PREPARED FOR

CALIFORNIA MILITARY DEPARTMENT

PROJECT TITLE

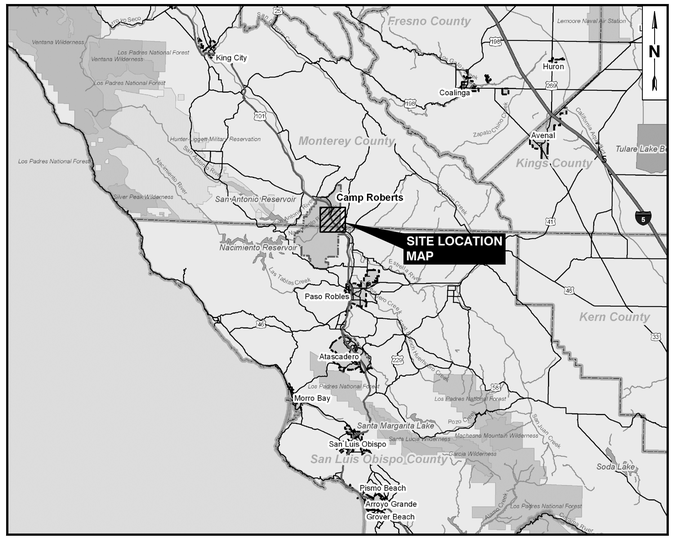
MAIN GARRISON WASTEWATER TREATMENT PLANT PHASE 2 UPGRADES

CAMP ROBERTS, CALIFORNIA

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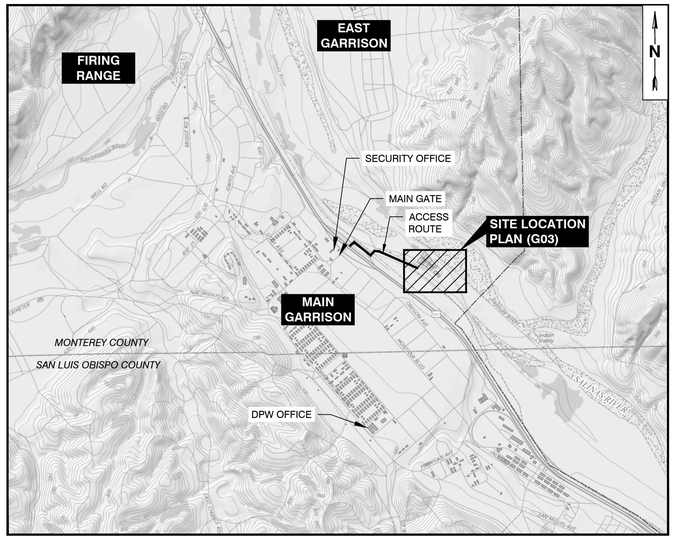
SITE VICINITY MAP



REFERENCE: ESRI ArcGIS USA DATA, 2005

0 12 24 MILES
APPROXIMATE SCALE

SITE LOCATION MAP



REFERENCE: ESRI ArcGIS USGS THE NATIONAL MAP, 2018

0 2,000 4,000 FEET
APPROXIMATE SCALE

SHEET No. DESIGNATION

C03
- INDIVIDUAL DRAWING NUMBER
- DISCIPLINE

LETTER	DISCIPLINE
C	CIVIL
E	ELECTRICAL
G	GENERAL
I	INSTRUMENTATION / CONTROLS
P	PROCESS
S	STRUCTURAL

PROJECT INFORMATION

OWNER/OPERATOR:	CALIFORNIA MILITARY DEPARTMENT 10601 BEAR HOLLOW DRIVE RANCHO CORDOVA, CALIFORNIA 95670
SITE ADDRESS:	WASTEWATER TREATMENT PLANT CAMP ROBERTS, CALIFORNIA
CIVIL ENGINEER:	WEAVER CONSULTANTS GROUP OF CALIFORNIA, LLC. 1 TECHNOLOGY DRIVE, SUITE C515 IRVINE, CALIFORNIA 92618
STRUCTURAL ENGINEER:	T&S STRUCTURAL 684 CLARION COURT SAN LUIS OBISPO, CALIFORNIA 93401
ELECTRICAL ENGINEER:	NCS ENGINEERS 202 E. EARLL DRIVE, SUITE 110 PHOENIX, ARIZONA 85012
MBR ENGINEER/VENDOR:	CLOACINA, LLC 2385 PRECISION DRIVE ARROYO GRANDE, CALIFORNIA 93420
GEOTECHNICAL ENGINEER:	KLING CONSULTING GROUP, INC. 18008 SKY PARK CIRCLE, SUITE 250 IRVINE, CALIFORNIA 92618

C:\WORK\DRAFTING\GRWWTP\G01 - TITLE.DWG

PREPARED BY:
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-3502

PREPARED FOR:
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	08/08/25	REVISED 95% DESIGN SUBMITTAL	TMH	TMH
C	04/17/24	65% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

SCALE:
AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
TIMOTHY M. HUNT
C 68637
CIVIL
STATE OF CALIFORNIA

DESIGNER: TMH
DRAWN BY: TMH
CHECKED BY: PM
APPROVED BY: TMH
DATE: 03/31/2026

INDEX OF DRAWINGS, SITE VICINITY MAP AND SITE LOCATION MAP

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No.: 5880-300-01-67
FILE NAME: G01 - TITLE.DWG

SHEET No. G01
SHEET 1 OF 42
REVISION 0

ABBREVIATIONS

℄	PLATE
&	AND
L	ANGLE
±	APPROXIMATELY
>	GREATER THAN
<	LESS THAN
Ø	DIAMETER
%	PERCENT
@	AT
AB	AGGREGATE BASE, ANCHOR BOLT
AC	ASPHALT CONCRETE
A.C.	ALTERNATING CURRENT
ACP	ASBESTOS CEMENT PIPE
ALUM	ALUMINUM
APPROX	APPROXIMATE
ARV	AIR RELEASE VALVE
AVE	AVENUE
AVG	AVERAGE
ADD	ADDITIONAL
AWG	AMERICAN WIRE GAUGE
AWWA	AMERICAN WATER WORKS ASSOCIATION
B	BURIED
BF	BLIND FLANGE
BFP	BACKFLOW PREVENTER
BFV	BUTTERFLY VALVE
BLDG	BUILDING
BLKG	BLOCKING
BOTT	BOTTOM
BM	BENCH MARK
BP	BEGINNING POINT
BS	BLACK STEEL
B&S	BELL & SPIGOT
BV	BALL VALVE
BWR	BACKWASH RETURN WATER
C	CONCRETE ENCASED
℄, C/L	CENTERLINE
CA	COMPRESSED AIR
CAV	COMBINATION AIR-VACUUM RELEASE VALVE
CB	CATCH BASIN
CC	CENTER TO CENTER
CDF	CONTROLLED DENSITY FILL
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIP	CAST IRON PIPE
CIPP	CURED-IN-PLACE PIPE LINING
CL2	CHLORINE
CLG	CHLORINE GAS
CLR	CLEAR, CLEARANCE
CLS	CHLORINE SOLUTION
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CLW	CLEARWELL
CML&C	CEMENT LINED & COATED
CML	CEMENT MORTAR LINING
CO	CLEANOUT
COMB	COMBINED
COMM	COMMUNICATIONS
COMP	COMPACTION
CONC	CONCRETE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CMD PM	CALIFORNIA MILITARY DEPARTMENT PROJECT MANAGER
CPLG	COUPLING
CSK	COUNTERSINK
CTR	CENTER
CTS	CATHODIC PROTECTION TEST STATION
CU	COPPER
D	DIAMETER, DRAIN
(D)	DEMOLISH
DF	DITCH FLOW LINE
DFE	DENITRIFYING FILTER EFFLUENT
DG	DECOMPOSED GRANITE
DI	DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DIP	DUCTILE IRON PIPE
DN	DOWN
DoD	DEPARTMENT OF DEFENSE
DPW	DEPARTMENT OF PUBLIC WORKS
DR	DRIVE
DS	DIGESTED SLUDGE
DWG	DRAWING
E	EAST, EXPOSED
(E)	EXISTING
EA	EACH
ECC	ECCENTRIC
ED	EQUIPMENT DRAIN
EF	EACH FACE
EFF	PLANT EFFLUENT
EL, ELEV	ELEVATION
ELL	ELBOW
ELEC	ELECTRICAL
EP	EDGE OF PAVEMENT
EQ	EQUAL, EQUATION
EXP	EXPANSION
EW	EACH WAY
(F)	FUTURE
FB	FLAT BAR
FC	FLEX COUPLING
FCA	FLANGE COUPLING ADAPTER
FD	FLOOR DRAIN
FES	FILTER EFFLUENT SAMPLE
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FIG	FIGURE
FIN	FINISHED
FLEX	FLEXIBLE
FLG	FLANGE
FLGD	FLANGED
FM	FLOW METER
FO	FIBER OPTIC
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FEET
FTGS	FITTINGS
FURN	FURNISH
GA	GAUGE OR GUY ANCHOR
GALV	GALVANIZED
GAL	GALLON
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
GP	GUARD POST
GPM	GALLON PER MINUTE
GS	GALVANIZED STEEL
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
H	HEIGHT
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HGL	HYDRAULIC GRADE LINE
HORIZ	HORIZONTAL
HP	HORSEPOWER
ID	INSIDE DIAMETER OR IDENTIFICATION
IE	INVERT ELEVATION
IN	INCH
INT	INTERIOR
INV	INVERT
JT	JOINT
JB, J-BOX	JUNCTION BOX
KW	KILOWATT
LB	POUND
LONGIT	LONGITUDINAL
LP	LOW POINT
LTG	LIGHTING
(M)	MODIFIED
MAX	MAXIMUM
MC	MICRO
MCC	MOTOR CONTROL CENTER
MB	MACHINE BOLT
MBR	MEMBRANE BIOREACTOR
MECH	MECHANICAL
MEM	MEMBRANE
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MTR	MOTOR
(N)	NEW
N	NORTH
NaOH	SODIUM HYDROXIDE
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO.	NUMBER
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
N/A	NOT APPLICABLE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED - CONTRACTOR INSTALLED
OG	ORIGINAL GRADE
OPNG	OPENING
PC	"PIECE, POINT OF CURVE"
PCC	POINT OF CURVE TO CURVE
PE	PLAIN END, PERMANENT EASEMENT, PRIMARY EFFLUENT
PI	POINT OF INTERSECTION
PL	"PLATE, PROPERTY LINE"
PLCS	PLACES
POLY	POLYMER
PP	POWER POLE
PPD	POUNDS PER DAY
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSF	POUNDS PER SQUARE FOOT
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PW	PLANT WATER
R	RADIUS
(R)	RELOCATE
RAS	RETURN ACTIVATED SLUDGE
RCP	REINFORCED CONCRETE PIPE
ROAD	ROAD
RECT	RECTANGULAR
RED	REDUCER
REG	REGULATOR
REINF	REINFORCING
REQ'D	REQUIRED
R/W	RIGHT OF WAY
RW	RAW WASTEWATER
S	SOUTH, SLOPE
SA	SAMPLE
SD	STORM DRAIN
SE	SECONDARY EFFLUENT
SED	SEDIMENTATION
SES	SEDIMENTATION EFFLUENT SAMPLE
SDMH	STORM DRAIN MANHOLE
SK	SCUM
SS	SANITARY SEWER, STAINLESS STEEL
SSMH	SANITARY SEWER MANHOLE
SCH, SCHED	SCHEDULE
SECT	SECTION
SF	SQUARE FEET
SHT,SH	SHEET
SIM	SIMILAR
SL	SLUDGE
SPECS	SPECIFICATIONS
SQ	SQUARE
STA	STATION
STL	STEEL
STD	STANDARD
t	THICKNESS
T & B	TOP & BOTTOM
T & G	TONGUE & GROOVE
TB	THRUST BLOCK
TBC	TOP BACK OF CURB
TBM	TEMPORARY BENCH MARK
TCE	TEMPORARY CONSTRUCTION EASEMENT
TFE	TRICKLING FILTER EFFLEUNT
TFR	TRICKLING FILTER RECYCLE
TDH	TOTAL DISCHARGE HEAD
TEL	TELEPHONE
TEMP	TEMPORARY
THK	THICK
TOC	TOP OF CONCRETE
TOS	TOP OF SLAB
TV	TOP OF VAULT
TYP	TYPE or TYPICAL
UG	UNDERGROUND
V	VENT
VARS	VARIES
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VTR	VENT TO ROOF
W	WEST, WATER, WIDE
W/	WITH
W/O	WITHOUT
WAB	WORK AREA BOUNDARY
WP	WATERPROOF
WS	WELDED STEEL, WATER SURFACE
WSEL	WATER SURFACE ELEVATION
WSP	WELDED STEEL PIPE
WWTP	WASTE WATER TREATMENT PLANT
WW	WASTE WATER
WWF	WELDED WIRE FABRIC

GENERAL NOTES

1. THESE DRAWINGS, TOGETHER WITH THE PROJECT-SPECIFIC SPECIFICATIONS, AND THE THE UNIFIED FACILITIES GUIDE SPECIFICATIONS (UFGS) CONSTITUTE THE CONSTRUCTION DOCUMENTS FOR THIS PROJECT. THE CONTRACTOR SHALL KEEP AT LEAST ONE COPY OF THE LATEST APPROVED VERSION OF THESE DOCUMENTS ON-SITE AT ALL TIMES. THE ENGINEER SHALL HAVE ACCESS TO THE CONTRACTOR'S DOCUMENTS AT ALL TIMES.
2. ON FINDING A DISCREPANCY BETWEEN THE CONTRACT DOCUMENTS INTERNALLY, OR BETWEEN THE CONTRACT DOCUMENTS AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SAID DISCREPANCY TO THE ATTENTION OF THE CMD PM. SPECIFICATIONS SHALL TAKE PRECEDENCE OVER DRAWINGS.
3. DURING CONSTRUCTION, CONTRACTOR SHALL TAKE FIELD NOTES OF ACTUAL LOCATIONS OF ALL INSTALLED EQUIPMENT, SLABS, PIPING, CONDUIT, AND ALL OTHER CONSTRUCTION RELATED MATERIAL ON A DAILY BASIS TO REFLECT WORK COMPLETED. CONTRACTOR SHALL PREPARE AND MAINTAIN A REDLINE "AS-BUILT" SET OF PLANS THROUGHOUT THE PROJECT. THE CONTRACTOR SHALL PERIODICALLY REVIEW THE "AS-BUILT" SET WITH THE CMD PM TO ENSURE CHANGES ARE KEPT UP TO DATE. THE CONTRACTOR SHALL SUBMIT "AS-BUILT" PLANS TO THE CMD PM FOR REVIEW AND APPROVAL PRIOR TO PREPARATION OF FINAL "AS-BUILT" SET.
4. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL LAWS AND ORDINANCES.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE ENVIRONMENT DURING CONSTRUCTION BY PROTECTING TREES AND SHRUBS, CONTAINING ANY RUNON OR RUNOFF, CONTROLLING DUST AND CONTAMINATION CAUSED BY THE CONTRACTOR. THE CONTRACTOR SHALL DISPOSE OF ALL CONSTRUCTION DEBRIS OFFSITE INCLUDING PAVEMENT, CONCRETE, PIPELINES, SOIL, OR OTHER CONSTRUCTION RELATED MATERIAL REMOVED DURING CONSTRUCTION. IF EXCAVATED MATERIALS CANNOT BE USED AS BACKFILL, THEY SHALL BE DISPOSED OF AT AN AUTHORIZED FACILITY AND WITH THE PROPER DOCUMENTATION. THE CONTRACTOR SHALL PROVIDE THE CMD PM WITH THE APPROPRIATE MANIFESTS AND CERTIFICATES TO DEMONSTRATE THAT THE MATERIALS HAVE BEEN PROPERLY DISPOSED OF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WASTE PROFILING OF MATERIAL FOR DISPOSAL. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO RECYCLE CONSTRUCTION MATERIAL IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
6. THE CONTRACTOR SHALL CLEARLY MARK PROPOSED EXCAVATIONS PRIOR TO ANY INTRUSIVE WORK. EXCAVATION AREAS SHALL BE CLEARED BY UNDERGROUND SERVICE ALERT, GEOPHYSICAL SURVEY, AND THE OWNER'S REPRESENTATIVE PRIOR TO ANY INTRUSIVE WORK. SUBSURFACE WORK SHALL NOT COMMENCE UNTIL AN AREA HAS BEEN CLEARED.
7. THE CONTRACTOR SHALL EXERCISE CAUTION IN PERFORMING SUBSURFACE WORK. IF AN UNMARKED UTILITY IS ENCOUNTERED THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CMD PM, WHO WILL BE RESPONSIBLE FOR DETERMINING HOW TO PROCEED RELATIVE TO THE UNMARKED UTILITY.
8. THE CONTRACTOR SHALL PERFORM ALL THE NECESSARY WORK TO COMPLETE THE PROJECT IN A SATISFACTORY MANNER. UNLESS OTHERWISE PROVIDED, THE CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, TOOLS, LABOR, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
9. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE STARTING WORK. ALL WORK SHALL CONFORM TO THE LINE, GRADE AND ELEVATIONS SHOWN ON THESE PLANS. ANY DISCREPANCY, ERROR, OR OMISSION DISCOVERED BY THE CONTRACTOR SHALL BE BROUGHT TO THE ATTENTION OF THE CMD PM.
10. CONSTRUCTION AND TRENCHING AREAS SHALL BE CLEARLY MARKED WITH CONES, BARRICADES, OR OTHER APPROVED SAFETY MARKERS AS REQUIRED BY LOCAL CODES TO RESTRICT ACCESS AND PROVIDE A SAFE WORK AREA FOR THE CONTRACTOR, ENGINEER, AND ANYONE ELSE PERMITTED TO ENTER THE WORK AREA (E.G. INSPECTORS, OWNERS, ETC.).
11. ALL MATERIALS, PARTS, AND EQUIPMENT FURNISHED BY THE CONTRACTOR FOR THIS PROJECT SHALL BE NEW, HIGH GRADE AND FREE FROM DEFECTS. QUALITY OF WORK SHALL BE TO GENERALLY ACCEPTED STANDARDS. MATERIALS AND WORK QUALITY ARE SUBJECT TO THE ENGINEER'S APPROVAL. MATERIALS AND WORK NOT CONFORMING TO THE CONSTRUCTION DOCUMENTS SHALL BE CONSIDERED DEFECTIVE AND SUBJECT TO REJECTION. DEFECTIVE WORK OR MATERIAL, WHETHER IN PLACE OR NOT, SHALL BE REMOVED IMMEDIATELY FROM THE SITE BY THE CONTRACTOR, AT ITS EXPENSE, WHEN SO DIRECTED BY THE CONTRACTING OFFICER. IF THE CONTRACTOR FAILS TO REPLACE ANY DEFECTIVE OR DAMAGED WORK OR MATERIAL AFTER REASONABLE NOTICE, THE CONTRACTING OFFICER MAY CAUSE SUCH WORK OR MATERIALS TO BE REPLACED, THE COST OF WHICH WILL BE DEDUCTED FROM PAYMENTS DUE TO THE CONTRACTOR.
12. THE CONTRACTOR SHALL WARRANT ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF TWO YEARS FOLLOWING ACCEPTANCE OF THE FINAL WALKTHROUGH INSPECTION BY THE CMD PM. DEFECTS SHALL BE CMD PMRECTED AT NO COST TO THE OWNER.
13. THE CONTRACTOR SHALL COMMISSION ALL EQUIPMENT IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS AND SHALL PROVIDE FOR THE TRAINING OF ALL OPERATIONAL STAFF THROUGHOUT THE WARRANTY PERIOD.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF SLUDGE GENERATED BY THE MBR SYSTEM THROUGHOUT THE WARRANTY PERIOD.
15. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT IN PLACE EXISTING FEATURES NOT INCLUDED FOR DEMOLITION IN THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING FEATURES DURING CONSTRUCTION ACTIVITIES AND SHALL REPAIR OR REPLACE DAMAGED FEATURES AT ITS OWN EXPENSE.
16. THE WORK AREA IS AN OPERATING TRAINING FACILITY FOR THE CALIFORNIA ARMY NATIONAL GUARD. IT IS LIKELY THAT TRAINING MAY BE IN PROGRESS DURING EXECUTION OF THIS WORK. THE CONTRACTOR SHALL COORDINATE HIS WORK AND THE WORK OF HIS SUBCONTRACTORS TO ENSURE A MINIMAL IMPACT TO THE OPERATIONS AT CAMP ROBERTS.
17. UNLESS SPECIFIED OTHERWISE, SUBMITTALS WILL BE REQUIRED FOR ALL MATERIALS TO BE USED FOR CONSTRUCTION. SHOP DRAWINGS WILL BE REQUIRED FOR ALL ITEMS THAT WILL BE FABRICATED FOR THE WORK. THE CONTRACTOR SHALL HANDLE SUBMITTALS AS DESCRIBED IN SECTION 01 22 00 OF THE UFGS. THE CMD PM CAN WAIVE THIS REQUIREMENT FOR MINOR ITEMS AT HIS DISCRETION.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING LOCAL SURVEYING CONTROL. SUCH CONTROL SHALL USE THE CALIFORNIA STATE PLANE COORDINATE SYSTEM (ZONE 4), THE HORIZONTAL DATUM FOR THE PROJECT SHALL BE THE NORTH AMERICAN DATUM OF 1983 (NAD 83). THE VERTICAL DATUM SHALL BE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
19. THE CA ARNG WILL OPERATE ITS FACILITIES IN AND AROUND THE WORK AREA. THE CONTRACTOR SHALL MAKE EVERY REASONABLE EFFORT TO ENSURE THAT WATER (AND OTHER UTILITY) SERVICE IS DISRUPTED AS LITTLE AS POSSIBLE DURING THE WORK. THE CONTRACTOR SHALL COORDINATE WITH THE CAMP ROBERTS DEPARTMENT OF PUBLIC WORKS TO IDENTIFY UTILITY SHUT-OFFS IN THE EVENT THE WORK AREA MUST BE ISOLATED.
20. THE EXISTING TREATMENT FACILITIES SHALL REMAIN IN OPERATION AT ALL TIMES DURING THE CONSTRUCTION OF THE PROJECT TO THE EXTENT POSSIBLE. PORTABLE OR TEMPORARY TREATMENT FACILITIES AND EQUIPMENT SHALL BE UTILIZED IF PORTIONS OF THE EXISTING TREATMENT SYSTEM NEED TO BE BROUGHT OFFLINE DUE TO DEMOLITION OR NEW COMPONENT TIE-INS PRIOR TO MBR COMMISSIONING.
21. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING FACILITIES THAT ARE TO REMAIN IN PLACE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
22. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL SURPLUS EXCAVATION MATERIAL AND DEBRIS PROMPTLY FROM THE SITE AND SHALL MAINTAIN THE SITE IN A NEAT AND ORDERLY CONDITION.
23. FOR WORK SEQUENCE, REFER TO SPECIFICATION SECTION 01 11 00 PART 1.2.1.
24. EXISTING FENCE AND GATES SHALL BE PROTECTED IN PLACE UNLESS NOTED OTHERWISE.
25. LOCATION AND DEPTH OF (E) UTILITIES SHOWN ARE BASED ON AVAILABLE DRAWINGS AND OBSERVABLE SURFACE FEATURES. CONTRACTOR SHALL POTHOLE AND FIELD VERIFY DEPTH AND LOCATION OF ALL UTILITIES, (IN PARTICULAR AT CONNECTION AND PIPE CROSSING POINTS).
26. CONTRACTOR SHALL GRADE SITE TO PRE-CONSTRUCTION CONDITIONS AND RESTORE EXISTING ACCESS ROADS TO PRE-CONSTRUCTION CONDITIONS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
27. SPECIAL INSPECTIONS SHALL BE AS DESCRIBED ON SHEET S01.
28. PRIOR TO EXISTING INFRASTRUCTURE DEMOLITION, CONTRACTOR SHALL HAVE PERFORMED A HAZARDOUS MATERIALS INSPECTION AND ASSESSMENT OF INFRASTRUCTURE TO BE REMOVED FOR LEAD AND ASBESTOS. REMOVAL AND DISPOSAL OF SUCH MATERIAL SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE, AND DoD PROCEDURES.
29. THE CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION ACTIVITIES WITH CMD ENVIRONMENTAL PRIOR TO ANY GROUND DISTURBANCE.\
30. THE CONTRACTOR SHALL LOCATE ALL STAGING AND EQUIPMENT STORAGE WITHIN THE FENCED AREAS OF THE WWTP. CONTRACTOR SHALL COORDINATE FINAL LOCATION WITH CMD PM.

SURVEY CONTROL NOTES

HORIZONTAL DATUM:
CALIFORNIA STATE PLANE COORDINATE SYSTEM ZONE IV
NAD83(2010.0) CA HPGN

MEAN COMBINATION FACTOR (CF):
1.000021895063327O
DISTANCES SHOWN HEREON ARE GRID DISTANCES
TO CONVERT GRID DISTANCE TO GROUND DISTANCE ... DIVIDE BY THE CF
TO CONVERT GROUND DISTANCE TO GRID DISTANCE ... MULTIPLY BY THE CF

VERTICAL DATUM:
NAVD88 BASED ON BENCH MARK

PIPING SYMBOLS

JOINTS	SINGLE LINE	DOUBLE LINE
FLANGED OR GROOVED PIPE COUPLING		
BELL AND SPIGOT OR MECHANICAL		
SCREWED OR SOCKETWELD		
FITTINGS		
BLIND FLANGE		
REDUCER		
UNION		
FLEXIBLE COUPLING		
FLANGED COUPLING ADAPTER		
MALE CAM COUPLER		
PIPE CLEANOUT		

LEGEND

- UNDISTURBED EARTH
- UNCLASSIFIED BACKFILL (SOIL [NATIVE OR IMPORT] USED IN NON-STRUCTURAL APPLICATIONS AND PLACED IN ACCORDANCE WITH SECTION 300-4 OF THE SSPWC). UNCLASSIFIED FILL WILL BE COMPACTED TO 90% OF ITS RELATIVE MAXIMUM DENSITY PER ASTM D1557, UNLESS OTHERWISE SPECIFIED IN THE CONSTRUCTION DOCUMENTS.
- PREPARED SUBGRADE/STRUCTURAL FILL (NATIVE OR IMPORTED SOIL PLACED IN ACCORDANCE WITH SECTION 301-1 OF THE SSPWC). PREPARED SUBGRADE/STRUCTURAL FILL WILL BE COMPACTED TO 95% OF ITS RELATIVE MAXIMUM DENSITY PER ASTM D1557, UNLESS OTHERWISE SPECIFIED IN THE CONSTRUCTION DOCUMENTS.
- SAND BEDDING (IMPORTED MATERIAL, UNLESS OTHERWISE AUTHORIZED, MEETING THE REQUIREMENTS OF SECTION 200-1.5 OF THE SSPWC AND THE SCHEDULE OF MATERIALS).
- CONCRETE (AS GENERALLY SPECIFIED IN SECTION 201-1.1.2 OF THE SSPWC UNLESS SPECIFICALLY DESCRIBED IN THE DRAWINGS)
- ASPHALT (UNLESS SPECIFIED OTHERWISE ASPHALT SHALL CONSIST OF 4-INCHES OF ASPHALT PER SECTION 203-6 OF THE SSPWC).
- AGGREGATE BASE (UNLESS SPECIFIED OTHERWISE AGGREGATE BASE SHALL CONSIST OF CRUSHED AGGREGATE BASE AS SPECIFIED IN SECTION 200-2.2 OF THE SSPWC).



- DETAIL PLAN, DETAIL, OR SECTION LABEL. DETAIL PLANS AND DETAILS ARE IDENTIFIED WITH NUMBERS (e.g., 1, 2, 3) . SECTIONS ARE IDENTIFIED WITH LETTERS (e.g., A, B, C)
- SHEET ON WHICH THE DETAIL PLAN, DETAIL, OR SECTION IS SHOWN
- SHEET ON WHICH THE DETAIL PLAN, DETAIL, OR SECTION IS CALLED OUT

GENERAL LINE TYPES AND SYMBOLS

SUBJECT LINE (PROPOSED CONSTRUCTION)		WV	WATER VALVE
EXISTING CONDITIONS		E	UNDERGROUND ELECTRIC VAULT
FENCE LINE	X		FIRE HYDRANT
CENTER LINE		D	STORM DRAIN MANHOLE
SUBSURFACE LINE		S	SANITARY SEWER MANHOLE
GAS	G	S	NEW SANITARY SEWER MANHOLE
WATER	W		SANITARY SEWER CLEAN OUT
SANITARY SEWER	S		NEW SANITARY SEWER CLEAN OUT
STORM DRAIN	SD	E	ELECTRICAL MANHOLE
ELECTRICAL (UNDERGROUND)	E		LIGHT POLE
COMMUNICATION/OPTICAL	C	GV	GAS VALVE
UNKNOWN UTILITY	UKN		CONTROL POINT
ABANDON			DIRECTION OF SURFACE FLOW
DEMOLISH/REMOVE			

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618 -5302

PREPARED FOR
CALIFORNIA MILITARY DEPARTMENT
1060 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	90% DESIGN SUBMITTAL	TMH	TMH
D	08/06/25	RECISED 90% DESIGN SUBMITTAL	TMH	TMH
C	05/05/25	90% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

REVISION SUMMARY

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER TIMOTHY M. HUNT C 68637 CIVIL STATE OF CALIFORNIA

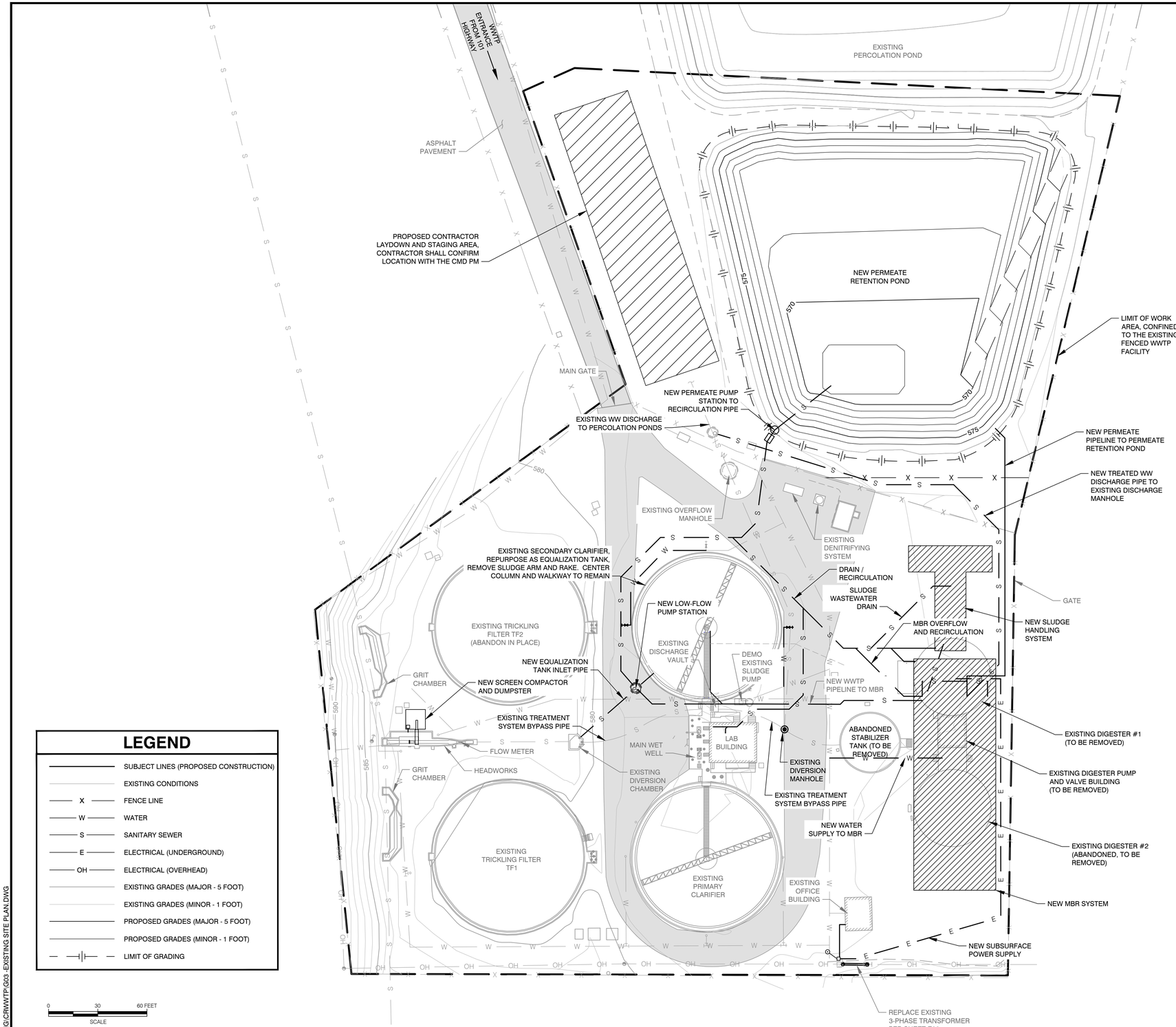
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APPROVED BY:	TMH
DATE:	03/31/2026

GENERAL NOTES, ABBREVIATIONS AND LEGEND
WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME: G02 - ABBREVIATIONS AND LEGEND.DWG

SHEET No. G02
SHEET 2 OF 42
REVISION 0

C:\WORK\DRAFTING\CRWWTP\G02 - ABBREVIATIONS AND LEGEND.DWG - PLOTTED BY HUNT, TIM ON 04/24/26



LEGEND

- SUBJECT LINES (PROPOSED CONSTRUCTION)
- EXISTING CONDITIONS
- X — FENCE LINE
- W — WATER
- S — SANITARY SEWER
- E — ELECTRICAL (UNDERGROUND)
- OH — ELECTRICAL (OVERHEAD)
- EXISTING GRADES (MAJOR - 5 FOOT)
- EXISTING GRADES (MINOR - 1 FOOT)
- PROPOSED GRADES (MAJOR - 5 FOOT)
- PROPOSED GRADES (MINOR - 1 FOOT)
- LIMIT OF GRADING

0 30 60 FEET
SCALE

REFERENCE: EXISTING ELEVATIONS AND TOPOGRAPHIC CONTOURS ARE APPROXIMATE AND ARE BASED ON TOPOGRAPHIC INFORMATION PROVIDED BY ANDREGG GEOMATICS, DATED FEBRUARY 13, 2013. CONTRACTOR SHALL FIELD VERIFY ELEVATIONS.

SCOPE OF WORK

1. CLEARING, GRUBBING, SITE PREPARATION AND INSTALLATION OF SITE CONTROLS.
2. REPLACE EXISTING HEADWORKS MECHANICAL SCREEN HMI.
3. INSTALL NEW HEADWORKS MECHANICAL SCREEN SPRAY WASH, COMPACTOR, AND DISPOSAL DUMPSTER.
4. REMOVE ACCUMULATED SLUDGE FROM THE EXISTING SLUDGE DRYING BEDS AND EXISTING SLUDGE DIGESTERS (STORAGE TANKS) AND DISPOSE OF AT AN APPROVED FACILITY. PROVIDE FOR SLUDGE HANDLING OF EXISTING WWTP PRIMARY CLARIFIER DURING CONSTRUCTION AND UP TO COMMISSIONING OF MBR.
5. ABANDON, RELOCATE, AND/OR DEMOLISH EXISTING WASTE WATER TREATMENT PLANT (WWTP) COMPONENTS TO ALLOW FOR INSTALLATION OF MEMBRANE BIOREACTOR SYSTEM(S), SLUDGE HANDLING SYSTEM, AND ASSOCIATED COMPONENTS. REMOVE ALL ABANDONED SUBSURFACE PIPING AND CONDUITS ENCOUNTERED DURING CONSTRUCTION.
6. ABANDON AND REMOVE EXISTING 24-INCH DIA. RCP FROM DIVERSION CHAMBER TO SECONDARY CLARIFIER.
7. REPURPOSE EXISTING SECONDARY CLARIFIER AS MBR EQUALIZATION TANK WITH UPSTREAM LOW-FLOW EQUALIZATION TANK BY-PASS PUMP STATION.
8. INSTALL NEW 24-INCH DIA. HDPE GRAVITY LINE FROM DIVERSION CHAMBER TO LOW-FLOW PUMP STATION AND FROM LOW-FLOW PUMP STATION TO EQUALIZATION TANK.
9. INSTALL NEW EQUALIZATION TANK SUBMERSIBLE TRANSFER PUMPS WITH ASSOCIATED CONTROLS.
10. TRENCH EXCAVATION AND INSTALLATION OF NEW PIPELINE(S).
11. SURFACE RESTORATION IN AREAS OF TRENCHING (MATCH EXISTING CONDITIONS WHERE APPROPRIATE).
12. INSTALL NEW MBR SYSTEM, SLUDGE HANDLING SYSTEM, AND ASSOCIATED PIPING AND CONCRETE PADS.
13. INSTALL NEW ELECTRICAL SERVICE AND SUBSURFACE ELECTRICAL LINE(S) PROVIDING POWER TO THE NEW MBR SYSTEM AND ASSOCIATED COMPONENTS.
14. GRADE PERMEATE RETENTION POND AND INSTALL HDPE LINER SYSTEM. EXCESS CUT THAT MEETS SPECIFICAITONS MAY BE UTILIZED AS BACKFILL, STOCKPILED AT THE CAMP ROBERTS LANDFILL BORROW AREA UPON APPROVAL BY CAMP ROBERTS ENVIRONMENTAL, OR AS DIRECTED BY THE CMD PM.
15. INSTALL NEW PERMEATE RETENTION POND PUMP STATION WITH ASSOCIATED CONTROLS.
16. PROVIDE CONTROLS AS REQUIRED FOR IMPLEMENTATION OF ALL WWTP COMPONENTS WITH THE NEW MBR SYSTEM.
17. UPGRADE THE ELECTRICAL UTILITY SERVICE TO ACCOMMODATE NEW SYSTEM LOAD(S).
18. PROVIDE FOR REMOTE MONITORING OF WWTP COMPONENTS WITHIN EXISTING BASEWIDE SCADA SYSTEM.
19. PERFORM STARTUP TESTING AND COMMISSIONING REQUIREMENTS AS SPECIFIED IN THE CONTRACT DOCUMENTS.

ESTIMATED SLUDGE VOLUME FOR REMOVAL AND DISPOSAL
APPROXIMATE VOLUME OF SLUDGE WITHIN DRYING BEDS: ~2,500 CY (SEE NOTE 3)
APPROXIMATE VOLUME OF SLUDGE IN DIGESTER #1: VARIES (SEE NOTE 2)
APPROXIMATE VOLUME OF SLUDGE IN DIGESTER #2: EMPTY

ESTIMATED DEMOLITION AND BACKFILL IMPORT EARTHWORK VOLUMES
APPROXIMATE VOLUME OF NON-STRUCTURAL IMPORT BACKFILL: ~500 CY
APPROXIMATE VOLUME OF STRUCTURAL IMPORT BACKFILL: ~2,500 CY

PERMEATE RETENTION POND GRADING
APPROXIMATE GRADED AREA: 38,100 SQ. FT.
APPROXIMATE CUT: 1,265 CUBIC YD
APPROXIMATE FILL: 37 CUBIC YD.
APPROXIMATE NET (CUT): 1,228 CUBIC YD. (SEE NOTE 3)

NOTES:

1. SEE SHEETS C01 AND C02 FOR EXISTING BELOWGROUND WASTEWATER TREATMENT PLANT PIPING AND DEMOLITION PLAN. SEE SHEET C03 FOR SITE LAYOUT AND IMPROVEMENT PLAN. SEE SHEET C11 FOR HARDSCAPE IMPROVEMENT PLAN.
2. THE EXISTING SLUDGE DIGESTER #1 IS CURRENTLY IN USE. VOLUME OF SLUDGE CONTAINED WITHIN THE DIGESTER AT TIME OF PROJECT CONSTRUCTION MAY VARY AND IS DEPENDANT ON CAMP ROBERTS OCCUPANCY AND TIMING OF LAST DISPOSAL EVENT. CONTRACTOR IS RESPONSIBLE FOR EVALUATING AND DETERMINING AMOUNT OF SLUDGE CONTAINED WITHIN THE DIGESTER FOR REMOVAL AND DISPOSAL AT TIME OF PROJECT CONSTRUCTION. TEMPORARY SLUDGE STORAGE AND REMOVAL SHALL BE PROVIDED BY CONTRACTOR DURING CONSTRUCTION OF MBR AND ASSOCIATED SLUDGE HANDLING SYSTEM.
3. PERMEATE RETENTION POND CUT MATERIAL IS ASSUMED TO BE COMPRISED OF SLUDGE MATERIAL FROM THE EXISTING DIGESTER(S). CONTRACTOR IS RESPONSIBLE FOR EVALUATING THE THICKNESS AND DETERMINING AMOUNT OF SLUDGE MATERIAL CONTAINED WITHIN THE EXISTING SLUDGE DRYING BEDS TO BE REMOVED. MATERIAL SHALL BE CHARACTERIZED AND DISPOSED OF AT AN APPROVED FACILITY.

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CAL GUARD — CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

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REVISION SUMMARY

SCALE: AS NOTED
B4R SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — TIMOTHY M. HUNT — C 68637 — CIVIL — STATE OF CALIFORNIA

DESIGNER: TMH
DRAWN BY: TMH
CHECKED BY: PM
APPROVED BY: TMH
DATE: 03/31/2026

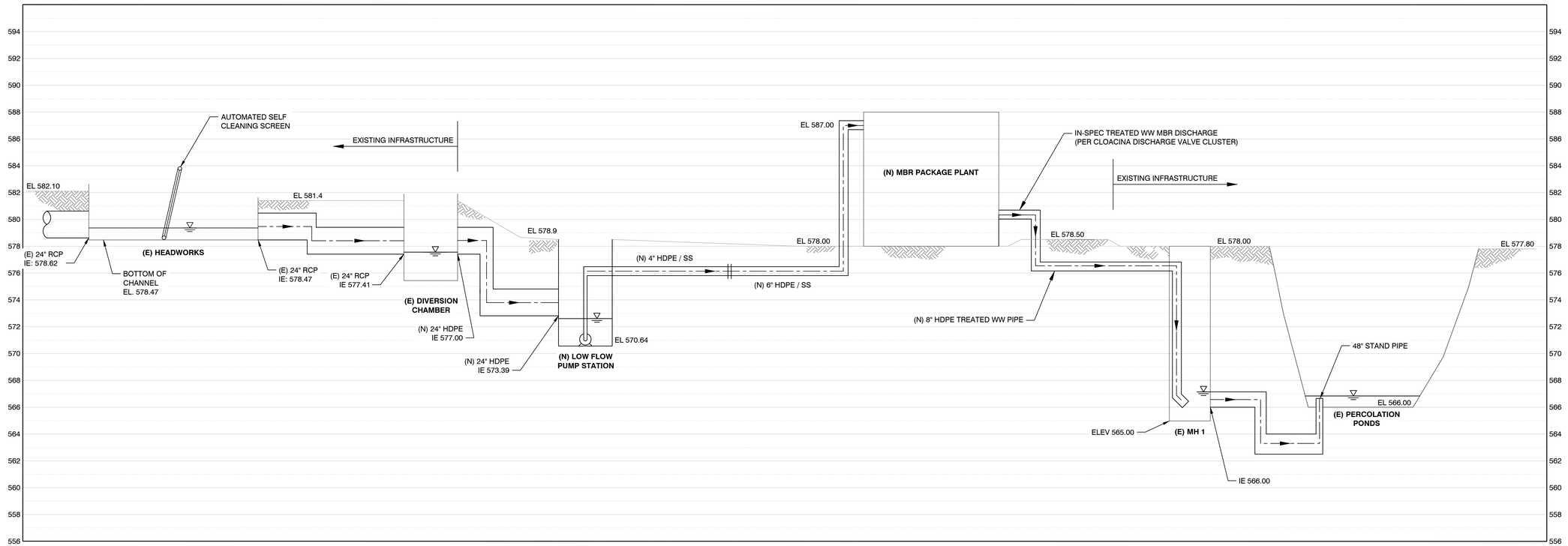
WASTEWATER TREATMENT PLANT SITE PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME: G03 -EXISTING SITE PLAN.DWG

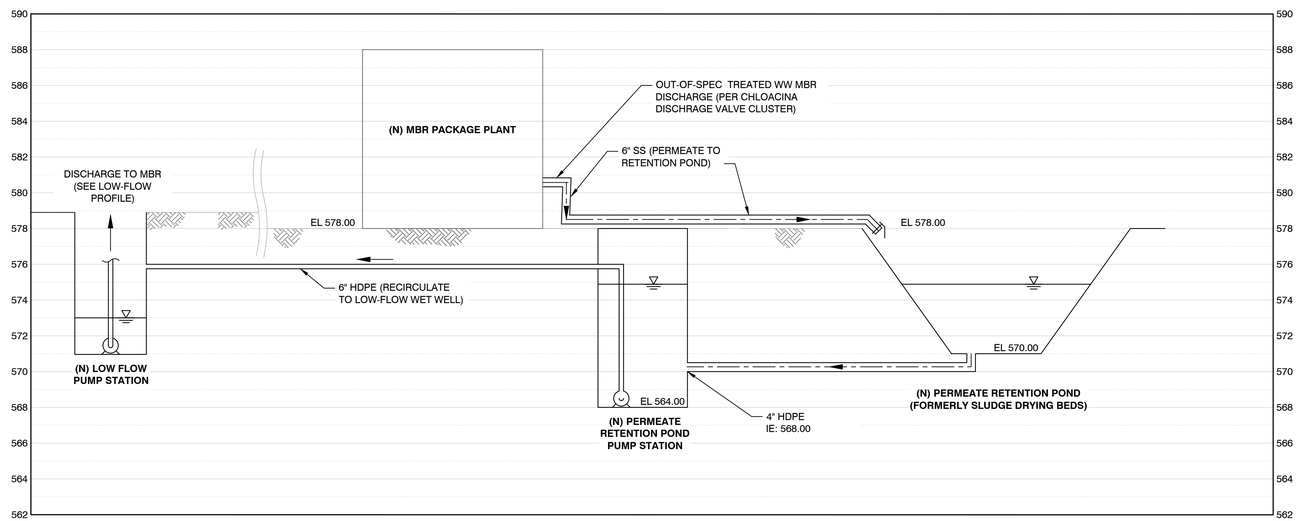
SHEET No. G03
SHEET 3 OF 42
REVISION 0

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FLOW PROFILE - LOW FLOW SCENARIO

HORZ: NTS
VERT: 1" = 4'



FLOW PROFILE - PERMEATE RECIRCULATION

HORZ: NTS
VERT: 1" = 4'

NOTES:

1. THE WATER SURFACE DOWNSTREAM OF THE EQUALIZATION TANK IS A CONSTANT AND IS DEFINED BY THE PUMPING RATE OF THE PUMPING UNITS THAT SUPPLY THE MBR SYSTEM.
2. THE WATER SURFACE IN THE PERCOLATION PONDS WILL BE SUBJECT TO TWO FACTORS --- THE ACTUAL PERCOLATION CAPACITY AND THE BYPASS FLOW (WHEN IT OCCURS).

C:\WORK\DRAFTING\CRWWTP\G04 - HYDRAULIC PROFILE.DWG

PREPARED BY

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PREPARED FOR

CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

REV	DATE	DESCRIPTION	BY	APPD
A	02/28/18	30% DESIGN	BB	JP
B	04/17/24	REVISIONS TO CIVIL 30% DESIGN	TMH	TMH
C	10/04/24	60% DESIGN SUBMITTAL	TMH	TMH
D	06/06/25	RESPECT 95% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH

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REGISTERED PROFESSIONAL ENGINEER
TIMOTHY M. HUNT
C 68637
CIVIL
STATE OF CALIFORNIA

DESIGNER:	TMH
DRAWN BY:	TMH
CHECKED BY:	PM
APPROVED BY:	TMH
DATE:	03/31/2026

FLOW PROFILE - LOW FLOW AND PERMEATE RECIRCULATION

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

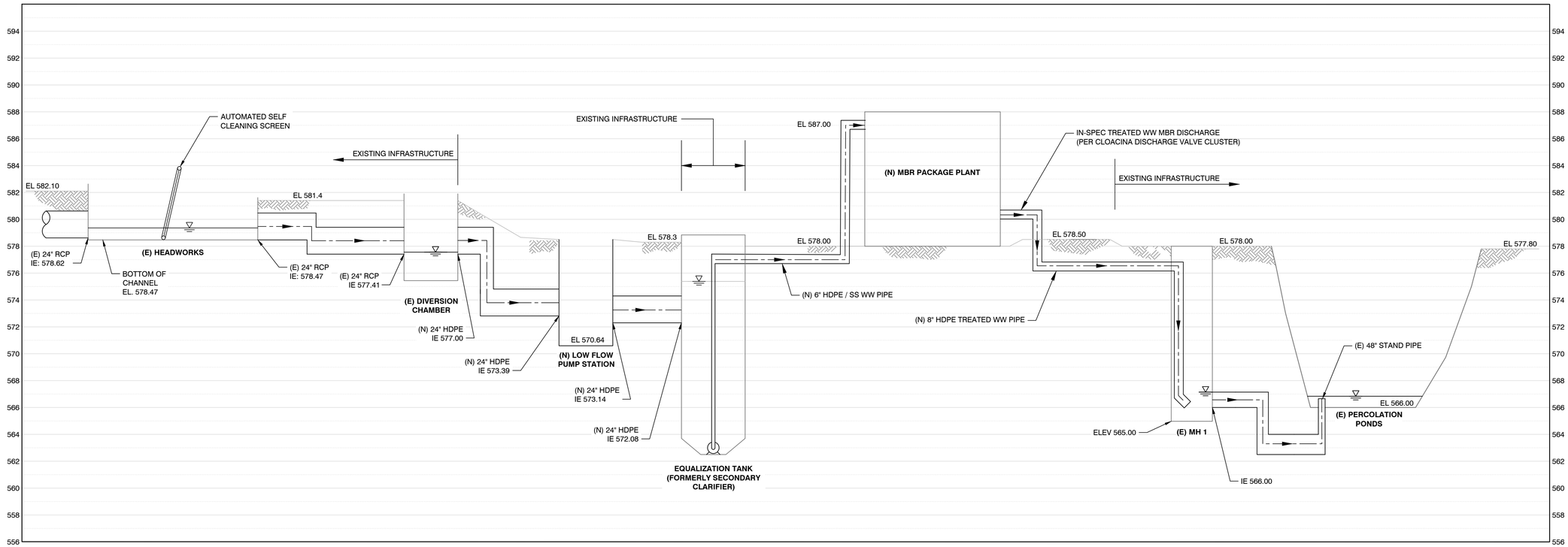
PROJECT No.: 5890-300-01-67

FILE NAME: G04 - HYDRAULIC PROFILE.DWG

SHEET No.: **G04**

SHEET 4 OF 42

REVISION 0



FLOW PROFILE - EQUALIZATION TANK

HORZ: NTS
VERT: 1" = 4'

NOTES:

1. THE WATER SURFACE DOWNSTREAM OF THE EQUALIZATION TANK IS A CONSTANT AND IS DEFINED BY THE PUMPING RATE OF THE PUMPING UNITS THAT SUPPLY THE MBR SYSTEM.
2. THE WATER SURFACE IN THE PERCOLATION PONDS WILL BE SUBJECT TO TWO FACTORS --- THE ACTUAL PERCOLATION CAPACITY AND THE BYPASS FLOW (WHEN IT OCCURS).

