



City of East Moline

**STANDARD
CONSTRUCTION
DETAILS**

Last Updated:

JANUARY 2011

#	CATEGORY	
01	Highways and Streets	<p>Naming Convention:</p> <p>Category # → XX-XX ← Detail #</p> <p>Example: Valve Vault= 08-05</p>
02	Parks and Recreation	
03	Sidewalks and Driveways	
04	Storm Drainage	
06	Sanitary Sewer	
08	Water Distribution	
99	Miscellaneous	

01 Highways and Streets

- * - 01 Full Depth PCC Patching
- * - 02 Pavement Cross Section
- * - 03 PCC Curb and Gutter
- * - 04 PCC Pavement Joints
- 05 Box Outs
- * - 06 Alley Section
- 07 Butt Joint
- 08 Header

02 Parks and Recreation

-
-

03 Sidewalks and Driveways

- * - 01 Curb Ramp - Type A
- * - 02 Curb Ramp - Type B
- * - 03 Driveway Apron - Res./Com. Type A
- * - 04 Driveway Apron - Commercial Type B
- * - 05 Sidewalk and Drive Sections
- 06 Utility Casting in Sidewalk

04 Storm Drainage

- * - 01 Storm Manhole
- 02 Flared End Section
- * - 03 Street Inlet - Single
- * - 04 Street Inlet - Double
- * - 05 Curb Inlet - Small
- * - 06 Curb Inlet - Large
- * - 07 Curb Inlet - Special
- * - 08 Subdrains
- * - 09 Inlet Special, Type A
- * - 10 Storm Manhole Frame and Grate

06 Sanitary Sewer

- 01 Sanitary Sewer Cleanout
- 02 Sewer Service Connection
- 03 Sanitary Sewer Taps
- * - 04 Sanitary Manhole
- * - 05 Drop Manhole Connection

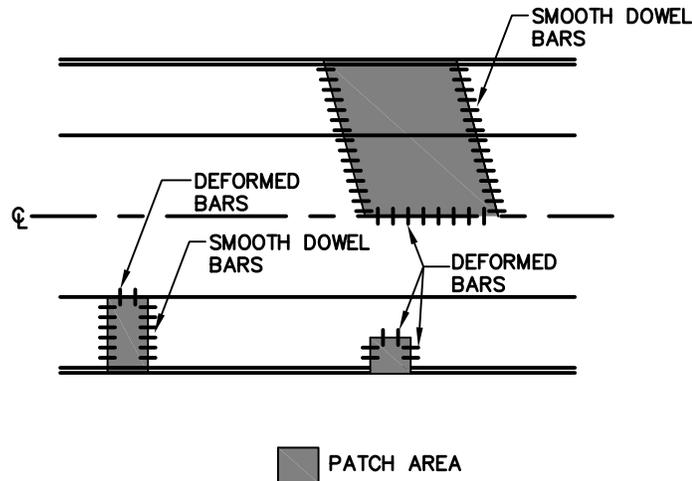
08 Water Distribution

- * - 01 Gate Valve and Box
- 02 Water Service Connection
- 03 Thrust Blocking
- 04 Fire Hydrant Assembly
- * - 05 Valve Vault

99 Miscellaneous

- * - 01 Trench Backfill
- * - 02 Straw Bale Ditch Check
- 03 Silt Fence
- 04 Soil Tracking Control
- 05 Traffic Control Barricades

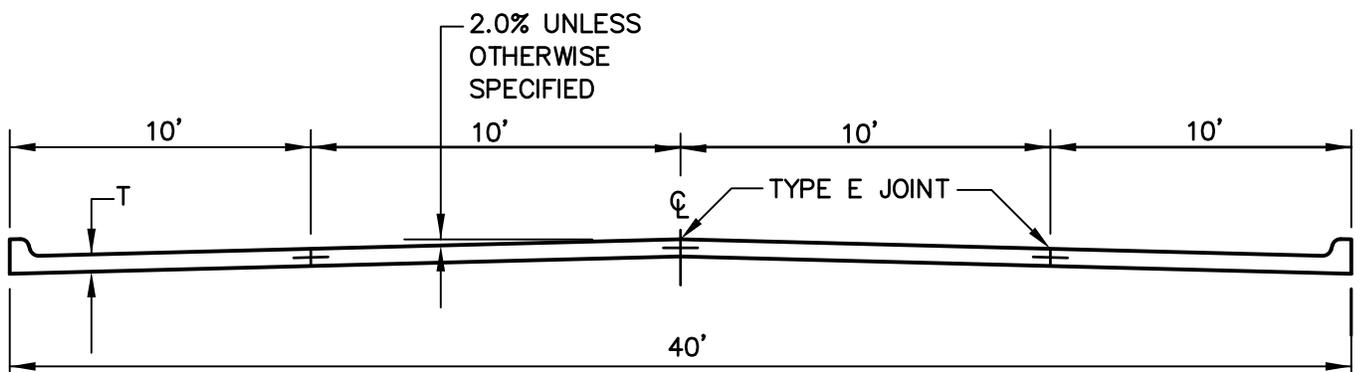
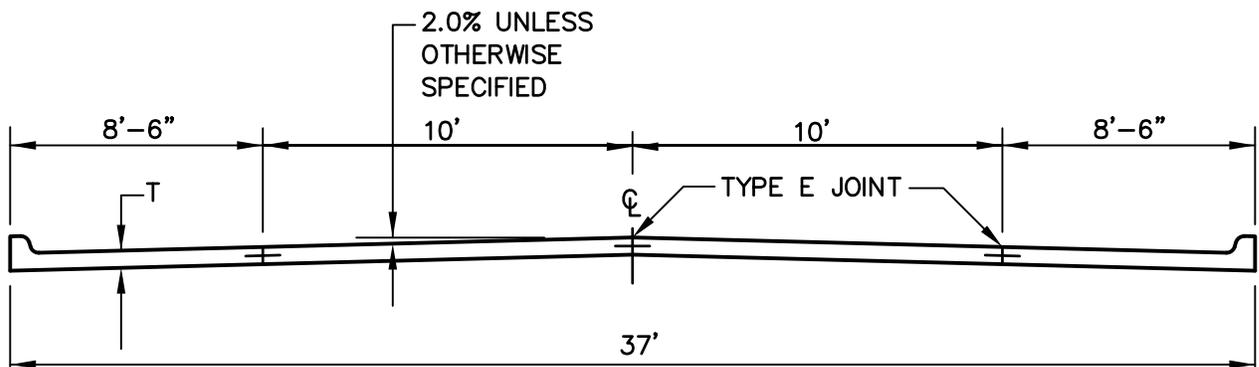
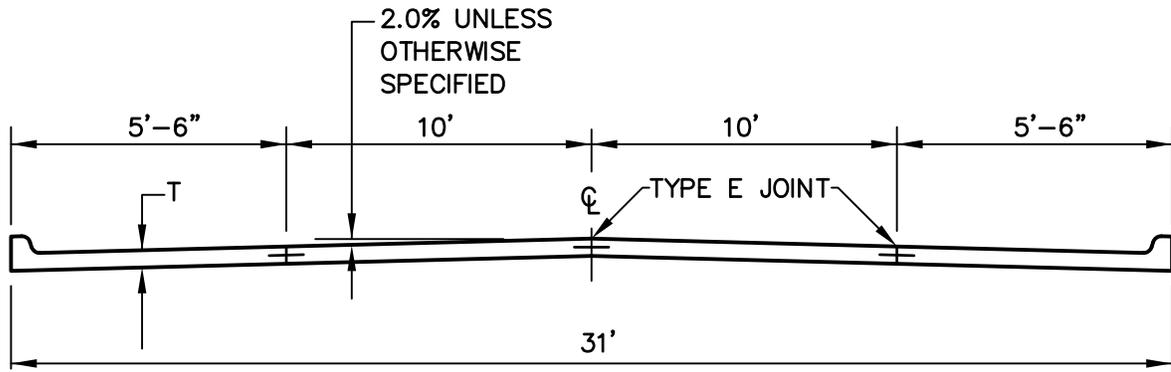
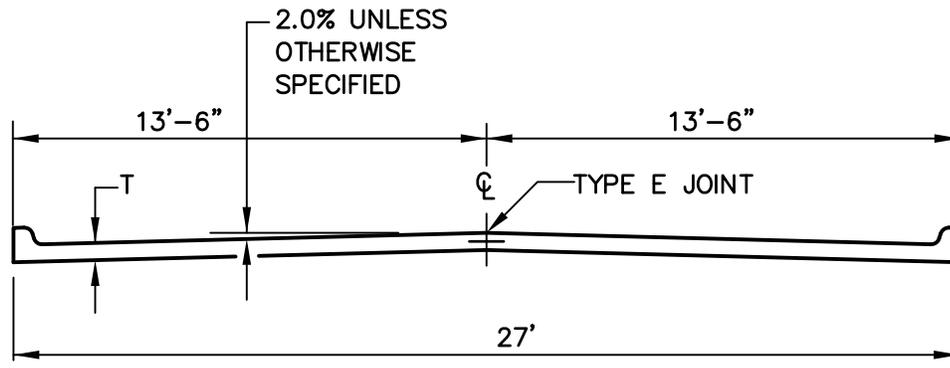
* Updated from March 2010 Issue



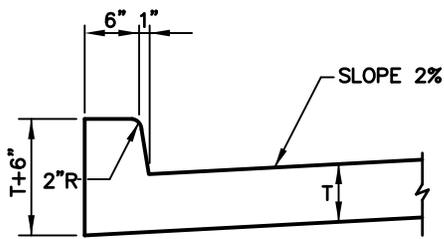
NOTES:

- 1.) PCC PATCH TO MATCH EXISTING PAVEMENT THICKNESS BUT NOT LESS THAN 7".
- 2.) EXPOSED SUBGRADE TO BE RECOMPACTED TO THE APPROVAL OF THE ENGINEER.
- 3.) UNSUITABLE SUBGRADE TO BE REMOVED AND REPLACED WITH COMPACTED CA-6 OR OTHER APPROVED MATERIAL TO THE SATISFACTION OF THE ENGINEER.
- 4.) TRANSVERSE JOINTS, LANE WIDTH OR GREATER, SHALL UTILIZE SMOOTH DOWEL BARS.
- 5.) SMOOTH DOWEL BARS SHALL BE PARALLEL WITH CENTERLINE AND PAVED SURFACE.
- 6.) TRANSVERSE JOINTS LESS THAN LANE WIDTH MAY UTILIZE #6 EPOXY COATED DEFORMED BARS 24" LONG (9" MIN. EMBEDMENT INTO EXISTING PAVEMENT) @ 24" CENTERS.
- 7.) LONGITUDINAL JOINTS MAY UTILIZE #6 EPOXY COATED DEFORMED BARS 24" LONG (9" MIN. EMBEDMENT INTO EXISTING PAVEMENT) @ 24" CENTERS.
- 8.) ALL BARS TO BE ANCHORED WITH EPOXY GROUT MATERIAL APPROVED BY THE ENGINEER.
- 9.) DEFORMED BARS SHALL BE PERPENDICULAR TO LONGITUDINAL EDGE.
- 10.) MINIMUM EDGE DIMENSION FOR ANY PCC PATCH SHALL BE FIVE FEET.
- 11.) IF A PATCH IS WITHIN THREE FEET OF A JOINT, PAVEMENT EDGE, OR EXISTING CRACK, IT'S SIZE SHALL BE INCREASED TO MEET THAT JOINT EDGE OR CRACK.
- 12.) ALL REMOVAL SAWCUTS SHALL BE FULL DEPTH.
- 13.) PCC TO BE REMOVED WITHOUT FRACTURING OR SPALLING THE ADJACENT PAVEMENT.
- 14.) ANY UNSATISFACTORY EDGES DAMAGED DURING REMOVAL OPERATIONS SHALL BE REMEDIED AND/OR REPAIRED AT THE CONTRACTORS EXPENSE.
- 15.) ALL CONTROL JOINTS LYING WITHIN A PATCH SHALL BE REPLACED AT THEIR ORIGINAL LOCATION. (15' MAX. SPACING)
- 16.) ALL JOINTS TO BE SEALED.
- 17.) LONGITUDINAL AND TRANSVERSE CONTROL JOINTS SHALL BE SAWCUT 1/8" INCH WIDE AND 1/3 PAVEMENT THICKNESS FOR DEPTH.

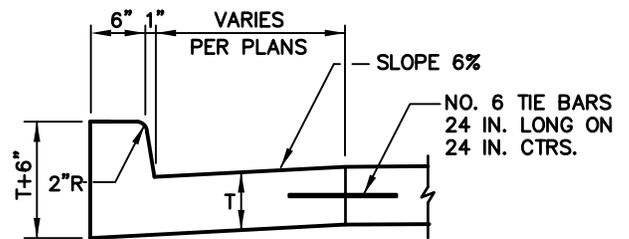
DOWEL BAR TABLE		
PAVEMENT THICKNESS	DOWEL BAR DIA.	HOLE DIA.
8 IN. OR GREATER	1½ INCH	1¾ IN.
7 IN. THRU 7.99 IN.	1¼ INCH	1¾ IN.
LESS THAN 7 IN.	1 INCH	1¾ IN.



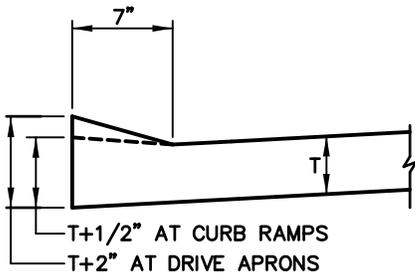
T = SEE TYPICAL CROSS SECTION
ON PLANS FOR THICKNESS



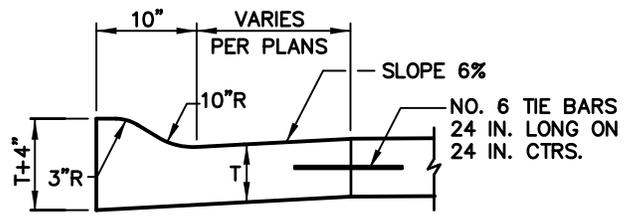
INTEGRAL CURB



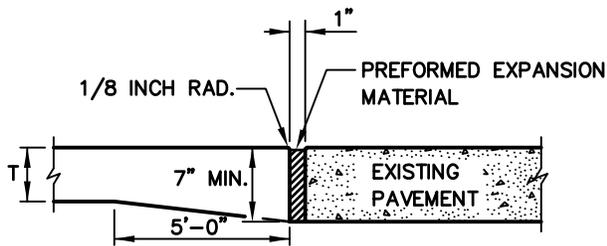
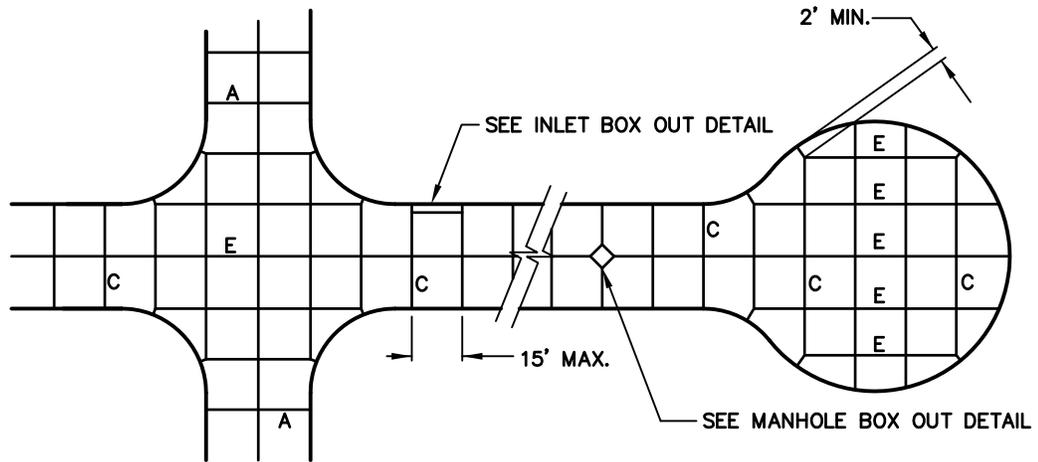
COMBINATION CURB & GUTTER



