SAUSALITO - MARIN CITY SANITARY DISTRICT

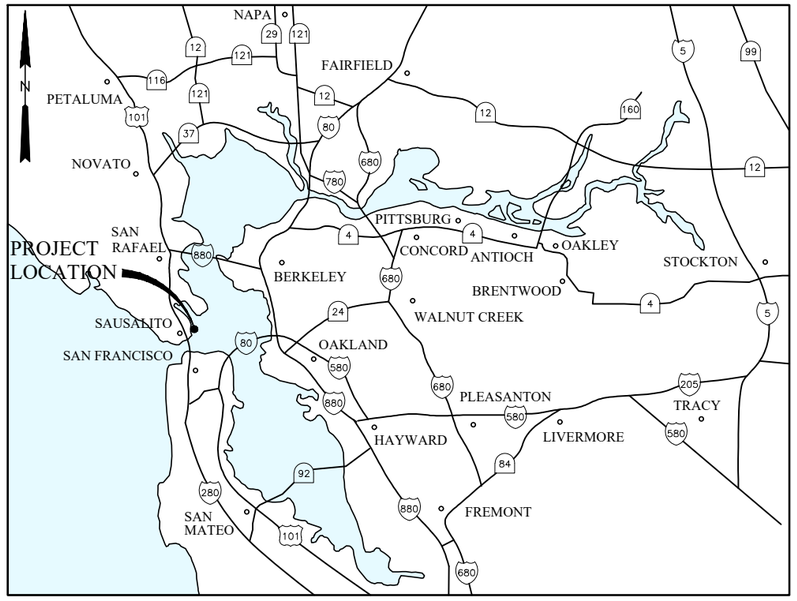
SOUTH PRIMARY CLARIFIER REHABILITATION

PROJECT NO. 11829

CONTRACT DRAWINGS

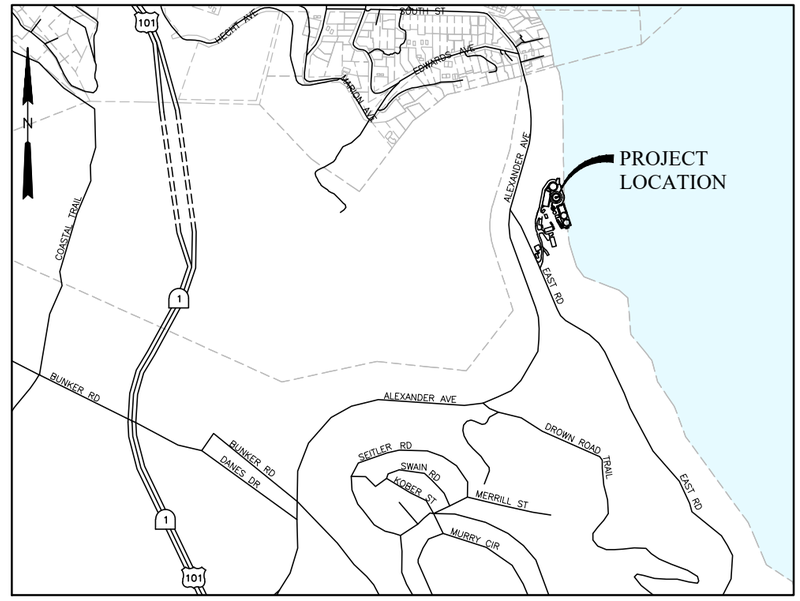
VOLUME 3

SEPTEMBER 2023



VICINITY MAP

NTS



LOCATION MAP

SCALE: 1"=2000'

REGISTERED PROFESSIONAL ENGINEER
ANTHONY THOMAS VALDWA
No. 66847
Exp. 09-30-24
CIVIL
STATE OF CALIFORNIA

8/25/23

Woodard & Curran

TJC and ASSOCIATES, INC.

DTN ENGINEERS, INC.

FILENAME: 11829-Cover 9-05-23 02:54pm TRuiz || XREFS:| <<--

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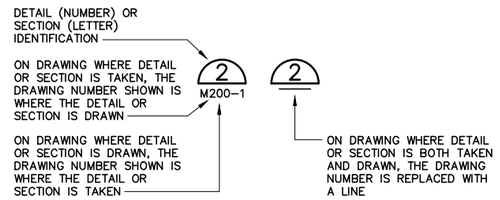
ABBREVIATIONS

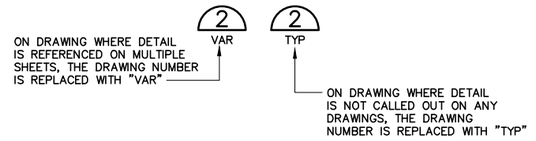
@	AT
AB	ANCHOR BOLT, AGGREGATE BASE
ABC	AGGREGATE BASE COURSE (CALTRANS CLASS 2 AGGREGATE BASE)
ABS	ACRYLONITRILE–BUTADIENE– STYRENE
AC	ASBESTOS CEMENT, ASPHALTIC CONCRETE
AC/HR	AIR CHANGES PER HOUR
ACI	AMERICAN CONCRETE INSTITUTE
ADH AB	ADHESIVE ANCHOR BOLT
ADJ	ADJACENT, ADJUSTABLE
ADWF	AVERAGE DRY WEATHER FLOW
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL	ALUMINUM
ALT	ALTERNATE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
ARCH.	ARCHITECTURAL
ARV	AIR RELEASE VALVE
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
AWT	ADVANCED WASTE TREATMENT
BC	BOLT CIRCLE, BEGIN CURVE
BD	BOARD
BF	BLIND FLANGE, BOTTOM FLAT
BFV	BUTTERFLY VALVE
BGS	BELOW GROUND SURFACE
BLDG	BUILDING
BM	BENCH MARK, BEAM
BO	BLOWOFF
BOT	BOTTOM
BRG	BEARING
BS	BUTT STRAP
BV	BALL VALVE
BVC	BEGINNING OF VERTICAL CURVE
C	CHANNEL (BEAM)
CAV	COMBINATION AIR VALVE
CB	CATCH BASIN
CDF	CONTROLLED DENSITY FILL
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CHEM	CHEMICAL
CIP	CAST IRON PIPE
CIRC	CIRCUMFERENTIAL
CJ	CONSTRUCTION JOINT
CLR	CLEAR
CLS	CHLORINE SOLUTION HYPOCHLORITE
CLSM	CONTROLLED LOW STRENGTH MATERIAL
℄	CENTERLINE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
COMP	COMPRESSOR(S)
CONC	CONCRETE, CONCENTRIC
COND	CONDUIT
CONN	CONNECTION
CONT	CONTINUOUS
COORD	COORDINATE
CPLG	COUPLING
CPVC	CHLORINATED POLYVINYL CHLORIDE
CT	CERAMIC TILE
CTD	CENTERED
CTJ	CONTROL JOINT
CTR	CENTER
CTS	CORROSION TEST STATION
C TO C	CENTER TO CENTER
CU	CUBIC
CU FT	CUBIC FOOT
CU IN.	CUBIC INCH
CU YD	CUBIC YARD
CV	CHECK VALVE
°C	DEGREE CELSIUS
d	PENNY (NAIL SIZE)
D	DRAIN
DBL	DOUBLE
DET	DETAIL
DFT	DRY FILM THICKNESS
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL
DIP	DUCTILE IRON PIPE
DIR	DIRECTION
DN	DOWN
DWG	DRAWING
E	EAST
EA	EACH
EC	END CURVE
ECB	EROSION CONTROL BLANKET
ECC	ECCENTRIC
EF	EACH FACE, EXHAUST FAN
EL, ELEV	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
ELL	ELBOW
ENGR	ENGINEER
EO	EMERGENCY OVERFLOW
EP	EDGE OF PAVEMENT
EQ	EQUALIZATION
EQPT	EQUIPMENT
EQ SP	EQUALLY SPACED, EQUAL SPACES
ESMT	EASEMENT
EVC	END OF VERTICAL CURVE
EW	EACH WAY
EWEF	EACH WAY, EACH FACE
EXC	EXCAVATE
EXH	EXHAUST
EXP	EXPOSED
EXP JT	EXPANSION JOINT
EXST	EXISTING
FA	FOUL AIR
FAB	FABRICATION
FC	FLEXIBLE COUPLING
FCA	FLANGED COUPLING ADAPTER
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FDS	FINAL DIGESTED SLUDGE
FDN	FOUNDATION
FE	FLANGED END, FINAL EFFLUENT
FEXT	FIRE EXTINGUISHER
FF	FINISH FLOOR
FG	FINISH GRADE
FHY	FIRE HYDRANT
FFR	FIXED FILM REACTOR
FI	FILTER INFLUENT
FIG.	FIGURE
FL	FLOOR
℉	FLOW LINE
FLG	FLANGE
FLH	FLAT HEAD
FLTR	FILTER
FM	FORCE MAIN
FO	FIBER OPTIC
FOC	FACE OF CONCRETE, FIBER OPTIC CABLE
FOCC	FIBER OPTIC CABLE CONDUIT
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FRP	FIBERGLASS REINFORCED PLASTIC
FT	FOOT OR FEET
FTG	FOOTING
FUT	FUTURE
FWD	FORWARD
°F	DEGREE FAHRENHEIT
GA	GAGE
GAL	GALLON
GALV	GALVANIZED
GC	GROOVED COUPLING
GCO	GRADE CLEAN OUT
GE	GROOVED END
GL	GLASS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GSP	GALVANIZED STEEL PIPE
GV	GATE VALVE
GVL	GRAVEL
HD	HUB DRAIN
HDG	HOT DIP GALVANIZED
HDPE	HIGH DENSITY POLYETHYLENE, HDPE PIPE
HDR	HEADER
HDW	HARDWARE
HGT	HEIGHT
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HORSEPOWER
HR	HOSE RACK, HANDRAIL, HOUR
HV	HOSE VALVE
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
H2E	HOOK TWO ENDS
ID	INSIDE DIAMETER
IF.	INSIDE FACE
IJTS	INSULATING JOINT TEST STATION
IN.	INCH
INFL	INFLUENT
INSTM	INSTRUMENTATION
INSUL	INSULATE
INVT, INV	INVERT
IRR, IRRIG	IRRIGATION
IE	INVERT ELEVATION
JT	JOINT
KIP	THOUSAND POUNDS
KW	KILOWATT
L	ANGLE, LENGTH
LAB	LABORATORY
LAV	LAVATORY
LB	POUNDS
LB/CU FT	POUNDS PER CUBIC FOOT
LF	LINEAR FEET
LONG.	LONGITUDINAL
LP	LOW PRESSURE
LR	LONG RADIUS
LT	LEFT
MAG	MAGNETIC
MATL	MATERIAL
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
ML	MIXED LIQUOR
MLCSP	MORTAR LINED AND COATED STEEL PIPE
MSNRY	MASONRY
MO	MASONRY OPENING
MT	MITER
MTR	METER
MTS	MILL TYPE STEEL PIPE
MWS	MAXIMUM WATER SURFACE
N	NORTH
NIC	NOT IN CONTRACT
NO.	NUMBER
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF.	OUTSIDE FACE, OVERFLOW
OSD	OPEN SITE DRAIN
OPNG	OPENING
OZ	OUNCE
PC	POINT OF CURVE
PCC	PORTLAND CEMENT CONCRETE, POINT OF COMPOUND CURVATURE
PCO	PRESSURE CLEANOUT
PD	PUMPED DRAIN
PE	PLAIN END / PRIMARY EFFLUENT
PH	POTHOLE
PI	POINT OF INTERSECTION / PRIMARY INFLUENT
PL	PLASTIC, PROPERTY LINE, PLATE
L	PLATE (STEEL)
PLYWD	PLYWOOD
PRC	POINT OF REVERSE CURVE
PREFAB	PREFABRICATED
PRESS.	PRESSURE
PRI	PRIMARY
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PS	PUMP STATION
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH, GAUGE
PT	POINT, POINT OF TANGENCY
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE PLASTIC, PVC PIPE
PVMT	PAVEMENT
PWWF	PEAK WET WEATHER FLOW
Q	FLOWRATE
R	RADIUS
RAS	RETURN ACTIVATED SLUDGE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN, ROAD
RDCR	REDUCER
RDW	REDWOOD
RECIRC	RECIRCULATION
REF	REFER OR REFERENCE
REINF	REINFORCED, REINFORCING, REINFORCE
REQD	REQUIRED
RM	ROOM
RO	ROUGH OPENING
RPVC	REINFORCED POLYVINYL CHLORIDE
RSFM	RAW SEWAGE FORCE MAIN
RSU	RETURN SUPERNATANT
RT	RIGHT
RTN	RETURN
RV	ROOF VENT
RW	RECYCLED WATER
R/W	RIGHT–OF–WAY
SCFM	STANDARD CUBIC FEET PER MINUTE
SCH	SCHEDULE
SD	STORM DRAIN, SOAP DISPENSER
SE	SECONDARY EFFLUENT
SEC	SECONDARY
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL, SLP	SLOPE
SMP	SAMPLE
SOLN	SOLUTION
SP	SPACE OR SPACES
SPEC	SPECIFICATIONS
SPLY	SUPPLY
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
SS	SANITARY SEWER
SST	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL, STEEL PIPE
STR	STRAIGHT
STRL	STRUCTURAL
STRUCT	STRUCTURE
SUSP	SUSPEND
SWD	STORM WATER DRAIN
SYMM	SYMMETRICAL
T	TANGENT LENGTH
TAN.	TANGENT
TBG	TUBING
TBM	TEMPORARY BENCH MARK
T&B	TOP AND BOTTOM
TC	TOP OF CURB
TDH	TOTAL DYNAMIC HEAD
TECH	TECHNICAL
TEL	TELEPHONE
TEMP	TEMPERATURE
TF	TOP FACE, TOP FLAT
T&G	TONGUE AND GROOVE
THD	THREAD
THK	THICK
THRU	THROUGH
TOS	TOP OF SLOPE, TOP OF STEEL
TP	TURNING POINT
TRANSF	TRANSFORMER
TRANSV	TRANSVERSE
TW	TOP OF WALL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UD	UNDERDRAIN
UNO	UNLESS NOTED OTHERWISE
USA	UNDERGROUND SERVICES ALERT
UW	UTILITY WATER
V	VENT, VOLT, VALVE
VAC	VACUUM
VAR	VARIOUS
VC	VERTICAL CURVE
VERT	VERTICAL
VPI	VERTICAL POINT OF INTERSECTION
VTR	VENT THRU ROOF
W	WIDE FLANGE (BEAM), WEST, WATER
W/	WITH
WAS	WASTE ACTIVATED SLUDGE
WC	WATER CLOSET
WH	WATER HEATER
WM	WATER METER
WP	WORK POINT
WS	WATER SURFACE, WATER STOP
W SH ST	WEATHERING SHEET STEEL
WSP	WELDED STEEL PIPE
WT	WEIGHT
WTR	WATER
WW	WASHWATER
WWF	WELDED WIRE FABRIC
YD	YARD

NOTES:

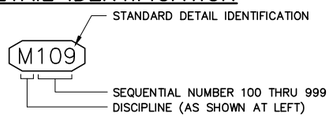
1. THIS IS A STANDARD ABBREVIATION SHEET. SOME ABBREVIATIONS THAT APPEAR ON THIS SHEET ARE NOT USED ON THIS PROJECT.
2. FOR PROCESS FLUID ABBREVIATIONS SEE SHEET GM–1

SECTION AND DETAIL IDENTIFICATION





STANDARD DETAIL IDENTIFICATION



DISCIPLINES:

C	CIVIL
D	DEMOLITION
G	GENERAL
M	MECHANICAL
E	ELECTRICAL
P	INSTRUMENTATION AND CONTROL
S	STRUCTURAL

NOTE:

STANDARD DETAIL IDENTIFICATIONS ARE SHOWN ON THE PLANS AND ON THE STANDARD DETAIL DRAWINGS. THERE IS NO SPECIFIC CROSS REFERENCING OF DRAWINGS. STANDARD DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO ALL SIMILAR SITUATIONS OCCURRING ON THIS PROJECT, WHETHER OR NOT THEY ARE REFERENCED TO IN EACH APPLICABLE LOCATION. CONSULT THE ENGINEER FOR REVIEW OF THE USE OF STANDARD DETAILS PRIOR TO BIDDING.

DESIGN BASED ON RECORD DRAWINGS FOR THE SMCSD WASTEWATER TREATMENT PLANTS. ACTUAL FIELD CONDITIONS MAY VARY. CONTRACTORS SHALL VERIFY EXISTING CONDITIONS, DIMENSIONS AND ORIENTATION OF EXISTING EQUIPMENT PRIOR TO CONSTRUCTING PROJECT.

REGISTERED PROFESSIONAL ENGINEER
ANTHONY THOMAS VALDIVIA
No. 66847
Exp. 09-30-24
CIVIL
STATE OF CALIFORNIA
8/25/23

0" — 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED
DRAWN S. JUNG
CHECKED

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

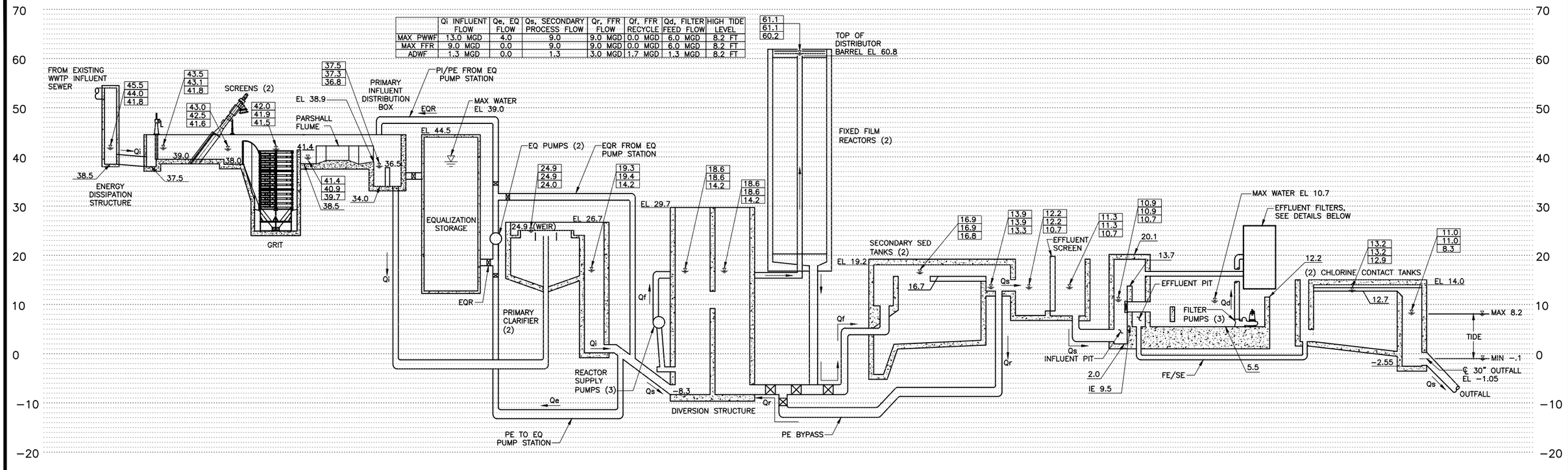
SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

DRAWING INDEX, ABBREVIATIONS AND SYMBOLS

DWG NO	G-2
SHEET NO	2 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

	Qi INFLUENT FLOW	Qe, EQ FLOW	Qs, SECONDARY PROCESS FLOW	Qr, FFR FLOW	Qf, FFR RECYCLE	Qd, FILTER FEED FLOW	HIGH TIDE LEVEL
MAX PWWF	13.0 MGD	4.0	9.0	9.0 MGD	0.0 MGD	6.0 MGD	8.2 FT
MAX FFR	9.0 MGD	0.0	9.0	9.0 MGD	0.0 MGD	6.0 MGD	8.2 FT
ADWF	1.3 MGD	0.0	1.3	3.0 MGD	1.7 MGD	1.3 MGD	8.2 FT



TREATMENT PLANT

HORIZONTAL NTS, VERTICAL 1"=10'

NOTES:

1. HYDRAULIC PROFILE BASED ON EQUALIZATION OF PRIMARY EFFLUENT AT MAX PWWF CONDITION.
2. HYDRAULIC PROFILE TAKEN FROM RECORD DOCUMENTS FOR SMCSD TREATMENT AND WET WEATHER FLOW UPGRADES PROJECT (WOODARD & CURRAN, 2022) AND IS PROVIDED AS REFERENCE FOR PRIMARY CLARIFIER HYDRAULICS.
3. ELEVATIONS ARE REFERENCED TO NAVD88 ON U.S.C. & O.S. PT. M108 1932 ELEV = 11.97 NAV88.

REGISTERED PROFESSIONAL ENGINEER
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No. 66847
Exp. 09-30-24
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STATE OF CALIFORNIA
8/25/23

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED
DRAWN S. Jung
CHECKED

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

HYDRAULIC PROFILE

DWG NO G-3
SHEET NO 3 OF 41
PROJ NO 0011829
DATE AUGUST 2023

FILENAME: 11829-G-3 9-05-23 02:58pm TRuiz || XREFS: | X-SMCSD-TBLK |<<--

Last Saved By: TRuiz 8-29-23 10:40am

SCALE: 1"=10'

0 10 20 30

SCALE IN FEET

SAN FRANCISCO BAY

(E) FIXED FILM REACTORS

EFFLUENT BOX TO SOUTH (NOT SHOWN) SEE DETAIL 1/D-5

(E) DISK FILTERS

DEMOLISH AND REMOVE EXISTING CLARIFIER EQUIPMENT

SOUTH PRIMARY CLARIFIER

D-4

D-5

D-2

D-3

DEMOLISH AND REMOVE EXISTING NORTH SLUDGE PUMP STATION

NORTH SLUDGE PUMP STATION

24"FA

16"FA

14"FA

PLANT LIBRARY

RECYCLE PUMPS

DEMOLISH AND REMOVE EXISTING SOUTH SLUDGE PUMP STATION

SOUTH SLUDGE PUMP STATION

(E) NORTH PRIMARY CLARIFIER

(E) HEADWORKS/EQUALIZATION

DEMOLISH AND REMOVE EXISTING GATES FOR NEW SLIDE GATES

(E) ENERGY DISSIPATION BOX

8' FLEX PIPE

CRIB WALL

GM BOARD BUILDING

CONC. SLAB

OFFICE

EXISTING CULVERT

AC PATCH

SHIPPING CONTAINER

WOOD STEPS

PHOTO KEY

SHEET	VIEW
D-2	1, 2
D-3	3, 4, 5, 6
D-4	7, 8, 9 13
D-5	10, 11, 12

NOTES:

1. PLANT LAYOUT BASED ON RECORD DRAWINGS. EXISTING CONDITIONS MAY DIFFER. CONTRACTOR SHALL INSPECT SITE PRIOR TO BID.
2. DEMOLITION OF EXISTING FACILITIES NOT SHOWN ON THIS SHEET. REFER TO SUBSEQUENT DEMOLITION SHEETS FOR DEMOLITION DETAILS.

PLAN

1"=10'

REGISTERED PROFESSIONAL ENGINEER
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No. 66847
Exp. 09-30-24
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8/25/23

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION
1				
2				
3				
4				
5				

DESIGNED
DRAWN
CHECKED

SUBMITTED: PROJECT ENGINEER

APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

OVERALL SITE DEMOLITION PLAN AND PHOTO KEY

DWG NO	D-1
SHEET NO	4 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: 0011829-D-1 9-05-23 03:00pm TRuiz || XREFs: | X-SMCSD-TBLK | X-Treatment Plant Site Plan | X-SitePlan | X-Topo Survey new | X-Site | 0055-006-M100-5 | X-Clarifier Plan_Sect |<<--

Last Saved By: TRuiz 8-29-23 10:43am

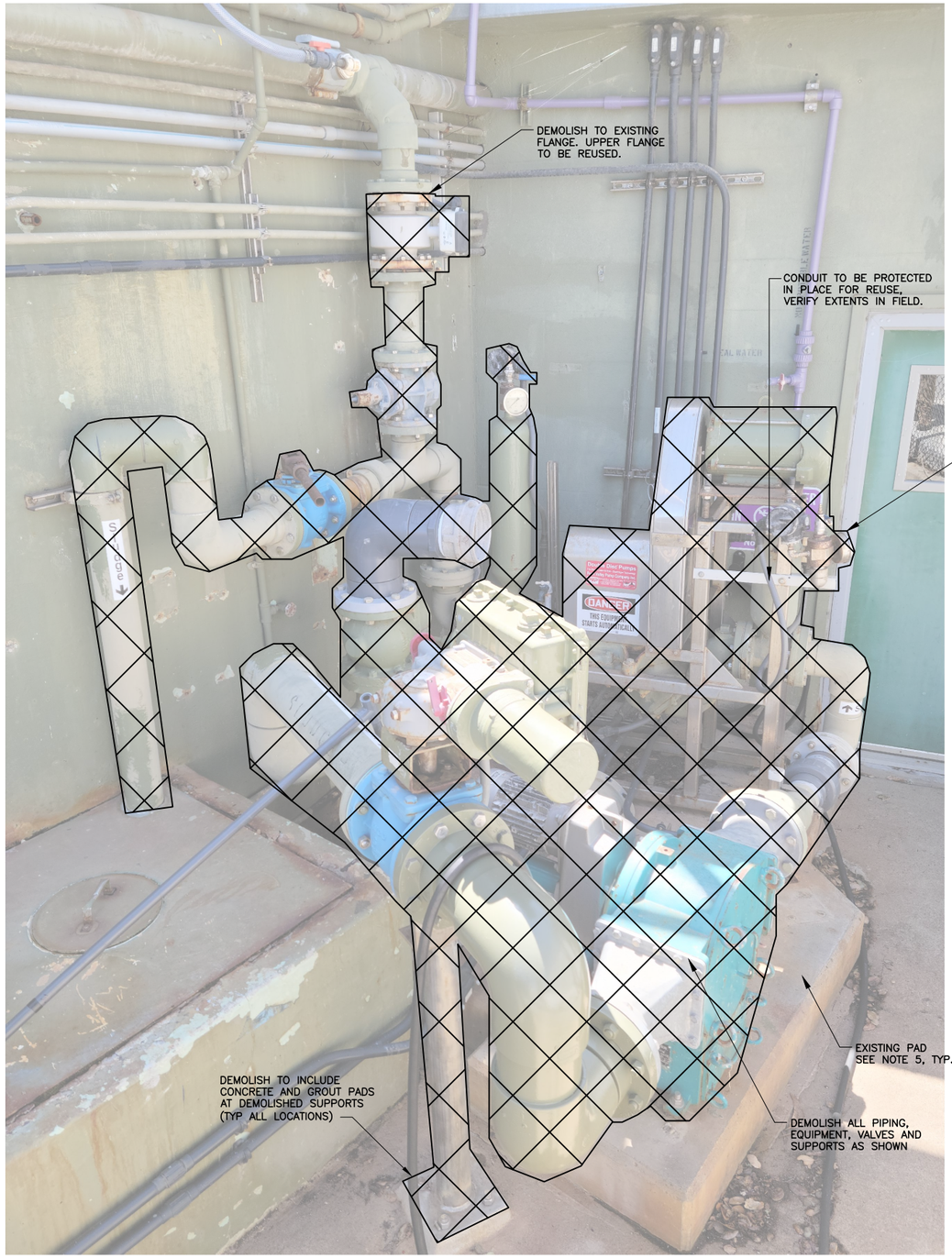


PHOTO 1 D–1 NORTH SLUDGE PUMP STATION (SEE PHOTO KEY ON SHEET D–1)

DEMOLITION TO MAKE ROOM FOR REPLACEMENT. NORTH PRIMARY SLUDGE PUMP STATION, SEE DET 1 M200–8

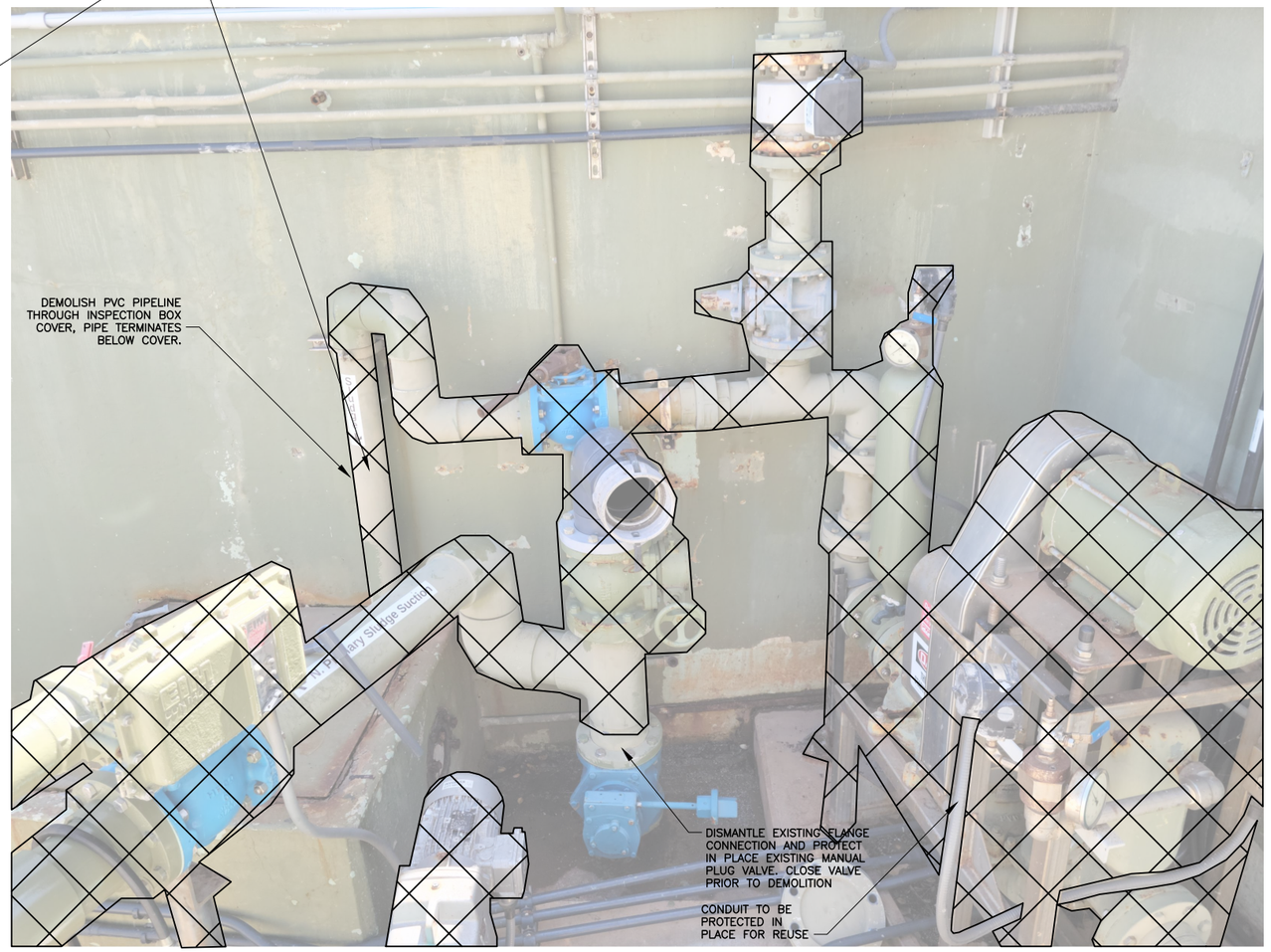


PHOTO 2 D–1 NORTH SLUDGE PUMP STATION (SEE PHOTO KEY ON SHEET D–1)

NOTES:

1. UNLESS OTHERWISE MARKED FOR DEMOLITION, ALL EXISTING UTILITIES AND EQUIPMENT WITHIN THE DEMOLITION AREAS SHALL BE PROTECTED IN PLACE.
2. DEMOLISH EXISTING PIPE/CONDUIT SUPPORTS, BOLTS, GROUT PADS AND RELATED ITEMS WHERE ASSOCIATED PIPING OR EQUIPMENT INDICATED TO BE DEMOLISHED.
3. PRIOR TO CUTTING OR DEMOLISHING ANY EXISTING UTILITY, CONFIRM WITH THE DISTRICT THAT THE UTILITY PIPE OR CONDUIT IS NOT IN SERVICE OR HAS BEEN ISOLATED AT AN UPSTREAM LOCATION. DO NOT CUT OR DEMOLISH ANY UTILITY WITHOUT AN APPROVED DEMOLITION AND RELOCATION PLAN. FIELD VERIFY WITH OWNER PRIOR TO DEMOLISHING ANY UTILITY.
4. REFER TO SHEET E–9 FOR ADDITIONAL DETAILS.
5. EXISTING CONCRETE EQUIPMENT PADS MAY BE DEMOLISHED IF THEY INTERFERE WITH NEW EQUIPMENT LAYOUTS OR REUSED IN NEW LAYOUT AT CONTRACTORS OPTION. IF DEMOLISHED, DEMOLISH IN ACCORDANCE WITH STRUCTURAL SPECIFICATIONS.
6. WORK IS WITHIN AN OPERATING TREATMENT PLANT. COORDINATION WILL BE REQUIRED TO SUPPORT SLUDGE DEWATERING OPERATIONS. SLUDGE IS TRANSPORTED UP TO FOUR (4) TIMES PER DAY AND REQUIRES ROAD ACCESS. COORDINATION AND ACCESS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

REGISTERED PROFESSIONAL ENGINEER
ANTHONY THOMAS VALDIVIA
No. 66847
Exp. 09-30-24
CIVIL
STATE OF CALIFORNIA
8/25/23

0" — VERIFY SCALES — 1"
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION
1				
2				
3				
4				
5				

DESIGNED	R. Nissley
DRAWN	S. Jung
CHECKED	T. Valdivia

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

EXISTING SOUTH PRIMARY CLARIFIER DEMOLITION PLAN DETAILS - 1

DWG NO	D-2
SHEET NO	5 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: 0011829-D-2 9-05-23 03:02pm TRuiz || XREFs: X-SMCSD-TBLK |<C--

Last Saved By: TRuiz 9-05-23 01:38pm



PHOTO 3 D-1 SOUTH SLUDGE PUMP STATION (SEE PHOTO KEY ON SHEET D-1)

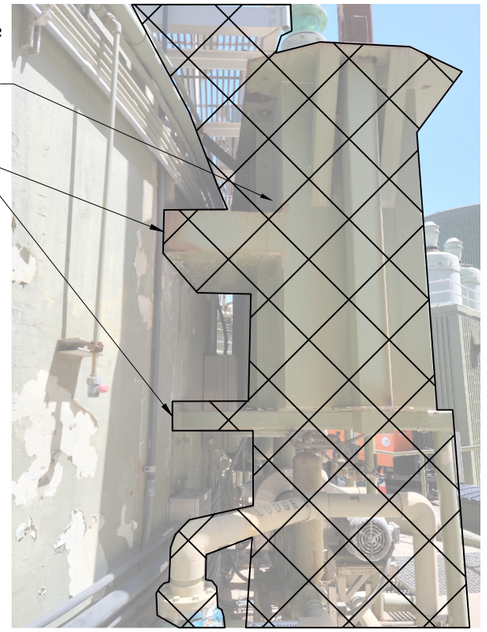


PHOTO 4 D-1 BAR RACK AT SOUTH STATION SLUDGE PUMP STATION

NOTES:

1. UNLESS OTHERWISE MARKED FOR DEMOLITION, ALL EXISTING UTILITIES AND EQUIPMENT WITHIN THE DEMOLITION AREAS SHALL BE PROTECTED IN PLACE.
2. DEMOLISH EXISTING PIPE/CONDUIT SUPPORTS, BOLTS, GROUT PADS AND RELATED ITEMS WHERE ASSOCIATED PIPING OR EQUIPMENT INDICATED TO BE DEMOLISHED.
3. PRIOR TO CUTTING OR DEMOLISHING ANY EXISTING UTILITY PIPE OR CONDUIT, CONFIRM WITH THE DISTRICT THAT THE UTILITY IS NOT IN SERVICE OR HAS BEEN ISOLATED AT AN UPSTREAM LOCATION. DO NOT CUT OR DEMOLISH ANY UTILITY WITHOUT AN APPROVED DEMOLITION AND RELOCATION PLAN. FIELD VERIFY WITH OWNER PRIOR TO DEMOLISHING ANY UTILITY.
4. REFER TO SHEET E-10 FOR ADDITIONAL DETAILS ON DEMOLITION OF ELECTRICAL ITEMS.
5. WORK IS WITHIN AN OPERATING TREATMENT PLANT. COORDINATION WILL BE REQUIRED TO SUPPORT SLUDGE DEWATERING OPERATIONS. SLUDGE IS TRANSPORTED UP TO FOUR (4) TIMES PER DAY AND REQUIRES ROAD ACCESS. COORDINATION AND ACCESS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

