

**UNIFORM STANDARD
DETAILS**

for

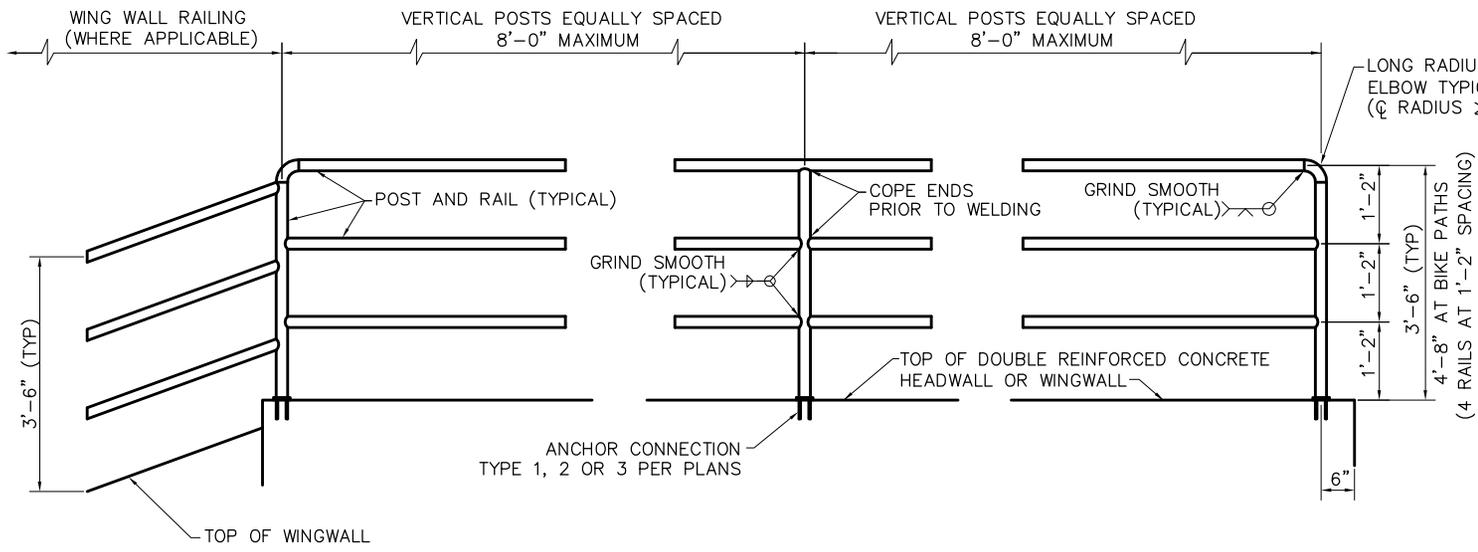
**PUBLIC WORKS
CONSTRUCTION**

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**1998
ARIZONA**

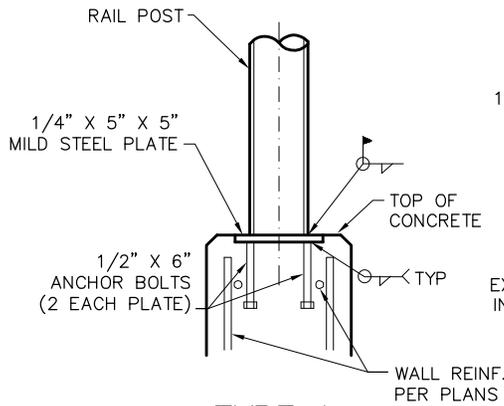
(Includes Revisions Through 2008)



NOTES:

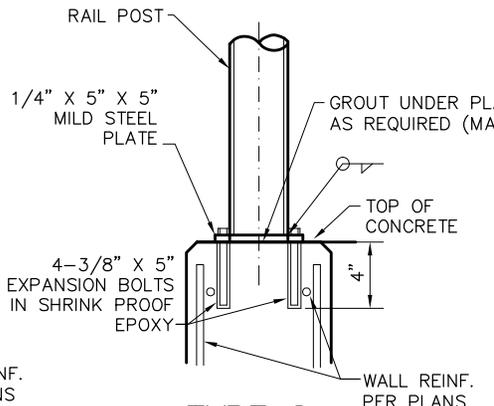
1. POSTS AND RAILS SHALL BE 1.5" SCHEDULE 40 HOT-DIPPED GALVANIZED STEEL PIPE ASTM A 53, GRADE A (2.72 #/LF, 1.9" O.D.). GALVANIZING SHALL BE IN ACCORDANCE WITH SECTION 771.
2. PAINT RAIL PER MAG SPECIFICATIONS SECTION 530 WHEN REQUIRED BY PLANS. SHOP PRIME WITH RUST INHIBITING PRIMER (FIELD REPAIR PRIMER AS NEEDED). COLOR PER PLANS.
3. VERTICAL POSTS TO BE EVENLY SPACED.
4. REMOVE ALL SHARP EDGES.
5. INSTALL SAFETY RAIL AS REQUIRED BY PLANS OR SPECIFICATIONS.
6. THE EMBEDMENT FOR ANCHOR TYPES 1, 2 AND 3 SHALL BE LOCATED INSIDE THE WALL REINFORCEMENT CAGE.

