CUY-90, 480

OPERATIONS dy Proj 2444-78

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

I-90-1(114)24
I-480-4(48)172

FHWA REGION	STATE	PROJECT	
5	OHIO	I-90-1(114)24 I-480-4(48)172	

1 / 8

CUY-90-10.57
CUY-480-(18.43) (20.20)

PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINII BEGIN	PROJECT TERMINII END	NET LENGTH MILES	TOWNSHIP	CITY	VILLAGE
1	CUY	90	10.40	10.57	↑	0.057		CLEVELAND	
2	CUY	480	18.43	18.43	SEE BELOW	0.786		INDEPENDENCE	VALLEY VIEW
3	CUY	480	20.20	20.20	↓	0.080		GARFIELD HTS	

LENGTH of PROJECT = 0.00 Lin. Ft. = 0.00 Mi. TOTAL LENGTH of WORK = 4871.48 Lin. Ft. = 0.923 Mi.

The Standard 19 77 Specifications of the State of Ohio, Department of Transportation, including changes and Supplemental Specifications listed in the plans and proposal shall govern these improvements.

I hereby approve these plans and declare that the making of these improvements will require the closing of the highways to traffic on Parts No. NONE and that detours will be provided by State forces. The closing to traffic of the highways will not be required on Parts No. 1 THROUGH 3 and provisions for the maintenance and safety of traffic will be as indicated in the proposal.

Approved Date 1-6-78 — Thomas M. Krall, District Deputy Director of Transportation

Approved Date 2-15-78 — Robert B. Hufford, Engineer, Bureau of Bridges and Structural Design

O.K. D.G.G. 2-27-78

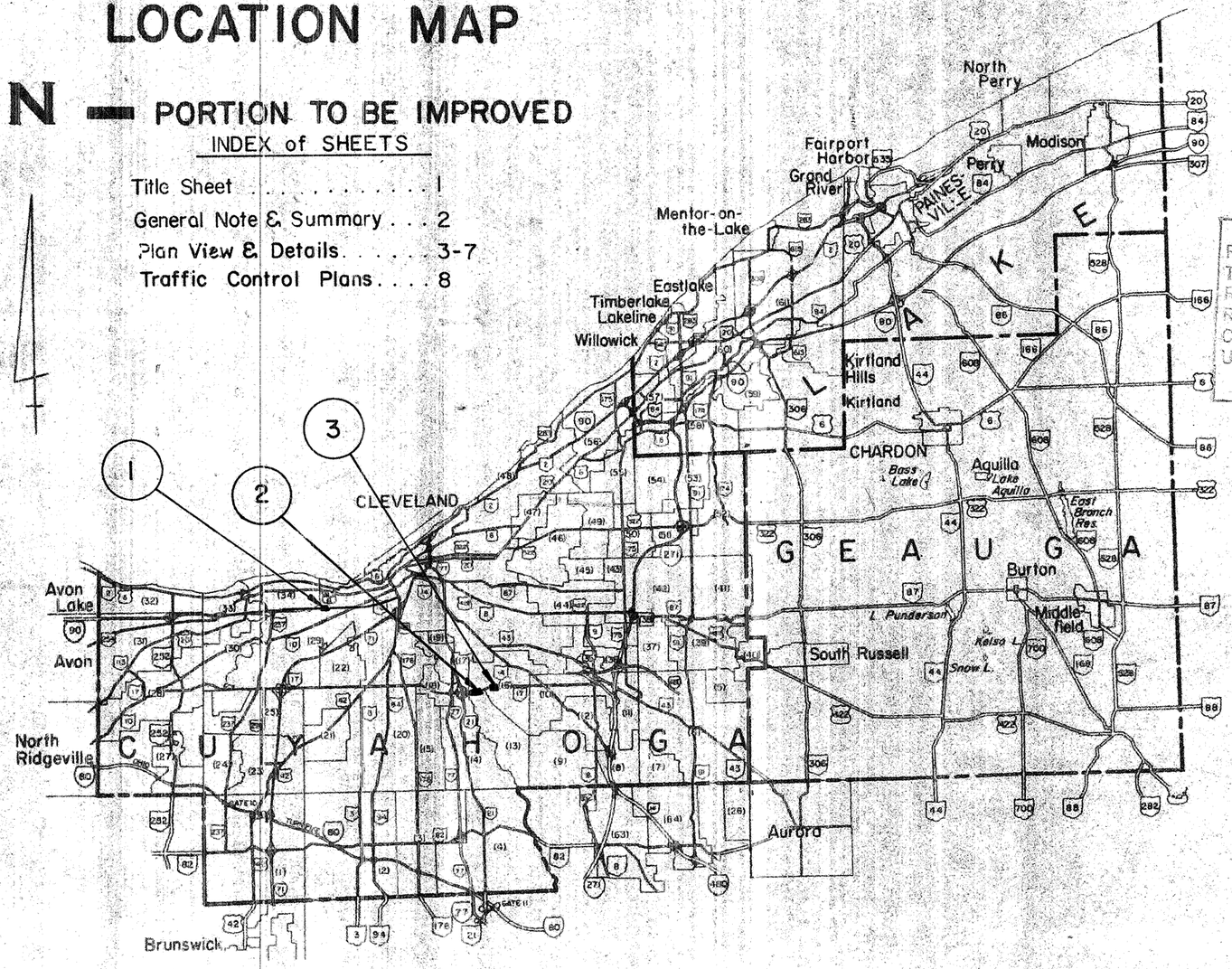
Approved Date 3-14-78 — R. E. Bollin, Chief Engineer, Planning and Design

Approved Date 3-14-78 — Doug L. Weir, Director, Department of Transportation

LOCATION MAP

N — PORTION TO BE IMPROVED

INDEX of SHEETS



RECD. L & E 4-3-78
T. M. K.
R. J. G.
R/W
CONST. ✓ 7 SETS
UTIL.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED:

DIVISION ADMINISTRATOR — DATE

PART Nº		FEATURE	LENGTH OF WORK
I-90	1	W. 117th ST.	297.86 L.F.
I-480	2	CUYAHOGA VALLEY	4150.00 L.F.
I-480	3	TURNEY ROAD	423.62 L.F.
		WORK TOTAL =	4871.48 L.F.

LENGTH OF WORK I-90 = 297.86 L.F. OR 0.057 MILE
LENGTH OF WORK I-480 = 4573.62 L.F. OR 0.866 MILE

STANDARD DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	
F-1	5-1-76		
F-4	5-1-76		
MC-9	11-1-77		
MC-3	6-1-73		
TC-35.10	10-5-77		
TC 61.10	8/19/77		

5-2-78

GENERAL NOTES

COMPUTED BY: E.N.F. 10-12-77
CHECKED BY: M.F. 10-13-77

PROPOSED WORK
TO CONSTRUCT A 4 FT. CHAIN LINK FENCE ON BOTH SIDES OF BOTH I.R. 480 STRUCTURES OVER THE CUYAHOGA RIVER VALLEY, AND A 3½FT. CONCRETE BARRIER ALONG THE SIDEWALKS ON W. 117 ST. AND TURNEY RD.

RIGHT OF WAY
ALL WORK SHALL BE PERFORMED WITHIN THE EXISTING RIGHT OF WAY.

ITEM 607, FENCE, 4' TYPE CL, AS PER PLAN
ALL POST AND PIPE SIZES ARE NOTED IN TERMS OF NOMINAL INSIDE DIA., STANDARD WEIGHT AND WALL THICKNESS (ASTM A 120, SCHEDULE 40).

ALL FENCING MATERIALS SHALL BE GALVANIZED STEEL.

POST LOCATIONS MAY BE SHIFTED SEVERAL INCHES LONGITUDINALLY TO AVOID CONFLICTS WITH EXISTING REINFORCING STEEL.

ITEM 620 DELINEATORS RELOCATED
THIS WORK SHALL CONSIST OF REMOVING THE EXISTING DELINEATORS AND INSTALLING NEW TYPE D, BRIDGE PARAPET BRACKET MOUNTED DELINEATORS IN FRONT OF THE PROPOSED FENCE. ANY VOIDS IN THE CONCRETE PARAPET REMAINING AFTER REMOVING THE EXISTING DELINEATORS SHALL BE FILLED WITH A NON-SHRINKING GROUT. THE DELINEATORS SHALL BE ATTACHED AS PER STANDARD CONSTRUCTION DRAWING TC-61.10.

ITEM 614, MAINTAINING TRAFFIC
GENERALLY THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS AS TO INSURE THE PROPOSED WORK WITH A MINIMUM OF HAZARD, DELAY AND INCONVENIENCE TO THE MOTORISTS USING THE HIGHWAY AFFECTED BY THE WORK DONE UNDER THIS CONTRACT; FURTHERMORE THE FOLLOWING SPECIFIC PROVISIONS ARE MANDATORY.

I. NIGHTTIME WORK
NIGHTTIME WORK WILL NOT BE PERMITTED FOR THIS PROJECT. ALL SIGNS, BARRICADES ETC. SHALL BE REMOVED BEFORE DUSK.

II. TRAFFIC CONTROL SYSTEMS

A. WHEN REQUIRED
WHENEVER ANY PART OF THE TRAVELLED SURFACE IS BEING USED FOR CONSTRUCTION EQUIPMENT, TRAFFIC CONTROL DEVICES SUFFICIENT TO PROTECT SUCH AREAS TO ASSURE THE SAFE AND CONVENIENT PASSAGE OF VEHICULAR TRAFFIC SHALL BE INSTALLED AND MAINTAINED. SUCH TRAFFIC CONTROL DEVICES AND THE MANNER IN WHICH THEY ARE USED SHALL BE CONSISTENT WITH THESE PLANS AND THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, HEREINAFTER REFERRED TO AS THE "MANUAL".

