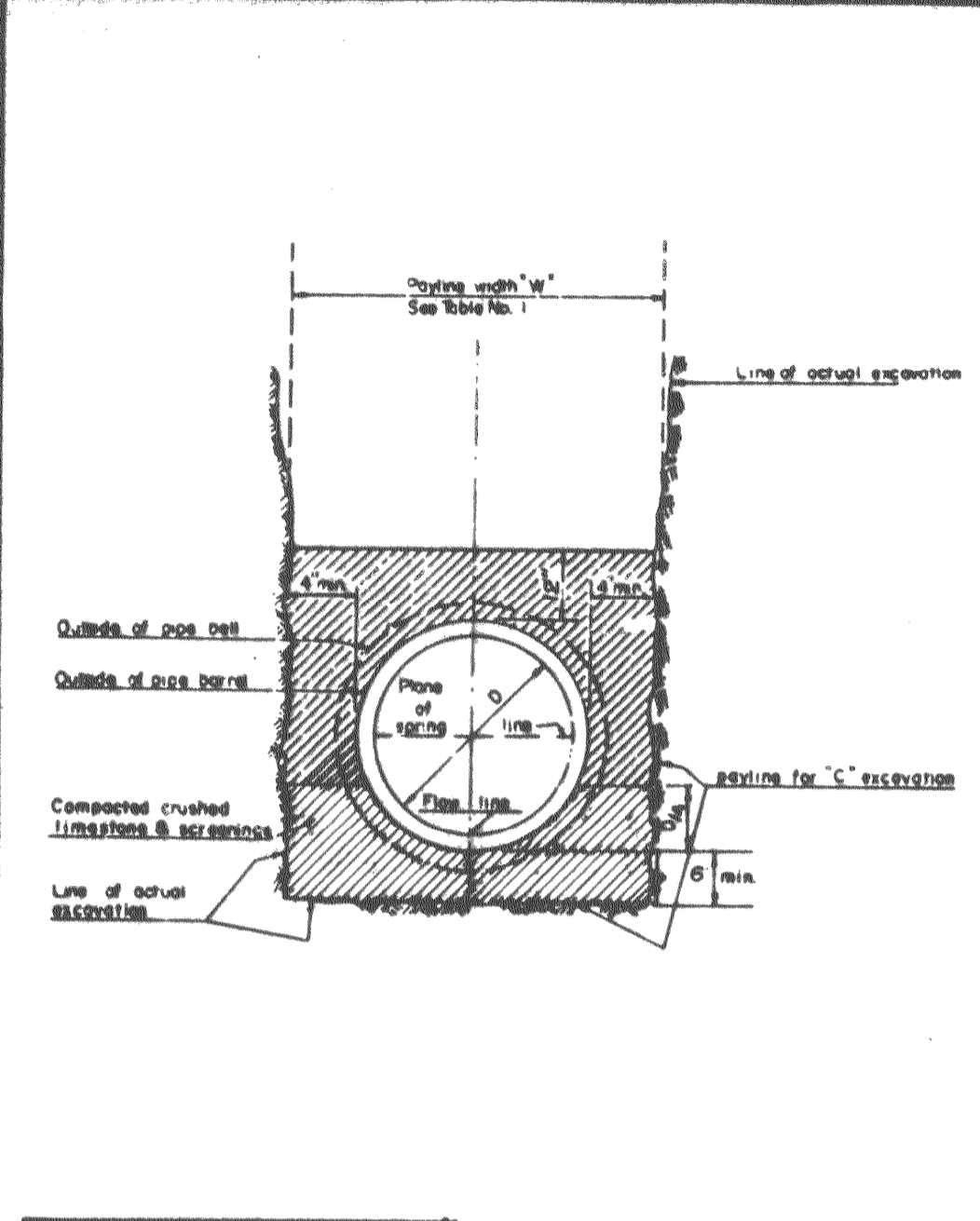
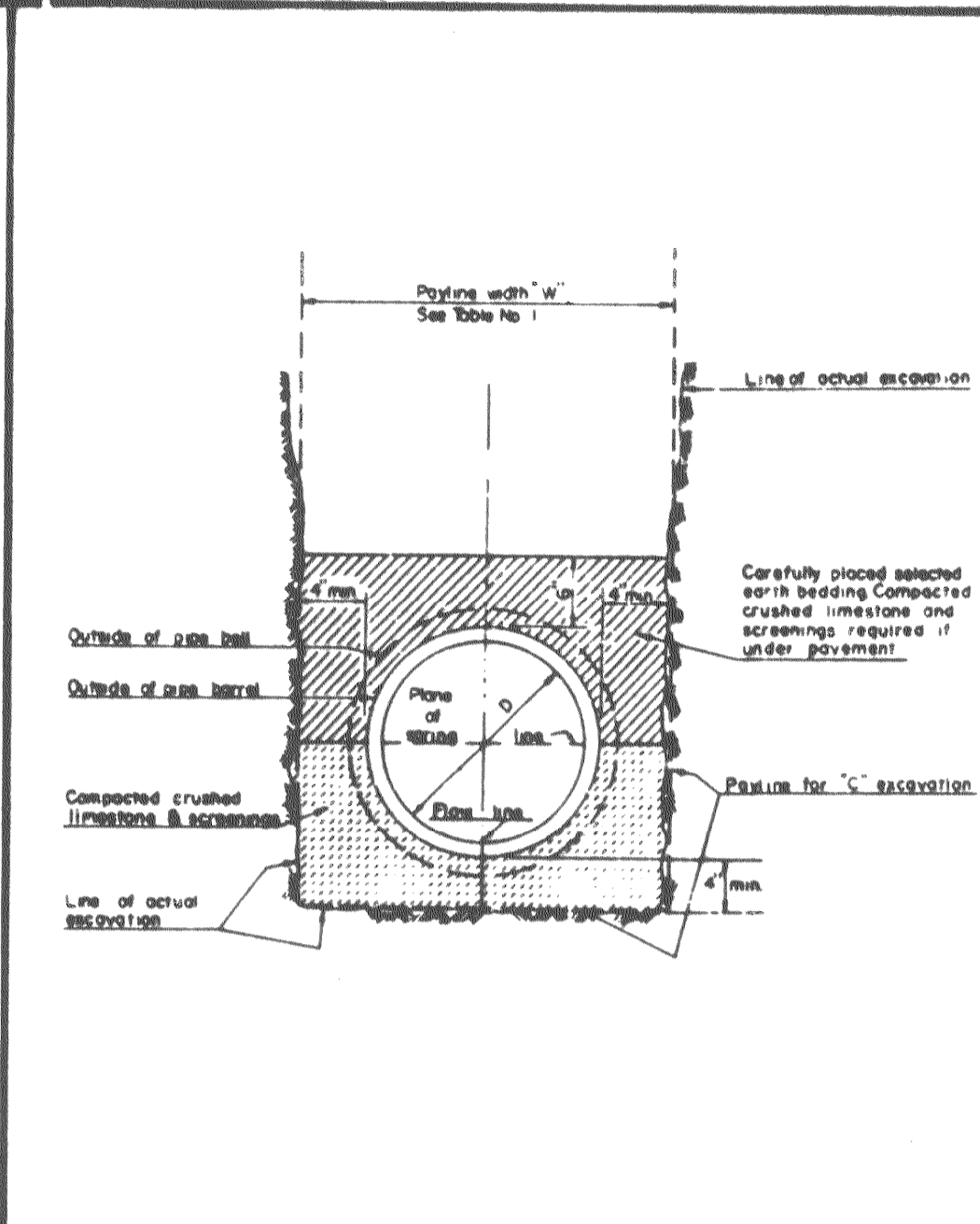


