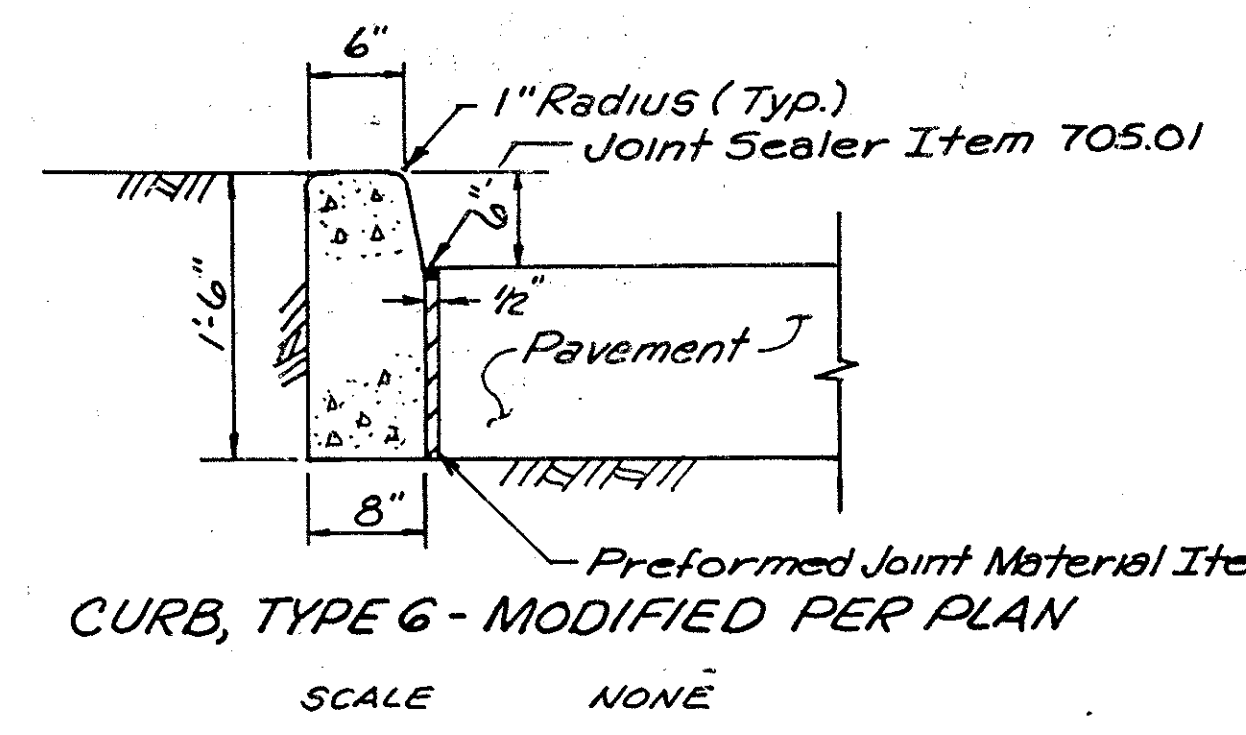
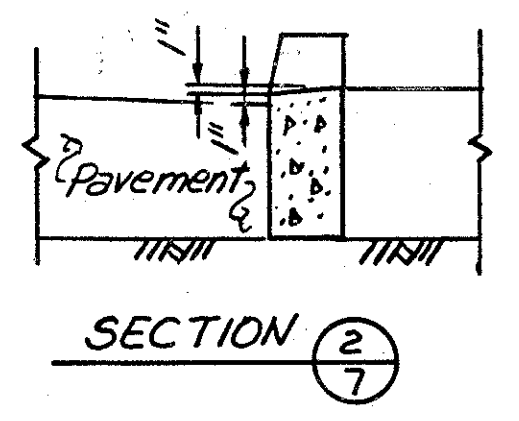
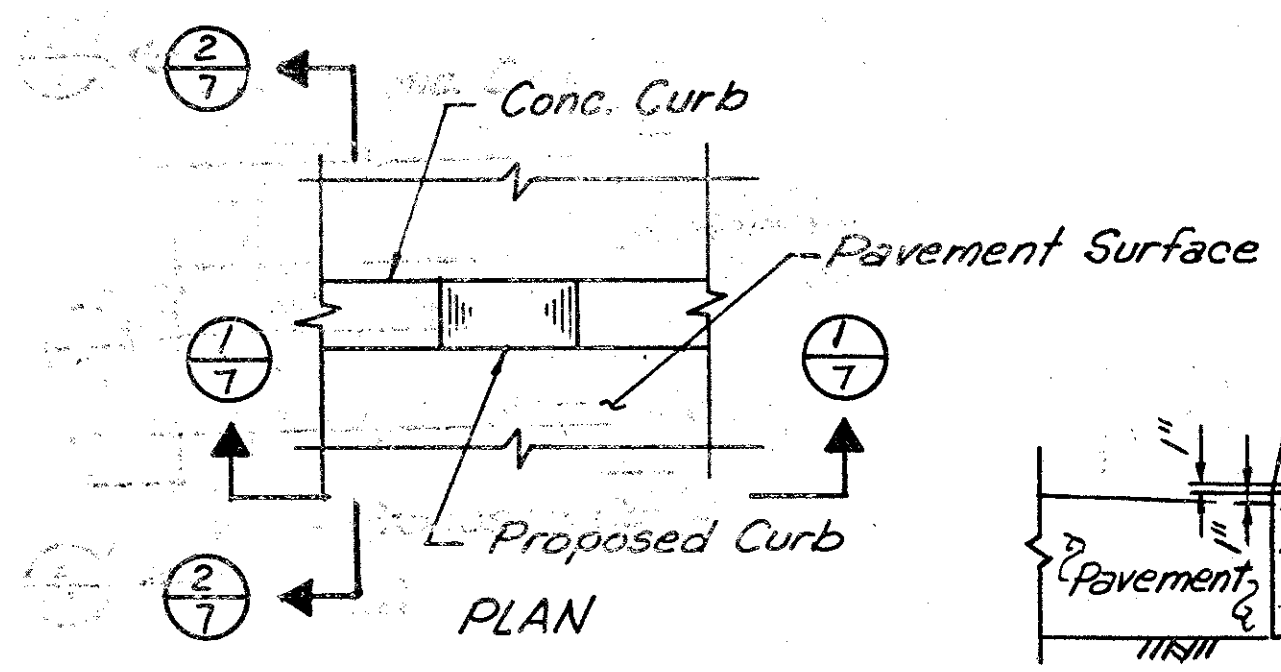


