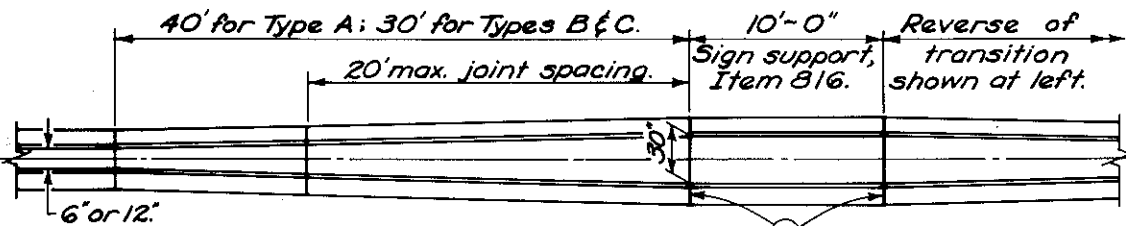


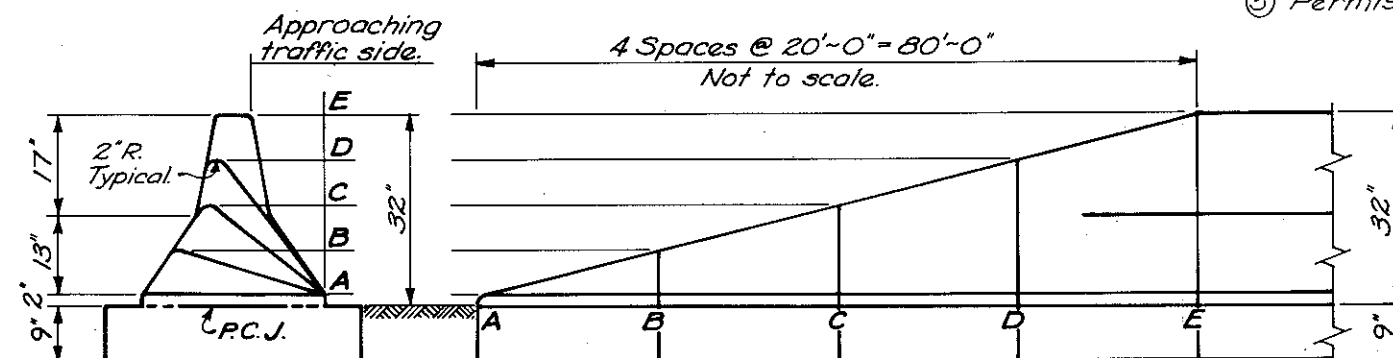
BRIDGE PIER TRANSITION - PLAN VIEW



SIGN SUPPORT TRANSITION - PLAN VIEW

LEGEND

- ① $\frac{3}{4}$ " min. Preformed Joint Filler 705.03.
- ② No. 8 deformed steel dowel bars, 12" long, spaced on staggered (except Type D) 4' centers. The End Terminal will require shorter dowels between points A & B. Dowels shall be omitted in single-stage construction.
- ③ 1" Radius or $\frac{3}{4}$ " chamfer.
- ④ Permissible 10" radius.
- ⑤ Permissible 1" radius.



END VIEW

PROFILE VIEW

END TERMINAL DETAIL

NOTES

JOINTS: Unsealed contraction joints spaced at 20' max. shall be constructed throughout the run of Concrete Barrier except that $\frac{3}{4}$ " preformed expansion joints shall be used at the center line of and around each bridge pier and on either side of overhead sign supports.

Joints may be constructed with the use of metal separator plates, preformed full width expansion material, by use of a grooving tool, or by sawing. Tooled or sawed joints shall have a $\frac{1}{2}$ " min. depth.

LIGHTING: The 4" polyvinyl chloride raceway shall be included in the unit price bid for Item 622 Concrete Barrier, Type B.

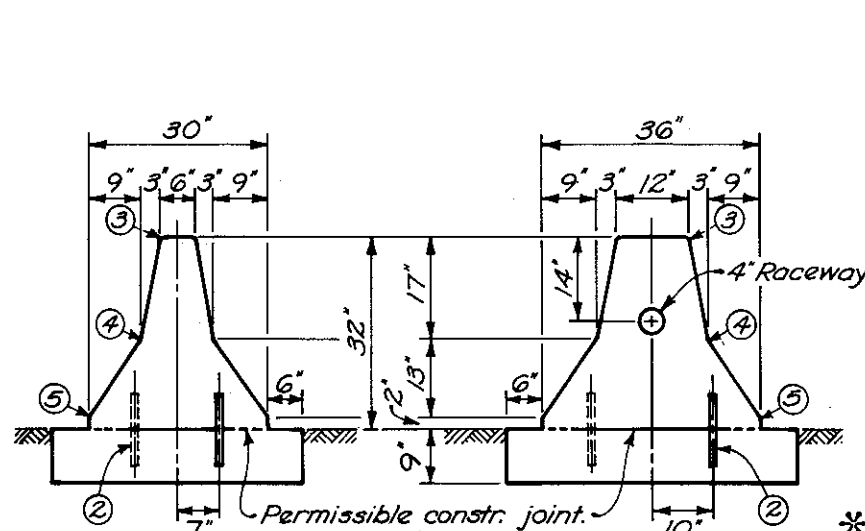
MEASUREMENT: 622 Concrete Barrier is normally measured in linear feet with the following deductions for structures covered under other items:

604 I-3 Median inlets _____ 20 Lin. Ft.
 625 Light pole foundations _____ 14 Lin. Ft.
 816 Overhead sign support foundation _____ 10 Lin. Ft.