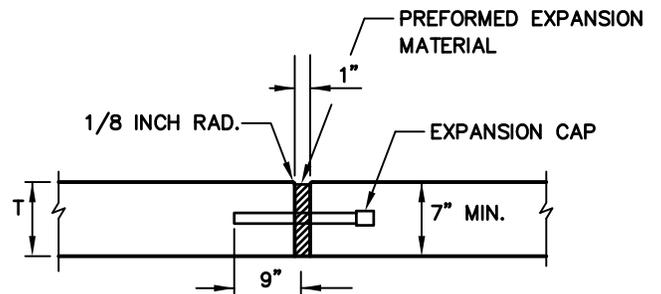
DEPRESSED CURB



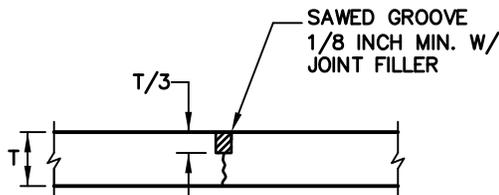
ROLL-OVER CURB



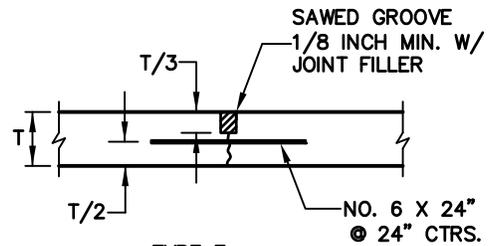
TYPE A
EXPANSION JOINT



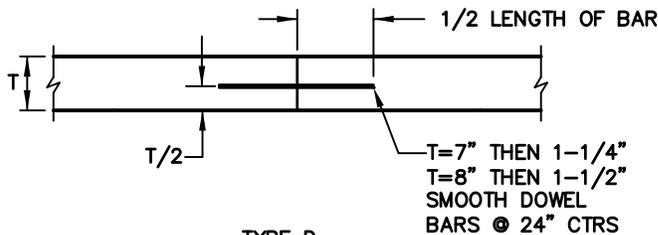
TYPE DA DOWELLED EXPANSION JOINT



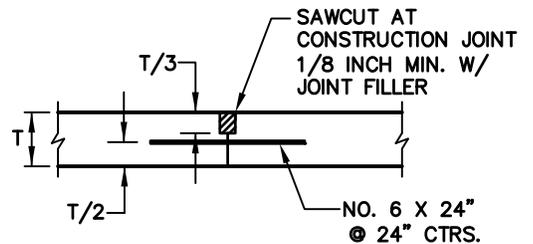
TYPE C
SAWED TRANSVERSE JOINT



TYPE E
SAWED LONGITUDINAL JOINT

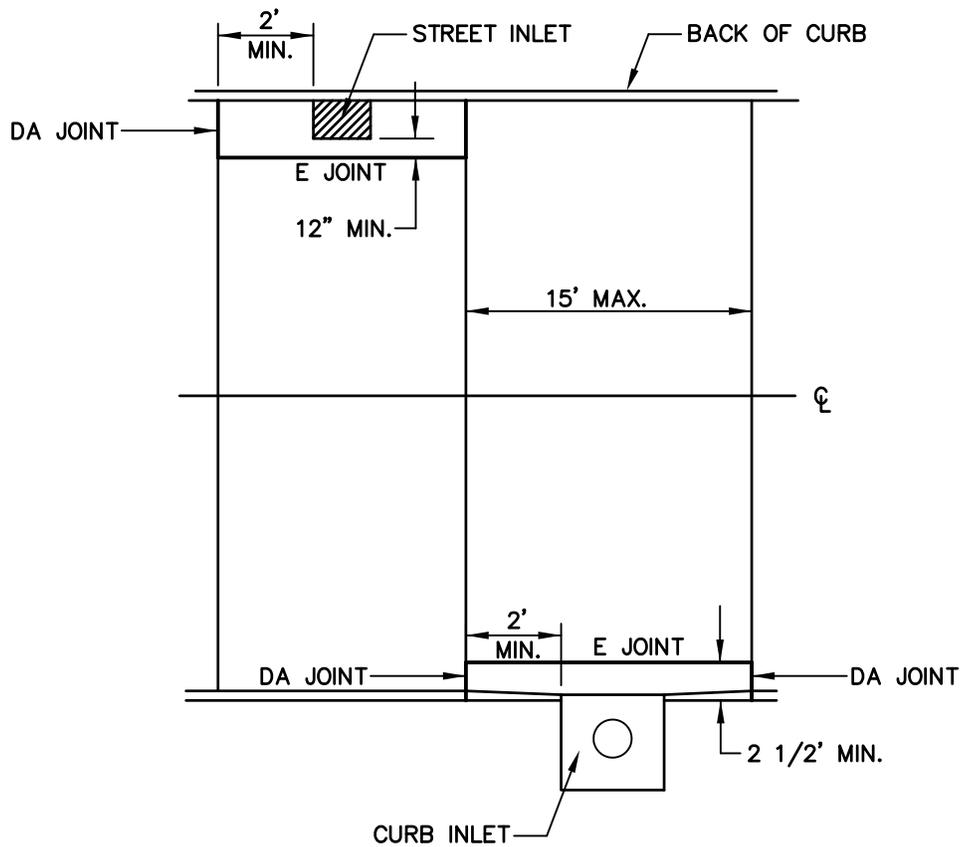
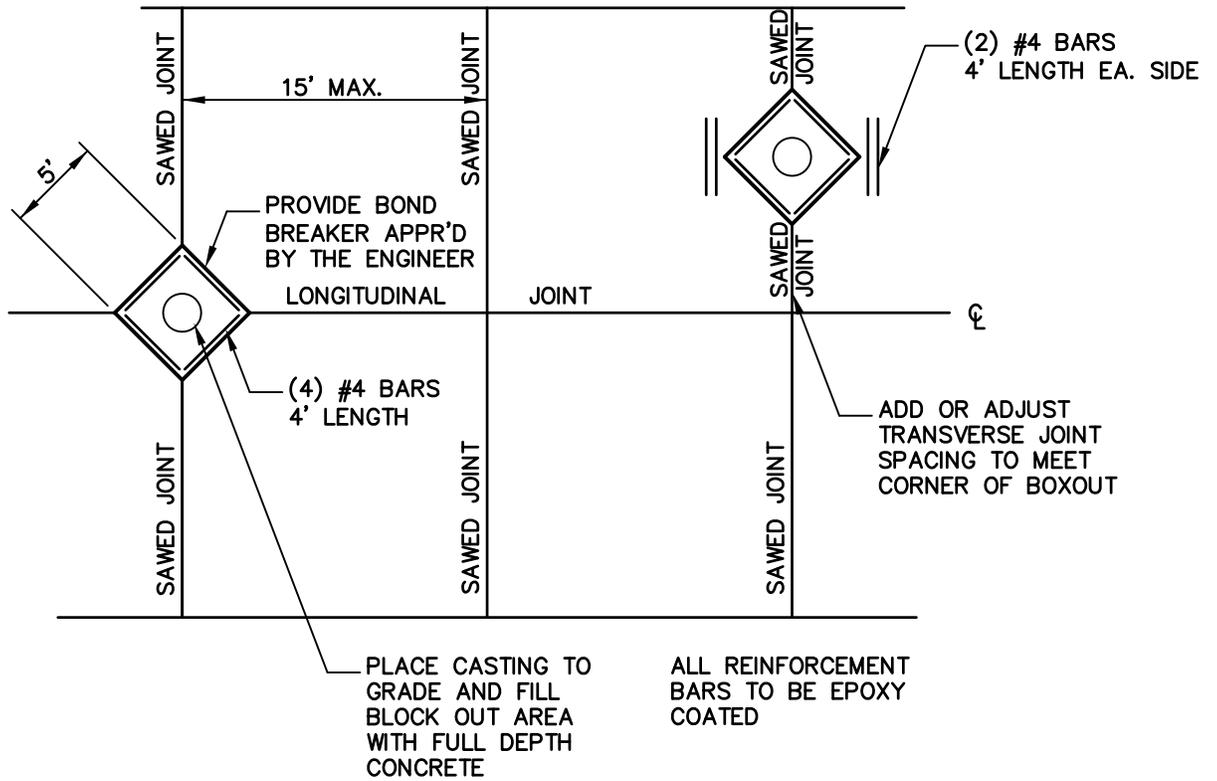


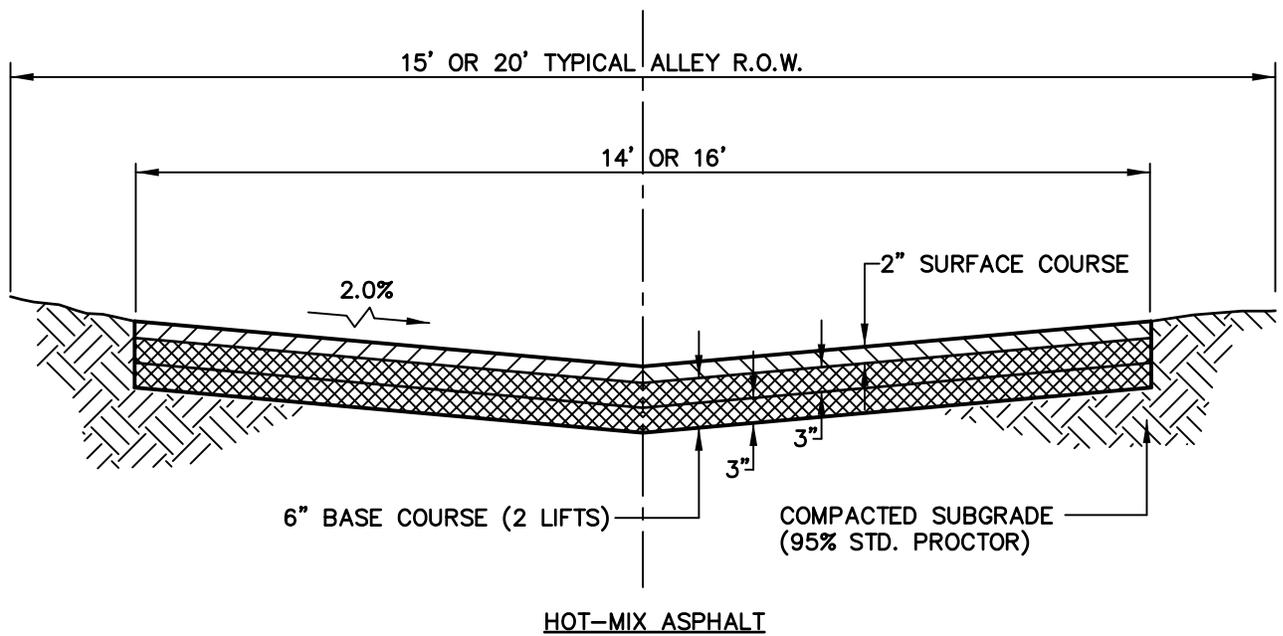
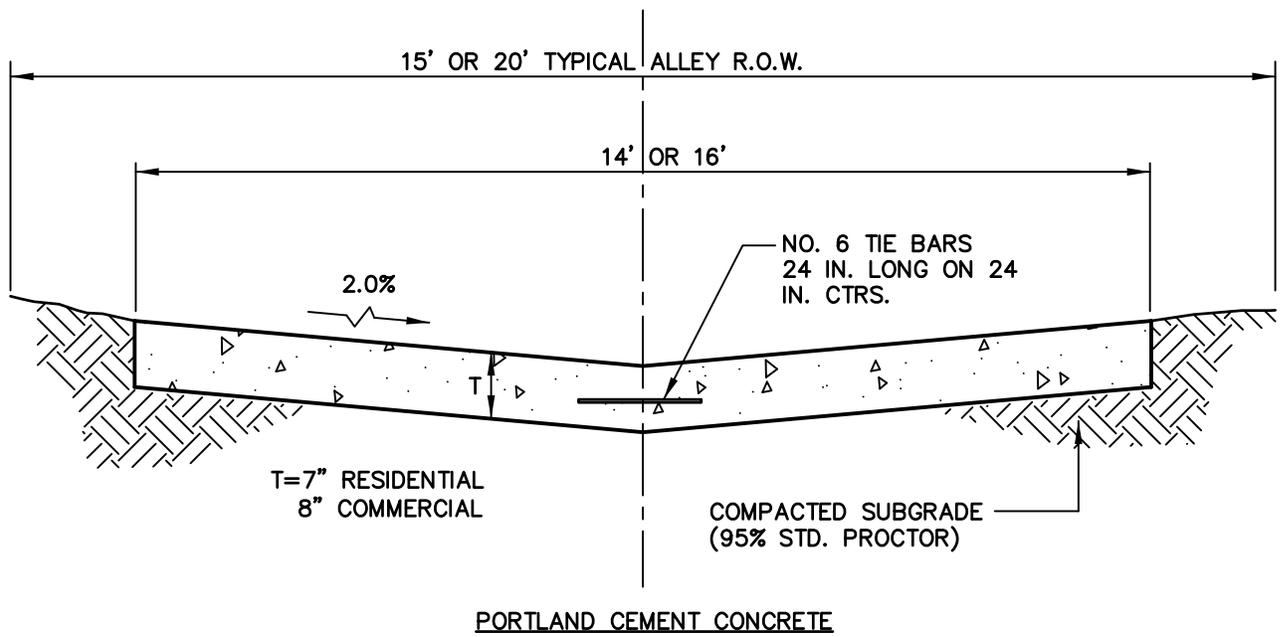
TYPE D
TIED TRANSVERSE CONSTRUCTION JOINT

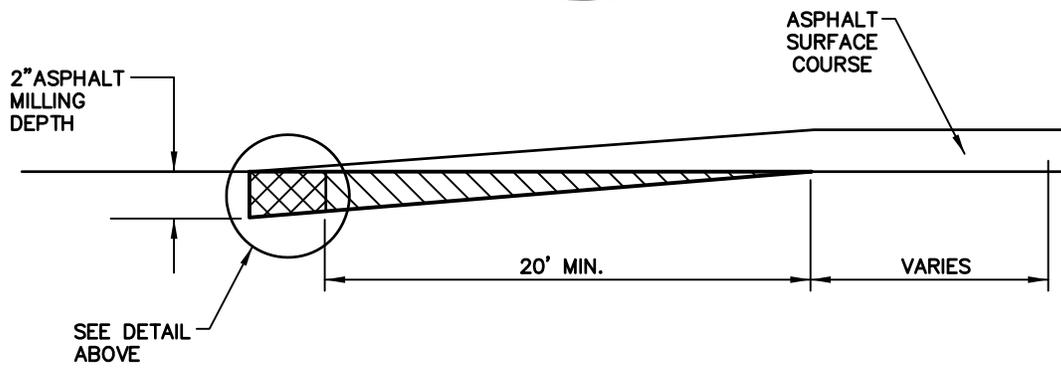
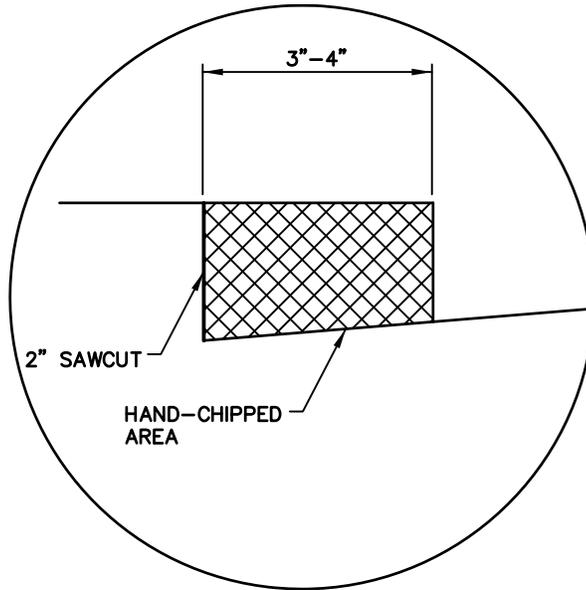


TYPE E
LONGITUDINAL CONSTRUCTION JOINT

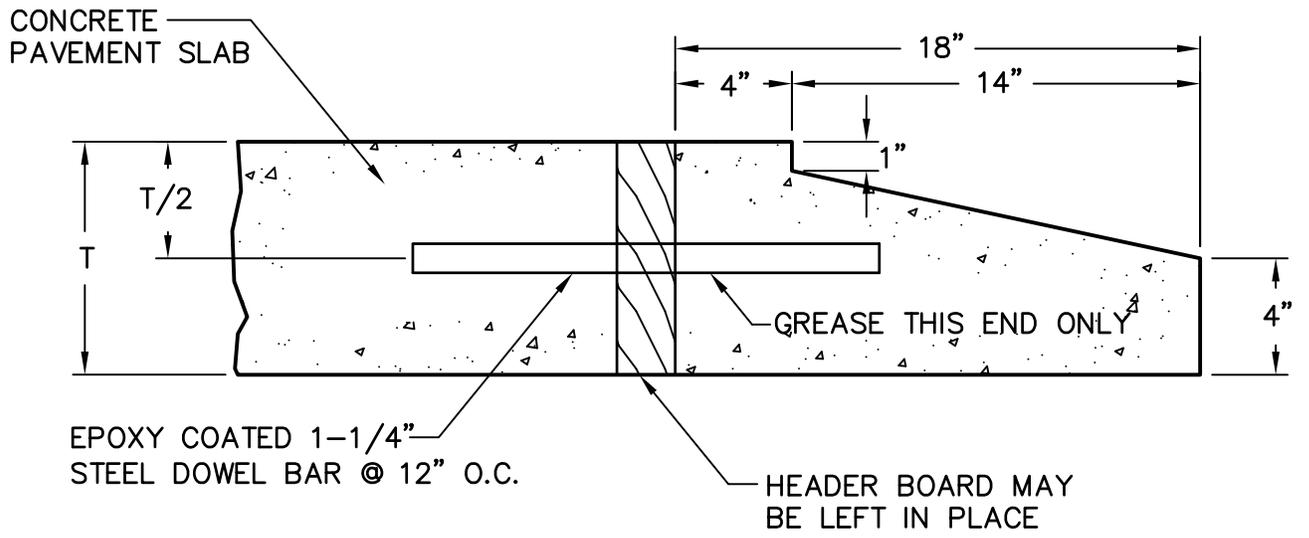
NOTE: ALL REINFORCEMENT BARS SHALL BE EPOXY COATED.

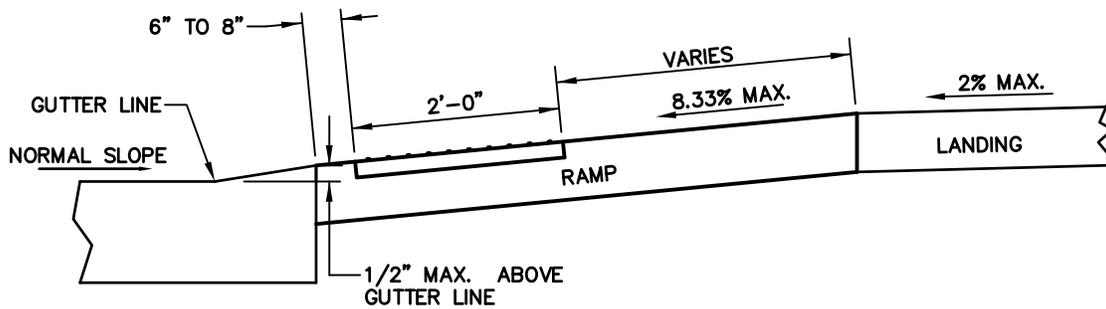
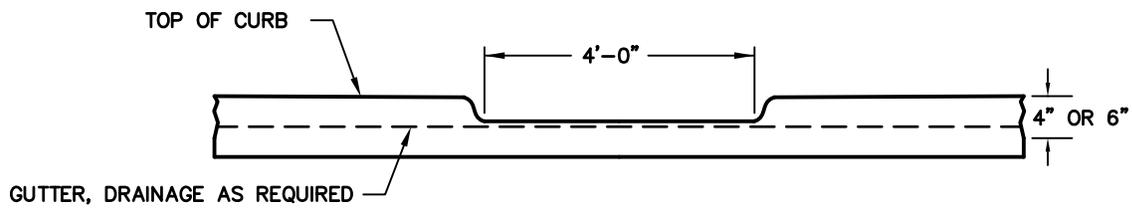
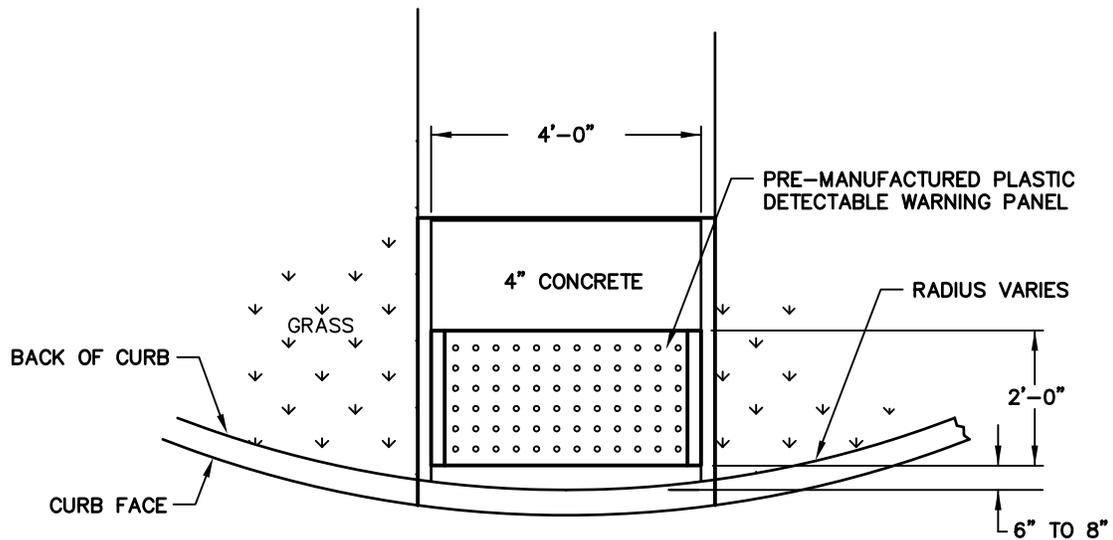






