PROJECT 32083)

DESIGN DESIGNATION			
DESCRIPTION	MAH-76-7.01	MAH-80-0.00	TRU-80-0.00
Current ADT (1979)	31,000	62,500	48,000
Design Year ADT(1999)	49,800	100,000	67,200
DHV	7,500	15,000	10,100
D(Directional Distribution)	67%	67%	67%
T(Per Cent B+C Trucks)	29%	26%	26%
V(Design Speed)	70 MPH	70MPH	70MPH

STATE OF OHIO

DEC 18 1980

IR-80-5(34)219

DEPARTMENT OF TRANSPORTATION

MAH-76-7.01, MAH-80-(0.00)(1.69) TRU-80-0.00

CONVENTIONAL SIGNS

STATE LINE
COUNTY LINE
CENTER LINE
FENCE LINE (EXISTING)
FENCE LINE (PROPOSED)
GUARD RAIL (EXISTING)
GUARD RAIL (PROPOSED)
STORM SEWERS & CULVERTS — UNDER 24" — OVER 24"
EXISTING MANHOLES
EXISTING CATCH BASINS
PROPOSED MANHOLES
PROPOSED CATCH BASINS
EXISTING SIGNS
PROPOSED SIGNS

INDEX OF SHEETS

JACKSON TOWNSHIP
AUSTINTOWN TOWNSHIP — MAHONING COUNTY
WEATHERSFIELD TOWNSHIP
LIBERTY TOWNSHIP
HUBBARD TOWNSHIP — TRUMBULL COUNTY
CITY OF GIRARD

LIMITED AC

THIS IMPROVEMENT IS ESPECIALLY TRAFFIC AND HAS BEEN DECLARED FREEWAY BY ACTION OF THE DIRECT WITH THE PROVISIONS OF SEC. 5511 — 1981 SPE

THE STANDARD SPECIFICATIONS O OF TRANSPORTATION INCLUDING CH/ CATIONS LISTED IN THE PROPOSAL

I HEREBY APPROVE THESE PLANS OF THIS IMPROVEMENT WILL NOT REQ THE HIGHWAY AND THAT PROVISIONS OF TRAFFIC WILL BE AS SET FORTH

LOCATION MAP

PORTION TO BE IMPROVED
EXISTING ROAD
INTERSTATE ROUTE
STATE HIGHWAY
UNITED STATES HIGHWAY
PLAN
0 5 10

LINE DATA
See Sheet No. 8.

STATE OF OHIO — REGISTERED PROFESSIONAL ENGINEER

W.K. DeHaven
W.K. DEHAVEN PE
REG. PROF. ENGINEER
NO. 20877
DATE 12/29/76

Revised:
District Four Offices 7/18/79
Revisions Revised 3/81
Revised Revisions' Revised 4/82

48 HOURS BEFORE YOU DIG — Call — 800-362-2764 TOLL FREE — OHIO UTILITIES PROTECTION SERVICE — 811 MUST BE CALLED DIRECTLY

GLAUS, PYLE, SCHOMER, BURNS, & DEHAVEN
AKRON, OHIO — YOUNGSTOWN, OHIO

FILE Nº MAH-80-0.00(3.36) TRU-80-0.00
DATE OF LETTING MAH-76-7.01 19
CONTRACT Nº

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

TC-71.10	4-9-75	GR-2S	2-5-82		
TC-72.70	2-26-82	GR-3A	2-5-82		
BP-5	7-16-81	GR-3B	2-5-82		
BP-11	1-3-75	GR-4	2-5-82		
MC-3	6-1-73	GR-4A	2-5-82		
		GR-6	2-5-82		
TC-35.10	10-3-77				
GR-1	2-5-82	MC-9A	5-1-81		

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

2/25

MAH-76-7.01
MAH-80(0.00)(1.69)
TRU-80-0.00

BEGIN WORK
STA. 367+18

BEGIN PROJECT
STA. 370+32
S.L.M. = 7.01
MAH-76-0701
IR-80-5(34) 219

NOTE: Remove Existing 75' Feather As Per Typical Feather No 3. Construct Butt Joint At Sta. 365+00 As Per Typical Feather No. 3, Sht. 7

MAH-76-8.65 BACK
MAH-80-0.00 AHD.

SUSPEND PROJECT
STA. 519+55.75
S.L.M. 1.19
MAH-80-0119
IR-80-5(34) 219

RESUME PROJECT
STA. 546+29.30
S.L.M. 1.69
MAH. 80-0169
IR-80-5(34) 219

3/4" OPEN GRADED RUBBERIZED ASPHALT CONCRETE FRICTION COURSE
1¼ LATEX MODIFIED CONCRETE AT STRUCTURES

MATCH LINE STA 675+00

SCALE IN FEET
0 500 1000 2000

MAH-80-5.75 BACK
TRU-80-0.00 AHD.

END WORK
STA. 446+00
I.R. 680

NOTE: For Paving Limits See Sheet Nos. 3-4-5

END RESURFACING NORTH BOUND
STA. 429+51.82

END RESURFACING SOUTH BOUND
STA 437+03

BEGIN WORK
STA 409+54
S.L.M. 0.00
MAH-680-0000

STA. 405+64.58 E.B. I 80 =
STA. 0+00 RAMP "C"

STA. 16+75.28 RAMP "C"
STA. 862+35.70 EB I-80

Sta. 398+51.40 WB I 80 =
Sta 0+00 Ramp A

Sta 23+37.47 Ramp A =
Sta 868+53.76 WB I 80

END WORK
STA. 657+86.43
IR-80-5(34)219
END PROJECT
STA. 657+11.43
S.L.M. = 12.33
TRU-80-12.33

NOTE: For Quantities (C) & (D) See Sheet No. 21

No. TYPICAL ON SHEETS 3 AND 4

Rev. 10-5-82
Rev. 3-10-82
Rev. 8-10-81

SCHEMATIC PLAN

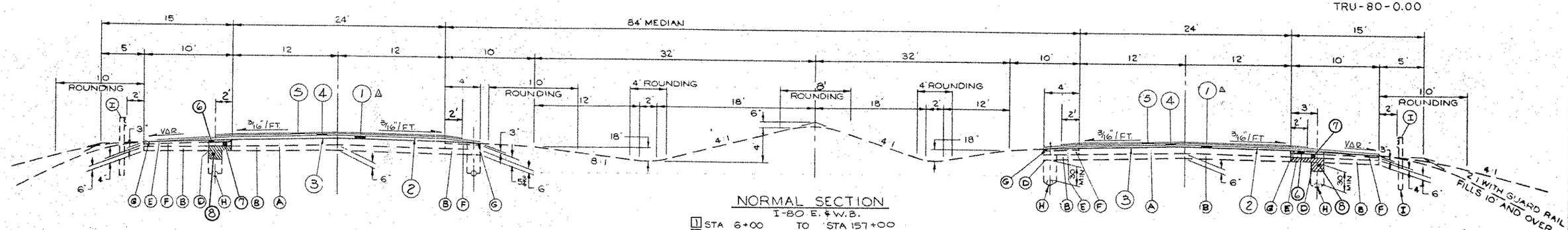
TYPE 848

CALC. BY DRC DATE 12-3-76
CHK'D BY C.A.P DATE 12-17-76
REV. BY W.D.P DATE 6-15-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

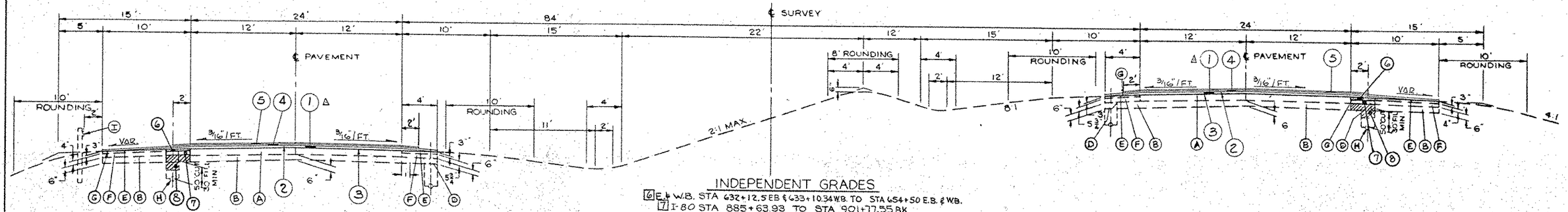
3/29

MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00



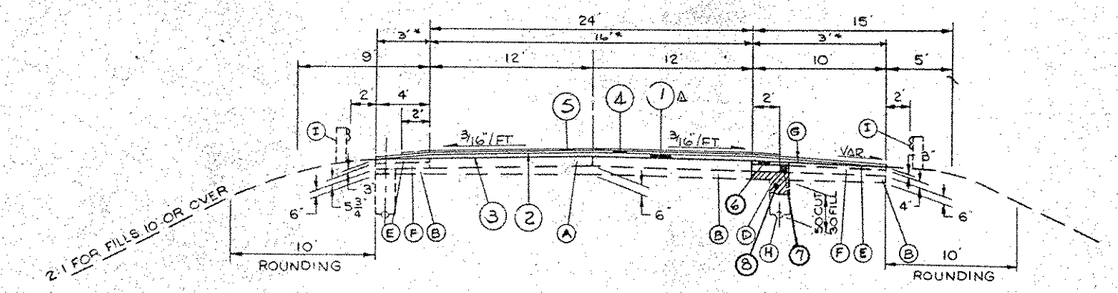
NORMAL SECTION
I-80 E. & W.B.

1. STA 6+00 TO STA 157+00
2. STA 212+75.39 TO STA 237+46.70 Bk.
3. STA 235+49.09 Ahd. To STA 250+98.55 Bk.
4. STA. 259+00.44 Ahd. To STA. 603+00
5. STA. 647+75 To STA. 657+11.43



INDEPENDENT GRADES

6. E.B. & W.B. STA 632+12.5 EB & 633+10.34 WB. TO STA 654+50 E.B. & W.B.
7. I-80 STA 885+63.93 TO STA 901+77.55 BK
8. I-80 STA. 0+00 Ahd. TO STA 6+00
9. I-80 STA 603+00 TO STA. 647+75



INDEPENDENT ROADWAY

10. W.B. I-80 & N.B. I-680 STA. 376+15.43 TO STA. 426+22.18
11. E.B. I-80 & S.B. I-680 STA. 376+15.43 TO STA. 436+28
12. E.B. I-80 & N.B. SR. 11 STA. 862+35.70 TO STA. 883+05.07 BK.
13. W.B. I-80 & S.B. SR. 11 STA. 868+53.76 TO STA. 885+63.93
14. E.B. I-80 STA 157+00 TO STA 212+75.39
15. W.B. I-80 STA 157+00 TO STA 209+18.81 BK

WB I80 & Ramp A STA 0+00 To STA 23+37.47*
EB I80 & Ramp C STA 0+00 TO STA 14+75.28*

16. (STA 23+37.47 Ramp A = STA 868+53.76 WB I80)
17. (STA 14+75.28 Ramp C = 862+95.70 EB I80)

NOTE: FOR LEGEND SEE SHEET NO. 4

FOR FEATHER LIMITS SEE SHT - 5, 29

No. SEE SHEET NO. 2 FOR LOCATION OF TYPICAL

RESURFACING
TYPICAL SECTIONS

Rev. 10-5-82 Rev 3-10-82 Rev. 8-10-81

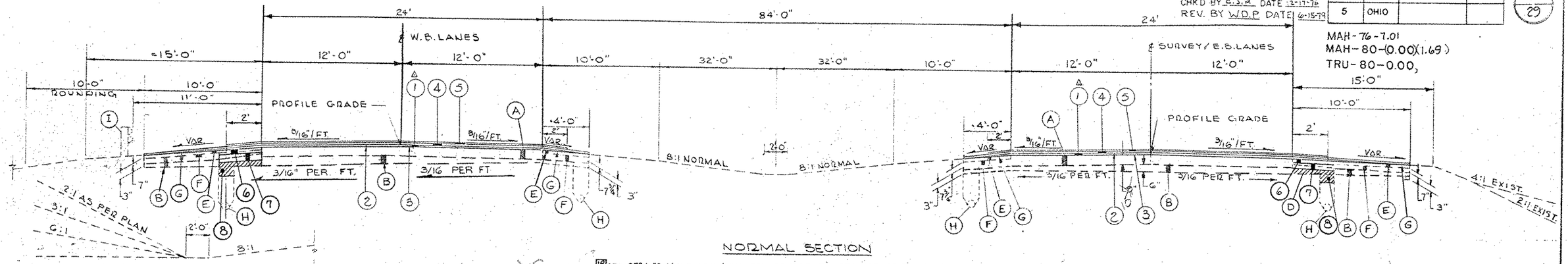
TYPE 848

CALC BY R.R.C DATE 12-7-76
CHK'D BY C.J.B DATE 12-17-76
REV. BY W.D.P DATE 6-15-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

4/29

MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00,



NORMAL SECTION

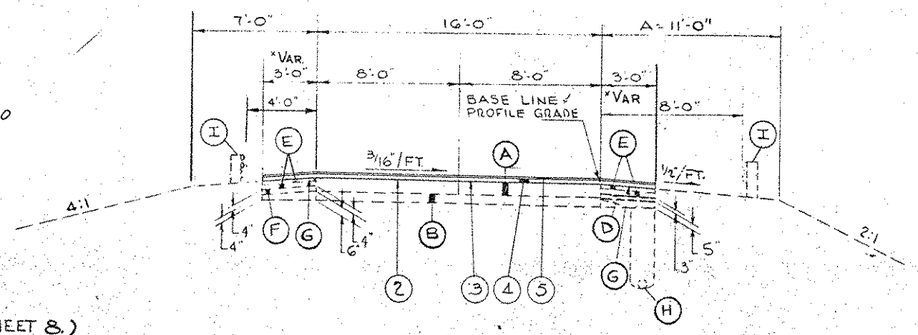
18 STA 373+52.06 WB I 80 ℄ STA 373+05.02 EB TO STA 420+00 Bk EB. ℄ WB.
EB&WB 19 STA 418+60 Ahd. TO STA 520+30.75
20 STA. 546+29.3 To STA. 629+96.80 W.B. ℄ STA. 628+98.96 E.B. (ITEMS ⑤ & ⑧ ONLY OVER EXISTING ASPHALT)
21 STA. 654+29.3 To STA. 675+14.89 Bk. = STA 376+15.43 Ahd.

PROPOSED PAVEMENT
LEGEND

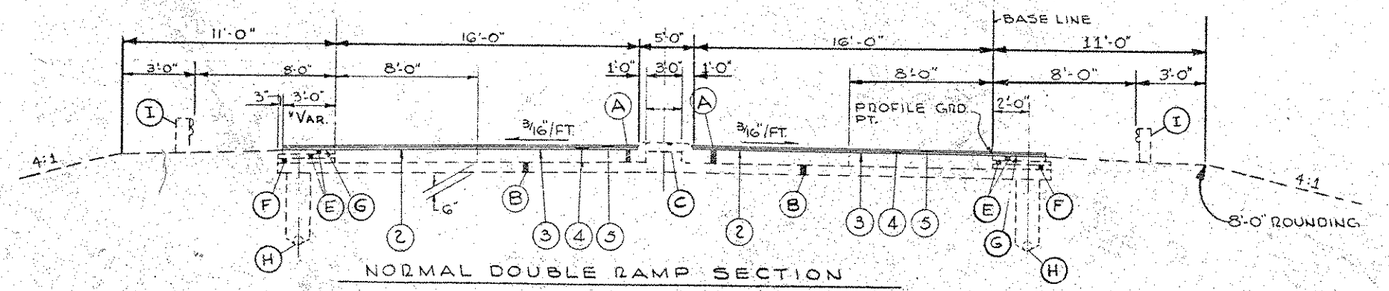
(1) ITEM 848 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
(2) ITEM 848 0" MINIMUM ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20
(3) ITEM 407 TACK COAT, USING SS 924, AS PER PLAN APPLIED AT THE RATE OF 0.10 GAL. PER S.Y.;
(4) ITEM 848 1½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
(5) ITEM SPECIAL ¾" OPEN GRADED ASPHALT CONCRETE FRICTION COURSE, RUBBERIZED (SEE NOTE IN PROPOSAL)
(6) ITEM 301 3" BITUMINOUS AGGREGATE BASE
(7) ITEM 310 VARIABLE DEPTH SUBBASE, Type I, Grading A
(8) ITEM SPECIAL DRAINAGE CONNECTION. (FOR DETAIL SEE SHEET 8.)

Δ (1) THE 1¾" 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2 SHALL BE TAPERED FROM A DEPTH OF 1¾" AT THE EDGE OF PAVEMENT TO A 0" DEPTH AT THE EDGE OF THE PAVED SHOULDER

No. SEE SHEET NO. 2 FOR LOCATION OF TYPICAL



NORMAL RAMP SECTION



NORMAL DOUBLE RAMP SECTION

TYPICAL SECTIONS

EXISTING PAVEMENT
LEGEND

(A) REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
(B) VARIABLE DEPTH SUBBASE
(C) CONCRETE MEDIAN
(D) SPECIAL DRAINAGE CONNECTION, USING NO. 8 AGGREGATE
(E) BITUMINOUS AGGREGATE BASE
(F) VARIABLE DEPTH AGGREGATE BASE
(G) SEAL COAT BITUMINOUS MATERIAL
(H) 6" UNDERDRAIN
(I) GUARD RAIL TYPE 4
* VARIABLE WIDTH AT TURNPIKE

This is existing typical for Mainline.

RESURFACING
TYPICAL SECTIONS
Rev. 10-5-82 Rev. 8/11/82 Rev. 8-10-81

FHWA REGION	STATE	PROJECT NO.	FUNDS	SHEET
5	OHIO			5 / 29

MAH. 76-7.01 .
MAH-80- (0.00)(1.69)
TRU-80- 0.00

FEATHER AREAS

TYPE	LOCATION	BEGIN STATION
3	Left & Right	369+00
	Turnpike Interchange *	
2	Ramp "E"	458+33.24
2	Ramp "B"	475 +06.23
2	Ramp "F"	476 +09.93
2	Ramp "A"	491 + 82.45
5	Right And Left	519 + 55.75
6	Right And Left	545 + 79.30
1	Ramp "B" S.R.46 Interchange	15+ 77.43
1	Ramp "E" S.R.46 Interchange	17+50.85
1	Ramp "D" S.R.46 Interchange	3 +53.03
1	Ramp "D," S.R.46 Interchange	E.Pav't. S.R.46
1	Ramp "C" S.R.46 Interchange	14+02.28
1	Ramp "A" S.R.46 Interchange	E.Pav't. S.R.46
	S.R. 46 Interchange	
2	Ramp "A"	16+ 62.68
2	Ramp "C"	4+ 53.07
2	Ramp "E"	4+ 53. 07
2	Ramp "B"	4+53 .07
2	Ramp "D"	16+98. 81
	I-680, S.R. 11 Interchange	
4	Ramp "G"	27+ 90.65
4	Ramp "E"	4+ 58
4	Ramp "B"	10+ 52
4	Ramp "D"	16+ 10
4	South Bound I-680	412 + 47.51
4	South Bound I-680	436+28
4	North Bound I-680	417 +84.17
4	North Bound I-680	421 +56.01
4	South Bound SR11 & WB I-80	862 + 25
4	North Bound SR11 & EB I-80	855 + 77.25
	S.R. 422 Interchange	
1	Ramp "A"	8 + 14
1	Ramp "B"	0 + 99.5
1	Ramp "C"	11 + 22
1	Ramp "D"	1 + 19
	Ramp "A"	**See Sht 29**
2	Ramp "B"	3 + 26
	Ramp "C"	**See Sht 29**
2	Ramp "D"	11 + 37
	Turnpike Inter. Cont *	
10	Ramp "A"	466+ 63 95
1	Ramp "B"	465 + 01.80
1	Ramp "E"	467+ 98.95
1	Ramp " F"	484+ 52

TYPE	LOCATION	BEGIN STATION
	SR11 Inter	
4	Ramp A	172 + 83
4	Ramp F	175 + 34.79
4	Ramp C	182+ 74.47
4	Ramp D	193+ 95
4	Ramp H	200 + 50.17
	Ramp B	See Sht. 29
	Liberty-Jones Inter.	
1	Ramp J	215+36.37
2	Ramp J	205+ 11.42
	Belmont Ave. Inter.	
2	Ramp K	230+61
2	Ramp L	238+ 16.58
2	Ramp M	233+ 57
1	Ramp K	239+ 04.23
1	Ramp K	225+ 94.83
1	Ramp L	226+ 34. 83
1	Ramp M	223+ 48.13
4	Ramp "A" Weigh Sta.	16+ 92
4	Ramp "B" Weigh Sta.	33+ 18. 48
	U.S.R.62 & S.R.7 Inter.	
1	Ramp "A"	26+ 62.60
1	Ramp "B"	28+ 01.82
1	Ramp "B" L. Turn Lane	26+ 62.60
1	Ramp "C"	23+ 03.04
1	Ramp "D"	31 + 12.40
1	Ramp "E"	E. Pav't. Hubbard Sharon Rd.
2	Ramp "A"	See Sht 29
2	Ramp "B"	See Sht 29
2	Ramp "C"	9+48.47
2	Ramp "D"	See Sht 29
2	Ramp "E"	27+61
	Rest Area	
4	Ramp "G"	6+00
4	Ramp "H"	22+ 93. 21
4	Left And Right	657+ 11.43

TWO-COURSE TYPICAL

LOCATION	STATION FROM	STATION TO
S.R. 46 Interchange		
Ramp "C"	5+03.07	14+02.28
Ramp "A"	0+82	16+62.68
Ramp "D"	0+70	2+85.89
Ramp "D"	4+03.03	16+98.81
Ramp "E"	5+03.07	17+50.85
Ramp "B"	5+03.07	15+77.43
S.R. 422 Interchange		
Ramp "A"	1+01	8+14
Ramp "B"	1+49.5	10+26.04
Ramp "C"	5+00	11+22
Ramp "D"	1+69	11+37
Liberty-Jones Interchange		
Ramp "J"	205+61.42	215+36.37
Belmont Ave. Interchange		
Ramp "K"	231+11	239+04.23
Ramp "L"	226+84.83	238+16.58
Ramp "M"	223+98.13	233+57
U.S.R.62 & S.R.7 Interchange		
Ramp "A"	15+90	26+62.60
Ramp "C"	9+98.47	23+03.04
Ramp "B"	14+35.78	28+01.82
Ramp "D"	16+48.47	25+7781
Ramp "E"	19+00.00	27+61
Turnpike Interchange		
Ramp "A"	466+88.95	491+82.45
Ramp "B"	465+51.80	475+06.23
Ramp "E"	458+83.24	467+98.95
Ramp "F"	476+59.93	484+52

Note: For Feathering At Bridges See Sht. 29

Rev. 10-5-82
Rev. 3-10-82
Rev. 8-10-81

PAVING LIMITS

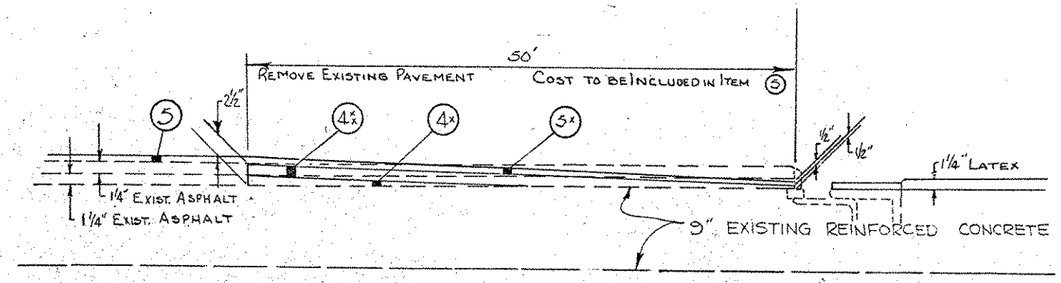
PAVEMENT DETAILS

CALC. BY L.S. DATE 7-3-79
CHK'D BY W.D.P DATE 7-5-79

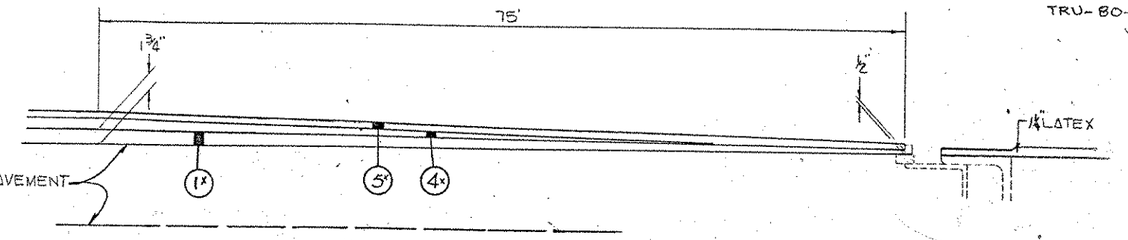
FHWA REGION	STATE	PROJECT NO	FUNDS
5	OHIO		