The following chart gives information to compute the volume of the various type barriers:

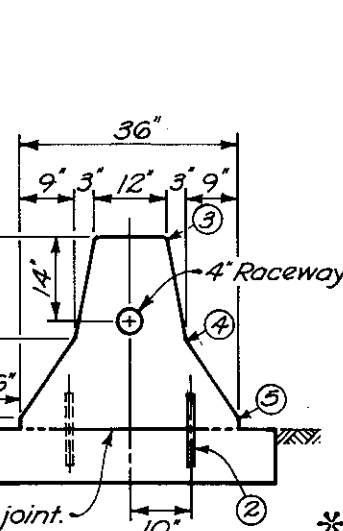
CUBIC YARDS PER LINEAR FOOT			
Barrier	Top	Base	$x = \frac{2H}{27} = 0.074H$
TYPE A	0.125	0.097	H in feet x is CY/LF.
TYPE B	0.171	0.111	
TYPE C	$0.171 + x$	0.111	
TYPE D	0.087	0.069	
PIER SECTION*	0.474	0.194	

* Deduct approx. 1 Cu. YD. for each bridge pier.

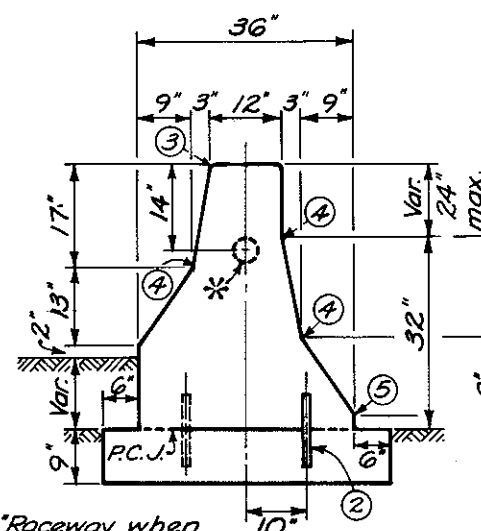


TYPE A

NORMAL SECTIONS

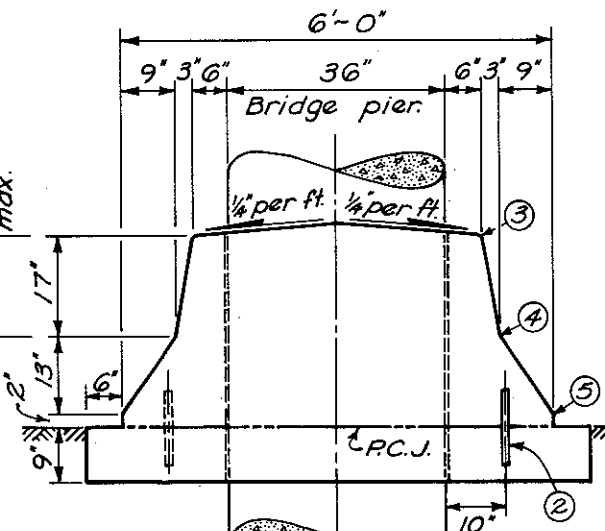


TYPE B

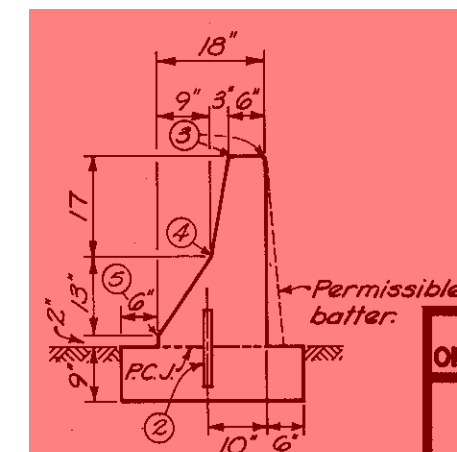


TYPE C

SPLIT PROFILE



BRIDGE PIER SECTION



TYPE D

SINGLE

BUREAU OF ROADWAY DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

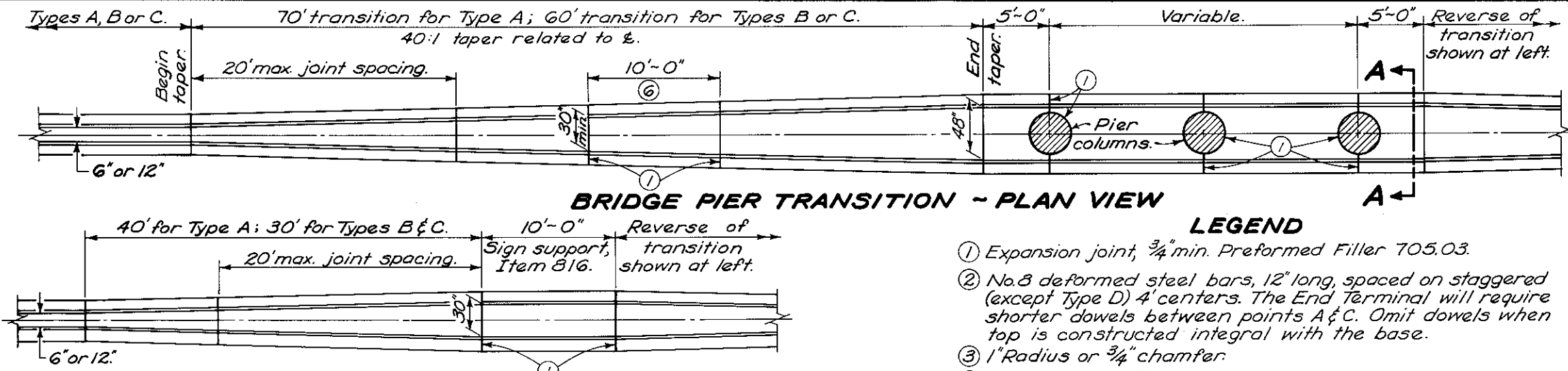
CONCRETE BARRIER

STANDARD CONSTRUCTION DRAWING
APPROVED

MC-9

DATE

Preliminary
 11-13-73

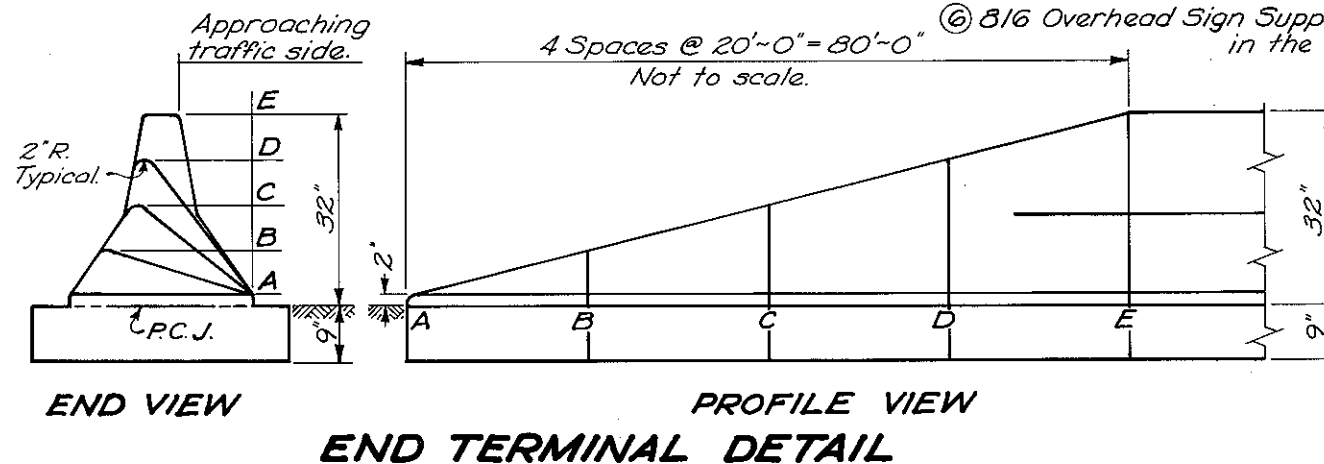


BRIDGE PIER TRANSITION - PLAN VIEW

SIGN SUPPORT TRANSITION - PLAN VIEW

LEGEND

- ① Expansion joint, $\frac{3}{4}$ " min. Preformed Filler 705.03.
- ② No. 8 deformed steel bars, 12" long, spaced on staggered (except Type D) 4' centers. The End Terminal will require shorter dowels between points A & C. Omit dowels when top is constructed integral with the base.