C:\WORK\DRAFTING\CRWWTP\G04 - HYDRAULIC PROFILE.DWG

PREPARED BY

Weaver Consultants Group

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IRVINE, CALIFORNIA 92618-5302

PREPARED FOR

CAL GUARD
CALIFORNIA MILITARY DEPARTMENT

CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

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TIMOTHY M. HUNT
C 68637
CIVIL
STATE OF CALIFORNIA

DESIGNER:	TMH
DRAWN BY:	TMH
CHECKED BY:	PM
APPROVED BY:	TMH
DATE:	03/31/2026

FLOW PROFILE - EQUALIZATION TANK

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67

FILE NAME: G04 - HYDRAULIC PROFILE.DWG

SHEET No. **G05**

SHEET 5 OF 42

REVISION 0

PROCESS ABBREVIATIONS

A	AMPERE
AFD	ADJUSTABLE FREQUENCY DRIVE
AI	ANALOG INPUT
AIC	AMPS INTERRUPTING CAPACITY
ARV	AIR RELIEF VALVE
AO	ANALOG OUTPUT
AS	AIR SUPPLY
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
CB	CIRCUIT BREAKER
CL2	CHLORINE
CON	CONTACTOR
CU	COPPER
CV	CONTROL VALVE
DCS	DISTRIBUTED CONTROL SYSTEM
DI	DISCRETE INPUT
DO	DISSOLVED OXYGEN, DISCRETE OUTPUT
DP	DIFFERENTIAL PRESSURE
DWG	DRAWING
EGO	EMERGENCY GAS OFF
ETM	ELAPSED TIME METER
ETMf	ELAPSED TIME METER (FAST SPEED)
ETMs	ELAPSED TIME METER (SLOW SPEED)
EOL	ELECTRONIC OVERLOAD
ELEV	MEAN SEA LEVEL ELEVATION
EXIST	EXISTING
FA	FOUL AIR
FC	FAIL CLOSED
FE	FINAL EFFLUENT
FIT	FLOW INDICATING TRANSMITTER
FR	FORWARD-REVERSE
FS	FLOAT SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
FW	FINISHED WATER
GND	GROUND
GAL	GALLONS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRA	GRAVITY
H, HI	HIGH
H2S	HYDROGEN SULFIDE
HMI	HUMAN MACHINE INTERFACE
HOA	HAND-OFF-AUTO
I	CURRENT
IO	INPUT/OUTPUT
IOE	INTERNAL-OFF-EXTERNAL
JB	JUNCTION BOX
L, LO	LOW
LAN	LOCAL AREA NETWORK
LC	LOOP CONTROLLER
LCP	LOCAL CONTROL PANEL
LIT	LEVEL INDICATING TRANSMITTER
LOS	LOCK-OFF-STOP
LR	LOCAL/REMOTE
LS	LEVEL (i.e.. FLOAT) SWITCH
M	METER
MA	MANUAL/AUTO
mA	MILLIAMP
MC	MANUFACTURE CABLE
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR(S)	MANUFACTURER(S)
MGD	MILLION GALLONS PER DAY
MG/L	MILLIGRAMS PER LITER
MH	MANHOLE
MLR	MIXED LIQUOR RETURN
MO	MOISTURE
MOD	MODULATED
MTU	MASTER TELEMETRY UNIT
NPW	NON-POTABLE WATER
NS	NITROGEN SUPPLY
NTU	TURBIDITY
O/C	OPEN / CLOSE
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OIT	OPERATOR INTERFACE TERMINAL
OL	OVERLOAD
OO	ON/OFF (MAINTAINED)
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
OSC	OPEN-STOP-CLOSE
PAH	PRESSURE ALARM HIGH
PDIT	PRESSURE DIFFERENTIAL INDICATING TRANSMITTER
PDS	PRESSURE DIFFERENTIAL SWITCH
PER	PERMISSIVE
PIT	PRESSURE INDICATING TRANSMITTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PO	PULSE OUTPUT
POS	POSITION
POT	POTENTIOMETER
PPG	POUNDS PER GALLON
PPH	POUNDS PER HOUR
PPM	PARTS PER MILLION
PR	PAIR
PRES	PRESSURE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PV	PROCESS VARIABLE
RAS	RETURN ACTIVATED SLUDGE
RAW	RAW WATER
REM	REMOTE
RF	RADIO FREQUENCY
RIO	REMOTE INPUT OUTPUT
RS	RAW SEWAGE
RSP	RAW SEWAGE PUMP
RST	RESET
RTD	RESISTANCE TEMPERATURE DETECTOR
RTU	REMOTE TELEMETRY UNIT
RUNf	RUN (FAST SPEED)
RUNs	RUN (SLOW SPEED)
SB	SLUDGE BLANKET
SEQ	SERVICE ENTRANCE EQUIPMENT
SES	SERVICE ENTRANCE SECTION
SLC	SINGLE LOOP CONTROLLER
SLOS	START-LOCK-OFF-STOP
SO2	SULFUR DIOXIDE
SOV	SOLENOID OPERATED VALVE
SP	SET POINT
SPD	SPEED
SPR	SPARE
SS	START/STOP (MAINTAINED)
SSS	SOLID STATE STARTER (SOFT START)
STR	MOTOR STARTER
TAH	TEMPERATURE ALARM HIGH
T/M	TEMPERATURE AND/OR MOISTURE
TEMP	TEMPERATURE
TS	TEMPERATURE SWITCH
TSS	TOTAL SUSPENDED SOLIDS
UG	UNDERGROUND
USD	UP/STOP/DOWN
V	VOLT
VFD	VARIABLE FREQUENCY DRIVE
W	WATER
WAS	WASTE ACTIVATED SLUDGE
WW	WASTEWATER
XMTR	TRANSMITTER
ZS	POSITION (i.e. LIMIT) SWITCH

PROCESS EQUIPMENT AND SYMBOLS

SOLENOID VALVE 2-WAY
SOLENOID VALVE 3-WAY
PUMP CONTROL VALVE
FLOW CONTROL VALVE
PRESSURE RELIEF VALVE
VACUUM RELIEF VALVE
PRESSURE REGULATOR WITH REMOTE PROCESS CONNECTION
PRESSURE REGULATOR SELF CONTAINED
CENTRIFUGAL PUMP
DRAIN
AIR RELIEF VALVE
PIPE REDUCER
GATE OR GENERIC VALVE
3-WAY VALVE
4-WAY VALVE
ANGLE VALVE
BUTTERFLY VALVE
PLUG VALVE
ECCENTRIC PLUG VALVE
BALL VALVE
CHECK VALVE
SWING CHECK VALVE
STOP CHECK VALVE
BALL CHECK VALVE
PINCH VALVE
DIAPHRAGM VALVE
DIAPHRAGM VALVE (ALTERNATE)
GLOBE VALVE
HAND VALVE
KNIFE VALVE
AIR RELEASE VALVE
SP-1 SUBMERSIBLE PUMP

PROCESS LINE SYMBOLS

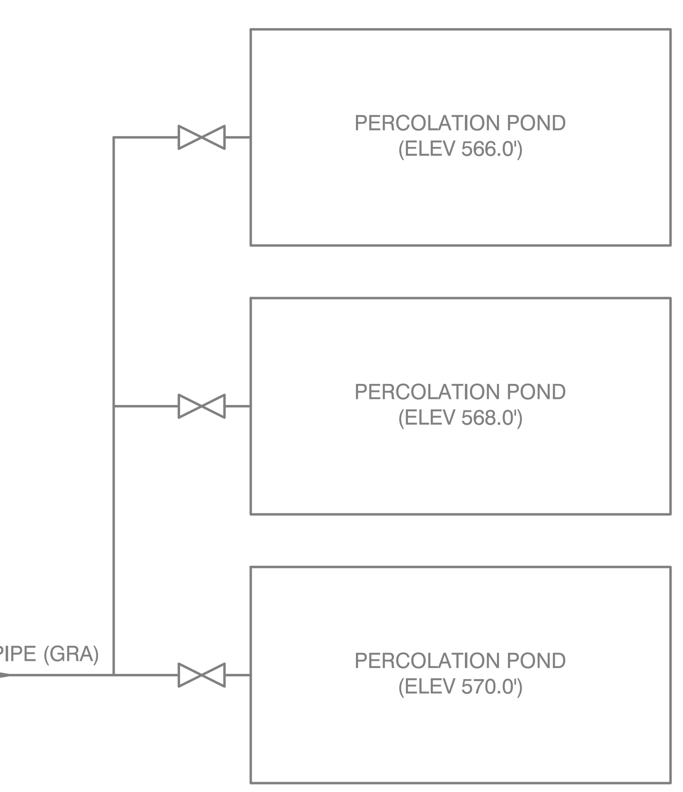
PROCESS PIPING
EXISTING PROCESS PIPING AND EQUIPMENT
FUTURE PIPING AND EQUIPMENT
ELECTRICAL SIGNAL
ELECTRICAL DIRECTION ARROW
FLOW ARROW FOR PROCESS PIPING
P03 /A PROCESS LINE GOING TO ANOTHER SHEET (MATCH LETTERS)
P03 /A PROCESS LINE FROM ANOTHER SHEET (MATCH LETTERS)
PROCESS LINES CROSSING (NOT CONNECTED)

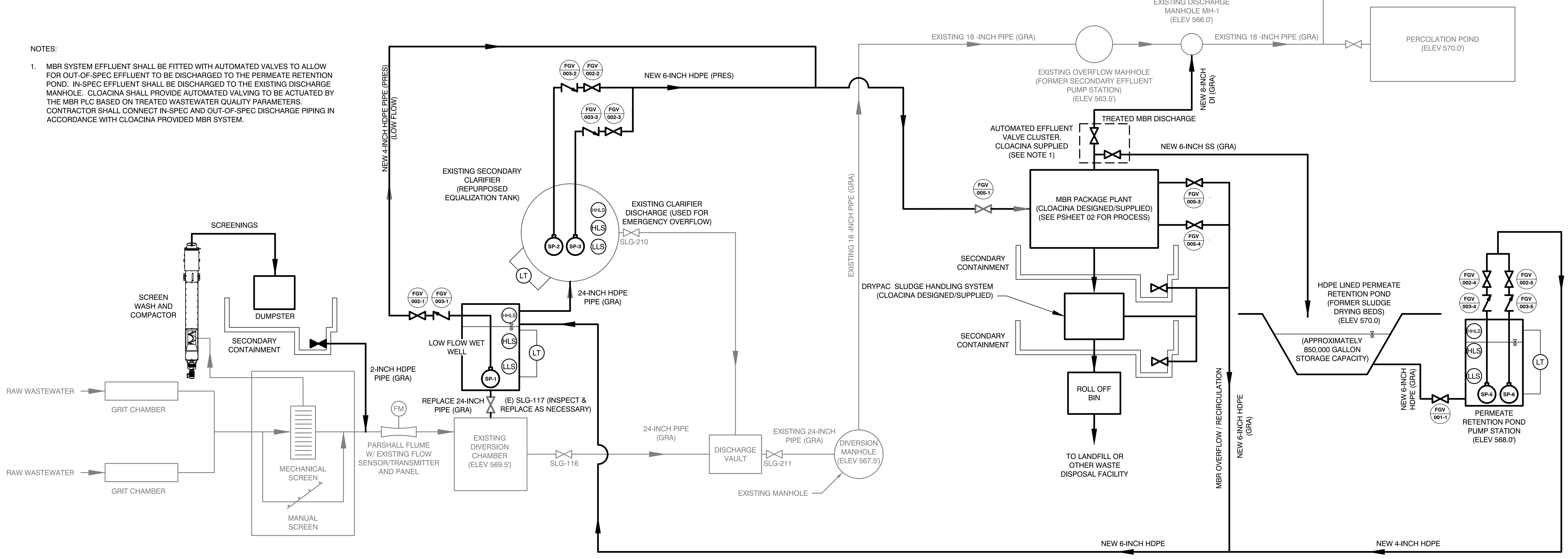
SCHEDULE OF VALVES				
VALVE DESIGNATION	SIZE	TYPE	MATERIAL OF CONSTRUCTION	SERVICE
FGV 001	6-INCH	GATE	DI	BURIED/EXPOSED
FGV 002	4-INCH	GATE	DI	BURIED/EXPOSED
FGV 003	4-INCH	CHECK	DI	BURIED/EXPOSED
FGV 004	8-INCH	GATE	DI	BURIED/EXPOSED
FGV 005	6-INCH	BUTTERFLY	SS	EXPOSED

SCHEDULE OF PUMPS					
PUMP DESIGNATION	FLOWRATE	POWER	DESCRIPTION	TYPE	MANUFACTURER / MODEL OR EQUAL
SP-1	75 GPM	1 HP	LOW-FLOW LIFT STATION	SUBMERSIBLE	GOULDS WS10BF
SP-2	250 GPM	3 HP	EQ LIFT STATION	SUBMERSIBLE	EBARA 100DLMFU63.7
SP-3	250 GPM	3 HP	EQ LIFT STATION	SUBMERSIBLE	EBARA 100DLMFU63.7
SP-5	75 GPM	0.5 HP	PERMEATE RECIRCULATION	SUBMERSIBLE	GOULDS WS05BF
SP-6	75 GPM	0.5 HP	PERMEATE RECIRCULATION	SUBMERSIBLE	GOULDS WS05BF

NOTES:

1. MBR SYSTEM EFFLUENT SHALL BE FITTED WITH AUTOMATED VALVES TO ALLOW FOR OUT-OF-SPEC EFFLUENT TO BE DISCHARGED TO THE PERMEATE RETENTION POND. IN-SPEC EFFLUENT SHALL BE DISCHARGED TO THE EXISTING DISCHARGE MANHOLE. CLOACINA SHALL PROVIDE AUTOMATED VALVING TO BE ACTUATED BY THE MBR PLC BASED ON TREATED WASTEWATER QUALITY PARAMETERS. CONTRACTOR SHALL CONNECT IN-SPEC AND OUT-OF-SPEC DISCHARGE PIPING IN ACCORDANCE WITH CLOACINA PROVIDED MBR SYSTEM.





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DESIGNER: TMH
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WWTP SITE PROCESS FLOW DIAGRAM

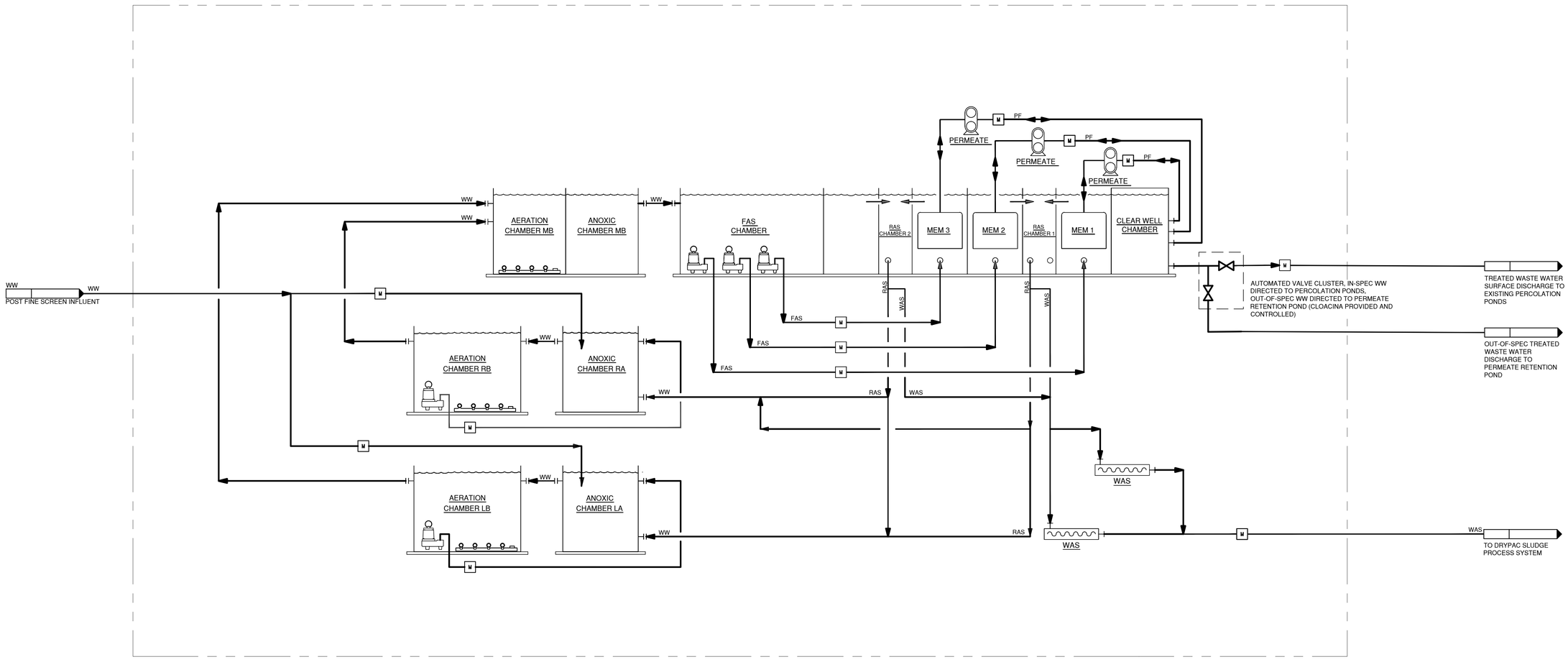
WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME: P01 - P&ID.DWG

SHEET No. P01
SHEET 6 OF 42
REVISION 0

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CLOACINA MEMPAC-M6 MBR



REFERENCE: MBR PROCESS FLOW DIAGRAM PROVIDED BY CLOACINA DRAWING, STANDARD MEMPAC-M6 BARDENPHO WASTE WATER TREATMENT PLANT, SHEET NUMBER P-001, REVISION A

C:\WORK\DRAFTING\CRWWTP\P01 - P&ID.DWG

CLOACINA

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CAL GUARD — CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	90% DESIGN SUBMITTAL	TMH	TMH
D	08/08/25	REVISED 90% DESIGN SUBMITTAL	TMH	TMH
C	12/04/24	60% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

SCALE:
AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — TIMOTHY M. HUNT — C 68637 — STATE OF CALIFORNIA

DESIGNER:	TMH
DRAWN BY:	TMH
CHECKED BY:	PM
APPROVED BY:	TMH
DATE:	03/31/2026

MBR PROCESS FLOW DIAGRAM

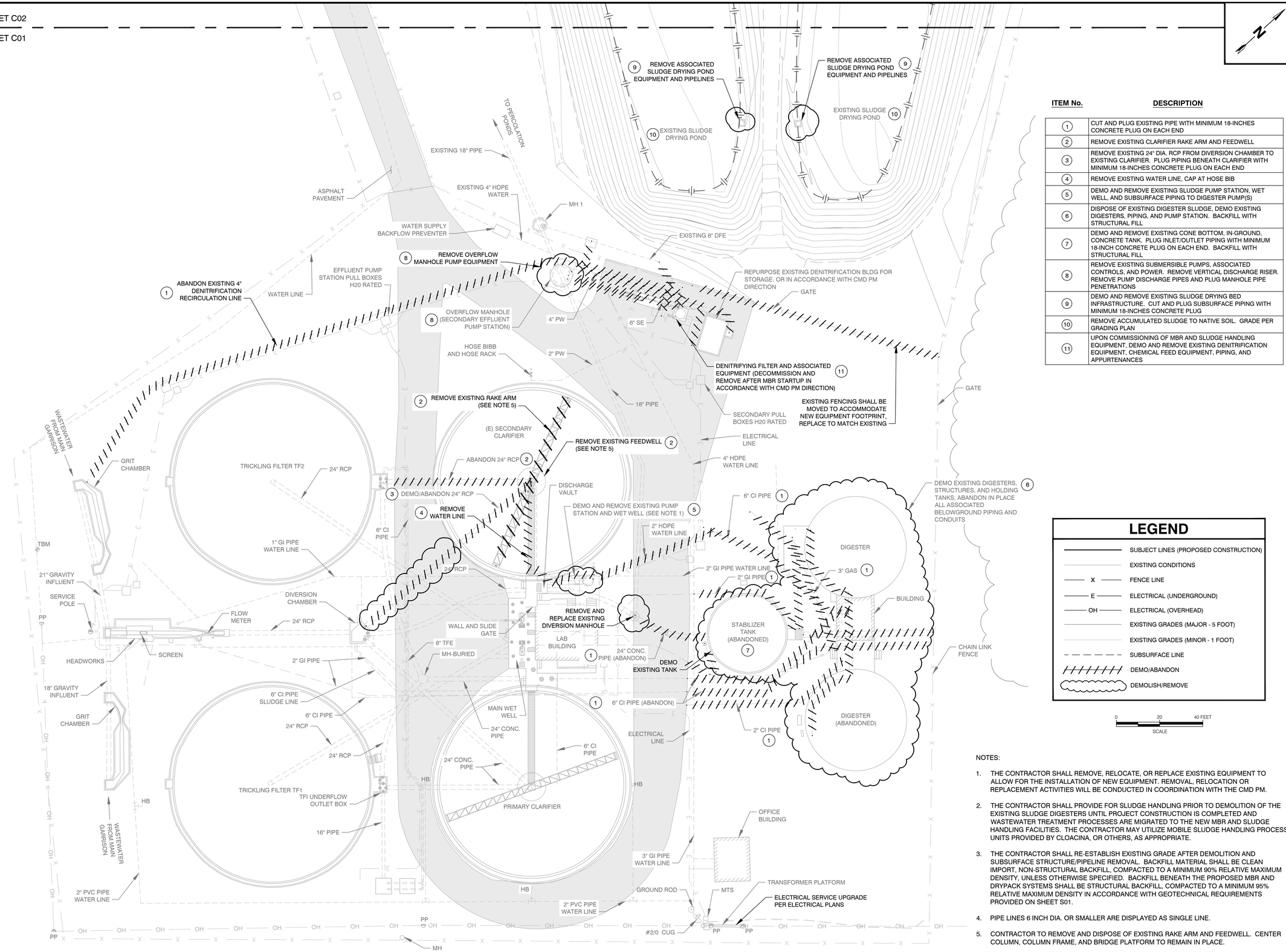
WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME: P01 - P&ID.DWG

SHEET No. **P02**
SHEET 7 OF 42
REVISION **0**

SHEET C02

SHEET C01



ITEM No.	DESCRIPTION
1	CUT AND PLUG EXISTING PIPE WITH MINIMUM 18-INCHES CONCRETE PLUG ON EACH END
2	REMOVE EXISTING CLARIFIER RAKE ARM AND FEEDWELL
3	REMOVE EXISTING 24" DIA. RCP FROM DIVERSION CHAMBER TO EXISTING CLARIFIER. PLUG PIPING BENEATH CLARIFIER WITH MINIMUM 18-INCHES CONCRETE PLUG ON EACH END
4	REMOVE EXISTING WATER LINE, CAP AT HOSE BIB
5	DEMO AND REMOVE EXISTING SLUDGE PUMP STATION, WET WELL, AND SUBSURFACE PIPING TO DIGESTER PUMP(S)
6	DISPOSE OF EXISTING DIGESTER SLUDGE, DEMO EXISTING DIGESTERS, PIPING, AND PUMP STATION. BACKFILL WITH STRUCTURAL FILL
7	DEMO AND REMOVE EXISTING CONE BOTTOM, IN-GROUND, CONCRETE TANK. PLUG INLET/OUTLET PIPING WITH MINIMUM 18-INCH CONCRETE PLUG ON EACH END. BACKFILL WITH STRUCTURAL FILL
8	REMOVE EXISTING SUBMERSIBLE PUMPS, ASSOCIATED CONTROLS, AND POWER. REMOVE VERTICAL DISCHARGE RISER. REMOVE PUMP DISCHARGE PIPES AND PLUG MANHOLE PIPE PENETRATIONS
9	DEMO AND REMOVE EXISTING SLUDGE DRYING BED INFRASTRUCTURE. CUT AND PLUG SUBSURFACE PIPING WITH MINIMUM 18-INCHES CONCRETE PLUG
10	REMOVE ACCUMULATED SLUDGE TO NATIVE SOIL. GRADE PER GRADING PLAN
11	UPON COMMISSIONING OF MBR AND SLUDGE HANDLING EQUIPMENT, DEMO AND REMOVE EXISTING DENITRIFICATION EQUIPMENT, CHEMICAL FEED EQUIPMENT, PIPING, AND APPURTENANCES

LEGEND

- SUBJECT LINES (PROPOSED CONSTRUCTION)
- EXISTING CONDITIONS
- X — FENCE LINE
- E — ELECTRICAL (UNDERGROUND)
- OH — ELECTRICAL (OVERHEAD)
- EXISTING GRADES (MAJOR - 5 FOOT)
- EXISTING GRADES (MINOR - 1 FOOT)
- SUBSURFACE LINE
- DEMO/ABANDON
- DEMOLISH/REMOVE

NOTES:

1. THE CONTRACTOR SHALL REMOVE, RELOCATE, OR REPLACE EXISTING EQUIPMENT TO ALLOW FOR THE INSTALLATION OF NEW EQUIPMENT. REMOVAL, RELOCATION OR REPLACEMENT ACTIVITIES WILL BE CONDUCTED IN COORDINATION WITH THE CMD PM.
2. THE CONTRACTOR SHALL PROVIDE FOR SLUDGE HANDLING PRIOR TO DEMOLITION OF THE EXISTING SLUDGE DIGESTERS UNTIL PROJECT CONSTRUCTION IS COMPLETED AND WASTEWATER TREATMENT PROCESSES ARE MIGRATED TO THE NEW MBR AND SLUDGE HANDLING FACILITIES. THE CONTRACTOR MAY UTILIZE MOBILE SLUDGE HANDLING PROCESS UNITS PROVIDED BY CLOACINA, OR OTHERS, AS APPROPRIATE.
3. THE CONTRACTOR SHALL RE-ESTABLISH EXISTING GRADE AFTER DEMOLITION AND SUBSURFACE STRUCTURE/PIPELINE REMOVAL. BACKFILL MATERIAL SHALL BE CLEAN IMPORT, NON-STRUCTURAL BACKFILL, COMPACTED TO A MINIMUM 90% RELATIVE MAXIMUM DENSITY, UNLESS OTHERWISE SPECIFIED. BACKFILL BENEATH THE PROPOSED MBR AND DRYPACK SYSTEMS SHALL BE STRUCTURAL BACKFILL, COMPACTED TO A MINIMUM 95% RELATIVE MAXIMUM DENSITY IN ACCORDANCE WITH GEOTECHNICAL REQUIREMENTS PROVIDED ON SHEET S01.
4. PIPE LINES 6 INCH DIA. OR SMALLER ARE DISPLAYED AS SINGLE LINE.
5. CONTRACTOR TO REMOVE AND DISPOSE OF EXISTING RAKE ARM AND FEEDWELL. CENTER COLUMN, COLUMN FRAME, AND BRIDGE PLATFORM TO REMAIN IN PLACE.

C:\WORK\DRAFTING\GRWWTP\C01 - EXISTING SITE PLAN AND DEMO.DWG

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CAL GUARD CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

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A	02/28/18	35% DESIGN	BB	JP

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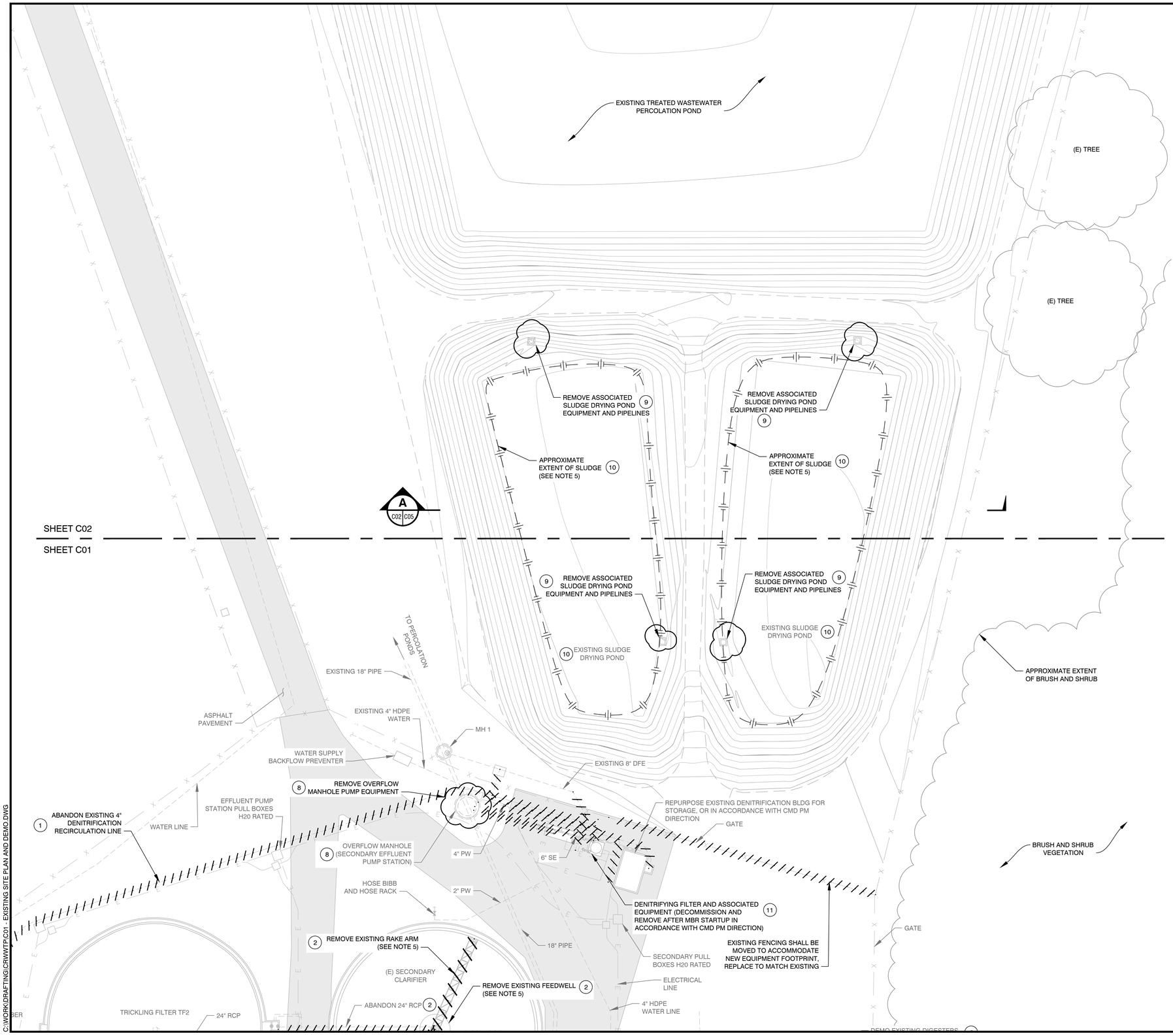
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CHECKED BY: PM
APPROVED BY: TMH
DATE: 03/31/2026

EXISTING SITE AND DEMOLITION PLAN (1 OF 2)

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No.: 5880-300-01-67
FILE NAME: C01 - EXISTING SITE PLAN AND DEMO.DWG

SHEET No. C01
SHEET 8 OF 42
REVISION 0



ITEM No.	DESCRIPTION
1	CUT AND PLUG EXISTING PIPE WITH MINIMUM 18-INCHES CONCRETE PLUG ON EACH END
2	REMOVE EXISTING CLARIFIER RAKE ARM AND FEEDWELL
8	REMOVE EXISTING SUBMERSIBLE PUMPS, ASSOCIATED CONTROLS, AND POWER. REMOVE VERTICAL DISCHARGE RISER. REMOVE PUMP DISCHARGE PIPES AND PLUG MANHOLE PIPE PENETRATIONS
9	DEMO AND REMOVE EXISTING SLUDGE DRYING BED INFRASTRUCTURE. CUT AND PLUG SUBSURFACE PIPING WITH MINIMUM 18-INCHES CONCRETE PLUG
10	REMOVE ACCUMULATED SLUDGE TO NATIVE SOIL. GRADE PER PLAN
11	UPON COMMISSIONING OF MBR AND SLUDGE HANDLING EQUIPMENT, DEMO AND REMOVE EXISTING DENITRIFICATION EQUIPMENT, CHEMICAL FEED EQUIPMENT, PIPING, AND APPURTENANCES

LEGEND

- SUBJECT LINES (PROPOSED CONSTRUCTION)
- EXISTING CONDITIONS
- X — FENCE LINE
- E — ELECTRICAL (UNDERGROUND)
- OH — ELECTRICAL (OVERHEAD)
- EXISTING GRADES (MAJOR - 5 FOOT)
- EXISTING GRADES (MINOR - 1 FOOT)
- SUBSURFACE LINE
- DEMO/ABANDON
- DEMOLISH/REMOVE

0 20 40 FEET
SCALE

NOTES:

1. THE CONTRACTOR SHALL REMOVE, RELOCATE, OR REPLACE EXISTING EQUIPMENT TO ALLOW FOR THE INSTALLATION OF NEW EQUIPMENT. REMOVAL, RELOCATION OR REPLACEMENT ACTIVITIES WILL BE CONDUCTED IN COORDINATION WITH THE CMD PM.
2. THE CONTRACTOR SHALL PROVIDE FOR SLUDGE HANDLING AFTER THE EXISTING SLUDGE DIGESTERS HAVE BEEN DEMOLISHED AND REMOVED UNTIL PROJECT CONSTRUCTION IS COMPLETED AND WASTEWATER TREATMENT PROCESSES ARE MIGRATED TO THE NEW MBR AND SLUDGE HANDLING FACILITIES. THE CONTRACTOR MAY UTILIZE MOBILE SLUDGE HANDLING PROCESS UNITS PROVIDED BY CLOACINA, OR OTHERS, AS APPROPRIATE.
3. THE CONTRACTOR SHALL RE-ESTABLISH EXISTING GRADE AFTER DEMOLITION AND SUBSURFACE STRUCTURE/PIPELINE REMOVAL. BACKFILL MATERIAL SHALL BE CLEAN IMPORT, NON-STRUCTURAL BACKFILL, COMPACTED TO A MINIMUM 90% RELATIVE MAXIMUM DENSITY, UNLESS OTHERWISE SPECIFIED.
4. PIPE LINES 6 INCH DIA. OR SMALLER ARE DISPLAYED AS SINGLE LINE.
5. CONTRACTOR SHALL FIELD VERIFY EXTENT AND DEPTH OF EXISTING SLUDGE TO BE REMOVED AND DISPOSED.

C:\WORK\DRAFTING\CRWWTP\C01 - EXISTING SITE PLAN AND DEMO.DWG

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CAL GUARD CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

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A	02/28/18	30% DESIGN	BB	APPD

REVISION SUMMARY

SCALE: AS NOTED
B4R SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER TIMOTHY M. HUNT C 68637 STATE OF CALIFORNIA

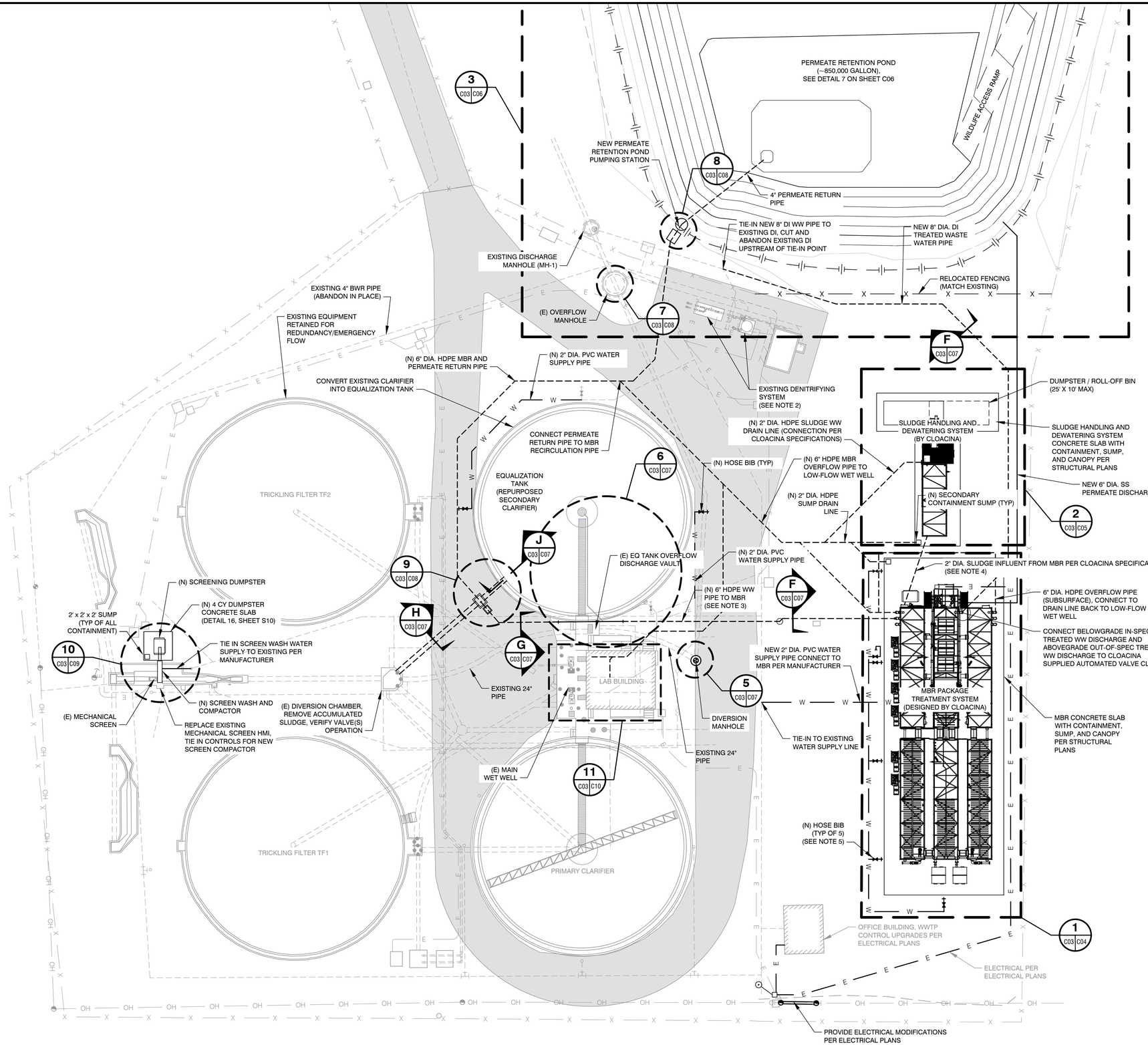
DESIGNED: TMH
DRAWN BY: TMH
CHECKED BY: PM
APPROVED BY: TMH
DATE: 03/31/2026

EXISTING SITE AND DEMOLITION PLAN (2 OF 2)

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

FILE NAME: C01 - EXISTING SITE PLAN AND DEMO.DWG
PROJECT No. 5890-300-01-67

SHEET No. C02
SHEET 9 OF 40
REVISION 0



LEGEND

- SUBJECT LINES (PROPOSED CONSTRUCTION)
- EXISTING CONDITIONS
- X — FENCE LINE
- E — ELECTRICAL (UNDERGROUND)
- OH — ELECTRICAL (OVERHEAD)
- W — WATER
- SUBSURFACE LINE
- PROPOSED GRADES (MAJOR - 5 FOOT)
- PROPOSED GRADES (MINOR - 1 FOOT)
- LIMIT OF GRADING

0 20 40 FEET
SCALE

NOTES:

1. PIPELINES 6-INCH DIA. OR SMALLER ARE DISPLAYED AS SINGLE LINE.
2. EXISTING DENITRIFICATION FILTER SYSTEM SHALL REMAIN OPERATIONAL DURING CONSTRUCTION OF THE MBR AND ASSOCIATED INFRASTRUCTURE. UPON MBR COMMISSIONING, CONTRACTOR SHALL DECOMMISSION, DEMO, AND REMOVE ALL DENITRIFICATION EQUIPMENT, CHEMICAL FEED SYSTEMS, PIPING, AND ASSOCIATED INFRASTRUCTURE.
3. ALL HDPE PIPING DOWNSTREAM OF THE LOW-FLOW PUMP STATION SHALL BE MECHANICALLY RESTRAINED.
4. SLUDGE PIPING SHALL CONSIST OF LONG SWEEPING BENDS AND ELBOWS.
5. LOCATE HOSE BIBS AND EYE WASH STATIONS AT CANOPY VERTICAL SUPPORT BEAMS SO AS TO NOT INTERFERE WITH ACCESS TO MBR COMPONENTS.
6. HARDSCAPE IMPROVEMENTS PER SHEET C11 - HARDSCAPE PLAN.

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

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A	02/28/18	30% DESIGN	BB	JP

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
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REGISTERED PROFESSIONAL ENGINEER
TIMOTHY M. HUNT
C 69637
CIVIL
STATE OF CALIFORNIA

DESIGNER: TMH
DRAWN BY: TMH
CHECKED BY: PM
APPROVED BY: TMH
DATE: 03/31/2026

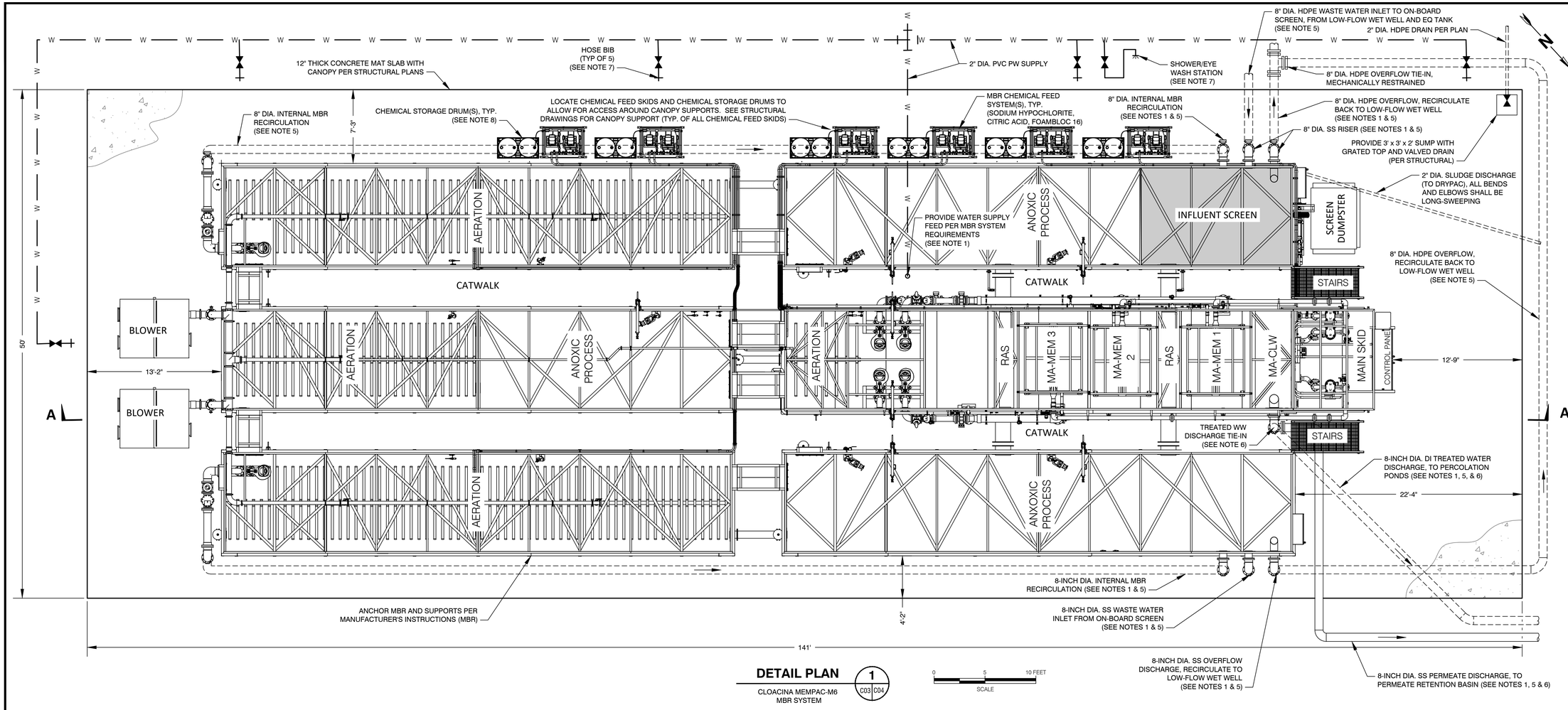
SITE PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-47
FILE NAME: C02 - SITEPLAN.DWG

SHEET No. C03
SHEET 10 OF 42
REVISION 0

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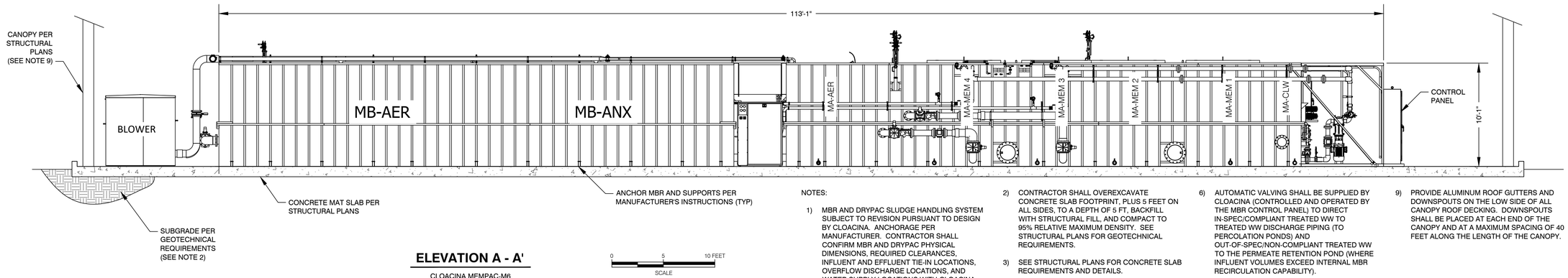


DETAIL PLAN

CLOACINA MEMPAC-M6 MBR SYSTEM

1 (C03 | C04)

0 5 10 FEET
SCALE



ELEVATION A - A'

CLOACINA MEMPAC-M6 MBR SYSTEM

0 5 10 FEET
SCALE

NOTES:

1) MBR AND DRYPAC SLUDGE HANDLING SYSTEM SUBJECT TO REVISION PURSUANT TO DESIGN BY CLOACINA. ANCHORAGE PER MANUFACTURER. CONTRACTOR SHALL CONFIRM MBR AND DRYPAC PHYSICAL DIMENSIONS, REQUIRED CLEARANCES, INFLUENT AND EFFLUENT TIE-IN LOCATIONS, OVERFLOW DISCHARGE LOCATIONS, AND WATER SUPPLY LOCATIONS WITH CLOACINA PRIOR TO SLAB AND CANOPY CONSTRUCTION. CONTRACTOR SHALL BRING ANY DIMENSION DISCREPANCIES OR CONFLICTS TO THE ATTENTION OF THE CMD PM AND ENGINEER.
2) CONTRACTOR SHALL OVEREXCAVATE CONCRETE SLAB FOOTPRINT, PLUS 5 FEET ON ALL SIDES, TO A DEPTH OF 5 FT, BACKFILL WITH STRUCTURAL FILL, AND COMPACT TO 95% RELATIVE MAXIMUM DENSITY. SEE STRUCTURAL PLANS FOR GEOTECHNICAL REQUIREMENTS.
3) SEE STRUCTURAL PLANS FOR CONCRETE SLAB REQUIREMENTS AND DETAILS.
4) SEE ELECTRICAL PLANS FOR CONDUIT SCHEMATICS.
5) PROVIDE HDPE OR DI TO SS RESTRAINT FLANGE ADAPTER WHERE APPLICABLE.
6) AUTOMATIC VALVING SHALL BE SUPPLIED BY CLOACINA (CONTROLLED AND OPERATED BY THE MBR CONTROL PANEL) TO DIRECT IN-SPEC/COMPLIANT TREATED WW TO TREATED WW DISCHARGE PIPING (TO PERCOLATION PONDS) AND OUT-OF-SPEC/NON-COMPLIANT TREATED WW TO THE PERMEATE RETENTION POND (WHERE INFLUENT VOLUMES EXCEED INTERNAL MBR RECIRCULATION CAPABILITY).
7) LOCATE HOSE BIBS AND EYE WASH STATIONS AT CANOPY VERTICAL BEAM LOCATIONS.
8) PROVIDE SECONDARY CONTAINMENT FOR ALL CHEMICAL FEED STORAGE DRUMS.
9) PROVIDE ALUMINUM ROOF GUTTERS AND DOWNSPOUTS ON THE LOW SIDE OF ALL CANOPY ROOF DECKING. DOWNSPOUTS SHALL BE PLACED AT EACH END OF THE CANOPY AND AT A MAXIMUM SPACING OF 40 FEET ALONG THE LENGTH OF THE CANOPY.

