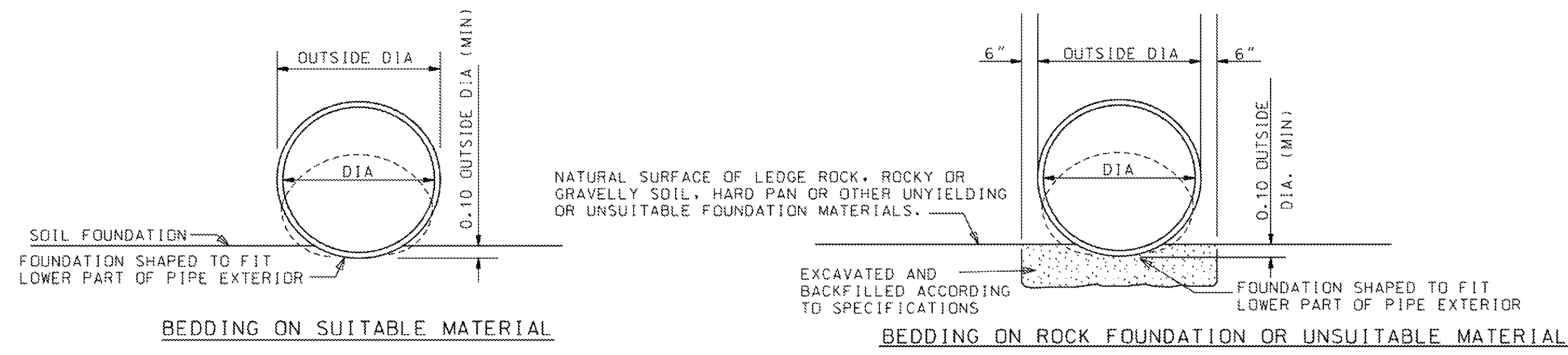
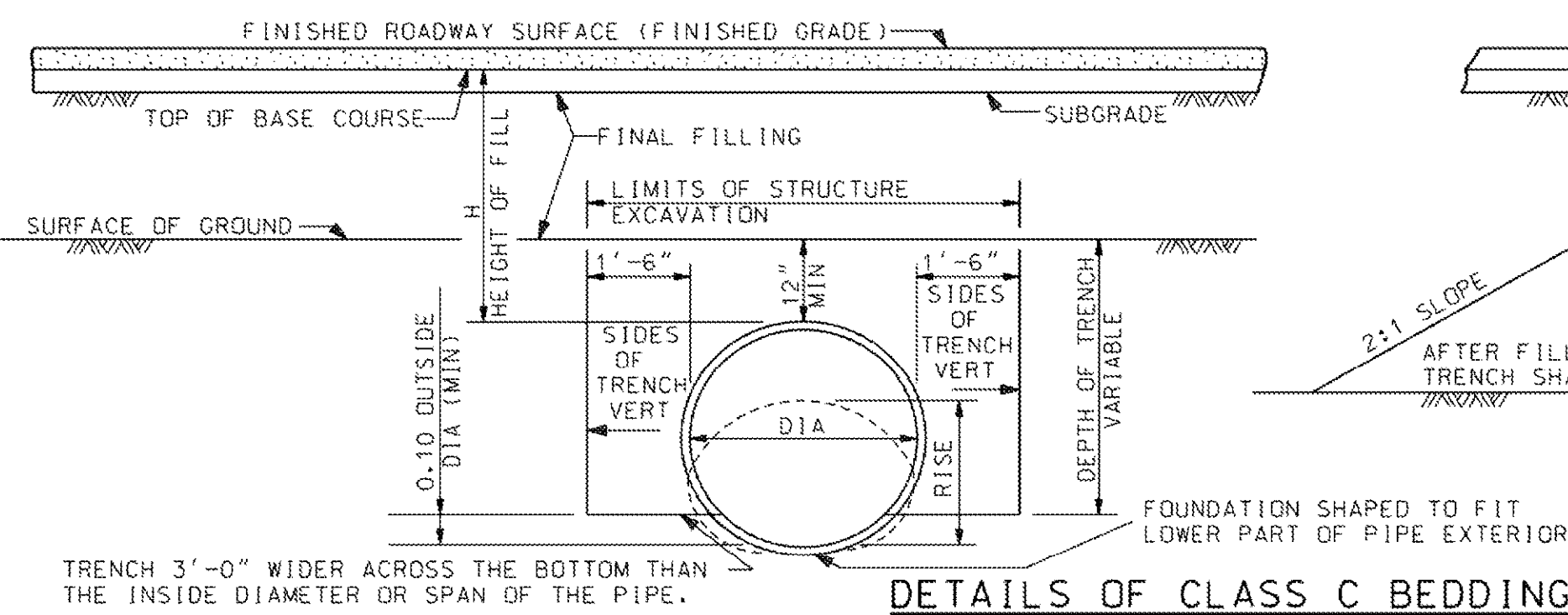