6-29

MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00



TYPICAL FEATHER No. 6



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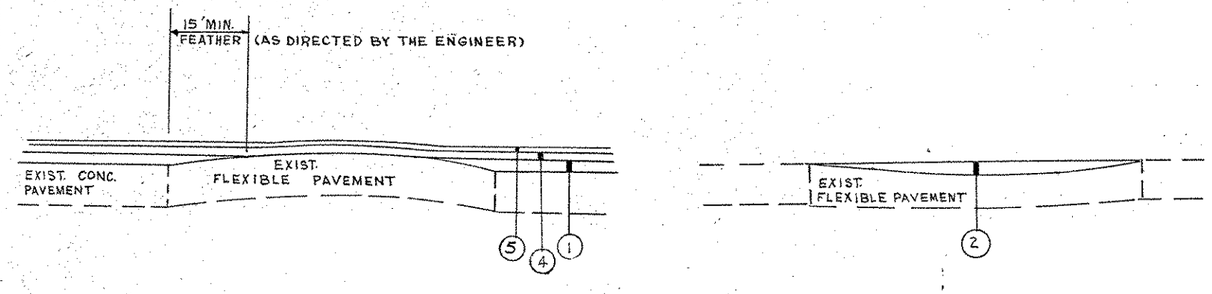
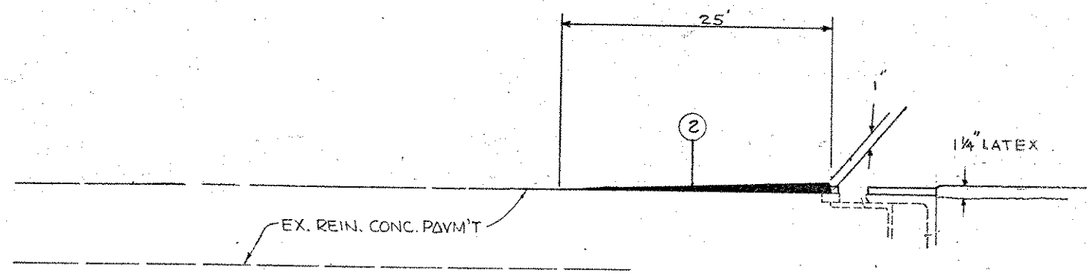
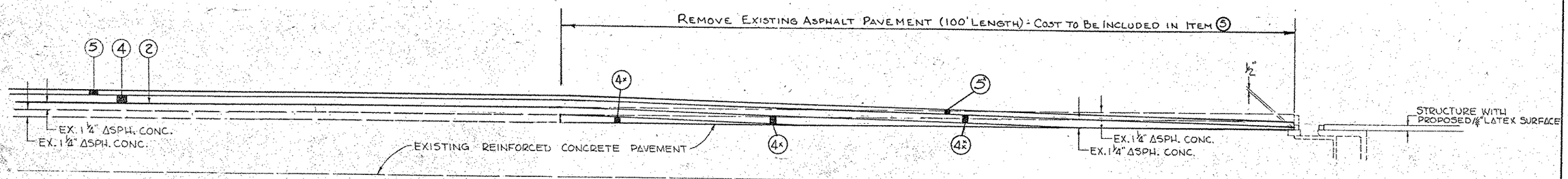


TYPICAL @ EXISTING FLEXIBLE PATCHES



TYPICAL FEATHER NO. 8



TYPICAL FEATHER NO. 7

(4x) SAME AS ITEM (4) EXCEPT VARIABLE DEPTH 1¼" TO ½"
(4x) SAME AS ITEM (4) EXCEPT VARIABLE DEPTH 1¼" TO 0"
(1x) SAME AS ITEM (1) EXCEPT VARIABLE DEPTH 1¾" TO ½"
(5x) SAME AS ITEM (5) EXCEPT VARIABLE DEPTH ¾" TO ½"

⊗ VERTICAL AND HORIZONTAL FACE OF THE OPEN GRADED ASPHALT FRICTION COURSE SHALL BE COATED AS PER 401.15

LEGEND

(1) ITEM 848 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
(2) ITEM 848 0" MINIMUM ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20
(9) ITEM 848 ¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20
(4) ITEM 848 1¼" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
(5) ITEM SPECIAL ¾" OPEN GRADED ASPHALT CONCRETE FRICTION COURSE, RUBBERIZED (SEE NOTE IN PROPOSAL) Rev. 10-5-82 Rev. 5/10/82 Rev. 8-10-81 Revised 2/81

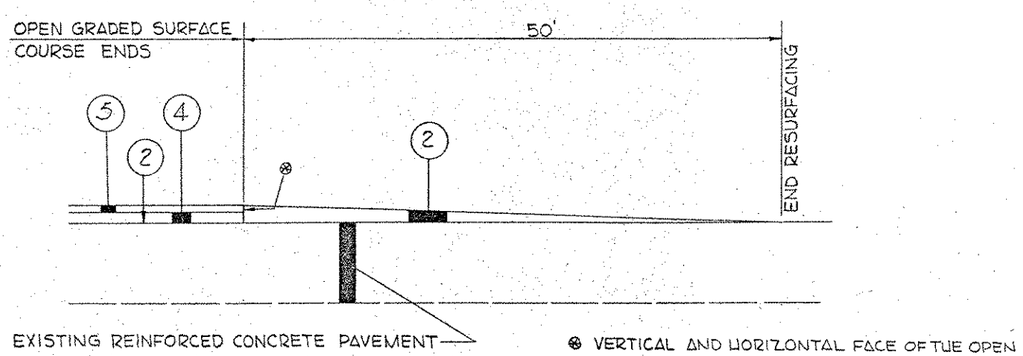
PAVEMENT DETAILS

CALC. BY LS DATE 7-3-79
CHK'D BY WDP DATE 7-6-79

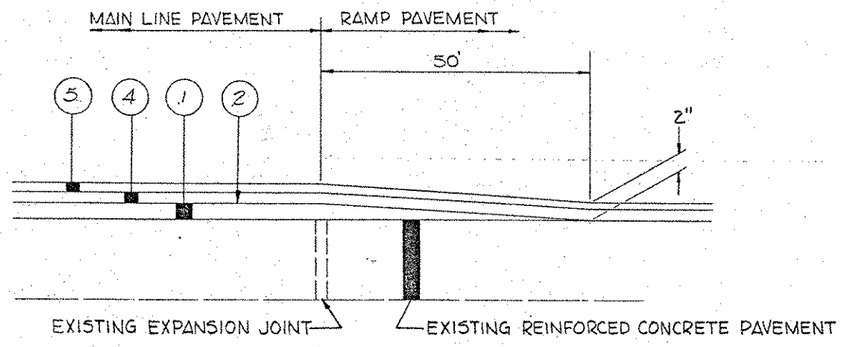
FHWA REGION	STATE	PROJECT NO	CONTR.
5	OHIO		

7 / 29

MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

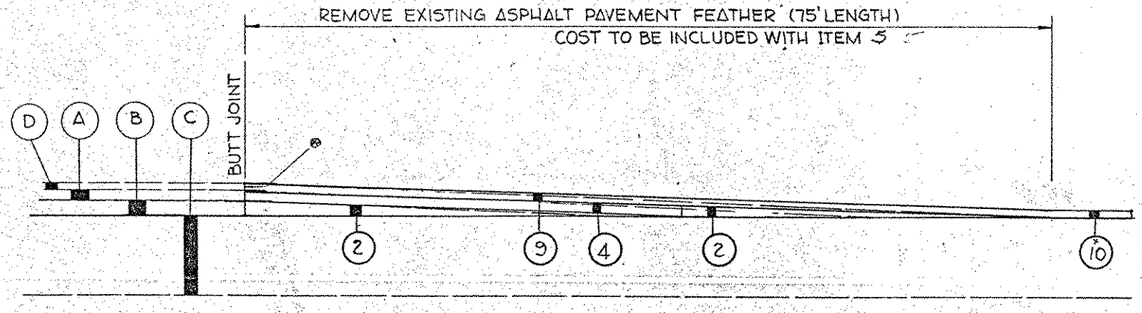


⊛ VERTICAL AND HORIZONTAL FACE OF THE OPEN GRADED ASPHALT FRICTION COURSE SHALL BE COATED AS PER 401.15



TYPICAL FEATUER NO. 2

TYPICAL FEATHER NO. 1



* STA. 365+75 TO MAH-76-0761

TYPICAL FEATHER NO. 3

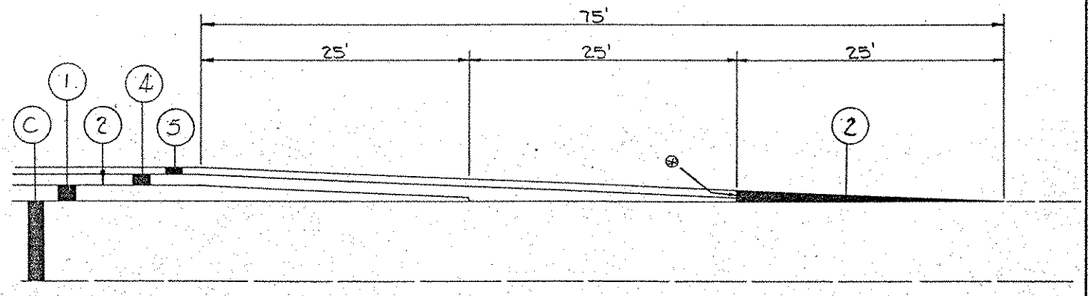
LEGEND

EXISTING PAVEMENT

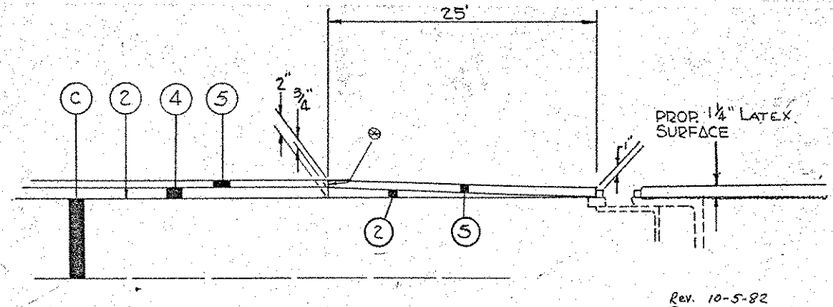
- (A) 1½" 404 ASPHALT CONCRETE
- (B) 1¾" 402 ASPHALT CONCRETE
- (C) REINFORCED CONCRETE
- (D) ¾" OPEN GRADED ASPHALT FRICTION COURSE

PROPOSED PAVEMENT

- (5) ¾" OPEN GRADED ASPHALT FRICTION COURSE, RUBBERIZED (SEE NOTE IN PROPOSAL)
- (4) 1¼" 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
- (1) 1¾" 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20
- (2) 0" MINIMUM 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20
- (9) VAR. 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20
- (10) 1" 848 ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, AC-20



TYPICAL FEATHER NO. 4



TYPICAL FEATHER NO. 10

Rev. 10-5-82
Rev. 2-5-82
Rev. 8-10-81
Revised 2/81

FHWA REGION	STATE	PROJECT NO.	FUNDS
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MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

GENERAL NOTES

UNDERDRAIN FLUSHING AND RECONDITIONING

1. This item shall consist of the following work.
   A) Excavate to expose the subbase and underdrain trench as shown in the typical detail.
   B) Remove and dispose of subbase and any contaminated backfill over the underdrain, as directed by the Engineer
   C) Expose the first tile at the upper end of each underdrain run. The approximate locations may be obtained from the original construction plans. (See original construction plan note on Sheet No. 9.
   D) Furnish and place the special drainage connection using No8 or No9 aggregate in conformity with the typical detail as shown on this sheet. Payment for the operations described above shall include all labor, tools, equipment and materials incidental to completing the item and shall be made for "Lineal Feet - Item Special Drainage Connection.

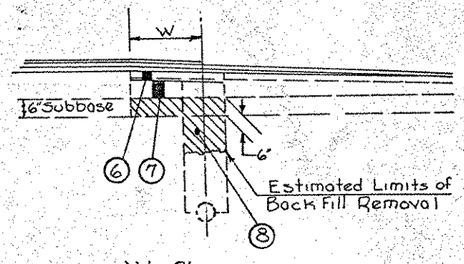
2. Item Special - Water (M-Gals) After the exposed tile (See 1.C) has been removed the line shall be flushed with water using a minimum size hose of 2" and a maximum volume of water calculated at 1½ gallons per lineal foot of underdrain line. The flushing operation may be stopped at any time by the Engineer if field observations show the line to be either plugged or operating effiently. In the event the line is found to be plugged or flow restricted, it will be the responsibility of the Contractor to locate the restriction by rodding or other similar method approved by the Engineer. The cost of rodding the line is to be included in the unit bid price for water. The method of measurement for the Item Special - Water, will be in accordance with specification Section 616.03 and payment will be per thousand gallons (M-Gal) used.

3. Where a section of tile is found to be broken or plugged it is to be isolated as noted above by rodding. The section shall be replaced at approximately the line grade in its entirety with 6" tile in accordance with specification Section 605.03. The cost of removal of the existing tile is considered to be incidental to this work and extreme care is to be exercised in not damaging or removing any more tile than is necessary. Measurement and payment for this work will be as per Section 605.06 and 605.07 respectively.

4. After all repairs have been made to a line, a final flushing will be performed to ascertain the line is functioning properly, after which the special drainage connection shall be constructed.

The following estimated quantities are provided in the Summary for this work.

Item Special Drainage Connection	160,087.00 LIN. FT.
Item Special Water	240 M-GALS.
Item 605 6" Unclassified Pipe Underdrains	4,000 LIN. FT.



W = 2'
FROM STA. 455+40 TO STA. 675+74.89
FROM STA. 89+02 TO STA. 486+82 = 12760.25+7686.78+13448.83+13124.31+43202.12=90822.17 LIN. FT.

W = 3'
FROM STA 376+15.43 TO STA. 675+74.89
FROM STA 486+82 TO STA. 657.67 = 37357.97 + 32262 = 69619.97 LIN. FT.

TYPICAL DETAIL SPECIAL DRAINAGE CONNECTION

UNDERDRAIN FLUSHING CON'T.

5. The open underdrain trench shall be adequately protected with drums and barricades at all times.
   Placement of proposed subbase and base material shall follow as closely as possible behind the excavation operations. The length of underdrain trench which is open at any one time shall be held to a minimum and shall at all times be subject to approval of the Engineer.

SPECIAL SHOULDER PREPARATION

In certain areas of this Project, the existing paved shoulder has deteriorated or has heaved to an elevation above the pavement. Resurfacing of these areas shall not be started until the following work is performed.

1. Where the existing paved shoulder has deteriorated and loose material is evident, the loose material shall be removed by the Contractor, the voids remaining shall be primed and patched with 402 materials as directed by the Engineer. The cost of performing the above work shall be included in the price bid for Item 402 Asphalt Concrete For Berm Repair (C.Y.)
2. Where the existing paved shoulder has heaved the Contractor shall attempt to compact the shoulder or if this fails, to regrade the shoulder to a slope of approximately ¾" per foot. At least 6" of existing aggregate base should remain after regrading. If inadequate depth of aggregate remains the area should be undercut to the extent necessary to pave 3" of 402 Asphalt Concrete with a transverse slope of ¾" per foot. After performing the above work, the existing paved shoulder shall be resurfaced, as per Plan. The cost of the above work shall be included in the price bid for Item Special Grader Time, Item Special Rubber Tired Rollers or Item 402 Asphalt Concrete For Berm Repair.

The following quantities are provided to perform the work outlined in the description:

402	100	Cu.Yds. Asphalt Concrete For Berm Repair
Special	50	Hours Grader Time
Special	50	Hours Rubber Tired Rollers (As Per Specification 401.11)

848, ASPHALT CONCRETE
On this project, item 848, table 2-2, properties of mixtures shall be for heavy traffic volumes.

TEMPORARY CONCRETE BARRIER
Temporary concrete barrier is available for the Contractor's use and is stored in the ODOT Maintenance yard at Bailey Rd. Arrangements for use of barrier should be made with the Operations Engineer in District 4.

ITEM 845 Latex Modified Concrete, , as per plan.
The Contractor shall make available to the Project Engineer sufficient spray paint to outline removal areas. The cost of the paint shall be included in Item 845 Latex Modified Concrete, , as per plan. Coarse aggregate used shall be as per 703.02 Crushed Carbonate Stone.

WEARING COURSE REMOVED
An estimated quantity of 5000 S.Y. of Wearing Course Removed has been carried to the General Summary for use as directed by the Engineer. The thickness may vary from 0" to 3"±, and in all locations, the wearing course shall be removed down to the existing concrete pavement.

(6) Item 301 3" Bituminous Aggregate Base

(7) Item 310 Variable Depth Subbase, *Type I, Grading A*

(8) Special Drainage Connection, using No. 8 or No. 9 aggregate conforming to the requirements of 703.04 except that percentage of fractured pieces shall not apply.

LINE DATA

BEGIN WORK:

Sta. 361+18.00 ℄ I-76 To Sta. 545+79.30 ℄ I-80	17,861.30 Lin. Ft.
Sta. 545+79.30 ℄ I-80 To Sta. 675+74.89 ℄ I-80 Bk.	12,995.59 Lin. Ft.
Sta. 376+15.43 ℄ E.B. Ahd. To Sta. 405+64.58 ℄ E.B. Bk.	2,949.15 Lin. Ft.
Sta. 0+00 ℄ Ramp "C" Ahd. To Sta. 16+75.28 ℄ Ramp "C" Bk.	1,675.28 Lin. Ft.
Sta 862+55.70 ℄ N.B. Ahd. To Sta. 901+77.55 ℄ I-80 Bk.	3,881.85 Lin. Ft.
Sta. 0+00 ℄ I-80 Ahd To Sta. 657+86.43 ℄ I-80 End Work	65,786.43 Lin. Ft.
	105,149.60 Lin. Ft.
Add For Equation "A"	+ 140.00 Lin. Ft.
Deduct For Equation "B"	- 3.20 Lin. Ft.
Deduct For Equation "C"	- 258.86 Lin. Ft.
Add For Equation "D"	+ 15.01 Lin. Ft.
Deduct For Equation "E"	- 361.58 Lin. Ft.
Add For Equation "F"	+ 197.61 Lin. Ft.
Deduct For Equation "G"	- 801.89 Lin. Ft.
TOTAL DEDUCTION	-1072.91 Lin. Ft.
LENGTH OF WORK	104,076.69 Lin. Ft. OR 19.711 MILES

WORK ADDITIONS:

I-680 Sta. 409+54 ℄ S.B. To Sta. 446+00 ℄ S.B.	3,646.00 Lin. Ft.
LENGTH OF WORK ADDITIONS	3,646.00 Lin. Ft.
TOTAL LENGTH OF WORK	107,722.69 Lin. Ft. OR 20.402 MILES

Equation "A"	Sta. 420+00 Bk. = Sta. 418+60 Ahd. ℄ I-76
Equation "B"	Sta. 540+08.49 Bk. = Sta. 560+11.69 Ahd. ℄ I-80
Equation "C"	Sta. 883+05.07 ℄ N.B. Bk. = Sta. 885+63.93 ℄ I-80 Ahd.
Equation "D"	Sta. 112+81.37 Bk. = Sta. 112+66.36 Ahd. ℄ I-80
Equation "E"	Sta. 209+13.81 ℄ W.B. Bk. = 212+75.39 ℄ I-80 Ahd.
Equation "F"	Sta. 237+46.70 Bk. = Sta. 235+49.09 Ahd ℄ I-80
Equation "G"	Sta. 250+58.55 Bk. = Sta. 259+00.44 Ahd. ℄ I-80

BEGIN PROJECT

Sta 370+32 ℄ I-76 To Sta 519+55.75 ℄ I-80	14,923.75 Lin. Ft.
Sta. 546+29.30 ℄ I-80 To Sta. 632+35 ℄ I-80	8,605.70 Lin. Ft.
Sta. 632+35 ℄ I-80 To Sta. 675+74.89 ℄ I-80 Bk.	4,339.89 Lin. Ft.
Sta 376+15.43 ℄ E.B. Ahd. To Sta. 405+64.58 ℄ E.B. Bk.	2,949.15 Lin. Ft.
Sta. 0+00 ℄ Ramp "C" Ahd. To Sta. 16+75.28 ℄ Ramp "C" Bk.	1,675.28 Lin. Ft.
Sta. 862+55.70 ℄ N.B. Ahd. To Sta. 901+77.55 ℄ I-80 Bk.	3,881.85 Lin. Ft.
Sta. 0+00 ℄ I-80 Ahd. To Sta. 657+11.43 ℄ I-80	65,711.43 Lin. Ft.
	102,087.05 Lin. Ft.
Add for Equation "A"	+ 140.00 Lin. Ft.
Deduct for Equation "B"	- 3.20 Lin. Ft.
Deduct For Equation "C"	- 258.86 Lin. Ft.
Add For Equation "D"	+ 15.01 Lin. Ft.
Deduct For Equation "E"	- 361.58 Lin. Ft.
Add For Equation "F"	+ 197.61 Lin. Ft.
Deduct For Equation "G"	- 801.89 Lin. Ft.
TOTAL DEDUCTION	1072.91 Lin. Ft.
TOTAL LENGTH OF PROJECT	101,014.14 Lin. Ft. OR 19.131 MILES

CALC. BY W.D.P. DATE 7-79
CHK'D. BY G.L.B. DATE 7-79
REV'D BY G.L.B. DATE 3-81 Rev. 10-5-82

Rev. 4-4-83 Rev. 10-28-82 Rev. 3-82 Rev. 8-10-81

GENERAL NOTES AND LINE DATA

FHWA REGION	STATE	PROJECT NO.	FUNDS
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MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

GENERAL NOTES

MOBILIZATION, AS PER PLAN

The Contractor shall provide a suitable Field Office having a minimum of 800 Sq. Ft. of floor space. The Field Office shall not be located within the L/A or R/W limits of I-80, I-76, I-680 or S.R. 11. *The Field Office shall be in accordance with 619.01 & 619.02. Payment for the above shall be included in the lump sum price bid for item 624 Mobilization, as per plan.*

ESTIMATED QUANTITIES

Specific locations and usage of Estimated Quantities set up on this Plan to be used "as directed by the Engineer" shall be made a matter of record by incorporation into the final change order governing completion of this Project.

Estimated quantities of material shall not be ordered for delivery to the Project unless authorized by the Engineer.

ORIGINAL CONSTRUCTION PLANS

This Project includes Construction Projects MAH-80S-7.01/80-2.30, MAH-80-3.37, MAH/TRU-80-6.30-0.00, TRU-80-1.55, TRU-80-3.15 TRU-80-4.73 and TRU-80-8.90 with copies of the plans on file in the District 4 Office, 705 Oakwood Street, Ravenna, Ohio, 44266.

PROJECT STATIONING

The stationing shown on these plans is stenciled into the existing pavement as detailed in the specifications for Item 451.

MATERIAL AND EQUIPMENT STORAGE

For safety purposes, no material or equipment shall be stored or parked in the median or within fifty (50) feet of the outside edge of pavement unless behind guard rail.

ITEM SPECIAL CRACK SEALING

All open cracks and joints in the existing pavement shall be cleaned and sealed. This work shall commence on a section of the road just prior to the application of the 407 Tack Coat.

The cracks shall be cleaned by forced air using a minimum 100 PSI air pressure and with a hooking device to remove all loose material. Immediately after cleaning, the cracks shall be sealed using hot applied joint sealer, 705.04 - The joint sealer shall be protected from traffic by methods approved by the Engineer.

Payment for all the above shall be at the unit price bid per pound for Item Special, Crack Sealing. The following estimated quantity is provided in the Summary to be used as directed by the Engineer.

ITEM SPECIAL CRACK SEALING 110,000 Lbs.

STEAM BOILER SLAG

The use of Steam boiler slag, meeting the grading requirements of Supplemental Specification 901, for Item 603 Bedding and Backfill and Item 605 Underdrain Backfill shall be allowed on this Project. If steam boiler slag is used there shall be no increase in cost to the Project.

EMERGENCY TELEPHONE NUMBERS

The following Telephone Numbers can be used in case of an emergency. These Agencies will provide information relating to chemicals.

1. Chemical Transportation Emergency Center
   1-800-424-9300

2. Environmental Protection Agency Hot Line
   1-800-282-0272

STAGING AND STORAGE AREAS

No private vehicles (belonging to the Contractor's Employees and to O.D.O.T. personnel permnantly assigned to the Project) shall be parked within the limits of the highway project. All parking will be done at the approved Contractor's staging areas. The Contractor will be responsible for providing transport vehicles to transport personnel from the staging areas to the work site.

ITEM 404 BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC

A quantity of 1000 Co.Yds. of 404 Bituminous Concrete for maintaining traffic shall be provided for use in maintaining the existing pavement prior to resurfacing, as directed by the Engineer.

REMOVAL OF CURB

In areas where a partial length of curb is to be removed, the curb shall be removed at a construction joint if the joint is located within two feet of the station where termination or start of the removal is called for.

If a joint is not available for use, the concrete curb shall be sawed with a suitable power saw. The cut shall be a clean smooth cut perpendicular to the run of the curb. Any additional cost in connection with this operation shall be included in the unit price bid for the pertinent 202 Curb Removed Item.

BASE REPLACEMENT FOR CURB REMOVAL

Where existing curb is removed the trench shall be replaced with Item 301 compacted in 3 inch layers up to an elevation even with the surrounding pavement or berm areas. The Contractor will be paid for refilling a trench width of no greater than 24 inches.

Payment for the above work shall be included in the price bid for Item 301. The following quantity is carried to the General Summary for this work.

Item 301 Bituminous Aggregate Base 530 Co.Yds.

ITEM SPECIAL PARTIAL DEPTH PAVEMENT JOINT REPAIR

A quantity of 1700 Sq.Yds. of special partial depth pavement joint repair shall be provided for use as directed by the Engineer. All work shall be done in accordance with the Proposal Note on Partial Depth Joint Repair. The depth of pavement removal shall be variable but not more than 2".

ITEM SPECIAL PAVEMENT SAWING

A quantity of 21,000 Lin. Ft. Special Pavement Sawing shall be provided for use as directed by the Engineer.

PROFILE CORRECTION

An estimated quantity of 9850 Cu.Yds. of Item 848 Asphalt Concrete Intermediate Course Type 1 has been included in the General Summary for profile correction. Quantity to be used as directed by the Engineer. This quantity has been carried to the General Summary from Sht. 19.

UNDERCUTTING SUBGRADE AND SUBBASE

In pavement replacement areas, where directed by the Engineer the Contractor shall undercut the subgrade and subbase to the depth required by the Engineer, and backfill with Item 310. Broken pavement for compacted backfill may be used as directed by the Engineer. Aggregate drains shall be placed at each undercut area.

The following quantities have been carried to the General Summary for use with this item.

Item 310 Subbase	600 Cu.Yd.
Item 605 Aggregate Drain	1000 Lin. Ft.

ITEM SPECIAL-STABILIZING CONCRETE PAVEMENT

This item of work shall consist of filling voids beneath existing concrete pavement by the mud jacking method in accordance with supplemental specification 813 except that the elevation of the pavement shall not be corrected.

Stabilization shall be done prior to the installation of any new underdrains and pavement repairs or replacement.

Traffic shall be prohibited from using the affected lane for a twenty-four hour period immediately following the performance of Item Special-Stabilizing Concrete Pavement.

An estimated quantity of 10,000 Sq.Yd. of Item Special-Stabilizing Concrete Pavement has been carried to the General Summary for use as directed by the Engineer.

