AUGLAIZE COUNTY AUG ~ 33 ~ 15.07	OHIO	1 / 61
	FHWA REGION 5	
FR-11 (61)	FEDERAL PROJECT	

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

AUG - 33 - 15.07

DUCHOUQUET TOWNSHIP
PUSHETA TOWNSHIP
AUGLAIZE COUNTY

Design Designation

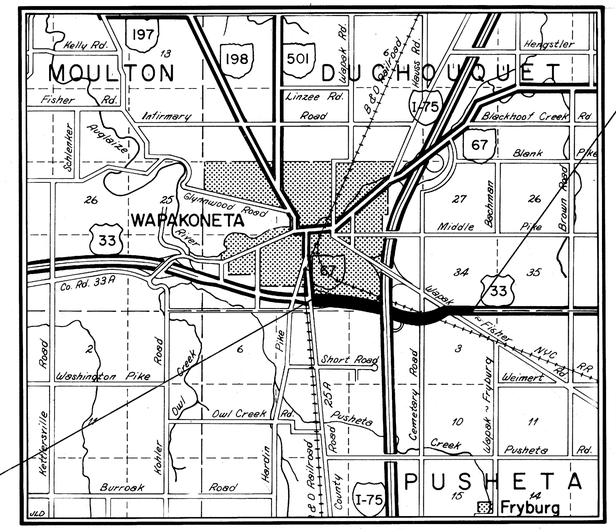
Current ADT (1985)	~	6250
Design Year ADT (2005)	~	8040
DHV	~	965
D	~	50 %
T	~	34 %
V	~	60 mph

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line 352 353
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light.
Limited Access (only) LA
Right of Way (only) RW
Limited Access & Right of Way LA & RW
Existing Right of Way
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)

INDEX OF SHEETS

SHEET 44 NOT USED



LOCATION MAP

SCALE IN MILES
0 1 2 3 4

Portion to be improved
State & Federal Routes
Other Roads

SCALES

Plan 0 50 100
Profile: Horizontal 0 20 40, Vertical 0 20 40
Cross Section: Horizontal 0 5 10, Vertical 0 5 10

LINE DATA

Begin Project ~ Sta. 101 + 50.00
Suspend Project ~ Sta. 182 + 69.55
Resume Project ~ Sta. 183 + 57.29
Station Equation ~ Sta. 199 + 75.14 Back = Sta. 200 + 75.76 Ahead
End Project ~ Sta. 206 + 50.00
Total Length of Project ~ 10,311 .64 linear feet = 1.953 miles

Begin Work ~ Sta. 101 + 15.00
Station Equation ~ Sta. 199 + 75.14 Back = Sta. 200 + 75.76 Ahead
End Work ~ Sta. 207 + 65.00
Total Length of Work ~ 10,549.38 linear feet = 1.998 miles

1985 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require the closing of the highway to traffic and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved G. Kenneth Copella P.E.
Date 10/18/84 District Deputy Director of Transportation

SUPPLEMENTAL SPECIFICATIONS	
847	10-17-83
947	10-17-83

OEM Approved Walter J. Justin Jr.
Date 12-11-84 Engineer, Bureau of Bridges & Structural Design

Approved Elizabeth Kauble
Date 2-26-85 Chief Engineer, Planning & Design

Approved William J. Smith
Date 2-26-85 Director, Department of Transportation

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS									
BP-3	12-6-76								
BP-2	12-6-76	GR-1	2-5-82	MC-4	7-26-76	TC-41.10	8-29-84	TC-35.10	8-29-84
BP-4	7-16-81	GR-2B	2-5-82	MC-6	1-30-84	TC-41.20	3-26-79	TC-51.11	1-20-84
BP-5	7-16-81	GR-4	2-5-82	MC-11	8-1-78	TC-41.50	3-26-79		
		GR-5	2-5-82			TC-42.10	8-19-77		
CB-2-2:A&B	5-1-79	GR-GA	2-5-82			TC-42.20	3-26-79		
CB-2-3&2-4	5-1-79	HW-4B	4-1-80			TC-51.10	1-20-84		
						TC-52.10	4-3-79		
F-2	5-1-76					TC-52.20	4-3-79		
F-5	5-1-76					TC-61.10	4-5-82		
F-6	5-1-76					TC-71.10	4-9-79		
						TC-72.20	2-26-82		

UNDERGROUND UTILITIES
48 HOURS
BEFORE YOU DIG
CALL ... 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

Plan Prepared By:
DISTRICT NO. 7
OHIO DEPARTMENT OF TRANSPORTATION

SEAL

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

JLD
Project: AUG ~ 33 ~ 15.07
Date of Letting _____ 19__, Contract No. _____

LD0300 Rev. 11-1-78

FHWA REGION	STATE	PROJECT	
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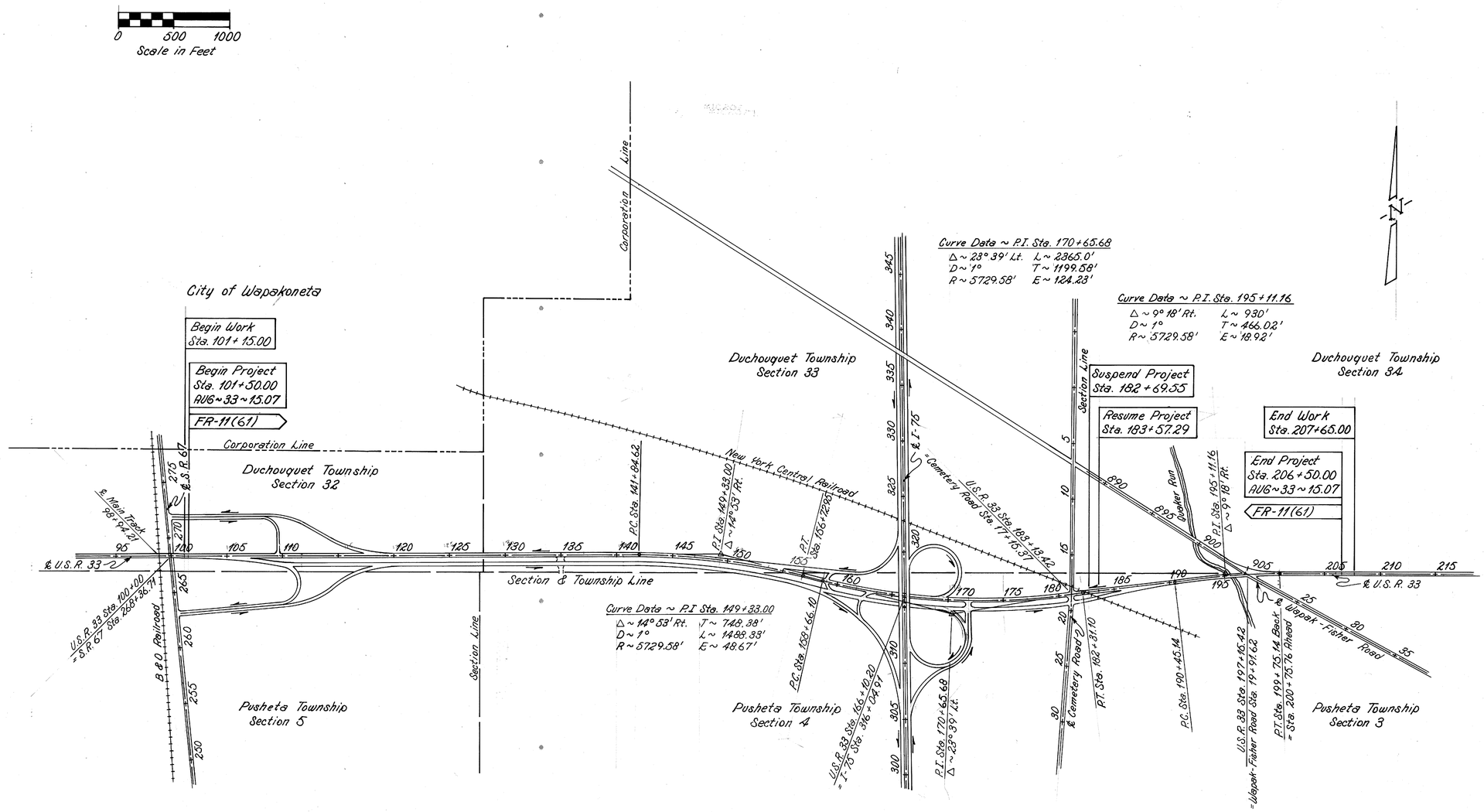
AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07

SCHEMATIC PLAN



JLD

U.S.R. 33 SCHEMATIC PLAN

FHWA REGION	STATE	PROJECT	
5	OHIO		

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AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07

Typical Sections
Type 404

Pavement Codes

(1) ~ Item Special ~ 1 1/4" Asphalt Concrete Surface Course, Type 1, AC-20

*(2) ~ Item 403 ~ 0" Minimum Asphalt Concrete; AC-20

(3) ~ Item 407 ~ Tack Coat with Cover Aggregate

(4) ~ Item 301 ~ 9" Bituminous Aggregate Base; AC-20, RT-11 or RT-12

(5) ~ Item 310 ~ 6" Subbase, Type I, Grading "A"

(6) ~ Item 301 ~ 3" Bituminous Aggregate Base; AC-20, RT-11 or RT-12

(7) ~ Item 304 ~ 7" Aggregate Base

(10) ~ Item 612 ~ Concrete Median, Standard Type

(11) ~ Item 617 ~ Compacted Aggregate

(A) ~ Existing 9" Reinforced Portland Cement Concrete Pavement

(B) ~ Existing Subbase

(C) ~ Existing Underdrain

(D) ~ Existing Stabilized Crushed Aggregate

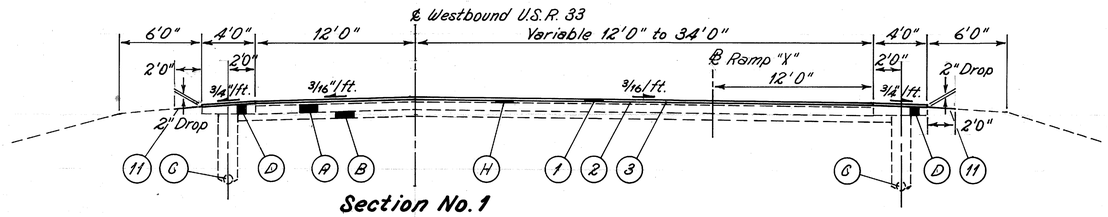
(E) ~ Existing Bituminous Macadam Base Course

(F) ~ Existing Concrete Curb

(G) ~ Existing Portland Cement Concrete Median, Type 1

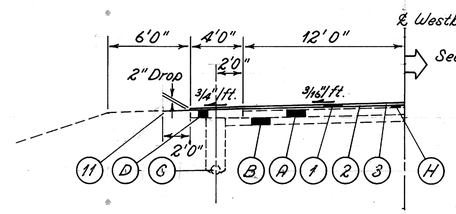
(H) ~ Existing 1 1/2" Asphalt Concrete Surface Course

* Item 403 is used as a leveling course and will vary in depth. The average depth of 3/4 inch will be used for estimating quantities.