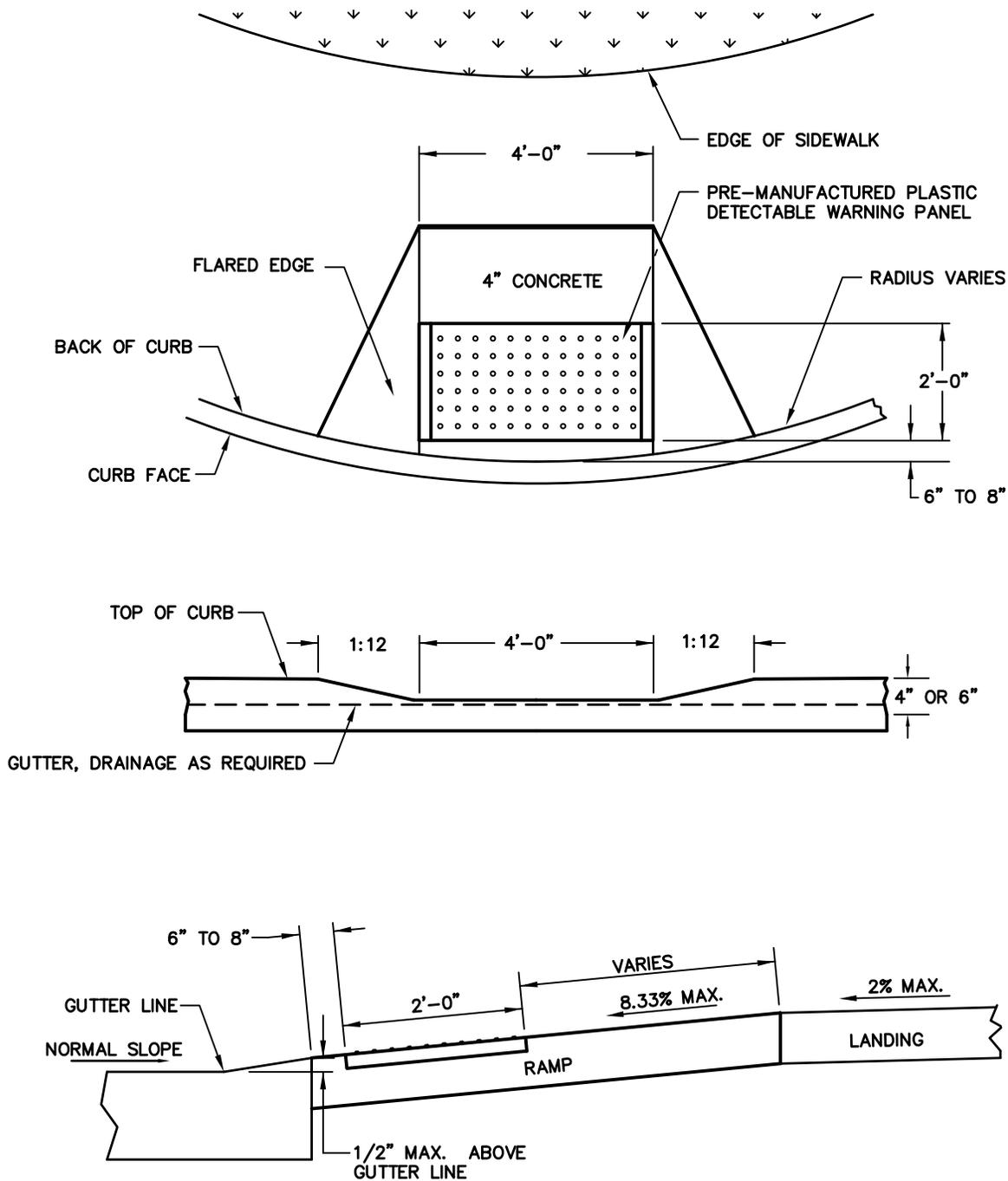
CROSS-SECTION TRANSVERSE TO STREET





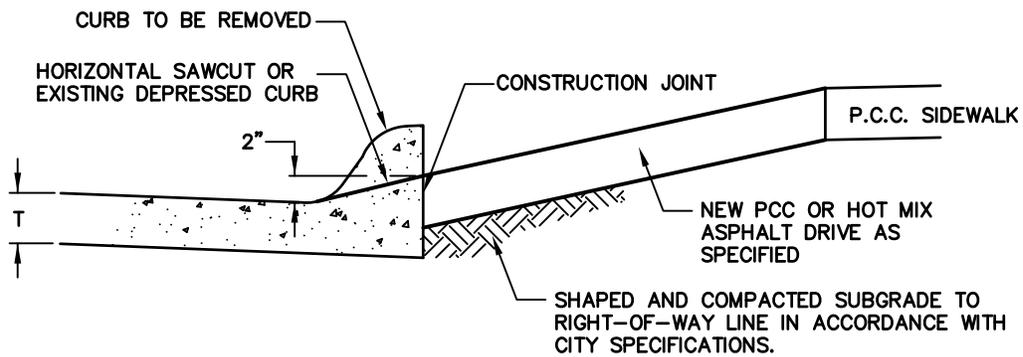
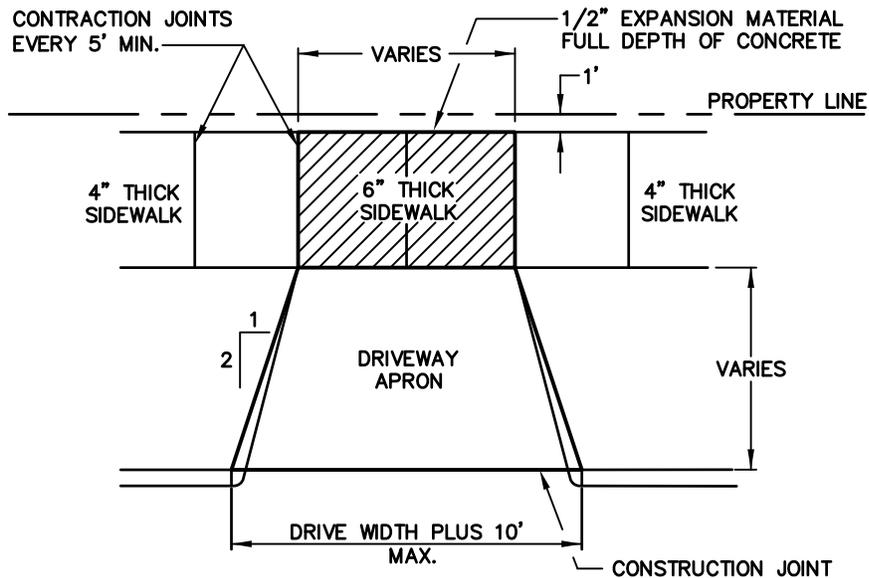
NOTES:

- 1.) DETECTABLE WARNINGS SHALL BE INSTALLED AT CURB RAMPS, MEDIANS AND PEDESTRIAN REFUGE ISLANDS, AT-GRADE RAILROAD CROSSINGS, AND OTHER LOCATIONS WHERE PEDESTRIANS ARE REQUIRED TO CROSS A HAZARDOUS VEHICULAR WAY. DETECTABLE WARNINGS SHALL ALSO BE INSTALLED AT ALLEYS AND COMMERCIAL ENTRANCES WHEN PERMANENT TRAFFIC CONTROL DEVICES ARE PRESENT.
- 2.) ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H)



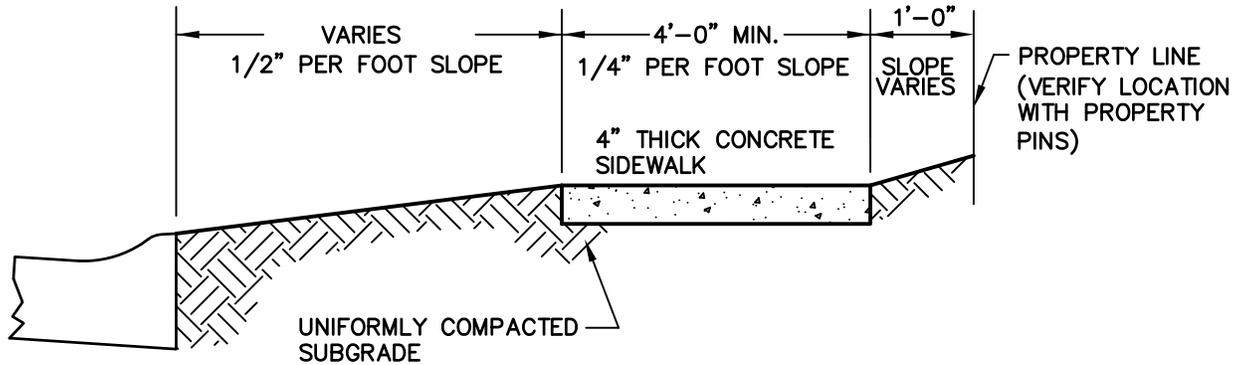
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- 2.) ALL SLOPE RATIOS ARE EXPRESSED AS UNITS OF VERTICAL DISPLACEMENT TO UNITS OF HORIZONTAL DISPLACEMENT (V:H)
- 3.) THE MAXIMUM SIDE SLOPE OF THE FLARE SHALL BE 1:12 UNLESS THE WIDTH OF THE LANDING IS LESS THAN 4'-0", THEN THE FLARE SLOPE SHALL NOT EXCEED 1:10

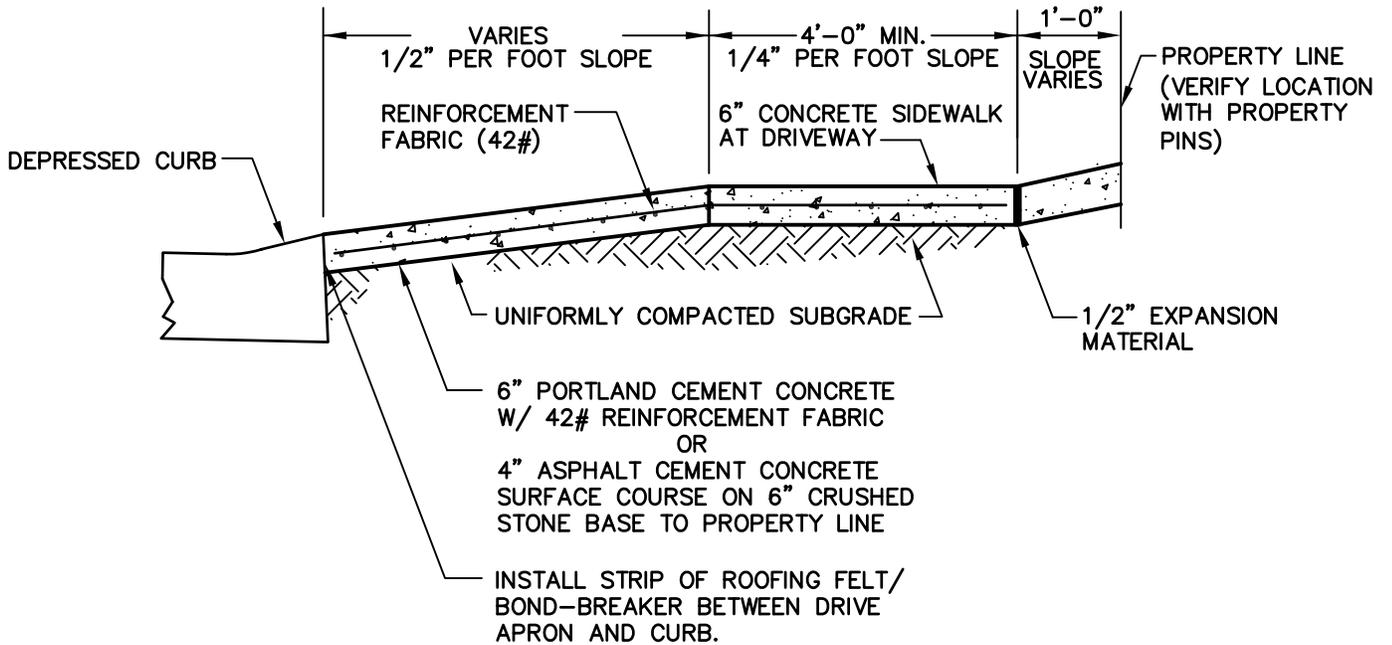


NOTES:

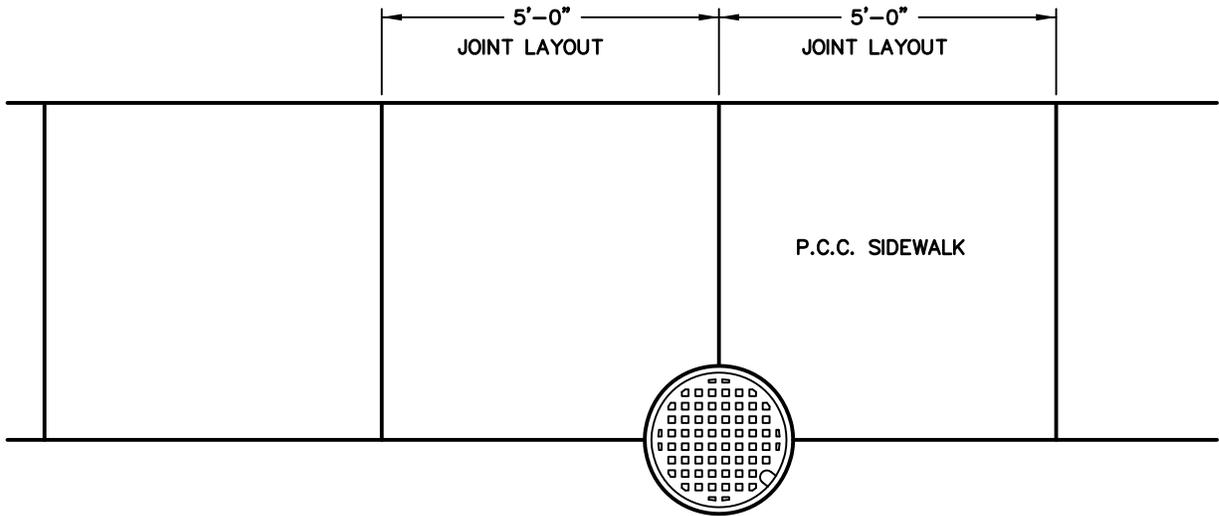
- 1.) DRIVEWAY APRON THICKNESS REQUIREMENT IS 6" PORTLAND CEMENT CONCRETE (W/ REINF. FABRIC) ON COMPACTED EARTHEN BASE OR 4" HOT MIX ASPHALT ON 6" COMPACTED CRUSHED STONE TO PROPERTY LINE.
- 2.) CONCRETE FOR SIDEWALK AND STREET PAVEMENT TO MEET CITY SPECIFICATION.
- 3.) REMOVAL OF CURB NOT PERMITTED WITHOUT PRIOR APPROVAL BY CITY ENGINEER.
- 4.) MAXIMUM RESIDENTIAL DRIVE WIDTH AT CURB IS 35'.
- 5.) MAXIMUM COMMERCIAL DRIVE WIDTH AT CURB IS 45'.



RESIDENTIAL SIDEWALK

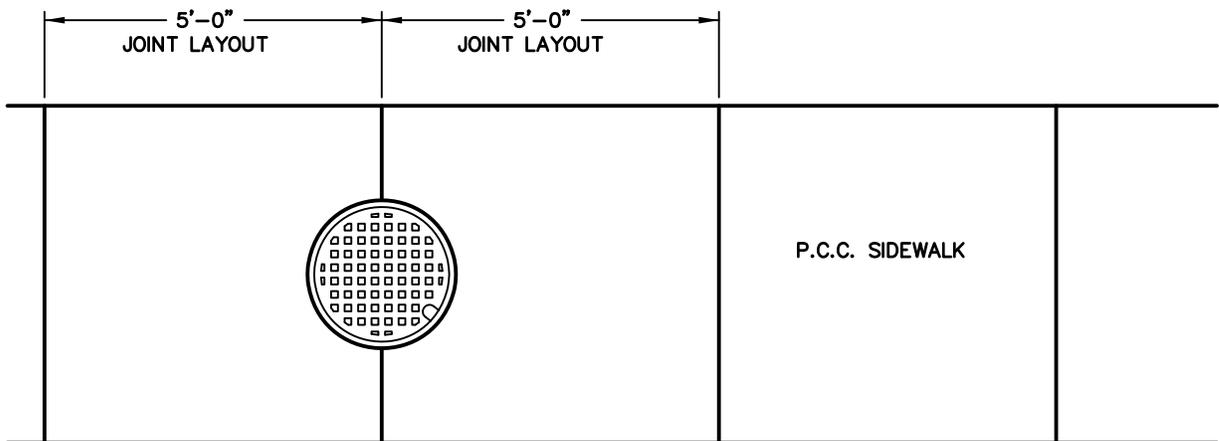


RESIDENTIAL AND COMMERCIAL DRIVE AND SIDEWALK

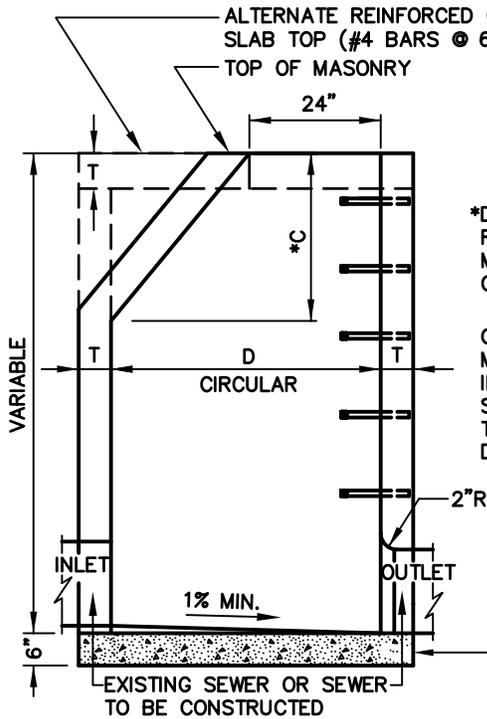


MANHOLE PARTIALLY IN SIDEWALK

NOTE:
EXPANSION MATERIAL SHALL NOT BE REQUIRED



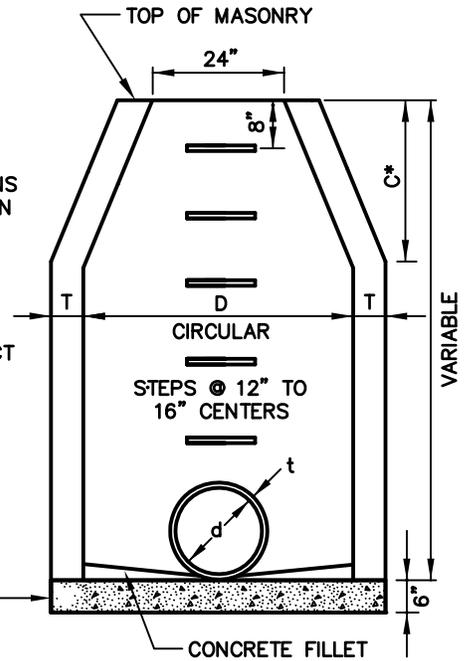
MANHOLE IN SIDEWALK



ELEVATION - ECCENTRIC

*DIMENSION "C" FOR PRECAST REINFORCED CONCRETE SECTIONS MAY VARY FROM THE DIMENSION GIVEN TO PLUS 6".