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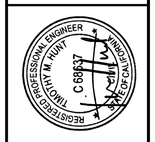
PREPARED BY:
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR:
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA CONSTRUCTION MANAGEMENT AGENCY
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

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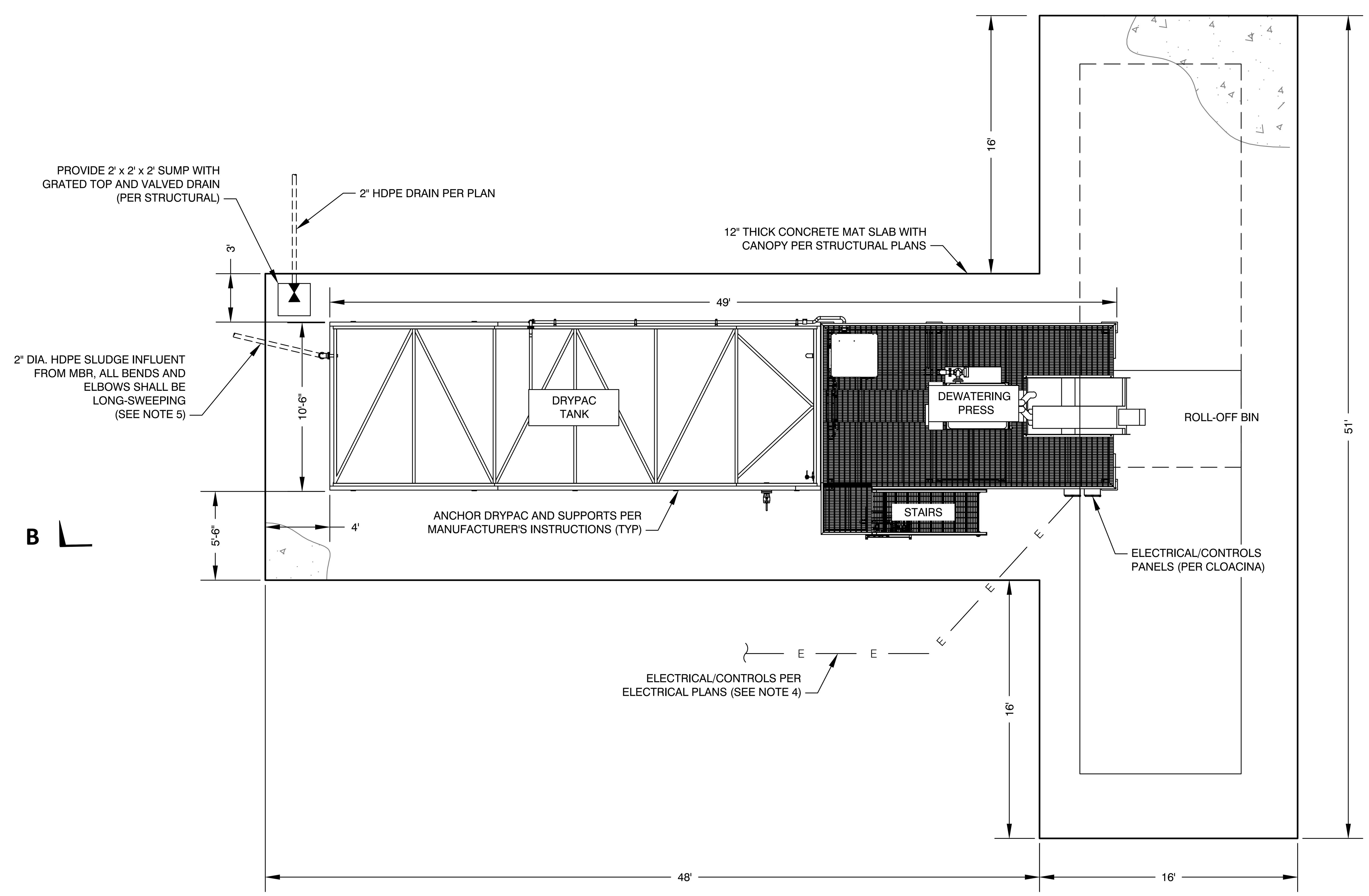
DESIGNED:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
TMH	TMH	PM	TMH	03/31/2026

MEMBRANE BIOREACTOR (MBR) PLAN AND PROFILE

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No: 5880-300-01-67
FILE NAME: c - mbr.dwg

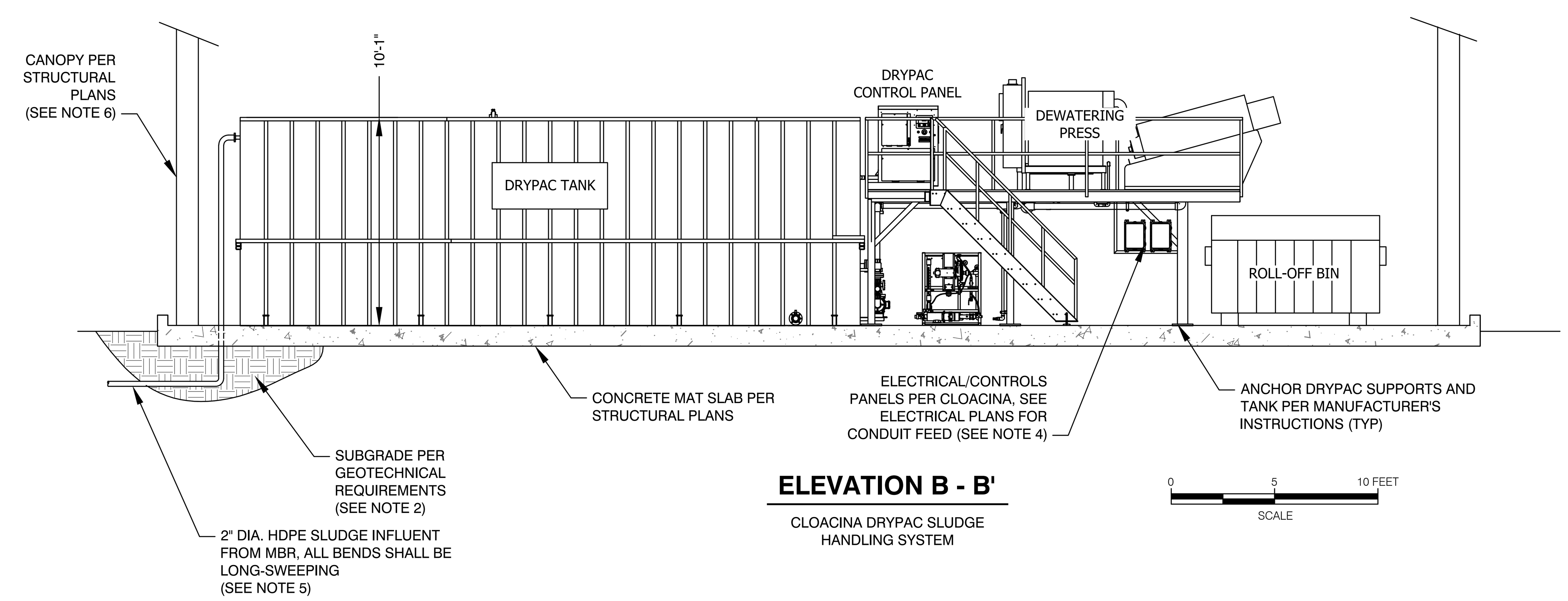
SHEET No. C04
SHEET 11 OF 42
REVISION 0



DETAIL PLAN 2 C03 C05

CLOACINA DRYPAC SLUDGE HANDLING SYSTEM

0 5 10 FEET
SCALE



ELEVATION B - B'

CLOACINA DRYPAC SLUDGE HANDLING SYSTEM

0 5 10 FEET
SCALE

NOTES:

1) MBR AND DRYPAC SLUDGE HANDLING SYSTEM SUBJECT TO REVISION PURSUANT TO DESIGN BY CLOACINA. ANCHORAGE PER MANUFACTURER. CONTRACTOR SHALL CONFIRM MBR AND DRYPAC PHYSICAL DIMENSIONS, REQUIRED CLEARANCES, INFLUENT AND EFFLUENT TIE-IN LOCATIONS, OVERFLOW DISCHARGE LOCATIONS, AND WATER SUPPLY LOCATIONS WITH CLOACINA PRIOR TO SLAB AND CANOPY CONSTRUCTION. CONTRACTOR SHALL BRING ANY DIMENSION DISCREPANCIES OR CONFLICTS TO THE ATTENTION OF THE CMD PM AND ENGINEER.

2) CONTRACTOR SHALL OVEREXCAVATE CONCRETE SLAB FOOTPRINT, PLUS 5 FEET ON ALL SIDES, TO A DEPTH OF 5 FT, BACKFILL WITH STRUCTURAL FILL, AND COMPACT TO 95% RELATIVE MAXIMUM DENSITY. SEE STRUCTURAL PLANS FOR GEOTECHNICAL REQUIREMENTS.

3) SEE STRUCTURAL PLANS FOR CONCRETE SLAB REQUIREMENTS AND DETAILS.

4) SEE ELECTRICAL PLANS FOR CONDUIT SCHEMATICS.

5) PROVIDE HDPE TO SS RESTRAINT FLANGE ADAPTER WHERE APPLICABLE.

6) PROVIDE ALUMINUM ROOF GUTTERS AND DOWNSPOUTS ON THE LOW SIDE OF ALL CANOPY ROOF DECKING. DOWNSPOUTS SHALL BE PLACED AT EACH END OF THE CANOPY AND AT A MAXIMUM SPACING OF 40 FEET ALONG THE LENGTH OF THE CANOPY.

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CAL GUARD CALIFORNIA MILITARY DEPARTMENT EST. 1850
CALIFORNIA MILITARY DEPARTMENT
10601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

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REGISTERED PROFESSIONAL ENGINEER TIMOTHY M. HUNT C 68637 STATE OF CALIFORNIA

DESIGNER: TMH
DRAWN BY: TMH
CHECKED BY: PM
APPROVED BY: TMH
DATE: 03/31/2026

DRYPAC PLAN AND PROFILE

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

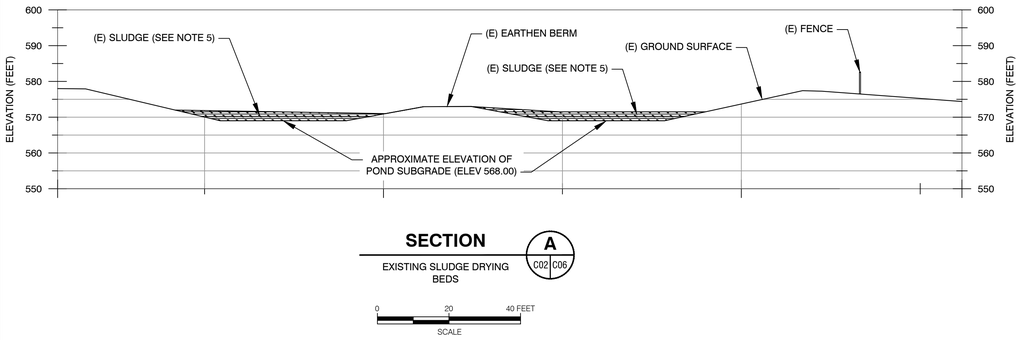
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SHEET No. **C05**

SHEET 12 OF 42

REVISION **0**

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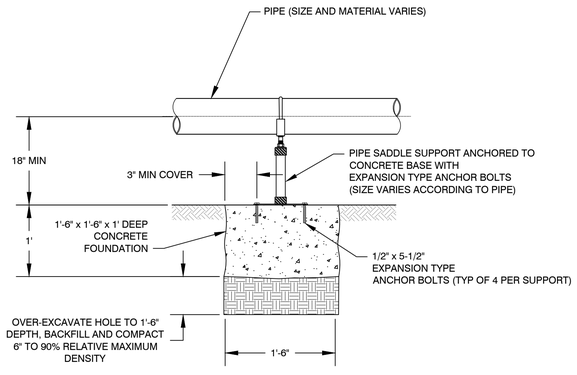


SECTION A — C02 | C06

EXISTING SLUDGE DRYING BEDS

0 20 40 FEET
SCALE

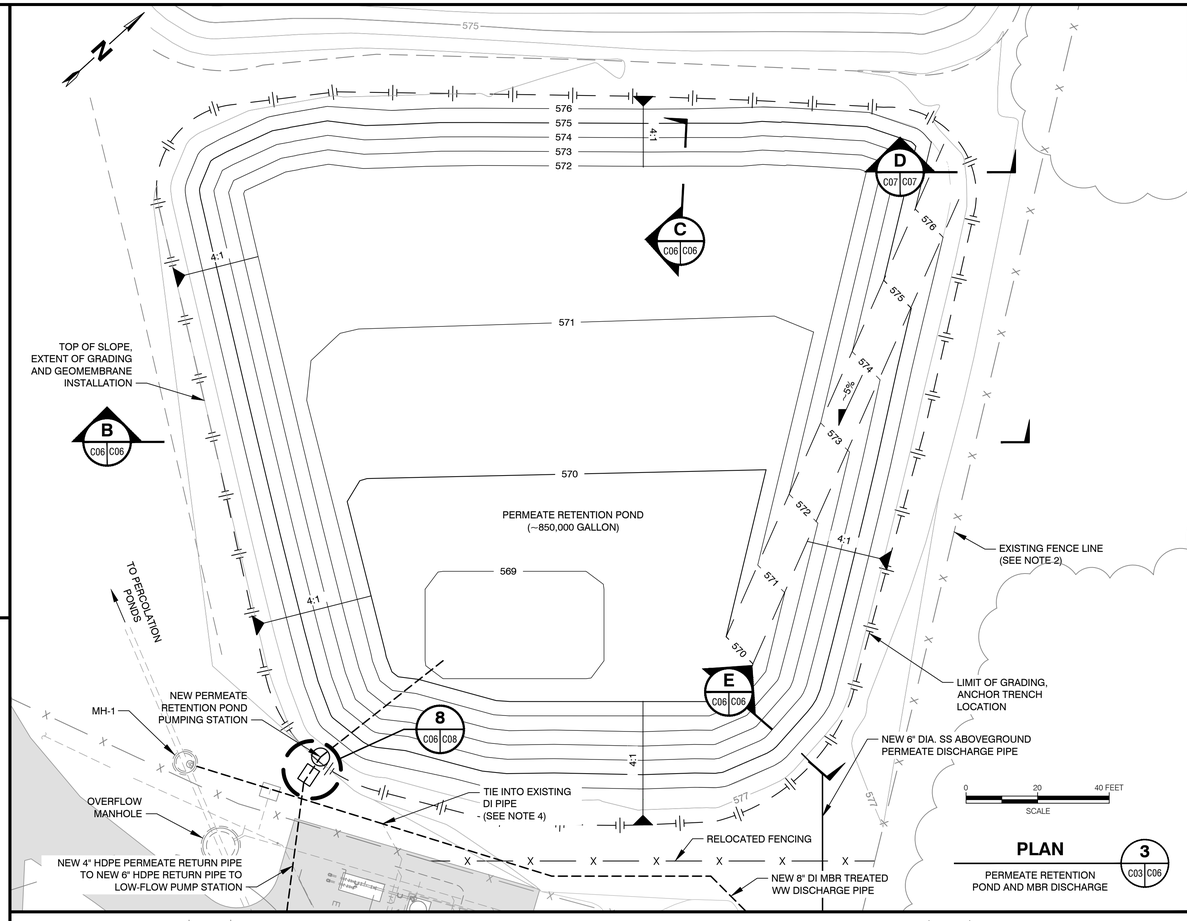
REFERENCE: EXISTING ELEVATIONS AND TOPOGRAPHIC CONTOURS ARE APPROXIMATE AND ARE BASED ON TOPOGRAPHIC INFORMATION PROVIDED BY ANDREGG GEOMATICS, DATED FEBRUARY 13, 2013. CONTRACTOR SHALL FIELD VERIFY ELEVATIONS.



DETAIL 4 — C06 | C06

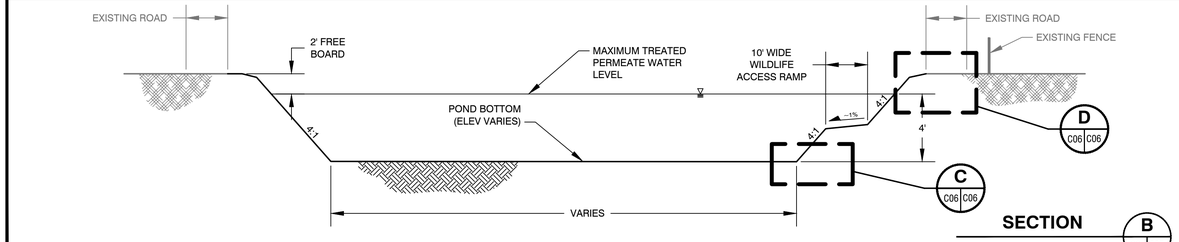
TYPICAL ABOVEGROUND PIPE SUPPORT

0 1 2 FEET
SCALE



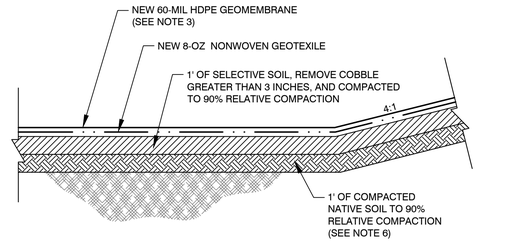
PLAN 3 — C03 | C06

PERMEATE RETENTION POND AND MBR DISCHARGE



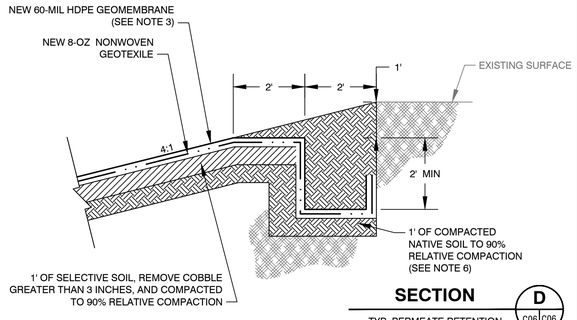
SECTION B — C05 | C05

TYP. PERMEATE RETENTION POND CROSS SECTION (NTS)



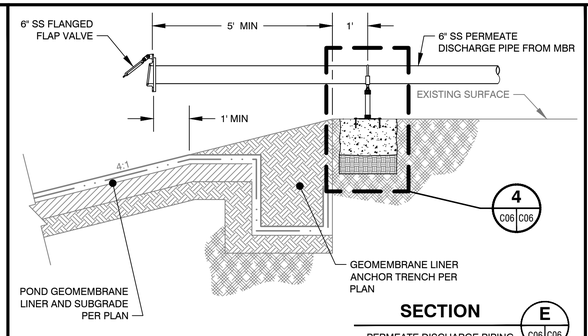
SECTION C — C06 | C06

TYP. PERMEATE RETETION POND LINER CROSS SECTION (NTS)



SECTION D — C06 | C06

TYP. PERMEATE RETENTION POND ANCHOR TRENCH (NTS)



SECTION E — C06 | C06

PERMEATE DISCHARGE PIPING (NTS)

NOTES:

1. PIPE LINES 6 INCH DIA. OR SMALLER ARE DISPLAYED AS SINGLE LINE.
2. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO WITHIN THE EXISTING FENCE LINE OF THE WASTEWATER TREATMENT PLANT AND ASSOCIATED DRYING BEDS AND PERCOLATION PONDS. ALL VEGETATION AND SITE IMPROVEMENTS OUTSIDE OF THE EXISTING FENCE LINE SHALL BE PROTECTED IN PLACE.
3. HDPE GEOMEMBRANE LINER SHALL BE 60-MIL (1.5 mm) THICKNESS AND SHALL BE TEXTURED (BOTH SIDES) WITH A MINIMUM TEAR RESISTANCE OF 42 LBS AND A PUNCTURE RESISTANCE OF 90 LBS. HDPE GEOMEMBRANE LINER SHALL BE ANCHORED AT THE PERIMETER WITHIN AN ANCHOR TRENCH AS SHOWN OR AS REQUIRED BY THE MANUFACTURER AND SHALL BE ANCHORED USING SANDBAGS OR OTHER APPROVED WEIGHT DEVICES TO PREVENT THE LINER FROM LIFTING FROM THE POND SURFACE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
4. ALL BELOW GROUND DI PIPE SHALL BE POLYETHYLENE ENCASED WITH TAPED ENDS.
5. CONTRACTOR SHALL FIELD VERIFY THICKNESS OF SLUDGE AT TIME AND BIDDING AND CONSTRUCTION. CONTRACTOR SHALL REMOVE ACCUMULATED SLUDGE UNTIL NATIVE SUBGRADE IS ESTABLISHED AND DISPOSE OF AS DIRECTED BY THE COR.
6. UPON COMPLETION OF SLUDGE REMOVAL AND GRADING FOR THE PERMEATE RETENTION POND, CONTRACTOR SHALL SCARIFY SUBGRADE TO A DEPTH OF 1' AND COMPACT TO 90% RELATIVE MAXIMUM DENSITY. COMPACTION INSPECTIONS SHALL BE IN ACCORDANCE WITH GEOTECHNICAL REQUIREMENTS SHOWN ON SHEET S01.

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
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PREPARED FOR
CAL GUARD — CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	06/06/25	REVISED 90% DESIGN SUBMITTAL	TMH	TMH
C	12/04/24	90% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — TIMOTHY M. HUNTER — C 68637 — CIVIL — STATE OF CALIFORNIA

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DRAWN BY:	TMH
CHECKED BY:	PM
APPROVED BY:	TMH
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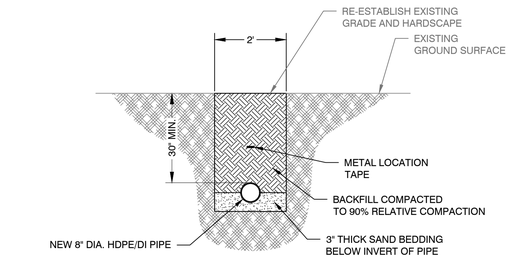
PERMEATE RETENTION POND PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME: C:\HOLDING POND.DWG

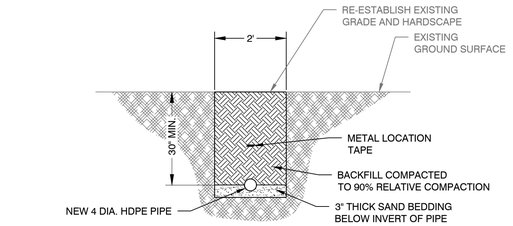
SHEET No. C06
SHEET 13 OF 42
REVISION 0

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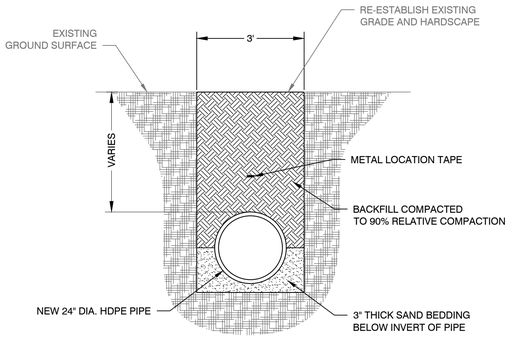
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SECTION F
TYPICAL TRENCH CROSS-SECTION
C03 | C07



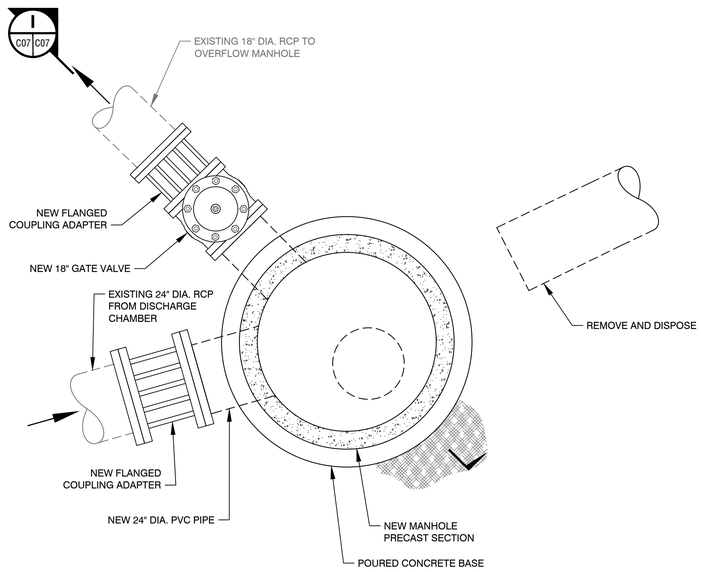
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SECTION G
TYPICAL TRENCH CROSS-SECTION
C03 | C07



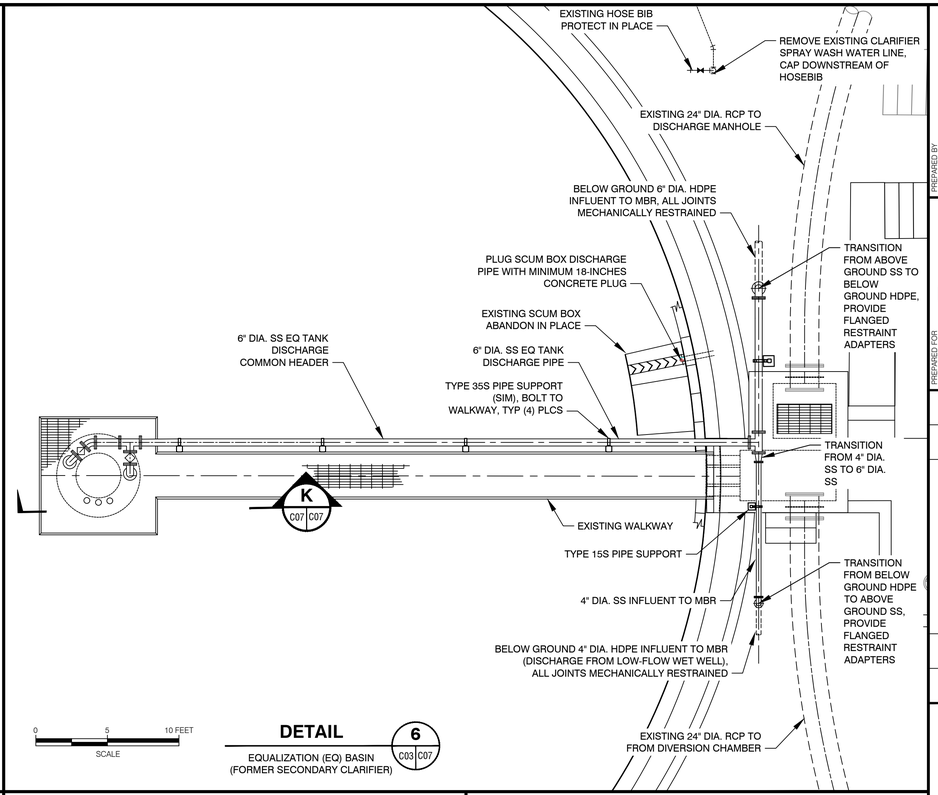
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SECTION H
TYPICAL TRENCH CROSS-SECTION
C03 | C07



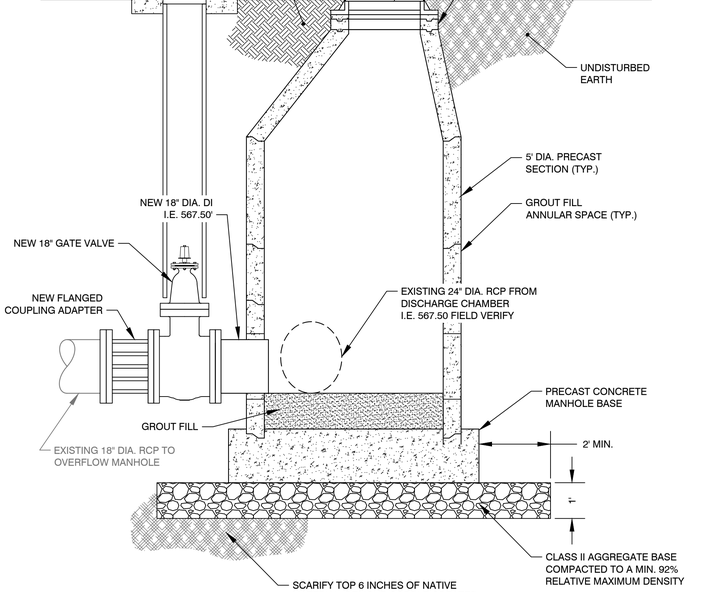
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DETAIL 5
DIVERSION MANHOLE
C03 | C07



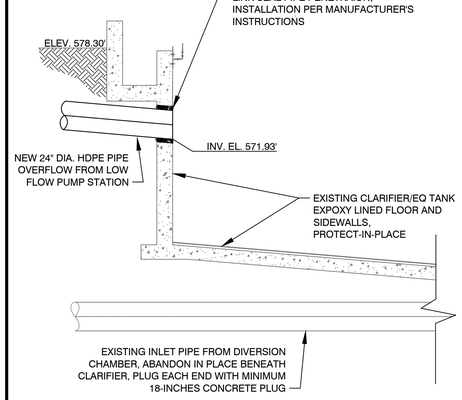
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DETAIL 6
EQUALIZATION (EQ) BASIN (FORMER SECONDARY CLARIFIER)
C03 | C07



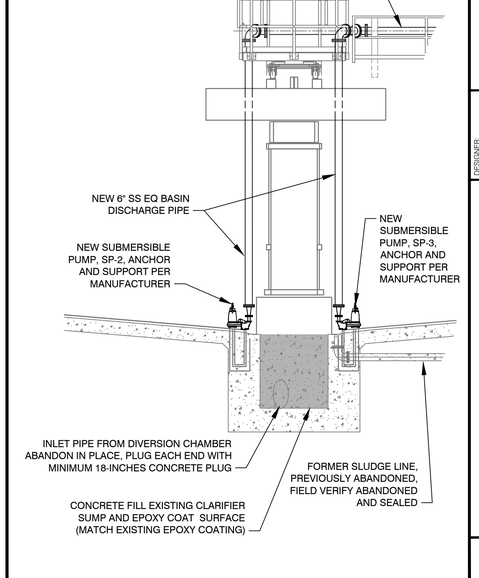
0 2 4 FEET
SCALE

SECTION I
DIVERSION MANHOLE
C07 | C07



0 5 10 FEET
SCALE

SECTION J
EQUALIZATION (EQ) BASIN (FORMER SECONDARY CLARIFIER)
C03 | C07



0 5 10 FEET
SCALE

SECTION K
EQUALIZATION (EQ) BASIN PUMPS (FORMER SECONDARY CLARIFIER)
C07 | C07

C:\WORK\DRAFTING\CRWWTP\C - DETAILS.DWG

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PREPARED FOR:
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
1060 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

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REGISTERED PROFESSIONAL ENGINEER TIMOTHY M. HUNT C 68637 CIVIL STATE OF CALIFORNIA

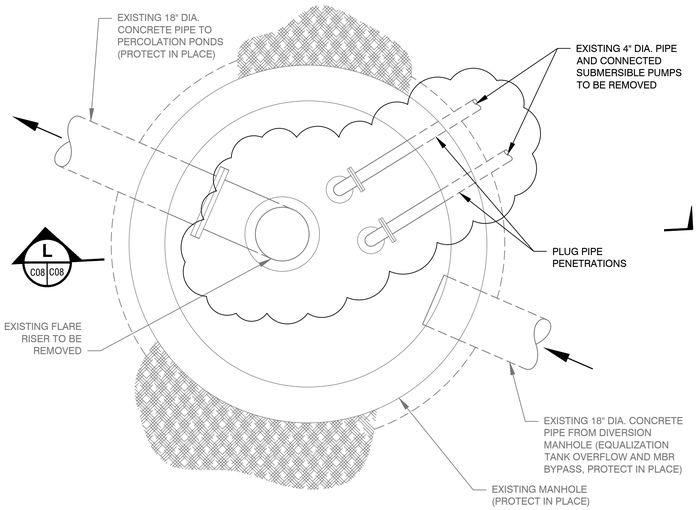
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APPROVED BY:	TMH
DATE:	03/31/2026

DETAILS AND SECTIONS (1 OF 4)

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

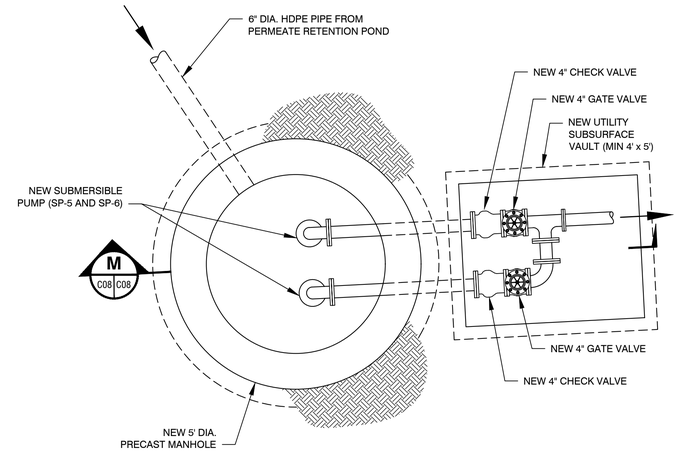
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PROJECT No. 5890-300-01-67

SHEET No. C07
SHEET 14 OF 42
REVISION 0



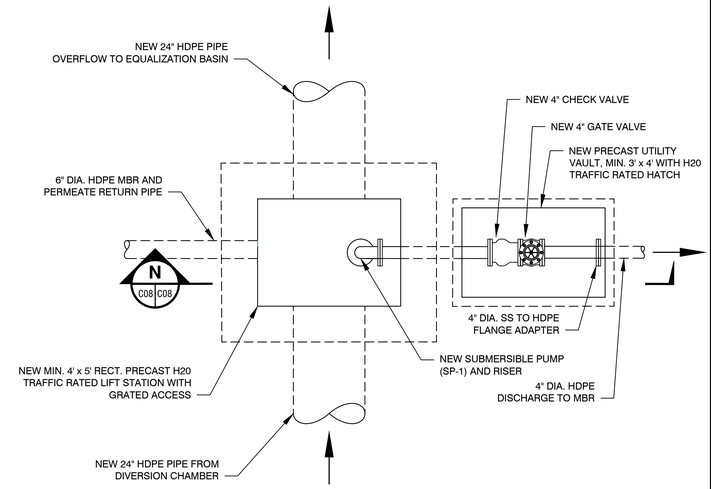
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DETAIL 7 C03 C08
EXISTING OVERFLOW MANHOLE MODIFICATIONS



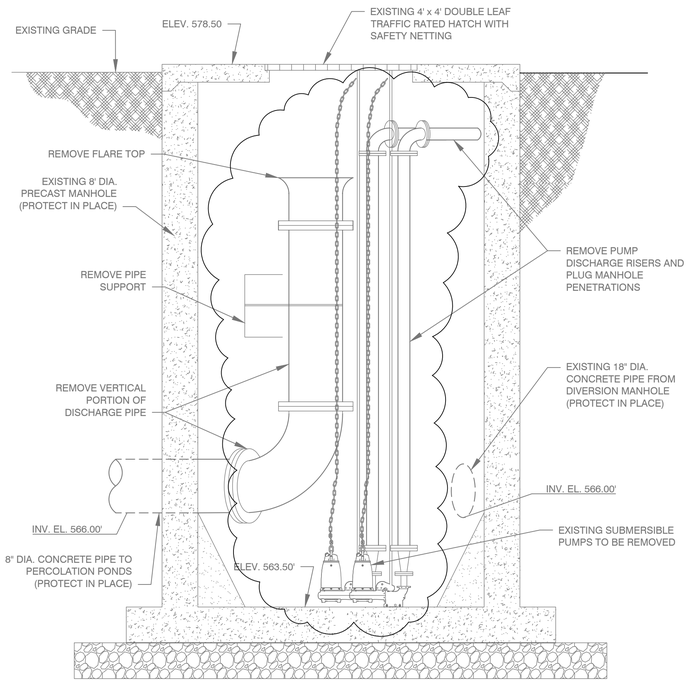
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DETAIL 8 C03 C08
PERMEATE RETENTION POND PUMP STATION



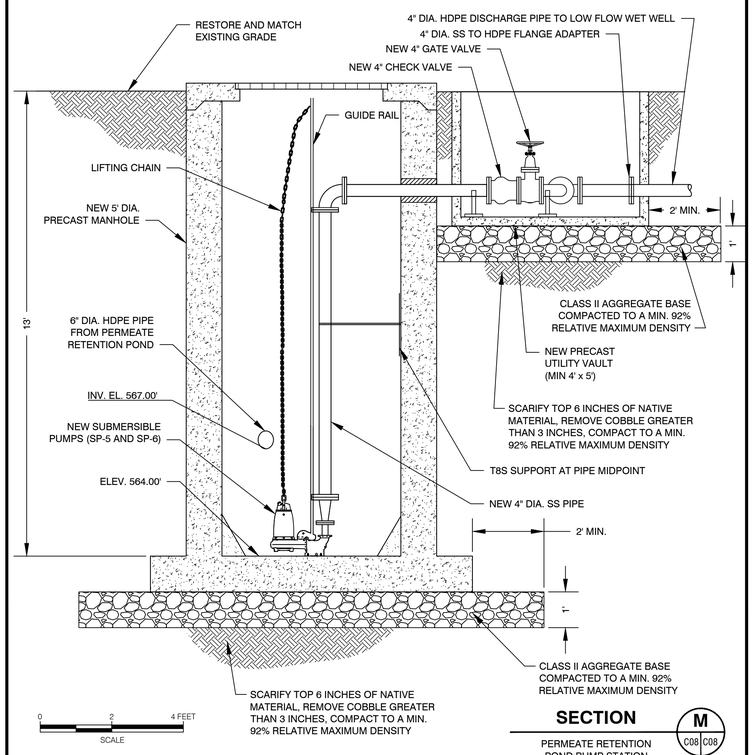
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DETAIL 9 C03 C08
LOW FLOW PUMP STATION



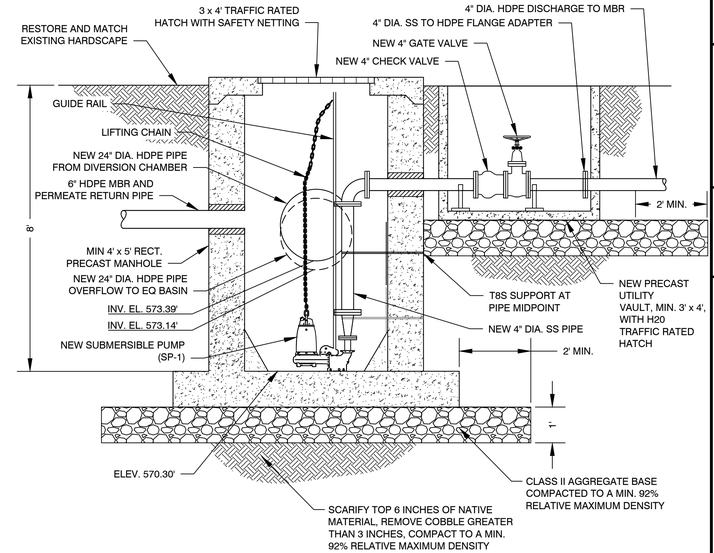
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SCALE

SECTION L C08 C08
EXISTING OVERFLOW MANHOLE MODIFICATIONS



0 2 4 FEET
SCALE

SECTION M C08 C08
PERMEATE RETENTION POND PUMP STATION



0 2 4 FEET
SCALE

SECTION N C08 C08
LOW FLOW PUMP STATION

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1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR:
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
11801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

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REGISTERED PROFESSIONAL ENGINEER TIMOTHY M. HUNT C 68637 CIVIL STATE OF CALIFORNIA

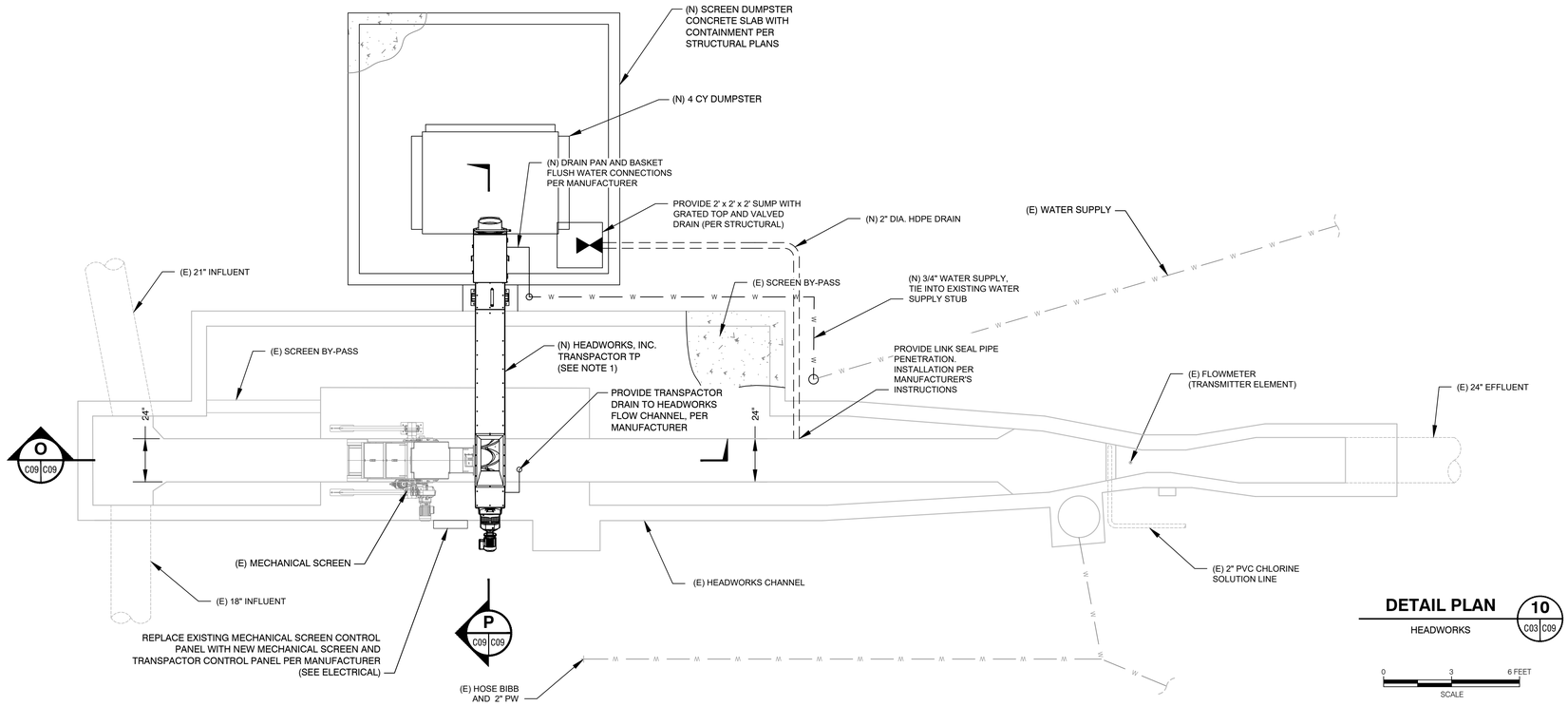
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DETAILS AND SECTIONS (2 OF 4)

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME: C-DETAILS.DWG

SHEET No. **C08**
SHEET 15 OF 42
REVISION 0



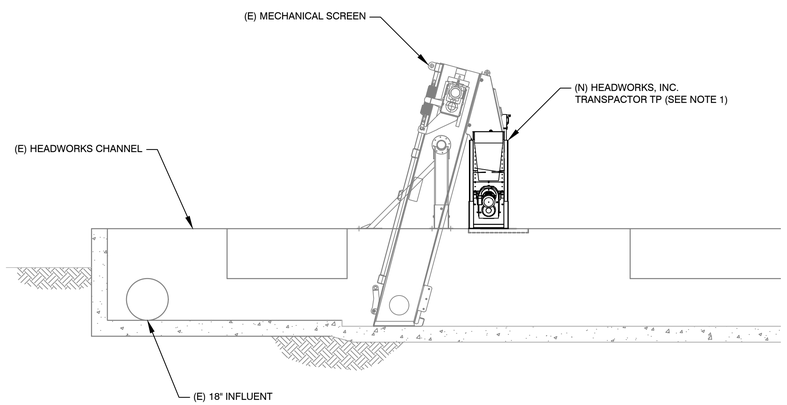
DETAIL PLAN

HEADWORKS

10 C03 C09

0 3 6 FEET

SCALE



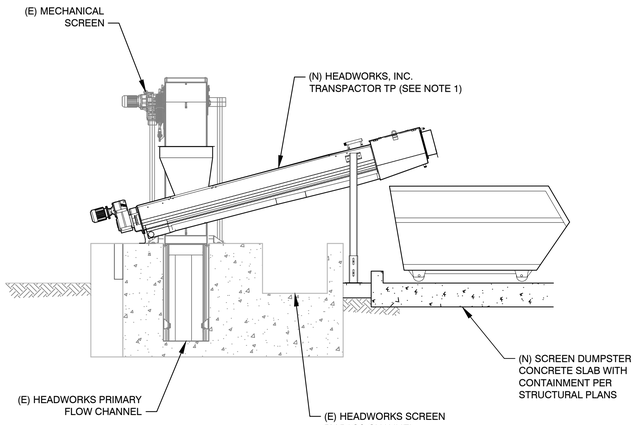
0 3 6 FEET

SCALE

SECTION

HEADWORKS COMPACTOR

O C09 C09



0 3 6 FEET

SCALE

SECTION

HEADWORKS COMPACTOR

P C09 C09

NOTES:

1) SCREEN COMPACTOR UNIT SHALL BE HEADWORKS, INC. MODEL TRANSPACTOR TP (OR EQUAL) WITH SPRAY WASH ATTACHMENT. SUPPORT AND ANCHORING PER MANUFACTURER'S INSTRUCTIONS. POWER AND CONTROLS SHALL BE PER ELECTRICAL AND CONTROL PLANS. PROVIDE WASH WATER SUPPLY FROM NEARBY EXISTING WATER SUPPLY.

C:\WORK\DRAFTING\CRWWTP\C - DETAILS.DWG

PREPARED BY

Weaver Consultants Group

1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR

CAL GUARD — CALIFORNIA MILITARY DEPARTMENT

CALIFORNIA MILITARY DEPARTMENT
1060 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

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C	12/05/24	60% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
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SCALE:

AS NOTED

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REGISTERED PROFESSIONAL ENGINEER — TIMOTHY M. HUNT — C 68637 — CIVIL — STATE OF CALIFORNIA

DESIGNER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
TMH	TMH	PM	TMH	03/31/2026

DETAILS AND SECTIONS (3 OF 4)

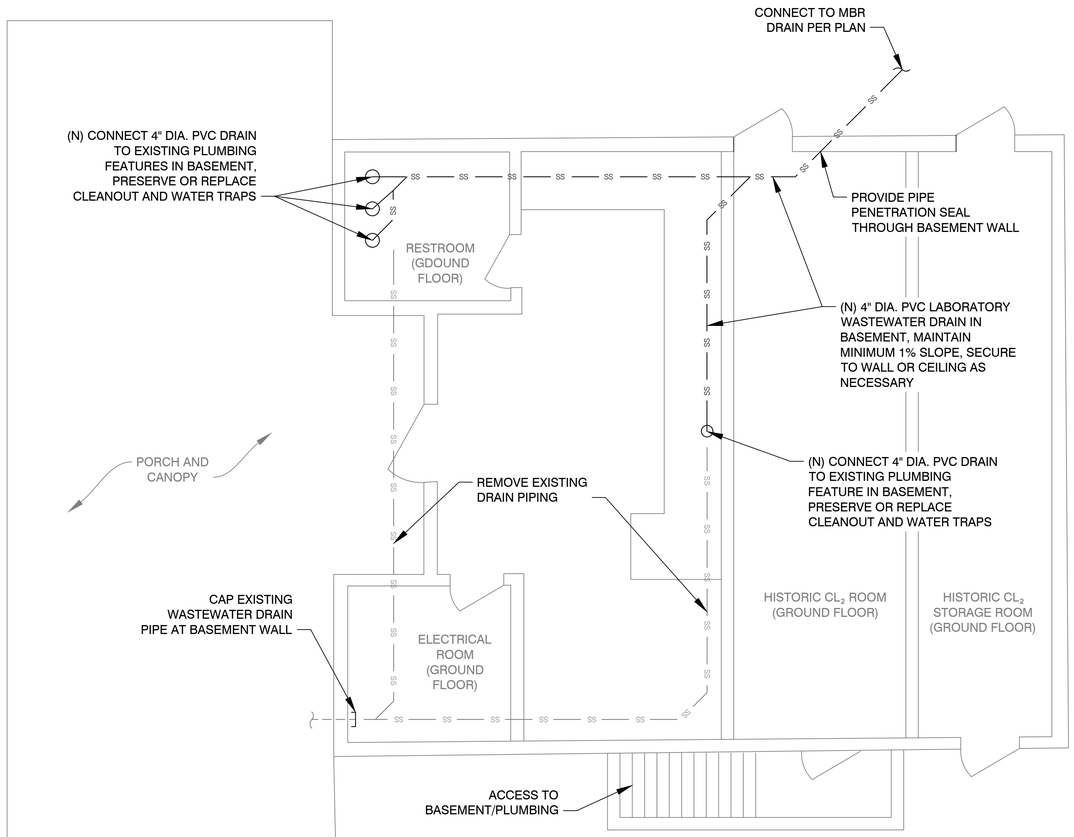
WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5990-300-01-67 | FILE NAME: C - DETAILS.DWG

SHEET No. **C09**

SHEET 16 OF 42

REVISION 0



DETAIL PLAN

LABORATORY WASTEWATER DRAIN

11 (C03 | C10)

0 4 8 FEET
SCALE

NOTES:

1) LABORATORY PLUMBING LOCATED IN BASEMENT. GROUND FLOOR PLAN SHOWN FOR REFERENCE.