- ③ 1" Radius or $\frac{3}{4}$ " chamfer.
- ④ Permissible 10" radius.
- ⑤ Permissible 1" radius.
- ⑥ 816 Overhead Sign Support Foundation, if specified in the plan.



NOTES

JOINTS: Unsealed contraction joints spaced at 20' max. shall be constructed throughout the run of Concrete Barrier except that expansion joints shall be used at the center line of and around each bridge pier column and on either side of overhead sign supports. See 625 Light pole foundation drawing for other joint details.

Contraction joints may be constructed with metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing. Inserts or tooled or sawed joints shall have a $1\frac{1}{2}$ " min. depth. All joints shall be constructed for the full height of the barrier including the base.

LIGHTING: The 4" polyvinyl chloride raceway shall be included in the unit price bid for 622.

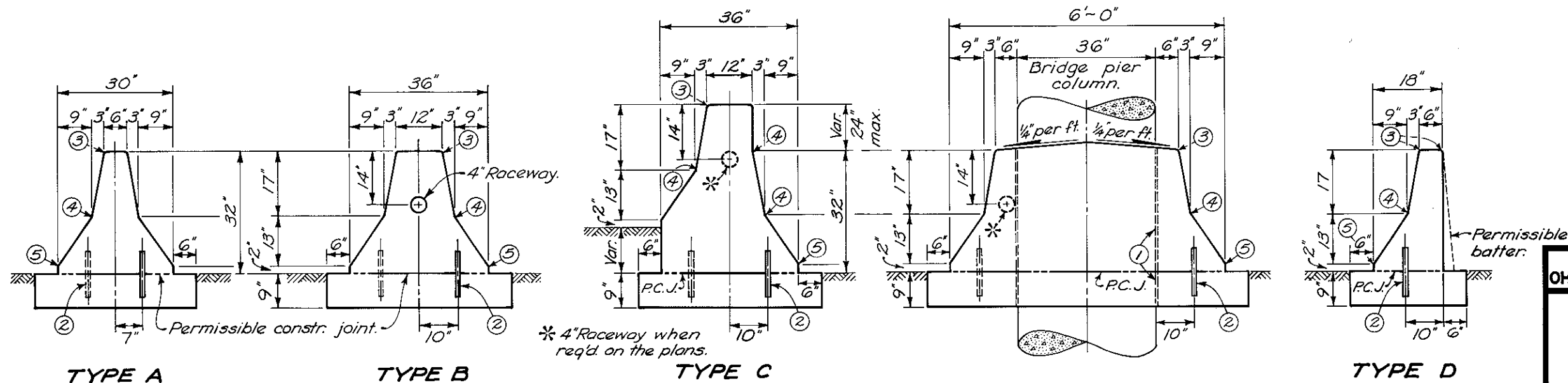
MEASUREMENT: 622 Concrete Barrier, including transitions and end terminals and pier sections, is paid for in linear feet as one of the four types (A, B, C or D) with the following deductions for structures covered under other items.

