

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION 6

PLANS

Letting Date: January 18, 2023

CONTRACT ID: D6BR.POC.021

TIP NO.: -----

FEDERAL AID NO.: STATE FUNDED

WBS ELEMENT NO.: 6B.200914.2, 6B.202614.2 & 6B.204314.2

ROUTE NO.: SR 1311, SR 1006 & SR 1106

LOCATION: Various

COUNTY: BLADEN, CUMBERLAND & HARNETT

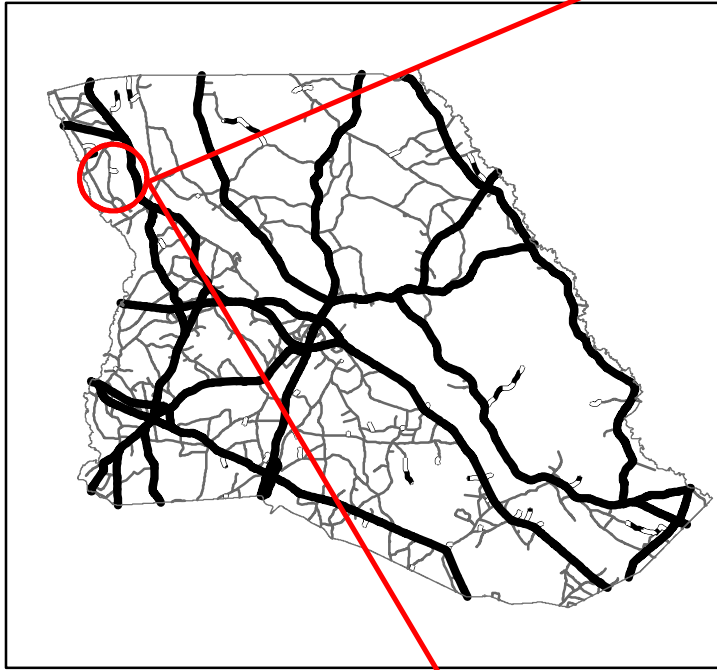
LENGTH OF PROJECT: VARIOUS

TYPE OF WORK: PIPE REMOVAL & REPLACEMENTS

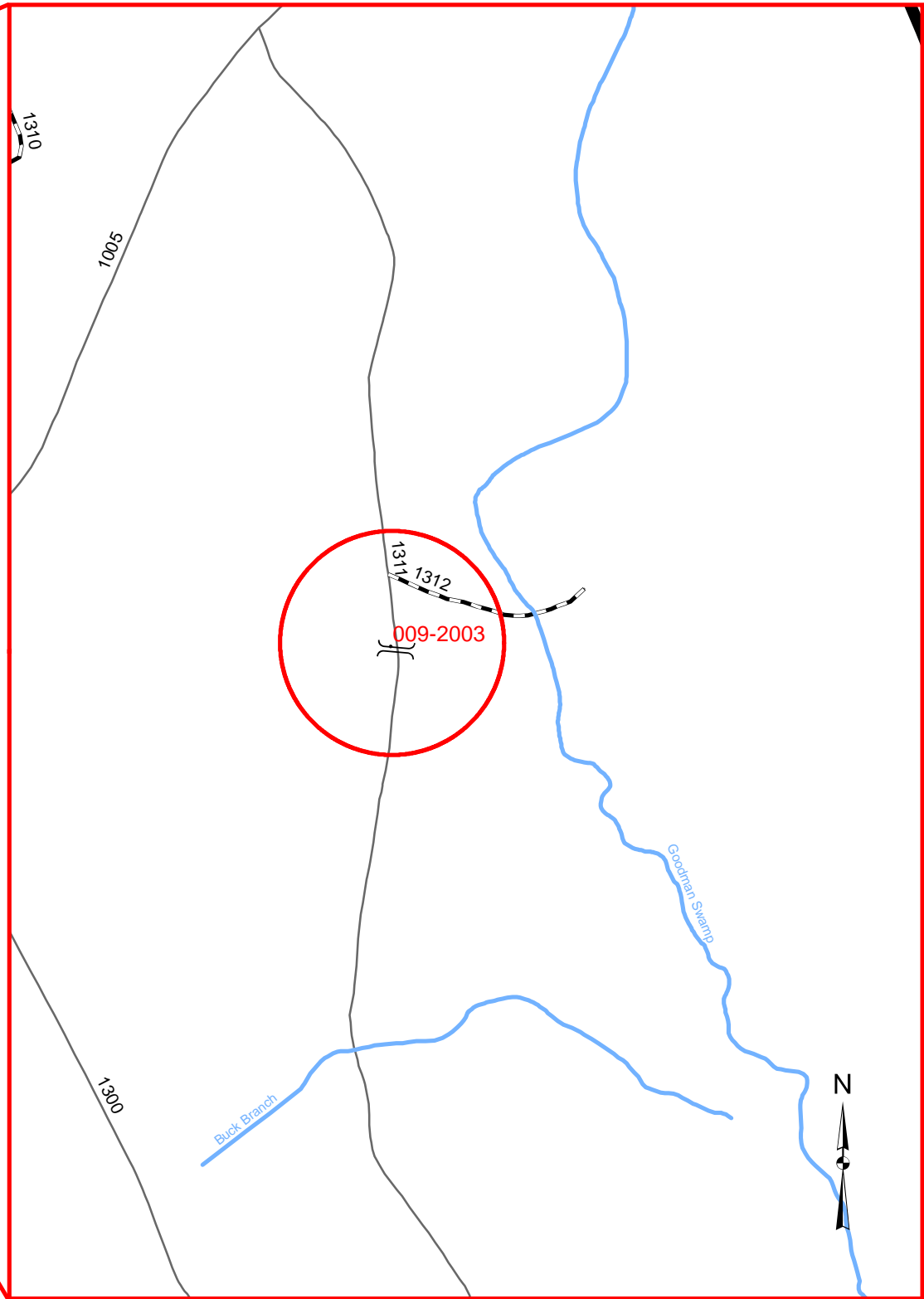
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**Bladen County
VICINITY MAP
SR 1311
0.18 S of SR 1312
NON NBIS Bridge Pipe**



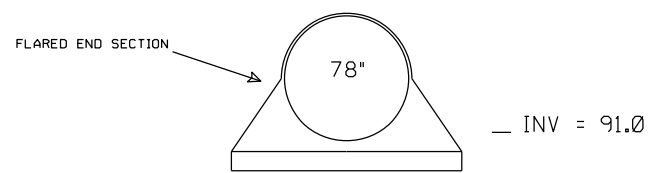


LAYOUT FOR FIELD INSTALLATION

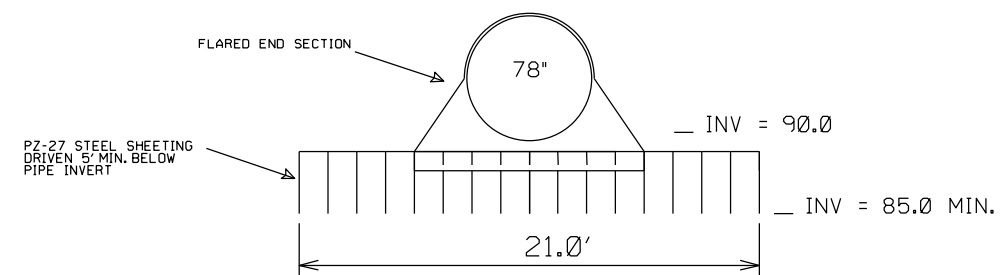
COUNTY:	BLADEN
LOCATION:	SR 1311
EXISTING:	1 = 66" X 51" CMP
PROPOSED:	1-78" ALUM. CMP W/FLARED ENDS