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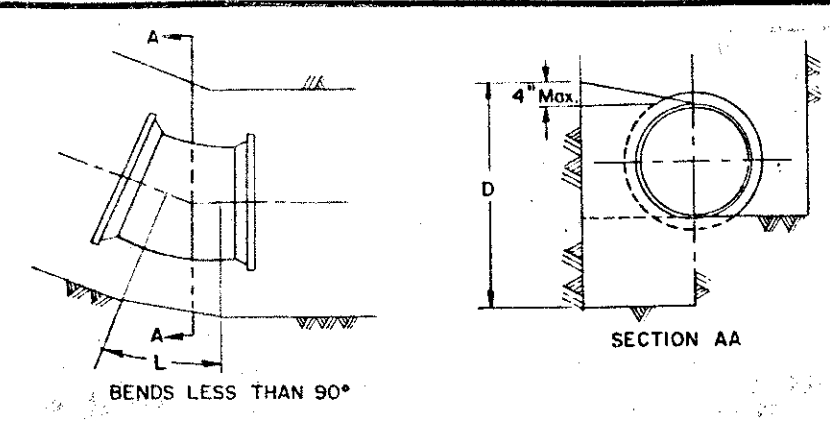
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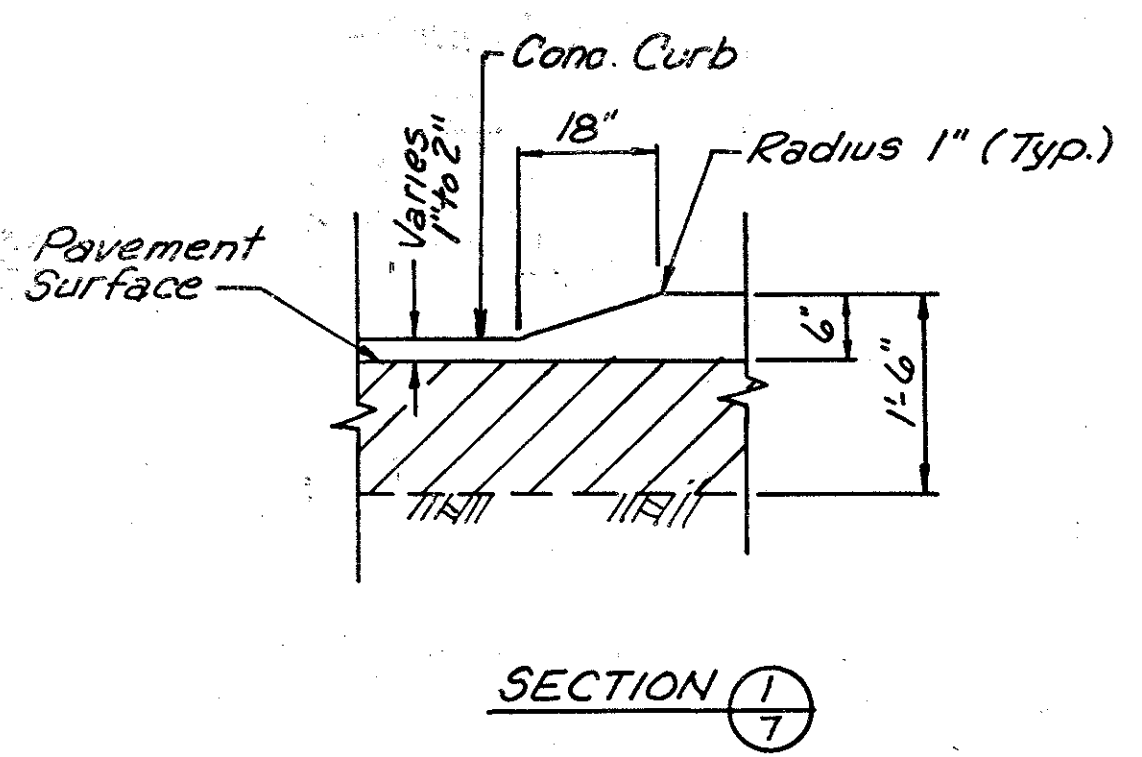
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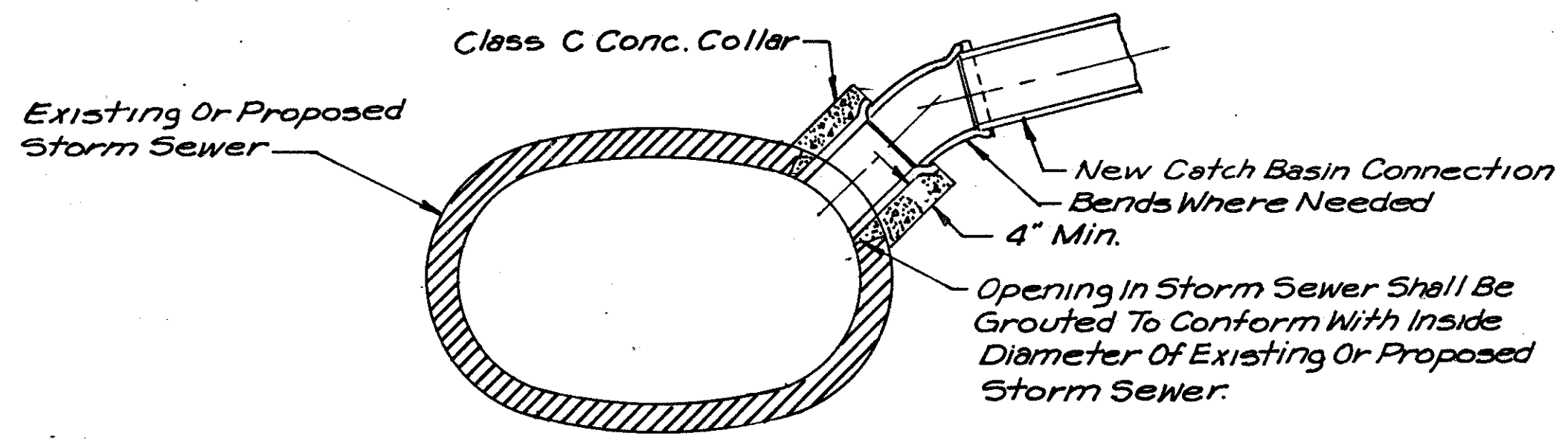
TYP. CONCRETE BACKING OF HORIZONTAL BENDS  
NO SCALE