Section No. 1

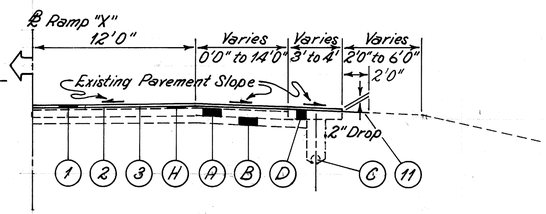
Limiting Stations
Sta. 101 + 50 (Ramp "X" Sta. 0+00) to Sta. 106 + 27.07 (Ramp "X" Sta. 4 + 76.50)



See Westbound U.S.R. 33 & Ramp "X" Intersection Details ~ Sheet ___

Section No. 2

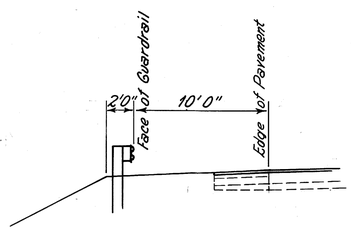
Limiting Stations
Westbound U.S.R. 33 Sta. 106 + 27.07 to Sta. 109 + 50



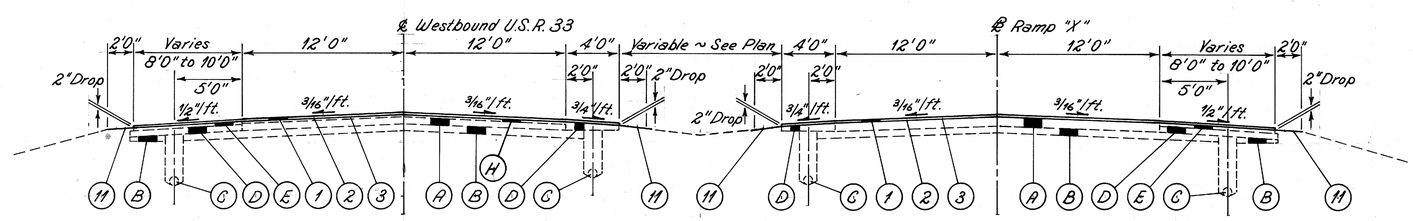
Section No. 3

Limiting Stations
Ramp "X" Sta. 4 + 76.50 to Sta. 10 + 24.36

575



Typical Guardrail Detail



Section No. 4

Limiting Stations
Westbound U.S.R. 33 Sta. 109 + 50 to Sta. 114 + 41.00
Ramp "X" Sta. 10 + 24.36 to Sta. 12 + 06.67 (Eastbound U.S.R. 33 Sta. 113 + 53.22)
Eastbound U.S.R. 33 Sta. 113 + 53.22 to Sta. 114 + 41.00

J.L.D.

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U.S.R. 33 ~ TYPICAL SECTIONS

FHWA REGION	STATE	PROJECT	
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AUGLAIZE COUNTY
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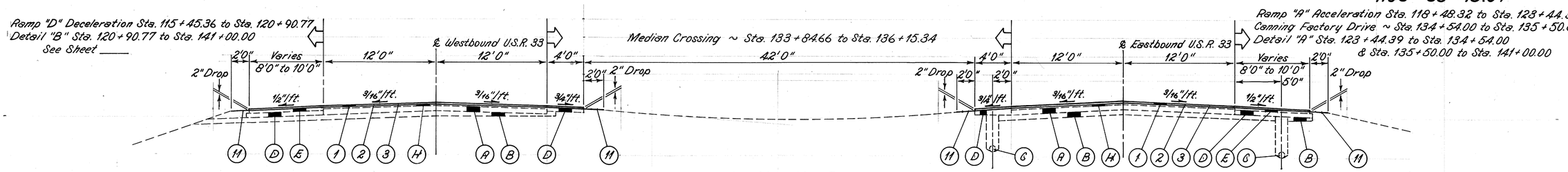
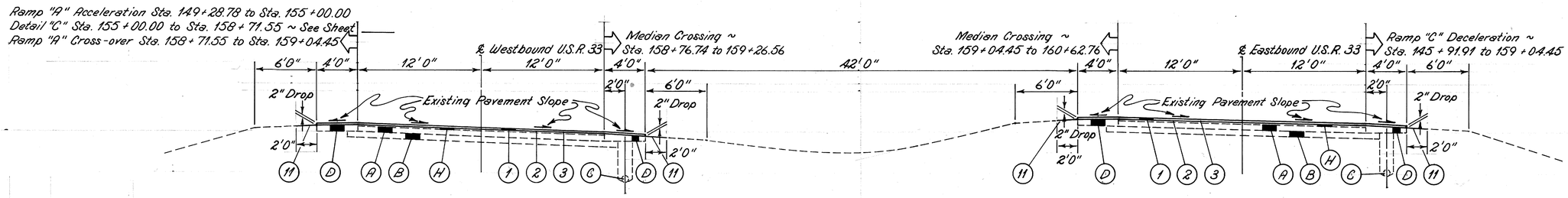
Typical Sections
Type 404



Section No. 5

Limiting Stations
Westbound & Eastbound U.S.R. 33 Sta. 114+41.00 to Sta. 141+00.00



Section No. 6

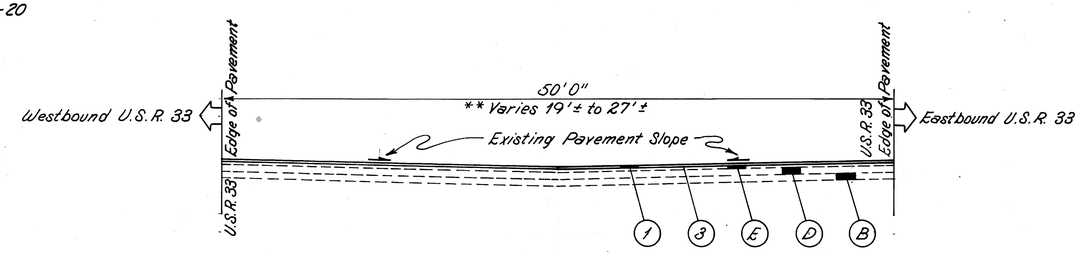
Limiting Stations
Westbound & Eastbound U.S.R. 33 Sta. 141+00.00 to Sta. 159+04.45

Pavement Codes

(1) ~ Item Special ~ 1 1/4" Asphalt Concrete Surface Course, Type 1, AC-20
* (2) ~ Item 403 ~ 0" Minimum Asphalt Concrete, AC-20
(3) ~ Item 407 ~ Tack Coat with Cover Aggregate
(11) ~ Item 617 ~ Compacted Aggregate

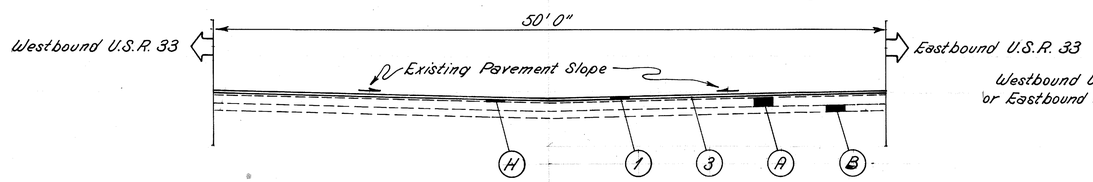
(A) ~ Existing 9" Reinforced Portland Cement Concrete Pavement
(B) ~ Existing Subbase
(C) ~ Existing Underdrain
(D) ~ Existing Stabilized Crushed Aggregate
(E) ~ Existing Bituminous Macadam Base Course
(F) ~ Existing Concrete Curb
(H) ~ Existing 1 1/2" Asphalt Concrete Surface Course

* Item 403 is used as a leveling course and will vary in depth.
The average depth of 3/4 inch will be used for estimating quantities.



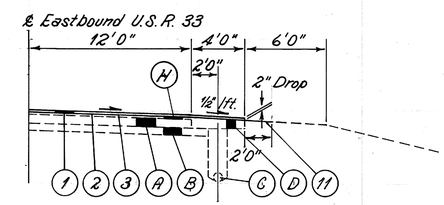
Median Crossing

Sta. 133+84.66 to Sta. 136+15.34
** U.S.R. 33 Sta. 180+32.44 to Ramp "V" Sta. 8+37.08 (Cemetery Road Crossing)

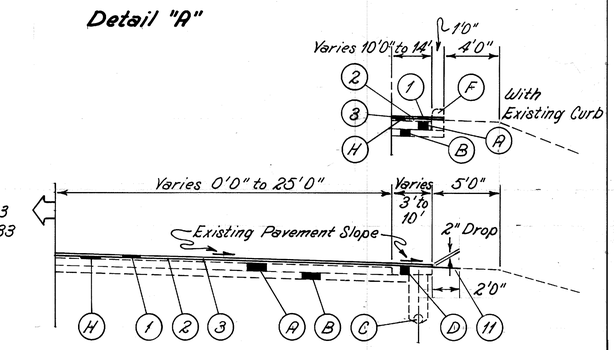


Median Crossing

Sta. 158+76.74 to Sta. 160+62.76
Sta. 162+11.47 to Sta. 164+37.23
Sta. 170+35.66 to Sta. 172+82.03



Detail "A"



Acceleration or Deceleration Lanes

J.L.D.