C:\WORK\DRAFTING\GRW\WTP\C - DETAILS.DWG

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1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR:
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
1600 H BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV.	DATE	DESCRIPTION	BY	APPD
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REVISION SUMMARY

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REGISTERED PROFESSIONAL ENGINEER
TIMOTHY M. HUNT
C 68637
EXP. 12/31/26
STATE OF CALIFORNIA

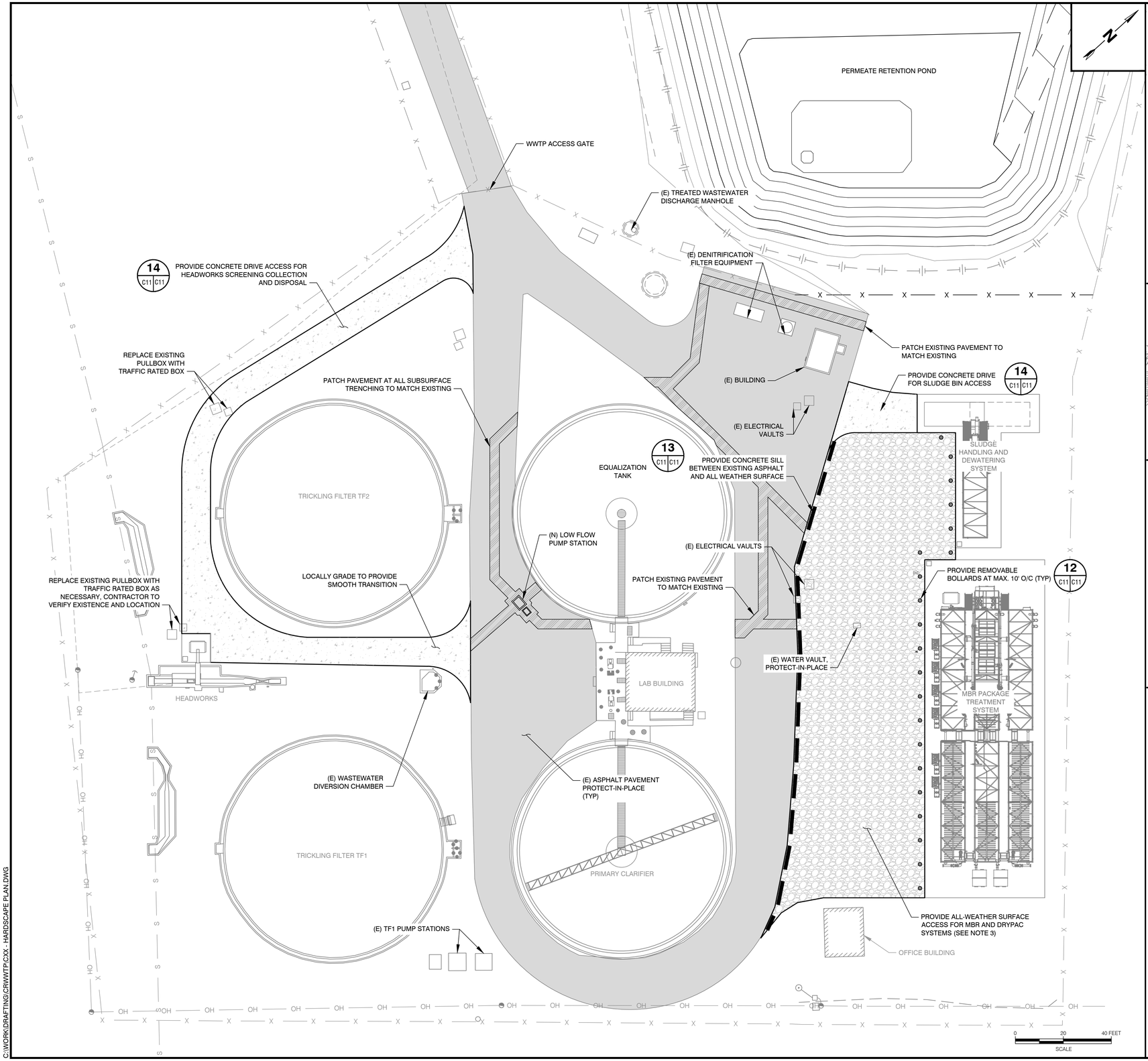
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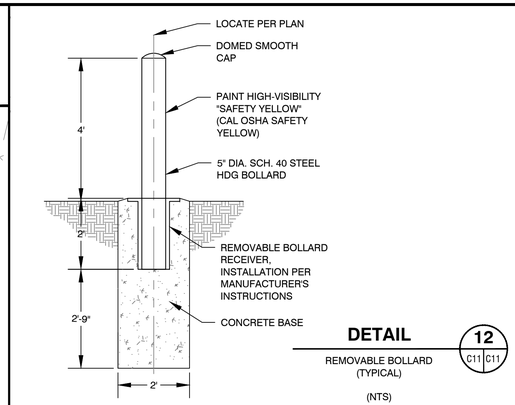
DETAILS AND SECTIONS (4 OF 4)

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME: C- DETAILS.DWG

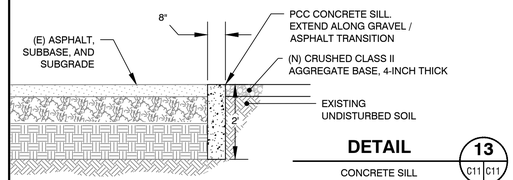
SHEET No. **C10**
SHEET 17 OF 42
REVISION **0**



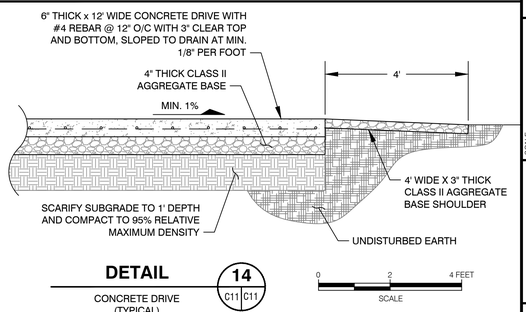


DETAIL 12 (C11 | C11)
REMOVABLE BOLLARD (TYPICAL)

(NTS)



DETAIL 13 (C11 | C11)
CONCRETE SILL (TYPICAL)



DETAIL 14 (C11 | C11)
CONCRETE DRIVE (TYPICAL)

LEGEND

- SUBJECT LINES (PROPOSED CONSTRUCTION)
- EXISTING CONDITIONS
- X — FENCE LINE
- OH — ELECTRICAL (OVERHEAD)
- SUBSURFACE LINE
- PROPOSED GRADES (MAJOR - 5 FOOT)
- PROPOSED GRADES (MINOR - 1 FOOT)
- LIMIT OF GRADING
- EXISTING PAVEMENT
- AGGREGATE BASE ALL-WEATHER SURFACE

NOTES:

1. SUBSURFACE INFRASTRUCTURE NOT SHOWN FOR CLARITY.
2. CONTRACTOR SHALL PROTECT EXISTING PAVEMENT THROUGHOUT CONSTRUCTION. DAMAGE TO EXISTING PAVEMENT SHALL BE REPAIRED TO MATCH EXISTING.
3. CONTRACTOR SHALL MAINTAIN EXISTING GRADE AND PROVIDE 4-INCH THICK CLASS II AGGREGATE BASE ALL-WEATHER SURFACE.

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1 TECHNOLOGY DRIVE, SUITE C515
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PREPARED FOR
CAL GUARD — CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

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REGISTERED PROFESSIONAL ENGINEER — TIMOTHY M. HUNT — C 68637 — CIVIL — STATE OF CALIFORNIA

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DRAWN BY:	TMH
CHECKED BY:	PM
APPROVED BY:	TMH
DATE:	03/31/2026

HARDSCAPE PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-457 | FILE NAME: CDX - HARDSCAPE PLAN.DWG

SHEET No. C11
SHEET 18 OF 42
REVISION 0

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WASTE WATER TREATMENT PLANT (WWTP) UPGRADES

CAMP ROBERTS, CA

STRUCTURAL ENGINEER:
T&S STRUCTURAL
800.579.3881
WWW.TSSTRUCTURAL.COM
SAN LUIS OBISPO
PASADENA
SANTA BARBARA
SANTA CLARA
HEADQUARTERS:
684 CLARION COURT
SAN LUIS OBISPO, CA 93401

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CALIFORNIA MILITARY DEPARTMENT
10601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

STATEMENT OF SPECIAL INSPECTIONS

REQUIRED VERIFICATION AND INSPECTION OF **STEEL CONSTRUCTION**

(per IBC Section 1705.2.1 and AISC 360)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REF. STANDARD	IBC REF.
1. Material verification of high-strength bolts, nuts, and washers:				
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	–	X	AISC 360, Section A3.3 and applicable ASTM material standards	–
b. Manufacturer's certificate of compliance required.	–	X	–	–
2. Inspection of high-strength bolting:				
a. Snug-tight joints.	–	X	AISC 360, Section N5.6	–
b. Pretensioned and slip-critical joints using turn-of-nut with matchmarking, twist-off bolt or direct tension indicator methods of installation.	–	X		
c. Pretensioned and slip-critical joints using turn-of-nut without matchmarking or calibrated wrench methods of installation.	X	–		
3. Material verification of weld filler materials:				
a. Identification markings to conform to AWS specification in the approved construction documents.	–	X	AISC 360, Section A3.5 and applicable AWS A5 documents	–
b. Procedures of quality control prior to welding per AISC table N5.4.2	–	X	AISC table N5.4-1	
c. Manufacturer's certificate of compliance required	–	X	–	–
4. Inspection of welding: Quality Assurance of the following to be performed in accordance with AISC table N5.4-2 and 3				
a. Structural steel and cold-formed steel deck:				
1) Complete and partial joint penetration groove welds.	X	–	AWS D1.1	–
2) Multipass fillet welds.	X	–		
3) Single-pass fillet welds > 5/16"	X	–		
4) Plug and slot welds.	X	–		
5) Single-pass fillet welds ≤ 5/16"	–	X		
6) Floor and roof deck welds.	–	X	AWS D1.3	–
b. Reinforcing steel:				
1) Verification of weldability of reinforcing steel other than ASTM A706.	–	X	AWS D1.4; ACI 318: 26.6.4	–
2) Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement.	X	–		
3) Shear reinforcement.	X	–		
4) Other reinforcing steel.	–	X		

REQUIRED VERIFICATION AND INSPECTION OF **SOILS**

(per IBC Section 1705.6 and Table 1705.6)

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC
1. Verify materials below footings are adequate to achieve the design bearing capacity.	–	X
2. Verify excavations are extended to proper depth and have reached proper material.	–	X
3. Perform classification and testing of compacted fill materials.	–	X
4. During fill placement, verify use of proper materials and procedures in accordance with the provisions of the approved geotechnical report. Verify densities and lift thicknesses during placement and compaction of the compacted full.	X	–
5. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	–	X

REQUIRED VERIFICATION AND INSPECTION OF **CONCRETE CONSTRUCTION**

(per IBC Section 1705.3 and Table 1705.3)

VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REF. STANDARD	IBC REFERENCE
1. Inspection of reinforcing steel, and placement.	–	X	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	–
2. Inspection of reinforcing steel welding in accordance with IBC Table 1705.3, Item 2 (see Steel Inspections Table).	–	–	AWS D1.4; ACI 318: 26.6.4	–
3. Inspect anchors cast in concrete where allowable loads have been increased or where strength design is used.	X	–	ACI 318: 17.8.2	-
4. Inspection of anchors installed in hardened concrete (*i.e. post-installed anchors*).	–	X	ACI 318: 17.8.2	-
5. Verifying use of required design mix.	–	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2
6. At the time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	–	ASTM C172, C31 ACI 318: 26.5, 26.12	-
7. Inspection of concrete placement for proper application techniques.	X	–	ACI 318: 26.5	-
8. Inspection for maintenance of specified curing temperature and techniques.	–	X	ACI 318: 26.5.3–26.5.5	-
9. Verification of in-situ concrete strength, prior to removal of shores and forms from beams and structural slabs.	–	X	ACI 318: 26.11.2	–
10. Inspect formwork for shape, location, and dimensions of the concrete member being formed.	–	X	ACI 318: 26.11.2(b)	–
11. Inspection of adhesive/epoxied anchors and their installation	X	–	*ICC Evaluation Report*	–

ADDITIONAL SPECIAL INSPECTIONS: SEISMIC RESISTANCE*

(per IBC 1705, 1707, 1705.13)

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC
THESE INSPECTIONS APPLY TO DESIGNATED SEISMIC SYSTEMS AND OTHER ELEMENTS AS LISTED BELOW:		
1. Mechanical and electrical components: Special inspection for mechanical and electrical components shall be as follows. 1. Periodic special inspection is required during the anchorage of electrical equipment for emergency or standby power systems in structures assigned to Seismic Design Category C, D, E or F; 2. Periodic special inspection is required during the anchorage of other electrical equipment in structures assigned to Seismic Design Category E or F; 3. Periodic special inspection is required during the installation and anchorage of piping systems designed to carry hazardous materials and their associated mechanical units in structures assigned to Seismic Design Category C, D, E or F; 4. Periodic special inspection is required during the installation and anchorage of ductwork designed to carry hazardous materials in structures assigned to Seismic Design Category C, D, E or F; and 5. Periodic special inspection is required during the installation and anchorage of vibration isolation systems in structures assigned to Seismic Design Category C, D, E or F where the construction documents require a nominal clearance of 1/4 inch (6.4 mm) or less between the equipment support frame and restraint.	–	X

ADDITIONAL NOTES

See Architectural, Mechanical, Electrical, and other plans for additional required non-structural special inspections.

IBC 1704.2.1: The special inspector shall be a qualified person who shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring inspection. The special inspector shall provide written documentation to the building official demonstrating his or her competence and relevant experience or training. Experience or training shall be considered relevant when the documented experience or training is related in complexity to the same type of special inspection activities for projects of similar complexity and material qualities. These qualifications are in addition to qualifications specified in other sections of this code.

IBC 1705.1.1: Special inspections shall be required for proposed work that is, in the opinion of the building official, unusual in its nature, such as, but not limited to, the following examples:

1. *Construction materials and systems that are alternatives to materials and systems prescribed by the IBC.*
2. *Unusual design applications of materials described in the IBC.*
3. *Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in this code or in standards referenced by the IBC.*

The special inspector shall observe the work assigned for conformance with the approved design drawings, approved specifications, and the applicable workmanship provisions of the IBC. The special inspector shall furnish inspection reports to the building official, the engineer or architect of record, and other designated persons as directed in Chapter 17 of the IBC. All discrepancies shall be brought to the immediate attention of the contractor for correction and then, if uncorrected, to the appropriate design authority and to the building official.

IBC 1704.4 and 1704.2.3: Each contractor responsible for the construction of a main wind or seismic force resisting system, designated seismic system or a wind- or seismic-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgment of awareness of the special requirements contained in the statement of special inspection.

STRUCTURAL OBSERVATION SCHEDULE AND NOTES

STRUCTURAL OBSERVATION
(CHECKED ITEMS ARE REQUIRED)

FOUNDATION	WALL	FRAME	DIAPHRAGM
☐ FOOTING, STEM WALLS, PIERS	☐ CONCRETE	☒ STEEL MOMENT FRAME	☐ CONCRETE
☒ MAT FOUNDATION	☐ MASONRY	☐ STEEL BRACED FRAME	☒ STEEL DECK
☐ CAISSONS, PILES, GRADE BEAMS	☐ WOOD	☐ CONCRETE MOMENT FRAME	☐ WOOD
☐ HILLSIDE, RETAINING	☐ OTHER: (LIST)	☐ MASONRY WALL FRAME	☐ OTHER: (LIST)
☐ SPECIAL ANCHORS		☒ OTHER: (LIST) STEEL CANTILEVER COLUMN MOMENT FRAME	
☐ OTHER: (LIST)			

CONSTRUCTION STAGE	ELEMENTS/CONNECTIONS TO BE OBSERVED
A. PRIOR TO FOUNDATION POUR	REBAR, ANCHORAGES, HOLDOWNS
B. FLOOR FRAMING & DIAPHRAGM PRIOR TO PLATING FOR SECOND-STORY WALLS	FLOOR FRAMING, DIAPHRAGM NAILING
C. ROOF FRAMING & DIAPHRAGM PRIOR TO COVERING ROOF DIAPHRAGM	ROOF FRAMING, DIAPHRAGM NAILING, SHEAR TRANSFERS, AND SHEARWALLS

THE CONTRACTOR SHALL REQUEST STRUCTURAL OBSERVATION SITE VISITS TO BE PERFORMED AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED. AT A MINIMUM, THE CONSTRUCTION STAGES LISTED ABOVE REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER.

STRUCTURAL DESIGN PARAMETERS

GENERAL PARAMETERS

BUILDING CODE	2021 IBC
RISK CATEGORY	IV
VEHICULAR LOAD (PSF)	250
EQUIPMENT OPERATIONAL WEIGHT (LBS)	
TANK RA	300,000
TANK RB	300,000
TANK MA	340,000
TANK MB	300,000
TANK LA	300,000
TANK LB	300,000
DRYPACK UNIT	30,000
SLUDGE TANK	187,200

SOILS VALUES**

BEARING PRESSURE	6,000 PSF
LATERAL PASSIVE	200 PCF
FRICTION COEFFICIENT	0.50
MODULUS OF SUBGRADE REACTION	220 PCI

** SOILS VALUES PER HENRY KLING, PE/GE OF KLING CONSULTING GROUP, INC.

SEISMIC DESIGN DATA (PER IBC 1603.1.5):

SEISMIC IMPORTANCE FACTOR, I	1.5
SITE CLASS	D, DEFAULT
SPECTRAL RESPONSE ACCELERATIONS	S_S = 1.277
	S_1 = 0.452
SPECTRAL RESPONSE COEFFICIENTS	S_{DS} = 1.022
	S_{D1} = 0.557
SEISMIC DESIGN CATEGORY	D
SEISMIC FORCE RESISTING SYSTEM:	
1. INVERTED PENDULUM TYPE STRUCTURES*	
2. FLAT-BOTTOM GROUND SUPPORTED TANKS*	
RESPONSE MODIFICATION FACTOR, R	2 & 3
SEISMIC RESPONSE COEFFICIENT, C_S	0.766, & 0.511

* SEE ASCE 7-16 TABLE 15.4-2

WIND DESIGN DATA (PER IBC 1603.1.4):

BASIC WIND SPEED, V	103 MPH
EXPOSURE CATEGORY	C

GENERAL NOTES

1. THE NOTES ON THIS TITLE SHEET APPLY TO AND ARE IN EFFECT FOR ALL PARTS OF THE PROJECT, UNLESS NOTED OTHERWISE. REFER TO THE STRUCTURAL SPECIFICATIONS ON SHEET S0.2 FOR ADDITIONAL STRUCTURAL REQUIREMENTS. REFER TO THE DRAWINGS, NOTES, AND SPECIFICATIONS OF THE ARCHITECT, MECHANICAL ExxxNGINEER, ELECTRICAL ENGINEER, CIVIL ENGINEER, AND OTHER CONSULTANTS FOR ADDITIONAL REQUIREMENTS.
2. DO NOT SCALE THESE DRAWINGS. REFER TO WRITTEN DIMENSIONS. DRAWINGS ARE NOT NECESSARILY TO SCALE. THE CONTRACTOR IS TO USE ARCHITECTURAL DIMENSIONS TO LAY OUT WALLS, FRAMING, FOUNDATIONS, AND OTHER ELEMENTS. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS AND CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING WITH ANY DIRECTLY OR INDIRECTLY RELATED WORK.
3. T&S STRUCTURAL'S DETAILS ARE PREPARED TO CONVEY ONLY STRUCTURAL ASPECTS OF EACH ELEMENT SHOWN. NON-STRUCTURAL INFORMATION, INCLUDING BUT NOT LIMITED TO FENESTRATIONS, FIRE-RESISTANCE, INSULATION, FINISHES, WATERPROOFING, DRAINAGE, AND FLASHING MAY NOT BE INCLUDED ON THE STRUCTURAL PLANS. THE CONTRACTOR MUST OBTAIN NON-STRUCTURAL INFORMATION RELATED TO EACH DETAIL FROM THE ARCHITECT, ARCHITECTURAL PLANS, AND PLANS PROVIDED BY OTHER CONSULTANTS. BRACE EQUIPMENT PER THE MANUFACTURER'S SPECIFICATIONS.
4. NO DEVIATIONS FROM THESE STRUCTURAL PLANS, DETAILS, AND SPECIFICATIONS ARE ALLOWED WITHOUT WRITTEN APPROVAL FROM T&S STRUCTURAL. APPROVAL BY AN INSPECTOR OR ANY OTHER PARTY DOES NOT CONSTITUTE AUTHORITY TO DEVIATE FROM THESE PLANS. PLAN CHANGES AND ADDENDA ARE SUBJECT TO APPROVAL BY THE BUILDING ENFORCEMENT AGENCY. THE CONTRACTOR IS RESPONSIBLE FOR PROCESSING CHANGES, ASSEMBLING PERMIT DOCUMENTS, ACQUIRING PERMITS, AND OBTAINING OWNER APPROVAL FOR COSTS RELATED TO CHANGE ORDERS.
5. SUBSTITUTIONS OF SPECIFIED PRODUCTS (I.E. SIMPSON STRONG-TIE) FOR EQUIVALENT PRODUCTS ARE NOT RECOMMENDED. SUBSTITUTIONS WILL BE CONSIDERED IF THE CONTRACTOR AGREES TO THIS PROCEDURE PRIOR TO SUBSTITUTIONS BEING MADE: (A) CONTRACTOR PROVIDES T&S STRUCTURAL WITH SATISFACTORY EVIDENCE OF PRODUCT EQUIVALENCE; (B) IF SATISFACTORY, CONTRACTOR AGREES TO REIMBURSE T&S STRUCTURAL FOR TIME AND EXPENSES TO REVISE PLANS; AND (C) CONTRACTOR AGREES TO RESUBMIT PLANS TO THE BUILDING ENFORCEMENT AGENCY FOR APPROVAL.
6. CONSTRUCTION AND MATERIALS MUST COMPLY WITH AND BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ALL LEGALLY-CONSTITUTED PUBLIC AUTHORITIES HAVING JURISDICTION, INCLUDING ALL COUNTY, CITY, AND LOCAL ORDINANCES, AS WELL AS THE SAFETY ORDERS OF THE STATE INDUSTRIAL ACCIDENT COMMISSION, OSHA. RECEIVE ALL REQUIRED APPROVALS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
7. THE STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR AND DOES NOT HAVE CONTROL OR CHARGE OF CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE CONSTRUCTION DELINEATED BY THESE PLANS. THE CONTRACTOR OR HIS/HER AGENT(S) ARE RESPONSIBLE TO SUPERVISE AND DIRECT ALL WORK AND ARE SOLELY AND COMPLETELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND CONDITIONS ON THE JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. PERIODIC OBSERVATIONS BY T&S STRUCTURAL PERSONNEL OR REPRESENTATIVES ARE NOT INTENDED TO INCLUDE VERIFICATION OF DIMENSIONS OR REVIEW THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES ON OR NEAR THE CONSTRUCTION SITE.
8. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL SHORING AND BRACING DURING CONSTRUCTION TO SUPPORT ALL LOADS TO WHICH THE STRUCTURE AND SITE MAY BE SUBJECTED. PROVIDE SHORING FOR VERTICAL CUTS IN EXCESS OF 5 FEET PER OSHA AND THE BUILDING OFFICIAL AND AS DIRECTED BY THE SOILS ENGINEER.
9. WHERE INSPECTION IS REQUIRED, THE SPECIAL INSPECTOR IS TO OBTAIN BUILDING ENFORCEMENT AGENCY APPROVAL PRIOR TO WORK COMMENCEMENT. COPIES OF THE INSPECTION REPORT(S) TO BE FILED BY THE SPECIAL INSPECTOR(S) MUST BE GIVEN TO THE ARCHITECT, STRUCTURAL ENGINEER, OWNER, AND BUILDING OFFICIAL. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING, COORDINATION, AND EXPENSES INVOLVED IN ANY AND ALL INSPECTIONS.
10. THE CONTRACTOR IS RESPONSIBLE TO INITIATE A RESOLUTION TO ANY CONFLICTS WITHIN OR BETWEEN DRAWINGS, SPECIFICATIONS, AND/OR MANUFACTURER INSTRUCTIONS BY ISSUING AN RFI. THE MOST STRENUOUS AND/OR COSTLY OPTION GOVERNS UNLESS OTHERWISE STATED IN RESPONSE TO AN RFI. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND PROVIDE FOR ANY 'SCOPE GAPS' THAT MAY EXIST AND BE RECOGNIZABLE TO A PROFESSIONAL BUILDING CONTRACTOR.
11. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A WIND- OR SEISMIC-FORCE-RESISTING SYSTEM OR COMPONENT LISTED IN THE "STATEMENT OF SPECIAL INSPECTIONS" MUST SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. (SEE IBC SECTION 1704.4 FOR SPECIFIC REQUIREMENTS.)
12. "CLOUDING" SHOWN ON THE CONSTRUCTION DOCUMENTS IS ONLY FOR CONVENIENCE FOR GENERAL MAJOR REVISIONS AND IS NOT NECESSARILY INCLUSIVE OF ALL REVISIONS TO THE DRAWINGS. THE CONTRACTOR AND OTHERS MUST REVIEW THE CONSTRUCTION DOCUMENTS COMPLETELY AND THOROUGHLY AND ARE NOT TO DEPEND UPON THE CLOUDING BEING AN INDICATION OF THE FULL LIMIT OR EXTENT OF REVISIONS.
13. ALL CONSTRUCTION PROJECTS REQUIRE INSPECTION AND MAINTENANCE FOLLOWING COMPLETION. OPERATION, INSPECTION, AND MAINTENANCE ARE THE SOLE RESPONSIBILITY OF THE OWNER. T&S STRUCTURAL HAS NO RESPONSIBILITY FOR ANY FAILURES BY THE OWNER OR OTHERS TO PROPERLY OPERATE, INSPECT, OR MAINTAIN THE PROJECT(S) SHOWN IN THESE PLANS.
15. WHERE PLANS, DETAILS, NOTES, AND/OR SPECIFICATIONS (CONSTRUCTION DOCUMENTS) ARE NOTED AS BEING IN A PRELIMINARY/PROGRESS STATE (E.G. "NOT FOR CONSTRUCTION"), THE CONTRACTOR MUST TAKE THIS INTO CONSIDERATION IF CHOOSING TO USE THESE PROGRESS DOCUMENTS FOR COST ESTIMATING, BIDDING, OR ANY OTHER PURPOSE.
16. THE PLANS, CALCULATIONS, AND SPECIFICATIONS CONTAINED HEREIN AND PROVIDED HEREWITH ARE THE EXCLUSIVE PROPERTY OF T&S STRUCTURAL, © 2026. THE USE OF THESE PLANS AND SPECIFICATIONS IS RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY WERE PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE. REPRODUCTION OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED. TITLE TO THESE PLANS AND SPECIFICATIONS REMAINS WITH T&S STRUCTURAL WITHOUT PREJUDICE. VISUAL CONTACT WITH THESE PLANS AND SPECIFICATIONS CONSTITUTES PRIMA FACIE EVIDENCE OF THE ACCEPTANCE OF THESE RESTRICTIONS.
17. ROOF CANOPY METAL DECK IS INTENDED FOR SUN SHADING AND GENERAL RAIN PROTECTION AND IS NOT A WATERTIGHT ROOFING SYSTEM; A SEPARATE ROOFING/WATERPROOFING SYSTEM IS REQUIRED FOR COMPLETE WATERTIGHTNESS.

STANDARD ABBREVIATIONS

AB	ANCHOR BOLT
ABV.	ABOVE
ADD'L	ADDITIONAL
ADD'M	ADDENDUM
ADJ.	ADJACENT, ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
ALT.	ALTERNATE
APPROX.	APPROXIMATE
ASTM	AMERICAN SOCIETY OF TESTING & MATERIALS
AVG.	AVERAGE
AWS	AMERICAN WELDING SOCIETY
BD.	BOARD
BLDG.	BUILDING
BLK(G).	BLOCK (ING)
BLW.	BELOW
BM.	BEAM
BN	BOUNDARY NAILING
BOT.	BOTTOM
BP	BASE PLATE
BRG.	BEARING
BTWN.	BETWEEN
BW	BOTH WAYS
CANT.	CANTILEVER (ED)
CBC	CALIFORNIA BUILDING CODE
CDX	GRADE C-D PLYWOOD
CEM.	CEMENT
CIP	CAST-IN-PLACE
CJP	COMPLETE JOINT PENETRATION
CL	CENTER LINE
CLR.	CLEAR (ANCE)
CM	CENTIMETER (S)
CMU	CONCRETE MASONRY UNIT
COEFF.	COEFFICIENT
COL.	COLUMN
COM.	COMMON
CONC.	CONCRETE
CONN.	CONNECT (ION)
CONST.	CONSTRUCTION
CONT.	CONTINUOUS, CONTINUE
CONTR.	CONTRACTOR
CORR.	CORRUGATED
CTR.	CENTER
CTRSK.	COUNTERSINK
CU.	CUBIC
D	PENNY (NAILS)
DBL.	DOUBLE
DEG.	DEGREE
DEMO	DEMOLISH, DEMOLITION
DEP.	DEPRESSED
DF	DOUGLAS FIR
DIA(M).	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION (S)
DIST.	DISTANCE
DIV.	DIVISION, DIVIDER
DJ	DECK JOIST (S)
DL	DEAD LOAD
DN.	DOWN
DWG.	DRAWING
(E)	EXISTING
EA.	EACH
EF	EACH FACE
EFP	EFFECTIVE FLUID PRESSURE
EL.	ELEVATION (GRADE)
ELEC.	ELECTRIC (AL)
ELEV.	ELEVATOR, ELEVATION
EMBED.	EMBEDDED, EMBEDMENT
EN	EDGE NAIL (ING)
ENCL.	ENCLOSE (D), (URE)
ENG(R).	ENGINEER (ED)
EQ	EQUAL
EQUIP.	EQUIPMENT
EQUIV.	EQUIVALENT
ES	EACH SIDE
EST.	ESTIMATE (D)
ETC.	ETCETERA
EW	EACH WAY
EF	EACH FACE
EXIST.	EXISTING
EXP.	EXPAND, EXPANSION
EXT.	EXTERIOR,
FDN.	EXTENDED
FF	FOUNDATION
FG	FINISHED FLOOR
FIN.	FINISHED GRADE
FL.	FINISH (ED)
FLR(G).	FLANGE
FN	FLOOR (ING) FIELD NAIL (ING)
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOP	FACE OF PANEL
FOS	FACE OF STEEL
FR	FIRE RATE (D)
FRMG.	FRAMING
FS	FAR SIDE
FT.	FOOT, FEET
FTG.	FOOTING
FUT.	FUTURE
GA.	GAGE, GAUGE
GALV.	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GEN.	GENERAL
GR.	GRADE, GRADING
HD	HOLDOWN
HDG	HOT-DIP GALVANIZED
HDR.	HEADER
HEX	HEXAGONAL
HGR.	HANGER
HOR (IZ).	HORIZONTAL
HS	HIGH STRENGTH
HSS	HOLLOW STRUCTURAL SECTION
HT.	HEIGHT
IBC	INTERNATIONAL BUILDING CODE
ICC-ES	ICC EVALUATION SERVICE
ID	INSIDE DIAMETER
IN.	INCH (ES)
INCL.	INCLUDE (D), (S), (ING)
INFO	INFORMATION
INSP.	INSPECT (ION), (OR)
INSUL.	INSULATE (D), (ION)
INSTL.	INSTALLATION, INSTALL
INT.	INTERIOR
INV.	INVERT (ED)
JST.	JOIST
K	KIP (1000 POUNDS)
KLF	KIPS PER LINEAR FOOT
KP	KING POST
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
LAM.	LAMINATE (D), (TION)
LB(S).	POUND (S)
LG.	LARGE
LF	LINEAR (L) FOOT
LIN.	LINEAR, LINEAL
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG.	LONGITUDINAL
LTWT.	LIGHTWEIGHT
MAT'L	MATERIAL
MAX.	MAXIMUM
MBR.	MEMBER
MECH.	MECHANIC (AL)
MED.	MEDIUM
MEP	MECH./ELEC./PLUMBING
MF	MOMENT FRAME
MFR.	MANUFACTURE (R)
MIN.	MINIMUM, MINUTE (S)
MISC.	MISCELLANEOUS
MM	MILLIMETER (S)
MOD.	MODIFY, MODIFIED
MS	MACHINE SCREW
MTL.	METAL
(N)	NEW
N	NORTH
N/A	NOT APPLICABLE
NAT.('L)	NATURAL, NATIONAL
NEG.	NEGATIVE
NIC	NOT IN CONTRACT
NO.	NUMBER
NOM.	NOMINAL
NS	NEAR SIDE
NSA	NELSON STUD ANCHOR
NSG	NON-SHRINK GROUT
NTS	NOT TO SCALE
OC OR O.C.	ON CENTER (S)
OD	OUTSIDE DIAMETER
OPP.	OPPOSITE
OSB	ORIENTED STRAND BOARD
OT	OVERTURNING
PAR.	PARALLEL
PCF	POUNDS PER CUBIC FOOT
PEN.	PENETRATE (ION)
PERF.	PERFORATE (D), (TION)
PERIM.	PERIMETER
PERP.	PERPENDICULAR
PJP	PARTIAL JOINT PENETRATION
PL.	PLATE
PL	PROPERTY LINE
PLF	POUNDS PER LINEAR FOOT
PLY(WD).	PLYWOOD
PREFAB.	PREFABRICATED (ION)
PRELIM.	PRELIMINARY
PROJ.	PROJECT
PROP.	PROPERY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE-TREATED,
PT.	POINT
PV	PHOTOVOLTAIC
QTR.	QUARTER
QTY.	QUANTITY
R(AD).	RADIUS
RD.	ROAD
REBAR	REINFORCING BAR (S)
REC('D).	RECEIVE (D)
RECT.	RECTANGULAR
REF.	REFERENCE
REINF.	REINFORCE (D), (ING), (MENT)
REQ('D).	REQUIRE (D), (MENT)
RET.	RETAIN (ING)
REV.	REVISION (S), REVISED
RM.	ROOM
RO	ROUGH OPENING
SCHED.	SCHEDULE
SE	STRUCTURAL ENGINEER
SHTG.	SHEATHING
SIM.	SIMILAR
SMS	SHEET METAL SCREW
SOG	SLAB ON GRADE
SPEC(S)	SPECIFICATIONS (S)
SQ.	SQUARE
SS	STAINLESS STEEL
ST	SELF-TAPPING
STD(S).	STANDARD (S)
ST(L).	STEEL
STR(UCT).	STRUCTURAL, STRUCTURE
SURF.	SURFACE
SUSP.	SUSPENDED
SYM.	SYMMETRY (ICAL),
SYN.	SYMBOL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TEMP.	TEMPORARY, TEMPERED
TH(K).	THICK, THICKNESS
THRU	THROUGH
T.O.	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOG	TOP OF GRADE
TOL.	TOLERANCE
TOP	TOP OF PLATE
TOS	TOP OF SLAB, TOP OF STEEL
TOW	TOP OF WALL
TRANS.	TRANSVERSE
TRIM.	TRIMMER STUD (S)
TYP.	TYPICAL
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTE OTHERWISE
UTIL.	UTILITY (IES)
VAR.	VARIES, VARNISH
VENT.	VENTILATE (ION)
VERT.	VERTICAL
VIF	VERIFY IN FIELD
VOL.	VOLUME
W	WIDTH, WIDE
W/	WITH
WD.	WOOD
WF	WIDE FLANGE
W/IN.	WITHIN
W/O	WITHOUT
WP	WATERPROOFING
WS	WOOD SCREW
WT.	WEIGHT
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH
YD.	YARD
∠	ANGLE
@	AT
∇	DELTA
Ø	DIAMETER
#	NUMBER, POUND (S)
/	PER
+/-	PLUS OR MINUS

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REVISION SUMMARY

REV	DATE	DESCRIPTION	BY	APP'D
0	03/31/26	100% DESIGN SUBMITTAL		
E	11/06/25	95% DESIGN SUBMITTAL	MAM	NBW
D	08/08/25	REVISED 65% DESIGN SUBMITTAL	MAM	NBW
C	12/16/24	65% DESIGN SUBMITTAL	MAM	NBW
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN		
A	02/28/18	35% DESIGN		

SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER NATHANIEL B. WHITE S 4818 STRUCTURAL STATE OF CALIFORNIA

DESIGNER: MAM
DRAWN BY: MAM
CHECKED BY: NBW
APPROVED BY: NBW
DATE: 03/31/2026

STRUCTURAL TITLE SHEET

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 230457
FILE NAME: 230457 - CAMP ROBERTS WWTP

SHEET NO. **S01**
SHEET 19 OF
REVISION **0**

SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION SPECIFIES CAST-IN-PLACE CONCRETE, INCLUDING FORMWORK, REINFORCEMENT, CONCRETE MATERIALS, MIXTURE DESIGN, PLACEMENT PROCEDURES, AND FINISHES, FOR THE FOLLOWING CONCRETE ELEMENTS: FOOTINGS, GRADE BEAMS, WALLS, STRUCTURAL SLABS, INTERIOR SLABS-ON-GRADE, COLUMNS, BEAMS, AND LINTELS.
B. THIS SECTION DOES NOT INCLUDE UTILITY TRENCH BACKFILL, CURB & GUTTERS, SIDEWALKS, TOPPING SLABS, WALKWAYS, DRIVEWAYS, ROADWAYS, PARKING LOTS, LANDINGS, PAVEMENT, OR FLATWORK.

1.2 SUBMITTALS

A. COMPLY WITH DIVISION 1 SPECIFICATIONS AND THE CIVIL ENGINEER'S ADDITIONAL INSTRUCTIONS.
B. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
C. DESIGN MIXTURES: FOR EACH CONCRETE MIXTURE.
D. SHOP DRAWINGS: FOR STEEL REINFORCEMENT. MATERIAL CERTIFICATES.
E. PROPOSED FINISHES: SUBMIT TO CIVIL ENGINEER AND OWNER FOR APPROVAL.

1.3 QUALITY ASSURANCE

A. USE ADEQUATE NUMBERS OF SKILLED WORKERS WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND THE METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK OF THIS SECTION.
B. MANUFACTURER QUALIFICATIONS: A FIRM EXPERIENCED IN MANUFACTURING READY-MIXED CONCRETE PRODUCTS AND THAT COMPLIES WITH ASTM C94 REQUIREMENTS FOR PRODUCTION FACILITIES AND EQUIPMENT.
C. SPECIAL INSPECTION: INSPECTION AND TESTING OF THE BUILDING SUBGRADE AND OF THE CONCRETE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH 2021 IBC CHAPTER 17 AND AS DELINEATED IN THE STATEMENT OF SPECIAL INSPECTIONS.
D. COMPLY WITH THE REFERENCES LISTED BELOW; WHEN AN EDITION (YEAR) IS NOT LISTED, COMPLY WITH THE MOST CURRENT EDITION.

1.4 REFERENCES

A. ACI 301: *SPECIFICATION FOR STRUCTURAL CONCRETE*
B. ACI 302.1R: *GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION*
C. ACI 117: *SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS*
D. ACI 318: *BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE*, 2019 EDITION.
E. ACI *FIELD REFERENCE MANUAL*, PUBLICATION SP-15 (05).
F. CONCRETE REINFORCING STEEL INSTITUTE (CRSI): *MANUAL OF STANDARD PRACTICE*
G. PORTLAND CEMENT ASSOCIATION (PCA): CEMENT AND CONCRETE STANDARDS.
H. 2021 *INTERNATIONAL BUILDING CODE* (IBC).
I. APPLICABLE OR REFERENCED MATERIALS AND TESTING STANDARDS BY THE AMERICAN SOCIETY OF TESTING MATERIALS (ASTM).
J. SOILS REPORT (GEOTECHNICAL REPORT) OR SIMILAR DOCUMENTATION FROM THE GEOTECHNICAL ENGINEER, HENRY F. KLING, PE, GE OF KLING CONSULTING GROUP, INC.

PART 2 – PRODUCTS

2.1 FORM-FACING MATERIALS

A. SMOOTH-FORMED FINISHED CONCRETE: FORM-FACING PANELS THAT WILL PROVIDE CONTINUOUS, TRUE, AND SMOOTH CONCRETE SURFACES. FURNISH IN LARGEST PRACTICABLE SIZES TO MINIMIZE NUMBER OF JOINTS.
B. ROUGH-FORMED FINISHED CONCRETE: PLYWOOD, LUMBER, METAL, OR ANOTHER APPROVED MATERIAL. PROVIDE LUMBER DRESSED ON AT LEAST TWO EDGES AND ONE SIDE FOR TIGHT FIT.

2.2 STEEL REINFORCEMENT

A. REINFORCING BARS THAT WILL NOT BE WELDED: ASTM A615 GRADE 60, DEFORMED, CLEAN, AND FREE OF RUST.
B. REINFORCING BARS THAT ARE TO BE WELDED: ASTM A706 GRADE 60, DEFORMED, CLEAN, AND FREE OF RUST.
C. EPOXY-COATED REINFORCING BARS: SHALL ALSO CONFORM TO ASTM A775.
D. PLAIN-STEEL WELDED WIRE REINFORCEMENT: ASTM A185, PLAIN, FABRICATED FROM AS-DRAWN STEEL WIRE INTO FLAT SHEETS. (WWR)
E. DEFORMED-STEEL WELDED WIRE REINFORCEMENT: ASTM A497, FLAT SHEET.
F. BAR SUPPORTS: BOLSTERS, CHAIRS, SPACERS, AND OTHER DEVICES FOR SPACING, SUPPORTING, AND FASTENING REINFORCING BARS AND WELDED WIRE REINFORCEMENT IN PLACE. MANUFACTURE BAR SUPPORTS FROM STEEL WIRE, PLASTIC, OR PRECAST CONCRETE ACCORDING TO CRSI'S "MANUAL OF STANDARD PRACTICE."
G. FABRICATE STEEL REINFORCEMENT ACCORDING TO CRSI'S "MANUAL OF STANDARD PRACTICE."

2.3 CONCRETE MATERIALS

A. CEMENTITIOUS MATERIAL:
1. PORTLAND CEMENT, ASTM C150, TYPE II, LOW-ALKALI
2. FLY ASH: ASTM C618, CLASS F. 15% MAX. BY WEIGHT MAY BE SUBSTITUTED FOR PORTLAND CEMENT, IF MIX DESIGN IS PROPORTIONED PER ACI 318 SECTION 5.3.
3. ASTM C595 TYPE IL (MS) CEMENT WITH PRE-APPROVAL.

B. AGGREGATES:
1. ASTM C33, GRADED. COURSE AGGREGATE SHALL BE CRUSHED ROCK.
2. NORMAL-WEIGHT, EXCEPT WHERE LIGHTWEIGHT CONCRETE IS SPECIFIED.
3. FOUNDATIONS (FOOTINGS): 1 1/2 INCH MAX. NOMINAL SIZE
4. WALLS, COLUMNS, BEAMS, AND LINTELS: 3/4 INCH MAX. NOMINAL SIZE
5. SLABS AND OTHER CONCRETE WORK: 1 INCH MAX. NOMINAL SIZE
6. LARGEST AGGREGATE SIZE SHALL BE REDUCED DEPENDING UPON LOCATION AND USE OF THE CONCRETE, SO THAT AGGREGATE DOES NOT EXCEED ANY OF THE FOLLOWING:
A) 1/5 THE NARROWEST DIMENSION BETWEEN SIDES OF FORMS
B) 1/3 THE LEAST DEPTH (THICKNESS) OF SLAB
C) 3/4 THE MINIMUM CLEAR SPACING BETWEEN INDIVIDUAL REINFORCING STEEL, DUCTS AND/OR CONDUITS.
D) 3/4 THE CLEAR SPACE BETWEEN REINFORCEMENT AND FORMS

C. WATER: ASTM C94, AND CLEAN AND FREE FROM DELETERIOUS AMOUNTS OF ACIDS, SALTS, ALKALI, AND ORGANIC MATERIALS.
D. CHEMICAL ADMIXTURES: PROVIDE ADMIXTURES CERTIFIED BY MANUFACTURER TO BE COMPATIBLE WITH OTHER ADMIXTURES AND THAT WILL NOT CONTRIBUTE WATER-SOLUBLE CHLORIDE IONS EXCEEDING THOSE PERMITTED IN HARDENED CONCRETE. DO NOT USE CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE. ADMIXTURES, WHEN USED, SHALL CONFORM TO:

1. WATER-REDUCING ADMIXTURE:	ASTM C494, TYPE A
2. RETARDING ADMIXTURE:	ASTM C494, TYPE B
3. WATER-REDUCING AND RETARDING ADMIXTURE:	ASTM C494/, TYPE D
4. PLASTICIZING AND RETARDING ADMIXTURE:	ASTM C1017/, TYPE II
5. AIR-ENTRAINING ADMIXTURE:	ASTM C260
6. SHRINKAGE-REDUCING ADMIXTURE (SRA):	"ECLIPSE" BY GRACE CONSTRUCTION PRODUCTS, "TETRAGUARD AS20" BY BASF ADMIXTURES, OR APPROVED EQUAL.

2.4 CURING MATERIALS

A. EVAPORATION RETARDER: WATERBORNE, MONOMOLECULAR FILM FORMING, MANUFACTURED FOR APPLICATION TO FRESH CONCRETE.
B. ABSORPTIVE COVER: AASHTO M182, CLASS 2, BURLAP CLOTH MADE FROM JUTE OR KENAF, WEIGHING APPROXIMATELY 9 OZ./SQ. YD. WHEN DRY.
C. MOISTURE-RETAINING COVER: ASTM C171, POLYETHYLENE FILM OR WHITE BURLAP-POLYETHYLENE SHEET.
D. WATER: POTABLE.

2.5 RELATED MATERIALS

A. ANCHOR BOLTS AND ANCHOR RODS: HEAVY HEX-HEADED ASTM A36, A307, OR F1554 GRADE 36, UNLESS NOTED OTHERWISE.
B. THREADED RODS: CARBON STEEL CONFORMING TO ASTM A307 GRADE C OR ASTM A193 GRADE B7; OR STAINLESS STEEL CONFORMING TO ASTM F593 ALLOY GROUP 1 TYPE 304 CONDITION CW.
C. BOLTS OR RODS EXPOSED TO WEATHER, SOIL, OR MOISTURE SHALL BE HOT DIP GALVANIZED PER ASTM A153 OR SHALL BE STAINLESS STEEL.
D. MECHANICAL BAR SPLICE COUPLERS:
1. BAR-LOCK L-SERIES COUPLERS, OR APPROVED EQUAL.
2. WITH LOCKSHEAR BOLTS AND INTERNAL SERRATED GRIP RAILS WITHIN THE COUPLING SLEEVE.
3. COUPLERS SHALL EXCEED THE SPECIFICATION REQUIREMENTS FOR BOTH TENSION AND COMPRESSION SPECIFIED BY ACI 318 AND THE IBC AND SHALL BE RECOGNIZED AND APPROVED BY ICC.
E. EXPANSION- AND ISOLATION-JOINT-FILLER STRIPS: ASTM D1751, ASPHALT-SATURATED CELLULOSIC FIBER OR ASTM D1752, CORK OR SELF-EXPANDING CORK.
F. CONTRACTION JOINT FILLER: TWO-COMPONENT SEMI-RIGID EPOXY RESIN / POLYMER, 100% SOLIDS, MINIMUM "SHORE A" HARDNESS OF 80 WHEN MEASURED IN ACCORDANCE WITH ASTM D2240.
G. EPOXY/ADHESIVE ANCHORS: INSTALL ONLY WHERE SPECIFICALLY DETAILED. TYPE SHALL BE APPROVED FOR CRACKED CONCRETE PER 2021 IBC.
H. EXPANSION ANCHORS: INSTALL ONLY WHERE SPECIFICALLY DETAILED. TYPE SHALL BE APPROVED FOR CRACKED CONCRETE PER 2021 IBC.

2.6 CONCRETE MIXTURES

A. PREPARE DESIGN MIXTURES FOR EACH TYPE AND STRENGTH OF CONCRETE, PROPORTIONED ON THE BASIS OF LABORATORY TRIAL MIXTURE OR FIELD TEST DATA, OR BOTH, ACCORDING TO ACI 301 AND 318
B. PROPORTION NORMAL-WEIGHT CONCRETE MIXTURE AS FOLLOWS:

1. COMPRESSIVE STRENGTH (28 DAYS), f'c:	4500 PSI
2. SLUMP:	2 INCHES MIN. – 5 INCHES MAX.
3. W/C MATERIALS RATIO:	0.45, MAX.
4. AIR CONTENT, MAX.:	3%

C. SLUMP MAY BE INCREASED UPON REVIEW AND APPROVAL BY THE ENGINEER, IN CONSIDERATION OF UTILIZATION OF WATER-REDUCERS AND/OR PLASTICIZERS IN THE CONCRETE MIX(ES).
D. SHRINKAGE-REDUCING ADMIXTURE: INCLUDE IN SLAB MIXTURES SO AS TO LIMIT TOTAL CONCRETE SHRINKAGE TO A MAXIMUM OF 0.040% AT 28 DAYS. (IN ORDER TO ASSIST IN DRYING SHRINKAGE REDUCTION, THE W/C RATIO MAY BE LOWERED AND A WATER-REDUCER ADDED.) THE ADDITION RATE SHALL BE WITHIN THE MANUFACTURER'S "TYPICAL" OR "RECOMMENDED" RANGE AT A MINIMUM, REGARDLESS OF THE DESIGN SHRINKAGE PERCENTAGE. NOTE THAT IF SEPARATE FOOTING, SLAB, COLUMN, OR OTHER CONCRETE MIXES ARE SUPPLIED, ONLY THE SLAB MIX NEEDS TO CONTAIN SRA.
E. READY-MIXED CONCRETE: MEASURE, BATCH, MIX, AND DELIVER CONCRETE ACCORDING TO ASTM C94, AND FURNISH BATCH TICKET INFORMATION. WHEN AIR TEMPERATURE IS BETWEEN 85°F AND 90°F, REDUCE MIXING AND DELIVERY TIME FROM 90 MINUTES TO 75 MINUTES; WHEN AIR TEMPERATURE IS ABOVE 90°F, REDUCE MIXING AND DELIVERY TIME TO 60 MINUTES.
F. DRYPACK/GROUT: NON-SHRINK GROUT BY FIVE STAR PRODUCTS INC., QUIKRETE, OR APPROVED EQUAL, FOR THE INTENDED USE, INSTALLED AT A "PLASTIC" CONSISTENCY, IN ACCORDANCE WITH APPROVED METHODS AND TECHNIQUES AND PER THE MANUFACTURER'S REQUIREMENTS.
G. MANUFACTURED CONCRETE MIX: IN LIEU OF READY-MIXED CONCRETE PROPORTIONED AS SPECIFIED ABOVE, "STRUCTURAL CONCRETE" BY FIVE STAR PRODUCTS INC. EXTENDED WITH AGGREGATE MAY BE USED IN ACCORDANCE WITH APPROVED METHODS AND TECHNIQUES AND PER THE MANUFACTURER'S REQUIREMENTS.

