

APPENDIX A

STANDARD DETAILS

## SECTION 00815

## INSURANCE

## PART 1 – GENERAL

## 1.1 DESCRIPTION

## A. General:

1. The CONTRACTOR shall purchase and maintain, until Final Acceptance of the work, insurance of the limits and types stated in the General Conditions of the Construction Contract and as stated below, from an insurance company approved by the OWNER.

## B. Evidence of Insurance:

1. As evidence of insurance coverage, the OWNER may, in lieu of actual policies, accept official written statements from the insurance company certifying that all the insurance policies specified below are in force for the specified period. The CONTRACTOR shall submit evidence of insurance to the OWNER at the time of executing the Agreement.

## C. Form of Insurance:

1. Insurance shall be in such form as will protect the CONTRACTOR and OWNER from all claims and liabilities for damages for bodily injury, including accidental death, and for property damage, which may arise from operations under this contract, whether such operation be by himself or by anyone directly or indirectly employed by him.

## D. Amount of Insurance:

1. Except when otherwise stated, the amount of insurance for each policy shall be not less than:

## a. Liability for bodily injury, including accidental death:

(1) \$500,000 for any one person.

(2) \$1,000,000 for each accident.

## b. Liability for Property Damage:

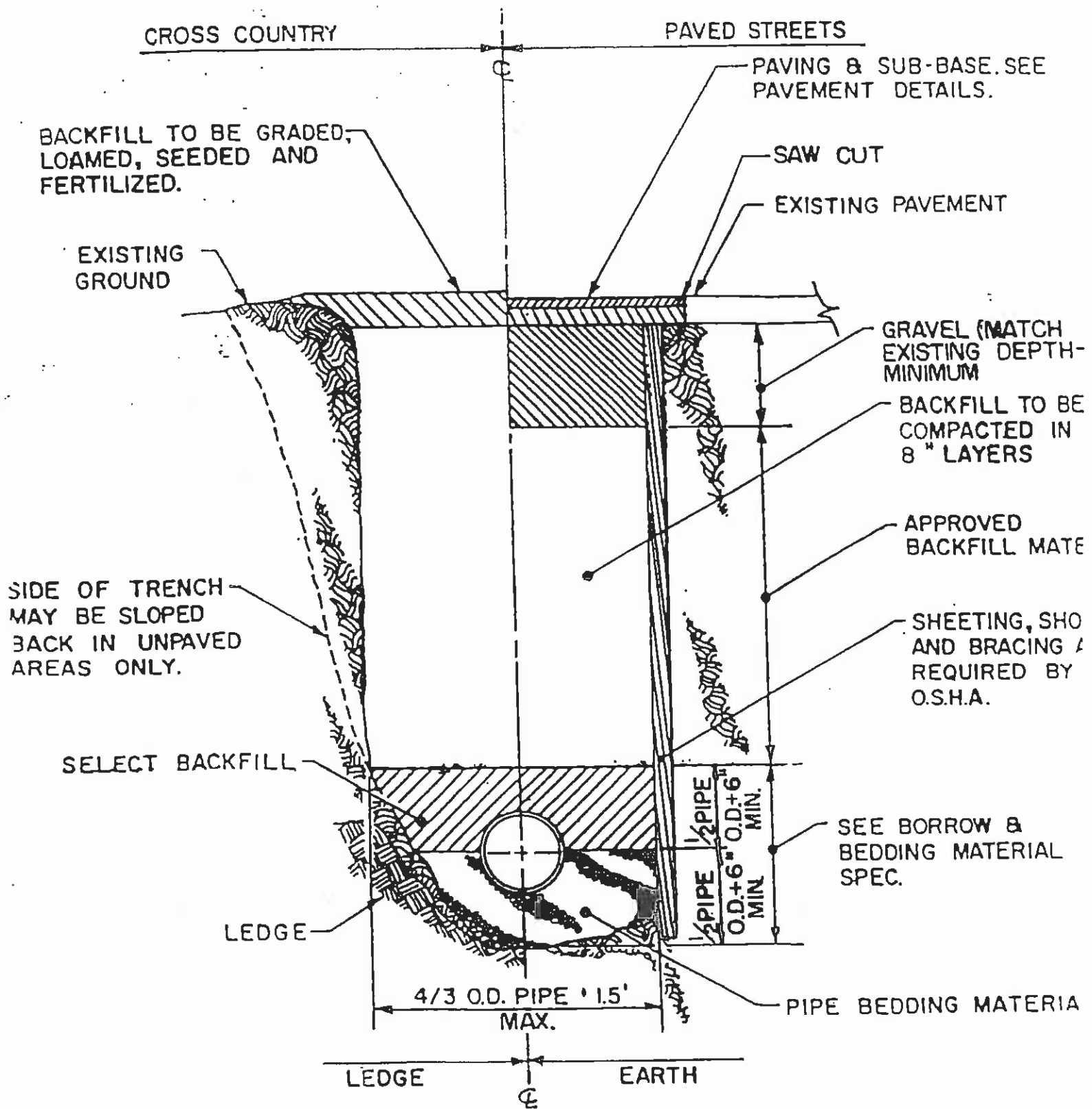
(1) \$500,000 for any accident.

(2) \$1,000,000 for all accidents.

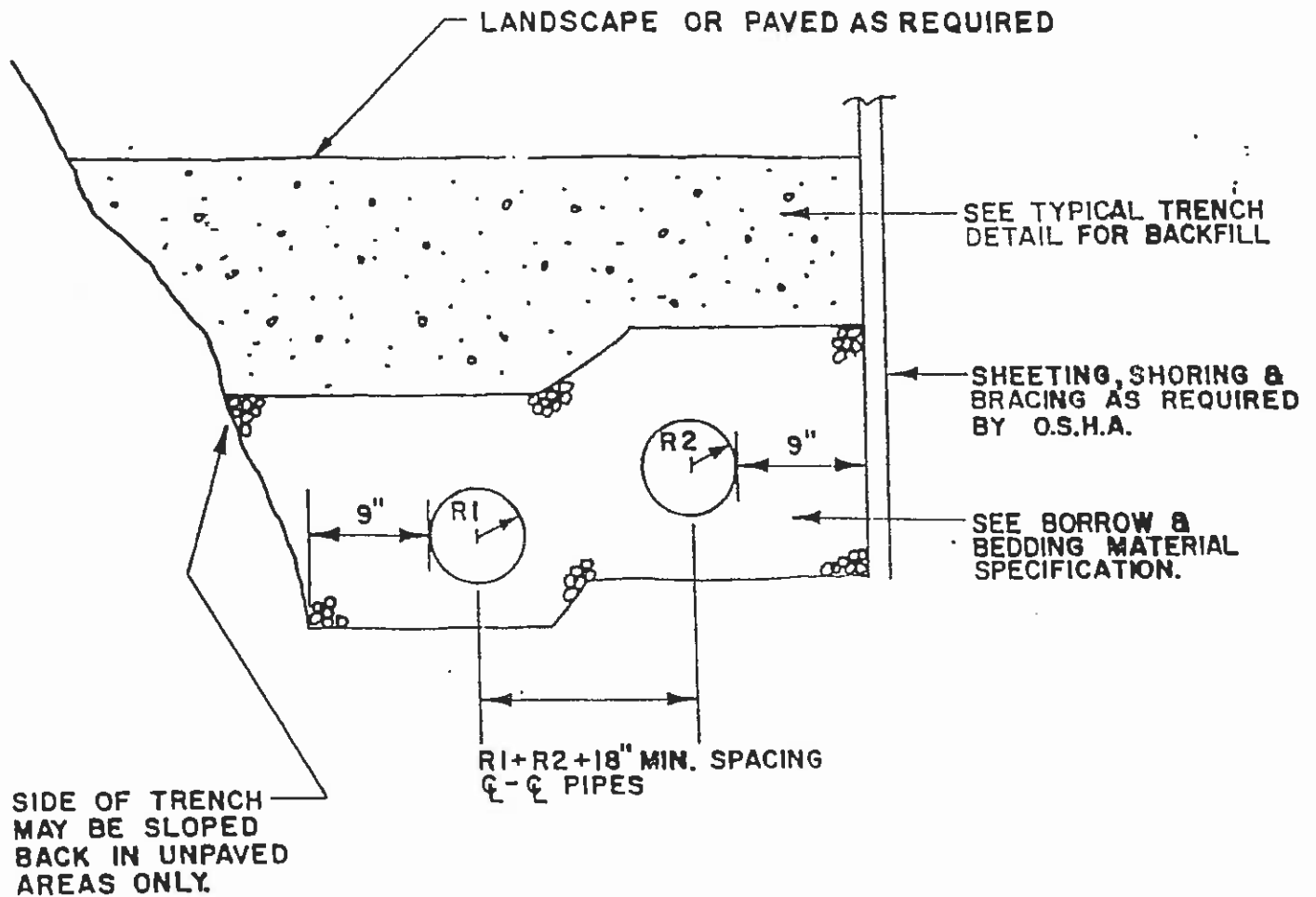
E. Types of Insurance:

1. The CONTRACTOR shall purchase and maintain the following types of insurance:
  - a. Full Workmen's Compensation insurance coverage for all persons employed by the CONTRACTOR to perform work on this project. This insurance shall be in strict accordance with the requirements of the most current laws of the State.
  - b. Bodily Injury insurance and Contractor's Protective Property Damage insurance, each including coverage for blasting explosion, and injury to, or destruction of, wires, pipes, conduits and similar property, appurtenant apparatus, whether public or private and collapse of, or structural injury to, any building or structure, except those on which work under; this Contract is being performed.
  - c. Bodily Injury and Property Damage insurance covering the operation of all motor vehicles and equipment, whether or not owned by the CONTRACTOR, being operated in connection with the prosecution of the work under this Contract.
  - d. Contractual Liability insurance coverage in the specified above.
  - e. An OWNER's Protective Liability insurance policy protecting the OWNER against bodily injury and property damage claims.

