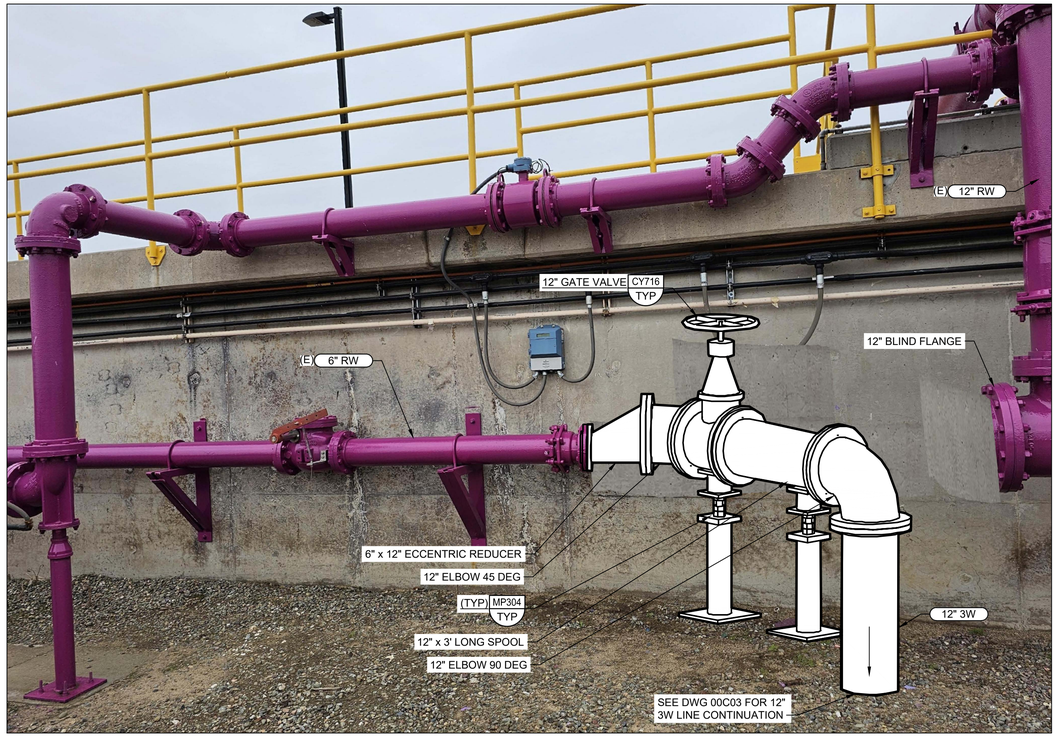
LAST SAVED BY: Jlabla

PROJECT NO. 202645-100000 FILE NAME: 202645_00C008.dwg

Plot Date: 10/5/2022 11:06:47 AM



(DEMOLITION)



(NEW 12" 3W CONNECTION)

2 PHOTO
00C003 FILE: 202645_00C009

GENERAL NOTES:

1. REFER TO DRAWING 00GC001 FOR GENERAL AND CIVIL LEGEND AND SYMBOLS.
2. REFER TO DRAWING 00GC002 FOR CIVIL NOTES AND ABBREVIATIONS.

KEY NOTES:

1. DEMOLISH EXISTING 6" ELBOW, SPOOL, VALVE AND REDUCER.

REV	DATE	BY	DESCRIPTION

DESIGNED BG
DRAWN JJ
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER RYAN A. HOOK No. 68462 CIVIL STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 08:24:24 -08'07'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

CIVIL

YARD PIPING PHOTOS

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

JOB NO. 202645
DRAWING NO. 00C009
SHEET NO. 39 OF 239

LAST SAVED BY: Jlabla

PROJECT NO. 202645-100000 FILE NAME: 202645_00C009.dwg

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.

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. 2022 CALIFORNIA BUILDING CODE ("CBC 2022") WITH ASCE 7-16.

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 LOAD: SEE PLANS.
   B. GRATING AND CHECKERED PLATE: 100 PSF (UNO).
   C. ROOF LIVE LOAD: SEE PLANS (20 PSF MINIMUM).
   D. EQUIPMENT LOADS: SEE PLANS.

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

6. WIND DESIGN DATA:

   A. SPECIAL WIND REGION: NO
   B. BASIC WIND SPEED (3 SEC GUST, 33 FEET ABOVE GROUND): 100 MPH.

7. EARTHQUAKE DESIGN DATA:

		0.2 SECOND		*1.0 SECOND
A.	SITE CLASS: D.			
B.	MAPPED SPECTRAL RESPONSE ACCELERATIONS:	Ss = 0.825	g	S1 = 0.309 g
C.	SITE COEFFICIENTS:	Fa = 1.2		Fv = 1.99
D.	MAXIMUM CONSIDERED ACCELERATIONS:*	Sms = 0.990	g	Sm1 = 0.923 g
E.	DESIGN SPECTRAL RESPONSE ACCELERATIONS:*	Sds = 0.660	g	Sd1 = 0.615 g

   (* 5% DAMPED)

8. 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: MANTECA WASTEWATER TREATMENT PLANT IMPROVEMENTS - TASK 1.
   PREPARED BY: KLEINFELDER.
   REPORT NO: 25001380.001A DATED: 01/16/2025.

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

   A. NET ALLOWABLE BEARING PRESSURES.
      MAT FOUNDATION: 1,000 PSF
      SPREAD FOOTING: 2,500 PSF

   B. GROUNDWATER EL 11 FEET 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.

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 = 4000 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.

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)
   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 03102 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 03366.

8. CONCRETE PADS

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

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

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 05190.
   B. WHERE ALUMINUM IS IN CONTACT WITH MASONRY OR CONCRETE, COAT ALUMINUM SURFACES AS SPECIFIED IN SECTION 09960.

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 01455 FOR DETAILS.

2. DIVISION 2 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 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 5 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 WOOD, PLASTICS AND COMPOSITES.

STRUCTURAL OBSERVATION:

1. STRUCTURAL OBSERVATION IS REQUIRED DURING AND AT SPECIFIC STAGES OF CONSTRUCTION. SEE SPECIFICATION SECTION 01455 FOR DETAILS.

STRUCTURAL SYMBOLS:

1. SEE DRAWING 00G004 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 00G005 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.

REINFORCEMENT:		OTHER:	
BO	BOTTOM OF	AL	ALUMINUM
EF	EACH FACE	CONC	CONCRETE
I.F.	INSIDE FACE	EXIST, (E)	EXISTING
O.F.	OUTSIDE FACE	EJ	EXPANSION JOINT
T.O.	TOP OF	FRP	FIBERGLASS REINFORCED PLASTIC
#	NUMBER (REINFORCING BAR SIZE)	L	ANGLE
(N)	NEW	MFR	MANUFACTURER
		PL	PLATE
		REQ'D	REQUIRED
		SST	STAINLESS STEEL
		TYP	TYPICAL
		UNO	UNLESS NOTED OTHERWISE

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 2 SITE CONSTRUCTION (EARTHWORK).

   A. 02260 - EXCAVATION SUPPORT AND PROTECTION

2. DIVISION 3 CONCRETE.

   A. 03300 - CAST-IN-PLACE CONCRETE MIX DESIGNS & TEST REPORTS

3. DIVISION 5 METALS.

   A. 05120 - STEEL FRAMING
   B. 05500 - GUARDRAILS/ HANDRAILS

4. DIVISION 13 SPECIAL CONSTRUCTION.

   A. 13122 - METAL CANOPY SYSTEM
   B. XXXXX - GEOMEMBRANE COVERS

5. DIVISION 14 MECHANICAL.

   A. 14624 - MONORAIL SYSTEM

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 11:43:32-08'00'

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CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 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. 202645
DRAWING NO. 00GS001
SHEET NO. 40 OF 239

LAST SAVED BY: RWelch

PROJECT NO. 202645-100000 FILE NAME: 202645_00GS001.dwg

SUB-GRADE PREPARATION NOTES:

1. PRIOR TO PLACING FILL, THE GEOTECHNICAL ENGINEER SHALL REVIEW AND VERIFY THE BOTTOM OF ALL EXCAVATIONS ARE SUITABLE FOR PLACING COMPACTED FILL.
2. PRIOR TO EARTHWORK, THE AREAS TO BE CUT AND RECEIVE FILL SHALL BE CLEARED OF ALL DEBRIS, DELETERIOUS MATERIALS, ORGANICS/VEGETATION, AND REMNANTS RESULTING FROM SITE DEMOLITION. AREAS OF LOOSE AND/OR UNSUITABLE MATERIALS SHALL BE REMOVED DOWN TO FIRM NATIVE MATERIAL.
3. FOR DEMOLISHED STRUCTURES, REMOVE UPPER 2 FT OF EXISTING SUBGRADE AND BACKFILL COMPACT TO 90% RELATIVE COMPACTION. COMPACT TO 95% RELATIVE COMPACTION IF USING THIS AREA FOR SIDEWALKS OR ASPHALT
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, INSTALLING, AND MAINTAINING ALL EXCAVATIONS, SHEETING, SHORING AND BRACING REQUIRED TO COMPLETE THE PROJECT. THE CONTRACTOR SHALL COMPLY WITH ALL CALIFORNIA OSHA REQUIREMENTS.
5. COMPACTION SHALL BE IN ACCORDANCE WITH ASTM D1557.
6. FOR EARTHWORK SEE SPECIFICATION 02300.
7. REFER TO GEOTECHNICAL REPORT REFERENCED ON SHEET 00GS001 FOR ANY ADDITIONAL SUBGRADE PREPARATION REQUIREMENTS.

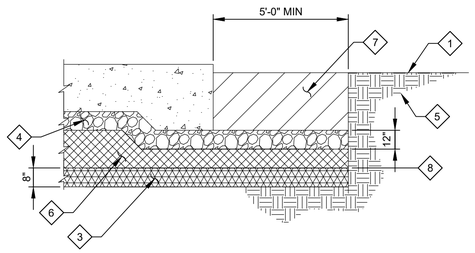
LEGEND:

- CONCRETE
- STRUCTURAL BACKFILL
- STRUCTURAL FILL
- AGGREGATE BASE COURSE
- SCARIFIED NATIVE MATERIAL
- UNDISTURBED EARTH MATERIAL

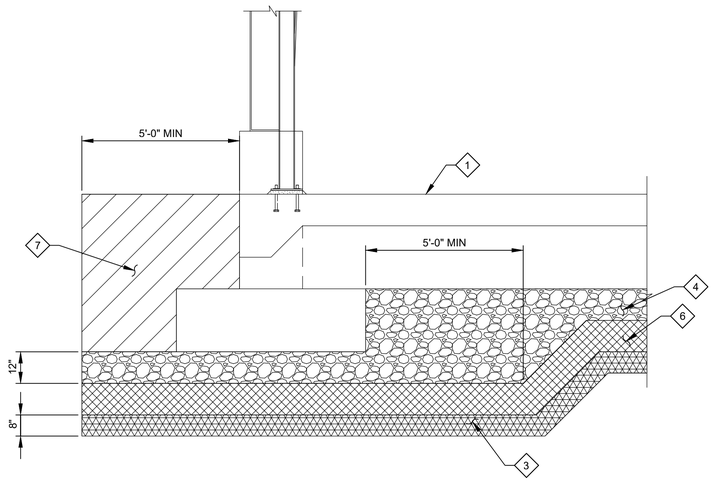
TYPICAL SECTIONS

(#) KEY NOTES:

1. APPROXIMATE FINISH GRADE/FLOOR.
2. SAFE CONSTRUCTION SLOPE AS REQUIRED PER CALIFORNIA OSHA.
3. SCARIFIED NATIVE MATERIAL COMPACTED TO 90% RELATIVE COMPACTION PER ASTM D1557.
4. AGGREGATE BASE COURSE COMPACTED TO 95% RELATIVE COMPACTION PER ASTM D1557.
5. UNDISTURBED EARTH.
6. STRUCTURAL FILL COMPACTED TO 95% RELATIVE COMPACTION PER ASTM D1557. SHOULD BE EVENLY SPREAD IN HORIZONTAL LIFTS NOT EXCEEDING 8 INCHES OF UNCOMPACTED THICKNESS.
7. BACKFILL, UNLESS OTHERWISE SPECIFIED, COMPACT TO 90% RELATIVE COMPACTION. COMPACT THE UPPER 24 INCHES OF BACKFILL TO 95% RELATIVE COMPACTION UNDER SIDEWALKS OR ASPHALT AREA (TYP).
8. BOTTOM OF EXCAVATION SHALL BE 24" MINIMUM FROM BOTTOM OF STRUCTURE AND 5'-0" BELOW FINISH GRADE, WHICHEVER IS GREATER.



A **TYPICAL SECTION**
SCALE: NO SCALE



B **TYPICAL SECTION**
SCALE: NO SCALE

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARDO — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kregmir I. Antcorovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 11:44:59-08'00'

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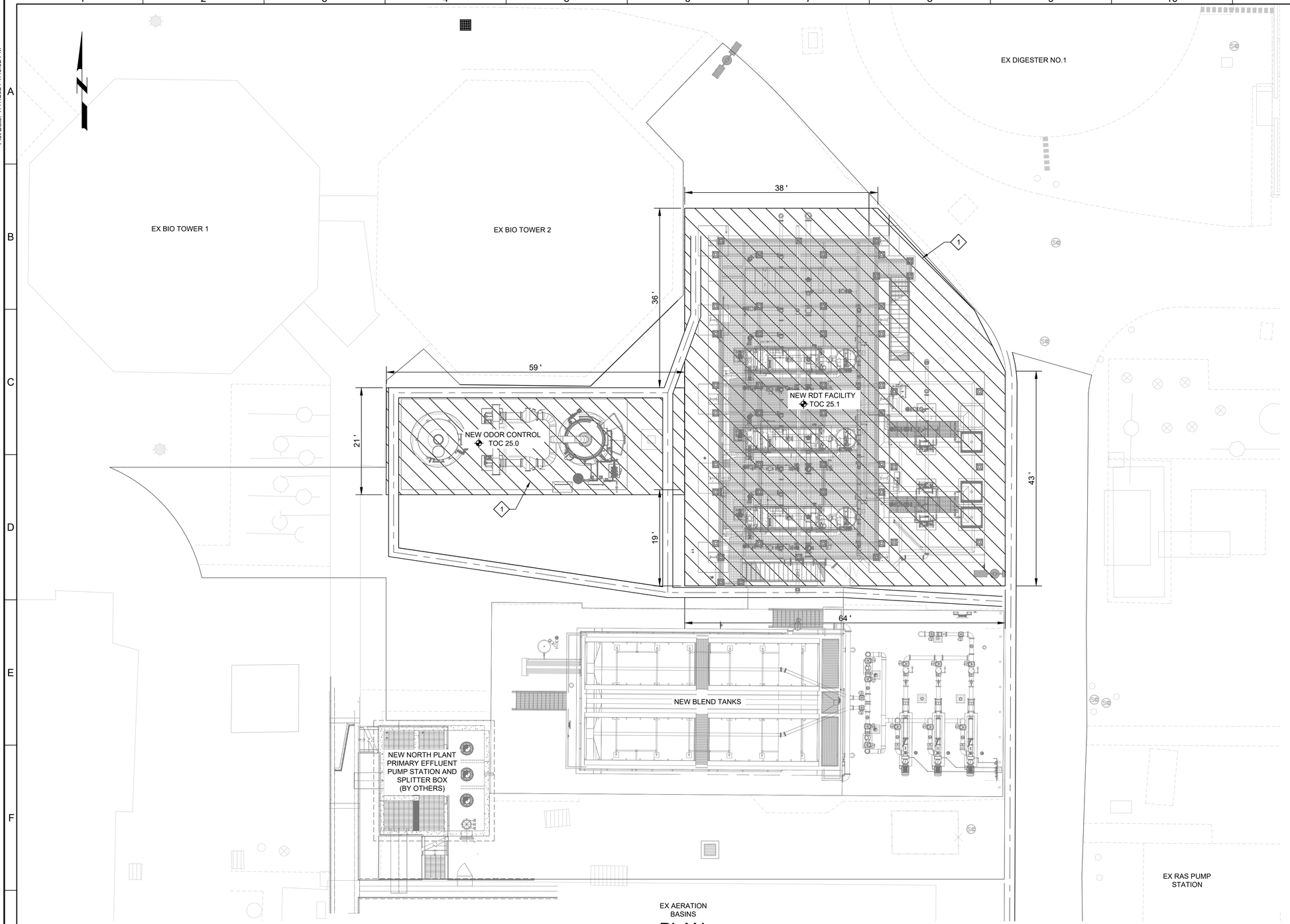
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
STRUCTURAL
SUBGRADE PREPARATION

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

JOB NO. 202645
DRAWING NO. 00GS002
SHEET NO. 41 OF 239

LAST SAVED BY: RWelch

PROJECT NO. 202645-100000 FILE NAME: 202645_00GS002.dwg



PLAN

FILE: 202645_00GS003

KEY NOTES:

1. SOIL MITIGATION AREA TO INCLUDE STONE COLUMN Ddensification PER SPECIFICATION SECTION 02251. LOCATION AND DENSITY OF COLUMNS PER SOIL MITIGATION ENGINEER.

LEGEND:

SOIL MITIGATION AREA

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

SCALE

0 5' 10' 20'

SCALE: 1" = 10'

REV	DATE	BY	DESCRIPTION

DESIGNED BG
DRAWN JJ
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR T. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 15:44:44-08'00'

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

STRUCTURAL

SOIL MITIGATION PLAN

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

JOB NO. 202645
DRAWING NO. 00GS003
SHEET NO. 42 OF 239

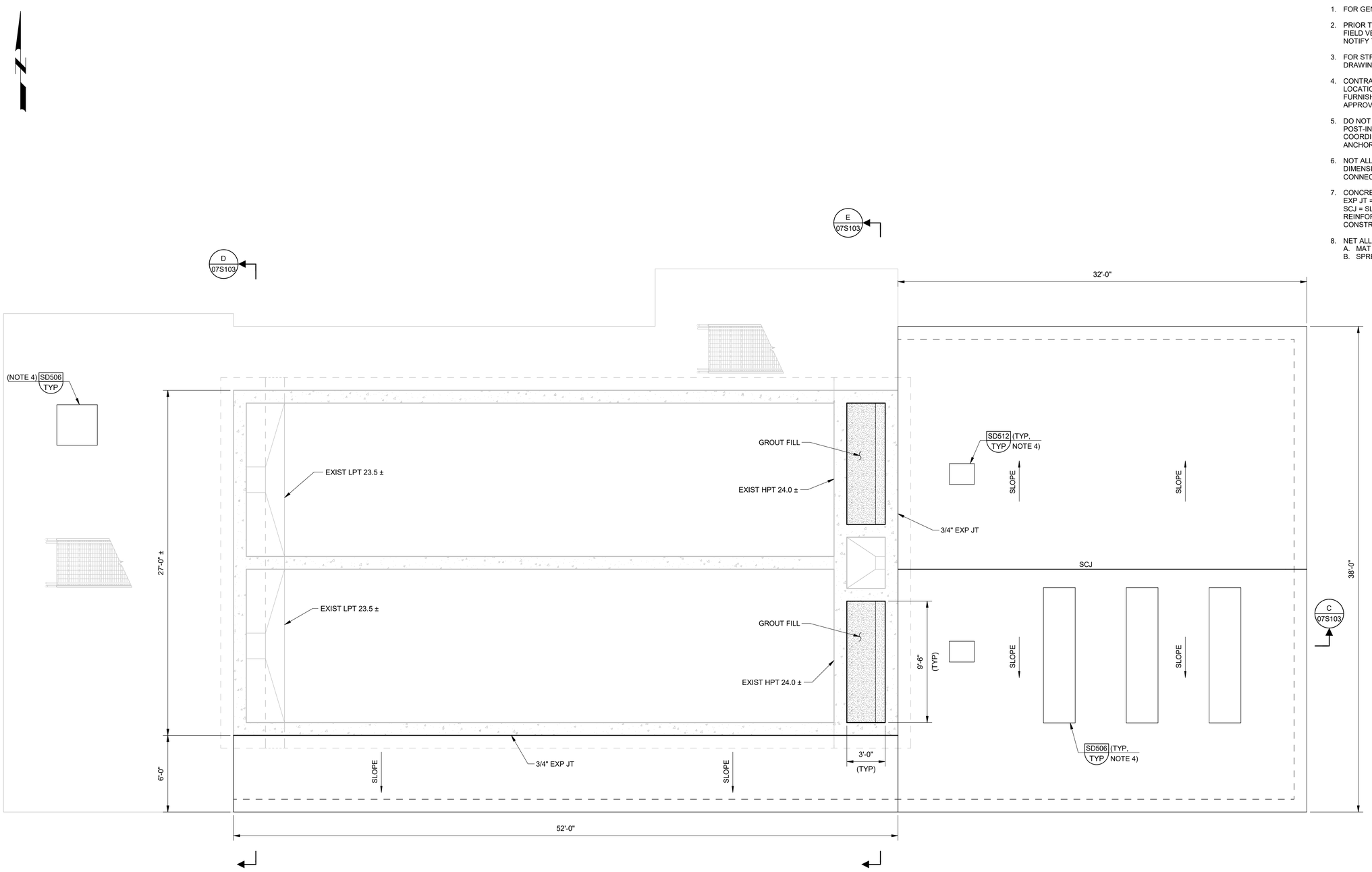
LAST SAVED BY: Jabla

Plot Date: 7/17/2024 1:45:52 PM

PROJECT NO. 202645-100000 FILE NAME: 202645_00GS003.dwg

GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. FOR STRUCTURAL TYPICAL SECTION SUBGRADE DETAILS, SEE DRAWING 00GS002.
4. CONTRACTOR SHALL COORDINATE FINAL DIMENSIONS AND LOCATIONS OF EQUIPMENT PADS TO SUIT EQUIPMENT FURNISHED AND SEISMIC ANCHORAGE SYSTEM OF THE APPROVED SHOP DRAWINGS.
5. DO NOT INTERRUPT REINFORCING BARS FOR INSTALLATION OF POST-INSTALLED ANCHORS/DOWELS. CONTRACTOR SHALL COORDINATE PLACEMENT OF REINFORCING BARS TO CLEAR ANCHOR/DOWEL LOCATIONS.
6. NOT ALL STRUCTURAL PENETRATIONS ARE SHOWN OR DIMENSIONED, COORDINATE ALL PENETRATIONS AND/OR CONNECTIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
7. CONCRETE JOINTS:
   EXP JT = EXPANSION JOINT, SEE SD302/TYP.
   SCJ = SLAB CONSTRUCTION JOINT, SEE SD102/TYP.
   REINFORCING BAR LAP SPLICING LOCATIONS SHALL CLEAR CONSTRUCTION JOINTS.
8. NET ALLOWABLE BEARING PRESSURES:
   A. MAT FOUNDATION: 1,000 PSF
   B. SPREAD FOOTING: 2,500 PSF



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

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR T. ANTUROVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Anticovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 13:48:10-08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

STRUCTURAL
SLUDGE BLEND TANKS
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. 202645
DRAWING NO. 07S101
SHEET NO. 43 OF 239

PLOT DATE: 1/28/2025 11:30:51 AM

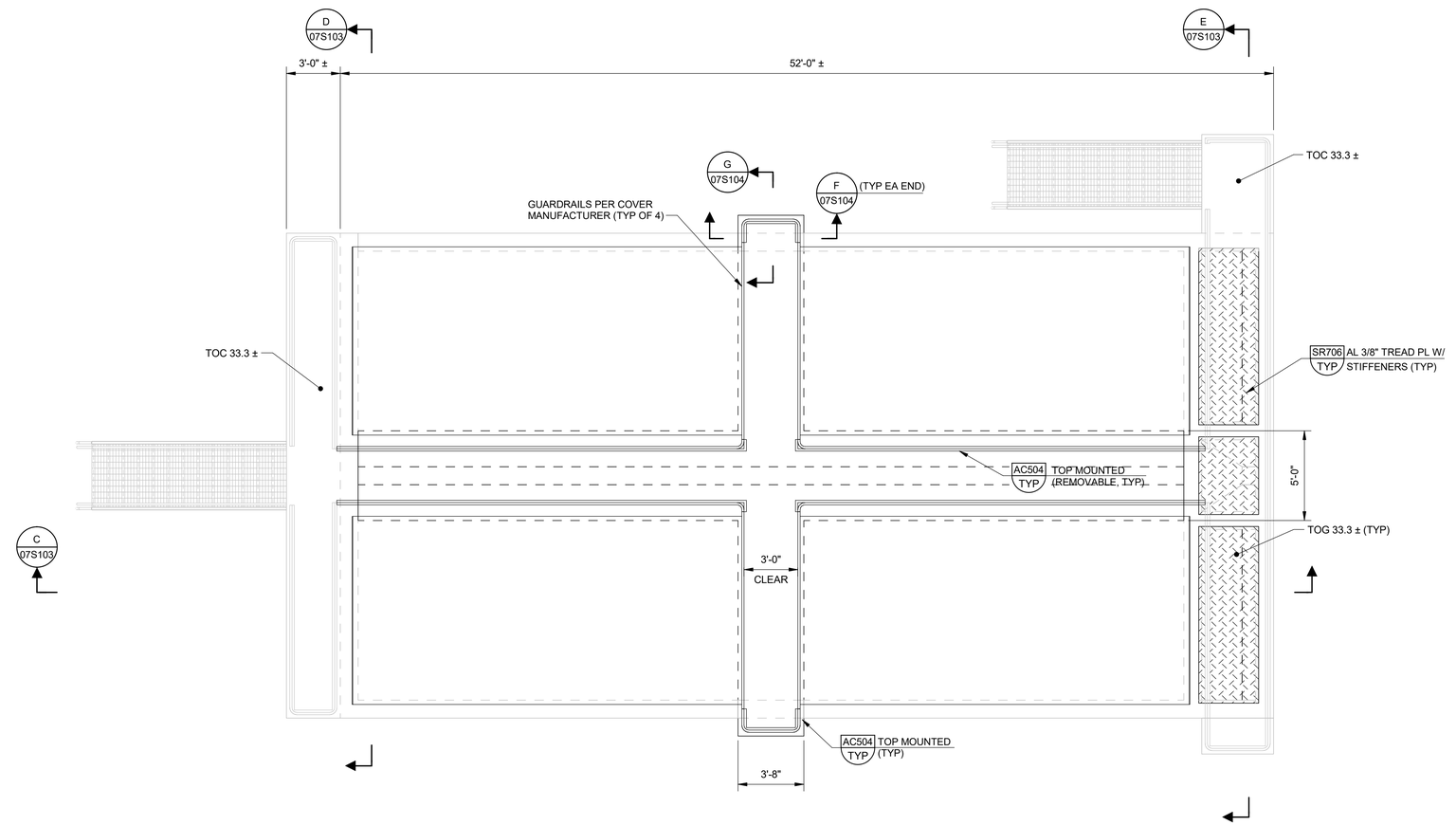
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GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. SANDBLAST EXISTING CONCRETE WHERE STAINING IS VISIBLE. RESURFACE CONCRETE TO MATCH EXISTING SURFACE.
4. NOT ALL STRUCTURAL PENETRATIONS ARE SHOWN OR DIMENSIONED, COORDINATE ALL PENETRATIONS AND/OR CONNECTIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
5. DESIGN FLOOR LIVE LOAD: 100 PSF

KEY NOTES:

1. PRE-ENGINEERED, PREFABRICATED COVER. DEFERRED DESIGN PER SECTIONS 13236, ARCH SUPPORTED FABRIC COVERS AND 01850 DESIGN CRITERIA.



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

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR T. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, PC
Date: 2025.01.28 14:47:54-08'00'

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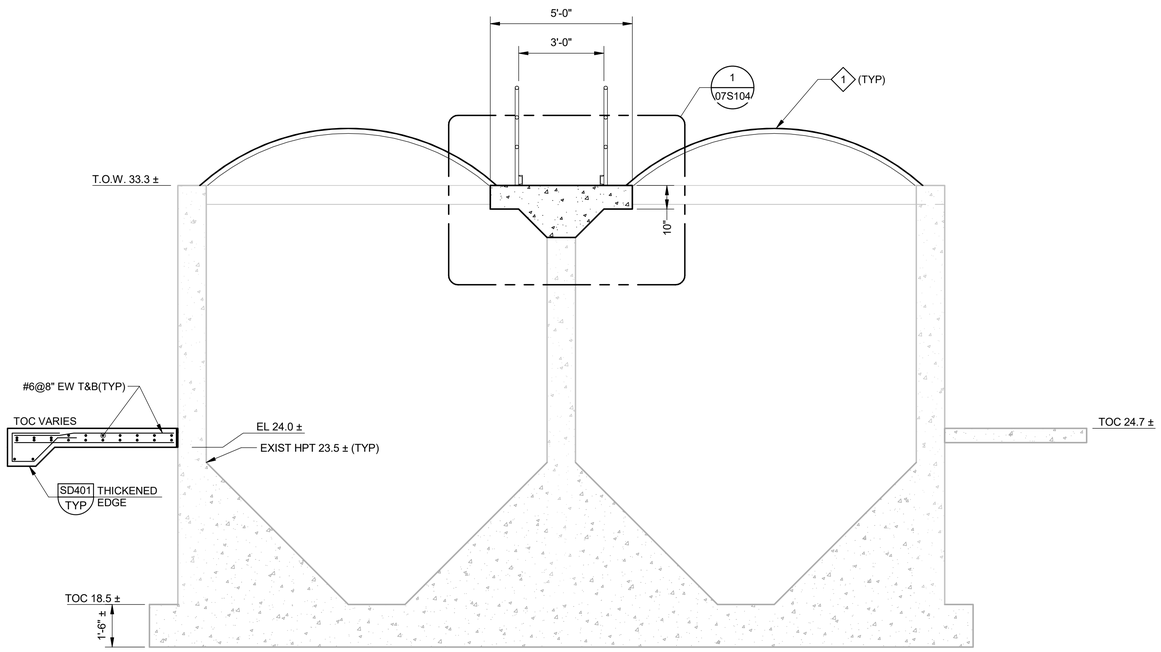
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
STRUCTURAL
SLUDGE BLEND TANKS
TOP PLAN

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

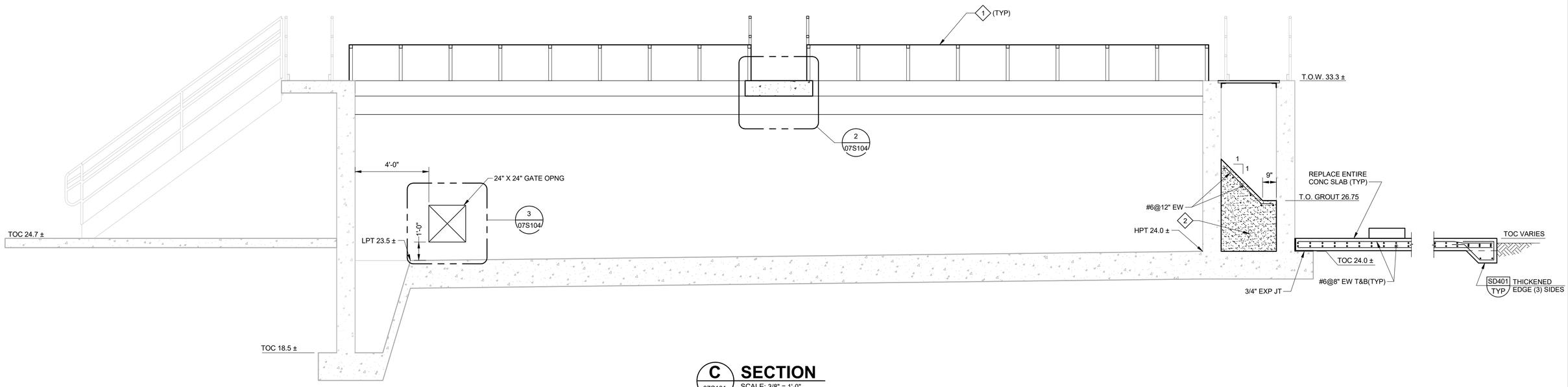
JOB NO. 202645
DRAWING NO. 07S102
SHEET NO. 44 OF 239

PLOT DATE: 1/28/2025 11:30:52 AM

FILE NAME: R:\d0298996\202645_00S0900.rvt



D SECTION
07S101
SCALE: 3/8" = 1'-0"



C SECTION
07S101
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. NOT ALL STRUCTURAL PENETRATIONS ARE SHOWN OR DIMENSIONED, COORDINATE ALL PENETRATIONS AND/OR CONNECTIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS.

KEY NOTES:

1. PRE-ENGINEERED, PREFABRICATED COVER. DEFERRED DESIGN PER SECTIONS 13236, ARCH SUPPORTED FABRIC COVERS AND 01850 DESIGN CRITERIA.
2. NON-SHRINK GROUT OR CLASS "A" CONCRETE. POUR IN LAYERS NO DEEPER THAN 24".

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 11:45:25-08'00'

carollo

my Manteca CITY OF MANTECA, CALIFORNIA Manteca the family city INCORPORATED MAY 25, 1918

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

STRUCTURAL
SLUDGE BLEND TANKS
SECTIONS

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

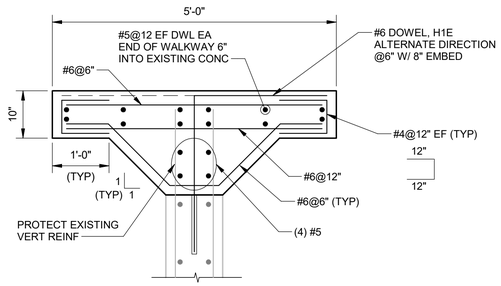
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DRAWING NO. 07S103
SHEET NO. 45 OF 239

PLOT DATE: 1/28/2025 11:30:54 AM

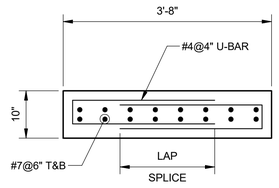
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GENERAL NOTES:

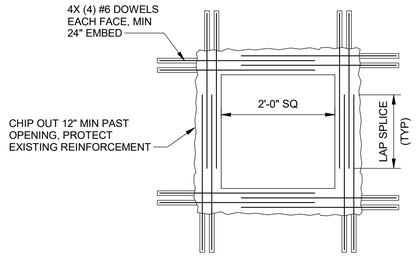
1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. NOT ALL STRUCTURAL PENETRATIONS ARE SHOWN OR DIMENSIONED, COORDINATE ALL PENETRATIONS AND/OR CONNECTIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS.



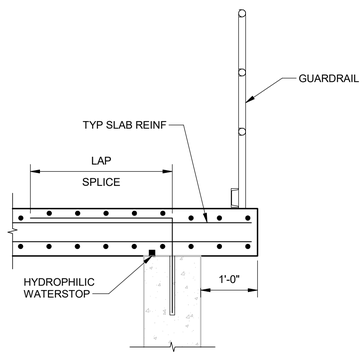
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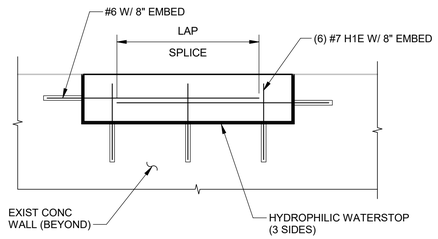
2 DETAIL (07S103) SCALE: 3/4" = 1'-0"



3 DETAIL (07S103) SCALE: 3/4" = 1'-0"



G SECTION (07S102) SCALE: 3/4" = 1'-0"



F SECTION (07S102) SCALE: 3/4" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 11:47:42-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

STRUCTURAL

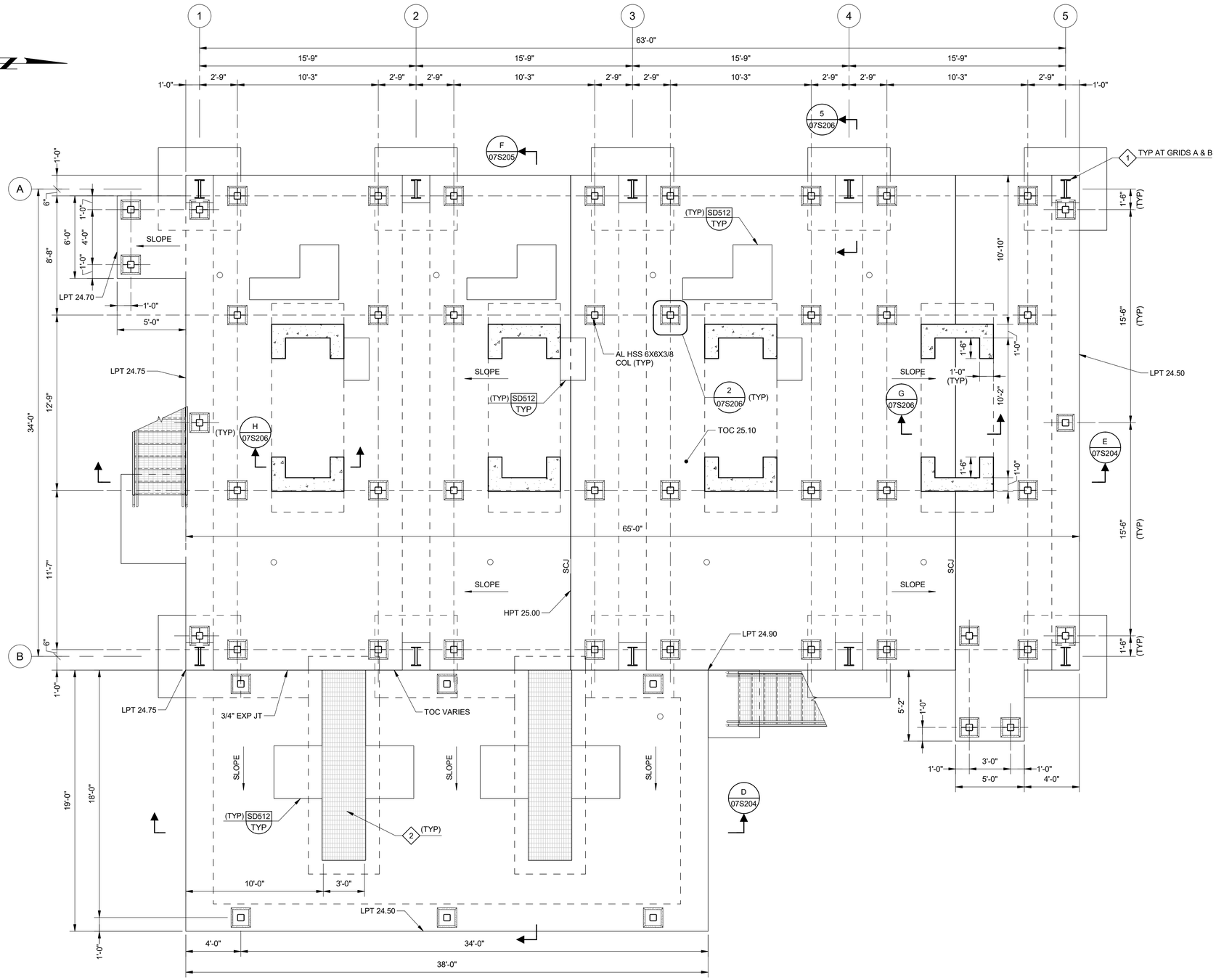
SLUDGE BLEND TANKS
SECTIONS AND DETAILS

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

JOB NO. 202645
DRAWING NO. 07S104
SHEET NO. 46 OF 239

PLOT DATE: 1/28/2025 11:30:54 AM

FILE NAME: R:\d0298996\202645_00S0900.rvt



A **PLAN**
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. FOR STRUCTURAL TYPICAL SECTIONS SUBGRADE DETAILS, SEE DRAWING 00GS002.
3. SEPARATE DISSIMILAR METALS PER SPECIFICATION 05120.
4. COAT ALUMINUM IN CONTACT WITH CONCRETE PER SPECIFICATION 09960.
5. NOT ALL PENETRATIONS ARE SHOWN OR DIMENSIONED. COORDINATE ALL PENETRATIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
6. DO NOT INTERRUPT REINFORCING BARS FOR INSTALLATION OF POST-INSTALLED ANCHORS/ DOWELS. CONTRACTOR SHALL COORDINATE PLACEMENT OF REINFORCING BARS TO CLEAR ANCHOR/ DOWEL LOCATIONS.
7. CONCRETE JOINTS:
   EXP JT = EXPANSION JOINT, SEE SD302/TYP.
   SCJ = SLAB CONSTRUCTION JOINT, SEE SD102/TYP.
   REINFORCING BAR LAP SPLICING LOCATIONS SHALL CLEAR CONSTRUCTION JOINTS.
8. NET ALLOWABLE SOIL BEARING PRESSURE: 1500 PSF.
9. CONTRACTOR SHALL COORDINATE FINAL DIMENSIONS AND LOCATIONS OF EQUIPMENT PADS TO SUIT EQUIPMENT FURNISHED AND SEISMIC ANCHORAGE SYSTEM OF THE APPROVED SHOP DRAWINGS. EQUIPMENT PADS PER SD512/TYP UNLESS NOTED OTHERWISE.
10. DO NOT INTERRUPT REINFORCING BARS FOR INSTALLATION OF POST-INSTALLED ANCHORS/DOWELS. CONTRACTOR SHALL COORDINATE PLACEMENT OF REINFORCING BARS TO CLEAR ANCHOR/DOWEL LOCATIONS.
11. NOT ALL STRUCTURAL PENETRATIONS ARE SHOWN OR DIMENSIONED, COORDINATE ALL PENETRATIONS AND/OR CONNECTIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
12. FLOOR LIVE LOAD: 250 PSF.

KEY NOTES:

1. COLUMNS AND BASE PLATES OF PRE-ENGINEERED, PRE-FABRICATED CANOPY. DEFERRED DESIGN PER SECTIONS 13122, CANOPY BUILDING SYSTEMS AND 01850 DESIGN CRITERIA.
2. 1-1/2" ALUMINUM GRATING PER DETAIL SR602/TYP. LIVE LOAD = 250 PSF.

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR T. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 11:41:35-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

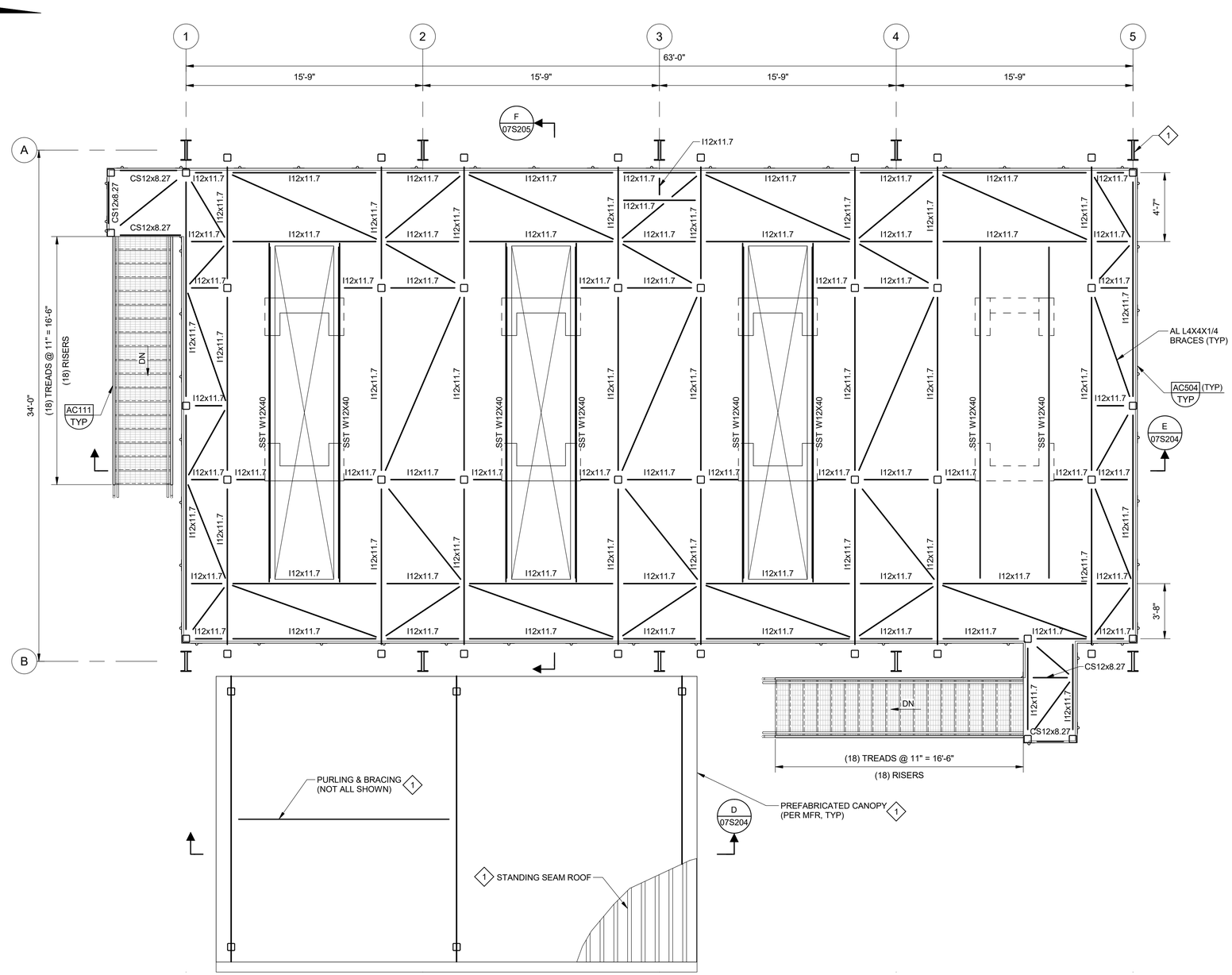
STRUCTURAL
RDT FACILITY
LOWER PLAN

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

JOB NO. 202645
DRAWING NO. 07S201
SHEET NO. 47 OF 239

PLOT DATE: 1/28/2025 12:28:55 PM

FILE NAME: R:\d0298996\202645_00S0800.rvt



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

GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. ALL STAINLESS STEEL SHALL BE TYPE 304 (316L FOR WELDED MEMBERS).
3. SEPARATE DISSIMILAR METALS PER SPECIFICATION 05120.
4. COAT ALUMINUM IN CONTACT WITH CONCRETE PER SPECIFICATION 09960.
5. NOT ALL PENETRATIONS ARE SHOWN OR DIMENSIONED. COORDINATE ALL PENETRATIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
6. DO NOT INTERRUPT REINFORCING BARS FOR INSTALLATION OF POST-INSTALLED ANCHOR/ DOWELS. CONTRACTOR SHALL COORDINATE PLACEMENT OF REINFORCING BARS TO CLEAR ANCHOR/ DOWEL LOCATIONS.
7. MEZZANINE:
   SEISMIC FORCE-RESISTING SYSTEMS: CONCRETE SHEAR WALLS, ALUMINUM CANTILEVERED COLUMN.
   RESPONSE MODIFICATION FACTOR R = 3-1/2.
   STRUCTURE RISK CATEGORY: III.
   IMPORTANCE FACTOR: Ie = 1.25.

◇ KEY NOTES:

1. PRE-ENGINEERED, PRE-FABRICATED CANOPY. DEFERRED DESIGN PER SECTIONS 13122. CANOPY BUILDING SYSTEMS AND 01850 DESIGN CRITERIA.

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR T. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 15:01:34-08'00'

carollo

Manteca CITY OF MANTECA, CALIFORNIA the family city INCORPORATED MAR 25, 1918

CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
STRUCTURAL
RDT FACILITY
INTERMEDIATE PLAN

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

JOB NO. 202645
DRAWING NO. 07S202
SHEET NO. 48 OF 239

PLOT DATE: 1/28/2025 12:28:58 PM

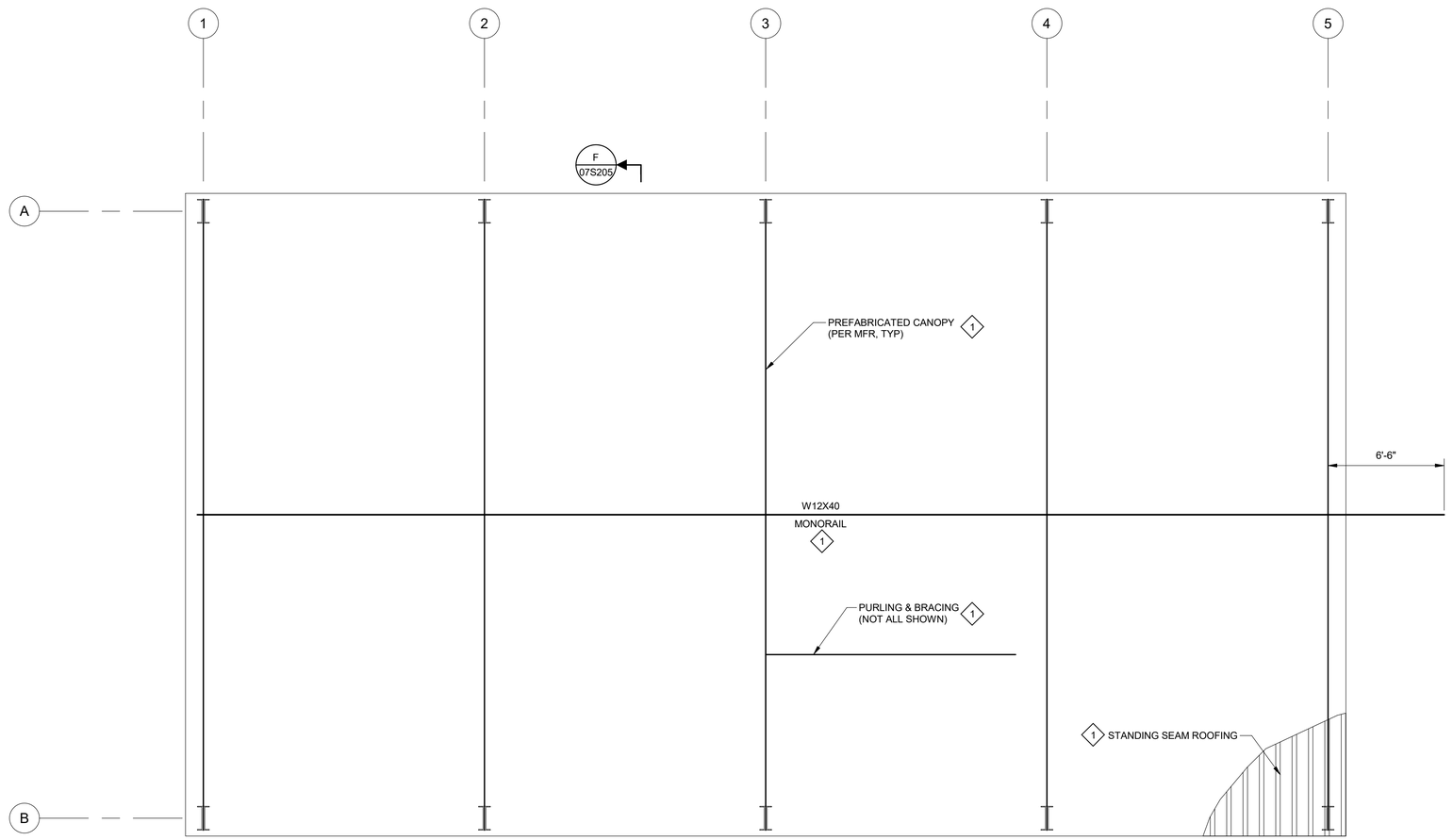
FILE NAME: R:\d0298996\202645_00S0800.rvt

GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. CONTRACTOR SHALL FIELD VERIFY THE FINAL ELEVATION.
3. MONORAIL CAPACITY = 1 TON (2,000 LBS). CRANE MANUFACTURER SHALL PROVIDE CALCULATIONS SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA. CALCULATIONS SHALL INCLUDE ALL CONNECTION DESIGNS INCLUDING RUNWAY BEAM, RUNWAY BEAM TO AL I12X14.3 CONNECTION, MONORAIL, ETC. MONORAIL RUNWAY BEAM AND ATTACHMENT TO EQUIPMENT PLATFORM BEAM SHALL BE PROVIDED BY MONORAIL MFR PER SPECIFICATION 41_22_24. DRAWINGS, AND CRANE MANUFACTURER SHALL FOLLOW THE FOLLOW CRITERIA FOR MONORAIL.
   - A. STRUCTURAL NOTES PER DRAWING 00GS001.
   - B. 2022 CBC.
   - C. CRANE MANUFACTURERS ASSOCIATION OF AMERICA, INC (CMAA).
   - D. LOADS:
     - i. VERTICAL = 1.1x MAXIMUM WHEEL LOAD.
     - ii. HORIZONTAL PERPENDICULAR + BEAM = 0.2x TOTAL LOAD.
     - iii. HORIZONTAL PARALLEL + BEAM (LONGITUDINAL) = 0.1x TOTAL LOAD.
   - E. DEFLECTION LIMIT = L/600.

KEY NOTES:

1. PRE-ENGINEERED, PRE-FABRICATED CANOPY. DEFERRED DESIGN PER SECTIONS 13122. CANOPY BUILDING SYSTEMS AND 01850 DESIGN CRITERIA.



