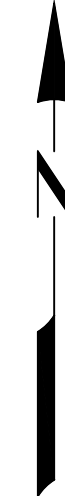


KALKASKA COUNTY ROAD COMMISSION IN COOPERATION WITH CONSERVATION RESOURCE ALLIANCE

PLANS OF PROPOSED IMPROVEMENTS GRASS LAKE ROAD OVER MANISTEE RIVER SECTION 13, T25N, R6W, EXCELSIOR TOWNSHIP KALKASKA COUNTY, MICHIGAN



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GENERAL NOTES

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 811 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

SOIL EROSION MEASURES

PLACE TOPSOIL, SEED, FERTILIZER, AND MULCH AS SOON AS POSSIBLE. CRITICAL GRADES SHOULD BE PROTECTED WITH MULCH BLANKETS AS DIRECTED BY THE ENGINEER. CIRCLED NUMBERS ON PLANS REFER TO ITEMS ON THE MDOT STANDARD PLAN R-96-SERIES

PARCEL CORNERS

CONTRACTOR SHALL PRESERVE AND/OR REPLACE ANY EXISTING PARCEL CORNERS ENCOUNTERED DURING THE WORK, INCLUDED IN PAYMENT FOR OTHER ITEMS OF WORK

PUBLIC UTILITIES

THE EXISTING UTILITIES LISTED BELOW AND SHOWN ON THESE PLANS REPRESENT THE BEST INFORMATION AVAILABLE. THIS INFORMATION DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO BE SATISFIED AS TO ITS ACCURACY AND THE LOCATION OF EXISTING UTILITIES.

NAME OF OWNER	KIND OF UTILITY
---------------	-----------------

AT&T
514 E MITCHELL PETOSKEY, MI 49770
CONTACT: JEFF SCHUSTER
EMAIL: js98654@att.com
PHONE: 231-779-8450

TELEPHONE

CONTRACT FOR:

CULVERT REPLACEMENT

PREPARED UNDER SUPERVISION OF

REBECCA E. RIVARD	50497
REGISTERED PROFESSIONAL ENGINEER	REGISTRATION NO.

HURON ENGINEERING AND SURVEYING, INC.
ORGANIZATION

3205 US-23 SOUTH, ALPENA, MI 49707
ADDRESS

GRASS LAKE RD OVER MANISTEE RIVER TITLE SHEET

SCALE
N/A

ENGINEER
RIVARD

DATE
JANUARY 21, 2026

SITE NUMBER
MAN_KA_010

JOB NUMBER
23.175



SHEET NO.

1

WATER & DRAINAGE SYMBOLS

- EXISTING CATCH BASIN
- PROPOSED CATCH BASIN
- EXISTING MANHOLE
- PROPOSED MANHOLE
- EXISTING CULVERT END SECTION
- PROPOSED CULVERT END SECTION
- EXISTING HEADWALL
- PROPOSED HEADWALL
- WATER SHUTOFF(Service Valve)
- GATE VALVE
- GATEWELL
- WATER METER
- WATER MANHOLE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- ADJUST FIRE HYDRANT
- ADJUST DRAINAGE STRUCTURE
- ADJUST DRAINAGE STRUCTURE W/COVER
- ADJUST DRAINAGE STRUCTURE BY OTHERS
- RELOCATE - BY OTHERS
- SIDEWALK RAMP TYPE
- CHECK DAM (PROFILES)
- DIKE (PROFILES)
- WATER TABLE (PROFILES)
- POST
- WATER WELL

UTILITIES SYMBOLS

- POWER POLE
- TELEPHONE POLE
- GUY POLE
- LIGHT POLE
- POWER LIGHT POLE
- TELEPHONE MANHOLE
- POWER TOWER
- GAS VALVE
- WALK/NO-WALK
- GUY ANCHOR
- RAILROAD SIGNAL
- ELECTRICAL MANHOLE
- ELECTRICAL HANDHOLE
- TELEPHONE PEDESTAL/RISER
- FIBER OPTIC MARKER

