

OREGON INSTITUTE OF TECHNOLOGY
GEOTHERMAL IMPROVEMENTS
LOCATED IN: KLAMATH COUNTY, STATE OF OREGON

OWNER

OREGON INSTITUTE OF TECHNOLOGY
3201 CAMPUS DRIVE
KLAMATH FALLS, OREGON 97630

PROJECT ENGINEERS

ANDERSON ENGINEERING & SURVEYING, INC.



DARRYL ANDERSON, PE, PLS, PRINCIPAL ENGINEER/PROJECT MANAGER
KARAH WITZEL, EIT, PROJECT ENGINEER
P.O. BOX 28 ~ 17681 HWY 395 ~ LAKEVIEW, OR 97630
BUS (541) 947-4407 ~ FAX (541) 947-2321
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BRIAN BROWN ENGINEERING

BRIAN BROWN, PE, MECHANICAL ENGINEERING/GEOTHERMAL
PO BOX 563 ~ FORT KLAMATH, OR 97626
(541) 783-3347

FLUENT ENGINEERING, INC.

DAVID EBSEN, ELECTRICAL ENGINEERING
MATHEW CASH, PE, P.ENG, ELECTRICAL ENGINEERING
932 KLAMATH AVE, KLAMATH FALLS, OR 97601
(503) 447-5030

PINNACLE ARCHITECTURE, INC.

BRIANA MANFRASS, EDAC, ARCHITECTURAL DESIGN
1001 SW DISK DR., SUITE 105, BEND, OR 97702
(541) 388-9897

GENERAL NOTES

- ALL STEEL PIPE, ELBOWS, AND FITTINGS TO BE FLANGED AND SCHEDULE 40
- FLANGE GASKETS TO BE 200° TEMP RATED AND OIL RESISTANT
- VERIFY EXISTING PIPE LOCATIONS PRIOR TO ANY UNDERGROUND WORK OR EXCAVATION
- ALL EXISTING PIPING THAT IS TO BE REPLACED IS TO BE REMOVED - VERIFY WITH OWNER AND ENGINEER PRIOR TO REMOVAL
- COVER DISTURBED PROJECT GROUND SURFACE AREA WITH 6" OF 3/4" MINUS
- ENGINEER WILL PROVIDE CONCRETE AND COMPACTION TESTING - CONTRACTOR TO SUPPLY EARTH & AGGREGATE SAMPLES.
- ALL PIPING SHALL BE PRESSURE TESTED TO 100 PSI FOR ONE HOUR DURATION IN PRESENCE OF ENGINEER. CONTRACTOR TO SUPPLY ALL TESTING EQUIPMENT, PLUGS, BLIND FLANGES ETC. TO CONDUCT TESTS.
- SUBMIT ALL PRODUCT DATA TO ENGINEER FOR APPROVAL - PIPES COUPLINGS, VALVES, FITTINGS INSULATION, ETC. ELECTRONIC SUBMITTALS ARE ACCEPTABLE.

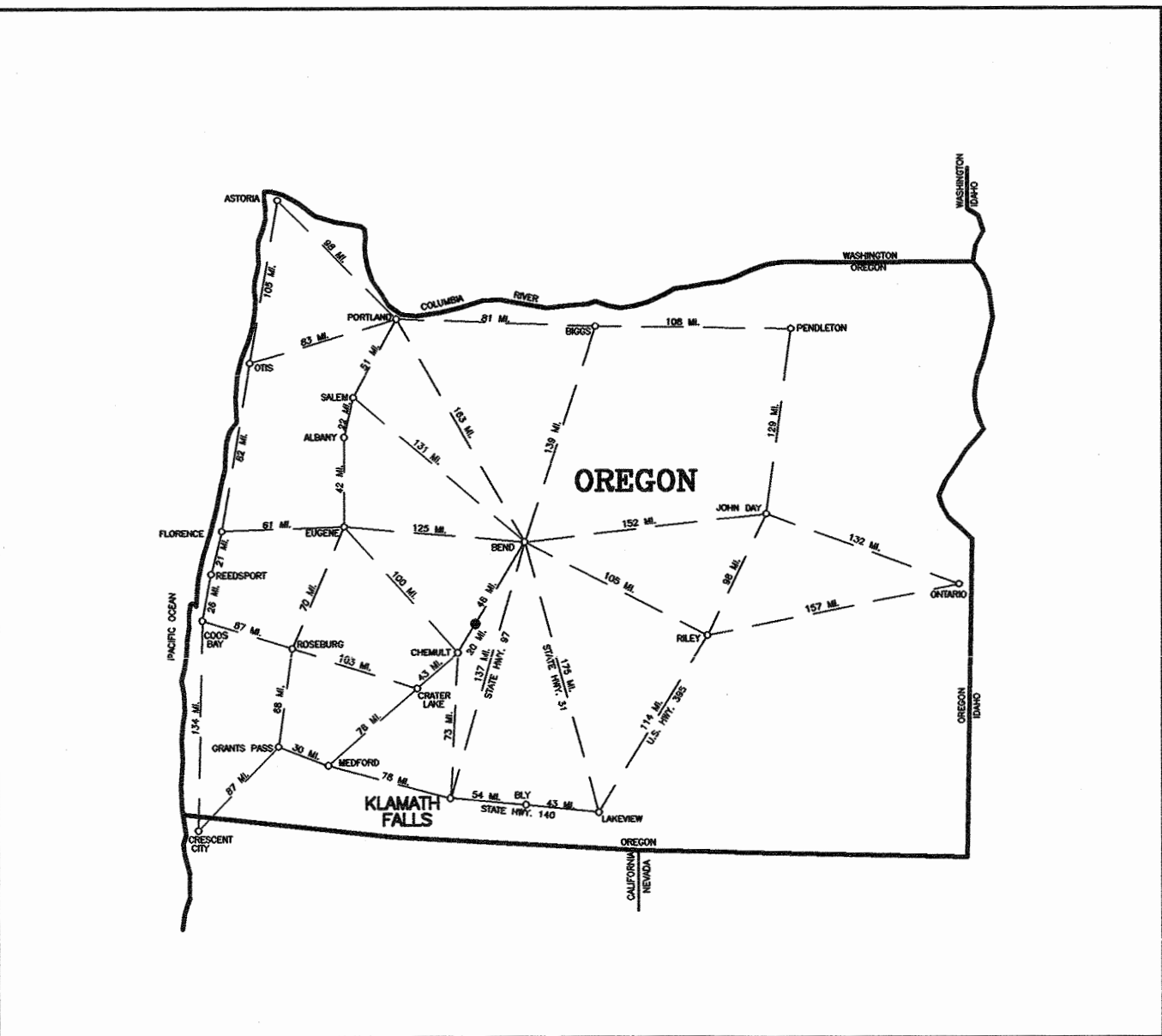
TITLE	SHEET
TITLE SHEET	TS
20,000 GALLON HORIZONTAL TANK - SITE PLAN	C1
NEW DRAINAGE PROFILE AND CROSS SECTIONS	C2
20,000 GALLON HORIZONTAL TANK - FOUNDATION DESIGN	S1

