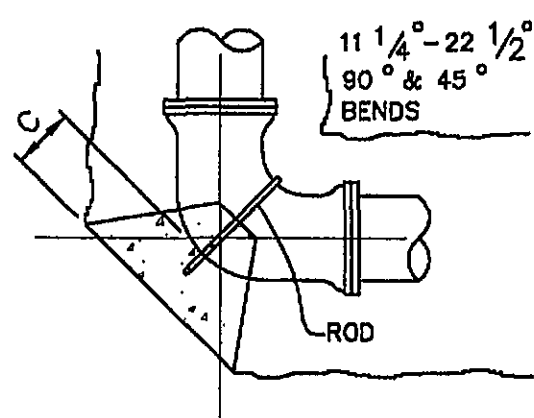


- NOTES:
1. ALL B&C DIMENSIONS TO BE AS REQUIRED TO REACH UNDISTURBED EARTH BUT NOT LESS THAN LISTED ON THRUST BLOCK TABLE.
 2. CAST-IN-PLACE CONCRETE SHALL BE IN ACCORDANCE WITH THE PCI TYPE 1 PORTLAND CEMENT 3,000 PSI.
 3. DIMENSIONS A, B, C, APPLY TO ALL BEND CONDITIONS SHOWN.
 4. INSTALL PLUGS AT ALL RUNS OR BRANCHES DISCONTINUED FOR FUTURE SERVICES.
 5. ALL BENDS, TEES, PLUGS, FITTINGS OR OTHER SIGNIFICANT CHANGES SHALL BE BRACED WITH POURED CONCRETE THRUST BLOCK AS SHOWN ON THIS DETAIL.
 6. ALL PLUGS SHALL BE SEPARATED FROM THE CONCRETE THRUST BLOCK BY A 5 MIL. LAYER OF PLASTIC SHEETING.

