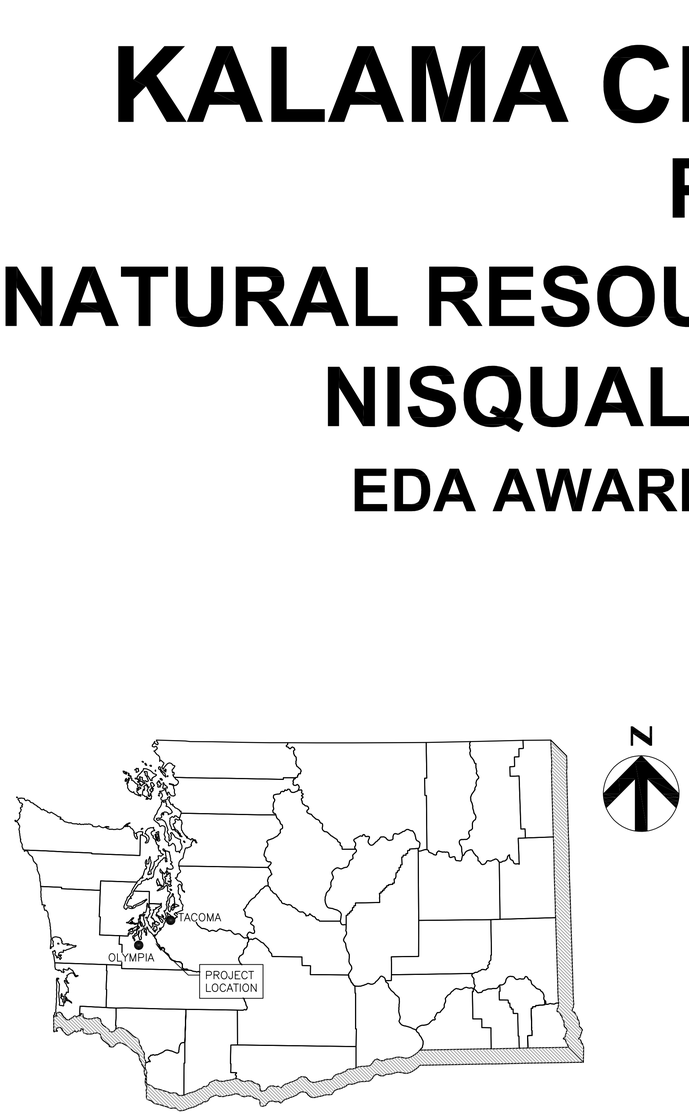
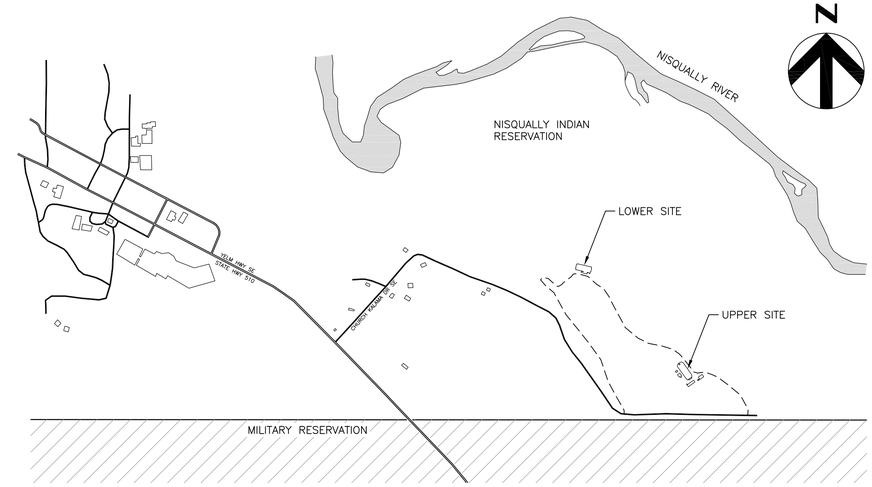
KALAMA CREEK HATCHERY
PHASE 2
NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE
EDA AWARD NUMBER 07-79-07880



STATE MAP



VICINTY MAP
SCALE: 1" = 800' APPROX

THE GOALS OF THE PROJECT ARE TO INCREASE FISH REARING CAPACITY, BIO-SECURITY, WATER QUALITY, INCREASE WATER RE-USE CAPACITY, AND INCREASE THE NUMBER OF REARING UNITS AVAILABLE TO ADD FLEXIBILITY TO THE SALMON ENHANCEMENT PROGRAM IN ANTICIPATION OF CURRENT AND FUTURE HATCHERY PROGRAMS.

ERIC EDWARD ORTON
STATE OF WASHINGTON
45974
REGISTERED
PROFESSIONAL ENGINEER
5/19/2023

Project No. 10176455
May 18, 2023

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ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	ACB
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON STATE OF WASHINGTON 22004 REGISTERED PROFESSIONAL ENGINEER

5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

GENERAL

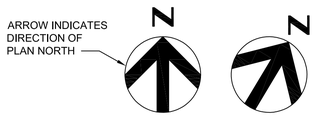
DRAWING INDEX

0 1" 2"

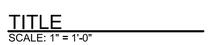
FILENAME	00G002.DWG
SCALE	AS NOTED

SHEET **00G002**

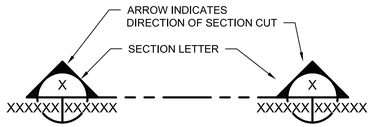
GENERAL SYMBOLOGY



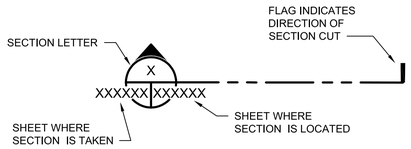
NORTH ARROW



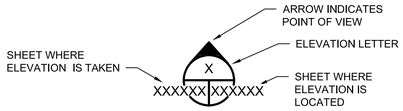
PLAN TITLE



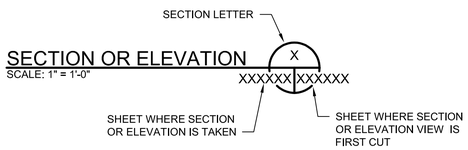
FULL BUILDING SECTION CUT MARKER



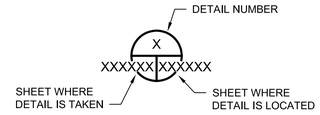
SECTION CUT MARKER



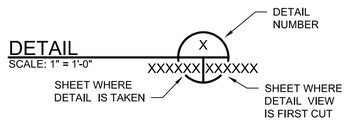
ELEVATION



SECTION OR ELEVATION TITLE

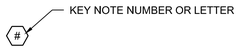


DETAIL MARKER



DETAIL TITLE

KEY NOTE DESIGNATION



AREA/BUILDING/SECTION DESIGNATION

00	GENERAL
01	STANDARDS
02	DEMOLITION
03	UPPER SITE
04	LOWER SITE
05	EXISTING BUILDINGS (UPPER SITE)
06	HATCHERY BUILDING
07	POLLUTION ABATEMENT POND (UPPER SITE)
08	ASPHALT POND (EXISTING)
09	CONTAINER FILTER
10	HEADTANK (EXISTING)
11	---
12	---
13	ADULT HANDLING BUILDING
14	---
15	CIRCULAR TANK BUILDING
16	POLLUTION ABATEMENT POND (LOWER SITE)

DISCIPLINE DESIGNATOR & DISCIPLINE ORDER

G	GENERAL
C	CIVIL
A	ARCHITECTURAL
S	STRUCTURAL
D	PROCESS
M	MECHANICAL
P	PLUMBING
E	ELECTRICAL
L	LANDSCAPING

DRAWING TYPE DESIGNATOR

0	GENERAL
1	PLANS (INCLUDES PLAN AND PROFILES SHEETS)
2	ELEVATIONS / ISOMETRICS
3	PARTIAL PLANS
4	SECTIONS AND DETAILS
5	SCHEDULES AND DIAGRAMS

EXAMPLE

ARCHITECTURAL SECTIONS AND DETAILS SHEET

0	5					HATCHERY BUILDING

AREA DESIGNATION

		A				ARCHITECTURAL DISCIPLINE

DISCIPLINE DESIGNATOR

			4			SECTIONS AND DETAILS

DRAWING TYPE

				0	1	NUMBER 01

ORDER NUMBER

0	5	A	4	0	1

SAMPLE SHEET NUMBER

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	ACB
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER

5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

GENERAL

DRAWING SYMBOLOGY

0 1" 2"

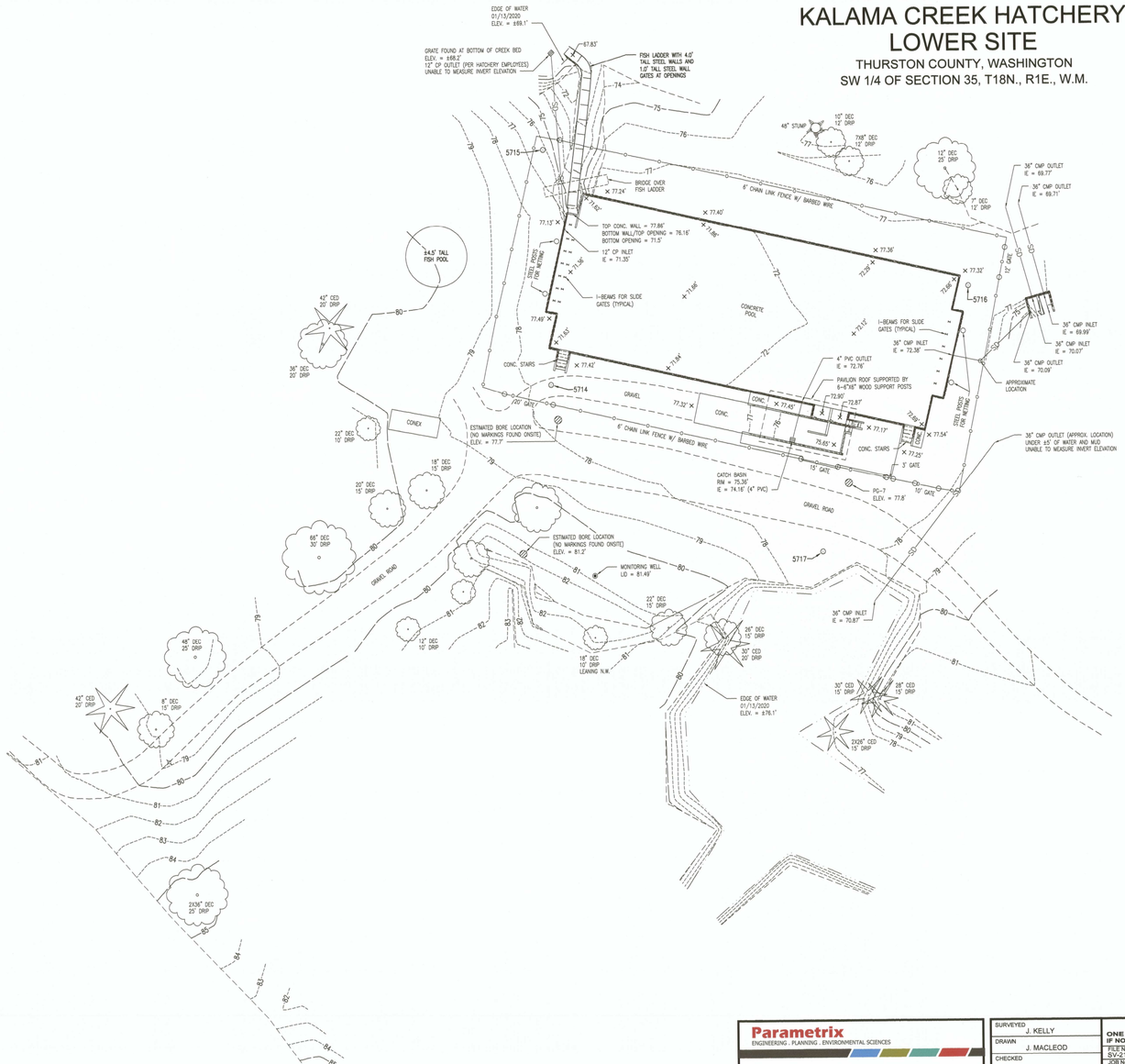
FILENAME 00G003.DWG

SCALE AS NOTED

SHEET 00G003

TOPOGRAPHIC MAP
KALAMA CREEK HATCHERY
LOWER SITE

THURSTON COUNTY, WASHINGTON
SW 1/4 OF SECTION 35, T18N., R1E., W.M.



LEGEND:

- SET REBAR WITH PMX CONTROL CAP
- DECIDUOUS TREE – DIA. (IN), DRIP (FT)
- CONIFER TREE – DIA. (IN), DRIP (FT)
- POWER JUNCTION BOX
- POWER METER
- POWER MANHOLE
- POWER PANEL
- POWER TRANSFORMER
- POWER OUTLET
- GATE POST
- TEST BORING PIT
- MONITORING WELL
- WATER HOSE BIB
- IRRIGATION VALVE
- STAND PIPE
- WATER WELL
- WATER MANHOLE
- WATER VAULT
- POWER GUY ANCHOR
- POWER POLE
- POST
- UTILITY VAULT
- AC ASPHALT CONCRETE
- CONC. CONCRETE
- SD BURIED STORM
- P BURIED POWER
- W WATERLINE
- T BURIED TELEPHONE

PARAMETRIX CONTROL TABLE

POINT NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
5714	615203.03	1103589.71	77.75	SET R/DAP
5715	615298.49	1103587.23	75.89	SET R/DAP
5716	615242.19	1103759.29	77.37	SET R/DAP
5717	615134.42	1103699.36	77.45	SET R/DAP

HORIZONTAL DATUM:

HORIZONTAL DATUM FOR THIS SURVEY IS NAD 83(91), WASHINGTON STATE PLANE SOUTH ZONE COORDINATE SYSTEM, U.S. SURVEY FEET, BASED ON PUBLISHED INFORMATION FROM THURSTON COUNTY, POINT DESIGNATION 833A.

POINT DESIGNATION = 833A
NORTHING: 614,544.90
EASTING: 1,101,066.47

VERTICAL DATUM:

VERTICAL DATUM IS NAVD88 BASED ON PUBLISHED INFORMATION FROM THURSTON COUNTY, POINT DESIGNATION 833A.
POINT DESIGNATION = 833A
ELEVATION: 271.28

SURVEY NOTES:

1. THIS MAP CORRECTLY REPRESENTS CONDITIONS AND FEATURES EXISTING AT THE TIME OF THIS SURVEY IN JANUARY, 2020.

2. CONVENTIONAL AND GPS SURVEY EQUIPMENT WAS USED IN THE PERFORMANCE OF THIS SURVEY. ALL EQUIPMENT IS MAINTAINED IN CONFORMANCE WITH CURRENT STATE STATUTE.

3. THIS SURVEY WAS PREPARED BY FIELD TRAVERSE AS PER WAC 332-130-090, PART C. RELATIVE ACCURACY EXCEEDS 1 FOOT IN TEN THOUSAND.

4. ALL SURFACE FEATURES AND INVERT STRUCTURE ELEVATION SHOWN HEREON WERE FIELD LOCATED AND MEASURED BY PARAMETRIX FOR THIS SURVEY.

5. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

N

SCALE IN FEET
0 20 40
CONTOUR INTERVAL = 1'

JAMES M. KELLY — STATE OF WASHINGTON — 18331 — REGISTERED PROFESSIONAL LAND SURVEYOR
2-13-2020

Parametrix
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES

SURVEYED	J. KELLY	ONE INCH AT FULL SCALE. IF NOT, SCALE ACCORDINGLY
DRAWN	J. MACLEOD	FILE NAME SV-215383201-LOWER-SITE
CHECKED		JOB No. 216-3832-021
APPROVED		DATE 01/2020

KALAMA CREEK HATCHERY
LOWER SITE
NISQUALLY INDIAN TRIBE

DRAWING NO. 1 OF 1

PATH: U:\PSOP\Projects\Clients\3823-Nisqually Tribe\216-3832-021 Kalama Fish Hatchery\99Civil\Survey\00Current\Dwg\SV-215383201-LOWER-SITE DATE: 1/23/2020 8:26 AM

HDR

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 45974 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY
PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

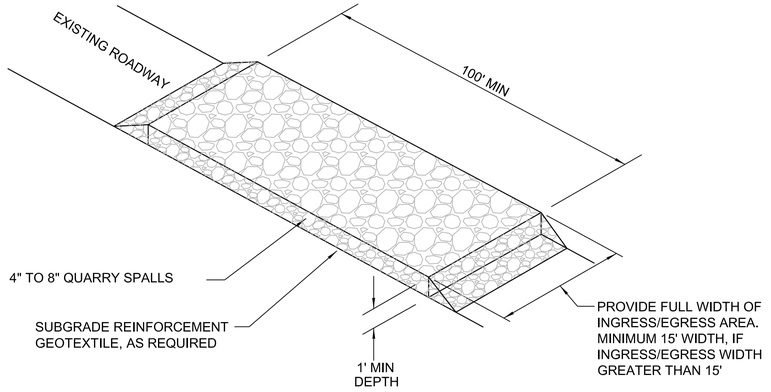
GENERAL

EXISTING LOWER SITE TOPOGRAPHIC SURVEY

0 1" 2"

FILENAME 00C102.DWG
SCALE AS NOTED

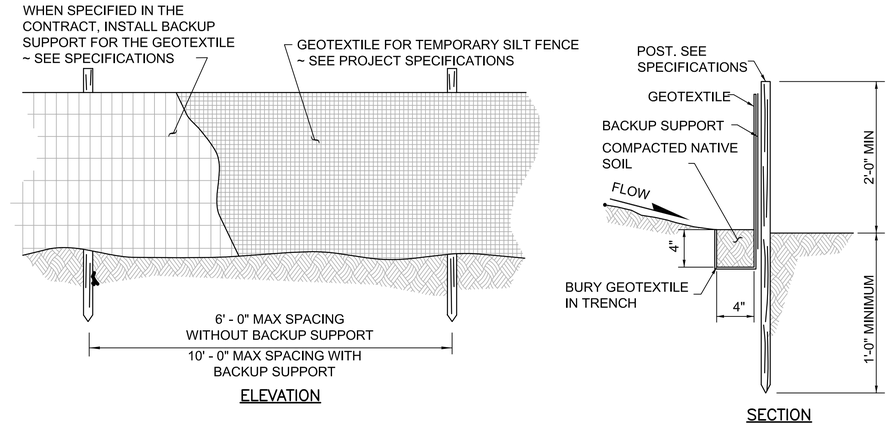
SHEET **00C102**



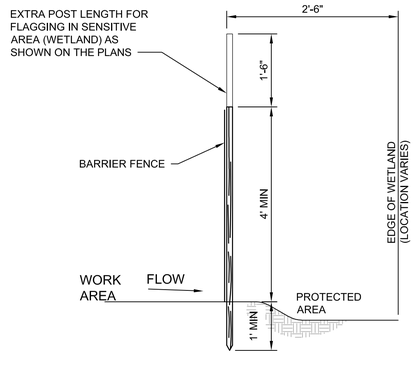
NOTE:

PLACE CONSTRUCTION GEOTEXTILE FOR SOIL STABILIZATION AND A MINIMUM OF 2" OF CRUSHED ROCK UNDER THE SPALLS, FROM THE EDGE OF THE EXISTING ROADWAY TO THE RADIUS RETURNS, OR AS APPROVED BY WDFW.

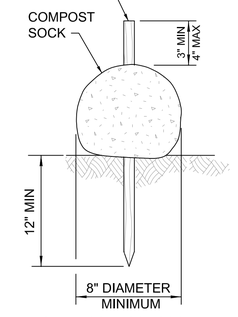
CONSTRUCTION ENTRANCE DETAIL
NO SCALE — 1



SILT FENCE DETAIL
NO SCALE — 2



HIGH VISIBILITY FENCE DETAIL
NO SCALE — 3



INSTALL COMPOST SOCK PERPENDICULAR TO FLOW

TYPICAL COMPOST SOCK SECTION
NO SCALE — A

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JDN
DESIGN BY	
CHECKED BY	
DRAWN BY	JLC
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 45974 — REGISTERED PROFESSIONAL ENGINEER — 5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

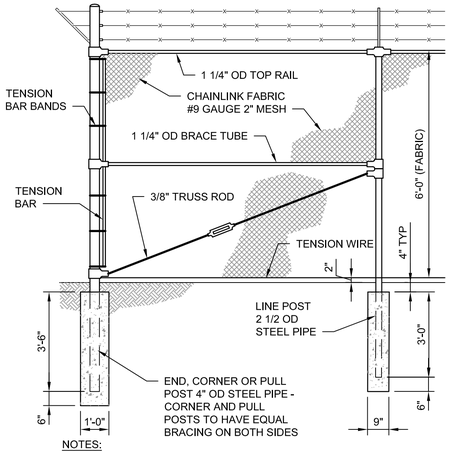
STANDARDS

EROSION AND SEDIMENT CONTROL DETAILS

0 1" 2"

FILENAME	01C402.DWG
SCALE	AS NOTED

SHEET 01C402



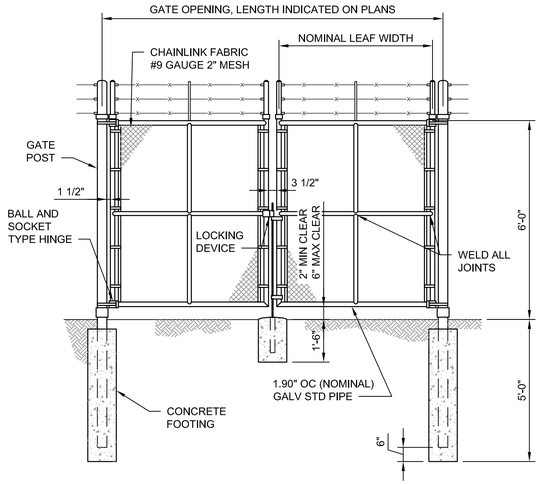
NOTES:

1. PULL POST SHALL BE USED AT SHARP BREAKS IN VERTICAL GRADES OR AT APPROXIMATELY 330' CENTERS ON STRAIGHT RUNS, OR AS DIRECTED BY THE ENGINEER.
2. SPLICES SHALL BE IN WOVEN WIRE FABRIC ONLY AT CORNER, GATE END, OR PULL POSTS.

FENCING DETAIL

NOT TO SCALE

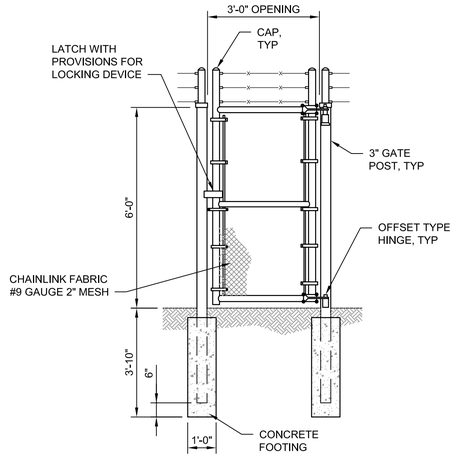
1 / 01C404



SWING GATE DETAIL

NOT TO SCALE

2 / 01C404



PEDESTRIAN GATE

NOT TO SCALE

3 / 01C404

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	
DESIGN BY	
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5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

STANDARDS

FENCING AND GATE DETAILS

0 1" 2"

FILENAME	01C404.DWG
SCALE	AS NOTED

SHEET **01C404**

THRUST BLOCK NOTES:

BEARING AREA OF CONCRETE THRUST BLOCK BASED ON 200 PSI PRESSURE AND SAFE SOIL BEARING LOAD OF 2,000 PONDS PER SQUARE FOOT.

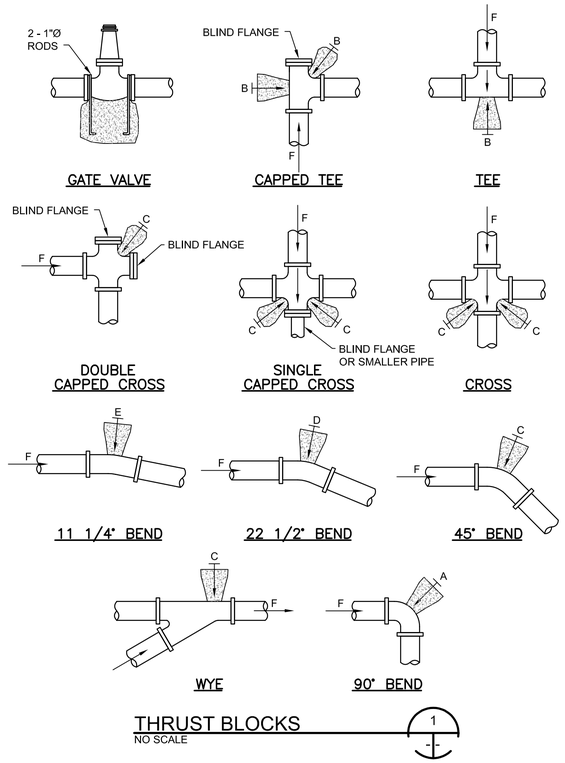
AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZE, PRESSURES AND SOIL CONDITIONS.

CONCRETE BLOCKING SHALL BE CAST IN PLACE AND HAVE A MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.

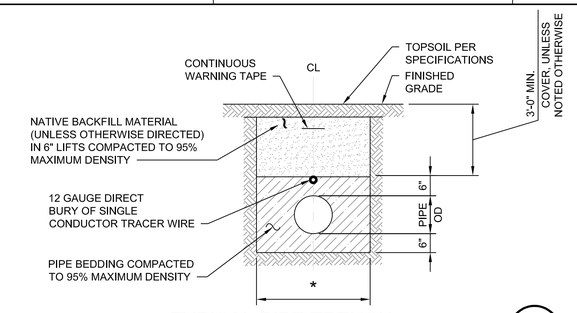
BLOCK SHALL BEAR AGAINST FITTINGS ONLY AND SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISMANTLING OF JOINT.

CONTRACTOR SHALL INSTALL ADEQUATE BLOCKING TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND AND OPERATION PRESSURE UNDER ALL CONDITIONS OF SERVICE.

THRUST BLOCK - TABLE						
BEARING AREA AGAINST UNDISTURBED SOIL						
SQUARE FEET						
PIPE SIZE	A (ft.)²	B (ft.)²	C (ft.)²	D (ft.)²	E (ft.)²	X (ft.)²
4"	3	1	1	1	1	NONE
6"	4	4	2	1	1	NONE
8"	7	6	4	2	1	4
10"	11	10	6	3	2	6
12"	16	14	9	5	3	9
14"	22	19	12	6	3	12
16"	29	25	16	8	4	16
18"	36	31	20	10	5	20
20"	45	39	24	13	6	24
22"	54	47	29	15	8	29
24"	64	56	35	18	9	35
28"	87	76	48	24	12	48
30"	101	87	55	28	14	55
36"	145	125	78	40	20	78
42"	197	171	107	55	27	107
48"	257	223	140	71	36	140

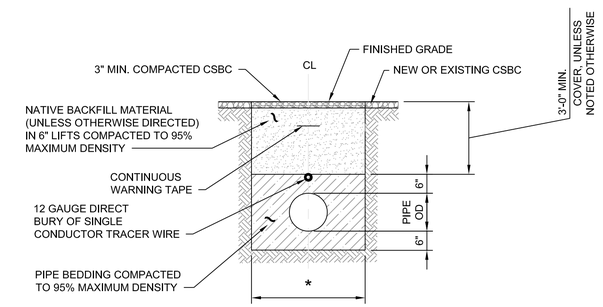


THRUST BLOCKS
NO SCALE
1



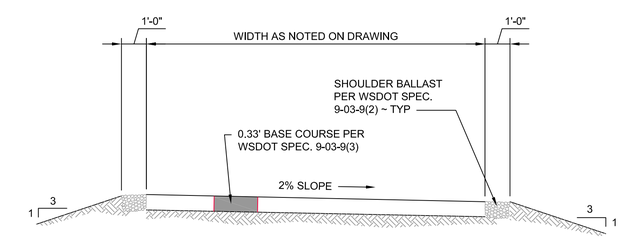
TYPICAL PIPE TRENCH
NO SCALE
2

* TRENCH WIDTH DIMENSIONS FOR PIPES LESS THAN 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 12" AND FOR PIPES GREATER THAN OR EQUAL TO 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 24" UNLESS OTHERWISE SPECIFIED ON DRAWINGS



PIPE TRENCH UNDER NEW AND EXISTING GRAVEL AREAS
NO SCALE
3

* TRENCH WIDTH DIMENSIONS FOR PIPES LESS THAN 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 12" AND FOR PIPES GREATER THAN OR EQUAL TO 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 24" UNLESS OTHERWISE SPECIFIED ON DRAWINGS



GRAVEL PAVING SECTION
NO SCALE
A

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JDN
DESIGN BY	
CHECKED BY	
DRAWN BY	JLC
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 45974 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

STANDARDS

DETAILS

0 1" 2"

FILENAME	01C405.DWG
SCALE	AS NOTED

SHEET **01C405**

EXISTING CONDITIONS:

1. NOTIFY OWNER/OWNER'S REPRESENTATIVE/ENGINEER IMMEDIATELY IF EXISTING CONDITIONS DO NOT MATCH, OR SEEM IN CONFLICT WITH INFORMATION SHOWN ON THE DRAWINGS.

GENERAL:

1. THE DRAWINGS REPRESENT THE FINISHED STRUCTURE(S), NOT THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO, BRACING, SHORING, FOR CONSTRUCTION LOADS AND EQUIPMENT, ETC. THE CONTRACTOR IS RESPONSIBLE FOR THE CONTRACTOR'S MEANS AND METHODS, SEQUENCES OF CONSTRUCTION, AND THE SAFETY PROGRAM. OBSERVATION VISITS TO THE SITE BY THE CONTRACTING OFFICER WILL NOT INVOLVE REVIEW OF THESE ITEMS.

2. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL PROCESS MECHANICAL AND PLUMBING DRAWINGS FOR LOCATION AND SIZE OF OPENINGS, BLOCK OUTS, FLOOR DEPRESSIONS, CURBS, DIMENSIONS, ETC. NOT INDICATED ON THE STRUCTURAL DRAWINGS. THE LOCATION AND SIZE OF MECHANICAL AND ELECTRICAL OPENINGS IN SLABS, WALLS AND DECKS SHALL BE COORDINATED BY THE CONTRACTOR. PROVIDE ALL ADDITIONAL FRAMING OR REINFORCING TO ACCOMMODATE OPENINGS AS REQUIRED BY THE APPLICABLE STANDARD DETAILS, SECTIONS AND NOTES AS SHOWN ON THE STRUCTURAL DRAWINGS.

3. CONTRACTOR IS TO ESTABLISH AND VERIFY EMBEDS AND INSERTS FOR ITEMS TO BE INSTALLED BY OTHER TRADES PRIOR TO SUBMITTAL OF SHOP DRAWINGS AND CONSTRUCTION.

4. CONSTRUCTION MATERIAL AND EQUIPMENT PLACED ON FRAMED CONSTRUCTION SHALL BE SUCH THAT THE LOAD DOES NOT EXCEED THE DESIGN LIVE LOAD OF THE CONSTRUCTIONS. PROVIDE SHORING OF CONSTRUCTIONS WHERE NECESSARY FOR THE LOADS.

5. DETAILS AND SECTIONS THAT ARE NOTED AS "TYP" ON DETAIL TITLES ARE TO BE APPLIED TO THE PROJECT CONSTRUCTION AS GENERAL CONSTRUCTION METHODS UNLESS NOTED OTHERWISE. THESE DETAILS ARE NOT CUT AT ALL LOCATIONS THEY OCCUR AND MAY BE NOT BE CUT AT ALL.

6. CONTRACTOR SHALL SUBMIT FOR REVIEW ALL EQUIPMENT SIZES, OPERATING WEIGHTS, VIBRATIONAL FORCES, SUPPORTED LOCATIONS, ALONG WITH ANY FLOOR OPENINGS, NOTCHES, AND RECESSED REQUIRED BY SUCH EQUIPMENT. CONCRETE SUPPORT PADS AND / OR FRAMING REQUIRED TO SUPPORT SAID EQUIPMENT SHALL NOT BE FABRICATED AND PLACED UNTIL THE CONCRETE SUPPORT PADS AND / OR FRAMING IS APPROVED TO SUPPORT THE EQUIPMENT.

7. CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND REGULATIONS.

8. SAFETY NOTE:

   A. IT IS THE CONTRACTORS RESPONSIBILITY TO COMPLY WITH THE PERTINENT SECTIONS, AS THEY APPLY TO THIS PROJECT, OF THE "CONSTRUCTION SAFETY ORDERS" ISSUED BY THE STATE OF WASHINGTON LATEST EDITION, AND ALL OSHA REQUIREMENTS.

   B. THE TRIBE DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE CONTRACTOR'S FAILURE TO COMPLY WITH THESE REQUIREMENTS.

   C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE DESIGN AND CONSTRUCTION OF ALL FORMS AND SHORING REQUIRED. CONTRACTOR SHALL PROVIDE ADEQUATE STAYS AND BRACING OF ALL FRAMING UNTIL ALL ELEMENTS OF THE DESIGN HAVE BEEN INCORPORATED INTO THE PROJECT.

9. THE CONTRACTOR SHALL NOTIFY THE TRIBE WHERE A CONFLICT OR DISCREPANCY OCCURS BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER PORTION OF THE CONTRACT DOCUMENTS OR EXISTING FIELD CONDITIONS. SUCH NOTIFICATION SHALL BE GIVEN IN DUE TIME SO AS NOT TO AFFECT THE CONSTRUCTION SCHEDULE. IN CASE OF A CONFLICT BETWEEN STRUCTURAL DRAWINGS AND SPECIFICATIONS THE MORE RESTRICTIVE CONDITION SHALL TAKE PRECEDENCE UNLESS WRITTEN APPROVAL HAS BEEN GIVEN FOR THE LEAST RESTRICTIVE. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PRIOR TO COMMENCING ANY WORK.

10. WHERE NO SPECIFIC DETAIL IS SHOWN, THE CONSTRUCTION SHALL BE IDENTICAL OR SIMILAR TO THAT INDICATED FOR LIKE CASES OF CONSTRUCTION ON THIS PROJECT. SHOULD THERE BE ANY QUESTION, CONTACT THE TRIBE PRIOR TO PROCEEDING.

11. WHEN CONSTRUCTION ATTACHES TO AN EXISTING BUILDING, A COMPLETE SET OF DRAWINGS OF THE EXISTING BUILDING SHALL BE KEPT ON THE JOB SITE.

12. ANY PROPOSED SUBSTITUTIONS FOR STRUCTURAL MEMBERS, HARDWARE OR DETAILS SHALL BE SUBMITTED TO THE TRIBE FOR REVIEW PRIOR TO USE.

13. DO NOT SCALE DRAWINGS. CONTACT THE TRIBE FOR ANY DIMENSIONS NOT SHOWN.

14. THE CONTRACTOR SHALL NOTIFY THE TRIBE A MINIMUM OF TWO WORKING DAYS PRIOR TO PROCEEDING WITH THE FOLLOWING WORK:

   A. POURING OF ANY CONCRETE

   B. ERECTION OF ANY STEEL FRAMING

   C. PLACING OF ANY STRUCTURAL SHEATHING AND/OR DECKING

   D. COVERING OF ANY STRUCTURAL SHEATHING

DESIGN CRITERIA:

BUILDING CODE:

1. IBC 2018, ASCE 7-10.

DEAD LOADS:

1. ACTUAL WEIGHT OF MATERIALS USED FOR CONSTRUCTION.

2. CANOPY COLLATERAL (EQUIPMENT WEIGHT) 35 PSF

FLOOR LIVE LOADS:

1.	OFFICES, RESEARCH ROOMS	50 PSF
2.	STORAGE	125 PSF
3.	CORRIDORS & STAIRS	100 PSF
4.	OUTDOOR CANOPY	60 PSF
5.	MEZZANINE CORRIDORS	80 PSF

ROOF LIVE LOAD:

1. ALL BUILDINGS 20 PSF

GROUND SNOW LOAD:

1. ALL BUILDINGS 15 PSF<400 FT ELEV

WIND DESIGN DATA:

1.	ULTIMATE DESIGN WIND SPEED (3 SECOND GUST):	110 MPH
2.	NOMINAL DESIGN WIND SPEED	85 MPH
3.	RISK CATEGORY	I
4.	EXPOSURE CATEGORY:	B
5.	IMPORTANCE FACTOR, IW:	1.0

EARTHQUAKE DESIGN DATA:

1.	RISK CATEGORY	II
2.	SEISMIC IMPORTANCE FACTOR:	1.0
3.	SPECTRAL RESPONSE ACCELERATION, SS:	1.327 G
4.	SPECTRAL RESPONSE ACCELERATION, S1:	0.478 G
5.	SITE CLASS:	D
6.	DESIGN SPECTRAL RESPONSE ACCELERATION, SDS:	0.883 G
7.	DESIGN SPECTRAL RESPONSE ACCELERATION, SD1:	0.581 G
8.	SEISMIC DESIGN CATEGORY:	D

SOILS INVESTIGATION:

1.	SOILS INVESTIGATION BY:	PAN GEO, INC.
2.	PAN GEO PROJECT NO.	19-384 DATED: JANUARY 2020
3.	CONVENTIONAL FOOTINGS:	3000 PSF
4.	MAT FOUNDATION:	2000 PSF
5.	EQUIVALENT ACTIVE FLUID PRESSURE:	40 PCF
6.	EQUIVALENT AT REST FLUID PRESSURE:	55 PCF
7.	EQUIVALENT PASSIVE FLUID PRESSURE:	350 PCF
8.	COEFFICIENT OF FRICTION:	0.35

STRUCTURAL NOTES

APPLICABLE TO ALL DRAWINGS UNLESS NOTED OR SHOWN OTHERWISE

DEFERRED SUBMITTALS:

PRE-ENGINEERED METAL BUILDING (PEMB) STRUCTURES:
- A. HATCHERY BUILDING
- B. OUTDOOR REARING STRUCTURE
- C. AERATION TOWER (ROOF STRUCTURE ONLY)

CONCRETE NOTES:

CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 301, AND ACI 318-11.

PROVIDE A 2X4 FORMED CONSTRUCTION JOINT KEYWAY AT ALL HORIZONTAL AND VERTICAL POURED EDGES.

REINFORCING STEEL SHALL BE ASTM A615, GRADE 60. REINFORCING STEEL TO BE WELDED SHALL BE ASTM A 706, GRADE 60.

CONCRETE COVER REQUIREMENTS FOR REINFORCEMENT UNLESS NOTED OTHERWISE ON THE DETAILS OR SECTIONS:

CONCRETE CAST AND PERMANENTLY EXPOSED TO EARTH:	3"
CONCRETE EXPOSED TO EARTH OR WEATHER: #6 BARS AND LARGER	2"
#5 BARS AND SMALLER	1-1/2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER:	2"
SLABS	2"

REINFORCING BAR SPLICES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318-11 AND THE REINFORCING SPLICE LENGTHS SCHEDULE ON THE DRAWINGS.

CAST-IN-PLACE CONCRETE:

LOCATION	28-DAY F'C	AIR	MAX W/C	MAX SLUMP
FOOTINGS	4000	--	0.5	4"
EXPOSED SLABS AND TOPPINGS	4000	--	0.5	4"
SLABS AND TOPPINGS W/ FLOOR COVERING	4000	--	0.45	4"
WATER-RETAINING/HOLDING STRUCTURES	4500	6%	0.45	4"

ALL REINFORCEMENT FOR CAST-IN-PLACE CONCRETE SHALL BE ACCURATELY PLACED, SUPPORTED, TIED AND SECURED INTO PLACE PRIOR TO PLACING CONCRETE. ALL REBAR DOWELS SHALL BE TIED IN PLACE PRIOR TO CONCRETE PLACEMENT. REBAR DOWELS SHALL NOT BE EMBEDDED AFTER CONCRETE PLACEMENT UNLESS INDICATED ON THE DRAWINGS.

FOUNDATIONS:

1. ALL FOUNDATION WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GEOTECHNICAL REPORT #19-384 BY PAN GEO, INC ., DATED JANUARY 2020.

2. FOUNDATIONS SHALL BEAR ON ENGINEERED FILL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.

3. BOTTOMS OF ALL FOUNDATIONS SHALL BE LEVEL. CHANGES IN BOTTOM OF FOUNDATION ELEVATION SHALL BE MADE ACCORDING TO "TYPICAL FOOTING STEP" DETAIL ON THE TYPICAL DETAIL SHEET.

4. BUILDING PAD CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE SOILS REPORT. THE EXTENT AND DEPTH OF OVEREXCAVATION AND PLACEMENT OF ENGINEERED FILL SHALL AT A MINIMUM BE AS SHOWN ON THE PLANS. FINAL DEPTH AND EXTENT OF EXCAVATION AND FILL SHALL BE DETERMINED AT TIME OF CONSTRUCTION BY A REPRESENTATIVE OF THE SOILS ENGINEER. FOUNDATION DEPTHS INDICATED ON PLANS ARE FOR ESTIMATING PURPOSES ONLY.

5. FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO NEAT EXCAVATIONS PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE ARCHITECT/STRUCTURAL ENGINEER AND SUBJECT TO THE APPROVAL OF THE ENFORCEMENT AGENCY. IN SUCH CASE THE MINIMUM FORMWORK SHOWN ON THE DRAWINGS IS MANDATORY TO INSURE CLEAN EXCAVATIONS. IMMEDIATELY PRIOR TO AND DURING THE PLACING OF CONCRETE, STARTER WALLS ARE REQUIRED FOR ALL MASONRY OR CONCRETE WALLS. SEE "MANDATORY MINIMUM FORMWORK" DETAIL ON THE TYPICAL DETAIL SHEET S1.1.

6. NOTIFY THE STRUCTURAL ENGINEER 48 HOURS BEFORE CASTING FOUNDATIONS.

MASONRY:

1. MASONRY WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 530-11.

2. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH (F'M) OF THE MASONRY SHALL BE 1900 PSI ON THE NET AREA, PROVIDING A DESIGN COMPRESSIVE STRENGTH OF 1500 PSI BY THE ASSUMPTION METHOD.

3. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH (F'C) OF MASONRY GROUT SHALL BE 2000 PSI.

4. SEE TYPICAL BOND BEAM INTERSECTION DETAIL FOR MASONRY BOND BEAM DETAILS AND NOTES.

5. PROVIDE STANDARD 90 DEGREE HOOKS IN THE TOP BOND BEAM AT ALL VERTICAL WALL REINFORCING.

6. SPLICE LENGTHS FOR MASONRY REINFORCEMENT SHALL BE AS SHOWN IN THE MASONRY REINFORCING SPLICE TABLE, UNLESS SHOWN OTHERWISE.

7. MASONRY CONTRACTOR SHALL COORDINATE WITH MECHANICAL, ELECTRICAL, AND OTHER CONTRACTORS AND BUILD IN OPENINGS FOR THE UTILITIES AND DUCTWORK THAT EXCEED 16 INCHES IN WIDTH. PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS AS INDICATED, DO NOT CUT REINFORCEMENT. OPENINGS SHALL BE COORDINATED BEFORE CONSTRUCTING WALLS.

8. AT NON-LOAD BEARING WALLS, PROVIDE 8" DEEP BEAM FOR OPENINGS 4'-8" AND LESS AND 16' DEEP BOND BEAM FOR OPENINGS GREATER THAN 4'-8" AND LESS THAN 6'-0". CONTACT ENGINEER FOR LARGER OPENINGS.

9. ALL STEEL LINTELS 16 INCHES AND DEEPER, WITH SOAP BLOCKS ON SIDES, PROVIDE ADJUSTABLE MASONRY ANCHORS AT 8 INCHES ON CENTER VERTICALLY AND 24 INCHES ON CENTER HORIZONTALLY.

STEEL DECK:

1. THE DESIGN, FABRICATION, AND ERECTION OF METAL DECKING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE SDI SPECIFICATIONS AND THE SDI DIAPHRAGM MANUAL

2. STEEL ROOF DECK IS AS SHOWN ON THE PLANS.

3. SUSPENDED CEILINGS, LIGHT FIXTURES, DUCTS, AND OTHER UTILITIES SHALL NOT BE SUPPORTED FROM THE STEEL DECK.

METAL STAIRWAYS

1. SUPPLIER SHALL PROVIDE COMPLETE DESIGN DRAWINGS AND CALCULATIONS FOR ALL METAL STAIRWAYS. STAIRWAYS SHALL BE DESIGNED FOR DEAD LOAD + 100 PSF LIVE LOAD, AND SEISMIC LOADS. SUPPLIER SHALL DESIGN, SUPPLY, AND INSTALL ALL CONNECTION MATERIALS WHICH SHALL INCLUDE BUT ARE NOT NECESSARILY LIMITED TO EMBEDDED ITEMS, BEARING PLATES, STIFFENERS, DIAGONAL STRUTS, SUPPORT ANGLES, CHANNELS AND TUBES. ALL LOADING CONDITIONS RESULTING IN ECCENTRICITIES OR TORSION TO BEAMS AND/OR COLUMNS SHALL BE RESOLVED BY THE INSTALLATION OF STIFFENERS AND DIAGONAL STRUTS, DESIGNED, SUPPLIED AND INSTALLED BY THE SUPPLIER. SEISMIC FORCES SHALL BE ACCOUNTED FOR AND BRACED BACK TO THE MAIN STRUCTURE. SEE ARCHITECTURAL DRAWINGS FOR STAIRWAY DIMENSIONS AND DETAILS. SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED BY A CIVIL ENGINEER, REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED, FOR REVIEW BY THE ARCHITECT AND/OR STRUCTURAL ENGINEER. SEE SPECIFICATIONS FOR ADDITIONAL DESIGN CRITERIA.

STRUCTURAL STEEL:

1. FABRICATION, ERECTION, AND MATERIALS SHALL CONFORM TO THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND THE CBC, LATEST EDITIONS.

2. STRUCTURAL STEEL DESIGN PROPERTIES:

WIDE FLANGE AND TEE SHAPES - ASTM A992	FY = 50 KSI
ANGLES, CHANNELS AND PLATES - ASTM A 36	FY = 36 KSI
STEEL PIPE - ASTM A53, GRADE B	FY = 35 KSI
COLD-FORMED HOLLOW STRUCTURAL SECTIONS, ASTM A 500, GRADE B	FY = 46 KSI
BOLTS - ASTM A325N	
ANCHOR RODS - ASTM F1554	FY = 36 KSI
LIGHT GAGE STEEL STUDS/JOIST 12 TO 16 GAGE	FY = 50 KSI
18 + GAGE	FY = 33 KSI

3. ALL STRUCTURAL STEEL SHALL RECEIVE A MINIMUM OF ONE SHOP COAT OF RED PRIMER DO NOT PAINT AREAS TO BE FIELD WELDED, TO RECEIVE SLIP-CRITICAL HIGH STRENGTH BOLTS, OR TO BE EMBEDDED IN CONCRETE. PROVIDE ADDITIONAL PAINTING AS NOTED IN THE SPECIFICATIONS.

4. ALL STRUCTURAL STEEL SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AND LEFT IN PLACE UNTIL OTHER MEANS ARE PROVIDED TO ADEQUATELY BRACE THE STRUCTURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL BASE PLATE AND SUPPORT CONDITIONS DURING ERECTION AND BRACING AS REQUIRED. SEE AISC AND OSHA REQUIREMENTS.

5. PLACE NON-SHRINK GROUT UNDER ALL BASE PLATES BEFORE ADDING VERTICAL LOAD.

6. ALL WELDS AND WELDING PROCEDURES SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE PROVISIONS OF AISC AND AWS WELDING PROCEDURES AND CODES OUTLINED IN THE SPECIFICATION. ALL WELDS SHALL BE MADE WITH E-70XX ELECTRODES UNLESS NOTED OTHERWISE.

7. WHEN FILLET WELDS SIZES ARE NOT INDICATED, PROVIDE MINIMUM WELD SIZE IN ACCORDANCE WITH AISC SPECIFICATIONS, TABLE J2.4. OR 3/16", WHICHEVER IS GREATER.

8. ALL GROOVE WELDS INDICATED ON THE PLANS AND SECTIONS SHALL BE COMPLETE JOINT PENETRATION WELDS (CJP) UNLESS SPECIFICALLY INDICATED TO BE PARTIAL PENETRATION WELDS.

9. DIMENSIONS TO CENTERLINE OF COLUMNS AND BEAMS, TOP SURFACES OF BEAMS AND TUBES AND BACKS OF CHANNELS AND ANGLES UNLESS NOTED OTHERWISE.

10. ALL FIELD BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER A325N BOLTS, UNLESS NOTED OTHERWISE. ALL FIELD BOLTED CONNECTIONS SHALL BE SNUG TIGHTENED UNLESS INDICATED AS PRETENSIONED OR SLIP CRITICAL. PRETENSIONED AND SLIP CRITICAL CONNECTIONS SHALL BE TIGHTENED USING DIRECT TENSION INDICATORS. INSTALL HIGH STRENGTH BOLTS ACCORDING TO RCSC'S "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A 325 OR A 490 BOLTS" FOR THE TYPE OF JOINT SPECIFIED.