SCALE - 1" = 10'

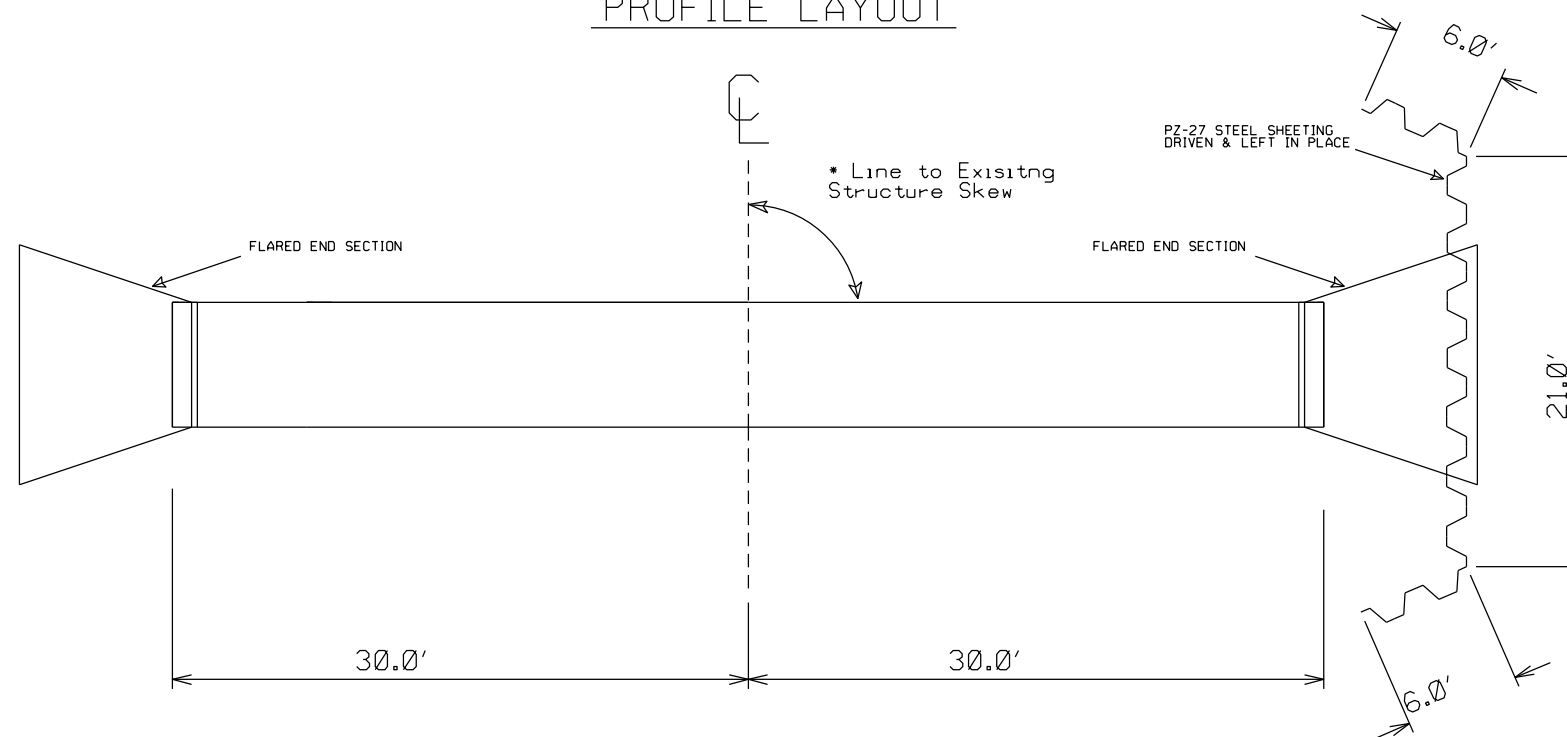
INLET HEADWALL



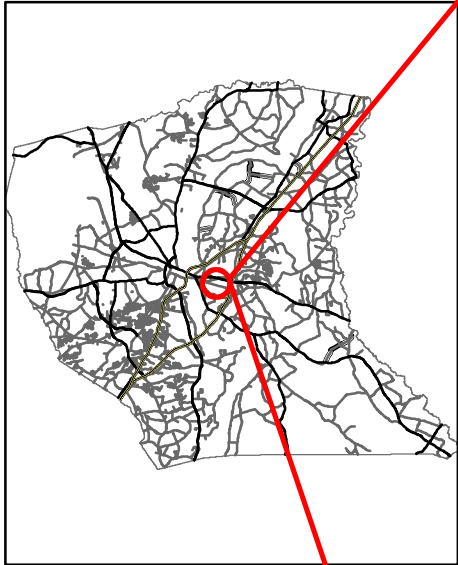
OUTLET HEADWALL



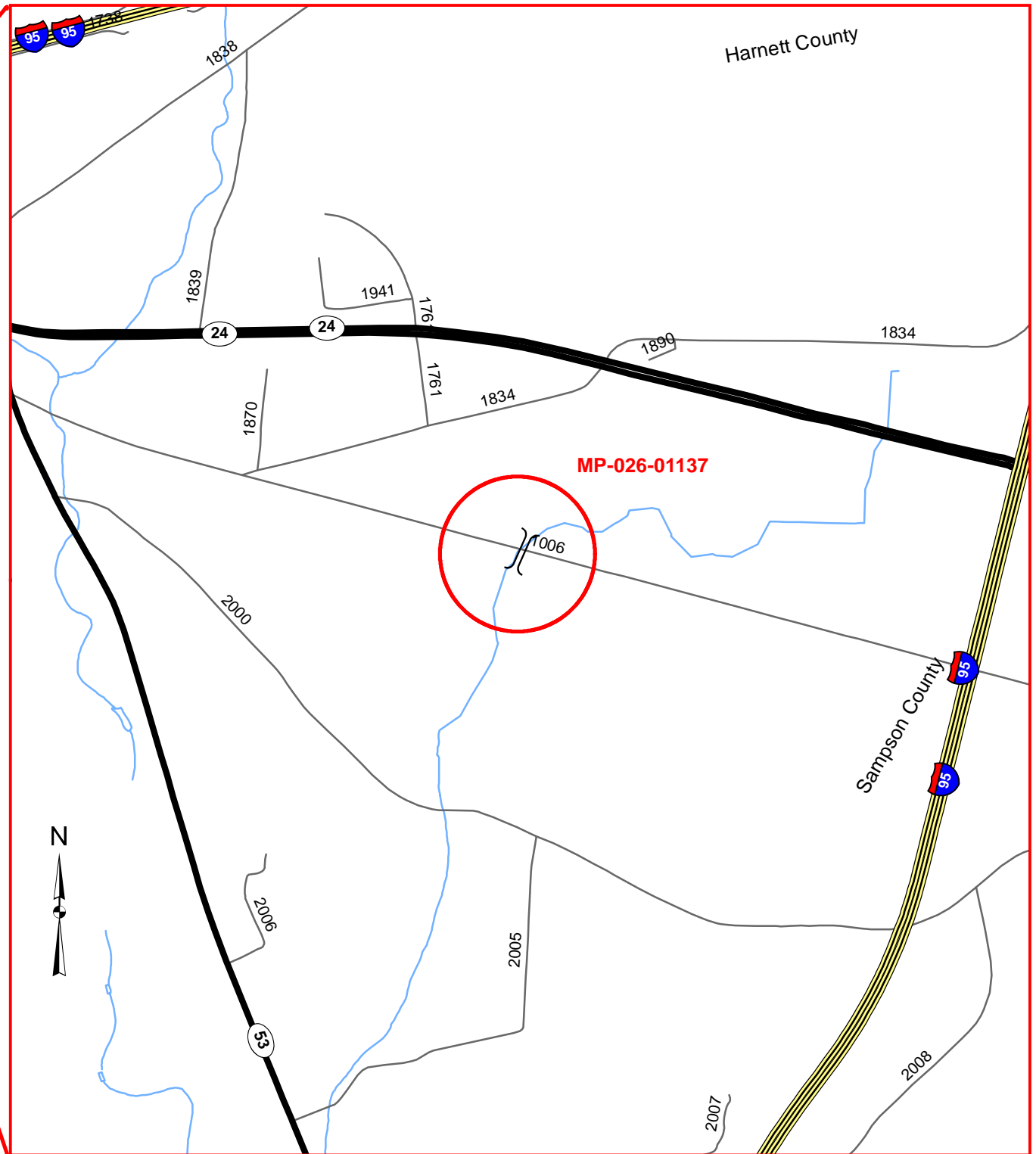
PROFILE LAYOUT



* REFERENCE ONLY -
Tieback and Walebeam
Locations to be
determined in
Engineered Design



**Cumberland County
VICINITY MAP
SR 1006
0.77 MI. E of SR 1834
Maint.->Bridge Pipe**



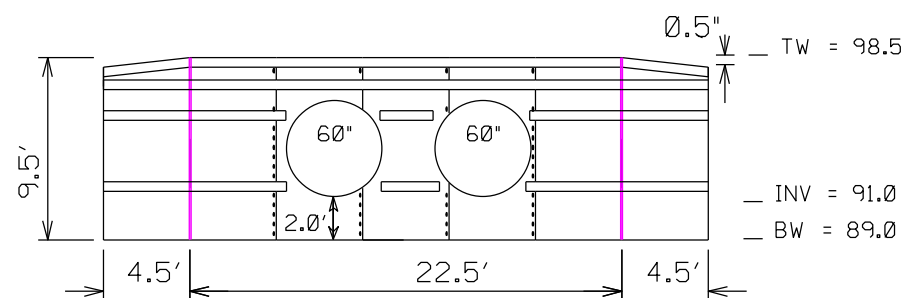


LAYOUT FOR FIELD INSTALLATION

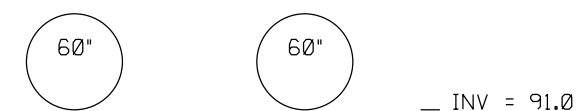
COUNTY:	CUMBERLAND
LOCATION:	SR 1006
EXISTING:	1 = 30" RCP
PROPOSED:	2-60" ALUM. CMP W/INLET HW

SCALE - 1" = 10'

