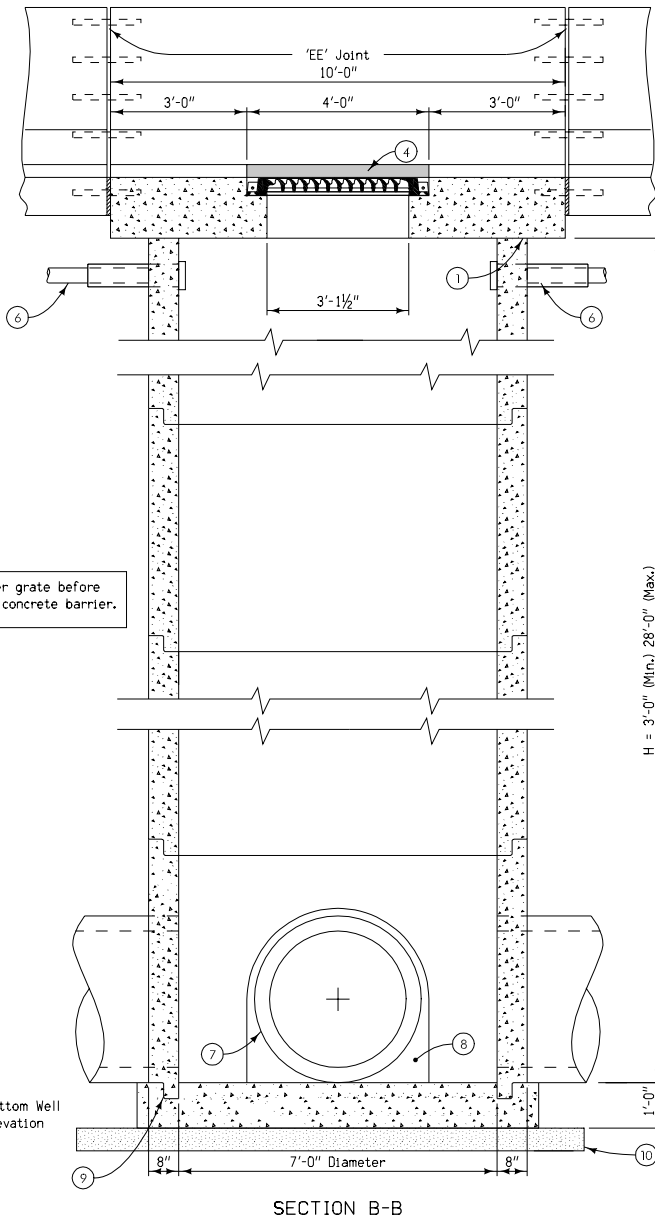
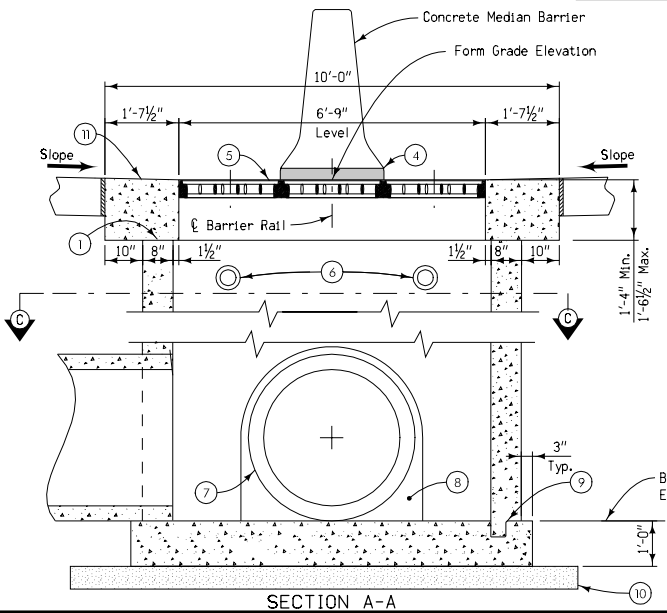


Remove center grate before constructing concrete barrier.



SECTION B-B



SECTION A-A

Steps, when specified, shall meet the requirements of ASTM C478. The top step shall be located a maximum of 28" below the form grade elevation.