MISCELLANEOUS SYMBOLS

- RIPRAP
- SIGN
- STUMP
- SWAMP
- DECIDUOUS TREE
- CONIFEROUS TREE
- BUSH
- MAIL BOX
- FLAG
- BAR & CAP
- SECTION CORNER
- QUARTER SECTION
- BENCHMARK
- USGS MARKER
- CONTROL POINT
- BEAM G. R. RUN NUMBER (EXISTING)
- BEAM G. R. RUN NUMBER (PROPOSED)

HAZARDOUS OR FLAMMABLE MATERIAL USED WITH UNDERGROUND GAS & ELECTRICAL LINES

CAUTION - CRITICAL UNDERGROUND UTILITY USED WITH FIBER OPTICS LINES

PROP 36" PROPOSED CULVERT/SEWER

EX 12" CMP EXISTING CULVERT/SEWER

REAL ESTATE SYMBOLS

- PROPERTY OWNERSHIP ARROW
- CONTIGUOUS PROPERTY SYMBOL
- 123456 PARCEL NUMBER BOX
- PARCEL LINES

UTILITY PATTERNS

- ELEC ELECTRICAL LINE
- 24" GAS GAS LINE
- 12" OIL OIL LINE
- TELE TELEPHONE LINE
- 36" WM WATER LINE
- CTV CABLE TV
- FO FIBER OPTICS
- POWER TRANSMISSION LINE

R.O.W. PATTERNS

- EX. LIMITED ACCESS R.O.W.
- EXISTING R.O.W.
- PROP LIMITED ACCESS R.O.W.
- PROP FREE ACCESS R.O.W.
- SECTION LINE
- GRADING EASEMENT

TOPO PATTERNS

- HEDGE LINE
- TREE LINE
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING GUARD RAIL
- PROPOSED GUARD RAIL
- DRAINAGE CRS/EDGE OF WATER
- WETLANDS AREA
- ABANDON ANY UTILITY
- CITY LIMITS
- RAILROAD
- SOUND ABATEMENT WALL
- CONCRETE MEDIAN BARRIER
- SLOPE STAKE LINE

DRIVE/APPROACH LEGEND

- CONCRETE
- HMA
- AGGREGATE

REMOVAL LEGEND

- REMOVING (R)
- ABANDONING (A)
- SAVE (S)
- BULKHEAD (B)
- REMOVING CURB & GUTTER

SPECIAL LEGEND THIS PROJECT

- STANDARD PLAN R-96-E SOIL EROSION & SEDIMENTATION (26)
- STANDARD PLAN R-96-E SOIL EROSION & SEDIMENTATION CHECK DAM (37)
- ROAD BORING LOCATION (SBOR 1)

GRASS LAKE ROAD OVER MANISTEE RIVER LEGEND

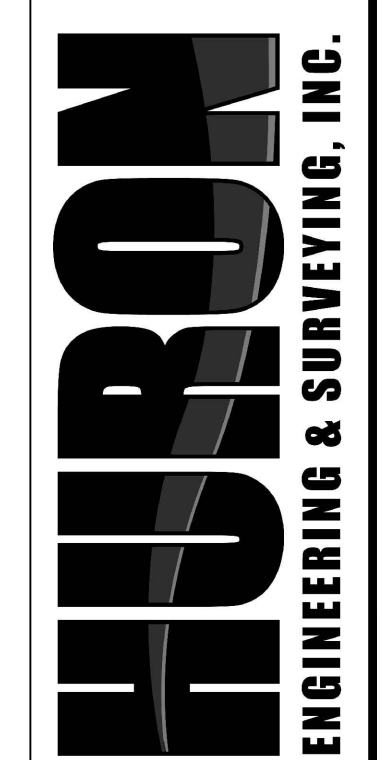
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SHEET NO.

2

DURING STREAM ENCLOSURE ACTIVITIES AND ALL CONSTRUCTION ACTIVITIES PLACE EROSION CONTROL MEASURES TO PREVENT SEDIMENT FROM ENTERING THE WATERWAY.