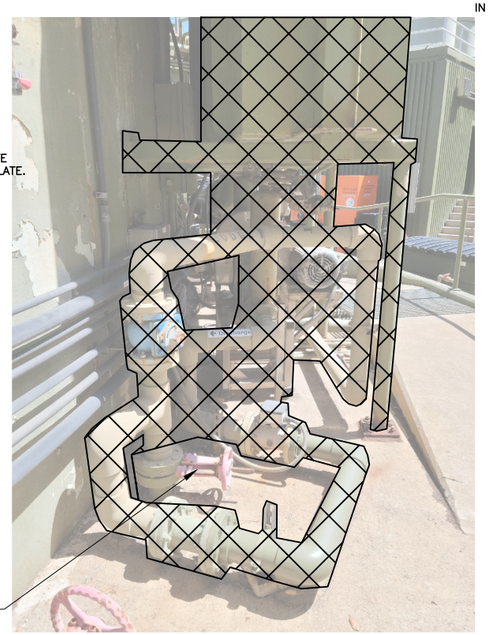


PHOTO 5 D-1 SOUTH SLUDGE PUMP STATION AND BAR RACK (SEE PHOTO KEY ON SHEET D-1)

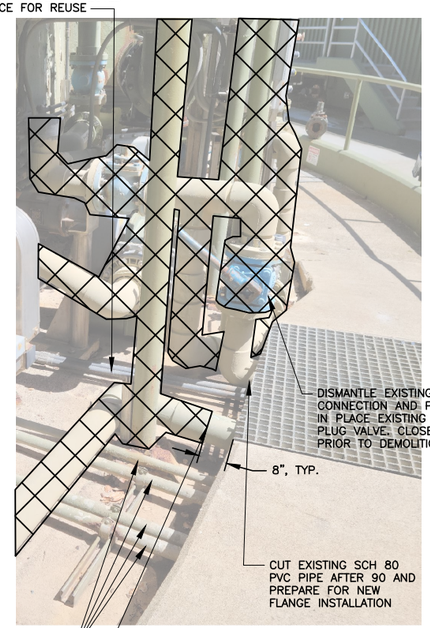


PHOTO 6 D-1 SOUTH SLUDGE PUMP STATION (SEE PHOTO KEY ON SHEET D-1)

REGISTERED PROFESSIONAL ENGINEER ANTHONY THOMAS VALDIVIA No. 66847 Exp. 09-30-24 CIVIL STATE OF CALIFORNIA 8/25/23

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION
1				
2				
3				
4				
5				

DESIGNED
DRAWN
CHECKED T. Valdivia

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

EXISTING SOUTH PRIMARY CLARIFIER DEMOLITION PLAN DETAILS - 2

DWG NO	D-3
SHEET NO	6 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: 0011829-D-2 9-05-23 03:04pm TRuiz || XREFS: X-SMCSD-TBLK |<<--

Last Saved By: TRuiz 9-05-23 01:38pm

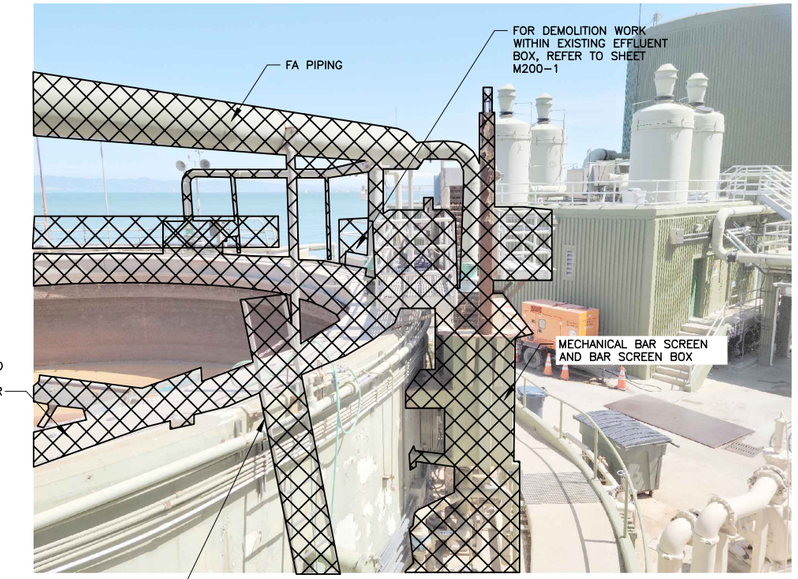


PHOTO 7 D-1 SOUTH PRIMARY CLARIFIER (SEE PHOTO KEY ON SHEET D-1)



PHOTO 9 D-1 SOUTH PRIMARY CLARIFIER (SEE PHOTO KEY ON SHEET D-1)

NOTES:

1. UNLESS OTHERWISE MARKED FOR DEMOLITION, ALL EXISTING UTILITIES AND EQUIPMENT WITHIN THE DEMOLITION AREAS SHALL BE PROTECTED IN PLACE.
2. DEMOLISH EXISTING PIPE/CONDUIT SUPPORTS, BOLTS, GROUT PADS AND RELATED ITEMS WHERE ASSOCIATED PIPING OR EQUIPMENT INDICATED TO BE DEMOLISHED.
3. PRIOR TO CUTTING OR DEMOLISHING ANY EXISTING UTILITY, CONFIRM WITH THE DISTRICT THAT THE UTILITY PIPE/CONDUIT IS NOT IN SERVICE OR HAS BEEN ISOLATED AT AN UPSTREAM LOCATION. DO NOT CUT OR DEMOLISH ANY UTILITY WITHOUT AN APPROVED DEMOLITION AND RELOCATION PLAN. FIELD VERIFY WITH OWNER PRIOR TO DEMOLISHING ANY UTILITY.
4. DEMOLISH SOUTH CLARIFIER BAR SCREEN AND ADJACENT LADDER.
5. EXISTING MUD ROOM FRAMING DETAILS ARE NOT KNOWN BUT ARE ASSUMED TO CONSIST OF WOOD OR METAL FRAMING WITH STRUCTURAL SHEATHING AND STUCCO FINISH. CONNECTIONS TO CONCRETE CLARIFIER AND CONTROL ROOM WALLS SHALL BE REMOVED AND PATCHED IN ACCORDANCE WITH STRUCTURAL SPECIFICATIONS. UTILITIES WITHIN MUD ROOM SHALL BE DEMOLISH OR RELOCATED AS DIRECTED BY DISTRICT.
6. ALL DEMOLITION WORK ADJACENT TO AND WITHIN CLARIFIER SHALL BE COORDINATED WITH CLARIFIER MECHANISM AND COVER INSTALLATION REQUIREMENTS. DEMOLISH OR RELOCATE EXISTING UTILITIES, SUPPORTS, ETC. THAT WILL INTERFERE WITH INSTALLATION OF NEW EQUIPMENT.
7. REFER TO SHEETS E-9 AND E-10 FOR ADDITIONAL DETAILS.
8. WORK IS WITHIN AN OPERATING TREATMENT PLANT. COORDINATION WILL BE REQUIRED TO SUPPORT SLUDGE DEWATERING OPERATIONS. SLUDGE IS TRANSPORTED UP TO FOUR (4) TIMES PER DAY AND REQUIRES ROAD ACCESS. COORDINATION AND ACCESS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.



PHOTO 8 D-1 SOUTH PRIMARY CLARIFIER (SEE PHOTO KEY ON SHEET D-1)



PHOTO 13 D-1 SOUTH PRIMARY CLARIFIER MUDROOM (SEE PHOTO KEY ON SHEET D-1)

REGISTERED PROFESSIONAL ENGINEER ANTHONY THOMAS VALDIVIA No. 66847 Exp. 09-30-24 CIVIL STATE OF CALIFORNIA 8/25/23

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED
DRAWN
CHECKED T. Valdivia

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

EXISTING SOUTH PRIMARY CLARIFIER DEMOLITION PLAN DETAILS - 3

DWG NO D-4
SHEET NO 7 OF 41
PROJ NO 0011829
DATE AUGUST 2023

FILENAME: 0011829-D-2 9-05-23 03:05pm TRuiz | XREFS: | X-SMCSD-TBLK |<<--

Last Saved By: TRuiz 9-05-23 01:38pm

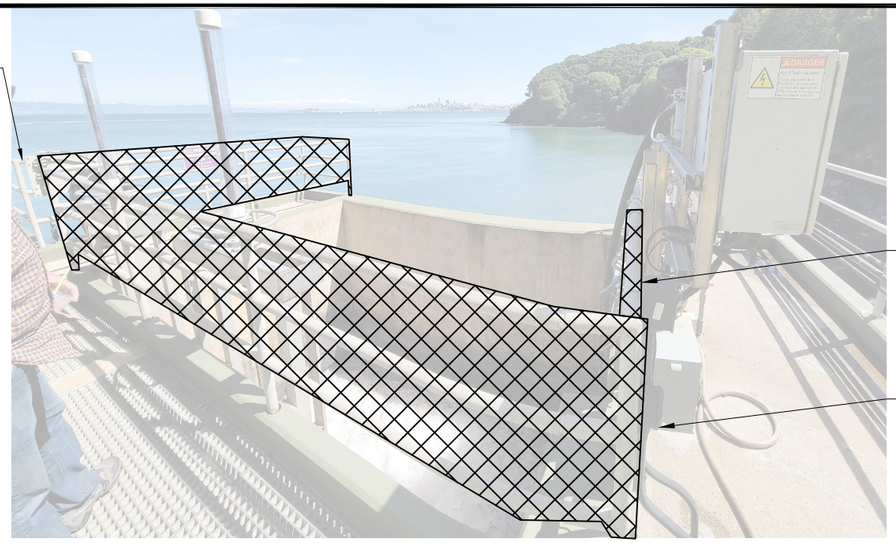


PHOTO 12 C-1 EFFLUENT BOX (SEE PHOTO KEY ON SHEET D-1)

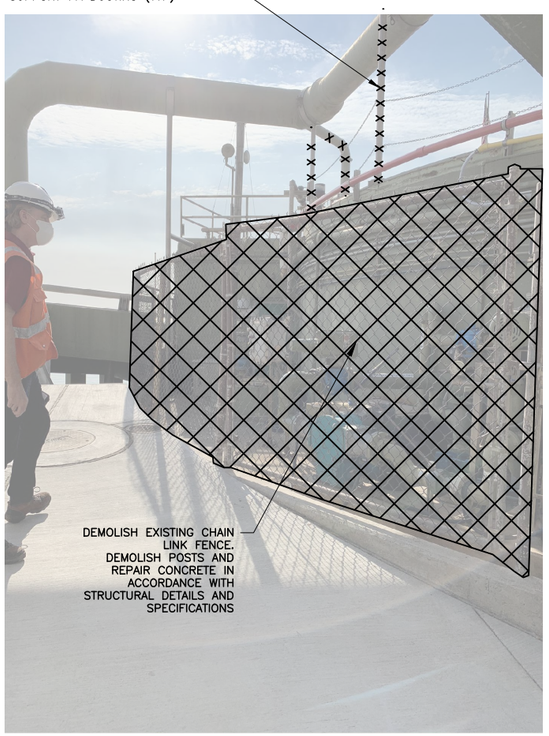


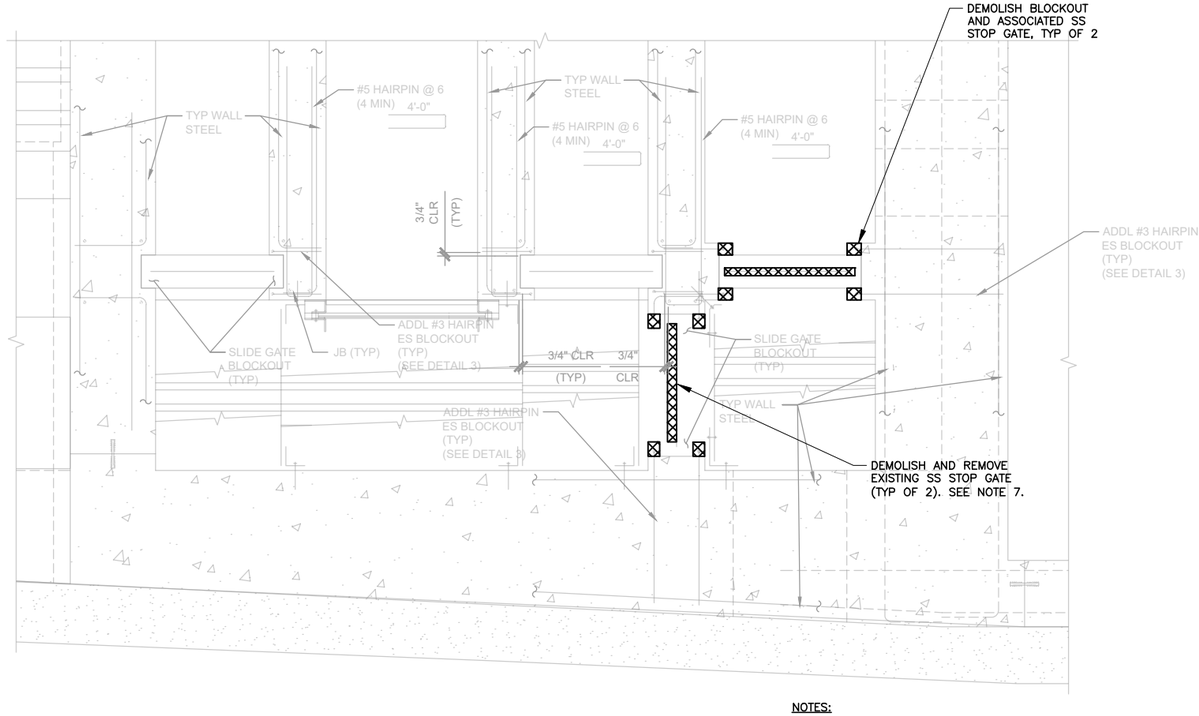
PHOTO 10 D-1 FENCING DEMOLITION AND NORTH SLUDGE PUMP STATION (SEE PHOTO KEY ON SHEET D-1)



PHOTO 11 D-1 FENCING DEMOLITION AND NORTH SLUDGE PUMP STATION (SEE PHOTO KEY ON SHEET D-1)

NOTES:

1. UNLESS OTHERWISE MARKED FOR DEMOLITION, ALL EXISTING UTILITIES AND EQUIPMENT WITHIN THE DEMOLITION AREAS SHALL BE PROTECTED IN PLACE.
2. DEMOLISH EXISTING PIPE/CONDUIT SUPPORTS, BOLTS, GROUT PADS AND RELATED ITEMS WHERE ASSOCIATED PIPING OR EQUIPMENT INDICATED TO BE DEMOLISHED.
3. PRIOR TO CUTTING OR DEMOLISHING ANY EXISTING UTILITY, CONFIRM WITH THE DISTRICT THAT THE UTILITY IS NOT IN SERVICE OR HAS BEEN ISOLATED AT AN UPSTREAM LOCATION. DO NOT CUT OR DEMOLISH ANY UTILITY WITHOUT AN APPROVED DEMOLITION AND RELOCATION PLAN.
4. REFER TO SPECIFICATIONS FOR SEQUENCING AND CONSTRAINTS. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY BULKHEADS TO ISOLATE PORTIONS OF HEADWORKS DURING CONSTRUCTION.
5. EXISTING HEADWORKS CHANNEL IS LINED WITH AMERON T-LOCK PVC LINER SYSTEM. PROTECT EXISTING LINER DURING DEMOLITION, LIMITING DAMAGE TO AREAS IMPACTED BY DEMOLITION. PREPARE FOR LINER REPAIR FOLLOWING NEW CONSTRUCTION.
6. WORK IS WITHIN AN OPERATING TREATMENT PLANT. COORDINATION WILL BE REQUIRED TO SUPPORT SLUDGE DEWATERING OPERATIONS. SLUDGE IS TRANSPORTED UP TO FOUR (4) TIMES PER DAY AND REQUIRES ROAD ACCESS. COORDINATION AND ACCESS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
7. EXISTING STOP GATE FRAME IS SET IN GROUT INSIDE OF CONCRETE "BLOCKOUT". DEMOLISH EXISTING FRAME ALONG WITH GATE (TYP OF 2 GATES) AND CONCRETE AS SHOWN. EXISTING CONCRETE HAS PVC LINER WHICH SHALL BE PROTECTED IN PLACE OUTSIDE OF DEMOLITION LIMITS.
8. EFFLUENT BOX CANNOT BE DEWATERED. DEMOLITION AND CONSTRUCTION WORK WILL TAKE PLACE OVER AN ACTIVE BOX FILLED WITH WASTEWATER. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR SAFETY OF ITS PERSONELL AND SHALL PUT IN PLACE MEASURES TO PREVENT TOOLS, MATERIALS AND CONSTRUCTION DEBRIS FROM FALLING INTO THE BOX OR OTHERWISE ENTERING THE FLOW STREAM.



DETAIL 1 3/4"=1'-0" D-1 HEADWORKS PLAN VIEW

NOTES:

1. PLANK GRATING AND SUPPORTS NOT SHOWN FOR CLARITY.
2. EXISTING STAINLESS STEEL STOP GATE DIMENSIONS APPROXIMATELY MATCH NEW GATE DIMENSIONS SHOWN ON SHEET GM-1.

REGISTERED PROFESSIONAL ENGINEER ANTHONY THOMAS VALDIVIA No. 66847 Exp. 09-30-24 CIVIL STATE OF CALIFORNIA 8/25/23

0" 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED
DRAWN
CHECKED T. Valdivia

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

EXISTING SOUTH PRIMARY CLARIFIER DEMOLITION PLAN DETAILS - 4

DWG NO	D-5
SHEET NO	8 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: 0011829-D-2 9-05-23 03:06pm TRuiz || XREFS: X-SMCSD-TBLK <<--

Last Saved By: TRuiz 9-05-23 01:38pm

SCALE: 1"=10'

0 10 20 30

SCALE IN FEET

NOTES:

1. PLANT LAYOUT BASED ON RECORD DRAWINGS. EXISTING CONDITIONS MAY DIFFER. CONTRACTOR SHALL INSPECT SITE PRIOR TO BID.
2. DEMOLITION OF EXISTING FACILITIES NOT SHOWN ON THIS SHEET. REFER TO DEMOLITION SHEETS FOR DEMOLITION DETAILS.
3. EFFLUENT BOX CANNOT BE DEWATERED. DEMOLITION AND CONSTRUCTION WORK WILL TAKE PLACE OVER AN ACTIVE BOX FILLED WITH WASTEWATER. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR SAFETY OF ITS PERSONELL AND SHALL PUT IN PLACE MEASURES TO PREVENT TOOLS, MATERIALS AND CONSTRUCTION DEBRIS FROM FALLING INTO THE BOX OR OTHERWISE ENTERING THE FLOW STREAM.

SAN FRANCISCO BAY

VIEWING AREA (CONTINUES TO NORTH)

ACCESS CAUSEWAY

INSTALL ~30' OF GUARDRAIL. SEE PHOTOS A AND B BELOW

(E) NORTH PRIMARY CLARIFIER

EXIST SOUTH PRIMARY CLARIFIER

NORTH SLUDGE PUMP STATION

EXIST 24"FA

EXIST 16"FA

EXIST PLANT LIBRARY

EXIST 24"FA

EXIST 14"FA

SOUTH SLUDGE PUMP STATION

RECYCLE PUMPS

SEE SHEET M200-8

ACCESS PLATFORM

CONTROL BLDG.

SECONDARY CLARIFIERS (BELOW)

FIXED FILM REACTOR 2

(E) FIXED FILM REACTORS

FIXED FILM REACTOR 1

CONSTRUCT PLANK GRATING AT EXISTING SECONDARY EFFLUENT BOX. SEE STRUCTURAL PLANS AND NOTE 3.

CONSTRUCT APPROXIMATELY 15' OF GUARDRAIL AT SOUTH SIDE OF EFFLUENT BOX BETWEEN EXISTING RAIL TO FORM COMPLETE PERIMETER RAIL. REFER TO STRUCTURAL DETAIL 05102/GS-4.

GENERATOR BLDG.

SAND FILTERS

(E) DISK FILTERS

PRIMARY DIGESTER

SLUDGE THICKENER

(E) HEADWORKS/EQUALIZATION

HEADWORKS GATE MODIFICATIONS. SEE DETAIL 1/M200-7

PLAN
1"=10'

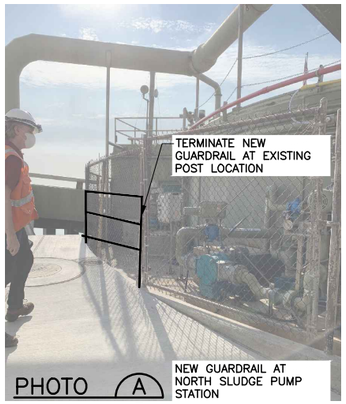


PHOTO A — NEW GUARDRAIL AT NORTH SLUDGE PUMP STATION



PHOTO B — NEW GUARDRAIL AT NORTH SLUDGE PUMP STATION

REGISTERED PROFESSIONAL ENGINEER
ANTHONY THOMAS VALDIVIA
No. 66847
Exp. 09-30-24
CIVIL
STATE OF CALIFORNIA
8/25/23

0" — 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED
DRAWN
CHECKED

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

MISCELLANEOUS GUARDRAILS AND GRATING

DWG NO	C-1
SHEET NO	9 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: 0011829-C-1 | 9-05-23 06:21pm TRuiz | XREFS: X-SMCSD-TBLK | X-Treatment Plant Site Plan | X-SitePlan | X-Topo Survey new | X-Site | 0055-006-M100-5 | X-SITE-EXISTING | 11829-M200-2 | X-Clarifier Plan_Sect |<--

Last Saved By: TRuiz 9-05-23 06:18pm

STRUCTURAL NOTES

GENERAL

1. ALL STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND SHOP DRAWINGS AND THE PROJECT SPECIFICATIONS (IF ANY).
2. CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE 2019 CALIFORNIA BUILDING CODE (CBC). THE CBC SHALL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR THESE DOCUMENTS ARE MORE RESTRICTIVE.
3. NOTHING SHOWN OR OMITTED FROM THESE DOCUMENTS SHALL RELIEVE THE CONTRACTOR FROM FULL COMPLIANCE WITH ALL APPLICABLE CODES AND ORDINANCES.
4. THE CONTRACTOR ALONE IS RESPONSIBLE FOR JOB SITE SAFETY. SITE REVIEW OF THE CONSTRUCTION BY THE ENGINEER IS TO DETERMINE CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. IT DOES NOT ENCOMPASS SAFETY PROCEDURES OR OPERATIONS.
5. WITHOUT EXCLUSION OF ANY REFERENCE IN THE CONSTRUCTION DOCUMENTS TO ANY RULE OR REGULATION, THE ENGINEER IS NOT ASSUMING ANY PROVISIONS OF SUPERVISION OF CONSTRUCTION METHODS OR PROCESSES.
6. STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURES. DURING CONSTRUCTION, BRACING OR SHORING SHALL SUPPORT STRUCTURES WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR.
7. WRITTEN DIMENSIONS SHALL BE USED FOR CONSTRUCTION. DO NOT SCALE DRAWINGS.
8. STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO MECHANICAL AND/OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
9. DIMENSIONS INDICATED WITH AN * SHALL BE COORDINATED WITH MECHANICAL AND/OR ELECTRICAL DRAWINGS AND EQUIPMENT SUPPLIED.
10. ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR. SHOULD CONFLICTS OR INTERFERENCE OCCUR, THEY SHALL BE RESOLVED WITH THE ENGINEER. EXISTING FIELD CONDITIONS AT VARIANCE WITH THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE ANY WORK IS PERFORMED.
11. USE PERTINENT STANDARD DETAILS SHOWN, EVEN THOUGH THEY MAY NOT BE CALLED OUT AT LOCATIONS WHERE THEY APPLY.
12. CONDITIONS NOT SPECIFICALLY SHOWN OR INDICATED SHALL BE CONSTRUCTED SIMILAR TO DETAILS SHOWN FOR THE RESPECTIVE MATERIALS OR CONDITIONS.

DEFERRED SUBMITTALS

1. THE FOLLOWING PORTIONS OF THE PROJECT ARE DEFERRED SUBMITTAL ITEMS. DEFERRED SUBMITTALS LISTED BELOW ARE THE RESPONSIBILITY OF THE CONTRACTOR. DEFERRED SUBMITTAL ITEMS HAVE NOT BEEN DESIGNED BY THE ENGINEER OF RECORD. REFER TO CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.

   a) HANDRAILS
   b) GUARDRAILS
   c) EQUIPMENT ANCHORAGE
   d) PIPE SUPPORTS
   e) CONDUIT SUPPORTS

2. UNLESS OTHERWISE NOTED, DEFERRED SUBMITTAL ITEMS SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA.
3. DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL DURING THE CONSTRUCTION PHASE OF THE PROJECT.
4. DEFERRED SUBMITTAL ITEMS SHALL NOT BE FABRICATED UNTIL THE ENGINEER OF RECORD HAS REVIEWED THE SUBMITTAL DOCUMENTS AND INDICATED THAT THEY HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS.
5. DEFERRED SUBMITTAL ITEMS SHALL NOT BE FABRICATED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN FAVORABLY REVIEWED BY THE DISTRICT.

DESIGN LOADS

1. LIVE LOADS:

USE OR OCCUPANCY	UNIFORM LOAD (psf)	CONCENTRATED LOAD (lbs)
WALKWAYS, STAIRWAYS	100	300(1)
ROOFS (NON-CONCRETE)	20(2)	-
PROCESS AREA	200	-

(1) MINIMUM CONCENTRATED LOAD ON STAIR TREADS ONLY.
(2) MAY BE REDUCED AS ALLOWED BY THE CBC.

2. WIND:

BASIC WIND SPEED V_{ult} (3-SECOND GUST):	99 MPH
RISK CATEGORY:	III
WIND EXPOSURE CATEGORY:	D
INTERNAL PRESSURE COEFFICIENT	N/A
C&C PRESSURES FOR DEFERRED SUBMITTALS	N/A

3. SEISMIC:

SEISMIC IMPORTANCE FACTOR (I_E)	1.25
RISK CATEGORY:	III
MAPPED SPECTRAL RESPONSE ACCELERATIONS:	S_S = 1.50g, S_1 = 0.60g
SITE CLASS	D
SPECTRAL RESPONSE COEFFICIENTS:	S_{DS} = 1.2g, S_{D1} = N/A
SEISMIC DESIGN CATEGORY:	D
ANALYSIS PROCEDURE USED:	EQUIVALENT LATERAL FORCE PROCEDURE

4. SNOW:

GROUND SNOW LOAD (P_g):	0 PSF

SPECIAL INSPECTION

1. SPECIAL INSPECTION SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH IN CHAPTER 17 OF THE CBC. UNLESS OTHERWISE NOTED IN THE PROJECT SPECIFICATIONS, SPECIAL INSPECTION SHALL BE PROVIDED BY AND PAID FOR BY THE DISTRICT. THE FOLLOWING ITEMS, AS A MINIMUM, SHALL RECEIVE SPECIAL INSPECTION:

ITEM	STRUCTURAL STEEL INSPECTIONS AND VERIFICATION	FREQUENCY	
		CONTINUOUS	PERIODIC
1.	MATERIAL VERIFICATION OF STRUCTURAL STEEL:	---	---
	A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.		X
	B. MANUFACTURERS' CERTIFIED MILL TEST REPORTS.		X
2.	MATERIAL VERIFICATION OF WELD FILLER MATERIALS:	---	---
	A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.		X
	B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.		X
3.	INSPECTION OF WELDING:	---	---
	A. STRUCTURAL STEEL:	---	---
	1) COMPLETE AND PARTIAL PENETRATION GROOVE WELDS.	X	
	2) MULTI-PASS FILLET WELDS.	X	
	3) SINGLE-PASS FILLET WELDS > 5/16"	X	
	4) SINGLE-PASS FILLET WELDS ≤ 5/16"		X
	B. REINFORCING STEEL:		
	1) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.		X
	2) SHEAR REINFORCEMENT.	X	
	3) OTHER REINFORCING STEEL.		X

ITEM	CONCRETE INSPECTIONS AND VERIFICATION	FREQUENCY	
		CONTINUOUS	PERIODIC
1.	INSPECTION OF REINFORCING STEEL AND PLACEMENT.		X
2.	INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.3, ITEM 2.	X	
3.	INSPECTION OF ANCHORS CAST IN CONCRETE.		X
4.	INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	X	
5.	VERIFYING USE OF REQUIRED DESIGN MIX.		X
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	
7.	INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	
8.	INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.		X
9.	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.		X

ITEM	INSPECTIONS AND VERIFICATION FOR SEISMIC RESISTANCE IN OTHER BUILDING SYSTEMS	FREQUENCY	
		CONTINUOUS	PERIODIC
	MECHANICAL & ELECTRICAL COMPONENTS		
1.	ANCHORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY OR STANDBY POWER SYSTEMS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F.		X
2.	ANCHORAGE OF OTHER ELECTRICAL EQUIPMENT IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY E OR F.		X

SPECIAL INSPECTION NOTATION:

"X" DENOTES EITHER CONTINUOUS OR PERIODIC INSPECTIONS.
"---" DENOTES AN ACTIVITY THAT IS EITHER A ONE TIME ACTIVITY OR ONE WHOSE FREQUENCY IS DEFINED IN SOME OTHER MANNER

DEFINITIONS:
CONTINUOUS - SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS PRESENT WHEN AND WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED (CBC, SECTION 202)

PERIODIC - SPECIAL INSPECTION BY THE SPECIAL INSPECTOR WHO IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED (CBC, SECTION 202)

SPECIAL INSPECTOR - A QUALIFIED PERSON EMPLOYED OR RETAINED BY THE DISTRICT AND APPROVED BY THE AUTHORITY HAVING JURISDICTION AS HAVING THE COMPETENCE NECESSARY TO INSPECT A PARTICULAR TYPE OF CONSTRUCTION REQUIRING SPECIAL INSPECTION.

CONCRETE REINFORCING

1. REINFORCING STEEL SHALL CONFORM TO THE LATEST EDITION OF ASTM SPECIFICATION A706 OR A615, GRADE 60.
2. REINFORCING STEEL FABRICATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF CRSI MANUAL OF STANDARD PRACTICE.
3. REINFORCING SHALL HAVE THE FOLLOWING CLEAR CONCRETE COVER, UNLESS OTHERWISE NOTED ON THE DRAWINGS.

CONDITION	COVER (INCHES)
UNFORMED SURFACES IN CONTACT WITH EARTH	3
FORMED SURFACES EXPOSED TO EARTH, WATER AND/OR WEATHER	2

4. SPLICED BARS SHALL HAVE A MINIMUM CLASS B CONTACT LAP AS SPECIFIED IN THE LATEST EDITION OF ACI 315 DETAILING MANUAL AND ACI 318 UNLESS OTHERWISE NOTED ON THE DRAWINGS. WHERE SHOWN ON THE DRAWINGS, ld = DEVELOPMENT LENGTH AS DEFINED IN THE STANDARD DETAILS OF THESE DRAWINGS. HOOKS OF REINFORCING STEEL SHALL COMPLY WITH ACI 318.
5. WRITTEN SPACING AND LOCATION OF REINFORCING SHALL TAKE PRECEDENCE OVER DEPICTED SPACING AND LOCATION.
6. UNLESS OTHERWISE NOTED ON THE DRAWINGS, REINFORCING BARS SHOWN TERMINATING WITH A HOOK SHALL BE FABRICATED WITH A STANDARD HOOK AS DEFINED WITHIN ACI 318. WHERE SECTION THICKNESS DOES NOT ALLOW FOR FULL HOOK EXTENSION, TILT HOOK UNTIL HOOK FITS. ALTERNATIVELY CONTRACTOR MAY USE 180° HOOK OR TWO SMALLER HOOKED BARS OF EQUIVALENT AREA OF STEEL.
7. IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED DUE TO THE LIMITED EXTENT OF THE ADJACENT CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND BE TERMINATED WITH A STANDARD HOOK.

REGISTERED PROFESSIONAL ENGINEER — RICHARD J. MOGAL — S 4439 — Exp. 12/31/23 — STRUCTURAL — STATE OF CALIFORNIA
8/25/23

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

TJC

WOODARD & CURRAN

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	RKT
DRAWN	ADP
CHECKED	-

SUBMITTED: _____ PROJECT ENGINEER
APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

STRUCTURAL GENERAL NOTES I

DWG NO	GS-1
SHEET NO	10 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

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CONCRETE

1. REINFORCED CONCRETE SHALL CONFORM TO ACI 318.
2. PORTLAND CEMENT SHALL CONFORM TO ASTM C150 TYPE II. ONE BRAND OF CEMENT SHALL BE USED THROUGHOUT THE WORK.
3. USE OF UP TO 25% POZZOLAN (FLY, ASH, CLASS F) CONTENT OF TOTAL CEMENTITIOUS MATERIAL IS PERMITTED.
4. USE OF GRANULATED GROUND BLAST FURACE SLAG (GGBFS) IN THE CONCRETE IS NOT PERMISSIBLE.
5. ALL AGGREGATES SHALL CONFORM TO ASTM C33. THE MAXIMUM SIZE AGGREGATE SHALL BE 1 INCH. USE OF RECYCLED CONCRETE, AGGREGATE OR OTHER RECYCLABLE MATERIALS IS NOT PERMISSIBLE.
6. MIXING WATER SHALL BE POTABLE WATER FREE FROM INJURIOUS AMOUNTS OF ACID, ALKALI, OR OTHER HARMFUL SUBSTANCES. WATER SHALL BE OBTAINED FROM LOCAL UTILITY COMPANY MAINS UNLESS THE ENGINEER APPROVES ANOTHER SOURCE.
7. AIR ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C260.
8. CURING COMPOUNDS SHALL CONFORM TO ASTM C309.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE MINIMUM REQUIREMENTS LISTED BELOW. CEMENT CONTENT SHALL BE INCREASED OVER THAT LISTED IF REQUIRED TO OBTAIN THE LISTED COMPRESSIVE STRENGTH.

LOCATION	MIN 28 DAY STRENGTH (psi)	MIN CEMENT CONTENT (lbs)	SLUMP (in)
STRUCTURAL CONCRETE	4,000	560	3-5

10. ADDITIONAL BENEFITS OF INCREASED COHESION, IMPROVED COMPACTION, REDUCED SCALING AND ENHANCED LONG TERM QUALITY AND DURABILITY, ALL CONCRETE SHALL HAVE AIR CONTENT (ENTRAPPED + ENTRAINED) OF 5.0 - 7.0 PERCENT.
11. ALL CONCRETE SHALL BE TRANSIT MIXED IN ACCORDANCE WITH ASTM C194, EXCEPT THAT SMALL BATCHES OF 1/2 CUBIC YARD OR LESS MAY BE MIXED ON THE SITE.
12. TRANSIT MIXED CONCRETE SHALL BE MIXED FOR NOT LESS THAN 10 MINUTES TOTAL, OF WHICH NOT LESS THAN 3 MINUTES SHALL BE ON THE SITE JUST PRIOR TO PLACEMENT. MIXING SHALL BE CONTINUOUS WITH NO INTERRUPTIONS FROM THE TIME THE TRUCK IS FILLED UNTIL THE TIME IT IS EMPTIED. CONCRETE SHALL BE PLACED WITHIN ONE HOUR OF THE TIME WATER IS FIRST ADDED. TRANSIT MIXED CONCRETE SHALL NOT EXCEED A TEMPERATURE OF 90 DEGREES FAHRENHEIT WITHOUT APPROVAL OF THE ENGINEER.
13. CONSTRUCTION JOINTS SHALL NOT BE PLACED AT LOCATIONS OTHER THAN THOSE SHOWN ON THE DRAWINGS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
14. ALL EXPOSED CORNERS OF CONCRETE SHALL HAVE 3/4" MINIMUM CHAMFER, UNLESS NOTED OTHERWISE.
15. BEFORE PLACING CONCRETE, MIXING, CONVEYING, FINISHING EQUIPMENT, FORMS AND REINFORCING SHALL BE WELL CLEANED.
16. CONCRETE SHALL BE CONVEYED FROM MIXER TO FINAL LOCATION AS RAPIDLY AS POSSIBLE BY METHODS PREVENTING SEPARATION OF THE INGREDIENTS. DEPOSIT CONCRETE AS NEARLY AS POSSIBLE IN FINAL POSITION TO AVOID REHANDLING.
17. WHEN REDESIGN OF THE CONCRETE MIX IS REQUIRED FOR PUMPING, SUCH REDESIGN SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
18. VIBRATION SHALL BE BY MEANS OF MECHANICAL VIBRATORS IN DIRECT CONTACT WITH THE CONCRETE, AND NOT BY VIBRATING THE FORMS OR REINFORCING. VIBRATION SHALL CONTINUE UNTIL WATER SHOWS THE FIRST SIGNS OF RISING.