| ROUND PIPE | | | HORIZONTAL ELLIPTICAL PIPE | | |
|----------------------------------|----------------------------------|--------------------------------|------------------------------------|----------------------------------|--------------------------------|
| Inside Diameter of Pipe (Inches) | Payline Width of Trench (Inches) | Payline Width of Trench (Feet) | Inside Dimensions of Pipe (Inches) | Payline Width of Trench (Inches) | Payline Width of Trench (Feet) |
| 4 | 28 | 2.33 | | | |
| 6 | 28 | 2.33 | | | |
| 8 | 28 | 2.33 | | | |
| 10 | 28 | 2.33 | | | |
| 12 | 28 | 2.33 | | | |
| 15 | 32 | 2.67 | | | |
| 18 | 32 | 2.67 | 14 x 23 | 41 | 3.42 |
| 21 | 32 | 2.67 | | | |
| 24 | 42 | 3.50 | 19 x 30 | 49 | 4.08 |
| 27 | 42 | 3.50 | 22 x 34 | 53 | 4.42 |
| 30 | 42 | 3.50 | 24 x 38 | 58 | 4.83 |
| 33 | 53 | 4.42 | 27 x 42 | 62 | 5.17 |
| 36 | 56 | 4.67 | 29 x 45 | 66 | 5.50 |
| 39 | 56 | 4.67 | 32 x 49 | 71 | 5.92 |
| 42 | 63 | 5.25 | 34 x 53 | 75 | 6.25 |
| 48 | 70 | 5.83 | 38 x 60 | 83 | 6.92 |
| 54 | 77 | 6.42 | 43 x 68 | 92 | 7.67 |
| 60 | 84 | 7.00 | 48 x 76 | 101 | 8.42 |
| 66 | 91 | 7.58 | 53 x 83 | 109 | 9.08 |
| 72 | 98 | 8.17 | 58 x 91 | 118 | 9.83 |
| 78 | 105 | 8.75 | 63 x 98 | 126 | 10.50 |
| 84 | 112 | 9.33 | 68 x 106 | 135 | 11.25 |
| 90 | 119 | 9.92 | 72 x 113 | 143 | 11.92 |
| 96 | 126 | 10.50 | 77 x 121 | 152 | 12.67 |
| 102 | 133 | 11.08 | 82 x 128 | 160 | 13.33 |
| 108 | 140 | 11.67 | 87 x 136 | 168 | 14.00 |
| 114 | 147 | 12.25 | 92 x 143 | 176 | 14.67 |
| 120 | 154 | 12.83 | 97 x 151 | 185 | 15.42 |
| 126 | 161 | 13.42 | | | |
| 132 | 168 | 14.00 | 106 x 166 | 202 | 16.83 |
| 144 | 182 | 15.17 | 116 x 180 | 218 | 18.17 |