ALL EROSION CONTROL MATERIALS SHALL USE THE FOLLOWING WILDLIFE SAFE NETTING OR APPROVED EQUAL:

BIONET(R) 700BN(TM) LONG-TERM BIODEGRADABLE COIR-NET COCONUT BLANKET

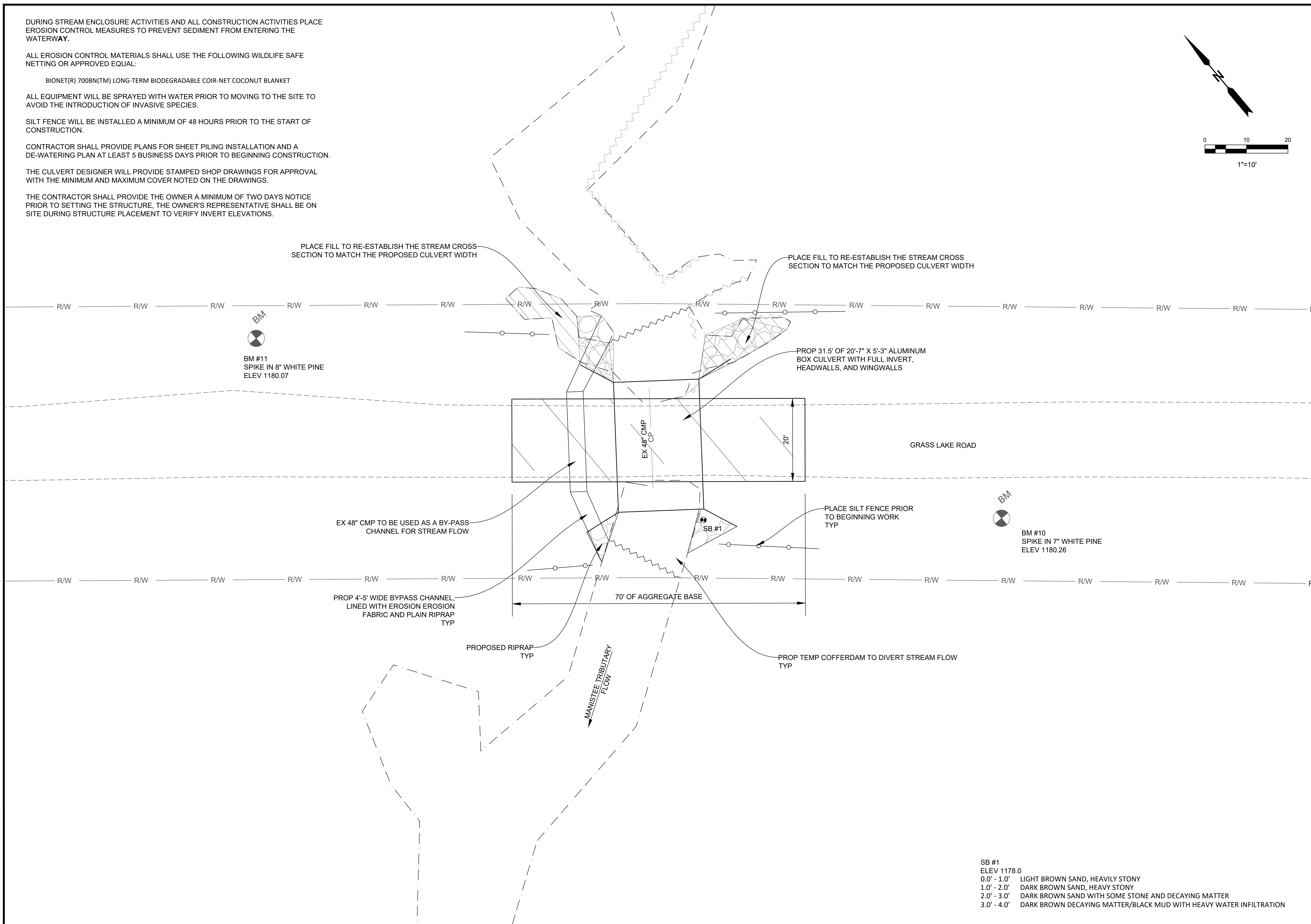
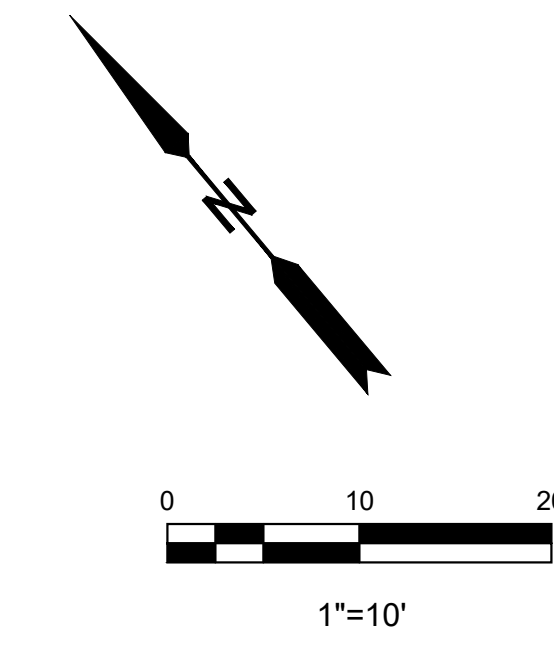
ALL EQUIPMENT WILL BE SPRAYED WITH WATER PRIOR TO MOVING TO THE SITE TO AVOID THE INTRODUCTION OF INVASIVE SPECIES.