COOPERATION BETWEEN CONTRACTORS

The Contractor shall be advised that other projects may be ongoing in areas immediately adjacent to the project limits of this project. If work is underway on an adjacent project or projects, the Contractor shall schedule his work so as to cause a minimum of delay or conflict with the adjacent project or projects.

ITEM 605 AGGREGATE DRAINS

A quantity of 1500 Lin. Ft. of Item 605 Aggregate Drains shall be provided for use as directed by the Engineer.

GUARD RAIL REPLACEMENT

No hazard shall be left unprotected except for the actual time necessary to remove, grade, and reinstall guardrail in a continuous operation. The removal of all guard rail shall at all times be as directed by the Engineer. No guardrail shall be removed until replacement material is on the site, ready for installation. Failure to comply with this requirement shall be deemed sufficient cause to order work suspended on this project until such time that the Engineer is assured of said compliance.

ITEM 202 PLOWABLE MARKERS REMOVED FOR STORAGE

Plowable markers shall be removed in a manner that prevents damage to the castings. All depressions caused by removal of the markers shall be filled with 848 to the existing road surface prior to resurfacing. Removed markers are to be stored at the O.D.O.T. Brookfield outpost. All costs to be included in the contract price bid for Item 202 Plowable Markers Removed For Storage. The following quantity is provided in the General Summary.

ITEM 202 PLOWABLE MARKERS REMOVED FOR STORAGE 100 EACH

CALC BY WDP DATE 7-79
CHK'D BY GLB DATE 7-79
REV'D BY GLB DATE 3-81

Rev. 10-5-82
Rev. 3-12-82
Rev. 8-10-81

GENERAL NOTES

Calc By G.L.B. 3/82
Chk By F.J. 3/82

FHWA REGION	STATE	PROJECT NO.	FUNDS
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MAH.76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

ITEM SPECIAL - SAWING AND SEALING TRANSVERSE JOINTS

THIS WORK SHALL CONSIST OF MAKING A SAW CUT TRANSVERSELY ACROSS THE 848 TYPE 2 INTERMEDIATE COURSE AND SEALING THIS TRANSVERSE JOINT. THE INTENT OF THIS WORK IS TO ESTABLISH A WEAKENED PLAN JOINT TO CONTROL REFLECTIVE CRACKING IN THE NEWLY INSTALLED 848 ASPHALT CONCRETE.

CONSTRUCTION METHODS - SAWING JOINTS

THE SAW CUT SHALL BE MADE DIRECTLY OVER THE EXISTING TRANSVERSE JOINT IN THE UNDERLYING CONCRETE PAVEMENT. THE EXISTING JOINT SHALL BE PROPERLY MARKED BY THE CONTRACTOR SO THE SAWED JOINT MAY BE PERFORMED AT THE SAME LOCATION. THE ASPHALT CONCRETE SHALL HAVE AGED SUFFICIENTLY TO ALLOW A CLEAN CUT TO BE MADE AND TO WITHSTAND THE ERODING EFFECTS OF THE SAW OR OTHER CUTTING DEVICE.

THE SAW CUT SHALL BE MADE WITH AN APPROVED POWER DRIVEN SAW. THE SAW CUT SHALL BE 1/4"+1/16" WIDE BY 1 1/2" DEEP. THE SAW CUT SHALL BE MADE WITH AN ABRASIVE BLADE AND SAWN DRY OR WITH A DIAMOND BLADE AND SAWN WET.

THE COMPLETED CUT SHALL EXTEND IN A STRAIGHT LINE TRANSVERSELY ACROSS THE PAVEMENT TO A POINT TWO FEET BEYOND THE EDGE OF THE UNDERLYING CONCRETE PAVEMENT.

UPON THE SATISFACTORY COMPLETION OF EACH CUT, IT SHALL BE SEALED WITH HOT RUBBER ASPHALT JOINT SEALER.

CONSTRUCTION METHODS - SEALING JOINTS

THE SAWED JOINTS SHALL BE SEALED IMMEDIATELY AFTER THE CUT HAS BEEN MADE. TRAFFIC SHALL NOT BE ALLOWED TO KNEAD TOGETHER OR DAMAGE THE SAWED JOINT. EACH JOINT SHALL BE THOROUGHLY CLEAN AND DRY PRIOR TO PLACEMENT OF THE SEALING COMPOUND. CLEANING SHALL BE PERFORMED BY BLOWING OUT ALL DIRT, DUST OR DELETERIOUS MATTER THAT MAY HAVE ACCUMULATED IN THE SAW JOINTS. SUFFICIENT AIR PRESSURE SHALL BE PROVIDED TO INSURE THOROUGH CLEANING. POURED JOINT MATERIAL SHALL BE HOT APPLIED CONFORMING TO AASHTO SPECIFICATION 173.

THE JOINT SEAL SHALL BE APPLIED WITH A MOBILE CARRIAGE AND RUBBER SHOE AND HAVE A CONTROL VALVE WHICH ALLOWS ALL CRACKS TO BE FILLED TO REFUSAL, SO AS TO ELIMINATE ALL VOIDS OR ENTRAPPED AIR, AND NOT LEAVE UNNECESSARY CRACK SEALER ON THE PAVEMENT SURFACE. THE HOT SEAL SHALL COMPLETELY FILL THE JOINT, SUCH THAT AFTER COOLING, THE LEVEL OF THE SEALER WILL NOT BE GREATER THAN 1/8" BELOW THE PAVEMENT SURFACE. ANY DEPRESSION IN THE SEAL GREATER THAN 3/16" SHALL BE BROUGHT UP TO THE SPECIFIED LIMIT BY FURTHER ADDITION OF HOT SEAL. OVERFILLING OF THE JOINTS WILL NOT BE ALLOWED AND SPILLAGE OF THE SEALER SHALL BE AVOIDED.

LOCATIONS

THE LOCATIONS OF THE SAWED/SEALED JOINTS SHALL BE AT LOCATIONS AS DIRECTED BY THE ENGINEER.

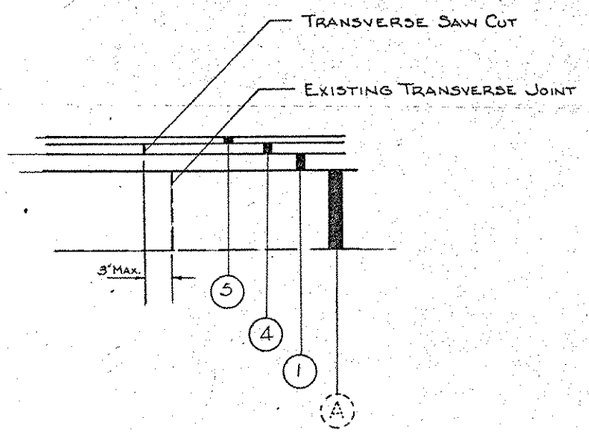
METHOD OF MEASUREMENT

THIS WORK SHALL BE MEASURED FOR PAYMENT BY THE ACTUAL NUMBER OF LINEAR FEET OF JOINT SAWED AND SEALED IN THE 848 ASPHALT CONCRETE, MEASURED IN PLACE AND ACCEPTED.

BASIS OF PAYMENT

PAYMENT FOR THIS WORK WILL BE AT THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR SAWING AND SEALING TRANSVERSE JOINTS, COMPLETE IN PLACE, WHICH PRICE SHALL INCLUDE ALL MATERIALS, EQUIPMENT, TOOLS AND LABOR INCIDENTAL TO THIS WORK.

AN ESTIMATED QUANTITY OF 3,000 L.F. OF ITEM SPECIAL, SAWING AND SEALING TRANSVERSE JOINTS HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE WITH THIS ITEM.



(1) ITEM 848 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, AC-20

(4) ITEM 848 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 2, AC-20

(5) ITEM SPECIAL ¾" OPEN GRADED FRICTION COURSE, RUBBERIZED

(A) EXISTING REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

Rev. 10-5-82

LINEAR GRADING

Calc. By G.L.B. 3/82
Chk By F.J. 3/82
MAH-76-7.01 , MAH-80-(0.00)(1.69)
TRU-80-0.00

F.H.W.A. REGION	STATE	PROJECT	
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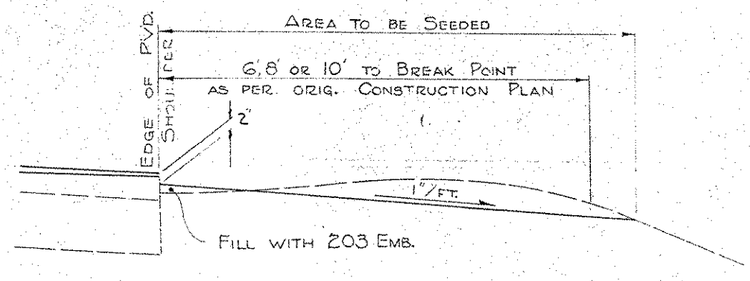
METHOD 1, AS PER PLAN



LINEAR GRADING - METHOD 1

THIS WORK SHALL CONSIST OF REGRADING THE EXISTING OUTSIDE SHOULDER IN NON-GUARD RAIL AREAS AS INDICATED IN THE SKETCH. REGRADING WILL BE ACCOMPLISHED BY REMOVING EXCESS TURF BETWEEN THE EDGE OF THE PAVED SHOULDER AND THE BREAK OVER POINT USING A SLOPE OF APPROXIMATELY 1"/FT.

EXCESS MATERIAL SHALL BE WINDROWED ON THE SHOULDER AND REMOVED BY THE CONTRACTOR. ANY VOIDS OR IRREGULARITIES BETWEEN THE EDGE OF THE PAVED SHOULDER AND BREAK POINT SHALL BE FILLED AND ADEQUATELY COMPACTED USING THE EXCESS MATERIAL. EXISTING RUTTED AREAS CAUSED BY SURFACE EROSION SHALL BE SCARIFIED PRIOR TO FILLING. A DROP OF 2" SHALL BE MAINTAINED BETWEEN THE EDGE OF THE RESURFACED PAVED SHOULDER AND THE REGRADED SHOULDER. AFTER GRADING OPERATION IS COMPLETED THE DISTURBED AREA SHALL BE SEEDED AS PER 659 EXCEPT MULCHING WILL NOT BE REQUIRED. COMPACTION REQUIREMENT AS PER 203 IS WAIVED FOR THIS OPERATION.

THE METHOD OF MEASUREMENT SHALL BE CONSIDERED AS ONE STATION EQUAL TO 100 LIN. FT. MEASURED SEPARATELY FOR THE EAST BOUND AND WEST BOUND LANES AND SHALL INCLUDE ALL WORK REQUIRED AS DESCRIBED ABOVE INCLUDING THE NECESSARY SEEDING.

THERE MAY BE AREAS WHERE THIS TREATMENT MAY NOT BE REQUIRED IN THE FIELD. THE ENGINEER SHALL DETERMINE THESE LOCATIONS AND APPROPRIATE DEDUCTIONS MADE AS A RESULT OF THIS FIELD INVESTIGATION.

THE COST OF THE ABOVE OPERATION SHALL BE INCLUDED IN THE PRICE BID FOR FOR ITEM 203 LINEAR GRADING METHOD 1, AS PER PLAN.

ESTIMATED QUANTITIES

203 LINEAR GRADING, METHOD 1, AS PER PLAN = 1,350 STATIONS

ITEM SPECIAL FULL DEPTH RIGID PAVEMENT REMOVAL AND FLEXIBLE REPLACEMENT

Calc. By T.G. 3/82
Chk By G.L.B. 3/82

FHWA REGION	STATE	PROJECT NO.	FUNDS
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MAH-76-7.01
MAH-80-0.00 (1.69)
TRU-80-0.00

LANE	STATION FROM	STATION TO	WIDTH Ft.	LENGTH Ft.	AREA SQ.YD.	BOUND
D	372+80	373+31	12	51	68	E.B.
P	372+95	373+27	12	32	42.67	E.B.
D&P	375+19	375+24	24	5	13.33	E.B.
D&P	401+21	401+29	24	8	21.33	E.B.
D	404+86	405+38	12	52	69.33	E.B.
D	405+84	405+90	12	6	8.0	E.B.
D	409+64	409+71	12	7	9.33	E.B.
D	420+04	420+19	12	15	20.0	E.B.
D&P	433+05	433+12	24	7	18.67	E.B.
D&P	440+65	440+81	24	16	42.67	E.B.
D&P	440+28	440+39	24	11	29.33	E.B.
D&P	465+07	465+13	24	6	16.0	E.B.
D&P	478+03	478+11	24	8	21.33	E.B.
D&P	479+15	479+81	24	6	16.0	E.B.
D	480+48	480+98	12	50	66.67	E.B.
D&P	490+10	490+20	24	10	26.67	E.B.
D&P	492+12	492+20	24	8	21.33	E.B.
D	501+66	502+15	12	49	65.33	E.B.
RAMP	493+63	494+24	12	61	81.33	E.B.
RAMP	494+52	494+74	12	22	29.33	E.B.
D&P	497+06	497+14	24	8	21.33	E.B.
D	499+33	500+14	12	81	108.0	E.B.
D	506+23	506+66	12	43	57.33	E.B.
D	510+51	511+42	12	91	121.33	E.B.
D&P	514+52	514+58	24	6	16.0	E.B.
D&P	549+97	550+03	24	6	16.0	E.B.
D&P	559+75	559+80	24	5	13.33	E.B.
D&P	567+98	568+04	24	6	16.00	E.B.
D&P	580+81	580+88	24	7	18.66	E.B.
D	604+92	604+98	12	6	8.0	E.B.
D	610+82	611+00	12	18	24.0	E.B.
D	611+79	612+43	12	64	85.33	E.B.
D	623+77	624+50	12	73	97.33	E.B.
D	633+25	633+53	12	28	37.33	E.B.
D&P	633+25	633+00	24	25	66.67	E.B.
D	637+55	637+80	12	25	33.33	E.B.
P	876+70	876+81	12	11	14.67	E.B.
D&P	883+30	883+37	24	7	18.67	E.B.
D&P	883+90	883+97	24	7	18.67	E.B.
D&P	885+67	885+77	24	10	26.67	E.B.
D	38+54	38+69	12	15	20.0	E.B.
D&P	71+63	73+40	24	177	472.0	E.B.
D&P	79+25	79+30	24	5	13.33	E.B.
D	89+45	90+70	12	125	166.67	E.B.
D	92+68	93+20	12	52	69.33	E.B.
D	97+10	98+00	12	90	120.0	E.B.
D	98+50	100+58	12	208	277.33	E.B.
D	115+70	115+85	12	15	20.0	E.B.
D&P	119+46	120+06	24	60	160.0	E.B.
D	125+53	126+06	12	53	70.67	E.B.
D	134+44	134+85	12	41	54.67	E.B.
D	141+37	143+10	12	173	230.67	E.B.
D	155+95	159+30	12	335	446.67	E.B.
D&R	159+30	160+50	24	120	320.0	E.B.
D	162+40	163+60	12	120	160.0	E.B.
D&R	216+00	216+25	24	25	66.67	E.B.
D	216+25	217+00	12	75	100.0	E.B.
D	218+07	219+00	12	93	124.0	E.B.

LANE	STATION FROM	STATION TO	WIDTH Ft.	LENGTH Ft.	AREA SQ.YD.	BOUND
D	220+00	221+00	12	100	133.33	E.B.
D	226+00	226+20	12	20	26.67	E.B.
D	229+95	230+05	12	10	13.33	E.B.
D	261+97	262+66	12	69	92.0	E.B.
D	272+85	272+95	24	10	26.67	E.B.
D	274+00	274+35	12	35	46.67	E.B.
D	279+19	279+72	12	53	70.67	E.B.
D&P	291+95	292+05	24	10	26.67	E.B.
D	322+00	322+30	12	30	40.0	E.B.
D	324+50	324+75	12	25	33.33	E.B.
D&P	326+00	326+15	24	15	40.0	E.B.
D	347+20	347+30	12	10	13.33	E.B.
D&P	358+03	358+09	24	6	16.00	E.B.
D	359+44	359+56	12	12	16.00	E.B.
D	389+20	389+30	12	10	13.33	E.B.
D&P	392+02	392+12	24	10	26.67	E.B.
D	392+80	392+90	12	10	13.33	E.B.
D&P	395+70	396+17	24	47	125.33	E.B.
D	398+05	398+20	12	15	20.00	E.B.
D	401+75	402+05	12	30	40.0	E.B.
D&P	423+73	423+78	24	5	13.33	E.B.
D&P	426+50	426+70	24	20	53.33	E.B.
D	430+80	430+92	12	12	16.0	E.B.
D	436+70	439+00	12	30	40.0	E.B.
D	450+04	451+00	12	96	128.0	E.B.
D	469+55	469+85	12	30	40.0	E.B.
D	483+93	484+24	12	31	41.33	E.B.
D&R	489+40	490+34	12	94	125.33	E.B.
D	493+97	494+69	24	72	192.0	E.B.
D	501+63	501+84	12	21	28.0	E.B.
P	501+96	502+01	12	5	6.67	E.B.
D	503+50	503+56	12	6	8.0	E.B.
D&P	511+60	511+80	24	20	53.33	E.B.
D	511+80	511+96	12	16	21.33	E.B.
D&P	515+52	515+66	24	14	37.33	E.B.
D	521+59	523+15	12	156	208	E.B.
D	530+14	531+00	12	86	114.67	E.B.
D	539+76	540+05	12	29	38.67	E.B.
D	541+10	542+28	12	118	157.33	E.B.
P	543+33	543+40	12	7	9.33	E.B.
D	545+36	545+66	12	30	40.0	E.B.
D	552+95	553+13	12	18	24.0	E.B.
D	555+25	555+50	12	25	33.33	E.B.
D	556+88	557+35	12	47	62.67	E.B.
D	567+95	568+07	12	12	16.00	E.B.
D	569+15	569+43	12	28	37.33	E.B.
D	575+91	576+10	12	19	25.33	E.B.
D&P	583+96	584+18	24	22	58.67	E.B.
D	599+08	599+30	12	22	29.33	E.B.
D	600+84	601+35	12	51	68.0	E.B.
D	603+22	603+66	12	44	58.67	E.B.
D&P	607+93	608+05	24	12	32.0	E.B.
D&P	610+90	610+93	24	3	8.0	E.B.
D	629+33	629+53	12	23	30.67	E.B.
D&P	638+32	638+42	24	10	26.67	E.B.
D&P	640+15	640+30	24	15	40.00	E.B.
D	642+73	642+83	12	10	13.33	E.B.
D	650+30	650+70	12	40	53.33	E.B.

LANE	STATION FROM	STATION TO	WIDTH Ft.	LENGTH Ft.	AREA SQ.YD.	BOUND
D	651+66	653+12	12	146	194.67	E.B.
D&P	655+90	655+96	24	6	16.0	E.B.
D&P	657+27	657+72	24	45	120.0	E.B.
TOTAL E.B.					7550.62	
D	644+44	645+11	12	67	89.33	W.B.
D&P	639+88	642+43	24	255	680.00	W.B.
D&P	637+03	637+16	24	7	18.67	W.B.
D	635+12	635+75	12	63	84.00	W.B.
D	630+22	630+74	12	52	69.33	W.B.
D	629+07	629+55	12	48	64.00	W.B.
D	621+25	621+68	12	43	57.33	W.B.
D	616+89	618+38	12	149	198.67	W.B.
D	603+54	610+02	12	48	64.00	W.B.
D	600+97	604+38	12	341	454.67	W.B.
D&P	599+35	599+87	24	52	138.67	W.B.
D&P	598+12	598+33	24	21	56.00	W.B.
D&P	597+15	597+45	24	30	80.00	W.B.
D&P	593+26	593+37	24	11	29.33	W.B.
D	583+62	585+63	12	201	268.00	W.B.
D	577+41	578+24	12	83	110.67	W.B.
D	574+77	575+65	24	88	234.67	W.B.
D	574+56	574+77	12	21	28.00	W.B.
D	572+94	573+20	12	26	34.67	W.B.
D	563+15	564+40	12	125	166.67	W.B.
D	557+06	557+23	12	17	22.67	W.B.
D	549+86	550+11	12	25	33.33	W.B.
D	546+15	546+48	12	33	44.00	W.B.
D	543+94	544+65	12	71	94.67	W.B.
P	539+26	539+72	12	46	61.33	W.B.
D	537+15	537+46	12	31	41.33	W.B.
D	516+05	518+46	12	241	321.33	W.B.
D	498+27	500+46	12	219	292.00	W.B.
D	496+60	497+47	12	87	116.00	W.B.
D&P	495+25	496+04	24	79	210.67	W.B.
D&P	486+62	486+70	24	8	21.33	W.B.
D&P	484+57	484+65	24	8	21.33	W.B.
D	484+26	484+32	12	6	8.00	W.B.
D&P	482+77	482+84	24	7	18.67	W.B.
D&P	479+39	479+49	24	10	26.67	W.B.
D&P	448+17	448+22	24	5	13.33	W.B.
D	444+55	444+59	12	4	5.33	W.B.
D&P	431+75	431+80	24	5	6.67	W.B.
D	435+60	435+69	12	9	12.00	W.B.
D	433+19	433+35	12	16	21.33	W.B.
D	432+83	432+87	12	4	5.33	W.B.
D	426+47	426+35	12	48	64.00	W.B.
D&P	374+49	374+75	24	26	69.33	W.B.
D&P	340+21	340+29	24	8	21.33	W.B.
D	318+10	318+16	12	6	8.00	W.B.
D&P	317+72	317+79	24	7	24.00	W.B.
D&P	285+81	285+90	24	9	24.00	W.B.
D	281+48	281+54	12	6	8.00	W.B.
D&P	274+67	274+76	24	9	24.00	W.B.
D&P	272+02	272+05	24	3	8.00	W.B.

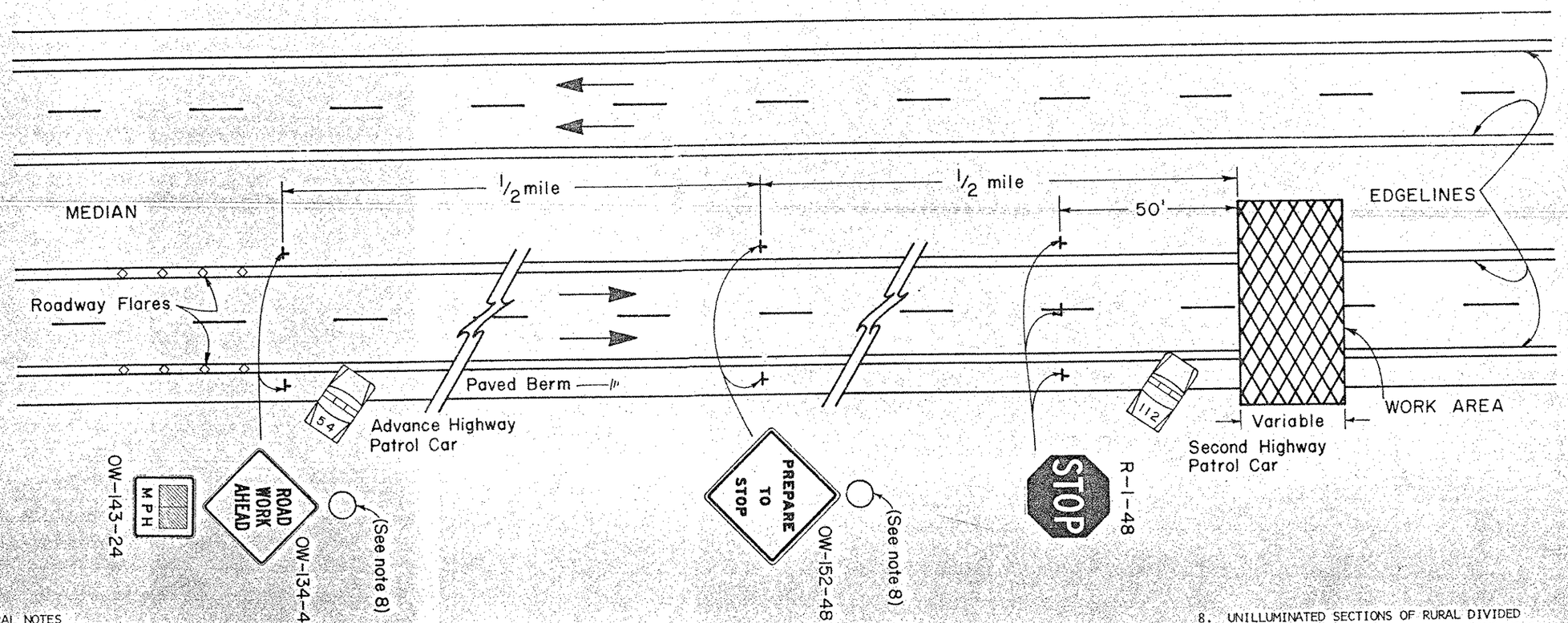
LANE	STATION FROM	STATION TO	WIDTH Ft.	LENGTH Ft.	AREA SQ.YD.	BOUND
D	264+20	264+33	12'	13'	17.33	W.B.
D	260+22	262+25	12'	203'	270.67	W.B.
D&P RAMP	226+48	227+43	20.5'	195'	444.17	W.B.
RAMP	227+34	227+37	12'	3'	4.00	W.B.
RAMP	226+56	226+59	12'	3'	4.00	W.B.
D&P	222+62	222+67	24'	5'	13.33	W.B.
D&P	214+50	214+78	24'	D&P 18.5'	48.00	W.B.
D&P RAMP	208+73	209+00	27.5'	D&P 13.5'	47.36	W.B.
D&P	208+01	208+05	24'	4'	10.67	W.B.
D	205+86	206+42	12'	56'	74.67	W.B.
P	206+32	206+42	12'	10'	13.33	W.B.
RAMP	206+39	206+42	12'	3'	4.00	W.B.
D&P	198+03	198+09	24'	6'	16.00	W.B.
RAMP	163+79	163+83	12'	4'	5.33	W.B.
D	163+61	163+83	12'	22'	29.33	W.B.
D	155+28	155+78	12'	50'	66.67	W.B.
D&P	138+10	138+18	24'	8'	21.33	W.B.
D&P	136+72	136+01	12'	29'	38.67	W.B.
D&P	132+10	132+21	24'	11'	29.33	W.B.
RAMP	132+14	132+18	12'	4'	5.33	W.B.
D	122+06	123+40	12'	134'	178.67	W.B.
D&P	120+82	120+96	24'	14'	37.33	W.B.
D	114+47	114+97	12'	50'	66.67	W.B.
D	100+40	100+52	12'	12'	16.00	W.B.
D	100+16	100+52	12'	36'	48.00	W.B.
D	98+28	98+40	12'	12'	16.00	W.B.
D	93+88	95+18	12'	130'	173.33	W.B.
D&P	68+30	69+06	24'	16'	42.67	W.B.
D	68+40	68+55	12'	15'	20.00	W.B.
D&P	43+16	43+24	24'	8'	21.33	W.B.
D	39+83	40+45	12'	62	82.67	W.B.
D	38+28	38+37	12'	9'	12.00	W.B.
D	37+40	37+75	12'	35'	46.67	W.B.
D	877+95	878+18	12'	23'	30.67	W.B.
D	874+30	874+32	12'	9'	12.00	W.B.
D	873+73	873+96	12'	23'	30.67	W.B.
D&P	873+34	873+38	4'	24'	30.67	W.B.
RAMP	866+49	866+72	12'	23'	30.67	W.B.
RAMP	863+36	865+23	16'	127'	225.78	W.B.
RAMP	12+28	12+68	8'	40'	35.56	W.B.
D	380+02	380+10	24'	8'	21.33	W.B.
D	378+79	378+87	24'	8'	21.33	W.B.
D	669+93	670+28	12'	35'	46.67	W.B.
RAMP	1+02	1+06	12'	4'	5.33	W.B.
D	654+79	655+45	12'	66'	88.00	W.B.
D	628+64	628+94	12'	30'	40.00	W.B.
D	510+10	511+10	12'	100'	133.33	W.B.
D&P	509+76	509+85	24'	9'	24.00	W.B.
D	505+70	504+27	12'	57'	76.00	W.B.
D&P	500+58	500+62	24'	4'	10.67	W.B.
D	498+93	499+00	12'	7'	9.33	W.B.
P	498+54	499+00	12'	46'	61.33	W.B.
D	490+85	491+75	12'	90'	120.00	W.B.
D	452+15	452+57	12'	38'	50.67	W.B.
RAMP	452+54	452+57	12'	3'	4.00	W.B.
D&P	419+90	419+96	24'	6'	16.00	W.B.
D&P	411+03	411+09	24'	6'	16.00	W.B.
D	393+78	393+90	12'	12'	16.00	W.B.