CONCRETE NOTES:

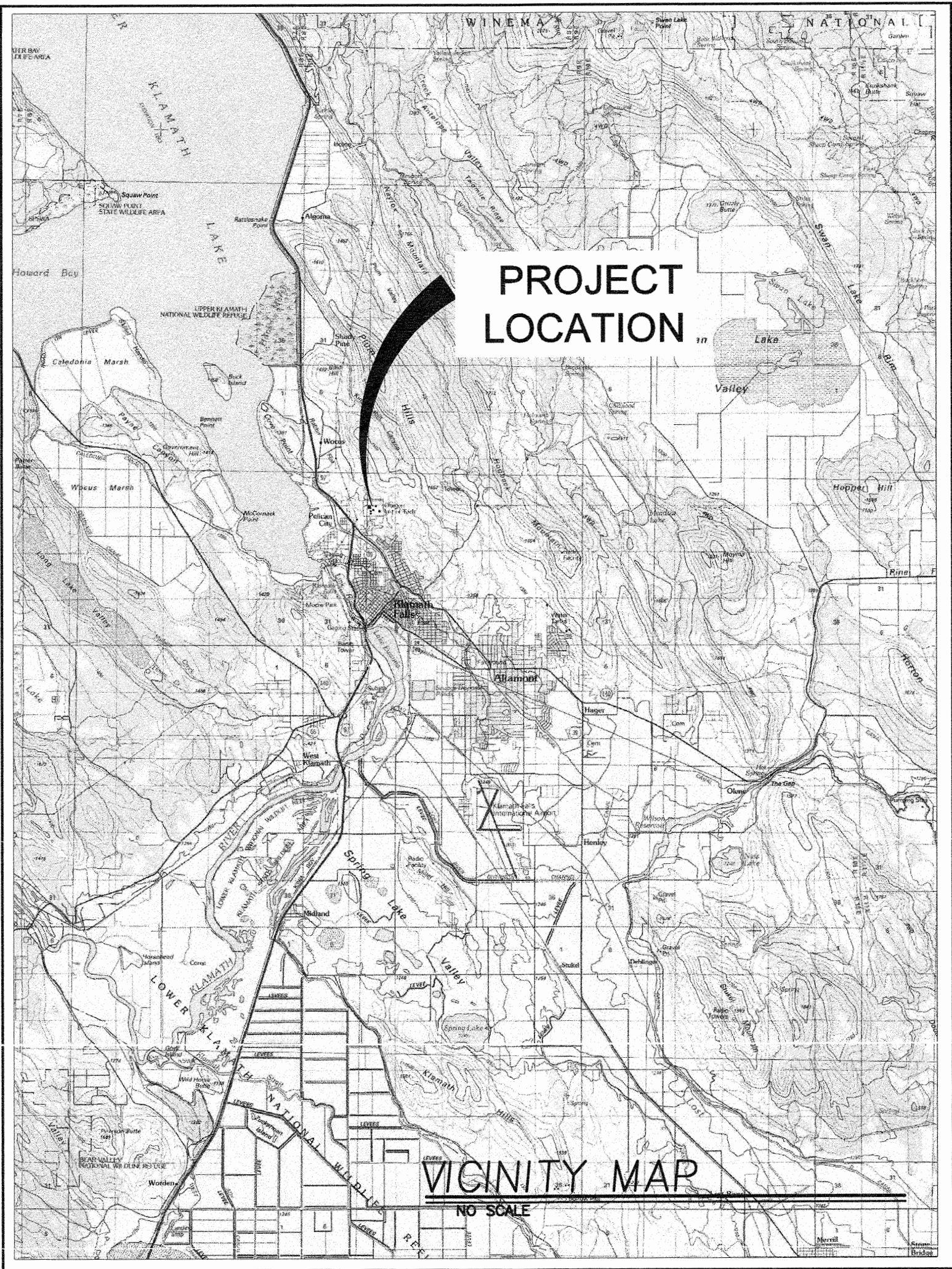
- CONCRETE
- MIX DESIGN:
MINIMUM 6 SACK MIX
STRENGTH: 4000 PSI @ 28 DAYS
SLUMP 4" ± 1"
AIR ENT.: 5% ± 1%
SUBMIT MIX DESIGN TO ENGINEER FOR APPROVAL
 - CONCRETE SHALL NOT BE POURED ON FROZEN GROUND. CONCRETE PLACED DURING COLD WEATHER SHALL BE BLANKETED FOR A MINIMUM OF 24 HOURS. COLD WEATHER IS DESCRIBED AS, FOR 3 CONSECUTIVE DAYS, THE AVERAGE DAILY TEMPERATURE IS LESS THAN 40 DEGREES AND THE AIR TEMPERATURE IS LESS THAN 50 DEGREES.
 - CONSOLIDATE CONCRETE BY MEANS OF A HIGH-FREQUENCY, INTERNAL, MECHANICAL VIBRATOR SUPPLEMENTED BY HAND SPADING.