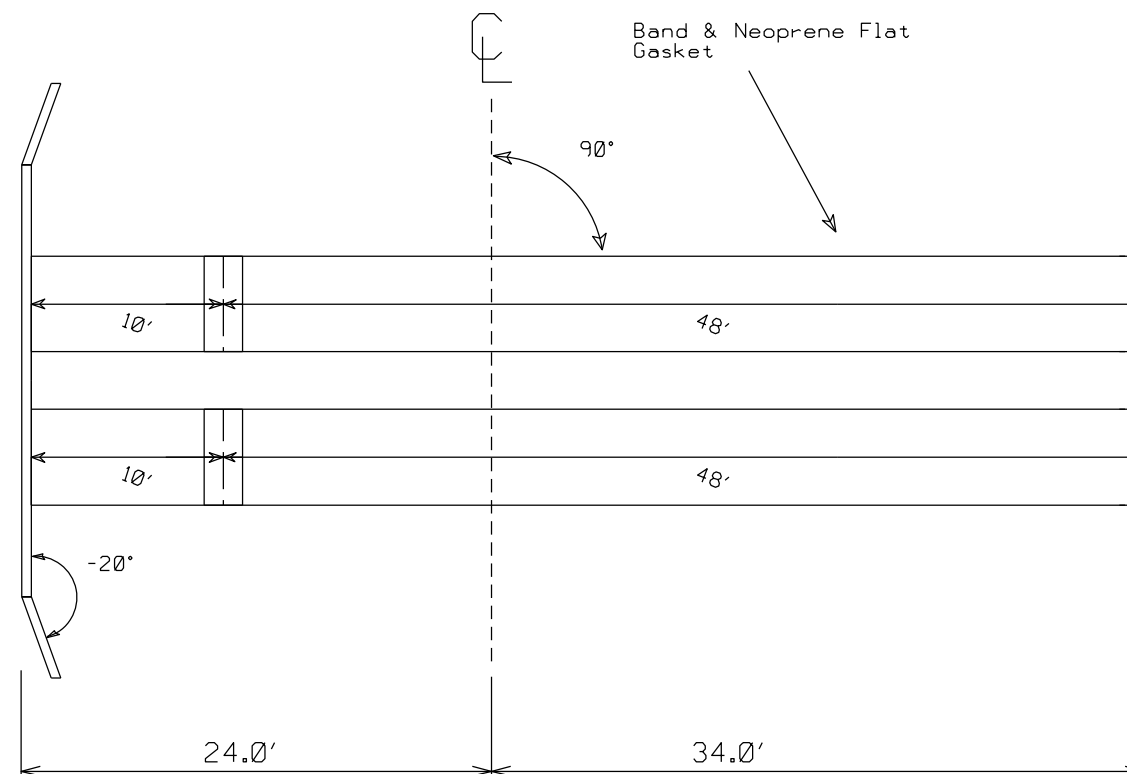
INLET HEADWALL



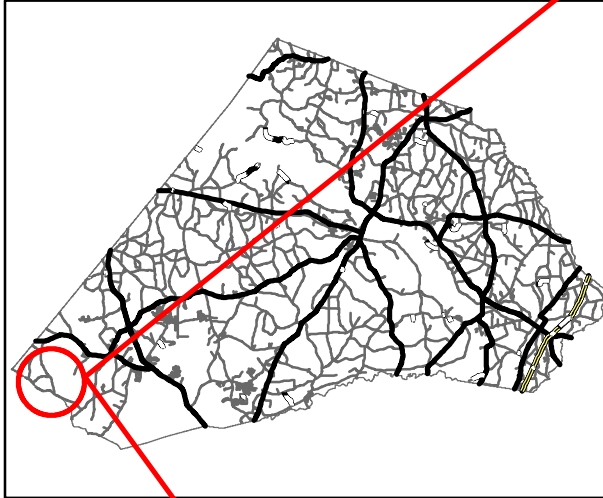
OUTLET HEADWALL



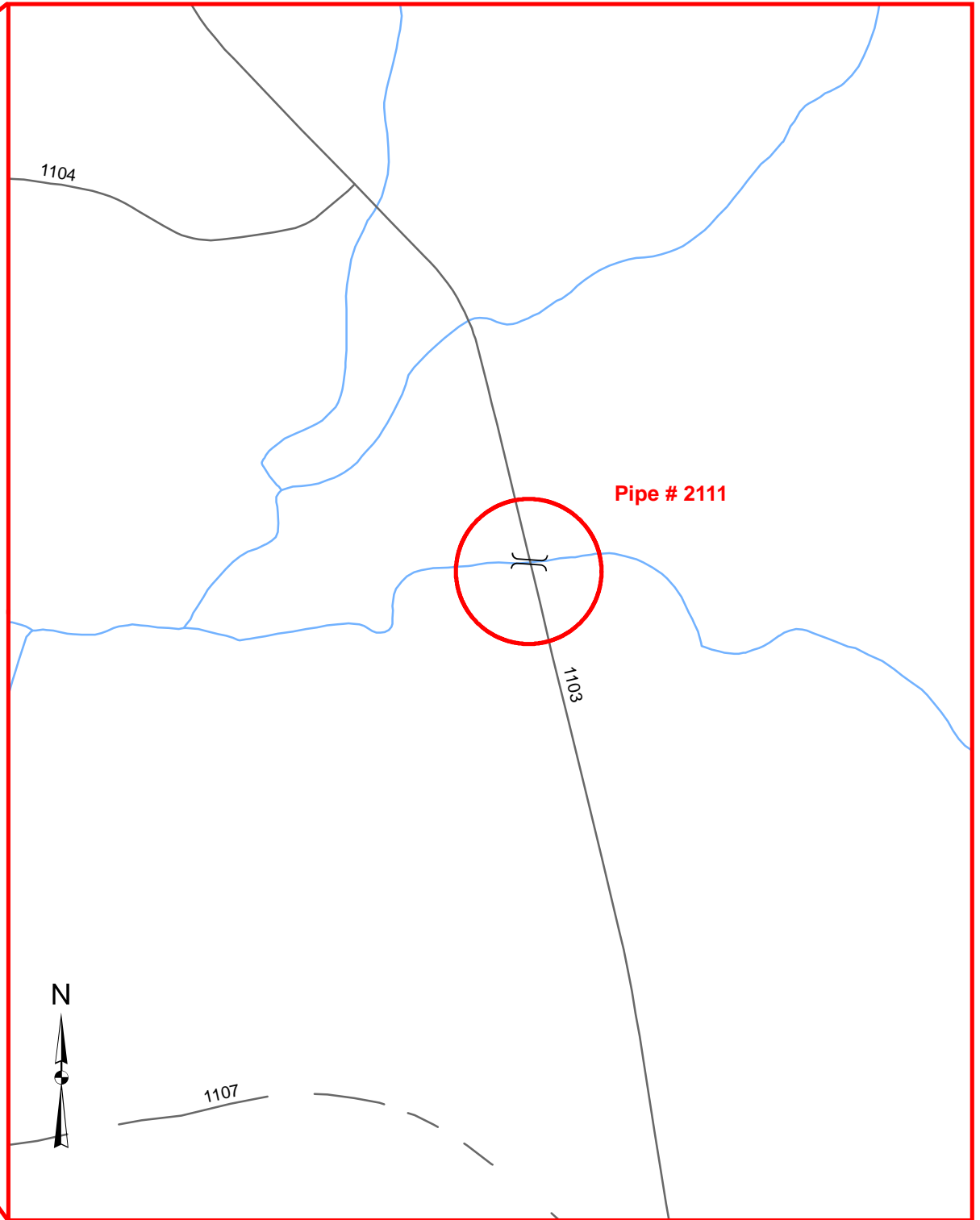
PROFILE LAYOUT



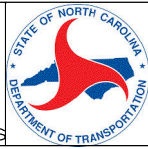
* REFERENCE ONLY -
Tieback and Walebeam
Locations to be