CONTRACTOR SHALL COMPACT MANHOLE BEDDING TO PIPE INVERT TO AVOID DIFFERENTIAL SETTLEMENT OF PIPE. COMPACT TO 95% STANDARD PROCTOR DENSITY.



ELEVATION - CONCENTRIC

GENERAL NOTES

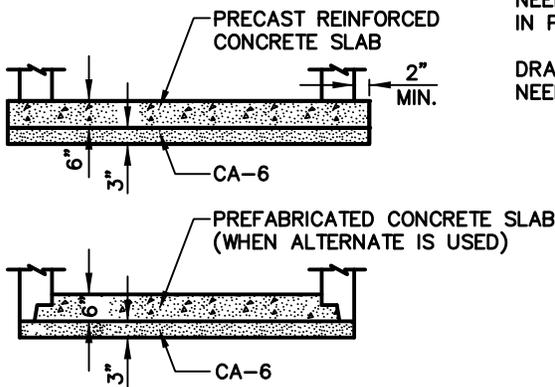
JOINT CONFIGURATION AND DIMENSIONS OF FLAT SLAB TOP SHALL MATCH AND FIT THE RISER JOINT DETAIL.

LIFTING DEVICES SHALL BE APPROVED BY THE ENGINEER.

FRAME AND LID

PAVEMENT AND NON-DRAINAGE LOCATIONS:
NEENAH R1772 W/SOLID LID; NON-ROCKING
IN PAVEMENT AREAS.

DRAINAGE LOCATIONS:
NEENAH R1772 W/ TYPE A OPEN GRATE

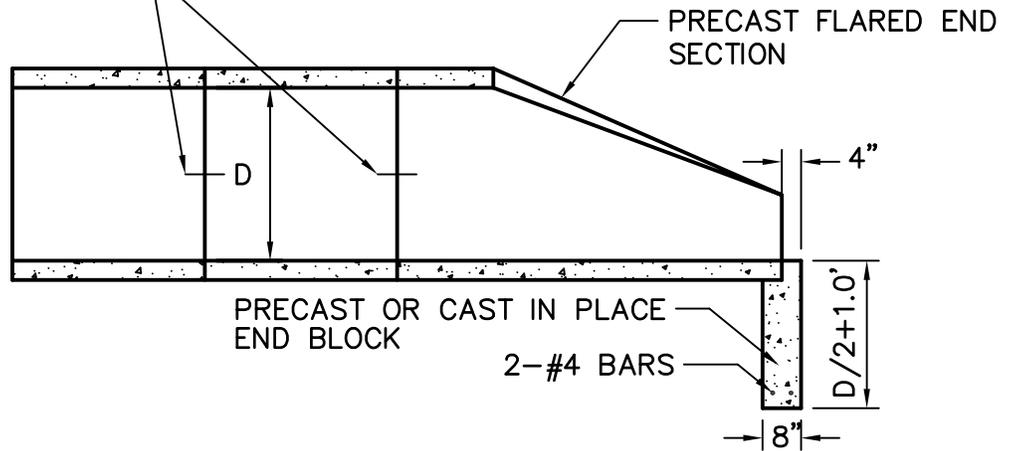


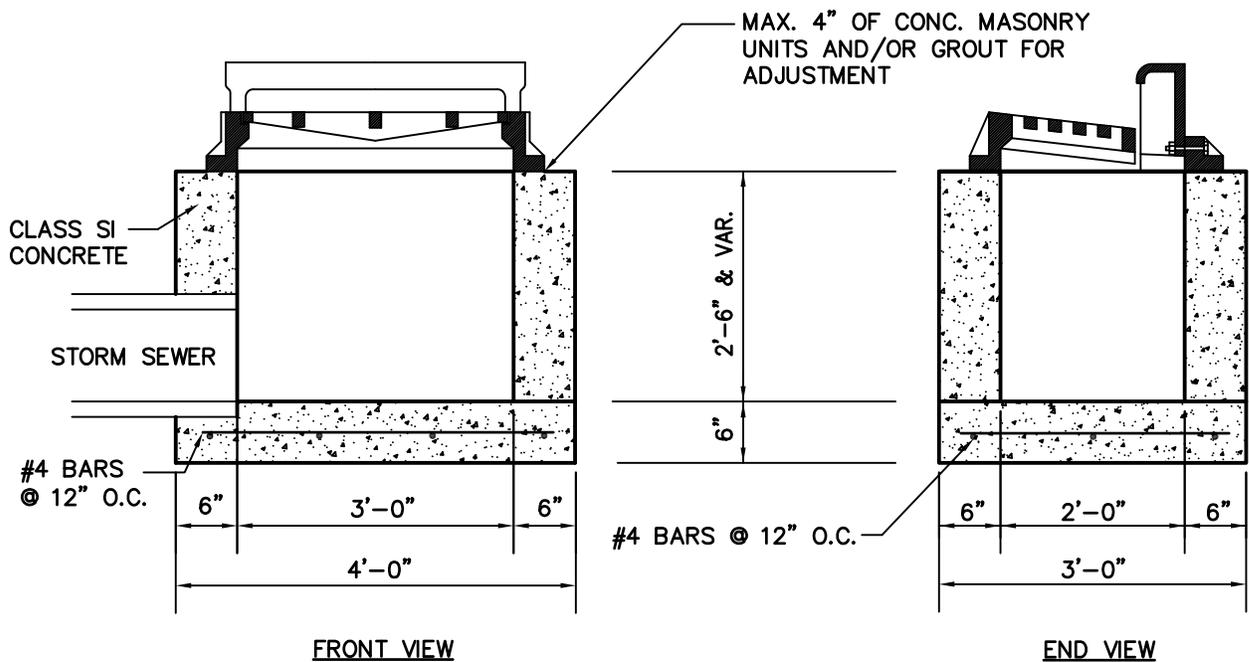
ALTERNATE BOTTOM SLAB

DIMENSION KEY	D	C	T (MIN.)
3-FOOT DIAMETER MANHOLE	36"	15"	4"
4-FOOT DIAMETER MANHOLE	48"	30"	5"
5-FOOT DIAMETER MANHOLE	60"	45"	6"
6-FOOT DIAMETER MANHOLE	72"		7"
8-FOOT DIAMETER MANHOLE	96"		8"

**PRECAST REINFORCED CONCRETE SECTIONS SHALL BE USED UNLESS DIRECTED OTHERWISE BY THE ENGINEER.

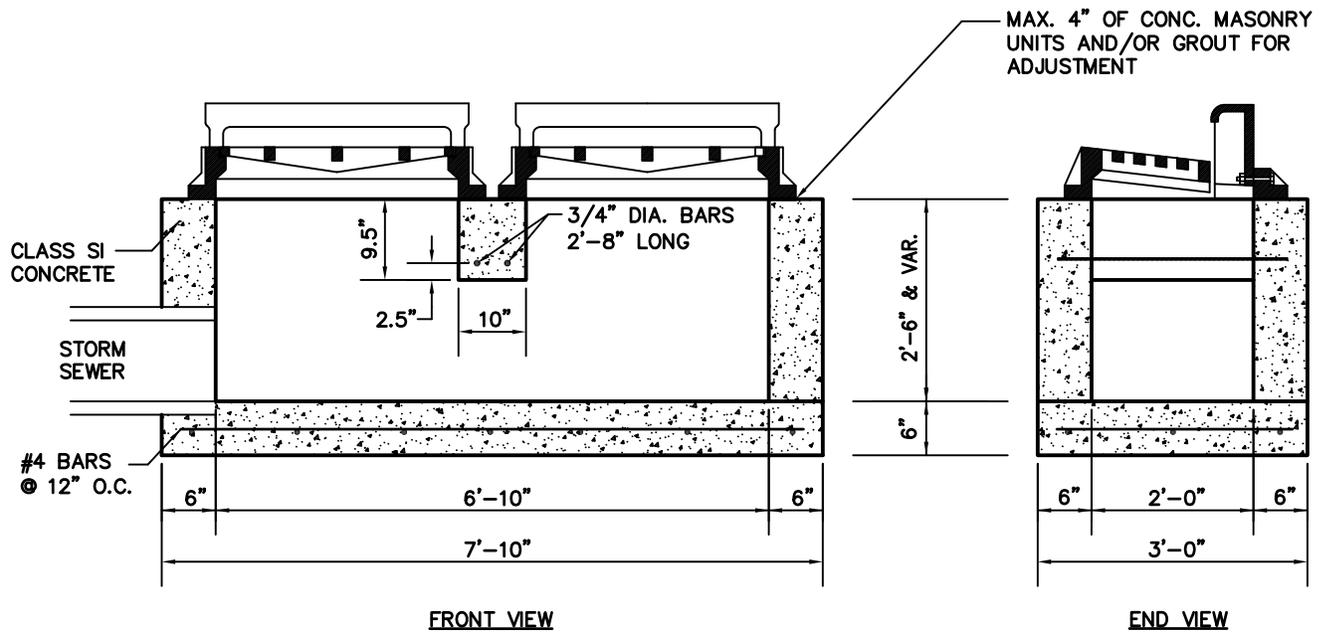
TIE 2 JOINTS WITH PIPE CONNECTORS





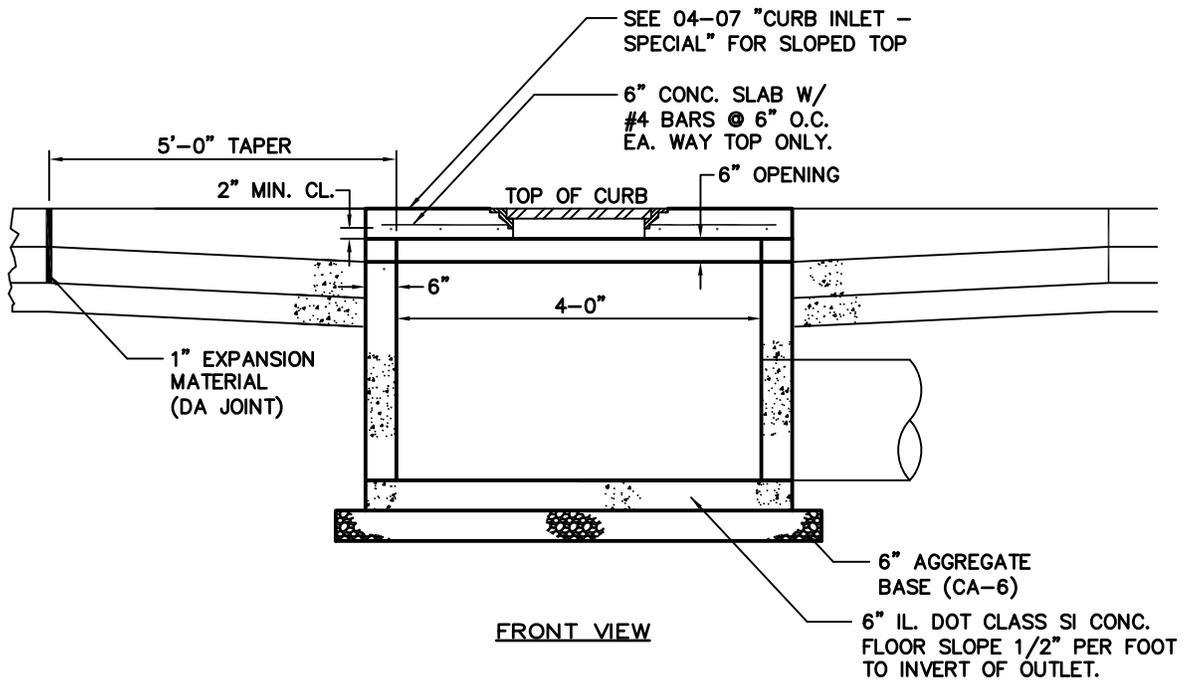
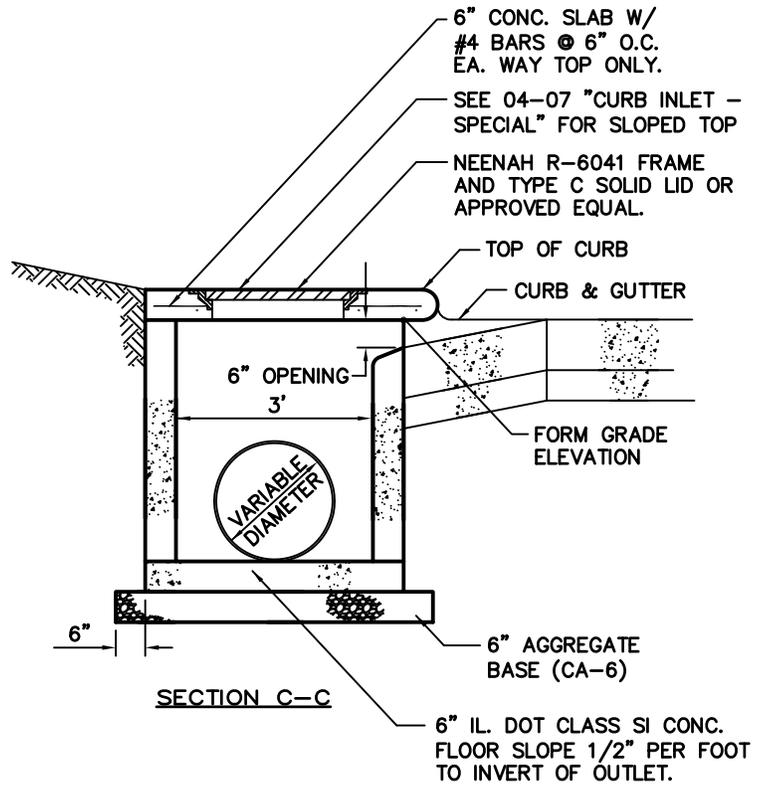
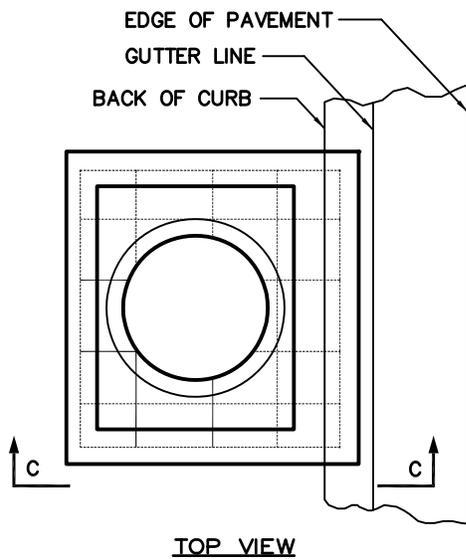
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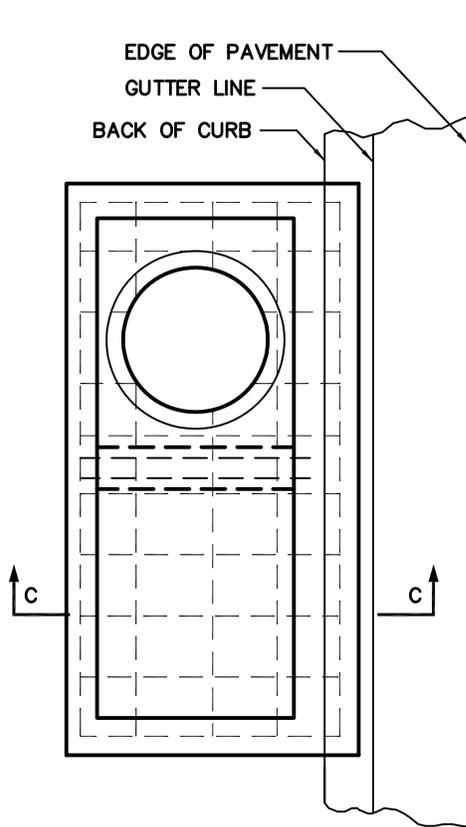
- 1.) INLET BOXES ARE TO BE USED WITH NEENAH R-3246 OR APPROVED EQUAL, INLET FRAME, CURB BOX, & TYPE C GRATE OPENINGS.
- 2.) INLET BOXES MAY BE PRECAST OR CAST IN PLACE.
- 3.) INVERTED CROWN ALLEY INLETS TO USE NEENAH TYPE R-3382 FRAME & GRATE OR APPROVED EQUAL.