ELEVATION



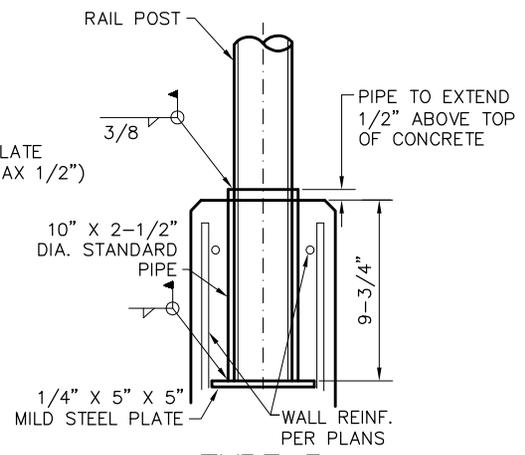
TYPE 1

ANCHOR PLATE DETAIL



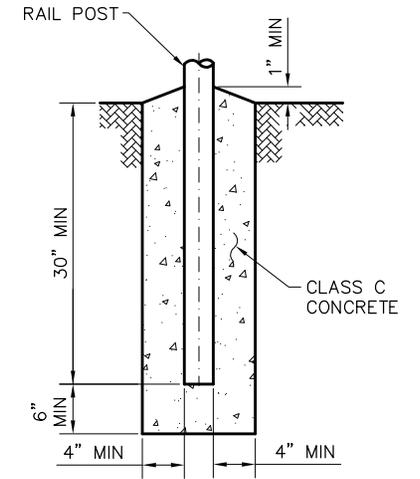
TYPE 2

EXPANSION BOLT DETAIL



TYPE 3

PIPE SLEEVE DETAIL

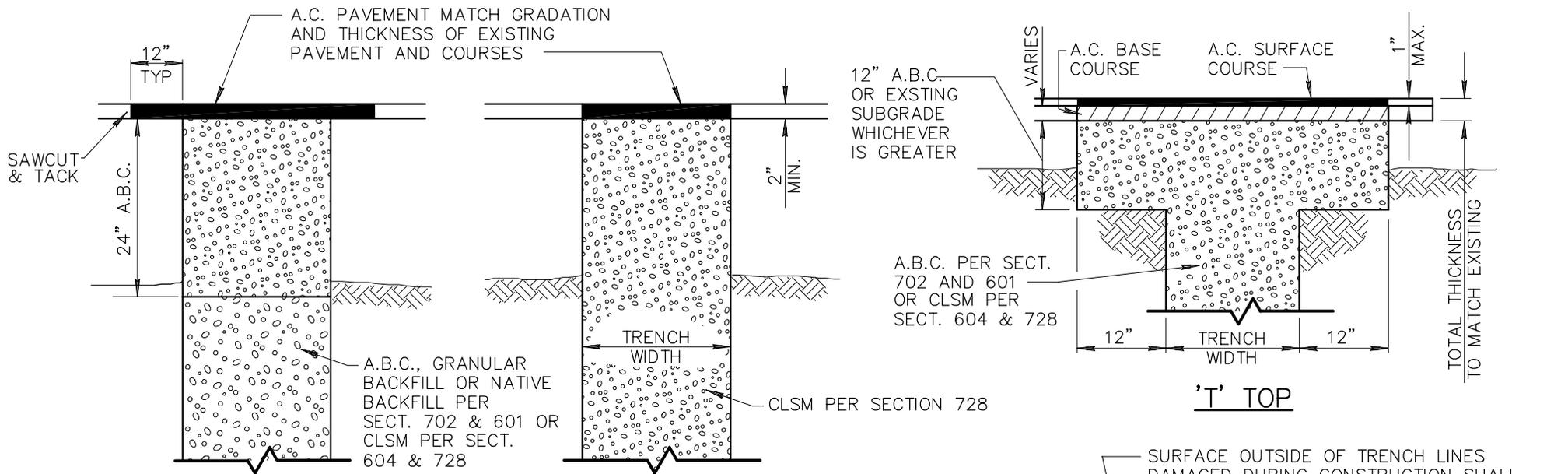


TYPE 4

GROUND INSTALLATION DETAIL

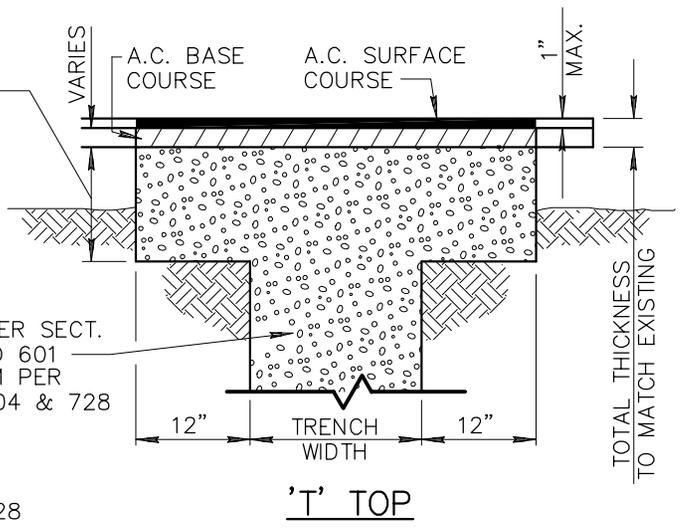
NOTE: SEE PLANS FOR ANCHORAGE DETAILS FOR ATTACHMENT TO SINGULARLY REINFORCED AND NON-REINFORCED WALLS.

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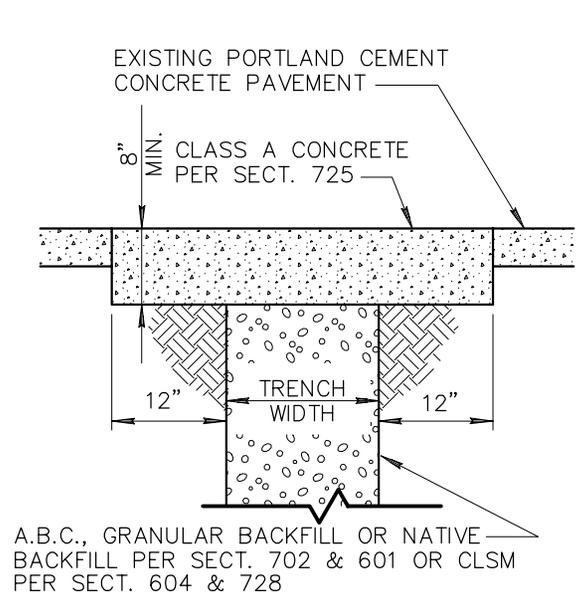


TYPE A

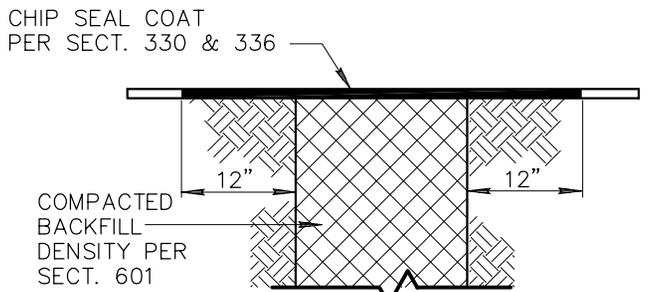
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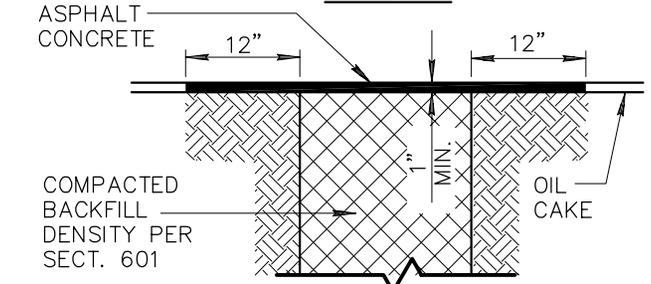
'T' TOP



