OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

FHWA REGION	STATE	FEDERAL PROJECT	
5	OHIO		

1/12

PLAN NO. BR-9-88

PART	COUNTY	ROUTE	SECTIONS	PROJECT TERMINII BEGIN	PROJECT TERMINII END	NET LENGTH MILES	TOWNSHIP	CITY	VILLAGE
1	Mad	142	13.41 Right						
2	Mad	142	13.41 Left						

280

May 3

280-89

PF 1990

The Standard 19 89 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. 1 & 2 and that detours will be provided by State forces. The closing to traffic of the highways will not be required on Parts No. 1 & 2 and provisions for the maintenance and safety of traffic will be as indicated in the proposal.

Approved Date 3-11-88 — W Howard Tweed, District Deputy Director of Transportation

Approved Date 3-16-88 — B. D. Vanpilamin, Engineer of Bridges

Approved Date [redacted]

JB Approved Date 2-2-89 — James R. Longenecker, DEPUTY DIRECTOR/OPERATIONS

Approved Date [redacted]

Approved Date [redacted]

Approved Date [redacted]

Approved Date [redacted]

Approved Date 2-2-89 — Bernard B. Hurst, Director, Department of Transportation

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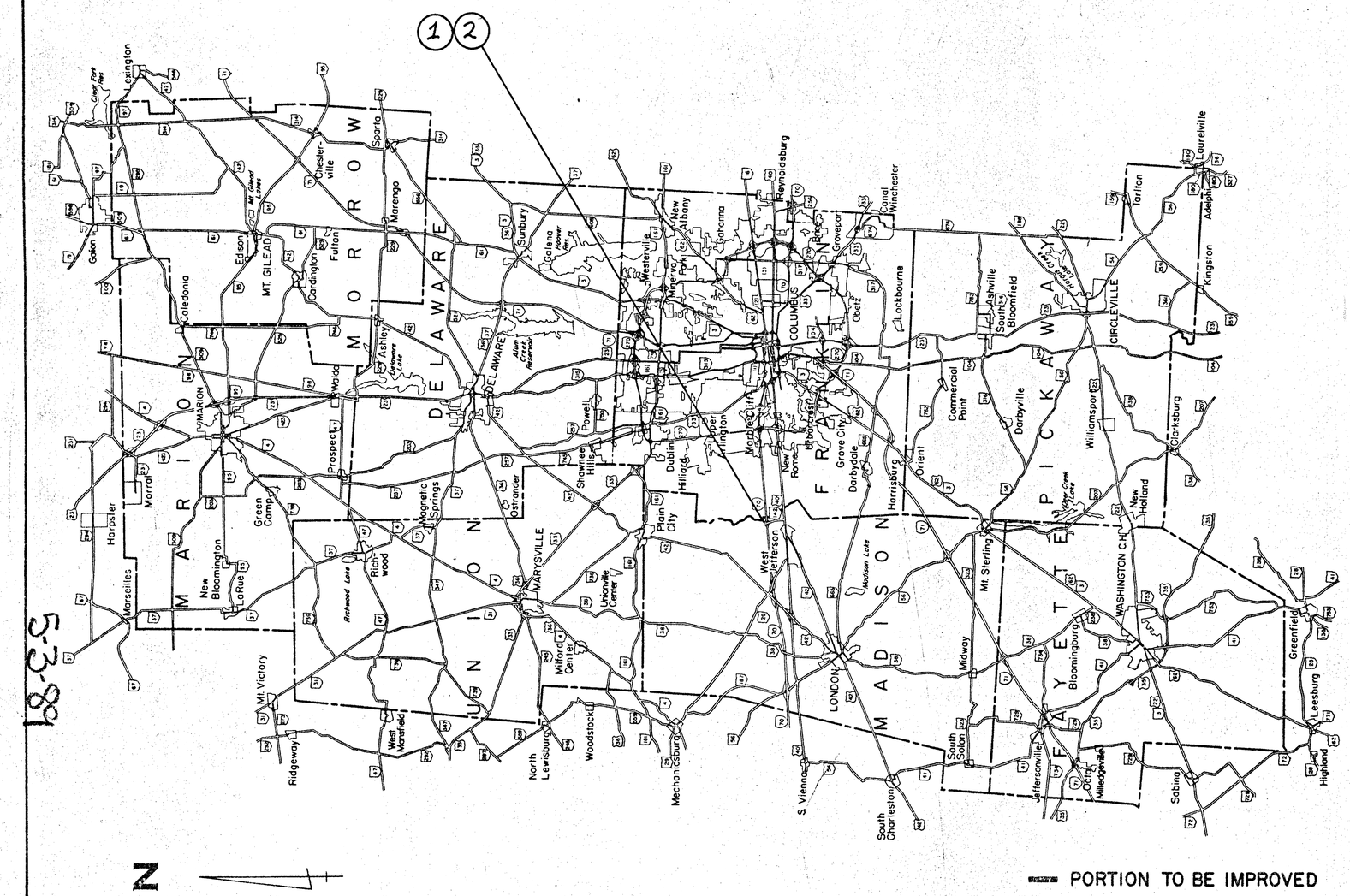
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

LOCATION MAP



5-3-89

DEPARTMENT OF TRANSPORTATION
M& R 712 REV. 9-1-83

2/12

PLAN NO. BR-9-88

ESTIMATED QUANTITIES

Item	Description	Unit	Mad 142 13.41 Right	Mad 142 13.41 Left	Total
202	Wearing Course Removed.	Sq. Yd.	1453	1453	2906
404	Asphalt Concrete, AC-20.	Cu. Yd.	25	25	50
407	Tack Coat.	Gal.	46	46	92
516	Vertical extension of Structural Expansion Joints	Lin. Ft.	64	64	128
517	Railing, Facing as per plan.	Lin. Ft.	613	613	1226
606	Bridge Terminal Assemblies, Type A.	Each	2	2	4
614	Maintaining Traffic.	Lump	Lump	Lump	Lump
624	Mobilization.	Lump	Lump	Lump	Lump
845	Latex Modified Concrete Overlay (1¼" thick), as per plan.	Sq. Yd.	998	998	1996
845	Latex Modified Concrete Overlay (Variable Thickness) as per plan	Cu. Yd.	58	39	97
845	Latex Modified Concrete (Full depth repair) as per plan.	Cu. Yd.	4	2	6
Special	Sealing of Concrete Surfaces (See proposal note)	Sq. Yd.	721	721	1442
202	Guardrail removed for re-use	Lin. ft.	75	75	150
202	Bridge terminal assembly removed, See plan sheet # 4	Each	2	2	4
606	Guardrail rebuilt, Type 5	Lin. ft.	75	75	150
614	Asphalt curb Divider with Delineation	Lin. ft.	825	825	1650
614	Temporary Pavement Marking, Class II	Lin ft.	1671	1996	3667
807	Latex Modified Emulsified Asphalt Pavement Course	Sq. Yd	7660	7660	15,321
621	Centerlines, Polyester, As per plan	Mile	.495	.495	1
621	Edgelines, Polyester, As per plan	Mile	.495	.495	1

ITEM 202 - Wearing Course Removed
Existing end dam extensions shall be removed and surfaces ground smooth. Payment for the removal of existing end dam extensions shall shall be included in the price bid for Item 202 - Wearing Course Removed.

