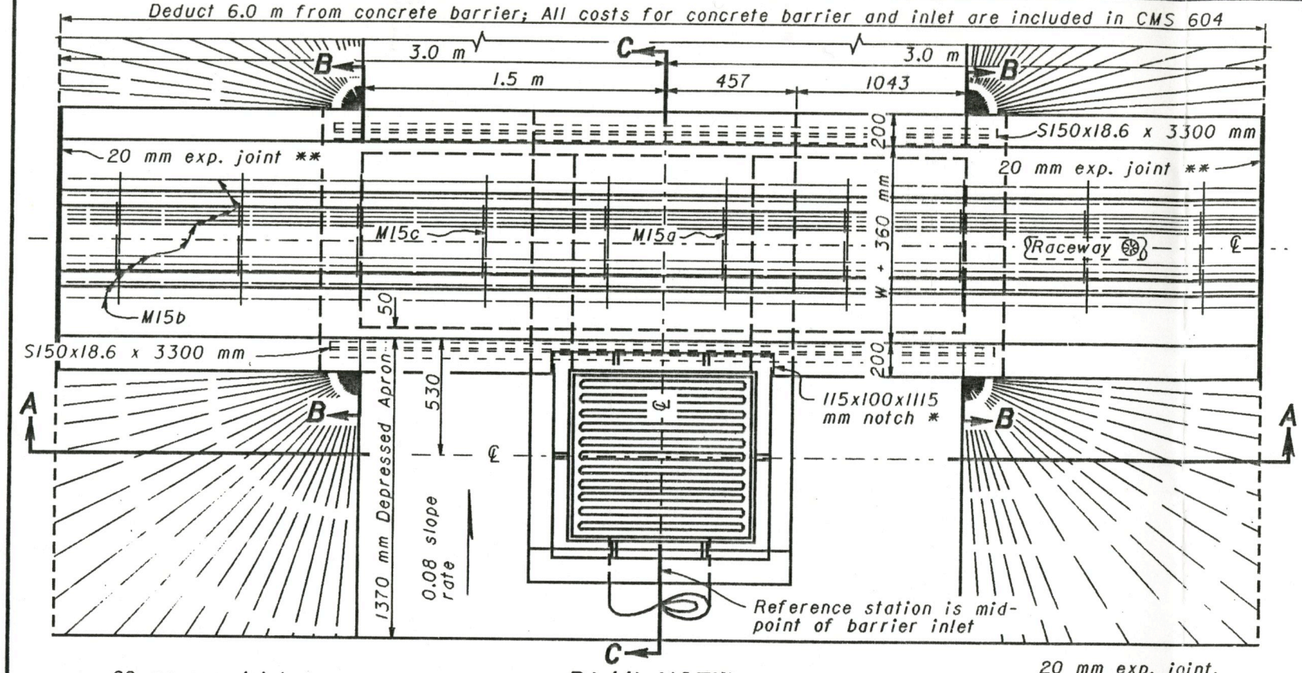
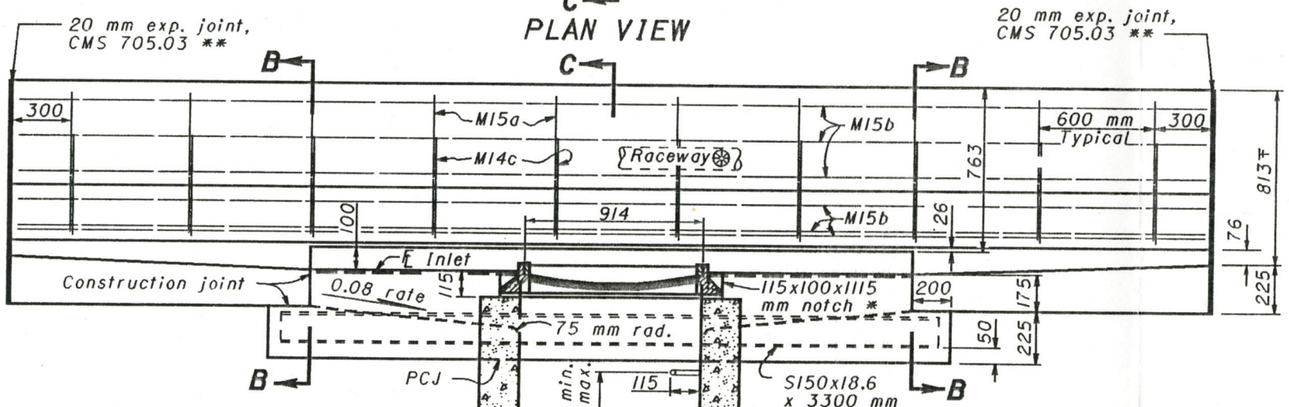
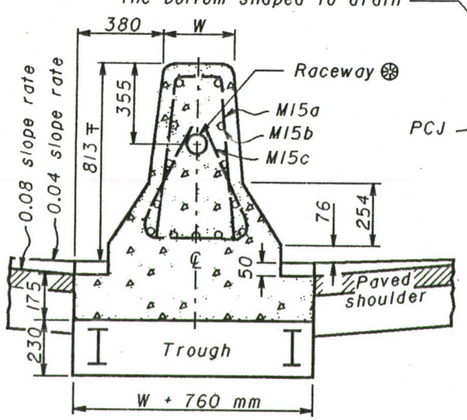


PLAN VIEW



Bottom slab may be precast separately and the outlet pipe placed on tip of it with the bottom shaped to drain



SECTION B-B

LEGEND

* After casting is placed, fill notch with Class C concrete

** A 37 mm minimum exp. joint shall be provided in concrete pavement or concrete shoulders.

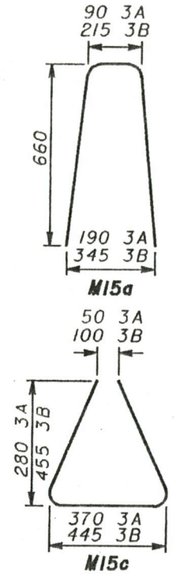
Raceway 100 mm Lighting raceway, if required elsewhere by the plans

∓ Barrier height equals either 813 mm or 1270 mm.

PCJ - Permissible construction joint

STANDARD INLET NUMBERS

1-3A	(813 mm Barrier with W-152 mm)
1-3A 1270	(1270 mm Barrier with W-152 mm)
1-3B	(813 mm Barrier with W-305 mm)
1-3B 1270	(1270 mm Barrier with W-305 mm)



BENDING DIAGRAM #15M BARS

NOTES

GENERAL: For details of concrete barriers, see Std. Constr. Dwg. RM-4.3M. Minimum mass of frame and cover shall be 245 kg.

WALLS: The walls between the bottom slab and the upper permissible construction joint may be built of brick, concrete block or cast-in-place concrete, 200 mm nominal thickness for depths of 3.5 m or less. Precast walls shall have a minimum thickness of 150 mm and be reinforced sufficiently to permit shipping and handling without damage. The unit above the upper permissible construction joint may be precast or cast-in-place.

HEIGHT: When placed in 1270 mm high barrier the 763 mm height shall be made 1220 mm.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 with a minimum of 4% entrained air content in the hardened concrete. Required markings shall include the inlet number. Exposed concrete surfaces of the barrier shall be sealed with an approved sealer.

REINFORCING STEEL: Reinforcing steel shall be epoxy coated in accordance with CMS 509.10.

STEPS: Steps shall be in accordance with MH-1.1M.

GRATE LOCATION: In superelevated curves or at other locations where there is unequal discharge from the directional roadways, the inlet grating shall be located in the roadway which discharges the major flow.