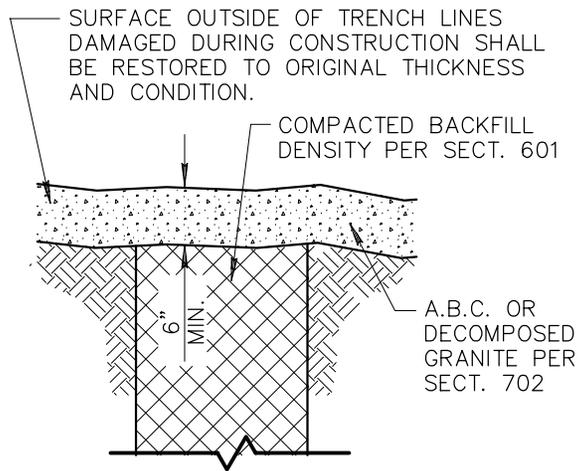
TYPE C



TYPE E



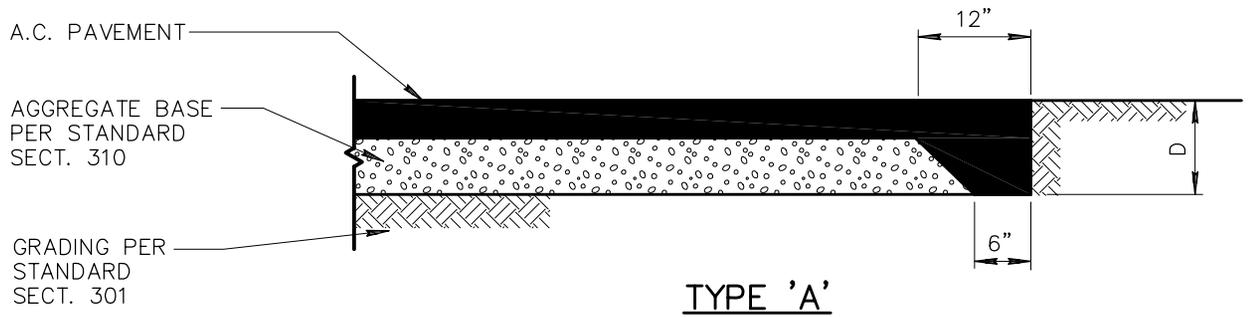
TYPE D



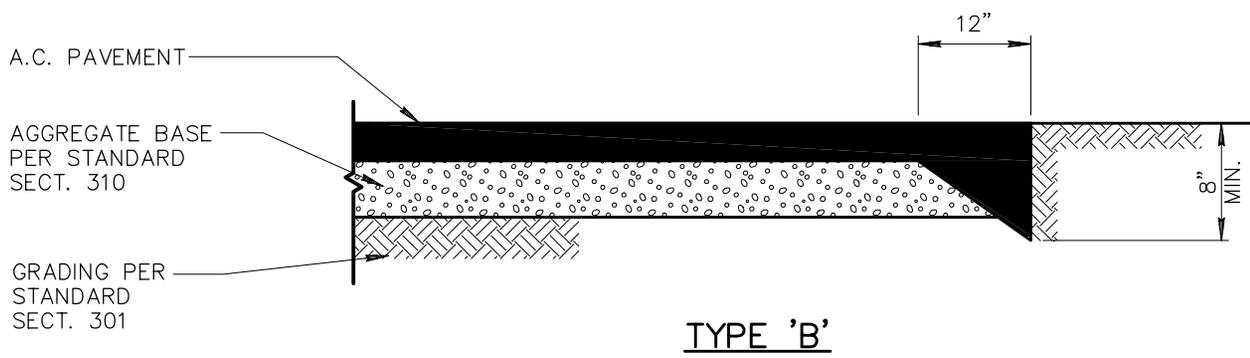
TYPE F

NOTES:

1. BEDDING PER SECTION 601.
2. ASPHALT CONCRETE SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 321.
3. TRENCHES IN ASPHALT PAVEMENTS LESS THAN 18" WIDE SHALL BE BACKFILLED WITH CLSM OR ABC SLURRY (NO CEMENT) AS SPECIFIED BY THE SPECIAL PROVISIONS, PLANS OR ENGINEER
4. TYPES 'D' AND 'E' REQUIRE 9" OF A.B.C. AT TOP OF TRENCH WHEN THERE IS AN EXISTING BASE.
5. THE TYPE OF CLSM SHALL BE 1/2 SACK OR 1 SACK AS SPECIFIED BY THE SPECIAL PROVISIONS, PLANS OR ENGINEER



D = DESIGN THICKNESS OF A.C. PAVEMENT PLUS AGGREGATE BASE.



DETAIL NO.
201



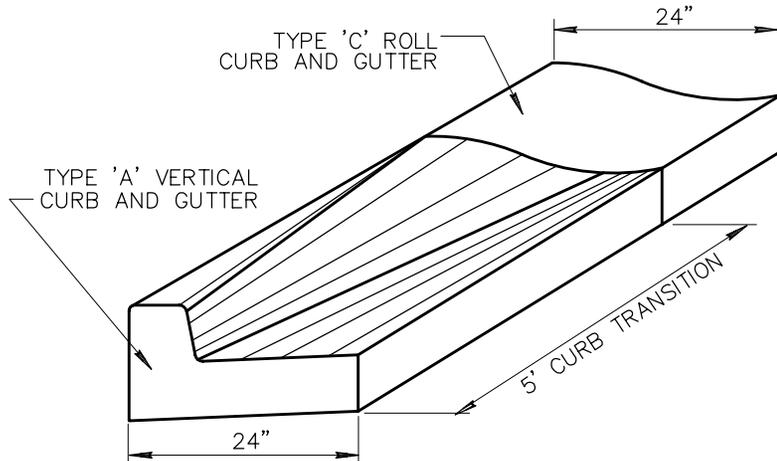
STANDARD DETAIL
ENGLISH

PAVEMENT SECTION AT TERMINATION

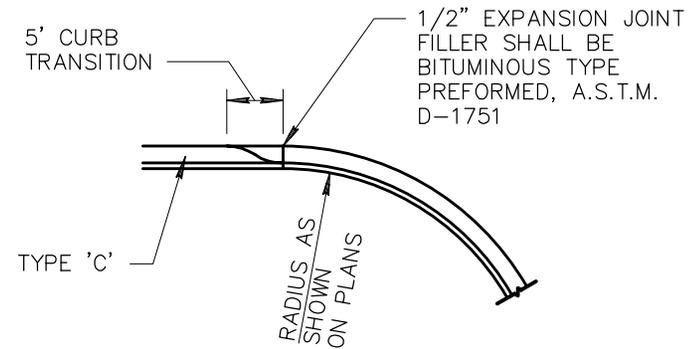
REVISED
01-01-2008

DETAIL NO.
201

CURB TRANSITION TYPE 'A' TO TYPE 'C'



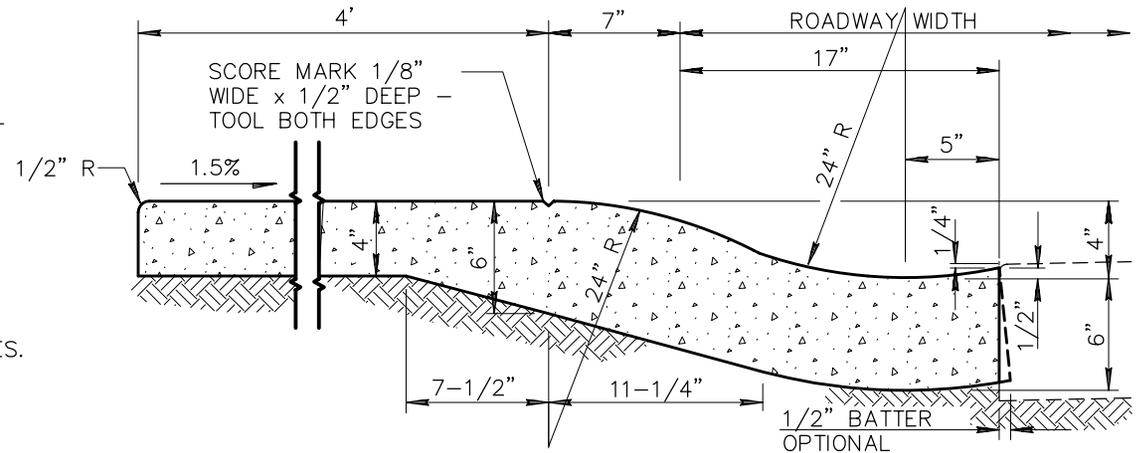
CURB AND GUTTER TRANSITION



NOTES: (CURB AND GUTTER TRANSITIONS)

1. THE CURB TRANSITION WILL BE PAID FOR AS TYPE 'C'. WHEN A PROJECT RETURN AND GUTTER THROUGHOUT, THE ENTIRE RETURN AND GUTTER THROUGHOUT, THE ENTIRE RETURN SHALL BE MEASURED AND PAID FOR AS TYPE 'A'.
2. WHERE PROPOSED CONSTRUCTION IS TO BE CONNECTED TO EXISTING CURB AND GUTTER, THE TRANSITION SHALL BE INDICATED ON PLANS.
3. CLASS 'B' CONCRETE PER SECT. 725.
4. TRANSITION BETWEEN TYPICAL SECTIONS SHALL BE ACCOMPLISHED BY THE USE OF DIRECT STRAIGHT LINE TRANSITIONS OF THE FLOW LINE AND OTHER SURFACE FEATURES.