B. CONDITIONS
THE CONTRACTOR SHALL IMPLEMENT HIS LANE CLOSURE AS PER SHEET 8 OF THESE PLANS, HE SHALL NOT CLOSE MORE THAN ONE LANE PER BRIDGE AT ANY TIME.

C. ADVANCE WARNING SIGNS
ALL ADVANCE WARNING SIGNS FOR ANY CONDITION WHICH RESTRICTS TRAFFIC SHALL BE ERECTED BEFORE ANY SUCH RESTRICTION IS PUT INTO EFFECT. ALL SUCH SIGNS SHALL BE COVERED OR REMOVED FROM THE VIEW OF TRAFFIC WHENEVER THEY ARE NOT APPICABLE.

D. FLASHING ARROW REQUIREMENT
WHENEVER ANY PART OF THE TRAVELED SURFACE IS CLOSED, THE MOTORIST SHALL BE WARNED AND DIRECTED BY THE CONTRACTOR THROUGH THE USE OF ONE FLASHING ARROW FOR EACH LANE CLOSED IN ADDITION TO THOSE PROVISIONS SET FORTH IN THE "MANUAL". ALL FLASHING ARROW PANELS SHALL BE TYPE A. FOR DETAILS SEE STANDARD DRAWING TC-35.10.

ALL OF THE ABOVE SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

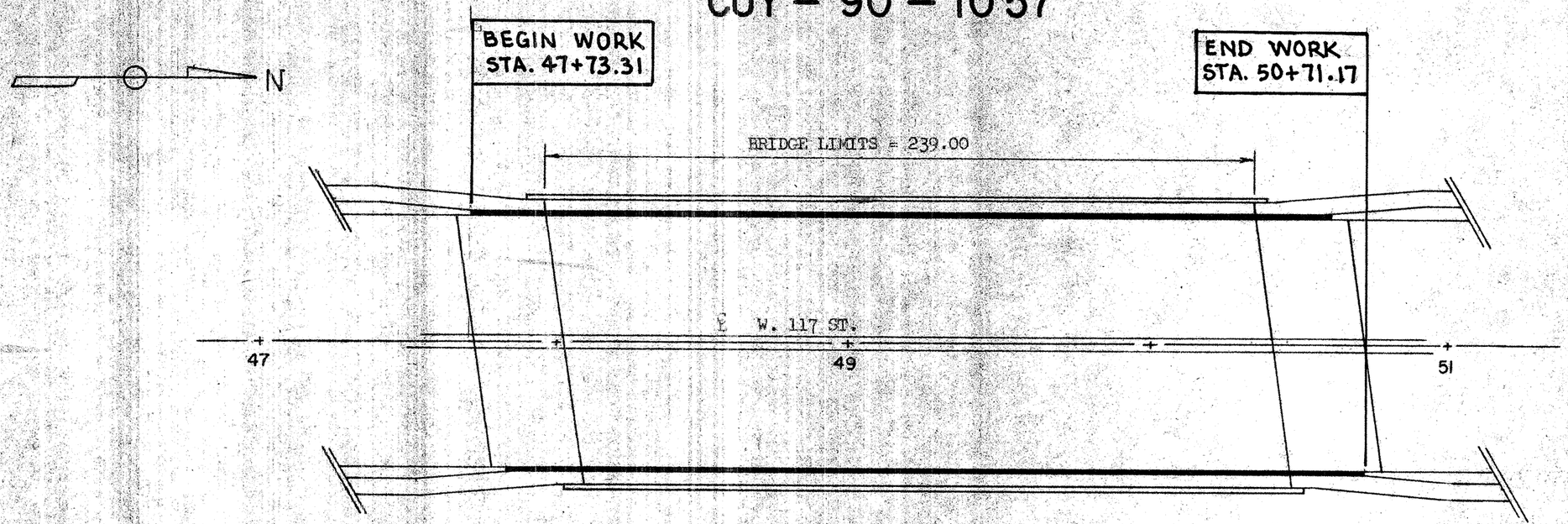
GENERAL SUMMARY TYPE CODE Y102

TOTAL I-90	TOTAL I-480	ITEM	CUY-90 1057	CUY-480 143	CUY-480 2020		ITEM	QUANTITY	UNIT	DESCRIPTION
	16600	607		16600			607	16600	L.F.	FENCE, 4'0" TYPE CL, AS PER PLAN
	4	607		4			607	4	EACH	Walk Gate, Type CL
	9	620		9			620	9	EACH	DELINEATORS, TYPE D, BRIDGE PARAPET BRACKET MOUNTED
572	817	622	572		817		622	1389	L.F.	CONCRETE BARRIER, TYPE D, MODIFIED AS PER PLAN
LUMP	LUMP	614	LUMP	LUMP	LUMP		614	LUMP	L.S.	MAINTAINING TRAFFIC

CUYAHOGA COUNTY
CUY-90/480-10.57/(18.43) 3
(20.20) 8

COMPUTED BY: E.N.F. 10-12-77
CHECKED BY : M.J.F. 10-13-77

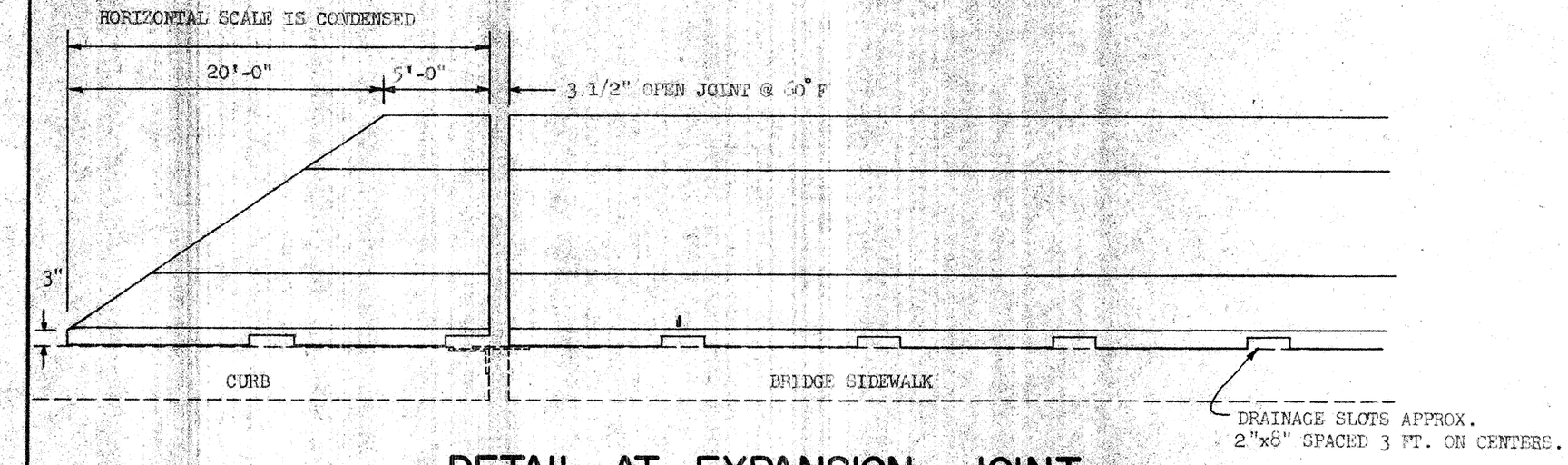
CUY - 90 - 1057



PLAN VIEW

SCALE 1" = 40'

0 20 40



DETAIL AT EXPANSION JOINT

SCALE ½" = 1'-0"

MEASUREMENT FOR CONCRETE BARRIER SHALL INCLUDE THE DISTANCE ACROSS THE OPEN JOINT

FOR TYPICAL SECTION AND ADDITIONAL DETAILS SEE SHEET NO. 7 & MC-9

ESTIMATED QUANTITIES

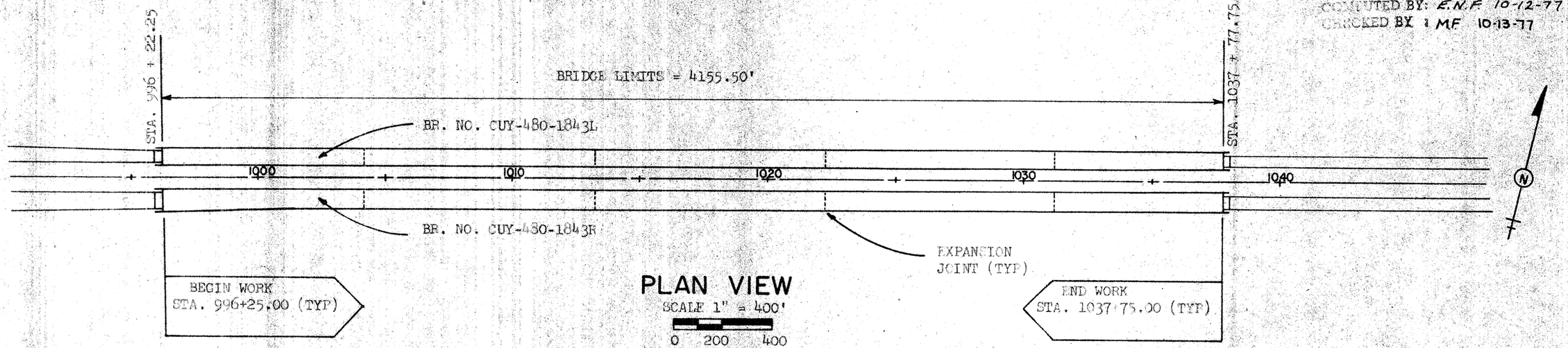
	STATION TO STATION		ITEM 622 CONCRETE BARRIER TYPE D, MODIFIED AS PER PLAN
SIDE	FROM	TO	LIN. FT.
RT.	47+85.28	50+71.17	285.89
LT.	47+73.31	50+59.20	285.89
TOTAL			572