ITEM - 614 Maintaining Traffic
No overnight lane closures shall be permitted on I 70. See plan sheets 10 and 11 for lane closures on I 70. Traffic control for SR142 shall be in accordance with plan sheets 7, 8, and 9.
The contractor shall furnish, erect, maintain, and subsequently remove all signs, lights, barricades, and pavement marking for maintenance of traffic. Additionally, the contractor shall provide by means of pavement marking paint (dbl. yellow center line, and single dashed yellow center line) as described in the standard construction drawing MT-99.10.
Traffic shall be controlled during the application of SS-807 on SR 142. Traffic maintenance shall conform with plan sheet number 11 (closing one lane of a 4 lane highway); however, per OMUTCD and the Engineer, a flagman provided at the contractors expense, may be necessary due to inadequate taper length.

ITEM - 807 Latex Modified Emulsified Asphalt pavement course
This item shall be in accordance with S.S. 807 and the limits of placement shall be as shown on plan sheet number 12.

ITEM - 621 Center and Edge lines as per plan
Upon completion of item 807 the contractor shall replace all center and edge lines to their original condition as per item 621 - Center and Edge Lines as per plan.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6 BRIDGE DEPARTMENT

ESTIMATED QUANITIES & GENERAL NOTES

MAD 142 -13.41 Left & Right

DESIGN	DRAWN	TRACED	CHECKED	REVIEW	DATE	REVISED
REL	REL	REL			3-8-88	

PLAN NO. BR-7-88

ITEM 614 - Asphalt Curb Divider with Delineation

GENERAL:

The Contractor shall furnish, install, maintain, and remove an asphalt curb divider used to seperate opposing lanes of traffic when a two (or more)-lane, two-way operation is used in a divided highway work zone, in accordance with the following requirements.

DESIGN AND PLACEMENT OF ASPHALT CURB DIVIDER;

This item shall be placed in accordance with the detail as shown on page and shall be constructed of compacted 404 asphalt concrete. Compaction shall be sufficient to produce a smooth top and sides and to produce a density satisfactory to the Engineer.

Where the curb divider is to be constructed on top of a concrete pavement which will be the final surface, or where the Engineer determines the residual stains from the removal of the divider may confuse traffic, the Contractor shall provide a bond breaker and surface protector. The protector may be two coats of sprayed concrete curing compound or other material approved by the Engineer which will minimize staining.

Where the curb will interfere with pavement drainage (e.g., superelevated or transition sections), provisions shall be made to prevent ponding of water on the pavement surface. This may be accomplished with transverse drainage slots or alternate measures approved by the Engineer.

Tubular markers or pylons provided for traffic control shall be embedded to the full depth of asphalt and secured to avoid being worked loose by the draft from passing traffic. As shown on page 19 , a 4-inch length of pipe attached to a base plate may be used to secure the tubular marker or pylon. Alternate methods may be used but must be approved in advance by the Engineer.

DELINEATION OF ASPHALT CURB DIVIDER;

The entire surface of the curb divider (top and sides) shall be painted yellow and reflectorized in accordance with Item 621.

Tubular markers or pylons shall be spaced at 50-foot intervals along the centerline of the curb divider. The tubular markers or pylons shall be at least 36 inches in length and shall have a minimum width or diameter of 2-1/2 inches at the top. The markers or pylons shall be reflectorized by a minimum of two 3-inch white bands placed not more than 2 inches from the top, with a 3 to 6-inch space between the bands.

Yellow double-faced reflectors shall be mounted vertically on the top of the curb as shown on page . These reflectors shall have an approximately square shape and shall have a minimum of 9 square inches of reflective sheeting on each side, facing traffic.

BASIS OF PAYMENT;

Payment for accepted quantities complete in place will be made at the contract unit price. Payment shall be made per lineal foot of accepted Item 614 Asphalt Curb with Delineation, which shall include materials, equipment, and labor to place, maintain, and subsequently remove the divider. Maintenence includes replacement of damaged or ineffective pylons or reflectors.

Item 517-railing, Faced as per plan

The contractor shall carefully remove the existing aluminum railing and stack neatly along the right-of-way for subsequent pick-up by state forces. The concrete safety curb shall be removed. 1 inch dia. holes, 6 inchs deep(min), shall be drilled at 15 inches c/c and at 2 foot 6 inches c/c as shown on the drawing. The holes shall be thoroughly cleaned of all dust and other deleterious material.

The grout shall consist of cement and water using typeI, type III, or shrinkage compensating cement. Clean holes shall be saturated thoroughly with water for a minimum of 5 minutes prior to placing grout. Immediately prior to grouting, all free standing water shall be removed from the holes. After intitial mixing, thinning or retempering of the grout with extra water shall not be allowed. Hardened or set grout which has become to stiff or dry to provide a good bond shall be disgarded. Dowels shall not be installed if the mean air or grout temperetures are less than 45 degrees F. Furthermore, after placing, the fresh grout shall be maintained at a temperature not less than 45 degrees F. for 72 hours, and not less than 40 degrees F. for an additional 4 days. The tempereture of the mixed grout, immediately before placing, shall not be less than 50 degrees F. nor more than 90 degrees F. The cement grout shall be cured continuously with wet rags for a minimum period of 3 days without disturbing the dowels.

Grout anchering using epoxy as per SS853 and 956 may be used in lieu of above requirements with the exception that the hole size will remain at 1 inch diameter.

All loose and unsound concrete in the area of the parapet to be faced shall be removed. All remaining sound concrete shall then be mechanically scarified 1/4 inch deep. The minimum thickness for the proposed facing shall be 4 inches thick. All resteel shall be epoxy coated as per SS 824. Epoxy coated resteel is damaged due to cutting, bending, etc. shall be repaired as per SS 824. Concrete cover over all resteel shall be two inches. The concrete to faced shall be thoroughly drenched with clean water and allowed to dry to a damp condition just before the placing of the concrete.

The existing deflection joints shall be extended completely through the proposed facing and shall be made by forming or saw cutting the hardened concrete within three days after pouring. The 1/4 inch 3/4 inch deep (min) with an empregnated precompressed expanding foam seatant known as Will-Seal, manufactured by Illbruck/USA Inc., Ravena New York.

