

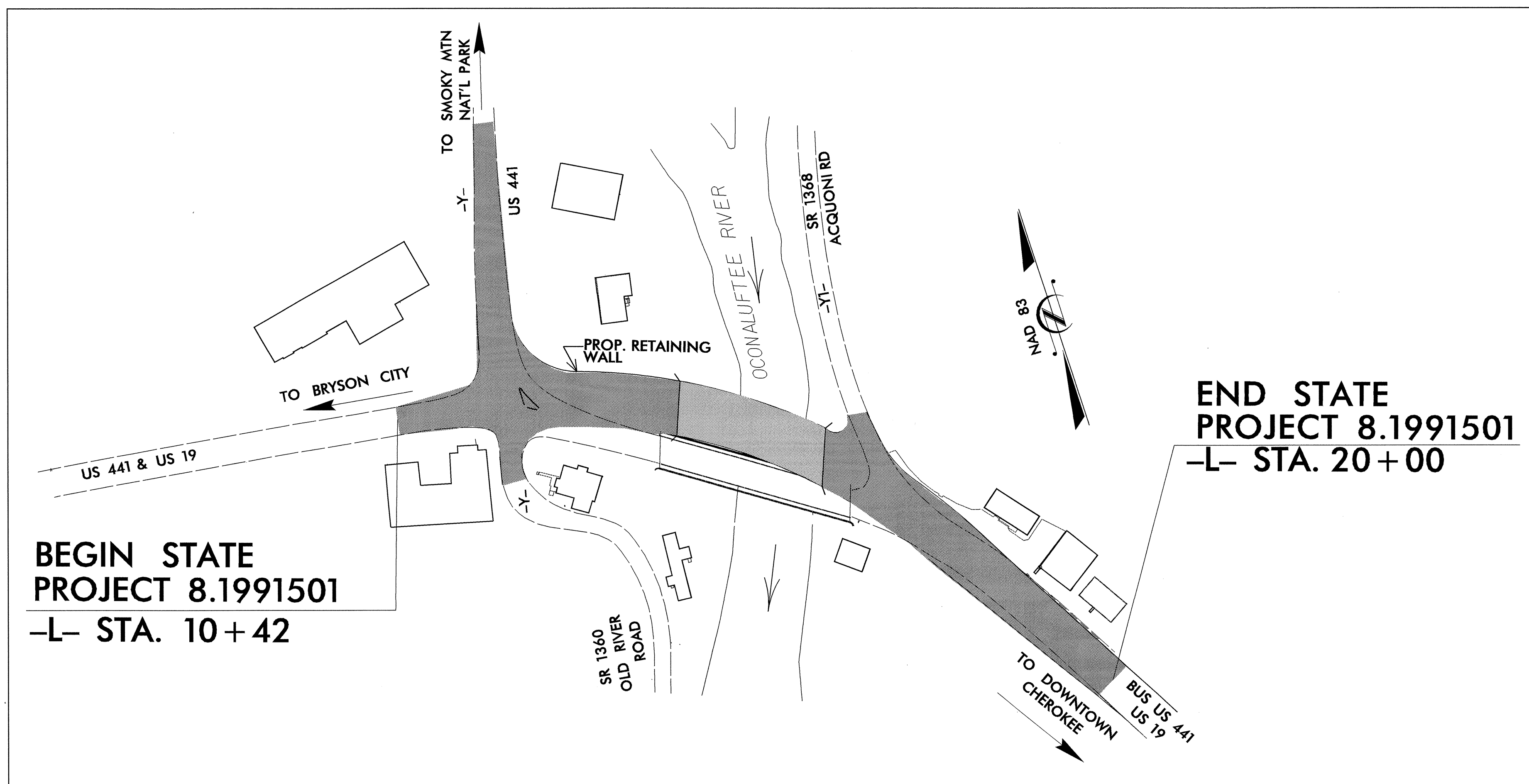
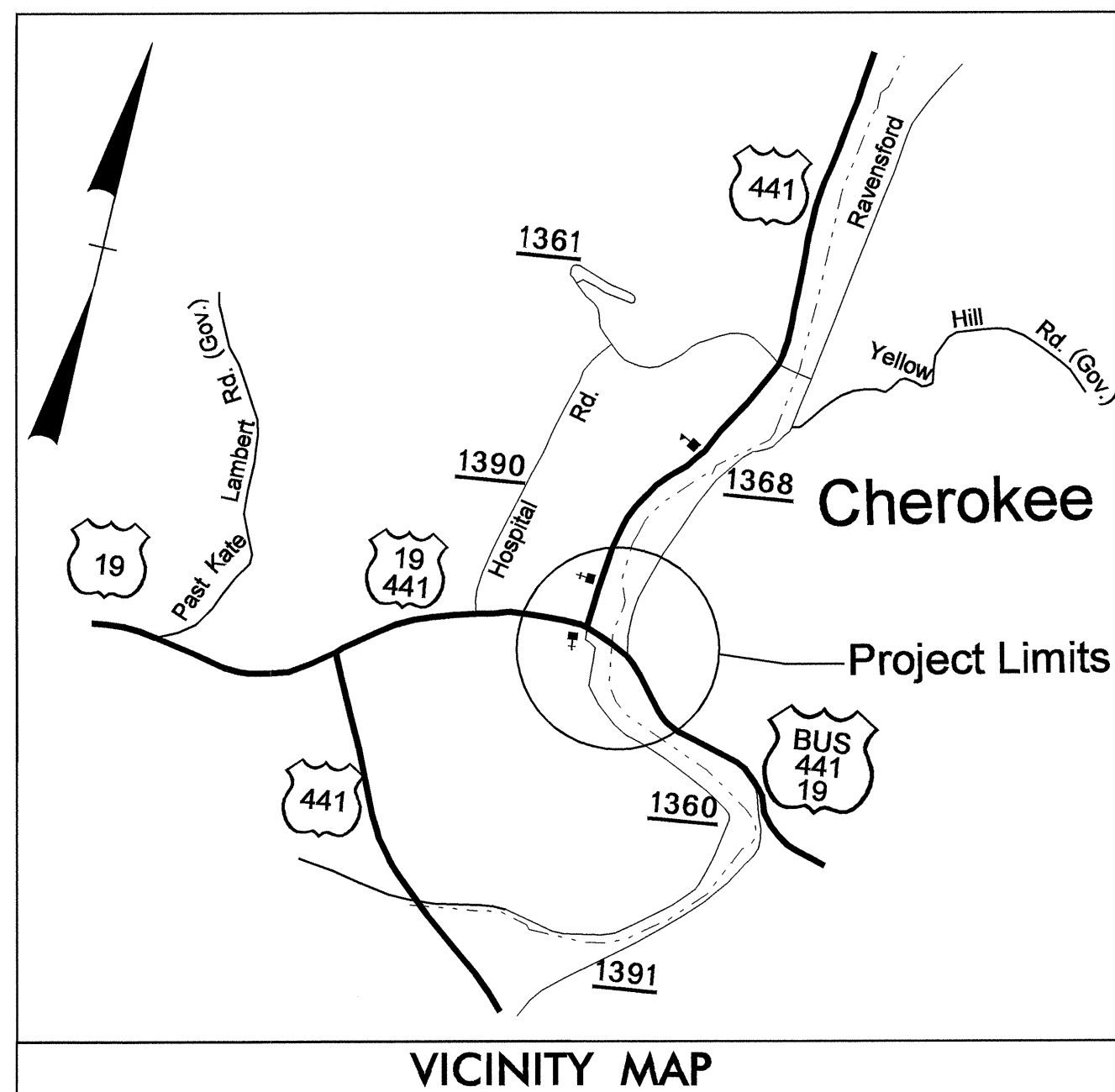
T.I.P. NO.	SHEET NO.
B-4696	UC-1

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
SWAIN COUNTY

LOCATION: BRIDGE #24 ON US 19 OVER THE OCONALUFTEE RIVER IN CHEROKEE.

TYPE OF WORK: REPLACE WATER LINE



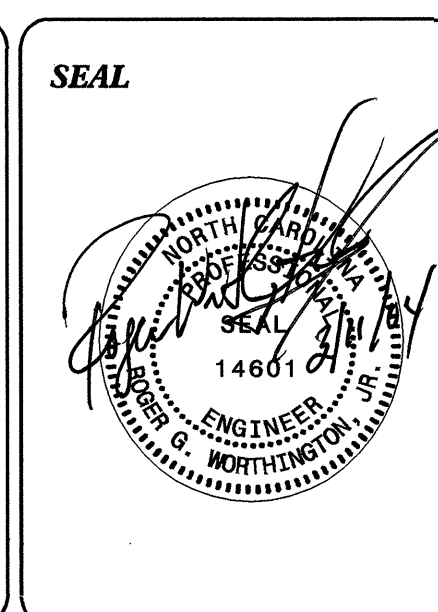
THIS PROJECT IS WITHIN THE CITY LIMITS OF CHEROKEE

NOTE: CLEARING ON THIS PROJECT SHOULD BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY CONSTRUCTION PLAN SHEETS
UC-3	DETAILS SHEET(S)
UC-4	BRIDGE ATTACHMENT
UC-5	BRIDGE ATTACHMENT DETAILS SHEET
UC-6 THRU UC-7	PIPE SLEEVE LOCATIONS-BENTS