CUY-480-1843 L&R

CUYAHOGA COUNTY
CUY-90/480-10.57/(16.43)
(20.20)

4
8

COMPUTED BY: E.N.F 10-12-77
CHECKED BY : M.F 10-13-77



PLAN VIEW
SCALE 1" = 400'
0 200 400

FOR DETAILS SEE SHEETS 5 & 6

HANDHOLE & GATE LOCATIONS

CUY - 480 - 1843 L				CUY - 480 - 1843 R			
NORTH SIDE		SOUTH SIDE		NORTH SIDE		SOUTH SIDE	
LIGHT POLE	SIGN SUPPORT	LIGHT POLE	SIGN SUPPORT	LIGHT POLE	SIGN SUPPORT	LIGHT POLE	SIGN SUPPORT
999 + 42	-	997 + 62	-	999 + 42	-	997 + 62	-
1003 + 02	-	1001 + 22	-	1003 + 02	-	1001 + 22	-
1006 + 75	-	1004 + 90	-	1006 + 75	-	-	1004 + 45
-	1007 + 45	-		1010 + 55	-	1004 + 90	-
1010 + 55	-	1008 + 60	-	1014 + 55	-	1008 + 60	-
1014 + 55	-	1012 + 55	-	1018 + 45	-	1012 + 55	-
1018 + 45	-	1016 + 50	-	1022 + 40	-	1016 + 50	-
1022 + 40	-	1020 + 41	-	1026 + 30	-	1020 + 41	-
-	1025 + 45	1024 + 35	-	1030 + 24	-	1024 + 35	-
1026 + 30	-	-		1034 + 25	-	-	1025 + 45
1030 + 24	-	1028 + 25	-	-	-	1028 + 25	-
1034 + 25	-	1032 + 25	-	-	-	1032 + 25	-
-	-	1036 + 20	-	-	-	1036 + 20	-

DELINEATORS RELOCATED

BRIDGE NO.	SIDE	QUANTITY
CUY-480-1843L	NORTH	1
CUY-480-1843R	SOUTH	8
TOTAL		9

EXP. JOINT LOCATIONS

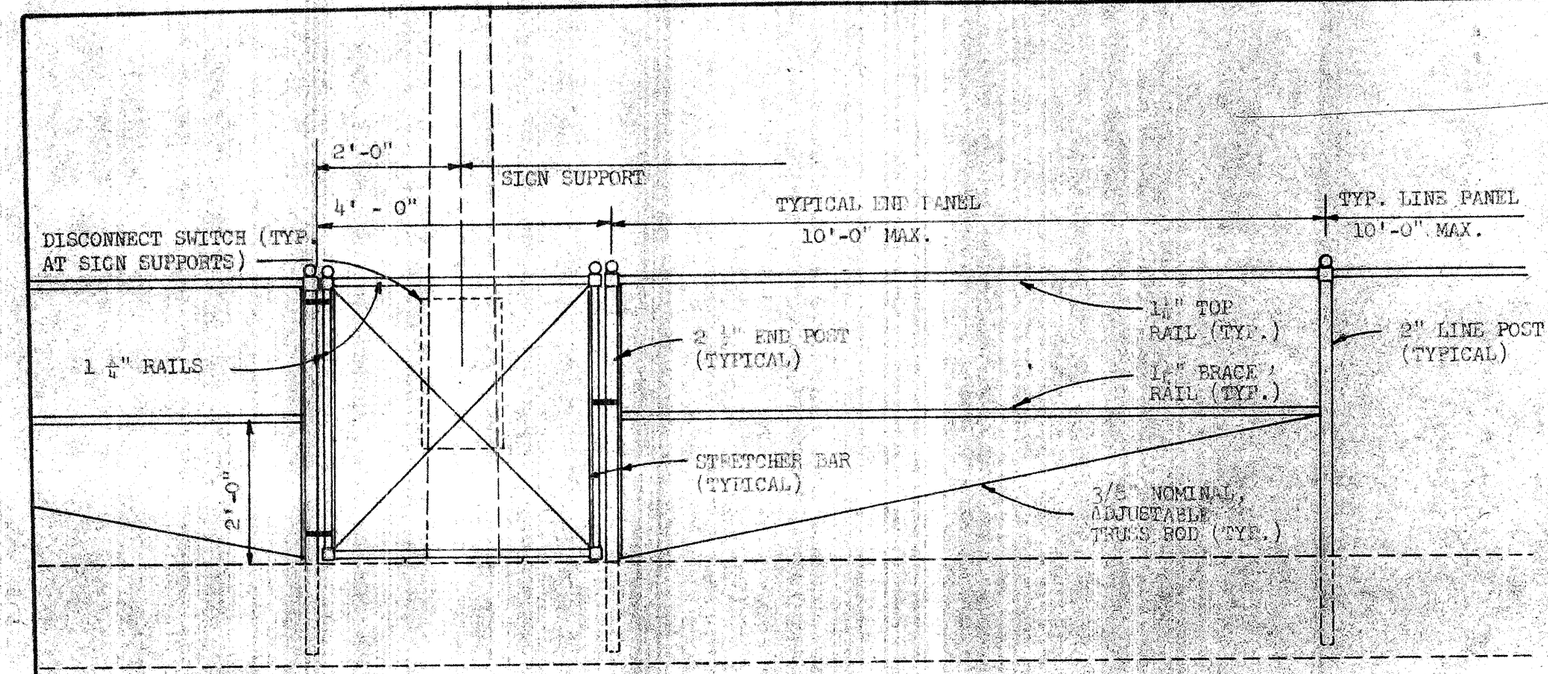
STA. 1004 + 20.00
STA. 1013 + 20.00
STA. 1022 + 20.00
STA. 1031 + 20.00

CALCULATIONS

CUY-480-1843L - NORTH 4150' - 2 x 4' + 4x1' = 4146 L.F.
- SOUTH 4150' - + 4x1' = 4154 L.F.
CUY-480-1843R - NORTH 4150' - + 4x1' = 4154 L.F.
- SOUTH 4150' - 2 x 4' + 4x1' = 4146 L.F.
ITEM 607, FENCE TOTAL = 16600 L.F.