Materials shall be: Concrete as per 511, class S. Reinforcing Steel as per 509 & SS 824. All of the above work and relevant plan notes shall be included in the price bid for Item 517, Railing faced as per plan.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6 BRIDGE DEPARTMENT

GENERAL NOTES

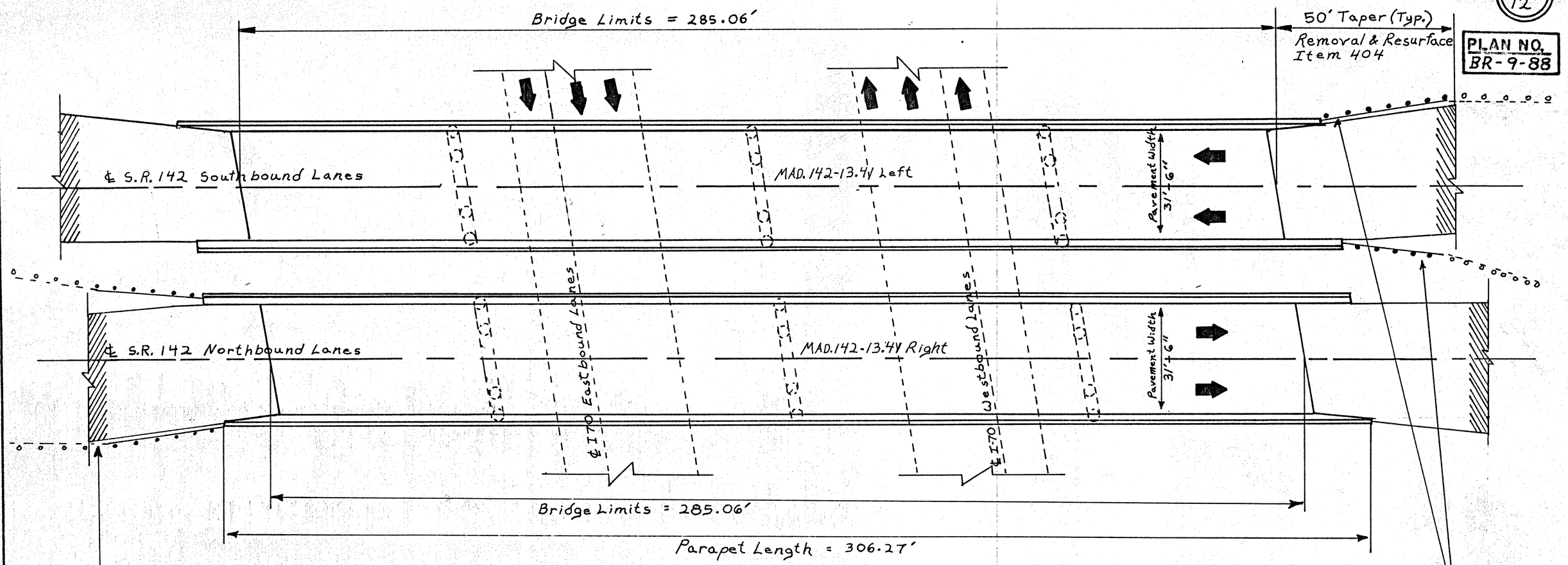
MAD. 142-13.41 Left & Right

DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
REL	REL	REL		Ja	3-8-88	

DEPARTMENT OF TRANSPORTATION
M& R 712 REV. 9-1-83

4/12

PLAN NO. BR-9-88



TYPICAL PLAN VIEWS
MAD-142-13.41 L&R
Skew = 8°-40'-50"

Provide a butt joint at the tapers in accordance with Std. drawing BP-5

37.5' for Guardrail removed for reuse (Typical)

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6 BRIDGE DEPARTMENT

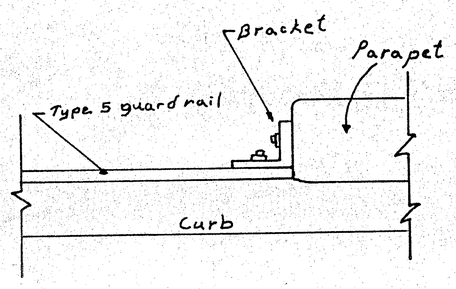
PLAN VIEWS

MAD. 142-13.41 Left & Right

DESIGN	DRAWN	TRACED	CHECKED	REVIEW	DATE	REVISED
REL	REL	REL		JAG	3-8-88	

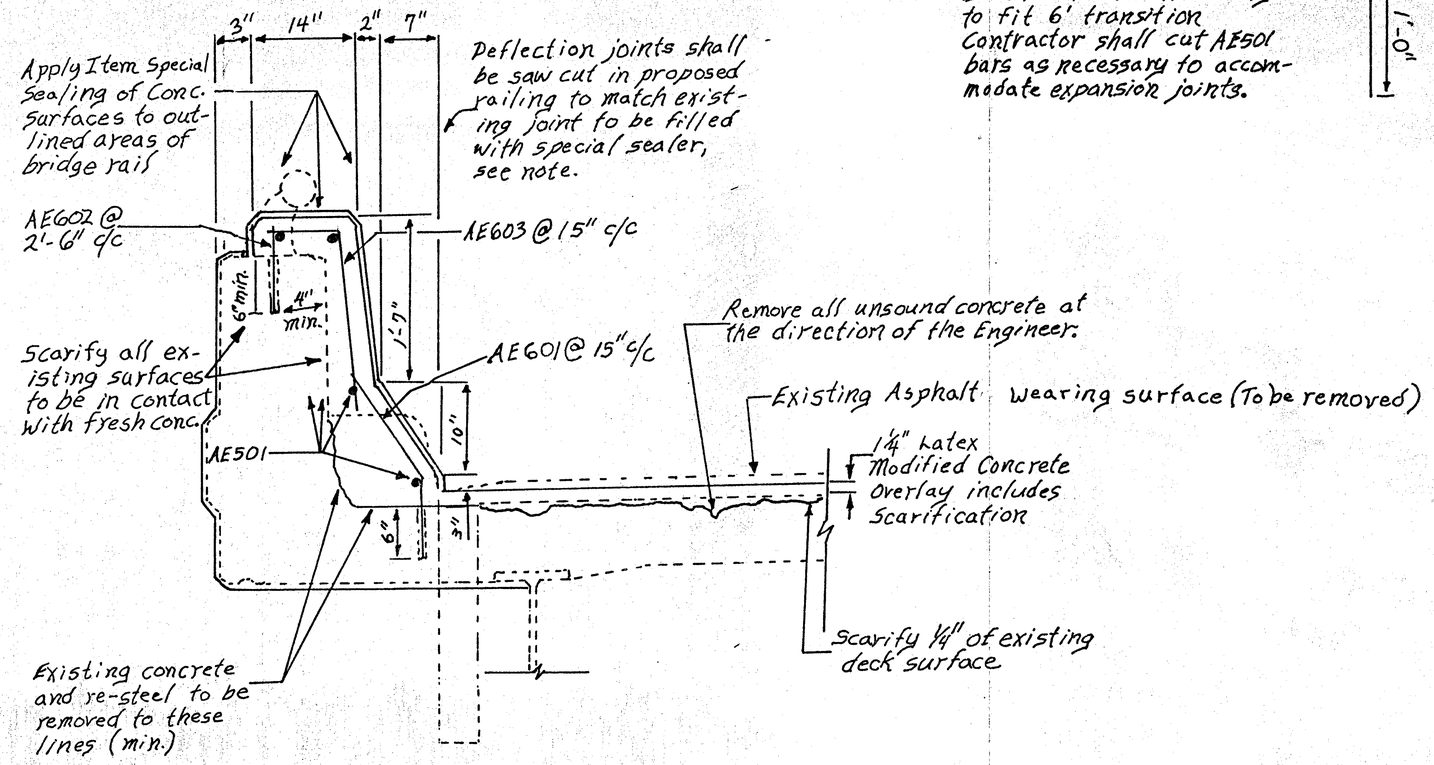
DOT 1925

PLAN NO. BR-9-88

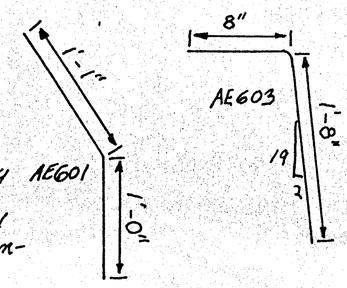


Bridge Terminal Assembly Removed

The contractor shall remove the existing bridge terminal assembly, which consists of type 5 guardrail fastened to the existing parapet with a steel bracket. The guardrail shall be unfastened from the bracket and the bracket shall be unfastened from the parapet. The bracket anchoring bolts shall be removed from the parapet by cutting or burning and shall be left flush with concrete surface. The contractor shall also remove the 3 wooden guardrail posts nearest the parapet on all bridge terminal assembly's.