- CONCRETE FORM WORK
- CONSTRUCT FORM WORK IN ACCORDANCE WITH ACI 301 AND 347.
 - VERTICAL FACE, EXPOSED CONCRETE:
MINIMUM 3/4" PLYWOOD WITH "B" GRADE FACE TO CONCRETE. EARTH FORMS SHALL NOT BE PERMITTED.
 - VERIFY LINES AND GRADES PRIOR TO PLACING CONCRETE.
 - ARRANGE AND ASSEMBLE FORM WORK TO PERMIT STRIPPING OF FORMS WITHOUT DAMAGING CONCRETE.
 - APPLY FORM RELEASE AGENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. KEEP SURFACES WET JUST PRIOR TO CONCRETE PLACEMENT.

- REINFORCING STEEL
- REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60.
 - TIE WIRE SHALL BE CLEAN AND FREE OF SCALE OR RUST.
 - PLACE REINFORCEMENT AS SHOWN ON THE DRAWINGS. PROVIDE SUPPORTING DEVICES NECESSARY TO MAINTAIN THE REINFORCEMENT IN-PLACE DURING CONCRETE PLACEMENT AND CONSOLIDATION.
 - COVER REQUIREMENTS:
AGAINST EARTH: 3 INCHES CLEAR
FORMED CONCRETE AGAINST EARTH: 2 INCHES CLEAR
 - ALL STEEL SHALL BE TIED IN-PLACE. NO STABBING OF REINFORCING SHALL BE ALLOWED.



AREA MAP



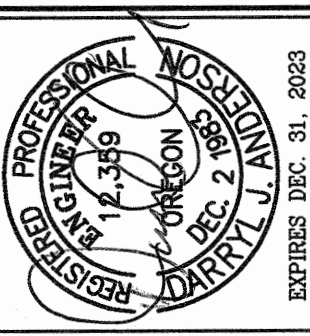
PROJECT LOCATION

VICINITY MAP

REVISIONS	BY
10/2/2023	KW

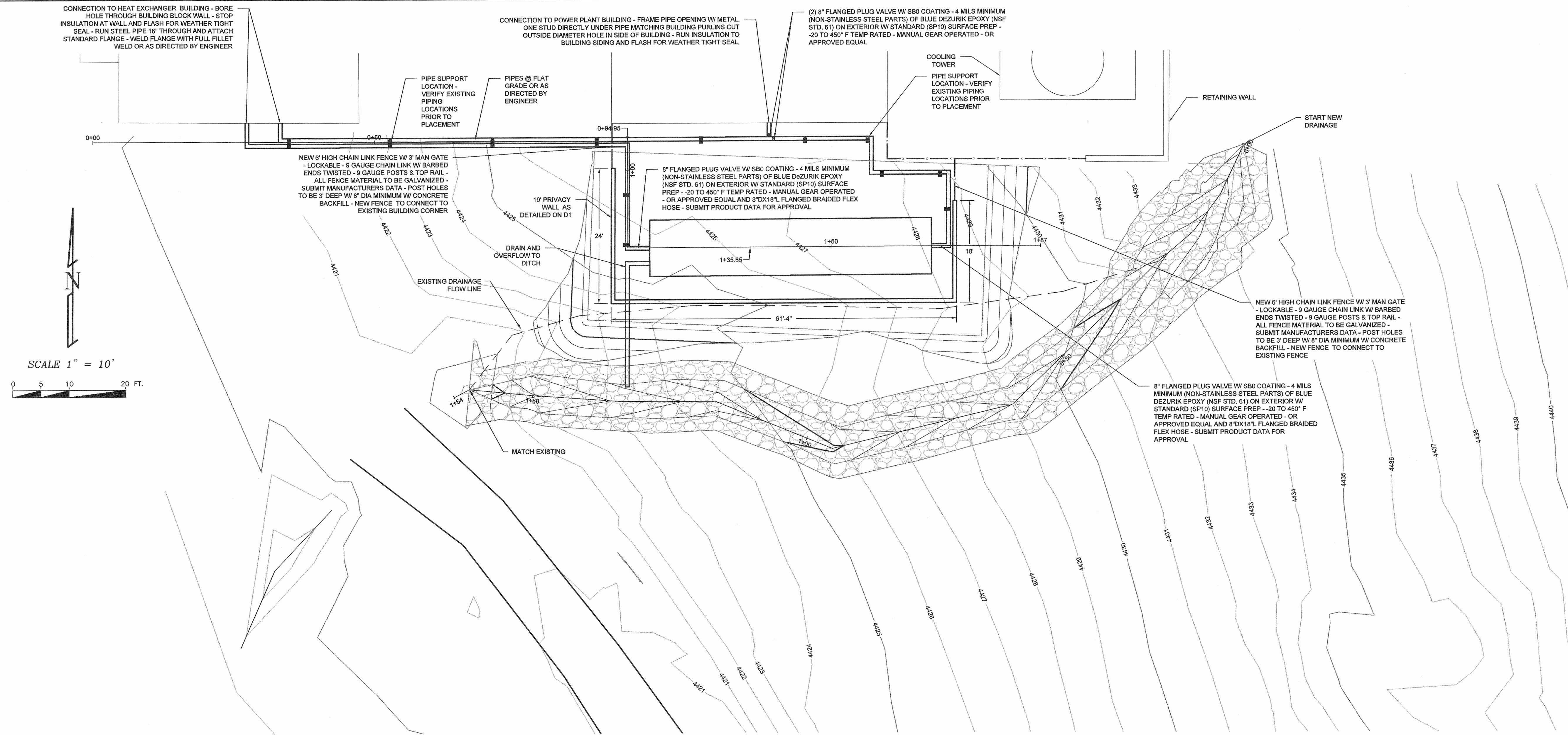
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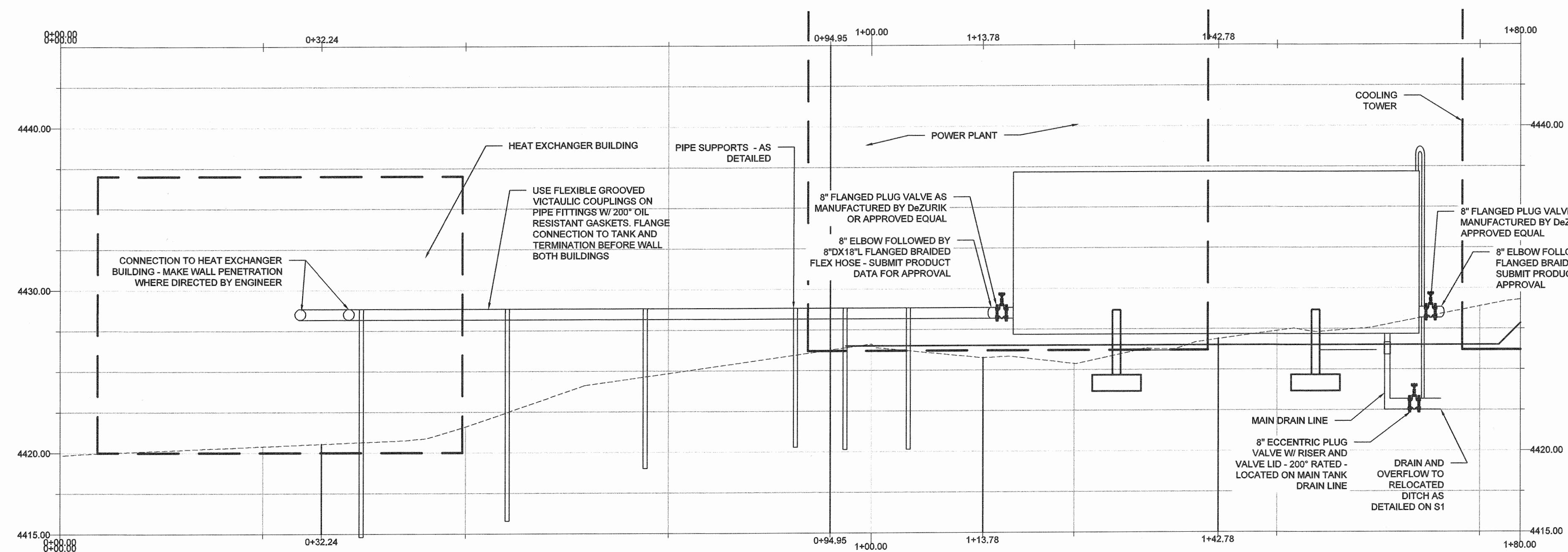