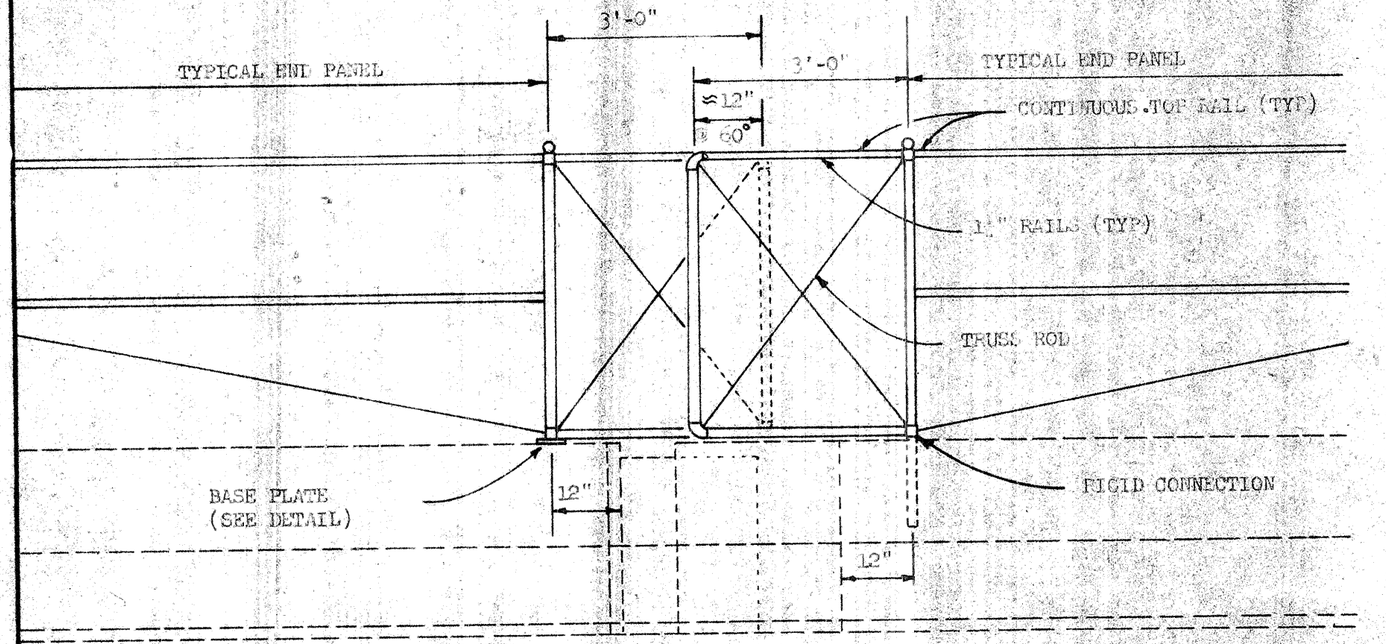
CUY-480-1843 FENCE PLAN

PART 2

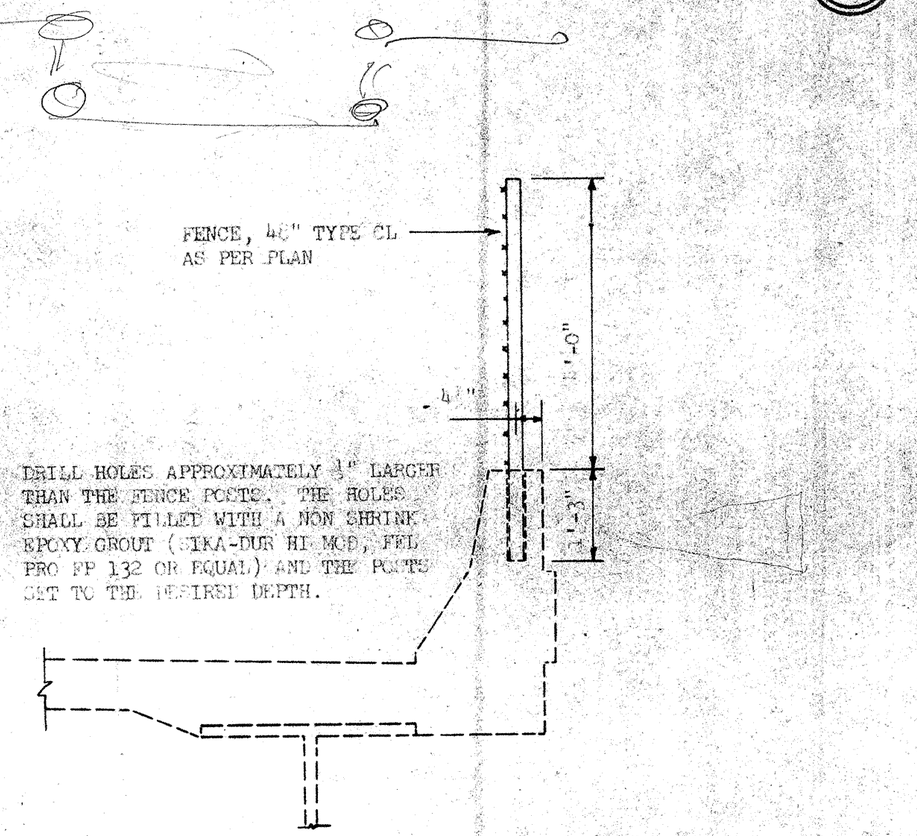


DETAIL AT SIGN SUPPORT

SCALE 1" = 1'-0"

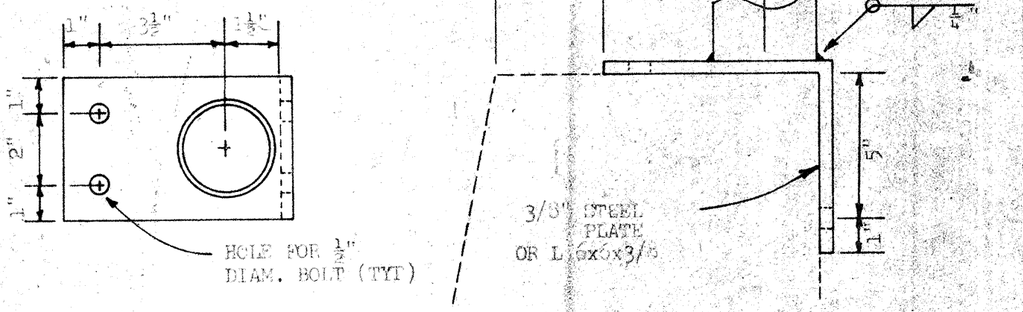


DETAIL AT EXPANSION JOINT



FENCE MOUNTING DETAIL

SCALE 1"=1'-0"

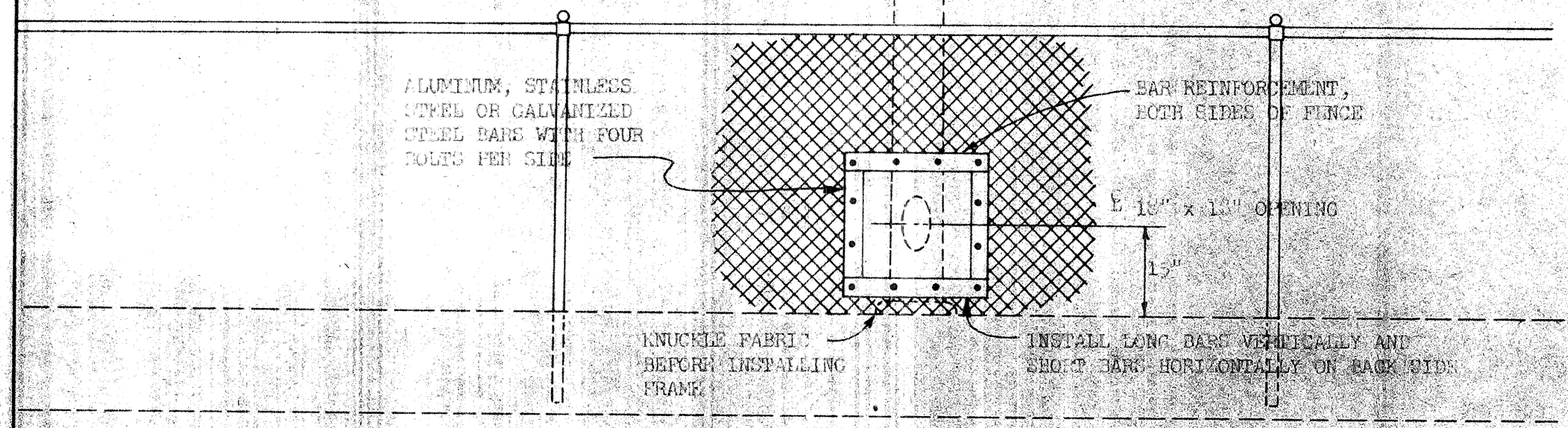


BASE PLATE DETAIL

BASE PLATES SHALL BE USED AT THE LAST LINE POST AND END POST ON THE TRAILING END AT EACH EXPANSION JOINT. BASE PLATES SHALL BE ANCHORED USING ½" DIAMETER EXPANSION SHIELD ANCHORS AS PER 712.01.

MISCELLANEOUS DETAILS-CUY-480-1843

PART 2



DETAIL AT LIGHT POLE

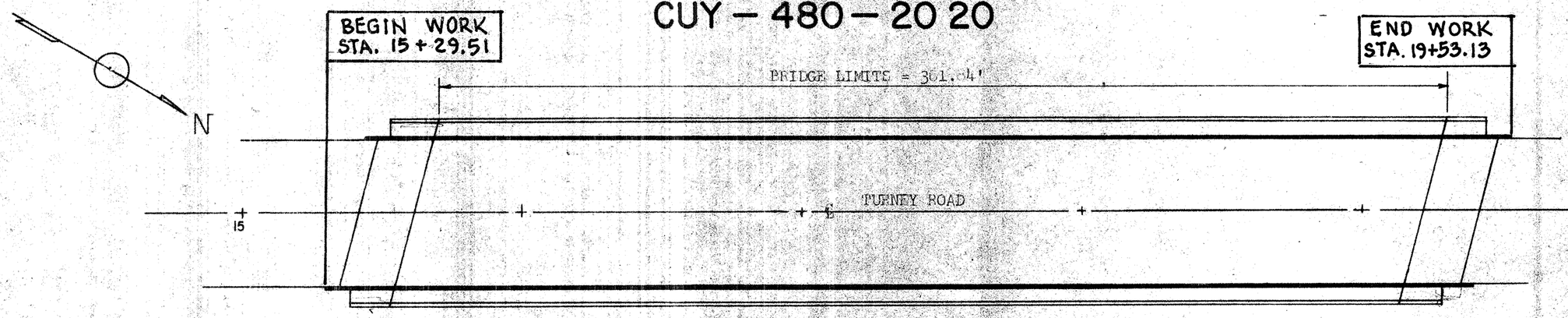
SCALE 1 2" = 1'-0"

NOTE: ALL COSTS OF MATERIAL AND LABOR NECESSARY TO INSTALL THE HANDHOLE FRAMES AS DETAILED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 607, FENCE, 48" TYPE CL AS PER PLAN.