LANE	STATION FROM	STATION TO	WIDTH Ft.	LENGTH Ft.	AREA SQ.YD.	BOUND
D&P	386+21	386+26	24'	5'	13.33	W.B.
D&P	373+37	373+46	24'	9'	24.00	W.B.
TOTAL W.B.					7655.53	
RAMPS						
US 62	INTER					
13+95	14+37	16	42	74.67	Ramp C	
16+76	17+18	16	42	74.67	"	
20+71	20+80	16	9	16.00	Ramp E	
24+03	24+08	16	5	8.89	"	
31+03	31+14	16	11	19.56	"	
31+67	31+74	16	7	12.44	"	
15+00	15+60	16	60	106.67	Ramp B	
21+35	23+25	16	190	337.78	"	
14+71	14+93	12	22	29.33	Ramp D	
15+48	15+53	18	5	10.00	"	
18+01	18+36	16	35	62.22	"	
I-80 E.	BOUND					
4+23	4+59	16	36	64.00	Ramp B	
9+72	9+97	16	25	44.44	"	
SR 46	INTER					
6+95	7+05	16	10	17.78	Ramp D	
10+52	10+59	16	7	12.44	"	
14+08	14+33	16	25	44.44	"	
15+84	16+00	8	16	14.22	"	
16+40	16+77	8	37	32.89	"	
17+60	18+00	16	40	71.11	"	
TURNPIKE	INTER					
478+43	478+50	16	7	12.44	Ramp F	
479+16	479+68	8	22	19.56	"	
480+62	480+67	16	5	8.88	"	
482+13	482+19	16	6	10.67	"	
460+35	460+44	16	9	16.00	Ramp A	
461+76	461+81	8	5	4.44	"	
462+11	462+17	16	6	10.67	"	
462+49	462+55	16	6	10.67	"	
471+22	473+00	16	178	316.44	"	
474+00	482+00	8	800	711.00	"	
485+90	487+05	16	115	204.44	"	
487+90	488+25	16	35	62.22	"	
490+00	495+00	16	500	888.89	"	
475+01	475+05	16	4	7.11	Ramp B	
470+16	470+24	16	8	14.22		
468+95	469+01	16	6	10.67		
462+96	463+02	16	6	10.67		
466+63	466+71	16	8	14.22	Ramp E	
466+28	466+36	16	8	14.22	"	
465+09	465+17	16	8	14.22	"	
462+33	462+37	16	4	7.11		
458+31	458+35	16	4	7.11		
TOTAL	RAMPS			3429.42		
Contingency				4659.43		
GRAND	TOTAL			23,295		

PAVEMENT REPLACEMENT QUANTITIES

Rev. 10-5-82

MAH-76-7.01
MAH-80-(0.00)(1.69) 10/29
TRU-80-0.00



GENERAL NOTES

1. THIS TYPE OF HIGHWAY CLOSURE SHALL ONLY BE USED FOR EMERGENCIES OR FOR CONSTRUCTION OPERATIONS WHEN THE DURATION OF CLOSURE WILL NOT EXCEED 15 MINUTES. AFTER THE RURAL DIVIDED HIGHWAY HAS BEEN CLOSED AND REOPENED VIA THIS PROCEDURE A MINIMUM PERIOD OF 30 MINUTES SHALL ELAPSE BEFORE ANOTHER SHORT DURATION CLOSURE, EXCEPT WITH THE APPROVAL OF THE ENGINEER.

2. AT LEAST TWO PATROLMEN AND TWO PATROL CARS SHALL BE PROVIDED ON EACH APPROACH TO THE CLOSURE. EACH PATROL CAR SHALL HAVE A ROOF MOUNTED ROTATING RED LIGHT OR A LIGHT BAR.

3. A MINIMUM OF FOUR FLARES SHALL BE BURNING CONTINUOUSLY ON EACH SIDE OF THE ROADWAY IN ADVANCE OF THE "OW-134-48" SIGN DURING THE TIME THAT TRAFFIC IS STOPPED ON THE RURAL DIVIDED HIGHWAY.

4. ROAD CLOSURES ARE NOT PERMITTED ON HOLIDAYS, WEEKENDS OR BETWEEN THE HOURS OF 6 AM TO 9 AM, 11 AM TO 1 PM AND 3 PM TO 6 PM ON MONDAY THROUGH FRIDAY, EXCEPT BY PERMISSION OF THE ENGINEER.

5. THE ADVANCE PATROL CAR AND THE "OW-134-48", "OW-134-24", AND "OW-152-48" SIGNS SHALL BE MOVED BACK AS REQUIRED BY THE QUEUING OF STOPPED VEHICLES. NEW FLARES SHALL BE PLACED WHENEVER THE ADVANCE PATROL CAR IS REQUIRED TO RELOCATE.

6. TRAFFIC CONTROL FOR THE CLOSURE SHALL BE ACCOMPLISHED IN THE FOLLOWING ORDER:
   - A. ADVANCE PATROL CAR, LIGHTS AND FLASHER ON; AT LEAST FOUR FLARES BURNING ON EACH SIDE OF ROADWAY.
   - B. "OW-134-48" AND "OW-143-24" SIGNS ERECTED.
   - C. "OW-152-48" SIGNS ERECTED.
   - D. SECOND PATROL CAR, LIGHTS AND FLASHERS ON.
   - E. "R-1-48" SIGNS ERECTED BY FLAGMEN WITH FLARE OR FLAG USED TO STOP TRAFFIC. THE ORDER OF ERECTION SHALL BE TOWARD THE MEDIAN SHOULDER IN THE FOLLOWING ORDER: RIGHT SHOULDER, THEN CENTER, THEN MEDIAN SHOULDER.

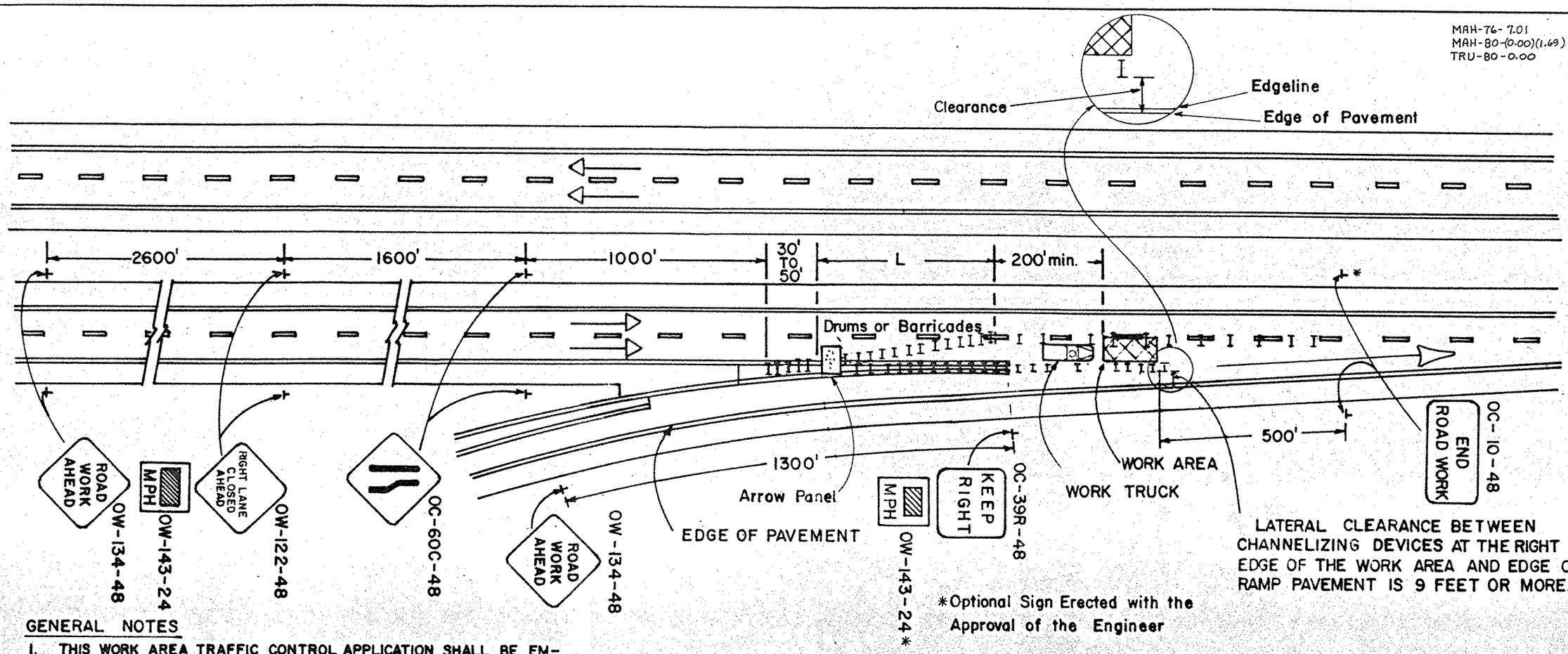
7. TRAFFIC CONTROL SHALL BE REMOVED IN THE FOLLOWING ORDER:
   - A. WITH TRAFFIC STOPPED ONE MAN WITH A FLARE OR FLAG SHOULD HOLD TRAFFIC AND OTHER FLAGMAN SHALL REMOVE THE "R-1-48" SIGNS TOWARD THE RIGHT SHOULDER IN THE FOLLOWING ORDER: MEDIAN, THEN CENTER, THEN SIGN ON RIGHT SHOULDER.
   - B. AFTER ALL STOPPED VEHICLES HAVE STARTED MOVING, THE "OW-152-48" SIGNS SHALL BE REMOVED. THESE SIGNS MAY BE COVERED IF RE-USE IS IMMINENT.
   - C. AFTER ALL CARS HAVE RESUMED APPROXIMATELY NORMAL SPEED, THE "OW-134-48" AND "OW-143-24" SIGNS SHALL BE REMOVED. THESE SIGNS MAY BE COVERED IF RE-USE IS IMMINENT.
   - D. LIGHTS AND FLASHERS SHALL BE TURNED OFF ON BOTH PATROL CARS.
   - E. REMOVE ALL ROADWAY FLARES IF THEY ARE STILL BURNING.

8. UNILLUMINATED SECTIONS OF RURAL DIVIDED HIGHWAYS SHOULD NOT BE CLOSED DURING HOURS OF DARKNESS EXCEPT FOR EMERGENCIES OR WITH THE APPROVAL OF THE ENGINEER. WHEN A RURAL DIVIDED HIGHWAY MUST BE CLOSED DURING HOURS OF DARKNESS, A TYPE B HIGH INTENSITY FLASHING BARRICADE WARNING LIGHT SHALL BE USED ON EACH OW-134 AND OW-152 SIGN.

9. IF AN ENTRANCE RAMP IS LOCATED BETWEEN THE OW-134 AND R-1 SIGNS, THE "OW-134-48", "OW-143-34", AND THE "OW-152-48" SIGNS SHALL ALSO BE ERECTED ON THE RAMP SHOULDER.

OHIO DEPARTMENT OF TRANSPORTATION

SHORT DURATION CLOSING OF RURAL DIVIDED HIGHWAY	DATE 5/77
	Rev. 10-5-82
DR BSE CK MOW	Rev. 8-10-81



LATERAL CLEARANCE BETWEEN CHANNELIZING DEVICES AT THE RIGHT EDGE OF THE WORK AREA AND EDGE OF RAMP PAVEMENT IS 9 FEET OR MORE.

*Optional Sign Erected with the Approval of the Engineer

GENERAL NOTES

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL BE EMPLOYED WHEN THE LATERAL CLEARANCE BETWEEN THE CHANNELIZING DEVICES AT THE RIGHT EDGE OF THE WORK AREA AND THE EDGE OF THE RAMP PAVEMENT IS 9 FEET OR MORE. WHEN THE CLEARANCE IS LESS THAN 9 FEET, THE TRAFFIC CONTROL ON "LANE CLOSURE AT ENTRANCE RAMP: PLAN B" SHOULD BE USED, OR THE RAMP SHOULD BE CLOSED, OR ALLOWING RAMP TRAFFIC TO USE THE BERM SHOULD BE CONSIDERED PROVIDED THE OPERATION IS "SHORT" IN DURATION. WHEN THE RAMP IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.

2. 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 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.

3. RAMP SIGNS SHALL BE DUAL MOUNTED ON MULTILANE RAMPS.

4. THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.

5. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK SHALL BE MOVED FROM THE PAVEMENT WHENEVER WORKMAN ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF WORK TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED IMPACT ATTENUATOR MAY BE EMPLOYED.

6. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

7. TAPER FORMULAE:

$L = S \times W$ FOR SPEEDS OF 45 OR MORE.
$L = WS^2/60$ FOR SPEEDS OF 40 OR LESS.

WHERE:

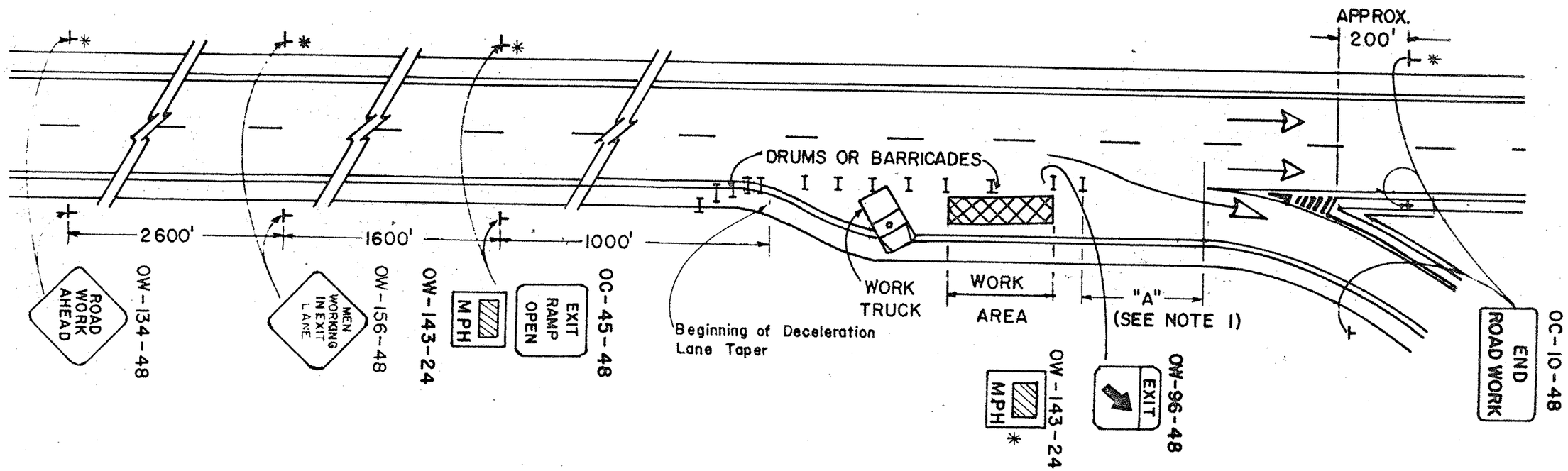
L = MINIMUM LENGTH OF TAPER.
S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
W = WIDTH OF OFFSET.

8. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER TNAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

Rev. 10-5-82

OHIO DEPARTMENT OF TRANSPORTATION

LANE CLOSURE AT ENTRANCE RAMP: PLAN A	DATE 8-3-79



* OPTIONAL SIGN ERECTED WITH THE APPROVAL OF THE ENGINEER.

GENERAL NOTES.

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY APPLY WHEN THE DISTANCE "A" IS GREATER THAN 100'. WHEN DISTANCE "A" IS LESS THAN 100', THE RAMP SHALL BE CLOSED. WHEN THE RAMP IS CLOSED, THE TRAFFIC CONTROL SHALL INCLUDE DETOUR SIGNING FOR EXIT RAMP CLOSURES IN ACCORDANCE WITH OMUTCD.

2. DRUMS OR BARRICADES SHALL BE SPACED AT 50 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.

3. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

4. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK 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 TRUCK SHOWN WHEN APPROVED BY THE ENGINEER.

5. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

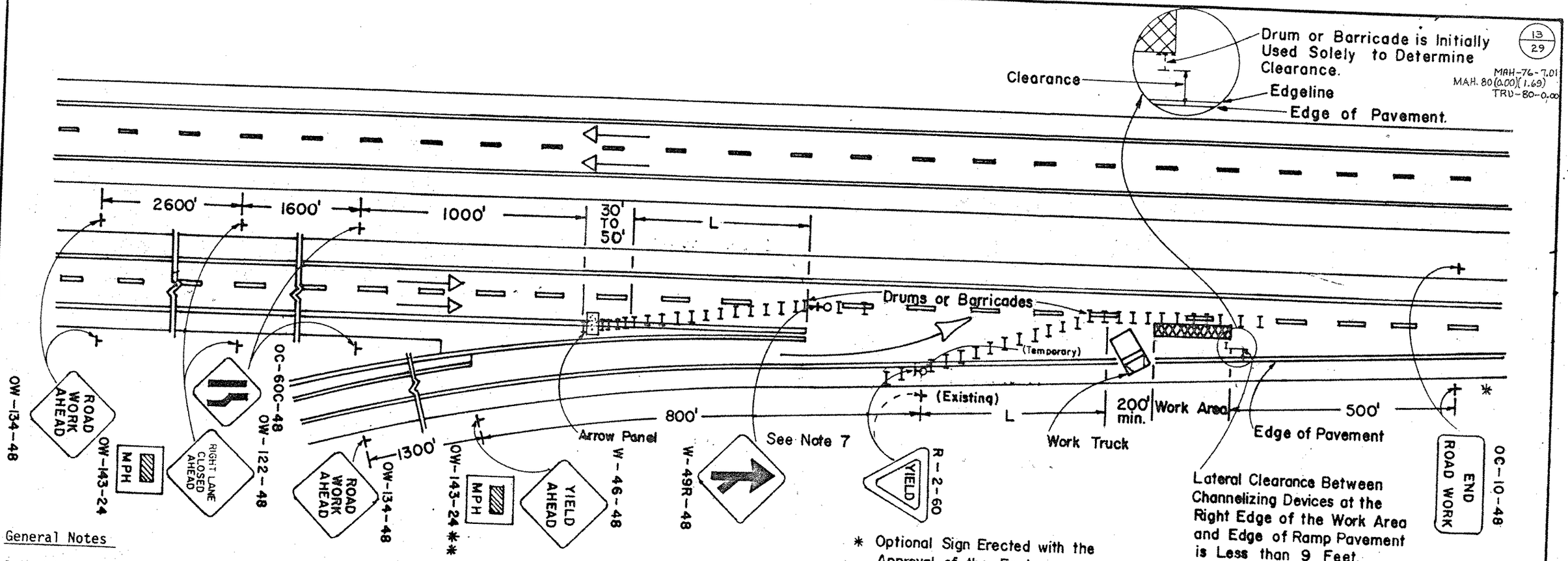
Rev. 10-5-82

OHIO DEPARTMENT OF TRANSPORTATION

LANE CLOSURE IN DECELERATION LANE

DATE 8-3-79

MAH-76-7.01
MAH-80(0.00)(1.69)
TRU-80-0.00



* Optional Sign Erected with the Approval of the Engineer.

General Notes

1. This work area traffic control application shall be employed when the lateral clearance between channelizing devices at the right edge of the work area and the edge of the ramp pavement is less than 9 feet. When the clearance is more than 9 feet, the traffic control on "Lane Closure at Entrance Ramp: Plan A" should be used, or the ramp should be closed. When the ramp is closed, appropriate detour signs shall be provided.

2. 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 foot centers. Cones may be substituted for barricades or drums for the lane closures during daylight hours only.

3. Ramp signs shall be dual mounted on multi-lane ramps. When the ramp is not long enough to allow placement as specified above, the signs may be spaced proportionately within the space available as determined by the Engineer (a 200' minimum spacing must be maintained).

4. The flashing arrow panel shall be in accordance with TC-35.10.

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

6. Type C steady burning barricade warning lights shall be erected on drums or barricades for night lane closures. Maximum spacing shall be 50' center to center in advance of the work area and 200' center to center within the limits of the work area.

7. It may be necessary to move the location of an existing Yield condition. In these cases, the permanent R-2 sign installation shall be covered and the temporary installation shall be mounted upon a drive post which shall be banded to a drum with stainless steel strapping material or other techniques subject to the approval of the Engineer.

8. Taper Formulae:

   $L = S \times W$ for Speeds of 45 or more.
   $L = WS^2/60$ for Speeds 40 or less.

   Where:

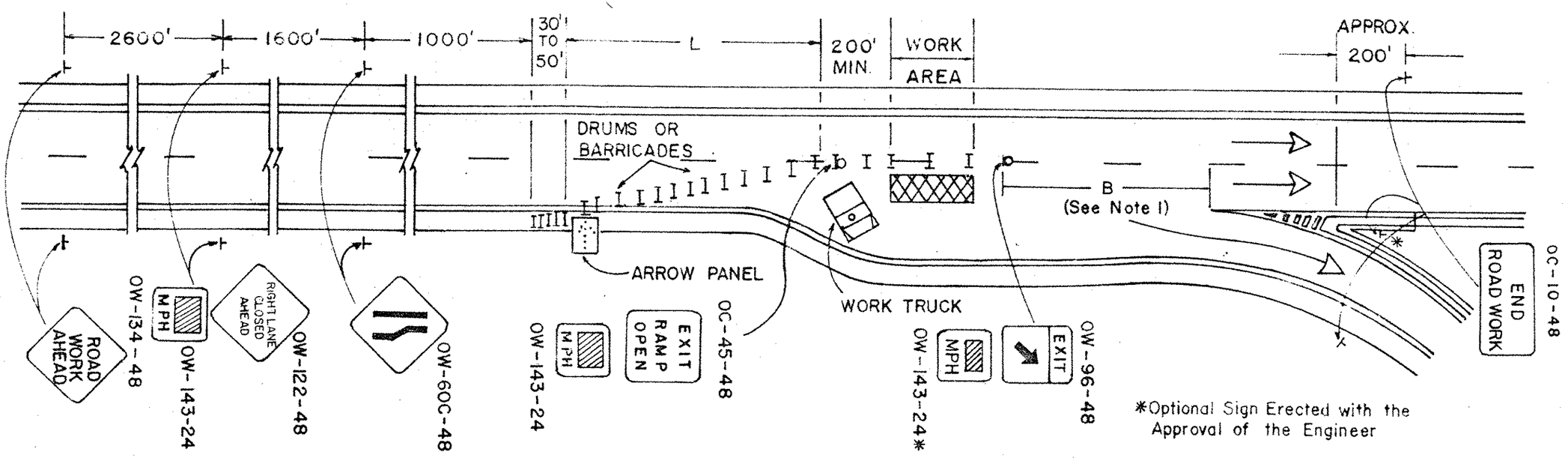
   L = Minimum length of taper.
   S = Numerical value of posted speed limit prior to work or 85 percentile speed.
   W = Width of offset.

9. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

Rev. 10-5-82

OHIO DEPARTMENT OF TRANSPORTATION

LANE CLOSURE AT ENTRANCE RAMP PLAN B	DATE 8-3-79



GENERAL NOTES

1. THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY BE USED WHEN THE DISTANCE "B" IS 100 FEET OR GREATER. WHEN "B" IS LESS THAN 100 FEET, THE TRAFFIC CONTROL SHOWN ON THE "LANE CLOSURE AT EXIT GORE" DETAIL SHOULD BE USED, OR THE EXIT SHOULD BE CLOSED, OR THE TRAFFIC CONTROL ON THIS DRAWING MAY BE USED WITH APPROVAL OF THE ENGINEER. WHEN THE EXIT IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.

2. WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, REFER TO THE TYPICAL WORK AREA TRAFFIC CONTROL SHOWN IN FIGURE C-21 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

3. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK 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 TRUCK SHOWN WHEN APPROVED BY THE ENGINEER.

4. THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.

5. 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 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.

6. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

7. TAPER FORMULAE:

   $L = S \times W$ FOR SPEEDS OF 45 OR MORE.
   $L = WS^2/60$ FOR SPEEDS OF 40 OR LESS.