INTEGRAL ROLL CURB, GUTTER AND SIDEWALK



NOTES: (INTEGRAL ROLL CURB, GUTTER AND SIDEWALK)

1. CONCRETE TO BE MONOLITHIC POUR. EXPOSED SURFACE FINISH AS PER SIDEWALK AND GUTTER DETAIL.
2. CONTRACTION JOINT SPACING 5' MAXIMUM.
3. EXPANSION JOINTS PER SECT. 340.
4. CLASS 'B' CONCRETE PER SECT. 725.

DETAIL NO.

221



STANDARD DETAIL
ENGLISH

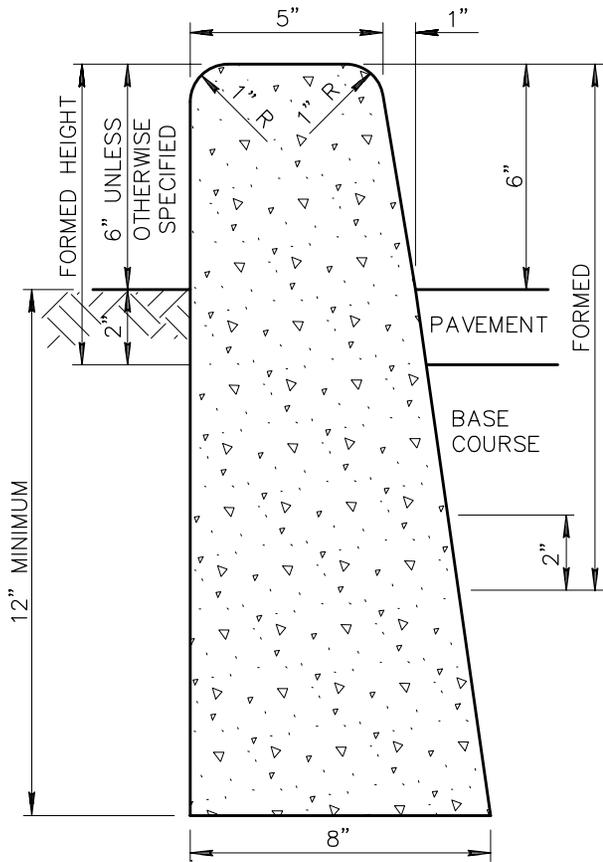
**CURB AND GUTTER TRANSITION TYPE A TO TYPE C
INTEGRAL ROLL CURB, GUTTER AND SIDEWALK**

REVISED

01-01-2008

DETAIL NO.

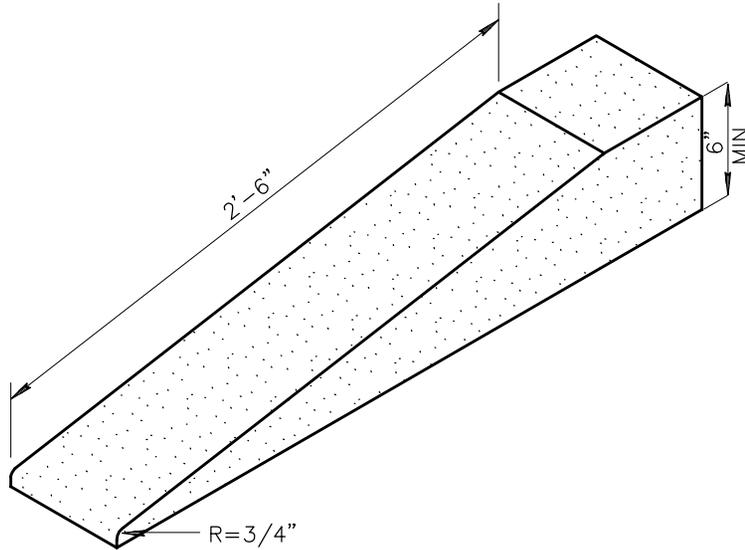
221



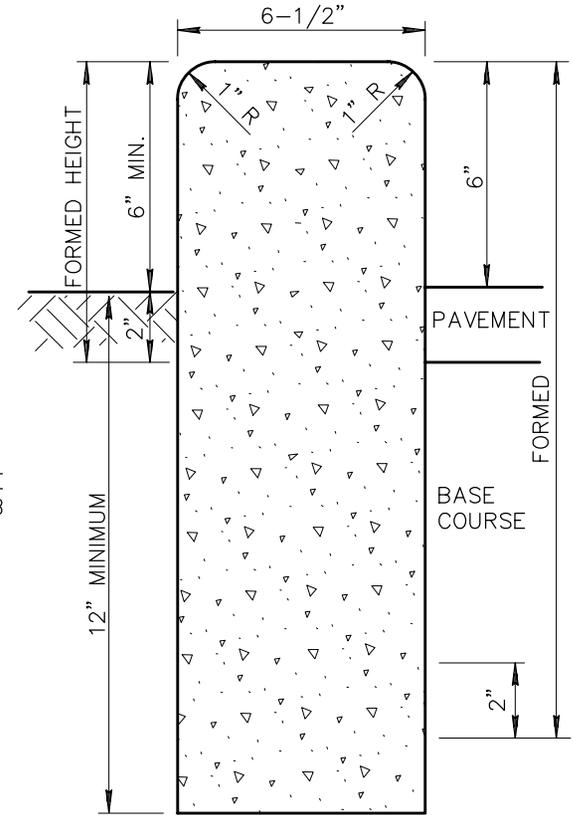
TYPE 'A'

NOTES:

1. ALL VERTICAL SURFACES TO BE FORMED.
2. VERTICAL SURFACES DOWN FROM 2" BELOW UNDISTURBED SOIL MAY BE PLACED AGAINST NEAT CUT IF APPROVED BY THE ENGINEER AND CONCRETE WILL NOT EXTEND MORE THAN 1" BEYOND THEORETICAL FACE.
3. ALL EXPOSED SURFACES TO BE STRIPPED GREEN AND TROWEL FINISHED.
4. CONCRETE CURBS CONFORM TO SECT. 340.
5. MAXIMUM SPACING OF CONTRACTION JOINTS IS 10'
6. CONCRETE TO BE CLASS 'B' PER SECT. 725.
7. WHEN PAVEMENT AND BASE COURSE EQUALS OR EXCEEDS 10" IN DEPTH, THE ENTIRE ROADWAY SIDE OF THE CURB SHALL BE FORMED. THE TOTAL CURB HEIGHT REMAINS 18" UNLESS NOTED OTHERWISE.



TYPICAL CURB TERMINATION



TYPE 'B'

DETAIL NO.