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

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR T. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 14:01:12-08'00'

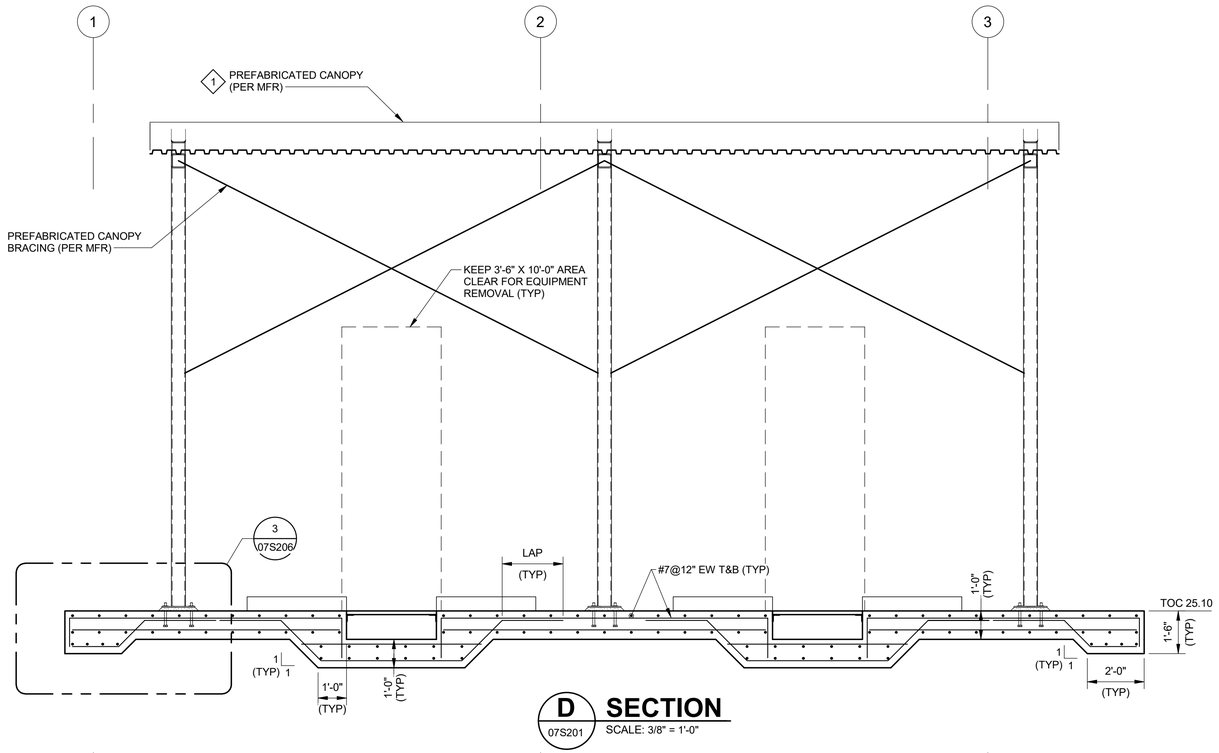
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
STRUCTURAL
RDT FACILITY
MONORAIL PLAN

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

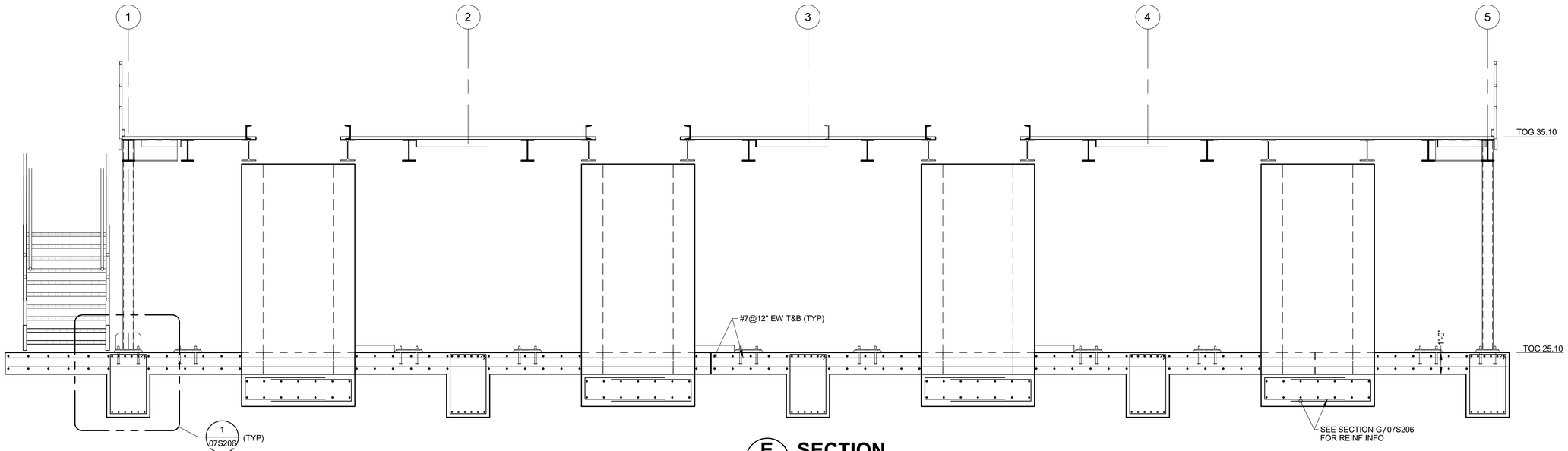
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DRAWING NO. 07S203
SHEET NO. 49 OF 239

PLOT DATE: 1/28/2025 12:28:59 PM

FILE NAME: R:\d0298996\202645_00S0800.rvt



D SECTION
07S201 SCALE: 3/8" = 1'-0"



E SECTION
07S201 SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. NOT ALL PENETRATIONS ARE SHOWN OR DIMENSIONED. COORDINATE ALL PENETRATIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
3. FOR STRUCTURAL TYPICAL SECTIONS SUBGRADE DETAILS, SEE DRAWING 00GS002.
4. ALL STAINLESS STEEL SHALL BE TYPE 304 (304L FOR WELDED MEMBERS).
5. SEPARATE DISSIMILAR METALS PER SPECIFICATION 05120.
6. COAT ALUMINUM IN CONTACT WITH CONCRETE PER SPECIFICATION 09960.
7. CONTRACTOR SHALL COORDINATE FINAL DIMENSIONS AND LOCATIONS OF EQUIPMENT PADS TO SUIT EQUIPMENT FURNISHED AND SEISMIC ANCHORAGE SYSTEM OF THE APPROVED SHOP DRAWINGS. EQUIPMENT PADS PER SD512/TYP UNLESS NOTED OTHERWISE.

KEY NOTES:

1. PRE-ENGINEERED, PRE-FABRICATED CANOPY. DEFERRED DESIGN PER SECTIONS 13122, CANOPY BUILDING SYSTEMS AND 01850 DESIGN CRITERIA.

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, pc
Date: 2025.01.28 14:50:59-08'00'

carollo

CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
STRUCTURAL
RDT FACILITY
SECTIONS 1

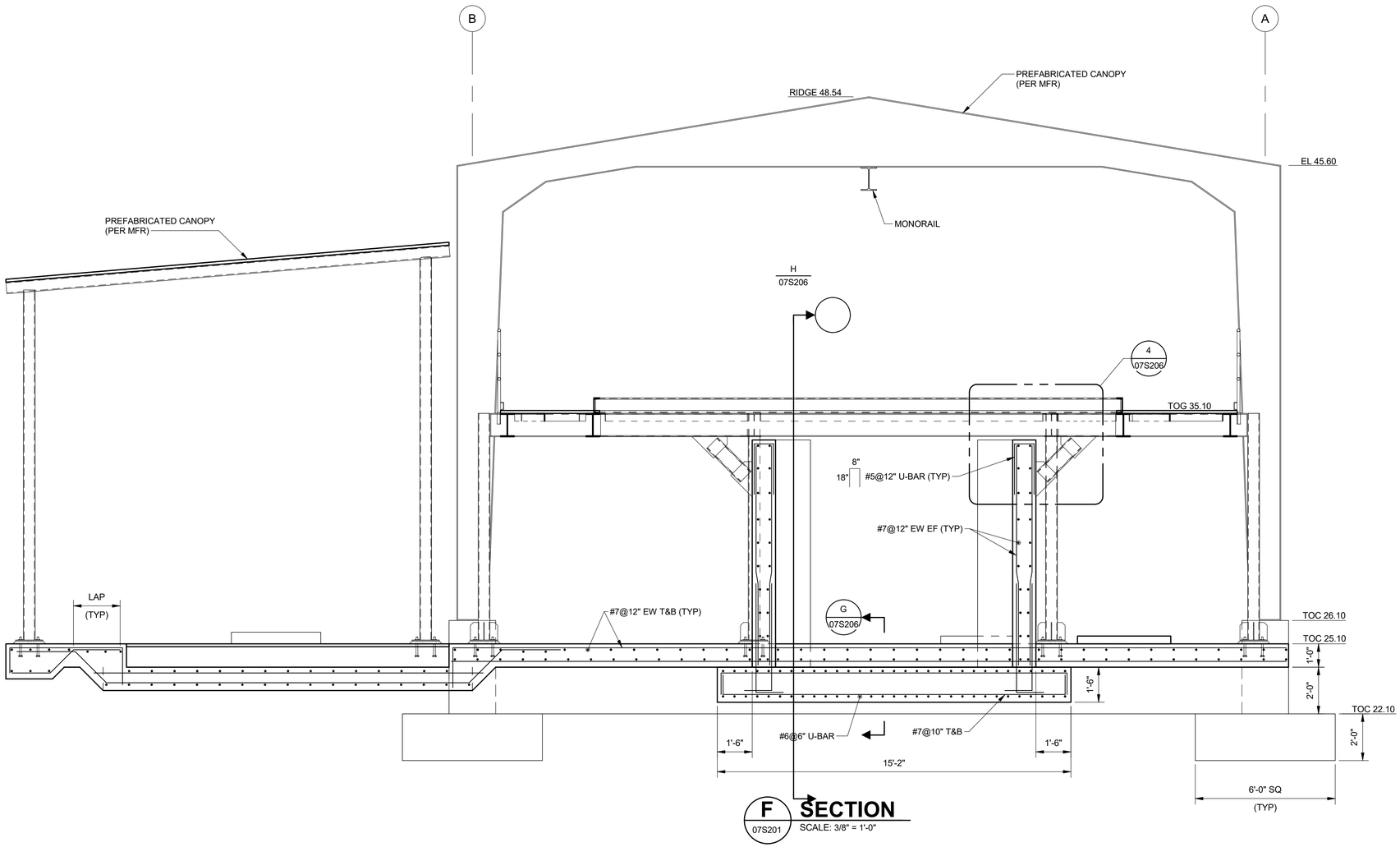
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202645
DRAWING NO. 07S204
SHEET NO. 50 OF 239

PLOT DATE: 1/28/2025 12:29:01 PM
FILE NAME: R:\d0298996\202645_00S0800.rvt

GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. NOT ALL PENETRATIONS ARE SHOWN OR DIMENSIONED. COORDINATE ALL PENETRATIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
3. CANOPY DESIGN CRITERIA PER SPECIFICATION XX.



F SECTION
07S201
SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR T. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 14:50:41-08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

STRUCTURAL
RDT FACILITY
SECTIONS 2

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

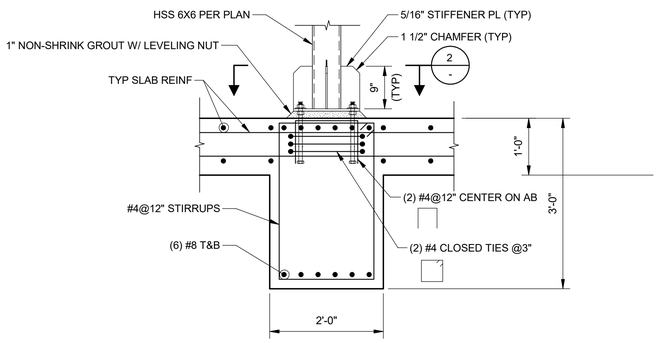
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SHEET NO. 51 OF 239

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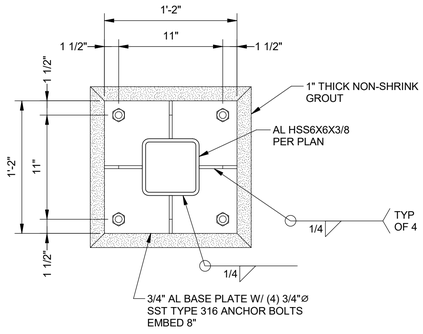
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GENERAL NOTES:

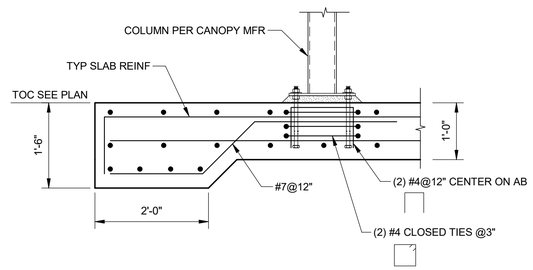
1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. NOT ALL PENETRATIONS ARE SHOWN OR DIMENSIONED. COORDINATE ALL PENETRATIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS.



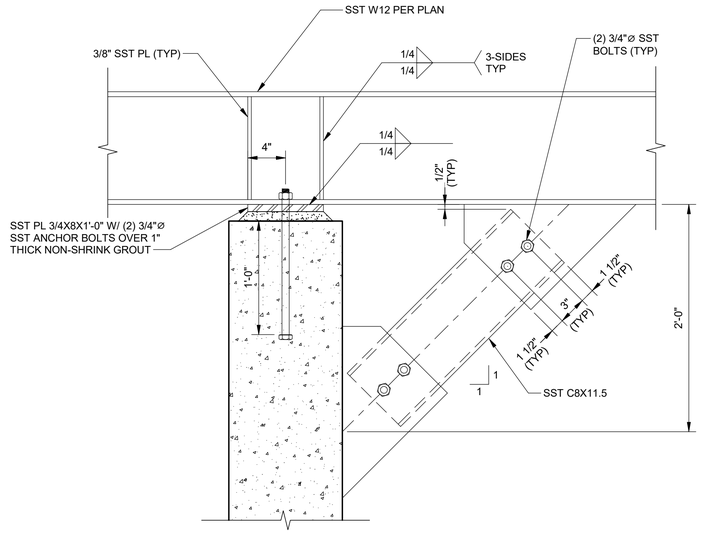
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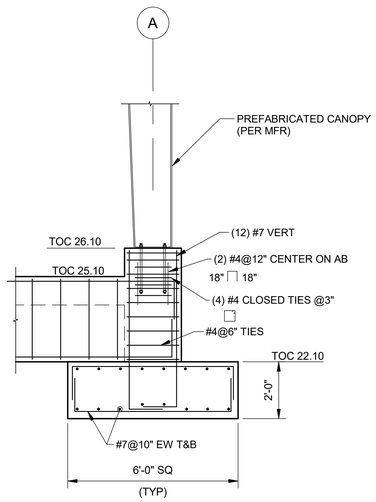
2 DETAIL (07S201) SCALE: 1 1/2" = 1'-0"



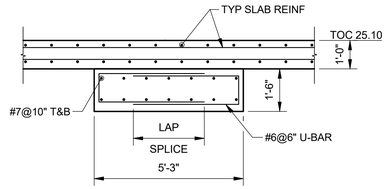
3 DETAIL (07S204) SCALE: 3/4" = 1'-0"



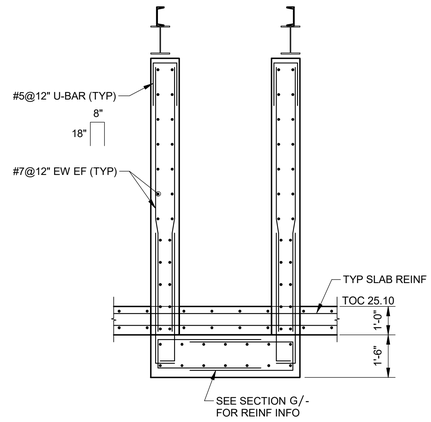
4 DETAIL (07S205) SCALE: 1 1/2" = 1'-0"



5 DETAIL (07S201) SCALE: 3/8" = 1'-0"



G SECTION (07S201) SCALE: 3/8" = 1'-0"



H SECTION (07S201) SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR T. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 14:40:25-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

STRUCTURAL
RDT FACILITY DETAILS

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

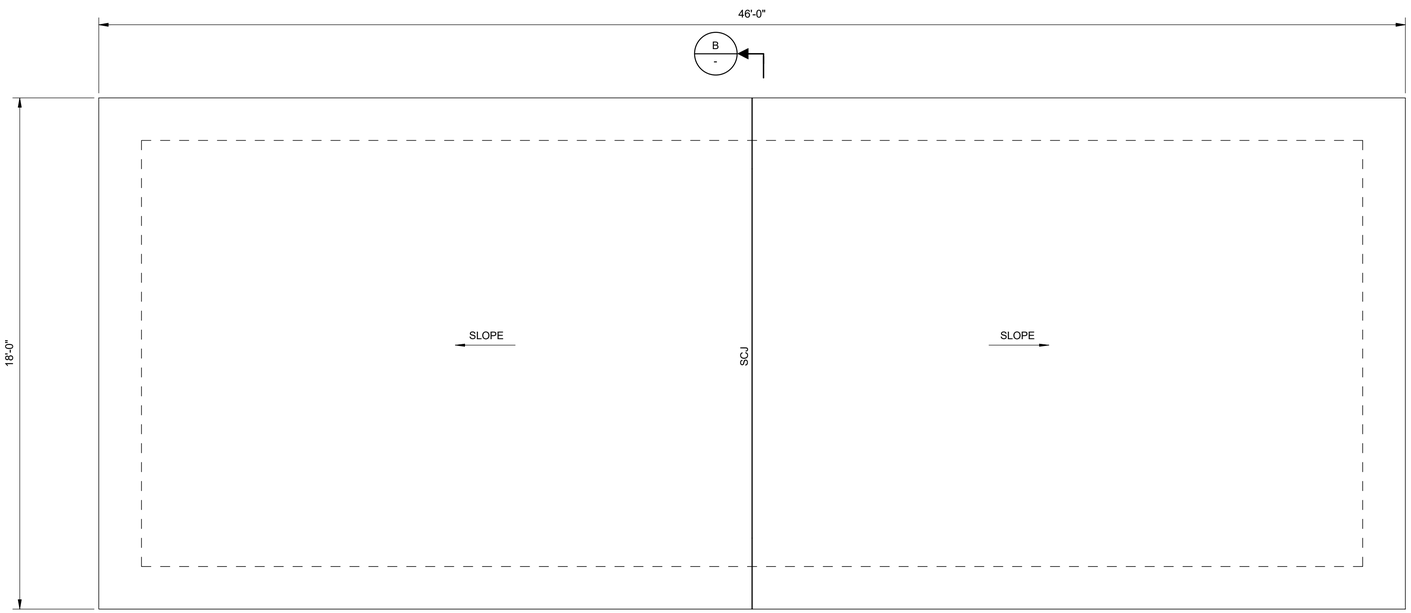
JOB NO. 202645
DRAWING NO. 07S206
SHEET NO. 52 OF 239

PLOT DATE: 1/28/2025 12:29:04 PM

FILE NAME: R:\d0298996\202645_00S0800.rvt

GENERAL NOTES:

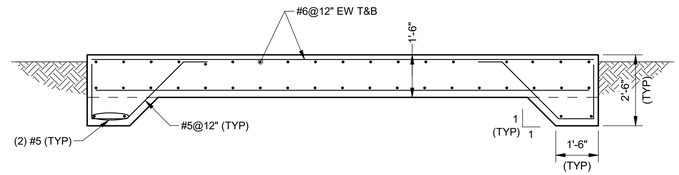
1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. FOR STRUCTURAL TYPICAL SECTION SUBGRADE DETAILS, SEE DRAWING 00GS002.
3. CONTRACTOR SHALL COORDINATE FINAL DIMENSIONS AND LOCATIONS OF EQUIPMENT PADS TO SUIT EQUIPMENT FURNISHED AND SEISMIC ANCHORAGE SYSTEM OF THE APPROVED SHOP DRAWINGS.
4. DO NOT INTERRUPT REINFORCING BARS FOR INSTALLATION OF POST-INSTALLED ANCHORS/DOWELS. CONTRACTOR SHALL COORDINATE PLACEMENT OF REINFORCING BARS TO CLEAR ANCHOR/DOWEL LOCATIONS.
5. NOT ALL STRUCTURAL PENETRATIONS ARE SHOWN OR DIMENSIONED, COORDINATE ALL PENETRATIONS AND/OR CONNECTIONS WITH MECHANICAL AND ELECTRICAL DRAWINGS.
6. CONCRETE JOINTS:
   EXP JT = EXPANSION JOINT, SEE SD302/TYP.
   SCJ = SLAB CONSTRUCTION JOINT, SEE SD102/TYP.
   REINFORCING BAR LAP SPLICING LOCATIONS SHALL CLEAR CONSTRUCTION JOINTS.
7. NET ALLOWABLE SOIL BEARING PRESSURE: 1500 PSF



FOUNDATION PLAN

A PLAN

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



B - SECTION

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

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, pc
Date: 2025.01.28 14:58:51 -08'00'

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

STRUCTURAL

THICKENING ODOR CONTROL FACILITY
PLAN AND SECTION

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

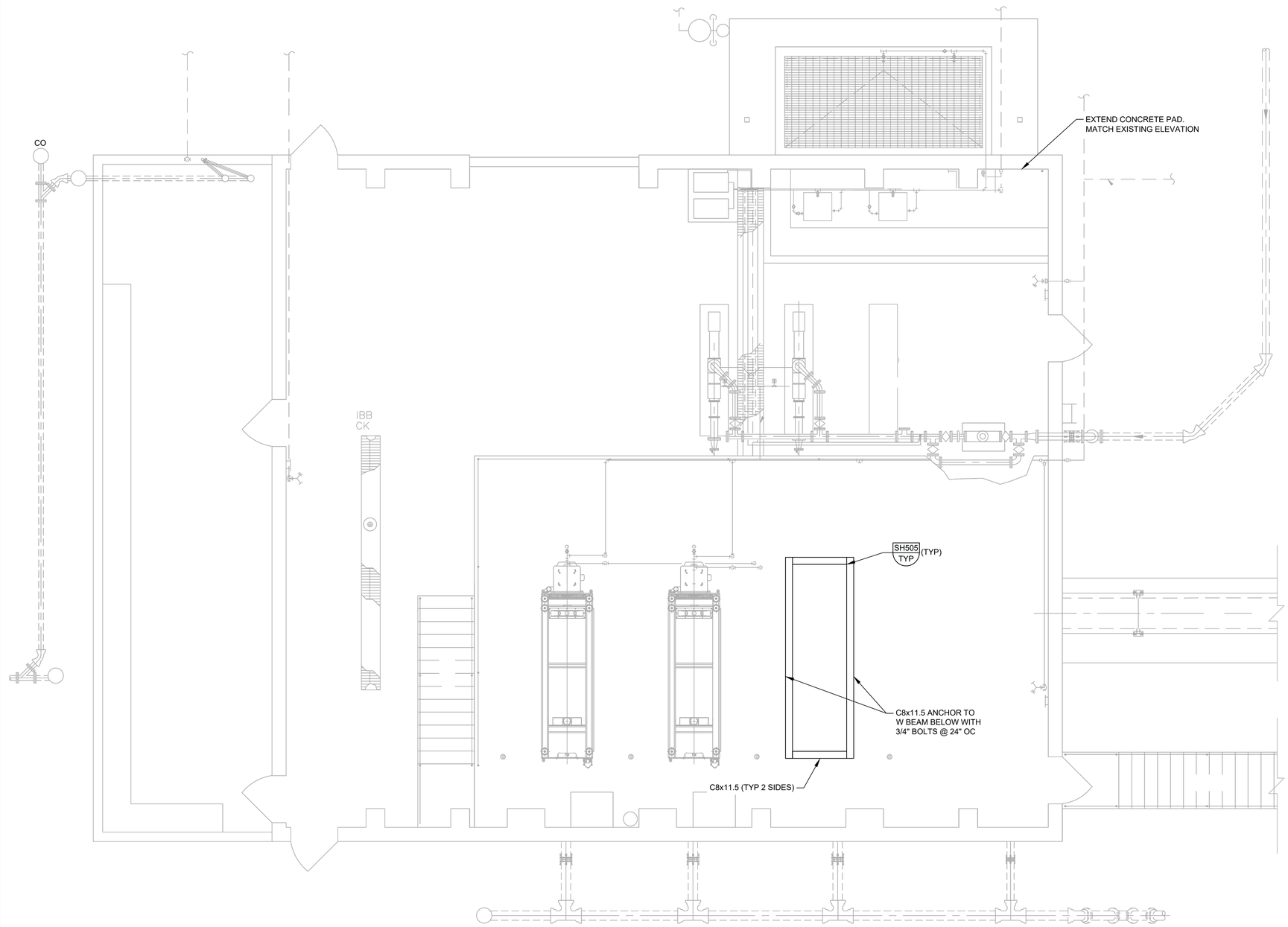
JOB NO. 202645
DRAWING NO. 07S301
SHEET NO. 53 OF 239

PLOT DATE: 1/28/2025 11:34:35 AM

FILE NAME: R:\d0298996\202645_00S0801.rvt

GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.



A PLAN
SCALE: 1/4"=1'-0"
FILE: 202645_07S401

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN GL
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER
KRESIMIR I. ANTUNOVICH
No. 87904
CIVIL
STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, pc
Date: 2025.01.28 15:44:18-08'00'

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

STRUCTURAL

DEWATERING FACILITY
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. 202645
DRAWING NO. 07S401
SHEET NO. 54 OF 239

LAST SAVED BY: RVelch

PROJECT NO. 202645-100000 FILE NAME: 202645_07S401.dwg

GENERAL NOTES:

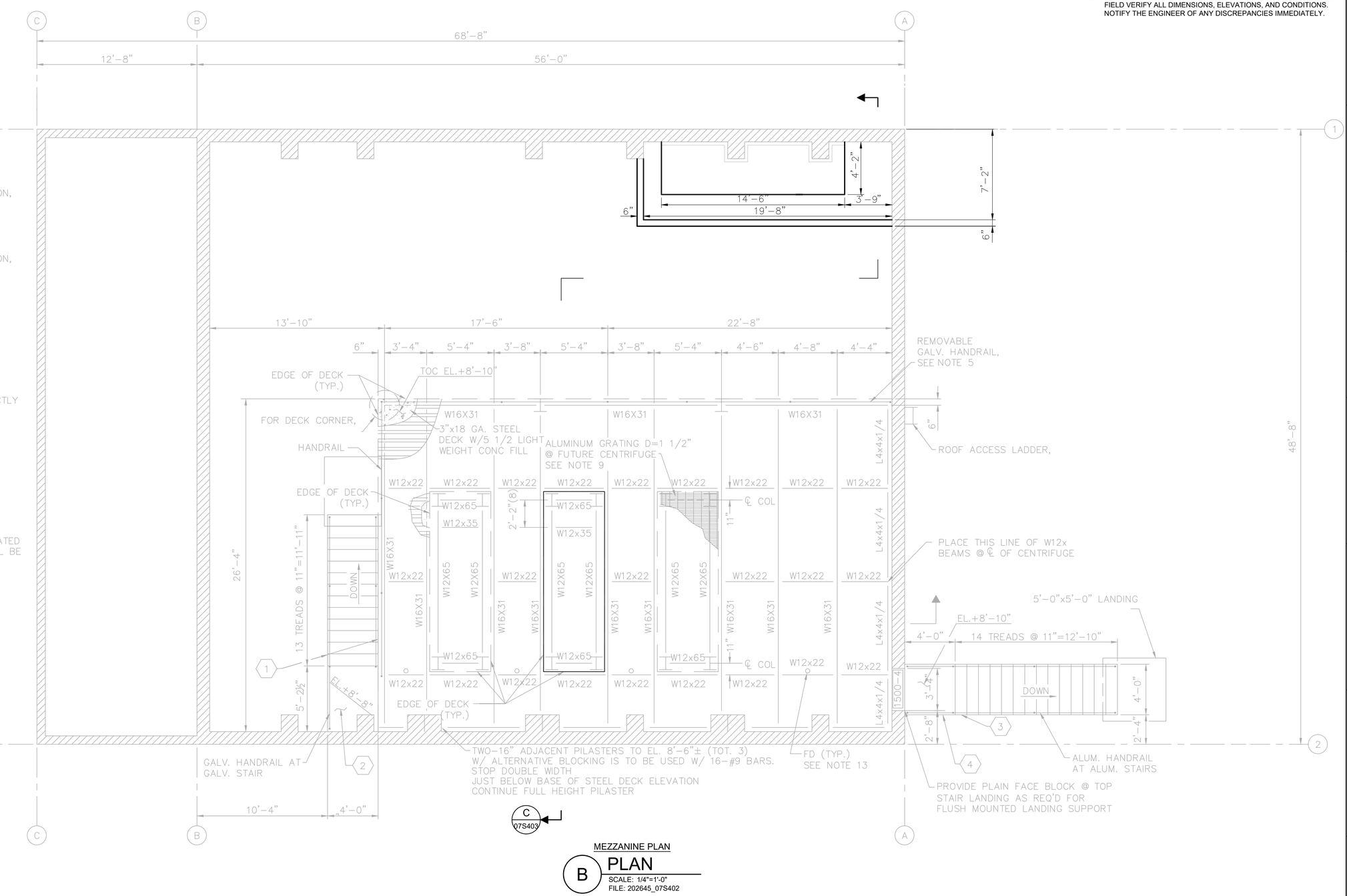
1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

NOTES:

1. FOR W16x TO WALL CONNECTION,
2. FOR W12x TO W16x BEAM TO BEAM CONNECTION,
3. FOR W12x TO WALL CONNECTION
4. FOR W12x TO W12x BEAM TO BEAM CONNECTION,
5. FOR HANDRAIL TO BEAM CONNECTION
6. FOR CENTRIFUGE SUPPORTING MOMENT FRAME CONNECTION
7. FOR W16x BEAM TO COLUMN CONNECTION
8. VERIFY DIMENSION WITH CENTRIFUGE MANUFACTURER. BEAM SHALL BE PLACE DIRECTLY UNDER CENTRIFUGE BEARING PADS.
9. FOR GRATING SEAT AT FUTURE CENTRIFUGE TYP @ 4 SIDES OF OPENING.
10. ALL STRUCTURAL STEEL COLUMNS AND BEAMS SUPPORTING THE MEZZANINE AND CENTRIFUGE EQUIPMENT SHALL BE GALVANIZED(G90 OR BETTER).
11. ALL BOLTS CONNECTING THE MEZZANINE AND CENTRIFUGE SUPPORT COLUMNS AND BEAMS SHALL BE GALV.. IN ADDITION BOLTS ASSOCIATED WITH THE CENTRIFUGE SUPPORT SYSTEM SHALL BE ASTM A325.
12. ALL A.B. FOR THE MEZZANINE AND CENTRIFUGE SUPPORT COLUMNS AND BEAMS SHALL BE ASTM 316 SST.
13. SLOPE MEZZANINE TO DRAIN TO NEAREST FLOOR DRAIN AT ALL LOCATIONS. MAINTAIN 5 1/2" THICKNESS @ DECK EDGE REDUCE DECK THICKNESS TO 4 1/2" AT FLOOR DRAINS.
14. 1500-X FOR DOOR AND HARDWARE SCHEDULE.
15. FOR CENTRIFUGE MOUNTING

STAIR NOTES:

1. TYPE III GALV. STAIR STRINGER
2. SINGLE STAIR LANDING
3. TYPE III ALUM. STAIR STRINGER



MEZZANINE PLAN

B PLAN

SCALE: 1/4"=1'-0"
FILE: 202645_07S402

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 14:02:41-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

STRUCTURAL

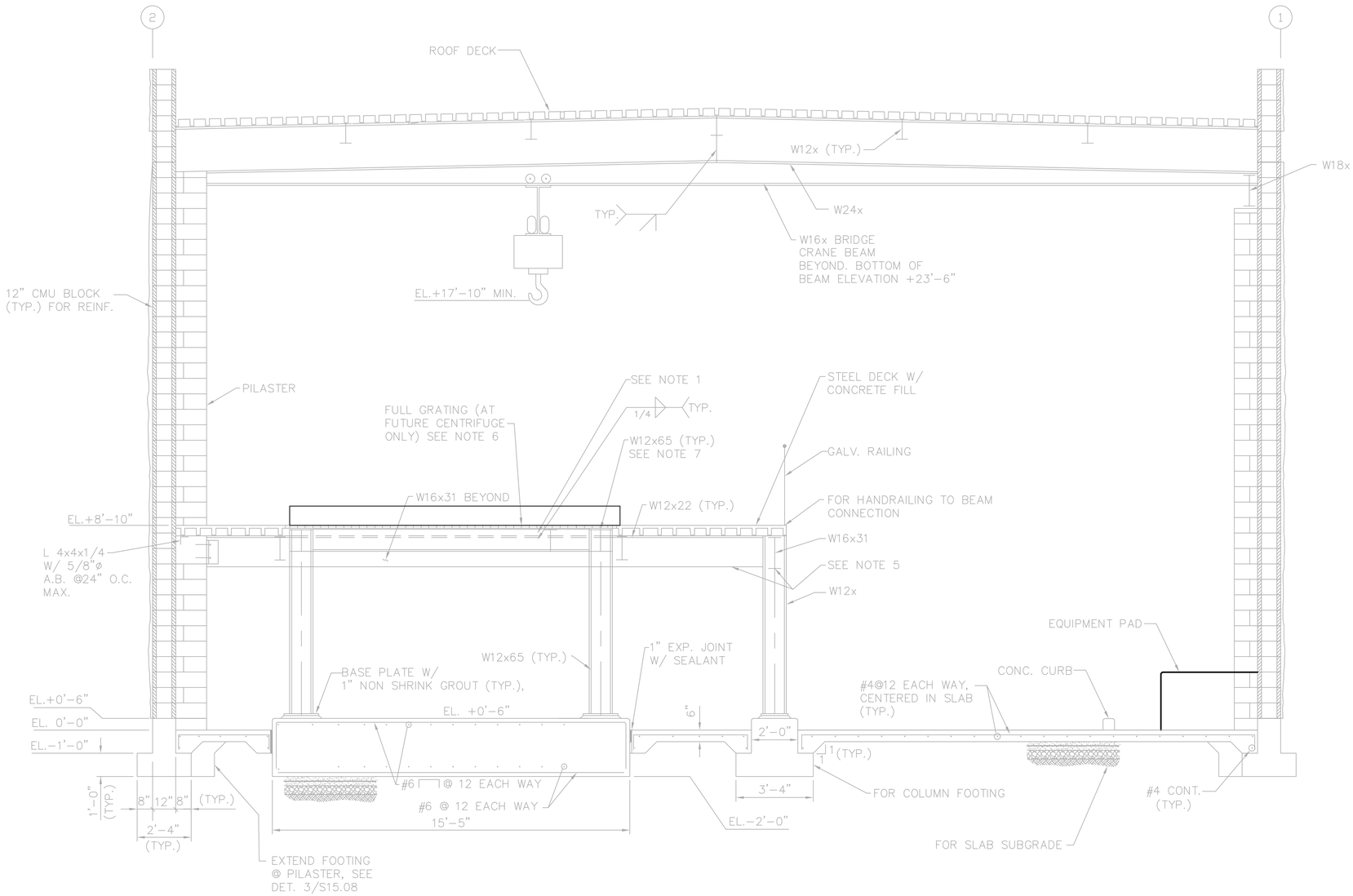
DEWATERING FACILITY MEZZANINE PLAN

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

JOB NO. 202645
DRAWING NO. 07S402
SHEET NO. 55 OF 239

LAST SAVED BY: RWelch

PROJECT NO. 202645-100000 FILE NAME: 202645_07S402.dwg



GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.

NOTES:

1. PROVIDE 1/4" STIFFENERS EACH SIDE OF BEAM @ EACH LOCATION CENTRIFUGE SUPPORT LOCATION. COORDINATE W/ MANUFACTURER.
2. FOR W24x TO WALL PILASTER,
3. FOR W16x BRIDGE CRANE BEAM TO WALL CONNECTION
4. NOT USED
5. FOR 16x TO COLUMN CONNECTIONS,
6. FOR GRATING SEAT AT FUTURE CENTRIFUGE,

C 07S402 SECTION
SCALE: 3/8"=1'-0"
FILE: 202645_07S403

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN JJ
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, pc
Date: 2025.01.29 14:50:29-08'00'

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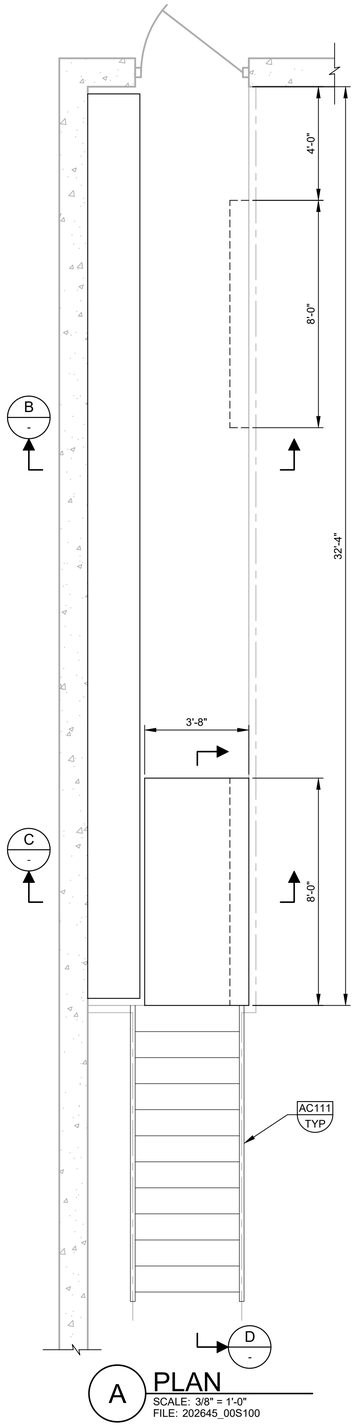
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
STRUCTURAL
DEWATERING FACILITY SECTION

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

JOB NO. 202645
DRAWING NO. 07S403
SHEET NO. 56 OF 239

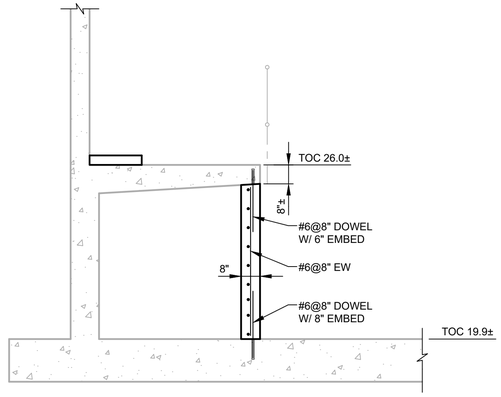
LAST SAVED BY: RWelch

PROJECT NO. 202645-100000 FILE NAME: 202645_07S403.dwg



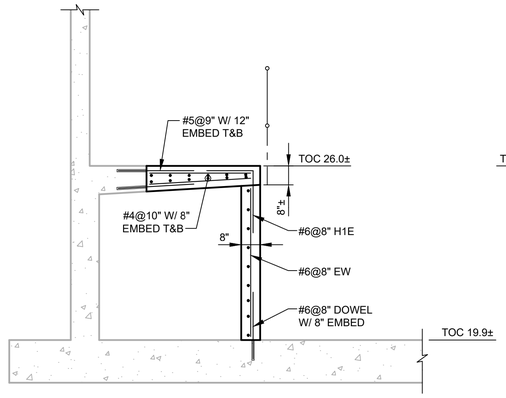
A PLAN

SCALE: 3/8" = 1'-0"
FILE: 202645_00S100



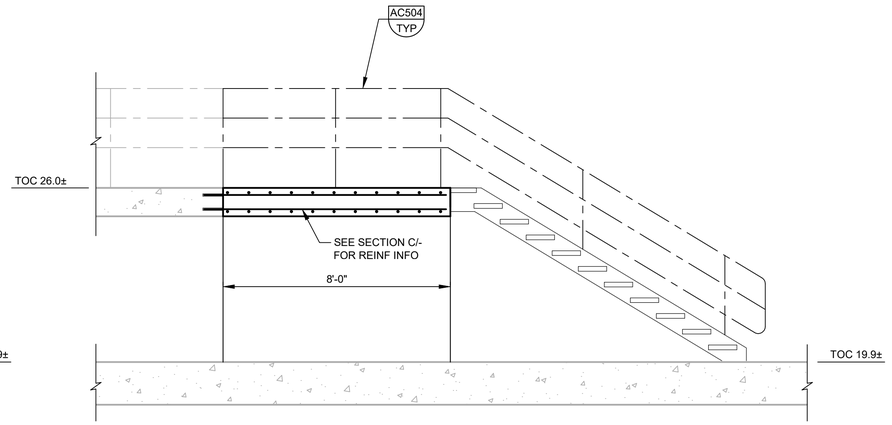
B SECTION

SCALE: 3/8" = 1'-0"
FILE: 202645_00S300



C SECTION

SCALE: 3/8" = 1'-0"
FILE: 202645_00S301



D SECTION

SCALE: 3/8" = 1'-0"
FILE: 202645_00S302

GENERAL NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWING 00GS001.
2. PRIOR TO COMMENCEMENT OF WORK, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND CONDITIONS. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. NOT ALL PENETRATIONS ARE SHOWN OR DIMENSIONED. COORDINATE ALL PENETRATIONS WITH ELECTRICAL DRAWINGS.
4. DO NOT INTERRUPT REINFORCING BARS FOR INSTALLATION OF POST-INSTALLED ANCHORS/DOWELS. CONTRACTOR SHALL COORDINATE PLACEMENT OF REINFORCING BARS TO CLEAR ANCHOR/DOWEL LOCATIONS.

REV	DATE	BY	DESCRIPTION

DESIGNED KA
DRAWN RYW
CHECKED ABE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER
KYLE T. LEONARD
No. 86011
CIVIL
STATE OF CALIFORNIA

Digitally signed by Kreginin I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 14:02:17-08'00'

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CITY OF MANTECA, CALIFORNIA
Manteca
the family city
INCORPORATED MAY 21, 1918

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

STRUCTURAL

NORTH AERATION BLOWER GALLERY PLAN AND SECTIONS

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

JOB NO. 202645
DRAWING NO. 07S501
SHEET NO. 57 OF 239

LAST SAVED BY: RWelch

PROJECT NO. 202645-100000 FILE NAME: 202645_07S501.dwg

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

PIPE SERVICE ABBREVIATIONS

ABBREV	DESCRIPTION
1W	POTABLE WATER
2W	NON-POTABLE WATER
3W	RECLAIMED WATER (CHLORINATED PLANT EFFLUENT)
BSL	BLENDED SLUDGE
CAS	COMPRESSED AIR - SERVICE
CD	CONDENSATE DRAIN
CEN	CENTRATE
D	DRAIN
DSL	DIGESTED SLUDGE
DWS	DEWATERED SLUDGE
FIL	FILTRATE
FA	FOUL AIR
HW	HOT WATER
PD	PROCESS DRAIN
POL	NEAT POLYMER
POS	POLYMER SOLUTION
PS	PRIMARY SLUDGE
PSC	PRIMARY SCUM
SAM	SAMPLE
SOF	SLUDGE OVERFLOW
SW	SEAL WATER
TD	TANK DRAIN
TSL	THICKENED SLUDGE
V	VENT
WAS	WASTE ACTIVATED SLUDGE

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED KJB
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc
Date: 2025.01.27 15:44:49-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

GENERAL MECHANICAL 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. 202645
DRAWING NO. 00GM001
SHEET NO. 58 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_00GM001.dwg

GENERAL MECHANICAL NOTES:

1. NOTES APPLY TO ALL MECHANICAL DRAWINGS.
2. REFER TO SPECIFICATIONS FOR WORK RESTRICTIONS AND CONSTRAINTS. ALL WORK REQUIRING DISCONNECTION OR SHUTDOWN SHALL BE IN COMPLIANCE WITH THE SPECIFICATIONS, INCLUDING SECTION 01140.
3. ALL PIPE PENETRATIONS THROUGH EXISTING WALLS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP532/TYP, UNLESS NOTED OTHERWISE.
4. ALL PIPE PENETRATIONS THROUGH FLOOR SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP544/TYP, UNLESS NOTED OTHERWISE.
5. NOT ALL PIPE AND DUCT GUIDES, SUPPORTS, ANCHORS, AND PROVISIONS FOR EXPANSION ARE SHOWN ON THE DRAWINGS. ALL SUPPORTS AND APPURTENANCES REQUIRED FOR A COMPLETE SYSTEM SHALL BE PROVIDED BY THE CONTRACTOR PER SPECIFICATIONS AND ARE TO INCLUDE ALL NECESSARY AND APPROPRIATE PROVISIONS FOR SUPPORT, SEISMIC RESTRAINT, BRACING, AND EXPANSION OF PIPES PER SPECIFICATION SECTIONS 15053, 15061, AND 15062.
6. SUCTION AND DISCHARGE PIPING OF PUMPS AND PIPING TO OTHER EQUIPMENT SHALL BE INSTALLED AND SUPPORTED IN SUCH A MANNER SO THAT THEY DO NOT IMPART STRAIN ON PUMPS AND OTHER EQUIPMENT AND PUMP/EQUIPMENT BASE.
7. NOT ALL THE REQUIRED FITTINGS ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL PROVIDE ALL THE FITTINGS SHOWN ON THE DRAWINGS AND ADDITIONAL FITTINGS AS REQUIRED FOR PIPING ARRANGEMENTS SHOWN ON DRAWINGS AND PER EQUIPMENT FURNISHED.
8. PIPING IS SHOWN DIAGRAMMATICALLY ON THE DRAWINGS. NOT EVERY OFFSET AND FITTING OR DIFFICULTY THAT MAY BE ENCOUNTERED HAS BEEN SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL MAKE MODIFICATIONS TO PIPING ALIGNMENT WHERE NECESSARY. MODIFICATIONS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER AND SHALL BE DONE AFTER OWNER'S APPROVAL.
9. NOT ALL THE ITEMS ARE SHOWN IN PLANS, SECTIONS, DETAILS, SCHEMATICS, ISOMETRICS, AND P&ID DRAWINGS. THE CONTRACTOR SHALL PROVIDE ALL THE ITEMS EVEN IF THEY ARE SHOWN AT ONLY ONE LOCATION ON THE DRAWINGS. IN ADDITION, THE CONTRACTOR SHALL PROVIDE ALL THE ITEMS REQUIRED PER SPECIFICATIONS WHETHER OR NOT THEY ARE SHOWN ON THE DRAWINGS.
10. IN CASE OF A CONFLICT BETWEEN THE DRAWINGS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN UNLESS SPECIFICALLY APPROVED OTHERWISE BY THE ENGINEER.
11. OVERALL PHYSICAL SIZE OF THE EQUIPMENT SELECTED BY THE CONTRACTOR SHALL NOT EXCEED THE SIZE SHOWN ON THE DRAWINGS OR SPECIFIED IN THE SPECIFICATIONS. CLEARANCES, DIMENSIONS, OR SCALED DISTANCES SHOWN ON THE DRAWINGS SHALL BE MAINTAINED. ALL PROPOSED CHANGES AND ADDITIONS SHALL BE SUBMITTED FOR OWNER'S REVIEW AND SHALL BE DONE ONLY IF APPROVED BY OWNER AND AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BEAR ALL COSTS OF THE ASSOCIATED CHANGES AND ADDITIONS INCLUDING CHANGES TO BUILDINGS AND STRUCTURE SIZES AND REFLECT OWNER'S ENGINEERING COSTS.
12. WARNING SIGNS SHALL BE PROVIDED PER SPECIFICATIONS ON FRONT AND BACK OF ALL REMOTELY CONTROLLED EQUIPMENT.
13. SEE STRUCTURAL DRAWINGS FOR ALL EQUIPMENT BASE DETAILS.
14. DUCT CONNECTIONS TO EQUIPMENT, PIPING CONNECTIONS TO EQUIPMENT, AND EQUIPMENT SUPPORTS SHALL BE VERIFIED AND ADJUSTED TO MATCH ACTUAL EQUIPMENT FURNISHED AT NO ADDITIONAL COST TO OWNER.
15. ALL PIPING JOINTS SHALL BE PER PIPE SCHEDULE AND IN ACCORDANCE WITH THE SPECIFICATIONS, EXCEPT WHERE MODIFIED ON THE DRAWINGS WITH A WRITTEN NOTE.
16. VERIFY LOCATIONS, ELEVATIONS, SIZES, CONNECTIONS, AND MATERIALS OF EXISTING PIPING AND EQUIPMENT BEFORE FABRICATING NEW PIPE.
17. CONTRACTOR SHALL SUPPLY ONE MATCHING SPOOL PIECE FOR EACH SIZE (DIAMETER AND LENGTH) OF MAGNETIC FLOW METER, WHICH CAN BE USED TO REPLACE THE METER WHEN MAINTENANCE IS REQUIRED. EACH SPARE SPOOL PIECE SHALL BE CLEARLY LABELED BY SIZE AND SERVICE.
18. ALL PIPING UNDER STRUCTURES OR CONCRETE SLABS SHALL BE CONCRETE ENCASED PER DETAIL MP003/TYP, WHETHER SHOWN OR NOT. CONTINUE ENCASEMENT BEYOND THE EDGE OF FOOTING TO A DIMENSION EQUAL TO THE DISTANCE FROM BOTTOM OF FOOTING TO TOP OF PIPE OR 2'-0", WHICHEVER IS GREATER.
19. THE FIRST PIPE JOINT OUT OF STRUCTURES OR OUT OF CONCRETE ENCASEMENTS SHALL BE AT THE EDGE OF WALL OR WITH TWO FEET FROM THE EDGE OF WALL OR END OF CONCRETE ENCASEMENT. THE NEXT JOINT SHALL BE LOCATED PER DETAIL MP552/TYP, UNLESS NOTED OTHERWISE.
20. ALL FLEXIBLE COUPLINGS SHALL BE RESTRAINED PER DETAIL MP310/TYP, UNLESS SPECIFICALLY NOTED OTHERWISE. PROVIDE FLANGES FOR DETAIL MP310/TYP WHETHER THEY ARE SHOWN ON THE DRAWINGS OR NOT.
21. PLUG VALVES: REFER TO SPECIFICATIONS FOR SPECIFIC INSTALLATION REQUIREMENTS REGARDING ORIENTATION OF SEAT (UPSTREAM VS. DOWNSTREAM) AND ORIENTATION OF VALVE STEM.
22. INSTALL DRAIN PIPING WITH A MINIMUM 1/4 INCH PER FOOT SLOPE IN THE DIRECTION OF FLOW UNLESS OTHERWISE NOTED ON THE DRAWINGS.
23. PIPE SUPPORTS SHALL NOT BE PLACED AT LOCATIONS WHERE THEY INTERFERE WITH MAINTENANCE ACCESS FOR VALVES AND EQUIPMENT.
24. REFER TO P&ID DRAWINGS FOR INSTALLATION OF INSTRUMENTS INCLUDING PRESSURE INSTRUMENTS INSTALLED ON PIPING.
25. REFER TO MECHANICAL DRAWINGS FOR SPECIFIC LOCATIONS OF HOSE BIBS. GROUP MULTIPLE UTILITIES (ELECTRICAL OUTLETS, AIR TOOL CONNECTOR, UTILITY WATER, HOSE BIB, ETC.) TOGETHER AT COMMON UTILITY STATIONS, WHEN FEASIBLE.
26. PROVIDE UNION OR FLANGE WITHIN 2 FEET OF ANY VALVE 2" AND LARGER.
27. FIELD VERIFY DIMENSIONS OF ALL EXISTING STRUCTURES, EQUIPMENT, AND PIPING ADJACENT TO NEW EQUIPMENT AND PIPING. INCLUDE THE FIELD VERIFIED DIMENSIONS IN THE NEW EQUIPMENT AND PIPING SHOP DRAWINGS.
28. PIPE ASSEMBLIES UNDER 4" IN SIZE ARE NOT FULLY DETAILED FOR CLARITY. REFER TO P&IDS FOR VALVE, INSTRUMENT, AND OTHER APPURTENANCE DETAILS AND ARRANGEMENT. SUBMIT LAYOUT DRAWINGS FOR PLANNED IMPROVEMENTS TO ENGINEER PRIOR TO INSTALLING.

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED KJB
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.07 07:43:49 -8'00'

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CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
GENERAL MECHANICAL NOTES

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

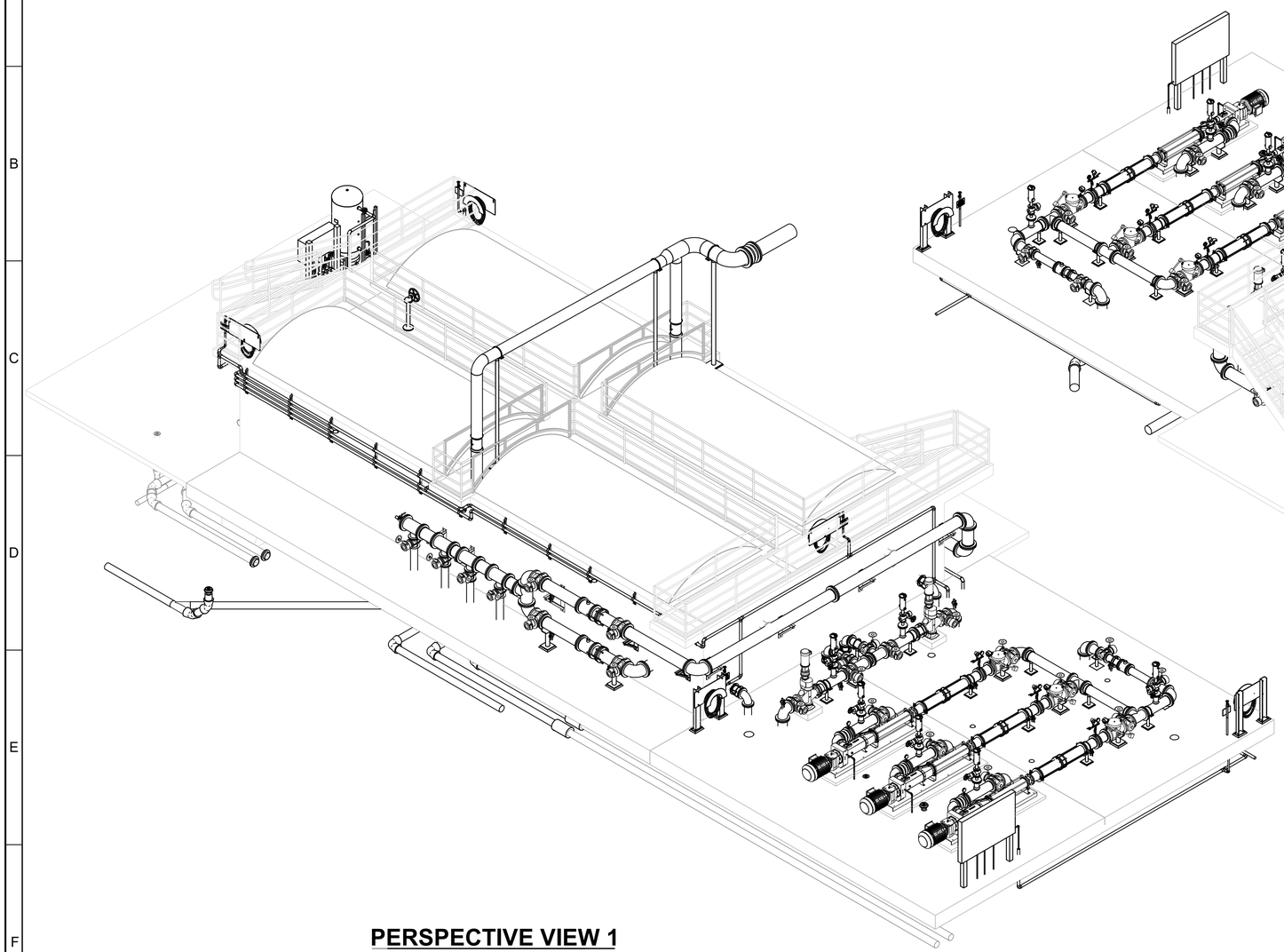
JOB NO. 202645
DRAWING NO. 00GM002
SHEET NO. 59 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_00GM002.dwg

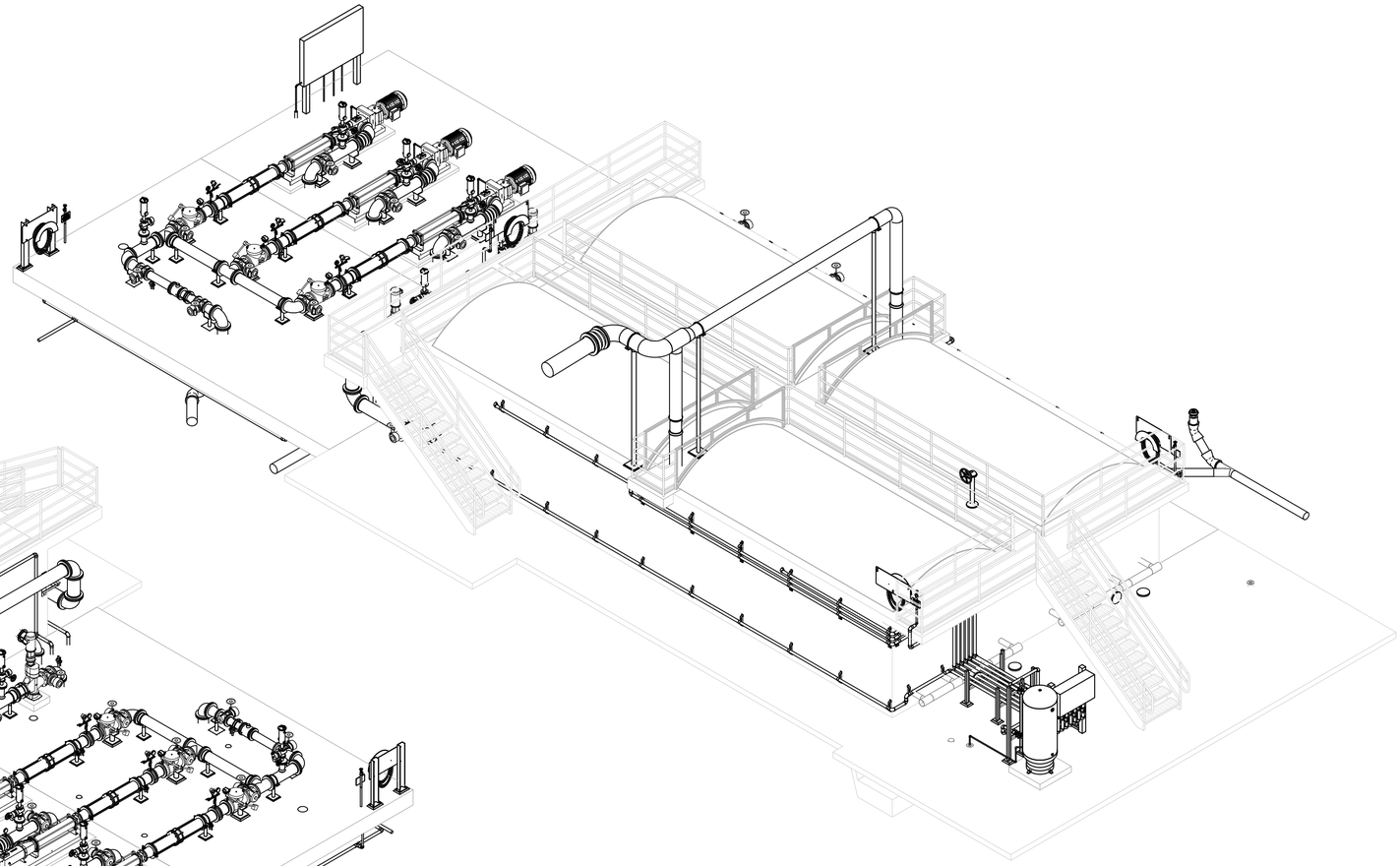
GENERAL NOTES:

1. THESE PERSPECTIVE VIEWS PROVIDE A VISUAL REPRESENTATION OF THE PROCESS ELEMENT FOR REFERENCE ONLY. IT IS NOT TO SCALE. REFER TO SUBSEQUENT DRAWINGS FOR DETAILED REQUIREMENTS FOR THE PROCESS ELEMENT.