WATER AND SEWER OWNERS ON PROJECT

(1) WATER - EASTERN BAND OF CHEROKEE INDIANS
(2) SANITARY SEWER - EASTERN BAND OF CHEROKEE INDIANS



PREPARED IN THE OFFICE OF:
DIVISION OF HIGHWAYS
DESIGN SERVICES
UTILITY SECTION

1591 MAIL SERVICES CENTER
RALEIGH, NC 27699-1591
PHONE (919) 250-4128
FAX (919) 250-4119

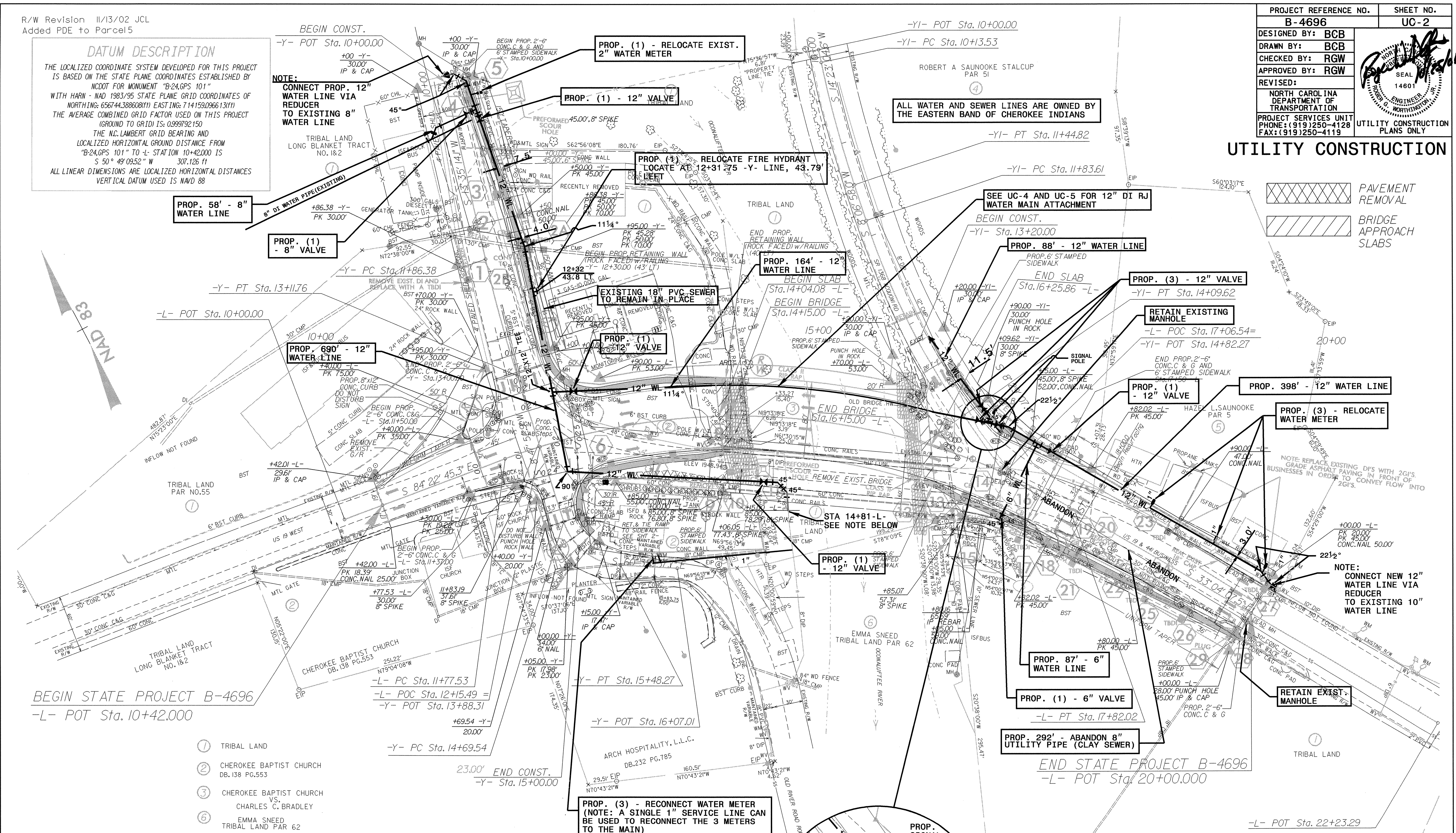
Roger Worthington, P.E. UTILITIES SECTION ENGINEER
Bernie Bumgarner UTILITIES PROJECT DESIGNER

TIP: B-4696

PROJECT REFERENCE NO. B-4696	SHEET NO. UC-2
DESIGNED BY: BCB	
DRAWN BY: BCB	
CHECKED BY: RGW	
APPROVED BY: RGW	
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
PROJECT SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	UTILITY CONSTRUCTION PLANS ONLY

DATUM DESCRIPTION
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-24.GPS 101" WITH HARN - NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 656744.388608(11) EASTING: 714159.096613(11) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999792150 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-24.GPS 101" TO L-STATION 10+42.000 IS S 50° 49' 09.52" W 307.126 11 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

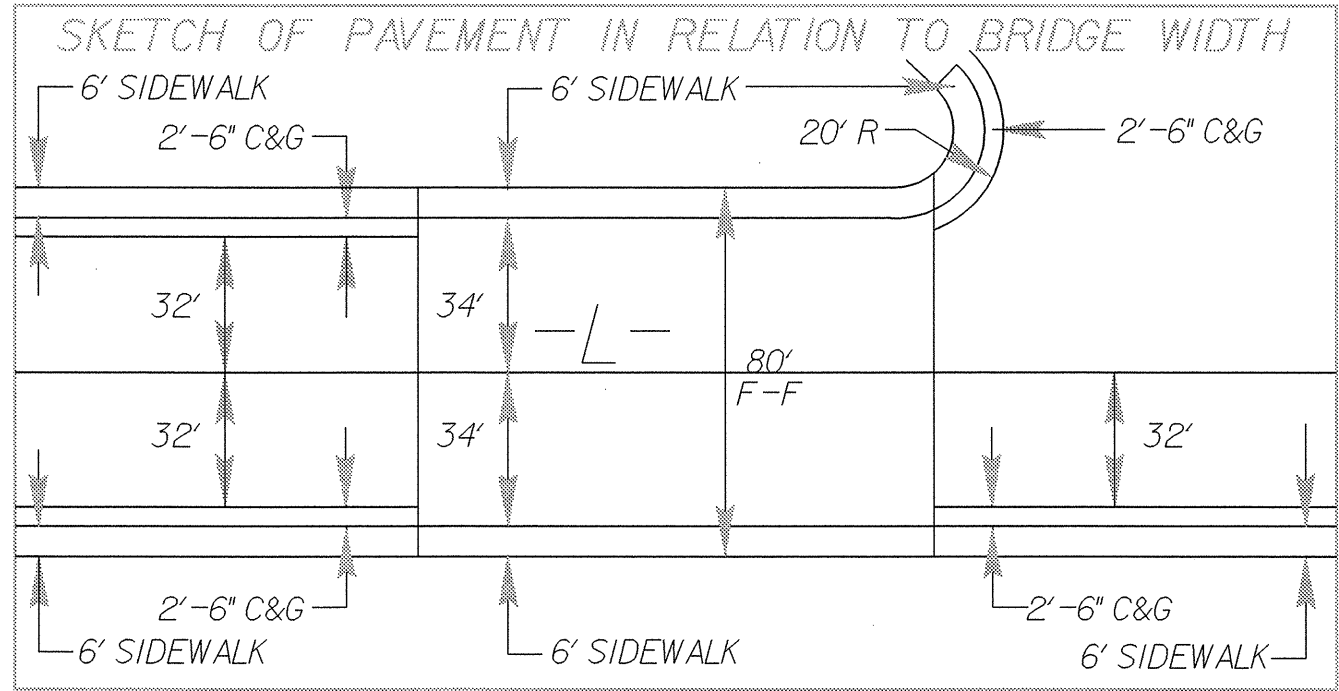
NOTE:
CONNECT PROP. 12" WATER LINE VIA REDUCER TO EXISTING 8" WATER LINE



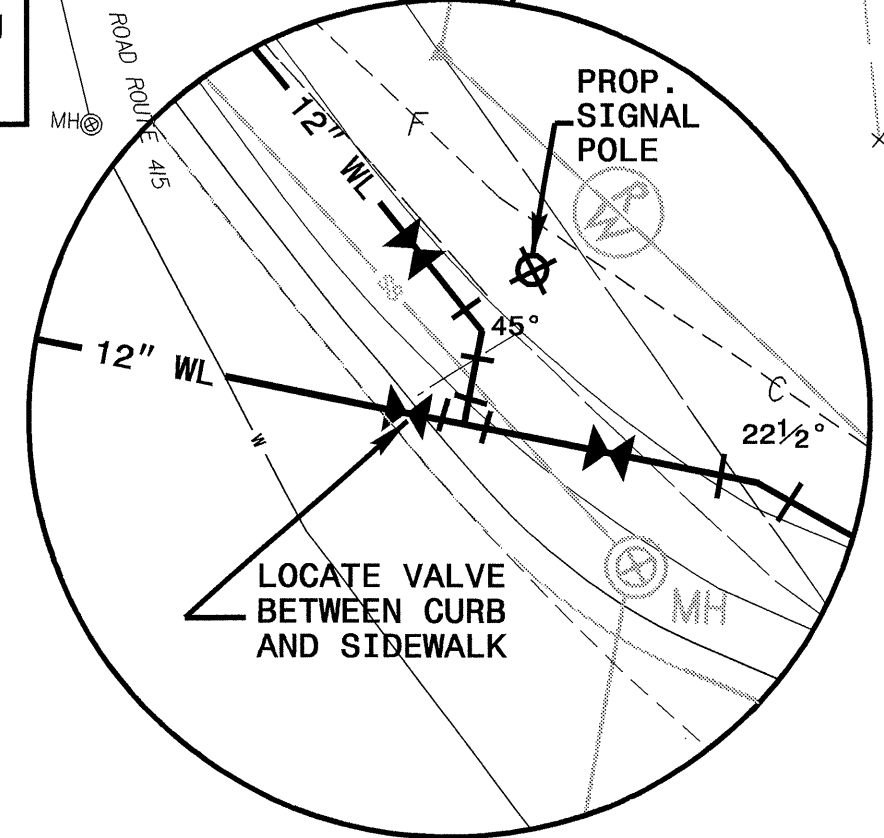
BEGIN STATE PROJECT B-4696
-L- POT Sta. 10+42.000

END STATE PROJECT B-4696
-L- POT Sta. 20+00.000

- ① TRIBAL LAND
- ② CHEROKEE BAPTIST CHURCH DB. 138 PG.553
- ③ CHEROKEE BAPTIST CHURCH VS. CHARLES C. BRADLEY
- ④ EMMA SNEED TRIBAL LAND PAR 62



NOTE:
THE SHUTDOWN OF WATER LINES TO BE COORDINATED WITH THE EASTERN BAND OF CHEROKEE INDIANS ENGINEERING DEPARTMENT.
THE EXISTING 8" DI WATER MAIN TO BE PLUGGED NEAR EXISTING BRIDGE (14+80.5 -L- LINE, 76.13' OFFSET RT). THIS LINE IS LOOPED AND CAN BE PLUGGED AT THE TIME THE EXISTING BRIDGE IS REMOVED.
ALL WATER LINE 4" AND LARGER SHALL BE DUCTILE IRON, PRESSURE CLASS 350 WITH RESTRAINED JOINTS.
SERVICE LINE PIPE LESS THAN 4" SHALL BE PE TUBING, SDR 9.