SILT FENCE WILL BE INSTALLED A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION.

CONTRACTOR SHALL PROVIDE PLANS FOR SHEET PILING INSTALLATION AND A DE-WATERING PLAN AT LEAST 5 BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION.

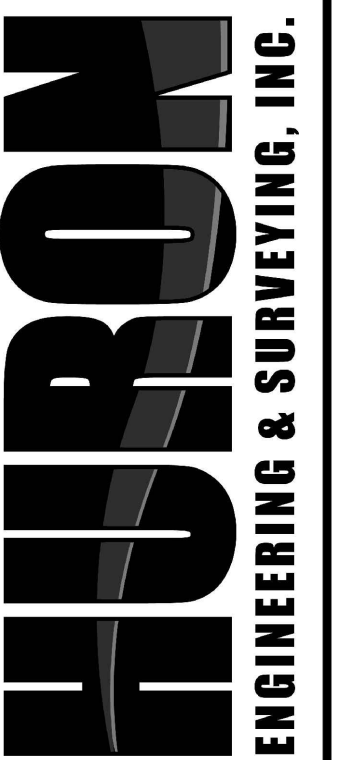
THE CULVERT DESIGNER WILL PROVIDE STAMPED SHOP DRAWINGS FOR APPROVAL WITH THE MINIMUM AND MAXIMUM COVER NOTED ON THE DRAWINGS.

THE CONTRACTOR SHALL PROVIDE THE OWNER A MINIMUM OF TWO DAYS NOTICE PRIOR TO SETTING THE STRUCTURE. THE OWNER'S REPRESENTATIVE SHALL BE ON SITE DURING STRUCTURE PLACEMENT TO VERIFY INVERT ELEVATIONS.