END OF SECTION



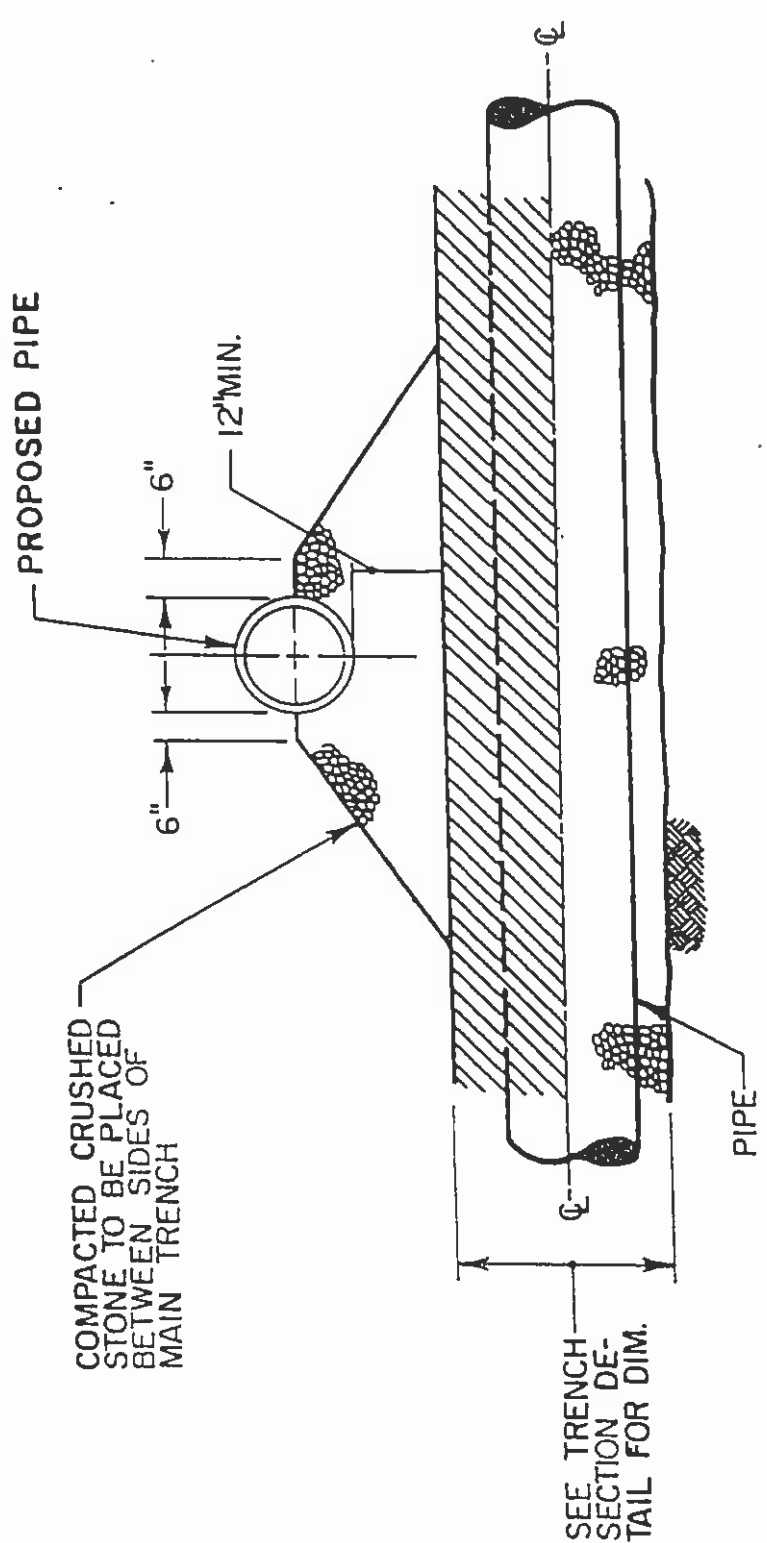
TYPICAL TRENCH DETAIL



NOTE: THIS SECTION IS SHOWN FOR TWO PIPES. IT IS TO BE USED FOR ANY NUMBER.

## MULTIPLE PIPE TRENCH SECTION

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PROPOSED PIPE

12" MIN.

6"

6"

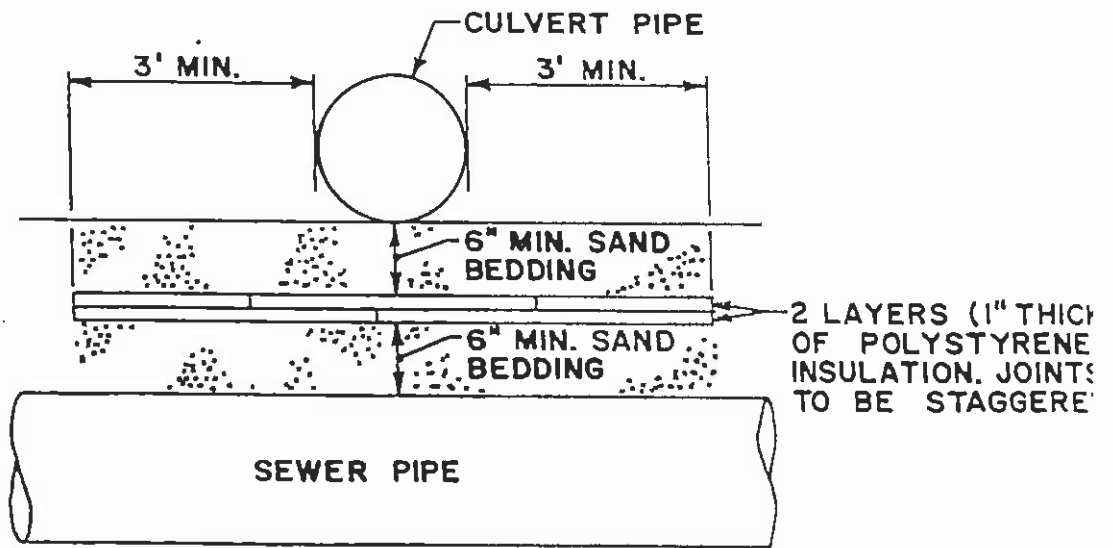
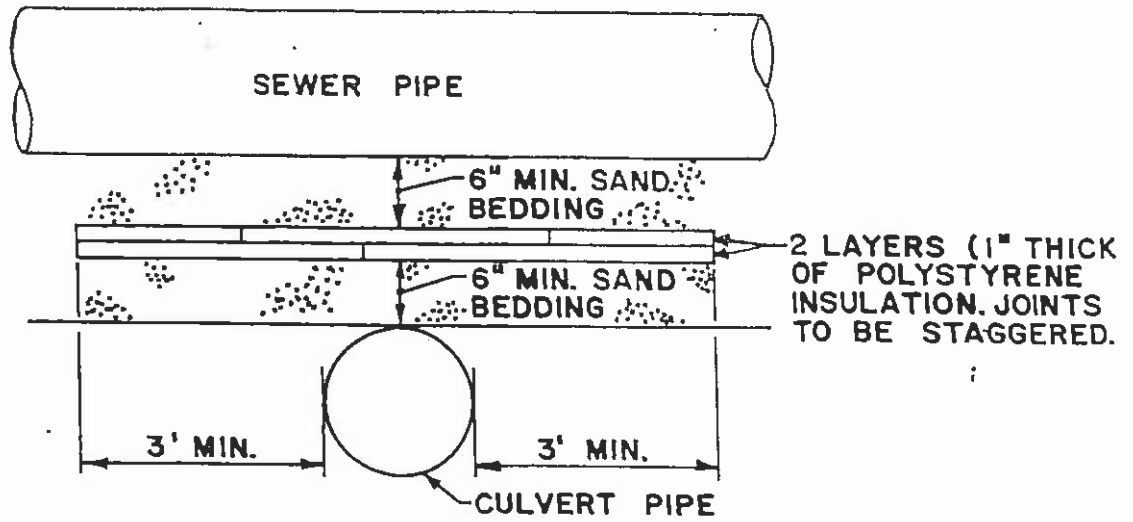
COMPACTED CRUSHED  
STONE TO BE PLACED  
BETWEEN SIDES OF  
MAIN TRENCH

SEE TRENCH  
SECTION DE-  
TAIL FOR DIM.

