



NOTICE: CONSTRUCTION SITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. DUCKS UNLIMITED, INC. SHALL NOT ASSUME ANY RESPONSIBILITY FOR THE SAFETY OF THE WORK PERFORMED. PERSONS ENGAGED IN THE WORK, NEARBY STRUCTURES, OR OF OTHER PERSONS ON-SITE. THESE MATERIAL DATA AND INFORMATION IS THE PROPERTY OF DUCKS UNLIMITED, INC. NO PART OF THIS DOCUMENT IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE PRIOR WRITTEN CONSENT OF DUCKS UNLIMITED, INC. ANY SUCH ATTEMPT WILL BE CONSIDERED A VIOLATION OF THE COPYRIGHT AND TRADEMARK LAWS OF THE UNITED STATES. THE USER AGREES THAT DUCKS UNLIMITED, INC. IS NOT RESPONSIBLE FOR THEIR USE OF THE MATERIAL, DATA AND INFORMATION OR THE RESULTS THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY AND COMPLETENESS OF ALL INFORMATION BEFORE USING IT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY AND COMPLETENESS OF ALL INFORMATION BEFORE USING IT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY AND COMPLETENESS OF ALL INFORMATION BEFORE USING IT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY AND COMPLETENESS OF ALL INFORMATION BEFORE USING IT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY AND COMPLETENESS OF ALL INFORMATION BEFORE USING IT.

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ESTIMATED BID QUANTITIES					
BID ITEM	BID ITEM NOTE	SPEC #	DESCRIPTION	UNIT	QUANTITY
1	1	201, 404	MOBILIZATION	LS	1
2	2	202	SITE PREPARATION / DEWATERING	LS	1
3	3	202, 311	DEMOLITION AND REMOVALS	LS	1
4	4	203	EXCAVATION	CY-P	1455
5	5	204	EMBANKMENT CONSTRUCTION	CY-P	45
6	6	301	WATER CONTROL STRUCTURE - PRECAST W/GUARD	EA	1
7	7	301, 309	WATER CONTROL STRUCTURE - FISH SCREEN RETROFIT	EA	1
8	8	304	CAST-IN-PLACE REINFORCED CONCRETE	CY-P	2
9	9	305	DU CLASS I RIPRAP	TN	115
10	10	305	DU CLASS II RIPRAP	TN	655
11	11	309	STRUCTURAL STEEL - PUMP STRUCTURE MODIFICATIONS	LS	1
12	12	313	PUMP PURCHASE	LS	1
13	13	303, 309, 313	PUMP INSTALLATION	LS	1
14	14	313	PUMP ELECTRICAL CONNECTIONS / MODIFICATIONS	LS	1
15	15	401, 402	ROLLED EROSION CONTROL PRODUCT (RECP)	SY	190
16	16	402	SEEDING AND MULCHING	AC	2

**GENERAL NOTES:**

- 1. ALL WORK SHALL BE COMPLETED PER DUCKS UNLIMITED SPECIFICATIONS. IF REQUIRED WORK IS NOT INCLUDED IN DUCKS UNLIMITED SPECIFICATIONS, WORK SHALL CONFORM TO THE CURRENT EDITION OF THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS).
- 2. CONTRACTOR SHALL CONFIRM LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ENGINEER AND OWNER DO NOT GUARANTEE THE LOCATION, ACCURACY, OR COMPLETENESS OF EXISTING UTILITIES SHOWN ON THIS PLAN. THE CONTRACTOR SHALL CONTACT IOWA ONE-CALL FOR UTILITY LOCATIONS 48 HOURS PRIOR TO BEGINNING EXCAVATION.
- 3. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- 4. ANY NECESSARY COFFER DAMS, DEWATERING SYSTEMS, EXCAVATION SHORING, OR RELATED ITEMS SHALL BE DESIGNED AND INSTALLED BY THE CONTRACTOR. THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK. THERE WILL BE NO ADDITIONAL COMPENSATION FOR THESE ITEMS.
- 5. ANY AND ALL DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY. ALL QUANTITIES ARE FOR CONTRACTOR CONVENIENCE ONLY.
- 6. WORK THAT IS INDICATED ON THESE PLANS OR IS REQUIRED IN ORDER TO COMPLETE THE WORK SHOWN ON THESE PLANS BUT DOES NOT HAVE A SPECIFIC BID ITEM SHALL BE CONSIDERED INCIDENTAL WORK TO OTHER ITEMS ON THE PLAN. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR INCIDENTAL WORK.
- 7. SHOP DRAWINGS/SUBMITTALS ARE REQUIRED FOR ALL MATERIALS TO BE INCORPORATED IN THIS PROJECT. ENGINEER AND OWNER REVIEW OF SHOP DRAWINGS/SUBMITTALS SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO MEET THE REQUIREMENTS OF THE CONTRACT. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE TO ENSURE THAT MATERIALS, DIMENSIONS, AND FABRICATIONS ARE IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY COST ASSOCIATED WITH REWORK, MODIFICATIONS, OR OBTAINING REPLACEMENT MATERIALS IN ORDER TO MEET THE CONTRACT DOCUMENTS SHALL BE BORNE BY THE CONTRACTOR.
- 8. ALL ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88). DESIGN CONTOURS SHOWN ARE TO FINISHED GRADE ELEVATIONS UNLESS OTHERWISE NOTED.
- 9. SITE ACCESS IS SHOWN ON THE PLAN. THE CONTRACTOR SHALL NOT UTILIZE ALTERNATE ACCESS TO THE SITE UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE OWNER OR ENGINEER. ANY TRACKOUT FROM THE WORK SITE SHALL BE CLEANED UP BY THE CONTRACTOR IMMEDIATELY.
- 10. UNLESS OTHERWISE INDICATED, CONTRACTOR SHALL MAKE ALL NECESSARY CONNECTIONS TO EXISTING FACILITIES, PIPELINES, OR STRUCTURES. PRIOR TO MAKING SUCH CONNECTIONS, THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE OWNING UTILITY AND SHALL NOTIFY OWNERS OF ADJACENT PROPERTIES AND UTILITIES WHEN WORK MAY AFFECT THEM OR THEIR UTILITY SERVICE. NOTIFICATIONS SHALL BE DONE SUFFICIENTLY IN ADVANCE TO ALLOW FOR THE OWNING UTILITY OR OWNERS OF ADJACENT PROPERTIES TO MAKE SUFFICIENT ARRANGEMENTS TO ACCOMMODATE THE PLANNED WORK. CONTRACTOR SHALL THOROUGHLY PLAN THE WORK IN ADVANCE AND HAVE ALL NECESSARY LABOR, EQUIPMENT, SUPERVISION, AND MATERIALS ON-SITE TO COMPLETE THE WORK IN A TIMELY MANNER.
- 11. ALL WORK SHALL BE COMPLETED TO THE LINES, GRADES, AND ELEVATIONS INDICATED ON THE PLANS. THE CONTRACTOR SHALL MAINTAIN DRAINAGE PATHS TO PREVENT PONDING OF WATER DURING CONSTRUCTION.
- 12. DURING TIMES OF UNFAVORABLE WEATHER CONDITIONS, THE CONTRACTOR SHALL CONFINED THEIR WORK TO AREAS THAT WILL NOT BE ADVERSELY EFFECTED BY SUCH CONDITIONS. NO WORK SHALL BE COMPLETED UNDER CONDITIONS WHICH WILL CAUSE THE QUALITY OR EFFICIENCY OF THE WORK TO BE ADVERSELY EFFECTED UNLESS SPECIAL MEANS ARE UNDERTAKEN BY THE CONTRACTOR TO ADDRESS THE ADVERSE CONDITIONS.
- 13. THE CONTRACTOR WILL BE REQUIRED TO USE "MACHINE CONTROL." DUCKS UNLIMITED WILL PROVIDE THE CONTRACTOR WITH DIGITAL FINISH GRADE SURFACES FOR GRADING AREAS ALONG WITH CONTROL POINTS. THERE WILL BE NO CONSTRUCTION STAKES SET IN THE FIELD. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TIE INTO DUCKS UNLIMITED'S SURVEY CONTROL AND PERFORM THE WORK AS OUTLINED IN THE PLANS.
- 14. THE CONTRACTOR SHALL PROTECT ALL SURVEY CONTROL AND PROPERTY PINS ENCOUNTERED. ANY DESTROYED SURVEY CONTROL OR PROPERTY PINS SHALL BE RESET BY LICENSED SURVEYOR AT THE COST OF THE CONTRACTOR.
- 15. THE PLANNED DISTURBANCE ON THIS PROJECT IS UNDER 1 ACRE AND THEREFORE A GENERAL PERMIT II FOR CONSTRUCTION ACTIVITIES IS NOT REQUIRED. HOWEVER, IT IS STILL THE CONTRACTOR'S RESPONSIBILITY TO STAGE WORK OR MAKE TEMPORARY CONCESSIONS TO PROTECT AREAS WITH A HIGH EROSION POTENTIAL THROUGHOUT THE CONSTRUCTION PROCESS. THE DNR ENGINEER WILL BE AVAILABLE TO HELP WITH THIS PLANNING AS NEEDED, BUT AT NO POINT SHALL EROSION BE ALLOWED INTO THE ADJACENT BODIES OF WATER. ALL WORK ASSOCIATED WITH TEMPORARY EROSION CONTROL SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK.

