HUMBOLDT BAY MUNICIPAL WATER DISTRICT

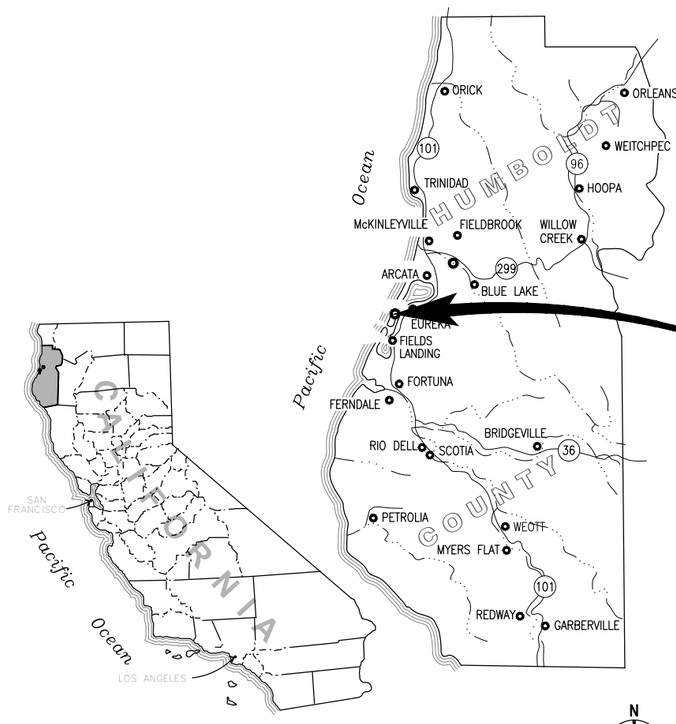
SAMOA RESERVOIR SEISMIC RETROFIT PROJECT

MAY 2024

PREPARED BY:

GHD

AREA MAP



NOT TO SCALE

LOCATION MAP

NOT TO SCALE

APPROVALS

HUMBOLDT BAY MUNICIPAL WATER DISTRICT:

JOHN FRIEDENBACH, GENERAL MANAGER

SIGNED 5-1-24 DATE

BOARD OF DIRECTORS:

NEAL LATT	PRESIDENT
MICHELLE FULLER	VICE PRESIDENT
J. BRUCE RUPP	SECRETARY-TREASURER
DAVID LINDBERG	ASSISTANT SECRETARY-TREASURER
SHERI WOO	DIRECTOR

ENGINEER: GHD INC.

NATHAN STEVENS, PE

SIGNED 5/1/2024 DATE

SHEET INDEX

No.	Issue	Checked	Approved	Date
0	ISSUE FOR BID	NS	NS	2024-05-01

Author S. MCHANEY	Drafting Check S. MCHANEY	Project Manager N. STEVENS	
Designer M. DUIN	Design Check S. MCHANEY	Project Director K. TOBIN	

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Client HUMBOLDT BAY MUNICIPAL WATER DISTRICT

Project SAMOA RESERVOIR SEISMIC RETROFIT

Title COVER SHEET AND SHEET INDEX

Size ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
12627733	2024-05-01	AS SHOWN	G-001	1 of 17

Plot Date: 30 April 2024 - 9:17 PM Plotted By: Michelle Davidson Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\56\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-GN-0001.dwg

GENERAL SITE NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING SITE CONDITIONS PRIOR TO THE COMMENCEMENT OF WORK AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE. CONTRACTOR IS RESPONSIBLE FOR VISITING THE SITE AND BECOMING FAMILIAR WITH THE SITE CONDITIONS PRIOR TO BIDDING.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE ALL SURVEY MONUMENTS, FENCES, ROADS, CORNER PIPES, OR OTHER SITE DEVELOPMENTS DISTURBED DURING THE PROCESS OF CONSTRUCTION AT THE CONTRACTOR'S OWN EXPENSE. IF A MONUMENT HAS THE POTENTIAL OF BEING DISTURBED, A CORNER RECORD SHALL BE FILED WITH THE COUNTY SURVEYOR (PER SECTION 8773.2 OF THE PUBLIC LAND SURVEYORS ACT) AS REQUIRED BY THE SUBDIVISION MAP ACT TO PRESERVE THE LOCATION OF SAID MONUMENT. CONTRACTOR SHALL, AT HIS/HER EXPENSE, HIRE A CIVIL ENGINEER OR LAND SURVEYOR TO PERFORM THE WORK.
3. CONTRACTOR SHALL PROVIDE ADEQUATE DUST AND EROSION AND SEDIMENT CONTROL AND KEEP MUD AND DEBRIS OFF ROADS AT ALL TIMES.
4. CONTRACTOR SHALL USE DESIGNATED STAGING AREAS AND ANY OTHER AREAS AS DEPICTED ON THESE DOCUMENTS FOR STAGING CONSTRUCTION EQUIPMENT.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION. ADEQUATE BRACING, FALL PROTECTION, AND SUPPORTS SHALL BE USED TO PROVIDE PROPER TEMPORARY INTEGRITY AND WORKER PROTECTION DURING ALL PHASES OF CONSTRUCTION.
6. UPON COMPLETION OF THE CONSTRUCTION PROJECT, THE CONTRACTOR SHALL LEAVE THE PROJECT AREA FREE OF DEBRIS AND UNUSED MATERIAL. ALL DAMAGE CAUSED BY THE CONTRACTOR SHALL BE RESTORED TO AN "AS GOOD OR BETTER" CONDITION.
7. IT IS EXPECTED THAT THE ACTUAL LOCATION OF EXISTING UTILITIES MAY VARY FROM THAT SHOWN ON THE PLANS. CONTRACTOR SHALL POTHOLE AND LOCATE ALL EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT PRIOR TO WORK COMMENCING FOR ANY EXCAVATION OR POTHOLING.
8. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING THAT NEW FEATURES TIE INTO EXISTING SITE DEVELOPMENT, PAVEMENT JOINTS MATCH CORRECTLY, AND THAT GENERAL DESIGN ELEVATIONS FOR NEW CONSTRUCTION PROVIDE PROPER PAVEMENT AND DRAINAGE SLOPES FROM EXISTING TIE IN POINTS. REPORT DISCREPANCIES TO OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.

HAZARDOUS MATERIAL NOTES

1. SEE LIMITED HAZARDOUS MATERIALS SURVEY REPORT, KORBLEX AND SOMOA RESERVOIR SEISMIC RETROFIT PROJECT, HUMBOLDT BAY MUNICIPAL WATER DISTRICT, 30 JUNE 2021 BY GHD.
2. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFORMANCE WITH ALL STATE AND FEDERAL REGULATIONS WITH RESPECT TO HAZARDOUS MATERIALS HANDLING AND DISPOSAL AND FOR PROTECTION OF WORKERS AND OWNERS AND OWNER'S REPRESENTATIVE PERSONNEL ON SITE.
3. ANY ASBESTOS CEMENT PIPE ENCOUNTERED DURING CONSTRUCTION TO BE PROPERLY HANDLED AND DISPOSED BY THE CONTRACTOR.

VEGETATION PROTECTION AND RESTORATION NOTES

1. NO CUTTING OF ANY PART OF TREES, INCLUDING ROOTS, SHALL BE DONE WITHOUT SECURING APPROVAL FROM OWNER.
2. ALL EXISTING LANDSCAPED AND UNPAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION OR EARTHWORK OPERATIONS SHALL BE HAND RAKED SMOOTH AND RETURNED TO ORIGINAL EXISTING CONDITIONS.
3. LANDSCAPING THAT IS REMOVED TO FACILITATE CONSTRUCTION SHALL BE REPLACED IN KIND.
4. ALL DISTURBED AREAS SHALL BE RAKED SMOOTH AND HYDROSEEDED FOLLOWING CONSTRUCTION.
5. WHEN CONSTRUCTION OCCURS WITHIN DRIP LINE ON EXISTING TREES, CONTRACTOR IS TO PILE THE SOIL ON THE SIDE AWAY FROM THE TREE. WHEN THIS IS NOT POSSIBLE, PLACE SOIL ON PLYWOOD. A TARP, OR THICK BED OF MULCH. THIS IS TO HELP PREVENT CUTTING INTO THE SOIL SURFACE WHEN THE BACKHOE OR TRACTOR BLADE REFILLS THE TRENCH.
6. REFILL OPEN TRENCHES QUICKLY WITHIN 4 HOURS OF EXCAVATION WHEN THEY OCCUR WITHIN THE DRIP LINE OF EXISTING TREES. IF THIS IS NOT POSSIBLE AND WEATHER IS HOT, DRY, OR WINDY, CONTRACTOR MUST KEEP ROOT ENDS MOIST BY COVERING THEM WITH WET BURLAP. IF TEMPERATURE IS 80°F OR GREATER, THE BURLAP MUST BE INSPECTED EVERY HOUR AND RE-WET AS NECESSARY TO MAINTAIN A CONSTANT COOL MOIST CONDITION. IF TEMPERATURE IS BELOW 80°, THE BURLAP MUST BE INSPECTED EVERY FOUR HOURS AND RE-WET AS NECESSARY TO MAINTAIN A CONSTANT COOL MOIST CONDITION. SMALL ROOTS CAN DRY OUT AND DIE IN 10-15 MINUTES. LARGER ROOTS CAN SUCCUMB IN AN HOUR OR LESS UNDER UNFAVORABLE WEATHER CONDITIONS.
7. MATERIALS, EQUIPMENT, TEMPORARY BUILDINGS, FUELS, PAINTS AND OTHER CONSTRUCTION ITEMS ARE NOT TO BE PLACED WITHIN THE DRIP LINE OF EXISTING TREES.
8. GRADING SHOULD NOT CREATE DRAINAGE PROBLEMS FOR TREES BY CHANNELING WATER INTO THEM, OR CREATING SUNKEN AREAS.

GEOTECHNICAL NOTES

1. CONTRACTOR SHALL DESIGN THE PROJECT TO BE COMPLIANT WITH THE FOLLOWING GEOTECHNICAL REPORTS: GEOTECHNICAL INVESTIGATION REPORT HBMWD RESERVOIRS SEISMIC RETROFIT PROJECT THREE WATER TANKS FROM CRAWFORD & ASSOCIATES, INC. DATED JULY 2021.

SURFACE RESTORATION NOTES

1. IN ADDITION TO UTILITY AND VEGETATION RESTORATION, CONTRACTOR TO RESTORE SIDEWALKS, CURBS, PAVING, SLABS, STRIPING, SIGNAGE, AND OTHER SURFACE FEATURES TO PRE-PROJECT CONDITIONS.
2. NOT ALL SURFACE RESTORATION REQUIREMENTS SHOWN. CONTRACTOR TO ASSESS PRIOR TO BIDDING AND INCLUDE THE COST OF RESTORATION IN THE BID ITEMS AFFECTING SURFACE FEATURES.

ITEMS TO BE PROVIDED BY THE CONTRACTOR

1. UNLESS SPECIFICALLY NOTED OTHERWISE, CONTRACTOR SHALL FURNISH AND INSTALL ALL NEW ITEMS.
2. UNLESS SPECIFICALLY NOTED OTHERWISE THE TERM "PROVIDE" SHALL MEAN CONTRACTOR TO FURNISH AND INSTALL.

GRADING NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF ALL TOPOGRAPHIC INFORMATION SHOWN. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING RIGHT- OF-WAY LINES, SLOPE EASEMENTS, AND ALL HORIZONTAL AND VERTICAL CONTROL PRIOR TO CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION STAKING AND SHALL ARRANGE FOR STAKING WITH A LICENSED SURVEYOR IF REQUIRED. STAKING WILL BE REVIEWED BY OWNER FOR CONFIRMATION TO DESIGN PRIOR TO CONSTRUCTION.
3. ALL GRADES BETWEEN SPOT ELEVATIONS SHALL HAVE UNIFORM SLOPE UNLESS OTHERWISE INDICATED. MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES, BUILDING WALLS AND DOORS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF ALL CONSTRUCTION. ADEQUATE SHORING BRACING, TIES, AND SUPPORTS SHALL BE USED TO PROVIDE PROPER TEMPORARY INTEGRITY DURING ALL PHASES OF CONSTRUCTION.
5. ALL EXISTING LANDSCAPED AND UNPAVED AREAS WHICH ARE DISTURBED BY CONSTRUCTION OR EARTHWORK OPERATIONS SHALL BE HAND RAKED SMOOTH AND RETURNED TO ORIGINAL EXISTING CONDITIONS.
6. ALL DITCHES, SWALES, GUTTERS, ETC. SHOULD BE CONSIDERED ACTIVE STORM CONVEYANCES UNLESS OTHERWISE INDICATED. CONTRACTOR IS RESPONSIBLE FOR ADDRESSING STORM WATER DRAINAGE AND DEWATERING OF WORK AREAS DURING CONSTRUCTION.
7. DURING WET WEATHER PERIODS, CONTRACTOR IS RESPONSIBLE FOR SEQUENCING CONSTRUCTION IN A MANNER TO MINIMIZE IMPACT ON OPEN EARTHWORK AND COMPACTION OPERATIONS.
8. COMPLETELY COVER ANY SOIL STOCKPILES WITH 6 MIL BLACK PLASTIC AND PROVIDE RESTRAINTS TO HOLD PLASTIC IN PLACE. MONITOR PLASTIC COVER AS PART OF CONTINUOUS EROSION CONTROL PLAN. PLACE SILT FENCE COMPLETELY AROUND STOCKPILE.

STAGING

1. CONTRACTOR MAY STAGE ON EXISTING PAVED AREAS. COORDINATE STAGING LOCATIONS WITH OWNER.

UTILITY NOTES

1. LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE PLOTTED FROM RECORD DRAWINGS AND INTERPOLATION OF PHYSICAL EVIDENCE ON THE SITE AND ARE SUBJECT TO FIELD VERIFICATION BY THE CONTRACTOR. SEE GENERAL SITE NOTES 1 AND 7.
2. CONTRACTOR SHALL COORDINATE CONSTRUCTION SEQUENCING AND SHUT DOWNS WITH DISTRICT STAFF.
3. ALL LOCATIONS FOR WORK SHALL BE CHECKED AND COORDINATED WITH EXISTING CONDITIONS IN THE FIELD BEFORE BEGINNING CONSTRUCTION UNDER THIS SECTION OR ANY OTHER SECTION.
4. THE WORKING DRAWINGS ARE GENERALLY DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW REQUIRED FOR INSTALLATION IN THE SPACE PROVIDED. THEY DO NOT SHOW EVERY DIMENSION, COMPONENT PIECE, OR FITTING REQUIRED TO COMPLETE THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE AND WORKING SYSTEM.
5. CONTRACTOR SHALL COORDINATE USA UTILITY LOCATE 48 HOURS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION. CONTRACTOR SHALL COORDINATE THE UTILITY LOCATE WITH THE OWNER FOR ALL UTILITY WORK.
6. CONTRACTOR IS RESPONSIBLE FOR POTHOLING ALONG THE ALIGNMENTS OF ALL NEW UTILITIES TO IDENTIFY POTENTIAL UTILITY CONFLICTS, SOILS CONDITIONS, AND TIE-IN POINTS. CONTRACTOR RESPONSIBLE FOR MAKING ADJUSTMENTS IN ALIGNMENTS TO ACCOMMODATE ACTUAL FIELD CONDITIONS.
7. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES, FEATURES, AND STRUCTURES LOCATED ON THE SITE. LOCATE, PROTECT, AND AVOID DISRUPTION OF ALL ABOVE AND BELOW GRADE UTILITIES DURING CONSTRUCTION.
8. ALL BURIED LINES TO HAVE 36 INCHES MINIMUM COVER, UNLESS NOTED OTHERWISE.
9. CONTRACTOR TO VERIFY CONNECTIVITY OF UTILITY NETWORK PRIOR TO REPLACEMENT, ABANDONMENT, OR DEMOLITION OF EXISTING UTILITY. CONTRACTOR TO CONFIRM CONNECTIVITY OF NEW UTILITY PRIOR TO COMPLETING WORK.
10. THRUST BLOCKING REQUIRED ON ALL PRESSURE LINES BENDS AND FITTINGS. SEE STANDARD THRUST BLOCKING DETAIL. RESTRAINED FITTINGS MAY BE USED AS AN ALTERNATIVE WHEN INSTALLED ON FITTINGS AND LINES PER MANUFACTURER REQUIREMENTS TO ACHIEVE PROPER RESTRAINT OF THE OVERALL PIPING SYSTEM.
11. ALL EXISTING UTILITIES AND TIE-IN POINTS SHOULD BE CONSIDERED ACTIVE UTILITIES UNLESS OTHERWISE INDICATED.
12. CONFIRM ALL UTILITY VALVE VAULTS, VALVES, METERS, BACKFLOW PREVENTION ASSEMBLIES, AND OTHER UTILITY APPURTENANCES WITH THE OWNER.

EROSION CONTROL NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AND IMPLEMENTING BEST MANAGEMENT PRACTICES PER THE CURRENT NPDES GENERAL PERMIT REQUIREMENTS.