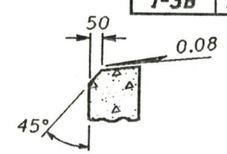
INLETS OVER 3.5 m IN DEPTH: Such inlets shall be precast or cast-in-place concrete; reinforced with #15M bars on 300 mm centers both vertically and horizontally with 50 mm clearance from the inside wall face.

OPENINGS: Pipe openings shall be the outside diameter of the pipe being supplied plus 50 mm when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

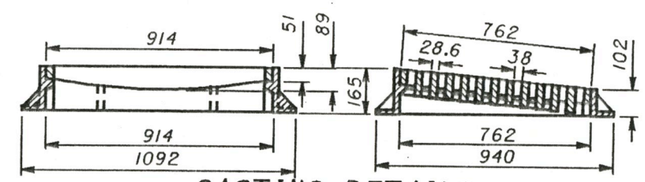
STEEL LIST ⊕

INLET NO.	W	M15a		M15b		M15c		S150x18.6	
		No.	Length	No.	Length	No.	Length	No.	Length
1-3A	152	10	1370	13	5900	10	940	2	3300
1-3B	305	10	1525	13	5900	10	1370	2	3300

⊕ Included for estimating purposes only. The cost of furnishing and placing all reinforcing steel shall be included in Item 604 for payment.

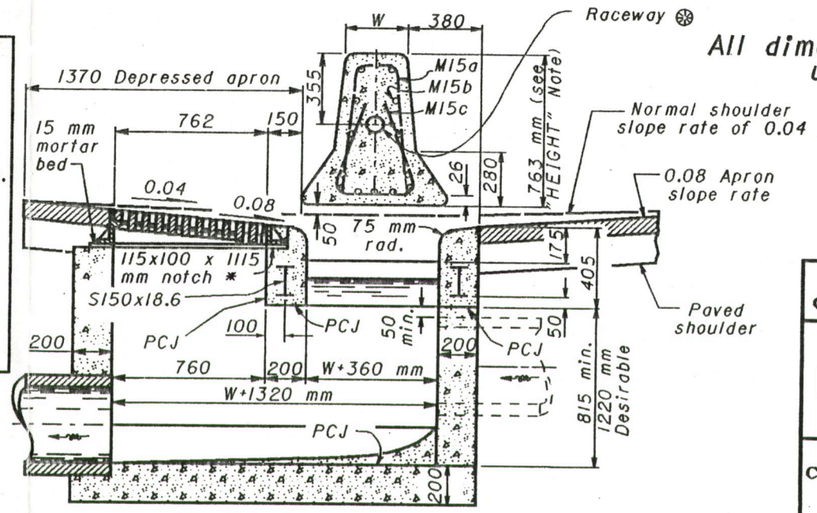


ALTERNATE SPILLWAY SHAPE



CASTING DETAILS

All dimensions are in millimeters unless otherwise noted.



SECTION C-C

metric units

This Drawing Replaces 1-3A & B.

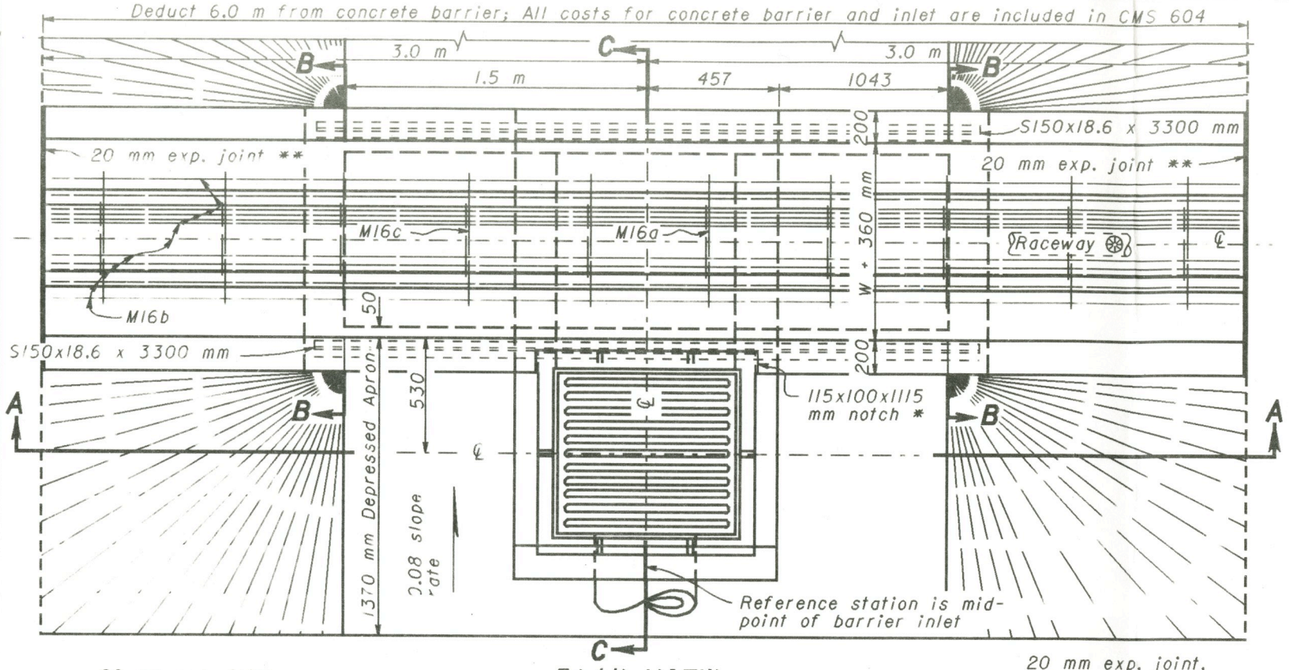
OFFICE OF ROADWAY ENGINEERING
OHIO DEPARTMENT OF TRANSPORTATION

BARRIER MEDIAN INLETS 3A & 3B

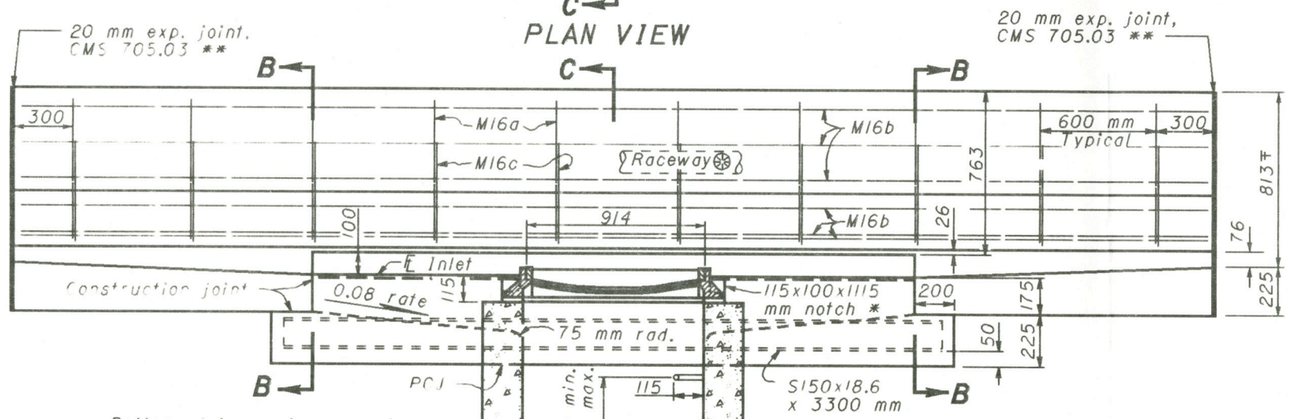
DATE 9-6-95

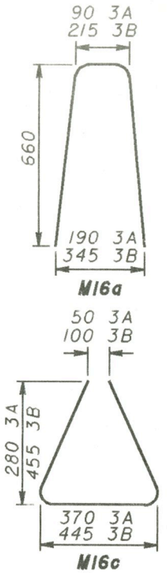
STANDARD CONSTRUCTION DRAWING **I-2.1M**

APPROVED D. K. Hulman, P.E.
ADMINISTRATOR



PLAN VIEW





BENDING DIAGRAM #16M BARS

NOTES

GENERAL: For details of concrete barriers, see Std. Constr. Dwg. RM-4.3M. Minimum mass of frame and cover shall be 245 kg.