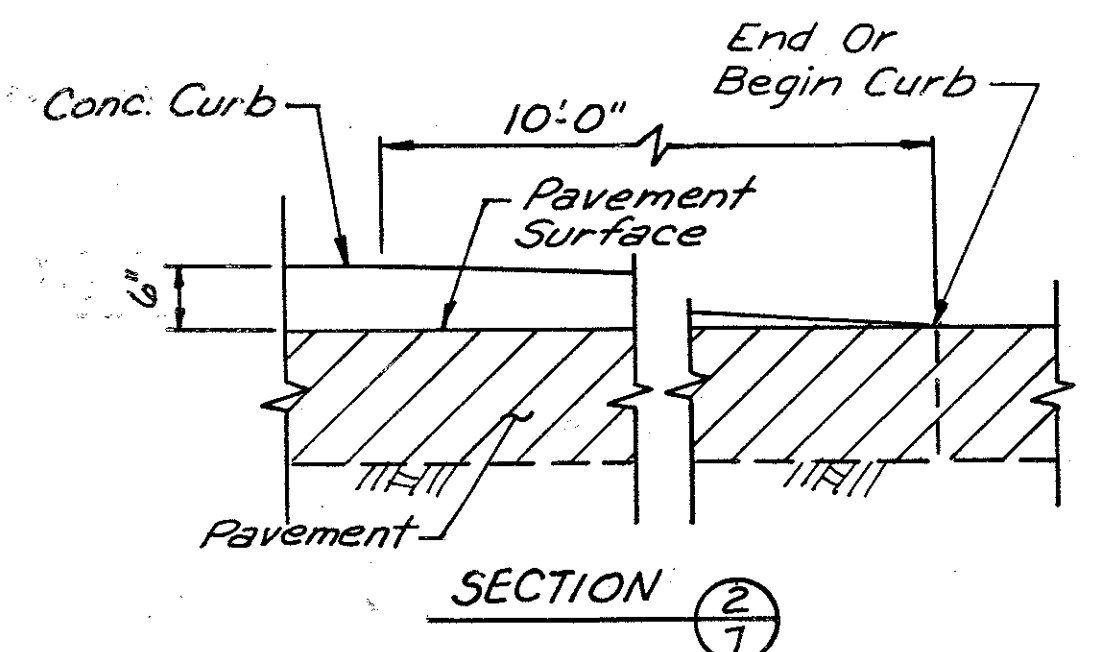
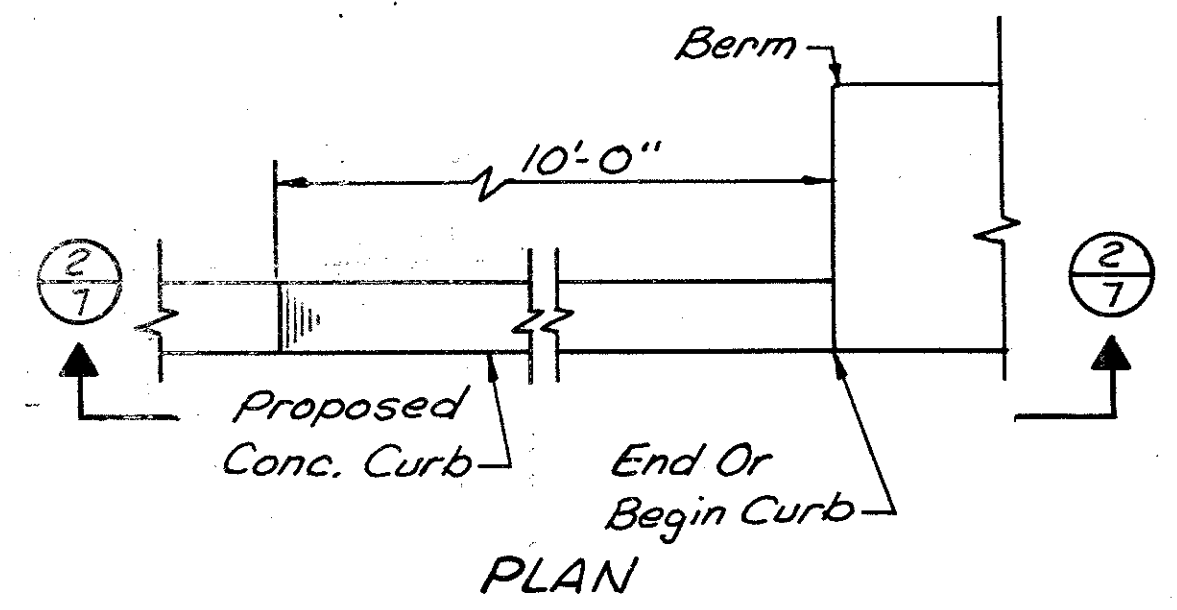
| SIZE OF PIPE   | 1 1/2" | 2"     | 2 1/2" | 3" | 4" | 6" | 8"  | 10" | 12" |
|----------------|--------|--------|--------|----|----|----|-----|-----|-----|
| DEGREE OF BEND | 15     | 22 1/2 | 30     | 45 | 60 | 90 | 135 | 180 | 225 |