determined in
Engineered Design



Harnett County
VICINITY MAP
SR 1106
0.2 MI NE of SR 1107
NON NBIS Bridge Pipe

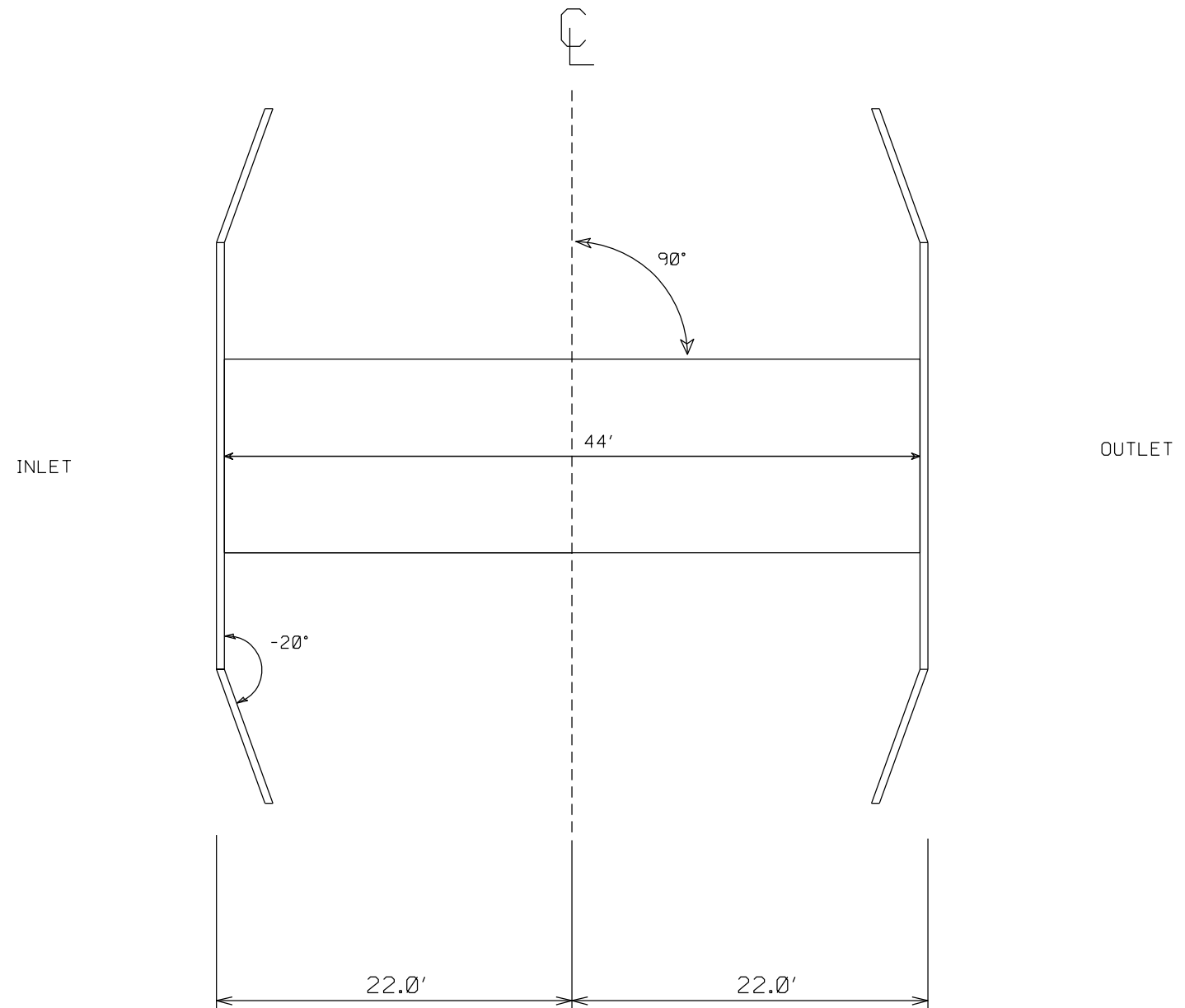


COUNTY:	HARNETT
LOCATION:	SR 1106, PIPE #2111
EXISTING:	2 = 72" CMP
PROPOSED:	1-12'-3"x7'-3" SPPA W/HWs



SCALE - 1" = 10'

