

IOWA DEPARTMENT OF NATURAL RESOURCES
CONSTRUCTION DOCUMENTS
FOR
POND FILTER SYSTEM – REBID
AT
SPIRIT LAKE FISH HATCHERY
DICKINSON COUNTY, IOWA

PROJECT #21-01-30-10
PLANS PREPARED BY
LAND AND WATERS BUREAU
CONSERVATION AND RECREATION DIVISION



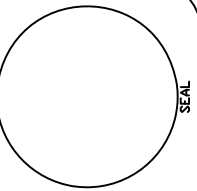
I hereby certify that this architectural document was prepared by me or under my direct personal supervision and that I am a duly Registered Professional Architect under the laws of the State of Iowa.

RYAN E. RICHEY DATE

My license renewal date is June 30, 2021.

Pages or sheets covered by this seal:



A-001 – A-101



IOWA DEPARTMENT OF
NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034
P: 515.725.8200
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AUTHORIZATION TO BID

	1/15/2021		1/15/2021
BUREAU CHIEF - LAND AND WATERS	DATE	PARKS WILDLIFE FISHERIES LAW ENFORCEMENT	DATE

DIRECTORY

ARCHITECT		DNR INSPECTOR	
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES
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THIS PROJECT WILL INSTALL A NEW CONCRETE STRUCTURE TO HOLD A NEW TRAVELING WATER SCREEN FOR FILTERING MAJOR PARTICULATE FROM THE WATER IN THE HOLDING POND, BEFORE IT IS PUMPED INTO THE HATCHERY BUILDING. THIS PROJECT WILL BRING NECESSARY POWER, TO THE SITE AND INSTALL A CONCRETE STRUCTURE TO HOLD THE SCREEN SYSTEM. THE CONTRACTOR SHALL PURCHASE AND INSTALL THE SCREEN SYSTEM AS SPECIFIED.

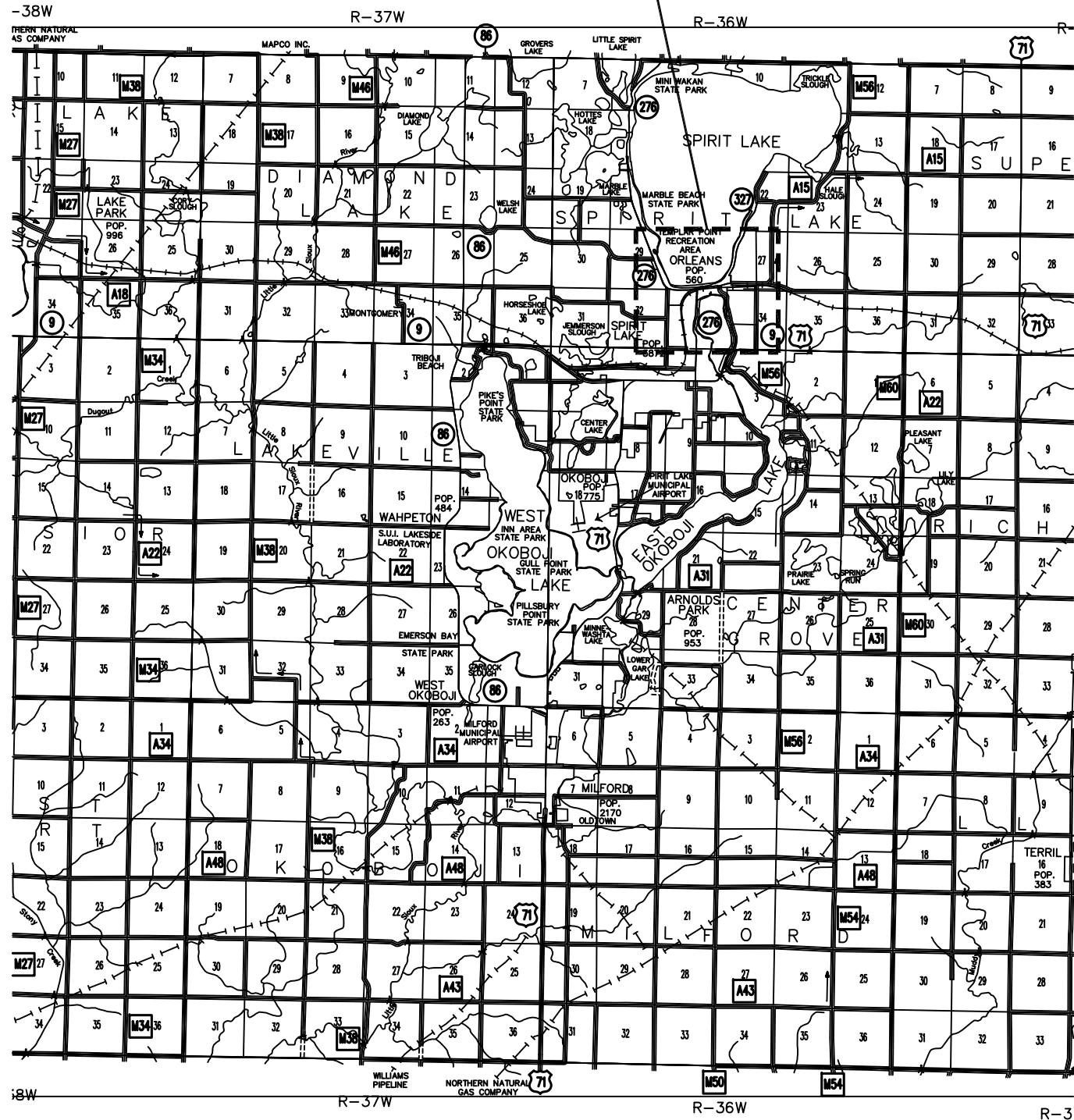
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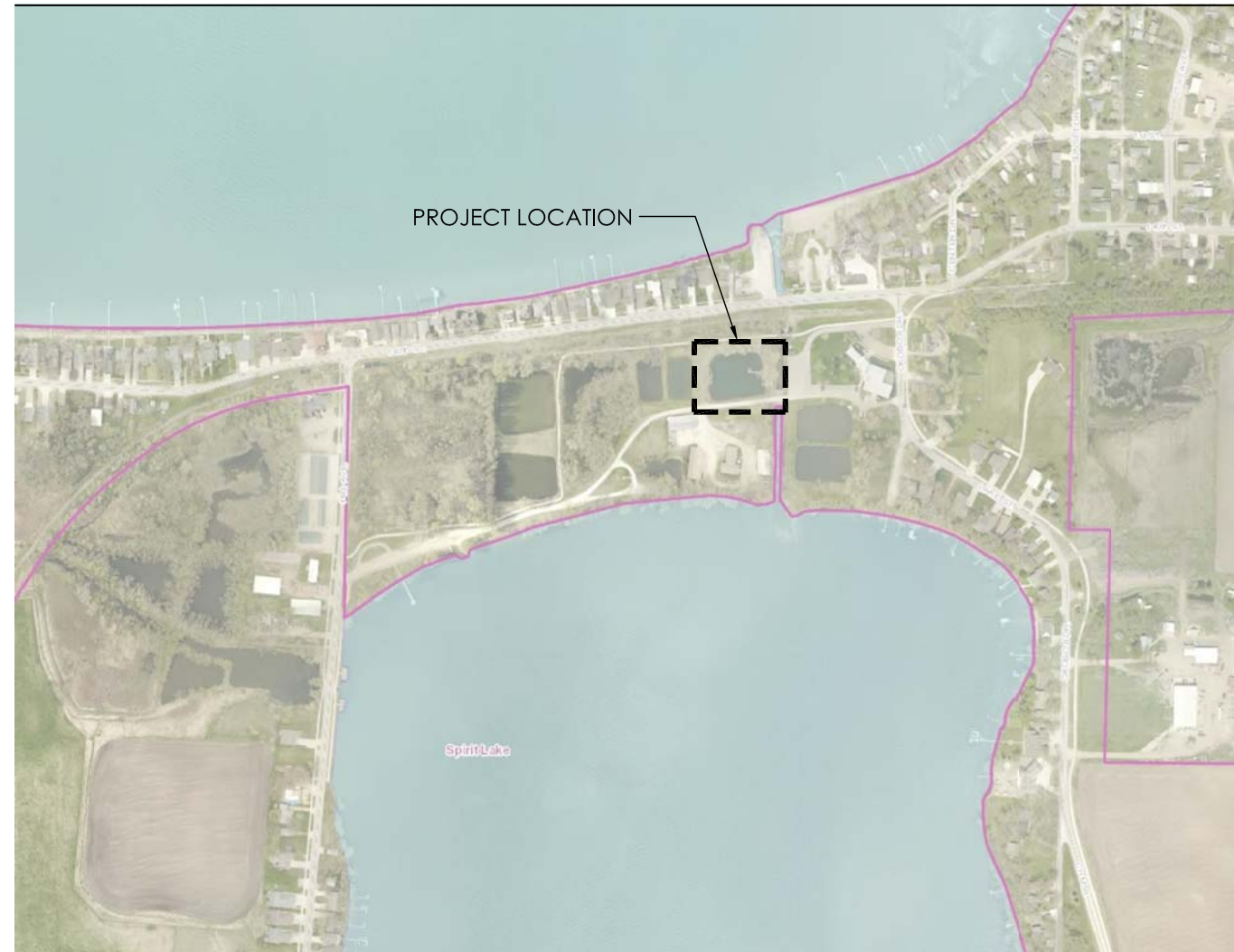
WATER FILTER SCREEN FOR:
SPIRIT LAKE HATCHERY
122 252ND AVE.
SPIRIT LAKE, IA 51360