TESTS AND INSPECTIONS:

1. TESTS AND INSPECTIONS SHALL BE PROVIDED BY A QUALIFIED TESTING AGENCY AS REQUIRED BELOW AND SHALL CONFORM TO THE REQUIREMENTS OF THE THE 2018 IBC. TESTING AND INSPECTION RECORDS SHALL BE KEPT FOR ALL STRUCTURAL CONCRETE.

TESTS AND INSPECTIONS:

TESTS:
- ☐ FILL COMPACTION
- ☐ REINFORCING STEEL
- ■ CONCRETE
- ☐ STRUCTURAL STEEL
- ☐ MASONRY
- ☐ GROUT & MORTAR
- ☐ EPOXY & EXPANSION ANCHORS

INSPECTIONS:
- ■ FOOTING EXCAVATION
- ☐ PILE/PIER INSTALLATION
- ■ REINFORCEMENT PLACEMENT
- ■ CONCRETE PLACEMENT
- ☐ SHOP WELDING
- ■ FIELD WELDING
- ☐ HIGH STRENGTH BOLTING
- ☐ MASONRY PLACEMENT & GROUTING
- ☐ EPOXY & EXPANSION ANCHORS

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL STATE OF WASHINGTON 38335 REGISTERED PROFESSIONAL ENGINEER 5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

STANDARDS

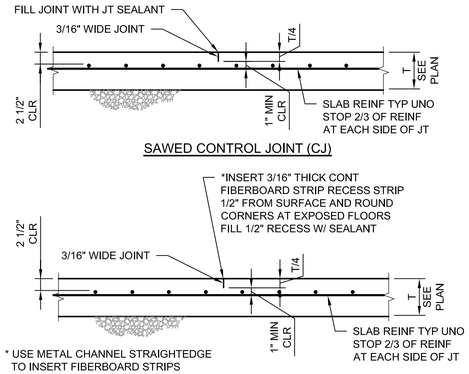
STRUCTURAL NOTES

0 1" 2"

FILENAME 01S001.DWG

SCALE AS NOTED

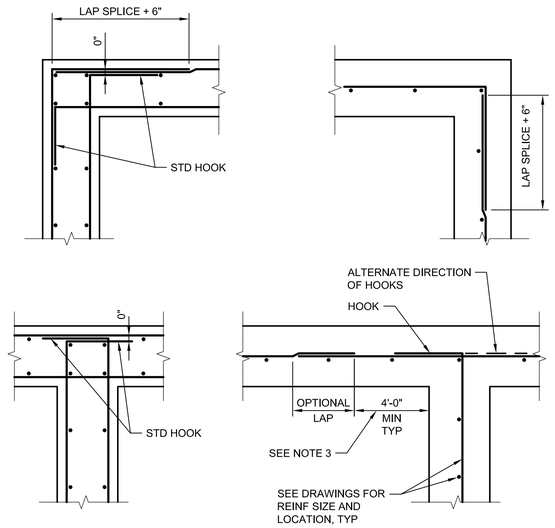
SHEET **01S001**



NOTES:

1. ANY ONE OF THE "CJ" DETAILS ABOVE MAY BE USED AT LOCATIONS INDICATED ON DRAWINGS AS "CJ," AT CONTRACTOR'S OPTION.
2. WHERE "DSJ" IS INDICATED ON PLAN, THE "DSJ" SHALL BE USED.

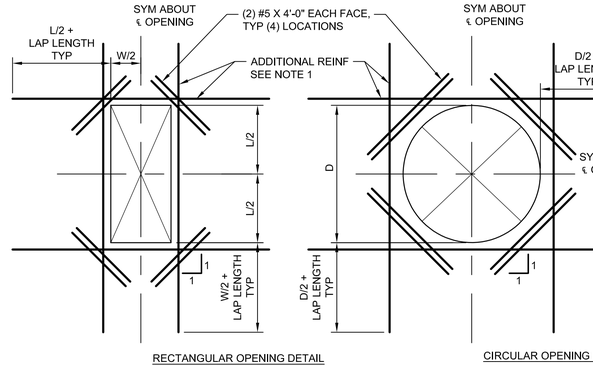
SLAB ON GRADE JOINT
NOT TO SCALE — 1 / –01S401



NOTES:

1. ALL HOOKS SHALL BE STD 90 DEGREE HOOKS.
2. SEE DRAWINGS FOR ADDITIONAL HORIZONTAL BARS. STAGGER BETWEEN TYPICAL REINF SPACING, EXTEND TO 1/5 OF DISTANCE TO NEAREST ADJACENT WALL IN EACH DIRECTION, UNO.
3. OPTIONAL LAP LOCATION. APPLIES TO BOTH DOUBLE AND SINGLE LAYER CONDITIONS TYP.

WALL REINFORCEMENT AT CORNERS AND INTERSECTIONS
NOT TO SCALE — 2 / –01S401



NOTES:

1. PROVIDE ADDITIONAL REINFORCING THE SAME SIZE AS DISCONTINUOUS REINFORCEMENT AT OPENING. QUANTITY OF REINFORCING IN EACH DIRECTION SHALL BE EQUAL TO OR ONE GREATER THAN THE NUMBER OF DISCONTINUOUS BARS. PLACE 1/2 OF ADDITIONAL REINFORCING BARS EACH SIDE OF OPENING, PLACE ADDITIONAL REINFORCEMENT AT 3" OC (TYPICAL BOTH DIRECTIONS AND ALL LAYERS OF REINFORCEMENT). START FIRST BAR 2" CLEAR TO OPENING.
2. EXTEND ADDITIONAL REINFORCING BEYOND EDGE OF OPENING AS SHOWN ABOVE. ADDITIONAL BARS MAY TERMINATE AT THE END OF THE WALL WITH A STANDARD HOOK WHERE THE LENGTH OF THE WALL WILL NOT PERMIT BARS TO EXTEND AS SHOWN ABOVE.
3. TYPICAL WALL OR SLAB REINFORCING NOT SHOWN FOR CLARITY. TERMINATE TYPICAL REINFORCING 2" CLEAR TO OPENING.
4. OPENINGS 12" OR LESS IN SLABS AND OPENINGS 18" OR LESS IN WALLS, NO EXTRA REBARS ARE REQUIRED UNLESS SHOWN OTHERWISE. TYPICAL REINFORCING SHALL BE RESPACED (NOT CUT) TO ALLOW FOR OPENINGS TO BE MADE.
5. UNLESS SHOWN OTHERWISE ON DRAWINGS, PROVIDE EXTRA REINFORCING AROUND OPENINGS AS SHOWN AND INDICATED ABOVE.
6. PROVIDE ADDITIONAL DOWELS PER NOTE 1 ABOVE FOR ALL OPENINGS NEAR THE FLOOR SLAB, BASE SLAB, OR CORNERS.

EXTRA REINFORCING AT CORNERS
NOTES:
NOT TO SCALE — 3 / –01S401

LAP SPLICE AND EMDEDMENT LENGTHS f'c =4.0 ksi fy = 60 ksi f'c =4.5 ksi		
BAR	BARS SPACED GREATER THAN 4"	BARS SPACED LESS THAN OR EQUAL TO 4"
#3	14"	20"
#4	19"	32"
#5	29"	46"
#6	39"	62"
#7	55"	87"
#8	69"	107"
#9	76"	116"
#10	97"	140"
#11	120"	146"

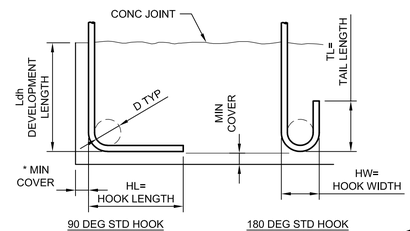
NOTES:

1. PROVIDE MINIMUM LAP SPLICE LENGTHS AND EMBEDMENTS PER TABLE UNLESS NOTED OTHERWISE. EMBEDMENT LENGTH EQUALS THE LAP SPLICE LENGTH UNLESS OTHERWISE NOTED.
2. BAR SPACING AT LAP SPLICE IS THE MINIMUM CLEAR DISTANCE BETWEEN LAPPED BARS PLUS ONE BAR DIAMETER.
3. ALL SPLICES TO BE CONTACT SPLICES AND WIRED TOGETHER UNLESS OTHERWISE APPROVED BY ENGINEER.

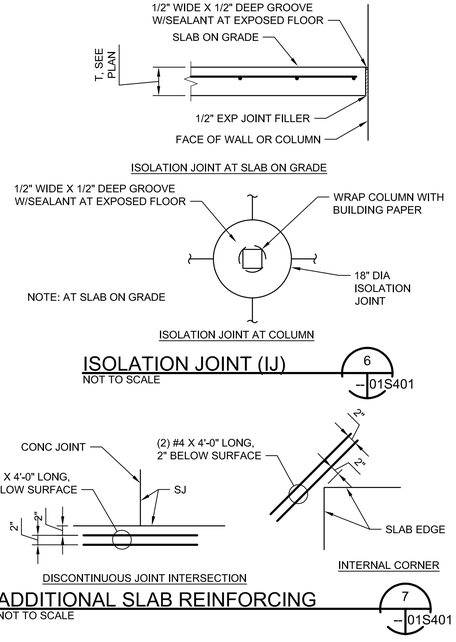
CONCRETE REINFORCING LAP AND EMBEDMENT SCHEDULE
NOT TO SCALE — 4 / –01S401

BAR SIZE GRADE 60	HL	HW	TL	D	f'c=4.0 OR 4.5 KSI
					* Ldh
#3	6"	3"	3"	2 1/4"	6"
#4	8"	4"	4 1/2"	3"	7"
#5	10"	5"	5"	3 3/4"	9"
#6	1'-0"	6"	6"	4 1/2"	10"
#7	1'-2"	7"	7"	5 1/4"	12"
#8	1'-4"	8"	8"	6"	14"
#9	1'-7"	11 3/4"	10 1/2"	9 1/2"	15"
#10	1'-10"	1'-1 1/4"	11 1/2"	10 3/4"	17"
#11	2'-0"	1'-2 3/4"	1'-1"	12"	19"

* COMPLYING WITH MINIMUM COVER REQUIREMENTS OF ACI 318, 12.5.3. OTHERWISE Ldh MUST BE RE-CALCULATED.

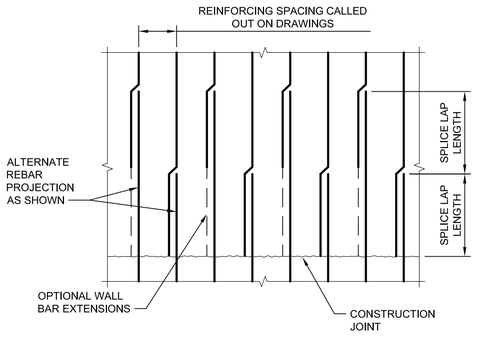


REINFORCING HOOK SCHEDULE
NOT TO SCALE — 5 / –01S401

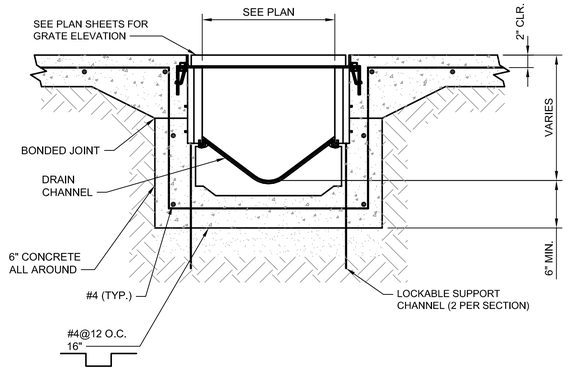


ISOLATION JOINT (IJ)
NOT TO SCALE — 6 / –01S401

ADDITIONAL SLAB REINFORCING
NOT TO SCALE — 7 / –01S401



STAGGERED REINFORCING AT CONSTRUCTION JOINT
NOT TO SCALE — 8 / –01S401



TYPICAL TRENCH DRAIN
NOT TO SCALE — 9 / –01S401

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ISSUE	DATE	DESCRIPTION
-	-	

JASON L. HILL — STATE OF WASHINGTON — 38335 — REGISTERED PROFESSIONAL ENGINEER
5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

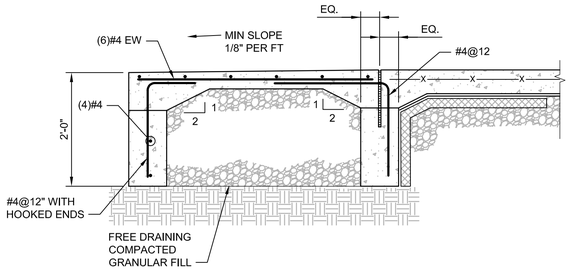
STANDARDS

STRUCTURAL DETAILS 1

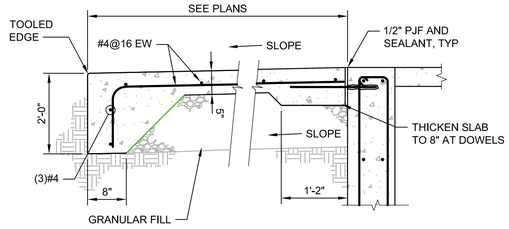
0 1" 2"

FILENAME 01S401.DWG
SCALE AS NOTED

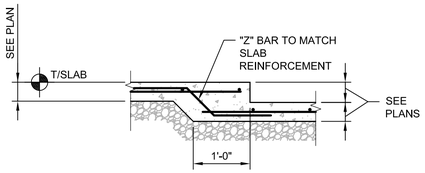
SHEET 01S401



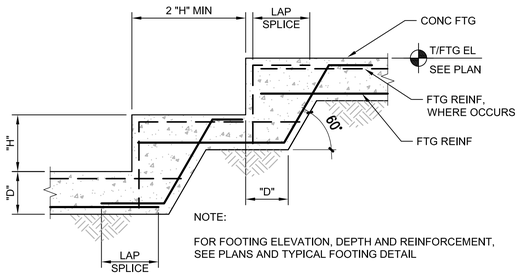
STOOP DETAIL A (1 / --01S402)
NOT TO SCALE



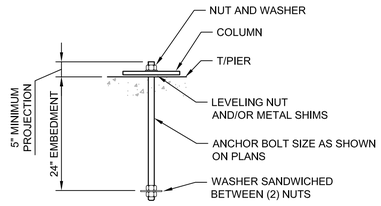
STOOP DETAIL B (2 / --01S402)
NOT TO SCALE



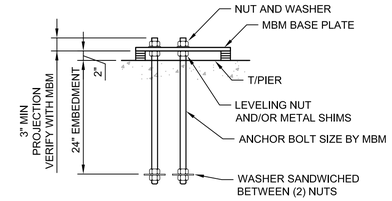
RECESSED FLOOR SLAB (3 / --01S402)
NOT TO SCALE



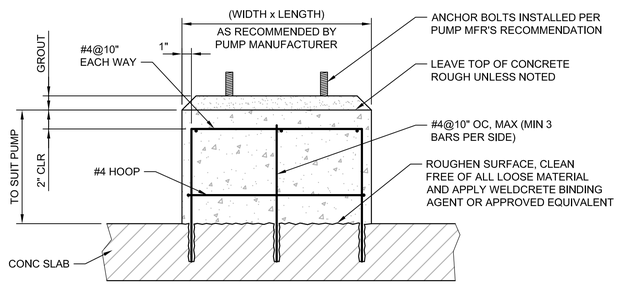
STEP FOOTING (4 / --01S402)
NOT TO SCALE



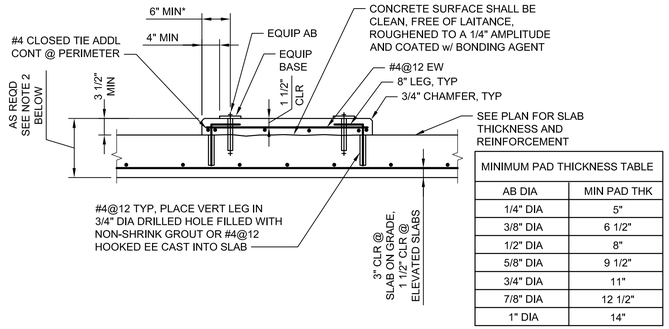
ANCHOR BOLT DETAIL (5 / --01S402)
NOT TO SCALE



MBM ANCHOR BOLT DETAIL (6 / --01S402)
NOT TO SCALE



CONCRETE EQUIPMENT PAD 1 (7 / --01S402)
NOT TO SCALE



MINIMUM PAD THICKNESS TABLE	
AB DIA	MIN PAD THK
1/4" DIA	5"
3/8" DIA	6 1/2"
1/2" DIA	8"
5/8" DIA	9 1/2"
3/4" DIA	11"
7/8" DIA	12 1/2"
1" DIA	14"

CONCRETE EQUIPMENT PAD 2 (8 / --01S402)
NOT TO SCALE

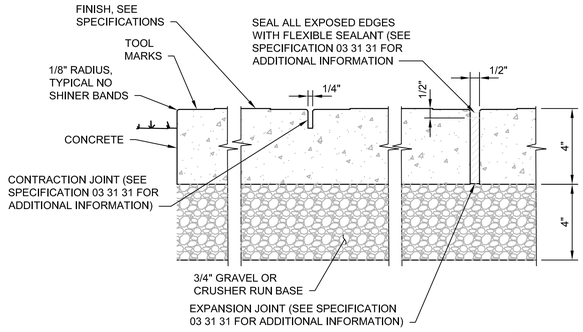
NOTES:

1. PROVIDE ABOVE PAD UNDER ALL ELECTRICAL AND MECHANICAL EQUIPMENT SUPPORTED ON STRUCTURAL SLABS. ALSO PROVIDE FOR EQUIPMENT WEIGHING LESS THAN 5000 POUNDS WHICH ARE SUPPORTED ON GRADE OR WHERE SPECIFICALLY NOTED ON PLANS.
2. PAD THICKNESS SHALL BE THE LARGER OF SLAB THICKNESS PLUS 3 1/2" OR MINIMUM PAD THICKNESS FROM TABLE. PROVIDE AN ADDITIONAL LAYER OF #4@12 EACH WAY WITH 1 1/2" CLEAR TOP AND BOTTOM FOR EACH 8" ADDITIONAL PAD THICKNESS EXCEEDING THE 3 1/2" MINIMUM THICKNESS. ALTERNATIVELY, THICKEN SLAB ON GRADE BELOW EQUIPMENT PAD AS REQD TO MAINTAIN MIN 3" COVER ON ANCHOR BOLTS.

PAD NOTES:

1. ABOVE PAD DETAILS APPLY FOR SUPPORT OF ALL EQUIPMENT UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
2. BEFORE EQUIPMENT SUPPORT PADS ARE CAST, THE PAD SIZES AND REINFORCING SHALL BE APPROVED BY THE ENGINEER AS BEING CAPABLE OF SUPPORTING EQUIPMENT TO BE PLACED THEREON. EQUIPMENT BASE DIMENSIONS SHALL BE THE LARGER OF AS DETERMINED BY THE EQUIPMENT MANUFACTURER OR AS INDICATED ON THE DRAWINGS. SUBMIT ALL EQUIPMENT DIMENSIONS AND LOADS TO ENGINEER, THE SIZE, NUMBER, TYPE, LOCATION AND THREAD PROJECTION OF THE ANCHOR BOLTS (AB) SHALL BE AS DETERMINED BY THE EQUIPMENT MANUFACTURER AND SHALL BE AS APPROVED BY THE ENGINEER. AB SHALL BE HELD IN POSITION WITH A TEMPLATE WHILE EQUIPMENT PAD IS CAST.

*3. 6" MINIMUM PAD EDGE DIMENSION TO EQUIPMENT AB APPLIES FOR ALL EQUIPMENT SUPPORT PADS.



CONCRETE SIDEWALK (9 / --01S402)
NOT TO SCALE

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	JLC
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L HILL — STATE OF WASHINGTON — 18335 — REGISTERED PROFESSIONAL ENGINEER
5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

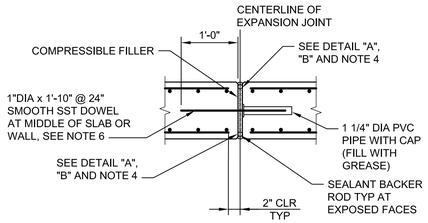
STANDARDS

STRUCTURAL DETAILS 2

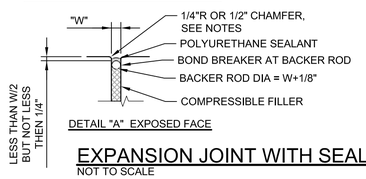
0 1" 2"

FILENAME	01S402.DWG
SCALE	AS NOTED

SHEET 01S402



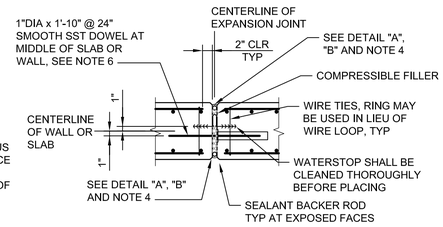
NON-WATER BEARING SLAB OR WALL



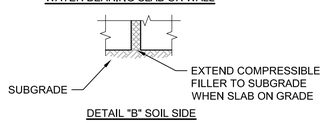
DETAIL "A" EXPOSED FACE

NOTES:

1. FOR WALLS, FORM ALL JOINT EDGES AT 1/2" CHAMFER.
2. FOR UNDER SIDE OF EXPOSED SLABS, FORM JOINT EDGES AT 1/2" CHAMFER.
3. FOR SLABS, PROVIDE 1/4" RADIUS TOOLED EDGES AT TOP SURFACE
4. USE DETAIL "B" AT UNDERSIDE OF SLABS ON GRADE ONLY. USE DETAIL "A" AT ALL OTHER LOCATIONS.
5. "W" = 1" WIDE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
6. SMOOTH DOWEL AND PVC ASSEMBLY AT EXPANSION JOINTS SHALL USE GREENSTREAK "SPEED DOWEL" NO. PSD12/#7TX (BASE CODE PSD/#7BX).



WATER BEARING SLAB OR WALL

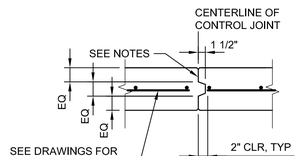


DETAIL "B" SOIL SIDE

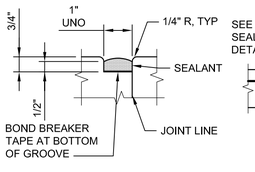
EXPANSION JOINT WITH SEALANT (EJ)

NOT TO SCALE

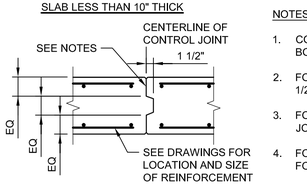
1 -- 01S403



NON-WATER BEARING WALL OR SLAB LESS THAN 10" THICK



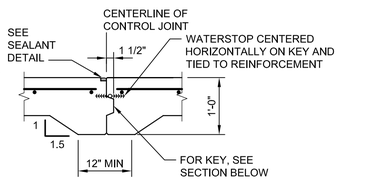
SEALANT DETAIL



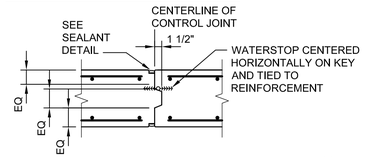
NON-WATER BEARING SLAB OR WALL 10" THICK OR GREATER

NOTES:

1. COAT CONCRETE JOINT SURFACES WITH BOND BREAKER COMPOUND.
2. FOR WALLS, FORM ALL JOINT EDGES AT 1/2" CHAMFER.
3. FOR SLABS, EDGE TOP OF EXPOSED SLAB JOINT AT 1/4" RADIUS.
4. FOR UNDERSIDE OF EXPOSED SLABS, FORM JOINT EDGES AT 1/2" CHAMFER.



WATER BEARING SLAB LESS THAN 12" THICK



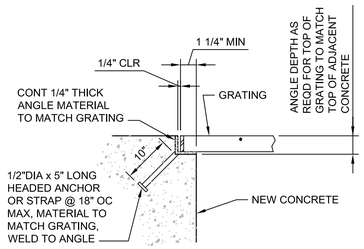
PROVIDE SINGLE REINF MAT FOR WALL WHEN THICKNESS IS LESS THAN 10". REINFORCING AS SPECIFIED

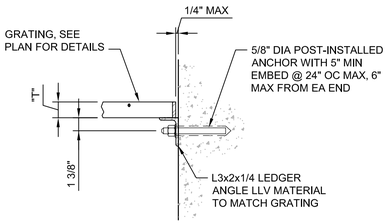
WATER BEARING SLAB OR WALL

CONTROL JOINT (CL)

NOT TO SCALE

2 -- 01S403





ONLY TO BE USED AT CONT WALL ABOVE GRATING OR AT PRE-EXISTING CONCRETE CONSTRUCTION

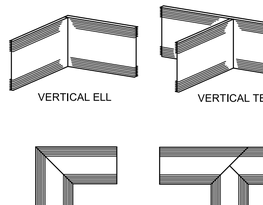
NOTES:

1. GRATING SIZE PER CONTRACT DOCUMENTS.
2. ALL ENDS AND OPENINGS SHALL BE BANDED, SEE SPECIFICATIONS.
3. ATTACH GRATING TO ALL SUPPORT ANGLES WITH BOLTED CLIPS SPACED AT 2'-0" OC MAX.
4. PROVIDE DISSIMILAR MATERIAL PROTECTION FOR ALUMINUM IN CONTACT WITH CONCRETE PER SPECIFICATION SECTION 09 91 00, 2.2.D.3, SYSTEM #3.

GRATING AND SUPPORT DETAIL

NOT TO SCALE

3 -- 01S403



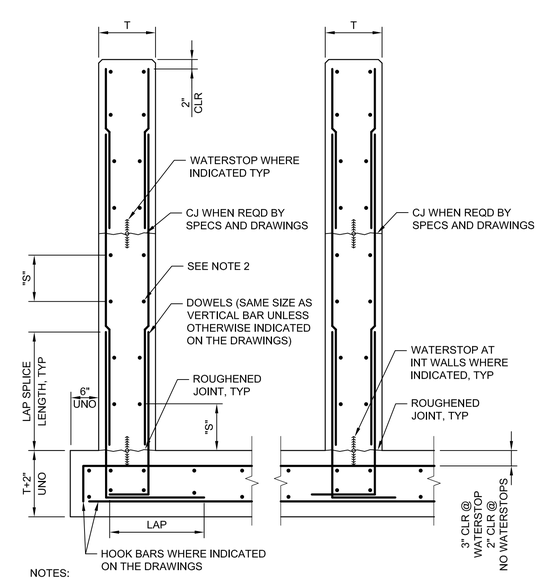
NOTES:

1. BULB TYPE WATERSTOPS SHALL BE HANDLED SIMILAR TO AS SHOWN WITH BULB JOINTS MITERED FOR FULL CONTINUITY OF HOLLOW BULB.
2. ONLY STRAIGHT BUTT JOINT WELDS ARE ALLOWED IN THE FIELD.

SHOP FABRICATED WATERSTOP

NOT TO SCALE

4 -- 01S403



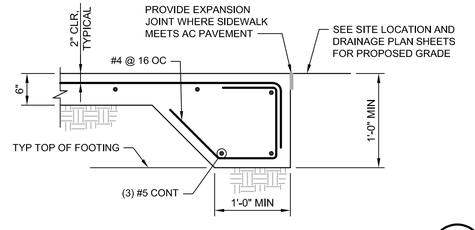
NOTES:

1. "S" = BAR SPACING INDICATED ON THE DRAWINGS
2. FOR HORIZONTAL REINF BAR LOCATION RELATIVE TO VERTICAL REINF BAR LOCATION (INSIDE OR OUTSIDE SEE DRAWING (INSIDE SHOWN).

HORIZONTAL WALL JOINT WITH WATERSTOP

NOT TO SCALE

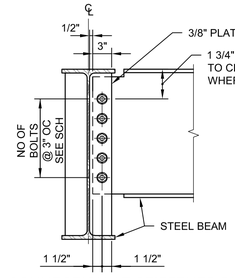
7 -- 01S403



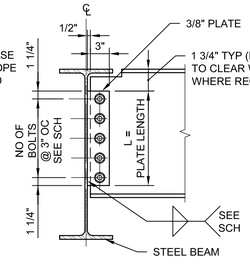
TYPICAL CONCRETE PAVING EDGE

NOT TO SCALE

5 -- 01S403



CONNECTION AT STIFFENER PLATE



TYPICAL CONNECTION

CONNECTION SCHEDULE			
BEAM SIZE	MIN # OF BOLTS	MIN PLATE LENGTH (L)	WELD SIZE
W8, W10	2	5 1/2	3/16

NOTE:

1. BOLTS ARE 3/4" DIA A325N BOLTS, ASTM A563 HEAVY HEX HEAD NUTS WITH ASTM F436 FLAT WASHERS. HOLES ARE 13/16" DIA IN SUPPORT MEMBER AND 13/16" x1" HORIZONTAL SHORT SLOTS IN PLATE.
2. USE SIMILAR CONNECTION @ WIDE FLANGE COLUMN FLANGE OR WEB.

TYPICAL BEAM CONNECTION DETAIL

NOT TO SCALE

6 -- 01S403

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	JLC
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL — STATE OF WASHINGTON — 38335 — REGISTERED PROFESSIONAL ENGINEER

5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

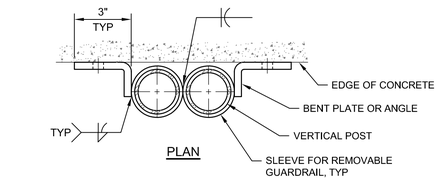
STANDARDS

STRUCTURAL DETAILS 3

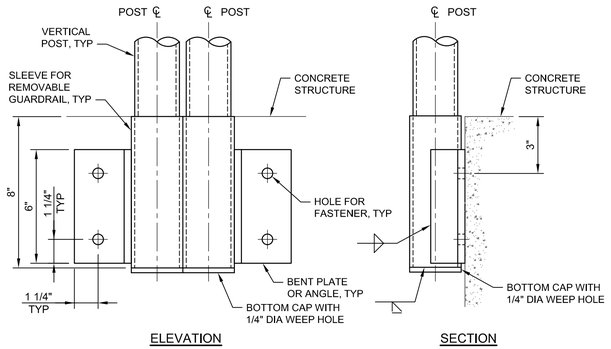
0 1" 2"

FILENAME	01S403.DWG
SCALE	AS NOTED

SHEET **01S403**



PLAN



ELEVATION

SECTION

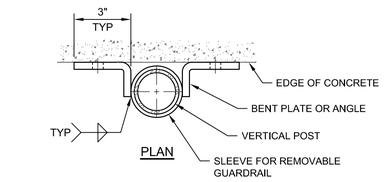
GUARDRAIL BRACKET A

SCALE: 3" = 1'-0"

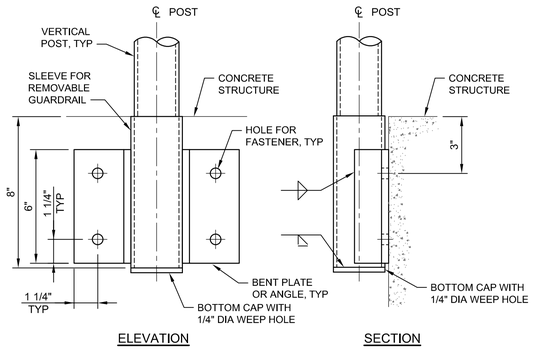
1 — 01S405

NOTE:

ALL MATERIAL SHALL BE ALUMINUM WITH 304 SS FASTENERS



PLAN



ELEVATION

SECTION

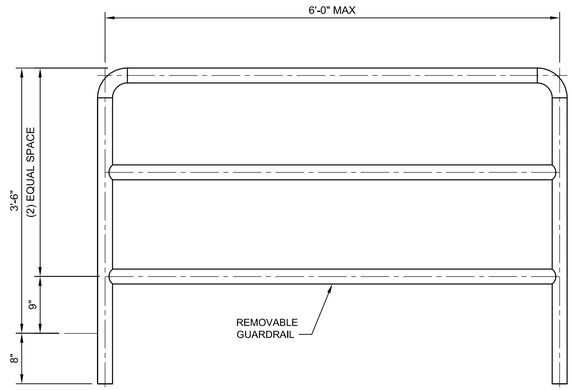
GUARDRAIL BRACKET B

SCALE: 3" = 1'-0"

2 — 01S405

NOTE:

ALL MATERIAL SHALL BE ALUMINUM WITH 304 SS FASTENERS



TYPICAL GUARDRAIL

SCALE: 1" = 1'-0"

3 — 01S405

NOTE:

ALL MATERIAL SHALL BE ALUMINUM

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL — STATE OF WASHINGTON — 38335 — REGISTERED PROFESSIONAL ENGINEER

5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

STANDARDS

STRUCTURAL DETAILS 5

0 1" 2"

FILENAME	01S405.DWG
SCALE	AS NOTED

SHEET **01S405**

GENERAL SYMBOLS

- FLOOR DRAIN
- CLEANOUT TO FLOOR
- CLEANOUT TO GRADE
- FLOOR SINK
- BALANCING VALVE
- HOSE BIBB/WALL HYDRANT
- PRESSURE REDUCING VALVE
- CONCRETE VALVE BOX
- WALL CLEANOUT
- PIPE WYED UP (TEED ON SUPPLIES)
- PIPING TURNED UP
- PIPING TURNED DOWN
- PIPING TEED DOWN
- ELBOW DOWN TO ELBOW
- ELBOW DOWN TO TEE
- TEE DOWN TO ELBOW
- PIPE BREAK
- 45° ELBOW (PLAN)
- 90° ELBOW (PLAN)
- WYE\STRAINER (PLAN)
- GATE VALVE
- BUTTERFLY VALVE
- PLUG VALVE
- BALL VALVE
- CHECK VALVE
- WHEEL HANDLED GLOBE VALVE (UNLESS OTHERWISE NOTED)
- DIAPHRAGM VALVE
- YARD HYDRANT (CONNECTION SIZE AS NOTED ON PLANS)
- CONCENTRIC REDUCER (ECCENTRIC REDUCER WHERE NOTED)
- CAP OR PLUG
- 45° BEND (VERTICAL)
- FLOW METER

MATERIALS IN PLAN / SECTION

- NEW GRAVEL CSBC PER WSDOT SPEC 9-03-9(3)

ABBREVIATIONS

ABC	ABOVE CEILING
ABV	ABOVE
AD	AREA DRAIN, ACCESS DOOR
ALUM	ALUMINUM
AFF	ABOVE FINISHED FLOOR
APPROX	APPROXIMATE
AV	ANGLE VALVE
AWWA	AMERICAN WATER WORKS ASSOCIATION
BFF	BELOW FINISHED FLOOR
BFV	BUTTERFLY VALVE
BGV	BURIED GATE VALVE
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BTWN	BETWEEN
BV	BALL VALVE
CA	COMPRESSED AIR
CI	CAST IRON
CB	CATCH BASIN
CD	CONDENSATE DRAIN
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CO	CLEANOUT (FLOOR OR YARD)
CONC	CONCRETE
COORD	COORDINATE
COMB	COMBINATION
CPVC	CHLORINATED POLYVINYL CHLORIDE
CSBC	CRUSHED SURFACING BASE COURSE
CU	COPPER
CV	CHECK VALVE
CW	COLD WATER
DEMO	DEMOLISH
DI	DUCTILE IRON
DIM	DIMENSION
DEG	DEGREE
DIA	DIAMETER
DISCH	DISCHARGE
DRN	DRAIN
EFF	EFFLUENT
EG	EXISTING GRADE
EL	ELBOW
EWT	ENTER WATER TEMPERATURE
FC	FLEXIBLE CONNECTION, FORWARD CURVED
FD	FLOOR DRAIN
FG	FINISHED GRADE
FI	FLOW INDICATOR
FLA	FULL LOAD AMPERAGE
FOT	FLAT ON TOP
FOB	FLAT ON BOTTOM
FREQ	FREQUENCY
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FLOOR SINK, FLOW SWITCH, FORMALIN SUPPLY
FT	FOOT, FEET
FTG	FITTING
GA	GAGE
GAL	GALLON
GALV	GALVANIZED
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GATE VALVE, GLOBE VALVE
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
HD	HOT DIPPED
HW	HOT WATER
HORIZ	HORIZONTAL
HP	HORSEPOWER
HWP	HOT WATER PUMP
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IHX	INCUBATION HEAT EXCHANGER
KW	KILOWATT
KWH	KILOWATT HOUR
LPG	LIQUEFIED PETROLEUM GAS
LWT	LEAVING WATER TEMPERATURE
MAV	MANUAL AIR VENT
MCA	MINIMUM CIRCUIT AMPACITY
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MJ	MECHANICAL JOINT
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
NOM	NOMINAL
NRS	NON-RISING STEM
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OS&Y	OUTSIDE STEM AND YOKE VALVE
PD	PRESSURE DROP
PG	PRESSURE GAUGE
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCP	RE-CIRCULATING PUMP REINFORCED CONCRETE PIPE
REQD	REQUIRED
RD	ROOF DRAIN
RPM	REVOLUTIONS PER MINUTE
RSR	RISER
RV	RELIEF VALVE
S	SINK
SCH	SCHEDULE
SD	SOIL DROP, STORM DRAIN
SF	SQUARE FEET
SG	SLIDE GATE
SHT	SHEET
SIM	SIMILAR
SQ	SQUARE
SSAS	SUBSURFACE SOIL ABSORPTION SYSTEM
SST, SS	STAINLESS STEEL
SV	SHUTOFF VALVE
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE
THK	THICK, THICKNESS
THRU	THROUGH
TSS	TOTAL SUSPENDED SOLIDS
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UV	ULTRAVIOLET
V	VENT
VB	VALVE BOX, VACUUM BREAKER
VCP	VITRIFIED CLAY PIPE
VERT	VERTICAL
VR	VENT RISER
VTR	VENT THROUGH ROOF
W/	WITH
WH	WALL HYDRANT
WP	WORKING PRESSURE
W	WASTE
YCO	YARD CLEANOUT
YH	YARD HYDRANT

PROCESS EQUIPMENT IDENTIFICATION SYMBOLOGY

CON-X	CONDENSER OF SPLIT INCUBATION CHILLING SYSTEM
EVA-X	EVAPORATOR OF SPLIT INCUBATION CHILLING SYSTEM
EVP-X	PUMP FOR EVAPORATOR LOOP
CIP-X	CHILLED INCUBATION PUMP
BTF-1	BUFFER TANK AND HYDRAULIC SEPARATOR - 48" DIA, 700 GALLON
XX-FMXX	FLOWMETER NUMBER LOCATION
UV-X	ULTRAVIOLET STERILIZER PACKAGE
UTB-1	UTILITY WATER BOOSTER PUMP STATION
CFL-1	CONTAINER FILTER

PROCESS PIPING IDENTIFICATION SYMBOLOGY

XX-XX

- PIPE SERVICE, SEE LEGEND
- DIAMETER IN INCHES

PIPE SERVICE LEGEND

CA	COMPRESSED AIR
CH	CHILLED WATER
D	DRAIN
F	FORMALIN
OF	OVERFLOW
RC	RECYCLE WATER
RU	REUSE WATER
SS	SANITARY SEWER
SW	SURFACE WATER
UW	UTILITY WATER
W	WATER SUPPLY MIXED
WD	WASTE DRAIN
WW	WELL WATER

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	TT
DESIGN BY	
CHECKED BY	
DRAWN BY	AB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 35974 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

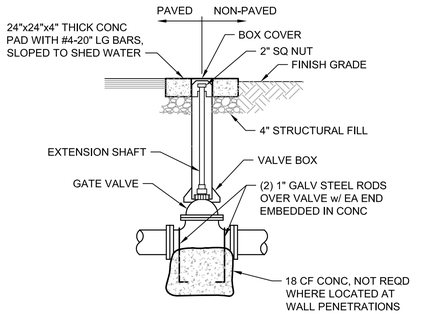
STANDARDS

PROCESS
SYMBOLS AND ABBREVIATIONS

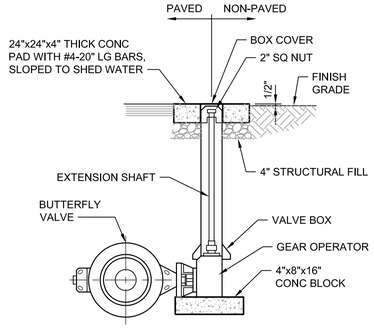
0 1" 2"

FILENAME 01D001.DWG
SCALE AS NOTED

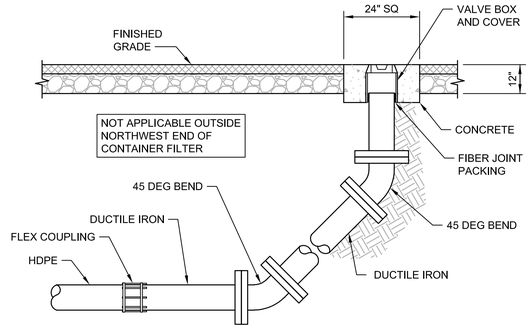
SHEET **01D001**



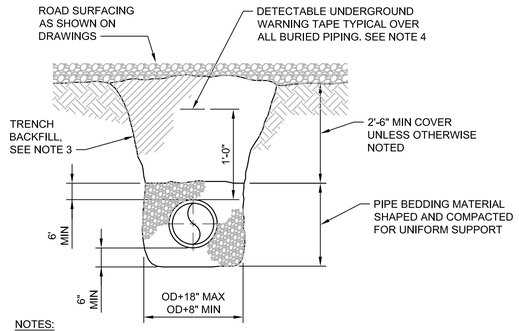
BURIED GATE VALVE AND BOX 1 / 01D401
NOT TO SCALE



BURIED BUTTERFLY VALVE AND BOX 2 / 01D401
NOT TO SCALE



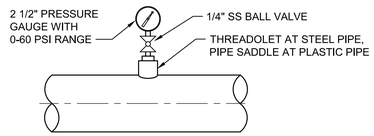
CLEANOUT 3 / 01D401
NOT TO SCALE



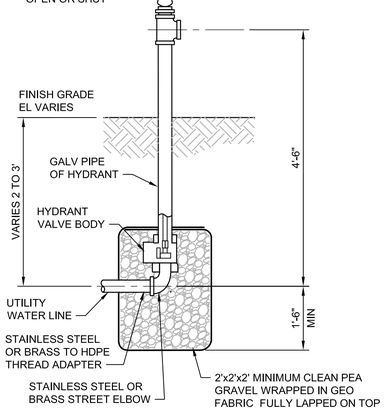
NOTES:

1. TRENCHING DETAIL IS SCHEMATIC ONLY. SLOPE TRENCH SIDES AS REQUIRED TO MAINTAIN STABILITY.
2. IF MORE THAN ONE PIPE IS LOCATED IN TRENCH, PROVIDE 6" (MIN) CLEAR SPACING BETWEEN PIPES. SHAPE AND COMPACT BEDDING MATERIAL BETWEEN PIPING.
3. TRENCH BACKFILL SHALL BE STRUCTURAL FILL EXCEPT WHERE TRENCH IS NOT LOCATED IN DRIVING AREAS OR AREAS BUILT UP WITH STRUCTURAL FILL, SEE TECHNICAL SPECIFICATIONS SECTION 31 23 33.
4. DETECTABLE UNDERGROUND WARNING TAPE, PRE-PRINTED WITH APPROPRIATE PIPE DESCRIPTION. TAPE COLOR SHALL BE AS APPROVED FOR TYPE OF PIPE MARKED PER INDUSTRY STANDARDS. TAPE SHALL BE 6" WIDE, 5 MIL MINIMUM THICKNESS WITH ALUMINUM BACKING. TAPE SHALL BE AS MANUFACTURED BY SETON OR APPROVED EQUIVALENT.