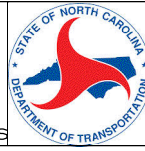
PROFILE LAYOUT



* REFERENCE ONLY -
Tieback and Wellbeam
Locations to be
determined in
Engineered Design

TOTAL LF = 44'

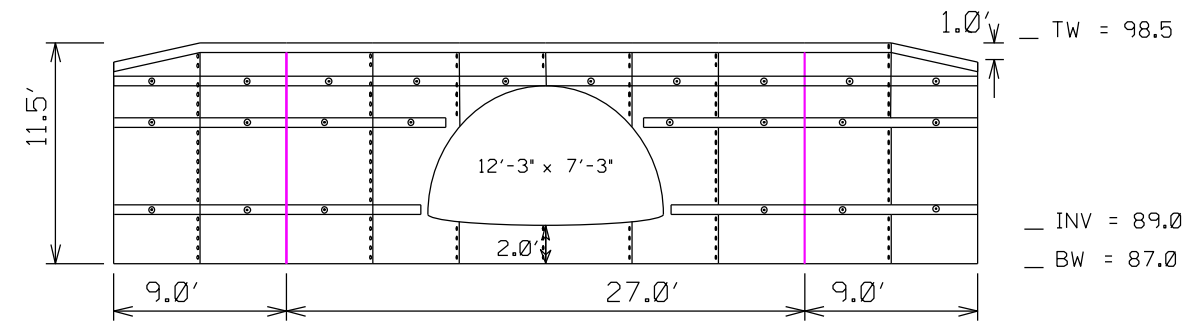
COUNTY:	HARNETT
LOCATION:	SR 1106, PIPE #2111
EXISTING:	2 = 72" CMP
PROPOSED:	1-12'-3"x7'-3" SPPA W/HWS



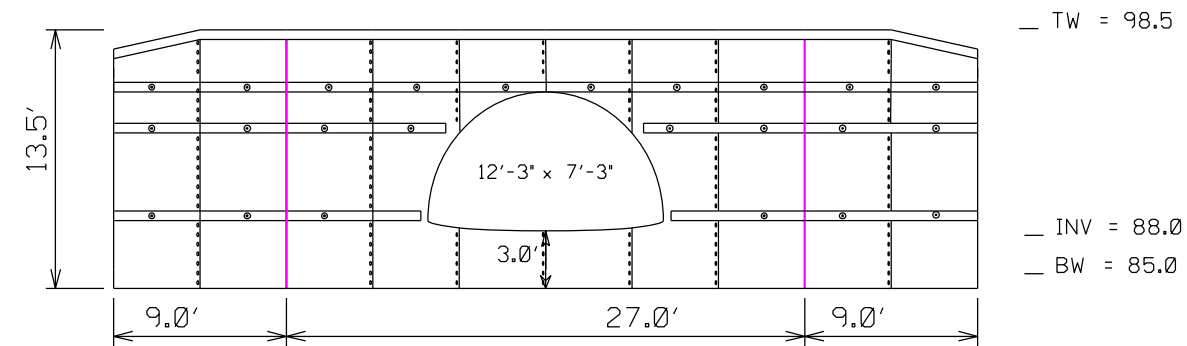
LAYOUT FOR FIELD INSTALLATION

SCALE - 1" = 10'

INLET HEADWALL



OUTLET HEADWALL



* REFERENCE ONLY -
Tieback and Wellbeam
Locations to be
determined in
Engineered Design