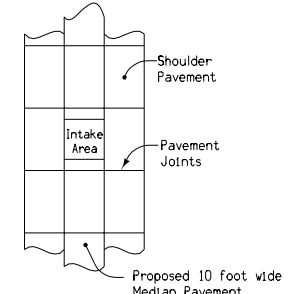
Contract Items:

Barrier Intake, RA-47B

Tabulation: 104-5B

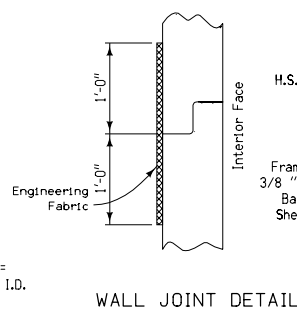
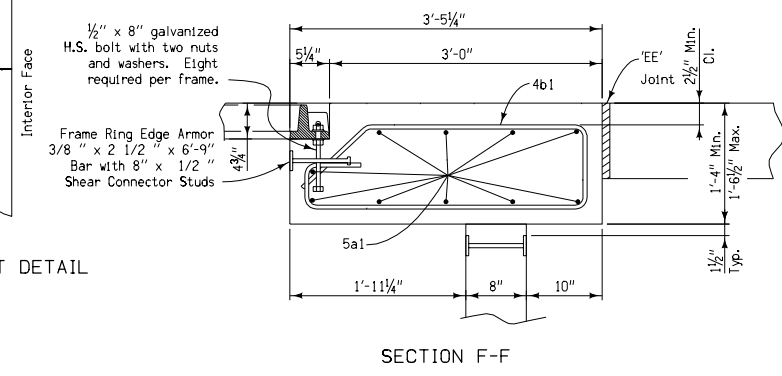
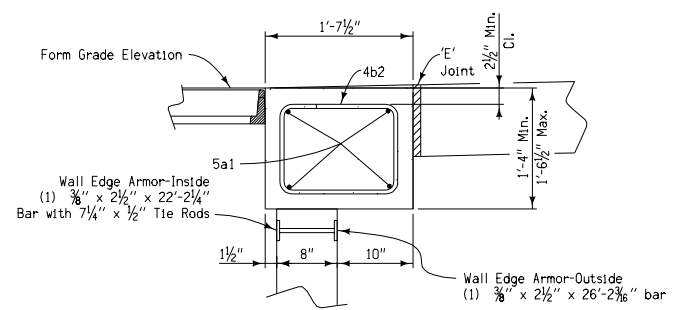
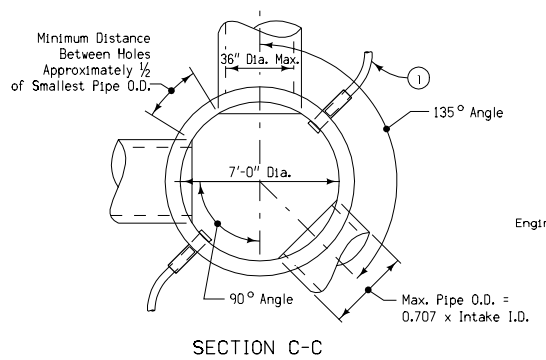
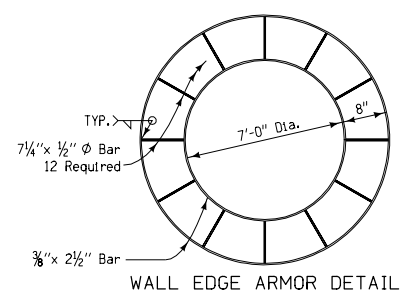
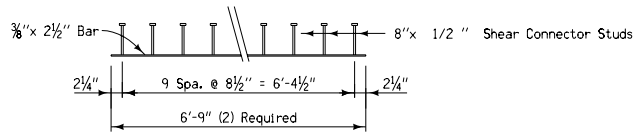
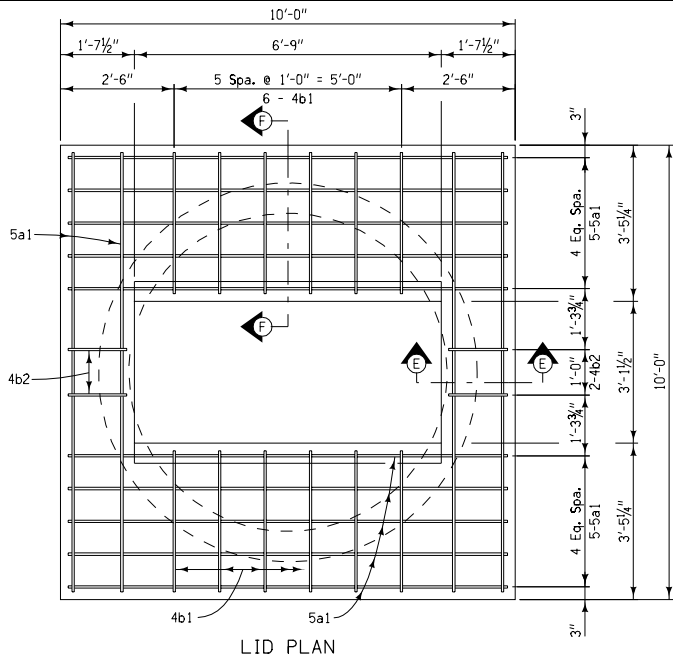
- ① Trowel smooth and place 2 layers of 30 lb roofing felt to prevent bond.
- ② Cast frame into intake top. See Standard Road Plan RA-66D for frame and grate details.
- ③ Bolt Intake frames together on both sides with (4) 1/2" x 4" bolts.
- ④ Leave 3" opening through barrier over the intake.
- ⑤ Top elevation of grate shall be 1/4" below Form Grade Elevation.
- ⑥ Possible subdrain. See plans for location and elevation. See Standard Road Plan RF-19C for connection details.
- ⑦ 36" maximum concrete pipe.
- ⑧ Oversized hole for pipe opening to be field grouted. See Standard Road Plan RA-56.
- ⑨ Intake base may be cast in place or precast. If precast, the base and first wall section may be cast separately with a keyway or as one unit.
- ⑩ If intake base is precast, it shall be placed on a 6" bed of sand. This bedding shall be compacted and provide uniform support for the entire area of the base and shall extend 12" outside the edge of the base.
- ⑪ Slope of top shall vary to match adjacent pavement elevation.