GRASS LAKE RD OVER MANISTEE RIVER PLAN SHEET

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SCALE
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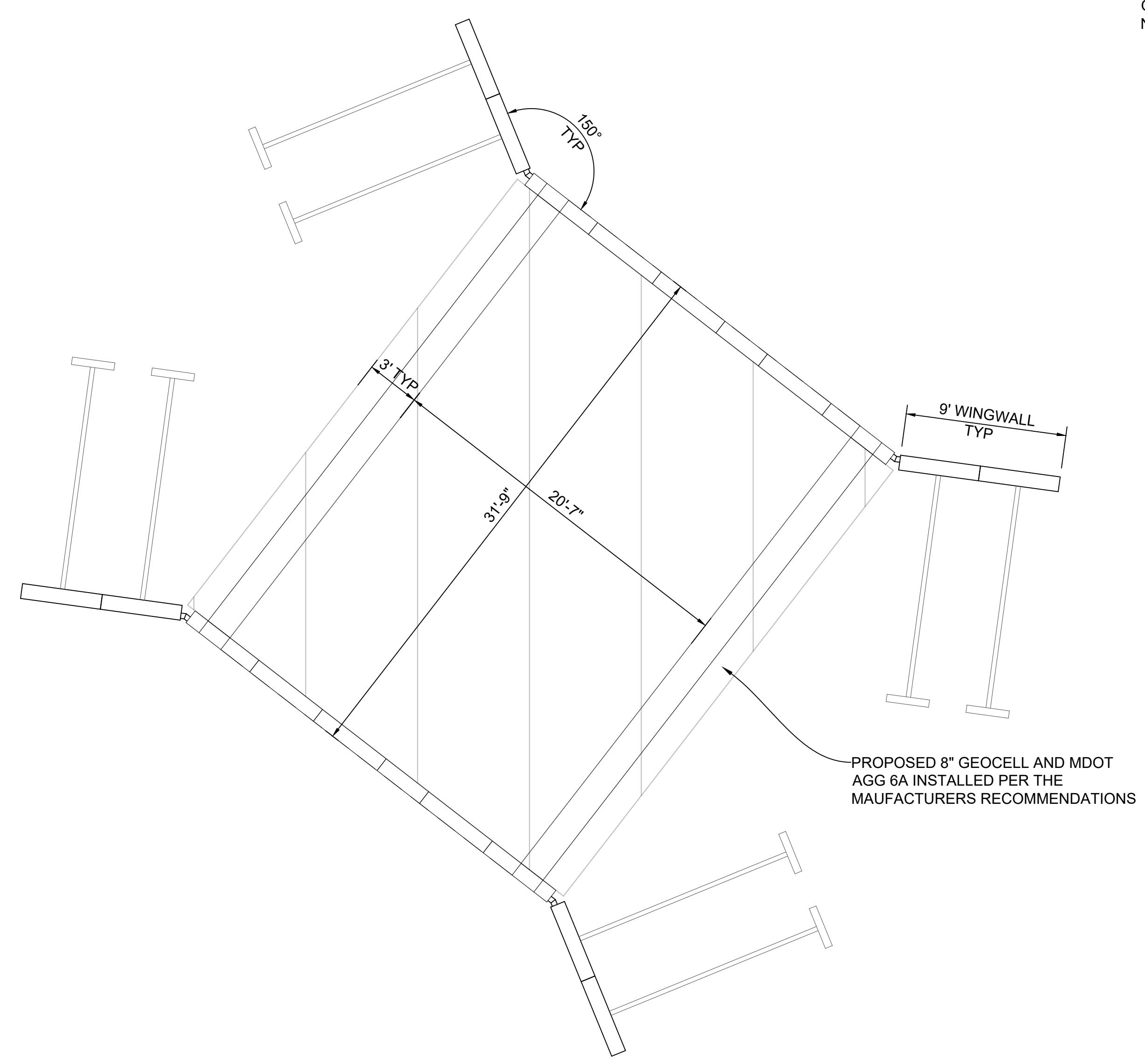
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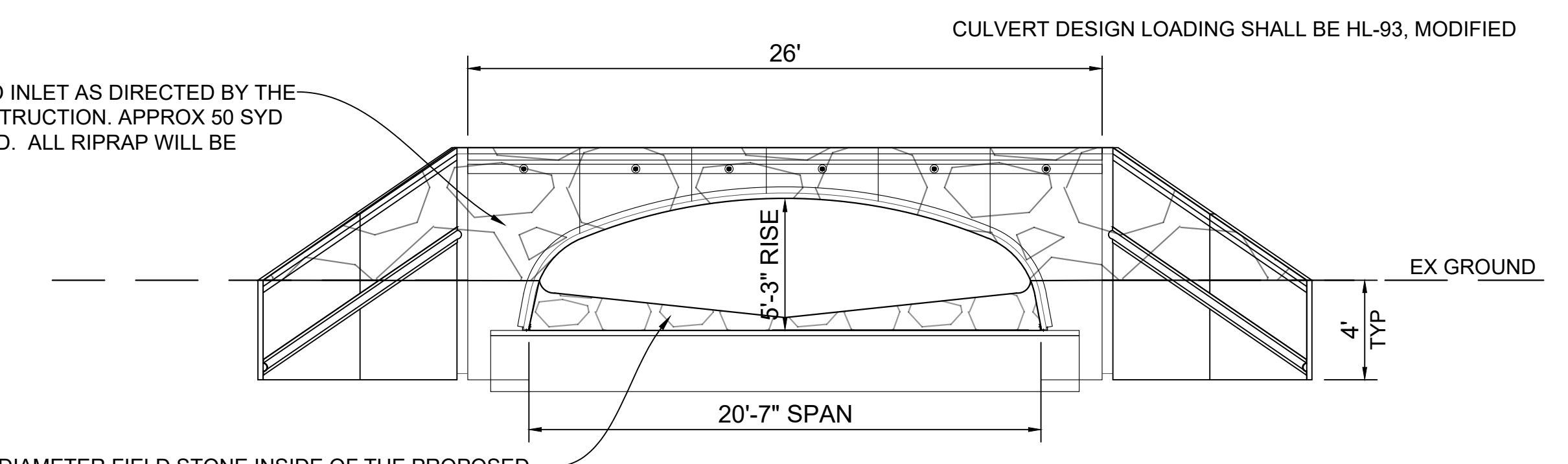
SHEET NO.