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DATE	21-01-30-10
DWG NO.	DATE
	01.19.2020
SHEET No	
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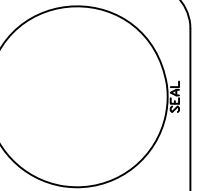
SPIRIT LAKE FISH HATCHERY



DICKINSON COUNTY, IOWA



SPIRIT LAKE HATCHERY COMPLEX



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A-002	

GENERAL CONSTRUCTION NOTES

VERIFY ACTUAL LOCATIONS AND ELEVATIONS WITH DNR ENGINEER.

ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES.

THE CONTRACTOR SHALL VISIT THE SITE AND INSPECT THE PROJECT AREA AND THOROUGHLY FAMILIARIZE THEMSELVES WITH THE ACTUAL JOB CONDITIONS PRIOR TO BIDDING AND THE START OF WORK. FAILURE TO VISIT THE PROJECT SITE SHALL NOT RELIEVE THE CONTRACTOR FROM PERFORMING THE WORK IN ACCORDANCE TO THE PLANS, SPECIFICATION, SPECIAL PROVISIONS AND CONTRACT.

THE CONTRACTOR SHALL VERIFY, AT THE SITE, ALL DIMENSIONS AND CONDITIONS SHOWN ON THE PLANS AND SHALL NOTIFY THE DNR ENGINEER OF ANY DISCREPANCIES, OMISSIONS, AND/OR CONFLICTS PRIOR TO PROCEEDING WITH THE WORK.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL (EXCAVATED MATERIAL OR BROKEN CONCRETE) WHICH IS NOT DESIRABLE TO BE INCORPORATED INTO THE WORK INVOLVED ON THIS PROJECT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. NO MATERIAL SHALL BE PLACED WITHIN THE RIGHT-OF-WAY, UNLESS SPECIFICALLY STATED IN THE PLANS OR APPROVED BY THE DNR ENGINEER.

THE CONTRACTOR SHALL NOT DISTURB DESIRABLE GRASS AREAS AND DESIRABLE TREES OUTSIDE THE CONSTRUCTION LIMITS. THE CONTRACTOR WILL NOT BE PERMITTED TO PARK OR SERVICE VEHICLES AND EQUIPMENT OR USE THESE AREAS FOR STORAGE OF MATERIALS. STORAGE, PARKING AND SERVICE AREAS WILL BE SUBJECT TO THE APPROVAL OF THE DNR ENGINEER.

WHERE UTILITIES AND FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DNR ENGINEER OF THOSE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL BE AFFORDED ACCESS TO THESE FACILITIES FOR NECESSARY MODIFICATION OF SERVICES. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS AND THEREFORE THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS PRESENTLY NOT KNOWN OR SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION AND TO AVOID DAMAGE THERETO. NO CLAIMS FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.

THE CONTRACTOR SHALL SHAPE GRADED AREA TO MAINTAIN SURFACE DRAINAGE. ALL ELEVATIONS ARE TO FINISH GRADE.

THE CONTRACTOR IS EXPECTED TO HAVE MATERIALS, EQUIPMENT, AND LABOR AVAILABLE ON A DAILY BASIS TO INSTALL AND MAINTAIN EROSION CONTROL FEATURES ON THE PROJECT. THIS MAY INVOLVE SEEDING, SILT FENCE, ROCK DITCH CHECKS, SILT BASINS OR SILT DIKES.

PROJECT NARRATIVE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL ITEMS WITHIN THIS NARRATIVE, THE DRAWINGS, AND PROJECT MANUAL UNLESS SPECIFICALLY NOTED OTHERWISE. THIS NARRATIVE IS NOT MEANT TO BE A COMPREHENSIVE ACCOUNT OF ALL ITEMS TO BE COVERED BY THE CONTRACT, REVIEW ALL DOCUMENTS. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND QUANTITIES PRIOR TO CONSTRUCTION.

CONTRACTOR SHALL DEMOLISH EXISTING DOCK PIER AND ROCK FILTER SYSTEM IN ITS ENTIRETY. THE CONTRACTOR SHALL REMOVE ALL ITEMS DOWN TO THE CONCRETE PAD, WHICH THE CONTRACTOR SHALL CLEAN AND PREPARE FOR A NEW CAST-IN-PLACE CONCRETE STRUCTURE WHICH WILL HOUSE THE NEW TRAVELING SCREEN FILTRATION SYSTEM. CONTRACTOR SHALL CUT EXISTING TREE DOWN ON JETTY AND GRIND THE STUMP TO A MINIMUM OF 12" BELOW TOP OF THE GRADE. CONTRACTOR SHALL FILL HOLE, COMPACT AND RESTORE THE AREA.

CONTRACTOR SHALL INSTALL NEW CAST-IN-PLACE CONCRETE STRUCTURE OVER THE EXISTING CONCRETE PAD, AND ADD ALL ACCESSORY ITEMS AS SHOWN IN THE PLANS. THE CONTRACTOR SHALL BUILD AN EARTH JETTY WITH A 10'-0" WIDE DRIVING LANE ON THE TOP OF THE BERM AS SHOWN. THE CONTRACTOR SHALL PLACE 25 TONS OF IDOT CLASS A SURFACING STONE, 4" DEEP, ALONG JETTY TOP. CONTRACTOR SHALL ALSO PLACE 125 TONS OF IDOT CLASS D RIPRAP, OVER ENGINEERING FABRIC, ALONG SHORELINE OF NEW JETTY AND AROUND EDGES OF SHORELINE. BEGIN RIPRAP AT ELEVATION 1397.95' DOWN TO TOE OF JETTY. CONTRACTOR SHALL INSTALL A SECURITY FENCE WITH 10'-0" SWING GATE OVER NEW JETTY TO THE SHORE.

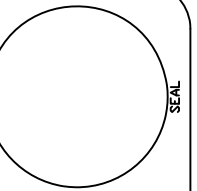
THE CONTRACTOR SHALL THEN RUN NEW ELECTRICAL POWER FROM THE EXISTING DISTRIBUTION PANEL TO THE SOUTH (ROUGHLY 200 LINEAR FEET, CONTRACTOR TO VERIFY). CONTRACTOR TO OPEN-TRENCH THE ELECTRICAL LINE UNDER THE EXISTING ROAD. CONTRACTOR SHALL CREATE A UNI-STRUT HANGING SYSTEM FOR THE ELECTRICAL EQUIPMENT AND THE CONTRACTOR SHALL INSTALL A CUT-OFF SWITCH AND CONTROL BOX (SUPPLIED BY SCREEN MANUFACTURER), AND ALSO INSTALL TWO (2) EXTERIOR 220V DEDICATED OUTLETS AND AN EXTERIOR DUPLEX 110V OUTLET.