For joint details, see Standard Road Plans RH-50, RH-51 and RH-52.



PAVEMENT JOINT LAYOUT DETAIL

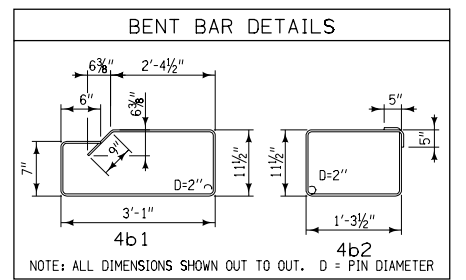
	REVISION
	NEW 10-17-06
STANDARD ROAD PLAN	RA-47B
REVISIONS: Replaces paren-number standards with one multi-page standard.	SHEET 1 of 3
<i>Deanna Marquardt</i> APPROVED BY DESIGN METHODS ENGINEER	
TRIPLE GRATE BARRIER INTAKE, CIRCULAR	



BILL OF REINFORCING STEEL

THREE GRATE INTAKE LID - EPOXY COATED

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
5a1	Lid, Longit. & Transverse	—	28	9'-8	282
4b1	Lid Hoop	⊠	12	8'-3	66
4b2	Lid Hoop	⊠	4	5'-4	14
EPOXY COATED REINFORCING STEEL - TOTAL					362



QUANTITY SUMMARY FOR THREE GRATE INTAKE LID

Concrete	3.8	CY *
Epoxy Coated Reinforcing Steel	362	LB

* Based on Minimum thickness = 1'-4"

The clear distance from face of concrete to near edge or end of reinforcing bar to be 2" unless otherwise noted.

① Possible Subdrain. See Plans for location and elevation. See Standard Road Plan RF-49C for connection details.