CUY – 480 – 20 20

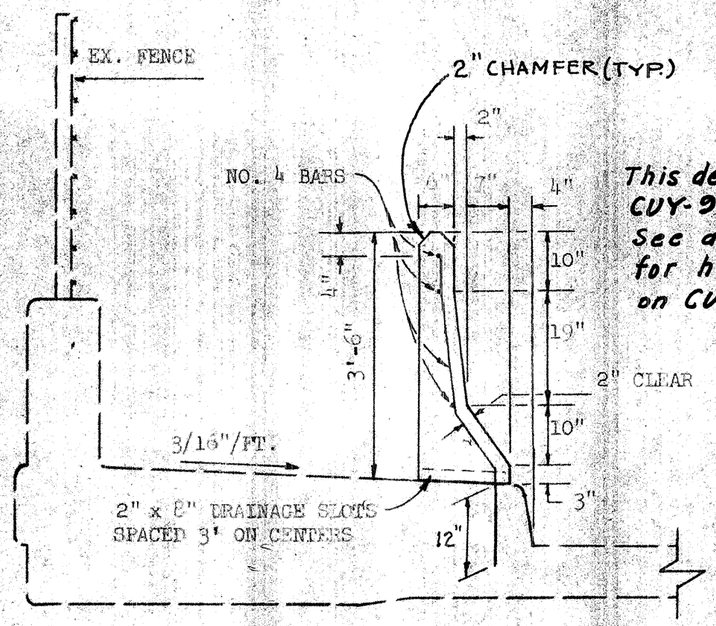
CUYAHOGA COUNTY
CUY-90/480-10.57 (10.43)
(20.20)

COMPUTED BY: E.N.F. 10-12-77
CHECKED BY : M.J.F 10-13-77



PLAN VIEW

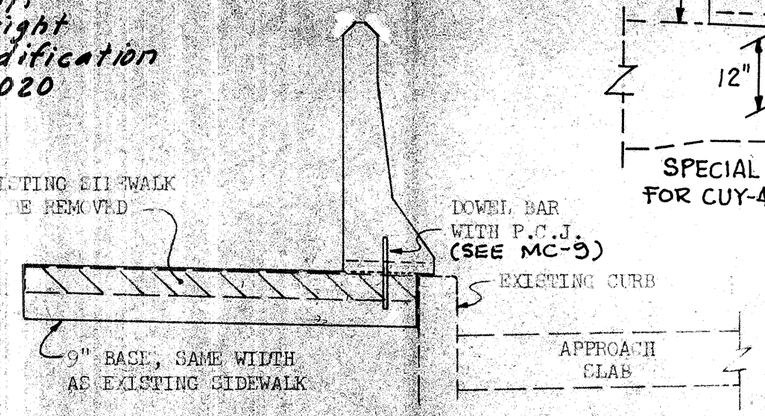
SCALE 1"=40'
0 20 40



BARRIER MOUNTING DETAIL

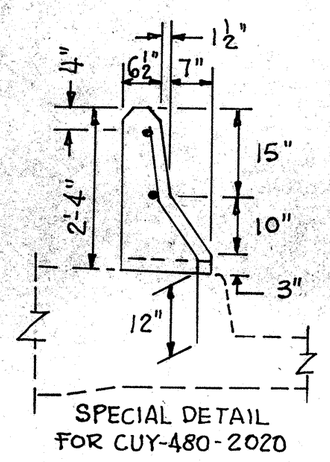
SCALE ½" = 1'-0"

This detail is for CUY-90-1057 only, See detail at right for height modification on CUY-480-2020



DETAIL OFF BRIDGE

SCALE ½" = 1'-0"



SPECIAL DETAIL
FOR CUY-480-2020

FOR TYPICAL DETAIL AT EXPANSION JOINT SEE SHEET NO. 3 .
FOR ADDITIONAL DETAILS SEE STD. CONSTR. DWG. MC-9

VERTICAL REINFORCING BARS SHALL BE INSTALLED 18" ON CENTERS AND ANCHORED INTO 1" ± DIA. DOWEL HOLES FILLED WITH A NON SHRINK EPOXY GROUT (SIKA-DUR HI MOD, HIL PRO FP 132 OR EQUAL). ALL COSTS OF LABOR AND MATERIALS INCLUDING REINFORCING STEEL, DOWEL HOLES, EPOXY GROUT, 9" BASE, DOWELS AND SIDEWALK REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 622, CONCRETE BARRIER, TYPE D, MODIFIED AS PER PLAN.

ESTIMATED QUANTITIES

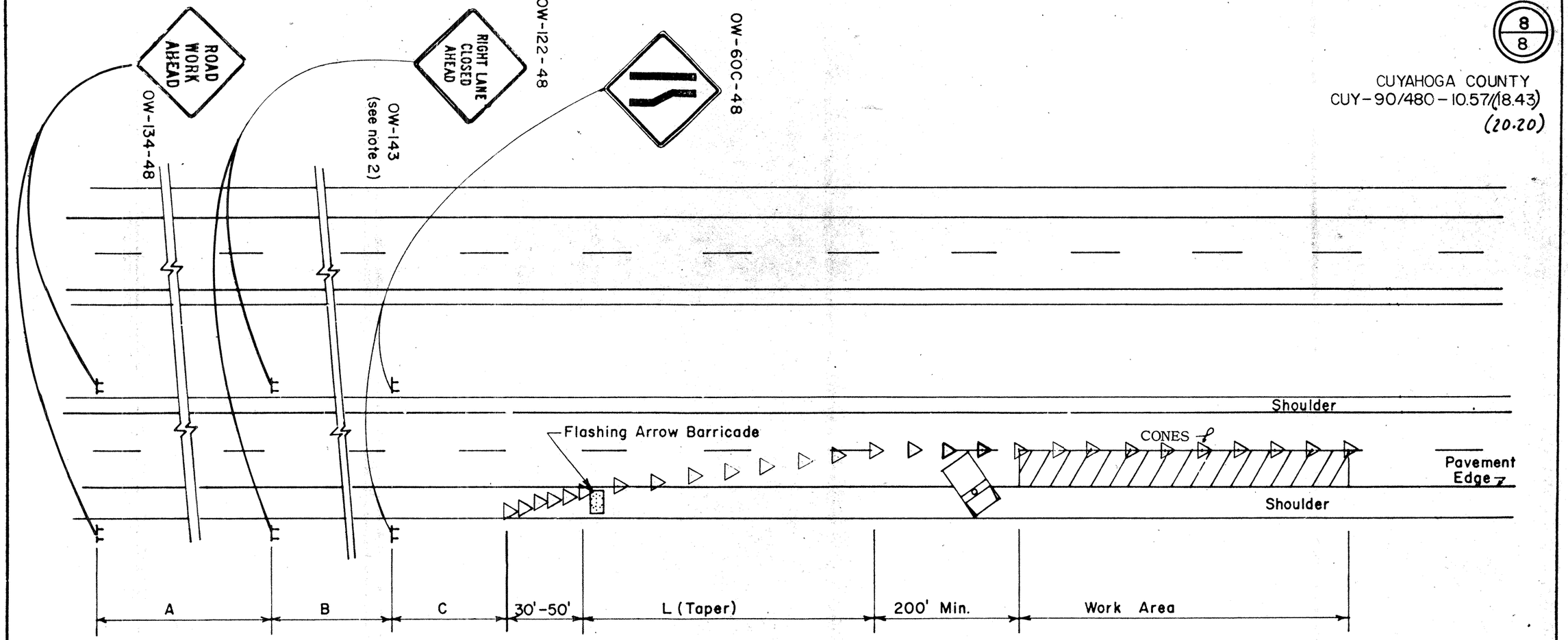
	STATION TO STATION		ITEM 622 CONCRETE BARRIER TYPE D, MODIFIED AS PER PLAN
SIDE	FROM	TO	LIN. FT.
RT.	15+29.51	19+38.15	408.64
LT.	15+44.49	19+53.13	408.64
TOTAL			817

CUY-480-2020

PART 3

8/8

CUYAHOGA COUNTY
CUY-90/480-10.57/(18.43)
(20.20)



GENERAL NOTES

1. THIRTEEN (13) CONES SHALL BE USED TO FORM THE LANE TRANSITION TAPER IN ADVANCE OF THE WORK AREA. FIVE (5) CONES SHALL BE USED TO FORM THE TAPER ON THE SHOULDER. CONES, SHALL BE SPACED AT 50 FOOT CENTERS FOR THE FIRST 1000 FEET OF THE WORK AREA AND AT A MAXIMUM OF 100 FEET FOR THE BALANCE OF THE WORK AREA. ALL CONES SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT.

2. WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN OF A DIVIDED HIGHWAY, "LEFT LANE CLOSED AHEAD" SIGNS (OW-123) SHALL BE SUBSTITUTED FOR "RIGHT LANE CLOSED AHEAD" SIGNS AND THE OW-60D SIGNS SHALL BE SUBSTITUTED FOR THE OW-60C SIGNS.

3. THE WORK TRUCK SHOWN AT THE BEGINING OF THE WORK AREA SHALL BE IN PLACE WHENEVER MEN ARE WORKING WITHIN THE WORK AREA.

