


OS-299 (7-08)  	TRANSMITTAL LETTER	<b>PUBLICATION:</b> Publication 72M April 2004 Edition Change No. 4
		<b>DATE:</b> August 29, 2008

**SUBJECT:**

**Revisions to  
Standards for Roadway Construction  
April 2004 Edition**

**INFORMATION AND SPECIAL INSTRUCTIONS:**

Incorporate the attached revisions into the April 2004 Edition of the Standards for Roadway Construction.

Revisions to RC-25M and RC-27M show applicable details when concrete widened lanes are constructed.

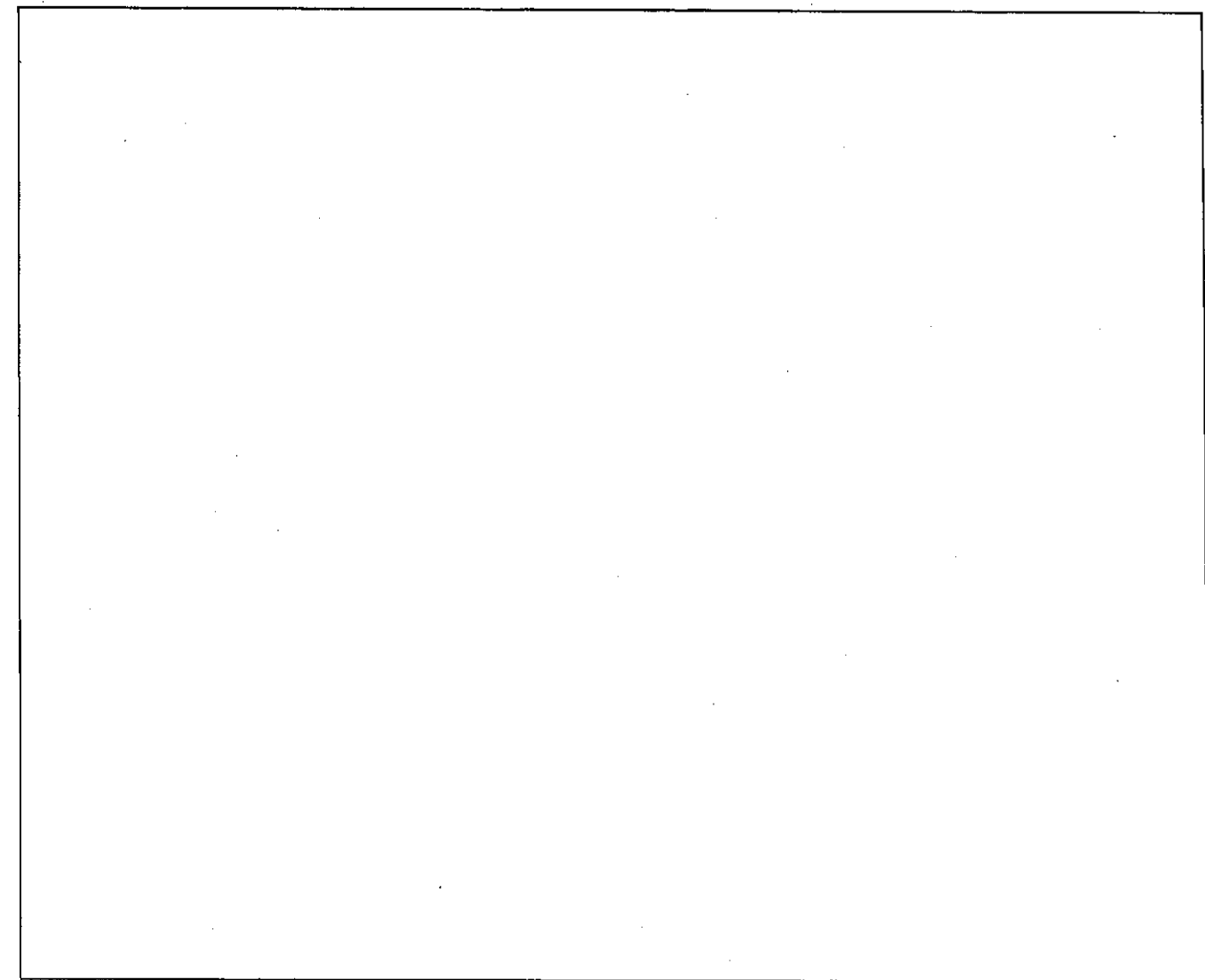
These revisions include redesigned standards for inlet tops, grates, frames, and boxes. These standards may be used immediately and can be adopted as soon as practical on all new and existing designs without affecting any letting schedules. All projects with PS&E submissions to Contract Management after March 1, 2009 should incorporate these new standards.

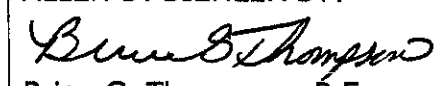
The Standard Drawings that have been added and revised are presented below. It is strongly advised that all recipients thoroughly examine the standards incorporated in this Change.

The Standard Drawings in this change are presented below.

STANDARD	SHEET	DESCRIPTION OF CHANGES
RC-25M	Sheets 1 thru 4 of 7	Added details and notes for concrete widened lane paving  Revised shoulder details with superpave designations  Revised notes with superpave designations
RC-27M	Sheet 2 of 2	Revised notes and details for concrete widened lane paving
RC-45M	All Sheets	New Standard - Inlet Tops, Grates, and Frames
RC-46M	All Sheets	New Standard - Inlet Boxes

Comments or questions regarding the above revisions should be directed to the Standards and Criteria Section, Highway Quality Assurance Division, Bureau of Design.



<b>CANCEL AND DESTROY THE FOLLOWING:</b>  RC-25M                      March 30, 2006 RC-27M                      March 30, 2006	<b>ADDITIONAL COPIES ARE AVAILABLE FROM:</b>  <input checked="" type="checkbox"/> PennDOT SALES STORE (717) 787-6746 phone (717) 787-8779 fax <a href="http://ra-penndotsalesstore.state.pa.us">ra-penndotsalesstore.state.pa.us</a>  <input checked="" type="checkbox"/> PennDOT website - <a href="http://www.dot.state.pa.us">www.dot.state.pa.us</a> <i>Click on Forms, Publications &amp; Maps</i>  <input checked="" type="checkbox"/> DGS warehouse (PennDOT employees ONLY)
<b>APPROVED FOR ISSUANCE BY:</b>  ALLEN D. BIEHLER BY:  Brian G. Thompson, P.E. Director of Bureau of Design, Highway Administration	

# INDEX OF STANDARDS FOR ROADWAY CONSTRUCTION

STANDARD DRAWING NUMBER	DRAWING DATE	DESCRIPTION
<u>EARTHWORK</u>		
RC-10M _____	APR. 15, 2004	CLASSIFICATION OF EARTHWORK
RC-11M (2 Sheets) _____	APR. 15, 2004	CLASSIFICATION OF EARTHWORK FOR STRUCTURES
RC-12M (2 Sheets) _____	MAR. 30, 2006	BACKFILL AT STRUCTURES
RC-13M _____	APR. 15, 2004	PAY LIMIT OF SUBBASE
<u>PAVEMENTS</u>		
RC-20M (3 Sheets) _____	MAR. 30, 2006	CONCRETE PAVEMENT JOINTS
RC-21M _____	MAR. 30, 2006	REINFORCED CONCRETE PAVEMENT
RC-23M (3 Sheets) _____	JUL. 20, 2007	BRIDGE APPROACH SLAB
RC-24M (3 Sheets) _____	JUL. 20, 2007	PAVEMENT RELIEF JOINT
* RC-25M (7 Sheets) _____	AUG. 29, 2008	SHOULDERS
RC-26M (9 Sheets) _____	MAR. 30, 2006	CONCRETE PAVEMENT REHABILITATION
* RC-27M (2 Sheets) _____	AUG. 29, 2008	PLAIN CONCRETE PAVEMENT
■ RC-28M _____	AUG. 29, 2008	OVERLAY TRANSITIONS AND PAVING NOTCHES
RC-29M (3 Sheets) _____	MAR. 30, 2006	BRIDGE ANTI-ICING SYSTEM APPROACH INSTALLATION
<u>DRAINAGE</u>		
■ RC-30M (5 Sheets) _____	AUG. 29, 2008	SUBSURFACE DRAINS
RC-31M (2 Sheets) _____	MAR. 30, 2006	ENDWALLS
RC-32M _____	APR. 15, 2004	SLOPE PIPE FITTINGS, PIPE CONNECTORS AND CONCRETE COLLAR FOR PIPE EXTENSION
RC-33M (2 Sheets) _____	MAR. 30, 2006	END SECTIONS FOR PIPE CULVERTS
RC-34M (10 Sheets) _____	MAR. 30, 2006	INLETS
RC-35M _____	APR. 15, 2004	DRAINAGE DIKE
RC-36M _____	APR. 15, 2004	SPRING BOXES
RC-39M (6 Sheets) _____	APR. 15, 2004	STANDARD MANHOLES
RC-40M _____	MAR. 30, 2006	SLOPE PROTECTION
RC-43M _____	APR. 15, 2004	GABIONS
* RC-45M (17 Sheets) _____	AUG. 29, 2008	INLET TOPS, GRATES AND FRAME
* RC-46M (44 Sheets) _____	AUG. 29, 2008	INLET BOXES
<u>GUIDE RAIL AND MEDIAN BARRIER</u>		
RC-50M (16 Sheets) _____	MAR. 30, 2006	GUIDE RAIL TRANSITION AT END OF STRUCTURE
RC-52M (8 Sheets) _____	MAR. 30, 2006	TYPE 2 STRONG POST GUIDE RAIL
RC-53M (2 Sheets) _____	MAR. 30, 2006	TYPE 2 WEAK POST GUIDE RAIL
RC-54M (7 Sheets) _____	MAR. 30, 2006	BARRIER PLACEMENT AT OBSTRUCTIONS
RC-55M _____	APR. 15, 2004	TYPE 2 WEAK POST MEDIAN BARRIER
RC-57M (8 Sheets) _____	MAR. 30, 2006	CONCRETE MEDIAN BARRIER
RC-58M (5 Sheets) _____	MAR. 30, 2006	SINGLE FACE CONCRETE BARRIER
RC-59M (2 Sheets) _____	MAR. 30, 2006	CONCRETE GLARE SCREEN

STANDARD DRAWING NUMBER	DRAWING DATE	DESCRIPTION
<u>FENCES AND CURBS</u>		
RC-60M (3 Sheets) _____	APR. 15, 2004	RIGHT-OF-WAY FENCE
RC-61M _____	APR. 15, 2004	RIGHT-OF-WAY GATES AND REMOVABLE FENCE SECTIONS
RC-63M (2 Sheets) _____	MAR. 30, 2006	PERMANENT BARRICADES
■ RC-64M _____	AUG. 29, 2008	CURBS AND GUTTERS
RC-65M _____	APR. 15, 2004	CONCRETE MOUNTABLE CURBS
■ RC-67M (13 Sheets) _____	AUG. 29, 2008	CURB RAMPS

## EROSION AND SEDIMENTATION CONTROL

■ RC-70M (3 Sheets) _____	AUG. 29, 2008	PERIMETER CONTROL DEVICES
■ RC-71M (4 Sheets) _____	AUG. 29, 2008	SEDIMENT BASIN AND SEDIMENT TRAP
■ RC-72M (7 Sheets) _____	AUG. 29, 2008	INLET AND OUTLET PROTECTION
■ RC-73M (4 Sheets) _____	AUG. 29, 2008	CHANNEL AND SLOPE PROTECTION
■ RC-74M _____	AUG. 29, 2008	TEMPORARY DIVERSIONS
■ RC-75M _____	AUG. 29, 2008	DEWATERING DEVICES
■ RC-76M _____	AUG. 29, 2008	STRAW BALE BARRIER
■ RC-77M _____	AUG. 29, 2008	ROCK CONSTRUCTION ENTRANCE

## HIGHWAY LIGHTING

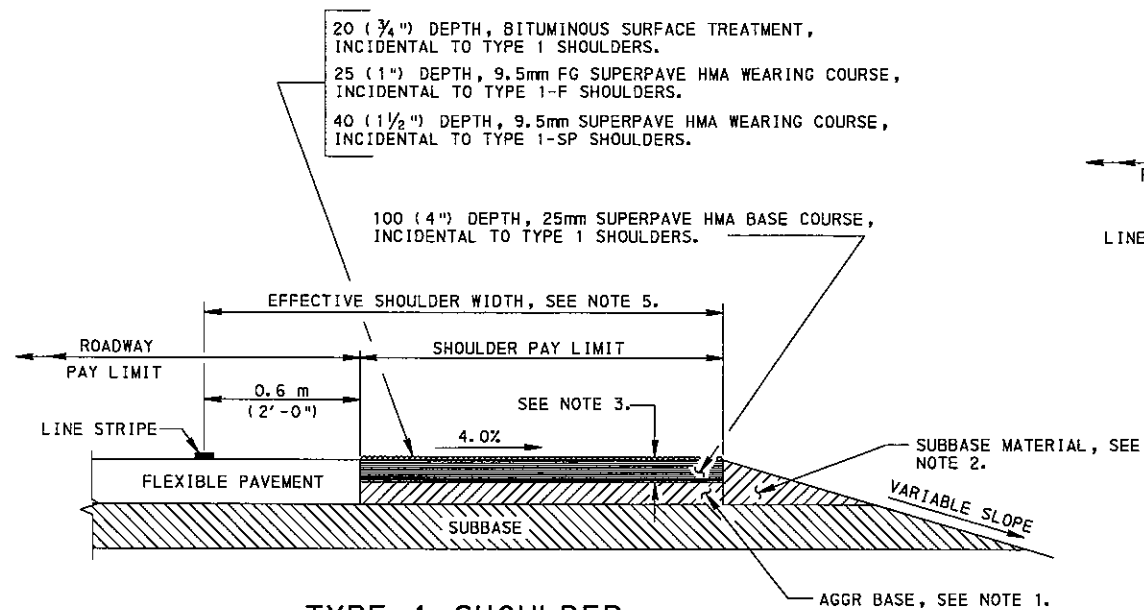
RC-80M (2 Sheets) _____	APR. 15, 2004	HIGHWAY LIGHTING-FOUNDATIONS
RC-81M _____	APR. 15, 2004	HIGHWAY LIGHTING-JUNCTION BOXES-LIGHT DUTY
RC-82M (2 Sheets) _____	APR. 15, 2004	HIGHWAY LIGHTING-JUNCTION BOXES-HEAVY DUTY
RC-83M (2 Sheets) _____	APR. 15, 2004	HIGHWAY LIGHTING-LIGHTING POLE DETAILS
RC-84M _____	APR. 15, 2004	HIGHWAY LIGHTING-LIGHTING AND ELECTRICAL DETAILS

## ROADSIDE DEVELOPMENT AND PLANTING

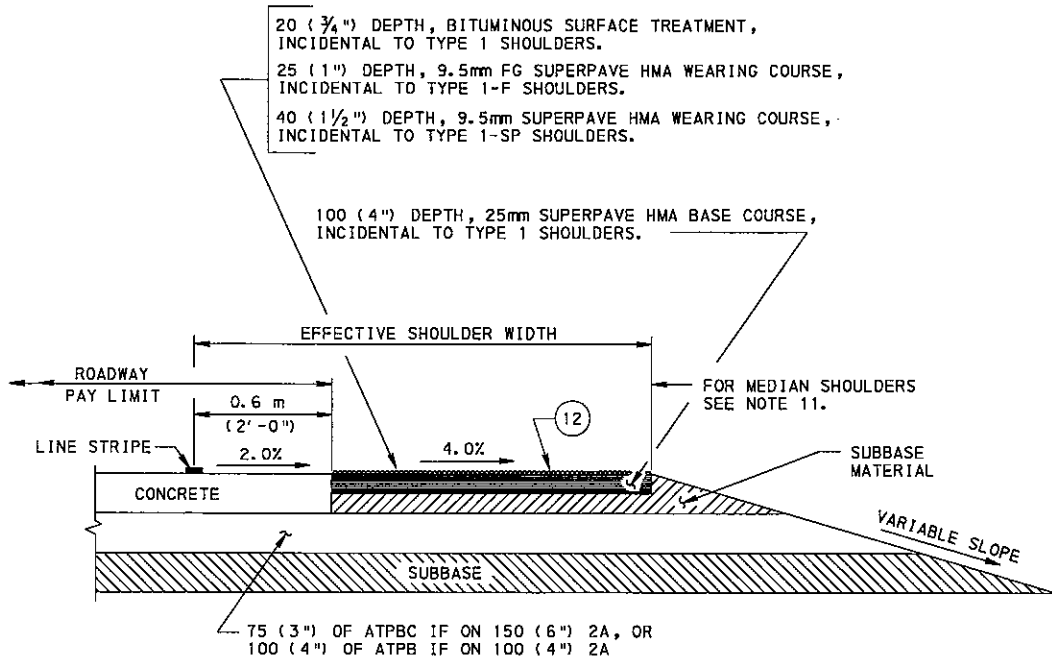
RC-91M (2 Sheets) _____	APR. 15, 2004	BRACING AND PLANTING DETAILS
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### APRIL, 2004 EDITION

- SEE CHANGE #1 FOR MAR. 30, 2006 STANDARD REVISIONS
- SEE CHANGE #2 FOR JUL. 20, 2007 STANDARD REVISIONS
- SEE CHANGE #3 FOR AUG. 29, 2008 STANDARD REVISIONS
- \* SEE CHANGE #4 FOR AUG. 29, 2008 STANDARD REVISIONS

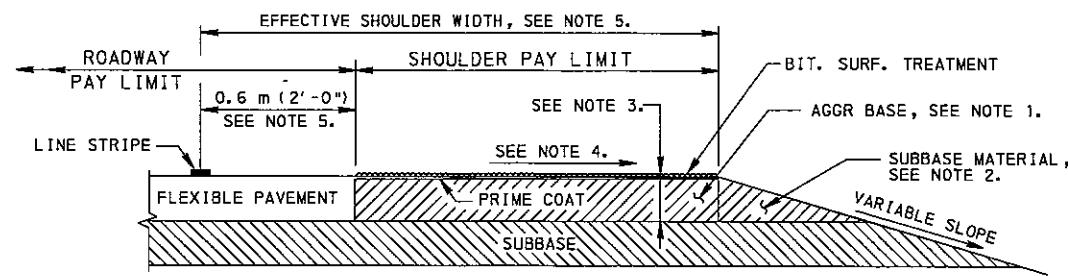


TYPE 1 SHOULDER  
 TYPE 1-F SHOULDER  
 TYPE 1-S SHOULDER  
 TYPE 1-SP SHOULDER

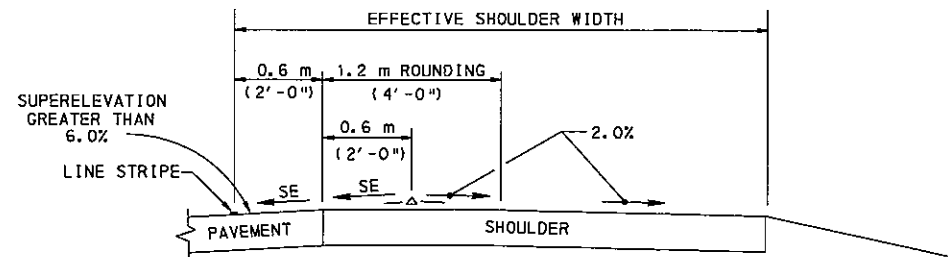


CONCRETE WIDENED LANE

TYPE 1 SHOULDER  
 TYPE 1-F SHOULDER  
 TYPE 1-S SHOULDER  
 TYPE 1-SP SHOULDER

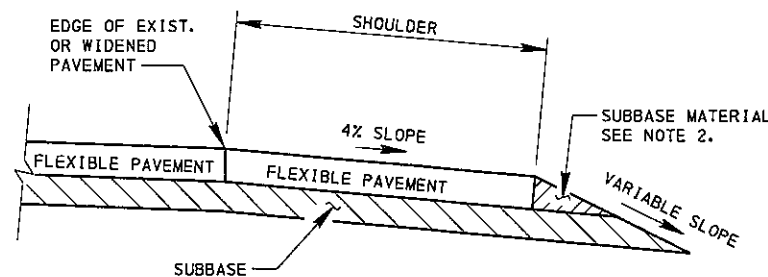


TYPE 3 SHOULDER



FOR SUPERELEVATION UNDER 6.0%, ELIMINATE THE 1.2 m (4'-0") ROUNDING AND USE THE 2.0% SHOULDER SLOPE BEGINNING FROM THE EDGE OF PAVEMENT.

SHOULDER ROUNDING ON HIGH SIDE  
 OF SUPERELEVATED CURVES



FULL DEPTH FLEXIBLE  
 PAVEMENT SHOULDERS

NOTES

1. CONSTRUCT AGGREGATE BASE AS SPECIFIED IN PUBLICATION 408, SECTION 350.3 AND CONSIDER AS PART OF THE SHOULDER.
2. CONSIDER THE PAYMENT FOR THIS AREA OF SUBBASE MATERIAL INCIDENTAL TO THE SHOULDER.
3. MAKE DEPTH OF SHOULDER THE COMBINED DEPTH OF SURFACE AND BASE COURSE.
4. SLOPE SHOULDER AT 6.0% FOR EFFECTIVE SHOULDER WIDTHS  $\leq 2.4$  m (8'-0"). SLOPE SHOULDER AT 4.0% FOR EFFECTIVE SHOULDER WIDTHS  $> 2.4$  m (8'-0").
5. FOR EFFECTIVE SHOULDER WIDTHS 1.8 m (6'-0") AND LESS, PAVE OUT-TO-OUT OF SHOULDERS WITH FULL DEPTH ROADWAY PAVEMENT.
6. FOR SHOULDERS THAT SPECIFY RUMBLE STRIPS INSTALLATIONS, USE ONLY BITUMINOUS WEARING COURSE SUPERPAVE, 9.5mm OR 12.5mm, HMA WEARING COURSE, 40 (1 1/2") DEPTH MINIMUM.
7. WHEN INSTALLING RUMBLE STRIPS ON A TYPE 1-SP SHOULDER, CONSTRUCT THE PAVEMENT/SHOULDER JOINT AT THE BEGINNING OF THE EFFECTIVE SHOULDER, OR PAVE FULL DEPTH INTO THE EFFECTIVE SHOULDER FAR ENOUGH SO THAT THE RUMBLE STRIPS ARE NOT CONSTRUCTED OVER THE LONGITUDINAL JOINT.
8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN ( ) PARENTHESIS.
9. SEE SHEETS 4 AND 5 FOR RUMBLE STRIPS DETAILS.
10. SHOULDER PAY QUANTITIES ARE INCLUDED IN MAINLINE ITEMS FOR SECTION 409 OF PUB.408 PAVING ITEMS.
11. FOR ALL DIVIDED ROADWAY FACILITIES, CONSTRUCT MEDIAN SHOULDERS AS PER TYPE 1 OR TYPE 2 CONCRETE SHOULDER, SEE SHEET 3.
12. CONCRETE WIDENED LANES PLACED ADJACENT TO TRAVEL LANES ONLY.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF TRANSPORTATION  
 BUREAU OF DESIGN

SHOULDERS

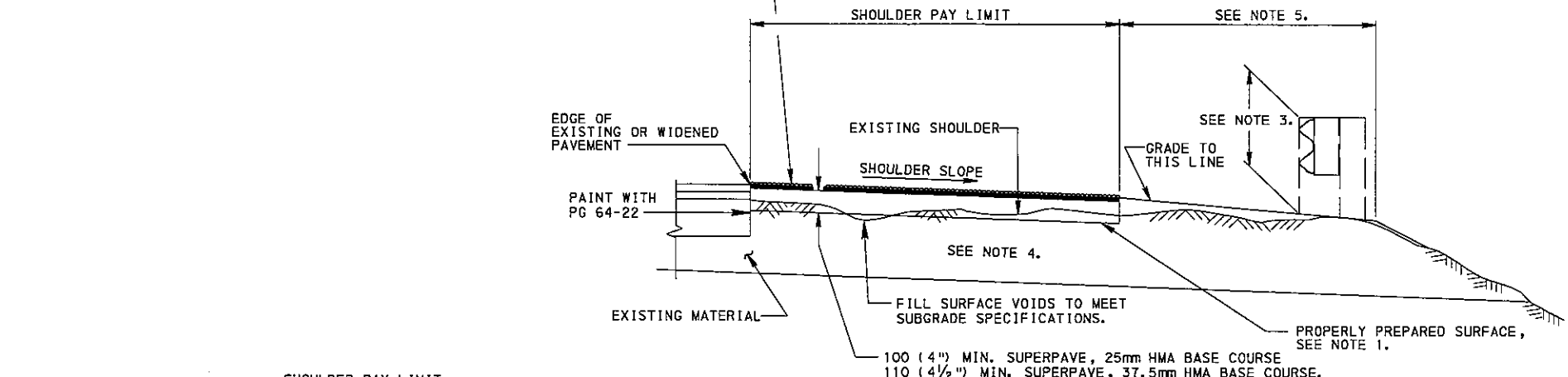
RECOMMENDED AUG. 29, 2008  
*Daniel B. Stewart*  
 ACTING CHIEF, HWY. QA DIVISION

RECOMMENDED AUG. 29, 2008  
*David Thompson*  
 DIRECTOR, BUREAU OF DESIGN

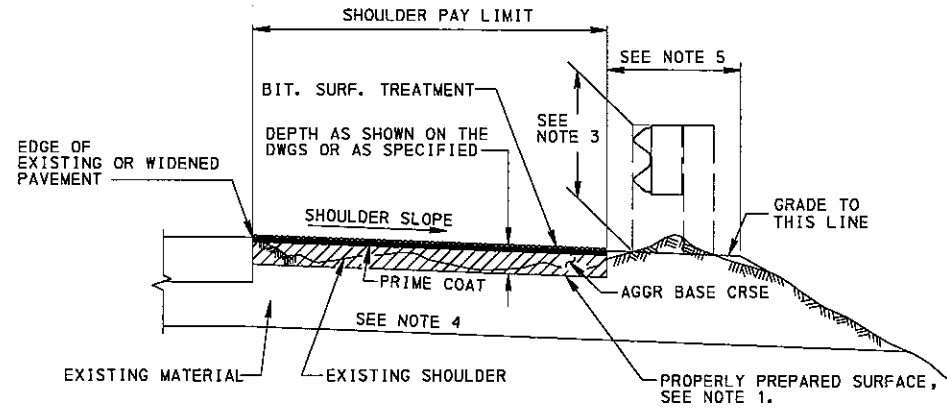
SHT. 1 OF 1

RC-25M

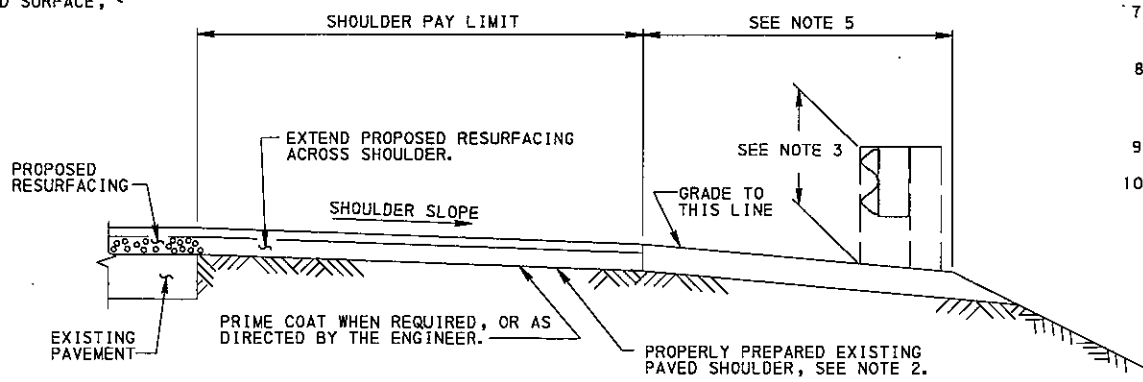
BIT. SURF. TREATMENT-INCIDENTAL TO TYPE 6 SHOULDERS, 20 (3/4") DEPTH  
 BIT. SURF. CRSE, FJ-1-INCIDENTAL TO TYPE 6-F SHOULDERS, 25 (1") DEPTH  
 DOUBLE SLURRY SEAL-INCIDENTAL TO TYPE 6-S SHOULDERS, 20 (3/4") DEPTH  
 SUPERPAVE, 9.5mm HMA WEARING COURSE, INCIDENTAL TO TYPE 6-SP SHOULDERS, 40 (1 1/2") DEPTH  
 SUPERPAVE, 12.5mm HMA WEARING COURSE, INCIDENTAL TO TYPE 6-SP SHOULDERS, 40 (1 1/2") DEPTH



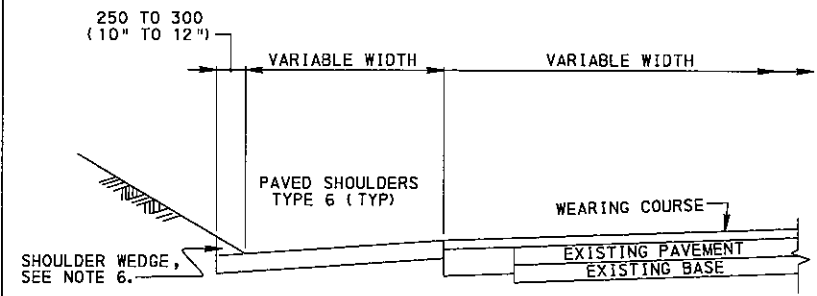
**TYPE 6 SHOULDER**  
**TYPE 6-F SHOULDER**  
**TYPE 6-S SHOULDER**  
**TYPE 6-SP SHOULDER**



**TYPE 4 SHOULDER**



**TYPE 7 SHOULDER**



**TYPICAL SHOULDER DETAIL**  
**WITH BITUMINOUS TAPER SHOULDER WEDGE**

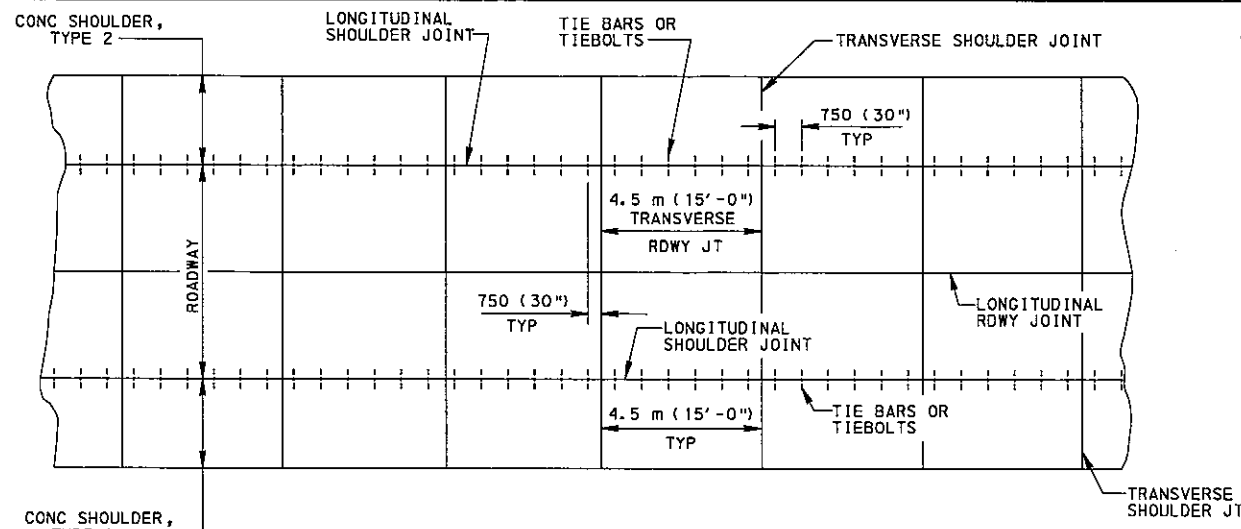
**NOTES**

- FOR TYPE 4 AND TYPE 6 SHOULDERS PROPERLY PREPARE SURFACE BY EITHER SHAPING AND/OR SCARIFYING AND/OR COMPACTING. SHAPING INCLUDES REMOVAL OF EXISTING SHOULDER MATERIAL AND THE PLACEMENT OF GRADED MATERIAL FROM THE SHAPING OPERATION INTO THE LOW AREAS. WHERE THERE IS INSUFFICIENT GRADED MATERIAL FROM THE SHAPING OPERATION, COMPLETE THE WORK BY EITHER ADDING ADDITIONAL AGGR BASE CRSE MATERIAL MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 350 OR MILLED BITUMINOUS MATERIAL. THE ADDITIONAL MATERIAL IS INCIDENTAL TO THE SHOULDER ITEM.
- FOR TYPE 7 SHOULDERS PROPERLY PREPARE EXISTING PAVED SHOULDER BY CLEANING AND PATCHING.
- THE GUIDE RAIL TYPE, HEIGHT AND LOCATION FROM SHOULDER MAY VARY, BUT WHEN THE HEIGHT FROM THE TOP OF RAIL TO PROPOSED SURFACE BECOMES LESS THAN 610 (24"), REMOVE, REPLACE AND/OR RESET THE GUIDE RAIL IN ACCORDANCE WITH CURRENT GUIDE RAIL STANDARDS. WHERE GUIDE RAIL HAS RUBBING RAIL ATTACHED, REMOVE THE RUBBING RAIL WHEN THE HEIGHT OF GUIDE RAIL BECOMES LESS THAN 700 (27").
- REMOVE UNSUITABLE MATERIAL AS DIRECTED, EXCAVATE, AND BACKFILL WITH MATERIAL MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 350. MEASURE AND PAY FOR SHOULDER EXCAVATION AND BACKFILL IN ACCORDANCE WITH PUBLICATION 408, SECTIONS 654 AND 656. (CROSS SECTIONS ARE NOT REQUIRED.)
- CONSIDER GRADING INCIDENTAL TO THE SHOULDER PAY ITEM. WHERE THERE IS INSUFFICIENT GRADED MATERIAL FROM THE GRADING OPERATION TO COMPLETE THIS OPERATION, USE MATERIAL MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 350 AND PAY FOR AS TONNES OF SELECTED BORROW EXCAVATION. WHERE THERE IS AN EXCESS OF MATERIAL FROM THE SHOULDER EXCAVATION OR GRADING OPERATION, REMOVE THIS MATERIAL AS SOON AS POSSIBLE AND CONSIDER AS INCIDENTAL TO THE SHOULDER PAY ITEM.
- PROVIDE BITUMINOUS TAPER SHOULDER WEDGE IN ALL CUT AREAS AND CONSIDER AS INCIDENTAL TO THE SHOULDER PAY ITEM.
- "LUMP SUM" ITEMS INCLUDE ALL MATERIALS AND OPERATIONS OF WORK NECESSARY TO COMPLETE THAT ENTIRE ITEM WHETHER TABULATED OR NOT.
- FOR SHOULDERS THAT SPECIFY RUMBLE STRIP INSTALLATIONS, USE ONLY SUPERPAVE, 9.5mm OR 12.5mm HMA WEARING COURSE, 40 (1 1/2") DEPTH MINIMUM.
- SEE SHEETS 4 AND 5 FOR RUMBLE STRIP DETAILS.
- REMOVE VEGETATION PRIOR TO FILLING LOW AREAS AND USE MATERIAL FREE OF ORGANIC MATERIALS.

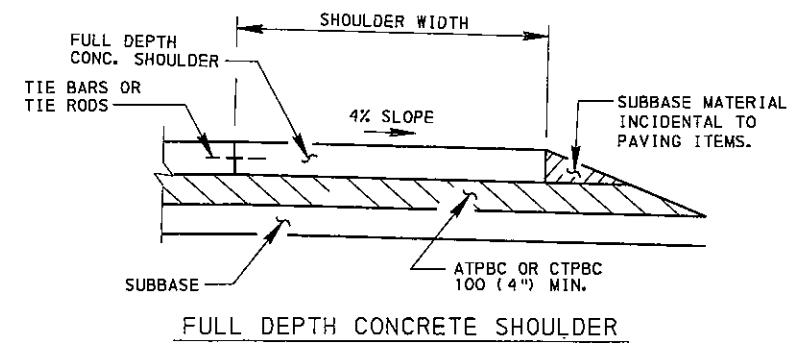
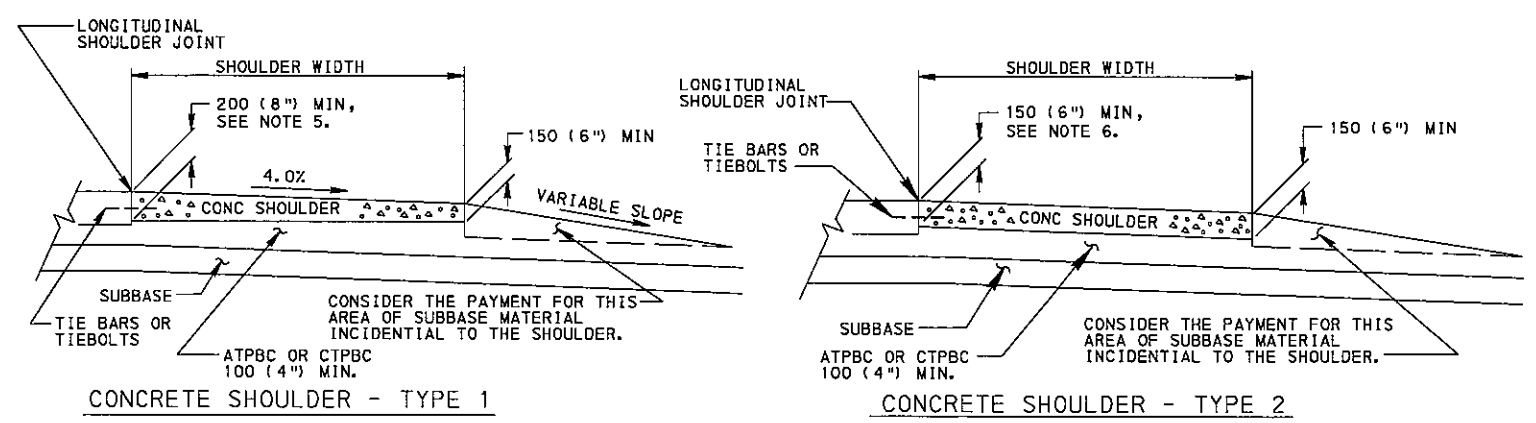
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF TRANSPORTATION  
 BUREAU OF DESIGN

**SHOULDERS**  
**(RECONSTRUCTED)**

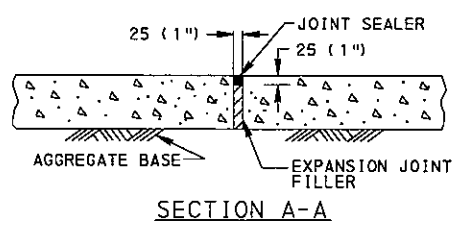
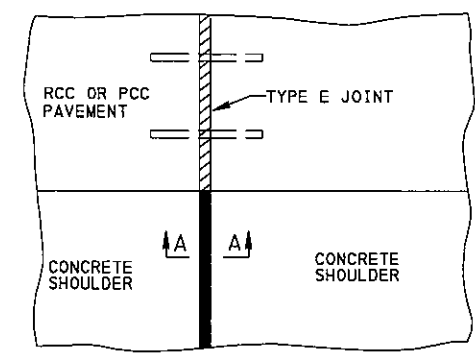


**CONCRETE SHOULDERS ADJACENT TO PLAIN  
CONCRETE PAVEMENT FOR COLLECTORS AND LOCAL ROADS**

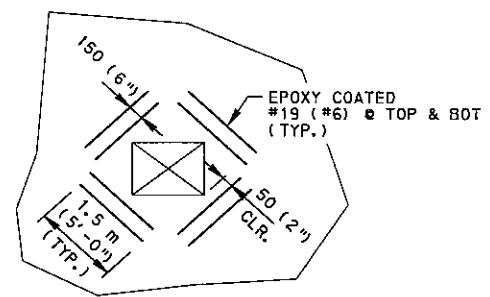


**FULL DEPTH CONCRETE SHOULDER**

**TYPICAL SECTIONS**

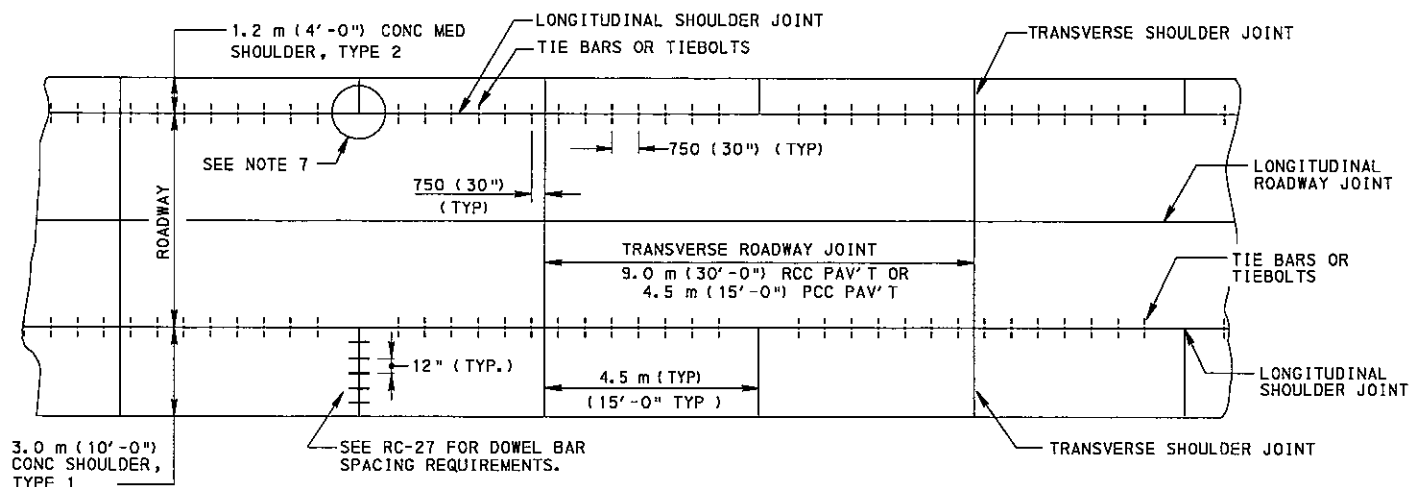


**CONCRETE SHOULDER  
EXPANSION JOINTS**

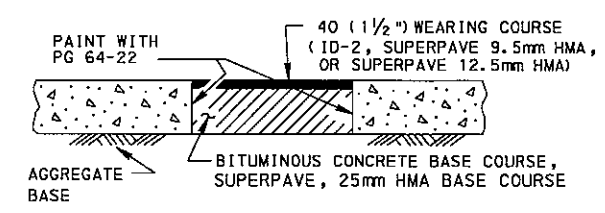
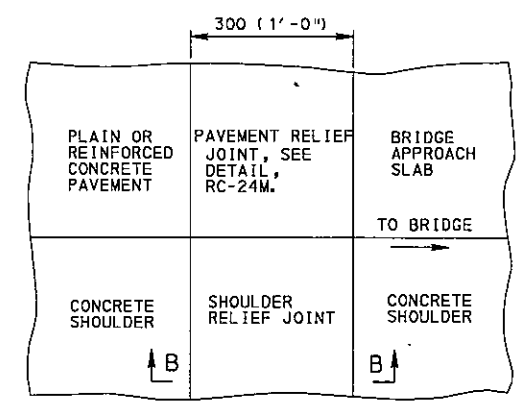


**REINFORCEMENT AT OPENINGS**

- NOTES:**
- ATPBC/CTPBC MAY BE SUBSTITUTED WITH OGS MATERIAL AS PER SEC. 350.3 OF PUB. 408.
  - SEAL ALL SHOULDER JOINTS IN ACCORDANCE WITH PUBLICATION 408, SECTION 501.3 (n).
  - FOR JOINT DETAILS, SEE RC-20M.
  - ALIGN SHOULDER TRANSVERSE JOINTS TO ADJACENT PAVEMENT JOINTS.
  - SEE RC-25M, SHEET 1, FOR SHOULDER ROUNDING DETAIL ON HIGH SIDE OF SUPERELEVATION.
  - AT THE CONTRACTOR'S OPTION, TYPE 2 CONCRETE SHOULDERS MAY BE CONSTRUCTED ON A TAPER, WITH A 150 (6") MINIMUM DEPTH, OR AT THE SAME DEPTH AS THE PAVEMENT, AT NO ADDITIONAL EXPENSE TO THE DEPARTMENT.
  - TYPICALLY, DO NOT PLACE TIE BARS OR TIEBOLTS WITHIN 750 (30") OF EITHER SIDE OF INTERMEDIATE SHOULDER JOINTS ADJACENT TO RCC PAVEMENTS OR PCC PAVEMENT.
  - WHEN THE SHOULDER IS STRUCTURALLY PART OF A BARRIER MOMENT RESISTANCE SLAB (I.E. BARRIER/SLAB ON AN MSE WALL) SEE BC-799 SHEET 3 FOR REQUIRED MINIMUM SPACING OF THE TRANSVERSE SHOULDER JOINTS.
  - SEE SHEETS 4 AND 5 FOR RUMBLE STRIP DETAILS.
  - FOR USE ON FULL DEPTH CONCRETE SHOULDERS, SHOULDER PAY QUANTITIES ARE INCLUDED IN MAINLINE ITEMS FOR SECTION 501 OR 506 OF PUB. 408 PAVING QUANTITIES.
  - CONSTRUCT ONLY RCC SHOULDER ADJACENT TO RCC PAVEMENT AND PCC SHOULDER ADJACENT TO PCC PAVEMENT UNLESS WHEN USING CONCRETE WIDENED LANES AS PER RC25M, SHT. 1.
  - PROTECT TRANSVERSE JOINTS PRIOR TO PLACEMENT OF SHOULDERS AS PER PUB. 408, SECTION 501.3 (i).



**CONCRETE SHOULDERS ADJACENT TO RCC PAVEMENT  
AND PCC PAVEMENT FOR INTERSTATE AND OTHER  
LIMITED ACCESS FREEWAYS, ARTERIALS AND RAMPS**



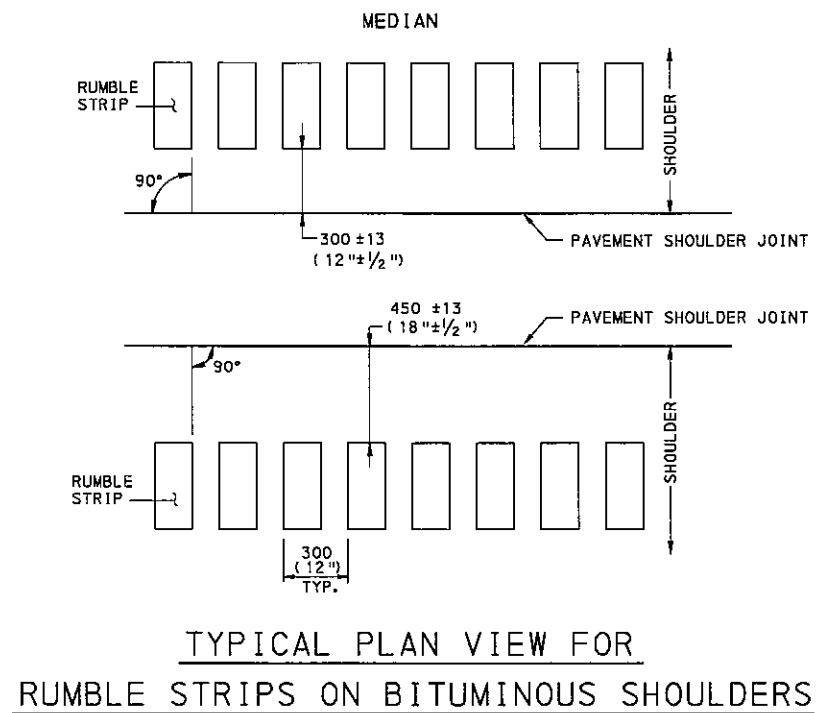
**SECTION B-B  
SHOULDER  
RELIEF JOINTS**

**NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES  
MUST BE USED ON PLANS. METRIC AND  
ENGLISH VALUES SHOWN MAY NOT BE MIXED.**

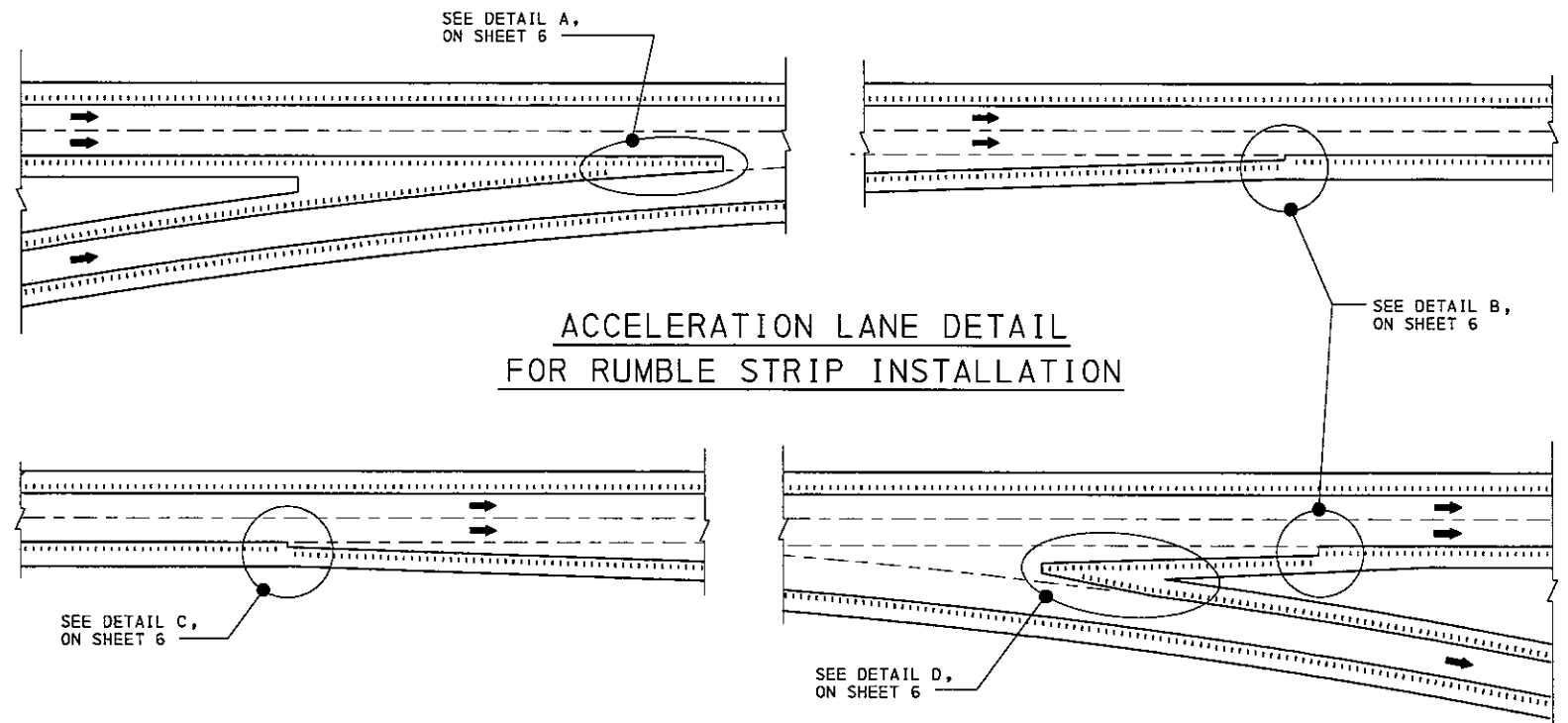
**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

**SHOULDERS  
(CONCRETE)**

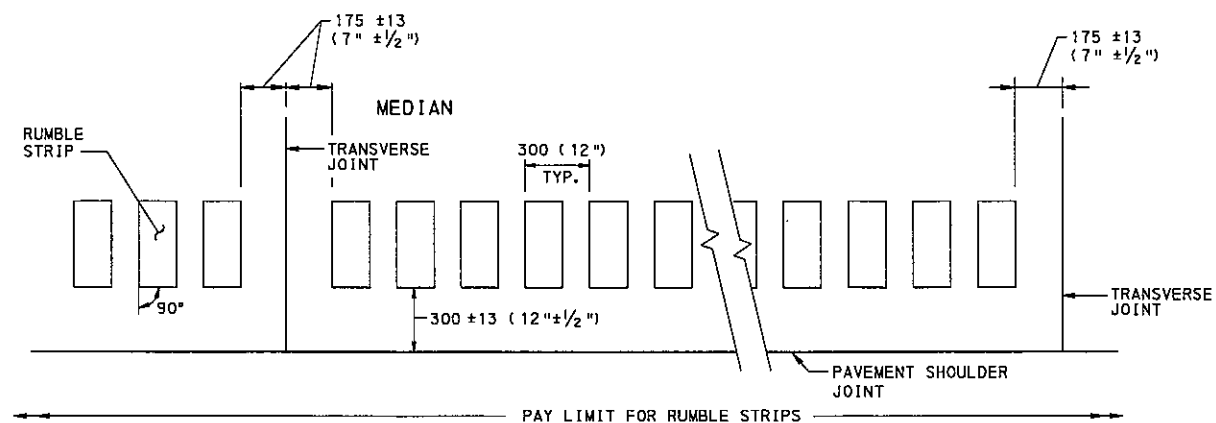
RECOMMENDED AUG. 29, 2008 <i>Daniel B. Hest</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Burt Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT 3 OF 7 <b>RC-25M</b>
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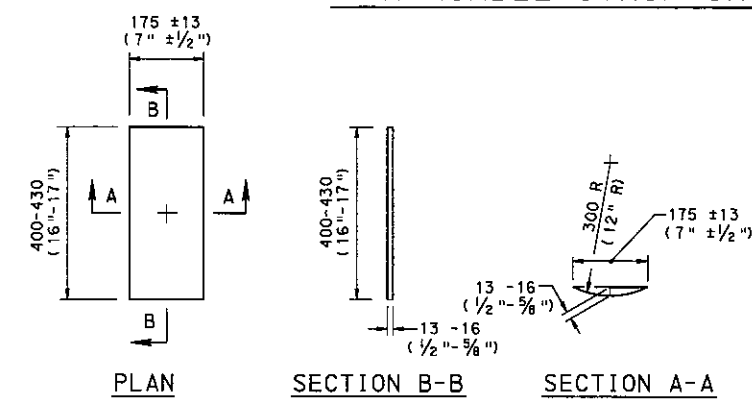
TYPICAL PLAN VIEW FOR RUMBLE STRIPS ON BITUMINOUS SHOULDERS



ACCELERATION LANE DETAIL FOR RUMBLE STRIP INSTALLATION

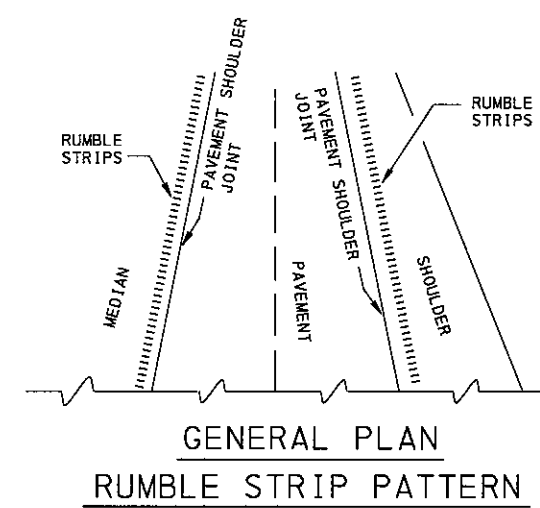


TYPICAL PLAN VIEW FOR RUMBLE STRIPS ON CONCRETE SHOULDERS OR CONCRETE WIDENED LANE PAVING



SECTION DETAILS OF RUMBLE STRIP PATTERN

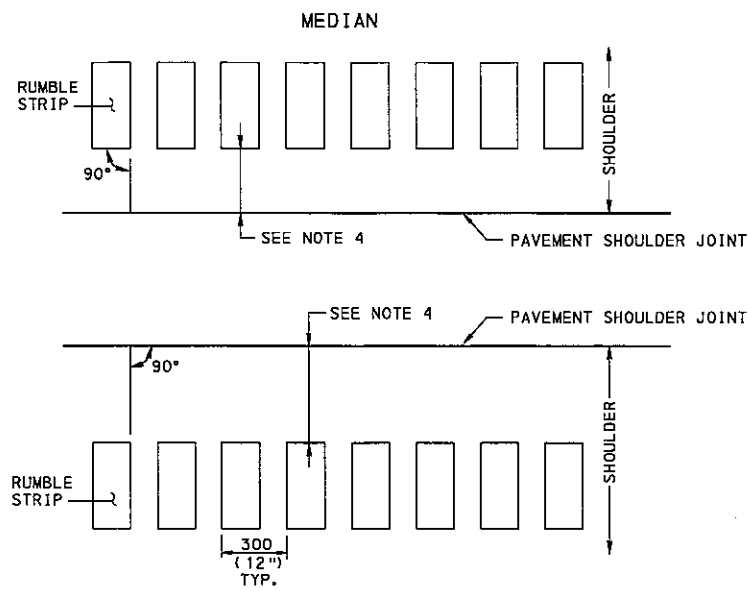
- NOTES**
1. IF THERE IS NO ACTUAL PAVEMENT SHOULDER JOINT, MEASURE THE OFFSET FROM THE PAVEMENT SHOULDER TRAFFIC LINE.
  2. DO NOT CONSTRUCT SHOULDER RUMBLE STRIPS ACROSS A JOINT.
  3. CONSTRUCT RUMBLE STRIPS IN ACCORDANCE WITH PUBLICATION 408 SECTION 660.
  4. 450 ± 13 (18" ± 1/2") EXCEPT FOR CONCRETE WIDENED LANES, THEN 225 ± 13 (9" ± 1/2").



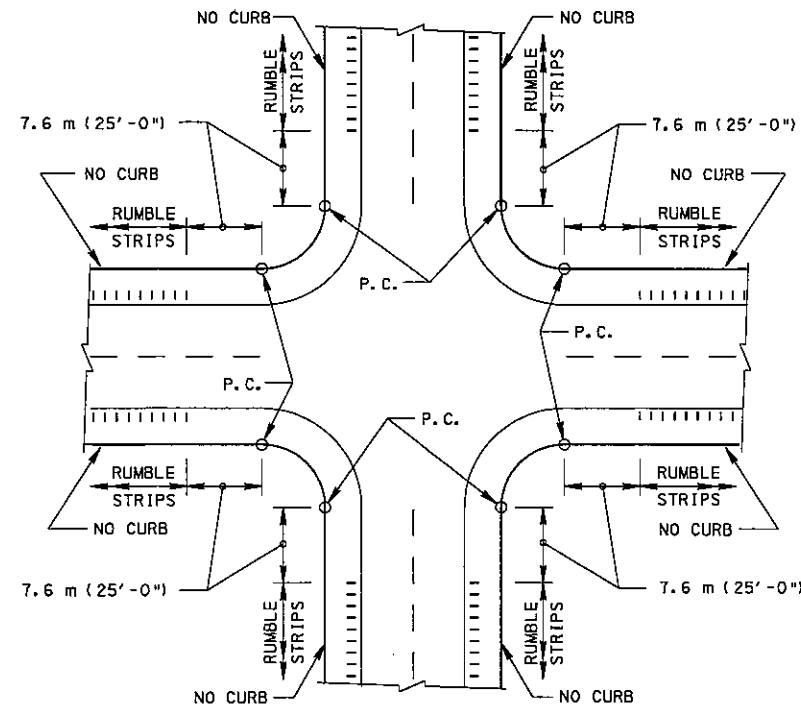
GENERAL PLAN RUMBLE STRIP PATTERN

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

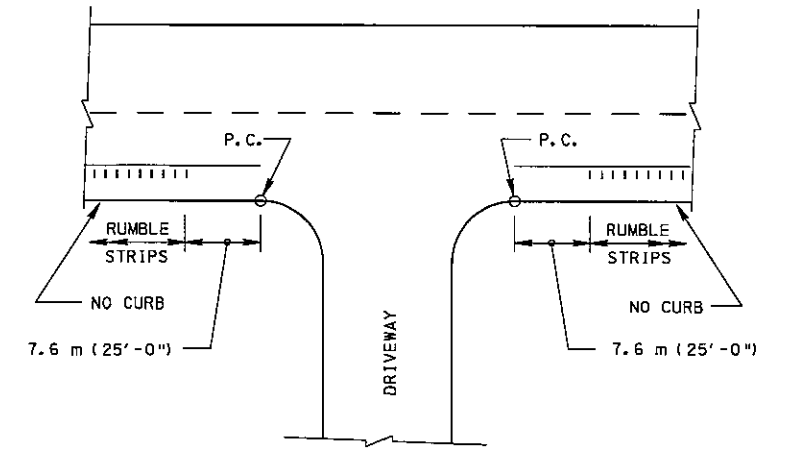
<b>COMMONWEALTH OF PENNSYLVANIA</b> <b>DEPARTMENT OF TRANSPORTATION</b> BUREAU OF DESIGN		
<b>SHOULDERS</b> <b>RUMBLE STRIPS</b> (LIMITED ACCESS HIGHWAYS)		
RECOMMENDED AUG. 29, 2008 <i>Daniel B. Hewitt</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Annelle Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT. 4 OF 7 <b>RC-25M</b>



TYPICAL PLAN VIEW FOR RUMBLE STRIP ON BITUMINOUS SHOULDERS



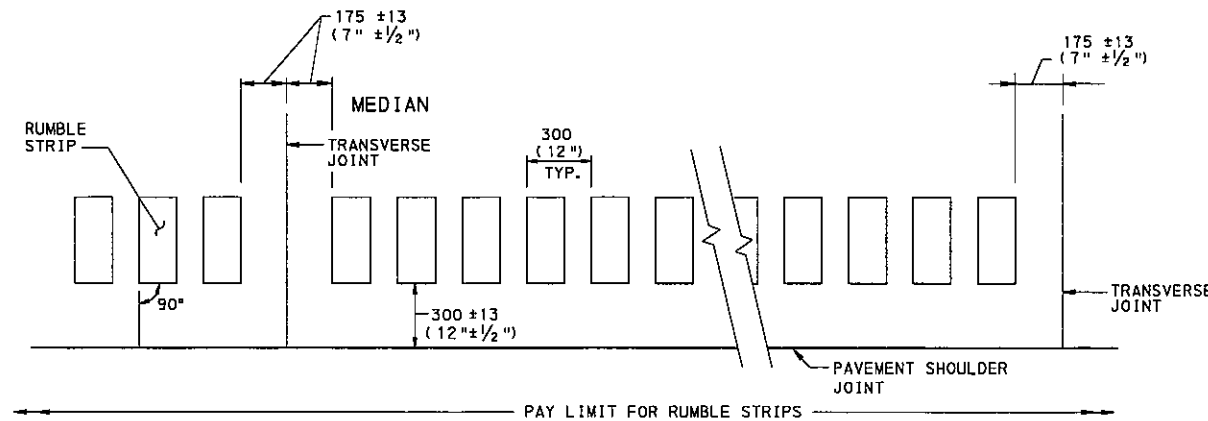
TYPICAL INTERSECTION DETAIL FOR RUMBLE STRIP INSTALLATION



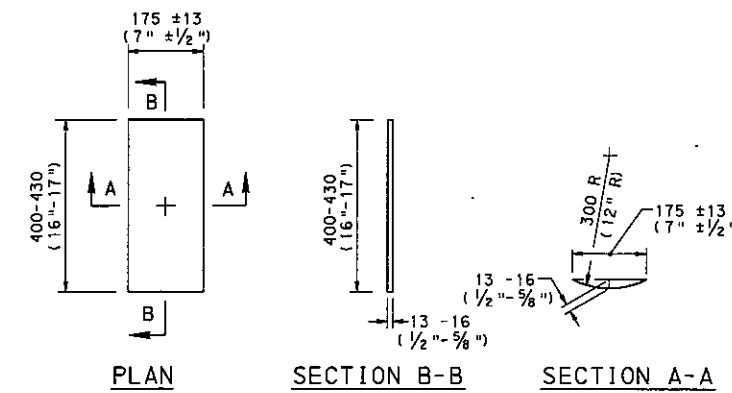
TYPICAL DRIVEWAY DETAIL FOR RUMBLE STRIP INSTALLATION

NOTES

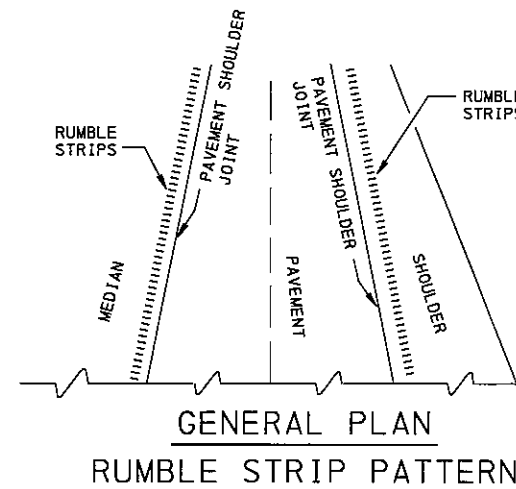
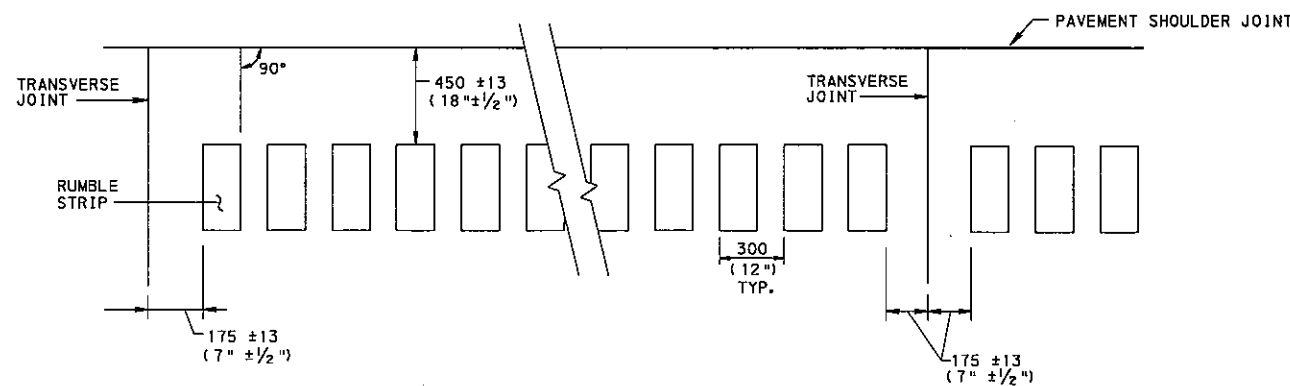
1. SHOULDER RUMBLE STRIPS FOR FREE ACCESS HIGHWAYS ARE CONSIDERED ON A PROJECT BY PROJECT BASIS AS INDICATED ON THE CONSTRUCTION PLANS.
2. CONSTRUCT RUMBLE STRIP IN ACCORDANCE WITH PUBLICATION 408, SECTION 660.
3. DO NOT CONSTRUCT SHOULDER RUMBLE STRIPS ACROSS A JOINT.
4. 300 ±13 (12" ± 1/2") FOR LEFT (MEDIAN) SHOULDERS. 450 ±13 (18" ± 1/2") FOR RIGHT SHOULDERS ≥ 2.4 m (8'-0") WIDE. FOR RIGHT SHOULDERS LESS THAN 2.4 m (8'-0") WIDE, SEE CONSTRUCTION PLANS FOR OFFSET DIMENSION.
5. IF THERE IS NO ACTUAL PAVEMENT SHOULDER JOINT, MEASURE THE OFFSET FROM THE PAVEMENT SHOULDER TRAFFIC LINE.