CONTRACTOR SHALL PURCHASE AND INSTALL NEW TRAVELING WATER SCREEN FILTER AS DESCRIBED IN THE DRAWINGS AND SPECIFICATION. THIS SCREEN SHALL FIT IN THE SPECIFIED AREA SHOWN ON THE PLANS, CONTRACTOR TO VERIFY DIMENSIONS OF TRAVELING SCREEN TO ENSURE PROPER FIT. CONTRACTOR SHALL ALSO REMOVE THE EXISTING OVER-FLOW PIPE AND INSTALL A NEW 12" CMP ALUMINIZED TYPE 2 OVER-FLOW PIPE IN A LOCATION DESIGNATED BY THE DNR INSPECTOR.

DEWATERING - THE DNR WILL LOWER THE WATER LEVEL IN THE POND TO A LEVEL NO MORE THAN 2'-0" ABOVE THE LEVEL OF THE EXISTING CONCRETE BASE. AND COFFERING OR FURTHER DEWATERING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

BID ITEMS

ITEM NUMBER	ITEM DESCRIPTION	ESTIMATED QUANTITY
1	DEMOLITION	LUMP SUM
2	EARTH JETTY	265 CY
3	CONCRETE STRUCTURE AND ACCESSORIES	LUMP SUM
4	TRAVELING WATER SCREEN FILTER	LUMP SUM
5	ELECTRICAL	LUMP SUM
6	RESTORATION	LUMP SUM
7	FENCING AND GATE	LUMP SUM
8	TREE STUMP GRINDING	LUMP SUM
9	DEWATERING/COFFER DAM	LUMP SUM
10	12" CMP (16 GA. ALUMINIZED TYPE 2)	25 LF
11	CLASS D RIPRAP AND FABRIC	125 TONS
12	CLASS A SURFACING STONE	25 TONS
13	MOBILIZATION	LUMP SUM



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WATER FILTER SCREEN FOR:
SPIRIT LAKE HATCHERY

SPIRIT LAKE, IA 51360

122 252ND AVE.

DRAWN BY: PROJECT NUMBER:
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DATE: 01.19.2020

SHEET No:

A-003

SPECIFICATION NOTES

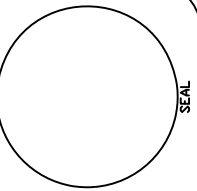
- * DIVISIONS 20-41 OF THE STANDARD SPECIFICATIONS FOR BRIDGE AND HIGHWAY CONSTRUCTION, CURRENT EDITION WITH GS-15011 SHALL APPLY TO THIS PROJECT.
- * PLEASE SEE SPECIFICATION SECTION 46000 IN THE PROJECT MANUAL FOR INFORMATION REGARDING THE TRAVELING SCREEN SYSTEM AND REQUIREMENTS.

KEYNOTES

1. 4'-0" WIDE X 17'-0" LONG TRAVELING WATER FILTRATION SCREEN WITH BUILT-IN SPRAY WASHER. REFER TO SPECIFICATIONS FOR MORE INFORMATION
2. 8" THICK, THREE SIDED CAST-IN-PLACE CONCRETE SCREEN STRUCTURE, AS SHOWN. REINFORCE WITH EPOXY COATED #4 REBAR, 12" O.C. BOTH DIRECTIONS. #4 DOWELS, 12" O.C., INTO EXISTING CONCRETE PAD MINIMUM 4" DEEP, EPOXY SET DOWEL ANCHORS.
3. 4" X 4" X $\frac{3}{8}$ " GALVANIZED ANGLE, 11'-0" LONG BOTH SIDES, AS SHOWN, FOR A TRACK TO HOLD THE FILTER SCREEN MECHANISM. WELD 3" X $\frac{3}{8}$ " BAR ONTO ANGLE, LEAVING A $\frac{1}{2}$ " GAP PRIOR TO GALVANIZATION. ANCHOR BOLT ONTO CONCRETE STRUCTURE WITH $\frac{1}{2}$ " CONCRETE ANCHORS EVERY 12", EMBED 4" MINIMUM. REFER TO DETAIL 02/A-011.
4. 3" X 3" X $\frac{3}{8}$ " GALVANIZED ANGLE BOLTED TO SIDES OF CONCRETE STRUCTURE WITH $\frac{1}{4}$ " ANCHORS, 8" O.C.
5. 1 $\frac{1}{2}$ " X 1 $\frac{1}{2}$ " X $\frac{3}{16}$ " GALVANIZED ANGLE BOLTED TO TOP OF ANGLE IRON BELOW WITH $\frac{3}{8}$ " HEX-HEAD GALVANIZED BOLTS AND GALVANIZED NUTS WITH LOCK-WASHERS BOTH SIDES.
6. 3'-2" X 2'-0" GW150 HOT-DIPPED GALVANIZED STEEL GRATING - SMOOTH, WELD 14GA STEEL DIAMOND TREAD PLATE TO ENTIRE TOP OF GRATING (ASTM A-786). FIT INTO OPENING ON TOP OF STRUCTURE, AS SHOWN.
7. 1'-0" X 4'-0" X $\frac{1}{4}$ " A36 STEEL, GALVANIZED GUARD PLATE, ANCHOR BOLT TO CONCRETE STRUCTURE WITH $\frac{3}{8}$ " ANCHORS, 3" O.C.
8. EXISTING CONCRETE SLAB TO REMAIN. CLEAN, PREP, AND ROUGH SURFACE OF CONCRETE FOR NEW CAST-IN-PLACE CONCRETE STRUCTURE.
9. EXISTING INLET WATER PIPE TO REMAIN.
10. EXISTING POND BOTTOM.
11. EXISTING POND TO REMAIN.
12. EXISTING EARTHEN BERM TO REMAIN.
13. RUN ELECTRICAL FROM EXISTING DISTRIBUTION PANEL IN CONDUIT TO TRAVELING SCREEN.
14. GALVANIZED 2" DIAMETER POSTS, 7'-0" LONG, BURY 4'-0" DEEP WITH UNI-STRUT ELECTRICAL HANGERS FOR ASSOCIATED ELECTRICAL EQUIPMENT, REFER TO DETAIL 01/A-011.
15. CONTROL-BOX BY SCREEN MANUFACTURER, CONTRACTOR TO HANG ON UNI-STRUT.
16. DISCONNECT SWITCH TO BE PROVIDED AND INSTALLED BY CONTRACTOR, HANG ON UNI-STRUT.
17. CONTRACTOR TO INSTALL TWO DEDICATED CIRCUITS WITH 220 OUTLETS TO POWER TWO 208V 3 PHASE, 16.2 AMP, 5 HP AERATORS, AND ONE DEDICATED CIRCUIT WITH A 20A DUPLEX 110 OUTLET.
18. DEMOLISH EXISTING ROCK CRIB WATER FILTER SYSTEM TO THE CONCRETE SLAB.
19. DEMOLISH EXISTING PIER DOCK SYSTEM.
20. CUT DOWN AND REMOVE EXISTING TREE, GRIND STUMP MINIMUM OF 12" BELOW SURFACE OF GRADE, FILL AND COMPACT HOLE TO MATCH EXISTING GRADE AND RESTORE AREA.
21. EARTH FILL JETTY, TOP OF JETTY TO BE A 1402.0', TAPERING TO TOP OF CONCRETE STRUCTURE AT A 2:1 SIDE SLOPE WITH 10'-0" FLAT TOP FOR A DRIVE LANE. CONTRACTOR TO PLACE 125 TONS OF IDOT CLASS D RIPRAP, OVER ENGINEERING FABRIC, ALONG SIDES OF JETTY AT ELEVATION 1397.95' DOWN TO TOE OF SLOPE. REFER TO SHEETS A-006, A-010, AND A-011 FOR MORE INFORMATION.
22. 6'-0" TALL, BLACK VINYL COATED CHAIN-LINK FENCE WITH TWO 6'-0" SWING-GATES, REFER TO SHEET A-012.
23. ELECTRICAL TEATHER TO TRAVELING SCREEN.
24. EXISTING POND OVER-FLOW PIPE TO BE REMOVED AND DISPOSED.
25. POND POOL LEVEL.
26. FILET WELD.
27. ANCHOR BOLT
28. 25'-0" OF 12" CMP 16GA ALUMINIZED TYPE 2 FOR OVERFLOW CONTROL.
29. EXISTING WATER VALVE STRUCTURE TO REMAIN, PROTECT IN PLACE.
30. 25 TONS, 4" DEEP, IDOT CLASS A SURFACING STONE ON THE TOP OF JETTY, DNR INSPECTOR TO DIRECT WHERE EXTRA SURFACING STONE TO BE PLACED.