   WHERE:

   L = MINIMUM LENGTH OF TAPER.
   S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
   W = WIDTH OF OFFSET.

8. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

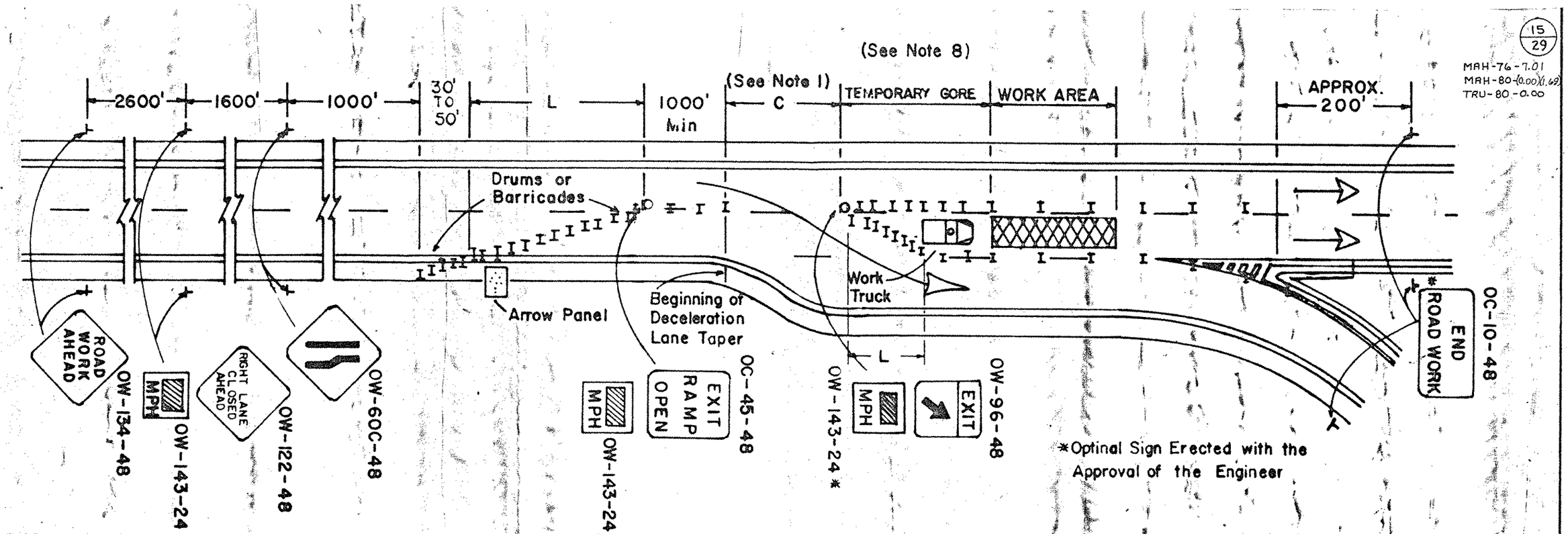
Rev. 10-5-82

OHIO DEPARTMENT OF TRANSPORTATION

LANE CLOSURE BEFORE EXIT GORE

DATE 8-3-79

MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00



GENERAL NOTES

1. **THIS WORK AREA TRAFFIC CONTROL APPLICATION SHALL ONLY BE USED WHEN THE DISTANCE "C" IS 100 FEET OR GREATER. WHEN "C" IS LESS THAN 100 FEET, THE TRAFFIC CONTROL SHOWN ON THE "LANE CLOSURE BEFORE EXIT GORE" DETAIL SHOULD BE USED, OR THE EXIT SHOULD BE CLOSED, OR THE TRAFFIC CONTROL ON THIS DRAWING MAY BE USED WITH APPROVAL OF THE ENGINEER. WHEN THE EXIT IS CLOSED, APPROPRIATE DETOUR SIGNS SHALL BE PROVIDED.**

2. WHEN WORK IS BEING PERFORMED IN ONLY THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, REFER TO THE TYPICAL WORK AREA TRAFFIC CONTROL SHOWN IN FIGURE C-21 OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

3. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK 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 TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. A TRUCK MOUNTED IMPACT ATTENUATOR MAY BE EMPLOYED.

4. THE FLASHING ARROW PANEL SHALL BE IN ACCORDANCE WITH TC-35.10.

5. 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 FOOT CENTERS. CONES MAY BE SUBSTITUTED FOR BARRICADES OR **DRUMS FOR THE LANE** CLOSURES DURING DAYLIGHT HOURS ONLY.

6. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

7. TAPER FORMULAE:

   $L = S \times W$ FOR SPEEDS OF 45 OR MORE.
   $L = WS^2/60$ FOR SPEEDS OF 40 OR LESS.

   WHERE:

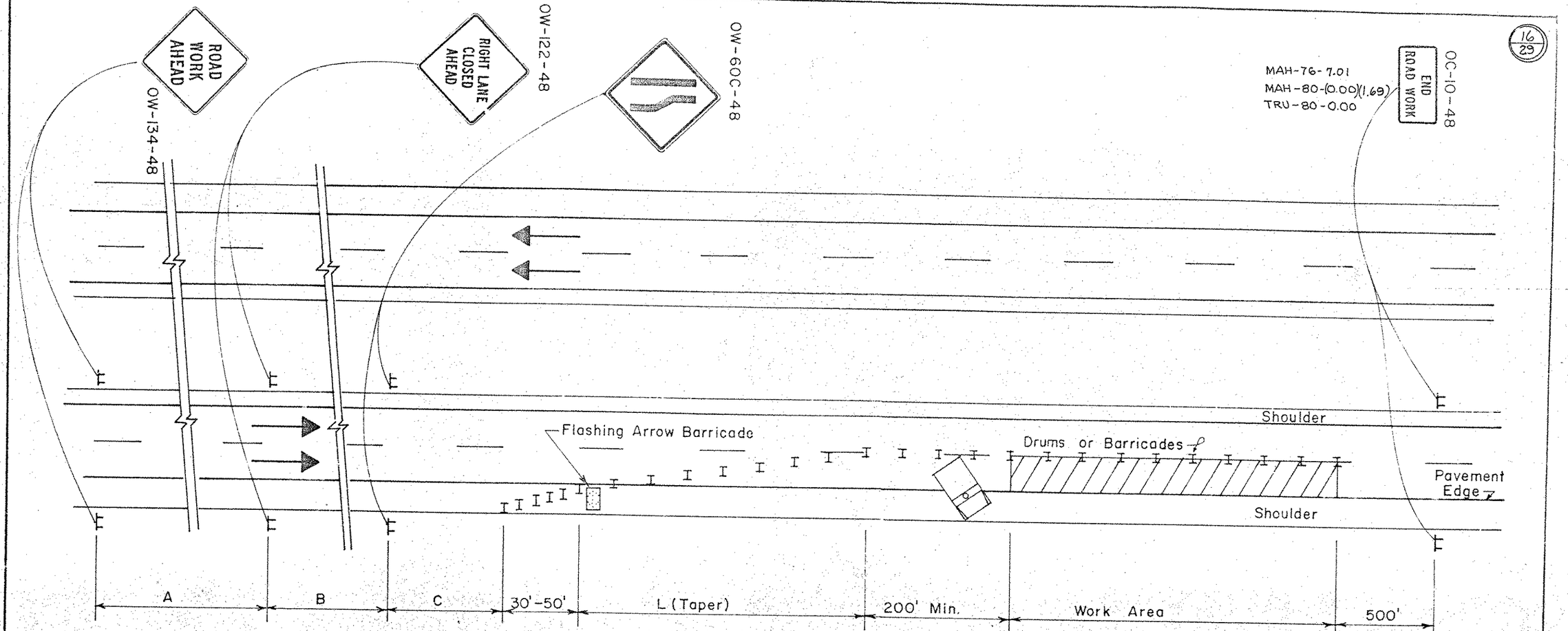
   L = MINIMUM LENGTH OF TAPER.
   S = NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85 PERCENTILE SPEED.
   W = WIDTH OF OFFSET.

8. WHEN CREATING A TEMPORARY GORE, CHANNELIZING DEVICES SHOULD BE SPACED 25' CENTER TO CENTER SO AS TO CREATE A "SOLID GORE" **EFFECT.**

9. THE SPACINGS BETWEEN CONSTRUCTION AND MAINTENANCE SIGNS SHOWN ON THIS DETAIL MAY REQUIRE ADJUSTMENTS (INCREASES OR DECREASES) TO ASSURE THAT THEY ARE POSITIONED NO CLOSER THAN 200 FEET TO EXISTING SIGNS AS DETERMINED BY THE ENGINEER.

Rev. 10-5-82

OHIO DEPARTMENT OF TRANSPORTATION	
LANE CLOSURE AT EXIT GORE	DATE 8-3-79



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 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. CONES MAY BE SUBSTITUTED FOR THE BARRICADES OR STEEL DRUMS FOR THE LANE CLOSURES DURING DAYLIGHT HOURS ONLY.

2. WHEN WORK IS BEING PERFORMED IN THE LANE ADJACENT TO THE MEDIAN ON A DIVIDED HIGHWAY, "OW-123-48" SIGNS SHALL BE SUBSTITUTED FOR "OW-122-48" SIGNS AND THE OW-60D SIGNS SHALL BE SUBSTITUTED FOR THE OW-60C SIGNS.

3. THE CONTRACTOR SHALL PLACE AN ADDITIONAL DRUM AT EACH PAVEMENT REMOVAL. THE FACE OF THIS DRUM SHALL BE EVEN WITH THE OUTSIDE EDGE OF THE REMOVAL. THE DRUM SHALL REMAIN IN PLACE UNTIL TRAFFIC IS RETURNED TO THIS LANE OF PAVEMENT.

4. THE WORK TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER MEN ARE WORKING WITHIN THE WORK AREA. THIS TRUCK 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 TRUCK SHOWN WHEN APPROVED BY THE ENGINEER.

5. TYPE C STEADY BURNING BARRICADE WARNING LIGHTS SHALL BE ERECTED ON DRUMS OR BARRICADES FOR NIGHT LANE CLOSURES. MAXIMUM SPACING SHALL BE 50' CENTER TO CENTER IN ADVANCE OF THE WORK AREA AND 200' CENTER TO CENTER WITHIN THE LIMITS OF THE WORK AREA.

6. IF THE PAVEMENT REMOVAL IS MORE THAN 6'-0", AN ADDITIONAL DRUM SHALL BE PLACED ONE HALF THE DISTANCE FROM THE EDGE OF THE REMOVAL TO THE EDGE OF PAVEMENT. THE DRUM SHALL REMAIN IN PLACE UNTIL TRAFFIC IS RETURNED TO THIS LANE OF PAVEMENT.

7. LANE CLOSURES SHALL NOT BE MORE THAN ONE(1) MILE LANE UNLESS AUTHORIZED BY THE ENGINEER. THE CONTRACTOR SHALL RESTRICT THE SAWING OPERATION TO ONLY THE REMOVAL AND REPLACEMENT AREAS WHICH CAN BE COMPLETED IN ONE WEEK OR AS DIRECTED BY THE ENGINEER.

8. DURING THE TIME OF LANE CLOSURES FOR 24 HOURS OR MORE, THE CONTRACTOR SHALL HAVE SOMEONE ON THE PROJECT TWENTY-FOUR HOURS A DAY TO MAINTAIN SIGNS AND WARNING DEVICES.

DISTANCE	A	B	C	L
URBAN	200	200	200	425
MAJOR STANDARD	500	500	500	600
FREEWAY AND EXPRESSWAY	2600	1500	1000	720

Rev. 10-5-82

OHIO DEPARTMENT OF TRANSPORTATION

CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY

DATE 4/77

Rev. 8-10-81

DR. GRD | CK. RLB. | REV. W.D.P. 7-5-79

GENERAL NOTES

CALC. BY W.D.P. DATE 7-3-79
CHK'D BY G.B. DATE 7-5-79
REV'D BY G.B. DATE 3-81

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

17/29

MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

MAINTENANCE OF TRAFFIC - TURNPIKE RAMPS

TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON THE TURNPIKE RAMPS BY USE OF THE EXISTING PAVEMENT, EXISTING PAVED SHOULDER, RESURFACED RAMP PAVEMENT OR SHOULDER OR TEMPORARY PAVEMENT AS MAY BE REQUIRED. IN ADDITION, PAVING WHICH REQUIRES TRAFFIC CONTROL ON THE RAMPS SHALL BE LIMITED TO DAYLIGHT WORK HOURS, MONDAY THROUGH FRIDAY NO LATER THAN 2:00 P.M. UNLESS THE PROVISION IS OTHERWISE WAIVED BY THE COMMISSION'S DEPUTY EXECUTIVE DIRECTOR OR CHIEF ENGINEER.

THE OHIO TURNPIKE COMMISSION SHALL BE NOTIFIED FIVE(5) DAYS IN ADVANCE OF ANY WORK ON THE RAMPS THAT WILL AFFECT THE TRAVELLING PUBLIC AND REQUIRE TRAFFIC CONTROL.

THE OHIO TURNPIKE COMMISSION MAY BE CONTACTED AT 652 PROSPECT STREET; BEREA, OHIO 44017 OR TELEPHONE 216-234-2081.

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

CONTRACTOR'S EQUIPMENT-OPERATION AND STORAGE

THE CONTRACTOR'S EQUIPMENT SHALL BE OPERATED IN THE DIRECTION OF TRAFFIC, WHERE PRACTICAL. A QUALIFIED FLAGMAN SHALL BE EMPLOYED WHERE THE CONTRACTOR'S EQUIPMENT MUST MERGE WITH THE TRAFFIC STREAM. THE CONTRACTOR'S EQUIPMENT SHALL BE EQUIPPED WITH AT LEAST ONE AMBER FLASHING LIGHT. PAVERS, ROLLERS AND OTHER EQUIPMENT MAY BE PARKED IN AREAS ALONG THE HIGHWAY WHEN PAVING OPERATIONS ARE SCHEDULED TO CONTINUE WITHIN THE NEXT WORKDAY; OTHERWISE THE EQUIPMENT SHALL BE STORED AT A STORAGE AREA, THE LOCATION OF WHICH SHALL HAVE PRIOR APPROVAL BY THE PROJECT ENGINEER. WHEN PARKING ALONG THE HIGHWAY, THE EQUIPMENT SHALL BE PARKED AT LEAST 50 FEET FROM THE EDGE OF PAVEMENT. ADEQUATE BARRICADES AND LIGHTS SHALL BE PLACED ON THE PAVEMENT SIDE OF THE EQUIPMENT TO IDENTIFY THE LIMITS OF THE EQUIPMENT. ALL OTHER EQUIPMENT SHALL BE STORED AT THE APPROVED CONTRACTOR'S STAGING AREA.

ALTERNATE METHODS

IF THE CONTRACTOR SO ELECTS, HE MAY SUBMIT ALTERNATE METHODS FOR THE MAINTENANCE OF TRAFFIC, PROVIDED THE INTENT OF THE PROVISIONS OF THIS PLAN ARE FOLLOWED AND NO ADDITIONAL INCONVENIENCE TO THE TRAVELLING PUBLIC RESULTS THEREFROM. NO ALTERNATE PLAN SHALL BE PLACED INTO EFFECT UNTIL APPROVAL HAS BEEN GRANTED, IN WRITING, BY THE DIRECTOR.

PRESSURE RELIEF JOINTS, TYPE C

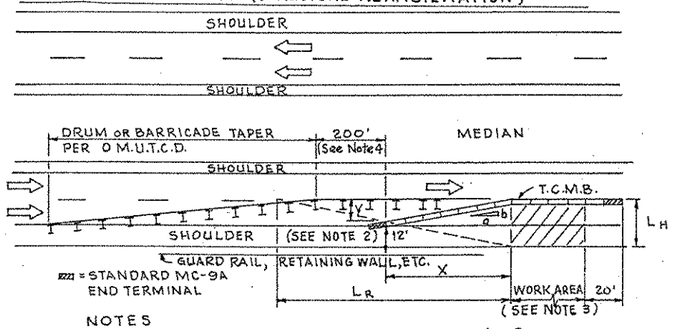
PRESSURE RELIEF JOINTS SHALL BE INSTALLED AS PER STANDARD DRAWING BP-11.

THEY SHALL BE LOCATED AS PER STANDARD DRAWING BP-11 WITHIN THE STRUCTURE AREAS. ALONG THE HIGHWAY THE JOINTS SHALL BE LOCATED APPROXIMATELY 1000 FEET APART. THE APPROXIMATE LOCATIONS USED FOR CALCULATION PURPOSES ARE AVAILABLE AT THE DISTRICT FOUR OFFICES, 705 OAKWOOD STREET, RAVENNA, OHIO.

THE FOLLOWING QUANTITIES ARE PROVIDED FOR THE PURPOSE OF INSTALLING PRESSURE RELIEF JOINTS ALONG THE HIGHWAY AND RAMPS FOR THIS PROJECT.

ITEM SPECIAL, PRESSURE RELIEF JOINTS, TYPE C	5198 LIN. FT.
ITEM 605, AGGREGATE DRAINS	5351 LIN. FT.
ITEM 605, 6" SHALLOW PIPE UNDERDRAINS, 707.01 TYPE III & 707.12 III	350 LIN. FT.

MAINTENANCE OF TRAFFIC (STRUCTURE REHABILITATION)



NOTES

1. DIMENSION Y SHALL BE ≥ 8'
2. A MINIMUM WIDTH OF 12' IS REQUIRED FOR ACCESS TO WORK AREA
3. THE "WORK AREA" IS DEFINED TO INCLUDE AREAS WHERE HEAVY EQUIPMENT OR MATERIALS ARE STORED.
4. TAPE TO END 200' UPSTREAM FROM END OF T.C.M.B.

SPEED (M)	a : b	L_R (Ft.)
55	15:1	360
50	15:1	320
45	12:1	280
40	12:1	240
35	10:1	200
30	10:1	160
25	10:1	120

$L_1 = 0$
$L_2 = 0$

$$X = \frac{L_H + \frac{L_1}{a} - L_2}{\frac{1}{a} + \frac{L_H}{L_R}}$$

$$Y = L_H - \frac{X L_H}{L_R}$$

TYPICAL BARRIER INSTALLATION

A QUANTITY OF 970 LIN. FT. OF ITEM 622 TEMPORARY CONCRETE BARRIER IS PROVIDED FOR THE USE OF THE CONTRACTOR DURING THE STRUCTURE REHABILITATION WORK. IF THE CONTRACTOR ELECTS TO SCHEDULE HIS WORK IN A MANNER THAT WILL REQUIRE ADDITIONAL QUANTITIES OF TEMPORARY CONCRETE BARRIER, THE ADDITIONAL BARRIER REQUIRED WILL BE AT THE CONTRACTOR'S EXPENSE. PAYMENT FOR THE 970 LIN. FT. OF TEMPORARY CONCRETE BARRIER INCLUDING ALL LABOR AND MATERIAL REQUIRED TO TO ERECT AND TRANSPORT BARRIER FROM SITE TO SITE SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 622 TEMPORARY CONCRETE BARRIER, LINEAR FOOT.

MAINTENANCE OF TRAFFIC (RESURFACING)

THIS ITEM SHALL CONSIST OF MAINTENANCE OF TRAFFIC ON EXISTING ROADWAYS AND RAMPS IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION, THE SPECIFICATIONS AND THE FOLLOWING:

1. TWO LANE DIRECTIONAL TRAFFIC SHALL BE MAINTAINED ON THE EXISTING PAVEMENT AT ALL TIMES WITHOUT INTERRUPTION DURING CONSTRUCTION OF THE WORK EXCEPT UNDER THE CONDITIONS SPECIFIED BELOW:

   A. CONSTRUCTION WORK WHICH REQUIRES MEN AND EQUIPMENT TO OCCUPY A THROUGH LANE.

2. NO MORE THAN ONE LANE OF DIRECTIONAL TRAFFIC IN EACH DIRECTION SHALL BE CLOSED AT ANY TIME. THE CONTRACTOR SHALL SET UP AND OPERATE HIS EQUIPMENT IN SUCH A MANNER AS TO ENCROACH UPON THE TRAVELED WIDTH OF THE PAVEMENT TO A MINIMUM EXTENT. TRAFFIC SHALL NOT BE CROSSED OVER THE MEDIAN AT ANY TIME.

3. NO LANE RESTRICTION WILL BE PERMITTED AFTER NORMAL WORKING HOURS EXCEPT FOR BRIDGE REHABILITATION OR MUDJACKING TO CORRECT CONCRETE SLAB ELEVATIONS, IN THESE AREAS THE LENGTH OF LANE CLOSING SHALL BE KEPT TO A MINIMUM.

4. IN AREAS OF PARTIAL AND FULL DEPTH PAVEMENT REPAIR, THE CONTRACTOR SHALL LIMIT THE LENGTH OF THE REMOVAL TO THE LENGTH THAT CAN BE REPLACED DURING THE SAME WORKING DAY.

5. THE CONTRACTOR SHALL PROVIDE THE SERVICE OF ONE(1) *SPECIAL DUTY LAW ENFORCEMENT OFFICER (LEO)* WITH A PATROL CAR, AT THE ENGINEER'S REQUEST, FOR THE EXCLUSIVE PURPOSE OF CONTROLLING THROUGH TRAFFIC. THE *LEO* WITH A PATROL CAR SHALL BE UTILIZED DURING INSTALLATION AND REMOVAL OF TRAFFIC CONTROL DEVICES, FOR LANE RESTRICTIONS AND DURING HOURS OF PEAK TRAFFIC AS AUTHORIZED BY THE ENGINEER (*IN CONGESTED AREAS*). *

   THE *LEO* SHALL CONSTANTLY MOVE WITH THE BACKUP OF TRAFFIC SO THAT HE IS ALWAYS IN A POSITION ON THE SHOULDER NEAR THE END OF THE LINE OF STOPPED TRAFFIC TO ASSIST IN CONTROLLING TRAFFIC AND INFORMING DRIVERS AS TO THE NATURE OF THE DELAY.

   INFORMATION REGARDING ARRANGEMENTS AND PAYMENTS BY THE CONTRACTOR FOR THE SPECIAL DUTY SERVICES MAY BE OBTAINED BY CONTACTING OHIO HIGHWAY PATROL, 660 EAST MAIN STREET, COLUMBUS, OHIO, TELEPHONE: 614-466-2300.

   IF AFTER CONTACTING THE OHIO HIGHWAY PATROL, IT IS DETERMINED THAT THEY CANNOT SUPPLY THE SPECIAL DUTY PATROLMAN THEN AN AUTHORIZED MUNICIPAL OR COUNTY POLICE OFFICER EQUIPPED WITH A MARKED AND FLASHER-LIGHT EQUIPPED OFFICIAL POLICE OR PATROL CAR SHALL BE PROVIDED.

6. IN AREAS OF LANE CLOSURES THE CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING THE SHOULDERS TO AN ELEVATION WITHIN ONE(1) INCH BELOW EXISTING PAVEMENT ELEVATION AND MAINTAINING THE SHOULDERS IN A SAFE CONDITION DURING THE DURATION OF LANE CLOSING OR OTHER LANE RESTRICTION.

7. DURING THE TIME OF LANE CLOSURES FOR 24 HOURS OR MORE, THE CONTRACTOR SHALL HAVE SOMEONE ON THE PROJECT 24 HOURS A DAY TO MAINTAIN SIGNS AND WARNING DEVICES.

8. A FLASHING ARROW BARRICADE (TC-35.10) SHALL BE USED FOR TRAFFIC CONTROL WHENEVER THERE IS A LANE RESTRICTION. SEE SHEET Nos. 11 THRU 16.

9. ALL TRAFFIC CONTROL DEVICES REQUIRED INSIDE THE WORK LIMITS, EXCEPT REGULATORY SIGNS, SHALL BE FURNISHED, ERECTED AND MAINTAINED BY THE CONTRACTOR.

10. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL FLAGS, FLAGMEN, WATCHMEN, BARRICADES, SIGN SUPPORTS AND INCIDENTALS RELATED THERETO AND SHALL BE UTILIZED IN CONFORMANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION, LATEST REVISION.

11. TEMPORARY SIGNS IN THE MEDIAN AND WHEREVER ELSE PRACTICAL SHALL BE MOUNTED ON SUPPORT POSTS FIXED TO EXISTING GUARD RAIL POSTS. WHERE THIS IS NOT POSSIBLE, EASELS OR BARRELS WITH A SUPPORT POST ATTACHED AND FILLED TO 1/2 CAPACITY WITH AGGREGATE SHOULD BE USED. BARRELS SHALL BE REFLECTORIZED WITH REFLECTIVE SHEETING, TYPE G IN ACCORDANCE WITH 730.19.

12. IN ORDER TO MAINTAIN ADEQUATE TRAFFIC CONTROL AT ALL TIMES, A MINIMUM OF TWO(2) MAJOR GUIDE SIGNS SHALL BE IN PLACE AT ALL TIMES TO DIRECT MOTORISTS TO APPROPRIATE EXITS OR THROUGH ROADWAYS. THE ERECTION OF ANY TEMPORARY SIGNS NECESSARY DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

13. BECAUSE OF QUANTITY OF PAVEMENT REPAIR ON THIS PROJECT, THE CONTRACTOR SHOULD PERFORM THIS PORTION OF THE CONTRACT IN THE INITIAL PHASE.

15. FOR ADDITIONAL MAINTENANCE OF TRAFFIC NOTES, DETAILS AND SKETCHES SEE SHEET NOS. 10 Through 16 and 18.

16. THE FOLLOWING QUANTITIES SHALL BE USED FOR THE MAINTENANCE OF TRAFFIC ON THIS PROJECT.

ITEM 614 MAINTAINING TRAFFIC	LUMP SUM
ITEM SPEC. *LAW ENFORCEMENT OFFICER* W/ PATROL CAR	8000 HOURS

FOR OTHER MAINTENANCE OF TRAFFIC QUANTITIES SEE SHEET NUMBERS LISTED IN 15 ABOVE.