CONCRETE FINISHING, CURING AND PATCHING

1. FINAL TROWELING OF THE WALL PANELS SHALL BE DONE WITH A STEEL TROWEL EXCEPT WHERE DRAWINGS SPECIFICALLY CALL FOR ANOTHER TYPE OF FINISH.
2. FINISHED SURFACES OF ALL PANELS SHALL BE TRUE AND FLAT IN ACCORDANCE WITH ELEVATIONS AND SLOPES SHOWN ON THE DRAWINGS. THE MAXIMUM VARIATION ALLOWED FROM THE SPECIFIED SLOPES AND SURFACES SHALL BE 1/8 INCH WITH NOT MORE THAN 1/8-INCH VARIATION IN ANY 10-FOOT LENGTH.
3. CONCRETE PANELS SHALL BE CURED BY MEANS OF AN APPROVED CURING COMPOUND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
4. AT CAST-IN-PLACE WALLS, FORMS SHALL NOT BE REMOVED UNTIL CONCRETE HAS SET ADEQUATELY TO PREVENT DAMAGE DURING AND AFTER REMOVAL.
5. IMMEDIATELY AFTER FORM REMOVAL, FORM TIES SHALL BE REMOVED FROM EXPOSED SURFACES AND HOLES AND OTHER VOIDS SHALL BE POINTED FLUSH WITH MORTAR COMPOSED OF ONE PART PORTLAND CEMENT AND TWO PARTS SAND. FINS, BURRS, ETC. SHALL BE REMOVED WHILE THE CONCRETE IS STILL GREEN. VOIDS, POCKETS, AND HONEYCOMBS WHICH WOULD EITHER WEAKEN CONCRETE OR DISFIGURE EXPOSED SURFACES SHALL BE SIMILARLY PATCHED. IF, IN THE ENGINEER'S OPINION, HONEYCOMBING IS SUCH THAT THE STRENGTH OF THE STRUCTURE IS IMPAIRED, WHOLE SECTIONS OF THE WORK MAY BE REQUIRED BY THE ENGINEER TO BE REMOVED AND REPLACED AS DIRECTED, AT THE CONTRACTOR'S EXPENSE.

CONCRETE ANCHORS

1. POST-INSTALLED CONCRETE ANCHORS, INCLUDING ADHESIVE AND EXPANSION ANCHORS, SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS AND THE APPROPRIATE EVALUATION REPORT. ANCHORS WITHOUT A CURRENT ICC-ES ESR, IAPMO-UES ER OR EQUAL SHALL NOT BE USED.
2. UNLESS OTHERWISE INDICATED, ALL ADHESIVE AND EXPANSION ANCHORS FOR INSTALLATION IN CONCRETE SHALL HAVE SATISFIED THE REQUIREMENTS OF THE SIMULATED SEISMIC TESTS OF ACI 355.4 OR ACI 355.2, NO SUBSTITUTION SHALL BE ALLOWED.
3. CONTRACTOR SHALL LOCATE EXISTING REBAR USING NON-DESTRUCTIVE METHODS PRIOR TO DRILLING HOLES FOR POST-INSTALLED ANCHORS. ADJUST SPACING OF ANCHORS TO MISS EXISTING REINFORCING. TOTAL NUMBER OF ANCHORS PROVIDED SHALL BE EQUAL TO THAT SHOWN ON THE DRAWINGS.
4. ADHESIVE ANCHORS SHALL CONSIST OF A TWO-COMPONENT RESIN ADHESIVE. THE PACKAGES CONTAINING EACH COMPONENT SHALL BE ATTACHED TO A DISPENSING MANIFOLD. AN AUGER STYLE NOZZLE SHALL BE ATTACHED FOR PROPER MIXING OF THE ADHESIVE COMPONENTS. WHERE THREADED RODS ARE REQUIRED, RODS SHALL CONFORM TO ASTM A193 GRADE B7. WHERE STAINLESS STEEL IS CALLED FOR ON THE DRAWINGS, STAINLESS STEEL SHALL BE TYPE 316.

STRUCTURAL AND MISCELLANEOUS STEEL

1. STRUCTURAL SHAPES, PLATES AND BARS SHALL CONFORM TO ASTM A36, UNLESS OTHERWISE NOTED.
2. STRUCTURAL W-SHAPES SHALL CONFORM TO ASTM A992, GRADE 50.
3. STRUCTURAL STEEL TUBES SHALL CONFORM TO ASTM A500, GRADE B.
4. STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A53, TYPE S, GRADE B.
5. MACHINE BOLTS (MB) SHALL CONFORM TO ASTM A307.
6. NUTS SHALL BE HEAVY HEX IN ACCORDANCE WITH ANSI B8.2.1.1.
7. ALL STRUCTURAL STEEL SHALL BE FABRICATED, ERECTED AND CONNECTED IN COMPLIANCE WITH THE LATEST AISC MANUAL.
8. UNLESS OTHERWISE NOTED, ALL BOLTS SHALL BE 3/4 INCH DIAMETER MEETING THE REQUIREMENTS OF ASTM A325. BOLTS SHALL BE TIGHTENED USING THE TURN-OF-THE-NUT METHOD.
9. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STRUCTURAL WELDING CODE, AWS (D1.1). ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS.
10. WELDING ELECTRODES SHALL MEET THE MINIMUM REQUIREMENTS OF E70XX.
11. ALL METAL FABRICATIONS SHALL RECEIVE A SHOP COAT OF RUST INHIBITIVE PAINT MEETING FEDERAL SPECIFICATION TT-P-86, TYPE III.
12. WHERE BUTT WELDS ARE SHOWN, MATERIAL SHALL BE GROUND TO A BEVEL AND WELD SHALL BE FULL PENETRATION.
13. ALL BOLT HOLES SHALL BE PUNCHED OR DRILLED (REAMED). BURNING OF HOLES IS NOT ACCEPTABLE.
14. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW BY THE ENGINEER PRIOR TO FABRICATION.

HANDRAIL/GUARDRAIL

1. HANDRAIL SHALL BE FABRICATED FROM STANDARD PIPE SECTION, ARCHITECTURAL HANDRAIL GRADE AND SHALL HAVE AN OUTSIDE DIAMETER NOT LESS THAN 1.25 INCHES BUT NOT GREATER THAN 2-INCHES.
2. ALL COMPONENTS OF THE HANDRAIL SYSTEM SHALL BE SUPPLIED BY ONE MANUFACTURER AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
3. THREE LINE RAILS SHALL BE PROVIDED. ALL RAILS, POSTS AND ELBOWS SHALL BE FABRICATED FROM ALUMINUM: ASTM B221 WITH ALLOY AND TEMPER OF 6061-T6. WALL THICKNESS: SCHEDULE 80, FOLLOWING ANSI H35.2, UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
4. RAILING SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2019 CALIFORNIA BUILDING CODE AND TESTED IN ACCORDANCE WITH ICC-ES AC273, AND THE FOLLOWING MINIMUM REQUIREMENTS:
   a) ALL HANDRAIL ASSEMBLIES AND GUARDRAIL SYSTEMS SHALL BE DESIGNED TO RESIST A SINGLE CONCENTRATED LOAD OF 200 LB APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP AND TO TRANSFER THIS LOAD THROUGH THE SUPPORTS TO THE STRUCTURE.
   b) ALL HANDRAIL ASSEMBLIES AND GUARDRAIL SYSTEMS SHALL BE DESIGNED TO RESIST A LOAD OF 50 LB/FT (POUND-FORCE PER LINEAR FOOT) APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP AND TO TRANSFER THIS LOAD THROUGH THE SUPPORTS TO THE STRUCTURE. THIS LOAD NEED NOT BE ASSUMED TO ACT CONCURRENTLY WITH THE 200 LB LOAD SPECIFIED ABOVE.
   c) ALL HANDRAIL ASSEMBLIES AND GUARDRAIL SYSTEMS SHALL BE DESIGNED FOR A MAXIMUM HORIZONTAL DEFLECTION AT THE PRESCRIBED LOADS, MEASURED AT THE LINE OF THE VERTICAL SUPPORT, OF RAIL HEIGHT DIVIDED BY 12, WITH RAIL HEIGHT BEING THE DISTANCE BETWEEN THE SURFACE OF THE POST ANCHORAGE AND THE TOP OF THE TOP RAIL.
   d) REDUCTIONS IN THE AFOREMENTIONED PRESCRIBED DESIGN LOADS FOR BUILDING CLASSIFICATION AND/OR OCCUPANCY PERMITTED BY GOVERNING CODES AND/OR STANDARDS ARE NOT PERMISSIBLE.
5. THE CONTRACTOR SHALL SUBMIT CERTIFICATION THAT THE SUPPLIED RAILING SYSTEM MEETS THE REQUIREMENTS.

GALVANIZING

1. UNLESS OTHERWISE NOTED, ALL STRUCTURAL STEEL PLATES, BARS, AND FABRICATED ASSEMBLIES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 EXCEPT THAT THE WEIGHT OF ZINC COATING SHALL AVERAGE NOT LESS THAN 1.2 OUNCES PER SQUARE FOOT OF ACTUAL SURFACE AREA WITH NO INDIVIDUAL SPECIMEN HAVING A COATING WEIGHT LESS THAN 1.0 OUNCES PER SQUARE FOOT.
2. THE GALVANIZING PROCESS SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF ASTM A384. ANY GALVANIZED PART(S) THAT BECOME WARPED AS A RESULT OF THE GALVANIZING PROCESS AND/OR HANDLING SHALL BE STRAIGHTENED OR REPLACED AT NO ADDITIONAL EXPENSE TO THE DISTRICT.
3. ALL MEMBERS TO BE GALVANIZED SHALL BE THOROUGHLY CLEANED OF RUST AND SCALE PRIOR TO GALVANIZING.
4. CARBON STEEL BOLTS, ANCHOR BOLTS, NUTS AND SIMILAR THREADED FASTENERS, AFTER BEING PROPERLY CLEANED, SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.
5. UNLESS OTHERWISE NOTED, ALL BOLTED CONNECTIONS FOR GALVANIZED MEMBERS SHALL BE GALVANIZED.
6. GALVANIZED BOLTS SHALL NOT BE REUSED. RETIGHTENING BOLTS THAT MAY HAVE BEEN LOOSENED FOR THE INSTALLATION OF ADJACENT BOLT(S) SHALL NOT BE CONSIDERED TO BE A REUSE AND SHALL BE RETIGHTENED.
7. REPAIR TO DAMAGED COATING:
   a) THE MAXIMUM AREA THAT SHALL BE REPAIRED SHALL COMPLY WITH APPLICABLE SECTIONS OF ASTM A123.
   b) REPAIR AREAS BY ONE OF THE APPROVED METHODS IN ACCORDANCE WITH ASTM A780 WHENEVER DAMAGE WIDTH EXCEEDS 1/16 INCH. MINIMUM THICKNESS REQUIREMENTS FOR THE REPAIR SHALL BE AS DESCRIBED IN ASTM A123.
   c) FIELD REPAIRS TO GALVANIZING SHALL BE MADE USING "ZRC GALVILITE," "GLAVA-GUARD," OR APPROVED EQUAL. REPAIR MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

REGISTERED PROFESSIONAL ENGINEER
RICHARD J. MAYFIELD
S 4439
Exp. 12/31/23
STRUCTURAL
STATE OF CALIFORNIA
8/25/23

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

TJC

WOODARD & CURRAN

REV	DATE	BY	APVD	DESCRIPTION
1				
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5				

DESIGNED	RKT
DRAWN	ADP
CHECKED	-

SUBMITTED: _____ PROJECT ENGINEER .

APPROVED: _____ ENGINEER .

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

STRUCTURAL GENERAL NOTES II

DWG NO	GS-2
SHEET NO	11 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: GS Sheets 8-28-23 05:28pm BeeVue || XREFS: X-SMCSD-TBLK | RJM California | RJM Sig |<<--
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ABBREVIATIONS:

Ø	DIAMETER
AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
AL	ALUMINUM
ALT	ALTERNATE(ING)
APPROX	APPROXIMATE(LY)
AR	ANCHOR ROD
ARND	AROUND
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	ASTM INTERNATIONAL
ATR	ALL-THREADED ROD
AWS	AMERICAN WELDING SOCIETY
B TO B	BACK TO BACK
BLDG	BUILDING
BLK	BLOCK(ING)
BM	BEAM
BN	BOUNDARY NAILING
B.O.	BOTTOM OF
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
CBC	CALIFORNIA BUILDING CODE
C/C	CENTER TO CENTER
CHKD	CHECKERED
CIRC	CIRCUMFERENTIAL
CJ	CONSTRUCTION JOINT
CL	CENTERLINE
CLG	CEILING
CLKG	CAULKING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CRS	COURSE(S)
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
CSK	COUNTERSINK
CTJ	CONTROL JOINT
CTR	CENTER (ED)
D	DEEP, DEPTH
d	PENNY
d_b	BAR DIAMETER
DBL	DOUBLE
DEMO	DEMOLITION
DET	DETAIL
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DN	DOWN
DO.	DITTO
DP	DAMPROOFING
DR	DRAIN
DWG(S)	DRAWING(S)
DWL(S)	DOWEL(S)
(E)	EXISTING
EA	EACH
EB	EXPANSION BOLT
ECC	ECCENTRIC
ED	EQUIPMENT DRAIN
EF	EACH FACE
EL	ELEVATION
EMBED	EMBEDMENT
EN	EDGE NAILING
EOR	ENGINEER OF RECORD
EQ	EQUAL (LY)
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE
ESR	EVALUATION SERVICE REPORT
ETC	ETCETERA
EW	EACH WAY
EXP	EXPANSION
EXP JT	EXPANSION JOINT
EXST	EXISTING
EXT	EXTERIOR
EY	EPOXY

f'c	CONCRETE COMPRESSIVE STRENGTH
f'm	MASONRY PRISM STRENGTH
FAB	FABRICATE (OR, ED)
FD	FLOOR DRAIN
FDN	FOUNDATION
FHMS	FLATHEAD MACHINE SCREW
FHWS	FLATHEAD WOOD SCREW
FIG	FIGURE
FIN	FINISH (ED)
FL	FLOOR
FLEX	FLEXIBLE
FO	FACE OF
FRP	FIBERGLASS REINFORCED PLASTIC
FTG	FOOTING
FURN	FURNISHED
GA	GAGE
GALV	GALVANIZED
GALVS	GALVANIZED STEEL
GLB	GLUE LAMINATED BEAM
GR	GUARD RAIL
GRTG	GRATING
H.A.S.	HEADED ANCHOR STUD
HD	HAND
HDR	HEADER
HDWD	HARDWOOD
HGR	HANGER
HGT	HEIGHT
HM	HOLLOW METAL
HOR	HORIZONTAL
HP	HIGH POINT
HR	HANDRAIL
HS	HIGH STRENGTH
IAMPO	INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICALS
ICC	INTERNATIONAL CODE COUNCIL
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
I.F.	INSIDE FACE
IN	INCHES
INT	INTERIOR
I.P.S.	IRON PIPE SIZE
JB	JUNCTION BAR
JT	JOINT
JT FLR	JOINT FILLER
Ld	DEVELOPMENT LENGTH
Ldh	DEVELOPMENT LENGTH STANDARD HOOK
LG	LONG
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LONG.	LONGITUDINAL
LP	LOW POINT
Ls	CLASS B TENSION CONTACT LAP SPLICE
LT	LEFT
LW	LIGHTWEIGHT
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MCJ	MASONRY CONTROL JOINT
MFR	MANUFACTURER
MIN	MINIMUM
MO	MASONRY OPENING
MTL	METAL
NAAMM	NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS
NIC	NOT IN CONTRACT
NOM	NOMINAL
NSG	NON-SHRINK GROUT
NTS	NOT TO SCALE
O/E	OR EQUAL
OC	ON CENTER
OD	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OPNG(S)	OPENING(S)
OPP	OPPOSITE
OPP HD	OPPOSITE HAND
OPT	OPTION (AL)

PCF	POUNDS PER CUBIC FOOT
PJF	PREMOLDED JOINT FILLER
PL	PLATE
PLYWD	PLYWOOD
PM	PRESSED METAL
PRCST	PRECAST
PREFAB	PRE-FABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT
PT	PRESSURE TREATED
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PWT	PREFABRICATED WOOD TRUSS
R	RISER
RAD	RADIUS
RC	REINFORCED CONCRETE
RD	ROOF DRAIN
REF	REFERENCE / REFER
REINF	REINFORCE (D, ING)
REQD	REQUIRED
REV	REVISION
RM	ROOM
RO	ROUGH OPENING
RT	RIGHT
SB	SOLID BLOCKING
SCHED	SCHEDULE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SL	SLOPE
SLNT	SEALANT
SP	SPACE (S, ED)
SPEC	SPECIFICATION, SPECIFIED
SQ	SQUARE
SS	STAINLESS STEEL
SSMH	SANITARY SEWER MANHOLE
STD	STANDARD
STIF	STIFFENER
STIR.	STIRRUP (S)
STL	STEEL
STRUC	STRUCTURE (S, URAL)
STWY	STAIRWAY
SYM	SYMMETRICAL
T	TREAD (S)
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TD	TRENCH DRAIN
THD	THREADED
THK	THICK (NESS)
TJ	TOOLED JOINT
T.O.	TOP OF
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
T.O.W.	TOP OF WALL
TPER	THERMOPLASTIC ELASTOMERIC RUBBER
TRNSV	TRANSVERSE
TYP	TYPICAL
UES	UNIFORM EVALUATION SERVICES
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
VIF	VERIFY IN FIELD
VR	VAPOR RETARDER
W	WIDE
W/	WITH
WF	WIDE FLANGE
W/O	WITHOUT
WD	WIDTH / WOOD
WP	WORKING POINT
WPG	WATERPROOFING
WS	WATERSTOP
WT	WEIGHT
WWF	WELDED WIRE FABRIC

LEGEND:

GRATING  SPAN DIRECTION WHERE APPLICABLE

ABBREVIATION NOTES:

1. ABBREVIATIONS AND DESIGNATIONS FOR STEEL MEMBERS MAY BE FOUND IN THE CURRENT STEEL CONSTRUCTION MANUAL BY AISC.
2. ABBREVIATIONS OF TECHNICAL SOCIETIES AND TRADE ASSOCIATIONS MAY BE FOUND IN THE SPECIFICATIONS
3. WELDING SYMBOLS AND ABBREVIATIONS MAY BE FOUND IN AWS 2.4.
4. ABBREVIATIONS LISTED ARE FOR USE WITH STRUCTURAL DRAWINGS ONLY. SOME ABBREVIATIONS LISTED MAY NOT BE USED ON THE PLANS.

REGISTERED PROFESSIONAL ENGINEER — Kenneth J. Maxfield — S 4439 — Exp. 12/31/23 — STRUCTURAL — STATE OF CALIFORNIA
8/25/23

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

TJC

WOODARD & CURRAN

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	RKT
DRAWN	ADP
CHECKED	-

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

STRUCTURAL
ABBREVIATIONS AND LEGEND

DWG NO	GS-3
SHEET NO	12 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: GS Sheets 8-28-23 05:28am BeeVue || XREFS:| X-SMCSD-TBLK | RJM California | RJM Sig |<<--

Last Saved By: BeeVue 8-28-23 05:27pm

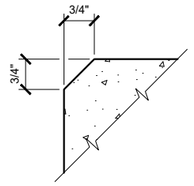
BAR SIZE	4000 PSI CONCRETE				
	ld (INCHES)		ls (INCHES)		ldh
	TOP BAR	OTHER	TOP BAR	OTHER	(INCHES)
#3	19	15	25	20	8
#4	25	20	33	26	10
#5	31	24	41	32	12
#6	37	29	49	38	15
#7	54	42	71	55	17
#8	62	48	81	63	19
#9	70	54	91	71	22
#10	79	61	103	80	25

NOTES:

1. ld: DEVELOPMENT LENGTH FOR A STRAIGHT REINFORCING BAR IN TENSION.
   ls: CLASS B TENSION CONTACT LAP SPLICE LENGTH.
   ldh: DEVELOPMENT LENGTH FOR STANDARD HOOKS IN TENSION.
2. LAP SPLICES SHALL BE CLASS B TENSION CONTACT LAP SPLICES TYPICAL, UNLESS OTHERWISE NOTED ON DRAWINGS.
3. TOP BAR IS ANY HORIZONTAL BAR WITH MORE THAN 12" CONCRETE CAST IN ONE LIFT BENEATH THE BAR, INCLUDING BUT NOT LIMITED TO, HORIZONTAL BARS CAST IN WALLS.
4. SPLICES IN HORIZONTAL BARS SHALL BE STAGGERED.
5. UNLESS OTHERWISE DETAILED ON THE DRAWINGS, SPLICES IN TWO CURTAINS SHALL NOT OCCUR IN THE SAME LOCATION.

LAP SPLICE LENGTH

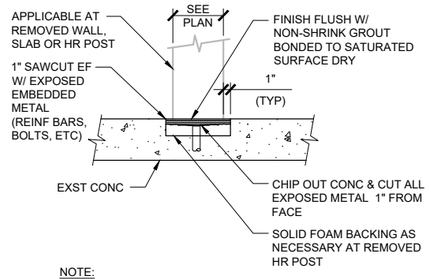
DETAIL NTS 03026 VAR



UON ON DRAWINGS

CONCRETE CHAMFER

DETAIL NTS 03028 VAR



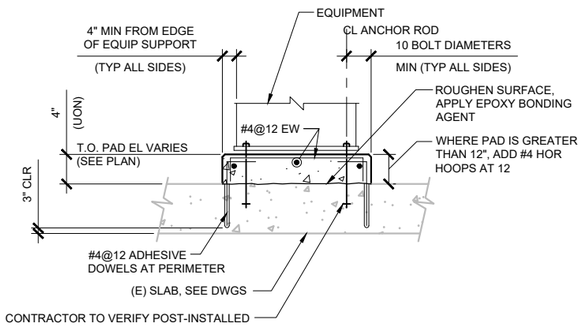
NOTE:

AVOID PLACING NEW POST AT EXISTING POST LOCATIONS.

SEE PROJECT SPECIFICATION FOR ADDITIONAL INFORMATION

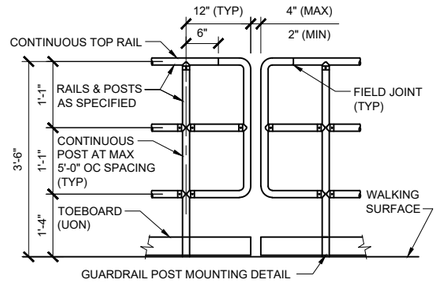
GROUT PATCH

DETAIL NTS 03155 VAR



EQUIPMENT PAD

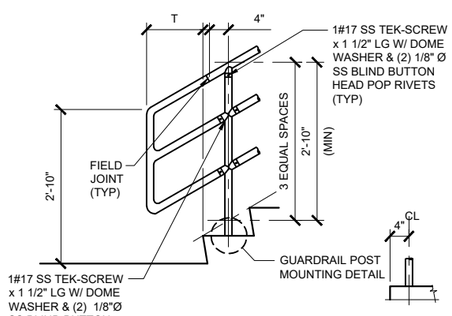
DETAIL NTS 03163 VAR



TOEBOARD SHALL BE PROVIDED UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS OR IN SPECS. TOEBOARD NOT REQUIRED WHEN CONCRETE CURBS 4" OR HIGHER ARE PROVIDED.

TYPICAL GUARDRAIL END POST

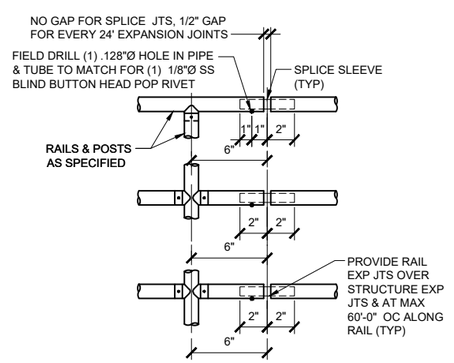
DETAIL NTS 05102 VAR



T = TYP TREAD LENGTH

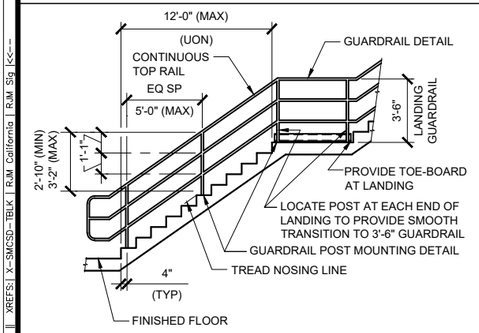
TYPICAL GUARDRAIL END POST AT STAIR

DETAIL NTS 05103 VAR



TYPICAL GUARDRAIL JOINT

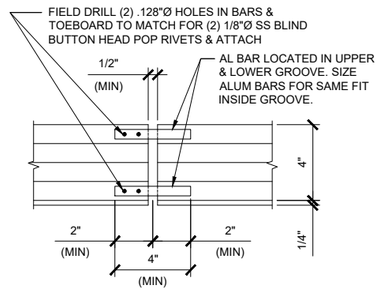
DETAIL NTS 05105 VAR



NOTE:
ALL DIMENSIONS ARE TO CENTERLINE OF POST OR RAIL.

STAIR GUARDRAIL

DETAIL NTS 05108 VAR



NOTE:
PROVIDE EXPANSION JOINT AT STRUCTURE JOINT & 24' OC MAX.

TOEBOARD EXPANSION JOINT

DETAIL NTS 05113 VAR

REGISTERED PROFESSIONAL ENGINEER — RICHARD J. WOODARD — S 4439 — Exp. 12/31/23 — STRUCTURAL — STATE OF CALIFORNIA

8/25/23

0" 1" VERIFY SCALES BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

TJC

WOODARD &CURRAN

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	RKT
DRAWN	ADP
CHECKED	-

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

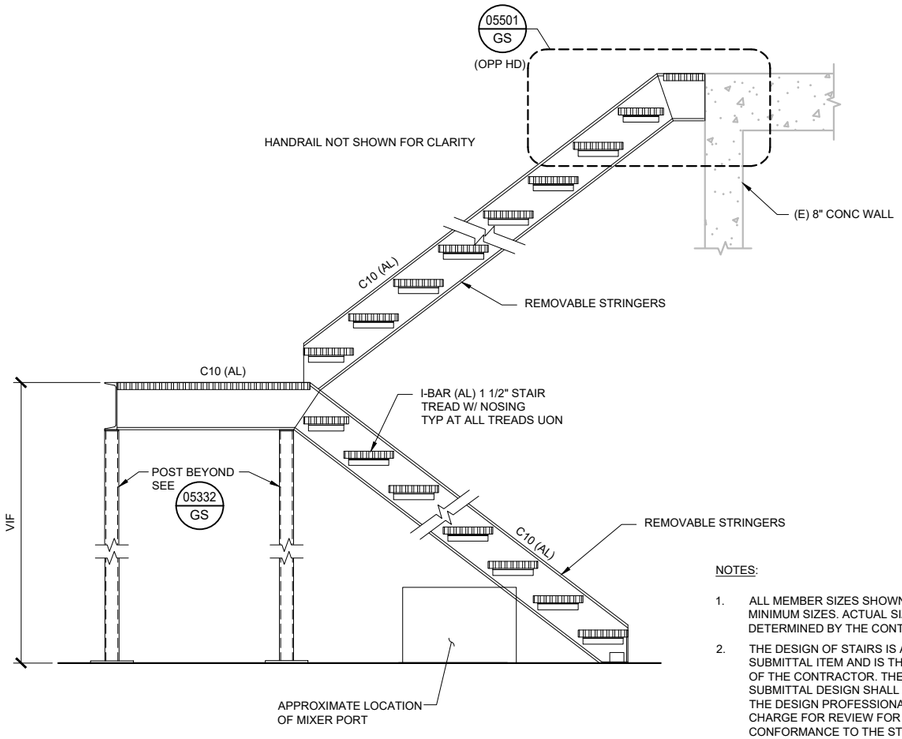
SOUTH PRIMARY CLARIFIER REHABILITATION

STRUCTURAL
STANDARD DETAILS I

DWG NO	GS-4
SHEET NO	13 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: GS Sheets 8-28-23 05:28pm BeeVue || XREFS:| X-SMCSD-TBLK | RJM California | RJM Sig |<<--

Last Saved By: BeeVue 8-28-23 05:27pm

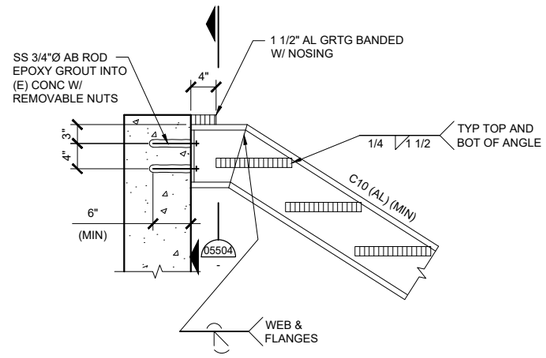


TYPICAL STAIR

DETAIL 05500 VAR
NTS

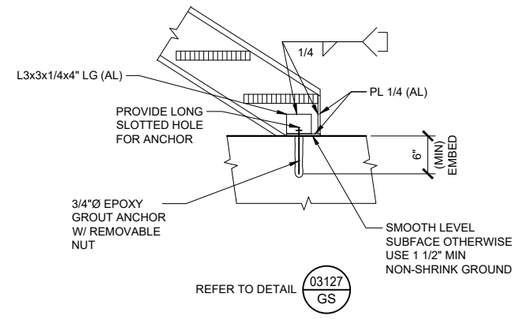
NOTES:

1. ALL MEMBER SIZES SHOWN ON SHEETS ARE MINIMUM SIZES. ACTUAL SIZES SHALL BE DETERMINED BY THE CONTRACTOR.
2. THE DESIGN OF STAIRS IS A DEFERRED SUBMITTAL ITEM AND IS THE RESPONSIBILITY OF THE CONTRACTOR. THE DEFERRED SUBMITTAL DESIGN SHALL BE SUBMITTED TO THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE FOR REVIEW FOR GENERAL CONFORMANCE TO THE STRUCTURAL DESIGN CRITERIA. INSTALLATION OF THE STAIRS SHALL NOT BEGIN UNTIL THE SUBMITTAL HAS BEEN REVIEWED BY THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND HAS BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE PROJECT AND THE SUBMITTAL HAS BEEN DEEMED ACCEPTABLE BY THE DISTRICT.
3. ALL MATERIALS FOR STAIRS SHALL BE ALUMINUM UON.
4. WIDTH OF STAIR SHOWN ON DRAWINGS IS THE DISTANCE BETWEEN STRINGERS.



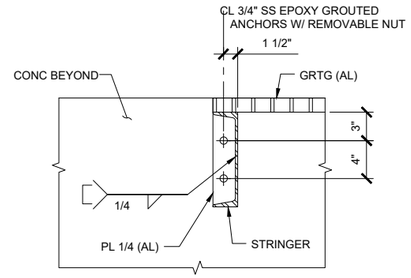
UPPER CONNECTION AT CONCRETE

DETAIL 05501 VAR
NTS



BOTTOM ANCHOR AT CONCRETE

DETAIL 05503 VAR
NTS

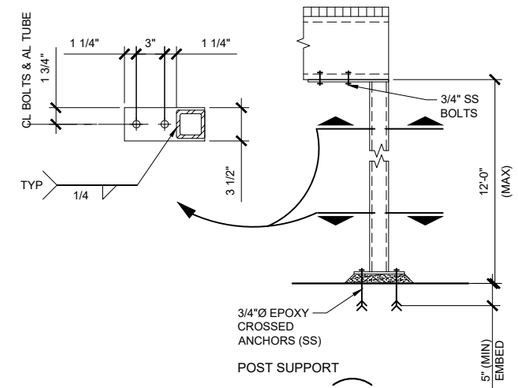


NOTE:

COPE END AS REQUIRED FOR FLUSH BEARING AT SKEWED CONNECTION. VERIFY ANGLE IN FIELD.

-

DETAIL 05504 VAR
NTS



POST SUPPORT

DETAIL 05532 VAR
NTS

FILENAME: GS Sheets 8-28-23 05:28pm BeeVue || XREFS: | X-SMCSD-TBLK | RJM California | RJM Sig |<<--



8/25/23

0" 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY

TJC

WOODARD &CURRAN

REV	DATE	BY	APVD	DESCRIPTION
△				
△				
△				
△				
△				

DESIGNED	RKT
DRAWN	ADP
CHECKED	-

SUBMITTED: _____ PROJECT ENGINEER .

APPROVED: _____ ENGINEER .

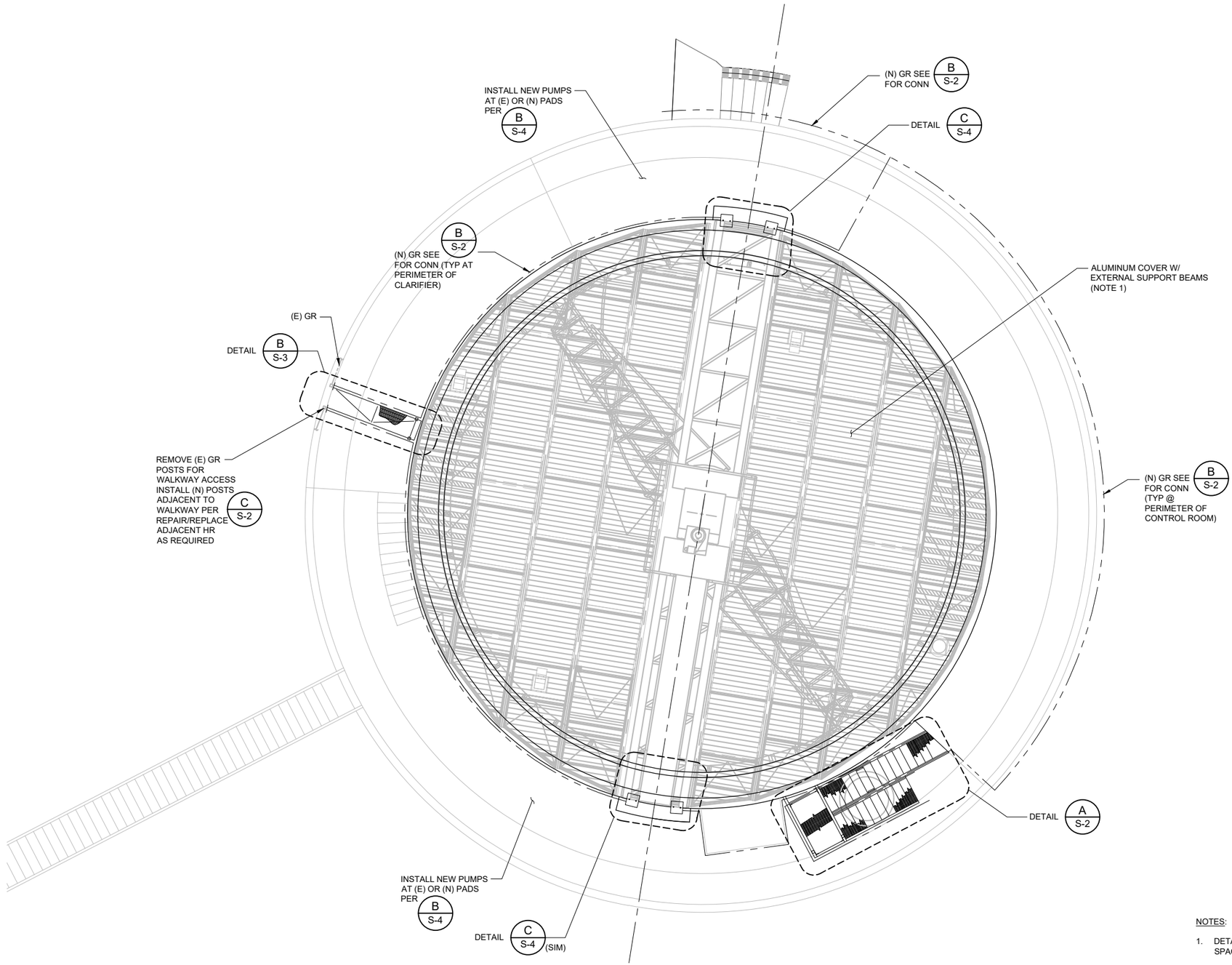
SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

STRUCTURAL
STANDARD DETAILS II

DWG NO	GS-5
SHEET NO	14 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

Last Saved By: BeeVue 8-28-23 05:27pm



NOTES:

1. DETAILED DESIGN OF COVER BY MANUFACTURER. BEAM SPACING AND NUMBER OF BEAMS BY MANUFACTURER.

SOUTH PRIMARY CLARIFIER PLAN

SCALE: 3/16"=1'-0"

REGISTERED PROFESSIONAL ENGINEER — RONALD J. MAGSAL — S 44139 Exp. 12/31/23 — STRUCTURAL — STATE OF CALIFORNIA

8/25/23

0" 1" VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING.
IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

TJC

WOODARD &CURRAN

REV	DATE	BY	APVD	DESCRIPTION
1				
2				
3				
4				
5				

DESIGNED	RKT
DRAWN	ADP
CHECKED	-

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

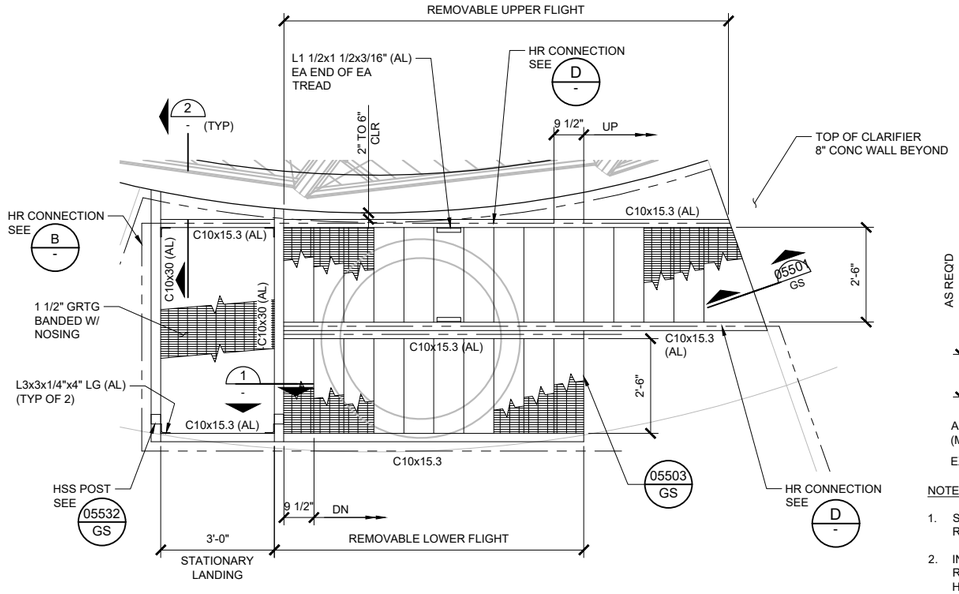
SOUTH PRIMARY CLARIFIER REHABILITATION

SOUTH PRIMARY CLARIFIER PLAN

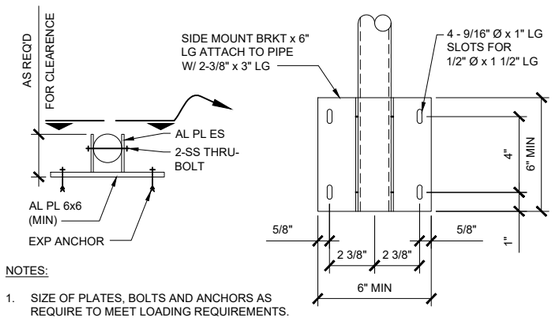
DWG NO	S-1
SHEET NO	15 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: S-01 8-28-23 05:27pm BeeVue || XREFs: X-SMCSD-TBLK | X-Clarifier Plan_Sect | 0055-006-M100-5 | RJM California | RJM Sig |<--

Last Saved By: BeeVue 8-28-23 05:27pm



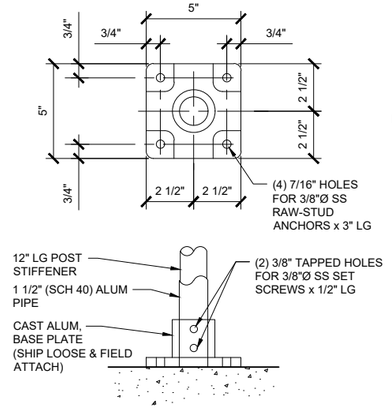
DETAIL A
SCALE: 1/2"=1'-0" S-1



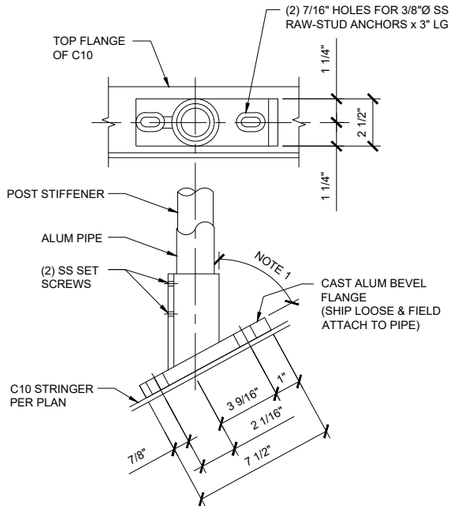
NOTES:

1. SIZE OF PLATES, BOLTS AND ANCHORS AS REQUIRE TO MEET LOADING REQUIREMENTS.
2. INFORMATION PRESENTED IS MINIMUM REQUIRED FOR DESIGN, FINAL DESIGN BY HANDRAIL MANUFACTURER.