ABBREVIATIONS

A B	ANCHOR BOLT
AB	AGGREFATE BASE
AC	ASPHALT CONCRETE
AGG	AGGREGATE
ARV	AIR VACUUM RELEASE VALVE
AVE	AVENUE
AWWA	AMERICAN WATER WORKS ASSOCIATION
B-	BORING
BC	BEGIN CURVE
BF	BLIND FLANGE
BFV	BUTTERFLY VALVE
BFP	BACK FLOW PREVENTER
BM	BENCH MARK
BLDG	BUILDING
BLVD	BOULEVARD
BO	BLOW OFF
BOT	BOTTOM
BVC	BEGIN VERTICAL CURVE
C	CONDUIT
CB	CATCH BASIN
CBC	CALIFORNIA BUILDING CODE
CCR	CALIFORNIA CODE OF REGULATIONS
CI	CAST IRON
CL	CENTERLINE
CLR	CLEAR, CLEARANCE
CLS	CONCRETE LINED STEEL PIPE
CO	CLEAN OUT
CMLS	CEMENT MORTAR LINED STEEL
CMLCS	CEMENT MORTAR LINED & COATED STEEL
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONT	CONTINUOUS
CONT'D	CONTINUED
COR	CORNER
CU	CUBIC
CV	CHECK VALVE
d	PENNY (NAIL SIZE)
DIA, Ø	DIAMETER
DTL	DETAIL
DI	DIP DUCTILE IRON PIPE
DF	DOUGLAS FIR
DR	DRIVE
DW	DOMESTIC WATER LINE
DWG	DRAWING
(E)	EXISTING
E	EAST, OR EASTING
EA	EACH
EC	END CURVE
EF	EACH FACE
EP	EDGE PAVEMENT
EQ	EQUAL
ER	EDGE ROAD
EL/ELEV	ELEVATION
ELEC	ELECTRIC, OR ELECTRICAL
ENGR	ENGINEER
EVC	END VERTICAL CURVE
EW	EACH WAY
FDC	FIRE DEPARTMENT CONNECTION
FIN	FINISH
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FLR	FLOOR
FO	FIBER OPTIC
FP	FIRE PROTECTION
FS	FINISHED SURFACE
FT	FOOT, OR FEET
FTG	FOOTING
G	GAS LINE
GAL	GALLON
GALV	GALVANIZED
GR	GRADE
GRD	GROUND
GV	GATE VALVE
HB	HOSE BIBB
HCSB	HUMBOLDT COMMUNITY SERVICES DISTRICT
HDD	HORIZONTAL DIRECTIONAL DRILLING
HDPE	HIGH-DENSITY POLYETHYLENE
HORZ	HORIZONTAL
HPG	HIGH PRESSURE GAS
HPNS	HIGH PRESSURE NATURAL GAS
HPS	HIGH PRESSURE SODIUM
HWY	HIGHWAY
IE	INVERT ELEVATION
INV	INVERT
IP	IRON PIPE
IRR	IRRIGATION
JCT	JUNCTION
JP	JUNCTION POLE (UTILITY)
L	LENGTH
LAT	LATERAL
LF	LINEAR FEET
LS	LIFT STATION
LT	LEFT
M	METER
MAX	MAXIMUM
MFR	MANUFACTURER
MG	MILLION GALLON
MH	MANHOLE
MIN	MINIMUM
MPG	MEDIUM PRESSURE GAS
MISC	MISCELLANEOUS
N	NORTH
(N)	NEW
NIC	NOT IN CONTRACT
NO	NUMBER
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OC	ON CENTERS
OPNG	OPENING
PC	POINT OF CURVATURE
PCC	PORTLAND CONCRETE CEMENT
PE	POLYETHYLENE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PL	PLATE
PLCS	PLACES
PLWD	PLYWOOD
POC	POINT OF CONNECTION
PP	POWER POLE
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PT	POINT
PT	POINT OF TANGENCY
PT	PRESSURE TREATED
PTFE	POLYTETRAFLUOROETHYLENE
PVC	POLVINYL CHLORIDE PLASTIC PIPE
R	RADIUS
RC	RELATIVE COMPACTION
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWD	REDWOOD
REQ'D	REQUIRED
REQ'T	REQUIREMENT
RPP	REDUCED PRESSURE PRINCIPAL
RT	RIGHT
R/W	RIGHT OF WAY
S	SLOPE
SAT	SATURATED
SCH, OR SCHED	SCHEDULE
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SDCB	STORM DRAIN CATCH BASIN
SHT	SHEET
SIM	SIMILAR
SO	SOUTH
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SSTL	STAINLESS STEEL
STA	STATION
STD	STANDARD
STL	STEEL
TC	TOP OF CURB
T, OR TEL	TELEPHONE
THK	THICK
TG	TOP OF GRATE
TP	TEST PIT
TRF	TURBIDITY REDUCTION FACILITY
TS	TOP OF SLAB
TW	TOP OF WALL
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
UP	UTILITY POLE
V	VOLT(S)
VERT	VERTICAL
W/	WITH
W	WATER
WD	WIDE
WSP	WELDED STEEL PIPE
XING	CROSSING
YD	YARD
&	AND
@	AT
°	DEGREE
Ø	DIAMETER
'	FEET
"	INCHES
#	NUMBER
±	PLUS OR MINUS

NOTE: CONTACT ENGINEER FOR ABBREVIATIONS NOT LISTED.

PLAN SYMBOLS

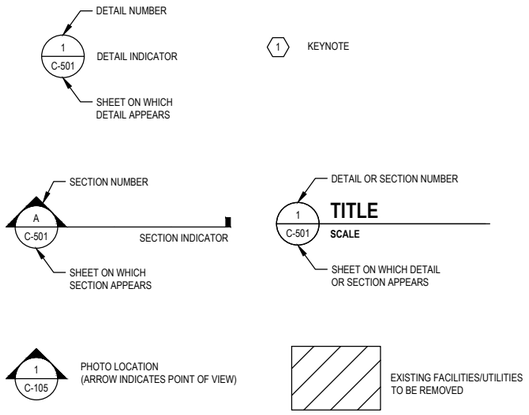
SITE/TOPOGRAPHIC

EXISTING	DESCRIPTION
	LIMITS OF CONSTRUCTION
	RIGHT OF WAY CENTERLINE
	RIGHT OF WAY LINES
	ADJACENT PROPERTY LINES
	FENCE
	EDGES OF ASPHALT PAVEMENT
	CONCRETE PAVING / SIDEWALK
	EDGE OF GRAVEL (TRAIL)
40	CONTOUR LINE
	TOP OF BANK
	TOE OF BANK
	DRAINAGE/CREEK /DITCH/SWALE
	BRUSH/VEGETATION LINE
	TREE
	SIGN
	SURVEY CONTROL POINT
	FOUND RECORD SURVEY MONUMENT

UTILITY

NEW	EXISTING	DESCRIPTION
	W	WATER LINE (SIZE & TYPE AS NOTED)
		WATER VALVE
		BUTTERFLY VALVE
		RUBBER EXPANSION JOINT ASSEMBLY
		90° ELBOW
		DOWNTURNED 90° ELBOW
		45° ELBOW
		TEE
		VALVE VAULT
		AIR RELEASE VALVE
		BACKFLOW PREVENTER
	G	UNDERGROUND GAS LINE
	E E E	UNDERGROUND ELECTRIC LINES
	T	UNDERGROUND TELECOM
	FO	UNDERGROUND FIBER OPTIC COMMUNICATION LINE
E DHD	E DHD	OVERHEAD ELECTRIC LINES
		ELECTRICAL VAULT OR PANEL
		TELECOM MANHOLE
		LIGHT POLE

GENERAL SHEET SYMBOLS



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Client: HUMBOLDT BAY MUNICIPAL WATER DISTRICT
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Project No. 12627733 | Date 2024-05-01 | Scale AS SHOWN

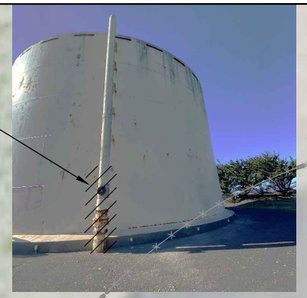
Title: GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

Size ANSI D

Sheet No. G-002

Sheet 2 of 17

Plot Date: 30 April 2024 - 9:18 PM | Plotted By: Michelle Davidson | Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\56\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-GN-0002.dwg



DEMOLISH (E) 15" PIPE AND FITTINGS AND REPLACE WITH (N) PIPE AND FITTINGS PER DETAIL 2 SHEET C-503

2 EXISTING PIPE - DEMOLITION PHOTO

(E) ACCESS GATE

(E) 42" CMLCS DRAIN LINE

LIMITS OF CONSTRUCTION / STAGING

(E) 42" CMLCS PIPE

(E) 15" CMLCS PIPE

PIPE - S2

PIPE - S1

(E) CHAIN LINK FENCE, TYP

(E) 1-MG INDUSTRIAL TANK

(E) BUTTERFLY VALVE AND VALVE CAN

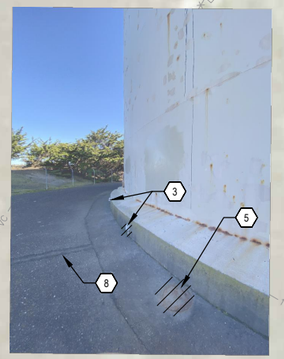
PIPE - S3

(E) VALVE VAULT

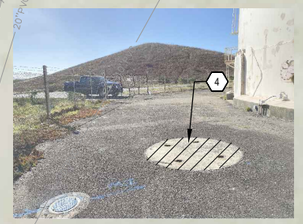
(E) 42" CMLCS PIPE

(E) 1996 RETROFIT

DEMOLISH AND PROPERLY DISPOSE OF (E) TANK ROOF, BEAMS, AND ALL NECESSARY APPURTENANCES TO PERFORM THE REQUIRED CONSTRUCTION. (E) ROOF BECOMES THE PROPERTY OF THE CONTRACTOR UPON DEMOLITION. REPLACE WITH (N) ROOF PER STRUCTURAL SHEETS. SEE GENERAL NOTES FOR MORE TANK ROOF DETAIL.



1 EXISTING BOXES - DEMOLITION PHOTO



3 EXISTING VAULT AND VALVE - DEMOLITION PHOTO

EQUIPMENT ACCESS ROUTE

APN 401-111-05
LANDS OF HUMBOLDT BAY MUNICIPAL WATER DISTRICT

N

0 10' 20'

SHEET GENERAL NOTES

1. CONTRACTOR TO VERIFY PIPE AND VALVE SIZES, TYPE, AND CONFIGURATION PRIOR TO ORDERING NEW MATERIALS AND PROVIDE ALL TRANSITION FITTINGS AS REQUIRED.
2. REPAIR ALL PAVING DAMAGED DURING CONSTRUCTION SIMILAR TO DETAIL 1 ON SHEET C-504.
3. CONTRACTOR MAY STAGE WITHIN LIMITS OF CONSTRUCTION BOUNDARY.
4. THE INTERIOR AND EXTERIOR OF THE (E) 1-MG TANK AND NEW ROOF SHALL BE PREPPED AND PAINTED PER SPECIFICATION SECTION 09 91 00 - TANK PREPARATION AND COATING.
5. WHERE ITEMS ARE TO BE REMOVED FROM THE OUTSIDE OF THE TANK, THE CONTRACTOR SHALL GRIND DOWN AND PAINT OVER ALL (E) BOLT PENETRATIONS, BRACKETS, ETC. IT SHALL BE ASSUMED THAT THESE AND ANY OTHER LOCATIONS REQUIRING PAINTING SHALL BE PREPPED AND PAINTED PER SPECIFICATION SECTION 09 91 00.
6. ALL NEW METAL COMPONENTS SHALL BE PREPPED AND COATED IN ACCORDANCE WITH SPECIFICATION SECTION 09 91 00.
7. CONTRACTOR SHALL COORDINATE WITH OWNER FOR TRANSFER OF UTILITY CONNECTIONS INSIDE ENCLOSURES THAT ARE TO BE REPLACED.
8. CONTRACTOR MAY REMOVE FENCING AS NEEDED FOR THE PERFORMANCE OF THE WORK, BUT IS RESPONSIBLE FOR THE REPLACEMENT OF THE FENCE TO RETURN IT TO EXISTING CONDITION, AND FOR THE PLACEMENT OF TEMPORARY FENCING DURING THE PERFORMANCE OF THE WORK TO PREVENT PUBLIC ACCESS TO THE SITE.
9. THE OWNER SHALL DRAIN AND PERFORM INITIAL "MUCK OUT" OF THE TANK PRIOR TO THE PERFORMANCE OF THE WORK.
10. CONTRACTOR WILL PERFORM ALL ELECTRICAL WORK REQUIRED FOR REPLACEMENT OF ELECTRICAL COMPONENTS.
11. CONTRACTOR SHALL PROVIDE SUBMITTAL/SHOP DRAWINGS PRIOR TO FABRICATION AND/OR ORDERING OF ENCLOSURES, EQUIPMENT, PARTS, ETC.

SHEET KEYNOTES

1. (N) BURIED RUBBER EXPANSION JOINT ASSEMBLY PER DETAIL 1 ON SHEET C-502.
2. DEMOLISH AND REPLACE PORTION OF 15" PIPE AND FITTINGS PER DETAIL 2 ON SHEET C-503.
3. REMOVE (E) BOX, TYP.
4. DEMOLISH (E) VALVE VAULT, PIPING, AND APPURTENANCES AND REPLACE PORTION OF 42" PIPE WITH NEW APPURTENANCES PER DETAIL 3 ON SHEET C-502.
5. DEMOLISH, REMOVE, AND DISPOSE OF (E) 6" 90° ELBOW AND (E) 6" GATE VALVE.
6. (N) 6" BLIND FLANGE.
7. (N) STEEL SPOOL TO EXTEND BEYOND (N) CONTAINMENT CURB SHOWN ON DETAIL 1 ON S-502. (N) 6" STEEL 90° ELBOW AND (N) FLANGE WELDED ONTO (E) 42" CLCMS PIPE, SIMILAR TO THE DEMOLISHED (E) VALVE AND FITTINGS ASSEMBLY.
8. (E) UNDERGROUND CONDUIT HAS BEEN ABANDONED.

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0	ISSUE FOR BID	NS	NS	2024-05-01

Author M. DUIN | Drafting Check S. MCHANEY | Project Manager N. STEVENS
Designer M. DUIN | Design Check S. MCHANEY | Project Director K. TOBIN

Bar is one inch on original size sheet
0 1"

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Client HUMBOLDT BAY MUNICIPAL WATER DISTRICT
Project SAMOA RESERVOIR SEISMIC RETROFIT

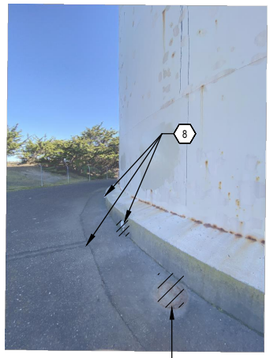
Project No. 12627733 | Date 2024-05-01 | Scale AS SHOWN

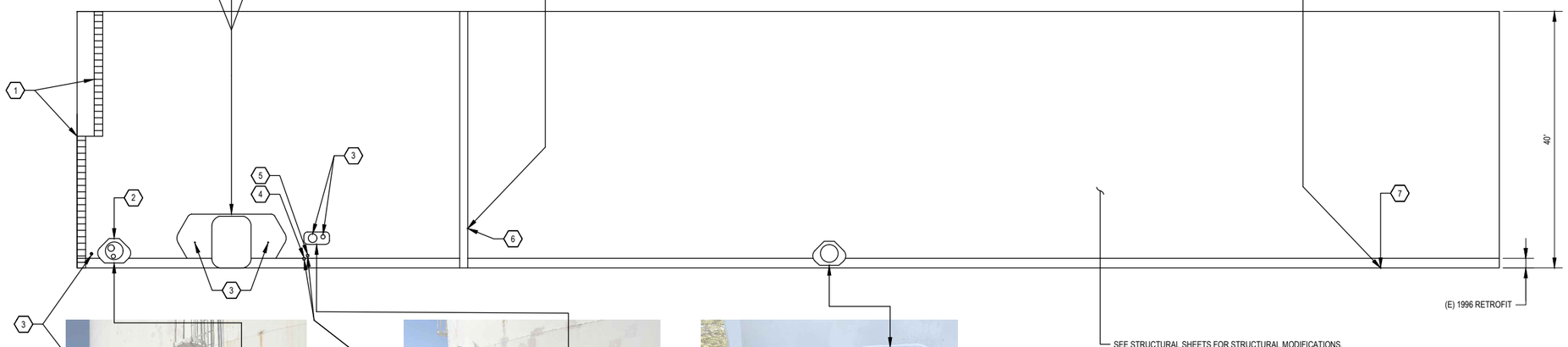
Title 1-MG INDUSTRIAL TANK EXISTING CONDITIONS, DEMOLITION, & IMPROVEMENTS

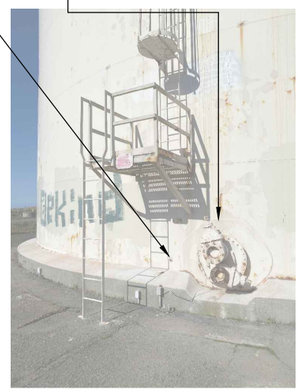
Size ANSI D

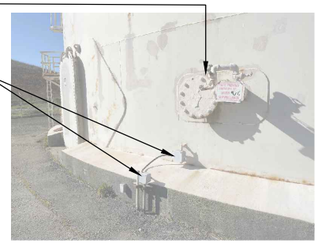
Sheet No. C-101 | Sheet 3 of 17

Plot Date: 30 April 2024 - 9:28 PM | Plotted By: Michelle Davidson | Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\561\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-CI-0101.dwg









0 10' 20'

SHEET GENERAL NOTES

1. WHERE ITEMS ARE TO BE REMOVED FROM THE OUTSIDE OF THE TANK, THE CONTRACTOR SHALL GRIND DOWN ALL (E) BOLT PENETRATIONS, BRACKETS, ETC. AND WELD 1/4" STEEL PLATES OVER OPENINGS. IT SHALL BE ASSUMED THAT THESE AND ANY OTHER LOCATIONS REQUIRING PAINTING SHALL BE PREPPED AND PAINTED PER SPECIFICATION SECTION 09 91 00.
2. ALL NEW METAL COMPONENTS SHALL BE PREPPED AND COATED IN ACCORDANCE WITH SPECIFICATION SECTION 09 91 00.
3. CONTRACTOR SHALL PROVIDE SUBMITTAL/SHOP DRAWINGS PRIOR TO FABRICATION AND/OR ORDERING OF ENCLOSURES, EQUIPMENT, PARTS, ETC.
4. FOR ALL HATCHES, COVERS AND FITTINGS REMOVED DURING PROJECT, REPLACE GASKETS AND BOLTS, NUTS, AND WASHERS.
5. ALL ABOVE GROUND HARDWARE TO BE HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE. ALL BELOW GROUND BOLTS, NUTS AND WASHERS TO BE STAINLESS STEEL.
6. WELD STEEL PLATES TO THE INTERIOR AND EXTERIOR OF THE TANK WHERE STEEL PLATES ARE REQUIRED USING 3/8" FILLET WELD ALL AROUND.

