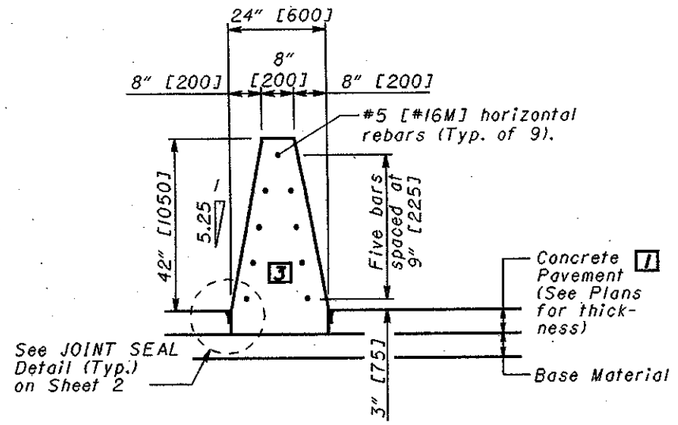
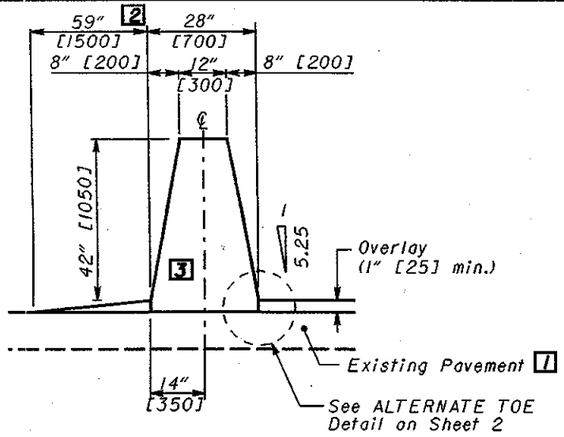


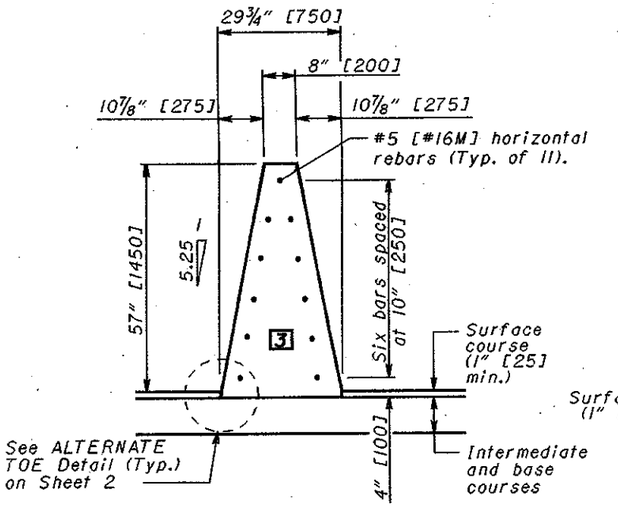
TYPE A

(SHOWN WITH NEW CONCRETE PAVEMENT)



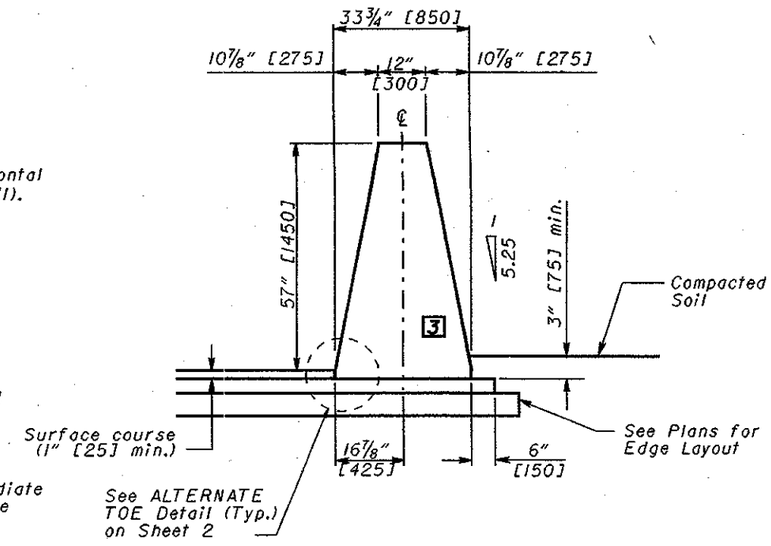
TYPE B

(SHOWN WITH EXISTING PAVEMENT)