WALLS: The walls between the bottom slab and the upper permissible construction joint may be built of brick, concrete block or cast-in-place concrete, 200 mm nominal thickness for depths of 3.5 m or less. Precast walls shall have a minimum thickness of 150 mm and be reinforced sufficiently to permit shipping and handling without damage. The unit above the upper permissible construction joint may be precast or cast-in-place.

HEIGHT: When placed in 1270 mm high barrier the 763 mm height shall be made 1220 mm.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 with a minimum of 4% entrained air content in the hardened concrete. Required markings shall include the inlet number. Exposed concrete surfaces of the barrier shall be sealed with an approved sealer.

REINFORCING STEEL: Reinforcing steel shall be epoxy coated in accordance with CMS 509.10.

STEPS: Steps shall be in accordance with MH-1.1M.

GRATE LOCATION: In superelevated curves or at other locations where there is unequal discharge from the directional roadways, the inlet grating shall be located in the roadway which discharges the major flow.

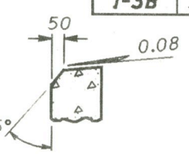
INLETS OVER 3.5 m IN DEPTH: Such inlets shall be precast or cast-in-place concrete; reinforced with #16M bars on 300 mm centers both vertically and horizontally with 50 mm clearance from the inside wall face.

OPENINGS: Pipe openings shall be the outside diameter of the pipe being supplied plus 50 mm when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

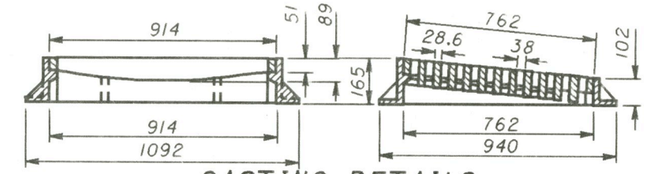
STEEL LIST ◐

INLET NO.	W	M16a		M16b		M16c		S150x18.6	
		No.	Length	No.	Length	No.	Length	No.	Length
1-3A	152	10	1370	13	5900	10	940	2	3300
1-3B	305	10	1525	13	5900	10	1370	2	3300

◐ Included for estimating purposes only. The cost of furnishing and placing all reinforcing steel shall be included in Item 604 for payment.



ALTERNATE SPILLWAY SHAPE

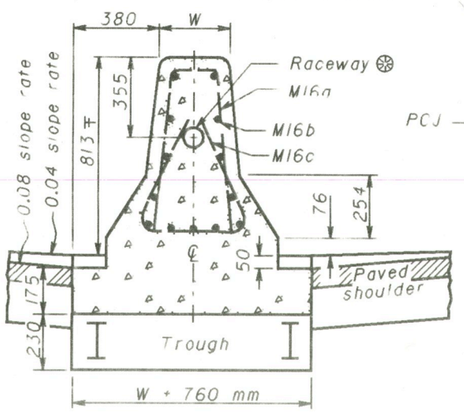


CASTING DETAILS

All dimensions are in millimeters unless otherwise noted.

metric units

Bottom slab may be precast separately and the outlet pipe placed on tip of it with the bottom shaped to drain



SECTION B-B

LEGEND

* After casting is placed, fill notch with Class C concrete

** A 37 mm minimum exp. joint shall be provided in concrete pavement or concrete shoulders.

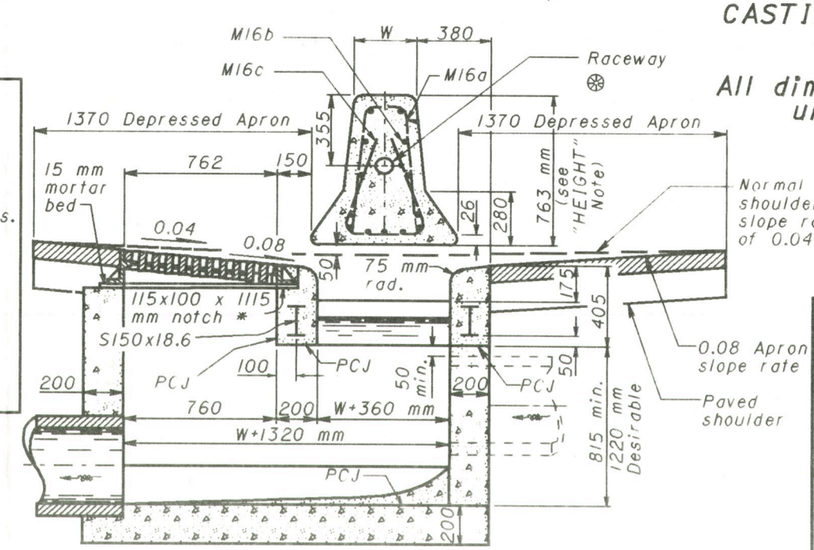
⊛ 100 mm Lighting raceway, if required elsewhere by the plans

∓ Barrier height equals either 813 mm or 1270 mm.

PCJ - Permissible construction joint

STANDARD INLET NUMBERS

1-3A	(813 mm Barrier with W=152 mm)
1-3A 1270	(1270 mm Barrier with W=152 mm)
1-3B	(813 mm Barrier with W=305 mm)
1-3B 1270	(1270 mm Barrier with W=305 mm)



SECTION C-C

This Drawing Replaces 1-3A & B.