PERSPECTIVE VIEW 1

SCALE: NO SCALE



PERSPECTIVE VIEW 2

SCALE: NO SCALE

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED KJB
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER
KYLE T. LEONARD
No. 86011
CIVIL
STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 10:45:59-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

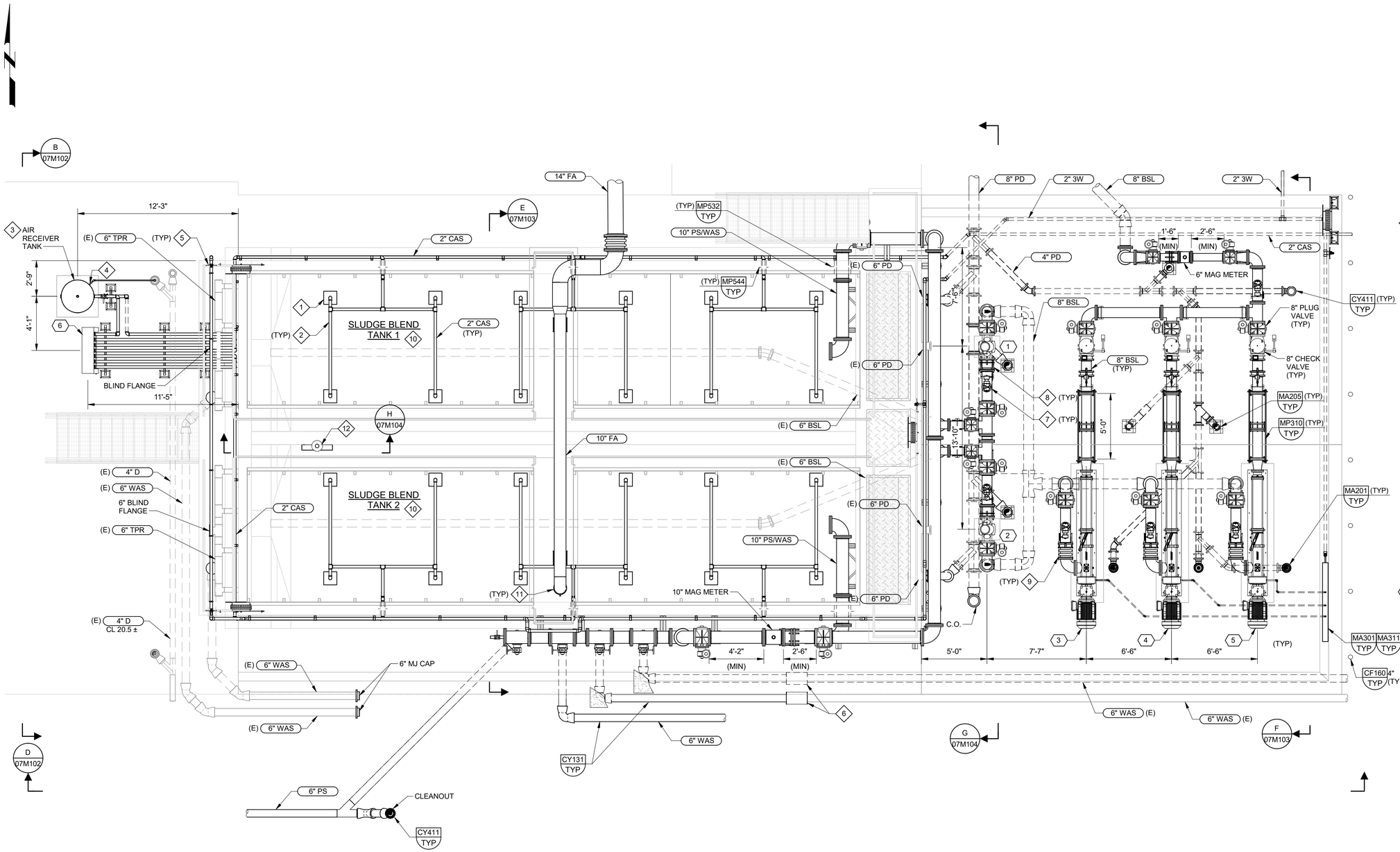
SLUDGE BLEND TANKS
PERSPECTIVE VIEWS

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

JOB NO. 202645
DRAWING NO. 07M100
SHEET NO. 60 OF 239

PLOT DATE: 1/28/2025 10:46:21 AM

FILE NAME: R:\d0299007\202645_00M0800.rvt



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

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. ALL PIPING BELOW THE CONCRETE SLAB SHALL BE CONCRETE ENCASED PER DETAILS MP003/TYP AND MP005/TYP. CONTINUE ENCASEMENT BEYOND THE EDGE OF SLAB TO A DIMENSION EQUAL TO THE DISTANCE FROM BOTTOM OF SLAB TO TOP OF PIPE OR 2'-0", WHICHEVER IS GREATER.
4. MAINTAIN A MINIMUM OF 2% SLOPE ON ALL DRAIN LINES.
5. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
6. SUPPORT ALL 3W AND CAS PIPING PER DETAILS MP073/TYP, MP218/TYP, AND MP253/TYP.
7. SUPPORT ALL PS AND WAS PIPING PER DETAILS MP032/TYP, MP222/TYP, AND MP250/TYP.
8. SUPPORT ALL BSL PIPING PER DETAILS MP032/TYP AND MP034/TYP.

(#) KEY NOTES:

1. PROVIDE LARGE BUBBLE MIXING SYSTEM PER SECTION 11227. A GENERAL MIXING SYSTEM ARRANGEMENT IS SHOWN FOR EXAMPLE ONLY AND SHALL BE DESIGNED BY THE MIXING SYSTEM MANUFACTURER.
2. PROVIDE ADDITIONAL PIPE SUPPORTS AND ANCHORAGE ON LARGE BUBBLE MIXING SYSTEM NOZZLE HEADERS, NOZZLE OFFSETS, AND NOZZLES TO MAINTAIN PIPE STABILITY WHEN FILLING AND DRAINING THE TANK PER SECTION 11227.
3. PROVIDE AIR RECEIVER TANK PER SECTION 11227.
4. PROVIDE EXTERNALLY MOUNTED AUTOMATIC MECHANICAL TYPE DRAIN TRAP ON AIR RECEIVER DRAIN PIPING. ROUTE DRAIN PIPING TO EXISTING FLOOR DRAIN.
5. PROVIDE HOSE BIBB AND HOSE RACK PER DETAILS MA415/TYP AND MA417/TYP.
6. CONNECT TO EXISTING 6" WAS PIPES WITH MJ SLEEVES.
7. PROVIDE 2" COMBINATION VACUUM AND AIR RELEASE VALVE PER DETAIL MP896/TYP. ROUTE DISCHARGE PIPE TO THE NEAREST DRAIN.
8. DISMANTLING JOINT.
9. PROVIDE RESTRAINED RUBBER EXPANSION JOINT PER DETAIL MP302/TYP.
10. COVER NOT SHOWN. REFER TO STRUCTURAL DRAWINGS.
11. NEW FA DUCT SHALL PENETRATE WALKWAY WITH A TYPE 316 SST SPOOL PER DETAIL MP566/TYP (SIM). PROVIDE A FLEXIBLE COUPLING BETWEEN THE DUCT AND THE SPOOL IN THE WALKWAY.
12. THE CENTERLINE OF THE GATE STEM SHALL BE AT LEAST 5" FROM THE EDGE OF THE WALL. STEM CENTERLINE SHALL NOT BE ADJUSTED WITH THE USE OF UNIVERSAL JOINTS.

(#) KEY TAGS:

1	SLB-GRD-07-001	BLENDED SLUDGE GRINDER 1
2	SLB-GRD-07-002	BLENDED SLUDGE GRINDER 2
3	SLB-PMP-07-001	RDT FEED PUMP 1
4	SLB-PMP-07-002	RDT FEED PUMP 2
5	SLB-PMP-07-003	RDT FEED PUMP 3
6	SLB-VCP-07-011	LARGE BUBBLE MIXING CONTROL PANEL

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED KJB
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

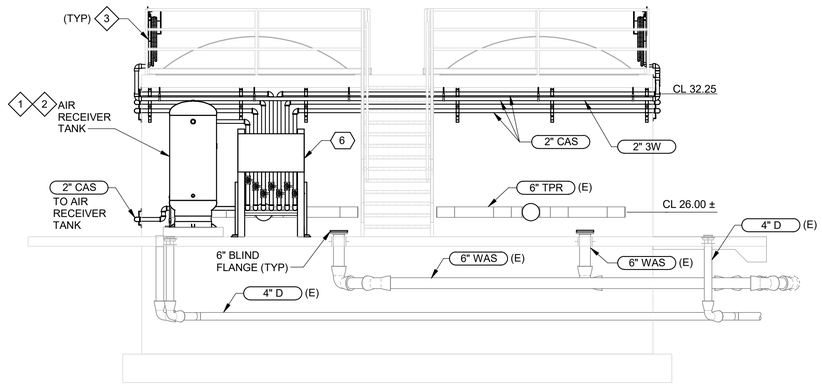
Digitally signed by Kyle Thomas Leonard
Contact: kyle.leonard@carollo.com
Date: 2025.01.28 10:46:19 -08'00'

CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
SLUDGE BLEND TANKS PLAN

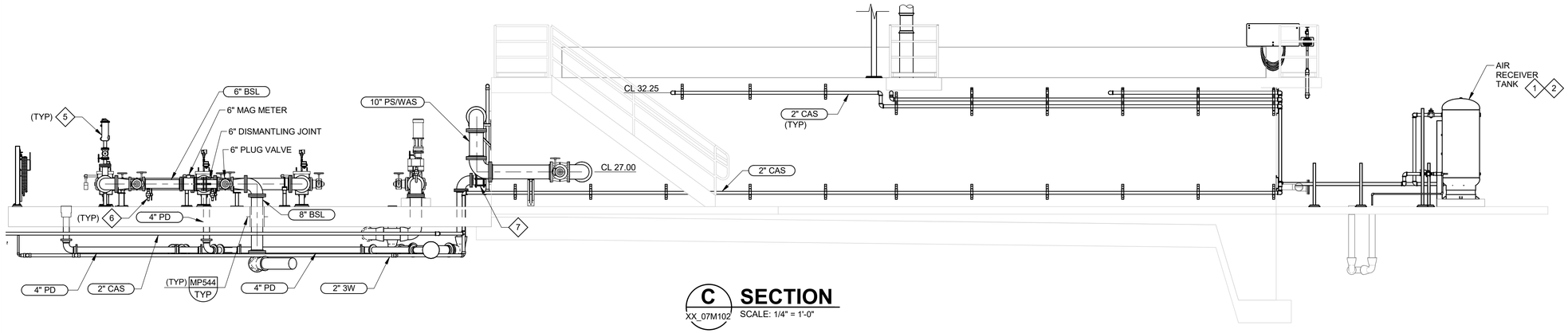
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202645
DRAWING NO. 07M101
SHEET NO. 61 OF 239

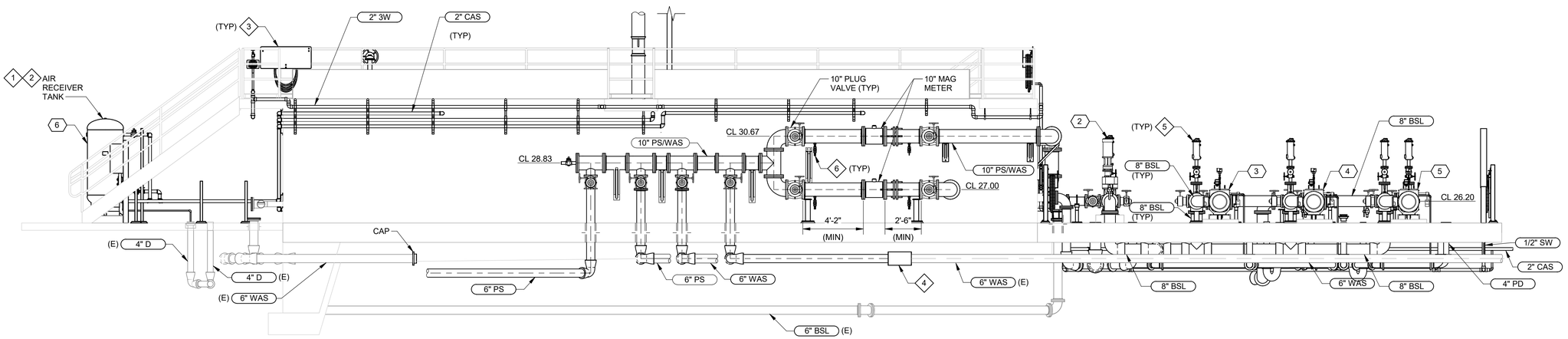
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B SECTION
07M101 SCALE: 1/4" = 1'-0"



C SECTION
XX_07M102 SCALE: 1/4" = 1'-0"



D SECTION
07M101 SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 0GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. ALL PIPING BELOW THE CONCRETE SLAB SHALL BE CONCRETE ENCASED PER DETAILS MP003/TYP AND MP005/TYP. CONTINUE ENCASEMENT BEYOND THE EDGE OF SLAB TO A DIMENSION EQUAL TO THE DISTANCE FROM BOTTOM OF SLAB TO TOP OF PIPE OR 2'-0", WHICHEVER IS GREATER.
4. MAINTAIN A MINIMUM OF 2% SLOPE ON ALL DRAIN LINES.
5. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
6. SUPPORT ALL 3W AND CAS PIPING PER DETAILS MP073/TYP, MP218/TYP, AND MP253/TYP.
7. SUPPORT ALL PS AND WAS PIPING PER DETAILS MP032/TYP, MP222/TYP, AND MP250/TYP.
8. SUPPORT ALL BSL PIPING PER DETAILS MP032/TYP AND MP034/TYP.

KEY NOTES:

1. PROVIDE AIR RECEIVER TANK PER SECTION 11227.
2. PROVIDE EXTERNALLY MOUNTED AUTOMATIC MECHANICAL TYPE DRAIN TRAP ON AIR RECEIVER DRAIN PIPING. ROUTE DRAIN PIPING TO EXISTING FLOOR DRAIN.
3. PROVIDE HOSE BIBB AND HOSE RACK PER DETAILS MA415/TYP AND MA417/TYP.
4. CONNECT TO EXISTING 6" WAS PIPES WITH MJ SLEEVES.
5. PROVIDE 2" COMBINATION VACUUM AND AIR RELEASE VALVE PER DETAIL MP896/TYP. ROUTE DISCHARGE PIPE TO THE NEAREST DRAIN.
6. PROVIDE FLUSHING CONNECTION PER MP405/TYP.
7. PROVIDE RESTRAINED FLEXIBLE COUPLING SIMILAR TO DETAIL MP310/TYP. EMBED TIE ROD INTO CONCRETE 6 INCHES PER DETAIL SC040/TYP.

KEY TAGS:

2	SLB-GRD-07-002	BLENDED SLUDGE GRINDER 2
3	SLB-PMP-07-001	RDT FEED PUMP 1
4	SLB-PMP-07-002	RDT FEED PUMP 2
5	SLB-PMP-07-003	RDT FEED PUMP 3
6	SLB-VCP-07-011	LARGE BUBBLE MIXING CONTROL PANEL

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED KJB
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.07 11:51:39 -07'00'

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

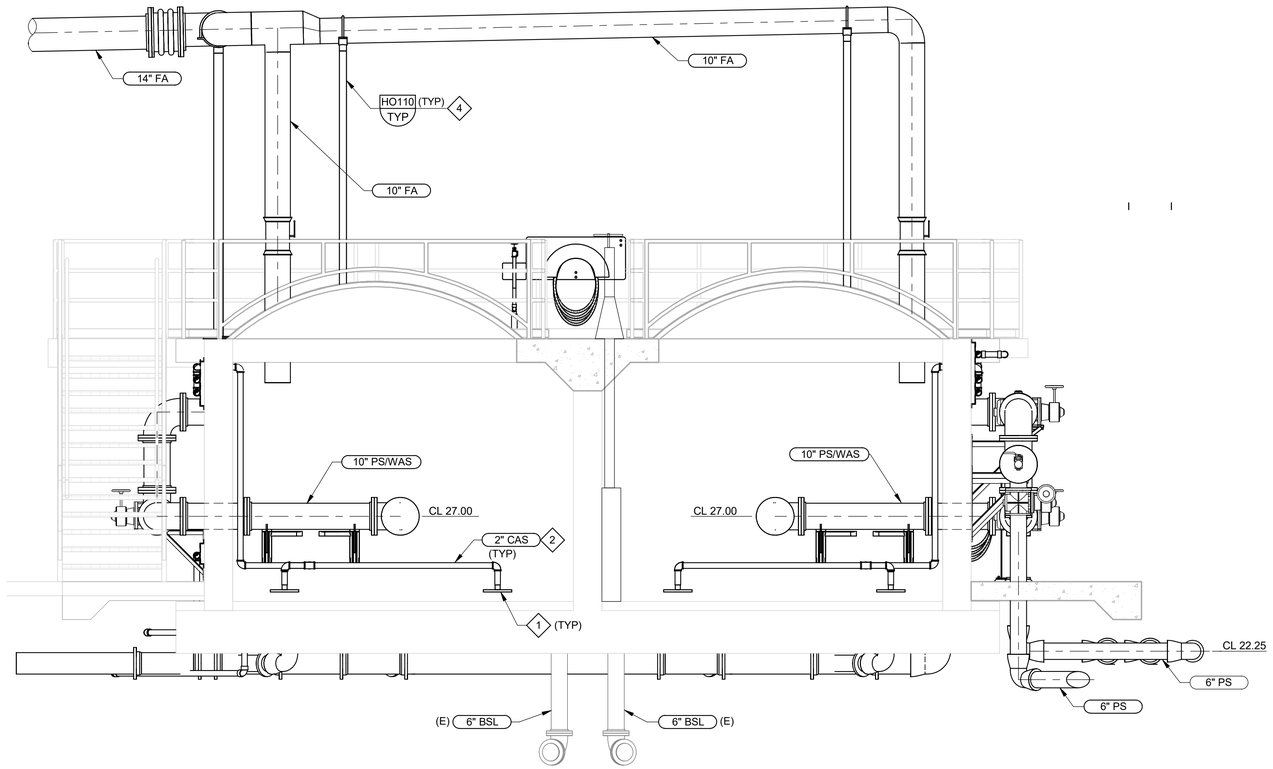
SLUDGE BLEND TANKS SECTIONS

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

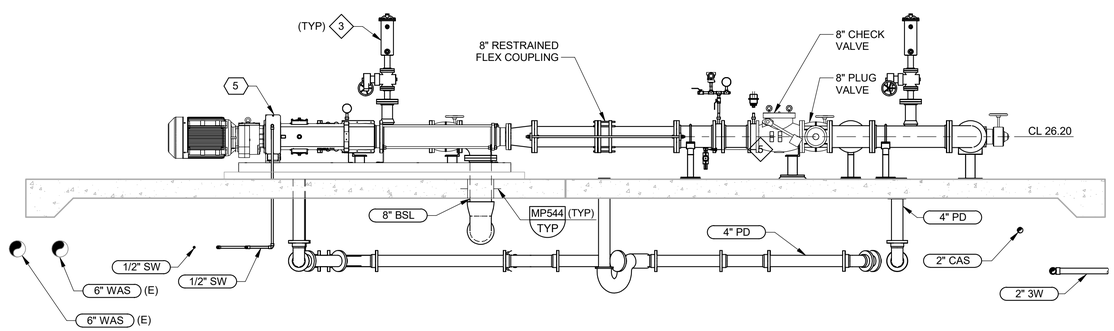
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DRAWING NO. 07M102
SHEET NO. 62 OF 239

PLOT DATE: 1/28/2025 10:46:30 AM

FILE NAME: R:\d0299007\202645_00M0800.rvt



E SECTION
07M101
SCALE: 3/8" = 1'-0"



F SECTION
07M101
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 0GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. ALL PIPING BELOW THE CONCRETE SLAB SHALL BE CONCRETE ENCASED PER DETAILS MP003/TYP AND MP005/TYP. CONTINUE ENCASEMENT BEYOND THE EDGE OF SLAB TO A DIMENSION EQUAL TO THE DISTANCE FROM BOTTOM OF SLAB TO TOP OF PIPE OR 2'-0", WHICHEVER IS GREATER.
4. MAINTAIN A MINIMUM OF 2% SLOPE ON ALL DRAIN LINES.
5. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
6. SUPPORT ALL 3W AND CAS PIPING PER DETAILS MP073, MP218/TYP, AND MP253/TYP.
7. SUPPORT ALL PS AND WAS PIPING PER DETAILS MP032/TYP, MP222/TYP, AND MP250/TYP.
8. SUPPORT ALL BSL PIPING PER DETAILS MP032/TYP AND MP034/TYP.

(#) KEY NOTES:

1. PROVIDE LARGE BUBBLE MIXING SYSTEM PER SECTION 11227. A GENERAL MIXING SYSTEM ARRANGEMENT IS SHOWN FOR EXAMPLE ONLY AND SHALL BE DESIGNED BY THE MIXING SYSTEM MANUFACTURER.
2. PROVIDE ADDITIONAL PIPE SUPPORTS AND ANCHORAGE ON LARGE BUBBLE MIXING SYSTEM NOZZLE HEADERS, NOZZLE OFFSETS, AND NOZZLES TO MAINTAIN PIPE STABILITY WHEN FILLING AND DRAINING THE TANK PER SECTION 11227.
3. PROVIDE 2" COMBINATION VACUUM AND AIR RELEASE VALVE PER DETAIL MP896/TYP. ROUTE DISCHARGE PIPE TO THE NEAREST DRAIN.
4. MOUNT SUPPORT TO CONCRETE SLAB. CONCRETE FOUNDATION SHOWN IN DETAIL HO110/TYP IS NOT REQUIRED FOR SUPPORTS ON THE SLUDGE BLEND TANKS.

(#) KEY TAGS:

5	SLB-PMP-07-003	RDT FEED PUMP 3

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED KJB
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 10:46:07 -08'00'

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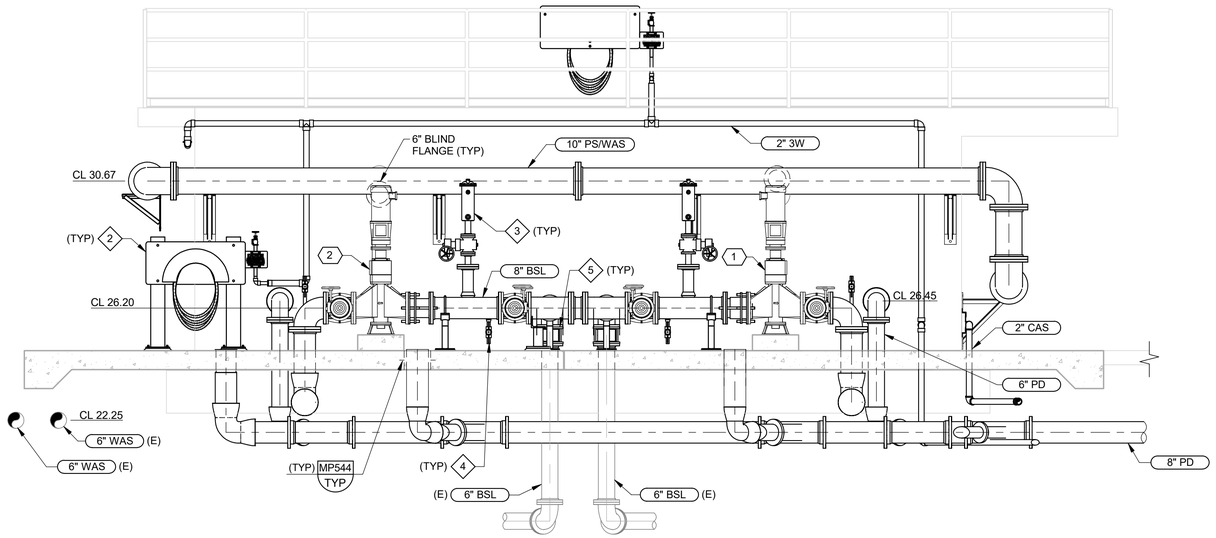
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
SLUDGE BLEND TANKS
SECTIONS

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

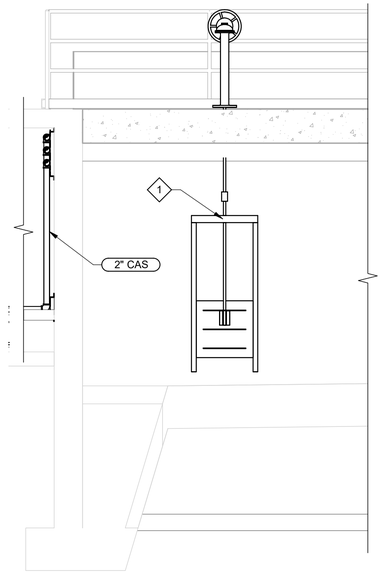
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DRAWING NO. 07M103
SHEET NO. 63 OF 239

PLOT DATE: 1/28/2025 10:46:33 AM

FILE NAME: R:\d0299007\202645_00M0800.rvt



G SECTION
07M101
SCALE: 3/8" = 1'-0"



H SECTION
07M101
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 0GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. ALL PIPING BELOW THE CONCRETE SLAB SHALL BE CONCRETE ENCASED PER DETAILS MP003/TYP AND MP005/TYP. CONTINUE ENCASEMENT BEYOND THE EDGE OF SLAB TO A DIMENSION EQUAL TO THE DISTANCE FROM BOTTOM OF SLAB TO TOP OF PIPE OR 2'-0", WHICHEVER IS GREATER.
4. MAINTAIN A MINIMUM OF 2% SLOPE ON ALL DRAIN LINES.
5. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
6. SUPPORT ALL 3W AND CAS PIPING PER DETAILS MP073, MP218/TYP, AND MP253/TYP.
7. SUPPORT ALL PS AND WAS PIPING PER DETAILS MP032/TYP, MP222/TYP, AND MP250/TYP.
8. SUPPORT ALL BSL PIPING PER DETAILS MP032/TYP AND MP034/TYP.

(#) KEY NOTES:

1. THE CENTERLINE OF THE GATE STEM SHALL BE AT LEAST 5" FROM THE EDGE OF THE WALL. STEM CENTERLINE SHALL NOT BE ADJUSTED WITH THE USE OF UNIVERSAL JOINTS.
2. PROVIDE HOSE BIBB AND HOSE RACK PER DETAILS MA415/TYP AND MA417/TYP.
3. PROVIDE 2" COMBINATION VACUUM AND AIR RELEASE VALVE PER DETAIL MP896/TYP. ROUTE DISCHARGE PIPE TO THE NEAREST DRAIN.
4. PROVIDE FLUSHING CONNECTION PER MP405/TYP.
5. PROVIDE RESTRAINED FLEXIBLE COUPLING SIMILAR TO DETAIL MP310/TYP. EMBED TIE ROD INTO CONCRETE 6 INCHES PER DETAIL SC040/TYP.

(#) KEY TAGS:

1	SLB-GRD-07-001	BLENDED SLUDGE GRINDER 1
2	SLB-GRD-07-002	BLENDED SLUDGE GRINDER 2

REV	DATE	BY	DESCRIPTION

DESIGNED KTL
DRAWN GL
CHECKED KJB
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc
Date: 2025.01.28 10:46:07 -08'00'

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

SLUDGE BLEND TANKS SECTIONS

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

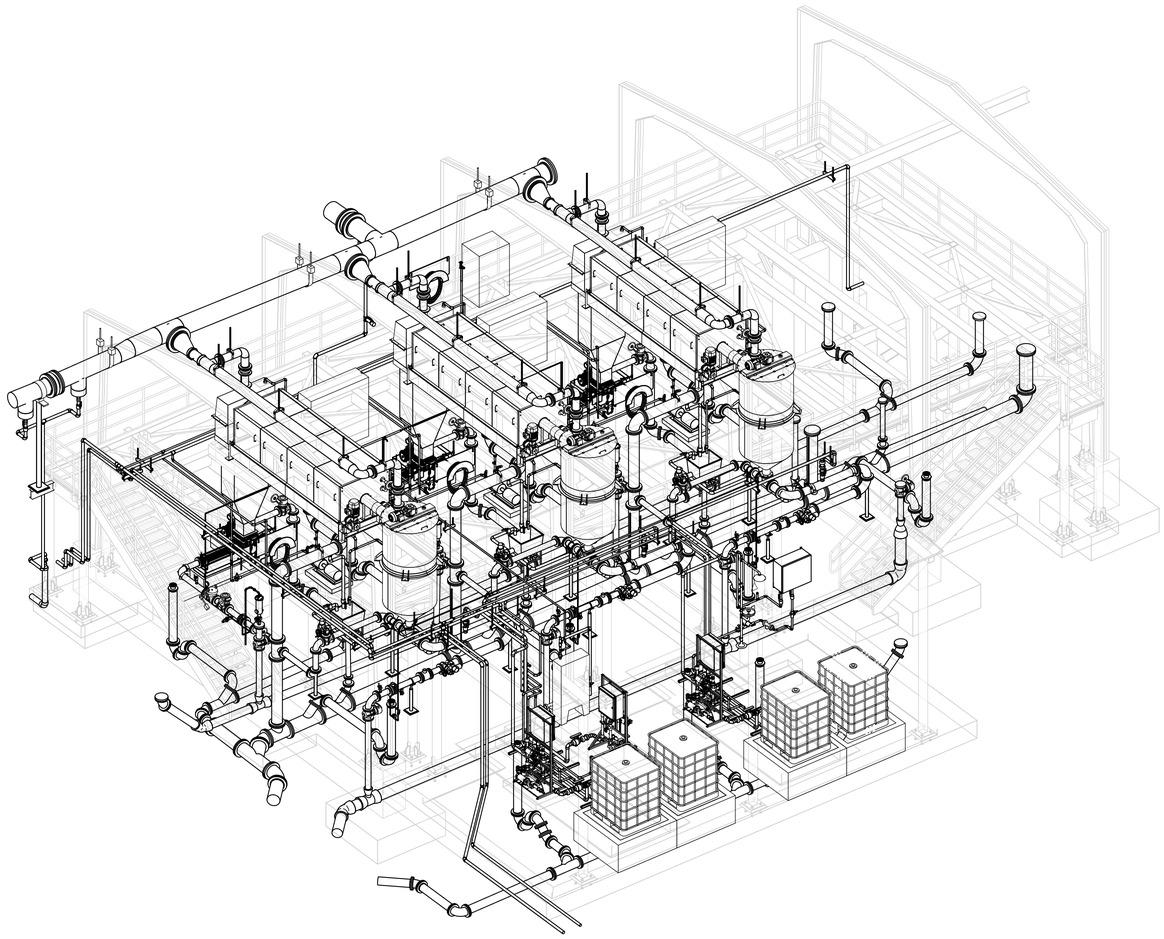
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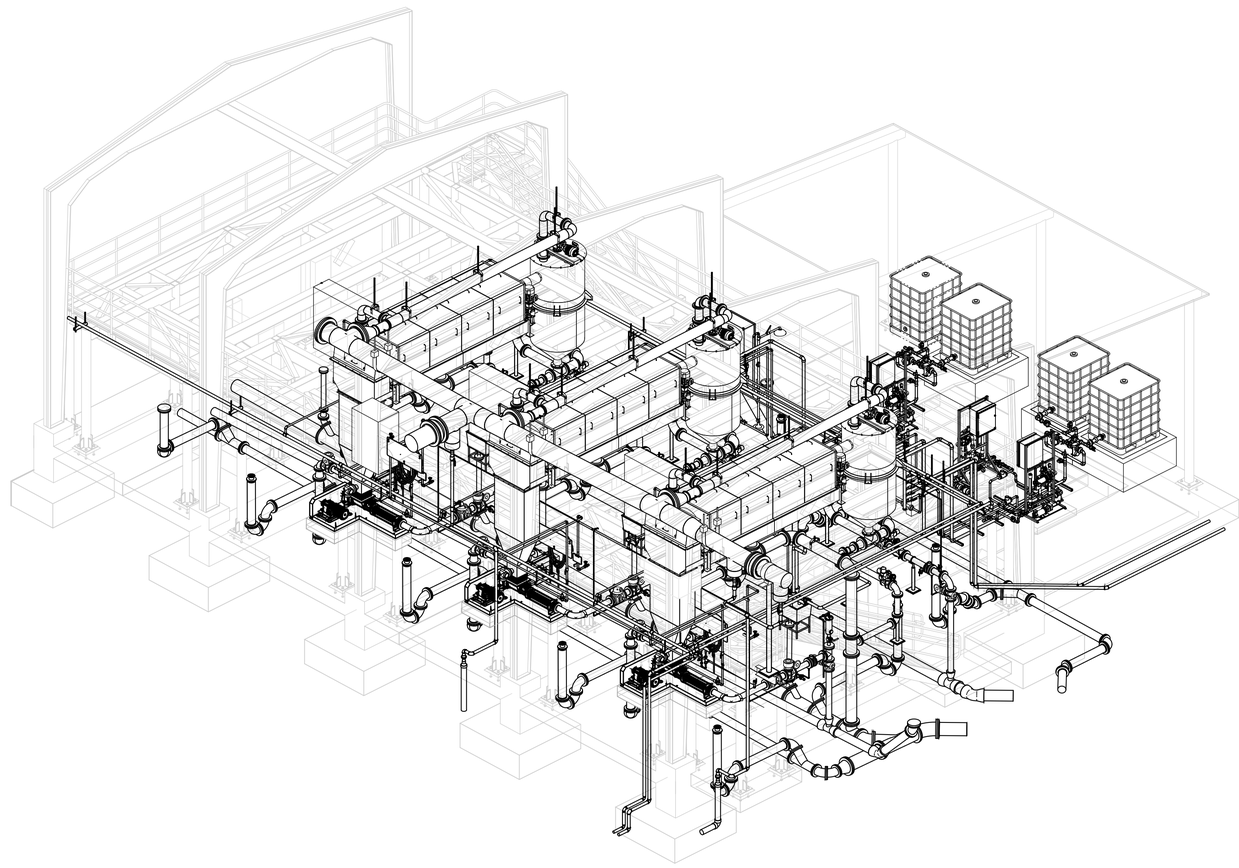
GENERAL NOTES:

1. THESE PERSPECTIVE VIEWS PROVIDE A VISUAL REPRESENTATION OF THE PROCESS ELEMENT FOR REFERENCE ONLY. IT IS NOT TO SCALE. REFER TO SUBSEQUENT DRAWINGS FOR DETAILED REQUIREMENTS FOR THE PROCESS ELEMENT.



PERSPECTIVE VIEW 1

SCALE: NO SCALE



PERSPECTIVE VIEW 2

SCALE: NO SCALE

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 14:40:49 -07'07'

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my Manteca — CITY OF MANTECA, CALIFORNIA — Manteca the family city — INCORPORATED MAY 28, 1918

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

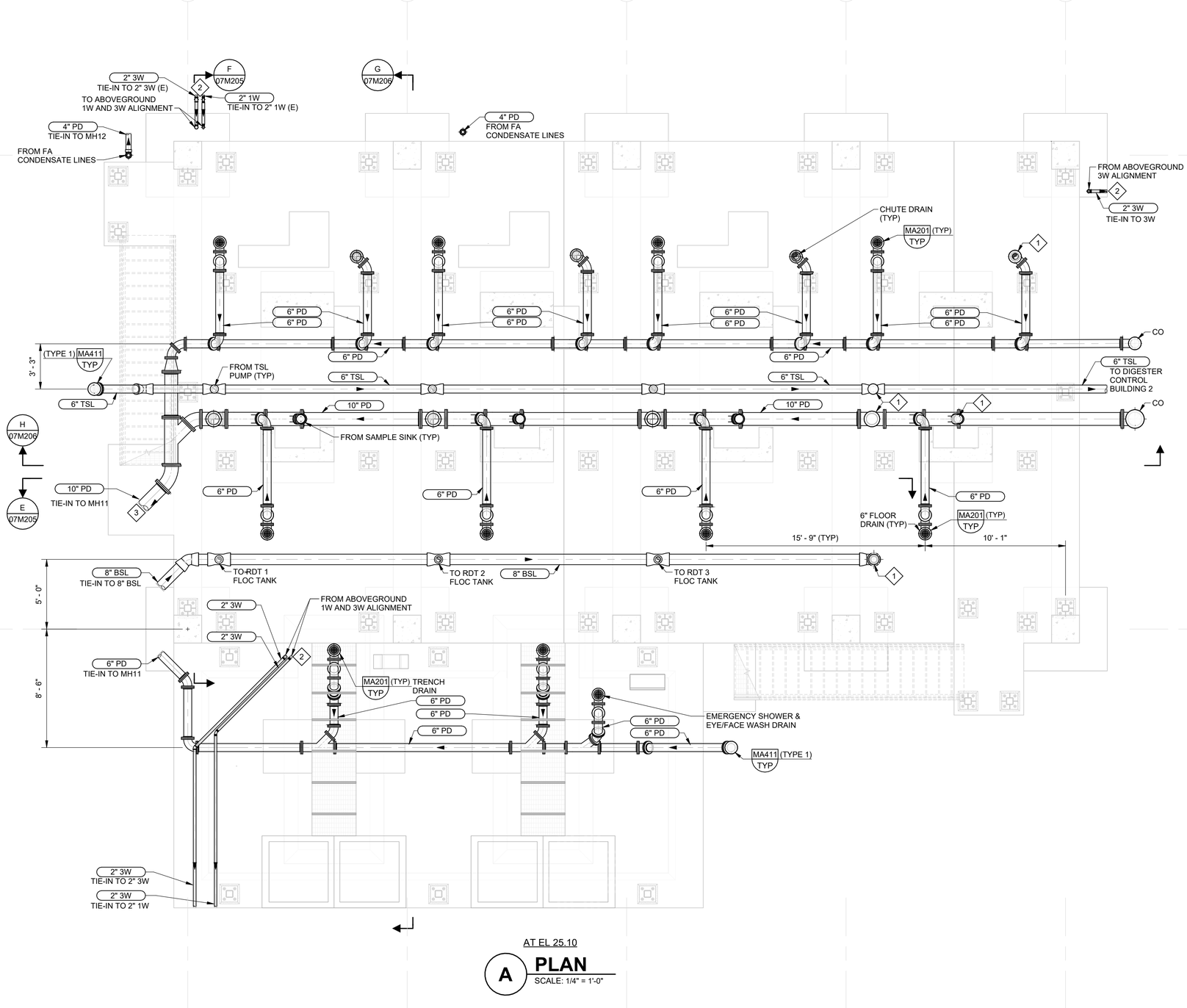
RDT FACILITY
PERSPECTIVE VIEWS

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

JOB NO. 202645
DRAWING NO. 07M200
SHEET NO. 65 OF 239

PLOT DATE: 1/28/2025 12:23:31 PM

FILE NAME: R:\d0299007\202645_00M0802.rvt



AT EL 25.10

A PLAN

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

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. CONCRETE ENCASED PIPING UNDERNEATH SLAB AS INDICATED ON DRAWING 00GM002.
4. ALL PIPE PENETRATIONS THROUGH FLOOR SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP514/TYP W/O SLEEVE, UNLESS NOTED OTHERWISE.
5. MAINTAIN A MINIMUM OF 2% SLOPE ON ALL DRAIN LINES IN DIRECTION INDICATED.
6. PROVIDE 2" VENT LINE FOR PROCESS DRAIN LINES. THE VENT LINE SHALL BE ROUTED HORIZONTALLY BELOW THE CONCRETE SLAB AND CONCRETE ENCASED PER DETAILS MP003/TYP, MP005/TYP, AND MP014/TYP. THE VENT LINE SHALL EXTEND NOT LESS THAN THE HEIGHT OF THE CANOPY AND NOT LESS THAN 10' HORIZONTALLY FROM ELECTRICAL EQUIPMENT AND INSTRUMENTS. PROVIDE 316SS PIPE SUPPORTS TO SUPPORT VERTICAL VENT LINE ABOVE GROUND. SUBMIT VENT LINE ROUTING AND TERMINATION POINT TO ENGINEER FOR REVIEW AND APPROVAL. VENT LINES TO BE ROUTED SUCH THAT THEY DO NOT PENETRATE THE CANOPY ROOF.

KEY NOTES:

1. TERMINATE PIPE WITH FLANGE 9" ABOVE FINISHED FLOOR ELEVATION FOR FUTURE CONNECTION. INSTALL BLIND FLANGE.
2. THE 1W AND 3W LINES ARE BEING ROUTED ABOVEGROUND THROUGH THE RDT FACILITY AND TIE-IN INTO EXISTING 1W AND 3W YARD PIPING CONNECTIONS WEST, NORTH, AND EAST OF THE RDT FACILITY.
3. ALL PROCESS DRAIN LINES FROM THE RDT FACILITY WILL TIE INTO THE 12" PROCESS DRAIN LOCATED ON THE SOUTH END OF THE RDT FACILITY.

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.28 10:41:59 -08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

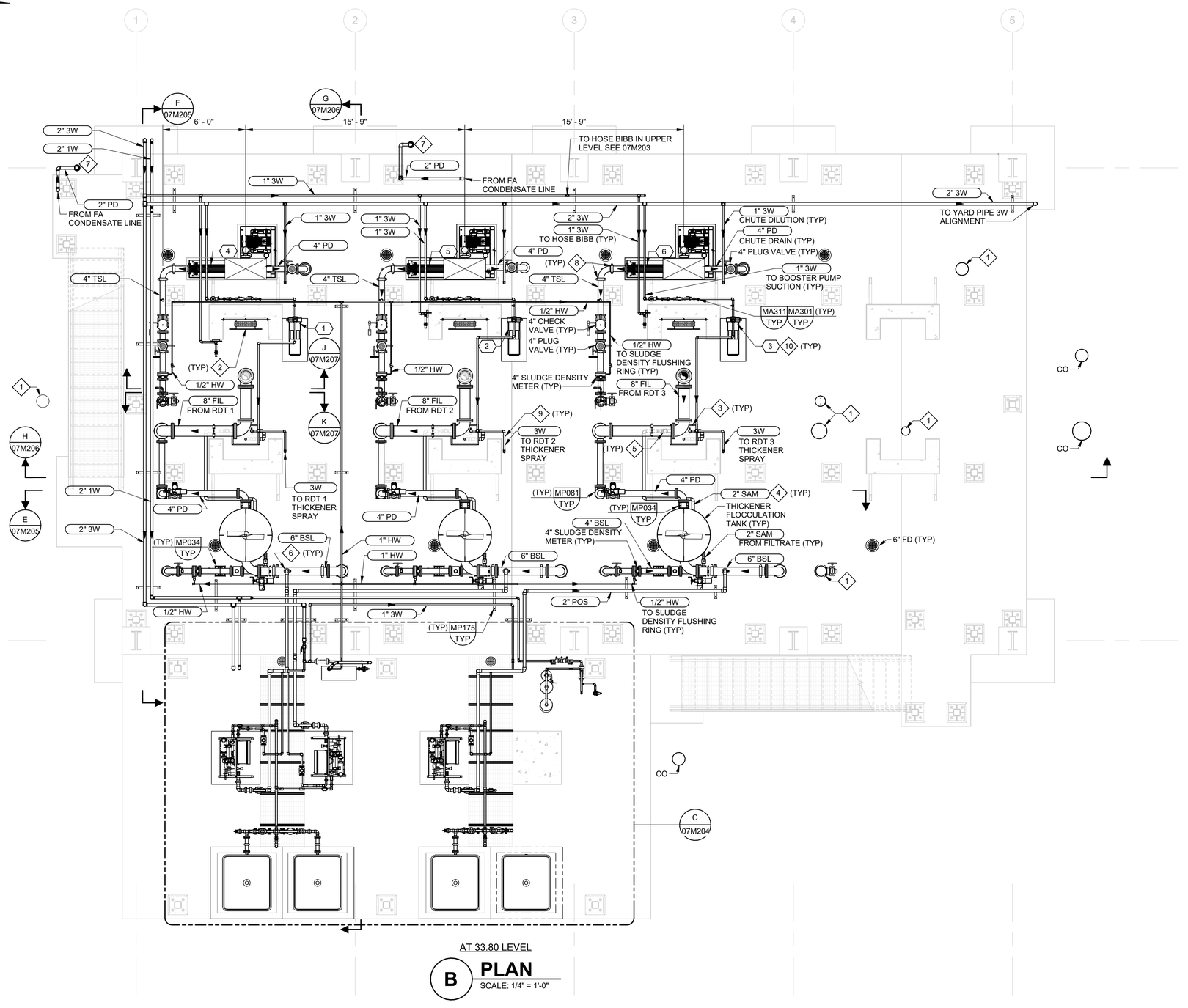
RDT FACILITY
SUBGRADE PLAN

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. 202645
DRAWING NO. 07M201
SHEET NO. 66 OF 239

PLOT DATE: 1/28/2025 10:42:44 AM

FILE NAME: R:\d0299007\202645_00M0802.rvt



AT 33.80 LEVEL

B PLAN

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

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. CONCRETE ENCASED PIPING UNDERNEATH SLAB AS INDICATED ON DRAWING 00GM002.
4. ALL PIPE PENETRATIONS THROUGH FLOOR SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP514 W/O SLEEVE/TYP, UNLESS NOTED OTHERWISE.
5. MAINTAIN A MINIMUM OF 2% SLOPE ON ALL DRAIN LINES.
6. PROVIDE LONG RADIUS ELBOWS ON ALL BSL AND TSL PIPING.
7. PROVIDE UNIONS AT MAXIMUM SPACING OF 10-FT ON POLYMER AND POLYMER SOLUTION PIPING.
8. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
9. SUPPORT ALL 1W, 3W, CD, HW, POS, SAM, AND SW PIPING PER OVERHEAD AND WALL DETAILS MP132/TYP, MP175/TYP, AND MP253/TYP.
10. SUPPORT ALL BSL, FIL, PD, TSL PIPING PER DETAILS MP032/TYP, MP034/TYP, AND MP081/TYP UNLESS OTHERWISE STATED.
11. FOR ALL 1W, 3W, HW, POS, AND SW SERVICE LINES, CONTRACTOR TO REFER TO P&IDS TO SEE VALVING, APPURTENANCES, AND TIE-IN LOCATIONS.

KEY NOTES:

1. TERMINATE PIPE WITH FLANGE 9" ABOVE FINISHED FLOOR ELEVATION FOR FUTURE CONNECTION. INSTALL BLIND FLANGE.
2. PROVIDE HOSE BIBB AND HOSE RACK PER DETAILS MA415/TYP AND MA417/TYP.
3. PROVIDE 304 SST DRAIN, P-TRAP, TAILPIECE, AND REMOVABLE STRAINER (MODEL J-35-STP BY JUST MANUFACTURING COMPANY OR EQUAL). SECURE SINK TO FLOOR. DRAIN TO HAVE A MINIMUM DOWNWARD SLOPE OF 2%. ROUTE SUCH THAT NO TRIPPING HAZARDS ARE CREATED AND ACCESS IS NOT IMPEDED.
4. PROVIDE 2" SAMPLE LINE FROM BLENDED SLUDGE LINE TO THE SAMPLE SINK.
5. PROVIDE 2" SAMPLE LINE FROM FILTRATE LINE TO THE SAMPLE SINK.
6. POLYMER DOSING LOCATION. DOSING POINT TO BE LOCATED 5' UPSTREAM OF THE FLOC TANK.
7. FA DUCT CONDENSATE LINES WILL BE DRAINING INTO A 4" PD LINE THAT TIES INTO THE 12" PD LINE IN THE YARD PIPING PLAN AS SHOWN IN 07M201.
8. TSL PROGRESSING CAVITY PUMPS TO HAVE RESTRAINED GROOVED END COUPLINGS AT THE ELBOW FITTING.
9. 3W SPRAY WATER SERVICE LINE FOR THE RDT TO BE 1" OR 1.5" DEPENDING ON MANUFACTURER REQUIREMENTS. CONTRACTOR TO COORDINATE BASED ON RDT MANUFACTURER SPRAY WATER REQUIREMENTS.
10. REFER TO PUMP SCHEMATIC DETAIL 1 SHOWN IN DRAWING 07M208.

KEY TAGS:

1	THK-PMP-07-021	RDT SPRAY WATER BOOSTER PUMP 1
2	THK-PMP-07-022	RDT SPRAY WATER BOOSTER PUMP 2
3	THK-PMP-07-023	RDT SPRAY WATER BOOSTER PUMP 3
4	THK-PMP-07-011	THICKENED SLUDGE PUMP 1
5	THK-PMP-07-012	THICKENED SLUDGE PUMP 2
6	THK-PMP-07-013	THICKENED SLUDGE PUMP 3

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.28 07:49:11 -08'00'

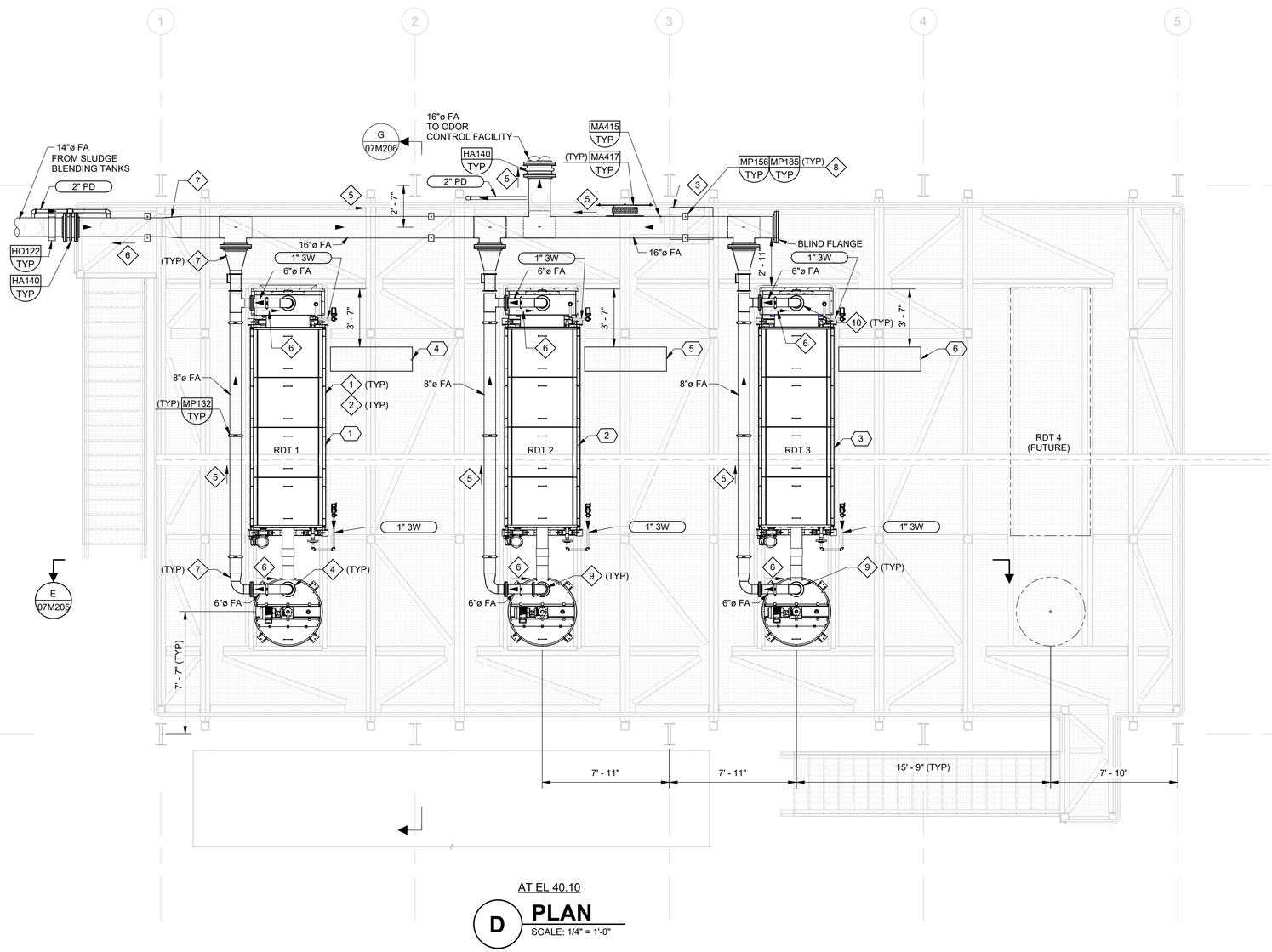
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CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
RDT FACILITY
LOWER PLAN

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

JOB NO. 202645
DRAWING NO. 07M202
SHEET NO. 67 OF 239

PLOT DATE: 1/28/2025 1:53:25 PM
FILE NAME: R:\d0299007\202645_00M0802.rvt



AT EL 40.10

D PLAN

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

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. VERIFY DIMENSIONS WITH EQUIPMENT PROVIDED.
4. FA DUCT ROUTING SHALL BE FIELD ADJUSTED AS REQUIRED TO ACCOMMODATE EQUIPMENT PROVIDED.
5. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
6. ALL PIPE AND DUCT GREATER THAN 1-INCH SUPPORTS WITHIN THE CANOPY STRUCTURE SHALL BE OVERHEAD AND SHALL BE COORDINATED WITH THE CANOPY MANUFACTURER.
7. FOR CONTINUATION OF FA DUCTING, REFER TO DRAWINGS 07M101 AND 07M301.