SHEET KEYNOTES

1. DEMOLISH (E) LADDER AND CAGE ASSEMBLY. INSTALL (N) LADDER, (N) CAGE, AND (N) PLATFORM PER DETAIL 6 ON SHEET S-501. DEMOLISH AND REPLACE (E) INTERIOR LADDER WITH (N) COATED STEEL LADDER.
2. REPLACE (E) 8" AND 6" VALVES W/ (N) VALVES WITH OPERATING NUT. CONFIRM ORIENTATION IN FIELD WITH OWNER.
3. CUT (E) FEATURE FLUSH AT TANK FACE AND WELD PLATE. SEE SHEET GENERAL NOTES 1 AND 6.
4. IF REQUIRED, RELOCATE (E) ELECTRICAL CONDUIT AND PULL BOX OUTSIDE OF STRUCTURAL MODIFICATIONS.
5. IF REQUIRED, EXTEND (E) TAP WITH COATED STEEL PIPING PAST STRUCTURAL MODIFICATIONS AND REINSTALL (E) PRESSURE TRANSDUCER OUTSIDE STRUCTURAL MODIFICATIONS.
6. DEMOLISH AND REPLACE PORTION OF 15" PIPE AND FITTINGS PER DETAIL 2 ON SHEET C-503.
7. DEMOLISH AND REPLACE PORTION OF 6" DRAIN LINE, VALVES, FITTINGS, AND VALVE CAN PER C-101.
8. REMOVE (E) BOX, TYP. (E) UNDERGROUND CONDUIT HAS BEEN ABANDONED.

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Project SAMOA RESERVOIR SEISMIC RETROFIT

Project No. 12627733 | Date 2024-05-01 | Scale AS SHOWN

Title 1-MG INDUSTRIAL TANK SHELL ELEVATION

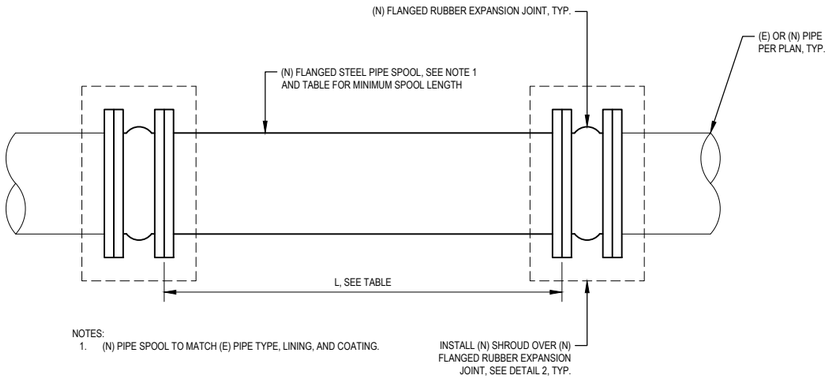
Size ANSI D

Sheet No. C-501 | Sheet 4 of 17

Plot Date: 30 April 2024 - 9:29 PM Plotted By: Michelle Davidson Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\561\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-CI-0501.dwg

EXPANSION JOINT ASSEMBLY FOR UP TO 6" OF SETTLEMENT							
PIPE DESIGNATION	EXISTING PIPE DIAMETER[1]	EXISTING PIPE MATERIAL[1]	NEW FLEX COUPLING DIAMETER	FLANGES NEEDED ON EXISTING PIPE	TRANSITION FITTING REQUIRED[2]	SHROUD REQUIRED[3]	MINIMUM SPOOL LENGTH (L_{MIN})
S1	15"	CMLCS	16"	YES	YES	YES	60"
S2	42"	CMLCS	42"	YES	NO	YES	100"
S3	42"	CMLCS	42"	YES	NO	YES	100"

(1) CONTRACTOR TO FIELD VERIFY EXISTING SIZES, MATERIALS, AND TRANSITION REQUIREMENTS PRIOR TO ORDERING MATERIALS.
(2) SIMILAR TO TRANSITION FITTING ON DETAIL 2 ON SHEET C-503.
(3) SEE DETAIL 2 ON THIS SHEET.

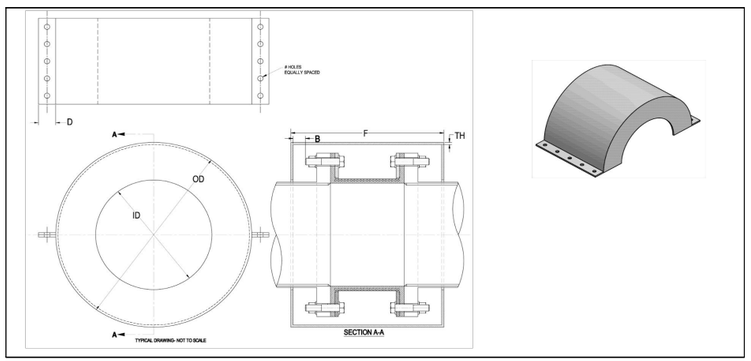


NOTES:
1. (N) PIPE SPOOL TO MATCH (E) PIPE TYPE, LINING, AND COATING.

1 C-502 RUBBER EXPANSION JOINT ASSEMBLY DETAIL

SCALE: 1" = 1'

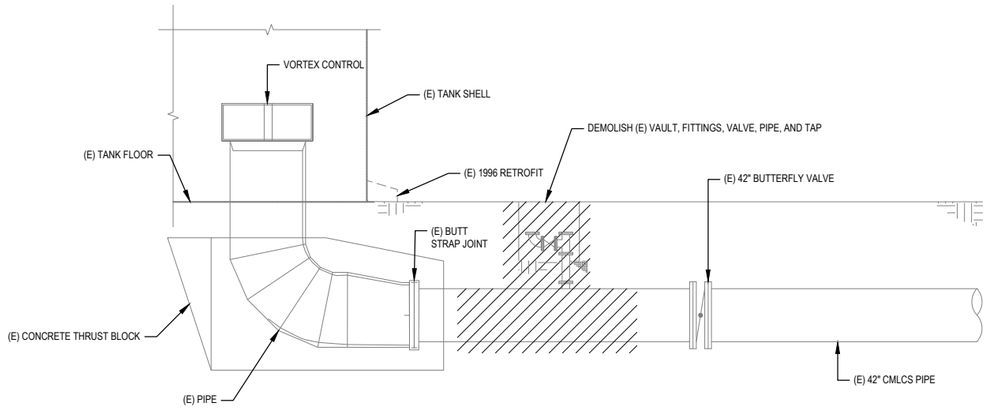
0 1' 2'



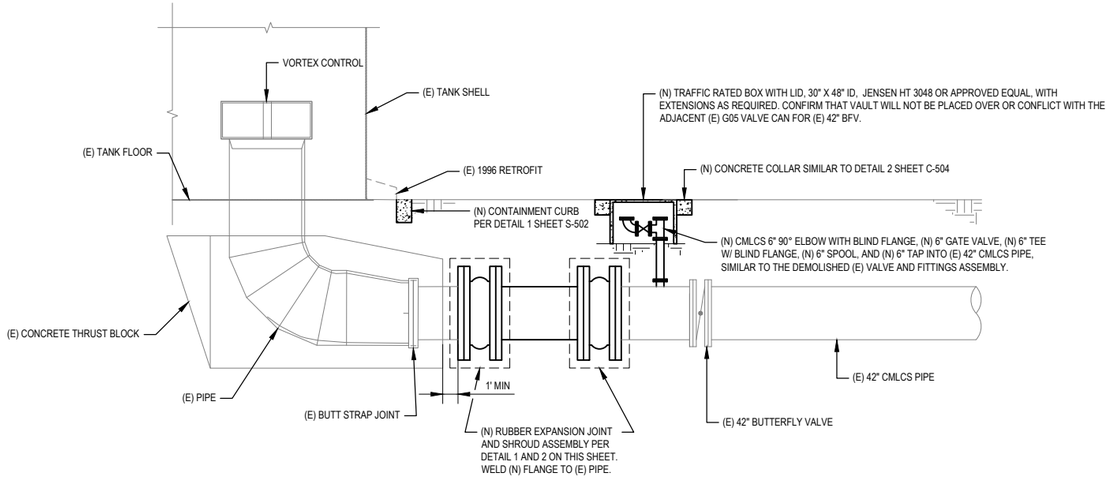
NOTES:
1. SHROUD SHALL BE DESIGNED, FABRICATED AND INSTALLED PER THE FLEXIBLE COUPLER MANUFACTURER INSTRUCTIONS.
2. SHROUD SHALL BE COATED PER MANUFACTURER RECOMMENDATION. ALL HARDWARE TO BE STAINLESS STEEL.

2 C-502 BURIED FLEXIBLE COUPLER SHROUD REFERENCE DETAIL

SCALE: NTS



EXISTING CONDITIONS AND DEMOLITION



MODIFICATIONS

3 C-502 42" INDUSTRIAL OUTLET - S3

SCALE: 1" = 5'

0 5' 10'

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Project SAMOA RESERVOIR SEISMIC RETROFIT

Title SEISMIC CIVIL DETAILS 1

Size ANSI D

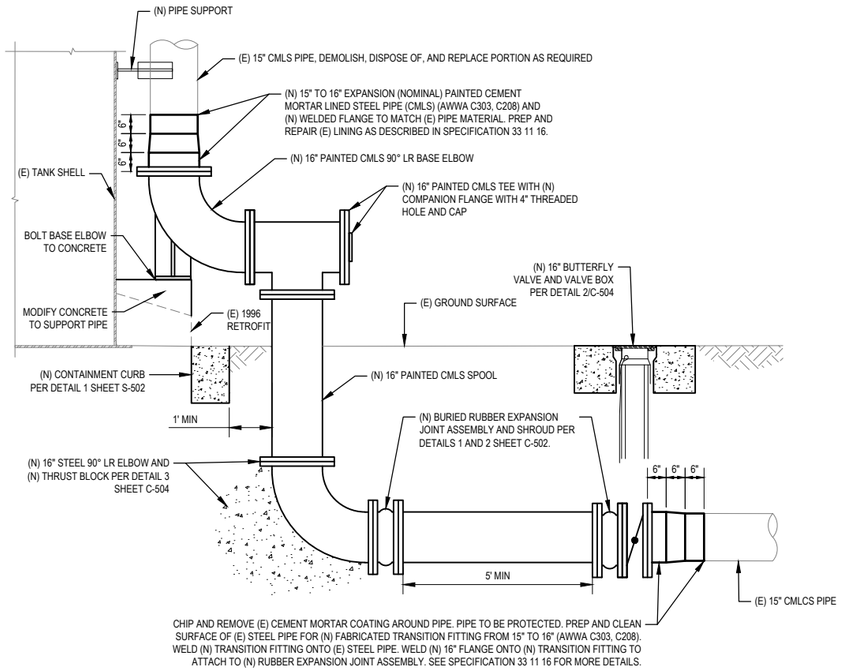
Project No.	Date	Scale	Sheet No.	Sheet
12627733	2024-05-01	AS SHOWN	C-502	5 of 17

Plot Date: 30 April 2024 - 9:31 PM Plotted By: Michelle Davidson Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\56\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-CI-0502.dwg

1 C-503

NOT USED

SCALE: 1" = 1'



2 C-503

DOMESTIC INLET EXISTING CONDITIONS AND MODIFICATIONS - S1

SCALE: 1" = 2'

0 2' 4'

No.	Issue	Checked	Approved	Date
0	ISSUE FOR BID	NS	NS	2024-05-01

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Designer	M. DUIN	Design Check	S. MCHANEY	Project Director	K. TOBIN

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Project SAMOA RESERVOIR SEISMIC RETROFIT

Title SEISMIC CIVIL DETAILS 2

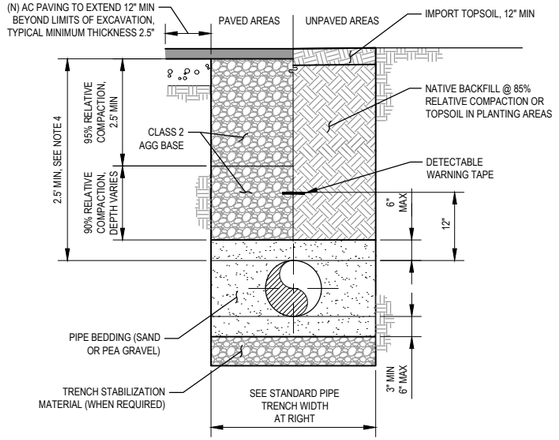
Size ANSI D

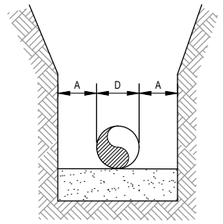
Project No.	Date	Scale
12627733	2024-05-01	AS SHOWN

Sheet No. C-503

Sheet 6 of 17

Plot Date: 30 April 2024 - 9:31 PM Plotted By: Michelle Davidson Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\56\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-CI-0502.dwg





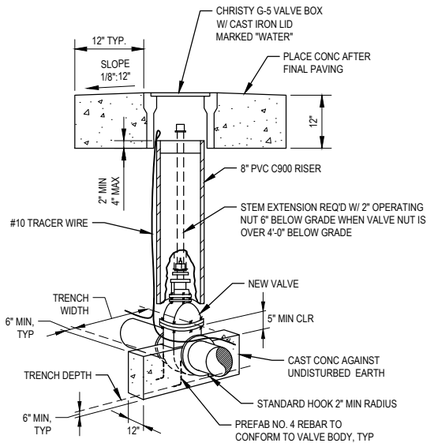
PIPE DIA "D"	MINIMUM "A"	MAXIMUM "A"
< 4"	3"	6"
4" TO 6"	6"	12"
6" TO 15"	8"	14"
16" TO 21"	10"	16"
24" TO 30"	12"	18"
33" TO 42"	15"	21"
48" & LARGER	18"	24"

NOTES:

1. WIDER TRENCHES MAY REQUIRE HIGHER STRENGTH PIPE AND/OR SPECIAL BEDDING.
2. DIFFERING TRENCH WIDTHS REQUIRE PRIOR APPROVAL OF ENGINEER.
3. IN MAKING EXCAVATIONS FOR THIS PROJECT, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PROVIDING & INSTALLING ADEQUATE SHEETING, SHORING & BRACING AS MAY BE NECESSARY AS A PRECAUTION AGAINST SLIDES OR CAVE-INS, AND TO PROTECT ALL (E) IMPROVEMENTS OF ANY KIND, EITHER ON PUBLIC OR PRIVATE PROPERTY, FULLY FROM DAMAGE.
4. 2-SACK SLURRY BACKFILL MAY BE USED IN TRENCH WHEN MINIMUM PIPE COVER NOT POSSIBLE, WHEN APPROVED BY OWNER'S REPRESENTATIVE.
5. CLASS 2 AGGREGATE BASE SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
6. DETECTABLE WARNING TAPE SHALL BE BRIGHT COLORED, CONTINUOUSLY PRINTED, MINIMUM 6" WIDE BY 4 MIL. THICK, MANUFACTURED FOR DIRECT BURIAL.

1 C-504 TYPICAL TRENCH AND PAVING DETAIL

SCALE: NTS

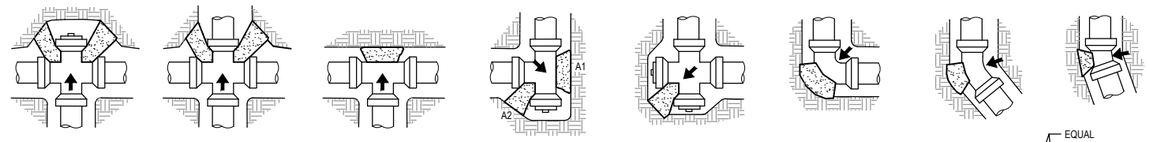


NOTES:

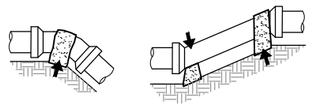
1. CONTRACTOR TO PROVIDE ALL COMPONENTS.
2. VALVE SIZES & ENDS AS SHOWN OR SPECIFIED ON PLANS

2 C-504 STANDARD VALVE INSTALLATION

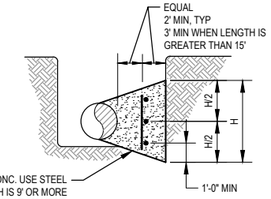
SCALE: NTS



PLAN



ELEVATION



TYPICAL SECTION

NOTES:

1. CONCRETE THRUST BLOCKS ARE TO BE POURED AGAINST UNDISTURBED EARTH OR STRUCTURAL BACKFILL.THRUST BLOCKS ARE NOT REQUIRED WHERE JOINTS ARE ADEQUATELY RESTRAINED.
2. KEEP CONCRETE CLEAR OF JOINTS AND ACCESSORIES.
3. VOLUMES AND SPECIAL BLOCKING DETAILS SHOWN ON THE PLANS TAKE PRECEDENCE OVER VOLUMES AND BLOCKING DETAILS SHOWN ON THIS STANDARD DETAIL.
4. ALL BURIED PIPE SHALL BE PROVIDED WITH CONCRETE THRUST BLOCKS AT ALL DIRECTIONAL CHANGES UNLESS OTHERWISE NOTED.
5. THRUST BLOCKS SHALL NOT BE LOCATED OR SIZED TO ENCASE ADJACENT PIPES OR FITTINGS.
6. THE SIZE AND WEIGH OF ALL UPLIFT THRUST BLOCKS SHALL BE AS DETERMINED BY ENGINEER.
7. THE BEARING AREAS ARE BASED ON TEST PRESSURE OF 150 PSI AND ALLOWABLE SOIL BEARING STRESS OF 1000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:
   BEARING AREA = (TEST PRESSURE / 150) x (1000 / SOIL BEARING STRESS) x (TABLE VALUE)
8. CONTRACTOR TO PROVIDE ALL COMPONENTS.
9. ALL PIPE AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE TO PREVENT CORROSION AND CONC ADHESION.

BEARING AREA OF THRUST BLOCK IN SQ. FT.

PIPE SIZE	TEE, WYE, PLUG OR CAP	90° BEND PLUGGED CROSS	TEE PLUGGED A1	TEE PLUGGED A2	45° BEND	22 1/2° BEND	11 1/4° BEND
4	1.5	2	2	1.5	1.5	1	1
6	3	4.5	4.5	3	2.5	1.5	1
8	5	7	7	5	4	2	1
10	8	12	12	8	7	3	2
12	12	17	17	12	10	5	3
16	15	21.5	21.5	15	12	6	4

PIPE SIZE	TEE, WYE, PLUG OR CAP	90° BEND PLUGGED CROSS	TEE PLUGGED A1	TEE PLUGGED A2	45° BEND	22 1/2° BEND	11 1/4° BEND
18	19	27	27	19	15	8	6
20	24	34	34	24	18	10	8
22	29	41	41	29	22	12	10
24	34	48	48	34	26.5	14	12
32	39	55	55	39	31.5	16	14

3 C-504 STANDARD THRUST BLOCK DETAILS

SCALE: NTS

No.	Issue	Checked	Approved	Date
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Client **HUMBOLDT BAY MUNICIPAL WATER DISTRICT**
Project **SAMOA RESERVOIR SEISMIC RETROFIT**

Title **TYPICAL CIVIL DETAILS**

Size **ANSI D**

Project No. **12627733** Date **2024-05-01** Scale **AS SHOWN**

Sheet No. **C-504** Sheet **7 of 17**

Plot Date: 30 April 2024 - 9:31 PM Plotted By: Michelle Davidson Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\56\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-CI-0502.dwg

SHEET GENERAL NOTES

1. CONTRACTOR TO COORDINATE ALL STRUCTURAL DOCUMENTS WITH ALL OTHER DISCIPLINES AND REPORT ANY DISCREPANCIES TO THE OWNER PRIOR TO THE START OF ANY FABRICATION OR CONSTRUCTION.