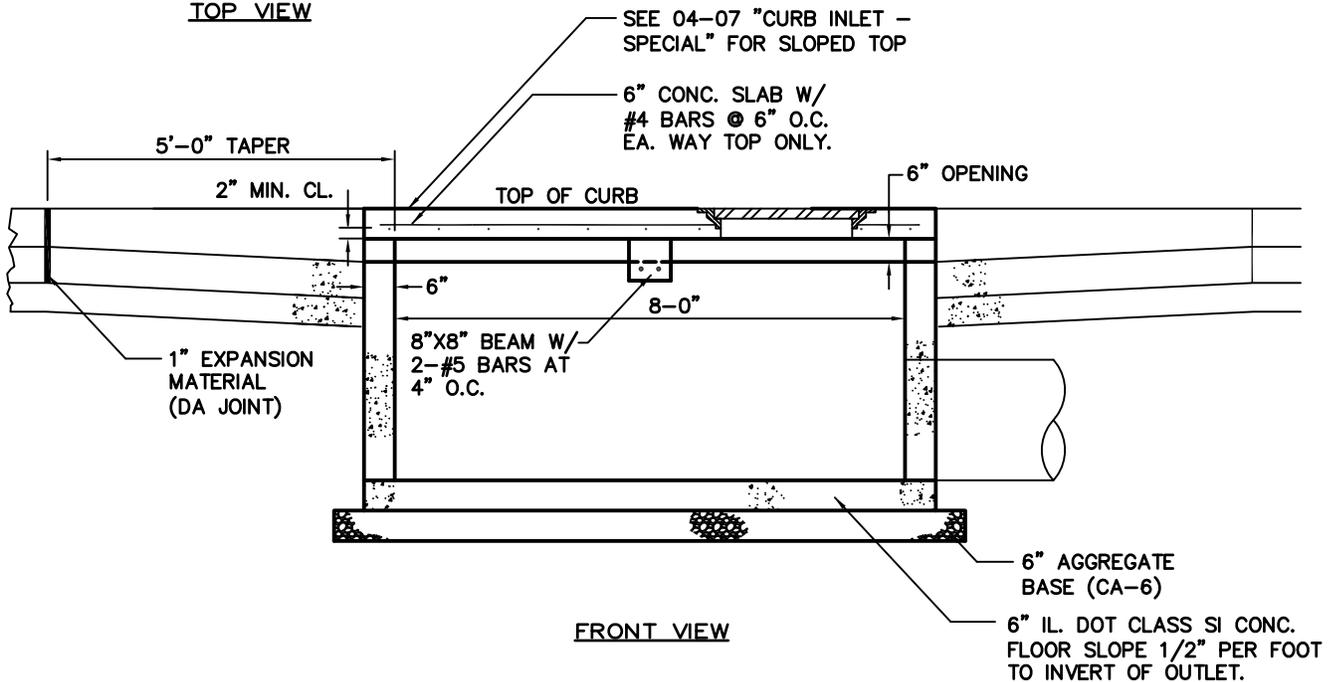
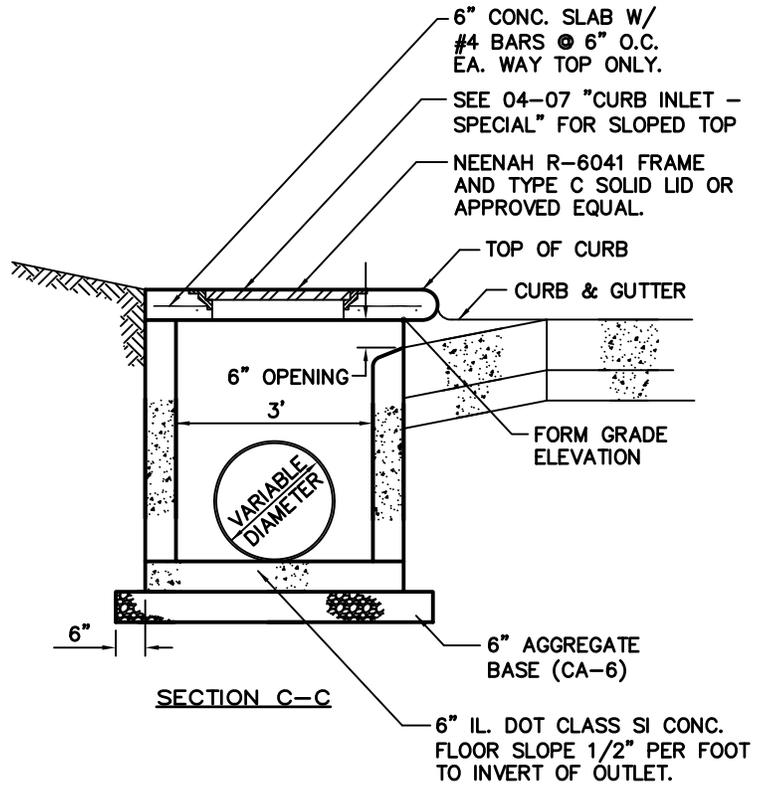
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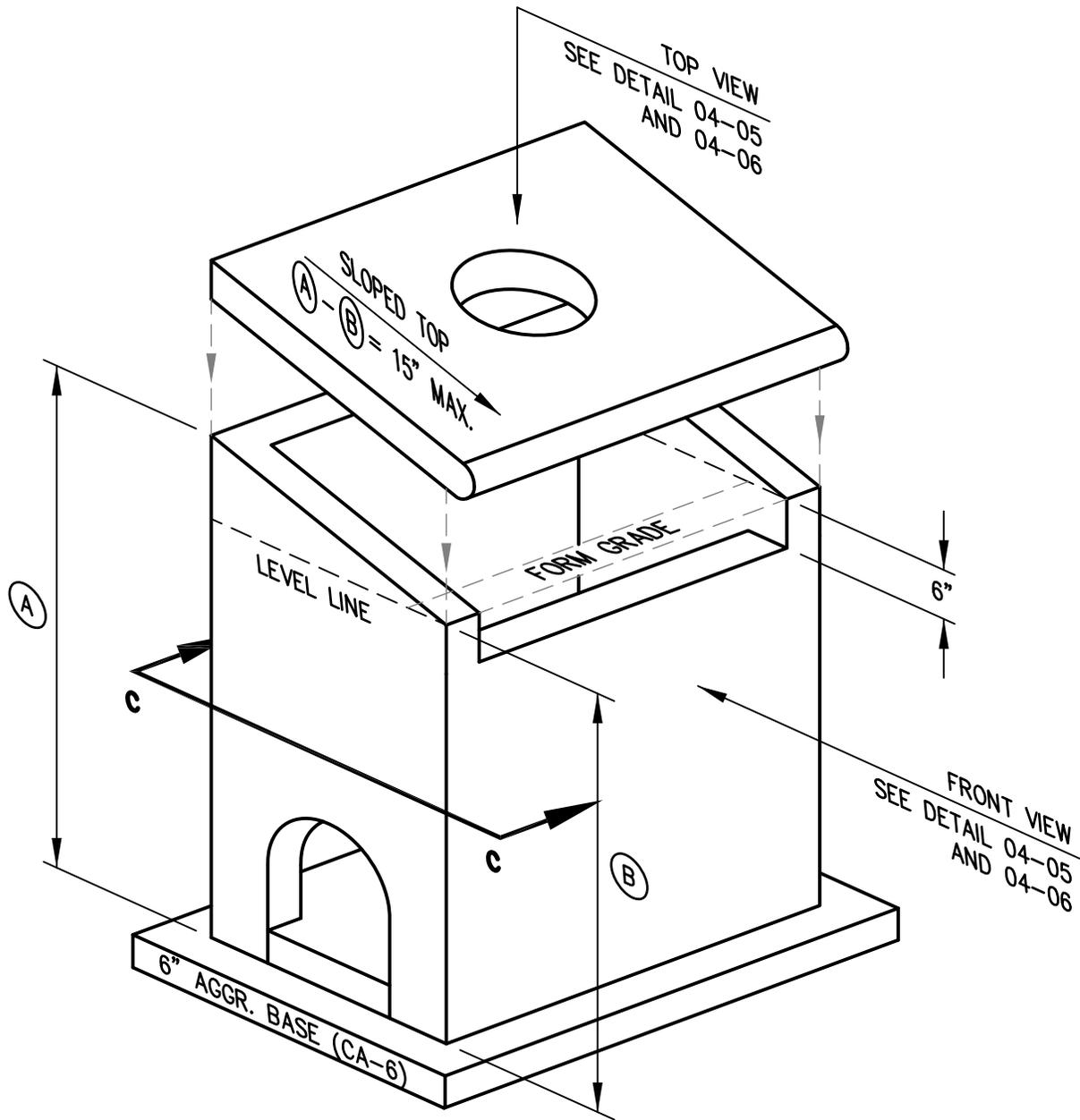
- 1.) INLET BOXES ARE TO BE USED WITH NEENAH R-3246 OR APPROVED EQUAL, INLET FRAME, CURB BOX, & TYPE C GRATE OPENINGS.
- 2.) INLET BOXES MAY BE PRECAST OR CAST IN PLACE.





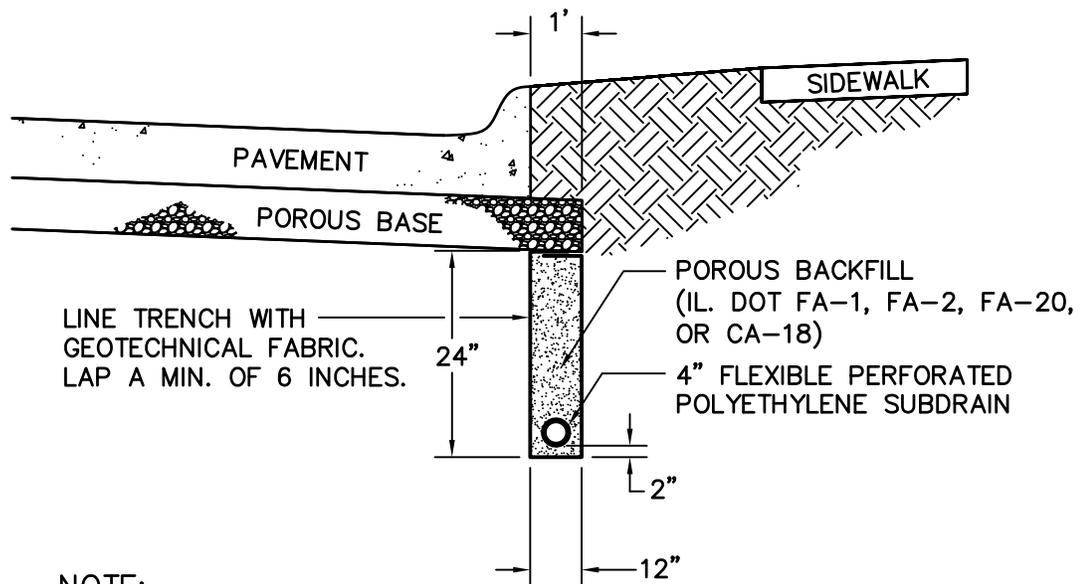
TOP VIEW





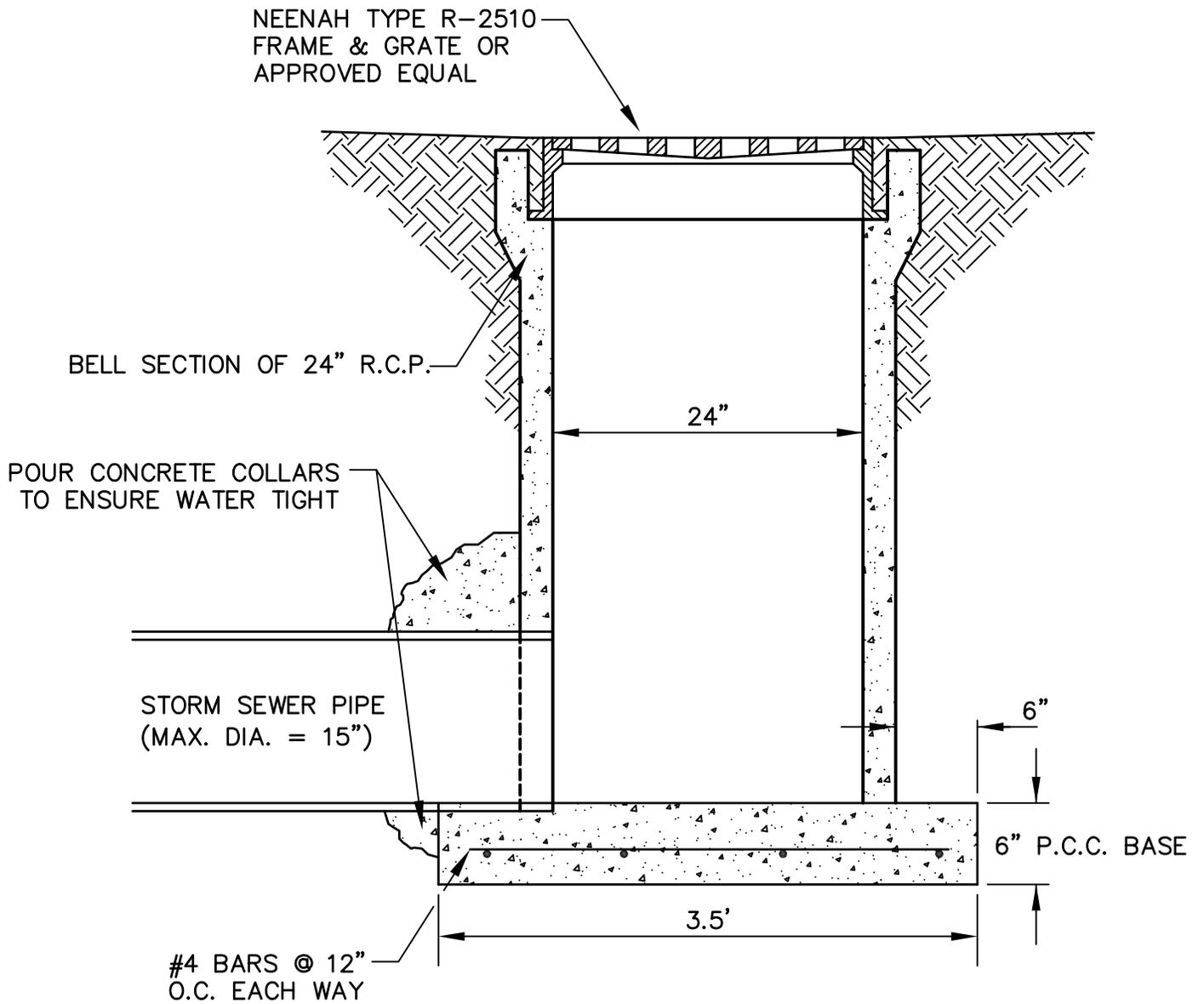
NOTES:

- 1.) SLOPED TOP "CURB INLET - SPECIAL" IS INTENDED TO BE USED TO MATCH EXISTING GRADES WHERE THE MATCHING SLOPE EXCEEDS 4.0% AND AT LOCATIONS CALLED FOR ON THE CONSTRUCTION PLANS.
- 2.) CONSTRUCTION OF INLET SHALL BE CAST IN-PLACE CONCRETE TO MATCH DIMENSIONS AND NOTES AS CALLED OUT ON STANDARD CONSTRUCTION DETAIL 04-05 "CURB INLET - SMALL" AND 04-06 "CURB INLET - LARGE".
- 3.) SLOPED TOP SLAB SHALL BE GROUTED IN-PLACE USING A THIN MORTAR (1" THICK) BED.

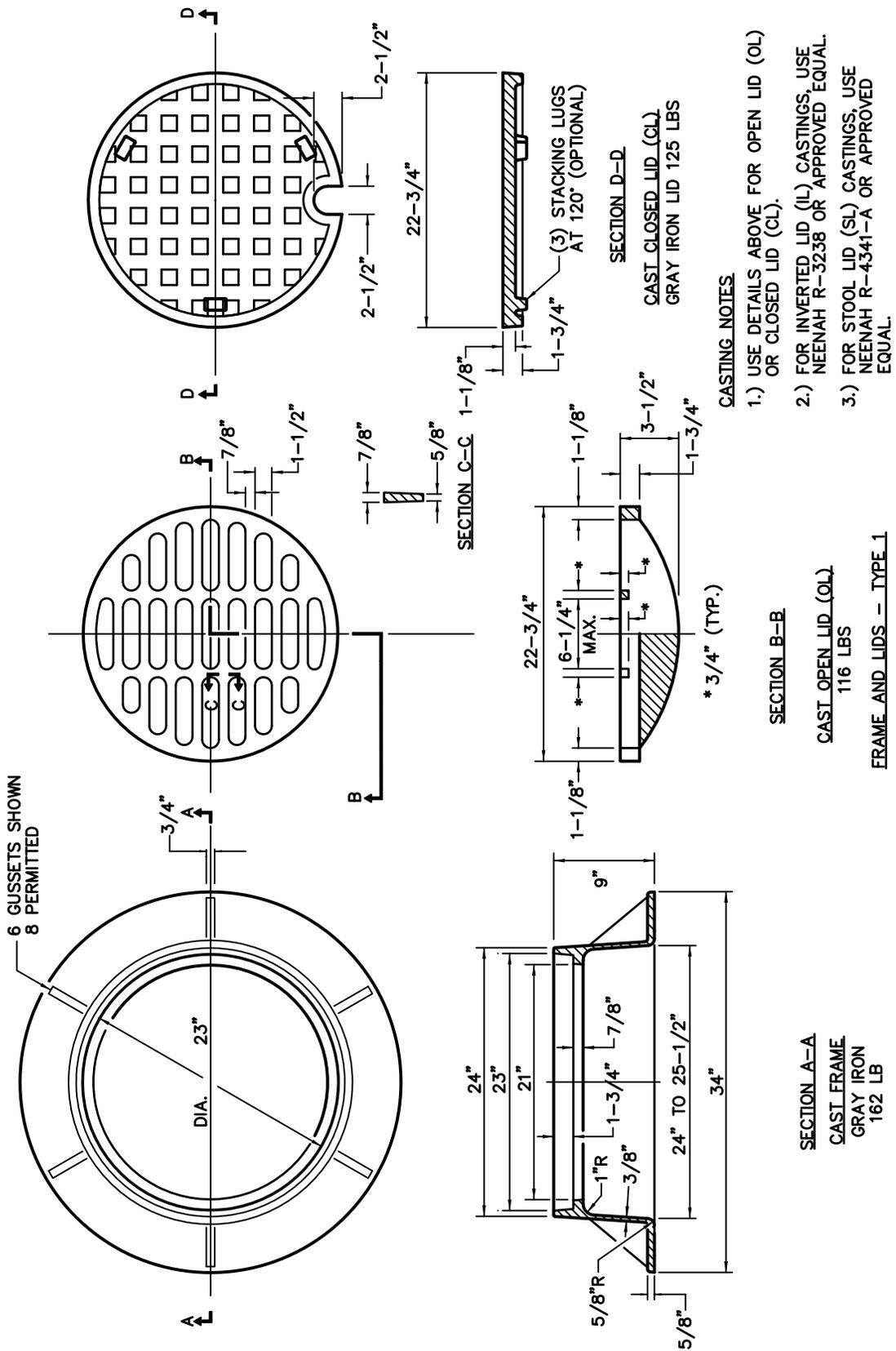


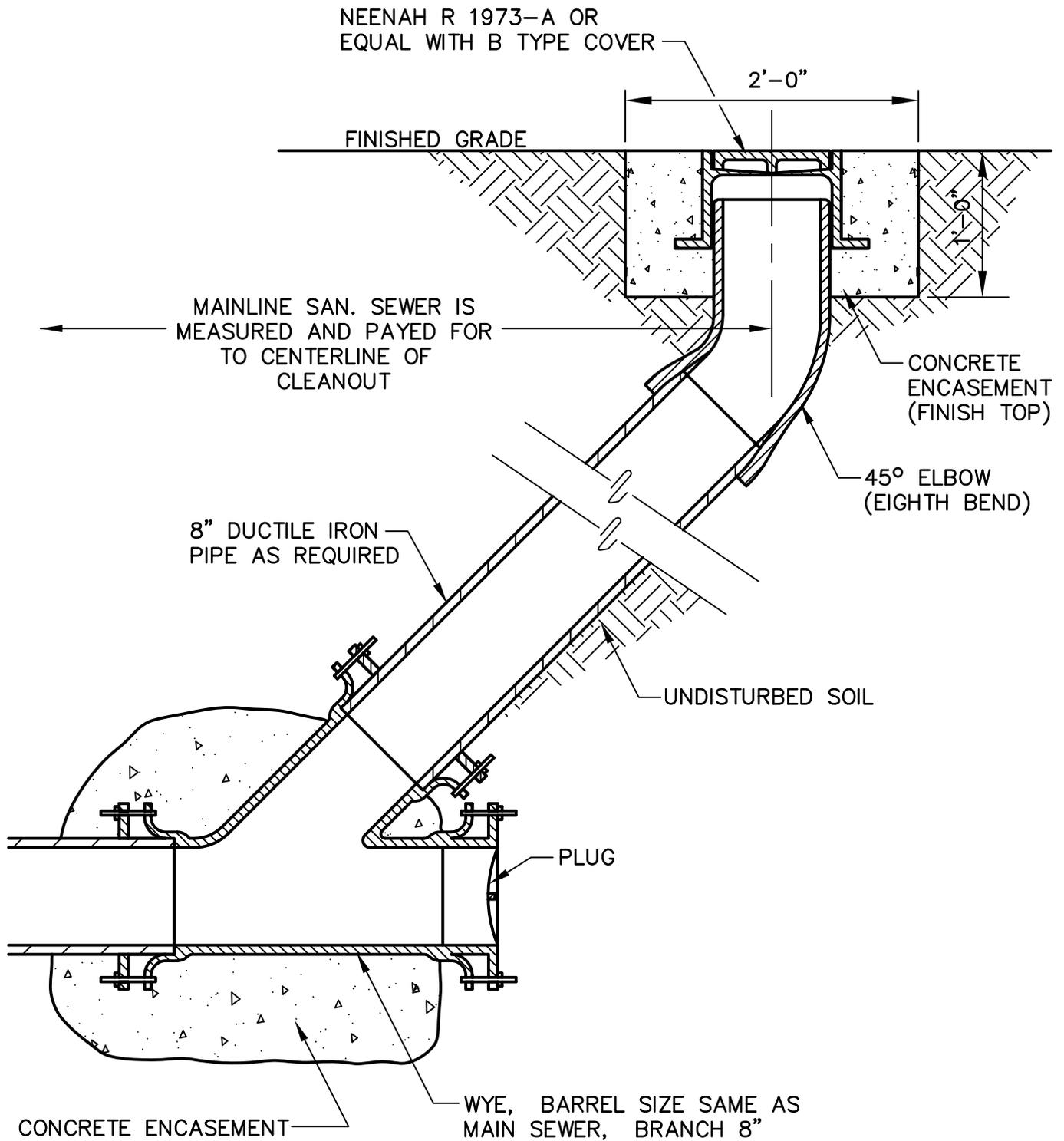
NOTE:

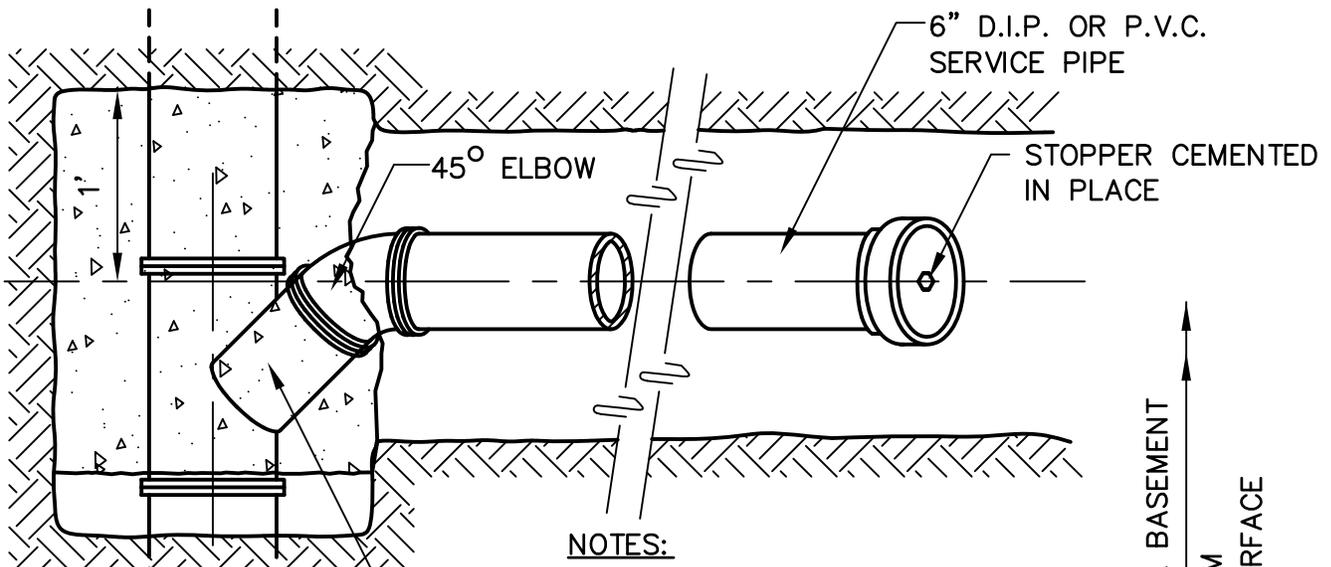
- 1.) EXCAVATION, DISPOSAL OF WASTE MATERIAL, GEOTECHNICAL FABRIC AND POROUS BACKFILL SHALL BE CONSIDERED INCIDENTAL TO THE SUBDRAIN.
- 2.) GRADATION OF POROUS AGGREGATE BASE SHALL BE AS REQUIRED BY THE ENGINEERING DEPARTMENT.



NOTE: MAY UTILIZE R-2563 OR 2510-A (BEEHIVE) FRAME AND GRATE OR APPROVED EQUAL, WHEN SPECIFIED IN THE CONSTRUCTION PLANS.

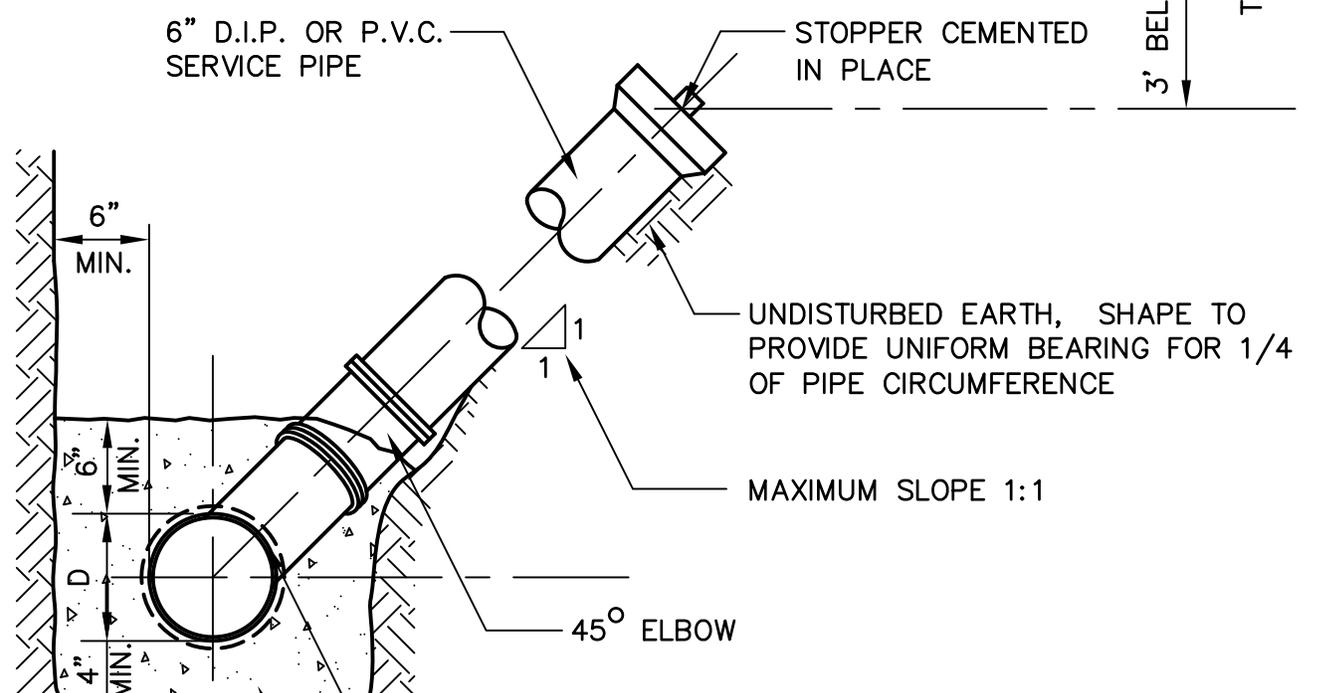






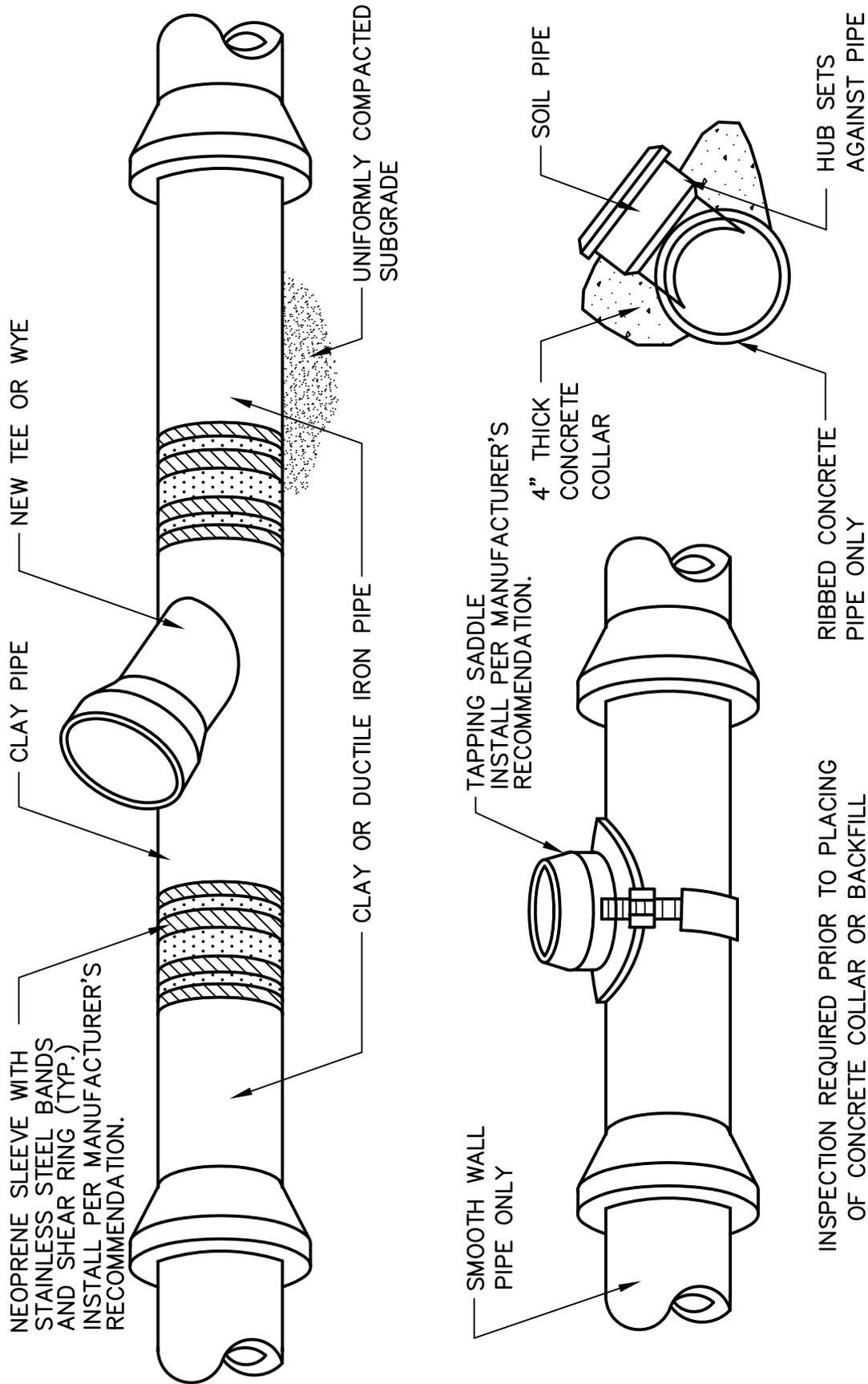
NOTES:

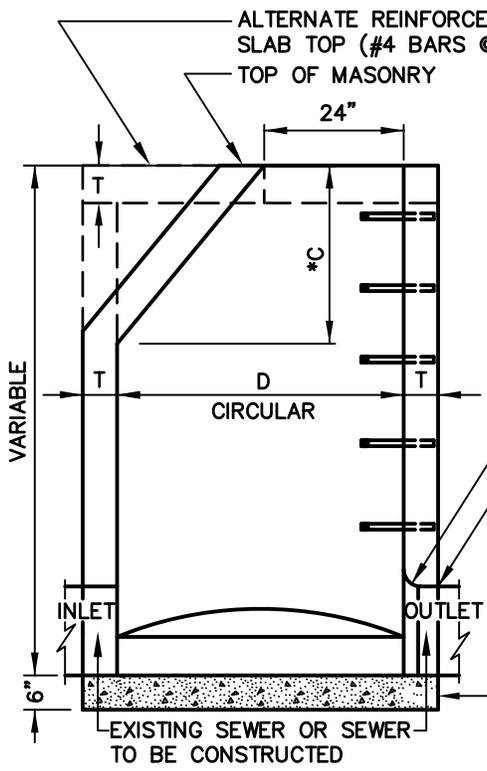
- 1.) D.I.P. SHALL BE CLASS 52 W/ PUSH-ON JOINTS
- 2.) P.V.C. SHALL BE SDR-26 W/ PUSH-ON JOINTS



NOTE:

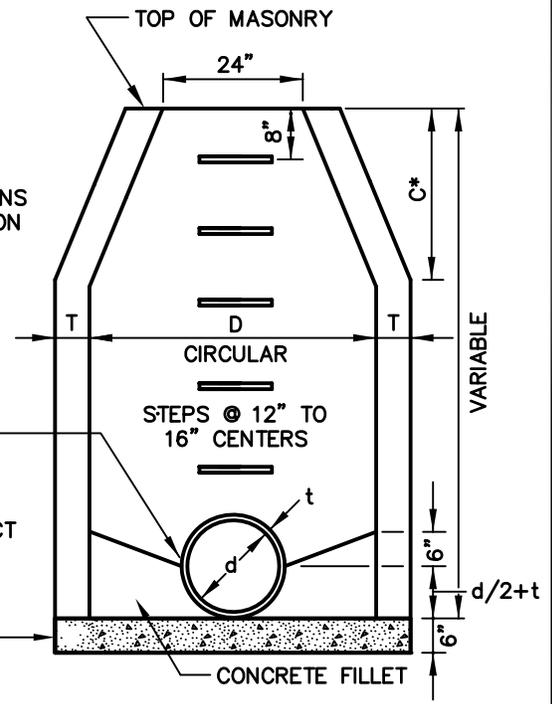
- RISERS TO BE CONSTRUCTED WHERE SEWER DEPTH EXCEEDS 6' BELOW POTENTIAL BASEMENT.
- ALL SERVICE SEWERS SHALL BE 6" D.I.P OR P.V.C. AS SPECIFIED ABOVE.





ELEVATION - ECCENTRIC

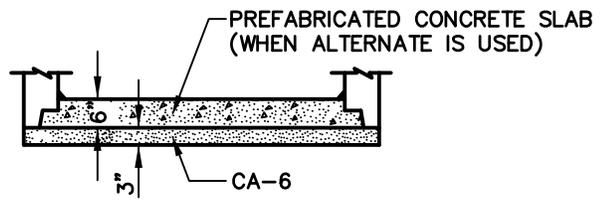
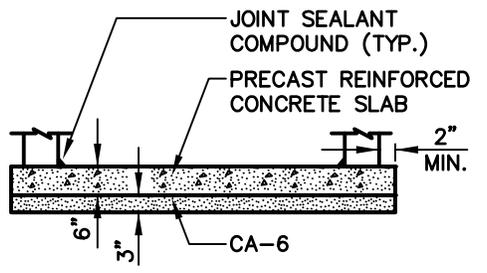
*DIMENSION "C" FOR PRECAST REINFORCED CONCRETE SECTIONS MAY VARY FROM THE DIMENSION GIVEN TO PLUS 6".



ELEVATION - CONCENTRIC

GENERAL NOTES

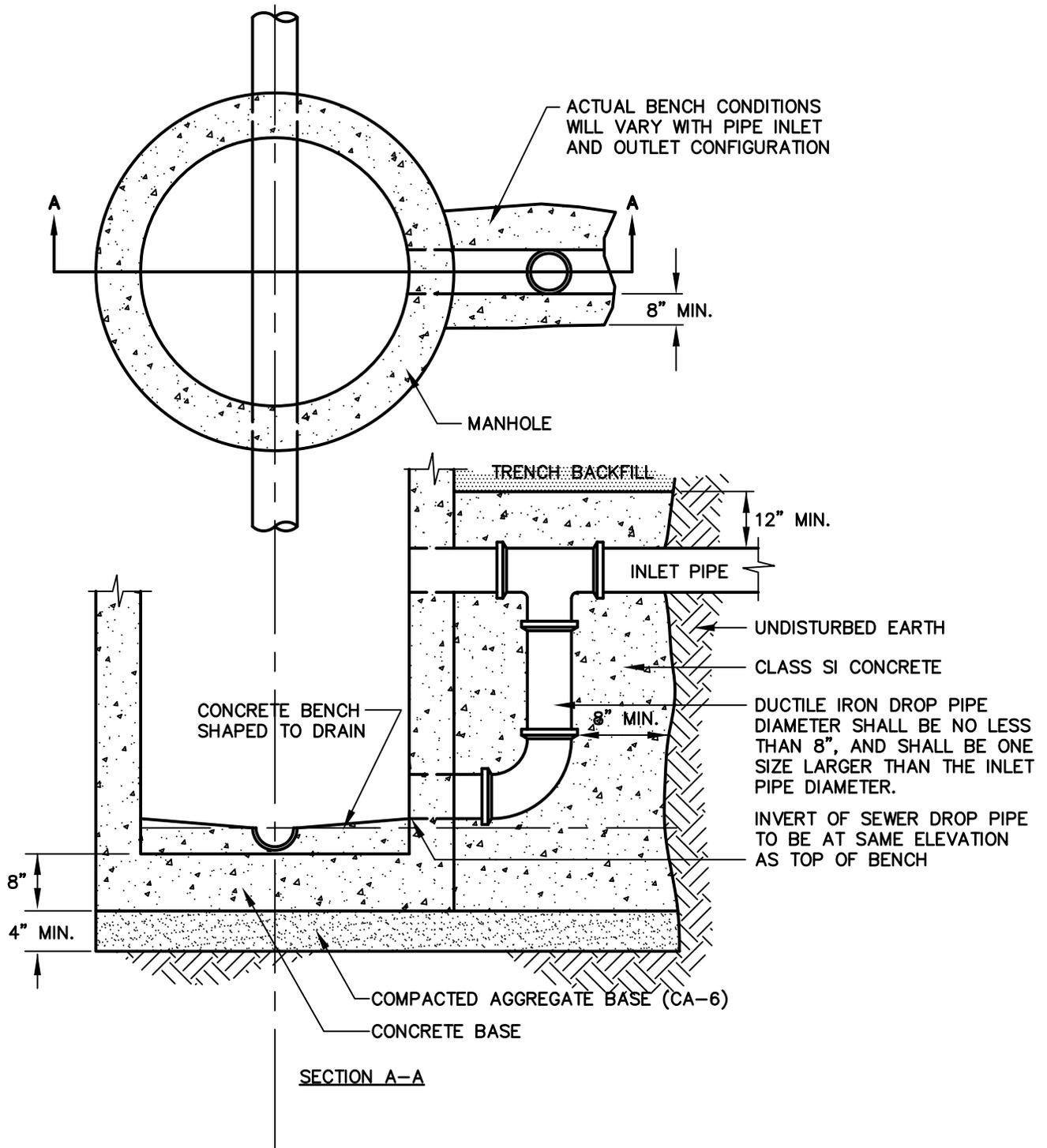
- JOINT CONFIGURATION AND DIMENSIONS OF FLAT SLAB TOP SHALL MATCH AND FIT THE RISER JOINT DETAIL.
- LIFTING DEVICES SHALL BE APPROVED BY THE ENGINEER.
- FRAME AND LID: NEENAH R1772 W/ SOLID LID AND "SANITARY" LETTERING; NON-ROCKING IN PAVEMENT AREAS
- EXTERIOR OF MANHOLE SEALED WITH BITUMASTIC MATERIAL FEDERAL SPECIFICATION SSC153C