10/1/2014 4:30:13 PM - \\ERS161FS\PROJECTS\IER11740\200-11740-10003\CAD\SHEET\TREATMENT PLANT\WP C-9513 TO C-9516 DETAILS.DWG - REYES, HECTOR



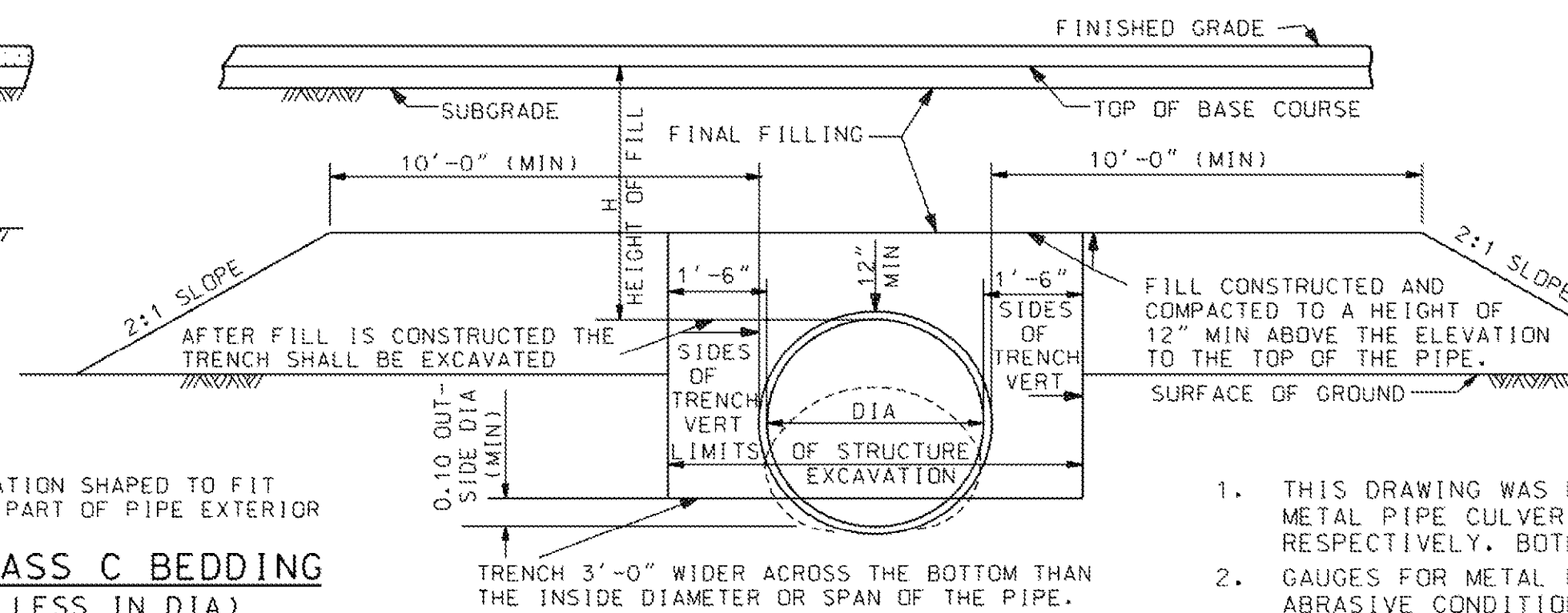
DETAILS OF CLASS C BEDDING
(FOR PIPE OVER 48" IN DIAMETER)
POSITIVE PROJECTION

WHERE THE GROUND SURFACE EXTENDS AT LEAST ONE FOOT (1') ABOVE THE ELEVATION OF THE TOP OF THE PIPE



DETAILS OF CLASS C BEDDING
(FOR PIPE 48" OR LESS IN DIA)
NEGATIVE PROJECTION