2. CONTRACTOR TO COORDINATE ALL NEW WORK WITH EXISTING SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE OWNER PRIOR TO CONSTRUCTION.

3. DO NOT SCALE DRAWINGS.

4. DESIGN CRITERIA: 2019 CALIFORNIA BUILDING CODE (2019 CBC)
   AWWA D100-11
   ACI 318-14
   CAL / OSHA

5. LOADS:
   - ROOF LIVE LOADS: 20 PSF (REDUCTIONS TAKEN AS ALLOWED BY BUILDING CODE)
   - MAINTENANCE PLATFORM: 60 PSF
   - WIND LOADS:
   - MAIN FORCE RESISTING SYSTEM:
     - BASIC WIND SPEED: V = 115 MPH
     - RISK CATEGORY: IV (ESSENTIAL FACILITY)
     - EXPOSURE CATEGORY: C
     - INTERNAL PRESSURE COEFFICIENT: ±0.18
     - SEISMIC LOADS (SAMOA):
     - SEISMIC IMPORTANCE FACTOR: I_E = 1.50
     - MAPPED SPECTRAL RESPONSE ACCELERATIONS:
       - S_S = N/A
       - S_1 = N/A
     - SPECTRAL RESPONSE COEFFICIENTS:
       - SDS = 1.21 g
       - SD1 = 1.87 g
     - SOIL SITE CLASS: F
     - SEISMIC DESIGN CATEGORY: E

6. REFERENCE TO CODES, RULES, REGULATIONS, STANDARDS, MANUFACTURER'S INSTRUCTIONS OR REQUIREMENTS OF REGULATORY AGENCIES IS TO THE LATEST PRINTED EDITION OF EACH IN EFFECT AT THE DATE OF SUBMISSION OF BID UNLESS THE DOCUMENT DATE IS SHOWN.

7. THESE DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, USE SIMILAR DETAILS OF CONSTRUCTION, SUBJECT TO REVIEW BY THE OWNER'S REPRESENTATIVE.

8. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND FOR CHECKING DIMENSIONS. NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES AND RESOLVE BEFORE PROCEEDING WITH THE WORK.

9. PROVIDE MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES INCLUDE, BUT MAY NOT BE LIMITED TO, BRACING AND SHORING FOR LOADS DURING CONSTRUCTION. RETAIN A REGISTERED CIVIL ENGINEER WHOM IS PROPERLY QUALIFIED TO DESIGN BRACING, SHORING, ETC. VISITS TO THE SITE BY THE OWNER'S REPRESENTATIVE WILL NOT INCLUDE OBSERVATION OF THE ABOVE NOTED ITEMS.

10. INFORMATION SHOWN ON THE DRAWINGS RELATED TO EXISTING CONDITIONS REPRESENTS THE PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. REPORT CONDITIONS THAT CONFLICT WITH THE CONTRACT DOCUMENTS TO THE OWNER'S REPRESENTATIVE. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE OWNER'S REPRESENTATIVE.

11. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING A SAFE PLACE TO WORK AND MEETING THE REQUIREMENTS OF ALL APPLICABLE JURISDICTIONS. EXECUTE WORK TO ENSURE THE SAFETY OF PERSONS AND ADJACENT PROPERTY AGAINST DAMAGE BY FALLING DEBRIS AND OTHER HAZARDS IN CONNECTION WITH THIS WORK.

12. UNLESS NOTED OTHERWISE, REFER TO DRAWINGS OTHER THAN STRUCTURAL FOR FINISHES, SLOPES, DEPRESSIONS, OPENINGS, CURBS, STAIRS, RAMPS, TRENCHES, EQUIPMENT AND LOCATIONS AND EXTENT OF SUCH CONDITIONS.

13. CONTRACTOR TO COORDINATE ALL NEW WORK WITH EXISTING SITE CONDITIONS AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.

14. DETAILS OR CONDITIONS NOT FULLY DEVELOPED ON STRUCTURAL DOCUMENTS ARE SIMILAR TO DEVELOPED DETAILS.

15. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

16. ALL PLANS TO BE COORDINATED WITH GENERAL NOTES AND TYPICAL DETAILS AS APPLICABLE.

17. ALL LADDERS, RAILINGS, PLATFORMS, AND SAFETY ELEMENTS SHALL BE PROVIDED IN CONFORMANCE WITH CAL / OSHA STANDARDS.

FOUNDATIONS

1. FOUNDATION DESIGN WILL BE BASED ON CRITERIA AND RECOMMENDATIONS PRESENTED IN THE GEOTECHINCAL INVESTIGATION REPORT: HBMWD RESERVOIRS SEISMIC RETROFIT PROJECT, THREE WATER TANKS, KORBLEX AND SAMOA, CALIFORNIA, PREPARED BY PREPARED BY CRAWFORD & ASSOCIATES, INC. DATED JULY 2021.

2. ALLOWABLE BEARING PRESSURE FOR TANK FOUNDATIONS IS 3,000 PSF WITH A 1/3 INCREASE FOR SEISMIC, FOR BOTH TANK SITES.

STEEL

1. DETAIL, FABRICATE, AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (LATEST EDITION AND SUPPLEMENTS).

2. ANCHOR BOLTS: ASTM F1554 GRADE 55.

3. ALL STEEL BARS & PLATES SHALL BE ASTM A36 UNLESS OTHERWISE NOTED.

4. ALL STEEL SHAPES SHALL BE ASTM A992 GRADE 50 UNLESS OTHERWISE NOTED.

5. ALL TUBES SHALL BE ASTM A500 GRADE B.

6. ALL PIPES TO BE ASTM A53 GRADE B.

7. ALL THREADED RODS: ASTM F1554 GRADE 55.

8. BOLTED CONNECTIONS, UNLESS NOTED OTHERWISE: 1-INCH DIAMETER A325-N BOLTS.

9. INSTALL HIGH STRENGTH BOLTS IN ACCORDANCE WITH SECTION 8 OF THE "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", LATEST EDITION.

10. PROVIDE BEVELED WASHERS ON ALL CONNECTION TO SLOPING FLANGES OF W SECTIONS AND CHANNELS WHERE SLOPE EXCEEDS 1:20.

11. ANCHOR RODS SHALL BE THREADED ANCHOR RODS WITH NUT. THE EMBEDDED NUT SHALL BE TACK WELDED TO THE ANCHOR ROD TO PREVENT ROTATION DURING TIGHTENING.

12. BOLT HOLES IN STEEL SHALL BE "STANDARD" (1/16-INCH LARGER IN DIAMETER THAN THE NOMINAL BOLT SIZE), UNLESS OTHERWISE NOTED.

13. WELDING ELECTRODES (FILLER METAL): E70XX (70 KSI), WITH EXACT FILLER METAL SELECTED BY THE FABRICATOR.

14. WELD LENGTHS CALLED FOR ON THE PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE LENGTH OF WELD IS NOT SHOWN IT SHALL BE THE FULL LENGTH OF THE JOINT.

15. COMPLETE PENETRATION WELDS SHALL BE MADE WITH PROPER BACKING WHEREVER POSSIBLE. FULL PENETRATION WELDS MADE WITHOUT PROPER BACKING SHALL HAVE THE ROOT GOUGED BEFORE WELDING IS STARTED FROM THE OTHER SIDE EXCEPT AS PROVIDED IN AWS D1.1.

16. ALL BUTT AND GROOVE WELDS SHALL BE FULL PENETRATION, UNLESS NOTED OTHERWISE.

17. ALL SPLICING OF MEMBERS SHALL BE AS SHOWN ON THE DRAWINGS. ANY SPLICING OF THE STEEL MEMBERS PROPOSED BY THE STEEL FABRICATOR SHALL BE SHOWN ON SHOP DRAWINGS AND APPROVED BY THE ENGINEER PRIOR TO FABRICATION.

18. ALL STEEL FABRICATION SHALL BE PERFORMED BY A FABRICATOR APPROVED BY THE OWNER.

19. ALL ANCHOR BOLTS SHALL BE EMBEDDED AS SHOWN ON THE DRAWINGS.

20. MINIMUM PLATE THICKNESS: 3/8 INCH UNLESS OTHERWISE NOTED. MINIMUM WELD:1/4" UNLESS OTHERWISE NOTED.

21. ALL STEEL FABRICATION AND DETAILS TO COMPLY WITH MOST STRINGENT OF: AISC CODE, AWS CODE, AND THE 2019 CBC.

22. ALL WELDING TO BE BY AWS CERTIFIED WELDERS AND SHALL CONFORM TO ALL 2019 CBC AND AWS REQUIREMENTS. ALL WELDERS SHALL BE PRE-QUALIFIED BY THE PROJECT WELDING INSPECTOR FOR THE WELD TYPES AND POSITIONS USED IN THE PROCEDURES THEY WILL BE PERFORMING.

23. UNLESS NOTED OTHERWISE, ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED, UNLESS IT IS PART OF THE PAINTED TANK ASSEMBLY.

HELICAL ANCHORS

1. CONTRACTOR SHALL SUBMIT HELICAL ANCHOR SHOP DRAWINGS INCLUDING MANUFACTURER DATA, CURRENT VALID ENGINEERING TEST REPORTS, AND SITE SPECIFIC CAPACITY CALCULATIONS STAMPED AND SIGNED BY A CALIFORNIA LICENSED PROFESSIONAL ENGINEER. SITE SPECIFIC ANCHOR CALCULATIONS SHALL BE BASED UP ON THE PROJECT GEOTECHNICAL REPORT.

2. FOR BIDDING PURPOSES, ANCHOR SCHEMATIC DESIGN IS BASED UPON HUBBELL POWER SYSTEMS INC. CHANCE ANCHORS PER ESR-2794.

3. ANCHOR DESIGN SHALL PROVIDE FOR A MINIMUM 50 YEAR DESIGN LIFE WITH CORROSION ALLOWANCE BASED UPON THE SITE SPECIFIC SOIL CORROSIVITY ANALYSIS REPORT.

4. MINIMUM ANCHOR CAPACITY AND EMBEDMENT PARAMETERS ARE AS FOLLOWS:

   a. 1MG SAMOA TANK, 13 KIP TENSION CAPACITY WITH ANCHORS AT 4'-0" O/C AROUND PERIMETER. FINAL EMBEDMENT LENGTH BY ANCHOR DESIGNER, APPROXIMATED AT 17 FEET MAXIMUM AS TO REMAIN ABOVE EXISTING GROUND WATER TABLE AS IDENTIFIED IN THE PROJECT GEOTECHNICAL REPORT.

SPECIAL INSPECTIONS

1. SPECIAL INSPECTION IN ACCORDANCE WITH 2019 CALIFORNIA BUILDING CODE CHAPTER 17 IS REQUIRED ON THE FOLLOWING PORTIONS OF THE WORK:
   - STRUCTURAL STEEL
   - CONCRETE
   - HELICAL ANCHORS

2. (REFER TO THE STATEMENT OF SPECIAL INSPECTIONS FOR MORE SPECIFIC REQUIREMENTS)

CONCRETE

1. ALL CONCRETE SHALL BE NORMAL WEIGHT, WITH A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.

2. CONCRETE REINFORCING COVER SHALL BE AS FOLLOWS:

   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3 INCHES
   CONCRETE EXPOSED TO EARTH OR WEATHER .....2 INCHES

3. ALL CONCRETE DIMENSIONS SHOWN ARE MINIMUM DIMENSIONS. CONTRACTOR TO REVIEW FORMING, REINFORCING DETAILS AND ANY EMBEDDED ITEMS AND DETERMINE PRIOR TO FABRICATION OF ANY REINFORCING, PLACEMENT REQUIREMENTS AND CLEARANCES.

4. EPOXY ANCHORS SHALL BE ONE OF THE FOLLOWING, UNO:

   HILTI HIT-HY 200 (ICC-ES REPORT ESR-3187)

   HILT HIT-RE 500 (ICC-ES REPORT ESR-2322)

   SIMPSON SET-3G (ICC-ES REPORT ESR-4057)

REINFORCING

1. ALL CONCRETE REINFORCING SHALL BE ASTM A615, Fy = 60 KSI., UNLESS NOTED OTHERWISE.

2. REINFORCING SHALL EXTEND CONTINUOUS FOR THE DIMENSION SHOWN.

3. NO WELDING OF ANY REINFORCING IS PERMITTED, UNLESS SPECIFICALLY STATED ON THE PLANS. REINFORCEMENT TO BE WELDED TO MEET THE REQUIREMENTS OF ASTM A706.

4. LOCATE ALL REINFORCING AS SHOWN ON DRAWINGS AND FASTEN SECURELY.

5. LAP SPLICES AND DEVELOPMENT LENGTHS PER DETAIL ON DRAWING S-501.

6. REINFORCEMENT SHALL BE PLACED SO AS NOT TO COME IN CONTRACT WITH METALLIC CONCRETE PENETRATIONS.

7. ALL REINFORCING TO TERMINATE WITH STANDARD HOOKS AS SHOWN ON PLANS. ALL STIRRUPS AND TIES TO BE CLOSED WITH 135° BENDS.

8. IN WALL ELEMENTS, VERTICAL BARS SHALL BE LOCATED ON OUTERMOST LAYER UNLESS SPECIFICALLY NOTED OTHERWISE.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE BY THE CONTRACTOR. DETAILS SHOWN IN THESE SECTIONS ARE FOR BIDDING PURPOSES ONLY AND NOT FOR CONSTRUCTION.

2. DEFERRED SUBMITTALS INCLUDE:
   - 1 MG SAMOA TANK ROOF REPLACEMENT
   - 1 MG SAMOA HELICAL ANCHORS
   - 1 MG SAMOA TANK LADDERS AND PLATFORM

3. CONTRACTOR SHALL SUBMIT STEEL TANK ROOF PLANS AND CALCULATIONS TO THE OWNER FOR APPROVAL AND PERMIT PRIOR TO ANY CONSTRUCTION. PLANS AND CALCULATIONS MUST BE PREPARED, SEALED, AND SIGNED BY A CALIFORNIA LICENSED ENGINEER. CALCULATIONS SHALL INCLUDE ANALYSIS OF NEW ROOF WITH SEISMIC SLOSHING WAVE CONSIDERATION.

4. CONTRACTOR'S STEEL TANK ROOF SUBMITTAL PACKAGE WILL BE SUBJECT TO OWNER REVIEW AND COMMENT. CONTRACTOR WILL BE RESPONSIBLE FOR ADDRESSING OWNER REVIEW COMMENTS AND RESUBMITTING THE TANK ROOF SUBMITTAL AS NECESSARY. OWNER RESERVES RIGHT TO REQUEST DESIGN MODIFICATIONS BASED ON SERVICEABILITY / MAINTENANCE REQUIREMENTS, ETC.

No.	Issue	Checked	Approved	Date
0	ISSUE FOR BID	NS	NS	2024-05-01

Author	S. GOULD	Drafting Check	S. MCHANEY	Project Manager	N. STEVENS
Designer	S. GOULD	Design Check	B. CROWELL	Project Director	K. TOBIN

Bar is one inch on original size sheet
0 1"

REGISTERED PROFESSIONAL ENGINEER STEPHEN C. STEVENS No. S4229 Exp. 6/30/2024 STRUCTURAL STATE OF CALIFORNIA

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Client: HUMBOLDT BAY MUNICIPAL WATER DISTRICT
Project: SAMOA RESERVOIR SEISMIC RETROFIT

Title: STRUCTURAL GENERAL NOTES

Size: ANSI D

Project No.	Date	Scale	Sheet No.	Sheet
12627733	2024-05-01	AS SHOWN	S-001	8 of 17

Plot Date: 30 April 2024 - 9:32 PM Plotted By: Michelle Davidson Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\56\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-ST-0001.dwg

STATEMENT OF SPECIAL INSPECTIONS

STATEMENT OF SPECIAL INSPECTIONS

THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED IN ACCORDANCE WITH THE SPECIAL INSPECTION AND STRUCTURAL TESTING REQUIREMENTS OF THE BUILDING CODE SECTIONS 1704 AND 1705.

THIS STATEMENT OF SPECIAL INSPECTIONS ENCOMPASS THE FOLLOWING DISCIPLINES:

- ☒ STRUCTURAL SPECIAL INSPECTIONS PER 1704
- ☐ STRUCTURAL SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE
- ☐ STRUCTURAL SPECIAL INSPECTIONS FOR WIND RESISTANCE

THE SCHEDULE OF SPECIAL INSPECTIONS SUMMARIZES THE SPECIAL INSPECTIONS AND TESTS REQUIRED. SPECIAL INSPECTORS WILL REFER TO THE APPROVED PLANS AND SPECIFICATIONS FOR DETAILED SPECIAL INSPECTION REQUIREMENTS. ANY ADDITIONAL TESTS AND INSPECTIONS REQUIRED BY THE APPROVED PLANS AND SPECIFICATIONS WILL ALSO BE PERFORMED.

THE SPECIAL INSPECTIONS IDENTIFIED ARE IN ADDITION TO THOSE REQUIRED BY OTHER SECTIONS OF THE BUILDING CODE.

THE SPECIAL INSPECTION COORDINATOR SHALL KEEP RECORDS OF ALL INSPECTIONS AND SHALL FURNISH INSPECTION REPORTS TO THE OWNER AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. DISCOVERED DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF SUCH DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. THE SPECIAL INSPECTION PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITIES.

INTERIM REPORTS SHALL BE SUBMITTED TO THE OWNER AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 1704.1.2.

A FINAL REPORT OF SPECIAL INSPECTIONS DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS, TESTING AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED PRIOR TO PROJECT COMPLETION. THE FINAL REPORT WILL DOCUMENT THE REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF DISCREPANCIES NOTED IN INSPECTIONS.

JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR IS REQUIRED TO COORDINATE ALL INSPECTIONS. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND THE SPECIAL INSPECTOR A MINIMUM OF 24 HOURS PRIOR TO ANY SPECIAL INSPECTIONS THAT ARE REQUIRED. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND THE SPECIAL INSPECTOR A MINIMUM OF 24 HOURS PRIOR TO ANY CONCRETE TO BE POURED.

ALL SPECIAL INSPECTORS AND QUALIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER-OF-RECORD AND THE OWNER FOR REVIEW.

SPECIALLY INSPECTED WORK THAT IS INSTALLED OR COVERED WITHOUT THE APPROVAL OF THE OWNER IS SUBJECT TO REMOVAL OR EXPOSURE.

CONTINUOUS INSPECTION IS ALWAYS REQUIRED DURING THE PERFORMANCE OF THE WORK UNLESS OTHERWISE SPECIFIED. WHEN WORK IN MORE THAN ONE CATEGORY OF WORK REQUIRING SPECIAL INSPECTION IS TO BE PERFORMED SIMULTANEOUSLY, OR THE GEOGRAPHIC LOCATION OF THE WORK IS SUCH THAT IT CANNOT BE CONTINUOUSLY OBSERVED, IT IS THE AGENT'S RESPONSIBILITY TO EMPLOY A SUFFICIENT NUMBER OF INSPECTORS TO ASSURE THAT ALL THE WORK IS INSPECTED IN ACCORDANCE WITH THE PROVISIONS OF THE BUILDING CODE.

CONTRACTOR STATEMENT OF RESPONSIBILITY

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OR FABRICATION OF A SYSTEM OR COMPONENT DESIGNATED ABOVE AS PART OF THE MAIN WIND FORCE OR MAIN SEISMIC FORCE RESISTING SYSTEMS ABOVE MUST SUBMIT A STATEMENT OF RESPONSIBILITY PER SECTION 1706.

SCHEDULE OF INSPECTION AND TESTING AGENCIES

THIS STATEMENT OF SPECIAL INSPECTIONS / QUALITY ASSURANCE PLAN INCLUDES THE FOLLOWING BUILDING SYSTEMS:

- ☒ SOILS AND FOUNDATIONS
- ☒ CAST-IN-PLACE CONCRETE
- ☐ PRECAST CONCRETE
- ☐ MASONRY LEVEL 1
- ☐ MASONRY LEVEL 2
- ☐ WOOD CONSTRUCTION
- ☐ MECHANICAL & ELECTRICAL SYSTEMS
- ☐ ARCHITECTURAL SYSTEMS
- ☒ STRUCTURAL STEEL
- ☐ COLD-FORMED STEEL FRAMING

SPECIAL INSPECTION AGENCIES	FIRM AND CONTACT INFO.
1. SPECIAL INSPECTION COORDINATOR	TBD
2. CONCRETE INSPECTOR	TBD
3. STEEL INSPECTOR	TBD
4. SOILS INSPECTOR	TBD
5. CONCRETE TESTING AGENCY	TBD

QUALIFICATIONS OF INSPECTORS AND TESTING TECHNICIANS

THE QUALIFICATIONS OF ALL PERSONNEL PERFORMING SPECIAL INSPECTION AND TESTING ACTIVITIES ARE SUBJECT TO THE APPROVAL OF OWNER. THE CREDENTIALS OF ALL INSPECTORS AND TESTING TECHNICIANS SHALL BE PROVIDED IF REQUESTED.

KEY FOR MINIMUM QUALIFICATIONS OF INSPECTION AGENTS:

WHEN THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE DEEMS IT APPROPRIATE THAT THE INDIVIDUAL PERFORMING A STIPULATED TEST OR INSPECTION HAVE A SPECIFIC CERTIFICATION OR LICENSE AS INDICATED BELOW, SUCH DESIGNATION SHALL APPEAR BELOW THE *AGENCY NUMBER* ON THE SCHEDULE.

PE/SE STRUCTURAL ENGINEER - A LICENSED SE OR PE SPECIALIZING IN THE DESIGN OF BUILDING STRUCTURES
PE/GE GEOTECHNICAL ENGINEER - A LICENSED GE OR PE SPECIALIZING IN SOIL MECHANICS AND FOUNDATIONS
EIT ENGINEER-IN-TRAINING - A GRADUATE ENGINEER WHO HAS PASSED THE FUNDAMENTALS OF ENGINEERING EXAMINATION

AMERICAN CONCRETE INSTITUTE (ACI) CERTIFICATION

ACI-CFTT CONCRETE FIELD TESTING TECHNICIAN - GRADE 1
ACI-CCI CONCRETE CONSTRUCTION INSPECTOR
ACI-LTT LABORATORY TESTING TECHNICIAN - GRADE 1&2
ACI-STT STRENGTH TESTING TECHNICIAN

AMERICAN WELDING SOCIETY (AWS) CERTIFICATION

AWS-CWI CERTIFIED WELDING INSPECTOR
AWS/AISC-SSI CERTIFIED STRUCTURAL STEEL INSPECTOR

INTERNATIONAL CODE COUNCIL (ICC) CERTIFICATION

ICC-SMSI STRUCTURAL MASONRY SPECIAL INSPECTOR
ICC-SWSI STRUCTURAL STEEL AND WELDING SPECIAL INSPECTOR
ICC-SFSI SPRAY-APPLIED FIREPROOFING SPECIAL INSPECTOR
ICC-PCSI PRESTRESSED CONCRETE SPECIAL INSPECTOR
ICC-RCSI REINFORCED CONCRETE SPECIAL INSPECTOR

AMERICAN SOCIETY OF NONDESTRUCTIVE TESTING (ASNT)

TABLE 1705.6 - SOILS

ITEM 1:	VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY. ☒ PERIODIC ☐ CONTINUOUS	AGENCY # (QUALIF.): PE/GE
ITEM 2:	VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL. ☒ PERIODIC ☐ CONTINUOUS	AGENCY # (QUALIF.): PE/GE
ITEM 3:	PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS. ☒ PERIODIC ☐ CONTINUOUS	AGENCY # (QUALIF.): PE/GE
ITEM 4:	VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL. ☐ PERIODIC ☒ CONTINUOUS	AGENCY # (QUALIF.): PE/GE
ITEM 5:	PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY. ☒ PERIODIC ☐ CONTINUOUS	AGENCY # (QUALIF.): PE/GE

TABLE 1705.2 - STEEL CONSTRUCTION

ITEM 1:	MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS.	AGENCY # (QUALIF.): AWS/AISC-SSI, ICC-SWSI
SCOPE:		
A.	IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS. ☒ PERIODIC ☐ CONTINUOUS	REFERENCE STDS.: AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS
B.	MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED. ☒ PERIODIC ☐ CONTINUOUS	
ITEM 2:	INSPECTION OF HIGH-STRENGTH BOLTING:	AGENCY # (QUALIF.): AWS/AISC-SSI, ICC-SWSI
SCOPE:		
A.	SNUG-TIGHT JOINTS. ☒ PERIODIC ☐ CONTINUOUS	REFERENCE STDS. AISC 360 SECTION M2.5
B.	PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT MATCHMAKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION. ☒ PERIODIC ☐ CONTINUOUS	
C.	PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION. ☐ PERIODIC ☒ CONTINUOUS	
ITEM 3:	MATERIAL VERIFICATION OF STRUCTURAL STEEL	AGENCY # (QUALIF.): PE/SE
SCOPE:		
A.	FOR STRUCTURAL STEEL, IDENTIFICATION MARKINGS TO CONFORM TO AISC 360 ☒ PERIODIC ☐ CONTINUOUS	REFERENCE STDS. AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS
B.	FOR OTHER STEEL, IDENTIFICATION ON MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN APPROVED CONSTRUCTION DOCUMENTS. ☒ PERIODIC ☐ CONTINUOUS	REFERENCE STDS. APPLICABLE ASTM MATERIAL STANDARDS
C.	MANUFACTURER'S CERTIFIED TEST REPORTS ☒ PERIODIC ☐ CONTINUOUS	
ITEM 4:	MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK	AGENCY # (QUALIF.): AWS-CWI, ASNT
SCOPE:		
A.	MANUFACTURER'S CERTIFIED TEST REPORTS ☒ PERIODIC ☐ CONTINUOUS	
ITEM 5:	MATERIAL VERIFICATION OF WELD FILLER MATERIALS	AGENCY # (QUALIF.): AWS-CWI, ASNT
SCOPE:		
A.	IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS. ☒ PERIODIC ☐ CONTINUOUS	REFERENCE STDS. AISC 360, SECTION A3.5 AND APPLICABLE AWS A5 DOCUMENTS
B.	MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED. ☒ PERIODIC ☐ CONTINUOUS	
ITEM 6:	INSPECTION OF WELDING	AGENCY # (QUALIF.): AWS-CWI, ASNT
SCOPE:		
A.	STRUCTURAL STEEL AND COLD-FORMED STEEL DECK	
1.	COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS ☐ PERIODIC ☒ CONTINUOUS	
2.	MULTIPASS FILLET WELDS ☐ PERIODIC ☒ CONTINUOUS	
3.	SINGLE-PASS FILLET WELDS > 5/16". ☐ PERIODIC ☒ CONTINUOUS	REFERENCE STDS. AWS D1.1
4.	PLUG AND SLOT WELDS ☐ PERIODIC ☒ CONTINUOUS	
5.	SINGLE-PASS FILLET WELDS < 5/16". ☒ PERIODIC ☐ CONTINUOUS	
6.	FLOOR AND ROOF DECK WELDS. ☒ PERIODIC ☐ CONTINUOUS	REFERENCE STDS. AWS D1.3
B.	REINFORCING STEEL:	
1.	VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706 ☒ PERIODIC ☐ CONTINUOUS	
2.	REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT. ☐ PERIODIC ☒ CONTINUOUS	REFERENCE STDS. AWS D1.4 ACI 318 SECTION 4.2.2
3.	SHEAR REINFORCEMENT. ☐ PERIODIC ☒ CONTINUOUS	
4.	OTHER REINFORCING STEEL. ☒ PERIODIC ☐ CONTINUOUS	
ITEM 7:	INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE	AGENCY # (QUALIF.): AWS-CWI, ASNT
SCOPE:		
A.	DETAILS SUCH AS BRACING AND STIFFENING. ☒ PERIODIC ☐ CONTINUOUS	
B.	MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED. ☒ PERIODIC ☐ CONTINUOUS	
C.	MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED. ☒ PERIODIC ☐ CONTINUOUS	

TABLE 1705.3 - CONCRETE CONSTRUCTION

ITEM 1:	INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT. ☒ PERIODIC ☐ CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI REFERENCE STDS: ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3
ITEM 2:	REINFORCING BAR WELDING:	AGENCY # (QUALIF.): ACI-CWI
SCOPE:		
A.	VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706; ☒ PERIODIC ☐ CONTINUOUS	REFERENCE STDS.: AWS D1.4 ACI 318: 26.6.4
B.	INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16"; AND. ☒ PERIODIC ☐ CONTINUOUS	
C.	INSPECT ALL WELDS. ☐ PERIODIC ☒ CONTINUOUS	
ITEM 3:	INSPECT ANCHORS CAST IN CONCRETE: ☒ PERIODIC ☐ CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI REFERENCE STDS: ACI 318 17.8.2
ITEM 4:	INSPECT TEST ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI
SCOPE:		
A.	ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. ☐ PERIODIC ☒ CONTINUOUS	REFERENCE STDS.: ACI 318: 17.8.2.4
B.	MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A. ☒ PERIODIC ☐ CONTINUOUS	REFERENCE STDS.: ACI 318: 17.8.2
ITEM 5:	VERIFY USE OF REQUIRED DESIGN MIX: ☒ PERIODIC ☐ CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI ACI 318 CH. 19, 26.4.3, 26.4.4
ITEM 6:	PRIOR TO CONCRETE PLACEMENT, FABRICATED SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE. ☐ PERIODIC ☒ CONTINUOUS	AGENCY # (QUALIF.): ACI-CFTT, ACI-STT REFERENCE STDS.: ASTM C172 ASTM C31 ACI 318: 26.4, 26.12
ITEM 7:	INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES. ☐ PERIODIC ☒ CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI REFERENCE STDS.: ACI 318: 26.5, ACI 506: 3.4
ITEM 8:	VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES. ☒ PERIODIC ☐ CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI REFERENCE STDS.: ACI 318: 26.5.3-26.5.5
ITEM 9:	INSPECT PRESTRESSED CONCRETE FOR:	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI REFERENCE STDS.: ACI 318: 26.10.2
SCOPE:		
A.	APPLICATION OF PRESTRESSING FORCES; AND. ☐ PERIODIC ☒ CONTINUOUS	
B.	GROUTING OF BONDED PRESSTRESSING TENDONS. ☐ PERIODIC ☒ CONTINUOUS	
ITEM 10:	INSPECT ERECTION OF PRECAST CONCRETE MEMBERS. ☒ PERIODIC ☐ CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI REFERENCE STDS.: ACI 318: 26.9.2
ITEM 11:	VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS WHEN BEAMS AND STRUCTURAL SLABS. ☒ PERIODIC ☐ CONTINUOUS	AGENCY # (QUALIF.): ACI-CFTT, ACI-STT REFERENCE STDS.: ACI 318: 26.10.2, 26.11.2
ITEM 11:	INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED. ☒ PERIODIC ☐ CONTINUOUS	AGENCY # (QUALIF.): ACI-CCI, ICC-RCSI REFERENCE STDS.: ACI 318: 26.11.2(B)

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Client HUMBOLDT BAY MUNICIPAL WATER DISTRICT
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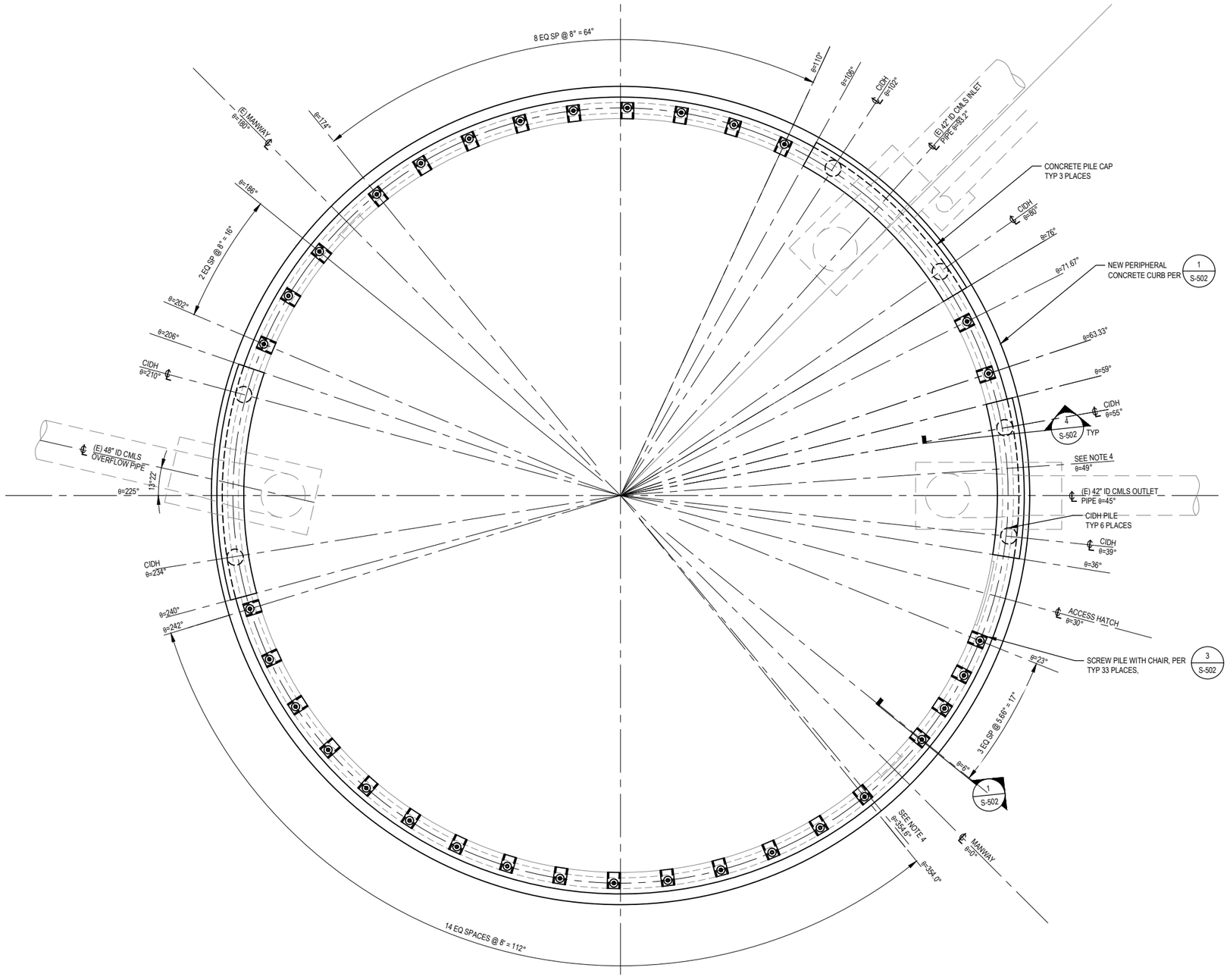
Plot Date: 30 April 2024 - 9:32 PM | Plotted By: Michelle Davidson | Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\56\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-ST-0001.dwg



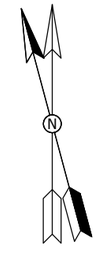
1 FOUNDATION LAYOUT - PLAN

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

SHEET GENERAL NOTES

1. CONTRACTOR TO PROVIDE ALL COMPONENTS TO CONSTRUCT / INSTALL NEW WORK.
2. ALL ANGULAR MEASUREMENTS SHOWN ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD PRIOR TO ANY CONSTRUCTION OR FABRICATION. ANY DISCREPANCIES BETWEEN THIS LAYOUT PLAN AND FIELD MEASUREMENTS MADE BY THE CONTRACTOR SHALL BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO ANY CONSTRUCTION OR FABRICATION. THE ENGINEER OF RECORD MAY MODIFY THIS LAYOUT TO MITIGATE ANY DISCREPANCIES AND ISSUE AN ADDENDUM TO THIS DRAWING. NO CONSTRUCTION OR FABRICATION SHALL BEGIN PRIOR TO RECEIPT OF THE ADDENDUM OR APPROVAL FROM THE ENGINEER OF RECORD.
3. VERTICAL HELICAL SCREW ANCHOR (DESIGN AND CONSTRUCTION BY CONTRACTOR - REFERENCE SPECIFICATION SECTION 31 62 99). CHANCE/HUBBLE COMBINATION HELICAL PILE OR APPROVED EQUIVALENT, PILE SYSTEM TO BE MANUFACTURED AND INSTALLED PER THE FOLLOWING CRITERIA:
   SHAFT MATERIAL:
   TYPE SS200 2.0"x2.0" SOLID SQUARE SHAFT
   EXTENSION: TYPE RS3500.300 (3.5 O.D., 0.300" WALL PIPE SHAFT)
   HELICAL CONFIGURATION:
   8"x10"x12" HELIX
   ESTIMATED LENGTH:
   22-25 FT (UPPERMOST HELIX TO BE LOCATED 5-FT BELOW FINISHED GRADE OR LIQUIFIABLE LAYER)
   REQUIRED CAPACITY:
   COMPRESSION: 70-KIPS ULTIMATE
   TENSION: 60-KIPS ULTIMATE
   MAX INSTALLATION TORQUE: 13,000 FT-LBS
   (RS3500.300 SHAFT MAX WORKING TORQUE LIMIT)
   MAX INSTALLATION TORQUE: 10,000 FT-LBS
4. REMOVE PIPE PENETRATION FLUSH WITH EXTERIOR SHELL. PROVIDE ½" THICK x 4" SQUARE PLATE AT INTERIOR WITH ⅜" FILLET WELD ALL AROUND.