TYPICAL PLAN VIEW FOR RUMBLE STRIPS ON CONCRETE SHOULDERS



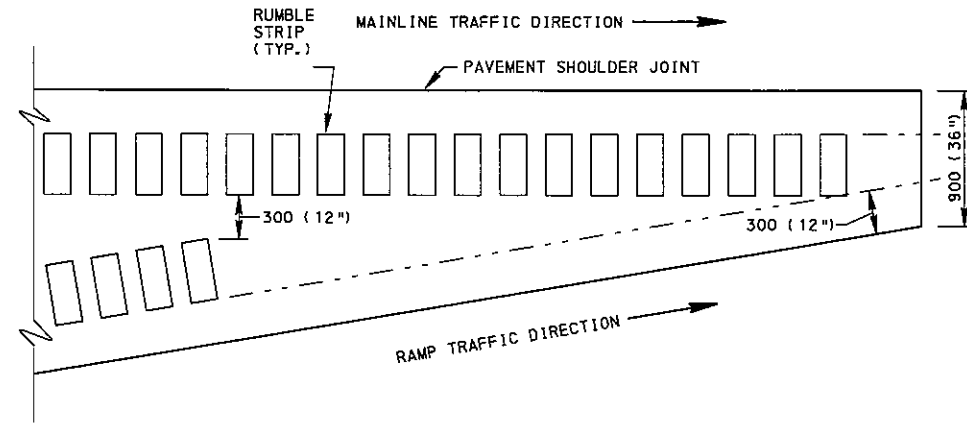
SECTION DETAILS OF RUMBLE STRIP PATTERN



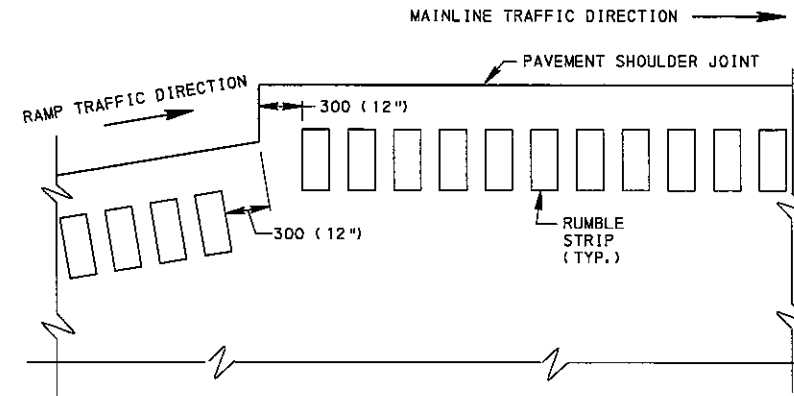
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

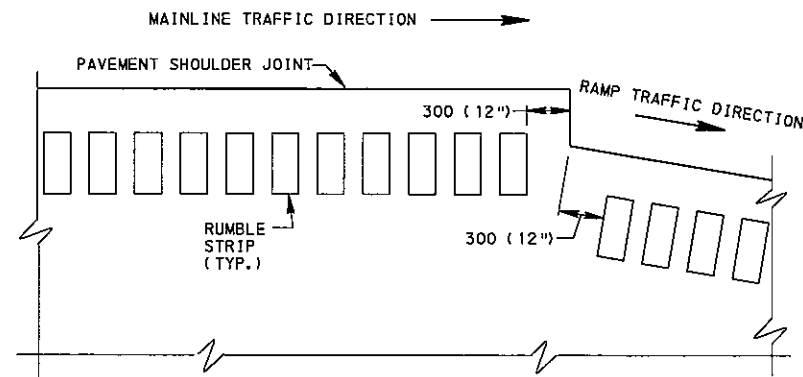
SHOULDERS  
RUMBLE STRIPS  
(FREE ACCESS HIGHWAYS)



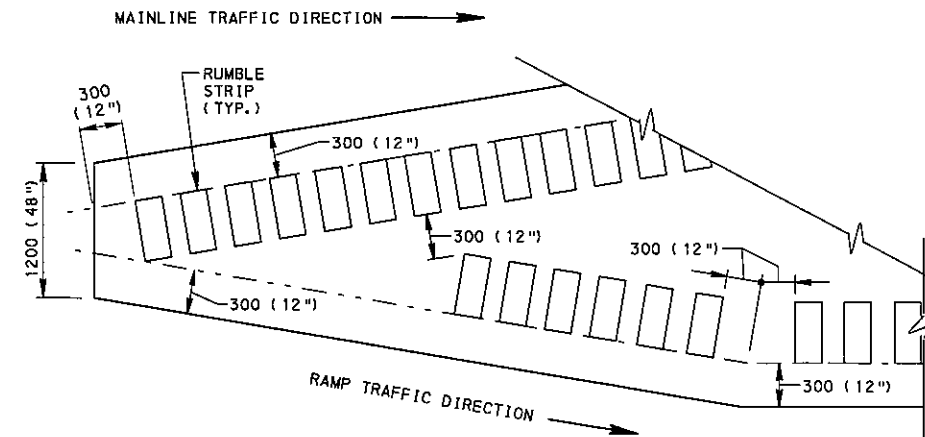
DETAIL A  
ACCELERATION LANE  
GORE AREA RUMBLE STRIPS



DETAIL B  
ACCELERATION LANE  
OUTSIDE SHOULDER RUMBLE STRIPS



DETAIL C  
DECELERATION LANE  
OUTSIDE SHOULDER RUMBLE STRIPS



DETAIL D  
DECELERATION LANE  
GORE AREA RUMBLE STRIPS

NOTES

1. IF THERE IS NO ACTUAL PAVEMENT SHOULDER JOINT, MEASURE FROM THE PAVEMENT SHOULDER TRAFFIC LINE.
2. DO NOT CONSTRUCT SHOULDER RUMBLE STRIPS ACROSS A JOINT.
3. CONSTRUCT RUMBLE STRIPS IN ACCORDANCE WITH PUBLICATION 408 SECTION 660.
4. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS SUCH THAT A CONTINUOUS TRANSVERSE JOINT IS FORMED ACROSS MAINLINE, SEPARATOR, AND RAMP PAVEMENTS.
5. FORM JOINTS IN GORE AREA CONNECTING MAINLINE AND RAMP TRANSVERSE JOINTS SUCH THAT ANGLES LESS THAN 80° ARE AVOIDED IN GORE PAVEMENT WHERE POSSIBLE.

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DEPARTMENT OF TRANSPORTATION  
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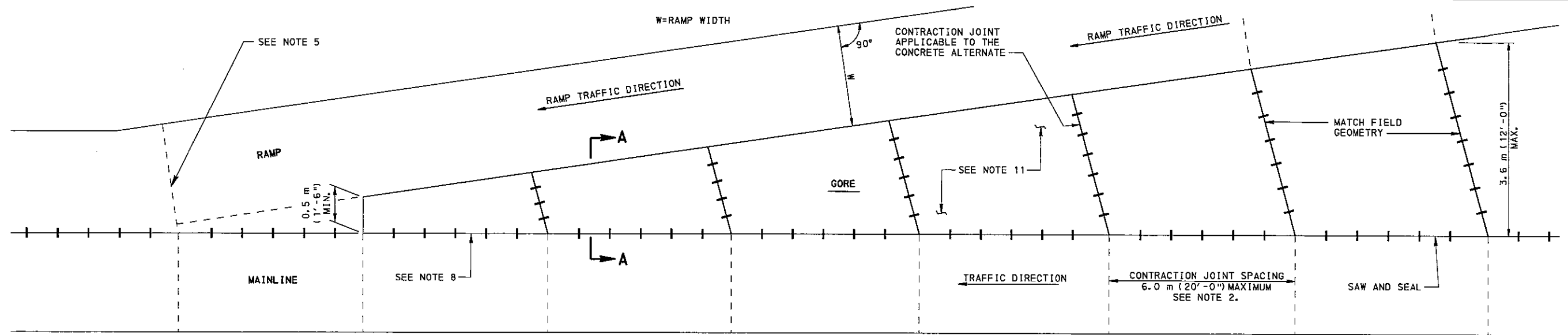
SHOULDERS  
RUMBLE STRIPS  
(GORE AREA)

RECOMMENDED AUG. 29, 2008  
*Daniel B. Howard*  
ACTING CHIEF, HWY. QA DIVISION

RECOMMENDED AUG. 29, 2008  
*Ann M. Thompson*  
DIRECTOR, BUREAU OF DESIGN

SHT. 6 OF 7  
RC-25M

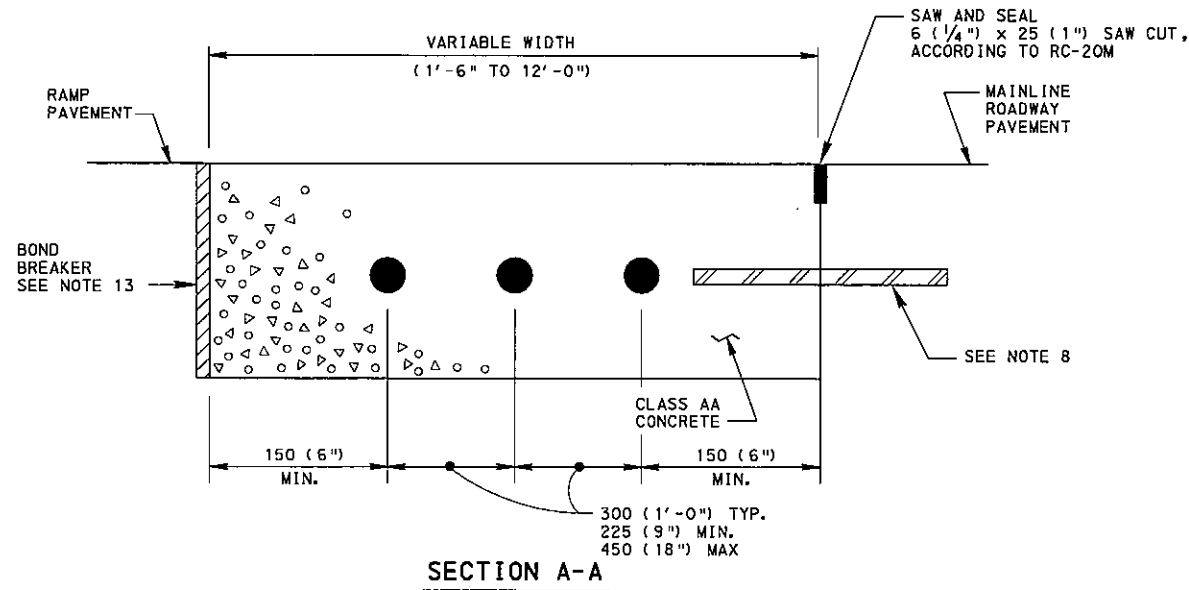




**RAMP GORE AREA**

**NOTES**

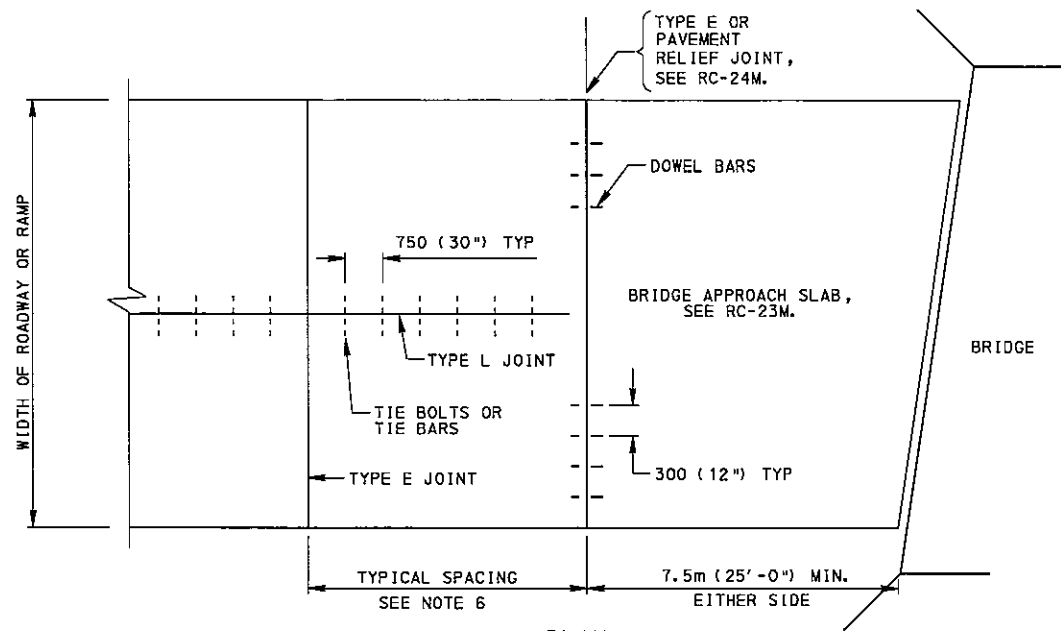
1. USE MATERIALS AND CONSTRUCTION METHODS WHICH MEET THE REQUIREMENTS OF PUBLICATION 408, SECTION 501 OR 658.
2. BEGIN AND END PAVEMENT AT MAINLINE TRANSVERSE JOINTS WITH A MINIMUM PAVEMENT WIDTH OF 0.5m (1'-6") AND A MAXIMUM WIDTH OF 3.6m (12'-0").
3. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS SUCH THAT A CONTINUOUS TRANSVERSE JOINT IS FORMED ACROSS MAINLINE, SEPARATOR, AND RAMP PAVEMENTS.
4. PLACE 19.05 (3/4") PREMOLDED EXPANSION JOINT FILLER MATERIAL AT STRUCTURES AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CROSS SECTIONAL AREA.
5. WHEN RAMP OR LANE WIDTH EXCEEDS 4.2 m (14'-0"), A TYPE L JOINT IS REQUIRED AT THE MIDPOINT.
6. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN ( ) PARENTHESIS.
7. CONSTRUCT GORE PAVEMENT THE SAME DEPTH AS MAINLINE SHOULDER DEPTH.
8. TIE GORE TO MAINLINE SHOULDER PAVEMENT IN ACCORDANCE WITH RC-25M.
9. CONSTRUCT GORE UTILIZING SECTION 501 OR 658 (WHICHEVER ITEM NUMBER THE MAINLINE SHOULDER IS CONSTRUCTED OF) MEASUREMENT AND PAYMENT WILL BE USING SAME ITEM NUMBER.
10. DO NOT USE LONGITUDINAL TIE BARS TO TIE GORE TO RAMP/SHOULDER PAVEMENT.
11. INSTALL RUMBLE STRIPS IN ACCORDANCE WITH RC-25M, SHEET 6 OF 7.
12. USE LOAD TRANSFER UNITS IF MAINLINE SHOULDER IS CONSTRUCTED USING LOAD TRANSFER UNITS. INSTALL IN ACCORDANCE WITH RC-27M.
13. PLACE A 6 (1/4"), FULL DEPTH, POLYSTYRENE BOARD BOND BREAKER.



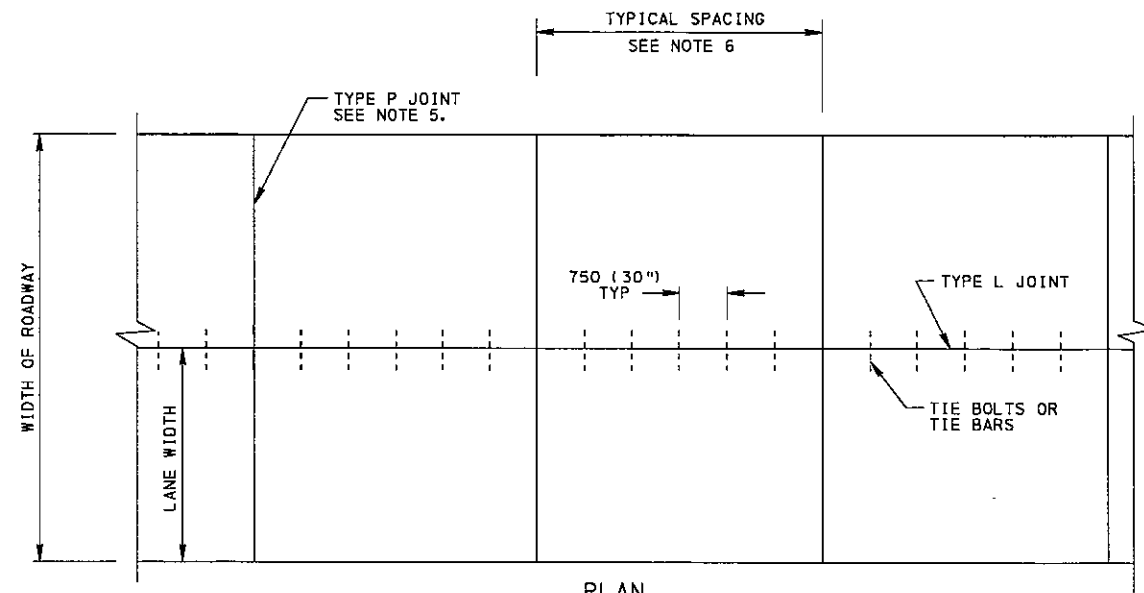
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
 BUREAU OF DESIGN

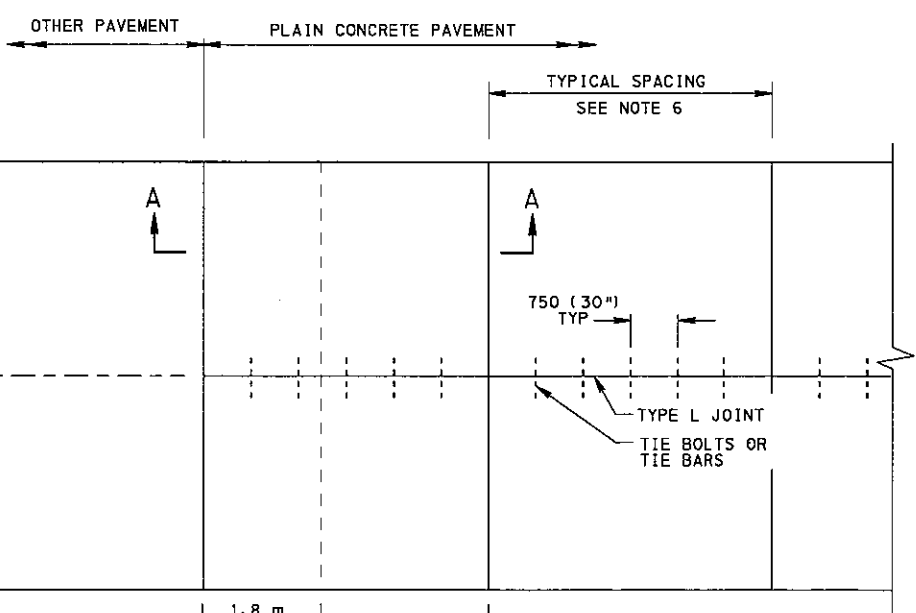
**RAMP GORE AREA**



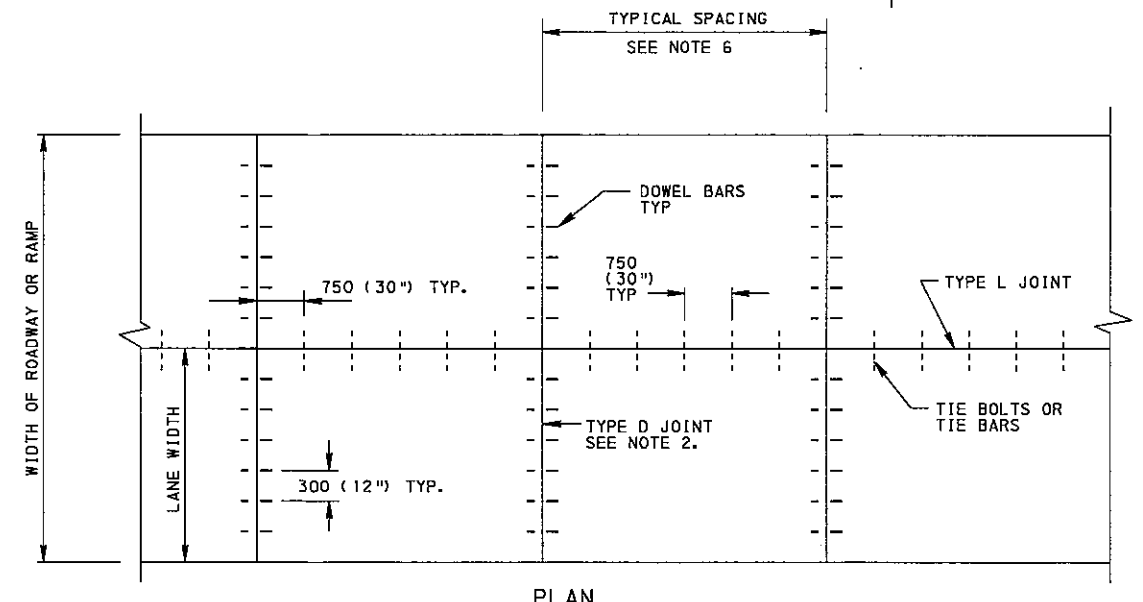
PLAN  
BRIDGE APPROACHES



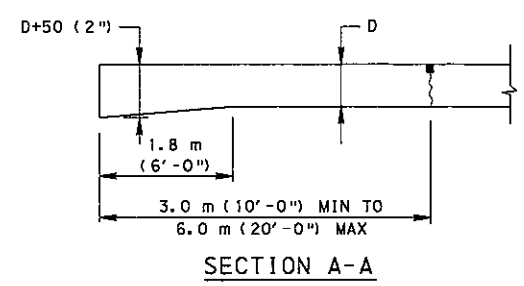
PLAN  
COLLECTORS AND LOCAL ROADS



PLAN  
TERMINAL SLAB



PLAN  
INTERSTATE AND OTHER LIMITED ACCESS  
FREEWAYS, ARTERIALS AND RAMPS



SECTION A-A

NOTES

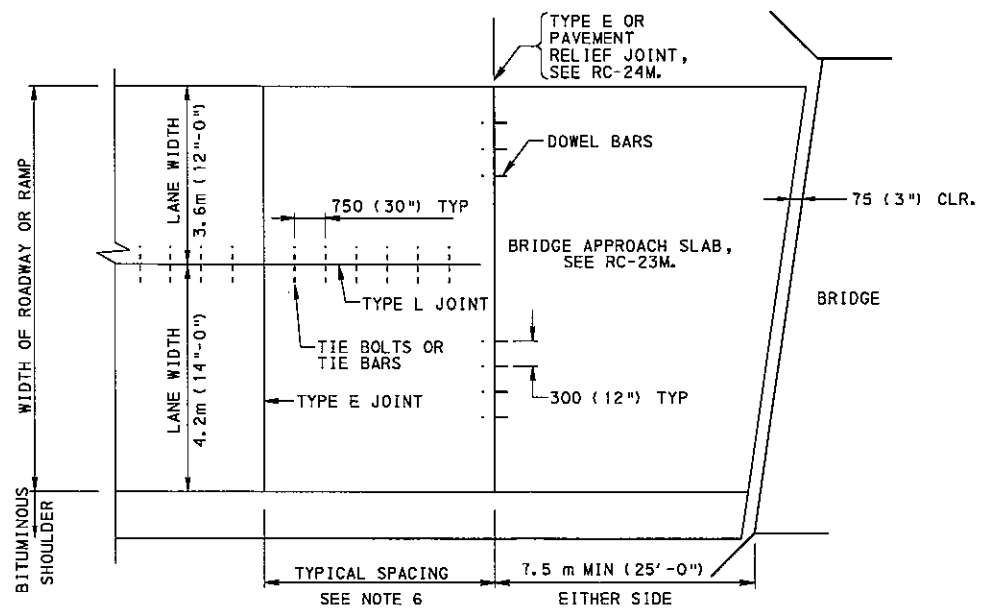
1. FOR JOINT DETAILS, SEE RC-20M.
2. CONSTRUCT TYPE D JOINTS ON INTERSTATE, EXPRESSWAY, ARTERIAL AND RAMP PAVEMENTS.
3. WHEN RAMP OR LANE WIDTH EXCEEDS 4.2 m (14'), A TYPE L JOINT IS REQUIRED AT THE MIDPOINT.
4. CONSTRUCT ACCELERATION AND DECELERATION PORTION OF RAMPS WITH THE SAME PAVEMENT STRUCTURE AS THE MAINLINE PAVEMENT TO THE FIRST TRANSVERSE JOINT BEYOND THE RAMP CORE.
5. CONSTRUCT TYPE P JOINT, AS INDICATED, ON COLLECTORS AND LOCAL ROADS.
6. USE A 4.5 m (15'-0") JOINT SPACING ON ALL PAVEMENTS.
7. ON CURVES, THE JOINT SHALL BE CONSTRUCTED PERPENDICULAR TO THE TANGENT ON THE LONG RADIUS SIDE OF THE CURVE.
8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN ( ) PARENTHESIS.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

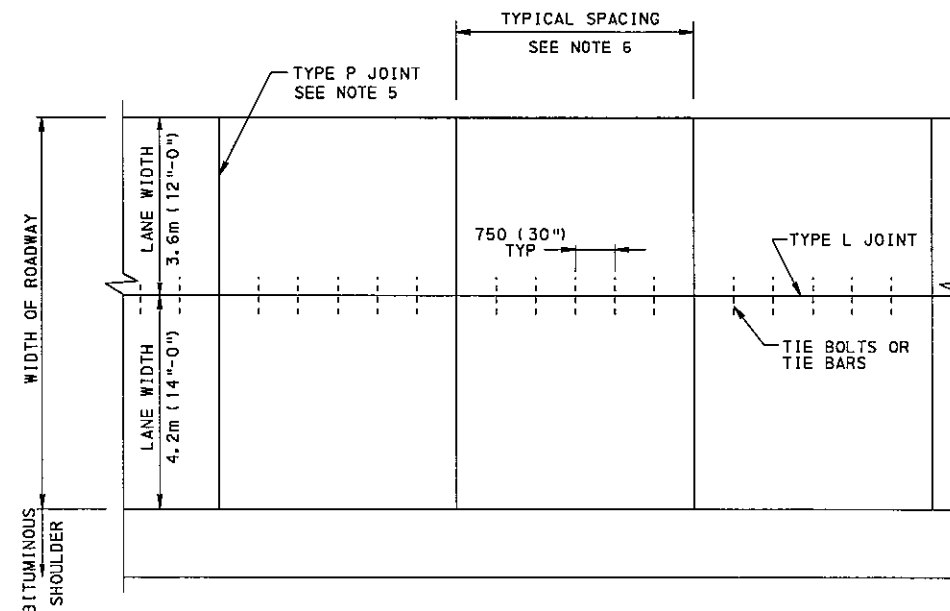
PLAIN CONCRETE PAVEMENT

04-SEP-2008



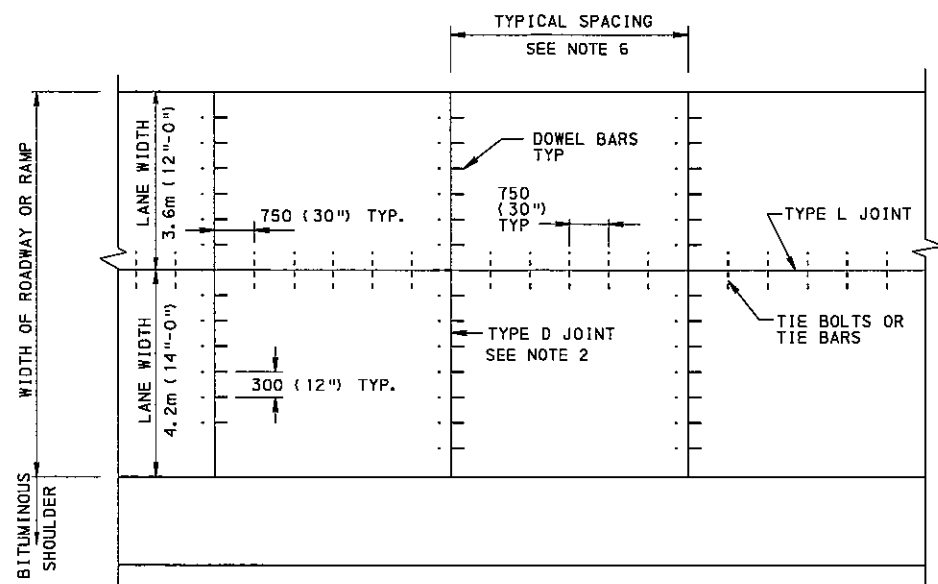
PLAN

BRIDGE APPROACHES WITH WIDENED CONCRETE PAVING



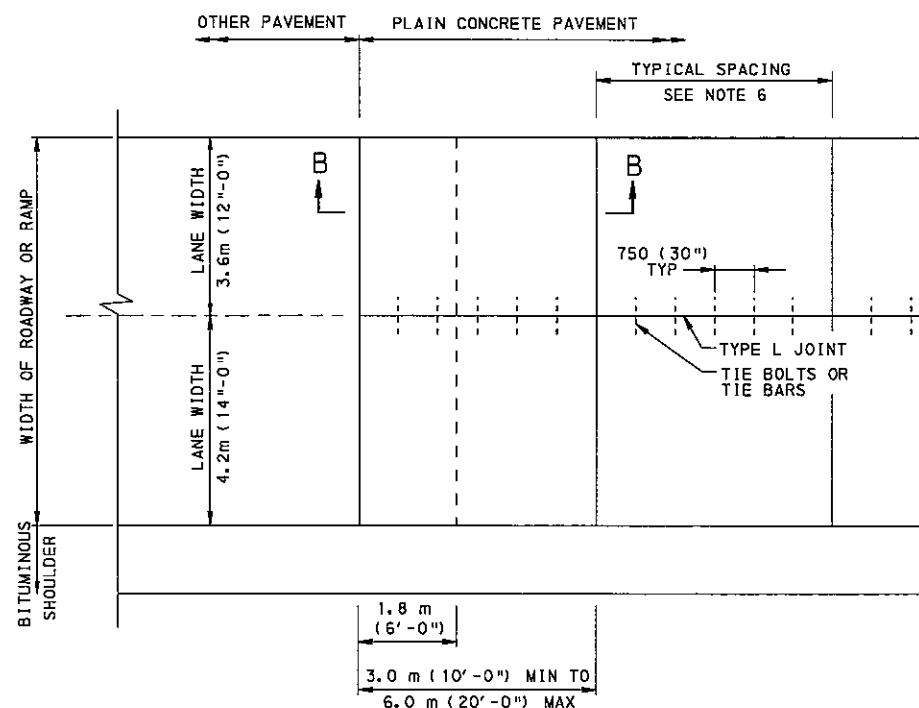
PLAN

COLLECTORS AND LOCAL ROADS



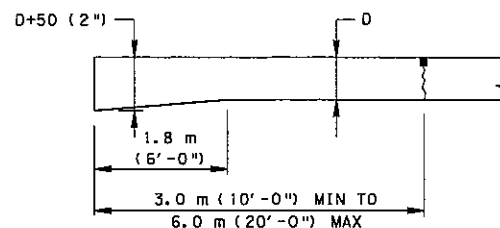
PLAN

INTERSTATE AND OTHER LIMITED ACCESS  
FREEWAYS, ARTERIALS AND RAMPS  
WITH WIDENED CONCRETE PAVING



PLAN

TERMINAL SLAB WITH  
WIDENED CONCRETE LANE PAVING



TERMINAL SLAB SECTION B-B  
WITH WIDENED CONCRETE PAVING

NOTES

1. FOR JOINT DETAILS, SEE RC-20M.
2. CONSTRUCT TYPE D JOINTS ON INTERSTATE, EXPRESSWAY, ARTERIAL AND RAMP PAVEMENTS. PLACE DOWELS AT 300 (12") TYP. SPACING ACROSS TRANSVERSE JOINT.
3. WHEN RAMP OR LANE WIDTH EXCEEDS 4.2 m (14'-0"), A TYPE L JOINT IS REQUIRED AT THE MIDPOINT.
4. CONSTRUCT ACCELERATION AND DECELERATION PORTION OF RAMPS WITH THE SAME PAVEMENT STRUCTURE AS THE MAINLINE PAVEMENT TO THE FIRST TRANSVERSE JOINT BEYOND THE RAMP GORE.
5. CONSTRUCT TYPE P JOINT, AS INDICATED, ON COLLECTORS AND LOCAL ROADS.
6. USE A 4.5 m (15'-0") JOINT SPACING ON ALL PAVEMENTS.
7. ON CURVES, CONSTRUCT JOINTS PERPENDICULAR TO THE TANGENT ON THE LONG RADIUS SIDE OF THE CURVE.
8. FOR WIDENED CONCRETE PAVING SHOULDER DETAILS, SEE RC-25M, SHEET 1.
9. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN ( ) PARENTHESIS.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

PLAIN CONCRETE PAVEMENT  
WIDENED PAVING

## GENERAL NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN ( ) PARENTHESIS.
- METRIC UNITS INDICATED ARE SOFT CONVERTED FROM U.S. CUSTOMARY UNITS.
- DESIGN SPECIFICATIONS:
  - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND AS SUPPLEMENTED BY THE DESIGN MANUAL, PART 4, STRUCTURES.
  - DESIGN IS IN ACCORDANCE WITH THE LOAD AND RESISTANCE FACTOR DESIGN METHOD (LRFD).
- CONSTRUCTION SPECIFICATIONS:
  - PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH THE CURRENT VERSION OF THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408, AASHTO/AWS BRIDGE WELDING CODE AND THE CONTRACT SPECIAL PROVISIONS.
- SHOP DRAWINGS FOR INLET TOPS, GRATES, FRAMES, AND GRADE ADJUSTMENT RINGS ARE NOT REQUIRED IF THE ITEM IS CONSTRUCTED/FABRICATED IN ACCORDANCE WITH THIS STANDARD.
- IF A REQUIRED DETAIL IS NOT FOUND IN THIS STANDARD OR ON THE CONTRACT DRAWINGS A SPECIAL SUBMISSION REQUESTING ACCEPTANCE FOR SPECIFIC DETAILS MUST BE MADE TO THE BUREAU OF DESIGN HIGHWAY QUALITY ASSURANCE DIVISION CHIEF.
- FOR INLET BOX DETAILS REFER TO RC-46M.

## PLACEMENT NOTES:

- EACH TYPE OF CONCRETE TOP UNIT OR FRAME IS SUITED FOR A PARTICULAR SITUATION AS FOLLOWS:
  - TYPE C CONCRETE TOP UNIT AND TYPE C ALTERNATE CONCRETE TOP UNIT WITH A TYPE C FRAME ARE DESIGNATED FOR INSTALLATION WITH NON-MOUNTABLE CURBS.
  - TYPE M CONCRETE TOP UNIT AND TYPE M FRAMES ARE DESIGNATED FOR INSTALLATION IN AREAS ADJACENT TO MEDIANS AND MOUNTABLE CURBS.
  - TYPE S CONCRETE TOP UNIT IS DESIGNATED FOR INSTALLATION IN SHOULDER SWALE AREAS.
  - TYPE D-H CONCRETE TOP UNIT IS DESIGNATED FOR INSTALLATION IN SHOULDER SWALE AREAS WITH A TYPE D-H INLET BOX.
  - TYPE D-H LEVEL CONCRETE TOP UNIT IS DESIGNATED FOR INSTALLATION IN AREAS ADJACENT TO MEDIANS WITH A TYPE D-H INLET BOX.
- PLACEMENT OF CONCRETE TOP UNITS:
  - TYPE C AND TYPE C ALTERNATE:
    - DOWEL THE TOP UNIT INTO THE ADJACENT CURB SECTIONS WITH 2-#25 X 300 mm (2-#8 X 1'-0") DOWEL BARS. PLACE 6 mm (1/4") WIDE PREMOLDED EXPANSION JOINT FILLER BETWEEN TOP UNIT AND ADJACENT CURB.
  - TYPE M:
    - PLACE THE TOP UNIT OR FRAME ADJACENT TO THE BACK EDGE OF THE CURB, FLUSH WITH THE PAVEMENT SURFACE, WHEN REQUIRED WITHIN A CONCRETE MOUNTABLE CURB SECTION.
  - TYPE S:
    - THE PLACEMENT OF THE TOP UNIT IS DEPENDENT ON THE GUTTER ELEVATION AND THE RATE OF THE BACK SLOPE.
      - FOR BACK SLOPES GREATER THAN 1:2 (2:1), LOCATE THE INLET TOP WHERE THE BACK SLOPE LINE INTERSECTS THE BACK, TOP, OUTSIDE CORNER OF THE INLET TOP.
      - FOR BACK SLOPES LESS THAN 1:2 (2:1), LOCATE THE INLET WHERE THE BACK SLOPE LINE INTERSECTS THE EDGE OF THE INLET GRATE.
  - TYPE D-H:
    - PLACE THE TOP UNIT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE SELECTION OF COMPONENTS TO ACHIEVE A SPECIFIED INLET ASSEMBLY IS THE CONTRACTOR'S RESPONSIBILITY, UNLESS OTHERWISE INDICATED ON THE CONTRACT DOCUMENTS.
- SET THE PRECAST CONCRETE TOP UNITS ON A NON-SHRINK GROUT PAD TO PROVIDE FULL BEARING ON THE SUPPORTING SURFACE. NON-SHRINK GROUT IS ALSO PERMITTED FOR CROSS SLOPE AND LONGITUDINAL GRADE ADJUSTMENTS.
  - PROVIDE NON-SHRINK GROUT IN ACCORDANCE WITH PUBLICATION 408, SECTION 1101.2(d).
  - MINIMUM GROUT DEPTH = 13 mm (1/2")
  - MAXIMUM GROUT DEPTH = 25 mm (1")
 FOR ALTERNATE GRADE ADJUSTMENT SYSTEMS, WHICH DO NOT REQUIRE NON-SHRINK GROUT, REFER TO NOTE 5 UNDER THE GRADE ADJUSTMENT RING GENERAL NOTES ON SHEET 12.
- BRICK OR BRICK AND MORTAR ARE NOT ALLOWED FOR GRADE ADJUSTMENTS FOR NEW OR REHABILITATION PROJECTS.

## GENERAL GRATE NOTES:

- THE FOLLOWING TWO DIFFERENT GRATE DEPTHS ARE SPECIFIED ON THIS STANDARD:
  - STRUCTURAL STEEL GRATES = 89 mm (3 1/2") DEPTH WITH 64 mm (2 1/2") PERIMETER DEPTH
  - CAST IRON GRATES = 64 mm (2 1/2") DEPTH (MINIMUM)
- THE SELECTION OF THE TYPE OF GRATE MATERIAL IS THE CONTRACTOR'S RESPONSIBILITY, UNLESS OTHERWISE INDICATED ON THE CONTRACT DOCUMENTS.

## CONCRETE TOP UNIT NOTES:

- SHEETS 2 THRU 6 DEPICTS THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. FOR DEVIATIONS OR MODIFICATIONS OF THE STANDARDS, SUBMIT SHOP DRAWINGS TO THE BUREAU OF DESIGN HIGHWAY QUALITY ASSURANCE DIVISION CHIEF FOR REVIEW AND ACCEPTANCE.
- PROVIDE PRECAST CONCRETE TOP UNITS SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
- CAST-IN-PLACE TOP UNITS MAY BE MONOLITHIC WITH THE INLET BOX.
- PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH THE PUBLICATION 408, SECTIONS 605 AND 714, AASHTO/AWS BRIDGE WELDING CODE AND THE CONTRACT SPECIAL PROVISIONS.
- THE SIZE OF THE INLET TOPS UNITS IS BASED ON THE MINIMUM DIMENSIONS INDICATED FOR THE STANDARD INLET BOX AS SHOWN ON RC-46M.
- PROVIDE A TOP SLAB TO SUPPORT THE INLET TOP UNITS IF A STANDARD INLET BOX IS NOT SPECIFIED.
- FABRICATOR IS RESPONSIBLE FOR LIFTING, HANDLING AND TRANSPORTATION STRESSES.
- LIFTING DEVICES (IF REQUIRED):
  - PROVIDE GALVANIZED STEEL OR PLASTIC LIFTING DEVICES FOR HANDLING AND INSTALLATION.
  - FILL LIFTING DEVICES WITH NON-SHRINK GROUT AFTER INSTALLATION.
  - PROVIDE LIFTING DEVICES WITH A MINIMUM CAPACITY OF AT LEAST FOUR TIMES THE CALCULATED LOAD ON THE DEVICE.
- PROVIDE THE FOLLOWING CONCRETE CLASS:
  - CAST-IN-PLACE: CLASS A CEMENT CONCRETE [DESIGN COMPRESSIVE STRENGTH,  $f'c = 21$  MPa (3,000 PSI)]
  - PRECAST: CLASS AA CEMENT CONCRETE, MODIFIED [DESIGN COMPRESSIVE STRENGTH,  $f'c = 28$  MPa (4,000 PSI)]
- A HIGHER STRENGTH OF CONCRETE MAY BE SUBSTITUTED FOR A LOWER STRENGTH OF CONCRETE AT NO ADDITIONAL COST TO THE DEPARTMENT. SUBMIT MIX DESIGN TO THE DEPARTMENT FOR REVIEW AND ACCEPTANCE.
- PROVIDE GRADE 420 (GRADE 60) DEFORMED REINFORCEMENT BARS THAT MEET THE REQUIREMENTS OF ASTM A615M (A615) OR ASTM A706M (A706). DO NOT WELD REINFORCEMENT BARS WITHOUT A PENNDOT APPROVED WELDING PROCEDURE.
- CLEAR COVER FOR STEEL:
  - PRECAST: 38mm (1 1/2")
  - CAST-IN-PLACE: 50mm (2")
- PROVIDE STRUCTURAL STEEL (ANGLES AND PLATES) CONFORMING TO AASHTO M270M (M270) GRADE 250 (36) [ASTM A709M (A709), GRADE 250 (36)].
- ANCHORING OF ANGLES AND PLATES: PROVIDE EITHER STUDS OR BENT BAR ANCHORS IN ACCORDANCE WITH THE INDICATED DETAILS.
  - STUDS: PROVIDE STUDS CONFORMING TO AASHTO M169 (ASTM A108). WELD STUDS TO ANGLES OR PLATES.
  - BENT BAR ANCHORS: PROVIDE GRADE 420 (GRADE 60) DEFORMED REINFORCEMENT BARS THAT MEET THE REQUIREMENTS OF ASTM A615M (A615) OR ASTM A706M (A706). WELD BARS TO ANGLES OR PLATES USING A PENNDOT APPROVED WELDING PROCEDURE.
- GALVANIZE PLATES, ANGLES AND STUDS OR BENT BAR ANCHORS (AFTER FABRICATION AND BEFORE INSTALLATION IN FORMS) IN ACCORDANCE WITH PUBLICATION 408, SECTION 1105.02(g).
- CHAMFER EXPOSED CONCRETE EDGES 12 mm x 12 mm (1/2" x 1/2"), EXCEPT AS NOTED. (CHAMFERS ARE NOT SHOWN ON THE DETAILS)
- PRECAST TOP UNITS: TAPERS MAY BE PROVIDED ON THE INSIDE AND/OR OUTSIDE VERTICAL FACES OF THE INLET TOPS TO FACILITATE FORM STRIPPING. TAPERS MAY RESULT IN BOTTOM DIMENSIONS THAT VARY TO A MAXIMUM 38 mm (1 1/2").
- REHABILITATION PROJECTS: THE CONCRETE TOP UNITS DETAILED IN THIS STANDARD ARE PERMITTED TO BE USED ON EXISTING INLET BOXES IF THE SIZE OF THE EXISTING BOX CAN SUPPORT THE NEW TOP AND IF THE PROPER DEPTH CAN BE OBTAINED. IF MODIFICATIONS ARE REQUIRED, REFER TO THE CONTRACT DRAWINGS.

## INDEX OF SHEETS

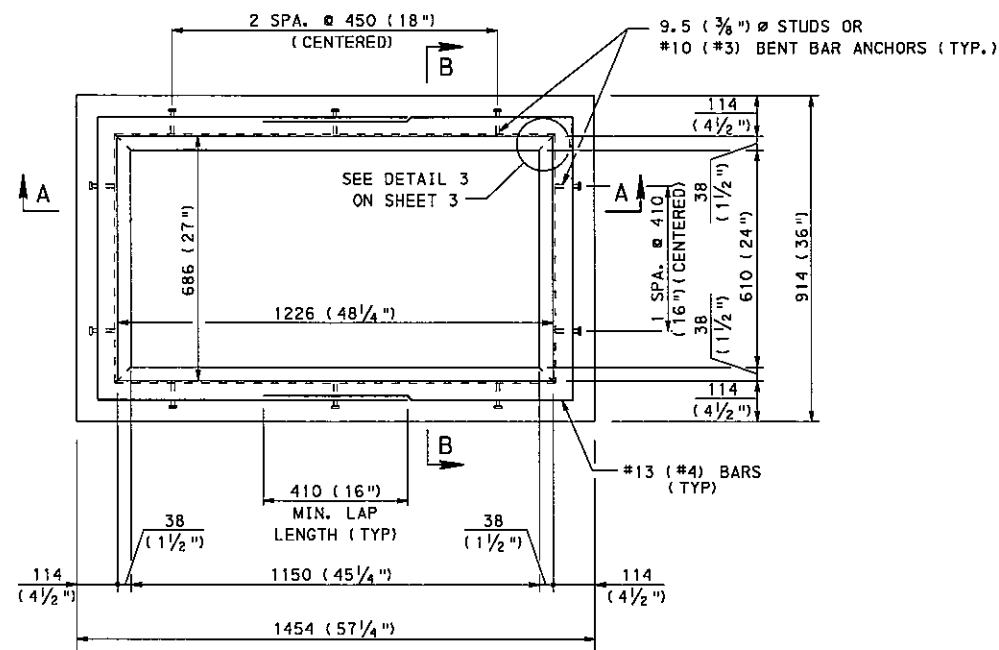
SHEET NO.	SHEET TITLE
1	GENERAL NOTES
2	CONCRETE TOP UNITS - TYPE M AND TYPE S
3	CONCRETE TOP UNITS - TYPE C
4	CONCRETE TOP UNITS - TYPE C ALTERNATE
5	CONCRETE TOP UNITS - TYPE D-H
6	CONCRETE TOP UNITS - TYPE D-H LEVEL
7	STRUCTURAL STEEL GRATE
8	STRUCTURAL STEEL GRATE - BICYCLE SAFE
9	CAST IRON GRATES - 1
10	CAST IRON GRATES - 2
11	CAST IRON VANE GRATE
12	GRADE ADJUSTMENT RINGS - 1
13	GRADE ADJUSTMENT RINGS - 2
14	TYPE C FRAME
15	TYPE M FRAME
16	TYPE M PLACEMENT AT MEDIAN - 1
17	TYPE M PLACEMENT AT MEDIAN - 2

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

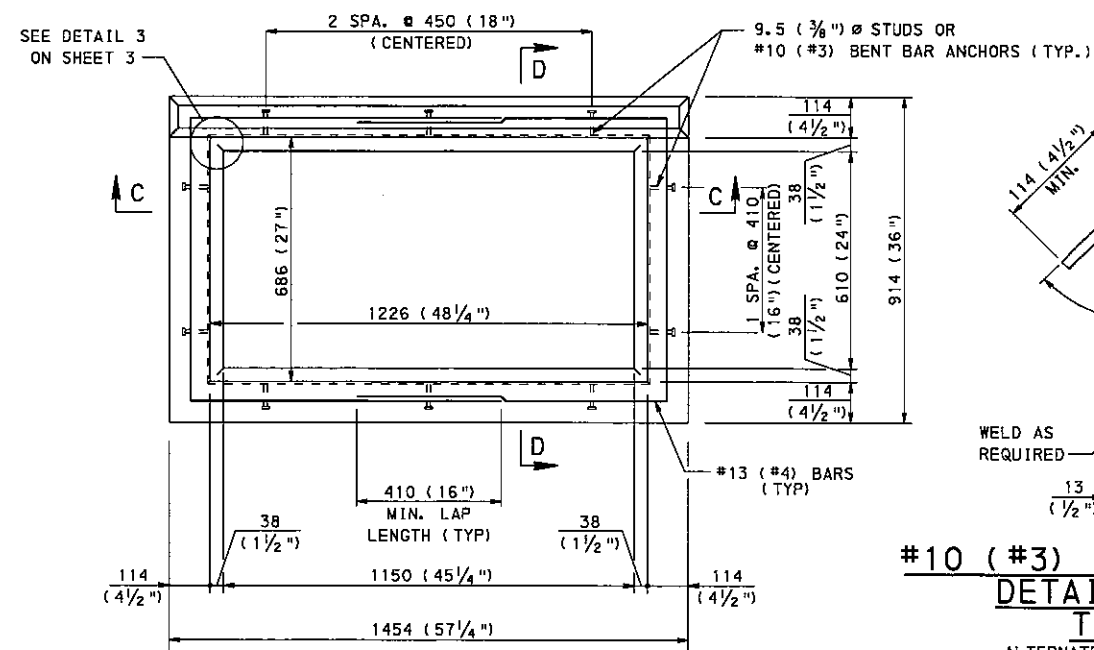
COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET TOPS, GRATES, AND FRAMES  
GENERAL NOTES

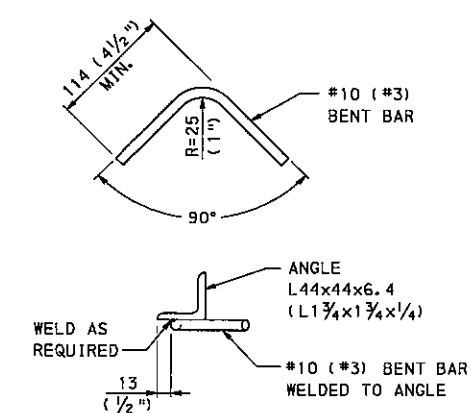
RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel L. Howard</i> DIRECTOR, BUREAU OF DESIGN	SHT 1 OF 17 RC-45M
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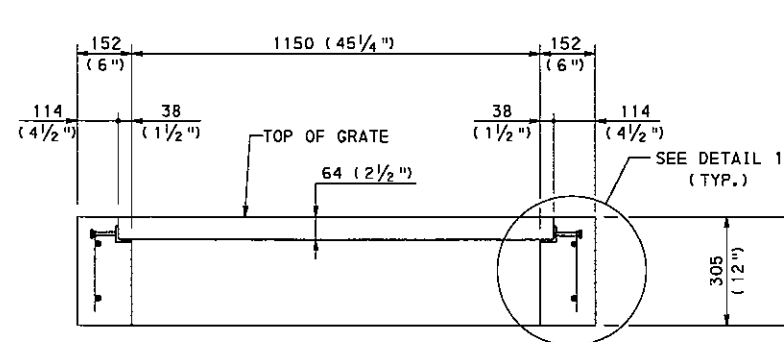
PLAN VIEW - TYPE M



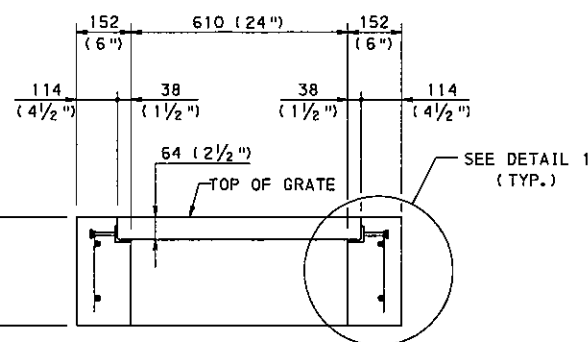
PLAN VIEW - TYPE S



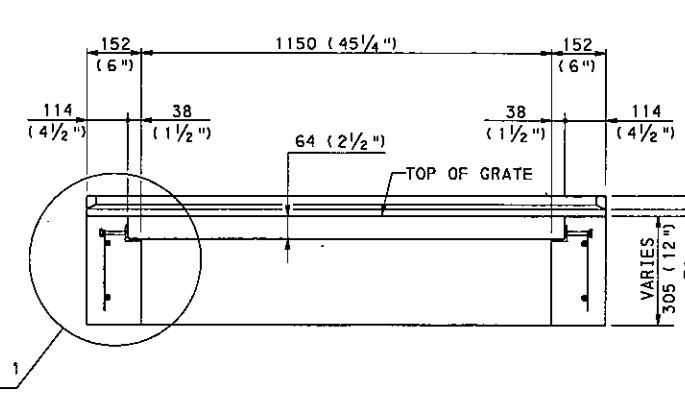
#10 (#3) BENT BAR ANCHOR  
DETAIL ATTACHED  
TO ANGLE  
ALTERNATE DETAIL IN PLACE OF  
PROVIDING 9.5 (3/8) STUDS



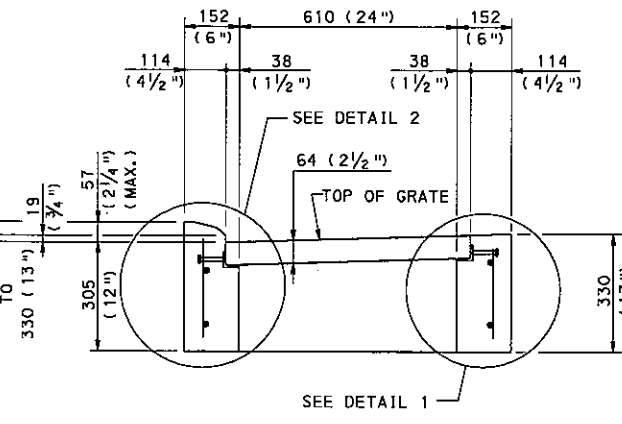
SECTION A-A



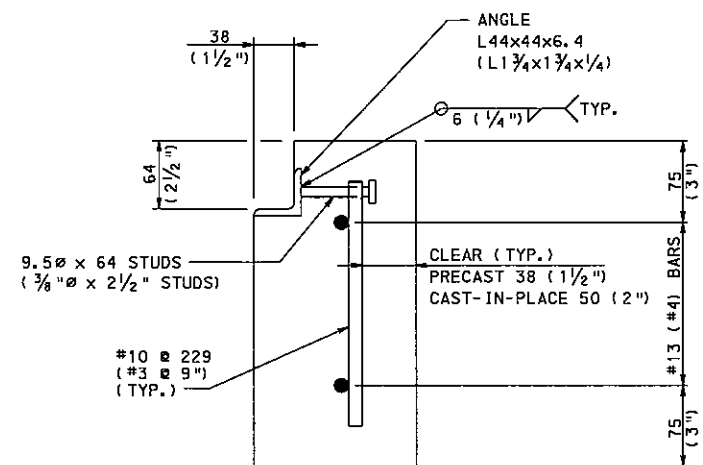
SECTION B-B



SECTION C-C

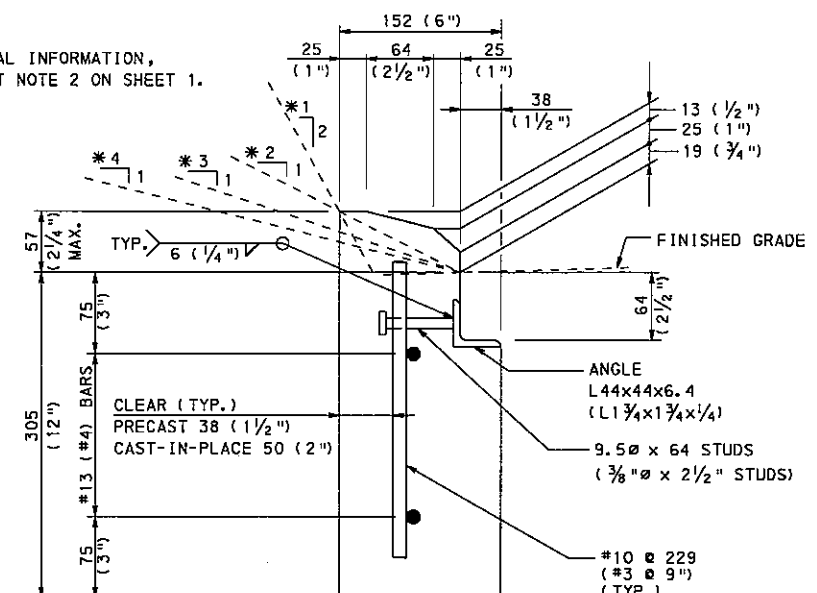


SECTION D-D



DETAIL 1

\* FOR ADDITIONAL INFORMATION,  
SEE PLACEMENT NOTE 2 ON SHEET 1.



DETAIL 2

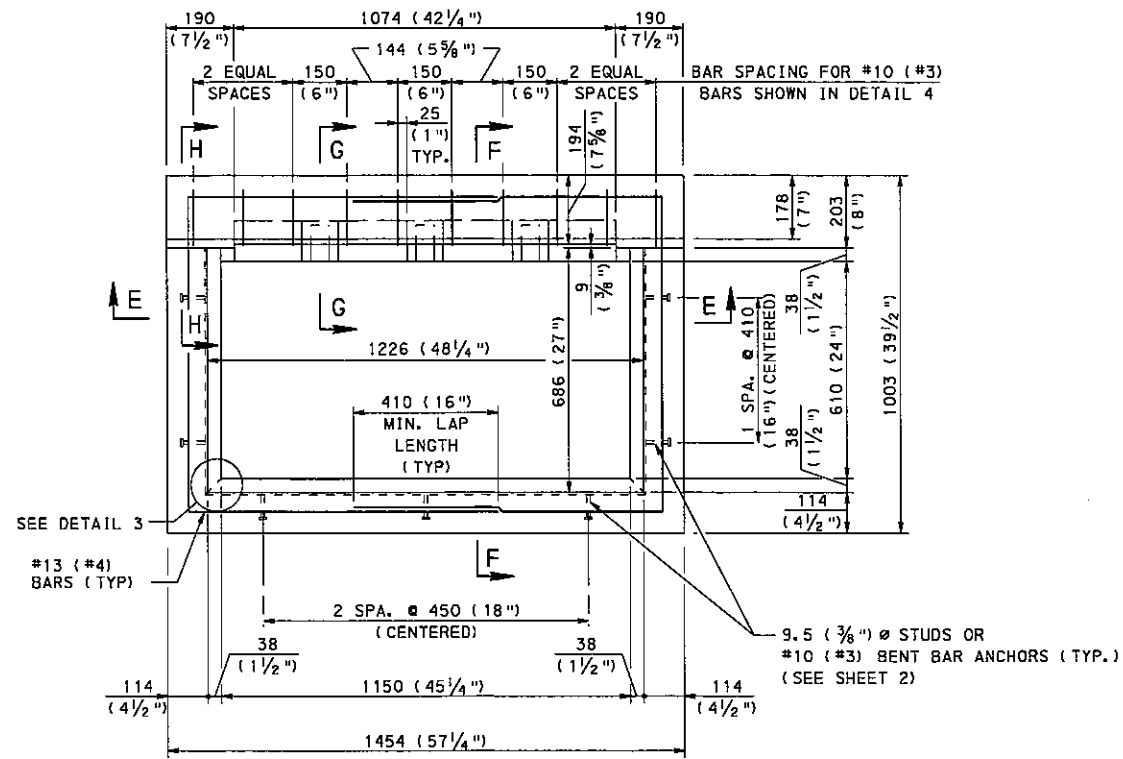
NOTES

1. FOR ADDITIONAL NOTES SEE SHEET 1.

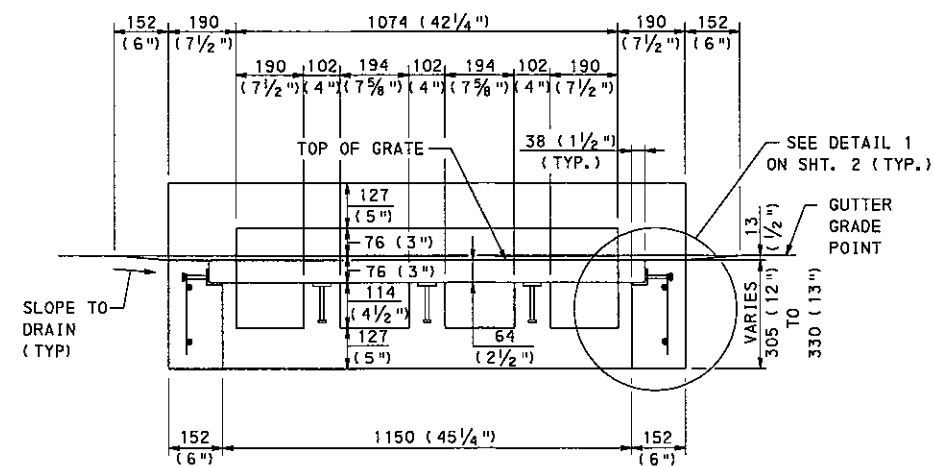
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES  
MUST BE USED ON PLANS. METRIC AND  
ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

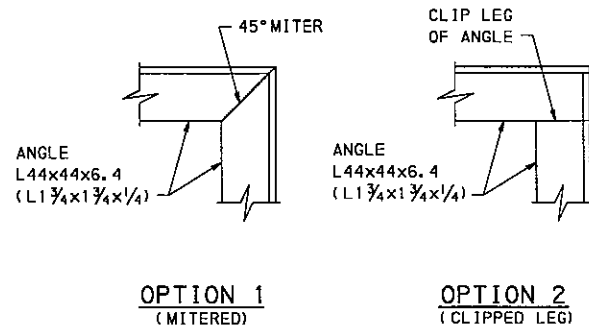
INLET TOPS, GRATES, AND FRAMES  
CONCRETE TOP UNITS  
TYPE M AND TYPE S



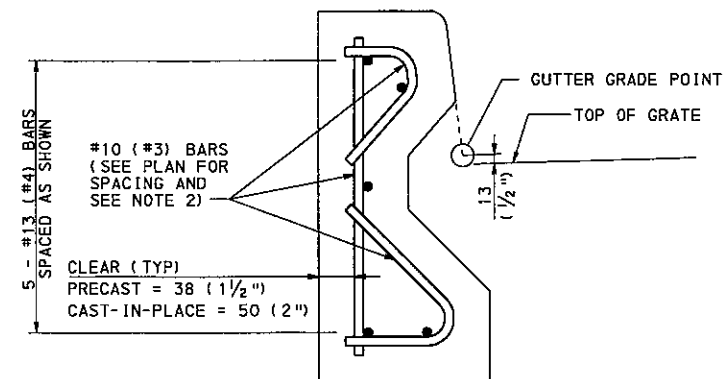
PLAN VIEW - TYPE C



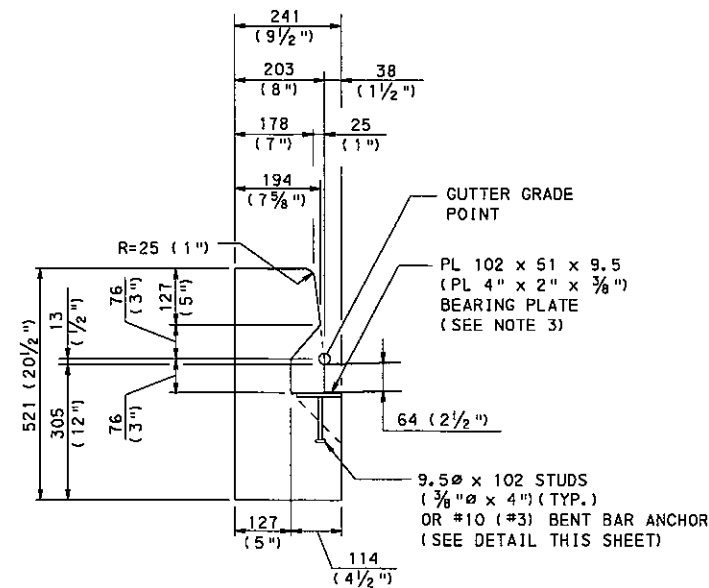
SECTION E-E



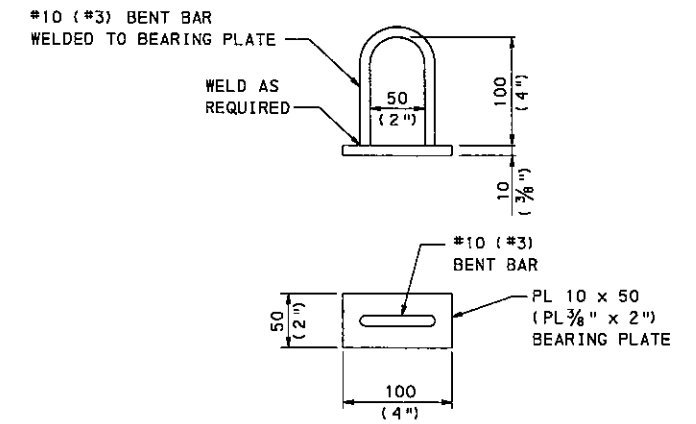
DETAIL 3



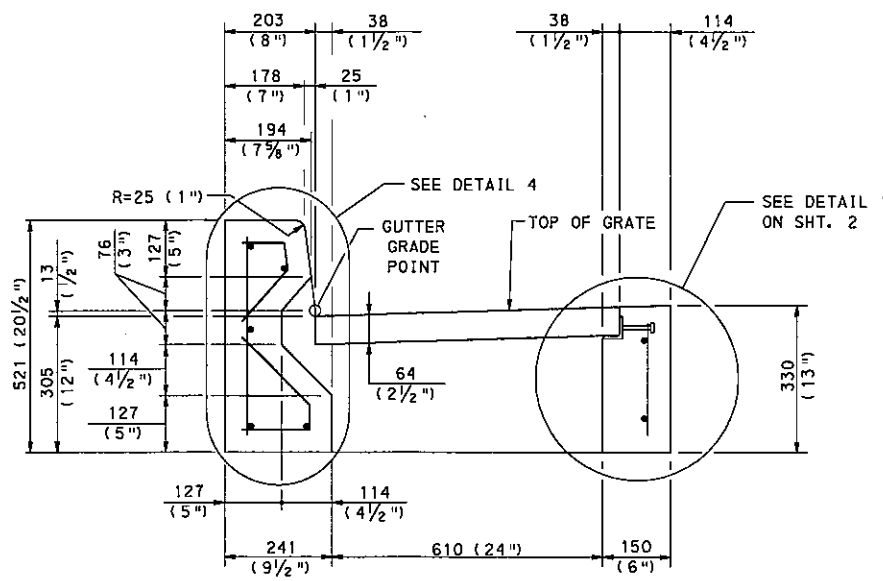
DETAIL 4



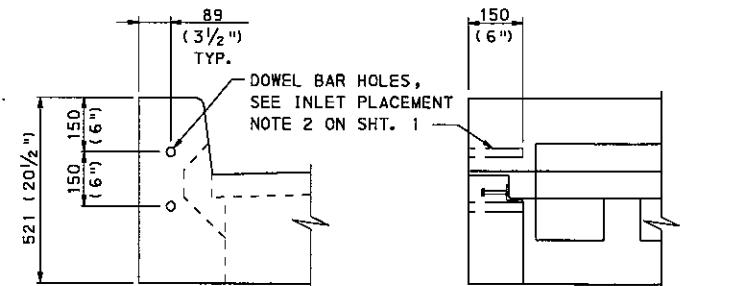
SECTION G-G



#10 (#3) BENT BAR ANCHOR  
DETAIL ATTACHED  
TO BEARING PLATE  
ALTERNATE DETAIL IN PLACE OF  
PROVIDING 9.5 (3/8) STUD



SECTION F-F



SECTION H-H FRONT ELEVATION

NOTES

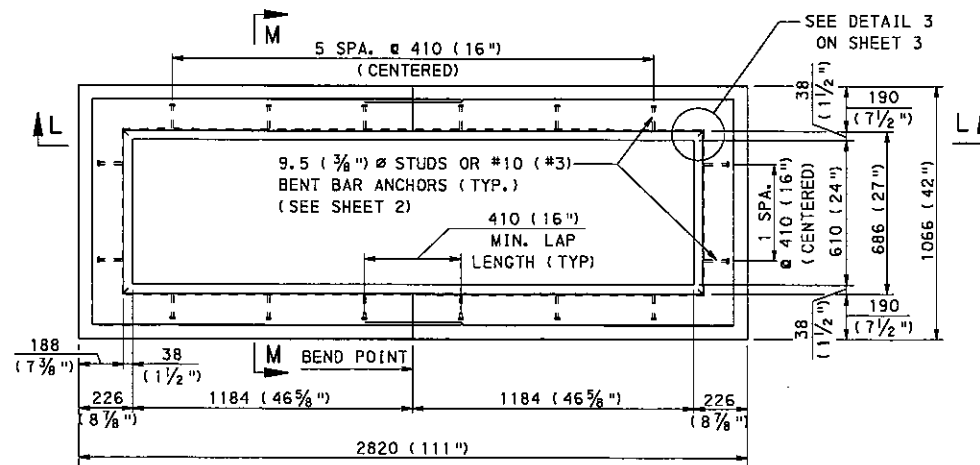
- FOR ADDITIONAL NOTES SEE SHEET 1.
- FABRICATOR TO DETERMINE NUMBER OF BARS REQUIRED TO MATCH SHAPE INDICATED. PROVIDE ONE, TWO, OR THREE BARS AS REQUIRED.
- A MAXIMUM OF TWO HOLES ARE PERMITTED IN THE PLATE TO POSITION AND HOLD THE PLATE IN PLACE DURING FABRICATION. HOLES ARE NOT PERMITTED TO BE GREATER THAN 6 mm (1/4) DIAMETER.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