WHERE THE GROUND SURFACE IS LESS THAN ONE FOOT (1') ABOVE THE ELEVATION OF THE TOP OF THE PIPE



DETAILS OF CORRUGATIONS

TYPE OF MATERIAL	PITCH	DEPTH
CORRUGATED ALUMINUM	2 2/3"	1/2"
CORRUGATED METAL	2 2/3"	1/2"
CORRUGATED METAL	3"	1"
CORRUGATED METAL	5"	1"
HELICAL RIBBED METAL	7 1/2"	3/4"
STRUCTURAL PLATE CORR	6"	2"

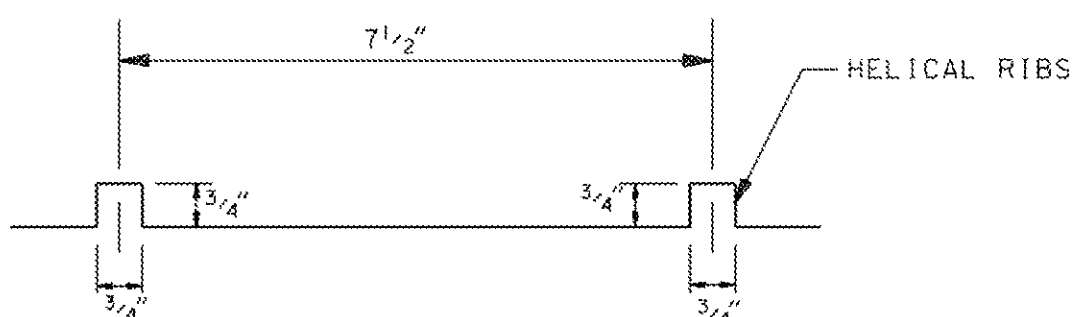


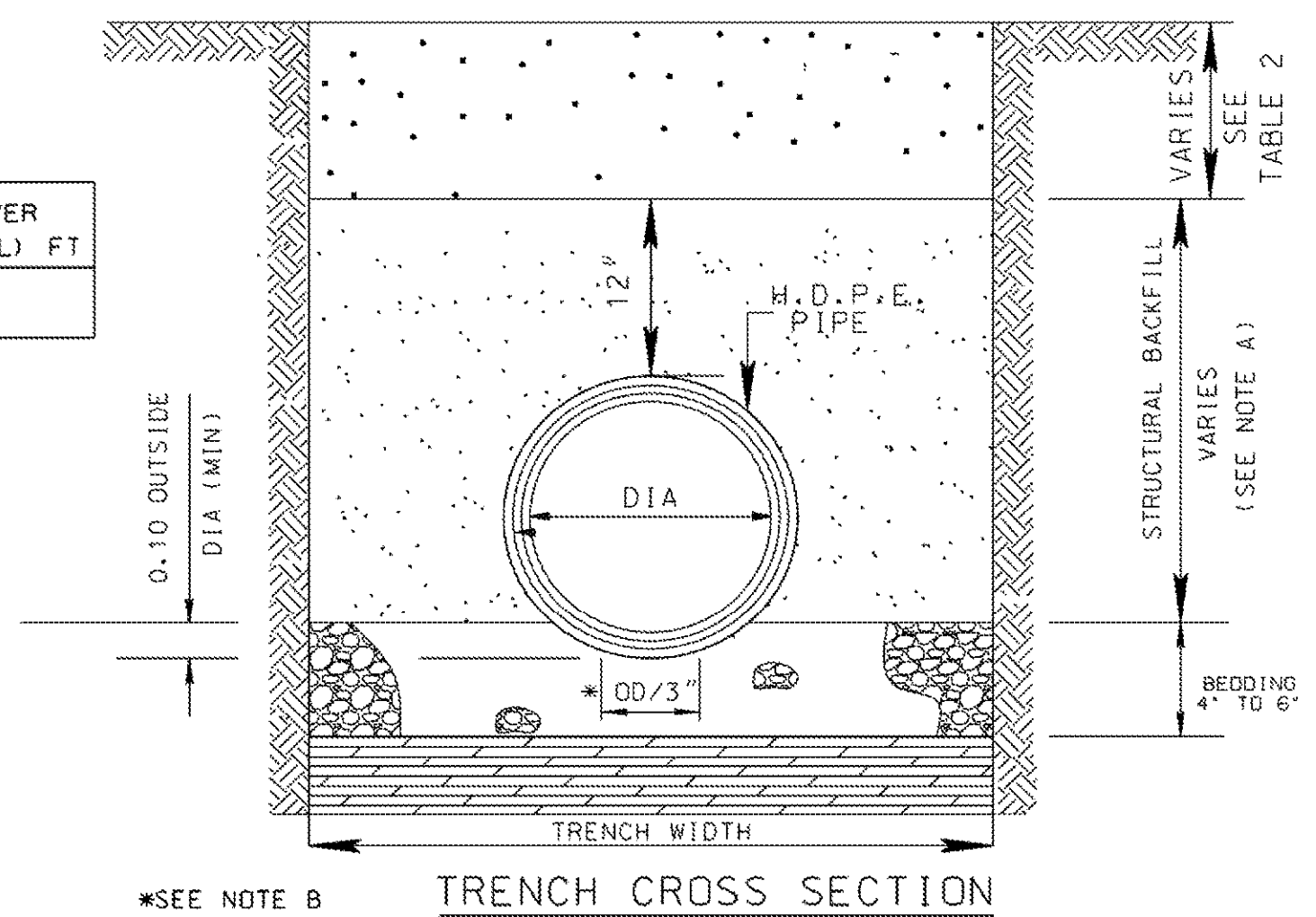
TABLE 2: HIGH DENSITY CORRUGATED POLYETHYLENE PIPE
HEIGHT OF COVER
H-20 AND LIVE LOADS
(AS PER STANDARD SPECIFICATIONS)