604 I-3 Median inlets _____ 20 Lin. Ft.
 625 Light pole foundation _____ 14 Lin. Ft.
 816 Overhead sign support foundation _____ 10 Lin. Ft.

The following table gives information to compute the volume of the various type barriers:

CUBIC YARDS PER LINEAR FOOT			
Barrier	Top	Base	$X = \frac{2H}{27} = 0.074 H$
TYPE A	0.125	0.097	H in feet X is C.Y./L.F.
TYPE B	0.171	0.111	
TYPE C	0.171+X	0.111	
TYPE D	0.087	0.069	
SECTION A-A*	0.474	0.194	

* Deduct 1 Cu. Yd. for each 36" dia. pier column.



TYPE A

TYPE B

TYPE C

TYPE D

NORMAL SECTIONS

SECTION A-A

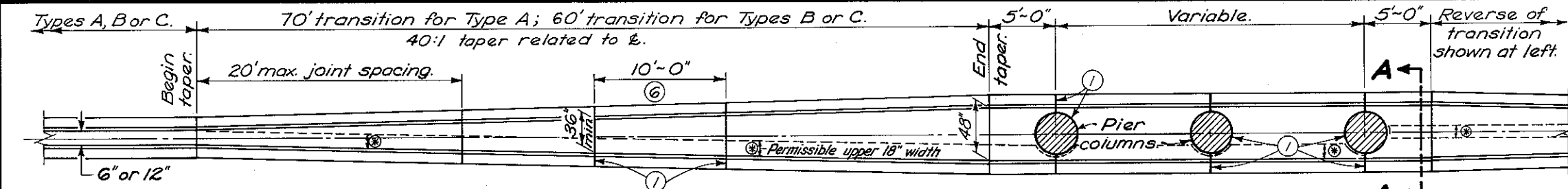
BUREAU OF ROADWAY DESIGN
 OHIO DEPARTMENT OF TRANSPORTATION

DATE 1-1-74

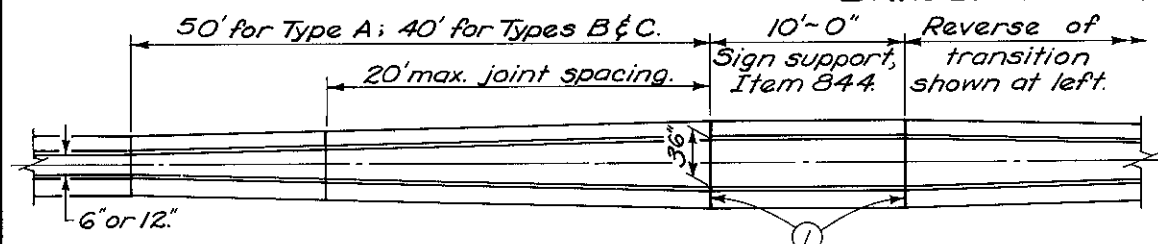
CONCRETE BARRIER

STANDARD CONSTRUCTION DRAWING MC-9

APPROVED *G. J. Schaefer* ENGR., R.D.

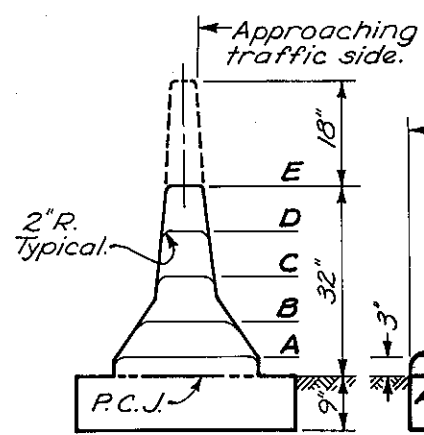


BRIDGE PIER TRANSITION - PLAN VIEW

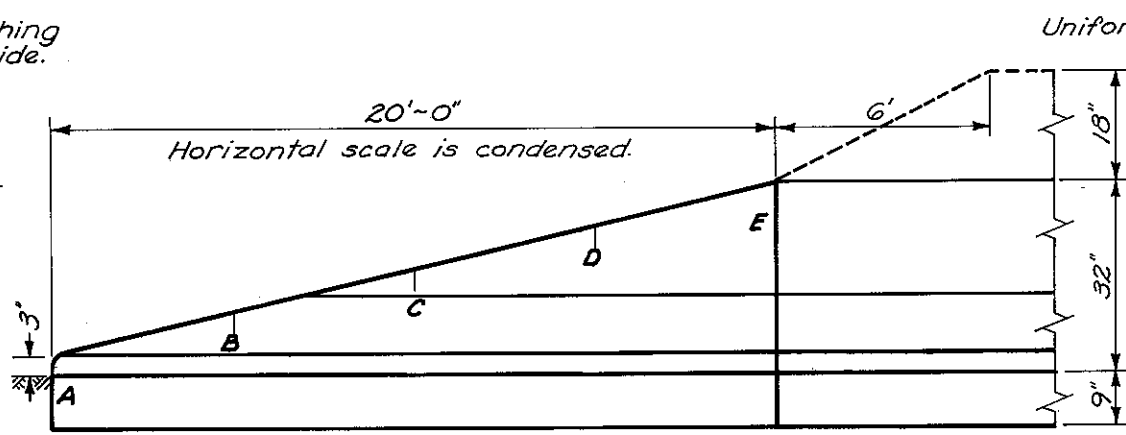


SIGN SUPPORT TRANSITION - PLAN VIEW
(For 50" barriers the upper 18" varies from 6" or 12" to 36" width)