4. THE FLASHING ARROW BARRICADE SHALL BE IN ACCORDANCE WITH THE DETAILS SHOWN ON STD.DWG.TC-35.10.

5. SIGNS SHALL BE MOUNTED ON PORTABLE SIGN SUPPORTS WITH APPROPRIATE WEIGHTING AND SHALL BE IN ACCORDANCE WITH OMUTCD, CURRENT EDITION, LATEST REVISION. HEIGHT OF SIGNS SHALL BE AS PER PLATE C-1 IN THE OMUTCD

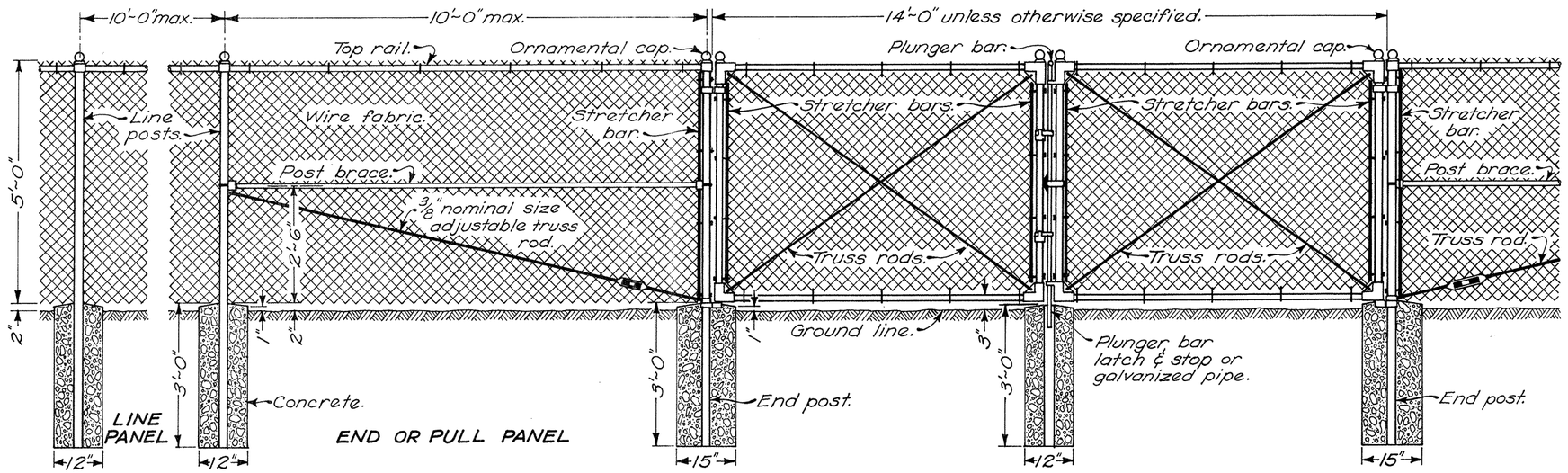
DISTANCE	A	B	C	L
URBAN	200	200	200	425
MAJOR STANDARD	500	500	500	600
FREEWAY AND EXPRESSWAY	2600	1600	1000	720

OHIO DEPARTMENT OF TRANSPORTATION

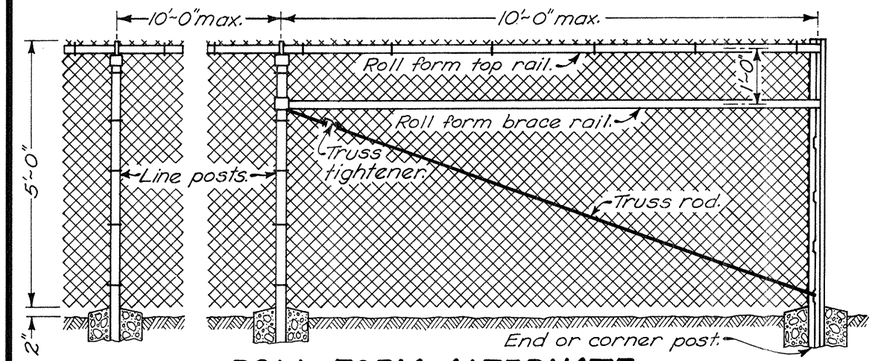
TYPICAL CLOSING ONE LANE OF A MULTIPLE LANE DIVIDED HIGHWAY.

DATE 12/76

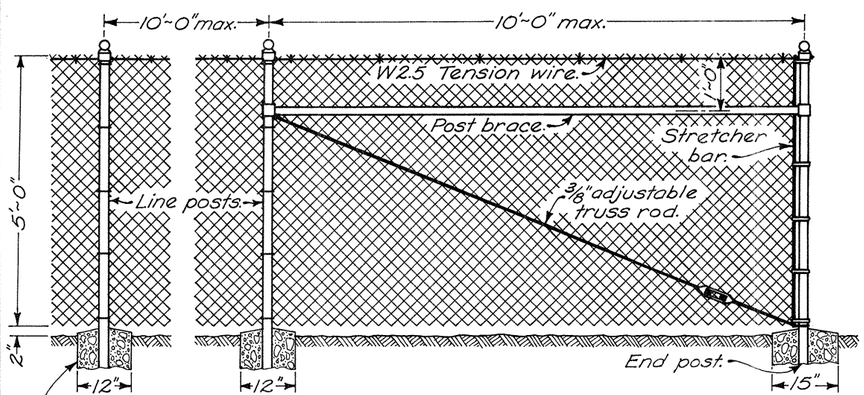
DR. GBD CK.



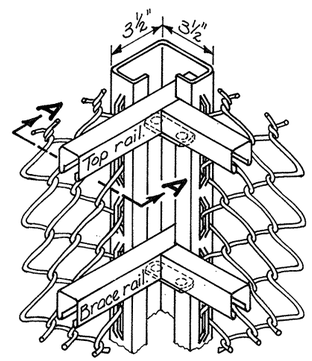
TYPE CL FENCE



ROLL FORM ALTERNATE

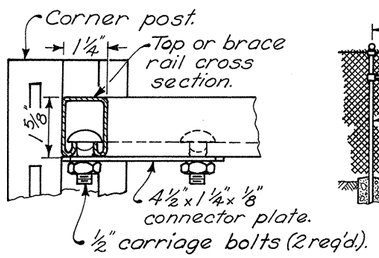


TYPE CLT FENCE

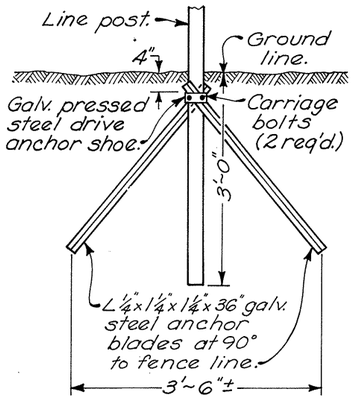


ROLL FORM CORNER POST

Fabric outside.

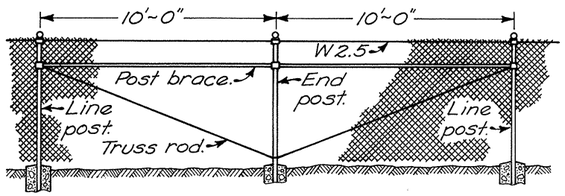


SECTION A-A



DRIVE ANCHOR DETAIL

For line post alternate.



INTERMEDIATE ANCHOR POST ASSEMBLY

For Type CLT Fence

NOTES

CONCRETE: The provisions of 511.12 are modified to the extent that concrete shall be protected during the curing period in a manner such that it will not freeze. Concrete shall be Class C.

STREAM CROSSINGS: Where chain link fence is to be constructed continuously across streams, and stream crossing closures are required by the plans, the closure shall be constructed in accordance with details shown on Standard Construction Drawing F-6, modified as necessary to conform with chain link fence dimensions and details.

TENSION WIRE shall be used instead of the top rail when specified on the plans as Item 607, Fence, Type CLT. The wire shall be stretched taut and fastened to or passed through the top fitting. The fence shall be fastened to the tension wire with fabric ties consisting of hog rings every 24" or less.

GATES: Each gate shall be equipped with an approved padlock with double locking bolt, five-pin tumbler, laminated steel case, brass cylinder, rust-proof. Where companion gates are installed on opposite sides of the highway, tumblers shall be identically set in each lock so that the same key will open each lock. Two keys shall be furnished with each padlock.

ROLL FORM ALTERNATE may be used for Type CL fence.

LINE POST ANCHOR ALTERNATES: Where specified on the plan, either steel drive anchors, or longer posts driven 48 inches deep, may be used in lieu of concrete encasement of line posts located in highly inaccessible locations. All end, corner and pull panel posts shall be encased in concrete.

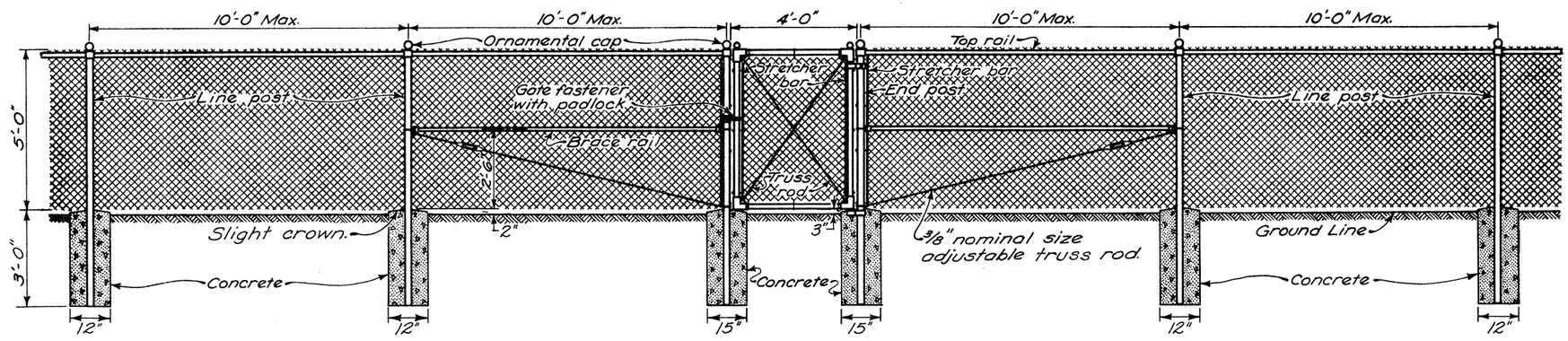
BUREAU OF ROADWAY DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