PIPE

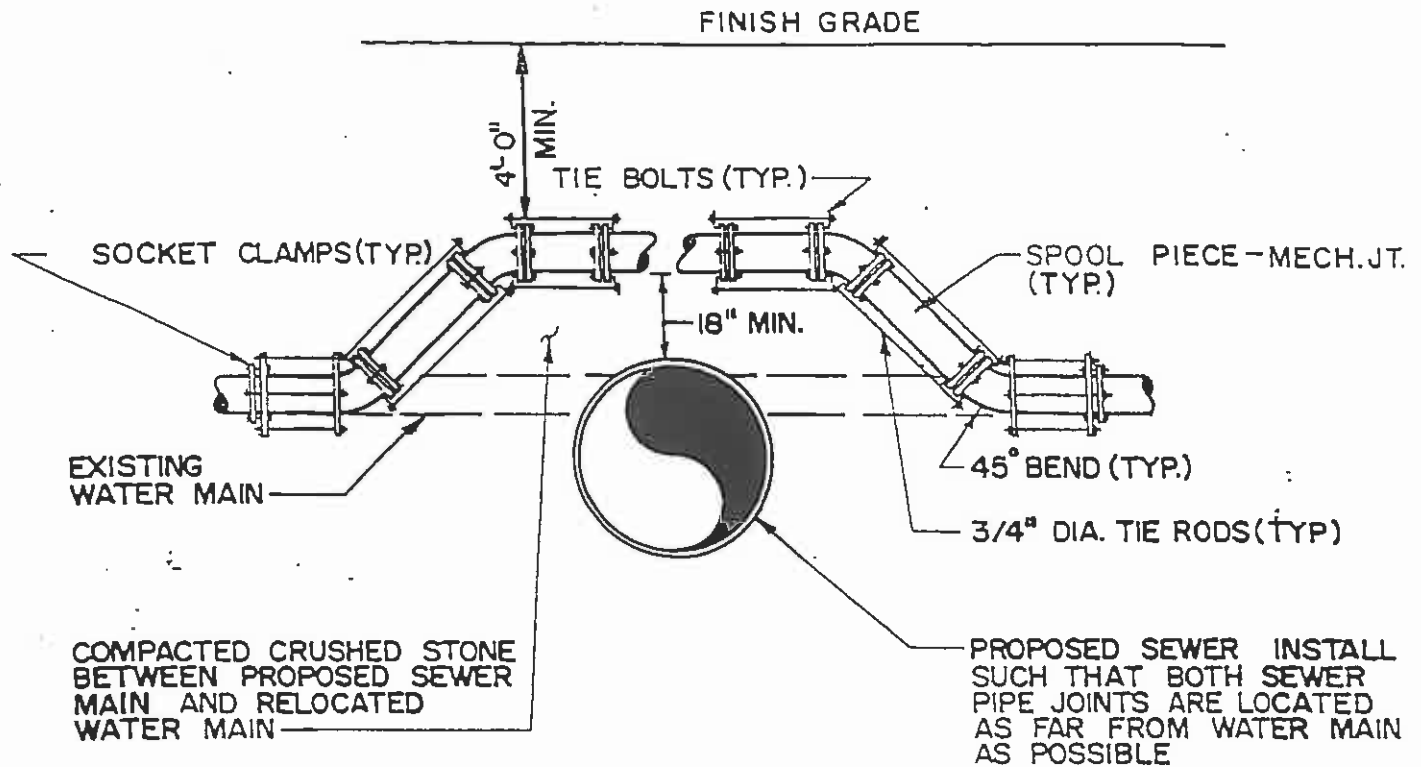
# PIPE CROSSING DETAIL

NTS



# CULVERT CROSSING DETAIL

N.T.S.



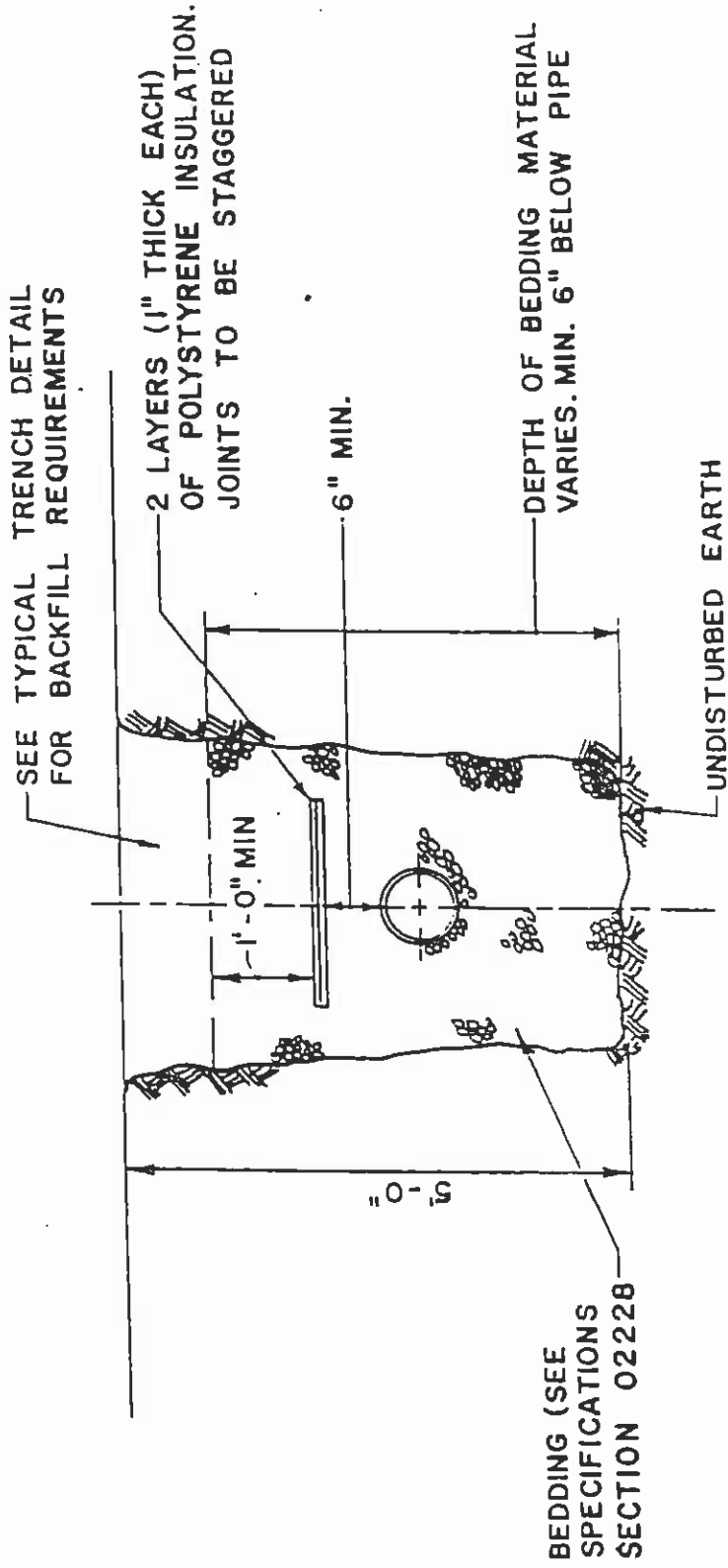
NOTES:

1. WATER MAIN MATERIALS TO BE CLASS 52 DUCTILE IRON. JOINT RESTRAINT TO BE BY MECHANICAL JOINT WITH RETAINER GLANDS, OR WITH TIE BOLTS AS SHOWN.
2. TIE RODS, TIE BOLTS, SOCKET CLAMPS & BRIDLES SHALL BE COATED WITH A BITUMINOUS PAINT AFTER ASSEMBLY OR IF NECESSARY PRIOR TO ASSEMBLY.
3. TIE RODS 10" Ø WATER MAIN OR LARGER - 4 REQUIRED  
8" Ø WATER MAIN OR SMALLER - 2 REQUIRED
4. EXISTING WATER MAINS TO BE RELOCATED OVER NEW SEWERS WHEREVER SUFFICIENT GROUND COVER EXISTS.