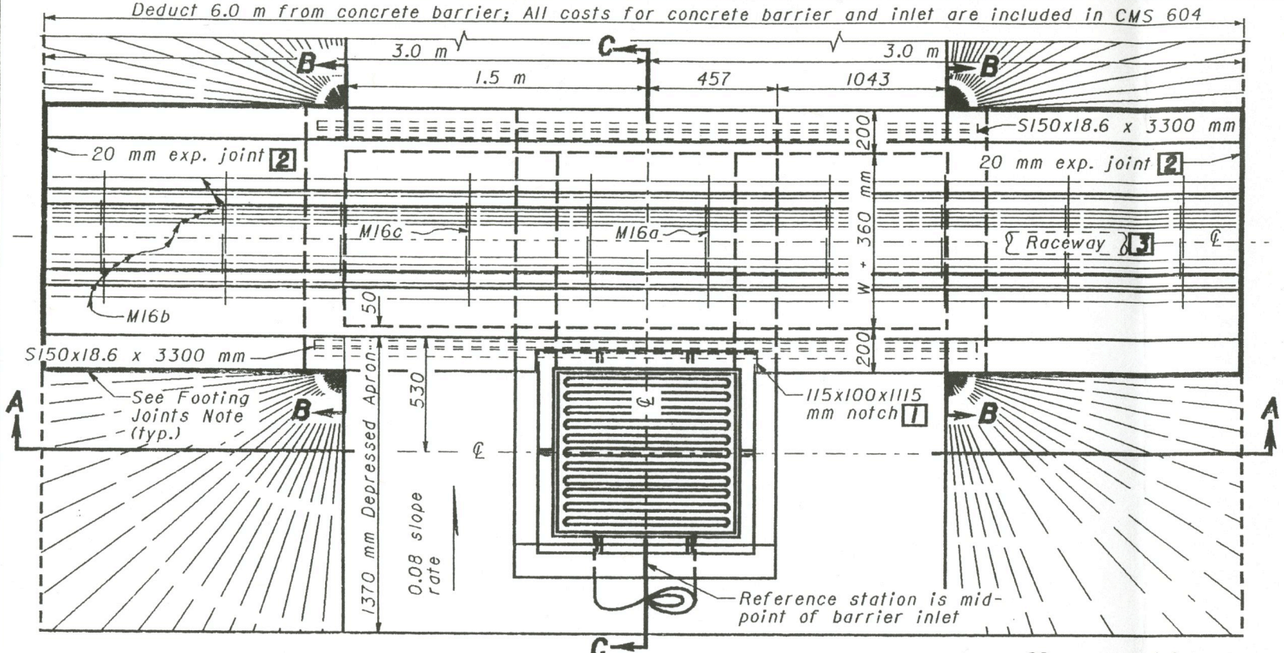
OFFICE OF PLANNING
OHIO DEPARTMENT OF TRANSPORTATION

BARRIER MEDIAN INLETS 3A & 3B

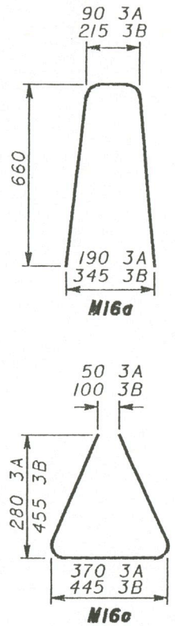
DATE 9-6-95 4-8-97

STANDARD CONSTRUCTION DRAWING **1-2.1M**

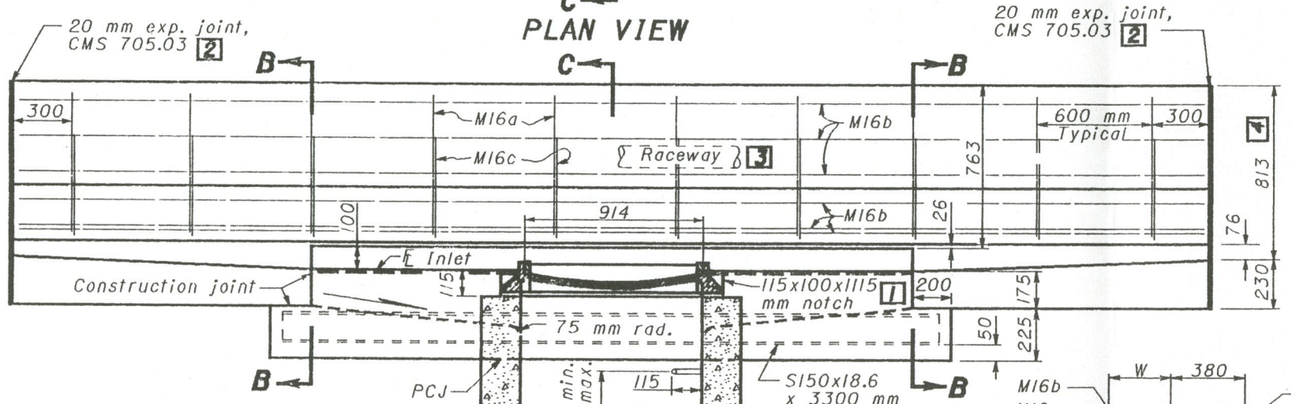
APPROVED Larry F. Sutherland
ADMINISTRATOR



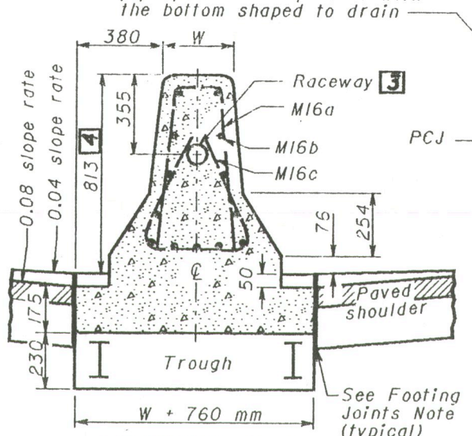
PLAN VIEW



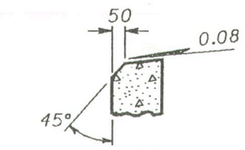
BENDING DIAGRAM #16M BARS



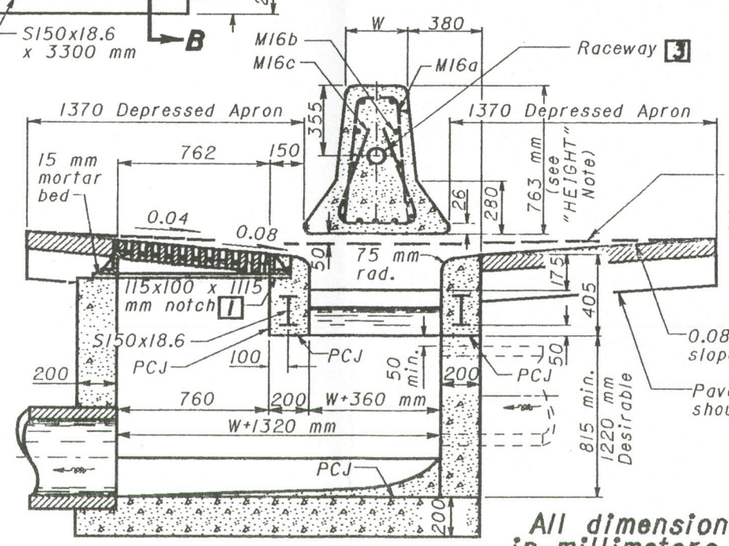
Bottom slab may be precast separately and the outlet pipe placed on tip of it with the bottom shaped to drain



SECTION B-B



ALTERNATE SPILLWAY SHAPE



SECTION C-C

All dimensions are in millimeters unless otherwise noted.

NOTES

GENERAL: For details of concrete barriers, see SCD RM-4.3M. Minimum mass of frame and cover shall be 245 kg.

WALLS: The walls between the bottom slab and the upper permissible construction joint may be built of brick, concrete block or cast-in-place concrete, 200 mm nominal thickness for depths of 3.5 m or less. Precast walls shall have a minimum thickness of 150 mm and be reinforced sufficiently to permit shipping and handling without damage. The unit above the upper permissible construction joint may be precast or cast-in-place.

HEIGHT: When placed in 1270 mm high barrier the 763 mm height shall be made 1220 mm.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 with a minimum of 4% entrained air content in the hardened concrete. Required markings shall include the inlet number. Exposed concrete surfaces of the barrier shall be sealed with an approved sealer.

REINFORCING STEEL: Reinforcing steel shall be epoxy coated in accordance with CMS 509.10.

FOOTING JOINTS: The vertical walls between the barrier footing and a concrete pavement or concrete base shall be provided with a sealed joint as detailed on SCD RM-4.3M.

STEPS: Steps shall be in accordance with SCD MH-1.1M.

GRATE LOCATION: In superelevated curves or at other locations where there is unequal discharge from the directional roadways, the inlet grating shall be located in the roadway which discharges the major flow.

INLETS OVER 3.5 m IN DEPTH: Such inlets shall be precast or cast-in-place concrete; reinforced with #16M bars on 300 mm centers both vertically and horizontally with 50 mm clearance from the inside wall face.