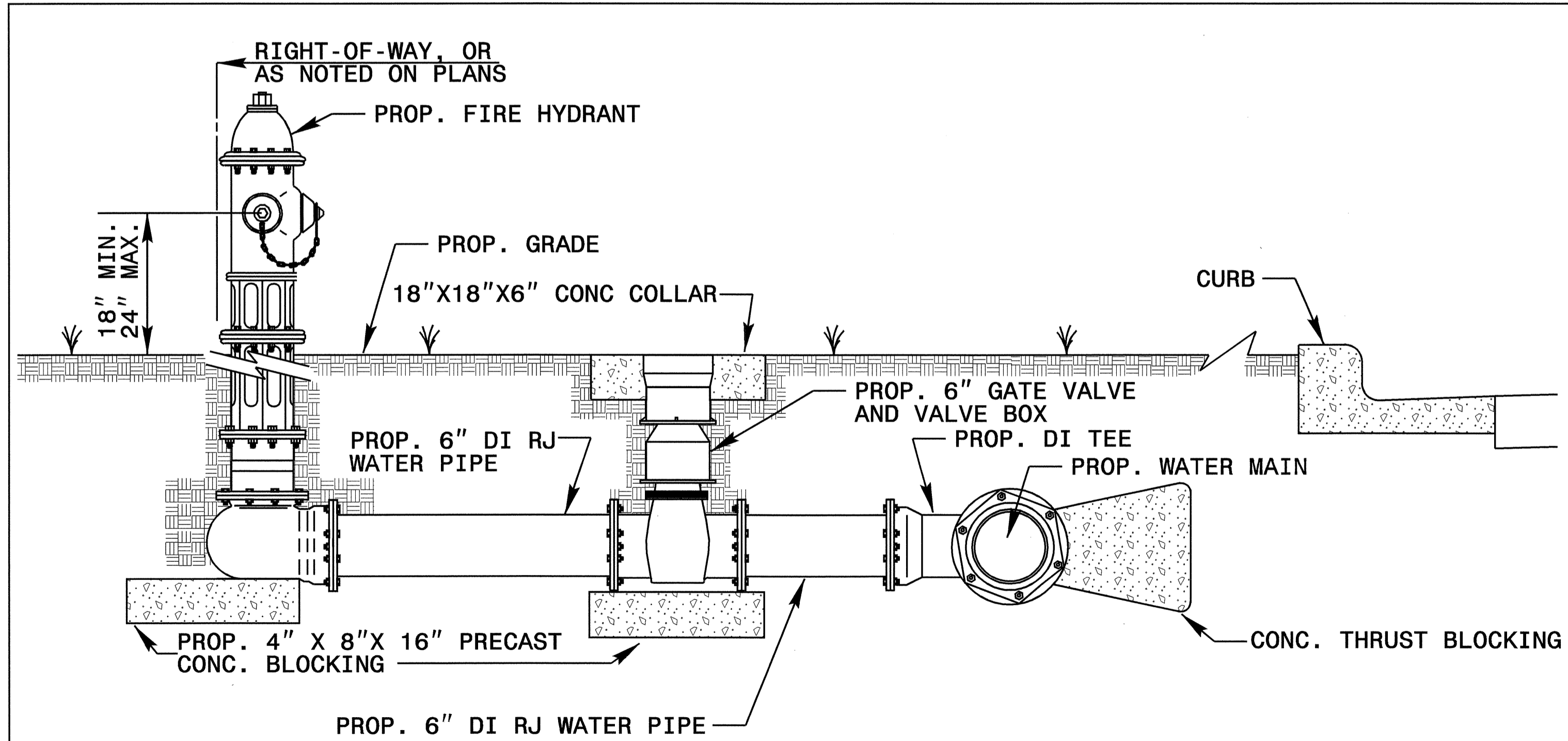
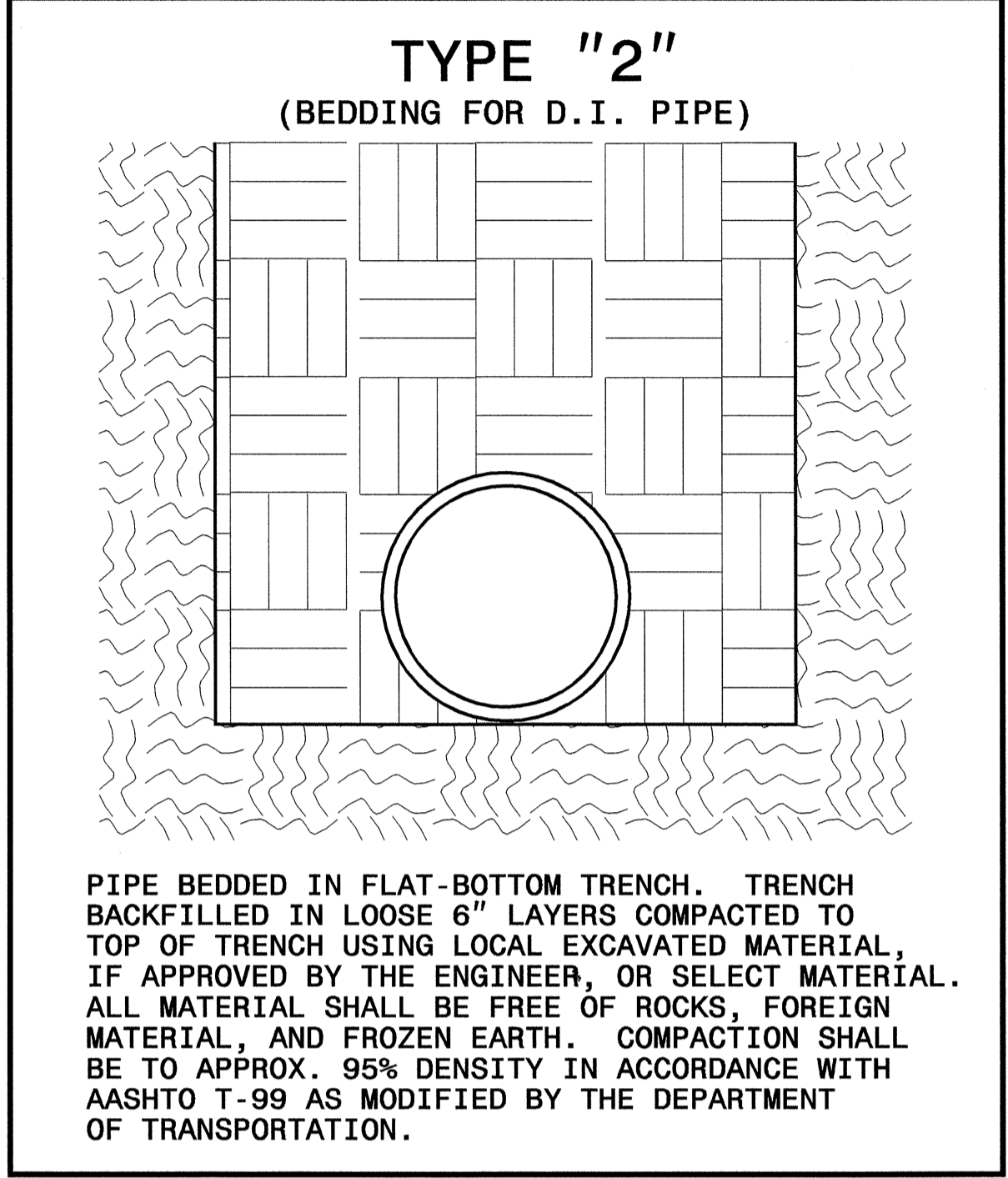


145	US 441	70	SR 1368
288		134	
130	50	90	170
244	104	180	320
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			40
			76
			183
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US 441 BUS./	3	3	US 441 BUS./
US 19	5	5	US 19
10			SR 1360
14			

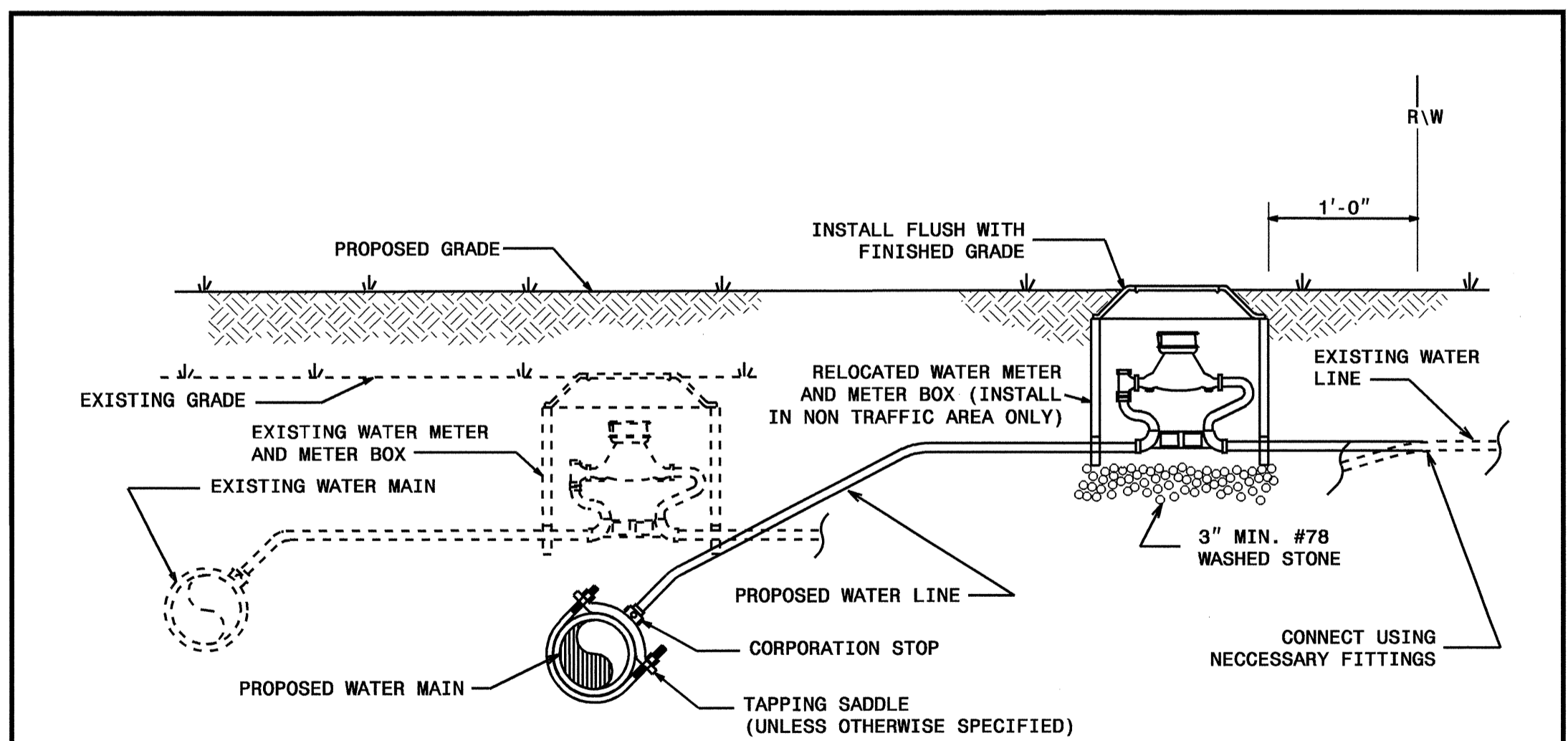
2004 vpd (in 100's)
2025 vpd (in 100's)