## TYPICAL WATER MAIN RELOCATION DETAIL

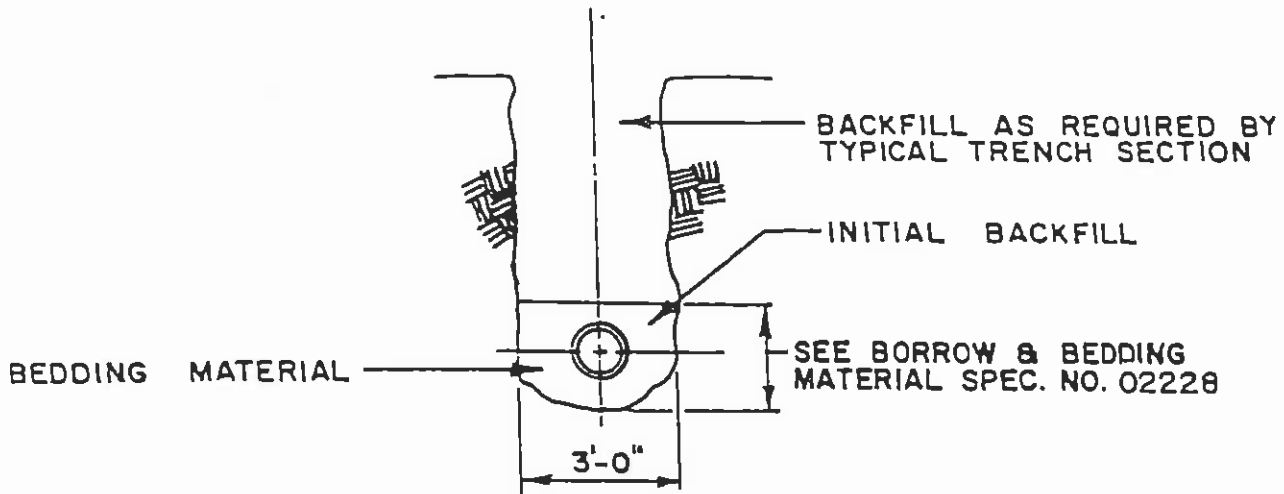
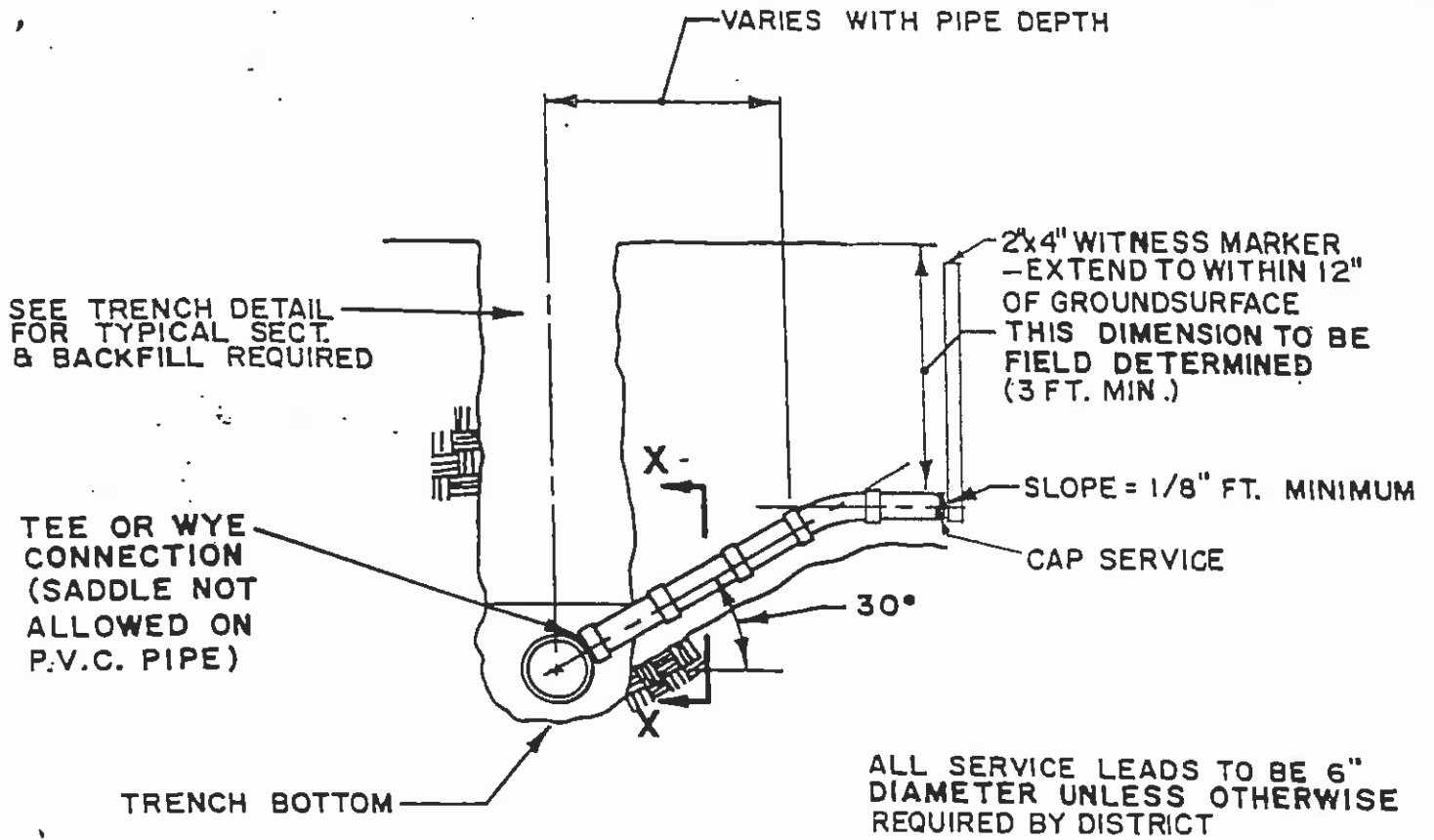
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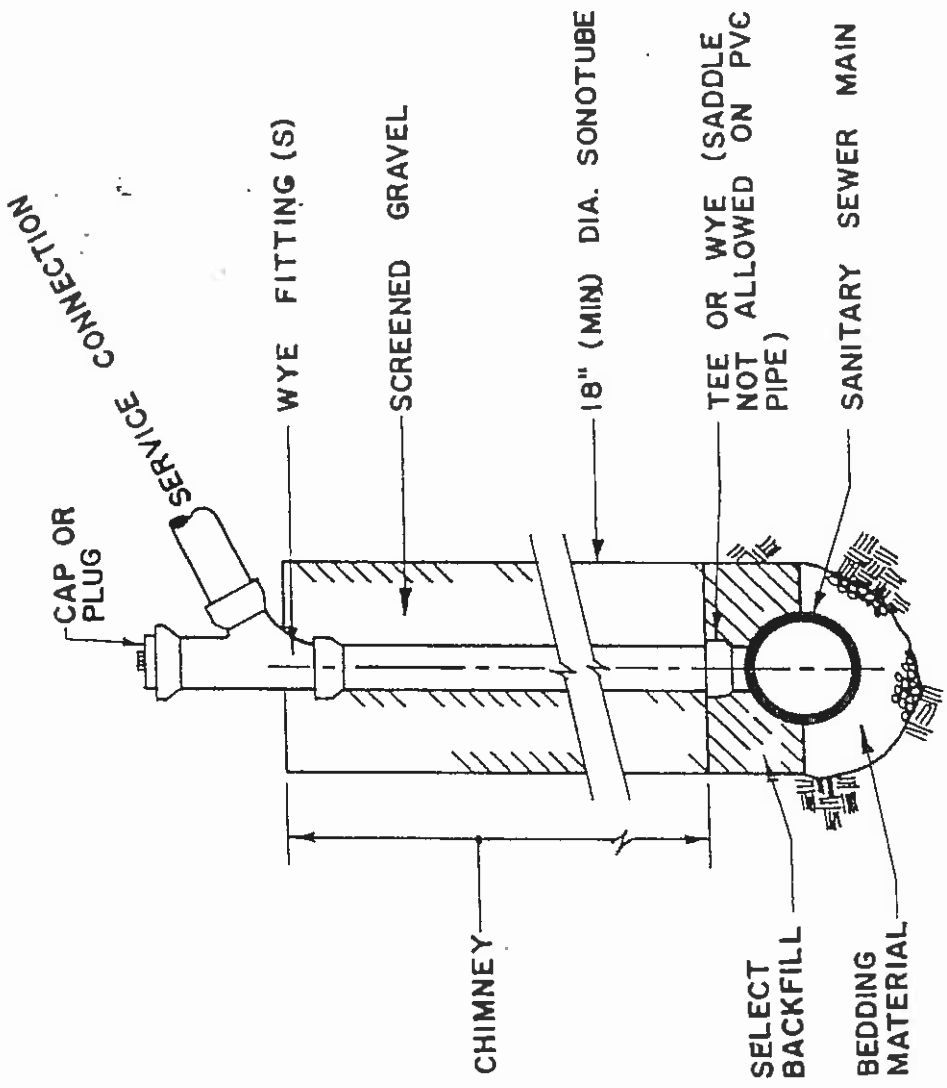
# TRENCH PIPE INSULATION DETAIL