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OIT HEAT GEOTHERMAL IMPROVEMENTS
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DATE:	09/5/2023
SCALE:	AS SHOWN
DWG. BY:	K.W.
FILE:	2023-009
JOB NO.:	2023-009
SHEET	TS



1 SITE PLAN - HORIZONTAL TANK
SCALE 1"=10'



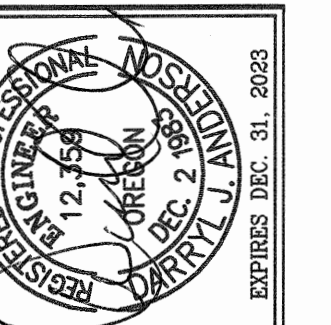
2 PIPE PROFILE - HORIZONTAL TANK
SCALE H:1"=10' V:1"=5'

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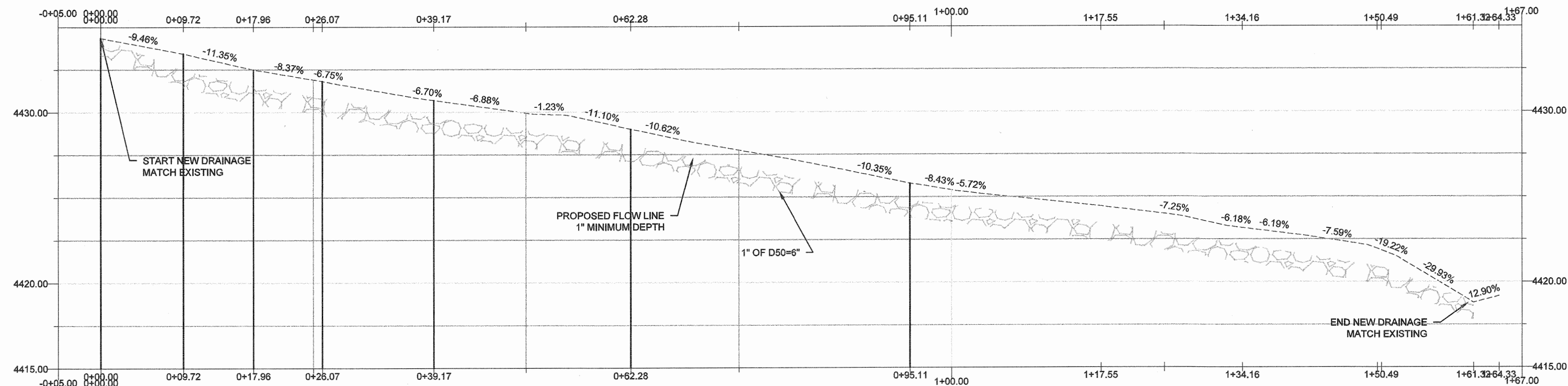
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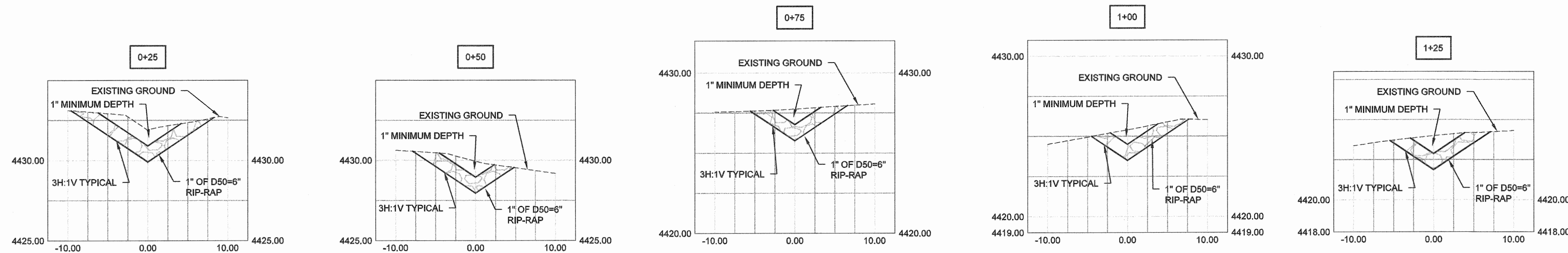
20,000 GALLON HORIZONTAL TANK
SITE PLAN
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C1



