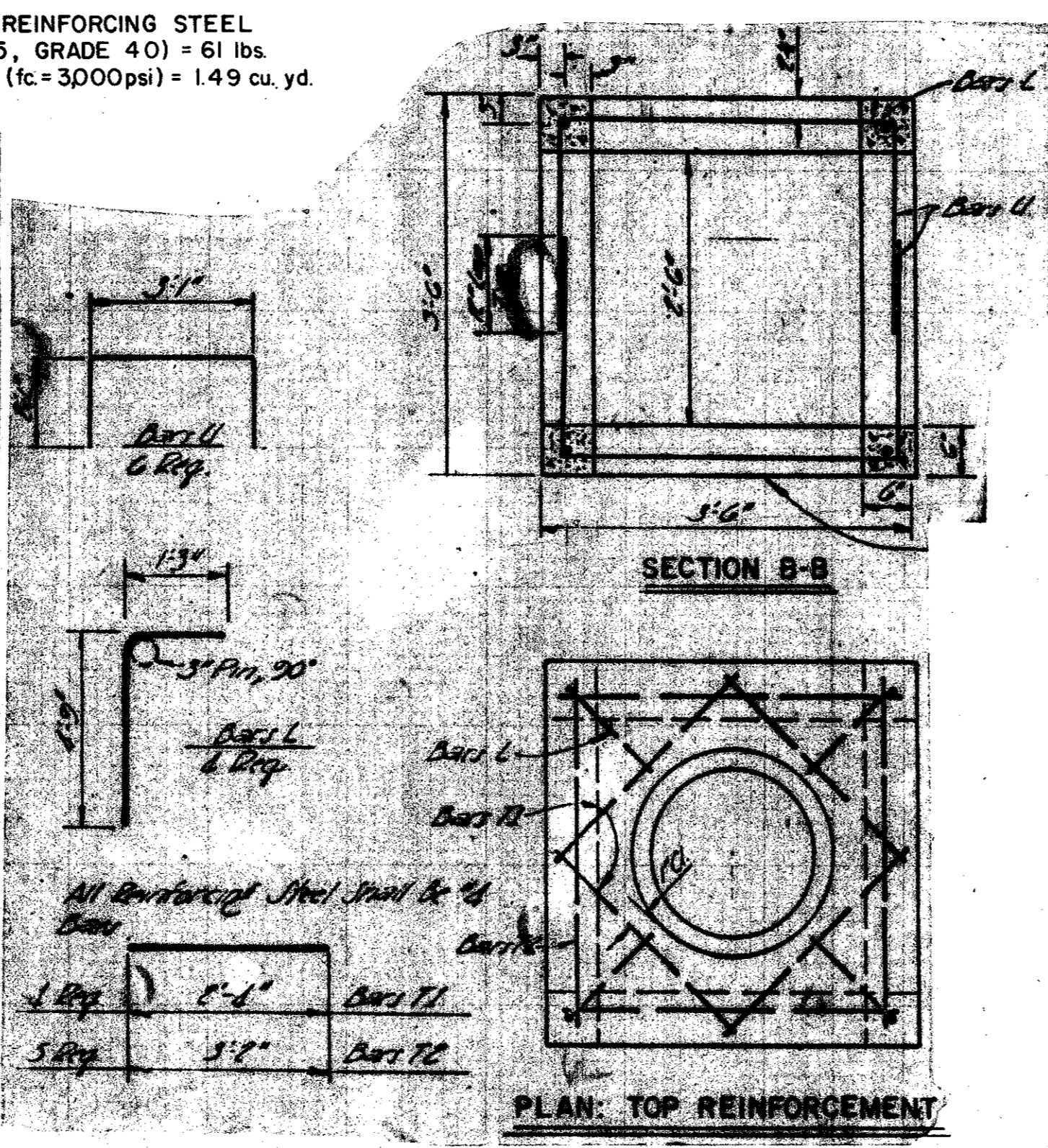