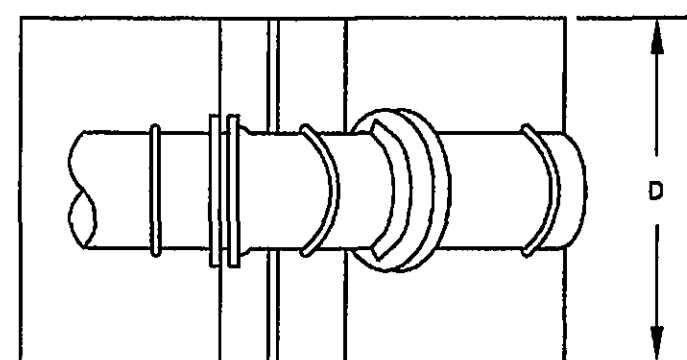


HORIZONTAL THRUST BLOCK
FOR HORIZONTAL ALIGNMENT
NO SCALE

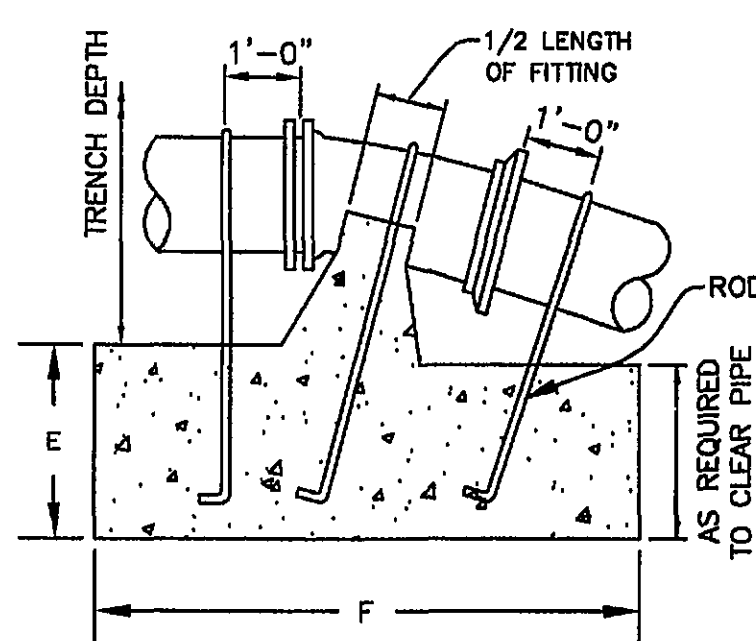
| BEND | | SIZE | | | | |
|--------|---|---------|-------|--------|-------|-------|
| | | 4" & 6" | 8" | 10" | 12" | 18" |
| 1 1/4° | D | 1'-6" | 1'-9" | 2'-0" | 3'-0" | 3'-6" |
| | E | 1'-3" | 1'-6" | 1'-9" | 2'-0" | 2'-3" |
| | F | 2'-0" | 2'-6" | 2'-9" | 3'-0" | 4'-0" |
| 2 1/2° | D | 2'-0" | 3'-4" | 3'-8" | 4'-0" | 4'-4" |
| | E | 1'-9" | 2'-3" | 2'-6" | 2'-6" | 2'-6" |
| | F | 2'-6" | 2'-8" | 3'-10" | 4'-0" | 5'-4" |
| 45° | D | 2'-6" | 3'-0" | 4'-0" | 4'-8" | 5'-2" |
| | E | 2'-6" | 2'-9" | 3'-0" | 3'-6" | 4'-0" |
| | F | 3'-0" | 4'-0" | 4'-6" | 4'-8" | 6'-6" |

| PIPE SIZE | ROD SIZE (IN) | | | NO. REQ'D. |
|--------------|---------------|----------|----------|---------------|
| | 45 ° | 22 1/2 ° | 11 1/4 ° | |
| 4" & 6" | 1/2 | 1/2 | 1/2 | 3 |
| 8" | 1/2 | 1/2 | 1/2 | 3 |
| 10" | 3/4 | 3/4 | 3/4 | 3 |
| 12" | 3/4 | 3/4 | 3/4 | 3 |
| 16" | 3/4 | 3/4 | 3/4 | 3 |

THIS TABLE APPLIES TO VERTICAL
& HORIZONTAL THRUST BLOCKS.