4



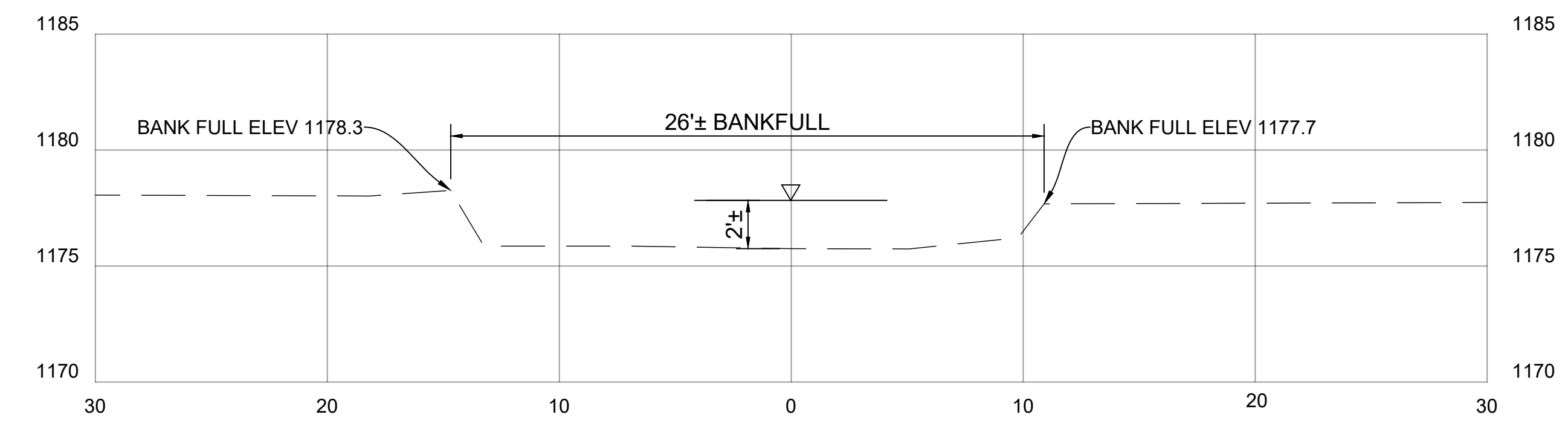
PROPOSED ALUMINUM BOX DETAIL
NOT TO SCALE

PLACE RIPRAP AT OUTLET AND INLET AS DIRECTED BY THE OWNER AT THE TIME OF CONSTRUCTION. APPROX 50 SYD OF RIPRAP, PLAIN ANTICIPATED. ALL RIPRAP WILL BE NATURAL FIELD STONE.