AE501	30'-0"	Straight
AE601	2'-1"	Bent
AE602	10'	Straight
AE603	2'-4"	Bent



Bend AE601 where necessary to fit 6' transition. Contractor shall cut AE501 bars as necessary to accommodate expansion joints.

TYPICAL TRANSVERSE SECTION

Modify dimensions shown above as necessary to form 6'-0" proposed railing transition shown in BR-1.
AE601, AE602 and AE603 bars shall be spaced as shown above except they shall be also installed 6" from both sides of existing deflection joints.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6 BRIDGE DEPARTMENT

PARAPET FACING & DECK REPAIR DETAILS

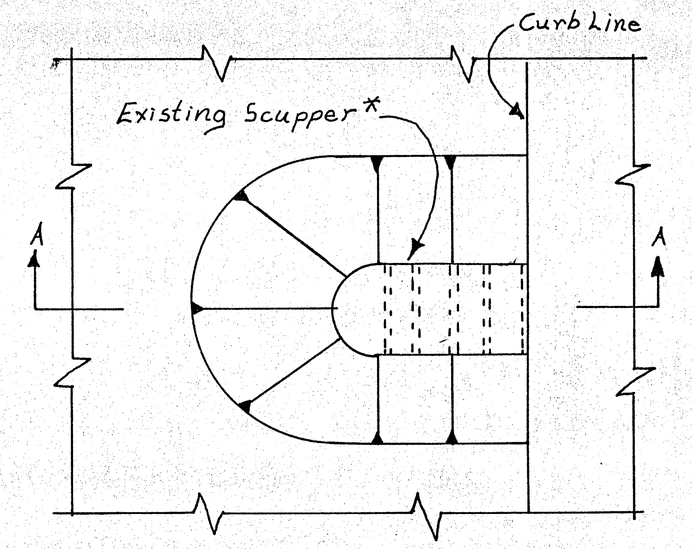
MAD. 142-13.41 Left & Right

DESIGN	DRAWN	TRACED	CHECKED	REVIEW	DATE	REVISED
RE2	RE2	RE2		JaZ	3-8-88	

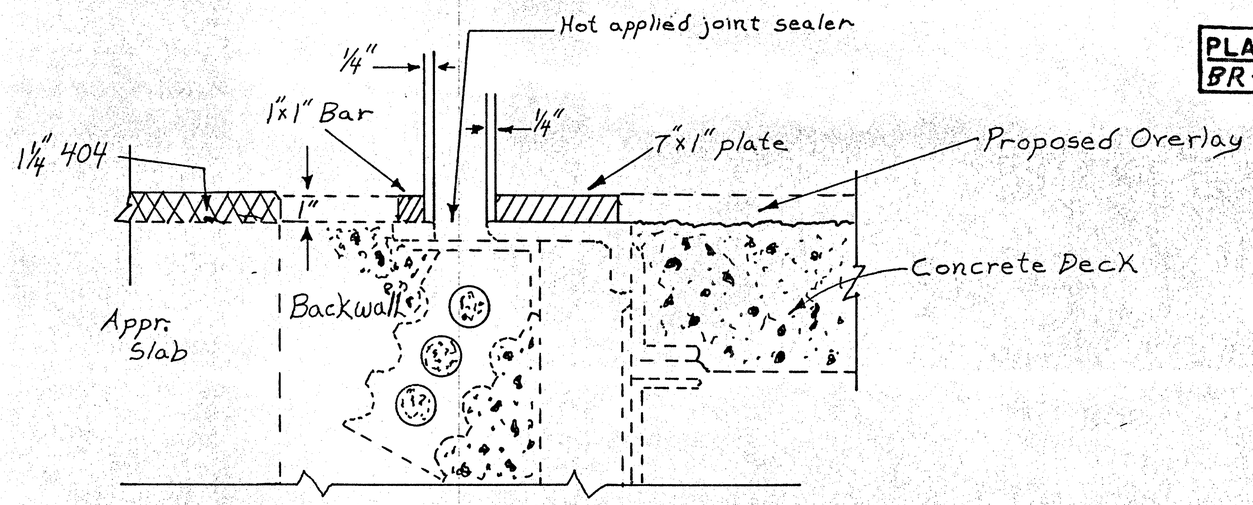
DEPARTMENT OF TRANSPORTATION
M& R 712 REV. 9-1-83

6/12

PLAN NO.
BR-9-88



PLAN VIEW
MAD.-142-13.41 L&R

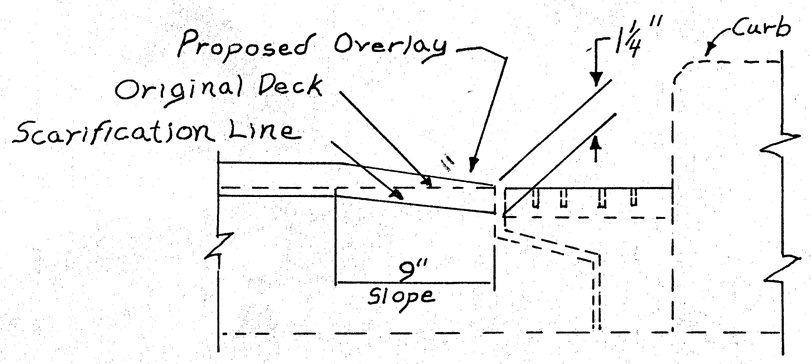


PLAN VIEW
MAD.-142-13.41 L&R

VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS

Surfaces of existing steel end dams to be welded shall be cleaned and free of scale, grease, paint, rust, moisture, or other foreign material that will prevent proper welding.

See Standard Drawing BP-5 for details not shown.