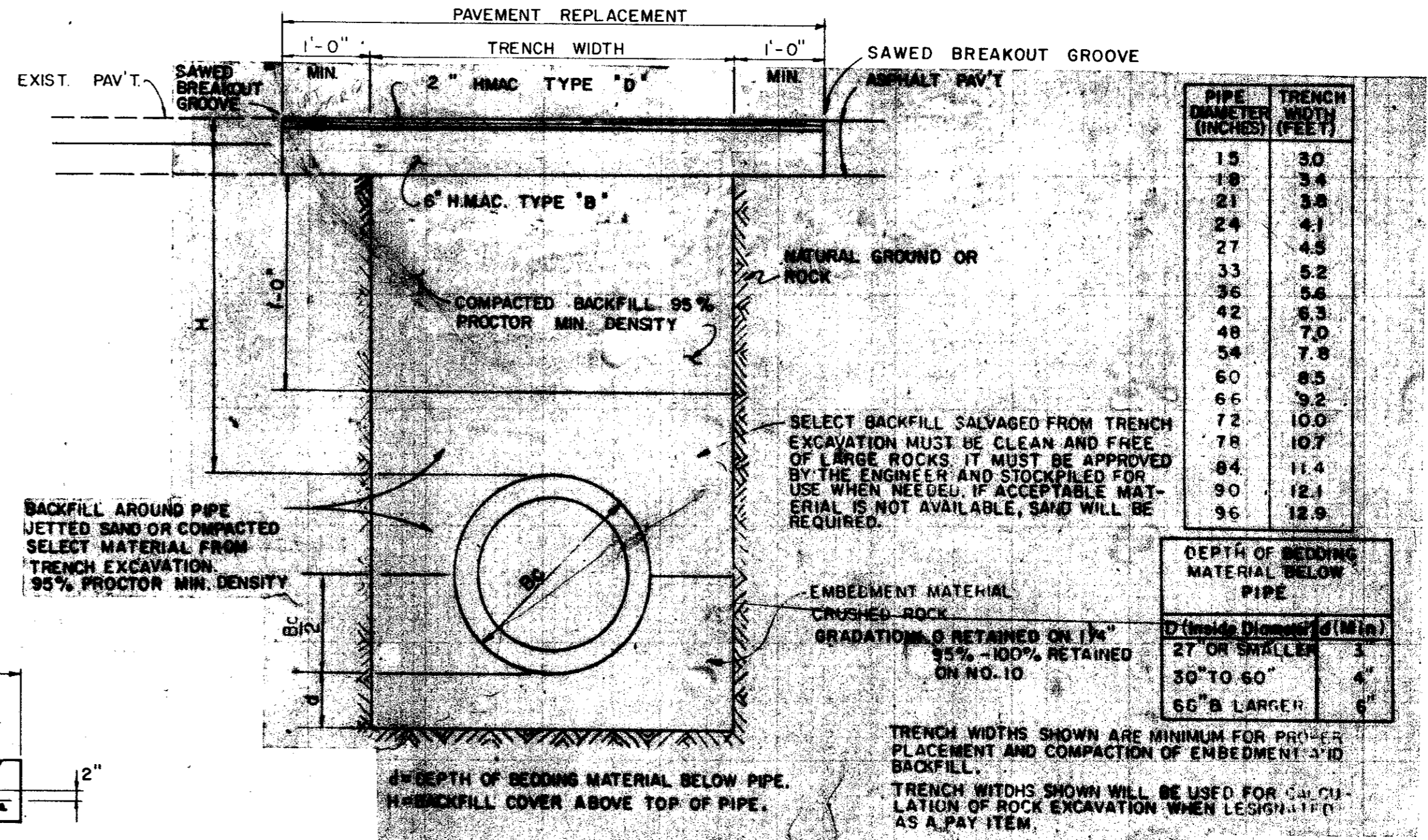