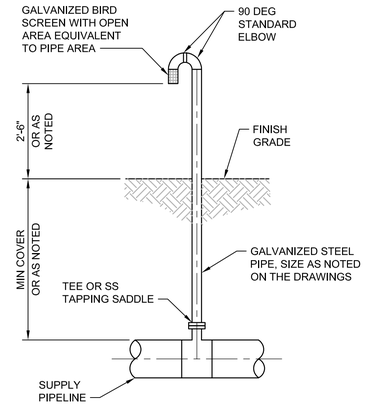
BURIED PIPE 6 / 01D401
NOT TO SCALE



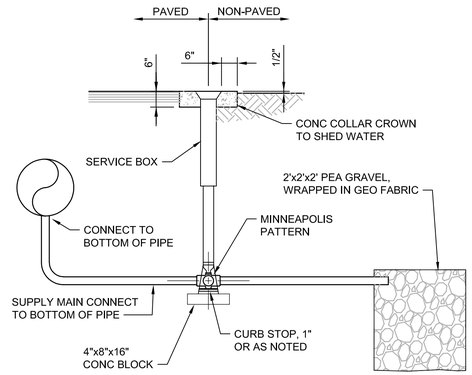
PRESSURE GAUGE 9 / 01D401
NOT TO SCALE



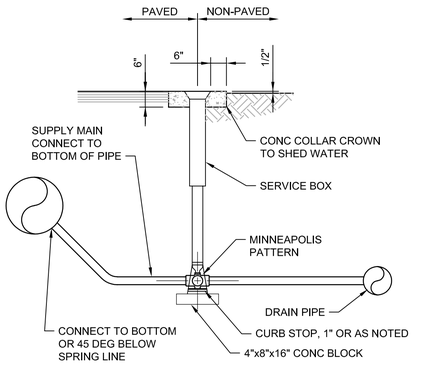
YARD HYDRANT 7 / 01D401
NOT TO SCALE



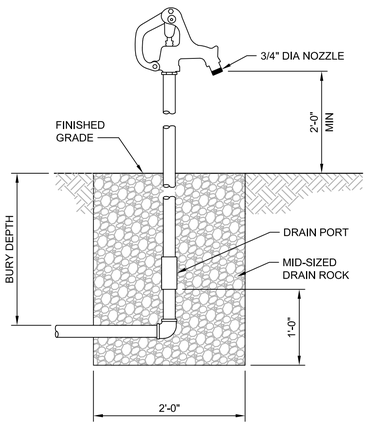
PIPE VENT 8 / 01D401
NOT TO SCALE



BURIED DRAIN TO FRENCH DRAIN 10 / 01D401
NOT TO SCALE



CURBSTOP DRAIN TO PIPE 13 / 01D401
NOT TO SCALE



FROST PROOF HYDRANT 14 / 01D401
NOT TO SCALE

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	KML
DESIGN BY	TT
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

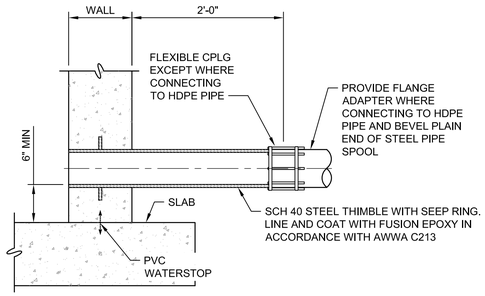
STANDARDS

PROCESS PIPING DETAILS

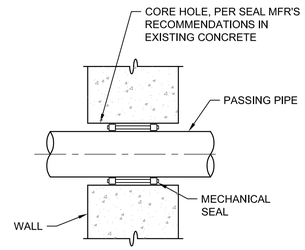
0 1" 2"

FILENAME	01D401.DWG
SCALE	AS NOTED

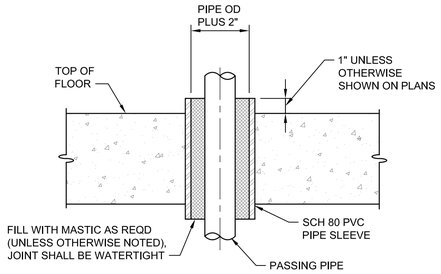
SHEET 01D401



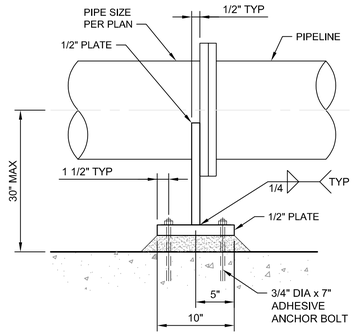
PIPE SPOOL
NOT TO SCALE
3 — 01D402



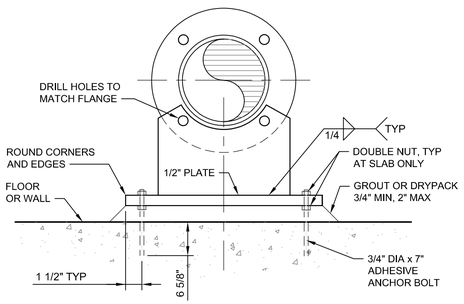
MECHANICAL SEAL
NOT TO SCALE
4 — 01D402



FLOOR SLEEVE
NOT TO SCALE
5 — 01D402

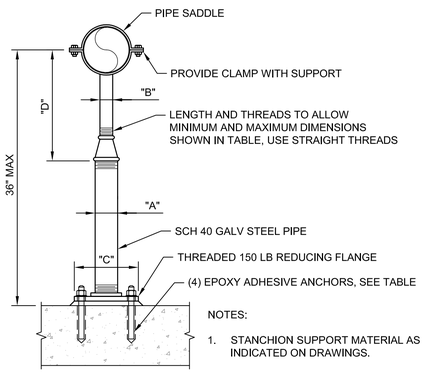


ELEVATION



SECTION

STEEL PIPE SUPPORT
NOT TO SCALE
6 — 01D402



NOTES:

1. STANCHION SUPPORT MATERIAL AS INDICATED ON DRAWINGS.
2. PAINT EXPOSED THREADS AND USE SS ANCHORS.

FLOOR PIPE SUPPORT SCHEDULE
DIMENSIONS IN INCHES

PIPE SIZE	"A"	"B"	"C"	"D"		ANCHORS	
				MINIMUM	MAXIMUM	DIA	EMBED
≤ 2 1/2	2 1/2	1 1/2	9	8	13	5/8	5
3	2 1/2	1 1/2	9	8 1/2	13 1/2	5/8	5
3 1/2	2 1/2	1 1/2	9	8 1/2	13 1/2	5/8	5
4	3	2 1/2	9	9 1/2	14	5/8	5
6	3	2 1/2	9	10 1/2	15 1/2	5/8	5
8	3	2 1/2	9	11 1/2	16 1/2	5/8	5
10	3	2 1/2	9	13 1/2	18 1/2	5/8	5
12	3	2 1/2	9	15	19 1/2	5/8	5
14	4	3	11	16 1/2	20 1/2	3/4	6 5/8
16	4	3	11	17 1/2	22 1/2	3/4	6 5/8
18	6	3 1/2	13 1/2	19 1/2	24	3/4	6 5/8
20	6	3 1/2	13 1/2	21	25 1/2	3/4	6 5/8
24	6	4	13 1/2	23 1/2	28 1/2	3/4	6 5/8

STANCHION SUPPORT
NOT TO SCALE
7 — 01D402

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	KML
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

STANDARDS

PROCESS PIPING DETAILS

0 1" 2"

FILENAME	01D402.DWG
SCALE	AS NOTED

SHEET 01D402

SUBMERSIBLE PUMP SCHEDULE

NUMBER	NAME	LOCATION	SERVICE	TYPE	INLET CONNECTION SIZE (IN)	OUTLET CONNECTION (IN)	FLOW (gpm)	TDH (ft)	HP	WEIGHT (LBS)	VOLTAGE/ PHASE	REMARKS
15-P01	CIRC. TANK BLDG. RECIRCULATION PUMP	NE CORNER OF CIRCULAR TANK BUILDING	RC	SUBMERSIBLE END SUCTION; VFD	N/A	8	1,600	30	15	710	460/3	PUMP PART OF PACKAGE LIFT STATION 15-LS01; SEE LIFT STATION SPECIFICATIONS
15-P02	CIRC. TANK BLDG. RECIRCULATION PUMP	NE CORNER OF CIRCULAR TANK BUILDING	RC	SUBMERSIBLE END SUCTION; VFD	N/A	8	1,600	30	15	710	460/3	PUMP PART OF PACKAGE LIFT STATION 15-LS01; SEE LIFT STATION SPECIFICATIONS
16-P01	POLLUTION ABATEMENT POND LIFT PUMP	SE CORNER OF POLLUTION ABATEMENT POND	WD	SUBMERSIBLE END SUCTION	N/A	4	200	20	2	230	460/3	

FLOW METER SCHEDULE

TAG NO.	LOCATION	SERVICE	TYPE OF METER	MAXIMUM FLOW (GPM)	DIAMETER (INCHES)	NOTES
15-FM01	LOWER SITE; GAS MANAGEMENT TOWER 1	RECIRCULATION WATER	MAG	2500	8	REMOTE MOUNTED TRANSMITTER
15-FM02	LOWER SITE; GAS MANAGEMENT TOWER 2	RECIRCULATION WATER	MAG	2500	8	REMOTE MOUNTED TRANSMITTER
15-FM03	SUPPLY LIFT STATION	SUPPLY WATER	MAG	2500	10	INTEGRAL TRANSMITTER

PROCESS PIPE SCHEDULE

FLUID ABBREVIATION	FUNCTION	PIPING MATERIALS (GROUP NO) (UNLESS OTHERWISE NOTED ON DRAWINGS)				FIELD TEST REQUIREMENTS (SEE NOTE 2)			NOTES AND REMARKS
		EXPOSED PIPE	BURIED PIPE	UNDER SLAB PIPE	SUBMERGED	TEST PRESSURE (PSI)	TEST MEDIUM	ALLOWABLE LEAKAGE (SEE NOTE 1)	
CA	COMPRESSED AIR	2, 3	2, 3	2, 3	-	175	AIR	(A)	
OF	OVERFLOW	5	9, 10	9, 10	-	NOTE 4	WATER	(A) FOR PIPES TYPE 5 (B) FOR PIPE TYPES 9 & 10	
RC	RECIRCULATION WATER	4, 6	6, 9, 10	6, 9, 10	-	20	WATER	(A) FOR PIPE TYPE 4 & 6 (B) FOR PIPE TYPES 9 & 10	
RU	REUSE WATER	4, 6	5, 9, 10	5, 9, 10	-	40	WATER	(A) FOR PIPES TYPE 4, 5 & 6 (B) FOR PIPE TYPES 9 & 10	
SW	SURFACE WATER (SPRING OR CREEK)	4, 6	6, 9, 10	6, 9, 10	-	20	WATER	(A) FOR PIPE TYPE 4 & 6 (B) FOR PIPE TYPES 9 & 10	INSULATE WHERE NOTED ON THE DRAWINGS. EXPOSED PIPE & FITTINGS 10" & GREATER SHALL BE GROUP 4 UNLESS OTHERWISE NOTED.
UW	UTILITY WATER	6	5	5	-	90	WATER	(A)	
V	VENT (PROCESS)	2	2	2	-	NOTE 4	WATER	(A)	
WD D	WASTE DRAIN DRAIN	5, 15	7, 9	5, 15	-	NOTE 4	WATER	(A) FOR PIPE TYPE 5 & 15 (B) FOR PIPE TYPE 7 & 9	
WW	WELL WATER	6	6	6	-	225	WATER	(A) FOR PIPE TYPE 6	
CH	CHILLED WATER	6	6	6	-	20	WATER	(A)	INSULATE PIPING & BUFFER TANK PER SCHEDULE IN SPECIFICATION SECTION 40 42 00
DW	DOMESTIC WATER	2, 6	6	6	-	150	WATER	(A)	PIPE GROUP 2 USED WHERE INDICATED ON DRAWINGS

PROCESS PIPING MATERIAL SCHEDULE

GROUP NO.	PIPE	JOINTS, FITTINGS, COATINGS AND LININGS
2	SCHEDULE 40 GALVANIZED STEEL	THREADED
3	STEEL; BLACK, SCHEDULE 40, ASTM A53	BUTT FUSION OR ELECTROFUSION
4	STEEL; AWWA C200, 3/8" WALL	COATED AND LINED PER SPECIFICATIONS. WELDED, FLANGED OR RESTRAINED MECHANICAL JOINTS AND FITTINGS.
5	PVC; SCHEDULE 40, ASTM D1785	POLYVINYL CHLORIDE SCHEDULE 40. NORMAL IMPACT, SOCKET SOLVENT WELDED JOINTS EXPOSED, GASKETED BURIED
6	PVC; SCHEDULE 80, ASTM D1785	POLYVINYL CHLORIDE SCHEDULE 80. NORMAL IMPACT, SOCKET SOLVENT WELDED JOINTS
7	PVC SEWER PIPE, ASTM D3034 AND ASTM F679, SDR 35	BELL AND SPIGOT FITTINGS
9	AWWA C900 PVC PIPE, DR25 OR THICKER WALL	DIP FITTINGS, RESTRAINED JOINTS WITHIN 20 FEET OF FITTINGS AND WITHIN 50 FEET OF DEAD ENDS AND PIPE REDUCERS
10	AWWA C900 PVC PIPE, DR32.5 OR THICKER WALL	DIP FITTINGS, RESTRAINED JOINTS WITHIN 20 FEET OF FITTINGS AND WITHIN 50 FEET OF DEAD ENDS AND PIPE REDUCERS
11	DUCTILE IRON PIPE, CLASS 150	COATED AND LINED PER SPECIFICATIONS. FLANGED OR RESTRAINED MECHANICAL JOINTS AND FITTINGS.
12	SCHEDULE 10, TYPE 304 STAINLESS STEEL	WELEDED OR FLANGED JOINTS AND FITTINGS. PROVIDE DIELECTRIC FLANGE KITS WHERE CONNECTING TO DIS-SIMILAR METALS
13	RIGID COPPER ASTM B88, TYPE L, HARD TEMPERED	WROUGHT COPPER OR CAST BRONZE
15	PVC DWV, ASTM D2665 SCHEDULE 40	SOCKET WELD

NOTES

GENERAL NOTE:
ALTHOUGH SEVERAL PIPE MATERIAL GROUPS MIGHT BE LISTED ON THIS SHEET FOR A GIVEN FLUID SERVICE, CONTRACTORS SHALL PROVIDE ONLY THE PIPE MATERIAL GROUP SHOWN ON THE DRAWINGS AND SPECIFIED FOR THAT SERVICE. WHERE MORE THAN ONE PIPE GROUP ARE SHOWN THE CONTRACTOR HAS THE OPTION TO USE ANY OF THE PIPING TYPES INDICATED.

NOTE 1:
LEAKAGE ALLOWANCE IS AS FOLLOWS:
- (A) PIPES SO DESIGNATED SHALL SHOW ZERO LEAKAGE
- (B) PIPES SO DESIGNATED SHALL SHOW ZERO LEAKAGE FOR UNBURIED PIPE AND NOT MORE THAN 0.02 GALLONS PER INCH OF DIAMETER PER 100 FEET OF BURIED PIPE
- (C) PIPES SO DESIGNATED SHALL NOT SHOW LEAKAGE OF MORE THAN 0.15 GALLON PER HOUR PER INCH OF DIAMETER PER 100 FEET OF PIPE
- (D) SEE SPECIFICATIONS FOR TESTING OF HDPE PIPE

NOTE 2:
FOR FIELD TEST PROCEDURES AND ADDITIONAL TEST REQUIREMENTS, SEE SPECIFICATIONS

NOTE 3:
FOR PIPE LINING AND COATING SEE SPECIFICATIONS.

NOTE 4:
STATIC WATER TEST WITH SURFACE 10-FEET ABOVE HIGH POINT OF PIPE.

NOTE 5:

NOTE 6:
WHERE INSULATION IS REQUIRED, INSULATE IN ACCORDANCE WITH SPECIFICATION 40-42-00.

NON-SUBMERSIBLE PUMPS SCHEDULE (SEE NOTES)

DESIGNATION	APPLICATION	LOCATION	TYPE	PERFORMANCE	INLET & OUTLET	MAX HP	VOLT-PH	RPM	MAKER & MODEL	CONTROL	MOTOR REQURIED
UTB-3	UTILITY WATER BOOSTER PUMP	CIRCULAR TANK BUILDING	MULTI-STAGE IN-LINE CENTRIFUGAL	50 GPM @ 150' TDH	2"	3	480/3	3600	GRUNDFOS CRE 10-4 OR EQUAL	PACKAGED	INVERTER DUTY
15-P03	SUPPLY WATER TO CIRC. TANK BLDG.	SW CORNER OF CIRC. TANK BLDG.	VERTICALLY SUSPENDED CENTRIFUGAL PUMP	1600 GPM @ 30 TDH	10" OUT	20	480/3	1800	GOULDS VIT-DITM 12FDLC OR EQUAL	PRESSURE TRANS W/ REMOTE VFD	INVERTER DUTY
15-P04	SUPPLY WATER TO CIRC. TANK BLDG.	SW CORNER OF CIRC. TANK BLDG.	VERTICALLY SUSPENDED CENTRIFUGAL PUMP	1600 GPM @ 30 TDH	10" OUT	20	480/3	1800	GOULDS VIT-DITM 12FDLC OR EQUAL	PRESSURE TRANS W/ REMOTE VFD	INVERTER DUTY

NOTES:

1. PUMPS 15-P03 & 15-P04 ARE VFD CONTROLED PRESSURE MAINTAINING PUMPS PART OF PACKAGED LIFT STATION. SEE SHEET 15D403 AND SPECIFICATION 43 24 05.

ULTRA VIOLET STERILIZER SCHEDULE

TAG	FLOW	UV TRANSMITTANCE AT 253.7nm	DOSE AT END OF LAMP LIFE	SITE VOLTAGE	MAX WATTS	CONNECTION SIZE MAX	MAX LAMPS	MAX HEAD LOSS	MAKE AND MODEL VESSEL DRAWN	OTHER MAKE AND MODEL
15-UV01	1,600 GPM	90%	40,000 mW sec/cm	240/1	2,640	10" FLANGE (NOTE 2)	6	21"	ULTRAAQUA MR6-350SS OR EQUAL	

NOTES:

1. VESSEL SHALL HAVE OUTLET HORIZONTAL NORTH AND INLET AXIAL HORIZONTAL EAST.
2. VESSEL SHALL HAVE HORIZONTAL INLET AND OUTLET NORTH.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 23004 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE
EDA AWARD NUMBER 07-79-07880

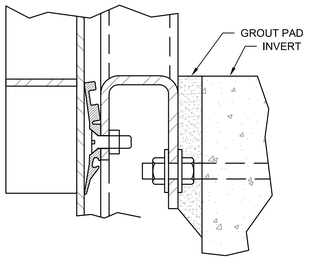
STANDARDS

PROCESS PIPE AND EQUIPMENT SCHEDULES

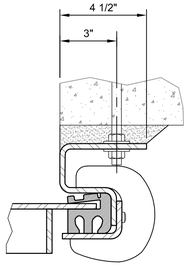
0 1" 2"

FILENAME 01D501.DWG
SCALE AS NOTED

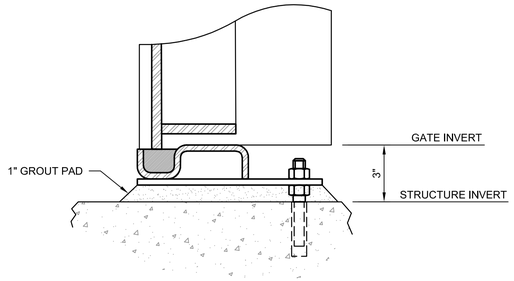
SHEET 01D501



GATE BOTTOM SEAL 1
SCALE: NTS 01D502



GATE SIDE SEAL 2
SCALE: NTS 01D502



GATE BOTTOM SEAL 3
SCALE: NTS 01D502

SLIDE GATE SCHEDULE								
TAG	STRUCTURE	DETAIL	NOMINAL SIZE	OPERATOR TYPE AND ELEVATION	DESIGN HEAD PRESSURE	SIDE SEAL	BOTTOM SEAL	REMARKS
04G-01	LOWER SITE CONC POND	A / 04D401	36' x 36"	HANDWHEEL, EL 81.36	5.5' UNSEATING HEAD	2	3	RISING STEM
04G-02	LOWER SITE CONC POND	1 / 04D401	12" DIA	2" NUT, EL 79.00	7.0' SEATING HEAD	NA	NA	CANAL GATE, SPIGOT BACK, WATERMAN C-10 OR EQUIV
16G-01	LOWER SITE PA POND	C / 16D401	12" x 36"	HANDWHEEL, EL 82.50	4.0' SEATING HEAD	2	1	RISING STEM

NOTES:

1. BOLT PATTERN OF GATE FRAMES SHALL BE AT LEAST 2" CLEAR OF PIPE TO STRUCTURE ADAPTERS OR WALL PIPES WHEN ANCHOR BOLTS ARE EPOXY AND 3" WHEN ANCHOR BOLTS ARE MECHANICAL.

2. ALL GATES SHALL BE SELF CONTAINED AND FLAT BACK, GROUTED PER MANUFACTURERS RECOMMENDATIONS.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	JLC
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON STATE OF WASHINGTON 22004 REGISTERED PROFESSIONAL ENGINEER
3/9/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

STANDARDS

GATE SCHEDULE AND DETAILS

0 1" 2"

FILENAME 01D502.DWG
SCALE AS NOTED

SHEET 01D502

DUCT AND ACCESSORIES LEGEND

SINGLE LINE	DOUBLE LINE	FITTING DESCRIPTION
		RECTANGULAR OR ROUND DUCT
		ACOUSTICALLY LINED DUCT (SIZES SHOWN ARE NET INSIDE)
		ECCENTRIC, RECTANGULAR OR ROUND
		CONCENTRIC TRANSITION, RECTANGULAR OR ROUND
		CONCENTRIC TRANSITION, TEE WYE
		CONCENTRIC TRANSITION, TRI-WYE
		RADIUS ELBOW, ROUND OR RECTANGULAR
		SQUARE ELBOW WITH TURNING VANES, RECTANGULAR
		45 DEG LATERAL, ROUND
		CONICAL COLLAR, RECTANGULAR TO ROUND
		45 DEG ENTRY COLLAR, RECTANGULAR
		WYE FITTING, ROUND
		DIVIDED FLOW BRANCH, RECTANGULAR
		MANUAL VOLUME DAMPER
FD	FD	FIRE(FD), SMOKE(SD) OR COMBINATION FIRE/ SMOKE(FSD) DAMPER
SD	SD	DUCT MOUNTED SMOKE DETECTOR
MD	MD	MOTORIZED CONTROL DAMPER
		CEILING DIFFUSER & THROW PATTERN (NON 4-WAY THROW PATTERN)
		CEILING DIFFUSER (4-WAY THROW PATTERN)
		CEILING REGISTER/GRILLE (RETURN OR TRANSFER)
		CEILING REGISTER/GRILLE (EXHAUST)
		SIDEWALL SUPPLY REGISTER
		SIDEWALL REGISTER/GRILLE (RETURN, EXHAUST, OR TRANSFER)

SINGLE LINE	DOUBLE LINE	FITTING DESCRIPTION
		SUPPLY AIR DUCT SECTION
		RETURN AIR DUCT SECTION
		EXHAUST AIR DUCT SECTION
12X12 SD-1 200f, 10"~	NECK SIZE, TAG # CFM, RUNOUT SIZE	DIFFUSER, REGISTER, GRILLE CALL-OUT
	Ⓣ	THERMOSTAT (+48" MOUNTING HEIGHT)
	Ⓗ	HUMIDITY CONTROL (+48" MOUNTING HEIGHT)
	①	KEYED NOTE

GENERAL NOTES

1. DRAWINGS AND SPECIFICATIONS REPRESENT FINISHED CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTIONS INCLUDING, BUT NOT LIMITED TO, SHORING AND TEMPORARY BRACING.
2. OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF DRAWINGS, NOTES, DETAILS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.
3. NO DEVIATION FROM THE APPROVED DRAWINGS AND SPECIFICATIONS IS PERMITTED WITHOUT PRIOR WRITTEN CONSENT OF THE OWNER. THE OWNER'S INTERPRETATION OF THESE DOCUMENTS SHALL BE FINAL.
4. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT THE AUTHORIZATION FROM THE OWNER.
5. ALL CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE STATE CODES AND STATE FIRE MARSHAL.
6. CONTRACTOR TO COORDINATE WITH ALL TRADES BEFORE START OF WORK. INSTALL ALL EQUIPMENT WITH SERVICE CLEARANCE.
7. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT PRIOR TO ANY SITE EXCAVATION.
8. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND NOTIFY THE OWNER IF ANY DISCREPANCIES OCCUR BEFORE BEGINNING WORK.
9. MOUNT ALL THERMOSTATS, SENSORS, AND WALL SWTICHES AT ADA COMPLIANT HEIGHT.
10. WHERE AIR DEVICES ARE TO BE INSTALLED IN GYPSUM BOARD TYPE CEILINGS, PROVIDE AIR DEVICE WITH ROTOTWIST "RT SERIES" DAMPERS FOR AIR BALANCING.
11. PROVIDE AND CONNECT FLEXIBLE DUCT TO CEILING DIFFUSER AT MAXIMUM 5'-0" LENGTH.
12. CONTRACTOR SHALL PROVIDE FULL COORDINATION WITH ALL TRADES BEFORE START OF WORK AND BEFORE ORDERING EQUIPMENT.
13. PLANS ARE DIAGRAMMATIC. CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT, MATERIALS, AND LABOR AS SHOWN AND AS NECESSARY FOR A COMPLETE WORKABLE SYSTEM.
14. CONTRACTOR SHALL INSTALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
15. CONTRACTOR IS RESPONSIBLE TO SUPPORT DUCTWORK AND PIPING AND PROVIDE SEISMIC BRACING PER SMACNA, SPECIFICATIONS, AND CODE REQUIREMENTS.
16. CONTRACTOR SHALL MAKE PROVISIONS TO ROUTE DUCTWORK AND PIPING UP, DOWN, AND HORIZONTALLY TO AVOID CONFLICTS WITH PIPING, DUCTWORK, EQUIPMENT, CONDUITS, STRUCTURE, ETC.
17. PROVIDE TRANSITIONAL FITTINGS AS REQUIRED FOR CONNECTION TO EQUIPMENT OPENING. PROVIDE VOLUME DAMPER AT ALL BRANCH DUCTWORK. PROVIDE FLEXIBLE DUCT CONNECTOR AT ALL DUCT CONNECTION TO EQUIPMENT. PROVIDE TURNING VANES AT ALL DUCT ELBOWS.
18. PROVIDE EQUIPMENT WITH CEILING ACCESS PANEL IF ABOVE A HARD CEILING.
19. PRIOR TO CUTTING WALL OPENINGS, CONTRACTOR TO COORDINATE WORK WITH ALL DISCIPLINES BEFORE START OF WORK.

ABBREVIATIONS

&	AND
@	AT
°	DEGREE
%	PERCENT
ø	ROUND
A/C	AIR CONDITIONING
ABC	ABOVE CEILING
ACOMP	AIR COMPRESSOR
AD	ACCESS DOOR
ADA	AMERICAN DISABILITY ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AIRC	AIR COUPLER
BFF	BELOW FINISHED FLOOR
BHP	BRAKE HORSE POWER
BS	BAR SINK
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BV	BALL VALVE
CAP	CAPACITY
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
COND	CONDENSER
CONT	CONTINUATION
COTG	CLEANOUT TO GRADE
CVB	CONCRETE VALVE BOX
CW	DOMESTIC COLD WATER
D	DROP
dB	DECIBEL
DB	DRY BULB
DFU	DRAINAGE FIXTURE UNIT
DIA	DIAMETER
DWV	DRAIN, WASTE AND VENT
DWH	DOMESTIC WATER HEATER
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EER	ENERGY EFFICIENCY RATING
EF	EXHAUST FAN
EFF	EFFICIENT
ELECT	ELECTRICAL
ESP	EXTERNAL STATIC PRESSURE
ESEW	EMERGENCY SHOWER/EYEWASH
EWB	ENTERING WET BULB
EXH	EXHAUST
CFM	CUBIC FEET PER MINUTE
F	FAHRENHEIT
FAU	FAUCET
FC	FLEXIBLE CONNECTOR
FCO	FLOOR CLEANOUT
FD	FIRE DAMPER, FLOOR DRAIN
FF	FINISHED FLOOR
FG	FINISHED GRADE
FLA	FULL LOAD AMPS
FNPT	FEMALE NATIONAL PIPE THREAD
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FPT	FINE PIPE THREAD
FS	FLOOR SINK
FSD	FIRE AND SMOKE DAMPER
FT	FEET
FW	FIRE WATER
G	GAS
GA	GAUGE
GAL	GALLONS
GALV	GALVANIZED
GD	GARBAGE DISPOSAL
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GYP	GYPSUM
HB	HOSE BIBB
HD	HEAD
HH	HOSE HYDRANT
HP	HORSE POWER
HTG	HEATING
HW	DOMESTIC HOT WATER
HZ	HERTZ
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCHES
IWH	INSTANTANEOUS WATER HEATER
KS	KITCHEN SINK
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
L	LAVATORY
LBS	POUNDS
LCD	LIQUID CRYSTAL DISPLAY
LH	LATENT HEAT
LPG	LIQUID PETROLEUM GAS
LT	LAUNDRY TUB
MAX	MAXIMUM
MBH	THOUSAND BTU PER HOUR
MBTU	THOUSAND BTU PER HOUR
MD	MANUAL DAMPER
MH	MOUNTING HEIGHT
MIN	MINIMUM
N/A	NOT APPLICABLE
NC	NATIONAL COARSE THREADS
NIC	NOT IN CONTRACT
NO.	NUMBER
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OSA	OUTSIDE SUPPLY AIR
OSHA	OCCUPATIONAL SAFETY AND HEALTH
PH	PHASE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PV	PLUG VALVE
QTY	QUANTITY
R	RISER
RA	RETURN AIR
RCP	RE-CIRCULATING PUMP
RD	ROUND
REF	REFRIGERANT
REQ'D	REQUIRED
RET	RETURN
RLD	RELIEF DAMPER
RPM	REVOLUTION PER MINUTE
RR	RETURN REGISTER
S	SINK
SA	SUPPLY AIR
SCH	SCHEDULE
SEER	SEASONAL ENERGY EFFICIENCY RATING
SF	SQUARE FEET
SH	SENSIBLE HEAT
SHO	SHOWER
SM	SHEET METAL
SOV	SHUT OFF VALVE
SP	STATIC PRESSURE
SQ	SQUARE
SS	SANITARY SEWER
T&P	TEMPERATURE AND PRESSURE
TCP	TEMPERATURE CONTROL PANEL
TEMP	TEMPERATURE
TH	TAL HEAT
TJI	TRUSS JOIST I-BEAM
TP	TOTAL PRESSURE, TRAP PRIMER
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UG	UNDER GROUND/GRADE
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
UP	UNDER PLATFORM
US	UNDER SLAB
V	VOLT, VENT
VAC	VOLT ALTERNATING CURRENT
VCD	VOLUME CONTROL DAMPER
VD	VOLUME DAMPER (HAND OPERATOR)
VTR	VENT THRU ROOF
W	WITH
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WSFU	WATER SUPPLY FIXTURE UNIT

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	KCC
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

KENT C. CHEUNG STATE OF WASHINGTON 50829 REGISTERED PROFESSIONAL ENGINEER 5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

STANDARDS

MECHANICAL SYMBOLS AND ABBREVIATIONS

0 1" 2"

FILENAME 01M001.DWG
SCALE AS NOTED

SHEET 01M001

ELECTRIC RADIANT HEATER SCHEDULE

UNIT TAG NO.	BASIS OF DESIGN MAKE/MODEL	AREA SERVED	WATTS	ELECTRICAL V/HZ/PH	NOTES
ERH-1	INDECCO INVIZATHERM THIN SERIES STT-U36-2660V	ADULT HANDLING	2,071	240/60/1	1 THRU 4
ERH-2	INDECCO INVIZATHERM THIN SERIES STT-U36-2660V	ADULT HANDLING	2,071	240/60/1	1 THRU 4
ERH-3	INDECCO INVIZATHERM THIN SERIES STT-U36-2660V	ADULT HANDLING	2,071	240/60/1	1 THRU 4
ERH-4	INDECCO INVIZATHERM THIN SERIES STT-U36-2660V	ADULT HANDLING	2,071	240/60/1	1 THRU 4

NOTES:

1) PROVIDE 120V 28 AMP IN WALL TIMER.
2) PROVIDE UNIT WITH A REAR MOUNTED JUNCTION BOX AND MOUNTING BRACKETS.
3) BLACK STAIN. SHIPPING WEIGHT: 21 LBS.
4) DIMENSIONS: 41.5" (L) x 8.85" (W) x 3.8" (D)

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	KCC
DESIGN BY	
CHECKED BY	
DRAWN BY	SF
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

KENT C. CHEUNG STATE OF WASHINGTON 20829 REGISTERED PROFESSIONAL ENGINEER 5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

GENERAL

MECHANICAL SCHEDULES II

0 1" 2"

FILENAME	01M003.DWG
SCALE	AS NOTED

SHEET **01M003**

X 20A 3P OR x 100AF 80AT 3P — LOW - VOLTAGE CIRCUIT BREAKER (CB). RATINGS AND NO. OF POLES AS SHOWN. WHEN SPECIFIC TYPE IS REQUIRED, X INDICATES TYPE.

TYPES:
MCCB - MOLDED CASE
ICCB - INSULATED CASE
LVP - LOW - VOLTAGE POWER
MCP - MOTOR CIRCUIT PROTECTOR
(RATING PER CONNECTED LOAD)

CB — SEPARATELY MOUNTED CIRCUIT BREAKER; SEE ELECTRICAL ONE - LINE DIAGRAM OR SCHEDULE FOR DESCRIPTION

GFP — GROUND FAULT PROTECTION

52 — MEDIUM - VOLTAGE CIRCUIT BREAKER

FUSE, SIZE, AND NUMBER OF FUSES AS NOTED

FUSED CUTOUT, CURRENT RATING, FUSE SIZE, AND NUMBER OF POLES AS NOTED

FUSIBLE SWITCH, CURRENT RATING, FUSE SIZE, AND QUANTITY AS NOTED

NON-FUSED SWITCH, CURRENT RATING, AND NUMBER OF POLES AS NOTED

DISCONNECT OR DRAWOUT CONNECTION

NON-FUSED DISCONNECT SWITCH, 30A, 3P, UNLESS OTHERWISE NOTED

FUSED DISCONNECT SWITCH, 30A, 3P, UNLESS OTHERWISE NOTED

MAGNETIC STARTER

C — CONTACTOR

COMBINATION STARTER

M — MANUAL MOTOR STARTER, LOCKABLE IN OPEN POSITION

THERMAL OVERLOAD ELEMENT

OL — THERMAL OVERLOAD RELAY CONTACT

7 1/2 OR — MOTOR WITH DESIGN HORSEPOWER (WHEN INDICATED)

G — GENERATOR

ATS — TRANSFER SWITCH, CURRENT RATING, AND NUMBER OF POLES AS NOTED
ATS - AUTOMATIC MTS - MANUAL

TRANSFORMER
△ 3-PHASE, 3-WIRE DELTA CONNECTION
Y 3-PHASE, 4-WIRE GROUNDED WYE CONNECTION

VFD — VARIABLE FREQUENCY DRIVE WITH A DISCONNECT

F — FAULT INDICATOR

TS — TEST SWITCH

100 KVA — NON-MOTOR LOAD WITH DESIGN KVA, KW, OR AMP

CPT — CONTROL POWER TRANSFORMER (CPT)

VOLTAGE TRANSFORMER (VT OR PT)

CURRENT TRANSFORMER (CT)

RTM — RUN TIME METER

DMP — POWER METER, DIGITAL

GROUND

SPD — LOW VOLTAGE SURGE PROTECTIVE DEVICE

ELECTRICAL CONNECTION

OR OR — NO ELECTRICAL CONNECTION

SV OR — SOLENOID VALVE

X / Y — CONTROL/RELAY COIL; X INDICATES TYPE, Y INDICATES LOOP NO. WHEN USED

TYPES:
CR - CONTROL RELAY
DP - DEFINITE PURPOSE RELAY
LC - LIGHTING CONTACTOR
M - MOTOR STARTER
PC - PHOTO CELL
TC - TIME CLOCK
TR - TIMING RELAY

NORMALLY OPEN CONTACT (N.O.)

NORMALLY CLOSED CONTACT (N.C.)

NORMALLY OPEN TIME DELAY RELAY CONTACT WITH TIME DELAY ON CLOSING AFTER COIL IS ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT WITH TIME DELAY ON OPENING AFTER COIL IS ENERGIZED

NORMALLY OPEN TIME DELAY RELAY CONTACT WITH TIME DELAY ON OPENING AFTER COIL IS DE-ENERGIZED

NORMALLY CLOSED TIME DELAY RELAY CONTACT WITH TIME DELAY ON CLOSING AFTER COIL IS DE-ENERGIZED

NORMALLY OPEN TEMPERATURE SWITCH; CLOSE ON RISING TEMPERATURE

NORMALLY CLOSED TEMPERATURE SWITCH; OPEN ON RISING TEMPERATURE

NORMALLY OPEN FLOW SWITCH; CLOSE ON INCREASING FLOW

NORMALLY CLOSED FLOW SWITCH; OPEN ON INCREASING FLOW

NORMALLY OPEN LEVEL SWITCH, CLOSE ON RISING LEVEL

NORMALLY CLOSED LEVEL SWITCH, OPEN ON RISING LEVEL

NORMALLY OPEN PRESSURE SWITCH, CLOSE ON INCREASING PRESSURE

NORMALLY CLOSED PRESSURE SWITCH, OPEN ON INCREASING PRESSURE

NORMALLY OPEN LIMIT SWITCH, CLOSE ON REACHING LIMIT

NORMALLY CLOSED LIMIT SWITCH, OPEN ON REACHING LIMIT

FIELD WIRING EXTERNAL TO CONTROL PANEL

OFF / HAND / AUTO — XOO, OOX — 3 POSITION SELECTOR SWITCH, MAINTAINED CONTACTS; UNLESS OTHERWISE NOTED, 2-POSITION SIMILAR

UNDERGROUND ELECTRICAL UTILITIES:

P — PRIMARY POWER DUCT

C — UTILITY COMMUNICATIONS DUCT

E — ELECTRIC POWER DUCT

I — INSTRUMENTATION DUCT

P/I — ELECTRICAL POWER & INSTRUMENTATION DUCT

GROUND CABLE

NORMALLY OPEN PUSHBUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

NORMALLY CLOSED PUSHBUTTON, MOMENTARY CONTACT UNLESS OTHERWISE NOTED

X — INDICATING LIGHT, X INDICATES LENS COLOR

X — PUSH TO TEST INDICATING LIGHT, X INDICATES LENS COLOR

LENS COLORS:
R - RED
G - GREEN
B - BLUE
Y - YELLOW W
- WHITE A -
AMBER

T — TRANSFORMER

SPD — SURGE PROTECTION DEVICE

R — TANK FARM RECEPTACLE ASSEMBLY

IC — INSTRUMENTATION/CONTROL DEVICE

CP — CONTROL PANEL INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

CP — CONTROL PANEL WITH DISCONNECT SWITCH INTEGRAL OR PROVIDED WITH ASSOCIATED EQUIPMENT

J — JUNCTION OR PULL BOX

PANELBOARD (250V TO 600V)

ELECTRICAL EQUIPMENT ENCLOSURE: SWITCHBOARD, MOTOR CONTROL CENTER, CONTROL PANEL, OR OTHER EQUIPMENT AS INDICATED

EUH — ELECTRIC UNIT HEATER

MD — MOTORIZED DAMPER

NID — NETWORK INTERFACE DEVICE

FLOOD LIGHT

PC — PHOTOCELL FOR LIGHTING CONTROL

X / Y — CEILING/PENDANT-MOUNTED LUMINAIRE-LED

X / Y — WALL-MOUNTED LUMINAIRE-LED

X / Y — CEILING/PENDANT-MOUNTED LED FIXTURE

X / Y — WALL-MOUNTED LED FIXTURE

X / Y — CEILING/PENDANT-MOUNTED LED FIXTURE NORMAL/EMERGENCY

X / Y — EMERGENCY LIGHT, 2 ATTACHED HEADS AS SHOWN

X / Y — EMERGENCY LIGHT, REMOTE MOUNTED HEAD

HRF — HEAT RECOVERY FAN

P — LEVEL SENSOR PRESSURE TRANSDUCER

PS — PRESSURE SWITCH

FS — FLOAT SWITCH

CS — CONTROL STATION

FM — FLOW METER

DO — DISSOLVED OXYGEN SENSOR

PT — PRESSURE TRANSMITTER

LT — LEVEL TRANSMITTER

TT — TEMPERATURE TRANSMITTER

M — METER VAULT

SV — SOLENOID VALVE, 2 POSITION

INSTRUMENTATION, ELECTRICAL CONNECTION POINT OR LOCATION

T — THERMOSTAT, WALL MOUNTED

FAN SPEED CONTROL, WALL MOUNTED

IT — FAN INTERVAL TIMER, WALL MOUNTED

V — MOTORIZED VALVE, NON-MODULATING

C — ROUGH IN FOR FUTURE CARD READER

PC — PHOTOCELL

TS — TIME CLOCK

LC X / Y — LIGHTING CONTROLS, SEE SCHEDULE
X = CONTROLLING SWITCH
Y = OS, OCCUPANCY SENSOR
PC, PHOTOCELL

X — LIGHTING CONTROL, CEILING MOUNTED SENSOR
SUBSCRIPT:
X - INDICATES TYPE
OS OCCUPANCY SENSOR
PC PHOTOCELL SENSOR

DOUBLE-FACED CEILING OR WALL-MOUNTED EXIT LIGHT; DIRECTIONAL ARROWS (IF REQUIRED) AS INDICATED ON PLANS

SINGLE-FACED CEILING OR WALL-MOUNTED EXIT LIGHT; DIRECTIONAL ARROWS (IF REQUIRED) AS INDICATED ON PLANS

HDR

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BEAS — STATE OF WASHINGTON — 40694 — REGISTERED PROFESSIONAL ENGINEER — 5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

STANDARDS

ELECTRICAL LEGEND 1

0 1" 2"

FILENAME 01E001.DWG
SCALE AS NOTED

SHEET 01E001

TOGGLE SWITCH

SUBSCRIPTS:

X - INDICATES TYPE
- NONE - SINGLE POLE
- 3W - THREE-WAY
- 4W - FOUR-WAY
- D - DIMMER
- K - KEY SWITCH
- TE - MANUAL MOTOR STARTER WITH THERMAL ELEMENT
- P - PILOT LIGHT
- L - LIGHTED HANDLE
- E - ELECTRONIC SENSOR INTERFACE SWITCH, 2 BUTTON ON/OFF, MANUAL ON/AUTO OFF OPERATION, LOW TEMP, HIGH HUMIDITY RATED

Y - INDICATES CONTROLLING SWITCH (IF REQD)

T - SPRING-WOUND COUNTDOWN TIMER SWITCH, 30 MINUTES

3-POSITION, MOMENTARY CONTACT, RETURN TO CENTER, SPDT LIGHT SWITCH

WELDING OUTLET

TAGGING TRAILER OUTLET

FISH FEEDER OUTLET

TELECOMMUNICATIONS OUTLET JUNCTION BOX

WALL MOUNTED DATA OUTLET

QUAD-DUPLEX RECEPTACLE, TWO NEMA 5-20R UNDER COMMON COVER PLATE

DUPLEX RECEPTACLE, NEMA 5-20R

SIMPLEX RECEPTACLE, NEMA 5-20R

CEILING MOUNTED RECEPTACLE

RANGE

DRYER 220V OUTLET

PLUG-IN RECEPTACLE STRIP, QUANTITY AND SPACING OF RECEPTACLES AS NOTED OR SPECIFIED

SUBSCRIPTS:

X - INDICATES TYPE
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
WP - WEATHERPROOF WHILE IN USE COVER

Y - INDICATES CIRCUIT NUMBER FROM PANELBOARD

AC - INDICATES ABOVE COUNTER

PLH - PLUG LOAD HALF CONTROLLED

PLD - PLUG LOAD DUAL CONTROLLED

CONDUIT TURNING UP OR DOWN

HOME RUN TO PANEL, 2#12 & 1#12GRD IN 3/4"C UNLESS OTHERWISE NOTED

CIRCUIT RUN BETWEEN DEVICES EXPOSED IN NON-ARCHITECTURALLY FINISHED AREAS; CONCEALED IN ARCHITECTURALLY FINISHED AREAS. CONDUIT AND CONDUCTOR SIZES SHALL BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

CONDUIT RUN BETWEEN DEVICES CONCEALED IN NON-ARCHITECTURALLY FINISHED AREAS OR UNDER FLOOR SLAB. CONDUIT AND CONDUCTOR SIZES SHALL BE THE SAME AS THE HOMERUN FOR THE CIRCUIT.

CIRCUIT HASH MARKS (WHEN INDICATED) REPRESENT PHASE, NEUTRAL & EQUIPMENT GROUND. RESPECTIVELY. #12 IN 3/4" CONDUIT UNLESS OTHERWISE INDICATED.

INDICATES CONDUIT WITH SIGNAL CABLE
- TELEPHONE/DATA SYSTEMS: INDICATES 4 PAIR, 24 GA, CAT 6 CABLE
- INSTRUMENTATION ALARM SYSTEM: INDICATES #18 SHIELDED TWISTED PAIR

CIRCUIT CONTINUATION

CONDUIT STUBBED OUT AND CAPPED

XXXX

FEEDER CIRCUIT NUMBER - WIRE AND CONDUIT SIZE AS SPECIFIED IN FEEDER SCHEDULE ON THE SHEETS

GROUND ROD

XXXXXX

UNDERGROUND DUCTBANK CALLOUT

ALARM HORN

ALARM FLASHING LIGHT

ALARM HORN AND FLASHING LIGHT COMBINATION UNIT

SUBSCRIPT:

NONE - GENERAL ALARM DEVICE
F - FIRE ALARM DEVICE

SD — SMOKE ALARM

HD — HEAT DETECTOR

CO — CARBON MONOXIDE ALARM

TV — TV COAX OUTLET

EF — EXHAUST FAN

ABBREVIATIONS:

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPS INTERRUPTING CAPACITY
AIT	ANALYSIS INDICATING TRANSMITTER
ATS	AUTOMATIC TRANSFER SWITCH
C	CONDUIT
CL	CENTER LINE
CPT	CONTROL POWER TRANSFORMER
DP	DISTRIBUTION PANEL
EF	EXHAUST FAN
EUH	ELECTRIC UNIT HEATER
FDR	FEEDER
FUT	FUTURE
GFEPCI	GROUND FAULT EQUIPMENT PROTECTION CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTING
GND	GROUND
HH	HAND HOLE
HIM	HUMAN INTERFACE MODULE
LC	LOAD CENTER
LP	LIGHTING PANEL
LT	LIQUID TIGHT
LTG	LIGHTING
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MIN	MINIMUM
MLO	MAIN LUG ONLY
NEC	NATIONAL ELECTRIC CODE
NF	NON-FUSED
NMC	NON-METALLIC SHEATHED CABLE
OVHD	OVERHEAD
PGB	PRINCIPAL GROUND BUS
PR	PAIR
RGS	RIGID GALVANIZED STEEL
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE DOUBLE THROW
SS	STAINLESS STEEL
TSP	TWISTED SHIELDED PAIR
UTP	UNSHIELDED TWISTED PAIR
VFD	VARIABLE FREQUENCY DRIVE
WCT	WESTSLOPE CUTTHROAT TROUT
WP	WEATHERPROOF

GENERAL NOTES:

1. THIS IS A STANDARD ELECTRICAL SYMBOLOGY SHEET. NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT.
2. IN GENERAL, CONDUIT ROUTING IS NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS INCLUDING THOSE SHOWN ON ONE-LINES AND HOME RUNS. SEE SPECIFICATIONS FOR CONDUIT INSTALLATION REQUIREMENTS. CONDUIT ROUTINGS AND STUB-UP LOCATIONS THAT ARE SHOWN ARE APPROXIMATE. EXACT ROUTINGS SHALL BE AS REQUIRED FOR EQUIPMENT FURNISHED.
3. WHEN BRANCH CIRCUITS ARE NOT SHOWN ON THE PLANS THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS AND CONDUCTORS REQUIRED. CONDUIT AND CONDUCTOR SIZES SHALL BE THE SAME AS THE HOMERUN FOR THE BRANCH CIRCUIT.
4. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.
5. SEE P&ID LEGEND SHEET FOR PROJECT SPECIFIC EQUIPMENT SYMBOLS, EQUIPMENT ABBREVIATIONS, AND PIPING SYSTEM ABBREVIATIONS.
6. REFERENCE PLAN SHEET DESIGNATION AND CLASSIFICATION. REFERENCE SECTION 260500 FOR MATERIAL APPLICATION SCHEDULE.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	
DRAWN BY	AB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BES — STATE OF WASHINGTON — 40694 — REGISTERED PROFESSIONAL ENGINEER — 5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

STANDARDS

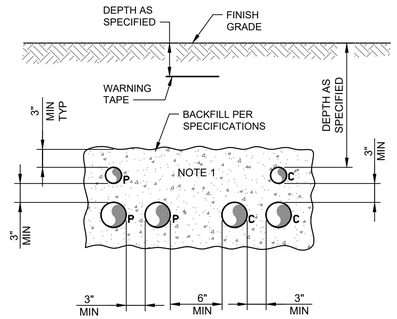
ELECTRICAL LEGEND 2

0 1" 2"

FILENAME 01E002.DWG

SCALE AS NOTED

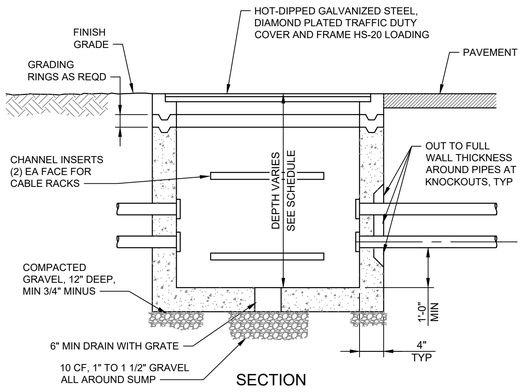
SHEET 01E002



NOTES:

1. NUMBER OF CONDUITS AS REQUIRED FOR THE APPLICATION.
2. P SUBSCRIPT ELECTRICAL POWER OR CONTROL CONDUIT.
3. C SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.

DIRECT BURIED CONDUIT(S)
NOT TO SCALE — 1 / 01E401

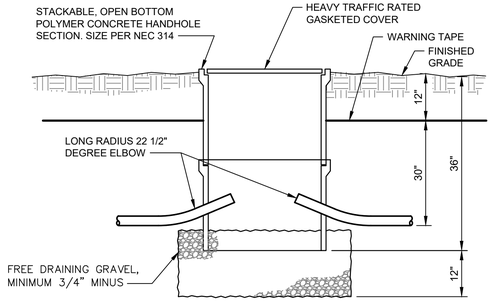


SECTION

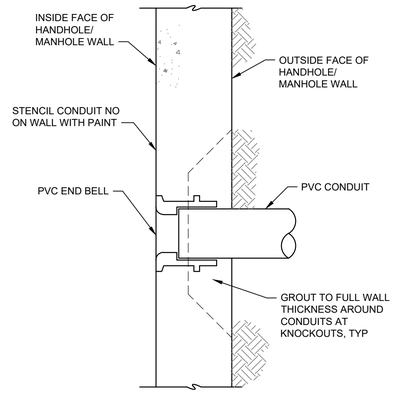
NOTES:

1. PENETRATIONS PER DETAIL 4 THIS HEET.

TYPICAL HANDHOLE
NOT TO SCALE — 2 / 01E401

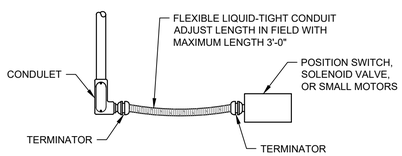


TYPICAL PULLBOX
NOT TO SCALE — 3 / 01E401



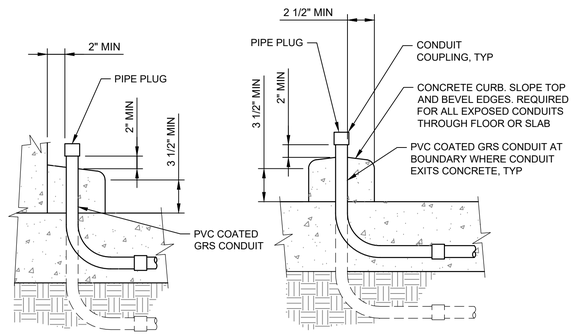
CONDUIT HANDHOLE/MANHOLE ENTRANCE
NOT TO SCALE — 4 / 01E401

TYP FLOOR SLAB PENETRATION
NOT TO SCALE — 5 / 01E401



TYPICAL AT LIMIT SWITCHES, SOLENOID VALVES OR SMALL MOTORS

CONDUIT TERMINATION
NOT TO SCALE — 6 / 01E401



STUB IN CURB ADJACENT TO STRUCTURE

STUB IN CURB NOT ADJACENT TO STRUCTURE

CONDUIT DETAIL
NOT TO SCALE — 7 / 01E401

NOTES:

1. NUMBER OF CONDUITS AS REQUIRED FOR THE APPLICATION.
2. P SUBSCRIPT ELECTRICAL POWER OR CONTROL CONDUIT.
3. C SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.

CONCRETE ENCASED DUCTBANK
NOT TO SCALE — 8 / 01E401

FRONT VIEW SIDE VIEW

NOTES:

1. COMBINED EQPT LOADS PER 36" SPAN SHALL NOT EXCEED 500 LBS.
2. PROVIDE GROUNDING FOR OUTDOOR INSTALLATIONS.
3. MODULAR STRUT WIDTH: 1 5/8".
4. ANCHORS: SS, 1/2" DIAMETER, 3 1/2" EMBEDMENT.
5. PROTECT SURFACES WITH DISSIMILAR MATERIALS.