DETAIL B
SCALE: NTS -



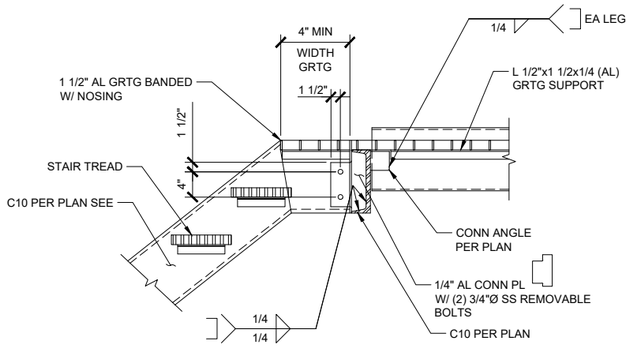
DETAIL C
SCALE: NTS -



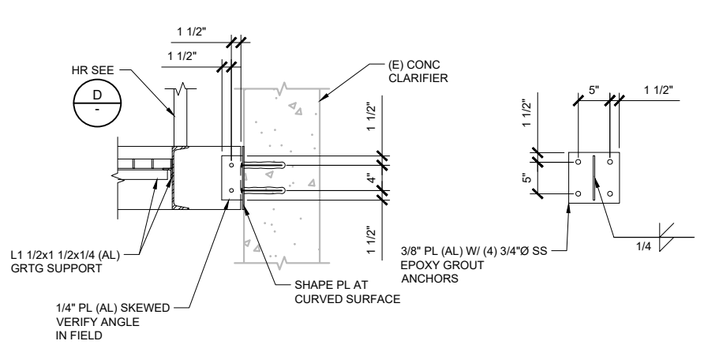
NOTE:

1. DEGREE VARIES, VERIFY IN FIELD.

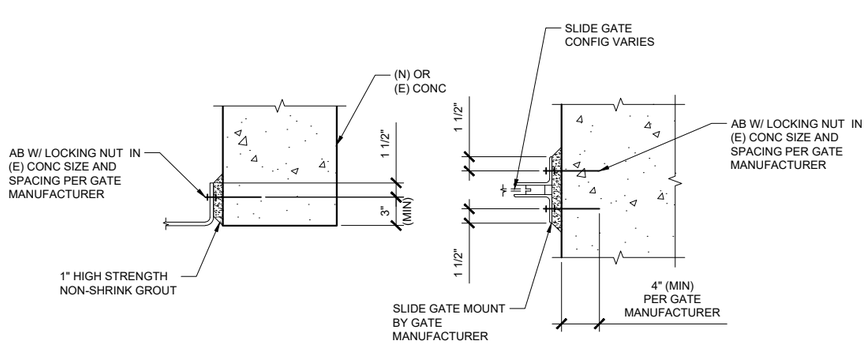
DETAIL D
SCALE: NTS -



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



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



SECTION 3
SCALE: 1 1/2"=1'-0" -

NOTES:

1. DETAILED DESIGN OF COVER BY MANUFACTURER. BEAM SPACING AND NUMBER OF BEAMS BY MANUFACTURER.

REGISTERED PROFESSIONAL ENGINEER — RICHARD J. MICHEL — No. S 4439 — Exp. 12/31/23 — STRUCTURAL — STATE OF CALIFORNIA
8/25/23

0" 1" VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

TJC

WOODARD &CURRAN

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	RKT
DRAWN	ADP
CHECKED	-

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

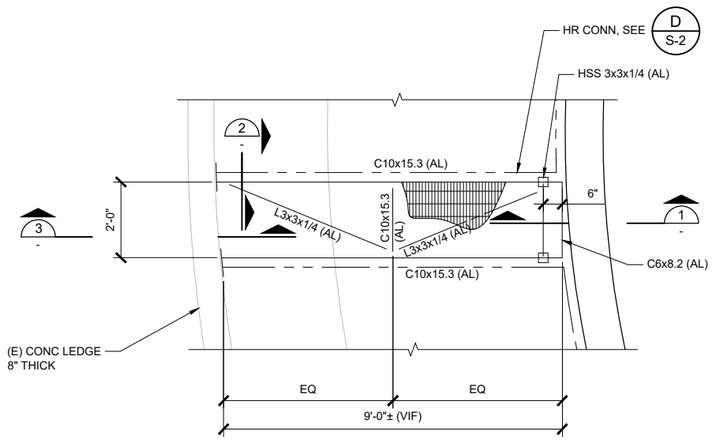
SOUTH PRIMARY CLARIFIER REHABILITATION

SOUTH PRIMARY CLARIFIER DETAIL AND SECTION - I

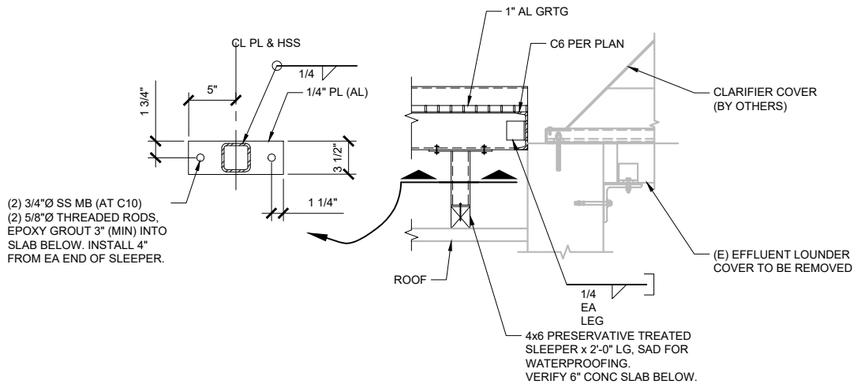
DWG NO	S-2
SHEET NO	16 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: S-02 8-28-23 05:27pm BeeVue || XREFS: X-SMCSD-TBLK | X-Clarifier Plan_Sect | 0055-006-M100-5 | RJM California | RJM Sig |<<--

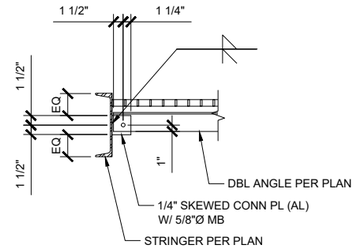
Last Saved By: BeeVue 8-28-23 05:27pm



DETAIL B
SCALE: 1/2"=1'-0" S-1



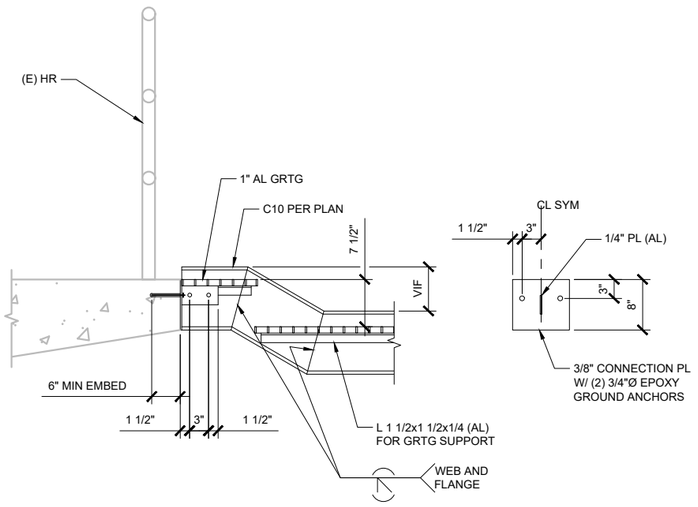
SECTION 1
SCALE: 1"=1'-0" -



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

NOTE:

1. USE 1" SPACER PL AT BOLT 2"x2" (MIN).



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

NOTES:

1. DETAILED DESIGN OF COVER BY MANUFACTURER. BEAM SPACING AND NUMBER OF BEAMS BY MANUFACTURER.

REGISTERED PROFESSIONAL ENGINEER — ROBERT K. THOMPSON — S 44391 — Exp. 12/31/23 — STRUCTURAL — STATE OF CALIFORNIA
8/25/23

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

TJC

WOODARD & CURRAN

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	RKT
DRAWN	ADP
CHECKED	-

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

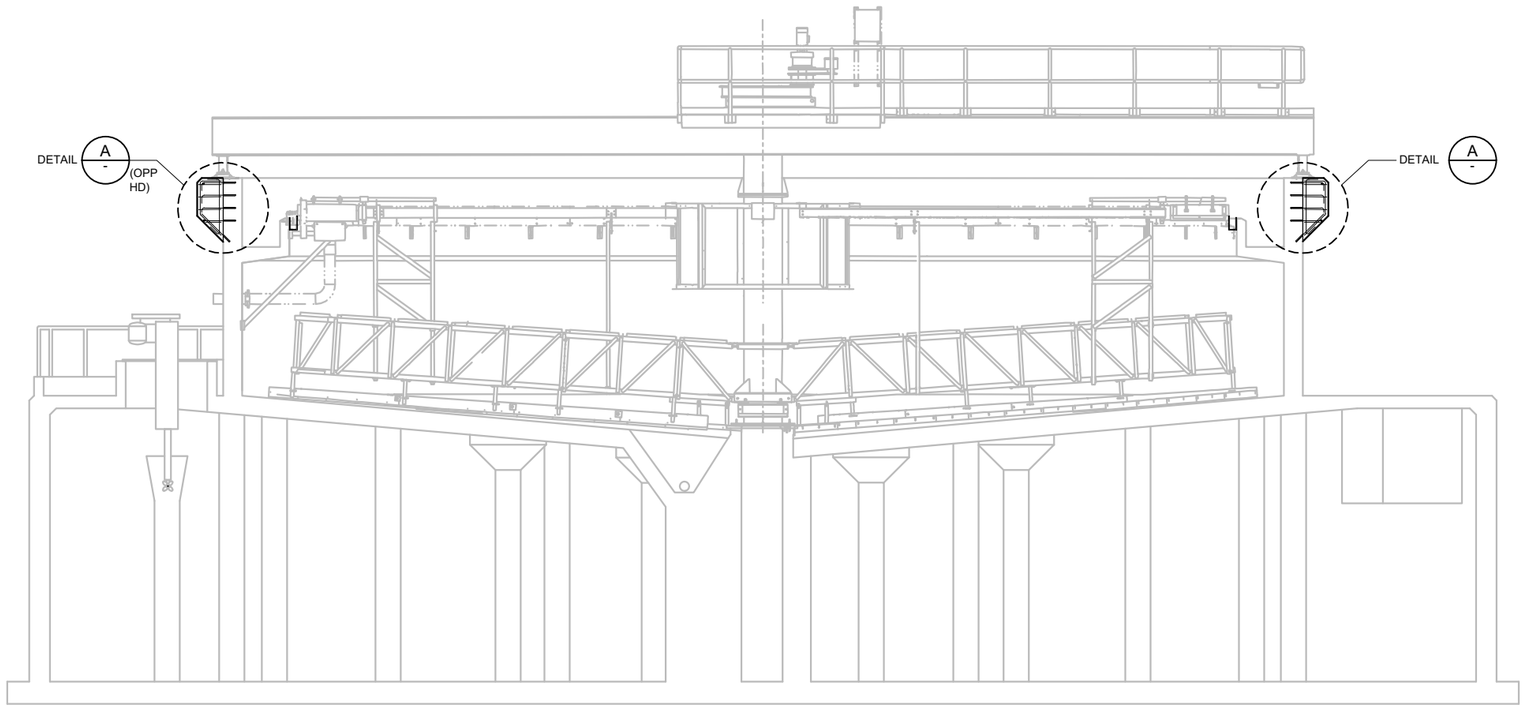
SOUTH PRIMARY CLARIFIER REHABILITATION

SOUTH PRIMARY CLARIFIER
DETAIL AND SECTION - II

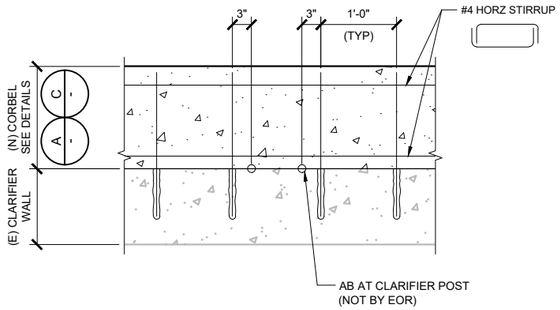
DWG NO	S-3
SHEET NO	17 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: S-03 8-28-23 05:26pm BeeVue || XREFS: | X-SMCSD-TBLK | X-Clarifier Plan_Sect | 0055-006-M100-5 | RJM California | RJM Sig |<~~

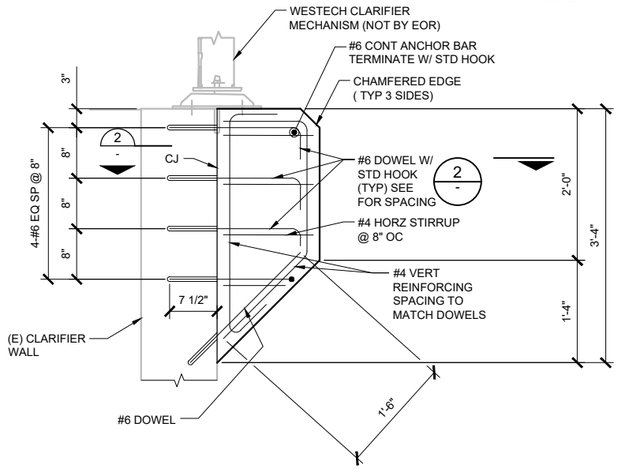
Last Saved By: BeeVue 8-28-23 05:26pm



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

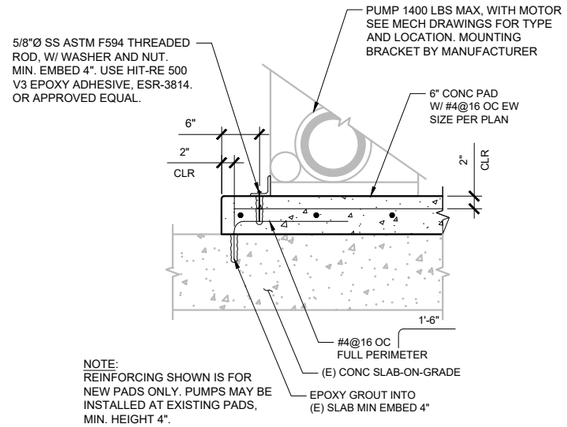


SECTION 2 - SCALE: 1"=1'-0"



NOTE:
EPOXY GROUT REINFORCING BARS INTO EXISTING CONCRETE WALL W/ 7 1/2" EMBED (TYP).

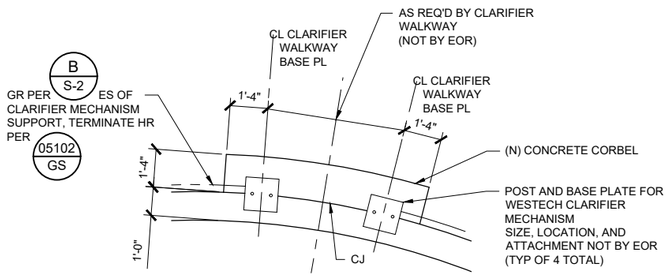
DETAIL A - SCALE: 1"=1'-0"



NOTE:
REINFORCING SHOWN IS FOR NEW PADS ONLY. PUMPS MAY BE INSTALLED AT EXISTING PADS, MIN. HEIGHT 4".

PUMP MOUNTING DETAIL

DETAIL B - SCALE: NTS



PLAN

DETAIL C - SCALE: 1"=1'-0" S-1

REGISTERED PROFESSIONAL ENGINEER — Robert J. Kennedy — S 4439 Exp. 12/31/23 — STRUCTURAL — STATE OF CALIFORNIA
8/25/23

0" VERIFY SCALES 1" BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

TJC

WOODARD &CURRAN

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	RKT
DRAWN	ADP
CHECKED	-

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

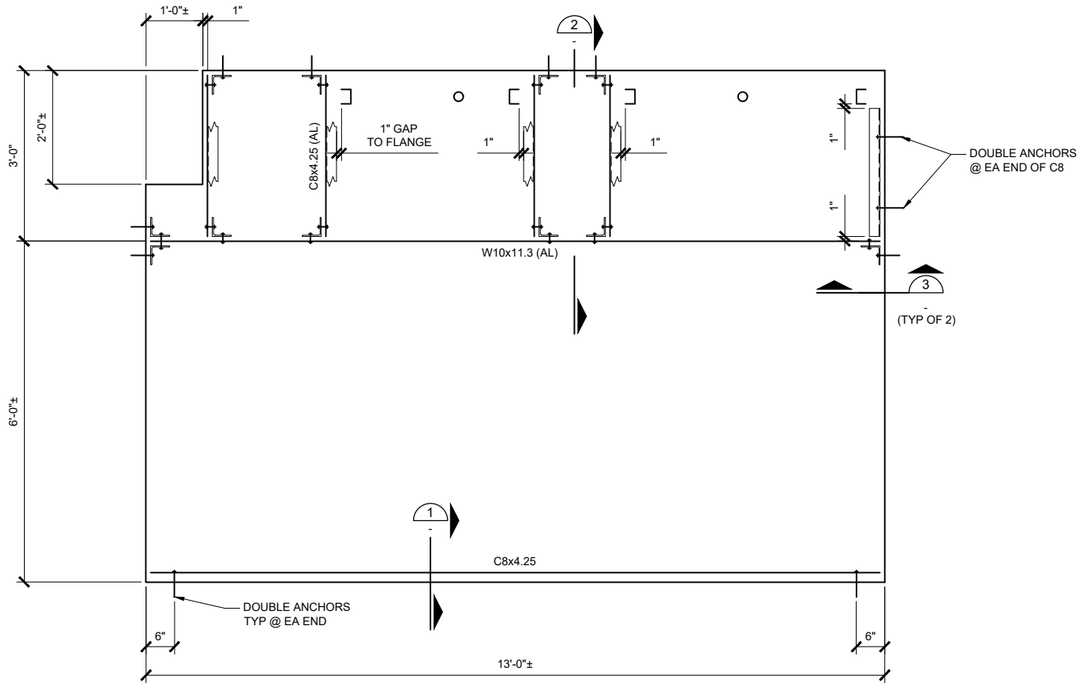
SOUTH PRIMARY CLARIFIER REHABILITATION

SOUTH PRIMARY CLARIFIER DETAIL AND SECTION - III

DWG NO	S-4
SHEET NO	18 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

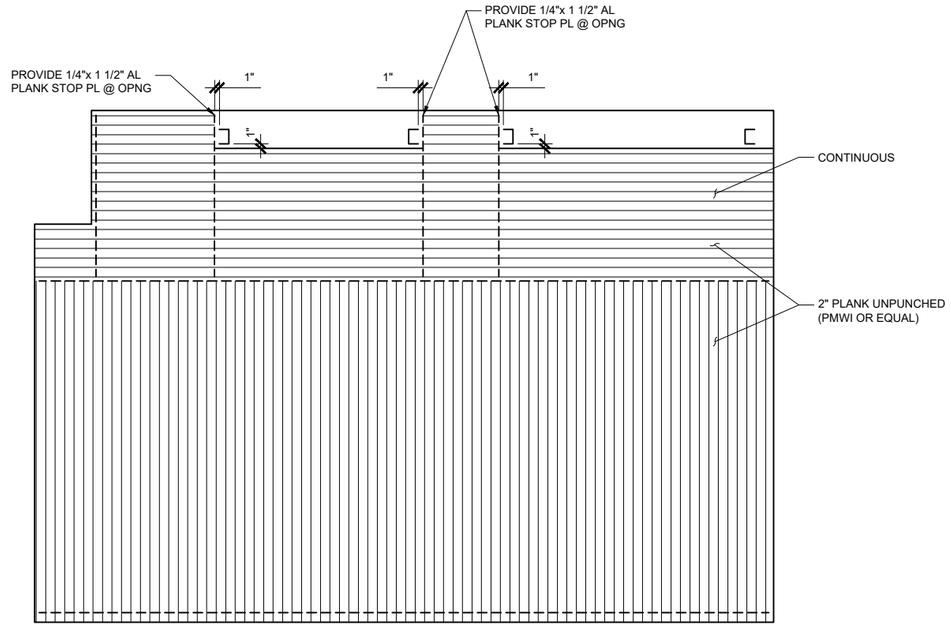
FILENAME: S-04 8-28-23 05:26pm BeeVue || XREFS:| X-SMCSD-TBLK | X-Clarifier Plan_Sect | 0055-006-M100-5 | RJM California | RJM Sig |<<--

Last Saved By: BeeVue 8-28-23 05:26pm



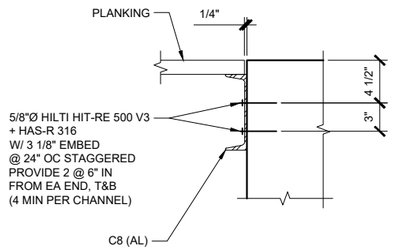
EFFLUENT BOX COVER PLAN

SCALE: 3/16"=1'-0"



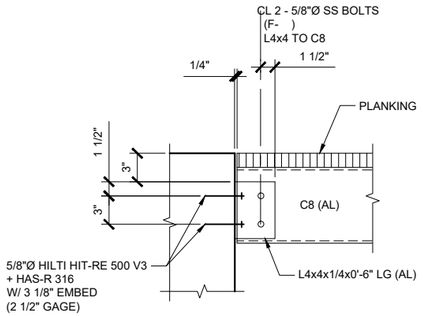
PLANKING LAYOUT

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



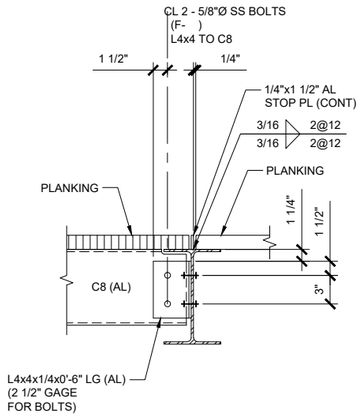
SECTION 1

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



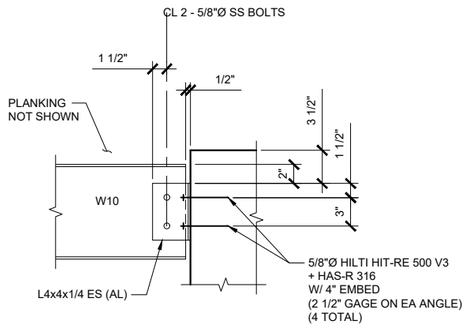
SECTION 2

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



SECTION 3

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



SECTION 3

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

REGISTERED PROFESSIONAL ENGINEER
RICHARD J. MICHEL
No. S 4439
Exp. 12/31/23
STRUCTURAL
STATE OF CALIFORNIA
8/25/23

0" 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	TJC
DRAWN	ADP
CHECKED	-

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

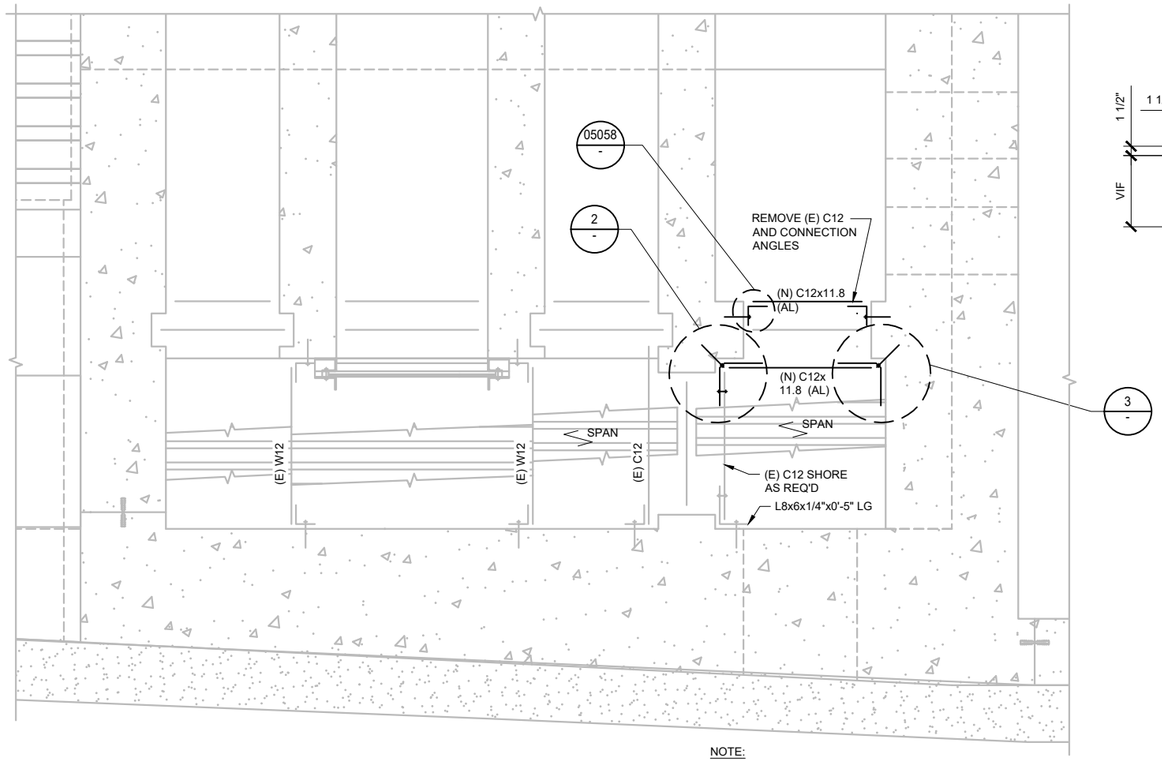
SOUTH PRIMARY CLARIFIER REHABILITATION

EFFLUENT COVER BOX PLANS AND SECTIONS

DWG NO	S-5
SHEET NO	19 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: S-05 8-28-23 05:26pm BeeVue || XREFS: X-SMCSD-TBLK | X-Clarifier Plan_Sect | 0055-006-M100-5 | RJM California | RJM Sig |<<--

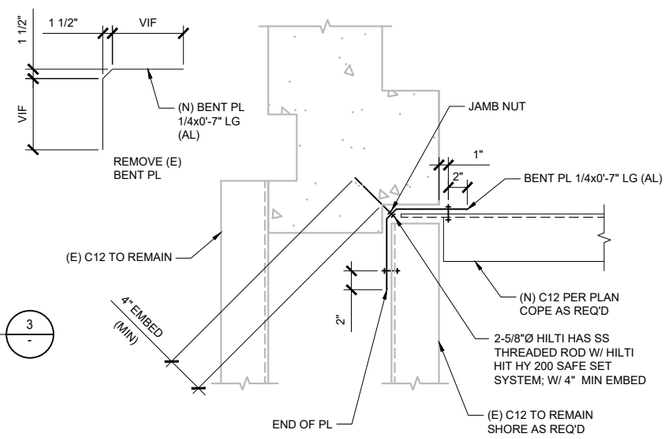
Last Saved By: BeeVue 8-28-23 05:26pm



NOTE:

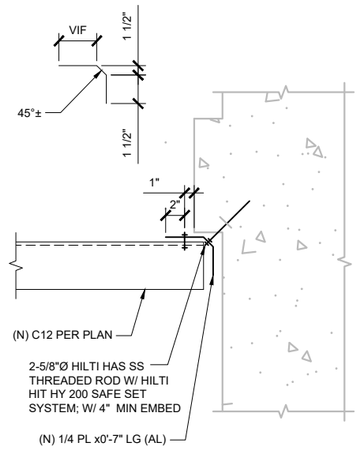
(E) GRTG REMOVE AND REPLACE AS REQ'D.

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

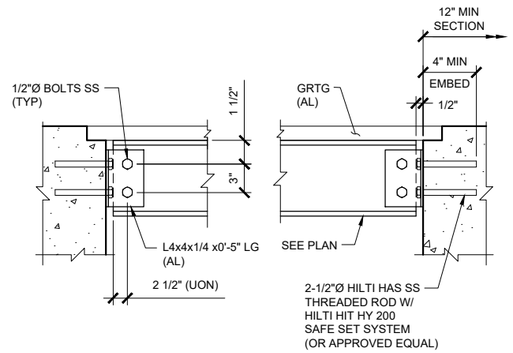


SEE DETAIL 05058 -
FOR BALANCE OF INFO

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



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



GRATING END SUPPORT

DETAIL 05058
NTS VAR

S 4439
Exp. 12/31/23
REGISTERED PROFESSIONAL ENGINEER
STRUCTURAL
STATE OF CALIFORNIA
8/25/23

0" 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY

TJC

WOODARD &CURRAN

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	TJC
DRAWN	ADP
CHECKED	-

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

HEADWORKS/EQ BASIN
PARTIAL PLAN AND DETAILS

DWG NO	S-6
SHEET NO	20 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: S-06 8-28-23 05:25pm BeeVue || XREFS: X-SMCSD-TBLK | X-Clarifier Plan_Sect | 0055-006-M100-5 | S-HEADWORKS-PLAN | RJM Ca
AN | RJM California | X-SitePlan | RJM Stg |<<--

Last Saved By: BeeVue 8-23-23 12:58pm

GATE SCHEDULE

GATE SCHEDULE							
GATE NUMBER	DESCRIPTION	GATE TYPE	GATE MATERIAL	SIZE (IN) SEE NOTES 1 & 2	FRAME TYPE	MAX SEATING AND UNSEATING HEAD (FT)	ACTUATOR/HANDLE TYPE
HW-GAT1	HEADWORKS INFLUENT OVERFLOW GATE	SLIDE	STAINLESS STEEL	27W x 77H	SELF CONTAINED	3.3	MANUAL
SC-GAT1	SCREENINGS INFLUENT GATE	SLIDE	STAINLESS STEEL	27W x 81H	SELF CONTAINED	3.5	MANUAL

NOTES:
1. GATE WIDTHS SHOWN ARE APPROXIMATE. EXISTING CONCRETE WALLS AT GATE LOCATIONS SHALL BE DEMOLISHED IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS. CONTRACTOR SHALL VERIFY ACTUAL FINISHED CHANNEL WIDTHS FOR INSTALLATION OF IN-CHANNEL, SURFACE MOUNTED GATE FRAMES.
2. GATE HEIGHTS ARE APPROXIMATE. PRIOR TO DEMOLITION OF EXISTING GATES, CONTRACTOR SHALL VERIFY NEW GATE LEAF HEIGHT TO MATCH EXISTING ELEVATION OF THE TOP OF THE EXISTING STOP GATES TO BE DEMOLISHED. DISTRICT WILL PROVIDE STOP GATE LEAFS TO CONTRACTOR FOR MEASUREMENT IF NOT INSTALLED.

PROCESS FLUID PIPE SCHEDULE

		PIPE TYPE (1)		PIPE TESTING (2)		
FLUID ABBREV	PROCESS FLUID	BURIED	EXPOSED	PRESSURE (PSI)	FLUID	SPECIAL REQUIREMENTS
3W	TREATED PLANT EFFLUENT	NOT APPLICABLE	41,91	150	WATER	
DS	DIGESTED SLUDGE	NOT APPLICABLE	91	60	WATER	
FA	FOUL AIR	NOT APPLICABLE	61	15	AIR	
PS	PRIMARY SLUDGE	NOT APPLICABLE	91	60	WATER	

JOINT TYPES

BLO	BUTT LAMINATED OVERLAY
CJ	COMPRESSION JOINTS
FJ	FLARED JOINTS
SE	SCREWED ENDS
SJ	SOLDERED JOINTS
SW	SOLVENT WELDED

PIPE MATERIAL SCHEDULE

PIPE MTL NUMBER	PIPE MATERIAL	SPECIFICAITON SECTION	JOINT TYPE			SPECIAL REQUIREMENTS
			TYPE/RATING	BURIED	EXPOSED	
41	COPPER	15036	TYPE K	NOT APPLICABLE	SJ,FJ,CJ,SE	
61	FRP DUCTING	15870	NA	NOT APPLICABLE	BLO	WIDE SADDLE SUPPORTS PER SPEC 15006
91	PVC (1)	15060	SCH 80	NOT APPLICABLE	SW	WIDE SADDLE SUPPORTS PER SPEC 15006

NOTES:
(1) SCH 80 PVC MAY ONLY BE USED FOR PIPE DIAMETERS 10 INCHES AND SMALLER UNLESS OTHERWISE SPECIFIED.
(2) THIS SCHEDULE IDENTIFIES CERTAIN THRUST RESTRAINT AND CORROSION PROTECTION REQUIREMENTS, FOR CLARITY. NOT ALL REQUIREMENTS ARE IDENTIFIED. CONTRACTOR SHALL FULLY COMPLY WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS.
(3) MECHANICAL RESTRAINTS PER PIPE SPECIFICATIONS. ALL NUTS AND BOLTS SHALL BE TYPE 316SS.
(4) PIPE TYPE FOR RELOCATED UTILITIES SERVICES NOT IDENTIFIED ON PLANS SHALL MATCH EXISTING. (REPLACE IN KIND)
(5) STAINLESS STEEL, TYPE 316, OR NON-METALIC MATERIALS SHALL BE USED AT ALL PENETRATIONS THROUGH CONCRETE STRUCTURES.

NOTES:
(1) A PIPE MATERIAL SPECIFICALLY DESIGNATED ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER OPTIONAL MATERIALS SHOWN IN THE TABLE. THIS SYMBOL ◇— INDICATES A PIPE MATERIAL CHANGE.

(2) REFER TO SPECIFICATION SECTION 02640 – PIPELINE TESTING AND DISINFECTION FOR HYDRAULIC TESTING REQUIREMENTS AND LEAKAGE ALLOWANCES.

(3) INSPECTION AND TESTING SHALL BE IN ACCORDANCE WITH APPLICABLE PLUMBING CODE.