PART 3 – EXECUTION

3.1 SUBGRADE PREPARATION

A. GRADING, EXCAVATIONS, COMPACTION AND OTHER SUBGRADE PREPARATION SHALL BE IN UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER.
B. NATIVE SOIL SHALL BE OVEREXCAVATED TO 1 FT. MIN. BELOW BOTTOM OF FOOTINGS/FOUNDATIONS, ONSITE SOIL PROCESSED AND RE-COMPACTED TO 95% RELATIVE COMPACTION, WITH GREATER THAN 3/4-INCH AGGREGATE REMOVED.
C. OPTIONALLY, IN LIEU OF ONSITE PROCESSING, THE CONTRACTOR MAY REMOVE NATIVE SOIL TO ONE FOOT BELOW BOTTOM OF FOOTINGS/FOUNDATIONS, AND REPLACE WITH CLASS 2 AGGREGATE BASE OR SIMILAR, COMPACTED TO 95% RELATIVE COMPACTION.

3.2 FORMWORK

A. DESIGN, ERECT, SHORE, BRACE, AND MAINTAIN FORMWORK ACCORDING TO ACI 301 TO SUPPORT VERTICAL, LATERAL, STATIC, AND DYNAMIC LOADS, AND CONSTRUCTION LOADS THAT MIGHT BE APPLIED, UNTIL STRUCTURE CAN SUPPORT SUCH LOADS. "BIRD MOUTHS" MAY BE REQUIRED.
B. CONSTRUCT FORMWORK SO CONCRETE MEMBERS AND STRUCTURES ARE OF SIZE, SHAPE, ALIGNMENT, ELEVATION, AND POSITION INDICATED, WITHIN TOLERANCE LIMITS OF ACI 117.
C. CHAMFER EXTERIOR CORNERS AND EDGES OF PERMANENTLY EXPOSED CONCRETE WHEN REQUIRED BY THE OWNER OR CIVIL ENGINEER.
D. PROVIDE AIR RELIEF HOLES AS NECESSARY.
E. REMOVAL OF FORMWORK: COMPLY WITH ACI 301 AND ACI 318.

3.3 EMBEDDED ITEMS

A. PLACE AND SECURE ANCHORAGE DEVICES AND OTHER EMBEDDED ITEMS REQUIRED FOR ADJOINING WORK THAT IS ATTACHED TO OR SUPPORTED BY CAST-IN-PLACE CONCRETE. USE SETTING DRAWINGS, TEMPLATES, DIAGRAMS, INSTRUCTIONS, AND DIRECTIONS FURNISHED WITH ITEMS TO BE EMBEDDED.
B. EMBEDDED ITEMS SHALL BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION AND PRIOR TO POURING CONCRETE.
C. EPOXY/ADHESIVE: USE ONLY WHERE SPECIFICALLY DETAILED BY THE ENGINEER OR CIVIL ENGINEER. INSTALL PER THE MANUFACTURER'S ICC EVALUATION REPORT.
D. EXPANSION ANCHORS: USE ONLY WHERE SPECIFICALLY DETAILED BY THE ENGINEER OR CIVIL ENGINEER. INSTALL PER THE MANUFACTURER'S ICC EVALUATION REPORT.

3.4 STEEL REINFORCEMENT

A. GENERAL: COMPLY WITH CRSI'S "MANUAL OF STANDARD PRACTICE" FOR PLACING REINFORCEMENT. DO NOT CUT OR PUNCTURE VAPOR RETARDER. REPAIR DAMAGE AND RESEAL VAPOR RETARDER BEFORE PLACING CONCRETE.
B. MECHANICAL BAR SPLICE COUPLERS:
1. MAY BE USED IN LIEU OF LAP SPLICES.
2. USE WHERE INDICATED ON THE DRAWINGS.
3. STAGGER ADJACENT SPLICES 2 FEET MINIMUM.
4. INSTALL PER THE ICC EVALUATION REPORT.
C. LAP SPLICES: STAGGER 2 FT. MIN., WITH MIN. BAR LAP LENGTHS PER PLAN.
D. HOOKS: REFER TO STRUCTURAL DRAWINGS.
E. DOWELS: SHALL BE PROVIDED FOR VERTICAL AND HORIZONTAL REINFORCING BARS IN WALLS, COLUMNS, CURBS, ETC., AND SHALL BE OF THE SAME SIZE AND SPACING AS THE SUPPORTING FOOTING, SLAB, WALL, COLUMN, ETC. UNLESS NOTED OTHERWISE ON THE DRAWINGS.
F. REINFORCING CLEARANCES (COVER) FOR FOOTINGS:
1. 3 INCHES WHEN POURED AGAINST EARTH
2. 2 INCHES WHEN POURED AGAINST FORMED SURFACES (INCLUDING FORMWORK, EMBEDDED PIPES OR CONDUIT) OR TOP OF CONCRETE.
3. WHERE REQUIRED CLEARANCE CANNOT BE ACHIEVED, REINFORCING SHALL BE EPOXY OR ZINC PAINTED OR SPRAYED. CLEARANCE REDUCTION REQUIRES SPECIFIC APPROVAL FROM THE ENGINEER.

3.5 JOINTS

A. GENERAL: CONSTRUCT JOINTS TRUE TO LINE WITH FACES PERPENDICULAR TO SURFACE PLANE OF CONCRETE.
B. CONSTRUCTION JOINTS:
1. INSTALL SO STRENGTH AND APPEARANCE OF CONCRETE ARE NOT IMPAIRED, AT LOCATIONS INDICATED AND AS APPROVED BY CIVIL ENGINEER.
2. CONSTRUCTION JOINTS SHALL BE ROUGHENED TO AN AMPLITUDE OF APPROXIMATELY 1/4" PER ACI 318 SECTION 11.7.9.
3. WIRE BRUSH, CLEAN AND DAMPEN IMMEDIATELY PRIOR TO POURING.
4. LOCATION OF FOUNDATION CONSTRUCTION JOINTS SHALL BE APPROVED BY THE ENGINEER.
C. ISOLATION JOINTS IN SLABS: AFTER REMOVING FORMWORK, INSTALL JOINT-FILLER STRIPS AT SLAB JUNCTIONS WITH VERTICAL SURFACES, AS INDICATED.

3.6 CONCRETE PLACEMENT

A. BEFORE PLACING CONCRETE, VERIFY THAT INSTALLATION OF FORMWORK, REINFORCEMENT, AND EMBEDDED ITEMS IS COMPLETE AND THAT REQUIRED INSPECTIONS HAVE BEEN PERFORMED. "BIRD MOUTHS" MAY BE REQUIRED.
B. CHUTES, TREMIES, BUGGIES, BUCKETS OR SIMILAR EQUIPMENT MAY BE REQUIRED.
C. PROVIDE ADEQUATE ACCESS TO ALLOW A VIBRATOR TO BE INSERTED INTO REPAIR MATERIAL FOR CONSOLIDATION. WHERE THIS IS NOT POSSIBLE, VIBRATE FORMWORK. USE VIBRATOR IN A MANNER TO AVOID MATERIAL SEGREGATION – DO NOT OVER-VIBRATE. VIBRATORS SHALL NOT BE USED TO MOVE REPAIR MATERIAL LATERALLY.
D. LEAVE A SMALL OPENING OR SLOT AT THE TOP OF THE FORM TO PERMIT THE MATERIAL TO BE POURED INTO PLACE. MATERIAL SHALL BE POURED IN FORMWORK IN A MANNER TO AVOID SEGREGATION. DO NOT ALLOW MATERIAL TO FALL FREELY OVER REINFORCEMENT OR OTHER EMBEDDED MATERIALS
E. DEPOSIT CONCRETE CONTINUOUSLY IN ONE LAYER OR IN HORIZONTAL LAYERS OF SUCH THICKNESS THAT NO NEW CONCRETE WILL BE PLACED ON CONCRETE THAT HAS HARDENED ENOUGH TO CAUSE SEAMS OR PLANES OF WEAKNESS. IF A SECTION CANNOT BE PLACED CONTINUOUSLY, PROVIDE CONSTRUCTION JOINTS AS INDICATED. DEPOSIT CONCRETE TO AVOID SEGREGATION. CONSOLIDATE PLACED CONCRETE WITH MECHANICAL VIBRATING EQUIPMENT ACCORDING TO ACI 301.
F. FLOOR SLABS: COMPLY WITH ACI 302.1R. WHEN CONCRETE IS PLACED DIRECTLY ON TOP OF THE VAPOR RETARDER, THE CONCRETE CONTRACTOR SHALL MAKE THE NECESSARY CHANGES IN THE CONCRETE PLACEMENT.
G. COLD-WEATHER PLACEMENT: COMPLY WITH ACI 306.1.
H. HOT-WEATHER PLACEMENT: COMPLY WITH ACI 301.

3.7 FINISHING FORMED SURFACES

A. FOLLOWING CURING AND REMOVAL OF FORMS, REMOVE "BIRDS MOUTHS" AND OTHER PROJECTIONS TO PROVIDE THE REQUIRED FINISH SURFACE.
B. CONCRETE THAT MAY REMAIN EXPOSED TO PUBLIC VIEW SHALL BE "SMOOTH-FORMED FINISHED CONCRETE." CONCRETE THAT WILL NOT BE EXPOSED TO PUBLIC VIEW SHALL BE "ROUGH-FORMED FINISHED CONCRETE" OR "SMOOTH-FORMED FINISHED CONCRETE."
C. ROUGH-FORMED FINISH: AS-CAST CONCRETE TEXTURE IMPARTED BY FORM-FACING MATERIAL WITH TIE HOLES AND DEFECTS REPAIRED AND PATCHED. REMOVE FINS AND OTHER PROJECTIONS THAT EXCEED SPECIFIED LIMITS ON FORMED-SURFACE IRREGULARITIES.
D. SMOOTH-FORMED FINISH: AS-CAST CONCRETE TEXTURE IMPARTED BY FORM-FACING MATERIAL, ARRANGED IN AN ORDERLY AND SYMMETRICAL MANNER WITH A MINIMUM OF SEAMS. REPAIR AND PATCH TIE HOLES, VOIDS, AND DEFECTS. REMOVE FINS AND OTHER PROJECTIONS THAT EXCEED SPECIFIED LIMITS ON FORMED-SURFACE IRREGULARITIES.
E. RELATED UNFORMED SURFACES: AT TOPS OF WALLS, HORIZONTAL OFFSETS, AND SIMILAR UNFORMED SURFACES ADJACENT TO FORMED SURFACES, STRIKE OFF SMOOTH AND FINISH WITH A TEXTURE MATCHING ADJACENT FORMED SURFACES. CONTINUE FINAL SURFACE TREATMENT OF FORMED SURFACES UNIFORMLY ACROSS ADJACENT UNFORMED SURFACES, UNLESS OTHERWISE INDICATED.
F. OWNER OR CIVIL ENGINEER'S SPECIFICATIONS OR REQUIREMENTS FOR FINISHING FORMED SURFACES SHALL TAKE PRECEDENCE OVER THESE SPECIFICATIONS.

3.8 FINISHING FLOORS AND SLABS

A. COMPLY WITH ACI 302.1R RECOMMENDATIONS FOR SCREEDING, RESTRAIGHTENING, AND FINISHING OPERATIONS FOR CONCRETE SURFACES.
B. FINISH AS INDICATED ON THE DRAWINGS, OR AS APPROVED BY THE CIVIL ENGINEER AND OWNER PRIOR TO CONSTRUCTION.

3.9 CONCRETE PROTECTING AND CURING

A. GENERAL: PROTECT FRESHLY PLACED CONCRETE FROM PREMATURE DRYING AND EXCESSIVE COLD OR HOT TEMPERATURES. COMPLY WITH ACI 306.1 FOR COLD-WEATHER PROTECTION AND ACI 301 FOR HOT-WEATHER PROTECTION DURING CURING. CONCRETE SHALL BE MAINTAINED ABOVE 50°F AND IN A MOIST CONDITION FOR AT LEAST THE FIRST SEVEN DAYS AFTER PLACEMENT. WHEN CONCRETE IS PLACED DIRECTLY ON TOP OF THE VAPOR RETARDER, THE CONCRETE CONTRACTOR SHALL MAKE THE NECESSARY CHANGES IN THE CONCRETE CURING.
B. EVAPORATION RETARDER: APPLY EVAPORATION RETARDER TO UNFORMED CONCRETE SURFACES IF HOT, DRY, OR WINDY CONDITIONS CAUSE MOISTURE LOSS APPROACHING 0.2 LB/SQ. FT. X H BEFORE AND DURING FINISHING OPERATIONS. APPLY ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AFTER PLACING, SCREEDING, AND BULL FLOATING OR DARBYING CONCRETE, BUT BEFORE FLOAT FINISHING.
C. CURE CONCRETE ACCORDING TO ACI 308.1, BY ONE OR A COMBINATION OF THE FOLLOWING METHODS:
1. MOISTURE CURING: KEEP SURFACES CONTINUOUSLY MOIST FOR NOT LESS THAN SEVEN DAYS.
2. MOISTURE-RETAINING-COVER CURING: COVER CONCRETE SURFACES WITH MOISTURE-RETAINING COVER FOR CURING CONCRETE, PLACED IN WIDEST PRACTICABLE WIDTH, WITH SIDES AND ENDS LAPPED, AND SEALED BY WATERPROOF TAPE OR ADHESIVE. CURE FOR NOT LESS THAN SEVEN DAYS. IMMEDIATELY REPAIR ANY HOLES OR TEARS DURING CURING PERIOD USING COVER MATERIAL AND WATERPROOF TAPE.
3. CURING COMPOUND: APPLY UNIFORMLY IN CONTINUOUS OPERATION BY POWER SPRAY OR ROLLER ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS. RECOAT AREAS SUBJECTED TO HEAVY RAINFALL WITHIN THREE HOURS AFTER INITIAL APPLICATION. MAINTAIN CONTINUITY OF COATING AND REPAIR DAMAGE DURING CURING PERIOD. AFTER CURING PERIOD HAS ELAPSED, REMOVE CURING COMPOUND WITHOUT DAMAGING CONCRETE SURFACES BY METHOD RECOMMENDED BY CURING COMPOUND MANUFACTURER UNLESS MANUFACTURER CERTIFIES CURING COMPOUND WILL NOT INTERFERE WITH BONDING OF FLOOR COVERING USED ON PROJECT.

3.10 FIELD QUALITY CONTROL

A. THE CONTRACTOR SHALL SUITABLY PROTECT THE WORK IN ORDER TO MAINTAIN FINISHES IN PERFECT CONDITION UNTIL FINAL COMPLETION AND ACCEPTANCE.
B. REPAIR AND PATCH DEFECTIVE AREAS WHERE REQUIRED BY THE OWNER OR ENGINEER. REMOVE AND REPLACE CONCRETE THAT CANNOT BE REPAIRED AND PATCHED TO OWNER OR ENGINEER'S APPROVAL. ANY REPAIR OR REPLACEMENT SHALL BE AT NO ADDITIONAL COST TO THE OWNER.
C. TESTING AND INSPECTING: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS AND PREPARE TEST REPORTS.
D. TESTING SERVICES: TESTS SHALL BE PERFORMED ACCORDING TO ACI 301 AND IBC CHAPTER 17 FOR CONCRETE CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXCLUDED.
E. SPECIAL INSPECTIONS: REFER TO THE "STATEMENT OF SPECIAL INSPECTIONS" ON THE STRUCTURAL DRAWINGS.
F. A CIVIL OR GEOTECHNICAL ENGINEER SHALL INSPECT, TEST, AND SIGN-OFF ALL GRADING AND EXCAVATIONS PRIOR TO PLACEMENT OF FORMS, REINFORCING STEEL OR CONCRETE.

END OF SECTION

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RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	MAM	NBW
E	11/06/25	95% DESIGN SUBMITTAL	MAM	NBW
D	08/06/25	REVISED 65% DESIGN SUBMITTAL	MAM	NBW
C	06/06/24	65% DESIGN SUBMITTAL	MAM	NBW
B	04/17/24	REVISIONS TO DWL 35% DESIGN		
A	02/28/18	35% DESIGN		

REVISION SUMMARY

SCALE: NTS

DESIGNER: MAM
DRAWN BY: MAM
CHECKED BY: NBW
APPROVED BY: NBW
DATE: 03/31/2026

REGISTERED PROFESSIONAL ENGINEER
MICHAEL B. WITTENBERG
S 4818
STRUCTURAL
STATE OF CALIFORNIA

STRUCTURAL SPECIFICATIONS

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 230457 | FILE NAME 230457 - CAMP ROBERTS WWTP

SHEET NO. **S02**
SHEET 20 OF
REVISION **0**

SECTION 05 12 00
STRUCTURAL STEEL

PART 1 – GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES: STRUCTURAL STEEL, INCLUDING STEEL FRAMING, BRACES, WELDING, BOLTING, AND MISCELLANEOUS CONNECTIONS AND FABRICATIONS.

1.2 SUBMITTALS

A. COMPLY WITH DIVISION 1 SPECIFICATIONS AND THE CIVIL ENGINEER'S ADDITIONAL INSTRUCTIONS.
B. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED.
C. SHOP DRAWINGS: SHOW FABRICATION OF STRUCTURAL-STEEL COMPONENTS.
D. WELDING CERTIFICATES.
E. MILL TEST REPORTS.
F. SOURCE QUALITY-CONTROL TEST REPORTS

1.3 QUALITY ASSURANCE

A. FABRICATOR QUALIFICATIONS: A QUALIFIED FABRICATOR, APPROVED BY THE BUILDING DEPARTMENT AND THE OWNER, WHO HAS HAD REVIEW AND APPROVAL BY A CERTIFIED SPECIAL INSPECTOR. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY.
B. WELDING: QUALIFY PROCEDURES AND PERSONNEL ACCORDING TO AWS D1.1, "STRUCTURAL WELDING CODE – STEEL." WELDING SHALL BE PERFORMED BY APPROVED CERTIFIED WELDERS.
C. USE ADEQUATE NUMBERS OF SKILLED WORKERS WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND THE METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK OF THIS SECTION.
D. SPECIAL INSPECTION: INSPECTION AND TESTING SHALL BE PERFORMED IN ACCORDANCE WITH IBC CHAPTER 17 AND AS DELINEATED IN THE STATEMENT OF SPECIAL INSPECTIONS.
E. COMPLY WITH THE REFERENCES LISTED BELOW; WHEN AN EDITION (YEAR) IS NOT LISTED, COMPLY WITH THE MOST CURRENT EDITION.

1.4 REFERENCES

A. AISC 303 – *CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES*
B. AISC 360-16 – *SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS*
C. AISC 341-16 – *SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS*
D. RCSC – *SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS*
E. AWS D1.1 – *STRUCTURAL WELDING CODE – STEEL*
F. AWS D1.3 – *STRUCTURAL WELDING CODE – SHEET STEEL*
G. AWS D1.4 – *STRUCTURAL WELDING CODE – REINFORCING STEEL*
H. AWS D1.8 – *STRUCTURAL WELDING CODE – SEISMIC SUPPLEMENT*
I. AWS QC1 – *STANDARD FOR AWS CERTIFICATION OF WELDING INSPECTORS*
J. 2021 *INTERNATIONAL BUILDING CODE* (IBC).
K. APPLICABLE OR REFERENCED MATERIALS AND TESTING STANDARDS BY THE AMERICAN SOCIETY OF TESTING MATERIALS (ASTM).

PART 2 – PRODUCTS

2.1 MATERIALS

A. W-SHAPES: ASTM A992 OR ASTM A572 GRADE 50
B. HSS (HOLLOW STRUCTURAL SECTIONS): ASTM A500 GRADE C (Fy = 50 KSI)
C. ROUND HSS: ASTM A500 GRADE C (Fy = 46 KSI)
D. STEEL PIPE: ASTM A53 GRADE B OR ASTM A501
E. OTHER SHAPES (E.G. ANGLES, CHANNELS): ASTM A36 OR ASTM A572 GR.50
F. PLATES: ASTM A572 GRADE 50
G. STAINLESS STEEL:
   1. PLATES, SHEETS, AND STRIPS: ASTM A240 AND GRADE TYPE 304 (OR 316 IF WELDED).
   2. BARS AND SHAPES: ASTM A276 AND TYPE 304 (OR 316 IF WELDED).
H. WELDING ELECTRODES: COMPLY WITH AWS REQUIREMENTS.
I. STEEL REINFORCING BARS (REBAR): SEE SECTION 03 30 00 – CAST-IN-PLACE CONCRETE.
J. DRYPACK/GROUT: SEE SECTION 03 30 00 – CAST-IN-PLACE CONCRETE.
K. ALL STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION, OR SHALL BE STAINLESS STEEL.

2.2 BOLTS, CONNECTORS, AND ANCHORS

A. STANDARD BOLTED CONNECTIONS:
   1. ASTM A3125 GRADE A325
   2. COMPRESSIBLE-WASHER-TYPE DIRECT TENSION INDICATORS OR TWIST-OFF-TYPE TENSION-CONTROL BOLTS CONFORMING TO RCSC *SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS* SHALL BE PROVIDED AT ALL BOLTED CONNECTIONS
B. SHEAR CONNECTORS: ASTM A108, GRADES 1010 – 1020, THREADED OR HEADED-STUD TYPE, AS DETAILED OR OTHERWISE REQUIRED FOR THE APPLICATION.
C. ANCHOR RODS (OR ANCHOR BOLTS): ASTM F1554 GRADE 36, UNLESS NOTED OTHERWISE.
D. THREADED RODS: CARBON STEEL CONFORMING TO ASTM A307 GRADE C OR ASTM A193 GRADE B7; OR STAINLESS STEEL CONFORMING TO ASTM F593 ALLOY GROUP 1 TYPE 304 CONDITION CW.
E. ALL BOLTS, RODS, ANCHOR BOLTS, AND OTHER CONNECTORS SHALL BE HOT DIP GALVANIZED PER ASTM A153 OR SHALL BE STAINLESS STEEL.

2.3 STEEL DECK

A. SHALL BE MANUFACTURED BY VERCO OR APPROVED EQUAL.
B. USE TYPES, DEPTHS, AND GAGES SHOWN ON THE STRUCTURAL PLANS.
C. DECK AND ACCESSORIES SHALL BE FORMED OF G90 GALVANIZED SHEET STEEL CONFORMING TO ASTM A446, FY = 50 KSI WITH A GALVANIZED COATING PER ASTM A525.
D. ATTACHMENTS SHALL COMPLY WITH REQUIREMENTS SHOWN ON THE STRUCTURAL PLANS AND IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S PRODUCT ICC EVALUATION REPORT.
E. LENGTHS TO HAVE TWO OR THREE CONTINUOUS SPANS, WITH DECK ENDS LAPPED 2-INCHES MINIMUM.
F. FABRICATE ACCESSORIES, INCLUDING CLOSURES AND EDGE ANGLES, FROM THE SAME GAGE (OR THICKER) AND MATERIALS AS ADJACENT STEEL DECK.
G. PRIMER: WHITE PRIMER PAINT ON TOP SIDE OF DECK, AFTER GALVANIZING.

2.4 DRYPACK/GROUT

A. SEE SECTION 03 30 00 – CAST-IN-PLACE CONCRETE.

2.5 FABRICATION

A. STRUCTURAL STEEL: FABRICATE AND ASSEMBLE IN SHOP TO GREATEST EXTENT POSSIBLE. FABRICATE ACCORDING TO REFERENCED STANDARDS AND SPECIFICATIONS.
B. WELD CONNECTIONS: COMPLY WITH AWS D1.1 FOR WELDING PROCEDURE SPECIFICATIONS, TOLERANCES, APPEARANCE, AND QUALITY OF WELDS AND FOR METHODS USED IN CORRECTING WELDING WORK, SUPPLEMENTED WITH AWS D1.8 AS REQUIRED.
C. GENERAL:
   1. USE MATERIALS OF SIZE AND THICKNESS SHOWN. IF NOT SHOWN, USE REQUIRED SIZE AND THICKNESS TO PRODUCE STRENGTH AND DURABILITY IN THE FINISHED PRODUCT.
   2. WORK TO DIMENSIONS SHOWN ON THE CIVIL ENGINEER'S DRAWINGS. PLAN AND ELEVATION DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS ARE SHOWN FOR CLARIFICATION.
   3. FORM EXPOSED WORK TRUE TO LINE AND LEVEL, WITH ACCURATE ANGLES AND SURFACES AND WITH STRAIGHT SHAPE EDGES. FORM BENT-METAL CORNERS TO SMALLEST RADIUS POSSIBLE WITHOUT CAUSING GRAIN SEPARATION OR OTHERWISE IMPAIRING WORK.
   4. EASE EXPOSED EDGES TO A RADIUS OF APPROXIMATELY 1/32" UNLESS OTHERWISE SHOWN. WELD CORNERS AND SEAMS CONTINUOUSLY, COMPLYING WITH AWS RECOMMENDATIONS.
   5. AT EXPOSED CONNECTIONS, GRIND EXPOSED WELDS SMOOTH, UNLESS REASONABLY SMOOTH AND UNIFORM WELDS HAVE BEEN PROVIDED. ADDITIONAL FINISH REQUIREMENTS ARE PER THE CIVIL ENGINEER AND OWNER.
   6. FORM EXPOSED CONNECTIONS WITH HAIRLINE JOINTS, FLUSH AND SMOOTH, USING CONCEALED FASTENERS WHEREVER POSSIBLE. USE EXPOSED FASTENERS OF TYPE SHOWN OR, IF NOT SHOWN, USE PHILLIPS FLATHEAD (COUNTERSUNK) SCREWS OR BOLTS.
   7. PROVIDE FOR ANCHORAGE OF THE TYPE SHOWN OR REQUIRED. COORDINATE WITH SUPPORTING STRUCTURE. FABRICATE AND SPACE THE ANCHORING DEVICES TO PROVIDE ADEQUATE SUPPORT FOR INTENDED USE.
   8. CUT, REINFORCE, DRILL, AND TAP MISCELLANEOUS METAL WORK AS INDICATED TO RECEIVE FINISH HARDWARE AND SIMILAR ITEMS.
   9. INSTALL DRAIN HOLES IN HOLLOW ASSEMBLIES TO BE HOT DIP GALVANIZED, WITHOUT COMPROMISING THE REQUIRED STRENGTH OF THE ASSEMBLY.
   10. SECTIONS, PLATES AND BARS SHALL NOT BE SHEARED GAS-CUT OR SAW-CUT.
   11. BOLT HOLES:
      A) HOLES IN BASEPLATES: AISC "STANDARD" OR "OVERSIZE" HOLES.
      B) ALL OTHER HOLES: AISC "STANDARD" HOLES, DRILLED A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER.
   12. WELDING SHALL BE PERFORMED USING SMAW, SAW, GMAW, OR FCAW PROCESSES WITH APPROVED ELECTRODES CONFORMING TO ASTM A-233 AND APPLICABLE AWS SPECIFICATIONS. WELDS SHALL USE E70XX ELECTRODES, UNLESS NOTED OTHERWISE. WITH A MINIMUM CVN TOUGHNESS OF 20 FT-LB AT -20°F, USING AWS A5 CLASSIFICATION TEST METHODS.
   13. MINIMUM PREHEAT AND INTERPASS TEMPERATURES SHALL BE PROVIDED FOR ALL WELDS, INCLUDING TACK WELDS, IN ACCORDANCE WITH AWS D1.1, TABLE 3.2. THE MAXIMUM PREHEAT AND MAXIMUM INTERPASS TEMPERATURE PERMITTED IS 550°F, MEASURED AT A DISTANCE OF 1 IN. FROM THE POINT OF ARC INITIATION.
   14. WELDING SHALL BE PERFORMED BY WELDERS CERTIFIED IN ACCORDANCE WITH AWS D1.1 AND D1.8.
   15. USE WELD TABS (BACKING BARS) AS REQUIRED. AFTER WELDING, REMOVE WELD TABS AND FINISH TO A SMOOTH CONTOUR. BACKGOUGE THE WELD ROOT TO SOUND METAL AND WELD BACKGOUGED REGION.

2.6 SHOP PRIMING

A. ALL STEEL SHALL BE HOT DIP GALVANIZED AFTER FABRICATION, OR SHALL BE STAINLESS STEEL.
B. SHOP PRIME STEEL SURFACES WHERE REQUESTED BY THE OWNER OR WHERE STEEL IS TO BE PAINTED, BUT AFTER GALVANIZING IS COMPLETE.

PART 3 – EXECUTION

3.1 ERECTION

A. EXAMINATION: VERIFY ELEVATIONS OF BEARING SURFACES AND LOCATIONS OF ANCHOR RODS, BEARING PLATES, AND OTHER EMBEDMENTS, WITH STEEL ERECTOR PRESENT, FOR COMPLIANCE WITH REQUIREMENTS. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
B. SET STRUCTURAL STEEL ACCURATELY IN LOCATIONS AND TO ELEVATIONS INDICATED.
C. MAINTAIN ERECTION TOLERANCES OF STRUCTURAL STEEL WITHIN AISC'S "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES."
A. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL WILL BE PERMITTED WITHOUT PRIOR CONSENT OF THE ENGINEER AND COR.

3.2 FIELD CONNECTIONS

A. BOLTS: INSTALL BOLTS ACCORDING TO RCSC'S *SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS* FOR TYPE OF BOLT SPECIFIED. COMPRESSIBLE-WASHER-TYPE DIRECT TENSION INDICATORS OR TWIST-OFF-TYPE TENSION-CONTROL BOLTS SHALL BE PROVIDED AT ALL BOLTED CONNECTIONS.
B. WELD CONNECTIONS: COMPLY WITH AWS STANDARDS FOR WELDING PROCEDURE SPECIFICATIONS, TOLERANCES, APPEARANCE, AND QUALITY OF WELDS AND FOR METHODS USED IN CORRECTING WELDING WORK. COMPLY WITH AISC AND AWS STANDARDS FOR BEARING, ADEQUACY OF TEMPORARY CONNECTIONS, ALIGNMENT, AND REMOVAL OF PAINT ON SURFACES ADJACENT TO FIELD WELDS.

3.3 STEEL DECK

A. COMPLY WITH MANUFACTURER'S WRITTEN SPECIFICATIONS, RECOMMENDATIONS, AND THE APPROVED SHOP DRAWINGS.
B. PROVIDE SHORING PRIOR TO SECURING DECK WHEN REQUIRED PER THE MANUFACTURER.
C. POSITION DECK UNITS ON SUPPORTING STEEL FRAMEWORK AND ADJUST TO FINAL POSITIONS WITH DECK ENDS BEARING MINIMUM OF 2-INCHES ON SUPPORTING MEMBERS.
D. PLACE UNITS WITH DECK ENDS LAPPED 2-INCHES MINIMUM BEFORE PERMANENTLY FASTENING. ALIGN RIBS OVER ENTIRE LENGTH OF RUN.
E. SECURE TO END, INTERMEDIATE AND SIDE SUPPORTING MEMBERS.
F. PROVIDE CLOSURES AND END ANGLES PER THE MANUFACTURER'S RECOMMENDATIONS.
G. DO NOT USE DECK UNITS FOR STORAGE OR WORKING PLATFORMS UNTIL PERMANENTLY SECURED IN POSITION.
H. STORE AND PROTECT FROM WEATHER.

3.4 POWER-ACTUATED OR POWER-DRIVEN FASTENERS (OR "SHOT PINS"):

A. SHALL BE BY HILTI INC. OR APPROVED EQUAL. PRODUCT AND INSTALLATION TO COMPLY WITH MANUFACTURER'S WRITTEN SPECIFICATIONS, RECOMMENDATIONS, AND ICC REPORT.
B. PROVIDE AND INSTALL SEALING WASHERS WITH FASTENERS PER MANUFACTURER'S WRITTEN SPECIFCATIONS, RECOMMENDATIONS, AND ICC REPORT.

3.5 TOUCH-UP OF GALVANIZED COATING AND FIELD WELDS

A. WHEREVER FIELD WELDING, CUTTING, GRINDING, OR HANDLING DAMAGES HOT-DIP GALVANIZED COATING, REPAIR THE AFFECTED AREAS.
B. CLEAN AND PREPARE SURFACES PER ASTM A780.
C. APPLY ZINC-RICH COLD GALVANIZING COMPOUND EQUAL TO "LPS COLD GALVANIZE" SPRAY, MEETING ASTM A780 AND CONTAINING ≥65% ZINC BY WEIGHT.
D. APPLY MINIMUM THREE (3) LIGHT COATS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS, ACHIEVING MINIMUM 2.0-MIL DFT. FINAL APPEARANCE SHALL CLOSELY RESEMBLE ADJACENT GALVANIZING.
E. TOPCOAT IF INDICATED ELSEWHERE AND COMPATIBLE WITH ZINC-RICH COATING.
F. TOUCH-UP AREAS SHALL BE VISUALLY CONTINUOUS AND FREE OF PINHOLES; NOTIFY ENGINEER OF LOCATIONS.

3.6 FIELD QUALITY CONTROL

A. THE CONTRACTOR SHALL SUITABLY PROTECT THE WORK IN ORDER TO MAINTAIN FINISHES IN PERFECT CONDITION UNTIL FINAL COMPLETION AND ACCEPTANCE.
B. FINISHES OF EXPOSED MATERIALS ARE PER THE OWNER OR ENGINEER.

C. WELDED CONNECTIONS: FIELD WELDS SHALL BE INSPECTED ACCORDING TO AWS D1.1, D1.8, AND THE CONSTRUCTION DOCUMENTS.
D. TESTING AND INSPECTING: CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS AND PREPARE TEST REPORTS.
E. TESTING SERVICES: TESTS SHALL BE PERFORMED ACCORDING TO ACI 301 AND IBC CHAPTER 17 FOR CONCRETE CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXCLUDED.
F. SPECIAL INSPECTIONS: REFER TO THE STRUCTURAL TITLE SHEET.
G. CORRECT DEFICIENCIES IN WORK THAT TEST REPORTS AND INSPECTIONS INDICATE DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS.
H. REPAIR DEFECTIVE ELEMENTS WHERE REQUIRED BY THE OWNER OR ENGINEER. REMOVE AND REPLACE ELEMENTS THAT CANNOT BE REPAIRED TO OWNER OR ENGINEER'S APPROVAL. ANY REPAIR OR REPLACEMENT SHALL BE AT NO ADDITIONAL COST TO THE OWNER.

END OF SECTION

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REVISION SUMMARY

REV	DATE	DESCRIPTION	BY	APP'D
A	02/28/18	35% DESIGN		
B	04/17/24	REVISIONS TO DIVIL 35% DESIGN	MAM	NBW
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E	11/06/25	95% DESIGN SUBMITTAL	MAM	NBW
0	03/31/26	100% DESIGN SUBMITTAL		

SCALE: NTS

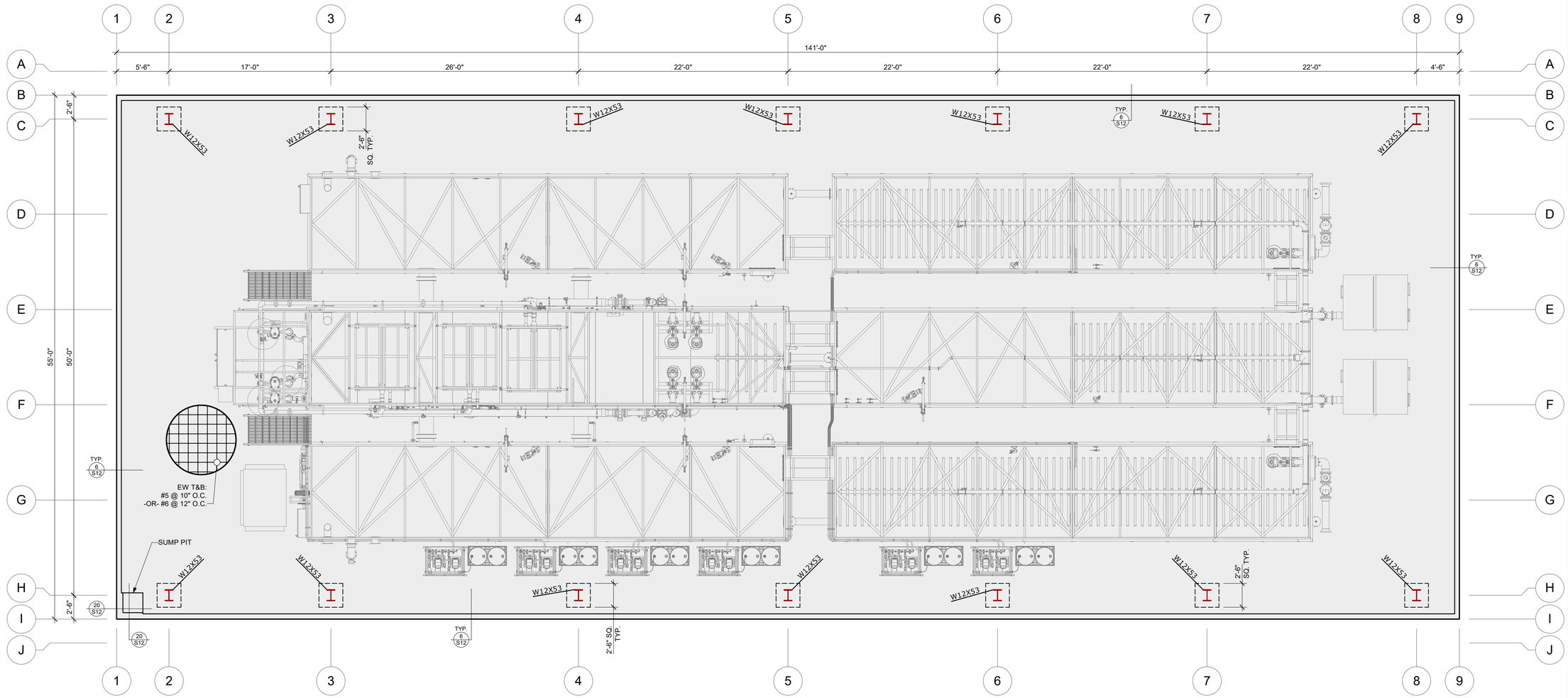
REGISTERED PROFESSIONAL ENGINEER
MICHAEL B. WHITE
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DRAWN BY: MAM
CHECKED BY: NBW
APPROVED BY: NBW
DATE: 03/31/2026

STRUCTURAL SPECIFICATIONS
WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 230457
FILE NAME: 230457 - CAMP ROBERTS WWTP

SHEET NO. **S03**
SHEET 21 OF
REVISION **0**



TYPICAL DETAILS	
DETAIL DESCRIPTION	**LOCATION**
REBAR LAP SPLICES & DEV. LENGTHS	3/S12
TYPICAL REINFORCEMENT BAR BENDS	4/S12
TYPICAL MAT SLAB SECTION W/O CURB DETAIL	5/S12
TYPICAL MAT SLAB SECTION W/ CURB DETAIL	6/S12
TYPICAL MAT SLAB W/ INTERIOR CURB DETAIL	7/S12
TYPICAL MAT SLAB CONSTRUCTION JOINT DETAIL	8/S12
TYPICAL PIPE THROUGH SLAB DETAIL	9/S12
TYPICAL OPENING IN CONCRETE SLAB DETAIL	10/S12
TYPICAL ISOLATED PAD DETAIL	13/S12
TYPICAL SLAB CORNER DETAIL	14/S12
-	-
-	-
DETAILS LISTED ABOVE ARE TYPICAL THROUGHOUT THIS PLAN UNO. ALSO SEE TYP. DEAILS SCHED. WHERE PROVIDED ON OTHER PLAN SHEETS.	

GENERAL FOUNDATION NOTES

SYMBOL KEY:

- = 12" THICK MAT SLAB PER PLAN
- = STEEL COLUMN ABOVE PER PLAN SEE DETAIL 17/S12 COLUMN FDN.
- = CONTAINMENT CURB PER PLAN
- = COLUMN LEVELING PAD PER PLAN

1. CONCRETE STRENGTH, F'C = 4500 PSI, UNO. SEE SOILS REPORT, GENERAL NOTES, AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND MATERIAL SPECIFICATIONS.
2. VERIFY ALL DIMENSIONS WITH CIVIL DRAWINGS AND COORDINATE INSTALLATION OF EQUIPMENT WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. DIMENSIONS SHOWN ARE FOR CONVENIENCE ONLY AND ARE GOVERNED BY THE CIVIL DRAWINGS. DO NOT RELY UPON THE DIMENSIONS SHOWN ON THIS PLAN FOR BIDDING OR CONSTRUCTION.
3. LOCATION OF FOUNDATIONS ON-SITE IS PER THE CIVIL ENGINEER. TANKS AND THEIR ANCHORAGE ARE PER THE CIVIL ENGINEER AND THE MANUFACTURER. SLOPE SLAB FOR DRAINAGE PER CIVIL ENGINEER.
4. SOIL PREPARATION, SUBGRADE, EMBEDMENT INTO APPROVED COMPETENT SOIL, AND MOISTURE PROTECTION PER THE SOILS REPORT.
5. ANCHORAGE OF ALL EQUIPMENT IS PER THE MANUFACTURER, UNO. ALL ANCHORAGE AND FASTENING HARDWARE SHALL BE STAINLESS STEEL, EXCEPT WHERE HOT DIP GALVANIZED IS SPECIFIED.

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REVISION SUMMARY

SCALE:
3/16" = 1'-0"
BARS SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
NATHAN B. WHITAKER
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DESIGNER:	MAM
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CHECKED BY:	NBW
APPROVED BY:	NBW
DATE:	03/31/2026

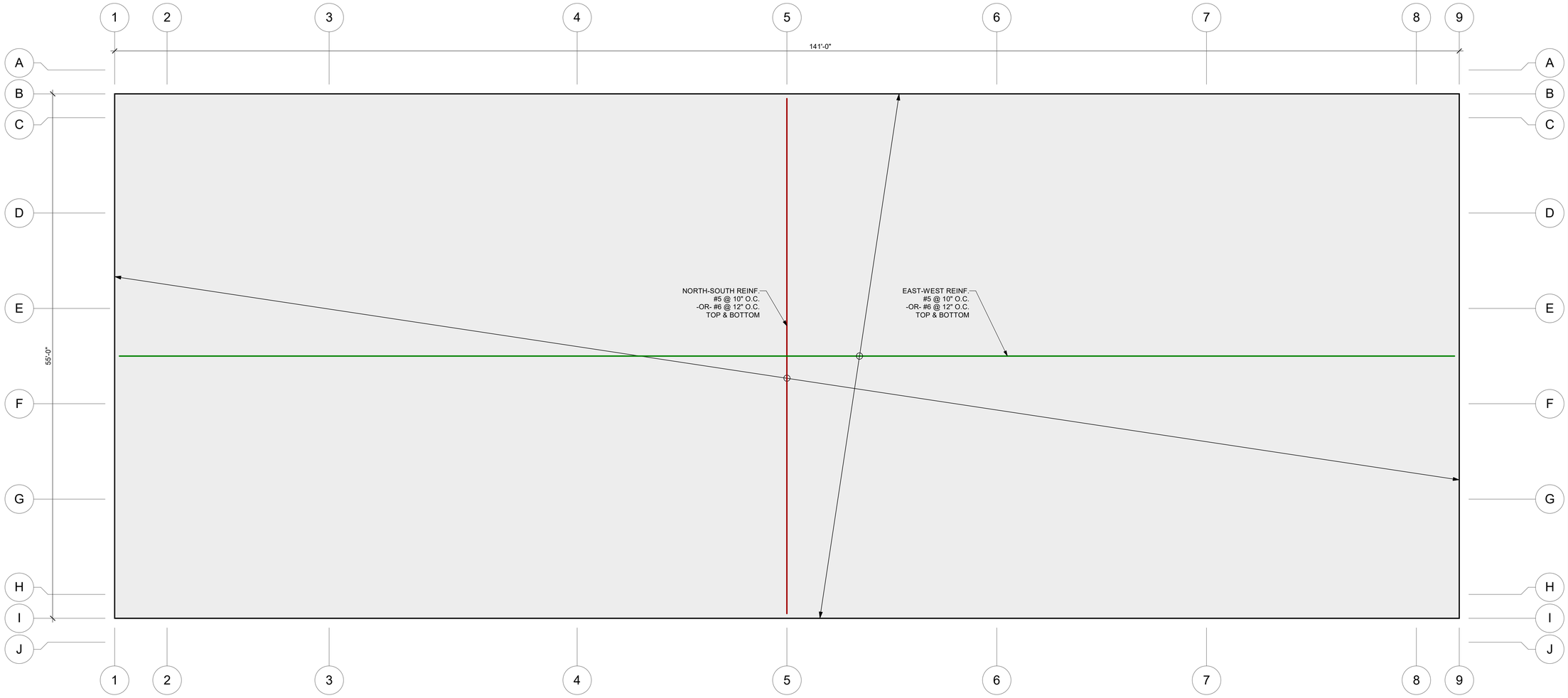
MBR FOUNDATION PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 230457 | FILE NAME: 230457 - CAMP ROBERTS WWTP

SHEET NO. **S04**
SHEET 22 OF
REVISION **0**

PLAN NORTH
N



REBAR PLAN NOTES

SYMBOL KEY:

= NORTH-SOUTH REBAR PER PLAN

= EAST-WEST REBAR PER PLAN

= REBAR EXTENTS PER PLAN

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SCALE: 3/16" = 1'-0"
BARS SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
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DATE:	03/31/2026

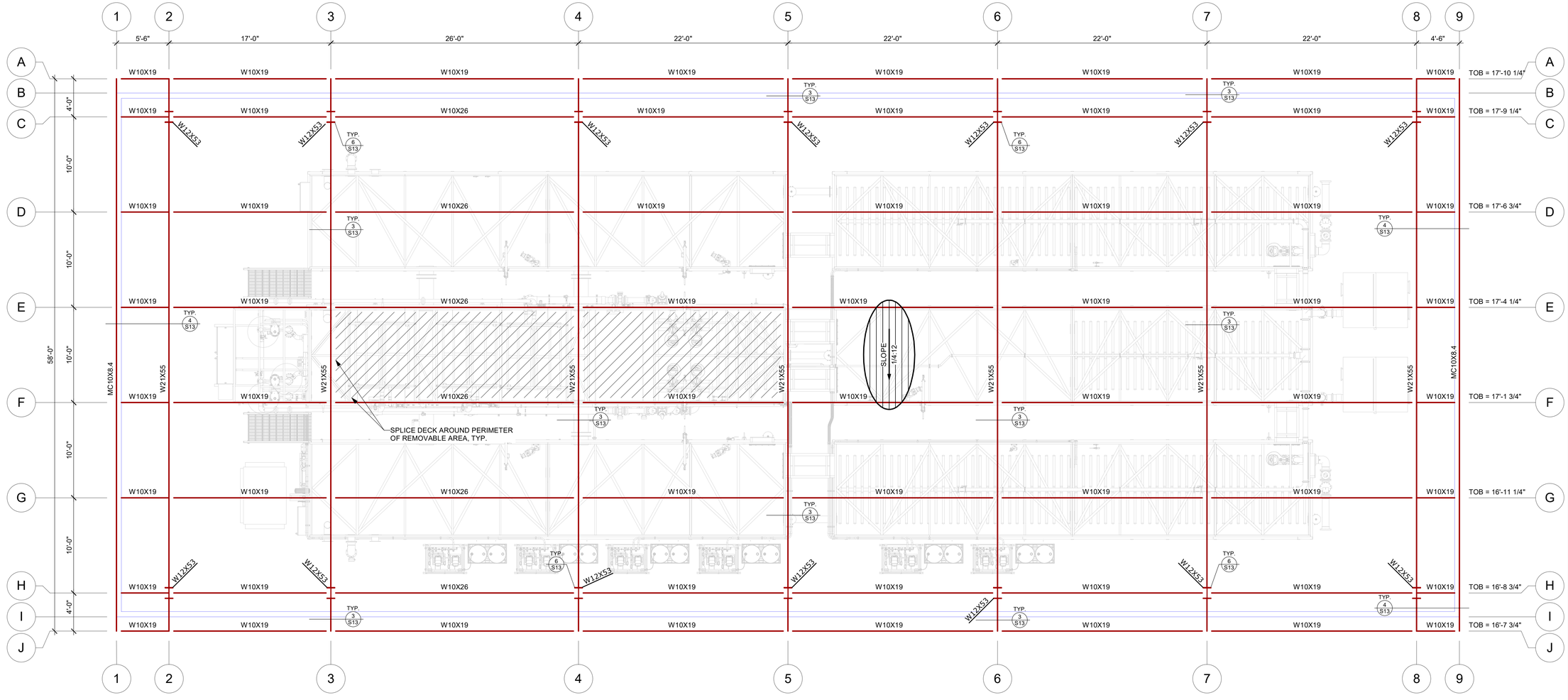
MBR MAT SLAB REBAR PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 230457 | FILE NAME: 230457 - CAMP ROBERTS WWTP

SHEET NO. **S05**
SHEET 23 OF
REVISION **0**

PLAN NORTH



GENERAL FRAMING NOTES

SYMBOL KEY:

- = ROOF DECK SEE DETAIL 2/S13
- = STEEL BEAM PER PLAN
- = STEEL BEAM CONTINUOUS OVER COLUMN PER PLAN
- = STEEL WIDE FLANGE COLUMN BELOW PER PLAN
- = EXTENT REMOVEABLE ROOF

1. SEE GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND MATERIAL SPECIFICATIONS.
2. VERIFY ALL DIMENSIONS WITH CIVIL DRAWINGS AND COORDINATE INSTALLATION OF EQUIPMENT WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. DIMENSIONS SHOWN ARE FOR CONVENIENCE ONLY AND ARE GOVERNED BY THE CIVIL DRAWINGS. DO NOT RELY UPON THE DIMENSIONS SHOWN ON THIS PLAN FOR BIDDING OR CONSTRUCTION.
3. USE VERCO HSB-36 18GA, GRADE 50 W/ G90 GALVANIZED COATING & WHITE PRIMER OVER THE GALVANIZATION ON TOPSIDE OF DECK. SLOPE ROOF 1/4:12 FOR DRAINAGE. 2 SPANS MIN. EXCEPT IN REMOVABLE AREA. SEE DETAIL 2/S13.
4. SEE SHEET S07 FOR MBR CANOPY ELEVATION VIEWS
5. ROOF DECK IS INTENDED TO PROVIDE SUN SHADING AND GENERAL RAIN PROTECTION.