TRUE NORTH PLAN NORTH



0	ISSUE FOR BID		NS	NS	2024-05-01
No.	Issue		Checked	Approved	Date

Author S. GOULD | Drafting Check B. CROWELL | Project Manager N. STEVENS
Designer S. BURNS | Design Check B. CROWELL | Project Director K. TOBIN

Bar is one inch on original size sheet
0 1"

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Client HUMBOLDT BAY MUNICIPAL WATER DISTRICT
Project SAMOA RESERVOIR SEISMIC RETROFIT

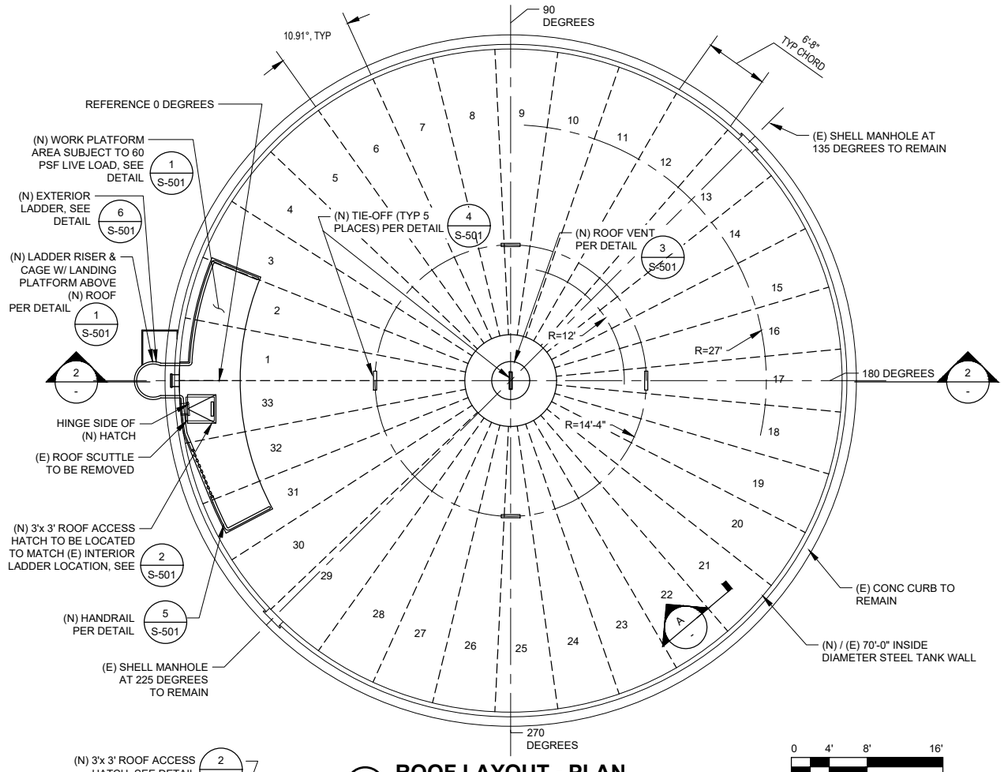
Title 1-MG INDUSTRIAL TANK FOUNDATION PLAN

Size ANSI D

Project No. 12627733 | Date 2024-05-01 | Scale AS SHOWN

Sheet No. S-101 | Sheet 10 of 17

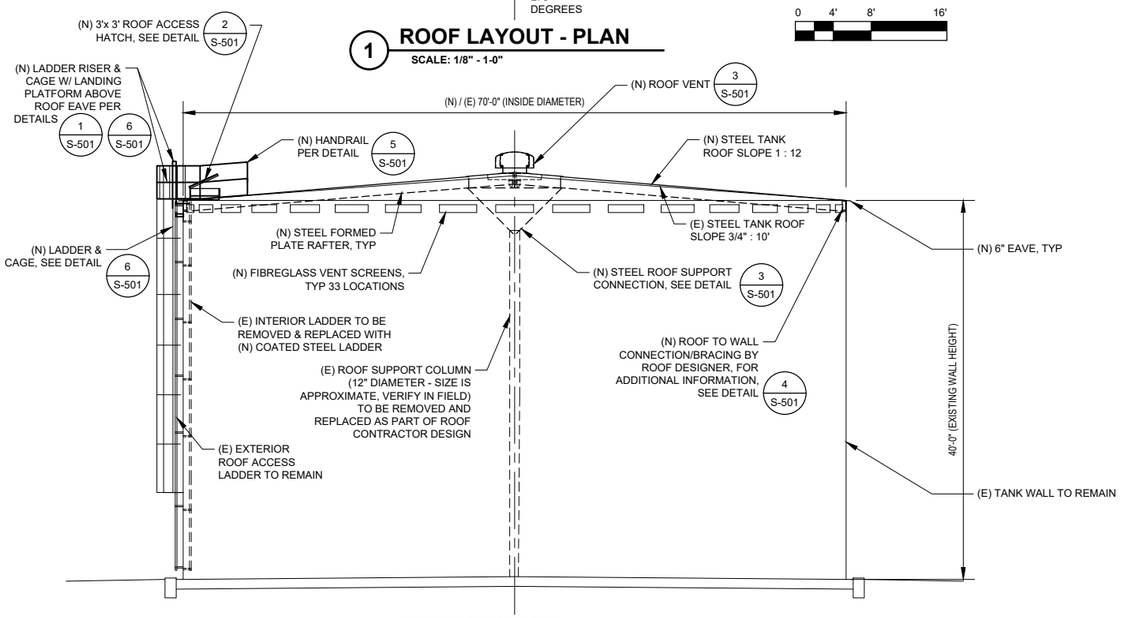
Plot Date: 30 April 2024 - 9:39 PM Plotted By: Michelle Davidson Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\561\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-ST-0101.dwg



1 ROOF LAYOUT - PLAN

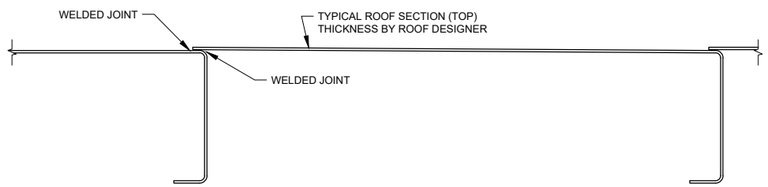
SCALE: 1/8" - 1-0"

0 4' 8' 16'

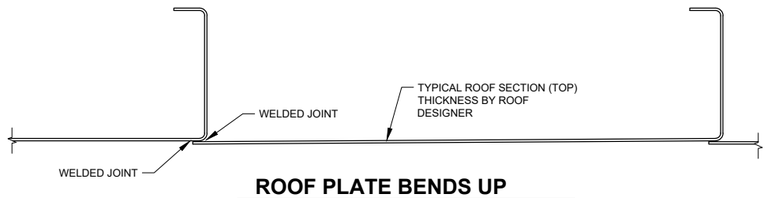


2 TANK SECTION

SCALE: 1/8" - 1-0"



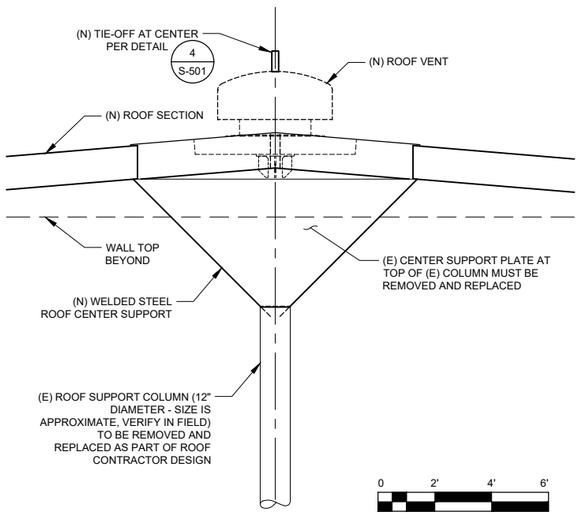
ROOF PLATE BENDS DOWN



ROOF PLATE BENDS UP

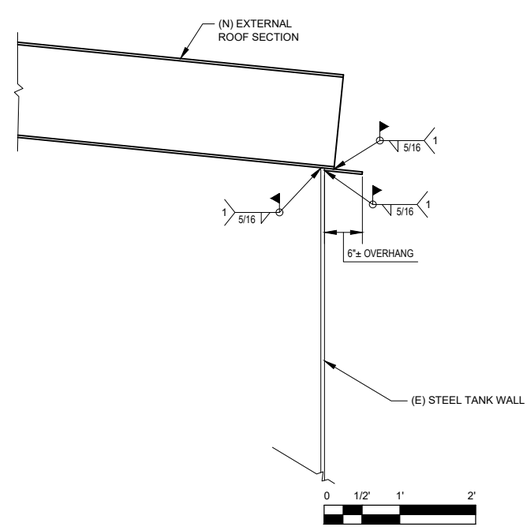
A TYPICAL FORMED ROOF SECTIONS

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



3 CENTER SUPPORT COLUMN CONNECTION

SCALE: 3/8" - 1-0"



4 ROOF TO WALL CONNECTION

SCALE: 1" - 1-0"

SHEET GENERAL NOTES

1. CONTRACTOR TO PROVIDE ALL COMPONENTS TO CONSTRUCT / INSTALL NEW WORK.
2. SEE SHEET CP-101 FOR CATHODIC PROTECTION INFORMATION NOT SHOWN.

ROOF BUILD NOTE:

1. ROOF BUILD OPTIONS SHOWN ARE CONCEPTUAL ONLY. ONE-PIECE PRESS-BRAKE JOIST WITH ROOF PLATE SECTIONS WITH CONTINUOUS SEALED WELDED JOINTS ARE THE PREFERRED METHOD OF CONSTRUCTION TO PROVIDE A MORE SERVICEABLE INTERIOR ROOF SURFACE IN LIGHT OF CURRENT CORROSION ISSUES NECESSITATING THIS ROOF REPLACEMENT. CONTRACTOR BIDS SHALL INCLUDE THE METHOD OF FRAMING TO BE USED. CONTRACTOR BIDS SHALL ALSO INCLUDE JUSTIFICATION FOR ROOF FRAMING OPTION TO BE PROVIDED, INCLUDING ANY COST COMPARISON TO SERVICEABILITY/MAINTENANCE BENEFITS.

No.	Issue	Checked	Approved	Date
0	ISSUE FOR BID	NS	NS	2024-05-01

Author	A. PRATT	Drafting Check	B. CROWELL	Project Manager	N. STEVENS
Designer	S. BURNS	Design Check	B. CROWELL	Project Director	K. TOBIN

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0 1"

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Client HUMBOLDT BAY MUNICIPAL WATER DISTRICT
Project SAMOA RESERVOIR SEISMIC RETROFIT

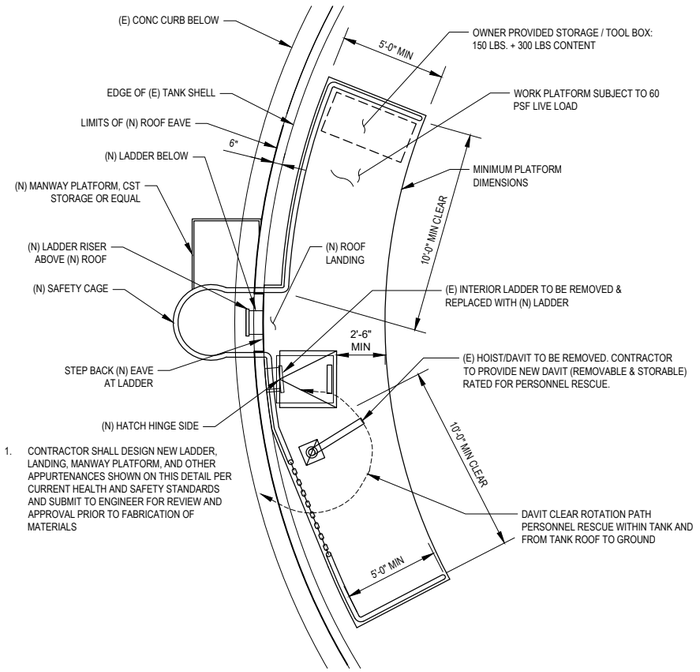
Title 1-MG INDUSTRIAL ROOF PLAN

Size ANSI D

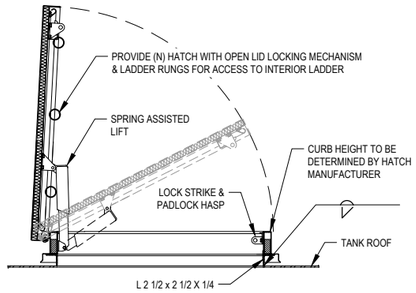
Project No.	Date	Scale
12627733	2024-05-01	AS SHOWN

Sheet No. S-102
Sheet 11 of 17

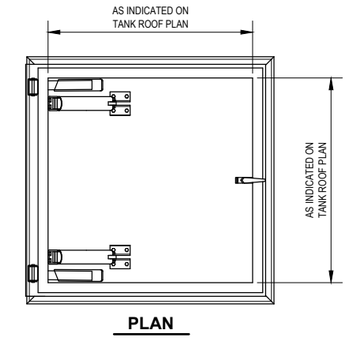
Plot Date: 30 April 2024 - 9:40 PM
Plotted By: Michelle Davidson
Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\56\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-ST-0102.dwg



1 S501 **TANK PLATFORM & RAILING PLAN**
SCALE: 1/4" = 1'-0"

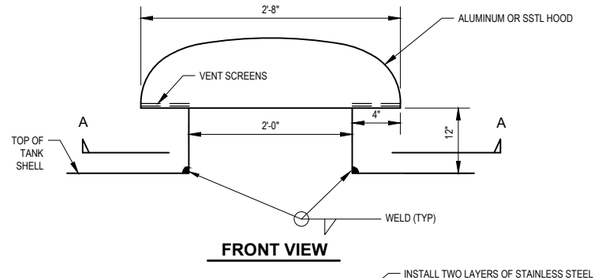


ELEVATION

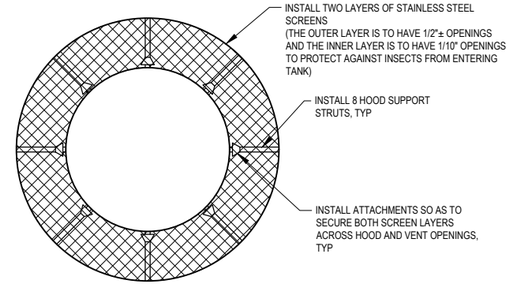


PLAN

2 S501 **ROOF HATCH DETAIL**
SCALE: NOT TO SCALE

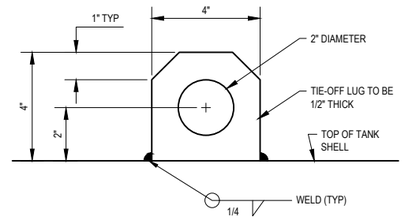


FRONT VIEW

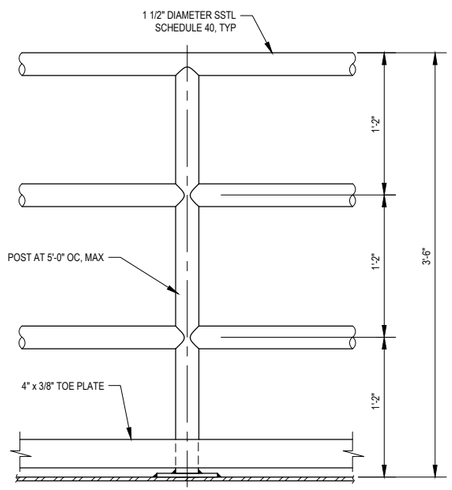


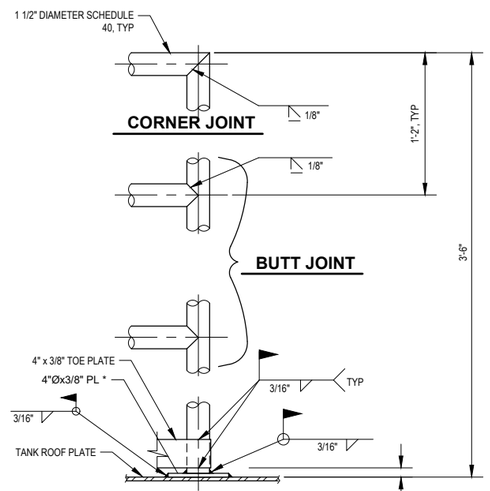
BOTTOM VIEW (SECTION A - A)