UTILITY CONSTRUCTION

MAXIMUM TRENCH WIDTH AT TOP OF PIPE			
NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		



**FIRE HYDRANT INSTALLATION DETAIL
(UNPAVED AREAS)**



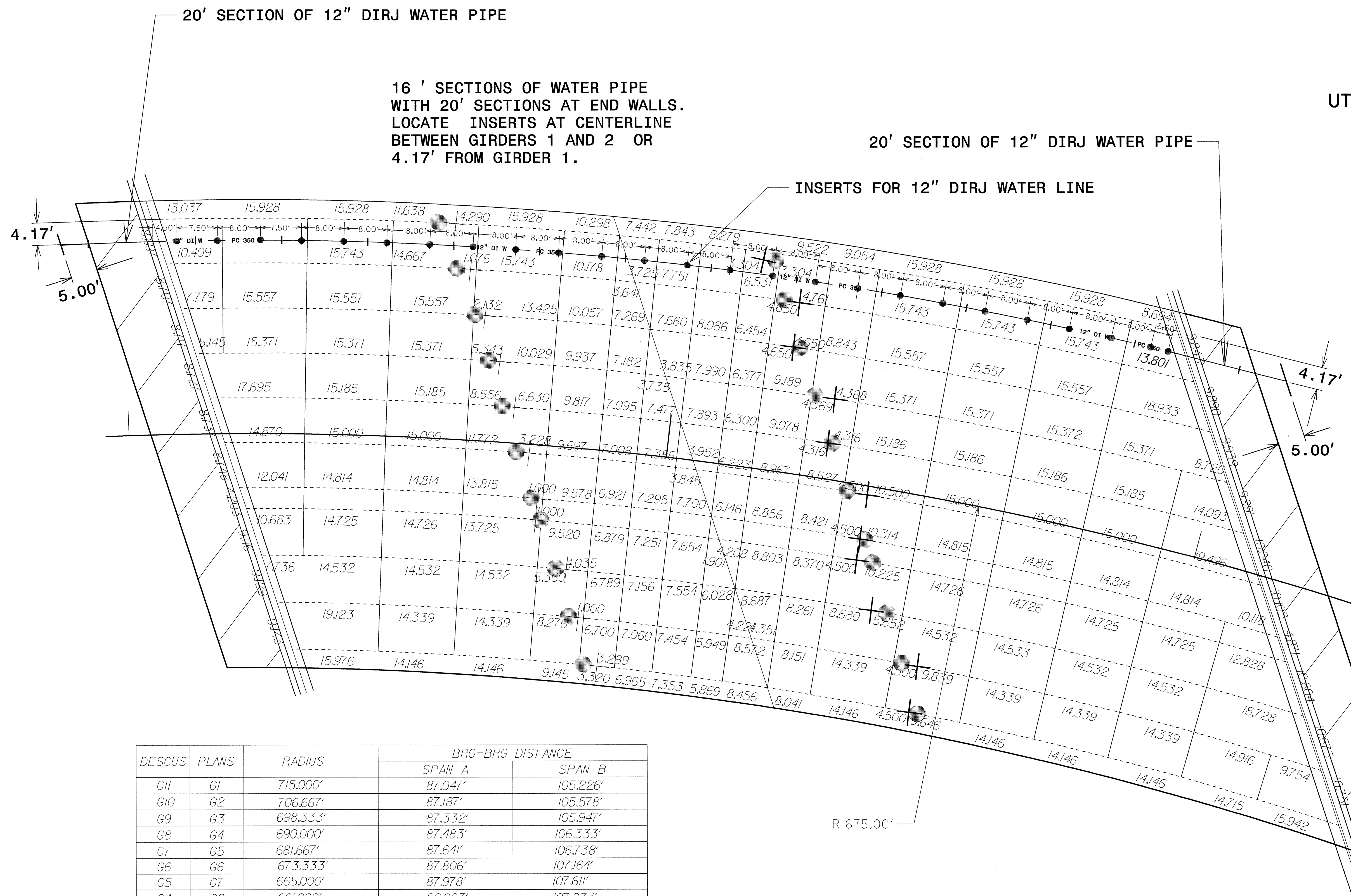
NOTES:

1. RELOCATION SHALL INCLUDE THE REMOVAL AND INSTALLATION AT THE APPROPRIATE LOCATION OF THE WATER METER, METER SETTER AND YOKE, METER VALVES, AND METER BOX WITH LID.
2. THE NEW WATER SERVICE LINE SHALL BE OF THE SAME TYPE AND GRADE AS THE EXISTING WATER SERVICE LINE UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.
3. THE NEW WATER SERVICE LINE SHALL BE INSTALLED WITH A MINIMUM OF 36" COVER BELOW FINISHED GRADE.

WATER METER RELOCATION DETAIL

8/17/99
 7/2/99
 24-FEB-2004 14:00
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 bmc
 11-05212288