MODULAR EQUIPMENT RACK
NOT TO SCALE — 9 / 01E401

04E101, 07E101, 15E102, 16E101

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BES — STATE OF WASHINGTON — 43004 — REGISTERED PROFESSIONAL ENGINEER — 5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

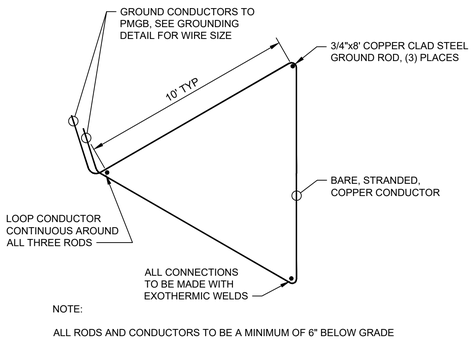
STANDARDS

ELECTRICAL DETAILS 1

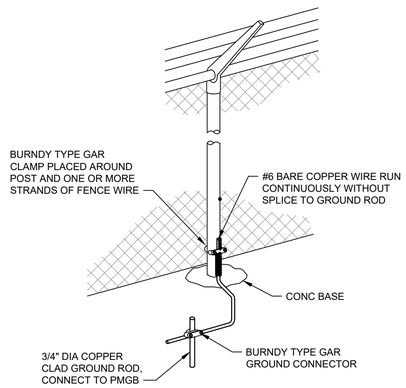
0 1" 2"

FILENAME 01E401.DWG
SCALE AS NOTED

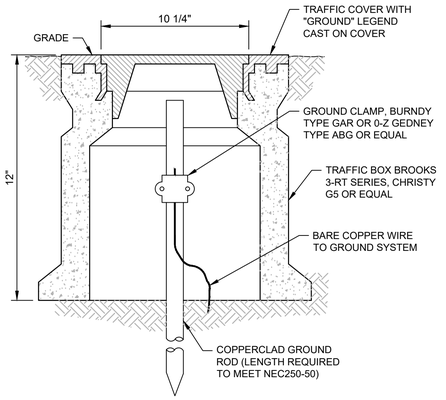
SHEET **01E401**



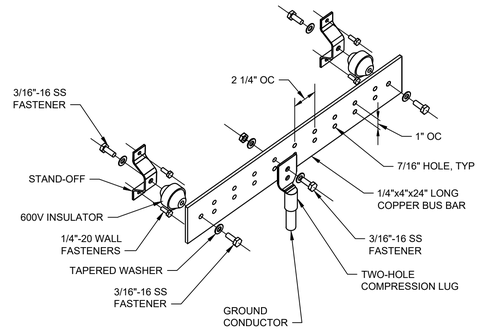
GROUND FIELD DETAIL (1)
NOT TO SCALE
03E101 | 01E402



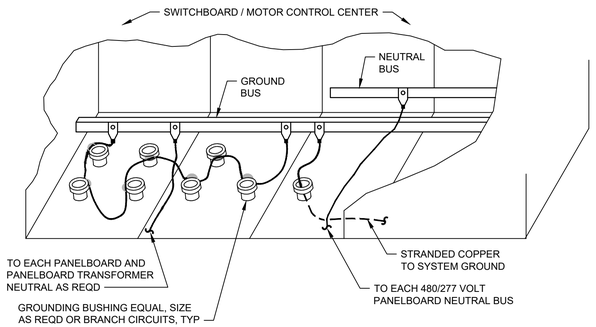
FENCE GROUNDING DETAIL (2)
NOT TO SCALE
04E101 | 01E402



GROUND WELL AND ROD DETAIL (3)
NOT TO SCALE
04E101, 15E101 | 01E402

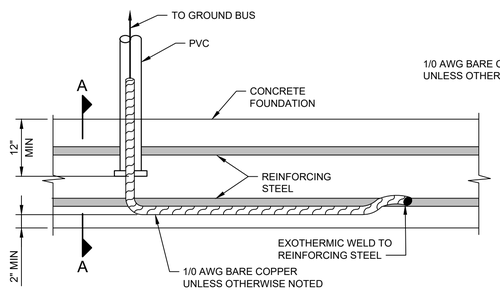


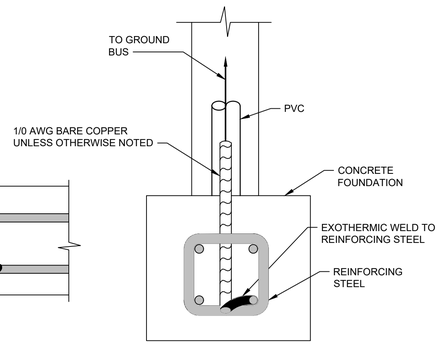
PRINCIPAL GROUND BUS (PGB) (4)
NOT TO SCALE
06E101 | 01E402



SWITCHBOARD / MOTOR CONTROL CENTER

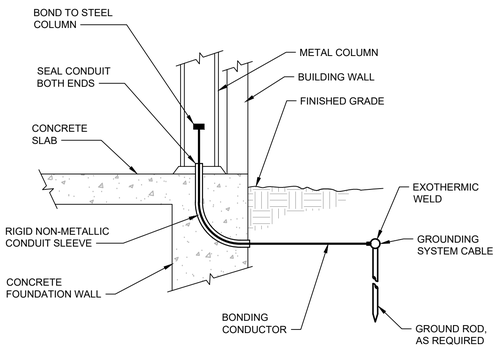
GROUNDING SYSTEM (5)
NOT TO SCALE
06E101 | 01E402





SECTION A A

GROUNDING SYSTEM (6)
NOT TO SCALE
--- | 01E402



COLUMN GROUND CONNECTION (7)
NOT TO SCALE
15E101 | 01E402

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BERG — STATE OF WASHINGTON — 43004 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

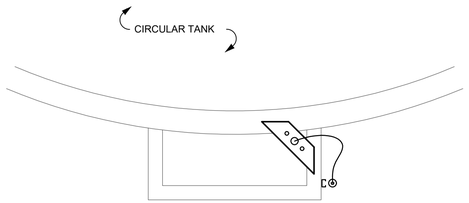
STANDARDS

ELECTRICAL DETAILS 2

0 1" 2"

FILENAME 01E402.DWG
SCALE AS NOTED

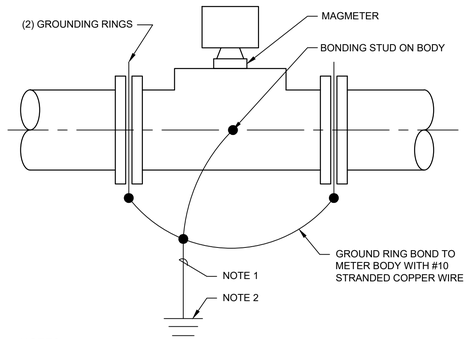
SHEET **01E402**



CIRCULAR TANK D.O. PROBE MOUNTING DETAIL

NOT TO SCALE

1 — 15E101 | 01E403



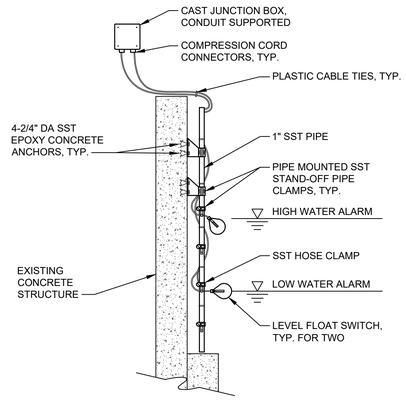
NOTES:

1. NO. 10 AWG INSULATED IF LENGTH IS LESS THAN 6 FT. IF MORE THAN 6FT, INSTALL CONDUCTOR IN 3/4" CONDUIT.
2. BOND MAGMETER TO ONE OF THE FOLLOWING ACCEPTABLE GROUNDS:
   A. METALLIC WATER PIPE IF BURIED PORTION ID MORE THAN 10 FT.
   B. STRUCTURAL STEEL.
   C. IF BOTH THE ABOVE ARE NOT AVAILABLE, INSTALL 3/4" DIA x 8FT LONG COPPER CLAD STEEL GROUND ROD IN GROUND OUTSIDE OF STRUCTURE.

MAGNETIC FLOWMETER GROUNDING DETAIL

NOT TO SCALE

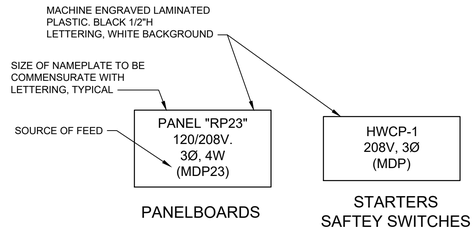
2 — 15E103 | 01E403



LEVEL SWITCH MOUNTING DETAIL

NOT TO SCALE

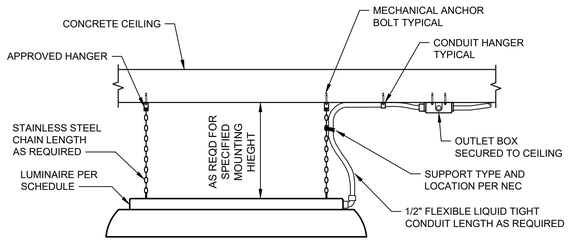
3 — 04E101, 15E103 | 01E403



NAMEPLATE DETAILS

NOT TO SCALE

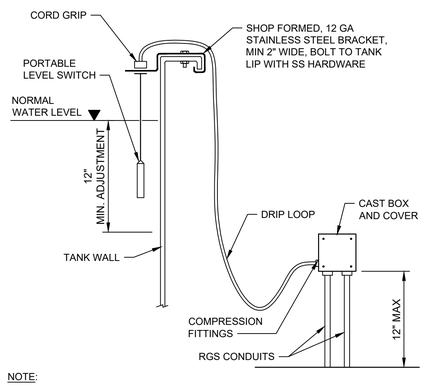
4 — --- | 01E403



LUMINAIRE MOUNTING DETAIL

NOT TO SCALE

5 — --- | 01E403



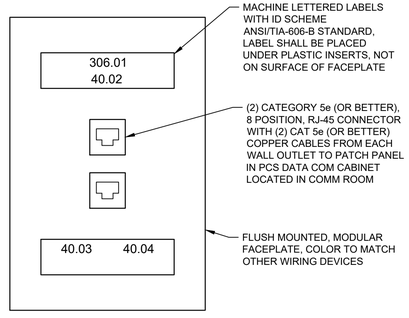
NOTE:

PORTABLE LEVEL SWITCH SHALL BE CABLE MOUNTED, SINGLE SWITCH POINT, N/O OR N/C CONFIGURABLE WITH PVC SHEATHED CORD; SEE SPECIFICATION SECTION 40 91 10.

FLOAT SWITCH MOUNTING DETAIL

NOT TO SCALE

6 — 15E101 | 01E403



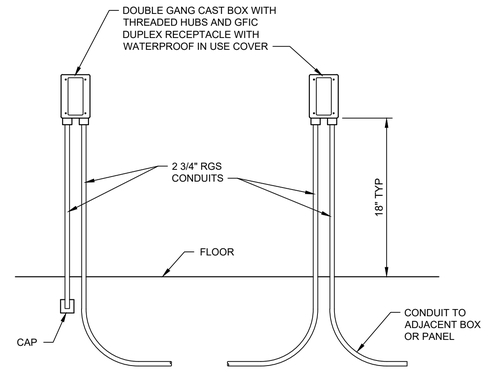
NOTE:

PATCH PANELS SHALL BE RJ-45 IN THE FRONT AND IDC (110) IN THE BACK. PANELS SHALL PERFORM TO CATEGORY 5e OR BETTER AND WIRED PER ANSI/TIA/EIA T568B. PATCH PANELS BY LEVITON, PANDUIT OR ORTRONICS.

STANDARD INFORMATION OUTLET

NOT TO SCALE

7 — --- | 01E403



TANK RECEPTACLE MOUNTING DETAIL

NOT TO SCALE

8 — 04E101 | 01E403

HDR

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BES — STATE OF WASHINGTON — 40694 — REGISTERED PROFESSIONAL ENGINEER — 5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

STANDARDS

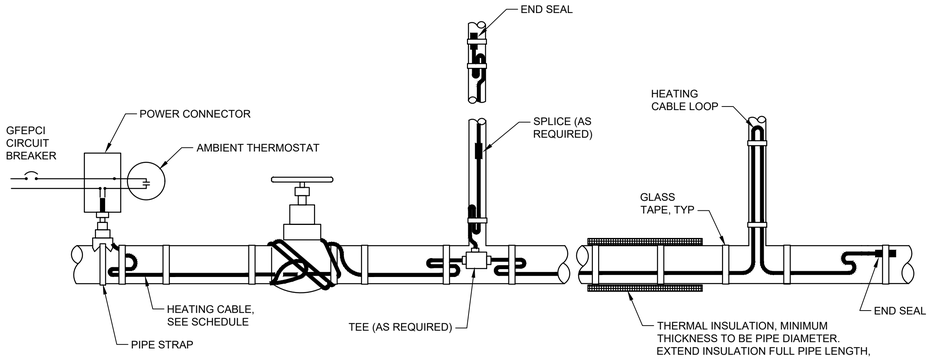
ELECTRICAL DETAILS 3

0 1" 2"

FILENAME 01E403.DWG

SCALE AS NOTED

SHEET **01E403**

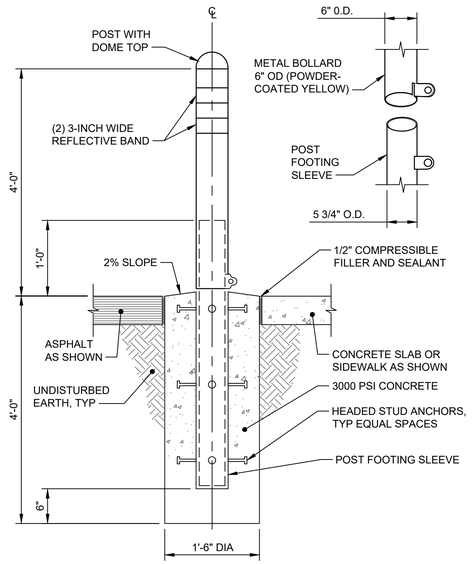


TYPICAL HEAT TRACE SYSTEM

NOT TO SCALE

1 — 09E101,15E103,16E101 01E404

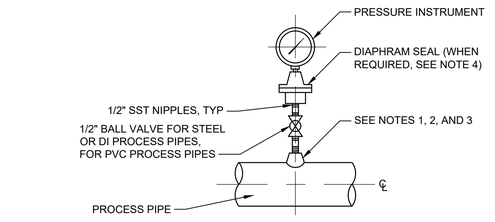
PIPE INSULATION AND HEAT TRACE SCHEDULE		
NOMINAL PIPE DIAMETER (IN)	INSULATION THICKNESS (IN)	EXPOSED PIPE HEAT TRACE* (WATTS/ FOOT)
1/2"	1/2"	2.5
3/4"	1/2"	3
1"	1/2"	3.5
1 1/2"	1/2"	4.5
2"	1/2"	5
2 1/2"	1/2"	6
3"	1/2"	7.5
3 1/2"	1/2"	8.5
4"	1/2"	9.5
6"	1"	7.5
8"	1"	9
10"	1"	11



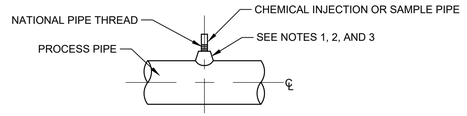
REMOVABLE BOLLARD

NOT TO SCALE

2 — 04E101 01E404



DIAPHRAGM PRESSURE INSTRUMENT



PIPE TAPS

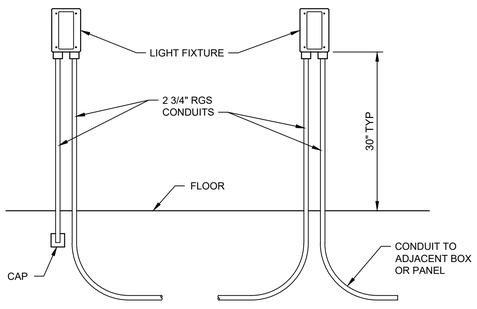
NOTES:

1. FOR STEEL, GALVANIZED STEEL AND PVC 2 1/2" AND SMALLER USE A BUSHING IN A TEE.
2. FOR DUCTILE IRON, ALL SIZES, USE PIPE SADDLE WITH BUSHING.
3. FOR STEEL AND STAINLESS STEEL PIPES 3" AND LARGER, AND PRESSURE VESSELS, USE THRED-O-LET AS SHOWN.
4. USE DIAPHRAGM SEAL ON ALL SERVICES EXCEPT AIR, POTABLE WATER, & NON-POTABLE WATER. USE IN-LINE DIAPHRAGM FOR SLUDGE SERVICES. SEE STANDARD DETAIL 13442-31.
5. PROVIDE SNUBBER FOR POSITIVE DISPLACEMENT PUMP APPLICATIONS.
6. NOT ALL REQUIRED COMPONENTS OR CONNECTIONS SHOWN; SEE SPECIFICATION SECTION _____.

PRESSURE INSTRUMENT APPLICATIONS

NOT TO SCALE

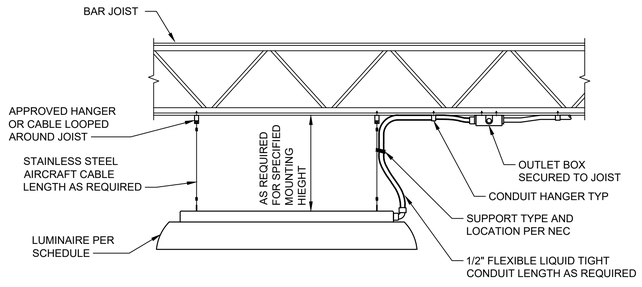
3 — 04E101, 15E103 01E404



STUMBLE (STEP) LIGHTING MOUNTING DETAIL

NOT TO SCALE

4 — 04E105 01E404



LUMINAIRE MOUNTING DETAIL

NOT TO SCALE

5 — 04E105 01E404

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BES — STATE OF WASHINGTON — 40694 — REGISTERED PROFESSIONAL ENGINEER — 5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

STANDARDS

ELECTRICAL DETAILS 4

0 1" 2"

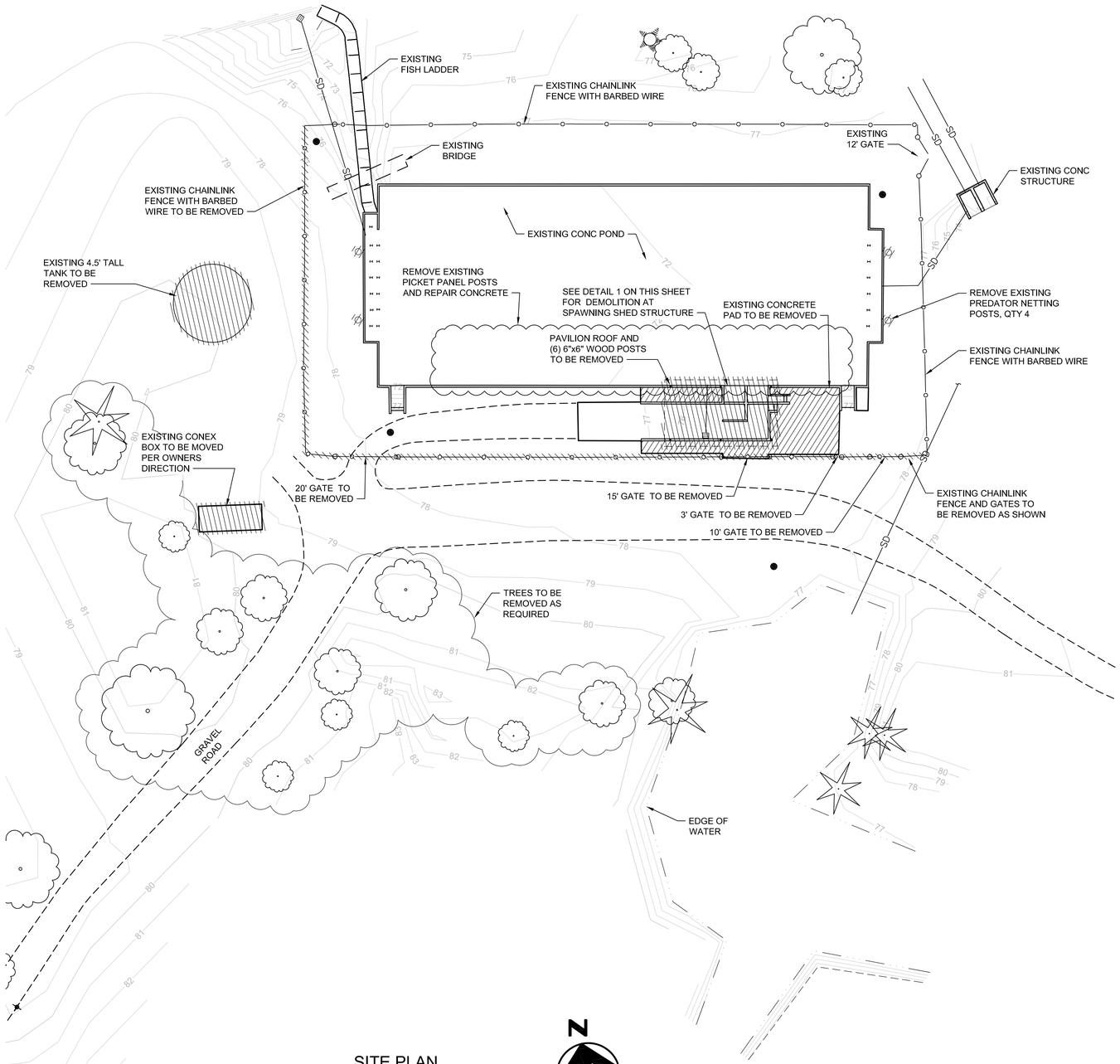
FILENAME 01E404.DWG

SCALE AS NOTED

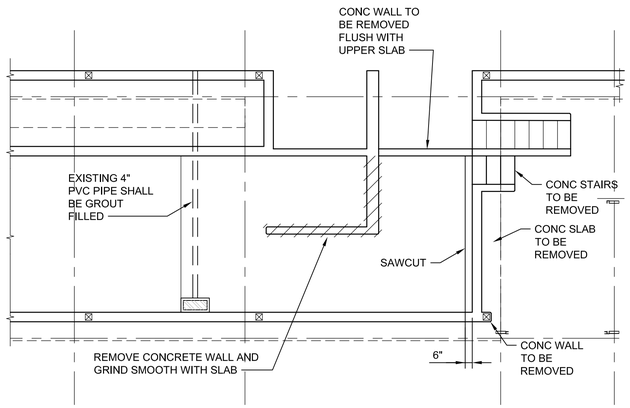
SHEET 01E404

NOTES:

1. THE CONTRACTOR SHALL PROPERLY DISPOSE OF ALL DEBRIS FROM DEMOLITION AND EXCAVATIONS AT CONTRACTORS EXPENSE. ORGANIC MATERIALS CAN BE DISPOSED OF ON SITE IN DESIGNATED AREA AT UPPER SITE. ALL NON-ORGANIC WASTES WILL BE DISPOSED AT SUITABLE DISPOSAL SITE AT THE CONTRACTORS EXPENSE.



SITE PLAN
SCALE: 1" = 20'



SPAWNING AREA PLAN
SCALE: 3/16" = 1'-0"

1
02C102 | 02C102

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	
DESIGN BY	
CHECKED BY	
DRAWN BY	JLC
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 45974 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

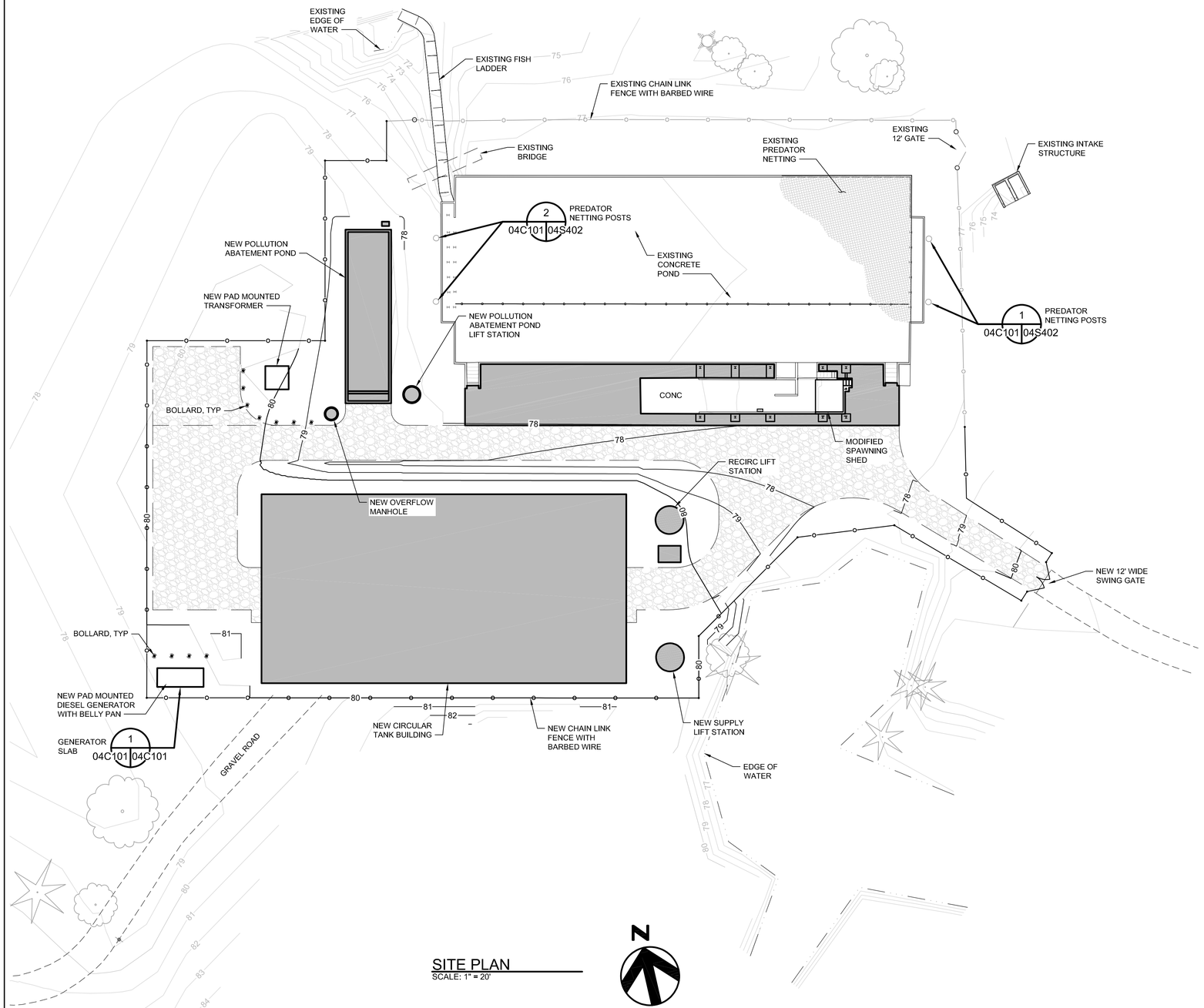
DEMOLITION

LOWER SITE PLAN

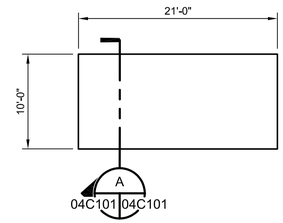
0 1" 2"

FILENAME	02C102.DWG
SCALE	AS NOTED

SHEET 02C102

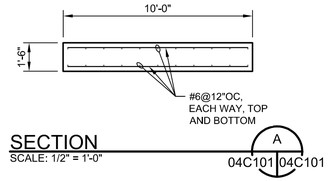


SITE PLAN
SCALE: 1" = 20'



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

1 04C101 04C101



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

GENERAL CONSTRUCTION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES PRIOR TO BEGINNING WORK. CALL 48 HOURS PRIOR TO EXCAVATION 1(800)424-5555. COORDINATE THE START OF EXCAVATION WITH THE HATCHERY MANAGER.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS OUTSIDE THE PROJECT CONSTRUCTION LIMITS DISTURBED BY CONSTRUCTION BACK TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE HATCHERY MANAGER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, TRAFFIC CONTROL, FLAGGERS AND ANY OTHER NEEDED ACTIONS TO PROTECT PUBLIC HEALTH & SAFETY AND PRIVATE PROPERTY IN CONNECTION WITH PERFORMANCE OF THE WORK.
4. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS PRIOR TO INITIATING THE WORK. THE CONTRACTOR SHALL NOTIFY THE HATCHERY MANAGER WHEN CONFLICTS OCCUR BETWEEN THE PLANS AND FIELD CONDITIONS.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL PROVISIONS IN THE CONTRACT DOCUMENTS WHETHER THEY ARE REFERRED TO ON THE DRAWINGS OR NOT.
6. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY FOUND IN THE DRAWINGS IMMEDIATELY.
7. THE CONTRACTOR SHALL APPLY FOR AND RECEIVE ALL APPLICABLE PERMITS. CONTRACTOR SHALL PAY ALL APPLICABLE PERMIT FEES AND SHALL ENSURE STRICT COMPLIANCE WITH ALL APPLICABLE PERMITS AND INSPECTIONS ASSOCIATED WITH THE PROJECT.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JDN
DESIGN BY	JLH
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 45974 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

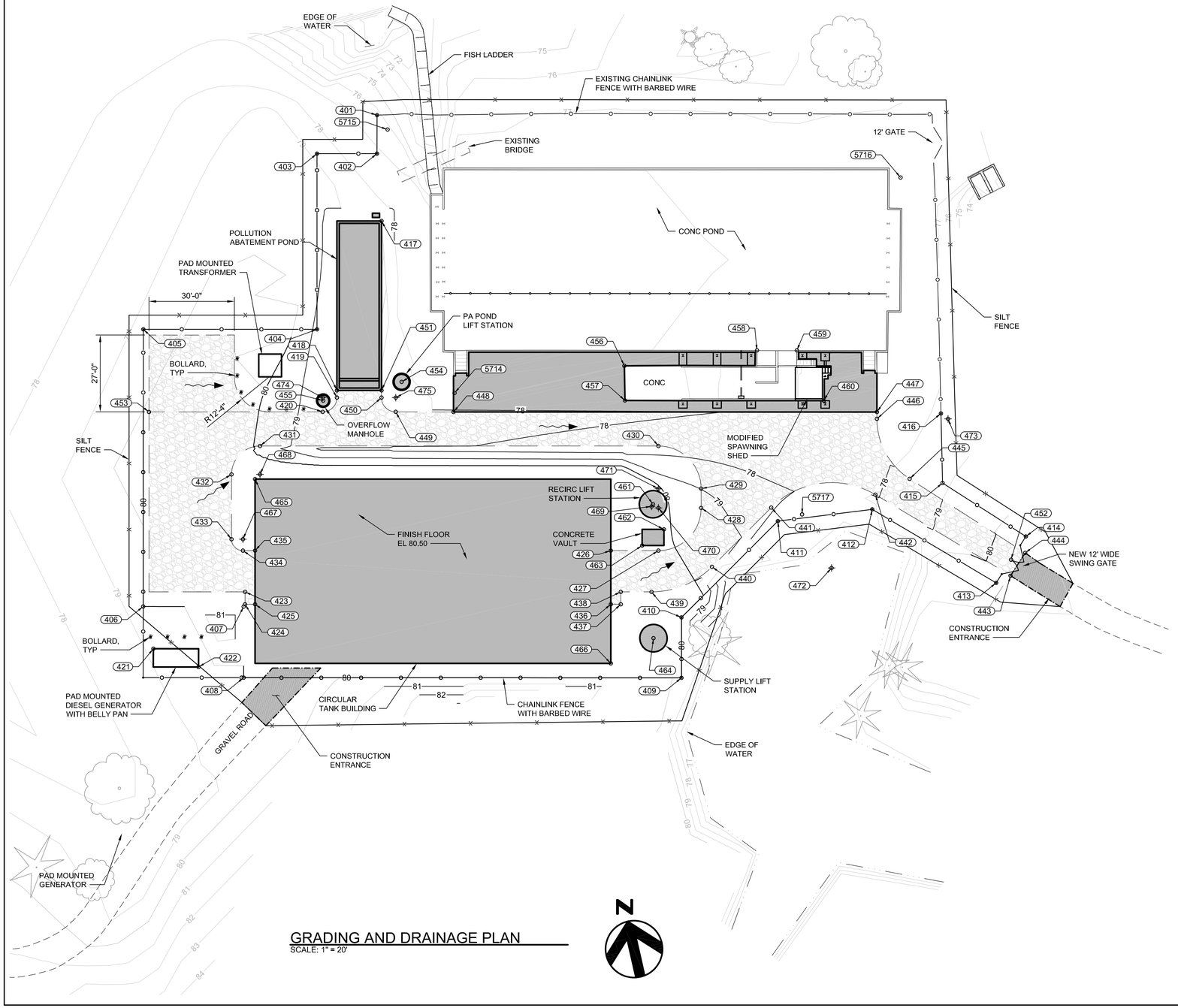
LOWER SITE

OVERALL SITE PLAN

0 1" 2"

FILENAME	04C101.DWG
SCALE	AS NOTED

SHEET **04C101**



GRADING AND DRAINAGE PLAN
SCALE: 1" = 20'

GENERAL NOTES:

1. PROMOTE DRAINAGE IN THIS DIRECTION.

LOWER SITE				
POINT	ELEVATION	NORTHING	EASTING	DESCRIPTION
401	76.35	615304.2438	1103584.7286	FENCE POST
402	77.14	615291.0453	1103581.7241	FENCE POST
403	78.74	615295.7077	1103561.1641	FENCE POST
404	78.92	615235.5133	1103547.5138	FENCE POST
405	79.23	615249.0104	1103487.9921	FENCE POST
406	80.00	615154.0336	1103466.4167	FENCE POST
407	80.01	615146.2092	1103500.8604	FENCE POST
408	80.00	615121.8490	1103495.3266	FENCE POST
409	80.00	615087.7712	1103645.3378	FENCE POST
410	80.00	615108.4715	1103650.0393	FENCE POST
411	77.48	615133.9891	1103690.5244	FENCE POST
412	77.91	615130.6662	1103723.7968	FENCE POST
413	80.66	615095.8509	1103760.5214	FENCE POST
414	80.55	615109.4521	1103774.3351	FENCE POST
415	78.87	615134.2386	1103749.9473	FENCE POST
416	78.28	615158.1919	1103754.7929	FENCE POST
417	82.00	615267.6142	1103578.0355	CORNER PA POND
418	82.00	615213.0523	1103549.5980	CORNER PA POND
419	78.50	615210.5552	1103549.0318	ROAD EDGE
420	78.30	615206.7843	1103543.0516	ROAD EDGE
421	79.16	615138.8028	1103466.6175	GENERATOR PAD
422	79.73	615128.9984	1103480.6810	GENERATOR PAD
423	80.50	615151.1332	1103502.4735	ROAD EDGE
424	80.50	615146.8843	1103501.5082	ROAD EDGE
425	80.50	615146.1090	1103504.9213	ROAD EDGE
426	80.50	615136.8609	1103631.0058	ROAD EDGE
427	80.16	615133.1548	1103647.3201	ROAD EDGE
428	79.27	615144.4673	1103665.2721	ROAD EDGE
429	78.81	615151.0591	1103666.7658	ROAD EDGE
430	77.81	615169.0026	1103655.4535	ROAD EDGE
431	79.83	615199.9620	1103518.9116	ROAD EDGE
432	80.50	615192.4210	1103506.9480	ROAD EDGE
433	80.50	615170.2297	1103501.9158	ROAD EDGE
434	80.50	615165.4445	1103504.9306	ROAD EDGE
435	80.50	615164.4975	1103509.0992	ROAD EDGE
436	80.50	615118.4721	1103626.8290	ROAD EDGE
437	80.50	615117.6968	1103630.2420	ROAD EDGE
438	80.50	615121.9457	1103631.2072	ROAD EDGE
439	80.46	615119.5514	1103641.7472	ROAD EDGE
440	79.60	615123.4267	1103664.3895	ROAD EDGE

LOWER SITE				
POINT	ELEVATION	NORTHING	EASTING	DESCRIPTION
441	78.40	615139.1351	1103689.3117	ROAD EDGE
442	77.93	615135.4702	1103726.0080	ROAD EDGE
443	80.45	615097.1922	1103766.0248	ROAD EDGE
444	80.55	615103.8809	1103772.8180	ROAD EDGE
445	78.38	615138.2515	1103738.9763	ROAD EDGE
446	77.79	615161.3294	1103732.4115	ROAD EDGE
447	77.52	615163.6598	1103732.9409	ROAD EDGE
448	78.21	615196.6092	1103587.8882	ROAD EDGE
449	78.10	615201.1088	1103568.0791	ROAD EDGE
450	78.50	615207.0904	1103564.3105	ROAD EDGE
451	82.00	615209.5875	1103564.8768	CORNER PA POND
452	80.37	615102.6515	1103767.4282	
453	80.02	615220.2742	1103483.5264	ROAD EDGE
454	78.17	615210.9477	1103572.4440	CENTER LIFT STATION
455	78.47	615210.5879	1103544.0801	CENTER MANHOLE
456	77.09	615199.1365	1103650.0050	
457	77.22	615187.2159	1103647.5245	
458	72.41	615194.1025	1103696.6587	
459	72.54	615191.0168	1103710.3018	
460	77.42	615171.7015	1103715.6306	
461	80.16	615149.4566	1103649.0676	CENTER MANHOLE
462	80.07	615139.9946	1103650.8458	VAULT CORNER
463	80.30	615136.1721	1103642.1222	VAULT CORNER
464	80.23	615103.5332	1103638.8096	CENTER LIFT STATION
465	80.50	615189.0167	1103514.6579	
466	80.50	615098.2013	1103622.2413	
467	80.50	615169.3451	1103505.8167	RADIUS CENTER
468	80.50	615190.2095	1103516.7004	RADIUS CENTER
469	80.18	615148.8060	1103648.3929	RADIUS CENTER
470	80.11	615147.7821	1103650.6430	RADIUS CENTER
471	80.03	615154.3739	1103652.1366	RADIUS CENTER
472	76.50	615113.7557	1103705.3082	RADIUS CENTER
473	78.28	615155.7916	1103756.7905	RADIUS CENTER
474	78.56	615211.6609	1103544.1556	RADIUS CENTER
475	78.28	615205.9846	1103569.1867	RADIUS CENTER
5714	77.87	615203.0265	1103589.7123	EXISTING BENCHMARK
5715	76.33	615298.4884	1103587.2280	EXISTING BENCHMARK
5716	77.34	615242.1925	1103759.2856	EXISTING BENCHMARK
5717	77.53	615134.4240	1103699.3615	EXISTING BENCHMARK

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JDN
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 45974 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

LOWER SITE

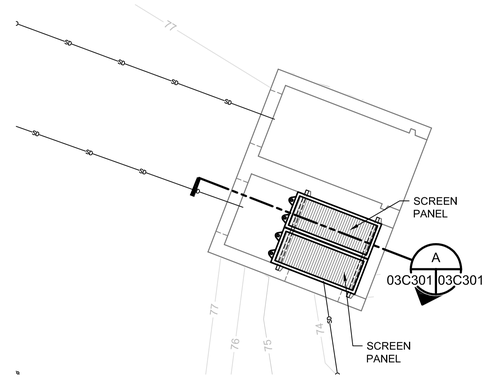
SITE GRADING AND DRAINAGE PLAN

0 1" 2"

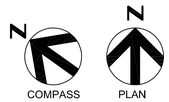
FILENAME 04C103.DWG

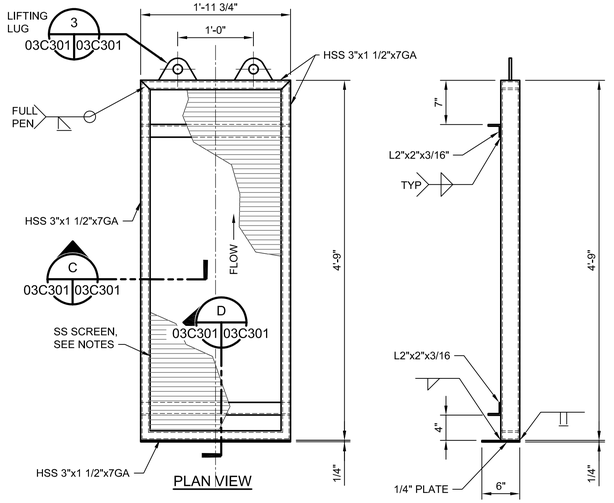
SCALE AS NOTED

SHEET 04C103

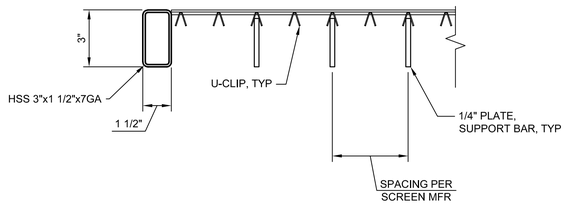


EXISTING INTAKE PLAN
SCALE: 1/4" = 1'-0"
1
03C101 03C301

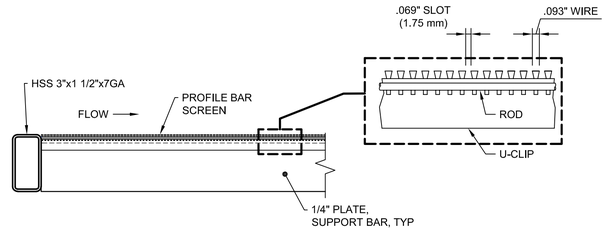




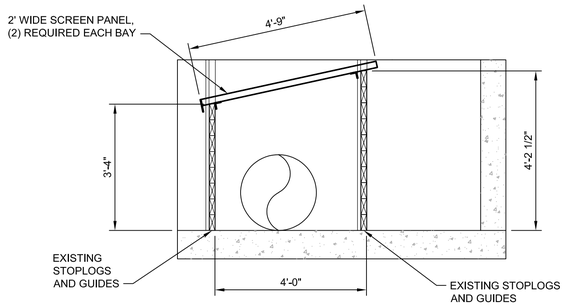
REPLACEMENT SCREEN DETAILS
SCALE: 1" = 1'-0"
2
03C301 03C301



SCREEN PANEL SECTION
SCALE: 3" = 1'-0"
C
03C301 03C301



SCREEN PANEL SECTION
SCALE: 3" = 1'-0"
D
03C301 03C301



EXISTING INTAKE SECTION
SCALE: 1/2" = 1'-0"
A
03C301 03C301

LIFTING LUG
SCALE: 6" = 1'-0"
3
03C301 03C301

NOTES:

1. (4) SCREEN ASSEMBLIES REQUIRED.
2. ALL MATERIAL SHALL BE STAINLESS STEEL
3. SCREEN ASSEMBLY SHALL BE FULLY WELDED USING 1/4" FILLET OR FULL PEN WELDS AS REQUIRED BY SCREEN MANUFACTURER.
4. ALL EDGES SHALL BE FREE OF ALL BURRS AND SHARP EDGES.