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U.S.R. 33 ~ TYPICAL SECTIONS

FHWA REGION	STATE	PROJECT	
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AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07

Typical Sections ~ Type 404

Median Cross-over ~ Sta. 159+04.45 to Sta. 159+26.56
Median Cross-over ~ Sta. 162+11.47 to Sta. 164+37.23
Median Cross-over ~ Sta. 170+35.66 to Sta. 172+82.03

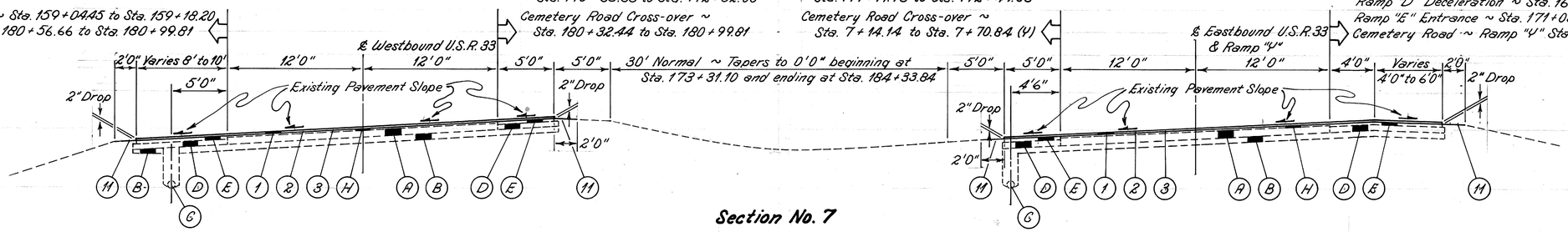
Median Cross-over ~ Sta. 159+04.45 to Sta. 160+62.76
Median Cross-over ~ Sta. 162+36.99 to Sta. 162+90.13
Median Cross-over ~ Sta. 171+17.76 to Sta. 172+49.36

Ramp "A" Cross-over ~ Sta. 159+04.45 to Sta. 159+18.20
Cemetery Road ~ Sta. 180+56.66 to Sta. 180+99.81

Cemetery Road Cross-over ~ Sta. 180+32.44 to Sta. 180+99.81

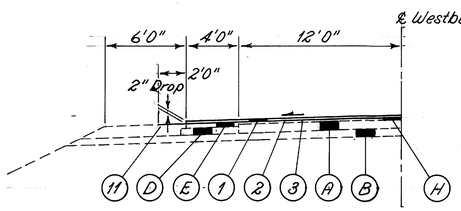
Cemetery Road Cross-over ~ Sta. 7+14.14 to Sta. 7+70.84 (Y)

Ramp "C" Deceleration ~ Sta. 159+04.45 to Sta. 160+11.79
Ramp "D" Deceleration ~ Sta. 161+05.34 to Sta. 171+05.34
Ramp "E" Entrance ~ Sta. 171+05.34 to Sta. 171+65.31
Cemetery Road ~ Ramp "Y" Sta. 6+98.43 to Sta. 7+70.84

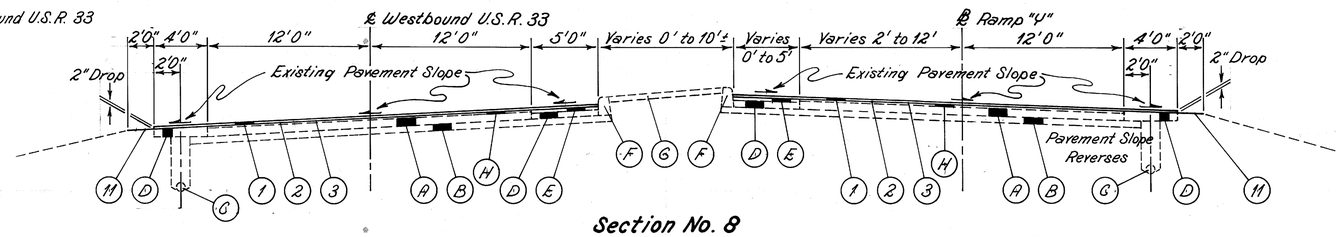


Section No. 7

Limiting Stations
Westbound U.S.R. 33 Sta. 159+04.45 to Sta. 180+99.81
Eastbound U.S.R. 33 Sta. 159+04.45 to Sta. 173+31.10 (Ramp "Y" Sta. 0+00)
Ramp "Y" Sta. 0+00 to Sta. 7+70.84



Detail "B"

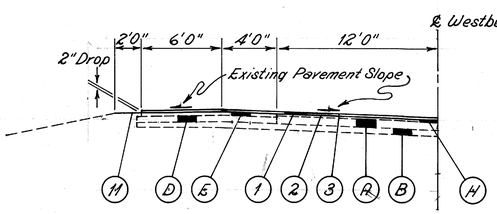


Section No. 8

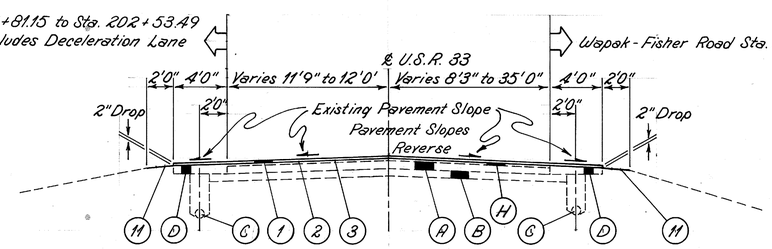
Limiting Stations
Westbound U.S.R. 33 Sta. 180+99.81 to Sta. 184+33.84
Ramp "Y" Sta. 7+70.84 to Sta. 11+14.18

Existing U.S.R. 33 Sta. 195+81.15 to Sta. 202+53.49
Includes Deceleration Lane

Wapak-Fisher Road Sta. 196+99.61 to Sta. 198+64.47



Detail "C"



Section No. 9

Limiting Stations
U.S.R. 33 Sta. 184+33.84 to Sta. 206+50

2200

Pavement Codes

(1) ~ Item Special ~ 1¼" Asphalt Concrete Surface Course Type 1, AC-20
* (2) ~ Item 403 ~ 0" Minimum Asphalt Concrete, AC-20
(3) ~ Item 407 ~ Tack Coat with Cover Aggregate
(11) ~ Item 617 ~ Compacted Aggregate

(A) ~ Existing 9" Reinforced Portland Cement Concrete Pavement
(B) ~ Existing Subbase
(C) ~ Existing Underdrain
(D) ~ Existing Stabilized Crushed Aggregate
(E) ~ Existing Bituminous Macadam Base Course
(F) ~ Existing Concrete Curb
(G) ~ Existing Portland Cement Concrete Median, Type 1
(H) ~ Existing 1½" Asphalt Concrete Surface Course

* Item 403 is used as a leveling course and will vary in depth. The average depth of ¾ inch will be used for estimating quantities.

Rev. 3-6-85

J.L.D.

U.S.R. 33 ~ TYPICAL SECTIONS

FHWA REGION	STATE	PROJECT	
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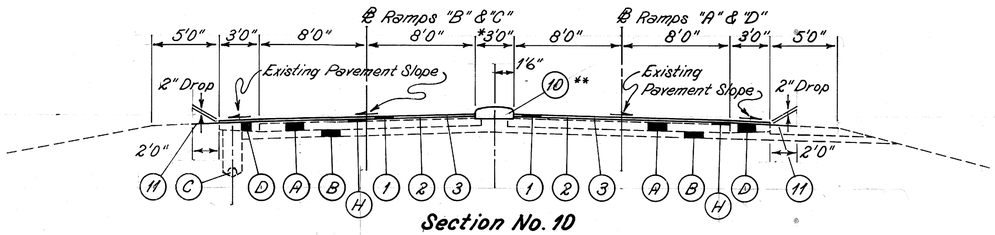
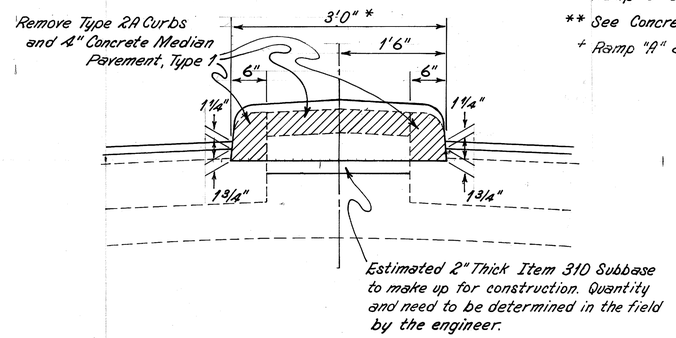
AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07

Typical Sections ~ Type 404



Section No. 10

Limiting Stations
S.R. 67 Ramp "B" Sta. 0+50.00 to Sta. 9+94.50
S.R. 67 Ramp "C" Sta. 0+58.51 to Sta. 8+75.00
S.R. 67 Ramp "A" Sta. 0+50.00 to Sta. 9+98.50
S.R. 67 Ramp "D" Sta. 0+58.00 to Sta. 8+80.00



Concrete Median Detail

* Ramp "B" Sta. 9+48.02 to Sta. 9+94.50 varies from 3'0" to 9'2" ±
Ramp "C" Sta. 8+31.63 to Sta. 8+75.00 varies from 3'0" to 8'3" ±

** See Concrete Median Detail

\+ Ramp "A" and Ramp "D" have aggregate drains

Pavement Codes

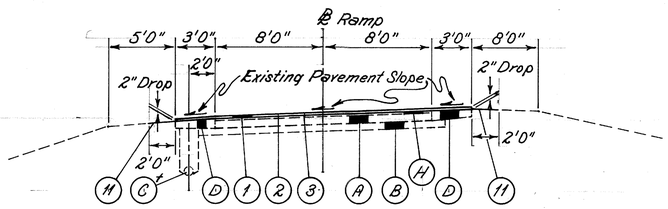
(1) ~ Item Special ~ 1¼" Asphalt Concrete Surface Course, Type 1, AC-20

(2)△ ~ Item 403 ~ 0" Minimum Asphalt Concrete, AC-20

(3) ~ Item 407 ~ Tack Coat with Cover Aggregate

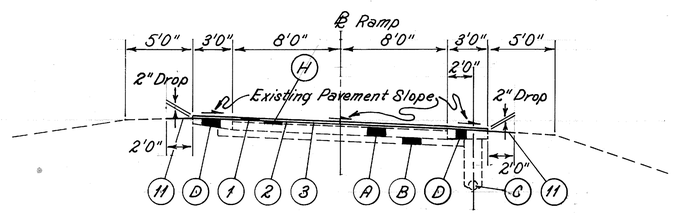
(10) ~ Item 612 ~ Concrete Median, Standard Type

(11) ~ Item 617 ~ Compacted Aggregate



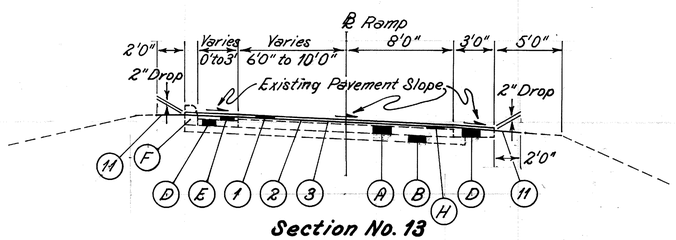
Section No. 11

Limiting Stations
S.R. 67 Ramp "A" Sta. 9+98.50 to Sta. 14+52.00
S.R. 67 Ramp "D" Sta. 13+54.00 to Sta. 17+48.68
S.R. 67 Ramp "B" Sta. 9+94.50 to Sta. 13+44.09