OPENINGS: Pipe openings shall be the outside diameter of the pipe being supplied plus 50 mm when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

STEEL LIST

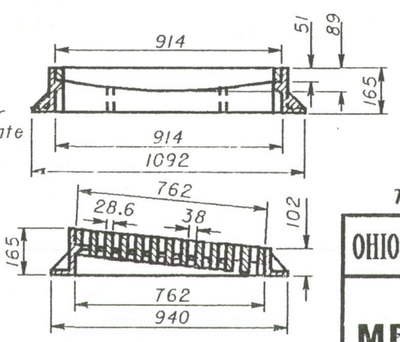
INLET NO.	W	M16a		M16b		M16c		S150x18.6	
		No.	Length	No.	Length	No.	Length	No.	Length
1-3A	152	10	1370	13	5900	10	940	2	3300
1-3B	305	10	1525	13	5900	10	1370	2	3300

Included for estimating purposes only. The cost of furnishing and placing all reinforcing steel shall be included in Item 604 for payment.

LEGEND

1. After casting is placed, fill notch with Class C concrete
2. A 37 mm minimum exp. joint shall be provided in concrete pavement or concrete shoulders.
3. 100 mm Lighting raceway, if required elsewhere by the plans
4. Barrier height equals either 813 mm or 1270 mm.

PCJ - Permissible construction joint



CASTING DETAILS

STANDARD INLET NO.

Barrier	W-152 mm	W-305 mm
813 mm	1-3A	1-3B
1270 mm	1-3A 1270	1-3B 1270

This Drawing Replaces 1-3A & B.