STRUCTURAL ENGINEER:
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SAN LUIS OBISPO
PASADENA
SANTA BARBARA
SANTA CLARA
HEADQUARTERS:
684 CLARION COURT
SAN LUIS OBISPO, CA 93401

PREPARED BY
Weaver Consultants Group
1 TECHNOLOGY DRIVE, SUITE C515
IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CALIFORNIA MILITARY DEPARTMENT
10601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	MAM	NBW
E	11/06/25	95% DESIGN SUBMITTAL	MAM	NBW
D	08/06/25	REVISED 65% DESIGN SUBMITTAL	MAM	NBW
C	11/07/24	65% DESIGN SUBMITTAL	MAM	NBW
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN		
A	02/28/18	35% DESIGN		

REVISION SUMMARY

SCALE: 3/16" = 1'-0"
BARS SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
MICHAEL D. WHITAKER
S-4816
STRUCTURAL
STATE OF CALIFORNIA

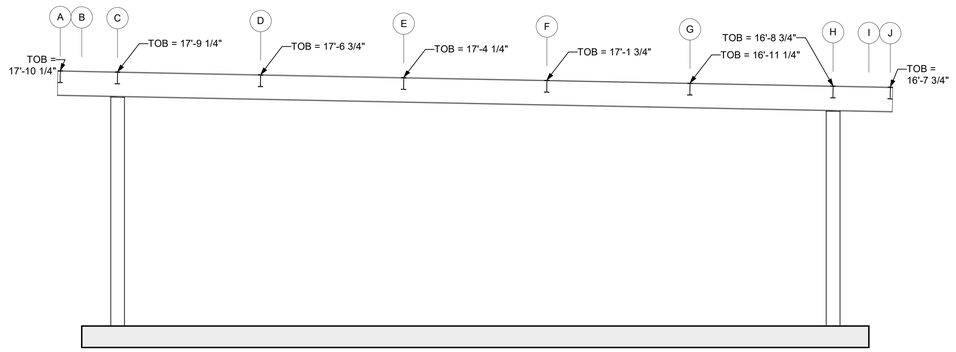
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DATE: 03/31/2026

MBR CANOPY FRAMING PLAN

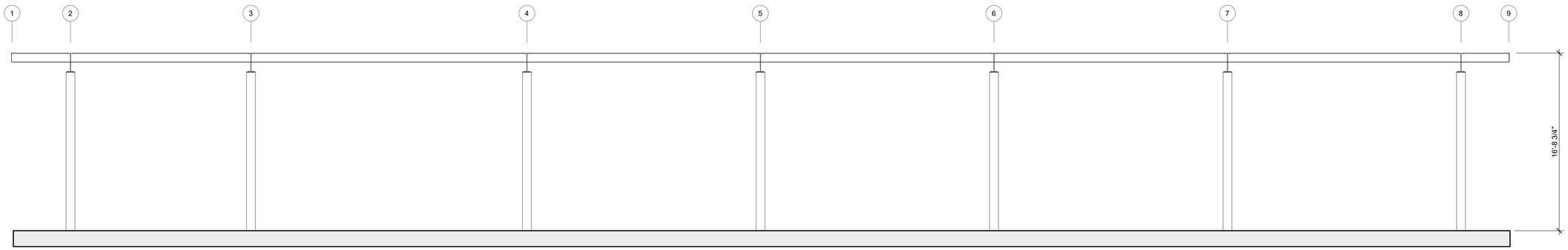
WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

FILE NAME: 230457 - CAMP ROBERTS WWTP
PROJECT No. 230457

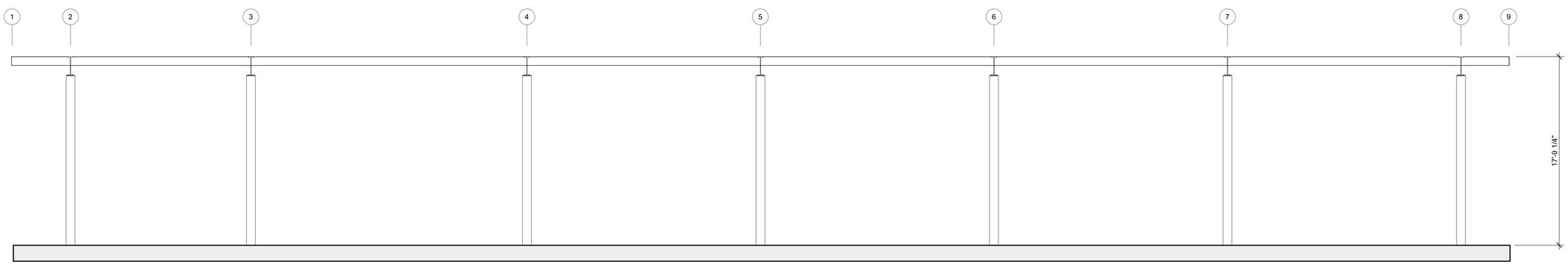
SHEET NO. **S06**
SHEET 24 OF
REVISION 0



GRIDLINES 2 THROUGH 8 ELEVATION - LOOKING PLAN EAST (A)



GRIDLINE H ELEVATION - LOOKING PLAN NORTH (B)



GRIDLINE C ELEVATION - LOOKING PLAN NORTH (C)

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10601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

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REGISTERED PROFESSIONAL ENGINEER
NATHAN E. WHITAKER
S 4616
STRUCTURAL
STATE OF CALIFORNIA

DESIGNER: MAM
DRAWN BY: MAM
CHECKED BY: NBW
APPROVED BY: NBW
DATE: 03/31/2026

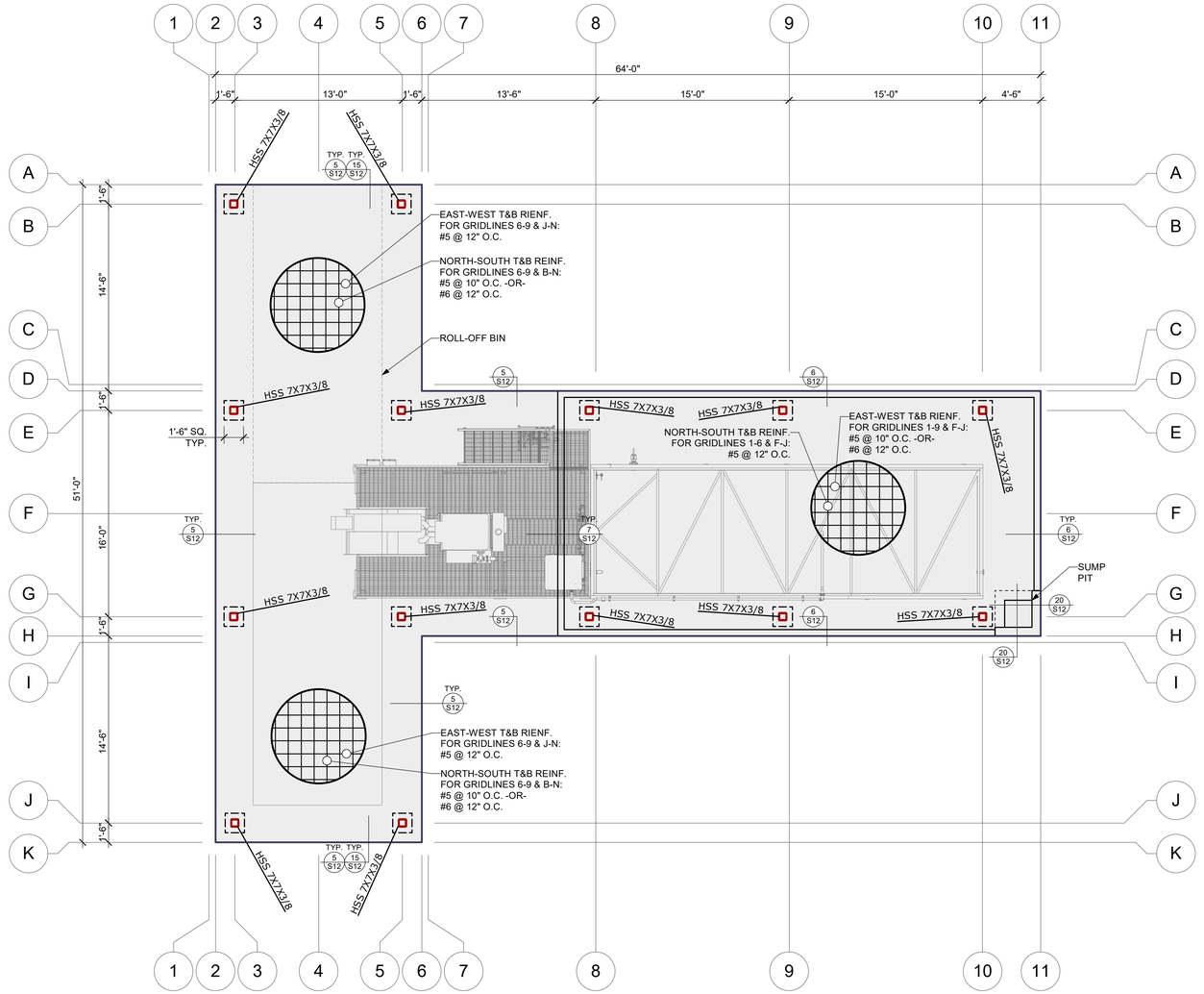
MBR CANOPY ELEVATION VIEW

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 230457 | FILE NAME: 230457 - CAMP ROBERTS WWTP

SHEET NO. **S07**
SHEET 25 OF
REVISION 0

PLAN NORTH
N



TYPICAL DETAILS

DETAIL DESCRIPTION	LOCATION
REBAR LAP SPLICES & DEV. LENGTHS	3/S12
TYPICAL REINFORCEMENT BAR BENDS	4/S12
TYPICAL MAT SLAB SECTION W/O CURB DETAIL	5/S12
TYPICAL MAT SLAB SECTION W/ CURB DETAIL	6/S12
TYPICAL MAT SLAB W/ INTERIOR CURB DETAIL	7/S12
TYPICAL MAT SLAB CONSTRUCTION JOINT DETAIL	8/S12
TYPICAL PIPE THROUGH SLAB DETAIL	9/S12
TYPICAL OPENING IN CONCRETE SLAB DETAIL	10/S12
TYPICAL ISOLATED PAD DETAIL	13/S12
TYPICAL SLAB CORNER DETAIL	14/S12
-	-
-	-

DETAILS LISTED ABOVE ARE TYPICAL THROUGHOUT THIS PLAN UNO. ALSO SEE TYP. DEAILS SCHED. WHERE PROVIDED ON OTHER PLAN SHEETS.

GENERAL FOUNDATION NOTES

SYMBOL KEY:

= 12" THICK MAT SLAB PER PLAN

= STEEL COLUMN ABOVE PER PLAN SEE DETAIL 18/S12 COLUMN FDN.

= CONTAINMENT CURB PER PLAN

= COLUMN LEVELING PAD PER PLAN

1. CONCRETE STRENGTH, F'C = 4000 PSI, UNO. SEE SOILS REPORT, GENERAL NOTES, AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND MATERIAL SPECIFICATIONS.
2. VERIFY ALL DIMENSIONS WITH CIVIL DRAWINGS AND COORDINATE INSTALLATION OF EQUIPMENT WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. DIMENSIONS SHOWN ARE FOR CONVENIENCE ONLY AND ARE GOVERNED BY THE CIVIL DRAWINGS. DO NOT RELY UPON THE DIMENSIONS SHOWN ON THIS PLAN FOR BIDDING OR CONSTRUCTION.
3. LOCATION OF FOUNDATIONS ON-SITE IS PER THE CIVIL ENGINEER. TANKS AND THEIR ANCHORAGE ARE PER THE CIVIL ENGINEER AND THE MANUFACTURER. SLOPE SLAB FOR DRAINAGE PER CIVIL ENGINEER.
4. SOIL PREPARATION, SUBGRADE, EMBEDMENT INTO APPROVED COMPETENT SOIL, AND MOISTURE PROTECTION PER THE SOILS REPORT.
5. ANCHORAGE OF ALL EQUIPMENT IS PER THE MANUFACTURER, UNO. ALL ANCHORAGE AND FASTENING HARDWARE SHALL BE STAINLESS STEEL, EXCEPT WHERE HOT DIP GALVANIZED IS SPECIFIED.

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684 CLARION COURT
SAN LUIS OBISPO, CA 93401

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PREPARED FOR
CALIFORNIA MILITARY DEPARTMENT
10601 BEAR HOLLOW DRIVE
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REGISTERED PROFESSIONAL ENGINEER
MARK A. MORRIS
S 4818
STRUCTURAL
STATE OF CALIFORNIA

DESIGNER: MAM
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CHECKED BY: NBW
APPROVED BY: NBW
DATE: 03/31/2026

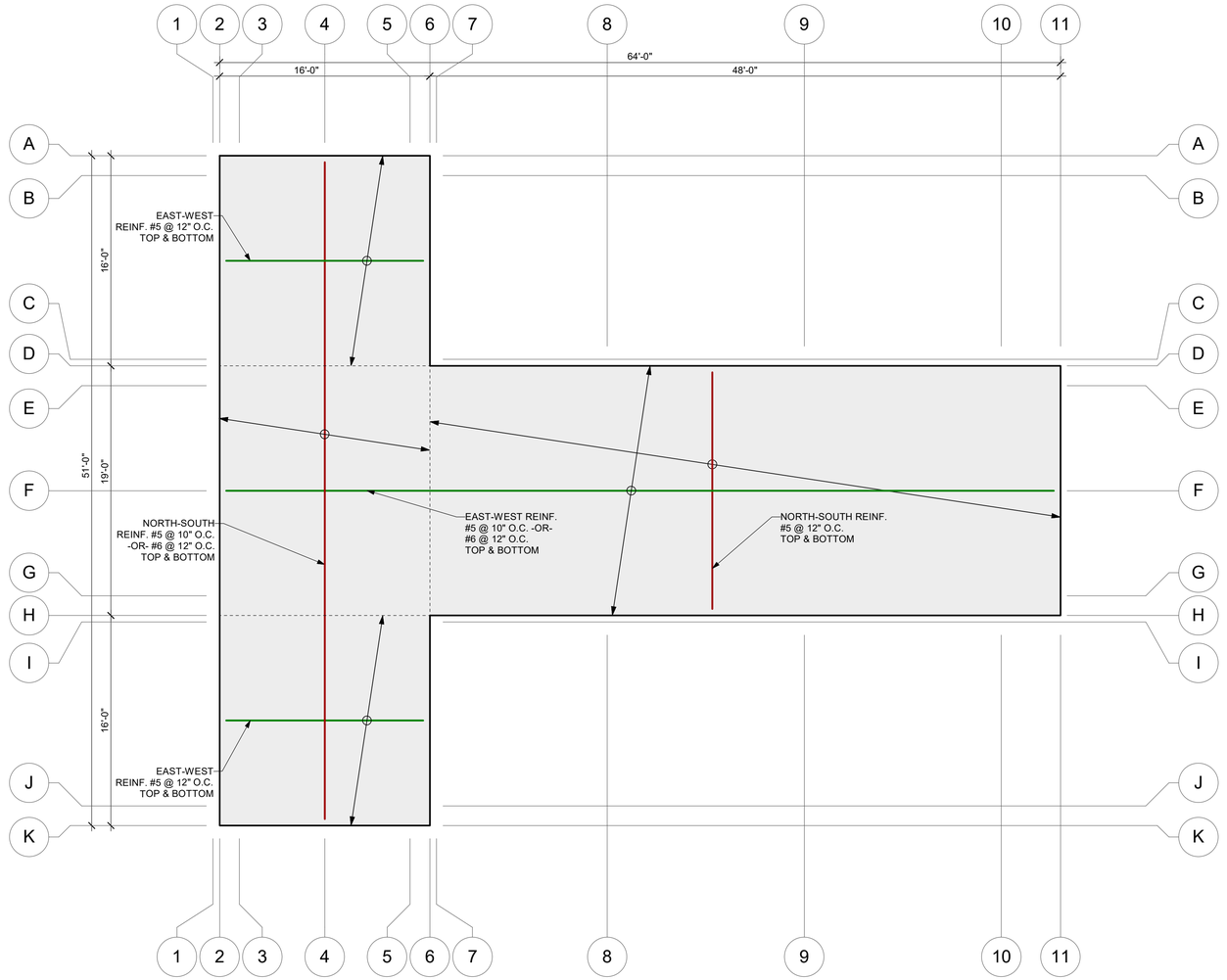
SLUDGE TANK FOUNDATION PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

FILE NAME: 230457 - CAMP ROBERTS WWTP
PROJECT No. 230457

SHEET NO. **S08**
SHEET 26 OF
REVISION **0**

PLAN NORTH



REBAR PLAN NOTES

SYMBOL KEY:

= NORTH-SOUTH REBAR PER PLAN

= EAST-WEST REBAR PER PLAN

= REBAR EXTENTS PER PLAN

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PASADENA
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HEADQUARTERS:
684 CLARION COURT
SAN LUIS OBISPO, CA 93401

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PREPARED FOR
CALIFORNIA MILITARY DEPARTMENT
1601f BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

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REGISTERED PROFESSIONAL ENGINEER — WILLIAM T. HOLT — S 5616 — STRUCTURAL — STATE OF CALIFORNIA

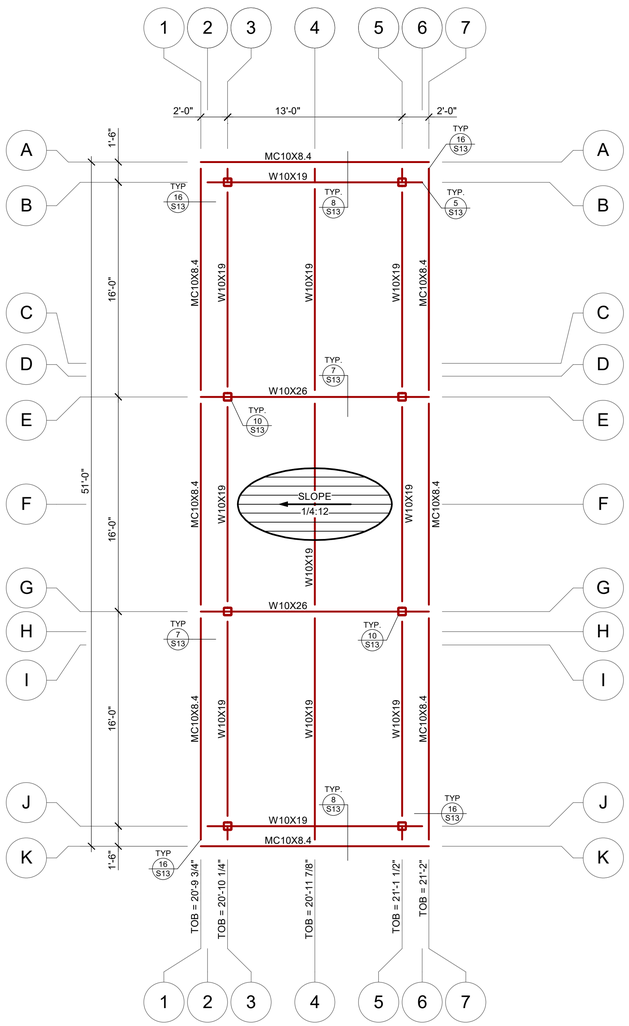
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CHECKED BY: NBW
APPROVED BY: NBW
DATE: 03/31/2026

SLUDGE TANK MAT SLAB REBAR PLAN

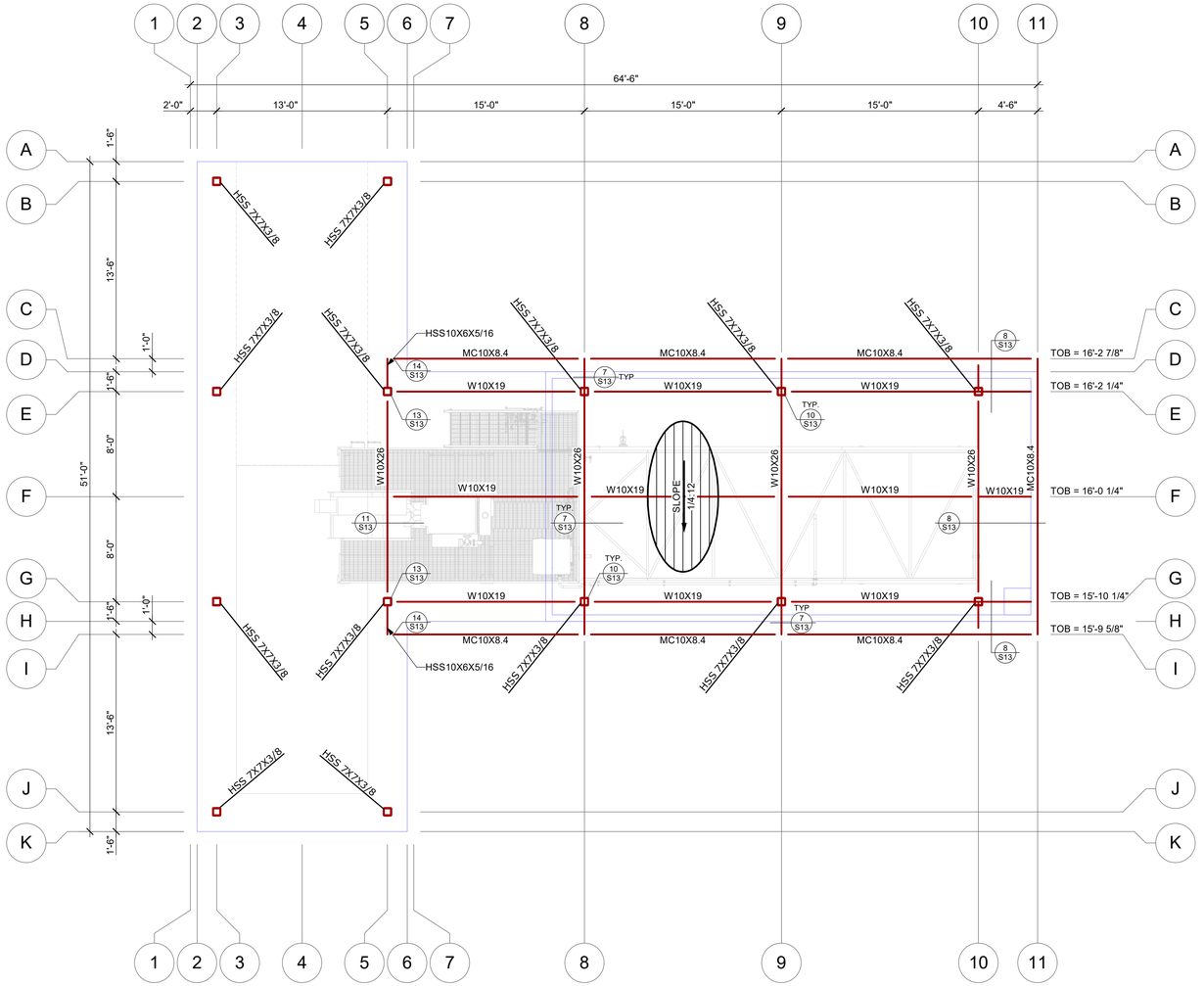
WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 230457 | FILE NAME: 230457 - CAMP ROBERTS WWTP

SHEET NO. **S09**
SHEET 27 OF
REVISION **0**



HIGH ROOF FRAMING PLAN



LOW ROOF FRAMING PLAN

GENERAL FRAMING NOTES

SYMBOL KEY:

- = ROOF DECK SEE DETAIL 2/S13
- = STEEL BEAM PER PLAN
- = STEEL HSS COLUMN BELOW PER PLAN
- = STEEL BEAM CONTINUOUS OVER COLUMN PER PLAN
- = PERIMETER OF ROOF DECK

1. SEE GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND MATERIAL SPECIFICATIONS.
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4. SEE SHEET S11 FOR SLUDGE TANK CANOPY ELEVATION VIEWS
5. ROOF DECK IS INTENDED TO PROVIDE SUN SHADING AND GENERAL RAIN PROTECTION.

PLAN NORTH

STRUCTURAL ENGINEER:
T&S STRUCTURAL
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WWW.TSSTRUCTURAL.COM
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PASADENA
SANTA BARBARA
SANTA CLARA
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PREPARED FOR:
CALIFORNIA MILITARY DEPARTMENT
10601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APP'D
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B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	MAM	NBW
C	11/07/24	65% DESIGN SUBMITTAL	MAM	NBW
D	06/06/25	REVISED 65% DESIGN SUBMITTAL	MAM	NBW
E	11/06/25	95% DESIGN SUBMITTAL	MAM	NBW
0	03/31/26	100% DESIGN SUBMITTAL		

REVISION SUMMARY

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL B. WHITE
S-4818
STRUCTURAL
STATE OF CALIFORNIA

DESIGNER: MAM
DRAWN BY: MAM
CHECKED BY: NBW
APPROVED BY: NBW
DATE: 03/31/2026

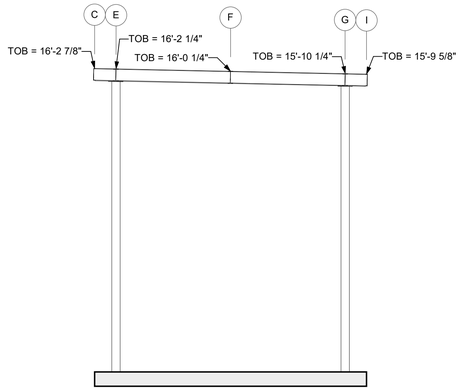
SLUDGE TANK CANOPY FRAMING PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

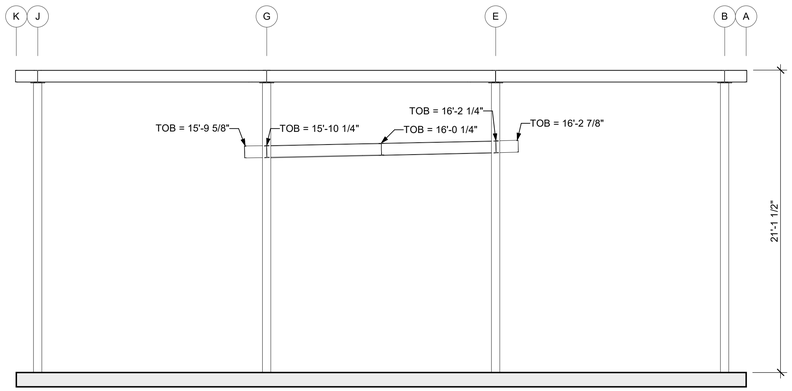
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FILE NAME: 230457 - CAMP ROBERTS WWTP

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S10

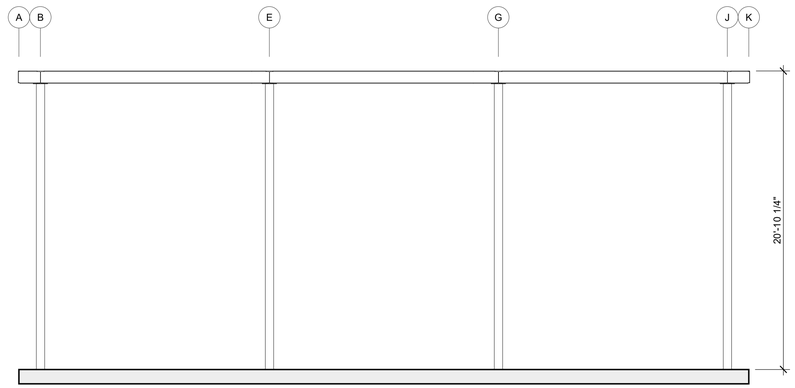
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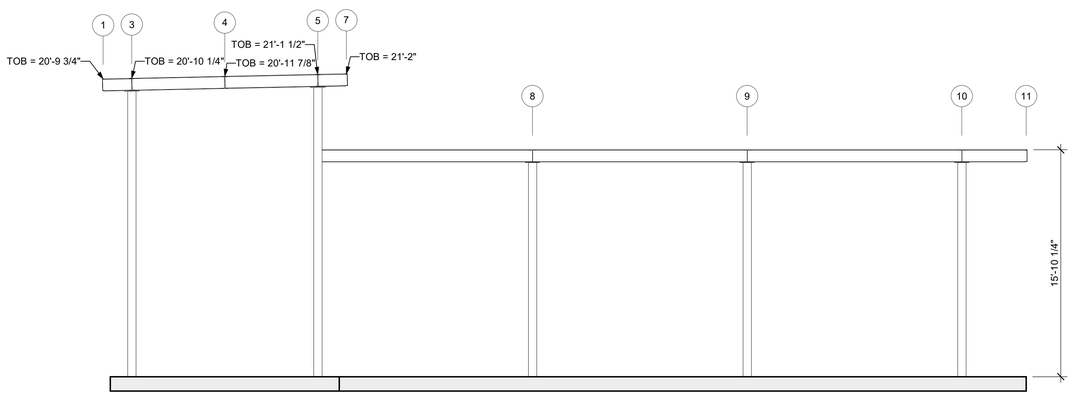
GRIDLINE 7 & 8 & 9 ELEVATION - LOOKING PLAN EAST (A)



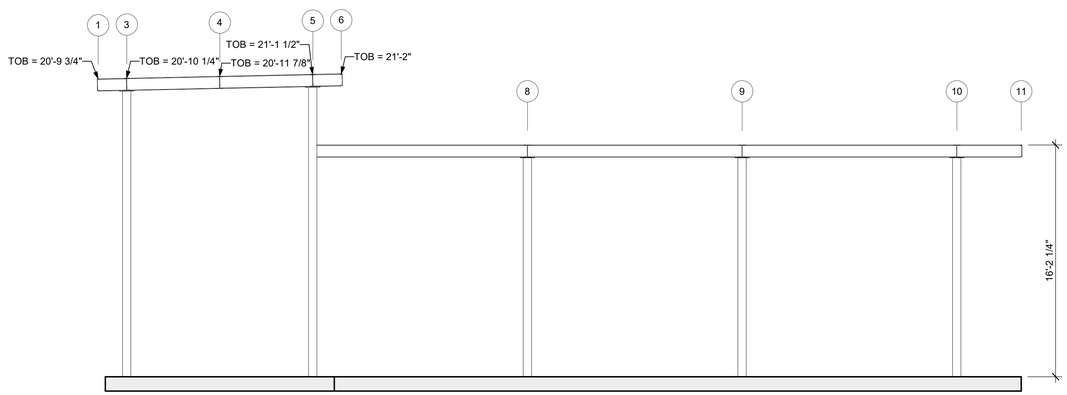
GRIDLINE 5 ELEVATION - LOOKING PLAN WEST (B)



GRIDLINE 3 ELEVATION - LOOKING PLAN EAST (C)



GRIDLINE G ELEVATION - LOOKING PLAN NORTH (E)



GRIDLINE E ELEVATION - LOOKING PLAN NORTH (D)

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REGISTERED PROFESSIONAL ENGINEER
MATTHEW A. WHITAKER
S 4616
STATE OF CALIFORNIA

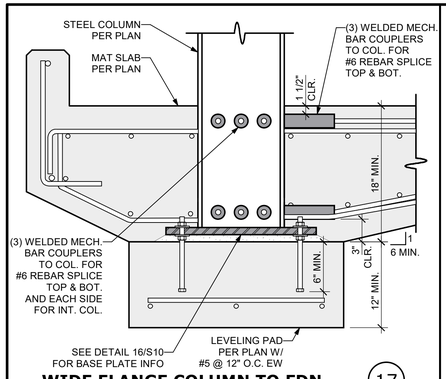
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SLUDGE TANK CANOPY ELEVATION VIEW

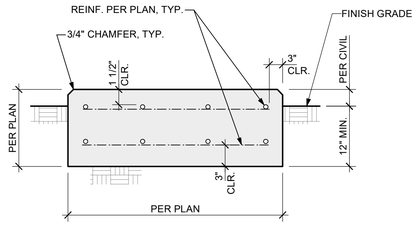
WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 230457 | FILE NAME: 230457 - CAMP ROBERTS WWTP

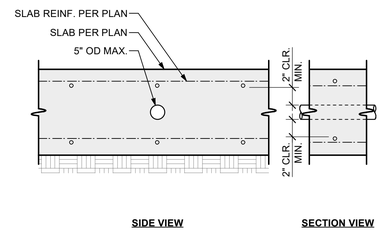
SHEET NO. **S11**
SHEET 29 OF
REVISION **0**



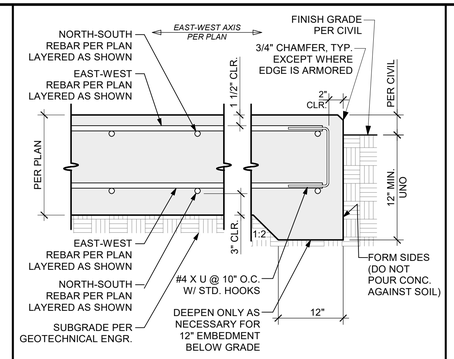
WIDE FLANGE COLUMN TO FDN. 17



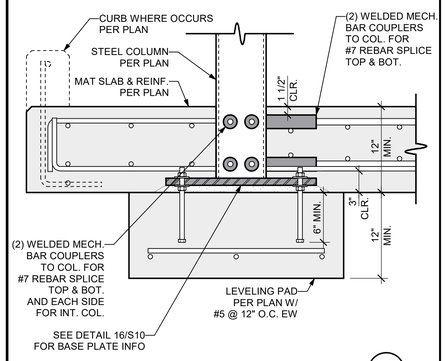
TYPICAL ISOLATED PAD 13



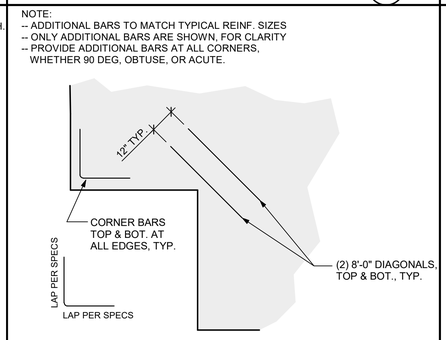
TYPICAL PIPE THROUGH SLAB 9



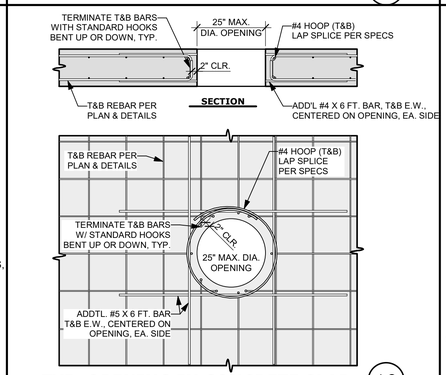
TYP. MAT SLAB SECTION W/O CURB 5



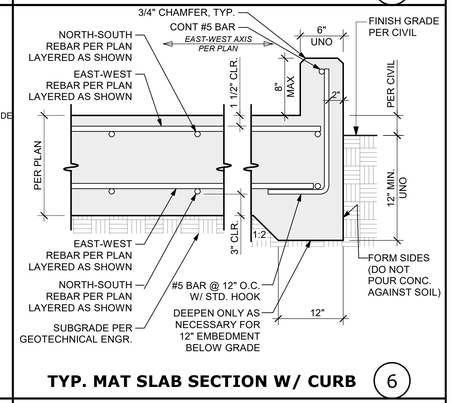
HSS COLUMN TO FOUNDATION 18



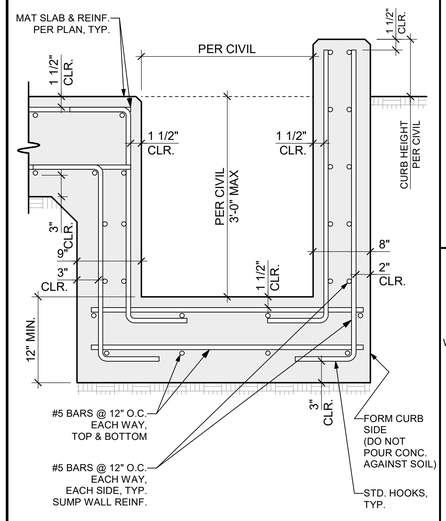
TYPICAL SLAB CORNER DETAIL 14



TYP. OPENING IN CONCRETE SLAB 10

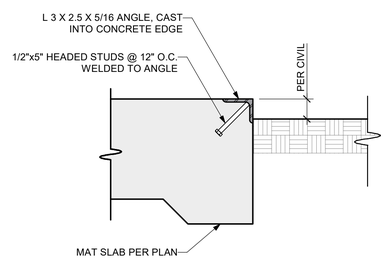


TYP. MAT SLAB SECTION W/ CURB 6

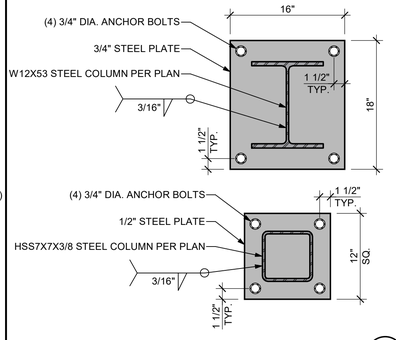


SUMP PIT IN CONC. MAT SLAB 20

NOTE: STEEL ANGLE & BOLTS ASSEMBLY SHALL BE HDG AFTER FABRICATION

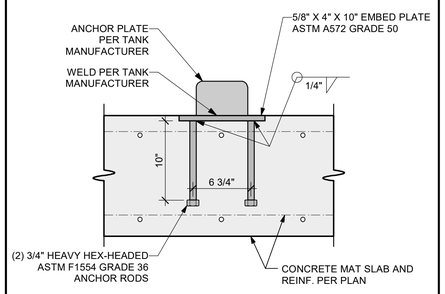


ARMORED CONCRETE SLAB EDGE 15

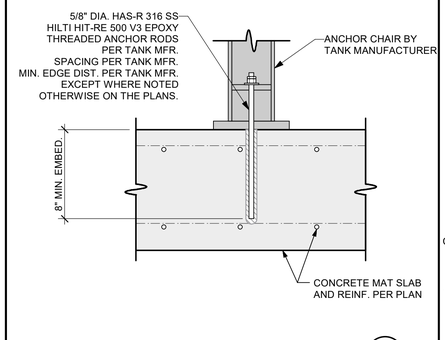


STEEL COLUMN BASE PLATE 16

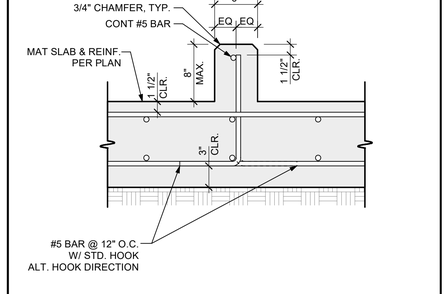
NOTE:
-- HOT DIP GALVANIZE EMBED PLATE & ROD ASSEMBLY.
-- COLD GALVANIZE AFTER WELDING ANCHOR PLATE WHERE HOT DIP GALVANIZING IS AFFECTED BY WELDING.



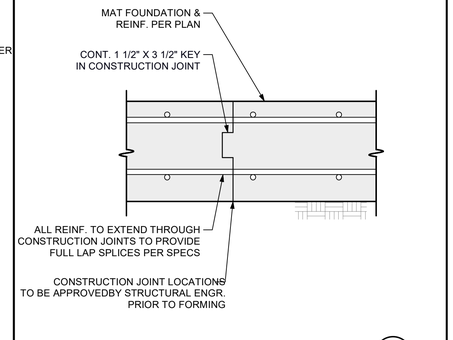
SLUDGE TANK ANCHORAGE 11



EPOXIED TANK ANCHORAGE 12



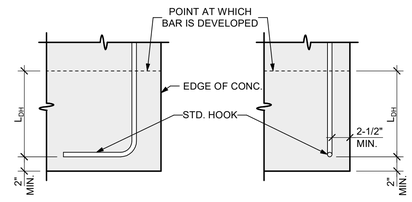
TYP. MAT SLAB W/ INTERIOR CURB 7



TYP. MAT CONSTRUCTION JOINT 8

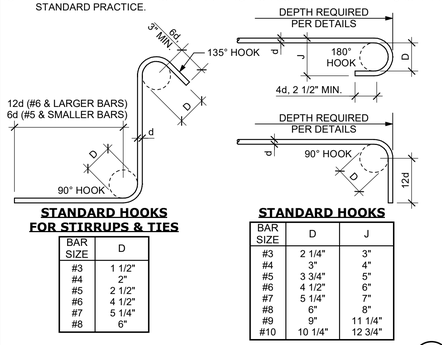
BAR SIZE	TENSION LAP SPLICE LENGTH, CLASS B (IN.)[5] TOP	TENSION LAP SPLICE LENGTH, CLASS B (IN.)[5] OTHER	DEVELOPMENT LENGTH, L_D (IN.)[5] TOP	DEVELOPMENT LENGTH, L_D (IN.)[5] OTHER	HOOK DEVELOPMENT LENGTH, L_{DH} (IN.)[6] CASE 1	HOOK DEVELOPMENT LENGTH, L_{DH} (IN.)[6] CASE 2
#3	16	16	12	12	8	6
#4	20	16	15	12	10	7
#5	29	23	23	18	12	9
#6	40	31	31	24	15	11
#7	65	50	50	39	17	13
#8	81	62	62	48	19	14
#9	98	76	75	59	22	16
#10	119	92	91	71	25	18
#11	141	108	109	83	27	20

NOTES:
1. ALL SPLICES SHALL BE TENSION LAP SPLICES UNO.
2. LENGTHS SHOWN ASSUME 1" MINIMUM CLEAR COVER AND 2" MINIMUM CLEAR SPACING BETWEEN BARS. CONTACT T&S WHERE TIGHTER BAR SPACINGS ARE REQUIRED.
3. LENGTHS SHOWN ARE FOR GRADE 60 UNCOATED BARS. WHERE 40 KSI #3 BARS ARE ALLOWED, 16" LAP SPLICES, 12" DEVELOPMENT LENGTHS, & 6" HOOK DEVELOPMENT LENGTHS MAY BE USED.
4. LENGTHS SHOWN ARE FOR NORMAL WEIGHT CONCRETE. INCREASE LENGTHS 30% FOR LIGHT WEIGHT CONCRETE.
5. TOP BARS ARE HORIZONTAL BARS PLACED WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THEM.
6. CASE 1 HOOK DEVELOPMENT LENGTHS MUST BE USED UNLESS CASE 2 MINIMUM SIDE COVER AND HOOK COVER REQUIREMENTS ARE MET AS SHOWN BELOW.



REBAR LAP SPLICE & DEV. LENGTHS 3

NOTE: ALL BAR BEND DIAMETERS AND END LENGTHS MUST CONFORM TO THE CRSI MANUAL OF STANDARD PRACTICE.