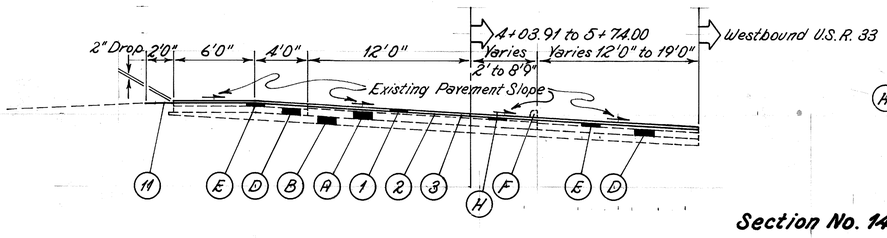
Section No. 12

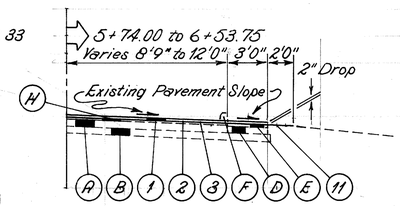
Limiting Stations
S.R. 67 Ramp "A" Sta. 14+52.00 to Sta. 16+36.84
S.R. 67 Ramp "C" Sta. 8+75.00 to Sta. 12+41.23
S.R. 67 Ramp "D" Sta. 8+80.00 to Sta. 13+54.00

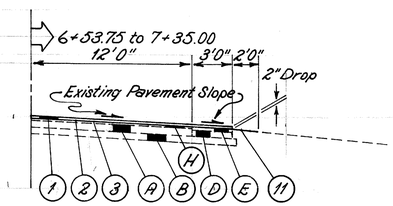


Section No. 13

Limiting Stations
S.R. 67 Ramp "A" Sta. 16+36.84 to Sta. 18+86.84







Section No. 14

Limiting Stations
I-75 Ramp "A" Sta. 4+03.91 to Sta. 7+35.00

(A) ~ Existing 9" Reinforced Portland Cement Concrete Pavement

(B) ~ Existing Subbase

(C)+ ~ Existing Underdrain

(D) ~ Existing Stabilized Crushed Aggregate

(E) ~ Existing Bituminous Macadam Base Course

(F) ~ Existing Concrete Curb

(H) ~ Existing 1½" Asphalt Concrete Surface Course

△ Item 403 is used as a leveling course and will vary in depth. The average depth of ¾ inch will be used for estimating quantities.

J.L.D.

Rev. 3-6-85

U.S.R. 33 ~ TYPICAL SECTIONS

FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 300 SQUARE FEET OF FLOOR SPACE. PAYMENT SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

ITEM SPECIAL-ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20.

In lieu of 404 Asphalt Concrete, item Special Asphalt Concrete Surface Course Type 1, AC-20 (having quality assurance acceptance with density provision) shall be used on this project as described by note in the proposal. All references to 404 Asphalt Concrete appearing throughout this plan shall be considered to read "Special, Asphalt Concrete Surface Course, Type 1, AC-20.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

OHIO POWER
216 N. ELIZABETH ST.
LIMA, OHIO 45802
(419) 222-9010

DAYTON POWER AND LIGHT CO.
P. O. BOX 1247
DAYTON, OHIO 45401
(513) 224-6239
HENRY TELLJOHANN

OHIO BELL TELEPHONE CO.
4710 TROY ROAD - SR 202
DAYTON, OHIO 45424
(513) 227-4938
MIKE ACTON

WAPAKONETA TELEPHONE CO.
6 WILLIPIE STREET
WAPAKONETA, OHIO 45895
(419) 738-2118

MIDWEST ELECTRIC
P. O. BOX 10
ST. MARYS, OHIO 45885
(419) 394-4110
E. NEUBAUER

RAILROAD

AMETECK, WESTCHESTER PLASTICS
C/O DAVE SIEGLER
BOX 385
WAPAKONETA, OHIO 45895
(419) 738-2141

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR PLAN ITEMS SET UP TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

PROFILE AND ALIGNMENT

THE PROPOSED PAVEMENT RESURFACING COURSE SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PREVIOUS CONSTRUCTION PLANS SHOWING THE ORIGINAL ALIGNMENT AND PROFILE GRADE ARE ON FILE FOR INSPECTION IF NECESSARY AT THE ODOT DISTRICT 7 OFFICE AS PROJECT NO. AUG-33-11.50 OR AUG-25-5.05 OR SHE/AUG-25-17.80/0.00. THE PROPOSED ASPHALT CONCRETE OVERLAYS VARY AS SHOWN ON THE TYPICAL SECTIONS.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN IN THESE PLANS, ARE SUBJECT TO ADJUSTMENTS PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS TO A POINT TEN (10) FEET OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS FOR FILL AREAS.

REPAIR OF GRASS AREA

WHERE OPERATIONS RESULT IN DISTURBED GRASS AREAS, THESE AREAS SHALL BE REPAIRED IN ACCORDANCE WITH ITEM 659, SEEDING AND MULCHING.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE CONTRACT FOR THE WORK NOTED ABOVE:

ITEM 659	SEEDING AND MULCHING	2000 SQ. YD.
ITEM 659	COMMERCIAL FERTILIZER	1 TON

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL REQUESTED BY THE ENGINEER. LIMITS OF THE REPAIR AREA ARE TO BE DETERMINED BY THE ENGINEER.

WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENT SEEDED AREAS, AS PER 659.09.

659	WATER	50 M GAL.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER, FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

207	STRAW OR HAY BALES	50 EACH

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR ACTUAL TIME NECESSARY TO REMOVE, GRADE AND REINSTALL GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER.

CONNECTION TO EXISTING PIPE

WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO EXISTING PIPE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED CONDUIT. PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEMS.

CONDUIT END TREATMENT

IMMEDIATELY AFTER PLACEMENT OF ANY CONDUITS, THE CONTRACTOR SHALL CONSTRUCT THE END TREATMENTS REQUIRED BY THE PLANS AT BOTH THE OUTLET AND INLET ENDS. THIS SHALL INCLUDE HEADWALLS, CONCRETE RIPRAP, ROCK CHANNEL PROTECTION, SODDING ETC.

PROPOSED CATCH BASINS, INLETS, AND MANHOLES

PROPOSED GRATE AND LID ELEVATIONS AND HORIZONTAL LOCATIONS WERE DEVELOPED FROM THE BEST FIELD INFORMATION AVAILABLE AT THE TIME. TO ENSURE THAT THE ELEVATIONS AND LOCATIONS BLEND TO THE FIELD CONDITIONS AND PROVIDE A FUNCTIONAL SYSTEM, THE ENGINEER SHALL RE-EVALUATE THE LAYOUT BEFORE ANY PROPOSED WORK PROCEEDS.

407 TACK COAT

THE TACK COAT AND COVER AGGREGATE 703.06 OPERATION SHALL BE DETERMINED AS PER SPEC. 407.05. THE PLAN QUANTITIES INDICATE AVERAGE APPLICATION RATES OF 0.10 GALLONS PER SQUARE YARD OF TACK COAT AND 7 POUNDS PER SQUARE YARD OF COVER AGGREGATE FOR ESTIMATING PURPOSES ONLY.

PROJECT FEATHERS

THE LENGTH OF PROJECT FEATHERS ARE INDICATED ON THE PLAN SHEETS. THE BUTT-TYPE FEATHER SHALL BE USED WHERE THE FEATHER IS ON EXISTING ASPHALT PAVEMENT. SEE STANDARD CONSTRUCTION DRAWING BP-5 FOR DETAILS OF PLACING FEATHERED AREAS.

FLUSHING AND REPAIR OF UNDERDRAINS

ALL EXISTING UNDERDRAINS SHALL BE FLUSHED WITH WATER TO DETERMINE IF THEY ARE FUNCTIONING PROPERLY AND IF NOT THE OBSTRUCTIONS ARE TO BE LOCATED AND REPAIRED. THE FOLLOWING PROCEDURES AND METHODS OF PAYMENTS ARE PROVIDED FOR THIS PURPOSE. A COPY OF THE ORIGINAL CONSTRUCTION PLANS SHOWING THE LOCATION OF THE UNDERDRAINS AND OUTLETS WILL BE ON FILE IN THE PROJECT OFFICE.

1. ITEM SPECIAL, UNDERDRAIN OPENING (EACH). THIS ITEM SHALL CONSIST OF EXPOSING THE FIRST TILE AT THE UPPER END OF AN UNDERDRAIN LINE OR A SUBSEQUENT INTERMEDIATE UNDERDRAIN OPENING AS PROVIDED HEREIN. EACH OPENING SHALL INCLUDE THE TRENCH EXCAVATION LENGTHWISE OVER THE EXISTING TILE, REPLACING THE 6" TILE BROKEN IN MAKING THE OPENING AND THE FULL DEPTH BACKFILL WITH NO. 8 AGGREGATE, ALL IN ACCORDANCE WITH SPECIFICATION SECTION 605. PAYMENT FOR THE OPERATIONS DESCRIBED ABOVE SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS INCIDENTAL TO COMPLETING THE ITEM INCLUDING A MAXIMUM OF 6 LIN. FT. OF 6" TILE AND SHALL BE MADE FOR "EACH" - ITEM SPECIAL - UNDERDRAIN OPENING.

2. ITEM SPECIAL, WATER (M. GALS.). AFTER THE UNDERDRAIN OPENING HAS BEEN MADE AND THE EXPOSED TILE REMOVED, THE LINE SHALL BE FLUSHED WITH WATER USING A MINIMUM SIZE HOSE OF 2" AND A MAXIMUM VOLUME OF WATER CALCULATED AT 1 1/2 GALLONS PER LIN. FT. 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 EFFICIENTLY.

   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. AN INTERMEDIATE UNDERDRAIN OPENING WILL BE PERMITTED AND PAID FOR PROVIDING IT IS NO CLOSER THAN 500 FT. TO THE INITIAL OPENING OR AT THE MIDPOINT OF THE LINE. THE COST OF RODDING THE LINE IS TO BE INCLUDED IN THE UNIT BID PRICE FOR WATER.

   THE METHOD OF MEASUREMENT FOR 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 PLUGGED OR BROKEN, IT IS TO BE ISOLATED AS NOTED ABOVE BY RODDING. THIS SECTION SHALL BE REPLACED, AT APPROXIMATELY THE LINE GRADE, IN ITS ENTIRETY WITH 6" TILE IN ACCORDANCE WITH SPECIFICATION 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 IF THE LINE IS FUNCTIONING PROPERLY AFTER WHICH THE CLOSING OF THE INITIAL OPENING WILL BE PERMITTED.

THE FOLLOWING ESTIMATED QUANTITIES ARE PROVIDED IN THE SUMMARY FOR THIS WORK ON THE PARTS OF THIS PROJECT:

ITEM SPECIAL	UNDERDRAIN OPENING	50 EACH
ITEM SPECIAL	WATER	35 M. GALS.
ITEM 605	6" UNCLASSIFIED PIPE UNDERDRAINS	440 LIN. FT.
ITEM 603	6" CONDUIT TYPE F	50 LIN. FT.