ALTERNATE BOTTOM SLAB

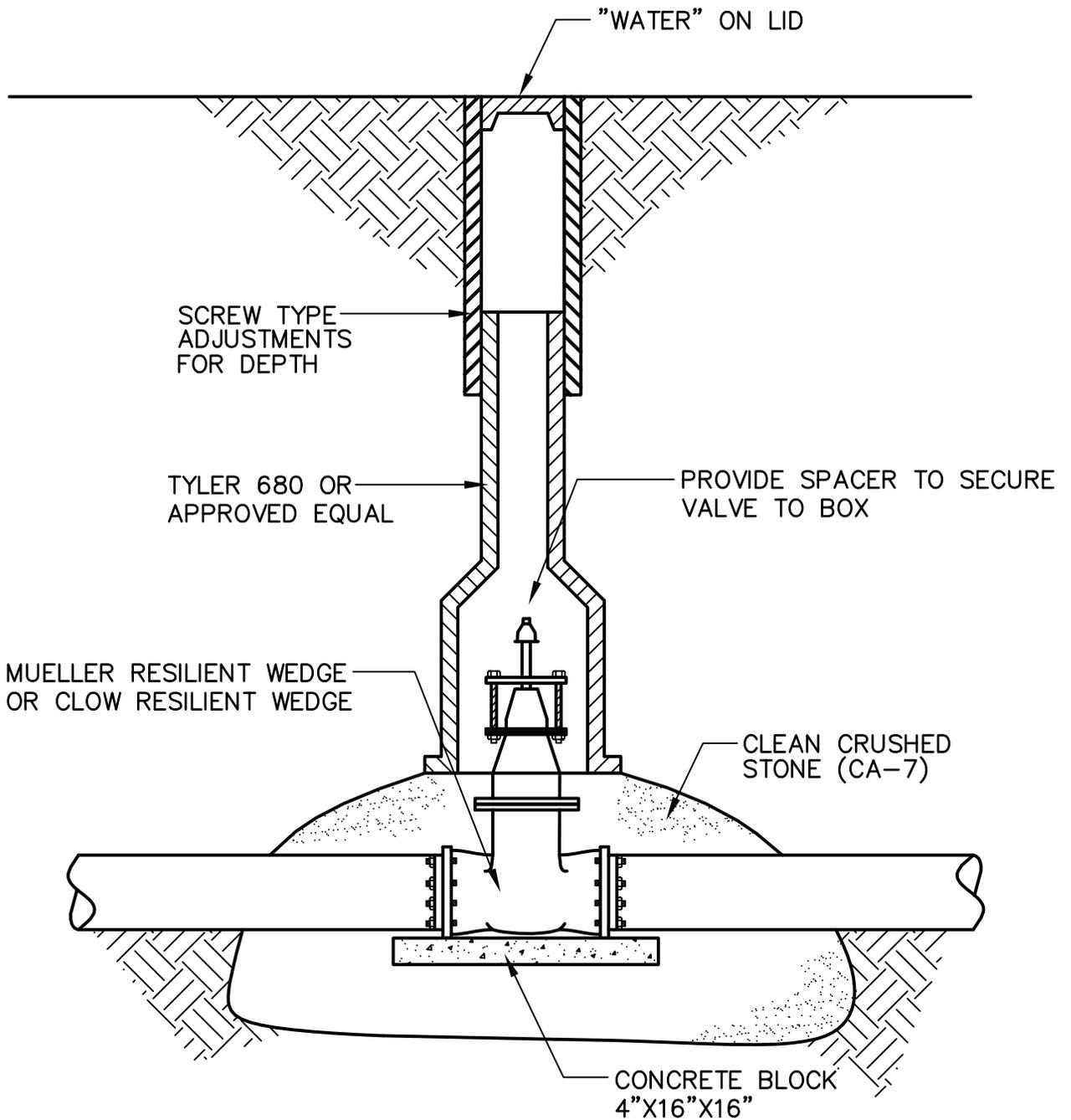
DIMENSION KEY	D	C	T (MIN.)
3-FOOT DIAMETER MANHOLE	36"	15"	4"
4-FOOT DIAMETER MANHOLE	48"	30"	5"
5-FOOT DIAMETER MANHOLE	60"	45"	6"
6-FOOT DIAMETER MANHOLE	72"		7"
8-FOOT DIAMETER MANHOLE	96"		8"

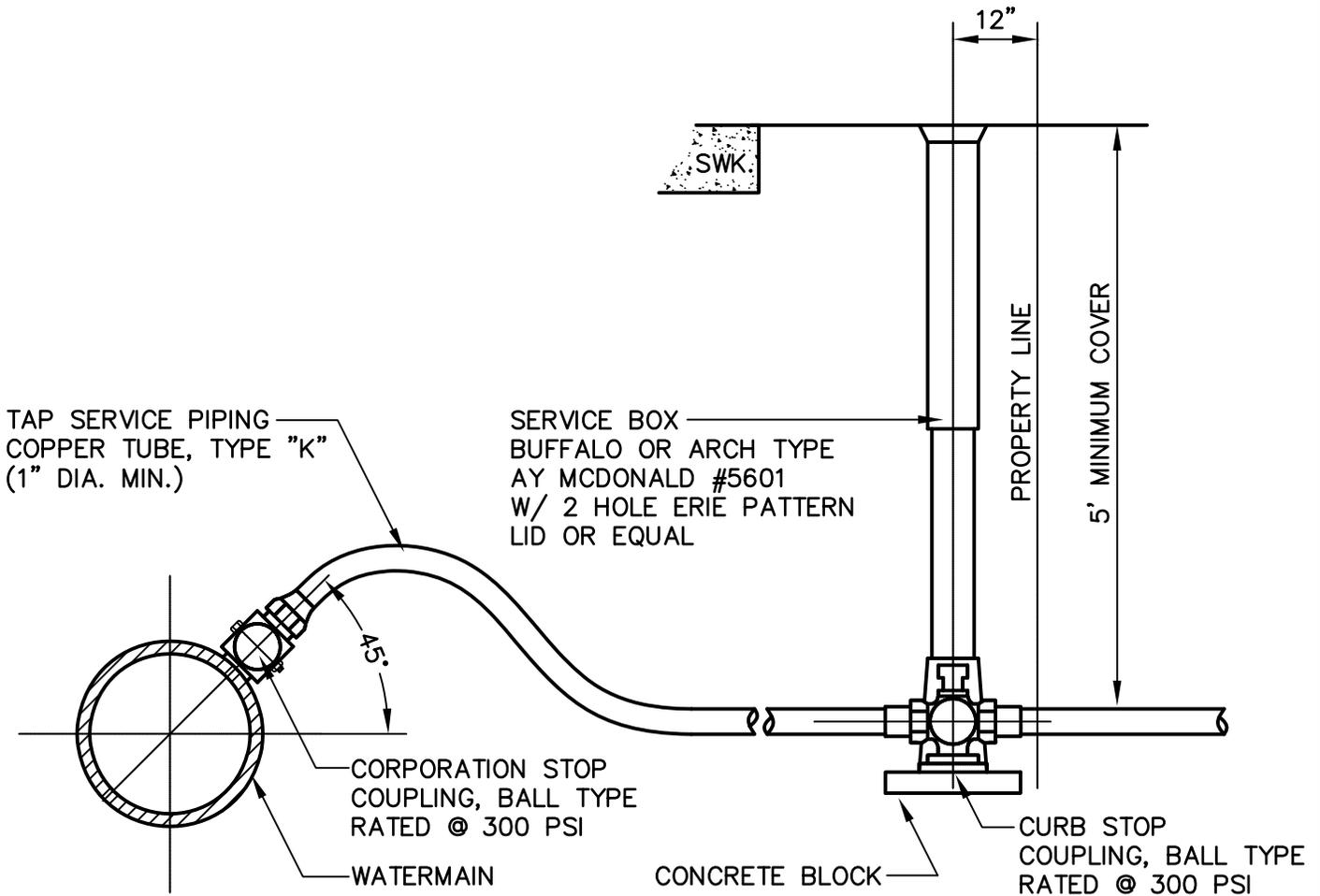
**PRECAST REINFORCED CONCRETE SECTIONS SHALL BE USED UNLESS DIRECTED OTHERWISE BY THE ENGINEER.



NOTES:

- 1.) DROP MANHOLE WILL BE REQUIRED WHERE DIFFERENCE BETWEEN INVERT ELEVATION OF INLET PIPE AND DOWNSTREAM PIPE IS GREATER THAN 24".
- 2.) NON-PRECAST OPENINGS SHALL BE CORED, RUBBER BOOTED AND INTERIOR MORTARED AROUND PIPE.

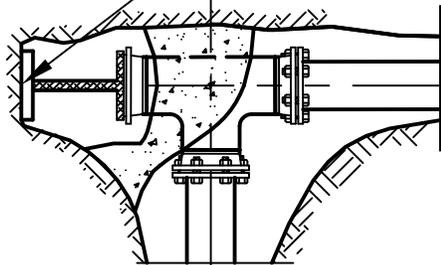




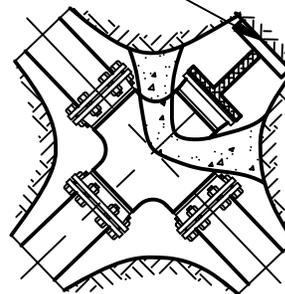
NOTES:

- 1.) ALL CONNECTIONS ARE FLARE TYPE CONFORMING TO AWWA/ANSI C800
- 2.) EACH WATER SERVICE PIPE SHALL BE CONNECTED TO THE WATERMAIN THROUGH A BRASS CORPORATION STOP. THE MAIN SHALL BE TAPPED AT AN ANGLE OF 45 DEGREES WITH THE VERTICAL. THE STOP MUST BE TURNED SO THAT THE T-HANDLE WILL BE ON TOP.
- 3.) A STAINLESS STEEL TAPPING SADDLE SHALL BE USED FOR SERVICE CONNECTIONS TO PVC WATERMANS.

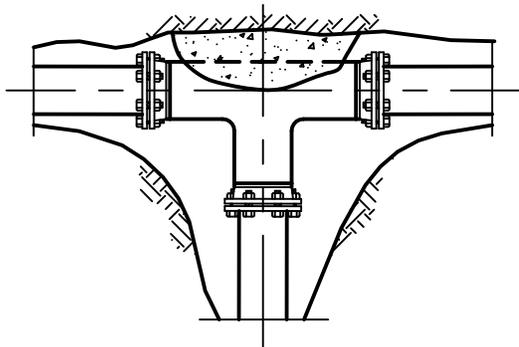
BRACE PLUG AGAINST
UNDISTURBED EARTH



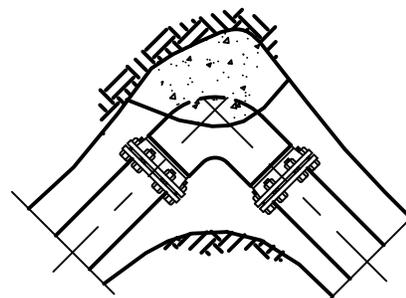
PLUGGED TEE



PLUGGED CROSS



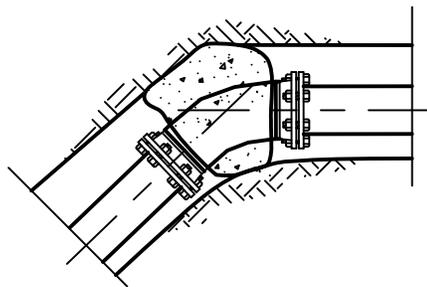
TEE



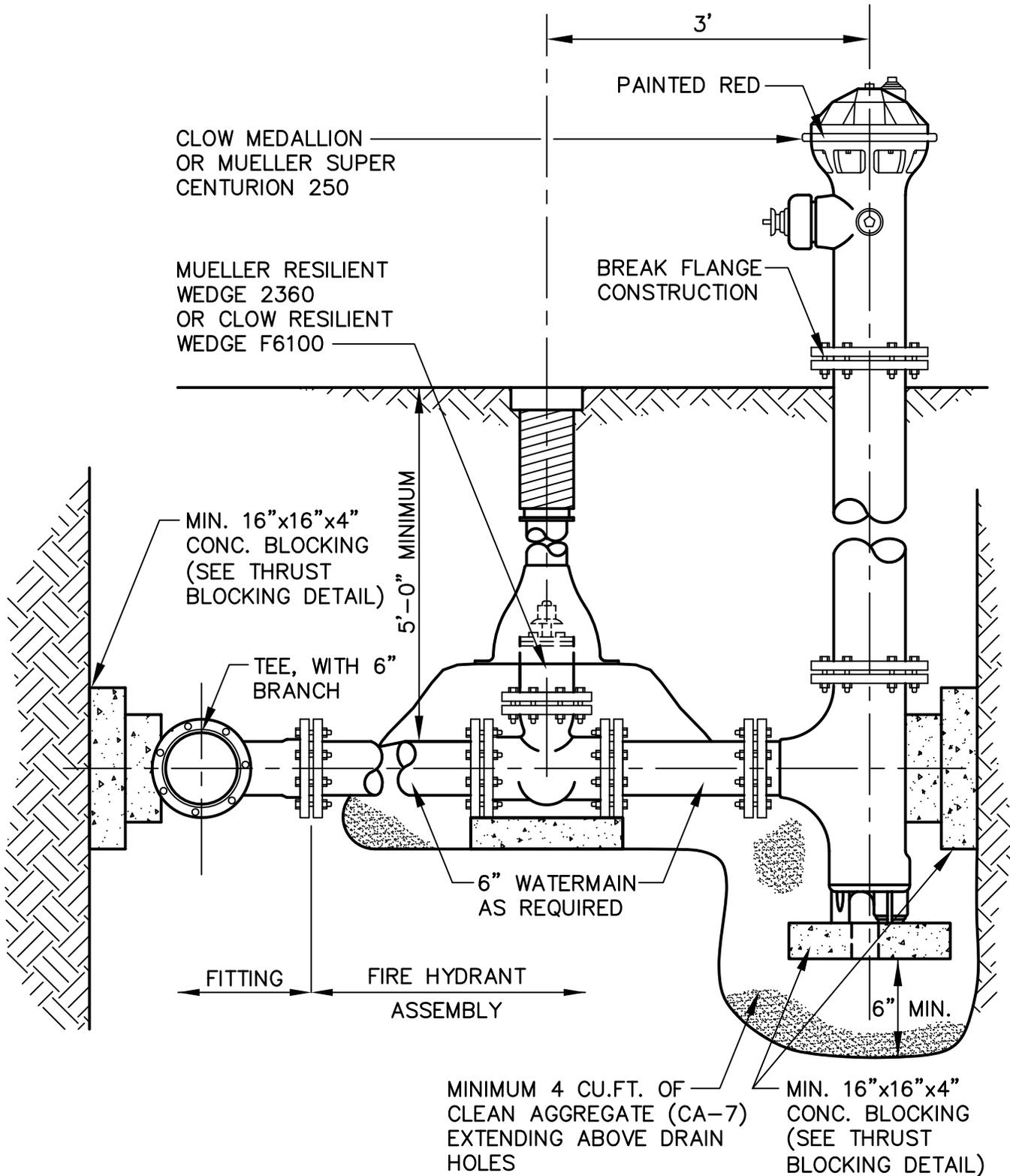
90° ELBOW

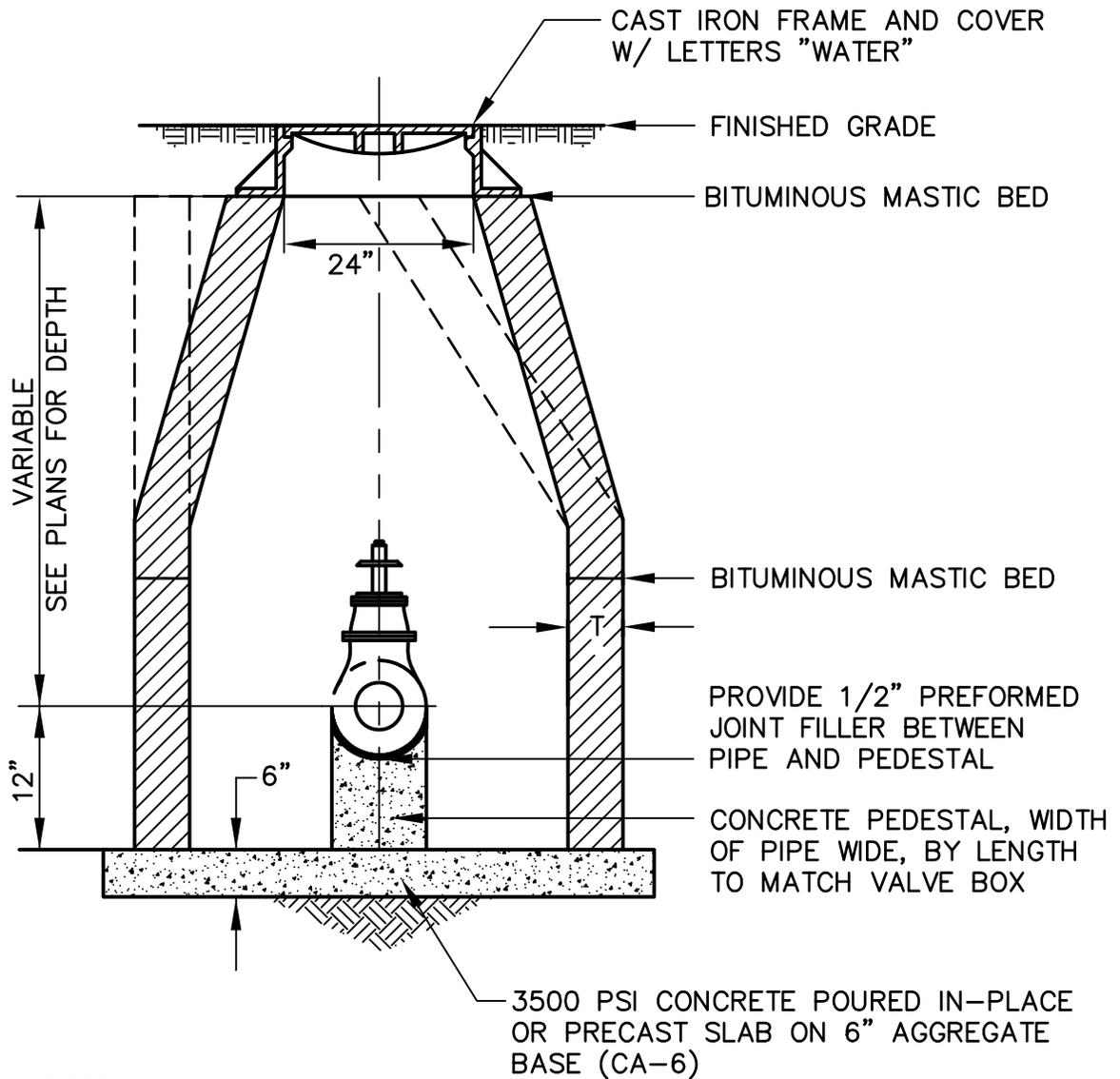
NOTES:

- 1.) ALL BLOCKS BEAR AGAINST UNDISTURBED EARTH.
- 2.) ALL BLOCKS TO BE 3500 P.S.I. CONCRETE.
- 3.) ALL FITTINGS SHOWN IN PLAN EXCEPT VERTICAL BEND.
- 4.) IN ADDITION TO THE REQUIRED THRUST BLOCKING, ALL FITTINGS SHALL BE ANSI/AWWA C153/A21.53 DUCTILE IRON WITH MECHANICAL JOINTS USING MJ FIELD-LOK GASKET RETAINER GLANDS OR APPROVED EQUAL.