TYPE AI

(SHOWN WITH NEW ASPHALT PAVEMENT)



TYPE BI

(SHOWN WITH PAVEMENT ON ONE SIDE ONLY)

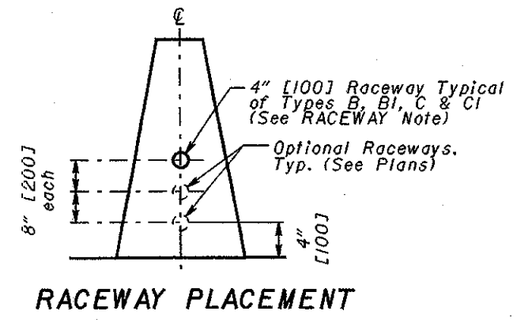
See Sheet 2 for Types C and CI.

LEGEND

1 See DOWELING DETAILS on Sheet 2 for alternate construction with concrete pavement.

2 See ADJOINING PAVEMENT Note.

3 Longitudinal (horizontal) steel rebar is required only on the narrower barriers, Types A and AI. It is not detailed on Types B, BI, C and CI.



RACEWAY PLACEMENT

NOTES

SINGLE SLOPE CONCRETE BARRIER may be cast-in-place or slip formed. See Sheet 2 for Types C and CI. See **SCD RM-4.5** for Type D barrier. See **SCD RM-4.6** for End Sections.

MATERIALS: Construct using Class C concrete. Construct top and end edges with either a 1" [25] radius or ¾" [19] chamfer, except at light pole foundations.

On barrier types detailing rebar, use epoxy coated Grade 60 [420 MPa] reinforcing steel, CMS 709.00. All rebar is to have 3½" [90] concrete cover (to allow sawcutting).

Any method devised by the contractor that will assure the horizontal steel will be positioned ±½" [13] as dimensioned will be satisfactory. Vertical bars shall be provided only to the extent necessary to position horizontal steel within tolerances.

Rebar is to be carried through contraction joints. Minimum rebar lap splices shall be 15" [375]. Welding of reinforcement is prohibited (CMS 509.04).

CONTRACTION JOINTS: Maximum allowable spacing of unsealed joints is 20' [6.0 m] throughout the run of the barrier. Construct joints by using metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing. Inserts, tooled, or sawed joints will have a 3" [75] depth. Construct all joints for the full height of the barrier. Saw as soon as curing will allow to prevent spalling. When used in conjunction with concrete pavement, match joints to those in the concrete pavement but not exceeding the maximum allowable spacing.

ADJOINING PAVEMENT: When the barrier is constructed in conjunction with new asphalt pavement, place it directly on the intermediate course. Construct the surface course directly against the barrier. Set barrier placed on existing pavement with a continuous wedge of surface material tapering from a 1" [25] minimum thickness at the toe of the barrier to zero. For bidirectional installations construct the wedge on both sides of the barrier. For unidirectional installations, construct the wedge on the traveled way side and the width may be reduced to 12" [300] minimum.

When the barrier is constructed in conjunction with new concrete pavement, place it directly on the base material. Construct the concrete slab against the barrier.

Barrier may be placed on top of existing concrete pavement and doweled as shown in DOWELING DETAILS (see Sheet 2). When pavement is to be constructed on one side of the barrier only, then compacted soil on the opposite side must be placed against the barrier at a minimum height of 3" [75].

SEALING JOINTS: Use a butt longitudinal joint between the barrier and adjoining concrete pavement sealed with CMS 705.04 joint sealer. See detail on Sheet 2.

TRANSITIONS: Make linear transitions between different types of barrier within a 20' [6.0 m] length.