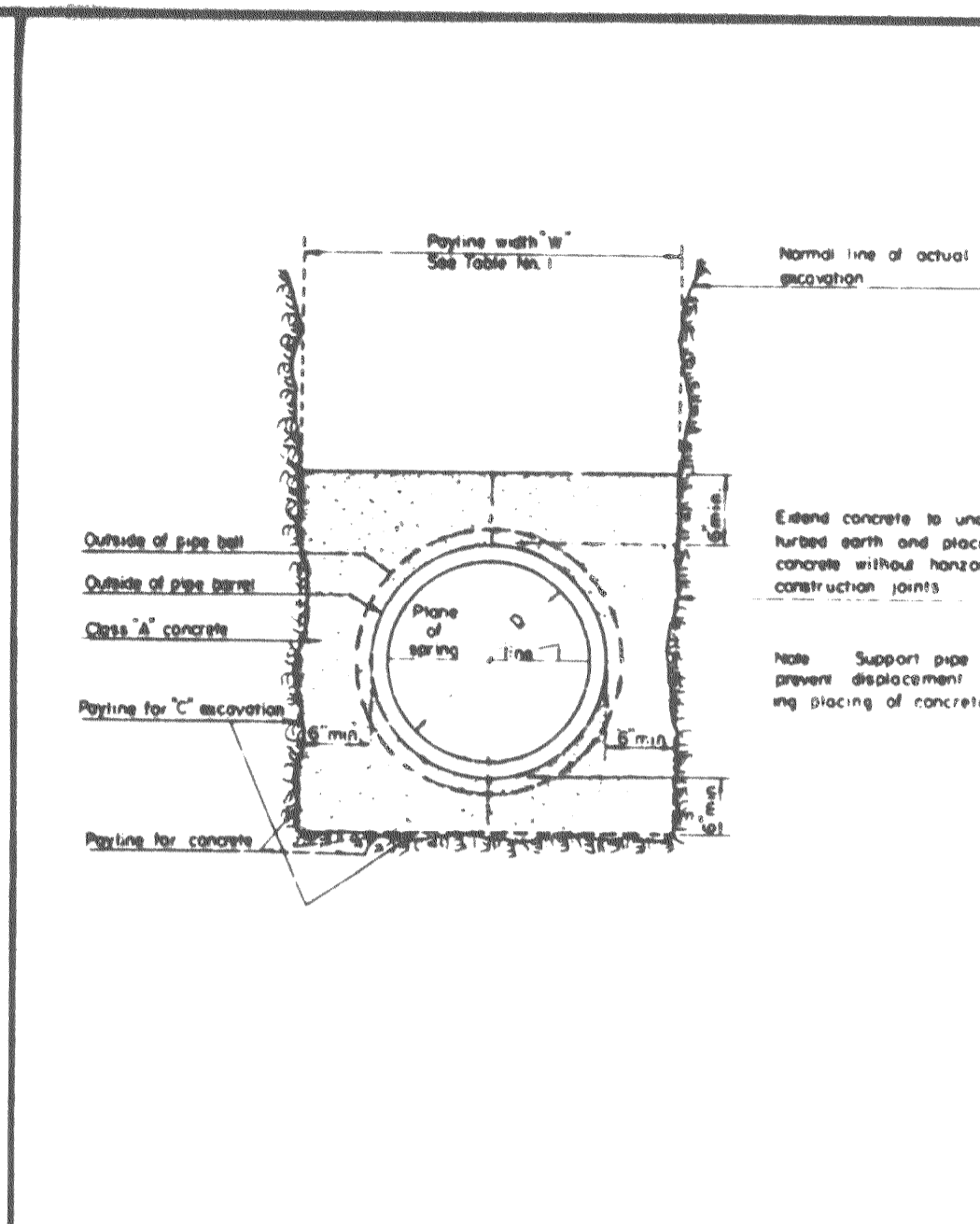
TABLE NO. 1
PAYLINE WIDTHS OF TRENCH AND QUANTITIES OF CONCRETE
DETAIL 1



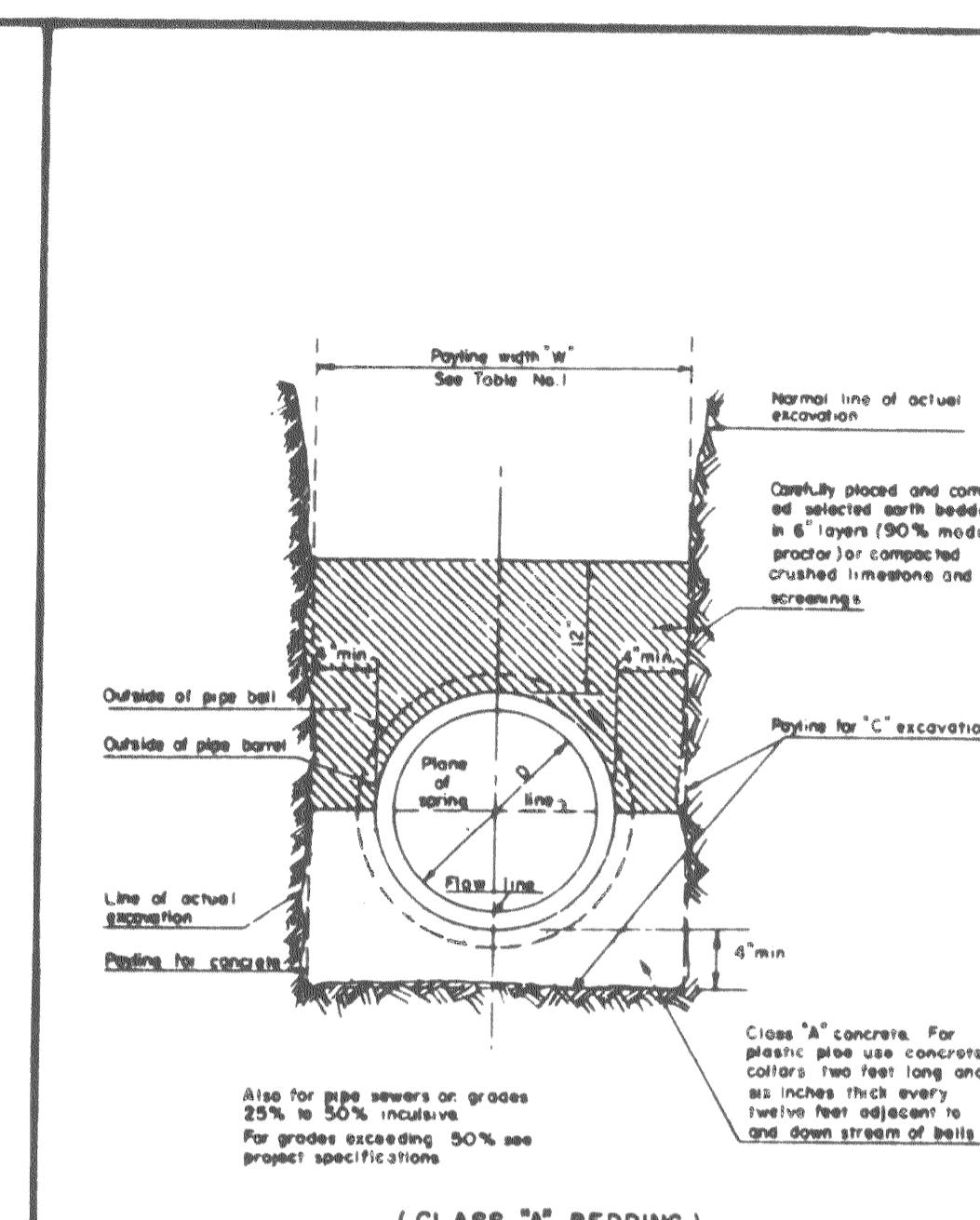
PIPE BEDDING CLASS "C"
(FOR ALL PIPE EXCEPT REINFORCED CONCRETE PIPE)
DETAIL 2



PIPE BEDDING CLASS "C"
(MODIFIED FOR REINFORCED CONCRETE PIPE)
DETAIL 3



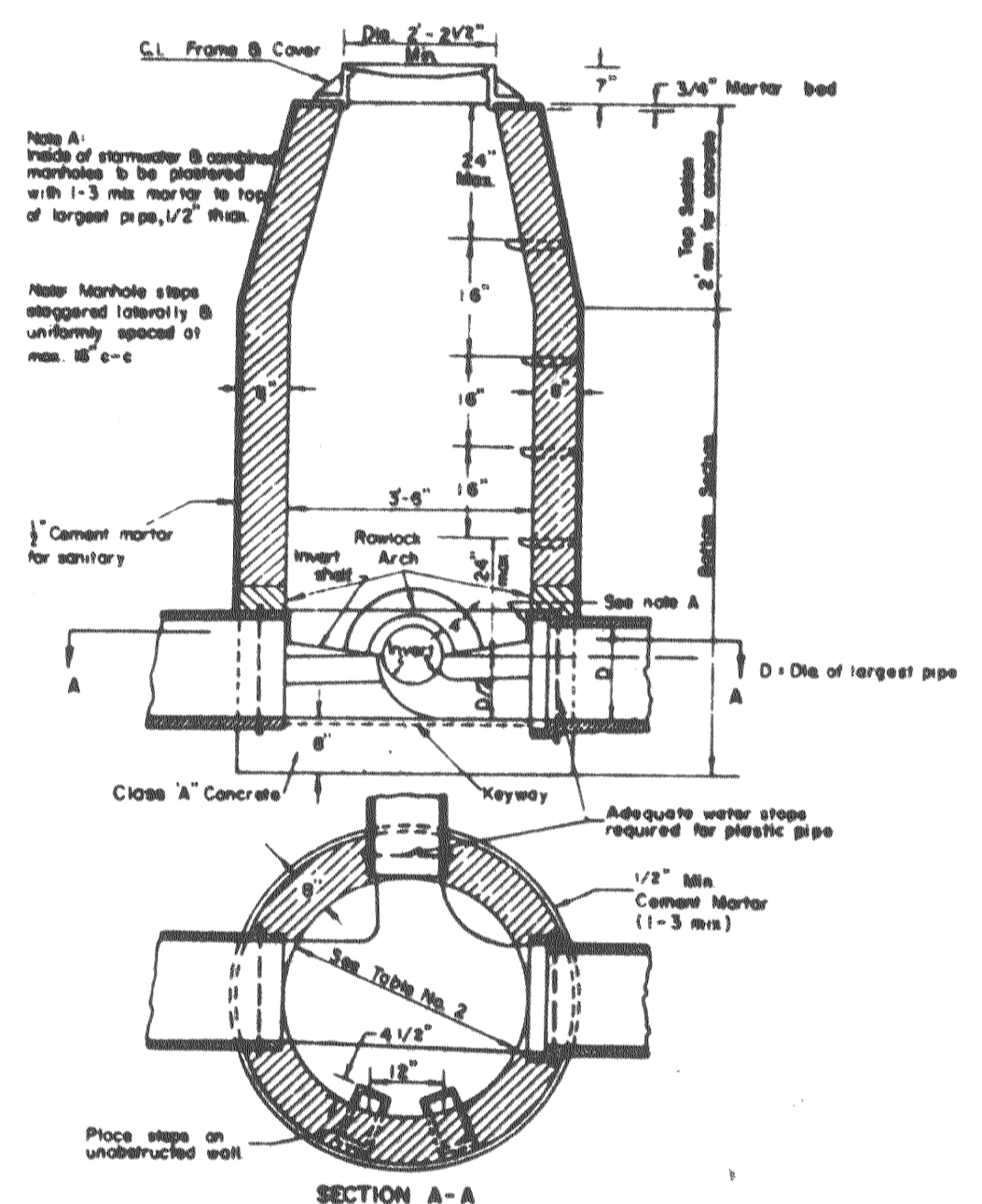
SANITARY SEWER
CONCRETE ENCASUREMENT
DETAIL 4