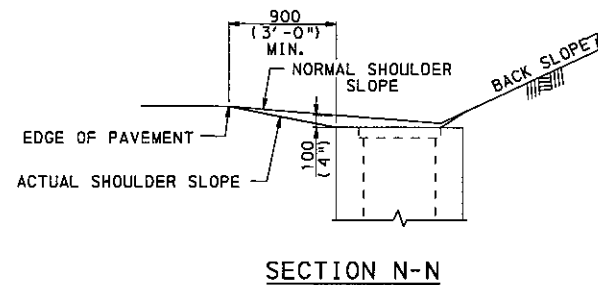
COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET TOPS, GRATES, AND FRAMES  
CONCRETE TOP UNITS  
TYPE C

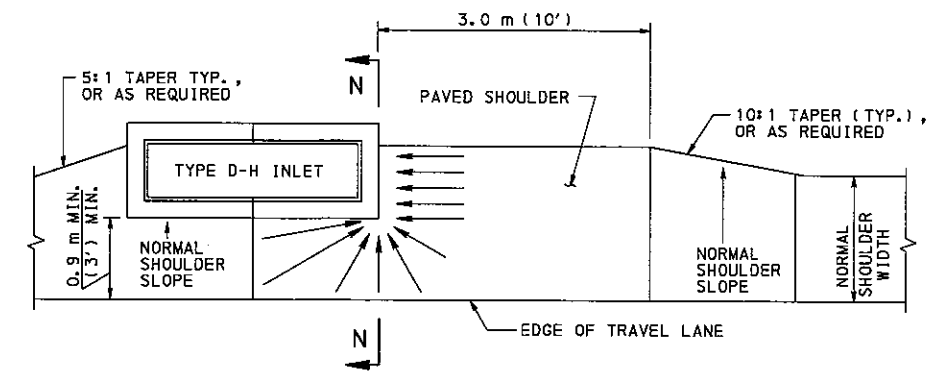




PLAN VIEW - TYPE D-H

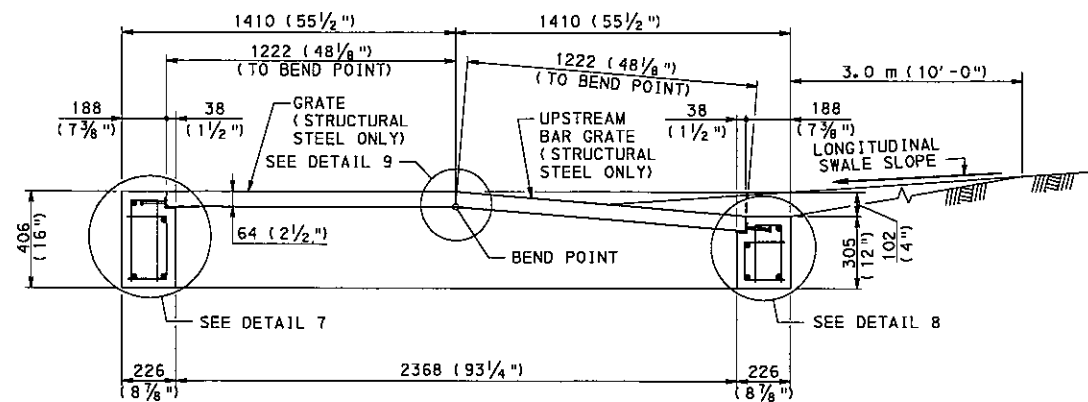


SECTION N-N

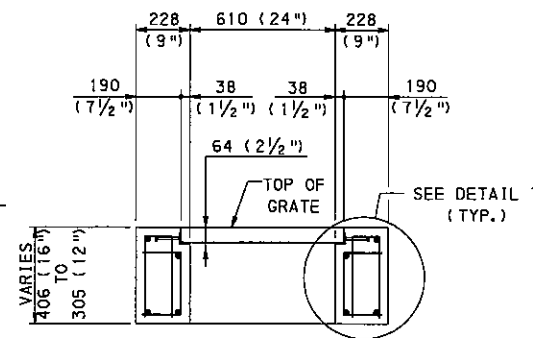


PLAN VIEW

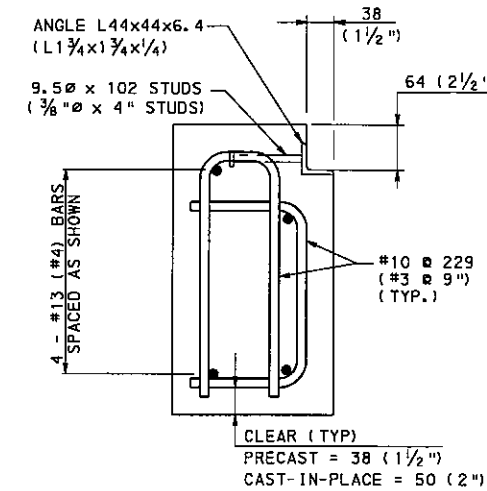
TYPICAL TYPE D-H INLET LOCATION



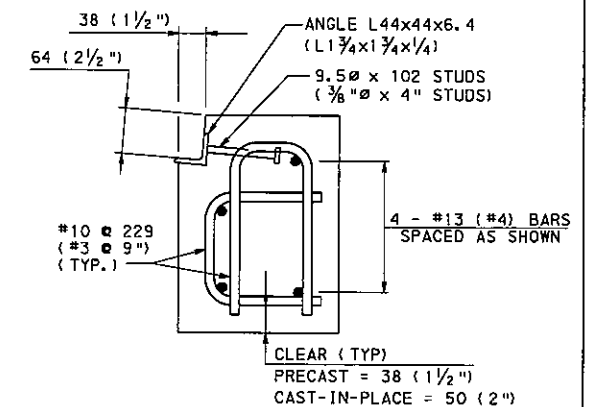
SECTION L-L



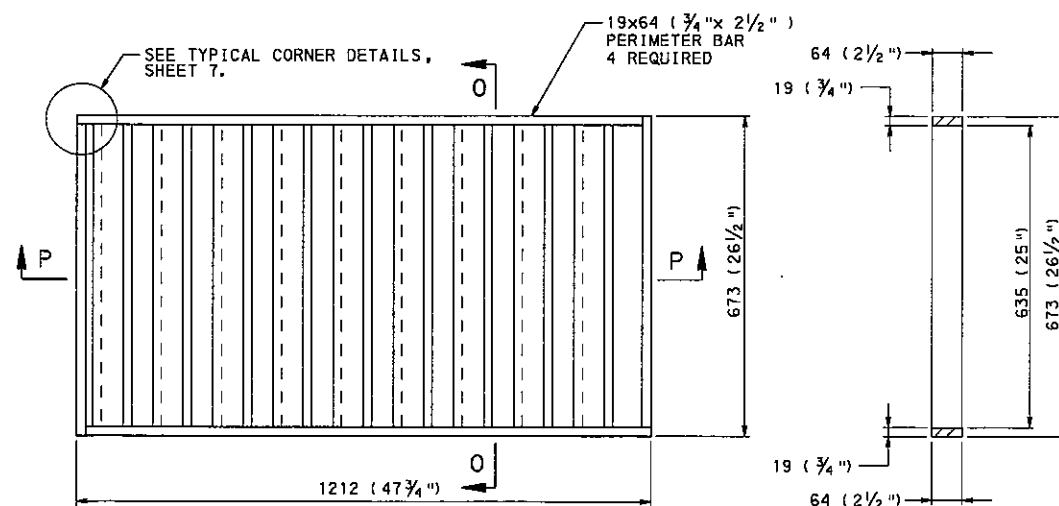
SECTION M-M



DETAIL 7

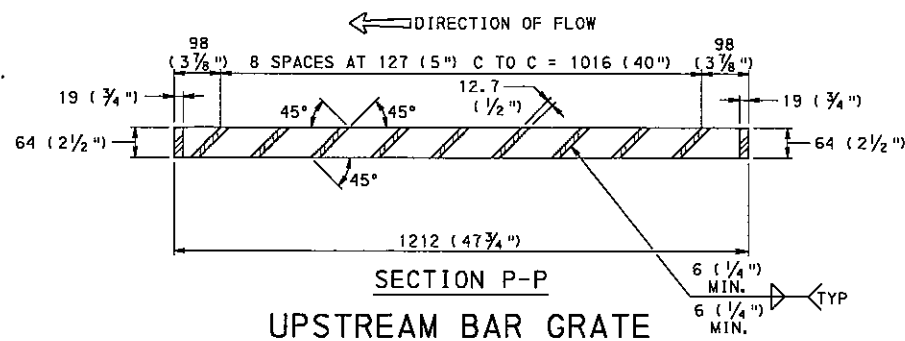


DETAIL 8

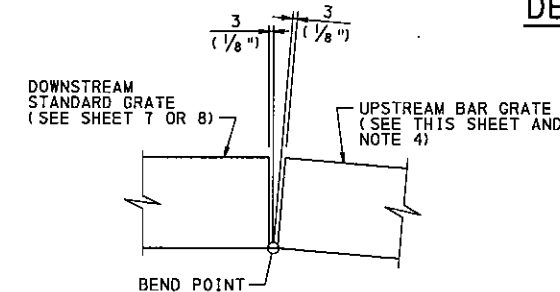


PLAN VIEW

SECTION O-O



SECTION P-P  
UPSTREAM BAR GRATE



DETAIL 9  
TYPE AND LOCATION OF GRATES

NOTES

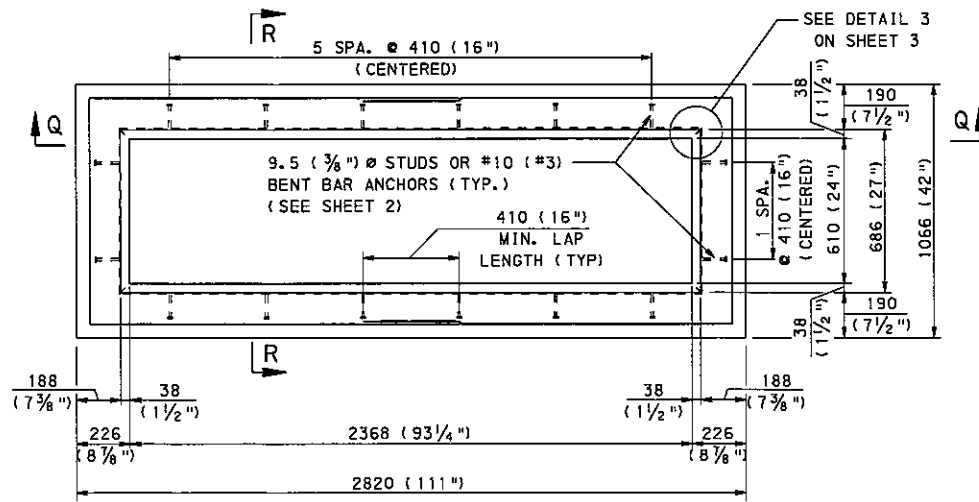
- FOR ADDITIONAL NOTES SEE SHEET 1.
- FOR STRUCTURAL STEEL GRATE NOTES SEE SHEET 7.
- FOR PRECAST CONCRETE GRADE ADJUSTMENT RING, SEE SHEET 11.
- UPSTREAM BAR GRATE IS NOT DESIGNED FOR PHL-93 OR HS-25 LOADING.
- DO NOT PLACE TYPE D-H INLETS IN A LOCATION WHERE FREQUENT IMPACTS FROM TRAFFIC IS LIKELY.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

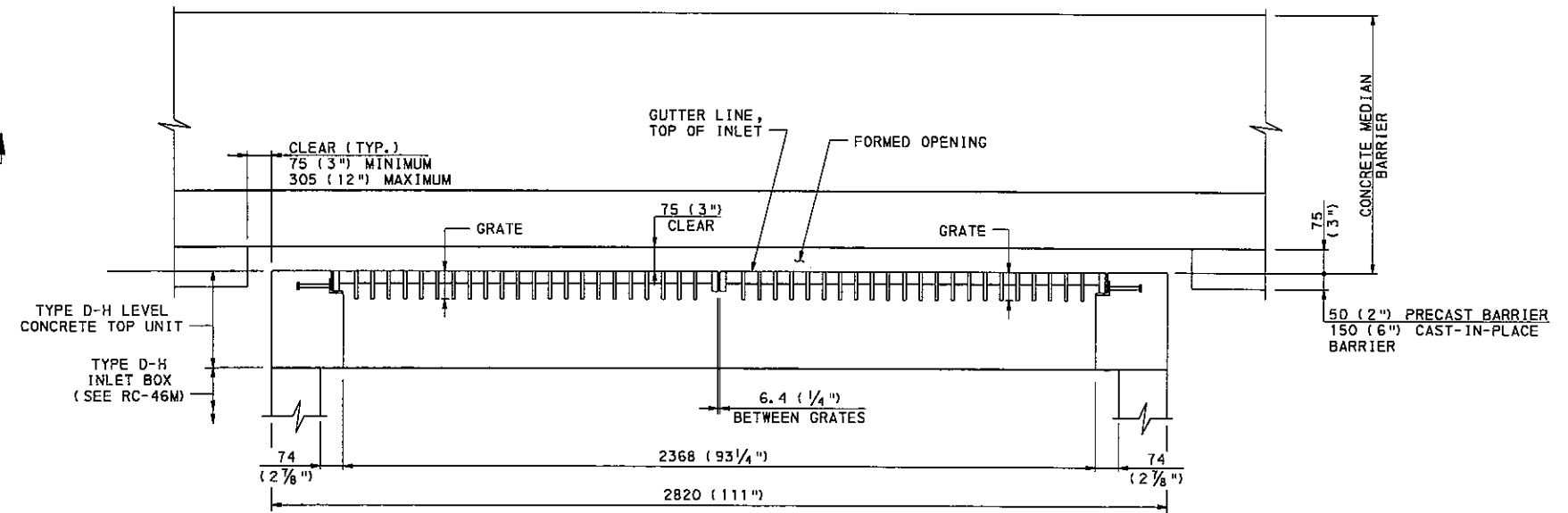
COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET TOPS, GRATES, AND FRAMES  
CONCRETE TOP UNITS  
TYPE D-H

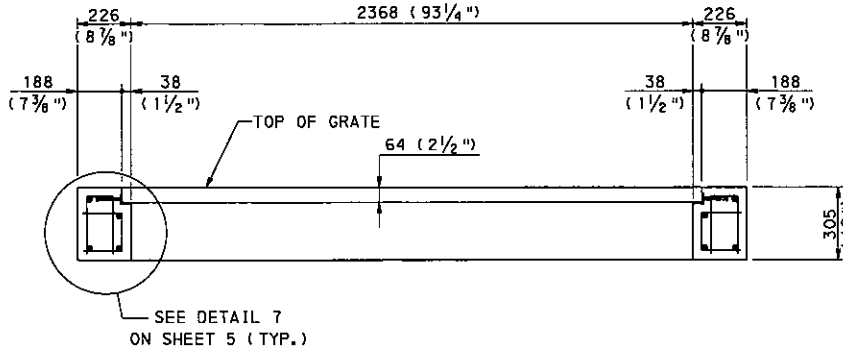




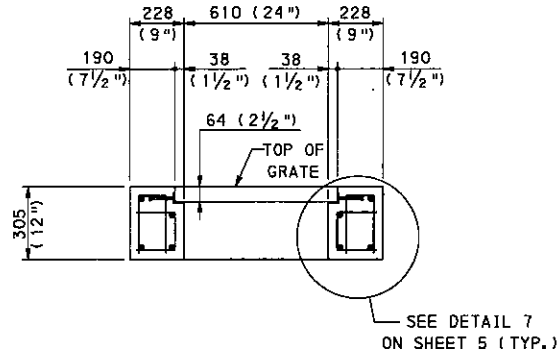
PLAN VIEW - TYPE D-H LEVEL



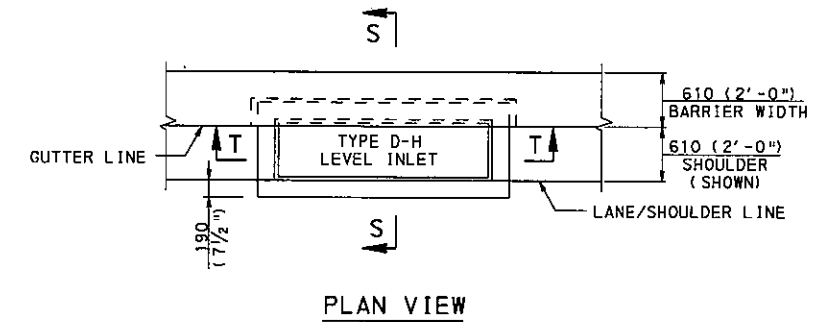
SECTION T-T



SECTION Q-Q



SECTION R-R



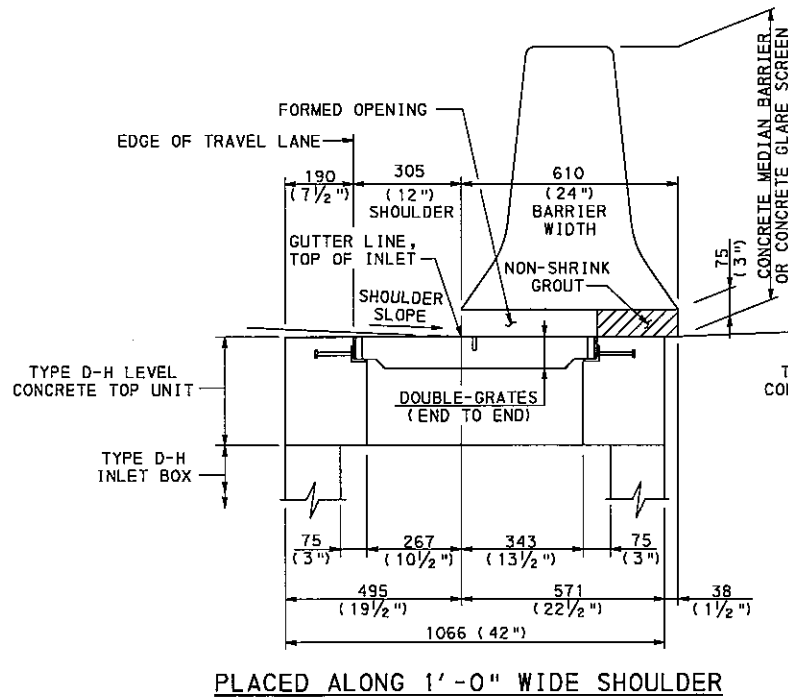
TYPICAL TYPE D-H LEVEL INLET LOCATION AT CONCRETE MEDIAN BARRIER

(FOR INFORMATION ONLY, REFER TO CONTRACT DRAWINGS FOR ADDITIONAL DETAILS.)

NOTES

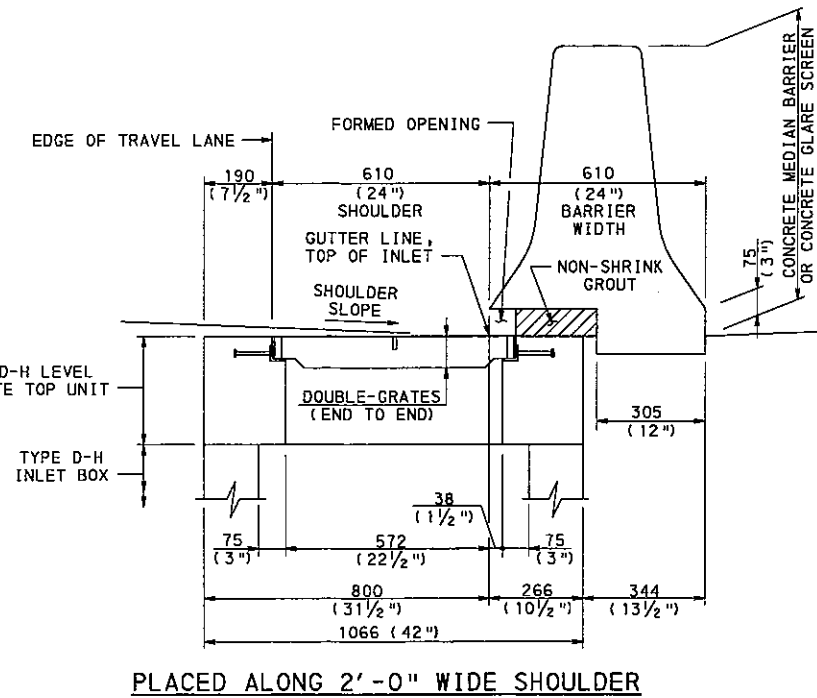
1. FOR ADDITIONAL NOTES SEE SHEET 1.
2. FOR PRECAST CONCRETE GRADE ADJUSTMENT RING, SEE SHEET 11.
3. FOR CONCRETE BARRIER DETAILS, REFER TO RC-57M, RC-59M AND THE CONTRACT DRAWINGS.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.



PLACED ALONG 1'-0" WIDE SHOULDER

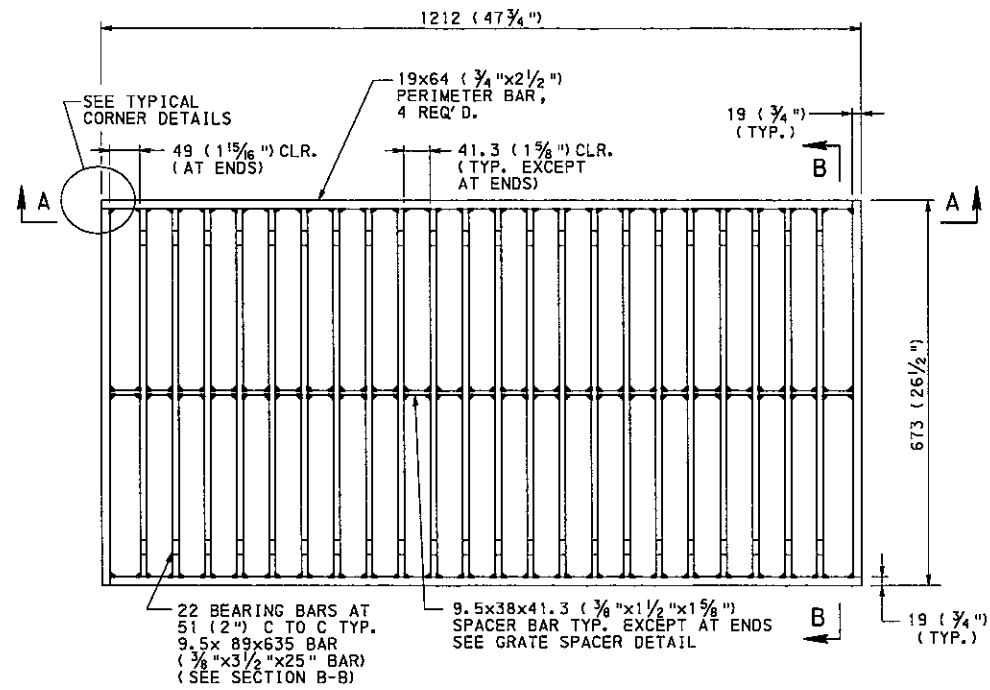
SECTION S-S



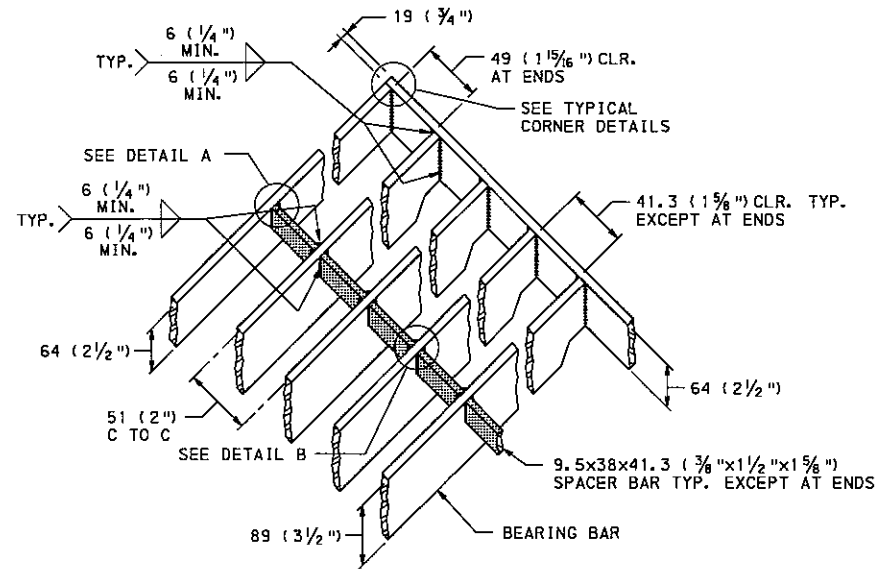
PLACED ALONG 2'-0" WIDE SHOULDER

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET TOPS, GRATES, AND FRAMES  
CONCRETE TOP UNITS  
TYPE D-H LEVEL



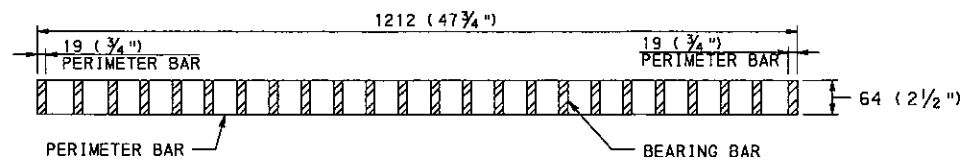
**STRUCTURAL STEEL GRATE**



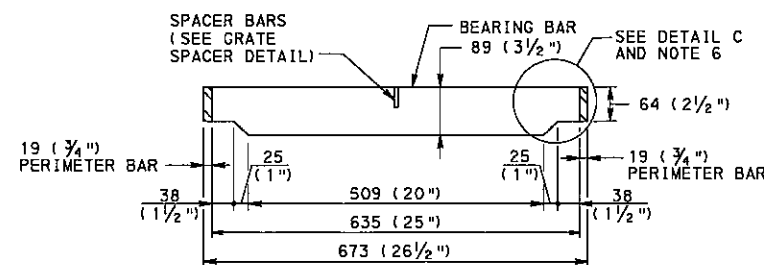
**GRATE SPACER DETAIL**

NOTE: PLACE SPACER BARS AT LONGITUDINAL C OF GRATE.

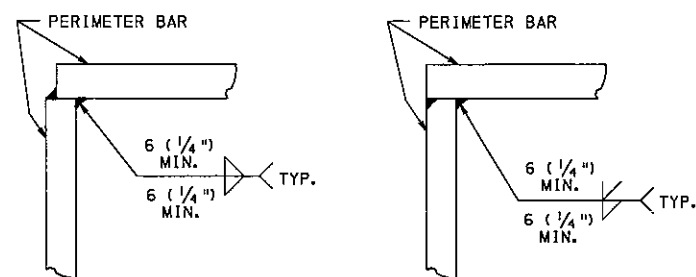
- STRUCTURAL STEEL GRATE NOTES:**
1. SHEETS 7 AND 8 DEPICTS THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. FOR DEVIATIONS OR MODIFICATIONS OF THE STANDARDS, SUBMIT SHOP DRAWINGS TO THE BUREAU OF DESIGN HIGHWAY QUALITY ASSURANCE DIVISION CHIEF FOR REVIEW AND ACCEPTANCE.
  2. PROVIDE STRUCTURAL STEEL GRATES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
  3. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH THE PUBLICATION 408, AASHTO/AWS BRIDGE WELDING CODE AND THE CONTRACT SPECIAL PROVISIONS.
  4. PROVIDE STRUCTURAL STEEL CONFORMING TO AASHTO M270M (M270) GRADE 345 (50) [ASTM A709M (A709), GRADE 345 (50)].
  5. WELD STRUCTURAL STEEL GRATES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 1105. WELDING SHOPS ARE NOT REQUIRED TO BE AISC CERTIFIED.
  6. FABRICATE BEARING BARS FROM 89 (3 1/2") DEEP BARS. FABRICATE BY BURNING, SHEARING OR PUNCHING. PROVIDE EITHER CHAMFERED OR 12.7 (1/2") RADIUS CORNERS. (SEE DETAIL C).
  7. LOCATE SPACER BARS FLUSH WITH THE TOP SURFACE OF THE GRATE.
  8. PROVIDE BICYCLE SAFE GRATES WHERE BICYCLE TRAFFIC IS ANTICIPATED, SUCH AS CURBED ROADWAYS IN URBAN AREAS OR ROADWAYS SPECIFICALLY ESTABLISHED AND SIGNED AS BIKEWAYS OR HAVING BIKE LANES. ALTERNATE BICYCLE SAFE GRATE DESIGNS REQUIRE A SHOP DRAWING, AS SPECIFIED IN NOTE 1, AND MUST CONFORM TO THE DIMENSIONAL REQUIREMENTS FOR PROPER INSTALLATION WITH THE CURRENT TOP UNITS.
  9. FABRICATE SLOTS BY BURNING, DRILLING, SHEARING OR PUNCHING. HAVE THE BOTTOM OF ALL BURNED OR DRILLED SLOTS CONFORM TO THE SHAPE OF THE ROD.
  10. COAT GRATES WITH AN APPROVED BITUMINOUS PAINT, IN ACCORDANCE WITH PUBLICATION 408, SECTION 605.2(f). AS AN ALTERNATE TO BITUMINOUS PAINT, GALVANIZE GRATES IN ACCORDANCE WITH PUBLICATION 408, SECTION 1105.02(g).



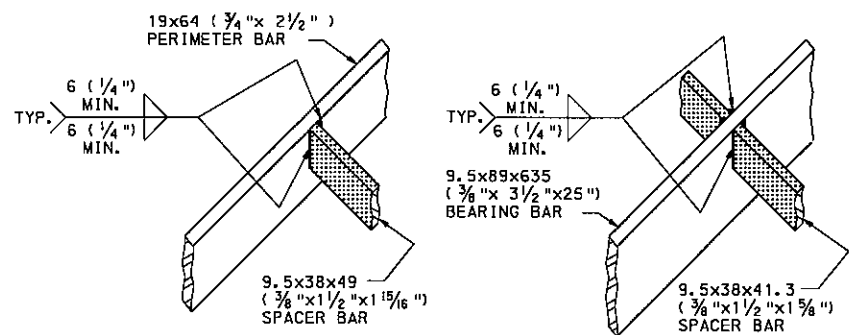
**SECTION A-A**



**SECTION B-B**

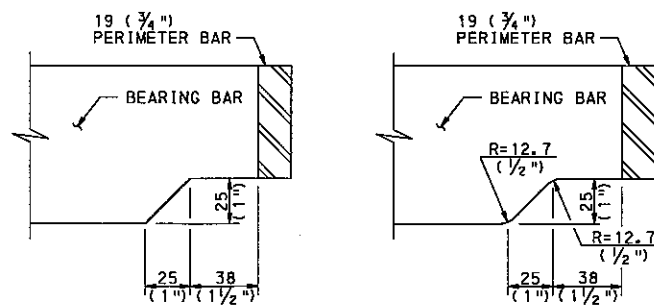


**TYPICAL CORNER DETAILS**



**DETAIL A**

**DETAIL B**



**DETAIL C**

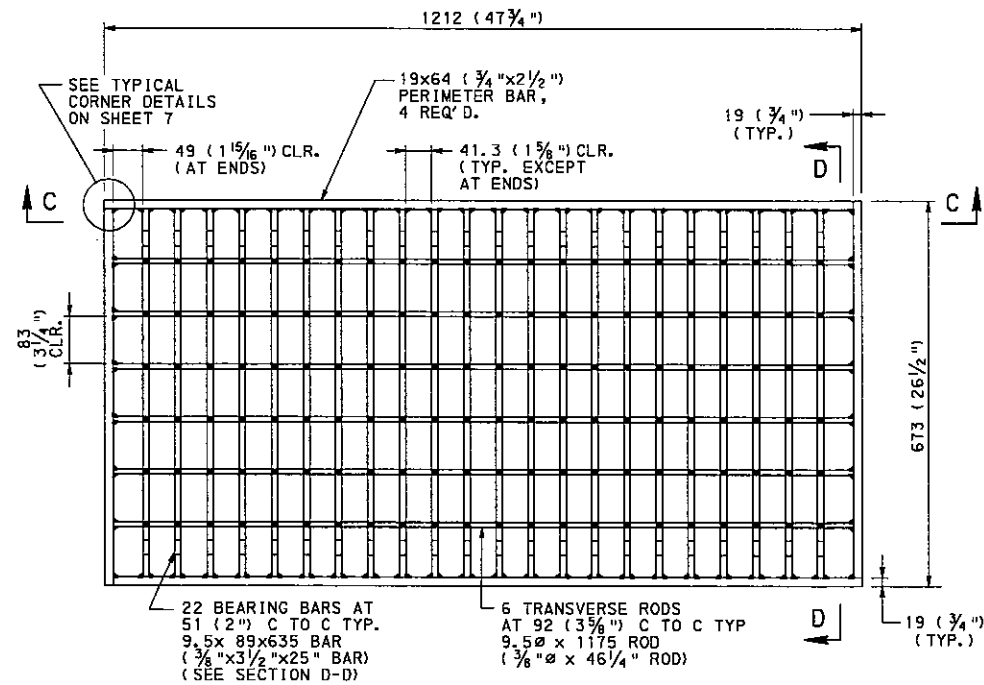
**NOTES**

1. FOR ADDITIONAL NOTES SEE SHEET 1.

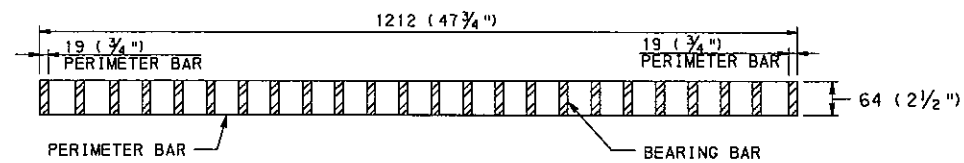
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
 BUREAU OF DESIGN

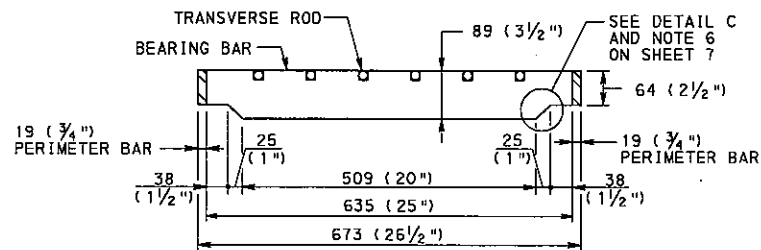
**INLET TOPS, GRATES, AND FRAMES**  
**STRUCTURAL STEEL GRATE**



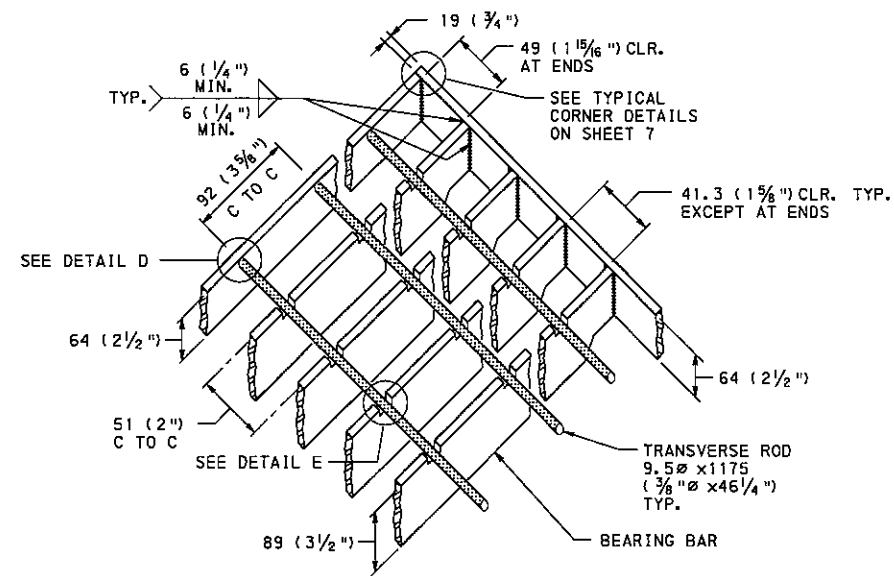
**STRUCTURAL STEEL GRATE  
BICYCLE SAFE**



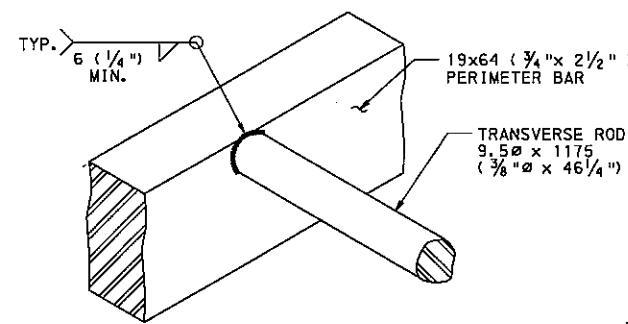
**SECTION C-C**



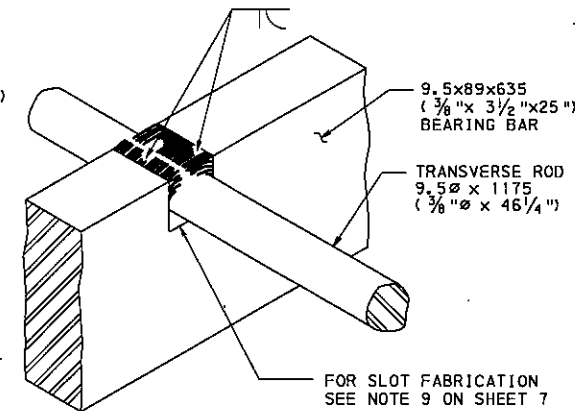
**SECTION D-D**



**BAR AND ROD SPACER DETAIL**



**DETAIL D**



**DETAIL E**

**NOTES**

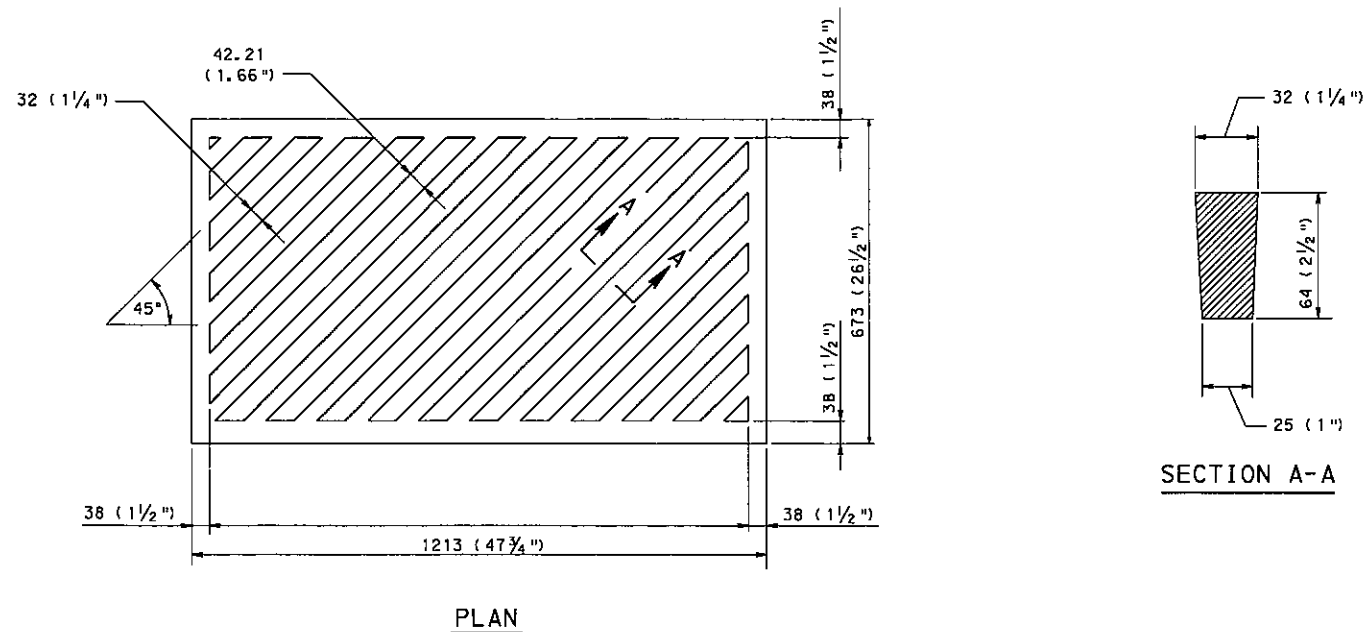
1. FOR ADDITIONAL NOTES SEE SHEET 1.
2. FOR STRUCTURAL STEEL GRATE NOTES SEE SHEET 7.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

**INLET TOPS, GRATES, AND FRAMES  
STRUCTURAL STEEL GRATE  
BICYCLE SAFE**

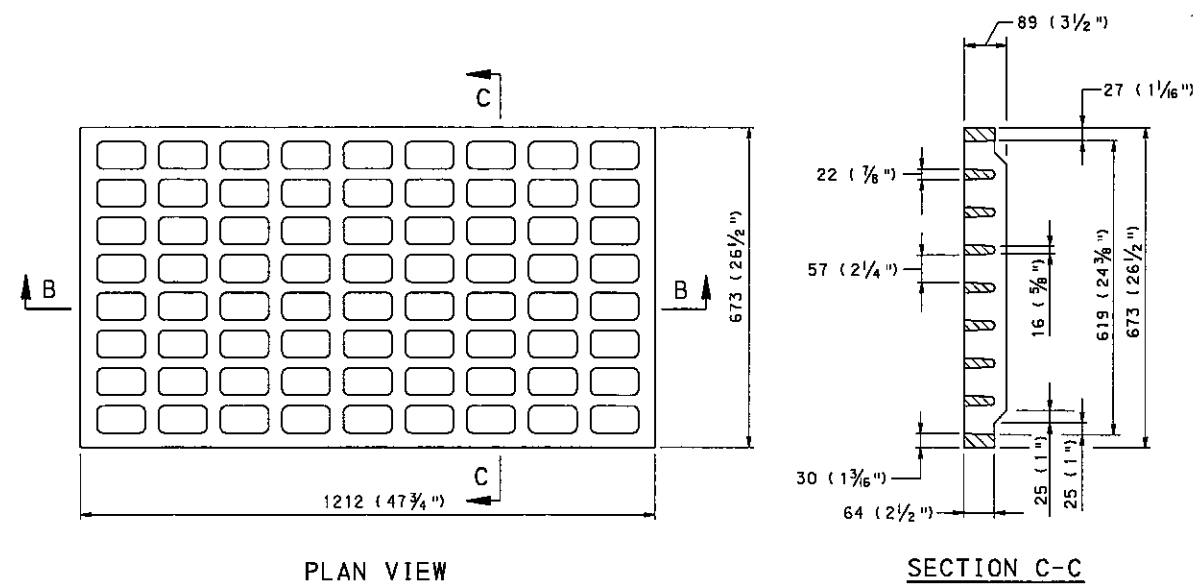
RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT .B. OF 17 RC-45M
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PLAN

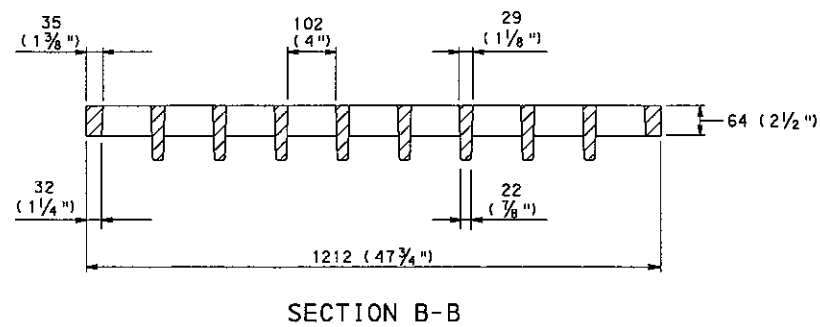
SECTION A-A

**ONE PIECE CAST IRON GRATE**



PLAN VIEW

SECTION C-C



SECTION B-B

**ONE PIECE CAST IRON GRATE - BICYCLE SAFE**

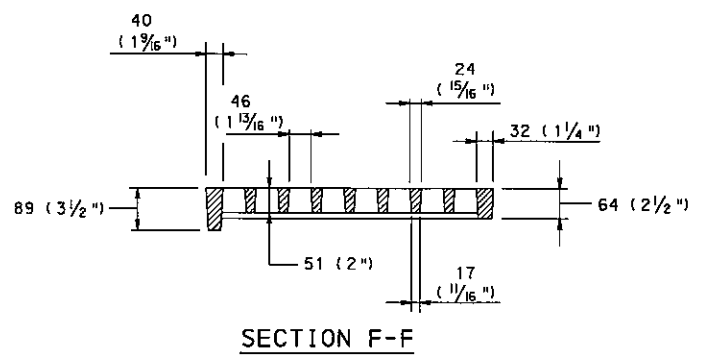
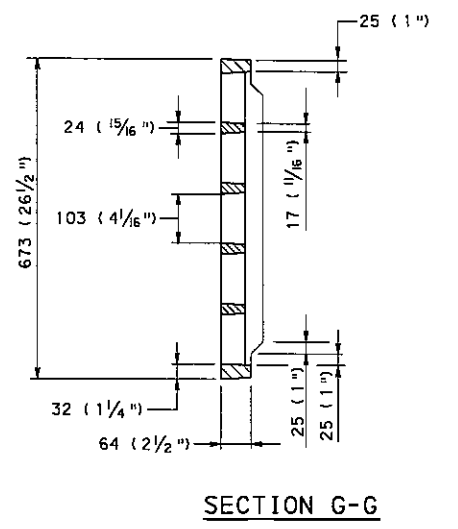
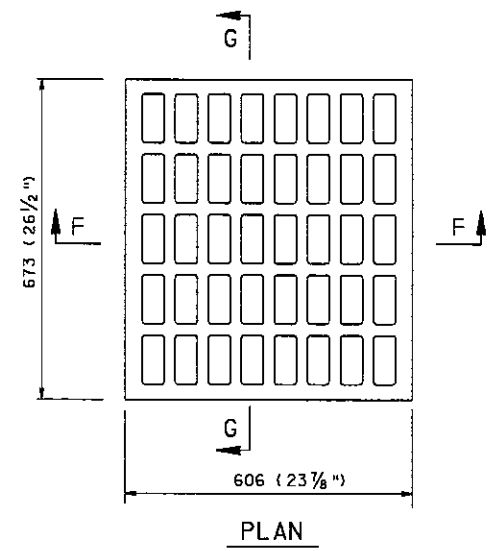
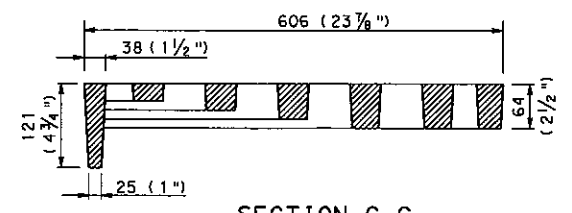
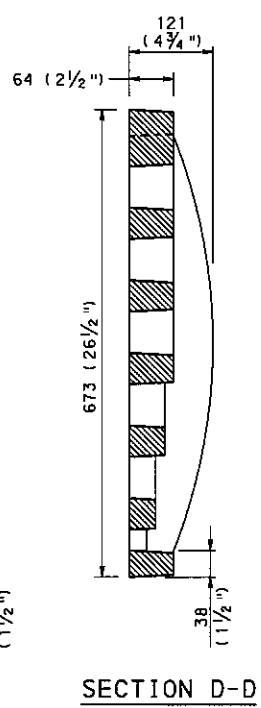
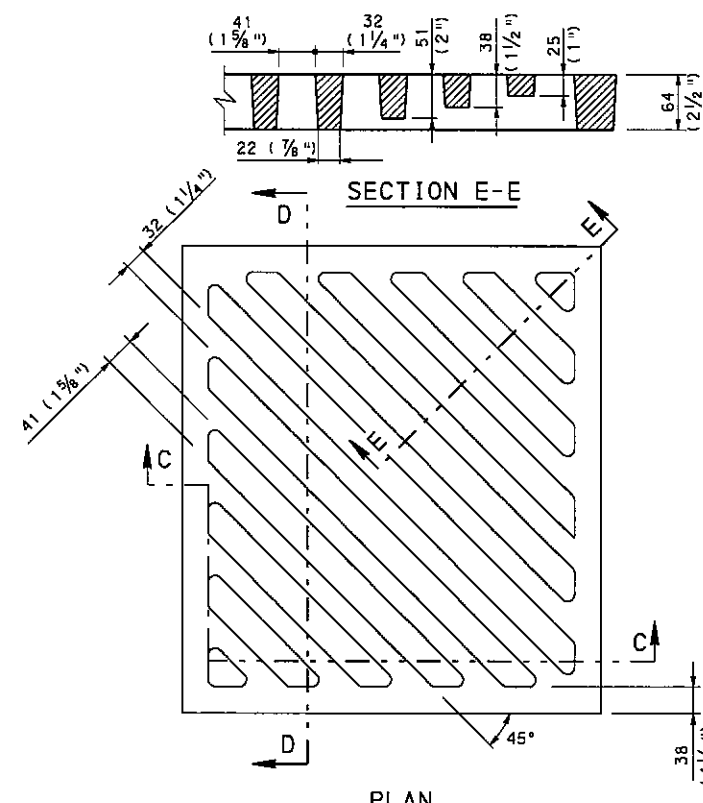
**CAST IRON GRATE NOTES:**

1. SHEETS 9 AND 10 DEPICTS THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. FOR DEVIATIONS OR MODIFICATIONS OF THE STANDARDS, SUBMIT SHOP DRAWINGS TO THE BUREAU OF DESIGN HIGHWAY QUALITY ASSURANCE DIVISION CHIEF FOR REVIEW AND ACCEPTANCE.
2. PROVIDE CAST IRON GRATES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
3. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH THE PUBLICATION 408 AND THE CONTRACT SPECIAL PROVISIONS.
4. PROVIDE GRAY CAST IRON CONFORMING TO AASHTO M105 (ASTM A48/A48M), CLASS 225B (35B) AND AASHTO M306.
5. PROVIDE BICYCLE SAFE GRATES WHERE BICYCLE TRAFFIC IS ANTICIPATED, SUCH AS CURBED ROADWAYS IN URBAN AREAS OR ROADWAYS SPECIFICALLY ESTABLISHED AND SIGNED AS BIKEWAYS OR HAVING BIKE LANES. ALTERNATE BICYCLE SAFE GRATE DESIGNS REQUIRE A SHOP DRAWING, AS SPECIFIED IN NOTE 1, AND MUST CONFORM TO THE DIMENSIONAL REQUIREMENTS FOR PROPER INSTALLATION WITH THE CURRENT TOP UNITS.
6. PROVIDE ADA COMPLIANT GRATES WHERE PEDESTRIAN TRAFFIC IS ANTICIPATED, SUCH AS CURBED ROADWAYS IN URBAN AREAS ADJACENT TO SIDEWALKS. ALTERNATE ADA COMPLIANT GRATE DESIGNS REQUIRE A SHOP DRAWING, AS SPECIFIED IN NOTE 1 AND MUST CONFORM TO THE DIMENSIONAL REQUIREMENTS FOR PROPER INSTALLATION WITH THE CURRENT TOP UNITS.
7. CAST IRON GRATES ARE PERMITTED TO BE USED AS AN ALTERNATE TO THE STRUCTURAL STEEL GRATES PROVIDED THEY ARE SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15 AND ARE APPROVED FOR PHL-93 OR HS-25 LOADING. CAST IRON GRATES NOT APPROVED FOR PHL-93 OR HS-25 LOADING MAY BE USED OUTSIDE OF THE TRAVEL LANES; AT THE EDGE OF OUTSIDE SHOULDERS, SWALES, WIDE MEDIUM SWALES AND INFIELD AREAS.
8. REFER TO SHEET 8 FOR TWO PIECE CAST IRON GRATES.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

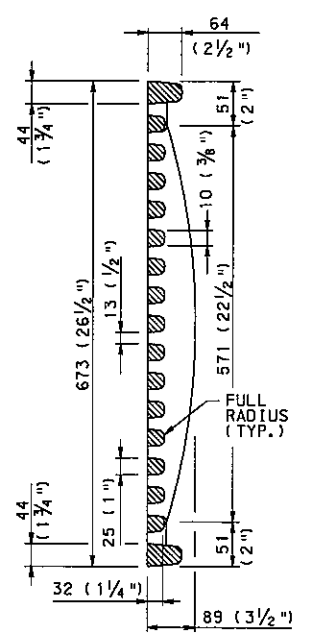
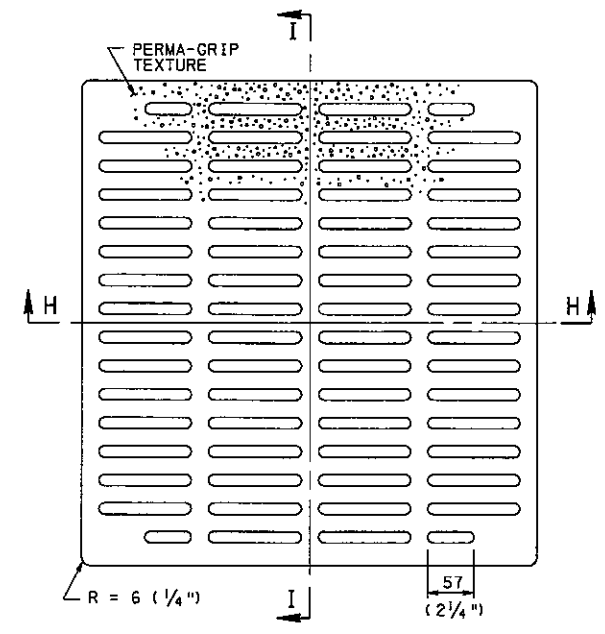
COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET TOPS, GRATES, AND FRAMES  
CAST IRON GRATES - 1

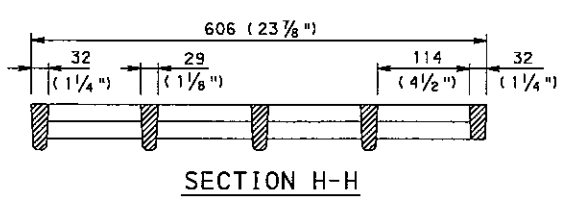


**BICYCLE SAFE GRATE**

**SECTION C-C  
GRATE**



**SECTION I-I  
ADA COMPLIANT GRATE**



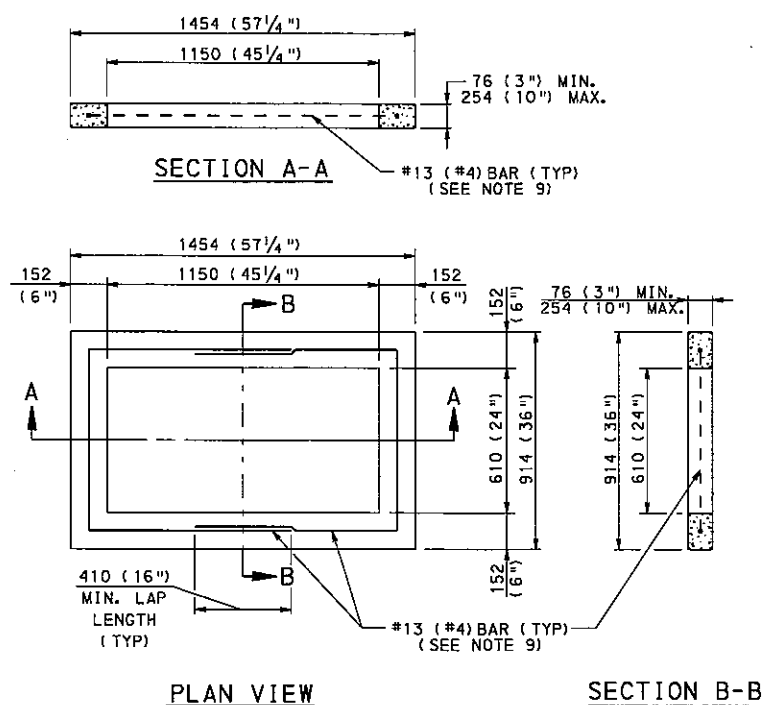
**SECTION H-H  
TWO PIECE CAST IRON GRATES**

- NOTES**
1. FOR CAST IRON GRATE NOTES, SEE SHEET 9.
  2. FOR ONE PIECE CAST IRON GRATE DETAILS, SEE SHEET 9.

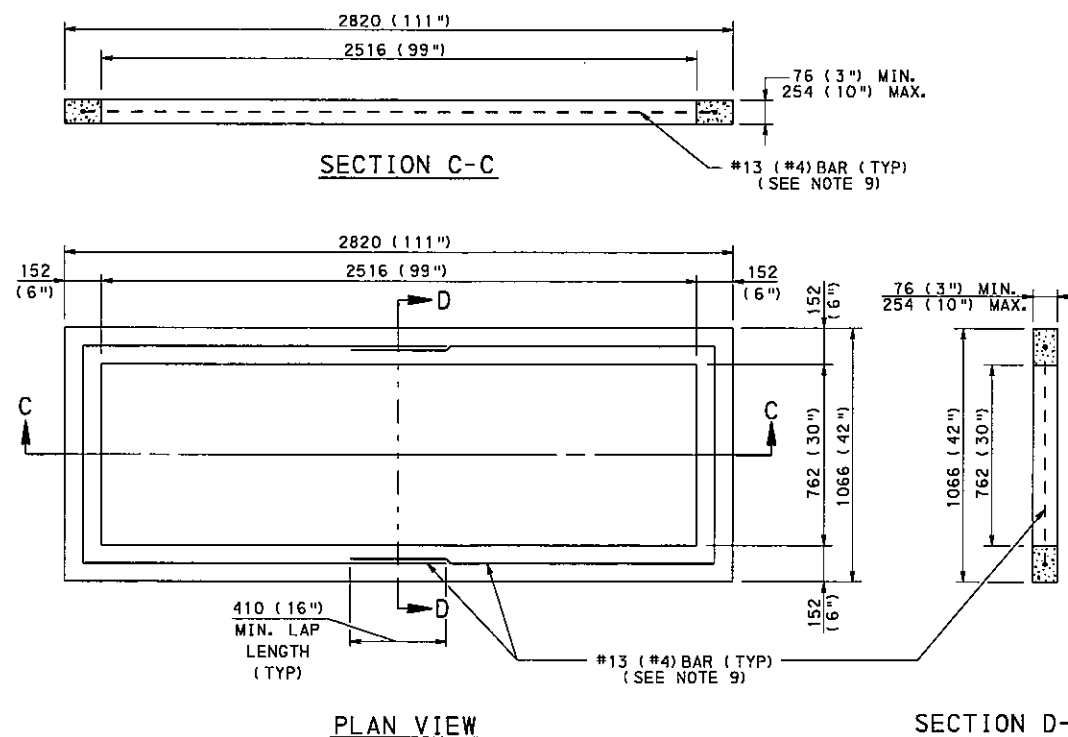
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

<b>COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF DESIGN</b>		
<b>INLET TOPS, GRATES, AND FRAMES CAST IRON GRATES - 2</b>		
RECOMMENDED AUG. 29, 2008 <i>Daniel B. Howard</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT 10 OF 12 <b>RC-45M</b>





**PRECAST CONCRETE  
GRADE ADJUSTMENT RING**  
(FOR TYPE C, C ALTERNATE, M,  
AND S CONCRETE TOP UNITS)



**PRECAST CONCRETE  
GRADE ADJUSTMENT RING**  
(FOR TYPE D-H AND TYPE D-H LEVEL  
CONCRETE TOP UNITS)

**GRADE ADJUSTMENT RING GENERAL NOTES:**

1. SHEETS 12 AND 13 DEPICT THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. FOR DEVIATIONS OR MODIFICATIONS OF THE STANDARDS, SUBMIT SHOP DRAWINGS TO THE BUREAU OF DESIGN HIGHWAY QUALITY ASSURANCE DIVISION CHIEF FOR REVIEW AND ACCEPTANCE.
2. PROVIDE GRADE ADJUSTMENT RINGS/RISERS SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
3. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH THE PUBLICATION 408, AASHTO/AWS BRIDGE WELDING CODE D1.5 AND/OR D1.1 OR D1.3, AS APPROPRIATE AND THE CONTRACT SPECIAL PROVISIONS.
4. BRICK OR BRICK AND MORTAR ARE NOT ALLOWED FOR GRADE ADJUSTMENTS FOR NEW OR REHABILITATION PROJECTS.
5. ALTERNATE ADJUSTMENT RINGS:  
HDPE OR RUBBER GRADE ADJUSTMENT RINGS ARE PERMITTED FOR GRADE ADJUSTMENTS IF REQUESTED BY THE CONTRACTOR AND ACCEPTED BY PENNDOT PRIOR TO INSTALLATION. PROVIDE HDPE OR RUBBER GRADE ADJUSTMENT RINGS SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.

**PRECAST CONCRETE GRADE ADJUSTMENT RING NOTES:**

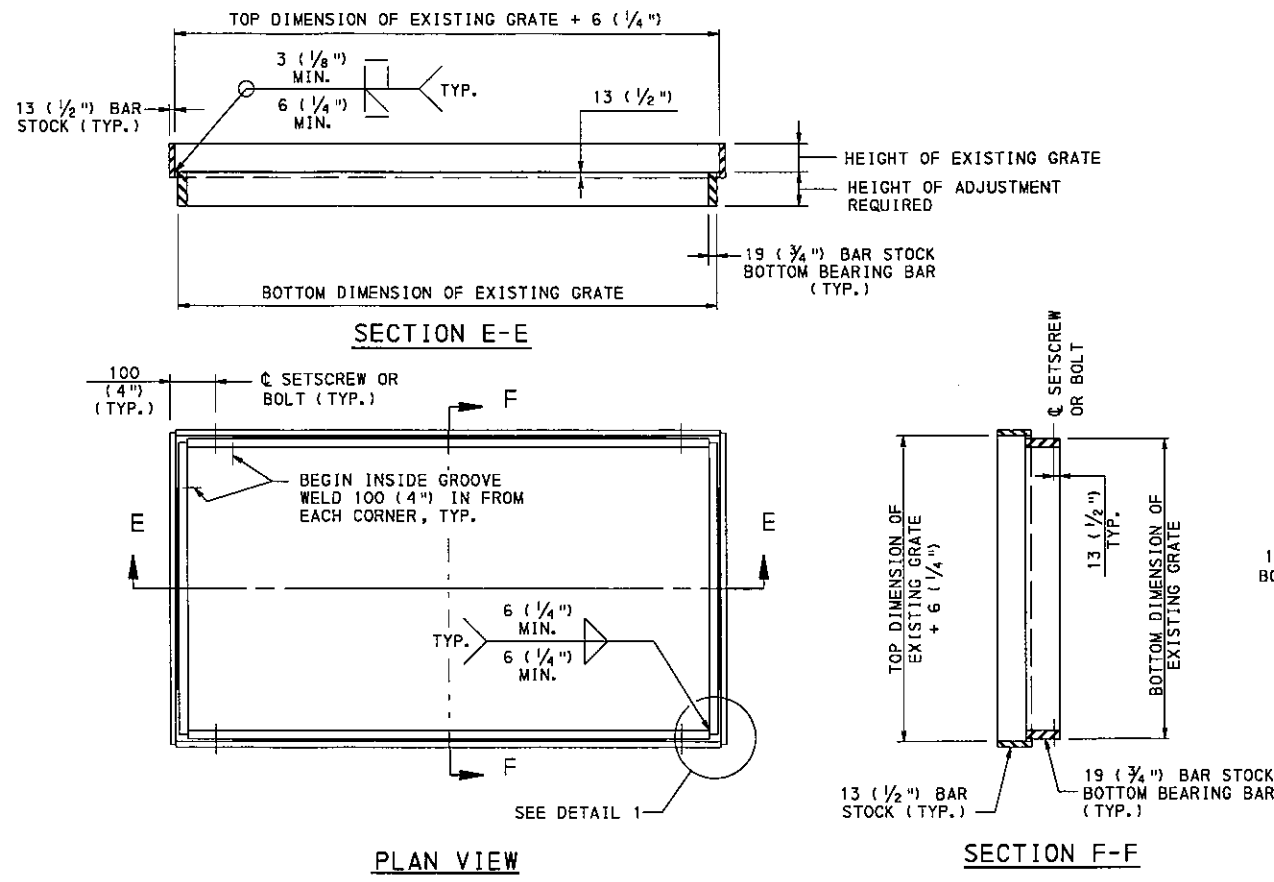
1. PRECAST CONCRETE ADJUSTMENT RINGS ARE PERMITTED FOR TYPE C, C ALTERNATE, M, S AND D-H CONCRETE INLET TOPS. DO NOT USE PRECAST CONCRETE ADJUSTMENT RINGS TO RAISE TYPE C FRAMES.
2. ONLY ONE GRADE ADJUSTMENT RING IS PERMITTED FOR NEW CONSTRUCTION PROJECTS. GRADE ADJUSTMENT RINGS ARE INCIDENTAL TO THE COST OF THE TOP UNITS OR FRAMES.
3. PROVIDE ADJUSTMENT RING WHICH IS FLUSH WITH THE INLET TOP AND DOES NOT ALLOW EXCESSIVE MOVEMENT.
4. GRADE ADJUSTMENT RINGS ARE PERMITTED TO BE FABRICATED IN DIFFERENT SHAPES TO FORM A RECTANGLE TO MATCH THE REQUIRED DIMENSIONS AS PER MANUFACTURER'S RECOMMENDATIONS.
5. FABRICATOR IS RESPONSIBLE FOR LIFTING, HANDLING AND TRANSPORTATION STRESSES.
6. PROVIDE CLASS AA CEMENT CONCRETE, MODIFIED [DESIGN COMPRESSIVE STRENGTH =  $f'c = 28 \text{ MPa}$  (4,000 PSI)] IN THE PRECAST CONCRETE ADJUSTMENT RING.
7. A HIGHER STRENGTH OF CONCRETE MAY BE SUBSTITUTED FOR A LOWER STRENGTH CONCRETE AT NO ADDITIONAL COST TO THE DEPARTMENT. SUBMIT MIX DESIGNS TO THE DEPARTMENT FOR REVIEW AND ACCEPTANCE.
8. PROVIDE GRADE 420 (GRADE 60) DEFORMED REINFORCEMENT BARS THAT MEET THE REQUIREMENTS OF ASTM A615M (A615) OR ASTM A706M (A706).
9. REINFORCEMENT REQUIREMENTS:
  - DEPTHS LESS THAN OR EQUAL TO 152 (6"): PROVIDE ONE #13 (#4) BAR PLACED AT CENTER OF THICKNESS.
  - DEPTHS GREATER THAN 152 (6") AND LESS THAN OR EQUAL TO 254 (10"): PROVIDE ONE #13 (#4) BAR PLACED 38 (1 1/2") CLEAR FROM THE TOP AND BOTTOM SURFACES FOR A TOTAL OF TWO BARS.
10. SET PRECAST CONCRETE GRADE ADJUSTMENT RINGS ON A NON-SHRINK GROUT PAD TO PROVIDE FULL BEARING ON THE SUPPORTING SURFACE.
  - PROVIDE NON-SHRINK GROUT IN ACCORDANCE WITH PUBLICATION 408, SECTION 1001.2(d).
  - MAXIMUM GROUT DEPTH = 13 mm (1/2")
11. TAPERED PRECAST CONCRETE ADJUSTMENT RINGS ARE PERMITTED AS LONG AS THE MINIMUM AND MAXIMUM DIMENSIONS REQUIRED ARE BETWEEN 76 mm (3") AND 254 mm (10").