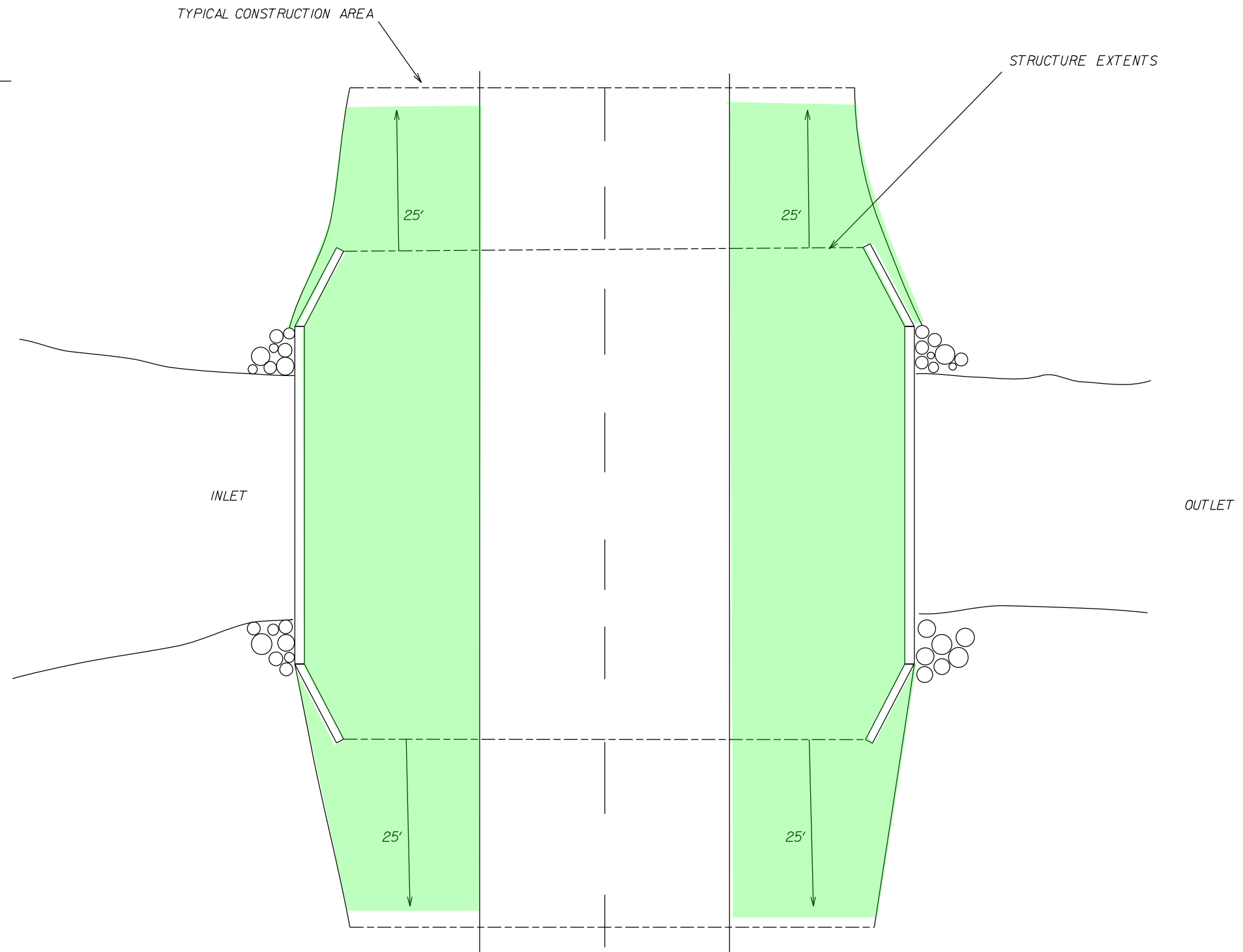
DIVISION 6 BRIDGE MAINTENANCE

TYPICAL DRAWING SODDING

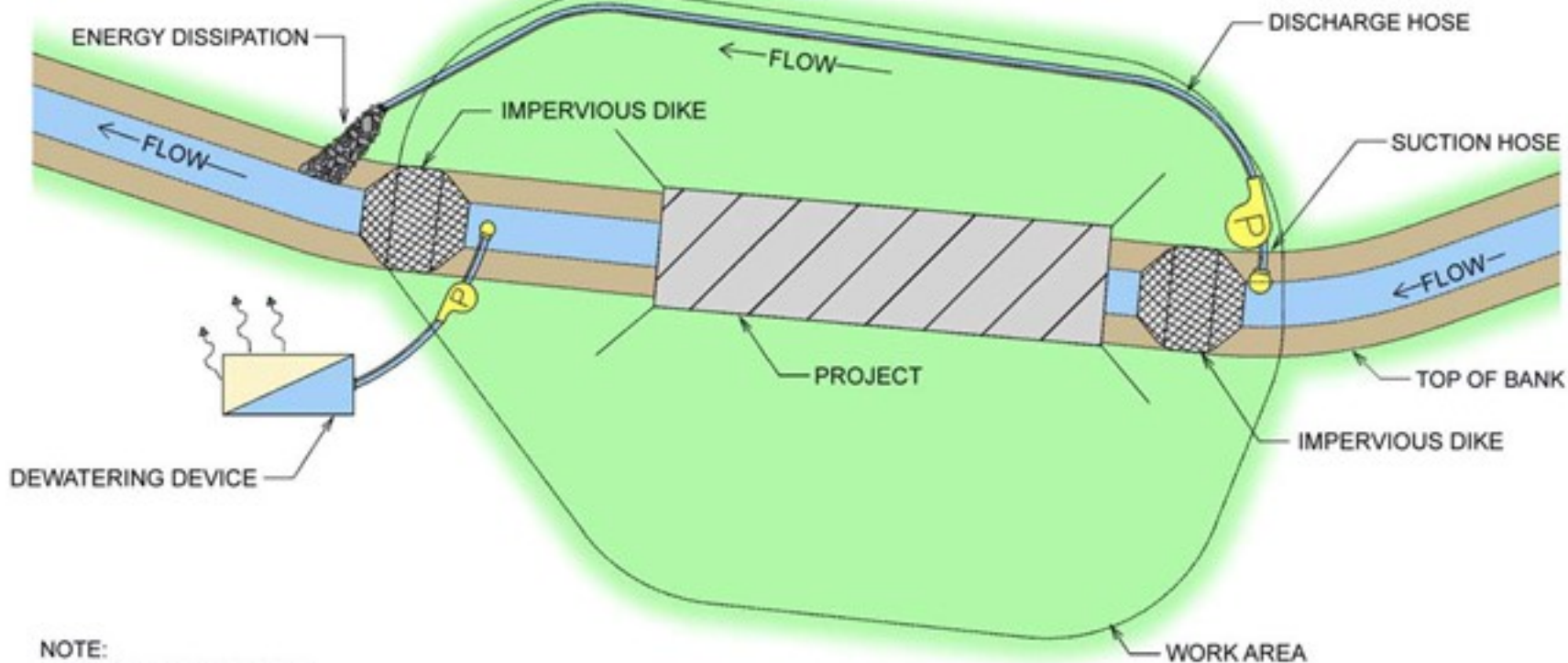
GENERAL NOTES

Sod shall be placed on the shoulders within construction limits of Pipe/Structure replacement. Sod shall be placed from Edge of pavement to the top of headwall, Rip Rap or Shoulder point on the Inlet & Outlet. Sod placement shall extend 25' from the structure's edge ahead and back.

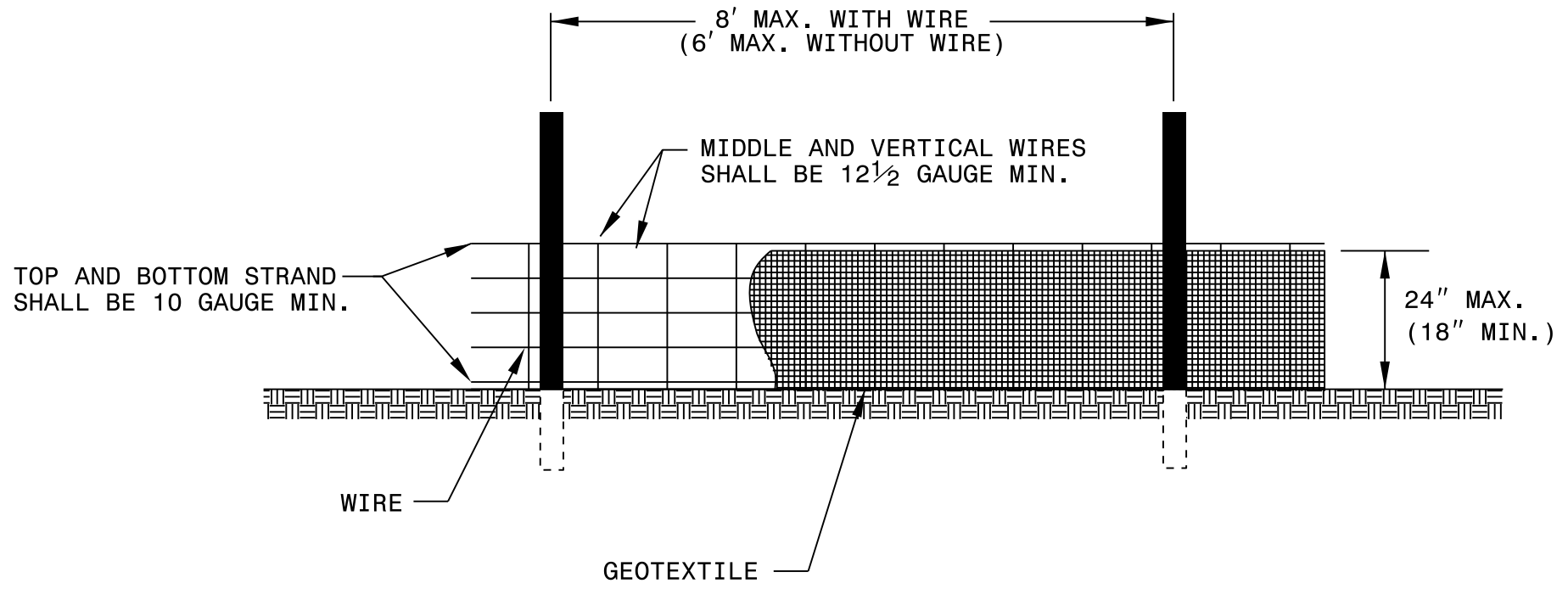
- * All other disturbed areas shall be seeded and mulched per Contract & Standard Specifications.
- * Matting may be used in lieu of Mulch and Tack.



MANAGING THE WATERCOURSE: BYPASS PUMPING



NOTE:
ENSURE TO ANCHOR ALL
PUMPS AND PIPES SECURELY.