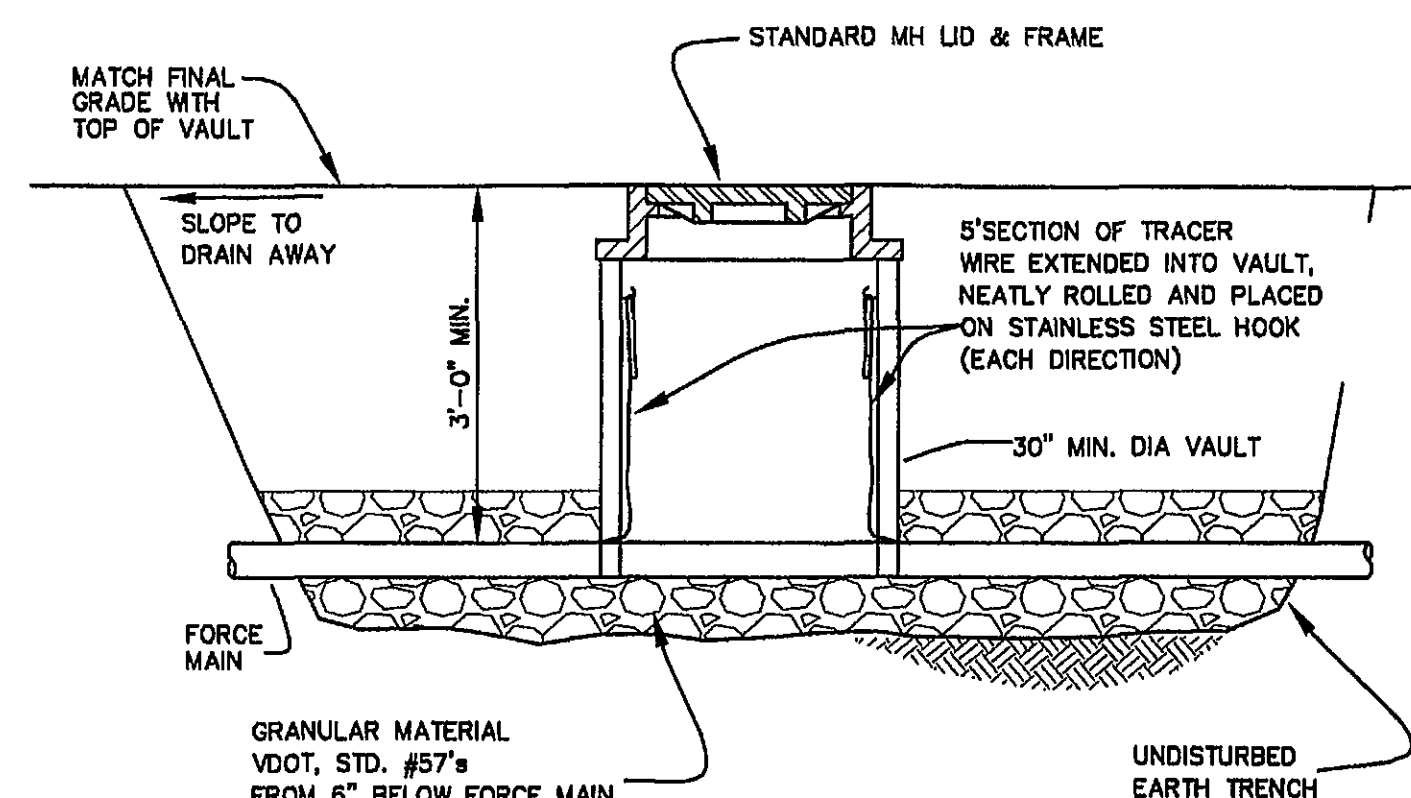
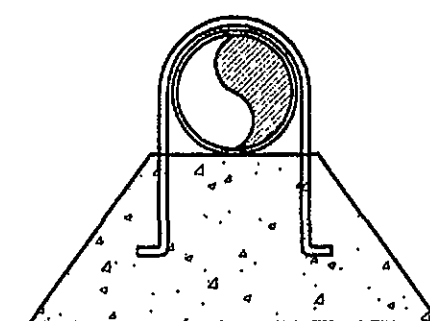