OHIO DEPARTMENT OF TRANSPORTATION

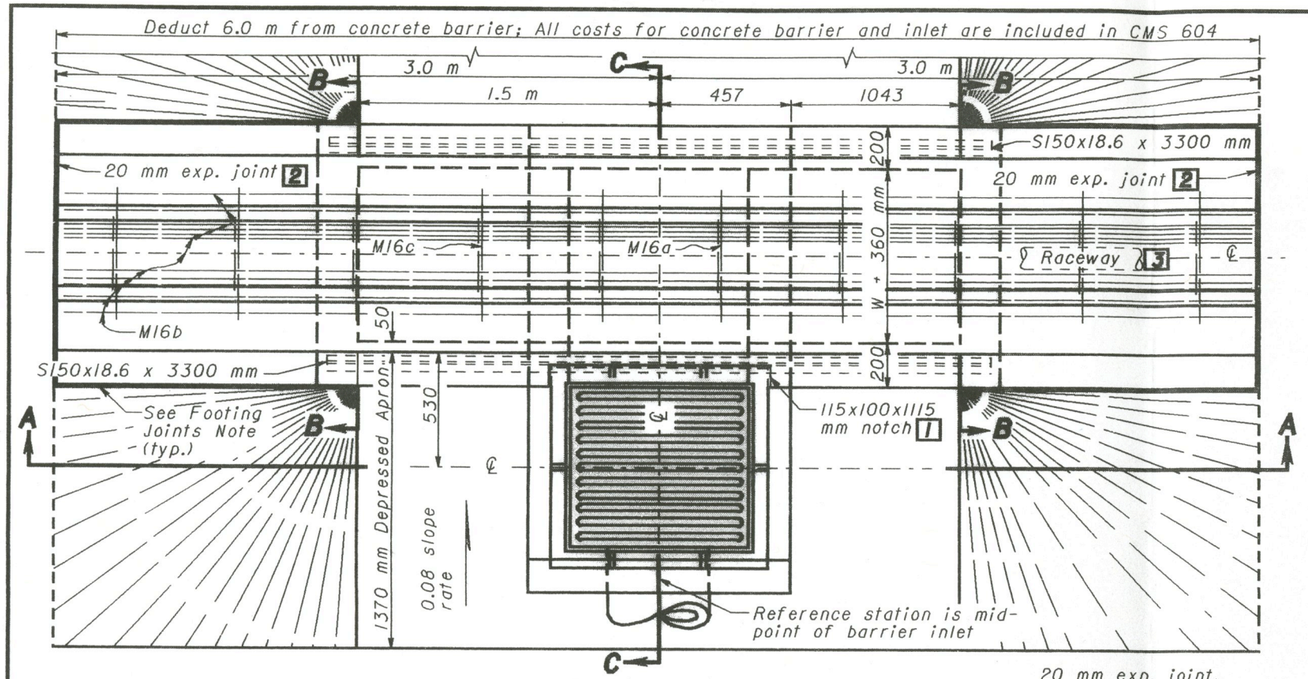
BARRIER MEDIAN INLETS 3A & 3B

DATE: 9-6-95, 4-8-97, 10-21-97

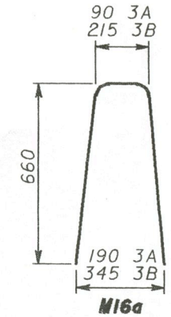
STANDARD CONSTRUCTION DRAWING 1-2.1M

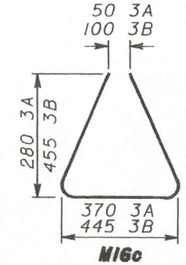
APPROVED Larry F. Sutherland

metric units

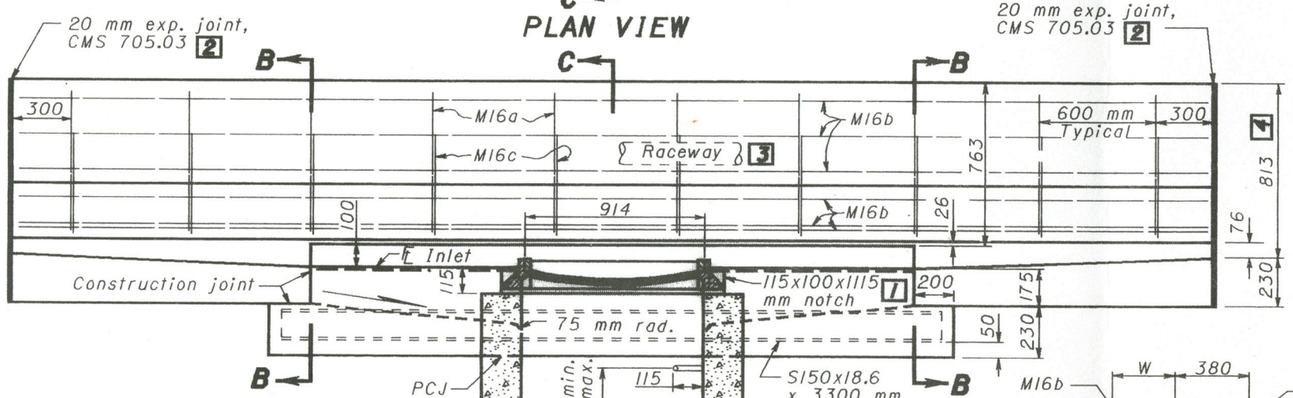


PLAN VIEW

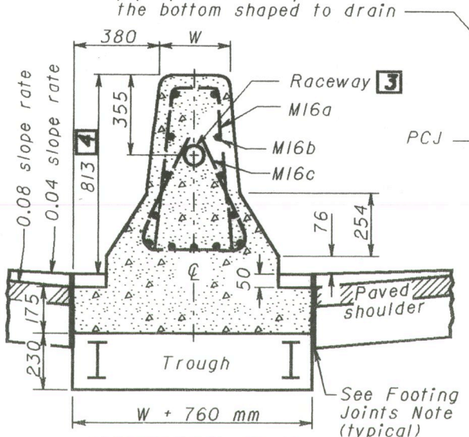




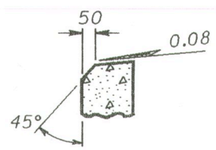
BENDING DIAGRAM #16M BARS



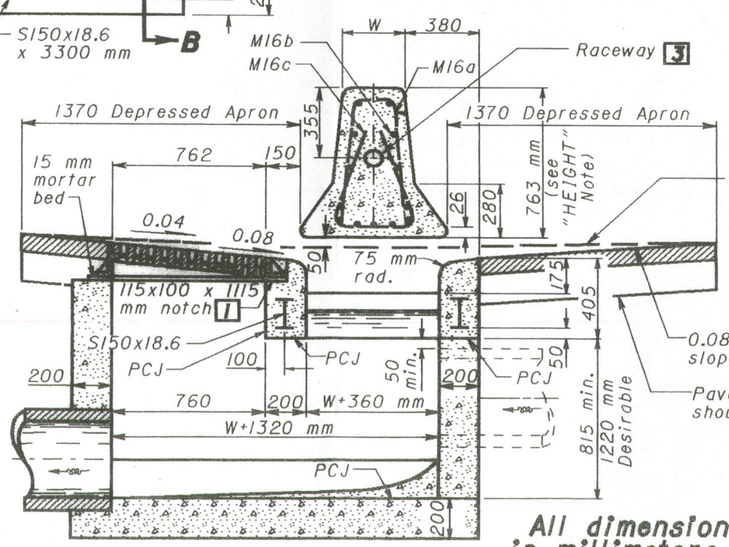
Bottom slab may be precast separately and the outlet pipe placed on tip of it with the bottom shaped to drain



SECTION B-B

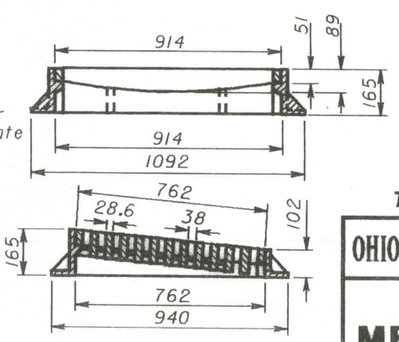


ALTERNATE SPILLWAY SHAPE



SECTION C-C

All dimensions are in millimeters unless otherwise noted.



CASTING DETAILS

NOTES

GENERAL: For details of concrete barriers, see SCD RM-4.3M. Minimum mass of frame and cover shall be 245 kg.

WALLS: The walls between the bottom slab and the upper permissible construction joint may be built of brick, concrete block or cast-in-place concrete, 200 mm nominal thickness for depths of 3.5 m or less. Precast walls shall have a minimum thickness of 150 mm and be reinforced sufficiently to permit shipping and handling without damage. The unit above the upper permissible construction joint may be precast or cast-in-place.

HEIGHT: When placed in 1270 mm high barrier the 763 mm height shall be made 1220 mm.

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 with a minimum of 4% entrained air content in the hardened concrete. Required markings shall include the inlet number. Exposed concrete surfaces of the barrier shall be sealed with an approved sealer.

REINFORCING STEEL: Reinforcing steel shall be epoxy coated in accordance with CMS 509.10.

FOOTING JOINTS: The vertical walls between the barrier footing and a concrete pavement or concrete base shall be provided with a sealed joint as detailed on SCD RM-4.3M.

STEPS: Steps shall be in accordance with SCD MH-1.1M.

GRATE LOCATION: In superelevated curves or at other locations where there is unequal discharge from the directional roadways, the inlet grating shall be located in the roadway which discharges the major flow.

INLETS OVER 3.5 m IN DEPTH: Such inlets shall be precast or cast-in-place concrete; reinforced with #16M bars on 300 mm centers both vertically and horizontally with 50 mm clearance from the inside wall face.

OPENINGS: Pipe openings shall be the outside diameter of the pipe being supplied plus 50 mm when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

STEEL LIST

INLET NO.	W	M16a		M16b		M16c		S150x18.6	
		No.	Length	No.	Length	No.	Length	No.	Length
1-3A	152	10	1370	13	5900	10	940	2	3300
1-3B	305	10	1525	13	5900	10	1370	2	3300

Included for estimating purposes only. The cost of furnishing and placing all reinforcing steel shall be included in Item 604 for payment.

LEGEND

1. After casting is placed, fill notch with Class C concrete
2. A 37 mm minimum exp. joint shall be provided in concrete pavement or concrete shoulders.
3. 100 mm Lighting raceway, if required elsewhere by the plans
4. Barrier height equals either 813 mm or 1270 mm.

PCJ - Permissible construction joint

STANDARD INLET NO.

Barrier	W-152 mm	W-305 mm
813 mm	1-3A	1-3B
1270 mm	1-3A 1270	1-3B 1270

This Drawing Replaces 1-3A & B.