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

**INLET TOPS, GRATES, AND FRAMES  
GRADE ADJUSTMENT RINGS - 1**

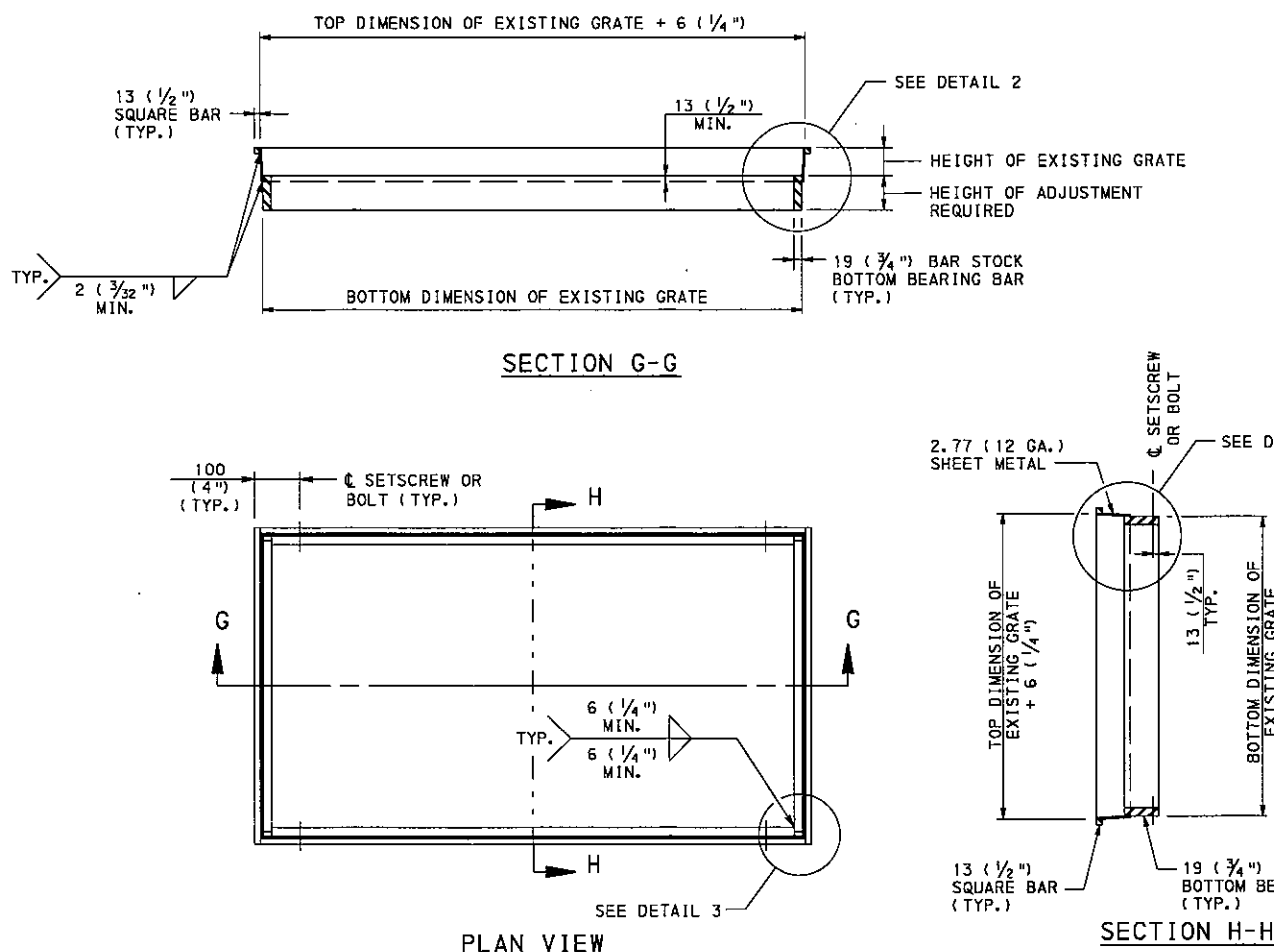
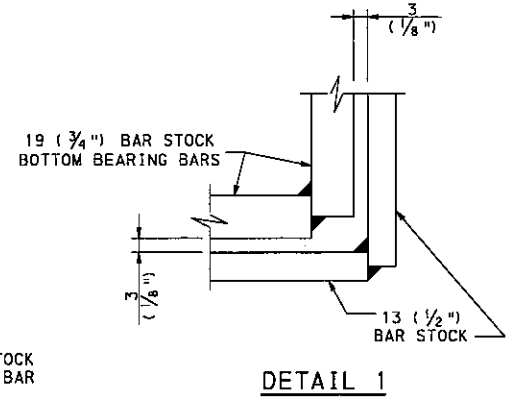
RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> DIRECTOR, BUREAU OF DESIGN	SHT 12 OF 12 RC-45M
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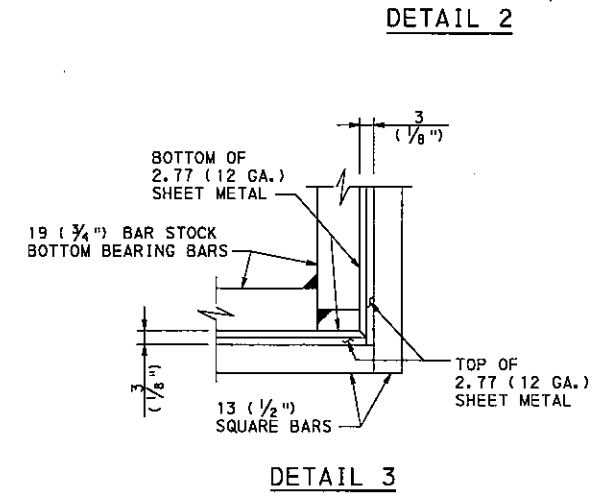
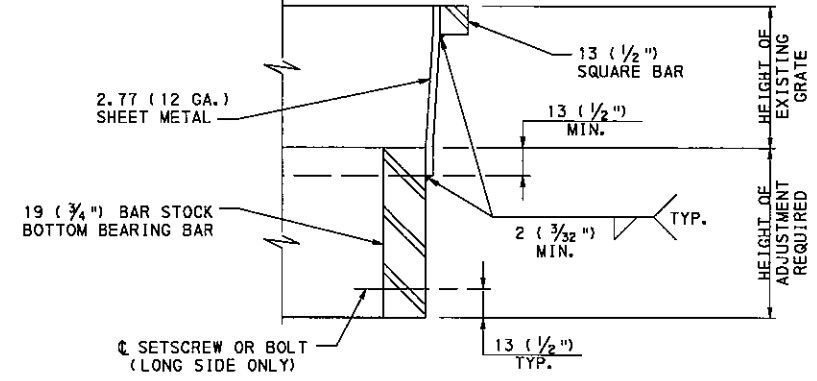
SECTION E-E  
PLAN VIEW  
SECTION F-F  
STRUCTURAL STEEL GRADE ADJUSTMENT RISERS - TYPE 1

**STRUCTURAL STEEL GRADE ADJUSTMENT RISER NOTES:**

- STRUCTURAL STEEL ADJUSTMENT RISERS ARE PERMITTED FOR TYPE C AND M FRAMES AND TYPE C, C ALTERNATE, M, AND S CONCRETE INLET TOPS.
- ADJUSTMENT RISER TYPES:
  - TYPE 1:
    - MINIMUM HEIGHT ADJUSTMENT = EXISTING GRATE THICKNESS + 13 (1/2")
    - MAXIMUM HEIGHT ADJUSTMENT = 150 (6")
  - TYPE 2:
    - MINIMUM HEIGHT ADJUSTMENT = 25 (1")
    - MAXIMUM HEIGHT ADJUSTMENT = EXISTING GRATE THICKNESS + 13 (1/2")
- PROVIDE STRUCTURAL STEEL CONFORMING TO AASHTO M270M (M270) GRADE 250 (36) [ASTM A709M (A709), GRADE 250 (36)].
- WELD STRUCTURAL STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 1105. WELDING SHOPS ARE NOT REQUIRED TO BE AISC CERTIFIED. ALL WELDS ARE CONTINUOUS UNLESS NOTED OTHERWISE.
- PROVIDE ADJUSTMENT RISERS WHICH CONFORM TO THE SHAPE OF THE ORIGINAL FRAME AND DOES NOT ALLOW FOR EXCESSIVE MOVEMENT.
- CUSTOM FABRICATE EACH ADJUSTMENT RISER TO FIT THE EXISTING DIMENSIONS OF EACH INLET. CAREFULLY MEASURE LENGTH, WIDTH, AND HEIGHT OF EACH EXISTING INLET FRAME AND GRATE AND PROVIDE THIS INFORMATION TO THE FABRICATOR. CLEARLY MARK EACH ADJUSTMENT RISER FOR PLACEMENT LOCATION. UPON DELIVERY OF ADJUSTMENT RISERS, VERIFY ALL DIMENSIONS AND LOCATIONS BEFORE INSTALLATION BEGINS.
- FABRICATION TOLERANCES:
  - BOTTOM OUTSIDE DIMENSION: +/- 3 (1/8")
  - TOP INSIDE DIMENSION: +/- 3 (1/8")
- CHECK FOR FULL BEARING OF LOWER ADJUSTMENT RISER SECTION ON EXISTING FRAMES DURING INSTALLATION.
- ATTACH THE STEEL ADJUSTMENT RISERS SECURELY TO THE EXISTING FRAME USING SET SCREWS OR BOLTS. PROVIDE TWO SET SCREWS OR BOLTS PER LONG SIDE. PLACE SET SCREWS OR BOLTS 100 (4") FROM CORNER. NO SCREWS OR BOLTS ARE REQUIRED ON THE SHORT SIDE. OMIT SET SCREWS OR BOLTS ALONG GUTTER LINE FOR TYPE C CONCRETE INLET TOP.
- COAT ADJUSTMENT RISERS WITH AN APPROVED BITUMINOUS PAINT, IN ACCORDANCE WITH PUBLICATION 408, SECTION 605.2(f). AS AN ALTERNATE TO BITUMINOUS PAINT, GALVANIZE ADJUSTMENT RISERS IN ACCORDANCE WITH PUBLICATION 408, SECTION 1105.02(g).
- FOR ADDITIONAL NOTES, REFER TO THE GRADE ADJUSTMENT RING GENERAL NOTES ON SHEET 12 AND GENERAL NOTES ON SHEET 1.



SECTION G-G  
PLAN VIEW  
SECTION H-H  
STRUCTURAL STEEL GRADE ADJUSTMENT RISERS - TYPE 2

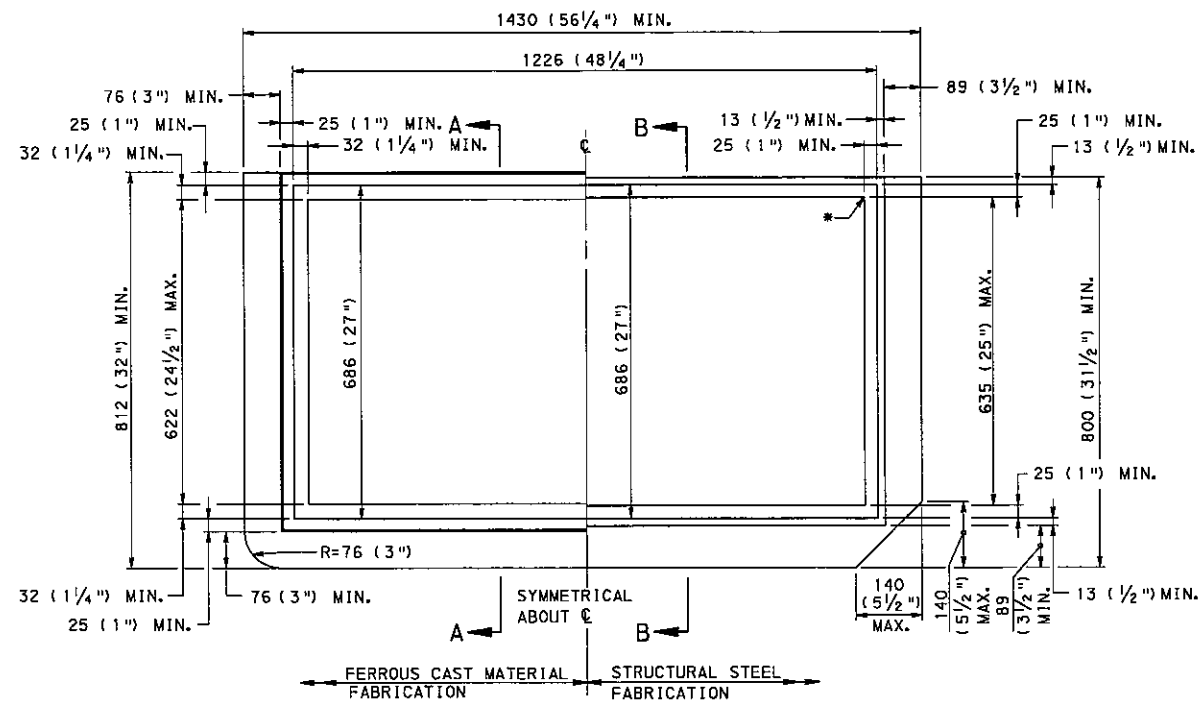


NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
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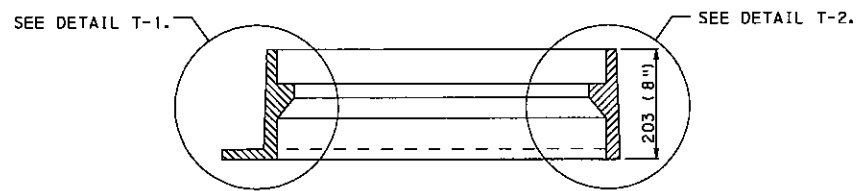
**INLET TOPS, GRATES, AND FRAMES**  
**GRADE ADJUSTMENT RINGS - 2**



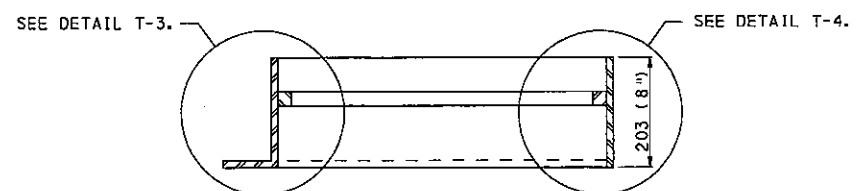


**TYPE C FRAME**  
(USED WITH TYPE C ALTERNATE CONCRETE TOP UNIT)

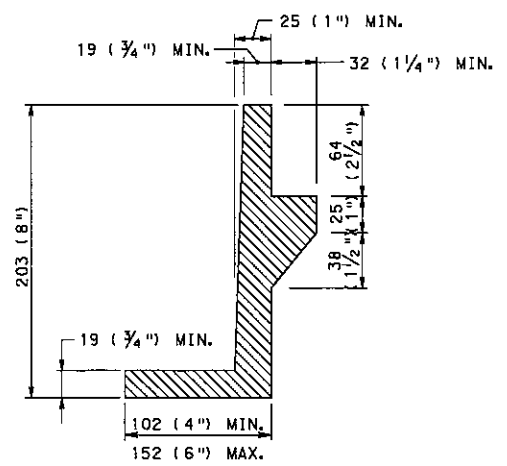
\*CORNER CONFIGURATION DETAILS ARE THE FABRICATOR'S RESPONSIBILITY AND ARE APPROVED BY THE INSPECTOR.



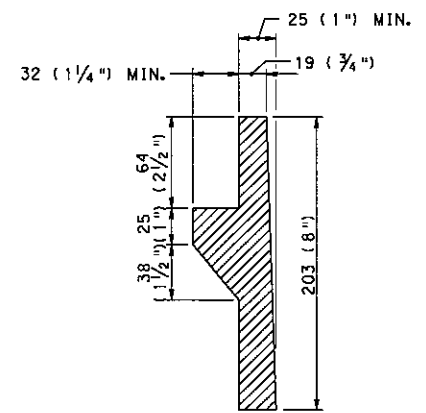
**SECTION A-A**  
(FERROUS CAST MATERIAL)



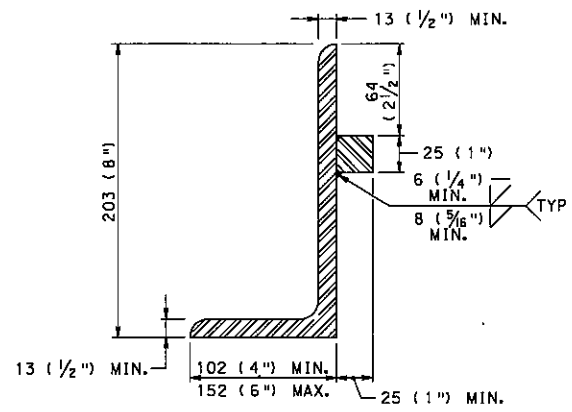
**SECTION B-B**  
(STRUCTURAL STEEL)



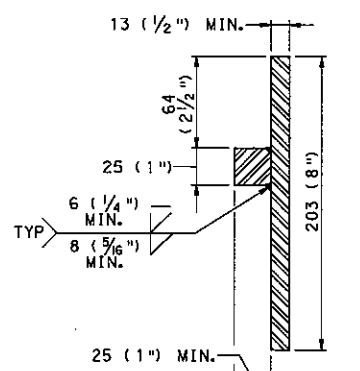
**DETAIL T-1**



**DETAIL T-2**



**DETAIL T-3**



**DETAIL T-4**

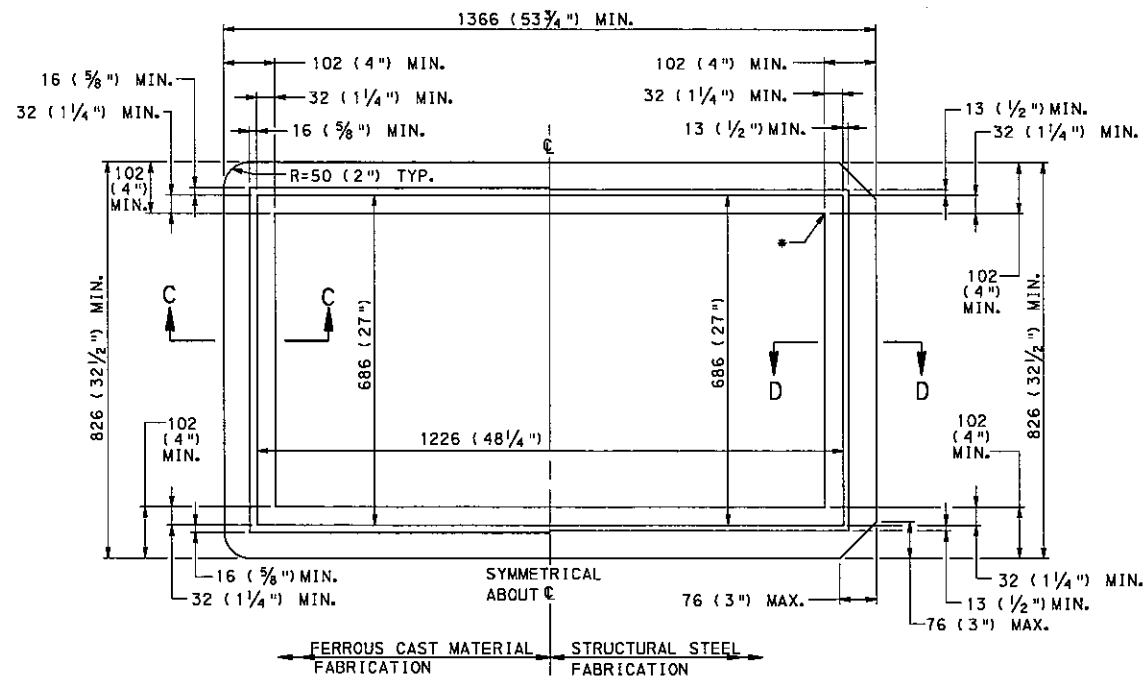
**NOTES**

1. FOR INLET FRAME NOTES SEE SHEET 14.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

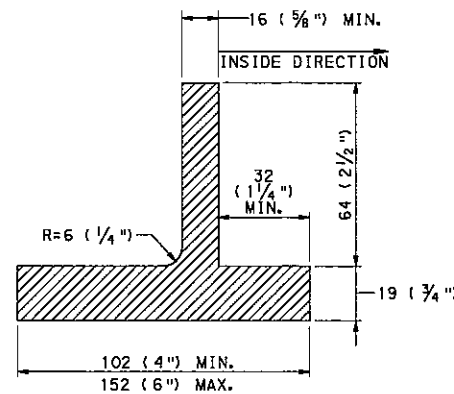
**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
BUREAU OF DESIGN

**INLET TOPS, GRATES, AND FRAMES**  
**TYPE C FRAME**

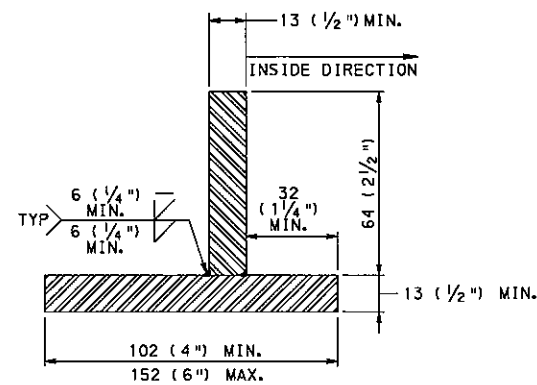


**TYPE M FRAME**

\*CORNER CONFIGURATION DETAILS ARE THE FABRICATOR'S RESPONSIBILITY AND ARE APPROVED BY THE INSPECTOR.



**SECTION C-C**  
(FERROUS CAST MATERIAL)



**SECTION D-D**  
(STRUCTURAL STEEL)

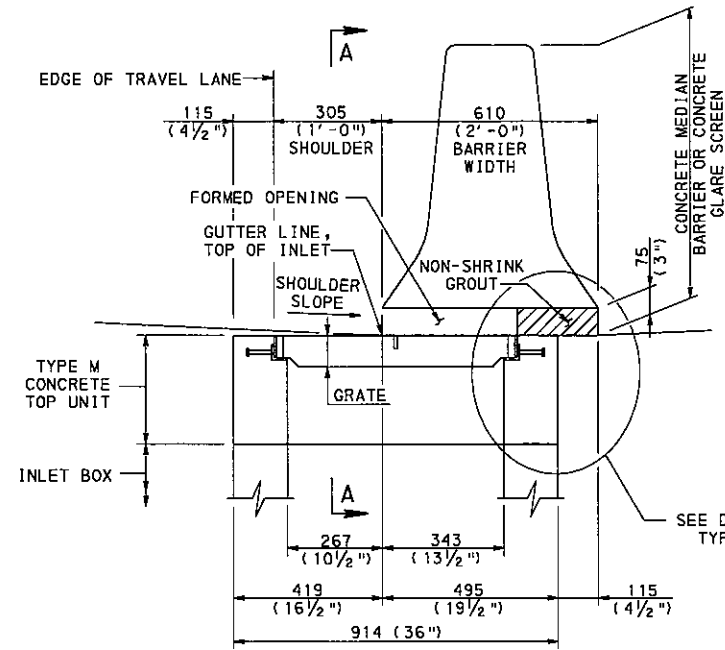
**INLET FRAME NOTES:**

1. SHEETS 14 AND 15 DEPICT THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. FOR DEVIATIONS OR MODIFICATIONS OF THE STANDARDS, SUBMIT SHOP DRAWINGS TO THE BUREAU OF DESIGN HIGHWAY QUALITY ASSURANCE DIVISION CHIEF FOR REVIEW AND ACCEPTANCE.
2. PROVIDE EITHER STRUCTURAL STEEL FRAMES OR CAST IRON FRAMES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
3. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH THE PUBLICATION 408, AASHTO/AWS BRIDGE WELDING CODE AND THE CONTRACT SPECIAL PROVISIONS.
4. PROVIDE TYPE C FRAME WITH A TYPE C ALTERNATE CONCRETE TOP UNIT.
5. PROVIDE TYPE M FRAME IN PLACE OF THE TYPE M CONCRETE TOP UNIT.
6. STRUCTURAL STEEL FRAMES:
  - TYPE C FRAMES: PROVIDE STRUCTURAL STEEL CONFORMING TO AASHTO M270M (M270) GRADE 345 (50) [ASTM A709M (A709), GRADE 345 (50)].
  - TYPE M FRAMES: PROVIDE STRUCTURAL STEEL CONFORMING TO AASHTO M270M (M270) GRADE 250 (36) [ASTM A709M (A709), GRADE 250 (36)].
  - WELD STRUCTURAL STEEL FRAMES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 1105. WELDING SHOPS ARE NOT REQUIRED TO BE AISC CERTIFIED.
  - COAT FRAMES WITH AN APPROVED BITUMINOUS PAINT, IN ACCORDANCE WITH PUBLICATION 408, SECTION 605.2(f). AS AN ALTERNATE TO BITUMINOUS PAINT, GALVANIZE FRAMES IN ACCORDANCE WITH PUBLICATION 408, SECTION 1105.02(s).
7. CAST IRON FRAMES:
  - PROVIDE EITHER GRAY IRON CASTINGS CONFORMING TO AASHTO M105 (ASTM A48/A48M), CLASS 225B (35B) AND AASHTO M306, MALLEABLE IRON CASTINGS CONFORMING TO ASTM A47/A47M, GRADE 22010 (32510), OR DUCTILE IRON CASTINGS CONFORMING TO ASTM A536, GRADE 60-40-18.

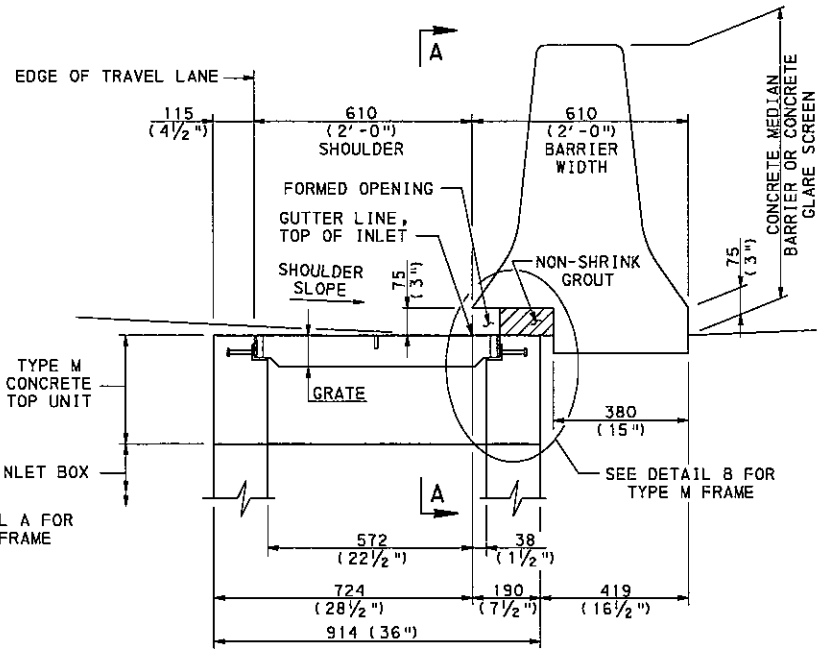
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

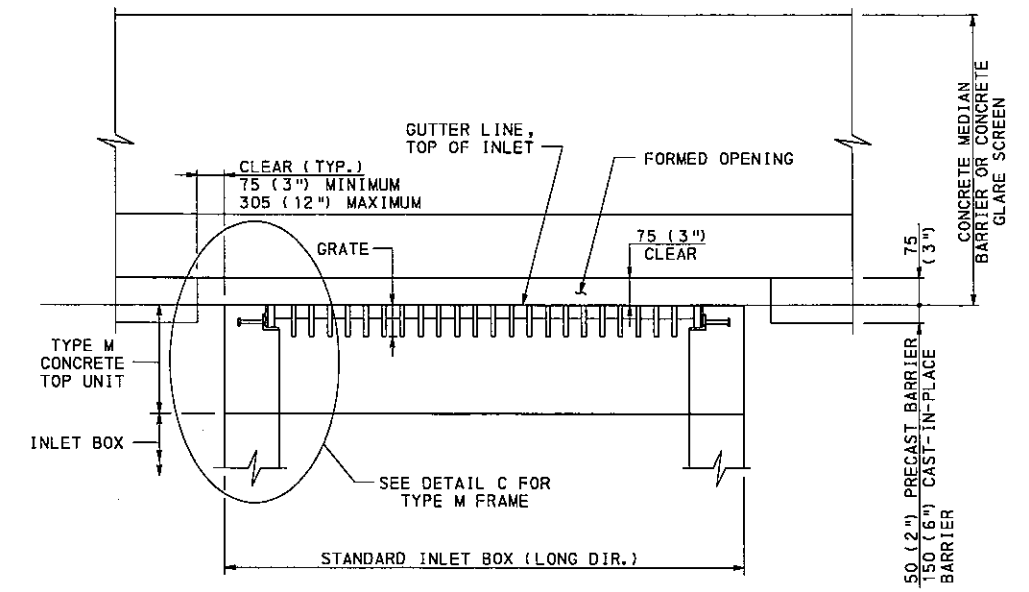
INLET TOPS, GRATES, AND FRAMES  
TYPE M FRAME



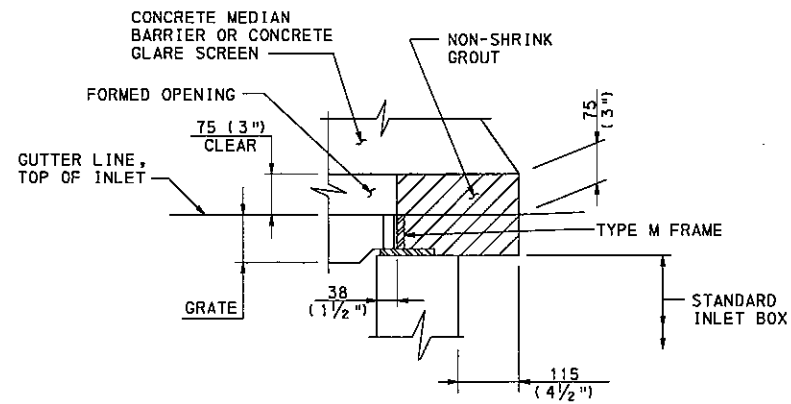
**TYPE M CONCRETE TOP UNIT  
PLACED ALONG 1'-0" WIDE SHOULDER**  
(STANDARD INLET BOX SHOWN / TOP SLAB  
REQUIRED FOR OTHER INLET TYPES)



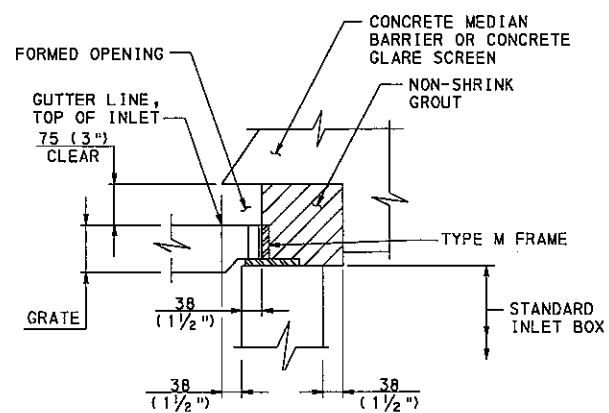
**TYPE M CONCRETE TOP UNIT  
PLACED ALONG 2'-0" WIDE SHOULDER**  
(STANDARD INLET BOX SHOWN / TOP SLAB  
REQUIRED FOR OTHER INLET TYPES)



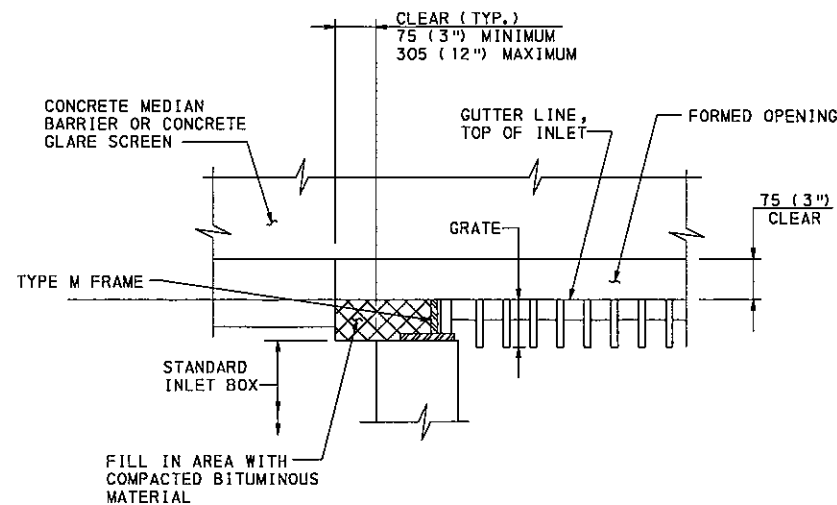
**SECTION A-A**



**DETAIL A**  
TYPE M FRAME



**DETAIL B**  
TYPE M FRAME



**DETAIL C**  
TYPE M FRAME

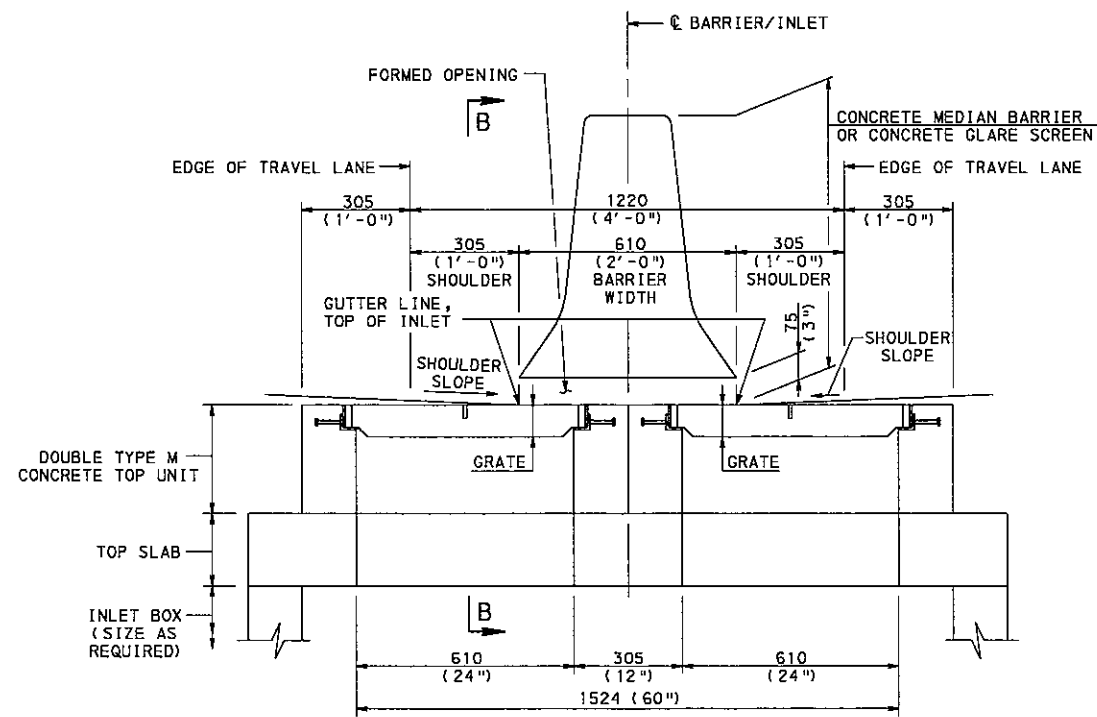
**INLET PLACEMENT NOTES:**

1. DETAILS SHOWN ON SHEETS 16 AND 17 ARE FOR INFORMATION ONLY. FOR ACTUAL PLACEMENT AND BARRIER DETAILS REFER TO THE CONTRACT DRAWINGS.
2. DESIGNER TO DETAIL BARRIER AND INLET PLACEMENT ON THE CONTRACT DRAWINGS.
3. FOR CONCRETE BARRIER DETAILS REFER TO RC-57M, RC-59M, AND THE CONTRACT DRAWINGS.
4. FOR ADDITIONAL NOTES, SEE SHEET 1.

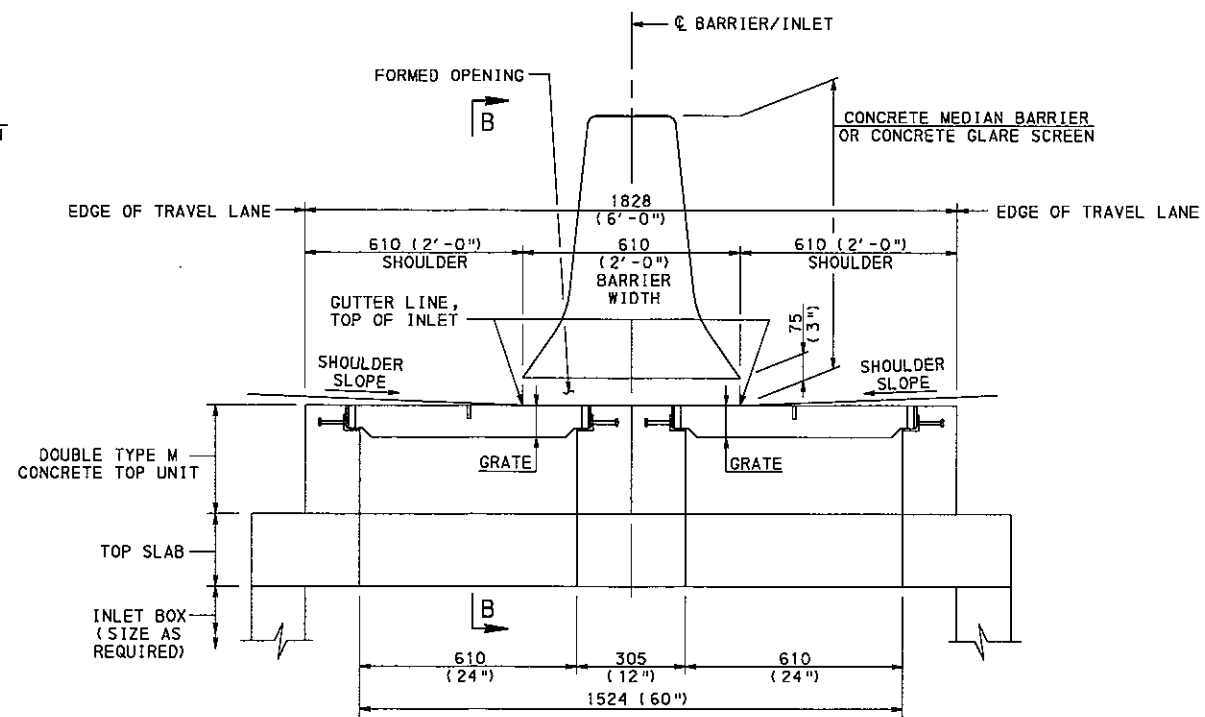
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
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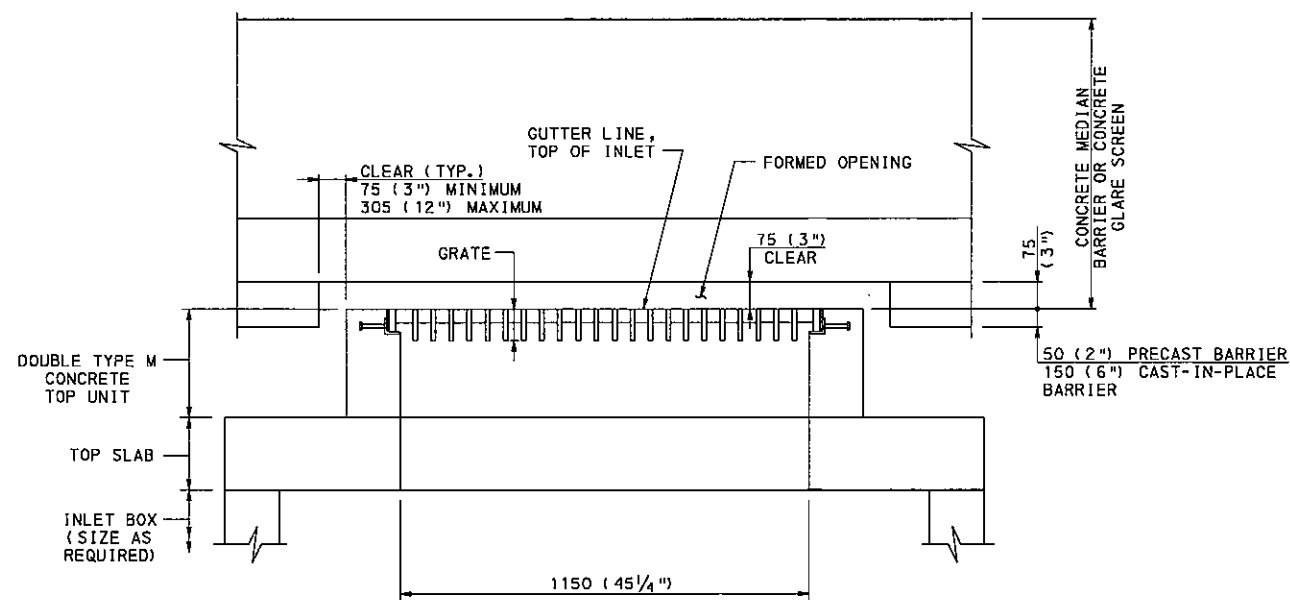
**INLET TOPS, GRATES, AND FRAMES**  
**TYPE M PLACEMENT AT MEDIAN - 1**



**INLET BOX WITH TOP SLAB AND  
DOUBLE TYPE M CONCRETE TOP UNIT  
PLACED ALONG 1'-0" WIDE SHOULDERS**



**INLET BOX WITH TOP SLAB AND  
DOUBLE TYPE M CONCRETE TOP UNIT  
PLACED ALONG 2'-0" WIDE SHOULDERS**



**SECTION B-B**

**NOTES**

1. FOR INLET PLACEMENT NOTES SEE SHEET 16.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

**INLET TOPS, GRATES, AND FRAMES  
TYPE M PLACEMENT AT MEDIAN - 2**

RECOMMENDED AUG. 29, 2008  
*Daniel B. Hest*  
ACTING CHIEF, HWY. QA DIVISION

RECOMMENDED AUG. 29, 2008  
*Sam E. Thomas*  
DIRECTOR, BUREAU OF DESIGN

SHT 17 OF 17

RC-45M

## GENERAL NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN ( ) PARENTHESIS.
- METRIC UNITS INDICATED ARE SOFT CONVERTED FROM U.S. CUSTOMARY UNITS.
- DESIGN SPECIFICATIONS AND REQUIREMENTS:
  - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND AS SUPPLEMENTED BY THE DESIGN MANUAL, PART 4, STRUCTURES.
  - DESIGN IS IN ACCORDANCE WITH THE LOAD AND RESISTANCE FACTOR DESIGN METHOD (LRFD).
  - INLET BOXES ARE DESIGNED FOR AN ALLOWABLE FOUNDATION PRESSURE EQUAL TO 0.190 MPa (2.0 TONS/SQ. FT.) AT THE SERVICE LIMIT STATE.
- CONSTRUCTION SPECIFICATIONS:
  - PROVIDE MATERIALS AND PERFORM WORK IN ACCORDANCE WITH THE CURRENT VERSION OF THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION PUBLICATION 408 AND THE CONTRACT SPECIAL PROVISIONS.
- SHOP DRAWINGS FOR INLET BOXES, TOP SLABS, AND TRANSITION SLABS ARE NOT REQUIRED IF THE ITEM IS CONSTRUCTED/FABRICATED IN ACCORDANCE WITH THIS STANDARD.
- THIS STANDARD DEPICTS THE DIMENSIONS REQUIRED FOR UNIFORMITY AND INTERCHANGEABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR FABRICATION OR MANUFACTURING. FOR DEVIATIONS OR MODIFICATIONS OF THE STANDARDS, SUBMIT SHOP DRAWINGS TO THE BUREAU OF DESIGN HIGHWAY QUALITY ASSURANCE DIVISION CHIEF FOR REVIEW AND ACCEPTANCE.
- THE DESIGNER IS RESPONSIBLE FOR DETERMINING THE SIZE OF INLET BOX REQUIRED BASED ON THE MAXIMUM PIPE SIZE AND PIPE OPENING. THE DESIGNER IS ALSO RESPONSIBLE TO DETERMINE THE REQUIRED PAY ITEM FOR A INSTALLATION BASED ON THE OVERALL INSTALLATION HEIGHT.
- THE SELECTION OF COMPONENTS TO ACHIEVE A SPECIFIED INLET ASSEMBLY IS THE CONTRACTOR'S RESPONSIBILITY, UNLESS OTHERWISE INDICATED ON THE CONTRACT DOCUMENTS.
- THE SIZE OF THE INLET TOP UNITS, PER RC-45M, ARE BASED ON THE MINIMUM DIMENSIONS INDICATED FOR THE STANDARD INLET BOX.
- MINIMUM PIPE DIAMETERS (INSIDE):
  - FILL HEIGHT LESS THAN OR EQUAL TO 7600 mm (25'): 450 mm (18") FOR CIRCULAR PIPE (OR EQUIVALENT SIZE PIPE ARCH)
  - FILL HEIGHTS GREATER THAN 7600 mm (25'): 600 mm (24")
- INSIDE INLET BOX DIMENSIONS ARE BASED ON PROVIDING A PIPE OPENING TO ACCOMMODATE A MINIMUM 450 mm (18") PIPE TO A MAXIMUM 2438 mm (96") PIPE. IF A LARGER PIPE SIZE IS REQUIRED, THE DESIGNER IS RESPONSIBLE FOR PROVIDING DESIGN AND DETAILS IN ACCORDANCE WITH PENNDOT REQUIREMENTS.
- INLETS THAT EXCEED THE MAXIMUM HEIGHT INDICATED REQUIRE SPECIAL DESIGN AND DETAILS. DESIGNER IS RESPONSIBLE FOR PROVIDING DESIGN AND DETAILS IN ACCORDANCE WITH PENNDOT REQUIREMENTS.
- SHOW ORIENTATION OF INLET BOXES ON THE CONTRACT DRAWINGS.
- CHAMFER EXPOSED CONCRETE EDGES 12 mm x 12 mm (1/2" x 1/2"), EXCEPT AS NOTED.
- PROVIDE 50 mm (2") DIAMETER WEEPHOLES IN THE WALLS WHEN THE DEPTH BETWEEN THE FINISHED GRADE ELEVATION AND THE TOP OF BOTTOM SLAB ELEVATION IS GREATER THAN 3048 mm (10'-0").
  - VERTICAL PLACEMENT: 1500 mm (5'-0") MAXIMUM SPACING
  - HORIZONTAL PLACEMENT: PLACE WEEPHOLES IN THE SIDE WALLS THAT ARE PERPENDICULAR TO TRAFFIC.
  - LOCATE WEEPHOLES A MINIMUM OF 150 mm (6") FROM PIPE OPENINGS OR JOINTS.
  - LOCATE WEEPHOLES A MINIMUM OF 305 mm (1'-0") ABOVE OUTLET PIPE INVERT.
- PROVIDE MANHOLE STEPS WHEN THE DEPTH BETWEEN THE FINISHED GRADE ELEVATION AND THE TOP OF BOTTOM SLAB ELEVATION IS GREATER THAN 1500 mm (5'-0"). SHALLOW RECESSES, ON THE INSIDE FACE OF THE INLET, NOT GREATER THAN 10 mm (3/8") IN DEPTH, FORMED BY MAGNETIC STEP FORMERS ARE ACCEPTABLE AND DO NOT REQUIRE PATCHING. FOR DETAILS, REFER TO RC-39M.
- IF A REQUIRED DETAIL IS NOT FOUND IN THIS STANDARD OR ON THE CONTRACT DRAWINGS A SPECIAL SUBMISSION REQUESTING ACCEPTANCE FOR SPECIFIC DETAILS MUST BE MADE TO THE BUREAU OF DESIGN HIGHWAY QUALITY ASSURANCE DIVISION CHIEF.
- FOR INLET TOPS, GRATES, GRADE ADJUSTMENT RINGS AND FRAMES, REFER TO RC-45M.

## MATERIAL NOTES:

- PROVIDE THE FOLLOWING CONCRETE CLASS:
  - CAST-IN-PLACE: CLASS A CEMENT CONCRETE [DESIGN COMPRESSIVE STRENGTH,  $f'c = 21$  MPa (3,000 PSI)]
  - PRECAST: CLASS AA CEMENT CONCRETE, MODIFIED [DESIGN COMPRESSIVE STRENGTH,  $f'c = 28$  MPa (4,000 PSI)]
- A HIGHER STRENGTH OF CONCRETE MAY BE SUBSTITUTED FOR A LOWER STRENGTH OF CONCRETE AT NO ADDITIONAL COST TO THE DEPARTMENT. SUBMIT MIX DESIGN TO THE DEPARTMENT FOR REVIEW AND ACCEPTANCE.
- REINFORCEMENT STEEL:
  - PROVIDE GRADE 420 (GRADE 60) DEFORMED REINFORCEMENT BARS THAT MEET THE REQUIREMENTS OF ASTM A615M (A615) OR ASTM A706M (A706). DO NOT WELD REINFORCEMENT BARS WITHOUT A PENNDOT APPROVED WELDING PROCEDURE.
  - ALL REINFORCEMENT BARS SHOWN ARE SOFT CONVERTED METRIC SIZES.
  - PROVIDE MINIMUM LAP AND EMBEDMENT LENGTH FOR REINFORCING BARS OF 30 DIAMETERS OR IN ACCORDANCE WITH THE CURRENT AASHTO SPECIFICATIONS AS MODIFIED BY THE DESIGN MANUAL PART 4, WHICHEVER IS GREATER. (REFER TO TABLE ON SHEET 3)
  - BAR SPACING:
    - MINIMUM SPACING = 102 mm (4")
    - MAXIMUM SPACING = 305 mm (1'-0") OR 1.5 MEMBER THICKNESS
  - PERMITTED BAR SIZES:
    - INLET BOXES: #10 (#3), #13 (#4), #16 (#5), #19 (#6)
    - LARGER BAR SIZES ARE PERMITTED IN THE TOP SLABS AND TRANSITION SLABS.
  - MINIMUM AREA OF STEEL REQUIREMENTS FOR REINFORCEMENT BARS:
    - WALLS = 318 mm<sup>2</sup>/m (0.15 in<sup>2</sup>/ft) EACH WAY
    - BOTTOM SLAB:
      - TOP MAT = 424 mm<sup>2</sup>/m (0.20 in<sup>2</sup>/ft) EACH WAY
      - BOTTOM MAT = 424 mm<sup>2</sup>/m (0.20 in<sup>2</sup>/ft) EACH WAY
- WELDED WIRE FABRIC (WWF):
  - PROVIDE GRADE 450 (GRADE 65) PLAIN WELDED WIRE FABRIC THAT MEET THE REQUIREMENTS OF ASTM A185 OR GRADE 480 (GRADE 70) DEFORMED WELDED WIRE FABRIC THAT MEET THE REQUIREMENTS OF ASTM A497.
  - ALL WELDED WIRE FABRIC SHOWN IS SOFT CONVERTED METRIC SIZES.
  - PROVIDE MINIMUM LAP SPLICES FOR WELDED WIRE FABRIC EQUAL TO THE LARGER OF TWO GRID SPACINGS OR 305 mm (12").
  - WIRE SPACING:
    - MINIMUM SPACING = 51 mm (2")
    - MAXIMUM SPACING = 305 mm (1'-0") OR 1.5 MEMBER THICKNESS
  - PERMITTED WIRE SIZES:
    - MINIMUM WIRE SIZE = WW26 (W4) [MD26 (D41)]
    - MAXIMUM WIRE SIZE = WW129 (W20) [MD129 (D20)]
    - WWF IS NOT PERMITTED IN THE CAST-IN-PLACE INLET BOXES.
    - WWF IS NOT PERMITTED IN THE TOP SLABS AND TRANSITION SLABS.
  - MINIMUM AREA OF STEEL REQUIREMENTS FOR WWF:
    - WALLS = 259 mm<sup>2</sup>/m (0.12 in<sup>2</sup>/ft) EACH WAY
    - BOTTOM SLAB:
      - TOP MAT = 424 mm<sup>2</sup>/m (0.20 in<sup>2</sup>/ft) EACH WAY
      - BOTTOM MAT = 424 mm<sup>2</sup>/m (0.20 in<sup>2</sup>/ft) EACH WAY
- NON-SHRINK GROUT:
  - PROVIDE NON-SHRINK GROUT IN ACCORDANCE WITH PUBLICATION 408, SECTION 1001.2(d).
- EPOXY BONDING COMPOUND:
  - PROVIDE EPOXY BONDING COMPOUND IN ACCORDANCE WITH PUBLICATION 408, SECTION 706.1.
- MORTAR:
  - PROVIDE MORTAR IN ACCORDANCE WITH PUBLICATION 408, SECTION 705.7(b).
- CAULKING COMPOUND:
  - PROVIDE CAULKING COMPOUND IN ACCORDANCE WITH PUBLICATION 408, SECTION 705.8(d).
- GASKETS:
  - PROVIDE GASKETS IN ACCORDANCE WITH PUBLICATION 408, SECTION 705.5(b).
- MANHOLE STEPS:
  - PROVIDE MANHOLE STEPS IN ACCORDANCE WITH PUBLICATION 408, SECTION 605.2(c).
- SUBBASE MATERIAL AND PREPARATION:
  - PROVIDE NO. 2A COARSE AGGREGATE IN ACCORDANCE WITH PUBLICATION 408, SECTION 703.2 AND COMPACT IN ACCORDANCE WITH PUBLICATION 408, SECTION 350.3(e).
  - PLACE AND COMPACT IN 100 (4") MAXIMUM LAYERS.
  - PROVIDE A 300 mm (1'-0") MINIMUM DEPTH.

## FIELD CONSTRUCTION NOTES:

- CONSTRUCT OR PLACE INLET BOXES LEVEL, UNLESS OTHERWISE INDICATED OR DIRECTED.
- CONSTRUCT OR PLACE INLET BOXES ON A SUBBASE CONSTRUCTED OF COMPACTED NO. 2A COARSE AGGREGATE. PLACE AND COMPACT IN 100 mm (4") LAYERS TO PROVIDE A 300 mm (1'-0") MINIMUM DEPTH.
- LOCATE PIPE OR PIPES AS INDICATED OR DIRECTED.
- CONNECT PIPES TO INLET BOXES WITH MORTAR OR WATERTIGHT RUBBER FLEXIBLE CONNECTORS.
- FORM BOTTOM OF INLET, USING CLASS A CEMENT CONCRETE, TO CHANNEL THE FLOW TOWARD THE OUTLET PIPE. PROVIDE #13 (#4) REINFORCEMENT BARS SPACED AT 300 mm (12") CENTER TO CENTER MAXIMUM WHEN THE THICKNESS EXCEEDS 75 mm (3").
- BACKFILL EXCAVATED SPACES AROUND THE STRUCTURE WITH ACCEPTABLE EMBANKMENT MATERIAL.
- THE FOLLOWING ITEMS ARE INCIDENTAL TO THE COST OF THE INLET BOX PAY ITEM: EXCAVATION, COMPACTED NO. 2A COARSE AGGREGATE, INLET BOX, CLASS A CEMENT CONCRETE TO CHANNEL FLOW, TRANSITION SLAB, TOP SLAB, BACKFILL AND ANY OTHER MISCELLANEOUS ITEMS REQUIRED FOR THE CONSTRUCTION OF THE INLET BOX.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

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COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
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INLET BOXES  
GENERAL NOTES - 1

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Hest</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Daniel B. Hest</i> DIRECTOR, BUREAU OF DESIGN	SHT 1 OF 44 RC-46M
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## CAST-IN-PLACE CONCRETE INLET BOX NOTES:

1. CONSTRUCT INLET BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 605.
2. PROVIDE A TOP SLAB TO SUPPORT THE INLET TOP UNITS M, S, C AND C ALTERNATE WHEN A STANDARD INLET BOX IS NOT SPECIFIED. PROVIDE OPENING TO ACCOMMODATE THE STANDARD TOP COMPONENTS. PROVIDE A TOP SLAB WITH A ROUND OPENING FOR MANHOLE COVER WHEN SPECIFIED ON THE CONTRACT DRAWINGS.
3. PROVIDE A TRANSITION SLAB BETWEEN TWO SEPARATE INLET BOX SIZES, WHEN TWO SEPARATE INLET BOX SIZES ARE USED. (SEE TRANSITION SLAB NOTES.)
4. CLEAR COVER FOR STEEL:
  - WALLS: 50 mm (2")
  - FOOTINGS [BOTTOM SLAB]:
    - TOP COVER: 60 mm (2 1/2")
    - BOTTOM COVER: 75 mm (3")
  - SIDE COVER: 50 mm (2")
  - TOP AND TRANSITION SLABS [TOP AND BOTTOM]: 50 mm (2")
5. MINIMUM SLAB AND WALL THICKNESS:
  - MINIMUM TOP SLAB THICKNESS: 203 mm (8")
  - MINIMUM WALL THICKNESS: 152 mm (6")
  - MINIMUM BOTTOM SLAB THICKNESS: 229 mm (9")
6. THICKNESS OF WALL MUST BE MAINTAINED FOR THE ENTIRE HEIGHT OF THE INLET BOX.
7. WELDED WIRE FABRIC IS NOT PERMITTED IN CAST-IN-PLACE INLET BOXES.
8. WHEN THE BOTTOM SLAB IS CONSTRUCTED MONOLITHICALLY WITH THE WALLS, PROVIDE 75 mm (3") MINIMUM BETWEEN THE PIPE OPENING AND TOP OF THE BOTTOM SLAB.
9. CONSTRUCTION JOINTS AND KEYS MAY BE CONSTRUCTED UPWARDS OR DOWNWARDS. CLEAN JOINTS AND KEYS THOROUGHLY BEFORE PLACING NEXT CONCRETE SEGMENT.
10. PROVIDE A KEYED JOINT BETWEEN BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOX.
11. PROVIDE A KEYED JOINT BETWEEN THE TRANSITION SLAB AND THE ADJACENT TOP AND BOTTOM SECTIONS.
12. PROVIDE KEYED CONSTRUCTION JOINTS BETWEEN CONCRETE POURS.
13. SEGMENT HEIGHTS:
  - MINIMUM HEIGHT:
    - TOP SECTIONS BELOW THE TOP UNIT OR TOP SLABS = 305 mm (1'-0")
    - ALL OTHER SECTIONS = 610 mm (2'-0")
  - MAXIMUM HEIGHT = 2744 mm (9'-0")
14. USE EPOXY BONDING COMPOUND BETWEEN CONCRETE POURS.

## PIPE LOCATION AND PIPE OPENING NOTES:

1. LOCATE THE TOP OF PIPE AT LEAST 150 mm (6") BELOW THE ROADWAY SUBGRADE ELEVATION, EXCEPT FOR DUCTILE IRON PIPE WHICH MAY BE WITHIN 75 mm (3").
  - SUBGRADE IS DEFINED AS THE BOTTOM OF THE PAVEMENT STRUCTURE.
2. PROVIDE A MINIMUM DROP OF AT LEAST 50 mm (2") BETWEEN THE INLET PIPE INVERT ELEVATION AND THE OUTLET PIPE INVERT ELEVATION.
3. LOCATE PIPE OPENINGS TO PROVIDE A MINIMUM 102 mm (4") OF CONCRETE BETWEEN THE TOP OF THE INLET BOX AND THE TOP OF THE PIPE OPENING.
4. PROVIDE PIPE OPENING OF AT LEAST 50 mm (2") BUT NOT MORE THAN 100 mm (4") LARGER THAN THE OUTSIDE DIAMETER OF THE SPECIFIED PIPE.
5. IF REINFORCED CONCRETE PIPE IS USED, THE PIPE OPENING MAY BE FORMED "FLUSH" WITH THE TOP OF THE INLET BOTTOM (BASE) SLAB.
6. LOCATE PIPE OPENINGS PER THE CONTRACT DRAWINGS OR AS DIRECTED.
7. LOCATE PIPE OPENINGS WITHIN THE INLET BOX. DO NOT CUT THE TOP SLAB, TRANSITION SLAB, OR TOP UNIT TO ACCOMMODATE PIPES.
8. PIPE OPENINGS ARE PERMITTED TO BE IN EACH WALL WHEN CORNER PENETRATIONS ARE NOT REQUIRED.
9. IF CORNER PENETRATION IS REQUIRED, PIPE OPENINGS ARE PERMITTED IN ONE (1) CORNER AND IN THE TWO (2) OTHER WALLS NOT AFFECTED BY THE CORNER PENETRATION.
10. SKEWED PIPES:
  - DESIGNER IS RESPONSIBLE TO SIZE THE INLET BOX TO ACCOMMODATE SKEWED PIPES. DESIGNER MUST CONSIDER THE SKEW ANGLE, PIPE OUTSIDE DIAMETER, AND PIPE OPENING WHEN DETERMINING THE REQUIRED INLET BOX SIZE.
11. PIPE OPENINGS ARE PERMITTED TO REMOVE UP TO 25 mm (1") OF EACH WALL THICKNESS IN THE STANDARD BOX ONLY. THE PIPE OPENINGS, IN ALL OTHER BOXES, ARE NOT PERMITTED TO REDUCE THE WALL THICKNESS.
12. TAPERED PIPE OPENINGS ARE PERMITTED.
  - TAPERED PIPE OPENINGS THAT REDUCE THE WALL THICKNESS ARE ONLY PERMITTED IN THE STANDARD BOX.
  - TAPERED PIPE OPENINGS, IN ALL OTHER BOXES, ARE NOT PERMITTED TO REDUCE THE WALL THICKNESS.
13. PROVIDE ADDITIONAL REINFORCEMENT BARS AROUND PIPE OPENINGS AS INDICATED, OR AS REQUIRED. ADDITIONAL STEEL IS PERMITTED TO BE ADDED AROUND THE PIPE OPENING TO KEEP THE "HOLE FORM" IN PLACE DURING CONSTRUCTION OR FABRICATION.
14. WHEN PROJECT CONDITIONS REQUIRE THE PIPE OPENINGS TO BE LOCATED WITHIN 102mm (4") FROM THE TOP OR BOTTOM OF A BOX SECTION, PROVIDE AN ADDITIONAL #10 (#3) HORIZONTAL BAR ALONG THE FULL WIDTH OF THE INLET BOX. PROVIDE 305mm (12") HOOKS ON BARS AT CORNERS. LOCATE BARS 38mm (1 1/2") CLEAR FROM THE TOP OR BOTTOM OF THE SECTION. CUT BARS IN THE FIELD PRIOR TO INSTALLING PIPE.