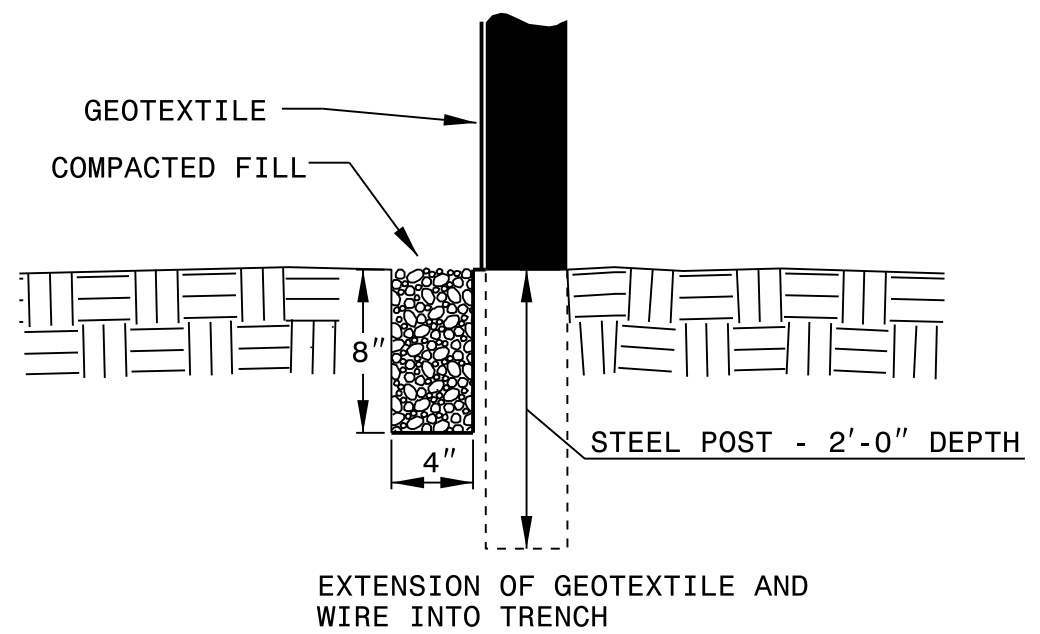
NOTES

USE GEOTEXTILE A MINIMUM OF 36" IN WIDTH AND FASTEN ADEQUATELY TO THE POSTS AND WIRE AS DIRECTED.

USE WIRE A MINIMUM OF 32" IN WIDTH AND WITH A MINIMUM OF 5 LINE WIRES WITH 12" VERTICAL SPACING.

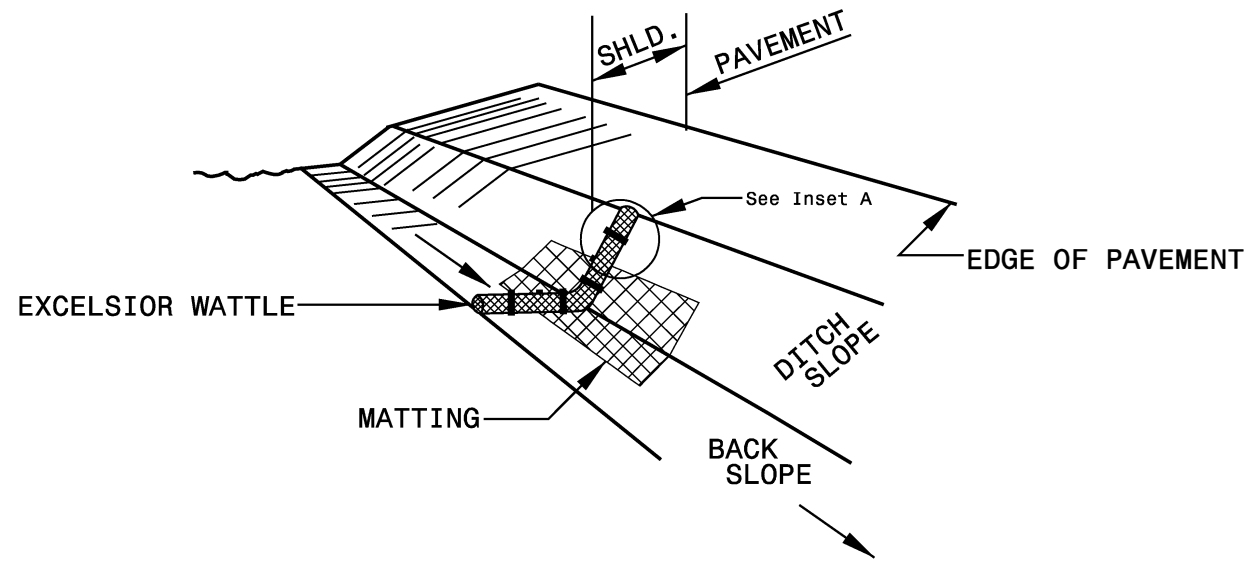
PROVIDE 5'-0" STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.

FOR MECHANICAL SLICING METHOD INSTALLATION, GEOTEXTILE SHALL BE A MAXIMUM OF 18" ABOVE GROUND SURFACE.

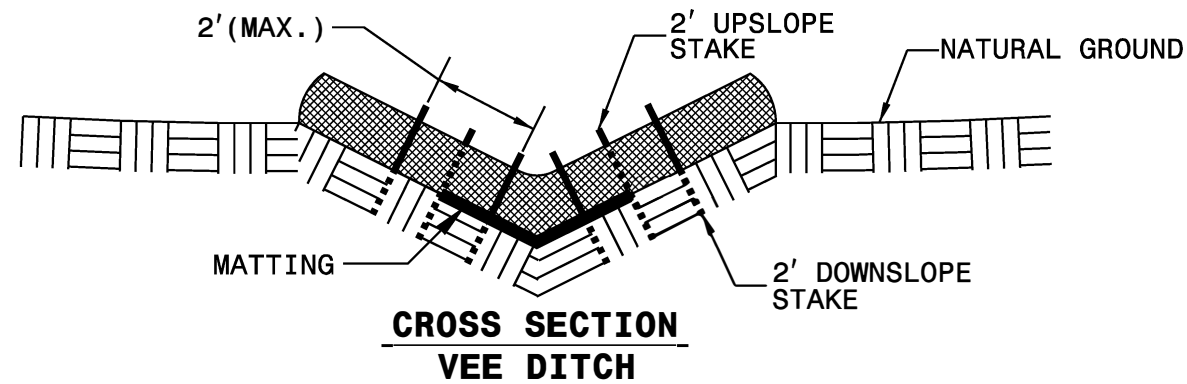


PROJECT REFERENCE NO.	SHEET NO.
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