222



STANDARD DETAIL
ENGLISH

SINGLE CURB –
TYPES A, B AND TERMINATION

REVISED

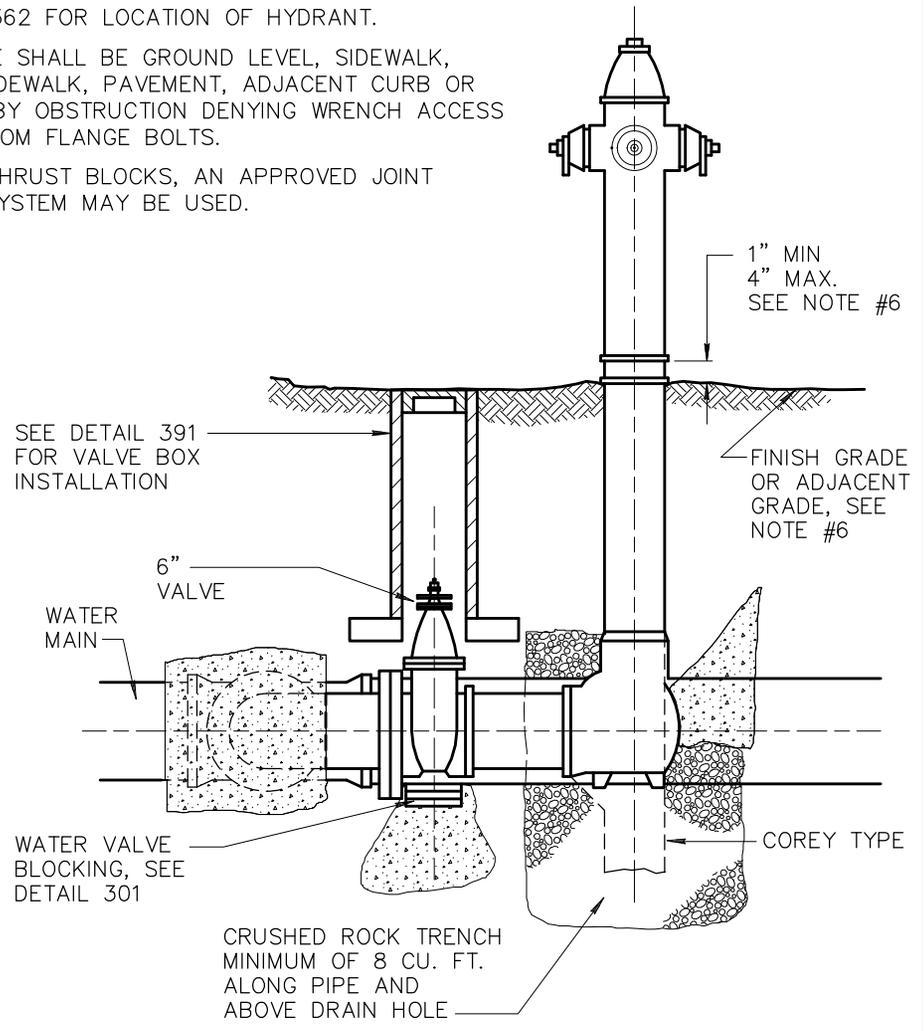
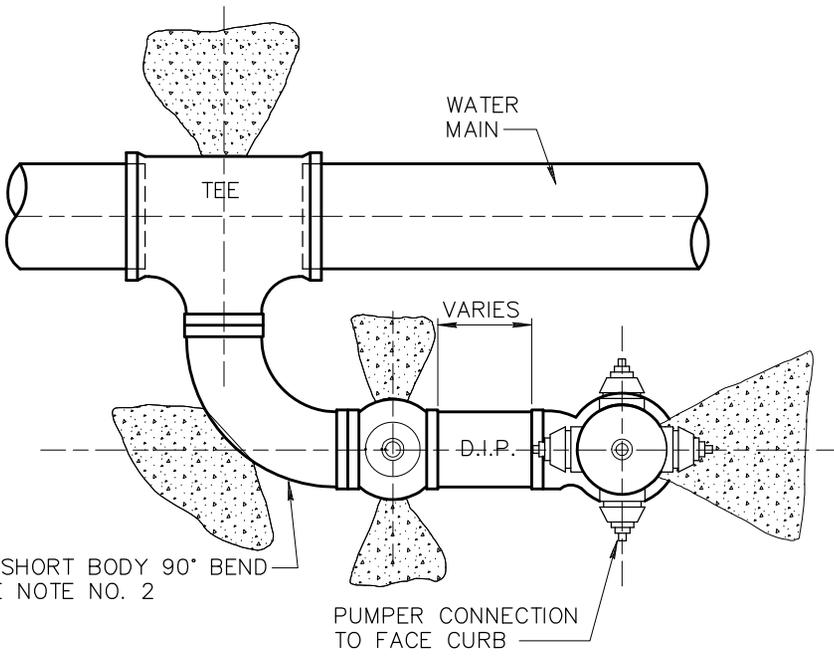
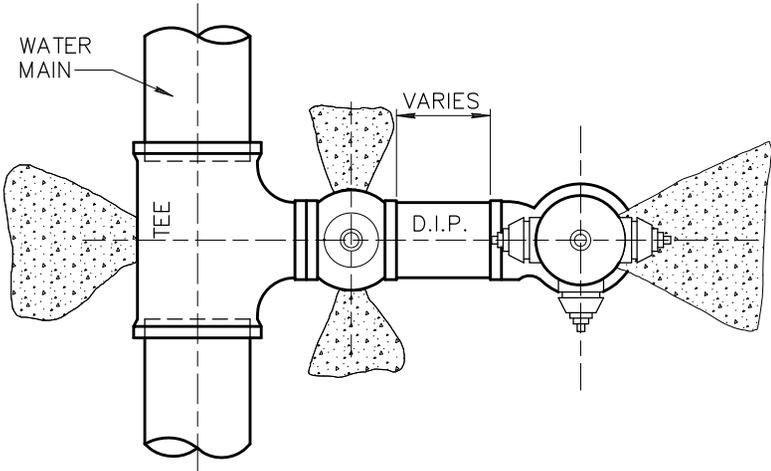
01-01-2008

DETAIL NO.

222

NOTES:

1. JOINTS BETWEEN THE VALVE AND THE MAIN SHALL BE FLANGED TYPE. JOINTS BETWEEN THE VALVE AND HYDRANT SHALL BE RESTRAINT OR MECHANICAL TYPE.
2. 90° BEND NOT REQUIRED IF SUFFICIENT ROOM FOR PERPENDICULAR INSTALLATION.
3. FOR CONCRETE THRUST BLOCKS, SEE DETAIL 380.
4. A FLANGE JOINT BY MECHANICAL JOINT VALVE MAY BE USED AS THE TRANSITION BETWEEN THE JOINT TYPES.
5. SEE DETAIL 362 FOR LOCATION OF HYDRANT.
6. FINISH GRADE SHALL BE GROUND LEVEL, SIDEWALK, ADJACENT SIDEWALK, PAVEMENT, ADJACENT CURB OR OTHER NEARBY OBSTRUCTION DENYING WRENCH ACCESS TO THE BOTTOM FLANGE BOLTS.
7. IN LIEU OF THRUST BLOCKS, AN APPROVED JOINT RESTRAINT SYSTEM MAY BE USED.