## PRECAST CONCRETE INLET BOX NOTES:

1. CONSTRUCT INLET BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 714.
2. PROVIDE PRECAST CONCRETE INLET BOXES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15.
3. PROVIDE A TOP SLAB TO SUPPORT THE INLET TOP UNITS M, S, C AND C ALTERNATE WHEN A STANDARD INLET BOX IS NOT SPECIFIED. PROVIDE OPENING TO ACCOMMODATE THE STANDARD TOP COMPONENTS. PROVIDE A TOP SLAB WITH A ROUND OPENING FOR MANHOLE COVER WHEN SPECIFIED ON THE CONTRACT DRAWINGS.
4. PROVIDE A TRANSITION SLAB BETWEEN TWO SEPARATE INLET BOX SIZES, WHEN TWO SEPARATE INLET BOX SIZES ARE USED. (SEE TRANSITION SLAB NOTES.)
5. CLEAR COVER FOR STEEL:
  - WALLS: 40 mm (1 1/2")
  - FOOTINGS [BOTTOM SLAB]:
    - TOP COVER: 50 mm (2")
    - BOTTOM COVER: 40 mm (1 1/2")
    - SIDE COVER: 40 mm (1 1/2")
  - TOP AND TRANSITION SLABS [TOP AND BOTTOM]: 40 mm (1 1/2")
6. MINIMUM SLAB AND WALL THICKNESS:
  - MINIMUM TOP SLAB THICKNESS: 203 mm (8")
  - MINIMUM WALL THICKNESS: 152 mm (6")
  - MINIMUM BOTTOM SLAB THICKNESS: 178 mm (7")
7. THICKNESS OF WALL IS PERMITTED TO VARY FROM SECTION TO SECTION. INSIDE FACE OF WALLS MUST ALIGN BETWEEN SECTIONS.
8. FABRICATOR IS RESPONSIBLE FOR LIFTING, HANDLING AND TRANSPORTATION STRESSES.
9. LIFTING DEVICES:
  - PROVIDE GALVANIZED STEEL OR PLASTIC LIFTING DEVICES FOR HANDLING AND INSTALLATION.
  - FILL LIFTING DEVICES WITH NON-SHRINK GROUT AFTER INSTALLATION.
  - PROVIDE LIFTING DEVICES WITH A MINIMUM CAPACITY OF AT LEAST FOUR TIMES THE CALCULATED LOAD ON THE DEVICE.
10. TAPERS MAY BE PROVIDED ON THE INSIDE AND/OR OUTSIDE VERTICAL FACES OF THE INLET BOXES TO FACILITATE FORM STRIPPING. TAPERS MAY RESULT IN INTERNAL BOTTOM DIMENSIONS THAT VARY 20 mm/1 m (1/4"/FOOT) PER SIDE TO A MAXIMUM OF 25 mm (1") PER SIDE.
11. KEYED JOINTS MAY BE CONSTRUCTED UPWARDS OR DOWNWARDS. CLEAN JOINTS AND KEYS THOROUGHLY BEFORE PLACING NEXT SEGMENT. PLACE MORTAR OR CAULKING COMPOUND BETWEEN JOINTS IN ACCORDANCE WITH THIS STANDARD.
12. PROVIDE A KEYED JOINT BETWEEN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOX.
13. PROVIDE A KEYED JOINT BETWEEN THE TRANSITION SLAB AND THE ADJACENT TOP AND BOTTOM SECTIONS.
14. PROVIDE KEYED JOINTS BETWEEN PRECAST SECTIONS.
15. SEGMENT HEIGHTS:
  - MINIMUM HEIGHT:
    - TOP SECTIONS BELOW THE TOP UNIT OR TOP SLAB = 305 mm (1'-0")
    - ALL OTHER SECTIONS = 610 mm (2'-0")
  - MAXIMUM HEIGHT = 2438 mm (8'-0")

## TRANSITION SLAB NOTES

1. TRANSITION SLABS ARE TO BE USED TO TRANSITION A LARGER INLET BOX SIZE (LOWER SECTION) TO A SMALLER BOX SIZE (UPPER SECTION).
2. THE DESIGNER IS NOT RESPONSIBLE TO SPECIFY A TRANSITION SLAB. THE DESIGNER IS ONLY RESPONSIBLE FOR DETERMINING THE MAXIMUM INLET BOX SIZE REQUIRED WITHIN AN INLET ASSEMBLY BASED ON THE OVERALL INSTALLATION HEIGHT.
3. THE CONTRACTOR/FABRICATOR IS RESPONSIBLE TO DETERMINE WHEN A TRANSITION SLAB WILL BE USED BASED ON THE REQUIREMENTS OF THIS STANDARD AND THE CONTRACT DRAWINGS.
4. ONLY ONE TRANSITION SLAB IS PERMITTED WITHIN AN INLET ASSEMBLY.
5. THE TRANSITION SLAB IS NOT PERMITTED TO BE POURED MONOLITHICALLY WITH THE ADJACENT UPPER OR LOWER BOX SECTIONS.
6. TRANSITION SLAB IS NOT PERMITTED ON A TYPE D-H INLET.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET BOXES  
GENERAL NOTES - 2

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT 2 OF 44 RC-46M
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### DESIGN TABLE GENERAL NOTES:

- SEPARATE DESIGN TABLES ARE PROVIDED FOR CAST-IN-PLACE CONCRETE AND PRECAST CONCRETE INLET BOXES.
- SEPARATE DESIGN TABLES ARE PROVIDED USING REINFORCEMENT BARS AND WELDED WIRE FABRIC FOR THE PRECAST CONCRETE INLET BOXES.
- THE RISER (UPPER) AND BASE (BOTTOM) BOX SECTIONS WERE DESIGNED AS SQUARE BOXES, EXCEPT FOR THE STANDARD AND TYPE D-H BOXES.
- ALWAYS TRY TO MAXIMIZE THE HEIGHT OF THE RISER AND BASE SECTIONS.
- ALWAYS TRY TO PROVIDE THE MINIMUM NUMBER OF SECTIONS BY USING THE MAXIMUM POSSIBLE SECTION HEIGHTS.

### CUSTOMIZED RECTANGULAR BOX NOTES:

- CUSTOMIZED RECTANGULAR INLET BOXES MAY BE USED PROVIDED THE DESIGN REQUIREMENTS ARE BASED ON THE LARGER INSIDE DIMENSION OF THE INLET BOX LENGTH OR WIDTH.
- THE CONTRACTOR/FABRICATOR WILL BE RESPONSIBLE TO DETERMINE THE MINIMUM INSIDE BOX DIMENSIONS BASED ON THE REQUIRED PIPE SIZE, PIPE WALL THICKNESS, PIPE OPENING, PIPE SKEW AND ANY REQUIRED CLEARANCES. AT A MINIMUM, TRY AND ROUND DIMENSIONS UP TO THE NEXT 75 mm (3").
- AFTER THE CONTRACTOR/FABRICATOR DETERMINES THE MINIMUM INSIDE BOX DIMENSIONS THEY THEN MUST DETERMINE WHICH BOX TYPE (DESIGN TABLE) WILL BE USED TO DETERMINE THE DESIGN REQUIREMENTS OF THE INLET BOX.

• EXAMPLE 1:  
 MINIMUM REQUIRED INSIDE BOX DIMENSIONS:  
 $L_i = 1959 \text{ mm (77") (6'-5")}$   
 $W_i = 610 \text{ mm (24") (2'-0")}$   
 FABRICATED INSIDE BOX DIMENSIONS:  
 $L_j = 1981 \text{ mm (78") (6'-6")}$   
 $W_j = 610 \text{ mm (24") (2'-0")}$   
 DESIGN REQUIREMENTS WOULD THAN BE BASED ON A TYPE 7 [2134 mm x 2134mm (7'-0" x 7'-0")] INLET BOX

• EXAMPLE 2:  
 MINIMUM REQUIRED INSIDE BOX DIMENSIONS:  
 $L_i = 1626 \text{ mm (64") (5'-4")}$   
 $W_i = 915 \text{ mm (36") (3'-0")}$   
 FABRICATED INSIDE BOX DIMENSIONS:  
 $L_j = 1676 \text{ mm (66") (5'-6")}$   
 $W_j = 991 \text{ mm (39") (3'-3")}$   
 DESIGN REQUIREMENTS WOULD THAN BE BASED ON A TYPE 6 [1828 mm x 1828 mm (6'-0" x 6'-0")] INLET BOX

### CAST-IN-PLACE CONCRETE INLET BOX DESIGN TABLE NOTES:

- RISER AND BASE SECTIONS WERE DESIGNED BASED ON A 2744 mm (9'-0") MAXIMUM HEIGHT.
- AVOID USING RISER SECTIONS WHEN THE HEIGHT OF THE INLET BOX IS LESS THAN 2744 mm (9'-0").
- WHEN RISER SECTIONS ARE REQUIRED, ALWAYS MAXIMIZE THE HEIGHT OF THE BASE SECTION.
- THE WALL THICKNESS FOR THE RISER SECTION MUST ALWAYS MATCH THE WALL THICKNESS REQUIRED FOR THE BASE SECTION, UNLESS A TRANSITION SLAB IS USED.
- WELDED WIRE FABRIC IS NOT PERMITTED IN CAST-IN-PLACE CONCRETE INLET BOXES.
- HOW TO DETERMINE THE RISER AND BASE BOX DESIGN REQUIREMENTS:
  - DETERMINE THE OVERALL STRUCTURE HEIGHT, H (FINISHED GRADE ELEVATION - BOTTOM SLAB ELEVATION), AND ROUND THE HEIGHT UP TO THE NEXT HIGHER HEIGHT INCREMENT SHOWN IN THE TABLE.
  - GO TO THE APPROPRIATE TABLE AND SELECT THE DESIGN INFORMATION FOR BOTH THE RISER AND BASE SECTIONS BASED ON THE ROUNDED HEIGHT.
  - IF MULTIPLE RISER SECTIONS ARE REQUIRED, USE THE RISER DESIGN REQUIREMENTS SHOWN FOR ALL RISER SECTIONS. DO NOT USE THE DESIGN REQUIREMENTS FOR A LESSER HEIGHT.
- HOW TO DETERMINE THE RISER BOX DESIGN REQUIREMENTS WHEN USING A TRANSITION SLAB:
  - DETERMINE THE TOP OF TRANSITION SLAB ELEVATION AND CALCULATE THE HEIGHT, H (FINISHED GRADE ELEVATION - TOP OF TRANSITION SLAB ELEVATION), AND ROUND THE HEIGHT UP TO THE NEXT HIGHER HEIGHT INCREMENT SHOWN IN THE TABLE.
  - GO TO THE APPROPRIATE TABLE AND SELECT THE DESIGN INFORMATION FOR THE RISER SECTION BASED ON THE REQUIRED HEIGHT.

### PRECAST CONCRETE INLET BOX DESIGN TABLE NOTES:

- RISER AND BASE SECTIONS WERE DESIGNED BASED ON A 2438 mm (8'-0") MAXIMUM HEIGHT.
- WELDED WIRE FABRIC SIZE AND SPACING SHOWN IN THE DESIGN TABLES IS ONLY SUGGESTED. FABRICATOR IS PERMITTED TO USE ANY WIRE SIZE AND SPACING THAT MEETS THE STEEL AREA REQUIREMENTS, CLEARANCE REQUIREMENTS, CLEARANCE REQUIREMENTS BETWEEN TWO REINFORCEMENT MATS AND THE REQUIREMENTS SHOWN IN MATERIAL NOTE 4 ON SHEET 1.
- THE WALL THICKNESS FOR THE RISER SECTIONS DOES NOT NEED TO MATCH THE WALL THICKNESS FOR THE BASE SECTION, ALTHOUGH THE INSIDE FACES MUST ALIGN.
- HOW TO DETERMINE THE BASE DESIGN REQUIREMENTS:
  - DETERMINE THE OVERALL STRUCTURE HEIGHT, H (FINISHED GRADE ELEVATION - BOTTOM SLAB ELEVATION), AND ROUND THE HEIGHT UP TO THE NEXT HIGHER HEIGHT INCREMENT SHOWN IN THE TABLE.
  - GO TO THE APPROPRIATE BASE SECTION TABLE AND SELECT THE DESIGN INFORMATION BASED ON THE ROUNDED HEIGHT.
- HOW TO DETERMINE THE RISER BOX DESIGN REQUIREMENTS:
  - DETERMINE THE JOINT ELEVATION AND CALCULATE THE JOINT DEPTH, JD (FINISHED GRADE ELEVATION - JOINT ELEVATION), AND ROUND THE DEPTH UP TO THE NEXT HIGHER DEPTH INCREMENT SHOWN IN THE TABLE.
  - GO TO THE APPROPRIATE RISER SECTION TABLE AND SELECT THE DESIGN INFORMATION BASED ON THE ROUNDED DEPTH.
  - IF MULTIPLE RISER SECTIONS ARE REQUIRED, SELECT ADDITIONAL RISER SECTIONS DESIGN REQUIREMENTS BASED ON THE JOINT ELEVATION.
- HOW TO DETERMINE THE RISER BOX DESIGN REQUIREMENTS WHEN USING A TRANSITION SLAB:
  - DETERMINE THE TOP OF TRANSITION SLAB ELEVATION AND CALCULATE THE JOINT DEPTH, JD (FINISHED GRADE ELEVATION - TOP OF TRANSITION SLAB ELEVATION), AND ROUND THE DEPTH UP TO THE NEXT HIGHER DEPTH INCREMENT SHOWN IN THE TABLE.
  - GO TO THE APPROPRIATE RISER SECTION TABLE AND SELECT THE DESIGN INFORMATION BASED ON THE ROUNDED DEPTH.
  - IF MULTIPLE RISER SECTIONS ARE REQUIRED, SELECT ADDITIONAL RISER SECTIONS DESIGN REQUIREMENTS BASED ON THE JOINT ELEVATION.
- FABRICATOR IS PERMITTED TO FABRICATE PRECAST CONCRETE INLET BOXES USING A COMBINATION OF REINFORCEMENT BARS AND WELDED WIRE FABRIC (WWF) IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
  - THE MEMBER THICKNESS AND THE REQUIRED AREA OF STEEL MUST MEET THE REQUIREMENTS OF THE REINFORCEMENT BAR DESIGN TABLES SHOWN ON SHEETS 28-33.
  - BAR SIZE AND BAR SPACING MUST MEET THE REQUIREMENTS SHOWN IN MATERIAL NOTE 3 ON SHEET 1.
  - WIRE SIZE AND WIRE SPACING MUST MEET THE REQUIREMENTS SHOWN IN MATERIAL NOTE 4 ON SHEET 1.
  - CLEARANCE REQUIREMENTS AND CLEARANCE REQUIREMENTS BETWEEN TWO REINFORCEMENT MATS MUST BE MET.
- PROVIDE MARKINGS ON EACH SECTION TO CLEARLY IDENTIFY THE MAXIMUM ALLOWABLE DEPTH.

REINFORCEMENT BAR AREAS U.S. CUSTOMARY UNITS	
BAR SIZE AND SPACING	STEEL AREA (IN. <sup>2</sup> /FT.)
#3 @ 4"	0.33
#3 @ 6"	0.22
#3 @ 9"	0.15
#4 @ 4"	0.60
#4 @ 6"	0.40
#4 @ 9"	0.27
#4 @ 12"	0.20
#5 @ 4"	0.93
#5 @ 6"	0.62
#5 @ 9"	0.41
#5 @ 12"	0.31
#6 @ 4"	1.32
#6 @ 6"	0.88
#6 @ 9"	0.59
#6 @ 12"	0.44

REINFORCEMENT BAR AREAS METRIC UNITS	
BAR SIZE AND SPACING	STEEL AREA (mm <sup>2</sup> /m)
#10 @ 102 mm	699
#10 @ 152 mm	466
#10 @ 229 mm	318
#13 @ 102 mm	1270
#13 @ 152 mm	847
#13 @ 229 mm	572
#13 @ 305 mm	424
#16 @ 102 mm	1969
#16 @ 152 mm	1312
#16 @ 229 mm	868
#16 @ 305 mm	656
#19 @ 102 mm	2794
#19 @ 152 mm	1863
#19 @ 229 mm	1249
#19 @ 305 mm	931

### WELDED WIRE FABRIC WIRE SIZES PLAIN (DEFORMED)

U.S. CUSTOMARY SIZES	METRIC SIZES
W4 [D4]	MW26 [MD26]
W5 [D5]	MW32 [MD32]
W6 [D6]	MW39 [MD39]
W7 [D7]	MW45 [MD45]
W8 [D8]	MW52 [MD52]
W9 [D9]	MW58 [MD58]
W10 [D10]	MW65 [MD65]
W12 [D12]	MW77 [MD77]
W14 [D14]	MW90 [MD90]
W16 [D16]	MW103 [MD103]
W20 [D20]	MW129 [MD129]

W AND MW = PLAIN WIRES  
 D AND MD = DEFORMED WIRES

REINFORCEMENT BAR SPLICE LENGTHS		
BAR SIZE	CAST-IN-PLACE CONCRETE (CLASS A) f'c = 21 MPa (3000 psi)	PRECAST CONCRETE (CLASS AA, MODIFIED) f'c = 28 MPa (4000 psi)
#10 (#3)	410 mm (1'-4")	410 mm (1'-4")
#13 (#4)	550 mm (1'-9")	550 mm (1'-9")
#16 (#5)	675 mm (2'-2")	675 mm (2'-2")
#19 (#6)	850 mm (2'-9")	800 mm (2'-7")
#22 (#7)	1150 mm (3'-9")	1000 mm (3'-3")
#25 (#8)	1500 mm (4'-11")	1300 mm (4'-3")
#29 (#9)	1900 mm (6'-3")	1650 mm (5'-5")
#32 (#10)	2425 mm (7'-11")	2100 mm (6'-10")
#36 (#11)	2950 mm (9'-9")	2575 mm (8'-5")

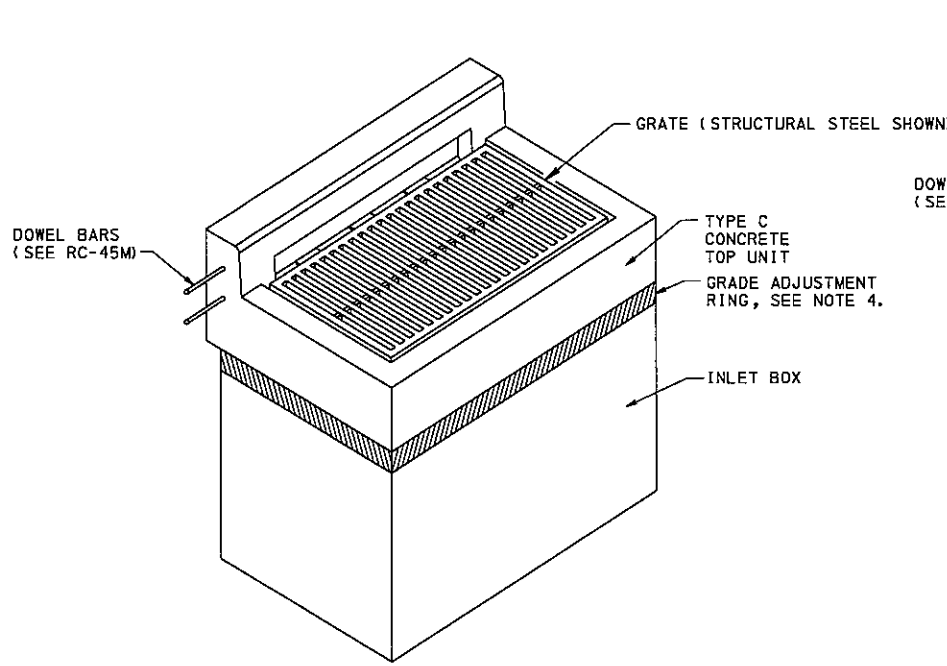
#### NOTES:

- SPLICE LENGTHS BASED ON UNCOATED DEFORMED BARS.
- SPLICE LENGTHS BASED ON CLASS C SPLICE.

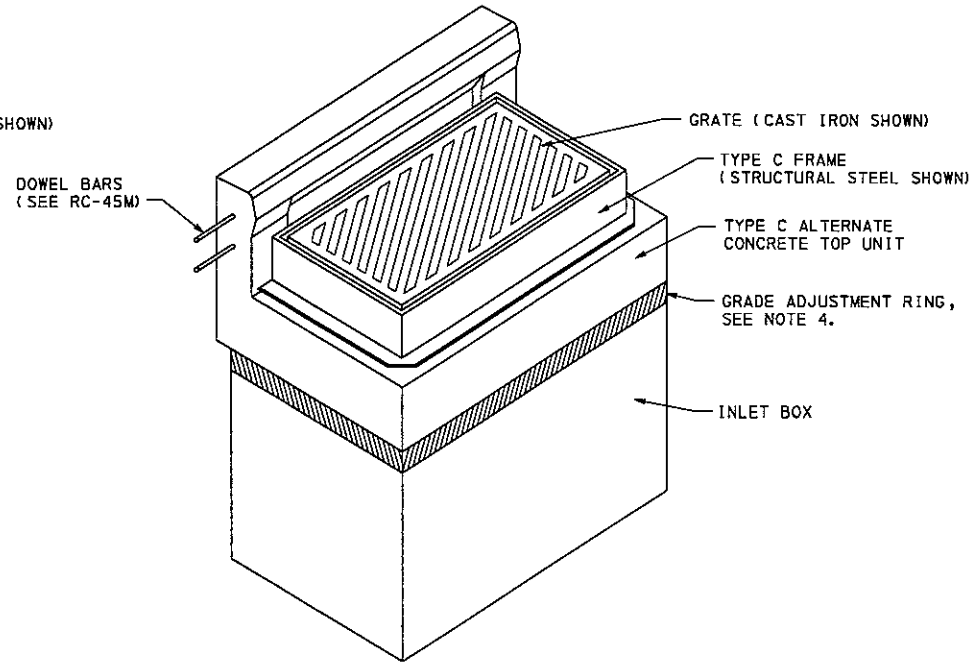
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

### COMMONWEALTH OF PENNSYLVANIA DEPARTMENT OF TRANSPORTATION BUREAU OF DESIGN

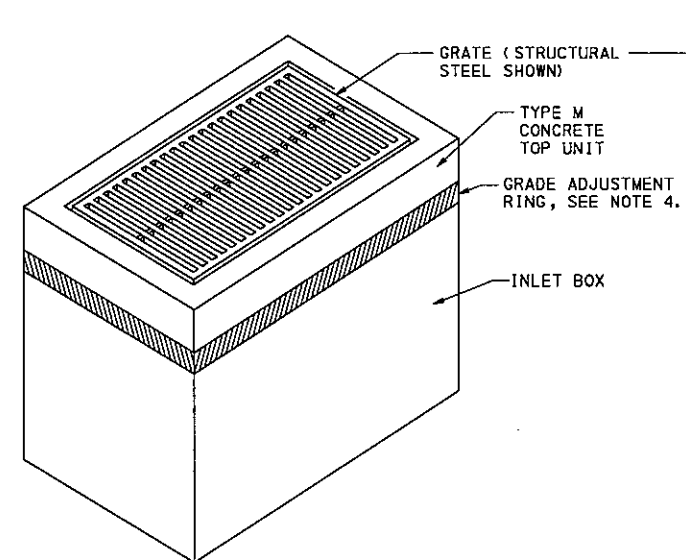
### INLET BOXES GENERAL NOTES - 3



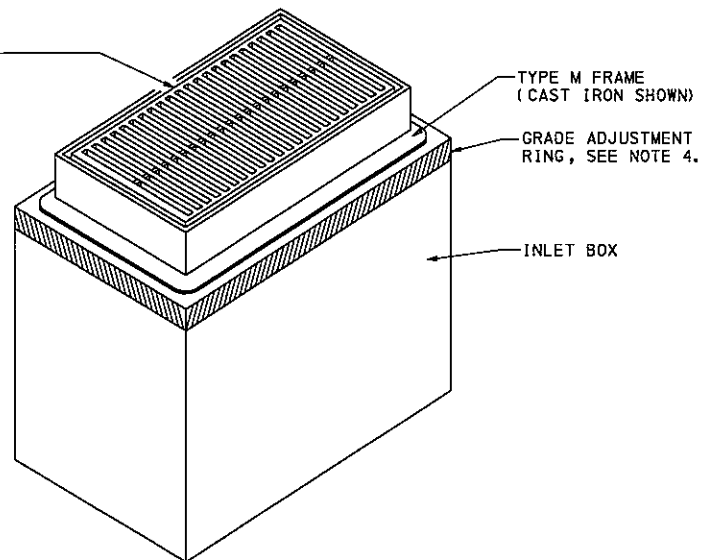
CONCRETE TOP UNIT - TYPE C



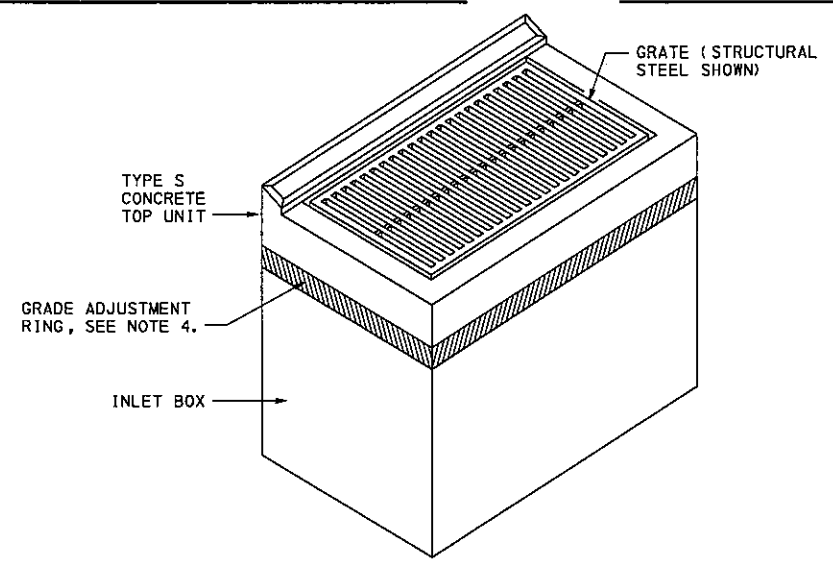
CONCRETE TOP UNIT - TYPE C ALTERNATE WITH TYPE C FRAME



CONCRETE TOP UNIT - TYPE M



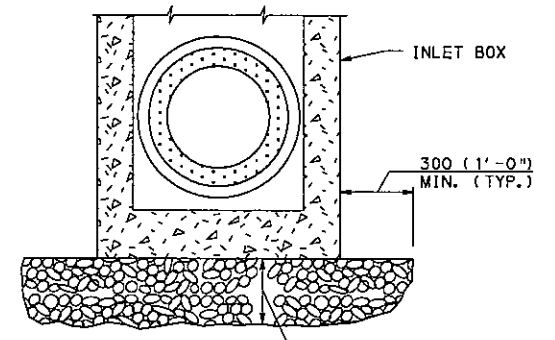
INLET BOX WITH TYPE M FRAME



CONCRETE TOP UNIT - TYPE S

**NOTES:**

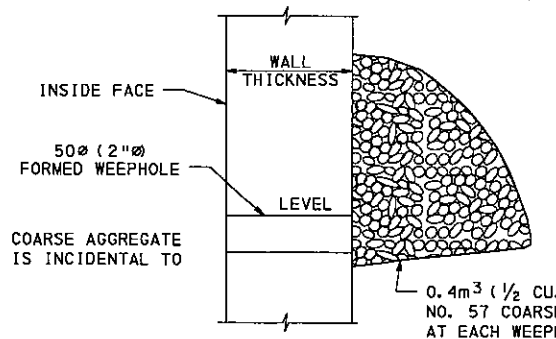
1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
2. STANDARD INLET BOXES SHOWN, PROVIDE TOP SLABS FOR OTHER INLET BOX TYPES.
3. SEE RC-45M FOR DETAILS FOR THE CONCRETE TOP UNITS, FRAMES, AND GRATES.
4. PROVIDE GRADE ADJUSTMENT RINGS WHEN REQUIRED. SEE RC-45M FOR DETAILS.



NOTE: COST OF NO. 2A COARSE AGGREGATE IS INCIDENTAL TO THE INLET BOX.

INLET BOX SUBBASE PREPARATION DETAIL

(SEE FIELD CONSTRUCTION NOTES ON SHEET 1)



NOTE: COST OF NO. 57 COARSE AGGREGATE AND GEOTEXTILE IS INCIDENTAL TO THE INLET BOX.

WEEPHOLE DETAIL

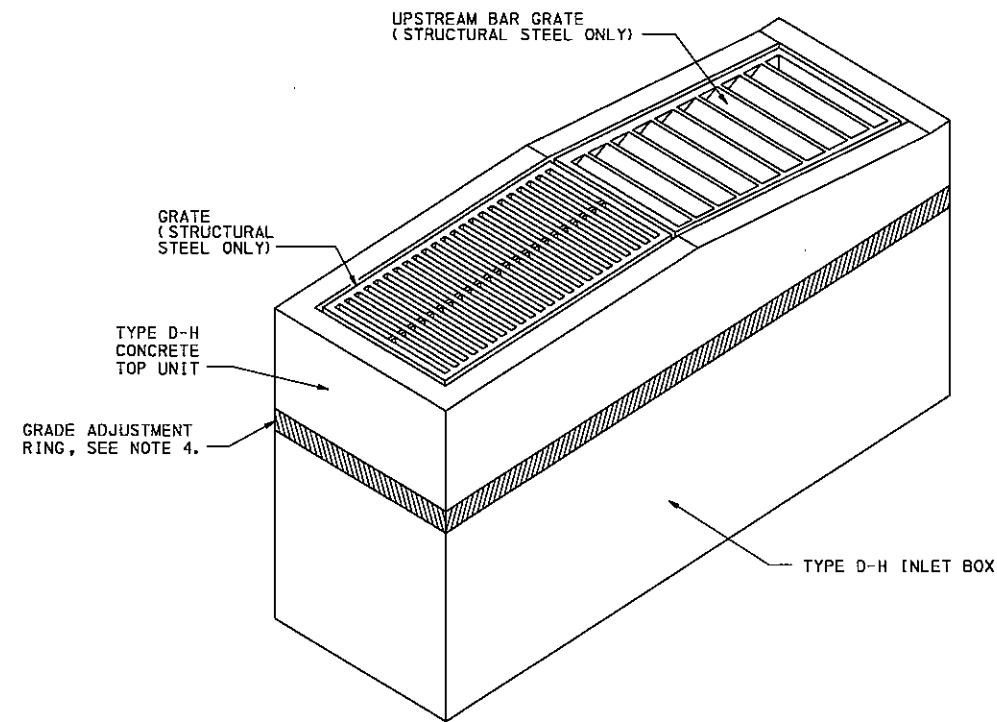
(SEE GENERAL NOTE 15 ON SHEET 1)

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

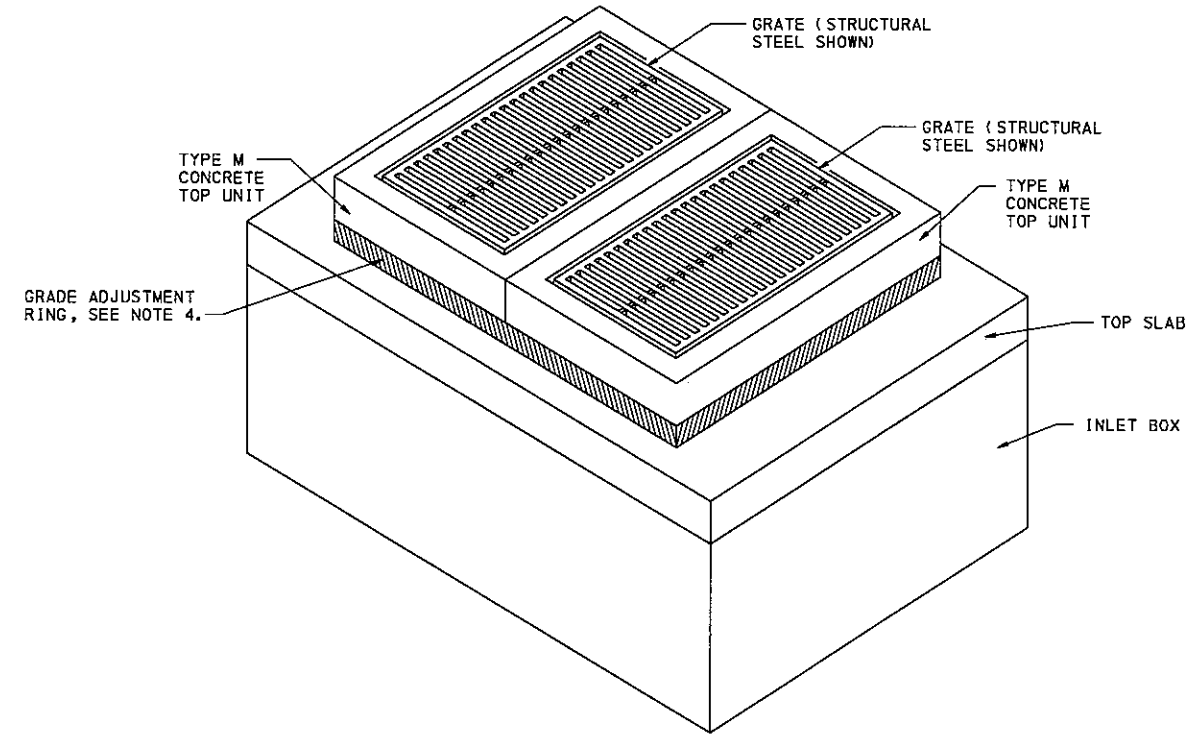
**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
 BUREAU OF DESIGN

**INLET BOXES**  
**INLET ASSEMBLIES - 1**

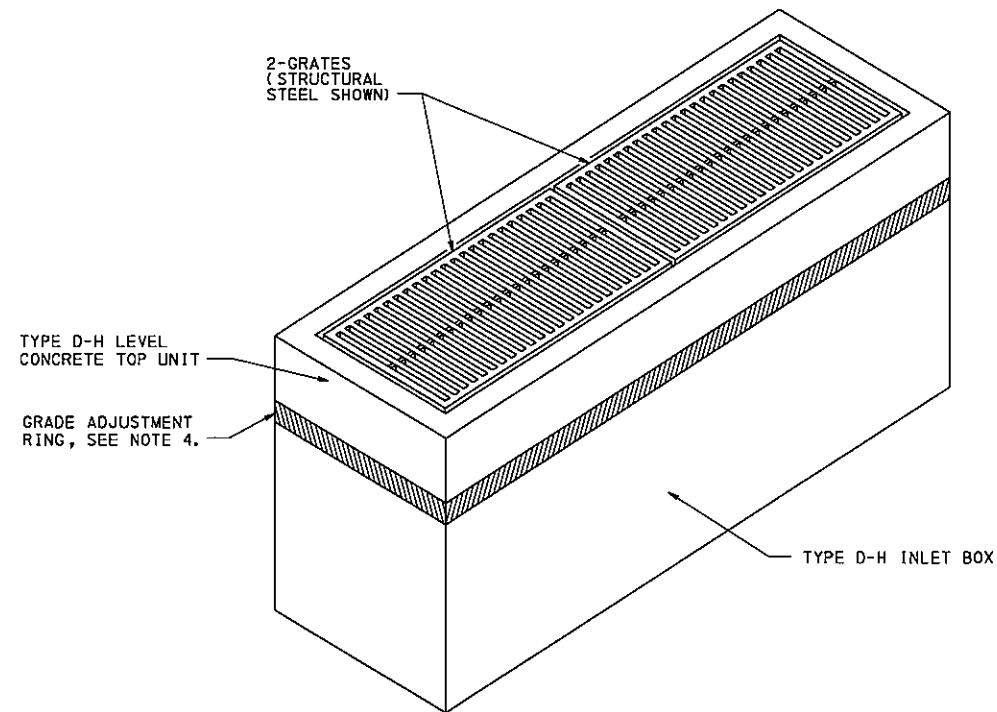




CONCRETE TOP UNIT - TYPE D-H



CONCRETE TOP UNIT - DOUBLE TYPE M



CONCRETE TOP UNIT - TYPE D-H LEVEL

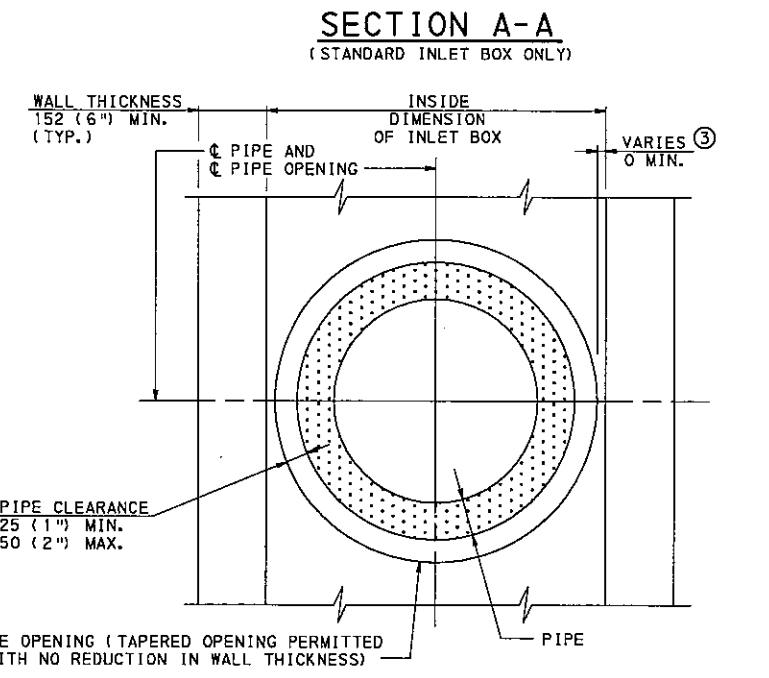
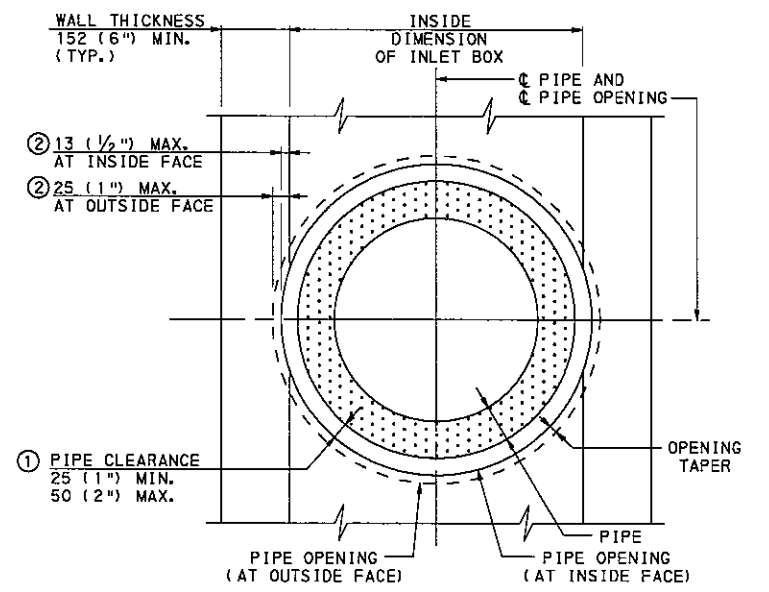
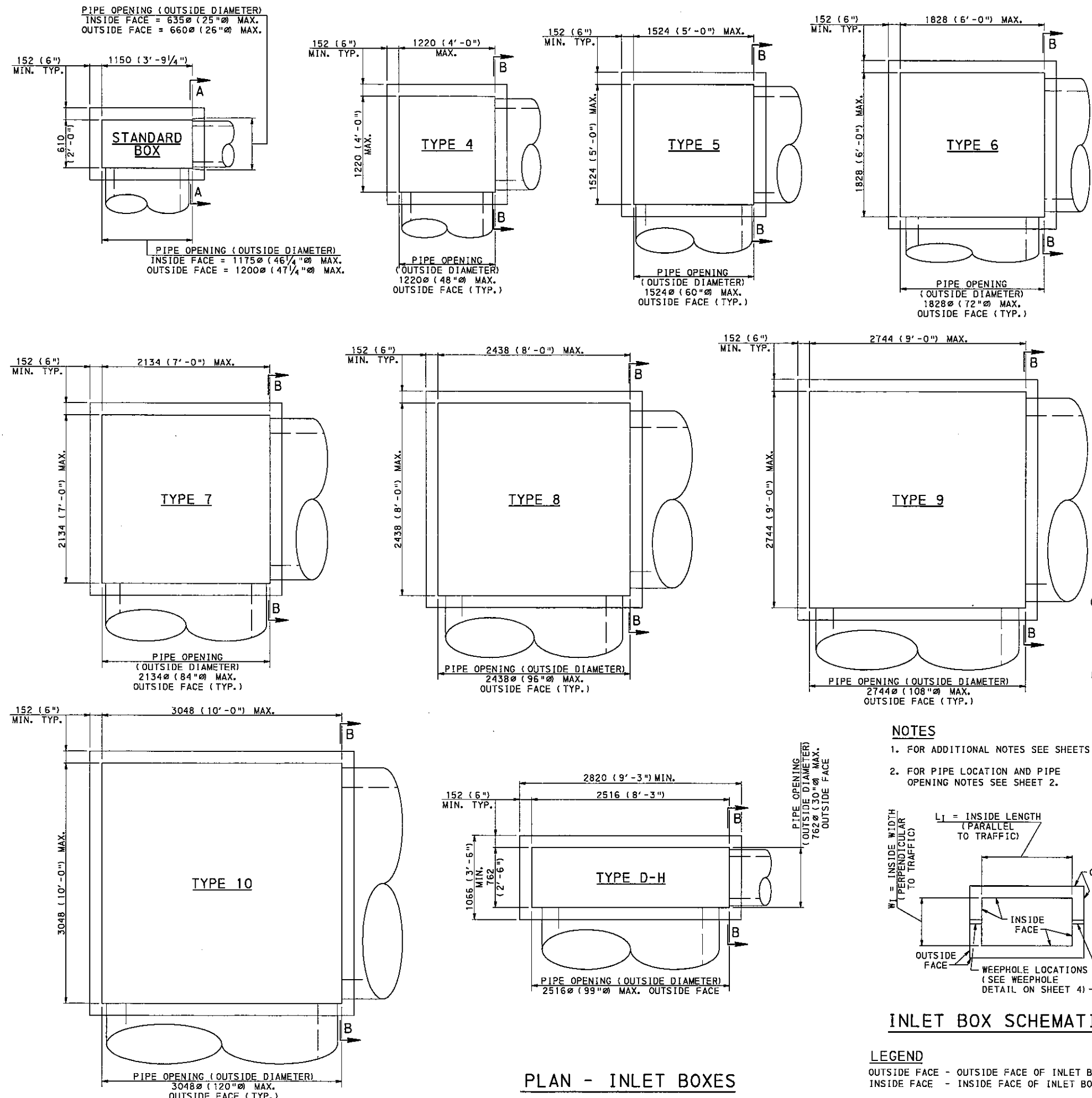
**NOTES:**

1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
2. TOP SLAB NOT PERMITTED ON TYPE D-H INLET BOX.
3. SEE RC-45M FOR DETAILS FOR THE CONCRETE TOP UNITS, FRAMES, AND GRATES.
4. PROVIDE GRADE ADJUSTMENT RINGS WHEN REQUIRED. SEE RC-45M FOR DETAILS.

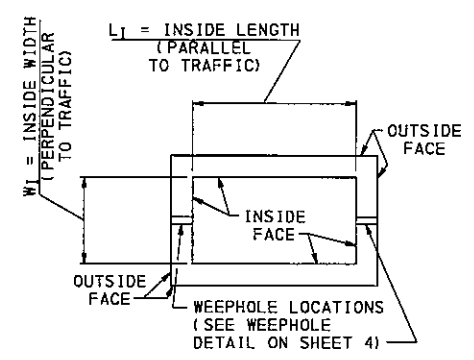
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET BOXES  
INLET ASSEMBLIES - 2



- NOTES**
- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
  - FOR PIPE LOCATION AND PIPE OPENING NOTES SEE SHEET 2.



- LEGEND**
- OUTSIDE FACE - OUTSIDE FACE OF INLET BOX WALL
  - INSIDE FACE - INSIDE FACE OF INLET BOX WALL

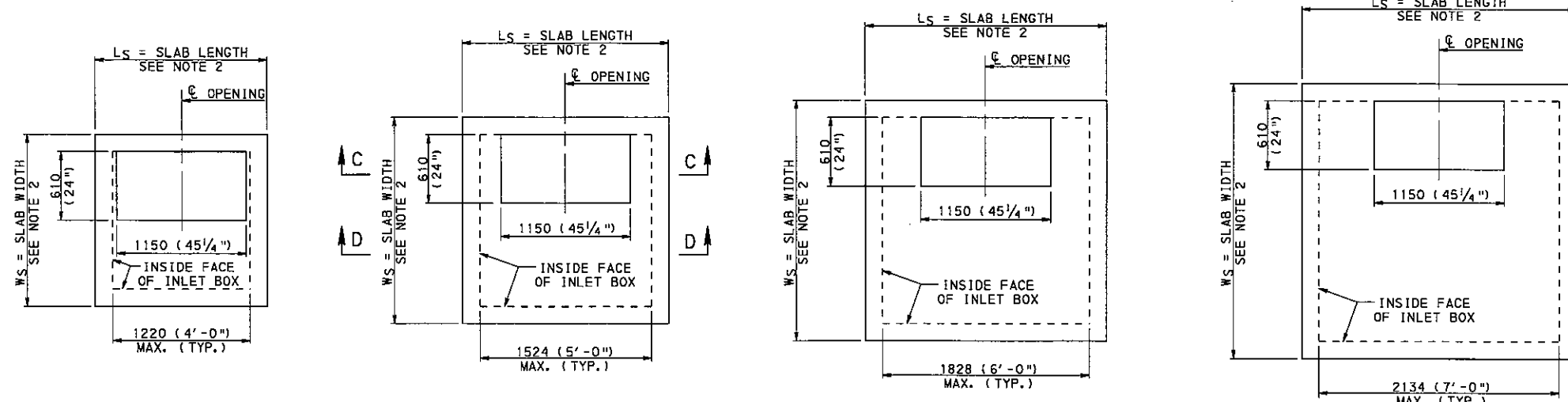
- LEGEND**
- OUTSIDE DIAMETER OF PIPE TO PIPE OPENING
  - REDUCTION IN WALL THICKNESS DIMENSION
  - INSIDE FACE OF BOX WALL TO OUTSIDE DIAMETER OF PIPE OPENING

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

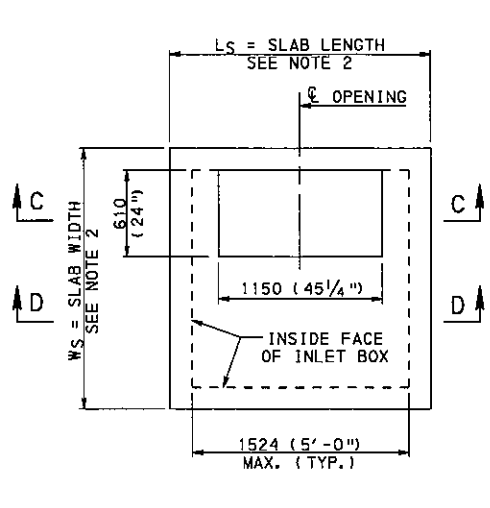
COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET BOXES  
INLET BOX TYPES

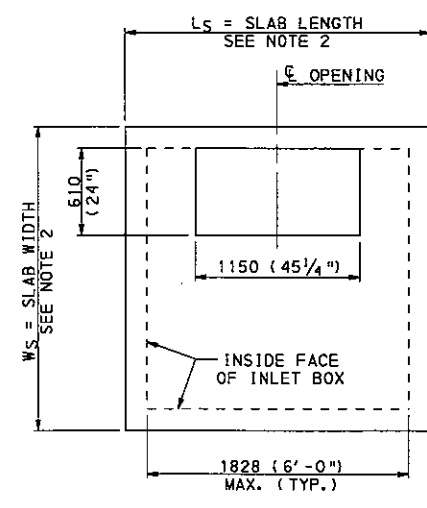
PLAN - INLET BOXES



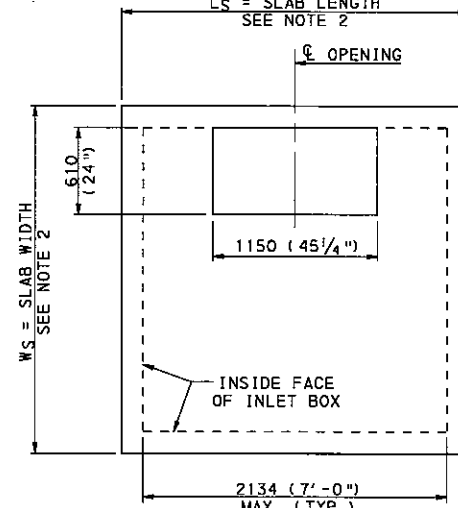
FOR TYPE 4 INLET BOX



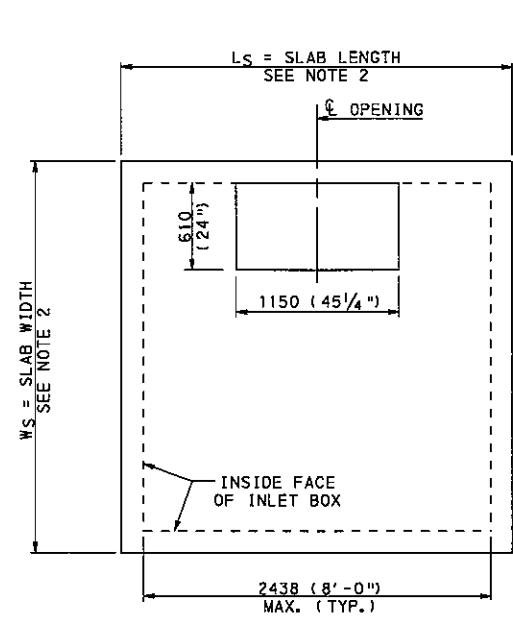
FOR TYPE 5 INLET BOX



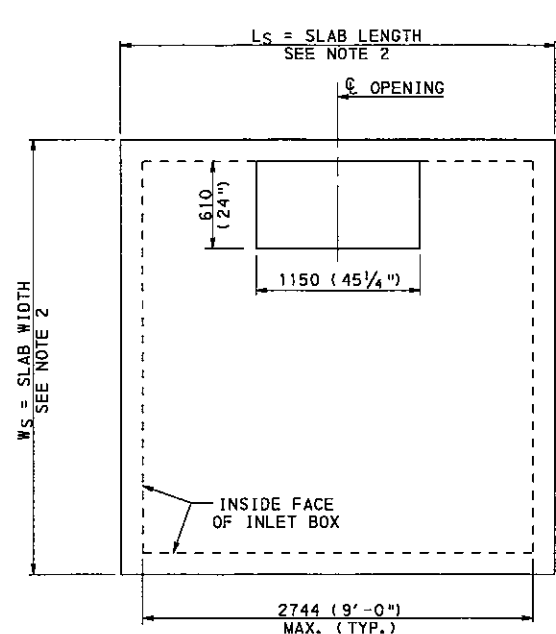
FOR TYPE 6 INLET BOX



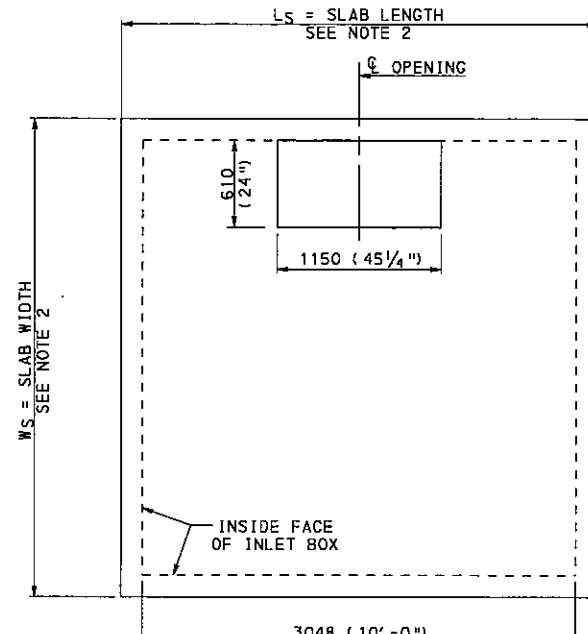
FOR TYPE 7 INLET BOX



FOR TYPE 8 INLET BOX

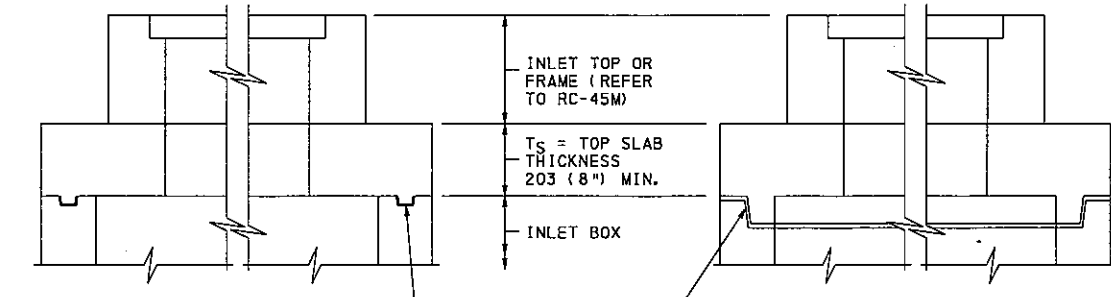


FOR TYPE 9 INLET BOX



FOR TYPE 10 INLET BOX

PLAN - TOP SLABS  
(WITH STANDARD OPENING)



FOR CAST-IN-PLACE INLET BOXES

FOR PRECAST INLET BOXES

SECTION C-C  
(TYPICAL)

NOTE: GRADE ADJUSTMENT RINGS NOT SHOWN

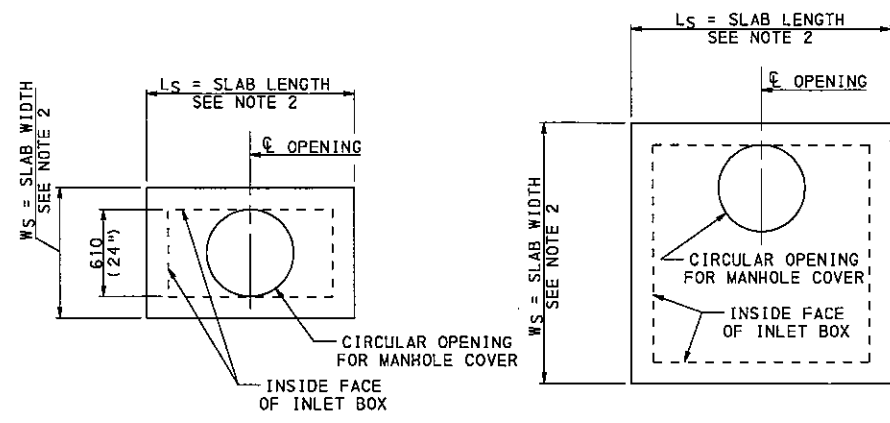
NOTES:

1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
2. OUT TO OUT DIMENSIONS OF TOP SLABS TO MATCH SIZE OF INLET BOX.
3. SET EDGE OF OPENING AT INSIDE FACE OF INLET BOX FOR ACCESS, IF POSSIBLE.
4. FOR SECTION D-D AND REINFORCEMENT REQUIREMENTS SEE SHEET 8.
5. FOR ADDITIONAL REINFORCEMENT AROUND OPENINGS SEE SHEETS 9 & 10.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

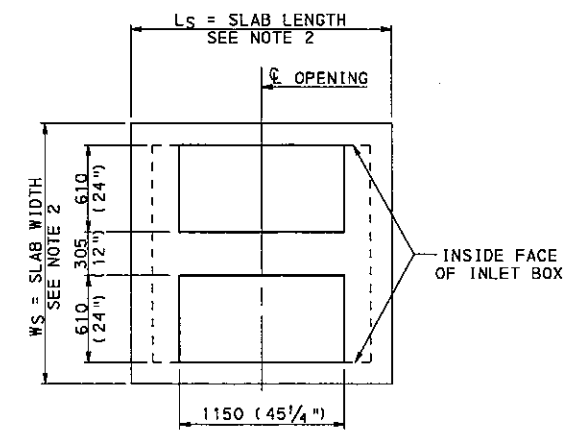
COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET BOXES  
TOP SLABS - 1

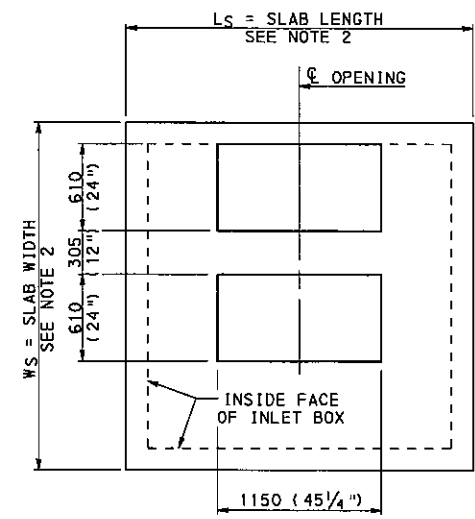


STANDARD INLET BOX

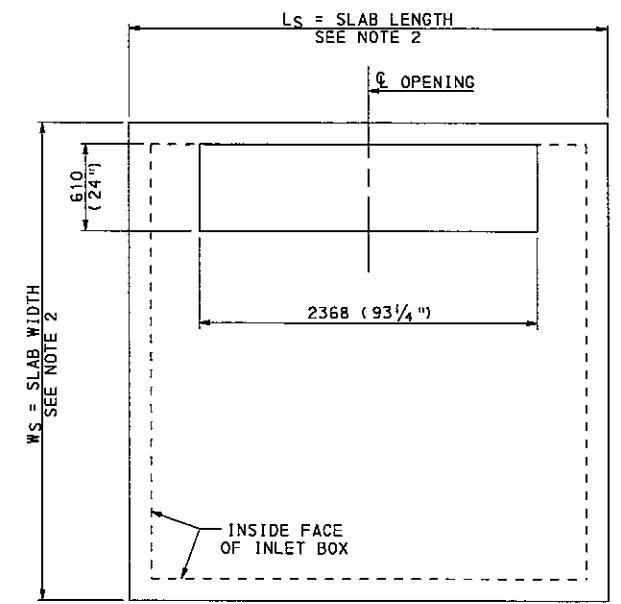
OTHER INLET BOXES



TYPE 5 INLET BOX



OTHER INLET BOXES  
(TYPE 6, 7, 8, 9 AND 10)

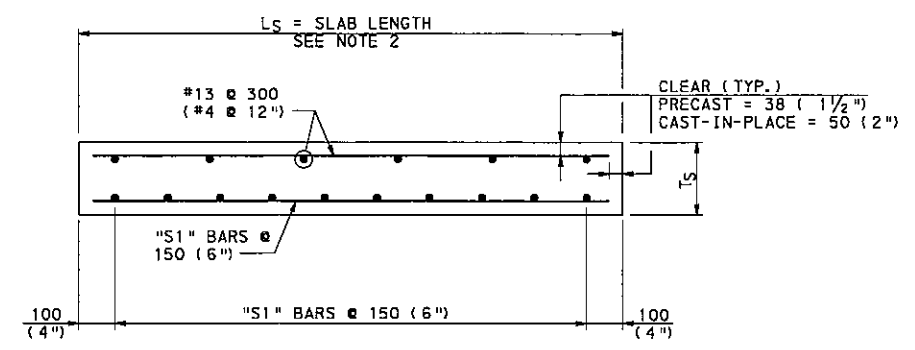


PLAN - TOP SLAB  
FOR TYPE D-H  
CONCRETE TOP UNITS  
TYPES 8, 9 OR 10  
INLET BOXES ONLY

PLAN - TOP SLAB FOR  
OPTIONAL ROUND OPENING  
FOR MANHOLE COVER

- CIRCULAR OPENINGS:
- THE FOLLOWING CIRCULAR OPENINGS ARE PERMITTED:  
610 mm (24")  $\varnothing$   
686 mm (27")  $\varnothing$   
762 mm (30")  $\varnothing$
  - FOR A STANDARD BOX, ONLY A 610 mm (24")  $\varnothing$  OPENING IS PERMITTED.

PLAN - TOP SLAB  
FOR DOUBLE TYPE M  
CONCRETE TOP UNIT  
NOT APPLICABLE FOR STANDARD  
OR TYPE 4 INLET BOXES



SECTION D-D  
(ADDITIONAL REINFORCEMENT NOT SHOWN)

TOP SLAB  
CAST-IN-PLACE CONCRETE  
U. S. CUSTOMARY UNITS

INLET BOX TYPE	T <sub>S</sub> (IN.)	S <sub>1</sub> (BAR SIZE)
STANDARD	8	#6
TYPE 4	12	#7
TYPE 5	14	#8
TYPE 6	14	#8
TYPE 7	14	#9
TYPE 8	14	#9
TYPE 9	14	#9
TYPE 10	14	#9

TOP SLAB  
CAST-IN-PLACE CONCRETE  
METRIC UNITS

INLET BOX TYPE	T <sub>S</sub> (mm)	S <sub>1</sub> (BAR SIZE)
STANDARD	203	#19
TYPE 4	305	#22
TYPE 5	356	#25
TYPE 6	356	#25
TYPE 7	356	#29
TYPE 8	356	#29
TYPE 9	356	#29
TYPE 10	356	#29

TOP SLAB  
PRECAST CONCRETE  
U. S. CUSTOMARY UNITS

INLET BOX TYPE	T <sub>S</sub> (IN.)	S <sub>1</sub> (BAR SIZE)
STANDARD	8	#6
TYPE 4	10	#8
TYPE 5	12	#9
TYPE 6	12	#9
TYPE 7	14	#9
TYPE 8	14	#9
TYPE 9	14	#9
TYPE 10	14	#9

TOP SLAB  
PRECAST CONCRETE  
METRIC UNITS

INLET BOX TYPE	T <sub>S</sub> (mm)	S <sub>1</sub> (BAR SIZE)
STANDARD	203	#19
TYPE 4	254	#25
TYPE 5	305	#29
TYPE 6	305	#29
TYPE 7	356	#29
TYPE 8	356	#29
TYPE 9	356	#29
TYPE 10	356	#29

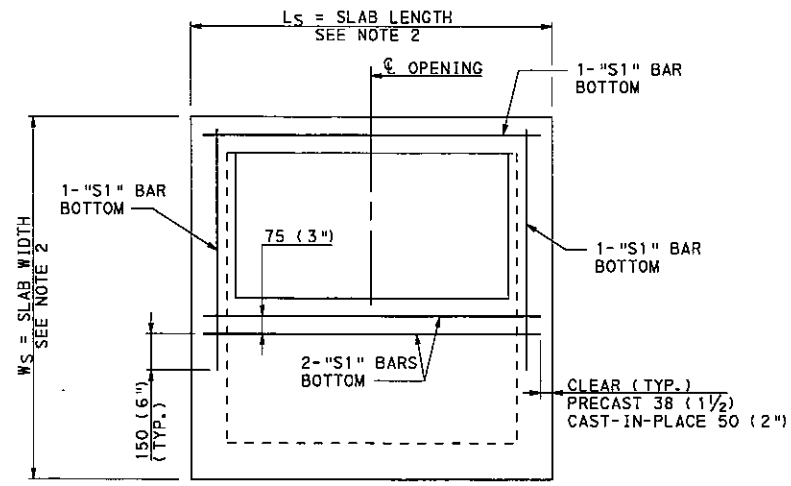
NOTES:

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- OUT TO OUT DIMENSIONS OF TOP SLABS TO MATCH SIZE OF INLET BOX.
- SET EDGE OF OPENING AT INSIDE FACE OF INLET BOX FOR ACCESS, IF POSSIBLE.
- FOR ADDITIONAL REINFORCEMENT AROUND OPENINGS SEE SHEETS 9 & 10.

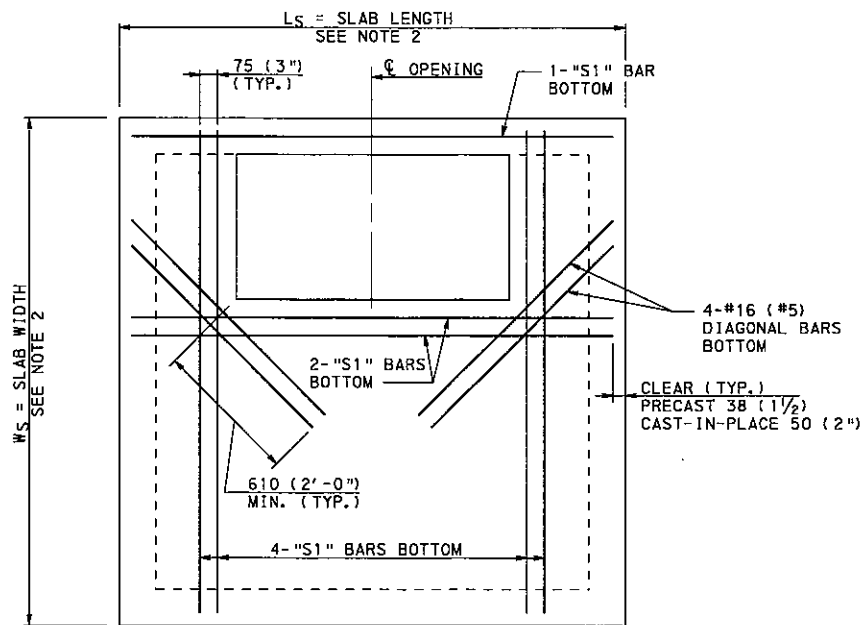
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET BOXES  
TOP SLABS - 2

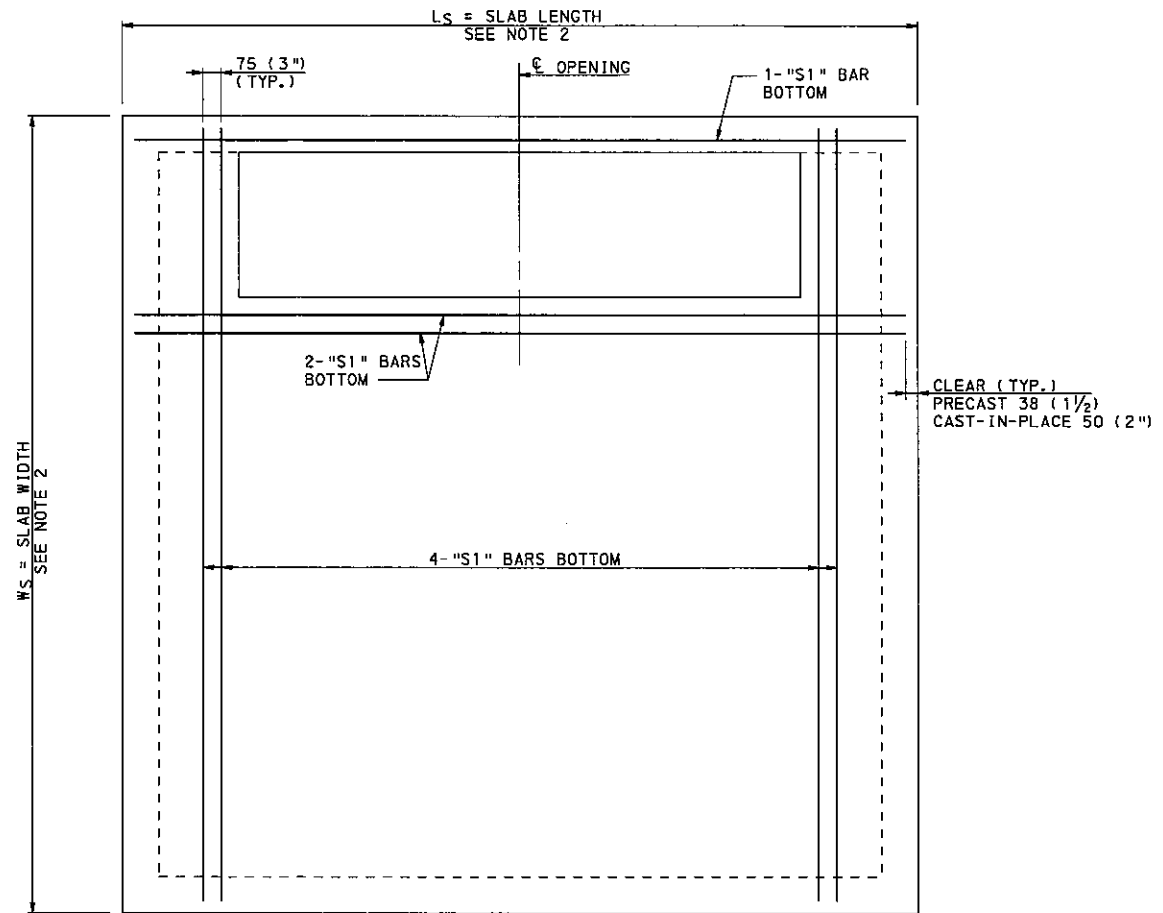


FOR TYPE 4 AND 5 INLET BOX



FOR TYPE 6, 7, 8, 9 AND 10 INLET BOX

**ADDITIONAL REINFORCING AT RECTANGULAR OPENINGS IN TOP SLAB**  
(FOR ADDITIONAL INFORMATION SEE SHEET B)



**ADDITIONAL REINFORCING AT RECTANGULAR OPENING IN TOP SLAB FOR TYPE D-H CONCRETE TOP UNITS**  
(FOR ADDITIONAL INFORMATION SEE SHEET B)

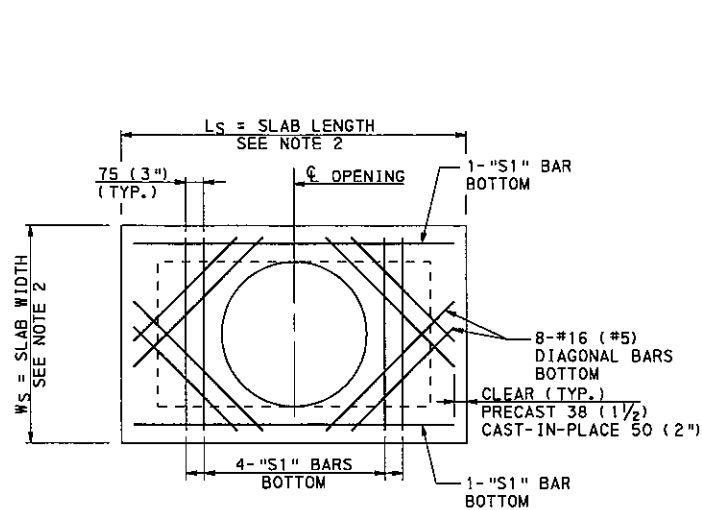
**NOTES:**

1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
2. OUT TO OUT DIMENSIONS OF TOP SLABS TO MATCH SIZE OF INLET BOX.
3. FOR REINFORCEMENT REQUIREMENTS SEE SHEET B.