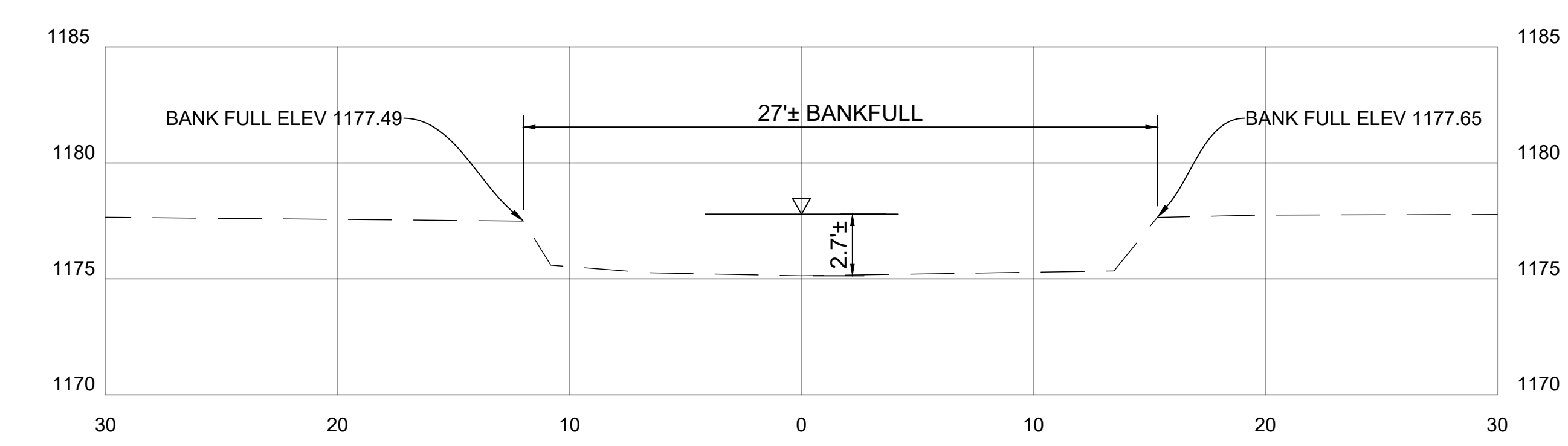


PLACE 6"-8" DIAMETER FIELD STONE INSIDE OF THE PROPOSED ALUM BOX. STONE WILL BE 18" THICK ON THE OUTSIDE ADJACENT TO THE CULVERT WALLS AND 6" THICK IN THE MIDDLE.

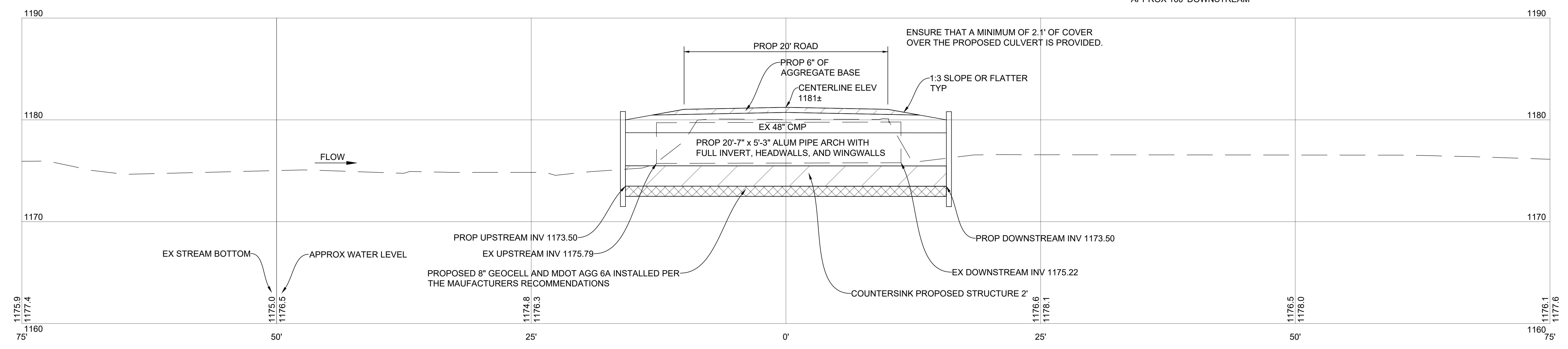
PROPOSED ALUMINUM BOX DETAIL
NOT TO SCALE