QUANTITIES - REINFORCING STEEL
(ASTM A615, GRADE 40) = 61 lbs.
CONCRETE (fc = 3,000psi) = 1.49 cu. yd.



TYPE 'Y' INLET

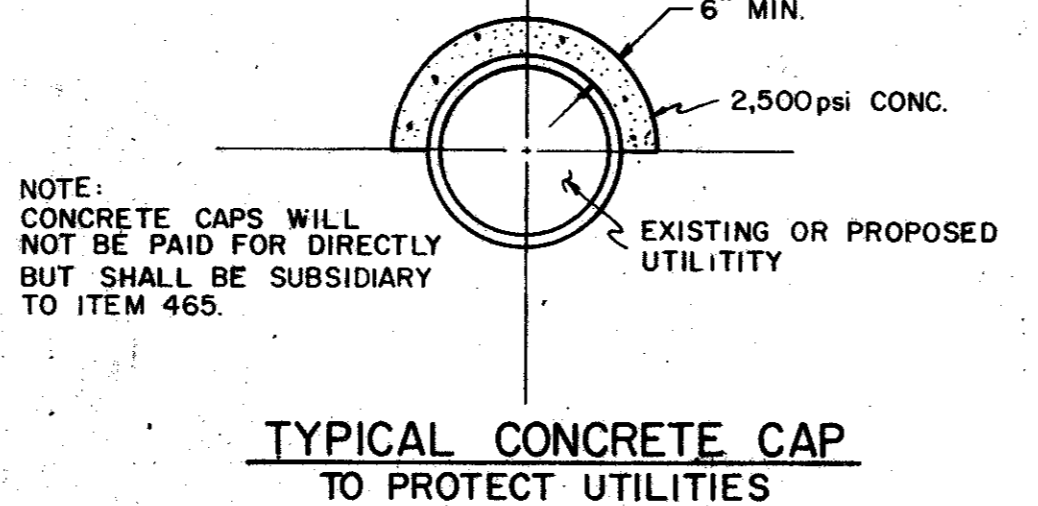
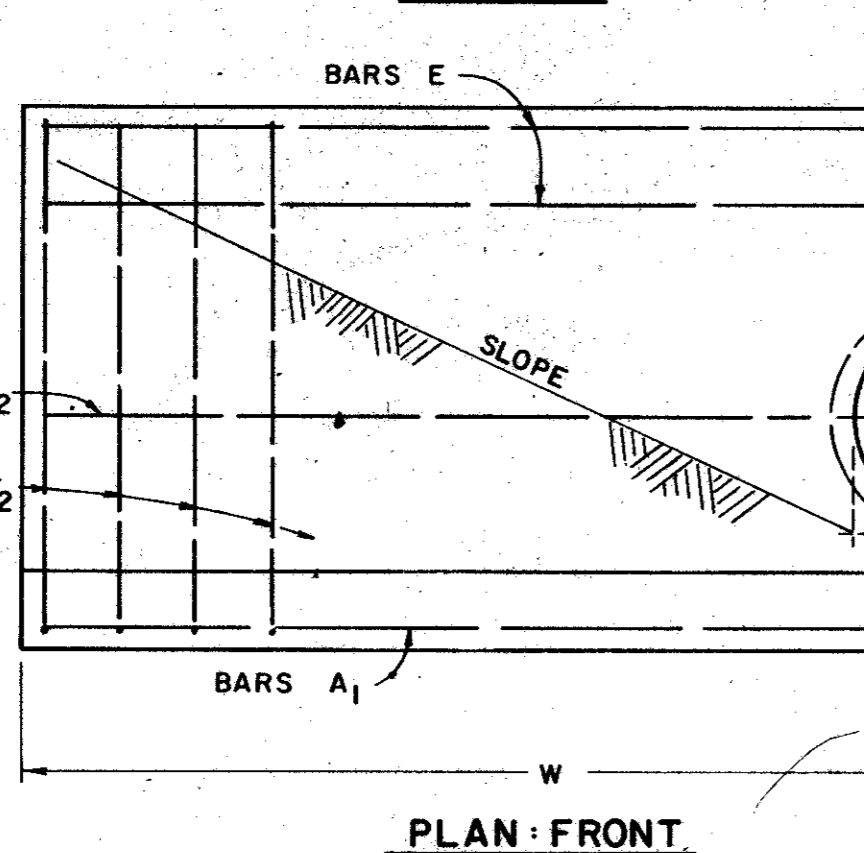
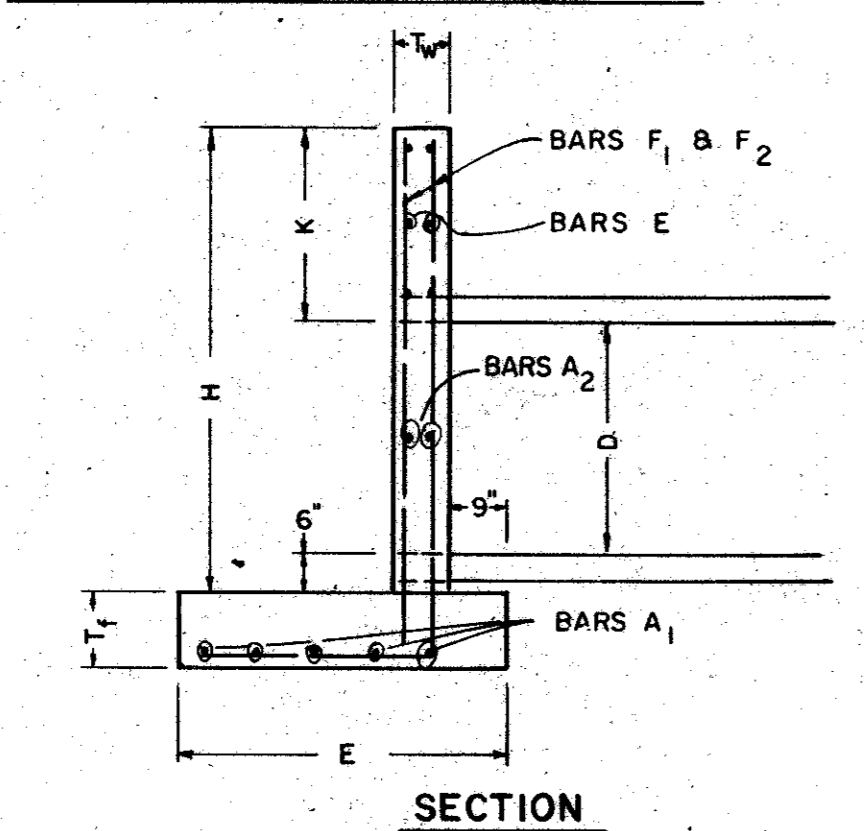