**BID ITEM NOTES:**

- 1. BID ITEM FOR MOBILIZATION SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT TO TRANSPORT ALL NEEDED LABOR, MATERIAL, AND EQUIPMENT, TO AND FROM THE PROJECT SITE, TO SUCCESSFULLY COMPLETE THE PROJECT AS SHOWN ON THE PLANS. PAYMENT SHALL BE LUMP SUM.
- 2. BID ITEM FOR SITE PREPARATION SHALL INCLUDE TOPSOIL STRIPPING BENEATH EXCAVATION AND EMBANKMENT AREAS, STOCKPILING TOPSOIL FOR REPLACEMENT, PLACING TOPSOIL OVER ALL DISTURBED AREAS, AND PREPARING RESPREAD TOPSOIL FOR SEEDING. SITE PREPARATION SHALL ALSO INCLUDE REMOVAL OF TREES, ROOTS, BRUSH, ROCK, GRASS, AND ALL OTHER RUBBISH TO COMPLETE THE PROJECT AS SHOWN ON THE PLANS. ANY NECESSARY DEWATERING IS INCIDENTAL TO THIS ITEM. RESTORATION AND MAINTENANCE OF ACCESS AND HAUL ROUTES AS REQUIRED TO RETURN THEM TO ORIGINAL CONDITION IS ALSO INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE LUMP SUM.
- 3. BID ITEM FOR DEMOLITION AND REMOVALS SHALL INCLUDE THE SUPPLY OF ALL LABOR AND EQUIPMENT NECESSARY TO REMOVE THE ITEMS AS SHOWN IN THE PLANS. ITEMS INCLUDE STEEL/ALUMINUM FRAMING, PIPE, PUMPS, CONDUIT, WIRING, GRATING, STOP LOG GUIDES, AND OTHER ITEMS NOTED ON PLANS OR NECESSARY TO COMPLETE THE WORK. DRILLING, GRINDING AND PATCHING AS INDICATED ON THE PLANS OR AS NECESSARY TO PROVIDE A SMOOTH NEAT, FINISHED SURFACE IS INCIDENTAL TO THIS ITEM. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY DISPOSING OF ALL REMOVED MATERIAL OFF-SITE. PAYMENT SHALL BE LUMP SUM.
- 4. BID ITEM FOR EXCAVATION SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO EXCAVATE MATERIALS AS SHOWN ON THE PLANS. MATERIAL EXCAVATED FOR EMBANKMENT CONSTRUCTION SHALL BE APPROVED BY THE DU OR DNR ENGINEER AND STOCKPILED ON SITE FOR THE EMBANKMENT CONSTRUCTION. ANY ROCKS OR BOULDERS ENCOUNTERED DURING EXCAVATION SHALL BE STOCKPILED AND REUSED AS RIPRAP WHERE INDICATED ON THE PLANS. THE ESTIMATED QUANTITY FOR EXCAVATION IS A RAW QUANTITY (UNADJUSTED FOR SHRINK/SWELL). PLANS SHOW SPOILS/BORROW AREAS FOR THE PROJECT. IF THE SPOILS/BORROW AREAS ARE UTILIZED BY THE CONTRACTOR, TOPSOIL SHALL BE STRIPPED AND STOCKPILED. SPOILS/BORROWS SHALL BE DONE IN A MANNER THAT DOES NOT ALTER EXISTING DRAINAGE PATTERNS OR CREATE PONDING. AFTER RESTORATION, SLOPES AT SPOILS/BORROW AREAS SHALL BE NO STEEPER THAN 6:1 (H:V). TOPSOIL SHALL BE RESPREAD. ALL WORK RELATED TO SPOILS/BORROW AREAS ARE INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE CUBIC YARD - PLAN. THERE WILL BE NO ADJUSTMENT MADE FOR INCREASE OR DECREASE TO QUANTITY.
- 5. BID ITEM FOR EMBANKMENT CONSTRUCTION SHALL INCLUDE ALL WORK REQUIRED TO HAUL, PLACE, AND COMPACT FILL MATERIAL TO CONSTRUCT THE EARTHWORK AS SHOWN ON THE PLANS. SURFACE FILES WILL BE PROVIDED TO THE CONTRACTOR FOR EMBANKMENT CONSTRUCTION. NO STAKES WILL BE PROVIDED IN THE FIELD. SEE GPS MACHINE CONTROL NOTE. ANY MATERIAL EITHER NEEDED OR REMAINING FROM THIS OPERATION SHALL BE UTILIZED FROM THE SPOILS/BORROW AREAS SHOWN ON THE PLANS OR AS DIRECTED BY THE DU OR DNR ENGINEER. THE ESTIMATED QUANTITY FOR EMBANKMENT CONSTRUCTION IS A RAW QUANTITY (UNADJUSTED FOR SHRINK/SWELL). PAYMENT SHALL BE PER CUBIC YARD - PLAN. THERE WILL BE NO ADJUSTMENT MADE FOR INCREASE OR DECREASE TO QUANTITY.
- 6. BID ITEM FOR WATER CONTROL STRUCTURE - PRECAST W/GUARD SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT TO INSTALL THE WATER CONTROL STRUCTURE AS SHOWN ON THE PLANS. THIS ITEM SHALL INCLUDE THE WATER CONTROL STRUCTURE, PRECAST CONCRETE, GRATING, DEBRIS GUARDS, AND METAL FRAMING AS DETAILED IN THE PLANS. PIPE CONNECTIONS AND ALL OTHER ITEMS NECESSARY FOR A COMPLETE SYSTEM SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE FOR EACH STRUCTURE INSTALLED.
- 7. BID ITEM FOR WATER CONTROL STRUCTURE - FISH SCREEN RETROFIT SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT TO INSTALL THE FISH SCREEN RETROFIT AS SHOWN ON THE PLANS. THIS ITEM SHALL INCLUDE GRATING, HOLD-DOWNS AND METAL FRAMING AS DETAILED IN THE PLANS. ALL ITEMS NECESSARY FOR A COMPLETE SYSTEM SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE FOR EACH FISH SCREEN RETROFIT INSTALLED.
- 8. BID ITEM FOR CAST-IN-PLACE CONCRETE SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT TO INSTALL THE CAST-IN-PLACE CONCRETE AS SHOWN ON THE PLANS. THE CONCRETE SHALL BE AN AIR ENTRAINMENT MIX WITH A MINIMUM STRENGTH OF 4,000 PSI. CRUSHED ROCK BELOW CONCRETE AND REBAR WITHIN THE CONCRETE IS INCIDENTAL TO THIS ITEM. CONTRACTOR SHALL PROVIDE TRUCK TICKETS. PAYMENT SHALL BE PER CUBIC YARD OF CONCRETE PLACED.
- 9. BID ITEM FOR CLASS I RIPRAP SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PURCHASE, HAUL, AND PLACE RIPRAP AS SHOWN ON THE PLANS. NON-WOVEN FILTER FABRIC IS REQUIRED BENEATH ALL ROCK/RIPRAP AND IS INCIDENTAL TO THIS ITEM. FINAL PLACEMENT OF RIPRAP SHALL BE APPROVED BY THE ENGINEER OR DNR STAFF. THE CONTRACTOR SHALL PROVIDE SCALE TICKETS FOR MATERIAL DELIVERED. PAYMENT SHALL BE PER TON PLACED.
- 10. BID ITEM FOR CLASS II RIPRAP SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO PURCHASE, HAUL, AND PLACE RIPRAP AS SHOWN ON THE PLANS. NON-WOVEN FILTER FABRIC IS REQUIRED BENEATH ALL ROCK/RIPRAP AND IS INCIDENTAL TO THIS ITEM. FINAL PLACEMENT OF RIPRAP SHALL BE APPROVED BY THE ENGINEER OR DNR STAFF. THE CONTRACTOR SHALL PROVIDE SCALE TICKETS FOR MATERIAL DELIVERED. PAYMENT SHALL BE PER TON PLACED.
- 11. BID ITEM FOR STRUCTURAL STEEL - PUMP STRUCTURE MODIFICATIONS SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT TO MODIFY THE PUMP STRUCTURE AS SHOWN ON THE PLANS. THIS ITEM SHALL INCLUDE METAL FRAMING, GRATING, SUPPORTS, AND BRACKETS AS DETAILED IN THE PLANS. WELDING, TRIMMING, CONNECTIONS, AND ALL OTHER ITEMS NECESSARY FOR A COMPLETE SYSTEM SHALL BE CONSIDERED INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE LUMP SUM.
- 12. BID ITEM FOR PUMP PURCHASE SHALL INCLUDE THE PURCHASE OF A SUBMERSIBLE PUMP WITH THE FOLLOWING FEATURES. 30 HP, 870 RPM, 3/60/460 VOLT MOTOR, VARIABLE FREQUENCY DRIVE (VFD) SUITABLE, 12" DISCHARGE ELBOW AND SEALING FLANGE, ABLE TO PASS 6" DIAMETER SOLIDS, RATED AT 4,700 GMP OR MORE AT 16' OF HEAD, STAINLESS STEEL LOWER AND UPPER GUIDE RAIL SUPPORT BRACKETS, STAINLESS STEEL LIFTING CHAINS, STAINLESS STEEL CABLE BRACKET, BRAIDED STAINLESS STEEL POWER CABLE AND FLOAT CABLE PROTECTION, FREIGHT TO THE JOBSITE, AND PUMP REP. ONSITE STARTUP/TRAINING. THE PUMP SHALL BE A HYDROMATIC MODEL S12L SUBMERSIBLE PUMP OR APPROVED EQUAL. PAYMENT SHALL BE LUMP SUM.
- 13. BID ITEM FOR PUMP INSTALLATION SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO INSTALL THE PUMP AS SHOWN ON THE PLANS AND DETAILS. THIS ITEM SHALL INCLUDE THE PURCHASE AND INSTALLATION OF ALL ANCHORS, PIPING, AND GUIDE RAILS AS WELL AS THE INSTALLATION OF THE DISCHARGE ELBOW, SEALING FLANGE, STAINLESS STEEL LOWER AND UPPER GUIDE RAIL SUPPORT BRACKETS, STAINLESS STEEL LIFTING CHAINS, STAINLESS STEEL CABLE BRACKET, BRAIDED STAINLESS STEEL POWER CABLE AND FLOAT CABLE PROTECTION, STAINLESS STEEL GUIDE RAILS, AND ALL OTHER ANCILLARY ITEMS NECESSARY FOR A COMPLETE INSTALLATION AND OPERATIONAL SYSTEM. PAYMENT SHALL BE LUMP SUM.
- 14. BID ITEM FOR PUMP ELECTRICAL CONNECTIONS / MODIFICATIONS SHALL INCLUDE THE SUPPLY OF ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO CONNECT THE PUMP TO THE EXISTING CONTROLS AS SHOWN ON THE PLANS AND DETAILS. THIS ITEM SHALL INCLUDE THE PURCHASE AND INSTALLATION OF ALL ANCHORS, CONDUIT, WIRE, AND ALL OTHER ANCILLARY ITEMS NECESSARY FOR A COMPLETE INSTALLATION AND OPERATIONAL SYSTEM. NOTE: ALL CABLE NOT INSTALLED IN CONDUIT SHALL HAVE BRAIDED STAINLESS STEEL CABLE PROTECTION INSTALLED ON IT. ALL ELECTRICAL WORK SHALL MEET APPLICABLE CODES AND SHALL BE PERMITTED/INSPECTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ). ELECTRICAL PERMIT/INSPECTION FEES SHALL BE INCIDENTAL TO THIS ITEM. PAYMENT SHALL BE LUMP SUM.
- 15. BID ITEM FOR ROLLED EROSION CONTROL PRODUCT (RECP) SHALL INCLUDE THE SUPPLY OF LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO INSTALL RECP WHERE INDICATED ON THE PLANS. RECP SHALL BE SUDAS TYPE 3B. THE CONTRACTOR IS REQUIRED TO COORDINATE RECP INSTALLATION TO OCCUR IMMEDIATELY AFTER SEEDING. PAYMENT SHALL PER SQUARE YARD OF INSTALLED RECP AS MEASURED IN THE FIELD AND VERIFIED BY THE ENGINEER OR DNR STAFF.
- 16. BID ITEM FOR SEEDING AND MULCHING SHALL INCLUDE THE SUPPLY OF LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO SPREAD SEED AND MULCH ON DISTURBED AREAS OF THE CONSTRUCTION SITE OR WHERE INDICATED BY DNR STAFF. SEED MIX SHALL BE 20 LB./AC BROME WITH 30 LB./AC OATS. SEEDING SHALL BE COMPLETED AS PER SUDAS GUIDELINES AND PLACED CONVENTIONALLY UPON PREPARED SEEDBED AND THEN HYDRO MULCHED USING A WOOD CELLULOSE MULCH. FERTILIZER SHALL BE OMITTED ON THIS PROJECT DUE TO ITS PROXIMITY TO SURFACE WATER. FULL COVERAGE OF THE SOIL SURFACE WITH MULCH IS REQUIRED. SEEDING DATES SHALL BE PER SUDAS. THE ENGINEER HAS INCLUDED AN ESTIMATED QUANTITY IN ORDER TO ESTABLISH A UNIT PRICE. ALL AREAS THAT ARE DISTURBED AND NOT SURFACED BY OTHER MEANS SHALL RECEIVE SEEDING/MULCHING PER THIS SPECIFICATION WITH THE EXCEPTION OF THE BORROW AREA. THE BORROW AREA SHALL BE PREPARED FOR SEEDING BUT NO SEEDING OR MULCH SHALL BE APPLIED AT THIS LOCATION. NOTE, AREAS DISTURBED THAT ARE OUTSIDE THE AREA OF WORK SHALL BE SEEDING AND MULCHED BY THE CONTRACTOR BUT WILL NOT BE MEASURED AND WILL NOT BE INCLUDED IN PAYMENT UNLESS PRIOR APPROVAL IS PROVIDED BY THE ENGINEER OR DNR STAFF. MEASUREMENT AND PAYMENT SHALL BE PER ACRE OR PART THEREOF AS MEASURED IN THE FIELD AND VERIFIED BY THE ENGINEER.

**LEGEND**

**EXISTING**

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**PROPOSED**

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AFFIX SEAL: DUCKS UNLIMITED, INC.  
ON:

SPECIFICATIONS AND NOTES  
LITTLE STORM LAKE  
ENHANCEMENT  
LITTLE STORM LAKE  
BUENA VISTA COUNTY, IOWA

Date

By

Revisions

Sheet

Revision

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IA-271-3 Cover & Notes

DESIGNED BY: JGW

DRAWN BY: JGW

SURVEYED BY: JGW & CK

BIOLOGIST: MS

DATE:

6/5/2024

PROJECT NUMBER:

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C002



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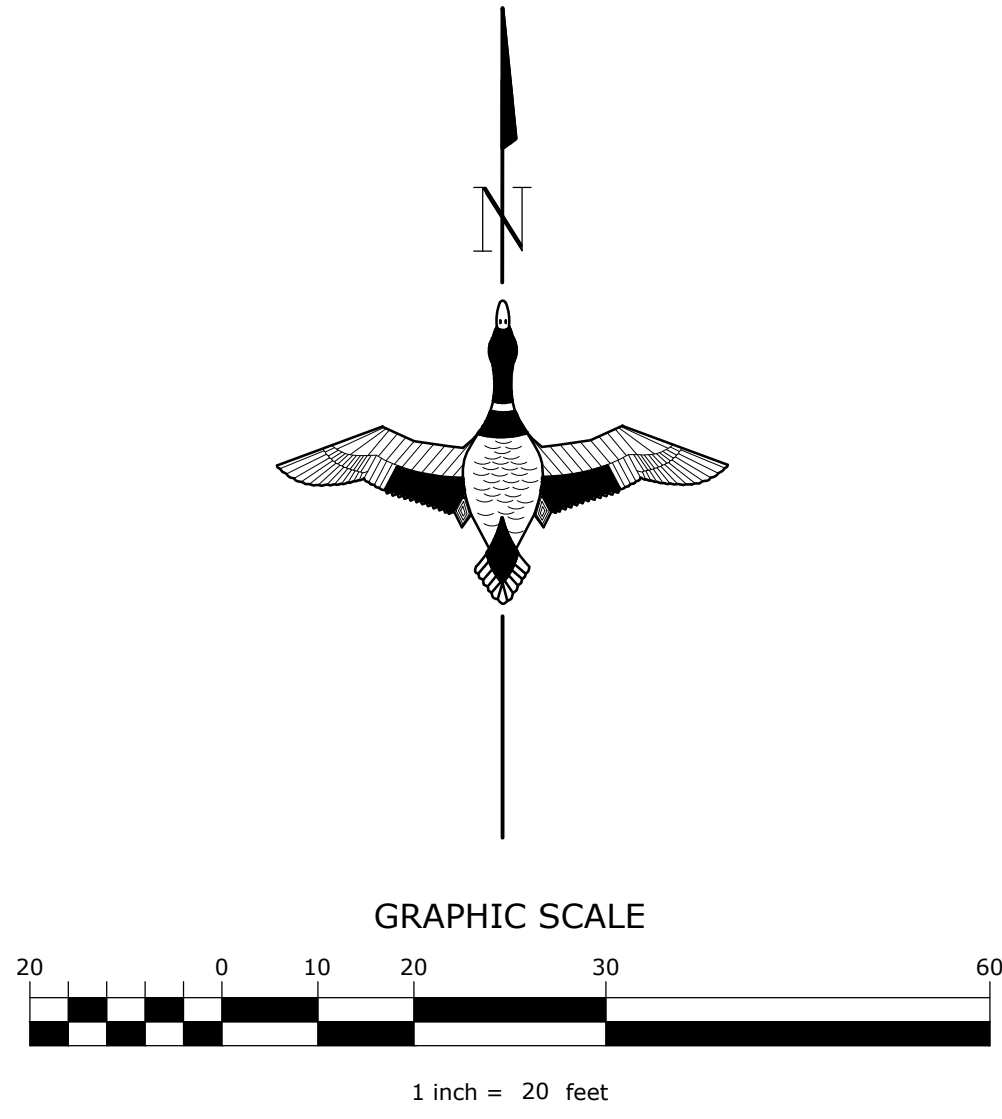
C:\Users\jwashington\Documents\Iowa - Iowa02\_C3D Projects\IA-271-3 - Little Storm Lake\CAD\_DRAWING\IA-271-3\_TOPO.dwg, 6/5/2024 4:49 PM, John Washington, C051, None



**NORTH INTAKE AREA**



**PUMP AREA**



**REMOVAL KEYNOTES**

- (A) CUT AND REMOVE FRAMING, GRATING, AND BEVELED END OF 48" CMP. 48" CMP CUT SHALL BE CLEAN, NEAT, AND PERPENDICULAR TO THE PIPE AT APPROXIMATELY 6.5' FROM EXISTING WATER CONTROL STRUCTURE RISER.
- (B) SEE PUMP AREA DETAIL SHEET FOR PUMP AND STRUCTURE REMOVALS.

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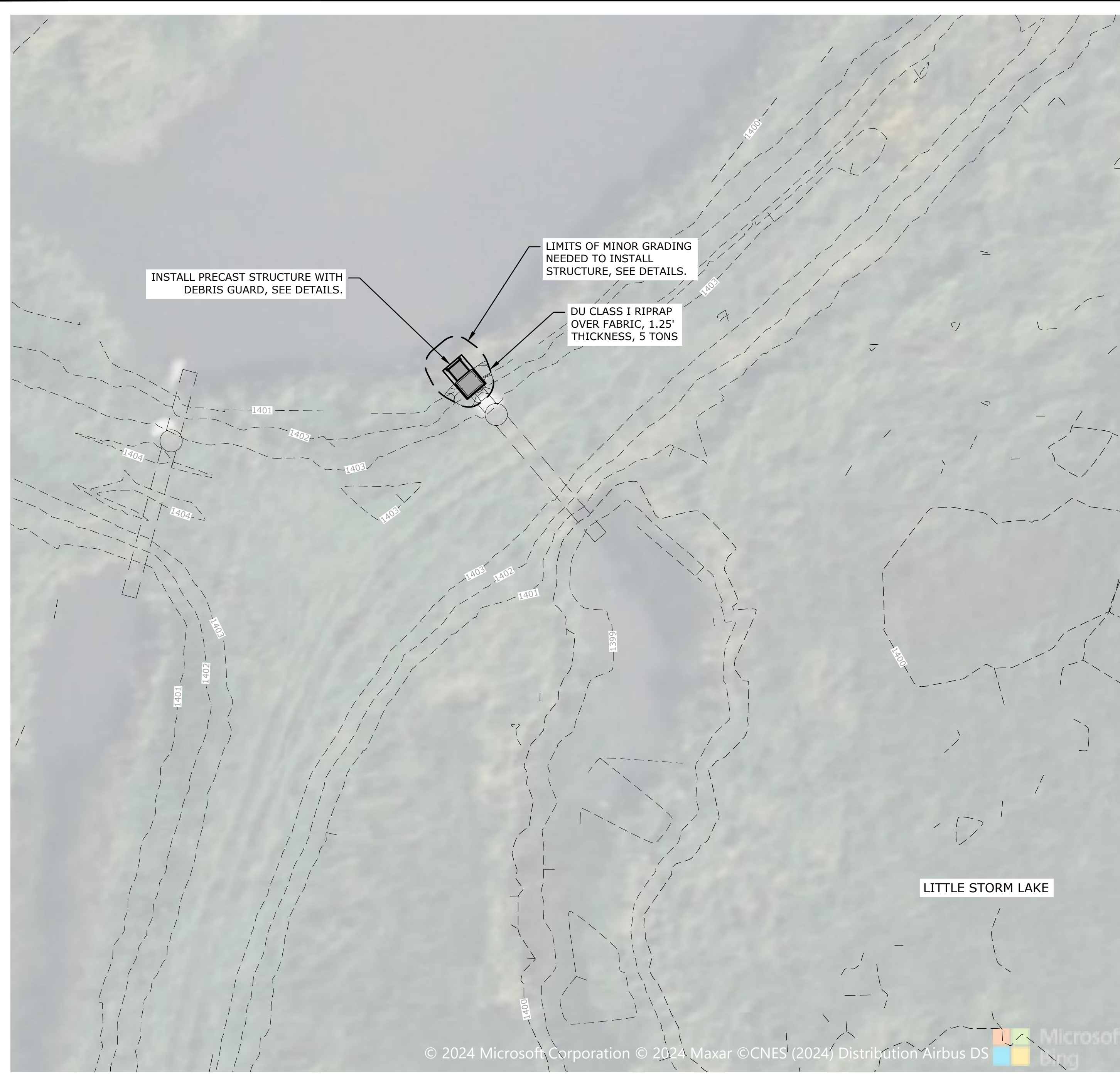
**EXISTING CONDITIONS -  
REMOVALS  
LITTLE STORM LAKE  
ENHANCEMENT  
LITTLE STORM LAKE  
BUENA VISTA COUNTY, IOWA**

Revision	Sheet	Revisions	Date	By

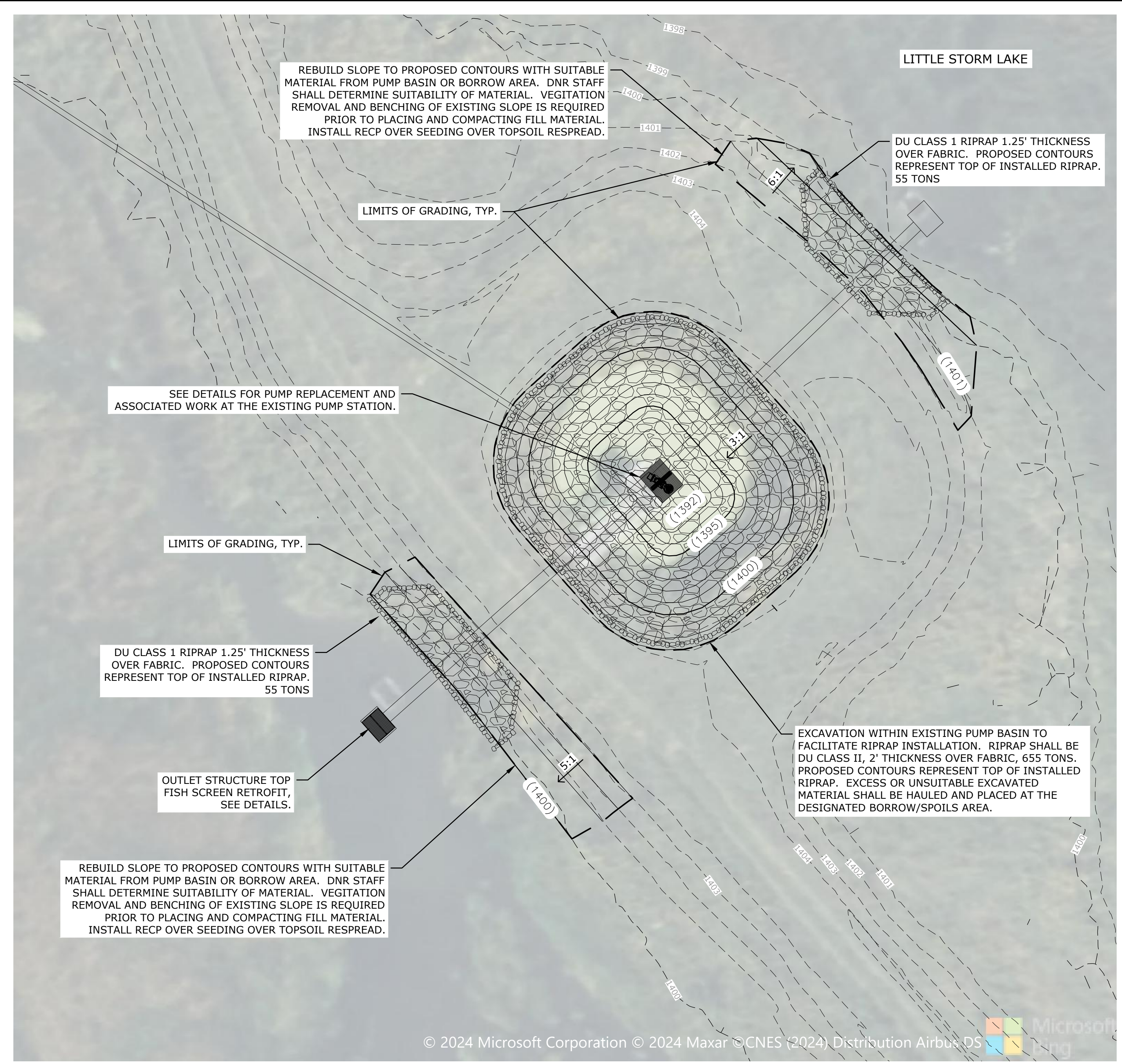
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DESIGNED BY: JGW  
DRAWN BY: JGW  
SURVEYED BY: JGW & CK  
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6/5/2024  
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**C051**