DETAIL NO.
360



STANDARD DETAIL
ENGLISH

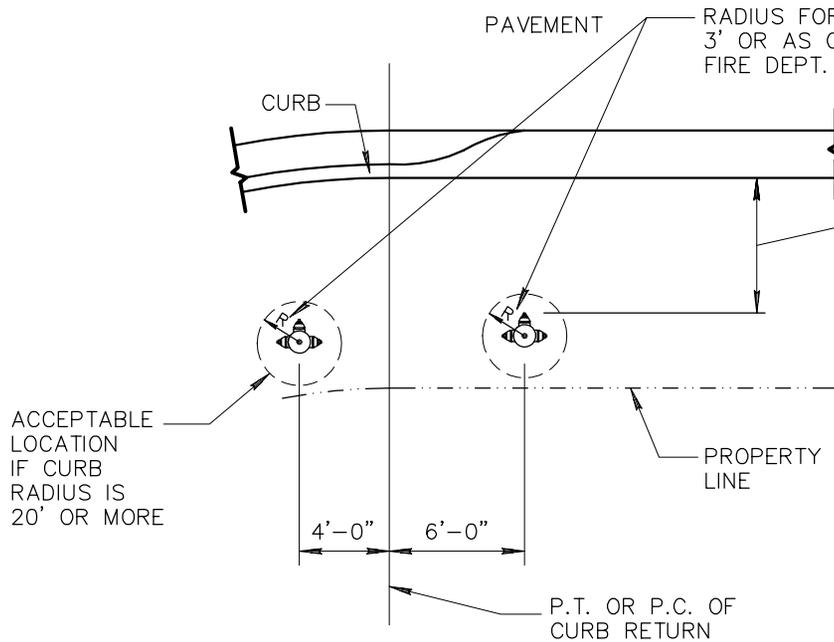
FIRE HYDRANT INSTALLATION

REVISED
01-01-2008

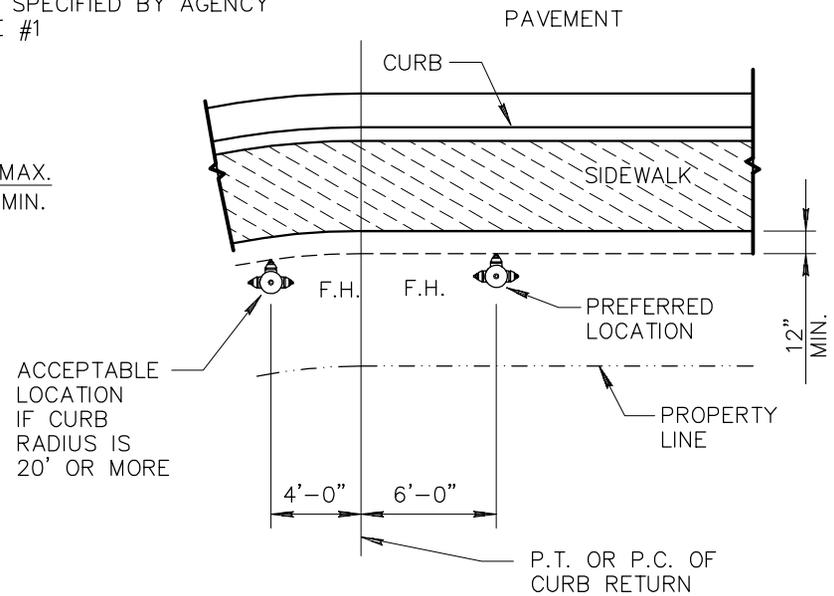
DETAIL NO.
360

NOTES:

1. OBSTRUCTIONS SUCH AS UTILITY POLES, STREET SIGNS, IRRIGATION BOXES, FENCES, ETC., MUST NOT BE PLACED BETWEEN CURB AND HYDRANT AND WITHIN THE RADIUS FOR FIRE DEPT. ACCESS.
2. DIMENSIONS SHOWN ON CONSTRUCTION DRAWINGS SUPERSEDE LOCATIONS SHOWN HERE.
3. ON LOCATIONS IN MIDBLOCK, THE FIRE HYDRANT WILL BE ALIGNED WITH A PROPERTY LINE.



PARKWAY AREA OR NO SIDEWALK



AREA WITH SIDEWALK

DETAIL NO.

362



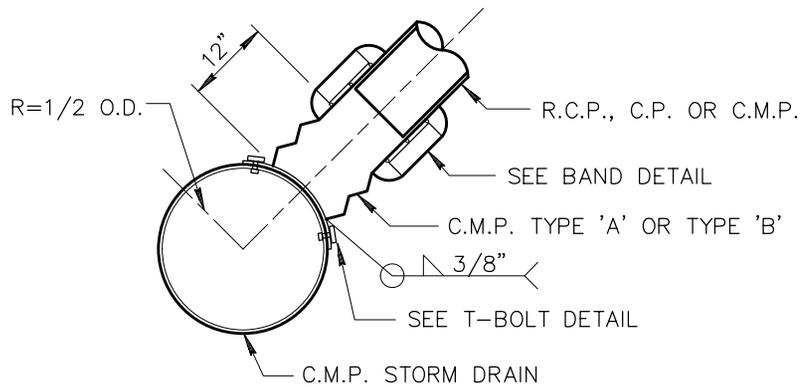
STANDARD DETAIL
ENGLISH

LOCATIONS FOR NEW FIRE HYDRANTS

REVISED

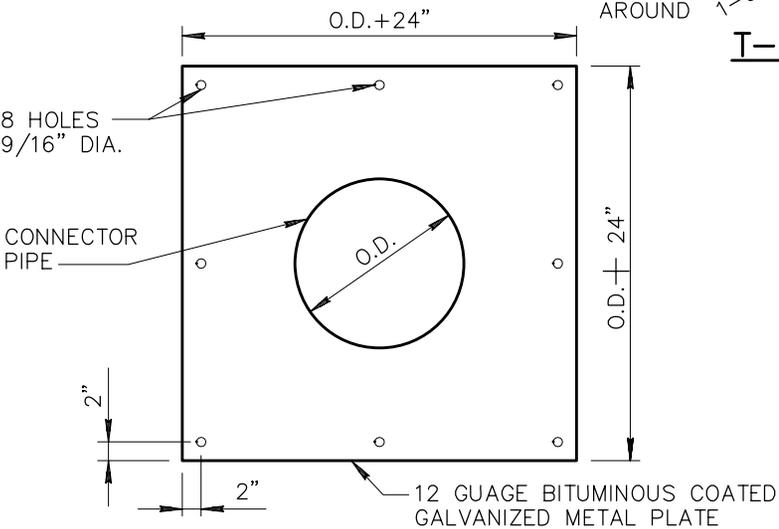
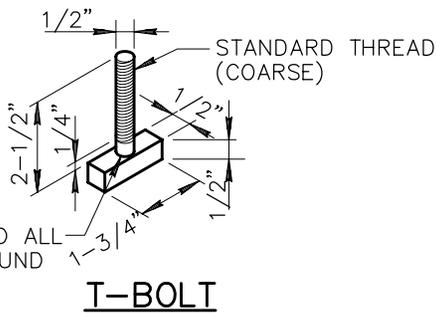
DETAIL NO.