PIPE DIAMETER (INCHES)	TRENCH WIDTH (FEET)
15	3.0
18	3.4
21	3.8
24	4.1
27	4.5
33	5.2
36	5.6
42	6.3
48	7.0
54	7.8
60	8.5
66	9.2
72	10.0
78	10.7
84	11.4
90	12.1
96	12.9

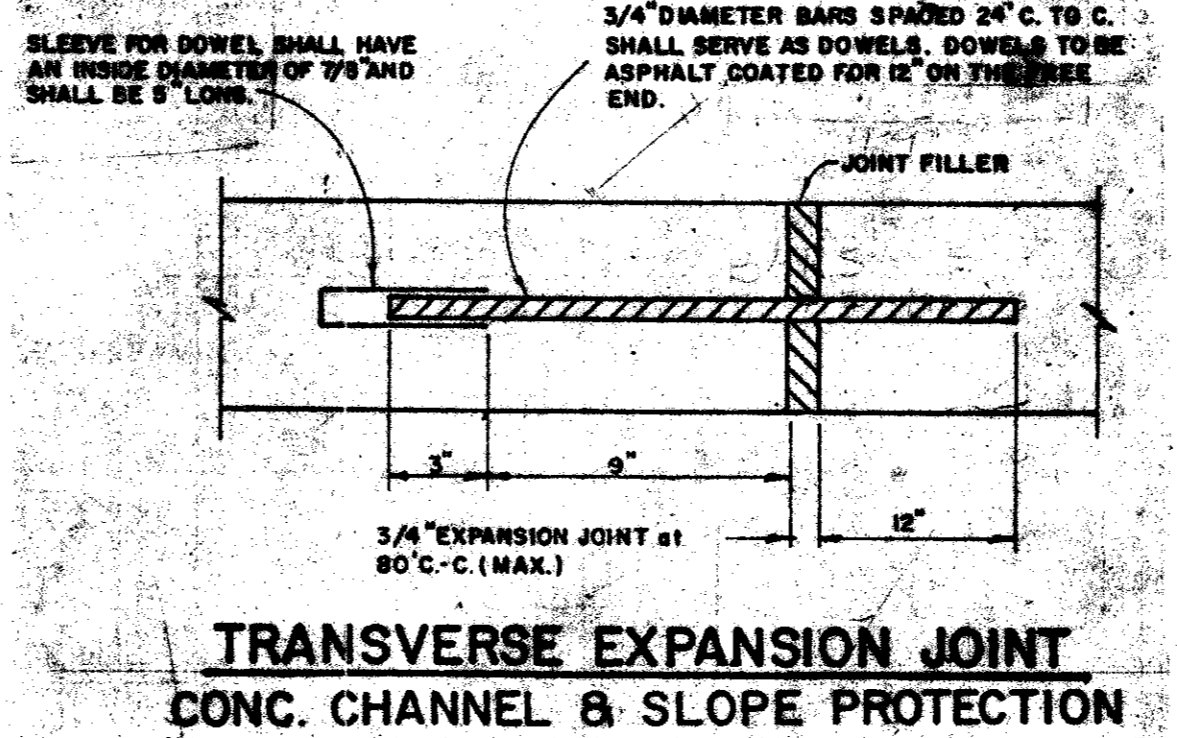
DEPTH OF BEDDING MATERIAL BELOW PIPE	D (inside diameter) (MIN)
27" OR SMALLER	3"
30" TO 60"	4"
66" & LARGER	6"