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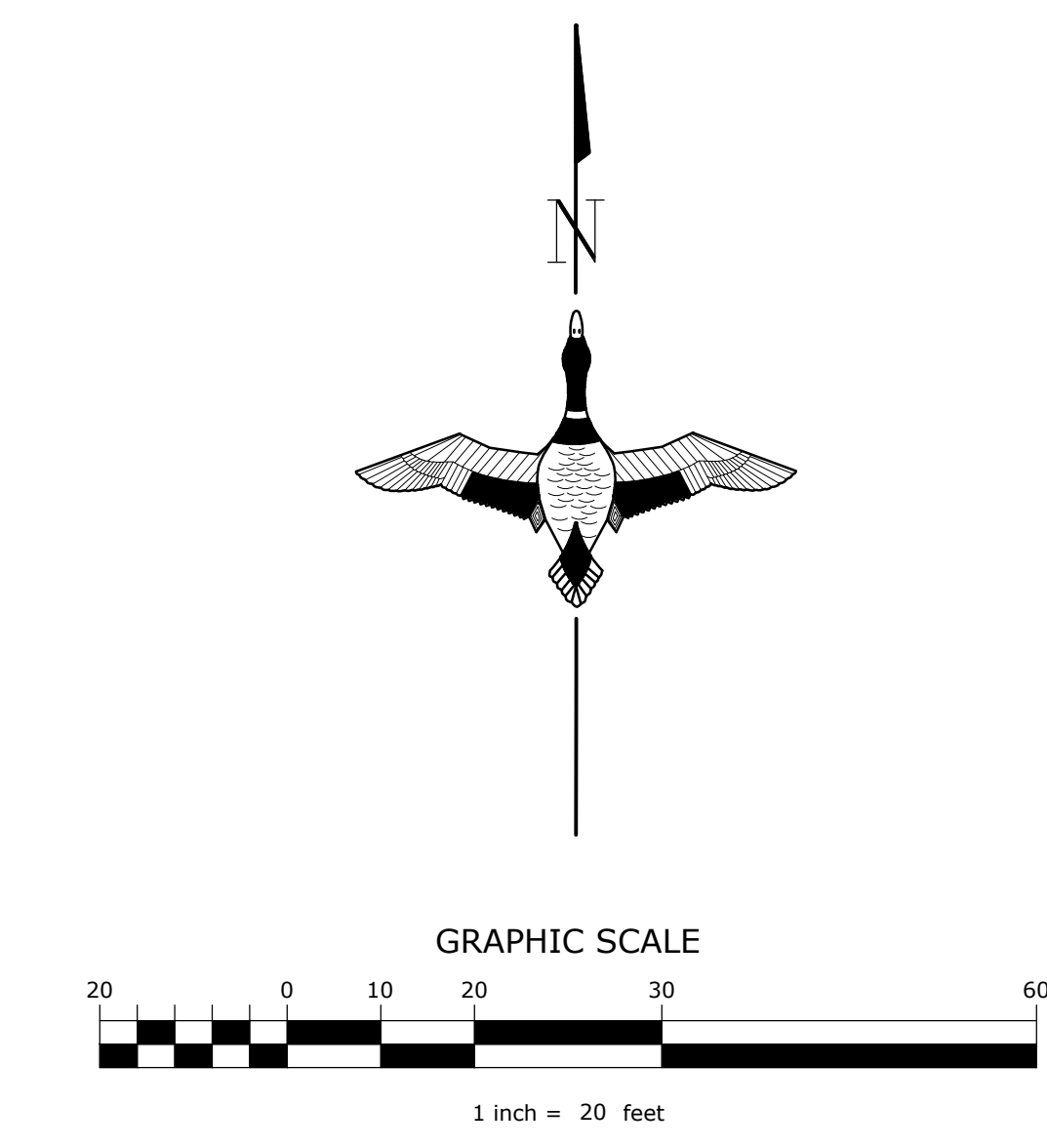
C:\Users\jwashington\Documents\Projects\Iowa - Iowa02 - C3D Projects\Iowa-271-3 - Little Storm Lake (C3D\_DRAWING)\IA-271-3 Site Plan.dwg, 6/5/2024 4:50 PM, John Washington, C100, None



**NORTH INTAKE AREA**



**PUMP AREA**



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AFFIX SEAL: DUCKS UNLIMITED, INC.  
ON:

**SITE PLAN  
LITTLE STORM LAKE  
ENHANCEMENT  
LITTLE STORM LAKE  
BUENA VISTA COUNTY, IOWA**

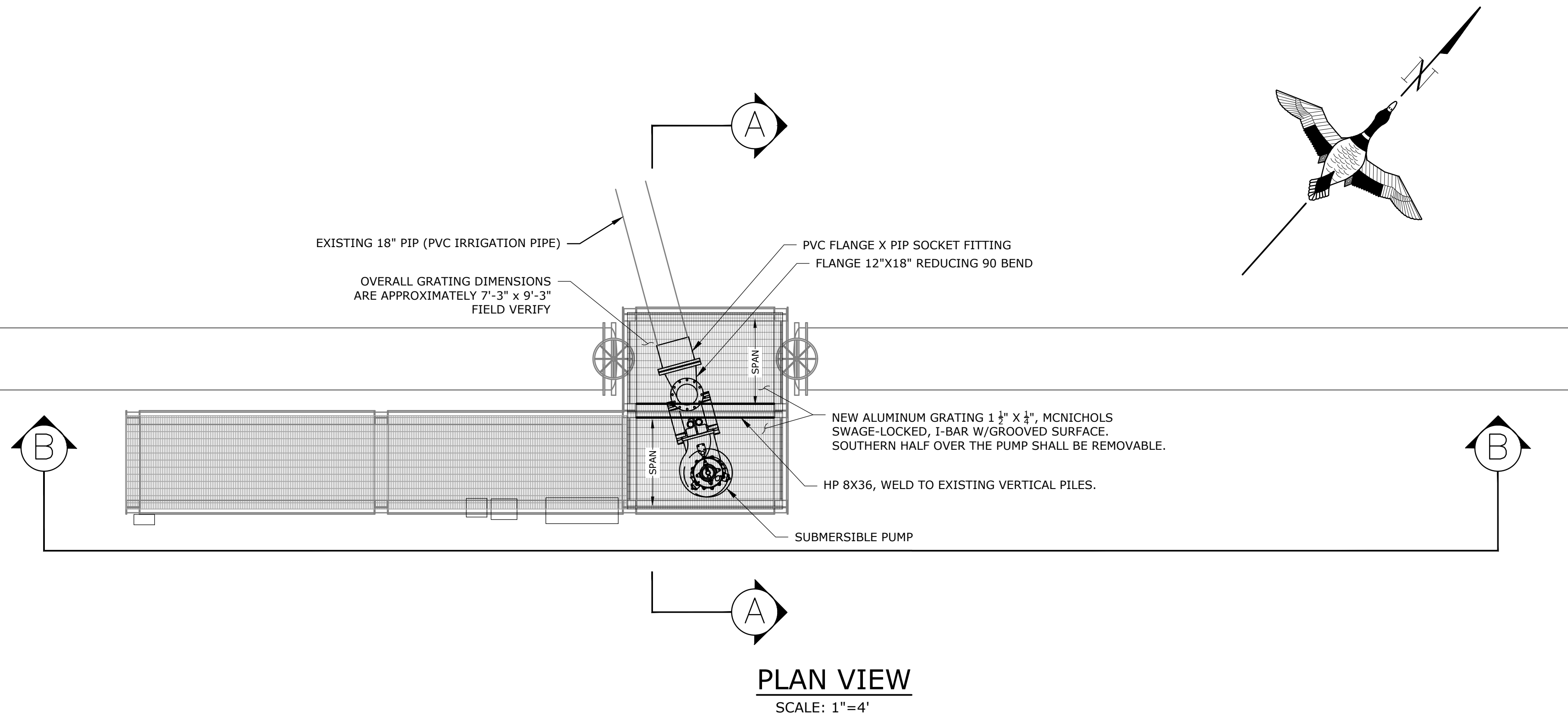
Revision	Sheet	By	Date

CAD FILE: IA-271-3 Site Plan  
DESIGNED BY: JGW  
DRAWN BY: JGW  
SURVEYED BY: JGW & CK  
BIOLOGIST: MS  
DATE: 6/5/2024  
PROJECT NUMBER: US-IA-271-3  
**C100**

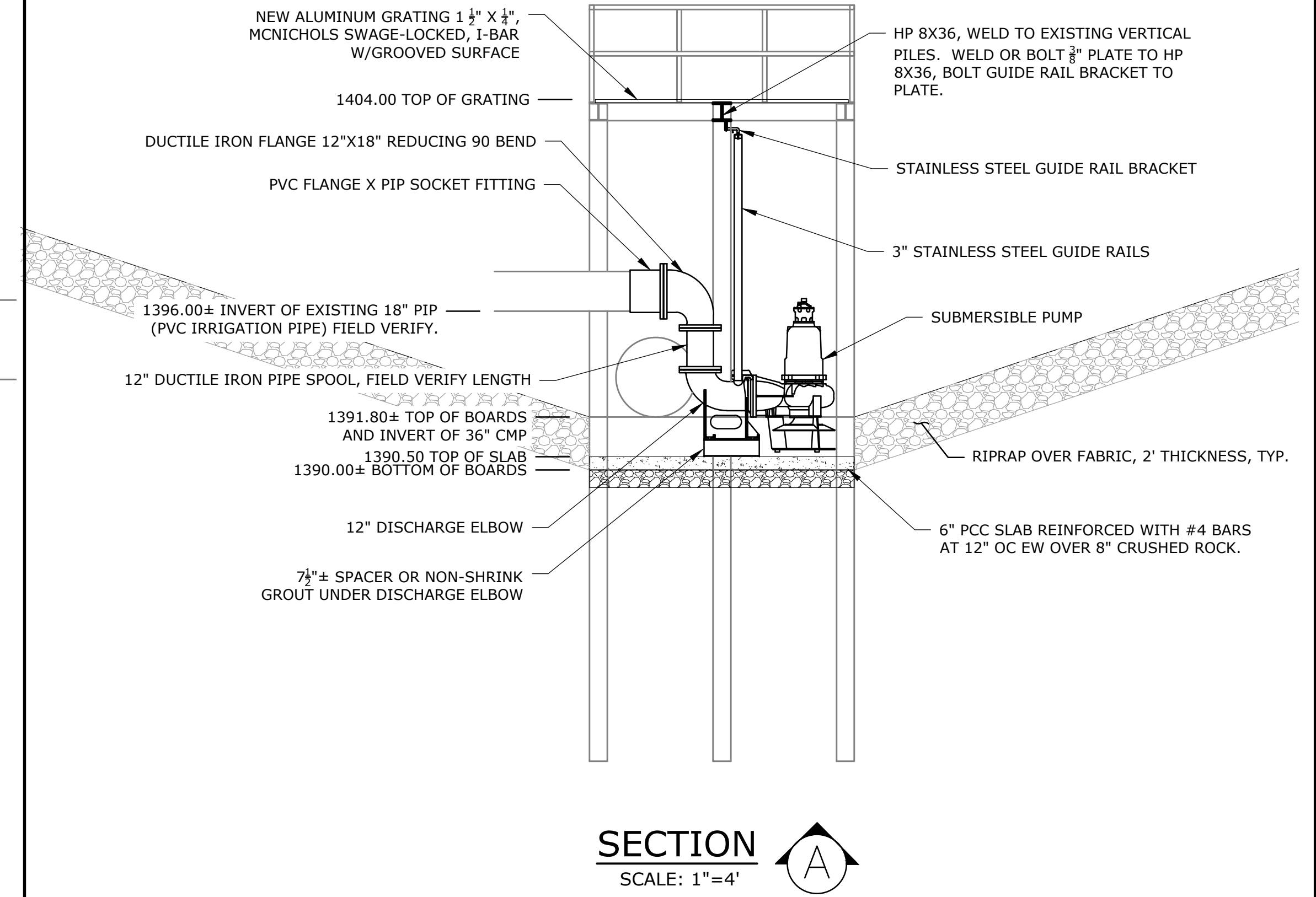


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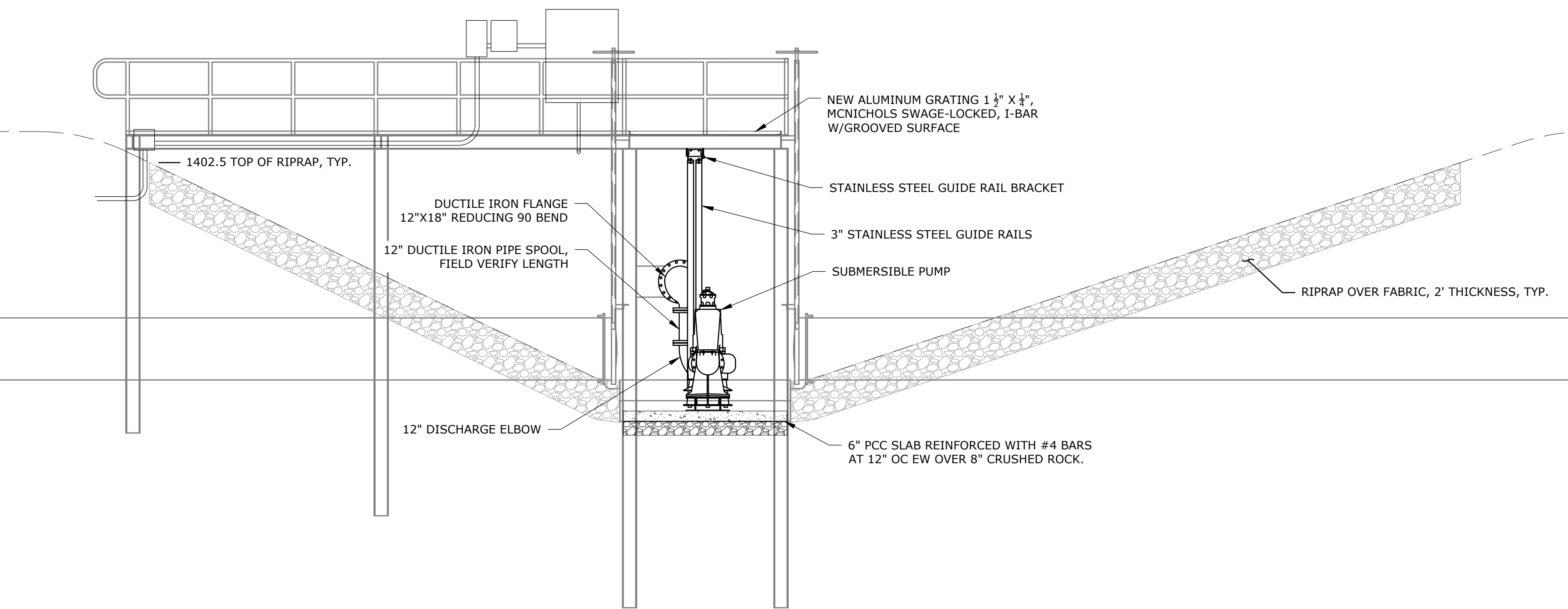
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**PLAN VIEW**  
 SCALE: 1"=4'