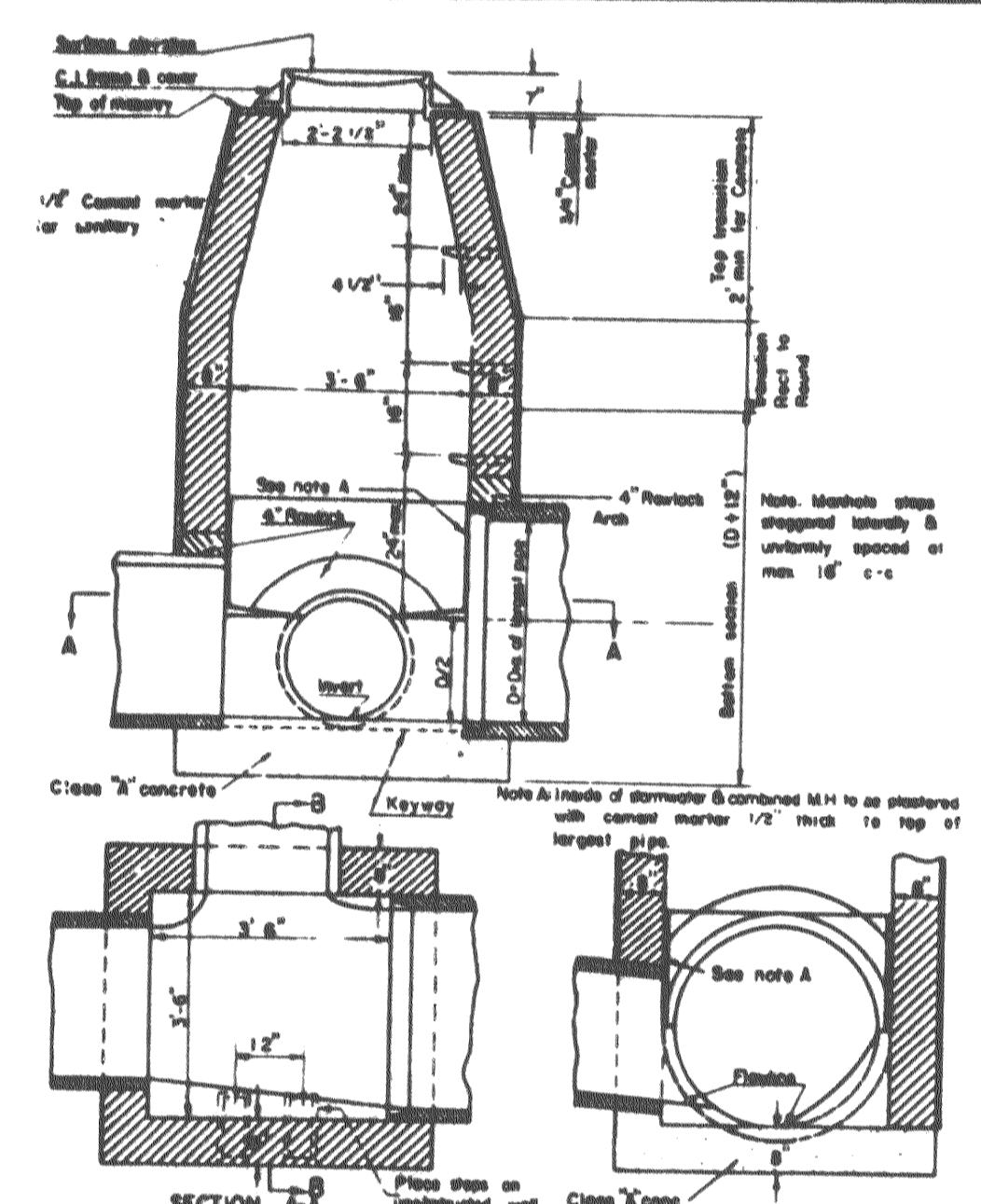
(CLASS "A" BEDDING)
STORM SEWER
CONCRETE CRADLE
DETAIL 5

TABLE NO. 2
STANDARD MANHOLE DIMENSIONS
DETAIL 6

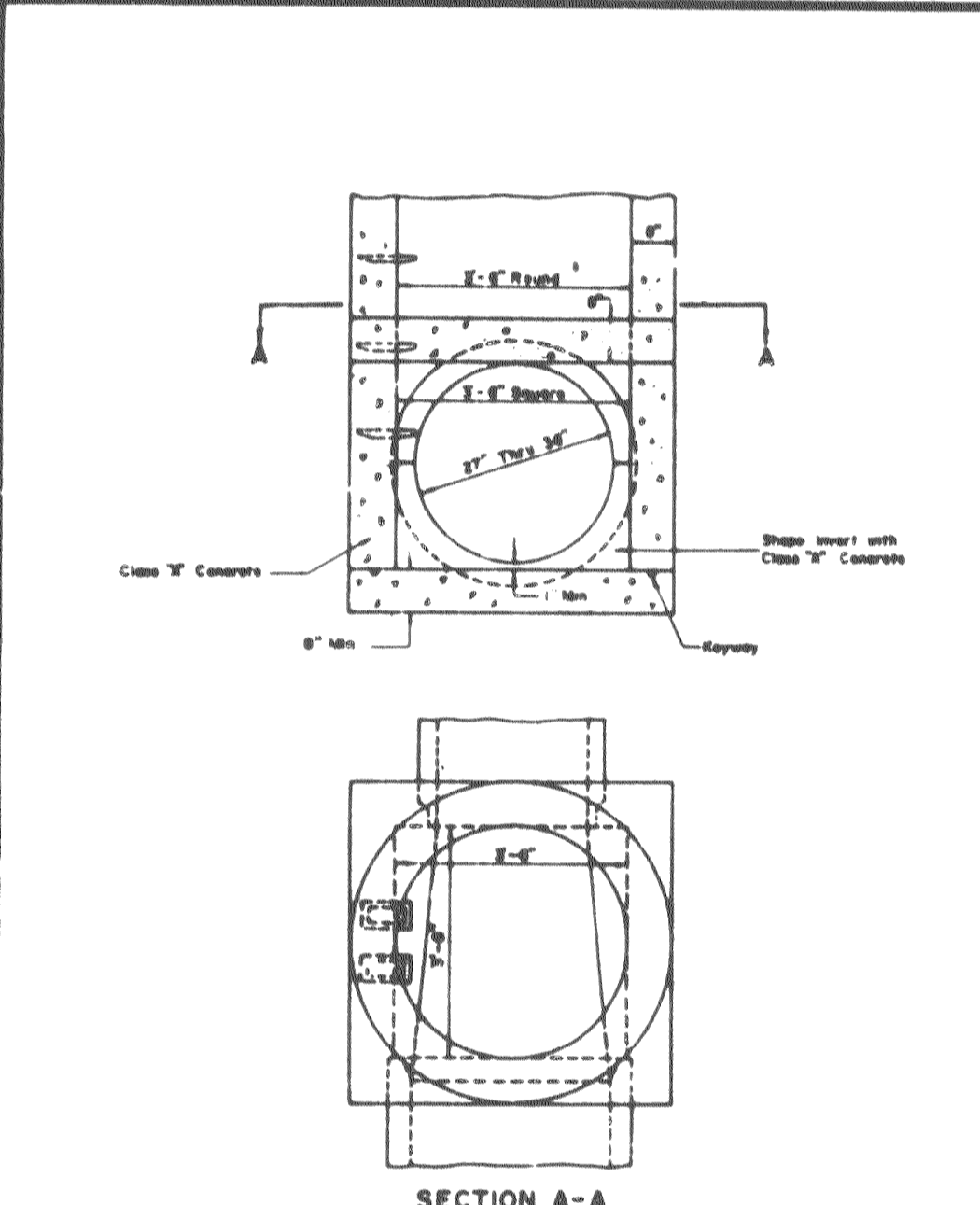
| Section of Manhole | | Dimension |
|--------------------|------------------------|----------------|
| Top | Upper | 2'-2 1/2" Dia. |
| Transition | Lower | 3'-6" Dia. |
| Bottom Section | 8" thru 24" Dia. Pipe | 3'-6" Dia. |
| Bottom Section | 27" thru 36" Dia. Pipe | 3'-6" Square |