KEY NOTES:

1. EQUIPMENT LAYOUT AND CONNECTION SIZES IS BASED ON THE GENERAL ARRANGEMENT FOR THICKENER MANUFACTURER FKC. LAYOUT OF THICKENER WILL DEPEND ON THICKENER MANUFACTURER. PROVIDE THICKENER LAYOUT FOR ENGINEERING REVIEW AND ACCEPTANCE BEFORE LOCATION OF TSL PUMP, SLUDGE HOPPER AND CHUTE, FA DUCT, AND BSL FEED PIPE IS APPROVED FOR PURCHASE.
2. FOR ALTERNATIVE THICKENER LAYOUT AND BSL INFLUENT PIPE CONFIGURATION, REFER TO DRAWING 07M209.
3. PROVIDE HOT WATER PRESSURE WASHER PER SECTION 11215. CONTRACTOR TO COORDINATE PIPING CONNECTION FROM 3W TO PRESSURE WASHER AND PROVIDE 100 MESH Y-STRAINER AND ISOLATION BALL VALVE.
4. COORDINATE LOCATION OF 6" FA CONNECTION TO THE FLOC TANK AND SLUDGE HOPPER WITH THE MANUFACTURER AND SECTION 11354.
5. MINIMUM 1% SLOPE (TYP) WHEN DUCT IS SLOPED IN THE DIRECTION OF AIR FLOW.
6. MINIMUM 2% SLOPE (TYP) WHEN DUCT IS SLOPED AGAINST THE DIRECTION OF AIR FLOW.
7. ALL FA DUCTWORK REDUCERS SHALL BE ECCENTRIC REDUCERS.
8. OVERHEAD FA DUCT PIPE SUPPORT TO STEEL FRAMING SHALL BE COORDINATED BY THE CONTRACTOR WITH THE CANOPY MANUFACTURER.
9. INSTALL 6-INCH BALANCING DAMPER ON THE VERTICAL DROPLEG OF FA DUCT TO EACH EQUIPMENT CONNECTION LOCATION.

KEY TAGS:

1	THK-RDT-07-001	ROTARY DRUM THICKENER 1
2	THK-RDT-07-002	ROTARY DRUM THICKENER 2
3	THK-RDT-07-003	ROTARY DRUM THICKENER 3
4	THK-VCP-07-001	RDT 1 VENDOR CONTROL PANEL
5	THK-VCP-07-002	RDT 2 VENDOR CONTROL PANEL
6	THK-VCP-07-003	RDT 3 VENDOR CONTROL PANEL

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc.
Date: 2025.01.14 09:07:00

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

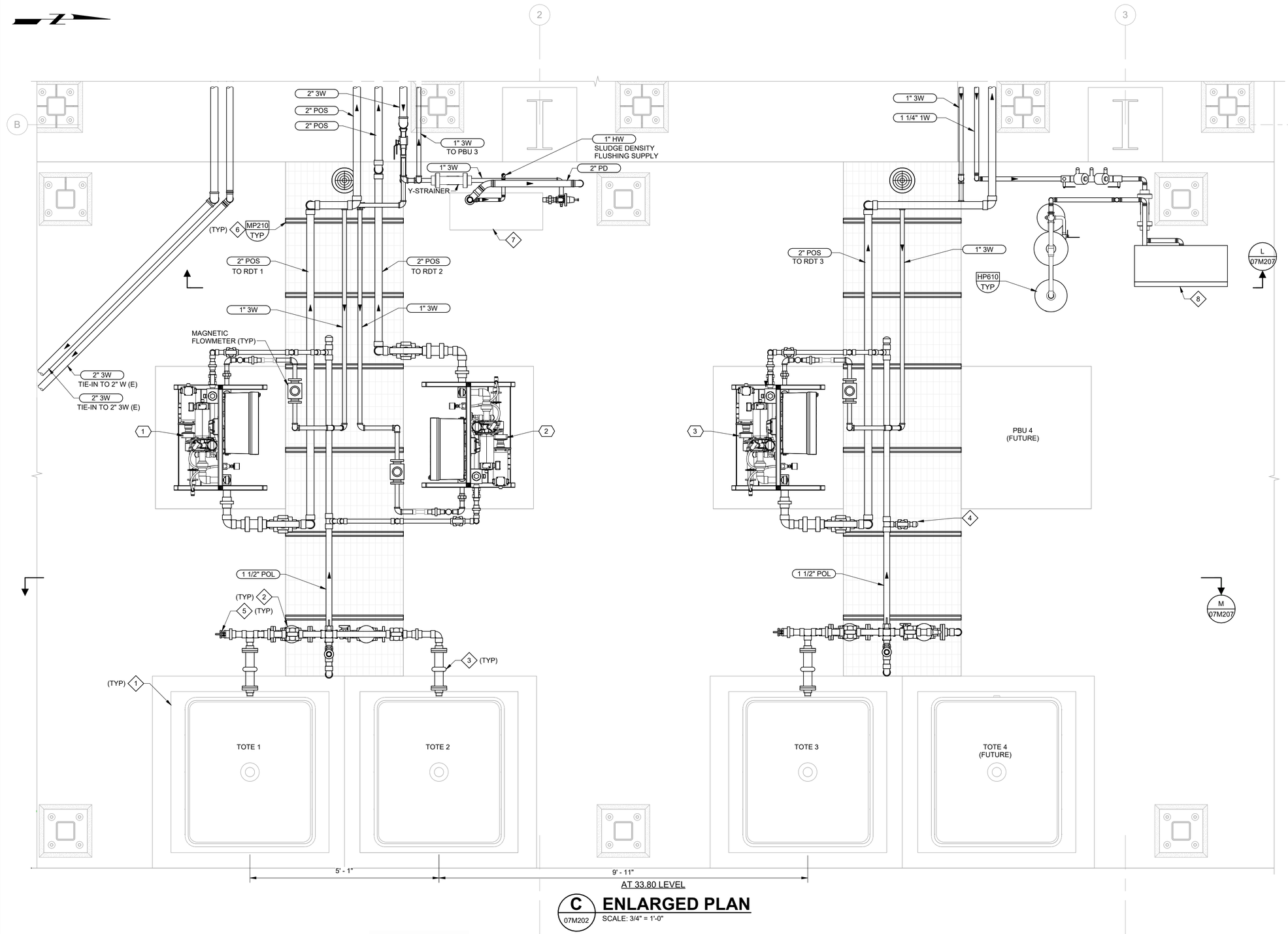
MECHANICAL
RDT FACILITY
UPPER PLAN

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. 202645
DRAWING NO. 07M203
SHEET NO. 68 OF 239

PLOT DATE: 1/28/2025 2:02:24 PM

FILE NAME: R:\d0299007\202645_00M0802.rvt



AT 33.80 LEVEL

C 07M202 **ENLARGED PLAN**

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

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. MAINTAIN A MINIMUM OF 2% SLOPE ON ALL DRAIN LINES.
3. PROVIDE UNIONS AT MAXIMUM SPACING OF 10-FT ON POLYMER AND POLYMER SOLUTION PIPING.
4. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
5. SUPPORT ALL 1W, 3W, AND POS PIPING PER DETAILS MP132/TYP, MP175/TYP, MP253/TYP, AND MP210/TYP.

KEY NOTES:

1. PROVIDE IBC TOTE SPILL CONTAINMENT PALLET WITH WEIGHT SCALE. COORDINATE CONTAINMENT PALLET WITH WEIGHT SCALE MANUFACTURER TO ENSURE A WORKING ASSEMBLY. MINIMUM CONTAINMENT VOLUME TO BE 330 GAL.
2. PROVIDE DUPLEX BASKET STRAINER FOR CHEMICAL SERVICE ON POLYMER TOTE OUTLET.
3. PROVIDE A TOTE SUCTION ASSEMBLY WITH QUICK DISCONNECT CAMLOCK FITTING. HOSE SHALL BE 1-1/2 INCH BRAIDED PVC AND OF SUFFICIENT LENGTH TO ALLOW 1 FT OF SLACK BETWEEN PIPE AND TOTE CONNECTION.
4. PROVIDE ISOLATION VALVE FOR FUTURE CONNECTION.
5. PROVIDE FLUSHING CONNECTION PER MP405/TYP.
6. SUPPORT PIPING IN TRENCH BELOW GRATING PER DETAIL MP210/TYP.
7. PROVIDE TANKLESS ELECTRIC WATER HEATER, FOR SLUDGE DENSITY METER FLUSH PER SECTION 15400. INSTALL 100 MESH Y-STRAINER, PRESSURE REGULATOR, PRESSURE GAUGE, AND TEE WITH DRAIN UPSTREAM OF THE HEATER PER MANUFACTURER RECOMMENDATION. REFER TO DRAWING 07N021.
8. SUPPLY TANKLESS ELECTRIC WATER HEATER, TO PROVIDE TEPID WATER FOR EMERGENCY EYEWASH AD SHOWER PER SECTION 15430. INSTALL 40 MESH Y-STRAINER, PRESSURE REGULATOR, PRESSURE GAUGE, BALL VALVE AND TEE WITH DRAIN UPSTREAM OF THE HEATER PER MANUFACTURER RECOMMENDATION. INSTALL TEE WITH DRAIN AND WATER HAMMER ARRESTOR DOWNSTREAM OF THE HEATER PER MANUFACTURER RECOMMENDATION. REFER TO DRAWING 07N051.

KEY TAGS:

1	THK-POL-07-001	POLYMER BLENDING UNIT 1
2	THK-POL-07-002	POLYMER BLENDING UNIT 2
3	THK-POL-07-003	POLYMER BLENDING UNIT 3

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 10:40:00 -08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

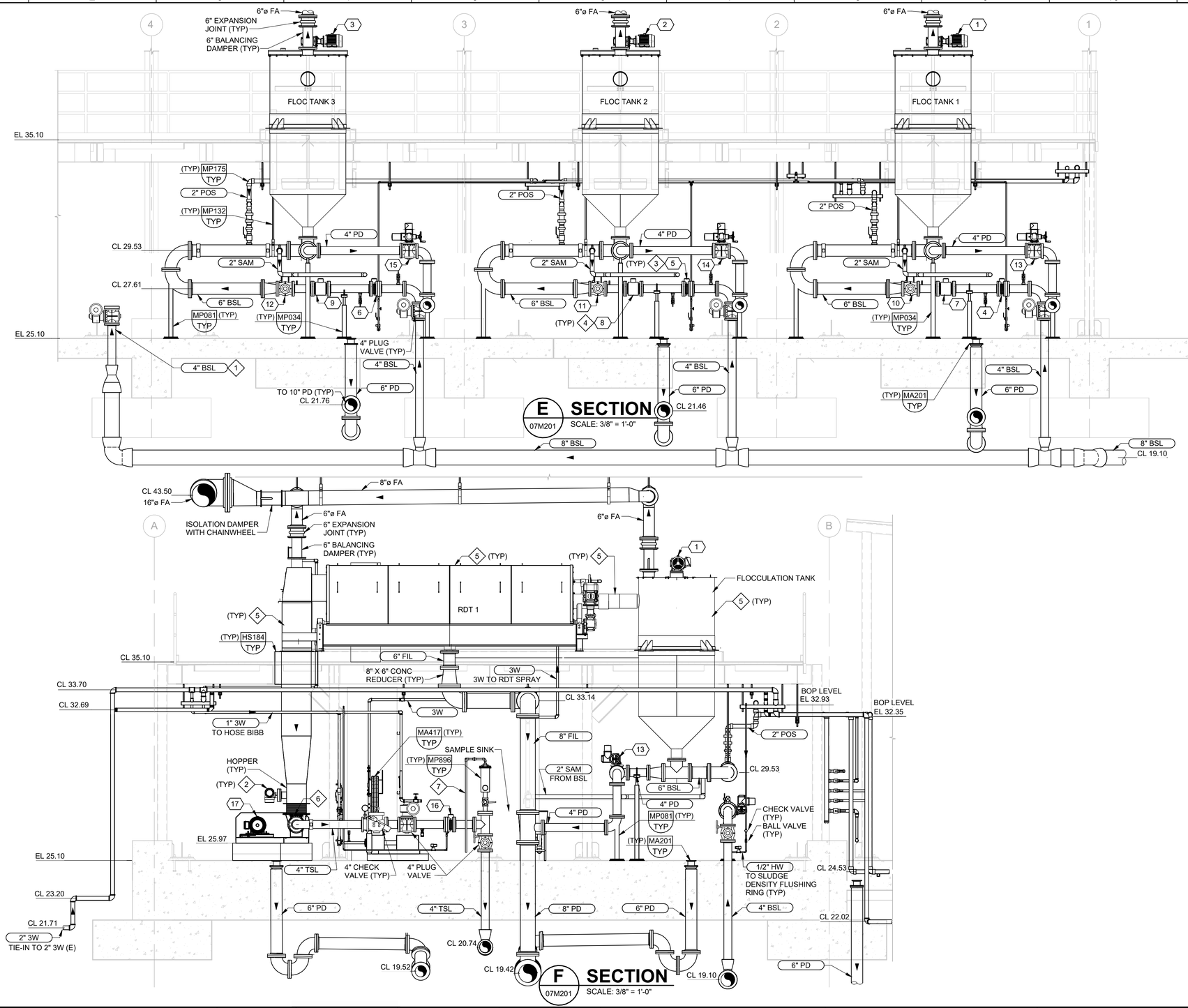
MECHANICAL
RDT FACILITY
ENLARGED PLAN

VERIFY SCALES
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JOB NO. 202645
DRAWING NO. 07M204
SHEET NO. 69 OF 239

PLOT DATE: 1/28/2025 10:40:46 AM

FILE NAME: R:\d0299007\202645_00M0802.rvt



GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. CONCRETE ENCASED PIPING UNDERNEATH SLAB AS INDICATED ON DRAWING 00GM002.
4. ALL PIPE PENETRATIONS THROUGH FLOOR SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP514 W/O SLEEVE/ TYP, UNLESS NOTED OTHERWISE.
5. MAINTAIN A MINIMUM OF 2% SLOPE ON ALL DRAIN LINES.
6. PROVIDE LONG RADIUS ELBOWS ON ALL BSL AND TSL PIPING.
7. PROVIDE UNIONS AT MAXIMUM SPACING OF 10-FT ON POLYMER AND POLYMER SOLUTION PIPING.
8. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
9. SUPPORT ALL 1W, 3W, CD, HW, POS, SAM, AND SW PIPING PER DETAILS MP132/TYP, MP175/TYP, AND MP253/TYP.
10. SUPPORT ALL BSL, FIL, PD, TSL PIPING PER DETAILS MP032/TYP, MP034/TYP, AND MP081/TYP. UNLESS OTHERWISE STATED.

KEY NOTES:

1. TERMINATE PIPE WITH FLANGE 9" ABOVE FINISHED FLOOR ELEVATION FOR FUTURE CONNECTION. INSTALL BLIND FLANGE.
2. DIFFERENTIAL PRESSURE HOPPER LEVEL TRANSMITTER. REFER TO DRAWINGS 07N021, 07N22, AND 07N23.
3. INSTALL SLUDGE DENSITY METER AND FLUSHING RING WITH 4 STRAIGHT UPSTREAM PIPE DIAMETERS AND 3 STRAIGHT DOWNSTREAM PIPE DIAMETERS.
4. INSTALL THE MAGNETIC FLOW METER WITH 5 STRAIGHT UPSTREAM PIPE DIAMETERS AND 3 STRAIGHT DOWNSTREAM PIPE DIAMETERS.
5. PROVIDED BY THICKENER MANUFACTURER.
6. PROPER MATING/CONNECTION BETWEEN THE RDT SLUDGE HOPPER, FLANGED FLEXIBLE RECTANGULAR CONNECTION, AND THICKENED SLUDGE PUMP OPEN THROAT SUCTION SHALL BE COORDINATED BY THE CONTRACTOR PER SECTIONS 11312I AND 11354.
7. INSTALL AIR RELIEF DISCHARGE PIPE AND ROUTE TO THE NEAREST FLOOR DRAIN.

KEY TAGS:

1	THK-MXR-07-001	FLOC TANK MIXER 1
2	THK-MXR-07-002	FLOC TANK MIXER 2
3	THK-MXR-07-003	FLOC TANK MIXER 3
4	AIT-07-001	RDT 1 SLUDGE DENSITY METER
5	AIT-07-002	RDT 2 SLUDGE DENSITY METER
6	AIT-07-003	RDT 3 SLUDGE DENSITY METER
7	FIT-07-031	RDT 1 FLOWMETER
8	FIT-07-032	RDT 2 FLOWMETER
9	FIT-07-033	RDT 3 FLOWMETER
10	THK-VAL-07-011	RDT 1 CONTROL VALVE
11	THK-VAL-07-021	RDT 2 CONTROL VALVE
12	THK-VAL-07-031	RDT 3 CONTOL VALVE
13	THK-VAL-07-012	RDT 1 DRAIN VALVE
14	THK-VAL-07-022	RDT 2 DRAIN VALVE
15	THK-VAL-07-032	RDT 3 DRAIN VALVE
16	AIT-07-011	TSP 1 SLUDGE DENSITY METER
17	THK-PMP-07-011	THICKENED SLUDGE PUMP 1

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc
Date: 2025.01.29 07:43:23 -08'00'

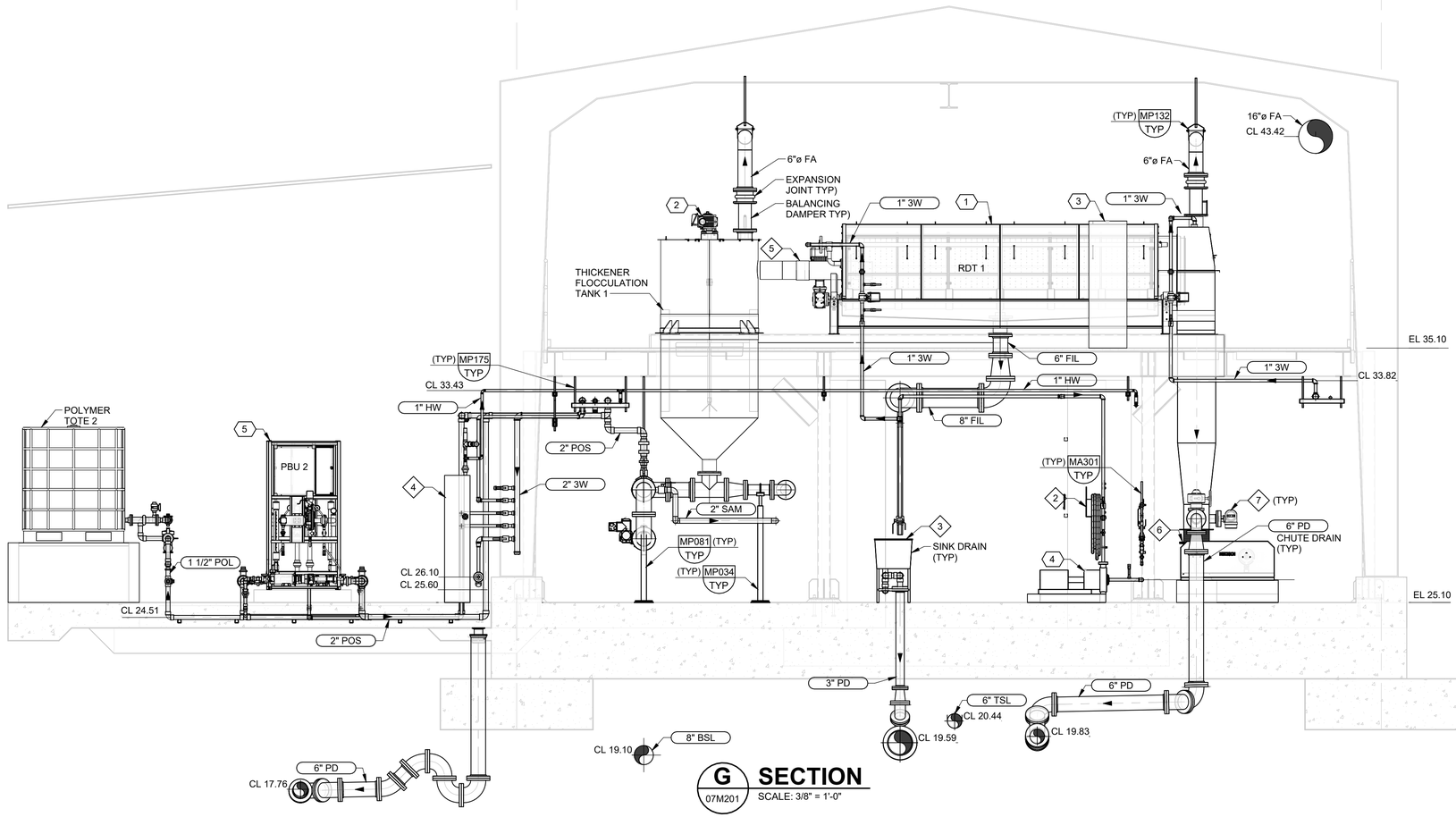
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CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
RDT FACILITY SECTIONS

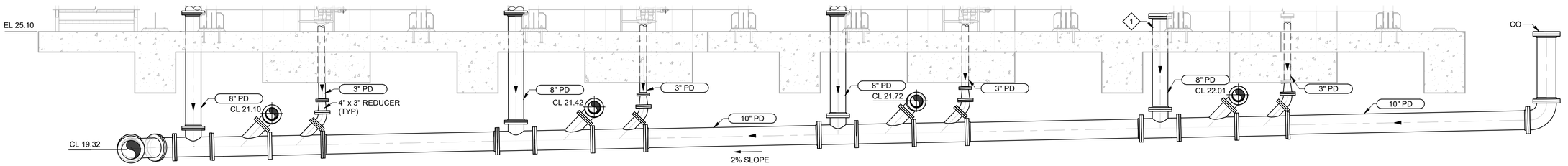
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JOB NO. 202645
DRAWING NO. 07M205
SHEET NO. 70 OF 239

PLOT DATE: 1/29/2025 10:40:12 AM
FILE NAME: R:\d0299007\202645_00M0802.rvt



G SECTION
07M201
SCALE: 3/8" = 1'-0"



H SECTION
07M201
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. ALL PIPING BELOW THE CONCRETE SLAB SHALL BE CONCRETE ENCASED PER DETAIL S MP003/TYP, MP005/TYP, AND MP014/TYP. CONTINUE ENCASEMENT BEYOND THE EDGE OF SLAB TO A DIMENSION EQUAL TO THE DISTANCE FROM BOTTOM OF SLAB TO TOP OF PIPE OR 2'-0", WHICHEVER IS GREATER.
4. ALL PIPE PENETRATIONS THROUGH FLOOR SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP544/TYP, UNLESS NOTED OTHERWISE.
5. MAINTAIN A MINIMUM OF 2% SLOPE ON ALL DRAIN LINES.
6. PROVIDE LONG RADIUS ELBOWS ON ALL BSL AND TSL PIPING.
7. PROVIDE UNIONS AT MAXIMUM SPACING OF 10-FT ON POLYMER AND POLYMER SOLUTION PIPING.
8. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
9. SUPPORT ALL 1W, 3W, CD, HW, POS, SAM, AND SW PIPING PER DETAILS MP132/TYP, MP175/TYP, AND MP253/TYP.
10. SUPPORT ALL BSL, FIL, PD, TSL PIPING PER DETAILS MP032/TYP, MP034/TYP, AND MP081/TYP. UNLESS OTHERWISE STATED.

KEY NOTES:

1. TERMINATE PIPE WITH FLANGE 9" ABOVE FINISHED FLOOR ELEVATION FOR FUTURE CONNECTION. INSTALL BLIND FLANGE.
2. PROVIDE HOSE BIBB AND HOSE RACK PER DETAILS MA415/TYP AND MA417/TYP.
3. SAMPLE SINK.
4. TANKLESS ELECTRICAL WATER HEATER FOR SLUDGE DENSITY METER.
5. PIPE CONNECTION BETWEEN FLOC TANK AND THICKENER PROVIDED BY MANUFACTURER.
6. PROPER MATING/CONNECTION BETWEEN THE RDT SLUDGE HOPPER, FLANGED FLEXIBLE RECTANGULAR CONNECTION, AND THICKENED SLUDGE PUMP OPEN THROAT SUCTION SHALL BE COORDINATED BY THE CONTRACTOR PER SECTIONS 11312I AND 11354.
7. DIFFERENTIAL PRESSURE HOPPER LEVEL TRANSMITTER. REFER TO DRAWINGS 07N021, 07N22, AND 07N23.

KEY TAGS:

1	THK-RDT-07-001	ROTARY DRUM THICKENER 1
2	THK-MXR-07-001	FLOC TANK MIXER 1
3	THK-VCP-07-001	RDT 1 VENDOR CONTROL PANEL
4	THK-PMP-07-021	RDT SPRAY WATER BOOSTER PUMP 1
5	THK-POL-07-002	POLYMER BLENDING UNIT 2

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DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 13:45:27 -08'00'

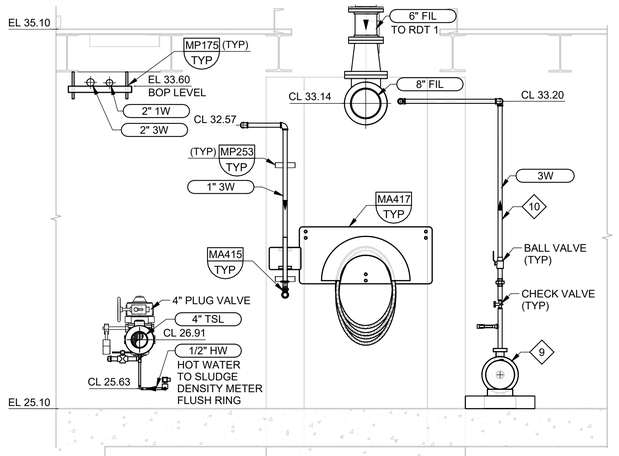
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CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
RDT FACILITY
SECTIONS

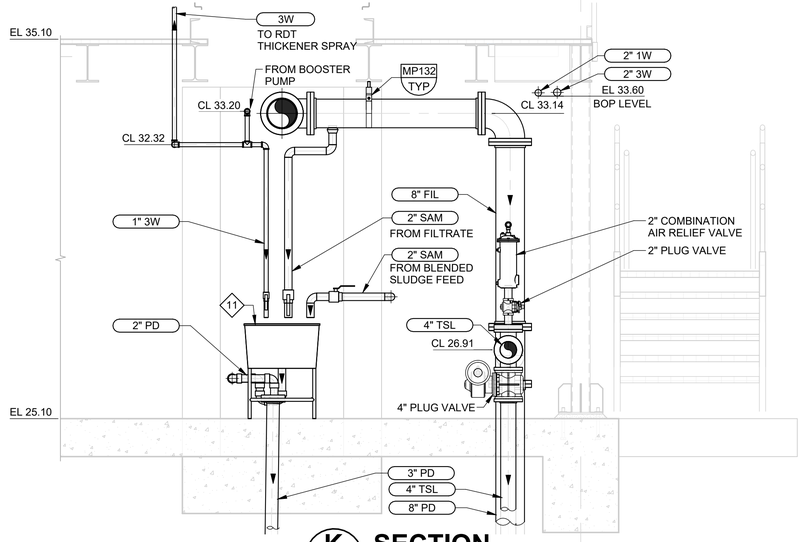
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JOB NO. 202645
DRAWING NO. 07M206
SHEET NO. 71 OF 239

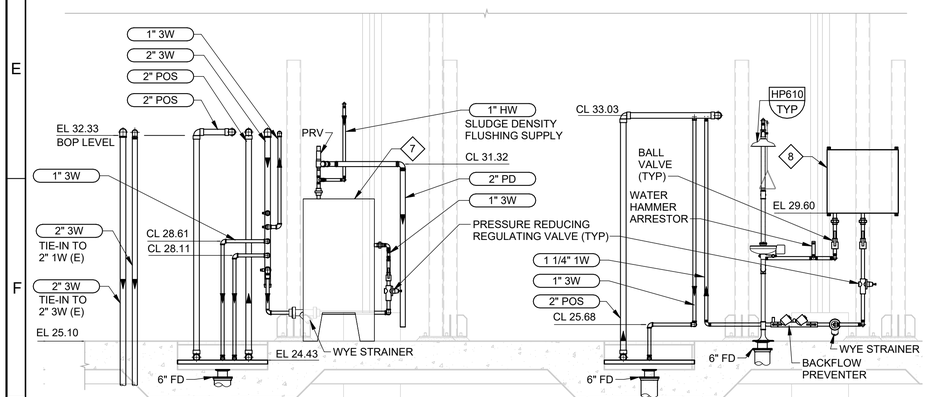
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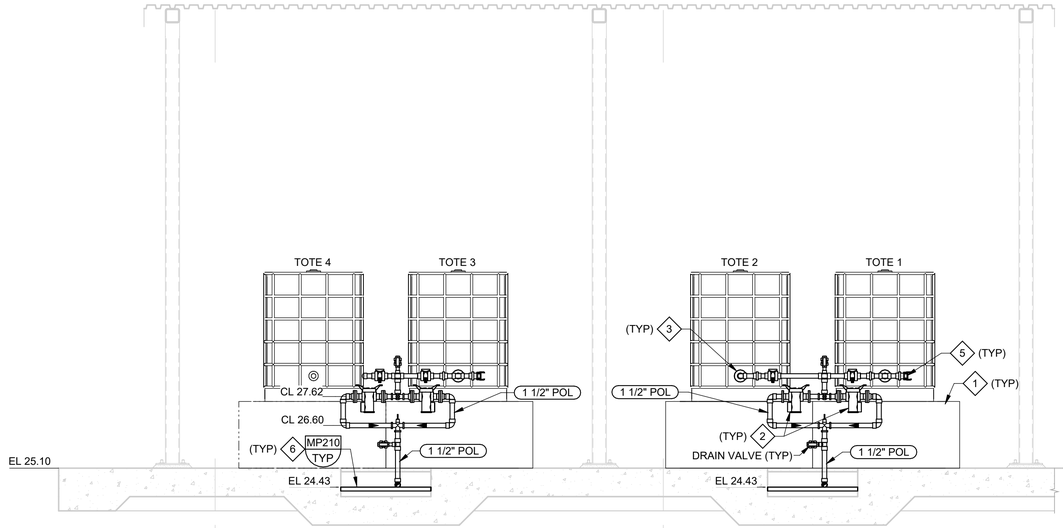
J SECTION (07M202)
SCALE: 1/2" = 1'-0"



K SECTION (07M202)
SCALE: 1/2" = 1'-0"



L SECTION (07M204)
SCALE: 3/8" = 1'-0"



M SECTION (07M204)
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. CONCRETE ENCASED PIPING UNDERNEATH SLAB AS INDICATED ON DRAWING 00GM002.
4. ALL PIPE PENETRATIONS THROUGH FLOOR SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP514 W/O SLEEVE/ TYP, UNLESS NOTED OTHERWISE.
5. MAINTAIN A MINIMUM OF 2% SLOPE ON ALL DRAIN LINES.
6. PROVIDE UNIONS AT MAXIMUM SPACING OF 10-FT ON POLYMER AND POLYMER SOLUTION PIPING.
7. SUPPORT ALL 1W, 3W, CD, HW, POS, SAM, AND SW PIPING PER DETAILS MP132/TYP, MP175/TYP, AND MP253/TYP.
8. SUPPORT ALL BSL, FIL, PD, TSL PIPING PER DETAILS MP032/TYP, MP034/TYP, AND MP081/TYP UNLESS OTHERWISE STATED.

KEY NOTES:

1. PROVIDE IBC TOTE SPILL CONTAINMENT PALLET WITH WEIGHT SCALE. COORDINATE CONTAINMENT PALLET WITH WEIGHT SCALE MANUFACTURER TO ENSURE A WORKING ASSEMBLY. MINIMUM CONTAINMENT VOLUME TO BE 330 GAL.
2. PROVIDE DUPLEX BASKET STRAINER FOR CHEMICAL SERVICE ON POLYMER TOTE OUTLET.
3. PROVIDE A TOTE SUCTION ASSEMBLY WITH QUICK DISCONNECT CAMLOCK FITTING. HOSE SHALL BE 1-1/2 INCH BRAIDED PVC AND OF SUFFICIENT LENGTH TO ALLOW 1 FT OF SLACK BETWEEN PIPE AND TOTE CONNECTION.
4. (NOT USED).
5. PROVIDE FLUSHING CONNECTION PER MP405/TYP.
6. SUPPORT PIPING IN TRENCH BELOW GRATING PER DETAIL MP210/TYP.
7. PROVIDE TANKLESS ELECTRIC WATER HEATER, FOR SLUDGE DENSITY METER FLUSH PER SECTION 15400. INSTALL 100 MESH Y-STRAINER, PRESSURE REGULATOR, PRESSURE GAUGE, AND TEE WITH DRAIN UPSTREAM OF THE HEATER PER MANUFACTURER RECOMMENDATION.
8. SUPPLY TANKLESS ELECTRIC WATER HEATER, TO PROVIDE TEPID WATER FOR EMERGENCY EYEWASH AD SHOWER PER SECTION 15430. INSTALL 40 MESH Y-STRAINER, PRESSURE REGULATOR, PRESSURE GAUGE, BALL VALVE AND TEE WITH DRAIN UPSTREAM OF THE HEATER PER MANUFACTURER RECOMMENDATION. INSTALL TEE WITH DRAIN AND WATER HAMMER ARRESTOR DOWNSTREAM OF THE HEATER PER MANUFACTURER RECOMMENDATION.
9. REFER TO PUMP SCHEMATIC DETAIL 2 SHOWN IN DRAWING 07M208.
10. 3W SPRAY WATER SERVICE LINE FOR THE RDT TO BE 1" OR 1.5" DEPENDING ON MANUFACTURER REQUIREMENTS. CONTRACTOR TO COORDINATE BASED ON RDT MANUFACTURER SPRAY WATER REQUIREMENTS.
11. PROVIDE 304 SST DRAIN, P-TRAP, TAILPIECE, AND REMOVABLE STRAINER (MODEL J-35-STP BY JUST MANUFACTURING COMPANY OR EQUAL). SECURE SINK TO FLOOR. DRAIN TO HAVE A MINIMUM DOWNWARD SLOPE OF 2%. ROUTE SUCH THAT NO TRIPPING HAZARDS ARE CREATED AND ACCESS IS NOT IMPEDED.

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.31 14:49:00

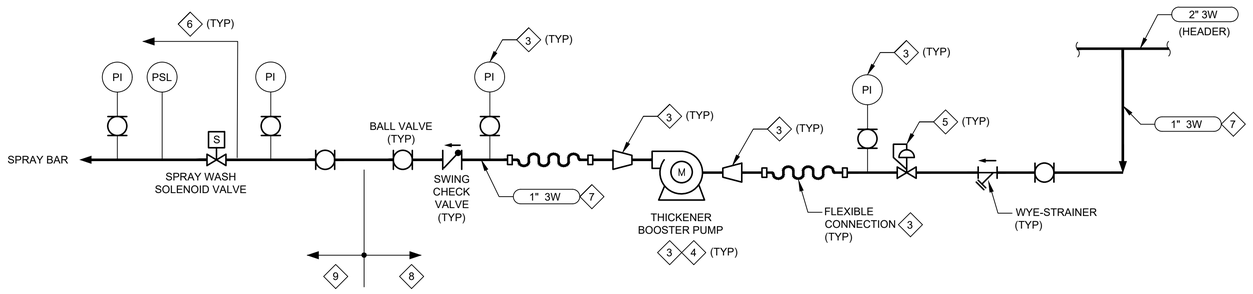
carollo

CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
RDT FACILITY
SECTIONS

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

JOB NO. 202645
DRAWING NO. 07M207
SHEET NO. 72 OF 239

PLOT DATE: 1/28/2025 10:36:23 AM
FILE NAME: R:\d0299007\202645_00M0802.rvt



10 SPRAY WASH SCHEMATIC (TYP)

1 / 07M202 **DETAIL**

SCALE: NO SCALE
FILE: 202645_07M208

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.

KEY NOTES:

1. NOT USED.
2. NOT USED.
3. NOT REQUIRED IF THICKENER MFR DOES NOT REQUIRE BOOSTER PUMP.
4. BOOSTER PUMP TO BE PROVIDED BY THICKENER MFR, IF NECESSARY FOR REQUIRED SPRAY WATER PRESSURE. PUMP MUST BE INSTALLED BY CONTRACTOR.
5. PROVIDE PRESSURE REGULATING VALVE SIZED TO DROP SUPPLY PRESSURE AS INDICATED IN THICKENER SPECIFICATION. DOWNSTREAM PRESSURE SETTING SHALL BE FIELD ADJUSTABLE.
6. FITTINGS, TUBING, INDICATED SOLENOID VALVES, PRESSURE GAUGES ON SPRAY BAR AND SPRAY BAR TO BE SUPPLIED BY THICKENER MFR.
7. IF BOOSTER PUMP IS NOT REQUIRED, PROVIDE 1 ½" PIPING IN LIEU OF 1" PIPING.
8. TO BE INSTALLED AT THE INTERMEDIATE FLOOR NEAR THE ASSOCIATED BOOSTER PUMP (UNLESS BOOSTER PUMP IS NOT REQUIRED).
9. TO BE INSTALLED AT THE TOP FLOOR NEAR THE ASSOCIATED THICKENER.
10. ALL ACCESSORIES TO BE INSTALLED WITHIN OPERATORS' REACH AT A MAXIMUM ELEVATION OF 4' 6" ABOVE FFE.

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
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CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.27 11:13:29-08'00'

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CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
RDT FACILITY DETAILS

VERIFY SCALES
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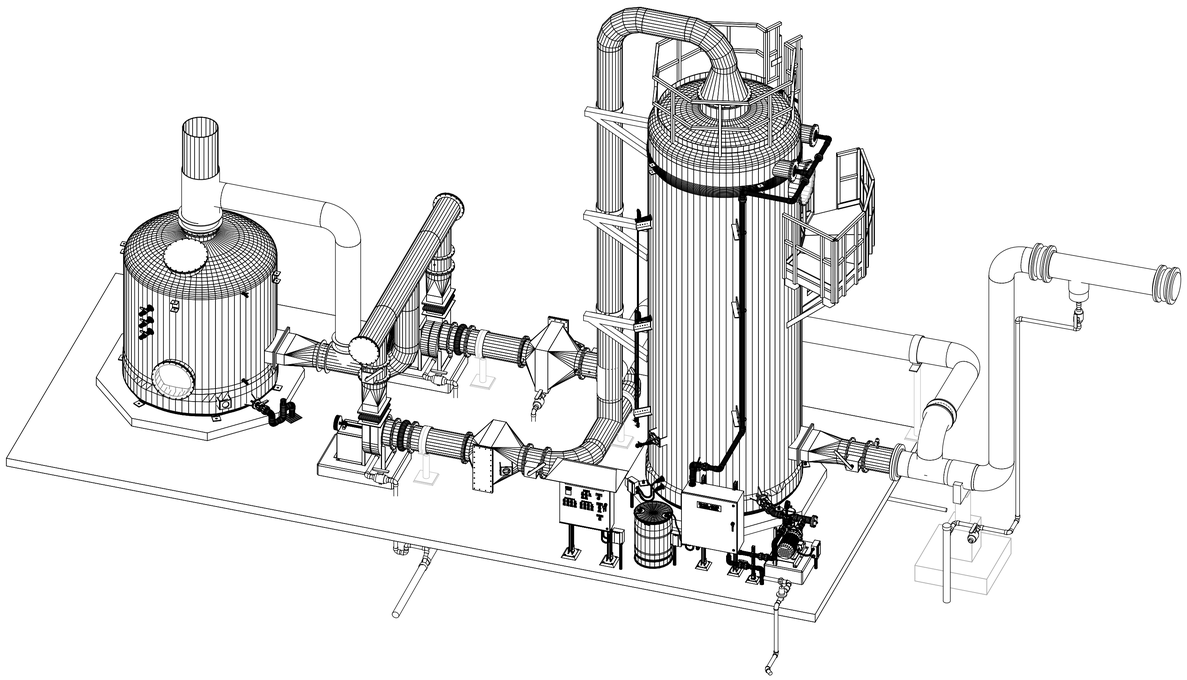
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SHEET NO. 73 OF 239

LAST SAVED BY: abaraquil

PROJECT NO. 202645-100000 FILE NAME: 202645_07M208.dwg

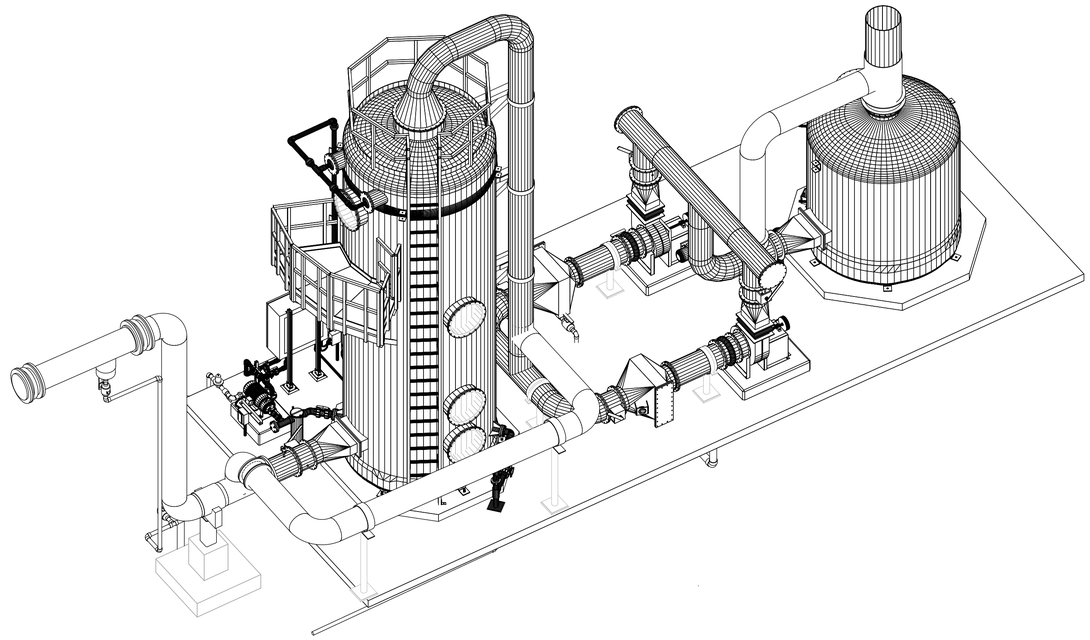
GENERAL NOTES:

1. THESE PERSPECTIVE VIEWS PROVIDE A VISUAL REPRESENTATION OF THE PROCESS ELEMENT FOR REFERENCE ONLY. IT IS NOT TO SCALE. REFER TO SUBSEQUENT DRAWINGS FOR DETAILED REQUIREMENTS FOR THE PROCESS ELEMENT.



PERSPECTIVE VIEW 1

SCALE: NO SCALE



PERSPECTIVE VIEW 2

SCALE: NO SCALE

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DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.29 12:54:39 -08'00'

carollo

my Manteca CITY OF MANTECA, CALIFORNIA Manteca the family city INCORPORATED MAY 28, 1918

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

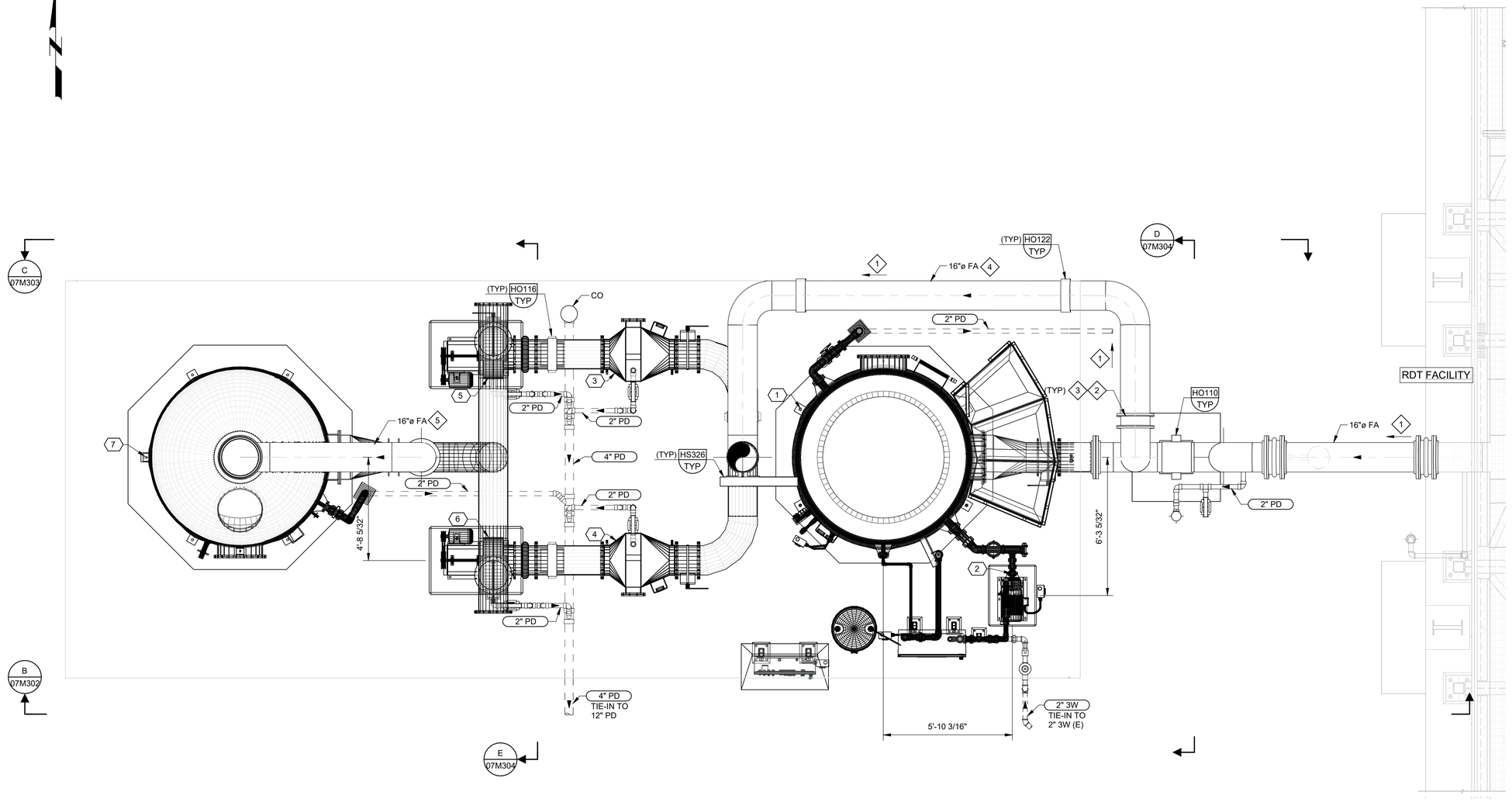
THICKENING ODOR CONTROL FACILITY
PERSPECTIVE VIEWS

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

JOB NO. 202645
DRAWING NO. 07M300
SHEET NO. 74 OF 239

PLOT DATE: 1/29/2025 12:54:50 PM

FILE NAME: R:\d0299007\202645_00M0803.rvt



AT GRADE LEVEL

A PLAN

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

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. ALL PIPING BELOW THE CONCRETE SLAB SHALL BE CONCRETE ENCASED PER DETAILS MP003/TYP AND MP005/TYP. CONTINUE ENCASEMENT BEYOND THE EDGE OF SLAB TO A DIMENSION EQUAL TO THE DISTANCE FROM BOTTOM OF SLAB TO TOP OF PIPE OR 2'-0", WHICHEVER IS GREATER.
4. ALL PIPE PENETRATIONS THROUGH FLOOR SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP544/TYP, UNLESS NOTED OTHERWISE.
5. VERIFY DIMENSIONS WITH EQUIPMENT PROVIDED.
6. FA DUCT ROUTING SHALL BE FIELD ADJUSTED AS REQUIRED TO SUIT EQUIPMENT PROVIDED.
7. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
8. NOT ALL EQUIPMENT INCLUDING INSTRUMENTS, ELECTRICAL DEVICES, AND PIPING ARE SHOWN. REFER TO SECTION 11395A FOR ADDITIONAL INFORMATION ON THE ODOR CONTROL SYSTEM AND ASSOCIATED COMPONENTS AND FANS. PROVIDE REQUIRED EQUIPMENT WHETHER SHOWN OR NOT ON THE DRAWINGS.
9. SMALL DIAMETER PIPING ASSOCIATED WITH THE VESSELS AND THE RECIRCULATION PIPING SHALL BE DESIGNED AND SUPPORTED BY THE CONTRACTOR. SUPPORTS FOR PIPING OFF VESSELS SHALL BE PROVIDED BY ODOR CONTROL SUPPLIER.
10. ALL FOUL AIR CD LINES SHALL INCLUDE A P-TRAP BELOW GRADE AND HAVE A MINIMUM 2% SLOPE.
11. PROVIDE 2" VENT LINE FOR PROCESS DRAIN LINES. THE VENT LINE SHALL BE ROUTED HORIZONTALLY BELOW THE CONCRETE SLAB AND CONCRETE ENCASED PER DETAILS MP003/TYP AND MP005/TYP. THE VENT LINE SHALL EXTEND NOT LESS THAN 10' ABOVE THE SURROUNDING GROUND ELEVATION AND NOT LESS THAN 10' FROM ELECTRICAL EQUIPMENT AND INSTRUMENTS. PROVIDE 316SS PIPE SUPPORTS TO SUPPORT VERTICAL VENT LINE ABOVE GROUND. SUBMIT VENT LINE ROUTING AND TERMINATION POINT TO ENGINEER FOR REVIEW AND APPROVAL.

◇ KEY NOTES:

1. MINIMUM 2% SLOPE.
2. PROVIDE EXPANSION JOINT PER SECTION 15814.
3. PROVIDE ZERO LEAK DAMPER PER SECTION 15814.
4. BIOTRICKLING FILTER BYPASS.
5. CARBON SCRUBBER BYPASS.

◇ KEY TAGS:

1	FAR-OCU-07-011	BIOTRICKLING FILTER
2	FAR-PMP-07-031	BTF CIRCULATION PUMP
3	FAR-FLT-07-001	MIST/GREASE ELIMINATOR 1
4	FAR-FLT-07-002	MIST/GREASE ELIMINATOR 2
5	FAR-FAN-07-001	ODOR SCRUBBER FAN 1
6	FAR-FAN-07-002	ODOR SCRUBBER FAN 2
7	FAR-OCU-07-012	ACTIVATED CARBON SCRUBBER

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
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CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.27 10:37:07 -07'00'

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CITY OF MANTECA, CALIFORNIA Manteca the family city INCORPORATED MAY 25, 1918

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

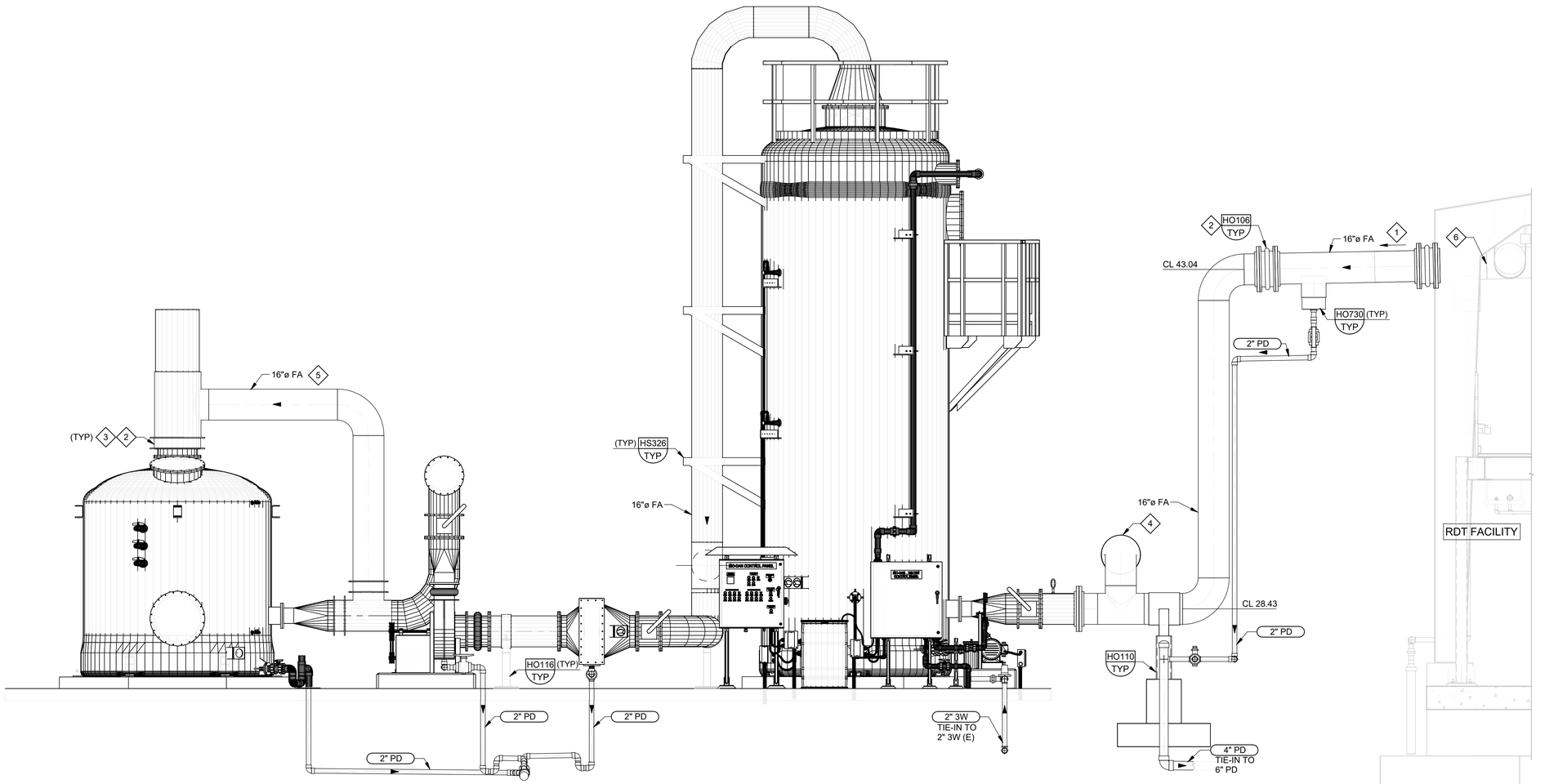
THICKENING ODOR CONTROL FACILITY PLAN

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

JOB NO. 202645
DRAWING NO. 07M301
SHEET NO. 75 OF 239

PLOT DATE: 1/28/2025 12:55:26 PM

FILE NAME: R:\d0299007\202645_00M0803.rvt



B 07M301 **SECTION**
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. ALL PIPING BELOW THE CONCRETE SLAB SHALL BE CONCRETE ENCASED PER DETAILS MP003/TYP AND MP005/TYP. CONTINUE ENCASEMENT BEYOND THE EDGE OF SLAB TO A DIMENSION EQUAL TO THE DISTANCE FROM BOTTOM OF SLAB TO TOP OF PIPE OR 2'-0", WHICHEVER IS GREATER.
4. ALL PIPE PENETRATIONS THROUGH FLOOR SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP544/TYP, UNLESS NOTED OTHERWISE.
5. VERIFY DIMENSIONS WITH EQUIPMENT PROVIDED.
6. FA DUCT ROUTING SHALL BE FIELD ADJUSTED AS REQUIRED TO SUIT EQUIPMENT PROVIDED.
7. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
8. NOT ALL EQUIPMENT INCLUDING INSTRUMENTS, ELECTRICAL DEVICES AND PIPING ARE SHOWN. REFER TO SECTION 11395A FOR ADDITIONAL INFORMATION ON THE ODOR CONTROL SYSTEM AND ASSOCIATED COMPONENTS AND FANS. PROVIDE REQUIRED EQUIPMENT WHETHER SHOWN OR NOT ON THE DRAWINGS.
9. SMALL DIAMETER PIPING ASSOCIATED WITH THE VESSELS AND THE RECIRCULATION PIPING SHALL BE DESIGNED AND SUPPORTED BY THE CONTRACTOR. SUPPORTS FOR PIPING OFF VESSELS SHALL BE PROVIDED BY ODOR CONTROL SUPPLIER.
10. ALL FOUL AIR CD LINES SHALL INCLUDE A P-TRAP BELOW GRADE AND HAVE A MINIMUM 2% SLOPE.
11. PROVIDE 2" VENT LINE FOR PROCESS DRAIN LINES. THE VENT LINE SHALL BE ROUTED HORIZONTALLY BELOW THE CONCRETE SLAB AND CONCRETE ENCASED PER DETAILS MP003/TYP AND MP005/TYP. THE VENT LINE SHALL EXTEND NOT LESS THAN 10' ABOVE THE SURROUNDING GROUND ELEVATION AND NOT LESS THAN 10' FROM ELECTRICAL EQUIPMENT AND INSTRUMENTS. PROVIDE 316SS PIPE SUPPORTS TO SUPPORT VERTICAL VENT LINE ABOVE GROUND. SUBMIT VENT LINE ROUTING AND TERMINATION POINT TO ENGINEER FOR REVIEW AND APPROVAL.