NOT TO SCALE



**SECTION X-X**

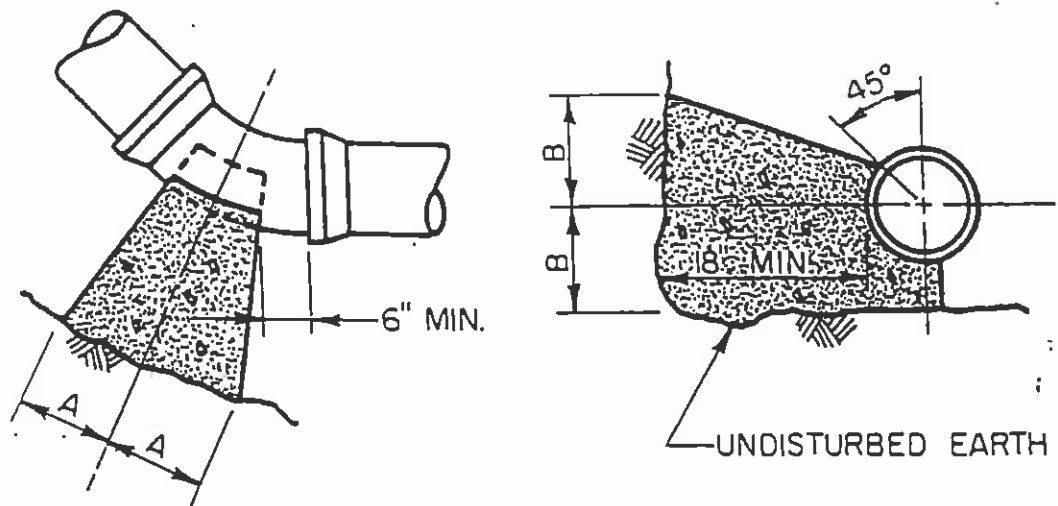
**NEW SEWER CONNECTION DETAIL**



NOTE: "CHIMNEY" SHALL BE A SERVICE CONNECTION THAT ENTERS THE SEWER VERTICALLY OR WITHIN 10° OF VERTICAL.

# CHIMNEY DETAIL

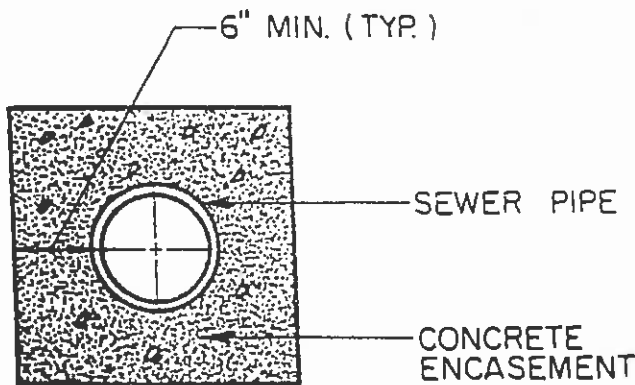
N.T.S.



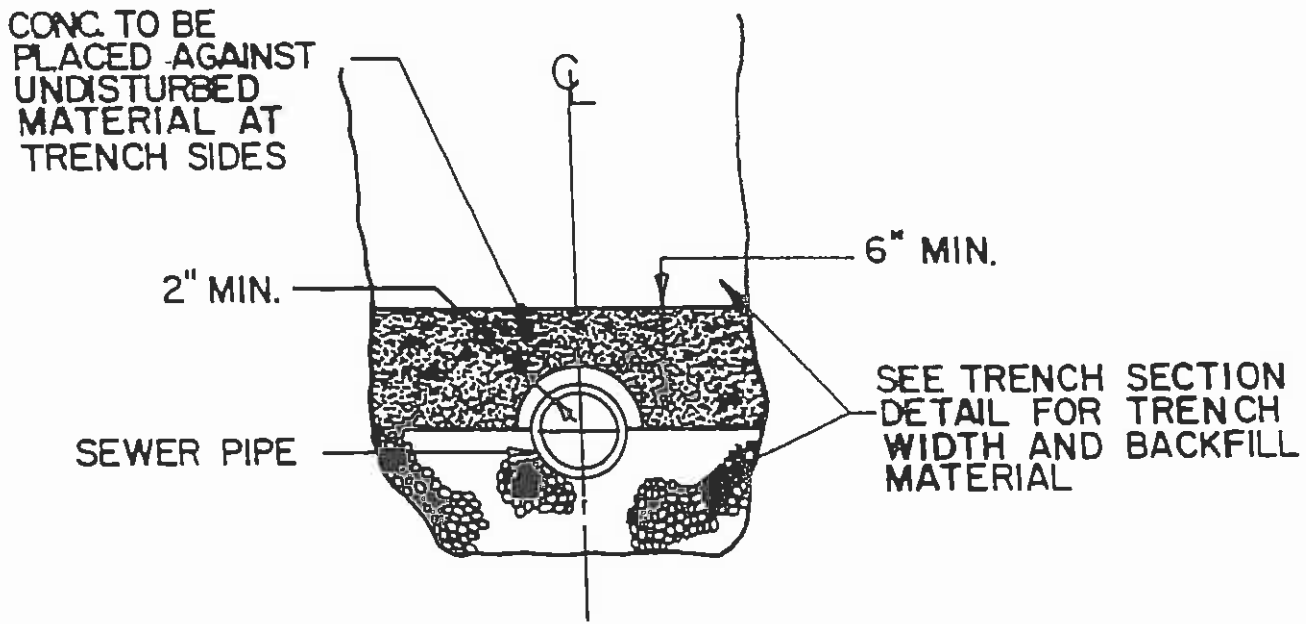
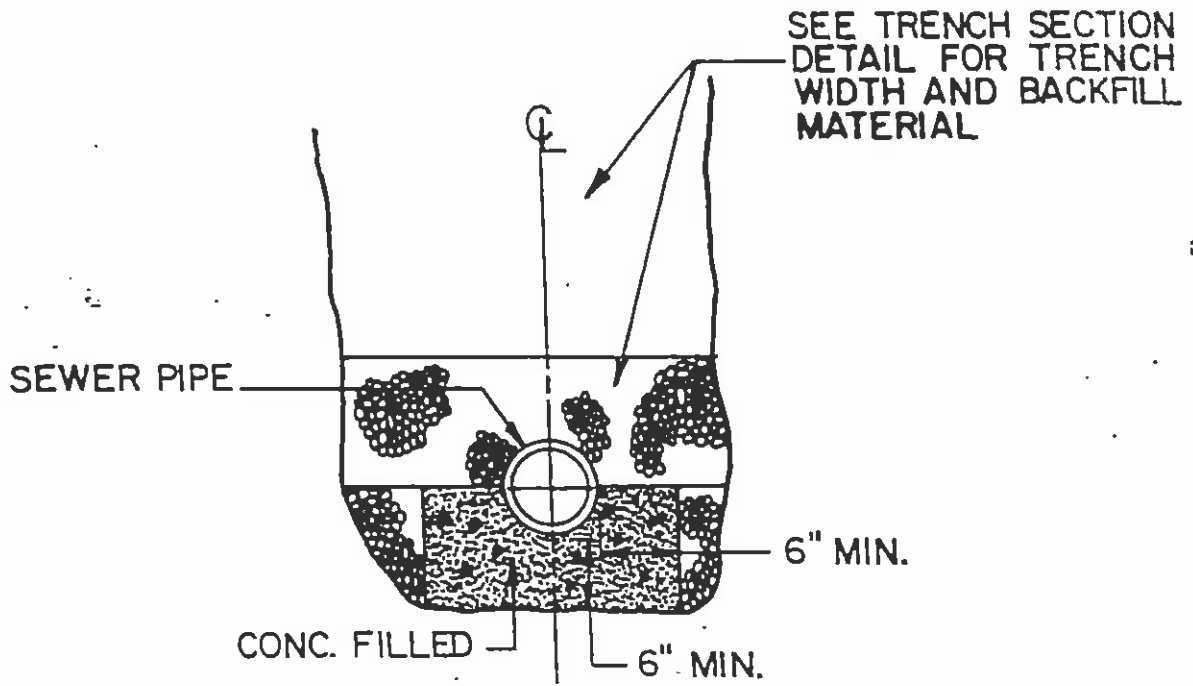
PIPE SIZE	1/4 BEND		1/8 BEND		1/16 BEND	
	A	B	A	B	A	B
4"	9"	8"	7"	6"	5"	4"
6"	12"	12"	10"	9"	7"	6"
8"	18"	14"	12"	12"	9"	8"
10"	21"	20"	15"	15"	12"	10"
12"	25"	24"	18"	18"	14"	12"
14"	30"	26"	23"	22"	15"	15"