ITEM SPECIAL - GRADING OF BERMS UNDER EXISTING GUARDRAILS

AT LOCATIONS WHERE THERE IS A RIDGE OR WINDROW OF MATERIAL UNDER THE EXISTING GUARDRAILS, THE RIDGE SHALL BE REMOVED AND THE BERM GRADED TO SLOPE AWAY FROM THE PAVEMENT AND TO BE THE PROPER DISTANCE BELOW THE GUARDRAIL. AT LOCATIONS WHERE THE EXISTING BERM IS LOW, EMBANKMENT SHALL BE ADDED AND THE BERM SLOPED TO DRAIN AWAY FROM THE PAVEMENT AND TO BE THE PROPER DISTANCE BELOW THE GUARDRAIL. IF THE RIDGE OR LOW SPOT HAS BEEN CAUSED BY THE CONTRACTOR'S OPERATIONS, IT SHALL BE CORRECTED BY HIM AT NO COST TO THE STATE. WHERE THE RIDGE OR LOW SPOT IS THE RESULT OF EXISTING CONDITIONS, THE BERM SHALL BE REGRADED AT THE UNIT PRICE BID FOR ITEM SPECIAL - "GRADING OF BERMS UNDER EXISTING GUARDRAILS. AN ESTIMATED QUANTITY OF 1300 LIN. FT. OF ITEM SPECIAL - GRADING OF BERMS UNDER EXISTING GUARDRAILS" HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED IF AND AS DIRECTED BY THE ENGINEER TO CORRECT THE BERMS UNDER THE EXISTING GUARDRAILS.

614 WORK ZONE PAVEMENT MARKINGS

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND WHEN NECESSARY, REMOVE WORK ZONE 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 TO PROVIDE DAY AND NIGHT VISIBILITY. THE MARKINGS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER TO MAINTAIN REQUIRED VISUAL EFFECTIVENESS AND NIGHT VISIBILITY AT NO ADDITIONAL COST TO THE STATE.

THE CONTRACTOR SHALL, IN ADVANCE OF ANY SECTION OF ROADWAY LACKING OMUTCD FULL PATTERN STANDARD DIMENSION EDGE LINE OR CENTER LINE MARKINGS, ERECT A "NO EDGE LINES" (OW-167) SIGN OR "UNMARKED NO PASSING ZONES" (OW-168) SIGN OR BOTH AS MAY BE APPROPRIATE. THESE SIGNS SHALL BE IN PLACE PRIOR TO EXPOSING THE ROADWAY TO TRAFFIC. THESE SIGNS SHALL BE REPEATED EVERY 1 TO 2 MILES AND AT OTHER LOCATIONS AS NECESSARY. THESE SIGNS SHALL BE REMOVED WHEN THEY NO LONGER APPLY. THE COST FOR FURNISHING AND ERECTING AND SUBSEQUENTLY REMOVING THESE SIGNS SHALL BE INCLUDED IN 614 MAINTAINING TRAFFIC, UNLESS SPECIFICALLY ITEMIZED.

TEMPORARY PAVEMENT MARKING MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE EITHER 621.02 PAINT OR 947.03 TYPE B OR C PREFORMED MATERIAL. *Where pavement markings are not liable to be tracked, either conventional or fast-drying paint may be used for 621.02.*

PAINT

PAINTED MARKINGS SHALL BE IN ACCORDANCE WITH 621 EXCEPT THAT THE INCREASE OF 25 PERCENT IN THE APPLICATION RATE FOR NEW BITUMINOUS PAVEMENT AND PARAGRAPH 621.14 SHALL NOT APPLY.

TYPE B AND TYPE C PREFORMED MATERIAL

PREFORMED MATERIAL SHALL COMPLY WITH 947.03 EXCEPT THAT NO PREFORMED MATERIAL CONTAINING METAL SHALL BE PLACED ON ANY SURFACE UNLESS IT WILL BE REMOVED LATER BY THE CONTRACTOR. TEMPORARY PAVEMENT MARKINGS OF 947.03 PREFORMED MATERIAL SHALL BE REMOVED PRIOR TO PLACEMENT OF 621 OR 847 SURFACE COURSE MARKINGS AT THAT LOCATION. PREFORMED MATERIAL SHALL BE APPLIED IN ACCORDANCE WITH 847 EXCEPT AS MODIFIED HEREIN.

PLACEMENT

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS CONFLICT WITH THE TRAFFIC PATTERN, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134.

TEMPORARY MARKING CLASSES

CLASS I MARKINGS

CLASS I MARKINGS SHALL BE APPLIED TO THE FULL DIMENSIONS AS DEFINED IN 621 WITH THE FOLLOWING ADDITIONS OR EXCEPTIONS:

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.

CLASS II MARKINGS

CLASS II MARKINGS (ABBREVIATED) SHALL BE DEFINED AS FOLLOWS:

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 4-INCH WIDE BY A MINIMUM OF 48-INCH LONG DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

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

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 1.6 GALLONS PER MILE FOR LANE LINE AND CENTER LINE AND 16 GALLONS PER MILE FOR GORE MARKINGS.

CONFLICTING EXISTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO PLACING TEMPORARY MARKINGS, REMOVE ALL CONFLICTING EXISTING 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 INCLUDED IN 614 MAINTAINING TRAFFIC UNLESS SPECIFICALLY ITEMIZED.

THE CONTRACTOR SHALL ALSO REMOVE THE PRISMATIC RETRO-REFLECTOR WITHIN ANY RAISED PAVEMENT MARKER (RPM) WHICH IS IN CONFLICT WITH THE TEMPORARY PAVEMENT MARKINGS. WHEN THE TEMPORARY PAVEMENT MARKINGS ARE REMOVED AND THE RPM IS NO LONGER IN CONFLICT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE RECESSED REFLECTOR ATTACHMENT AREA OF THE CASTING AND INSTALL A NEW PRISMATIC RETRO-REFLECTOR OF THE SAME KIND AND COLOR. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

INTERIM MARKINGS

WITHIN 21 CALENDAR DAYS AFTER OPENING ANY LENGTH OF PAVEMENT TO TRAFFIC, THE 621 OR 847 PAVEMENT MARKINGS CALLED FOR IN THE PLANS OR EQUIVALENT 614 CLASS I, PAINT MARKINGS SHALL BE APPLIED. THE CONTRACTOR SHALL FURNISH ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO PLACE AND MAINTAIN 614 CLASS I PAINT MARKINGS AS PART OF THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC.

FOR EACH CALENDAR DAY BEYOND 21 DAYS THAT THIS WORK SHALL REMAIN UNCOMPLETED, THE PROVISIONS OF 108.07 WILL BE INVOKED, EXCEPT THAT BETWEEN NOVEMBER 15 AND APRIL 15 WEATHER CONDITIONS SHALL NOT BE AN ACCEPTABLE REASON FOR EXTENSION.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. 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 _____, ___*___
614	MILES	TEMPORARY CENTER LINES, CLASS _____, ___*___
614	LIN. FT.	TEMPORARY CHANNELIZING LINES, CLASS I, ___*___
614	MILES	TEMPORARY EDGE LINES, CLASS I, ___*___
614	LIN. FT.	TEMPORARY GORE MARKINGS, CLASS II, ___*___
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, ___*___
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, ___*___
614	EACH	TEMPORARY LANE ARROWS, CLASS I, ___*___
614	EACH	TEMPORARY RAILROAD SYMBOL MARKINGS, CLASS I, ___*___
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, ___*___
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, ___*___
614	LIN. FT.	TEMPORARY DOTTED LINES, CLASS I, ___*___

*621 PAINT, 947.03 TYPE B OR 947.03 TYPE C

fh4

ESTIMATED QUANTITIES

Item 614	~	*Temporary Lane Lines, Class II*	~	*4.90 miles*
Item 614	~	*Temporary Center Lines, Class II*	~	*3.10 miles*
Item 614	~	*Temporary Gore Markings, Class II*	~	*800 Lin. Ft.*

Quantities to General Summary

July 25, 1984

ITEM SPECIAL - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

DESCRIPTION. THIS WORK SHALL CONSIST OF PAVEMENT REMOVAL, SUBBASE/SUBGRADE CORRECTION, RIGID PAVEMENT REPLACEMENT, AND SHOULDER RESTORATION IN ACCORDANCE WITH DETAILS SHOWN IN THE PLANS. UNLESS OTHERWISE PROVIDED HEREIN. THE MATERIALS AND WORK SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF 202, 301, 305, 310, 402, 404, 451, 452, 453, 499 AND 848 AS APPLICABLE.

MATERIALS. PORTLAND CEMENT CONCRETE SHALL BE AS SPECIFIED IN THE PLANS.

JOINT SEALER SHALL MEET THE REQUIREMENTS OF ASTM D-3405, SHALL BE SAMPLED IN ACCORDANCE WITH 705.01 AND SHALL BE PRETESTED BEFORE SHIPMENT TO THE PROJECT.

BOND-BREAKER MATERIAL SHALL BE NONREACTIVE ADHESIVE-BACKED TAPE. BACKER ROPE SHALL BE NONABSORPTIVE MATERIAL SUCH AS UPHOLSTERY CORD OR A POLYSTYRENE ROPE.

NONSHRINK NONMETALLIC GROUT SHALL MEET THE CORPS OF ENGINEERS SPECIFICATION CRD-C621.

BOND-BREAKER MATERIAL, BACKER ROPE AND GROUT SHALL BE ACCEPTED BY CERTIFICATION IN ACCORDANCE WITH 101.061.

FULL DEPTH PAVEMENT SAWING. THE LIMITS OF ALL REPAIRS WILL BE LOCATED AND MARKED BY THE ENGINEER. RIGID PAVEMENT AREAS EXHIBITING DETERIORATION AT THE SURFACE SHALL BE MARKED ONE (1) FOOT MINIMUM BEYOND THE LIMITS OF DETERIORTATION BUT IN NO CASE SHALL THE MINIMUM DIMENSION OF THE RIGID REPLACEMENT BE LESS THAN SHOWN IN THE PLANS. PAVEMENT DESIGNATED TO BE REMOVED SHALL BE SAWED FULL DEPTH WITH A DIAMOND SAW BLADE.

IN AREAS WITH AN EXISTING BITUMINOUS OVERLAY, AN OFF-SET CUT MAY BE MADE THROUGH THE OVERLAY AT THE OPTION OF THE CONTRACTOR, AND THE OVERLAY REMOVED TO PROVIDE CLEARANCE FOR THE FULL DEPTH SAW CUT THROUGH THE RIGID PAVEMENT. IF SUCH A SAW CUT IS MADE AT THE OPTION OF THE CONTRACTOR, IT SHALL BE AT NO ADDITIONAL COST TO THE STATE.