ROD DETAIL

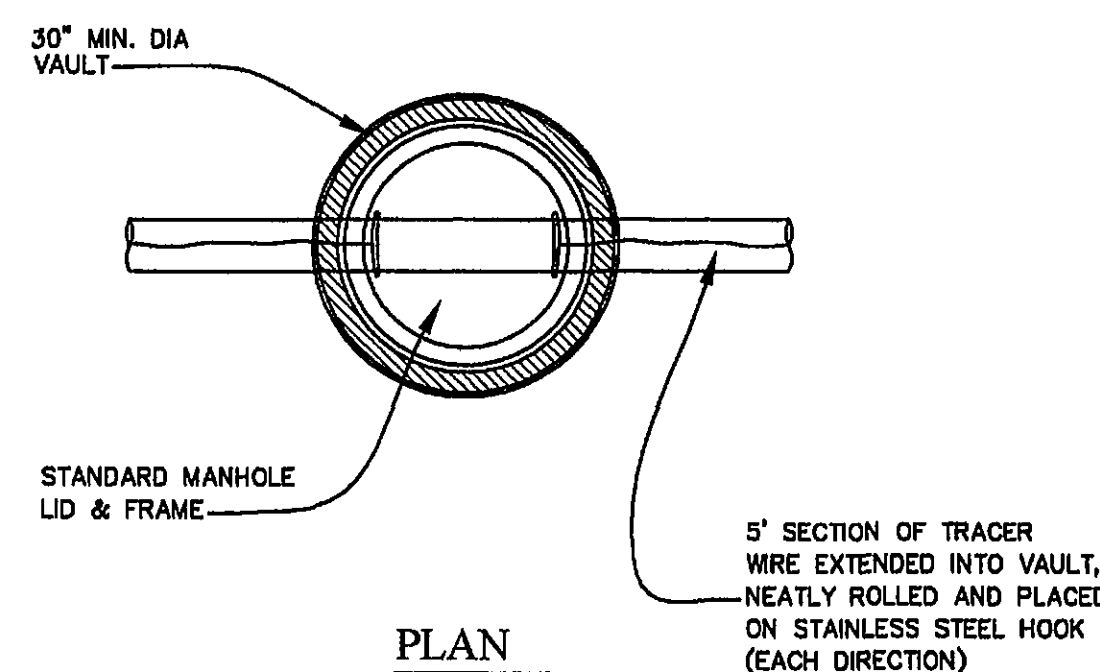


- NOTES:**
1. ALL FOURED CONCRETE SHALL BE PLACED ON UNDISTURBED EARTH AFTER EXCAVATION ACCORDING TO DIMENSIONS INDICATED ON THRUST BLOCK DIMENSION TABLE OR IT SHALL BE PLACED THE FULL WIDTH OF TRENCH FROM UNDISTURBED WALL BUT NOT LESS THAN LISTED ON THRUST BLOCK TABLE.
 2. CAST IN PLACE CONCRETE SHALL BE IN ACCORDANCE WITH THE PCI TYPE 1 PORTLAND CEMENT, 3,000 PSI.
 3. ALL RODS TO BE 316 OR 304 STAINLESS STEEL.