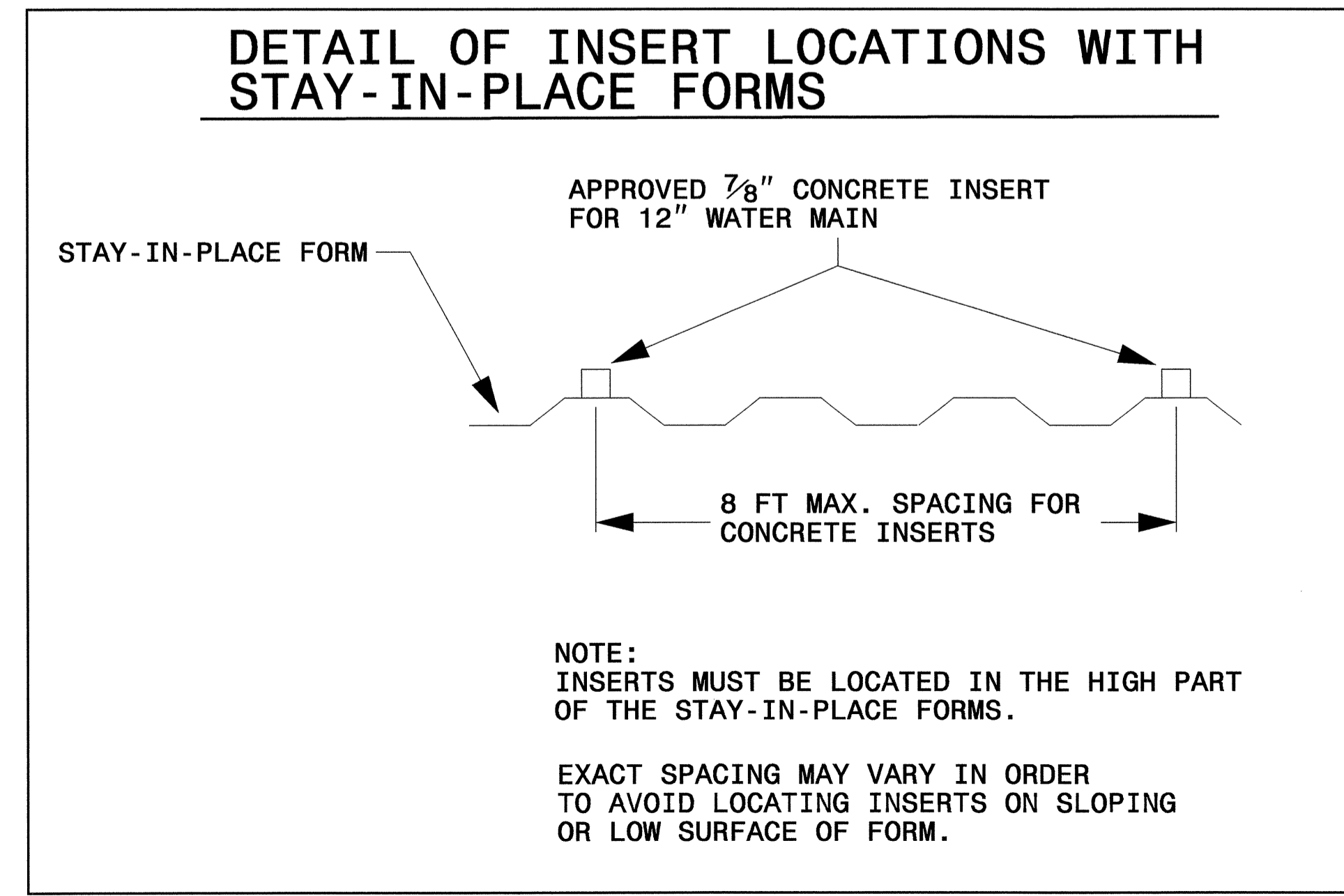
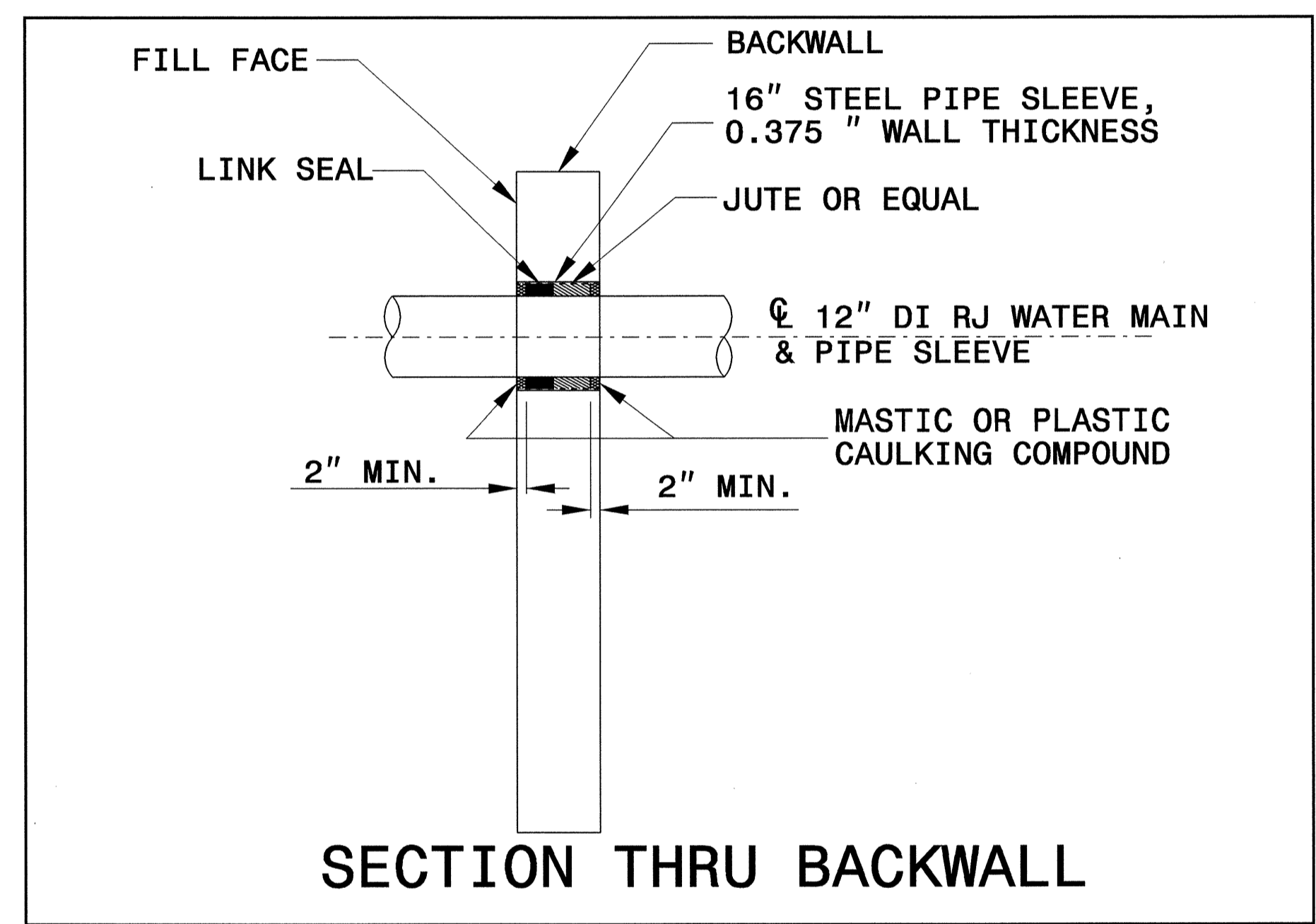
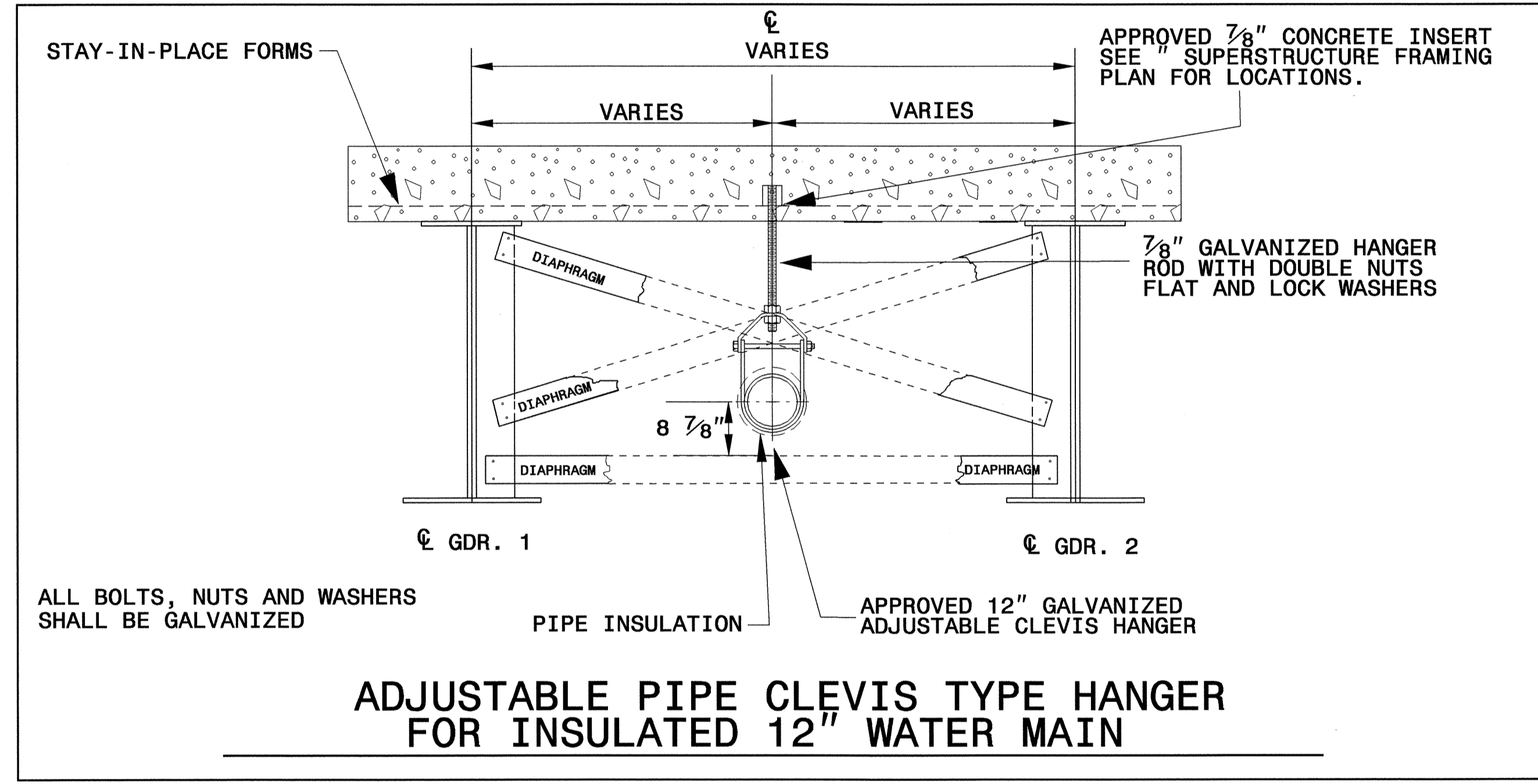
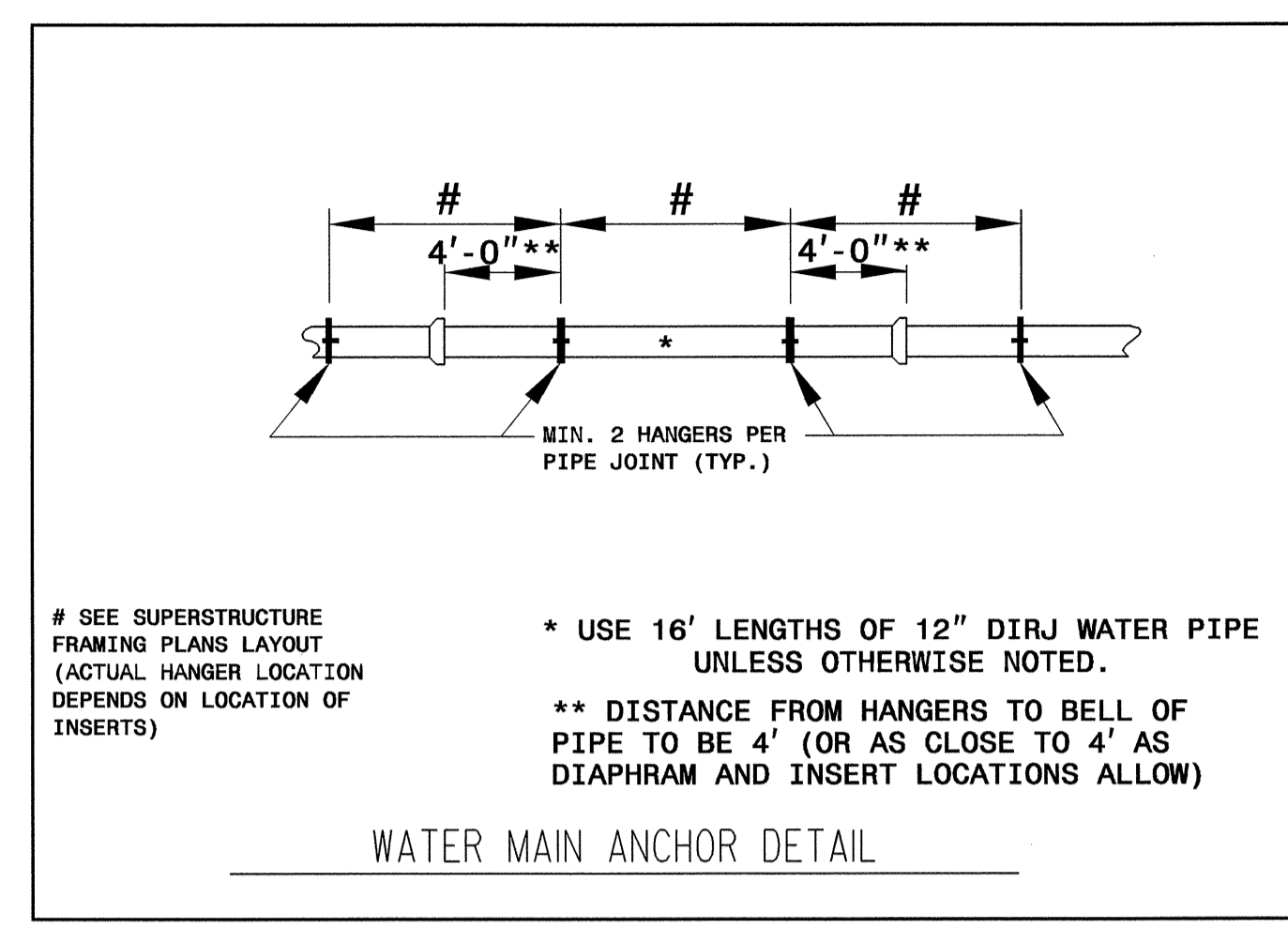
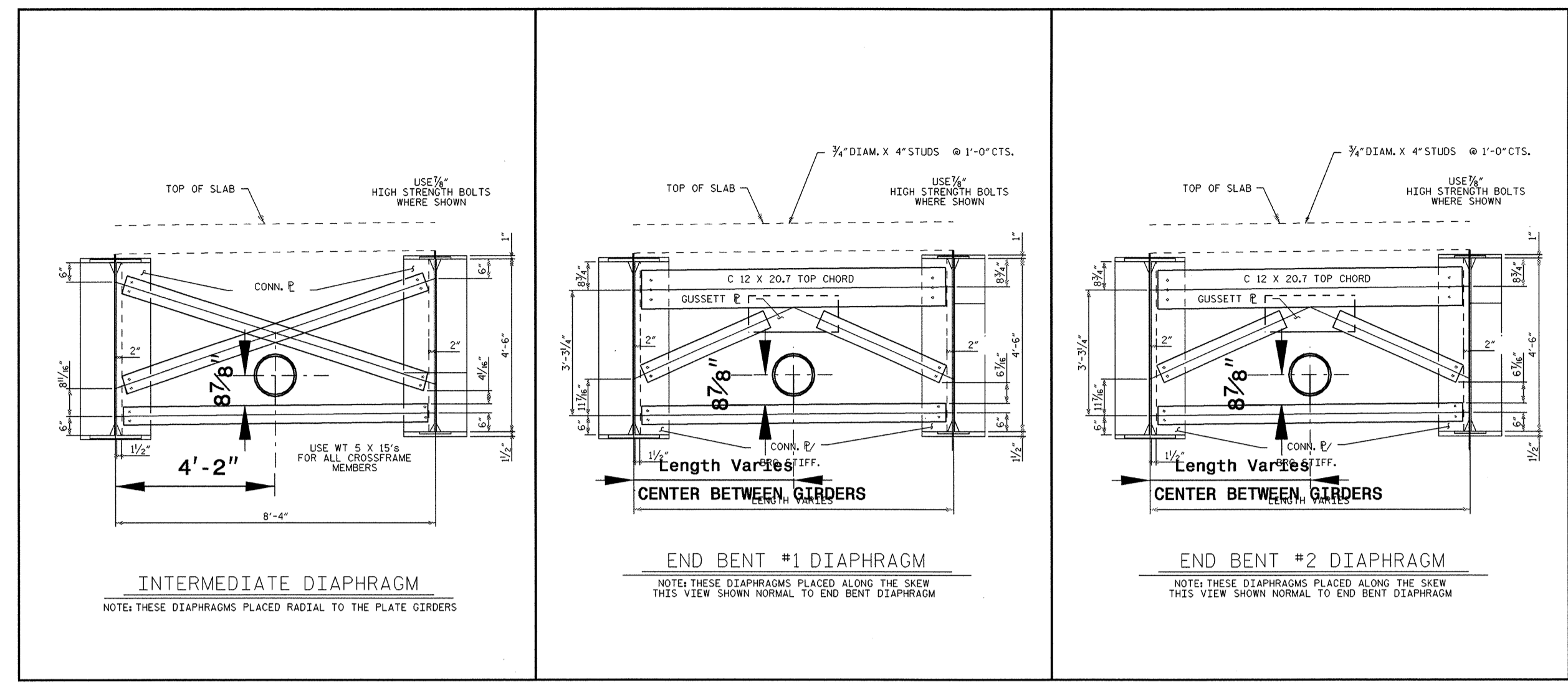
UTILITY CONSTRUCTION