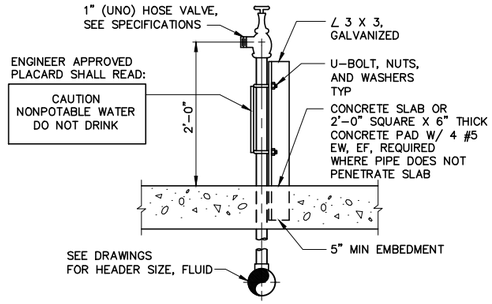
(4) PLASTIC AND FRP PIPING AND DUCTING SHALL BE PROVIDED WITH EXTRA WIDE SADDLE SUPPORTS TO AVOID POINT LOADING. REFER TO SPECIFICATIONS AND PROVIDE EXTRA WIDE SADDLES FOR THESE PIPING MATERIALS EVEN IF NOT SHOWN ON STANDARD SUPPORT DETAILS.

VALVE SCHEDULE

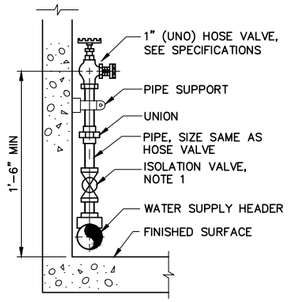
SEE SECTION 15200 FOR VALVE SCHEDULE.

PUMP DESIGN CRITERIA

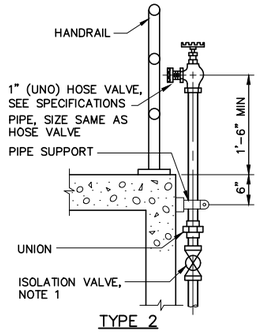
SEE SECTION 11147 FOR PUMP DESIGN CRITERIA.



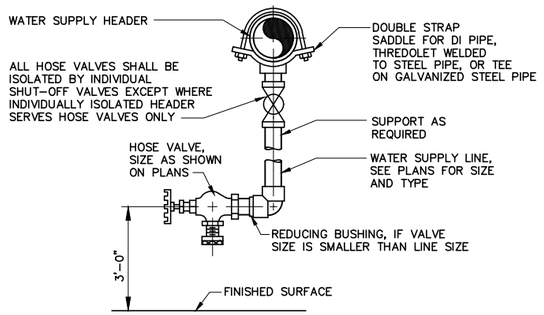
EXTERIOR HOSE VALVE TYPE 1



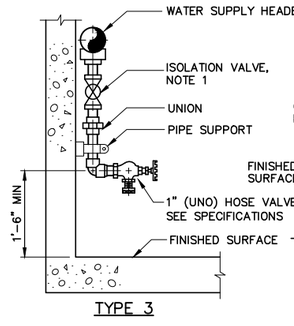
TYPE 1



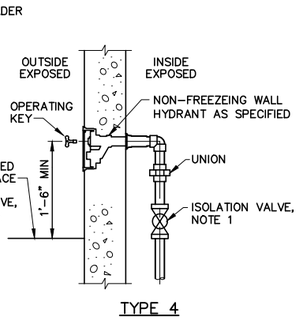
TYPE 2



EXTERIOR HOSE VALVE TYPE 2

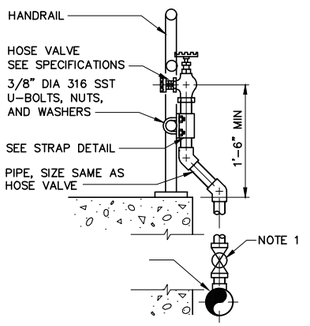


TYPE 3

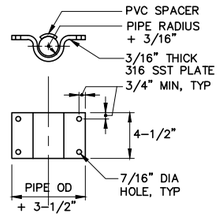


TYPE 4

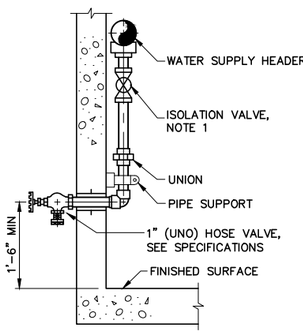
1" (UNO)



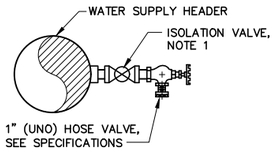
EXTERIOR HOSE VALVE TYPE 3



STRAP DETAIL



TYPE 5



NOTE:
TAP ORIENTATION MAY VARY, SEE PLANS.

TYPE 6

NOTES:
1. ALL HOSE VALVES RAISERS OUTSIDE BUILDINGS LESS THEN 1 1/2" INCHES IN DIAMETER SHALL HAVE INSULATION FOR FREEZE PROTECTION.

HOSE VALVES

NTS

M275

REGISTERED PROFESSIONAL ENGINEER
ANTHONY THOMAS VALDIVIA
No. 66847
Exp. 09-30-24
CIVIL
STATE OF CALIFORNIA
8/25/23

0" — 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED
DRAWN S. JUNG
CHECKED

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

PIPE SCHEDULE, GATE SCHEDULE, PUMP SCHEDULE AND VALVE SCHEDULE

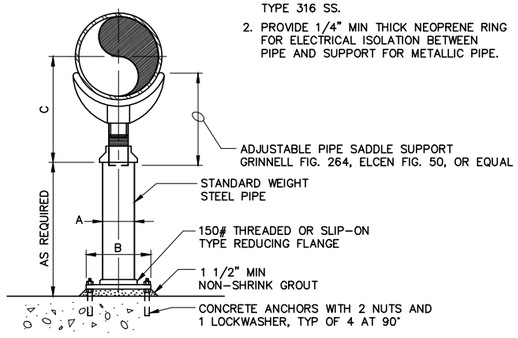
DWG NO GM-1
SHEET NO 21 OF 41
PROJ NO 0011829
DATE AUGUST 2023

FILENAME: 11829-GM-1 9-05-23 03:13pm TRuiz || XREFS:| X-SMCSD-TBLK |<<--

Last Saved By: TRuiz 9-05-23 01:59pm

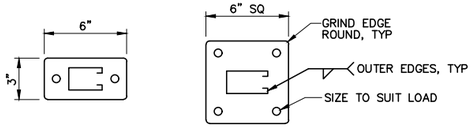
NOTES:

1. SUPPORT MATERIAL SHALL BE TYPE 304 OR TYPE 316 SS. HARDWARE SHALL BE TYPE 316 SS.
2. PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.



DIMENSIONS IN INCHES				
PIPE SIZE	A	B	C MIN	C MAX
2 1/2	2 7/8	9	8	13
3	2 7/8	9	8 1/4	13 1/4
3 1/2	2 7/8	9	8 1/2	13 1/2
4	3 1/2	9	9 1/4	14
5	3 1/2	9	10	14 3/4
6	3 1/2	9	10 1/2	15 1/4
8	3 1/2	9	11 3/4	16 1/2
10	3 1/2	9	13 1/2	18 1/4
12	3 1/2	9	15	19 3/4
14	4 1/2	11	16 1/4	20 3/4
16	4 1/2	11	17 3/4	22 1/4

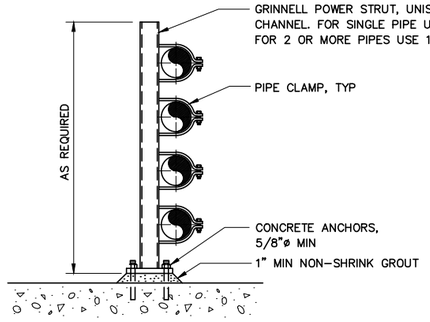
ADJUSTABLE PIPE SUPPORT M100
NTS



ONE PIPE TWO OR MORE PIPES

NOTES:

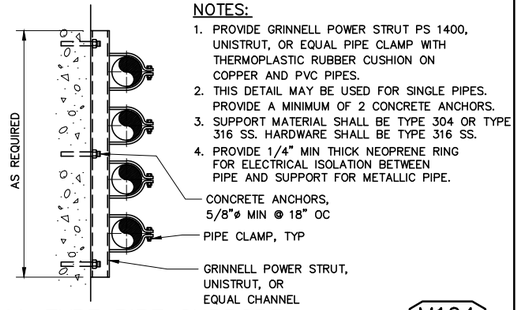
1. PROVIDE GRINNELL POWER STRUT PS 1400, UNISTRUT, OR EQUAL PIPE CLAMP WITH THERMOPLASTIC RUBBER CUSHION ON COPPER AND PVC PIPES.
2. MAXIMUM PIPE SIZE IS 4".
3. SUPPORT MATERIAL SHALL BE TYPE 304 OR TYPE 316 SS. HARDWARE SHALL BE TYPE 316 SS.
4. PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.



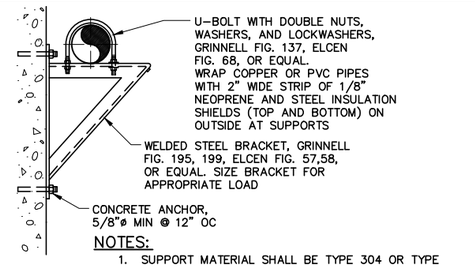
PIPE STANCHION M102
NTS

NOTES:

1. PROVIDE GRINNELL POWER STRUT PS 1400, UNISTRUT, OR EQUAL PIPE CLAMP WITH THERMOPLASTIC RUBBER CUSHION ON COPPER AND PVC PIPES.
2. THIS DETAIL MAY BE USED FOR SINGLE PIPES. PROVIDE A MINIMUM OF 2 CONCRETE ANCHORS.
3. SUPPORT MATERIAL SHALL BE TYPE 304 OR TYPE 316 SS. HARDWARE SHALL BE TYPE 316 SS.
4. PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.



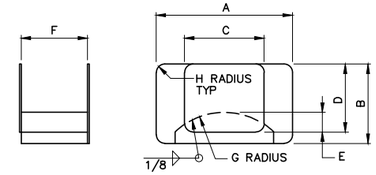
WALL TYPE PIPE SUPPORT M104
NTS



NOTES:

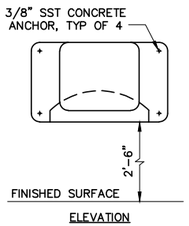
1. SUPPORT MATERIAL SHALL BE TYPE 304 OR TYPE 316 SS. HARDWARE SHALL BE TYPE 316 SS.
2. PROVIDE 1/4" MIN THICK NEOPRENE RING FOR ELECTRICAL ISOLATION BETWEEN PIPE AND SUPPORT FOR METALLIC PIPE.

PIPE BRACKET M110
NTS



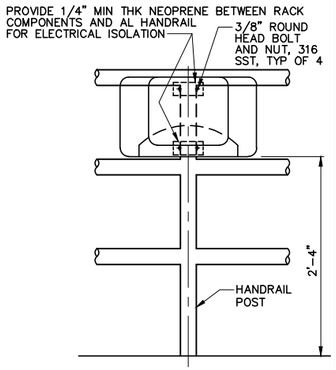
RACK TYPE	DIMENSIONS IN INCHES							
	A	B	C	D	E	F	G	H
TYPE 1 (3/4" & 1" HOSE)	18	11	10	9 1/2	3	7 1/2	9	1 1/4
TYPE 2 (1 1/2" HOSE)	24	14	14	12	3 1/2	10	12 1/2	1 1/2

HOSE RACK

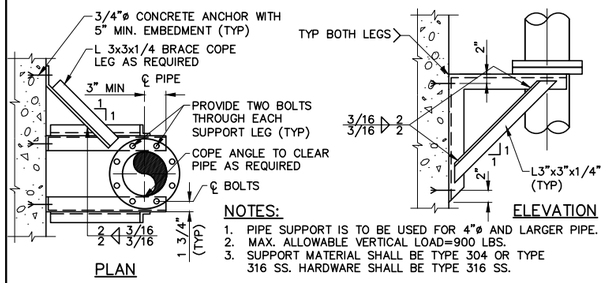


ELEVATION

WALL MOUNTED



HANDRAIL MOUNTED

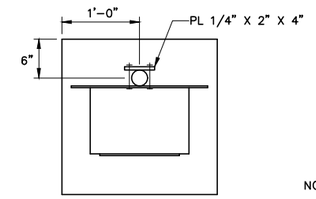


PLAN ELEVATION

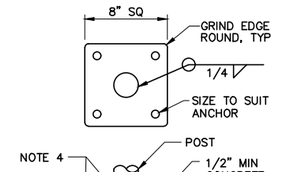
NOTES:

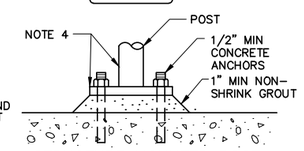
1. PIPE SUPPORT IS TO BE USED FOR 4"ø AND LARGER PIPE.
2. MAX. ALLOWABLE VERTICAL LOAD=900 LBS.
3. SUPPORT MATERIAL SHALL BE TYPE 304 OR TYPE 316 SS. HARDWARE SHALL BE TYPE 316 SS.

PIPE SUPPORT M115
NTS

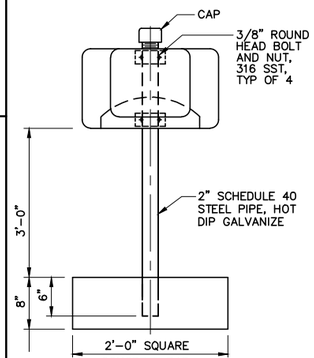


PLAN





STRUCTURE MOUNTED POST



ELEVATION

POST MOUNTED

NOTES:

1. CONSTRUCT HOSE RACK FROM 1/8" MIN A-36 STEEL PLATE. HOT DIP GALVANIZE HOSE RACK AFTER FABRICATION.
2. ATTACH A WARNING SIGN TO EACH HOSE RACK OR ADJACENT HOSE VALVE. SIGN SHALL READ: CAUTION NONPOTABLE WATER DO NOT DRINK
3. PROVIDE MINIMUM 75 FT OF HOSE AT EACH HOSE RACK. SIZE SHALL MATCH HOSE VALVE.
4. CONSTRUCT BASEPLATE FOR STRUCTURE MOUNTED POST FROM 1/2" MIN A-36 STEEL PLATE. HOT DIP GALVANIZE BASE AND POST AFTER FABRICATION.

HOSE RACK M270
NTS

REGISTERED PROFESSIONAL ENGINEER — ANTHONY THOMAS VALDIVIA — No. 66847 — Exp. 09-30-24 — CIVIL — STATE OF CALIFORNIA — 8/25/23

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED
DRAWN S. JUNG
CHECKED

SUBMITTED: _____ PROJECT ENGINEER
APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

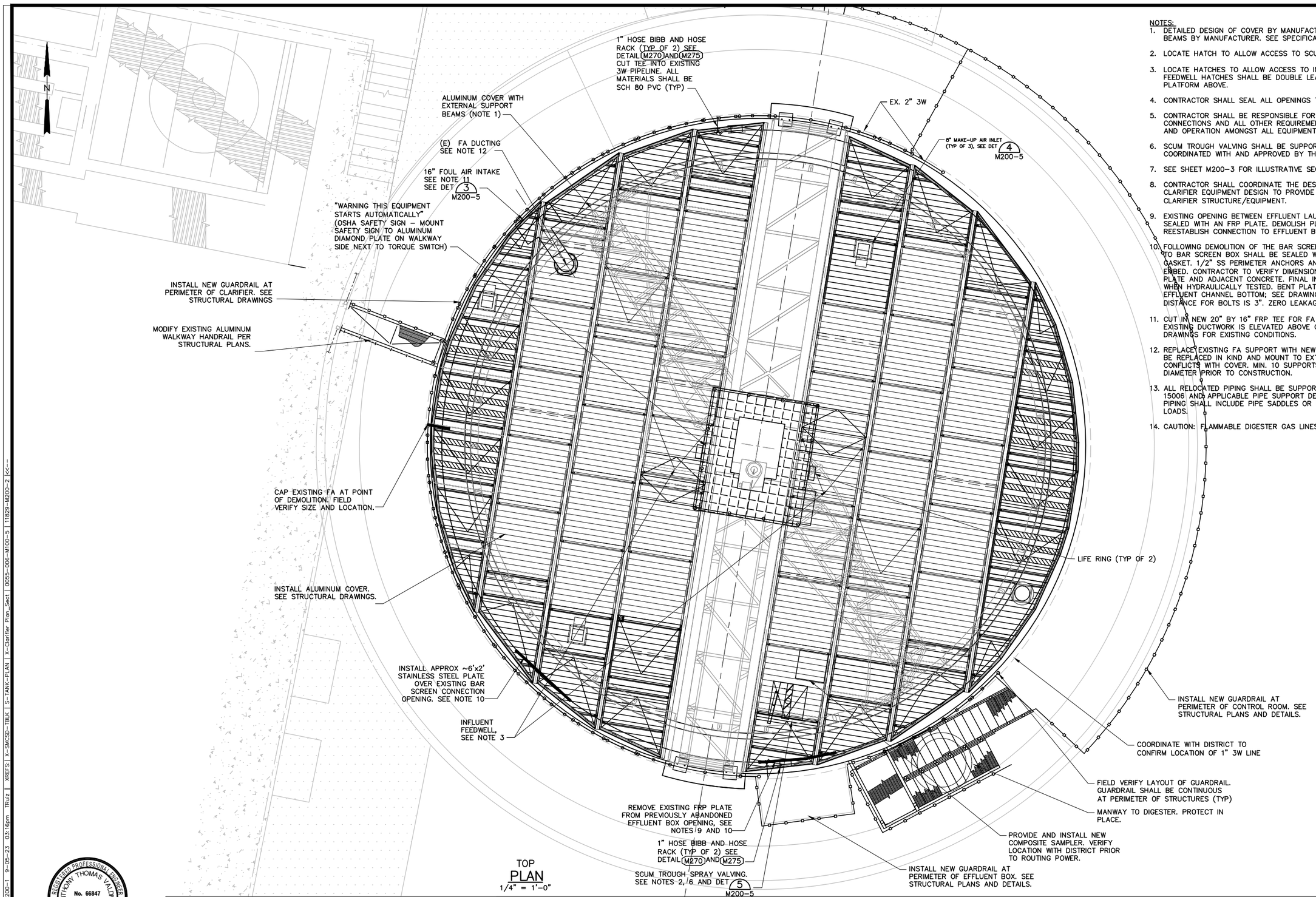
SOUTH PRIMARY CLARIFIER REHABILITATION

MECHANICAL DETAILS

DWG NO	GM-2
SHEET NO	22 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: 11829-GM-2 9-05-23 03:15pm TRuiz || XREFS: | X-SMCSD-TBLK |<<--

Last Saved By: TRuiz 9-05-23 02:01pm



TOP
PLAN
1/4" = 1'-0"

NOTES:

1. DETAILED DESIGN OF COVER BY MANUFACTURER. BEAM SPACING AND NUMBER OF BEAMS BY MANUFACTURER. SEE SPECIFICATION SECTION 13130.
2. LOCATE HATCH TO ALLOW ACCESS TO SCUM TROUGH.
3. LOCATE HATCHES TO ALLOW ACCESS TO INFLUENT FEEDWELL (TYP OF 2). FEEDWELL HATCHES SHALL BE DOUBLE LEAF; VERIFY THAT HATCH LEAF CLEARS PLATFORM ABOVE.
4. CONTRACTOR SHALL SEAL ALL OPENINGS THROUGH COVER TO MAKE AIR TIGHT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DIMENSIONS, CONNECTIONS AND ALL OTHER REQUIREMENTS TO ENSURE PROPER INSTALLATION AND OPERATION AMONGST ALL EQUIPMENT.
6. SCUM TROUGH VALVING SHALL BE SUPPORTED BY THE COVER. SUPPORT SHALL COORDINATED WITH AND APPROVED BY THE COVER MANUFACTURER.
7. SEE SHEET M200-3 FOR ILLUSTRATIVE SECTION VIEW.
8. CONTRACTOR SHALL COORDINATE THE DESIGN OF THE ALUMINUM COVER WITH FINAL CLARIFIER EQUIPMENT DESIGN TO PROVIDE AN TIGHT SEAL BETWEEN COVER AND CLARIFIER STRUCTURE/EQUIPMENT.
9. EXISTING OPENING BETWEEN EFFLUENT LAUNDER AND EFFLUENT BOX HAS BEEN SEALED WITH AN FRP PLATE. DEMOLISH PLATE, BOLTS AND SEALANT TO REESTABLISH CONNECTION TO EFFLUENT BOX.
10. FOLLOWING DEMOLITION OF THE BAR SCREEN CONNECTION, EXISTING PENETRATION TO BAR SCREEN BOX SHALL BE SEALED WITH A 316 SS PLATE WITH NEOPRENE GASKET. 1/2" SS PERIMETER ANCHORS AND WASHERS AT 12" ON CENTER, MIN. 4" EMBED. CONTRACTOR TO VERIFY DIMENSIONS AND PROVIDE MIN 6" OVERLAP OF PLATE AND ADJACENT CONCRETE. FINAL INSTALLATION SHALL BE WATER TIGHT WHEN HYDRAULICALLY TESTED. BENT PLATE MAY BE REQUIRED TO SEAL TO EFFLUENT CHANNEL BOTTOM; SEE DRAWING M200-3. MINIMUM CONCRETE EDGE DISTANCE FOR BOLTS IS 3". ZERO LEAKAGE SHALL BE ALLOWED.
11. CUT IN NEW 20" BY 16" FRP TEE FOR FA CONNECTION TO CLARIFIER. NOTE THAT EXISTING DUCTWORK IS ELEVATED ABOVE CLARIFIER; REFER TO DEMOLITION DRAWINGS FOR EXISTING CONDITIONS.
12. REPLACE EXISTING FA SUPPORT WITH NEW SUPPORTS. EXISTING SUPPORTS SHALL BE REPLACED IN KIND AND MOUNT TO EXTERIOR OF CLARIFIER WALL TO AVOID CONFLICTS WITH COVER. MIN. 10 SUPPORTS TO BE PROVIDED, VERIFY DUCT DIAMETER PRIOR TO CONSTRUCTION.
13. ALL RELOCATED PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH SECTION 15006 AND APPLICABLE PIPE SUPPORT DETAILS. ALL SUPPORTS FOR PLASTIC PIPING SHALL INCLUDE PIPE SADDLES OR EXTRA WIDE SUPPORTS TO AVOID POINT LOADS.
14. CAUTION: FLAMMABLE DIGESTER GAS LINES IN SERVICE.

REGISTERED PROFESSIONAL ENGINEER
ANTHONY THOMAS VALDIVIA
No. 66847
Exp. 09-30-24
CIVIL
STATE OF CALIFORNIA
8/25/23

0" VERIFY SCALES 1"
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	R. NISSLEY
DRAWN	S. JUNG
CHECKED	T. VALDIVIA

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

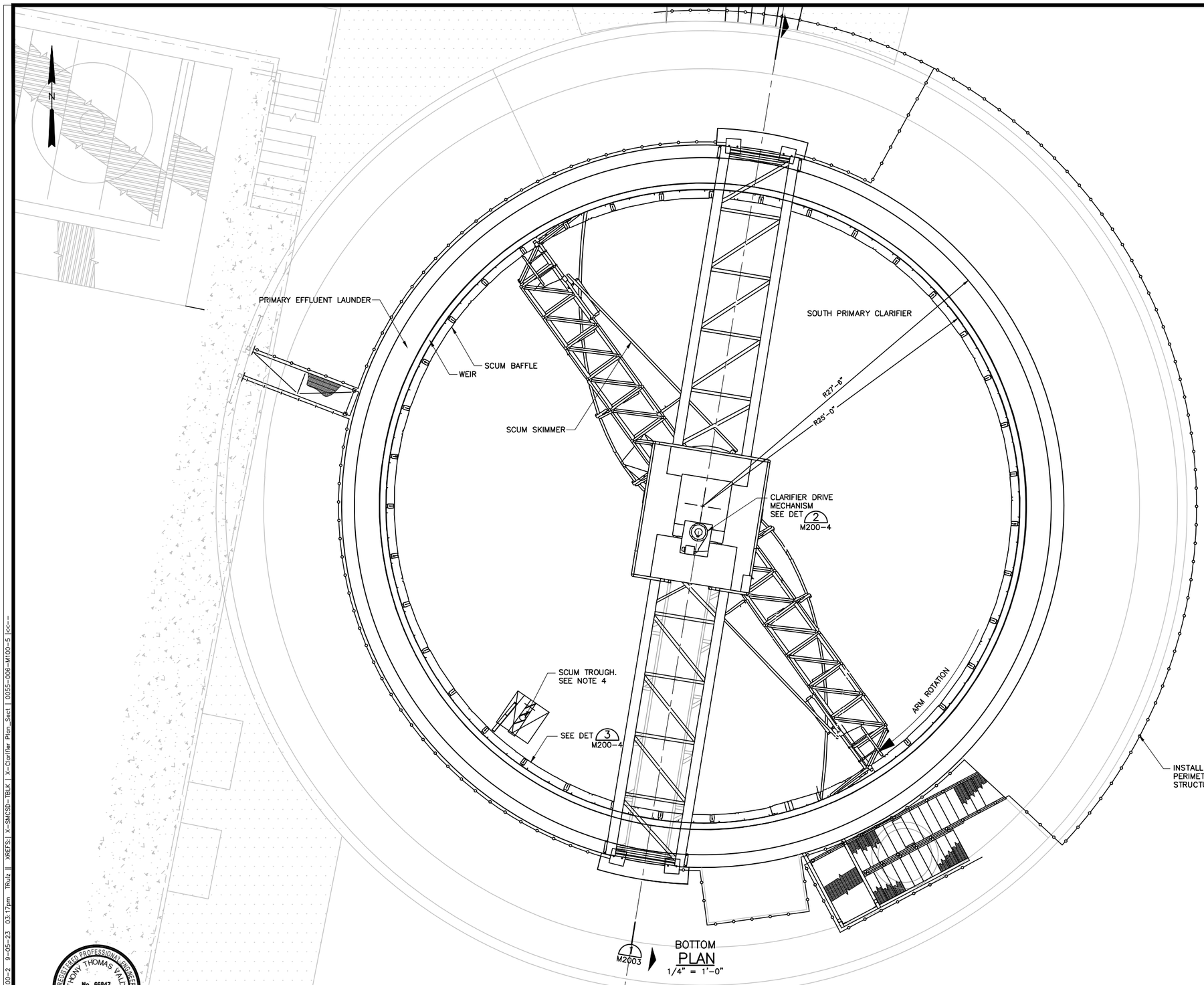
SOUTH PRIMARY CLARIFIER REHABILITATION

SOUTH PRIMARY CLARIFIER
TOP PLAN

DWG NO	M200-1
SHEET NO	23 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: 11829-M200-1 9-05-23 03:16pm TRuiz | XREFS| X-SMCSD-TBLK | S-TANK-PLAN | X-Clarifier Plan_Sect | 0055-006-M100-5 | 11829-M200-2 |<<--

Last Saved By: TRuiz 8-29-23 11:04am



NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DIMENSIONS, CONNECTIONS AND ALL OTHER REQUIREMENTS TO ENSURE PROPER INSTALLATION AND OPERATION AMONGST ALL EQUIPMENT.
2. CLARIFIER MECHANISM DESIGN HAS BEEN COMPLETED BY WESTECH, INC. BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS OF EXISTING CLARIFIER STRUCTURE AND PROVIDE DIMENSIONS TO WESTECH FOR VERIFICATION PRIOR TO SUBMITTING FINAL DESIGN FOR APPROVAL. CONTRACTOR SHALL NOTE THAT WESTECH DESIGN PROVIDED FOR THIS PROJECT HAS BEEN MODIFIED IN SOME RESPECTS BY DISTRICT/ENGINEER FOR THIS DESIGN PACKAGE AND WILL REQUIRE UPDATING BY WESTECH TO MEET FINAL PROJECT REQUIREMENTS.
3. MODIFICATIONS TO NORTH AND SOUTH SLUDGE PUMP STATIONS NOT SHOWN FOR CLARITY.
4. CONTRACTOR SHALL VERIFY LOCATION AND CONFIGURATION OF SCUM BOX PIPING. COORDINATE AND CONNECT NEW SCUM PIPING FROM SCUM BOX (BY CLARIFIER MANUFACTURER) TO EXISTING SCUM PIPING WALL PENETRATION.

REGISTERED PROFESSIONAL ENGINEER
ANTHONY THOMAS VALDIVIA
No. 66847
Exp. 09-30-24
CIVIL
STATE OF CALIFORNIA
8/25/23

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	R. Nissley
DRAWN	S. Jung
CHECKED	T. Valdivia

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

SOUTH PRIMARY CLARIFIER BOTTOM PLAN

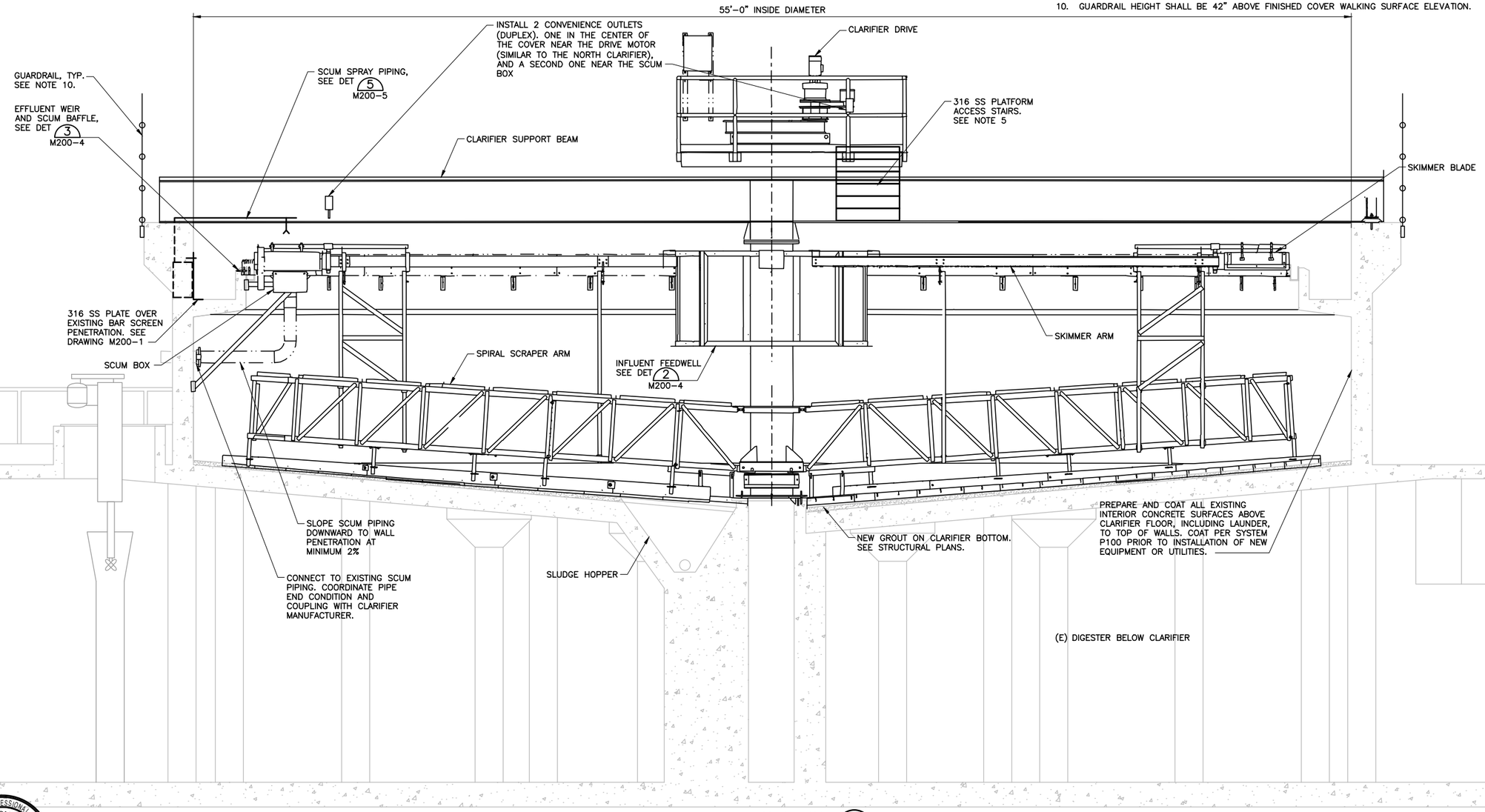
DWG NO	M200-2
SHEET NO	24 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: 11829-M200-2 9-05-23 03:17pm TRuiz || XREFS:| X-SMCSD-TBLK | X-Clarifier Plan_Sect | 0055-006-M100-5 |<<--

Last Saved By: TRuiz 9-05-23 02:03pm

NOTES:

1. ILLUSTRATIVE CUT. SEE PLAN VIEWS FOR ACTUAL ORIENTATION OF FEATURES SHOWN.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DIMENSIONS, CONNECTIONS AND ALL OTHER REQUIREMENTS TO ENSURE PROPER INSTALLATION AND OPERATION AMONGST ALL EQUIPMENT.
3. PIPE SUPPORT AND ANCHORAGE SHALL BE DESIGNED BY THE CONTRACTOR AND SHALL MEET THE REQUIREMENTS LISTED ON SHEET S-1.
4. SCUM TROUGH VALVING SHALL BE SUPPORTED BY THE COVER. SUPPORT SHALL BE COORDINATED WITH AND APPROVED BY THE COVER MANUFACTURER.
5. STAIRS FROM PLATFORM TO COVER SHALL BE PROVIDED BY CLARIFIER MANUFACTURER AND SHALL NOT REST ON COVER.
6. CLARIFIER MECHANISM DESIGN HAS BEEN COMPLETED BY WESTECH, INC. BASED ON AVAILABLE RECORD DRAWINGS. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS OF EXISTING CLARIFIER STRUCTURE AND PROVIDE DIMENSIONS TO WESTECH FOR VERIFICATION PRIOR TO SUBMITTING FINAL DESIGN FOR APPROVAL. CONTRACTOR SHALL NOTE THAT WESTECH DESIGN PROVIDED FOR THIS PROJECT HAS BEEN MODIFIED IN SOME RESPECTS BY DISTRICT/ENGINEER FOR THIS DESIGN PACKAGE AND WILL REQUIRE UPDATING BY WESTECH TO MEET FINAL PROJECT REQUIREMENTS.
7. MODIFICATIONS TO NORTH AND SOUTH SLUDGE PUMP STATIONS NOT SHOWN FOR CLARITY.
8. SCUM BOX, ACCESSORIES AND SUPPORT TO BE PROVIDED BY CLARIFIER MANUFACTURER.
9. DIGESTER WILL REMAIN IN SERVICE THROUGH CONSTRUCTION.
10. GUARDRAIL HEIGHT SHALL BE 42" ABOVE FINISHED COVER WALKING SURFACE ELEVATION.



SECTION 1 M200-2
3/8" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
ANTHONY THOMAS VALDIVIA
No. 66847
Exp. 09-30-24
CIVIL
STATE OF CALIFORNIA
8/25/23

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	R. NISSLEY
DRAWN	S. JUNG
CHECKED	T. VALDIVIA

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

SOUTH PRIMARY CLARIFIER SECTION

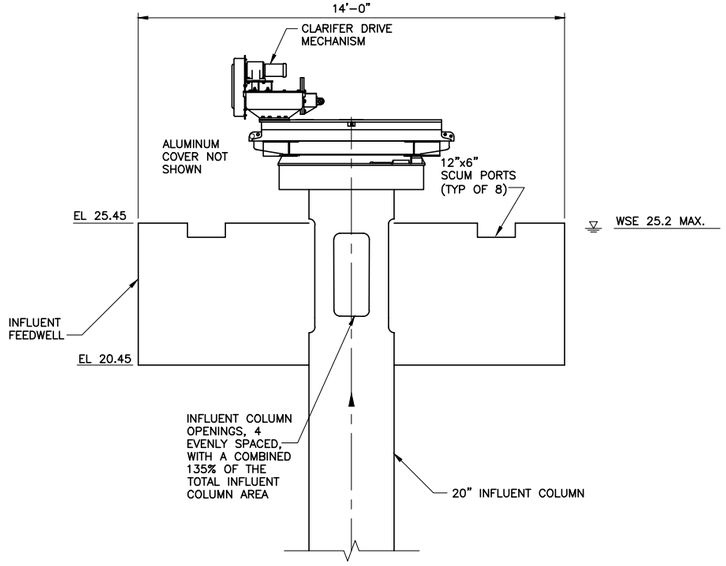
DWG NO	M200-3
SHEET NO	25 OF 41
PROJ NO	0011829
DATE	AUGUST 2023

FILENAME: 11829-M200-3 9-05-23 03:19pm TRuiz || XREFS: | X-SMCSD-TBLK | S-TANK-SECT | X-Clarifier Plan_Sect | 0055-006-M100-5 |<<--

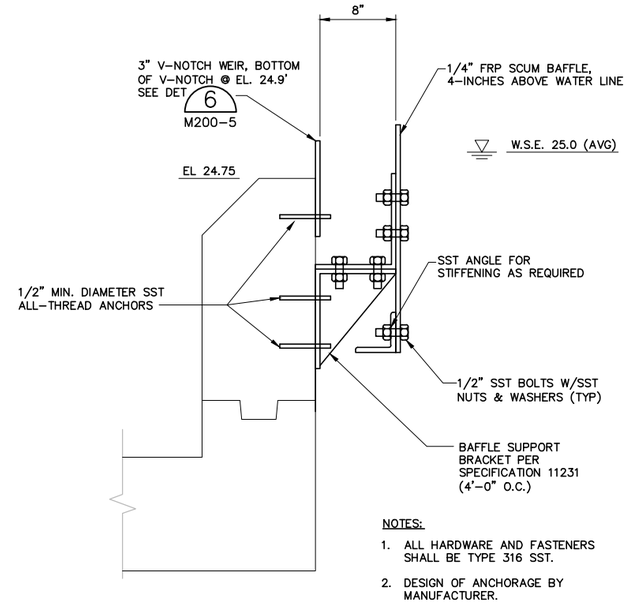
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NOTES:

1. DETAILS ON THIS SHEET ARE ILLUSTRATIVE OF DESIGN INTENT. FINAL DESIGN SHALL BE AS INCLUDED IN DESIGN BY WESTECH, INC. AND SHALL BE COORDINATED WITH OTHER ASPECTS OF MECHANICAL AND ELECTRICAL DESIGN.
2. REFER TO SPECIFICATION 11231 FOR ADDITIONAL DETAILS.