- LEGEND**
- ① Expansion joint, $\frac{3}{4}$ " min. Preformed Filler 705.03.
 - ② No. 8 deformed steel bars, 12" long, spaced on staggered (except Type D) 4' centers. The End Terminal will require shorter dowel between points A & B. Omit dowels when top is constructed integral with the base.
 - ③ 1" Radius or $\frac{3}{4}$ " chamfer.
 - ④ Permissible 10" radius.
 - ⑤ Permissible 1" radius.
 - ⑥ 844 Overhead Sign Support Foundation, if specified in the plan.

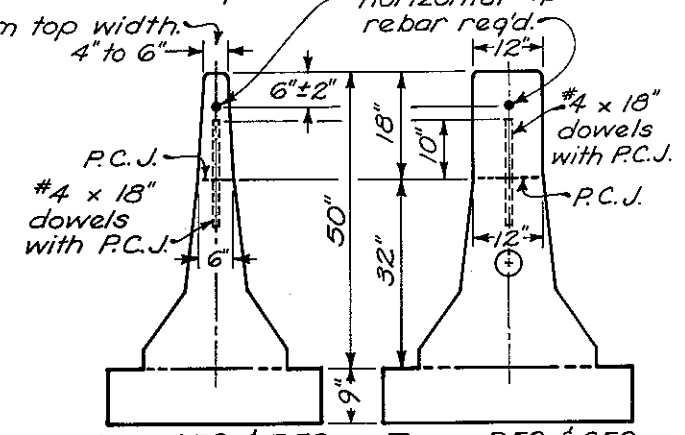


END VIEW

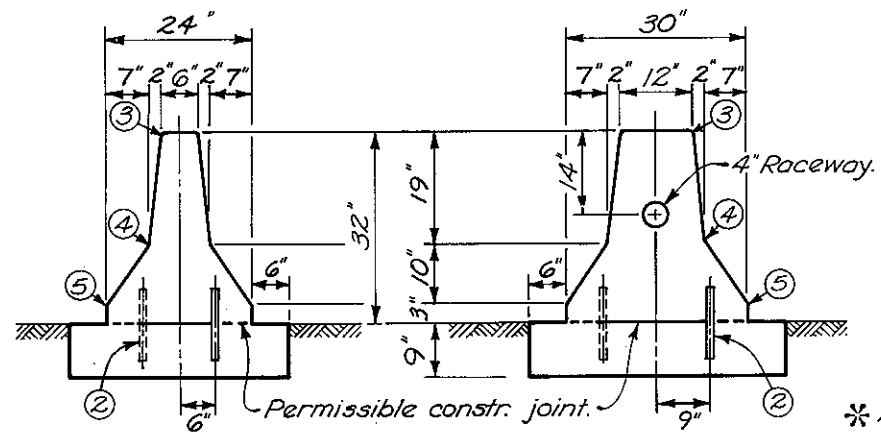


PROFILE VIEW

END TERMINAL DETAIL

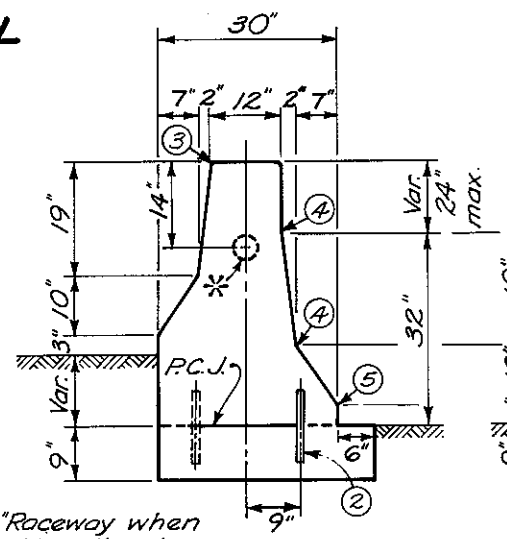


50" BARRIERS

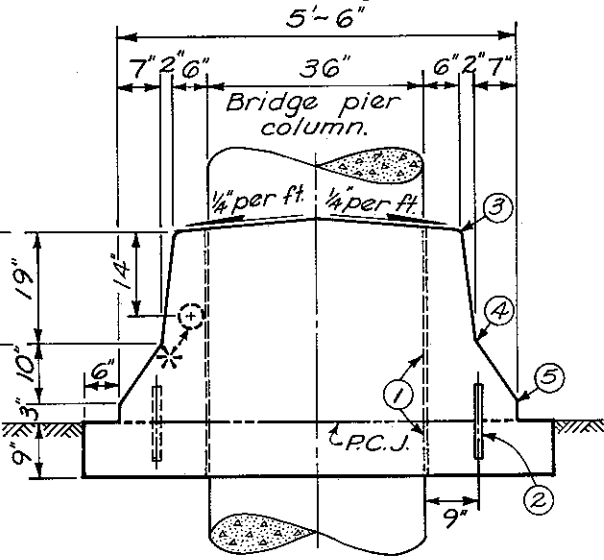


TYPE A

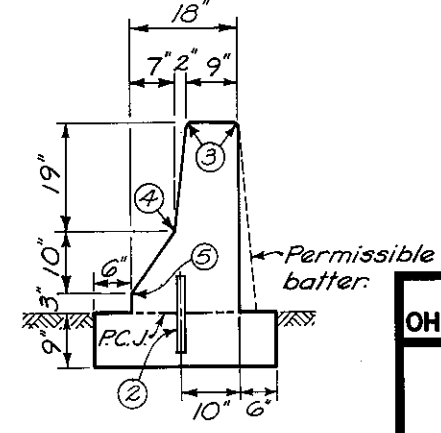
TYPE B



TYPE C



SECTION A-A



TYPE D

NOTES

JOINTS: Unsealed contraction joints spaced at 20' max. shall be constructed throughout the run of Concrete Barrier except that expansion joints shall be used at the center line of and around each bridge pier column and on either side of overhead sign supports, inlets and light pole foundations. If inlet top is slip formed the expansion joints adjacent to it may be omitted. Contraction joints may be constructed with metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing. Inserts or tooled or sawed joints shall have a 1 1/2" min. depth. All joints shall be constructed for the full height of the barrier including the base.

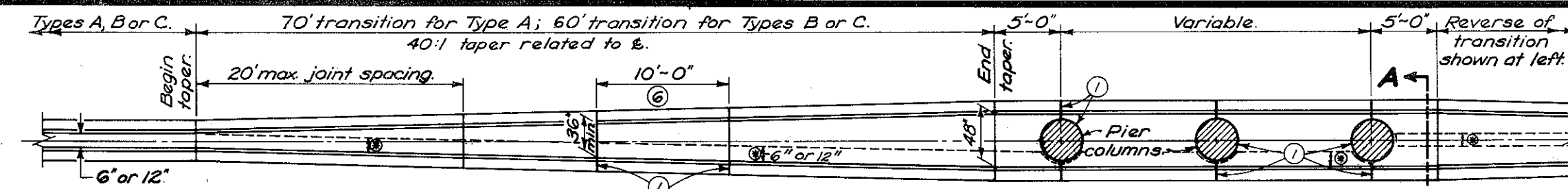
LIGHTING: The 4" polyvinyl chloride raceway shall be included in the unit price bid for 622.

MEASUREMENT: 622 Concrete Barrier, including transitions and end terminals and pier sections, is paid for in linear feet as one of the four types (A, B, C or D) or as Type A50, B50, etc. (for 50" high barrier), with appropriate deductions for other items such as:
 604 I-3 Median inlet ——— 20 Lin. Ft.
 625 Light pole foundation or pullbox — 2.5 Lin. Ft.
 844 Overhead sign support foundation — 10 Lin. Ft.

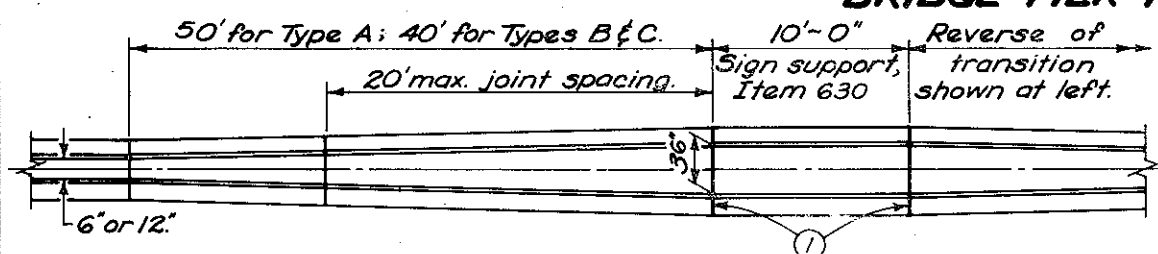
50 INCH HIGH BARRIER shall be built where specified on the plan, with the same bottom 32" shape and 9" foundation as the standard Type specified. The upper 18" may be constructed integral with the bottom, or separately with #4 rebar dowels at 4' max. spacing. Start and end dowels 6" from barrier vertical joints.
 On variable width (i.e. pier transition) barrier sections not having sign support foundations, the upper 18" may be built with a 6" or 12" top width (per Type specified) on the E or along one face of the barrier. At End Terminals taper the upper 18" to 0" in 6'.

CONCRETE, cast-in-place, to be Class C. All precast concrete shall meet the requirements of 706.13 with 6 ± 2% air void content in the hardened concrete.

BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
CONCRETE BARRIER	
STANDARD CONSTRUCTION DRAWING	MC-9
APPROVED <i>M. J. Cunningham</i> ENGR., L. & D.	
DATE 1-1-74 11-1-77	



BRIDGE PIER TRANSITION - PLAN VIEW



SIGN SUPPORT TRANSITION - PLAN VIEW
(For 50" barriers the upper 18" varies from 6" or 12" to 36" width)

- LEGEND**
- ① Expansion joint, $\frac{3}{4}$ " min. Preformed Filler 705.03.
 - ② No. 8 deformed steel bars, 12" long, spaced on staggered (except Type D) 4' centers. The End Terminal will require shorter dowel between points A & B. Omit dowels when top is constructed integral with the base.
 - ③ 1" Radius or $\frac{3}{4}$ " chamfer.
 - ④ Permissible 10" radius.
 - ⑤ Permissible 1" radius.
 - ⑥ 630 Overhead Sign Support Foundation, if specified in the plan.