Iowa Department of Transportation

REVISION 10-17-06

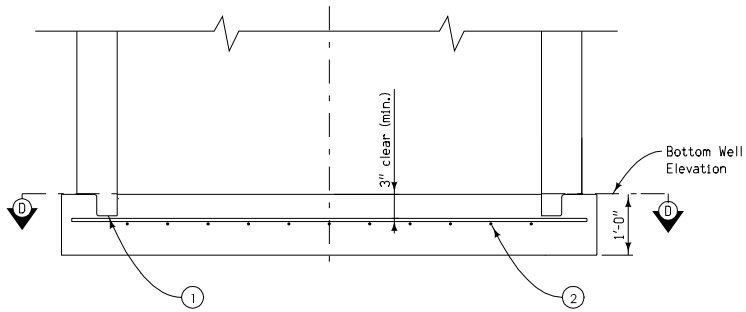
STANDARD ROAD PLAN RA-47B

SHEET 2 of 3

REVISIONS: Replaces paren-number standards with one multi-page standard. Changed Headed Anchors to Shear Connector Studs.

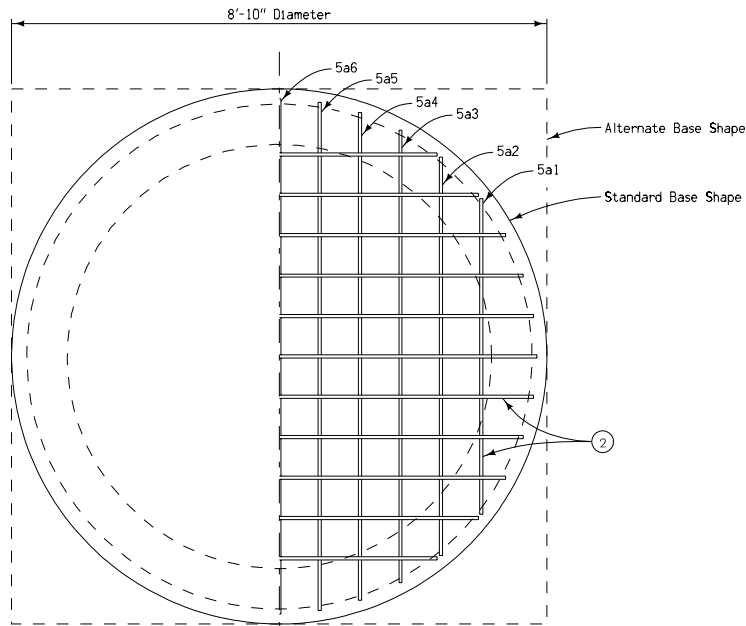
Deanna Mauldin
APPROVED BY DESIGN METHODS ENGINEER

TRIPLE GRATE BARRIER INTAKE, CIRCULAR



PART SECTION A-A

- ① Intake base may be cast in place or precast. If precast, the base and first wall section may be cast separately with a keyway or as one unit.
- ② #5 at 8" centers each direction or equivalent welded wire fabric.



SECTION D-D
(BASE PLAN)

BILL OF REINFORCING STEEL					
CIRCULAR INTAKE BASE - EPOXY COATED					
BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
5a1	Base, Longit. & Transverse	---	4	5'-3"	22
5a2	Base, Longit. & Transverse	---	4	6'-7"	27
5a3	Base, Longit. & Transverse	---	4	7'-6"	31
5a4	Base, Longit. & Transverse	---	4	8'-0"	33
5a5	Base, Longit. & Transverse	---	4	8'-4"	35
5a6	Base, Longit. & Transverse	---	2	8'-6"	18
EPOXY COATED REINFORCING STEEL - TOTAL					166

The clear distance from face of concrete to near edge or end of reinforcing bar to be 2" unless otherwise noted.

QUANTITY SUMMARY FOR CIRCULAR INTAKE BASE	
Concrete	2.3 CY *
Epoxy Coated Reinforcing Steel	166 LB *

* Based on Standard Base Shape

	REVISION NEW 10-17-06
	RA-47B SHEET 3 of 3
REVISIONS: Replaces paren-number standards with one multi-page standard.	
<i>Deanna Marfield</i> APPROVED BY DESIGN METHODS ENGINEER	
TRIPLE GRATE BARRIER INTAKE, CIRCULAR	