DETAIL 2 / M200-3
NTS



NOTES:

1. ALL HARDWARE AND FASTENERS SHALL BE TYPE 316 SST.
2. DESIGN OF ANCHORAGE BY MANUFACTURER.

EFFLUENT WEIR & SCUM BAFFLE DETAIL 3 / M200-3
NOT TO SCALE

REGISTERED PROFESSIONAL ENGINEER
ANTHONY THOMAS VALDIVIA
No. 66847
Exp. 09-30-24
CIVIL
STATE OF CALIFORNIA
8/25/23

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED
DRAWN S. JUNG
CHECKED

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

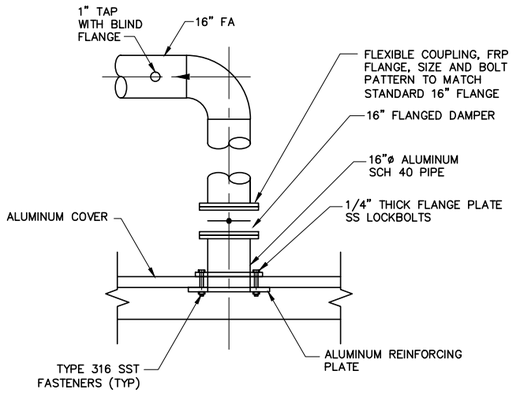
SOUTH PRIMARY CLARIFIER REHABILITATION

SOUTH PRIMARY CLARIFIER DETAILS - 1

DWG NO M200-4
SHEET NO 26 OF 41
PROJ NO 0011829
DATE AUGUST 2023

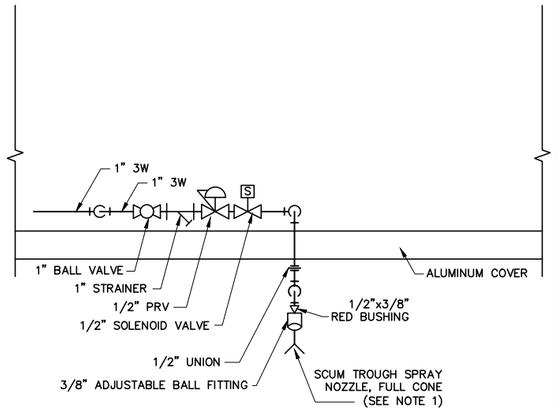
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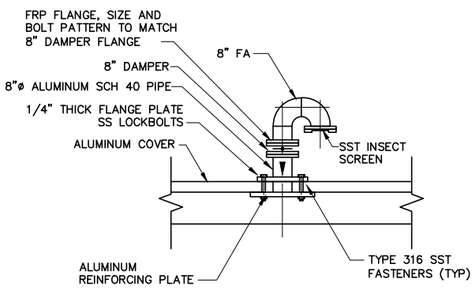
NOTE:
1. COVER MANUFACTURER TO PROVIDE REINFORCING PLATES, ANCHOR BOLTS, AND 16" ALUMINUM FLANGED STUBOUT PIPE.
2. 316 SST FASTENERS SHALL BE INSTALLED WITH INSULATING SLEEVES AND WASHERS TO PREVENT CONTACT WITH ALUMINUM.

FOUL AIR INTAKE DETAIL 3
NOT TO SCALE — M200–1



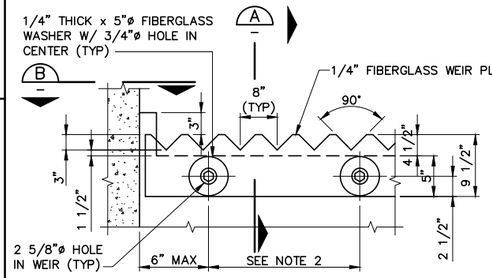
NOTE:
1. LOCATE SCUM TROUGH SPRAY NOZZLE OVER 6" SCUM DRAIN PIPE, FIELD FIT. FULL CONE SPRAY NOZZLE.

SCUM PIT SPRAY SECTION DETAIL 5
NOT TO SCALE — M200–1,3

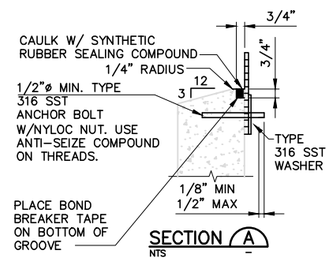


NOTE:
1. COVER MANUFACTURER TO PROVIDE REINFORCING PLATES, ANCHOR BOLTS, AND 8" ALUMINUM FLANGED STUBOUT PIPE.
2. 316 SST FASTENERS SHALL BE INSTALLED WITH INSULATING SLEEVES AND WASHERS TO PREVENT CONTACT WITH ALUMINUM.

MAKE–UP AIR INLET DETAIL 4
NOT TO SCALE — M200–1

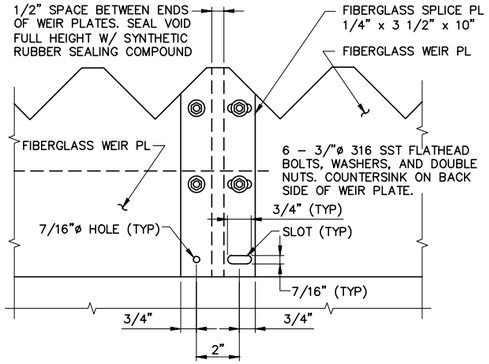


ELEVATION

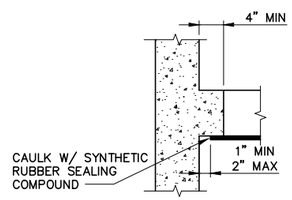


SECTION A
NTS

NOTES:
1. ALL EDGES, VOIDS, AND SPLICES SHALL BE SEALED WATER TIGHT W/ SYNTHETIC RUBBER SEALING COMPOUND.
2. ANCHOR BOLT SPACING = 12" OC FOR STRAIGHT WEIRS AND 2'–0" OC FOR CIRCULAR WEIRS.
3. ADJUST WEIR LEVEL AT CALM WATER SURFACE TO WITHIN ± 1/32 INCH OF THE INDICATED ELEVATION. CONSTRUCTION MANAGER TO APPROVE PRIOR TO CAULKING.
4. DESIGN OF ANCHORAGE BY MANUFACTURER.



SPLICE PLATE ELEVATION



SECTION B
NTS

V–NOTCH WEIR 6
NOT TO SCALE — M200–4

REGISTERED PROFESSIONAL ENGINEER — ANTHONY THOMAS VALDIVIA — No. 66847 — Exp. 09-30-24 — CIVIL — STATE OF CALIFORNIA — 8/25/23

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED
DRAWN S. JUNG
CHECKED

SUBMITTED: _____ PROJECT ENGINEER
APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

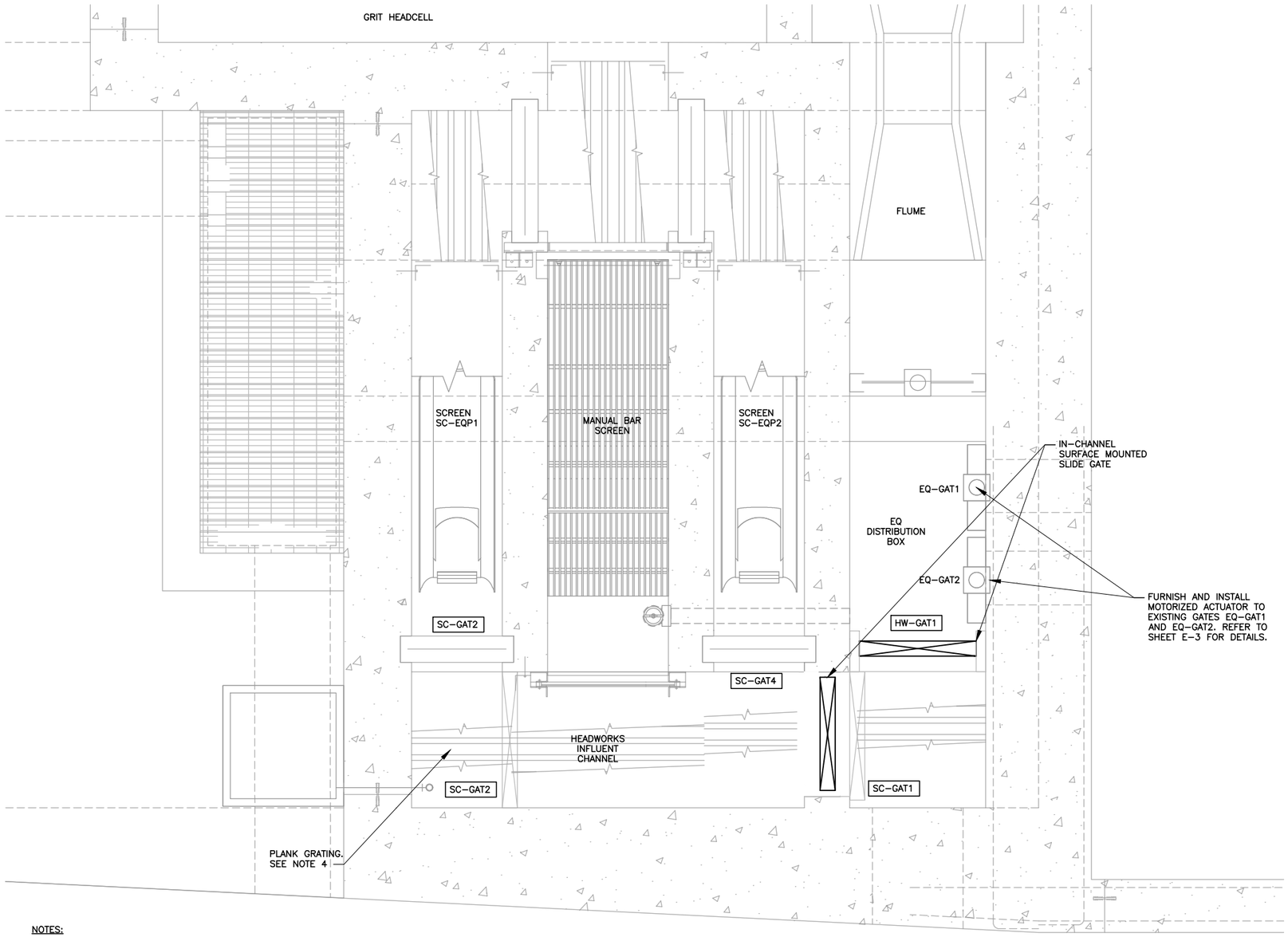
SOUTH PRIMARY CLARIFIER REHABILITATION

SOUTH PRIMARY CLARIFIER DETAILS - 2

DWG NO M200-5
SHEET NO 27 OF 41
PROJ NO 0011829
DATE AUGUST 2023

FILENAME: 11829-M200-5 9-05-23 02:12pm TRuiz || XREFS:| X-SMCSD-TBLK |<<--

Last Saved By: TRuiz 8-29-23 11:12am



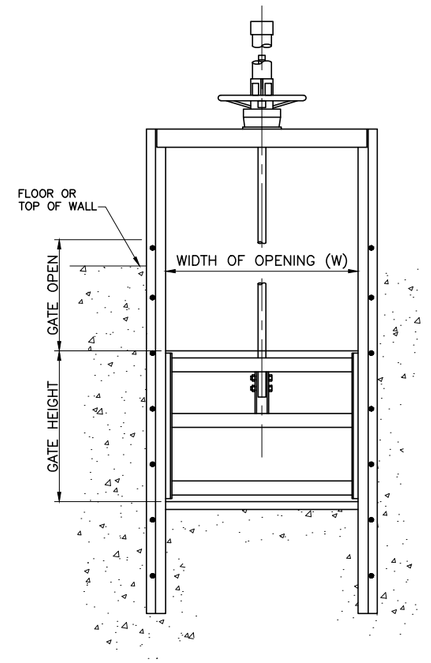
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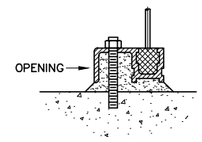
1. REFER TO STRUCTURAL PLANS FOR ADDITIONAL DETAILS.
2. CONFIRM ALL DIMENSIONS PRIOR TO GATE FABRICATION. SEE DETAIL M254 FOR INSTALLATION DETAILS.
3. CONTRACTOR TO VERIFY ALL GATE DIMENSIONS PRIOR TO FABRICATION.
4. ALL HEADWORKS CHANNELS ARE COVERED WITH ALUMINUM PLANK GRATING. EXISTING PLANK GRATING AND GRATING SUPPORTS WILL BE REPLACED TO ACCOMMODATE NEW GATE CONFIGURATION. REFER TO STRUCTURAL PLANS FOR ADDITIONAL DETAILS.
5. WORTH WITHIN THE PLANT HEADWORKS CHANNELS REQUIRES SHUTDOWNS OF THE PLANT HEADWORKS. ALL SHUTDOWNS SHALL OCCUR DURING DRY WEATHER AND SHALL BE COORDINATED WITH AND APPROVED BY THE DISTRICT.
6. EXISTING HEADWORKS WALL ARE CLAD WITH PVC LINER. PROTECT LINER OUTSIDE OF DEMOLITION AREA. PREPARE AND COAT EXPOSED CONCRETE WITH SYSTEM P100; SEE SPEC 09960. SUBMIT PROPOSAL FOR TRANSITION FROM PVC LINER TO SYSTEM 09960 BASED ON POST-DEMOLITION CONDITIONS.

DETAIL 1 — HEADWORKS GATE MODIFICATIONS
3/4"=1'-0"

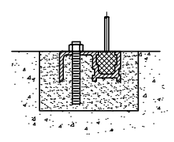
NOTES (CONTINUED):

7. HEADWORKS CHANNEL WORK AREAS WILL BE DEWATERED BY DISTRICT PRIOR TO CONTRACTOR BEGINNING WORK IN CHANNEL(S). CONTRACTOR SHALL PROVIDE MINIMUM 30 DAYS NOTICE PRIOR TO START OF WORK WITHIN THE HEADWORKS CHANNELS TO ALLOW FOR DEWATERING. SOME STANDING WATER WILL REMAIN AFTER DEWATERING, AND CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR CLEARING HEADWORKS CHANNEL(S) OF REMAINING WATER, ACCUMULATED GRIT AND DEBRIS AND CLEANING/DISINFECTING CHANNEL AT START OF WORK. WORK WITHIN HEADWORKS CHANNELS REQUIRING DEWATERING SHALL BE LIMITED TO 2 WEEKS.

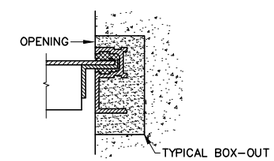




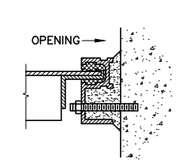
BOTTOM CLOSURE SURFACE



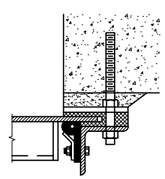
BOTTOM CLOSURE EMBEDDED



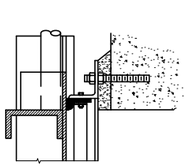
IN-CHANNEL EMBEDDED



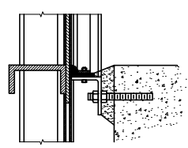
IN-CHANNEL SURFACE



WALL FACE-SIDE



TOP SEAL



DOWNWARD OPENING
BOTTOM SEAL

SLIDE GATE
NTS

M254

REGISTERED PROFESSIONAL ENGINEER
ANTHONY THOMAS VALDIVIA
No. 66847
Exp. 09-30-24
CIVIL
STATE OF CALIFORNIA
8/25/23

VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED
DRAWN
CHECKED T. Valdivia

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

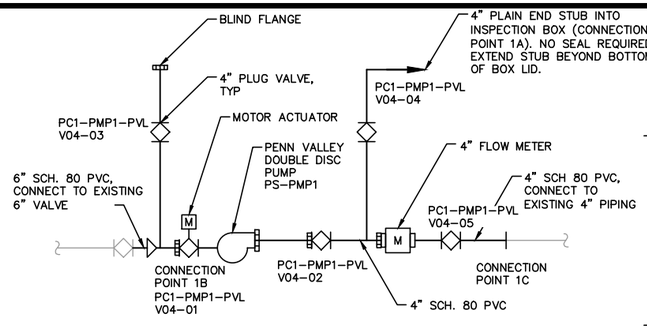
SOUTH PRIMARY CLARIFIER REHABILITATION

HEADWORKS MODIFICATIONS

DWG NO M200-7
SHEET NO 28 OF 41
PROJ NO 0011829
DATE AUGUST 2023

FILENAME: 11829-M200-7 9-05-23 02:36pm TRuiz || XREFS:| X-SMCSD-TBLK |<<--

Last Saved By: TRuiz 8-29-23 05:14pm



NOTE: PIPE SERVICE IS PRIMARY SLUDGE (PS)

NORTH PRIMARY SLUDGE PUMP STATION 1
NOT TO SCALE D-2

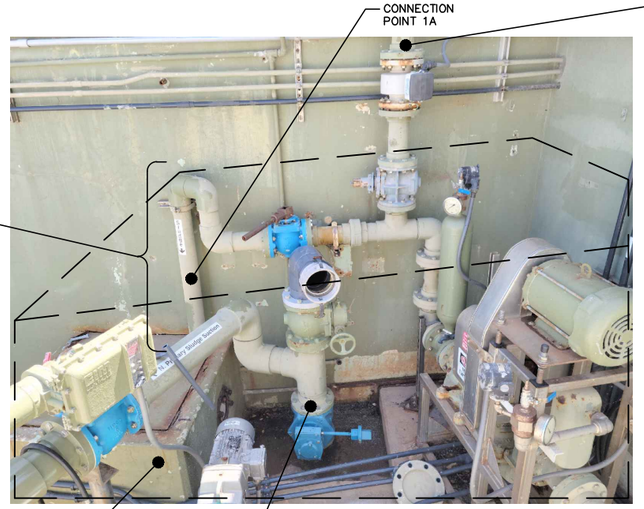
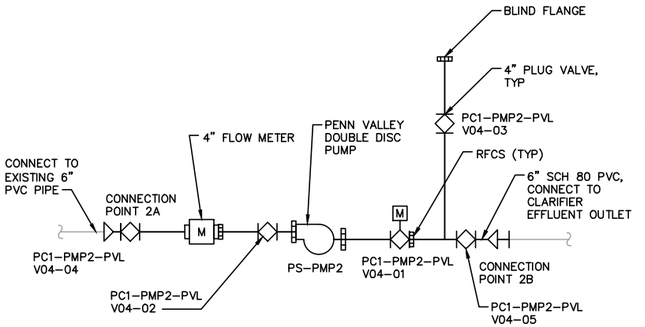
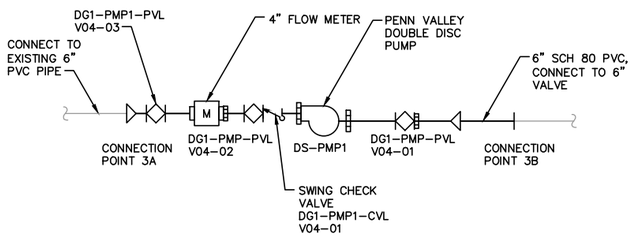


PHOTO C/C-1 NORTH SLUDGE PUMP STATION



NOTE: PIPE SERVICE IS PRIMARY SLUDGE (PS)

SOUTH PRIMARY SLUDGE PUMP STATION 2
NOT TO SCALE D-3



NOTE: PIPE SERVICE IS DIGESTED SLUDGE (PS)

DIGESTER SLUDGE TRANSFER PUMP STATION 3
NOT TO SCALE D-3

NEW CONSTRUCTION AREAS
NOT TO SCALE

PHOTO D/C-1 SOUTH SLUDGE PUMP STATION

NEW CONSTRUCTION SCHEMATICS
NOT TO SCALE

NOTES:

1. PIPING AND EQUIPMENT DIAGRAMS ARE SCHEMATIC ONLY AND SHOW MAJOR COMPONENTS TO BE SUPPLIED AND CONSTRUCTED BY THE CONTRACTOR. PIPING LAYOUT DESIGN SHALL BE COMPLETED BY THE CONTRACTOR AND SUBMITTED FOR APPROVAL PRIOR TO ORDERING/FABRICATION. DESIGN OF PIPING SUPPORTS SHALL BE IN ACCORDANCE WITH SECTION 15006.
   a. ALL PIPE, ELBOWS, FITTINGS, UNIONS, TRANSITIONS AND OTHER ACCESSORIES OR APPURTENANCES REQUIRED TO PROVIDE A COMPLETE AND OPERATIONAL PIPING AND EQUIPMENT SYSTEM SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST.
   b. ALL NEWLY CONSTRUCTED PIPING AND EQUIPMENT SHALL FIT WITHIN THE APPROXIMATE AREAS SHOWN IN THE "NEW CONSTRUCTION AREAS" AS DEPICTED.
   c. COORDINATE NEW CONSTRUCTION LAYOUT WITH DEMOLITION PLANS.
   d. CONTRACTOR SHALL, TO EXTENT POSSIBLE, MINIMIZE ELBOWS IN ALL INSTALLED PIPING.
   e. LAYOUT DESIGN SHALL DEMONSTRATE FUNCTIONALITY OF SYSTEMS AND PROVISIONS FOR OPERATOR ACCESS.
2. ALL PIPING AND EQUIPMENT SUPPORTS SHALL BE DESIGNED, SUPPLIED AND INSTALLED BY THE CONTRACTOR TO ADEQUATELY SUPPORT ALL PIPING, VALVES AND OTHER LOADS.
   a. REUSE OF EXISTING SUPPORTS SHALL ONLY BE ALLOWED WITH WRITTEN CONSENT OF ENGINEER AND SHALL NOT BE ASSUMED.
   b. ALL SUPPORTS AND ASSOCIATED HARDWARE SHALL BE TYPE 316 STAINLESS STEEL.
   c. ALL SUPPORTS FOR PLASTIC PIPING SHALL INCLUDE SADDLES TO AVOID POINT LOADING ON PIPE. REFER TO SECTION 15006.
   d. PIPING SHALL BE SUPPORTED FROM BELOW (PAD OR STATION MOUNTED SUPPORTS) WITHOUT PRIOR APPROVAL BY ENGINEER.
   e. REFER TO SHEET GM-2 FOR REPRESENTATIVE PIPE SUPPORT DETAILS AND SUBMIT SUPPORTS FOR APPROVAL
   f. PIPE/SUPPORT ANCHORAGE CALCULATIONS SHALL BE PREPARED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF CALIFORNIA. REFER TO SPECIFICATION 15006 FOR ADDITIONAL REQUIREMENTS.
3. CONSTRUCT EQUIPMENT SUPPORT PADS FOR PUMPS PER STRUCTURAL DETAIL 03163.
4. HEIGHT OF INSTALLED PIPING AND VALVES ABOVE CONCRETE WALKWAY AT THE BASE OF THE CLARIFIER WALL SHALL BE 48" MAXIMUM AND 18" MINIMUM. HEIGHT SHALL BE MEASURED TO THE CENTER LINE OF THE PIPING.
5. ALL PIPING AND EQUIPMENT SHALL BE COATED IN ACCORDANCE WITH SECTION 09960.
6. FOR ALL NEW FLOWMETER INSTALLATIONS, THE MINIMUM RUN OF STRAIGHT PIPE, WITHOUT ELBOWS, VALVES OR FITTINGS, SHALL BE AS FOLLOWS AS MEASURED FROM THE METER FLANGE TO THE FITTING:
   a. 5X NOMINAL PIPE DIAMETER
   b. 3X NOMINAL PIPE DIAMETER
7. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL DETAIL REGARDING POWER AND INSTRUMENTATION REQUIREMENTS NOT SHOWN HERE.
8. PROVIDE MIN. 4x PIPE DIAMETER STRAIGHT PIPE UPSTREAM OF ALL PUMPS. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, INCLUDING ALL APPURTENANCES.
9. PROVIDE ELECTRICAL POWER AND SYSTEMS FULLY COORDINATED WITH MECHANICAL AND STRUCTURAL. REFER TO ELECTRICAL DRAWINGS.
10. SOUTH SLUDGE PUMP STATION AND DIGESTER SLUDGE TRANSFER PUMP STATION ARE LOCATED IN SAME AREA SHOWN IN PHOTO X. THE DIGESTER SLUDGE TRANSFER PUMP MUST REMAIN FUNCTIONAL DURING CONSTRUCTION. TRANSFER PUMP MAY BE OFF-LINE FOR 3 DAYS MAX ON WEEKENDS AND 2 DAYS MAX DURING WEEKDAYS. AN OUTAGE REQUEST AND WORKPLAN ARE REQUIRED IN ADVANCE OF WORK AS OUTLINED IN PROJECT SPECIFICATIONS.

REGISTERED PROFESSIONAL ENGINEER ANTHONY THOMAS VALDIVIA No. 66847 Exp. 09-30-24 CIVIL STATE OF CALIFORNIA 8/25/23

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION
1				
2				
3				
4				
5				

DESIGNED
DRAWN S. JUNG
CHECKED

SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

PUMPING SCHEMATIC DIAGRAMS

DWG NO M200-8
SHEET NO 29 OF 41
PROJ NO 0011829
DATE AUGUST 2023

FILENAME: 11829-M200-8 9-05-23 02:38pm TRuiz || XREFS: | X-SMCSD-TBLK |<<--

Last Saved By: TRuiz 8-29-23 11:24am

CONTROL DIAGRAM SYMBOLS

120V / 120V — CONTROL TRANSFORMER, PRIMARY AND SECONDARY VOLTAGES SHOWN, SIZE AS SHOWN OR SPECIFIED

40A — CIRCUIT BREAKER, THERMAL–MAGNETIC, 3 POLE, UON, RATING IN AMPS

DESIGNATES PLC INPUT TERMINATION OR CONTROL PANEL TERMINATION

ID — FUSE MODIFIERS:
CLF = CURRENT LIMITING FUSE
DE = DUAL ELEMENT
F = CLASS F

ID — PUSHBUTTON, MOMENTARY CONTACT, NORMALLY OPEN

ID — PUSHBUTTON, MOMENTARY CONTACT, NORMALLY CLOSED

ID — STOP PUSHBUTTON WITH LOCKOUT

O / H A / X / X — SELECTOR SWITCH 3 POSITION MAINTAINED CONTACT.
X = CONTACTS CLOSED

LINE — L — INDICATING LIGHT PUSH TO TEST, TEST VOLTAGE TERMINAL SHOWN.
LENS COLOR (L):
A = AMBER
B = BLUE
G = GREEN
R = RED
W = WHITE

2 / CR — CONTROL RELAY OPERATING COIL.
FUNCTION:
CR= CONTROL RELAY
U = UNLATCH
L = LATCH

OL — THERMAL OVERLOAD RELAY

2CR 2CR — OUTPUT CONTACTS

2 / TR — TIMING RELAY OPERATING COIL
ON/OFF/DELAY
RANGE: SEC/MIN
SET: SEC/MIN

E–STOP SWITCH

2–WAY SOLENOID VALVE

NORMALLY OPEN	NORMALLY CLOSE	DEFINITION
OR 2CR	OR 2CR	DELAY ON COIL ENERGIZATION (ON DELAY)
		POSITION (LIMIT) SWITCH
		TEMPERATURE SWITCH
		PRESSURE SWITCH

STANDARD ABBREVIATIONS

A	AMMETER
ACB	AIR CIRCUIT BREAKER
ATS	AUTOMATIC TRANSFER SWITCH
BCW	BARE COPPER WIRE
CB	CIRCUIT BREAKER
C	CONDUIT
C.O.	CONDUIT ONLY (EMPTY CONDUIT)
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL SWITCH
CT	CONTACTOR (HEAVY DUTY)
(E)	EXISTING
FS	FLOAT SWITCH
G OR GND	GROUND
HS	HAND SWITCH
HZ	HERTZ
KVAR	REACTIVE POWER
KW	KILOWATT
KWHR	KILOWATT HOUR
I/O	INPUT/OUTPUT
LOS	LOCKOUT STOP
MTS	MANUAL TRANSFER SWITCH
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MF	MULTI–FUNCTION METER DISPLAY
MIN	MINIMUM
MSGR	MAIN SWITCHGEAR
(N)	NEW
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PAIR OR PR	TWISTED, SHIELDED PAIRS #16AWG
PB	PULL BOX
PLC	PROGRAMMABLE LOGIC CONTROLLER
QUAD	TWISTED, SHIELDED 4–CONDUCTOR CABLE
PP	POWER POLE
RTD	RESISTANCE THERMAL DETECTOR
RTU	REMOTE TERMINAL UNIT
SCADA	SUPERVISORY CONTROL & DATA ACQUISITION
SS	STAINLESS STEEL (316 UON)
SSRS	SOLID STATE REDUCED VOLTAGE STARTER
SWGR	SWITCHGEAR
HD	HARMONIC DISTORTION
TS	TEMPERATURE SWITCH
UON	UNLESS OTHERWISE NOTED
V	VOLTMETER
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHER PROOF (NEMA 4X)
XFMR	TRANSFORMER

LIGHTING

FIXTURE IDENTIFICATION:

5 — XX — 2/40 — R — 8'–6"

- NUMBER OF FIXTURES (SHOWN ONLY WHEN REQUIRED FOR CLARITY)
- FIXTURE TYPE REFER TO FIXTURE SCHEDULE TYPE APPLIES TO ALL FIXTURES OF THE SAME SHAPE WITHIN A ROOM OR AREA
- MOUNTING:
  C: CEILING
  R: RECESSED
  PP: POLE
  S: STANCHION
  P: PENDANT
  W: WALL
- MOUNTING HEIGHT, FLOOR TO BOTTOM OF FIXTURE UON. AS HIGH AS POSSIBLE (AHAP)
- NUMBER OF LAMPS/LAMP WATTAGE

LIGHTING FIXTURE SHAPES AND SCALE ARE REPRESENTED WHERE POSSIBLE. THE EXAMPLES SHOWN BELOW ARE TYPICAL APPLICATIONS.

FLUORESCENT FIXTURE

WALL MOUNTED FIXTURE

POLE MOUNTED FIXTURE

EMERGENCY LIGHTING UNIT SELF CONTAINED

MOTORS AND EQUIPMENT

DISCONNECT SWITCH, NON–FUSED, HEAVY DUTY PADLOCKABLE, INDUSTRIAL TYPE

M — M = MOTOR
SV = SOLENOID VALVE
125 = 125HP

FIELD INSTRUMENT

CONTROL STATION (SEE CONTROL DIAGRAMS FOR DEVICES REQUIRED)

TELEPHONE & COMMUNICATION SYSTEMS

TELEPHONE AND COMMUNICATION SYSTEMS: UNLESS OTHERWISE SPECIFIED, TELEPHONE OUTLETS SHALL BE MOUNTED AT SAME HEIGHT AS THE RECEPTACLES, VERIFY.

EXTERNAL LINE OR PLANT PHONE SYSTEM OUTLET

T — TELEPHONE

GROUNDING

GROUND ROD

GROUND ROD WITH GROUND WELL

GROUND CONNECTION, BOLTED TYPE

GROUND CONNECTION, COMPRESSION TYPE

G — GROUNDING CONDUCTOR, MINIMUM #2/0 BARE COPPER

INSTRUMENT CABLE SHIELD GROUND

CIRCUITS AND RACEWAYS

RACEWAY EXPOSED

RACEWAY CONCEALED IN FLOOR SLAB OR UNDERGROUND

RACEWAY TURNED TOWARD THE VIEWER

RACEWAY TURNED DOWN

HH20 — HH: HANDHOLE, MH: MANHOLE

J — JUNCTION BOX

TB — TERMINAL BOX

3#10 AWG, GNDG, 1"C — RACEWAY SIZE WITH CONDUCTOR CONTENTS AND SIZES

LP–1 — CIRCUIT HOMERUN WITH DESTINATION NOTED (2#12, #12 GND MIN.)

T — TELEPHONE SYSTEM CONDUIT WITH PULLING NYLON ROPE

LIGHT CIRCUIT WITH CONDUCTOR QUANTITY INDICATED

IXXX — INSTRUMENTATION CONDUIT

CCXXX — CONTROL CONDUIT

LP1–2XX — POWER CIRCUIT 240V WITH POWER SOURCE IDENTIFICATION (1XX IS 120V)

MCC–HW–P–4XX — POWER CIRCUIT 480V WITH POWER SOURCE IDENTIFICATION

WIRING DEVICES

SWITCHES: UNLESS OTHERWISE SPECIFIED, ALL SWITCHES ARE WALL MOUNTED

$ — TOGGLE SWITCH, SINGLE POLE, 20 AMP

$ $ — GANGED SWITCHES IN COMMON BOX WITH COMMON WALL PLATE

$ A 3 — SUPERSCRIPT INDICATES CIRCUIT CONTROLLED: a, b, c, ETC. MAY BE COMBINED WITH CIRCUIT NUMBER: 1a, 4b, ETC.

SUBSCRIPT MODIFIER INDICATES:
2 = DOUBLE POLE
3 = THREE WAY
4 = FOUR WAY
K = KEY OPERATED
MC = MOMENTARY CONTACT, THREE POSITION
MS = MANUAL (MOTOR) STARTER OR SWITCH
R = RHEOSTAT (DIMMER, SPEED CONTROL)
WP = WEATHER PROOF

RECEPTACLES: UNLESS OTHERWISE SPECIFIED, ALL RECEPTACLES ARE 125 VOLT, SINGLE PHASE, STRAIGHT BLADE, NON LOCKING, GROUNDING STYLE.

DUPLEX RECEPTACLE, 20 AMP, 3 WIRE.

RECEPTACLE MODIFIERS:
WP = WEATHER PROOF & GFI
GFI = GROUND FAULT CIRCUIT INTERRUPTER
H = HAZARDOUS AREA–EXPLOSION PROOF

DOUBLE DUPLEX RECEPTACLE

MISCELLANEOUS

GROUND CONNECTION

RTU OUTPUT

E150 / TYP — TYPICAL DETAIL DESIGNATION

X — DETAIL DESIGNATION
DETAIL NUMBER
WHERE DETAIL IS SHOWN

T — THERMOSTAT

5 — NOTE DESIGNATION

DESIGNATES EQUIPMENT OR DEVICE LOCATED AT LOAD IN THE FIELD

SPACE HEATER

DESIGNATES EQUIPMENT OR DEVICES LOCATED IN MCC

RTU I/O TERMINATION IN CONTROL PANEL

IONIZATION SMOKE DETECTOR

DESIGNATES EQUIPMENT OR DEVICES LOCATED IN CONTROL PANEL

E — END–OF–LINE DEVICE

F — FIRE ALARM PULL STATION

F — COMBINATION STROBE LIGHT/HORN

FIREALARM CONTROL PANEL

NEMA 4X — CORROSIVE AREA

NEMA 12 — GENERAL PURPOSE AREA

NEMA 7 — CLASSIFIED HAZARDOUS AREA

ONE-LINE DIAGRAM SYMBOLS

SIZE 2 COMBINATION FULL VOLTAGE NON–REVERSING MAGNETIC STARTER MCP SIZED BY MANUFACTURER (OVERLOAD RELAY NOT SHOWN).

RV = REDUCED VOLTAGE
2S2W = TWO–SPEED TWO–WINDING
2 = SIZE 2

3 — 400/3 — CURRENT TRANSFORMER WITH RATIO AND NUMBER OF UNITS

MAIN SERVICE METER (BY UTILITY COMPANY)

MF — MULTI–FUNCTION ELECTRONIC METER

KIRK–KEY INTERLOCK

DESIGNATES DEMOLITION WORK U.O.N

5.75% Z 480/277V — POWER TRANSFORMER. IMPEDANCE SHOWN

480V 3ø, 4W / 600KW 60HZ — GENERATOR. POWER RATING, FREQUENCY, VOLTAGE.