RIGID PAVEMENT REMOVAL. TO ELIMINATE SPALLING OF PAVEMENT ADJACENT TO REPAIRS AND TO RELIEVE ANY PRESSURE IN THE PAVEMENT DURING RIGID PAVEMENT REMOVAL, AN ADDITIONAL FULL DEPTH SAW CUT OR AN INTERMEDIATE ROCK SAW CUT PARALLELING THE DIAMOND BLADE SAW CUT SHALL BE MADE AS SHOWN IN THE PLANS AT NO ADDITIONAL COST TO THE STATE. IF THE CONTRACTOR USES THE ADDITIONAL DIAMOND SAW CUT OPTION, THE WEDGE BETWEEN THE TWO (2) CUTS SHALL BE REMOVED WITH A PNEUMATIC JACK HAMMER OR EQUIPMENT APPROVED BY THE ENGINEER.

IF THE SURFACE OF THE ADJACENT PAVEMENT IS DAMAGED DURING THE RIGID PAVEMENT REMOVAL, AN ADDITIONAL FULL DEPTH DIAMOND BLADE SAW CUT SHALL BE MADE THE FULL WIDTH OF THE LANE AT A LENGTH THAT WILL ENCOMPASS THE DAMAGED PAVEMENT. THIS ADDITIONAL WORK WILL BE PERFORMED AT NO ADDITIONAL COST TO THE STATE.

SUBBASE/SUBGRADE CORRECTION. PRIOR TO PLACING THE CONCRETE FOR THE RIGID REPLACEMENT, ANY SUBBASE/SUBGRADE MATERIAL THAT IS DISTURBED BELOW THE DESIRED LEVEL OF CLEANOUT SHALL BE REMOVED AND THE PATCH AREA COMPACTED TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL REPLACE THE SUBBASE/SUBGRADE MATERIAL REMOVED WITH CONCRETE AS PART OF THE RIGID REPLACEMENT AT NO ADDITIONAL COST TO THE STATE.

FURNISHING AND PLACING NEW STEEL. ALL REINFORCEMENT, DOWELS, AND TIE BARS SHALL BE OF THE SIZE INDICATED IN THE PLANS. DOWEL BARS SHALL BE SMOOTH AND EPOXY COATED AS PER (709.13) AND THE TIE BARS SHALL BE ROUND, UNCOATED, DEFORMED BARS. UNLESS OTHERWISE DIRECTED, TIE BARS AND DOWELS SHALL BE PERMANENTLY ANCHORED INTO THE EXISTING PAVEMENT WITH A NONSHRINK NONMETALLIC GROUT. THE HOLES SHALL BE COMPLETELY FILLED AROUND THE DOWELS AND TIE BARS TO INSURE THEY ARE PERMANENTLY FASTENED TO THE EXISTING PAVEMENT. THE DOWEL/TIE BAR SHALL BE DIPPED IN THE GROUT AND WORKED BACK INTO THE HOLES FOR COMPLETE COVERAGE AROUND THE DOWEL/TIE BAR SO THEY WILL BE SECURELY FIXED INTO PLACE. A SATISFACTORY DEVICE SHALL BE USED TO HOLD THE DOWEL/TIE BAR IN THE PROPER ALIGNMENT UNTIL THE GROUT HAS HARDENED.

RIGID REPLACEMENT. THE RIGID REPLACEMENT SHALL NOT BE PLACED UNTIL THE GROUT AROUND THE DOWEL/TIE BAR HAS HARDENED. FORMS SHALL BE USED TO PROVIDE A STRAIGHT AND NEAT EDGE AT THE SHOULDER. EACH PATCH SHALL BE CAST IN ONE CONTINOUS FULL-DEPTH OPERATION. THE CONCRETE SHALL BE CONSOLIDATED IN PLACE BY USE OF AN INTERNAL TYPE VIBRATOR. THE CONCRETE SHALL BE CONSOLIDATED AROUND THE EDGES OF THE PATCH AND INTERNALLY. INTERNAL VIBRATORS FOR CONSOLIDATING THE CONCRETE SHALL BE AN APPROVED MECHANICAL SPUD TYPE. THE VIBRATORS SHALL BE CAPABLE OF VISIBLY AFFECTING THE CONCRETE FOR A DISTANCE OF 12 INCHES FROM THE VIBRATOR HEAD.

FINISHING AND TEXTURING. PATCHES THAT ARE LESS THAN 12 FEET IN LENGTH SHALL BE SCREEDED EITHER TRANSVERSELY OR LONGITUDINALLY AS DIRECTED BY THE ENGINEER. FOR PATCHES OVER 12 FEET IN LENGTH, THE SCREED SHALL BE PLACED PERPENDICULAR TO THE CENTERLINE.

WHILE THE CONCRETE IS STILL PLASTIC, THE CONTRACTOR SHALL TEST THE PATCH SURFACE FOR TRUENESS AND FOR BEING FLUSH WITH THE EDGES OF THE ADJACENT SLABS BY USE OF A STRAIGHTEDGE. FOR PATCHES 10 FEET OR LESS IN LENGTH THE STRAIGHTEDGING SHALL BE DONE BY PLACING THE STRAIGHT EDGE PARALLEL TO THE PAVEMENT CENTERLINE WITH THE ENDS RESTING ON THE EXISTING PAVEMENT AND DRAWING THE STRAIGHTEDGE ACROSS THE PATCH. THE STRAIGHTEDGE SHOULD BE IN CONTACT WITH THE EXISTING PAVEMENT WHILE DRAWING IT ACROSS THE PATCH AND ANY HIGH OR LOW SPOTS EXCEEDING 1/8 INCH SHOULD BE CORRECTED. IF ANY CORRECTIONS ARE MADE, THE SURFACE SHALL BE RECHECKED.

THE SURFACE OF THE CONCRETE SHALL BE TEXTURED TO MATCH THE SURROUNDING PAVEMENT.

CURING. CONCRETE CURING COMPOUND SHALL BE APPLIED TO THE RIGID REPLACEMENT SURFACE IN ACCORDANCE WITH 451.10. IF THE RIGID REPLACEMENT IS TO BE OVERLAID WITH ASPHALT CONCRETE BEFORE OPENING TO TRAFFIC, THE CONTRACTOR MAY USE A 407 TACK COAT IN LIEU OF A CONCRETE CURING MEMBRANE AT A RATE OF 0.10 GALLONS PER SQUARE YARD.

JOINTS. TRANSVERSE JOINTS BETWEEN THE RIGID REPLACEMENT AND THE EXISTING RIGID PAVEMENT SHALL BE SAWED BEFORE THE REPAIR IS OPENED TO TRAFFIC. THE JOINTS SHALL BE SANDBLASTED TO REMOVE SAW LAITANCE, DUST, ETC., AND SHALL BE DRY AND BLOWN CLEAN WITH COMPRESSED AIR PRIOR TO PLACING THE BACKER ROPE OR BONDBREAKER TAPE AND JOINT SEALANT. THE TOP OF THE FRESHLY PLACED SEALANT SHALL BE 1/4 INCH (1/16 INCH) BELOW THE PAVEMENT SURFACE. THE SHAPE FACTOR (DEPTH TO WIDTH RATIO) OF THE SEALANT SHALL BE BETWEEN ONE (1) AND TWO (2).

WEARING COURSE REPLACEMENT. EXISTING BITUMINOUS OVERLAY REMOVED SHALL BE REPLACED IN ACCORDANCE WITH DETAILS SHOWN IN THE PLANS AND THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT.

SHOULDER RESTORATION. PRIOR TO OPENING THE RIGID REPLACEMENT TO TRAFFIC, THE SHOULDER SHALL BE RESTORED TO THE ORIGINAL LINE AND GRADE USING AN AGGREGATE OR BITUMINOUS CONCRETE IN ACCORDANCE WITH THE PLANS OR AS APPROVED BY THE ENGINEER. THE LOW AREAS SHALL BE FILLED AND COMPACTED FLUSH WITH THE SURROUNDING SHOULDER. MATERIALS REMOVED FROM THE SHOULDER SHALL BE DISPOSED OF BY THE CONTRACTOR.

OPENING TO TRAFFIC. THE RIGID REPLACEMENT SHALL BE OPENED TO TRAFFIC WHEN NEW CONCRETE HAS ATTAINED A MODULUS OF RUPTURE OF 400 P.S.I. BEAMS SHALL BE CAST BY THE ENGINEER TO DETERMINE THE MODULUS OF RUPTURE.

EMERGENCIES. WHEN THE PAVEMENT HAS BEEN REMOVED AND THE CONTRACTOR IS UNABLE TO COMPLETE THE REQUIRED RIGID REPLACEMENT IN TIME FOR IT TO BE OPENED TO TRAFFIC ON SCHEDULE, THE EXCAVATION SHALL BE FILLED WITH A COMMERCIALLY AVAILABLE BITUMINOUS MIXTURE OR OTHER SUITABLE TEMPORARY PATCH MATERIAL WITH A DURABLE SURFACE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN THESE PATCHES WHILE THEY ARE IN SERVICE. THE COST OF PLACING, MAINTAINING, REMOVING AND DISPOSING OF THE TEMPORARY PATCHES WILL BE AT THE CONTRACTOR'S EXPENSE.

METHOD OF MEASUREMENT AND BASIS OF PAYMENT. THE QUANTITY OF FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT TO BE PAID FOR SHALL BE THE NUMBER OF SQUARE YARDS OF RIGID PAVEMENT REMOVED TO THE LIMITS ESTABLISHED BY THE ENGINEER. ACCEPTED QUANTITIES WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE YARD WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL PAVEMENT REMOVED, SUBBASE/SUBGRADE CORRECTION, RIGID REPLACEMENT, FURNISHING AND PLACING NEW STEEL, JOINTS, WEARING COURSE REPLACEMENT, SHOULDER RESTORATION AND ALL INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

THE QUANTITY OF FULL DEPTH PAVEMENT SAWING TO BE PAID FOR SHALL BE THE NUMBER OF LINEAR FEET OF FULL DEPTH SAW CUTS COMPLETED AT THE DESIGNATED LIMITS OF THE REPAIR AREAS.