SCREEN NOTES:

1. SCREEN SHALL BE PROFILE BAR SCREEN WITH 1.75 MM OPENINGS AND EFFECTIVE OPEN AREA GREATER THAN 27%.
2. SCREEN SHALL BE CAPABLE OF WITHSTANDING A 40 LB/SF LOAD.
3. GRIND ALL WELDS FLUSH.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JDN
DESIGN BY	
CHECKED BY	LKP
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON STATE OF WASHINGTON 45974 REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

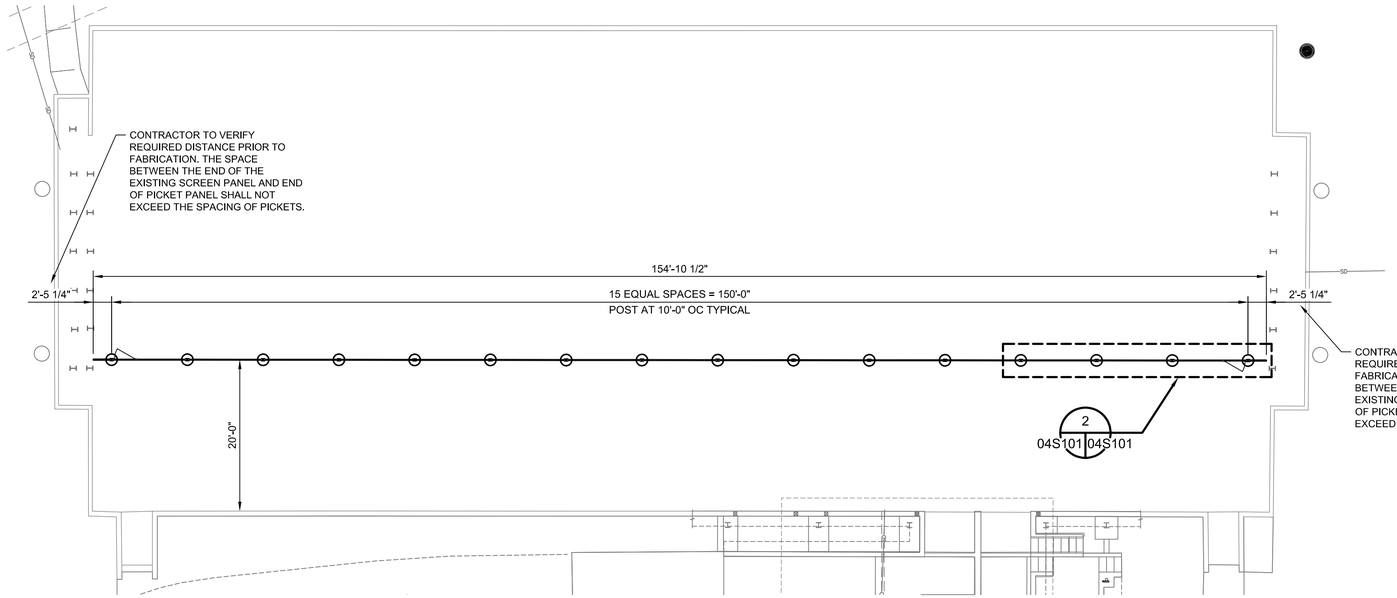
UPPER SITE

INTAKE SCREENS
PLANS, SECTIONS AND DETAILS

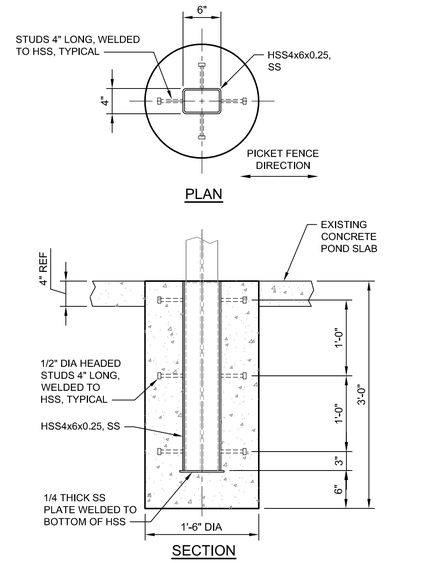
0 1" 2"

FILENAME 04C301.DWG
SCALE AS NOTED

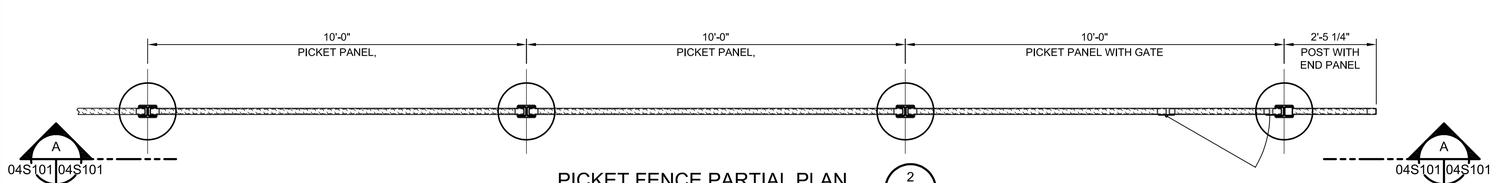
SHEET
04C301



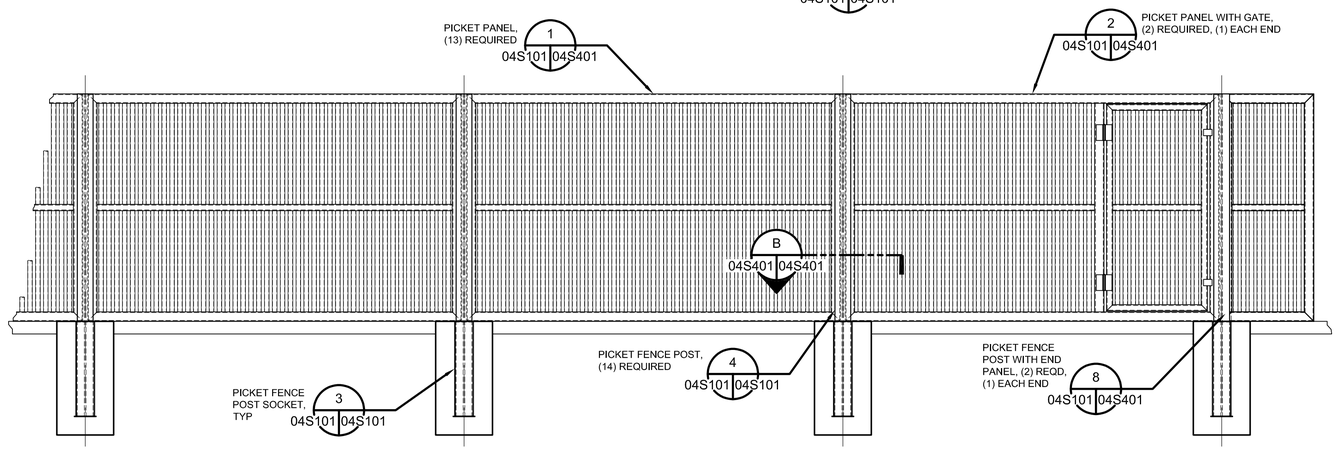
PARTIAL PLAN
SCALE: 1" = 10'
1
04C101 04S101



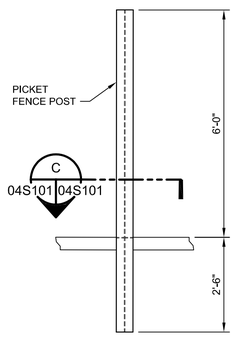
PICKET FENCE POST SOCKET
SCALE: 1" = 10'
3
04S101 04S101



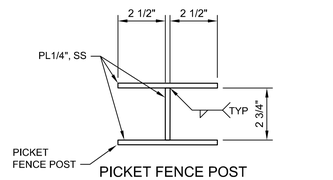
PICKET FENCE PARTIAL PLAN
SCALE: 1/2" = 1-0"
2
04S101 04S101



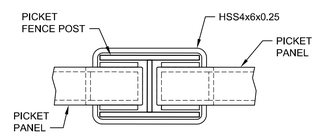
PICKET FENCE PARTIAL ELEVATION
SCALE: 1/2" = 1-0"
A
04S101 04S101



PICKET FENCE POST
SCALE: 1/2" = 1-0"
4
04S101 04S101



SECTION
SCALE: 1/2" = 1-0"
C
04S101 04S101



PICKET FENCE POST AND PANEL
SECTION
SCALE: 1/2" = 1-0"
B
04S101 04S101

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL — STATE OF WASHINGTON — 18332 — REGISTERED PROFESSIONAL ENGINEER
5-18-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

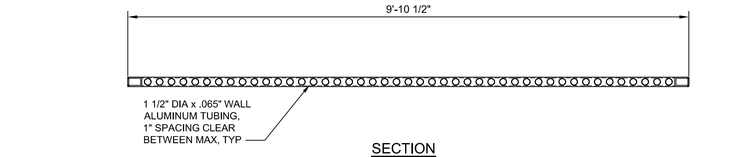
LOWER SITE

PICKET PANEL FENCE PLAN, SECTIONS AND DETAILS

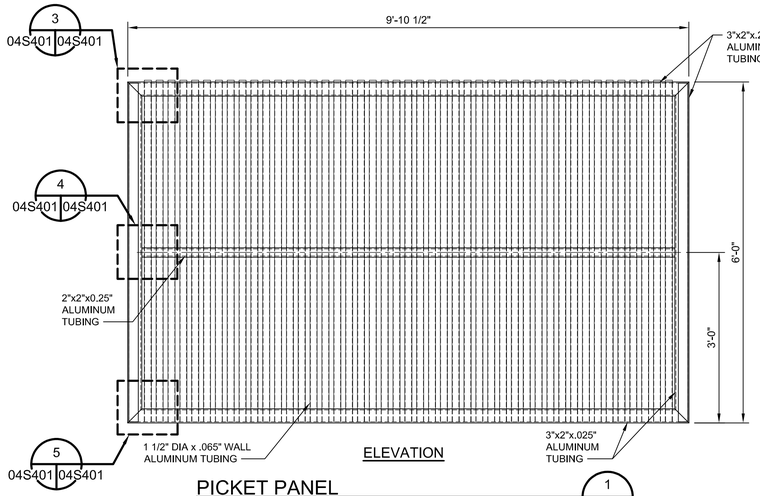
0 1" 2"

FILENAME	04S101.DWG
SCALE	AS NOTED

SHEET **04S101**



SECTION

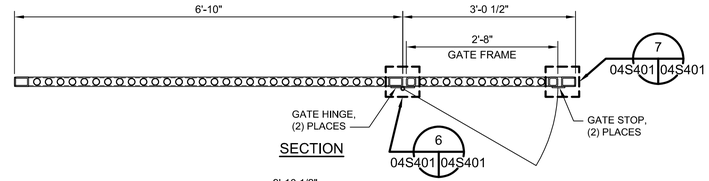


ELEVATION

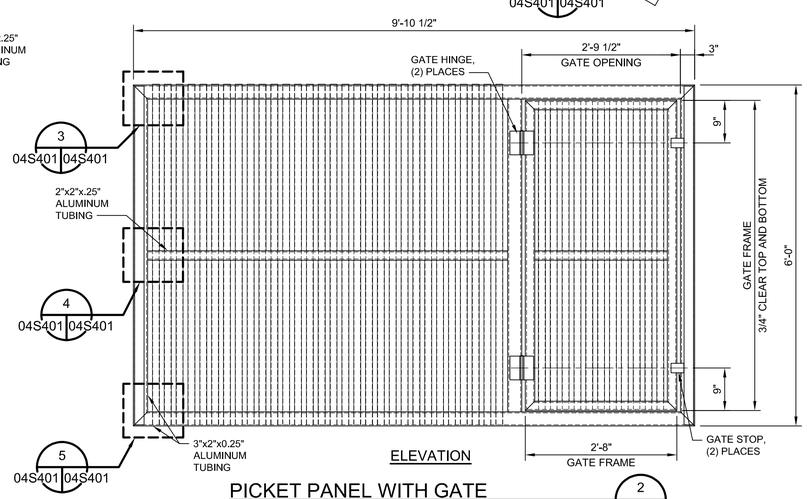
PICKET PANEL

SCALE: 3/4" = 1-0"

1
04S101 04S401



SECTION

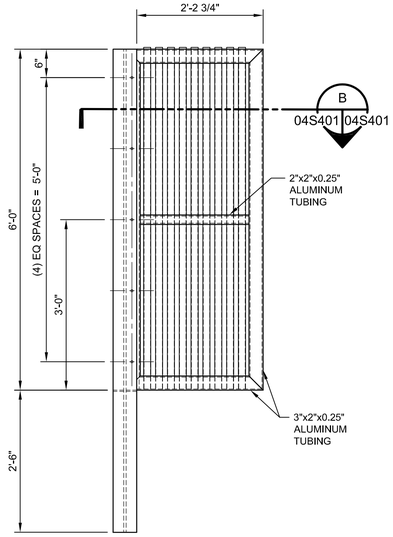


ELEVATION

PICKET PANEL WITH GATE

SCALE: 3/4" = 1-0"

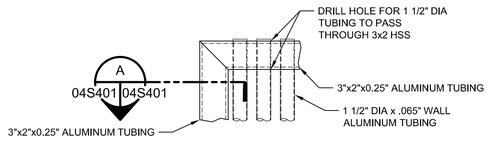
2
04S101 04S401



END PANEL

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

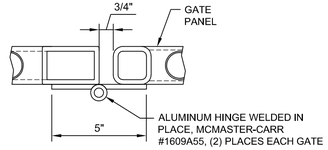
8
04S101 04S401



DETIAL

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

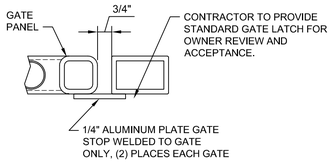
3
04S101 04S401



DETIAL

SCALE: 3" = 1-0"

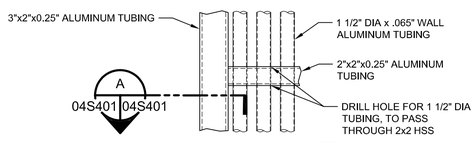
6
04S101 04S401



DETIAL

SCALE: 3" = 1-0"

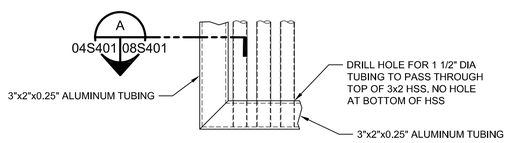
7
04S101 04S401



DETIAL

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

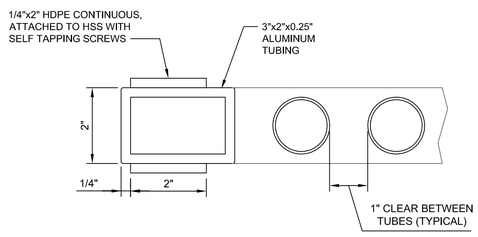
4
04S101 04S401



DETIAL

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

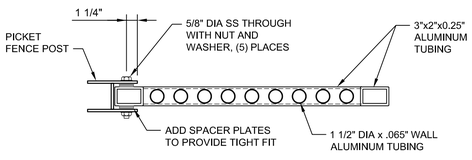
5
04S101 04S401



SECTION

SCALE: 3" = 1-0"

A
04S101 04S401



SECTION

SCALE: 3" = 1-0"

B
04S401 04S401

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL STATE OF WASHINGTON 38335 REGISTERED PROFESSIONAL ENGINEER

5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

LOWER SITE

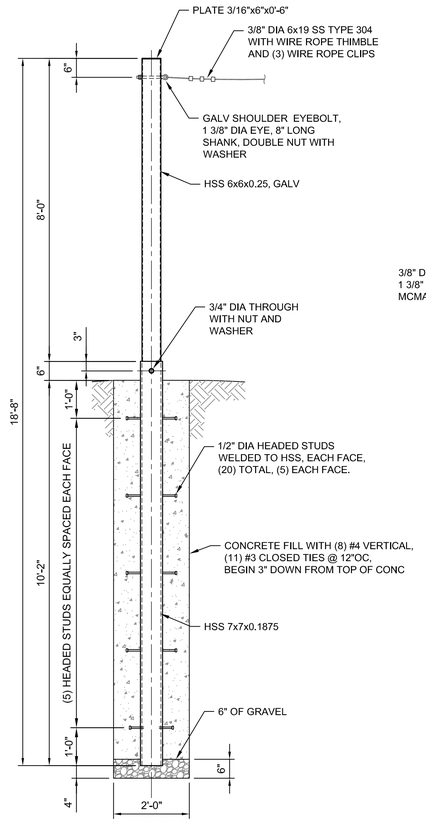
PICKET PANEL FENCE SECTIONS AND DETAILS

0 1" 2"

FILENAME 04S401.DWG

SCALE AS NOTED

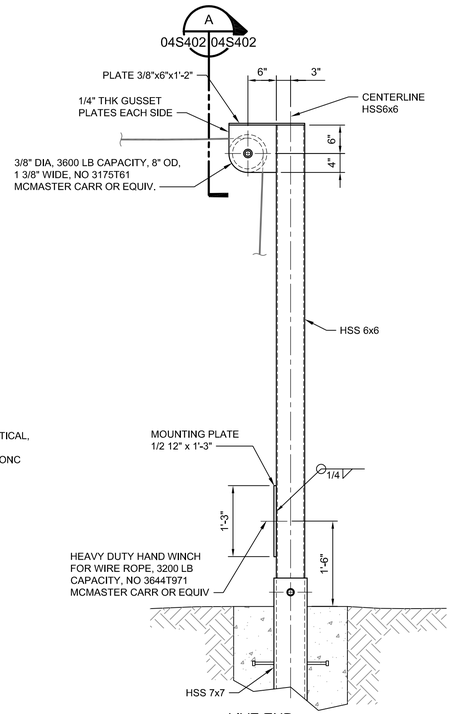
SHEET 04S401



DEAD END

PREDATION POST ELEVATION (1) 04C101|04S402

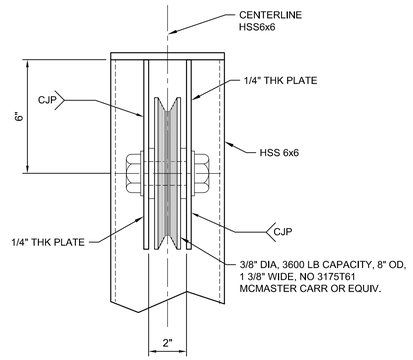
SCALE: 1/2" = 1'-0"



LIVE END

PREDATION POST ELEVATION (2) 04C101|04S402

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



PREDATION POST SECTION (A) 04S402|04S402

SCALE: 3" = 1'-0"

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL — STATE OF WASHINGTON — 38335 — REGISTERED PROFESSIONAL ENGINEER

5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

LOWER SITE

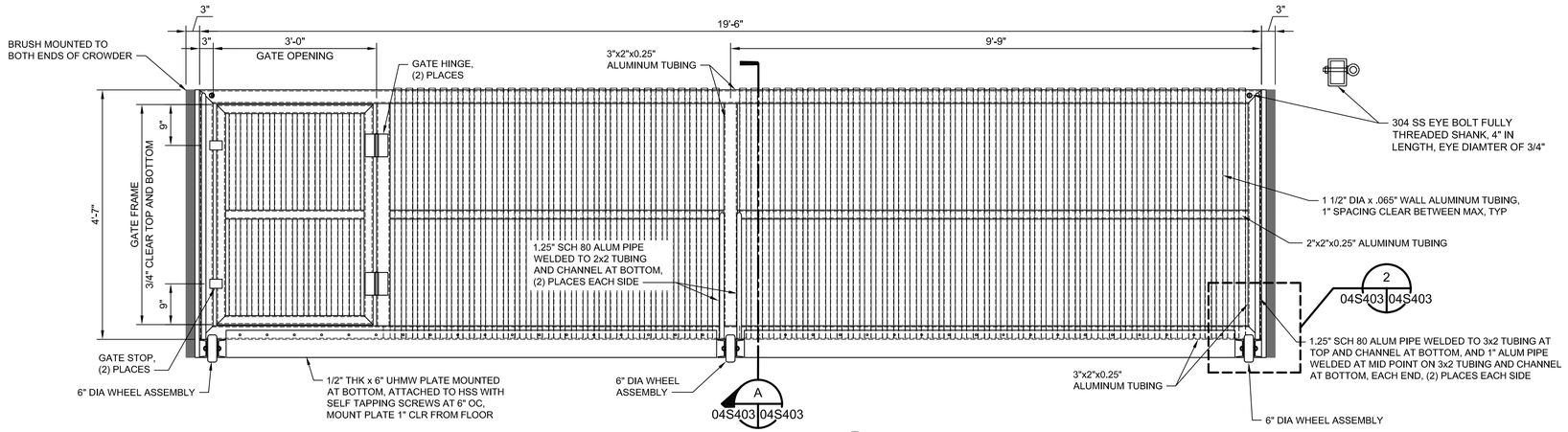
PREDATION NETTING SECTIONS AND DETAILS

0 1" 2"

FILENAME 04S402.DWG

SCALE AS NOTED

SHEET 04S402



MANUAL CROWDER
SCALE: 3/4" = 1-0"

1
04S101 04S401

NOTE:

DETAILS ON SHEET 04S401 SIMILAR FOR CROWDER PANEL AND GATE DETAILS.

NOTE:

1. PROVIDE 304 SS EYE BOLTS FULLY THREADED SHANK 4" IN LENGTH EYE DIAMETER OF 3/4", SECURED WITH ADHESIVE AT CENTER LINE OF CONCRETE WALL SPACED AT 10 FT OC.
2. PROVIDE 304 SS EYE BOLTS FULLY THREADED SHANK 4" IN LENGTH EYE DIAMETER OF 3/4" SECURED TO NEW PICKET PANEL WALL WITH SIMILAR TO CROWDER DETAIL SPACED AT 10 FT OC MATCHING THE SPACING ON THE CONCRETE WALL.
3. OWNER TO COORDINATION FINAL LOCATION OF EYE BOLTS ALONG WALL.
4. CONTRACTOR TO PROVIDE A CHAIN WITH A LOAD RATED SNAP WITH EYE TO EACH END. ONE END TO CONNECT TO CROWDER OTHER END FREE TO CONNECT TO WALL EYE AND PICKET PANEL EYE. CHAIN LENGTH TO BE 18".
5. TWO CROWDER ASSEMBLIES ARE REQUIRED.

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

A
04S403 04S403

DETAIL
SCALE: 3" = 1-0"

2
04S403 04S403

CROWDER PLAN
SCALE: 1" = 5'

3
04S403 04S403

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL — STATE OF WASHINGTON — 18335 — REGISTERED PROFESSIONAL ENGINEER

5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

LOWER SITE

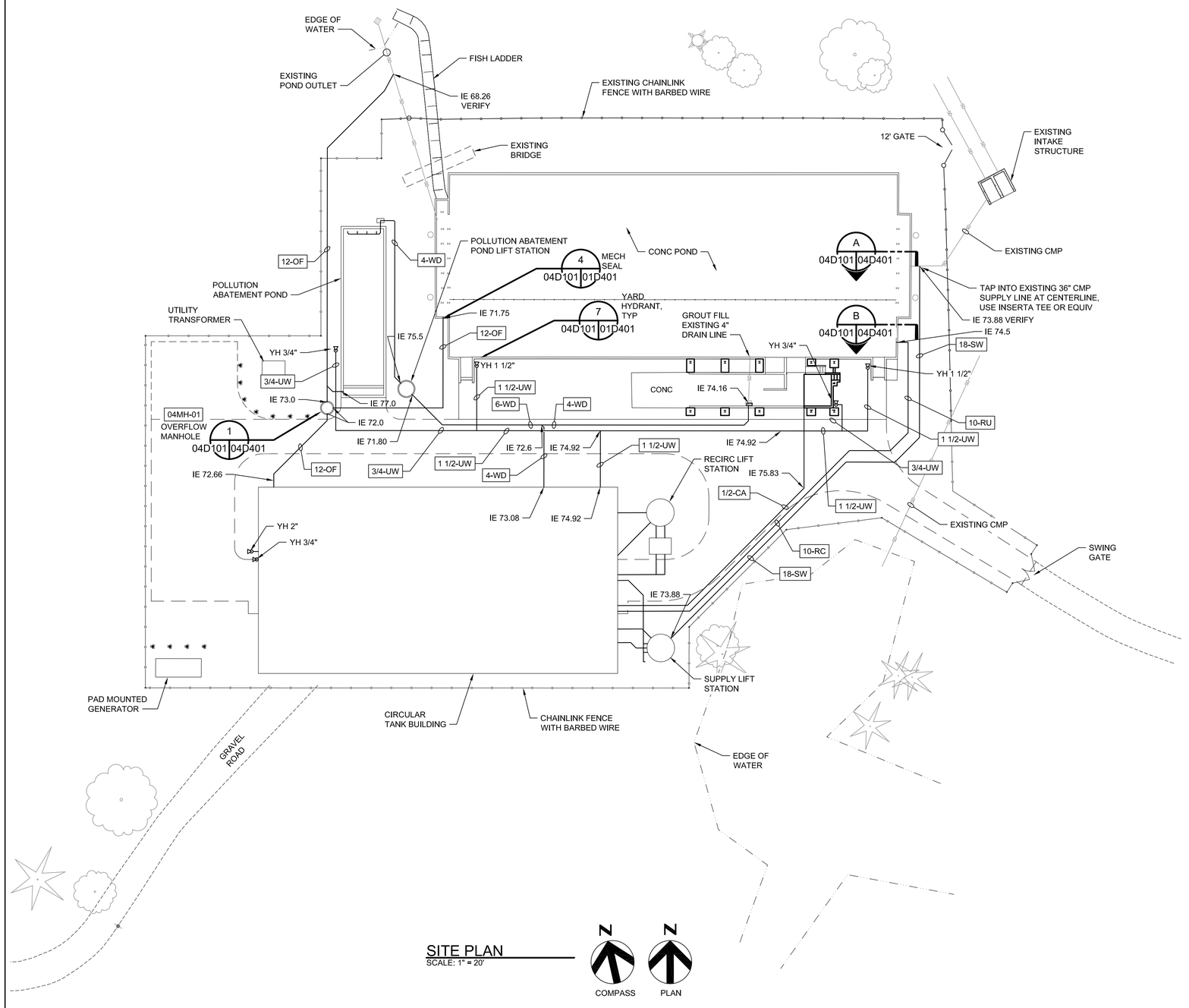
CROWDER SECTIONS AND DETAILS

0 1" 2"

FILENAME 04S403.DWG

SCALE AS NOTED

SHEET 04S403



PIPE LEGEND: (ALSO SEE SHEET 01D001)

SW - SURFACE WATER
RU - REUSE WATER
RC - RECIRCULATION WATER
WD - WASTE DRAIN
OF - OVERFLOW
UW - UTILITY WATER
CA - COMPRESSED AIR

YH - YARD HYDRANT

NOTES:

1. FIELD VERIFY EXISTING PIPE SIZE, MATERIAL, ELEVATION AND ORIENTATION. PROVIDE CONNECTION JOINTS AND FITTING AS REQUIRE FOR CONNECTION TO NEW PIPE. IF CONFLICT EXIST WITH PIPING LAYOUT SHOWN, CONTACT ENGINEER FOR DIRECTION.
2. WHERE ELEVATIONS ARE NOTED, SLOPE PIPE AT CONSTANT SLOPE BETWEEN NOTED LOCATIONS.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	KML
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE
EDA AWARD NUMBER 07-79-07880

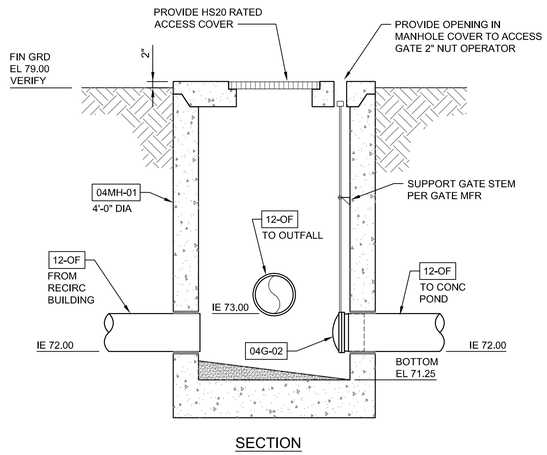
LOWER SITE

UTILITY PLAN

0 1" 2"

FILENAME	04D101.DWG
SCALE	AS NOTED

SHEET **04D101**

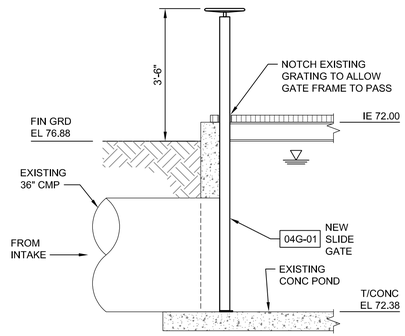


SECTION

OVERFLOW MANHOLE

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

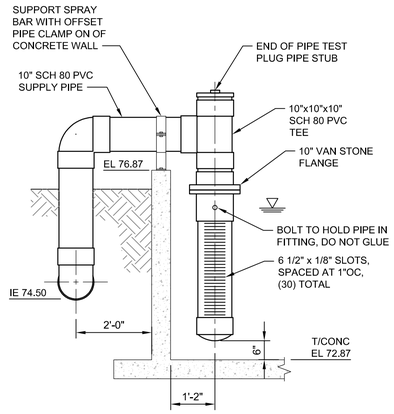
1 | 04D101 | 04D401



SECTION

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

A | 04D101 | 04D401



SECTION

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

B | 04D101 | 04D401

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON STATE OF WASHINGTON 22004 PROFESSIONAL ENGINEER

5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

LOWER SITE

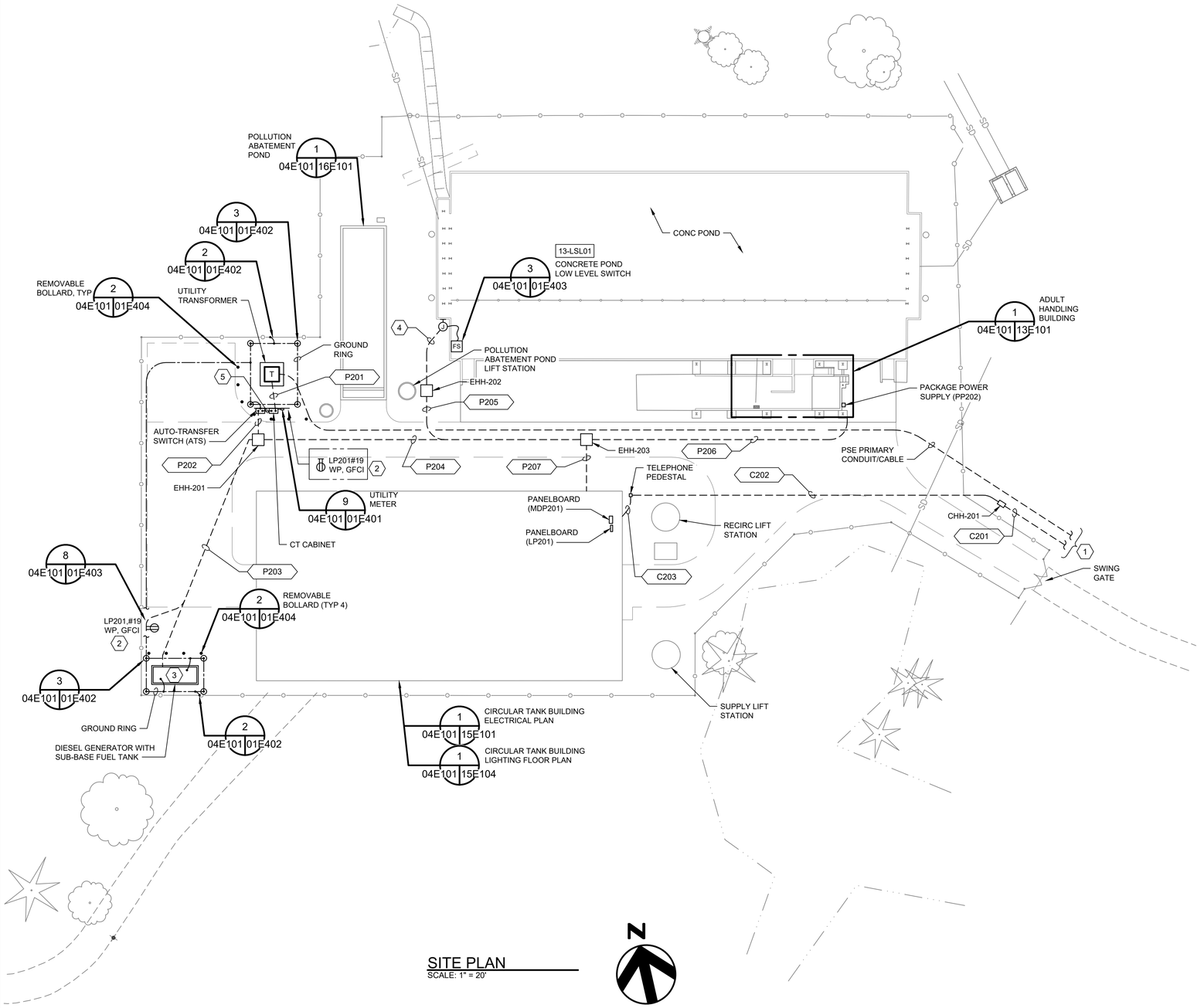
PIPING
DETAILS AND SECTIONS

0 1" 2"

FILENAME 04D401.DWG

SCALE AS NOTED

SHEET 04D401



SITE PLAN
SCALE: 1" = 20'

INCOMING ELECTRICAL SERVICE DIVISION OF RESPONSIBILITY

	ELEC. CONTR.	UTILITY CO.
PRIMARY CONDUIT / DUCTBANKS	☒	☐
PRIMARY CONDUCTORS / TERM	☐	☒
TRANSFORMER / PAD SWITCH	☐	☒
TRANSFORMER PAD VAULT	☒	☐
PRIMARY GROUNDING	☒	☐
BOLLARDS-UTILITY	☒	☐
TRANSFORMER / PAD SWITCH CONNECTIONS	☐	☒
SECONDARY CONDUIT	☒	☐
SECONDARY CONDUCTORS	☒	☐
SECONDARY TERM UTILITY	☐	☒
C/T ENCLOSURE	☒	☐
METER BASE	☒	☐
METER	☐	☒
METER GROUNDING	☒	☐

NOTES:

1. CONTACT AND COORDINATE ALL REQUIREMENTS AND RESPONSIBILITIES WITH SERVING UTILITY COMPANIES PRIOR TO BIDDING.
2. ALL SERVICE INSTALLATION WORK SHALL BE IN STRICT COMPLIANCE WITH THE REQUIREMENTS OF SERVING UTILITIES.

GENERAL NOTES:

1. SEE SHEET 01E002 FOR GENERAL NOTES.
2. THE CONTRACTOR SHALL VERIFY THE LOCATION OF THE PUGET SOUND ENERGY (PSE) UTILITY TRANSFORMER PRIOR TO BID. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL CONTACT PSE AND OBTAIN WRITTEN ELECTRIC SERVICE INSTALLATION REQUIREMENTS. COORDINATE WITH PSE FOR APPROVAL OF THE FOLLOWING:
   - UTILITY SERVICE POINT OF CONNECTION.
   - VAULT REQUIREMENTS.
   - GROUNDING.
   - SERVICE CONNECTIONS/REQUIREMENTS
3. MAINTAIN WORKING CLEARANCES OF 3 FT ON THE SIDES AND BACK OF THE UTILITY TRANSFORMER VAULT/PAD AND 10 FT AT THE FRONT.
4. EXTERIOR UNDERGROUND CONDUITS SHALL BE CONCRETE ENCASED OR DIRECT BURIED AS DESIGNATED IN THE DUCTBANK SCHEDULE (SHEET 04E102). SEE SHEET 01E401 DETAILS 1 AND 8. COORDINATE ROUTING OF UNDERGROUND CONDUITS WITH OTHER TRADES AND PER FIELD CONDITIONS.
5. REFERENCE SHEET 04E102 FOR HANDHOLE SCHEDULE
6. CONTRACTOR TO COORDINATE WITH TELEPHONE UTILITY (TBD) AS REQUIRED TO PROVIDE PHONE SERVICE TO THE CIRCULAR TANK BUILDING FOR REMOTE ALARM MONITORING

KEYED NOTES: (X)

1. COORDINATE WITH TELEPHONE AND ELECTRIC UTILITY FOR INSTALLATION REQUIREMENTS AND LOCATION OF TERMINATIONS.
2. PROVIDE SUITABLE SUPPORT. INSTALL RECEPTACLE ON SUPPORT 24" AFG.
3. BOND GENERATOR FRAME TO GROUND.
4. 1"C, 3#14 CONTROL CABLE; DIRECT BURIED CONDUIT.
5. SEE ONE-LINE DIAGRAM ON SHEET 04E101 FOR CONDUIT AND CONDUCTORS.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	TM
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BEST — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

LOWER SITE

ELECTRICAL SITE PLAN

0 1" 2"

FILENAME 04E101.DWG
SCALE AS NOTED

SHEET 04E101

ELECTRICAL HANDHOLE SCHEDULE - LOWER SITE

HANDHOLE TAG NUMBER	TYPE	MIN. INSIDE DIMENSIONS (L, W, D)	NOTES
EHH-201	POWER/CONTROL	3'-6", 3'-6", 3'-2"	1
EHH-202	POWER/CONTROL	3'-0", 2'-0", 2'-8"	1
EHH-203	POWER/CONTROL	3'-6", 3'-6", 3'-2"	1
CHH-201	TELEPHONE	2'-5", 1'-5", 1'-9"	2

NOTES:

1. TOP WITH PADLOCKABLE (RECESSED PADLOCK HASP), H-20 RATED, SPRING ASSISTED, GALVANIZED, DIAMOND PLATE DOOR. DOOR SHALL BE CASTED WITH THE LEGEND OF THE HANDHOLE TAG NUMBER.

2. HIGH DENSITY POLYMER CONCRETE JUNCTION BOX WITH BOLT DOWN COVER, TIER 15 - 20K

DUCTBANK SCHEDULE - LOWER SITE

TAG	TYPE	CONDUITS	CONDUCTORS (AWG OR KCMIL)	ORIGIN	DESTINATION	NOTES/DESCRIPTION
P201	POWER	2 SETS OF 3"C	4#3/0 & #1/0 GRD IN EACH	UTILITY XFMR	CT CABINET	SERVICE CONDUCTORS; SECONDARY
P202	POWER	2 SETS OF 3"C 3" C 2" C 2" C 1" C 1" C	4#3/0 IN EACH 4#300 & #4 GRD 12#14 CONTROL CABLE 12#14 CONTROL CABLE 4#10 & #10 GRD PULL ROPE	ATS ATS ATS ATS RCPT STUB UP	EHH-201 EHH-201 EHH-201 EHH-201 EHH-201 EHH-201	MDP201 FEEDER STANDBY POWER ATS CONTROL/ALARM SIGNALS GENSET CONTROL/ALARM SIGNALS CONVENIENCE RECEPTACLE SPARE CONDUIT
P203	POWER & CONTROL SIGNALS	3"C 3"C 2"C 1"C 1"C 1"C 1"C	4#300 & #4 GRD PULL ROPE 12#14 CONTROL CABLE 2#8 & #10 GRD 2#10 & #10 GRD 2#10 & #10 GRD PULL ROPE	GENSET GENSET GENSET GENSET GENSET GENSET GENSET	EHH-201 EHH-201 EHH-201 EHH-201 EHH-201 EHH-201 EHH-201	STANDBY POWER SPARE CONDUIT GENSET CONTROL/ALARM SIGNALS GENSET HEATER BATTERY CHARGER CONVENIENCE RECEPTACLE SPARE CONDUIT
P204	POWER & CONTROL SIGNALS	2 SETS OF 3"C 3"C 2 SETS OF 2"C 2"C 1"C 1"C 1"C 3 SETS OF 1"C	4#3/0 IN EACH & #2 GND IN EACH PULL ROPE 12#14 CONTROL CABLE IN EACH PULL ROPE 2#8 & #10 GRD 2#10 & #10 GRD 2#10 & #10 GRD PULL ROPE IN EACH	EHH-201 EHH-201 EHH-201 EHH-201 EHH-201 EHH-201 EHH-201 EHH-201	EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203	MDP201 FEEDER SPARE CONDUIT STATUS/ALARM MONITORING SPARE CONDUIT GENSET HEATER GENSET BATTERY CHARGER CONVENIENCE RECEPTACLES SPARE CONDUIT
P205	POWER & CONTROL SIGNALS	1"C 1"C 1"C 1"C 1"C 3 SETS OF 1"C	3#10 & #10 GRD 8#14 CONTROL CABLE 2#10 & #10 GRD 4#10 & #10 GRD 3#14 CONTROL CABLE PULL ROPE IN EACH	EHH-202 EHH-202 EHH-202 EHH-202 EHH-202 EHH-202	EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203	PA POND LIFT STATION FEEDER PA POND LIFT STATION ALARM HEAT TRACE CONVENIENCE RECEPTACLES CONC POND LEVEL SWITCH SPARE CONDUIT
P206	POWER	1 1/2"C 1"C	2#4 & #8 GRD PULL ROPE	PP-202 CAP	EHH-203 EHH-203	PACKAGE POWER SUPPLY FEEDER (PP202) SPARE CONDUIT
P207	POWER & CONTROL SIGNALS	2 SETS OF 3"C 3"C 2 SETS OF 2"C 2"C 1"C 1"C 1"C 1"C 1"C 1"C 1 1/2"C 2 SETS OF 1"C 6 SETS OF 1"C	4#3/0 IN EACH & #2 GND IN EACH PULL ROPE 12#14 CONTROL CABLE IN EACH PULL ROPE 2#8 & #10 GRD 2#10 & #10 GRD 3#10 & #10 GRD 8#14 CONTROL CABLE 2#10 & #10 GRD 3#14 CONTROL CABLE 2#8 & #10 GRD 2#10 & #10 GRD IN EACH PULL ROPE IN EACH	EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203 EHH-203	MDP201 MDP201 ACP201 ACP201 LP201 LP201 LP201 LP201 LP201 LP201 LP201 LP201 LP201	MDP201 FEEDER SPARE CONDUIT STATUS/ALARM MONITORING SPARE CONDUIT GENSET HEATER GENSET BATTERY CHARGER PA POND LIFT STATION FEEDER PA POND LIFT STATION ALARM PA POND HEAT TRACE CONC POND LEVEL SWITCH PACKAGE POWER SUPPLY FEEDER (PP202) CONVENIENCE RECEPTACLES SPARE CONDUITS
C201	COMMUNICATIONS	2"C 2"C	TELEPHONE CABLE PULL ROPE	TBD TBD	CHH-201 CHH-201	TELEPHONE SERVICE SPARE CONDUIT
C202	COMMUNICATIONS	2"C 2"C	TELEPHONE CABLE PULL ROPE	CHH-201 CHH-201	PEDESTAL PEDESTAL	TELEPHONE SERVICE SPARE CONDUIT
C203	COMMUNICATIONS	2"C 2"C	TELEPHONE CABLE PULL ROPE	PEDESTAL PEDESTAL	ACP201 ACP201	TELEPHONE SERVICE SPARE CONDUIT

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BEE — STATE OF WASHINGTON — 80934 — REGISTERED PROFESSIONAL ENGINEER — 5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

LOWER SITE

ELECTRICAL
HANDHOLE AND DUCTBANK SCHEDULES

0 1" 2"

FILENAME 04E102.DWG
SCALE AS NOTED

SHEET 04E102

PANELBOARD NO:	**MDP201**																						
VOLTAGE:	480/277		**BUS RATING (A):**			400			**ENCLOSURE:**	NEMA 4													
PHASE:	3		**MAIN OC DEVICE (A/PHASE):**			400			**MOUNTING:**	SUFACE													
WIRE:	4+GND		**INTERRUPTING RATING (KA):**			35			**LOCATION:**	LOWER SITE													
200% NEUTRAL:	NO		**SERVICE ENTRANCE LABEL:**			NO				CIRCULAR TANK BLDG.													

CKT		CONNECTED LOAD (VA)				OCP			OCP			CONNECTED LOAD (VA)					CKT
NO.	DESCRIPTION	LTS	REC	MECH	MISC	AMPS	P		AMPS	P	LTS	REC	MECH	MISC	DESCRIPTION	NO.
1	PA POND			1,000				A								2
3	LIFT STATION			1,000		20	3	B	20	3					SURGE	4
5	(2 HP)			1,000				C							ARRESTOR	6
7	RECIRCULATION			10,333				A					1,667		AIR	8
9	LIFT STATION			10,333		70	3	B	20	3			1,667		COMPRESSOR	10
11	(TWO 15 HP)			10,333				C					1,667		(5 HP)	12
13	SUPPLY			13,667				A					1,000		BOOSTER	14
15	LIFT STATION			13,667		100	3	B	20	3			1,000		PUMP	16
17	(TWO 20 HP)			13,667				C					1,000		(3 HP)	18
19				1,667				A	150	2				14,000	PANELBOARD (LP201)	20
21	DRUM FILTER			1,667		20	3	B						12,000	(50 KVA)	22
23	(5 HP)			1,667				C	30	2					SPARE	24
25	EXHAUST FAN			800				A							CIRCUIT BREAKER	26
27	CIRC. TANK BLDG.			800		20	3	B	80	2				4,000	PKG POWER SUPPLY (PP202)	28
29	(2 HP)			800				C						5,000	(15 KVA)	30
31								A								32
33	SPARE					20	3	B	30	3					SPARE	34
35	CIRCUIT BREAKER							C							CIRCUIT BREAKER	36
37								A								38
39	SPARE					20	3	B	30	3					SPARE	40
41	CIRCUIT BREAKER							C							CIRCUIT BREAKER	42

LOAD SUMMARY

	LTS	REC	MECH	MISC	SPARE	TOTAL				
CONNECTED LOAD (KVA)	0.0	0.0	90.4	35.0	---	125.4	480	LINE-TO-LINE VOLTS	PHASE A (KVA)	44
DEMAND FACTOR	1.25	NEC	1.00	1.00	20%	---	151	CONNECTED AMPS	PHASE B (KVA)	46
DESIGN LOAD (KVA)	0.0	0.0	90.4	35.0	25.1	150.5	181	DESIGN AMPS	PHASE C (KVA)	35

PANELBOARD NO:	**LP201**																						
VOLTAGE:	240/120		**BUS RATING (A):**			400			**ENCLOSURE:**	NEMA 4													
PHASE:	1		**MAIN OC DEVICE:**			250/2			**MOUNTING:**	SURFACE													
WIRE:	3+GND		**INTERRUPTING RATING (KA):**			10			**LOCATION:**	LOWER SITE													
200% NEUTRAL:	NO		**SERVICE ENTRANCE LABEL:**			NO				CIRCULAR TANK BLDG													

CKT		CONNECTED LOAD (VA)				OCP			OCP			CONNECTED LOAD (VA)					CKT
NO.	DESCRIPTION	LTS	REC	MECH	MISC	AMPS	P		AMPS	P	LTS	REC	MECH	MISC	DESCRIPTION	NO.
1	RCPT; CIRC TANK BLDG NORTH		720			20	1	A	45	2		3,000			CIRC TANK SPC N1	2
3	RCPT; CIRC TANK BLDG SOUTH		720			20	1	B				3,000				4
5	RCPT; CIRC TANK BLDG WEST		360			20	1	A	45	2		3,000			CIRC TANK SPC N2	6
7	D.O. ANALYZERS			100		20	1	B				3,000				8
9	RCPT; CO2 BLOWERS		720			20	1	A	20	2			1,500		FISH PUMP	10
11	CO2 BLOWER MOTOR			450		20	1	B					1,500			12
13	UV CONTROL PANEL			1,300		20	2	A	30	2					SPARE CIRCUIT BREAKER	14
15				1,300				B								16
17	ALARM PANEL (AP200)				500	20	1	A	30	2					SPARE CIRCUIT BREAKER	18
19	RCPT; OUTDOORS (GEN & ATS)		360			20	1	B								20
21	GENSET BATTERY CHARGER			500		20	1	A	25	2			800		GENERATOR	22
23	FLOWMETERS; GAS TOWERS			100		20	1	B					800		JACKET WATER HEATER	24
25	PA POND HEAT TRACE			1,000		20	1	A	20	2					SPARE CIRCUIT BREAKER	26
27	SUPPLY PT HEAT TRACE			250		20	1	B								28
29	SPARE CIRCUIT BREAKER					20	1	A	20	1					SPARE CIRCUIT BREAKER	30
31	LTG; CIRCULAR TANK BLDG	130				20	1	B	20	1					SPARE CIRCUIT BREAKER	32
33	LTG; CIRCULAR TANK BLDG	175				20	1	A	20	1					SPARE CIRCUIT BREAKER	34
35	LTG; CIRCULAR TANK BLDG	175				20	1	B	20	1					SPARE CIRCUIT BREAKER	36
37	SPARE CIRCUIT BREAKER					20	1	A							PREPARED SPACE	38
39	SPARE CIRCUIT BREAKER					20	1	B							PREPARED SPACE	40
41	SPARE CIRCUIT BREAKER					20	1	A							PREPARED SPACE	42

LOAD SUMMARY

	LTS	REC	MECH	MISC	SPARE	TOTAL				
CONNECTED LOAD (KVA)	0.5	14.9	9.6	0.5	---	25.5	240	LINE-TO-LINE VOLTS	PHASE A (KVA)	14
DEMAND FACTOR	1.25	NEC	1.00	1.00	20%	---	106	CONNECTED AMPS	PHASE B (KVA)	12
DESIGN LOAD (KVA)	0.6	12.4	9.6	0.5	5.1	28.2	118	DESIGN AMPS		

PACKAGED POWER SUPPLY:	**PP202**																						
PRIMARY VOLTAGE:	480		**PRIMARY OC DEVICE:**			PER MANUF.			**ENCLOSURE:**	NEMA 3R													
SECONDARY VOLTAGE:	240/120		**SECONDARY OC DEVICE:**			PER MANUF.			**MOUNTING:**	SURFACE													
PHASE:	1		**PRIMARY AIC RATING (KA):**			14			**LOCATION:**	LOWER SITE													
TRANSFORMER KVA:	15		**SECONDARY AIC RATING (KA):**			10				ADULT HANDLING													

CKT		CONNECTED LOAD (VA)				OCP			OCP			CONNECTED LOAD (VA)					CKT
NO.	DESCRIPTION	LTS	REC	MECH	MISC	AMPS	P		AMPS	P	LTS	REC	MECH	MISC	DESCRIPTION	NO.
1	SPARE CIRCUIT BREAKER					20	1	A	30	2			2,071		RADIANT HEATERS	2
3	RCPT; ADULT HANDLING		360			20	1	B					2,071			4
5	SPARE CIRCUIT BREAKER					20	1	A	30	2			2,071		RADIANT HEATERS	6
7	SPARE CIRCUIT BREAKER					20	1	B					2,071			8
9								A								10
11								B								12

LOAD SUMMARY

	LTS	REC	MECH	MISC	SPARE	TOTAL				
CONNECTED LOAD (KVA)	0.0	0.4	8.3	0.0	---	8.6	240	LINE-TO-LINE VOLTS	PHASE A (KVA)	4
DEMAND FACTOR	1.25	NEC	1.00	1.00	20%	---	36	CONNECTED AMPS	PHASE B (KVA)	5
DESIGN LOAD (KVA)	0.0	0.4	8.3	0.0	1.7	10.4	43	DESIGN AMPS		

KEYED NOTES: (X)

1. GFEPCI TYPE CIRCUIT BREAKER. REFERENCE SPECIFICATION 40 41 13.

HDR

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BEST — STATE OF WASHINGTON — 40694 — REGISTERED PROFESSIONAL ENGINEER — 5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

LOWER SITE

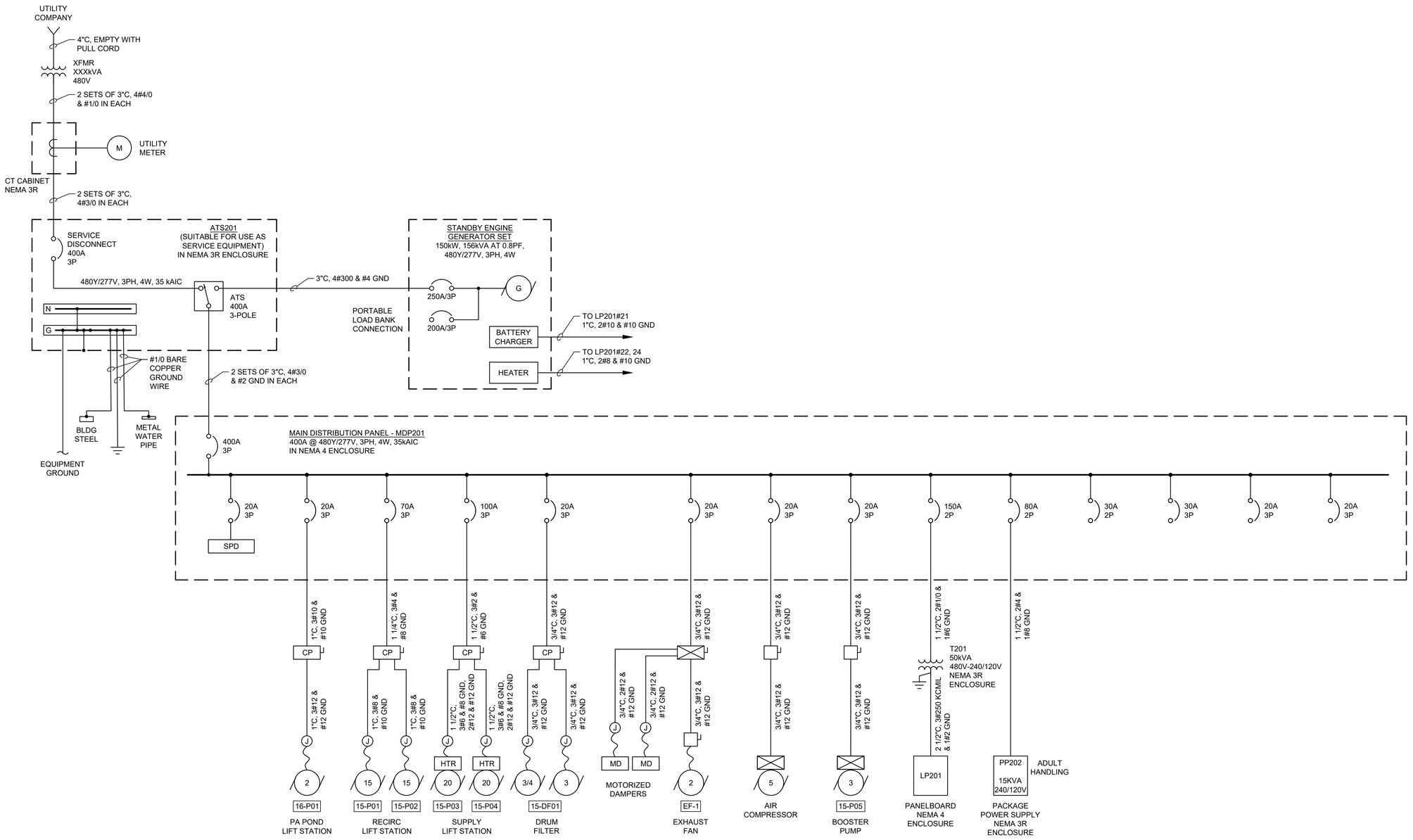
ELECTRICAL SCHEDULES

0 1" 2"

FILENAME 04E103.DWG

SCALE AS NOTED

SHEET 04E103



ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BEAN — STATE OF WASHINGTON — 10694 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