### THRUST BLOCK DETAIL \*

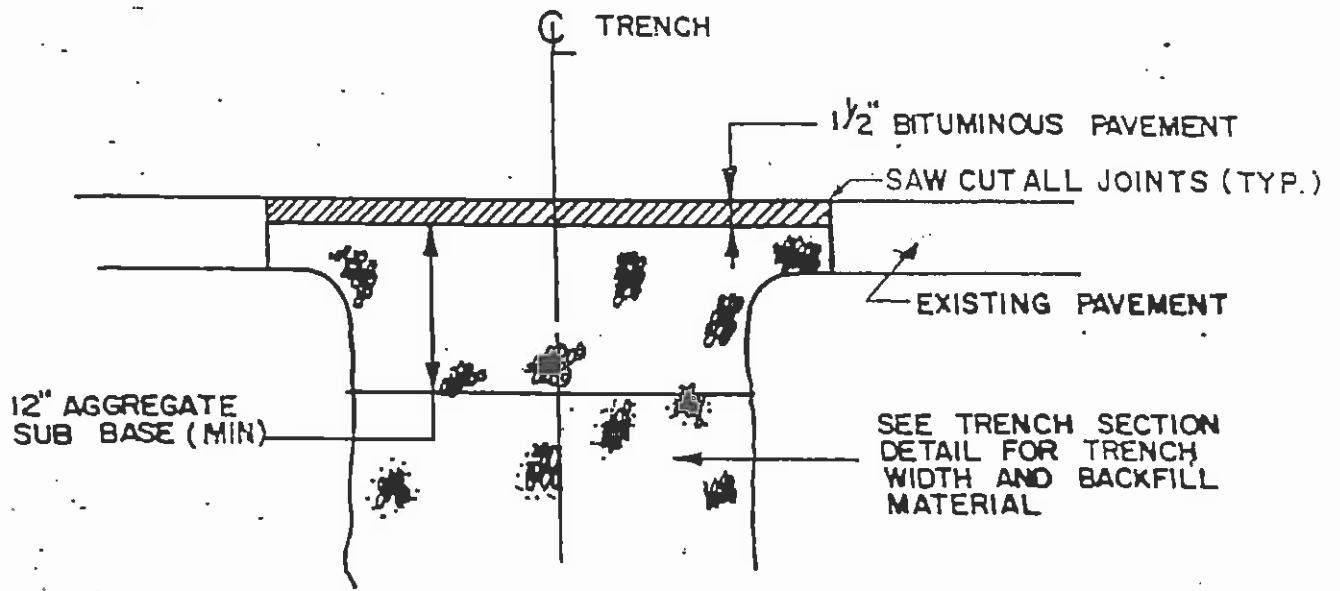
\* USE RETAINER GLANDS ON VERTICAL BENDS