KEY NOTES:

1. MINIMUM 2% SLOPE.
2. PROVIDE EXPANSION JOINT PER SECTION 15814.
3. PROVIDE ZERO LEAK DAMPER PER SECTION 15814.
4. BIOTRICKLING FILTER BYPASS.
5. CARBON SCRUBBER BYPASS.
6. FOR FA PIPING CONTINUATION , REFER TO DRAWING 07M203

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 12:56:20 -08'00'

carollo

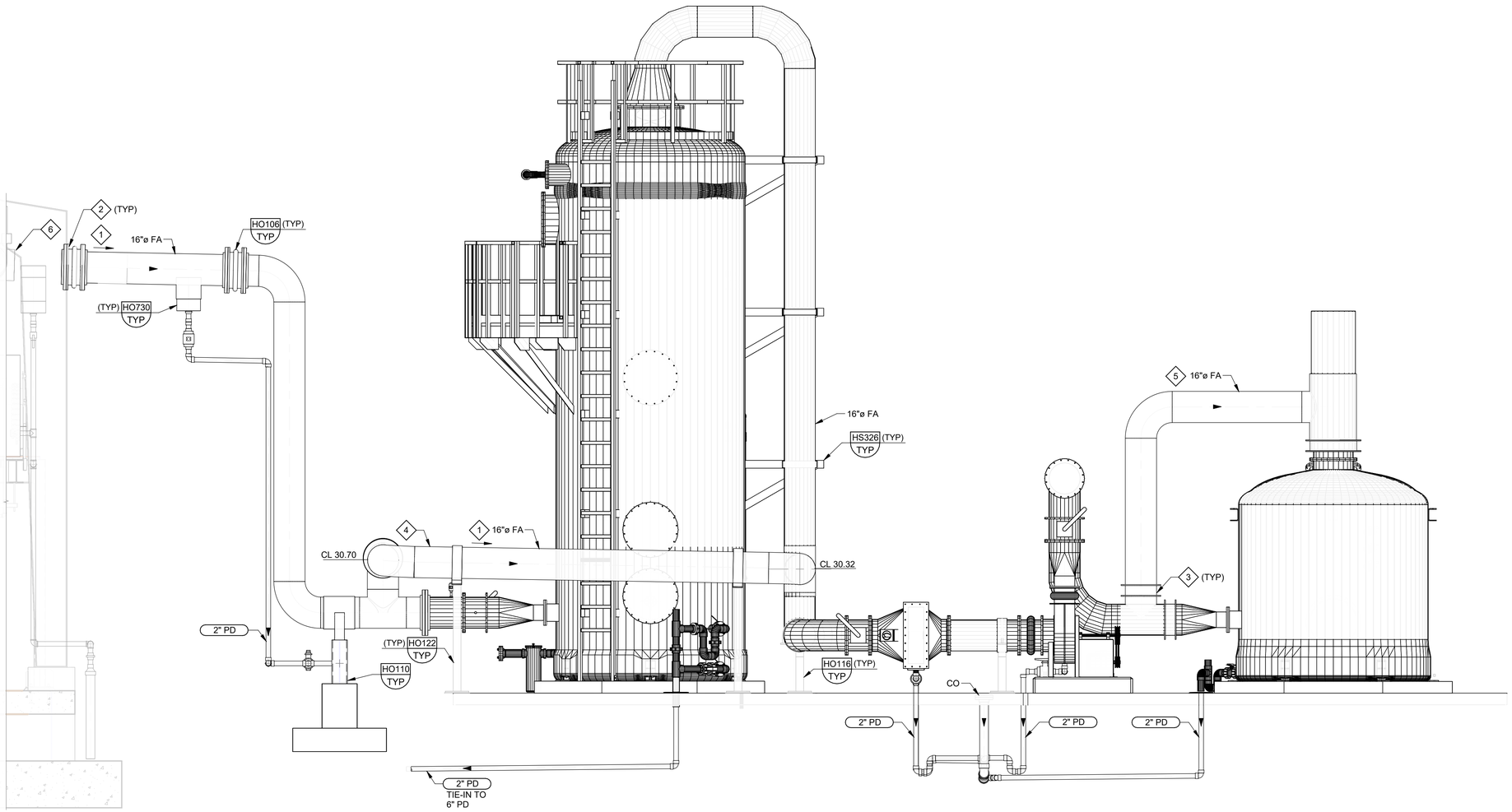
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
THICKENING ODOR CONTROL FACILITY SECTION

VERIFY SCALES
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JOB NO. 202645
DRAWING NO. 07M302
SHEET NO. 76 OF 239

PLOT DATE: 1/28/2025 12:56:20 PM

FILE NAME: R:\d0299007\202645_00M0803.rvt



C 07M301 **SECTION**

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

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
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KEY NOTES:

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5. CARBON SCRUBBER BYPASS.
6. FOR FA PIPING CONTINUATION , REFER TO DRAWING 07M203

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

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Contact Info: Carollo Engineers, Inc.
Date: 2025.01.29 14:41:49 -08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

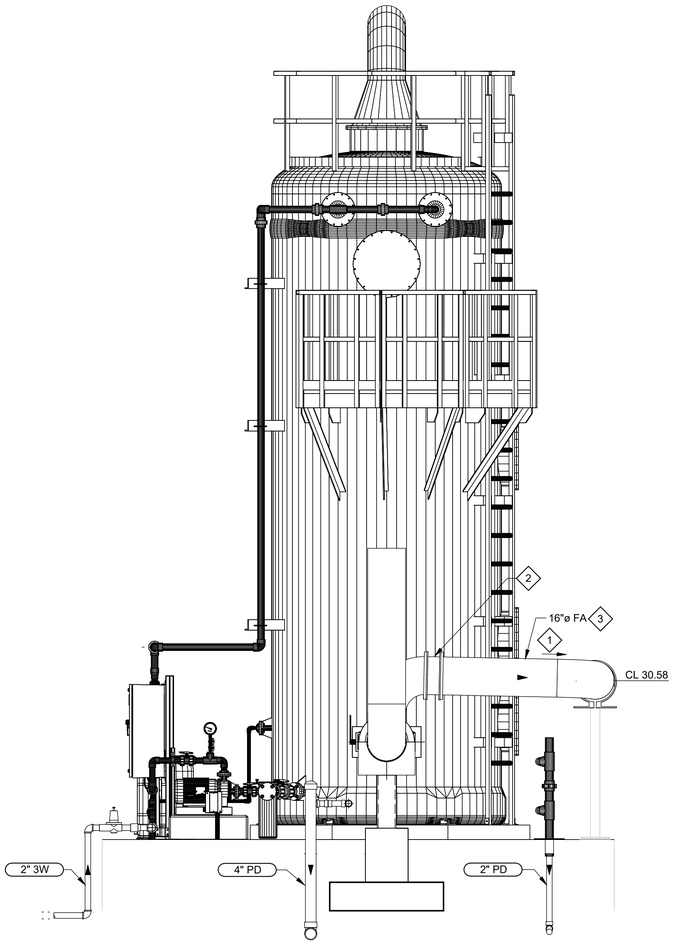
THICKENING ODOR CONTROL FACILITY SECTION

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

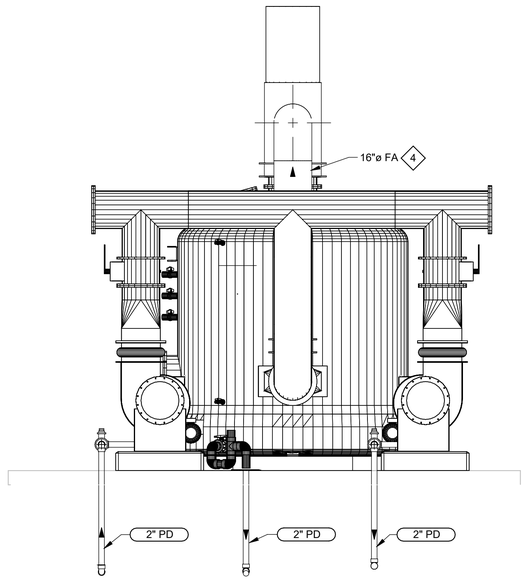
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DRAWING NO. 07M303
SHEET NO. 77 OF 239

PLOT DATE: 1/29/2025 1:00:09 PM

FILE NAME: R:\d0299007\202645_00M0803.rvt



D 07M301 **SECTION**
SCALE: 3/8" = 1'-0"



E 07M301 **SECTION**
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. FOR CONTINUATION OF YARD PIPING, REFER TO CIVIL DRAWINGS.
3. ALL PIPING BELOW THE CONCRETE SLAB SHALL BE CONCRETE ENCASED PER DETAILS MP003/TYP AND MP005/TYP. CONTINUE ENCASEMENT BEYOND THE EDGE OF SLAB TO A DIMENSION EQUAL TO THE DISTANCE FROM BOTTOM OF SLAB TO TOP OF PIPE OR 2'-0", WHICHEVER IS GREATER.
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KEY NOTES:

1. MINIMUM 2% SLOPE.
2. PROVIDE ZERO LEAK DAMPER PER SECTION 15814.
3. BIOTRICKLING FILTER BYPASS.
4. CARBON SCRUBBER BYPASS.

REV	DATE	BY	DESCRIPTION

DESIGNED PDL
DRAWN AB
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: kyle@carollo.com
Date: 2025.01.28 13:03:16 -08'00'

carollo

CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
THICKENING ODOR CONTROL FACILITY SECTIONS

VERIFY SCALES
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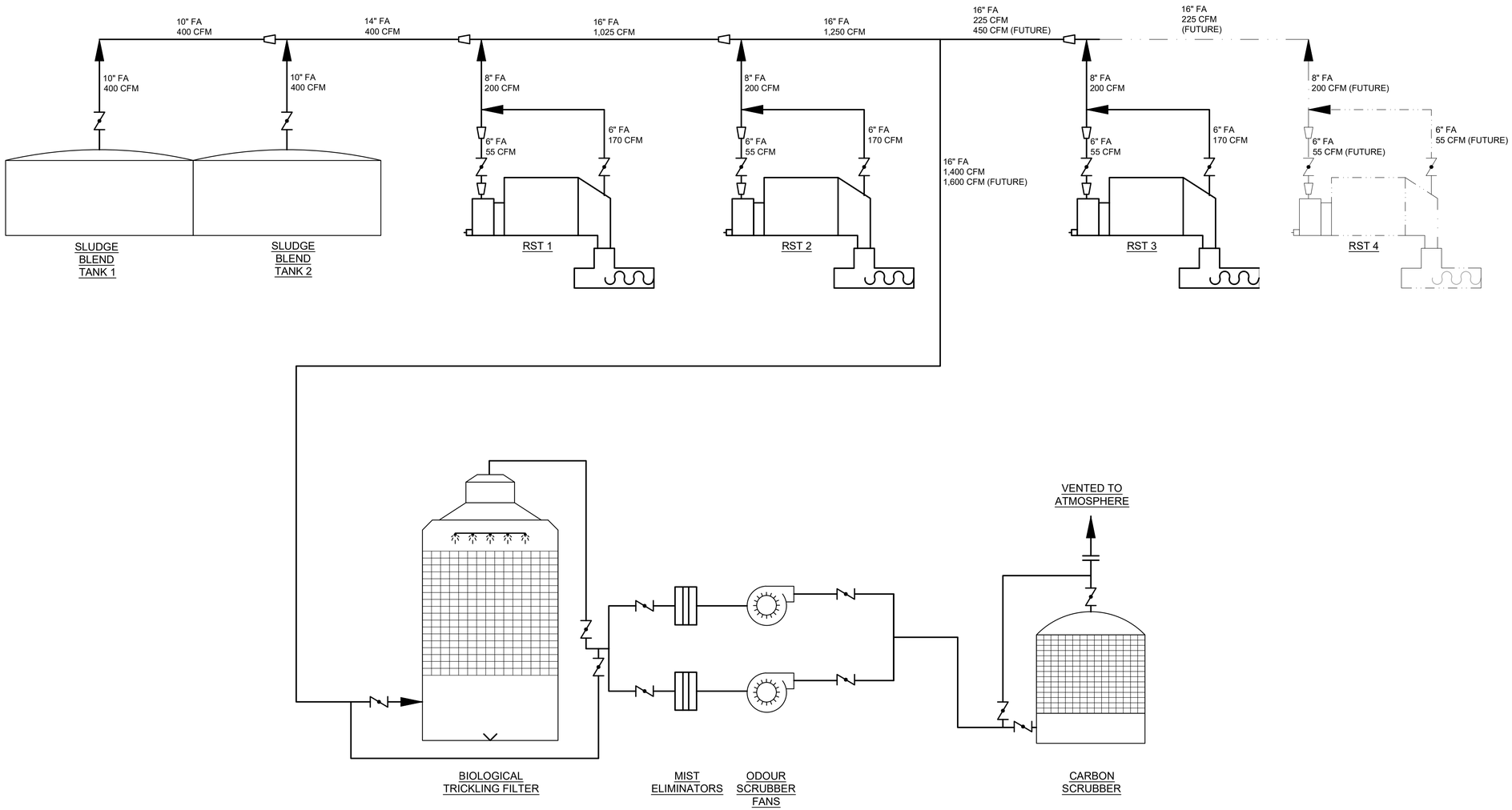
JOB NO. 202645
DRAWING NO. 07M304
SHEET NO. 78 OF 239

PLOT DATE: 1/28/2025 1:03:16 PM

FILE NAME: R:\d0299007\202645_00M0803.rvt

GENERAL NOTES:

1. PROCESS SCHEMATIC SHOWS ONLY GENERAL CONFIGURATION OF THE SOLIDS ODOR CONTROL SYSTEM. IT IS NOT A COMPLETE SCHEMATIC. FOR DETAILED INFORMATION, REFER TO THE CORRESPONDING PROCESS AREA DRAWINGS AND SPECIFICATIONS.



REV	DATE	BY	DESCRIPTION

DESIGNED PG
DRAWN GL
CHECKED SB
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER
KYLE T. LEONARD
No. 86011
CIVIL
STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.07.01 11:19:07 -07'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

THICKENING ODOR CONTROL SCHEMATIC 1

VERIFY SCALES
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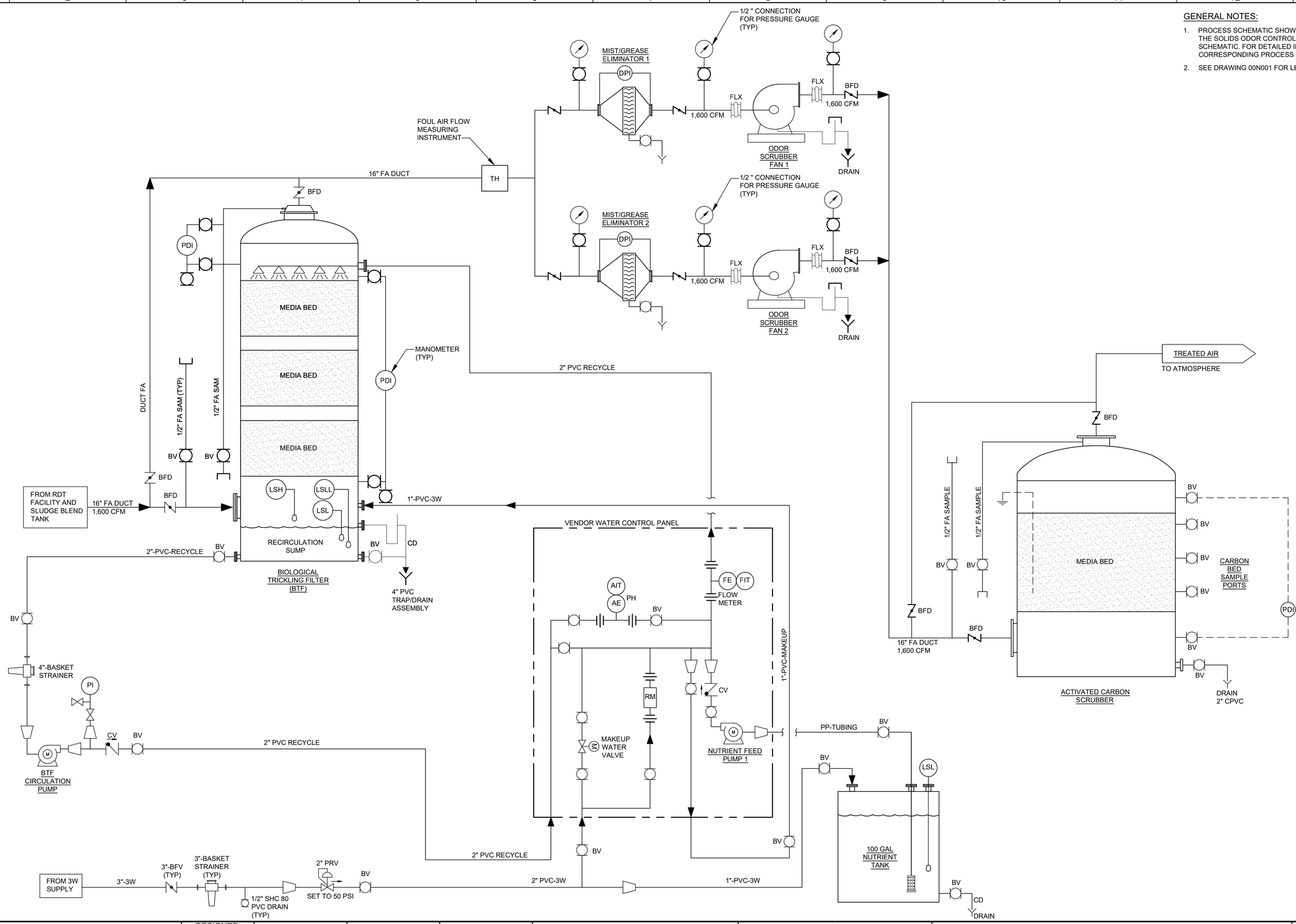
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DRAWING NO. 07M305
SHEET NO. 79 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07M305.dwg

GENERAL NOTES:

1. PROCESS SCHEMATIC SHOWS ONLY GENERAL CONFIGURATION OF THE SOLIDS ODOR CONTROL SYSTEM. IT IS NOT A COMPLETE SCHEMATIC. FOR DETAILED INFORMATION, REFER TO THE CORRESPONDING PROCESS AREA DRAWINGS AND SPECIFICATIONS.
2. SEE DRAWING 00N001 FOR LEGEND.



REV	DATE	BY	DESCRIPTION

DESIGNED PG
DRAWN GL
CHECKED SB
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.22 15:29:07 -07'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

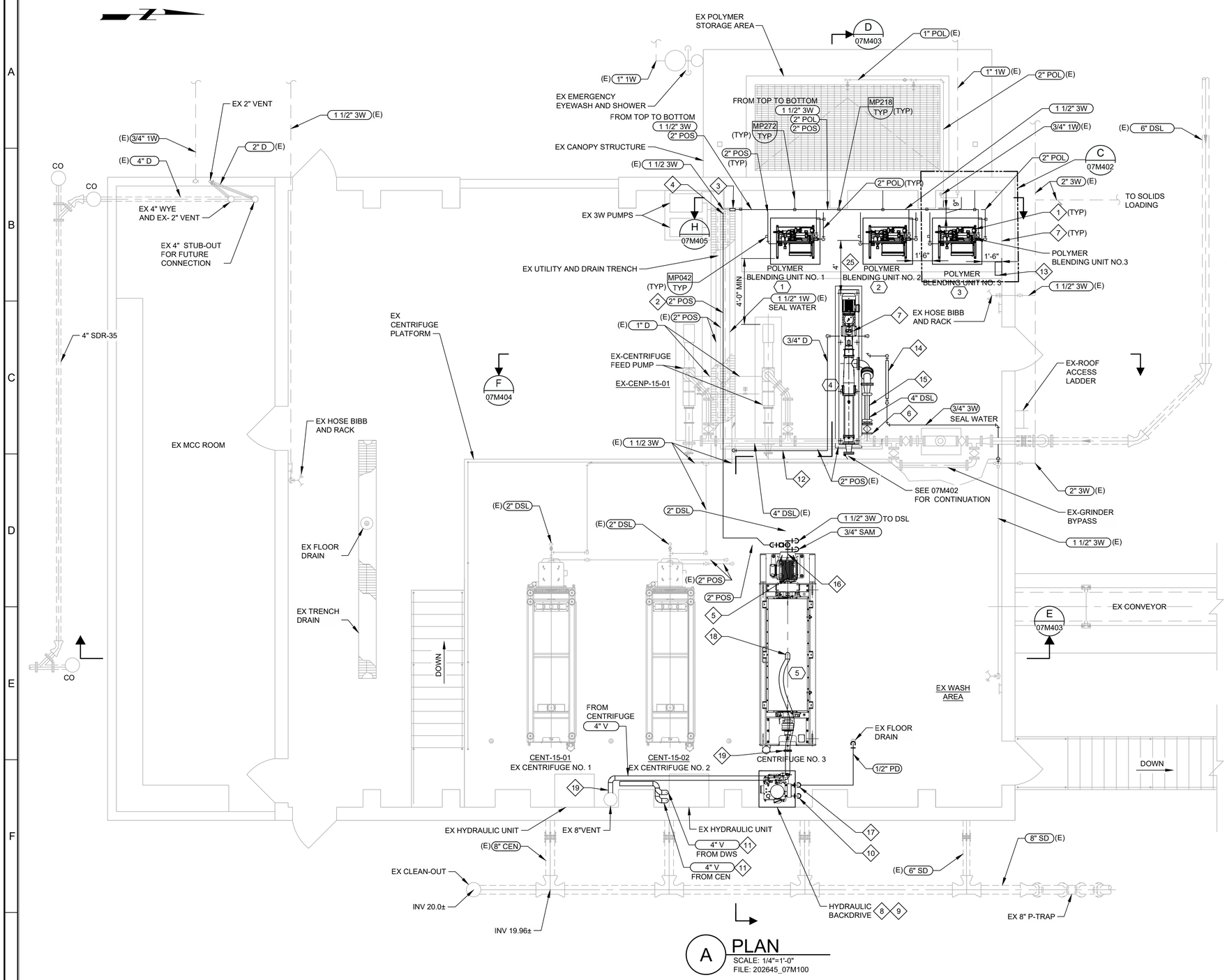
THICKENING ODOR CONTROL SCHEMATIC 2

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

JOB NO. 202645
DRAWING NO. 07M306
SHEET NO. 80 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07M306.dwg



A PLAN
SCALE: 1/4"=1'-0"
FILE: 202645_07M100

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. VERIFY DIMENSIONS WITH EQUIPMENT PROVIDED.
3. ALL PIPE PENETRATIONS THROUGH CONCRETE SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP544/TYP, UNLESS NOTED OTHERWISE.
4. PROVIDE LONG RADIUS ELBOWS ON ALL DSL PIPING.
5. PROVIDE UNIONS AT MAXIMUM SPACING OF 10-FT ON POLYMER AND POLYMER SOLUTION PIPING.
6. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
7. CONTRACTOR TO COORDINATE DSL, 3W, AND POS WITH CENTRIFUGE MANUFACTURER SHOP DRAWINGS BEFORE ROUTING AND PENETRATING SLAB. ENGINEER MUST APPROVE PIPE SHOP DRAWINGS BEFORE CONTRACTOR MAY INSTALL PIPING OR PENETRATE SLAB. ALL CONNECTIONS TO THE CENTRIFUGE MUST BE FLEXIBLE PER SPECIFICATION SECTION 11358.

X KEY TAGS:

1.	DEW-POL-07-001	POLYMER BLENDING UNIT NO. 1
2.	DEW-POL-07-002	POLYMER BLENDING UNIT NO. 2
3.	DEW-POL-07-003	POLYMER BLENDING UNIT NO. 3
4.	DEW-PMP-07-003	CENTRIFUGE FEED PUMP NO. 3
5.	DEW-CENT-07-003	CENTRIFUGE NO. 3

KEY NOTES:

1. LOCATE POLYMER BLENDING UNIT TO PROVIDE CLEARANCE AS SHOWN. PROVIDE LAYOUT SUBMITTAL SHOWING LOCATION OF ALL VALVES AND APPURTENANCES PER P&ID, AND DIMENSIONS TO EXISTING COLUMNS AND PUMPS FOR APPROVAL BY ENGINEER.PROVIDE CONNECTIONS FOR 1" POL INLET, 2" POS OUTLET, AND 1.5" WATER INLET PER MANUFACTURER. SEE SECTION H ON DRAWING 07M405.
2. SUPPORT 2" POS IN TRENCH TO EXISTING STRUT SUPPORT WITH NEW PIPE STRAP, SIMILAR TO DETAIL MP210/TYP.
3. CONNECT NEW 1-1/2" 3W TO EXIST GSP 1-1/2" 3W DOWNSTREAM OF THE PRESSURE INDICATOR. PROVIDE VALVES AND APPURTENANCES PER P&ID.
4. ROUTE NEW 2" POS THROUGH EXIST TRENCH. PROVIDE NEW PENETRATION IN EXIST GRATING FOR NEW 2" POS.
5. PROVIDE 2" FLEXIBLE HOSE AND 2"X1-1/2" SCH 80 SST RED FOR CONNECTION TO CENTRIFUGE INLET.
6. CONNECT NEW 4" DSL TO EXIST 4" DSL AT EXIST TEE.
7. PROVIDE NEW PAD PER DETAIL SD530/TYP AND ANCHOR EQUIPMENT PER MANUFACTURER REQUIREMENTS.
8. PROVIDE CONCRETE PAD PER DETAIL SD530/TYP.
9. CONNECT HOSES (PROVIDED BY CENTRIFUGE MANUFACTURER) BETWEEN THE HYDRAULIC BACKDRIVE AND THE CENTRIFUGE PER MANUFACTURER INSTRUCTIONS. RUN HOSES THROUGH HOSE RAMP (ULINE MODEL H-6954 OR EQUAL) IN ORDER TO LEAVE CLEAR WALKING PATH BETWEEN HYDRAULIC UNIT AND CENTRIFUGE.
10. CONNECT 1/2" 3W TO HYDRAULIC BACKDRIVE 1/2" NPT WATER INLET.
11. ROUTE 4" V TO EXISTING VENT. CONNECT NEW 4" V TO EXISTING 8" VENT WITH 8"X4" REDUCER. HEIGHT OF CONNECTION SHALL BE 1' MIN ABOVE HEIGHT OF CENTRIFUGE. VENT SHALL HAVE POSITIVE SLOPE TO THE EXISTING 8" VENT.
12. ROUTE DRAIN TO EXISTING TRENCH DRAIN.
13. RELOCATE DISCONNECT SWITCH PER ELECTRICAL DRAWINGS.
14. SEAL WATER SYSTEM PER DETAIL MA301/TYP.
15. PROVIDE AND INSTALL FLUSHING CONNECTION ON HORIZONTAL SIDE OF PIPE PER DETAIL MP405/TYP.
16. PROVIDE SST SAMPLE TAP PER DETAIL MP401/TYP.
17. CONNECT 1/2" PD TO HYDRAULIC BACKDRIVE 1/2" NPT WATER OUTLET. ROUTE 1/2" PD ALONG FLOOR TO EXIST FLOOR DRAIN AS SHOWN. SUPPORT ON STRUT SUPPORT PER DETAIL MP253/TYP. COORDINATE CONNECTION REQUIREMENTS WITH CENTRIFUGE MANUFACTURER.
18. CONNECT 4" REINFORCED FLEXIBLE HOSE TO 4" CENTRIFUGE VENT CONNECTION. VENT PIPE SHALL HAVE AN UPWARDS SLOPE TOWARDS THE EXIST 8" VENT.
19. TRANSITION FROM 4" FLEXIBLE HOSE TO 4" SCH 80 PVC AT EDGE OF CENTRIFUGE, AND CONNECT TO 4" PVC V AT 8' ABOVE FLOOR. ROUTE 4" V ABOVE EXISTING HYDRAULIC BACKDRIVE UNITS. CONNECT NEW 4" VENT TO EXIST 8" VENT USING 8"X4" REDUCER. VENT SHALL HAVE POSITIVE SLOPE FROM THE CENTRIFUGE TO THE EXISTING 8" VENT.

REV	DATE	BY	DESCRIPTION

DESIGNED MT
DRAWN GL
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER MICHELLE K. TRINH No. 77172 CIVIL STATE OF CALIFORNIA

Digitally signed by Michelle K. Trinh
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.14 09:10:58 PDT

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

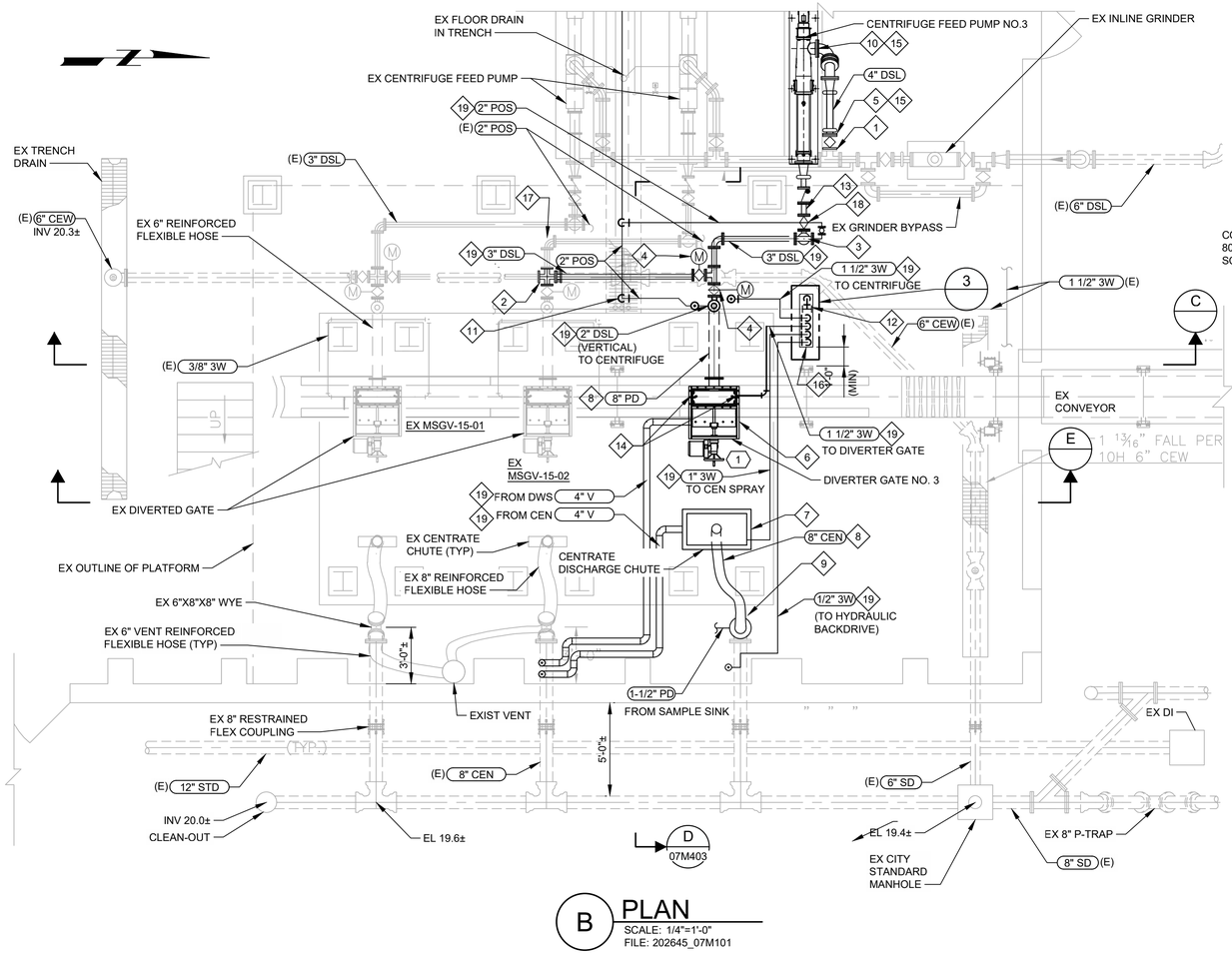
DEWATERING FACILITY TOP PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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JOB NO. 202645
DRAWING NO. 07M401
SHEET NO. 81 OF 239

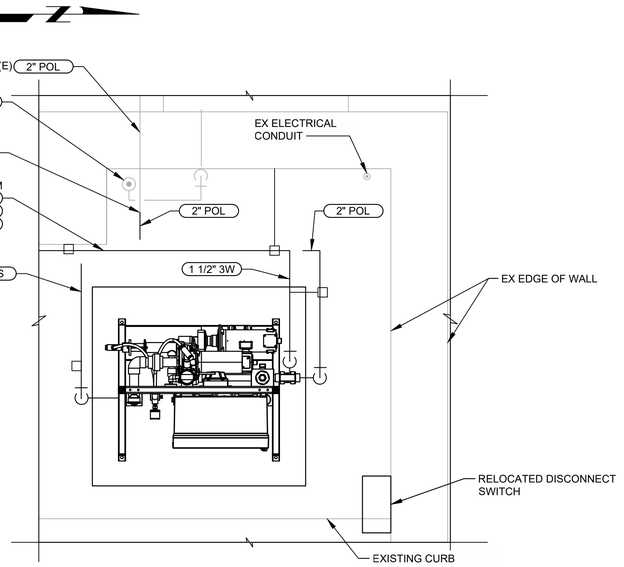
LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07M401.dwg



B PLAN

SCALE: 1/4"=1'-0"
FILE: 202645_07M101



C ENLARGED PLAN

SCALE: 3/4" = 1'-0"
FILE: 202645_07M100

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. VERIFY DIMENSIONS WITH EQUIPMENT PROVIDED.
3. ALL PIPE PENETRATIONS THROUGH CONCRETE SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP544/TYP, UNLESS NOTED OTHERWISE.
4. PROVIDE LONG RADIUS ELBOWS ON ALL DSL PIPING.
5. PROVIDE UNIONS AT MAXIMUM SPACING OF 10-FT ON POLYMER AND POLYMER SOLUTION PIPING.
6. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
7. CONTRACTOR TO COORDINATE DSL, 3W, AND POS WITH CENTRIFUGE MANUFACTURER SHOP DRAWINGS BEFORE ROUTING AND PENETRATING SLAB. ENGINEER MUST APPROVE PIPE SHOP DRAWINGS BEFORE CONTRACTOR MAY INSTALL PIPING OR PENETRATE SLAB. ALL CONNECTIONS TO THE CENTRIFUGE MUST BE FLEXIBLE PER SPECIFICATION SECTION 11358.

◇ # KEY NOTES:

1. CONNECT NEW 4" DSL TO EXIST 4" DSL AT FLANGE.
2. REPLACE EXISTING 3" TEE WITH A 3" CROSS AND CONNECT TO EXISTING 3" DSL.
3. PROVIDE AND INSTALL 3" BLIND FLANGE WITH 2" THREADED TAP FOR CONNECTION WITH 2" POS PIPING.
4. PROVIDE AND INSTALL 3" ELECTRIC ACTUATED PLUG VALVE.
5. PROVIDE 4" PLUG VALVE.
6. DIVERTER GATE (PROVIDED BY CENTRIFUGE MANUFACTURER) CONNECTED TO SOLIDS DISCHARGE CHUTE FLANGE.
7. CENTRATE DISCHARGE CHUTE AND TRANSITION CHUTE (PROVIDED BY CENTRIFUGE MANUFACTURER).
8. PROVIDE AND INSTALL REINFORCED FLEXIBLE HOSE.
9. DISCONNECT 1-1/2" SINK DRAIN PIPE FROM EXISTING BLIND FLANGE. PROVIDE 8" DIP FL SPOOL WITH 1-1/2" TAP AND CONNECT TO EXISTING 8" FLANGE. REROUTE 1-1/2" SINK DRAIN PIPE TO TAP ON SPOOL, AND PROVIDE DOWNWARD SLOPE ON PIPE. CONNECT 8" CEN FLEXIBLE HOSE TO FLANGE ON SPOOL.
10. COORDINATE WITH CENTRIFUGE FEED PUMP MANUFACTURER ON INLET/OUTLET CONNECTIONS. PROVIDE AND INSTALL FLANGED REDUCING ELBOW FITTING AS REQUIRED TO CONNECT EXISTING 4" DSL TO PUMP.
11. ROUTE NEW 2" POS THROUGH EXIST TRENCH. PROVIDE NEW PENETRATION IN EXIST GRATING FOR NEW 2" POS. PROVIDE BALL VALVE ON VERTICAL PIPE AFTER EXISTING TRENCH.
12. CONNECT NEW 1-1/2" 3W TO EXIST 1-1/2" 3W WITH 1-1/2" TEE.
13. PROVIDE AND INSTALL FLUSHING CONNECTION ON HORIZONTAL SIDE OF PIPE PER DETAIL MP405/TYP.
14. PROVIDE AND INSTALL 3W FOR FLUSHING DIVERTER GATE. CONNECT TO SIDE OF THE DIVERTER GATE AS SHOWN.
15. PROVIDE FL X GR ADAPTER.
16. PROVIDE AND INSTALL CENTRIFUGE 3W PANEL PER DETAIL 1/07M405.
17. REPLACE EXISTING 4" ELL WITH 4" TEE AND CONNECT TO EXISTING 4" DSL.
18. PROVIDE 3" PLUG VALVE.
19. ATTACH TO BOTTOM OF EXISTING DECK. SUPPORT PER DETAIL MP253/TYP TO BEAM AND MP132/TYP TO METAL DECK.

◇ X KEY TAGS:

1. DEW-DG-07-003 DIVERTER GATE NO. 3

REV	DATE	BY	DESCRIPTION

DESIGNED MT
DRAWN GL
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER MICHELLE K. TRINH No. 77172 CIVIL STATE OF CALIFORNIA

Digitally signed by Michelle K. Trinh
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.14 09:59:49 -08'00'

carollo

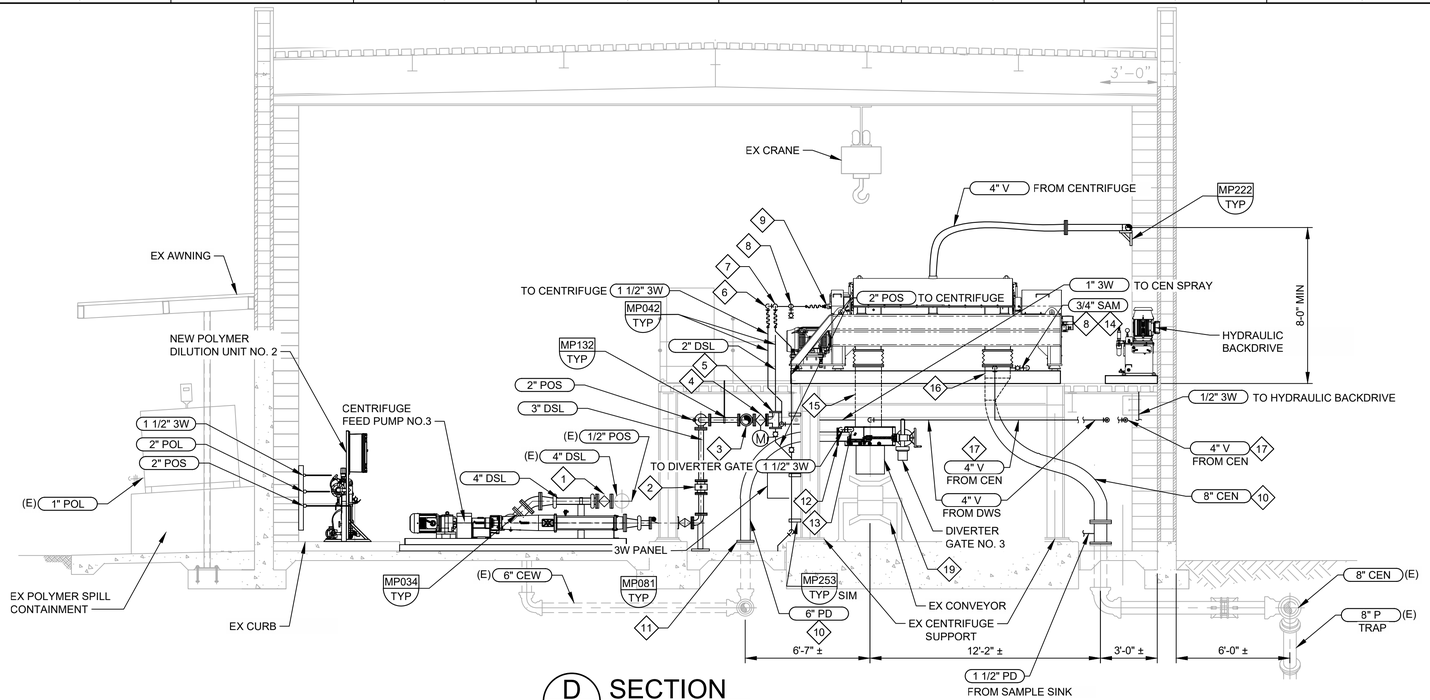
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
DEWATERING FACILITY
PARTIAL PLAN AND ENLARGED PLAN

VERIFY SCALES
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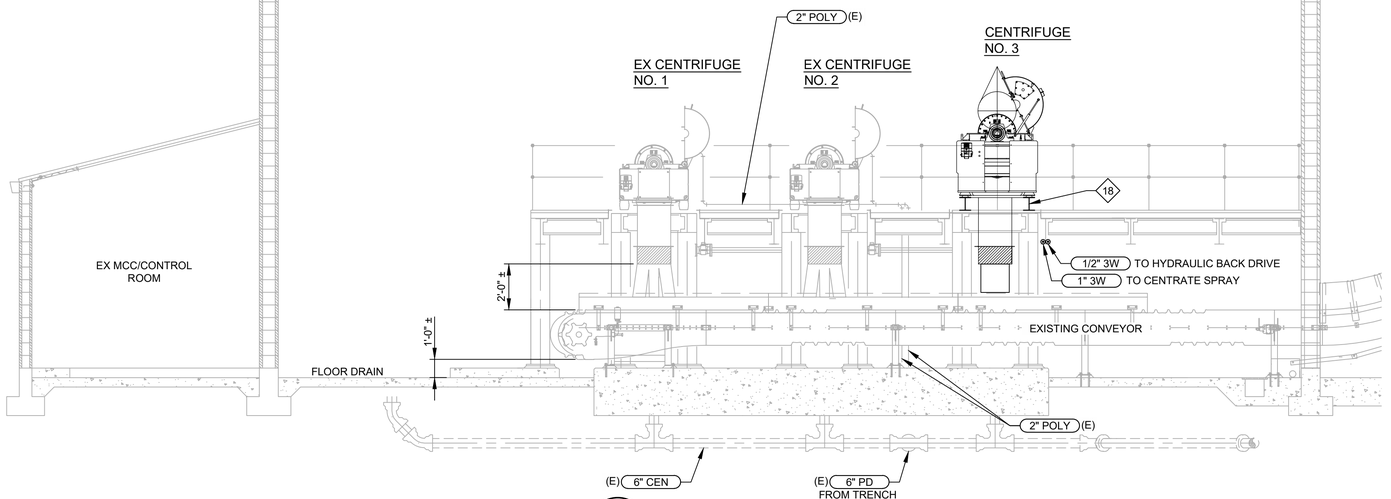
JOB NO. 202645
DRAWING NO. 07M402
SHEET NO. 82 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07M402.dwg



D 07M401 **SECTION**
SCALE: 1/4" = 1'-0"
FILE: 202645_07M102



E 07M401 **SECTION**
SCALE: 1/4" = 1'-0"
FILE: 202645_07M102

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. VERIFY DIMENSIONS WITH EQUIPMENT PROVIDED.
3. ALL PIPE PENETRATIONS THROUGH CONCRETE SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP544/TYP, UNLESS NOTED OTHERWISE.
4. PROVIDE LONG RADIUS ELBOWS ON ALL DSL PIPING.
5. PROVIDE UNIONS AT MAXIMUM SPACING OF 10-FT ON POLYMER AND POLYMER SOLUTION PIPING.
6. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
7. CONTRACTOR TO COORDINATE DSL, 3W, AND POS WITH CENTRIFUGE MANUFACTURER SHOP DRAWINGS BEFORE ROUTING AND PENETRATING SLAB. ENGINEER MUST APPROVE PIPE SHOP DRAWINGS BEFORE CONTRACTOR MAY INSTALL PIPING OR PENETRATE SLAB. ALL CONNECTIONS TO THE CENTRIFUGE MUST BE FLEXIBLE PER SPECIFICATION SECTION 11358.

KEY NOTES:

1. PROVIDE 4" PLUG VALVE.
2. PROVIDE AND INSTALL MAGNETIC FLOW METER. INSTALL WITH STRAIGHT PIPE SPOOL [5DIA] UPSTREAM OF METER AND [3 DIA] DOWNSTREAM.
3. 3" DSL BYPASS TO CENTRIFUGE NO. 2.
4. PROVIDE 3" ELECTRIC ACTUATED PLUG VALVE.
5. PROVIDE 3" BLIND FLANGE WITH 2" THREADED TAP FOR CONNECTION OF 2" DSL AND 2" PD PIPING.
6. PROVIDE 1-1/2" 3W CONNECTION TO 2" DSL FOR CENTRIFUGE FLUSH WATER.
7. PROVIDE 2" POS CONNECTION TO 2" DSL.
8. PROVIDE 3/4" SAMPLE TAP PER DETAIL MP401/TYP.
9. PROVIDE 2" FLEXIBLE HOSE CONNECTION AND 2"X1-1/2" SCH 80 SST RED FITTING TO 1-1/2" CENTRIFUGE INLET.
10. PROVIDE REINFORCED FLEXIBLE HOSE.
11. CONNECT 6" PD TO EXISTING FLANGE.
12. CONNECT 6" DWS TO DIVERTER GATE.
13. CONNECT 1 1/2" 3W TO DIVERTER GATE FOR FLUSHING.
14. ROUTE 3/4" SAM TO SAMPLE SINK. PROVIDE PLUG VALVE AT END OF PIPE.
15. FLEXIBLE CONNECTION AND DWS CHUTE (PROVIDED BY CENTRIFUGE MANUFACTURER.)
16. FLEXIBLE CONNECTION AND CENTRATE CHUTE (PROVIDED BY CENTRIFUGE MANUFACTURER.)
17. ROUTE 4" V FROM CENTRATE AND DWS CHUTES TO EXISTING 8" VENT PER DRAWING 07M402.
18. PROVIDE NEW CENTRIFUGE BEAMS PER STRUCTURAL DRAWINGS.
19. PROVIDE AND INSTALL RUBBER BOOT. CONNECT TO CHUTE WITH SST STRAP AND CUT RUBBER BOOT TO LENGTH IN FIELD FOR CLEAN CONVEYOR FILL.

REV	DATE	BY	DESCRIPTION

DESIGNED MT
DRAWN GL
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER MICHELLE K. TRINH No. 77172 CIVIL STATE OF CALIFORNIA

Digitally signed by Michelle K. Trinh
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.28 14:08:32-08'00'

carollo®

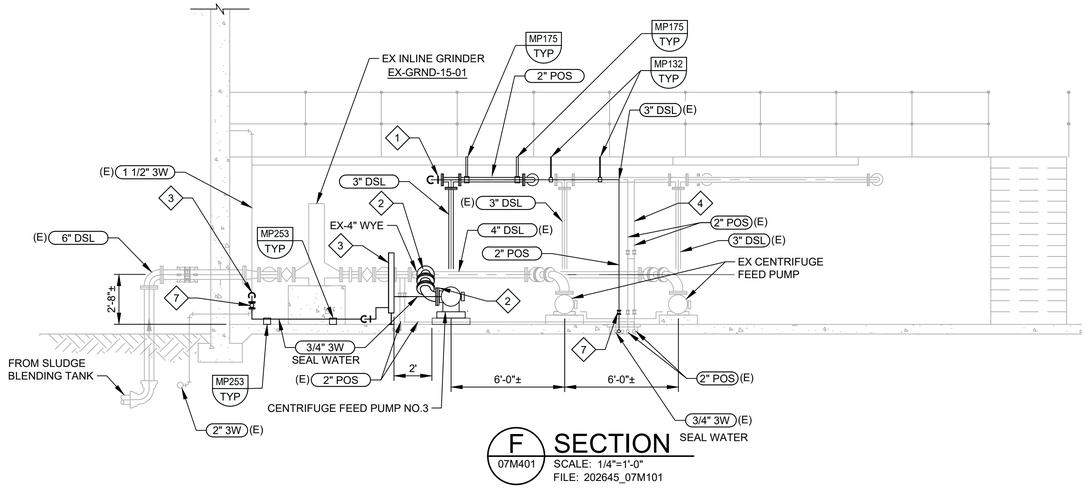
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
DEWATERING FACILITY SECTIONS

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

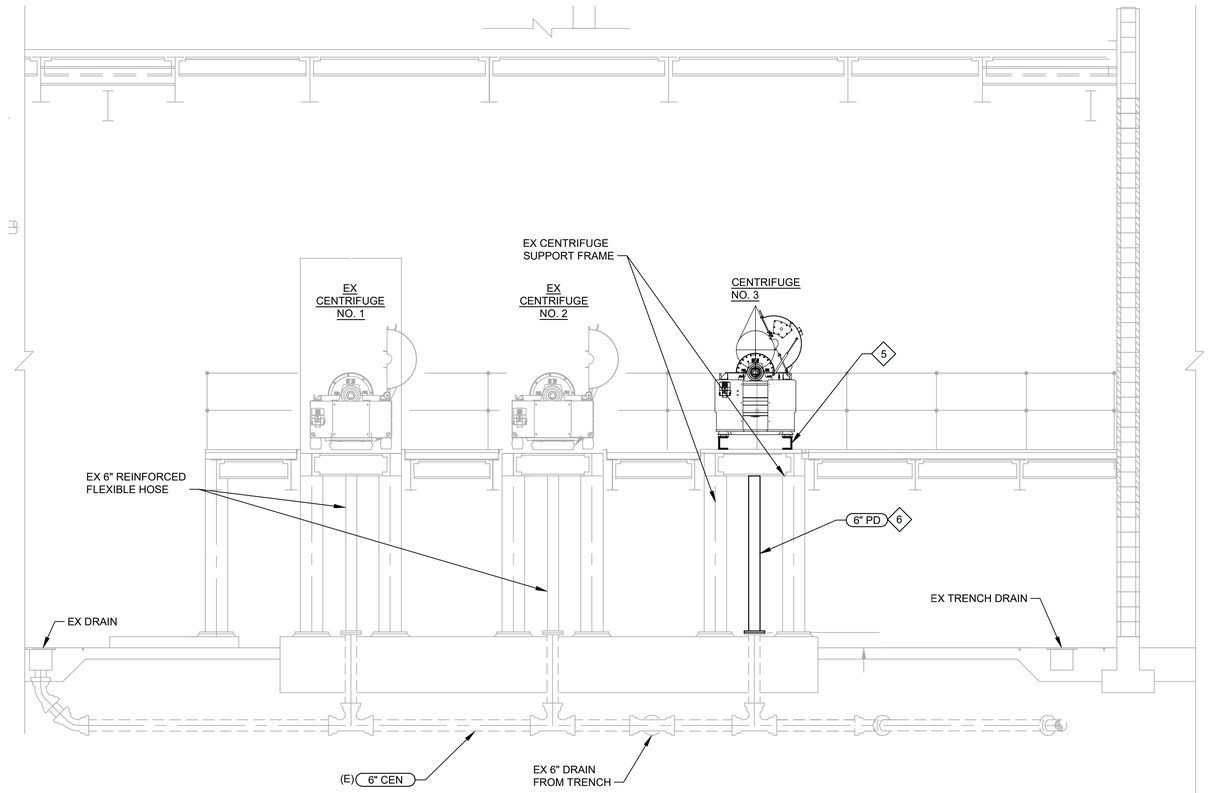
JOB NO. 202645
DRAWING NO. 07M403
SHEET NO. 83 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07M403.dwg



F SECTION
07M401
SCALE: 1/4"=1'-0"
FILE: 202645_07M101



G SECTION
07M402
SCALE: 1/4"=1'-0"
FILE: 202645_07M101

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. VERIFY DIMENSIONS WITH EQUIPMENT PROVIDED.
3. ALL PIPE PENETRATIONS THROUGH CONCRETE SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP544/TYP, UNLESS NOTED OTHERWISE.
4. PROVIDE LONG RADIUS ELBOWS ON ALL DSL PIPING.
5. PROVIDE UNIONS AT MAXIMUM SPACING OF 10-FT ON POLYMER AND POLYMER SOLUTION PIPING.
6. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
7. CONTRACTOR TO COORDINATE DSL, 3W, AND POS WITH CENTRIFUGE MANUFACTURER SHOP DRAWINGS BEFORE ROUTING AND PENETRATING SLAB. ENGINEER MUST APPROVE PIPE SHOP DRAWINGS BEFORE CONTRACTOR MAY INSTALL PIPING OR PENETRATE SLAB. ALL CONNECTIONS TO THE CENTRIFUGE MUST BE FLEXIBLE PER SPECIFICATION SECTION 11358.

KEY NOTES:

1. PROVIDE AND INSTALL 3" BLIND FLANGE WITH 2" THREADED TAP FOR CONNECTION WITH 2" POS PIPING.
2. COORDINATE WITH CENTRIFUGE FEED PUMP MANUFACTURER ON INLET/OUTLET CONNECTIONS. PROVIDE AND INSTALL FLANGED REDUCING ELBOW FITTING AS REQUIRED TO CONNECT EXISTING 4" DSL TO PUMP.
3. CONNECT 3/4" 3W FOR CENTRIFUGE PUMP NO. 3 SEAL WATER TO EXIST 1-1/2" 3W. ROUTE 3/4" 3W TO NEW SEAL WATER SYSTEM PER DETAIL MA301/TYP.
4. EXISTING POS IS SCHEMATIC. FIELD ROUTE NEW POS SIMILAR TO EXISTING POS AND SUPPORT DETAIL MP132/TYP.
5. PROVIDE AND INSTALL NEW CENTRIFUGE BEAMS PER STRUCTURAL DRAWINGS.
6. PROVIDE AND INSTALL REINFORCED FLEXIBLE HOSE.
7. PROVIDE AND INSTALL BALL VALVE, SAME SIZE AS THE PIPE.