GENERAL NOTES

- A. FIELD VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.
- B. ALL TRADES SHALL COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES AND PERFORMED BY CERTIFIED AND/OR LICENSED PROFESSIONALS.
- C. CONTRACTOR TO VERIFY SOURCE OF POWER AND PROVIDE ALL NECESSARY MATERIALS, EQUIPMENT, AND LABOR TO RUN POWER TO TRAVELING SCREEN, AND OUTLETS FOR PROPER FUNCTIONALITY. ALL ELECTRICAL TO BE CODE COMPLIANT AND INSPECTED BY THE STATE ELECTRICAL INSPECTOR.
- D. ALL WIRING ON DNR PROPERTY TO BE UNDERGROUND IN CONDUIT AND ALL ROAD CROSSINGS TO BE DIRECTIONALLY BORED.

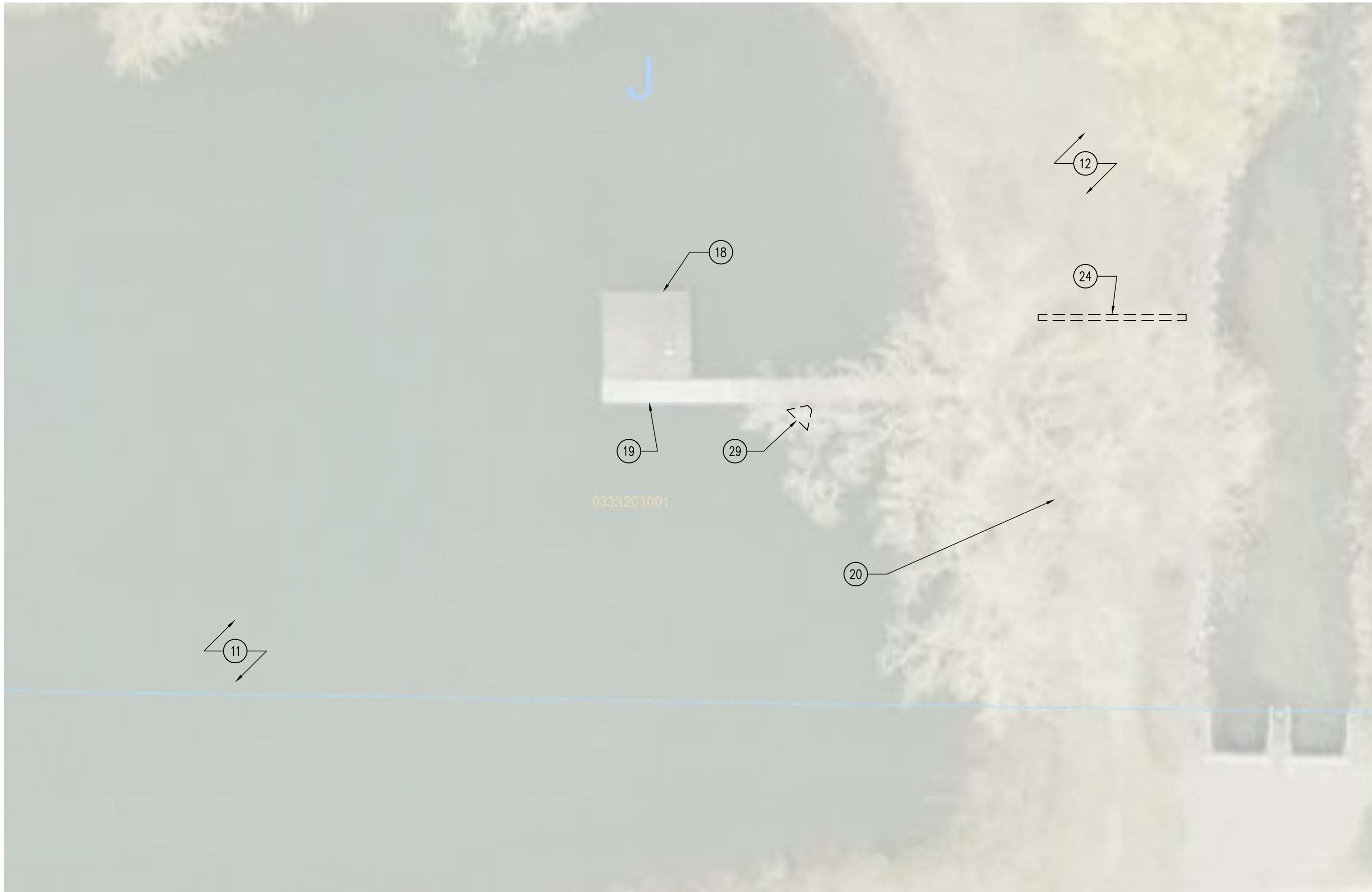


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WATER FILTER SCREEN FOR:
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122 252ND AVE.
SPIRIT LAKE, IA 51360

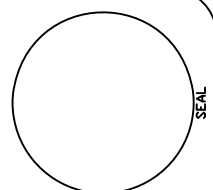
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CHKD BY:	21-01-30-10
SHEET No:	DATE:
	01.19.2020
A-004	



01

DEMOLITION PLAN – EXISTING DOCK AND ROCK CRIB

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



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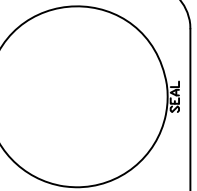
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BORROW SITE

BORROW SITE HAUL ROUTE
 STARING FROM BORROW SITE
 210TH STREET EAST TO 260TH AVENUE (HWY M56)
 260TH AVENUE (HWY M56) NORTH TO US 71/IA HWY 9
 US 71/IA HWY 9 EAST TO 255TH AVENUE
 255TH AVENUE NORTH TO 140TH STREET
 140TH STREET WEST TO OKOBOJI DRIVE
 OKOBOJI DRIVE SOUTH & WEST TO PROJECT SITE
 TOTAL HAUL LENGTH = 11 MILES

NOTE: THE CONTRACTOR MAY USE ANOTHER SOURCE FOR THE BORROW FILL, PROVIDING IT IS OF GOOD QUALITY. CONTRACTOR NEEDS TO SEED/MULCH ALL DISTURBED AREAS OF THE BORROW SITE.