362

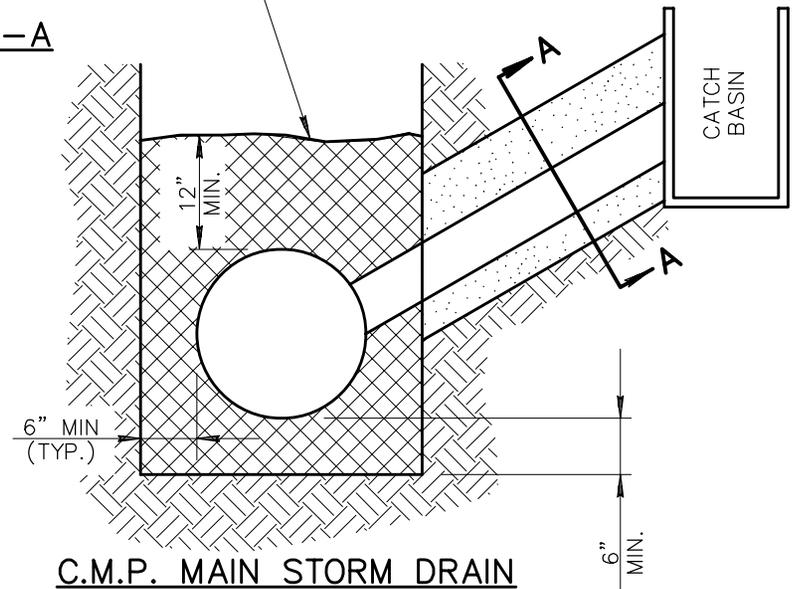
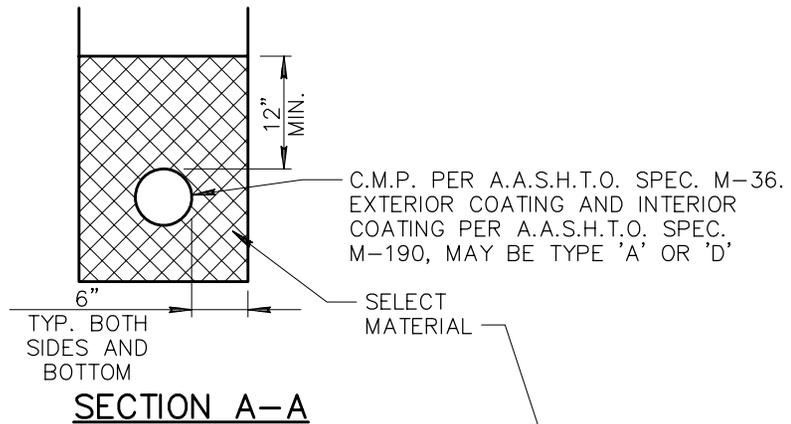


CONNECTOR CROSS SECTION

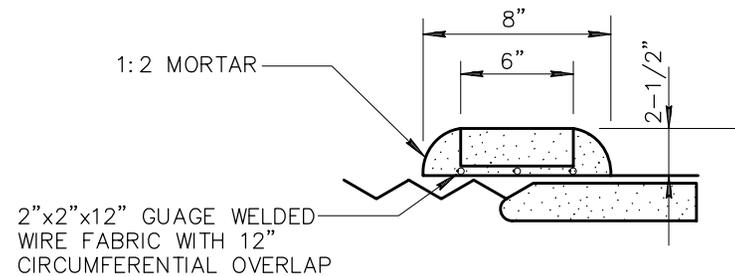
NOTE:
USE 5/8" WASHER AND NUT, ALL PIECES
(NUTS, WASHERS, AND FABRICATED BOLTS)
TO BE GALVANIZED AS PER A.S.T.M. A-123
LATEST REVISION.



**C.M.P. CONNECTION TO MAIN STORM DRAIN
24" PIPE AND SMALLER**



C.M.P. MAIN STORM DRAIN



BAND DETAIL

DETAIL NO.

510



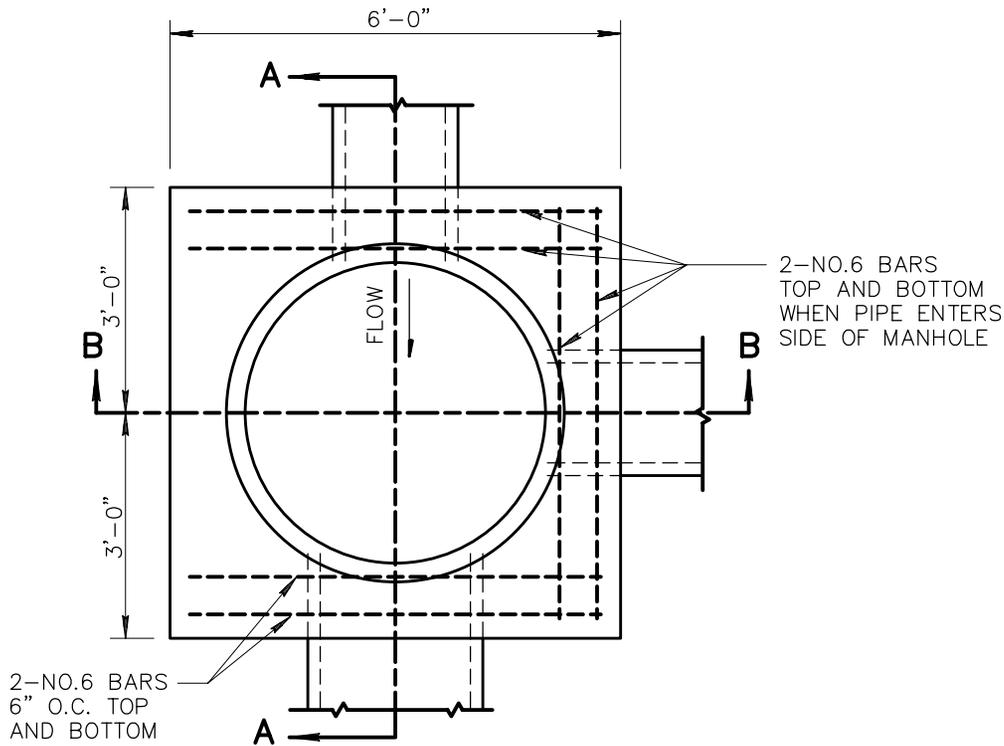
STANDARD DETAIL
ENGLISH

**CORRUGATED METAL PIPE
AND INSTALLATION**

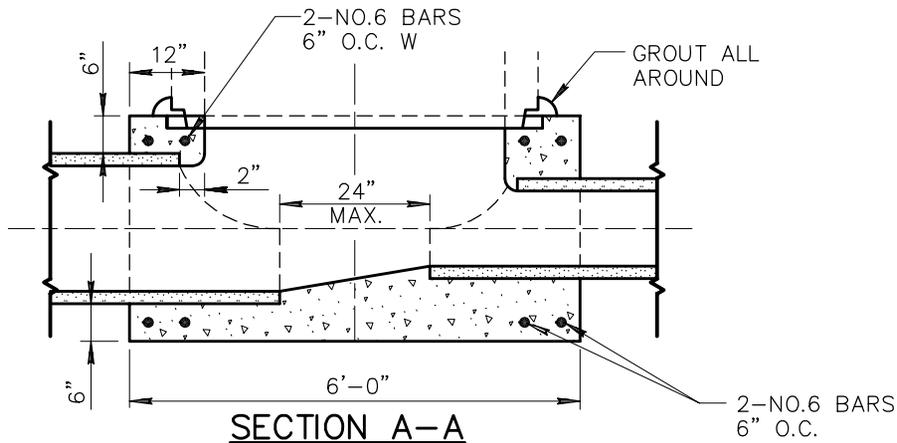
REVISED

DETAIL NO.