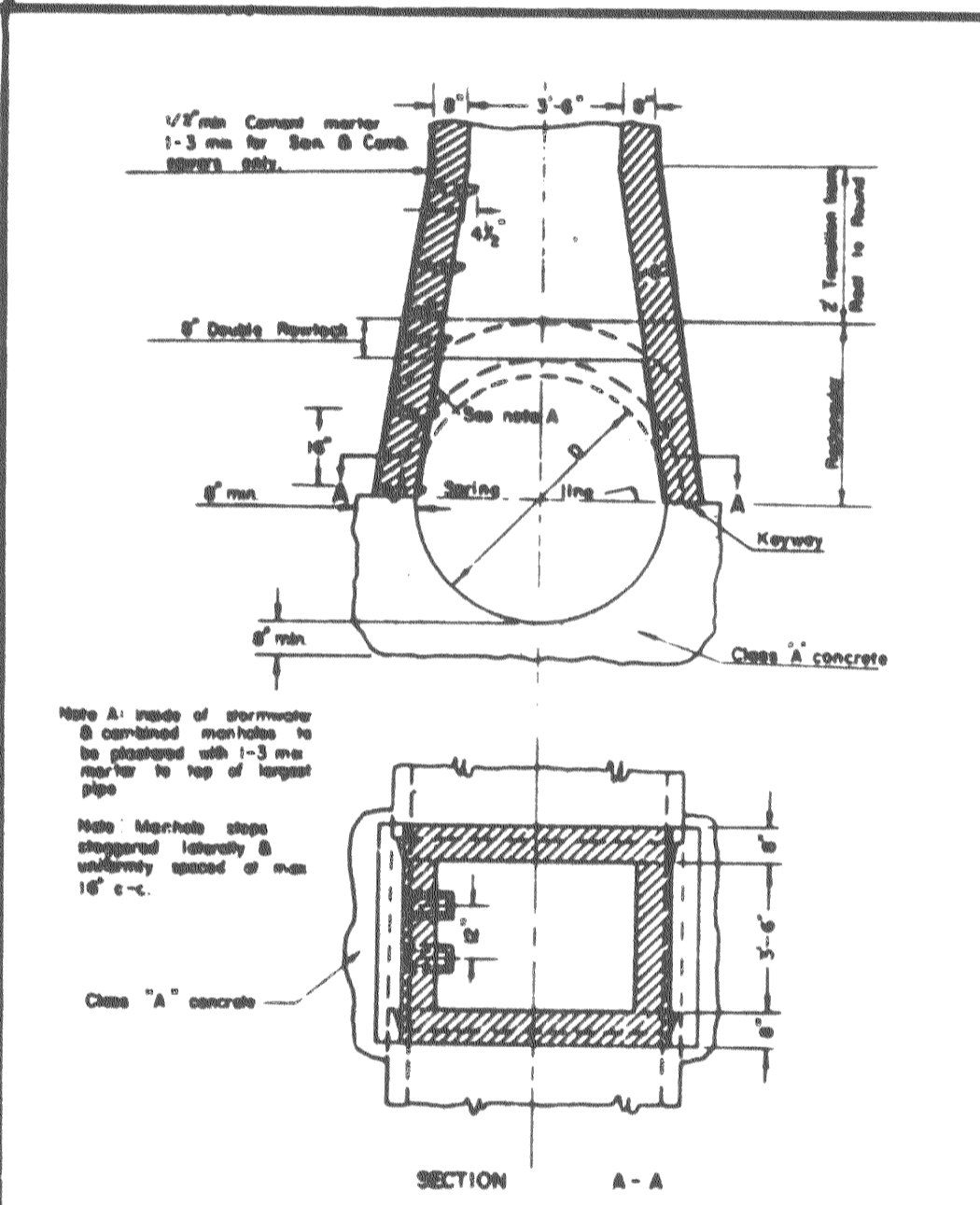
LINE MANHOLE
PIPE SEWERS 8" - 24" DIA.
DETAIL 7