200A — 200 AMP SHOWN

FU — FUSE WITH BLOWN INDICATOR

G OR — STANDBY GENERATOR

GENERAL NOTES

1. THIS DRAWING IS GENERAL IN NATURE. SOME SYMBOLS SHOWN HEREON MAY NOT BE USED ON THE CONTRACT DRAWINGS.
2. IDENTIFICATIONS (ID), SIZES, RATINGS, LOCATIONS AND SIMILAR INFORMATION SHOWN ASSOCIATED WITH SYMBOLS ARE OPTIONAL; EXAMPLES OF SUCH INFORMATION ARE SHOWN WITH SOME SYMBOLS FOR CLARITY.
3. THE ELECTRICAL DRAWINGS USE THE ONE–LINE DIAGRAMS AND PANEL SCHEDULES IN CONJUNCTION WITH SHOWING THE LOCATION OF THE ELECTRICAL/INSTRUMENTATION SOURCES AND LOADS/DEVICES SHOWN ON THE PLAN DRAWINGS TO DEPICT THE WORK. THE CONTRACTOR SHALL USE THESE DOCUMENTS TO DETERMINE AND PROVIDE THE NECESSARY RACEWAY AND WIRING SYSTEM FOR EACH CIRCUIT. ALL INDOOR RACEWAY SHALL BE RUN EXPOSED, AND ROUTED BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.
4. THE LOCATION OF THE CONTROL STATIONS SHOWN ON THE PLAN DRAWINGS ARE DIAGRAMMATIC AND THE ACTUAL LOCATION SHALL BE COORDINATED IN THE FIELD WITH THE CONSTRUCTION MANAGER.
5. THE EXACT LOCATION OF THE MOTORS, VALVES, AND ACCESSORIES ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE WITH THE STRUCTURAL AND MECHANICAL DRAWINGS FOR EXACT CONDUIT STUB OUT AND TERMINATION LOCATIONS.
6. ALL EQUIPMENT SHALL BE LABELED WITH NAMEPLATES. DESCRIPTION OF EQUIPMENT SHALL BE IN ACCORDANCE WITH THE ONE–LINE DIAGRAM DESCRIPTION. A LIST OF THE NAMEPLATES SHALL BE SUBMITTED TO THE CONSTRUCTION MANAGER PRIOR TO ENGRAVING.
7. UNLESS OTHERWISE NOTED, ALL CONVENIENCE OUTLETS SHALL BE MOUNTED AT 48–INCHES ABOVE FINISHED FLOOR. ALL LIGHT SWITCHES SHALL BE MOUNTED AT 54–INCHES ABOVE FINISHED FLOOR.
8. EACH CONVENIENCE OUTLET AND LIGHTING CIRCUIT SHALL BE PROVIDED WITH A #12AWG GREEN GROUNDING CONDUCTOR.
9. FOR SPARE CONDUCTORS, AT EACH END, TAPE & COIL UP AND PROVIDE ENGRAVED TAG IDENTIFYING "FROM AND TO" DESTINATION.
10. ALL EXTERIOR CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL. ALL OUTDOOR ENCLOSURES SHALL BE NEMA 4X. ALL CONDUIT SUPPORTS, CHANNELS, AND ACCESSORIES SHALL BE 316 SS.
11. CONDUIT ENTERING OR LEAVING CLASSIFIED HAZARDOUS LOCATION SHALL BE PROVIDED WITH "EYS" SEALS PER NEC.
12. ELECTRICAL DRAWINGS DO NOT SHOW ALL REQUIRED DEMOLITION. SEE MECHANICAL DRAWINGS FOR ADDITIONAL DEMOLITION.
13. CONDUITS EMBEDDED IN FLOOR SLAB SHALL FOLLOW REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE ACI 318 SECTION 6.3.
14. FOR EACH FIELD MOUNTED DEVICE USING 120VAC, FURNISH AND INSTALL A MOTOR STARTER SWITCH STYLE NEMA 4X TOGGLE SWITCH PADLOCKABLE.
15. FOR EXISTING MOTORIZED EQUIPMENT TO BE DEMOLISHED AS SHOWN ON DEMOLITION DRAWINGS, THE POWER SOURCES SUCH AS EXISTING MOTOR CONTROL CENTERS AND POWER PANELS SHALL BE MARKED AS SPARES ON BREAKERS FEEDING THESE DEMOLISHED LOADS (NOT REUSED OR RELOCATED).
16. ALL SHUTDOWN REQUESTS SHALL BE MADE IN ADVANCE AND SHALL BE APPROVED BY THE DISTRICT PRIOR TO ACTUAL WORK.

FILENAME: 454_E01 8–25–23 04:16pm tp ‖ XREFS: X–TBLK <<–

Last Saved By: tp 8–25–23 04:10pm

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — SUE TAN NGUYEN — No. E 19681 Exp. 6/30/25 — ELECTRICAL — STATE OF CALIFORNIA — 8/25/23

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	TP
DRAWN	LD
CHECKED	DN

SUBMITTED: _____ PROJECT ENGINEER

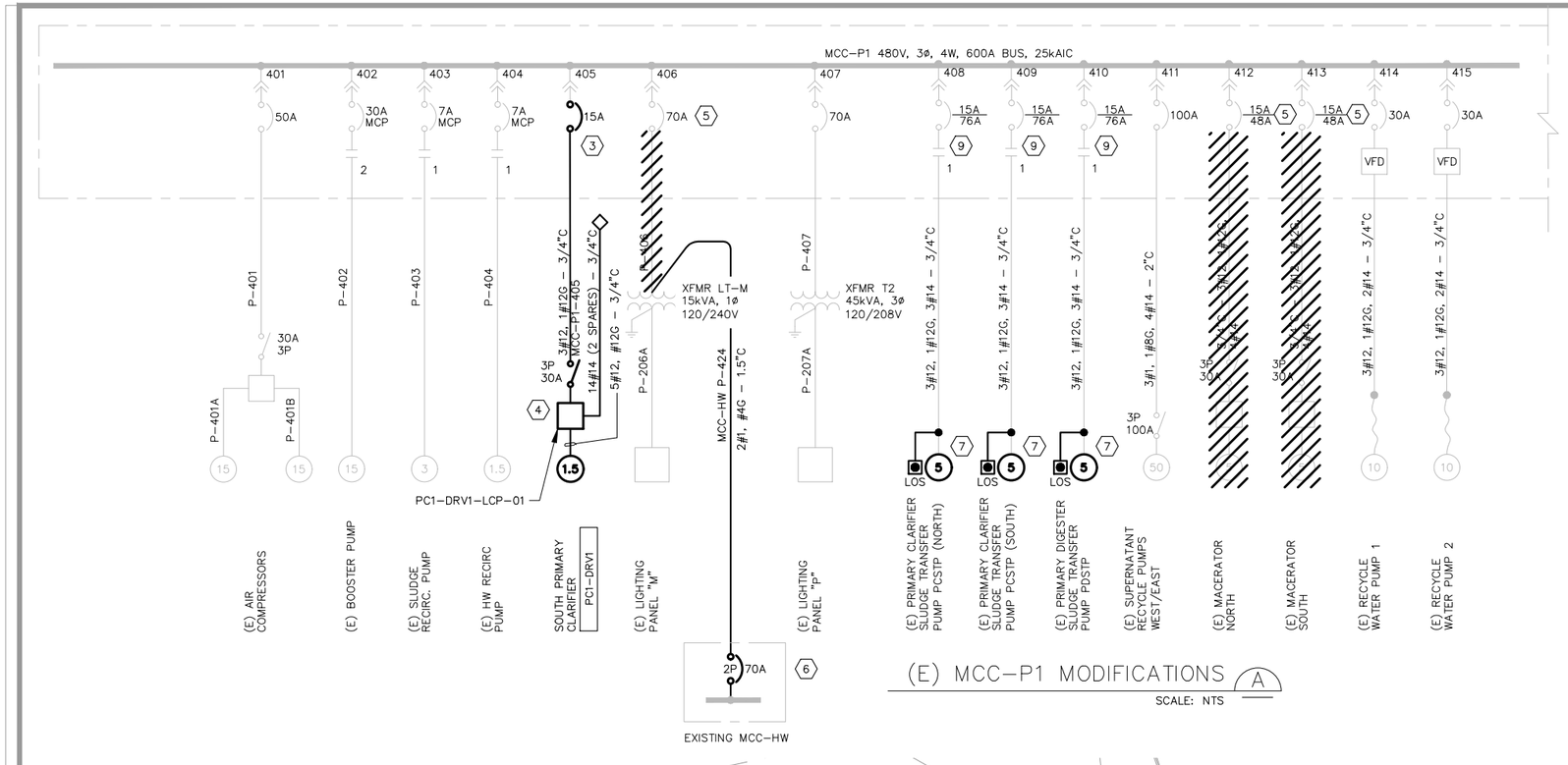
APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

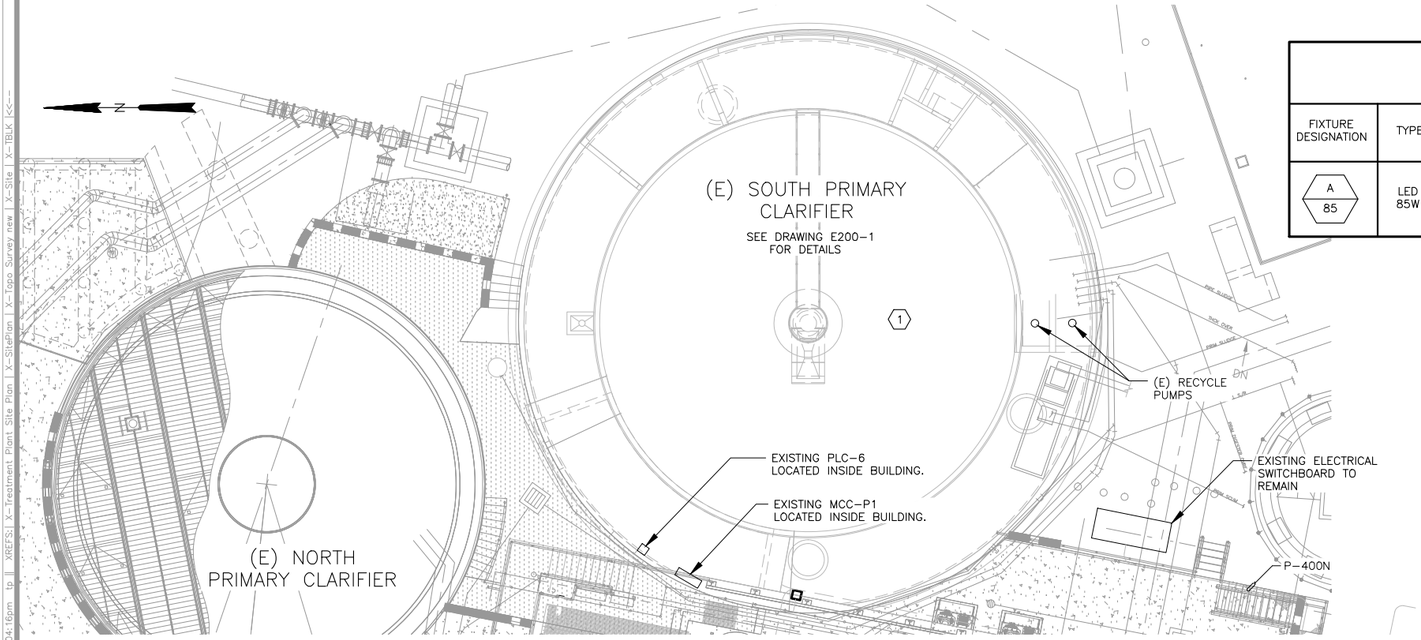
LEGEND AND NOTES

DWG NO	E-1
SHEET NO	30 OF 41
PROJ NO	0011829
DATE	AUG 2023



(E) MCC-P1 MODIFICATIONS (A)

SCALE: NTS



(E) PARTIAL SITE PLAN (B) (8)

SCALE: 1" = 10'

SHEET NOTES:

1. SEE DRAWING E200-1 FOR REQUIRED WORK FOR THE SOUTH PRIMARY CLARIFIER.
2. NOT USED.
3. REMOVE EXISTING STARTER, PILOT LIGHT AND START/STOP PUSH BUTTONS. PROVIDE NEW BLANK PLATE. FURNISH AND INSTALL NEW 15A 3P CIRCUIT BREAKER TO FEED SOUTH PRIMARY CLARIFIER CONTROL PANEL.

   REPLACE EXISTING NAMEPLATE WITH NEW NAMEPLATE:

   "SOUTH PRIMARY CLARIFIER CONTROL PANEL"
4. FOR DETAILED CONTROL REQUIREMENTS, SEE DRAWING E-4.
5. REMOVE EXISTING EQUIPMENT'S NAMEPLATE AND PROVIDE NEW NAMEPLATE "SPARE".
6. REMOVE EXISTING 20A 3P BREAKER AND RETURN IT TO THE DISTRICT. FURNISH AND INSTALL NEW 70A 2P BREAKER AND RECONNECT AS SHOWN.
7. DISCONNECT AND REMOVE EXISTING MOTOR/PUMP PER MECHANICAL DRAWINGS AND RECONNECT TO NEW MOTOR/PUMP. SEE SPECS FOR DETAILED REQUIREMENTS.

   REPLACE EXISTING LOCKOUT PUSH BUTTON WITH NEW NEMA 4X LOCKOUT PUSH BUTTON AND RECONNECT TO EXISTING CONTROL CIRCUIT.

   SCADA PLC SYSTEM INTEGRATOR (CALCON) SHALL MODIFY EXISTING PLC LOGIC OF THESE PUMPS AS PER SPECS REQUIREMENTS.
8. NOT ALL REQUIRED WORK IS SHOWN ON THIS SITE PLAN. THIS PARTIAL PLAN PRIMARILY IS SHOWN AS REFERENCE. REFER TO ALL DRAWINGS FOR REQUIRED ELECTRICAL AND CONTROL WORK.
9. SEE REQUIRED MODIFICATIONS SHOWN ON DRAWING E-7, DETAIL "E".

LIGHT FIXTURE SCHEDULE

FIXTURE DESIGNATION	TYPE	QTY	VOLT	DESCRIPTION	MANUFACTURER	CAT. No.	LAMPS	MOUNTING
A 85	LED 85W	2	120V	POLE MOUNTED, AREA LIGHT FIXTURE, LED TYPE WITH DIE CAST ALUMINUM HOUSING AND 10" ARM ON 10' ROUND TELESCOPING POLE, EXPLOSION PROOF. STAINLESS STEEL HAND RAIL MOUNTING ACCESSORIES.	CROUSE-HINDS	VMV9L/UNV1 120-277 PM5 VS5B-S POLE	LED	POLE MOUNTED ON HAND RAILS

LIGHTING SCHEDULE (C)

SCALE: NTS

FILENAME: 454_E02 8-25-23 04:16pm tp || XREFS: | X-Treatment Plant Site Plan | X-SitePlan | X-Topo Survey new | X-Site | X-TBLK |<<--

Last Saved By: tp 8-25-23 09:05am

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER DILIP TAN NGUYEN No. E-19681 ELECTRICAL STATE OF CALIFORNIA 8/25/23

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED TP
DRAWN LD
CHECKED DN

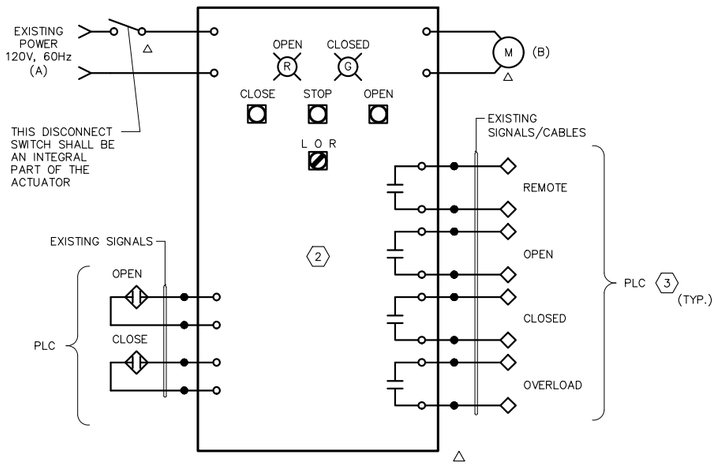
SUBMITTED: PROJECT ENGINEER
APPROVED: ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

PARTIAL SITE PLAN AND ONE-LINE DIAGRAM

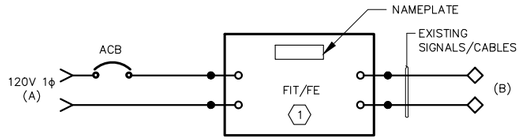
DWG NO E-2
SHEET NO 31 OF 41
PROJ NO 0011829
DATE AUG 2023



EQUIPMENT	(A)	(B)	NOTES
SEE DETAIL F/E-9	(E) 120VAC	(E) ACT.	2
SEE DETAIL E/E-10	(E) 120VAC	(E) ACT.	2

OPEN/CLOSE VALVE CONTROL DIAGRAM A

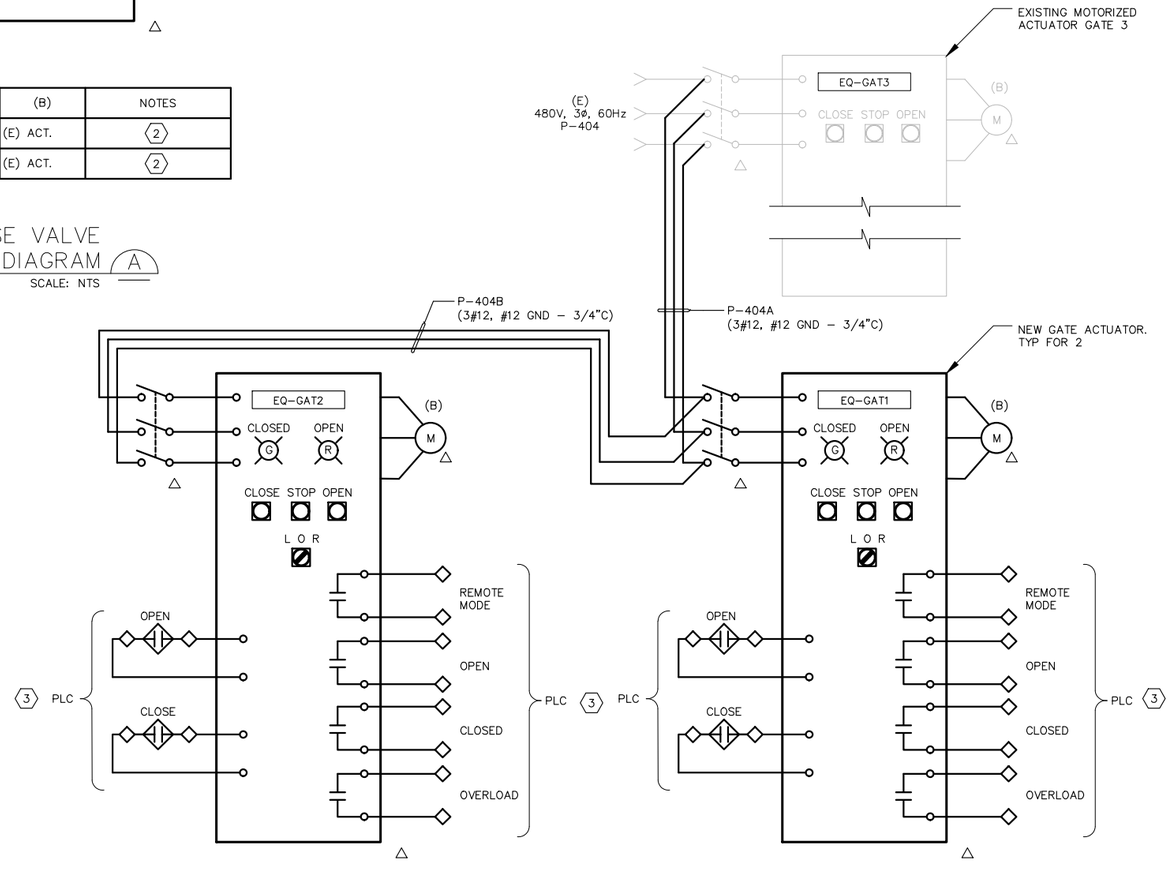
SCALE: NTS



EQUIPMENT	(A)	(B)	NOTES
SEE DETAIL G/E-9	(E) 120VAC	(E) PLC	1
SEE DETAIL E/E-10	(E) 120VAC	(E) PLC	1

MAGMETER SCHEMATIC DIAGRAM B

SCALE: NTS

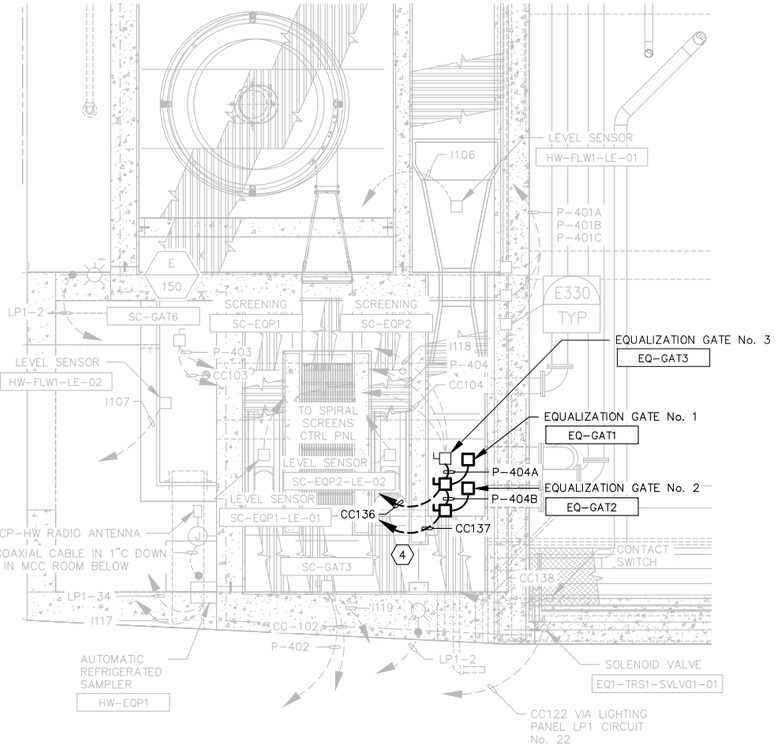


OPEN/CLOSE GATE ACTUATORS C

SCALE: NTS

SHEET NOTES:

1. BESIDES LOCAL FLOW INDICATOR, SCADA DISPLAYS SHALL ALSO INDICATE FLOW FOR EACH FLOWMETER.
2. ACTUATOR SHALL BE ROTOK TO MATCH DISTRICT'S STANDARD NO OTHER BRANDS SHALL BE ACCEPTABLE.
3. IN THIS PROJECT, THE SCADA PLC SYSTEM INTEGRATOR SHALL BE CALCON. SEE SPECS FOR ADDITIONAL DETAILS. ANY AND ALL WORK RELATED SCADA PLC WORK INCLUDING TESTING AND COMMISSIONING SHALL BE COORDINATED WITH CALCON IN ADVANCE. CONTRACTOR SHALL PROVIDE AND LAND ALL CONTROL AND INSTRUMENTATION CABLES UNDER CALCON'S DIRECTIONS.
4. FURNISH AND INSTALL 12#14 IN EACH OF EXISTING CONDUITS CC136 AND CC137 FOR CONTROLS FOR BOTH GATES EQ-GAT1 AND EQ-GAT2. THERE ARE 6#14 CONDUCTORS EXISTING IN EACH CONDUIT WHICH CAN BE REUSED AS NEEDED.



PARTIAL EQ PLAN D

SCALE: NTS

FILENAME: 454_E03 8-25-23 04:16pm tp || XREFS: | X-TBLK | S-HEADWORKS-PLAN | X-SitePlan | X-Treatment Plant site plan | X-Topo Survey new <<--

Last Saved By: tp 8-25-23 09:26am

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — SILEP TAN AGUILAR — No. E 19681 — Exp. 6/30/25 — ELECTRICAL — STATE OF CALIFORNIA — 8/25/23

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	TP
DRAWN	LD
CHECKED	DN

SUBMITTED: PROJECT ENGINEER

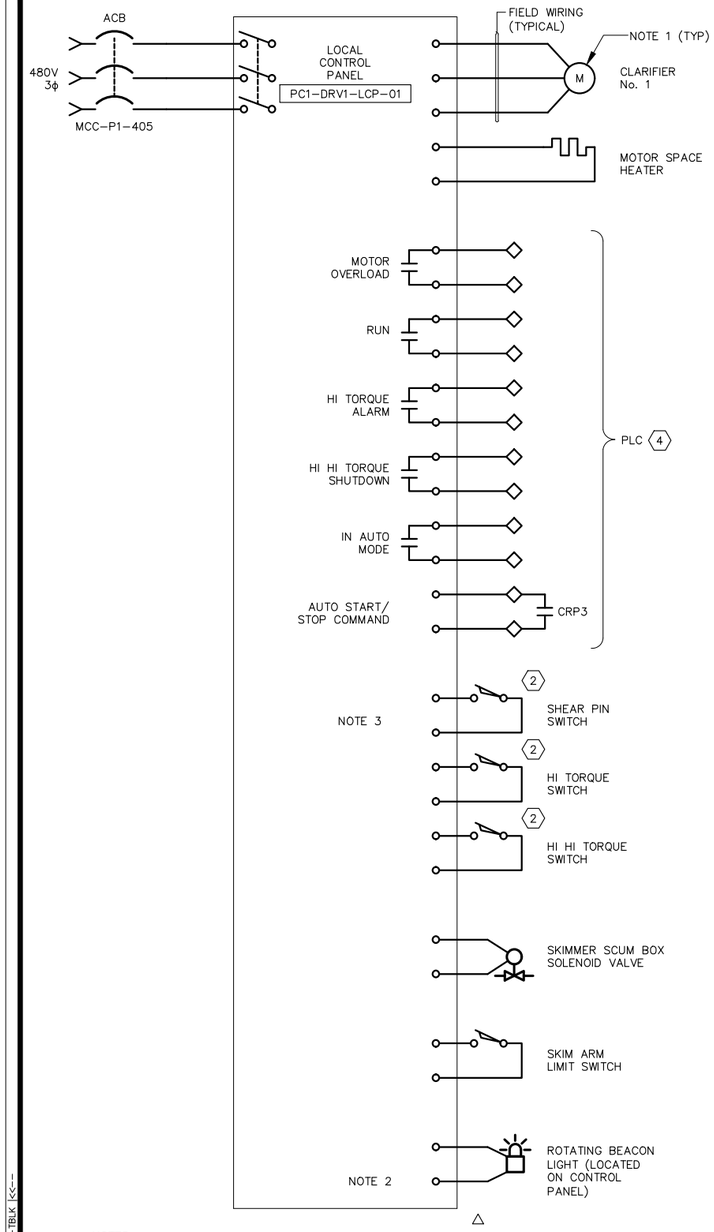
APPROVED: ENGINEER

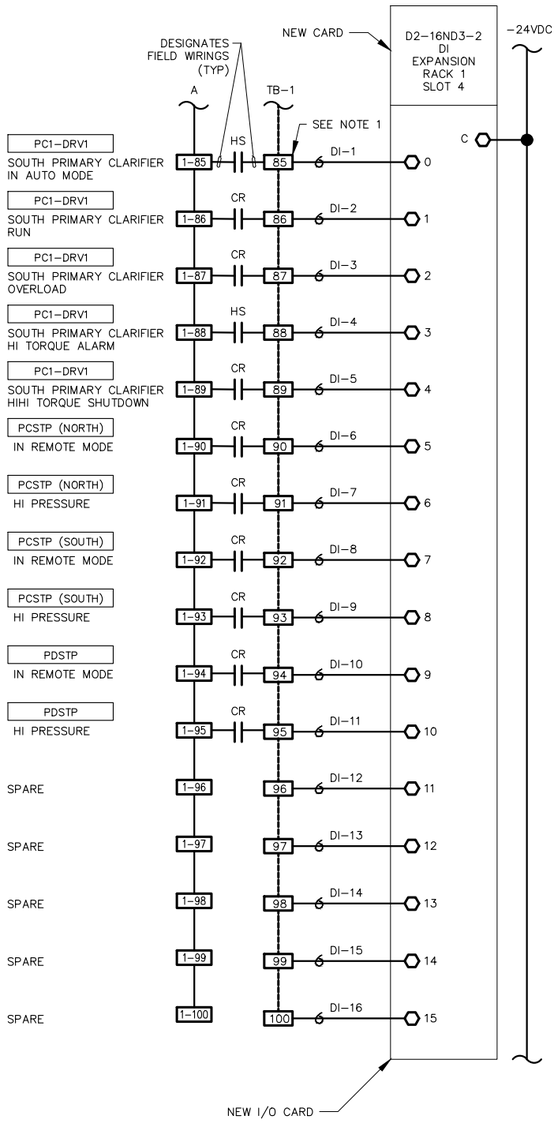
SAUSALITO · MARIN CITY SANITARY DISTRICT

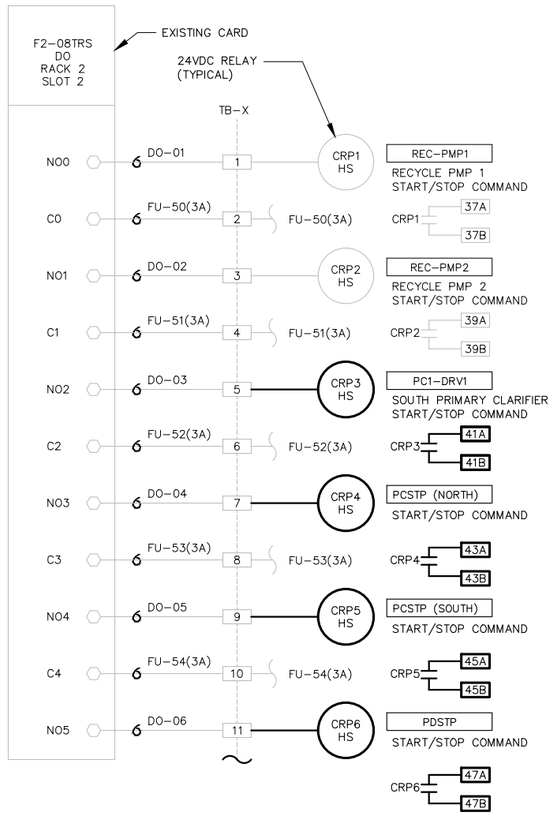
SOUTH PRIMARY CLARIFIER REHABILITATION

CONTROL SCHEMATIC MAGMETER AND MOV'S

DWG NO	E-3
SHEET NO	32 OF 41
PROJ NO	0011829
DATE	AUG 2023

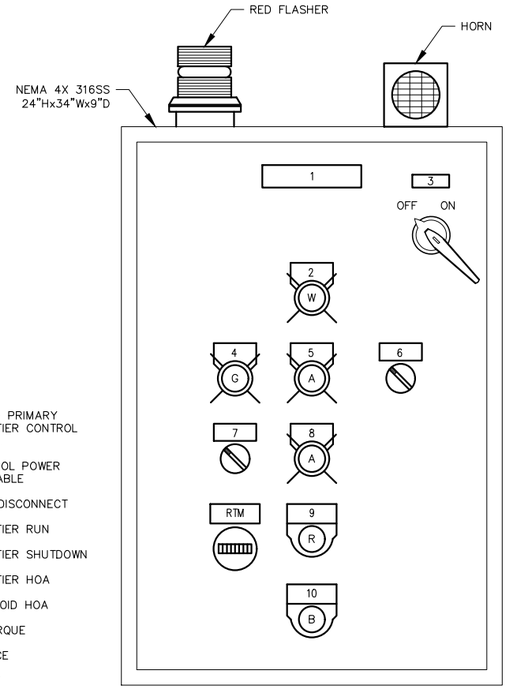






SHEET NOTES:

1. SEE DRAWING E200-1 FOR LOCATION.
2. THESE SWITCHES SHALL BE EXPLOSION-PROOF TYPE OR INTRINSICALLY SAFE RELAYS ARE REQUIRED.
3. SEE DETAIL B/E-6 AND DETAIL B/E-2 FOR LOCATION OF THIS I/O EXPANSION PANEL.
4. SEE NOTE 3 ON DRAWING E-3 FOR GENERAL REQUIREMENTS REGARDING SCADA PLC WORK.



LEGEND:

1. SOUTH PRIMARY CLARIFIER CONTROL PANEL
2. CONTROL POWER AVAILABLE
3. MAIN DISCONNECT
4. CLARIFIER RUN
5. CLARIFIER SHUTDOWN
6. CLARIFIER HOA
7. SOLENOID HOA
8. HI TORQUE
9. SILENCE
10. RESET

NOTES:

1. ALL DEVICES SHOWN ARE LOCATED IN THE FIELD NEAR OR AT THE CLARIFIER
2. SEE SPECIFICATIONS (SECTION 16860) FOR DETAILED REQUIREMENTS.
3. BROWN OUT FUNCTION SHALL BE AUTO RESET I.E. NO MANUAL RESET FOR IT. THIS AUTO RESET FUNCTION SHALL BE REFLECTED IN SHOP DRAWING SUBMITTAL.

SOUTH PRIMARY CLARIFIER CONTROL BLOCK DIAGRAM (A) (1)
SCALE: NTS

NOTES:

1. FIELD VERIFY TERMINAL NUMBERS AND ASSIGN THEM PROPERLY IN THE SHOP DRAWING SUBMITTAL.
2. ADD NEW RELAY AS SHOWN.

PLC-6 I/O EXPANSION WIRING DIAGRAMS (B) (3)(4)
SCALE: NTS

SOUTH PRIMARY CLARIFIER CONTROL PANEL (C) (1)
SCALE: NTS

FILENAME: 454_E04 8-25-23 04:17pm tp || XREFS: | X-TBLK |<<--

Last Saved By: tp 8-25-23 03:59pm

VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — GILP TAN AGUILAR — No. E 19681 — Exp. 6/30/25 — ELECTRICAL — STATE OF CALIFORNIA — 8/25/23

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	TP
DRAWN	LD
CHECKED	DN

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

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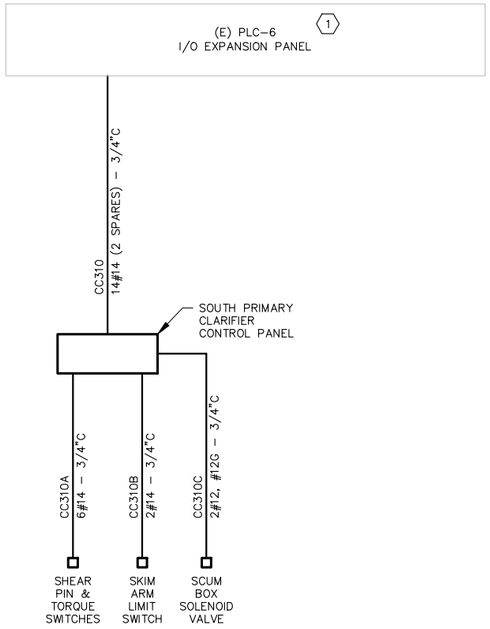
SOUTH PRIMARY CLARIFIER REHABILITATION

CONTROL SCHEMATIC FOR CLARIFIER AND SCADA WIRING

DWG NO	E-4
SHEET NO	33 OF 41
PROJ NO	0011829
DATE	AUG 2023

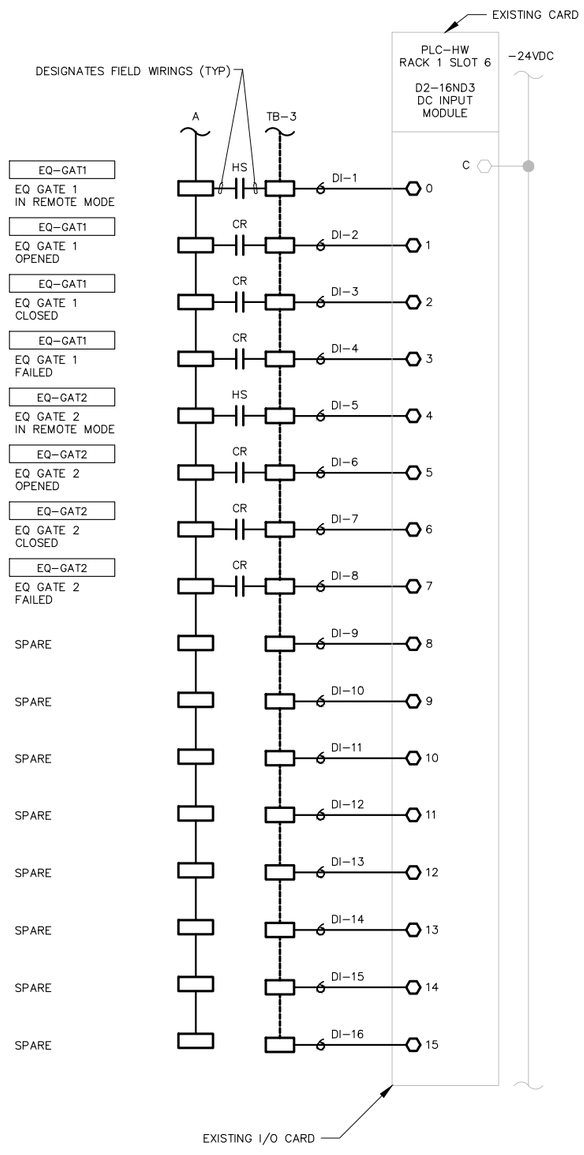
SHEET NOTES:

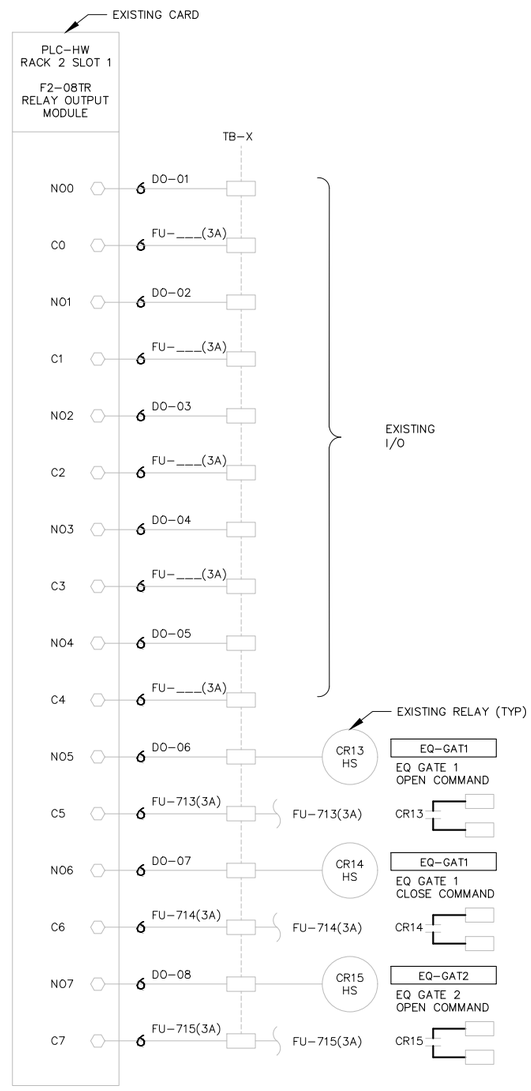
(1) FURNISH AND INSTALL NEW I/O CARD AND CONTROL RELAY AS PER WIRING DIAGRAMS SHOWN ON DRAWING E-4. FOR PANEL'S LOCATION, SEE DETAILS B/E-2 AND B/E-6.