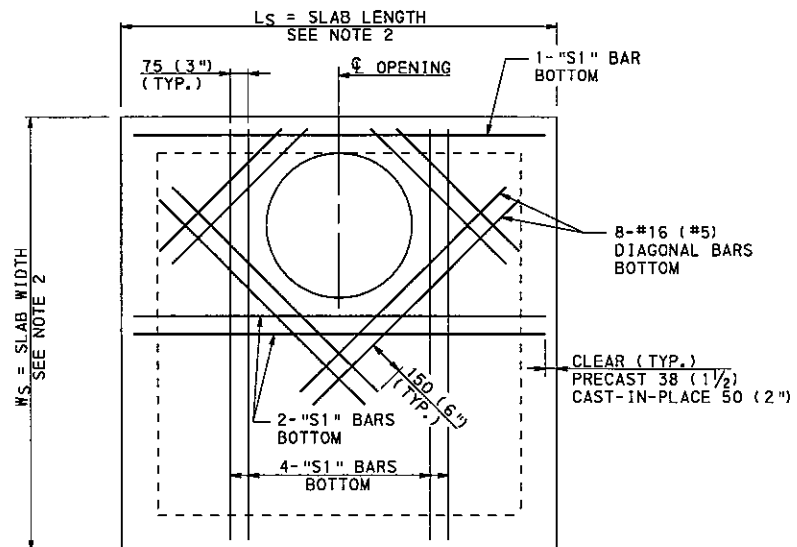
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET BOXES  
TOP SLABS - 3



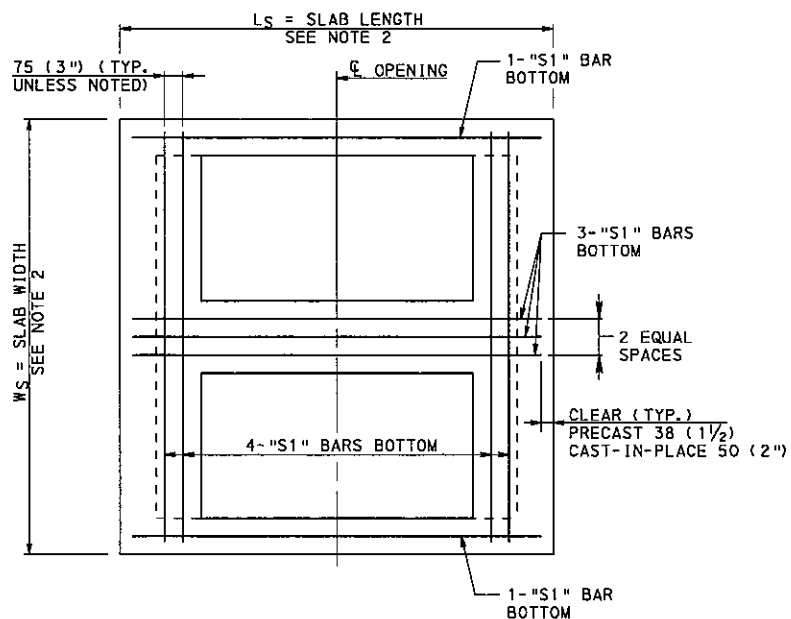
STANDARD INLET BOX



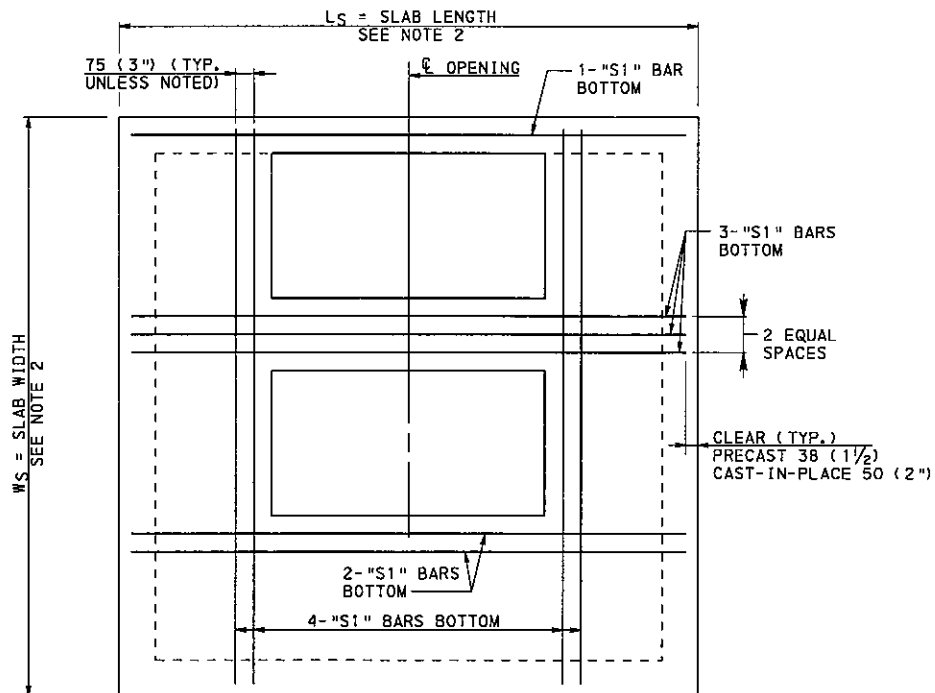
OTHER INLET BOXES

**ADDITIONAL REINFORCING AT ROUND OPENING IN TOP SLAB**

(FOR ADDITIONAL INFORMATION SEE SHEET 8)



TYPE 5 INLET BOX



OTHER INLET BOXES  
(TYPE 6, 7, 8, 9 AND 10)

**ADDITIONAL REINFORCING AT RECTANGULAR OPENINGS IN TOP SLAB FOR DOUBLE TYPE M CONCRETE TOP UNIT**

(FOR ADDITIONAL INFORMATION SEE SHEET 8)

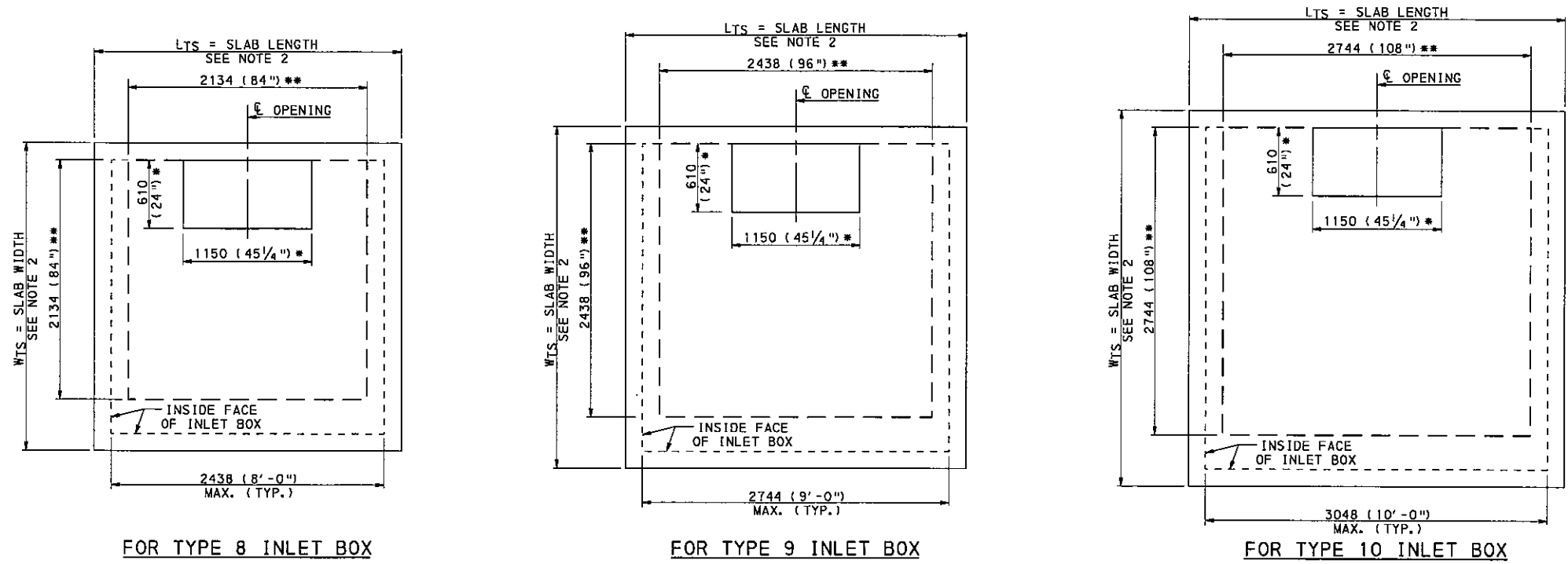
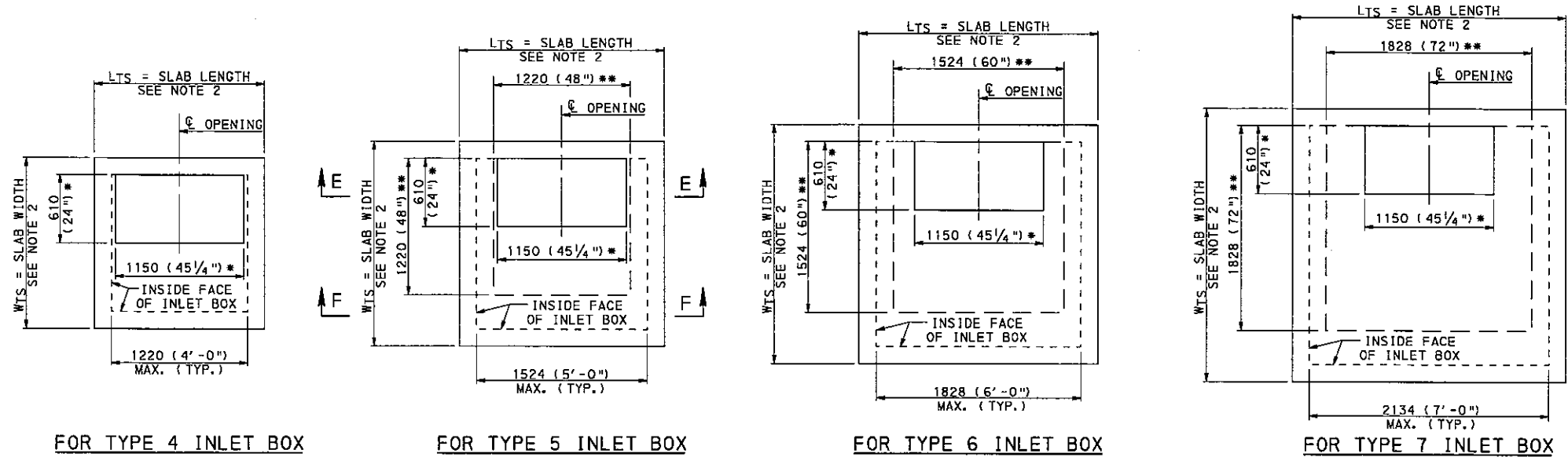
**NOTES:**

1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
2. OUT TO OUT DIMENSIONS OF TOP SLABS TO MATCH SIZE OF INLET BOX.
3. FOR REINFORCEMENT REQUIREMENTS SEE SHEET 8.

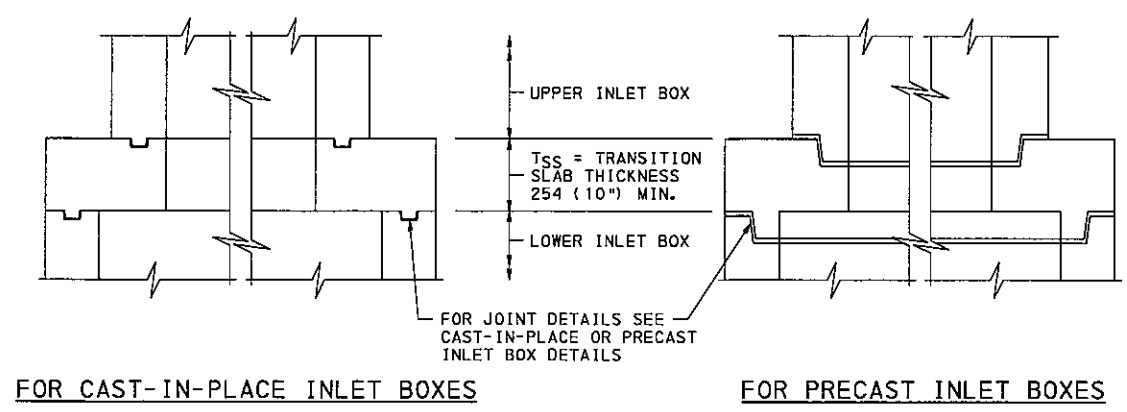
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

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DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET BOXES  
TOP SLABS - 4



**PLAN - TRANSITION SLABS**



**SECTION E-E  
(TYPICAL)**

- \* MIN. OPENING - SIZED FOR STANDARD INLET BOX
- \*\* MAX. OPENING - SIZED FOR NEXT SMALLER INLET BOX

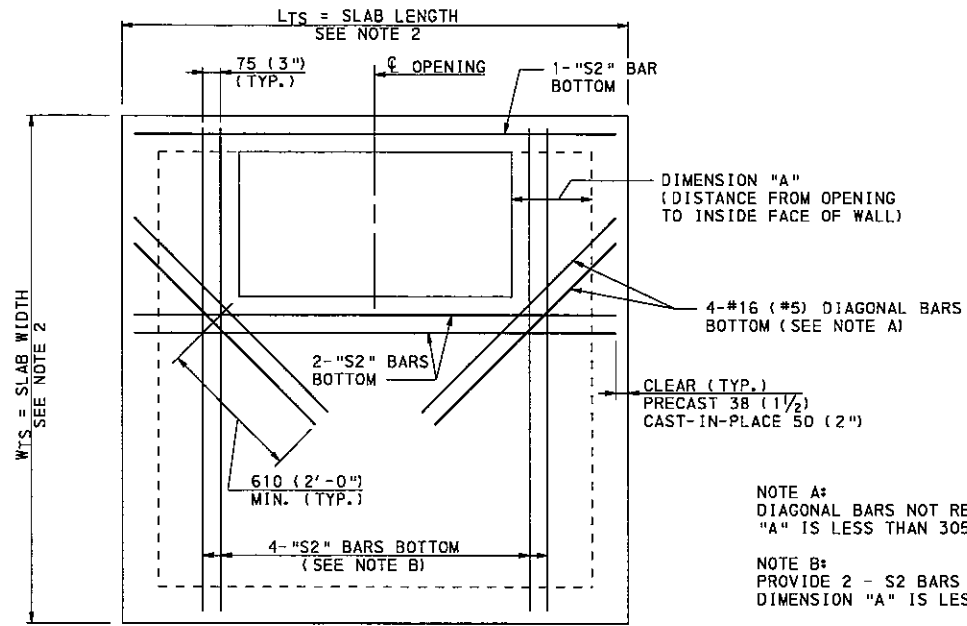
**NOTES:**

1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
2. OUT TO OUT DIMENSIONS OF TRANSITION SLAB TO MATCH SIZE OF LOWER INLET BOX.
3. SET EDGE OF OPENING AT INSIDE FACE OF INLET BOX FOR ACCESS, IF POSSIBLE.
4. FOR SECTION F-F AND REINFORCEMENT REQUIREMENTS SEE SHEET 12.
5. FOR ADDITIONAL REINFORCEMENT AROUND OPENINGS SEE SHEET 12.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

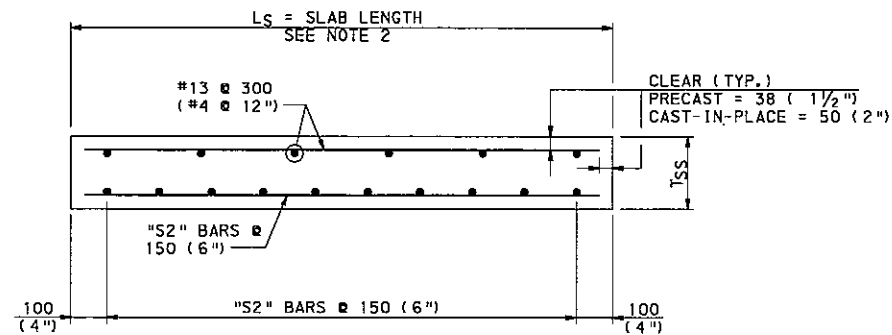
**INLET BOXES  
TRANSITION SLABS - 1**



NOTE A:  
DIAGONAL BARS NOT REQUIRED WHEN DIMENSION "A" IS LESS THAN 305 mm (1'-0")

NOTE B:  
PROVIDE 2 - S2 BARS (1 - EACH SIDE) WHEN DIMENSION "A" IS LESS THAN 152 mm (6")

**ADDITIONAL REINFORCING AT OPENINGS IN TRANSITION SLAB**



**SECTION F-F**  
(ADDITIONAL REINFORCEMENT NOT SHOWN)

TRANSITION SLAB CAST-IN-PLACE CONCRETE U. S. CUSTOMARY UNITS			
BOTTOM BOX TYPE	TSS (IN.)	S2 (BAR SIZE)	MAXIMUM INSTALLATION DEPTH (FT.)*
TYPE 4	12	#6	25.0
TYPE 5	12	#8	24.0
TYPE 6	15	#8	23.0
TYPE 7	18	#10	22.0
TYPE 8	21	#10	21.0
TYPE 9	21	#11	20.0
TYPE 10	24	#11	19.0

TRANSITION SLAB CAST-IN-PLACE CONCRETE METRIC UNITS			
BOTTOM BOX TYPE	TSS (mm)	S2 (BAR SIZE)	MAXIMUM INSTALLATION DEPTH (mm)*
TYPE 4	305	#19	7620
TYPE 5	305	#25	7315
TYPE 6	381	#25	7010
TYPE 7	457	#32	6706
TYPE 8	533	#32	6400
TYPE 9	533	#36	6096
TYPE 10	610	#36	5791

TRANSITION SLAB PRECAST CONCRETE U. S. CUSTOMARY UNITS			
BOTTOM BOX TYPE	TSS (IN.)	S2 (BAR SIZE)	MAXIMUM INSTALLATION DEPTH (FT.)*
TYPE 4	10	#7	25.0
TYPE 5	12	#8	24.0
TYPE 6	14	#9	23.0
TYPE 7	16	#11	22.0
TYPE 8	18	#11	21.0
TYPE 9	22	#11	20.0
TYPE 10	24	#11	19.0

TRANSITION SLAB PRECAST CONCRETE METRIC UNITS			
BOTTOM BOX TYPE	TSS (mm)	S2 (BAR SIZE)	MAXIMUM INSTALLATION DEPTH (mm)*
TYPE 4	254	#22	7620
TYPE 5	305	#25	7315
TYPE 6	356	#29	7010
TYPE 7	406	#36	6706
TYPE 8	457	#36	6400
TYPE 9	559	#36	6096
TYPE 10	610	#36	5791

\* MAXIMUM INSTALLATION DEPTH = FINISHED GRADE ELEVATION - BOTTOM OF TRANSITION SLAB ELEVATION.

**NOTES:**

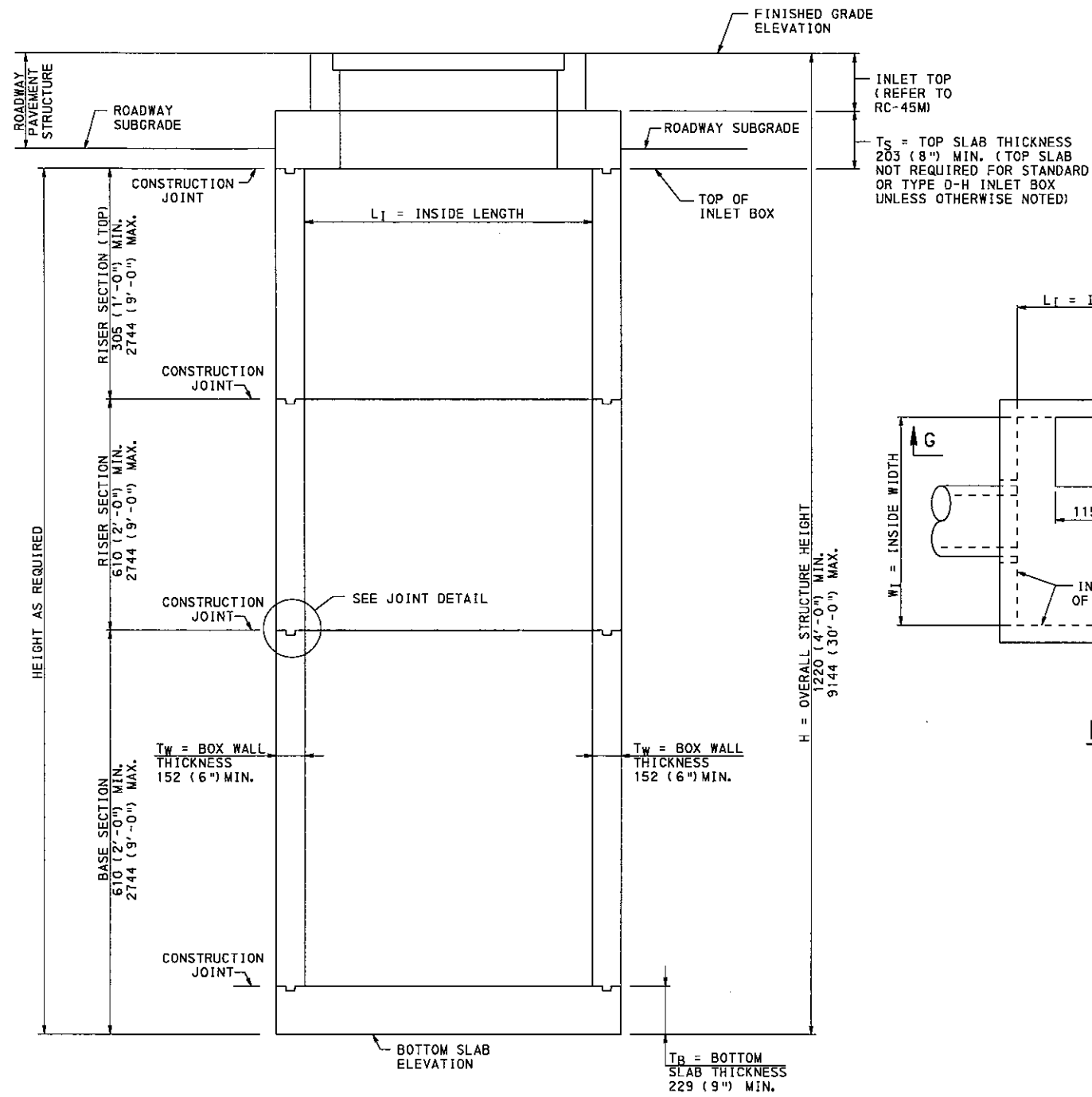
1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
2. OUT TO OUT DIMENSIONS OF TRANSITION SLAB TO MATCH SIZE OF LOWER INLET BOX.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
BUREAU OF DESIGN

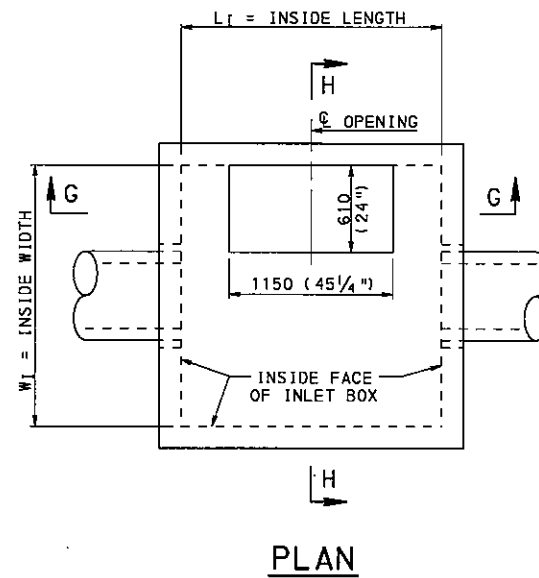
**INLET BOXES**  
**TRANSITION SLABS - 2**



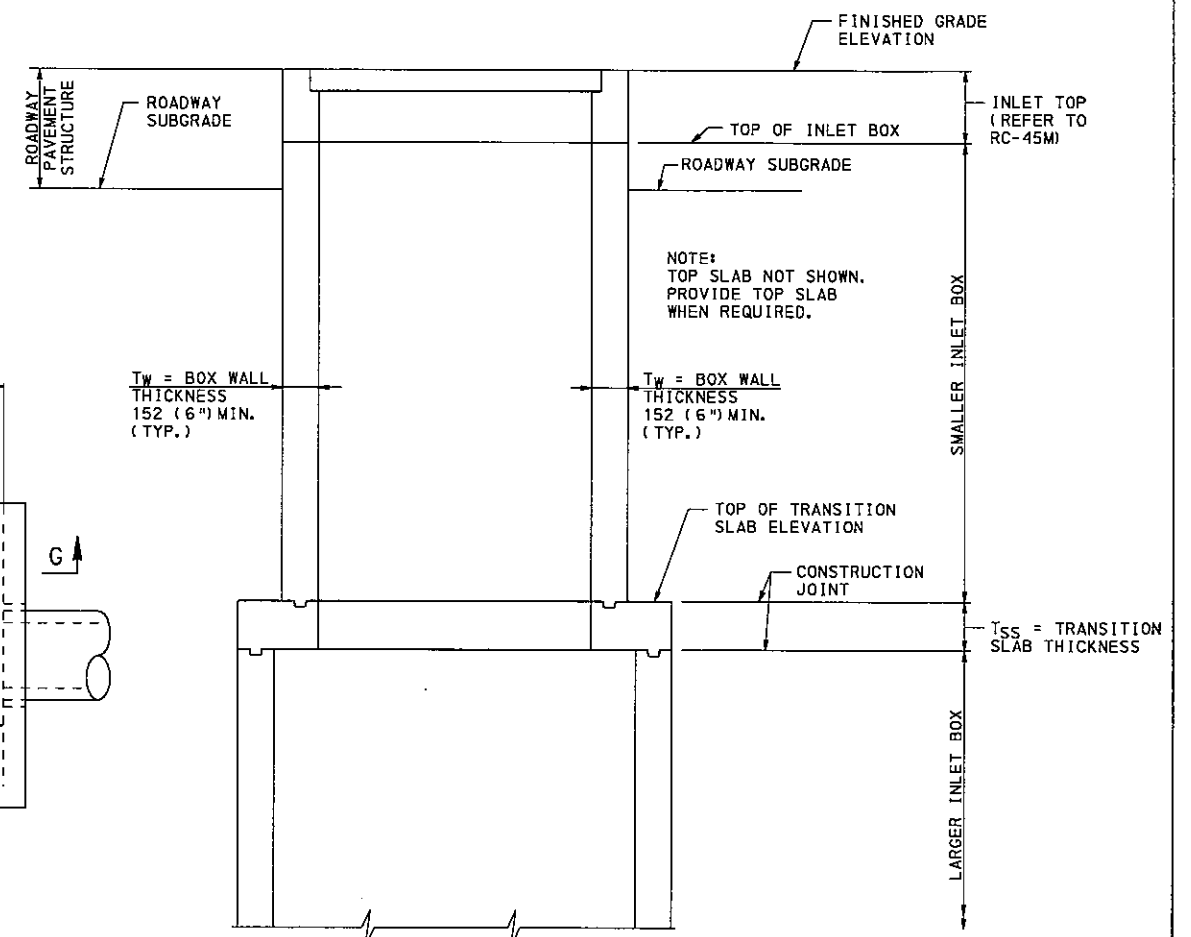


**SECTION G-G**  
SAME SIZE INLET BOX FULL HEIGHT  
WITH TOP SLAB AND INLET TOP

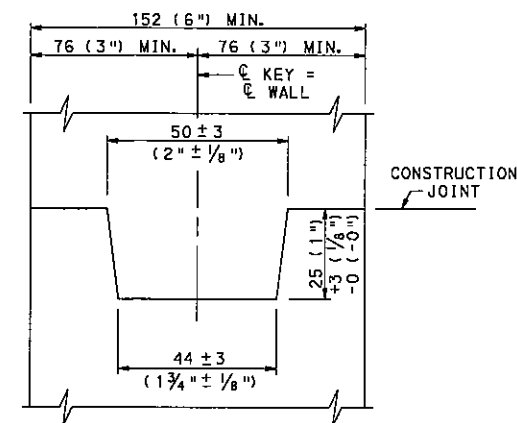
$T_s$  = TOP SLAB THICKNESS  
203 (8") MIN. (TOP SLAB  
NOT REQUIRED FOR STANDARD  
OR TYPE D-H INLET BOX  
UNLESS OTHERWISE NOTED)



**PLAN**



**SECTION G-G**  
LARGER INLET BOX TO SMALLER INLET BOX  
WITH TRANSITION SLAB AND INLET TOP



**JOINT DETAIL (CAST-IN-PLACE)**

**NOTES:**

1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
2. FOR INLET BOX TYPES SEE SHEET 6.
3. FOR TOP SLAB DETAILS SEE SHEETS 7 - 10.
4. FOR TRANSITION SLAB DETAILS SEE SHEETS 11 & 12.
5. FOR SECTION H-H SEE SHEET 14.
6. FOR REINFORCEMENT DETAILS SEE SHEET 15 & 16.
7. FOR DESIGN TABLES SEE SHEETS 17 - 22.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES  
MUST BE USED ON PLANS. METRIC AND  
ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
BUREAU OF DESIGN

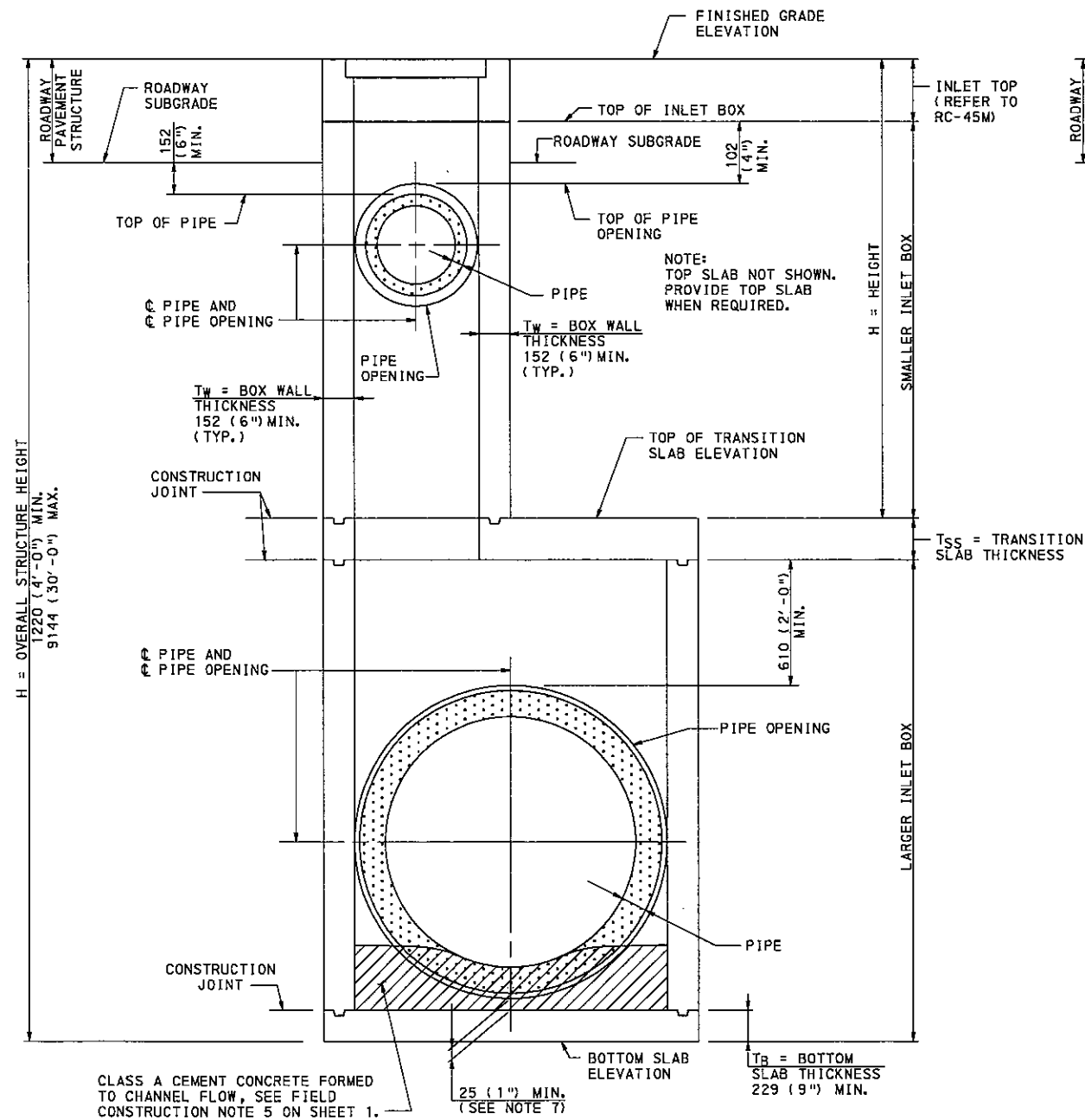
**INLET BOXES**  
**CAST-IN-PLACE INLET BOXES - 1**

RECOMMENDED AUG. 29, 2008  
*Daniel B. Stewart*  
ACTING CHIEF, HWY. QA DIVISION

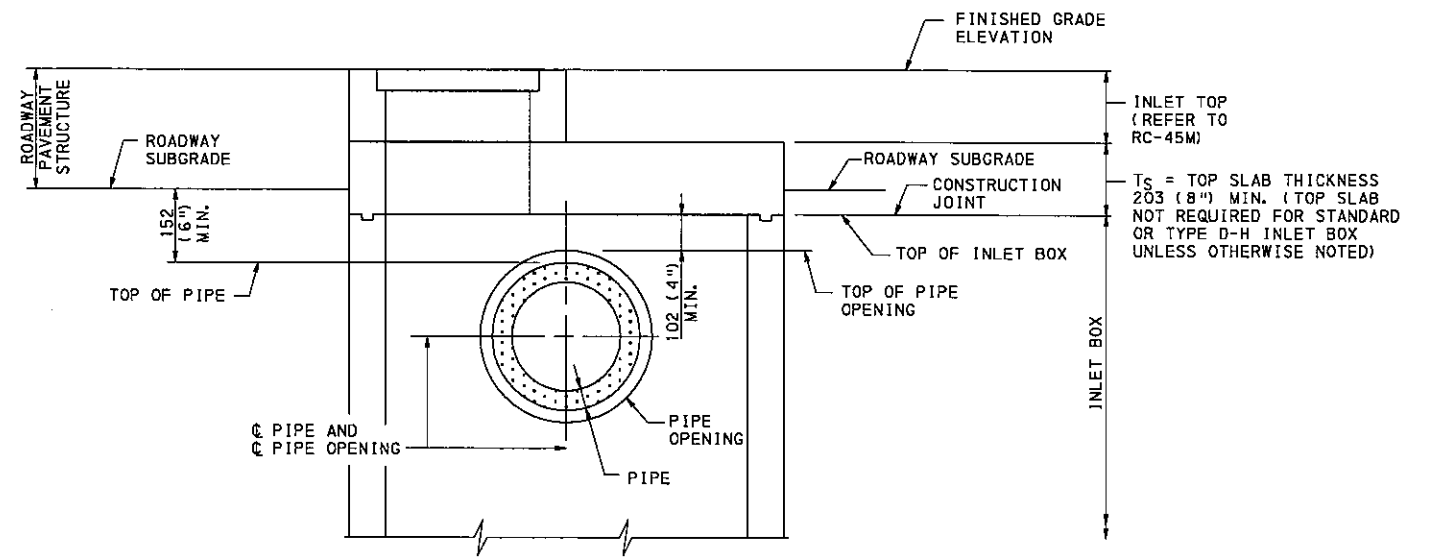
RECOMMENDED AUG. 29, 2008  
*Daniel B. Stewart*  
DIRECTOR, BUREAU OF DESIGN

SHT 13 OF 44

RC-46M



**SECTION H-H**  
LARGER INLET BOX TO SMALLER INLET BOX  
WITH TRANSITION SLAB AND INLET TOP



**SECTION H-H**  
INLET BOX WITH TOP  
SLAB AND INLET TOP

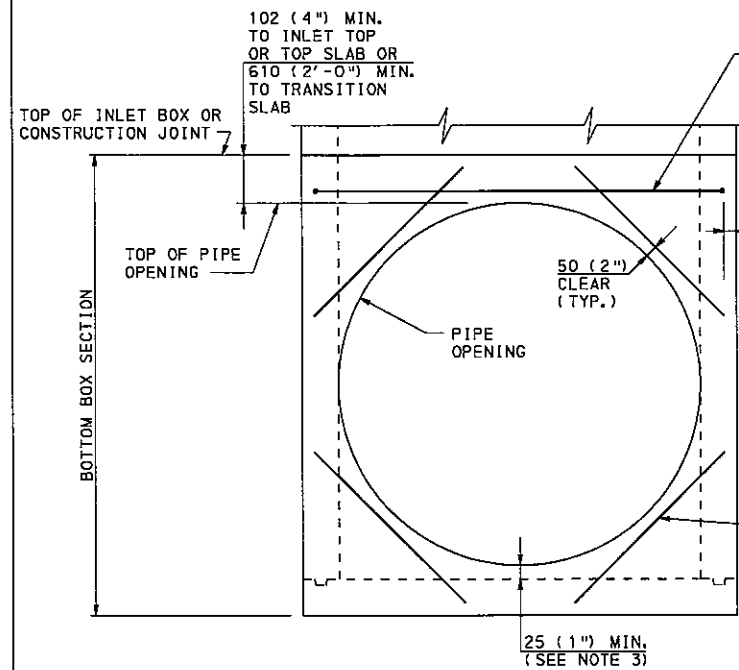
**NOTES:**

1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
2. FOR INLET BOX TYPES SEE SHEET 6.
3. FOR TOP SLAB DETAILS SEE SHEETS 7 - 10.
4. FOR TRANSITION SLAB DETAILS SEE SHEETS 11 & 12.
5. FOR REINFORCEMENT DETAILS SEE SHEET 15 & 16.
6. FOR DESIGN TABLES SEE SHEETS 17 - 22.
7. ALSO SEE PIPE LOCATION AND PIPE OPENING NOTE 5 ON SHEET 2.

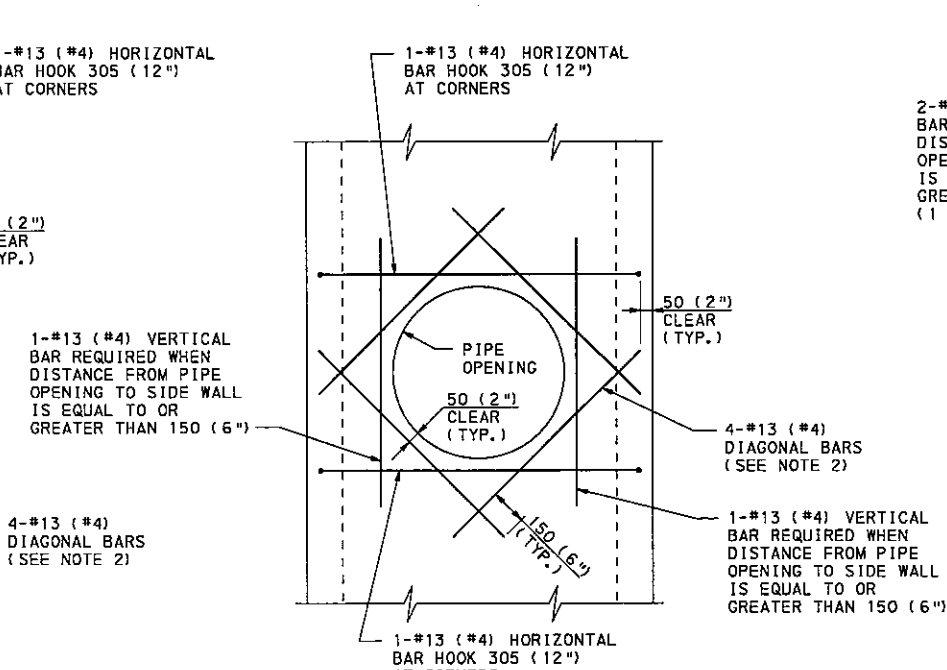
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

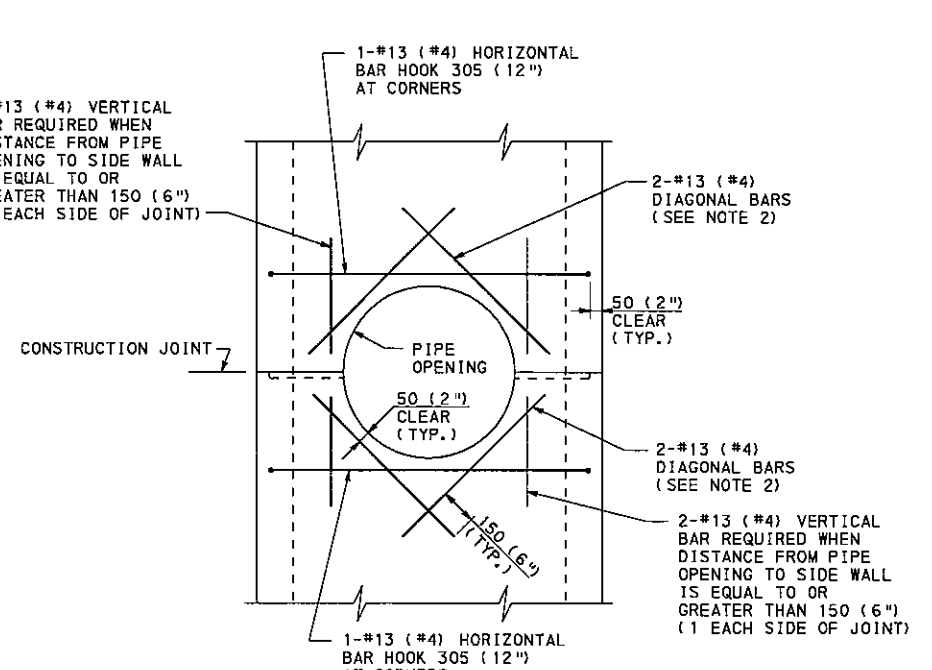
INLET BOXES  
CAST-IN-PLACE INLET BOXES - 2



**AT BOTTOM BOX SECTION**  
 DETAIL SHOWN WHEN THE DISTANCE FROM PIPE OPENING TO SIDEWALL IS LESS THAN 150 (6")



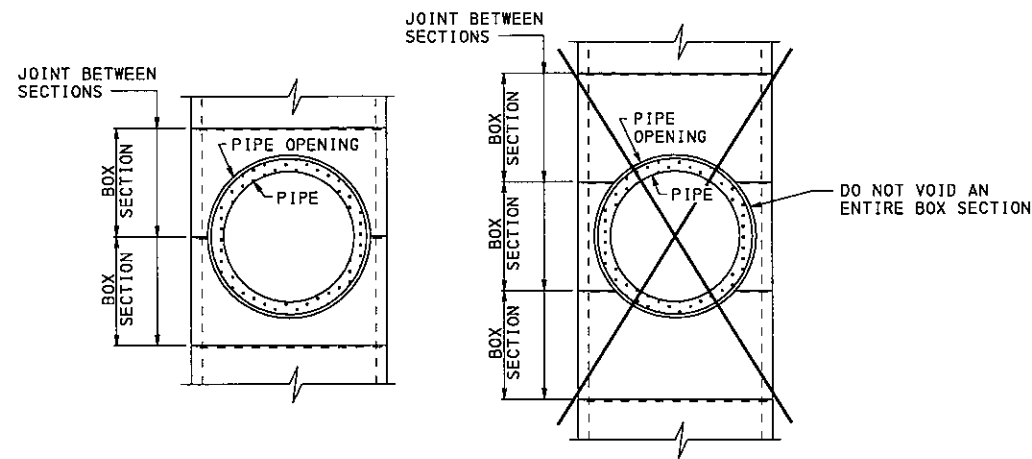
**WITHIN BOX SECTION**



**AT CONSTRUCTION JOINT**

**ADDITIONAL REINFORCING ADJACENT TO PIPE OPENINGS IN WALL**

PIPE OPENING LOCATION AND SIZE AS REQUIRED



**CORRECT LOCATION**

**WRONG LOCATION**

**LOCATION OF PIPE OPENING**

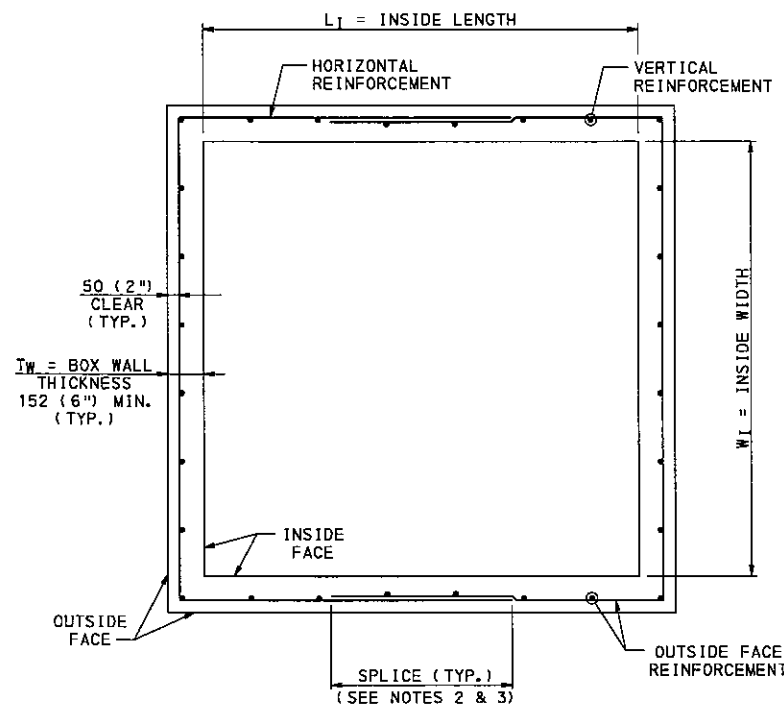
**NOTES:**

1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
2. PROVIDE DIAGONAL BARS WHEN PIPE OPENING IS GREATER THAN 914 mm (3'-0").
3. ALSO SEE PIPE LOCATION AND PIPE OPENING NOTE 5 ON SHEET 2.
4. FOR REINFORCEMENT DETAILS SEE SHEET 16.
5. TIE ADDITIONAL REINFORCEMENT TO THE OUTSIDE FACE REINFORCEMENT.

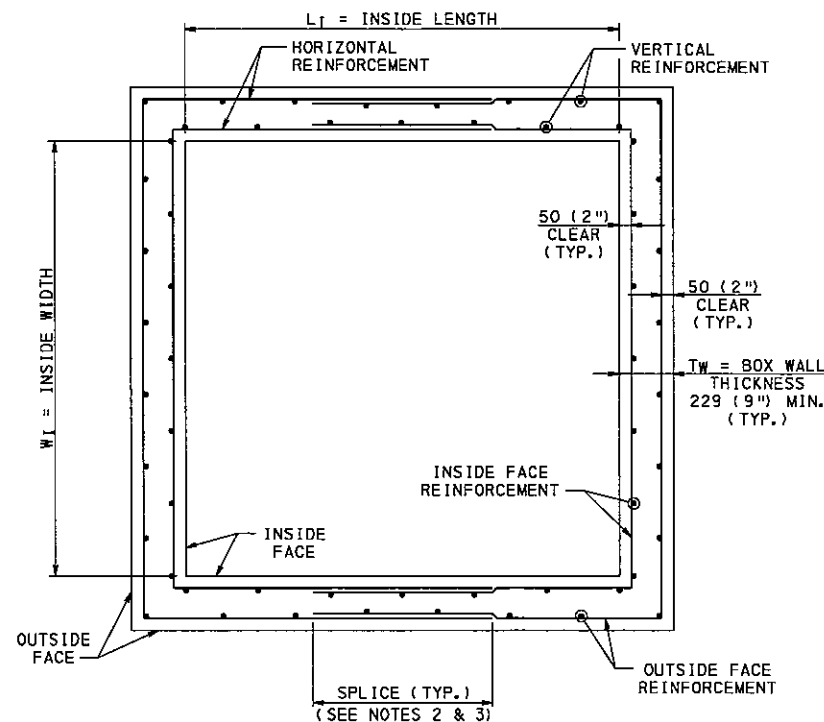
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**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
 BUREAU OF DESIGN

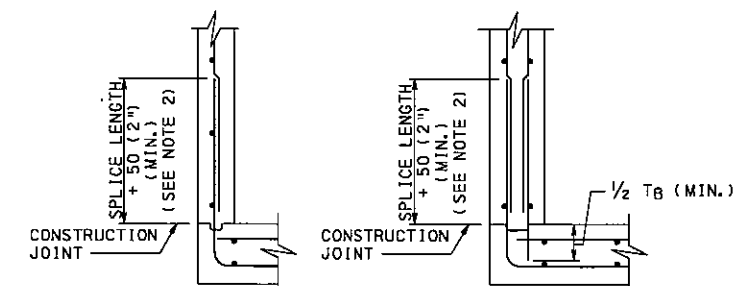
**INLET BOXES**  
**CAST-IN-PLACE INLET BOXES - 3**



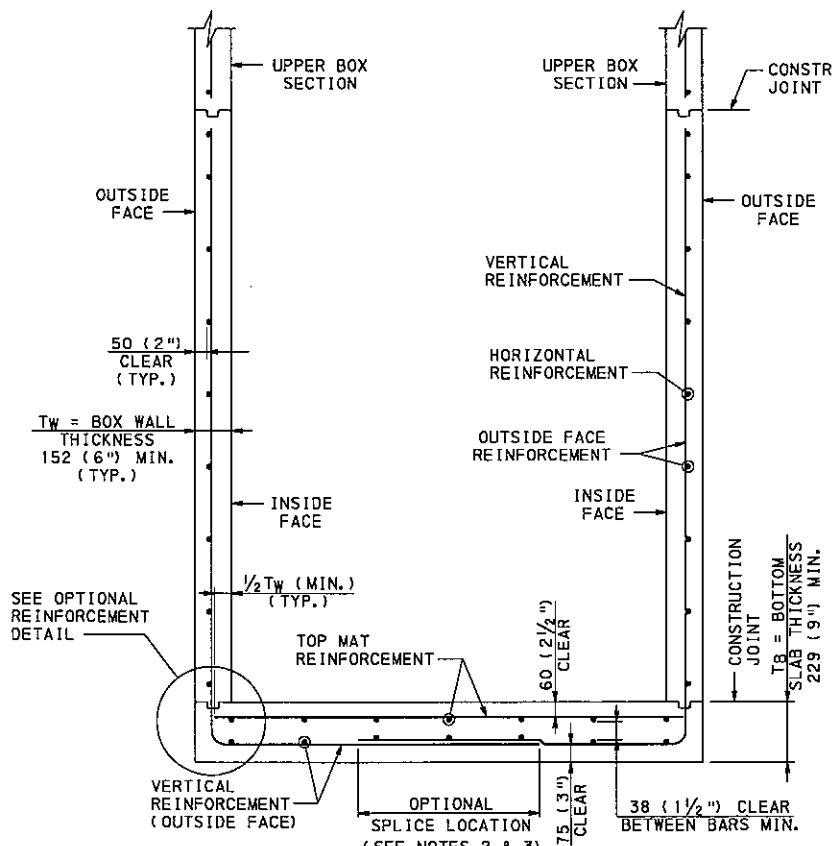
**HORIZONTAL SECTION WITH TWO REINFORCEMENT LAYERS**  
(RISER SECTIONS AND BASE SECTIONS)



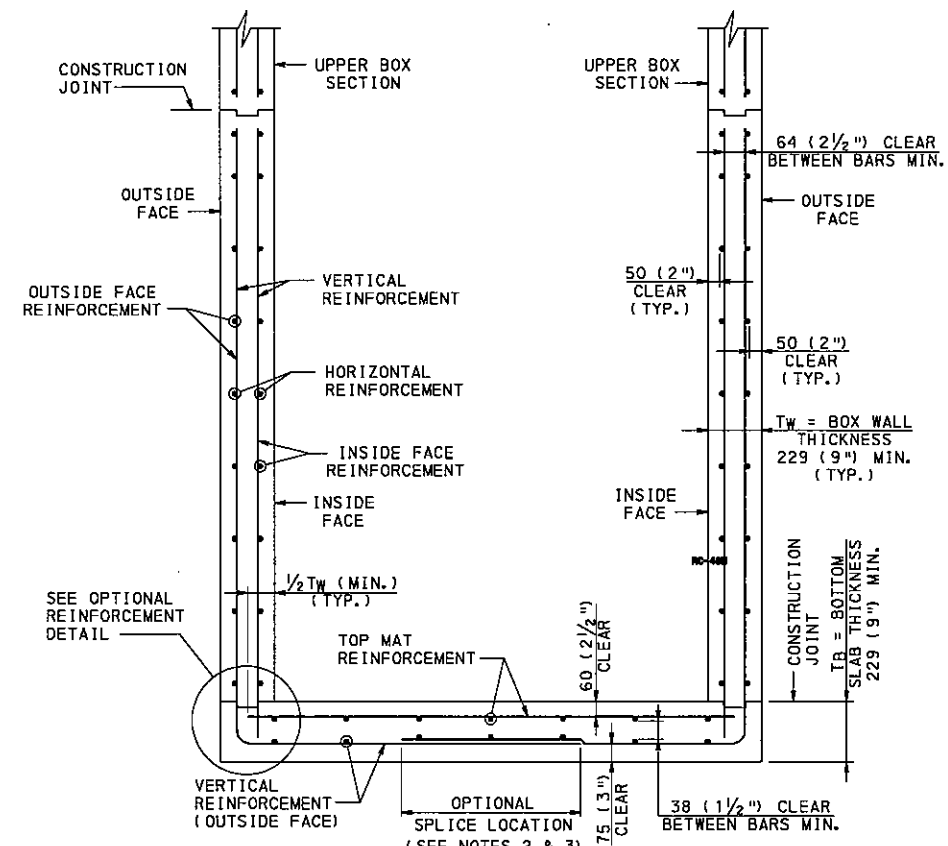
**HORIZONTAL SECTION WITH FOUR REINFORCEMENT LAYERS**  
(RISER SECTIONS AND BASE SECTIONS)



**TWO REINFORCEMENT LAYERS**      **FOUR REINFORCEMENT LAYERS**  
**OPTIONAL REINFORCEMENT DETAILS**



**VERTICAL SECTION OF BASE SECTION WITH TWO REINFORCEMENT LAYERS**



**VERTICAL SECTION OF BASE SECTION WITH FOUR REINFORCEMENT LAYERS**

- NOTES:**
1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
  2. FOR REINFORCEMENT BAR SPLICE LENGTHS SEE SHEET 3.
  3. SPLICE LOCATION TO BE DETERMINED BY CONTRACTOR.
  4. FOR DESIGN TABLES SEE SHEETS 17 - 22.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
BUREAU OF DESIGN

**INLET BOXES**  
**CAST-IN-PLACE INLET BOXES - 4**  
**(REINFORCEMENT BAR DETAILS)**

**TYPICAL SECTIONS**  
**CAST-IN-PLACE INLET BOXES**  
**WITH REINFORCEMENT BARS**

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - STANDARD**  
**U. S. CUSTOMARY UNITS**

H (FT.)	L1 (IN.)	W1 (IN.)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)	
			BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)			BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)			
9.0	45 1/4	24	6	#3	9	#3	9	---	---	---	---	6	9	#3	9	#3	6	---	---	---	---	#4	12
14.0	45 1/4	24	6	#3	9	#3	9	---	---	---	---	6	9	#3	6	#3	6	---	---	---	---	#4	12
17.0	45 1/4	24	6	#3	9	#3	9	---	---	---	---	6	9	#4	9	#3	6	---	---	---	---	#4	12
21.0	45 1/4	24	9	#4	12	#3	9	---	---	---	---	9	9	#3	9	#3	6	#3	9	#3	9	#4	12
25.0	45 1/4	24	9	#4	9	#3	9	---	---	---	---	9	9	#3	9	#3	6	#3	9	#3	9	#4	12
28.0	45 1/4	24	9	#5	12	#3	9	---	---	---	---	9	9	#3	9	#3	6	#3	9	#3	9	#4	12
30.0	45 1/4	24	9	#5	9	#3	9	---	---	---	---	9	9	#3	9	#3	6	#4	12	#3	9	#4	12

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 4**  
**U. S. CUSTOMARY UNITS**

H (FT.)	L1 (IN.)	W1 (IN.)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)	
			BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)			BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)			
6.0	48	48	6	#3	9	#3	9	---	---	---	---	6	9	#3	9	#3	6	---	---	---	---	#4	12
10.0	48	48	6	#3	9	#3	9	---	---	---	---	6	9	#3	6	#3	6	---	---	---	---	#4	12
14.0	48	48	6	#3	9	#3	9	---	---	---	---	6	9	#4	9	#3	6	---	---	---	---	#4	12
18.0	48	48	9	#4	12	#3	9	---	---	---	---	9	9	#3	9	#3	6	#3	9	#3	9	#4	12
22.0	48	48	9	#4	9	#3	9	---	---	---	---	9	9	#3	9	#3	6	#3	9	#3	9	#4	12
24.0	48	48	9	#5	12	#3	9	---	---	---	---	9	9	#4	12	#3	6	#4	12	#3	9	#4	12
27.0	48	48	9	#4	6	#3	9	---	---	---	---	9	9	#4	12	#3	6	#4	12	#3	9	#4	12
30.0	48	48	9	#3	9	#3	9	#3	9	#3	9	9	9	#3	4	#3	6	#3	4	#3	9	#4	12

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 5**  
**U. S. CUSTOMARY UNITS**

H (FT.)	L1 (IN.)	W1 (IN.)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)	
			BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)			BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)			
8.0	60	60	6	#3	9	#3	9	---	---	---	---	6	9	#4	9	#3	6	---	---	---	---	#4	12
11.0	60	60	9	#3	9	#3	9	---	---	---	---	9	9	#3	9	#3	6	#3	9	#3	9	#4	12
14.0	60	60	9	#3	6	#3	9	---	---	---	---	9	9	#3	9	#3	6	#3	9	#3	9	#4	12
16.0	60	60	9	#4	9	#3	9	---	---	---	---	9	9	#4	12	#3	6	#3	9	#3	9	#4	12
19.0	60	60	9	#3	4	#3	9	---	---	---	---	9	9	#4	12	#3	6	#4	12	#3	9	#4	12
21.0	60	60	9	#3	9	#3	9	#3	9	#3	9	9	9	#3	4	#3	6	#3	4	#3	9	#4	12
25.0	60	60	9	#3	9	#3	9	#3	9	#3	9	9	9	#4	4	#4	9	#4	4	#3	9	#4	12
28.0	60	60	9	#4	12	#3	9	#4	12	#3	9	9	9	#4	4	#4	9	#4	4	#3	9	#4	12
30.0	60	60	9	#3	4	#3	9	#3	4	#3	9	9	10	#4	4	#4	4	#4	4	#3	9	#4	12

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 13 - 16.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
 BUREAU OF DESIGN

INLET BOXES  
 CAST-IN-PLACE INLET BOXES  
 DESIGN TABLES - 1  
 U. S. CUSTOMARY UNITS  
 (REINFORCEMENT BARS)

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 6  
U. S. CUSTOMARY UNITS**

H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	RISER SECTIONS								TW (IN.)	TB (IN.)	BASE SECTIONS									
				OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT						OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)				
9.0	72	72	9	#3	9	#3	9	---	---	---	---	9	9	#3	9	#4	6	#3	9	#3	9	#4	12
11.0	72	72	9	#3	9	#3	9	---	---	---	---	9	9	#3	9	#4	6	#3	9	#3	9	#4	12
13.0	72	72	9	#4	9	#3	9	---	---	---	---	9	10	#4	12	#4	6	#4	12	#3	9	#4	12
15.0	72	72	9	#3	9	#3	9	#3	9	#3	9	9	10	#3	4	#4	6	#3	4	#3	9	#4	12
19.0	72	72	9	#3	9	#3	9	#3	9	#3	9	9	10	#4	4	#4	4	#4	4	#3	9	#4	12
23.0	72	72	9	#4	12	#3	9	#4	12	#3	9	9	11	#4	4	#4	4	#4	4	#3	9	#4	12
25.0	72	72	9	#3	4	#3	9	#3	4	#3	9	9	11	#4	4	#4	4	#4	4	#3	9	#4	12
28.0	72	72	12	#4	12	#3	9	#4	12	#4	12	12	11	#4	4	#4	4	#4	4	#4	12	#4	12
30.0	72	72	12	#4	12	#3	9	#4	12	#4	12	12	12	#4	4	#4	4	#4	4	#4	12	#4	12

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 7  
U. S. CUSTOMARY UNITS**

H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	RISER SECTIONS								TW (IN.)	TB (IN.)	BASE SECTIONS									
				OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT						OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
10.0	84	84	9	#3	9	#3	9	---	---	---	---	9	9	#3	4	#3	4	#3	4	#3	9	#4	12
11.0	84	84	9	#3	9	#3	9	---	---	---	---	9	9	#3	4	#4	4	#3	4	#3	9	#4	12
13.0	84	84	9	#4	6	#3	9	---	---	---	---	9	10	#4	4	#4	4	#4	4	#3	9	#4	12
16.0	84	84	9	#3	9	#3	9	#3	9	#3	9	9	10	#4	4	#4	4	#4	4	#3	9	#4	12
19.0	84	84	9	#4	12	#3	9	#4	12	#3	9	9	11	#4	4	#4	4	#4	4	#3	9	#4	12
21.0	84	84	9	#3	4	#3	9	#3	4	#3	9	9	11	#5	4	#4	4	#5	4	#3	9	#4	12
23.0	84	84	12	#3	6	#3	9	#4	12	#4	12	12	11	#4	4	#4	4	#4	4	#4	12	#4	12
25.0	84	84	12	#3	6	#3	9	#4	12	#4	12	12	12	#4	4	#4	4	#4	4	#4	12	#4	12
27.0	84	84	12	#4	4	#3	9	#3	6	#4	12	12	12	#4	4	#4	4	#4	4	#4	12	#4	12
30.0	84	84	12	#4	4	#3	9	#4	4	#4	12	12	13	#5	4	#4	4	#5	4	#4	12	#4	12

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 8  
U. S. CUSTOMARY UNITS**

H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	RISER SECTIONS								TW (IN.)	TB (IN.)	BASE SECTIONS									
				OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT						OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
11.0	96	96	9	#3	9	#3	9	#3	9	#3	9	9	9	#4	4	#4	4	#4	4	#3	9	#4	12
13.0	96	96	9	#3	9	#3	9	#3	9	#3	9	9	10	#4	4	#4	4	#4	4	#3	9	#4	12
16.0	96	96	9	#4	12	#3	9	#4	12	#3	9	9	10	#4	4	#4	4	#4	4	#3	9	#4	12
18.0	96	96	9	#3	4	#3	9	#3	4	#3	9	9	11	#5	4	#4	4	#5	4	#3	9	#4	12
20.0	96	96	12	#4	12	#3	9	#4	12	#4	12	12	11	#4	4	#4	4	#4	4	#4	12	#4	12
22.0	96	96	12	#3	6	#3	9	#4	12	#4	12	12	12	#4	4	#4	4	#4	4	#4	12	#4	12
26.0	96	96	12	#4	4	#3	9	#4	4	#4	12	12	12	#5	4	#4	4	#5	4	#4	12	#4	12
29.0	96	96	15	#4	9	#3	9	#4	9	#4	9	15	13	#5	4	#5	4	#5	4	#4	9	#3	6
30.0	96	96	15	#4	4	#3	9	#4	4	#4	9	15	13	#5	4	#5	4	#5	4	#4	9	#3	6

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 13 - 16.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

INLET BOXES  
CAST-IN-PLACE INLET BOXES  
DESIGN TABLES - 2  
U. S. CUSTOMARY UNITS  
(REINFORCEMENT BARS)

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 9  
U. S. CUSTOMARY UNITS**

H (FT.)	L1 (IN.)	W1 (IN.)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				Tw (IN.)	Tb (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)	
BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
11.0	108	108	9	#4	12	#3	9	#4	12	#3	9	9	9	#4	4	#4	4	#4	4	#3	9	#4	12
13.0	108	108	9	#4	12	#3	9	#4	12	#3	9	9	9	#4	4	#4	4	#4	4	#3	9	#4	12
15.0	108	108	9	#3	4	#3	9	#3	4	#3	9	9	10	#5	4	#4	4	#5	4	#3	9	#4	12
17.0	108	108	9	#4	4	#3	9	#4	4	#3	9	9	10	#5	4	#4	4	#5	4	#3	9	#4	12
20.0	108	108	12	#4	9	#3	9	#4	9	#4	12	12	10	#5	4	#4	4	#5	4	#4	12	#4	12
23.0	108	108	12	#4	4	#3	9	#4	4	#4	12	12	11	#5	4	#4	4	#5	4	#4	12	#4	12
25.0	108	108	15	#4	9	#3	9	#4	9	#4	9	15	12	#5	4	#5	4	#5	4	#4	9	#4	9
27.0	108	108	15	#4	4	#3	9	#4	4	#4	9	15	12	#5	4	#5	4	#5	4	#4	9	#4	9
30.0	108	108	15	#4	4	#3	9	#4	4	#4	9	15	13	#5	4	#5	4	#5	4	#4	9	#4	9

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 10  
U. S. CUSTOMARY UNITS**

H (FT.)	L1 (IN.)	W1 (IN.)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				Tw (IN.)	Tb (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)	
BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
13.0	120	120	9	#4	6	#3	9	#4	6	#3	9	9	9	#5	4	#4	4	#5	4	#3	9	#4	12
15.0	120	120	9	#4	4	#3	9	#4	4	#3	9	9	10	#5	4	#5	4	#5	4	#3	9	#4	12
18.0	120	120	12	#4	9	#3	9	#4	9	#4	12	12	10	#5	4	#4	4	#5	4	#4	12	#4	12
20.0	120	120	12	#4	4	#3	9	#4	4	#4	12	12	11	#5	4	#4	4	#5	4	#4	12	#4	12
23.0	120	120	15	#4	9	#3	9	#4	9	#4	9	15	12	#5	4	#5	4	#5	4	#4	9	#4	9
25.0	120	120	15	#4	4	#3	9	#4	4	#4	9	15	12	#5	4	#5	4	#5	4	#4	9	#4	9
27.0	120	120	15	#4	4	#3	9	#4	4	#4	9	15	13	#5	4	#5	4	#5	4	#4	9	#4	9
30.0	120	120	18	#4	4	#3	9	#4	4	#4	6	18	14	#5	4	#5	4	#5	4	#4	6	#4	9

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - D-H  
U. S. CUSTOMARY UNITS**

H (FT.)	L1 (IN.)	W1 (IN.)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				Tw (IN.)	Tb (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)	
BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
7.0	99	30	9	#3	9	#3	9	---	---	---	---	9	9	#3	9	#3	6	#3	9	#3	9	#4	12
9.0	99	30	9	#3	9	#3	9	---	---	---	---	9	9	#4	12	#3	6	#4	12	#3	9	#4	12
12.0	99	30	9	#5	12	#3	9	---	---	---	---	9	9	#4	6	#3	6	#4	6	#3	9	#4	12
14.0	99	30	9	#4	6	#3	9	---	---	---	---	9	9	#4	4	#4	4	#4	4	#3	9	#4	12
17.0	99	30	9	#3	9	#3	9	#3	9	#3	9	9	9	#4	4	#4	4	#4	4	#3	9	#4	12
19.0	99	30	12	#4	12	#3	9	#4	12	#4	12	12	9	#4	4	#4	9	#4	4	#4	12	#4	12
24.0	99	30	12	#4	12	#3	9	#4	12	#4	12	12	9	#4	4	#4	4	#4	4	#4	12	#4	12
26.0	99	30	12	#3	6	#3	9	#3	6	#4	12	12	9	#4	4	#4	4	#4	4	#4	12	#4	12
28.0	99	30	15	#4	9	#3	9	#4	9	#4	9	15	9	#4	4	#4	6	#4	4	#4	9	#4	12
30.0	99	30	15	#4	9	#3	9	#4	9	#4	9	15	9	#4	4	#4	4	#4	4	#4	9	#4	12

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 13 - 16.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

INLET BOXES  
CAST-IN-PLACE INLET BOXES  
DESIGN TABLES - 3  
U. S. CUSTOMARY UNITS  
(REINFORCEMENT BARS)

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - STANDARD  
METRIC**

H (mm)	L <sub>I</sub> (mm)	W <sub>I</sub> (mm)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				T <sub>W</sub> (mm)	T <sub>B</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)	
			BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)			
2743	1150	610	152	#10	229	#10	229	---	---	---	---	152	229	#10	229	#10	152	---	---	---	---	#13	305
4267	1150	610	152	#10	229	#10	229	---	---	---	---	152	229	#10	152	#10	152	---	---	---	---	#13	305
5182	1150	610	152	#10	229	#10	229	---	---	---	---	152	229	#13	229	#10	152	---	---	---	---	#13	305
6401	1150	610	229	#13	305	#10	229	---	---	---	---	229	229	#10	229	#10	152	#10	229	#10	229	#13	305
7620	1150	610	229	#13	229	#10	229	---	---	---	---	229	229	#10	229	#10	152	#10	229	#10	229	#13	305
8534	1150	610	229	#16	305	#10	229	---	---	---	---	229	229	#10	229	#10	152	#10	229	#10	229	#13	305
9144	1150	610	229	#16	229	#10	229	---	---	---	---	229	229	#10	229	#10	152	#13	305	#10	229	#13	305

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 4  
METRIC**

H (mm)	L <sub>I</sub> (mm)	W <sub>I</sub> (mm)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				T <sub>W</sub> (mm)	T <sub>B</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)	
			BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)			
1829	1220	1220	152	#10	229	#10	229	---	---	---	---	152	229	#10	229	#10	152	---	---	---	---	#13	305
3048	1220	1220	152	#10	229	#10	229	---	---	---	---	152	229	#10	152	#10	152	---	---	---	---	#13	305
4267	1220	1220	152	#10	229	#10	229	---	---	---	---	152	229	#13	229	#10	152	---	---	---	---	#13	305
5486	1220	1220	229	#13	305	#10	229	---	---	---	---	229	229	#10	229	#10	152	#10	229	#10	229	#13	305
6706	1220	1220	229	#13	229	#10	229	---	---	---	---	229	229	#10	229	#10	152	#10	229	#10	229	#13	305
7315	1220	1220	229	#16	305	#10	229	---	---	---	---	229	229	#13	305	#10	152	#13	305	#10	229	#13	305
8230	1220	1220	229	#13	152	#10	229	---	---	---	---	229	229	#13	305	#10	152	#13	305	#10	229	#13	305
9144	1220	1220	229	#10	229	#10	229	#10	229	#10	229	229	229	#10	102	#10	152	#10	102	#10	229	#13	305

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 5  
METRIC**

H (mm)	L <sub>I</sub> (mm)	W <sub>I</sub> (mm)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				T <sub>W</sub> (mm)	T <sub>B</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)	
			BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)			
2438	1524	1524	152	#10	229	#10	229	---	---	---	---	152	229	#13	229	#10	152	---	---	---	---	#13	305
3353	1524	1524	229	#10	229	#10	229	---	---	---	---	229	229	#10	229	#10	152	#10	229	#10	229	#13	305
4267	1524	1524	229	#10	152	#10	229	---	---	---	---	229	229	#10	229	#10	152	#10	229	#10	229	#13	305
4877	1524	1524	229	#13	229	#10	229	---	---	---	---	229	229	#13	305	#10	152	#10	229	#10	229	#13	305
5791	1524	1524	229	#10	102	#10	229	---	---	---	---	229	229	#13	305	#10	152	#13	305	#10	229	#13	305
6401	1524	1524	229	#10	229	#10	229	#10	229	#10	229	229	229	#10	102	#10	152	#10	102	#10	229	#13	305
7620	1524	1524	229	#10	229	#10	229	#10	229	#10	229	229	229	#13	102	#13	229	#13	102	#10	229	#13	305
8534	1524	1524	229	#13	305	#10	229	#13	305	#10	229	229	229	#13	102	#13	229	#13	102	#10	229	#13	305
9144	1524	1524	229	#10	102	#10	229	#10	102	#10	229	229	254	#13	102	#13	102	#13	102	#10	229	#13	305

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 13 - 16.