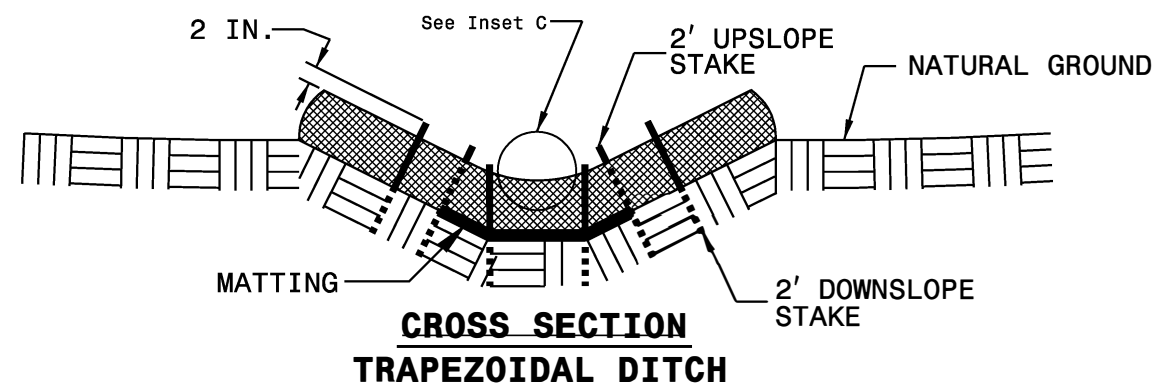
WATTLE WITH POLYACRYLAMIDE DETAIL



ISOMETRIC VIEW



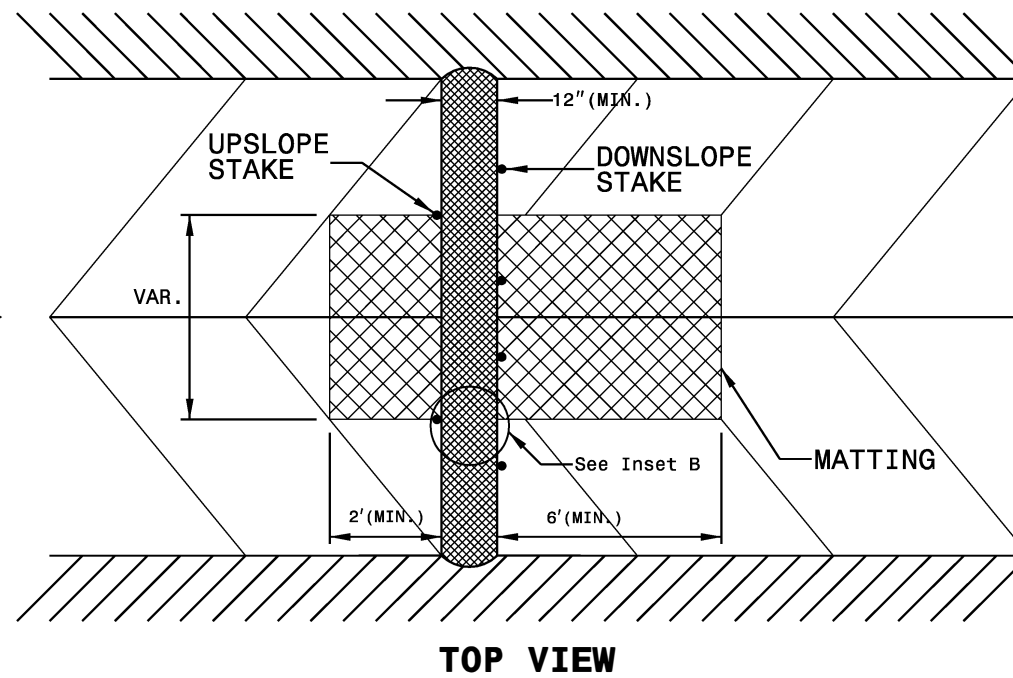
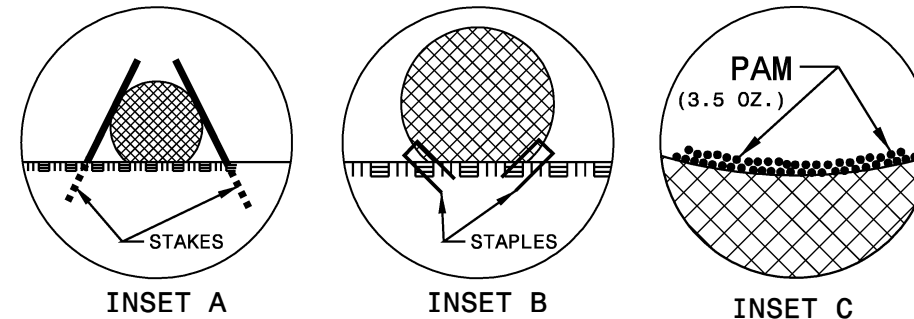
CROSS SECTION VEE DITCH



CROSS SECTION TRAPEZOIDAL DITCH

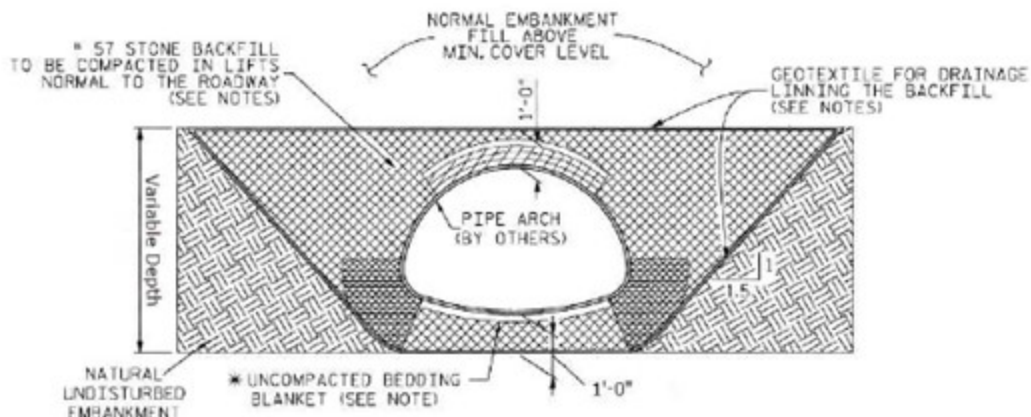
NOTES:

- USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE.
- USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. CROSS SECTION.
- INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.
- PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.
- INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.
- INSTALL MATTING IN ACCORDANCE WITH SECTION 1631 OF THE STANDARD SPECIFICATIONS.
- INITIALLY APPLY 3.5 OUNCES OF ANIONIC OR NEUTRALLY CHARGED POLYACRYLAMIDE (PAM) OVER WATTLE WHERE WATER WILL FLOW AND AFTER EVERY RAINFALL EVENT THAT IS EQUAL TO OR EXCEEDS 0.25 IN.



TOP VIEW

TYPICAL BACKFILL SECTION



 CRITICAL BACKFILL ZONE, PRESSURE ON SOIL GREATEST HERE.

 INITIAL LIFTS OVER CROWN OF STRUCTURE AS INDICATED BY SHADED AREA TO BE COMPACTED TO REQUIRED DENSITY WITH HAND OPERATED EQUIPMENT

 * 57 STONE BACKFILL LIMITS.

NOTES:

ALL BACKFILL TO BE PLACED IN A BALANCED FASHION IN THIN LIFTS (6"-8" LOOSE TYPICALLY) AND COMPACTED TO 90 PERCENT DENSITY PER AASHTO T-180.

GEOTEXTILE FOR DRAINAGE IN FOUNDATION BEDDING AND BACKFILL IS INCIDENTAL TO COST OF PIPE ARCH.

COMPLETE AND REGULAR MONITORING OF THE CSP ARCH SHAPE IS NECESSARY DURING ALL BACKFILLING OF THE STRUCTURE.

PREVENT EXCESSIVE DISTORTION OF SHAPE AS NECESSARY BY VARYING COMPACTION METHODS AND EQUIPMENT.

* SHAPED BED FOR A MINIMUM WIDTH OF $SPAN/2$. MINIMUM BEDDING THICKNESS IS TWICE THE CORRUGATION DEPTH.

EMBANKMENT SLOPE TO BE 1.5:1 MINIMUM SUCH THAT A STABLE EMBANKMENT CAPABLE OF RESISTING SIDE PRESSURES FROM CSP PIPE-ARCH SHAPE WILL BE MAINTAINED THROUGHOUT THE LIFE OF INSTALLATION.

TYPICAL BACKFILL SECTION ALONG PIPE