REINFORCED CONCRETE CLASS III PIPE INSTALLATION
INSTALLATION WILL BE AS SHOWN OR AS DESCRIBED IN THE GENERAL SPECIFICATIONS FOR CONSTRUCTION

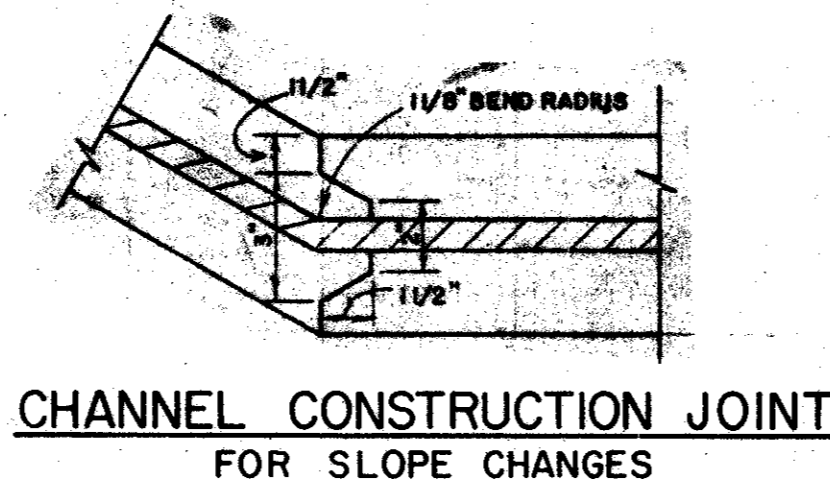
MODIFIED TYPE 'A' HEADWALLS



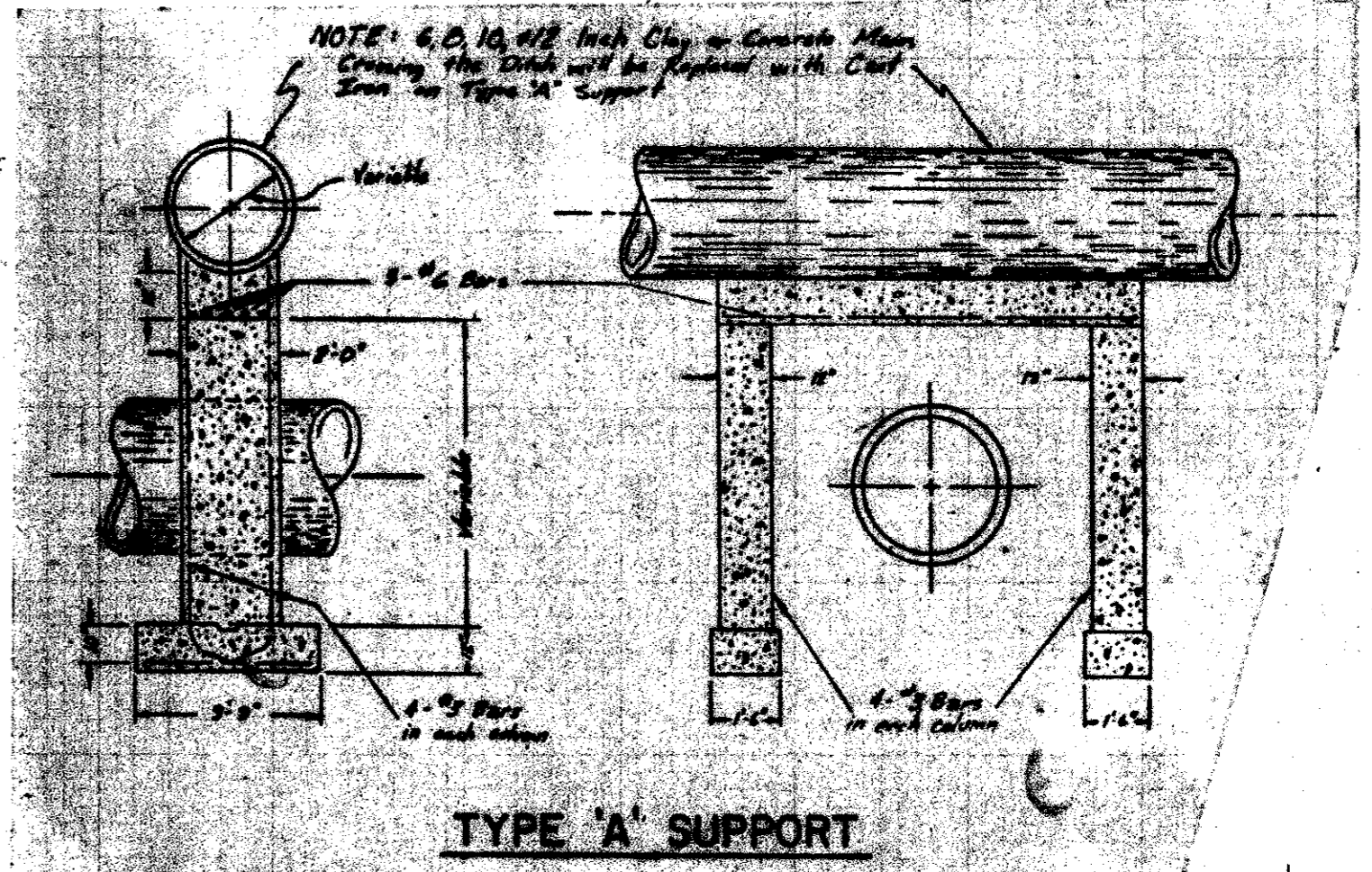
TYPICAL CONCRETE CAP TO PROTECT UTILITIES