VERTICAL BEND





NOTES:

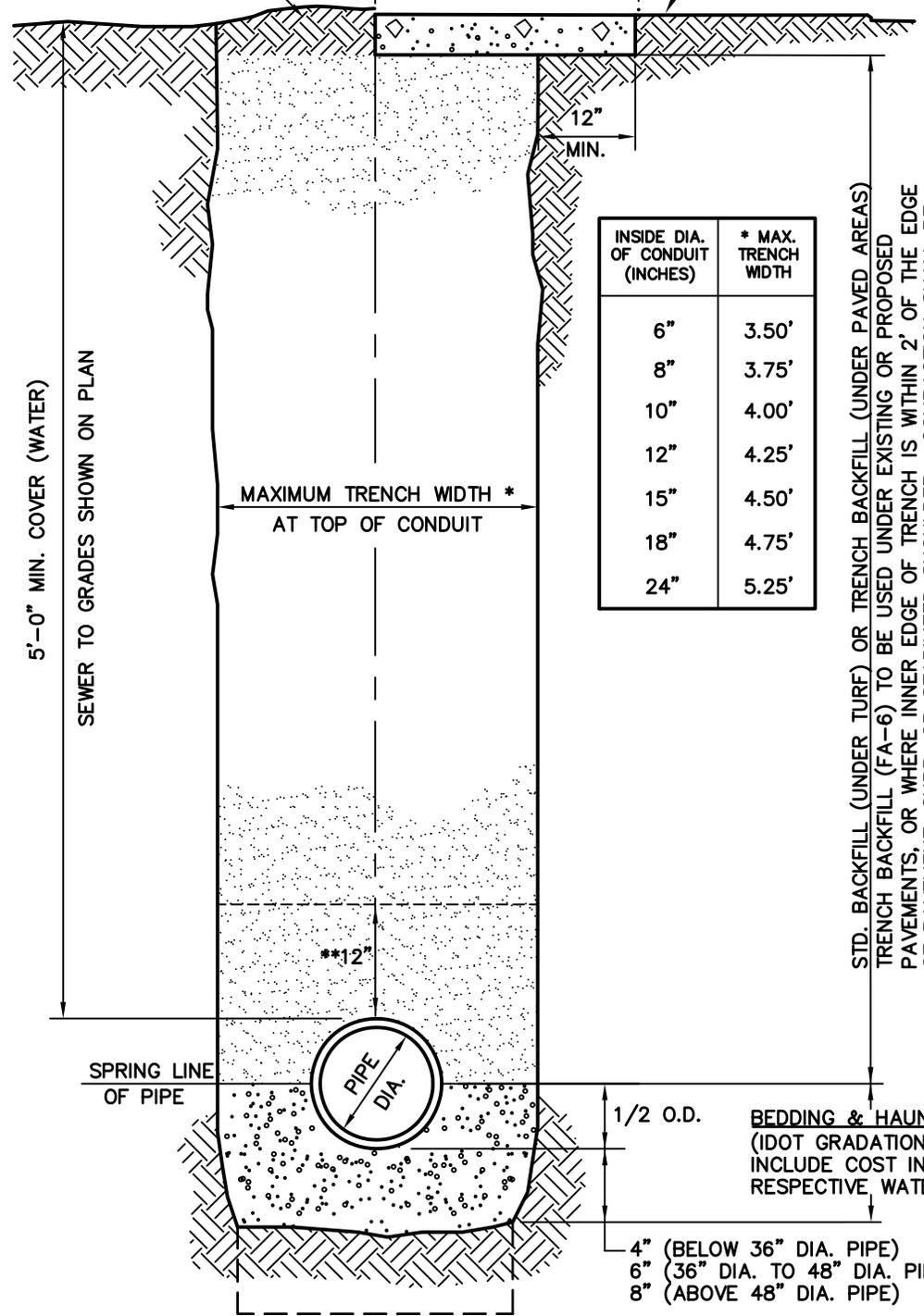
- 1.) VALVE VAULT DIA. SHALL BE 48" FOR 8" AND SMALLER VALVES, AND 60" FOR 10" AND LARGER VALVES.
- 2.) CONCENTRIC CONES SHALL BE USED FOR VALVES WITH OPERATING NUTS LOCATED AT CENTER OF VAULT.
- 3.) ECCENTRIC CONES SHALL BE USED FOR OFFSET OPERATING NUTS.
- 4.) FRAMES AND LIDS SHALL BE LOCATED OVER CENTER OF OPERATING NUT.
- 5.) MATERIAL WALL THICKNESS (T):
 PRECAST CONCRETE - MIN. 5" FOR 4' DIA. AND 6" FOR 5' DIA.
 CAST-IN-PLACE CONC. - MIN. 6"

INSTALLATION UNDER TURF | INSTALLATION UNDER PAVEMENT

MOUND SLIGHTLY GRADE AND SEED AS REQUIRED.

MAX. WIDTH OF PERMANENT REMOVAL PLAN & REPLACEMENT FOR PAYMENT PURPOSES

EXISTING SURFACE (SEE PLAN VIEW).



INSIDE DIA. OF CONDUIT (INCHES)	* MAX. TRENCH WIDTH
6"	3.50'
8"	3.75'
10"	4.00'
12"	4.25'
15"	4.50'
18"	4.75'
24"	5.25'

STD. BACKFILL (UNDER TURF) OR TRENCH BACKFILL (UNDER PAVED AREAS) TRENCH BACKFILL (FA-6) TO BE USED UNDER EXISTING OR PROPOSED PAVEMENTS, OR WHERE INNER EDGE OF TRENCH IS WITHIN 2' OF THE EDGE OF PAVEMENT, CURB, OR STABILIZED SHOULDER. COMPACTION SHALL BE PER THE STANDARD SPECIFICATIONS

5'-0" MIN. COVER (WATER)
SEWER TO GRADES SHOWN ON PLAN

MAXIMUM TRENCH WIDTH *
AT TOP OF CONDUIT

SPRING LINE OF PIPE



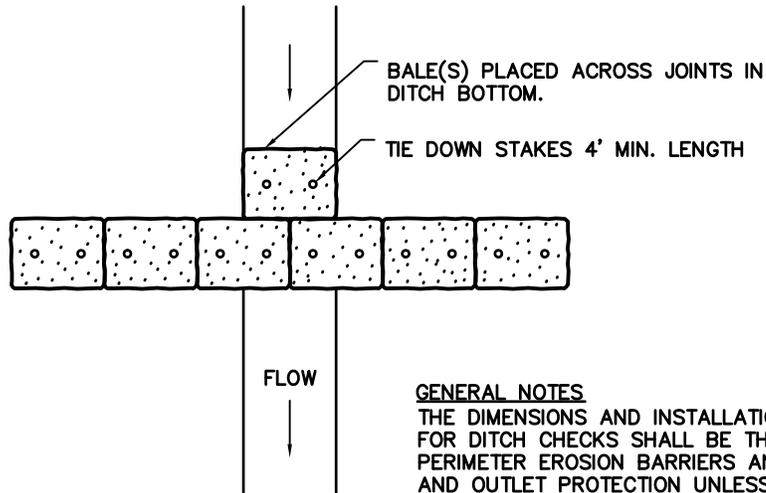
1/2 O.D.

BEDDING & HAUNCHING MATERIAL (IDOT GRADATION CA-6 OR EQUAL) INCLUDE COST IN UNIT PRICE BID FOR RESPECTIVE WATER MAIN OR SEWER.

- 4" (BELOW 36" DIA. PIPE)
- 6" (36" DIA. TO 48" DIA. PIPE)
- 8" (ABOVE 48" DIA. PIPE)

SUBGRADE STABILIZATION ROCK MAY BE REQUIRED IN AREAS OF UNSUITABLE SOIL. (AS DIRECTED BY THE ENGINEER).

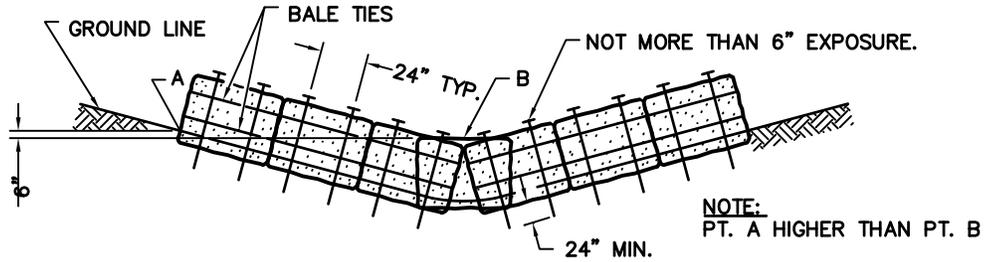
** FLEXIBLE PIPE (PVC, HDPE): BACKFILL AND COMPACT BEDDING AND HAUNCHING MATERIAL TO 12" COVER PRIOR TO STANDARD BACKFILLING.



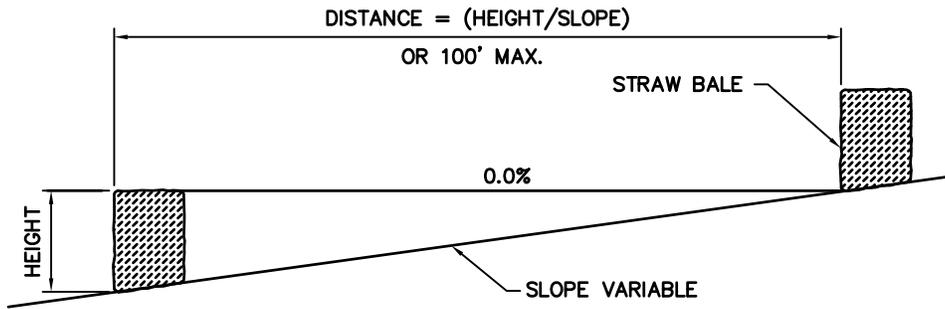
PLAN

GENERAL NOTES

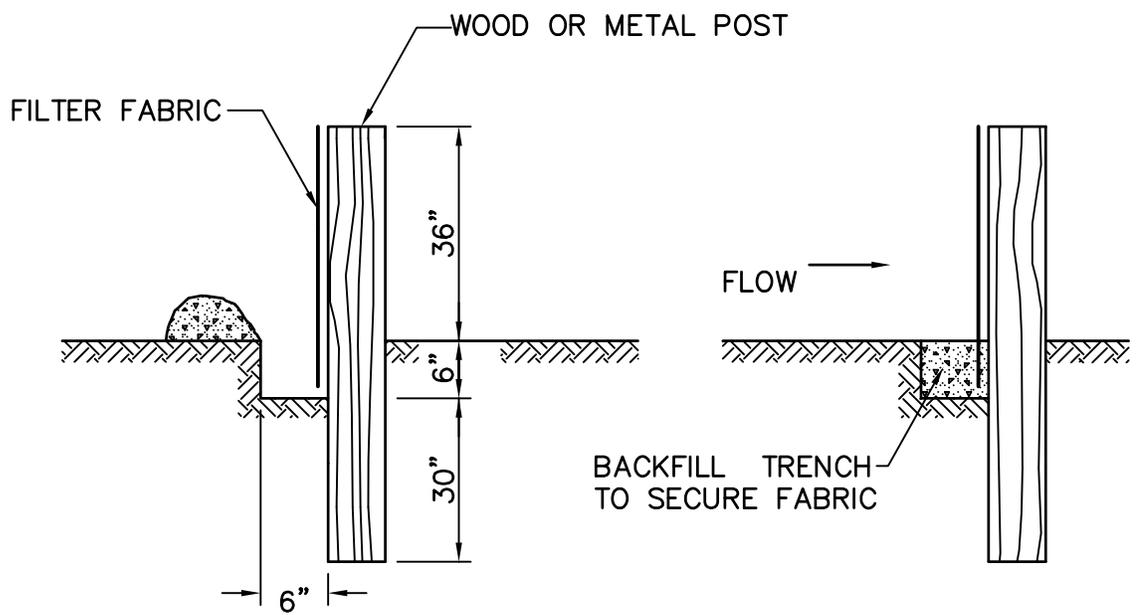
THE DIMENSIONS AND INSTALLATION METHODS FOR DITCH CHECKS SHALL BE THE SAME FOR PERIMETER EROSION BARRIERS AND INLET AND OUTLET PROTECTION UNLESS OTHERWISE SPECIFIED.

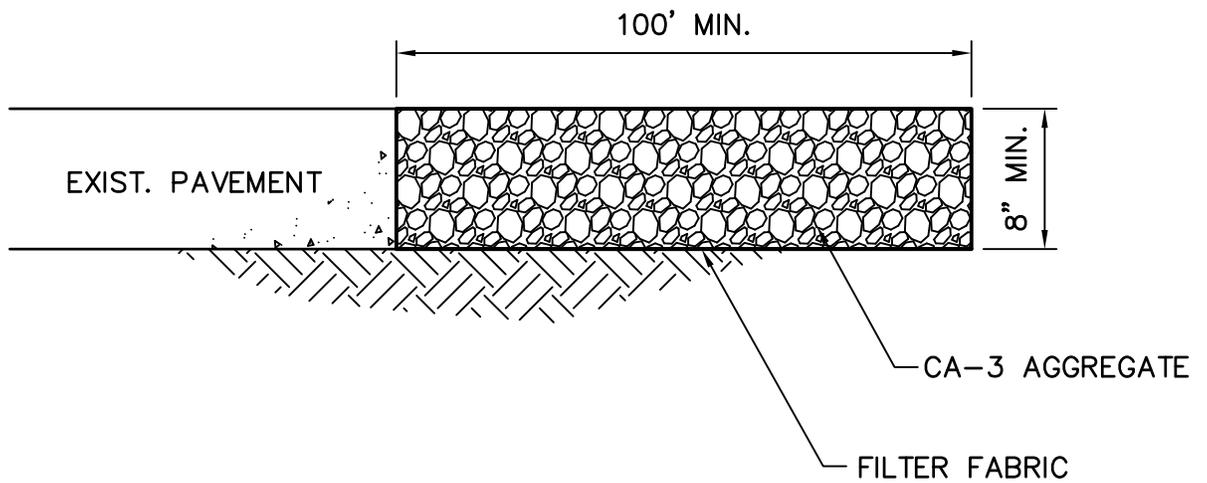


ELEVATION



PROFILE

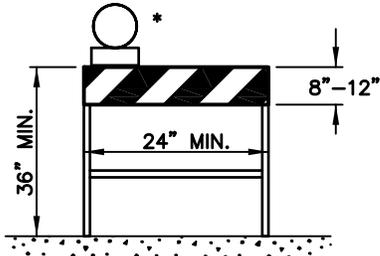




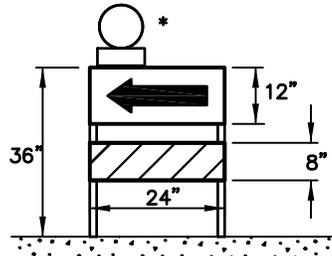
NOTES:

- 1.) CONTRACTOR TO MAINTAIN MINIMUM DEPTH AND SHALL REMOVE SOIL FROM CONSTRUCTION ENTRANCE, AS REQUIRED.
- 2.) CONSTRUCT 14' WIDE FOR ONE-WAY TRAFFIC AND 20' WIDE FOR TWO-WAY TRAFFIC.

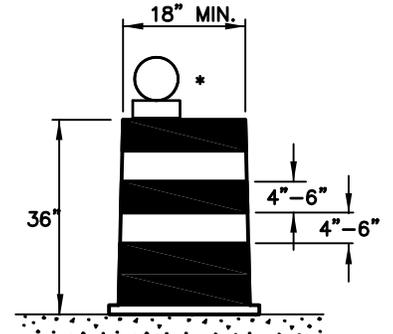
* Warning lights (if required)



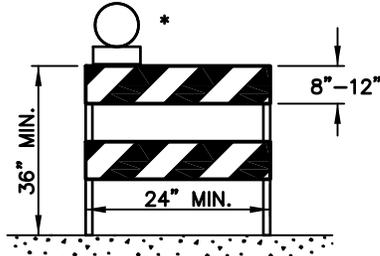
TYPE I BARRICADE



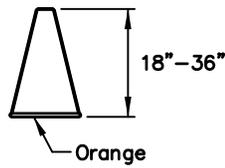
DIRECTION INDICATOR BARRICADE



DRUM



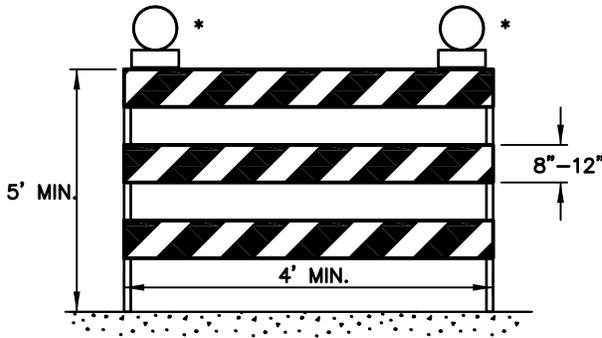
TYPE II BARRICADE



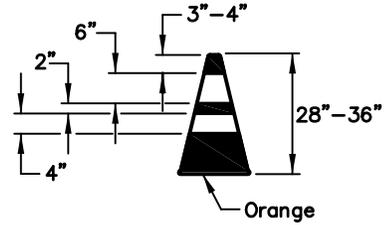
CONE

NOTE:

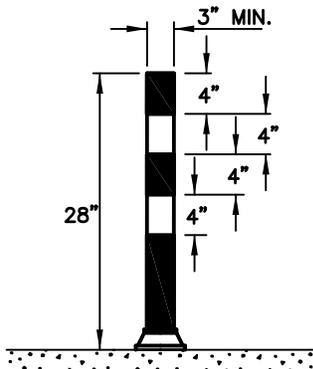
ALL HEIGHTS SHOWN SHALL BE MEASURED ABOVE THE PAVEMENT SURFACE.



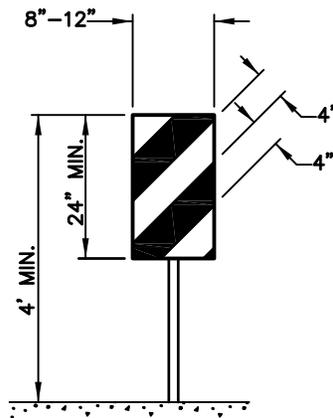
TYPE III BARRICADE



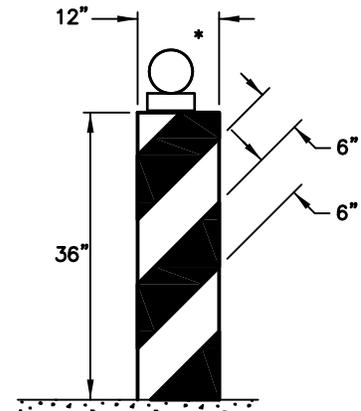
REFLECTORIZED CONE



FLEXIBLE DELINEATOR



VERTICAL PANEL POST MOUNTED



VERTICAL BARRICADE