TYPICAL DROP CURB  
SCALE NONE



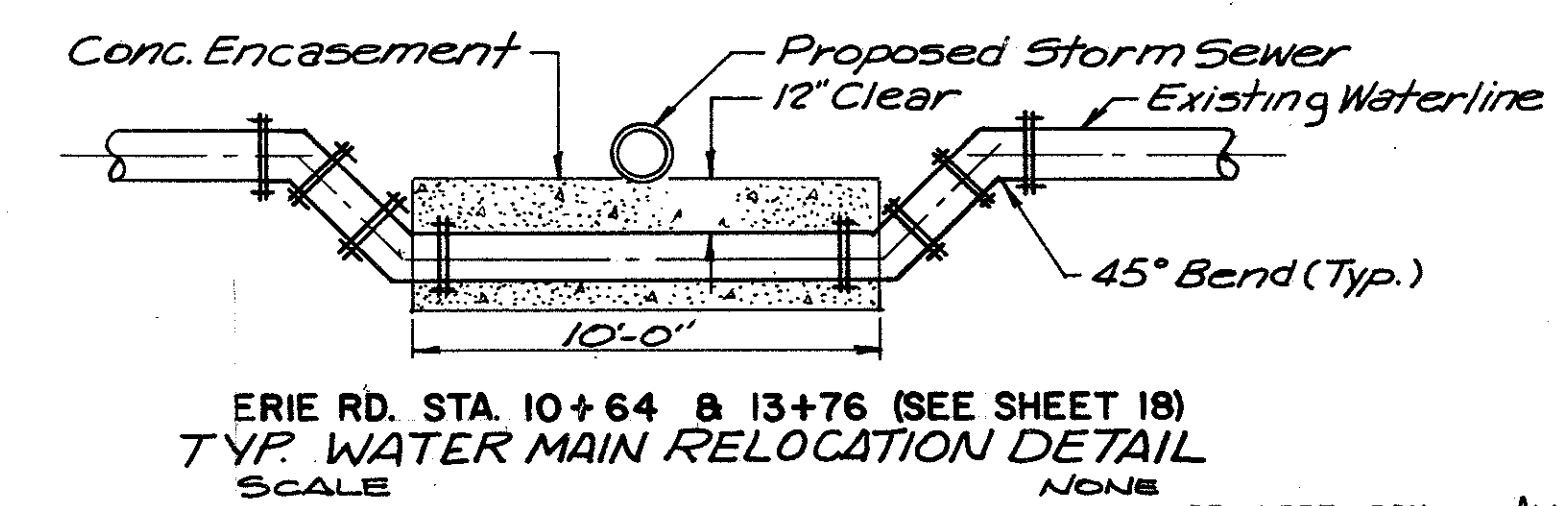
CONNECTION TO EXISTING OR PROPOSED STORM SEWER  
SCALE NONE



Curb Taper Detail  
SCALE NONE

Legend

- Cut Precast Concrete
- Cut Reinforced Concrete
- Mechanical Joint Pipe



ITEM 814 - WATER MAIN AND SERVICE BRANCHES

A. GENERAL

ALL WATER MAIN WORK SHALL BE PERFORMED PER SUPPLEMENTAL SPECIFICATION 814 AND AS MODIFIED HEREIN.

ALL WATER MAINS ARE OWNED AND OPERATED BY THE LAKE COUNTY WATER DEPARTMENT. ALL WORK ON WATER MAINS MUST BE COORDINATED WITH THE LAKE COUNTY WATER DEPARTMENT.

B. WATER MAIN INSULATION

THE WORK SHALL CONSIST OF FURNISHING AND INSTALLING WATER MAIN INSULATION AROUND LOWERED AND NEW WATER MAINS.

WATER MAIN INSULATION SHALL CONSIST OF A PRE-CUT CELLULAR GLASS INSULATION AND A SELF-SEALING MOISTURE RESISTANT JACKETING. THE JACKETING SHALL CONSIST OF A BITUMINOUS RESIN REINFORCED WITH A GLASS FIBRE AND PROTECTIVE PLASTIC FILM COATING. THE INSULATION SHALL MEET ASTM STANDARD C585 AND C552.

THE WATER MAIN SHALL BE CLEANED OF ALL FOREIGN SUBSTANCES AND FREE OF SURFACE MOISTURE PRIOR TO AND DURING THE APPLICATION OF INSULATION. THE INSULATION SHALL BE APPLIED TO THE MAIN WITH BUTT JOINTS STAGGERED AND TIGHTLY BUTTED. LONGITUDINAL AND BUTT JOINTS SHALL

BE LEFT DRY. ALL JOINTS MUST BE TIGHTLY FITTED TO ELIMINATE VOIDS. ANY VOIDS SHALL BE ELIMINATED BY REFITTING OR REPLACING SECTIONS OF INSULATION. EACH SECTION SHALL BE HELD IN PLACE BY TWO WRAPS OF GLASS FIBRE REINFORCED OR ROPE STOCK TAPE WITH A 50% OVERLAP PER WRAP. THE JACKETING SHALL BE APPLIED TO THE INSULATION IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

THE JACKETING SHALL BE PRE-CUT TO FIT THE CONTOUR OF ALL IRREGULAR SURFACES (IE., BENDS, FITTINGS, ETC.). A TWO INCH OVERLAY SHALL BE MADE BETWEEN SECTIONS.