* *This requirement does not preclude the Contractor's use of LEO for other puposes in the project area. However, where such a usage is at the option of Contractor, payment for the LEO services involved will be included the lump sum price bid for Item 614, Maintaining Traffic.*

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MAH-80-(0.00X1.69)
TRU-80-0.00

614 TEMPORARY PAVEMENT MARKINGS
NOTE B

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND WHEN NECESSARY, REMOVE TEMPORARY RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE MAINTAINED IN GOOD CONDITION DURING THE REQUIRED SERVICE PERIOD TO PROVIDE DAY AND NIGHT VISIBILITY. THE MARKINGS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER TO MAINTAIN REQUIRED VISIBILITY AND/OR REFLECTIVITY AT NO ADDITIONAL COST TO THE STATE.

MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE OF PAINT, PAVEMENT MARKING TAPE OR REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE).

A. PAINT

PAINT SHALL COMPLY WITH 708.14 AND SHALL BE APPLIED IN ACCORDANCE WITH 621 EXCEPT AS MODIFIED HEREIN.

B. PAVEMENT MARKING TAPE

FLEXIBLE RETROREFLECTIVE PREFORMED PRESSURE SENSITIVE TAPE SHALL HAVE STRAIGHT EDGES AND BE FREE OF CRACKS. THE TAPE SHALL CONSIST OF PIGMENT AND FILLERS WITH SUFFICIENT BINDER AND PLASTICIZER TO RETAIN GLASS BEADS HAVING A REFRACTIVE INDEX MEETING THE MINIMUM REFLECTIVE INTENSITY STANDARD STATED IN THE MANUFACTURERS INFORMATION. THE TAPE SHALL BE FLEXOLITE "WET REFLECTIVE", 3M "SCOTCHLANE", OR AN APPROVED EQUAL.

THE GLASS BEADS SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT THE TAPE WITH SUFFICIENT SURFACE BEADS TO PROVIDE OPTIMUM REFLECTORIZATION AT ALL TIMES.

PAVEMENT MARKING TAPE SHALL COMPLY WITH THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL HAVE A PRECOATED ADHESIVE LAYER FOR PAVEMENT APPLICATION WITHOUT THE USE OF HEAT, SOLVENTS OR ADDITIONAL ADHESIVES. THE ADHESIVE SHALL BE SUFFICIENT TO RETAIN COMPLETE MARKINGS ON THE PAVEMENT SURFACE THROUGHOUT THE USEFUL LIFE OF THE MARKINGS.

IN ADDITION TO THE FOREGOING, ALL TEMPERATURE APPLICATION REQUIREMENTS AND OTHER APPLICABLE MANUFACTURERS MATERIAL AND APPLICATION INSTRUCTIONS SHALL BE FOLLOWED.

WHEN APPROVED BY THE ENGINEER THE CONTRACTOR MAY USE REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE), IN LIEU OF THAT DESCRIBED ABOVE, TO FACILITATE REMOVAL OF MARKINGS.

C. REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE)

THE MARKING MATERIAL SHALL BE A MIXTURE OF POLYMERIC MATERIALS, PIGMENTS, REINFORCING MEDIUM TO FACILITATE REMOVAL, GLASS BEADS THROUGHOUT THE PIGMENTED PORTION, AND A RETROREFLECTIVE LAYER OF GLASS BEADS BONDED TO THE TOP SURFACE.

THE TAPE SHALL BE PRECOATED WITH A PRESSURE SENSITVE ADHESIVE CAPABLE OF TEMPORARILY BONDING TO ASPHALT CONCRETE OR PORTLAND CEMENT CONCRETE PAVEMENT AT AN AMBIENT TEMPERATURE OF NOT LESS THAN 50° F AND RISING, AT A PAVEMENT TEMPERATURE OF NOT LESS THAN 50° F NOR MORE THAN 150° F, WITHOUT THE USE OF HEAT, SOLVENTS, AND ADDITIONAL ADHESIVES OR ACTIVATORS.

MATERIALS SHALL CONFORM TO THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL BE REMOVABLE FROM APSHALT AND PORTLAND CEMENT CONCRETE INTACT OR IN LARGE PIECES AT TEMPERATURES ABOVE 40° F WITHOUT USE OF HEAT, SOLVENTS, GRINDING, OR SANDBLASTING. REMOVAL SHALL NOT RESULT IN DAMAGE TO OR OBJECTIONABLE STAINING OF THE PAVEMENT.

GLASS BEADS SHALL BE PROVIDED IN A PROPER SIZE, QUANTITY AND DISTRIBUTION TO ASSURE OPTIMUM RETROREFLECTIVITY AS THE FILM WEARS. THE FOLLOWING INITIAL AVERAGE REFLECTANCE VALUES AT 86.0° ENTRANCE ANGLE AS MEASURED IN ACCORDANCE WITH THE TESTING PROCEDURES OF FEDERAL TEST METHOD 370 SHALL BE CERTIFIED:

	WHITE		YELLOW	
OBSERVATION ANGLE	0.2	0.5	0.2	0.5
SPECIFIC LUMINANCE (MCD/FT^2)/FC	1770	1270	1310	810

THE TAPE SHALL BE 3-M COMPANY'S "STAMARK, DETOUR GRADE (SERIES 5710, 5711, 6270, 6211)" OR AN APPROVED EQUAL.

THE CONTRACTOR SHALL FURNISH TO THE ENGINEER CERTIFICATION THAT THE MATERIAL SUPPLIED MEETS THE PROPERTIES SPECIFIED HEREIN.

LAYOUT

THE TEMPORARY MARKINGS SHALL BE ACCURATELY LAID OUT IN CONFORMANCE WITH 621.051 AND SHALL BE LOCATED IN A TRUE LINE ON THE CENTER LINE, LANE LINE, EDGE LINE, OR CHANNELIZING LINE WHERE PERMANENT MARKINGS WOULD LIE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

PLACEMENT

TEMPORARY MARKINGS SHALL BE PLACED IN ACCORDANCE WITH LAYOUTS ON SHEETS AND THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE PLANS.

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS ARE NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134 AND NECESSARY PAVEMENT MARKINGS INSTALLED BEFORE THE FLOW OF TRAFFIC IS CHANGED TO THE NEXT PHASE OR RETURNED TO ITS NORMAL CHANNEL.

WHERE PERMANENT PAVEMENT MARKINGS ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL FURNISH AND PLACE THE PERMANENT MARKINGS WITHIN 30 CALENDAR DAYS FOLLOWING COMPLETION OF ALL SURFACE COURSES IN A SINGLE ROADWAY OR PRIOR TO THE END OF THE CONSTRUCTION SEASON, WHICHEVER COMES FIRST. PERMANENT MARKINGS SHALL NOT BE PLACED OVER ANY TAPE MARKINGS.

A. CLASS I MARKINGS

CLASS I MARKINGS SHALL BE AS DEFINED IN 621, EXCEPT AS FOLLOWS:
1) LANE LINES SHALL BE 4-INCHES IN WIDTH.
2) TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
3) STOP LINES SHALL BE 12-INCHES IN WIDTH.
4) CROSS WALK LINES SHALL BE 8-INCHES IN WIDTH.

GORE MARKINGS SHALL CONSIST OF TWO CHANNELIZING LINES PLACED AT THE THEORETICAL OR TEMPORARY GORE OF RAMPS AND DIVERGING OR CONVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR SOLID 4-INCH LINES, 24 GALLONS PER MILE FOR SOLID 6-INCH LINES, 48 GALLONS PER MILE FOR SOLID 12-INCH LINES, AND 4 GALLONS PER MILE FOR 4-INCH DASHED LINES.

B. CLASS II MARKINGS

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

CHANNELIZING LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 20-FOOT INTERVALS.

GORE MARKINGS SHALL BE TWO CONTINUOUS, WHITE 50-FOOT BY 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR GORE MARKINGS, 0.8 GALLONS PER MILE FOR CHANNELIZING LINE, AND 0.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE.

CONFLICTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL EXISTING CONFLICTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. DASHED LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED, IN ACCORDANCE WITH 621.15.

TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION AND REMOVAL OF THE MARKINGS, WHEN REQUIRED.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF THE MARKINGS.

ITEM	UNIT	DESCRIPTION
614	MILES	TEMPORARY LANE LINES, CLASS ____, (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY CENTER LINES, CLASS ___, (PAINT, TAPE OR TYPE R TAPE)
614	MILES/LIN. FT.	TEMPORARY CHANNELIZING LINES, CLASS ____, (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY EDGE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY GORE MARKING, CLASS II, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY LANE ARROWS, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

614	134.73 MILES	TEMPORARY LANE LINES, CLASS II
614	13.02 MILES	TEMPORARY CHANNELIZING LINES, CLASS II
614	6900 LIN. FT.	TEMPORARY GORE MARKINGS, CLASS II

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5/13/82

COMPUTATIONS

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MAH. 76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

NOTE:
Pavement Areas, For The Purposes Of Calculations, Were Divided Into Seven Parts, One For Each Old Construction Plan Involved In The Original Construction. To Shorten The References To The Old Plans Each Of The Plans Will Have A Number As Per The Following:

Plan 1: MAH-80S-7.01; MAH-80-2.30	Vault No. 274
Plan 2: MAH-80-3.37	Vault No. 276
Plan 3: MAH-80-6.30; TRU-80-0.00	Vault No. 252-C
Plan 4: TRU-80-1.55	Vault No. 677-A
Plan 5: TRU-80-3.15	Vault No. 677-B
Plan 6: TRU-80-4.73	Vault No. 677-C
Plan 7: TRU-80-8.90	Vault No. 655-C

Only Pavement Areas Are Shown In The Following Calculations. The Original Calculations That These Areas Were Obtained From Can Be Obtained From The District 4 Location And Design Office, 705 Oakwood Street, Ravenna, Ohio.

ITEM SPECIAL 3/4" OPEN GRADED ASPHALT CONCRETE FRICTION COURSE RUBBERIZED

	Pavement Area (3 Course Typical):	Paved Berm Area
Plan 1:	82,459.39 S.Y.	17,260.55 S.Y.
Plan 2:	31,155.74 S.Y.	5,680.24 S.Y.
Plan 3:	107,689.04 S.Y.	17,732.41 S.Y.
Plan 4:	38,283.29 S.Y.	7,560.10 S.Y.
Plan 5:	55,640.62 S.Y.	9,275.765 S.Y.
Plan 6:	118,548.29 S.Y.	20,007.01 S.Y.
Plan 7:	97,209.60 S.Y.	17,880.325 S.Y.
Total Pavement Area =	530,985.97 S.Y.	Total Paved Berm Area = 95,396.39 S.Y.

Pavement Area (2 Course Typical):

Plan 2:	11,129.44 S.Y.	Plan 1	10,825.94
Plan 4:	5,805.81 S.Y.		
Plan 5:	7,366.80 S.Y.	Plan 6	2,394.44
Plan 7:	11,160.99 S.Y.		
Total Pavement Area =	48,683.42 S.Y.		

Total Friction Course Area:
530,985.97 S.Y. + 48,683.42 S.Y. + 95,396.39 S.Y. = 675,065.78 S.Y.
675,065.78 S.Y. × 0.75" ÷ 36 = 14,063.87 C.Y.

Feathers:

Typical No. 2:	49.30 C.Y.
Typical No. 3:	6.60 C.Y.
Typical No. 5:	121.99 C.Y.
Typical No. 7:	26.39 C.Y.
Total Volume =	14268.15 C.Y.
Contingency	31.85 C.Y.
	14,300.00 C.Y.

Total Open Graded Asphalt Concrete Friction Course To Summary = 14,300 C.Y. + 1130 = 15,430

100% STATE

Pavement	Paved Berm
42,993.87 S.Y.	7165.64 S.Y.
42,993.87 S.Y. Total Pav't	7165.64 S.Y. Total Berm

100% STATE

42993.87 + 7165.64 × .75 ÷ 36 = 1044.99 C.Y.

Typical No. 6:	77.78 C.Y.
100% State Vol. =	1122.77 C.Y.
Contingency =	7.23 C.Y.
Total 100% State Vol. =	1130.00 C.Y.

ITEM 848, 1 1/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2

From Friction Course Pavement Area: = 579,669.39 S.Y.
Median Crossovers = 4,048.88 S.Y.
Paved Berm Area (3 Course and 2 Course Typical) = 290,661.92 S.Y.
Total Area = 874,380.19 S.Y.
874,380.19 S.Y. × 1.25 ÷ 36 = 30,360.42 C.Y.

Typical No. 2:	82.94 C.Y.
Typical No. 3:	11.00 C.Y.

Paved Berm 2 Course Typical

Plan 1:	5023.81
Plan 6:	810.99
Plan 2:	5553.09 S.Y.
Plan 4:	2005.27 S.Y.
Plan 5:	2759.47 S.Y.
Plan 7:	3688.60 S.Y.

Total Paved Berm Area = 19,821.21 S.Y.

Typical No. 4:	169.84 C.Y.	
Typical No. 5:	101.67 C.Y.	100% STATE
Typical No. 7:	356.44 C.Y.	Typical No 6: 142.59 C.Y.
Typical No. 8:	8.32 C.Y.	Contingency = 2.41 C.Y.
Total Volume =	31,090.63 C.Y.	Total = 145.00 C.Y.
Contingency =	59.37 C.Y.	
Total =	31,150.00 C.Y.	

Total Asphalt Concrete Intermediate Course, Type 2(I) To Summary = 31,150 C.Y. 100% STATE 145.00 C.Y.

ITEM 848, 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2

Pavement Area (3 Course Typical) From Friction Course Area = 530,985.97 S.Y.
530,985.97 S.Y. × 1.75" ÷ 36 = 25,811.82 C.Y.
Paved Berm Area (3 Course Typical) 268,691.30 S.Y.
270,840.71 S.Y. × 1.75" ÷ 2 ÷ 36 = 6,582.93 C.Y.

Paved Berm Area 3 Course Typical

Plan #1	43,502.06	S.Y.
Plan #2	10,037.19	S.Y.
Plan #3	58,091.01	S.Y.
Plan #4	19,250.86	S.Y.
Plan #5	23,545.37	S.Y.
Plan #6	66,942.87	S.Y.
Plan #7	49,471.41	S.Y.
Total	270,840.71	S.Y.

Feathers:

Typical No. 2:	54.47 C.Y.
Typical No. 3:	12.55 C.Y.
Typical No. 4:	52.39 C.Y.
Typical No. 5:	401.30 C.Y.
Typical No. 6:	694.21 C.Y.
Typical No. 7:	87.97 C.Y.
Typical No. 8:	3.15 C.Y.
Typical No. 10:	5.44 C.Y.
Total Volume =	33,706.23 C.Y.
Contingency =	43.77 C.Y.
Total =	33,750.00 C.Y.

Deduct 2000 C.Y. (Areas Overlaid By Maintenance Forces)
Total Asphalt Concrete Intermediate Course, Type 2(IR) To Summary = 31,750 C.Y. + 31,150 + 145 = 63,045 C.Y.

ITEM 848, 0" MINIMUM ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1

From Friction Course Area (1R): 675,065.78 S.Y.
675065.78 S.Y. × 0.50" (Ave) ÷ 36 = 9,375.92 C.Y.
Feathers (Total Pavement Area)(1R): 18,557.62 S.Y.
Feathers (Total Berm Area): 8,288.175 S.Y.
26,845.79 S.Y. Total Feather Area = 26,845.79 S.Y.
26,845.79 S.Y. × 0.50" (Ave) ÷ 36 = 372.86 C.Y.

Feathers:

Typical No. 1:	101.36 C.Y.	
Typical No. 4:	34.55 C.Y.	
Typical No. 5 (3/4"):	126.60 C.Y.	
Typical No. 6 (3/4"):	353.85 C.Y.	
Typical No. 7 (3/4"):	26.39 C.Y.	
Typical No. 8	14.10 C.Y.	
Typical No. 10 (3/4"):	2.72 C.Y.	
Median Crossovers:		4,048.88 S.Y.
4,048.88 S.Y. × 0.50" (Ave.) ÷ 36 =	56.23 C.Y. (1R)	
Total Volume =	9,805.01 C.Y.	659.57 C.Y.
Contingency =	44.99 C.Y.	5.43 C.Y.
Total =	9,850.00 C.Y.	665.00 C.Y.

Total Asphalt Concrete Intermediate Course, Type I = 665 C.Y.
Total Asphalt Concrete Intermediate Course, Type I (1R) = 9,850 C.Y. (1R)

TO SUMMARY 10,515 C.Y.

Calc. By WDP Date 7-79
Chk. By G.L.B. Date 7-79
Revd By G.L.B. Date 3-81

Rev. 10-5-82
Rev. 3-11-82
Rev. 8-10-81

COMPUTATIONS

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MAH-76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

ITEM 407, TACK COAT USING SS924, AS PER PLAN

From Friction Course Pavement Area:	579,669.39 S.Y.
Feathers From 8.48 0" Min. Asphalt Concrete Area:	26,845.79 S.Y.
Median Crossovers:	4,048.88 S.Y.
Berm Areas:	290,661.92 S.Y.
Total Tack Coat Area =	901,225.98 S.Y.

901,225.98 S.Y. x 0.10 Gal./S.Y. = 90,122.60 Gal.
Contingency = 27.40 Gal.
Total = 90,150.00 Gal.

Total Tack Coat To Summary = 90,150 Gals +

100% STATE

	42,993.87 S.Y.
	3,733.33 S.Y.
	7,165.64 S.Y.
TOTAL TACK COAT AREA	53,892.84 S.Y.

53,892.84 x 0.10 GAL./S.Y. = 5389.28 GAL.
CONTINGENCY = 10.72 GAL.
TOTAL 5400.00 GAL.

TOTAL TO SUMMARY 5400 GAL. = 95,550

407 COVER AGGEGATE = 3344 TON

ITEM 301 BITUMINOUS AGGREGATE BASE

From Special Drainage Connection 90822.17 L.F. @ 2' To ℄ Pipe.
90822.17 x 2.75 x .25 ÷ 27 = 2312.60 Cu.Yds.

69,619.97 L.F @ 3' To ℄ Pipe
69,619.97 x 3.75 x .25 ÷ 27 = 2417.36 Cu. Yds.
Total = 4729.90 Cu. Yds.
Contingency 30.10 Cu Yds.
4760.00 Cu Yds.

Total Bituminous Aggregate Base To Summary 4760 Cu.Yds.

ITEM 310 SUBBASE, GRADING "A", *Type I*

90822.17 x 2.75 x (6+5.14) ÷ 2 ÷ 12 ÷ 27 =	4293.73	Cu.Yds.
69,619.97 x 3.75 x (6+4.83) ÷ 2 ÷ 12 ÷ 27 =	4363.33	Cu.Yds.
	8657.06	Cu.Yds.
Contingency	12.94	Cu.Yds.
	8670.00	Cu.Yds.

Total 310 Subbase To Summary 8670 Cu.Yds.

Calc. By WDP Date 7-79
Chk. By G.L.B. Date 7-79
Rev'd By G.L.B. Date 3-81

Rev. 10-5-82
Rev. 3-11-82
Rev. 2-18-82
Rev. 8-10-81

RESURFACING COMPUTATIONS

SUB-SUMMARY

CALC. BY WDP DATE 7-79
CHK'D. BY GLB DATE 7-79
REV'D BY GLB DATE 3-81

FHWA REGION	STATE	PROJECT NO.	FUNDS
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MAH. 76-7.01
MAH-80-(0.00)(1.69)
TRU-80-0.00

MARK	LOCATION	STATION FROM	STATION TO	202 CURB REMOVED LIN. FT.	604 CATCH BASIN ADJ. TO GRADE EACH	202 TRAFFIC ISLAND REMOVED SQ. YDS.
C-1	Ramp "A"	12+62.68	17+12.68	450		
C-2	Left	11+38.07	17+63.07	625		
C-3	Left	857+75	862+95.70	521		
C-4	Left	405+54	410+54	150		19
C-5	W. B. Right	0+00	2+47	247		
D-1		28+60	Ramp G		1	
C-6	Ramp "D"	16+85	19+99.85	314.85		
D-2	Right	424+25			1	
D-3	Ramp "A" Right	1+20			1	
D-4	Right	133+00			1	
D-5	Right	134+66			1	
C-7	Ramp "A" Right	0+00	2+42	242		
C-8	Ramp "D" Left	11+87	16+48.17	461		
D-6	Ramp "D" Left	194+80			1	
D-7	Ramp "F" Left	176+90			1	
D-8	Ramp "F" Left	178+00			1	
C-9	Ramp "F" Left	175+34.79	179+84.79	450		
C-10	Ramp "D" Left	193+95	196+03	209		
C-11	Ramp "K" Right	229+21	230+61	140		
C-12	Ramp "M"	234+07	236+67	260		
D-9	Right	236+60			1	
C-13	Ramp "A" Right	12+00	16+32	432		
C-14	Ramp "A" Right	8+69.19	13+50	481		
D-10	Ramp "A"	10+75			1	
C-15	Ramp "G"	2+00	6+00	400		
D-11	Left	602+00			1	
D-12	Left	369+64			1	
C-16	Ramp A	488+32.45	492+32.45	400		
D-13	Ramp A	492+32.45			1	
C-17	Ramp E	458+33.24	454+08.24	425		
	TOTALS			6267.85	13	19

Rev. 10-5-82
Rev. 8-10-81

SUB- SUMMARY

GUARD RAIL AT STRUCTURES

CALC. BY GB DATE 3/82
CH'D. BY F.J. DATE 3/82

FHWA REGION	STATE	PROJECT NO.	FUNDS
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MAH-76-7.01 , TRU-80-0.00
MAH-80-(0.00)(1.69)

SIDE	LOCATION	STATION FROM	STATION TO	606 GUARD RAIL TYPE S LIN. FT.	202 GUARD RAIL REMOVED FOR STORAGE LIN. FT.	606 ANCHOR ASSEMBLY REG. EA.	606 ANCHOR ASSEMBLY TYPE T EA.	606 ANCHOR ASSEMBLY BAR EA.	606 BRIDGE TERMINAL ASSEMBLY TYPE C EA.	202 BARRIER GUARD RAIL REMOVED FOR STORAGE LIN. FT.	606 BRIDGE TERMINAL ASSEMBLY TYPE J EA.	606 BRIDGE TERMINAL ASSEMBLY TYPE D EA.	606 BRIDGE TERMINAL ASSEMBLY TYPE H EA.	606 BARRIER GUARD RAIL TYPE S LIN. FT.
LT.	MAH-76-0701	372+85	373+15	28	25				1					
LT. MED.	MAH-76-0701	372+67	375+70	53	25			1	1	75				
RT. MED.	MAH-76-0701	367+18	370+21	53	25			1	1	75				
RT.	MAH-76-0701	369+73.7	370+01.7	28	25				1					
LT.	MAH-76-0761	403+65	403+93	28	25				1					
LT. MED.	MAH-76-0761	403+60	406+63	53	25			1	1	75				
RT. MED.	MAH-76-0761	398+88	401+91	53	25			1	1	75				
RT.	MAH-76-0761	401+58	401+86	28	25				1					
LT.	MAH-80-0076	434+30	435+42.5	112.5			1				1			
LT. MED.	MAH-80-0076	434+26	435+38.5	112.5			1				1			
LT.	MAH-80-0076	436+81	437+09	28	25							1		
LT. MED.	MAH-80-0076	436+77	439+80	53	25				1	75		1		
RT. MED.	MAH-80-0076	432+08	435+11	53	25			1		75		1		
RT.	MAH-80-0076	434+80	435+08	28	25							1		
RT. MED.	MAH-80-0125	518+09	521+10	53	25			1		75			1	
RT.	MAH-80-0125	519+57	521+10	153	150								1	
LT.	MAH-80-0125	545+79.3	547+32.3	153	150								1	
LT. MED.	MAH-80-0125	545+79.3	548+00	53	25					25			1	
RT.	MAH-80-0125	545+79.3	546+07.3	28	25						1			
RT.	MAH-80-0247	584+15	584+43	28	25							1		
RT. MED.	MAH-80-0247	581+52	584+55	53	25			1		75		1		
LT.	MAH-80-0247	586+47	586+75	28	25							1		
LT. MED.	MAH-80-0247	586+35	589+38	53	25			1		75		1		
RT. MED.	MAH-80-0313	617+32	620+35	53	25			1		75		1		
RT.	MAH-80-0313	620+23.8	620+57.8	28	25							1		
LT. MED.	MAH-80-0313	621+32	624+35	53	25			1		75		1		
LT.	MAH-80-0313	621+15.4	621+43.4	28	25							1		
RT. MED.	MAH-80-0332	626+65	629+68	53	25			1	1	75				
RT.	MAH-80-0332	629+01	629+29	28	25				1					
LT. MED.	MAH-80-0332	631+94	634+97	53	25			1	1	75				
LT.	MAH-80-0332	632+34	632+62	28	25				1					
W.B. RT.	MAH-80-0515	872+63.5	872+97.5	28	25				1					
W.B. LT.	MAH-80-0515	872+62	872+90	28	25				1					
E.B. LT.	MAH-80-0515	869+28	869+56	28	25				1					
E.B. RT.	MAH-80-0515	869+21	869+49	28	25				1					
RT. MED.	TRU-80-0163	80+54	82+82	28	50			1				1		50
RT.	TRU-80-0163	82+37.5	82+65.5	28	25							1		
RT. MED.	TRU-80-0199	99+34	101+62	28	50			1				1		50
RT.	TRU-80-0199	101+20.5	101+48.5	28	25							1		
LT.	TRU-80-0199	0+73 RAMP A	1+01	28	25							1		
LT. MED.	TRU-80-0199	108+38	111+26	28	50			1				1		50
RT. MED.	TRU-80-0223	114+68	116+96	28	50			1				1		50
RT.	TRU-80-0223	116+79	117+07	28	25							1		
LT. MED.	TRU-80-0223	118+75	121+01	28	50			1				1		50
LT.	TRU-80-0223	118+61	118+89	28	25							1		
W.B. RT.	TRU-80-0358	190+21 RAMP B	190+49	28	25							1		
W.B. LT.	TRU-80-0358	190+69 RAMP B	190+97	28	25							1		
W.B. RT.	TRU-80-0358	191+49	192+24	50	25	1								
LT.	TRU-80-0404	214+16	214+44	28	25				1					
LT. MED.	TRU-80-0404	214+33	216+81	28	50			1	1					50
RT.	TRU-80-0404	213+70	213+98	28	25				1					
RT. MED.	TRU-80-0404	211+30	213+58	28	50			1	1					50
LT.	TRU-80-0425	225+99	226+27	28	25				1					
LT. MED.	TRU-80-0425	220+79	223+07	28	50			1	1					50
RT.	TRU-80-0425	222+42	222+70	28	25				1					
RT. MED.	TRU-80-0425	220+79	223+07	28	50			1	1					50
RT.	TRU-80-0425	224+83	233+08		825	1								
LT.	TRU-80-0482	271+34.5	271+62.5	28	25				1					
LT. MED.	TRU-80-0482	271+46	273+74	28	50			1						50
RT.	TRU-80-0482	269+87.5	270+15.5	28	25				1					
RT. MED.	TRU-80-0482	267+75	270+03	28	50			1	1					50
	SUB-TOTAL			2471	2800	2	2	23	28	1000	3	24	4	550