OHIO DEPARTMENT OF TRANSPORTATION

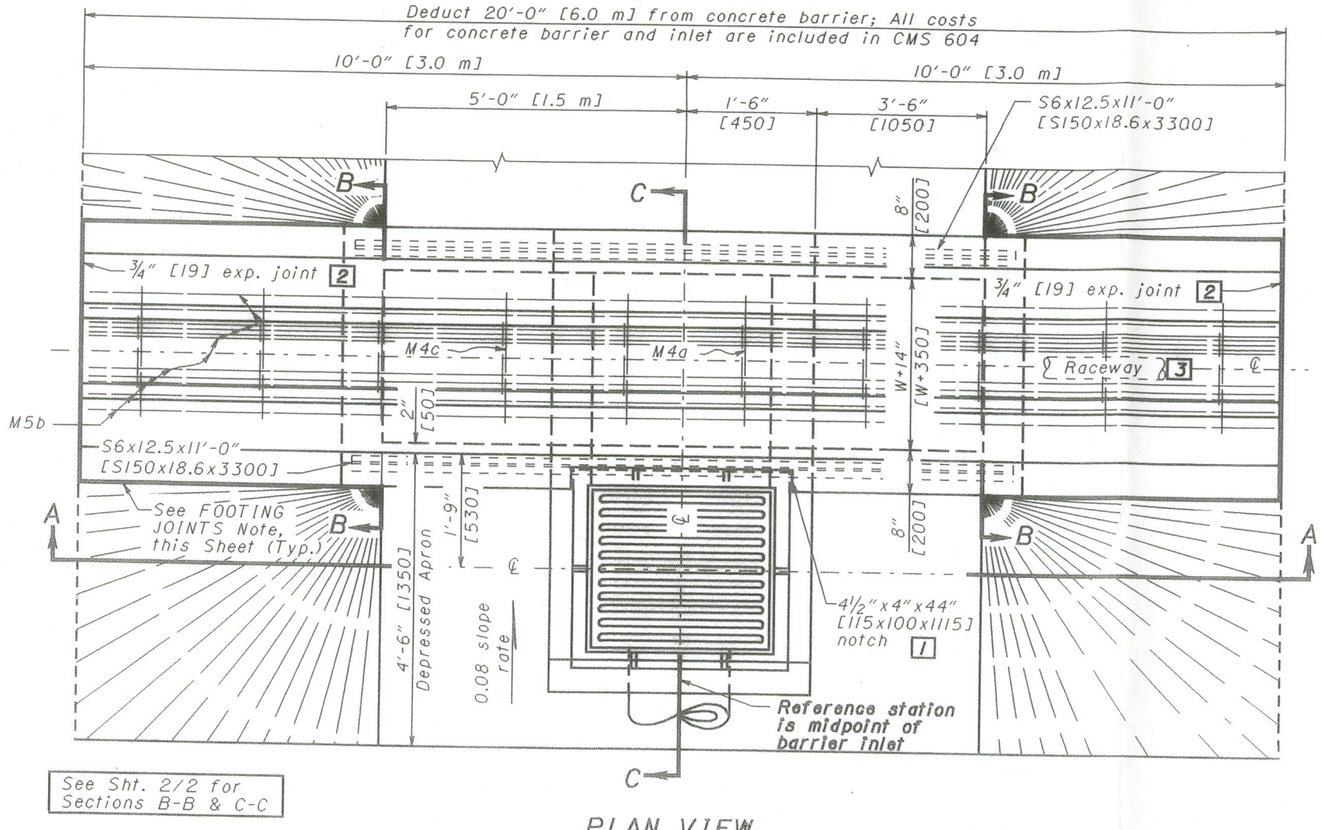
BARRIER MEDIAN INLETS 3A & 3B

STANDARD CONSTRUCTION DRAWING 1-2.1M

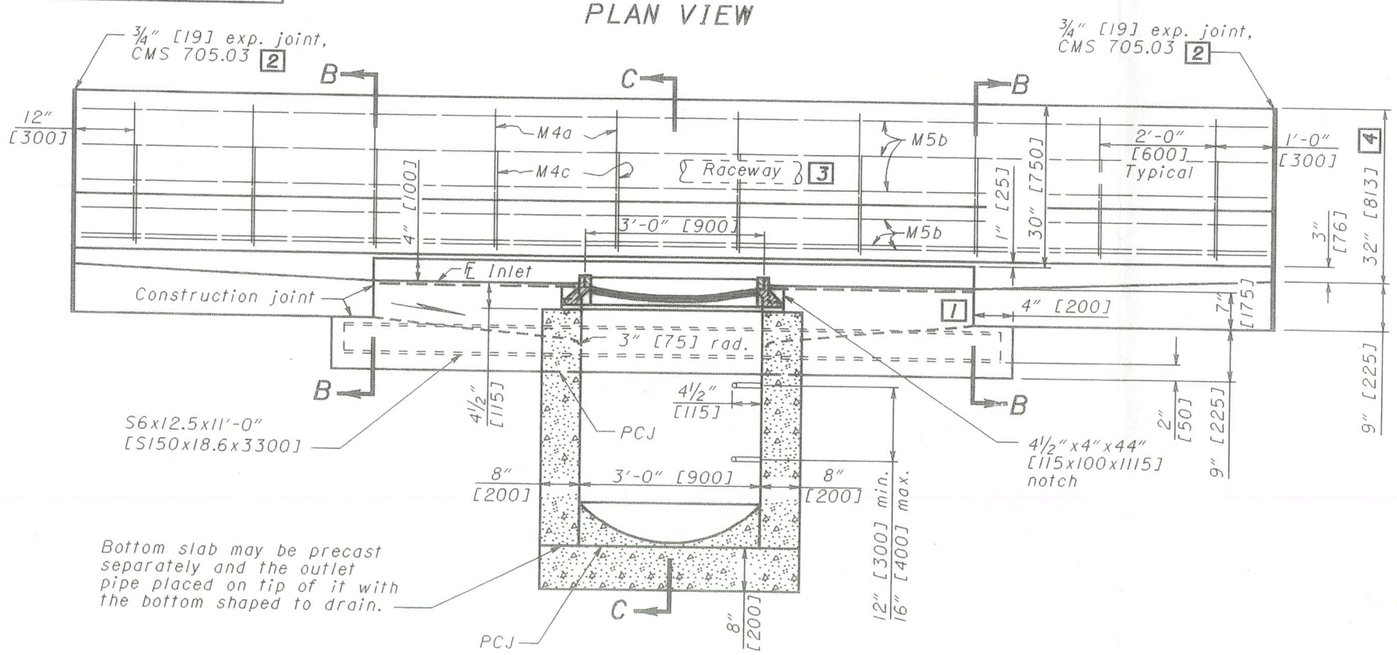
APPROVED Larry F. Sutherland

DATE: 9-6-95, 4-8-97, 10-21-97, 4-14-98

metric units



PLAN VIEW



SECTION A-A

NOTES

GENERAL: For details of concrete barriers, see **SCD RM-4.3.** Minimum weight [mass] of frame and cover shall be 540 lbs. [245 kg].

WALLS: The walls between the bottom slab and the upper permissible construction joint may be built of brick, concrete block or cast-in-place concrete, 8" [200] nominal thickness for depths of 12' [3.5 m] or less. Precast walls shall have a minimum thickness of 6" [150] and be reinforced sufficiently to permit shipping and handling without damage. The unit above the permissible construction joint may be precast or cast-in-place.

HEIGHT: When placed in 50" [1270] high barrier the 30" [763] height shall be made 48" [1220].

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 with a minimum of 4% entrained air content in the hardened concrete. Required markings shall include the inlet number. Exposed concrete surfaces of the barrier shall be sealed with an approved sealer.

REINFORCING STEEL: Reinforcing steel shall be epoxy coated in accordance with CMS 509.10.

FOOTING JOINTS: The vertical walls between the barrier footing and a concrete pavement or concrete base shall be provided with a sealed joint as detailed on **SCD RM-4.3.**

STEPS: Steps shall be in accordance with **SCD MH-1.1.**

GRATE LOCATION: In superelevated curves or at other locations where there is unequal discharge from the directional roadways, the inlet grating shall be located in the roadway which discharges the major flow.

INLETS OVER 12 FEET [3.5 m] IN DEPTH: Such inlets shall be precast or cast-in-place concrete; reinforced with #4 [#13M] bars on 12" [300] centers both vertically and horizontally with 2" [50] clearance from the inside wall face.

OPENINGS: Pipe openings shall be the outside diameter of the pipe being supplied plus 2" [50] when fabricated or field cut. The interstitial space shall be filled with grout per CMS 601.

PCJ: Permissible Construction Joint

STANDARD INLET NUMBERS	
I-3A Type A	(32" [813] Barrier with W=6" [150])
I-3A Type AI	(50" [1270] Barrier with W=6" [150])
I-3B Type B	(32" [813] Barrier with W=12" [300])
I-3B Type BI	(50" [1270] Barrier with W=12" [300])

LEGEND

1. After casting is placed, fill notch with Class C concrete
2. A 1 1/2" [38] minimum exp. joint shall be provided in concrete pavement or concrete shoulders.
3. 4" [100] Lighting raceway, if required elsewhere by the plans.
4. Barrier height equals either 32" [813] or 50" [1270].

THIS DRAWING REPLACES I-2.1M DATED 4-14-98.

OHIO DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN ENGINEER — DATE 7-20-01

REVISIONS

STDS. ENGR. D. Focke — DRAWN D. Focke

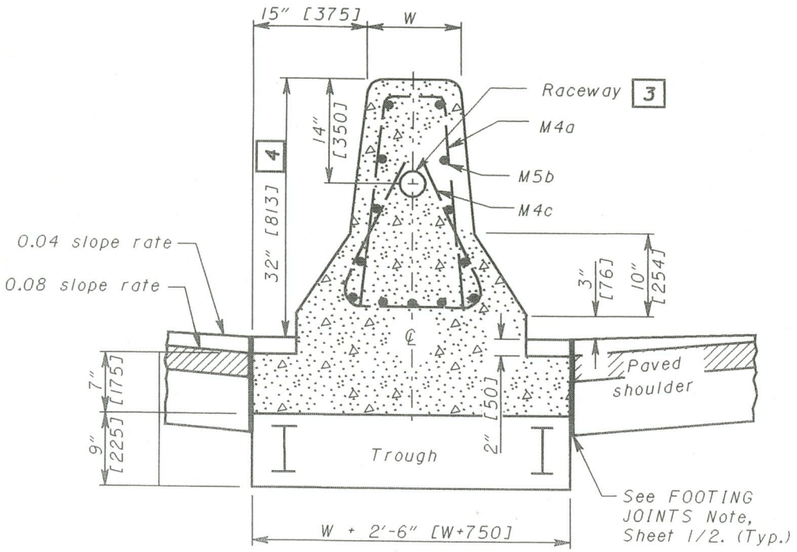
All metric dimensions [in brackets []] are in millimeters unless otherwise noted.