NOMINAL DIAMETER IN	MINIMUM COVER (HEIGHT OF FILL) IN	MAXIMUM COVER (HEIGHT OF FILL) FT
12" - 36"	24"	25'

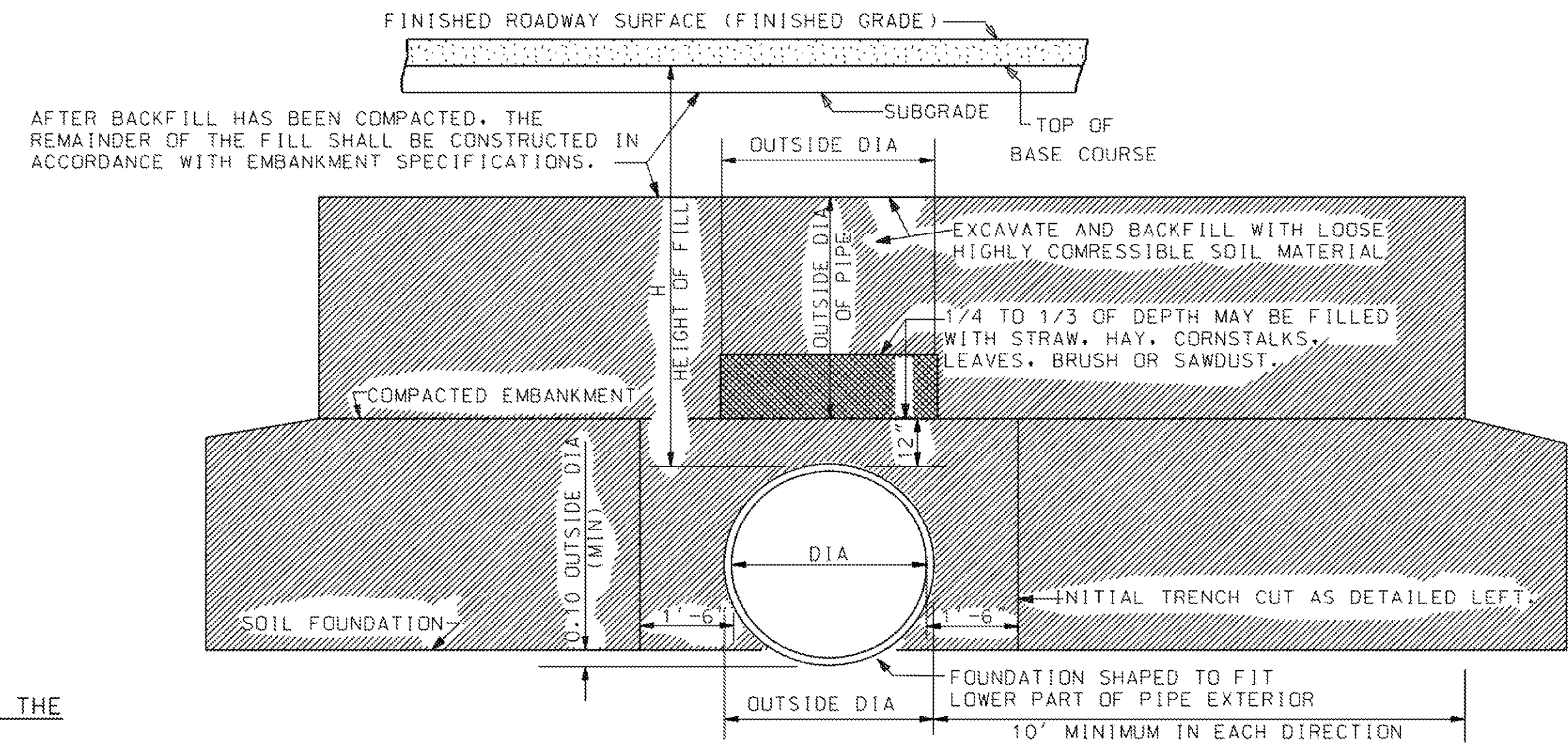
TABLE 3: RECOMMENDED TRENCH WIDTH

DIAMETER	OUTSIDE DIA	TRENCH WIDTH
12"	14.45"	34"
15"	17.57"	38"
18"	21.20"	44"
24"	27.80"	54"
30"	35.10"	65"