SIDE	LOCATION	STATION FROM	STATION TO	606 GUARD RAIL TYPE S LIN. FT.	202 GUARD RAIL REMOVED FOR STORAGE LIN. FT.	606 ANCHOR ASSEMBLY REG. EA.	606 ANCHOR ASSEMBLY TYPE T EA.	606 ANCHOR ASSEMBLY BAR EA.	606 BRIDGE TERMINAL ASSEMBLY TYPE C EA.	202 BARRIER GUARD RAIL REMOVED FOR STORAGE LIN. FT.	606 BRIDGE TERMINAL ASSEMBLY TYPE J EA.	606 BRIDGE TERMINAL ASSEMBLY TYPE D EA.	606 BRIDGE TERMINAL ASSEMBLY TYPE H EA.	606 BARRIER GUARD RAIL TYPE S LIN. FT.	606 BRIDGE TERMINAL ASSEMBLY TYPE E EA.
RT.	TRU-80-0574	318+72	319+00	28	25				1						
RT. MED.	TRU-80-0574	316+67	318+95	28	50			1							
LT.	TRU-80-0574	319+97	320+25	28	25				1						
LT. MED.	TRU-80-0574	320+01	322+29	28	50			1	1					50	
LT.	TRU-80-0922	504+97	506+25	103	100	1			1						
LT. MED.	TRU-80-0922	505+11	512+28	350	225				1	75				375	1
RT.	TRU-80-0922	501+27.5	504+18	265.5	262.5	1			1						
RT. MED.	TRU-80-0922	501+38	504+08	175	200				1					75	
RT.	TRU-80-0922	505+48	512+18	676	670							1			1
LT.	TRU-80-0920	9+79 RAMP A	14+51	465.5	462.5		1					1			
LT.	TRU-80-0920	15+72 RAMP A	19+25	328	325	1			1						
RT.	TRU-80-0920	15+62 RAMP A	18+15	228	225	1			1						
LT.	TRU-80-0938	511+86.32	BRIDGE	50			1					1			
LT.	TRU-80-0938	515+19	515+47	28	25										1
LT. MED.	TRU-80-0938	515+12	517+87	175	200							1		75	1
RT. MED.	TRU-80-0938	505+25	512+25		225					75					
RT.	TRU-80-0938	14+91 RAMP D	19+81.5	477.5	400							1			
LT.	TRU-80-1066	574+41.5	580+07	553	550						1				
LT.	TRU-80-1066	583+26	591+16.5	765.5	712.5	1									
LT. MED.	TRU-80-1066	583+16	585+94	175	225							1			
RT.	TRU-80-1066	576+64	579+64	275	187.5	1									
RT.	TRU-80-1066	582+83	587+86	490.5	487.5		1								
RT. MED.	TRU-80-1066	576+58	579+73	175	225							1			
N.B. LT.	MAH-680-0001	422+20	422+48	28	25										
N.B. RT.	MAH-680-0001	421+53	421+81	28	25										
S.B. LT.	MAH-680-0007	412+92	413+20	28	25										
S.B. RT.	MAH-680-0007	412+30	412+58	28	25										
S.B. RT.	MAH-680-0040	430+57	430+85	28	25										
S.B. LT.	MAH-680-00	430+19	430+47	28	25										
N.B. RT.	MAH-680-00	429+31	429+59	28	25										
N.B. LT.	MAH-680-00	428+92	429+20	28	25										
	SUB-TOTAL			6091.5	6157.5	6	4	7	13	150	6	4	4	725	4
	TOTALS			8562.5	8957.5	8	6	30	41	1150	9	28	8	1275	4

GENERAL SUMMARY

CALC. BY W.D.P. DATE 7-79	MAH. 76-7.01
CHK'D BY G.L.B. DATE 3-81	MAH-80-(0.00)(1.69)
REV'D BY G.L.B. DATE 3-81	TRU-80-0.00

OHIO — FHWA REGION 5 — 22 / 29

ITEM	SHEET NUMBER 8	9	9A	17	18	19	20	21	23	24	25	26	21A	9B	9C	100% STATE	I.R.	ITEM	TOTAL QUANT.	UNIT	DESCRIPTION
																					ROADWAY
202													1150				1150	202	1150	Lin. Ft.	Barrier Guardrail Removed For Storage
202								6268									6268	202	6268	Lin. Ft.	Curb Removed
202								19									19	202	19	Sq. Yds.	Traffic Island Removed
202		100															100	202	100	Each	Plowable Markers Removed For Storage
404		1000															1000	404	1000	Cu. Yds.	Bituminous Concrete For Maintaining Traffic
402	100																100	402	100	Cu. Yds.	Asphalt Concrete, AC-20 For Berm Repair
606													8562.5				8562.5	606	8562.5	Lin. Ft.	Guardrail Type 5
Spec.	50																50	Spec.	50	Hours	Grader Time
Spec.	50																50	Spec.	50	Hours	Rubber Tired Rollers
Spec.		10000															10,000	Spec.	10000	Sq. Yds.	Stabilizing Concrete Pavement
Spec.			5,000														5,000	Spec.	5,000	Lin. Ft.	Sawing And Sealing Transverse Joints
202													8957.5				8957.5	202	8957.5	Lin. Ft.	Guardrail Removed For Storage
606													8				8	606	8	Each	Anchor Assembly Standard Type A
606													6				6	606	6	Each	Anchor Assembly Standard Type T
606													30				30	606	30	Each	Anchor Assembly Standard Type A Barrier Design
606													41				41	606	41	Each	Bridge Terminal Assembly Standard Type C
606													9				9	606	9	Each	Bridge Terminal Assembly Standard Type J
606													28				28	606	28	Each	Bridge Terminal Assembly Standard Type D
606													8				8	606	8	Each	Bridge Terminal Assembly Standard Type H
606													1275				1275	606	1275	Lin. Ft.	Guardrail Type 5 Barrier Design
606													4				4	606	4	Each	Bridge Terminal Assembly Standard Type E
203														1350			1350	203	1350	Stations	Linear Grading, Method I, As Per Plan
202	5,000																5000	202	5000	Sq. Yds.	Wearing Course Removed
Spec.	240																240	Spec.	240	M-Gals	Water
																					DRAINAGE
604								13									13	604	13	Each	Catch Basin Adjusted To Grade
605		2500		5351													7851	605	7,851	Lin. Ft.	Aggregate Drains
605				350													350	605	350	Lin. Ft.	6" Shallow Pipe Underdrains, 707.01 Type III or 707.12 Type III
605	4000																4000	605	4000	Lin. Ft.	6" Unclassified Pipe Underdrains
Spec.	160.087																160.087	Spec.	160,087	Lin. Ft.	Drainage Connection
																					PAVEMENT
301		530					4760										5290	301	5290	Cu. Yds.	Bituminous Aggregate Base : AC-20, RT-11 or RT-12
310		600					8670										9270	310	9270	Cu. Yds.	Subbase, Type I, Grading A
407							95,550									5400	90,150	407	95,550	Gals.	Tack Coat: Using SS 924 As Per Plan
407							3344										3344	407	3344	TON	Cover Aggregate
848						10,515											10,515	848	10,515	Cu. Yds.	Asphalt Concrete Intermediate Course, Type 1
848						63,045										145	62,900	848	63,045	Cu. Yds.	Asphalt Concrete Intermediate Course, Type 2
Spec.						15,430										1130	14,300	Spec.	15,430	Cu. Yds.	Rubberized Open Graded Asphalt Friction Course
Spec.		1700															1700	Spec.	1,700	Sq. Yds.	Partial Depth Pavement Joint Repair
Spec.														23,295			23295	Spec.	23,295	Sq. Yds.	Full Depth Rigid Pavement Removal and Flexible Replacement
Spec.				5198													5195	Spec.	5,198	Lin. Ft.	Pressure Relief Joint, Type C
Spec.		110,000															110,000	Spec.	110,000	Lbs.	Crack Sealing
Spec.		21,000															21,000	Spec.	21,000	Lin. Ft.	Pavement Sawing
																					For Structure Quantities See Sheet No. 29
																					TRAFFIC CONTROL
614					134.73												134.73	614	134.73	Miles	Temporary Lane Lines, Class II
614					13.02												13.02	614	13.02	Miles	Temporary Channelizing Lines, Class II
614					6900												6900	614	6900	Lin. Ft.	Temporary Gore Markings, Class II
621								1164	1125	1125	675						4089	621	4085	Sq. Ft.	Island Markings
621								733	710	1287	412						3142	621	3142	Lin. Ft.	Curb Marking
621								31.30	26.28	22.16	15.00						94.74	621	94.74	Miles	Edge Lines
621								14.52	12.73	11.37	6.36						44.98	621	44.98	Miles	4" Lane Lines
621								6000	6157	7178	3595						22930	621	22930	Lin. Ft.	Channelizing Lines
622				970													970	622	970	Lin. Ft.	Temporary Concrete Barrier
621											243						243	621	243	Lin. Ft.	Stop Lines
621								1			8						9	621	9	Each	Lane Arrows
621											1						1	621	1	Each	Word "ONLY" on Pavement, 96"
621											218						218	621	218	Lin. Ft.	Cross Walk Lines
Spec.								1623	1440	1896	893						5852	621	5852	Lin. Ft.	TRANSVERSE LINES
624		Lump		8,000													8000	Spec.	8000	Hours	Law Enforcement Officer with Patrol Car
																	Lump	624	Lump	Lump	Mobilization, as per plan
614				Lump													Lump	614	Lump	Lump	Maintaining Traffic

PAVEMENT MARKING SUB-SUMMARY

COMPLETED BY JKP DATE 4/79
CHECKED BY GHR DATE 4/79

FHWA REGION	STATE	PROJECT	
5	OHIO		

MAH-76-7.01 MAH-80-(0.00)(1.69) TRU-80-0.00

23/79

LOCATION	SIDE	STATION FROM	STATION TO	621 Edge Lines (White) (LIN FT)	621 Edge Lines (Yellow) (Lin.Ft)	621 Lane Lines (Lin.Ft)	621 Island Marking (White) Sq.Ft	621 Channelizing Lines, 8" (White) (LIN.FT)	621 Curb Marking (White) (Lin.Ft)	621 Broad Transverse Lines 24" (White) (LIN.FT)
I-76 E.B.		369+00	STA EQ	5100	5100	5100				
		420+00 BK = 418+60 AHD								
		STA EQ	440+00	5100	5100	5100				
I-76 W.B.		369+00	STA EQ	5100	5100	5100				
		420+00 BK = 418+60 AHD								
		STA EQ	440+00	5100	5100	5100				
I-76 E.B.		440+00	455+24.82	1524.82	1524.82	1524.82				
I-76 W.B.		440+00	453+05	1305	1305	1305				
		453+05	455+24.82	219.82	219.82	439.64				
TOTAL I-76				23449.64	23449.64	23669.46				
I-80 E.B.		455+24.82	471+22	1597.18	1597.18	1597.18				
		471+22	473+32	210	210	420				
		473+32	476+12	280	280	280		560		353
RAMP "F"		476+12	485+01	889	789		238	75	40	
I-80 E.B.		476+12	477+12		100	100		100	68	
		477+12	494+72	1760	1760	1760				
LINE A		466+64	492+32	3416	3416					
LINE A		492+32	494+72	240				240		
I-80 E.B.		494+72	497+60	288	288	576				
		497+60	500+00	240	240	240				
I-80 W.B.		455+24.82	455+93	68.18	68.18	136.36				
RAMP E		455+93	458+33	240						
RAMP E		458+33	468+49	1016	1016			240		
I-80 W.B.		455+93	474+54	1861	1861	1861				
		474+54	475+54		100	100		100	68	
LINE B1		465+02	475+54	1052	952		238	75	40	
LINE B1		475+54	478+43	289				289		
I-80 W.B.		475+54	478+43		289	289		289		364
		478+43	480+48	205	205	410				
		480+48	500+00	1952	1952	1952				
I-80 E.B.		500+00	548+00	4800	4800	4800				
I-80 W.B.		500+00	548+00	4800	4800	4800				
I-80 E.B.		548+00	STA EQ	1208	1208	1208				
		560+08 = 560+12								
		STA EQ	596+00	3588	3588	3588				
I-80 W.B.		548+00	STA EQ	1208	1208	1208				
		560+08	560+12							
		STA EQ	596+00	3588	3588	3588				
I-80 E.B.		596+00	641+90	4590	4590	4590				
I-80 W.B.		596+00	636+62	4062	4062	4062				
		636+62	639+50	288	288	576				
		639+50	641+90	480	240	240		240		
SUB-TOTAL I-80 LEFT SIDE				44215.36	43495.36	38381.54	476	2208	216	717

LOCATION	SIDE	STATION FROM	STATION TO	621 Edge Lines (White) (LIN FT)	621 Edge Lines (Yellow) (Lin.Ft)	621 Lane Lines (Lin.Ft)	621 Island Marking (White) (Sq.Ft.)	621 Channelizing Lines 8" (White) (LIN.FT)	621 Curb Marking (White) (Lin.Ft)	621 Broad Transverse Lines 24" (White) (LIN.FT)	621 Lane Arrows (EACH)
I-80 E.B.		641+90	642+05	15	15	15					
		642+05	644+15	210	210	420					
		644+15	646+95	280	280	280		560		302	
		STA EQ									
		646+95 = 4+53 "C"									
RAMP "C"		4+53	5+53	100							
RAMP "C"		5+53	14+52	899	899		238	100	72		
I-80 E.B.		646+95	647+95		100	100		100	68		1
		647+95	659+00	1105	1105	1105					
I-80 W.B.		641+90	652+78	1088	1088	1088					
		652+78	653+78		100	100		100	68		
		653+78	656+58	280	280	280		560		302	
		656+58	658+71	213	213	426					
		658+71	659+00	29	29	29					
RAMP "A"		17+13	13+22	391				391			
RAMP "A"		13+22	12+63	59	59						
RAMP "A"		12+63	0+32	1231	1231						
RAMP "E"		4+53	5+53	100			225	100	72		
RAMP "E"		5+53	17+91	1238	1238						
RAMP "B"		12+00	15+20	320	320						
RAMP "B"		15+20	16+17	97				97	97		
RAMP "D"		3+53	5+24	171	171						
RAMP "D-1"		0+20	1+45	125	125						
RAMP "D"		5+24	6+50	126	126						
I-80 E.B.		659+00	662+40	340	340	340					
		662+40	675+75	1335	1335	2670					
STA EQ		675+74.89 = 376+15.43									
		376+15	377+14	99	99	198					
I-80 W.B.		377+14	387+00	986	986	2958					
		659+00	665+67	667	667	667					
		665+67	666+67		100	100		100	68		
		666+67	669+47	280	280	280		560		302	
		669+47	675+75	628	628	1256					
STA EQ		675+74.89 = 376+15.43									
		376+15	385+58	943	943	1886					
		385+58	387+00	142	142	426					
RAMP "B"		4+53	5+53	100			225	100	72		
RAMP "B"		4+53	12+00.	747	747						
RAMP "D"		6+50	13+65	715	715			398			
RAMP "D"		13+65	17+63	398				527			
RAMP "D"		670+48	675+75	527							
STA. EQ		675+74.89 = 376+15.43									
RAMP "D"		376+15	377+14	99				99			
SUB-TOTAL I-80 RIGHT SIDE				160830	145710	146240	688	3792	517	906	FT.
SUB-TOTAL I-80 LEFT SIDE				44215.36	43495.36	38381.54	476	2208	216	717	1 EACH
											FT.
TOTAL I-80 TO GENERAL SUMMARY				60298.36	58066.36	53005.54	1164	6000	733	1623	FT.
				11.42	11.00						MILES
				22.42		10.04					MILES
TOTAL I-76 TO GENERAL SUMMARY				23449.64	23449.64	23669.46					1 EACH
				4.44	4.44						FT.
				8.88		4.48					MILES
											MILES

Rev 8-30-82 BEH

PAVEMENT MARKING SUB-SUMMARY

Rev 10-5-82
Rev 8-10-81
4-2-82

PAVEMENT MARKING SUB-SUMMARY

COMPLETED BY J.K.P. DATE 5-79
CHECKED BY K.A.G. DATE 5-79

FHWA REGION	STATE	PROJECT	
5	OHIO	MAH-76-7.01, MAH-80-(0.00)(1.69) TRU-80-0.00	

LOCATION	SIDE	STATION FROM	STATION TO	621 EDGE LINES (WHITE) (LIN. FT.)	621 Edge Lines (Yellow) (LIN. FT.)	621 LANE LINES (LIN. FT.)	621 ISLAND MARKING (WHITE) SQ. FT.	621 CHANNELIZING LINES 8" (WHITE) (LIN. FT.)	621 CURB MARKING (WHITE) (LIN. FT.)	621 BROAD TRANSVERSE LINES 24" (WHITE) (LIN. FT.)
I-80-E.B.		170+00	180+25	1025	1025	2050				
RAMP "C"		180+25	183+49		324			324	47	
RAMP "F"		174+80	182+25	745				745		
RAMP "F"		182+25	185+13	288		288				
I-80-E.B.		180+25	182+81			256		256		338
		180+25	182+25	200						
		182+81	183+81			100				
		183+81	185+13		132	132	225	100	72	
		185+13	198+43	1330	1330	1330				
RAMP "D"		193+20	198+43	523				523		
I-80-E.B.		198+43	199+00	57	57	114				
RAMP "A"		170+00	172+83	283				283		
RAMP "A"		172+83	173+58	75	75					
I-80-W.B.		170+00	195+00	2500	2500	2500				
RAMP "B"		NO PAVEMENT MARKINGS								
S.R.-11		NO PAVEMENT MARKINGS								
I-80-E.B.		199+00	203+00	400	400	800				
		203+00	206+18		318	318		318	72	
		206+18	220+00	1382	1382	1382				
RAMP "J"		203+00	205+11	211				211		266
RAMP "J"		205+11	206+11	100			225	100	72	
RAMP "J"		206+11	214+00	789	789					
RAMP "J"		214+00	215+86	186	186	186				
I-80-W.B.		195+00	200+24	524	524	524				
		200+24	201+24		100	100	225	100	72	
RAMP "H"		200+50	201+24	74				74	42	
I-80-W.B.		201+24	203+54	230	230	230		460		290
		203+54	205+79	225	225	450				
		205+79	209+14	335	335	335				
STA. EQ.		209+1381 = 212+75.39								
I-80-W.B.		212+75	220+00	725	725	725				
I-80-E.B.		220+00	237+47	1747	1747	1747				
RAMP "M"		223+48	232+67	919	919					
RAMP "M"		232+67	234+07	140					140	
RAMP "M"		234+07	237+47	340				340		
STA. EQ.		237+46.70 = 235+49.09								
I-80-E.B.		235+49	237+09	320	160	160		160		
		237+09	239+97	288	288	576				
		239+97	250+50	1053	1053	1053				
I-80-W.B.		220+00	223+93	393	393	393				
		223+93	226+81	288	288	576				
		226+81	229+21	480	240	240		240		
RAMP "K"		229+21	230+61	140				140		
RAMP "K"		230+61	236+95	635	635					
RAMP "K"		236+95	239+54	258	258					
RAMP "K-1"		236+95	238+63	168	168					
I-80-W.B.		229+21	237+47	826	826	826				
STA. EQ.		237+46.70 = 235+49.09								
I-80-W.B.		235+49	237+71	222	222	222				
SUB TOTAL		LEFT SIDE		20424	17854	17613	675	4374	517	894

LOCATION	SIDE	STATION FROM	STATION TO	621 EDGE LINES (WHITE) (LIN. FT.)	621 EDGE LINES (YELLOW) (LIN. FT.)	621 LANE LINES (LIN. FT.)	621 ISLAND MARKING (WHITE) SQ. FT.	621 CHANNELIZING LINES 8" (WHITE) (LIN. FT.)	621 CURB MARKING (WHITE) (LIN. FT.)	621 BROAD TRANSVERSE LINES 24" (WHITE) (LIN. FT.)
I-80-W.B.		237+71	238+71		100	100	225	100	77	
		238+71	240+50	179	179	179		358		225
		240+50	243+10	260	260	520				
		243+10	250+50	740	740	740				
RAMP "L"		226+35	238+71	1236	1236					
I-80-E.B.		250+50	250+99	49	49	49				
STA. EQ.		250+98.55 = 259+00.44								
I-80-E.B.		259+00	315+00	5600	5600	5600				
I-80-W.B.		250+50	250+99	49	49	49				
STA. EQ.		250+98.55 = 259+00.44								
I-80-W.B.		259+00	315+00	5600	5600	5600				
I-80-E.B.		315+00	316+00	6000	6000	6000				
I-80-W.B.		315+00	364+36	4936	4936	4936				
		364+36	367+24	288	288	576				
		367+24	369+64	480	240	240		240		
		369+64	375+00	536	536	536				
RAMP "A"		12+00	16+00	400				400		
RAMP "A"		16+00	17+67	167	167					
I-80-E.B.		375+00	435+00	6000	6000	6000				
I-80-W.B.		375+00	390+45	1545	1545	1545				
		390+45	391+45		100	100	225	100	69	
		391+45	394+00	255	255	255		510		321
RAMP "B"		33+18	33+93	75				75	47	
		394+00	396+22	222	222	444				
		396+22	435+00	3878	3878	3878				
I-80-E.B.		435+00	494+87	5987	5987	5987				
		494+87	495+00	13	13	26				
I-80-W.B.		435+00	492+62	5762	5762	5762				
		492+62	495+00	238	238	476				
SUB TOTAL RIGHT SIDE				50495	49980	49598	450	1783	193	546 FT.
SUB TOTAL LEFT SIDE				20424	17854	17613	675	4374	517	894 FT.
TOTAL TO GENERAL SUMMARY				70919	67834	67211	1125	6157	710	1440 FT.
					138753					FT.
					26.28	12.73				MILES

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Rev. 8-30-82 &H
Rev. 8-10-81

PAVEMENT MARKING SUB-SUMMARY

COMPLETED BY J.K.P. DATE 5-79
CHECKED BY K.A.G. DATE 5-79

JOB			
F	OHIO		

25/29

MAH-76-7.01 MAH-80-(0.00/1.69) TRU-80-0.00

LOCATION	SIDE	STATION FROM	STATION TO	621 Edge Lines (White) (LIN FT)	621 Edge Lines (Yellow) (LIN.FT.)	621 Lane Lines (LIN.FT.)	621 Island Marking (White) SQ.FT.	621 Channelizing Lines 8" (White) (LIN FT)	621 Curb Marking (White) (LIN.FT.)	621 Broad Transverse Lines 24" (White) (LIN FT)
I-80-E.B.		387+00	387+04	4	4	12				
		387+04	389+89	285	285	570		570		308
RAMP "E"		4+58	5+33	75				75	68	
I-80-E.B.		389+89	390+89		100	200	225	100	72	
		390+89	408+12	1723	1723	3446				
I-680-E.B.		408+12	409+54	142		142		142		
I-680-E.B.		409+54	410+54	100		100		100		
I-680-E.B.		410+54	418+00	746	746	746				
I-80 & RAMP "C"		2+47	3+85		138	138		138		151
		3+85	4+85		100	100		100		
		4+85	12+00	715	715	715				
I-80-W.B.		387+00	388+46	146	146	438				
		388+46	391+82	672	336	672		336		
RAMP "G"		28+66	27+91		75				75	
I-80 W.B.		391+82	395+15	333	333	666				
		395+15	398+51	672	336	336		336		
I-680-W.B.		398+51	415+00	1649	1649	1649				
RAMP "B"		10+52	10+92		40			40	40	
S.R. 11 "N.B."		857+00	858+32	132	132					
I-80-W.B-"A"		0+00	2+47	247				247		
		2+47	4+00	153					153	
		4+00	15+00	1100	1100					
I-680-S.B.		418+00	424+29	629	629	1258				
RAMP "D"		16+10	20+00	390	75			315		
I-680-S.B.		424+29	426+21	384	192	192		192		
		426+21	429+09	288	288	576				
		429+09	437+03	794	794	794				
RAMP "B"		10+92	11+27		35					
I-680-N.B		415+00	417+72	272	272	272	225	35	35	
		417+72	420+04	232	232	464		544		392
		420+04	429+92	988	988	988				
NO PAVEMENT MARKINGS										
I-80-E.B.		12+00	13+83	183	183	183				
& RAMP "C"		13+83	16+75		292	292		292		
S.R.-11-N.B.		858+32	860+02	170	170					
S.R.-11-N.B.		860+02	862+96	294				294		
S.R.-11 & I-80-E.B.		862+96	883+05	2009	2009	4018				
STA. EQ.		883+05 = 885+64								
S.R.-11 & I-80-E.B.		885+64	887+00	136	136	272				
I-80-W.B. & "A"		15+00	16+78	178	178					
		16+78	17+78	178			225	100	72	
		17+78	20+66	288				288		346
S.R.-11-S.B.		862+25	863+00		75			75	55	
		863+00	865+83		283			283		
I-80-W.B. & S.R.-11-S.B.		865+83	887+00	2117	2117	2117				
I-80-E.B.-S.R.-11-N.B.		887+00	892+00	500	500	1000				
		892+00	901+78	978	978	978				
I-80-W.B.-S.R.-11-S.B.		887+00	901+78	1478	1478	1478				
STA. EQ.		901+78 = 0.00 COUNTY LINE								
SUB TOTAL I-80 LEFT SIDE				21380	19862	24812	675	4602	570	1197