PAYMENT SHALL BE MADE FOR ESTIMATED QUANTITIES BELOW (SEE SHEET 19):

ITEM	UNIT	DESCRIPTION
SPECIAL	928 SQ. YDS.	FULL DEPTH RIGID PAV'T REMOVAL & RIGID REPLACEMENT
SPECIAL	2784 LIN. FT.	FULL DEPTH PAVEMENT SAWING

SUBBASE/SUBGRADE FAILURES

IF, AFTER REMOVAL OF THE RIGID PAVEMENT, THE ENGINEER DETERMINES THAT THE SUBBASE OF SUBGRADE HAS FAILED OR IS PUMPING, HE SHALL DIRECT THE CONTRACTOR TO EXCAVATE THE UNSUITABLE MATERIAL AND REPLACE IT WITH COMPACTED 304 AGGREGATE AND PLACE AGGREGATE DRAINS AS NECESSARY. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
203	30 CU. YDS.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION
304	20 CU. YDS.	AGGREGATE BASE
605	250 LIN. FT.	AGGREGATE DRAINS

PORTLAND CEMENT CONCRETE FOR RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT

THE FOLLOWING CLASSES OF RIGID REPLACEMENT CONCRETE AS INDICATED BELOW SHALL BE USED:

CLASS FS - A FAST-SETTING PORTLAND CEMENT CONCRETE MIXTURE FOR ACCELERATED SETTING AND STRENGTH DEVELOPMENT. THE RIGID REPLACEMENT MAY BE OPENED TO TRAFFIC WITHIN 8 HOURS BUT NOT LESS THAN FOUR HOURS. MAXIMUM WATER-CEMENT RATIO SHALL BE 0.36.

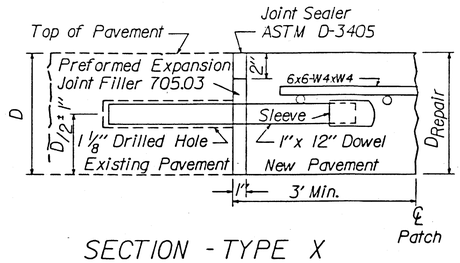
IMMEDIATELY AFTER THE CURING COMPOUND HAS BEEN APPLIED, TYPE FS REPAIRS SHALL BE COVERED WITH POLYETHYLENE FILM AND FURTHER COVERED WITH INSULATION BOARD. THE INSULATION BOARDS SHALL BE CLASS F AS SPECIFIED IN ASTM C-208. THE INSULATION BOARD SHALL BE WRAPPED IN PLASTIC FILM TO PROTECT IT FROM RAIN AND SHALL BE PLACED TIGHT AGAINST THE SURROUNDING CONCRETE AND WEIGHTED DOWN TO PROTECT THE FRESH CONCRETE FROM THE WEATHER.

CLASS MS - A MODERATE-SETTING PORTLAND CEMENT CONCRETE MIXTURE FOR ACCELERATED STRENGTH DEVELOPEMENT. THE RIGID REPLACEMENT MAY BE OPENED TO TRAFFIC WITHIN 24 HOURS. MINIMUM CEMENT CONTENT SHALL BE 800 POUNDS PER CUBIC YARD AND THE MAXIMUM WATER-CEMENT RATIO SHALL BE 0.43.

CLASS NS - A NORMAL-SETTING PORTLAND CEMENT CONCRETE MIXTURE FOR EARLY STRENGTH DEVELOPMENT. THE RIGID REPLACEMENT MAY BE OPENED TO TRAFFIC WITHIN 3 DAYS. MINIMUM CEMENT CONTENT SHALL BE 700 POUNDS PER CUBIC YARD AND THE MAXIMUM WATER-CEMENT RATIO SHALL BE 0.50.

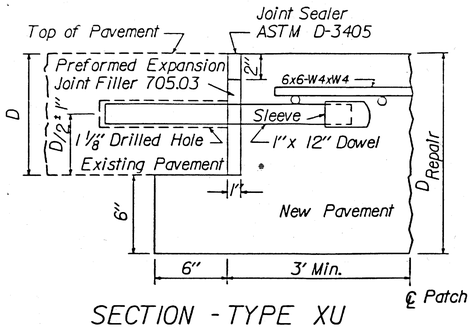
CLASS C - NORMAL STRENGTH PORTLAND CEMENT CONCRETE MIXTURE USING CLASS C CONCRETE.

PORTLAND CEMENT CONCRETE PORPORTIONING. THE PROPORTIONING OF THE CONCRETE MATERIALS TO MEET THE REQUIREMENTS FOR EACH TYPE OF RIGID REPLACEMENT SPECIFIED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE APPROVED BY THE ENGINEER. THE GRADATION OF THE COARSE AGGREGATE MAY BE ANY ONE OF THE STANDARD SIZES FROM NO. 57 TO NO. 8 AS SHOWN IN TABLE 703-1. MINIMUM TOTAL AIR CONTENT SHALL BE 8 PERCENT OR NOS. 7, 78 OR 8 AND 4 PERCENT FOR OTHER GRADATIONS.



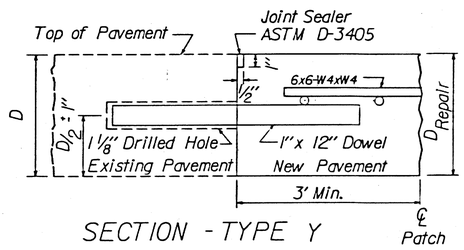
SECTION - TYPE X

(Expansion)



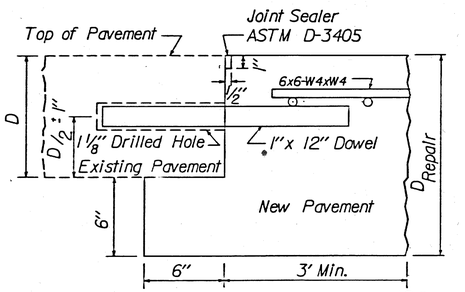
SECTION - TYPE XU

(Undercut : Expansion)



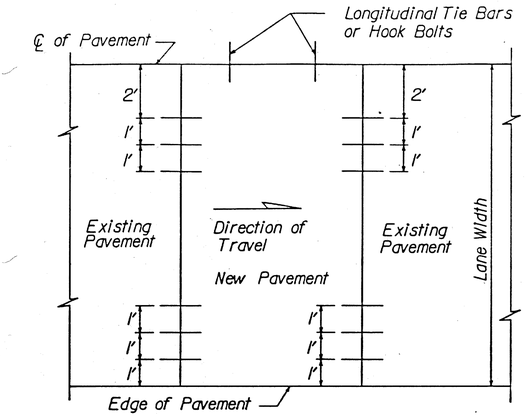
SECTION - TYPE Y

(Contraction)

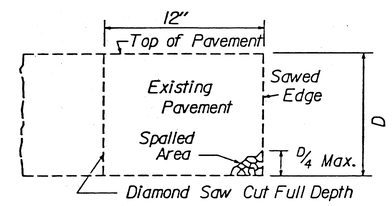


SECTION - TYPE YU

(Undercut : Contraction)



DOWEL / TIE BAR PLACEMENT DETAIL



ADDITIONAL PAVEMENT REMOVAL

NOTES

GENERAL: All joints shall be constructed normal to the centerline of the pavement lane unless otherwise specified in the plans.

All dowel holes shall be drilled by a mechanical device that will allow independent adjustment of all drill shafts in the horizontal and vertical direction. The device shall be capable of drilling holes in a skewed joint to the proper depth and parallel to the pavement surface and the centerline of the pavement lane. The device shall also be capable of drilling a minimum of two holes at one time.

All smooth dowels shall be coated with a "bond-breaking" material of the type specified in Standard Drawing BP-4 after they have been installed in the existing pavement and just prior to placing the patch. All dowels shall be placed parallel to the pavement surface and the centerline of the pavement lane.

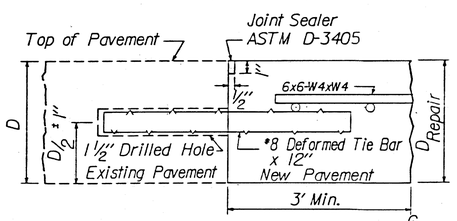
PREFORMED EXPANSION JOINT FILLER: The expansion joint filler shall be held rigidly in position and shall be continuous for the full width of the patch. Proper size dowel holes shall be field punched or drilled into the preformed expansion joint filler after the dowels for the joint have been installed to ensure a proper fit of the material around the dowels.

TYPE N JOINT REPAIR: Joints referred to as Type N joint repairs on the plan shall be constructed as contraction joints as per Standard Drawing BP-4.

TYPE X,XU JOINT REPAIRS: The sleeve shall meet the requirements of Standard Drawing BP-4.

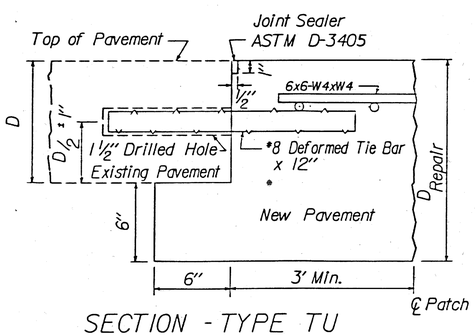
ADDITIONAL PAVEMENT REMOVAL: If, after the sawing and removal of the pavement from the area to be repaired, the face of the remaining pavement is spalled or deteriorated for a height greater than one-fourth (1/4) the thickness of the rigid pavement, an additional saw cut shall be made as shown in the plans. This additional work shall be measured for additional payment for full depth pavement sawing, rigid pavement removal and replacement.

LONGITUDINAL JOINT: For patches 6 feet or greater in length, the longitudinal joint shall be constructed as a Type T or a Butt Joint as per Standard Drawing BP-3. Spacing of the tie bars or hook bolts shall be no more than 30" nor less than 24".



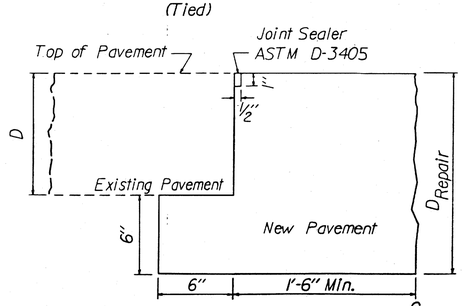
SECTION - TYPE T

(Tied)



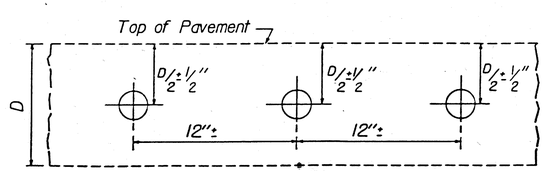
SECTION - TYPE TU

(Undercut : Tied)

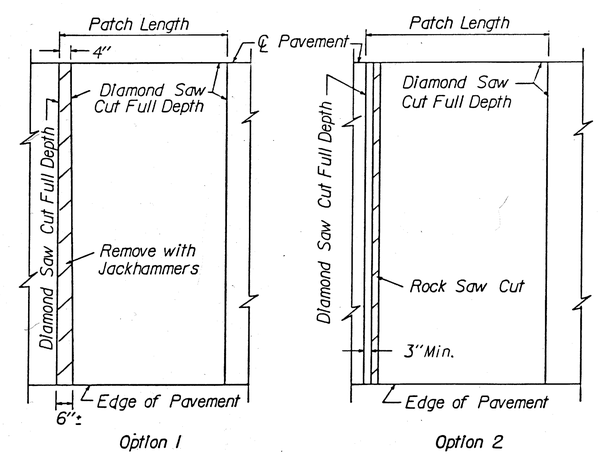


SECTION - TYPE U

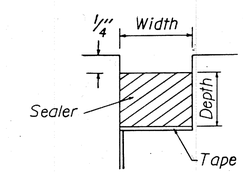
(Undercut)



HOLE DRILLING DETAIL



REMOVAL DETAILS



JOINT SEALER DETAIL

JOINT DETAILS

DATE

7/5/84

MAINTENANCE OF TRAFFIC

GENERAL

IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITH THE LEAST INCONVENIENCE TO, AND THE MAXIMUM SAFETY OF THE CONTRACTOR AND THE TRAVELING PUBLIC. ANY VARIANCES FROM THESE MAINTENANCE OF TRAFFIC NOTES MUST BE APPROVED IN ADVANCE IN WRITING BY THE DISTRICT CONSTRUCTION ENGINEER.