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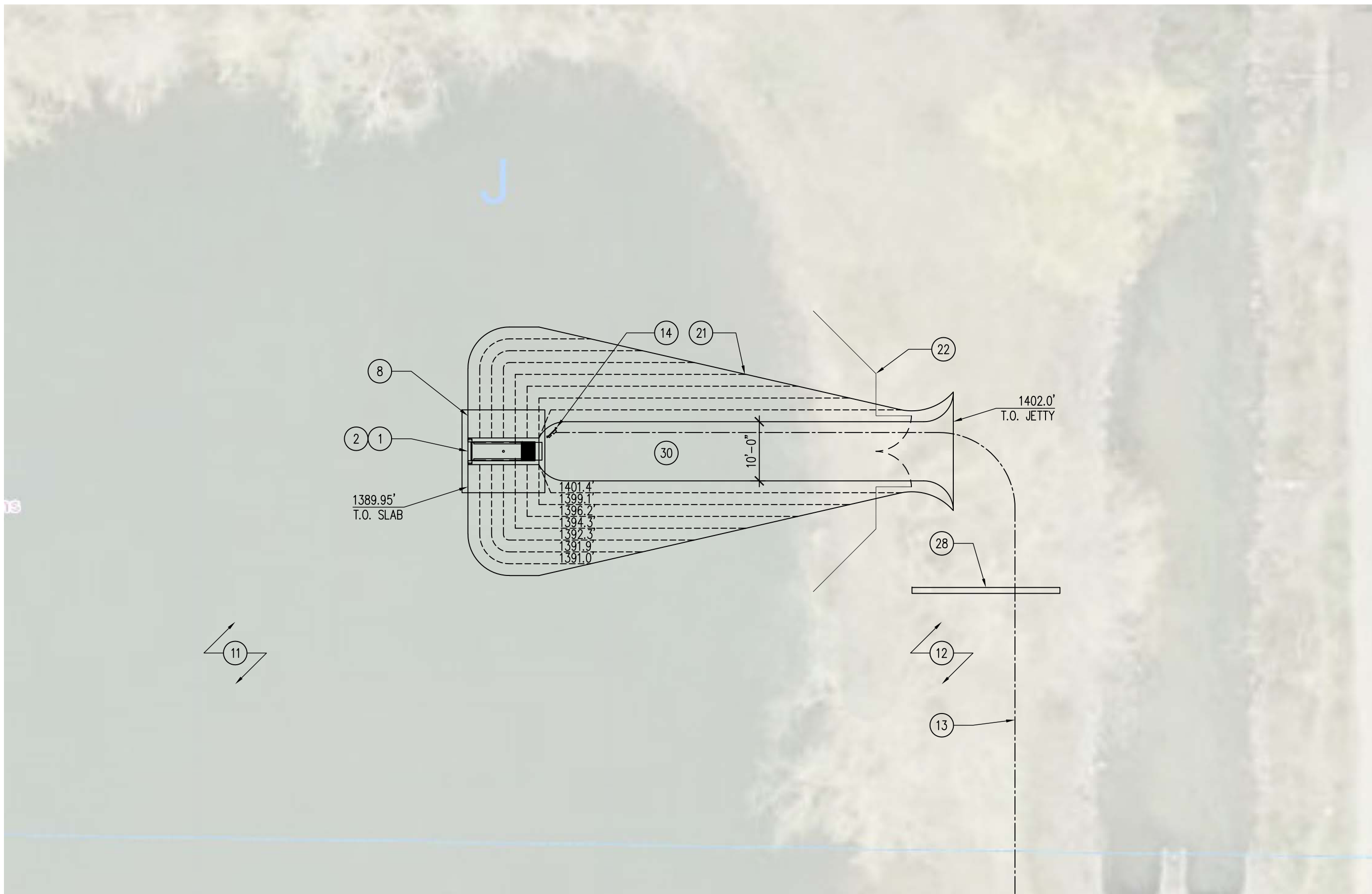
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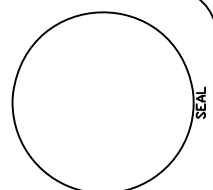
SHEET No: **A-006**



01

SITE PLAN – IN-TAKE STRUCTURE AND JETTY

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



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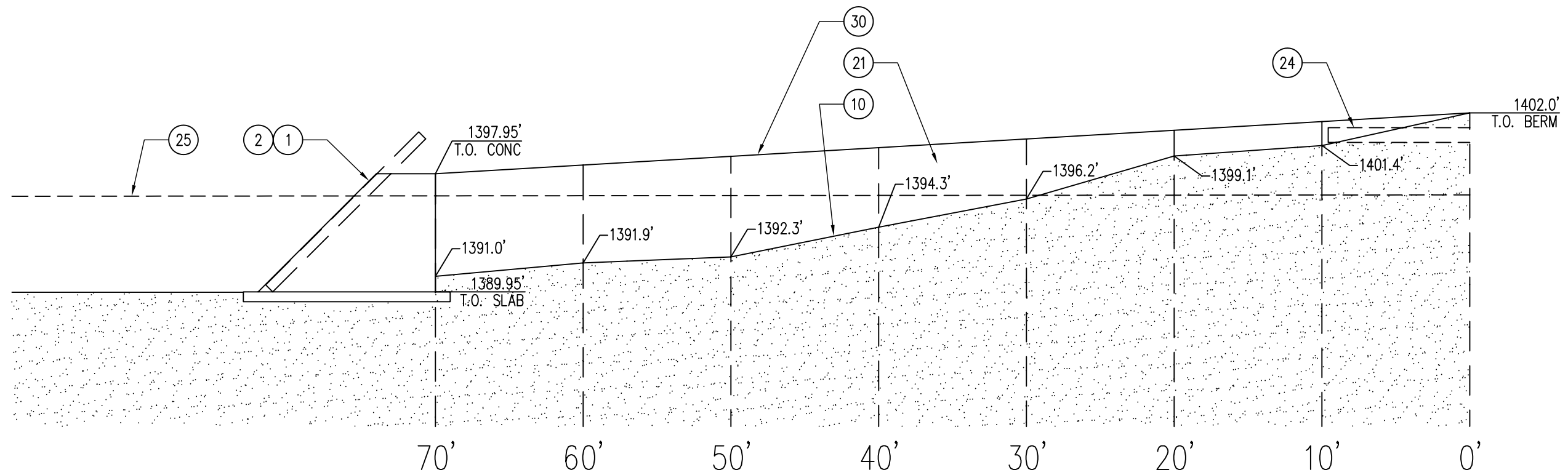
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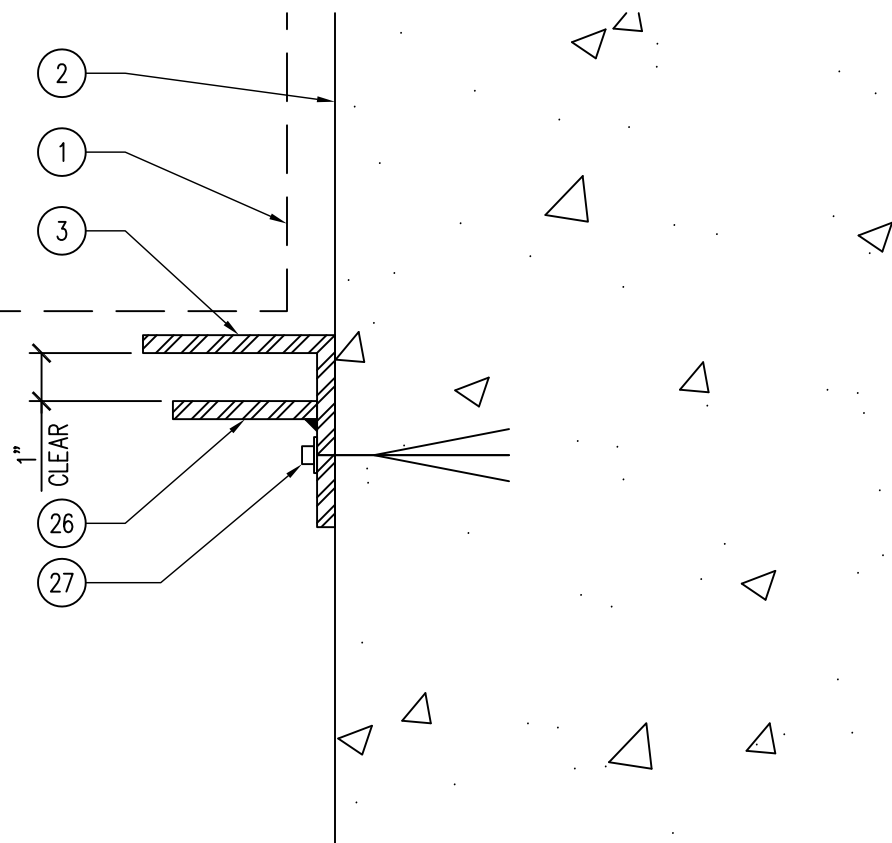
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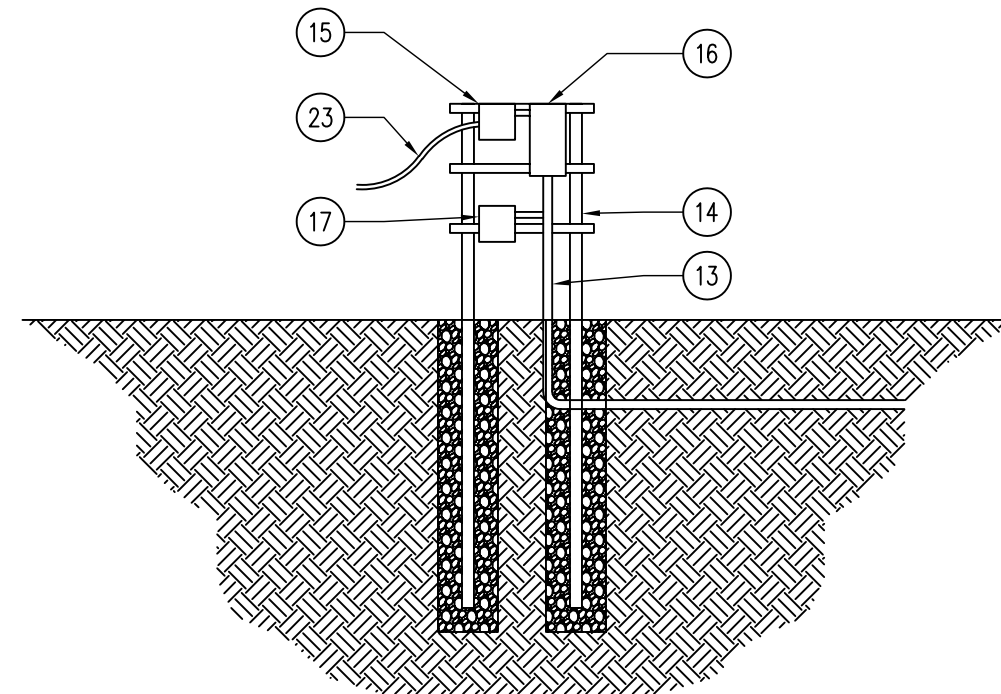
A-010