LOCATION	SIDE	STATION FROM	STATION TO	621 Edge Lines (White) (LIN.FT.)	621 Edge Lines (Yellow) (LIN.FT.)	621 Lane Lines (LIN.FT.)	621 Island Marking (White) SQ.FT.	621 Channelizing Lines 8" (White) (LIN FT)	621 Curb Marking (White) (LIN.FT.)	621 Broad Transverse Lines 24" (White) (LIN FT)
I-80-E.B. S.R.-11-N.B.		0+00	45+00	4500	4500	4500				
I-80-W.B. S.R.-11-S.B.		0+00	45+00	4500	4500	4500				
I-80-E.B.-S.R.-11-N.B.		45+00	105+00	6000	6000	6000				
I-80-N.B.-S.R.-11-S.B.		45+00	102+72	5772	5772	5772				
		102+72	105+00	228	228	456				
I-80-E.B.-S.R.-11-N.B.		105+00	106+23	123	123	123				
		106+23	107+65	142	142	284				
		107+65	110+26	261	261	261		522		345
RAMP "C"		4+10	5+10	100				100	70	
RAMP "C"		5+10	11+72	662	662					
I-80-E.B.-S.R.-11-N.B.		110+26	111+26		100	100	225		72	
		111+26	134+70	2344	2344	2344				
RAMP "D"		1+19	12+15	1096	1096					
RAMP "D"		12+15	16+48	433				433		
I-80-E.B.-S.R.-11-N.B.		134+70	135+00	60	30	30		30		
I-80-W.B.-S.R.-11-S.B.		105+00	105+60	60	60	120				
		105+60	108+00	480	240	240		240		
RAMP "A"		0+00	4+33	433					433	
RAMP "A"		4+33	8+64	431	431					
I-80-W.B.-S.R.-11-S.B.		108+00	126+70	1870	1870	1870				
		126+70	127+70		100	100	225	100	72	
RAMP "B"		1+00	9+74	874	874					
		9+74	10+74	100				100	70	
I-80-W.B.-S.R.-11-S.B.		127+70	130+51	281	281	281		562		354
		130+51	132+62	211	211	422				
		132+62	135+00	238	238	238				
I-80-E.B.-S.R.-11-N.B.		135+00	137+10	420	210	210		210		
		137+10	139+98	288	288	576				
		139+98	170+00	3002	3002	3002				
I-80-W.B.-S.R.-11-S.B.		135+00	164+33	2933	2933	2933				
		164+33	167+21	288	288	576				
		167+21	169+61	480	240	240		240		
I-80-W.B.		169+61	170+00	39	39	39				
S.R.-11-S.B. "A"		169+61	170+00	39				39		
SUB TOTAL RIGHT SIDE				38688	37063	35217	450	2576	717	699
SUB TOTAL LEFT SIDE				21380	19862	24812	675	4602	570	1197
TOTAL TO GENERAL SUMMARY				60068	56925	60029	1125	7178	1287	1896
					116993					
					22.16	11.37				

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Rev. 8-10-81
4-2-82
8-30-82 Rev

PAVEMENT MARKING SUB-SUMMARY

PAVEMENT MARKING SUB-SUMMARY

REV'D BY G.L.B. DATE 3-81
COMPLETED BY J.K.P. DATE 6-79
CHECKED BY G.H.R. DATE 6-79

FUNC. REG. SN	STATE	PROJECT	
5	OHIO		

MAH-76- 7.01 MAH-80-(0.00)(1.69), TRU-80-0.00

26/29

LOCATION	SIDE	STATION FROM	STATION TO	621 Edge Lines (White) (Lin Ft)	621 Edge Lines (Yellow) (Lin. Ft)	621 Lane Lines (Lin. Ft.)			621 Island Marking (White) (Sq. Ft.)	621 Channelizing Lines (White) (Lin Ft)	621 Curb Marking (White) (Lin Ft)		621 Broad Transverse Lines 24" (White) (Lin Ft)			
I-80 E.B.		495+00	497+20	220	220	440										
		497+20	499+53	233	233	233				466			294			
		499+53	500+53	—	100	100			225	100	76					
		500+53	511+24	1071	1071	1071										
		511+24	513+45	221	221	442										
		513+45	516+03	258	258	258				516			356			
		516+03	517+03	—	100	100			225	100	66					
Ramp "C"		9+48	10+48	100						100	77					
		10+48	23+56	1308	1308											
Ramp "D"		15+98	16+98	100						100	67					
		16+98	31+62	1464	1464											
Ramp "E"		18+51	26+00	749	749											
I-80 W.B.		495+00	495+50	50	50	100										
		495+50	497+90	480	240	240				240						
		497+90	510+55	1265	1265	1265										
		510+55	511+55		100	100			225	100	62					
		511+55	513+48	193	193	193				386			243			
		513+48	516+02	254	254	508										
		516+02	526+02	998	998	998										
Ramp "A"		8+69	13+50	481						481						
		13+50	27+13	1363	1363											
Ramp "B"		14+46	15+46	100						100	64					
		15+46	25+35	989	989											
		25+35	26+23		88											
		26+23	27+13	90	90											
Ramp "B"		25+35	26+13	78												
		26+13	28+52	239	239											
I-80 E.B.		526+00	532+30	630	630	630										
		532+30	534+70	240	240	240				240						
		534+70	537+58	288	288	576										
		537+58	592+00	5442	5442	5442										
Ramp "E"		26+00	27+62	162	162											
		27+62	32+28	466						466						
I-80 W.B.		526+00	592+00	6600	6600	6600										
I-80 E.B.		592+00	657+86	6586	6586	6586										
I-80 W.B.		592+00	657+86	6586	6586	6586										
TOTAL TO GENERAL SUMMARY				40201	39024	33605			675	3395	412		893			FT
				79225												FT
				15.00		6.36										MILES

LOCATION	SIDE	STATION FROM	STATION TO	621 Lane Arrows (Each)	621 24" Stop Lines (Lin. Ft.)	621 8" Channelizing Lines (Lin. Ft.)	621 12" Cross Walk Lines (Lin. Ft.)	621 Word "ONLY" on Pavement (Each)
S.R.46 INTERSECTION								
Ramp "C"		12+25		1				
Ramp "C"		14+40			55			
U.S.422 INTERSECTION								
Ramp "B"		0+70	2+70			200		
Ramp "B"		0+62			46			
Ramp "B"		1+00		1				
Ramp "B"		2+68		1				
Ramp "B"		0+52					120	
Ramp "B"		1+85						1
Ramp "C"		11+99			35			
Ramp "C"		9+84		1				
Ramp "C"		12+08					98	
BELMONT AVENUE LIBERTY-JONES INTER								
Ramp "L"		225+94			40			
Ramp "L"		228+00		1				
Ramp "J"		216+50			18			
Ramp "J"		214+00		1				
U.S.62 & SR7 INTER.								
Ramp "A"		27+20		1				
Ramp "A"		27+50			17			
Ramp "C"		21+50		1				
Ramp "C"		23+45			32			
TOTALS CARRIED TO GENERAL SUMMARY				8	243	200	218	1

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PAVEMENT MARKING SUB-SUMMARY

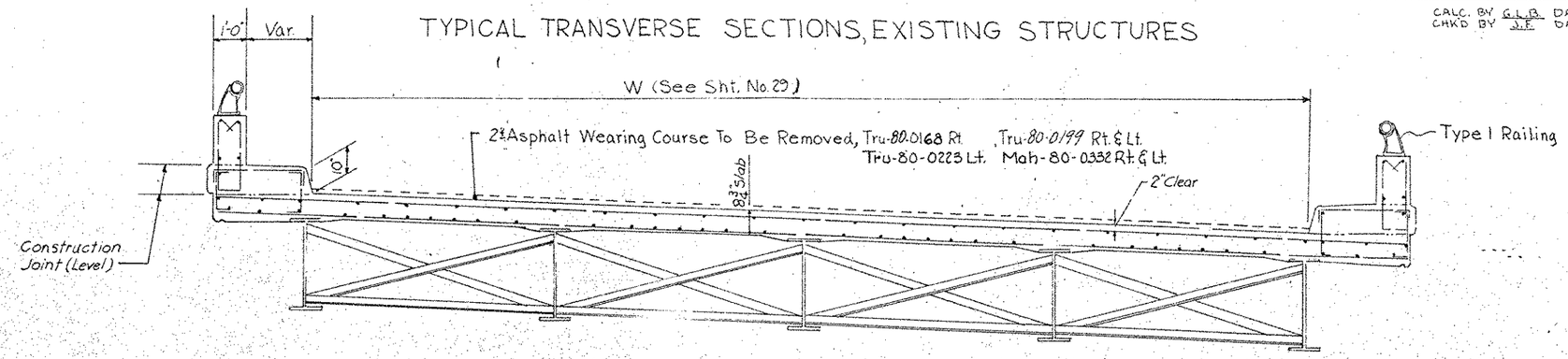
TYPICAL TRANSVERSE SECTIONS, EXISTING STRUCTURES

CALC. BY G.L.B. DATE 3-79
CHK'D BY J.F. DATE 3-79

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

27
29

MAH.-76 - 7.01
MAH.- 80 - (0.00)(1169)
TRU.- 80 - 0.00



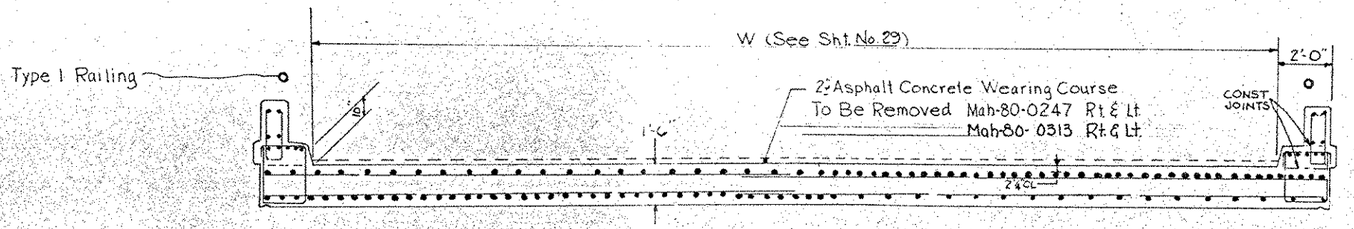
Mah-76-0701 Rt. & Lt.

Mah-80-0332 Rt. & Lt.
Mah-80-0515 Rt. & Lt.
Tru-80-0168 Rt. & Lt. (Lt. No Work)

Tru-80-0199 Rt. & Lt.
Tru-80-0223 Rt. & Lt.
Tru-80-0356 Rt. (No Work)
Tru-80-0358 Lt.
Tru-80-0404 Rt. & Lt.
Tru-80-0425 Rt. & Lt.

Tru-80-0482 Rt. & Lt.
Tru-80-0574 Rt. & Lt.
Tru-80-0856 Lt. (No Work)
Tru-80-0859 Rt. (No Work)
Tru-80-0920
Tru-80-0922 Rt. & Lt.
Tru-80-0938 Rt. & Lt.
Tru-80-1066 Rt. & Lt.

Mah-680-0007 S.B.
Mah-680-0040 S.B.
Mah-680-0033 N.B.
Mah-680-0001 N.B.



Mah-76-0761 Rt. & Lt.

Mah 80 0076 Rt. & Lt.
Mah 80 0247 Rt. & Lt.
Mah-80-0313 Rt. & Lt.

TYPICAL EXISTING STRUCTURES

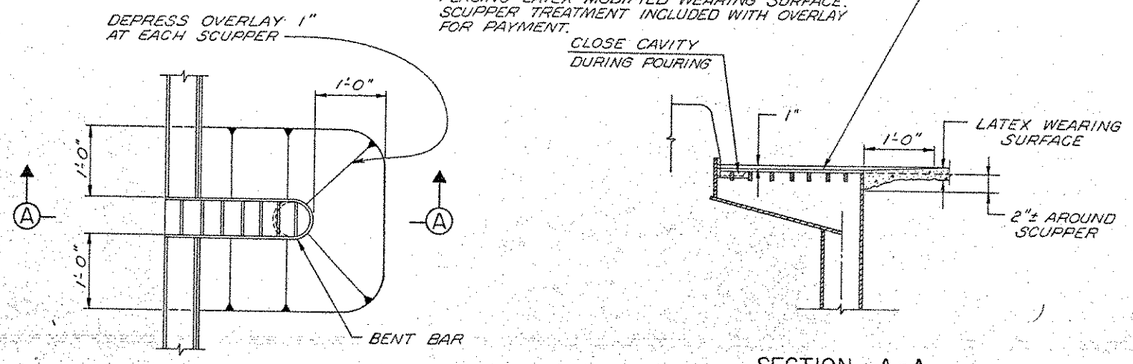
Rev. 10-5-82
Rev. 3-12-82
Rev. 8-10-81

CALC. BY G.L.B. DATE 3-79
CHK'D BY J.F. DATE 3-79

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

28
29

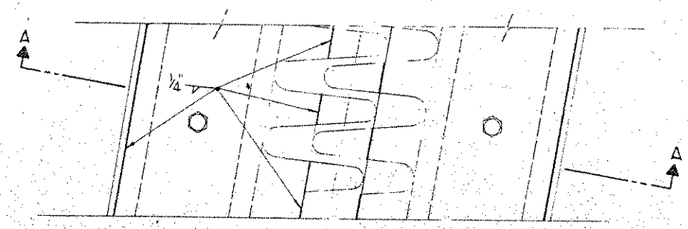
MAH.-76-7.01
MAH.-80-(0.00)(1.69)
TRU.-80-0.00



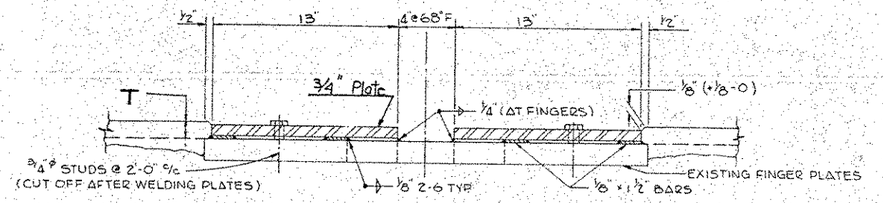
SCUPPER TREATMENT DETAIL
PLAN VIEW

PLACE A 1" BOARD (NOMINAL DIM.) WITH THE SAME SHAPE AS THE TOP OF THE SCUPPER OVER THE SCUPPER WHILE PLACING LATEX MODIFIED WEARING SURFACE. SCUPPER TREATMENT INCLUDED WITH OVERLAY FOR PAYMENT.

SECTION A-A



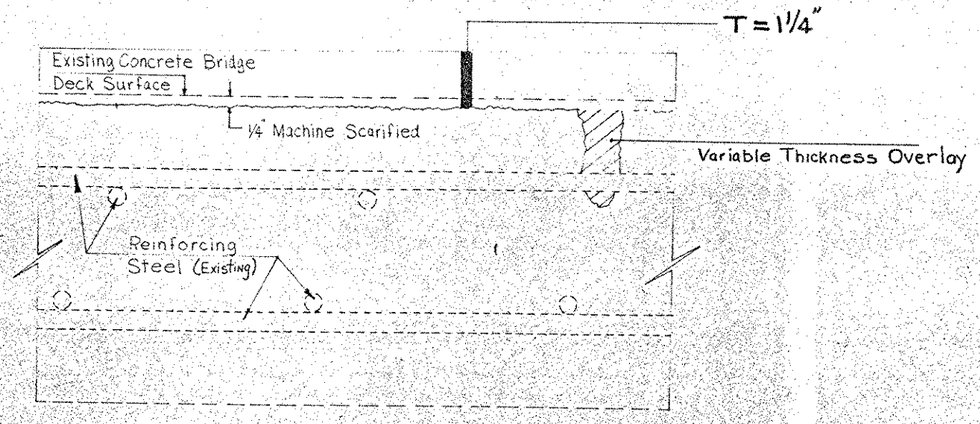
INTERMEDIATE EXPANSION (FINGER) JOINT



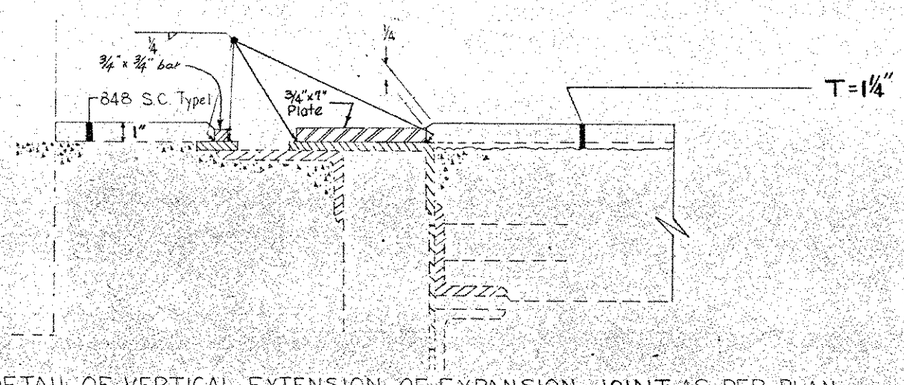
SECTION A-A

DETAIL OF VERTICAL EXTENSION OF EXPANSION JOINT, TYPE I
TRU-80-0199 LT. & RT.

LATEX MODIFIED CONCRETE OVERLAY



BRIDGE DECK LONGITUDINAL SECTION



DETAIL OF VERTICAL EXTENSION OF EXPANSION JOINT, AS PER PLAN

Mah-76-0701 Lt. & Rt.	Tru-80-0168 Rt.	Tru-80-0358 Lt.	Tru-80-0574 Lt. & Rt.	Mah-680-0007 S.B.
	Tru-80-0199 Lt. & Rt.	Tru-80-0404 Lt. & Rt.	Tru-80-0920	Mah-680-0040 S.B.
Mah-80-0332 Lt. & Rt.	Tru-80-0223 Lt. & Rt.	Tru-80-0425 Lt. & Rt.	Tru-80-0922 Lt. & Rt.	Mah-680-0033 N.B.
Mah-80-0515 Lt. & Rt.	Tru-80-0356 Rt.	Tru-80-0482 Lt. & Rt.	Tru-80-0938 Lt. & Rt.	Mah-680-0001 N.B.
			Tru-80-10.66 Lt. & Rt.	

TYPICAL STRUCTURE TREATMENT

Mah-76-0701 Lt. & Rt.	Mah-80-0247 Lt. & Rt.	Mah-80-0332 Lt. & Rt.	Tru-80-0199 Lt. & Rt.	Tru-80-0482 Lt. & Rt.
Mah-76-0761 Lt. & Rt.	Mah-680-0040 S.B.	Mah-80-0515 Lt. & Rt.	Tru-80-0223 Lt. & Rt.	Tru-80-0574 Lt. & Rt.
Mah-80-0076 Lt. & Rt.	Mah-80-0313 Lt. & Rt.	Tru-80-0168 Rt.	Tru-80-0356 Rt.	Tru-80-0920
	Mah-680-0033 N.B.		Tru-80-0358 Lt.	Tru-80-0922 Lt. & Rt.
	Mah-680-0001 N.B.		Tru-80-0404 Lt. & Rt.	Tru-80-0938 Lt. & Rt.
			Tru-80-0425 Lt. & Rt.	Tru-80-10.66 Lt. & Rt.

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Rev. 3-5-82
Rev. 10-8-81
Revised 3/81
Revised 10-3-79

DETAILS

STRUCTURE QUANTITIES

CALC. BY G.E. DATE 3/82
CKD. BY E.J. DATE 3/82

FHWA REGION	STATE	PROJECT NO.	FUNDS
5	OHIO		

29
29

MAH-76-7.01
MAH-80-(0.00)-(1.69)
TRU-80-0.00

Side	Bridge Number	Bridge Limits From	Bridge Limits To	Length L Ft.	Width W *Designates Ave. W Ft.	Area Sq. Yds.	Latex Modified Concrete Overlay T=1¼" 845 Sq. Yd.	Latex Modified Concrete Variable Thickness 845 Cu. Yd.	Full Depth Repair 845 Cu. Yd.	Wearing Course Removed 202 Sq. Yd.	Vertical Extension Of Expansion Joints Type I 516 Lin. Ft.	Vertical Extension Of Expansion Joints, As. Per Plan 516 Lin. Ft.	Typical Feathers Sheet No 6 & 7	Removal of Existing Expansion Joint Extensions 202 Lin. Ft.
Lt	Mah-76-070:	370+32.46	372+53.54	221.08	38.00	933.45	933.5	26				82.9	3,5	
Rt	"			"	"	"	933.5	26				82.9	3,5	
Lt	Mah-76-0761	401+95.04	403+58.53	163.51	39.67	720.70	720.7	16	6				5	
Rt	"			"	"	"	720.7	16					5	
Lt	Mah-80-0076	495+23.82	496+67.32	143.50	39.00	621.83	621.8	52					5	
Rt	"			"	51.64	823.37	823.4	22					5	
Lt	Mah-80-0247	584+72.92	586+16.50	143.58	38.00	606.23	606.2 ⊙	16 ⊙		606.2 ⊙			6	
Rt	"			"	"	"	606.2 ⊙	16 ⊙		606.2 ⊙			6	
Lt	Mah-80-0313	620+25.85	621+40.50	113.65	38.00	479.86	480.0 ⊙	14 ⊙		480 ⊙			6	
Rt	"			"	"	"	480.0 ⊙	14 ⊙		480 ⊙			6	
Lt	Mah-80-0332	629+97.88	631+61.42	206.58	38.00	950.08	950.1 ⊙	26 ⊙		950.1 ⊙		111.7 ⊙	6,7	111.7 ⊙
Rt	"			"	41.39 *	872.27	872.3 ⊙	24 ⊙		872.3 ⊙		102.6 ⊙	6,7	102.6 ⊙
Lt	Mah-80-0515	869+48.82	870+16.37	160.55	38.00	677.88	677.9	18				74.8 ⊙	5,7	
Rt	"			67.55	40.91	307.05	307.1	8				82.2	5	
Lt	Tru-80-0168	82+89.54	88+43.72	NO WORK									7	
Rt	"	82+89.54	88+43.72	554.18	33.00	2031.99	2032.0	90		2032.0		68.1	7	
Lt	Tru-80-0199	101+47.66	109+13.08	765.42	Var.	4062.74	4062.7	112		4062.7	55.0	161.1	7,10	
Rt	"	101+71.72	109+13.44	741.72	Var.	3558.87	3558.9	198	20	3558.9	81.9	183.8	7"10	
Lt	Tru-80-0223	116+96.26	118+72.92	176.66	38.00	745.90	745.9	20		745.9		78.6	7,5	
Rt	"			"	38.00	"	745.9	42	3	818		78.6	7	
Rt	Tru-80-0356	187+26.81	189+28.30	No Work										
Lt	Tru-80-0358	187+70.92	190+26.82	255.90	60.80	1728.89	1729.0	48				165.9	8,5	
Lt	Tru-80-0404	213+26.32	214+85.46	159.14	38.00	671.92	671.9	18				103.7	5	
Rt	"			"	"	"	671.9	18				103.7	5	
Lt	Tru-80-0425	223+35.83	225+20.77	184.94	51.90	1066.08	1066.1	30				212.8	5	
Rt	"			"	38.00	780.86	780.9	22				203.6	5	
Lt	Tru-80-0482	269+94.75	271+56.91	162.16	38.00	684.68	684.7	24				78.6	5	
Rt	"			"	"	"	684.7	16				78.6	5	
Lt	Tru-80-0574	318+90.16	320+08.20	118.04	38.00	498.39	498.4	12				76.8	5	
Rt	"			"	"	"	498.4	12				76.8	5	
Lt	Tru-80-0856	458+89.05	463+42.45	NO WORK									7	
Rt	Tru-80-0839			NO WORK									7	
†	Tru-80-0920	14+60.59	15+69.24	108.65	25.67	309.89	309.9	8				51.7	5,10	
Lt	Tru-80-0922	503+98.82	505+20.46	121.64	39.67	536.16	536.2	14				81.8	5	
Rt	"			"	"	"	536.2	14				81.8	5	
Lt	Tru-80-0938	512+45.07	514+94.62	249.56	49.45	1371.05	1371.1	38				100.3	7°	
Rt	"			"	49.68 *	1377.43	1377.4	38				100.7	5°	
Lt	Tru-80-10.66	579+85.16	583+04.84	319.68	30.00	1065.60	1065.6	30				62.4	5	
Rt	"			"	30.00	"	1065.6	30				62.4	7	
SB	MAH-680-0007	413+22.51	415+15.86	193.35	33.67	852.24		24				14.0	5	
SB	MAH-680-0040	430+54.64	432+72.34	217.70	47.04*	1137.85	1137.9	44				118.6	5	
NB	MAH-680-0035	426+97.18	429+26.82	229.64	38.00	967.48	967.5	32				108.6	5,6	
NB	MAH-680-0001	416+59.17	421+56.01	226.84	51.67	1704.13	1704.2	56				178.0	5	
	CONTINGENCY								5	1388.5 †				
	TOTAL						38236.4	1284	39	16,008	136.9	3230.1		214.3

Note: The existing expansion joint extension consists of two 2"x½" bars.

xx WHEN TWO-INCH DEPTH IS REACHED AT RAMP C USE 2 COURSE TYPICAL

⊙ INDICATES 100% STATE FUNDING

⊙ FEATHER TO TWO COURSE TYPICAL AT RAMPS D & B

† THIS QUANTITY IS PROVIDED TO REMOVE FEATHER AREAS BEYOND THE BRIDGE LIMITS

* see Sht. No. 8

	GRAND TOTAL		100% STATE FUNDS	IR-FUNDS
ITEM 516 VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS, AS PER PLAN	3230	LIN. FT.	291 LIN. FT.	2939 LIN. FT.
ITEM 845 FULL DEPTH REPAIR	39	CU. YDS.		39 CU. YDS.
ITEM 845 LATEX MODIFIED CONCRETE OVERLAY (1¼" OVERLAY) as per plan*	38,237	SQ. YDS.	3995 SQ. YDS.	34242 SQ YDS.
ITEM 845 LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS) as per plan*	1284	CU. YDS.	110 CU. YDS.	1174 CU. YDS.
ITEM SPECIAL VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS TYPE I	137	LIN. FT.		137 CU. YDS.
ITEM 202 WEARING COURSE REMOVED	16,001	SQ. YDS.	3995 SQ. YDS.	12606 SQ YDS.
ITEM 202 REMOVAL OF EXISTING EXPANSION JOINT EXTENSIONS	214	LIN. FT.	214 LIN. FT.	

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STRUCTURE QUANTITIES