NOTES

JOINTS: Unsealed contraction joints spaced at 20' max. shall be constructed throughout the run of Concrete Barrier except that expansion joints shall be used at the center line of and around each bridge pier column and on either side of overhead sign supports, inlets and light pole foundations. If inlet top is slip formed the expansion joints adjacent to it may be omitted.

Contraction joints may be constructed with metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing. Inserts or tooled or sawed joints shall have a $\frac{1}{2}$ " min. depth. All joints shall be constructed for the full height of the barrier including the base.

MEASUREMENT: 622 Concrete Barrier, including transitions and end terminals and pier sections, is paid for in linear feet as one of the four types (A, B, C or D) or as Type A50, B50, etc. (for 50" high barrier), with appropriate deductions for other items such as:

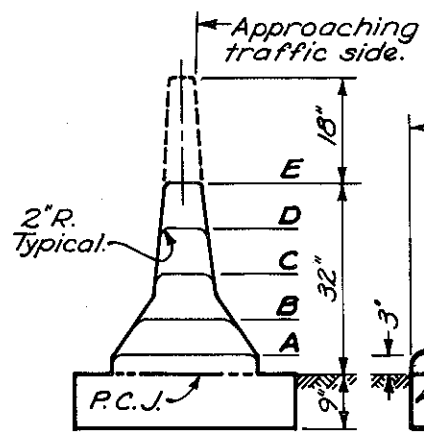
- 604 I-3 Median inlet ——— 20 Lin. Ft.
- 625 Light pole foundation or pullbox — 2.5 Lin. Ft.
- 630 Overhead sign support foundation — 10 Lin. Ft.
- 630 Barrier wall assembly ——— 10 Lin. Ft.

50 INCH HIGH BARRIER shall be built where specified on the plan, with the same bottom 32" slopes and 9" foundation as the standard type specified. The upper 18" may be constructed integral with the bottom, or separately with #4 rebar dowels at 4' max. spacing. Start and end dowels 6" from barrier vertical joints.

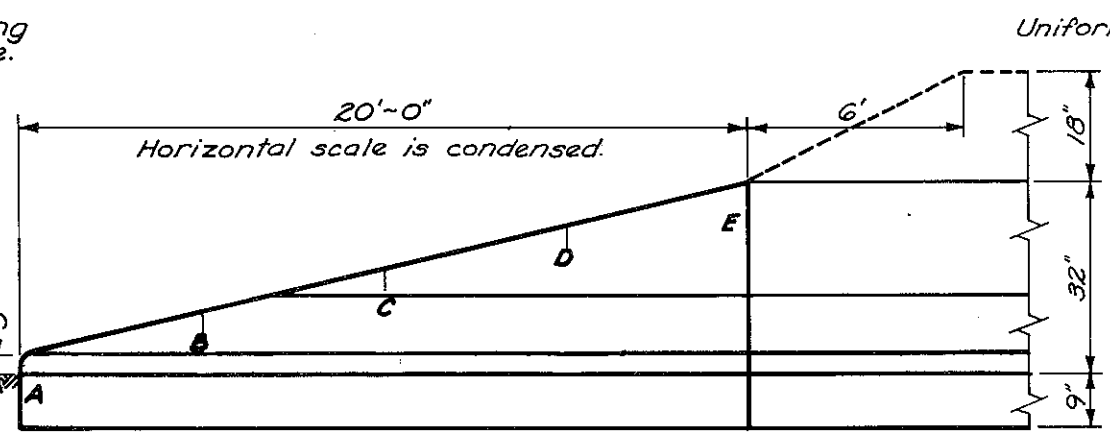
⑥ On variable width (i.e. pier transition) barrier sections not having sign support foundations, the upper 18" may be built with a 6" or 12" top width (per type specified) on the E or along one face of the barrier. At End Terminals taper the upper 18" to 0" in 6'.

RACEWAY: The Contractor shall insure that the electrical raceway is clear of internal obstructions. Cost of the 4" polyvinyl chloride raceway and No. 10 AWG copper-clad or aluminum-clad pull wire if needed for future installation of circuits shall be included in the unit price bid per linear for 622 Concrete Barrier.

STATION MARKING shall be impressed in the "green" concrete on both sides at the top of the barrier if specified in the plans which cost shall be incidental to the unit cost per linear foot bid for 622 Concrete Barrier.