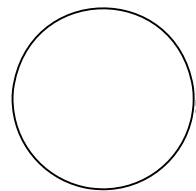
03 SITE PLAN – IN-TAKE STRUCTURE AND JETTY
SCALE: 1/16" = 1'-0"



02 DETAIL – ANGLE IRON RUNNER AND SCREEN SLOT
SCALE: 1/16" = 1'-0"



01 DETAIL – ELECTRICAL HANGER BOARD
SCALE: 3/8" = 1'-0"



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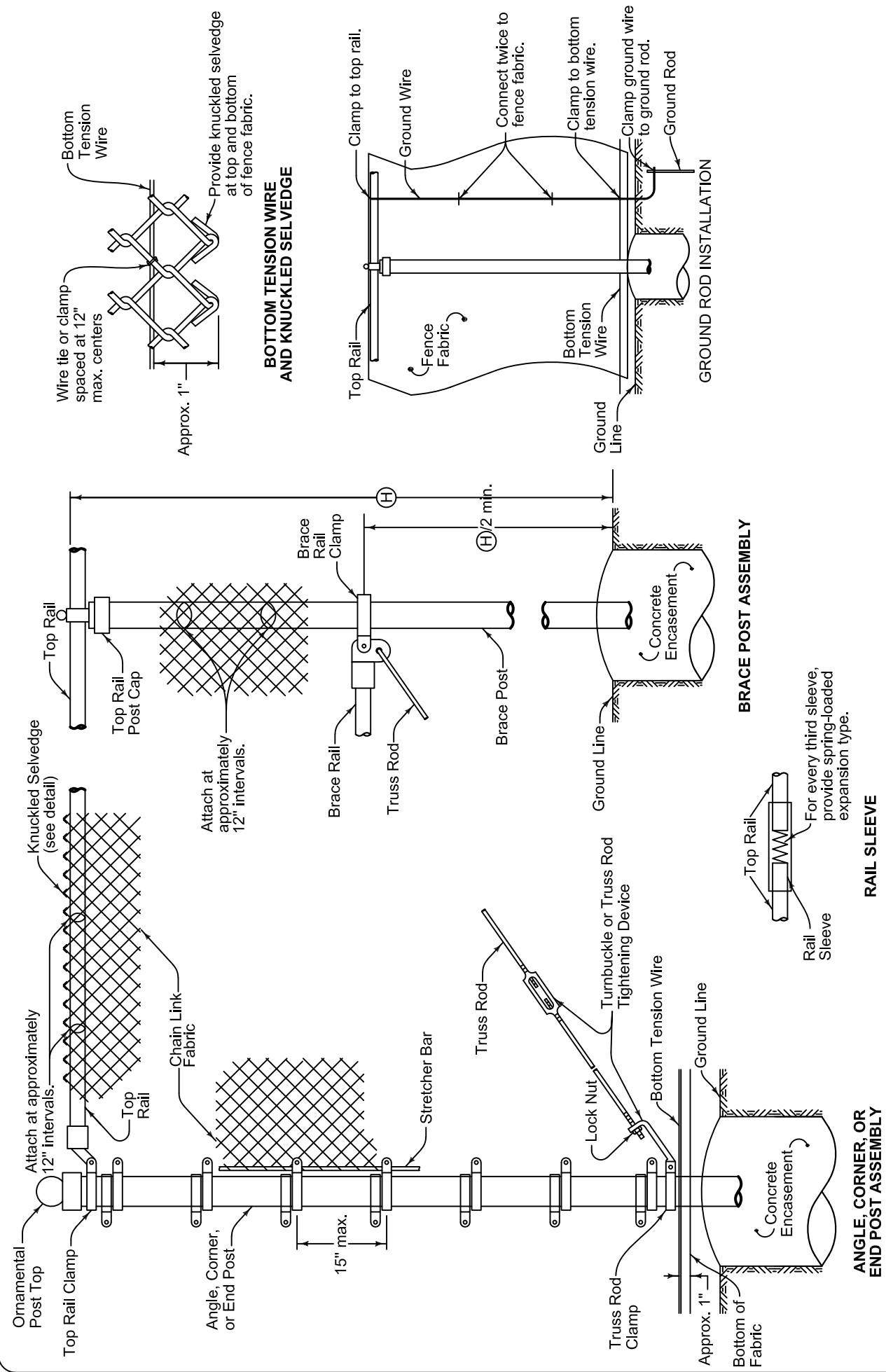