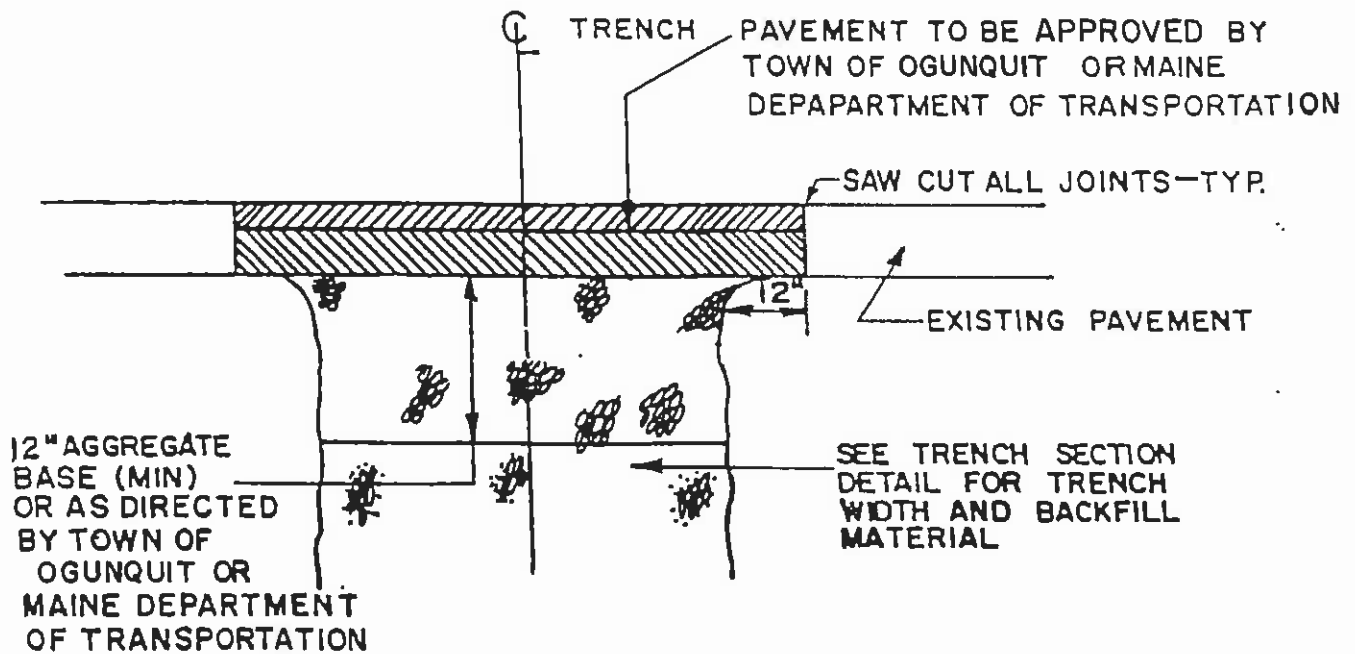
### CONCRETE ENCASEMENT



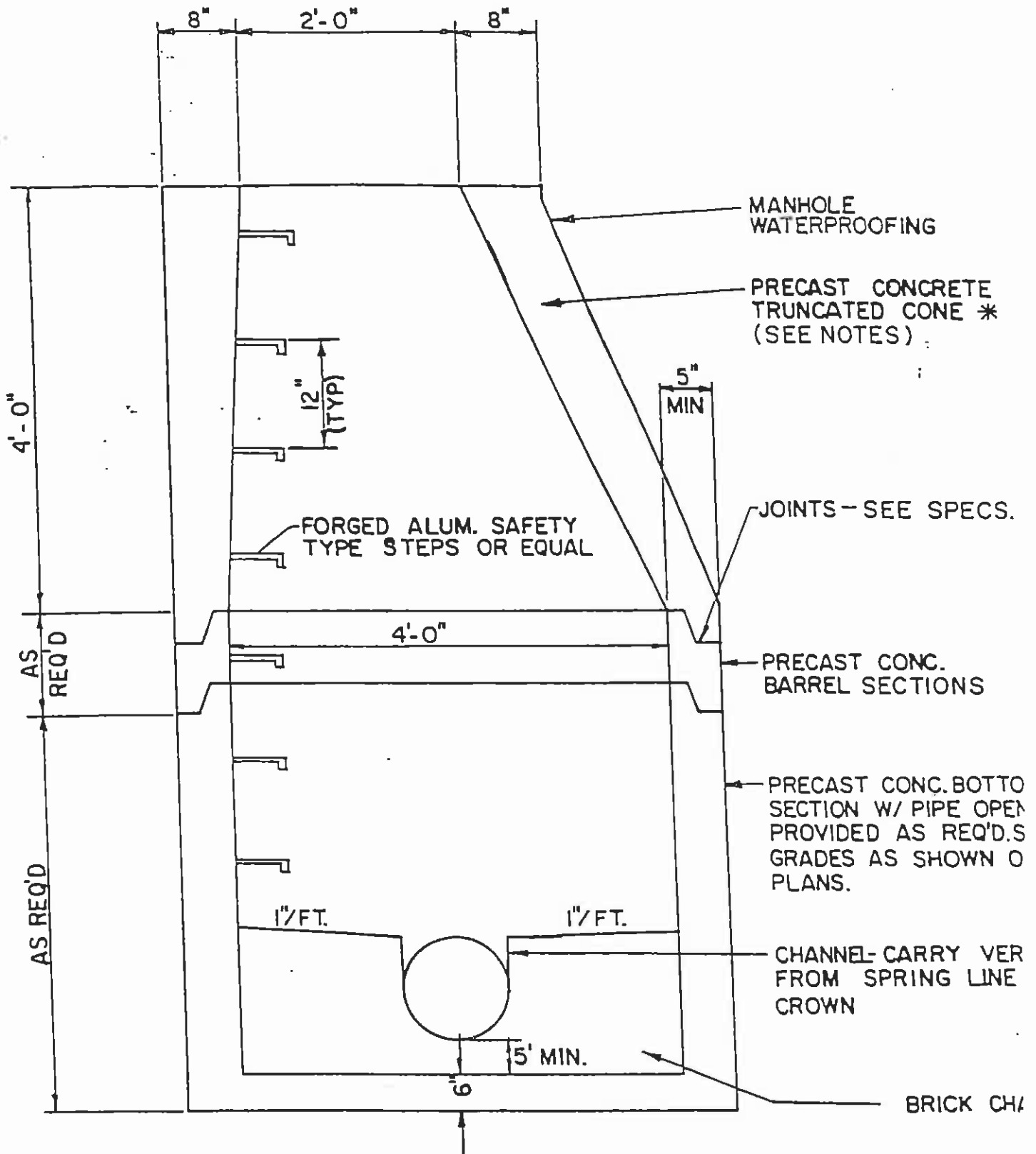
**CONCRETE CRADLE DETAIL**



## TEMPORARY PAVING



## PERMANENT PAVING



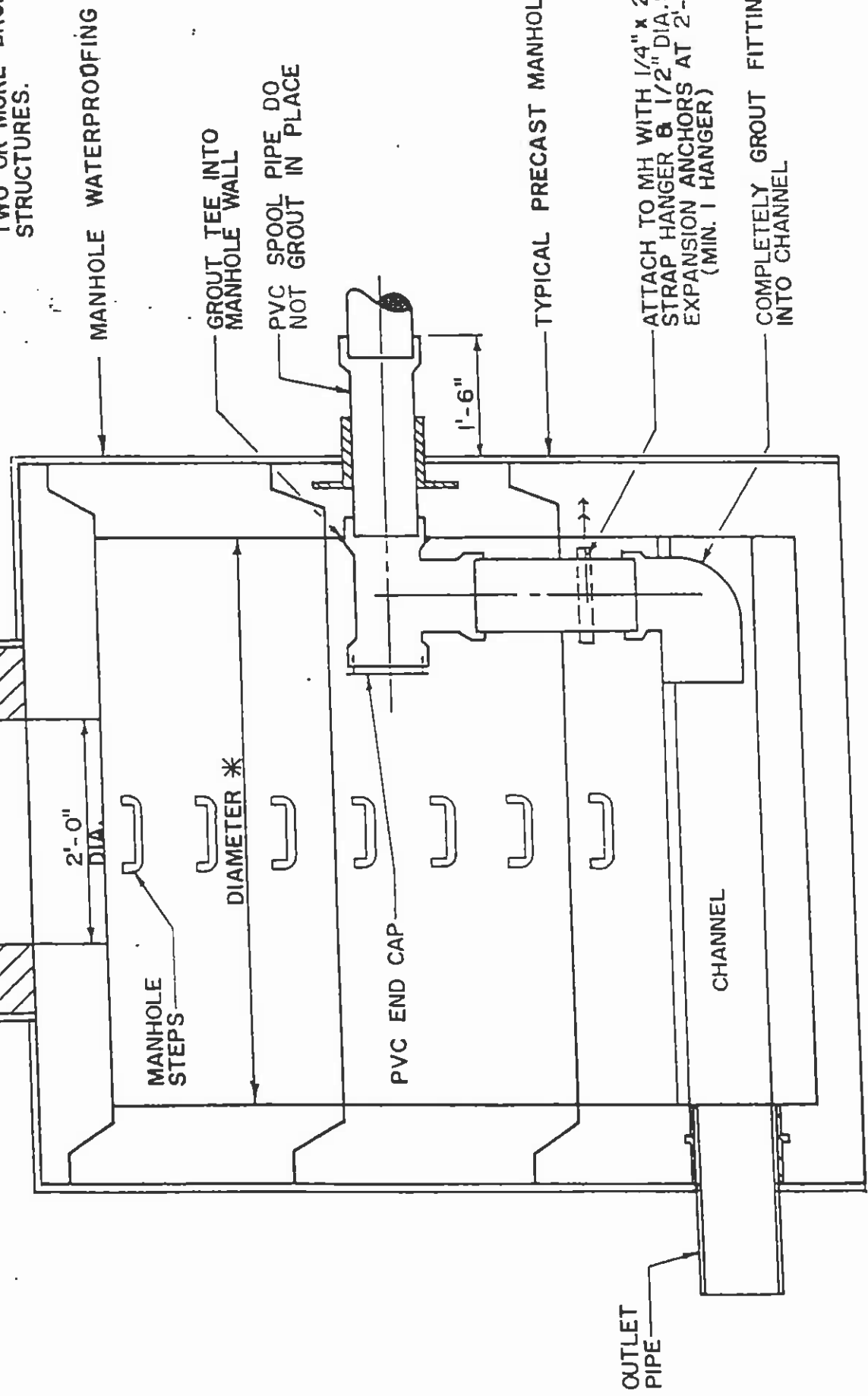
NOTE: MANHOLE CHANNELS REQUIRING CHANGE IN ALIGNMENT ARE TO BE BUILT ON A SMOOTH RADIUS. IF SIDE PIPES ENTER CHANNEL, SHAPE TO RECEIVE ADDED SIDE FLOW.

\* USE FLATTOP SLAB WHEN SHALLOW DEPTH DO NOT ALLOW THE USE OF A 4' HIGH CONE SECTION

## TYPICAL 4 FT. DIA. MANHOLE

MANHOLE FRAME & COVER - SEE DETAIL

\*NOTE USE 5' DIA. FOR MANHOLES WITH SINGLE DROP. USE 6' DIA. FOR MANHOLES WITH TWO OR MORE DROP STRUCTURES.



MANHOLE WATERPROOFING

GROUT TEE INTO MANHOLE WALL

PVC SPOOL PIPE DO NOT GROUT IN PLACE

TYPICAL PRECAST MANHOLE

ATTACH TO MH WITH 1/4" x 2" SS STRAP HANGER & 1/2" DIA. SS EXPANSION ANCHORS AT 2'-0" OC (MIN. 1 HANGER)

COMPLETELY GROUT FITTINGS INTO CHANNEL

2'-0" DIA.

DIAMETER \*

MANHOLE STEPS

PVC END CAP

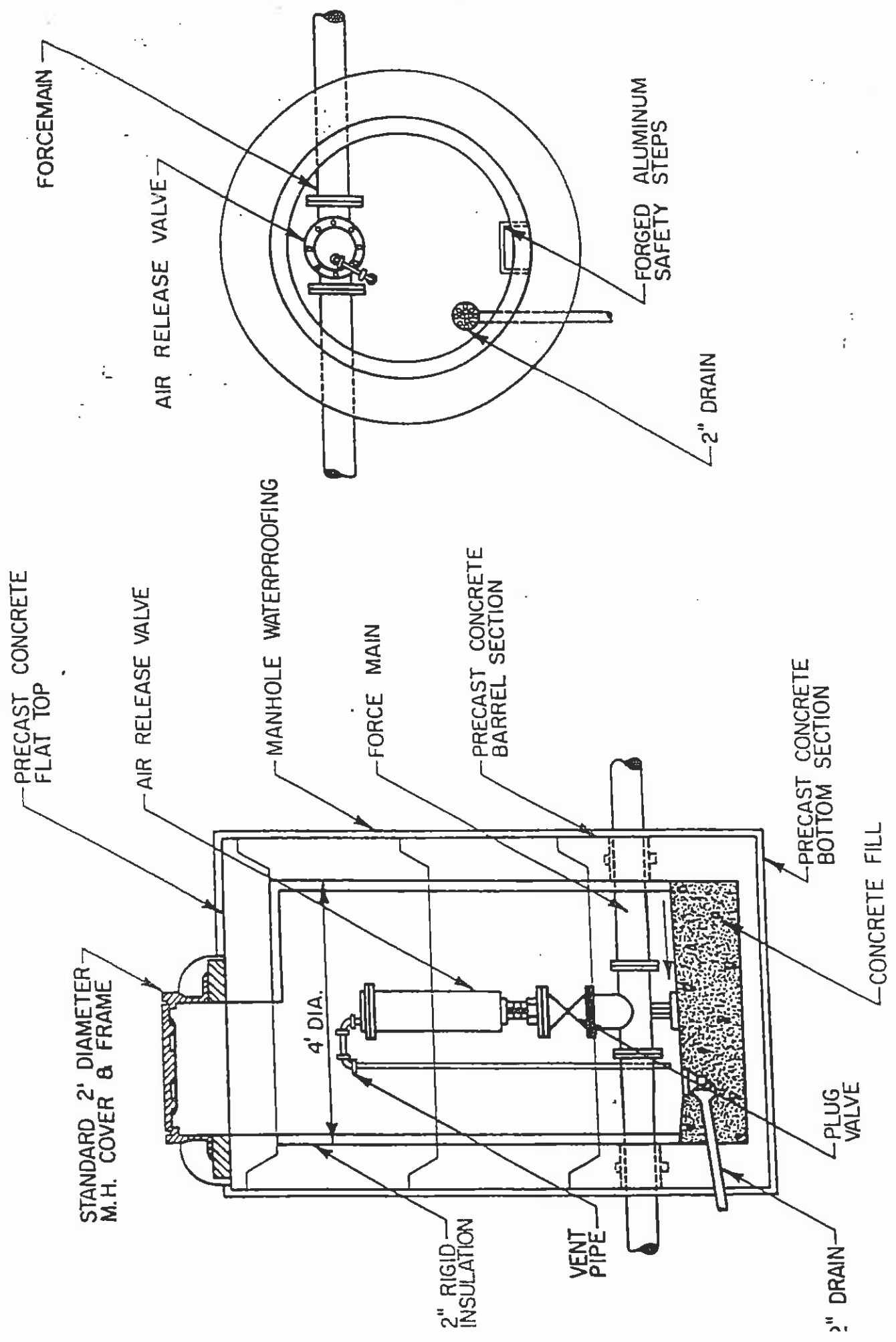
CHANNEL

OUTLET PIPE

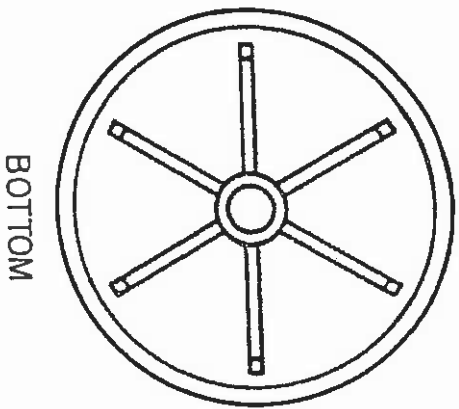
1'-6"