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**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

INLET BOXES  
CAST-IN-PLACE INLET BOXES  
DESIGN TABLES - 1  
METRIC UNITS  
(REINFORCEMENT BARS)



**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 6  
METRIC**

H (mm)	L1 (mm)	W1 (mm)	TW (mm)	RISER SECTIONS								TB (mm)	BASE SECTIONS										
				OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT					OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)			
2743	1828	1828	229	#10	229	#10	229	---	---	---	---	229	229	#10	229	#13	152	#10	229	#10	229	#13	305
3353	1828	1828	229	#10	229	#10	229	---	---	---	---	229	229	#10	229	#13	152	#10	229	#10	229	#13	305
3962	1828	1828	229	#13	229	#10	229	---	---	---	---	229	254	#13	305	#13	152	#13	305	#10	229	#13	305
4572	1828	1828	229	#10	229	#10	229	#10	229	#10	229	229	254	#10	102	#13	152	#10	102	#10	229	#13	305
5791	1828	1828	229	#10	229	#10	229	#10	229	#10	229	229	254	#13	102	#13	102	#13	102	#10	229	#13	305
7010	1828	1828	229	#13	305	#10	229	#13	305	#10	229	229	279	#13	102	#13	102	#13	102	#10	229	#13	305
7620	1828	1828	229	#10	102	#10	229	#10	102	#10	229	229	279	#13	102	#13	102	#13	102	#10	229	#13	305
8534	1828	1828	305	#13	305	#10	229	#13	305	#13	305	305	279	#13	102	#13	102	#13	102	#13	305	#13	305
9144	1828	1828	305	#13	305	#10	229	#13	305	#13	305	305	305	#13	102	#13	102	#13	102	#13	305	#13	305

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 7  
METRIC**

H (mm)	L1 (mm)	W1 (mm)	TW (mm)	RISER SECTIONS								TB (mm)	BASE SECTIONS										
				OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT					OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)			
3048	2134	2134	229	#10	229	#10	229	---	---	---	---	229	229	#10	102	#10	102	#10	102	#10	229	#13	305
3353	2134	2134	229	#10	229	#10	229	---	---	---	---	229	229	#10	102	#13	102	#10	102	#10	229	#13	305
3962	2134	2134	229	#13	152	#10	229	---	---	---	---	229	254	#13	102	#13	102	#13	102	#10	229	#13	305
4877	2134	2134	229	#10	229	#10	229	#10	229	#10	229	229	254	#13	102	#13	102	#13	102	#10	229	#13	305
5791	2134	2134	229	#13	305	#10	229	#13	305	#10	229	229	279	#13	102	#13	102	#13	102	#10	229	#13	305
6401	2134	2134	229	#10	102	#10	229	#10	102	#10	229	229	279	#16	102	#13	102	#16	102	#10	229	#13	305
7010	2134	2134	305	#10	152	#10	229	#13	305	#13	305	305	279	#13	102	#13	102	#13	102	#13	305	#13	305
7620	2134	2134	305	#10	152	#10	229	#13	305	#13	305	305	305	#13	102	#13	102	#13	102	#13	305	#13	305
8230	2134	2134	305	#13	102	#10	229	#10	152	#13	305	305	305	#13	102	#13	102	#13	102	#13	305	#13	305
9144	2134	2134	305	#13	102	#10	229	#13	102	#13	305	305	330	#16	102	#13	102	#16	102	#13	305	#13	305

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 8  
METRIC**

H (mm)	L1 (mm)	W1 (mm)	TW (mm)	RISER SECTIONS								TB (mm)	BASE SECTIONS										
				OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT					OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)			
3353	2438	2438	229	#10	229	#10	229	#10	229	#10	229	229	229	#13	102	#13	102	#13	102	#10	229	#13	305
3962	2438	2438	229	#10	229	#10	229	#10	229	#10	229	229	254	#13	102	#13	102	#13	102	#10	229	#13	305
4877	2438	2438	229	#13	305	#10	229	#13	305	#10	229	229	254	#13	102	#13	102	#13	102	#10	229	#13	305
5486	2438	2438	229	#10	102	#10	229	#10	102	#10	229	229	279	#16	102	#13	102	#16	102	#10	229	#13	305
6096	2438	2438	305	#13	305	#10	229	#13	305	#13	305	305	279	#13	102	#13	102	#13	102	#13	305	#13	305
6706	2438	2438	305	#10	152	#10	229	#13	305	#13	305	305	305	#13	102	#13	102	#13	102	#13	305	#13	305
7925	2438	2438	305	#13	102	#10	229	#13	102	#13	305	305	305	#16	102	#13	102	#16	102	#13	305	#13	305
8839	2438	2438	381	#13	229	#10	229	#13	229	#13	229	381	330	#16	102	#16	102	#16	102	#13	229	#13	152
9144	2438	2438	381	#13	102	#10	229	#13	102	#13	229	381	330	#16	102	#16	102	#16	102	#13	229	#13	152

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 13 - 16.

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**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

INLET BOXES  
CAST-IN-PLACE INLET BOXES  
DESIGN TABLES - 2  
METRIC UNITS  
(REINFORCEMENT BARS)

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 9  
METRIC**

H (mm)	L1 (mm)	W1 (mm)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				Tw (mm)	Tb (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)	
			BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)			
3353	2744	2744	229	#13	305	#10	229	#13	305	#10	229	229	229	#13	102	#13	102	#13	102	#10	229	#13	305
3962	2744	2744	229	#13	305	#10	229	#13	305	#10	229	229	229	#13	102	#13	102	#16	102	#10	229	#13	305
4572	2744	2744	229	#10	102	#10	229	#10	102	#10	229	229	254	#16	102	#13	102	#16	102	#10	229	#13	305
5182	2744	2744	229	#13	102	#10	229	#13	102	#10	229	229	254	#16	102	#13	102	#16	102	#10	229	#13	305
6096	2744	2744	305	#13	229	#10	229	#13	229	#13	305	305	254	#16	102	#13	102	#16	102	#13	305	#13	305
7010	2744	2744	305	#13	102	#10	229	#13	102	#13	305	305	279	#16	102	#13	102	#16	102	#13	305	#13	305
7620	2744	2744	381	#13	229	#10	229	#13	229	#13	229	381	305	#16	102	#16	102	#16	102	#13	229	#13	229
8230	2744	2744	381	#13	102	#10	229	#13	102	#13	229	381	305	#16	102	#16	102	#16	102	#13	229	#13	229
9144	2744	2744	381	#13	102	#10	229	#13	102	#13	229	381	330	#16	102	#16	102	#16	102	#13	229	#13	229

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 10  
METRIC**

H (mm)	L1 (mm)	W1 (mm)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				Tw (mm)	Tb (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)	
			BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)			
3962	3048	3048	229	#13	152	#10	229	#13	152	#10	229	229	229	#16	102	#13	102	#16	102	#10	229	#13	305
4572	3048	3048	229	#13	102	#10	229	#13	102	#10	229	229	254	#16	102	#16	102	#16	102	#10	229	#13	305
5486	3048	3048	305	#13	229	#10	229	#13	229	#13	305	305	254	#16	102	#13	102	#16	102	#13	305	#13	305
6096	3048	3048	305	#13	102	#10	229	#13	102	#13	305	305	279	#16	102	#13	102	#16	102	#13	305	#13	305
7010	3048	3048	381	#13	229	#10	229	#13	229	#13	229	381	305	#16	102	#16	102	#16	102	#13	229	#13	229
7620	3048	3048	381	#13	102	#10	229	#13	102	#13	229	381	305	#16	102	#16	102	#16	102	#13	229	#13	229
8230	3048	3048	381	#13	102	#10	229	#13	102	#13	229	381	330	#16	102	#16	102	#16	102	#13	229	#13	229
9144	3048	3048	457	#13	102	#10	229	#13	102	#13	152	457	356	#16	102	#16	102	#16	102	#13	152	#13	229

**CAST-IN-PLACE CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - D-H  
METRIC**

H (mm)	L1 (mm)	W1 (mm)	RISER SECTIONS								BASE SECTIONS												
			OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				Tw (mm)	Tb (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		
			HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)	
			BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)			
2134	2516	762	229	#10	229	#10	229	---	---	---	---	229	229	#10	229	#10	152	#10	229	#10	229	#13	305
2743	2516	762	229	#10	229	#10	229	---	---	---	---	229	229	#13	305	#10	152	#13	305	#10	229	#13	305
3658	2516	762	229	#16	305	#10	229	---	---	---	---	229	229	#13	152	#10	152	#13	152	#10	229	#13	305
4267	2516	762	229	#13	152	#10	229	---	---	---	---	229	229	#13	102	#13	102	#13	102	#10	229	#13	305
5182	2516	762	229	#10	229	#10	229	#10	229	#10	229	229	229	#13	102	#13	102	#13	102	#10	229	#13	305
5791	2516	762	305	#13	305	#10	229	#13	305	#13	305	305	229	#13	102	#13	229	#13	102	#13	305	#13	305
7315	2516	762	305	#13	305	#10	229	#13	305	#13	305	305	229	#13	102	#13	102	#13	102	#13	305	#13	305
7925	2516	762	305	#10	152	#10	229	#10	152	#13	305	305	229	#13	102	#13	102	#13	102	#13	305	#13	305
8534	2516	762	381	#13	229	#10	229	#13	229	#13	229	381	229	#13	102	#13	152	#13	102	#13	229	#13	305
9144	2516	762	381	#13	229	#10	229	#13	229	#13	229	381	229	#13	102	#13	102	#13	102	#13	229	#13	305

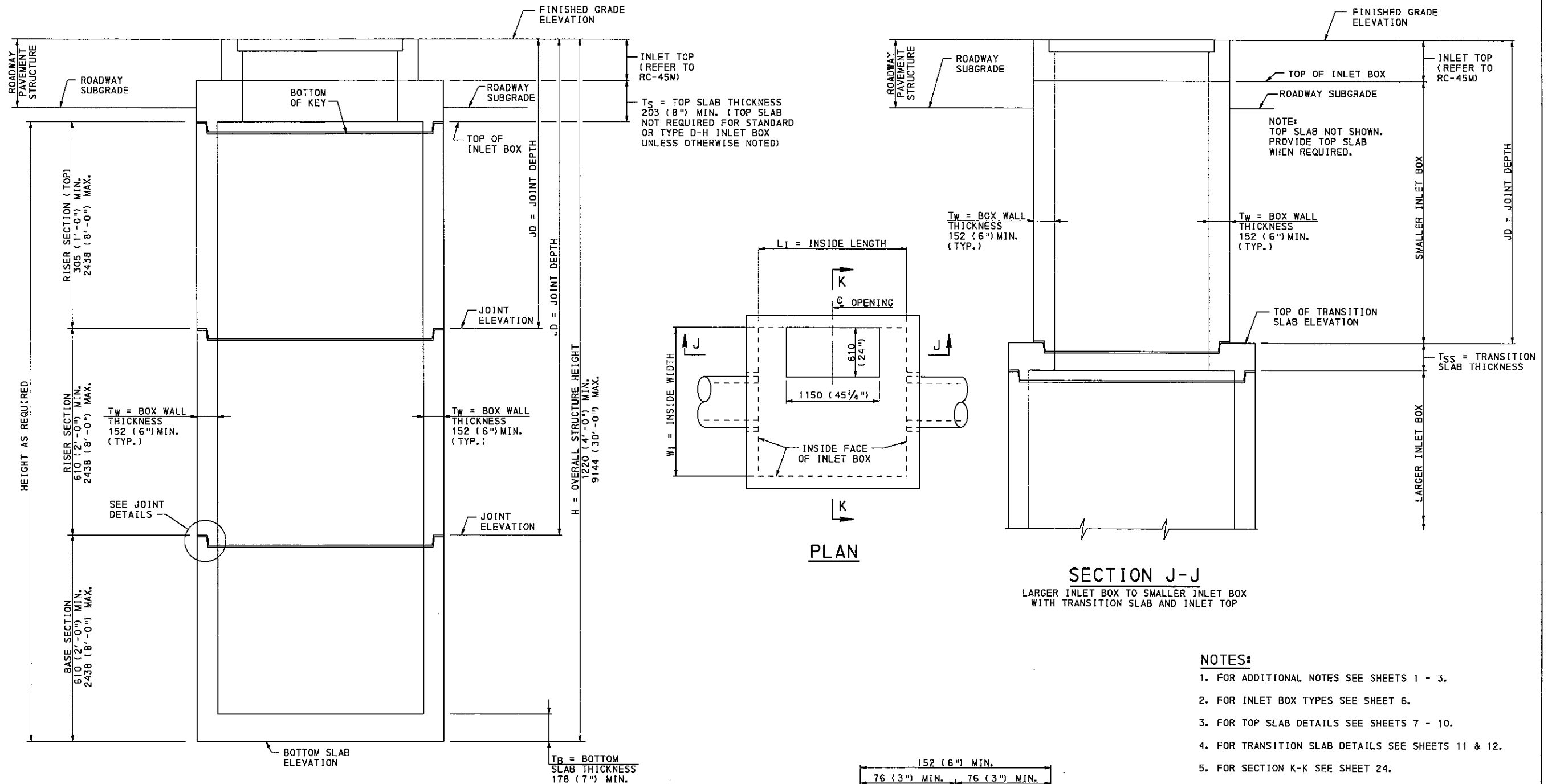
**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 13 - 16.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

INLET BOXES  
CAST-IN-PLACE INLET BOXES  
DESIGN TABLES - 3  
METRIC UNITS  
(REINFORCEMENT BARS)

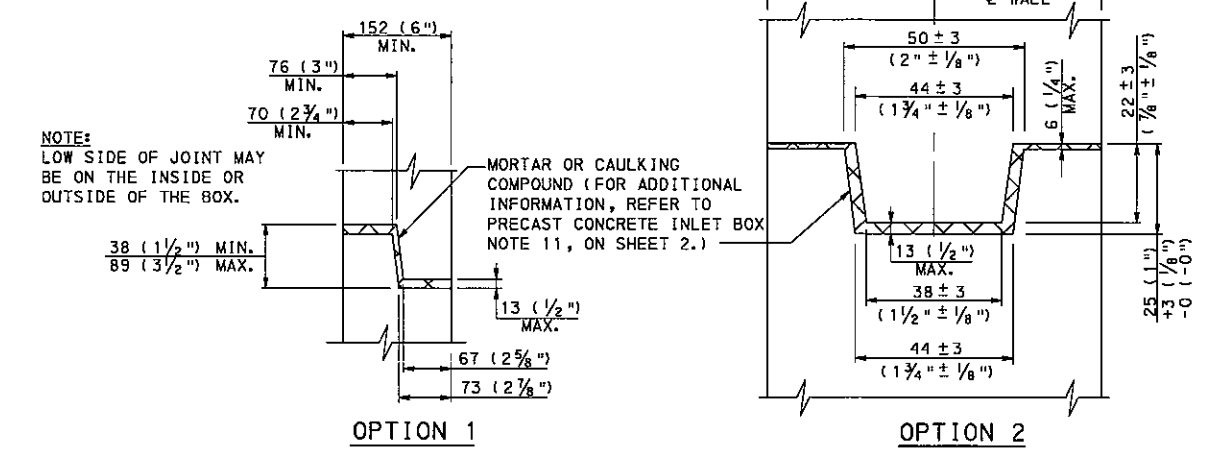


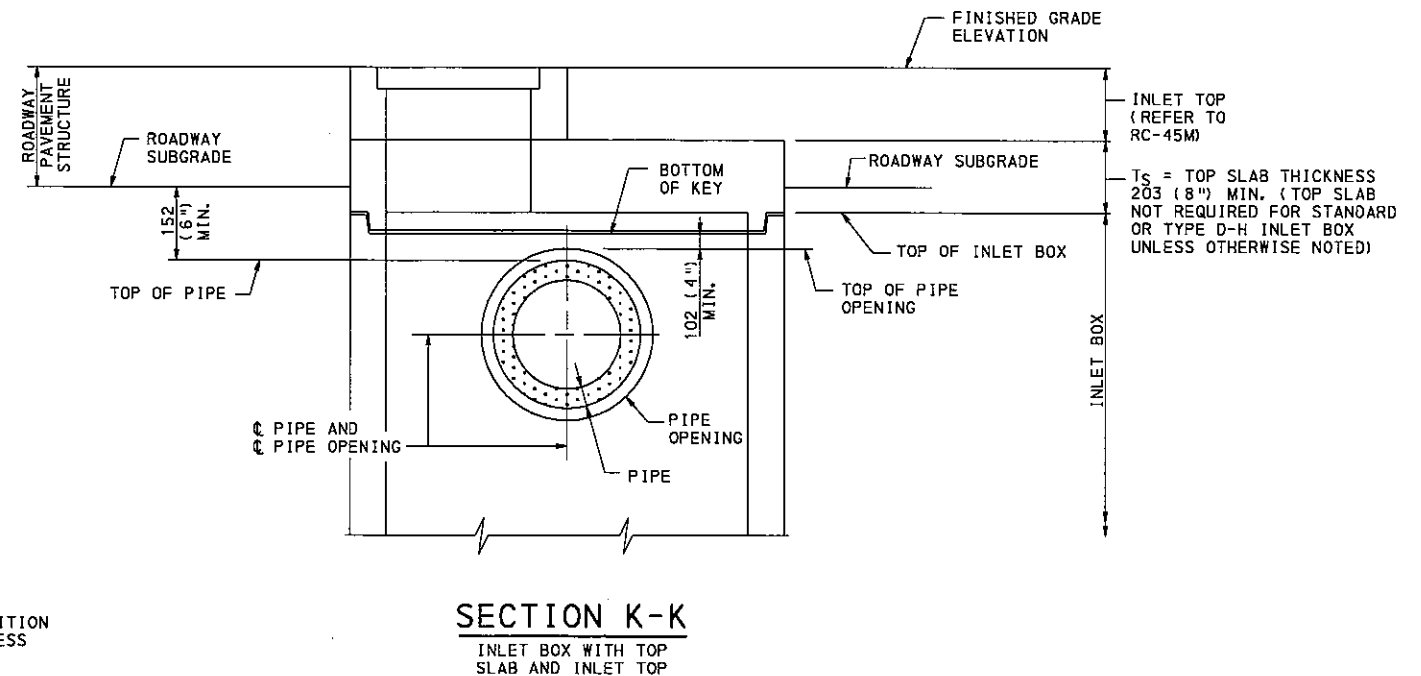
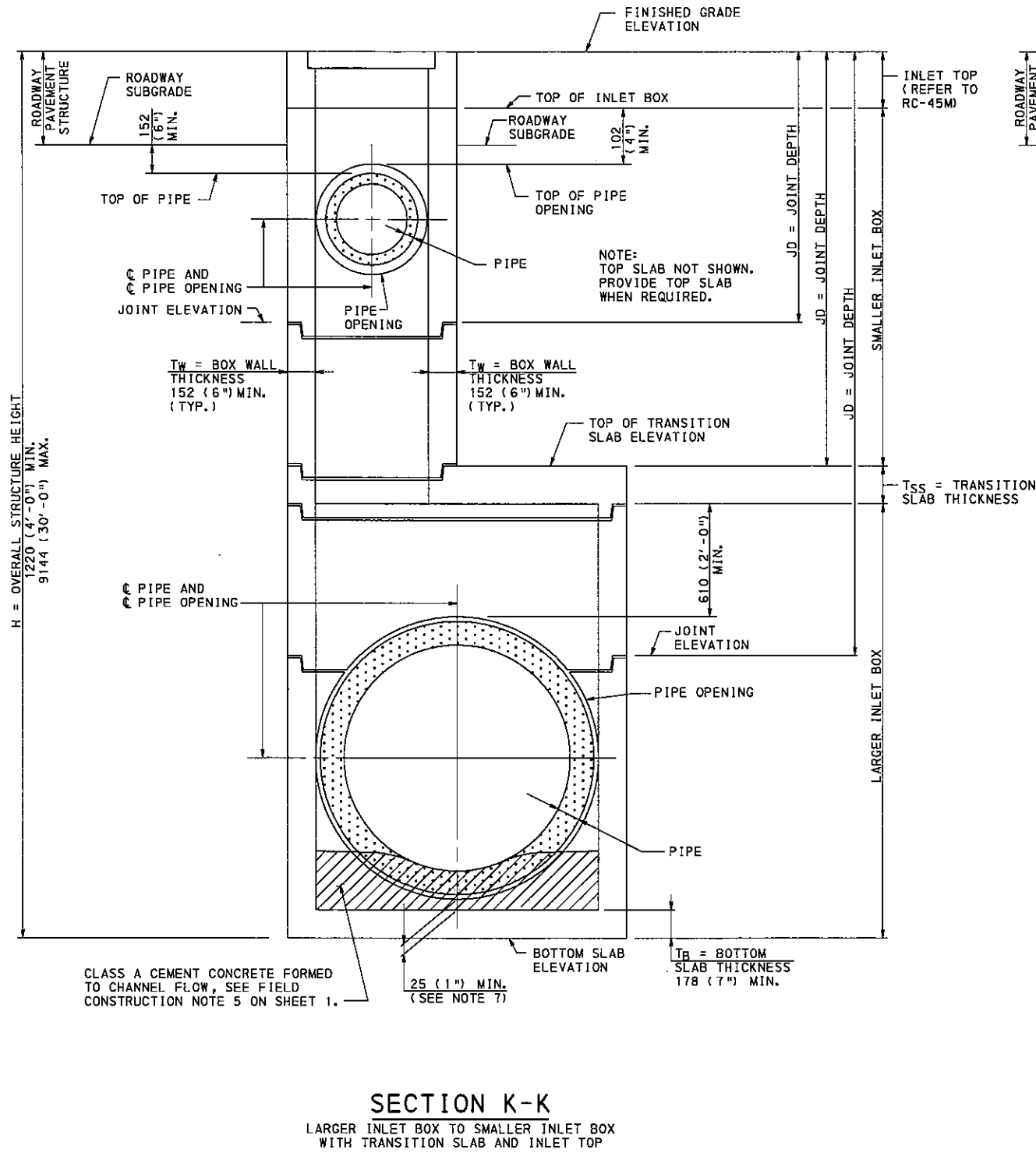
- NOTES:**
1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
  2. FOR INLET BOX TYPES SEE SHEET 6.
  3. FOR TOP SLAB DETAILS SEE SHEETS 7 - 10.
  4. FOR TRANSITION SLAB DETAILS SEE SHEETS 11 & 12.
  5. FOR SECTION K-K SEE SHEET 24.
  6. FOR REINFORCEMENT DETAILS SEE SHEET 25 - 27.
  7. FOR DESIGN TABLES SEE SHEETS 28 - 43.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET BOXES  
PRECAST INLET BOXES - 1

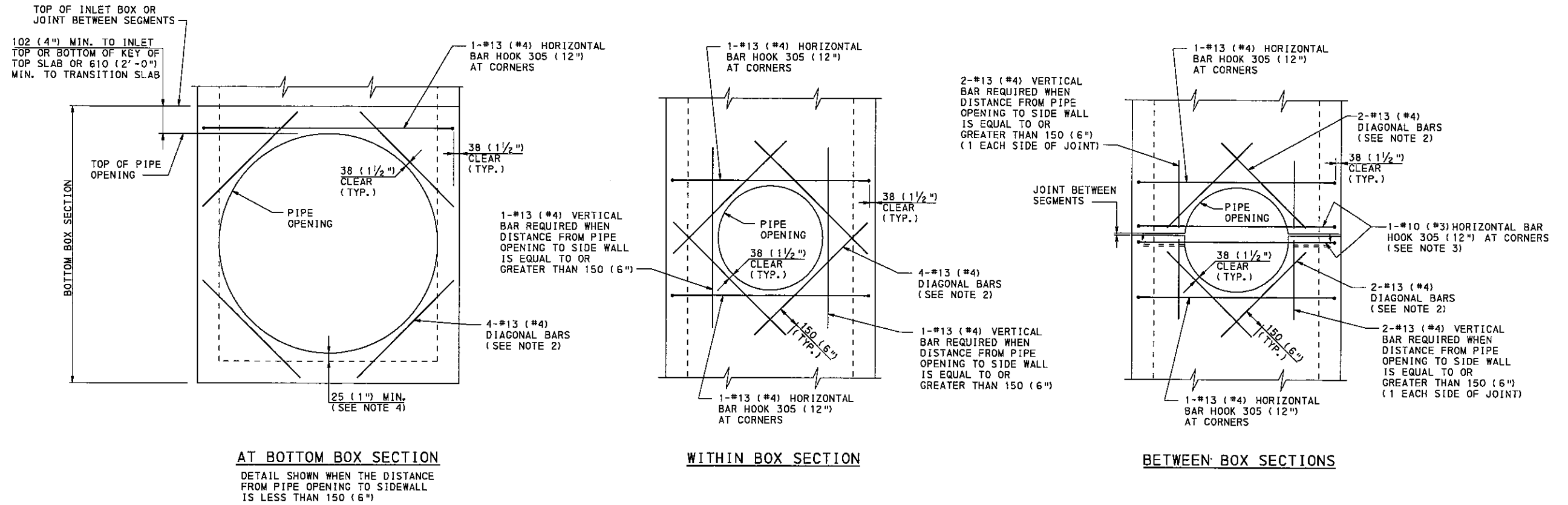




- NOTES:**
1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
  2. FOR INLET BOX TYPES SEE SHEET 6.
  3. FOR TOP SLAB DETAILS SEE SHEETS 7 - 10.
  4. FOR TRANSITION SLAB DETAILS SEE SHEETS 11 & 12.
  5. FOR REINFORCEMENT DETAILS SEE SHEET 25 - 27.
  6. FOR DESIGN TABLES SEE SHEETS 28 - 43.
  7. ALSO SEE PIPE LOCATION AND PIPE OPENING NOTE 5 ON SHEET 2.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

<b>COMMONWEALTH OF PENNSYLVANIA</b> <b>DEPARTMENT OF TRANSPORTATION</b> BUREAU OF DESIGN		
INLET BOXES PRECAST INLET BOXES - 2		
RECOMMENDED AUG. 29, 2008 <i>Daniel B. Howard</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT 24 OF 44 RC-46M

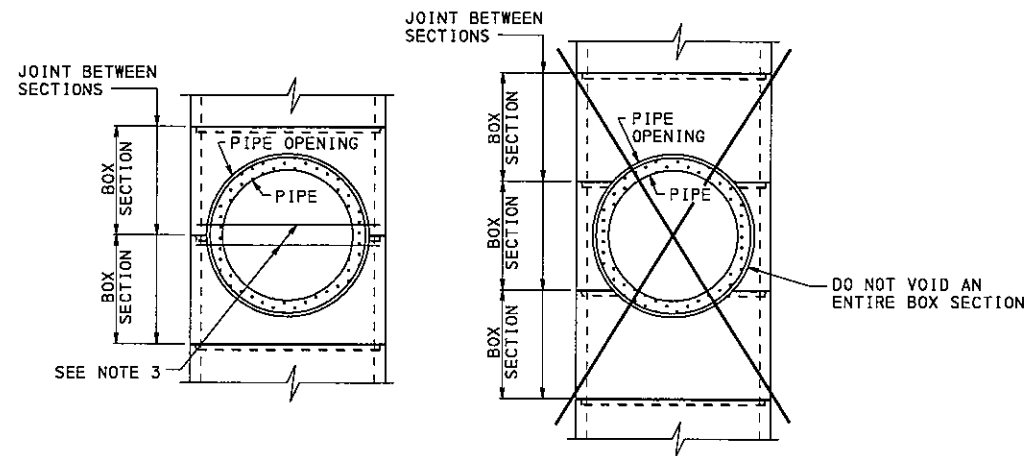


**ADDITIONAL REINFORCING ADJACENT TO PIPE OPENINGS IN WALL**

PIPE OPENING LOCATION AND SIZE AS REQUIRED

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- PROVIDE DIAGONAL BARS WHEN PIPE OPENING IS GREATER THAN 914 mm (3'-0")
- PROVIDE #10 (#3) BARS TO SUPPORT THE PIPE OPENING DURING FABRICATION. LOCATE BARS 38 mm (1/2") CLEAR FROM TOP OR BOTTOM OF THE SECTION. CUT BARS IN FIELD PRIOR TO INSTALLING PIPE.
- ALSO SEE PIPE LOCATION AND PIPE OPENING NOTE 5 ON SHEET 2.
- FOR REINFORCEMENT DETAILS SEE SHEETS 26 & 27.
- TIE ADDITIONAL REINFORCEMENT TO THE OUTSIDE FACE REINFORCEMENT.



**CORRECT LOCATION**

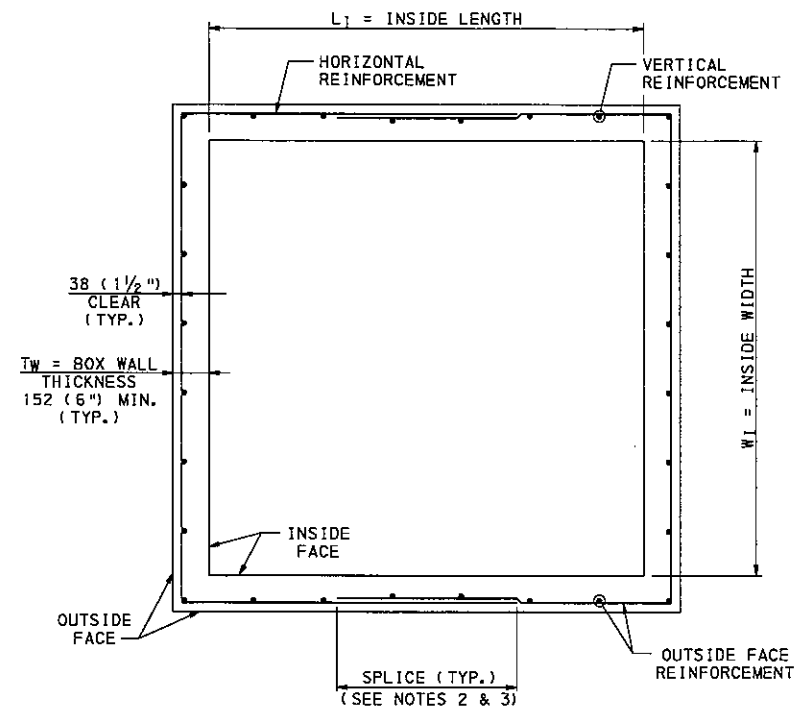
**WRONG LOCATION**

**LOCATION OF PIPE OPENING**

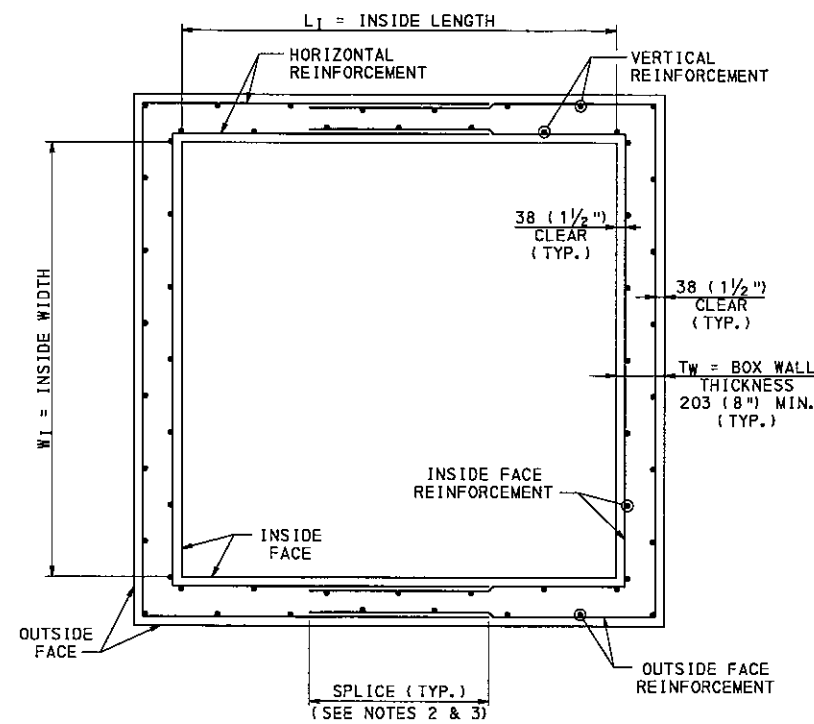
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
 DEPARTMENT OF TRANSPORTATION  
 BUREAU OF DESIGN**

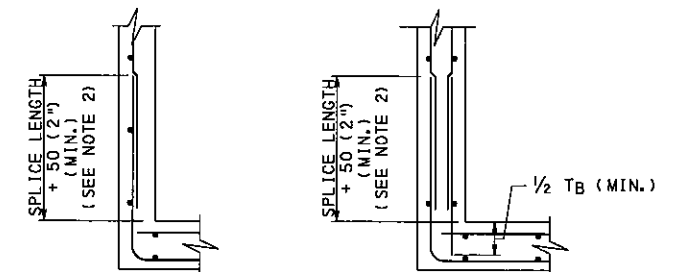
**INLET BOXES  
 PRECAST INLET BOXES - 3**



**HORIZONTAL SECTION WITH TWO REINFORCEMENT LAYERS**  
(RISER SECTIONS AND BASE SECTIONS)

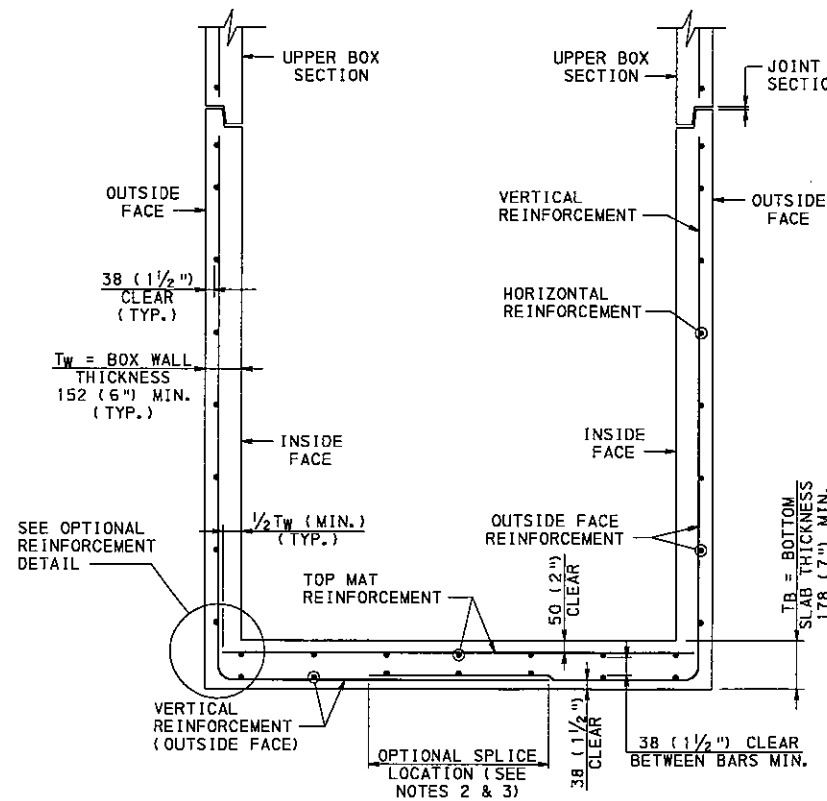


**HORIZONTAL SECTION WITH FOUR REINFORCEMENT LAYERS**  
(RISER SECTIONS AND BASE SECTIONS)

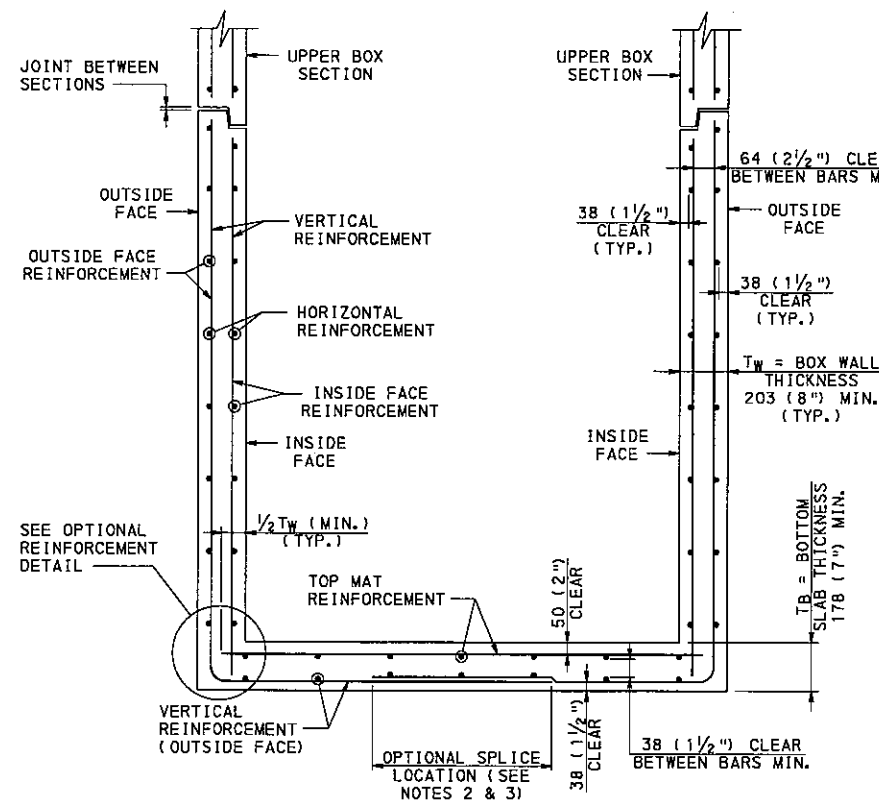


**TWO REINFORCEMENT LAYERS**      **FOUR REINFORCEMENT LAYERS**

**OPTIONAL REINFORCEMENT DETAILS**



**VERTICAL SECTION OF BASE SECTION WITH TWO REINFORCEMENT LAYERS**



**VERTICAL SECTION OF BASE SECTION WITH FOUR REINFORCEMENT LAYERS**

**TYPICAL SECTIONS PRECAST INLET BOXES WITH REINFORCEMENT BARS**

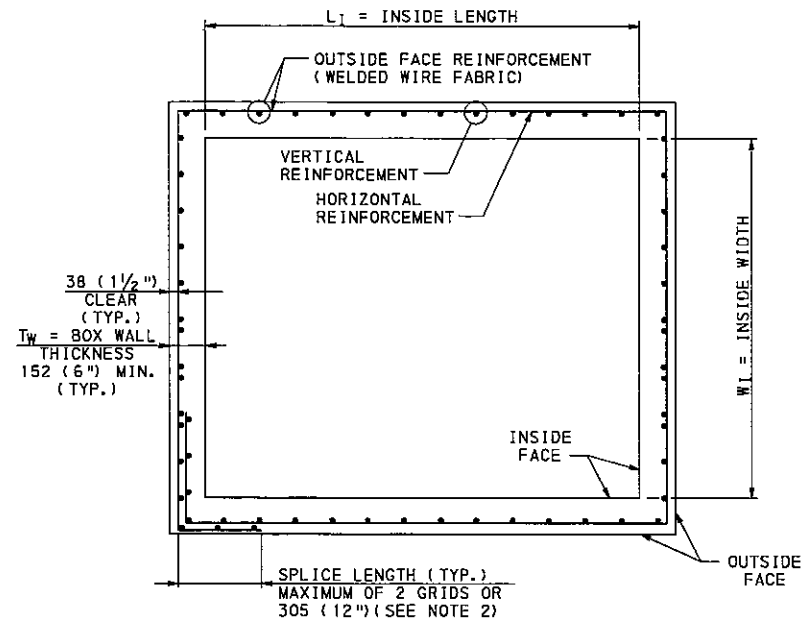
**NOTES:**

1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
2. FOR REINFORCEMENT BAR SPLICE LENGTHS SEE SHEET 3.
3. SPLICE LOCATION TO BE DETERMINED BY FABRICATOR.
4. FOR REINFORCEMENT BAR DESIGN TABLES SEE SHEETS 28 - 33.

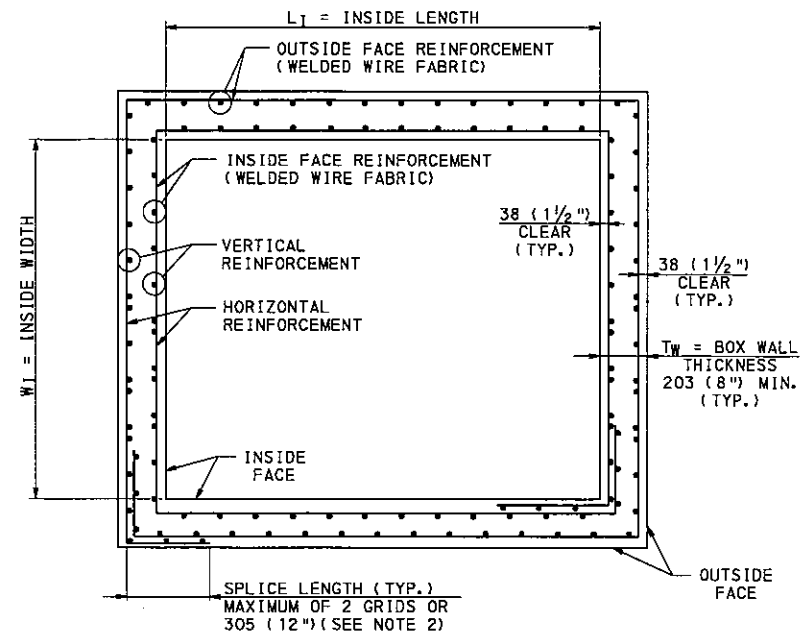
NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
BUREAU OF DESIGN

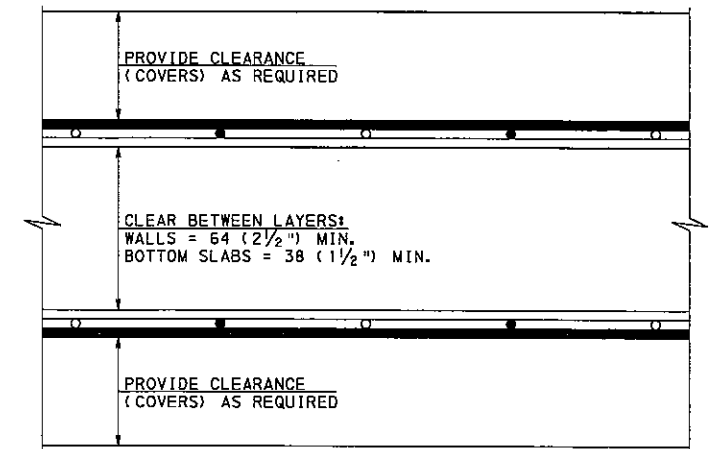
**INLET BOXES**  
**PRECAST INLET BOXES - 4**  
**(REINFORCEMENT BAR DETAILS)**



**HORIZONTAL SECTION  
WITH ONE LAYER OF WELDED WIRE FABRIC**  
(RISER SECTIONS AND BASE SECTIONS)



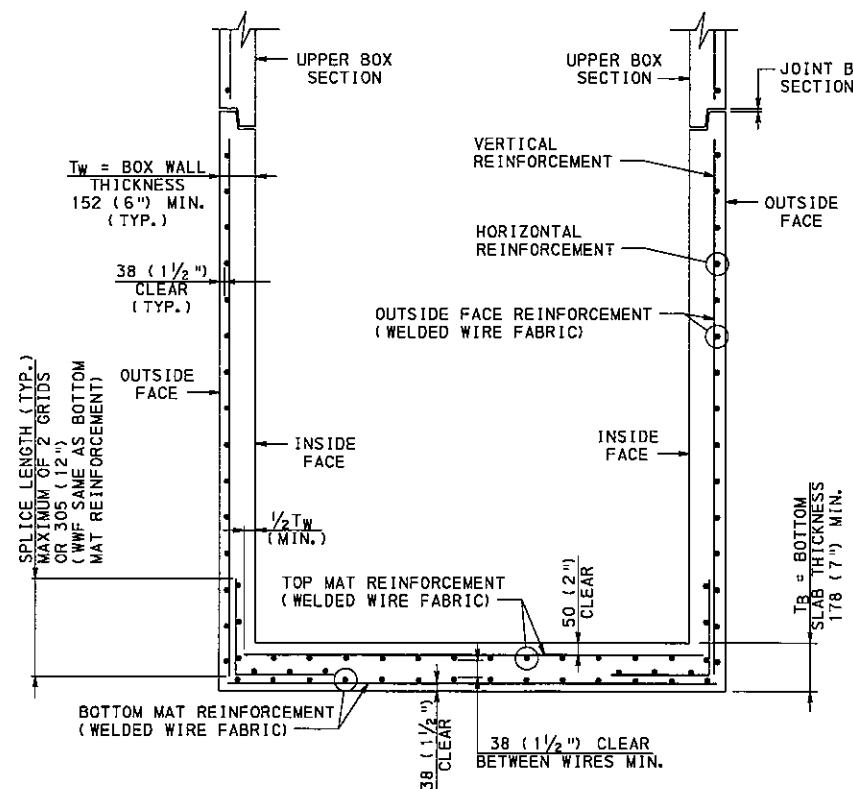
**HORIZONTAL SECTION  
WITH TWO LAYERS OF WELDED WIRE FABRIC**  
(RISER SECTIONS AND BASE SECTIONS)



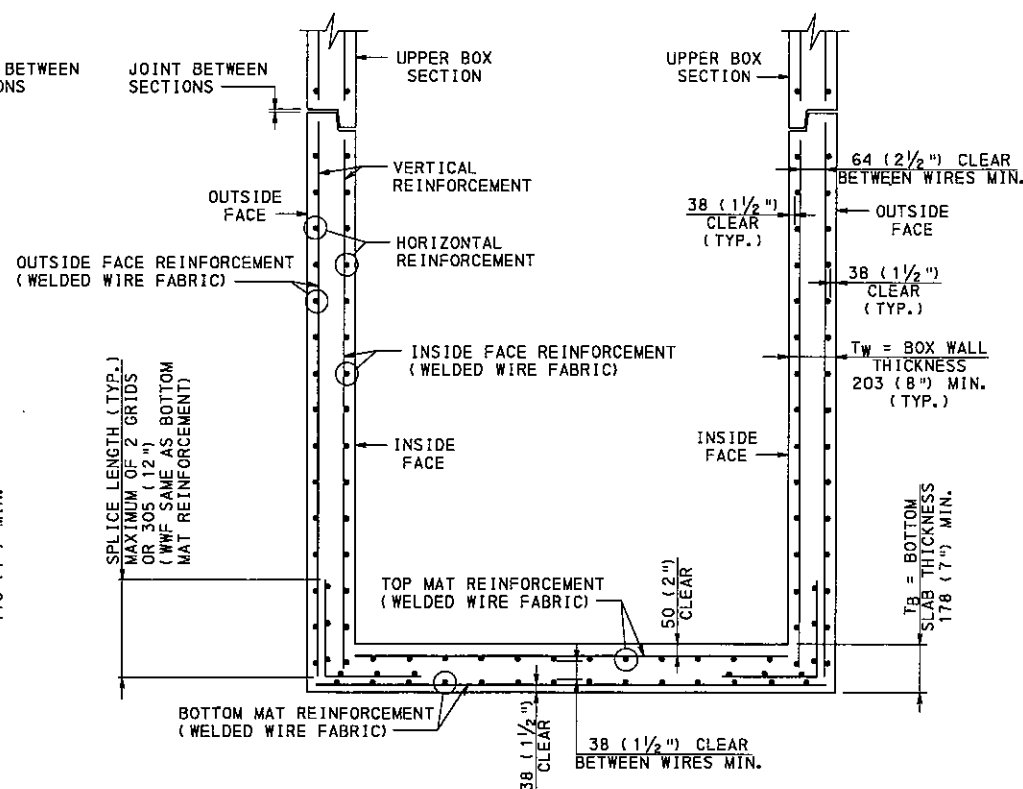
**NESTED WWF DETAIL**

**NESTED WWF NOTES:**

- FABRICATOR IS PERMITTED TO FABRICATE THE PRECAST CONCRETE INLET BOXES USING NESTED WWF IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
  - THE MEMBER THICKNESS AND THE REQUIRED AREA OF STEEL MUST MEET THE REQUIREMENTS OF THE WELDED WIRE FABRIC DESIGN TABLES SHOWN ON SHEETS 34 - 43.
  - THE CLEAR DISTANCE BETWEEN PARALLEL WIRES IS NOT PERMITTED TO BE LESS THAN 38 (1 1/2)".
  - ALL OTHER COVER AND CLEARANCE REQUIREMENTS ARE MET.
- A MAXIMUM OF TWO LAYERS OF WWF IS PERMITTED TO BE NESTED PER MAT.



**VERTICAL SECTION OF BASE SECTION  
WITH ONE LAYER OF WELDED WIRE FABRIC**



**VERTICAL SECTION OF BASE SECTION  
WITH TWO LAYERS OF WELDED WIRE FABRIC**

**TYPICAL SECTIONS  
PRECAST INLET BOXES  
WITH WELDED WIRE FABRIC**

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- SPLICE LOCATION TO BE DETERMINED BY FABRICATOR.
- FOR WWF DESIGN TABLES SEE SHEETS 34 - 43.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

**INLET BOXES  
PRECAST INLET BOXES - 5  
(WELDED WIRE FABRIC DETAILS)**

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
BOX TYPE - STANDARD  
U. S. CUSTOMARY UNITS

RISER SECTIONS

JOINT DEPTH (FT.)	L <sub>1</sub> (IN.)	W <sub>1</sub> (IN.)	T <sub>w</sub> (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
7.0	45 1/4	24	6	#3	9	#3	9	---	---	---	---
11.0	45 1/4	24	6	#3	6	#3	9	---	---	---	---
14.0	45 1/4	24	6	#4	9	#3	9	---	---	---	---
16.0	45 1/4	24	6	#3	4	#3	9	---	---	---	---
20.0	45 1/4	24	6	#4	6	#3	9	---	---	---	---
28.0	45 1/4	24	8	#4	12	#3	9	#4	12	#3	9

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
BOX TYPE - STANDARD  
U. S. CUSTOMARY UNITS

BASE SECTIONS

H (FT.)	L <sub>1</sub> (IN.)	W <sub>1</sub> (IN.)	T <sub>w</sub> (IN.)	T <sub>b</sub> (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
					BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
7.0	45 1/4	24	6	7	#3	9	#3	6	---	---	---	---	#3	6
11.0	45 1/4	24	6	7	#3	6	#3	6	---	---	---	---	#3	6
13.0	45 1/4	24	6	7	#4	9	#3	6	---	---	---	---	#3	6
16.0	45 1/4	24	6	7	#3	4	#3	6	---	---	---	---	#3	6
19.0	45 1/4	24	6	7	#4	6	#3	6	---	---	---	---	#3	6
30.0	45 1/4	24	8	7	#4	12	#3	6	#4	12	#4	12	#3	6

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
BOX TYPE - 4  
U. S. CUSTOMARY UNITS

RISER SECTIONS

JOINT DEPTH (FT.)	L <sub>1</sub> (IN.)	W <sub>1</sub> (IN.)	T <sub>w</sub> (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
4.0	48	48	6	#3	9	#3	9	---	---	---	---
8.0	48	48	6	#3	6	#3	9	---	---	---	---
11.0	48	48	6	#4	9	#3	9	---	---	---	---
12.0	48	48	6	#3	4	#3	9	---	---	---	---
15.0	48	48	6	#4	6	#3	9	---	---	---	---
26.0	48	48	8	#4	12	#3	9	#4	12	#3	9
28.0	48	48	8	#3	4	#3	9	#3	4	#3	9

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
BOX TYPE - 4  
U. S. CUSTOMARY UNITS

BASE SECTIONS

H (FT.)	L <sub>1</sub> (IN.)	W <sub>1</sub> (IN.)	T <sub>w</sub> (IN.)	T <sub>b</sub> (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
					BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
8.0	48	48	6	7	#3	6	#3	6	---	---	---	---	#3	6
10.0	48	48	6	7	#4	9	#3	6	---	---	---	---	#3	6
12.0	48	48	6	7	#3	4	#3	6	---	---	---	---	#3	6
15.0	48	48	6	7	#4	6	#3	6	---	---	---	---	#3	6
16.0	48	48	6	7	#5	9	#3	6	---	---	---	---	#3	6
25.0	48	48	8	7	#4	12	#3	6	#4	12	#3	9	#3	6
26.0	48	48	8	7	#3	4	#3	6	#4	12	#3	9	#3	6
29.0	48	48	8	7	#3	4	#3	6	#4	6	#3	9	#3	6
30.0	48	48	8	8	#3	4	#3	6	#4	6	#3	9	#3	6

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
BOX TYPE - 5  
U. S. CUSTOMARY UNITS

RISER SECTIONS

JOINT DEPTH (FT.)	L <sub>1</sub> (IN.)	W <sub>1</sub> (IN.)	T <sub>w</sub> (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
5.0	60	60	6	#4	9	#3	9	---	---	---	---
7.0	60	60	6	#3	4	#3	9	---	---	---	---
10.0	60	60	6	#4	6	#3	9	---	---	---	---
17.0	60	60	8	#4	12	#3	9	#4	12	#3	9
24.0	60	60	8	#3	4	#3	9	#3	4	#3	9
28.0	60	60	8	#4	4	#3	9	#4	4	#3	9

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
BOX TYPE - 5  
U. S. CUSTOMARY UNITS

BASE SECTIONS

H (FT.)	L <sub>1</sub> (IN.)	W <sub>1</sub> (IN.)	T <sub>w</sub> (IN.)	T <sub>b</sub> (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
					BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
7.0	60	60	6	7	#3	4	#3	6	---	---	---	---	#3	6
10.0	60	60	6	7	#4	6	#3	6	---	---	---	---	#3	6
17.0	60	60	8	7	#4	12	#3	6	#4	12	#3	9	#3	6
19.0	60	60	8	7	#3	4	#3	6	#3	4	#3	9	#3	6
22.0	60	60	8	8	#3	4	#3	6	#3	4	#3	9	#3	6
24.0	60	60	8	8	#3	4	#3	4	#3	4	#3	9	#3	6
26.0	60	60	8	8	#4	4	#3	4	#4	4	#3	9	#3	6
30.0	60	60	8	8	#4	4	#4	4	#4	4	#3	9	#3	6

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN

INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 1  
U. S. CUSTOMARY UNITS  
(REINFORCEMENT BARS)

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Hest</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Daniel B. Hest</i> DIRECTOR, BUREAU OF DESIGN	SHT 28 OF 44 RC-46M
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 6  
U. S. CUSTOMARY UNITS**

**RISER SECTIONS**

JOINT DEPTH (FT.)	LI (IN.)	WI (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
6.0	72	72	6	#4	6	#3	9	---	---	---	---
13.0	72	72	8	#4	12	#3	9	#4	12	#3	9
17.0	72	72	8	#3	4	#3	9	#3	4	#3	9
26.0	72	72	8	#4	4	#3	9	#4	4	#3	9
28.0	72	72	10	#4	4	#3	9	#4	4	#4	12

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 6  
U. S. CUSTOMARY UNITS**

**BASE SECTIONS**

H (FT.)	LI (IN.)	WI (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
					BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
10.0	72	72	8	8	#4	12	#3	4	#4	12	#3	9	#3	6
12.0	72	72	8	8	#4	12	#4	4	#4	12	#3	9	#3	6
17.0	72	72	8	9	#3	4	#4	4	#3	4	#3	9	#3	6
20.0	72	72	8	9	#4	4	#4	4	#4	4	#3	9	#3	6
26.0	72	72	8	10	#4	4	#4	4	#4	4	#3	9	#3	6
30.0	72	72	10	10	#4	4	#4	4	#4	4	#4	12	#4	9

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 7  
U. S. CUSTOMARY UNITS**

**RISER SECTIONS**

JOINT DEPTH (FT.)	LI (IN.)	WI (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
9.0	84	84	8	#4	12	#3	9	#4	12	#3	9
13.0	84	84	8	#3	4	#3	9	#3	4	#3	9
22.0	84	84	8	#4	4	#3	9	#4	4	#3	9
28.0	84	84	10	#4	4	#4	12	#4	4	#4	12

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 7  
U. S. CUSTOMARY UNITS**

**BASE SECTIONS**

H (FT.)	LI (IN.)	WI (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
					BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
9.0	84	84	8	8	#3	4	#4	4	#4	12	#4	12	#3	6
11.0	84	84	8	8	#3	4	#4	4	#4	6	#4	12	#3	6
13.0	84	84	8	9	#3	4	#4	4	#4	6	#4	12	#3	6
18.0	84	84	8	9	#4	4	#4	4	#4	4	#4	12	#3	6
22.0	84	84	8	10	#4	4	#4	4	#4	4	#4	12	#3	6
24.0	84	84	10	10	#4	4	#4	4	#4	4	#4	12	#4	9
26.0	84	84	10	10	#4	4	#5	4	#4	4	#4	12	#3	4
29.0	84	84	10	11	#5	4	#5	4	#4	4	#4	12	#3	4
30.0	84	84	12	11	#5	6	#5	4	#4	4	#4	9	#3	4

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 8  
U. S. CUSTOMARY UNITS**

**RISER SECTIONS**

JOINT DEPTH (FT.)	LI (IN.)	WI (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
10.0	96	96	8	#4	6	#3	9	#4	6	#3	9
18.0	96	96	8	#4	4	#3	9	#4	4	#3	9
23.0	96	96	10	#4	4	#3	9	#4	4	#4	12
25.0	96	96	10	#5	4	#3	9	#5	4	#4	12
27.0	96	96	12	#4	4	#3	9	#4	4	#4	9
28.0	96	96	12	#5	4	#3	9	#5	4	#4	9

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 8  
U. S. CUSTOMARY UNITS**

**BASE SECTIONS**

H (FT.)	LI (IN.)	WI (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
					BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
11.0	96	96	8	8	#4	4	#4	4	#4	4	#4	12	#3	6
17.0	96	96	8	9	#4	4	#4	4	#4	4	#4	12	#3	6
19.0	96	96	8	10	#5	4	#4	4	#5	4	#4	12	#3	6
22.0	96	96	10	10	#5	4	#5	4	#5	4	#4	12	#3	4
24.0	96	96	10	10	#5	4	#4	4	#5	4	#4	12	#3	6
28.0	96	96	12	11	#5	4	#5	4	#5	4	#4	9	#4	9
30.0	96	96	12	12	#5	4	#5	4	#5	4	#4	9	#4	4

- NOTES:**
- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
  - FOR INLET BOX TYPES SEE SHEET 6.
  - FOR DETAILS SEE SHEETS 23 - 27.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

**INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 2  
U. S. CUSTOMARY UNITS  
(REINFORCEMENT BARS)**

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Hirst</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel Thomas</i> DIRECTOR, BUREAU OF DESIGN	SHT 29 OF 44 <b>RC-46M</b>
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 9**  
**U. S. CUSTOMARY UNITS**

**RISER SECTIONS**

JOINT DEPTH (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
14.0	108	108	8	#4	4	#3	9	#4	4	#3	9
16.0	108	108	8	#5	4	#3	9	#5	4	#3	9
18.0	108	108	10	#4	4	#3	9	#4	4	#4	12
23.0	108	108	10	#5	4	#3	9	#5	4	#4	12
28.0	108	108	12	#5	4	#3	9	#5	4	#4	9

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 9**  
**U. S. CUSTOMARY UNITS**