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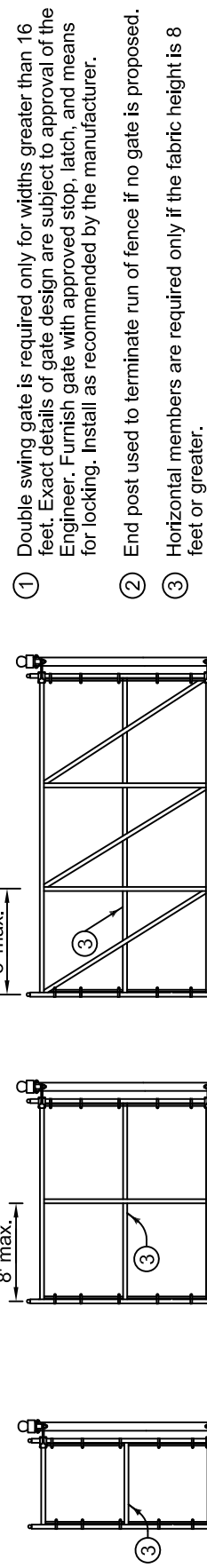
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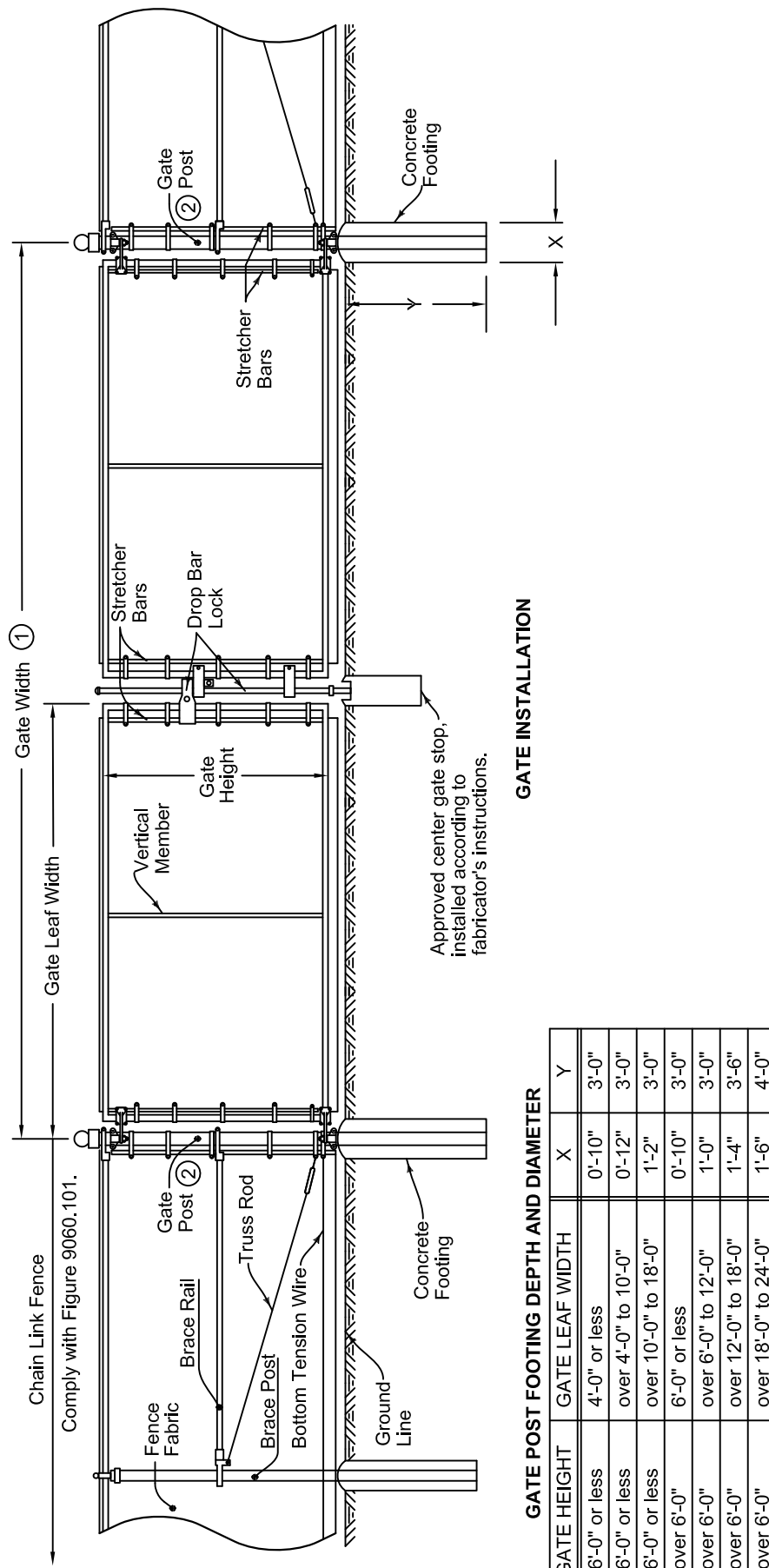
02 DETAIL - CHAIN-LINK FENCING

SCALE: NTS



FRAME PATTERNS FOR VARIOUS GATE OPENINGS

- Double swing gate is required only for widths greater than 16 feet. Exact details of gate design are subject to approval of the Engineer. Furnish gate with approved stop, latch, and means for locking. Install as recommended by the manufacturer.
- End post used to terminate run of fence if no gate is proposed.
- Horizontal members are required only if the fabric height is 8 feet or greater.



01 DETAIL - CHAIN-LINK SWING GATE

SCALE: NTS

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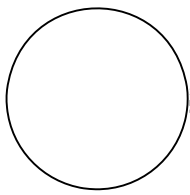
122 252ND AVE.

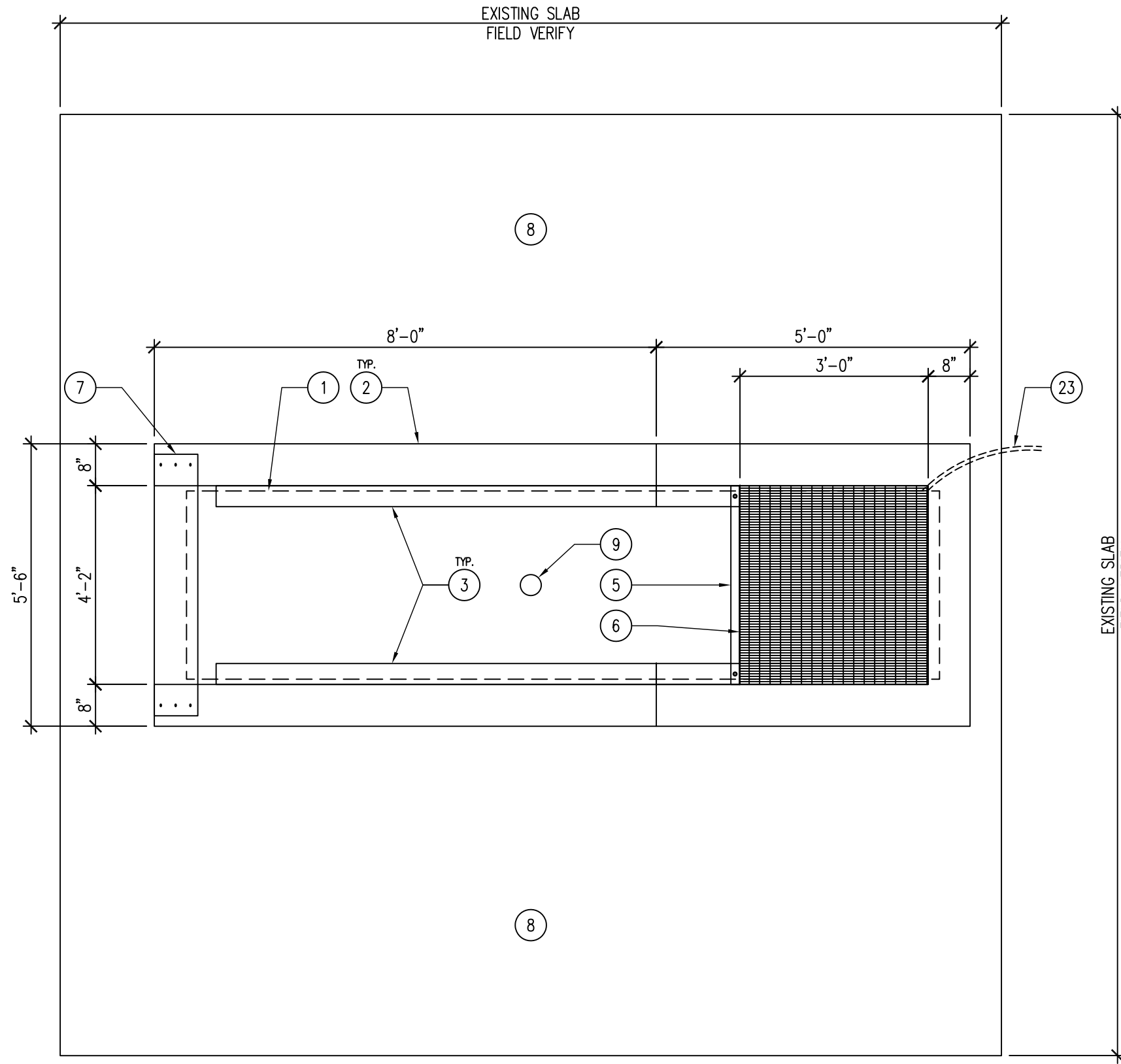
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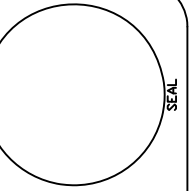