STANDARD HOOKS FOR STIRRUPS & TIES

BAR SIZE	D
#3	1 1/2"
#4	2"
#5	2 1/2"
#6	4 1/2"
#7	5 1/4"
#8	6"

STANDARD HOOKS

BAR SIZE	D	J
#3	2 1/4"	3"
#4	3"	4"
#5	3 3/4"	5"
#6	4 1/2"	6"
#7	5 1/4"	7"
#8	6"	8"
#9	9"	11 1/4"
#10	10 1/4"	12 3/4"

TYP. REINFORCEMENT BAR BENDS 4

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PREPARED BY: Weaver Consultants Group
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PREPARED FOR:
CALIFORNIA MILITARY DEPARTMENT
11601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

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A	02/28/18	35% DESIGN		

REVISION SUMMARY

SCALE: NTS

PROFESSIONAL ENGINEER — REGISTERED — MICHAEL B. WITTE — S 4618 — STRUCTURAL — STATE OF CALIFORNIA

DESIGNER:	MAM
DRAWN BY:	MAM
CHECKED BY:	NBW
APPROVED BY:	NBW
DATE:	03/31/2026

STRUCTURAL DETAILS

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 230457 | FILE NAME: 230457 - CAMP ROBERTS WWTP

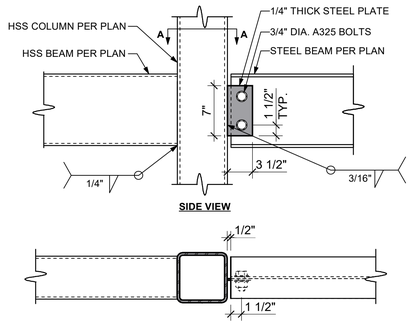
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SHEET 30 OF

REVISION **0**

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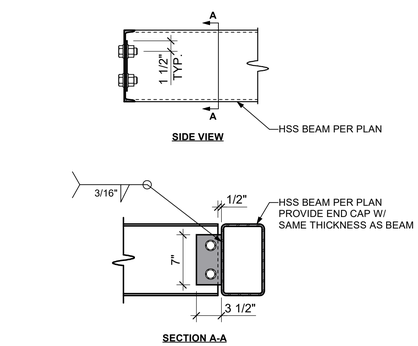
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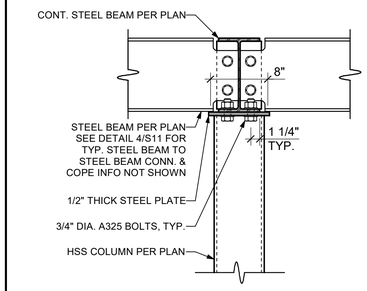
BEAMS TO CONT. HSS COLUMN 13

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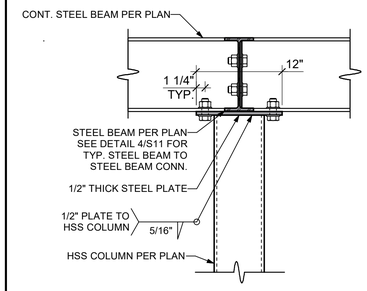
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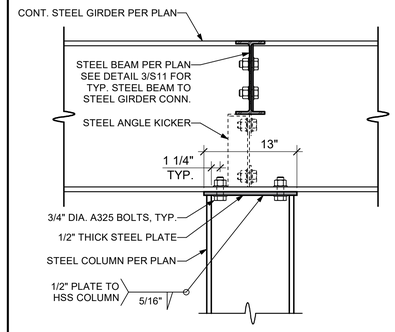


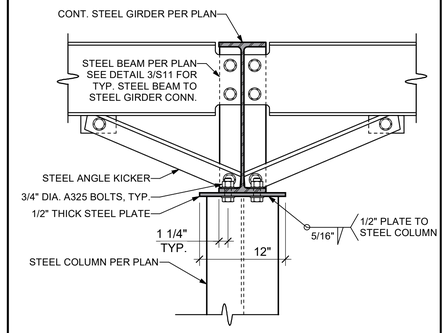
BEAMS TO CONT. HSS COLUMN 14



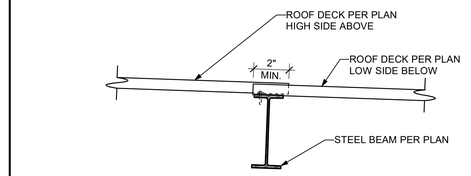
STEEL BEAM TO HSS COLUMN 10



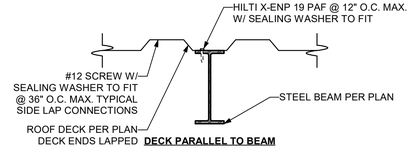




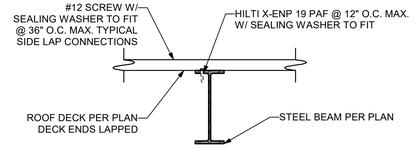
STEEL BEAM TO WIDE FLANGE COL. 6



DECK LAP - LOW SIDE DOWN FIRST



DECK PARALLEL TO BEAM

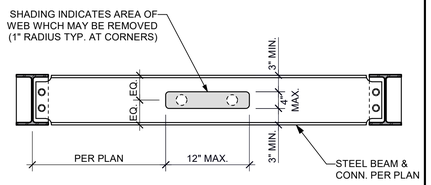


DECK PERPENDICULAR TO BEAM

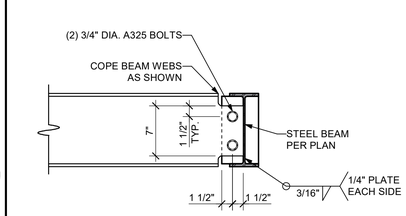
ROOF DECK TO STEEL FRAMING 2

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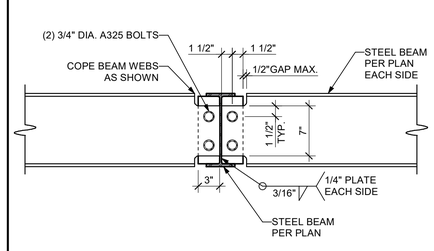
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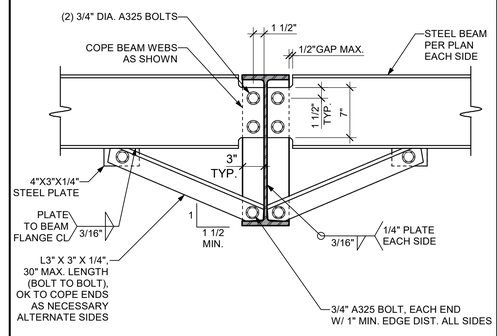
TYP. SMALL BEAM PENETRATIONS 15



STEEL BEAM TO STEEL BEAM 11



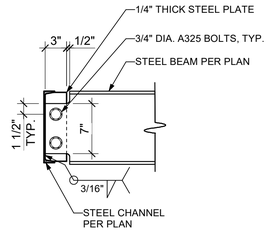
STEEL BEAM TO STEEL BEAM 7



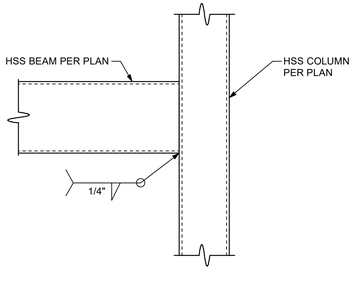
STEEL BEAM TO STEEL GIRDER 3

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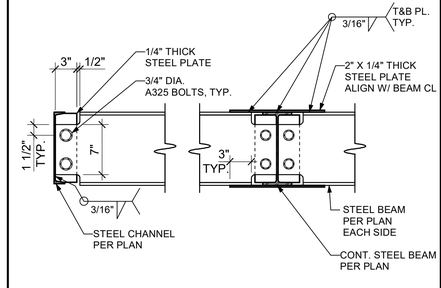
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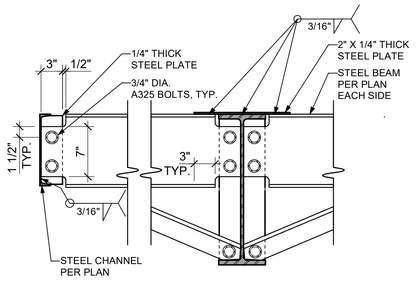
STEEL BEAM TO STEEL CHANNEL 16



HSS BEAM TO HSS COLUMN 12



ROOF OVERHANG STEEL FRAMING 8



ROOF OVERHANG STEEL FRAMING 4

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PREPARED BY
Weaver Consultants Group
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IRVINE, CALIFORNIA 92618-5302

PREPARED FOR
CALIFORNIA MILITARY DEPARTMENT
10601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

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A	02/28/18	35% DESIGN		

REVISION SUMMARY

SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER
DANIEL B. WITTE
S 4618
STRUCTURAL
STATE OF CALIFORNIA

DESIGNER: MAM
DRAWN BY: MAM
CHECKED BY: NBW
APPROVED BY: NBW
DATE: 03/31/2026

STRUCTURAL DETAILS

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 230457
FILE NAME: 230457 - CAMP ROBERTS WWTP

SHEET NO. **S13**
SHEET 31 OF
REVISION **0**

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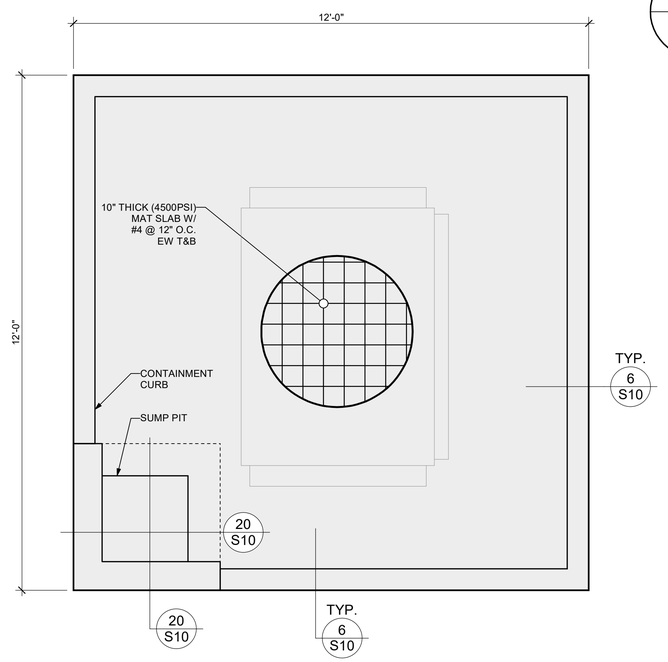
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DUMPSTER FOUNDATION PLAN 3

PLAN NORTH

N

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SCALE: NTS

REGISTERED PROFESSIONAL ENGINEER — MICHAEL B. WHITTAKER — No. S 4818 — STRUCTURAL — STATE OF CALIFORNIA

DESIGNER: MAM
DRAWN BY: MAM
CHECKED BY: NBW
APPROVED BY: NBW
DATE: 03/31/2026

STRUCTURAL DETAILS

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 230457 | FILE NAME: 230457 - CAMP ROBERTS WWTP

SHEET NO. **S14**

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REVISION **0**

SCHEMATIC DIAGRAM SYMBOLS

- CR — CONTROL RELAY
- TD — TIME DELAY RELAY
- AR — ALARM RELAY
- ETM — ELAPSED TIME METER
- M — MOTOR STARTER OR CONTACTOR COIL
- PC — PHOTO CELL
- R — BEACON ALARM LIGHT LETTER INDICATES COLOR R=RED, A=AMBER, B=BLUE, G=GREEN
- R — PILOT LIGHT LETTER INDICATES COLOR R=RED, A=AMBER, B=BLUE, G=GREEN
- OUTPUT DV/DT FILTER
- HEATING ELEMENT
- TRANSFORMER
- CT — CURRENT TRANSFORMER
- GROUND CONNECTION
- GENERATOR
- HORN — HORN
- 5 — FULL VOLTAGE NON-REVERSING (FVNR) MOTOR STARTER OR CONTACTOR NUMBER DESIGNATES NEMA SIZE
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- DI — RTU OR PLC CONTACT
- HAND AUTO XO — 2 POSITION SELECTOR SWITCH POSITION LEGEND: X=CLOSED O=OPEN
- OFF HAND AUTO XOO — 3 POSITION SELECTOR SWITCH HAND – OFF – AUTO POSITION LEGEND: X=CLOSED O=OPEN
- NORMALLY CLOSED PUSH BUTTON
- LOCKOUT STOP PUSH BUTTON
- NORMALLY OPEN PUSH BUTTON
- EMERGENCY STOP PUSH BUTTON (MAINTAINED)
- AMPS — DISCONNECT SWITCH SHOWN WITH RATING AND NUMBER OF POLES
- LIMIT OR POSITION SWITCH
- PSH — PRESSURE SWITCH HIGH
- PSL — PRESSURE SWITCH LOW
- FLOW SWITCH
- LEVEL FLOAT SWITCH
- T ICTO — TIMER RELAY CONTACT INSTANTANEOUS CLOSE TIME DELAY OPEN
- T NOTC — TIMER RELAY CONTACT NORMALLY OPEN TIME DELAY CLOSE
- TEMPERATURE SWITCH
- FUSE
- AMPS — FUSEHOLDER OR FUSEBLOCK
- THERMAL OVERLOAD RELAY
- TERMINAL BLOCK
- DEVICE LOCATED AT REMOTE LOCATION
- CONDUIT SEALOFF

POWER SINGLE LINE DIAGRAM SYMBOLS

- JUNCTION BOX WITH POWER DISTRIBUTION BLOCK OR LUGS
- CONDUIT SEALOFF
- LTC CONNECTION
- MC CONNECTION
- BOND TO METALLIC WATER PIPE
- UM — UTILITY METER
- HP — MOTOR, NUMBER DESIGNATES NEMA HORSEPOWER SIZE
- FUSE
- AMPS — FUSEHOLDER OR FUSEBLOCK
- AMPS / POLES — CIRCUIT BREAKER, SHOWN WITH TRIP RATING AND NUMBER OF POLES
- AMPS MCP / POLES — MOTOR CIRCUIT PROTECTOR WITH TRIP RATING AND NUMBER OF POLES
- AMPS / POLES — DISCONNECT SWITCH SHOWN WITH RATING AND NUMBER OF POLES
- MMR — MOTOR MANAGEMENT RELAY
- SSS — SOLID STATE STARTER
- VFD — VARIABLE FREQUENCY DRIVE
- HF — HARMONIC FILTER
- EOL — ELECTRONIC OVERLOAD RELAY
- GROUND CONNECTION

SITE PLAN SYMBOLS

- TELEPHONE OUTLET
- $ — SINGLE POLE SWITCH
- $3 — 3 WAY SWITCH
- $4 — 4-WAY SWITCH
- $M — MANUAL MOTOR STARTER
- SPECIAL PURPOSE OR WELDING OUTLET
- S — SMOKE DETECTOR
- T — THERMOSTAT
- FIELD DEVICE
- P — PHOTOCELL
- GROUND ROD
- DUPLEX RECEPTACLE
- SIMPLEX RECEPTACLE
- ANTENNA/MAST
- CONDUIT SEALOFF
- DISCONNECT SWITCH
- M — MOTOR
- CONDUIT TURN UP
- CONDUIT TURN DOWN

CIRCUIT SCHEDULE LEGEND

AAA-BC
- SEQUENCE NUMBER
- TYPE C=CONTROL P=POWER
- DEVICE SERVED

ELECTRICAL ABBREVIATIONS

A	AMPERE
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AI	ANALOG INPUT
AIC	AMPS INTERRUPTING CAPACITY
AO	ANALOG OUTPUT
AS	AIR SUPPLY
ATS	AUTOMATIC TRANSFER SWITCH
BC	BYPASS CONTACTOR
C	CONDUIT
CB	CIRCUIT BREAKER
CCW	COUNTER CLOCKWISE
CL2	CHLORINE
CON	CONTACTOR
CPB	CONTROL PULLBOX
CU	COPPER, BARE
CV	CONTROL VALVE
CW	CLOCKWISE
DCS	DISTRIBUTED CONTROL SYSTEM
DI	DISCRETE INPUT
DO	DISCRETE OUTPUT
DP	DISTRIBUTION PANEL
DV/DT	DIFFERENTIAL VOLTAGE/TIME
DWG	DRAWING
ETM	ELAPSED TIME METER
EOL	ELECTRONIC OVERLOAD
EXIST	EXISTING
FA	FOUL AIR
FC	FAIL CLOSED
FE	FLOW ELEMENT
FLA	FULL LOAD AMPS
FS	FLOW SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
FW	FINISHED WATER
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GRS	GALVANIZED RIGID STEEL
H, HI	HIGH
H2S	HYDROGEN SULFIDE
HMI	HUMAN MACHINE INTERFACE
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
I	CURRENT
IC	INSTRUMENTATION CABLE
ICR	INTERMITTENT CYCLE REACTOR
IO	INPUT/OUTPUT
ISC	SHORT CIRCUIT CURRENT
JB	JUNCTION BOX
L, LO	LOW
LAN	LOCAL AREA NETWORK
LC	LOOP CONTROLLER
LCL	LEVEL CONTROL, LOW
LCP	LOCAL CONTROL PANEL
LOS	LOCK-OUT-STOP
LOR	LOCAL/OFF/REMOTE
LS	LEVEL (i.e., FLOAT) SWITCH
LTC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
M	MOTOR
MA	MANUAL/AUTO
mA	MILLIAMP
MAX	MAXIMUM
MC	MANUFACTURER'S CABLE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR(S)	MANUFACTURER(S)
MGD	MILLION GALLONS PER DAY
MGL	MILLIGRAMS PER LITER
MH	MANHOLE
MIN	MINIMUM
MOV	MOTOR OPERATED VALVE
MMR	MOTOR MANAGEMENT RELAY
MTU	MASTER TELEMETRY UNIT
NEC	NATIONAL ELECTRICAL CODE
NECA	NATIONAL ELECTRICAL CONTRACTOR ASSOCIATION
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
NIC	NOT IN CONTRACT
NOTC	NORMALLY OPEN TIMED CLOSED
NPW	NON-POTABLE WATER
NS	NITROGEN SUPPLY
NTS	NOT TO SCALE
NTU	TURBIDITY
OF	OVERFLOW
OIT	OPERATOR INTERFACE TERMINAL
OL	OVERLOAD
OLR	OVERLOAD RELAY
OO	ON/OFF (MAINTAINED)
OR	OFF-REMOTE
OSC	OPEN/STOP/CLOSE
P	PHASE
PB	PULL BOX
PCP	PROCESS CONTROL PANEL
PCV	PRESSURE CONTROL VALVE
PFR	PHASE/POWER FAILURE RELAY
PI	PULSE INPUT
PLC	PROGRAMMABLE LOGIC CONTROLLER
PLI	PLANT INFLUENT
PMP	PUMP
PNL	PANEL
PO	PULSE OUTPUT
PPB	POWER PULLBOX
PPG	POUNDS PER GALLON
PPH	POUNDS PER HOUR
PPM	PARTS PER MILLION
PR	PAIR
PRES	PRESSURE
PS	PRESSURE SWITCH
PSH	PRESSURE SWITCH, HIGH
PSI	POUNDS PER SQUARE INCH
PV	PROCESS VARIABLE
RAS	RETURN ACTIVATED SLUDGE
RW	RAW WATER
RF	RADIO FREQUENCY
RIO	REMOTE INPUT OUTPUT
RS	RAW SEWAGE
RSP	RAW SEWAGE PUMP
RST	RESET
RTD	RESISTANCE TEMPERATURE DETECTOR
RTU	REMOTE TELEMETRY UNIT
RWT	REFLECTED WAVE TRAP
SCA	SHORT CIRCUIT AMPS
SEQ	SERVICE ENTRANCE EQUIPMENT
SES	SERVICE ENTRANCE SECTION
SLC	SINGLE LOOP CONTROLLER
SLOS	START-LOCK-OUT-STOP
SMC	SUBMERSIBLE MANUFACTURER CABLE
SO2	SULFUR DIOXIDE
SP	SET POINT
SPC	SPARE CONDUIT
SPD	SURGE PROTECTIVE DEVICE
SPR	SPARE
SS	START/STOP
SSS	SOLID STATE STARTER (SOFT START)
ST	SHUNT TRIP
TC	TELEPHONE CABLE
TS	TEMPERATURE SWITCH
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VFD	VARIABLE FREQUENCY DRIVE
W	WATT, WIRE
WAS	WASTE ACTIVATED SLUDGE
WP	WEATHERPROOF
XFMR	TRANSFORMER
XMR	TRANSFORMER
XMTR	TRANSMITTER
ZS	POSITION (i.e.. LIMIT) SWITCH

ELECTRICAL LINETYPES

- EXPOSED CONDUIT
- EXISTING EXPOSED CONDUIT
- UNDERGROUND CONDUIT
- EXISTING UNDERGROUND CONDUIT
- BARE COPPER GROUND CONDUCTOR
- EXISTING
- FUTURE
- NEW ELECTRICAL EQUIPMENT
- DEMOLITION
- DETAIL VIEW OR MATCHING
- CAPPED CONDUIT STUB OUT

PXXX / CXXX — GROUPED CONDUIT AND CIRCUIT IDENTIFICATION TAGS. REFER TO THE POWER SINGLE-LINE, SCHEMATIC CONNECTION DIAGRAMS AND CIRCUIT SCHEDULE FOR CONDUIT SIZES AND CONTENTS.

P=POWER
C=CONTROL

GENERAL NOTES

1. THE COMPLETED INSTALLATION SHALL COMPLY WITH LATEST REVISION OF APPLICABLE FEDERAL, STATE, AND LOCAL CODES, ORDINANCES, AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS AND INSPECTIONS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. ALL WORK SHALL BE COMPLETED IN A NEAT, WORKMANLIKE MANNER IN ACCORDANCE WITH THE LATEST NECA STANDARDS OF INSTALLATION UNDER COMPETENT SUPERVISION. INSTALL GROUNDING PER NEC.
2. VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND OTHER FACTORS, WHICH MAY AFFECT THE EXECUTION OF THE WORK. INCLUDE ALL RELATED COSTS IN THE INITIAL BID PROPOSAL.
3. THE CONTRACTOR SHALL COORDINATE WORK WITH THE UTILITIES PROVIDING SERVICES ON THIS PROJECT, AND SHALL COMPLY WITH ALL THEIR INSTALLATION REQUIREMENTS.
4. ALL MATERIALS SHALL BE NEW AND OF THE BEST QUALITY, MANUFACTURED IN ACCORDANCE WITH THE LATEST REVISION OF NEMA, ANSI, UL, OR OTHER APPLICABLE STANDARDS. THE USE OF MANUFACTURERS' NAMES, MODELS, AND NUMBERS IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, USEFULNESS, AND BID PRICE.
5. PROTECT ALL ELECTRICAL MATERIAL AND EQUIPMENT INSTALLED AGAINST DAMAGE BY OTHER TRADES, WEATHER CONDITIONS, OR ANY OTHER PREVENTABLE CAUSES. EQUIPMENT DAMAGED DURING SHIPPING OR CONSTRUCTION, PRIOR TO ACCEPTANCE BY THE ENGINEER OR THE OWNER, WILL BE REJECTED AS DEFECTIVE.
6. LEAVE THE SITE CLEAN. REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE SCRAPS AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK DURING CONSTRUCTION. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT AND FOREIGN MATERIALS, LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK. DAMAGED PAINT AND FINISHES SHALL BE TOUCHED UP OR REPAINTED WITH MATCHING COLOR PAINT AND FINISH.
7. CIRCUIT CONDUCTORS #6 AWG OR SMALLER SHALL BE THWN STRANDED COPPER. #4 AWG THROUGH #2 AWG SHALL BE XHHW STRANDED COPPER. #1 AWG OR LARGER SHALL BE XHHW-2 STRANDED COPPER. MINIMUM POWER CONDUCTOR SIZE SHALL BE #12 AWG WITH #12 AWG GROUND.
8. UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC. MINIMUM CONDUIT DEPTH SHALL BE 24 INCHES. MINIMUM UNDERGROUND CONDUIT SIZE SHALL BE 1 INCH.
9. CONDUITS SHALL BE MARKED AT EACH END WITH MATCHING NUMBERED BRASS TAGS. SPARE CONDUITS SHALL HAVE A PULL STRING INSTALLED, SECURED, AND CAPPED.
10. EXPOSED CONDUITS SHALL BE GALVANIZED RIGID STEEL (GRS). MINIMUM SIZE 3/4 INCH, UNLESS OTHERWISE NOTED ON THE PLANS. CONDUITS INSTALLED IN WET OR CORROSIVE LOCATIONS SHALL BE PVC COATED GRS.
11. SAFETY SWITCHES, ELECTRICAL DISTRIBUTION EQUIPMENT, CONTROL PANELS, AND OTHER ELECTRICAL DEVICES SHALL BE UL LISTED, AND RATED FOR HEAVY DUTY SERVICE.
12. WIRING DEVICES SHALL BE SPECIFICATION GRADE.
13. THE CONTRACTOR IS RESPONSIBLE FOR MANAGING, SCHEDULING, DOCUMENTING, AND PERFORMING THE WORK SO THAT A COMPLETE ELECTRICAL, INSTRUMENTATION AND CONTROL SYSTEM FOR THE FACILITY IS PROVIDED. ACCURATE SHOP AND RECORD DRAWINGS, AND O&M MANUALS SHALL BE SUBMITTED PRIOR TO FINAL ACCEPTANCE OF THE WORK.
14. TYPICAL DETAILS SHALL APPLY IN ALL CASES, WHETHER SPECIFICALLY REFERRED TO OR NOT.

NCS ENGINEERING PE

PREPARED BY: Weaver Consultants Group

PREPARED FOR: CAL GUARD — CALIFORNIA MILITARY DEPARTMENT — 10801 BEAR HOLLOW DRIVE — RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
A	02/28/18	30% DESIGN	BB	JP
B	04/17/24	REVISIONS TO 60% SUBMITTAL DESIGN	TMH	TMH
C	05/06/24	95% DESIGN SUBMITTAL	TMH	TMH
D	08/08/25	RESPECTFORM DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	100% DESIGN SUBMITTAL	TMH	TMH
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH

REVISION SUMMARY

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
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REGISTERED PROFESSIONAL ENGINEER — BRIAN A. GORDON — No. 17607 — Exp. 06/30/27 — ELECTRICAL — STATE OF CALIFORNIA

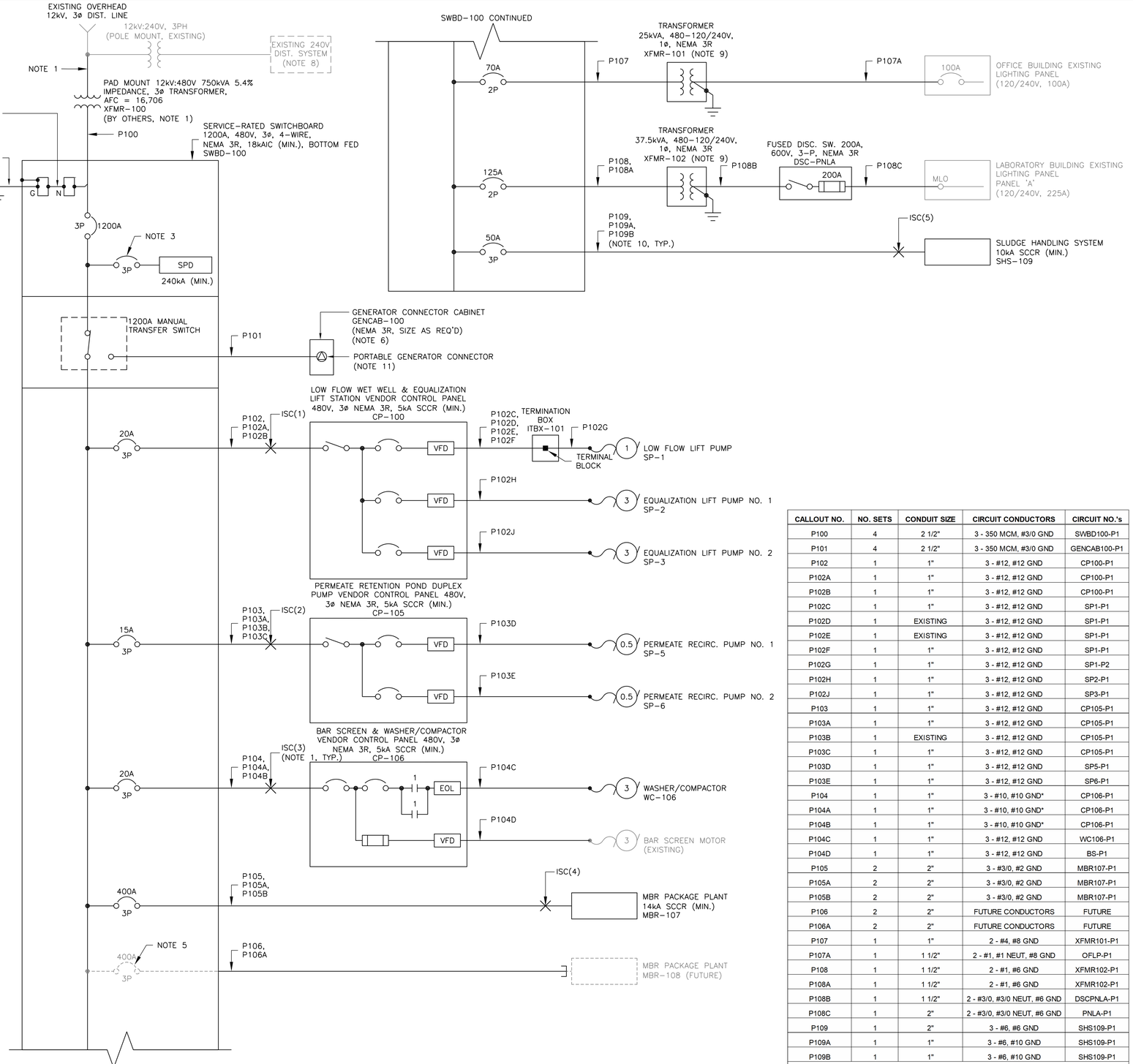
DESIGNER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
JA/DN	JA	DN	AGA	03/31/2026

ELECTRICAL SYMBOLS, NOTES, AND LEGEND

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME:

SHEET No. **E01**
30
REVISION 0



A SINGLE LINE DIAGRAM

NOTES:

1. PAD MOUNTED TRANSFORMER WILL BE PROVIDED BY OWNER AND INSTALLED BY CONTRACTOR. ASSOCIATED CONCRETE PAD SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR. FEED FROM EXISTING OVERHEAD 12KV LINE TO TRANSFORMER PRIMARY WILL BE BY OWNER.
2. ALL SHORT CIRCUIT INTERRUPTING AND PROTECTING DEVICES SHALL HAVE A SHORT CIRCUIT INTERRUPTING RATING EQUAL TO OR GREATER THAN THE AVAILABLE SHORT CIRCUIT CURRENT ON ON RESPECTIVE BUS.
3. UNSIZED OVERCURRENT PROTECTIVE DEVICES SHALL BE SIZED PER ASSOCIATED EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
4. ALL OVERCURRENT PROTECTIVE DEVICES SHALL BE PROPERLY COORDINATED SO AS TO ENSURE LOCALIZATION OF OVERCURRENT CONDITIONS TO THE CIRCUIT OR EQUIPMENT AFFECTED.
5. WITHIN PANEL DP-100, ENSURE THERE IS SUFFICIENT PROVISIONAL SPACE TO ACCOMMODATE A FUTURE 400A, 3-POLE CIRCUIT BREAKER FOR (POTENTIAL) FUTURE MBR PACKAGED PLANT ALONG WITH SPACE FOR A MINIMUM OF THREE ADDITIONAL 100A, 3-POLE CIRCUIT BREAKERS.
6. INSTALL SIGN ON GENERATOR TERMINATION CABINET INDICATING THE FOLLOWING: 1) ENSURE PORTABLE GENERATOR BONDING JUMPER IS INSTALLED AS GENERATOR WILL BE CONSIDERED TO BE A SEPARATELY DERIVED SOURCE. 2) ENSURE GENERATOR MAIN CIRCUIT BREAKER RATING/SETTING DOES NOT EXCEED 1200A.
7. REFERENCE E03 FOR SHORT CIRCUIT CALCULATIONS.
8. EXISTING 240V, 3PH DISTRIBUTION SYSTEM SHALL REMAIN IN OPERATION UNTIL NEW 480V, 3PH DISTRIBUTION SYSTEM AND NEW PLANT TREATMENT SYSTEM ARE FULLY OPERATIONAL.
9. ENSURE LOCATION OF TRANSFORMER PRIMARY DISCONNECTING MEANS IS CLEARLY MARKED ON TRANSFORMERS 'XFMR-101' AND 'XFMR-102'.
10. GROUPED CALLOUTS REPRESENT CONDUIT RUNS BETWEEN PULL BOXES WHICH HAVE NOT BEEN SHOWN ON SINGLE LINE IN ORDER TO REDUCE DRAWING CONGESTION. REFER TO CONDUIT BLOCK DIAGRAM ON E08 FOR FURTHER CLARIFICATION.
11. GENERATOR TERMINATION CABINET SHALL BE EQUIPPED WITH POWER DISTRIBUTION LUGS CAPABLE OF ACCOMMODATING (4) PARALLEL SETS OF (3) 500MCM CONDUCTORS. IN ADDITION, (1) ADDITIONAL LUG SHALL BE PROVIDED TO ACCOMMODATE UP TO A 500MCM GROUND CONDUCTOR.

CALLOUT NO.	NO. SETS	CONDUIT SIZE	CIRCUIT CONDUCTORS	CIRCUIT NO.'s
P100	4	2 1/2"	3 - 350 MCM, #3/0 GND	SWBD100-P1
P101	4	2 1/2"	3 - 350 MCM, #3/0 GND	GENCAB100-P1
P102	1	1"	3 - #12, #12 GND	CP100-P1
P102A	1	1"	3 - #12, #12 GND	CP100-P1
P102B	1	1"	3 - #12, #12 GND	CP100-P1
P102C	1	1"	3 - #12, #12 GND	SP1-P1
P102D	1	EXISTING	3 - #12, #12 GND	SP1-P1
P102E	1	EXISTING	3 - #12, #12 GND	SP1-P1
P102F	1	1"	3 - #12, #12 GND	SP1-P1
P102G	1	1"	3 - #12, #12 GND	SP1-P2
P102H	1	1"	3 - #12, #12 GND	SP2-P1
P102J	1	1"	3 - #12, #12 GND	SP3-P1
P103	1	1"	3 - #12, #12 GND	CP105-P1
P103A	1	1"	3 - #12, #12 GND	CP105-P1
P103B	1	EXISTING	3 - #12, #12 GND	CP105-P1
P103C	1	1"	3 - #12, #12 GND	CP105-P1
P103D	1	1"	3 - #12, #12 GND	SP5-P1
P103E	1	1"	3 - #12, #12 GND	SP6-P1
P104	1	1"	3 - #10, #10 GND*	CP106-P1
P104A	1	1"	3 - #10, #10 GND*	CP106-P1
P104B	1	1"	3 - #10, #10 GND*	CP106-P1
P104C	1	1"	3 - #12, #12 GND	WC106-P1
P104D	1	1"	3 - #12, #12 GND	BS-P1
P105	2	2"	3 - #3/0, #2 GND	MBR107-P1
P105A	2	2"	3 - #3/0, #2 GND	MBR107-P1
P105B	2	2"	3 - #3/0, #2 GND	MBR107-P1
P106	2	2"	FUTURE CONDUCTORS	FUTURE
P106A	2	2"	FUTURE CONDUCTORS	FUTURE
P107	1	1"	2 - #4, #8 GND	XFMR101-P1
P107A	1	1 1/2"	2 - #1, #1 NEUT, #8 GND	OFLP-P1
P108	1	1 1/2"	2 - #1, #6 GND	XFMR102-P1
P108A	1	1 1/2"	2 - #1, #6 GND	XFMR102-P1
P108B	1	1 1/2"	2 - #3/0, #3/0 NEUT, #6 GND	DSCPNLA-P1
P108C	1	2"	2 - #3/0, #3/0 NEUT, #6 GND	PNLA-P1
P109	1	2"	3 - #6, #6 GND	SHS109-P1
P109A	1	1"	3 - #6, #10 GND	SHS109-P1
P109B	1	1"	3 - #6, #10 GND	SHS109-P1

* DENOTES CONDUCTORS THAT HAVE BEEN UPSIZED TO OFFSET VOLTAGE DROP

B CALLOUT SCHEDULE

CIRCUIT/DESCRIPTION	KVA	HP	FLA
MOTOR LOADS			
LOW FLOW LIFT PUMP SP-1		1.0	2.1
EQUALIZATION LIFT PUMP SP-2		3.0	4.8
EQUALIZATION LIFT PUMP SP-3		3.0	4.8
PERMEATE RECIRCULATION PUMP SP-5		0.5	1.1
PERMEATE RECIRCULATION PUMP SP-6		0.5	1.1
WASHER/COMPACTOR		3.0	4.8
BAR SCREEN (EXISTING)		3.0	4.8
MBR PACKAGE PLANT MBR-107			320.0
MBR PACKAGE PLANT MBR-108 (FUTURE)			320.0
SLUDGE HANDLING SYSTEM			40.0
NON-MOTOR LOADS			
OFFICE BUILDING TRANSFORMER XFMR-101	25.0		52.1
LABORATORY BUILDING TRANSFORMER XFMR-102	37.5		78.1
SUBTOTAL			833.7
+ 25% OF LARGEST MOTOR*			13.0
TOTAL AMPS @ 480V/3PHASE			846.7
TRANSFORMER CAPACITY (AMPS)			904.0

* +25% OF LARGEST MOTOR VALUE IS BASED ON LARGEST MBR SYSTEM MOTOR (40HP)

C LOAD CALCULATIONS

PREPARED BY: Weaver Consultants Group

PREPARED FOR: CAL GUARD, CALIFORNIA MILITARY DEPARTMENT

CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	08/08/25	RE-REVIEW FINAL DESIGN SUBMITTAL	TMH	TMH
C	12/04/24	65% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL, 95% DESIGN	TMH	TMH
A	02/29/18	30% DESIGN	BB	JP

REVISION SUMMARY

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — BRIAN D. NEWTON — No. 17507 — Exp. 06/30/27 — ELECTRICAL — STATE OF CALIFORNIA

DESIGNER: JA/DN
DRAWN BY: JA
CHECKED BY: DN
APPROVED BY: AGA
DATE: 03/31/2026

SINGLE LINE DIAGRAM

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME:

SHEET No. E02
31
REVISION 0

NCS ENGINEERING PE

NOTES:

1. MULTI-MODE FIBER OPTIC CABLE SHALL BE RUGGEDIZED INDOOR/OUTDOOR RATED, TYPE OM2, OM3 OR OM4, 6-STRAND MINIMUM.

SHORT CIRCUIT CALCULATIONS

DEFINITIONS		FORMULAS	
ISC =	SHORT CIRCUIT CURRENT (AMPS)	3 PH: f =	1.732 x L x Isc / N x C x V L-L
N =	NUMBER OF CONDUCTORS/PHASE		
L =	LENGTH OF CONDUCTOR (FEET)	1 PH: f =	2 x L x Isc / N x C xV L-L
C =	CONSTANT FROM TABLE OF "C"		
Isc =	AVAILABLE SHORT-CIRCUIT AMPS		
V L-L =	LINE TO LINE VOLTAGE (VOLTS)		
V P =	PRIMARY VOLTAGE	1 PH XFMR: f =	Iscx VP x % Z / 100,000 x KVA
V S =	SECONDARY VOLTAGE		
% Z =	TRANSFORMER % IMPEDANCE		

ISC(1)

$$f1 = \frac{1.732 \times 230 \times 16{,}706}{1 \times 617 \times 480} = 22.471$$

$$M = \frac{1}{1 + 22.471} = 0.0426$$

ISC(1) = 16,706 x 0.0426 = 712 A

ISC(2)

$$f1 = \frac{1.732 \times 360 \times 16{,}706}{1 \times 617 \times 480} = 35.172$$

$$M = \frac{1}{1 + 35.172} = 0.0276$$

ISC(2) = 16,706 x 0.0276 = 461 A

ISC(3)

$$f1 = \frac{1.732 \times 670 \times 16{,}706}{1 \times 617 \times 480} = 65.4589$$

$$M = \frac{1}{1 + 65.4589} = 0.015$$

ISC(3) = 16,706 x 0.015 = 251 A

ISC(4)

$$f1 = \frac{1.732 \times 270 \times 16{,}706}{2 \times 13923 \times 480} = 0.5845$$

$$M = \frac{1}{1 + 0.5845} = 0.6311$$

ISC(4) = 16,706 x 0.6311 = 10,543 A

ISC(5)

$$f5 = \frac{1.732 \times 290 \times 16{,}706}{1 \times 2430 \times 480} = 7.194$$

$$M = \frac{1}{1 + 7.194} = 0.122$$

ISC(5) = 16,706 x 0.122 = 2,038 A

A SHORT CIRCUIT CALCULATIONS

SHEET NO.	CIRCUIT	CONDUCTORS
E05	LCS110-C1	7 - #14, #14 GND
E05	LCS106-C1	7 - #14, #14 GND
E05	LE1A-C1	1 - IC, #14 GND
E05	LE1B-C	1 - IC, #14 GND
E05	14SSOL-C1	2 - #14, #14 GND
E05	15SSOL-C1	2 - #14, #14 GND
E05	ZS110-C1	2 - #14, #14 GND
E05	CP106-C1	1 - MULTI MODE FIBER OPTIC CABLE (NOTE 1)
E05	FIT-C1	1 - IC, #14 GND
E05	CP100-C1	1 - CAT6 CABLE
E05	MBR107-C1	1 - CAT6 CABLE
E05	SHS109-C1	1 - CAT6 CABLE
E05	CP105-C1	1 - MULTI MODE FIBER OPTIC CABLE (NOTE 1)
E05	LSLL102-C1	1 - MANUF. CABLE
E05	LSH102-C1	1 - MANUF. CABLE
E05	LSHH102-C1	1 - MANUF. CABLE
E05	LT102-C1	1 - MANUF. CABLE
E05	LSLL105-C1	1 - MANUF. CABLE
E05	LSH105-C1	1 - MANUF. CABLE
E05	LSHH105-C1	1 - MANUF. CABLE
E05	LT105-C1	1 - MANUF. CABLE
E05	SP1-C1	4 - #14, #14 GND
E05	LSLL101-C2	2 - #14, #14 GND
E05	LSH101-C2	2 - #14, #14 GND
E05	LSHH101-C2	2 - #14, #14 GND
E05	LT101-C2	1 - MANUF. CABLE
E05	LSLL101-C1	1 - MANUF. CABLE
E05	LSH101-C1	1 - MANUF. CABLE
E05	LSHH101-C1	1 - MANUF. CABLE
E05	LT101-C1	1 - IC, #14 GND
E06	LCP107-P1	2 - #12, #12 GND
E06	LCP107-P2	2 - #12, #12 GND
E06	LCP107-P3	2 - #12, #12 GND
E06	LCP107-P4	2 - #12, #12 GND
E06	LCP107-C1	4 - #12, #12 GND
E06	LIGHT-P1	2 - #12, #12 GND
E06	RECEPT-P1	2 - #12, #12 GND

B MASTER CIRCUIT SCHEDULE

LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MOUNTING	MANUFACTURER	LAMPS	REMARKS
▯	120V, 4' LED STRIP, NEMA 4X RATED WITH CORROSION RESISTANT FINISH, STAINLESS STEEL MOUNTING HARDWARE AND BRACKETS WITH SILICONE GASKETS.	SURFACE	LITHONIA LIGHTING FEX LED SERIES OR EQUAL	6-8k LUMEN OUTPUT, 4000K	
□	DIE CAST HOUSING, HORIZONTAL ARM MOUNT, 120V, 60 LED FIXTURE, FULL CUTOFF. UL LISTED FOR WET LOCATIONS, BRONZE COLOR WITH INTEGRAL PHOTOCELL.	POLE	SPAULDING LIGHTING CIMARRON LED, OR EQUAL	12-15K LUMEN OUTPUT, 3000K LED	SHALL COMPLY WITH CITY, COUNTY, AND STATE DARK SKY ORDINANCES

C LIGHTING FIXTURE SCHEDULE

PREPARED BY: Weaver Consultants Group

PREPARED FOR: CAL GUARD, CALIFORNIA MILITARY DEPARTMENT

CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
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REVISION SUMMARY

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

BRIAN A. HOPPING, REGISTERED ELECTRICAL ENGINEER, No. 17607, Exp. 06/30/27, ELECTRICAL, STATE OF CALIFORNIA

DESIGNER: JA/DN
DRAWN BY: JA
CHECKED BY: DN
APPROVED BY: AGA
DATE: 03/31/2026

ELECTRICAL SCHEDULES

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME:

SHEET No. **E03**
32
REVISION 0

NCS ENGINEERING PE

NOTES:

1. REFER TO CONDUIT BLOCK DIAGRAM ON E08 FOR CONDUIT INFORMATION/REQUIREMENTS (I.E. TO/FROM ROUTING, TAG #'S, SIZES, CONTENTS ETC.)
2. CONDUIT ROUTING SHOWN IS APPROXIMATE AND SCHEMATIC IN NATURE. ACTUAL ROUTING SHALL BE FIELD DETERMINED.
3. ENSURE ALL DUCTBANK GROUND CONDUCTORS ARE BONDED TOGETHER.
4. UTILIZE FOUR EXISTING SPARE 20A CIRCUIT BREAKERS IN EXISTING PANEL WITHIN THE OFFICE BUILDING TO FEED NEW LIGHTING CONTROL PANEL, SITE RECEPTACLES, AND NEW POLE LIGHT.
5. TAG NUMBERS SHOWN FOR EXISTING PULL BOXES DO NOT REFLECT DESIGNATIONS IN THE FIELD. THEY ARE LABELED FOR ASSOCIATION PURPOSES WITHIN THIS DESIGN SET.
6. REFERENCE E03 FOR LIGHT FIXTURE SCHEDULE.
7. EXISTING SCREENINGS CONTROL PANEL SHALL BE REMOVED AND RETURNED TO OWNER AFTER NEW SYSTEM IS PUT INTO OPERATION.
8. ENSURE CABLES IN EQUALIZATION BASIN UTILIZE STRAIN RELIEFS (I.E. KELLUMS GRIP).
9. EXISTING CLARIFIER CONTROL PANEL SHALL BE REMOVED AND RETURNED TO OWNER AFTER NEW EQUALIZATION LIFT STATION CONTROL PANEL IS IN OPERATION.
10. REFERENCE VENDOR DRAWINGS FOR LOCATION OF VENDOR-PROVIDED EQUIPMENT ASSOCIATED WITH THE BAR SCREEN PACKAGE.
11. ALL ELECTRICAL INSTALLATIONS AND EQUIPMENT WITHIN 5'-0" OF EQ. LIFT STATION, LOW FLOW WETWELL AND HEADWORKS INFLUENT CHANNEL SHALL BE COMPLIANT WITH NEC ARTICLE 500 REQUIREMENTS FOR CLASS 1 DIVISION 2 HAZARDOUS AREAS.
12. ALL ELECTRICAL INSTALLATIONS AND EQUIPMENT WITHIN EQ. LIFT STATION, LOW FLOW WETWELL AND HEADWORKS INFLUENT CHANNEL SHALL BE COMPLIANT WITH NEC ARTICLE 500 REQUIREMENTS FOR CLASS 1 DIVISION 1 RATED HAZARDOUS AREAS.

REFERENCE DETAIL B FOR PERMEATE RETENTION POND PUMP STATION DETAILS
PULL BOX PB-103P (EXISTING, NOTE 6 TYP.)
PULL BOX PB-103C (EXISTING)
PULL BOX PB-104P (EXISTING)
PULL BOX PB-104C (EXISTING)
REFERENCE DETAIL C FOR LOW FLOW WET WELL DETAILS
(NOTES 11 & 12)
SCREEN WASH & COMPACTOR WC-106
(NOTES 11 & 12)
EXISTING FLOWMETER
EXISTING BAR SCREEN CONTROL PANEL
BAR SCREEN & WASHER/COMPACTOR VENDOR CONTROL PANEL CP-106 (NOTES 7 & 10)
SLUDGE HANDLING SKID TERMINATION PANELS
SLUDGE HANDLING AND DEWATERING SYSTEM (VENDOR PROVIDED) SHS-109
PULL BOX PB-102P (EXISTING)
PULL BOX PB-102C (EXISTING)
GFCI WP
SKID BOND (TYP.)
LEVEL TRANSMITTER LT-102
EQUALIZATION LIFT PUMP NO. 1 SP-2 (YS-102, TSH-102)
EQUALIZATION LIFT PUMP NO. 2 SP-3 (YS-103, TSH-103)
FLOAT SWITCHES LSHH-102, LSH-102, LSLL-102
(NOTES 11 & 12)
PULL BOX PB-101P (EXISTING)
PULL BOX PB-101C (EXISTING)
MBR SKID CONTROL PANEL
GFCI WP
LOW FLOW WET WELL & EQUALIZATION LIFT STATION VENDOR CONTROL PANEL CP-100 (NOTES 8 & 9)
105 / E09 DUCTBANK - CONCRETE ENCASED (TYP.)
LIGHT FIXTURE (MOUNTED TO STRUCTURAL BEAM, NOTE 6, TYP.)
EXISTING PANEL 'A'
DISCONNECT DSC-PNLA
TRANSFORMER XFMR-102
MBR PACKAGE TREATMENT SYSTEM (VENDOR PROVIDED) MBR-107
GFCI WP
#4/0 BARE CU (TYP.)
EXOTHERMIC BOND TO DUCTBANK GROUNDING CONDUCTOR (TYP.)
LIGHTING CONTROL PANEL LCP-107 (MOUNTED TO STRUCTURAL I-BEAM) OFFICE BUILDING
GFCI WP
EXISTING LIGHTING PANEL (NOTE 4)
SITE PLC CABINET PLC-100
SERVICE-RATED SWITCHBOARD SWBD-100
TRANSFORMER XFMR-101
OFFICE BLDG.
315 / E09 UNDERGROUND CONCRETE JUNCTION BOX (TYP.)
PULL BOX PB-100C
PULL BOX PB-100P
NETWORK PBOX (EXISTING)
GROUND ROD WITH TEST ACCESS WELL 406 / E09
GENERATOR CONNECTOR CABINET GENCAB-100
LIGHT FIXTURE (MOUNTED TO EXISTING POLE, NOTE 6)
TRANSFORMER XFMR-100
SKID BOND (TYP.)
MOUNT PHOTOCELL TO TOP OF SHADE STRUCTURE
BOND TO STRUCTURAL I-BEAM (TYP.)
402 / E09 "UFER" GROUNDING DETAIL (TYP.)
POLE WITH EXISTING 12KV:240V STEP-DOWN TRANSFORMERS
POLE WITH EXISTING 240V SYSTEM MAIN DISC. & ATS

A ~ OVERALL ELECTRICAL PLAN
16 12 8 4 0 8 16
SCALE: 1/16" = 1'-0"

LEVEL TRANSMITTER LT-105
PERMEATE RECIRCULATION PUMP NO. 1 SP-5 (YS-105, TSH-105)
FLOAT SWITCHES LSHH-105, LSH-105, LSLL-105
PERMEATE RECIRCULATION PUMP NO. 2 SP-6 (YS-106, TSH-106)
PERMEATE RETENTION POND DUPLEX CONTROL PANEL CP-105
207 / E09 EQUIPMENT RACK DETAIL (TYP.)

B ~ PERMEATE RETENTION POND PUMP STATION PLAN
2 1.5 1 0.5 0 1 2
SCALE: 1/2" = 1'-0"

213 / E09 WET WELL JUNCTION BOX
TERMINATION BOX ITBX-101
LOW FLOW LIFT PUMP SP-1 (YS-101, TSH-101)
FLOAT SWITCHES LSHH-101, LSH-101, LSLL-101
LEVEL TRANSMITTER LT-101

C ~ LOW FLOW WET WELL PLAN
(NOTES 11 & 12)
2 1.5 1 0.5 0 1 2
SCALE: 1/2" = 1'-0"

X:\2400'S\N2419.24 CAMP ROBERTS WASTEWATER TREATMENT PLANT - PROJECT COMPLETION\100 - E&I DESIGN_CAD FILES\N2419_E04.DWG

PREPARED BY: Weaver Consultants Group, 1 TECHNOLOGY DRIVE, SUITE G515, IRVINE, CALIFORNIA 92618-5302
PREPARED FOR: CAL GUARD, CALIFORNIA MILITARY DEPARTMENT; CALIFORNIA MILITARY DEPARTMENT, 10801 BEAR HOLLOW DRIVE, RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APP'D
D	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	09/09/25	65% RESPONSES TO CAL GUARD COMMENTS	TMH	TMH
C	07/14/25	65% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CAL 35% DESIGN	TMH	JP
A	02/28/18	35% DESIGN	BB	JP

REVISION SUMMARY

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

DESIGNER: JA/DN
DRAWN BY: JA
CHECKED BY: DN
APPROVED BY: AGA
DATE: 03/31/2026

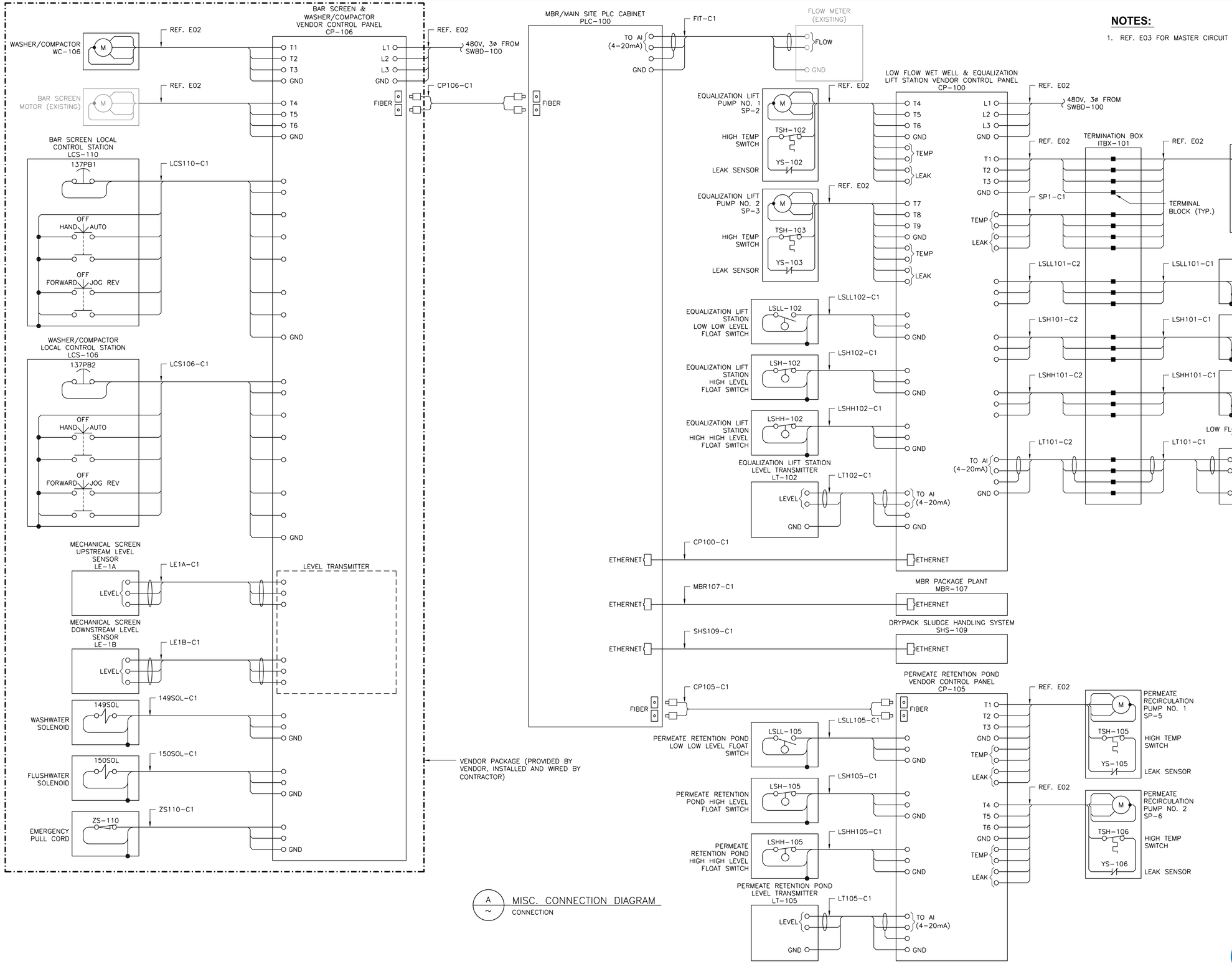
OVERALL ELECTRICAL SITE PLAN

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5690-300-01-67
FILE NAME: N2419_E04.DWG

SHEET No. E04
33
REVISION 0

NCS ENGINEERING PC



NOTES:

1. REF. E03 FOR MASTER CIRCUIT SCHEDULE.

A ~ MISC. CONNECTION DIAGRAM
CONNECTION

PREPARED BY
Weaver Consultants Group

PREPARED FOR
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA STATE GUARD
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	09/08/25	RESPECTFORK DESIGN SUBMITTAL	TMH	TMH
C	07/08/24	60% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO 60% SUBMISSION	TMH	TMH
A	02/28/18	30% DESIGN	BB	JP

REVISION SUMMARY

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED ELECTRICAL ENGINEER
BRIAN K. DINGTHER
No. 17607
Exp. 06/30/27
ELECTRICAL
STATE OF CALIFORNIA

DESIGNED: JA/DN
DRAWN BY: JA
CHECKED BY: DN
APPROVED BY: AGA
DATE: 03/31/2026

SCHEMATIC & CONNECTION DIAGRAMS - SHEET 1

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

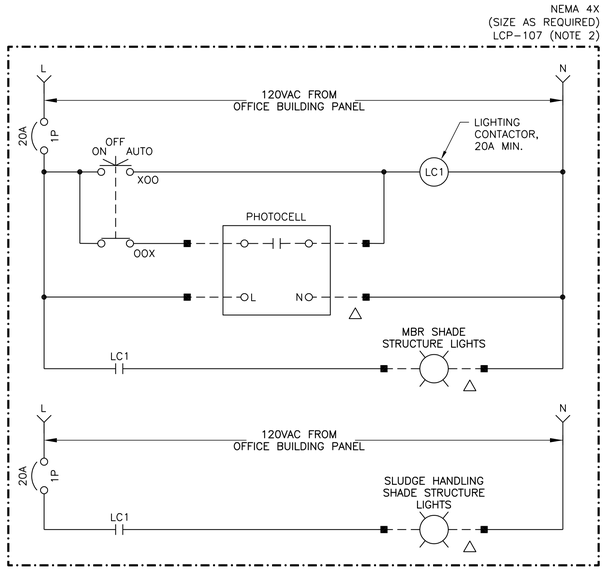
PROJECT No. 5890-300-01-67
FILE NAME:

SHEET No. E05
34
REVISION 0

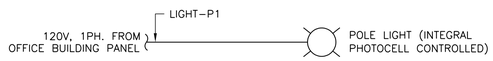
NCS ENGINEERING PC

NOTES:

1. REF. E03 FOR MASTER CIRCUIT SCHEDULE.
2. INSTALL SIGN ON LIGHTING CONTROL CABINET INDICATING THAT LIGHTING CONTROL PANEL IS FED BY TWO 120V CIRCUITS FROM OFFICE BUILDING LIGHTING PANEL.