**SECTION A-A**  
 SCALE: 1"=4'

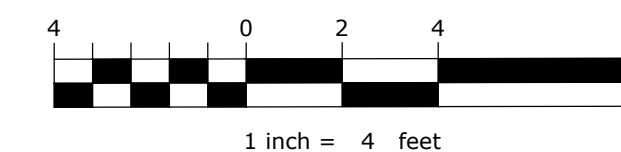


**SECTION B-B**  
 SCALE: 1"=4'

**GENERAL NOTES**

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
2. ALL MATERIALS INCLUDING HARDWARE SHALL BE HOT DIPPED GALVANIZED UNLESS OTHERWISE NOTED.
3. ALL ANCHORS SHALL BE DRILLED AND EPOXIED WITH HILTI HIT-HY 100 OR APPROVED EQUAL, 4-INCH MINIMUM EMBEDMENT. DRILLED HOLES SHALL BE SIZED, BRUSHED, BLOWN OUT, AND CLEANED PER EPOXY MANUFACTURERS INSTRUCTIONS.
4. ALL BOLTED CONNECTIONS AND ANCHORS SHALL INCLUDE FLAT WASHERS, LOCK WASHERS, AND NUTS AS APPROPRIATE.
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8. NOT ALL ITEMS REQUIRED FOR A COMPLETE INSTALLATION ARE SHOWN IN THE DETAILS INCLUDING BUT NOT LIMITED TO PIPE FLANGE BOLTS, NUTS, GASKETS, ELECTRICAL CONNECTIONS, ELECTRICAL CORD, CONDUIT, ELECTRICAL CLAMPS, FLOATS, LIFTING CHAINS, ANCHORS, GRATING CLIPS, MISC. NUTS AND BOLTS, ETC. ALL ITEMS REQUIRED FOR A COMPLETE INSTALLATION SHALL BE SUPPLIED AND INSTALLED AND ARE CONSIDERED INCIDENTAL TO THE WORK.
9. THE PUMP CASING SHALL BE PROVIDED WITH A FACTORY FINISH SUITABLE TO PROTECT IT AGAINST CORROSION FROM PROLONGED SUBMERGENCE IN WATER AND OTHER HARSH ENVIRONMENTS. DUCTILE IRON PIPING AND FITTINGS SHALL BE FACTORY CEMENT LINED TO MEET ANSI/AWWA-C104/A21.4. INTERIOR ASPHALTIC COATING AND FACTORY PRIMER EXTERIOR COATING IS ALSO REQUIRED. AN EXTERIOR TOPCOAT CONSISTING OF TNAMEC SERIES 22 EPOXOLINE IS ALSO REQUIRED ON ALL DUCTILE IRON PIPE AND FITTINGS.

**GRAPHIC SCALE**



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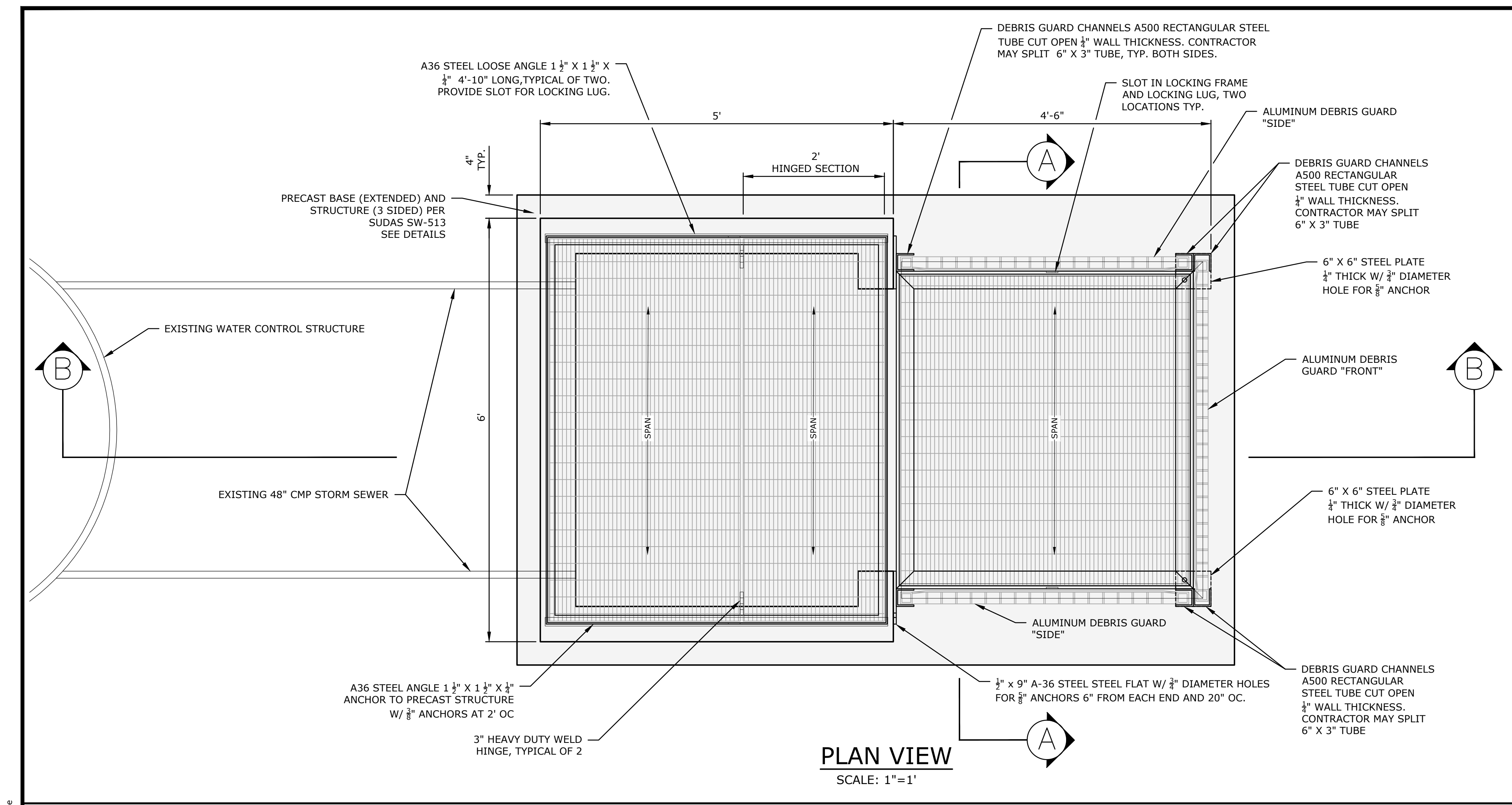
AFFIX SEAL: DUCKS UNLIMITED, INC.  
 ON:

DETAIL - PUMP AREA  
 LITTLE STORM LAKE  
 ENHANCEMENT  
 LITTLE STORM LAKE  
 BUENA VISTA COUNTY, IOWA

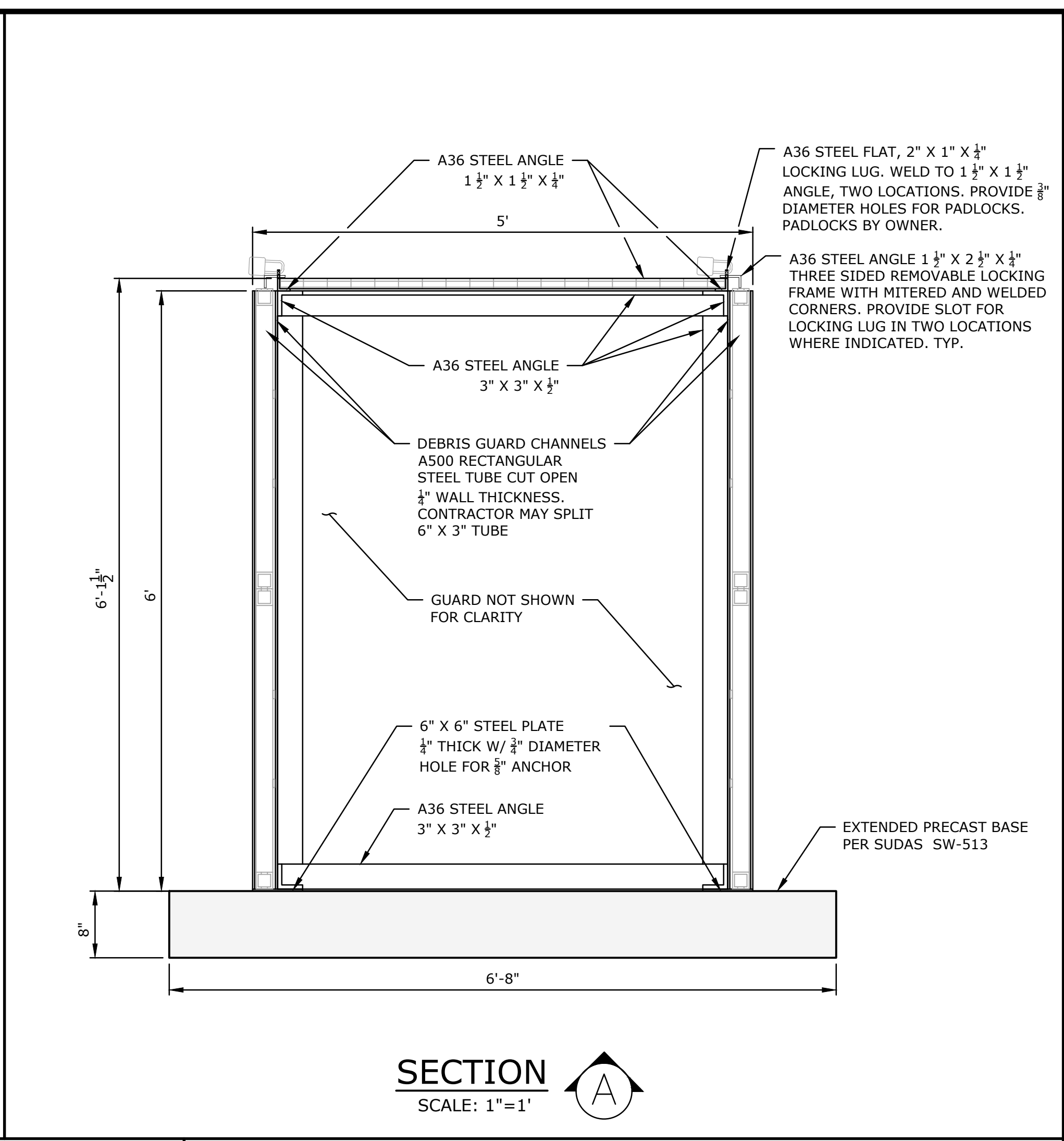
Revision	Sheet	By	Date

CAD FILE:  
 IA-271-3 Details  
 DESIGNED BY: JGW  
 DRAWN BY: JGW  
 SURVEYED BY: JGW & CK  
 BIOLOGIST: MS  
 DATE:  
 6/5/2024  
 PROJECT NUMBER:  
 US-IA-271-3  
**C302**