REV	DATE	BY	DESCRIPTION

DESIGNED MT
DRAWN GL
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER MICHELLE K. TRINH No. 77172 CIVIL STATE OF CALIFORNIA

Digitally signed by Michelle K. Trinh
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 14:27:56-08'00'

carollo

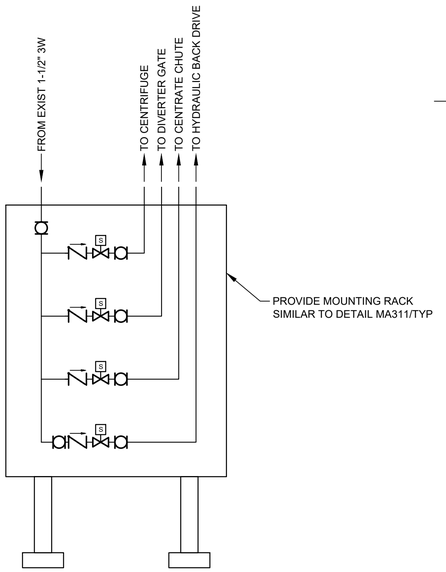
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
DEWATERING FACILITY SECTIONS

VERIFY SCALES
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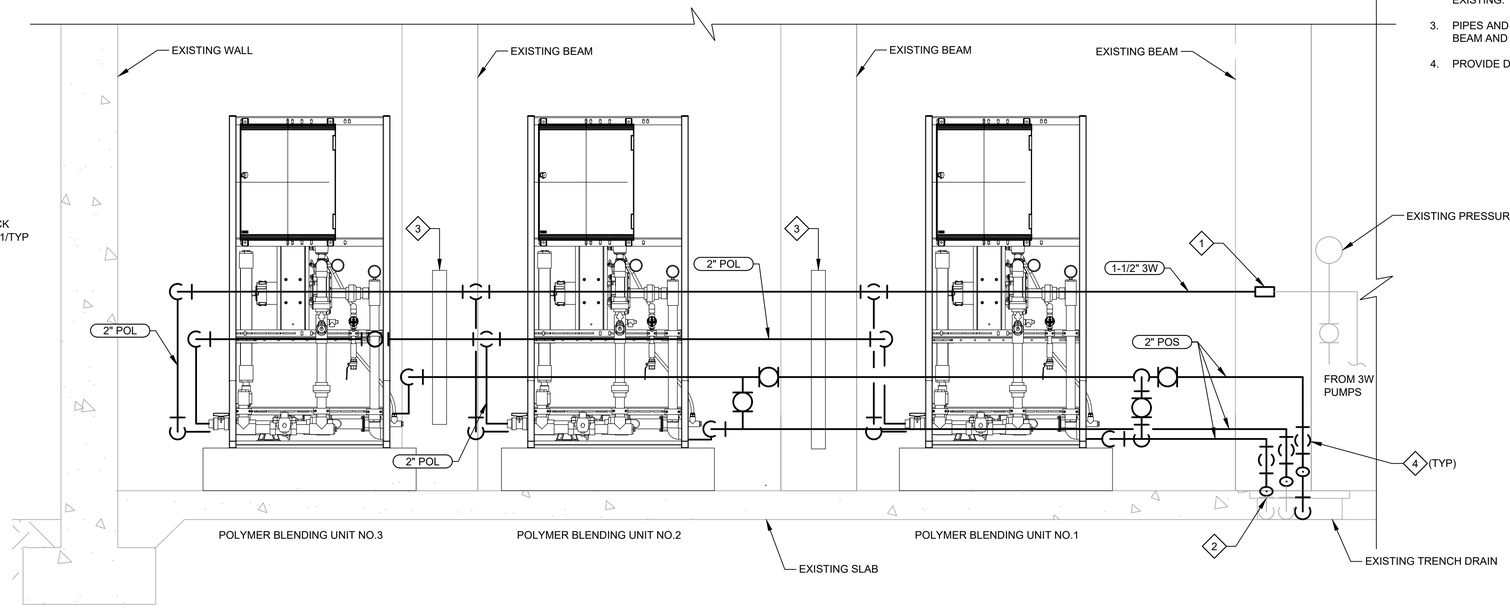
JOB NO. 202645
DRAWING NO. 07M404
SHEET NO. 84 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07M404.dwg



3 DETAIL
SCALE: NO SCALE
FILE: 202645_07M100



H 07M401 SECTION
SCALE: 3/4" = 1'-0"
FILE: 202645_07M100

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.
2. VERIFY DIMENSIONS WITH EQUIPMENT PROVIDED.
3. ALL PIPE PENETRATIONS THROUGH CONCRETE SLABS SHALL BE PROVIDED WITH SLEEVES PER DETAIL MP544/TYP, UNLESS NOTED OTHERWISE.
4. PROVIDE LONG RADIUS ELBOWS ON ALL DSL PIPING.
5. PROVIDE UNIONS AT MAXIMUM SPACING OF 10-FT ON POLYMER AND POLYMER SOLUTION PIPING.
6. NOT ALL PIPE AND DUCT SUPPORTS ARE SHOWN. CONTRACTOR SHALL PROVIDE ADDITIONAL SUPPORTS AS REQUIRED PER SPECIFICATIONS.
7. CONTRACTOR TO COORDINATE DSL, 3W, AND POS WITH CENTRIFUGE MANUFACTURER SHOP DRAWINGS BEFORE ROUTING AND PENETRATING SLAB. ENGINEER MUST APPROVE PIPE SHOP DRAWINGS BEFORE CONTRACTOR MAY INSTALL PIPING OR PENETRATE SLAB. ALL CONNECTIONS TO THE CENTRIFUGE MUST BE FLEXIBLE PER SPECIFICATION SECTION 11358.

KEY NOTES:

1. CONNECT NEW 1-1/2" 3W TO EXISTING 1-1/2" GSP 3W.
2. CONNECT 2" POS TO EXISTING 2" PVC SCH80 POS WITH 22.5D PVC SCH 80 FITTINGS. FIELD VERIFY REQUIRED CONNECTIONS TO EXISTING.
3. PIPES AND SUPPORTS ARE CONNECTED TO EAST SIDE OF EXISTING BEAM AND ARE SHOWN FOR CLARITY.
4. PROVIDE DRAIN POINTING DOWNWARDS SIM TO DETAIL MP401/TYP.

REV	DATE	BY	DESCRIPTION

DESIGNED MT
DRAWN GL
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER MICHELLE K. TRINH No. 77172 CIVIL STATE OF CALIFORNIA

Digitally signed by Michelle K. Trinh
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.14 07:54:08 PDT

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

DEWATERING FACILITY DETAILS

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. 202645
DRAWING NO. 07M405
SHEET NO. 85 OF 239

LAST SAVED BY: gleal

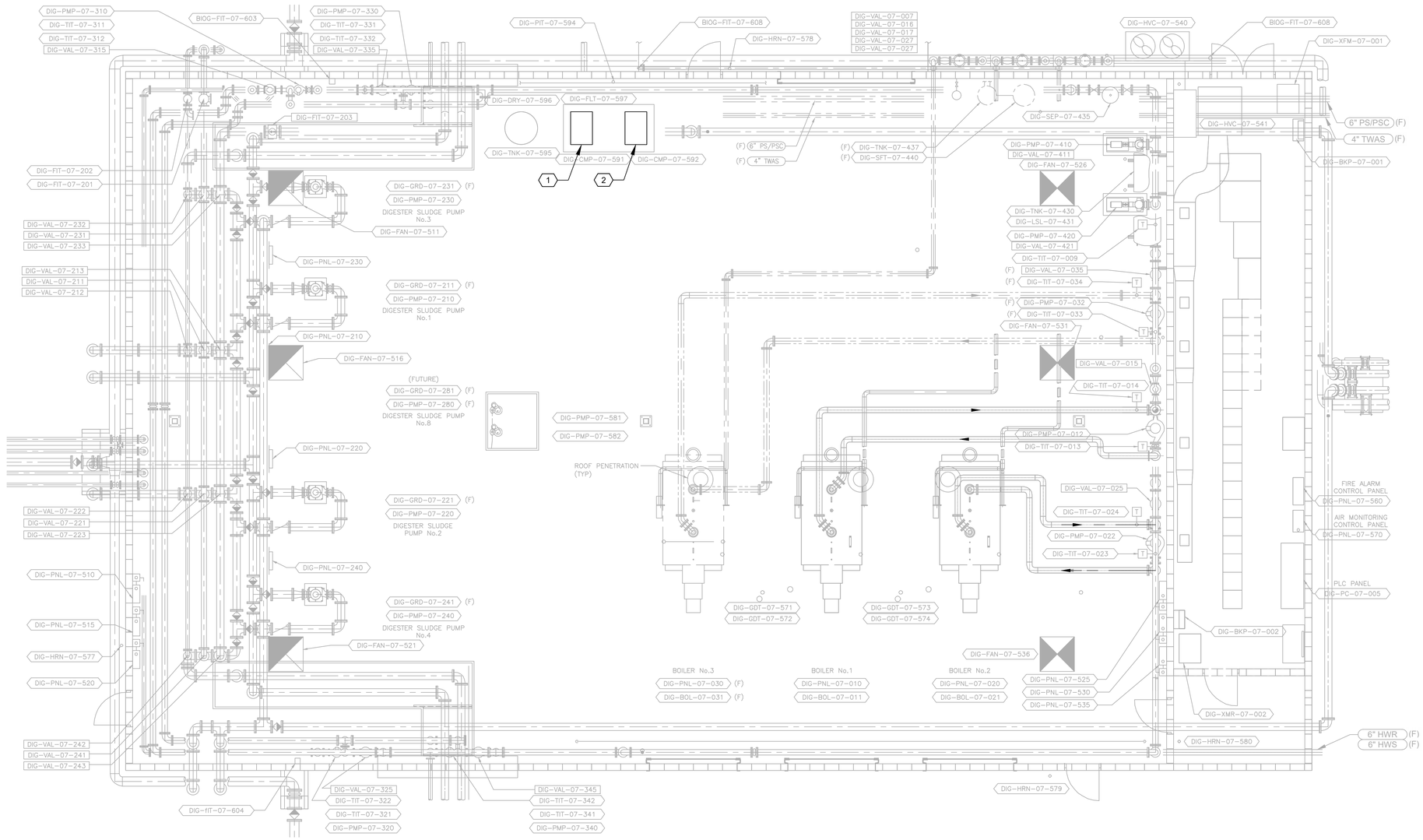
PROJECT NO. 202645-100000 FILE NAME: 202645_07M405.dwg

GENERAL NOTES:

1. REFER TO THE GENERAL MECHANICAL NOTES ON DRAWING 00GM002.

(X) KEY TAGS:

1. DIG-CMP-07-591 AIR COMPRESSOR 1
2. DIG-CMP-07-592 AIR COMPRESSOR 2



A PLAN

SCALE: 3/8"=1'-0"
FILE: 202645_07M0901

REV	DATE	BY	DESCRIPTION

DESIGNED MT
DRAWN ELP
CHECKED WS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.25 15:29:07 -08'00'

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

MECHANICAL

DIGESTER CONTROL BUILDING NO. 2 PLAN

VERIFY SCALES
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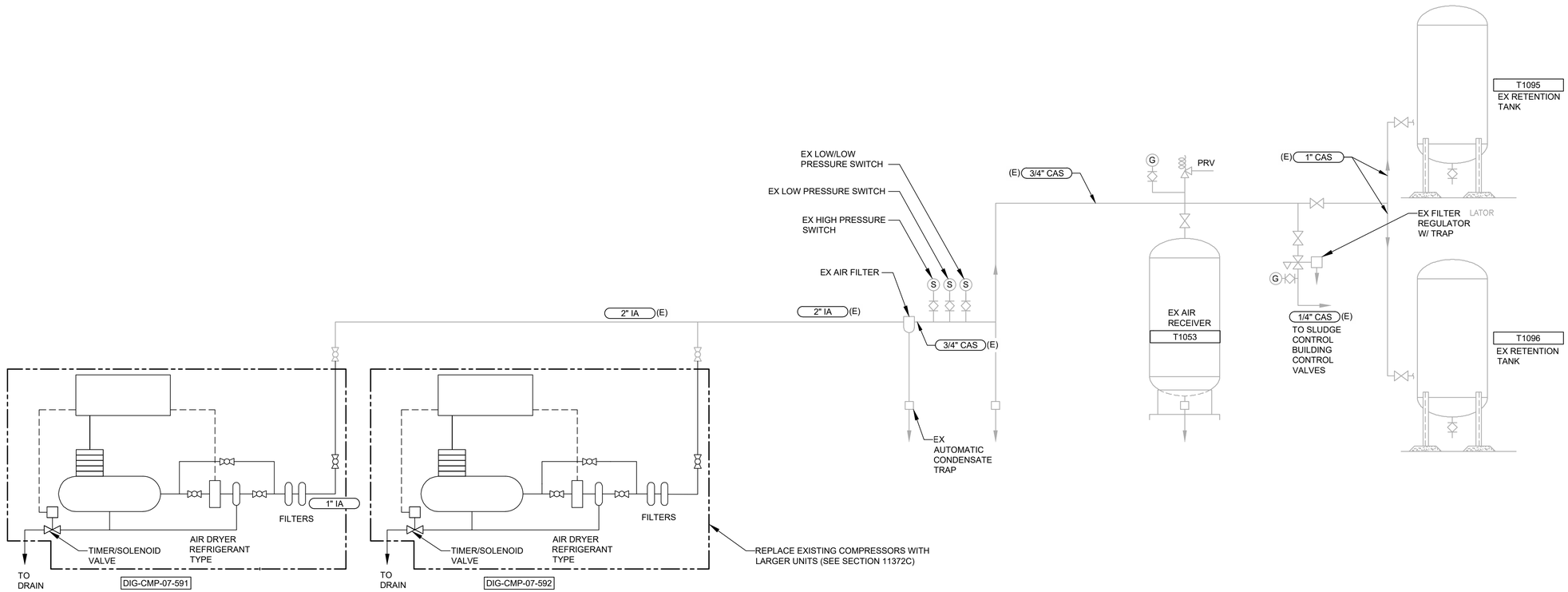
JOB NO. 202645
DRAWING NO. 07M501
SHEET NO. 86 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07M501.dwg

GENERAL NOTES:

1. REPLACE EACH COMPRESSOR IN-TURN AND ENSURE UNINTERRUPTED COMPRESSED AIR SUPPLY.



IN DIGESTER CONTROL BUILDING NO. 1

IN MAINTENANCE SHOP

REV	DATE	BY	DESCRIPTION

DESIGNED PG
DRAWN GL
CHECKED WS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc
Date: 2025.07.29 14:21:29-07'00'

carollo

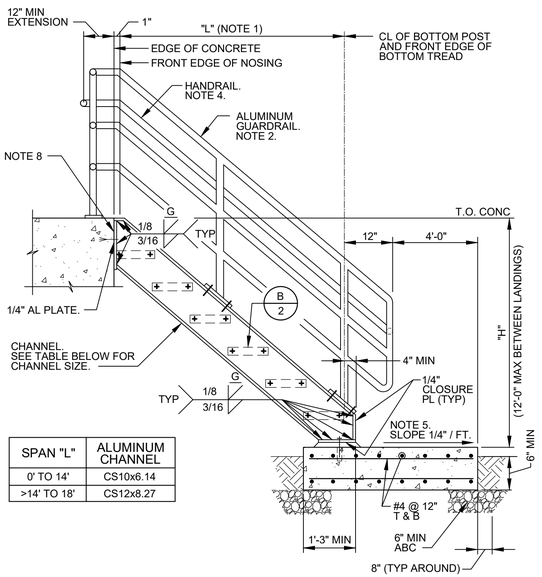
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
MECHANICAL
DIGESTER CONTROL BUILDING NO. 2 SCHEMATIC

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. 202645
DRAWING NO. 07M502
SHEET NO. 87 OF 239

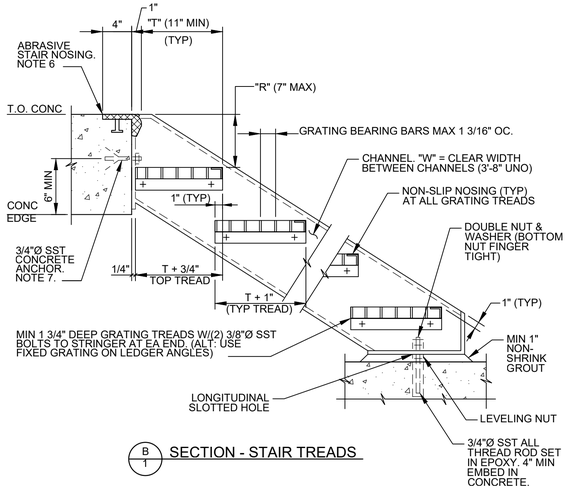
LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_07M502.dwg



SPAN "L"	ALUMINUM CHANNEL
0' TO 14'	CS10x6.14
>14' TO 18'	CS12x8.27

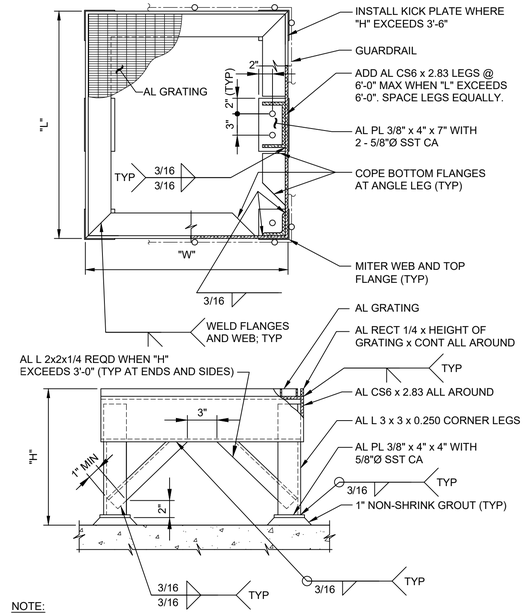
A / - ELEVATION - STAIRS



B / 1 SECTION - STAIR TREADS

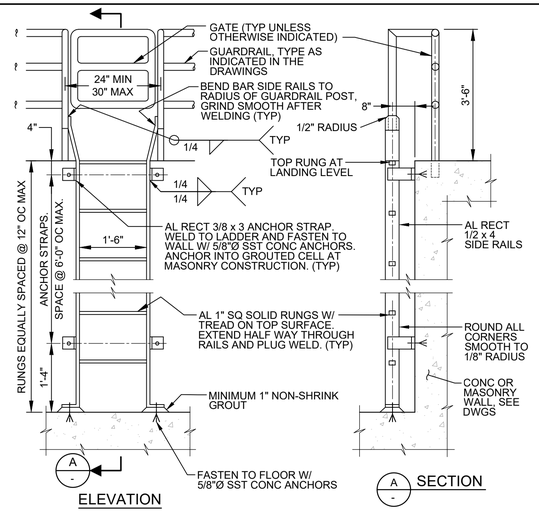
NOTES:

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. ABRASIVE STAIR NOSING: PROVIDE 2" CLEAR BETWEEN END OF STAIR NOSING AND VERTICAL/INSIDE FACE OF STAIR STRINGER. TOOL A GROOVE, 1/8" WIDE BY FULL WIDTH AND THICKNESS OF NOSING AT EACH END OF NOSING. CONTINUE TOOLED JOINT DOWN VERTICAL FACE OF NOSING AT RISER. FILL TOOLED GROOVE WITH SYNTHETIC RUBBER SEALING COMPOUND.
7. INSTALL CONCRETE ANCHORS MINIMUM 6" FROM BOTTOM AND 6" FROM SIDES/EDGES OF CONCRETE.
8. CONNECTION TO CONCRETE SHOWN. SEE DETAIL AC121/TYP FOR CONNECTION AT METAL FRAMING.



NOTE:

1. PLATFORM DIMENSIONS "L", "W" AND "H" ARE INDICATED ON THE DRAWINGS.



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.

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.

AC111 TYP N STAIRS - ALUMINUM - THREE RAIL — SHEET 1 OF 3 — 06/10/22

AC111 TYP N STAIRS - ALUMINUM - THREE RAIL — SHEET 2 OF 3 — 06/10/22

AC111 TYP N STAIRS - ALUMINUM - THREE RAIL — SHEET 3 OF 3 — 06/10/22

AC132 TYP N STAIRS - ALUMINUM - PLATFORM — 06/21/19

AC300 TYP LADDER - ALUMINUM - WALL — 12/28/20

AC500 TYP N GUARDRAIL - HANDRAIL - NOTES — 06/21/19

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED AE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 11:41:33-08'00'

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

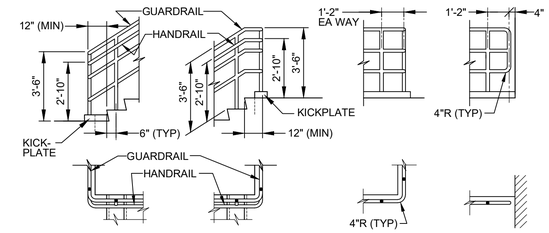
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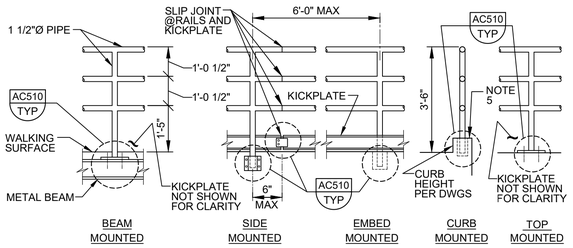
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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DRAWING NO. 00TA001
SHEET NO. 217 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_00TA001.dwg

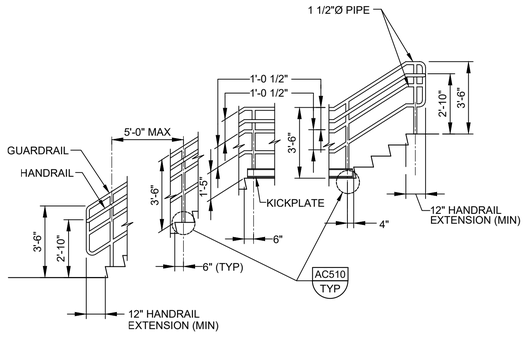




GUARDRAIL ELEVATION

AC504 TYP — GUARDRAIL - THREE RAIL

NS SHEET 1 OF 3 03/05/24



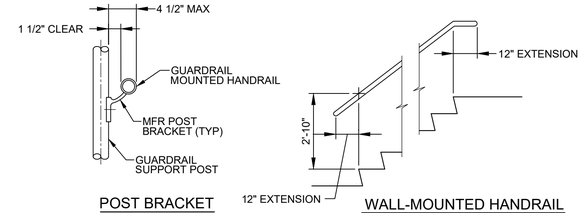
STAIR GUARDRAIL/HANDRAIL ELEVATION

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.

AC504 TYP — GUARDRAIL - THREE RAIL

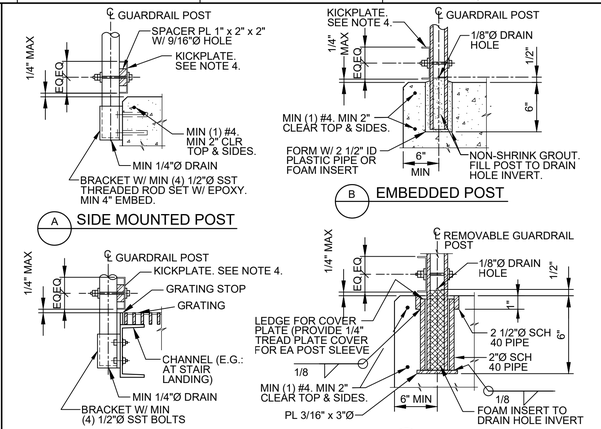
NS SHEET 2 OF 3 03/05/24



HANDRAIL DETAILS

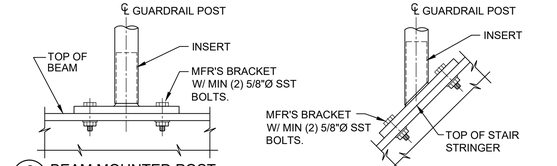
AC504 TYP — GUARDRAIL - THREE RAIL

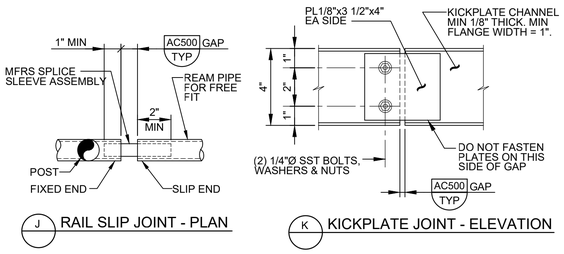
NS SHEET 3 OF 3 03/05/24



AC510 TYP — GUARDRAIL - MOUNTING

N SHEET 1 OF 2 06/21/19





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.

AC510 TYP — GUARDRAIL - MOUNTING

N SHEET 2 OF 2 06/21/19

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED AE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 15:40:59-08'00'

carollo®

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

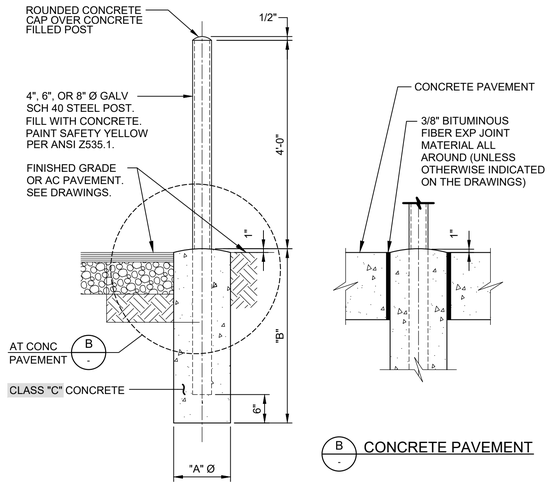
ARCHITECTURAL 2

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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 202645
DRAWING NO. 00TA002
SHEET NO. 218 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_00TA002.dwg



A AC PAVEMENT OR FINISHED GRADE

B CONCRETE PAVEMENT

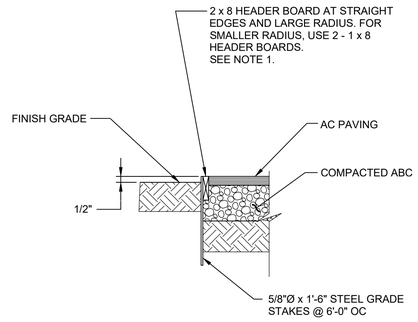
SIZE	"A"	"B"
4"Ø	1'-3"	3'-0"
6"Ø	1'-6"	4'-0"
8"Ø	1'-9"	5'-0"

CF160 GUARD POST

TYP

N

03/22/2021



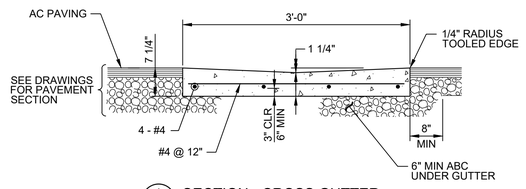
NOTES:

1. HEADER BOARD MATERIAL SHALL BE EITHER PRESSURE TREATED DOUGLAS FIR OR REDWOOD.

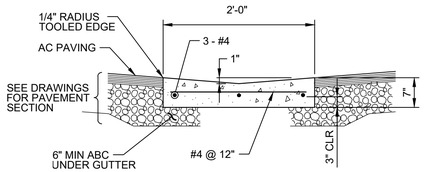
CR106 YARD CURB - WOOD HEADER

TYP

12/29/2020



A SECTION - CROSS GUTTER



B SECTION - VALLEY GUTTER

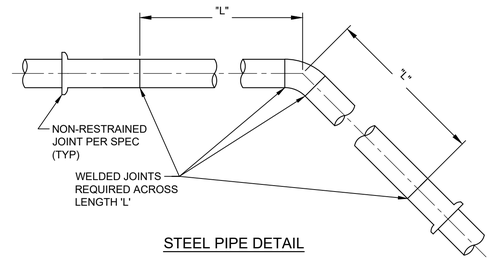
NOTES:

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.

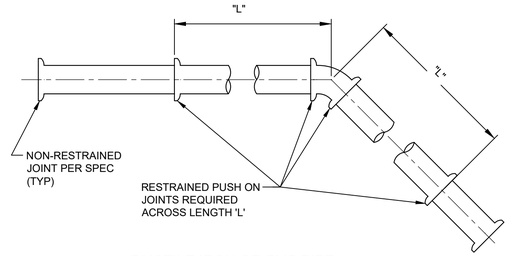
CR110 GUTTER - CROSS AND VALLEY

TYP

12/29/2020



STEEL PIPE DETAIL



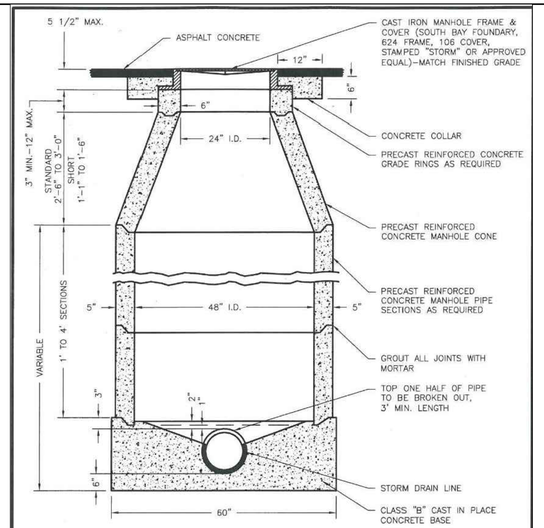
DUCTILE IRON OR PVC PIPE

CY134 THRUST RESTRAINT - BURIED RESTRAINED LENGTH

TYP

N R

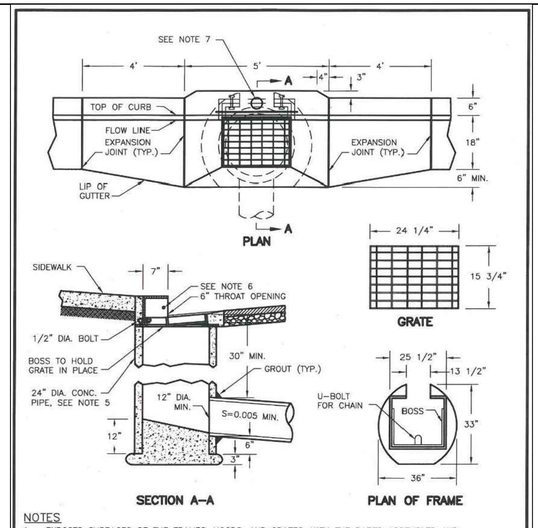
01/27/25



NOTES

1. PRECAST REINFORCED CONCRETE MANHOLE UNIT SHALL CONFORM TO A.S.T.M. C–478.
2. PIPE JOINT SHALL BE WITHIN 6 INCHES OF OUTER WALLS OF MANHOLE.
3. MANHOLE BASE TO BE TROWELED SMOOTH INSIDE.
4. MANHOLE SHALL BE CLEANED IN ACCORDANCE WITH CITY OF MANTECA SPECIFICATIONS.
5. SHORT CONE TO BE USED ONLY WHEN MANHOLE DEPTH JUSTIFIES.
6. COLLAR SHALL BE CLASS "B" CONCRETE AND CONSTRUCTED 2 1/2 INCHES BELOW FINISHED GRADE.

DATE:	JAN. 2012	**STORM DRAIN MANHOLE 12" THRU 33" DIA. PIPES**	APPROVED: 3-6-13 DIRECTOR OF PUBLIC WORKS
DRAWN BY:	S. FOX		
CHECKED BY:	K. KIM		
SCALE:	NOT TO SCALE	CITY OF MANTECA PUBLIC WORKS DEPARTMENT	D-1



NOTES

1. EXPOSED SURFACES OF THE FRAMES, HOODS, AND GRATES, WITH THE PARTS ASSEMBLED AND DISASSEMBLED, SHALL BE PAINTED WITH COMMERCIAL QUALITY ASPHALT PAINT AFTER TESTING AND ASSEMBLY, OR GALVANIZED.
2. FRAME, SIDE INLET, AND GRATE SHALL CONFORM TO SOUTH BAY FOUNDRY 645 FRAME, 645–8 HOOD, AND 1903 GRATE WITH CHAIN, OR APPROVED EQUAL.
3. GRATE SHALL BE CHAINED TO FRAME.
4. GRATE SHALL BE DEPRESSED 1" BELOW GUTTER PROFILE GRADE.
5. 24" PIPE BARREL SHALL BE CLASS III R.C.P.
6. 3/4" HOT DIPPED GALVANIZED STEEL BAR.
7. INSTALL STORM DRAIN MARKER PER CITY STANDARD D–7.

DATE:	JAN. 2012	**CURB INLET TYPE I**	APPROVED: 3-6-13 DIRECTOR OF PUBLIC WORKS
DRAWN BY:	S. FOX		
CHECKED BY:	K. KIM		
SCALE:	NOT TO SCALE	CITY OF MANTECA PUBLIC WORKS DEPARTMENT	D-4

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER RYAN A. HOOK No. 68462 CIVIL STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 15:05:30-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

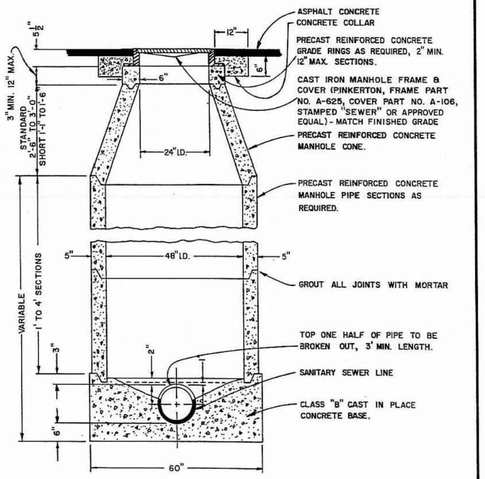
CIVIL 1

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. 202645
DRAWING NO. 00TC001
SHEET NO. 219 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TC001.dwg



NOTES:

1. PRECAST REINFORCED CONCRETE MANHOLE UNIT SHALL CONFORM TO A.S.T.M. C-478.
2. PIPE JOINT SHALL BE WITHIN 6 INCHES OF OUTER WALLS OF MANHOLE.
3. MANHOLE BASE TO BE TROWELED SMOOTH INSIDE.
4. MANHOLE SHALL BE CLEANED IN ACCORDANCE WITH CITY OF MANTECA SPECIFICATIONS.
5. SHORT CONE TO BE USED ONLY WHEN MANHOLE DEPTH JUSTIFIES.
6. COLLAR SHALL BE CLASS "B" CONCRETE AND CONSTRUCTED 2 1/2 INCHES BELOW FINISHED GRADE.

NO.	REVISED	BY

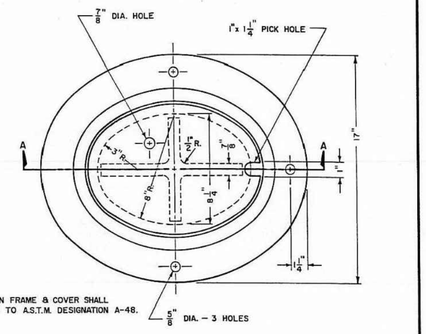
DRAWN BY: C. SABERTON
CHECKED BY: J. PODESTA
SCALE: NONE

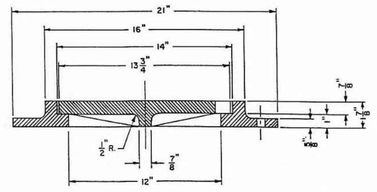
SANITARY SEWER MANHOLE 6" THRU 33" DIA. PIPES

CITY OF MANTECA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: DIRECTOR OF PUBLIC WORKS
DRAWING NO. S-3
DATE: JAN 1988

PINKERTON:
FRAME PART NO. A-144 APPROX. WT. 45 LBS.
COVER PART NO. A-144 APPROX. WT. 25 LBS.
OR APPROVED EQUAL





SECTION A-A

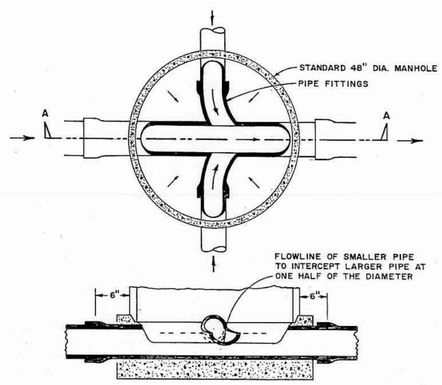
NO.	REVISED	BY

DRAWN BY: B. CANTU
CHECKED BY: J. PODESTA
SCALE: NONE

MAIN CLEAN-OUT FRAME AND COVER ASSEMBLY

CITY OF MANTECA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: DIRECTOR OF PUBLIC WORKS
DRAWING NO. S-11
DATE: JAN 1988



SECTION A-A

NOTES:

1. CLAY PIPE FITTINGS WITH TOP HALF BROKEN OUT IS REQUIRED FOR TROUGH.
2. TROUGHS WITHIN MANHOLE SHALL BE FULLY ACCESSIBLE.
3. MANHOLE SHALL BE CLEANED OF ALL EXCESS MATERIALS.
4. CONCRETE TROUGH CONSTRUCTED INTO BASE OF MANHOLE MAY BE USED WITH THE APPROVAL OF THE CITY ENGINEER.
5. ALL OTHER MANHOLE REQUIREMENTS AS PER STANDARD SANITARY SEWER MANHOLE DETAIL.

NO.	REVISED	BY

DRAWN BY: J. HULSEY
CHECKED BY: J. PODESTA
SCALE: NONE

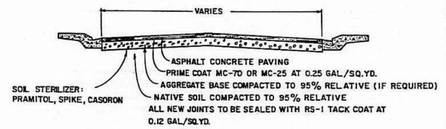
INTERSECTION FOR 24" DIA. PIPE & SMALLER

CITY OF MANTECA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: DIRECTOR OF PUBLIC WORKS
DRAWING NO. S-5
DATE: JAN. 1988

PAVEMENT DESIGN CHART

STREET NAME	TRAFFIC INDEX	SOIL R-VALUE	ADJUSTED R-VALUE	A.B. THICKNESS	A.C. THICKNESS	LIFT & THICKNESS



1. SOIL STERILIZER SHALL BE APPLIED WHEN ASPHALT CONCRETE PAVING IS PLACED DIRECTLY ON NATIVE MATERIAL ONLY.
2. PAVEMENT STRUCTURAL DESIGN SHALL BE BASED UPON "THE FLEXIBLE PAVEMENT STRUCTURAL SECTION DESIGN GUIDE FOR CALIFORNIA CITIES AND COUNTIES", AS MODIFIED IN CITY RESOLUTION NO. R5633.
3. CONSTRUCTION SHALL CONFORM WITH THE LATEST STANDARD SPECIFICATION OF THE STATE OF CALIFORNIA.
   ASPHALT CONCRETE SHALL BE TYPE "B"
   AGGREGATE BASE SHALL BE CLASS "2"
4. BASE SHALL BE WATERED AND COMPACTED PURSUANT TO STATE SPECIFICATIONS EXCEPT-95% TO 0.5 FEET BELOW FINISHED SUBGRADE-90% TO 2.5 FEET BELOW FINISHED SUBGRADE.
5. PRIME COAT SHALL BE APPLIED WHEN ASPHALT CONCRETE PAVING IS PLACED ON AGGREGATE BASE MATERIAL ONLY.

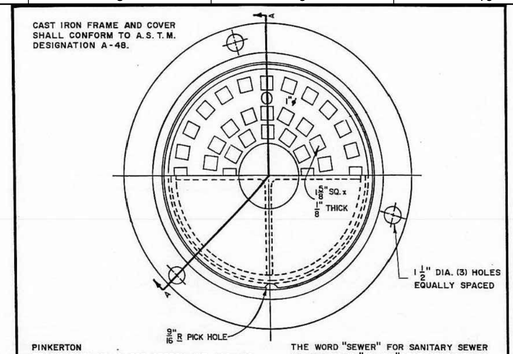
NO.	REVISED	BY

DRAWN BY: J. HULSEY
CHECKED BY: J. PODESTA
SCALE: NONE

PAVEMENT DESIGN CHART AND STREET CROSS SECTION

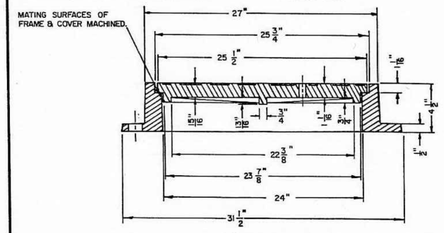
CITY OF MANTECA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: DIRECTOR OF PUBLIC WORKS
DRAWING NO. ST-14
DATE: JAN. 1988



PINKERTON
FRAME PART NO. A-625 APPROX. WT. 140 LBS.
COVER PART NO. A-106 APPROX. WT. 163 LBS.
OR APPROVED EQUAL FRAME AND COVER

THE WORD "SEWER" FOR SANITARY SEWER OR THE WORD "STORM" FOR STORM DRAIN AS APPROPRIATE SHALL BE EMBOSSED ON CENTER DISC.



SECTION A-A

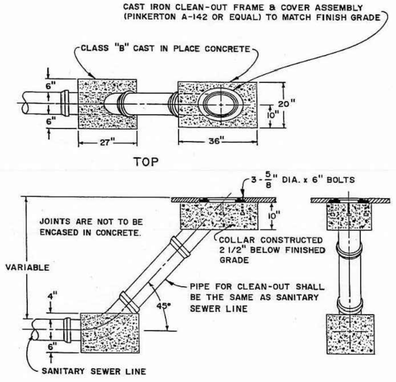
NO.	REVISED	BY
1	MANHOLE FRAME	DRK

DRAWN BY: C. SABERTON
CHECKED BY: J. PODESTA
SCALE: NONE

MANHOLE FRAME AND COVER ASSEMBLY

CITY OF MANTECA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: DIRECTOR OF PUBLIC WORKS
DRAWING NO. S-8
DATE: JAN 1988



NO.	REVISED	BY

DRAWN BY: B. CANTU
CHECKED BY: J. PODESTA
SCALE: NONE

MAIN LINE CLEAN-OUT

CITY OF MANTECA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: DIRECTOR OF PUBLIC WORKS
DRAWING NO. S-10
DATE: JAN.1988

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER
RYAN A. HOOK
No. 68462
CIVIL
STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 15:29:47 -08'07'

carollo®

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

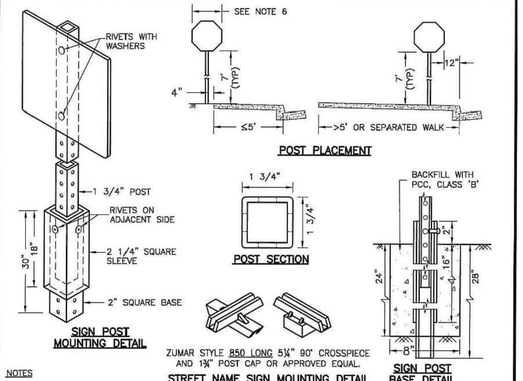
CIVIL 2

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

JOB NO. 202645
DRAWING NO. 00TC002
SHEET NO. 220 OF 239

LAST SAVED BY: gleal

PROJECT NO. 202645-100000 FILE NAME: 202645_00TC002.dwg



NOTES

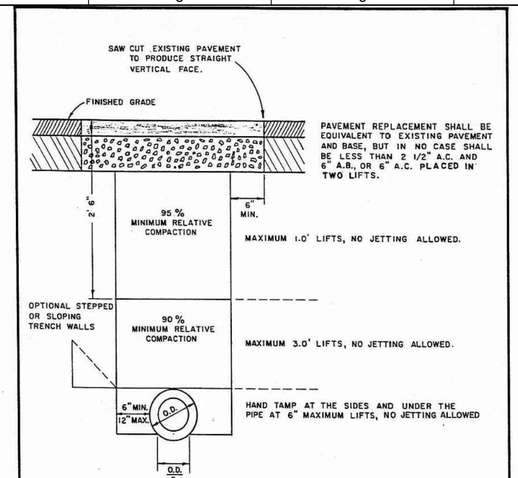
1. MATERIALS:
   - POST – 1 3/4" SQUARE WITH ROUNDED CORNERS, 14 GA. GALV. HIGH STRENGTH RAIL STEEL ASTM A715, GRADE 60. (TELESPAR PART # 16D12–PG OR APPROVED EQUAL.) GALVANIZED POST FINISH SHALL CONFORM TO ASTM A525 G90 COATING.
   - POST BASE ANCHOR – 30" LONG X 2" SQUARE 12 GA. GALV. STEEL (TELESPAR PART # 20F12A2.5 OR APPROVED EQUAL.)
   - POST BASE SLEEVE – 18" LONG X 2¼" SQUARE 12 GA. GALV. STEEL (TELESPAR PART # TEL–22F12–A OR APPROVED EQUAL.)
   - SIGN FACE – SHALL BE REFLECTIVE AND PLACED ON .080" MINIMUM THICKNESS ALUMINUM WITH 3M HIGH–INTENSITY GRADE PRISMATIC REFLECTIVE SHEETING SERIES 3930 OR APPROVED EQUAL.
2. STREET NAME SIGNS SHALL BE MOUNTED ON STREET LIGHT POLES IN CONFORMANCE WITH CITY STANDARD ST–18 WHEREVER POSSIBLE.
3. STREET NAME SIGN LOCATION SUBJECT TO CITY ENGINEER APPROVAL.
4. SIGN POLES SHALL BE SET PRIOR TO NEW SIDEWALK CONSTRUCTION.
5. SIGNS SHALL CONFORM TO CALTRANS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
6. STOP SIGN DIMENSION:
   - TWO (2) LANE ROADWAY: 30"X30" MIN.
   - FOUR (4) LANES OR MORE: 36"X36" MIN.

DATE:	9–2–2009
DRAWN BY:	J.R.
CHECKED BY:	M.M.
SCALE:	N.T.S.

TRAFFIC, PARKING, AND STREET NAME SIGNS
CITY OF MANTECA
PUBLIC WORKS DEPARTMENT

APPROVED: Mark Houghton, DIRECTOR OF PUBLIC WORKS

ST–19



NOTES:

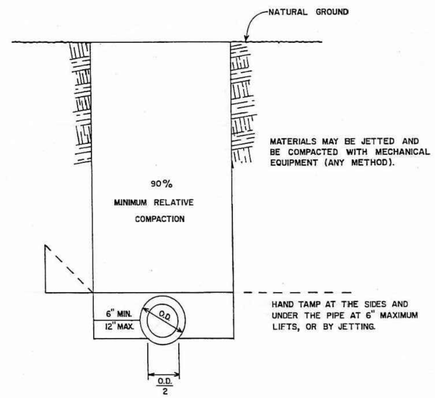
1. ANY AREA AT THE BOTTOM OF THE TRENCH DETERMINED TO BE UNSUITABLE BY THE ENGINEER SHALL BE REMOVED AND REPLACED WITH DRAIN ROCK (1–1/2" X 3/4" OR 2–1/2" X 1–1/2").
2. SELECTED NATIVE MATERIAL MAY BE USED IN ALL TRENCH BACKFILL ZONES AND SHALL BE FREE OF ORGANIC MATERIAL, STONES, OR LUMPS EXCEEDING 3" IN GREATEST DIMENSION.
3. COMPACTION TESTING SHALL BE REQUIRED AS DIRECTED BY THE CITY ENGINEER.

NO.	REVISED	BY

DRAWN BY: A. MENOR
CHECKED BY: J. PODESTA
SCALE: NONE

TRENCH BACKFILL IN EXISTING STREETS
CITY OF MANTECA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: Mark A. Houghton, DIRECTOR OF PUBLIC WORKS
DRAWING NO. **U–5**
DATE: JAN. 1988

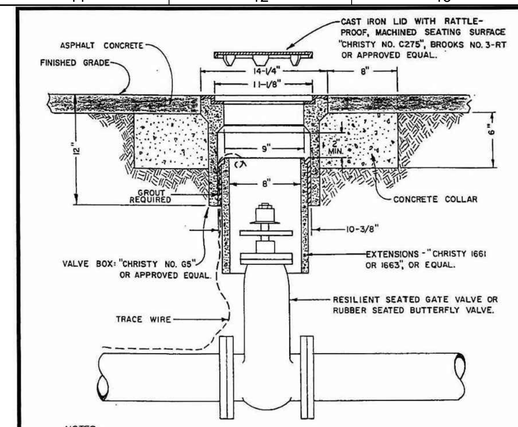


NO.	REVISED	BY

DRAWN BY: A. MENOR
CHECKED BY: J. PODESTA
SCALE: NONE

TRENCH BACKFILL OUTSIDE STREET AREAS (P.U.E.)
CITY OF MANTECA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: Mark A. Houghton, DIRECTOR OF PUBLIC WORKS
DRAWING NO. **U–6**
DATE: JAN. 1988



NOTES:

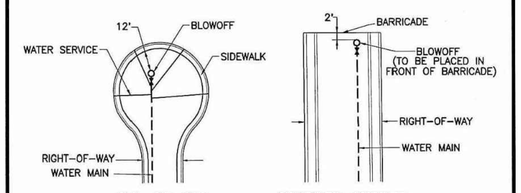
1. VALVE BOX AND LID SHALL BE "CHRISTY NO. G5" AND "CHRISTY NO. C275", BROOKS NO. 3–RT, OR EQUALS.
2. ALL LIDS SHALL HAVE MACHINE SEATING SURFACES.
3. EXTENSIONS SHALL BE AS MANUFACTURED FOR THE VALVE BOX SUPPLIED OR A.C. PIPE OF CORRECT SIZE MAY BE USED.
4. CONCRETE COLLAR SHALL BE OF CLASS "B" CONCRETE AND SHALL BE CONSTRUCED 2½ INCHES BELOW FINISHED GRADE.
5. RESILIENT SEATED GATE VALVE SHALL BE MUELLER, KENNEDY, AMERICAN AVK CO., OR APPROVED EQUAL.
6. RESILIENT SEATED GATE VALVE SHALL HAVE A NON–RISING STEM AND CONFORM TO A.W.W.A. STANDARD C509 OF LATEST REVISION.
7. RUBBER SEATED BUTTERFLY VALVE SHALL BE DRESSER 450, MUELLER B3211 OR APPROVED EQUAL.
8. RUBBER SEATED BUTTERFLY VALVE SHALL CONFORM TO A.W.W.A. STANDARD C504 OF LATEST REVISION.
9. RUBBER SEATED BUTTERFLY VALVES SHALL BE USED FOR PIPE SIZES LARGER THAN 12 INCHES.

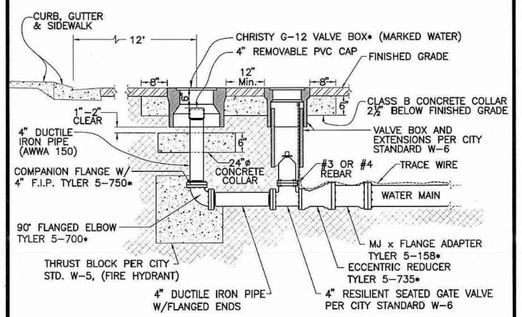
NO.	REVISED	BY
4	OCT. 2003	JH

DRAWN BY: C. SABERTON
CHECKED BY: J. PODESTA
SCALE: NONE

STANDARD VALVE BOX
CITY OF MANTECA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: Mark A. Houghton, DIRECTOR OF PUBLIC WORKS
DRAWING NO. **W–6**
DATE: JAN. 1988





*OR APPROVED EQUAL

NO.	REVISED	BY
1	JULY, 1999	JR

DRAWN BY: J. KOESTER
CHECKED BY: J. PODESTA
SCALE: NONE

BELOW GRADE WATER LINE BLOW–OFF
CITY OF MANTECA
DEPARTMENT OF PUBLIC WORKS

APPROVED BY: Mark A. Houghton, DIRECTOR OF PUBLIC WORKS
DRAWING NO. **W–7**
DATE: JAN. 1988

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED TR
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — RYAN A. HOOK — No. 68462 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Ryan A. Hook
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.28 09:04:04 -08'00'

carollo®

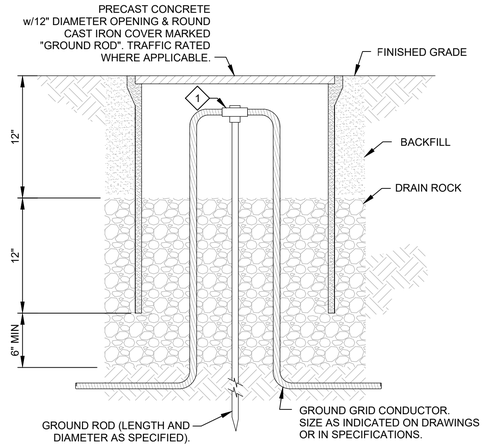
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
TYPICAL DETAILS
CIVIL 3

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

JOB NO. 202645
DRAWING NO. 00TC003
SHEET NO. 221 OF 239

LAST SAVED BY: gleal

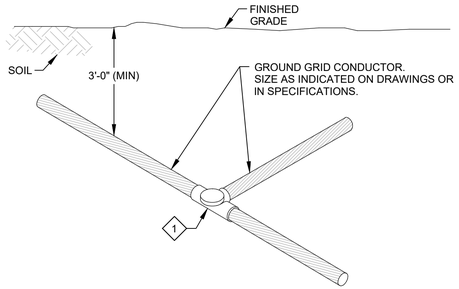
PROJECT NO. 202645-100000 FILE NAME: 202645_00TC003.dwg



KEY NOTES:

1. THROUGH CABLE TO GROUND ROD CONNECTION.

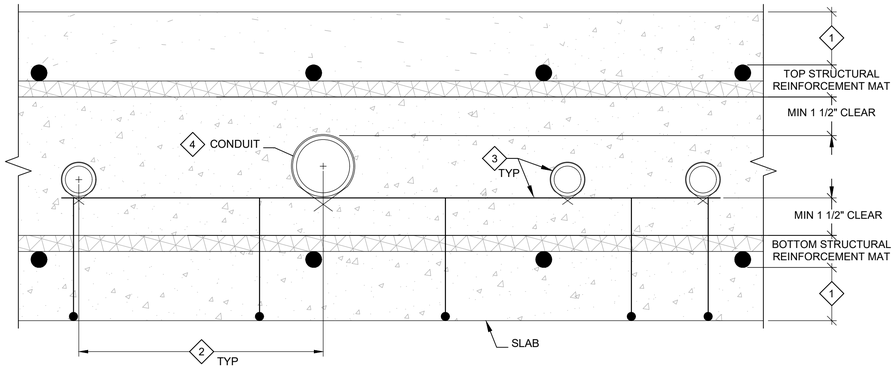
EG051 TYP — GROUND ROD AND GROUNDWELL EXOTHERMIC CONNECTION



KEY NOTES:

1. HORIZONTAL TEE CONNECTION.

EG151 TYP — COPPER GROUNDING CABLE CONNECTION EXOTHERMIC CONNECTION



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 TYP — EMBEDDED CONDUIT IN CONCRETE SLAB SINGLE RUN

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED CE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.07 09:15:19 -08'00'

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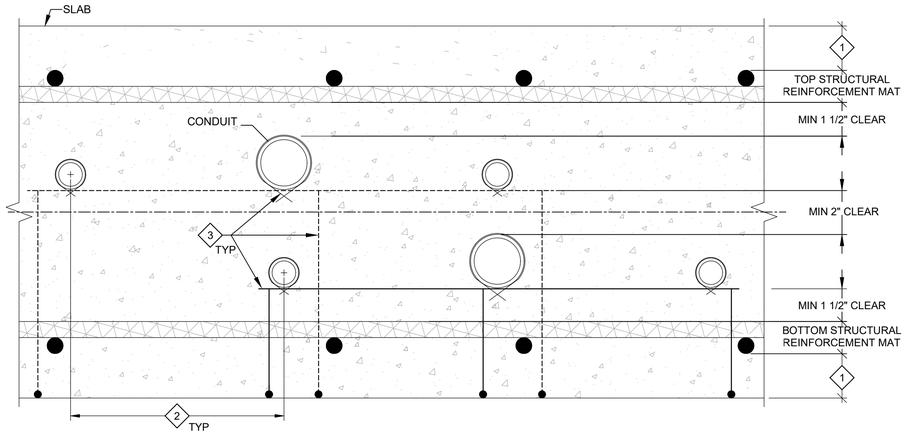
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
TYPICAL DETAILS
ELECTRICAL 1

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

JOB NO. 202645
DRAWING NO. 00TE001
SHEET NO. 222 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TE001.dwg



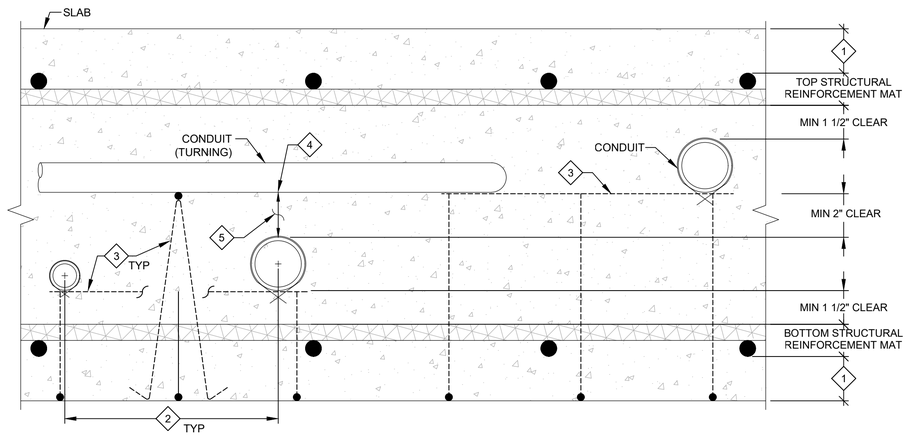
GENERAL NOTES:

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 & ANCHOR TO PREVENT FLOTATION.
4. WHERE MORE THAN 2 RUNS ARE STACKED, PROVIDE HORIZONTAL AND VERTICAL SPACING SHOWN BETWEEN EACH PAIR.