LOWER SITE

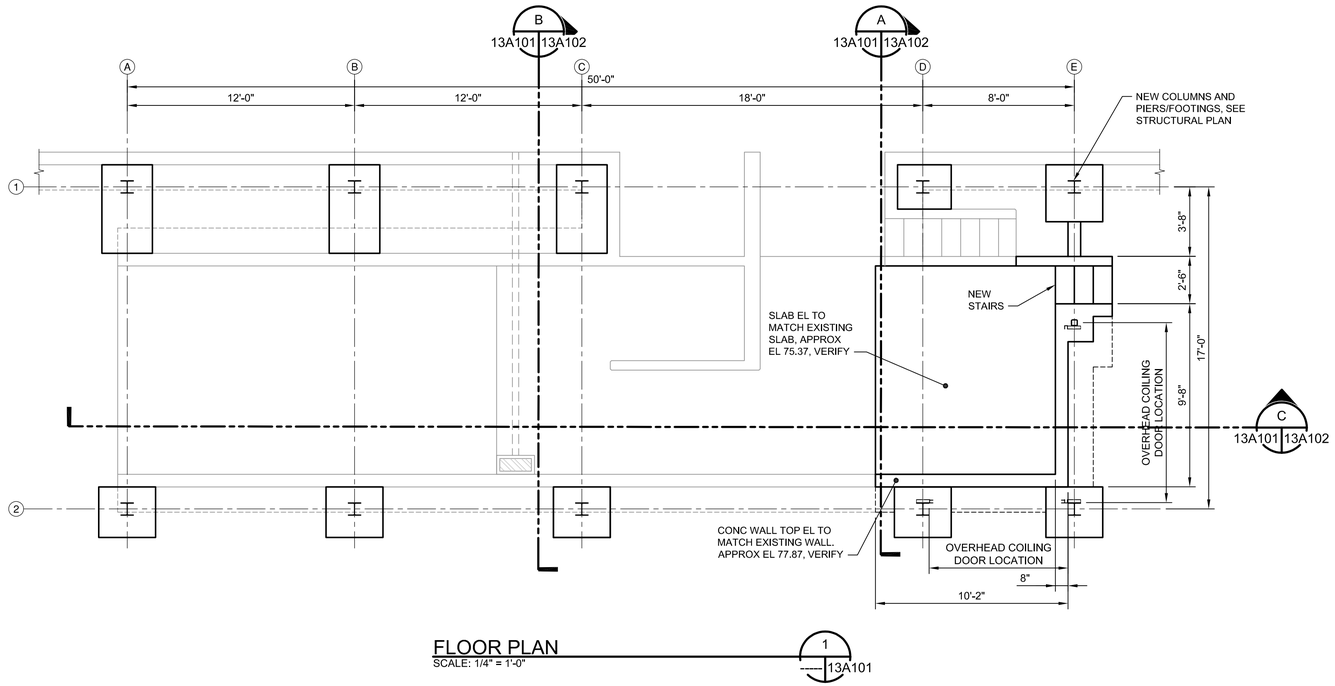
SITE ELECTRICAL ONE LINE DIAGRAM

0 1" 2"

FILENAME 04E401.DWG

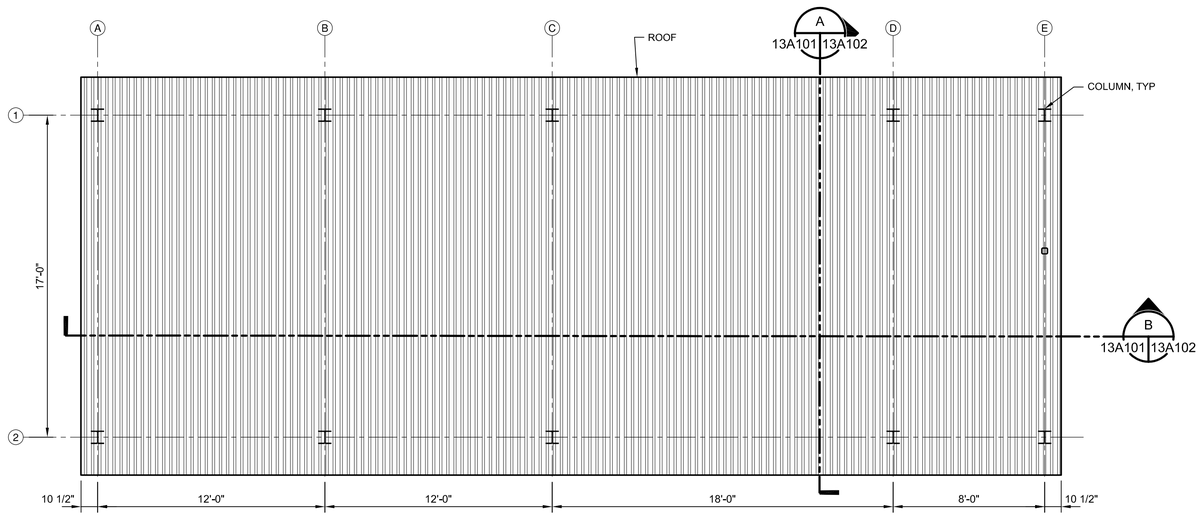
SCALE AS NOTED

SHEET 04E401



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

1
13A101



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

2
13A101

NOTES:

1. CONTRACTOR TO VERIFY DIMENSIONS OF EXISTING STRUCTURE PRIOR TO FABRICATION.
2. EXISTING FOUNDATION MAY BE SLIGHTLY DIFFERENT THEN ASSUMED ON PLANS.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	JLH
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 22011 STEWART — PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

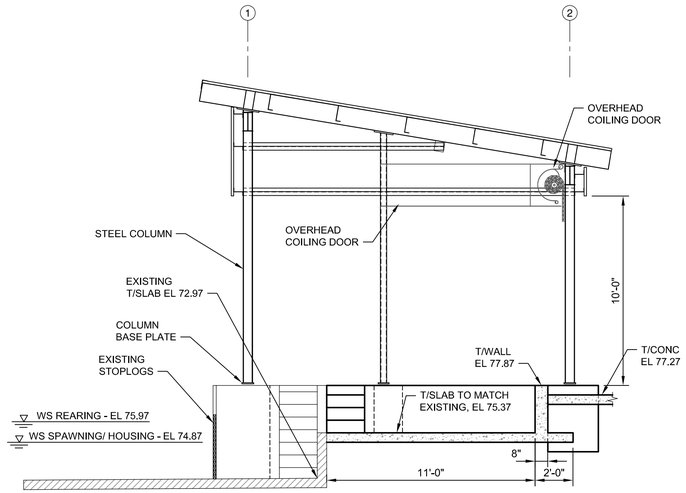
ADULT HANDLING BUILDING

FLOOR PLAN AND ROOF PLAN

0 1" 2"

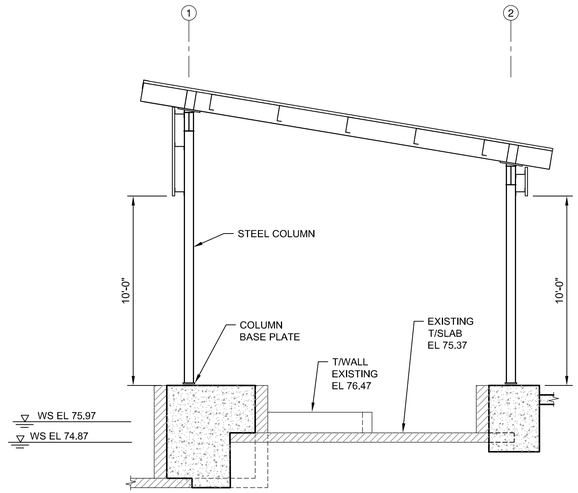
FILENAME	13A101.DWG
SCALE	AS NOTED

SHEET 13A101



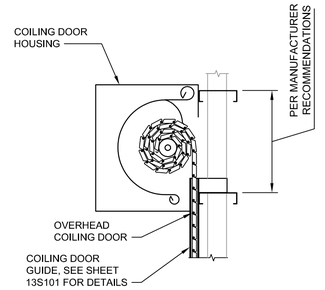
SECTION
SCALE: 1/4" = 1'-0"

A | 13A101 | 13A102



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

B | 13A101 | 13A102

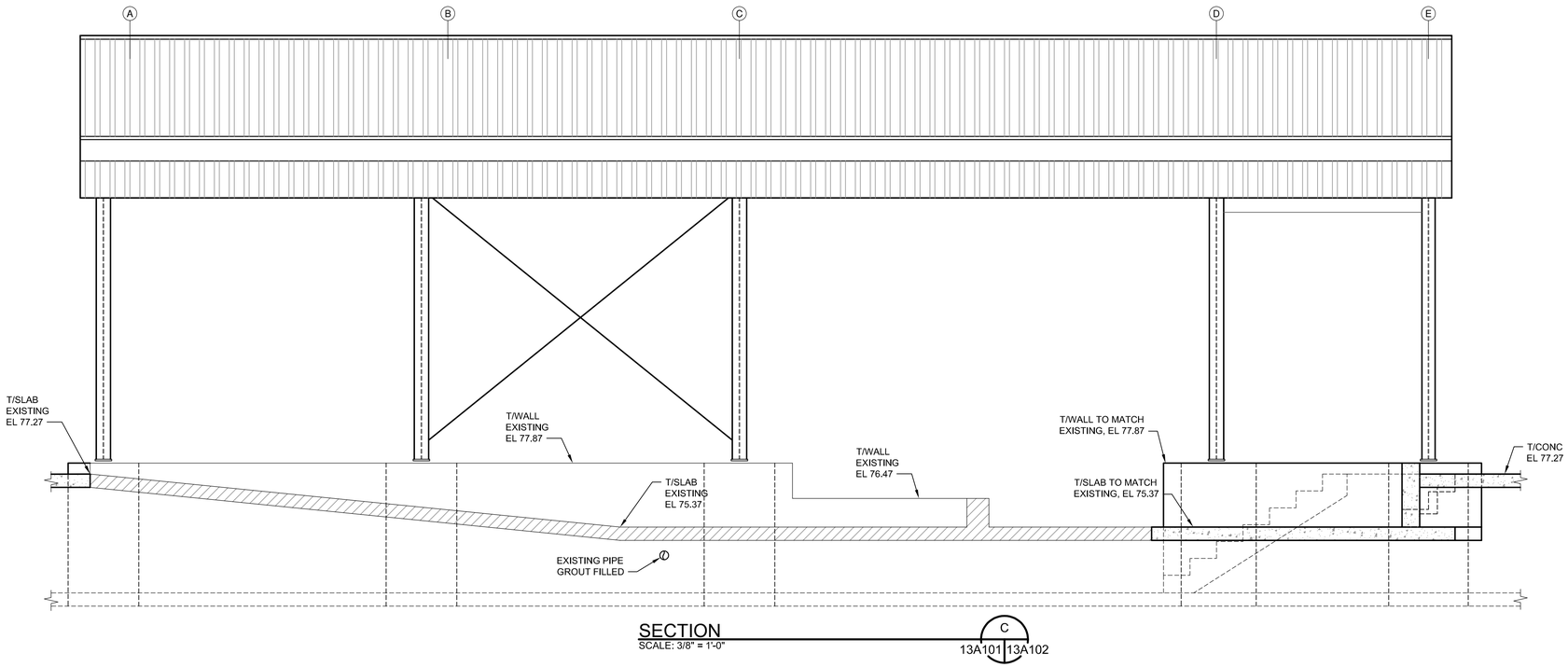


OVERHEAD DOOR DETAIL
NO SCALE

1 | 13A101 | 13A102

NOTES:

1. CONTRACTOR TO COORDINATE COILING DOOR WITH PRE-ENGINEERED BUILDING SUPPLIER.
2. COILING DOOR HEIGHTS MAY NEED TO VERY IN HEIGHT TO BE ACCOMMODATED IN CORNER OF BUILDING. OWNER TO REVIEW ARRANGEMENT PRIOR TO FABRICATION.



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

C | 13A101 | 13A102

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	JLH
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

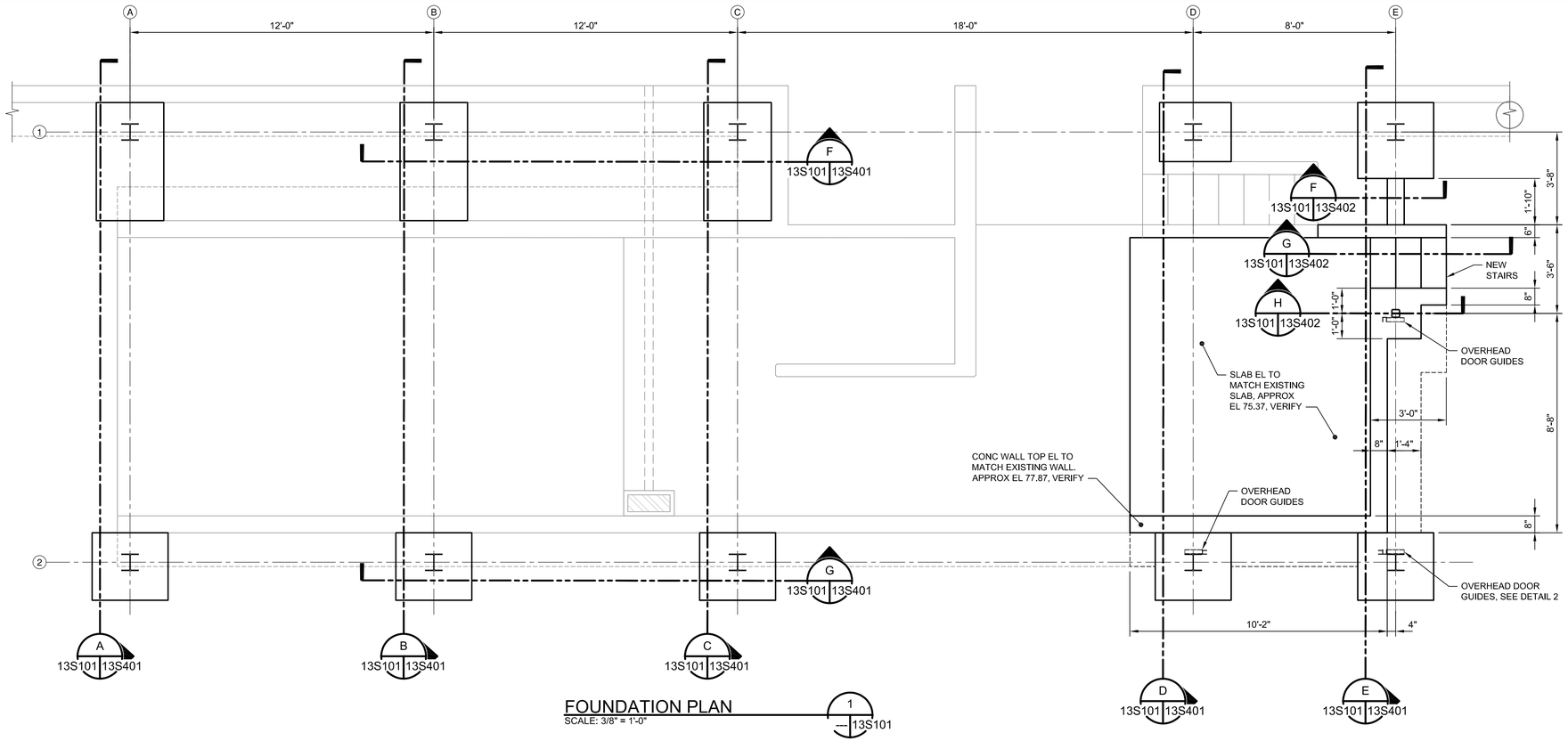
ADULT HANDLING BUILDING

SECTIONS

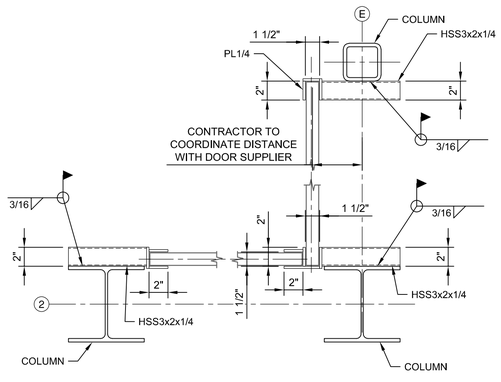
0 1" 2"

FILENAME	13A102.DWG
SCALE	AS NOTED

SHEET 13A102



FOUNDATION PLAN
SCALE: 3/8" = 1'-0"
1 / 13S101



OVERHEAD DOOR GUIDES
SCALE: 1 1/2" = 1'-0"
2 / 13S101

NOTE:

CONTRACTOR TO COORDINATE DIMENSIONS WITH DOOR SUPPLIER.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL — STATE OF WASHINGTON — 38335 — REGISTERED PROFESSIONAL ENGINEER
5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

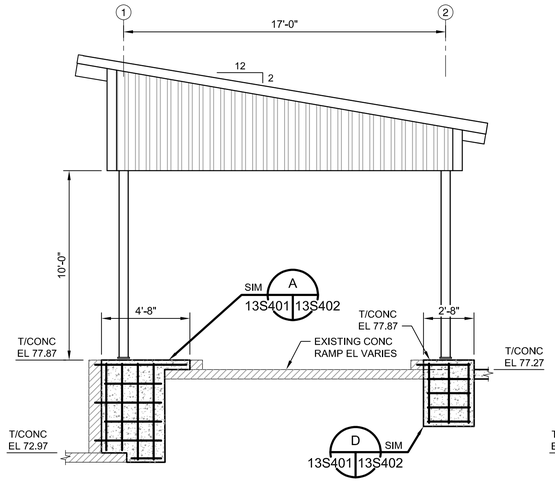
ADULT HANDLING BUILDING

FOUNDATION PLAN AND DETAILS

0 1" 2"

FILENAME	13S101.DWG
SCALE	AS NOTED

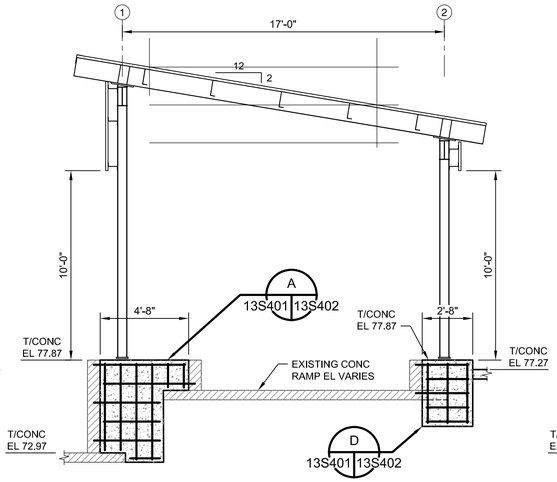
SHEET **13S101**



SECTION @ GRID A

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

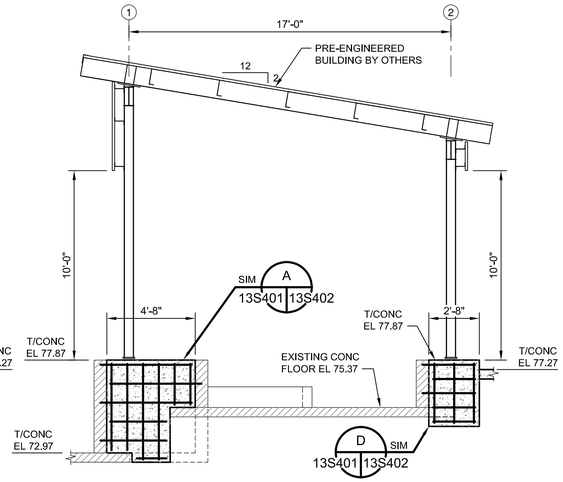
A
13S101 13S401



SECTION @ GRID B

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

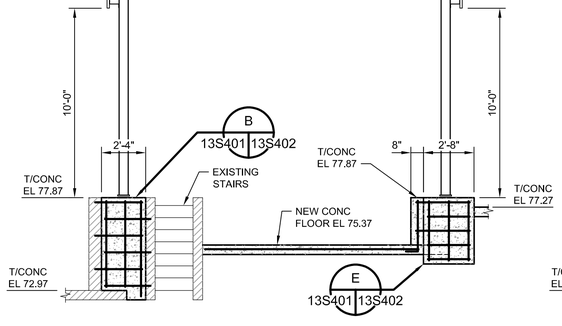
B
13S101 13S401



SECTION @ GRID C

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

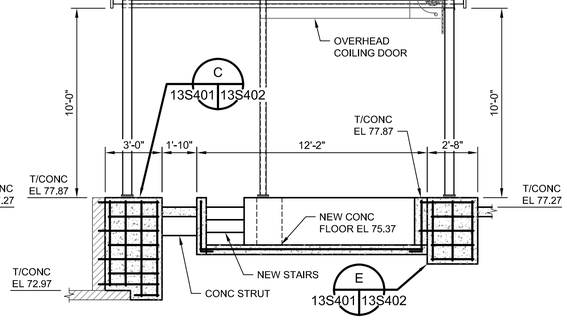
C
13S101 13S401



SECTION @ GRID D

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

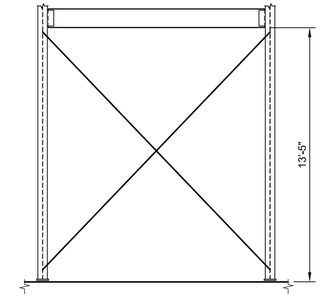
D
13S101 13S401



SECTION @ GRID E

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

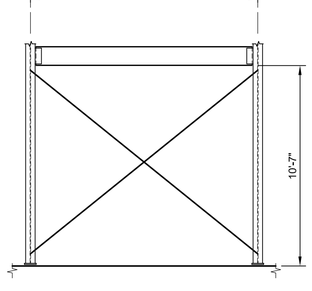
E
13S101 13S401



SECTION @ GRID 1

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

F
13S101 13S401



SECTION @ GRID 2

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

G
13S101 13S401

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL
STATE OF WASHINGTON
18335
REGISTERED
PROFESSIONAL ENGINEER
5-19-2023

KALAMA CREEK HATCHERY
PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

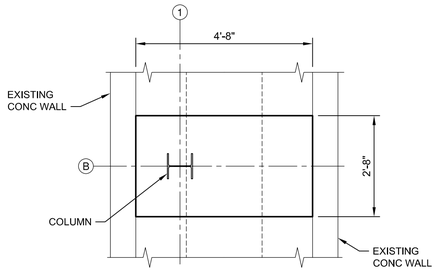
ADULT HANDLING BUILDING

SECTIONS

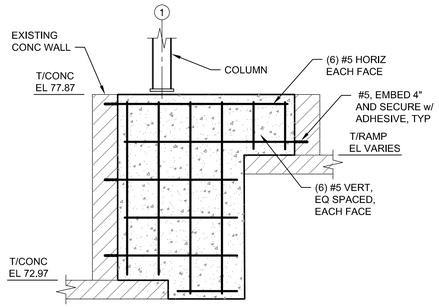
0 1" 2"

FILENAME	13S401.DWG
SCALE	AS NOTED

SHEET
13S401

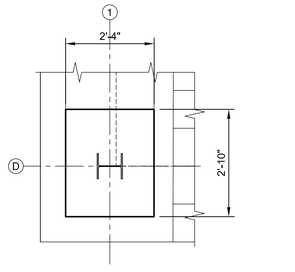


PLAN

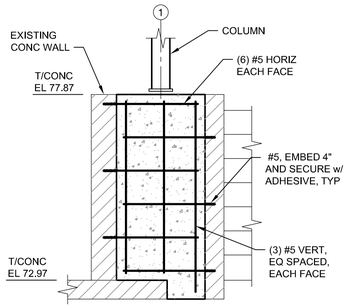


ELEVATION

DETAIL
SCALE: 1/2" = 1'-0"
A
13S401 | 13S402

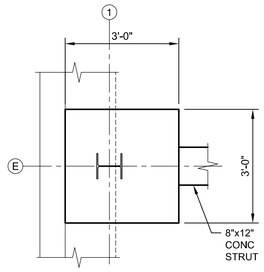


PLAN

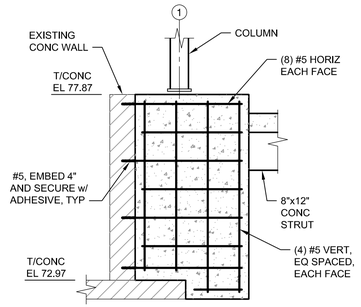


ELEVATION

DETAIL
SCALE: 1/2" = 1'-0"
B
13S401 | 13S402

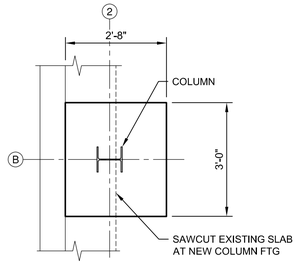


PLAN

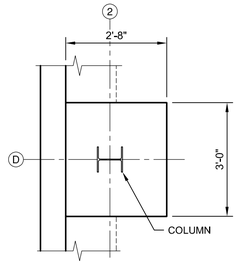


ELEVATION

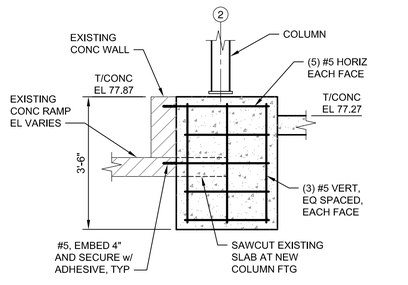
DETAIL
SCALE: 1/2" = 1'-0"
C
13S401 | 13S402



PLAN

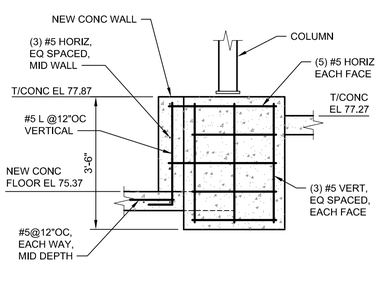


PLAN



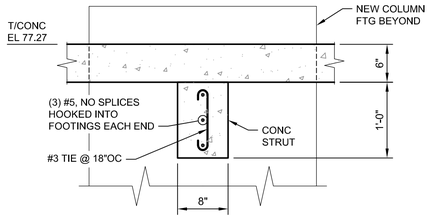
ELEVATION

DETAIL
SCALE: 1/2" = 1'-0"
D
13S401 | 13S402

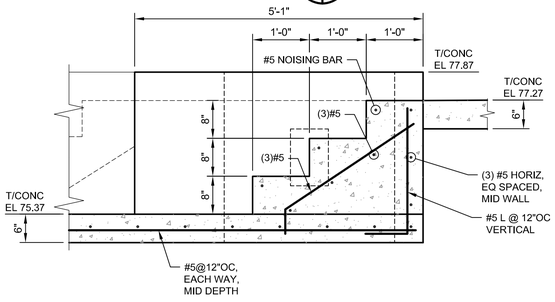


ELEVATION

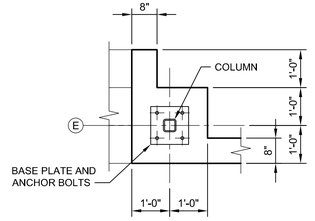
DETAIL
SCALE: 1/2" = 1'-0"
E
13S401 | 13S402



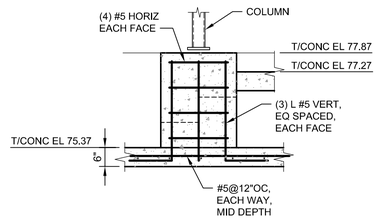
DETAIL
SCALE: 1" = 1'-0"
F
13S101 | 13S402



DETAIL
SCALE: 3/4" = 1'-0"
G
13S101 | 13S402



PLAN



ELEVATION

DETAIL
SCALE: 1/2" = 1'-0"
H
13S401 | 13S402

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL
STATE OF WASHINGTON
18335
REGISTERED
PROFESSIONAL ENGINEER
5-19-2023

KALAMA CREEK HATCHERY
PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

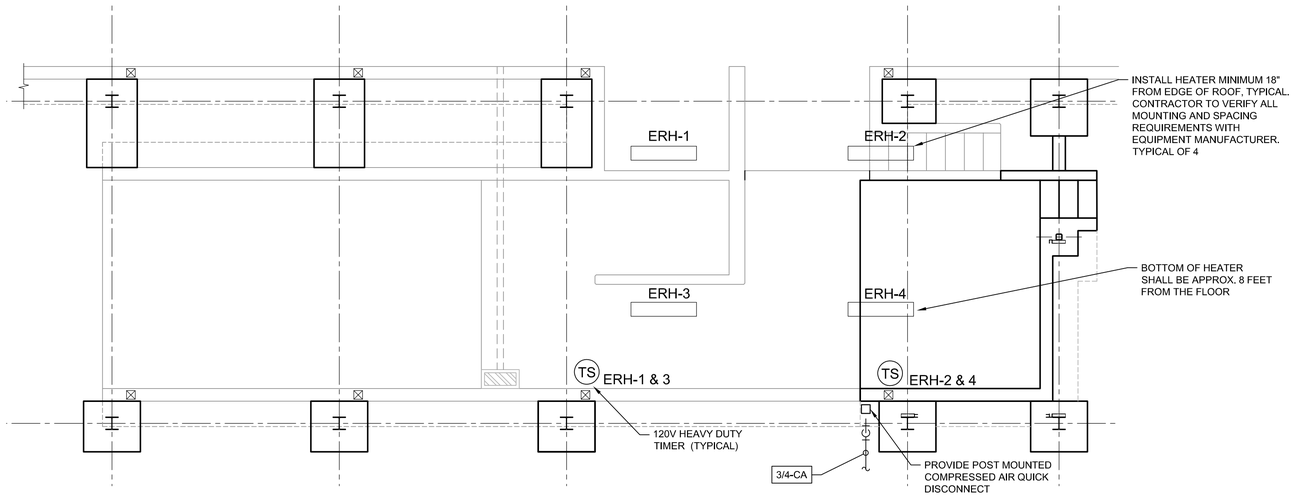
ADULT HANDLING BUILDING

SECTIONS

0 1" 2"

FILENAME	13S402.DWG
SCALE	AS NOTED

SHEET
13S402



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

1
13M101

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	KCC
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

KENT C. CHEUNG STATE OF WASHINGTON 50820 REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

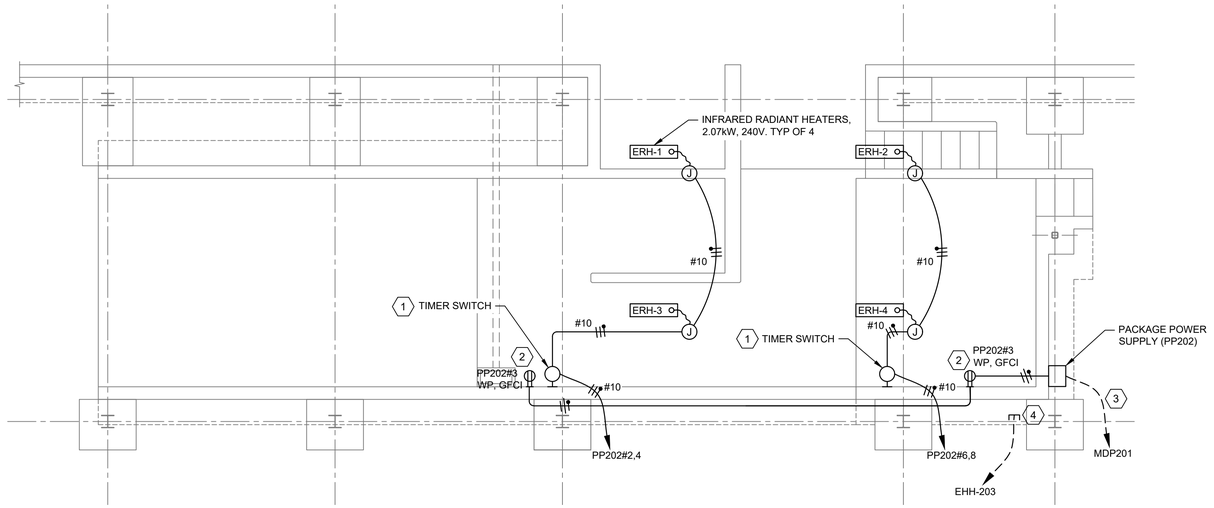
ADULT HANDLING BUILDING

MECHANICAL FLOOR PLAN

0 1" 2"

FILENAME	13M101.DWG
SCALE	AS NOTED

SHEET
13M101



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

1
04E101 13E101

N

GENERAL NOTES:

1. ALL OUTSIDE ELECTRICAL ENCLOSURES SHALL BE RATED NEMA 4X, STAINLESS STEEL.
2. ALL RECEPTACLES SHALL BE GFCI TYPE, MOUNTED IN A CAST BOX, AND WITH WP COVER. INSTALL 24" AFF WITH SUITABLE MOUNT.
3. REFERENCE SHEET 04E103 FOR PACKAGE POWER SUPPLY SCHEDULE.

KEYED NOTES: (X)

1. TIMER SWITCH FURNISHED BY HEATER MANUFACTURER. MOUNT TO COLUMN 48" AFF IN CAST JUNCTION BOX.
2. MOUNT CAST RECEPTACLE BOX TO COLUMN 48"AFF.
3. 1 1/2"C, 2#4 &1#8 GND
4. STUB CONDUIT 18" AFG AND CAP

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	TM
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BES, STATE OF WASHINGTON, 40694, REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

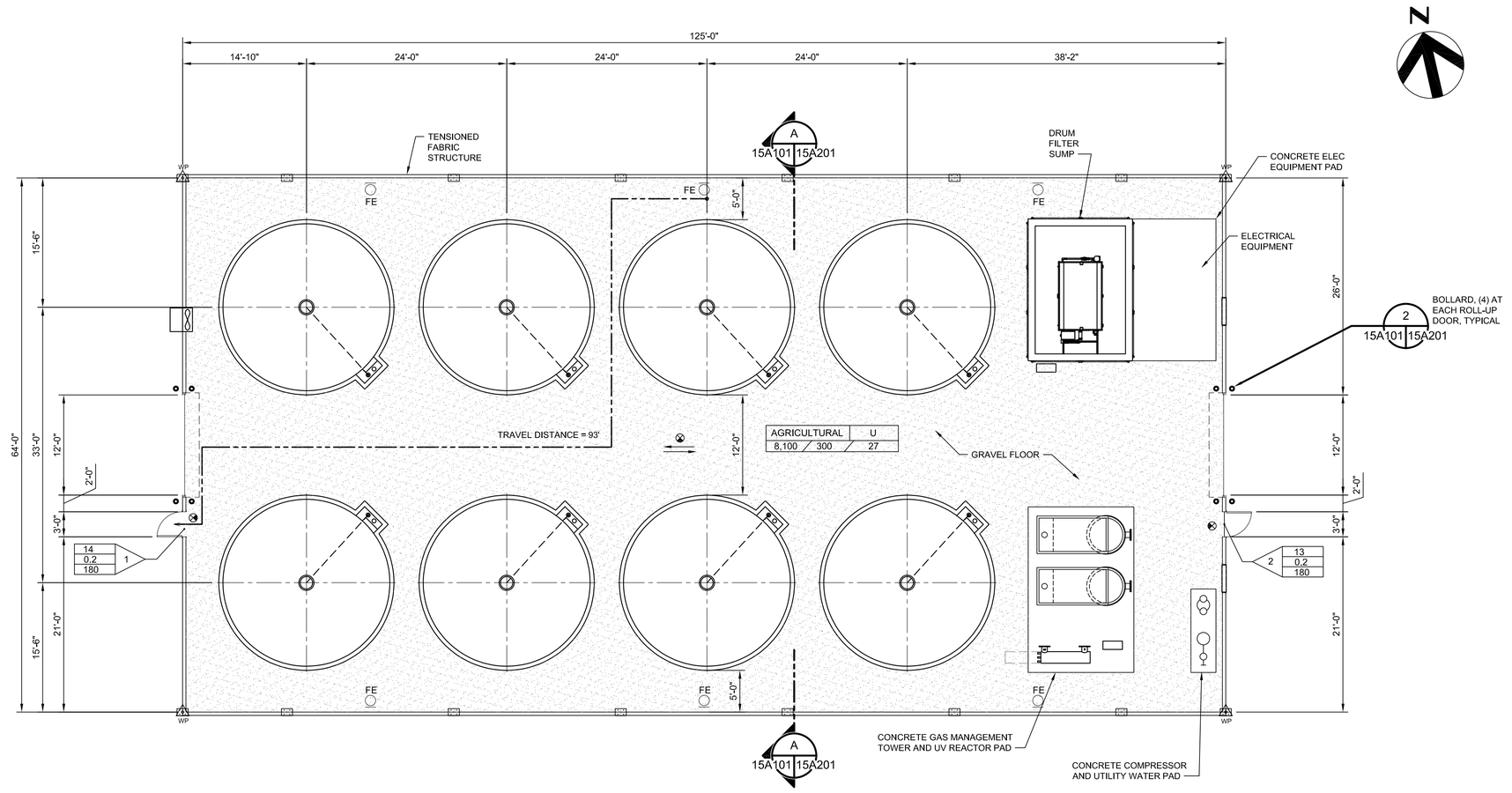
ADULT HANDLING BUILDING

ELECTRICAL PLAN

0 1" 2"

FILENAME	13E101.DWG
SCALE	AS NOTED

SHEET 13E101



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

1
15A101

0 4 8 16 FT
SCALE IN FEET

GENERAL NOTES:

1. TENSIONED FABRIC STRUCTURE (TFS) 64'x125' WITH END WALLS. END WALLS SHALL HAVE 12' WIDE DOOR AND MAN DOOR ON EACH END. SEE SPECIFICATIONS.

CODE SUMMARY:

LIST OF CODES:

2018 INTERNATIONAL BUILDING CODE

2018 INTERNATIONAL FIRE CODE

2018 INTERNATIONAL PLUMBING CODE

2018 INTERNATIONAL MECHANICAL CODE

2018 INTERNATIONAL FUEL GAS CODE

2018 NATIONAL ELECTRIC CODE

2018 INTERNATIONAL ENERGY CONSERVATION CODE

CODE ANALYSIS:

GENERAL: MEMBRANCE-COVERED FRAME STRUCTURE (IBC SECTION 3102)

OCCUPANCY: U UTILITY AND MISCELLANEOUS GROUP

OCCUPANT LOAD: 8,680 / 300 = 29 PEOPLE (TABLE 1004.1.2)

MIXED OCCUPANCY: NO

CONSTRUCTION TYPE: IIB (TABLE 503)

BUILDING AREA: 8,100 SF (GROSS)
ALLOWABLE BUILDING AREA: 8,500 SF

HEIGHT AND NUMBER OR STORIES:
- ALLOWABLE HEIGHT: 55 FT (TABLE 503)
- ACTUAL HEIGHT: 27 FT
- ALLOWABLE STORIES: 2 (TABLE 503)
- ACTUAL STORIES: 1

MEMBRANE:
THE BUILDING IS SIMILAR TO GREENHOUSE/AQUACULTURE STRUCTURE AND NOT OPEN TO THE GENERAL PUBLIC. THEREFORE PER IBC SECTION 3102.3 EXCEPTION THE MEMBRANE COVER DOES NOT NEED TO BE FLAME RESISTANT AND MEET THE FIRE PROPAGATION PERFORMANCE CRITERIA OF NFPA 701.

EXITS:
- REQUIRED: 2
- PROVIDED: 2
- ALLOWABLE TRAVEL DISTANCE: 300 FT (1016.2)
- COMMON PATH OF TRAVEL: 75 FT (1014.3)
- PANIC HARDWARE: NOT REQUIRED

FIRE RESISTANCE RATING FOR BUILDING ELEMENTS (TABLE 601)

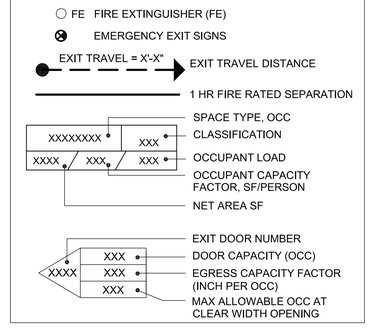
STRUCTURAL FRAMING:	0 HR
BEARING WALLS EXTERIOR:	0 HR
NON-BEARING WALLS EXTERIOR	0HR
NON-BEARING WALLS INTERIOR:	0HR
FLOOR CONSTRUCTION:	0HR
ROOF CONSTRUCTION:	0HR
FIRE RESISTANCE RATING FOR EXTERIOR WALLS (TABLE 602)	10<X<30 = 0HR
SPRINKLERS:	NOT REQUIRED (903.2)

ENERGY CODE CRITERIA (402.1.1 LOW ENERGY BUILDINGS)

CLIMATE ZONE 4C (TABLE R301.1)

BUILDING IS MECHANICALLY VENTED ONLY AND DOES NOT HAVE CONDITIONED SPACES. THUS BUILDING ENVELOPE IS EXEMPT FROM IECC REQUIREMENTS.

LIFE SAFETY LEGEND



BUILDING AREA:
FIRST FLOOR - 8,100 SQFT

OCCUPANCY TYPE:
(U) UTILITY AND MISCELLANEOUS GROUP

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

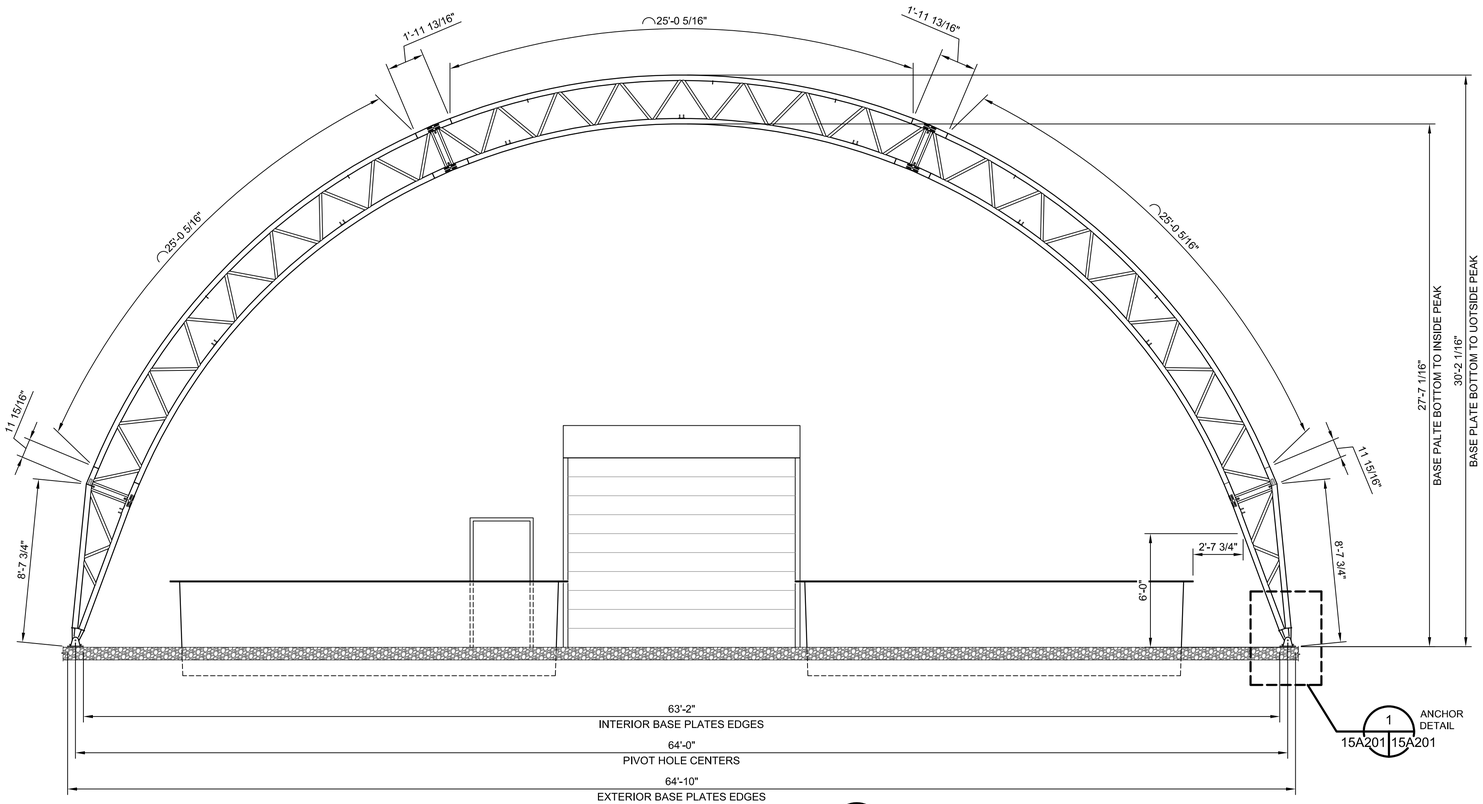
CIRCULAR TANK BUILDING

FLOOR PLAN AND CODE SUMMARY

0 1" 2"

FILENAME 15A101.DWG
SCALE AS NOTED

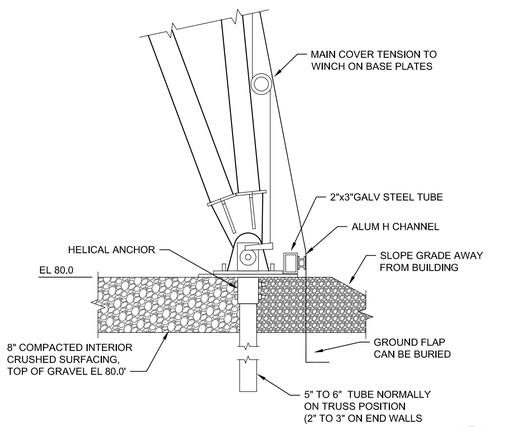
SHEET 15A101



BUILDING SECTION

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

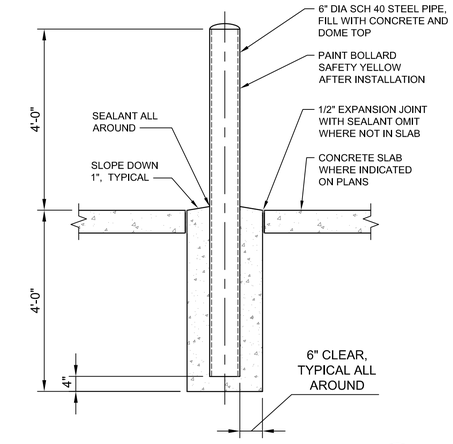
A
15A101 15A101



ANCHOR DETAIL

NOT TO SCALE

1
15A201 15A201



BOLLARD

NOT TO SCALE

2
15A101 15A201

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON STATE OF WASHINGTON REGISTERED PROFESSIONAL ENGINEER 5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

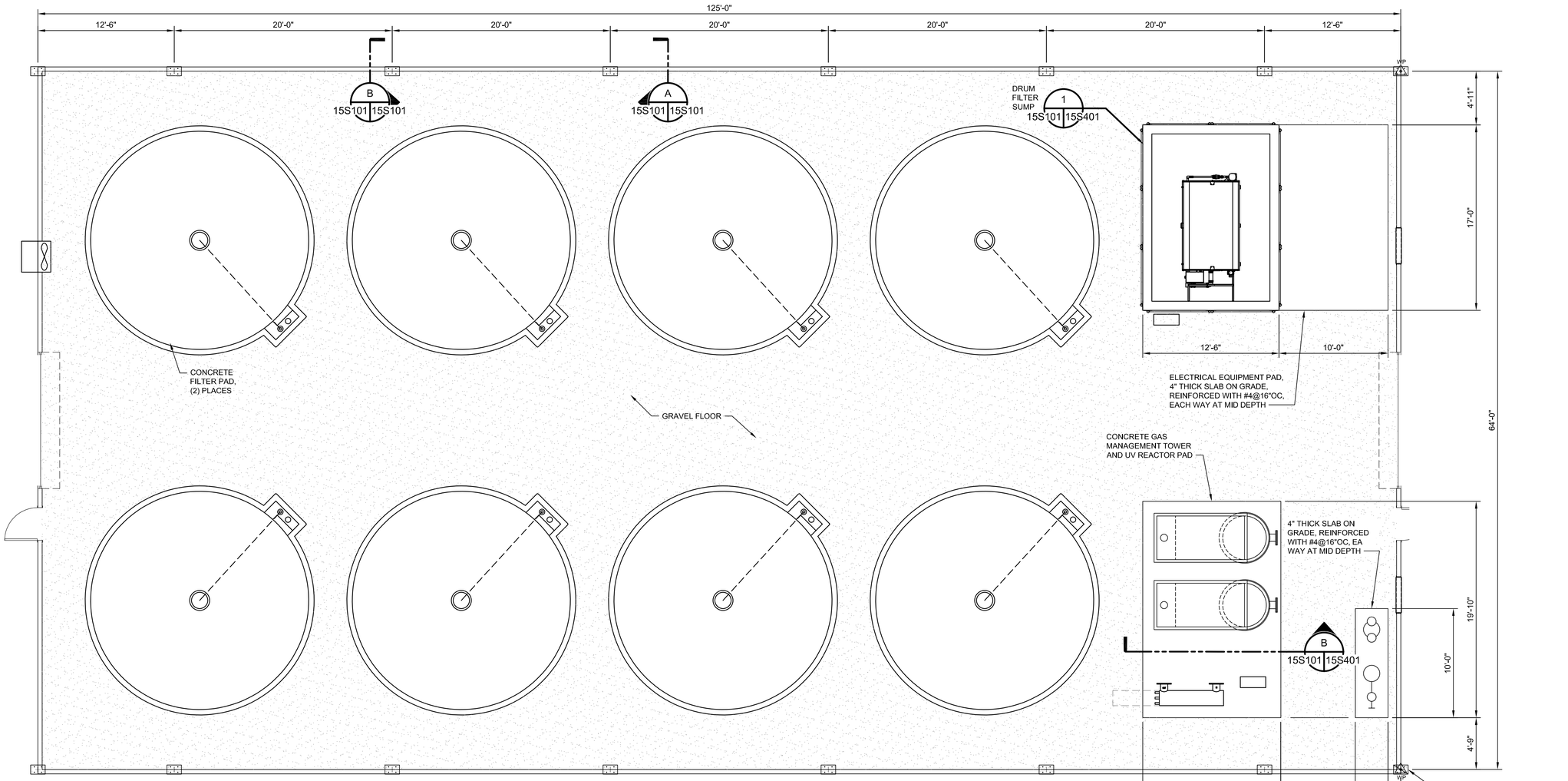
CIRCULAR TANK BUILDING

SECTION

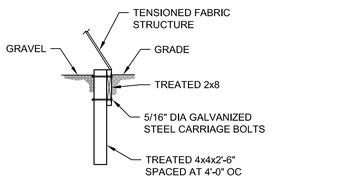
0 1" 2"