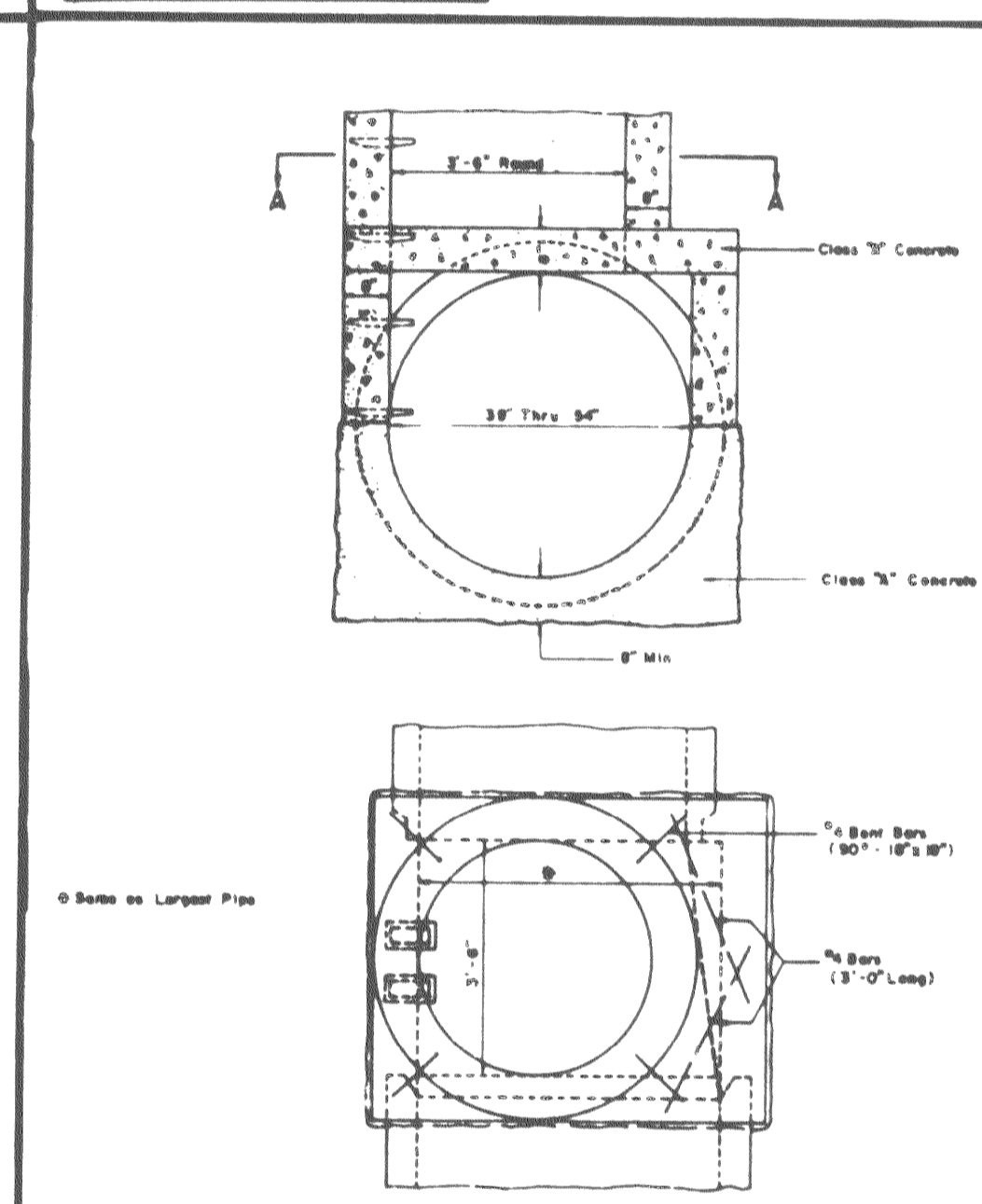
TYPICAL LINE MANHOLE
ON PIPE SEWER 27" THRU
36" IN DIAMETER
DETAIL 8



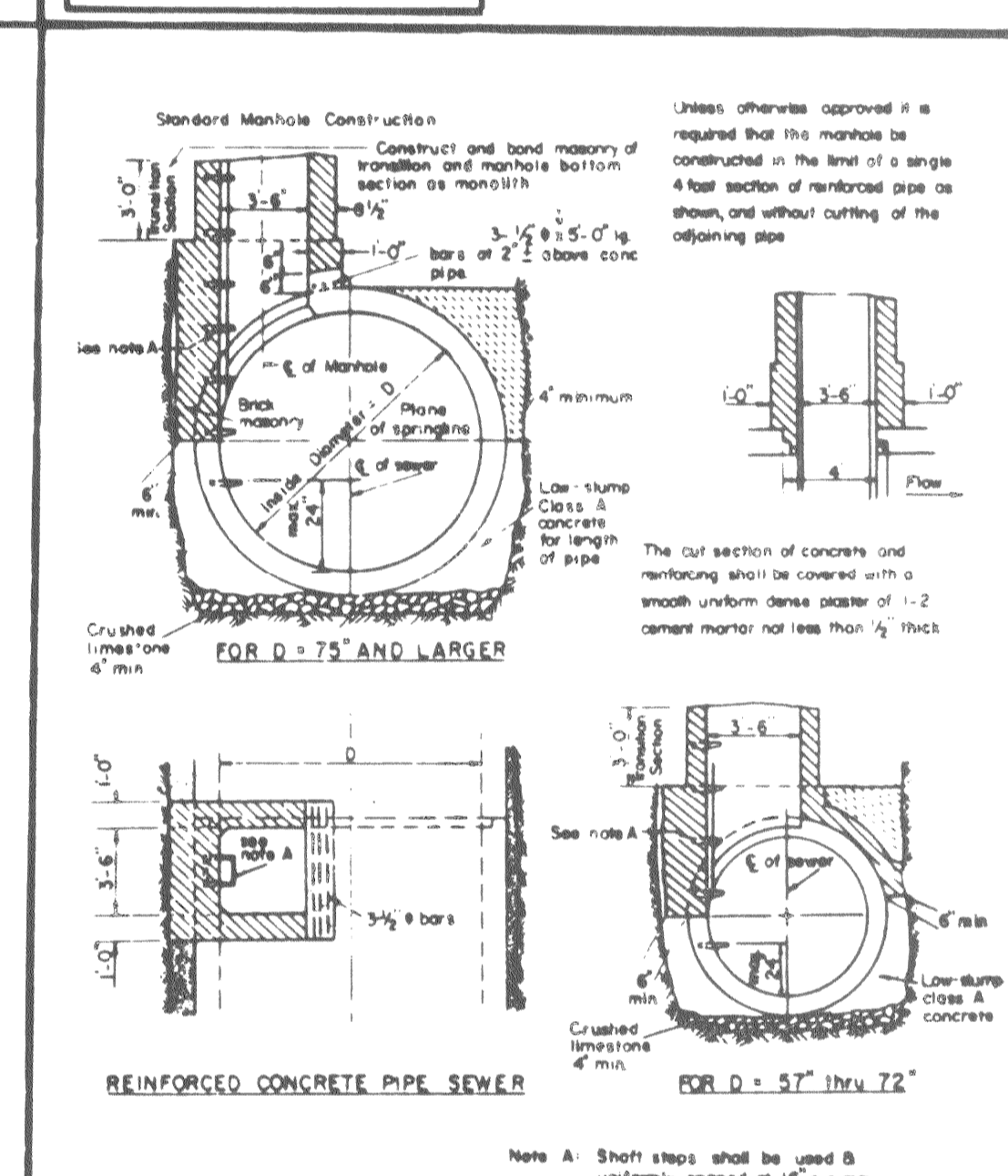
MANHOLE ON PIPE SEWER
27" THRU 36" (ALTERNATE)
DETAIL 9



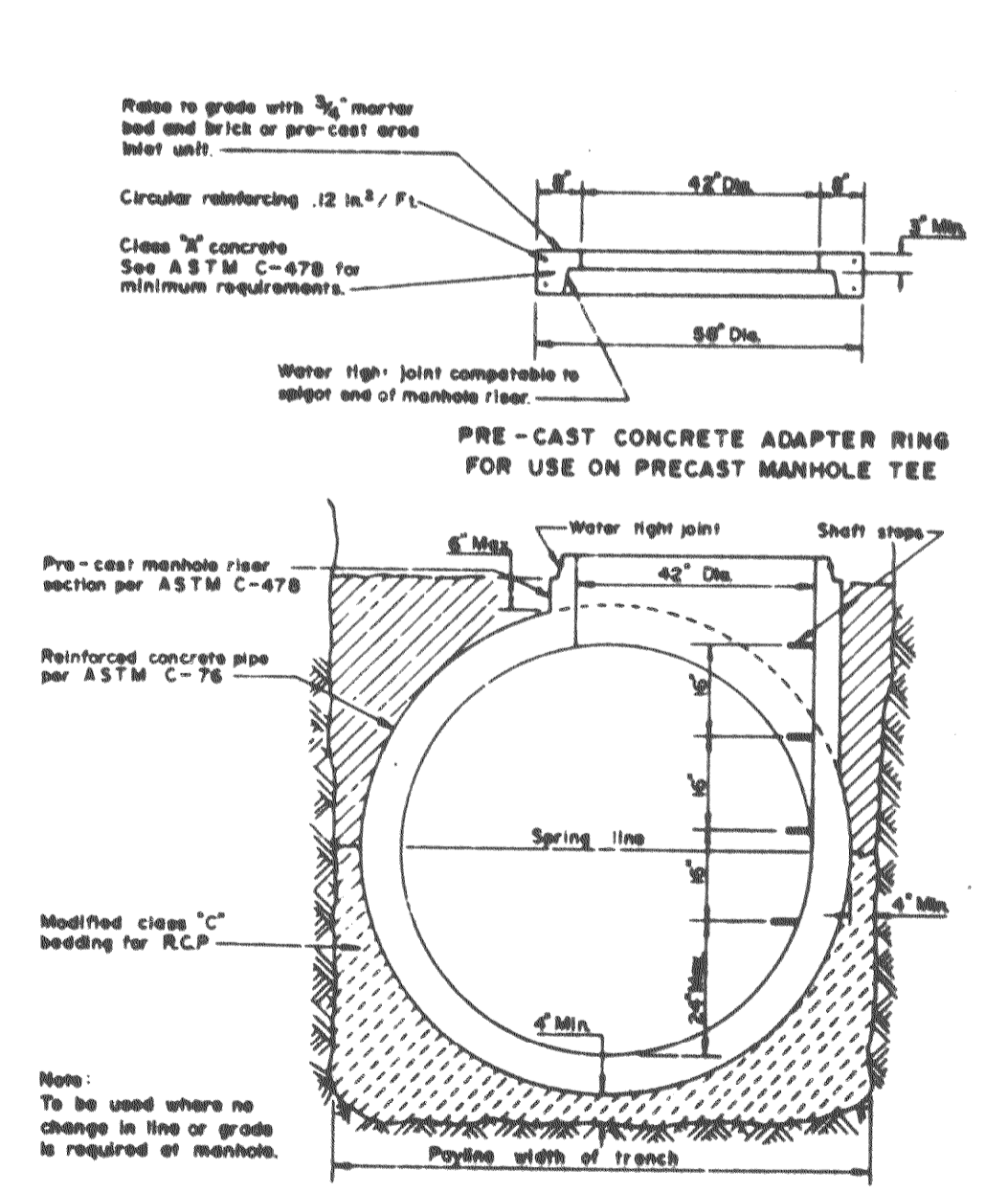
MANHOLE ON CONCRETE PIPE
SEWERS 39" THRU 54" DIAMETER
DETAIL 10