EM116 TYP — EMBEDDED CONDUIT IN CONCRETE SLAB STACKED RUNS



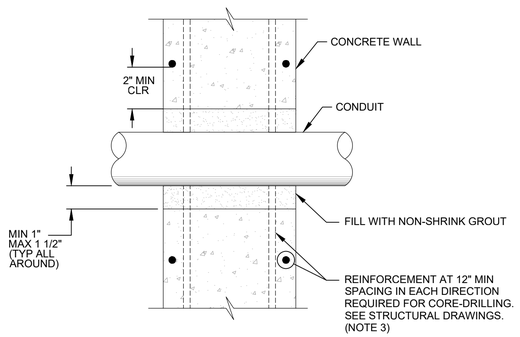
GENERAL NOTES:

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.

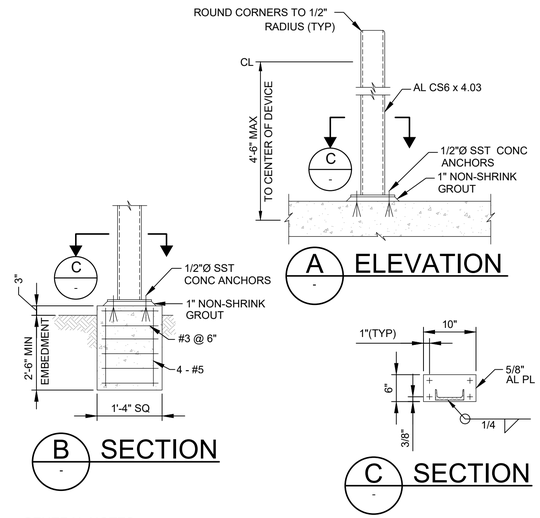
EM117 TYP — EMBEDDED CONDUIT IN CONCRETE SLAB CROSSING RUNS



GENERAL NOTES:

1. PROVIDE NON-DESTRUCTIVE TESTING TO DETERMINE LOCATIONS OF REINFORCEMENT. MAINTAIN MIN 2" CLEAR BETWEEN CORE DRILLED OPENING AND REINFORCEMENT.
2. APPLY EPOXY CEMENT BONDING AGENT OR ROUGHEN CONCRETE SURFACE PRIOR TO GROUTING.
3. PROVIDE CAST-IN SLEEVE FOR PENETRATIONS IN WALLS WITH REINFORCEMENT SPACING LESS THAN 2" IN EACH DIRECTION. REFER TO STRUCTURAL DRAWINGS.

EM138 TYP — CORE DRILLED PENETRATION CONCRETE WALL



GENERAL NOTES:

1. WHERE SEPARATE FOUNDATION IS REQUIRED, SEE SECTION B.
2. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE PER SPECIFICATIONS.
3. USE STAINLESS STEEL FASTENERS FOR MOUNTING DEVICES.
4. WEIGHT OF DEVICE(S) SHALL NOT EXCEED 100 POUNDS.

EM201 TYP — DEVICE SUPPORT AND MOUNTING

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED CE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.17 11:19:07

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

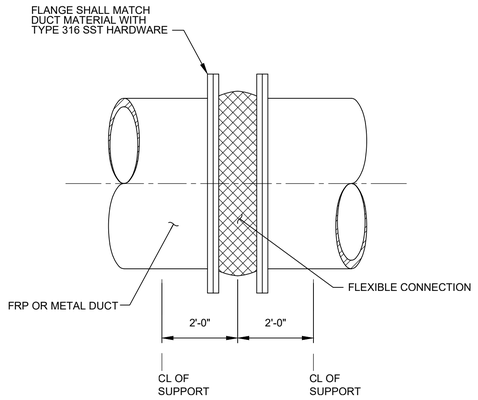
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JOB NO. 202645
DRAWING NO. 00TE002
SHEET NO. 223 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TE002.dwg

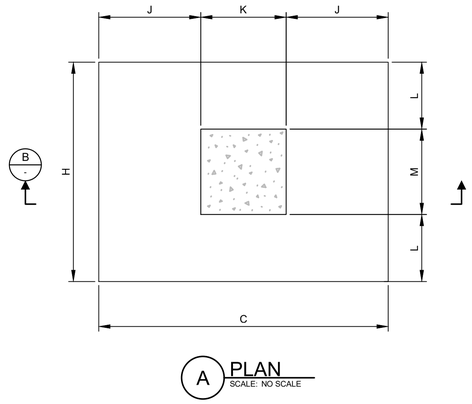


NOTE:

1. FOR FLEXIBLE CONNECTOR, TYPE FL-3 ONLY.

HA140 TYP — CONNECTION - FLEXIBLE FOR FRP OR METAL DUCT (FL-3)

5/17/18



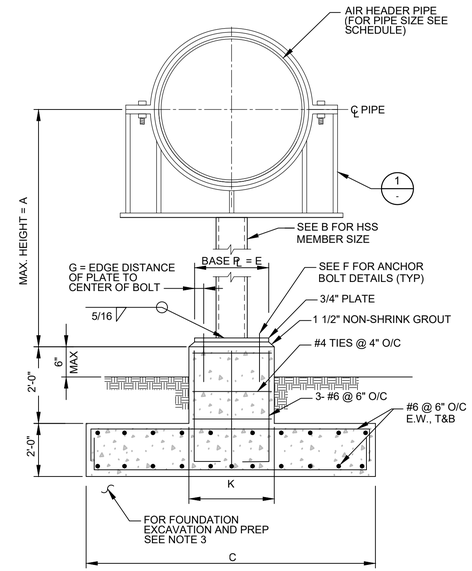
A PLAN
SCALE: NO SCALE

NOTES:

1. ALL STEEL MEMBERS, BOLTS, AND STEEL PLATES SHALL BE GALVANIZED.
2. CENTER PIPE ON CONCRETE FOUNDATION.
3. a) PROOF-ROLL THE EXPOSED EXCAVATED AREA UNTIL FIRM STABLE SOIL. REMOVE ANY SOFT OR PUMPING AREAS. GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE SHOULD OBSERVE THIS. TEST THE SUBGRADE FOR COMPACTION AND MOISTURE CONTENT.
   b) GEOTECHNICAL ENGINEER SHALL OBSERVE PRIOR TO CONCRETE PAVEMENT. COMPACT A MINIMUM OF 98% OF THE STANDARD PROCTOR, ASTM D698, TO A MOISTURE CONTENT RANGING FROM ONE PERCENTAGE POINT BELOW OPTIMUM MOISTURE TO THREE PERCENTAGE POINTS ABOVE OPTIMUM MOISTURE (-1 TO +3).

HO110 TYP — SUPPORT FOR ROUND FRP DUCT ADJUSTABLE YARD

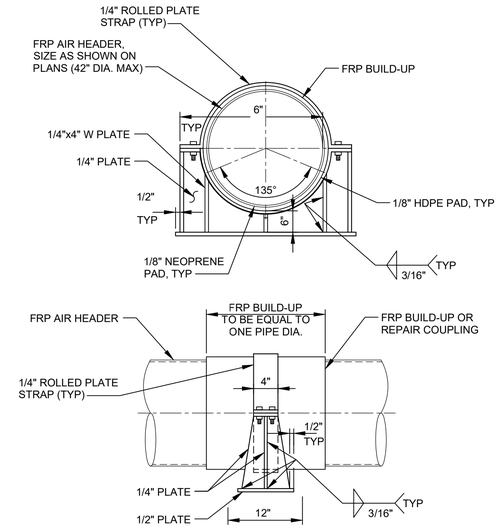
SHEET 1 OF 4 11/19/24



B SECTION
SCALE: NO SCALE

HO110 TYP — SUPPORT FOR ROUND FRP DUCT ADJUSTABLE YARD

SHEET 2 OF 4 11/19/24



1 DETAIL
SCALE: NO SCALE

NOTES:

1. ALL STEEL MEMBERS, BOLTS, AND STEEL PLATES SHALL BE GALVANIZED.

HO110 TYP — SUPPORT FOR ROUND FRP DUCT ADJUSTABLE YARD

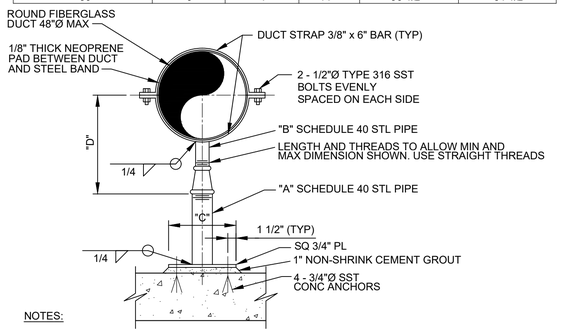
SHEET 3 OF 4 11/19/24

PIPE SUPPORT SCHEDULE												
PIPE SIZE	SUPPORT SPACING	A	B	C	H	K	M	J	L	E	F	G
6"-16" Ø	20'-0" O.C.	15'-0"	HSS 8x8x1/2	4'-0"	7'-0"	1'-6"	5'-0"	1'-3"	1'-0"	1'-6" SQ	(4) 3/4" DIA. HEX HEAD ANCHOR BOLTS ASTM F1554 GR. 36 W/ 6" MIN EMBEDMENT	3" MIN
18-26" Ø	20'-0" O.C.	9'-0"	HSS 8x8x1/2	4'-0"	7'-0"	1'-6"	5'-0"	1'-3"	1'-0"	1'-6" SQ	(4) 3/4" DIA. HEX HEAD ANCHOR BOLTS ASTM F1554 GR. 36 W/ 6" MIN EMBEDMENT	3" MIN
28"-36" Ø	15'-0" O.C.	8'-0"	HSS 8x8x1/2	4'-0"	7'-0"	1'-6"	5'-0"	1'-3"	1'-0"	1'-6" SQ	(4) 3/4" DIA. HEX HEAD ANCHOR BOLTS ASTM F1554 GR. 36 W/ 6" MIN EMBEDMENT	3" MIN

HO110 TYP — SUPPORT FOR ROUND FRP DUCT ADJUSTABLE YARD

SHEET 4 OF 4 11/19/24

ADJUSTABLE PIPE SADDLE SUPPORT SCHEDULE (INCHES)					
SIZE OF SUPPORTED PIPE **	PIPE SIZE "A"	PIPE SIZE "B"	"C"	"D"	
				MINIMUM	MAXIMUM
6	3	2 1/2	12	10 1/2	15 1/2
8	3	2 1/2	12	11 1/2	16 1/2
10	3	2 1/2	12	13 1/2	18 1/2
12	3	2 1/2	12	15	19 1/2
14	4	3	12	16 1/2	20 1/2
16	4	3	12	17 1/2	22 1/2
18	6	3 1/2	14	19 1/2	24
20	6	3 1/2	14	21	25 1/2
24	6	4	14	23 1/2	28 1/2
30	6	4	14	27	31 1/2
32	6	4	14	28 1/2	32 1/2
36	6	4	14	30 1/2	34 1/2

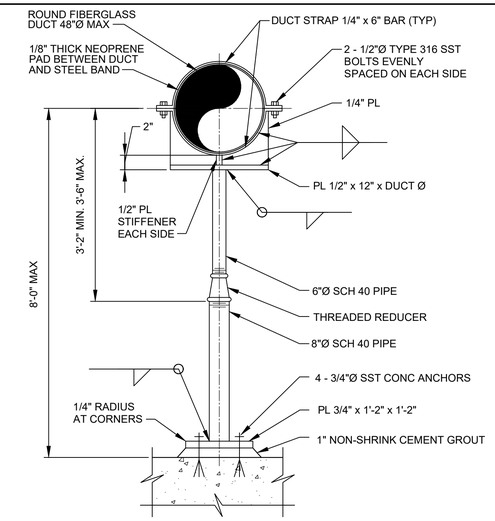


NOTES:

1. HOT-DIP GALVANIZED SUPPORT AFTER FABRICATION.
2. ★ = USE 2 1/2" SUPPORTS FOR PIPES LESS THEN 2 1/2"Ø.
3. ★★ = NOMINAL PIPE SIZE.

HO116 TYP — SUPPORT FOR ROUND FRP DUCT - ADJUSTABLE SHORT POST

2/5/19



NOTES:

1. DUCT SUPPORT SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
2. MAXIMUM VERTICAL LOAD = 1000 POUNDS.

HO122 TYP — SUPPORT FOR ROUND FRP DUCT - ADJUSTABLE TALL POST

3/12/19

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED WS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc
Date: 2025.01.27 14:25:29-07'00'

carollo

CITY OF MANTECA, CALIFORNIA — Manteca — the family city — INCORPORATED MAY 21, 1918

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

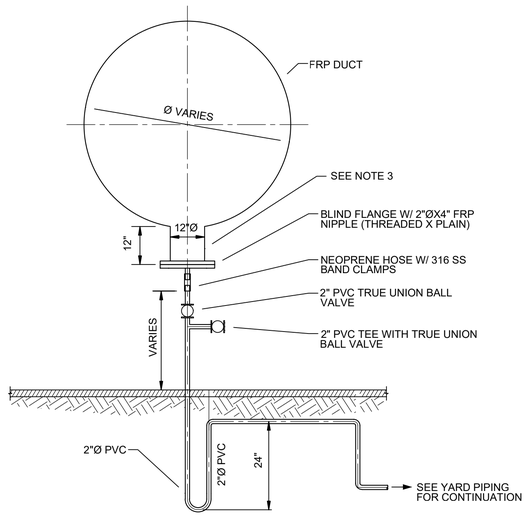
HVAC 1

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

JOB NO. 202645
DRAWING NO. 00TH001
SHEET NO. 224 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TH001.dwg

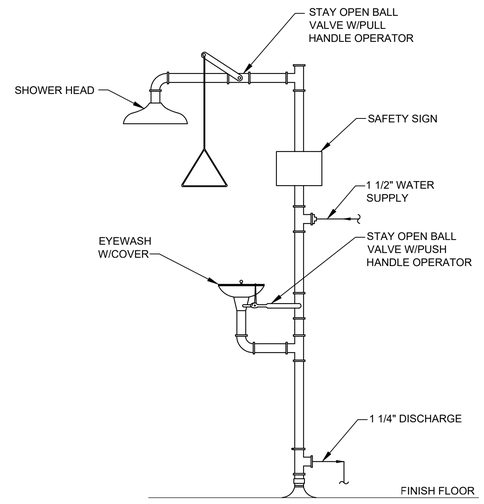


NOTES:

1. INSTALL WHERE SHOWN ON PLANS AND AT ALL LOW POINTS IN DUCT.
2. 2"Ø FRP NIPPLE TO BE THREADED INTO BLIND FLANGE.
3. INSTALL 12" STUBOUT ON DUCTS 12"Ø AND LARGER INSTALL A 6" STUBOUT ON DUCTS 6"-12"Ø. INTERIOR OF DUCT AT STUBOUT SHALL BE SMOOTH AND WITHOUT PROTRUSION ABOVE FLOWLINE OF DUCT.

HO730 TYP — CONDENSATE DRAIN FOR FRP DUCT - 2" DIAMETER BELOW GRADE

9/09/22

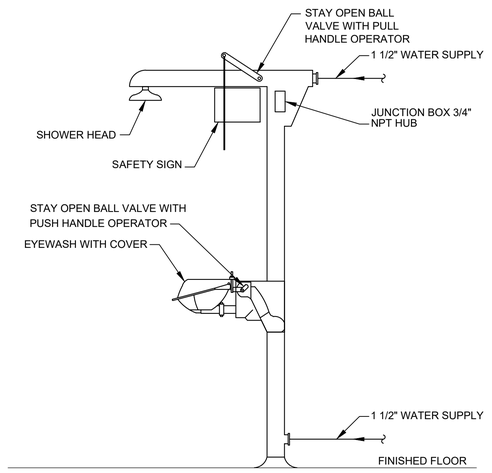


NOTES:

1. REFER TO CONTRACT DOCUMENTS FOR SUPPLY AND DISCHARGE PIPING INSULATION REQUIREMENTS.
2. OUTDOOR STATIONS SHALL BE SUPPLIED WITH FREEZE AND SCALD PROTECTION VALVES.
3. CONTRACTOR TO COORDINATE DISCHARGE PIPE CONNECTION WITH MANUFACTURER.

HP610 TYP — EMERGENCY SHOWER & EYE/FACE WASH - NON FREEZE PROTECTED

9/13/18

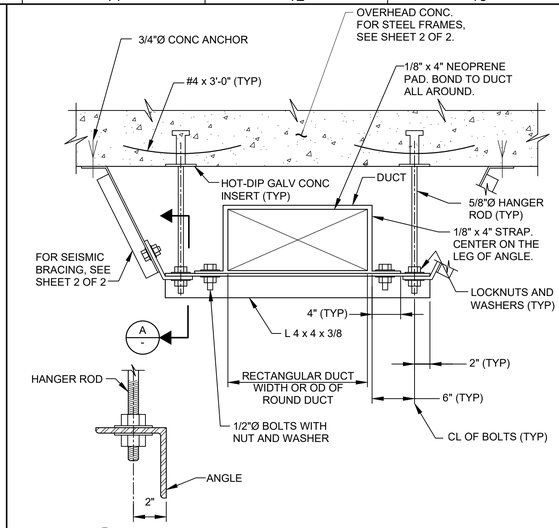


NOTES:

1. REFER TO CONTRACT DOCUMENTS FOR SUPPLY AND DISCHARGE PIPING INSULATION REQUIREMENTS.
2. OUTDOOR STATIONS SHALL BE SUPPLIED WITH FREEZE AND SCALD PROTECTION VALVES.
3. CONTRACTOR TO COORDINATE DISCHARGE PIPE CONNECTION WITH MANUFACTURER.

HP630 TYP — EMERGENCY SHOWER & EYE/FACE WASH - FREEZE PROTECTED

8/16/22

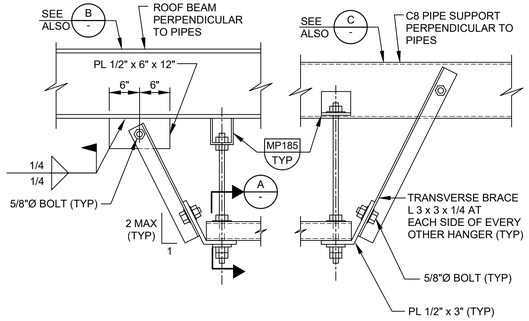


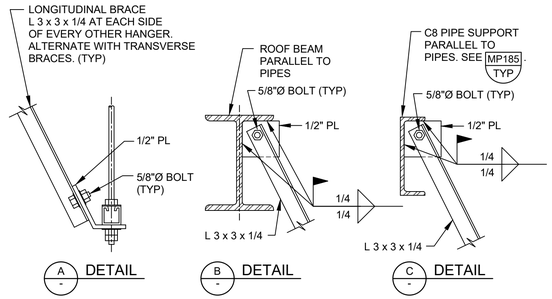
NOTES:

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

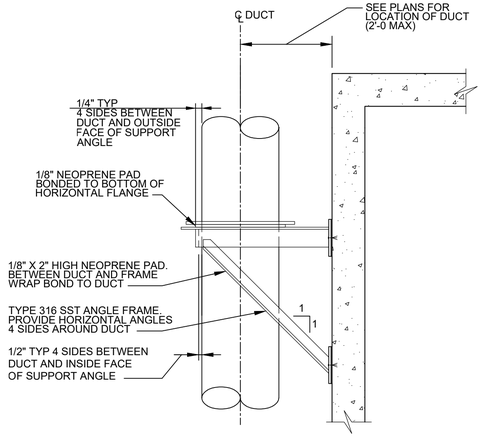
SHEET 1 OF 2 12/26/24





HS184 TYP — DUCT SUPPORT FOR RECTANGULAR/ROUND DUCT - TRAPEZE FROM OVERHEAD

SHEET 2 OF 2 12/18/2023



AIR DUCT HANGER AND SUPPORT SCHEDULE		
DUCT DIA	ANGLE SIZE	SPACING WHEN NOT INDICATED ON THE DRAWINGS
LESS THAN 18"	L2 x 2 x 0.250	8'-0" OC MAX
18" THRU 40"	L2 1/2" x 2 1/2" x 0.375	8'-0" OC MAX
GREATER THAN 40"	L3 x 3 x 0.375	4'-0" OC MAX

HS326 TYP — DUCT SUPPORT FOR VERTICAL ROUND DUCT - WALL LATERAL BRACE

9/14/18

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED WS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.29 08:29:07 -08'00'

carollo®

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

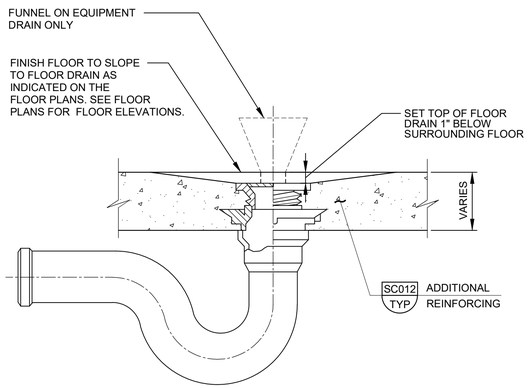
HVAC 2

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

JOB NO. 202645
DRAWING NO. 00TH002
SHEET NO. 225 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TH002.dwg

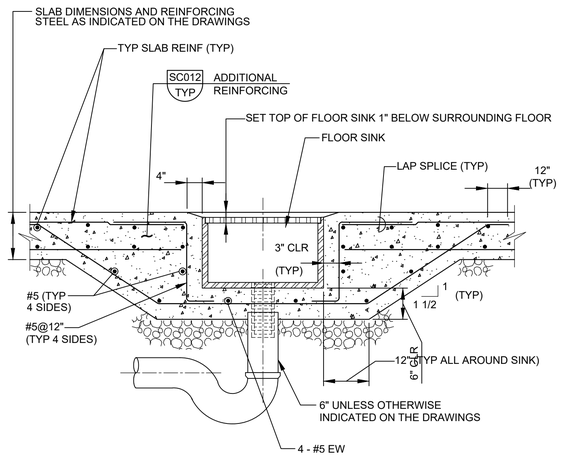


NOTE:

1. PROVIDE 12" RADIUS SLOPE TO EQUIPMENT DRAINS WHERE FLOOR DOES NOT SLOPE TO DRAIN.

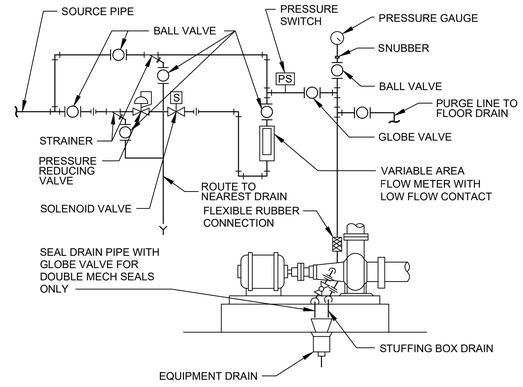
MA201 TYP — DRAIN - FLOOR OR EQUIPMENT DRAIN W/ TRAP

12/18/2023



MA205 TYP — DRAIN - FLOOR SINK

12/18/2023

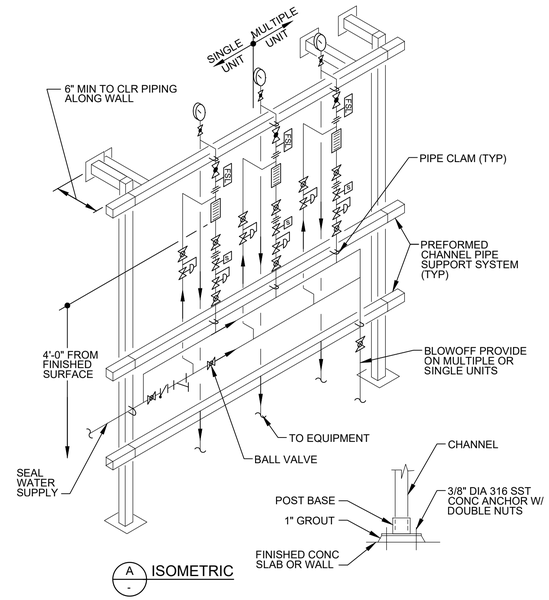


NOTES:

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

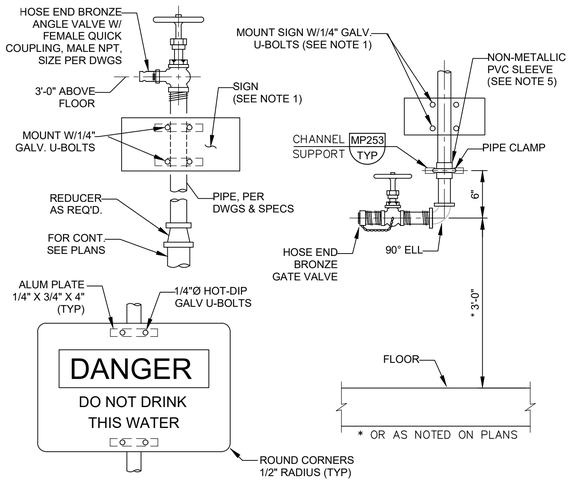


NOTE:

1. PREFORMED CHANNEL, CLAMPS, BOLTS AND NUTS SHALL BE 316 SST.

MA311 TYP — ANCILLARY - SEAL & COOLING WATER - SEAL MOUNTING RACK

03/03/22

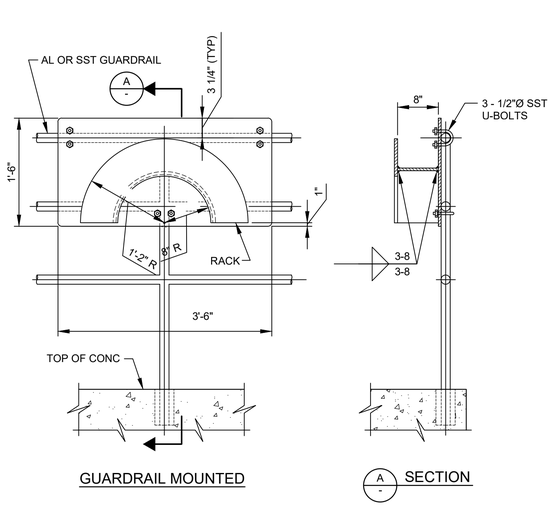


NOTES:

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, S 05/03/23

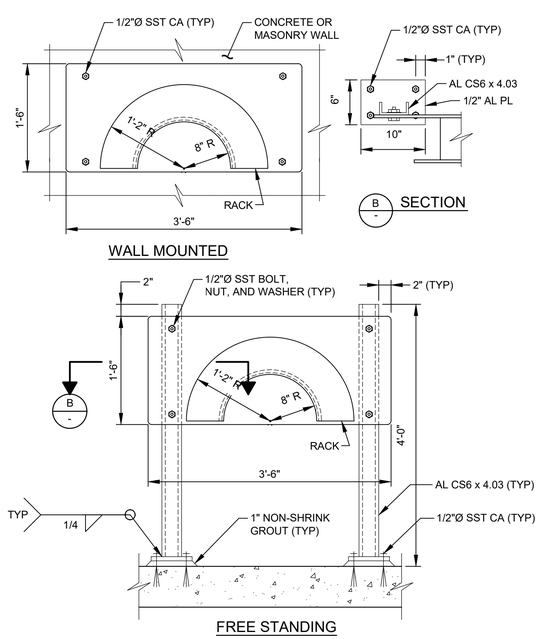


NOTES:

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.
4. PROVIDE 25' HOSE AND NOZZLE AT EACH HOSE RACK.

MA417 TYP R — WASHDOWN - HOSE RACK

SHEET 1 OF 2 12/06/24



MA417 TYP S — WASHDOWN - HOSE RACK

SHEET 2 OF 2 12/01/22

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.27 14:19:29-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

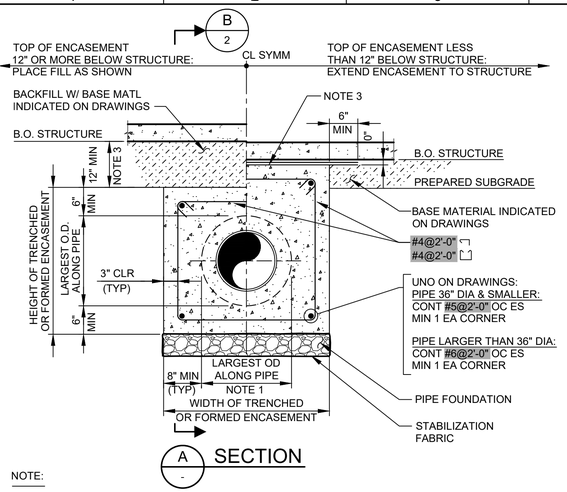
MECHANICAL 1

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

JOB NO. 202645
DRAWING NO. 00TM001
SHEET NO. 226 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TM001.dwg

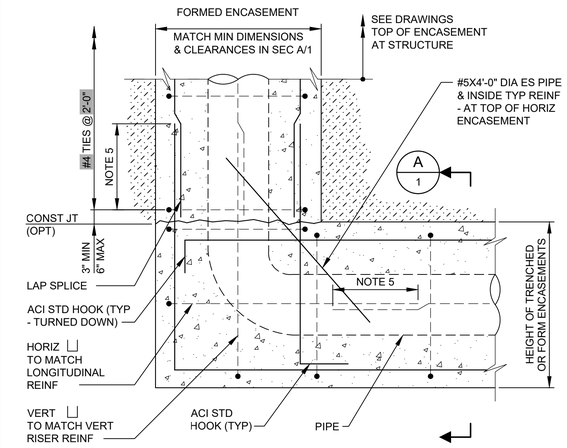


NOTE:

1. PIPE MATERIAL AND PIPE JOINTS / COUPLERS AS INDICATED ON THE DRAWINGS.
2. TERMINATE CONCRETE ENCASEMENT AT A PIPE JOINT OUTSIDE OF THE STRUCTURE.
3. WHERE DISTANCE BETWEEN BOTTOM OF STRUCTURE AND TOP OF TYPICAL ENCASEMENT SECTION IS LESS THAN 12", EXTEND ENCASEMENT UPWARD TO UNDERSIDE OF SLAB. STEEL TROWEL TOP SURFACE AND SEPARATE ENCASEMENT FROM STRUCTURE WITH 2 LAYERS 6 MIL POLYETHYLENE SHEETING.
4. ENCASEMENT CONCRETE: CLASS A-NA.
5. SPLICE PERIMETER REINFORCEMENT OUTSIDE INTERSECTION OF ENCASEMENT WHERE POSSIBLE.

MP003 TYP S — PIPE ENCASEMENT - BELOW STRUCTURE

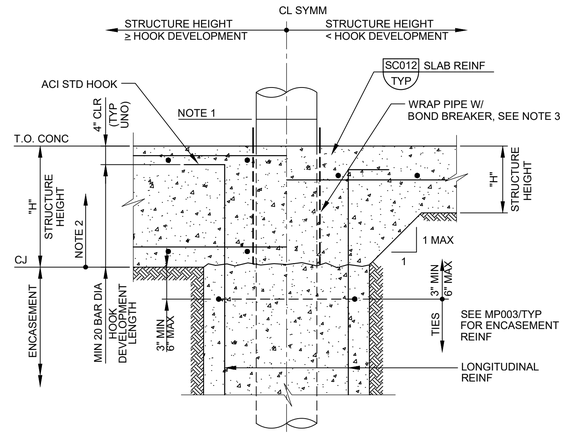
SHEET 1 OF 2 06/03/24



B
-
VERTICAL RISER BELOW STRUCTURE

MP003 TYP S — PIPE ENCASEMENT - BELOW STRUCTURE

SHEET 2 OF 2 06/03/24

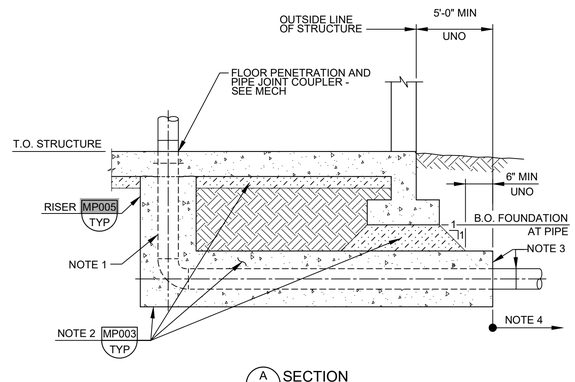


NOTES:

1. SEE MECHANICAL DRAWINGS FOR PIPE JOINT AND COUPLER.
2. COAT PIPE ABOVE VERTICAL ENCASEMENT BEFORE PLACING CONCRETE.
3. WRAP PIPE TO 2" ABOVE FINAL TOP OF CONCRETE WITH 2 LAYERS 6 MIL POLYETHYLENE SHEETING. CUT SHEETING TO TOP OF CONCRETE AFTER PLACEMENT AND CURING.

MP005 TYP — PIPE ENCASEMENT - CONNECTION AT SLAB CONSTRUCTION JOINT, TIED

09/01/23

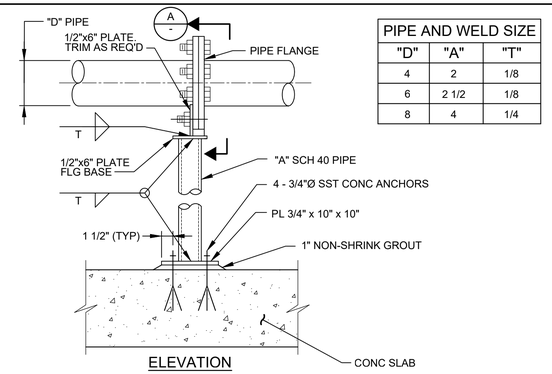


NOTES:

1. PIPE MATERIAL AND PIPE JOINTS / COUPLERS AS INDICATED ON THE DRAWINGS.
2. SEE DETAIL FOR FILLS & PIPE ENCASEMENT CONCRETE CLASS.
3. TERMINATE ENCASEMENT AT PIPE JOINT OUTSIDE STRUCTURE. SEE MECHANICAL DRAWINGS FOR PIPE JOINT DETAIL AT TERMINATION.
4. SEE CIVIL DRAWINGS FOR PIPE BEYOND ENCASEMENT.

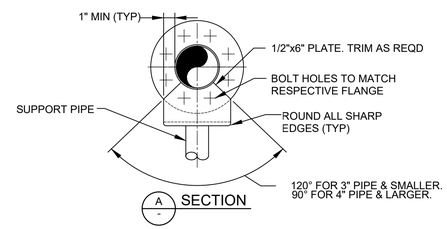
MP014 TYP — PIPE ENCASEMENT SHALLOW FOUNDATION - TIED ENCASEMENT

08/03/23



ELEVATION

PIPE AND WELD SIZE		
"D"	"A"	"T"
4	2	1/8
6	2 1/2	1/8
8	4	1/4



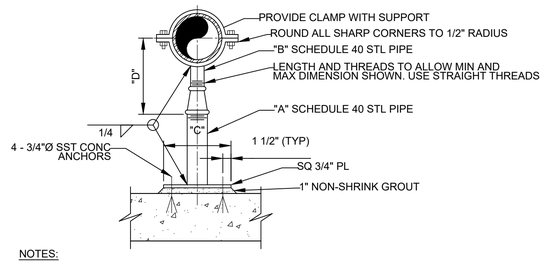
NOTE:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL FOR SUPPORT SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, ALL MATERIAL FOR SUPPORT SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.

MP032 TYP N — PIPE SUPPORT - POST ON CONCRETE: FIXED HEIGHT STEEL W/ TOP CONNECTION TO PIPE FLANGE

05/31/23

ADJUSTABLE PIPE SADDLE SUPPORT SCHEDULE (INCHES)					
SIZE OF SUPPORTED PIPE **	PIPE SIZE "A"	PIPE SIZE "B"	"C"	"D"	
				MINIMUM	MAXIMUM
2 1/2 *	2 1/2	1 1/2	12	8	13
3	2 1/2	1 1/2	12	8 1/2	13 1/2
3 1/2	2 1/2	1 1/2	12	8 1/2	13 1/2
4	3	2 1/2	12	9 1/2	14
6	3	2 1/2	12	10 1/2	15 1/2
8	3	2 1/2	12	11 1/2	16 1/2
10	3	2 1/2	12	13 1/2	18 1/2
12	3	2 1/2	12	15	19 1/2
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20	6	3 1/2	14	21	25 1/2
24	6	4	14	23 1/2	28 1/2
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36	6	4	14	30 1/2	34 1/2

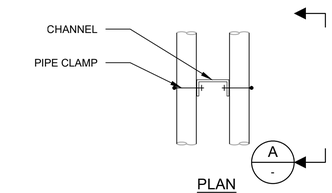


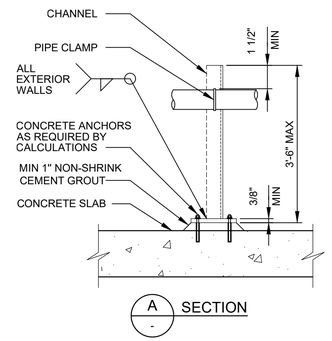
NOTES:

1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
2. * = USE 2 1/2" SUPPORTS FOR PIPES LESS THEN 2 1/2"Ø.
3. ** = NOMINAL PIPE SIZE.

MP034 TYP N — PIPE SUPPORT - POST ON CONCRETE: ADJUSTABLE HEIGHT STEEL W/ TOP SADDLE

10/12/23





NOTE:

1. MAXIMUM PIPE SIZE: 4" DIAMETER.
2. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
3. PROVIDE PIPE PROTECTION BARRIER AS SPECIFIED.

MP040 TYP — PIPE SUPPORT - POST ON CONCRETE - VERTICAL CHANNEL WITH PIPES 2 SIDES

12/17/24

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.31 09:49:03 -08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

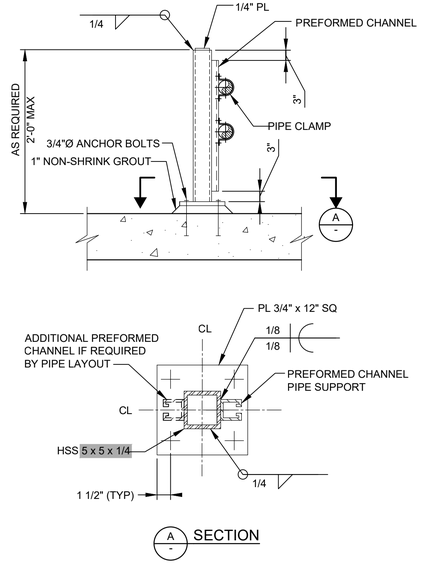
MECHANICAL 2

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

JOB NO. 202645
DRAWING NO. 00TM002
SHEET NO. 227 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TM002.dwg

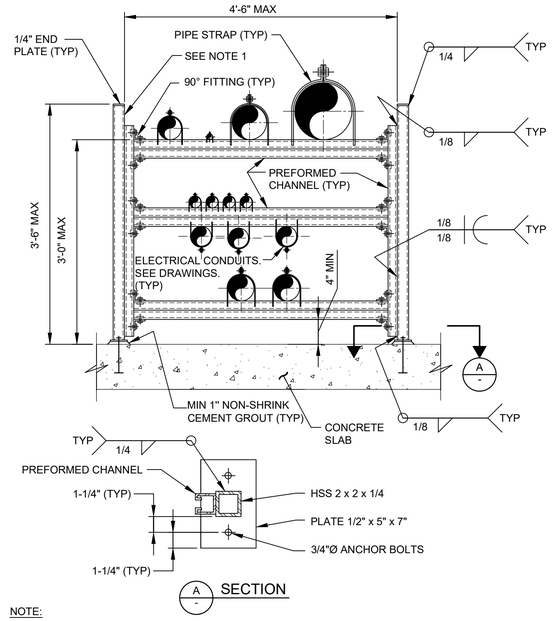


NOTES:

1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

MP042 TYP N — PIPE SUPPORT - POST ON CONCRETE: VERTICAL HSS W/ PREFORMED CHANNEL

09/13/23

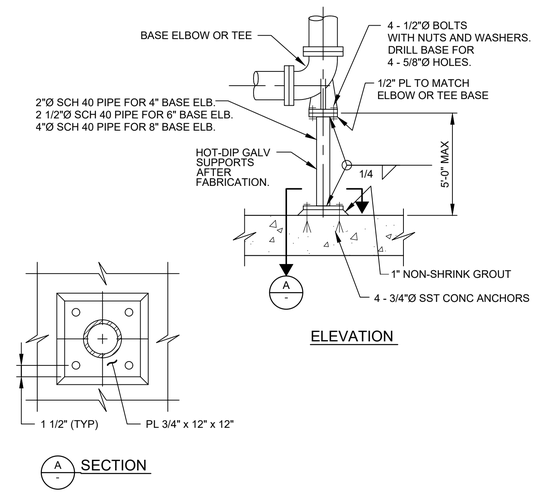


NOTE:

1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

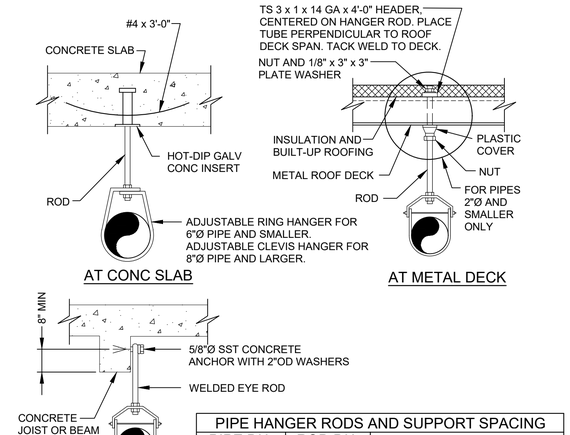
MP073 TYP N — PIPE SUPPORT - FLOOR RACK: STEEL W/ PREFORMED CHANNELS

12/17/24



MP081 TYP N — PIPE SUPPORT - BASE ELBOW OR TEE - DUCTILE IRON PIPE ON STEEL PIPE

09/05/23



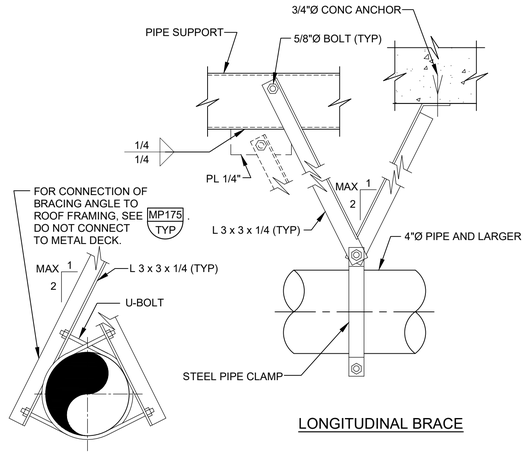
PIPE HANGER RODS AND SUPPORT SPACING		
PIPE DIA (INCHES)	ROD DIA (INCHES)	MAX SUPPORT SPACING
2 AND LESS	3/8	5 FEET
2 1/2 TO 3 1/2	1/2	10 FEET
4 TO 5	5/8	10 FEET
6	3/4	10 FEET
8	7/8	10 FEET
10	7/8	10 FEET
12	7/8	10 FEET

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

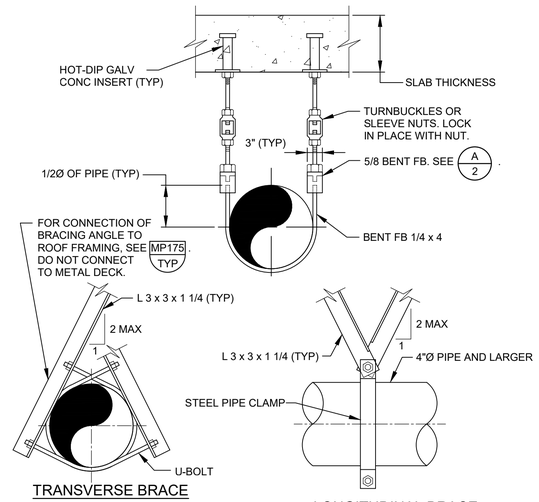


NOTES:

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

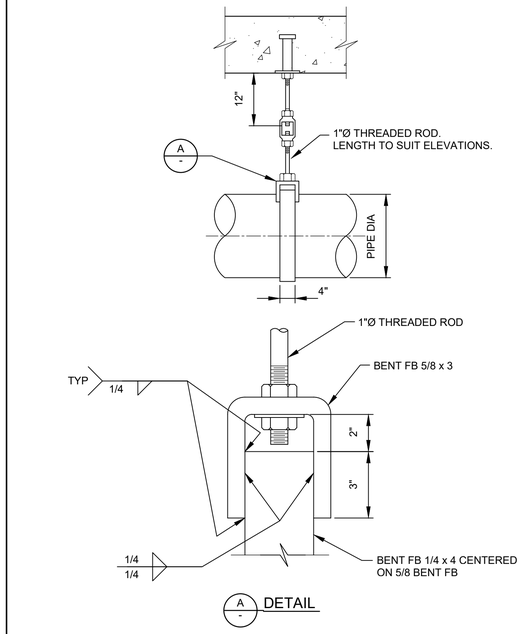


NOTES:

1. 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.
5. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

MP156 TYP — PIPE SUPPORT - OVERHEAD STRAP: PIPES 4" TO 24

SHEET 1 OF 2 — 09/20/23



MP156 TYP — PIPE SUPPORT - OVERHEAD STRAP: PIPES 4" TO 24

SHEET 2 OF 2 — 09/20/23

REV	DATE	BY	DESCRIPTION

DESIGNED CE
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REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.24 08:34:39 -08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

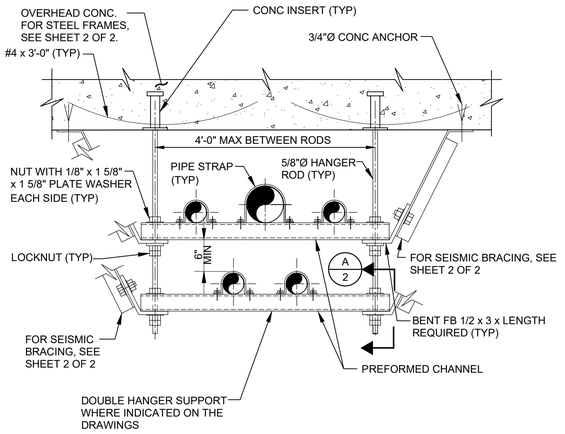
MECHANICAL 3

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

JOB NO. 202645
DRAWING NO. 00TM003
SHEET NO. 228 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TM003.dwg



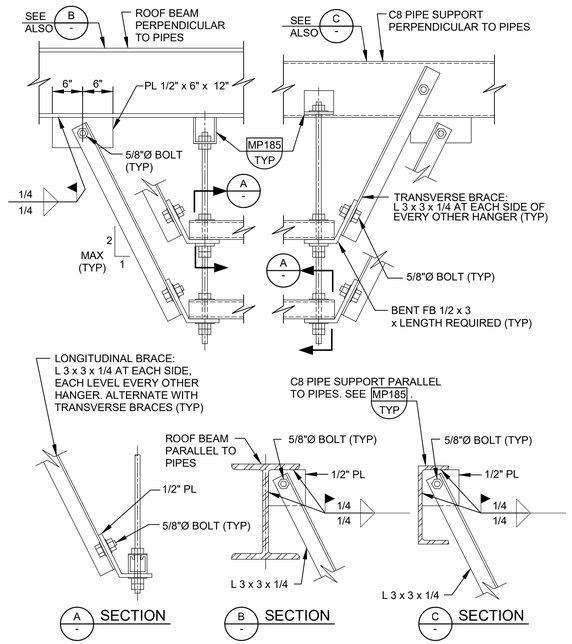
NOTES:

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 — PIPE SUPPORT - OVERHEAD TRAPEZE - DOUBLE BEAM

N

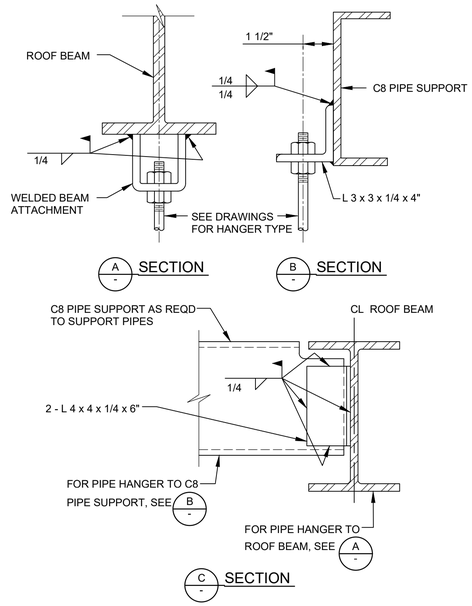
SHEET 1 OF 2 10/05/23



MP175 TYP — PIPE SUPPORT - OVERHEAD TRAPEZE - DOUBLE BEAM

N

SHEET 2 OF 2 10/05/23

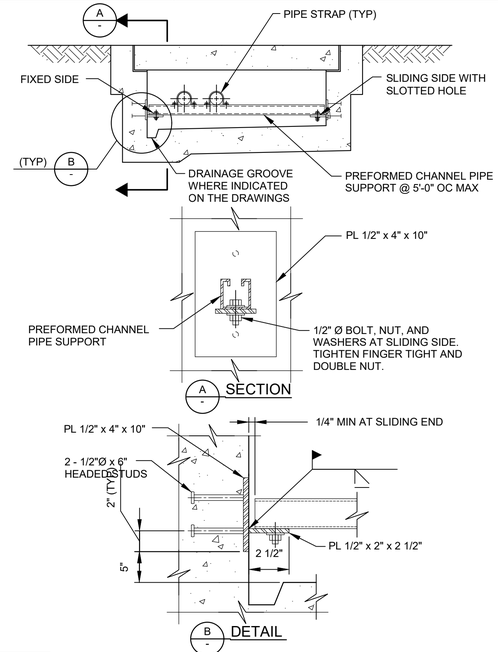


NOTES:

1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

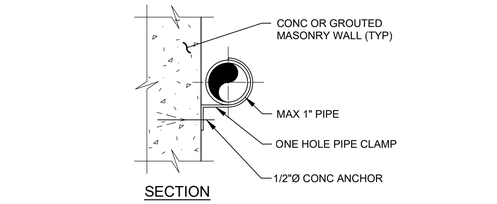
MP185 TYP — PIPE SUPPORT - OVERHEAD CONNECTIONS TO STEEL FRAMING

10/05/23

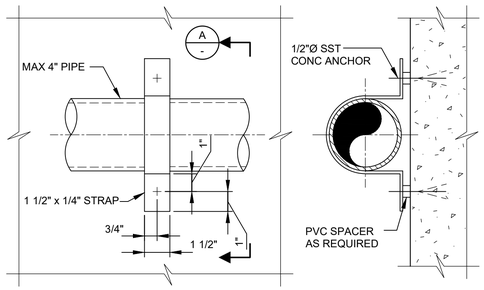


MP210 TYP — PIPE SUPPORT - TRENCH - PREFORMED CHANNEL PIPE RACK

12/01/22



SECTION



ELEVATION

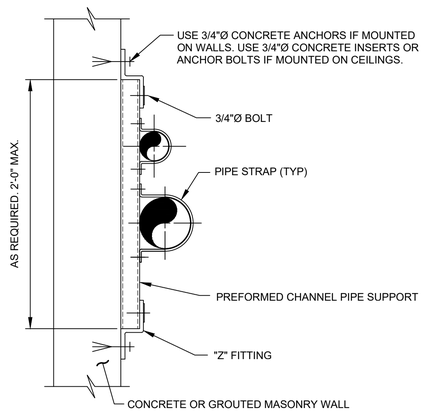
A - SECTION

NOTE:

1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.

MP215 TYP — PIPE SUPPORT - WALL - PIPE CLIP

10/12/23



NOTES:

1. REFER TO THE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
2. SPACE PREFORMED CHANNEL PIPE SUPPORTS AT MAXIMUM 5'-0" O.C.

MP218 TYP — PIPE SUPPORT - WALL - PREFORMED CHANNEL W/ PIPE CLIPS

N

10/05/23

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REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARD — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.07 14:43:49 -07'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

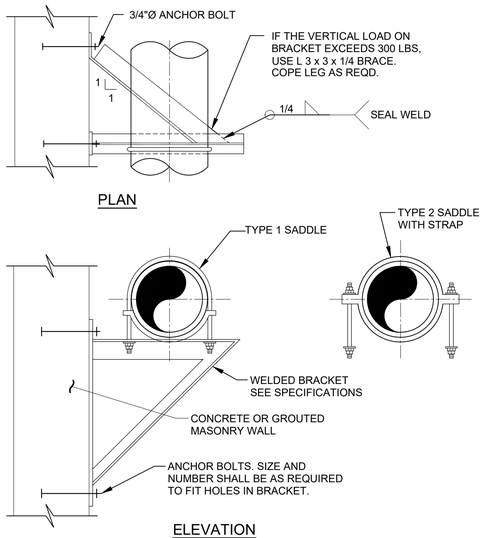
MECHANICAL 4

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

JOB NO. 202645
DRAWING NO. 00TM004
SHEET NO. 229 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TM004.dwg

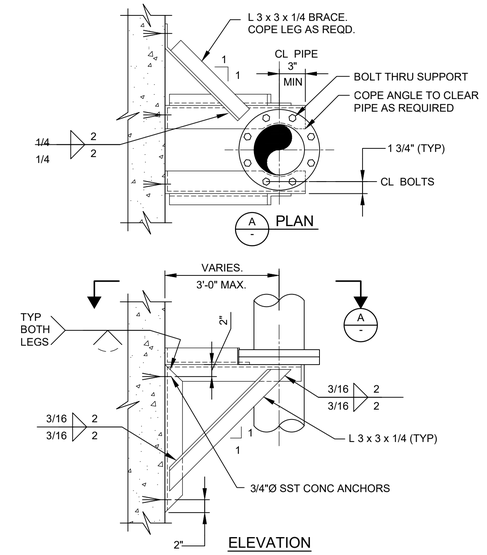


NOTES:

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.