TRANSVERSE EXPANSION JOINT CONC. CHANNEL & SLOPE PROTECTION

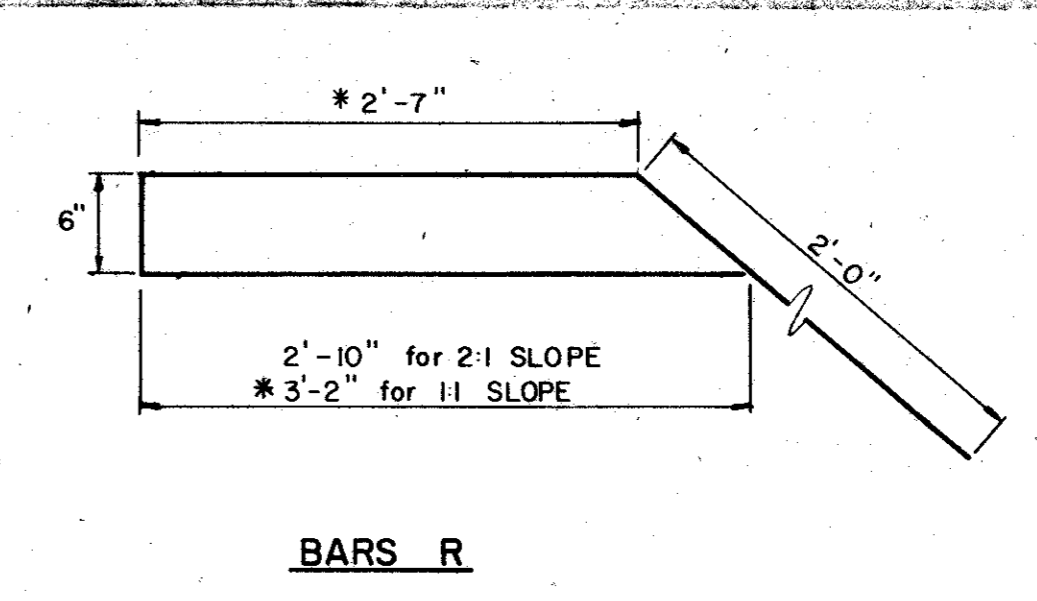
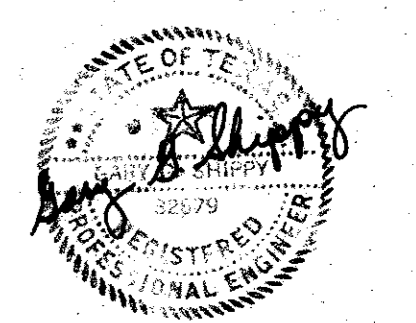