ROADWAY ENGINEERING SERVICES

STANDARD ROADWAY CONSTRUCTION DRAWING

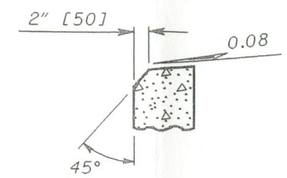
BARRIER MEDIAN INLETS 3A & 3B

NUMBER I-2.1

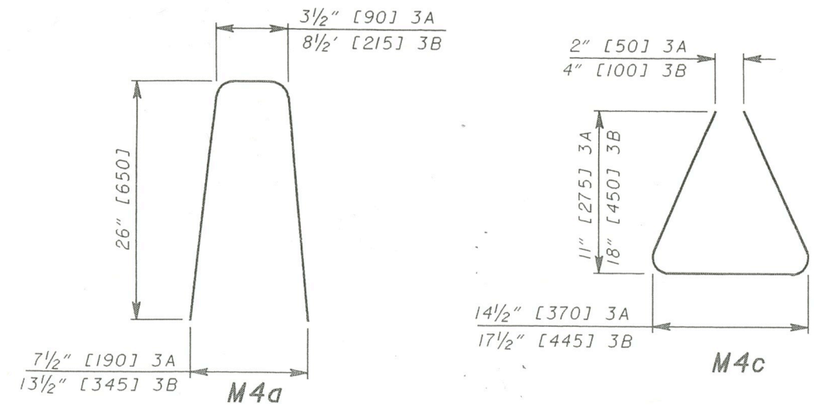


SECTION B-B
(See Sht. 1/2.)

See Sheet 1 of 2 for NOTES and LEGEND



ALTERNATE SPILLWAY SHAPE

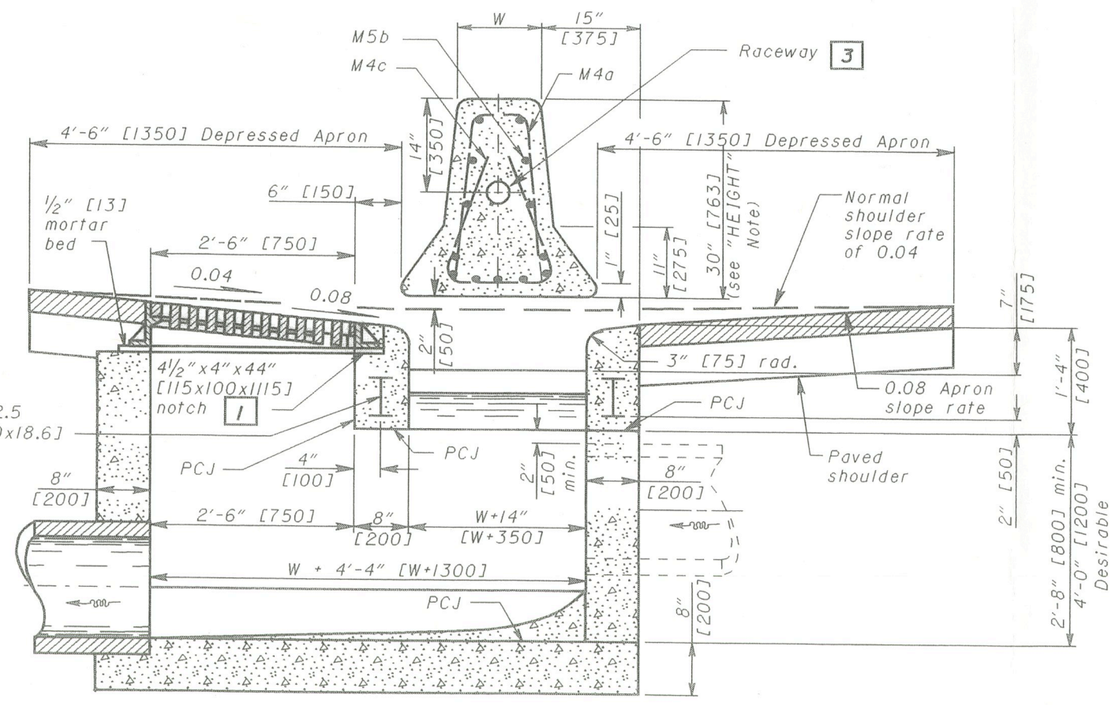


BENDING DIAGRAM

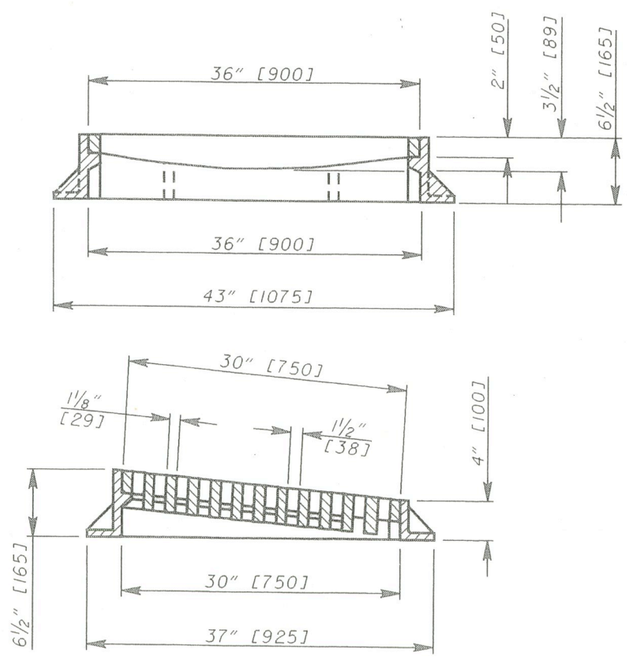
REINFORCING STEEL LIST

INLET NO.	W	M4a #4 [#13M]		M5b #5 [#16M]		M4c #4 [#13M]		S6x12.5 [S150x18.6]	
		No.	Length	No.	Length	No.	Length	No.	Length
I-3A	6" [150]	10	4'-6" [1370]	13	19'-8" [5900]	10	3'-1" [940]	2	11'-0" [3300]
I-3B	12" [300]	10	5'-0" [1525]	13	19'-8" [5900]	10	4'-6" [1370]	2	11'-0" [3300]

Included for estimating purposes only. The cost of furnishing and placing all reinforcing steel shall be included in Item 604 for payment.



SECTION C-C
(See Sht. 1/2.)



CASTING DETAILS

THIS DRAWING REPLACES I-2.1M DATED 4-14-98.

OHIO DEPARTMENT OF TRANSPORTATION	
ROADWAY DESIGN ENGINEER	DATE 7-20-01
REVISIONS	
STDS. ENGR. D. Focke	DRAWN D. Focke
All metric dimensions [in brackets] are in millimeters unless otherwise noted.	
ROADWAY ENGINEERING SERVICES	
STANDARD ROADWAY CONSTRUCTION DRAWING	BARRIER MEDIAN INLETS 3A & 3B
NUMBER I-2.1	2/2