EXISTING UPSTREAM CROSS SECTION
APPROX 160' UPSTREAM



EXISTING DOWNSTREAM CROSS SECTION
APPROX 160' DOWNSTREAM

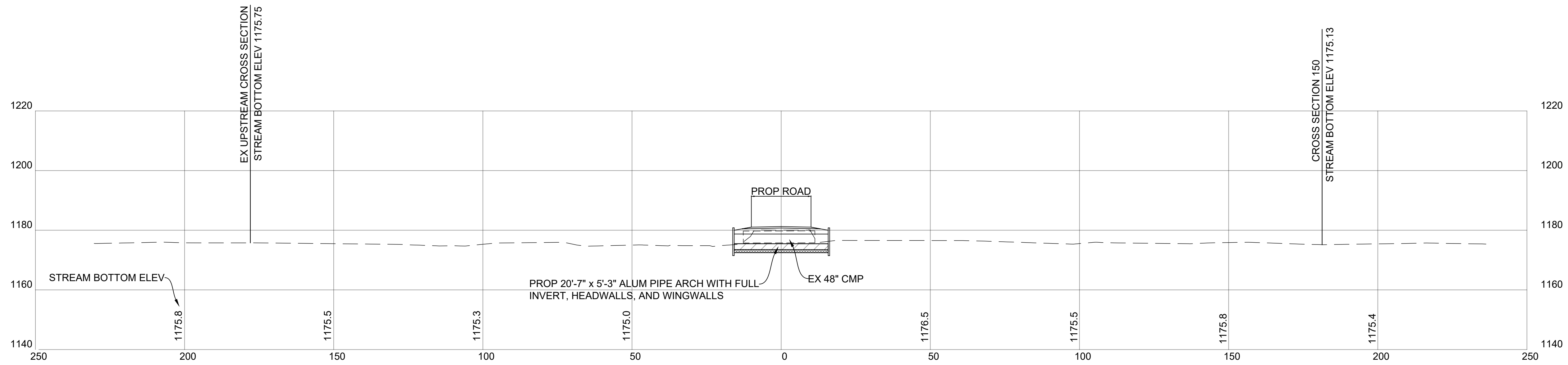


STREAM PROFILE
NOT TO SCALE

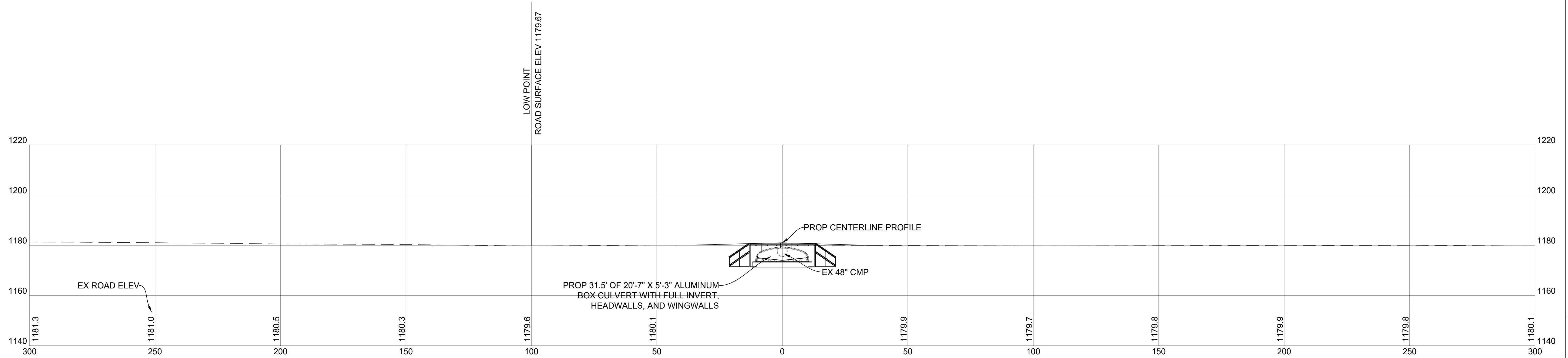
ENSURE THAT A MINIMUM OF 2.1' OF COVER OVER THE PROPOSED CULVERT IS PROVIDED.

PROPOSED 8" GEOCELL AND MDOT AGG 6A INSTALLED PER THE MAUFACTURERS RECOMMENDATIONS

COUNTERSINK PROPOSED STRUCTURE 2'



EXISTING STREAM PROFILE



EXISTING ROAD PROFILE

PROFILE SHEET

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