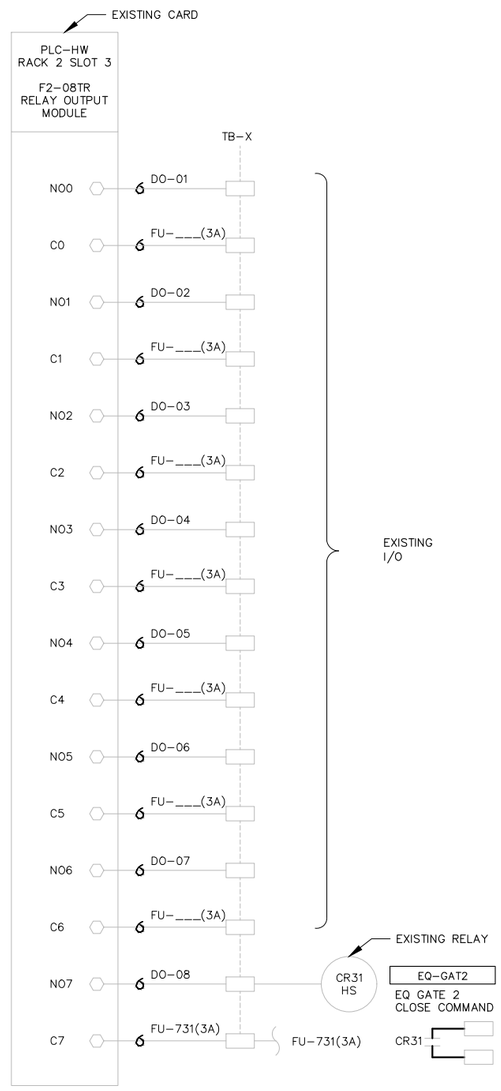


CONTROL ONE-LINE DIAGRAM (A)

SCALE: NTS







PLC-HW I/O MODIFICATIONS
WIRING DIAGRAMS (B)

SCALE: NTS

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED TP
DRAWN LD
CHECKED DN

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SOUTH PRIMARY CLARIFIER REHABILITATION

CONTROL ONE-LINE AND
PHONE RE-ROUTE DIAGRAM

DWG NO E-5
SHEET NO 34 OF 41
PROJ NO 0011829
DATE AUG 2023

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

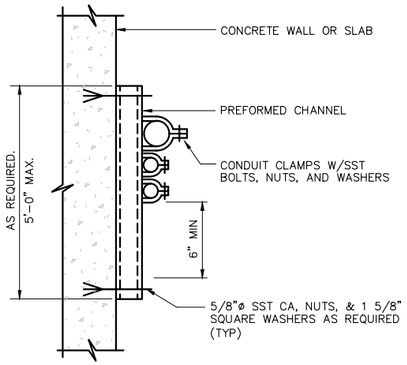
REGISTERED PROFESSIONAL ENGINEER — DILIP TAN BUTANI — No. E 19681 — Exp. 6/30/25 — ELECTRICAL — STATE OF CALIFORNIA — 25/23

Woodard & Curran

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FILENAME: 454_E05 8-25-23 04:17pm tp || XREFS: X-TBLK |<<--

Last Saved By: tp 8-25-23 03:44pm

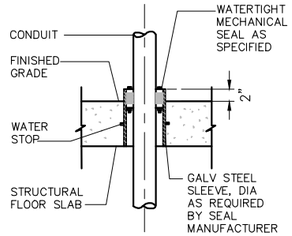


ELEVATION

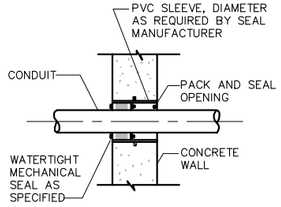
NOTES:

1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. PREFORMED CHANNEL, FITTINGS, AND CLAMPS SHALL BE HOT-DIP GALVANIZED STEEL FOR NEMA 12 AREAS AND STAINLESS STEEL FOR NEMA 4X AREAS. FIELD COAT ALL CUTS PER SPECIFICATIONS.
3. CHANNELS TO BE SPACED AT 5'-0" OC MAXIMUM.

E340 TYP — CONDUIT SUPPORT
SCALE: NTS

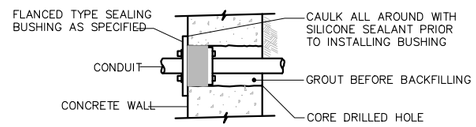


A — CONDUIT PENETRATION
SCALE: NTS



WATERTIGHT CONDUIT

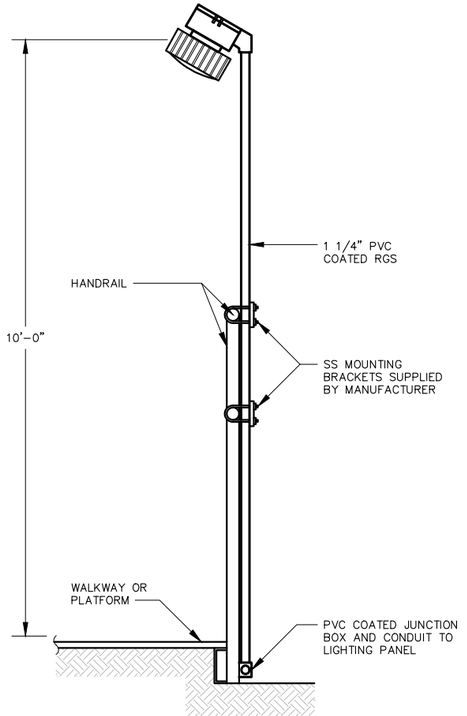
B — PENETRATION
SCALE: NTS



CONDUIT PENETRATION

C — THROUGH EXISTING CONCRETE WALL
SCALE: NTS

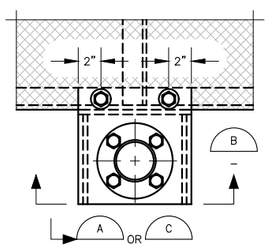
E418 TYP — DETAILED CONDUIT PENETRATION
SCALE: SCALE

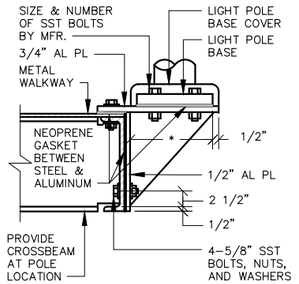


E503 TYP — WALKWAY LIGHTING FIXTURE MTD. DETAIL
SCALE: NTS

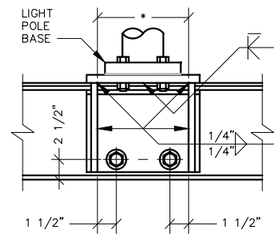
SHEET NOTES:

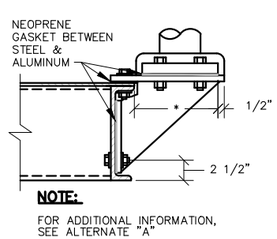
1. SEE DETAIL D/E-10 FOR REQUIRED MODIFICATIONS.
2. SEE SINGLE-LINE DIAGRAM ON DRAWING E-2 FOR REQUIRED WORK REGARDING INCOMING FEEDER MODIFICATIONS.





A — SECTION—ALTERNATE "A"
SCALE: NTS





NOTE:
FOR ADDITIONAL INFORMATION, SEE ALTERNATE "A"

B — ELEVATION
SCALE: NTS

C — SECTION—ALTERNATE "B"
SCALE: NTS

NOTE:
1. * = LARGEST OF OD OF LIGHT POLE BASE + 2", OD OF LIGHT POLE BASE COVER + 1", AND 12".

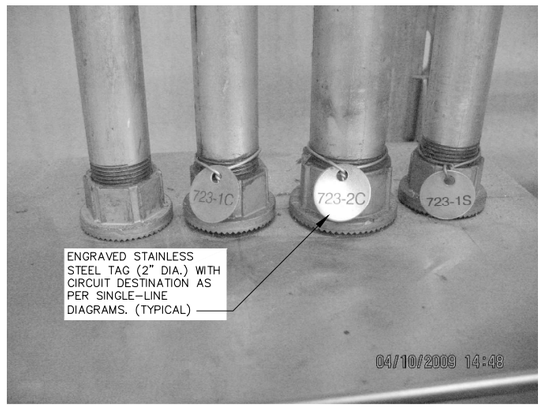
E506 TYP — LIGHT POLE BRACKET ON METAL WALKWAY
SCALE: NTS



(E) MCC-P1 MODIFICATIONS — A
SCALE: NTS



(E) PLC-6 EXPANSION PANEL MODIFICATIONS — B
SCALE: NTS



NOTE:
TAGS SHALL BE PROVIDED AT EACH CONDUIT TERMINATION.

E805 TYP — CONDUIT TAGGING
SCALE: NTS

FILENAME: 454_E06 8-25-23 04:17pm tp || XREFS|| X-TBLK |<<--

Last Saved By: tp 8-24-23 08:48am

0" — 1" VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — STEVEN IAN NOVICK — No. E-18681 — Exp. 6/30/25 — ELECTRICAL — STATE OF CALIFORNIA — 8/25/23

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION
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DESIGNED TP
DRAWN LD
CHECKED DN

SUBMITTED: _____ PROJECT ENGINEER
APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

CONSTRUCTION DETAILS - SHEET 1

DWG NO E-6
SHEET NO 35 OF 41
PROJ NO 0011829
DATE AUG 2023



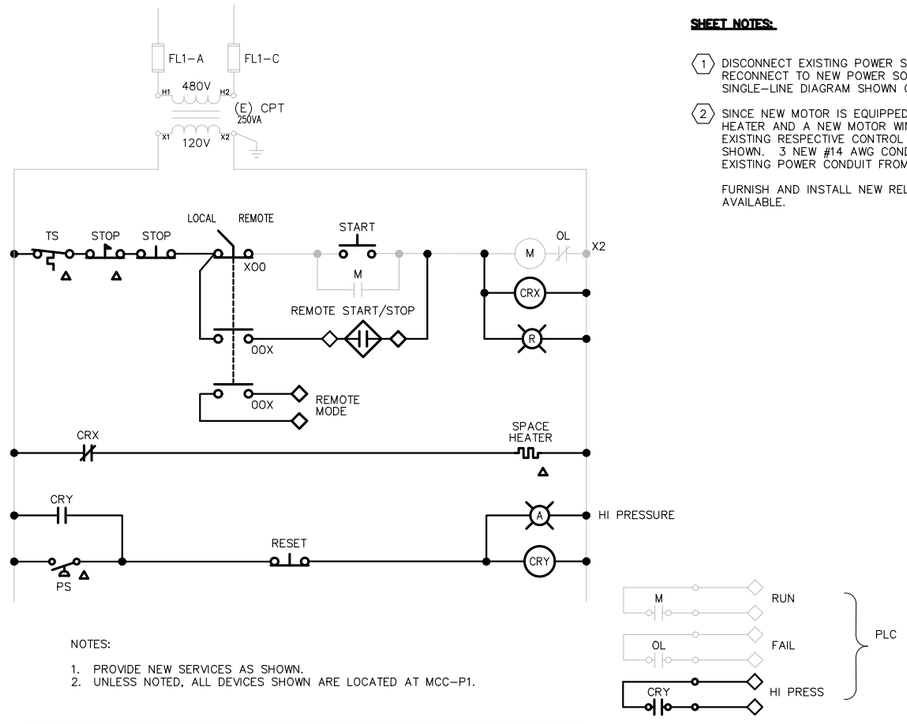
(E) TRANSFORMER LT-M (A)

SCALE: NTS



(E) CONDUIT PENETRATION DETAILS (B)

SCALE: NTS



NOTES:

1. PROVIDE NEW SERVICES AS SHOWN.
2. UNLESS NOTED, ALL DEVICES SHOWN ARE LOCATED AT MCC-P1.

EQUIPMENT	(A)	NOTES
PUMP PCSTP (NORTH)	MCC-P1-408	MOTOR TEMPERATURE SWITCH AND SPACE HEATER ARE FURNISHED WITH THE MOTOR
PUMP PCSTP (SOUTH)	MCC-P1-409	
PUMP PDSTP	MCC-P1-410	

SHEET NOTES:

1. DISCONNECT EXISTING POWER SUPPLY FROM MCC-P1 AND RECONNECT TO NEW POWER SOURCE FROM MCC-HW. SEE SINGLE-LINE DIAGRAM SHOWN ON DRAWING E-2.
2. SINCE NEW MOTOR IS EQUIPPED WITH A NEW MOTOR SPACE HEATER AND A NEW MOTOR WINDING TEMPERATURE SWITCH EXISTING RESPECTIVE CONTROL CIRCUIT SHALL BE MODIFIED AS SHOWN. 3 NEW #14 AWG CONDUCTORS SHALL BE PULLED IN EXISTING POWER CONDUIT FROM EACH MOTOR TO MCC-P1.

   FURNISH AND INSTALL NEW RELAY IF NC "M" CONTACT IS NOT AVAILABLE.

PUMP CONTROL DIAGRAM MODIFICATIONS (E)

SCALE: NTS

NOT USED (C)

SCALE: NTS

NOT USED (D)

SCALE: NTS

FILENAME: 454_E07 8-25-23 04:17pm tp || XREFS: X-TBLK <<--

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — DIEP TAN NGUYEN — No. E-19681 — ELECTRICAL — STATE OF CALIFORNIA — 8/25/23

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	TP
DRAWN	LD
CHECKED	DN

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

CONSTRUCTION DETAILS - SHEET 2

DWG NO	E-7
SHEET NO	36 OF 41
PROJ NO	0011829
DATE	AUG 2023

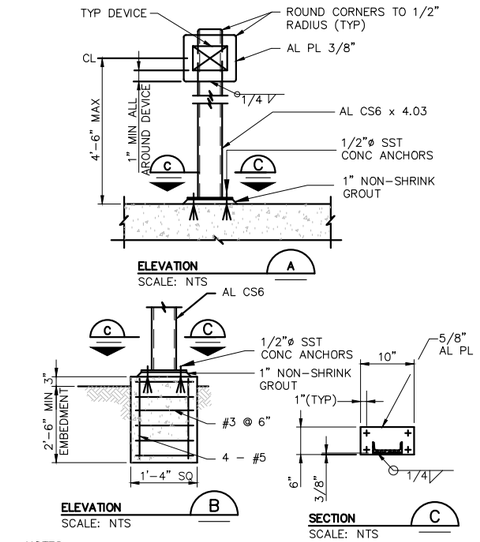
Last Saved By: tp 8-25-23 03:59pm

NOT USED (A)
SCALE: NTS

NOT USED (B)
SCALE: NTS



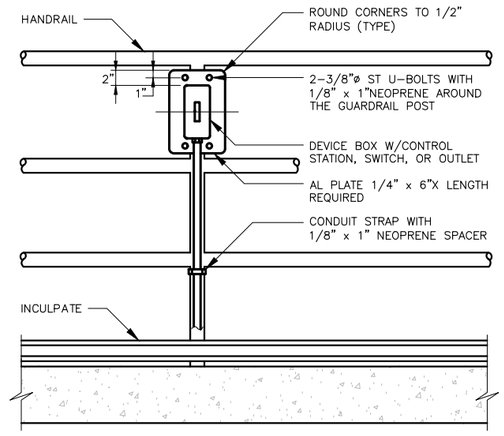
LIGHT FIXTURE MOUNTING DETAIL (C)
SCALE: NTS



NOTES:

1. WHERE SEPARATE FOUNDATION IS REQUIRED, SEE (B).
2. COAT ALUMINUM SURFACES IN CONTACT W/CONCRETE PER SPECS.
3. USE SST FASTENERS FOR MOUNTING DEVICES.
4. WEIGHT OF DEVICE(S) SHALL NOT EXCEED 100 POUNDS.

E330 TYPE — DEVICE SUPPORT AND MOUNTING
SCALE: NTS



E350 TYPE — GUARDRAIL MOUNTED CONTROL SWITCH OR OUTLET, STATION
SCALE: NTS

FILENAME: 454_E08 8-25-23 04:17pm tp | XREFS: | X-TBLK |<<--

Last Saved By: tp 8-24-23 08:50am

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — STEPHEN IAN NOVICK — No. E-19681 — ELECTRICAL — STATE OF CALIFORNIA — 8/25/23

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION
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DESIGNED DTP
DRAWN LD
CHECKED DNA

SUBMITTED: _____ PROJECT ENGINEER
APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

CONSTRUCTION DETAILS - SHEET 3

DWG NO E-8
SHEET NO 37 OF 41
PROJ NO 0011829
DATE AUG 2023

SHEET NOTES:

1. NOT USED.
2. NOT USED.
3. NOT USED.
4. NOT USED.
5. NOT USED.
6. NOT USED.
7. THIS PUMP SHALL BE REPLACED WITH NEW IN-KIND PUMP AND MOTOR. PROVIDE ADDITIONAL JUNCTION BOX(ES) AND EXTEND EXISTING POWER AND CONTROL CABLES TO NEW PUMP/MOTOR AND RECONNECT COMPLETELY.
8. REPLACE EXISTING ACTUATOR WITH NEW ACTUATOR AND RECONNECT.
9. EXISTING 4" MAGMETER SHALL BE DISCONNECTED, REMOVED, AND REPLACED WITH NEW UNIT.

NOT USED A
SCALE: NTS

NOT USED B
SCALE: NTS

NOT USED C
SCALE: NTS

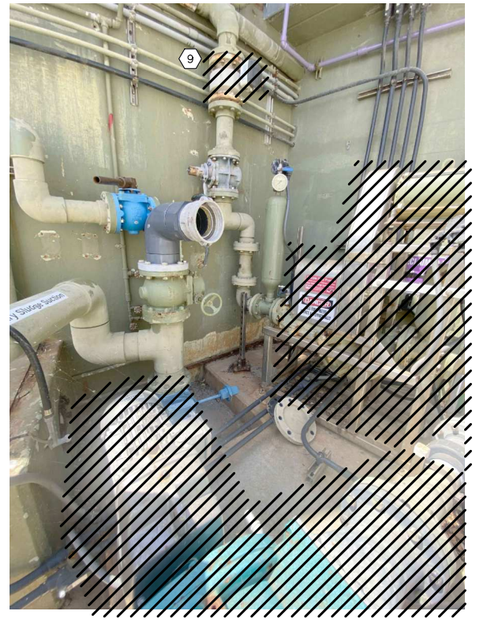
NOT USED D
SCALE: NTS



(E) PRIMARY CLARIFIER SLUDGE TRANSFER PUMP (NORTH) REPLACEMENT E
SCALE: NTS



MACERATOR (NORTH) DEMOLITION AND ACTUATOR REPLACEMENT F
SCALE: NTS



MAGMETER (NORTH) REPLACEMENT G
SCALE: NTS

0" 1"
VERIFY SCALES
BAR IS ONE INCH LONG ON FULL SIZE DRAWING.
IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
DEP TAN NGUYEN
No. E 19681
Exp. 6/30/25
ELECTRICAL
STATE OF CALIFORNIA
8/25/23

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION
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2				
3				
4				
5				

DESIGNED	TP
DRAWN	LD
CHECKED	DN

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

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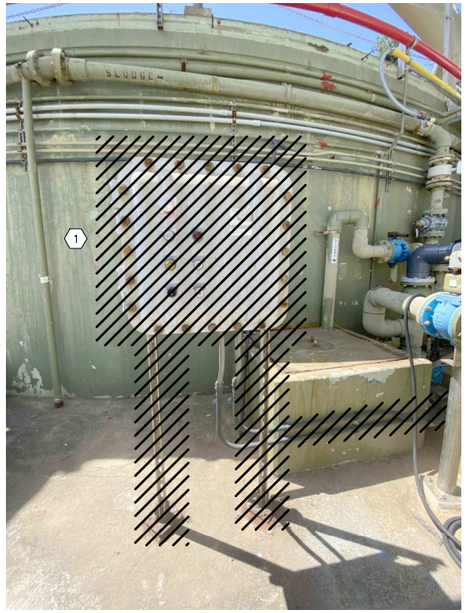
SOUTH PRIMARY CLARIFIER REHABILITATION

CONSTRUCTION AND DEMOLITION DETAILS - SHEET 1

DWG NO	E-9
SHEET NO	38 OF 41
PROJ NO	0011829
DATE	AUG 2023

FILENAME: 454_E09 8-25-23 04:17pm tp || XREFS|| X-TBLK |<<--

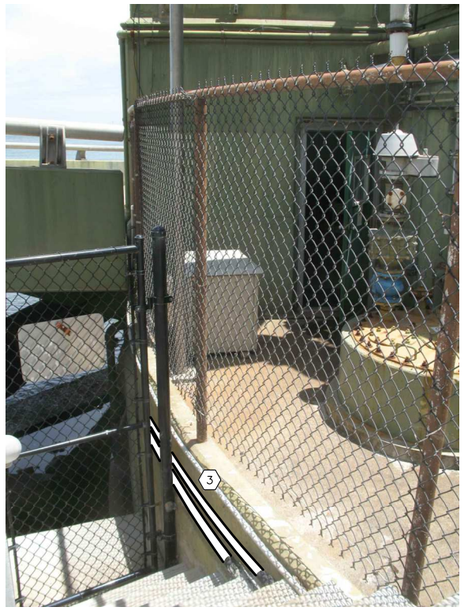
Last Saved By: tp 8-24-23 09:03am



(E) MACERATOR DEMOLITION (A) (1)
SCALE: NTS



(E) MCC–HW MODIFICATIONS (B)
SCALE: NTS



CONDUIT MODIFICATIONS (C)
SCALE: NTS

SHEET NOTES:

1. DISCONNECT AND REMOVE MOTOR CONTROLLER AND CONDUITS ASSOCIATED WITH EXISTING MACERATOR.
2. SEE NOTE 3 ON DRAWING E–2 FOR REQUIRED WORK IN THIS CUBICLE. FURNISH NEW NAMEPLATE: "LIGHTING TRANSFORMER LT–M".
3. AT THIS EXISTING LOCATION, THERE ARE TWO CONDUITS STUBBED OUT:
   a. EXTEND 2" SIGNAL CONDUIT GOING AROUND THE DIGESTER AND TERMINATE IT IN STAFF'S OFFICE FOR FUTURE USE.
   b. EXTEND 1 1/2" POWER CONDUIT GOING AROUND THE DIGESTER AND TERMINATE IT IN EXISTING LIGHTING TRANSFORMER LT–M. THIS POWER CONDUIT AND CABLES ARE FROM EXISTING MCC–HW. SEE SINGLE–LINE DIAGRAM SHOWN ON E–2.
4. SEE NOTE 3 ON DRAWING E–2.
5. EXISTING MACERATOR AND MOTOR STARTER TO BE DISCONNECTED AND REMOVED PERMANENTLY.
6. PRIMARY CLARIFIER SLUDGE TRANSFER PUMP (PCSTP–SOUTH) AND CONTROL LOCK–OUT PUSH BUTTON SHALL BE DISCONNECTED, REMOVED AND REPLACED WITH NEW UNITS.
7. PRIMARY DIGESTER SLUDGE TRANSFER PUMP (PDSTP) AND CONTROL LOCK–OUT PUSH BUTTON SHALL BE DISCONNECTED, REMOVED AND REPLACED WITH NEW UNITS.
8. EXISTING 4" MAGMETER SHALL BE DISCONNECTED, REMOVED AND REPLACED WITH NEW UNIT.
9. REPLACE EXISTING ACTUATOR WITH NEW ACTUATOR AND RECONNECT.



PARTIAL MCC–P1 MODIFICATIONS (D)
SCALE: NTS



SOUTH PRIMARY CLARIFIER PUMP STATION* (E)
SCALE: NTS

* SEE MECHANICAL DRAWINGS FOR MECHANICAL DEMOLITIONS AND REPLACEMENTS OF MOTORS/PUMPS.

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — DEEP TAN NGUYEN — No. E-19681 — ELECTRICAL — STATE OF CALIFORNIA — 8/25/23

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION
1				
2				
3				
4				
5				

DESIGNED TP
DRAWN LD
CHECKED DN

SUBMITTED: _____ PROJECT ENGINEER
APPROVED: _____ ENGINEER

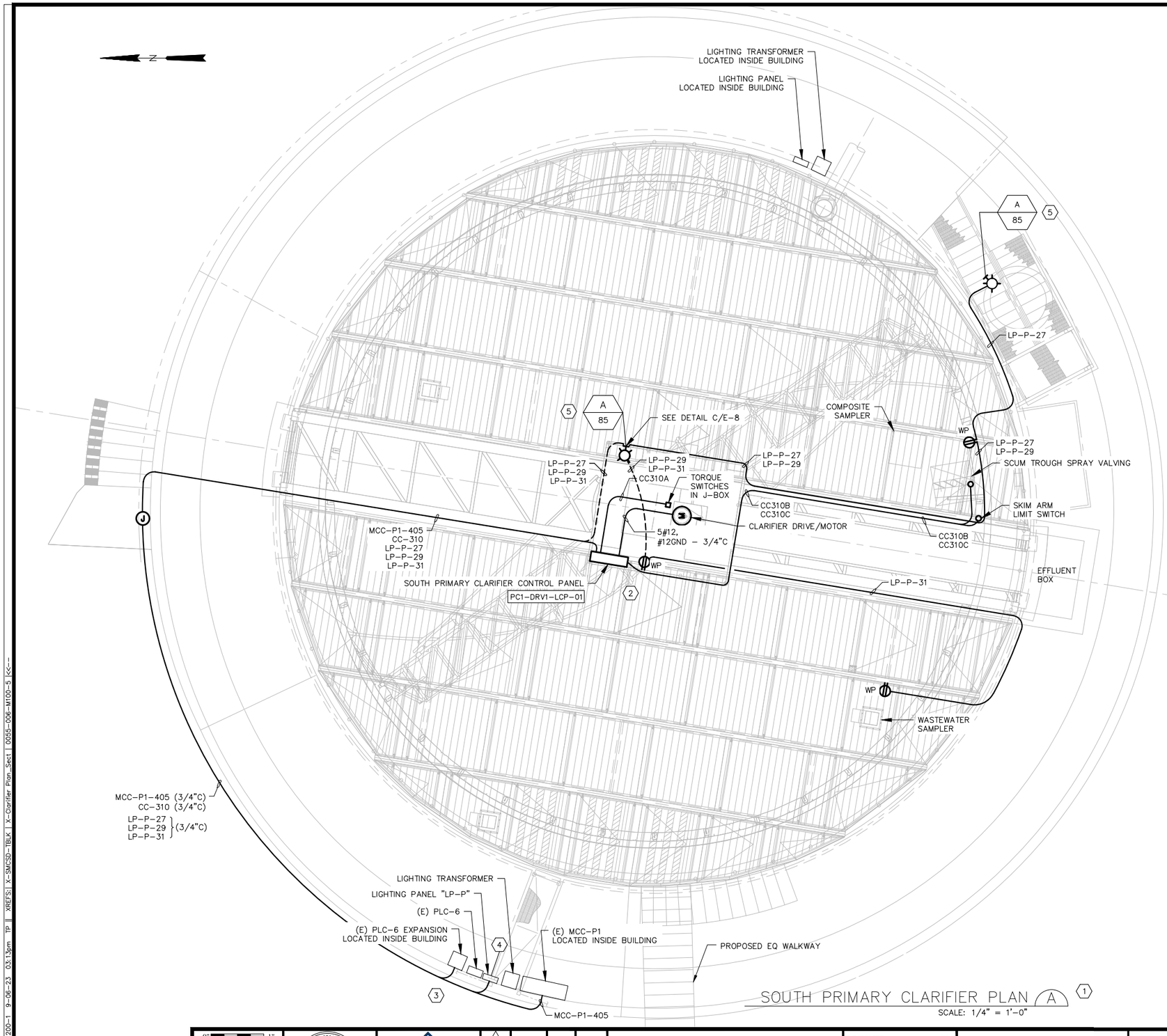
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SOUTH PRIMARY CLARIFIER REHABILITATION

CONSTRUCTION AND DEMOLITION DETAILS - SHEET 2

DWG NO E-10
SHEET NO 39 OF 41
PROJ NO 0011829
DATE AUG 2023

FILENAME: 454_E10 8-25-23 04:17pm tp || XREFS: X-TBLK <<--
Last Saved By: tp 8-24-23 09:06am



SOUTH PRIMARY CLARIFIER PLAN (A) (1)

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

SHEET NOTES:

1. ALL CONDUITS SHALL BE MOUNTED EXPOSED ALONG METAL MEMBERS OF THE CLARIFIER AND SHALL BE ROUTED TO AVOID CREATING TRIPPING HAZARDS. PROVIDE AS MANY JUNCTION BOXES AS REQUIRED.
2. RECEPTACLE SHALL BE MOUNTED AT 40" ABOVE THE CLARIFIER COVER.

   BOTTOM OF CONTROL PANEL SHALL BE 38" ABOVE THE CLARIFIER COVER.
3. CORE DRILL WALL AS REQUIRED AND PROVIDE LB CONDUIT TO ENTER THE INTERIOR OF THE BUILDING TO REACH THE CONTROL PANEL/MCC/PANELBOARD.
4. IN THIS EXISTING PANEL "LP-P", FURNISH AND INSTALL THREE NEW 20A 1P BREAKERS IN EXISTING SPACES 27, 29 AND 31 TO FEED NEW LIGHTING AND OUTLETS. UPDATE CIRCUIT DIRECTORY ACCORDINGLY. NEW BREAKERS SHALL BE GE TO MATCH EXISTING.
5. EACH FIXTURE SHALL BE PROVIDED WITH A LOCAL, NEMA 4X, TOGGLE SWITCH LOCATED NEAR THE RESPECTIVE LIGHT POLE.

0" 1"
VERIFY SCALES
BAR IS ONE INCH
LONG ON FULL
SIZE DRAWING.
IF NOT ONE INCH
LONG ON THIS
DRAWING, ADJUST
SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER — DEP TAN AGUPAN — No. E 19681 — Exp. 6/30/25 — ELECTRICAL — STATE OF CALIFORNIA — 25/23

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION

DESIGNED	TP
DRAWN	LD
CHECKED	DN

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

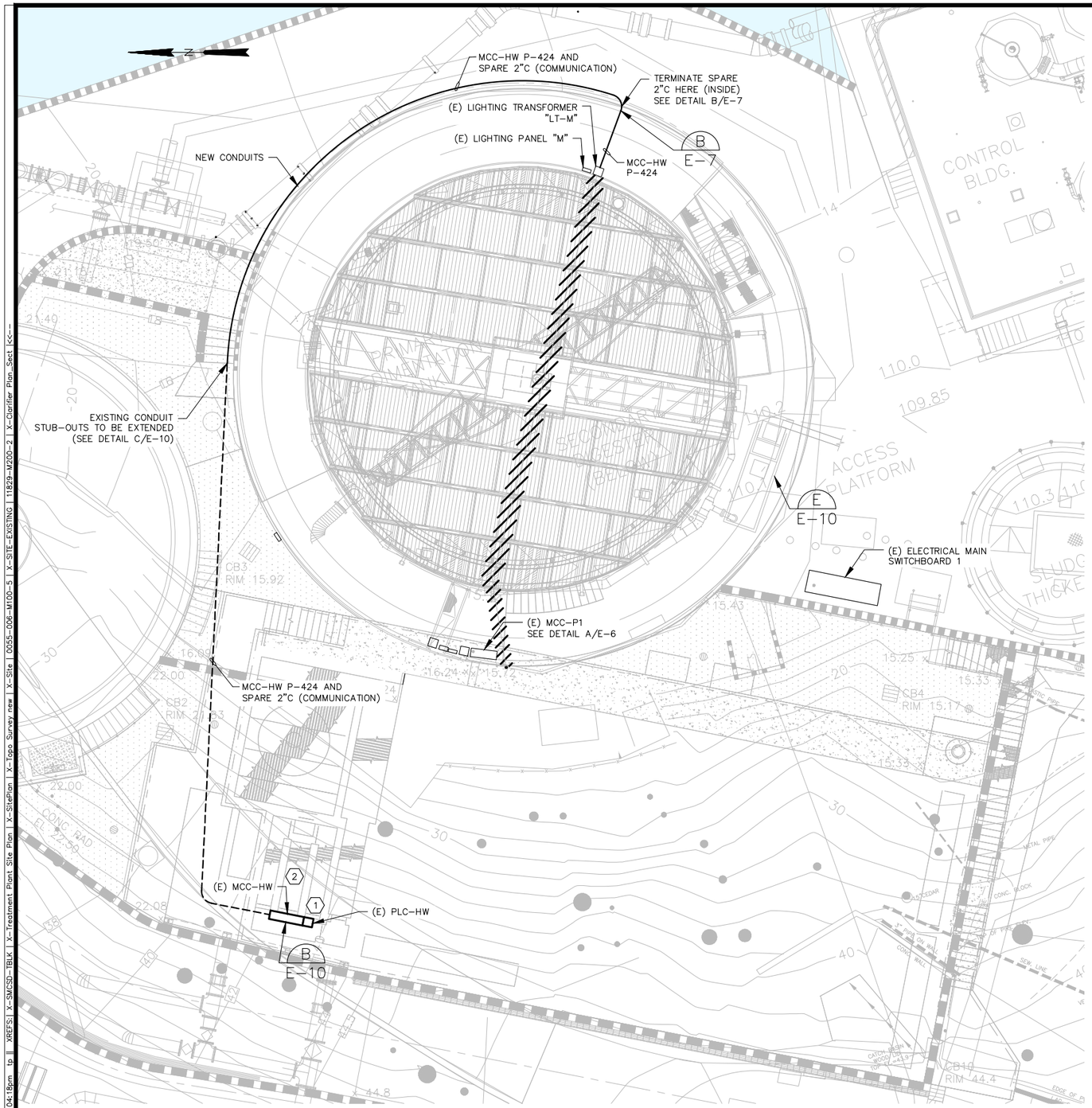
SOUTH PRIMARY CLARIFIER REHABILITATION

SOUTH PRIMARY CLARIFIER BOTTOM PLAN

DWG NO	E200-1
SHEET NO	40 OF 41
PROJ NO	0011829
DATE	AUG 2023

FILENAME: 454_E200-1 9-06-23 03:13pm TP | XREFS: | X-SMCSD-TBLK | X-Clarifier Plan_Sect | 0055-006-M100-5 |<<--

Last Saved By: TP 9-06-23 03:12pm



SOUTH PRIMARY CLARIFIER PLAN (A)

SCALE: 1" = 8'

SHEET NOTES:

1. SEE DRAWING E–5 (DETAIL B) FOR REQUIRED WORK. EXISTING MCC–HW AND PLC–HW ARE LOCATED IN ELECTRICAL ROOM ON FLOOR BELOW.
2. SEE ENLARGED PLAN, DETAIL D/E–3 FOR LOCATIONS OF EXISTING EQUALIZATION GATES 1 AND 2 TO BE MOTORIZED.

FILENAME: 454-E200-2 8-25-23 04:18pm tp || XREFS: | X-SMCSD-TBLK | X-Treatment Plant Site Plan | X-SitePlan | X-Topo Survey new | X-Site | 0055-006-M100-5 | X-SITE-EXISTING | 11829-M200-2 | X-Clarifier Plan_Sect |<<--

Last Saved By: tp 8-24-23 02:22pm

0" 1" — VERIFY SCALES — BAR IS ONE INCH LONG ON FULL SIZE DRAWING. IF NOT ONE INCH LONG ON THIS DRAWING, ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER DILIP TAN AGUSTIN ELECTRICAL No. E-19611 EXP. 6/30/25 STATE OF CALIFORNIA 8/25/23

Woodard & Curran

REV	DATE	BY	APVD	DESCRIPTION
1				
2				
3				
4				
5				

DESIGNED	TP
DRAWN	LD
CHECKED	DN

SUBMITTED: _____ PROJECT ENGINEER

APPROVED: _____ ENGINEER

SAUSALITO · MARIN CITY SANITARY DISTRICT

SOUTH PRIMARY CLARIFIER REHABILITATION

PARTIAL SITE PLAN

DWG NO	E200-2
SHEET NO	41 OF 41
PROJ NO	0011829
DATE	AUG 2023