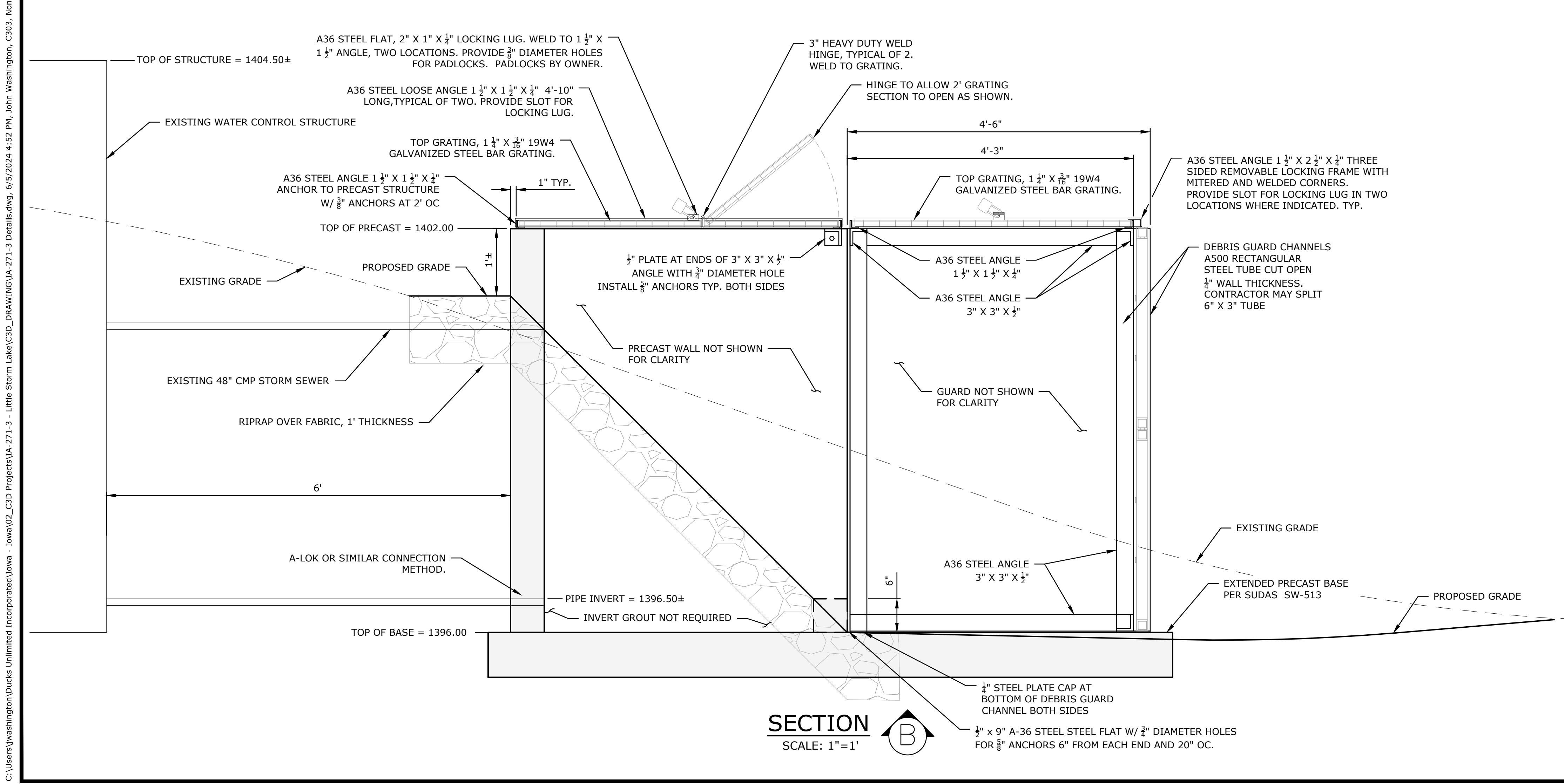
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**PLAN VIEW**  
SCALE: 1"=1'



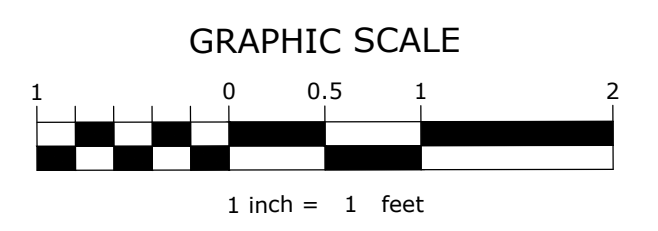
**SECTION A-A**  
SCALE: 1"=1'



**SECTION B-B**  
SCALE: 1"=1'

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**DUCKS UNLIMITED**

AFFIX SEAL: DUCKS UNLIMITED, INC. ON:

DETAIL - PRECAST STRUCTURE WITH DEBRIS GUARD LITTLE STORM LAKE ENHANCEMENT LITTLE STORM LAKE BUENA VISTA COUNTY, IOWA

Revision	Sheet	Date	By

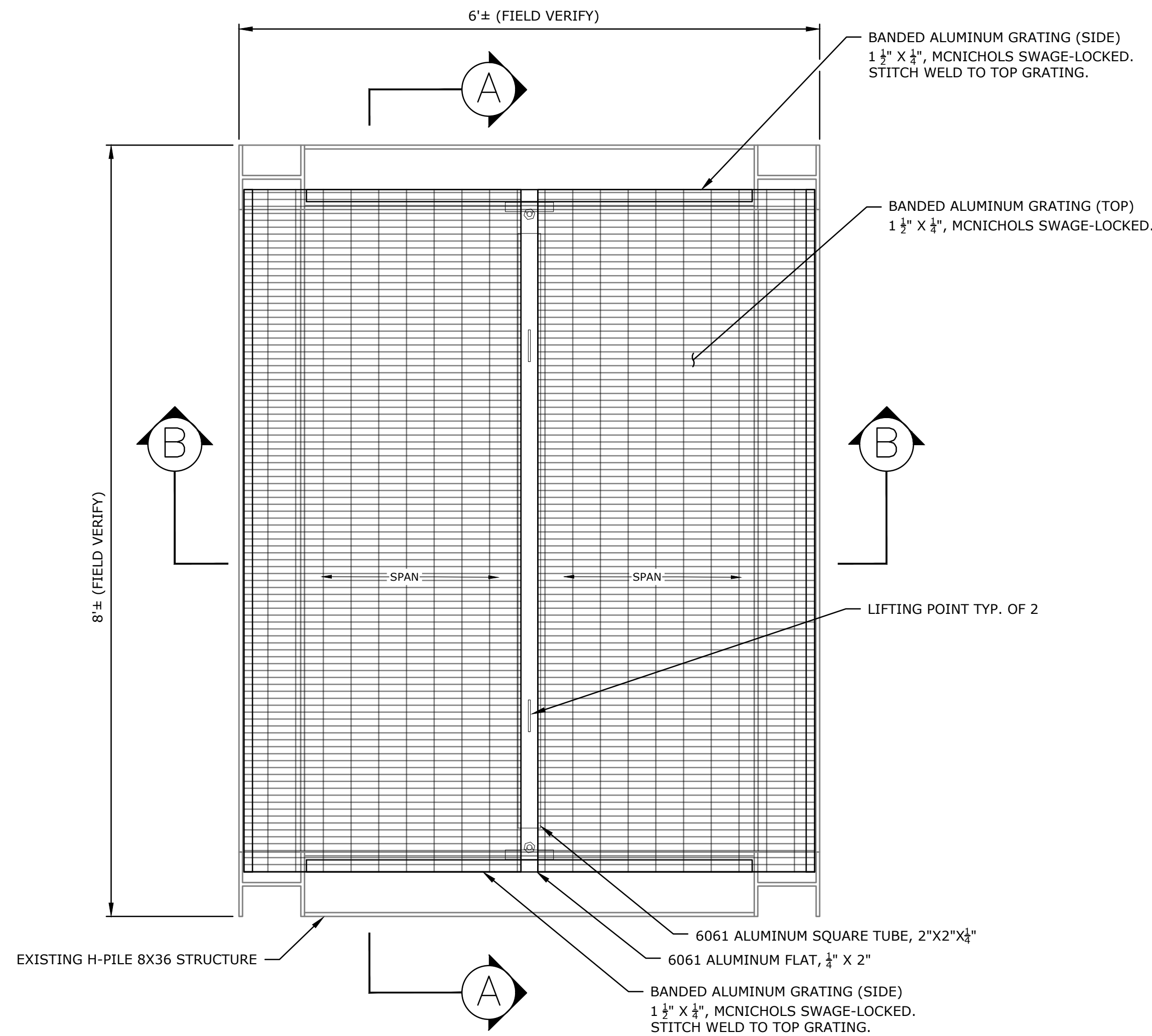
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 DESIGNED BY: JGW  
 DRAWN BY: JGW  
 SURVEYED BY: JGW & CK  
 BIOLOGIST: MS