**BASE SECTIONS**

H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
					BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
14.0	108	108	8	8	#4	4	#4	4	#4	4	#4	12	#3	6
18.0	108	108	10	9	#5	4	#5	4	#5	4	#4	12	#3	4
21.0	108	108	10	9	#5	4	#5	4	#5	4	#4	12	#4	9
24.0	108	108	12	10	#5	4	#5	4	#5	4	#4	9	#4	9
26.0	108	108	12	10	#5	4	#5	4	#5	4	#4	9	#4	4
28.0	108	108	12	11	#5	4	#5	4	#5	4	#4	9	#4	4
30.0	108	108	14	11	#5	4	#5	4	#5	4	#4	6	#4	4

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 10**  
**U. S. CUSTOMARY UNITS**

**RISER SECTIONS**

JOINT DEPTH (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
12.0	120	120	8	#4	4	#3	9	#4	4	#3	9
15.0	120	120	8	#5	4	#3	9	#5	4	#4	12
20.0	120	120	10	#5	4	#3	9	#5	4	#4	12
26.0	120	120	12	#5	4	#3	9	#5	4	#4	9
28.0	120	120	14	#5	4	#3	9	#5	4	#3	4

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 10**  
**U. S. CUSTOMARY UNITS**

**BASE SECTIONS**

H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
					BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
13.0	120	120	8	8	#5	4	#4	4	#5	4	#4	12	#4	9
15.0	120	120	8	8	#5	4	#5	4	#5	4	#4	12	#4	9
18.0	120	120	10	9	#5	4	#4	4	#5	4	#4	12	#3	6
20.0	120	120	10	9	#5	4	#5	4	#5	4	#4	12	#4	9
24.0	120	120	12	10	#5	4	#5	4	#5	4	#4	9	#4	4
28.0	120	120	14	11	#5	4	#5	4	#5	4	#4	6	#4	4
30.0	120	120	14	12	#5	4	#5	4	#5	4	#4	6	#4	4

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - D-H**  
**U. S. CUSTOMARY UNITS**

**RISER SECTIONS**

JOINT DEPTH (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
3.0	99	30	6	#4	6	#3	9	---	---	---	---
9.0	99	30	8	#4	12	#3	9	#4	12	#3	9
13.0	99	30	8	#3	4	#3	9	#3	4	#3	9
19.0	99	30	8	#4	4	#3	9	#4	4	#3	9
26.0	99	30	10	#4	4	#3	9	#4	4	#4	12
28.0	99	30	12	#4	4	#3	9	#4	4	#4	9

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - D-H**  
**U. S. CUSTOMARY UNITS**

**BASE SECTIONS**

H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (IN.)
					BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)		
4.0	99	30	6	7	#5	9	#3	6	---	---	---	---	#3	6
9.0	99	30	8	7	#4	12	#3	6	#4	12	#3	9	#3	6
12.0	99	30	8	7	#3	4	#3	4	#3	4	#3	9	#3	6
19.0	99	30	8	7	#4	4	#4	4	#4	4	#3	9	#3	6
25.0	99	30	10	7	#4	4	#4	4	#4	4	#4	12	#3	6
30.0	99	30	12	7	#4	4	#4	4	#4	4	#4	9	#3	6

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
BUREAU OF DESIGN

INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 3  
U. S. CUSTOMARY UNITS  
(REINFORCEMENT BARS)

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>David L. Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT 30 OF 44 RC-46M
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - STANDARD  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)
2134	1150	610	152	#10	229	#10	229	---	---	---	---
3353	1150	610	152	#10	152	#10	229	---	---	---	---
4267	1150	610	152	#13	229	#10	229	---	---	---	---
4877	1150	610	152	#10	102	#10	229	---	---	---	---
6096	1150	610	152	#13	152	#10	229	---	---	---	---
8534	1150	610	203	#13	305	#10	229	#13	305	#10	229

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - STANDARD  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	T <sub>b</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)
					BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		
2134	1150	610	152	178	#10	229	#10	152	---	---	---	---	#10	152
3353	1150	610	152	178	#10	152	#10	152	---	---	---	---	#10	152
3962	1150	610	152	178	#13	229	#10	152	---	---	---	---	#10	152
4877	1150	610	152	178	#10	102	#10	152	---	---	---	---	#10	152
5791	1150	610	152	178	#13	152	#10	152	---	---	---	---	#10	152
9144	1150	610	203	178	#13	305	#10	152	#13	305	#13	305	#10	152

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 4  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)
1219	1220	1220	152	#10	229	#10	229	---	---	---	---
2438	1220	1220	152	#10	152	#10	229	---	---	---	---
3353	1220	1220	152	#13	229	#10	229	---	---	---	---
3658	1220	1220	152	#10	102	#10	229	---	---	---	---
4572	1220	1220	152	#13	152	#10	229	---	---	---	---
7925	1220	1220	203	#13	305	#10	229	#13	305	#10	229
8534	1220	1220	203	#10	102	#10	229	#10	102	#10	229

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 4  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	T <sub>b</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)
					BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		
2438	1220	1220	152	178	#10	152	#10	152	---	---	---	---	#10	152
3048	1220	1220	152	178	#13	229	#10	152	---	---	---	---	#10	152
3658	1220	1220	152	178	#10	102	#10	152	---	---	---	---	#10	152
4572	1220	1220	152	178	#13	152	#10	152	---	---	---	---	#10	152
4877	1220	1220	152	178	#16	229	#10	152	---	---	---	---	#10	152
7620	1220	1220	203	178	#13	305	#10	152	#13	305	#10	229	#10	152
7925	1220	1220	203	178	#10	102	#10	152	#13	305	#10	229	#10	152
8839	1220	1220	203	178	#10	102	#10	152	#13	152	#10	229	#10	152
9144	1220	1220	203	203	#10	102	#10	152	#13	152	#10	229	#10	152

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 5  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)
1524	1524	1524	152	#13	229	#10	229	---	---	---	---
2134	1524	1524	152	#10	102	#10	229	---	---	---	---
3048	1524	1524	152	#13	152	#10	229	---	---	---	---
5182	1524	1524	203	#13	305	#10	229	#13	305	#10	229
7315	1524	1524	203	#10	102	#10	229	#10	102	#10	229
8534	1524	1524	203	#13	102	#10	229	#13	102	#10	229

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 5  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	T <sub>b</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)
					BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		
2134	1524	1524	152	178	#10	102	#10	152	---	---	---	---	#10	152
3048	1524	1524	152	178	#13	152	#10	152	---	---	---	---	#10	152
5182	1524	1524	203	178	#13	305	#10	152	#13	305	#10	229	#10	152
5791	1524	1524	203	178	#10	102	#10	152	#10	102	#10	229	#10	152
6706	1524	1524	203	203	#10	102	#10	152	#10	102	#10	229	#10	152
7315	1524	1524	203	203	#10	102	#10	102	#10	102	#10	229	#10	152
7925	1524	1524	203	203	#13	102	#10	102	#13	102	#10	229	#10	152
9144	1524	1524	203	203	#13	102	#13	102	#13	102	#10	229	#10	152

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

**INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 1  
METRIC UNITS  
(REINFORCEMENT BARS)**

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT 31 OF 44 <b>RC-46M</b>
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 6  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)
1829	1828	1828	152	#13	152	#10	229	---	---	---	---
3962	1828	1828	203	#13	305	#10	229	#13	305	#10	229
5182	1828	1828	203	#10	102	#10	229	#10	102	#10	229
7925	1828	1828	203	#13	102	#10	229	#13	102	#10	229
8534	1828	1828	254	#13	102	#10	229	#13	102	#13	305

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 6  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	T <sub>b</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)
					BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		
3048	1828	1828	203	203	#13	305	#10	102	#13	305	#10	229	#10	152
3658	1828	1828	203	203	#13	305	#13	102	#13	305	#10	229	#10	152
5182	1828	1828	203	229	#10	102	#13	102	#10	102	#10	229	#10	152
6096	1828	1828	203	229	#13	102	#13	102	#13	102	#10	229	#10	152
7925	1828	1828	203	254	#13	102	#13	102	#13	102	#10	229	#10	152
9144	1828	1828	254	254	#13	102	#13	102	#13	102	#13	305	#13	229

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 7  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)
2743	2134	2134	203	#13	305	#10	229	#13	305	#10	229
3962	2134	2134	203	#10	102	#10	229	#10	102	#10	229
6706	2134	2134	203	#13	102	#10	229	#13	102	#10	229
8534	2134	2134	254	#13	102	#13	305	#13	102	#13	305

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 7  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	T <sub>b</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)
					BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		
2743	2134	2134	203	203	#10	102	#13	102	#13	305	#13	305	#10	152
3353	2134	2134	203	203	#10	102	#13	102	#13	152	#13	305	#10	152
3962	2134	2134	203	229	#10	102	#13	102	#13	152	#13	305	#10	152
5486	2134	2134	203	229	#13	102	#13	102	#13	102	#13	305	#10	152
6706	2134	2134	203	254	#13	102	#13	102	#13	102	#13	305	#10	152
7315	2134	2134	254	254	#13	102	#13	102	#13	102	#13	305	#13	229
7925	2134	2134	254	254	#13	102	#16	102	#13	102	#13	305	#10	102
8839	2134	2134	254	279	#16	102	#16	102	#13	102	#13	305	#10	102
9144	2134	2134	305	279	#16	152	#16	102	#13	102	#13	229	#10	102

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 8  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)
3048	2438	2438	203	#13	152	#10	229	#13	152	#10	229
5486	2438	2438	203	#13	102	#10	229	#13	102	#10	229
7010	2438	2438	254	#13	102	#10	229	#13	102	#13	305
7620	2438	2438	254	#16	102	#10	229	#16	102	#13	305
8230	2438	2438	305	#13	102	#10	229	#13	102	#13	229
8534	2438	2438	305	#16	102	#10	229	#16	102	#13	229

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 8  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	T <sub>b</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)
					BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		
3353	2438	2438	203	203	#13	102	#13	102	#13	102	#13	305	#10	152
5182	2438	2438	203	229	#13	102	#13	102	#13	102	#13	305	#10	152
5791	2438	2438	203	254	#16	102	#13	102	#16	102	#13	305	#10	152
6706	2438	2438	254	254	#16	102	#16	102	#16	102	#13	305	#10	102
7315	2438	2438	254	254	#16	102	#13	102	#16	102	#13	305	#10	152
8534	2438	2438	305	279	#16	102	#16	102	#16	102	#13	229	#13	229
9144	2438	2438	305	305	#16	102	#16	102	#16	102	#13	229	#13	102

- NOTES:**
- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
  - FOR INLET BOX TYPES SEE SHEET 6.
  - FOR DETAILS SEE SHEETS 23 - 27.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

**INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 2  
METRIC UNITS  
(REINFORCEMENT BARS)**

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Annelle Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT 32 OF 44 <b>RC-46M</b>
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 9  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)
4267	2744	2744	203	#13	102	#10	229	#13	102	#10	229
4877	2744	2744	203	#16	102	#10	229	#16	102	#10	229
5486	2744	2744	254	#13	102	#10	229	#13	102	#13	305
7010	2744	2744	254	#16	102	#10	229	#16	102	#13	305
8534	2744	2744	305	#16	102	#10	229	#16	102	#13	229

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 9  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	T <sub>b</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)
					BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		
4267	2744	2744	203	203	#13	102	#13	102	#13	102	#13	305	#10	152
5486	2744	2744	254	229	#16	102	#16	102	#16	102	#13	305	#10	102
6401	2744	2744	254	229	#16	102	#13	102	#16	102	#13	305	#13	229
7315	2744	2744	305	254	#16	102	#16	102	#16	102	#13	229	#13	229
7925	2744	2744	305	254	#16	102	#16	102	#16	102	#13	229	#13	102
8534	2744	2744	305	279	#16	102	#16	102	#16	102	#13	229	#13	102
9144	2744	2744	356	279	#16	102	#16	102	#16	102	#13	152	#13	102

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 10  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)
3658	3048	3048	203	#13	102	#10	229	#13	102	#10	229
4572	3048	3048	203	#16	102	#10	229	#16	102	#13	305
6096	3048	3048	254	#16	102	#10	229	#16	102	#13	305
7925	3048	3048	305	#16	102	#10	229	#16	102	#13	229
8534	3048	3048	356	#16	102	#10	229	#16	102	#10	102

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 10  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	T <sub>b</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)
					BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		
3962	3048	3048	203	203	#16	102	#13	102	#16	102	#13	305	#13	229
4572	3048	3048	203	203	#16	102	#16	102	#16	102	#13	305	#13	229
5486	3048	3048	254	229	#16	102	#13	102	#16	102	#13	305	#10	152
6096	3048	3048	254	229	#16	102	#16	102	#16	102	#13	305	#13	229
7315	3048	3048	305	254	#16	102	#16	102	#16	102	#13	229	#13	102
8534	3048	3048	356	279	#16	102	#16	102	#16	102	#13	152	#13	102
9144	3048	3048	356	305	#16	102	#16	102	#16	102	#13	152	#13	102

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - D-H  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL	
				BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)
914	2516	762	152	#13	152	#10	229	---	---	---	---
2743	2516	762	203	#13	305	#10	229	#13	305	#10	229
3962	2516	762	203	#10	102	#10	229	#10	102	#10	229
5791	2516	762	203	#13	102	#10	229	#13	102	#10	229
7925	2516	762	254	#13	102	#10	229	#13	102	#13	305
8534	2516	762	305	#13	102	#10	229	#13	102	#13	229

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - D-H  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	T <sub>b</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT	
					HORIZONTAL		VERTICAL		HORIZONTAL		VERTICAL		BAR SIZE	SPACING (mm)
					BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)	BAR SIZE	SPACING (mm)		
1219	2516	762	152	178	#16	229	#10	152	---	---	---	---	#10	152
2743	2516	762	203	178	#13	305	#10	152	#13	305	#10	229	#10	152
3658	2516	762	203	178	#10	102	#10	102	#10	102	#10	229	#10	152
5791	2516	762	203	178	#13	102	#13	102	#13	102	#10	229	#10	152
7620	2516	762	254	178	#13	102	#13	102	#13	102	#13	305	#10	152
9144	2516	762	305	178	#13	102	#13	102	#13	102	#13	229	#10	152

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 3  
METRIC UNITS  
(REINFORCEMENT BARS)

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT 33 OF 44 RC-46M
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - STANDARD  
U. S. CUSTOMARY UNITS**

BASE SECTIONS														
H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) HORIZONTAL VERTICAL		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) HORIZONTAL VERTICAL		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION	WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION
4.0	45 1/4	24	6	7	WWF 4x4-W4xW4	0.12	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
7.0	45 1/4	24	6	7	WWF 3x4-W4xW4	0.16	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
9.0	45 1/4	24	6	7	WWF 3x4-W5xW4	0.20	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
11.0	45 1/4	24	6	7	WWF 3x4-W6xW4	0.24	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
13.0	45 1/4	24	6	7	WWF 3x4-W7xW4	0.28	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
15.0	45 1/4	24	6	7	WWF 3x4-W8xW4	0.32	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
17.0	45 1/4	24	6	7	WWF 3x4-W9xW4	0.36	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
19.0	45 1/4	24	6	7	WWF 6x6-W20xW10	0.40	0.20	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
30.0	45 1/4	24	8	7	WWF 3x3-W4xW4	0.16	0.16	WWF 3x3-W4xW4	0.16	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - STANDARD  
U. S. CUSTOMARY UNITS**

RISER SECTIONS									
JOINT DEPTH (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) HORIZONTAL VERTICAL		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) HORIZONTAL VERTICAL	
5.0	45 1/4	24	6	WWF 4x4-W4xW4	0.12	0.12	---	---	---
8.0	45 1/4	24	6	WWF 3x4-W4xW4	0.16	0.12	---	---	---
10.0	45 1/4	24	6	WWF 3x4-W5xW4	0.20	0.12	---	---	---
13.0	45 1/4	24	6	WWF 3x4-W7xW4	0.28	0.12	---	---	---
15.0	45 1/4	24	6	WWF 3x4-W8xW4	0.32	0.12	---	---	---
17.0	45 1/4	24	6	WWF 3x4-W9xW4	0.36	0.12	---	---	---
19.0	45 1/4	24	6	WWF 3x4-W10xW4	0.40	0.12	---	---	---
28.0	45 1/4	24	8	WWF 3x3-W4xW4	0.16	0.16	WWF 3x3-W4xW4	0.16	0.16

\* SUGGESTED SIZE OF WELDED WIRE FABRIC

WWF AxB-WCxWD  
A = SPACING OF HORIZONTAL WIRES (SH), IN.  
B = SPACING OF VERTICAL WIRES (SV), IN.  
C = HORIZONTAL WIRE SIZE  
D = VERTICAL WIRE SIZE

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 4  
U. S. CUSTOMARY UNITS**

BASE SECTIONS														
H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) HORIZONTAL VERTICAL		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) HORIZONTAL VERTICAL		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION	WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION
6.0	48	48	6	7	WWF 3x4-W4xW4	0.20	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
8.0	48	48	6	7	WWF 3x4-W6xW4	0.24	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
10.0	48	48	6	7	WWF 3x4-W7xW4	0.28	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
13.0	48	48	6	7	WWF 3x4-W9xW4	0.36	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
24.0	48	48	8	7	WWF 3x3-W4xW4	0.16	0.16	WWF 3x3-W4xW4	0.16	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
26.0	48	48	8	7	WWF 3x3-W6xW4	0.24	0.16	WWF 3x3-W5xW4	0.20	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
30.0	48	48	8	8	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 4  
U. S. CUSTOMARY UNITS**

RISER SECTIONS									
JOINT DEPTH (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) HORIZONTAL VERTICAL		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) HORIZONTAL VERTICAL	
4.0	48	48	6	WWF 3x4-W4xW4	0.16	0.12	---	---	---
6.0	48	48	6	WWF 3x4-W5xW4	0.20	0.12	---	---	---
9.0	48	48	6	WWF 3x4-W6xW4	0.24	0.12	---	---	---
12.0	48	48	6	WWF 3x4-W8xW4	0.32	0.12	---	---	---
14.0	48	48	6	WWF 3x4-W10xW4	0.40	0.12	---	---	---
24.0	48	48	8	WWF 3x4-W4xW4	0.16	0.12	WWF 3x3-W4xW4	0.16	0.16
26.0	48	48	8	WWF 3x3-W5xW4	0.20	0.12	WWF 3x3-W5xW4	0.20	0.16
28.0	48	48	8	WWF 3x4-W7xW4	0.28	0.12	WWF 3x3-W7xW4	0.28	0.16

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 1  
U. S. CUSTOMARY UNITS  
(WELDED WIRE FABRIC)

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> DIRECTOR, BUREAU OF DESIGN	SHT 34 OF 44 <b>RC-46M</b>
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 5  
U.S. CUSTOMARY UNITS**

**BASE SECTIONS**

H (FT.)	L <sub>T</sub> (IN.)	W <sub>I</sub> (IN.)	T <sub>W</sub> (IN.)	T <sub>B</sub> (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION
8.0	60	60	6	7	WWF 3x4-W9xW4	0.36	0.12	---	---	---	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
16.0	60	60	8	7	WWF 3x3-W4xW4	0.16	0.16	WWF 3x3-W4xW4	0.16	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20
18.0	60	60	8	7	WWF 3x3-W6xW4	0.24	0.16	WWF 3x3-W6xW4	0.24	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W6xW6	0.24
21.0	60	60	8	7	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W6xW6	0.24
23.0	60	60	8	8	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W6xW6	0.24
25.0	60	60	8	8	WWF 3x3-W9xW5	0.36	0.20	WWF 3x3-W9xW4	0.36	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W6xW6	0.24
27.0	60	60	8	8	WWF 3x3-W10xW7	0.40	0.28	WWF 3x3-W9xW4	0.36	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W7xW7	0.28
29.0	60	60	8	8	WWF 3x3-W10xW8	0.40	0.32	WWF 3x3-W10xW4	0.40	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W7xW7	0.28
30.0	60	60	8	8	WWF 3x3-W12xW8	0.48	0.32	WWF 3x6-W12xW8	0.48	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W7xW7	0.28

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 5  
U.S. CUSTOMARY UNITS**

**RISER SECTIONS**

JOINT DEPTH (FT.)	L <sub>T</sub> (IN.)	W <sub>I</sub> (IN.)	T <sub>W</sub> (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)	
6.0	60	60	6	WWF 4x4-W10xW4	0.30	0.12	---	---	---
8.0	60	60	6	WWF 4x4-W12xW4	0.36	0.12	---	---	---
16.0	60	60	8	WWF 3x4-W4xW4	0.16	0.12	WWF 3x3-W4xW4	0.16	0.16
18.0	60	60	8	WWF 3x4-W6xW4	0.24	0.12	WWF 3x3-W5xW4	0.20	0.16
24.0	60	60	8	WWF 3x4-W8xW4	0.32	0.12	WWF 3x3-W8xW4	0.32	0.16
28.0	60	60	8	WWF 3x4-W10xW4	0.40	0.12	WWF 3x3-W10xW4	0.40	0.16

\* SUGGESTED SIZE OF WELDED WIRE FABRIC

WWF AxB-WCxWD  
A = SPACING OF HORIZONTAL WIRES (SH), IN.  
B = SPACING OF VERTICAL WIRES (SV), IN.  
C = HORIZONTAL WIRE SIZE  
D = VERTICAL WIRE SIZE

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 6  
U.S. CUSTOMARY UNITS**

**BASE SECTIONS**

H (FT.)	L <sub>T</sub> (IN.)	W <sub>I</sub> (IN.)	T <sub>W</sub> (IN.)	T <sub>B</sub> (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION
10.0	72	72	8	8	WWF 3x3-W4xW4	0.16	0.16	WWF 3x3-W4xW4	0.16	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W7xW7	0.28
12.0	72	72	8	8	WWF 3x3-W5xW4	0.20	0.16	WWF 3x3-W5xW4	0.20	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W8xW8	0.32
15.0	72	72	8	9	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W8xW8	0.32
17.0	72	72	8	9	WWF 3x3-W8xW5	0.32	0.20	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W9xW9	0.36
19.0	72	72	8	9	WWF 3x3-W10xW8	0.40	0.32	WWF 3x3-W10xW4	0.40	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W9xW9	0.36
21.0	72	72	8	10	WWF 3x3-W10xW8	0.40	0.32	WWF 3x3-W10xW4	0.40	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W10xW10	0.40
25.0	72	72	8	10	WWF 3x3-W12xW9	0.48	0.36	WWF 3x6-W12xW8	0.48	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W10xW10	0.40
27.0	72	72	10	10	WWF 3x3-W12xW6	0.48	0.24	WWF 3x3-W12xW6	0.48	0.24	WWF 3x3-W6xW6	0.24	WWF 3x3-W12xW12	0.48
29.0	72	72	10	10	WWF 3x3-W12xW8	0.48	0.32	WWF 3x3-W12xW6	0.48	0.24	WWF 6x6-W12xW12	0.24	WWF 4x4-W20xW20	0.60
30.0	72	72	10	10	WWF 3x3-W12xW10	0.48	0.40	WWF 3x3-W12xW6	0.48	0.24	WWF 6x6-W12xW12	0.24	WWF 4x4-W20xW20	0.60

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 6  
U.S. CUSTOMARY UNITS**

**RISER SECTIONS**

JOINT DEPTH (FT.)	L <sub>T</sub> (IN.)	W <sub>I</sub> (IN.)	T <sub>W</sub> (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)	
11.0	72	72	8	WWF 3x4-W4xW4	0.16	0.12	WWF 3x3-W4xW4	0.16	0.16
13.0	72	72	8	WWF 3x4-W5xW4	0.20	0.12	WWF 3x3-W5xW4	0.20	0.16
17.0	72	72	8	WWF 3x4-W8xW4	0.32	0.12	WWF 3x3-W8xW4	0.32	0.16
21.0	72	72	8	WWF 3x4-W10xW4	0.40	0.12	WWF 3x3-W10xW4	0.40	0.16
25.0	72	72	8	WWF 3x6-W12xW6	0.48	0.12	WWF 3x6-W12xW8	0.48	0.16
28.0	72	72	10	WWF 3x12-W12xW12	0.48	0.12	WWF 3x3-W12xW5	0.48	0.20

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

**INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 2  
U.S. CUSTOMARY UNITS  
(WELDED WIRE FABRIC)**

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Howard</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT 35 OF 44 <b>RC-46M</b>
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 7**  
**U.S. CUSTOMARY UNITS**

BASE SECTIONS														
H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)	WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)
					HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	EACH DIRECTION	EACH DIRECTION	EACH DIRECTION	
10.0	84	84	8	8	WWF 3x3-W6xW4	0.24	0.16	WWF 3x3-W6xW4	0.24	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W8xW8	0.32
12.0	84	84	8	9	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W10xW10	0.40
14.0	84	84	8	9	WWF 3x3-W10xW6	0.40	0.24	WWF 3x3-W10xW4	0.40	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W10xW10	0.40
16.0	84	84	8	9	WWF 3x3-W10xW8	0.40	0.32	WWF 3x3-W10xW4	0.40	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W10xW10	0.40
18.0	84	84	8	9	WWF 3x3-W12xW10	0.48	0.40	WWF 3x6-W12xW8	0.48	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W10xW10	0.40
21.0	84	84	8	10	WWF 4x3-W20xW12	0.60	0.48	WWF 4x6-W20xW8	0.60	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W12xW12	0.48
24.0	84	84	10	10	WWF 4x3-W20xW12	0.60	0.48	WWF 4x6-W20xW10	0.60	0.20	WWF 4x4-W8xW8	0.24	WWF 4x4-W20xW20	0.60
26.0	84	84	10	10	WWF 4x3-W20xW12	0.60	0.48	WWF 4x6-W20xW10	0.60	0.20	WWF 4x4-W8xW8	0.24	WWF 4x4-W20xW20	0.60
28.0	84	84	10	11	WWF 4x3-W20xW12	0.60	0.48	WWF 4x6-W20xW10	0.60	0.20	WWF 4x4-W8xW8	0.24	WWF 4x4-W20xW20	0.60
30.0	84	84	12	11	WWF 4x3-W20xW12	0.60	0.48	WWF 4x4-W20xW8	0.60	0.24	WWF 4x4-W8xW8	0.24	WWF 4x4-W20xW20	0.60

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 7**  
**U.S. CUSTOMARY UNITS**

RISER SECTIONS									
JOINT DEPTH (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)	
				HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
8.0	84	84	8	WWF 3x4-W4xW4	0.16	0.12	WWF 3x3-W4xW4	0.16	0.16
10.0	84	84	8	WWF 3x4-W6xW4	0.24	0.12	WWF 3x3-W5xW4	0.20	0.16
13.0	84	84	8	WWF 3x4-W8xW4	0.32	0.12	WWF 3x3-W8xW4	0.32	0.16
16.0	84	84	8	WWF 3x4-W10xW4	0.40	0.12	WWF 3x3-W10xW4	0.40	0.16
19.0	84	84	8	WWF 3x12-W12xW12	0.48	0.12	WWF 3x6-W12xW8	0.48	0.16
22.0	84	84	8	WWF 4x12-W20xW12	0.60	0.12	WWF 4x6-W20xW8	0.60	0.16
24.0	84	84	10	WWF 3x12-W12xW12	0.48	0.12	WWF 3x6-W12xW10	0.48	0.20
28.0	84	84	10	WWF 4x12-W20xW12	0.60	0.12	WWF 4x6-W20xW10	0.60	0.20

\* SUGGESTED SIZE OF WELDED WIRE FABRIC

WWF AxB-WCxWD  
A = SPACING OF HORIZONTAL WIRES (SH), IN.  
B = SPACING OF VERTICAL WIRES (SV), IN.  
C = HORIZONTAL WIRE SIZE  
D = VERTICAL WIRE SIZE

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 8**  
**U.S. CUSTOMARY UNITS**

BASE SECTIONS														
H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)	WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)
					HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	EACH DIRECTION	EACH DIRECTION	EACH DIRECTION	
11.0	96	96	8	8	WWF 3x3-W10xW5	0.40	0.20	WWF 3x3-W10xW4	0.40	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W10xW10	0.40
13.0	96	96	8	9	WWF 3x3-W12xW8	0.48	0.32	WWF 3x3-W10xW4	0.40	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W10xW10	0.40
15.0	96	96	8	9	WWF 3x3-W12xW10	0.48	0.40	WWF 3x6-W12xW8	0.48	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W10xW10	0.40
17.0	96	96	8	9	WWF 4x3-W20xW12	0.60	0.48	WWF 4x6-W20xW8	0.60	0.16	WWF 3x3-W6xW6	0.24	WWF 3x3-W12xW12	0.48
19.0	96	96	10	10	WWF 4x3-W20xW12	0.60	0.48	WWF 4x6-W20xW10	0.60	0.20	WWF 3x3-W6xW6	0.24	WWF 3x3-W12xW12	0.48
22.0	96	96	10	10	WWF 4x3-W20xW12	0.60	0.48	WWF 4x6-W20xW10	0.60	0.20	WWF 3x3-W8xW8	0.32	WWF 3x3-W14xW14	0.56
24.0	96	96	12	10	WWF 4x3-W20xW10	0.60	0.40	WWF 4x3-W20xW8	0.60	0.32	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60
27.0	96	96	12	11	WWF 4x3-W20xW12	0.60	0.48	WWF 4x4-W20xW8	0.60	0.24	WWF 3x3-W6xW6	0.24	WWF 4x4-W20xW20	0.60
30.0	96	96	14	11	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW8	0.60	0.32	WWF 3x3-W6xW6	0.24	WWF 4x4-W20xW20	0.60

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 8**  
**U.S. CUSTOMARY UNITS**

RISER SECTIONS									
JOINT DEPTH (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)	
				HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
10.0	96	96	8	WWF 3x4-W8xW4	0.32	0.12	WWF 3x3-W8xW4	0.32	0.16
13.0	96	96	8	WWF 3x4-W10xW4	0.40	0.12	WWF 3x3-W10xW4	0.40	0.16
15.0	96	96	8	WWF 3x12-W12xW12	0.48	0.12	WWF 3x6-W12xW8	0.48	0.16
18.0	96	96	8	WWF 4x12-W20xW12	0.60	0.12	WWF 4x6-W20xW10	0.60	0.20
23.0	96	96	10	WWF 4x12-W20xW12	0.60	0.12	WWF 4x6-W20xW10	0.60	0.20
27.0	96	96	12	WWF 4x12-W20xW12	0.60	0.12	WWF 4x6-W20xW12	0.60	0.24
28.0	96	96	14	WWF 4x12-W20xW12	0.60	0.12	WWF 4x3-W20xW8	0.60	0.32

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
BUREAU OF DESIGN

INLET BOXES  
**PRECAST INLET BOXES**  
**DESIGN TABLES - 3**  
**U.S. CUSTOMARY UNITS**  
(WELDED WIRE FABRIC)

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Howard</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT 36 OF 44 <b>RC-46M</b>
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 9**  
**U.S. CUSTOMARY UNITS**

**BASE SECTIONS**

H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION	WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION
						HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL				
12.0	108	108	8	8	WWF 3x3-W12xW10	0.48	0.40	WWF 3x3-W12xW5	0.48	0.20	WWF 3x3-W5xW5	0.20	WWF 3x3-W12xW12	0.48
14.0	108	108	8	8	WWF 4x3-W20xW12	0.60	0.48	WWF 4x6-W20xW10	0.60	0.20	WWF 3x3-W6xW6	0.24	WWF 3x3-W12xW12	0.48
16.0	108	108	10	8	WWF 4x3-W20xW12	0.60	0.48	WWF 4x6-W20xW10	0.60	0.20	WWF 3x3-W6xW6	0.24	WWF 3x3-W14xW14	0.56
18.0	108	108	10	9	WWF 4x3-W20xW12	0.60	0.48	WWF 4x6-W20xW10	0.60	0.20	WWF 3x3-W8xW8	0.32	WWF 3x3-W14xW14	0.56
20.0	108	108	12	9	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW8	0.60	0.32	WWF 3x3-W8xW8	0.32	WWF 3x3-W14xW14	0.56
22.0	108	108	12	10	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW8	0.60	0.32	WWF 3x3-W8xW8	0.32	WWF 3x3-W14xW14	0.56
24.0	108	108	14	10	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW8	0.60	0.32	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60
29.0	108	108	16	11	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW10	0.60	0.40	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60
30.0	108	108	18	12	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW10	0.60	0.40	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60

\* SUGGESTED SIZE OF WELDED WIRE FABRIC

WWF AxB-WCxWD  
A = SPACING OF HORIZONTAL WIRES (SH), IN.  
B = SPACING OF VERTICAL WIRES (SV), IN.  
C = HORIZONTAL WIRE SIZE  
D = VERTICAL WIRE SIZE

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 9**  
**U.S. CUSTOMARY UNITS**

**RISER SECTIONS**

JOINT DEPTH (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)	
					HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL
10.0	108	108	8	WWF 3x4-W10xW4	0.40	0.12	WWF 3x3-W10xW4	0.40	0.16
12.0	108	108	8	WWF 3x12-W12xW12	0.48	0.12	WWF 3x6-W12xW8	0.48	0.16
14.0	108	108	8	WWF 4x12-W20xW12	0.60	0.12	WWF 4x6-W20xW8	0.60	0.16
18.0	108	108	10	WWF 4x12-W20xW12	0.60	0.12	WWF 4x6-W20xW10	0.60	0.20
22.0	108	108	12	WWF 4x12-W20xW12	0.60	0.12	WWF 4x4-W20xW8	0.60	0.24
26.0	108	108	14	WWF 4x12-W20xW12	0.60	0.12	WWF 4x3-W20xW8	0.60	0.32
28.0	108	108	16	WWF 4x12-W20xW12	0.60	0.12	WWF 4x3-W20xW10	0.60	0.40

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 10**  
**U.S. CUSTOMARY UNITS**

**BASE SECTIONS**

H (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	TB (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION	WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.) EACH DIRECTION
						HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL				
13.0	120	120	10	8	WWF 3x3-W12xW10	0.48	0.40	WWF 3x3-W12xW8	0.48	0.32	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60
15.0	120	120	10	8	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW8	0.60	0.32	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60
17.0	120	120	12	9	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW8	0.60	0.32	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60
19.0	120	120	14	9	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW8	0.60	0.32	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60
22.0	120	120	16	10	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW10	0.60	0.40	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60
24.0	120	120	18	11	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW10	0.60	0.40	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60
26.0	120	120	20	13	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW12	0.60	0.48	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60
29.0	120	120	20	14	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW12	0.60	0.48	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60
30.0	120	120	22	14	WWF 4x3-W20xW12	0.60	0.48	WWF 4x3-W20xW12	0.60	0.48	WWF 3x3-W8xW8	0.32	WWF 4x4-W20xW20	0.60

**PRECAST CONCRETE INLET BOX SUMMARY TABLE**  
**BOX TYPE - 10**  
**U.S. CUSTOMARY UNITS**

**RISER SECTIONS**

JOINT DEPTH (FT.)	L1 (IN.)	W1 (IN.)	TW (IN.)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	STEEL AREA (IN. <sup>2</sup> /FT.)	
					HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL
12.0	120	120	8	WWF 4x12-W20xW12	0.60	0.12	WWF 4x6-W20xW8	0.60	0.16
15.0	120	120	10	WWF 4x12-W20xW12	0.60	0.12	WWF 4x6-W20xW10	0.60	0.20
18.0	120	120	12	WWF 4x12-W20xW12	0.60	0.12	WWF 4x6-W20xW12	0.60	0.24
21.0	120	120	14	WWF 4x12-W20xW12	0.60	0.12	WWF 4x3-W20xW8	0.60	0.32
24.0	120	120	16	WWF 4x12-W20xW12	0.60	0.12	WWF 4x3-W20xW10	0.60	0.40
27.0	120	120	18	WWF 4x12-W20xW12	0.60	0.12	WWF 4x3-W20xW10	0.60	0.40
28.0	120	120	20	WWF 4x12-W20xW12	0.60	0.12	WWF 4x3-W20xW12	0.60	0.48

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES  
MUST BE USED ON PLANS. METRIC AND  
ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
BUREAU OF DESIGN

INLET BOXES  
**PRECAST INLET BOXES**  
**DESIGN TABLES - 4**  
**U.S. CUSTOMARY UNITS**  
(WELDED WIRE FABRIC)

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - D-H  
U.S. CUSTOMARY UNITS**

**BASE SECTIONS**

H (FT.)	L <sub>1</sub> (IN.)	W <sub>1</sub> (IN.)	T <sub>W</sub> (IN.)	T <sub>B</sub> (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT			
					WELDED WIRE FABRIC *WWF AxB-WCxWD		STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD		STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD		STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD	
					HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	EACH DIRECTION		EACH DIRECTION					
8.0	99	30	8	7	WWF 3x3-W4xW4	0.16	0.16	WWF 3x4-W4xW4	0.16	0.12	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20				
10.0	99	30	8	7	WWF 3x3-W7xW5	0.28	0.20	WWF 3x3-W6xW4	0.24	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20				
12.0	99	30	8	7	WWF 3x3-W8xW7	0.32	0.28	WWF 3x3-W8xW4	0.32	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20				
14.0	99	30	8	7	WWF 3x3-W9xW9	0.36	0.36	WWF 3x3-W9xW4	0.36	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20				
16.0	99	30	8	7	WWF 3x3-W12xW10	0.48	0.40	WWF 3x3-W10xW4	0.40	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20				
18.0	99	30	8	7	WWF 3x3-W12xW12	0.48	0.48	WWF 3x6-W12xW8	0.48	0.16	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20				
24.0	99	30	10	7	WWF 4x4-W20xW20	0.60	0.60	WWF 3x3-W12xW5	0.48	0.20	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20				
27.0	99	30	12	7	WWF 4x4-W20xW20	0.60	0.60	WWF 4x4-W20xW8	0.60	0.24	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20				
30.0	99	30	12	8	WWF 4x4-W20xW20	0.60	0.60	WWF 4x4-W20xW8	0.60	0.24	WWF 3x3-W5xW5	0.20	WWF 3x3-W5xW5	0.20				

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - D-H  
U.S. CUSTOMARY UNITS**

**RISER SECTIONS**

JOINT DEPTH (FT.)	L <sub>1</sub> (IN.)	W <sub>1</sub> (IN.)	T <sub>W</sub> (IN.)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				WELDED WIRE FABRIC *WWF AxB-WCxWD		STEEL AREA (IN. <sup>2</sup> /FT.)		WELDED WIRE FABRIC *WWF AxB-WCxWD		STEEL AREA (IN. <sup>2</sup> /FT.)	
				HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL		
3.0	99	30	6	WWF 3x4-W10xW4	0.40	0.12	---	---	---		
8.0	99	30	8	WWF 3x4-W4xW4	0.16	0.12	WWF 3x3-W4xW4	0.16	0.16		
10.0	99	30	8	WWF 3x4-W6xW4	0.24	0.12	WWF 3x3-W6xW4	0.24	0.16		
13.0	99	30	8	WWF 3x4-W8xW4	0.32	0.12	WWF 3x3-W8xW4	0.32	0.16		
15.0	99	30	8	WWF 3x4-W10xW4	0.40	0.12	WWF 3x3-W10xW4	0.40	0.16		
18.0	99	30	8	WWF 3x6-W12xW6	0.48	0.12	WWF 3x6-W12xW8	0.48	0.16		
24.0	99	30	10	WWF 4x12-W20xW12	0.60	0.12	WWF 3x3-W12xW5	0.48	0.20		
26.0	99	30	10	WWF 4x12-W20xW12	0.60	0.12	WWF 4x6-W20xW10	0.60	0.20		
28.0	99	30	12	WWF 4x12-W20xW12	0.60	0.12	WWF 4x4-W20xW8	0.60	0.24		

\* SUGGESTED SIZE OF WELDED WIRE FABRIC

WWF AxB-WCxWD  
A = SPACING OF HORIZONTAL WIRES (SH), IN.  
B = SPACING OF VERTICAL WIRES (SV), IN.  
C = HORIZONTAL WIRE SIZE  
D = VERTICAL WIRE SIZE

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 5  
U.S. CUSTOMARY UNITS  
(WELDED WIRE FABRIC)

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - STANDARD  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	T <sub>B</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION	WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION
						HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL				
1219	1150	610	152	178	WWF 102x102-MW26xMW26	254	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
2134	1150	610	152	178	WWF 76x102-MW26xMW26	339	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
2743	1150	610	152	178	WWF 76x102-MW32xMW26	423	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
3353	1150	610	152	178	WWF 76x102-MW39xMW26	508	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
3962	1150	610	152	178	WWF 76x102-MW45xMW26	593	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
4572	1150	610	152	178	WWF 76x102-MW52xMW26	677	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
5182	1150	610	152	178	WWF 76x102-MW58xMW26	762	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
5791	1150	610	152	178	WWF 152x152-MW129xMW65	847	423	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
9144	1150	610	203	178	WWF 76x76-MW26xMW26	339	339	WWF 76x76-MW26xMW26	339	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423

\* SUGGESTED SIZE OF WELDED WIRE FABRIC

WWF AxB-MWCxMWD  
A = SPACING OF HORIZONTAL WIRES (S<sub>H</sub>), mm  
B = SPACING OF VERTICAL WIRES (S<sub>V</sub>), mm  
C = HORIZONTAL WIRE SIZE  
D = VERTICAL WIRE SIZE

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - STANDARD  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)	
					HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL
1524	1150	610	152	WWF 102x102-MW26xMW26	254	254	---	---	---
2438	1150	610	152	WWF 76x102-MW26xMW26	339	254	---	---	---
3048	1150	610	152	WWF 76x102-MW32xMW26	423	254	---	---	---
3962	1150	610	152	WWF 76x102-MW45xMW26	593	254	---	---	---
4572	1150	610	152	WWF 76x102-MW52xMW26	677	254	---	---	---
5182	1150	610	152	WWF 76x102-MW58xMW26	762	254	---	---	---
5791	1150	610	152	WWF 76x102-MW65xMW26	847	254	---	---	---
8534	1150	610	203	WWF 76x76-MW26xMW26	339	339	WWF 76x76-MW26xMW26	339	339

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 4  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	T <sub>B</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION	WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION
						HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL				
1829	1220	1220	152	178	WWF 76x102-MW32xMW26	423	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
2438	1220	1220	152	178	WWF 76x102-MW39xMW26	508	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
3048	1220	1220	152	178	WWF 76x102-MW45xMW26	593	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
3962	1220	1220	152	178	WWF 76x102-MW58xMW26	762	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
7315	1220	1220	203	178	WWF 76x76-MW26xMW26	339	339	WWF 76x76-MW26xMW26	339	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
7925	1220	1220	203	178	WWF 76x76-MW39xMW26	508	339	WWF 76x76-MW32xMW26	423	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
9144	1220	1220	203	203	WWF 76x76-MW52xMW26	677	339	WWF 76x76-MW52xMW26	677	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 4  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)	
					HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL
1219	1220	1220	152	WWF 76x102-MW26xMW26	339	254	---	---	---
1829	1220	1220	152	WWF 76x102-MW32xMW26	423	254	---	---	---
2743	1220	1220	152	WWF 76x102-MW39xMW26	508	254	---	---	---
3658	1220	1220	152	WWF 76x102-MW52xMW26	677	254	---	---	---
4267	1220	1220	152	WWF 76x102-MW65xMW26	847	254	---	---	---
7315	1220	1220	203	WWF 76x102-MW26xMW26	339	254	WWF 76x76-MW26xMW26	339	339
7925	1220	1220	203	WWF 76x102-MW32xMW26	423	254	WWF 76x76-MW32xMW26	423	339
8534	1220	1220	203	WWF 76x102-MW45xMW26	593	254	WWF 76x76-MW45xMW26	593	339

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 1  
METRIC UNITS  
(WELDED WIRE FABRIC)

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel Thompson</i> DIRECTOR, BUREAU OF DESIGN	SHT 39 OF 44 RC-46M
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 5  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>I</sub> (mm)	W <sub>I</sub> (mm)	T <sub>W</sub> (mm)	T <sub>B</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION	WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION
						HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL				
2438	1524	1524	152	178	WWF 76x102-MW58xMW26	762	254	---	---	---	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
4877	1524	1524	203	178	WWF 76x76-MW26xMW26	339	339	WWF 76x76-MW26xMW26	339	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW32xMW32	423
5486	1524	1524	203	178	WWF 76x76-MW39xMW26	508	339	WWF 76x76-MW39xMW26	508	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW39xMW39	508
6401	1524	1524	203	178	WWF 76x76-MW52xMW26	677	339	WWF 76x76-MW52xMW26	677	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW39xMW39	508
7010	1524	1524	203	203	WWF 76x76-MW52xMW26	677	339	WWF 76x76-MW52xMW26	677	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW39xMW39	508
7620	1524	1524	203	203	WWF 76x76-MW58xMW32	762	423	WWF 76x76-MW58xMW26	762	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW39xMW39	508
8230	1524	1524	203	203	WWF 76x76-MW65xMW45	847	593	WWF 76x76-MW58xMW26	762	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW45xMW45	593
8839	1524	1524	203	203	WWF 76x76-MW65xMW52	847	677	WWF 76x76-MW65xMW26	847	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW45xMW45	593
9144	1524	1524	203	203	WWF 76x76-MW77xMW52	1016	677	WWF 76x152-MW77xMW52	1016	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW45xMW45	593

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 5  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>I</sub> (mm)	W <sub>I</sub> (mm)	T <sub>W</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)	
					HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL
1829	1524	1524	152	WWF 102x102-MW65xMW26	635	254	---	---	---
2438	1524	1524	152	WWF 102x102-MW77xMW26	762	254	---	---	---
4877	1524	1524	203	WWF 76x102-MW26xMW26	339	254	WWF 76x76-MW26xMW26	339	339
5486	1524	1524	203	WWF 76x102-MW39xMW26	508	254	WWF 76x76-MW32xMW26	423	339
7315	1524	1524	203	WWF 76x102-MW52xMW26	677	254	WWF 76x76-MW52xMW26	677	339
8534	1524	1524	203	WWF 76x102-MW65xMW26	847	254	WWF 76x76-MW65xMW26	847	339

\* SUGGESTED SIZE OF WELDED WIRE FABRIC

WWF AxB-MWCxMWD  
A = SPACING OF HORIZONTAL WIRES (S<sub>H</sub>), mm  
B = SPACING OF VERTICAL WIRES (S<sub>V</sub>), mm  
C = HORIZONTAL WIRE SIZE  
D = VERTICAL WIRE SIZE

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 6  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>I</sub> (mm)	W <sub>I</sub> (mm)	T <sub>W</sub> (mm)	T <sub>B</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION	WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION
						HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL				
3048	1828	1828	203	203	WWF 76x76-MW26xMW26	339	339	WWF 76x76-MW26xMW26	339	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW45xMW45	593
3658	1828	1828	203	203	WWF 76x76-MW32xMW26	423	339	WWF 76x76-MW32xMW26	423	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW52xMW52	677
4572	1828	1828	203	229	WWF 76x76-MW52xMW26	677	339	WWF 76x76-MW52xMW26	677	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW52xMW52	677
5182	1828	1828	203	229	WWF 76x76-MW52xMW32	677	423	WWF 76x76-MW52xMW26	677	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW58xMW58	762
5791	1828	1828	203	229	WWF 76x76-MW65xMW52	847	677	WWF 76x76-MW65xMW26	847	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW58xMW58	762
6401	1828	1828	203	254	WWF 76x76-MW65xMW52	847	677	WWF 76x76-MW65xMW26	847	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW65xMW65	847
7620	1828	1828	203	254	WWF 76x76-MW77xMW58	1016	762	WWF 76x152-MW77xMW52	1016	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW65xMW65	847
8230	1828	1828	254	254	WWF 76x76-MW77xMW39	1016	508	WWF 76x76-MW77xMW39	1016	508	WWF 76x76-MW39xMW39	508	WWF 76x76-MW77xMW77	1016
8839	1828	1828	254	254	WWF 76x76-MW77xMW52	1016	677	WWF 76x76-MW77xMW39	1016	508	WWF 152x152-MW77xMW77	508	WWF 102x102-MW129xMW129	1270
9144	1828	1828	254	254	WWF 76x76-MW77xMW65	1016	847	WWF 76x76-MW77xMW39	1016	508	WWF 152x152-MW77xMW77	508	WWF 102x102-MW129xMW129	1270

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 6  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>I</sub> (mm)	W <sub>I</sub> (mm)	T <sub>W</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)	
					HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL
3353	1828	1828	203	WWF 76x102-MW26xMW26	339	254	WWF 76x76-MW26xMW26	339	339
3962	1828	1828	203	WWF 76x102-MW32xMW26	423	254	WWF 76x76-MW32xMW26	423	339
5182	1828	1828	203	WWF 76x102-MW52xMW26	677	254	WWF 76x76-MW52xMW26	677	339
6401	1828	1828	203	WWF 76x102-MW65xMW26	847	254	WWF 76x76-MW65xMW26	847	339
7620	1828	1828	203	WWF 76x152-MW77xMW39	1016	254	WWF 76x152-MW77xMW52	1016	339
8534	1828	1828	254	WWF 76x305-MW77xMW77	1016	254	WWF 76x76-MW77xMW32	1016	423

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

**INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 2  
METRIC UNITS  
(WELDED WIRE FABRIC)**

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Hest</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Samuel Thomas</i> DIRECTOR, BUREAU OF DESIGN	SHT 40 OF 44 <b>RC-46M</b>
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 7  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>I</sub> (mm)	W <sub>I</sub> (mm)	T <sub>w</sub> (mm)	T <sub>B</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT			
					WELDED WIRE FABRIC *WWF AxB-MWCxMWD		STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD		STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD		STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	
					HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	EACH DIRECTION	EACH DIRECTION	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL		
3048	2134	2134	203	203	WWF 76x76-MW39xMW26	508	339	WWF 76x76-MW39xMW26	508	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW52xMW52	677				
3658	2134	2134	203	229	WWF 76x76-MW52xMW26	677	339	WWF 76x76-MW52xMW26	677	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW65xMW65	847				
4267	2134	2134	203	229	WWF 76x76-MW65xMW39	847	508	WWF 76x76-MW65xMW26	847	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW65xMW65	847				
4877	2134	2134	203	229	WWF 76x76-MW65xMW52	847	677	WWF 76x76-MW65xMW26	847	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW65xMW65	847				
5486	2134	2134	203	229	WWF 76x76-MW77xMW65	1016	847	WWF 76x152-MW77xMW52	1016	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW65xMW65	847				
6401	2134	2134	203	254	WWF 102x76-MW129xMW77	1270	1016	WWF 102x152-MW129xMW52	1270	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW77xMW77	1016				
7315	2134	2134	254	254	WWF 102x76-MW129xMW77	1270	1016	WWF 102x152-MW129xMW65	1270	423	WWF 102x102-MW52xMW52	508	WWF 102x102-MW129xMW129	1270				
7925	2134	2134	254	254	WWF 102x76-MW129xMW77	1270	1016	WWF 102x152-MW129xMW65	1270	423	WWF 102x102-MW52xMW52	508	WWF 102x102-MW129xMW129	1270				
8534	2134	2134	254	279	WWF 102x76-MW129xMW77	1270	1016	WWF 102x152-MW129xMW65	1270	423	WWF 102x102-MW52xMW52	508	WWF 102x102-MW129xMW129	1270				
9144	2134	2134	305	279	WWF 102x76-MW129xMW77	1270	1016	WWF 102x102-MW129xMW52	1270	508	WWF 102x102-MW52xMW52	508	WWF 102x102-MW129xMW129	1270				

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 7  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>I</sub> (mm)	W <sub>I</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				WELDED WIRE FABRIC *WWF AxB-MWCxMWD		STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD		STEEL AREA (mm <sup>2</sup> /m)	
				HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL		
2438	2134	2134	203	WWF 76x102-MW26xMW26	339	254	WWF 76x76-MW26xMW26	339	339		
3048	2134	2134	203	WWF 76x102-MW39xMW26	508	254	WWF 76x76-MW32xMW26	423	339		
3962	2134	2134	203	WWF 76x102-MW52xMW26	677	254	WWF 76x76-MW52xMW26	677	339		
4877	2134	2134	203	WWF 76x102-MW65xMW26	847	254	WWF 76x76-MW65xMW26	847	339		
5791	2134	2134	203	WWF 76x305-MW77xMW77	1016	254	WWF 76x152-MW77xMW52	1016	339		
6706	2134	2134	203	WWF 102x305-MW129xMW77	1270	254	WWF 102x152-MW129xMW52	1270	339		
7315	2134	2134	254	WWF 76x305-MW77xMW77	1016	254	WWF 76x152-MW77xMW65	1016	423		
8534	2134	2134	254	WWF 102x305-MW129xMW77	1270	254	WWF 102x152-MW129xMW65	1270	423		

\* SUGGESTED SIZE OF WELDED WIRE FABRIC

WWF AxB-MWCxMWD  
A = SPACING OF HORIZONTAL WIRES (S<sub>H</sub>), mm  
B = SPACING OF VERTICAL WIRES (S<sub>V</sub>), mm  
C = HORIZONTAL WIRE SIZE  
D = VERTICAL WIRE SIZE

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 8  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>I</sub> (mm)	W <sub>I</sub> (mm)	T <sub>w</sub> (mm)	T <sub>B</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT				TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT			
					WELDED WIRE FABRIC *WWF AxB-MWCxMWD		STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD		STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD		STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	
					HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	EACH DIRECTION	EACH DIRECTION	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
3353	2438	2438	203	203	WWF 76x76-MW65xMW32	847	423	WWF 76x76-MW65xMW26	847	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW65xMW65	847				
3962	2438	2438	203	229	WWF 76x76-MW77xMW52	1016	677	WWF 76x76-MW65xMW26	847	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW65xMW65	847				
4572	2438	2438	203	229	WWF 76x76-MW77xMW65	1016	847	WWF 76x152-MW77xMW52	1016	339	WWF 76x76-MW32xMW32	423	WWF 76x76-MW65xMW65	847				
5182	2438	2438	203	229	WWF 102x76-MW129xMW77	1270	1016	WWF 102x152-MW129xMW52	1270	339	WWF 76x76-MW39xMW39	508	WWF 76x76-MW77xMW77	1016				
5791	2438	2438	254	254	WWF 102x76-MW129xMW77	1270	1016	WWF 102x152-MW129xMW65	1270	423	WWF 76x76-MW39xMW39	508	WWF 76x76-MW77xMW77	1016				
6706	2438	2438	254	254	WWF 102x76-MW129xMW77	1270	1016	WWF 102x152-MW129xMW65	1270	423	WWF 76x76-MW52xMW52	677	WWF 76x76-MW90xMW90	1185				
7315	2438	2438	305	254	WWF 102x76-MW129xMW65	1270	847	WWF 102x76-MW129xMW52	1270	677	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270				
8230	2438	2438	305	279	WWF 102x76-MW129xMW77	1270	1016	WWF 102x102-MW129xMW52	1270	508	WWF 76x76-MW39xMW39	508	WWF 102x102-MW129xMW129	1270				
9144	2438	2438	356	279	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW52	1270	677	WWF 76x76-MW39xMW39	508	WWF 102x102-MW129xMW129	1270				

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 8  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>I</sub> (mm)	W <sub>I</sub> (mm)	T <sub>w</sub> (mm)	OUTSIDE FACE REINFORCEMENT				INSIDE FACE REINFORCEMENT			
				WELDED WIRE FABRIC *WWF AxB-MWCxMWD		STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD		STEEL AREA (mm <sup>2</sup> /m)	
				HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL		
3048	2438	2438	203	WWF 76x102-MW52xMW26	677	254	WWF 76x76-MW52xMW26	677	339		
3962	2438	2438	203	WWF 76x102-MW65xMW26	847	254	WWF 76x76-MW65xMW26	847	339		
4572	2438	2438	203	WWF 76x305-MW77xMW77	1016	254	WWF 76x152-MW77xMW52	1016	339		
5486	2438	2438	203	WWF 102x305-MW129xMW77	1270	254	WWF 102x152-MW129xMW65	1270	423		
7010	2438	2438	254	WWF 102x305-MW129xMW77	1270	254	WWF 102x152-MW129xMW65	1270	423		
8230	2438	2438	305	WWF 102x305-MW129xMW77	1270	254	WWF 102x152-MW129xMW77	1270	508		
8534	2438	2438	356	WWF 102x305-MW129xMW77	1270	254	WWF 102x76-MW129xMW52	1270	677		

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF TRANSPORTATION  
BUREAU OF DESIGN**

**INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 3  
METRIC UNITS  
(WELDED WIRE FABRIC)**

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> DIRECTOR, BUREAU OF DESIGN	SHT 41 OF 44 <b>RC-46M</b>
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**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 9  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>W</sub> (mm)	T <sub>B</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION	WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION
						HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL				
3658	2744	2744	203	203	WWF 76x76-MW77xMW65	1016	847	WWF 76x76-MW77xMW32	1016	423	WWF 76x76-MW32xMW32	423	WWF 76x76-MW77xMW77	1016
4267	2744	2744	203	203	WWF 102x76-MW129xMW77	1270	1016	WWF 102x152-MW129xMW65	1270	423	WWF 76x76-MW39xMW39	508	WWF 76x76-MW77xMW77	1016
4877	2744	2744	254	203	WWF 102x76-MW129xMW77	1270	1016	WWF 102x152-MW129xMW65	1270	423	WWF 76x76-MW39xMW39	508	WWF 76x76-MW90xMW90	1185
5486	2744	2744	254	229	WWF 102x76-MW129xMW77	1270	1016	WWF 102x152-MW129xMW65	1270	423	WWF 76x76-MW52xMW52	677	WWF 76x76-MW90xMW90	1185
6096	2744	2744	305	229	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW52	1270	677	WWF 76x76-MW52xMW52	677	WWF 76x76-MW90xMW90	1185
6706	2744	2744	305	254	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW52	1270	677	WWF 76x76-MW52xMW52	677	WWF 76x76-MW90xMW90	1185
7315	2744	2744	356	254	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW52	1270	677	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270
8839	2744	2744	406	279	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW65	1270	847	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270
9144	2744	2744	457	305	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW65	1270	847	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270

\* SUGGESTED SIZE OF WELDED WIRE FABRIC

WWF AxB-MWCxMWD  
A = SPACING OF HORIZONTAL WIRES (S<sub>H</sub>), mm  
B = SPACING OF VERTICAL WIRES (S<sub>V</sub>), mm  
C = HORIZONTAL WIRE SIZE  
D = VERTICAL WIRE SIZE

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 9  
METRIC UNITS**

**RISER SECTIONS**

JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>W</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)	
					HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL
3048	2744	2744	203	WWF 76x102-MW65xMW26	847	254	WWF 76x76-MW65xMW26	847	339
3658	2744	2744	203	WWF 76x305-MW77xMW77	1016	254	WWF 76x152-MW77xMW52	1016	339
4267	2744	2744	203	WWF 102x305-MW129xMW77	1270	254	WWF 102x152-MW129xMW52	1270	339
5486	2744	2744	254	WWF 102x305-MW129xMW77	1270	254	WWF 102x152-MW129xMW65	1270	423
6706	2744	2744	305	WWF 102x305-MW129xMW77	1270	254	WWF 102x102-MW129xMW52	1270	508
7925	2744	2744	356	WWF 102x305-MW129xMW77	1270	254	WWF 102x76-MW129xMW52	1270	677
8534	2744	2744	406	WWF 102x305-MW129xMW77	1270	254	WWF 102x76-MW129xMW65	1270	847

**NOTES:**

- FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.
- FOR INLET BOX TYPES SEE SHEET 6.
- FOR DETAILS SEE SHEETS 23 - 27.

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 10  
METRIC UNITS**

**BASE SECTIONS**

H (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>W</sub> (mm)	T <sub>B</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT			TOP MAT REINFORCEMENT		BOTTOM MAT REINFORCEMENT	
					WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION	WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m) EACH DIRECTION
						HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL				
3962	3048	3048	254	203	WWF 76x76-MW77xMW65	1016	847	WWF 76x76-MW77xMW52	1016	677	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270
4572	3048	3048	254	203	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW52	1270	677	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270
5182	3048	3048	305	229	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW52	1270	677	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270
5791	3048	3048	356	229	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW52	1270	677	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270
6706	3048	3048	406	254	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW65	1270	847	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270
7315	3048	3048	457	279	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW65	1270	847	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270
7925	3048	3048	508	330	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW77	1270	1016	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270
8839	3048	3048	508	356	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW77	1270	1016	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270
9144	3048	3048	559	356	WWF 102x76-MW129xMW77	1270	1016	WWF 102x76-MW129xMW77	1270	1016	WWF 76x76-MW52xMW52	677	WWF 102x102-MW129xMW129	1270

**PRECAST CONCRETE INLET BOX SUMMARY TABLE  
BOX TYPE - 10  
METRIC UNITS**

**RISER SECTIONS**

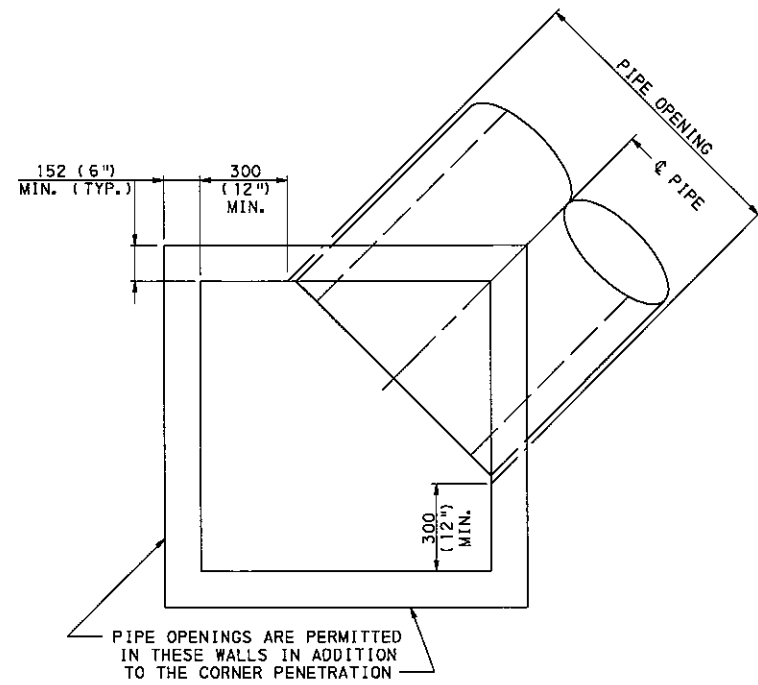
JOINT DEPTH (mm)	L <sub>1</sub> (mm)	W <sub>1</sub> (mm)	T <sub>W</sub> (mm)	OUTSIDE FACE REINFORCEMENT			INSIDE FACE REINFORCEMENT		
				WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)		WELDED WIRE FABRIC *WWF AxB-MWCxMWD	STEEL AREA (mm <sup>2</sup> /m)	
					HORIZONTAL	VERTICAL		HORIZONTAL	VERTICAL
3658	3048	3048	203	WWF 102x305-MW129xMW77	1270	254	WWF 102x152-MW129xMW52	1270	339
4572	3048	3048	254	WWF 102x305-MW129xMW77	1270	254	WWF 102x152-MW129xMW65	1270	423
5486	3048	3048	305	WWF 102x305-MW129xMW77	1270	254	WWF 102x152-MW129xMW77	1270	508
6401	3048	3048	356	WWF 102x305-MW129xMW77	1270	254	WWF 102x76-MW129xMW52	1270	677
7315	3048	3048	406	WWF 102x305-MW129xMW77	1270	254	WWF 102x76-MW129xMW65	1270	847
8230	3048	3048	457	WWF 102x305-MW129xMW77	1270	254	WWF 102x76-MW129xMW65	1270	847
8534	3048	3048	508	WWF 102x305-MW129xMW77	1270	254	WWF 102x76-MW129xMW77	1270	1016

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

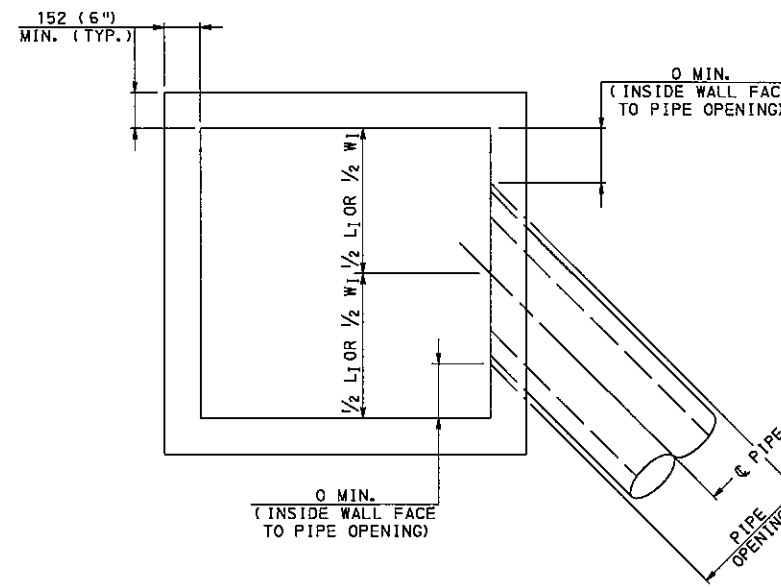
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BUREAU OF DESIGN**

**INLET BOXES  
PRECAST INLET BOXES  
DESIGN TABLES - 4  
METRIC UNITS  
(WELDED WIRE FABRIC)**

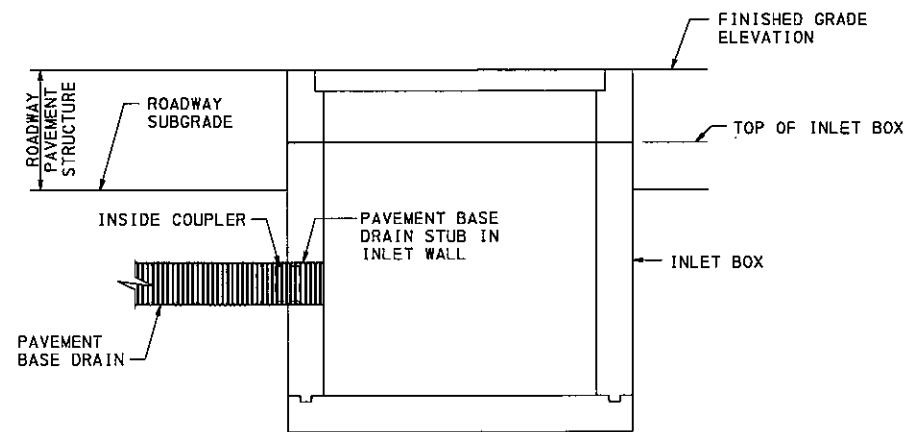
RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> ACTING CHIEF, HWY. QA DIVISION	RECOMMENDED AUG. 29, 2008 <i>Daniel B. Stewart</i> DIRECTOR, BUREAU OF DESIGN	SHT 42 OF 44 <b>RC-46M</b>
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**DETAIL FOR CORNER PIPE**  
 (SEE PIPE LOCATION AND PIPE OPENING NOTES ON SHEET 2)



**DETAIL FOR SKEWED PIPE**  
 (SEE PIPE LOCATION AND PIPE OPENING NOTES ON SHEET 2)



**OPTIONAL CONNECTION DETAIL FOR PAVEMENT BASE DRAIN**

**NOTES:**  
 1. FOR ADDITIONAL NOTES SEE SHEETS 1 - 3.

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

**COMMONWEALTH OF PENNSYLVANIA**  
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 BUREAU OF DESIGN

INLET BOXES  
 MISCELLANEOUS DETAILS