CHANNEL CONSTRUCTION JOINT FOR SLOPE CHANGES

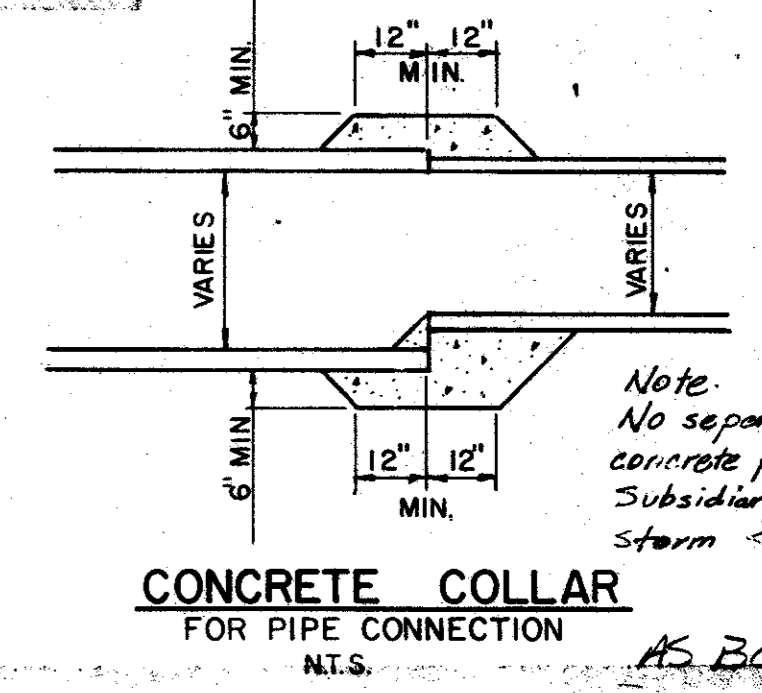


TYPE 'A' SUPPORT

NOTE: Type 'A' water line and sanitary sewer pipe concrete supports will not be paid for directly, but shall be considered subsidiary to Item 465.



BAR S



CONCRETE COLLAR FOR PIPE CONNECTION N.T.S.

Location: Sta. 73+50, 47' Rt.