DATE: 6/5/2024  
 PROJECT NUMBER: US-IA-271-3  
**C303**

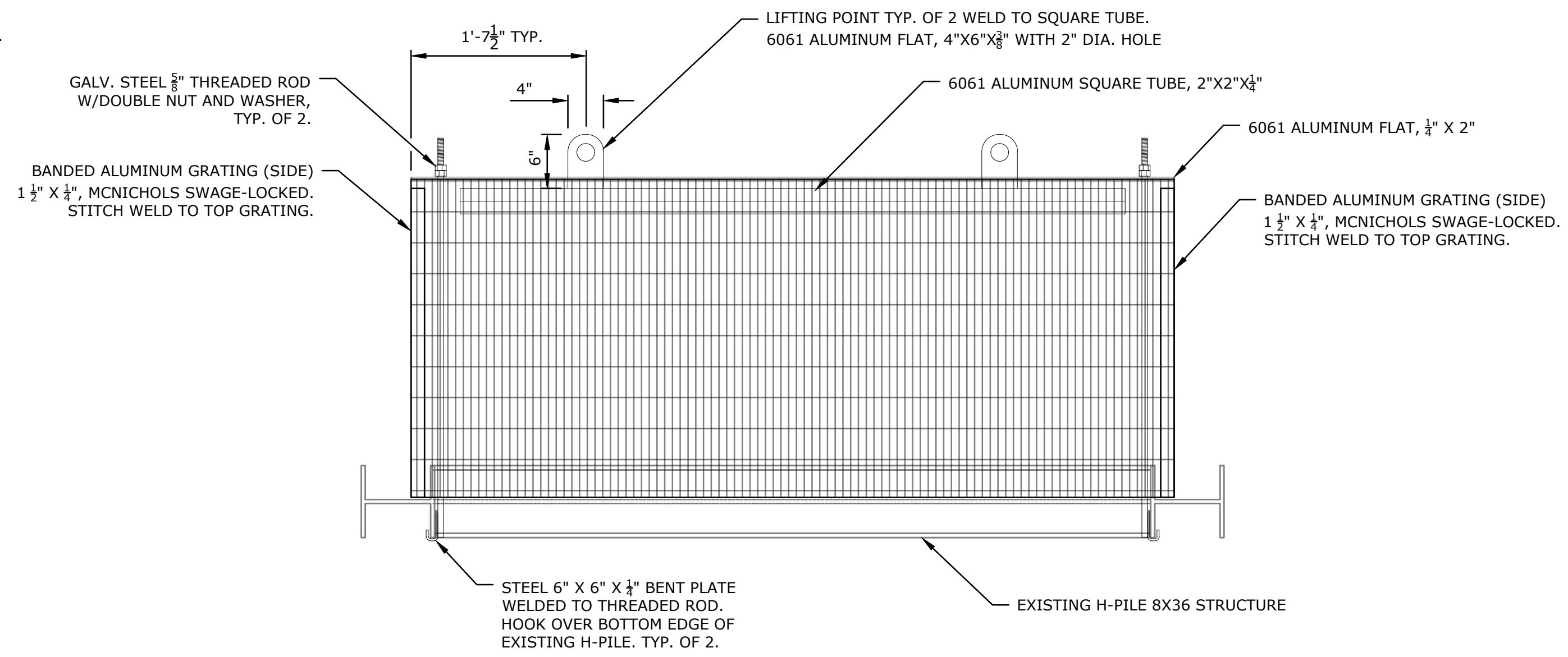


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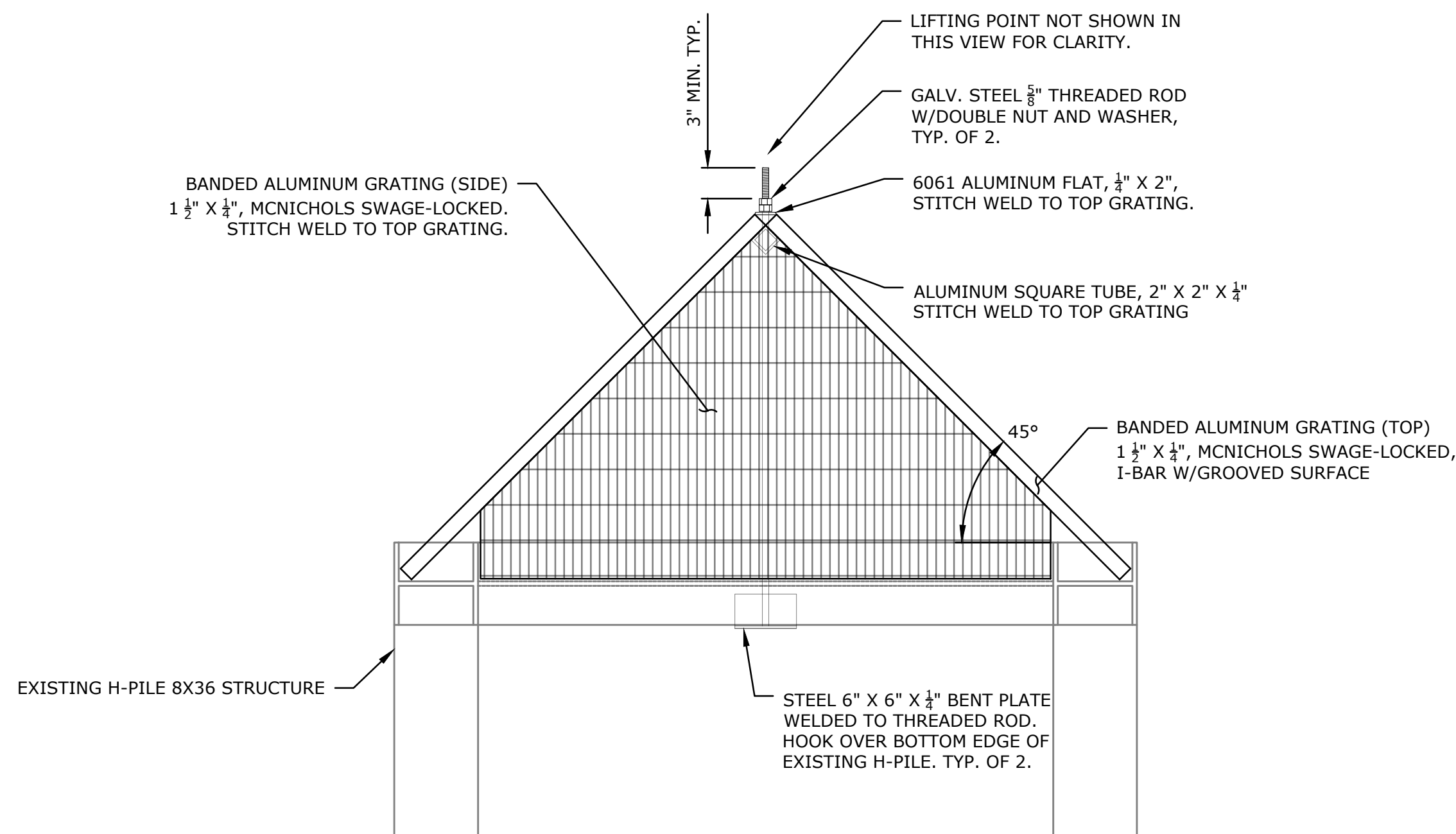
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**PLAN VIEW**  
SCALE: 1"=1'



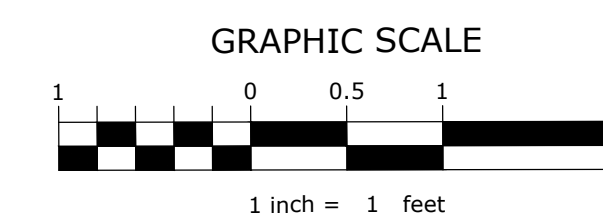
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**SECTION B**  
SCALE: 1"=1'

**GENERAL NOTES**

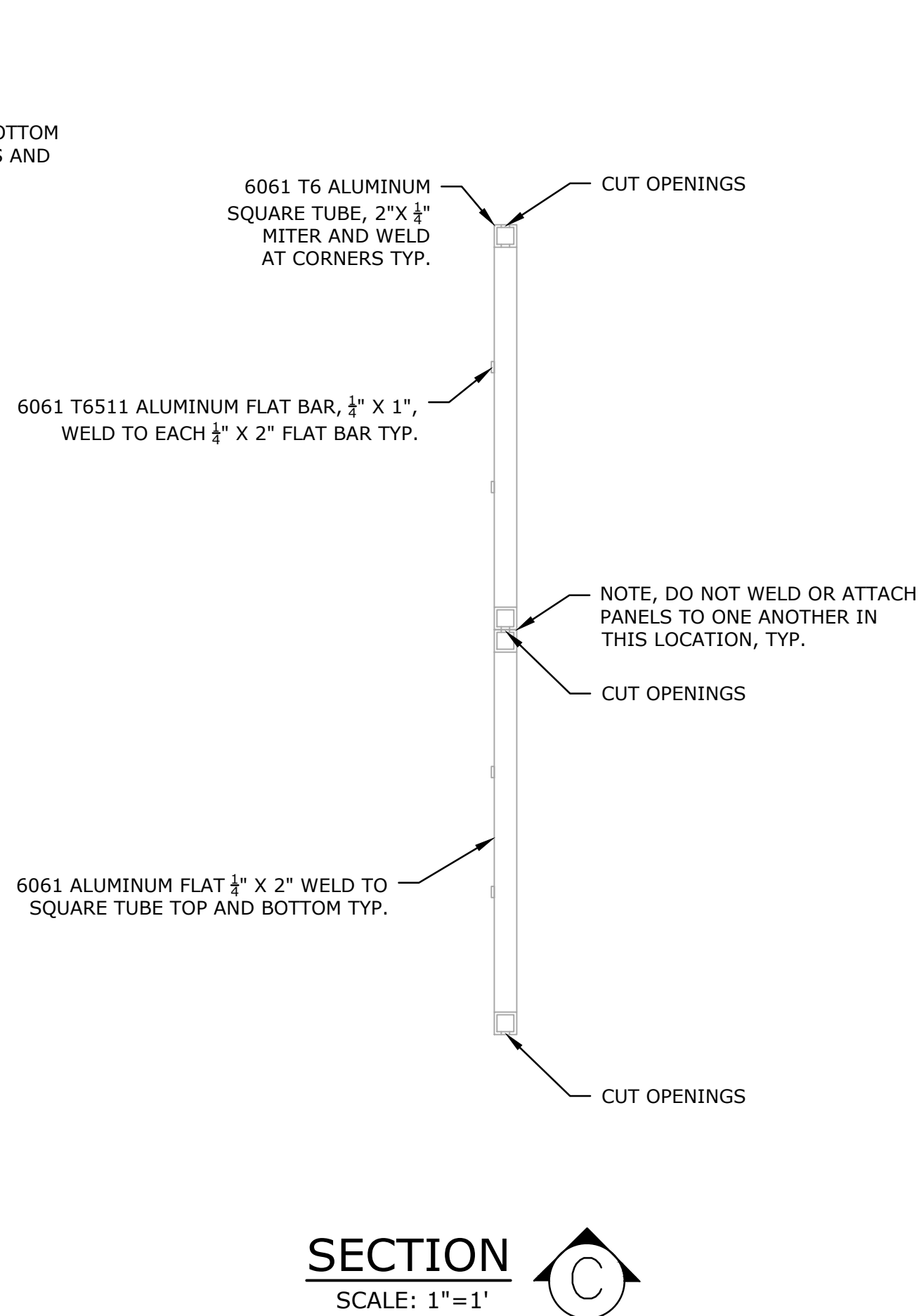
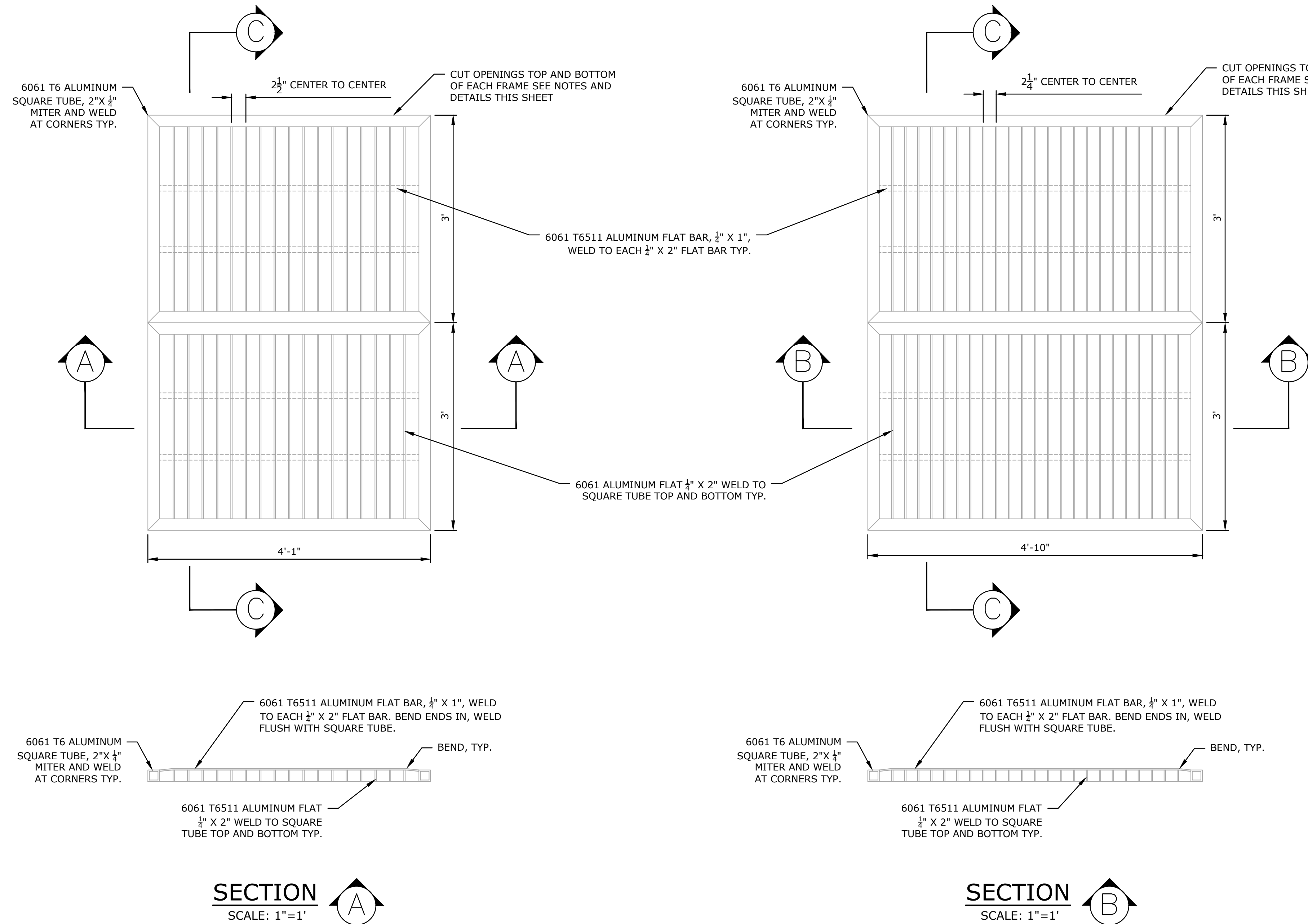
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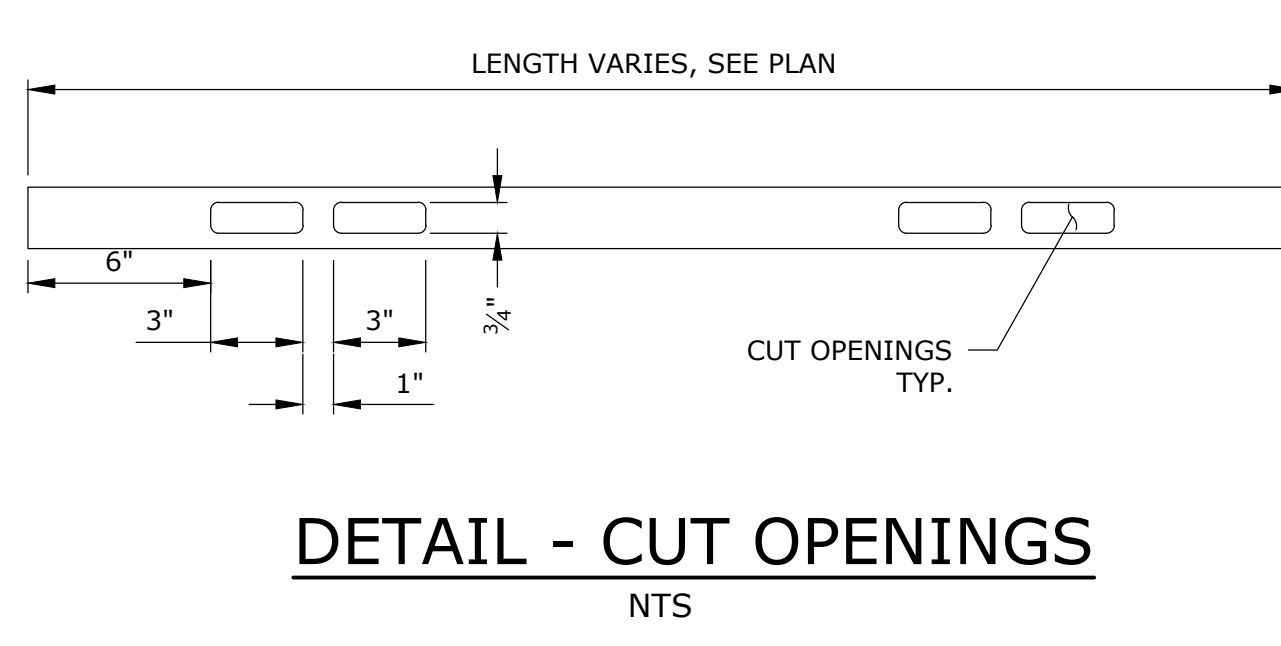
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- ALUMINUM DEBRIS GUARD NOTES:**
1. EACH OF TWO SIDES SHALL CONSIST OF TWO PANELS 4'-1" WIDE AND 3' TALL.
  2. FRONT SHALL CONSIST OF TWO PANELS 4'-10" WIDE AND 3' TALL.
  3. EACH FRAME SHALL INCLUDE CUT OPENINGS TOP AND BOTTOM, SEE DETAIL THIS SHEET.