TYPICAL OVERLAY DETAIL AT SCUPPERS

* Scuppers as found may be reversed 180° or of another type than that shown.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6 BRIDGE DEPARTMENT

SCUPPER & END DAM DETAILS

MAD. 142-13.41 Left & Right

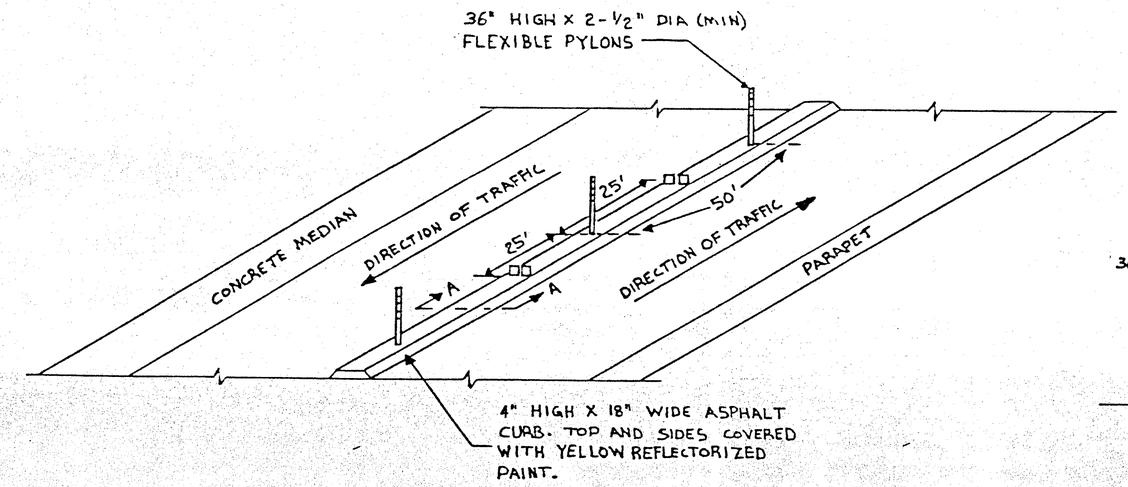
DESIGN	DRAWN	TRACED	CHECKED	REVIEW	DATE	REVISED
REZ	REZ	REZ		J a g	3-8-88	

DOT 1925

DEPARTMENT OF TRANSPORTATION
M&R 712 REV. 9-1-83

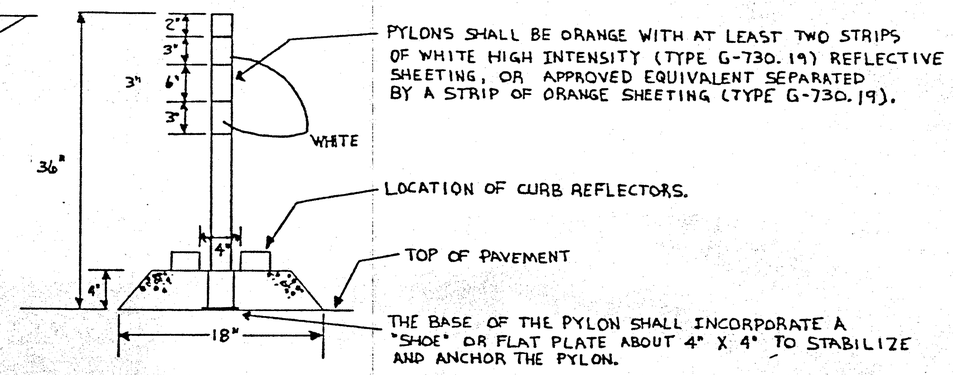
7/12

PLAN NO. BR-9-88

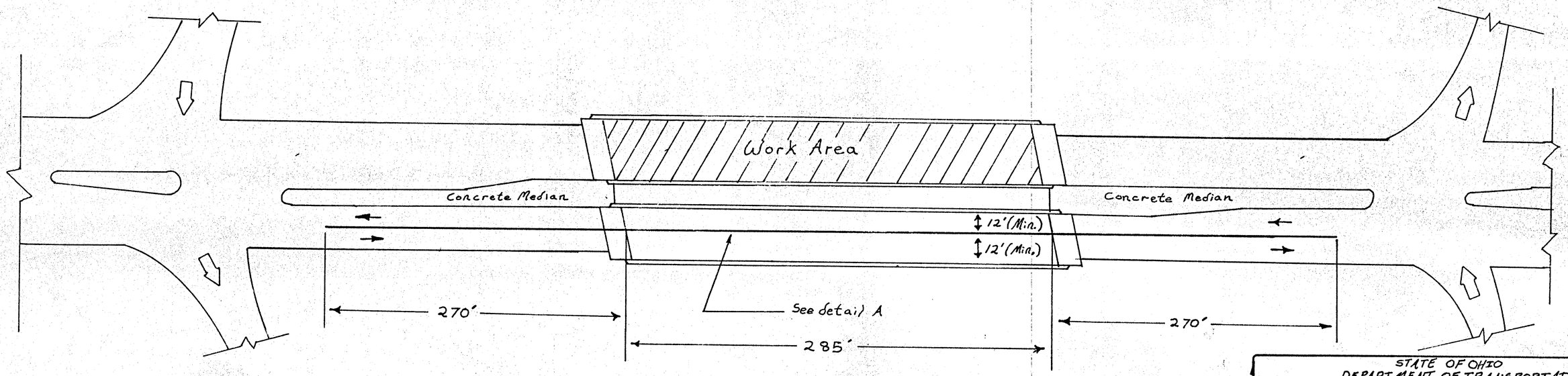


DETAIL A

Reverse 180° for other side of bridge



DETAIL A-A



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DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6 BRIDGE DEPARTMENT