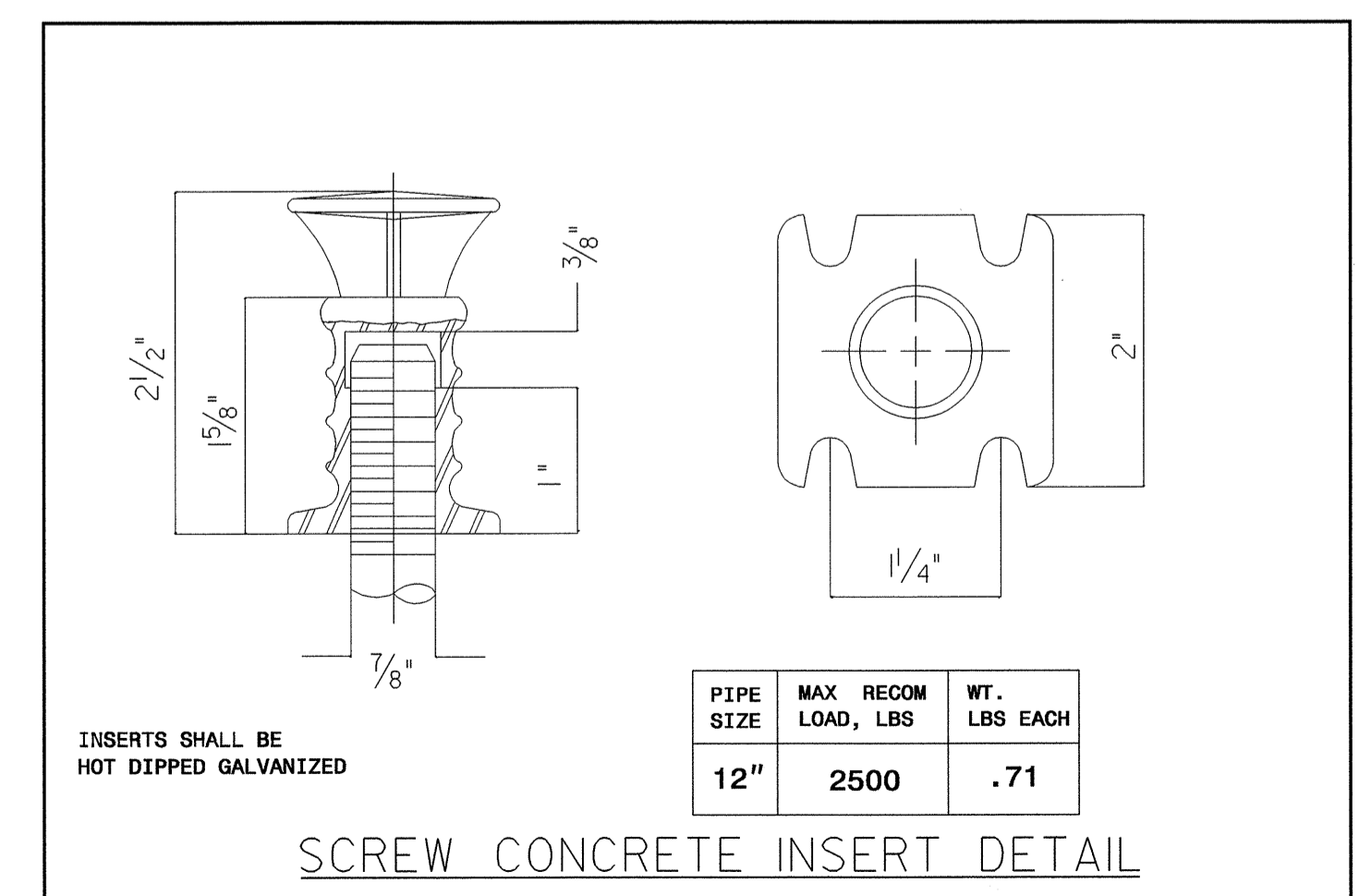
DESCUS	PLANS	RADIUS	BRG-BRG DISTANCE	
			SPAN A	SPAN B
G11	G1	715.000'	87.047'	105.226'
G10	G2	706.667'	87.187'	105.578'
G9	G3	698.333'	87.332'	105.947'
G8	G4	690.000'	87.483'	106.333'
G7	G5	681.667'	87.641'	106.738'
G6	G6	673.333'	87.806'	107.164'
G5	G7	665.000'	87.978'	107.611'
G4	G8	661.000'	88.063'	107.834'
G3	G9	652.333'	88.254'	108.337'
G2	G10	643.667'	88.455'	108.868'
G1	G11	635.000'	88.665'	109.429'

8/17/99
 20-FEB-2004 14:02
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 bmcghee AT DSZ1238

UTILITY CONSTRUCTION



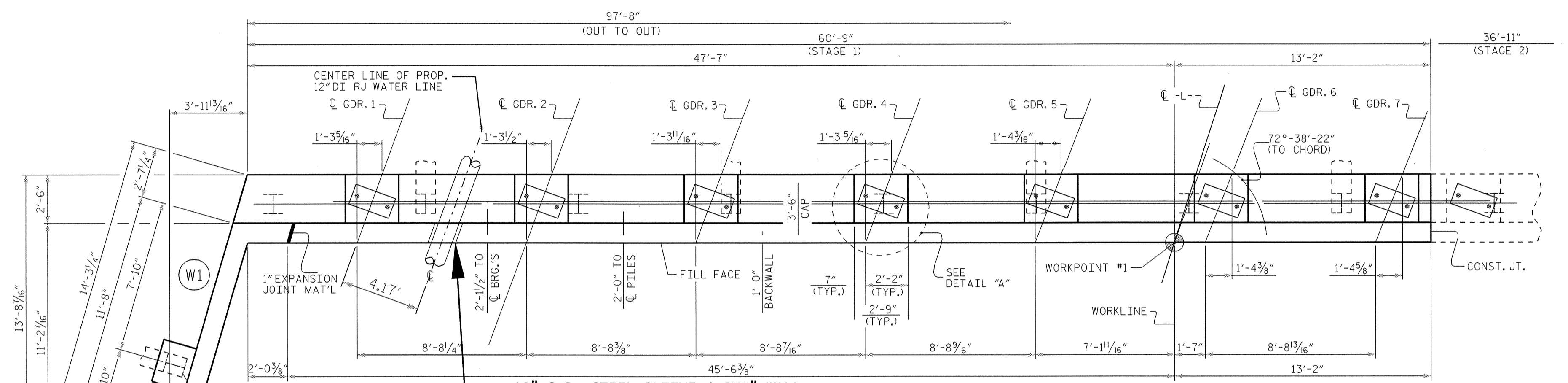
BILL OF MATERIALS FOR 12" WATER MAIN		
NO.	UNITS	ITEMS
1	2 EA	16" STEEL PIPE SLEEVE, 0.375" WALL THICKNESS, 16" LENGTH (END BENTS)
2	25 EA	7/8" APPROVED GALV. CONCRETE INSERTS
3	25 EA	APPROVED GALV. CLEVIS TYPE HANGER FOR 12" DI RJ WATER PIPE WITH 7/8" GALV. HANGER RODS
4	231.5 FT	12" DI RESTRAINED JOINT WATER PIPE, PC 350
5	2 EA	APPROVED MODULAR TYPE CASING SEAL
6	31 LB	JUTE
7	25 LB	MASTIC OR PLASTIC CAULKING COMPOUND
8	193.0 FT	PIPE INSULATION
9		
THESE QUANTITIES ARE FOR ESTIMATED QUANTITIES ONLY.		