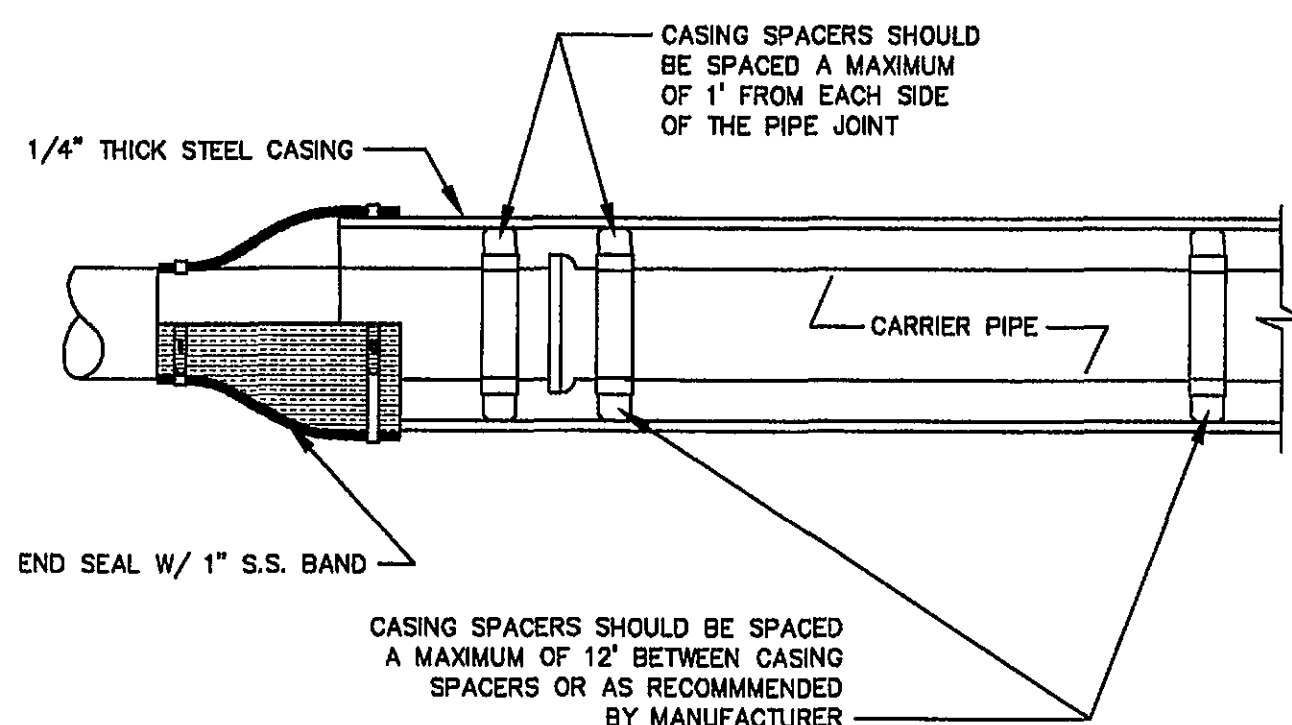
VERTICAL THRUST BLOCK
FOR VERTICAL ALIGNMENT
NO SCALE



SECTION



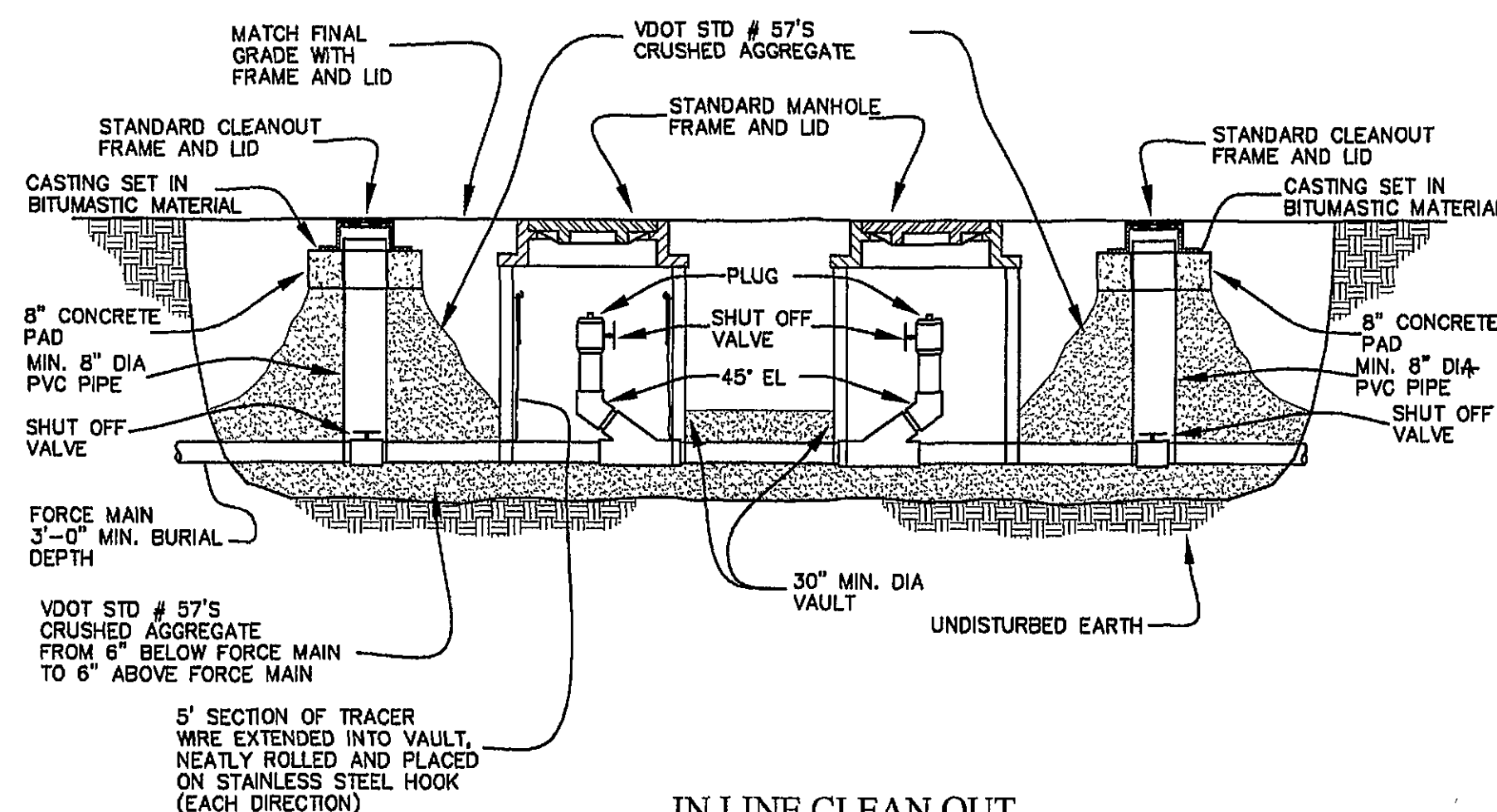
TRACER WIRE ACCESS VAULT
NO SCALE



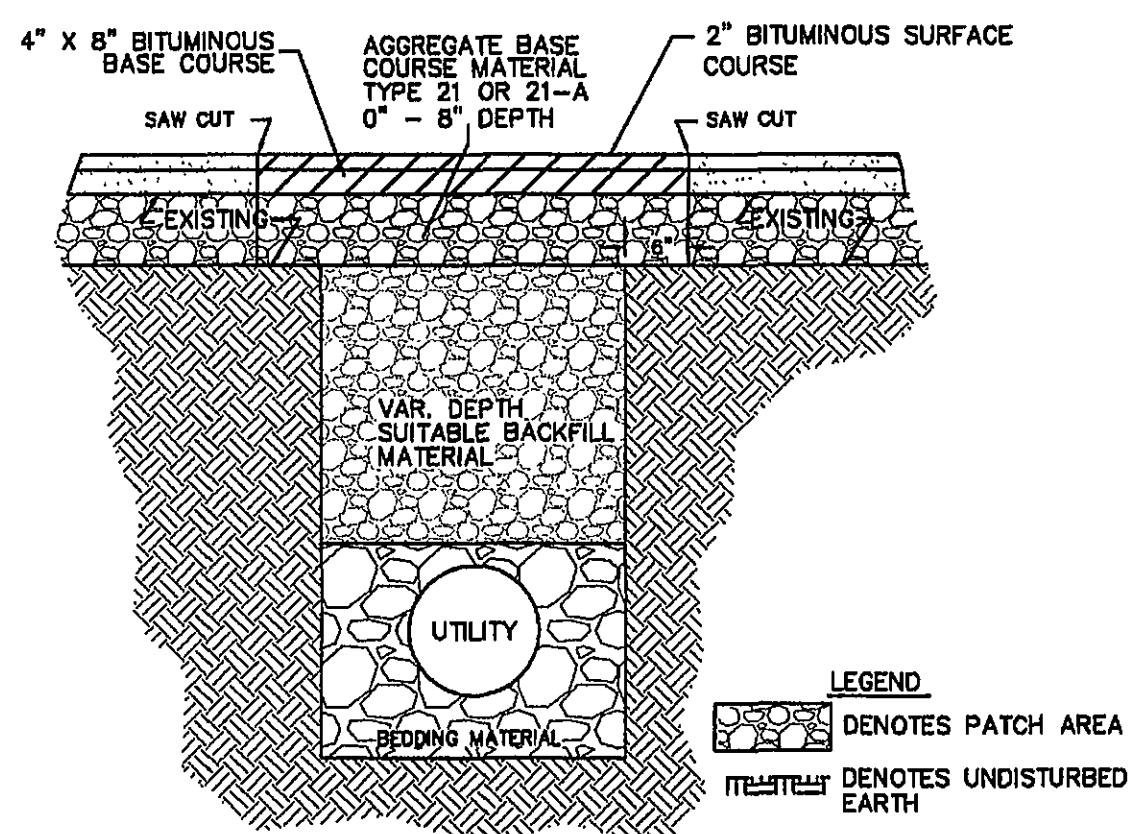
- ALTERNATE PIPE SUPPORT IN CASING PIPE:
18" LONG TREATED TIMBER SKIDS OF APPROPRIATE WIDTH SUCH THAT BELLS OR FLANGES DO NOT REST ON CASING WITH MORE THAN 3/4" FREE PLAY. SKIDS TO BE PLACED AT 4'-0" O.C. AND SECURED WITH 2"x 1/4" GALV. STEEL STRAPS OR 1" S.S. BANDS. SOAP-BASED LUBRICANT MAY BE USED FOR SLIDING OF SKID WITH DUCTILE IRON PIPE AND FLAX-BASED LUBRICANT MAY BE USED FOR SLIDING OF SKID WITH PVC PIPE.