3 S501 **ROOF VENT DETAILS**
SCALE: NOT TO SCALE

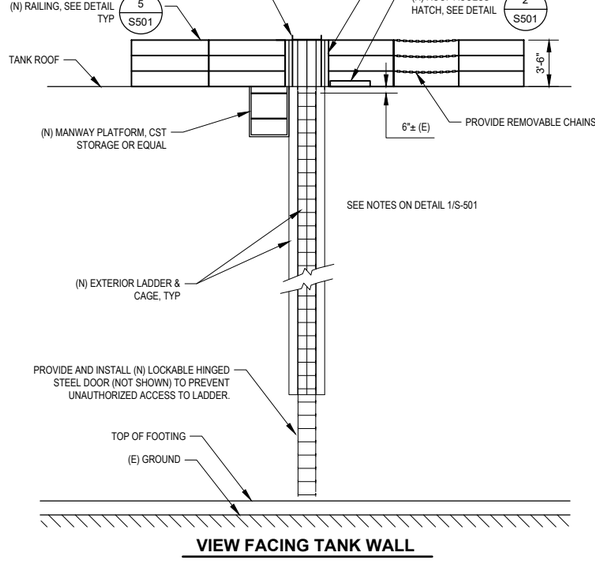


4 S501 **TIE-OFF DETAIL**
SCALE: NOT TO SCALE

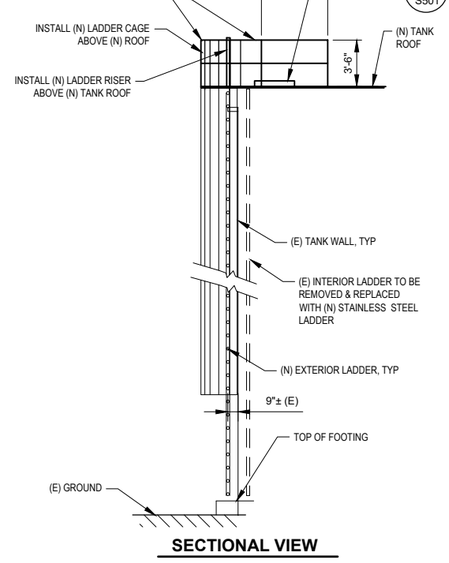




5 S501 **SAFETY RAILING DETAIL**
SCALE: NOT TO SCALE



VIEW FACING TANK WALL



SECTIONAL VIEW

6 S501 **EXTERIOR LADDER DETAILS**
SCALE: NOT TO SCALE

No.	Issue	Checked	Approved	Date
0	ISSUE FOR BID	NS	NS	2024-05-01

Author **A. PRATT** Drafting Check **B. CROWELL** Project Manager **N. STEVENS**
Designer **S. BURNS** Design Check **B. CROWELL** Project Director **K. TOBIN**

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0 1"

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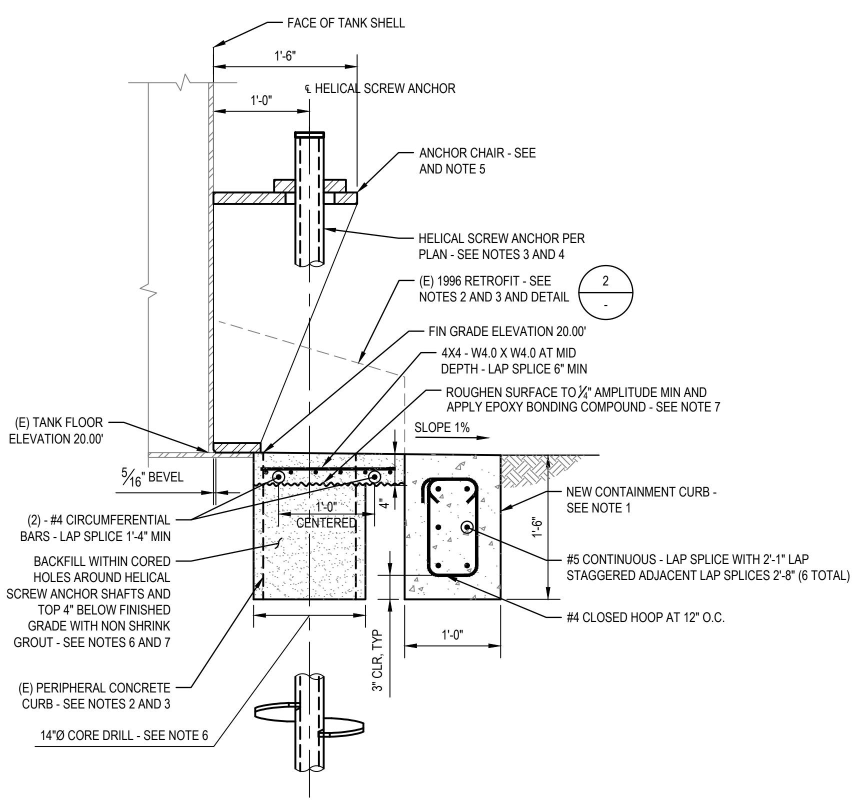
Client **HUMBOLDT BAY MUNICIPAL WATER DISTRICT**
Project **SAMOA RESERVOIR SEISMIC RETROFIT**

Title **TYPICAL DETAILS - 1**

Project No. **12627733** Date **2024-05-01** Scale **AS SHOWN**

Size **ANSI D**
Status Code
Sheet No **S-501** Sheet **12 of 17**

Plot Date: 30 April 2024 - 10:15 PM Plotted By: Michelle Davidson Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\56\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-ST-0501.dwg

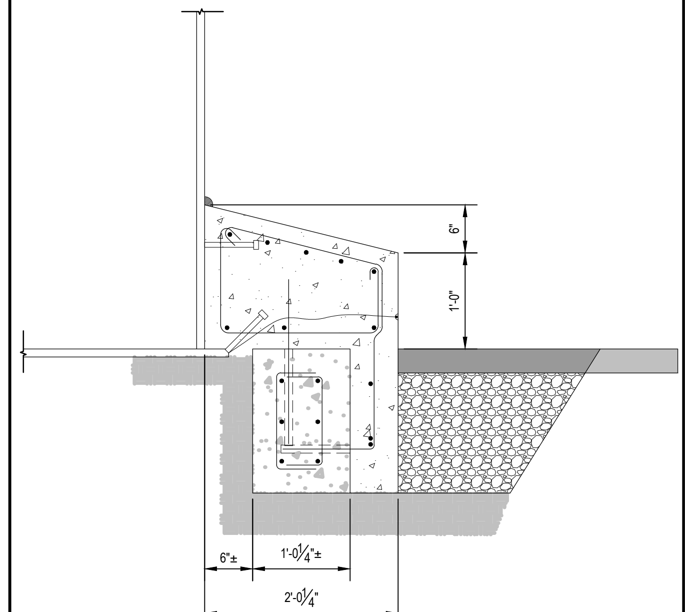


CONSTRUCTION SEQUENCING:

1. INSTALL NEW CONTAINMENT RING PRIOR TO ANY OTHER DEMOLITION, CONSTRUCTION, OR HELICAL PILE INSTALLATION. DO NOT PERFORM SEQUENCE NOTES 3 THROUGH 7 UNTIL NEW CONTAINMENT RING HAS ACHIEVED ITS 28-DAY CONCRETE STRENGTH.
2. REMOVE (E) 1966 RETROFIT CONCRETE ABOVE FINISHED GRADE ELEVATION. DO NOT DAMAGE (E) PERIPHERAL CONCRETE CURB OR CONCRETE STEM WALL OF (E) 1966 RETROFIT BELOW FINISHED GRADE.
3. AT EACH ANCHOR LOCATION INDICATED ON PLAN, CORE DRILL 14-INCH DIAMETER VERTICAL HOLE THROUGH (E) PERIPHERAL CONCRETE CURB AND REMAINING CONCRETE STEM WALL OF (E) 1966 RETROFIT BELOW FINISHED GRADE. DO NOT OTHERWISE DAMAGE (E) PERIPHERAL CONCRETE CURB OR STEM WALL OF (E) 1966 RETROFIT.
4. INSTALL HELICAL SCREW ANCHORS.
5. INSTALL ANCHOR CHAIRS.
6. GROUT AROUND HELICAL SCREW ANCHOR SHAFT UP TO 3" BELOW FINISHED GRADE.
7. REMOVE TOP 4" OF CONCRETE FROM (E) 1966 RETROFIT CONCRETE AND (E) PERIPHERAL CONCRETE CURB AND REPLACE BACK WITH NON-SHRINK GROUT. PROVIDE 1% SLOPE AWAY FROM TANK.
8. PAINT ALL EXPOSED METAL IN CONFORMANCE WITH PROJECT SPECIFICATION.

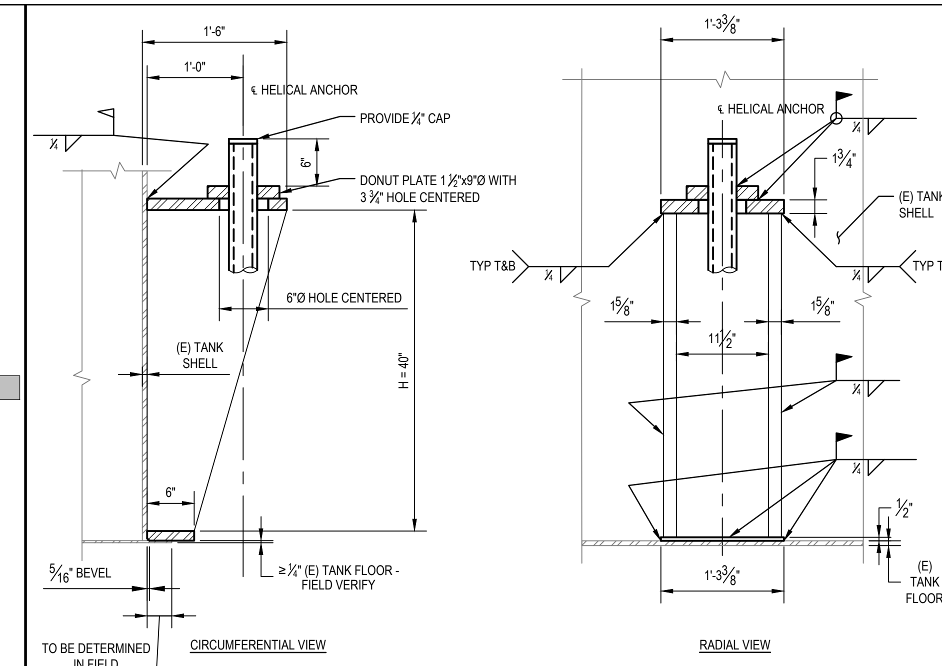
1 TANK FOUNDATION RETROFIT AND CONSTRUCTION SEQUENCING

SCALE: 1" = 1'-0"



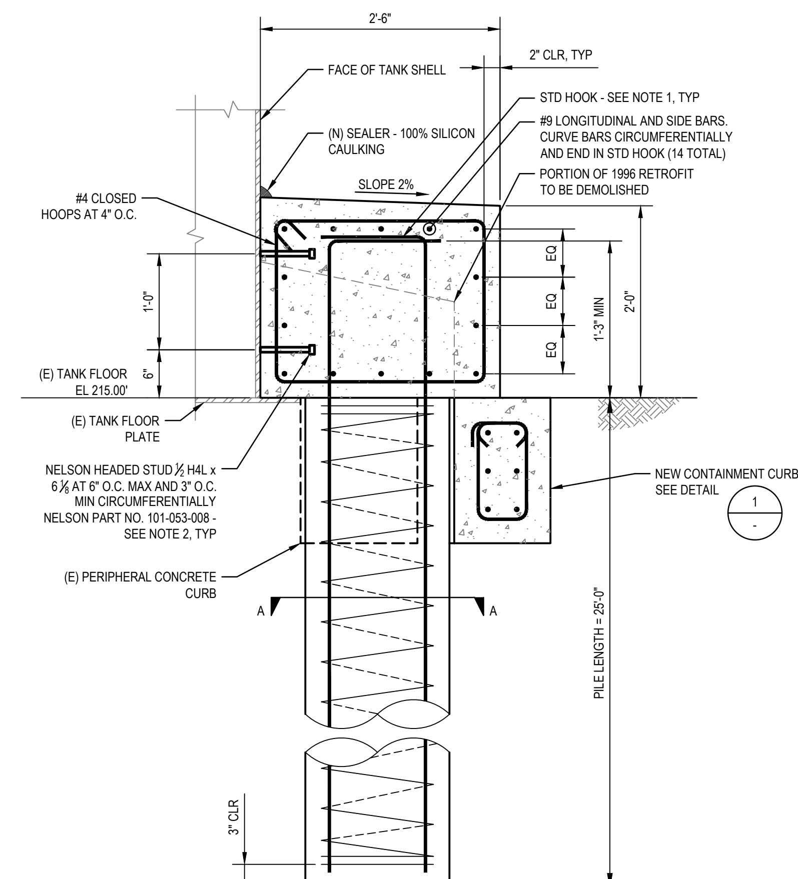
2 EXISTING TANK CURBING PER 1996 RETROFIT

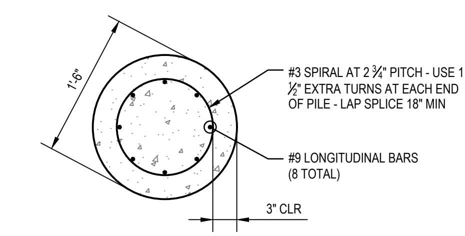
SCALE: 1" = 1'-0" (FOR REFERENCE)



3 ANCHOR CHAIR DETAIL

SCALE: 1" = 1'-0"





SECTION A-A

NOTES:

1. ROTATE COLUMN LONGITUDINAL BAR HOOKS RADICALLY OUTWARD UNLESS THERE IS INSUFFICIENT SPACE TO DO SO.
2. LOCATE FIRST AND LAST HEADED STUD IN A ROW 3" FROM ENDS OF PILE CAP.

4 PILE CAP AND PILE DETAIL

SCALE: 1" = 1'-0"

No.	Issue	Checked	Approved	Date
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Author D. SONG | Drafting Check N.STEVENS | Project Manager N. STEVENS
Designer S. BURNS | Design Check S.MCHANEY | Project Director K. TOBIN

Bar is one inch on original size sheet
0 1"

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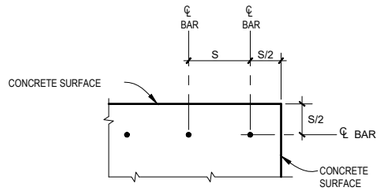
Client HUMBOLDT BAY MUNICIPAL WATER DISTRICT
Project SAMOA RESERVOIR SEISMIC RETROFIT
Title TYPICAL DETAILS - 2

Project No.	Date	Scale	Size	Sheet No.	Sheet
12627733	2024-05-01	AS SHOWN	ANSI D	S-502	13 of 17

DEVELOPMENT LENGTH (ℓ_d)												
BAR SIZE	3000 PSI CONC (f'c)				4000 PSI CONC (f'c)				5000 PSI CONC (f'c)			
	TOP		OTHER		TOP		OTHER		TOP		OTHER	
	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"
#3	13	22	12	17	12	19	12	15	12	17	12	13
#4	18	29	14	22	15	25	12	19	14	23	12	17
#5	22	36	17	28	19	31	15	24	17	28	13	22
#6	26	43	20	33	23	37	18	29	20	34	16	26
#7	38	63	29	48	33	54	25	42	29	49	23	38
#8	43	72	33	55	37	62	29	48	34	56	26	43
#9	49	81	37	62	42	70	33	54	38	63	29	48
#10	56	89	43	69	49	78	38	60	44	69	34	54
#11	68	98	52	76	59	85	45	66	53	76	41	59
TENSION LAP SPLICE LENGTH (CLASS 'B' SPLICE)												
BAR SIZE	3000 PSI CONC (f'c)				4000 PSI CONC (f'c)				5000 PSI CONC (f'c)			
	TOP		OTHER		TOP		OTHER		TOP		OTHER	
	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"	s ≥ 6"	s < 6"
#3	17	28	16	22	16	25	16	19	16	22	16	17
#4	23	38	18	29	20	33	16	25	18	29	16	23
#5	28	47	22	36	25	41	19	31	22	36	17	28
#6	34	56	26	43	29	49	23	38	26	44	20	34
#7	49	82	38	63	43	71	33	55	38	63	30	49
#8	56	93	43	72	49	81	38	62	44	72	34	56
#9	63	105	49	81	55	91	42	70	49	81	38	63
#10	73	116	56	90	63	101	49	78	57	90	44	70
#11	88	128	68	99	76	111	59	85	68	99	53	76

NOTES:

1. LENGTHS SHOWN ARE FOR GRADE 60 UNCOATED BARS.
2. LENGTHS SHOWN ARE IN INCHES.
3. INCREASE LENGTHS 30% FOR LIGHT WEIGHT CONCRETE
4. TOP BARS: HORIZONTAL BARS WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THEM.
5. THE QUANTITY 's' IS DEFINED AS FOLLOWS:



1 BAR DEVELOPMENT LENGTHS AND LAP SPLICE LENGTHS FOR CONCRETE

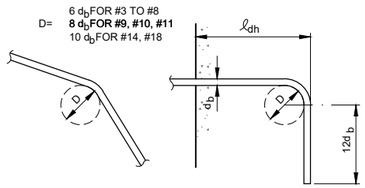
NOT TO SCALE

2 NOT USED

NOT TO SCALE

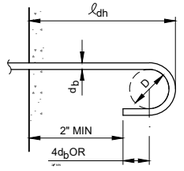
3 NOT USED

NOT TO SCALE



TYP BAR BEND DIAMETER

TYP 90° END HOOK

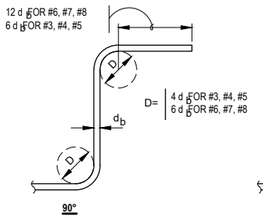


TYP 180° END HOOK

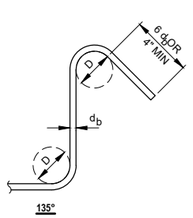
MINIMUM TENSION EMBEDMENT LENGTHS FOR STANDARD END HOOKS ON REINFORCING BARS (IN.) ℓ_{dh}				
BAR SIZE	NORMAL WEIGHT CONCRETE, f'c, PSI			
	3000	4000	5000	6000
#3	6	6	6	6
#4	8	7	6	6
#5	10	9	8	7
#6	12	10	9	9
#7	14	12	11	10
#8	16	14	12	11
#9	18	15	14	13
#10	20	17	16	14
#11	22	19	17	16
#14	38	33	29	27
#18	50	43	39	35