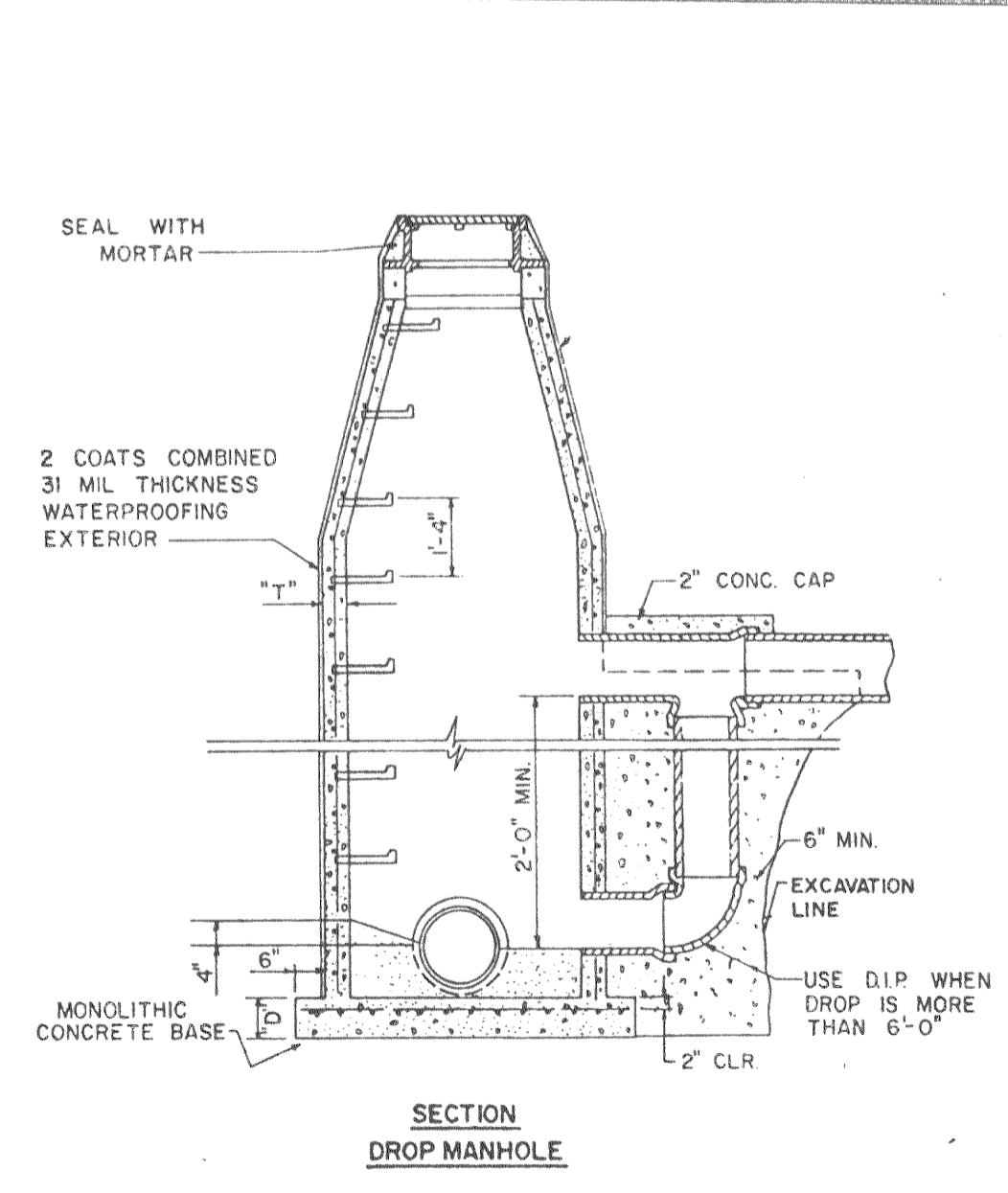
MANHOLE ON CONC. PIPE
39" THRU 54" (ALTERNATE)
DETAIL 11



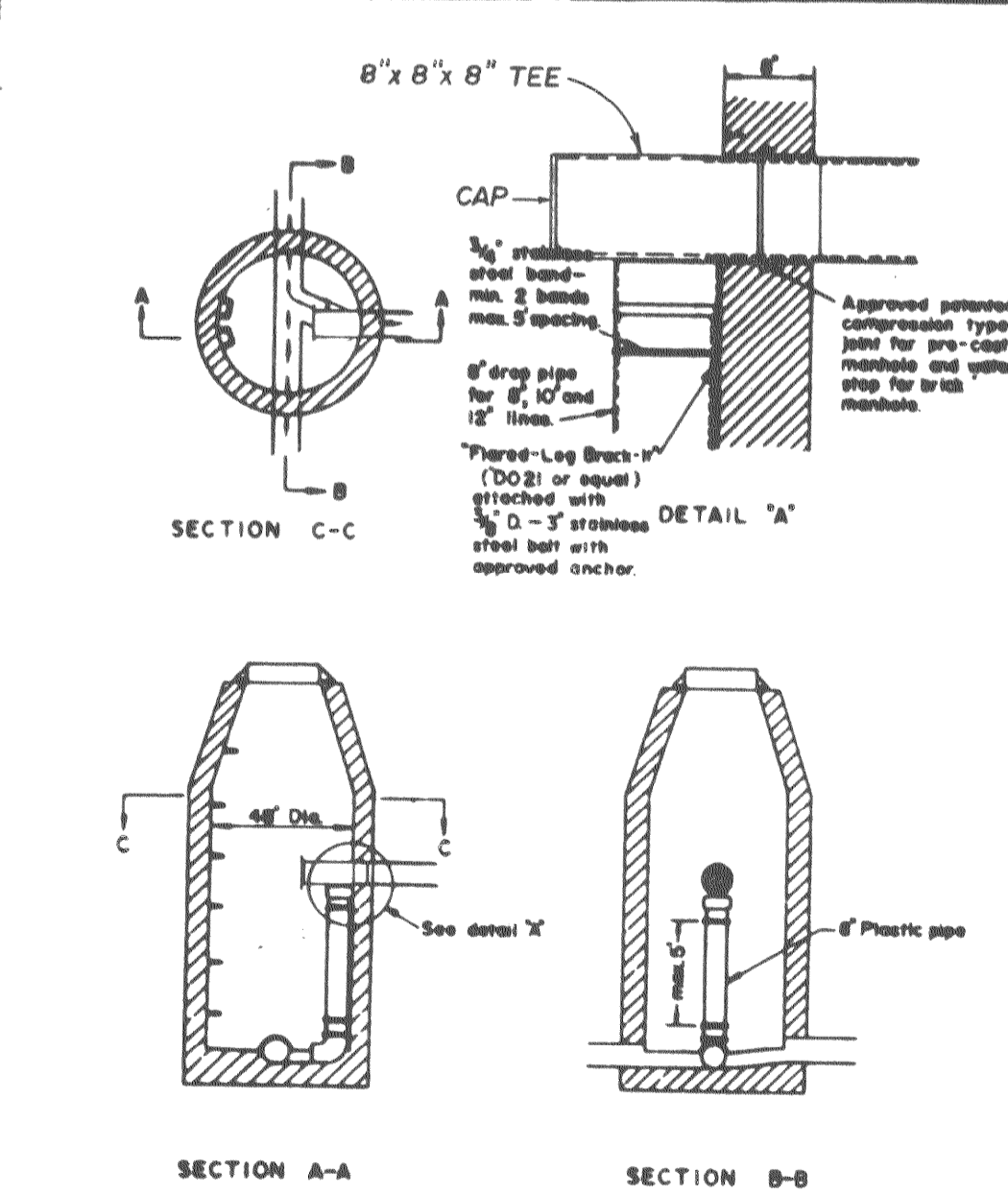
TYPICAL MANHOLE BASE
REINFORCED CONCRETE PIPE
SEWERS 57" AND LARGER
IN DIAMETER
DETAIL 12