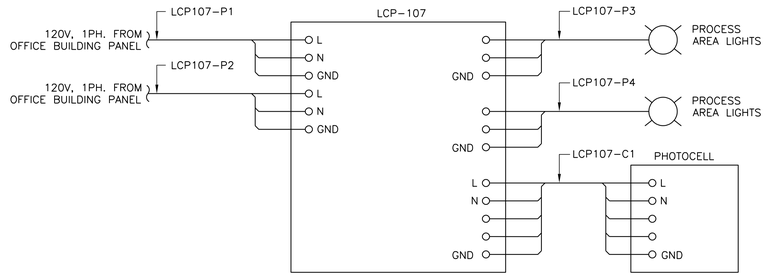
A ~ LIGHTING CONTROL PANEL SCHEMATIC (LCP-107)
SCHEMATIC



B ~ POLE LIGHT CONNECTION DIAGRAM
CONNECTION



C ~ RECEPTACLE CONNECTION DIAGRAM
CONNECTION



D ~ LIGHTING CONTROL PANEL CONNECTION (LCP-107)
CONNECTION

PREPARED BY
Weaver Consultants Group

PREPARED FOR
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
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C	04/04/25	65% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO 60% DESIGN	TMH	TMH
A	02/28/18	30% DESIGN	BB	JP

SCALE:
AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
SHAWN D. DOWNING
No. 17507
Exp. 06/30/27
ELECTRICAL
STATE OF CALIFORNIA

DESIGNER: JA/DN
DRAWN BY: JA
CHECKED BY: DN
APPROVED BY: AGA
DATE: 03/31/2026

SCHEMATIC & CONNECTION DIAGRAMS - SHEET 2

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME:

SHEET No. E06
35
REVISION 0

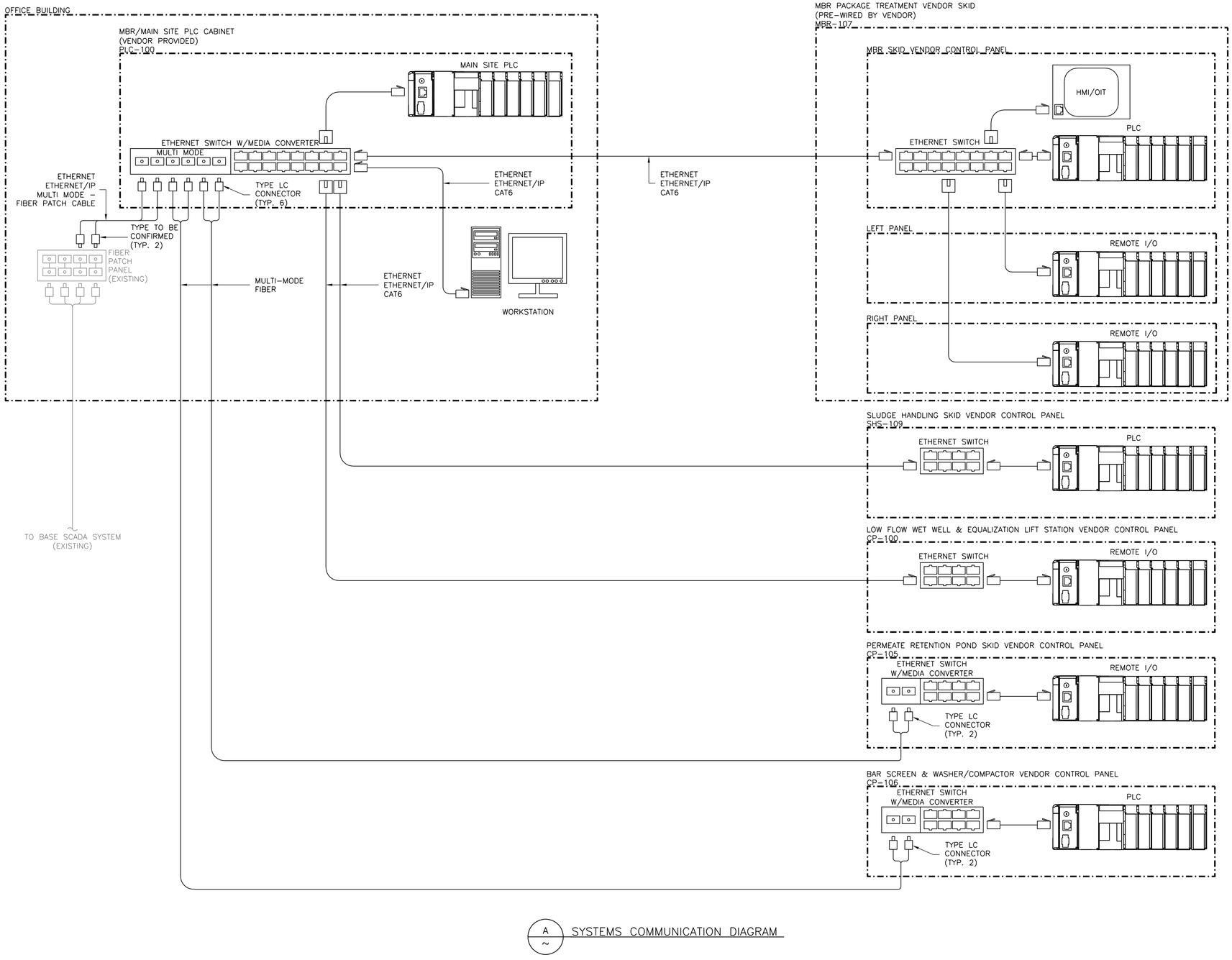
NCS ENGINEERING PE

NOTES:

1. REFER TO VENDOR DRAWINGS FOR ADDITIONAL DETAILS PERTAINING TO NETWORKING SYSTEMS PROVIDED IN EACH RESPECTIVE VENDOR BASED CONTROL PANEL.

LEGEND:

ETHERNET ← COMM. STANDARD
ETHERNET/IP ← PROTOCOL
CAT 6 ← MEDIA TYPE



A SYSTEMS COMMUNICATION DIAGRAM

PREPARED BY: Weaver Consultants Group

PREPARED FOR: CAL GUARD — CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	08/08/25	RESPECTIVE DESIGN SUBMITTAL	TMH	TMH
C	04/04/24	65% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — BRIAN A. HOWTING — No. 17607 — Exp. 06/30/27 — ELECTRICAL — STATE OF CALIFORNIA — 92196

DESIGNER:	JA/DN
DRAWN BY:	JA
CHECKED BY:	DN
APPROVED BY:	AGA
DATE:	03/31/2026

COMMUNICATION DIAGRAM

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME:

SHEET No. E07
36
REVISION 0

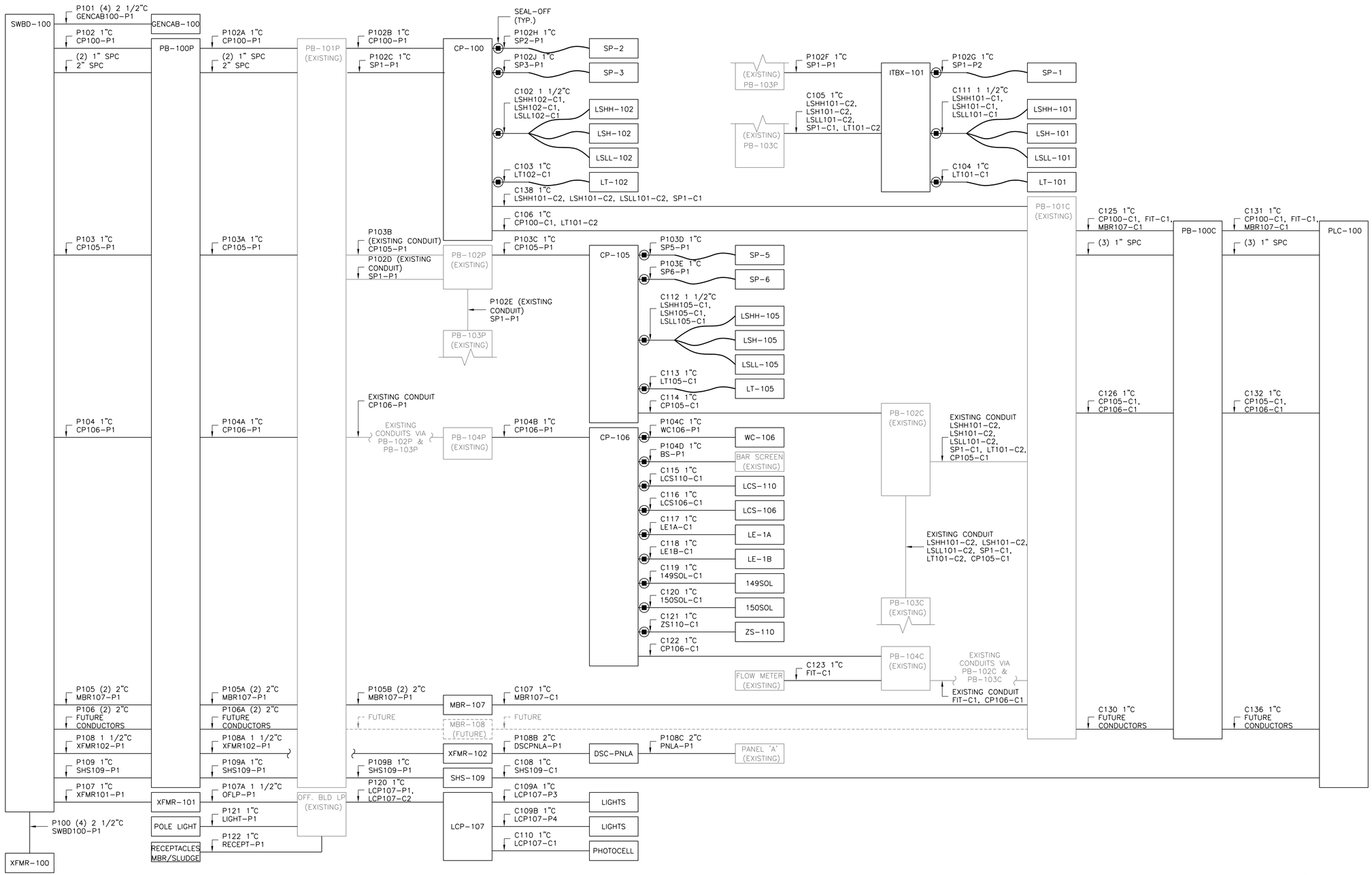
NCS ENGINEERING PE

NOTES:

1. ALL OUTDOOR EXPOSED CONDUITS SHALL BE PVC-COATED GRS.

LEGEND:

C100 1"C — CONDUIT NUMBER & SIZE
RTU100-1 — CIRCUIT NUMBER(S)



A CONDUIT BLOCK DIAGRAM

PREPARED BY: Weaver Consultants Group

PREPARED FOR: CAL GUARD — CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	09/08/25	RE-INSERT PDSL DESIGN SUBMITTAL	TMH	TMH
C	06/04/25	RE-INSERT PDSL DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO 65% 95% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

REVISION SUMMARY

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED ELECTRICAL ENGINEER — BRIAN A. DOMINGO — No. 17607 — Exp. 06/30/27 — ELECTRICAL — STATE OF CALIFORNIA — 92196

DESIGNER:	JA/DN
DRAWN BY:	JA
CHECKED BY:	DN
APPROVED BY:	AGA
DATE:	03/31/2026

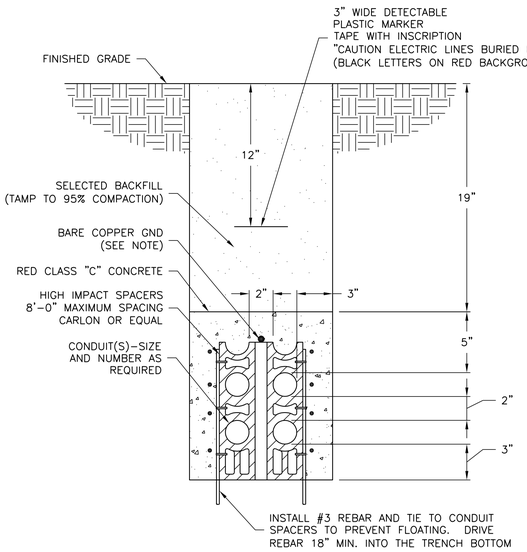
CONDUIT BLOCK DIAGRAM

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME:

SHEET No. E08
37
REVISION 0

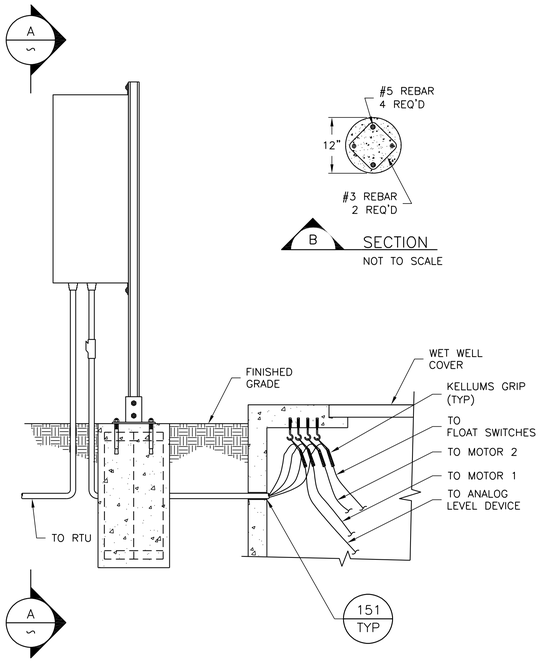
NCS ENGINEERING PE



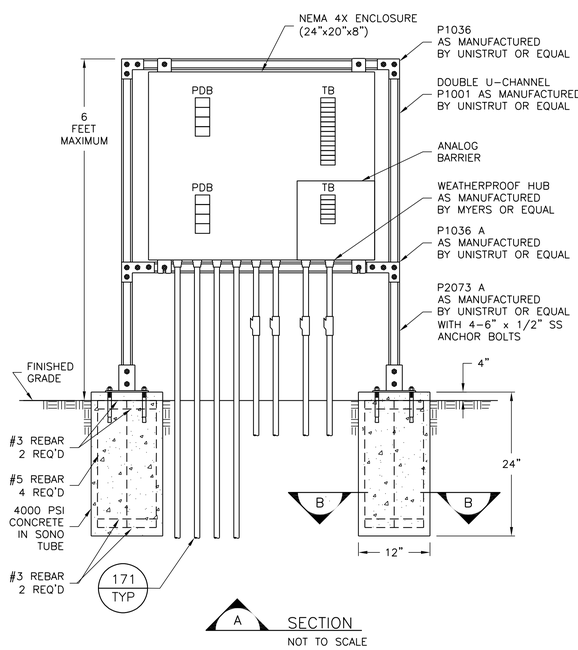
NOTES:

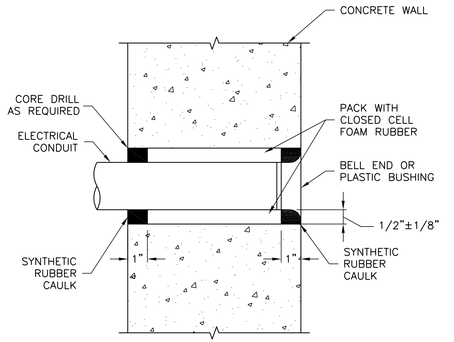
1. GROUND CONDUCTOR SHALL RUN CONTINUOUSLY THROUGH MANHOLES AND SHALL CONTINUE FROM DUCTBANK INTO SWITCHGEAR OR BUILDING GROUNDING SYSTEM AND SHALL BE BONDED TO EACH RIGID METAL CONDUIT. SIZE TO BE #4/0 UNLESS OTHERWISE INDICATED ON PLANS.
2. ALL DIMENSIONS ARE MINIMUM.

105 TYP — DUCTBANK – CONCRETE ENCASED
NOT TO SCALE

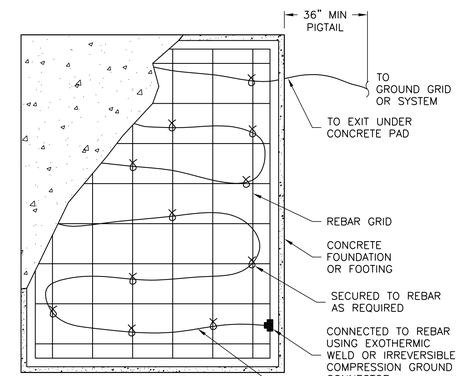


213 TYP — WET WELL JUNCTION BOX
NOT TO SCALE

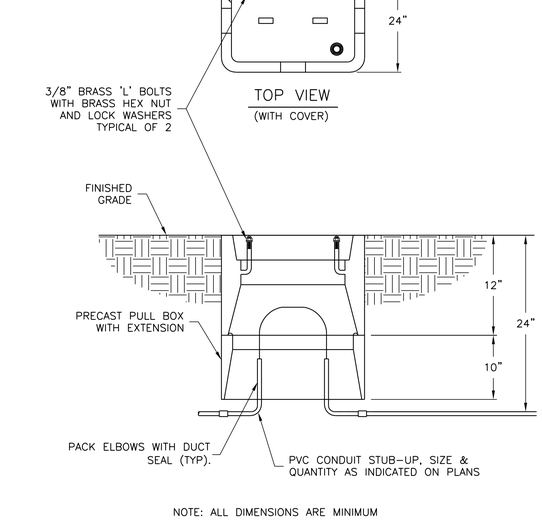




151 TYP — MANHOLE PENETRATION
NOT TO SCALE

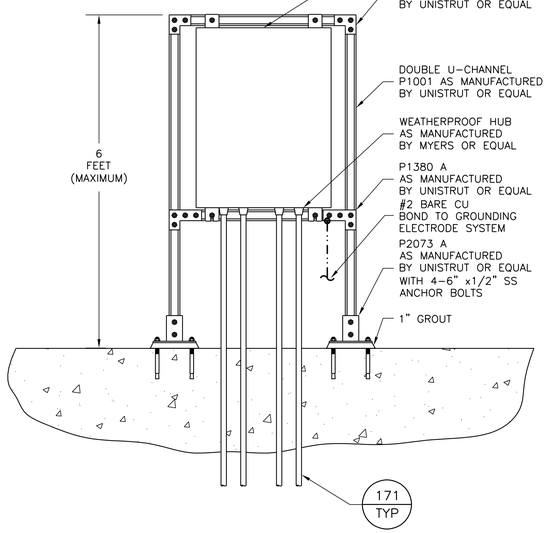


402 TYP — "UFER" GROUNDING DETAIL
NOT TO SCALE

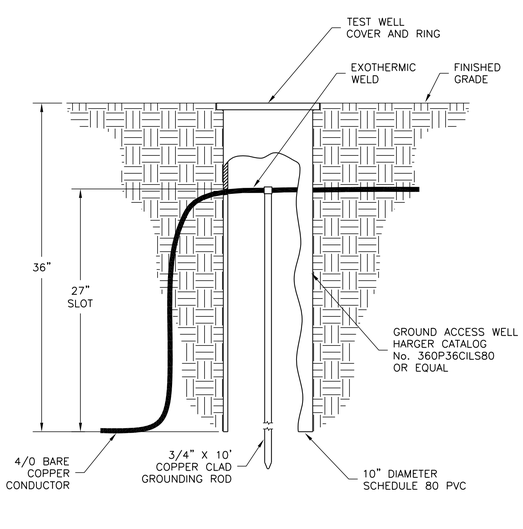


NOTE: ALL DIMENSIONS ARE MINIMUM

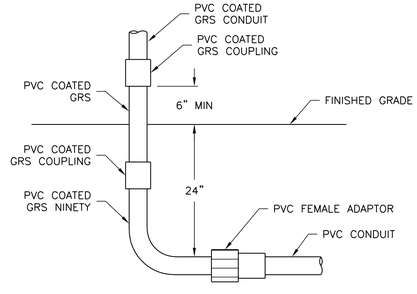
315 TYP — UNDERGROUND CONCRETE JUNCTION BOX
NOT TO SCALE



207 TYP — EQUIPMENT RACK DETAIL
NOT TO SCALE



406 TYP — GROUND ROD WITH TEST ACCESS WELL
NOT TO SCALE



NOTES:

1. WHERE CONDUITS ARE INSTALLED IN A CONCRETE SLAB, THE 24" DIMENSION DOES NOT APPLY. CONDUITS SHALL BE INSTALLED BETWEEN REBAR MATS OR UNDER A SINGLE REBAR MAT.
2. IN CORROSIVE AREAS, PVC COATED GRS SHALL BE USED.

171 TYP — PVC COATED GRS STUB UP DETAIL
NOT TO SCALE

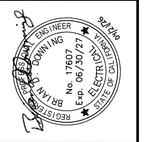
PREPARED BY
Weaver Consultants Group

PREPARED FOR
CAL GUARD CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REV	DATE	DESCRIPTION	BY	APPD
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D	08/08/25	RESPECTFORL DESIGN SUBMITTAL	TMH	TMH
C	04/30/25	65% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

REVISION SUMMARY

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY



DESIGNER: JA/DN
DRAWN BY: JA
CHECKED BY: DN
APPROVED BY: AGA
DATE: 03/31/2026

ELECTRICAL DETAILS

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

FILE NAME:
PROJECT No. 5890-300-01-67

SHEET No. E09
38
REVISION 0

NCS ENGINEERING PC

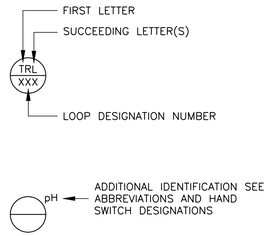
ISA INSTRUMENT IDENTIFICATION TABLE

FIRST LETTERS			SUCCEEDING LETTERS		
MEASURED OR INITIATING VARIABLE		MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYZER		ALARM		AUTO
B	BURNER, COMBUSTION				
C	CONDUCTIVITY			CONTROL	CLOSED
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE		ELEMENT		
F	FLOW	RATIO			
G	GAUGE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHED.	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOTION				MIDDLE
N	INTRUSION				NORMAL
O	TORQUE		ORIFICE, RESTRICTION		OPEN
P	PRESSURE		POINT CONNECTION		STOP
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD, OR PRINT		RUN OR REMOTE
S	SPEED, FREQUENCY	SAFETY		SWITCH	START
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION			VALVE, LOUVER	
W	WEIGHT		WELL		
X	MOTOR	X-AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE, OR PRESENCE	Y-AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z-AXIS		DRIVER, ACTUATOR, FINAL CONTROL ELEMENT	

P&ID ABBREVIATIONS

A	AMPERE
AFD	ADJUSTABLE FREQUENCY DRIVE
AI	ANALOG INPUT
AIC	AMPS INTERRUPTING CAPACITY
ARV	AIR RELIEF VALVE
AO	ANALOG OUTPUT
AS	AIR SUPPLY
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
CB	CIRCUIT BREAKER
CL2	CHLORINE
CON	CONTACTOR
CU	COPPER
CV	CONTROL VALVE
DCS	DISTRIBUTED CONTROL SYSTEM
DI	DISCRETE INPUT
DO	DISSOLVED OXYGEN, DISCRETE OUTPUT
DP	DIFFERENTIAL PRESSURE
DWG	DRAWING
EGO	EMERGENCY GAS OFF
ETM	ELAPSED TIME METER
ETMf	ELAPSED TIME METER (FAST SPEED)
ETMs	ELAPSED TIME METER (SLOW SPEED)
EOL	ELECTRONIC OVERLOAD
EXIST	EXISTING
FA	FOUL AIR
FC	FAIL CLOSED
FE	FINAL EFFLUENT
FR	FORWARD-REVERSE
FS	FLOAT SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
FW	FINISHED WATER
GND	GROUND
GAL	GALLONS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H, HI	HIGH
H2S	HYDROGEN SULFIDE
HMI	HUMAN MACHINE INTERFACE
HOA	HAND-OFF-AUTO
I	CURRENT
IO	INPUT/OUTPUT
IOE	INTERNAL-OFF-EXTERNAL
JB	JUNCTION BOX
L, LO	LOW
LAN	LOCAL AREA NETWORK
LC	LOOP CONTROLLER
LCP	LOCAL CONTROL PANEL
LOS	LOCK-OFF-STOP
LR	LOCAL/REMOTE
LS	LEVEL (i.e., FLOAT) SWITCH
M	MOTOR
MA	MANUAL/AUTO
mA	MILLIAMP
MC	MANUFACTURE CABLE
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR(S)	MANUFACTURER(S)
MGD	MILLION GALLONS PER DAY
MGL	MILLIGRAMS PER LITER
MH	MANHOLE
MLR	MIXED LIQUOR RETURN
MO	MOISTURE
MOD	MODULATED
MTU	MASTER TELEMETRY UNIT
NPW	NON-POTABLE WATER
NS	NITROGEN SUPPLY
NTU	TURBIDITY
O/C	OPEN / CLOSE
OCA	OPEN-CLOSE-AUTO
OCR	OPEN-CLOSE-REMOTE
OIT	OPERATOR INTERFACE TERMINAL
OL	OVERLOAD
OO	ON/OFF (MAINTAINED)
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
OSC	OPEN-STOP-CLOSE
PAH	PRESSURE ALARM HIGH
PER	PERMISSIVE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PO	PULSE OUTPUT
POS	POSITION
POT	POTENTIOMETER
PPG	POUNDS PER GALLON
PPH	POUNDS PER HOUR
PPM	PARTS PER MILLION
PR	PAIR
PRES	PRESSURE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PV	PROCESS VARIABLE
RAS	RETURN ACTIVATED SLUDGE
RAW	RAW WATER
REM	REMOTE
RF	RADIO FREQUENCY
RIO	REMOTE INPUT OUTPUT
RS	RAW SEWAGE
RSP	RAW SEWAGE PUMP
RST	RESET
RTD	RESISTANCE TEMPERATURE DETECTOR
RTU	REMOTE TELEMETRY UNIT
RUNf	RUN (FAST SPEED)
RUNs	RUN (SLOW SPEED)
SB	SLUDGE BLANKET
SEQ	SERVICE ENTRANCE EQUIPMENT
SES	SERVICE ENTRANCE SECTION
SLC	SINGLE LOOP CONTROLLER
SLOS	START-LOCK-OFF-STOP
SO2	SULFUR DIOXIDE
SOV	SOLENOID OPERATED VALVE
SP	SET POINT
SPD	SPEED
SPR	SPARE
SS	START/STOP (MAINTAINED)
SSS	SOLID STATE STARTER (SOFT START)
STR	MOTOR STARTER
TAH	TEMPERATURE ALARM HIGH
T/M	TEMPERATURE AND/OR MOISTURE
TEMP	TEMPERATURE
TS	TEMPERATURE SWITCH
TSS	TOTAL SUSPENDED SOLIDS
UG	UNDERGROUND
USD	UP/STOP/DOWN
V	VOLT
VFD	VARIABLE FREQUENCY DRIVE
W	WATER
WAS	WASTE ACTIVATED SLUDGE
WW	WASTEWATER
XMTR	TRANSMITTER
ZS	POSITION (i.e. LIMIT) SWITCH

TAG NUMBERS AND DESIGNATIONS



HAND SWITCH DESIGNATIONS

ES	EMERGENCY STOP
HOA	HAND-OFF-AUTO
HOR	HAND-OFF-REMOTE
HORA	HAND-OFF-REMOTE-AUTO
JOA	JOG-OFF-AUTO
LOR	LOCAL-OFF-REMOTE
LR	LOCAL-REMOTE
OC	OPEN-CLOSE
OO	ON-OFF
S/S	START STOP PUSH BUTTONS

LINE SYMBOLS

- MAJOR PROCESS PIPING OR FLOW CHANNEL
- EXISTING PROCESS PIPING
- SECONDARY PROCESS PIPING
- EXISTING SECONDARY PROCESS PIPING
- FUTURE PIPING AND EQUIPMENT
- ELECTRICAL SIGNAL
- HYDRAULIC SIGNAL
- PNEUMATIC SIGNAL
- ELECTRICAL DIRECTION ARROW
- SIGNAL CONNECTION POINT
- FLOW ARROW FOR PROCESS PIPING
- PROCESS OR SIGNAL LINE GOING TO ANOTHER SHEET (MATCH LETTERS) — I-3 /A
- PROCESS OR SIGNAL LINE FROM ANOTHER SHEET (MATCH LETTERS) — I-2 /A
- PROCESS LINES CROSSING (NOT CONNECTED)
- INTERNAL SYSTEM SIGNAL LINK (SOFTWARE OR DATA LINK)

P&ID VALVE SYMBOLS

- GATE OR GENERIC VALVE
- 3-WAY VALVE
- 4-WAY VALVE
- ANGLE VALVE
- BUTTERFLY VALVE
- PLUG VALVE
- ECCENTRIC PLUG VALVE
- BALL VALVE
- CHECK VALVE
- SWING CHECK VALVE
- STOP CHECK VALVE
- BALL CHECK VALVE
- PINCH VALVE
- DIAPHRAGM VALVE
- DIAPHRAGM VALVE (ALTERNATE)
- GLOBE VALVE
- HAND VALVE
- KNIFE VALVE
- MOTORIZED VALVE ACTUATOR
- SOLENOID VALVE 2-WAY
- SOLENOID VALVE 3-WAY
- PUMP CONTROL VALVE
- FLOW CONTROL VALVE
- PRESSURE RELIEF VALVE
- VACUUM RELIEF VALVE
- PRESSURE REGULATOR WITH REMOTE PROCESS CONNECTION
- PRESSURE REGULATOR SELF CONTAINED
- AIR RELEASE VALVE

P&ID EQUIPMENT AND PROCESS SYMBOLS

- METERING PUMP WITH MANUAL STROKE CONTROL
- ROTARY LUBE PUMP
- SUBMERSIBLE MIXER
- AERATOR
- SUBMERSIBLE PUMP
- DIESEL GENERATOR
- CENTRIFUGAL PUMP
- BLOWER
- LIFT PUMP
- MOTOR OR MOTOR ACTUATOR
- PNEUMATIC ACTUATOR
- SOLENOID
- VERTICAL TURBINE PUMP
- PARSHALL FLUME
- WEIGHT SCALE
- AIR COMPRESSOR
- SLUICE GATE
- SAMPLER
- PROPELLER FLOWMETER ELEMENT
- MAGNETIC FLOWMETER ELEMENT
- CL2 FLOWMETER
- MASS FIT 6 — INSERTION TYPE MASS FLOW METER
- MASS FIT 6 — MASS FLOW METER ANNUBAR TYPE
- DRAIN
- OUTLET SILENCER
- INLET SILENCER
- ROTAMETER
- AIR RELIEF VALVE
- EJECTOR
- DIAPHRAGM SEAL
- DIFFUSER
- DIAPHRAGM
- Y-TYPE STRAINER
- IPS CORPORATION STOP
- PVC DIFFUSER WITH IPS CORPORATION STOP

SENSING, INDICATION, AND CONTROL SYMBOLS

- LE — ULTRASONIC LEVEL TRANSDUCER
- LS — FLOAT SWITCH
- BEACON R — BEACON R=RED, A=AMBER, B=BLUE, G=GREEN
- STOP YL G — INDICATING LIGHT
- HOA HS — HAND SWITCH
- ORP AIT — ORP ANALYZER
- pH AIT — pH ANALYZER
- AE — ANALYZER ELEMENT
- DO AE — DO SENSOR
- ORP AE — ORP SENSOR
- pH AE — pH SENSOR
- DO AIT — DO ANALYZER
- CL2 AE — RESIDUAL CL2 CHLORINE SENSOR
- CL2 AIT — RESIDUAL CL2 CHLORINE ANALYZER

P&ID INTERFACE SYMBOLS

- AAA BBB X — PILOT LIGHT X= LENS COLOR, R=RED, G=GREEN, A=AMBER B=BLUE
- AAA BBB CCC — FIELD DEVICE
- AAA BBB CCC — PANEL DEVICE
- AAA BBB CCC — DEVICE MOUNTED IN SUBPANEL
- BBB CCC — I/O TERMINAL
- BBB CCC — HMI OR OIT FUNCTION
- I X — INTERLOCK DEVICE OR RELAY X=NOTE REF.
- I/I — DUAL CHANNEL CURRENT ISOLATOR
- DISCRETE INPUT
- DISCRETE OUTPUT
- ANALOG INPUT
- ANALOG OUTPUT
- PULSE INPUT

NOTE:

REFER TO ISA INSTRUMENT IDENTIFICATION TABLE FOR DEFINITION OF LETTERS BBB INSIDE THE BUBBLES. CCC REPRESENTS LOOP ID (IF USED). SEE ABBREVIATIONS LIST FOR SUPERSCRIPT AAA.

NCS ENGINEERING PE

PREPARED BY: Weaver Consultants Group

PREPARED FOR: CAL GUARD — CALIFORNIA MILITARY DEPARTMENT

CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

REV	DATE	DESCRIPTION	BY	APPD
A	02/28/18	30% DESIGN	BB	JP
B	04/17/24	REVISIONS TO 60%, 95% DESIGN	TMH	JP
C	06/06/25	REVISED PER 95% DESIGN SUBMITTAL	TMH	TMH
D	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
E	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
0				

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

BRIAN A. JOINTING — No. 17607 — Exp. 06/30/27 — CIVIL ENGINEER — STATE OF CALIFORNIA — REGISTERED PROFESSIONAL ENGINEER — 92196

DESIGNER: JA/DN
DRAWN BY: JA
CHECKED BY: DN
APPROVED BY: AGA
DATE: 03/31/2026

P&ID SYMBOLS AND LEGEND

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67
FILE NAME:

SHEET No. 101
39
REVISION 0

SCADA (EXISTING)

SPECIFIC I/O POINTS TO BE COMMUNICATED SHALL BE AS REQUIRED BY OWNER AND/OR AS RECOMMENDED BY CLOACINA

ETHERNET (MULTI-MODE FIBER)

MBR/MAIN SITE PLC CABINET

SPECIFIC I/O POINTS TO BE COMMUNICATED TO BE PER CLOACINA

PLANT INFLUENT FLOW INDICATION
FI

VENDOR PACKAGE (PROVIDED BY VENDOR, INSTALLED AND WIRED BY CONTRACTOR)

MULTI MODE FIBER

BAR SCREEN & WASHER/COMPACTOR VENDOR CONTROL PANEL 480V, 3ø NEMA 3R, 5kA SCCR (MIN.) CP-106

LIT

480VAC

ESTOP HOA
HS 137PB1 HS 110
FOJ
HS 110A
BAR SCREEN LOCAL CONTROL STATION LCS-110

ESTOP HOA
HS 137PB2 HS 106
FOJ
HS 106A
WASHER/COMPACTOR LOCAL CONTROL STATION LCS-106

FIELD

DEWATERING ZONE SUPPLY WATER

S
FLUSHWATER SOLENOID 150SOL

S
WASHWATER SOLENOID 149SOL

SCREENINGS

WASTE CONTAINER

SECONDARY CONTAINMENT

M
WASHER/ COMPACTOR WC-106

LE 1A

LE 1B

ZS 110

PULL CORD ESTOP HS 137PB2

M

120VAC (EXISTING)

FIT

FE

DIVERSION CHAMBER (EXISTING)

A/I-03
TO LOW FLOW WET WELL

B/I-04
TO DISCHARGE VAULT

RAW WASTEWATER

GRIT CHAMBER

RAW WASTEWATER

GRIT CHAMBER

BAR SCREEN SCR-110

MANUAL SCREEN

NCS ENGINEERING PE

PREPARED BY
Weaver Consultants Group

PREPARED FOR
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT

CALIFORNIA MILITARY DEPARTMENT
10801 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

REVISION SUMMARY

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	08/08/25	RESPECTFORL DESIGN SUBMITTAL	TMH	TMH
C	04/14/25	65% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO 60% DESIGN	TMH	TMH
A	02/28/18	30% DESIGN	BB	JP

SCALE: AS NOTED
BAR SHOULD BE EXACTLY 1 INCH LONG
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER BRIAN A. KANG No. 17607 Exp. 06/30/27 ELECTRICAL STATE OF CALIFORNIA

DESIGNED:	JA/DN
DRAWN BY:	JA
CHECKED BY:	DN
APPROVED BY:	AGA
DATE:	03/31/2026

P&ID - SHEET 1

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

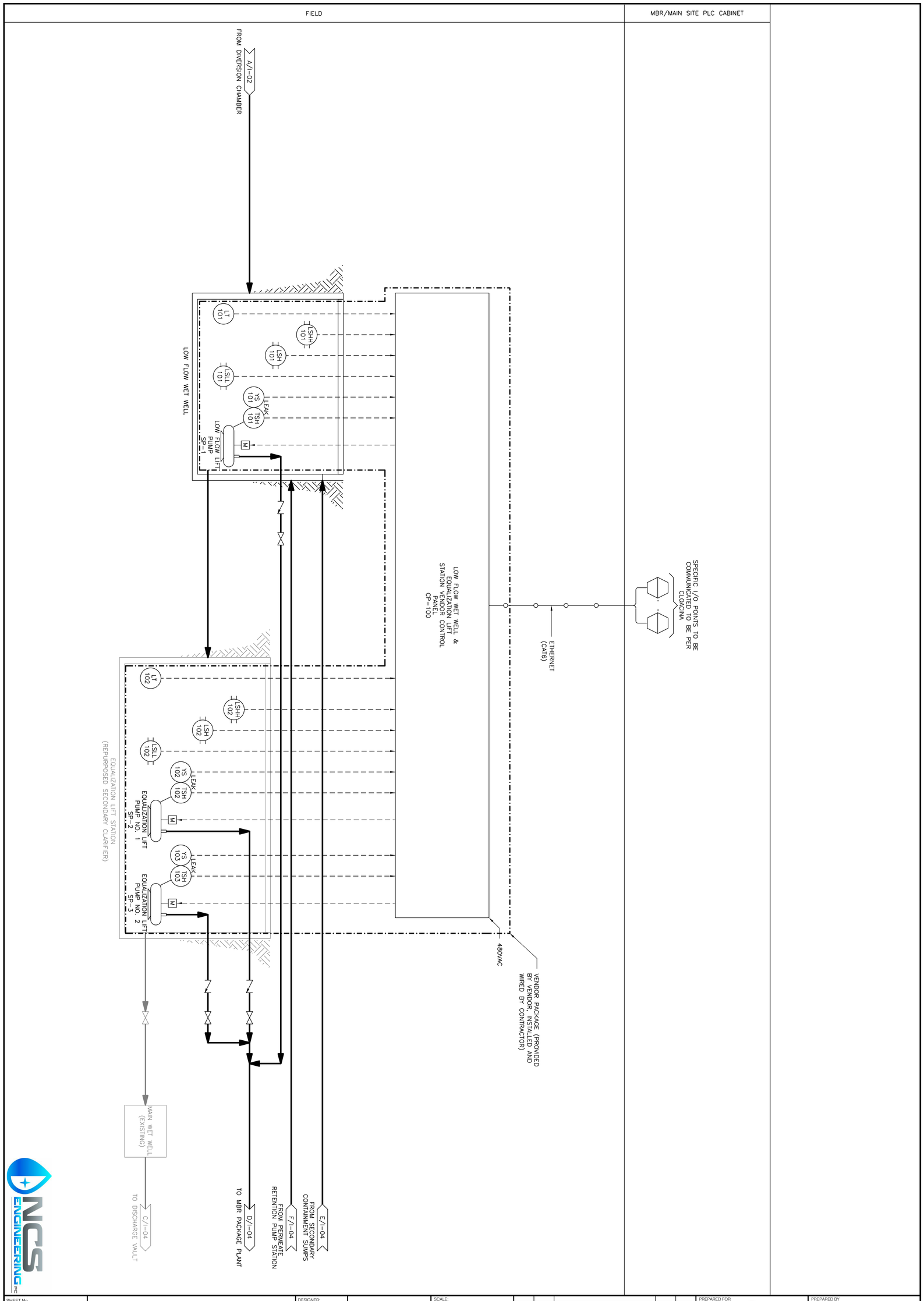
PROJECT No. 5890-300-01-67

FILE NAME:

SHEET No. I02

40

REVISION 0



SHEET No.

I03

41

REVISION **0**

P&ID - SHEET 2

WASTE WATER TREATMENT PLANT UPGRADES PHASE 2
CAMP ROBERTS, CA

PROJECT No. 5890-300-01-67 | FILE NAME:

DESIGNER: JA/DN
DRAWN BY: JA
CHECKED BY: DN
APPROVED BY: AGA
DATE: 03/31/2026

REGISTERED PROFESSIONAL ENGINEER
BRIAN D. DOWNING
No. 17607
Exp. 06/30/27
ELECTRICAL
STATE OF CALIFORNIA

SCALE: AS NOTED

BAR SHOULD BE EXACTLY 1 INCH LONG

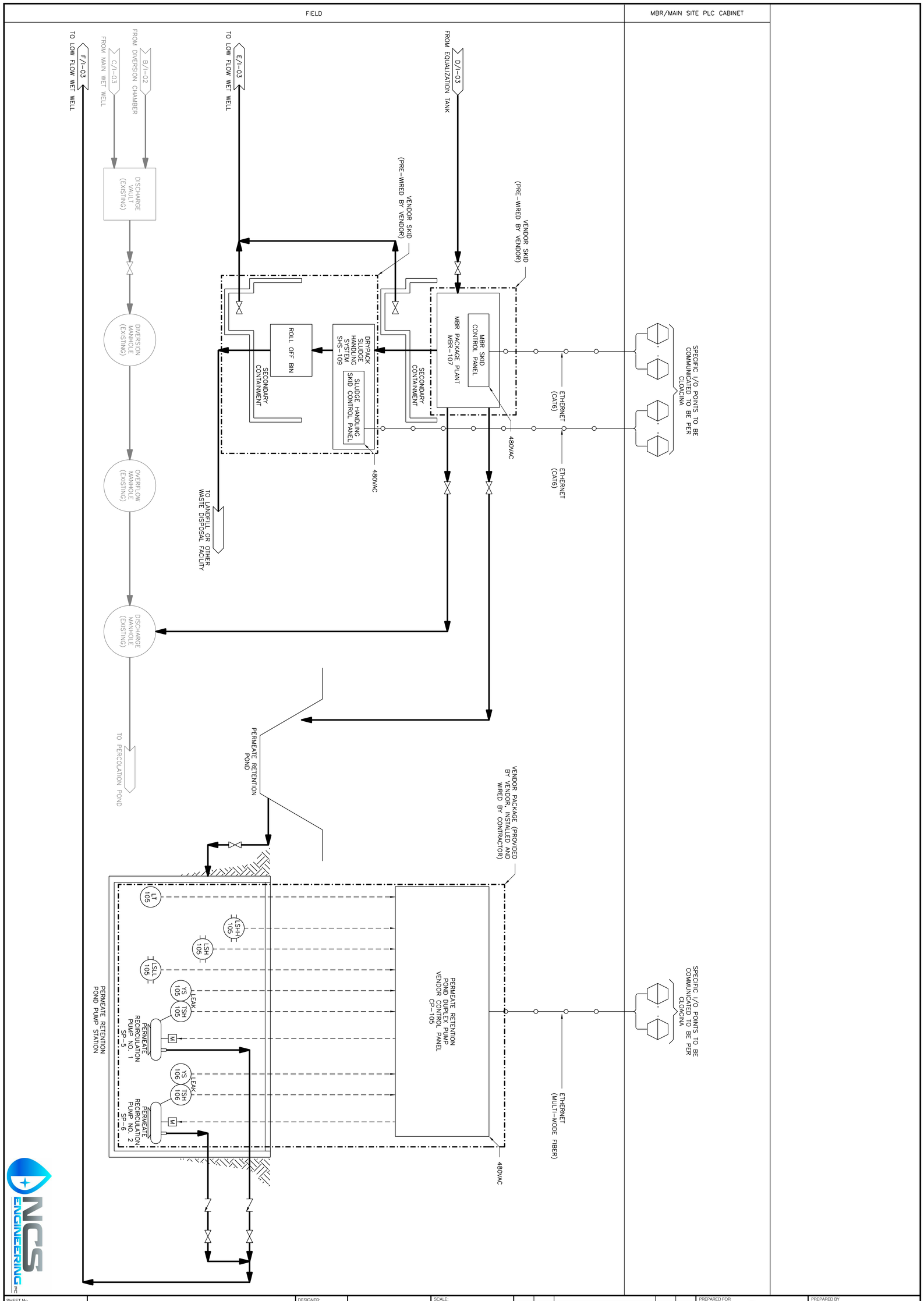
IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	08/08/25	REVISED 65% DESIGN SUBMITTAL	TMH	TMH
C	12/16/24	65% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	BB	JP

REVISION SUMMARY

PREPARED FOR
CAL GUARD
CALIFORNIA MILITARY DEPARTMENT
CALIFORNIA MILITARY DEPARTMENT
10601 BEAR HOLLOW DRIVE
RANCHO CORDOVA, CA 95670

PREPARED BY
Weaver Consultants Group



SHEET No.	P&ID - SHEET 3	DESIGNER: JA/DN	SCALE: AS NOTED	PREPARED FOR: CAL GUARD, CALIFORNIA MILITARY DEPARTMENT, 10601 BEAR HOLLOW DRIVE, RANCHO CORDOVA, CA 95670
I04	WASTE WATER TREATMENT PLANT UPGRADES PHASE 2 CAMP ROBERTS, CA	DRAWN BY: JA	BAR SHOULD BE EXACTLY 1 INCH LONG	PREPARED BY: Weaver Consultants Group
42		CHECKED BY: DN	IF NOT 1 INCH, ADJUST SCALE ACCORDINGLY	
REVISION 0	PROJECT No. 5890-300-01-67 FILE NAME:	APPROVED BY: AGA		
		DATE: 03/31/2026		

BRIAN A. DOWNING, REGISTERED PROFESSIONAL ENGINEER, No. 17607, Exp. 06/30/27, ELECTRICAL, STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	BY	APPD
0	03/31/26	100% DESIGN SUBMITTAL	TMH	TMH
E	11/07/25	95% DESIGN SUBMITTAL	TMH	TMH
D	08/08/25	REVISED 65% DESIGN SUBMITTAL	TMH	TMH
C	12/16/24	65% DESIGN SUBMITTAL	TMH	TMH
B	04/17/24	REVISIONS TO CIVIL 35% DESIGN	TMH	TMH
A	02/28/18	35% DESIGN	DEN	DJR

REVISION SUMMARY