PLAN VIEWS, ASPHALT CURB DIVIDER WITH DELINEATION

MAD. 142-13.41 Left & Right

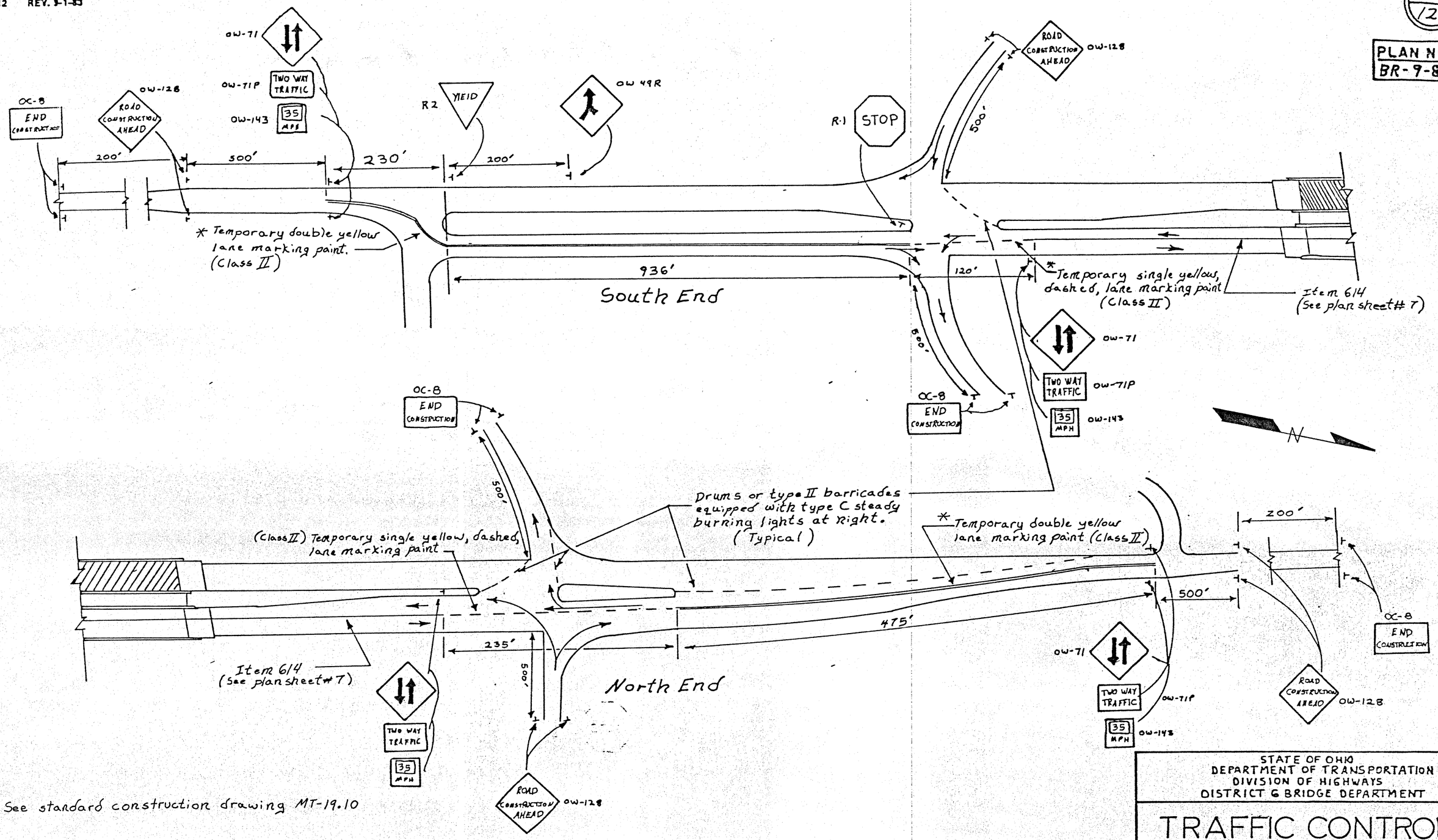
DESIGN	DRAWN	TRACED	CHECKED	REVIEW	DATE	REVISED
REL	REL	REL		JaJ	3-8-88	

DOT 1825

DEPARTMENT OF TRANSPORTATION
TR 712 REV. 3-1-83

8/12

PLAN NO.
BR-7-88



* See standard construction drawing MT-19.10

Traffic Control Plan For Closing Mad. 142-13.41 Left

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DISTRICT 6 BRIDGE DEPARTMENT

TRAFFIC CONTROL VIEWS

MAD. 142-13.41 Left & Right

DESIGN	DRAWN	TRACED	CHECKED	REVIEW	DATE	REVISE
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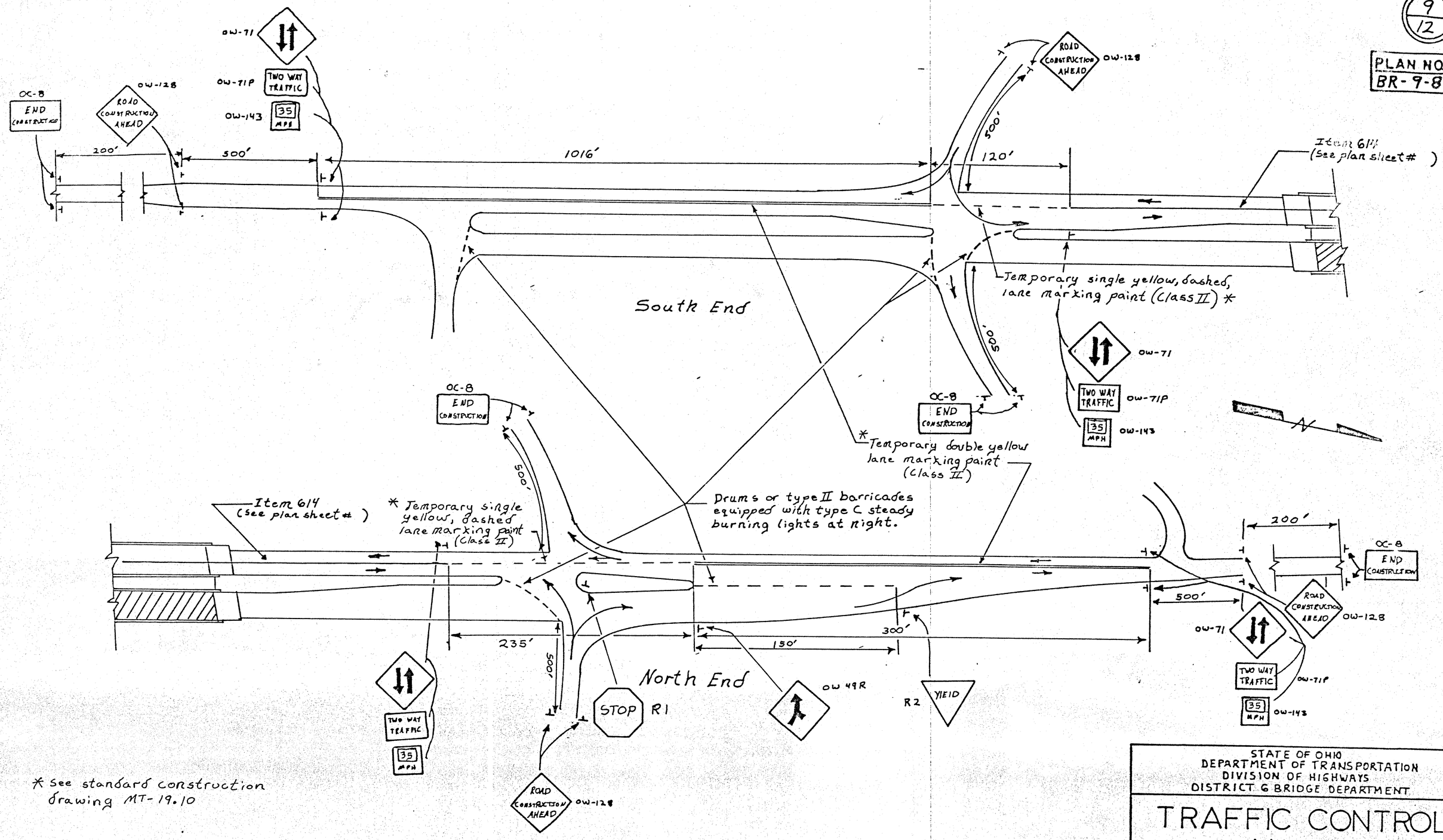
DEPARTMENT OF TRANSPORTATION
M&R 712 REV. 9-1-83