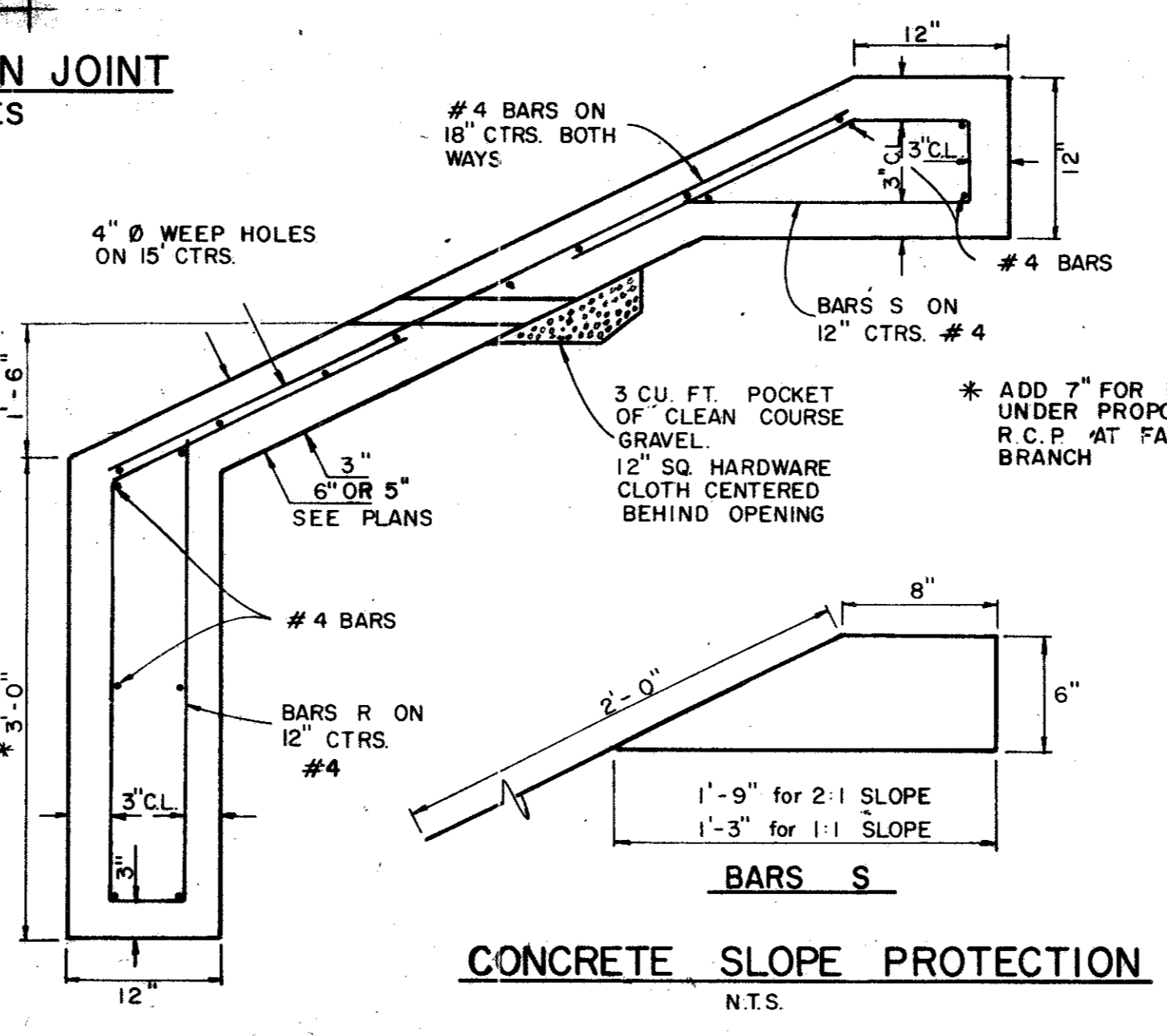
Dimensions	Bar	Qty.	Size	Spac.	Length	Weight
D=39"	A1	2	#3	1'-7 1/2"	26'-3"	20
K=1'-0"	A2	8	#3	18"	11'-0"	33
T=1'-0"	E	2	#5	-	26'-3"	55
T=8"	F	24	#4	12"	5'-5"	87
E=2'-7 1/2"	F2	24	#4	12"	7'-0"	112
H=4'-9"	F3	-	-	-	-	-
W=26'-6"	-	-	-	-	-	-

Slope: 3:1
Total Steel = 307 lbs.
Total Concrete = 4.6 cy.

Location: Sta. 92+45, 47' Rt.

Dimensions	Bar	Qty.	Size	Spac.	Length	Weight
D=36"	A1	3	#3	11"	18'-2"	21
K=3'-6"	A2	12	#3	15"	7'-2"	32
T=1'-0"	E	6	#5	18"	18'-2"	114
T=8"	F	16	#5	12"	7'-8"	128
E=3'-9"	F2	16	#5	12"	10'-5"	174
H=7'-0"	F3	6	#5	12"	2'-10"	18
W=18'-6"	-	-	-	-	-	-

Slope: 1:1
Total Steel = 487 lbs.
Total Concrete = 4.7 cy.



CONCRETE SLOPE PROTECTION N.T.S.

- NOTES:
- All construction in conformity with General Specs.
 - Provide 3/4" preformed joint material at joints where concrete slope protection is placed against headwall or existing pavement.
 - Reinforcing steel for concrete slope protection included under Pay Item 432 Riprap (Class "B" Concrete).
 - Weep holes and granular material considered subsidiary to Pay Item 432.
 - Toewall to be constructed at end of channel bottom, and at bottom of channel grades with greater than 5% breakout grade. Where a toewall is required at breaks in grade, the steel in the channel shall be tied to the steel in the toewall.
 - Twelve inch lap splices in all bar splices.
 - Lap normal slope paving bars with Bars R and Bars S a minimum of 15-inches.

CITIES OF ADDISON AND FARMERS BRANCH, TEXAS

MARSH LANE
BROOKHAVEN CLUB DRIVE TO BELT LINE ROAD

MISCELLANEOUS DRAINAGE DETAILS

Turner Collier & Braden, Inc.

Unit: PAL	Scale: Horiz. N.T.S.	Date: FEB. 1982
Designed: GGS	Checked: GGS	Job No. 6042-010 Contract
Drawn: LJK	Approved: PAL	Sheet: 54 of 66