01

PLAN - IN-TAKE STRUCTURE AND TRAVELING SCREEN

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



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WATER FILTER SCREEN FOR:
SPIRIT LAKE HATCHERY

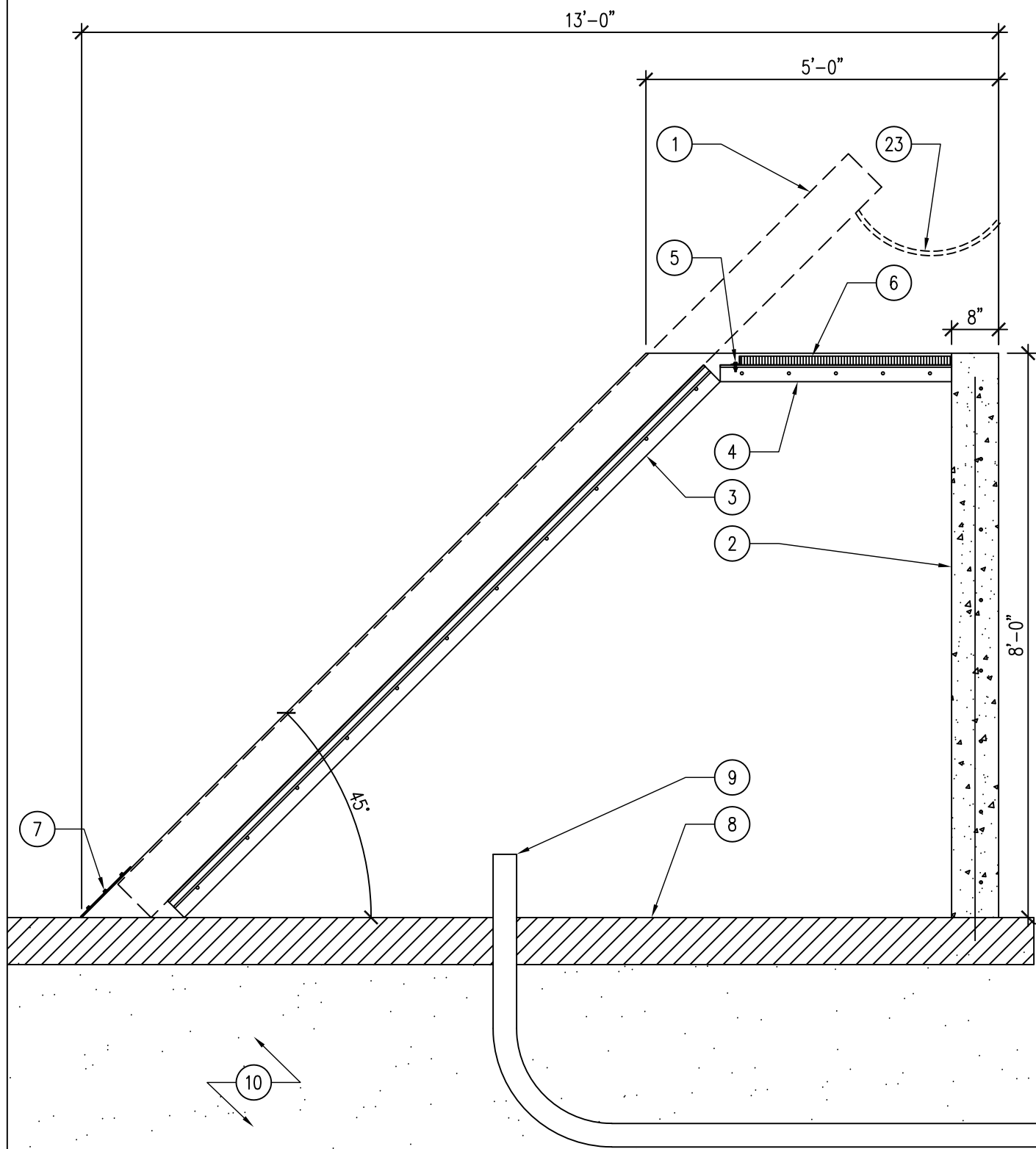
122 252ND AVE. SPIRIT LAKE, IA 51360

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21-01-30-10

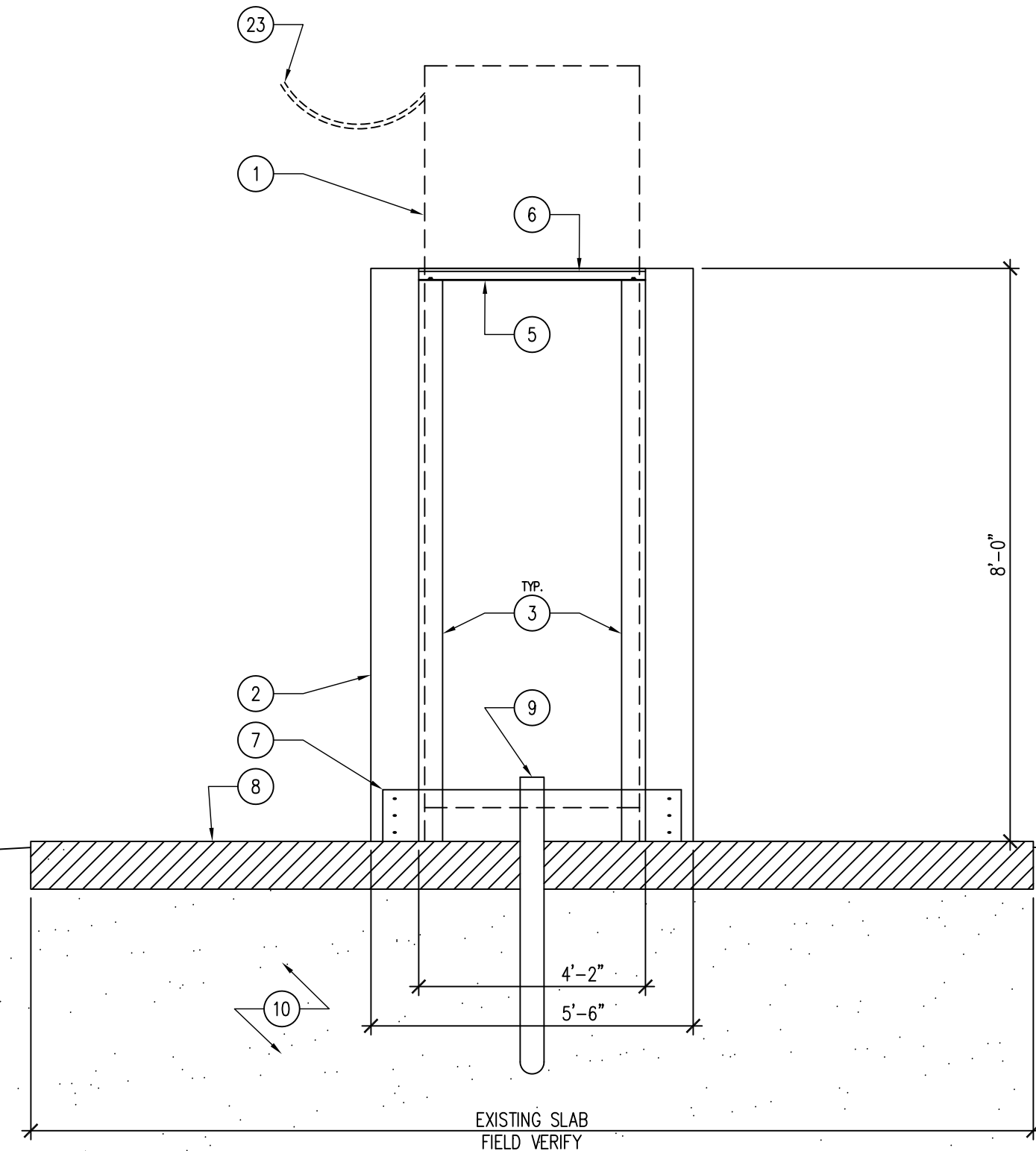
DATE: 01.19.2020

SHEET No:

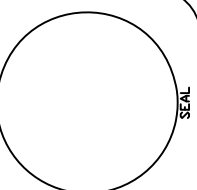
A-100



02 SECTION — IN-TAKE STRUCTURE AND TRAVELING SCREEN
SCALE: 1/2" = 1'-0"



01 ELEVATION — IN-TAKE STRUCTURE AND TRAVELING SCREEN
SCALE: 1/2" = 1'-0"



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SPIRIT LAKE HATCHERY
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A-101