4 REINFORCING BAR ENDS AND BAR HOOKS

NOT TO SCALE



90°



135°

5 STIRRUPS AND TIE HOOKS

NOT TO SCALE

0	ISSUE FOR BID		NS	NS	2024-05-01
No.	Issue		Checked	Approved	Date

Author D.SONG | Drafting Check N.STEVENS | Project Manager N. STEVENS

Designer S.BURNS | Design Check S.MCHANEY | Project Director K. TOBIN

Bar is one inch on original size sheet

0 1"

LICENSED PROFESSIONAL ENGINEER STEPHEN C. [illegible] No. 54229 Exp. 6/30/2024 STRUCTURAL STATE OF CALIFORNIA

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Client HUMBOLDT BAY MUNICIPAL WATER DISTRICT

Project SAMOA RESERVOIR SEISMIC RETROFIT

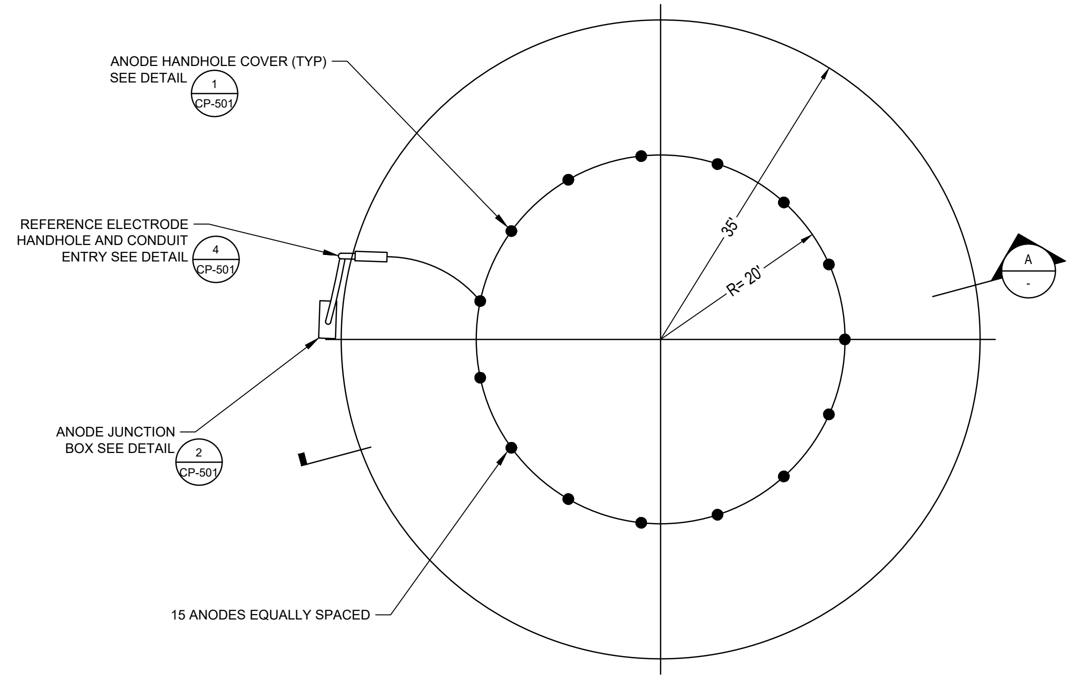
Title TYPICAL DETAILS - 3

Size ANSI D

Project No. 12627733 | Date 2024-05-01 | Scale AS SHOWN

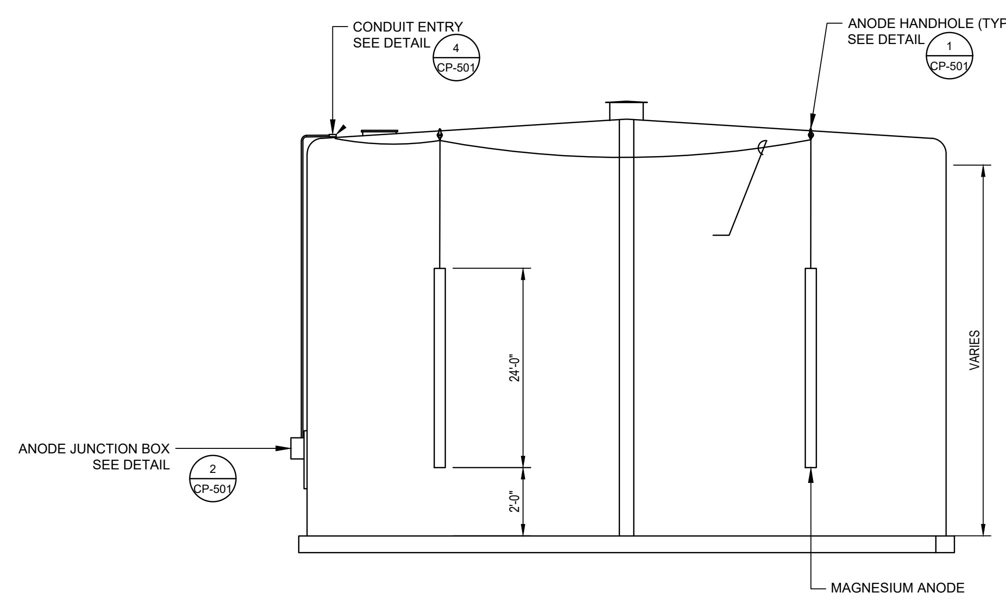
Sheet No. S-503 | Sheet 14 of 17

Plot Date: 30 April 2024 - 10:20 PM | Plotted By: Michelle Davidson | Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\56\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-ST-0503.dwg



1 NEW CATHODIC PROTECTION - 1MG TANK PLAN

SCALE: NTS



A NEW CATHODIC PROTECTION - 1MG TANK SECTION

SCALE: NTS

No.	Issue	Checked	Approved	Date
0	ISSUE FOR BID	NS	NS	2024-05-01

Author PS | Drafting Check J. KNAUER | Project Manager N. STEVENS

Designer J. KNAUER | Design Check J. KNAUER | Project Director K. TOBIN

Bar is one inch on original size sheet
0 1"

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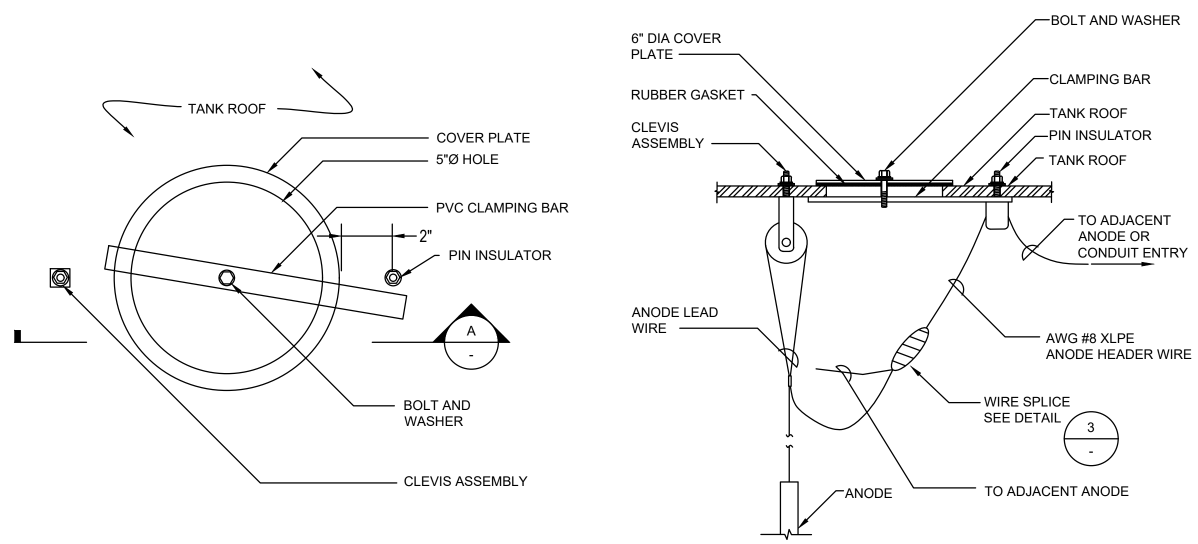
Client HUMBOLDT BAY MUNICIPAL WATER DISTRICT

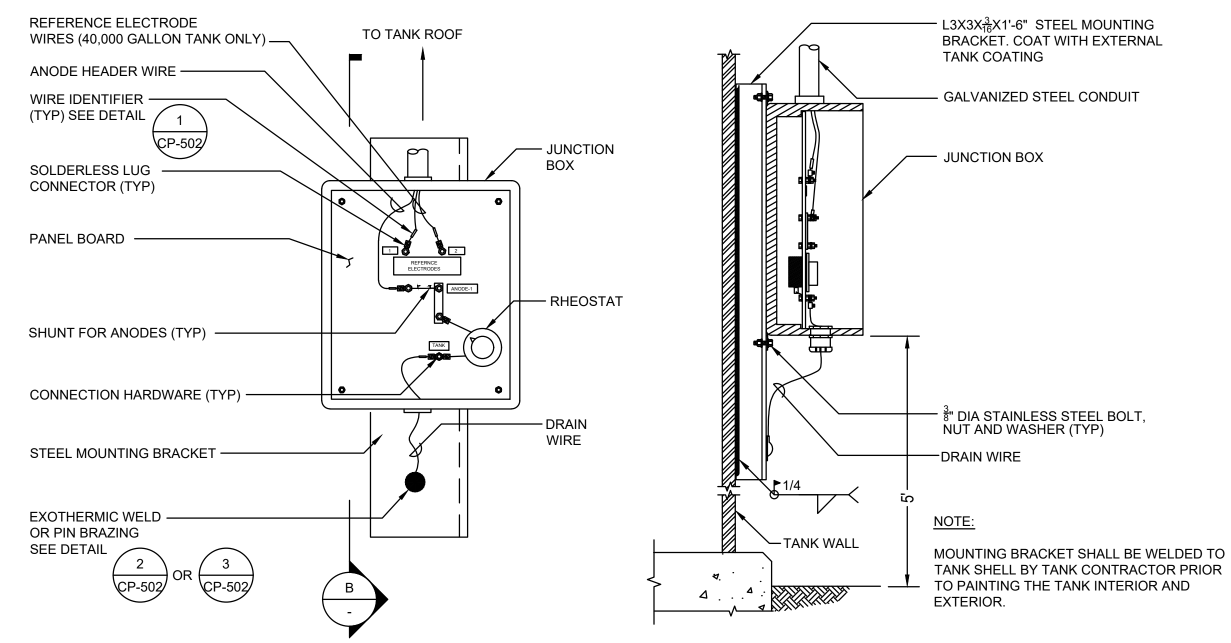
Project SAMOA RESERVOIR SEISMIC RETROFIT

Title 1-MG TANK CATHODIC PROTECTION PLAN AND SECTION

Project No.	Date	Scale	Size	Sheet No.	Sheet
12627733	2024-05-01	AS SHOWN	ANSI D	CP-101	15 of 17



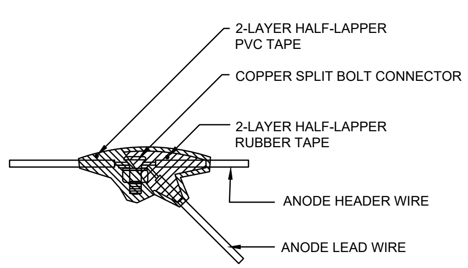
1	ANODE HANDHOLE COVER	NOT TO SCALE



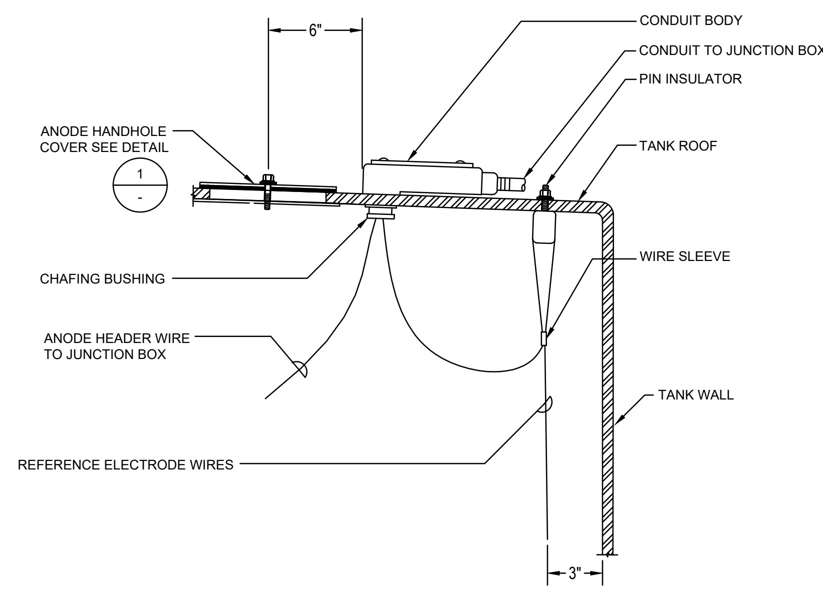
NOTES:

1. COVER, LATCH, AND HINGES, NOT SHOWN

2	ANODE JUNCTION BOX	NOT TO SCALE



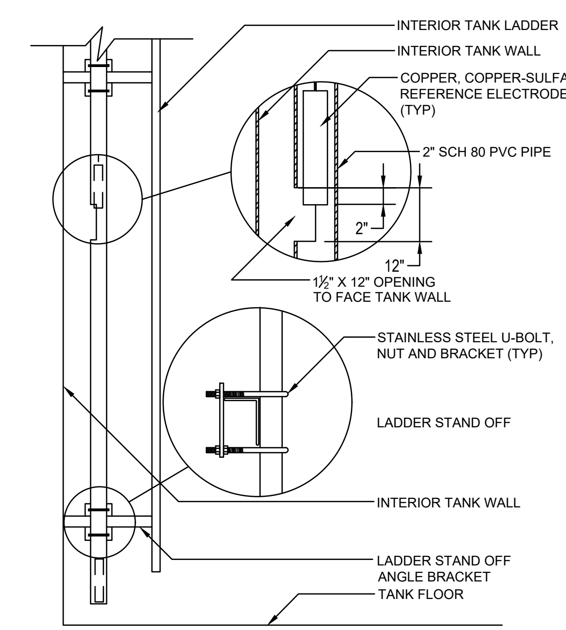
3	WIRE SPLICE	NOT TO SCALE



NOTES:

1. ADD BOLT CAPS TO ALL BOLTS TO PREVENT POTENTIAL LEAKAGE.

4	REFERENCE ELECTRODE HANDHOLE AND CONDUIT ENTRY	NOT TO SCALE



5	REFERENCE ELECTRODE HOUSING

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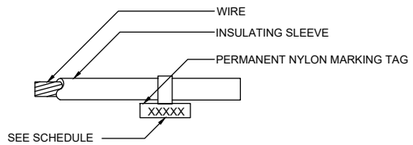
Project SAMOA RESERVOIR SEISMIC RETROFIT

Title CATHODIC PROTECTION DETAILS 1

Project No.	Date	Scale	Sheet No.	Size	Sheet
12627733	2024-05-01	AS SHOWN	CP-501	ANSI D	16 of 17

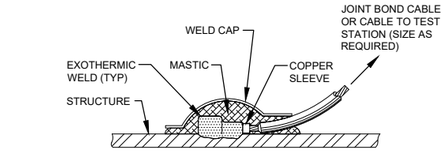
Plot Date: 30 April 2024 - 9:45 PM   Plotted By: Michelle Davidson   Path and Filename: \\ghdnet\ghd\US\Eureka\Projects\561\12627733\digital_design\acad 2022\Sheets\Samoa\12627733-GHD-0002-DWG-CP101.dwg

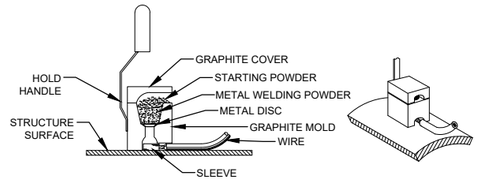


WIRE AND LABEL SCHEDULE

STRUCTURE	WIRE TYPE	LABEL
ANODE HEADER WIRE	#8 XLPE	ANODE-1
REFERENCE ELECTRODE #1	#10 RHH-RHW	REF-1
REFERENCE ELECTRODE #2	#10 RHH-RHW	REF-2
DRAIN WIRE	#8 HMWPE	TANK

1 WIRE IDENTIFIER NOT TO SCALE





STEP 1) GRIND STRUCTURE CONNECTION AREA (3"x 3") TO BARE SHINY METAL AND CLEAN.

STEP 2) STRIP INSULATION FROM WIRE. ATTACH SLEEVE.

STEP 3) HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR AND IGNITE WITH FLINT GUN.

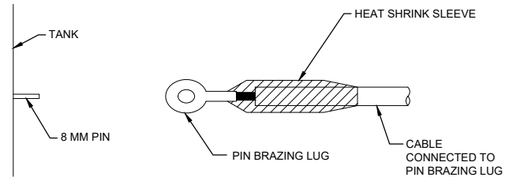
STEP 4) REMOVE SLAG FROM CONNECTION AND PEEN WELD FOR SOUNDNESS.

STEP 5) COVER CONNECTION AND EXPOSED STRUCTURE SURFACE WITH A BITUMINOUS COATING COMPOUND.

NOTE:

PROCEDURE SHOWN ABOVE IS TO BE USED AS A GENERAL GUIDE ONLY. CONSULT MANUFACTURER'S LITERATURE FOR SPECIFIC INSTALLATION INSTRUCTIONS.

2 EXOTHERMIC WELD (TYP) NOT TO SCALE



NOTES:

1. FOR DIRECT TYPE CONNECTION, USE A 8MM DIRECT BRAZING PIN AND A PIN BRAZING CABLE LUG OR USE A 8MM THREADED PIN.
2. CLEAN THE METAL TO A BRIGHT FINISH.
3. LOAD THE BRAZING GUN WITH THE PIN AND FERRULE.
4. ADJUST AS NECESSARY AND BRAZE.
5. TEST THE CONNECTION.

3 PIN BRAZING (TYP) NOT TO SCALE

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Client **HUMBOLDT BAY MUNICIPAL WATER DISTRICT**

Project **SAMOA RESERVOIR SEISMIC RETROFIT**

Title **CATHODIC PROTECTION DETAILS 2**

Size **ANSI D**

Project No. **12627733** Date **2024-05-01** Scale **AS SHOWN**

Sheet No. **CP-502** Sheet **17 of 17**

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