1 PROFILE - NEW DRAINAGE
SCALE H:1"=10'
V:1"=5'

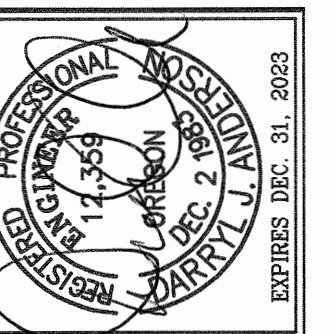


2 CROSS SECTIONS - NEW DRAINAGE
SCALE H:1"=10'
V:1"=5'

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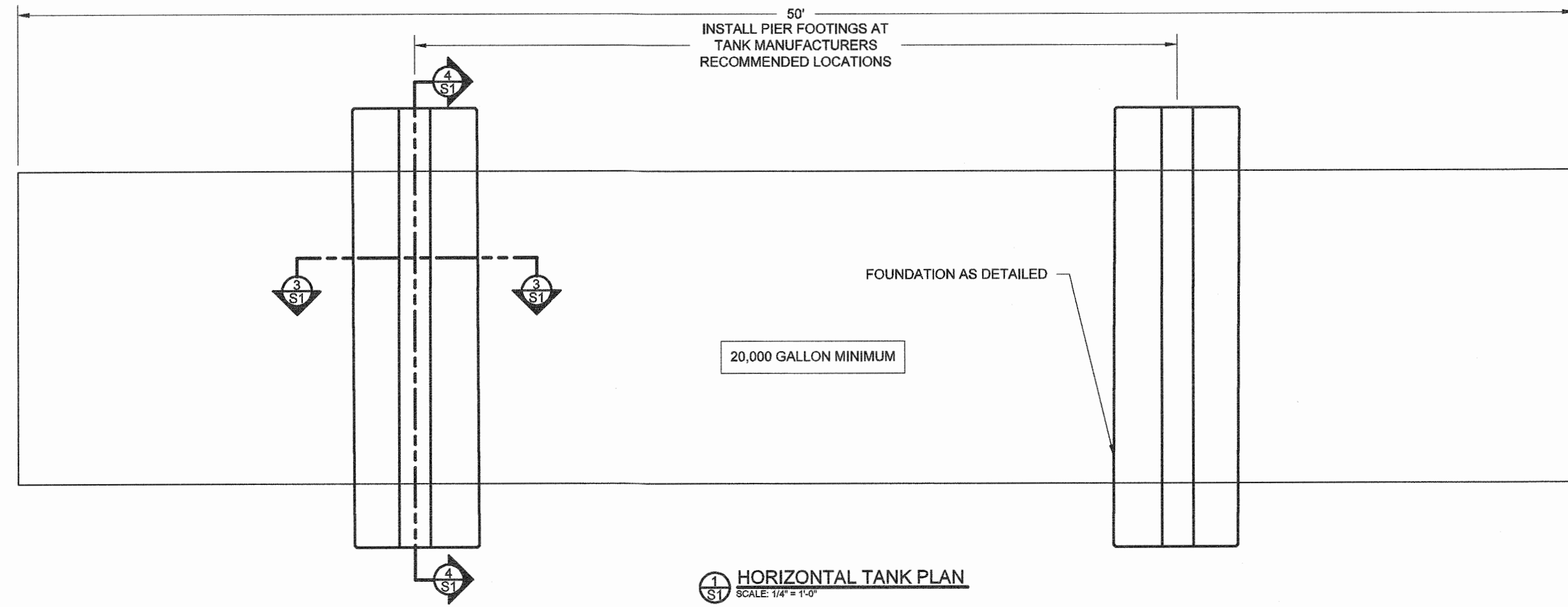