END ANCHORAGE: Reinforced End Anchorages are required at the ends of and at interruptions in Concrete Barrier. When barrier does not abut another barrier run, construct the last 15' [4.5 m] using the END ANCHORAGE Detail as shown on Sheet 2.

At expansion joints, construct an End Anchorage on both sides of joint, with a maximum gap of 2" [50] for the open joint. The maximum expansion joint spacing shall be 800' [250 m].

If the barrier abuts barrier shown on other SCD's or plans (such as another barrier Type, Transitions, End Sections or Inlets), then carry all horizontal rebar through a permissible construction joint to continuously reinforce abutting barrier (unless joint is otherwise detailed in the plan). End Anchorages are not needed.

Base may be constructed with permissible construction joint (PCJ).

STATION MARKINGS: Impress markings in the "green" concrete on both sides at the top of the barrier. The cost is incidental to the unit cost bid for this barrier.

RACEWAY: Locate as shown on in RACEWAY PLACEMENT Detail, unless otherwise directed by the Engineer. Ensure that the electrical raceway is clear of obstructions.

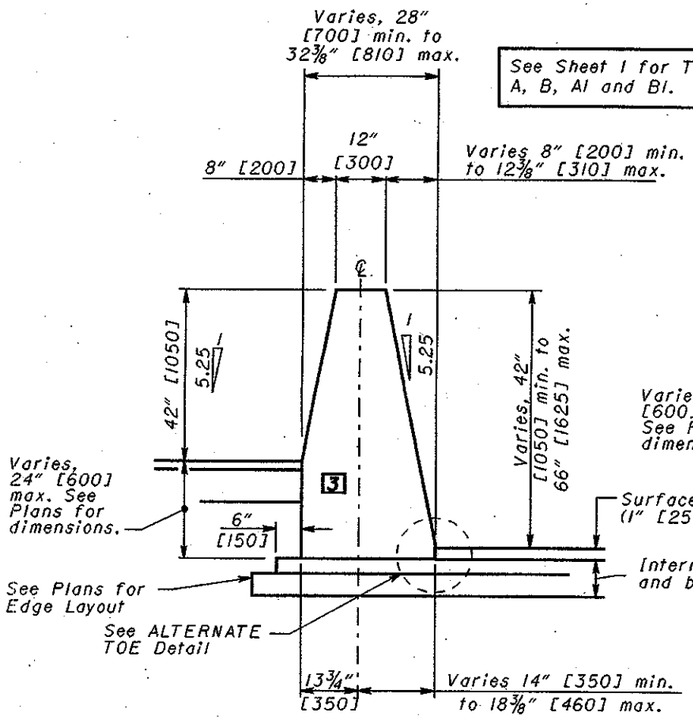
Cost of the 4" [100] polyvinyl chloride raceway is included where shown on the plans. The cost for additional raceways and No. 10 AWG copper-clad or aluminum-clad wire is also included where shown on the plans for future installation of circuits.

PAYMENT will be made at the unit price bid per Foot [Meter] for **Item 622 - Concrete Barrier, Single Slope, Type ____.** Include all materials, labor, raceways, dowel holes, markings and other incidentals necessary to construct the barrier, and any end anchorages, except as follows:

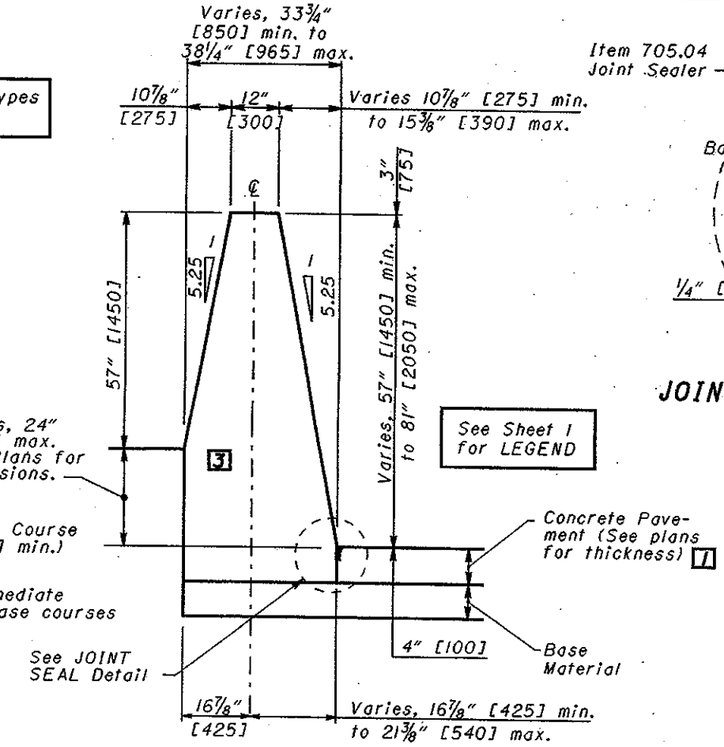
Item 604 Barrier Median Inlet	20 ft. [6 meters]
Item 625 Light Pole Foundation or Pullbox	3 ft. [1 meter]
Item 630 Overhead Sign Support Foundation	10 ft. [3 meters]
Item 630 Barrier Wall Assembly	10 ft. [3 meters].

THIS DRAWING REPLACES RM-4.3M DATED 10-21-97.

OHIO DEPARTMENT OF TRANSPORTATION — 4-18-03 DATE
ROADWAY DESIGN ENGINEER — Gary L. Sturdivant
STDS. ENGR. — D. Focke
All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.
ROADWAY ENGINEERING SERVICES
STANDARD ROADWAY CONSTRUCTION DRAWING
SINGLE SLOPE BARRIER, TYPES A, B, C, AI, BI, & CI
NUMBER RM-4.3
1/2



TYPE C
(SHOWN WITH NEW ASPHALT PAVEMENT)



TYPE CI
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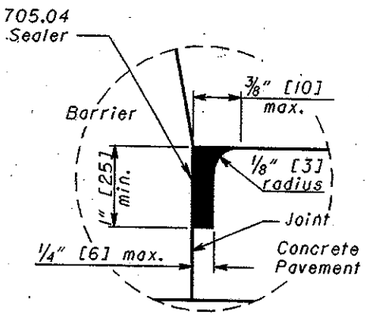
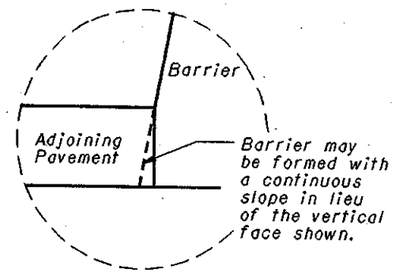


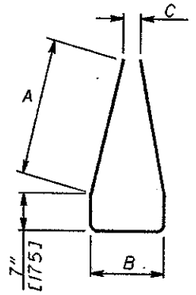
JOINT SEAL DETAIL



ALTERNATE TOE DETAIL

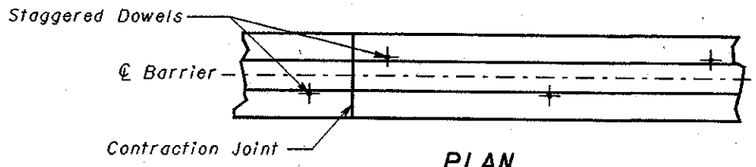
Dimensions for Y401 (English)				
Barrier Type	**A**	**B**	**C**	**Length**
A	37"	20"	4"	8'-10"
B	37"	24"	8"	9'-2"
A1	51"	20"	4"	11'-2"
B1	51"	24"	8"	11'-6"

Dimensions for Y401 (Metric)				
Barrier Type	**A**	**B**	**C**	**Length**
A	940	500	100	2700
B	940	600	200	2800
A1	1300	500	100	3400
B1	1300	600	200	3500