CHAIN LINK FENCE

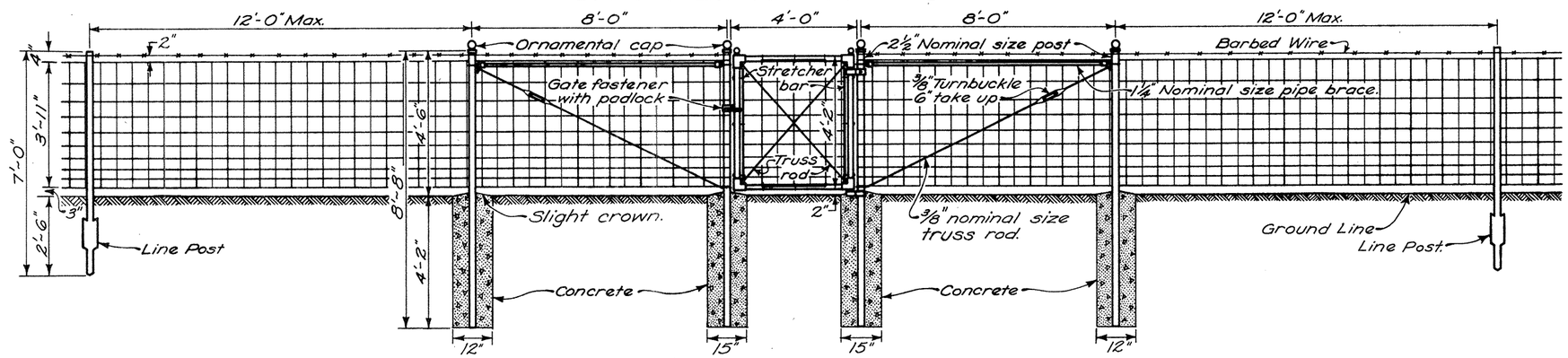
STANDARD CONSTRUCTION DRAWING F-1

APPROVED _____ ENGR., R. D.

DATE
2-1-63
6-1-65
3-10-69
6-1-72
5-1-76



CHAIN LINK WALK GATE



TYPE 47 WALK GATE

NOTES

GATES shall be of the size and dimensions and of similar construction to those shown on this drawing and shall be covered with fabric which matches adjoining fence fabric.

Each gate shall be equipped with an approved padlock with double locking bolt, five-pin tumbler, laminated steel case, brass cylinder, rust-proof. Where companion gates are installed on opposite sides of the highway, tumblers shall be identically set in each lock so that the same key will open each lock. Two keys shall be furnished with each padlock.

TRUSS RODS may be omitted from gate frames if welded joints are furnished.

TYPE 47 walk gate and end post assemblies at gate openings shall conform to 607, except as otherwise shown on this drawing.

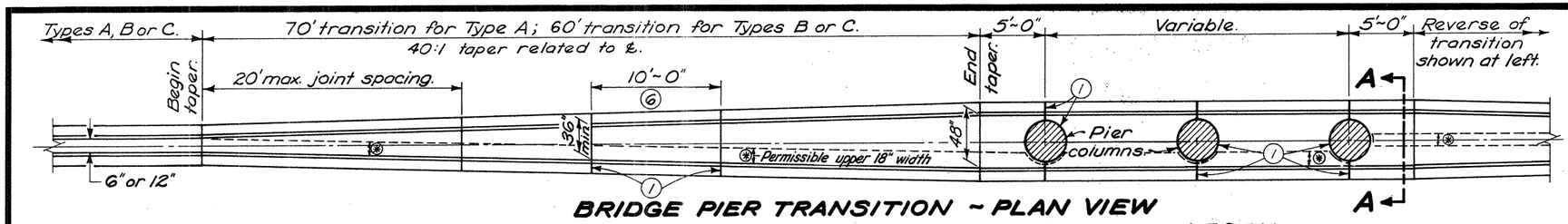
BUREAU OF ROADWAY DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

WALK GATES

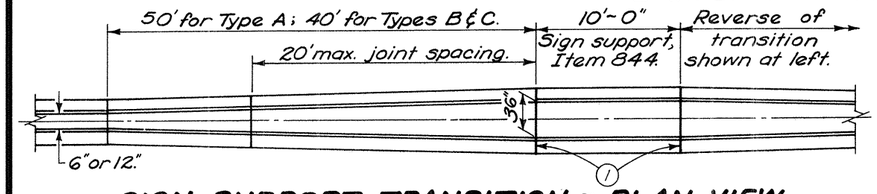
DATE
9-1-64
6-1-65
5-1-76

STANDARD CONSTRUCTION DRAWING F-4

APPROVED E. J. Schaefer ENGR., R.D.



BRIDGE PIER TRANSITION ~ PLAN VIEW

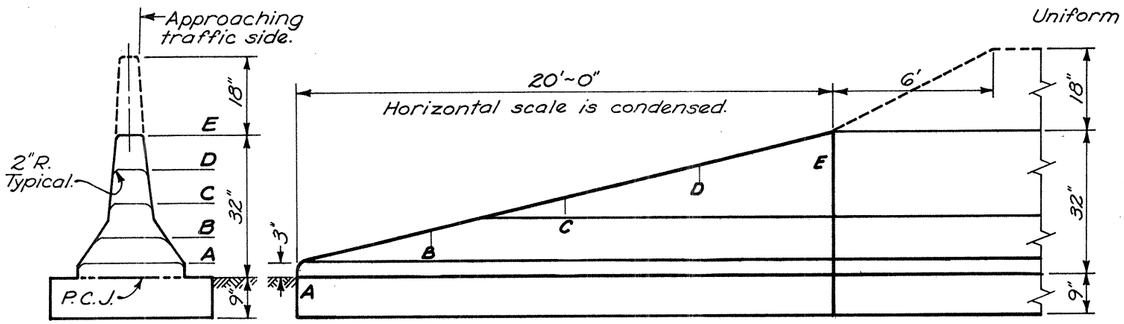


SIGN SUPPORT TRANSITION ~ PLAN VIEW

(For 50" barriers the upper 18" varies from 6" or 12" to 36" width)

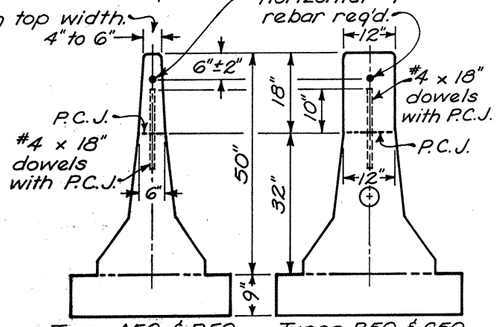
LEGEND

1. Expansion joint, ¾" 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 ¾" chamfer.
4. Permissible 10" radius.
5. Permissible 1" radius.
6. 844 Overhead Sign Support Foundation, if specified in the plan.



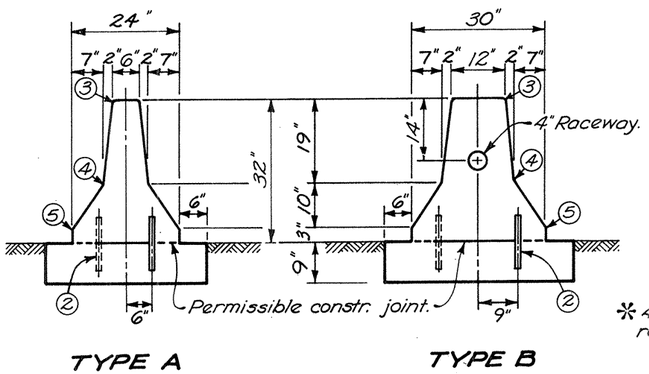
END VIEW PROFILE VIEW

END TERMINAL DETAIL

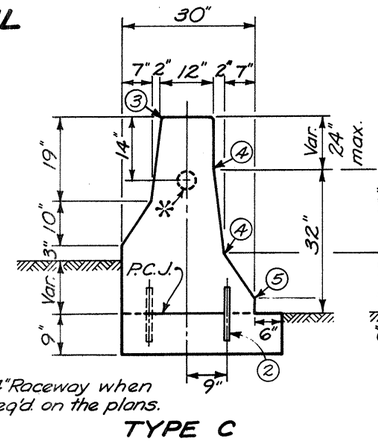


Types A50 & D50 Types B50 & C50

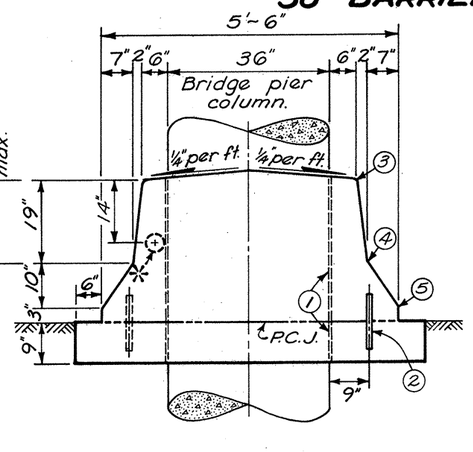
50" BARRIERS

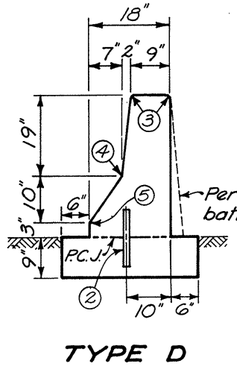


TYPE A TYPE B



TYPE C





TYPE D

NORMAL SECTIONS

SECTION A-A

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 1½" 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 ℄ 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