FILENAME	15A201.DWG
SCALE	AS NOTED

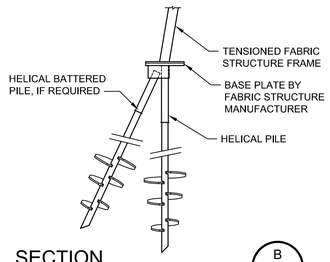
SHEET **15A201**



FOUNDATION PLAN
SCALE: 3/16" = 1'-0"
1
15S101



SECTION
SCALE: 3/4" = 1'-0"
A
15S101 15S101



SECTION
SCALE: 3/4" = 1'-0"
B
15S101 15S101

0 1 2 4 FT
SCALE IN FEET

0 1 2 4 FT
SCALE IN FEET

N

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	JLH
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL — STATE OF WASHINGTON — 18335 — REGISTERED PROFESSIONAL ENGINEER
5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

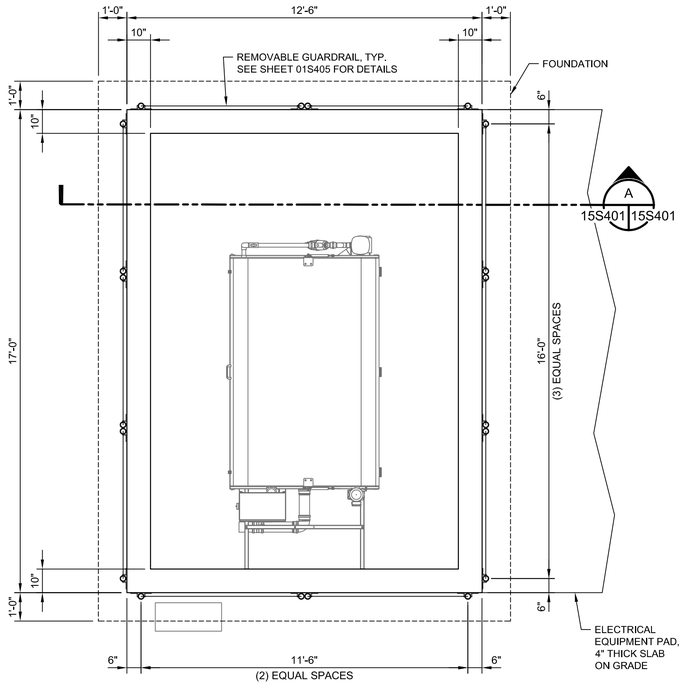
CIRCULAR TANK BUILDING

FOUNDATION PLAN AND SECTIONS

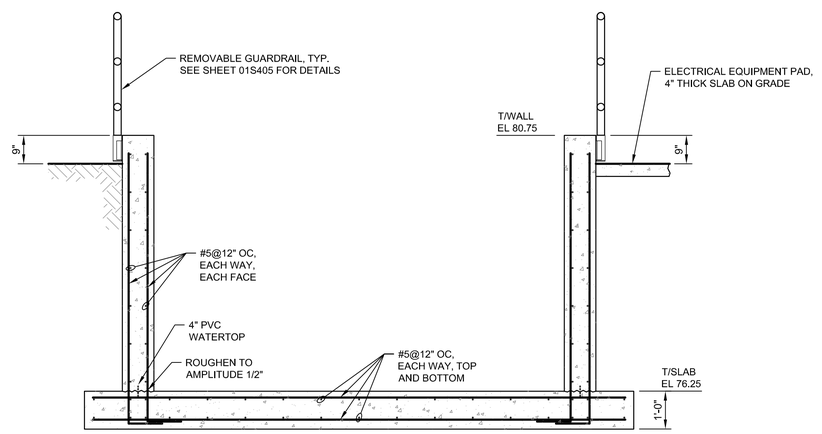
0 1" 2"

FILENAME 15S101.DWG
SCALE AS NOTED

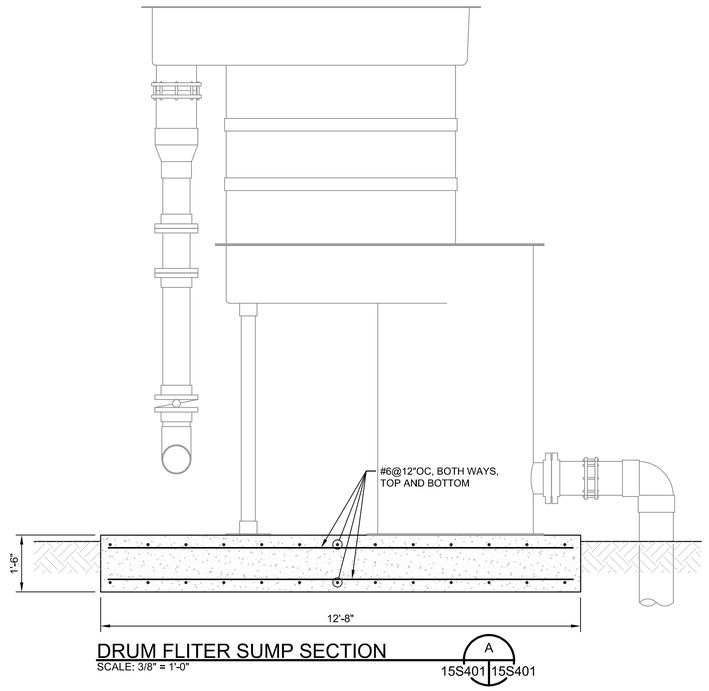
SHEET
15S101



DRUM FLITER SUMP PLAN
SCALE: 3/8" = 1'-0"
1
15S101 15S401



DRUM FLITER SUMP SECTION
SCALE: 3/8" = 1'-0"
A
15S401 15S401



DRUM FLITER SUMP SECTION
SCALE: 3/8" = 1'-0"
A
15S401 15S401

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL
STATE OF WASHINGTON
18335
REGISTERED
PROFESSIONAL ENGINEER
5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

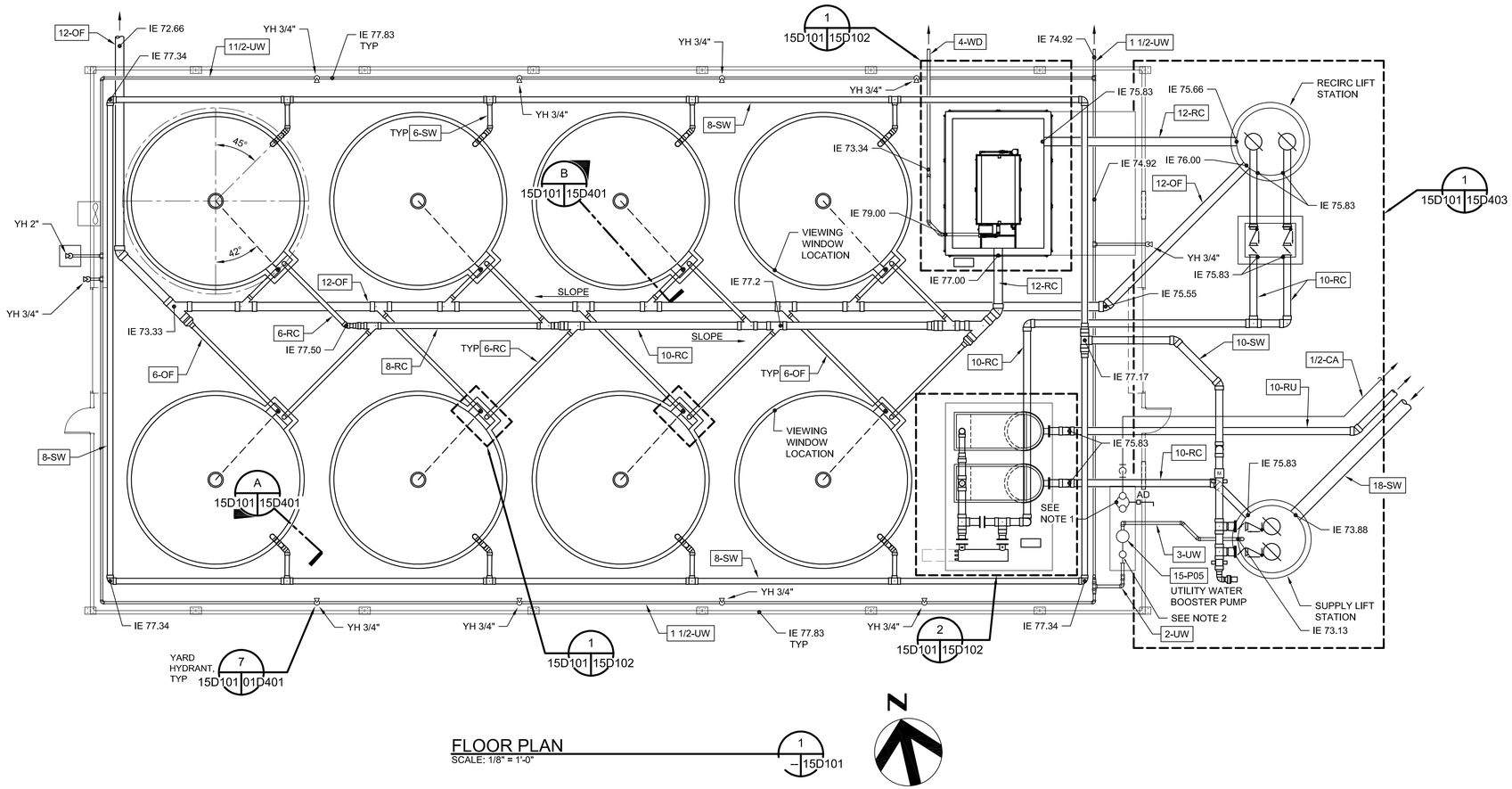
CIRCULAR TANK BUILDING

STRUCTURAL SECTIONS AND DETAILS

0 1" 2"

FILENAME	15S401.DWG
SCALE	AS NOTED

SHEET
15S401



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

1
15D101

NOTES:

1. VERTICAL TANK MOUNTED AIR COMPRESSOR WITH 80 GALLON TANK. COMPRESSOR TO BE 5HP 480/3. PROVIDE AUTOMATIC DRAIN AND ROUTE THE DRAIN OUTSIDE BUILDING. PROVIDE AUTOMATIC DRAIN FOR AIR COMPRESSOR, ROUTE DRAIN TO OUTSIDE.
2. PROVIDE HYDROPNEUMATIC TANK FOR BOOSTER PUMP. TANK TO BE SIZED BY PUMP MANUFACTURER.
3. WHERE ELEVATIONS ARE NOTED, SLOPE AT CONSTANT SLOPE BETWEEN NOTED LOCATIONS.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	KML
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON
STATE OF WASHINGTON
REGISTERED
PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

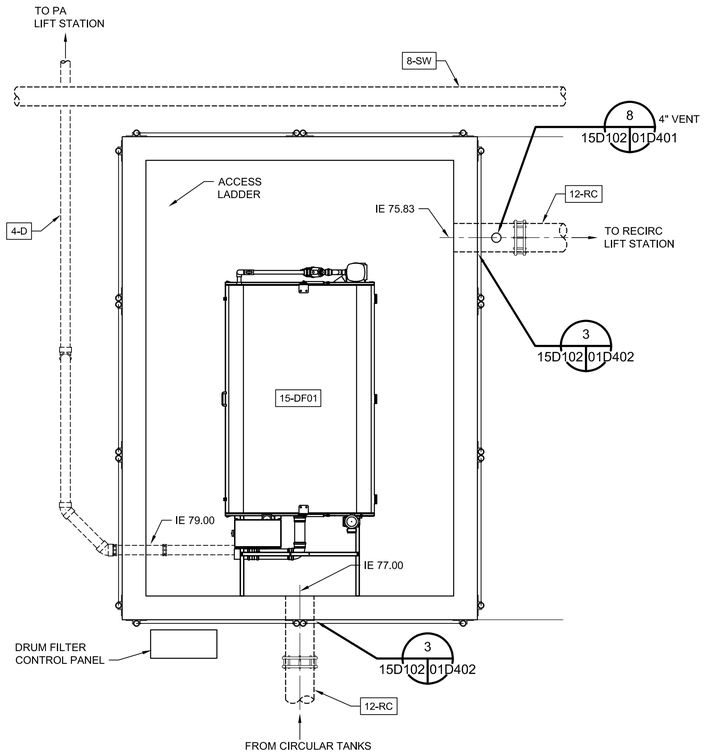
CIRCULAR TANK BUILDING

PIPING PLAN

0 1" 2"

FILENAME	15D101.DWG
SCALE	AS NOTED

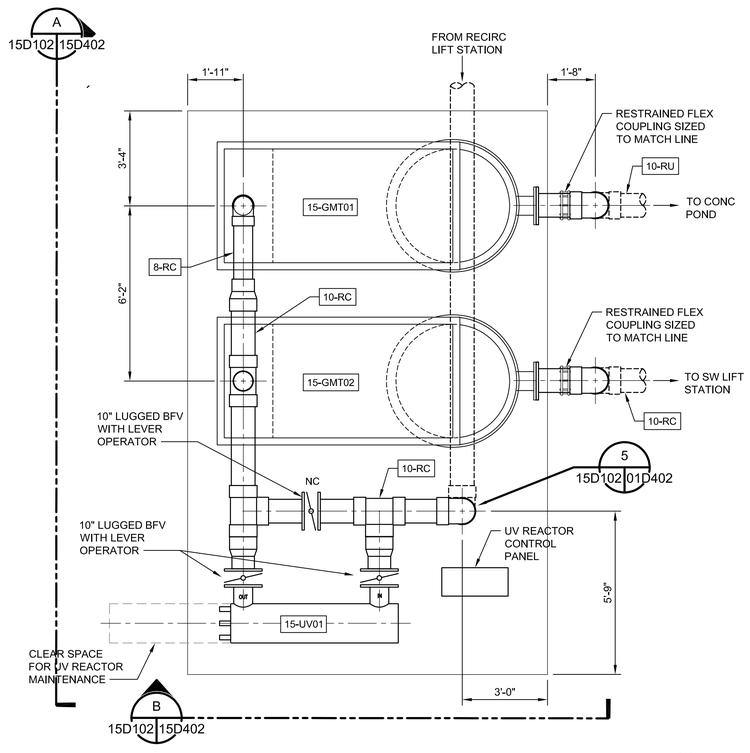
SHEET
15D101



PARTIAL PLAN - DRUM FILTER SUMP

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

1
15D101 15D102



PARTIAL PLAN - MECHANICAL FILTER EQUIPMENT SLAB

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

2
15D101 15D102

NOTE:

COAT ALL EXPOSED PLASTIC PIPE FOR UV PROTECTION.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 19600 — REGISTERED PROFESSIONAL ENGINEER

5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

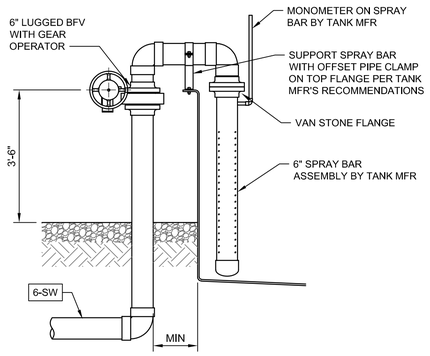
CIRCULAR TANK BUILDING

PARTIAL PIPING PLANS

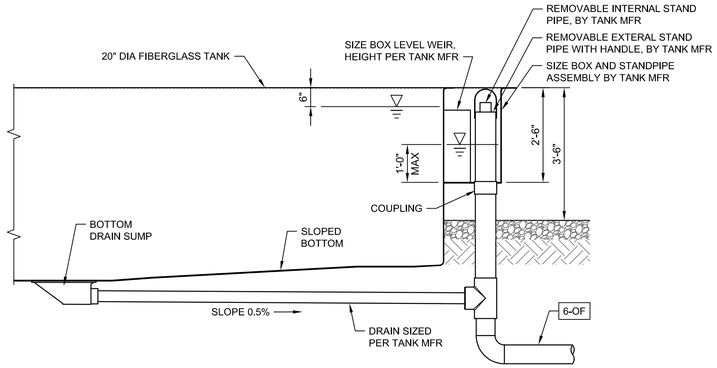
0 1" 2"

FILENAME	15D102.DWG
SCALE	AS NOTED

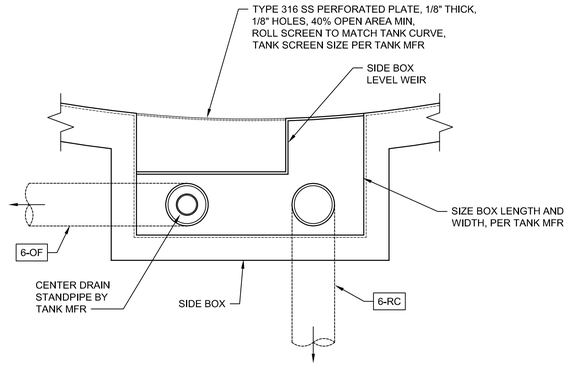
SHEET **15D102**



SECTION A
SCALE: 1/2" = 1'-0"
15D101 | 15D401



SECTION B
SCALE: 1/2" = 1'-0"
15D101 | 15D401



TANK OUTLET 1
SCALE: 1" = 1'-0"
15D101 | 15D401

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON
STATE OF WASHINGTON
21608
REGISTERED
PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY
PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

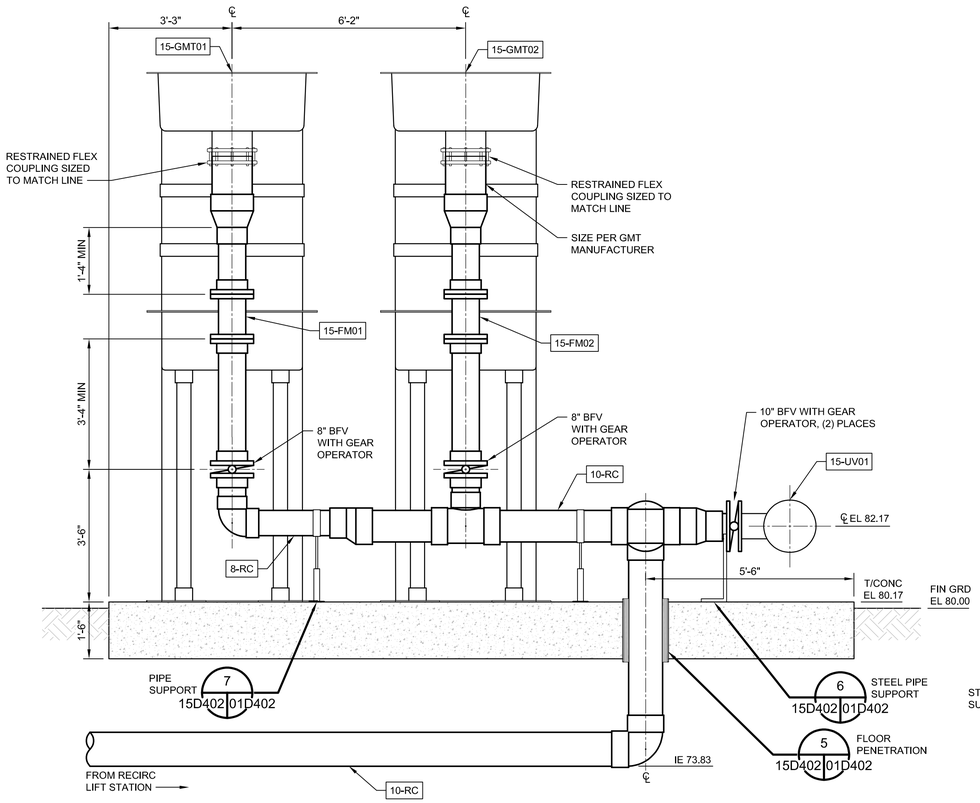
CIRCULAR TANK BUILDING

25' DIA TANK
SECTIONS AND DETAILS

0 1" 2"

FILENAME	15D401.DWG
SCALE	AS NOTED

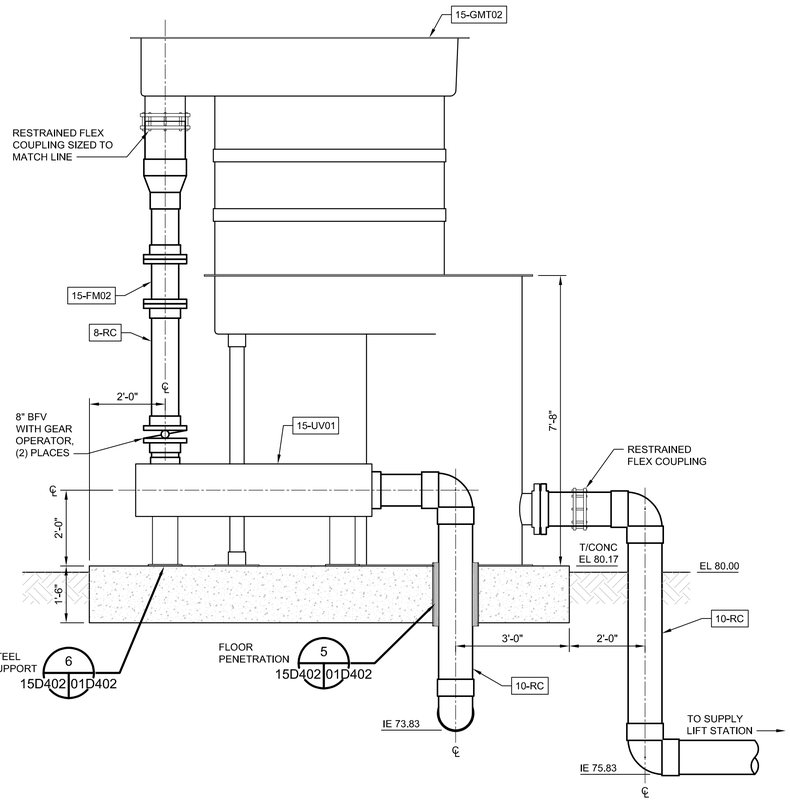
SHEET
15D401



SECTION A
SCALE: 1/2" = 1'-0"
15D101 15D402

NOTE:

COAT ALL EXPOSED PLASTIC PIPE FOR UV PROTECTION.



SECTION B
SCALE: 1/2" = 1'-0"
15D101 15D402

NOTE:

COAT ALL EXPOSED PLASTIC PIPE FOR UV PROTECTION.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 24000 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

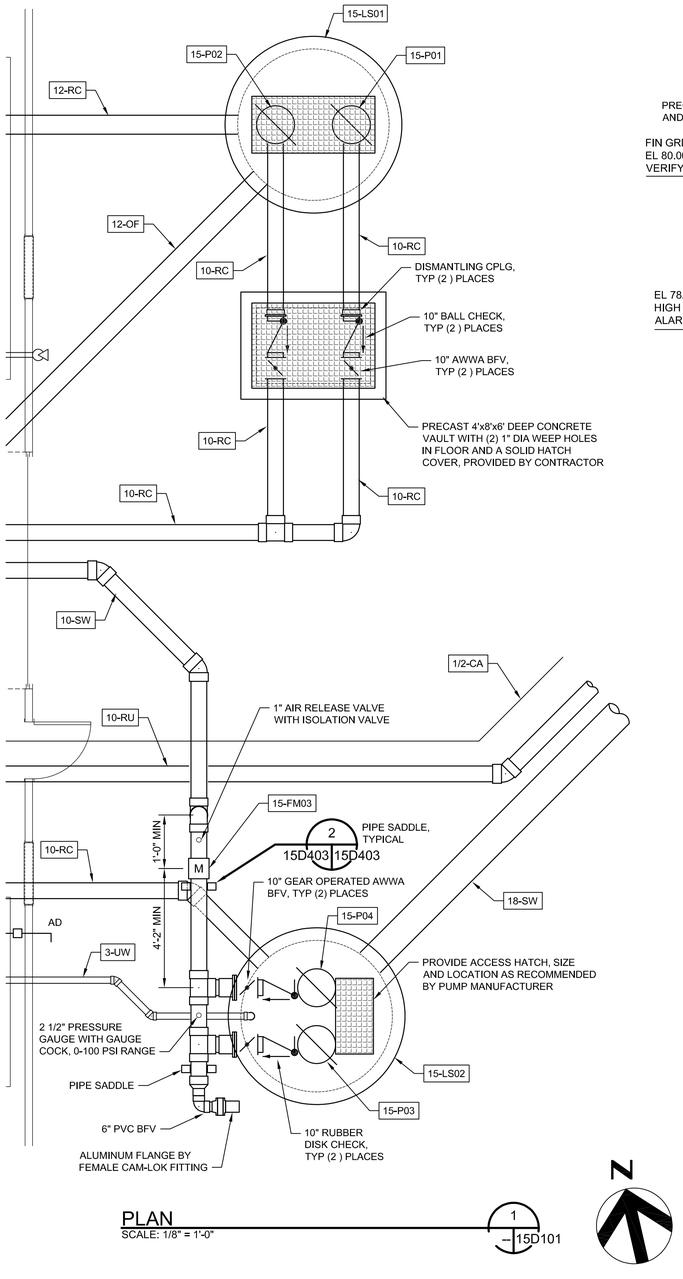
CIRCULAR TANK BUILDING

SECTIONS

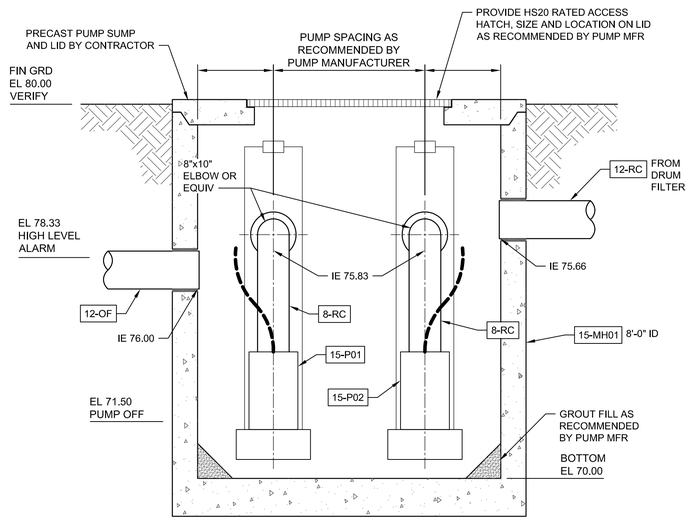
0 1" 2"

FILENAME	15D402.DWG
SCALE	AS NOTED

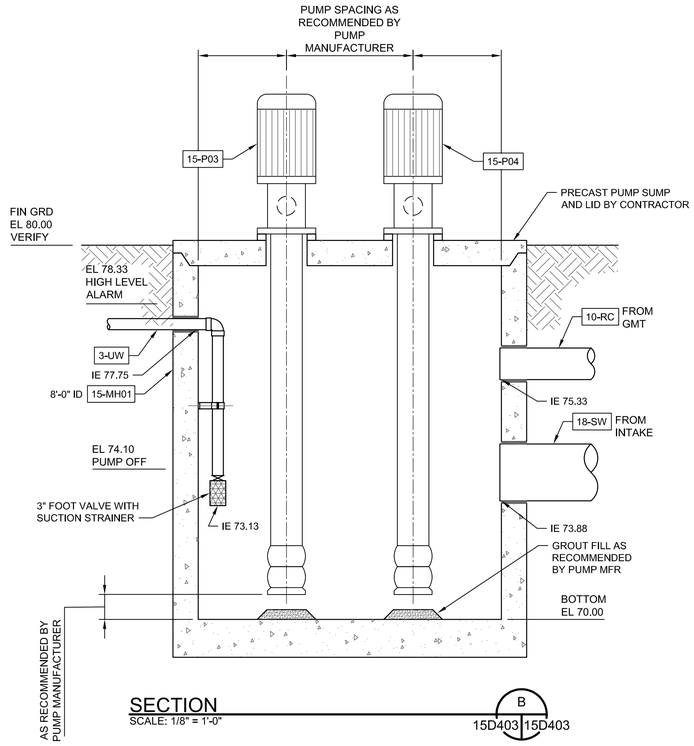
SHEET 15D402



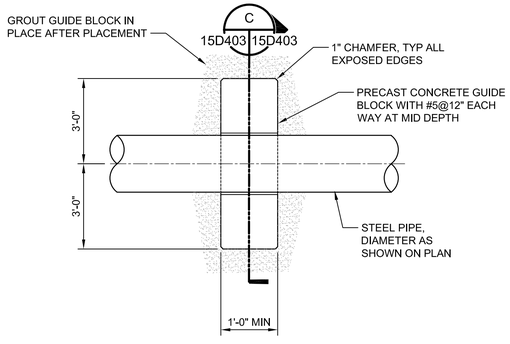
PLAN
SCALE: 1/8" = 1'-0"
1
15D101



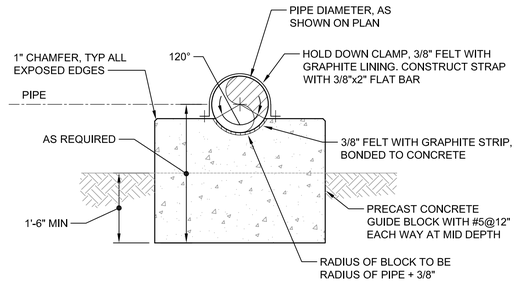
SECTION
SCALE: 1/8" = 1'-0"
A
15D403 15D403



SECTION
SCALE: 1/8" = 1'-0"
B
15D403 15D403



PLAN - PIPE SADDLE
SCALE: 1/8" = 1'-0"
2
15D403 15D403



SECTION - PIPE SADDLE
SCALE: 1/8" = 1'-0"
C
15D403 15D403

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

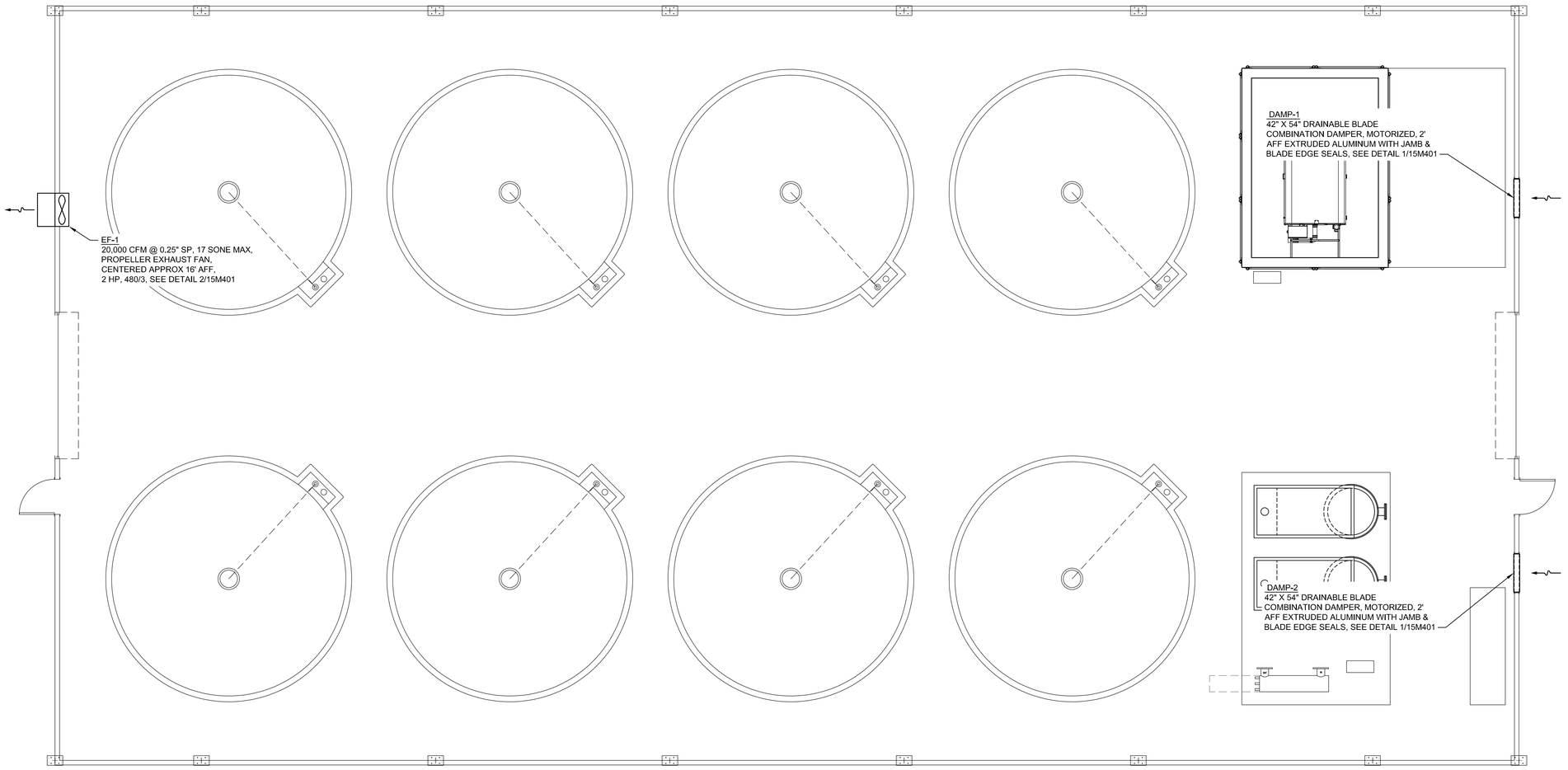
CIRCULAR TANK BUILDING

PARTIAL PIPING PLAN AND MANHOLE SECTIONS

0 1" 2"

FILENAME 15D403.DWG
SCALE AS NOTED

SHEET 15D403



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

1
15M101

0 4 8 16 FT
SCALE IN FEET

N

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON
STATE OF WASHINGTON
PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

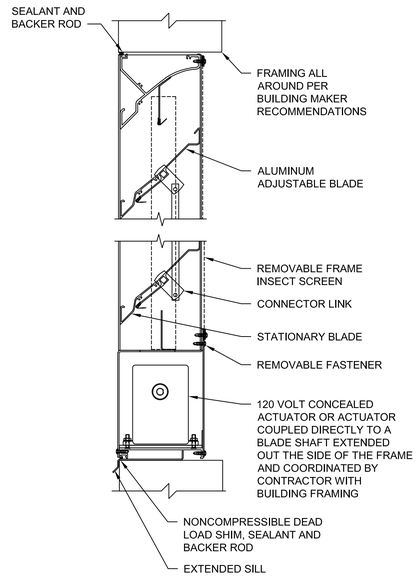
CIRCULAR TANK BUILDING

MECHANICAL PLAN

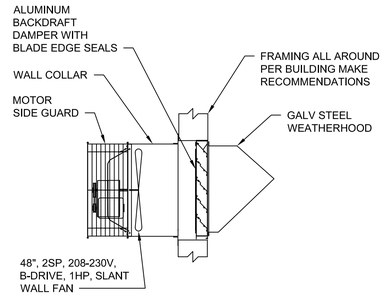
0 1" 2"

FILENAME 15M101.DWG
SCALE AS NOTED

SHEET 15M101



COMBINATION LOUVER SECTION 1
NOT TO SCALE
15M101 | 15M401



EXHAUST FAN SECTION 2
NOT TO SCALE
15M101 | 15M401

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — 19697 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE
EDA AWARD NUMBER 07-79-07880

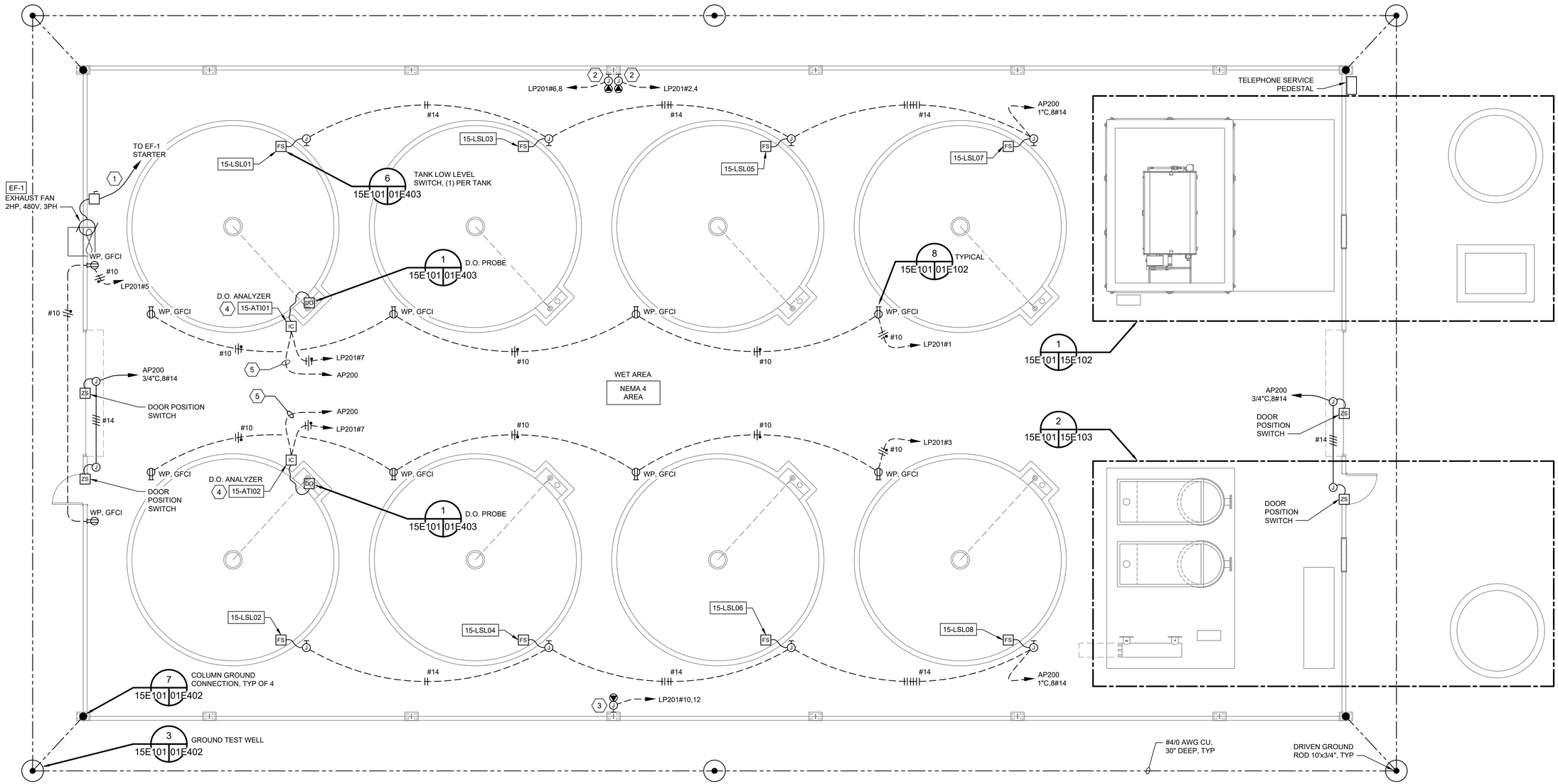
POLLUTION ABATEMENT POND

SECTIONS

0 1" 2"

FILENAME	15M401.DWG
SCALE	AS NOTED

SHEET **15M401**



ELECTRICAL PLAN

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

1 04E101 15E101

N

GENERAL NOTES:

1. ALL INDOOR ELECTRICAL ENCLOSURES SHALL BE RATED NEMA 4, PAINTED STEEL.
2. ALL OUTSIDE ELECTRICAL ENCLOSURES SHALL BE RATED NEMA 4X, STAINLESS STEEL.
3. ALL RECEPTACLES SHALL BE GFCI TYPE, MOUNTED IN A CAST BOX, AND WITH WP COVER. INSTALL 24" AFF WITH SUITABLE MOUNT.

KEYED NOTES: (#)

1. SEE ONE-LINE DIAGRAM ON SHEET 04E401 FOR CONDUIT AND CONDUCTORS.
2. TAGGING TRAILER RECEPTACLES (LEFT - TRIBE, RIGHT WDFW). APPLETON POWERTITE RECEPTACLE; CAT# ADR6034, 60A, 3W, 4P, STY 2. MOUNT RECEPTACLES APPROX 2FT FROM WALL AND 3'-0" AFF; PROVIDE SUITABLE SUPPORT WITH MODULAR STRUT.
3. FISH PUMP RECEPTACLE. MOUNT RECEPTACLES APPROX 2FT FROM WALL AND 3'-0" AFF; PROVIDE SUITABLE SUPPORT WITH MODULAR STRUT.
4. MOUNT ANALYZER 4'-6" AFF; PROVIDE SUITABLE SUPPORT WITH MODULAR STRUT.
5. 1"C WITH TWO #16 TSP CABLES

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	TM
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BE... STATE OF WASHINGTON 10694 REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

CIRCULAR TANK BUILDING

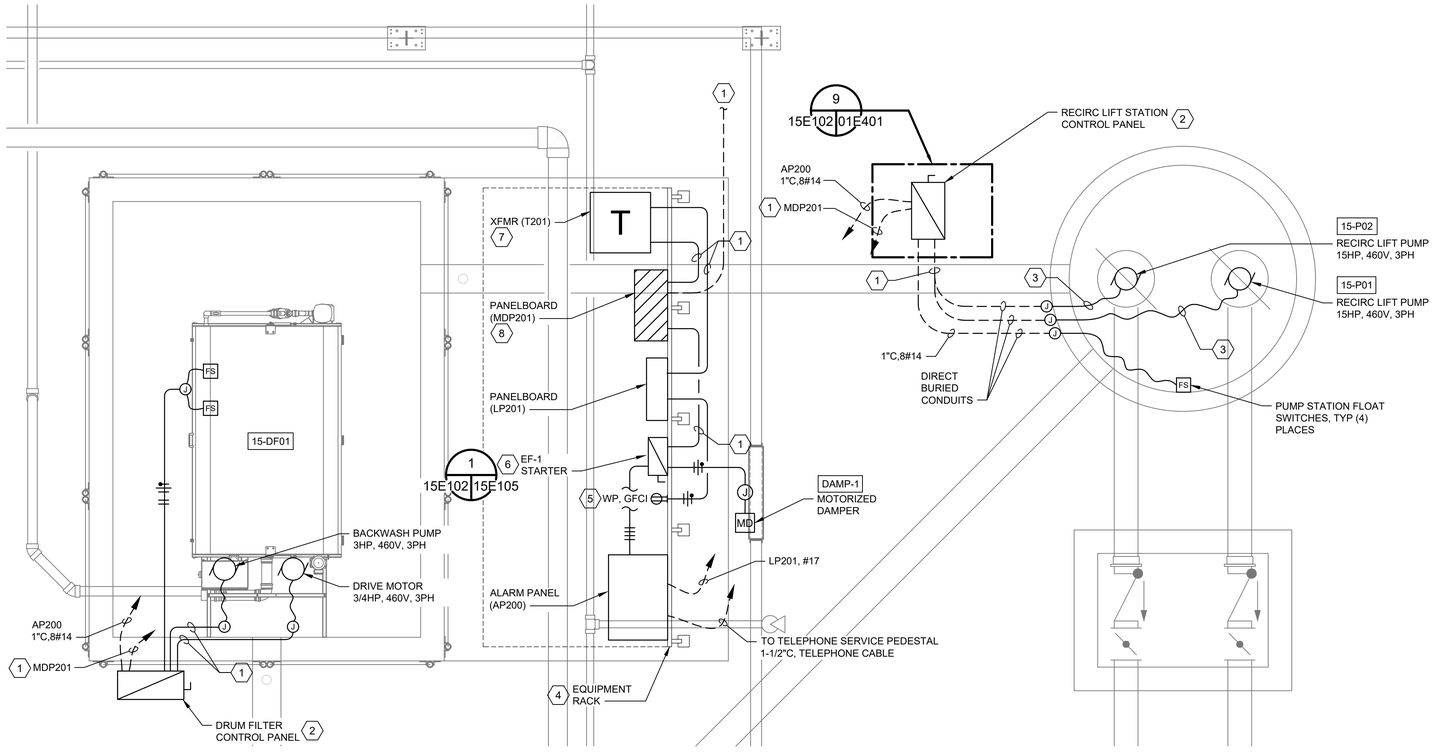
ELECTRICAL PLAN

0 1" 2"

FILENAME 15E101.DWG

SCALE AS NOTED

SHEET 15E101



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

1
15E101 15E102

N

GENERAL NOTES:

1. ALL INDOOR ELECTRICAL ENCLOSURES SHALL BE RATED NEMA 4, PAINTED STEEL. UNLESS NOTED OTHERWISE.
2. ALL OUTSIDE ELECTRICAL ENCLOSURES SHALL BE RATED NEMA 4X, STAINLESS STEEL.
3. ALL RECEPTACLES SHALL BE GFCI TYPE, MOUNTED IN A CAST BOX, AND WITH W.P. COVER. INSTALL 24" AFF WITH SUITABLE MOUNT.