20-FEB-2004 14:02
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 abumcarter ET DS21228

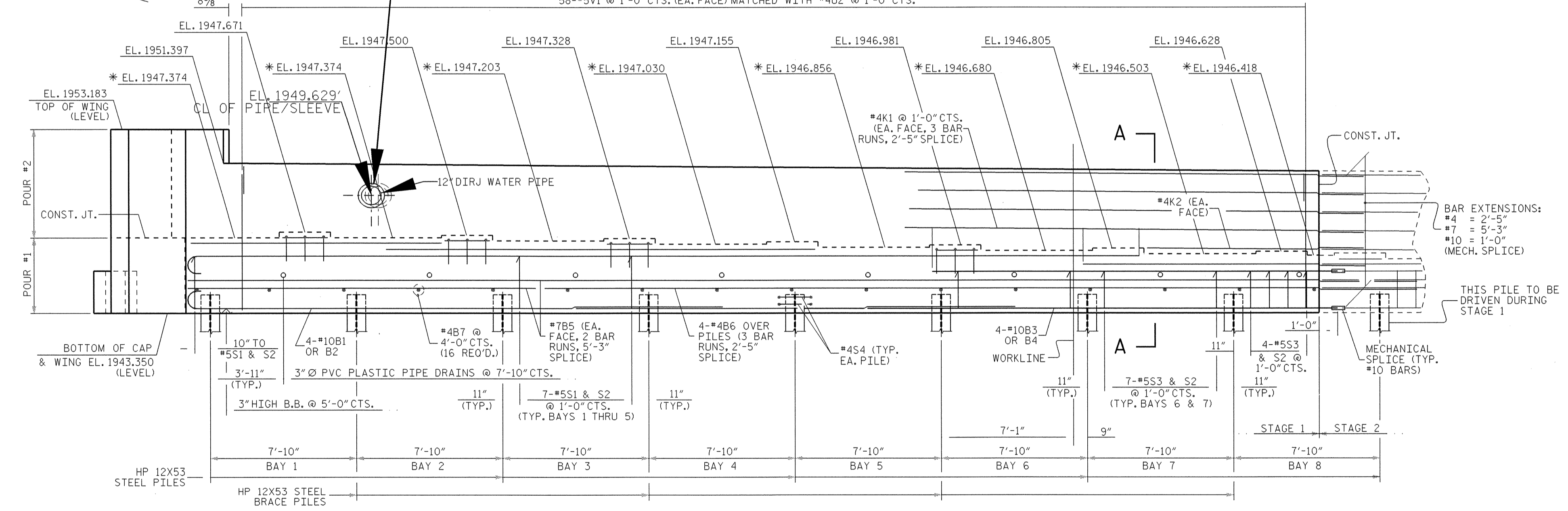
PROJECT REFERENCE NO.	SHEET NO.
B-4696	UC-6
DESIGNED BY: BCB	
DRAWN BY: BCB	
CHECKED BY: RGW	
APPROVED BY: RGW	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
DESIGN SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

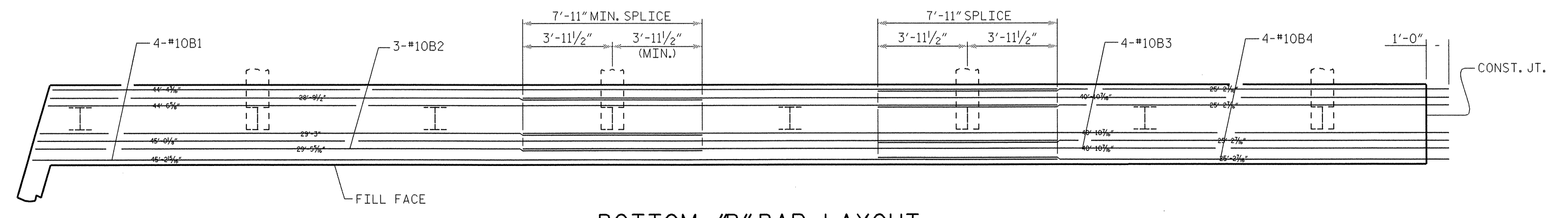


16" O.D. STEEL SLEEVE (.375" WALL THICKNESS) TO BE FLUSH WITH BOTH FACES OF BACKWALL. FIELD BEND REINFORCING STEEL AS NECESSARY TO PROVIDE FOR SLEEVE. SLEEVE SHALL BE PLACED PARALLEL TO, AND CENTERED BETWEEN, THE GIRDERS #1 & #2. PIPE SLEEVE CENTERLINE ELEV. 1949.629'.

PLAN



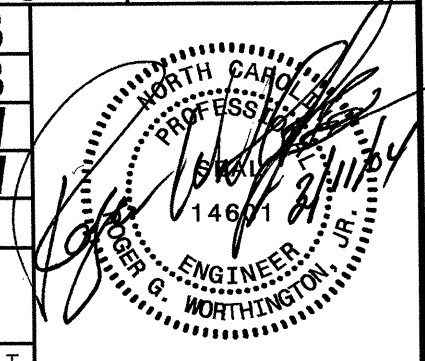
ELEVATION



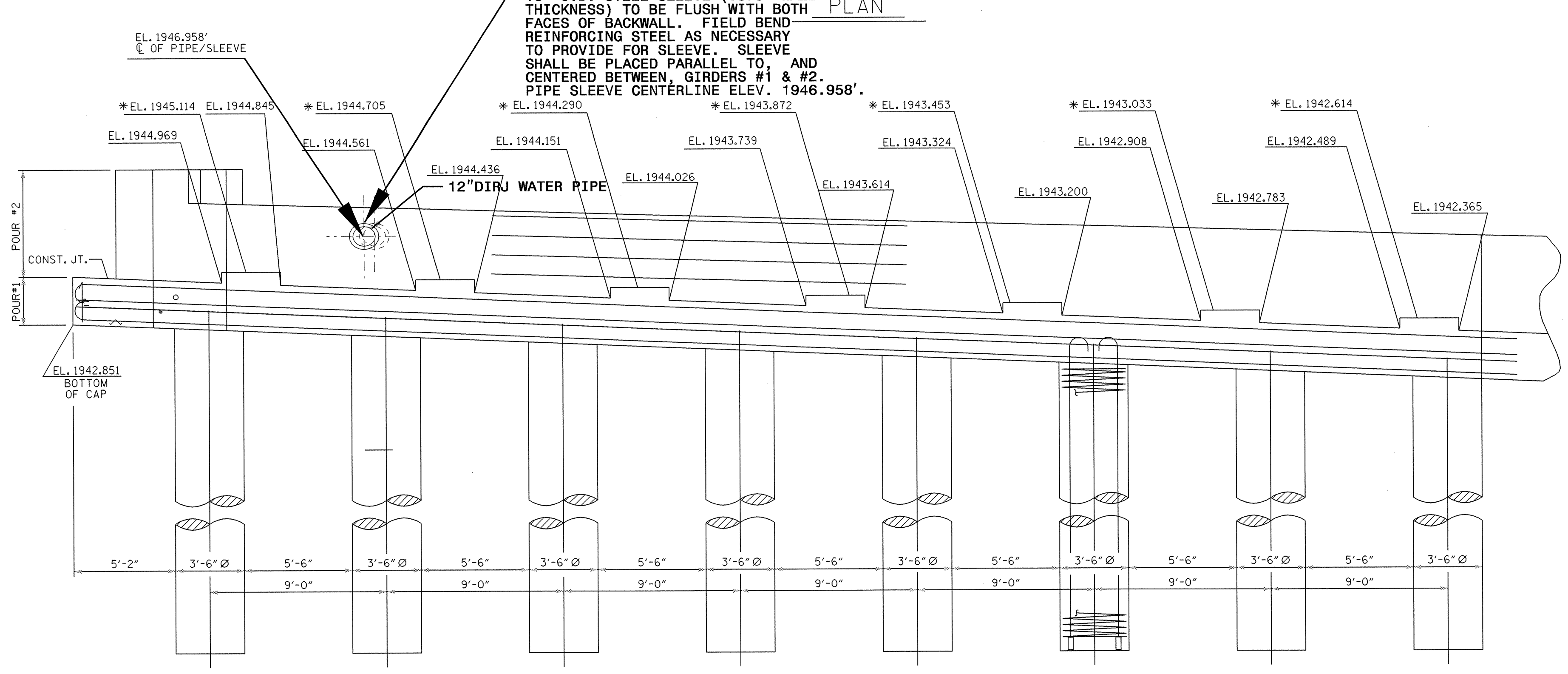
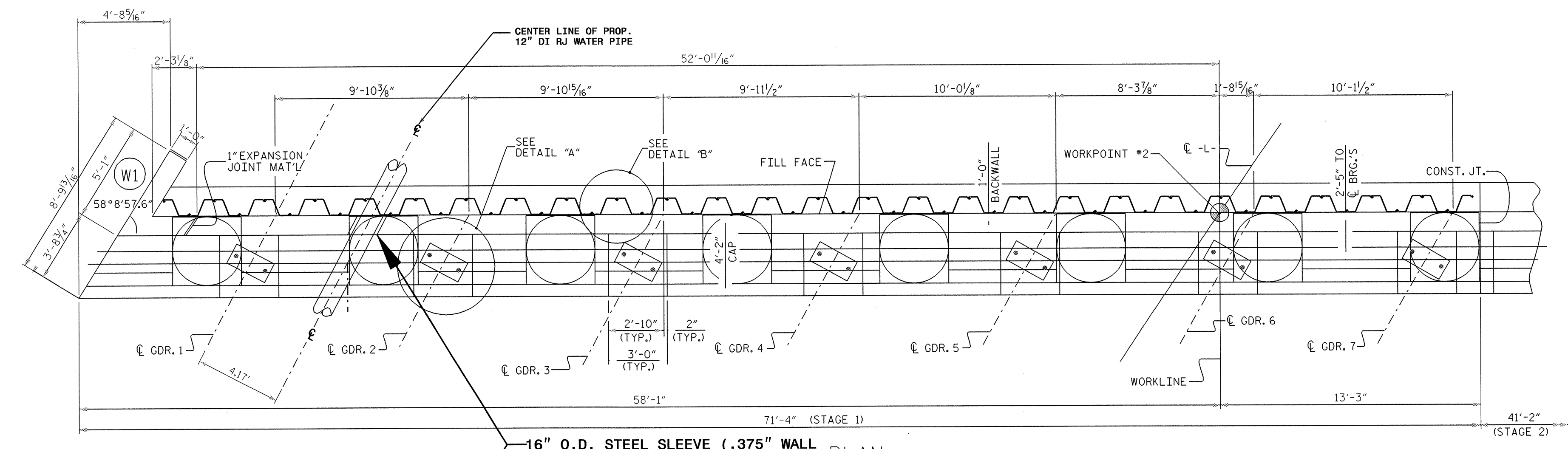
BOTTOM "B" BAR LAYOUT