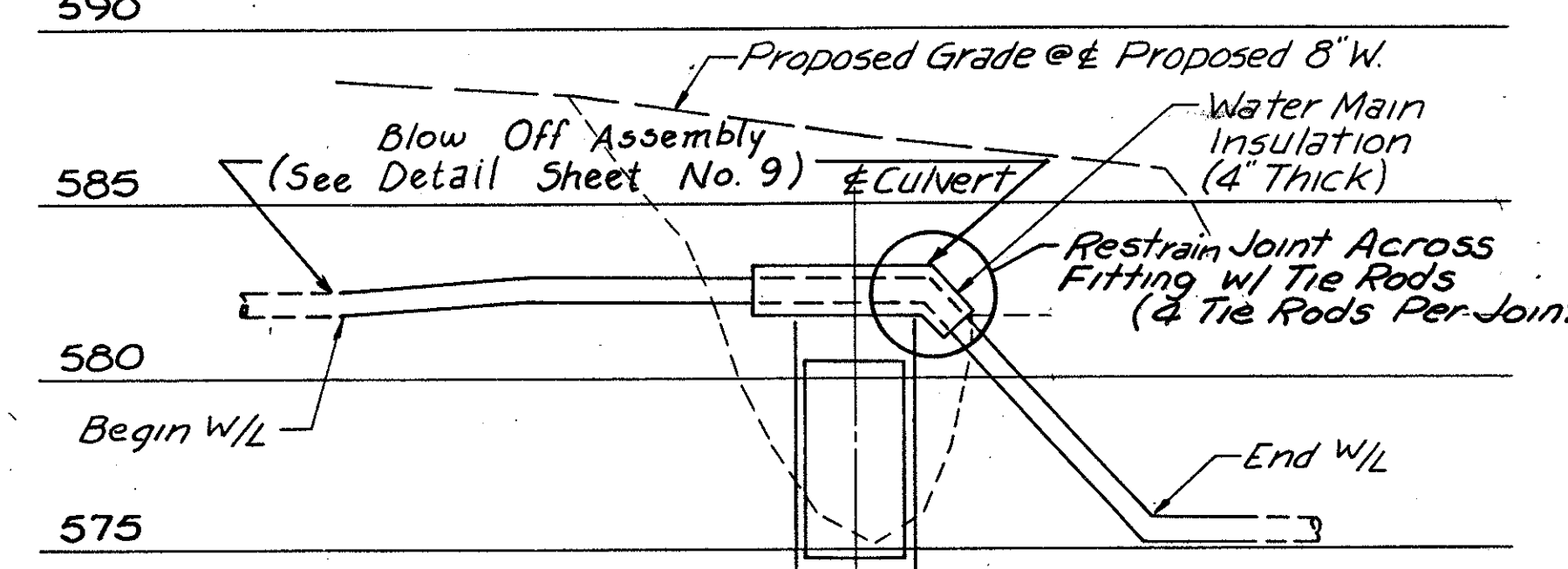
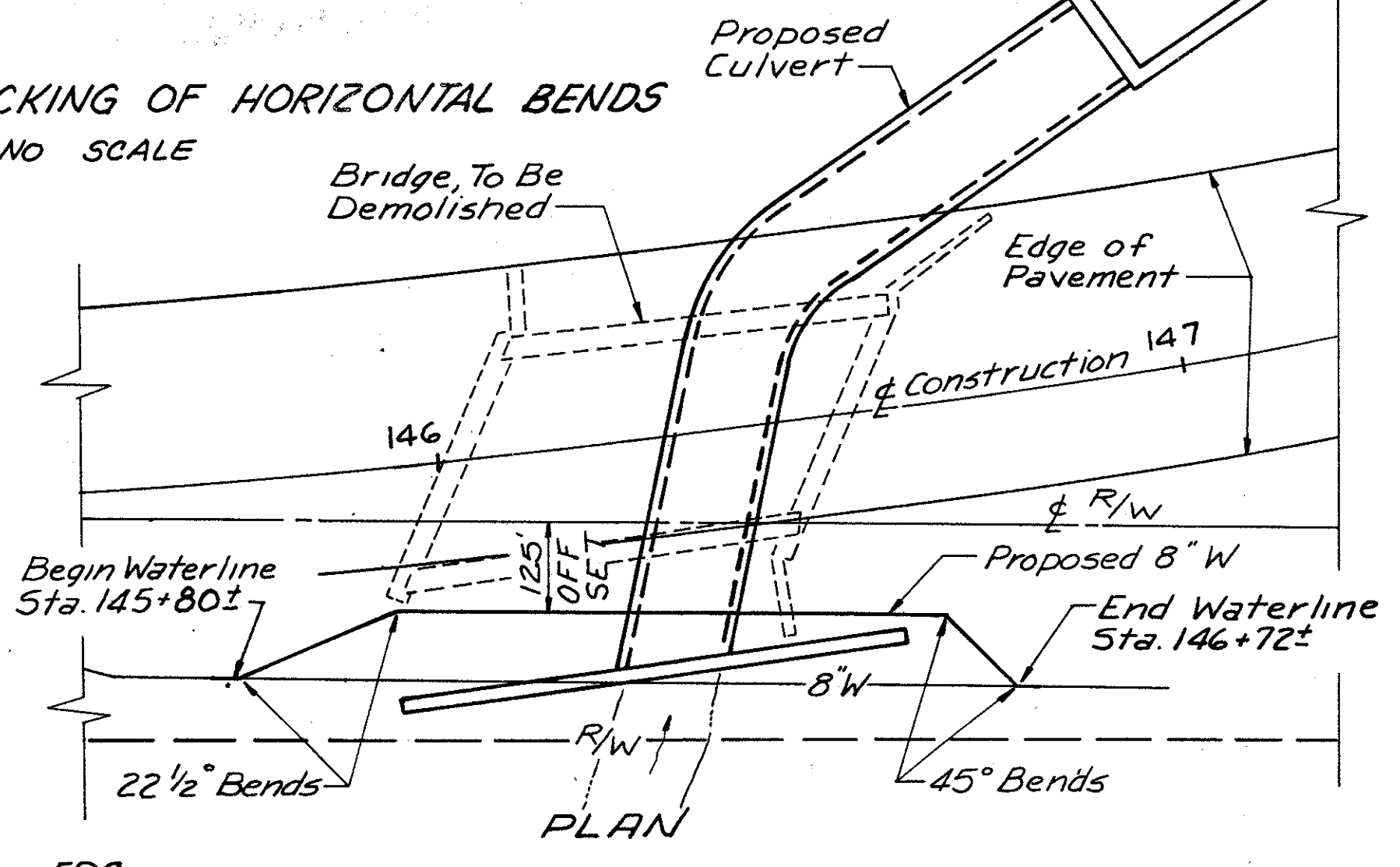
ALL TESTING OF THE WATER MAIN SHALL BE COMPLETED PRIOR TO APPLICATION OF THE INSULATION.