KEYED NOTES: (X)

1. SEE ONE-LINE DIAGRAM ON SHEET 04E401 FOR CONDUIT AND CONDUCTORS.
2. MANUFACTURER SUPPLIED CONTROLS.
3. MANUFACTURER SUPPLIED CABLES.
4. ARRANGE RACK-MOUNTED EQUIPMENT AS REQUIRED TO SUITE SITE CONDITIONS. SEE DETAIL 9 ON SHEET 01E401 FOR MODULAR SUPPORTS.
5. MOUNT RECEPTACLE ON EQUIPMENT RACK.
6. PROVIDE COMBINATION MOTOR STARTER (SIZE NEMA 1) WITH LOCKABLE DISCONNECT, CONTROL POWER TRANSFORMER, AND CONTROL SWITCHES IN NEMA 4 ENCLOSURE. SEE 15E105 FOR CONTROL SCHEMATICS
7. DRY-TYPE TRANSFORMER WITH NEMA 3R ENCLOSURE.
8. SEE SHEET 04E101 FOR FEED TO MDP201.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	TM
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BEES — STATE OF WASHINGTON — 83004 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

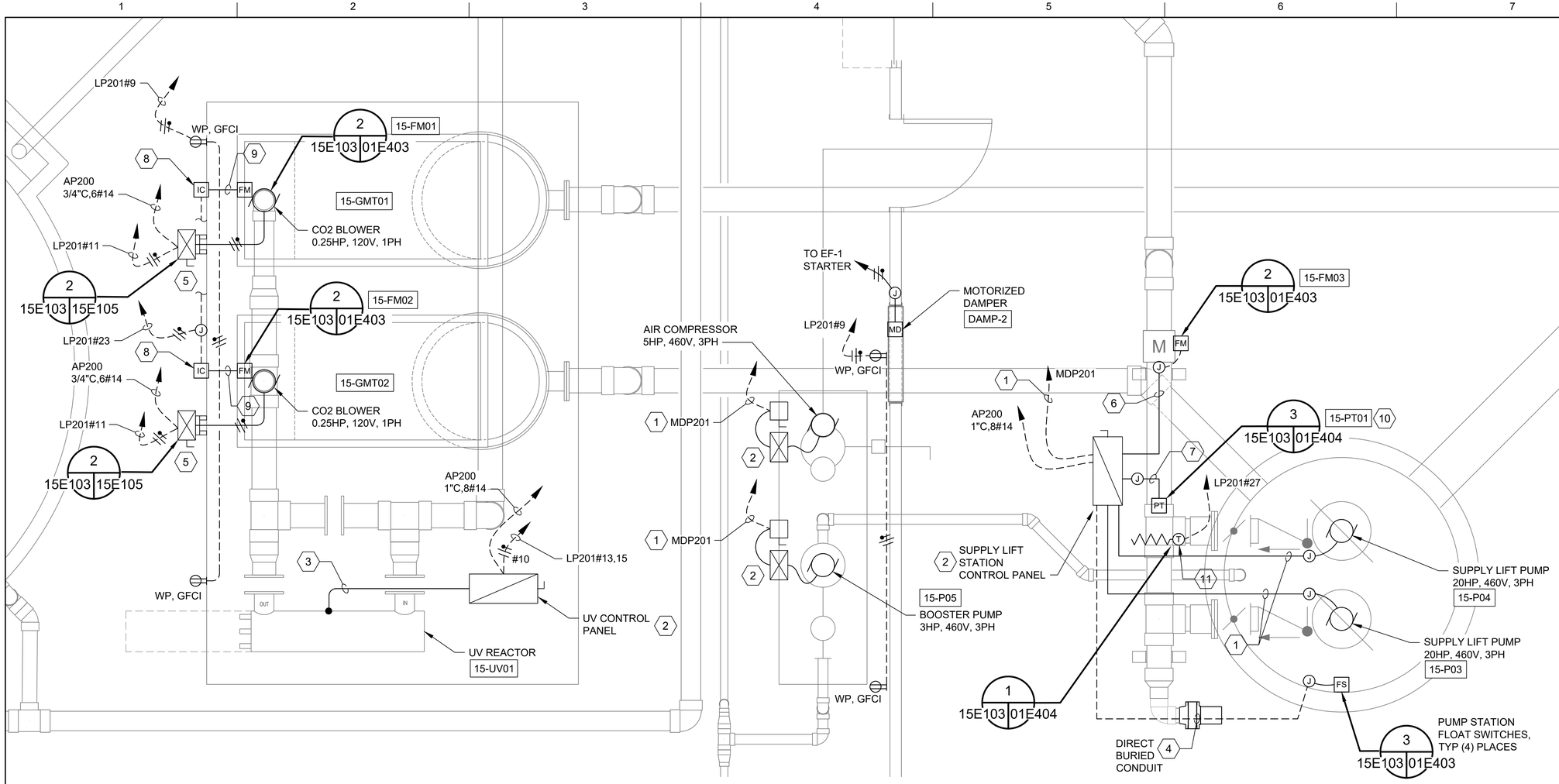
CIRCULAR TANK BUILDING

PARTIAL ELECTRICAL PLAN 1

0 1" 2"

FILENAME 15E102.DWG
SCALE AS NOTED

SHEET 15E102



PARTIAL ELECTRICAL PLAN
SCALE: 1/2" = 1'-0"

1
15E101 15E103

N

GENERAL NOTES:

1. ALL INDOOR ELECTRICAL ENCLOSURES SHALL BE RATED NEMA 4, PAINTED STEEL. UNLESS NOTED OTHERWISE.
2. ALL OUTSIDE ELECTRICAL ENCLOSURES SHALL BE RATED NEMA 4X, STAINLESS STEEL.
3. ALL RECEPTACLES SHALL BE GFCI TYPE, MOUNTED IN A CAST BOX, AND WITH W.P. COVER. INSTALL 24" AFF WITH SUITABLE MOUNT.
4. INSTALL CONDUITS AS NEEDED TO AVOID CREATING TRIPPING HAZARDS.

KEYED NOTES: (X)

1. SEE ONE-LINE DIAGRAM ON SHEET 04E401 FOR CONDUIT AND CONDUCTORS.
2. MANUFACTURER SUPPLIED CONTROLS.
3. MANUFACTURER SUPPLIED CABLES.
4. 1"C WITH 8#14.
5. CO2 BLOWER STARTER IN NEMA 4 ENCLOSURE.
6. FLOWMETER CIRCUITS: 3/4"C WITH 2#12 & 1#12 GROUND, AND 3/4"C WITH 1#16 TSP CABLE.
7. PRESSURE TRANSMITTER CIRCUIT: 3/4"C WITH 1#16 TSP CABLE.
8. REMOTE MOUNT FLOW TRANSMITTER; PROVIDE SUITABLE SUPPORT.
9. FLOWMETER CABLE: 1"C WITH MFR SUPPLIED CABLE.
10. PROVIDE FREEZE PROTECTION OF THE PRESSURE TRANSMITTER AND PIPE USING HEAT TRACE CABLE AND PIPE INSULATION.
11. AMBIENT SENSING THERMOSTAT.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	TM
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BEST
STATE OF WASHINGTON
40694
REGISTERED
PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE
EDA AWARD NUMBER 07-79-07880

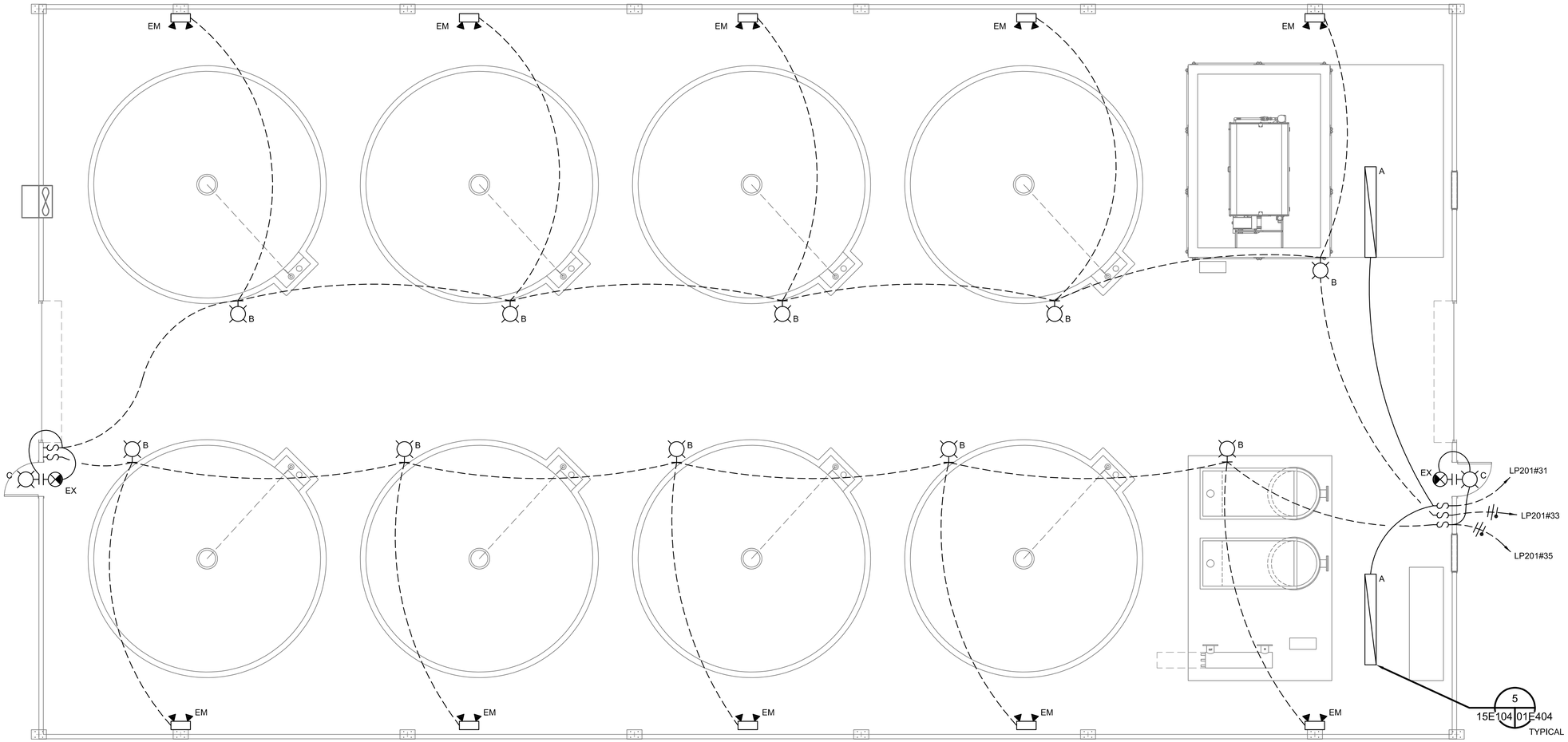
CIRCULAR TANK BUILDING

PARTIAL ELECTRICAL PLAN 2

0 1" 2"

FILENAME 15E103.DWG
SCALE AS NOTED

SHEET 15E103



GENERAL NOTES:

1. ALL INDOOR ELECTRICAL ENCLOSURES SHALL BE RATED NEMA 4, PAINTED STEEL.
2. ALL OUTSIDE ELECTRICAL ENCLOSURES SHALL BE RATED NEMA 4X, STAINLESS STEEL.
3. ALL RECEPTACLES SHALL BE GFCI TYPE, MOUNTED IN CAST BOX, AND WITH WP COVER. INSTALL 24" AFF WITH SUITABLE MOUNT.
4. LIGHT SWITCHES SHALL BE SUITABLE FOR WET LOCATIONS AND 3-WAY TYPE.

LIGHTING PLAN

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

1
04E101 15E104

0 4 8 16 FT
SCALE IN FEET

N

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER - SERIES	DESCRIPTION	LAMP DATA	VOLTAGE	MAX. INPUT WATTAGE	MOUNTING TYPE	MOUNTING HEIGHT
A	COLUMBIA - LXEM LITHONIA - FEM LED	8 FOOT LED LOW-PROFILE: ENCLOSED AND GASKETED INDUSTRIAL HOUSING. FROSTED ACRYLIC LENSE. FIXED OUTPUT DRIVER. UL LISTED FOR WET LOCATIONS	80 CRI, 3500K, 9000 LUMENS NOMINAL	120 V	65	AIRCRAFT CABLE MOUNT	8'-0" AFF
B	COLE - SL2156W	STUMBLE (STEP) LIGHT, SURFACE: LED STEP LIGHT, DIE-CAST ALUMINUM HOUSING WITH LOUVERED FACEPLATE. SURFACE MOUNTED. EMERGENCY BATTERY FOR 90 MINUTES OPERATION. UL LISTED FOR WET LOCATIONS.	70 CRI, 3000K, 1200 LUMENS NOMINAL	120 V	22	SURFACE MOUNTED (PROVIDE SUITABLE SUPPORT)	2'-6" AFF
C	LITHONIA - WPX LED	LED WALL PACK: WALL PACK WITH EMERGENCY EGRESS BATTERY FOR 90 MINUTES OPERATION. FULL CUTOFF. IP66 CONSTRUCTION, DIE-CAST ALUMINUM HOUSING. UL LISTED FOR WET LOCATIONS.	70 CRI, 3000K, 1,500 LUMENS NOMINAL	120 V	11	WALL	8' AFG
EM	LITHONIA - WLTU LED	DUAL-HEAD WET LOCATION EMERGENCY LIGHT: CORROSION RESISTANT ENCLOSURE. TWO SEALED LED LAMP HEADS. MAINTENANCE FREE LEAD CALCIUM BATTERY. UL LISTED FOR WET LOCATIONS. UL LISTED FOR WET LOCATIONS.	LED LAMP HEADS	120 V	9	WALL MOUNTED	7'-6" AFF
EX	DUAL LIGHT - DYNC SERIES	LED EXIT-UNIT COMBO: NEMA 4X POLYCARBONATE HOUSING WITH WHITE FACE AND RED LETTERING. NICKEL CADNIUM BATTERY. UL LISTED FOR WET LOCATIONS.	LED STRIP RED	120 V	5	WALL MOUNTED	7'-6" AFF

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	
DESIGN BY	
CHECKED BY	
DRAWN BY	JLC
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BIES — STATE OF WASHINGTON — 41694 — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

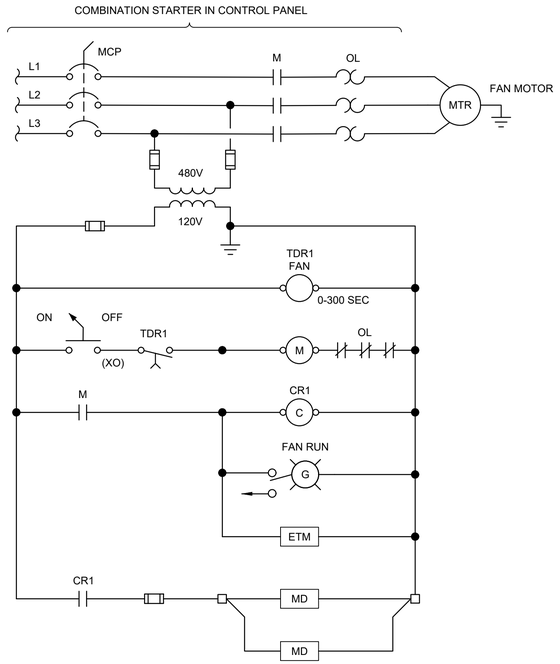
CIRCULAR TANK BUILDING

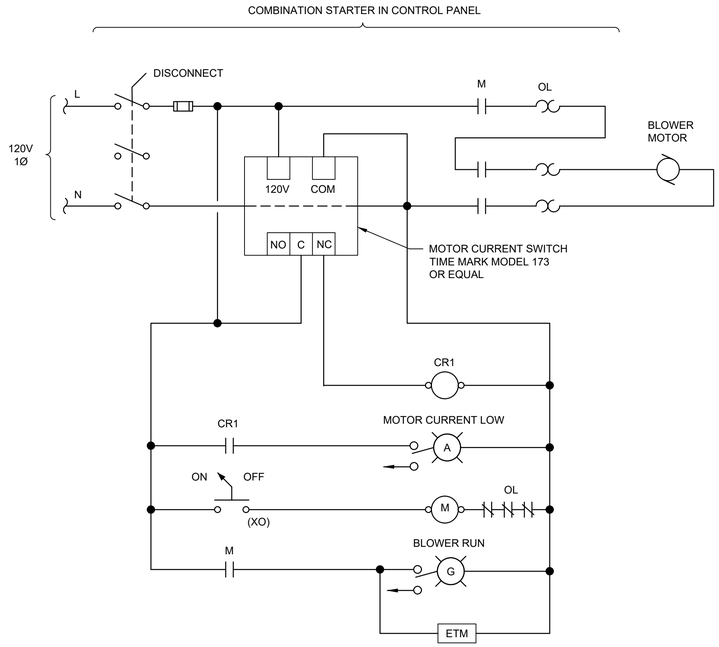
LIGHTING PLAN

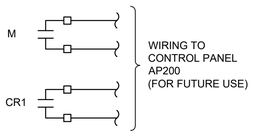
0 1" 2"

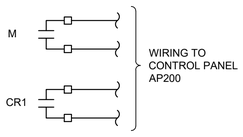
FILENAME	15E104.DWG
SCALE	AS NOTED

SHEET 15E104









TYPICAL EXHAUST FAN EF-1
CONTROL DIAGRAM

SCALE: NONE

1
15E102 15E105

TYPICAL GAS BALANCING COLUMN
CO2 BLOWER CONTROL DIAGRAM

SCALE: NONE

2
15E102 15E105

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	TM
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BESS
STATE OF WASHINGTON
40694
REGISTERED
PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY
PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

CIRCULAR TANK BUILDING

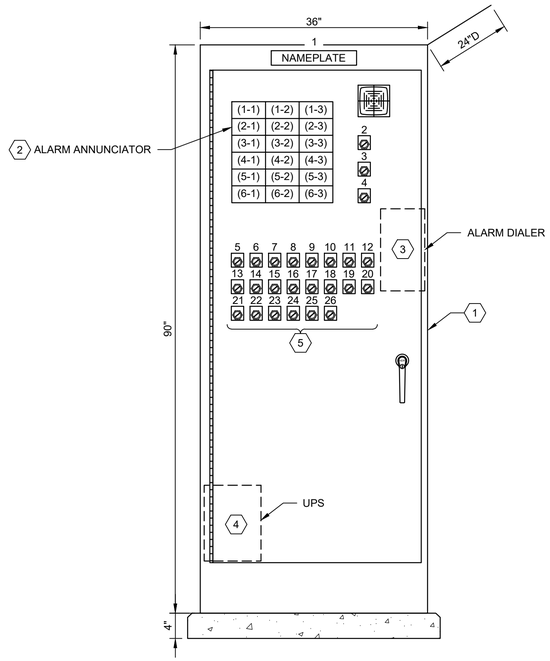
ELECTRICAL CONTROL DIAGRAMS

0 1" 2"

FILENAME 15E105.DWG

SCALE AS NOTED

SHEET 15E105



ALARM PANEL AP200
FRONT ELEVATION
SCALE: NONE

1
15E401

ANNUNCIATOR SCHEDULE		
ROW-COLUMN	FIRST LINE	SECOND LINE
1-1	CIRCULATION TANKS	LOW LEVEL
1-2	GAS TOWER	CO2 BLOWER FAULT
1-3	ELECTRIC UTILITY	LOSS OF POWER
2-1	CIRCULATION TANKS	LOW DISSOLVED OXYGEN
2-2	UV DISINFECTION	UNIT FAULT
2-3	DIESEL STANDBY	GENERATOR FAULT
3-1	SUPPLY LIFT	STATION FAULT
3-2	DRUM FILTER	FAULT
3-3	ATS IN STANDBY	POSITION
4-1	RECIRC LIFT	STATION FAULT
4-2	CONCRETE POND	LOW LEVEL
4-3	INTRUSION	ALARM
5-1	PA LIFT	STATION FAULT
5-2	(BLANK)	(BLANK)
5-3	(BLANK)	(BLANK)
6-1	(BLANK)	(BLANK)
6-2	(BLANK)	(BLANK)
6-3	(BLANK)	(BLANK)

AP200 CONTROL PANEL SCHEDULE			
ITEM	DESCRIPTION	SERVICE LEGEND	NAMEPLATE INSCRIPTION
1	NAMEPLATE		ALARM PANEL (AP200)
2	PUSHBUTTON	TEST	ANNUNCIATOR
3	PUSHBUTTON	ACK	ANNUNCIATOR
4	PUSHBUTTON	RESET	ANNUNCIATOR
5	SELECTOR, 2-POS	ENABLE/DISABLE	TANK 1 LOW LEVEL
6	SELECTOR, 2-POS	ENABLE/DISABLE	TANK 2 LOW LEVEL
7	SELECTOR, 2-POS	ENABLE/DISABLE	TANK 3 LOW LEVEL
8	SELECTOR, 2-POS	ENABLE/DISABLE	TANK 4 LOW LEVEL
9	SELECTOR, 2-POS	ENABLE/DISABLE	TANK 5 LOW LEVEL
10	SELECTOR, 2-POS	ENABLE/DISABLE	TANK 6 LOW LEVEL
11	SELECTOR, 2-POS	ENABLE/DISABLE	TANK 7 LOW LEVEL
12	SELECTOR, 2-POS	ENABLE/DISABLE	TANK 8 LOW LEVEL
13	SELECTOR, 2-POS	ENABLE/DISABLE	LOW DO 1
14	SELECTOR, 2-POS	ENABLE/DISABLE	LOW DO 2
15	SELECTOR, 2-POS	ENABLE/DISABLE	SUPPLY LS FAULT
16	SELECTOR, 2-POS	ENABLE/DISABLE	RECIRC LS FAULT
17	SELECTOR, 2-POS	ENABLE/DISABLE	PA LS FAULT
18	SELECTOR, 2-POS	ENABLE/DISABLE	CO2 BLWR 1 FAULT
19	SELECTOR, 2-POS	ENABLE/DISABLE	CO2 BLWR 2 FAULT
20	SELECTOR, 2-POS	ENABLE/DISABLE	UV DISINFECTION FAULT
21	SELECTOR, 2-POS	ENABLE/DISABLE	DRUM FILTER FAULT
22	SELECTOR, 2-POS	ENABLE/DISABLE	CONC. POND LOW LEVEL
23	SELECTOR, 2-POS	ENABLE/DISABLE	UTILITY POWER FAULT
24	SELECTOR, 2-POS	ENABLE/DISABLE	GENERATOR FAULT
25	SELECTOR, 2-POS	ENABLE/DISABLE	ATS IN STANDBY
26	SELECTOR, 2-POS	ENABLE/DISABLE	(BLANK)

GENERAL NOTES:

1. CONTROL PANEL FABRICATED ACCORDING TO SPEC. 40 67 00.
2. CONTROL AUXILIARIES PER SPEC 40 78 00. NOT ALL REQUIRED COMPONENTS ARE SHOWN ON THIS DRAWING.
3. SECURE ENCLOSURE TO CONCRETE WITH CONCRETE ANCHORS.
4. PROVIDE CONTROL PANEL WITH DOOR ACTIVATED, LED TYPE LIGHT FIXTURE.

KEYED NOTES:

1. SINGLE-DOOR, FREE-STANDING, PAINTED STEEL ENCLOSURE WITH NEMA 4 ENCLOSURE RATING. PROVIDE WITH INTERNAL MOUNTING PANEL(S).
2. ANNUNCIATOR WITH HINGED COVER FOR NEMA 4 RATING. EACH ANNUNICATOR INPUT SHALL BE PROVIDED WITH A REPEAT RELAY CONFIGURED TO FOLLOW ALARM INPUT STATUS.
3. ALARM DIALER MOUNTED TO INTERNAL SIDE PANEL. TELEPHONE SERVICE SHALL BE PROVIDED.
4. SHELF MOUNTED UNINTERRUPTIBLE POWER SUPPLY TO PROVIDE PROTECTED POWER TO THE ANNUNCIATOR AND ALARM DIALER.
5. EACH ALARM INPUT SHALL INCLUDE AN ENABLE/DISABLE SELECTOR SWITCH. ALARMS SHALL BE GROUPED AS REQUIRED TO PROVIDE INPUTS TO THE ALARM ANNUNICIATOR.

HDR

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	TM
DRAWN BY	EP
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BEST
STATE OF WASHINGTON
40694
REGISTERED
PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE
EDA AWARD NUMBER 07-79-07880

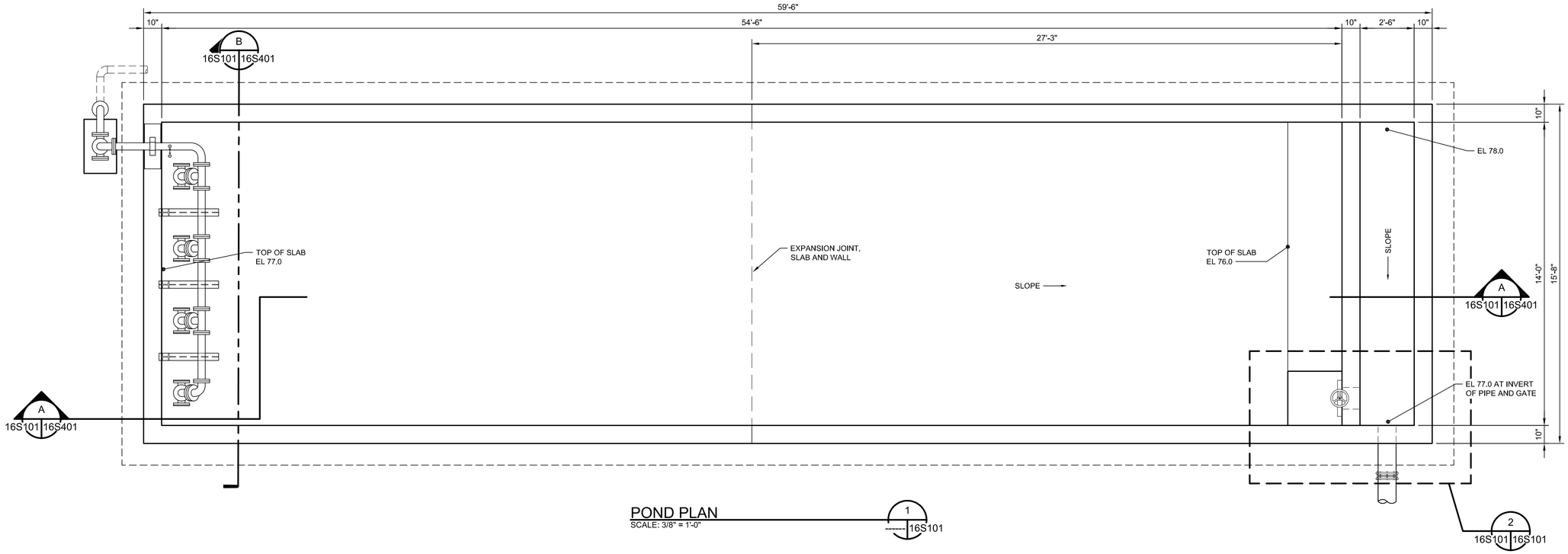
CIRCULAR TANK BUILDING

ALARM PANEL (AP200)

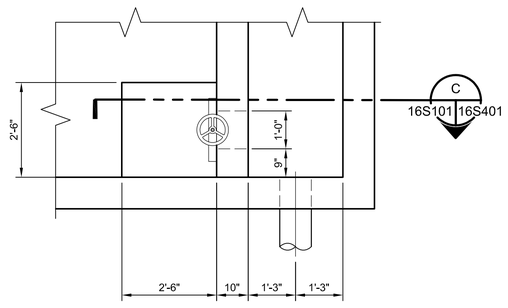
0 1" 2"

FILENAME	15E401.DWG
SCALE	AS NOTED

SHEET
15E401



POND PLAN
SCALE: 3/8" = 1'-0"
1
16S101



PARTIAL PLAN
SCALE: 3/8" = 1'-0"
2
16S101 16S101

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	JLH
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL
STATE OF WASHINGTON
38335
REGISTERED
PROFESSIONAL ENGINEER
5-19-2023

KALAMA CREEK HATCHERY
PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

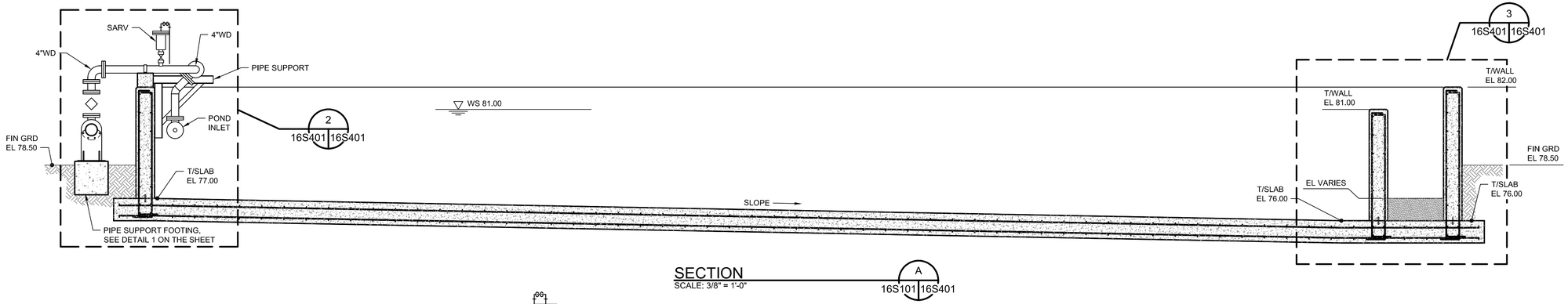
POLLUTION ABATEMENT POND
LOWER SITE

PLANS

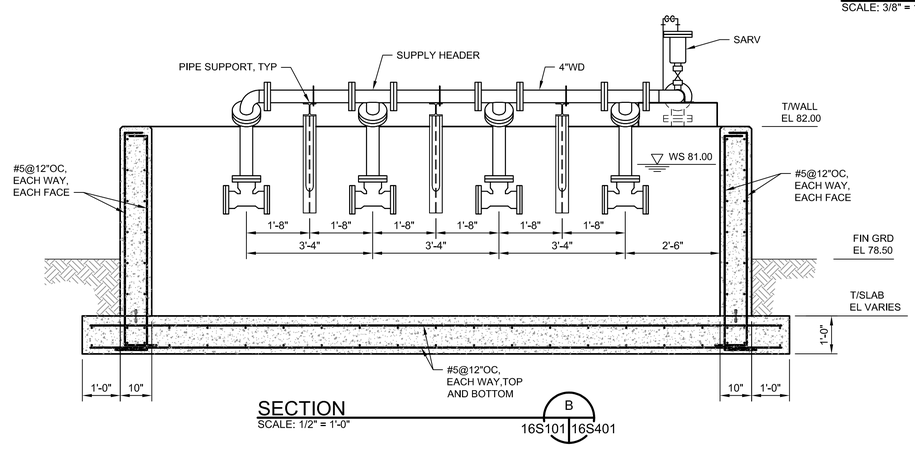
0 1" 2"

FILENAME	16S101.DWG
SCALE	AS NOTED

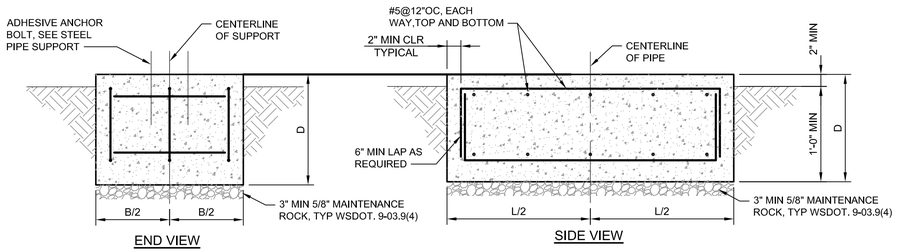
SHEET
16S101



SECTION
SCALE: 3/8" = 1'-0"
A
16S101 16S401



SECTION
SCALE: 1/2" = 1'-0"
B
16S101 16S401

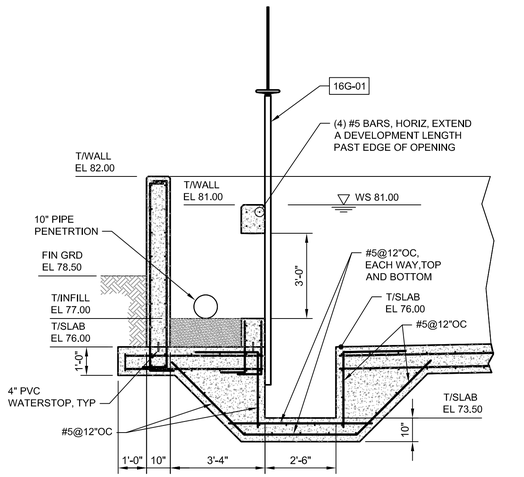


END VIEW

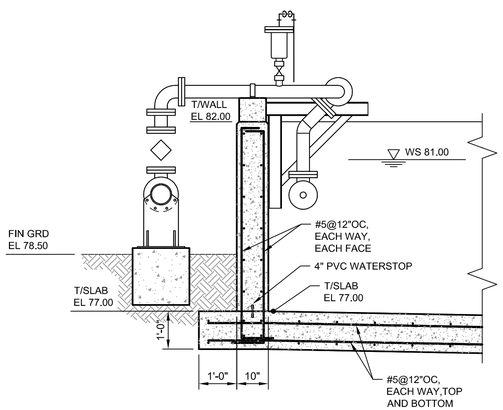
SIDE VIEW

PIPE SIZE	FOOTING				REMARKS
	DIMENSIONS			REBAR	
	B	L	D		
4" TO 6"	1'-6"	2'-6"	1'-2"	#4 @ 12" EACH WAY (SEE SECTIONS)	FOR STEEL PLATE, ANCHOR BOLTS AND CONNECTIONS, SEE PIPE SUPPORT DETAIL
8" TO 10"	1'-6"	3'-0"	1'-2"		
12" TO 16"	2'-0"	3'-6"	1'-4"		
18" TO 20"	2'-0"	4'-0"	1'-4"		
24"	2'-6"	4'-6"	1'-4"		

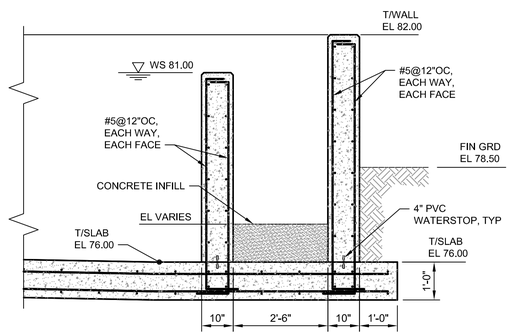
PIPE SUPPORT FOOTING
SCALE: 1/2" = 1'-0"
1
16S401 16S401



SECTION
SCALE: 1/2" = 1'-0"
C
16S101 16S401



DETAIL
SCALE: 1/2" = 1'-0"
2
16S401 16S401



DETAIL
SCALE: 1/2" = 1'-0"
3
16S401 16S401

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	JLH
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

JASON L. HILL — STATE OF WASHINGTON — 38335 — REGISTERED PROFESSIONAL ENGINEER
5-19-2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

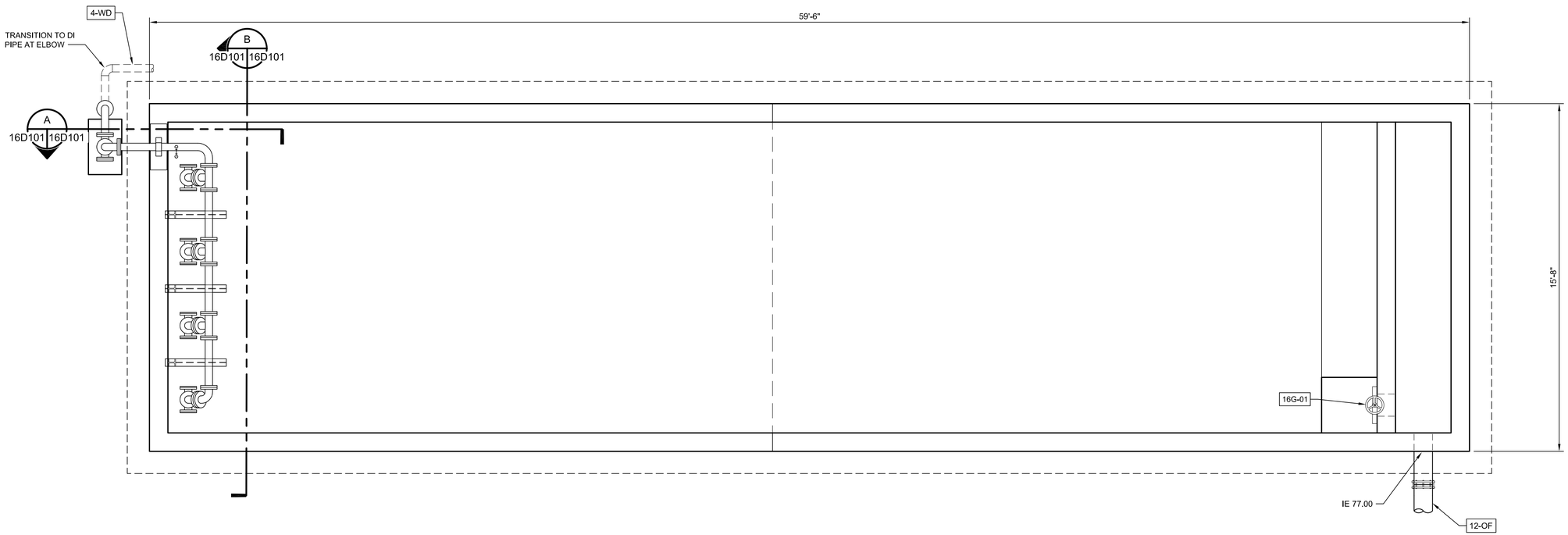
POLLUTION ABATEMENT POND LOWER SITE

SECTIONS

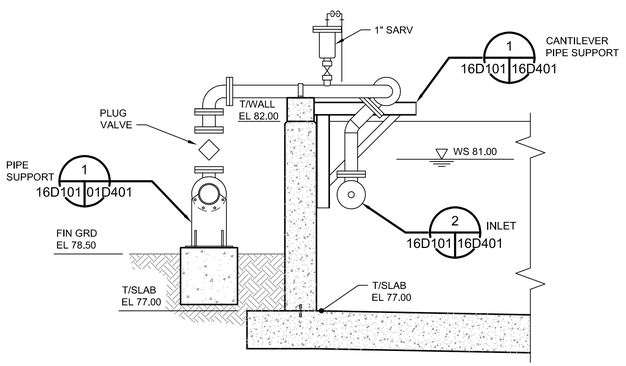
0 1" 2"

FILENAME	16S401.DWG
SCALE	AS NOTED

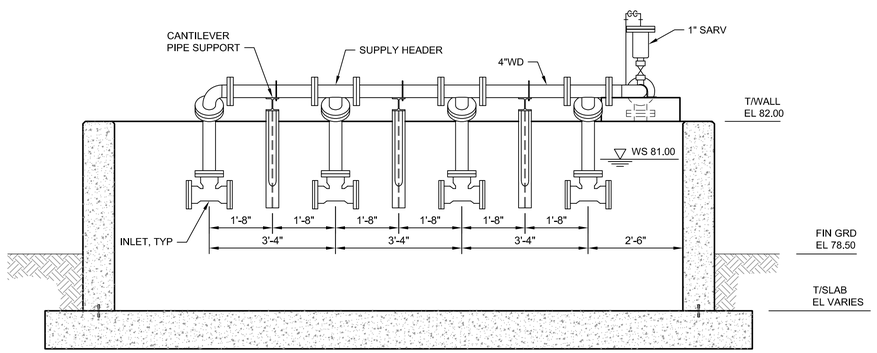
SHEET **16S401**



POND PLAN
SCALE: 3/8" = 1'-0"
1
16D101



SECTION
SCALE: 1/2" = 1'-0"
A
16D101 16D101



SECTION
SCALE: 1/2" = 1'-0"
B
16D101 16D101

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

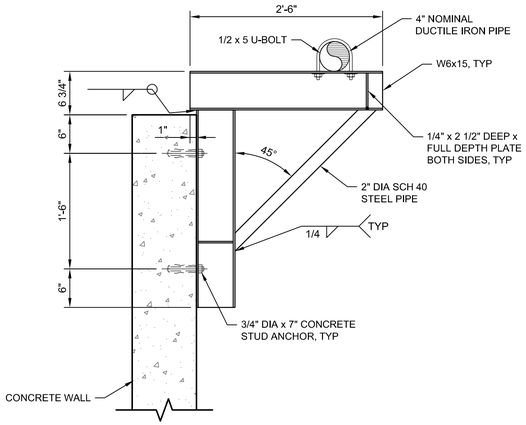
POLLUTION ABATEMENT POND LOWER SITE

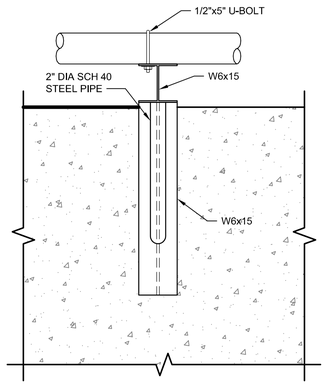
PIPING PLAN AND SECTIONS

0 1" 2"

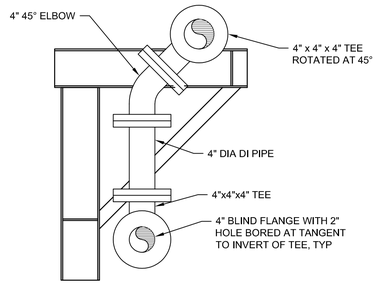
FILENAME	16D101.DWG
SCALE	AS NOTED

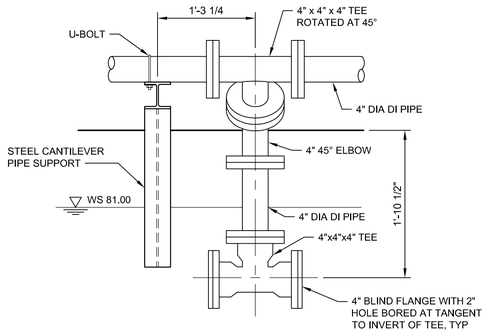
SHEET 16D101





STEEL CANTILEVER PIPE SUPPORT
NOT TO SCALE
1
16D101 16D401





INLET DETAIL
NOT TO SCALE
2
16D101 16D401

-	-	-
ISSUE	DATE	DESCRIPTION

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON
STATE OF WASHINGTON
22897
REGISTERED
PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY
PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE
EDA AWARD NUMBER 07-79-07880

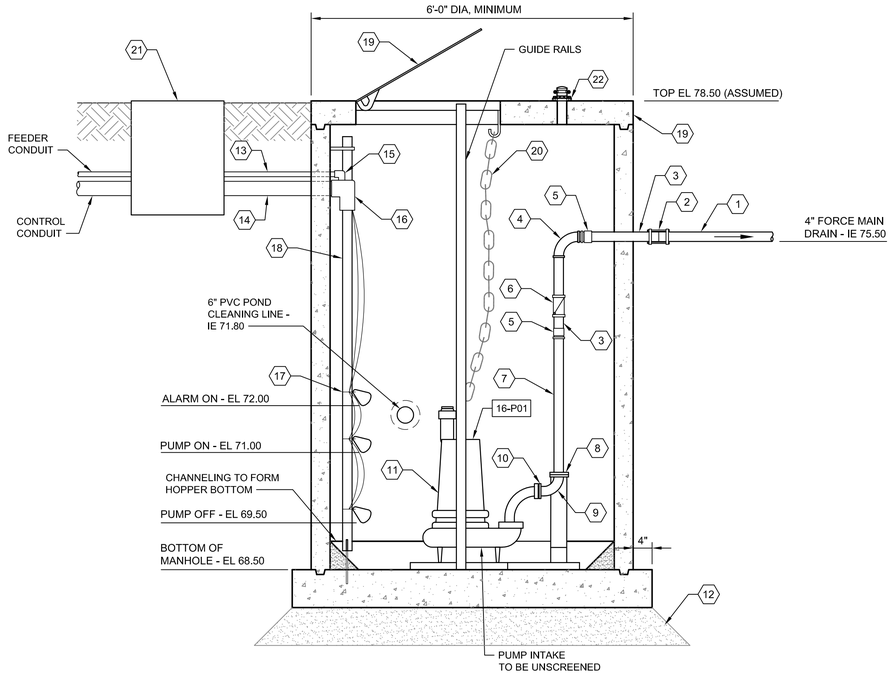
POLLUTION ABATEMENT POND
LOWER SITE

SECTIONS

0 1" 2"

FILENAME	16D401.DWG
SCALE	AS NOTED

SHEET
16D401



LIFT STATION
NOT TO SCALE

1
07D101 07D402

KEYED NOTES:

1. 4" PVC PIPE
2. 4" FLANGED COUPLING ADAPTER WITH FLEXIBLE COUPLING
3. 4" STANDARD STEEL PIPE
4. 4" 90° LONG RADIUS ELL, STEEL
5. 4" UNION, STEEL
6. 4" BALL CHECK VALVE
7. 4" STANDARD STEEL PIPE (FLG x PL)
8. 4" BOLTED FLANGE CONNECTION
9. DISCHARGE ELBOW
10. HYDRAULIC SEALING FLANGE
11. GRUNDFOS MODEL SL1.30.A40.20EX.4.61R.C, 200 GPM @ 20TDH, 16-P01 OR EQUAL
12. 6" STRUCTURAL FILL
13. 1" ELECTRICAL CONDUIT
14. 2" PVC
15. 1" GALVANIZED STEEL CONDUIT BODY WITH STRAIGHT CORD GRIP
16. 2" GALVANIZED STEEL T-CONDUIT BODY WITH 1/2" BUSHED CONDUIT NIPPLE
17. CABLE TIE, TYPICAL
18. FLOAT TREE, 1 1/4" SCH 80 PVC, INSTALL 1/2" SS QUICK BOLT "PIN" (OR EQUIVALENT) WITH 3" EXPOSURE IN MANHOLE BOTTOM. UNISTRUT WITH STANDOFF CLAMP BELOW COVER. LOCATE FLOAT TREE CLEAR OF 6" EFFLUENT DRAIN OUTFALL
19. 6'-0" DIAMETER PRECAST CONCRETE MANHOLE WITH 2'-6 1/2" x 2'-6 1/2" CLEAR ACCESS MINIMUM. COVER SHALL BE "BILCO TRAFFIC LID, SEE SPECIFICATIONS
20. LIFTING CHAIN
21. FOG TIGHT HANDHOLE
22. PROVIDE 2" OPENING IN CONCRETE LID TO MANHOLE. COVER HOLE WITH FLANGED STAINLESS STEEL MALE CAM-LOK FITTING AND CAP, BOLT FLANGED CAM-LOK FITTING TO MANHOLE LID

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	EEO
DESIGN BY	
CHECKED BY	
DRAWN BY	ACB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

ERIC EDWARD ORTON — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY PHASE 2

NATURAL RESOURCES DEPARTMENT NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

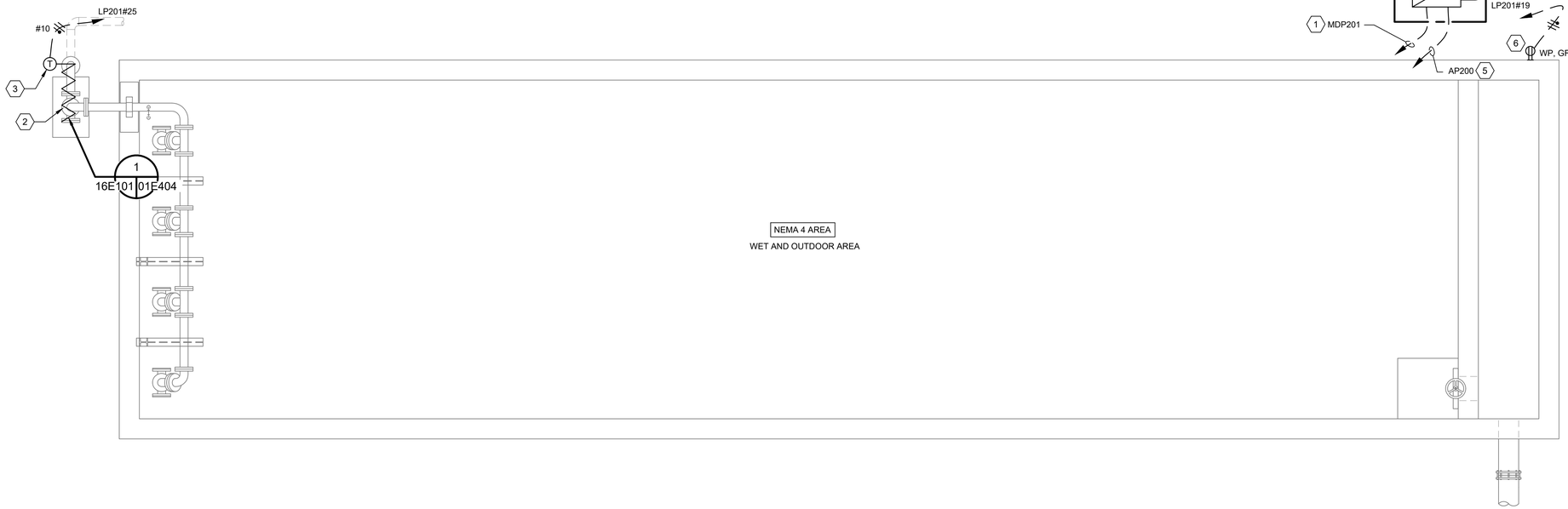
POLLUTION ABATEMENT POND LOWER SITE

LIFT STATION

0 1" 2"

FILENAME	16D402.DWG
SCALE	AS NOTED

SHEET 16D402



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

1
04E101 16E101

N

GENERAL NOTES:

1. ALL OUTSIDE ELECTRICAL ENCLOSURES SHALL BE RATED NEMA 4X, STAINLESS STEEL.
2. ALL RECEPTACLES SHALL BE GFCI TYPE, MOUNTED IN A CAST BOX, AND WITH W.P. COVER. INSTALL 24" AFF WITH SUITABLE MOUNT.

KEYED NOTES: (X)

1. SEE ONE-LINE DIAGRAM ON SHEET 04E401 FOR CONDUIT AND CONDUCTORS.
2. PROVIDE FREEZE PROTECTION OF THE SUPPLY PIPE USING HEAT TRACE CABLE AND PIPE INSULATION. EXTENT OF FREEZE PROTECTION SHALL INCLUDE THE SECTION OF PIPE WHERE IT EXITS THE GROUND UP TO THE HORIZONTAL HEADER SECTION AT THE CANTILEVER PIPE SUPPORT, SEE SHEET 16D101.
3. AMBIENT SENSING THERMOSTAT.
4. MANUFACTURER SUPPLIED CONTROLS.
5. 1"C WITH 8#14 CONTROL CABLE.
6. PROVIDE SUITABLE SUPPORT.

ISSUE	DATE	DESCRIPTION
-	-	-

PROJECT MANAGER	ERIC ORTON P.E.
DESIGN BY	DB
DESIGN BY	
CHECKED BY	TM
DRAWN BY	AB
PLOT DATE	May 18, 2023
PROJECT NUMBER	10176455

DONALD E. BES
STATE OF WASHINGTON
40694
REGISTERED
PROFESSIONAL ENGINEER
5/19/2023

KALAMA CREEK HATCHERY
PHASE 2

NATURAL RESOURCES DEPARTMENT
NISQUALLY INDIAN TRIBE

EDA AWARD NUMBER 07-79-07880

POLLUTION ABATEMENT POND
LOWER SITE

ELECTRICAL PLAN

0 1" 2"

FILENAME 16E101.DWG
SCALE AS NOTED

SHEET **16E101**