9/12

PLAN NO. BR-9-88



* See standard construction drawing MT-19.10

Traffic Control Plan For Closing Mad. 142-13.41 Right

STATE OF OHIO
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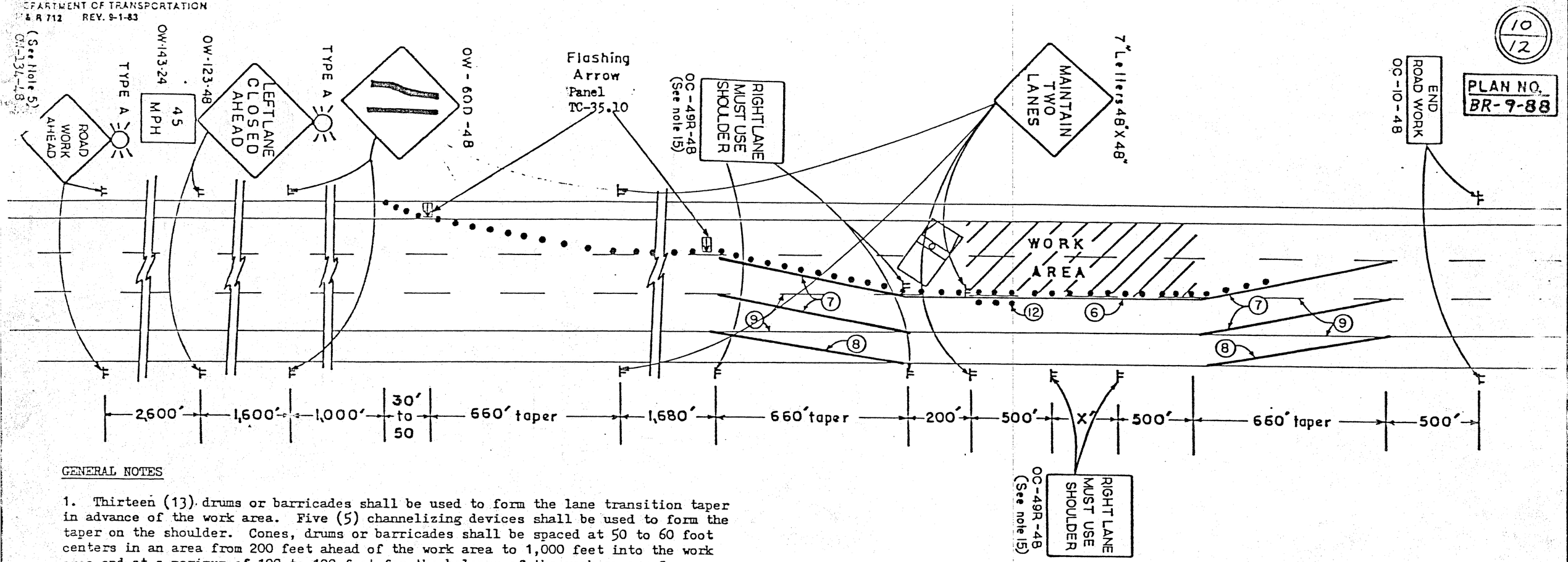
DIVISION OF HIGHWAYS
DISTRICT 6 BRIDGE DEPARTMENT

TRAFFIC CONTROL VIEWS

MAD. 142 -13.41 Left & Right

DESIGN	DRAWN	TRACED	CHECKED	REVIEW	DATE	REVISED
RER	RER	RER		Ja	3-8-88	

PLAN NO. BR-9-88



GENERAL NOTES

1. Thirteen (13) drums or barricades shall be used to form the lane transition taper in advance of the work area. Five (5) channelizing devices shall be used to form the taper on the shoulder. Cones, drums or barricades shall be spaced at 50 to 60 foot centers in an area from 200 feet ahead of the work area to 1,000 feet into the work area and at a maximum of 100 to 120 feet for the balance of the work area. Cones may be substituted for the barricades or drums for the lane closures during daylight hours only.

2. Two (2) lanes of traffic shall be maintained at all times.

3. The work vehicle shown on the beginning of the work area shall be in place and unoccupied whenever men are working within the work area. This vehicle shall be moved from the pavement whenever workmen are not in the work area. Other protective devices may be used in lieu of the work vehicle shown when approved by the Engineer.

4. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 1.

5. The Type A flashing barricade warning lights shown on the OW-134-48 and OW-123-48 signs are required whenever a night lane closure is necessary.

6. Install 4" Temporary Edge Lines, Yellow, Class I during the placement of the latex overlay on structures and remove when the work is completed.

7. Install 4" Temporary Channelizing Lines, White, Class I and remove when work is completed.

8. Install 4" Temporary Edge Lines, White, Class I and remove when the work is completed.

9. Remove existing conflicting markings and replace when the work is completed.

10. The Contractor shall make any necessary shoulder repairs as directed by the Engineer to maintain traffic on shoulders.

11. This closure to be used for joint repair, paving and latex modified concrete overlay on structures.

12. Additional offset to be as directed by the Engineer only during the placement of the latex modified concrete overlay.

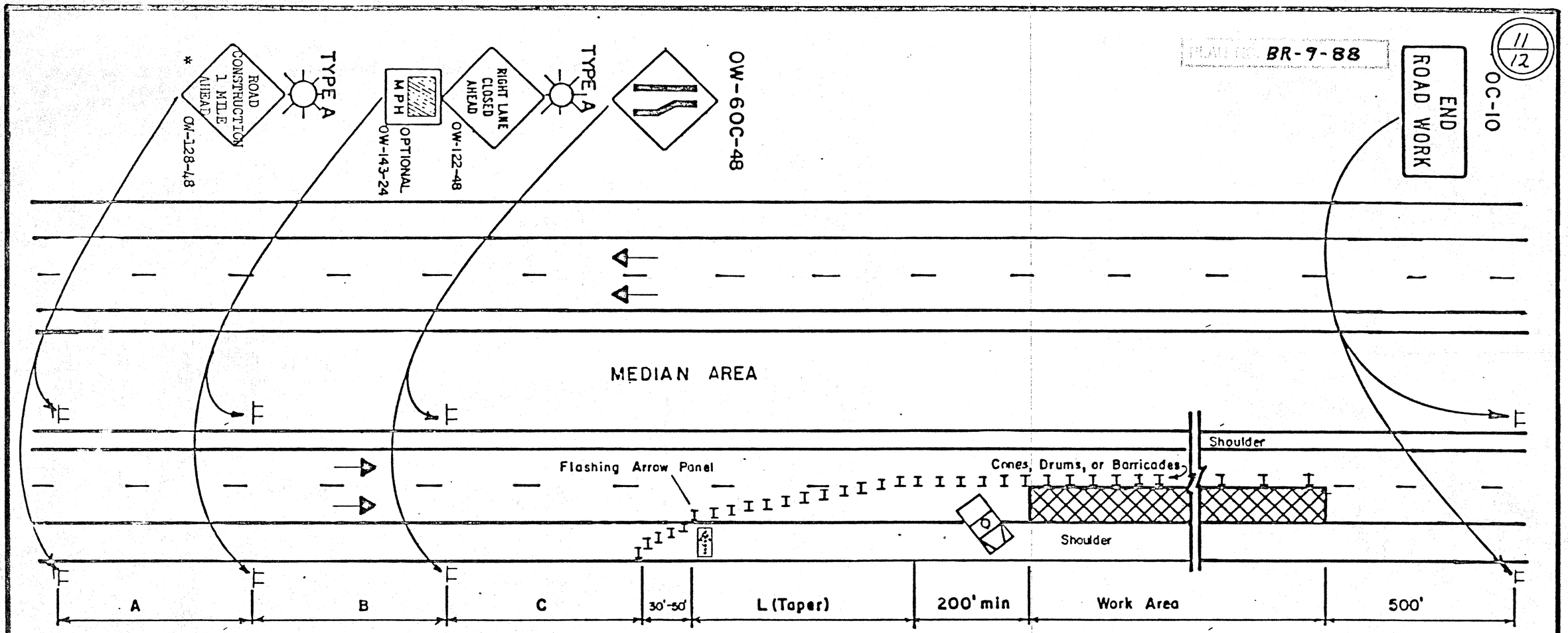
13. A minimum of two 12' lanes shall be maintained at all times unless otherwise directed by the Engineer.