510



PLAN

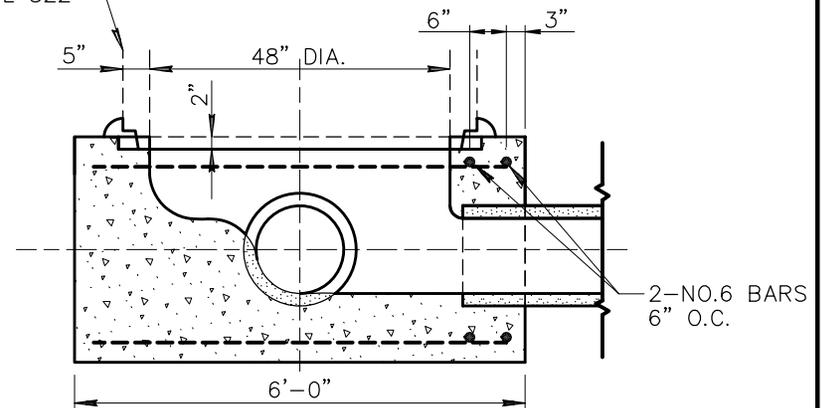


SECTION A-A

NOTES

1. ALL CONCRETE TO BE CLASS 'A' PER SECT. 725, 505.
2. MATCH SPRING LINES OF PIPE ENTERING MANHOLE UNLESS OTHERWISE NOTED.
3. CUT PIPES TO ALLOW SETTING OF 4' DIA. CYLINDRICAL FORM FROM 6" ABOVE MAIN LINE PIPE TO SPRING LINE. CUT PIPE 2" LARGER THAN FORM TO ALLOW 2" CONCRETE OVER ENDS OF ALL CUT PIPE.
4. INVERT AND BASE OF MANHOLE TO BE POURED AND INVERT TO BE SHAPED BY HAND TO MAKE SMOOTH TRANSITION. FINISH WITH RUBBER FLOAT.
5. CENTER MANHOLE ON PIPE JOINT WHERE PIPE CHANGES SIZES, LEAVING A GAP OF 12" MINIMUM, 24" MAXIMUM.

MANHOLE SHAFT
PER DETAIL 522



SECTION B-B

DETAIL NO.

520



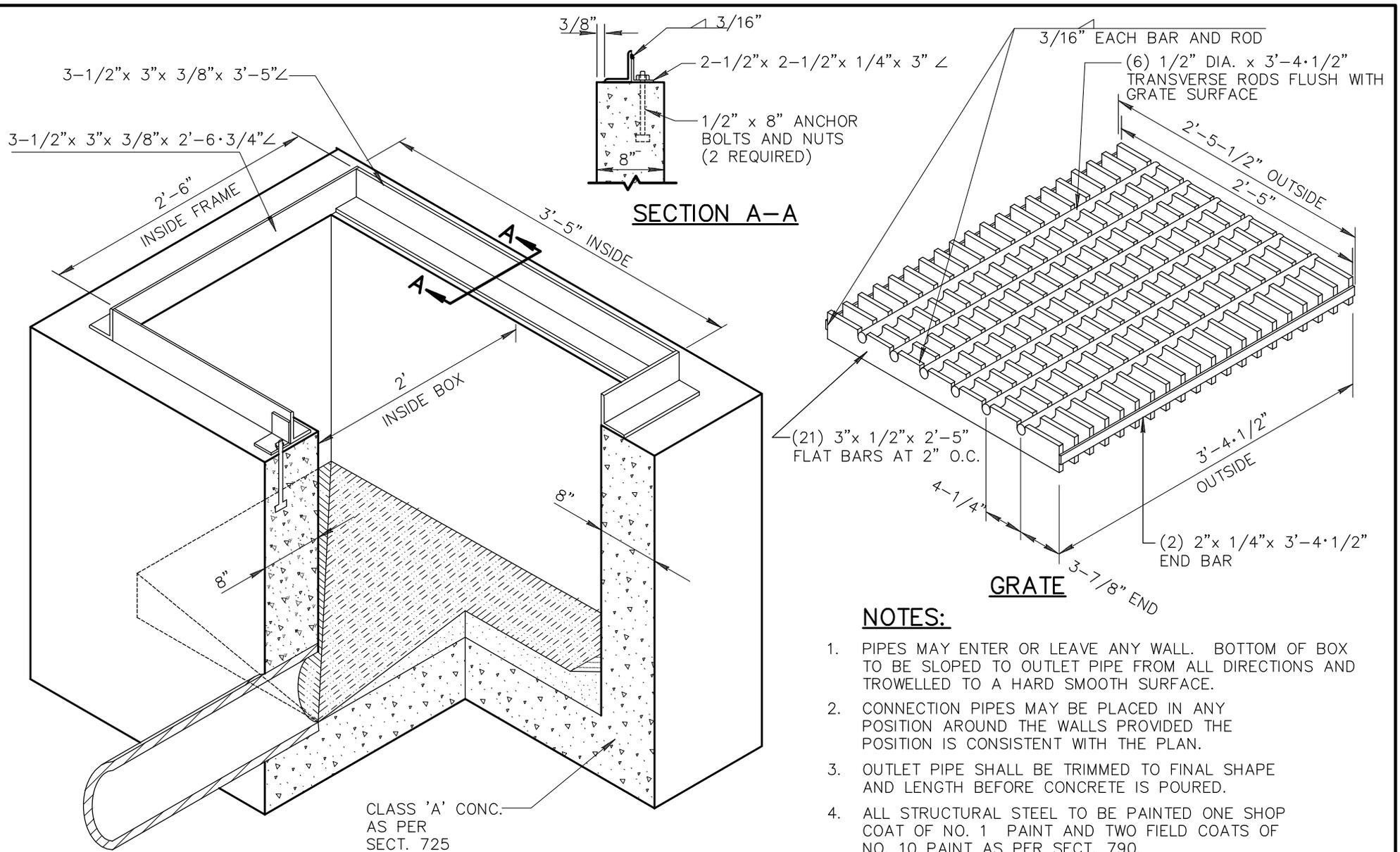
STANDARD DETAIL
ENGLISH

**STORM DRAIN MANHOLE BASE
(48" AND SMALLER)**

REVISED

DETAIL NO.

520



CLASS 'A' CONC.
AS PER
SECT. 725

NOTE:
SEE DETAIL 534-1 FOR THICKNESS AND
SLOPE DIMENSIONS OF BOTTOM.

NOTES:

1. PIPES MAY ENTER OR LEAVE ANY WALL. BOTTOM OF BOX TO BE SLOPED TO OUTLET PIPE FROM ALL DIRECTIONS AND TROWELLED TO A HARD SMOOTH SURFACE.
2. CONNECTION PIPES MAY BE PLACED IN ANY POSITION AROUND THE WALLS PROVIDED THE POSITION IS CONSISTENT WITH THE PLAN.
3. OUTLET PIPE SHALL BE TRIMMED TO FINAL SHAPE AND LENGTH BEFORE CONCRETE IS POURED.
4. ALL STRUCTURAL STEEL TO BE PAINTED ONE SHOP COAT OF NO. 1 PAINT AND TWO FIELD COATS OF NO. 10 PAINT AS PER SECT. 790.
5. ALL WELDS ON FRAME AND SIDE BARS ON GRATE SHALL BE FULL LENGTH OF JOINT.
6. TOTAL COMBINED CLEARANCE BETWEEN FRAME AND GRATE IS 1/2".