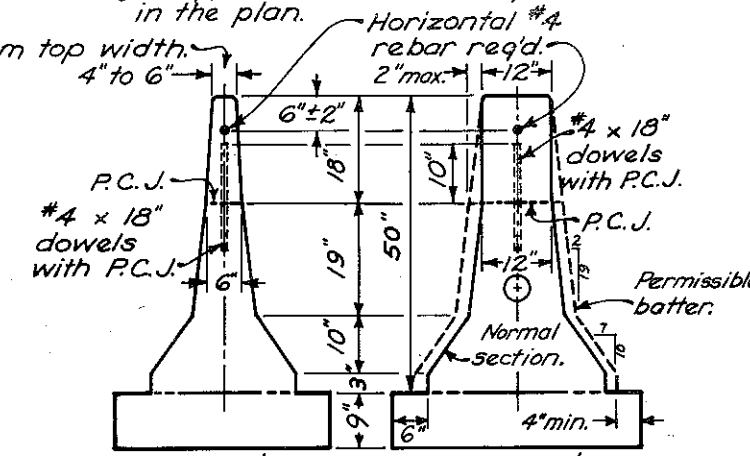


END VIEW

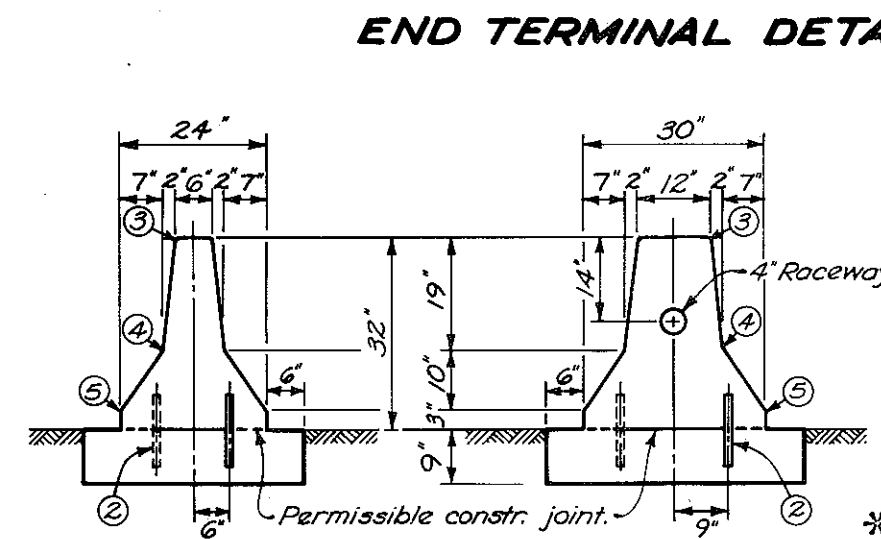


PROFILE VIEW

END TERMINAL DETAIL



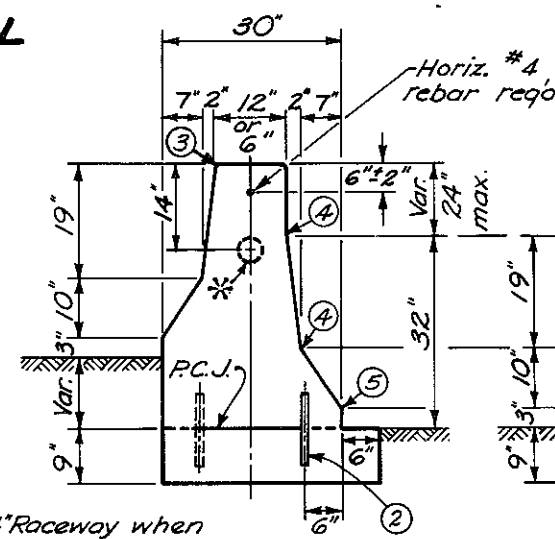
50" BARRIERS
Types A50 & D50 Types B50 & C50



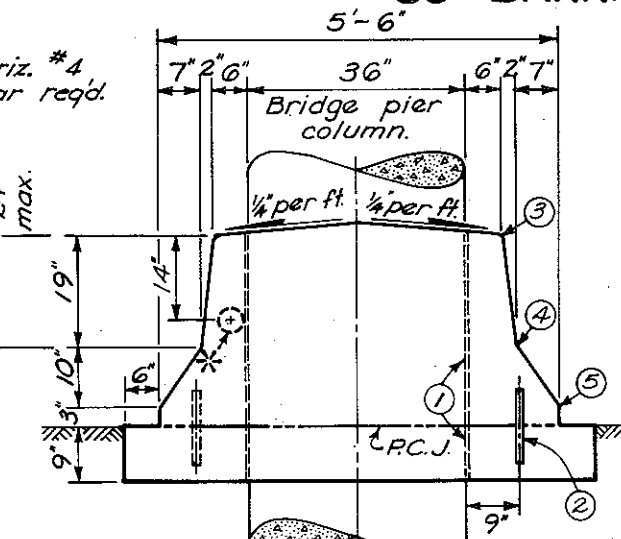
TYPE A

TYPE B

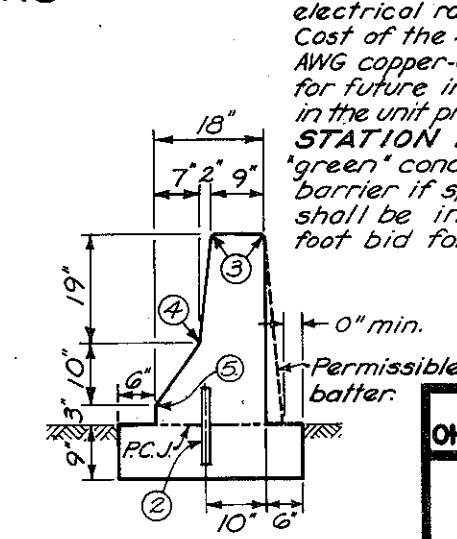
NORMAL SECTIONS



TYPE C



SECTION A-A



TYPE D

**BUREAU OF LOCATION AND DESIGN
OHIO DEPARTMENT OF TRANSPORTATION**

CONCRETE BARRIER

STANDARD CONSTRUCTION DRAWING

MC-9

APPROVED *[Signature]* ENR, L. & D.

DATE
1-1-74
11-1-77
1-30-84