- NOTE: 1. A 1" DRAIN WILL BE REQUIRED ON THE LOWER END OF THE CASING IF THE CASING ENDS ARE SEALED WITH MORTAR AND BRICK.
2. ALL STEEL ENCASMENT PIPES WITHIN THE VDOT RIGHT OF WAY MUST BE IN ACCORDANCE WITH "2001 VDOT ROAD AND BRIDGE STANDARDS, CONCRETE AND STEEL ENCASMENT PIPE (STD. 1404.1)

PIPE SUPPORT IN CASING PIPE



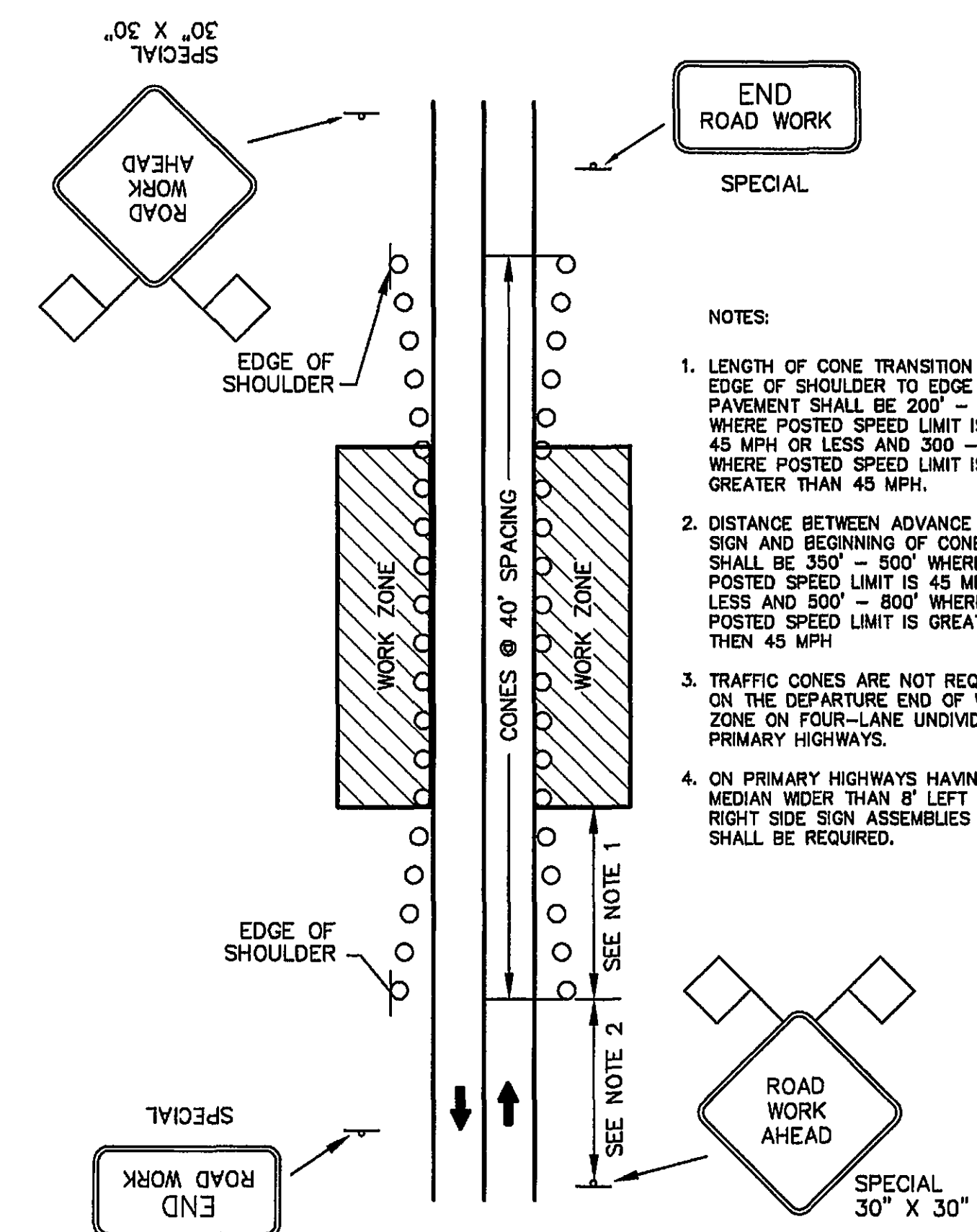
IN LINE CLEAN OUT
NO SCALE



- NOTES:

1. SURFACE AND BASE REPLACEMENT WILL GENERALLY BE REQUIRED TO MATCH EXISTING ASPHALT LAYERS AND SHALL BE COMPACTED IN LIFTS ACCORDING TO VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS.
2. AGGREGATE BASE MATERIAL SHALL BE REPLACED TO A DEPTH GREATER THAN EXISTING STONE BASE TO ENSURE LOAD BEARING CAPACITY OF CUT RELATED TO UNDISTURBED EARTH AREAS. AGGREGATE BASE SHALL BE COMPACTED ACCORDING TO VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS.
3. BEDDING MATERIAL SHALL BE ACCORDING TO REQUIREMENT OF EACH UTILITY (GENERALLY FROM BOTTOM OF REPAIR DITCH TO SIX INCHES ABOVE PIPE WITH MINIMUM OF FOUR INCHES BELOW PIPE).
4. SAW CUT TO BE MADE WITH MECHANICAL SAW AND SIDES TO BE TACKED WITH BITUMINOUS MATERIAL, TYPE RC-250 OR EQUAL.

PAVEMENT CUTTING & REPLACEMENT
NO SCALE



- NOTES:
1. LENGTH OF CONE TRANSITION FROM EDGE OF SHOULDER TO EDGE OF PAVEMENT SHALL BE 200' - 400' WHERE POSTED SPEED LIMIT IS 45 MPH OR LESS AND 300' - 600' WHERE POSTED SPEED LIMIT IS GREATER THAN 45 MPH.
 2. DISTANCE BETWEEN ADVANCE WARNING SIGN AND BEGINNING OF CONE TAPER SHALL BE 350' - 500' WHERE POSTED SPEED LIMIT IS 45 MPH OR LESS AND 500' - 800' WHERE POSTED SPEED LIMIT IS GREATER THAN 45 MPH.
 3. TRAFFIC CONES ARE NOT REQUIRED ON THE DEPARTURE END OF WORK ZONE ON FOUR-LANE UNDIVIDED PRIMARY HIGHWAYS.
 4. ON PRIMARY HIGHWAYS HAVING A MEDIAN WIDER THAN 8' LEFT AND RIGHT SIDE SIGN ASSEMBLIES ARE NOT REQUIRED.

TYPICAL TRAFFIC CONTROL WORK BETWEEN PAVEMENT AND DITCH LINE ON PRIMARY HIGHWAYS