- GENERAL NOTES**
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7322 NEWMAN BOULEVARD, BUILDING 2, STE. 200  
DEXTER, MICHIGAN 48130  
(734) 623-2000  
www.ducks.org

**DUCKS UNLIMITED**

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AFFIX SEAL: DUCKS UNLIMITED, INC.  
ON:

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**DETAIL - ALUMINUM DEBRIS GUARDS**  
**LITTLE STORM LAKE ENHANCEMENT**  
**LITTLE STORM LAKE**  
**BUENA VISTA COUNTY, IOWA**

Revision	Sheet	Revisions	Date	By

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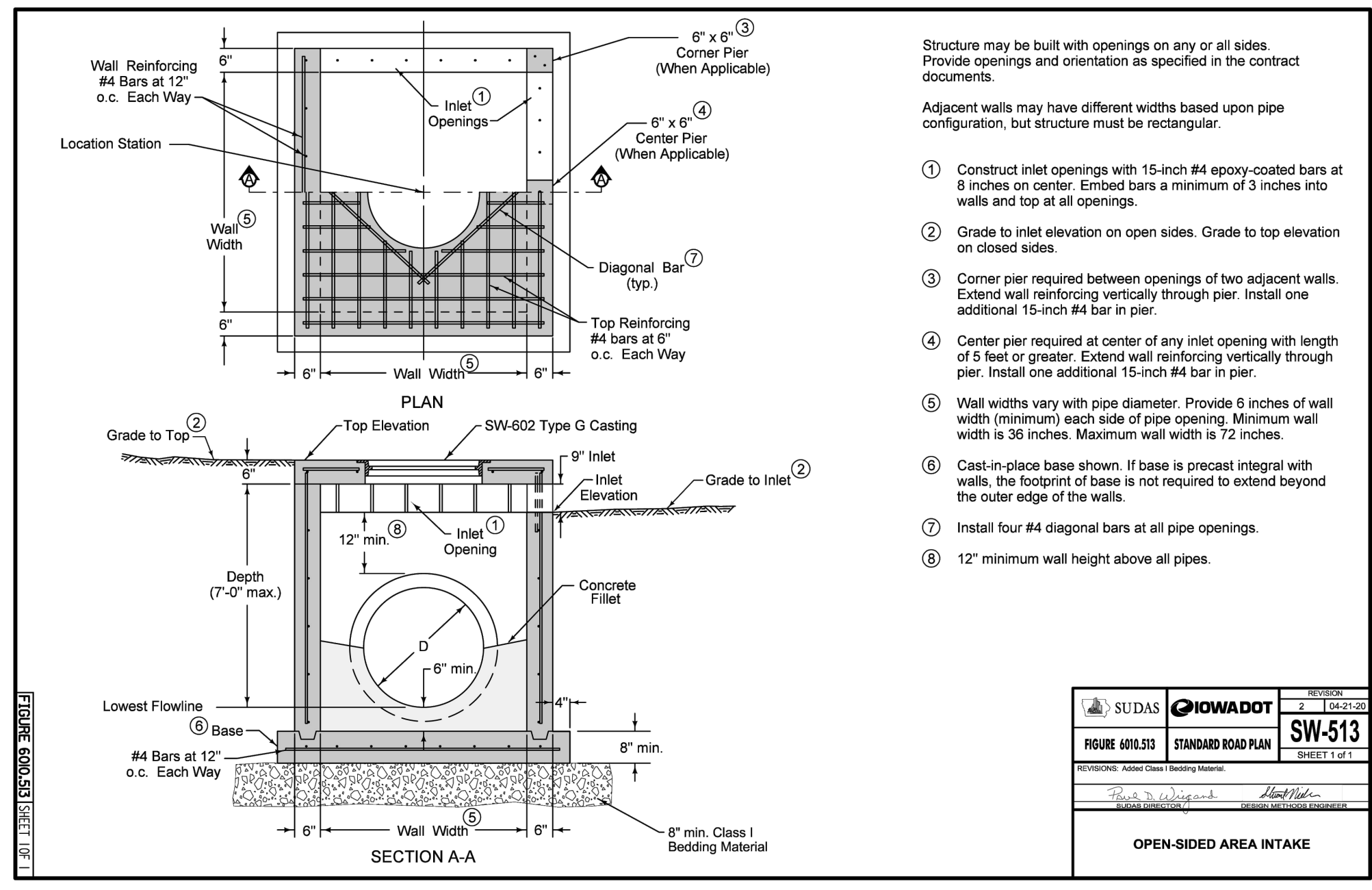
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IA-271-3 Details  
DESIGNED BY: JGW  
DRAWN BY: JGW  
SURVEYED BY: JGW & CK  
BIOLOGIST: MS

DATE:  
6/5/2024  
PROJECT NUMBER:  
US-IA-271-3

**C305**

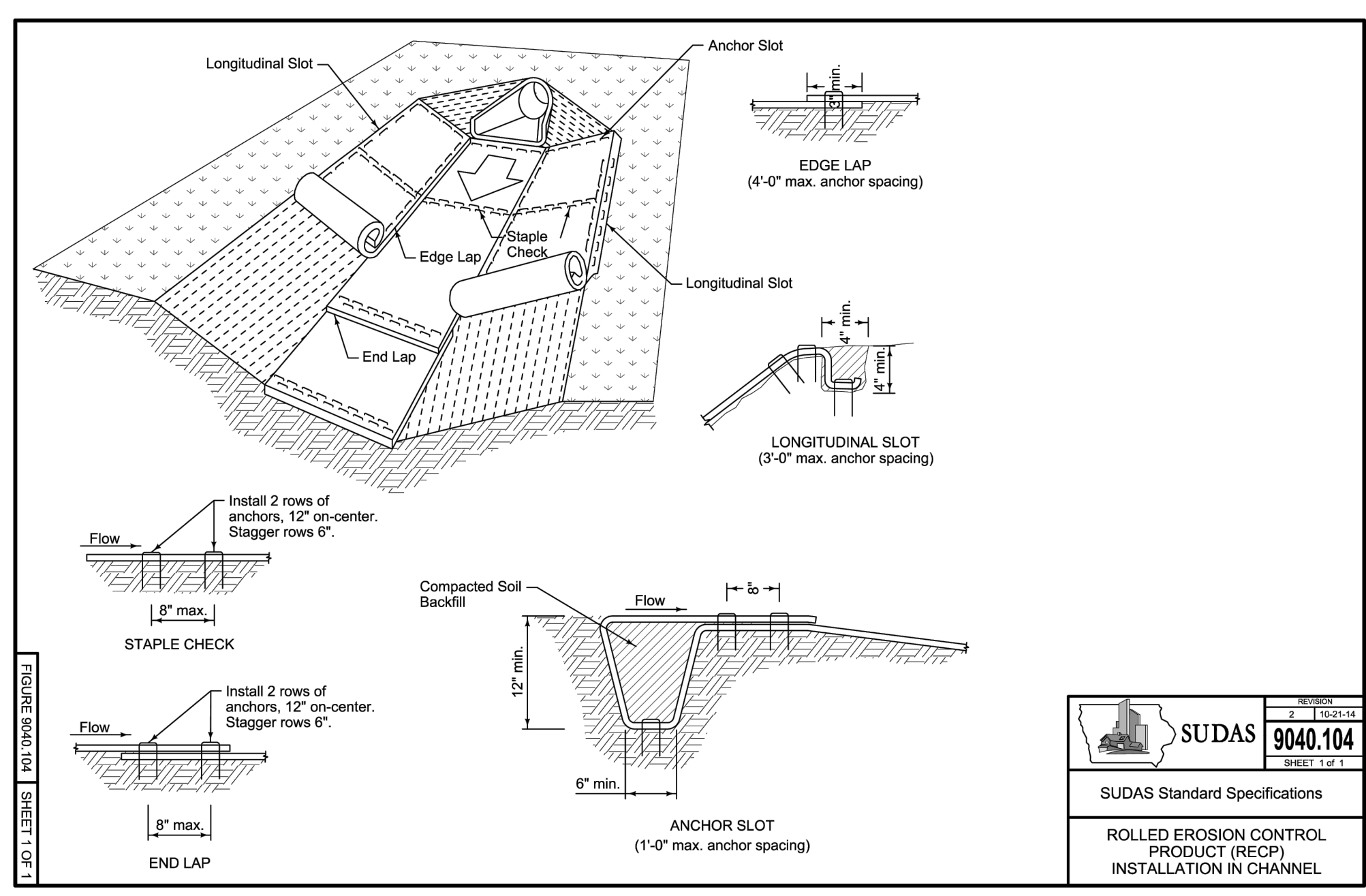
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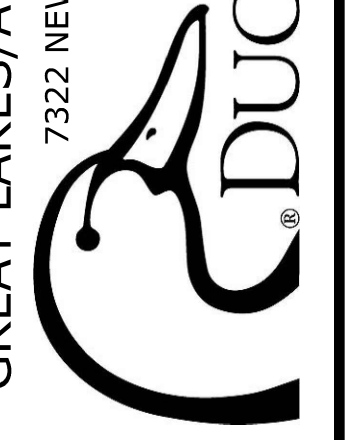
- Structure may be built with openings on any or all sides. Provide openings and orientation as specified in the contract documents.
- Adjacent walls may have different widths based upon pipe configuration, but structure must be rectangular.
- ① Construct inlet openings with 15-inch #4 epoxy-coated bars at 8 inches on center. Embed bars a minimum of 3 inches into walls and top at all openings.
  - ② Grade to inlet elevation on open sides. Grade to top elevation on closed sides.
  - ③ Corner pier required between openings of two adjacent walls. Extend wall reinforcing vertically through pier. Install one additional 15-inch #4 bar in pier.
  - ④ Center pier required at center of any inlet opening with length of 5 feet or greater. Extend wall reinforcing vertically through pier. Install one additional 15-inch #4 bar in pier.
  - ⑤ Wall widths vary with pipe diameter. Provide 6 inches of wall width (minimum) each side of pipe opening. Minimum wall width is 36 inches. Maximum wall width is 72 inches.
  - ⑥ Cast-in-place base shown. If base is precast integral with walls, the footprint of base is not required to extend beyond the outer edge of the walls.
  - ⑦ Install four #4 diagonal bars at all pipe openings.
  - ⑧ 12" minimum wall height above all pipes.

SUDAS	LOWADOT	SECTION	2	062120
FIGURE 904.104	STANDARD ROAD PLAN	SW-513	SHEET 1 OF 1	
OPEN-SIDED AREA INTAKE				



SUDAS	SECTION	2	062121
904.104	SHEET 1 OF 1		
SUDAS Standard Specifications			
ROLLED EROSION CONTROL PRODUCT (REC) INSTALLATION IN CHANNEL			

GREAT LAKES/ATLANTIC REGIONAL OFFICE  
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 DEKETER, MICHIGAN 48130  
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AFFIX SEAL: DUCKS UNLIMITED, INC.  
 ON:

DETAIL - STANDARD DETAILS  
 LITTLE STORM LAKE  
 ENHANCEMENT  
 LITTLE STORM LAKE  
 BUENA VISTA COUNTY, IOWA

Revision	Sheet	Revisions	By	Date

CAD FILE:  
 IA-271-3 Details  
 DESIGNED BY: JGW  
 DRAWN BY: JGW  
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**C306**