20,000 GALLON TANK
NEW DRAINAGE PROFILE AND CROSS SECTIONS
OREGON INSTITUTE OF TECHNOLOGY
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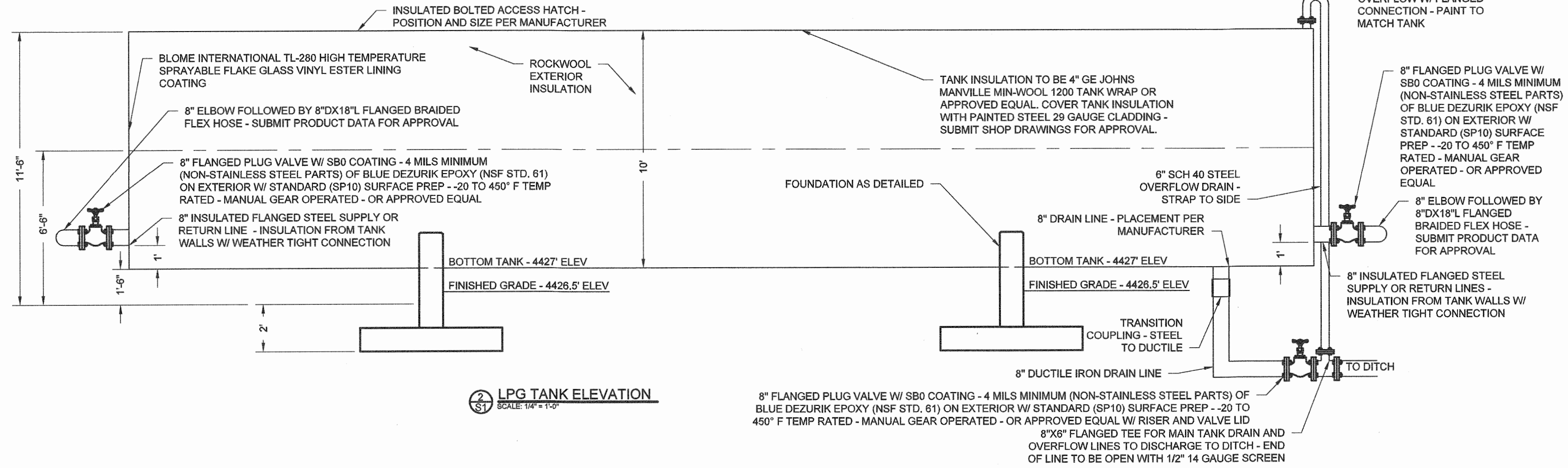
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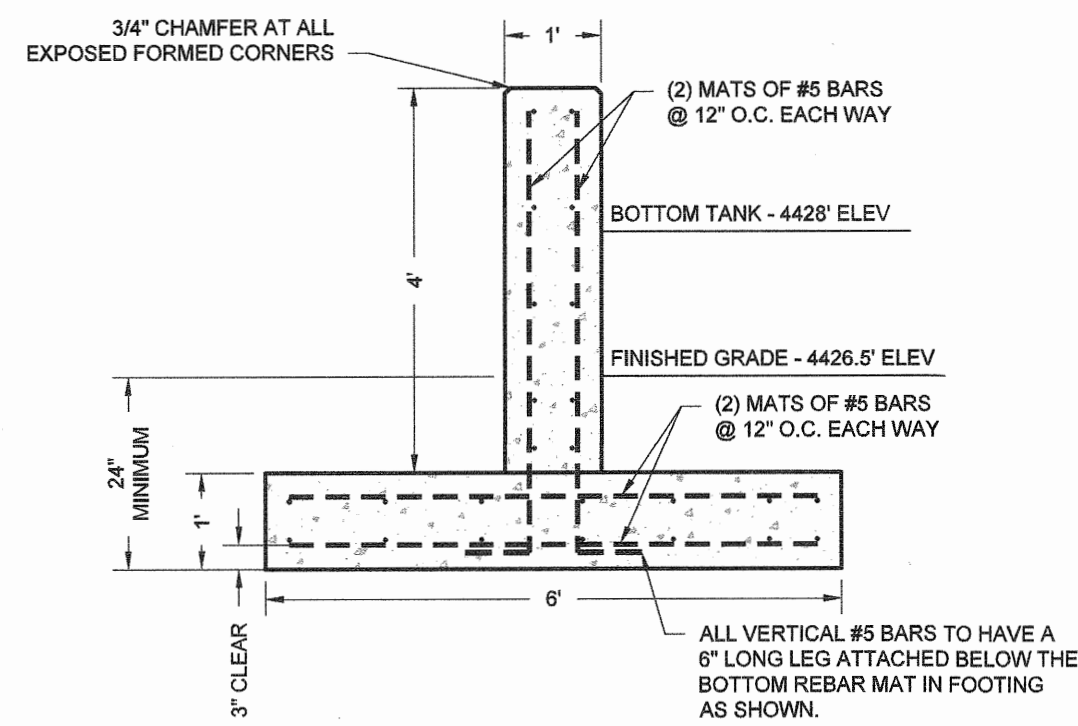
C2



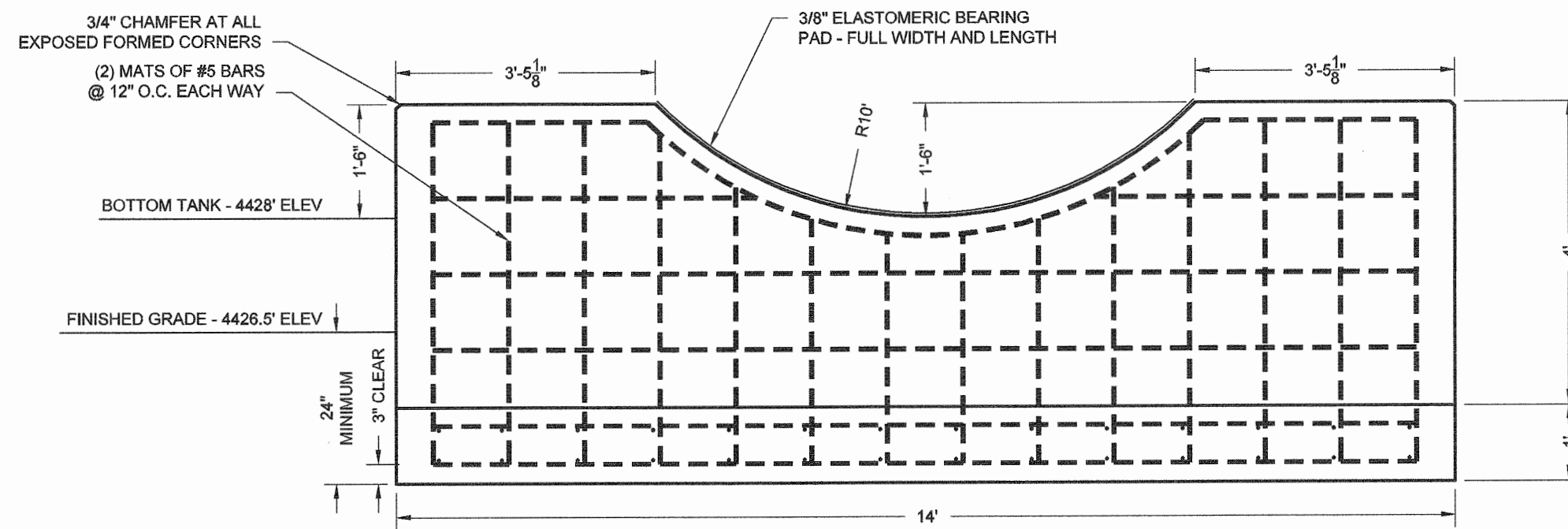
1 HORIZONTAL TANK PLAN
SCALE: 1/4" = 1'-0"