36"	41.70"	75"

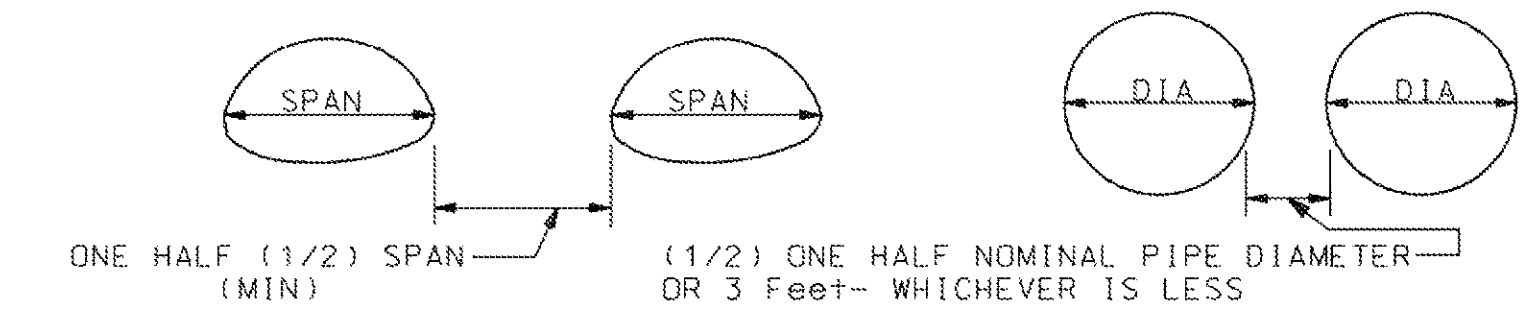
THE TRENCH WIDTH MUST BE WIDE ENOUGH TO ACCOMMODATE COMPACTION EQUIPMENT.



*SEE NOTE B



DETAILS OF CLASS C1 BEDDING
(APPLIES TO CONCRETE ONLY)
IMPERFECT TRENCH



MULTIPLE INSTALLATIONS

GENERAL NOTES (ROADWAY PIPE)