UTILITY ATTACHMENTS
END BENT #1
STAGE 1
(12" WATER LINE)

8/17/99
 26-FEB-2004 09:15
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 bbummer AT DS21258

PROJECT REFERENCE NO.	SHEET NO.
B-4696	UC-7
DESIGNED BY: BCB	
DRAWN BY: BCB	
CHECKED BY: RGW	
APPROVED BY: RGW	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
DESIGN SERVICES UNIT PHONE: (919) 250-4128 FAX: (919) 250-4119	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



ELEVATION
(CIP FACE NOT SHOWN FOR CLARITY)

UTILITY ATTACHMENTS
END BENT #2
STAGE 1
(12" WATER LINE)

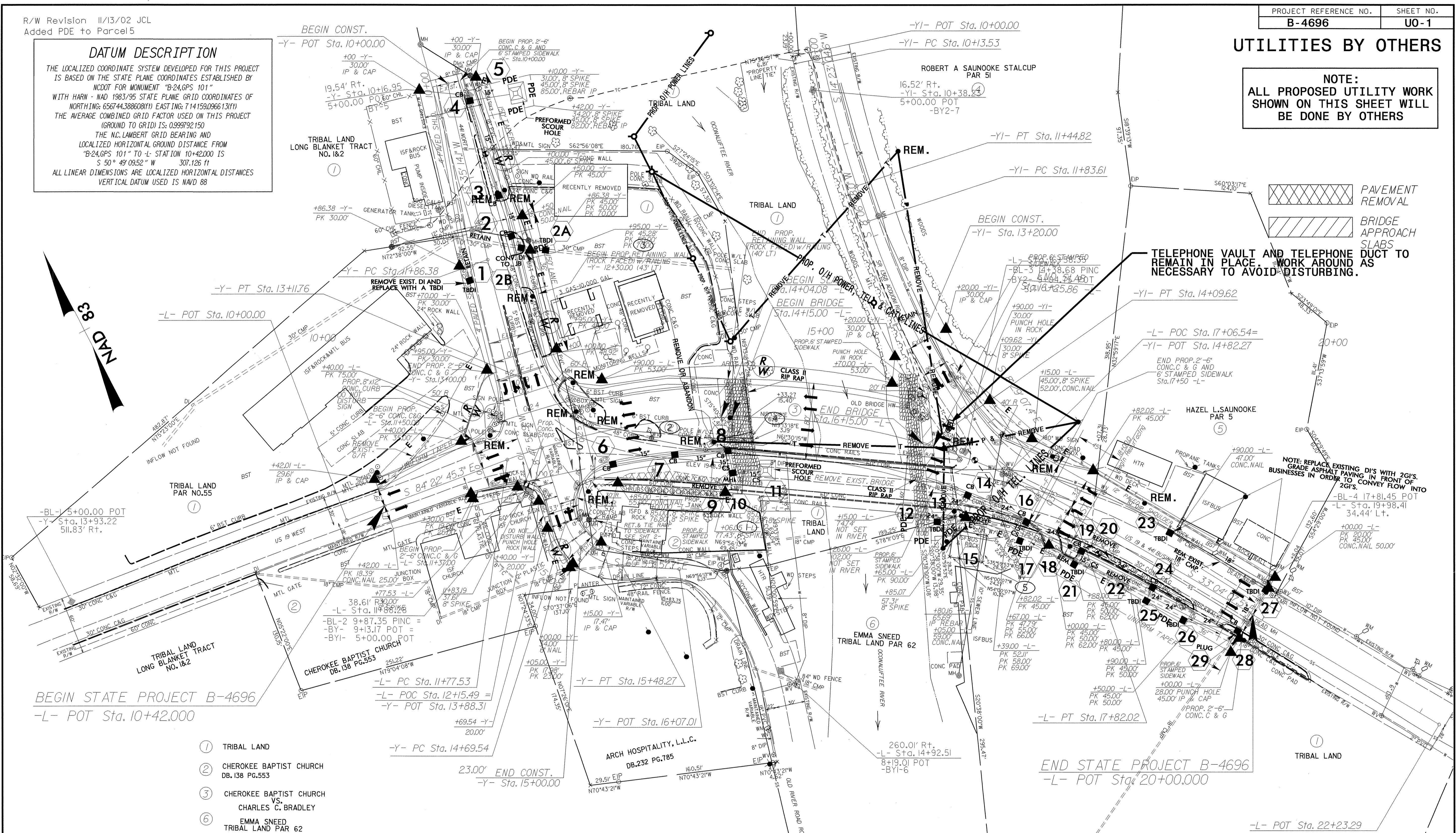
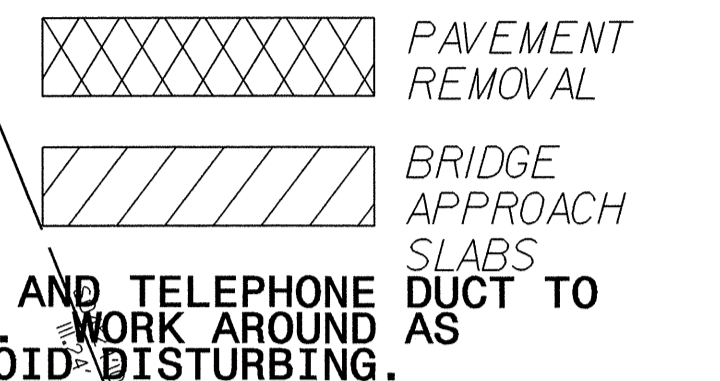
8/17/99
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abumgarner AT DS21258

R/W Revision 11/13/02 JCL
Added PDE to Parcel 5

DATUM DESCRIPTION
 THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCDOT FOR MONUMENT "B-24.GPS 101"
 WITH HARN - MAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 656744.388608(11) EASTING: 714159.096613(11)
 THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999792150
 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "B-24.GPS 101" TO "L" STATION 10+42.00 IS
 S 50° 49' 09.52" W 307.126 11
 ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
 VERTICAL DATUM USED IS NAVD 88

UTILITIES BY OTHERS

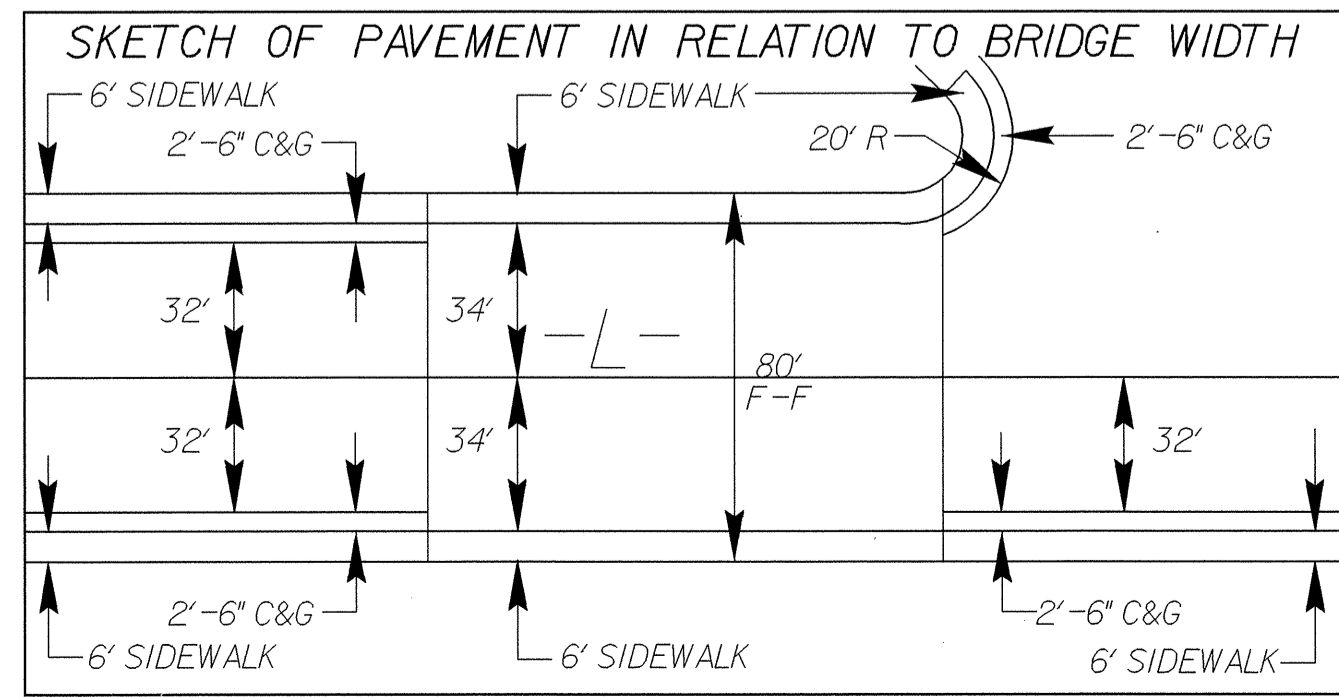
NOTE:
 ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS



BEGIN STATE PROJECT B-4696
 -L- POT Sta. 10+42.000

END STATE PROJECT B-4696
 -L- POT Sta. 20+00.000

- ① TRIBAL LAND
- ② CHEROKEE BAPTIST CHURCH DB. 138 PG. 553
- ③ CHEROKEE BAPTIST CHURCH VS. CHARLES C. BRADLEY
- ④ EMMA SNEED TRIBAL LAND PAR 62



132 288	US 441	66 134	SR 1368
120 244	46 104	84 180	158 320
US 441 BUS./ US 19	3 5	3 5	US 241 BUS./ US 19
8 14	SR 1360	28 58	38 76
			168 338
			2025 vpd (in 100's) 2002 vpd (in 100's)

8/17/99
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 Bounding Box: 10521228