THIS THICKNESS OF INSULATION SHALL BE AS SHOWN ON THE PLANS.

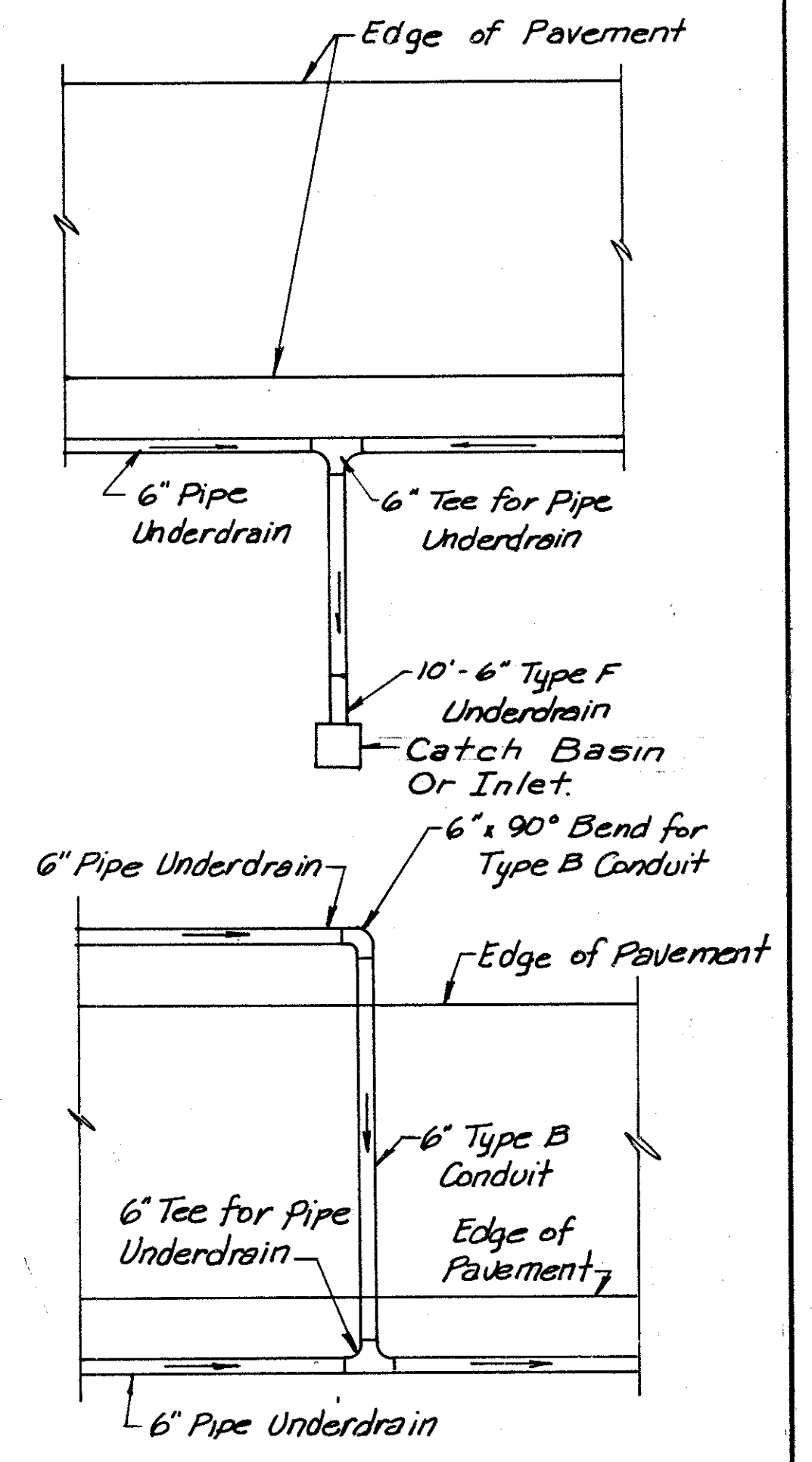
C. DUCTILE IRON PIPE AND FITTINGS

1. **MATERIALS:** THE CHEMICAL CONSTITUENT SHALL MEET THE PHYSICAL PROPERTY RECOMMENDATIONS OF ASTM A536 TO ENSURE THAT THE RIM IS SUITABLE FOR SATISFACTORY DRILLING AND SHALL MEET THE REQUIREMENTS OF ANSI A21.51 (AWWA C151).

2. **COATING AND LININGS:** ALL PIPE SHALL BE COATED WITH A BITUMINOUS COATING IN ACCORDANCE WITH ANSI A21.51 (AWWA C151), AND LINED WITH CEMENT MORTAR AND SEAL COATED IN ACCORDANCE WITH ANSI A21.14 (AWWA C104).



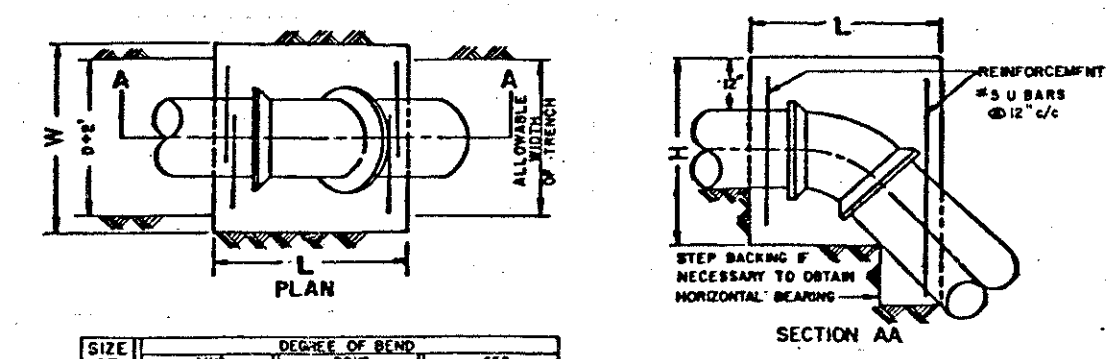
WATER MAIN RELOCATION AT CULVERT



E. QUANTITIES

THE FOLLOWING ESTIMATED QUANTITIES ARE INCLUDED IN THE GENERAL SUMMARY TO BE USED AS SHOWN ON THE DETAIL DRAWINGS AND AS DIRECTED BY THE ENGINEER.

|              |                                   |        |
|--------------|-----------------------------------|--------|
| ITEM 814     | FIRE HYDRANT MOVED AND RESET      | 3 EA   |
| ITEM 814     | SERVICE BOX ADJUSTED TO GRADE     | 20 EA  |
| ITEM 814     | 6-INCH DIAMETER WATER MAIN, DIP.  | 60 LF  |
| ITEM 814     | 8-INCH DIAMETER WATER MAIN, DIP.  | 110 LF |
| ITEM 814     | 12-INCH DIAMETER WATER MAIN, DIP. | 60 LF  |
| ITEM 814     | WATER MAIN INSULATION             | 30 LF  |
| ITEM SPECIAL | BLOW-OFF ASSEMBLY                 | 2 EA   |



| SIZE OF PIPE   | 1 1/2" | 2"     | 2 1/2" | 3" | 4" | 6" | 8"  | 10" | 12" |
|----------------|--------|--------|--------|----|----|----|-----|-----|-----|
| DEGREE OF BEND | 15     | 22 1/2 | 30     | 45 | 60 | 90 | 135 | 180 | 225 |

TYP. CONCRETE BACKING OF VERTICAL BENDS  
NO SCALE