# DROP MANHOLE WITH PVC PIPE

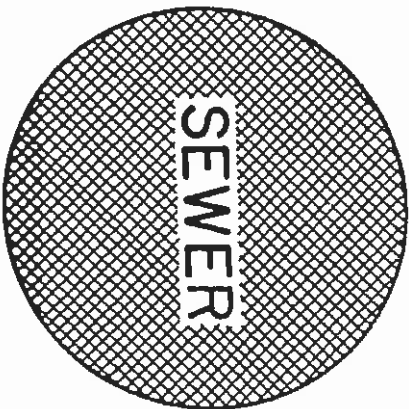




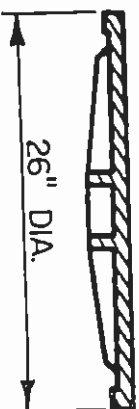
... .. PRECAST MANHOLE



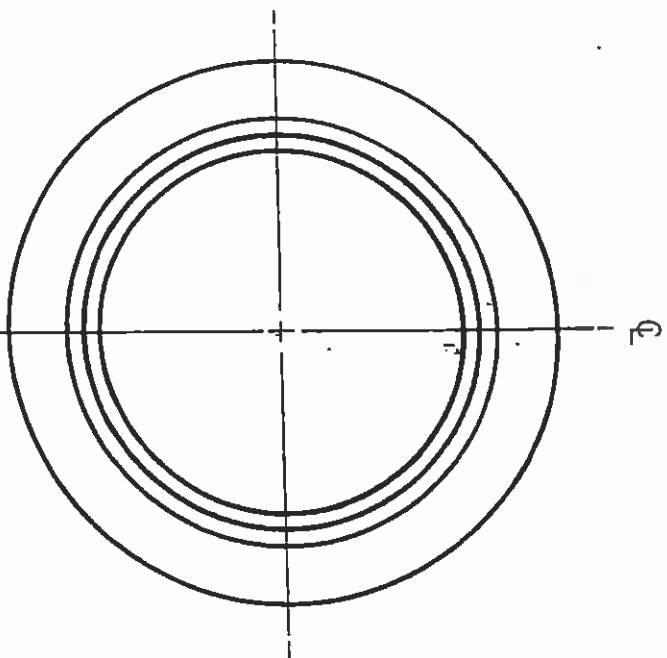
BOTTOM



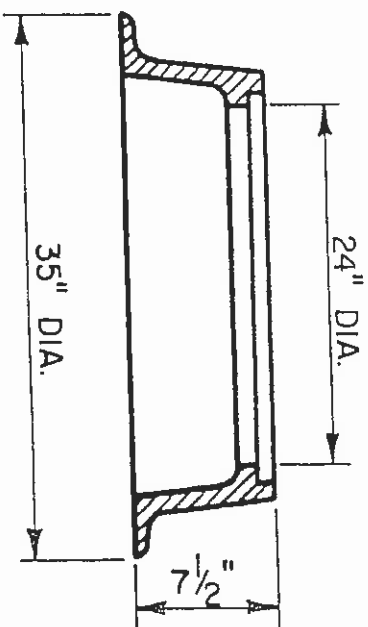
TOP



SECTION



PLAN



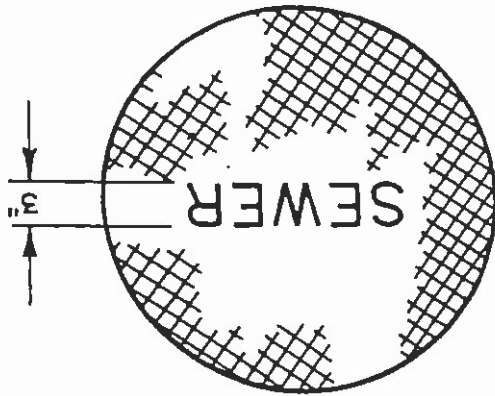
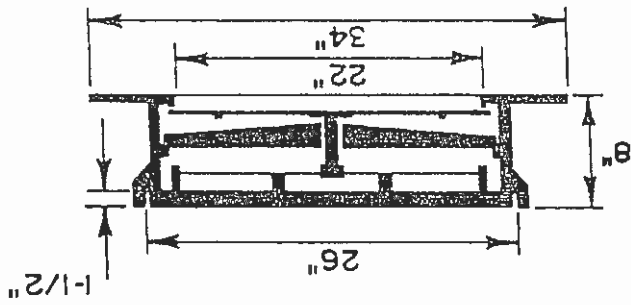
SECTION

# STANDARD COVER AND FRAME

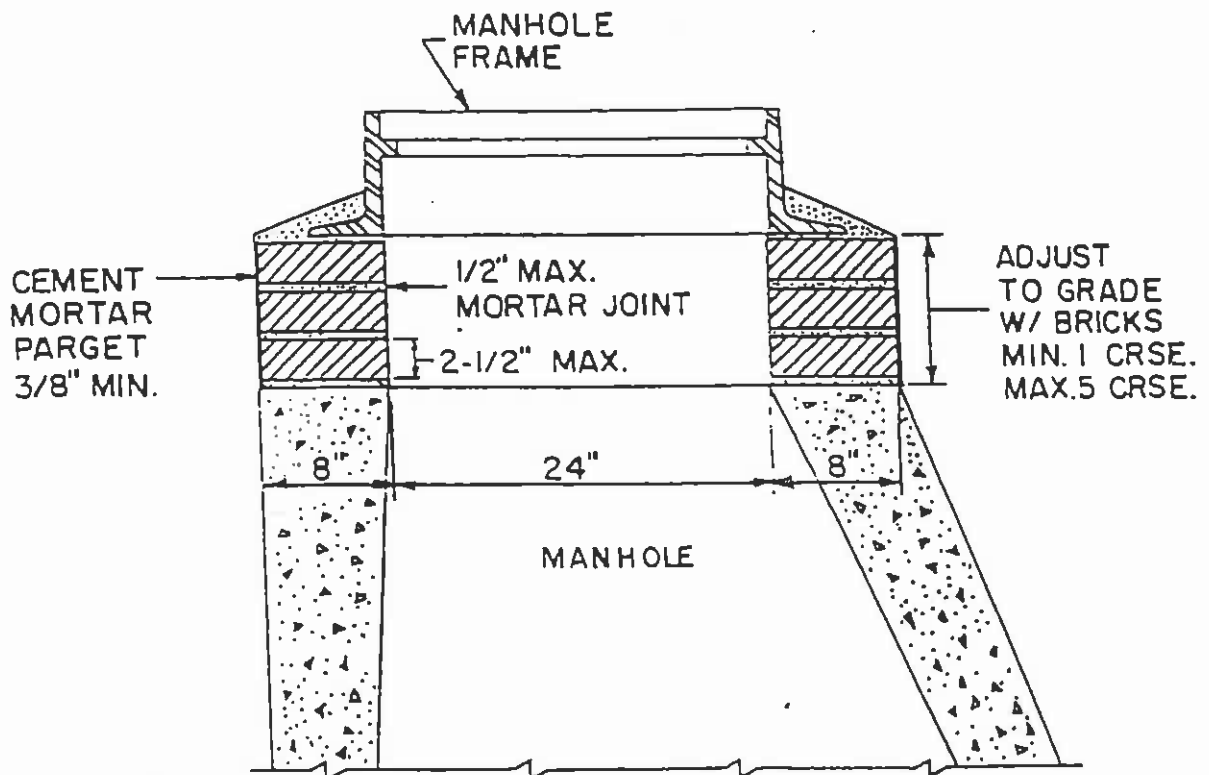
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# WATERTIGHT COVER & FRAME



NOTE: BRICK, MORTAR AND PARGET SHALL NOT EXTEND BEYOND OUTSIDE EDGE OF MANHOLE.



## MANHOLE FRAME INSTALLATION