14. Closing only the right or left lane of a six (6) lane highway shall be as detailed in "Closing one lane of a four lane highway".

15. The maximum spacing of the OC-49R-48, "Right Lane Must Use Shoulder", near the work area is 1,500 feet. When the distance "X" is less than 1,500 feet, the second OC-49R should be deleted.

16. Work vehicles shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of ¼ mile.

CLOSING TWO LANES
OF A SIX LANE
DIVIDED HIGHWAY



GENERAL NOTES:

1. The taper length (L) shall be in accordance with Section 7F-17 of the OMUTCD. The location of the transition taper and location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment. In order to determine the minimum number of channelizing devices for the transition taper see Table 7-5 OMUTCD. For a 55 MPH prevailing speed and a 12 ft. lane, 25' spacing of drums or barricades shall be used to form the lane transition taper in advance of the work area. Not less than five (5) drums or barricades shall be used to form the taper on the shoulder. Drums or barricades shall be spaced approximately 50' centers in an area from 200 feet ahead of the work area to the balance of the work area.

2. The major standard level warning sign sizes may be used on divided streets or highways that are not classified as freeways or expressways.

3. When work is being performed in the lane adjacent to the median on a divided highway an OW-123-48 sign(s) shall be substituted for the OW-122-48 sign(s) and an OW-60D-48 sign(s) shall be substituted for the OW-60C sign(s).

4. The work vehicle shown at the beginning of the work area shall be in place and unoccupied whenever workers are in the work area. This work vehicle shall be removed from the pavement whenever workers are not in the work area. Other protective devices may be used in lieu of the work vehicle shown when approved by the Engineer. The vehicle shall be equipped with a 360° rotating or flashing amber beacon clearly visible a minimum of a ½ mile.

5. The flashing arrow panel shall meet requirements contained in TC-35.10.

6. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. The maximum spacing shall be identical to the channelizing device spacing requirements described in Note 1.

MINIMUM DISTANCE	A	B	C
MAJOR STANDARD	500'	500'	500'
URBAN FREEWAY & EXPRESSWAY	500' TO 1000'	500' TO 1000'	500' TO 1000'
RURAL FREEWAY & EXPRESSWAY	2600'	1600'	1000'

7. Type A flashing barricade warning lights shown on the "Road Work Ahead" and the "Right Lane Closed Ahead" signs are required whenever a night lane closure is necessary.

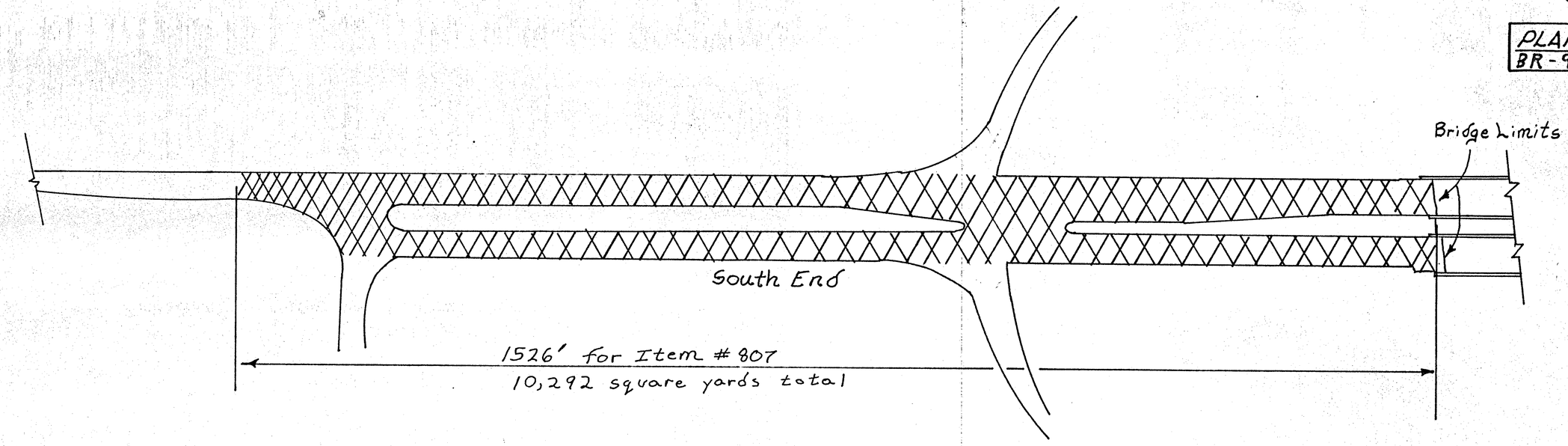
OHIO DEPARTMENT OF TRANSPORTATION

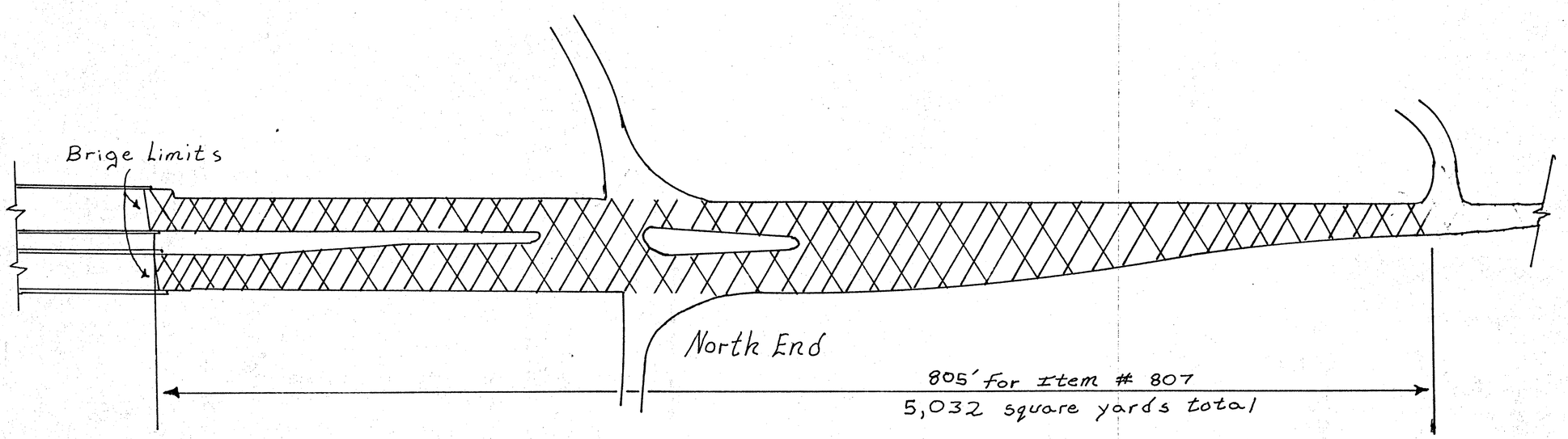
CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY

DATE 2/82

12/12

PLAN NO.
BR-9-88





STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6 BRIDGE DEPARTMENT

PLAN VIEWS

MAD 142-1341 Left & Right

DESIGN	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
REL	REL	REL				