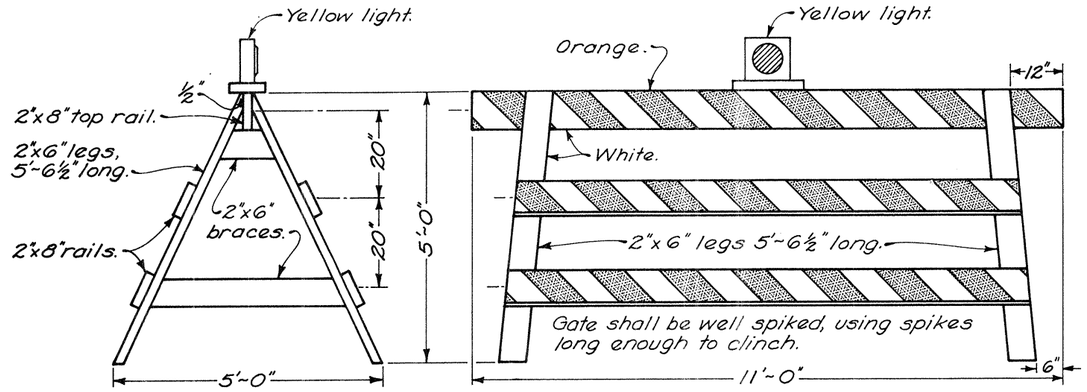
CONCRETE BARRIER

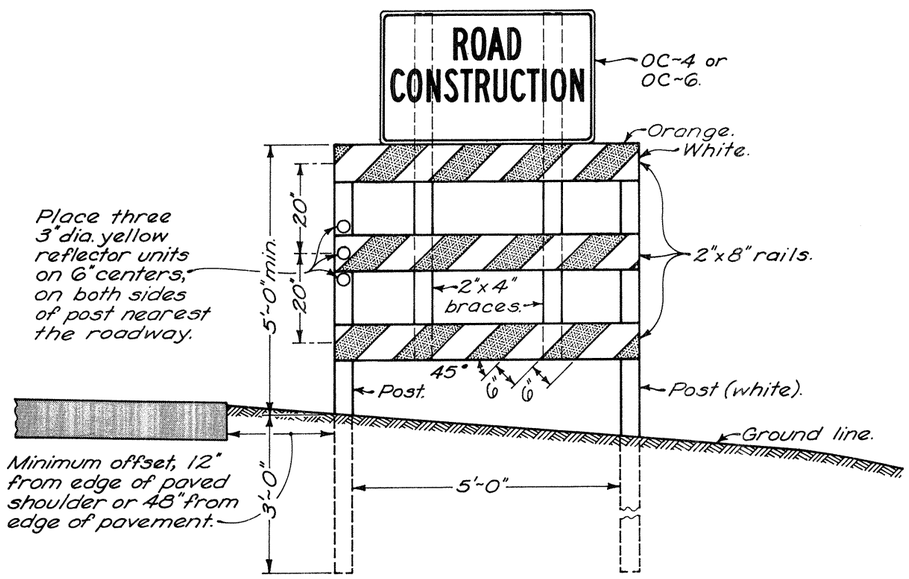
DATE 1-1-74 11-1-77

STANDARD CONSTRUCTION DRAWING MC-9

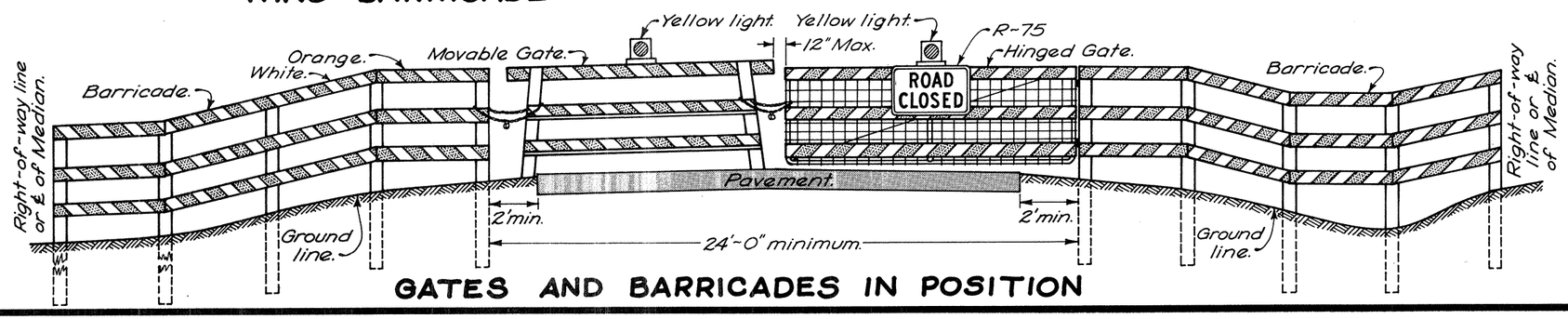
APPROVED M. J. Cunningham ENGR., L. & D.

MOVABLE GATE





WING BARRICADE



GATES AND BARRICADES IN POSITION

NOTES

BARRICADES shall be constructed according to details shown. Where traffic is maintained during construction, wing barricades shall be used on each shoulder: (1) at both ends of the project, (2) on all interchange entrance ramps or on the cross road preceeding the entrance ramp, (3) on all other major approach roads as directed by the Engineer. When the road is closed to traffic, barricades and gates shall be used to effectively close the entire roadway including the median of divided highways. In urban areas and at locations where it is impracticable to extend the barricade to the right-of-way line because of a sidewalk or other obstruction, the ends of the barricade shall be located as directed by the Engineer to effect the desired closing of the highway.

PAINTING AND REFLECTORIZATION: All rails of the barricades and gates shall be reflectorized with orange and white reflectorized sheeting in 6" wide alternate stripes which slope downward toward the center line of the road at an angle of 45%. All three rails of the Road Closed barricade shall be striped on the side facing traffic. All three rails of the wing barricade and all gate rails shall be striped on both sides. All posts, braces, gate legs and any unstriped rails shall be painted white.

GATES: One gate shall be erected for each traffic lane. Gates shall be chained and padlocked to one another and to adjacent posts of the barricades. Chains shall be ¼" stock or larger with welded links.

A hinged gate may be used and shall be an approved 12' by 4' steel frame farm type, or a type approved by the Engineer. The gate shall be hung on hinge screw hooks, or as otherwise approved. Striping similar to that used on the movable gate shall be accomplished with 1"x8" lumber or with metal strips fastened to the gate. The gate shall be supported at the center in an approved manner.

YELLOW LIGHT: Each gate shall be equipped with a steady burning yellow light, conspicuously visable at all distances up to 1000' under normal atmospheric conditions. The light, operated by battery, electric generator, commercial power or propane gas, shall be in operation at all times between sunset and sunrise during the period the highway is closed.

SIGNS: Where the road is closed to traffic by the erection of gates and barricades, a ROAD CLOSED sign (R-75) shall be mounted on the gate as shown. On three-lane pavement, the sign shall be mounted on the middle gate facing traffic.

Where traffic is maintained, a ROAD CONSTRUCTION TRAFFIC MAINTAINED sign (OC-4) shall be used on the right shoulder wing barricade on the approaches to major construction or maintenance jobs less than 2 miles in length. A ROAD CONSTRUCTION NEXT __ MILES sign (OC-6) shall be used on the right shoulder wing barricade on the approaches to any major construction or maintenance job of 2 miles or more in length. An END CONSTRUCTION sign (OC-8) shall be erected above the right hand wing barricade facing traffic leaving the construction section. The signs on the wing barricades shall be erected above the top rail of the wing barricade on braces, as detailed hereon.

LUMBER used in the construction of the gates and barricades shall be No. 1 common yellow pine or No. 1 common Douglas fir, surfaced on four sides standard, or other materials approved by the Engineer. All sizes are nominal.

POSTS shall be sound 4"x4" sawed or 4½" round. Rails of the barricade shall be bolted to the posts with ⅝" bolts.

BUREAU OF ROADWAY DESIGN
OHIO DEPARTMENT OF TRANSPORTATION

BARRICADES AND GATES

STANDARD CONSTRUCTION DRAWING

MC-3

APPROVED _____ ENGR., R. D.

DATE
[illegible]-65
5-1-66
11-1-66
6-20-69
6-1-73

#12

April 26, 1979

Mr. J. R. Hart, President
Hartline Products Company, Inc.
2186 Noble Road
Cleveland, Ohio 44112

Re: Requested Approval of ROCKTITE

Dear Mr. Hart:

We are not aware of a project on which POR-ROK has been specified. We are familiar with the name from advertisements in the trade journals, but have not specified it to our knowledge.

If the material is being purchased directly by the Department for use by State's forces, then your inquiries should be addressed to our Bureau of Purchasing, to the attention of Purcharsing Agent Charles Walz.

You state that POR-ROK is now being furnished by Cyclone Fence Company in Cleveland. If a material is required to grout fence posts into sleeves in bridge parapets, we would probably specify nonshrinking epoxy mortar using our Supplemental Specfications 853 and 956, copies of which are attached. The proprietary anchoring materials may have some good properties, but our use of them is limited by legal and administrative restrictions on the specification of proprietary materials, as well as by the difficulty we encounter in evaluating the claims made by the manufacturers in the absence of ASTM or other recognized specifications.

If we can be of further assistance please advise.

Yours very truly,

Robert B. Pfeifer, P.E.
Engineer of Bridges
and Structural Design

Walter J. Jestings, P.E.
Assistant Engineer of Bridges
and Structural Design

RBP:WJJ:pt3

Attachment

cc: George Maki - John Dowler - Martin P. Burke, Jr.