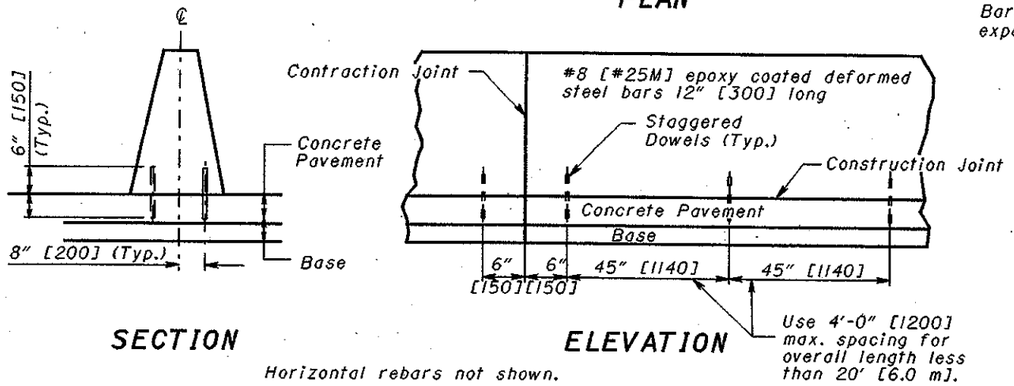


Y401
#4 [#13M]

Y401 STEEL LIST & BENDING DIAGRAM



PLAN



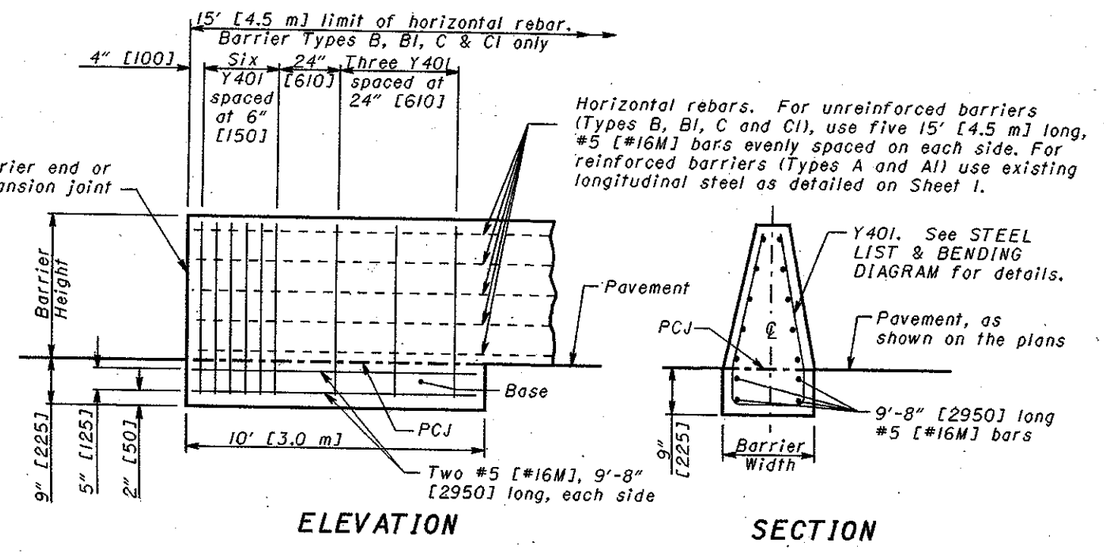
SECTION

ELEVATION

Horizontal rebars not shown.

DOWELING DETAILS

See ADJOINING PAVEMENT Notes on Sheet 1



ELEVATION

SECTION

END ANCHORAGE

Reinforcing of the End Anchorage is required on all barrier types. See END ANCHORAGE Note on Sheet 1.

THIS DRAWING REPLACES RM-4.3M DATED 10-21-97.

OHIO DEPARTMENT OF TRANSPORTATION
4-18-03 DATE
ROADWAY DESIGN ENGINEER
STDS. ENGR. D. Focke

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

ROADWAY ENGINEERING SERVICES

STANDARD ROADWAY CONSTRUCTION DRAWING
SINGLE SLOPE BARRIER, TYPES A, B, C, A1, B1, & C1

NUMBER **RM-4.3**

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