MP222 TYP — PIPE SUPPORT - WALL - PREFORMED BRACKET W/ SADDLE ABOVE

N — 10/12/23

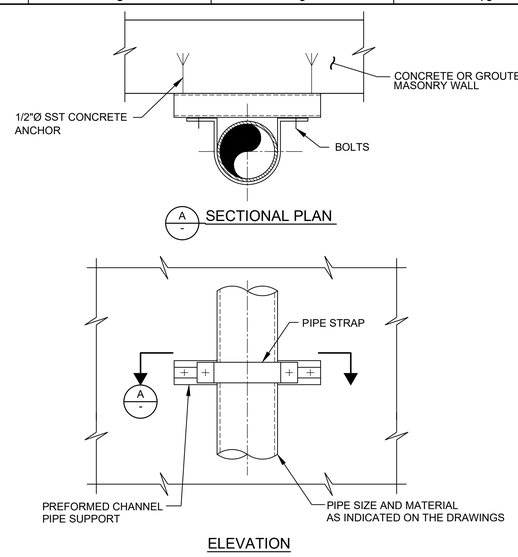


NOTE:

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 — PIPE SUPPORT - WALL - VERTICAL PIPE ON FABRICATED SUPPORT AT FLANGES

N — 06/26/23

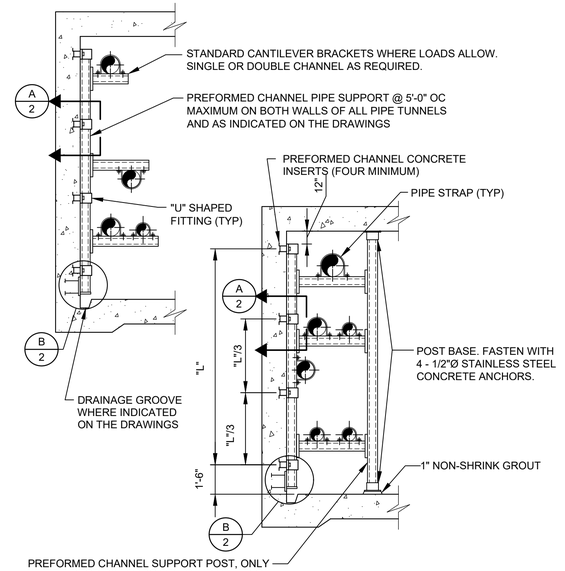


NOTE:

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

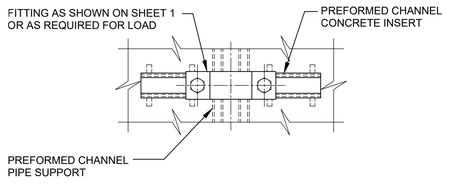
08/08/23

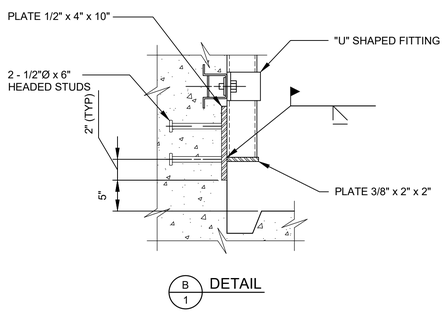


PREFORMED CHANNEL SUPPORT POST, ONLY WHERE REQD BY LOADS OR AS INDICATED ON THE DRAWINGS. IF NOT INDICATED ON THE DRAWINGS, USE OF POST MUST BE ACCEPTABLE TO THE ENGINEER. SEE SPECIFICATIONS.

MP272 TYP — PIPE RACK -"F" TYPE - PREFORMED CHANNELS

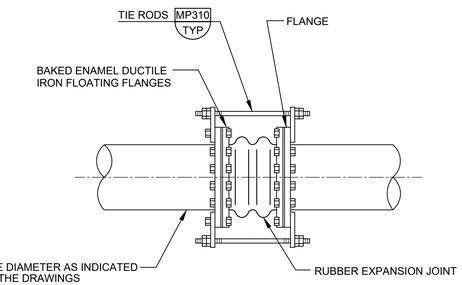
N — SHEET 1 OF 2 — 12/01/22





MP272 TYP — PIPE RACK -"F" TYPE - PREFORMED CHANNELS

N — SHEET 2 OF 2 — 12/01/22



MP302 TYP — PIPE JOINT - DIP - EXPANSION JOINT - RESTRAINED RUBBER BELLOWS

N — 12/01/22

REV	DATE	BY	DESCRIPTION

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DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER — KYLE T. LEONARDINI — No. 86011 — CIVIL — STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.24 14:49:07

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

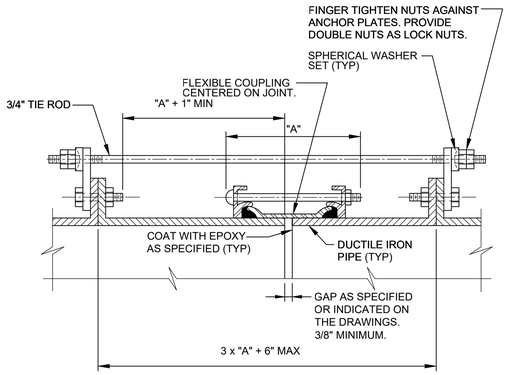
MECHANICAL 5

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

JOB NO. 202645
DRAWING NO. 00TM005
SHEET NO. 230 OF 239

LAST SAVED BY: DFassbinder

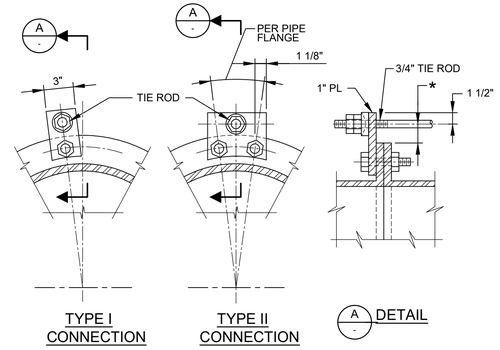
PROJECT NO. 202645-100000 FILE NAME: 202645_00TM005.dwg



ROD SCHEDULE		
PIPE THRUST. SEE NOTE 2.	TYPE OF CONNECTION	NO. OF RODS
0-6,000#	I	2
6,001 - 12,000#	II	2
12,001 - 18,000#	II	3
18,001 - 24,000#	II	4
24,001 - 30,000#	II	5

MP310 TYP — PIPE JOINT - DIP - FLEXIBLE COUPLING - RESTRAINED

SHEET 1 OF 3 10/17/24



TYPE I CONNECTION

TYPE II CONNECTION

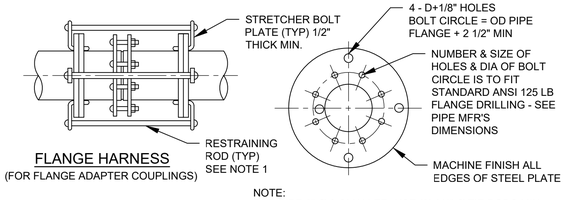
A DETAIL

NOTES:

1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
2. PIPE THRUST SHALL BE BASED ON TEST PRESSURE.
3. PIPE THRUST = 0.7854 x D^2 x TEST PRESSURE, WHERE "D" IS PIPE OD.
4. MINIMUM TIE ROD YIELD = 48,000 PSI.
5. FOR THRUSTS GREATER THAN 30,000 POUNDS, ADD ONE 3/4 INCH DIAMETER TIE ROD FOR EVERY 6,000 POUNDS INCREASE IN THRUST.
6. ALL ROD CONNECTIONS SHALL BE TYPE II FOR THRUSTS GREATER THAN 30,000 POUNDS.
7. GRIND ALL CORNERS SMOOTH.
8. * = AS REQUIRED TO CLEAR FLEXIBLE COUPLING. 3/4" MINIMUM AND 1 1/2" MAXIMUM.

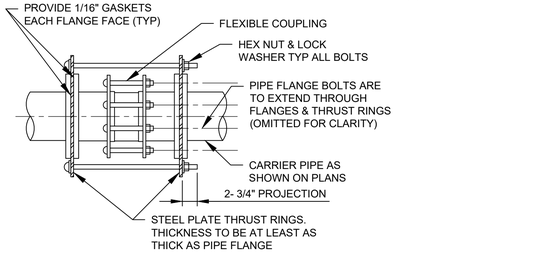
MP310 TYP — PIPE JOINT - DIP - FLEXIBLE COUPLING - RESTRAINED

N SHEET 2 OF 3 10/17/24



FLANGE HARNESS
(FOR FLANGE ADAPTER COUPLINGS)

NOTE:
FOR PIPE 6" Ø & SMALLER, USE (2) 3/4" Ø TIE RODS MIN.
FOR PIPE 8" Ø & LARGER, USE (4) 1" Ø TIE RODS MIN.



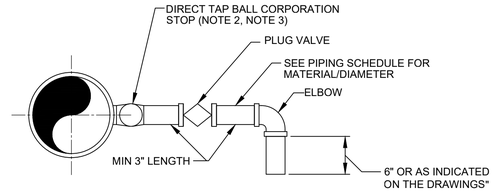
THRUST HARNESS FOR FLEXIBLE COUPLING

NOTES:

1. RESTRAINING RODS & TIE BOLTS SHALL BE SIZED TO HANDLE 2 1/2 TIMES MAX. ALLOWABLE OPERATING PRESSURE. (SURGE ALLOWANCE) MIN. 2 RODS PER RESTRAINT.
2. NUTS & WASHER OF HIGH STRENGTH CAPABILITIES (ASTM A325) SHALL BE PROVIDED AT BOTH ENDS OF RESTRAINING RODS.
3. RODS, TIE- BOLTS, WASHERS AND NUTS SHALL BE CORROSION RESISTANT.

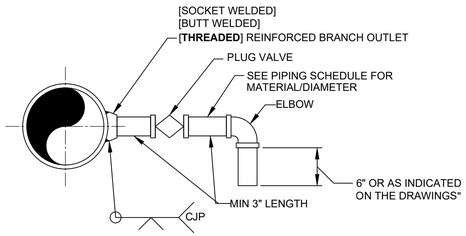
MP310 TYP — PIPE JOINT - DIP - FLEXIBLE COUPLING - RESTRAINED

N SHEET 3 OF 3 10/17/24



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



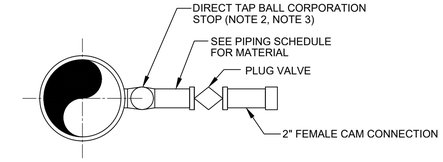
DETAIL B - STEEL PIPE FLUSHING CONNECTION

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.

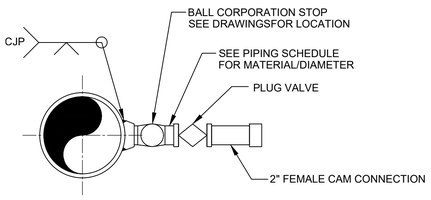
MP401 TYP — PIPE CONNECTION - SAMPLING

11/03/23



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



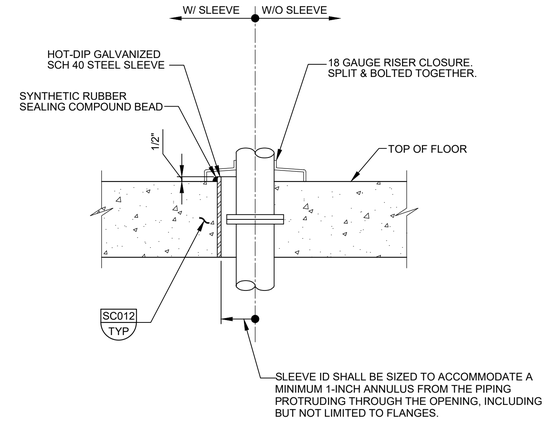
DETAIL B - STEEL PIPE FLUSHING CONNECTION

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.

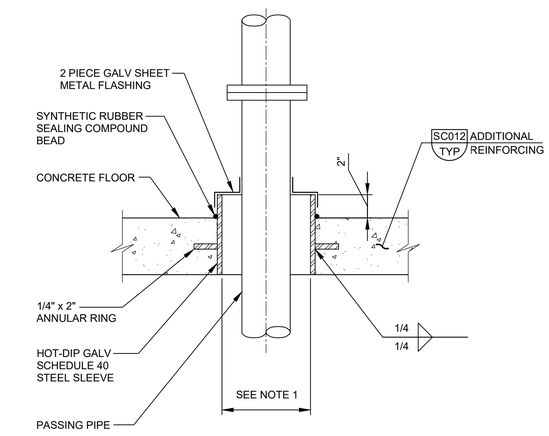
MP405 TYP — PIPE CONNECTION - FLUSHING

R 11/27/24



MP514 TYP — FLOOR PENETRATION - CORED OR CAST-IN OPENING W/ CLOSURE

08/14/24



NOTE:

1. INSIDE DIAMETER OF SLEEVE SHALL ACCOMMODATE COUPLING ON SHAFTING FOR PUMPS.

MP516 TYP — FLOOR PENETRATION - CAST-IN SLEEVE W/ CLOSURE

08/14/24

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.14 14:49:07 -08'00'

carollo®

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

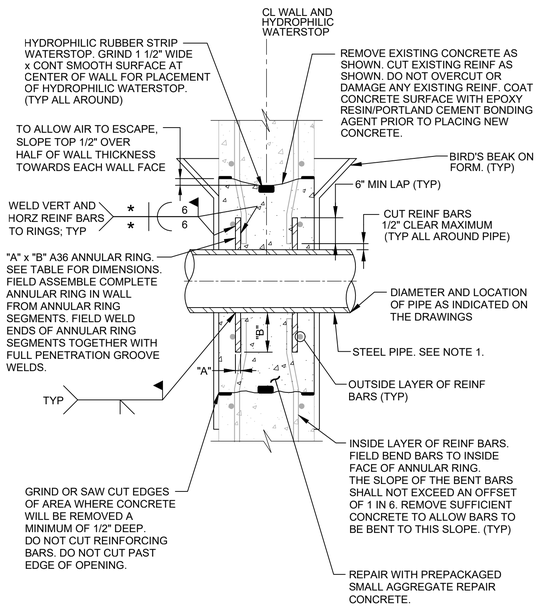
MECHANICAL 6

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

JOB NO. 202645
DRAWING NO. 00TM006
SHEET NO. 231 OF 239

LAST SAVED BY: DFassbinder

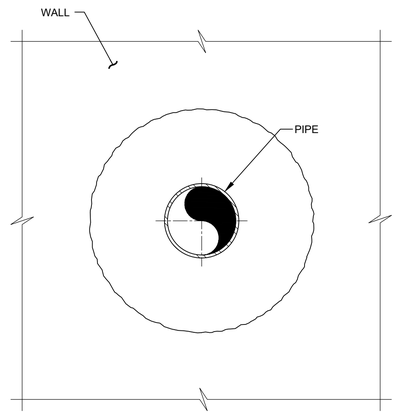
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MP532 TYP — WALL PENETRATION - EXISTING CONCRETE - STEEL PIPE W/ REINF RINGS

N

SHEET 1 OF 3 12/01/22

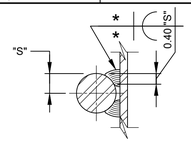


ELEVATION

MP532 TYP — WALL PENETRATION - EXISTING CONCRETE - STEEL PIPE W/ REINF RINGS

N

SHEET 2 OF 3 12/01/22



WELDED SPLICE BAR

LOCATION OF PIPE PENETRATION	THICKNESS OF ANNULAR RING "A"	WIDTH OF ANNULAR RING "B"

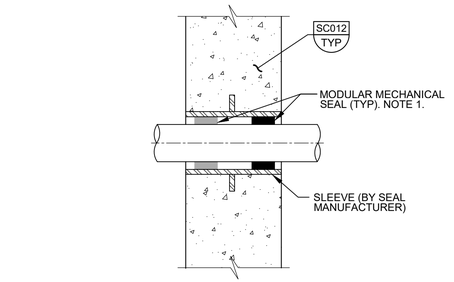
NOTES:

1. FIELD APPLY LINING AFTER WELDING IS COMPLETE.
2. CUT WALL REINFORCING THAT INTERFERING WITH PIPE. DO NOT CUT OR DAMAGE ANY OTHER BARS.
3. = 0.40 "S" REINFORCING BAR RADIUS.
4. E 70 ELECTRODE FOR GRADE 40 REINF BARS; E 90 ELECTRODE FOR GRADE 60 REINF BARS.
5. SEE AWS D1.4 FOR WELDING PROCESS, PREHEAT REQUIREMENTS, AND OTHER DETAILS. SUBMIT WELDING PROCEDURE PER AWS.
6. USE FORMING WITH "BIRDS PEAK" ON BOTH WALL FACES 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 WALL.
7. WATER CURE REPAIRED CONCRETE FOR MINIMUM OF 7 DAYS. KEEP REPAIRED AREA CONTINUOUSLY WET.

MP532 TYP — WALL PENETRATION - EXISTING CONCRETE - STEEL PIPE W/ REINF RINGS

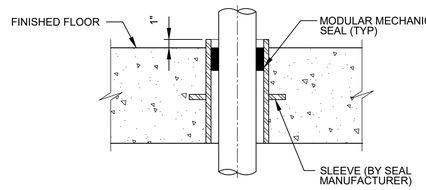
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SHEET 3 OF 3 12/01/22



NEW

A - WALL PENETRATION



NEW

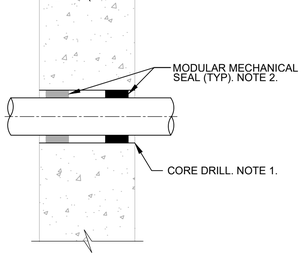
B - SLAB PENETRATION

NOTES:

1. WALLS THICKER THAN 12" INSTALL MODULAR MECHANICAL SEAL AT BOTH ENDS OF WALL SLEEVE.

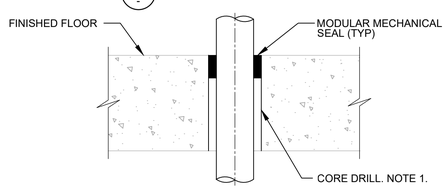
MP544 TYP — WALL PENETRATION - CAST-IN SLEEVE W/ BARRIER SEALS

SHEET 1 OF 2 02/13/24



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 02/13/24

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.01.27 14:13:53 -08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

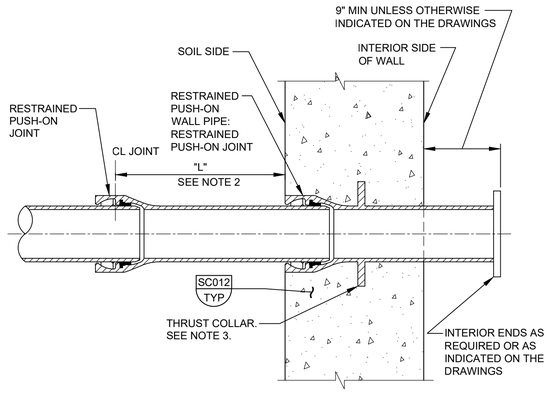
MECHANICAL 7

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

JOB NO. 202645
DRAWING NO. 00TM007
SHEET NO. 232 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TM007.dwg



Pipe Size (Nom. Dia.)	MFG Max Deflection - Degrees	Design Allowable Deflection-Degrees	Joint Deflection-Inches	Min. Distance to First Joint "L" in Feet
4"-12"	5	2.5	2	3.82
14"-16"	3.25	1.625	2	5.87
18"	3	1.5	2	6.36
20"-24"	2.25	1.125	2	8.49
30"	1.75	0.875	2	10.91
36"	1.5	0.75	2	12.73
42"-64"	0.5	0.25	2	NA

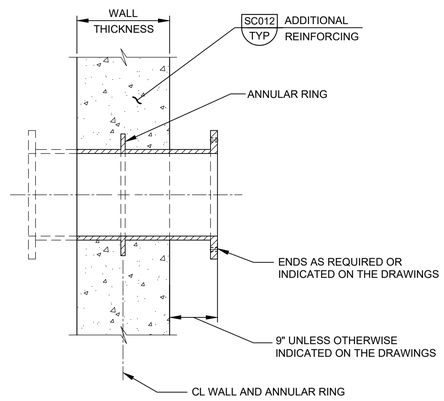
"L" DIMENSION MUST BE RECALCULATED IF OPTIONAL FLEXIBLE COUPLINGS ARE USED

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 THE TABLE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

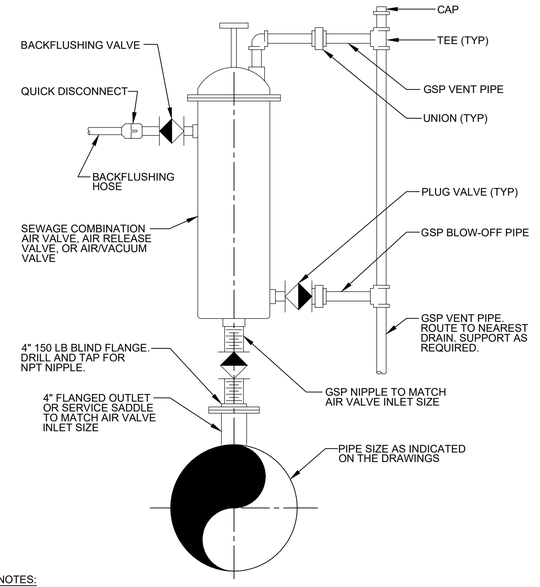
MP552 TYP WALL CONNECTION - DIP - RESTRAINED PUSH-ON JOINTS

N 09/06/23



MP566 TYP WALL PENETRATION - DIP - FABRICATED WALL PIPE

12/01/22



NOTES:

1. VALVE SIZE SHALL BE AS INDICATED ON THE DRAWINGS.
2. SERVICE TAP AND PLUG VALVE SHALL MATCH VALVE INLET SIZE.
3. GSP VENT AND BLOW OFF PIPING SHALL MATCH VALVE OUTLET SIZE.

MP896 TYP PIPING - VALVE - VACUUM AND AIR RELEASE - SEWAGE: 3" AND SMALLER VALVE

NR 12/06/24

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED MSS
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KYLE T. LEONARD No. 86011 CIVIL STATE OF CALIFORNIA

Digitally signed by Kyle Thomas Leonard
Contact Info: Carollo Engineers, Inc.
Date: 2025.02.04 15:54:39 -08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

MECHANICAL 8

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

JOB NO. 202645
DRAWING NO. 00TM008
SHEET NO. 233 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TM008.dwg

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

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

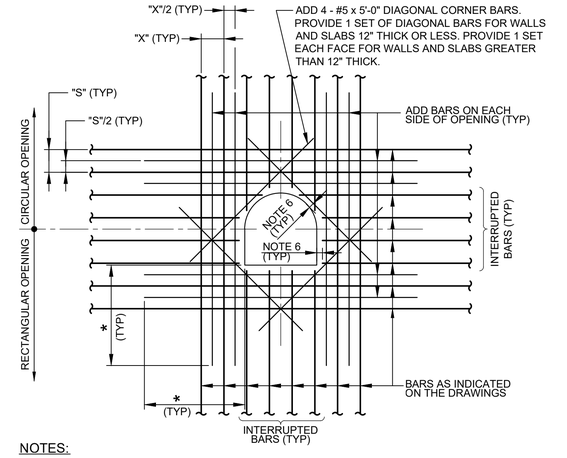
TABLE 1: REINFORCING BAR LAP SPLICES: f'c = 4000 PSI, Fy = 60,000 PSI

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

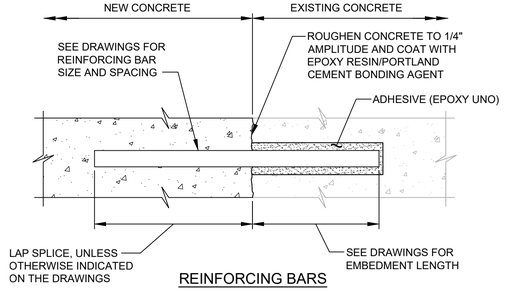


NOTES:

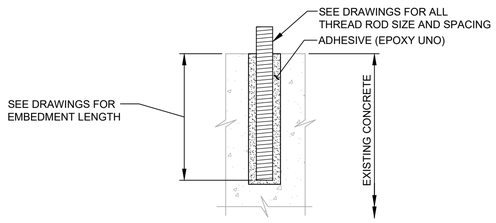
1. AREA OF ADD BARS AT EACH EDGE OF OPENING IN EACH DIRECTION SHALL BE EQUAL TO OR GREATER THAN 1/2 THE CROSS SECTIONAL AREA OF THE INTERRUPTED BARS.
2. PROVIDE STANDARD ACI HOOKS ON BARS IF STRAIGHT EXTENSION PAST THE OPENING, CANNOT BE ACHIEVED.
3. PLACE ADD BARS IN SAME PLANES AS INTERRUPTED REINFORCING.
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 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 - ADHESVE-BONDED BARS AND ALL-THREAD RODS

12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED AE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 14:49:49-08'00'

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CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

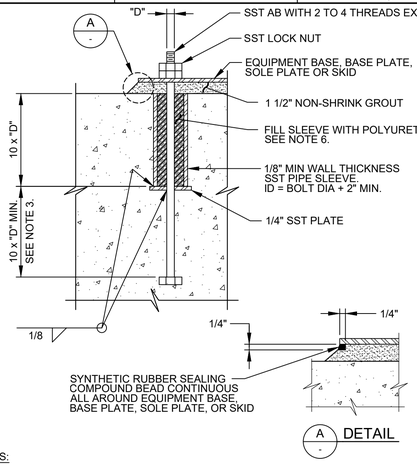
STRUCTURAL 1

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

JOB NO. 202645
DRAWING NO. 00TS001
SHEET NO. 234 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TS001.dwg

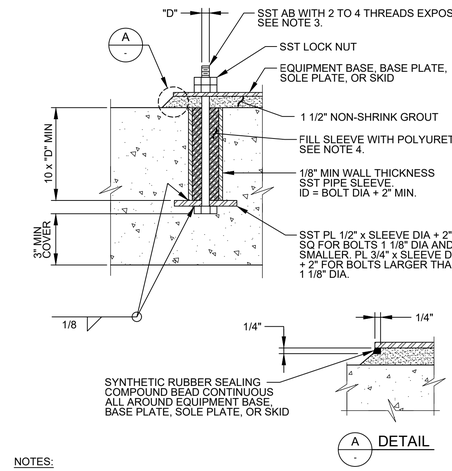


NOTES:

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

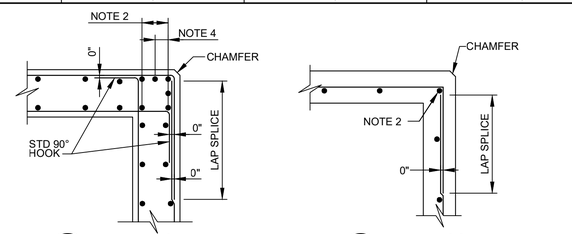


NOTES:

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. DO NOT USE ALL THREAD RODS AS A SUBSTITUTE FOR BOLTS WITH A BOLT HEAD.
4. COMPLETELY REMOVE ANY POLYURETHANE FOAM FROM CONCRETE, EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID, AND ANCHOR BOLTS ABOVE TOP OF CONCRETE.
5. DO NOT USE LEVELING NUTS TO SUPPORT AND LEVEL EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID.

SC066 TYP N — ANCHOR BOLT - SLEEVE FULL HEIGHT

12/18/2023

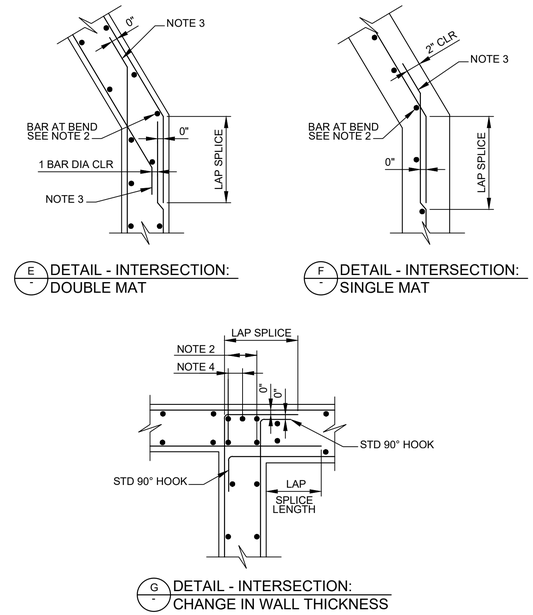


NOTES:

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.

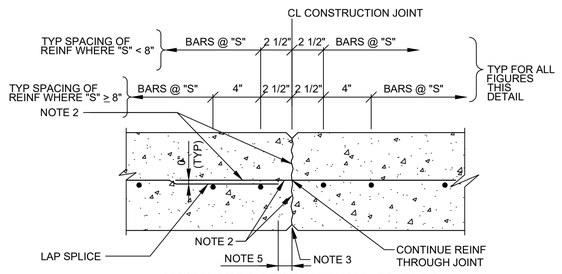
SC310 TYP S — CONCRETE - REINFORCEMENT - WALL CORNERS AND INTERSECTIONS

SHEET 1 OF 2 12/18/2023

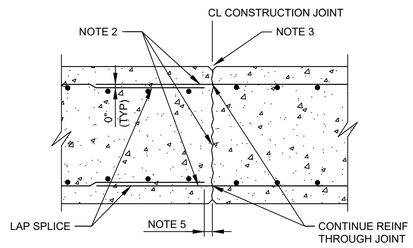


SC310 TYP S — CONCRETE - REINFORCEMENT - WALL CORNERS AND INTERSECTIONS

SHEET 2 OF 2 12/18/2023



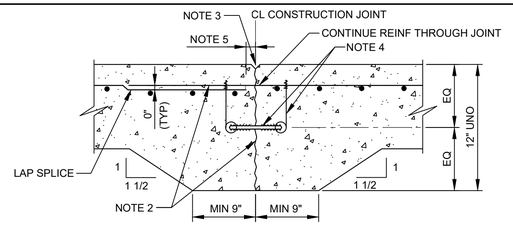
NON-WATER BEARING WALL OR SLAB
SINGLE LAYER REINFORCEMENT



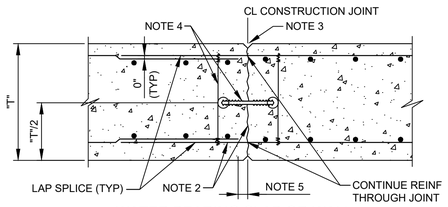
NON-WATER BEARING WALL OR SLAB
DOUBLE LAYER REINFORCEMENT

SD102 TYP N — 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 S — CONCRETE JOINTS - CONSTRUCTION JOINT - WALL OR SLAB

SHEET 2 OF 2 12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED AE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVIC No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 14:06:38-08'00'

carollo®

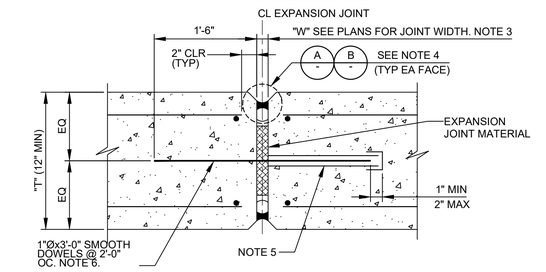
CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
TYPICAL DETAILS
STRUCTURAL 2

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

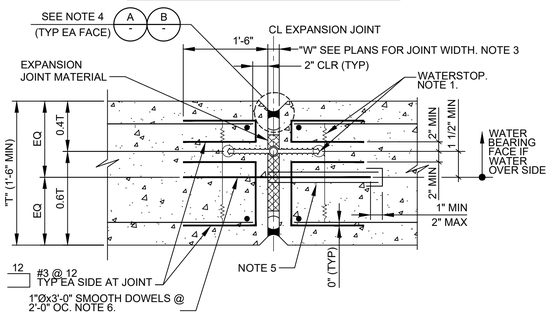
JOB NO. 202645
DRAWING NO. 00TS002
SHEET NO. 235 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TS002.dwg



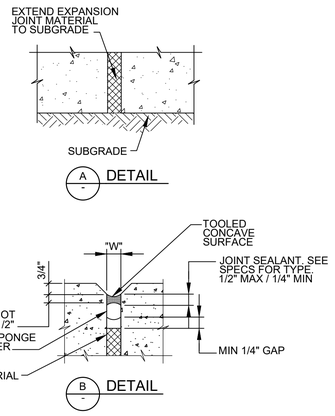
NON-WATER BEARING SLAB OR WALL



WATER BEARING SLAB OR WALL

SD302 TYP — CONCRETE JOINTS - EXPANSION JOINT - WALL OR SLAB (SMOOTH DOWELS)

SHEET 1 OF 2 12/18/2023

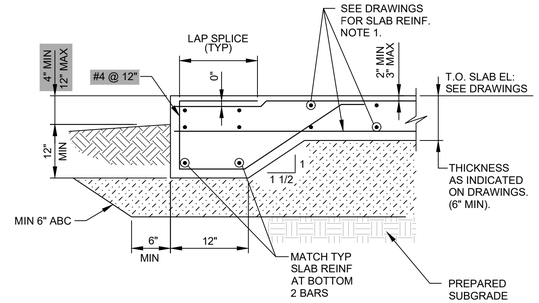


NOTES:

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.
5. PVC SLEEVE OVER SMOOTH DOWEL, MIN 2" LONG CAP AT 1 END, TAPE EXP JT END OF SLEEVE TO DOWEL TO PREVENT CONCRETE FROM ENTERING SLEEVE.
6. COAT EMBEDDED END OF DOWEL WITH BOND BREAKER.

SD302 TYP — CONCRETE JOINTS - EXPANSION JOINT - WALL OR SLAB (SMOOTH DOWELS)

SHEET 2 OF 2 12/18/2023

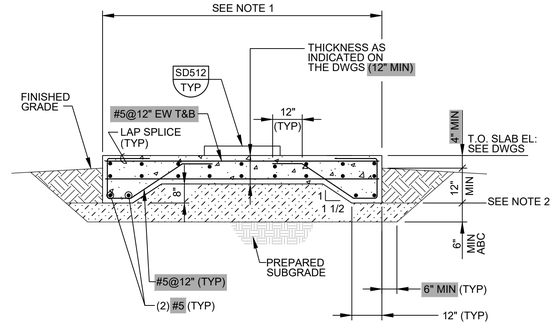


NOTES:

1. PROVIDE SINGLE MAT OF REINFORCEMENT FOR SLAB THICKNESS LESS THAN 10". PROVIDE TOP AND BOTTOM MATS (SHOWN) FOR SLAB THICKNESS 10" AND GREATER.

SD401 TYP — CONCRETE - SLAB ON GRADE -THICKENED EDGE

12/18/2023

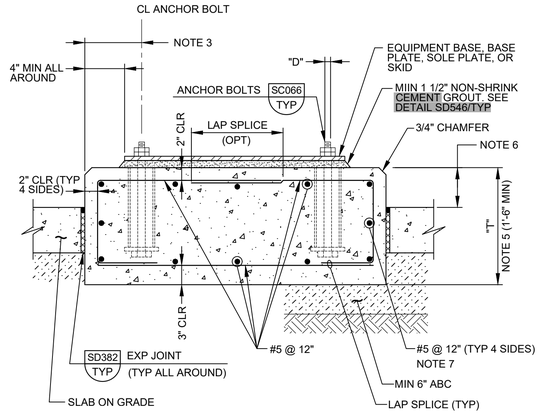


NOTE:

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

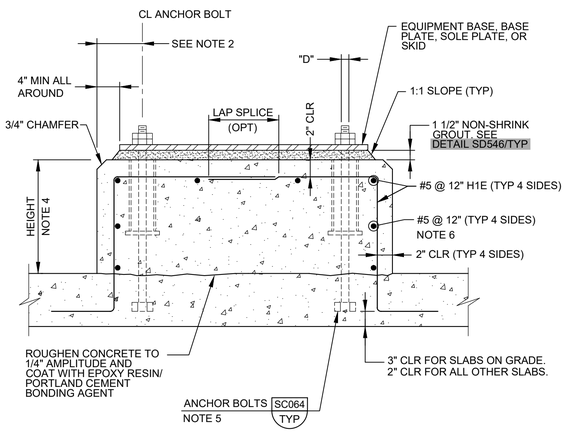


NOTES:

1. "D" = DIAMETER OF ANCHOR BOLT.
2. "T" = FOUNDATION THICKNESS.
3. THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".
4. PAD DIMENSIONS AND ANCHOR BOLT SIZE SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS.
5. IF PAD DEPTH IS NOT INDICATED ON THE DRAWINGS, PROVIDE DEPTH SUCH THAT TOTAL WEIGHT OF PAD IS NOT LESS THAT 2 TIMES THE WEIGHT OF EQUIPMENT SUPPORTED, AND MINIMUM AS NOTED. CONFIRM DEPTH WITH ENGINEER PRIOR TO CONSTRUCTION.
6. HEIGHT TO SUIT EQUIPMENT FURNISHED OR AS INDICATED ON THE DRAWINGS.
7. PROVIDE HOOPS OR CORNERS PER DETAIL SC310/TYP.

SD506 TYP N — CONCRETE - EQUIPMENT BASE - ISOLATED

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 N — CONCRETE - EQUIPMENT BASE - DEEP ANCHORS

12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED AE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025-01-28 14:04:39-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

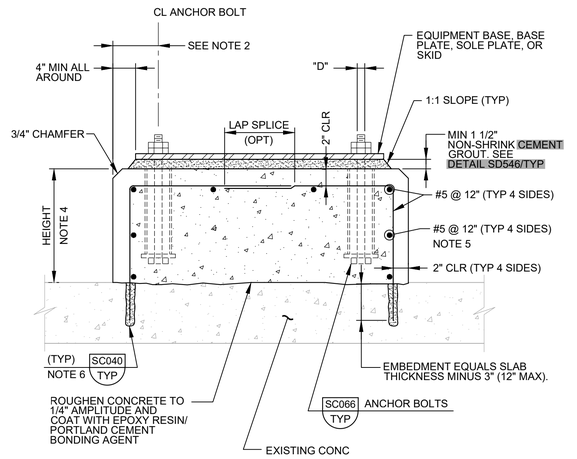
STRUCTURAL 3

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

JOB NO. 202645
DRAWING NO. 00TS003
SHEET NO. 236 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TS003.dwg

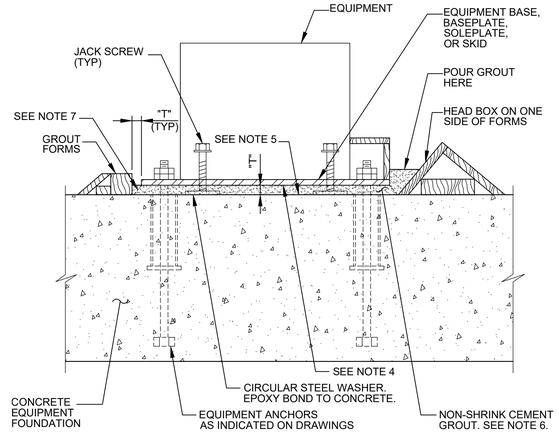


NOTES:

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. PROVIDE HOOPS OR CORNERS PER DETAIL SC310/TYP.
6. FIELD LOCATE EXISTING REINFORCEMENT IN SLAB BEFORE DRILLING. ADJUST DOWEL LOCATIONS TO AVOID REINFORCEMENT.

SD530 TYP — CONCRETE - EQUIPMENT BASE ON EXISTING CONCRETE

N 12/18/2023

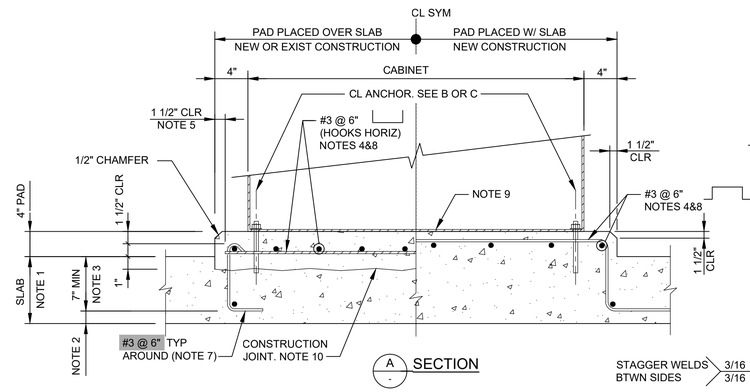


NOTES:

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

N 12/18/2023



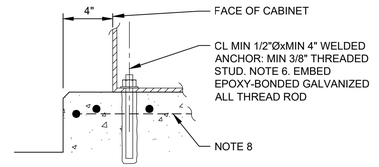
A SECTION

NOTES:

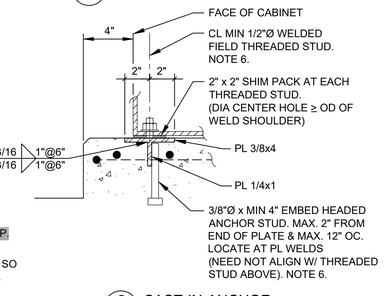
1. SEE STRUCTURAL DRAWINGS FOR THICKNESS OF SLAB BELOW PAD. SLAB REINFORCEMENT NOT SHOWN.
2. SEE SC001/ TYP FOR MIN CONCRETE COVER REQUIREMENTS.
3. CONTACT ENGINEER FOR INSTRUCTIONS WHERE EMBEDMENT IS LESS THAN DIMENSION SHOWN.
4. FOR EQUIPMENT WITH CONDUIT WINDOWS BELOW, ADJUST BAR LOCATIONS TO FIT BETWEEN WINDOWS.
5. LOCATE VERTICAL EDGE OF PAD AND VERTICAL FACE OF PERIMETER HOOK BARS USING VERTICAL 2x FORM DURING SLAB PLACEMENT.
6. HOT DIP GALVANIZE PLATE AND HEADED ANCHOR STUD ASSEMBLY. TOUCH UP GALVANIZING AFTER FIELD WELDING THREADED STUDS.
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 — CONCRETE - EQUIPMENT - ELECTRICAL - HOUSEKEEPING PAD AT ELECTRICAL CABINETS

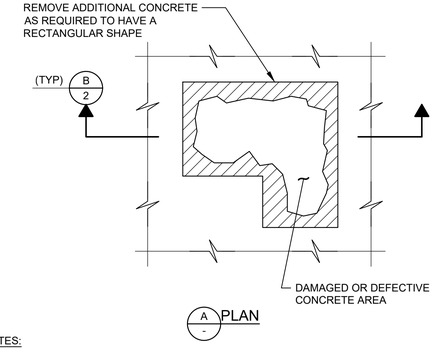
04/03/2024



B POST-INSTALLED ANCHOR



C CAST-IN-ANCHOR



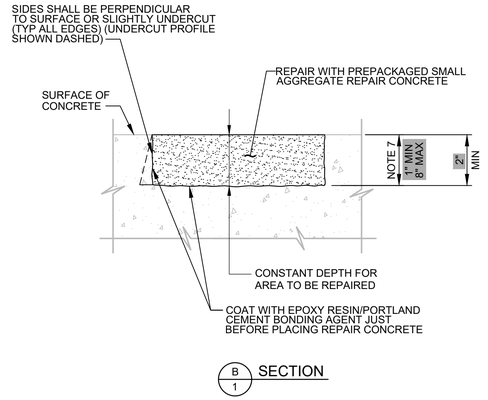
A PLAN

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 — CONCRETE REPAIR - SURFACE

N SHEET 1 OF 2 12/18/2023



B SECTION

SD810 TYP — CONCRETE REPAIR - SURFACE

N SHEET 2 OF 2 12/18/2023

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED AE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 14:49:17-08'00'

carollo®

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

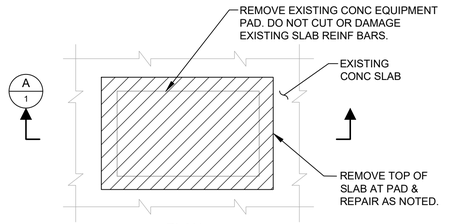
STRUCTURAL 4

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

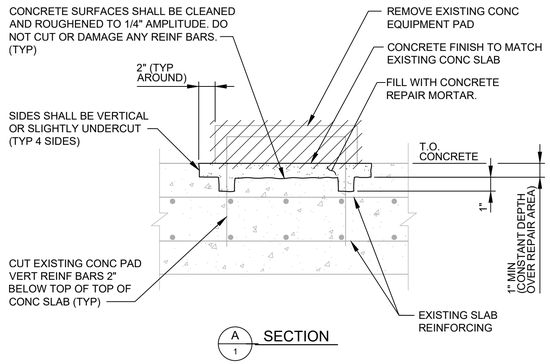
JOB NO. 202645
DRAWING NO. 00TS004
SHEET NO. 237 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TS004.dwg



PLAN



SECTION

SD820 TYP — CONCRETE REPAIR - SLAB AT REMOVED EQUIPMENT PAD

N

SHEET 1 OF 2 12/18/2023

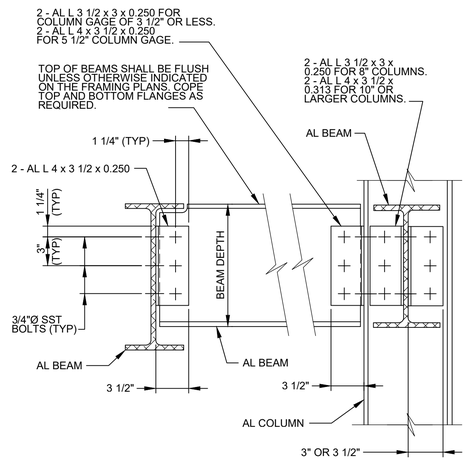
NOTES:

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 — CONCRETE REPAIR - SLAB AT REMOVED EQUIPMENT PAD

N

SHEET 2 OF 2 12/18/2023



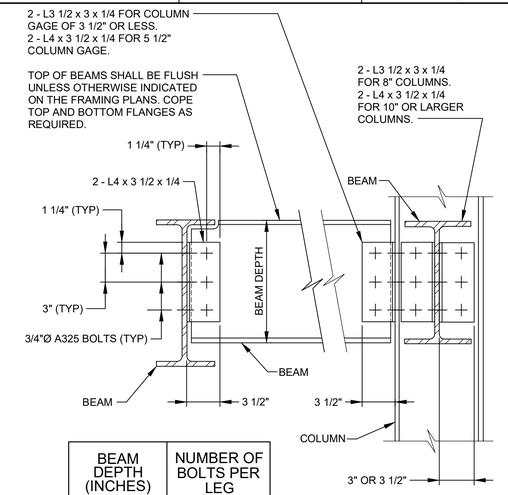
BEAM DEPTH (INCHES)	NUMBER OF BOLTS PER LEG
8 AND 10	2
12	3

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



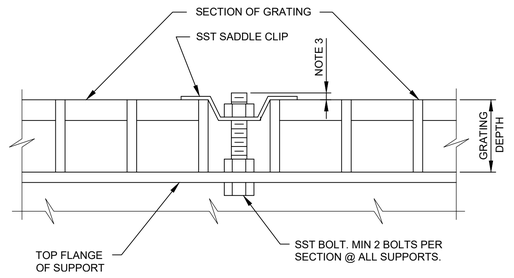
BEAM DEPTH (INCHES)	NUMBER OF BOLTS PER LEG
8 - 10	2
12 - 16	3
18 - 21	4
24 - 30	6

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

12/18/2023

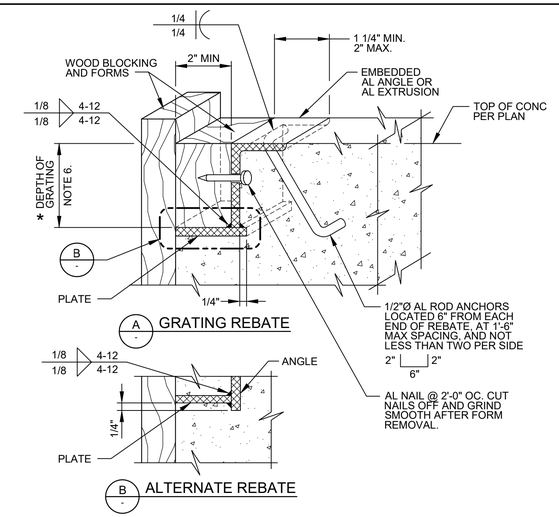


NOTES:

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



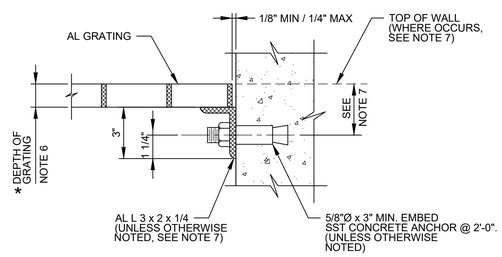
NOTES:

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



C
-
GRATING SEAT

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 AE
DATE JANUARY 2025

REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVIC No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 14:56:08-08'00'

carollo

CITY OF MANTECA

WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT

TYPICAL DETAILS

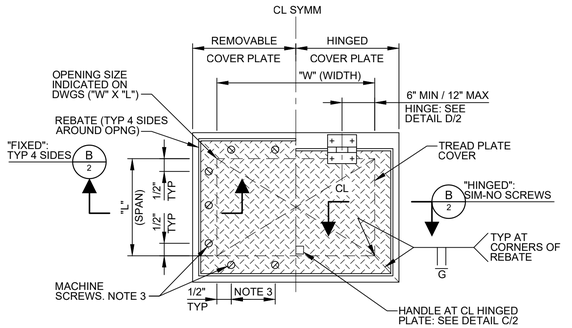
STRUCTURAL 5

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

JOB NO. 202645
DRAWING NO. 00TS005
SHEET NO. 238 OF 239

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PROJECT NO. 202645-100000 FILE NAME: 202645_00TS005.dwg



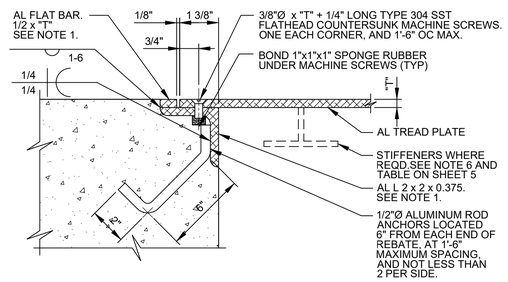
A PLAN-TREAD PLATE AND REBATE

NOTES:

1. REBATE MAY BE EXTRUDED WHEN ACCEPTED BY ENGINEER BEFORE FABRICATION.
2. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE AS SPECIFIED.
3. LOCATE MACHINE SCREWS AT CORNERS AND AT UNIFORM SPACING ALONG SHORT SIDES AND LONG SIDES OF OPENING. (1'-0" MIN / 1'-6" MAX SPACING)
4. OMIT PERIMETER MACHINE SCREWS WHERE HINGED COVER IS INDICATED ON THE DRAWINGS. PROVIDE HINGES AND HANDLE(S) AS INDICATED.
5. FABRICATE TREAD PLATE IN UNITS THAT DO NOT WEIGH MORE THAN 50 POUNDS.
6. "T" = TREAD PLATE THICKNESS IN INCHES AS SCHEDULED IN TABLE "K" ON SHEET 5 OF 5. TREAD PLATE LIVE LOAD SHALL BE SAME AS FLOOR LIVE LOAD.
7. HANDLE AT HINGED PLATE:
   A. OUTSIDE DIMENSIONS SHOWN. INSIDE DIAMETER AT 90-DEGREE BEND = 2x ROD DIAMETER.
   B. EASE TOP & BOTTOM CORNERS OF PLATE AT HANDLE OPENING TO 1/16" RADIUS.
   C. SLOTTED HOLES: 7/8" WIDE X 2" LONG AT EA LEG OF HANDLE. LOCATE EDGE OF HOLE 1/8" EACH WAY PAST OUTSIDE OF BENT ROD.

SR706 TYP N COVER - ALUMINUM - TREAD PLATE

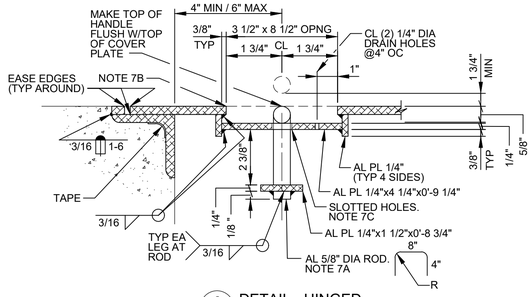
SHEET 1 OF 5 12/18/2023



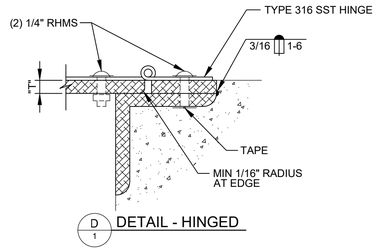
B DETAIL - FIXED COVER PLATE

SR706 TYP N COVER - ALUMINUM - TREAD PLATE

SHEET 2 OF 5 12/18/2023



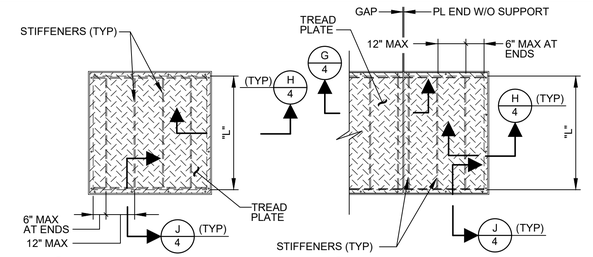
C DETAIL - HINGED LIFTING HANDLE



D DETAIL - HINGED

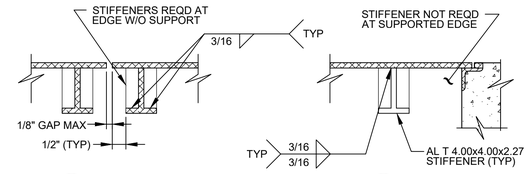
SR706 TYP N COVER - ALUMINUM - TREAD PLATE

SHEET 3 OF 5 12/18/2023



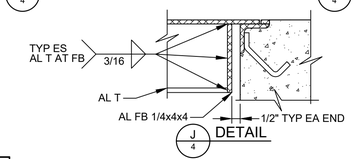
E PLAN - PLATE SUPPORTED ON 4 SIDES

F PLAN - PLATE SUPPORTED ON 2 SIDES



G SECTION

H SECTION



J 4 DETAIL

SR706 TYP N COVER - ALUMINUM - TREAD PLATE

SHEET 4 OF 5 12/18/2023

LIVE LOAD (PSF)	SHORTER SPAN "L" (FT-IN)					
	12"	1'-6"	2'-0"	2'-6"	3'-0"	4'-0"
100	3/16	1/4	3/8	1/2	1/2	3/8 *
150	1/4	3/8	1/2	1/2	3/8 *	3/8 *
200	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
250	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
300	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
350	3/8	1/2	3/8 *	3/8 *	3/8 *	3/8 *
400	3/8	1/2	3/8 *	3/8 *	3/8 *	3/8 *

* 3/8" PLATE WITH AL T 4.00 x 4.00 x 2.27 STIFFENERS. SEE SECTIONS G, H, AND J ON SHEET 4 OF 5.

K PLATE THICKNESS

SR706 TYP N COVER - ALUMINUM - TREAD PLATE

SHEET 5 OF 5 12/18/2023

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REGISTERED PROFESSIONAL ENGINEER KRESIMIR I. ANTUNOVICH No. 87904 CIVIL STATE OF CALIFORNIA

Digitally signed by Kresimir I. Antunovich
Contact Info: Carollo Engineers, PC
Date: 2025.01.28 14:07:56-08'00'

carollo®

CITY OF MANTECA
WQCF SLUDGE THICKENER AND DEWATERING UNIT NO. 3 PROJECT
TYPICAL DETAILS
STRUCTURAL 6

VERIFY SCALES
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JOB NO. 202645
DRAWING NO. 00TS006
SHEET NO. 239 OF 239

LAST SAVED BY: DFassbinder

PROJECT NO. 202645-100000 FILE NAME: 202645_00TS006.dwg