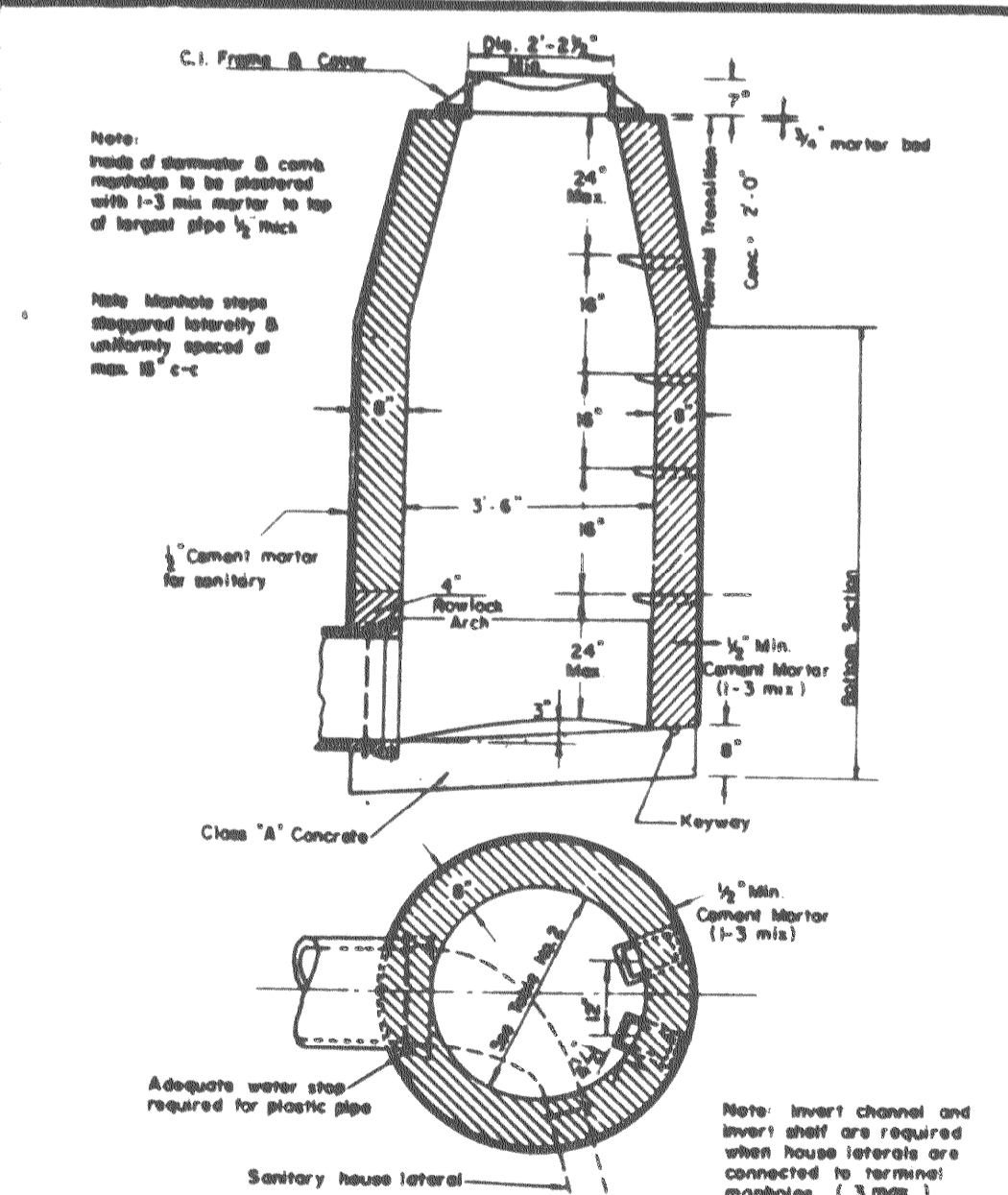
TYPICAL PRE-CAST M.H. TEE
FOR REINFORCED CONCRETE
PIPE SEWERS 48" AND
LARGER IN DIAMETER
DETAIL 13



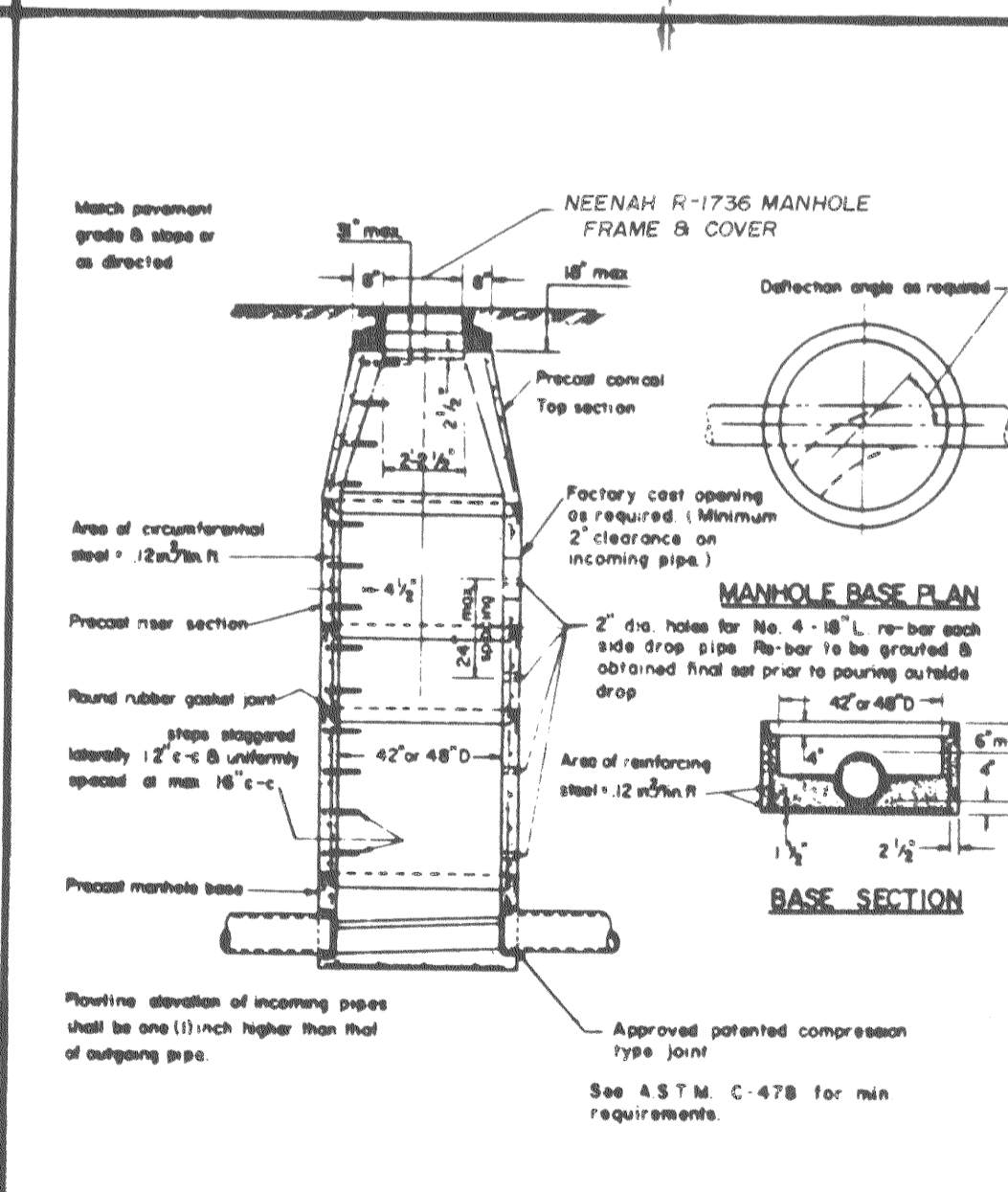
INSIDE DROP MANHOLE
FOR PLASTIC PIPE
DETAIL 14



INSIDE DROP MANHOLE
FOR PLASTIC PIPE
DETAIL 15



TERMINAL MANHOLE
DETAIL 16



PRE-CAST CONCRETE MANHOLE
FOR SEWERS 6" THROUGH 21"
DETAIL 17