- THIS DRAWING WAS DEVELOPED USING DATA TAKEN FROM BOOKLETS ENTITLED "REINFORCED CONCRETE PIPE CULVERTS" AND "CORRUGATED METAL PIPE CULVERTS" DATED AUG 1963 AND "CORRUGATED METAL PIPE CULVERTS" DATED AUG. 1963 AND JUNE 1966 RESPECTIVELY. BOTH BOOKLETS WERE PUBLISHED BY UNITED STATES DEPARTMENT OF COMMERCE, BUREAU OF PUBLIC ROADS.
- GAUGES FOR METAL PIPE ARE MINIMUM GAUGES FOR STRUCTURAL REQUIREMENTS ONLY AND ARE INTENDED TO BE USED WHERE CORROSIVE AND ABRASIVE CONDITIONS ARE NEGLIGIBLE. HEAVIER GAUGES AND/OR PROTECTIVE COATINGS SHALL BE USED WHERE SITE INVESTIGATIONS INDICATE CORROSIVE AND/OR ABRASIVE CONDITIONS OR WHERE ANTICIPATED VELOCITIES EXCEED 5 FEET PER SECOND.
- MAXIMUM FILL HEIGHTS FOR CORRUGATED METAL ROADWAY ARCH PIPE SHALL BE BASED ON 4000 LBS BEARING PRESSURE OF THE FOUNDATION MATERIAL UNLESS ACTUAL TEST ARE MADE WHICH PROVE THE FOUNDATION MATERIAL TO HAVE HIGHER BEARING CAPACITIES.
- MAXIMUM FILL HEIGHT SHOWN IN TABLES ARE FROM TOP OF PIPE TO TOP OF BASE COURSE.
- MINIMUM FILL HEIGHTS SHOWN IN TABLES ARE FROM TOP OF PIPE TO TOP OF SUBGRADE.

GENERAL NOTES (H.D.P.E. PIPE)

- MATERIALS: THERMOPLASTIC PIPE: POLYETHYLENE PIPE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 294, LATEST EDITION.
- BEDDING MATERIAL AND STRUCTURAL BACKFILL: SHALL MEET THE REQUIREMENTS OF AASHTO A-1, A-3, A-2-4 OR A-2-5.
- INSTALLATION: MINIMUM TRENCH WIDTHS SHALL MEET THE REQUIREMENTS OF TABLE 3. THE MIDDLE THIRD OF THE BEDDING MATERIAL UNDER THE PIPE SHOULD BE LOOSELY PLACED, WHILE THE REMAINDER SHALL BE COMPACTED TO A MINIMUM 95% OF MAXIMUM DENSITY PER AASHTO T-99. A MINIMUM OF 4 INCHES OF BEDDING SHALL BE PROVIDED PRIOR TO PLACEMENT OF THE PIPE. STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING A 6 INCH LOOSE LIFT THICKNESS AND BROUGHT UP EVENLY ON BOTH SIDES OF THE PIPE TO AN ELEVATION NOT LESS THAN 12 INCHES ABOVE THE TOP OF THE PIPE. A MINIMUM COMPACTION LEVEL OF 95% STANDARD DENSITY PER AASHTO T-99 SHALL BE ACHIEVED. MINIMUM COVER REQUIREMENT SHALL MEET THE REQUIREMENTS OF TABLE 2. FOR MULTIPLE INSTALLATION OF POLYETHYLENE PIPES, A CLEAR DISTANCE BETWEEN PIPES SHALL MEET THE REQUIREMENTS OF TABLE 4.
- CALCULATIONS FOR FILL DEPTHS ARE BASED ON PROPERTIES DEFINED IN AASHTO M294 AND CALCULATIONS IN AASHTO SEC 12 AND SEC 30.
- ANY COST OF BEDDING AND BACKFILL MATERIAL REQUIRED TO INSTALL THE H.D.P.E. PIPE IN ADDITION TO THAT SHOWN IN THE PLANS SHALL BE INCLUDED IN THE PRICE BID FOR THE PIPE.

TABLE 4: MULTIPLE INSTALLATION OF POLYETHYLENE PIPES

DIAMETER OF PIPE IN	CLEAR DISTANCES BETWEEN PIPES FT
18	1' 2"
24	1' 5"
30	1' 8"
36	1' 11"

STANDARD INSTALLATION OF H.D.P.E. PIPE

BEDDING AND FILL HEIGHTS FOR ALL ROADWAY PIPE CULVERTS

1 DETAIL
SCALE: N.T.S.

ALABAMA DEPARTMENT OF TRANSPORTATION
SPECIAL DRAWING NO. **RPC-530**
INDEX NO. **447**

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BID SET



MARK	DATE	DESCRIPTION

HUNTSVILLE UTILITIES
SOUTHEAST WATER TREATMENT PLANT
STANDARD CIVIL DETAILS

Project No.: 200-11740-10003
Designed By: JRW
Drawn By: JDW
Checked By: JPT

C-9513

Bar Measures 1 inch