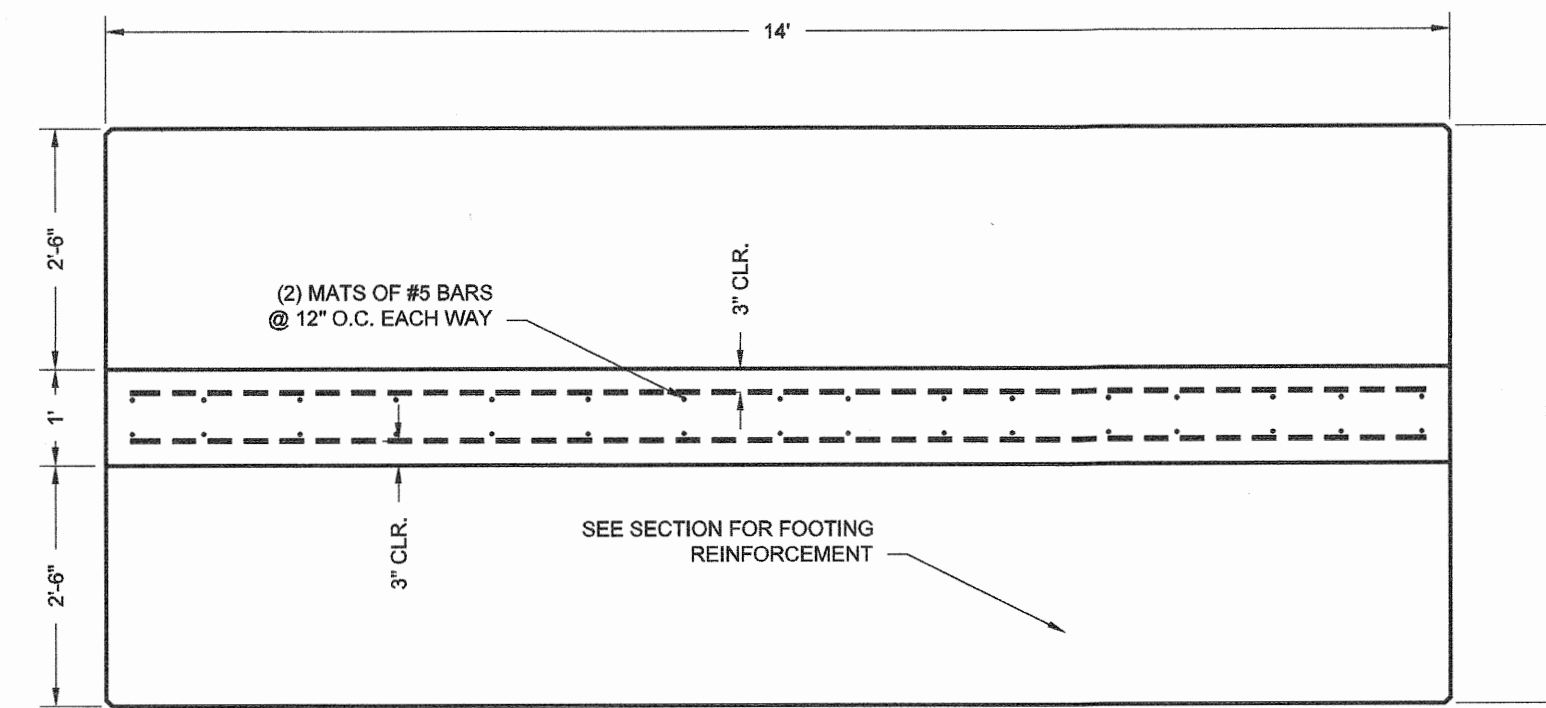
2 LPG TANK ELEVATION
SCALE: 1/8" = 1'-0"



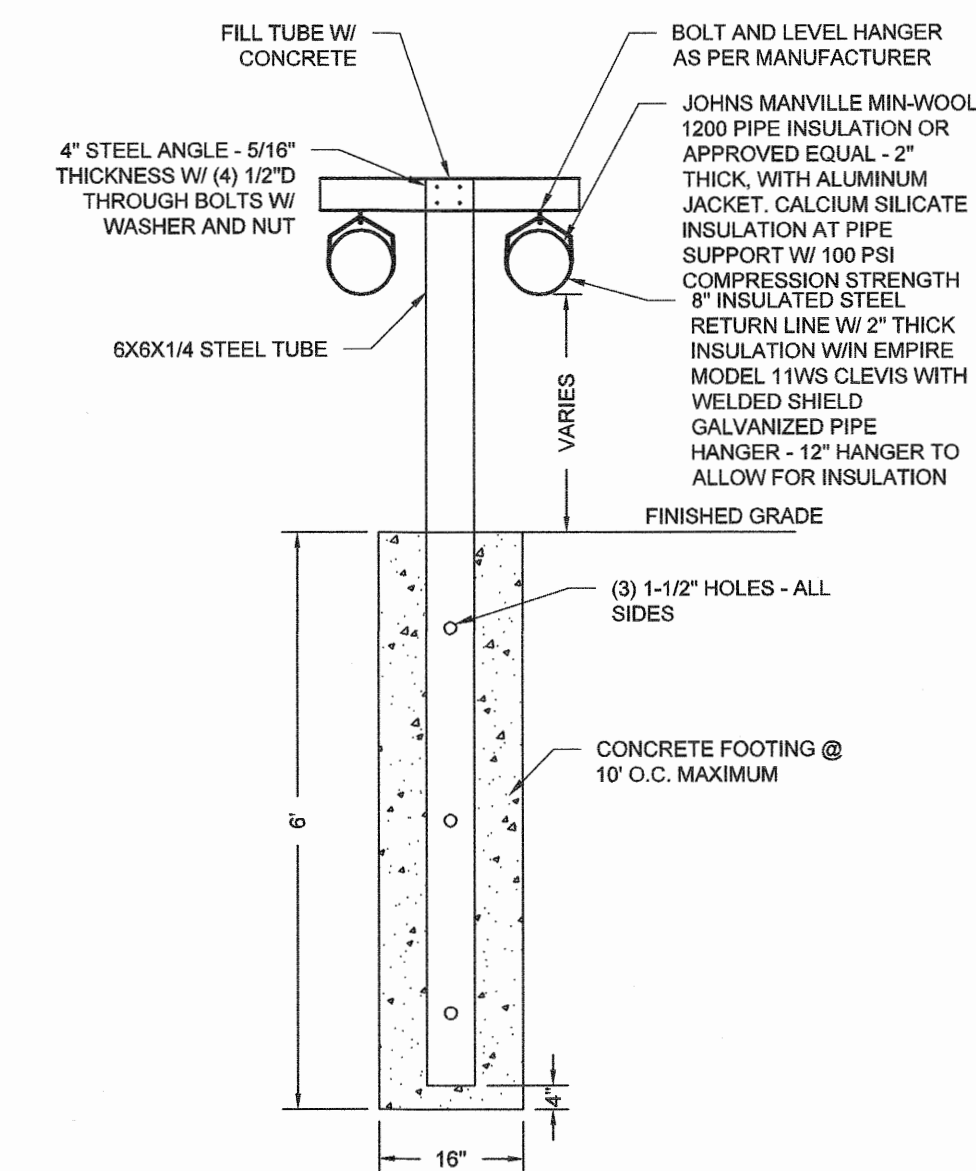
3 PIER FOOTING SECTION
SCALE: 1/2" = 1'-0"



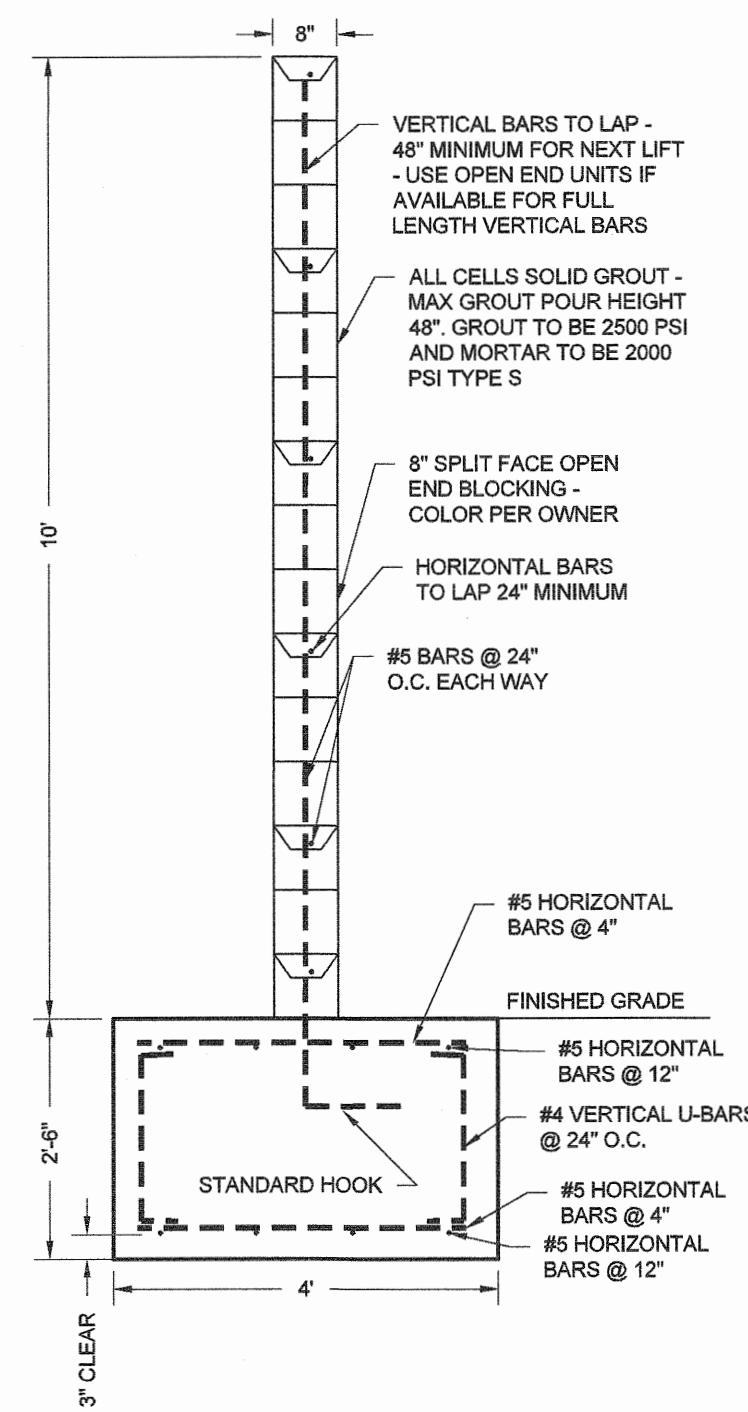
4 PIER FOOTING ELEVATION
SCALE: 1/2" = 1'-0"



5 PIER FOOTING PLAN
SCALE: 1/2" = 1'-0"



6 PIPE HANGER DETAIL
SCALE: 1/2" = 1'-0"

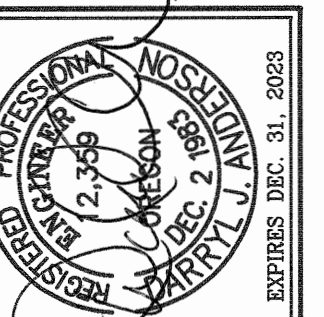


7 BLOCK WALL SECTION
SCALE: 1/8" = 1'-0"

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