TRAFFIC IS TO BE MAINTAINED IN A UNIFORM PATTERN THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT AND IS NOT TO BE SUBJECTED TO CONSTANT LANE SHIFTS.

THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE CONTINUOUS FLOW OF TRAFFIC. ALL VEHICLES, EQUIPMENT, MEN AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE PAVEMENT.

THE CONTRACTOR SHALL FURNISH AND INSTALL TWO (2) "ROAD CONSTRUCTION NEXT ( ) MILES" SIGNS (OC-6) AT BEGINNING AND END OF PROJECT.

EXISTING SPEED LIMIT SIGN LEGENDS IN AREAS WHERE TRAFFIC IS RESTRICTED SHALL BE COVERED AND ADVISORY SPEED LIMITS SHALL BE PLACED. THE ENGINEER SHALL RECORD COVERED AND UNCOVERED SIGNS IN THE PROJECT DIARY.

BEFORE THE WORK BEGINS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER THE NAMES AND TELEPHONE NUMBERS OF A PERSON OR PERSONS WHO CAN BE CONTACTED TWENTY-FOUR (24) HOURS PER DAY BY THE OHIO DEPARTMENT OF TRANSPORTATION AND ALL INTERESTED POLICE AGENCIES. THIS PERSON OR PERSONS SHALL BE RESPONSIBLE FOR PLACING OR REPLACING NECESSARY TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION, AND THESE PLANS.

THE CONTRACTOR SHALL BE REQUIRED TO PROVIDE, ERECT, MAINTAIN (IN PROPER POSITION, CLEAN, LEGIBLE AND GOOD WORKING CONDITION) AND REMOVE ALL LIGHTS, SIGNS, BARRICADES, CONES AND ALL OTHER TRAFFIC CONTROL DEVICES NECESSARY FOR THE MAINTENANCE OF TRAFFIC, INCLUDING TEMPORARY PAVEMENT MARKINGS.

THE STANDARD DEVICE FOR CLOSING ANY LANES TO TRAFFIC SHALL BE WEIGHTED, PROPERLY REFLECTORIZED DRUMS. STEEL DRUMS PLACED ON A NEWLY PAVED SURFACE SHALL BE PLACED ON ONE-HALF (1/2") INCH PLYWOOD. CONES MAY BE USED IN THE DAYTIME IN LIEU OF DRUMS IF APPROVED BY THE ENGINEER.

CONES MUST BE WEIGHTED TO INCREASE STABILITY BY DOUBLE STACKING, SANDBAGS OR OTHER METHOD APPROVED BY THE ENGINEER. METAL RINGS OF ANY TYPE OVER THE CONE WILL NOT BE PERMITTED.

THE USE OF BERMS TO MAINTAIN TRAFFIC, UNLESS AS NOTED ELSEWHERE IN THESE PLANS, IS PROHIBITED. SHOULD ANY EXISTING OR NEW BERM AREAS BECOME DAMAGED OR DESTROYED DUE TO THE CONTRACTOR'S NEGLIGENCE OR FAILURE TO PROVIDE ADEQUATE SIGNS, BARRICADES, CONES, FLAGMEN OR OTHER TRAFFIC CONTROL DEVICES, THE RESTORATION OF THE BERMS WILL BE AT THE CONTRACTOR'S EXPENSE.

WHEN ONE LANE OF A DIRECTIONAL PAVEMENT IS TO BE CLOSED, A LAW ENFORCEMENT OFFICER WITH PATROL CAR SHALL BE PRESENT DURING THE TIME THAT TRAFFIC CONTROL DEVICES ARE BEING SET UP OR BEING REMOVED AND ALSO WHEN THERE IS A SUBSTANTIAL SHIFT IN THE CLOSURE POINT OR WHEN A NEW LANE CLOSURE ARRANGEMENT IS INITIATED.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS IN ADVANCE OF ANY LANE CLOSURES. INFORMATION REGARDING ARRANGEMENTS BY THE CONTRACTOR FOR SPECIAL DUTY LAW ENFORCEMENT OFFICER WITH PATROL CAR MAY BE OBTAINED BY CONTACTING OHIO HIGHWAY PATROL, 660 EAST MAIN STREET, COLUMBUS, OHIO, TELEPHONE (614) 466-2660.

PAVEMENT WORK

PAVEMENT JOINT REPAIRS SHALL BE PERFORMED ONLY ON ONE LANE OF THE DIRECTIONAL PAVEMENT AT A TIME AND THAT THIS LANE BE CLOSED FOR THE ENTIRE LENGTH OF THE PROJECT WHERE POSSIBLE AND ALL WORK NOTED BE COMPLETED BEFORE SHIFTING TRAFFIC. THE OUTSIDE SHOULDERS AND OUTSIDE LANE SHALL BE PAVED PRIOR TO WORK ON THE INSIDE LANE.

ONE LANE TRAFFIC WILL BE PERMITTED, WHILE THE CONTRACTOR IS ACTUALLY WORKING ON THE PAVEMENT, FOR MINIMUM PERIODS OF TIME CONSISTENT WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR THE PROTECTION OF ASPHALT CONCRETE COURSES AND CURING FOR PAVEMENT PATCHES RELATED TO JOINT REPAIR.

THE TACK COAT SHALL BE APPLIED EACH DAY PRIOR TO PLACING ASPHALT CONCRETE AND ONLY FOR THAT LENGTH WHICH UNDER NORMAL PAVING PROTECTION COULD BE COVERED EACH DAY. SCHEDULING OF THE TACK COAT SHALL BE APPROVED BY THE ENGINEER.

USR 33

USR 33 ON THIS PROJECT BEGINS AS A TWO-WAY ROADWAY WITH A SINGLE LANE IN EACH DIRECTION AT STATION 101+50, DIVERGES TO A DIRECTIONAL ROADWAY WITH MEDIAN AND TWO LANES IN EACH DIRECTION AT APPROXIMATELY 107+50, CONVERGES TO A TWO-WAY ROADWAY WITH A SINGLE LANE IN EACH DIRECTION AT APPROXIMATELY STATION 184+00 AND CONTINUES AS A TWO WAY ROADWAY WITH A SINGLE LANE IN EACH DIRECTION TO THE END OF THE PROJECT AT STATION 206+50.

ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES IN THE AREA OF THE DIRECTIONAL ROADWAY. THE CLOSING OF ONE LANE OF DIRECTIONAL TRAFFIC SHALL BE ACCOMPLISHED IN THE MANNER DETAILED ON "CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY" SHEET NO. 50 OF THESE PLANS. IN ADDITION THE REMAINING THROUGH TRAFFIC LANE SHALL BE POSTED WITH AN ADVISORY SPEED OF 45 MPH.

NO WORK ON USR 33 PAVEMENTS OR BERMS SHALL BE PERFORMED BY THE CONTRACTOR, AS INDICATED BELOW, PRECEDING OR SUCCEEDING A NATIONAL HOLIDAY. DURING THE "NO WORK" UNINTERRUPTED TWO-LANE TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED.

THE SPECIFIC HOLIDAYS (1985) TO WHICH THIS APPLIES AND THEIR RESPECTIVE "NO WORK PERIODS" ARE AS FOLLOWS:

MEMORIAL DAY	FRIDAY	2:00 PM	-	TUESDAY	6:00 AM
INDEPENDENCE DAY	JULY 3	2:00 PM	-	JULY 5	6:00 AM
LABOR DAY	FRIDAY	2:00 PM	-	TUESDAY	6:00 AM
THANKSGIVING DAY	WEDNESDAY	2:00 PM	-	MONDAY	6:00 AM

IN THE AREA OF TWO WAY ROADWAY, ONE LANE TRAFFIC WILL BE PERMITTED FOR SHORT PERIODS OF TIME DURING JOINT REPAIR AND DURING RESURFACING OPERATIONS. THE USE OF FLAGMEN AND A LAW ENFORCEMENT OFFICER WITH PATROL CAR WILL BE REQUIRED DURING THESE SHORT LANE CLOSING PERIODS AND THIS WORK SHALL BE PERFORMED BETWEEN ONE HOUR AFTER SUNRISE TO ONE HOUR BEFORE SUNSET MONDAY THRU FRIDAY AND NEVER ON A HOLIDAY, THE DAY BEFORE A HOLIDAY OR THE DAY AFTER A HOLIDAY.

THE JOINT REPAIRS WILL BE COMPLETELY WITH TYPE FS PORTLAND CEMENT CONCRETE MIXTURE OF ACCELERATED SETTING AND STRENGTH DEVELOPMENT TO REDUCE THE TIME OF LANE CLOSINGS.

TRAFFIC

THE WEST END OR START OF THE PROJECT IS ON THE CREST OF A HILL WHICH MAKES THE SIGHT DISTANCE CRITICAL DURING THE CLOSING OF ONE LANE. THE PLACING OF ALL MAINTENANCE OF TRAFFIC PERSONNEL AND DEVICES FOR SHORT TERM CLOSURES OF BOTH THE EASTBOUND AND WESTBOUND LANES OF USR 33 BETWEEN STATION 97+75 AND 106+25 IS DETAILED ON SHEET 14.

THE STATIONARY OPERATIONS IN ONE LANE AT THE EAST END OF THE PROJECT ON SR 33 IS DETAILED ON SHEET 14. THE LAYOUT IS TYPICAL AND THE PERSONNEL AND CONTROL DEVICES WILL BE MOVED TO MEET THE WORK LOCATION AND NEED. IN THE AREA BETWEEN STATION 180+00 AND STA 206+50, THE CONTRACTOR SHALL:

1. MAINTAIN TRAFFIC ON WAPAK-FISHER ROAD.
2. MAINTAIN TRAFFIC ON CEMETERY ROAD.
3. KEEP THE RAILROAD OPEN AT ALL TIMES. NO TRAFFIC SHALL BE BACKED UP ACROSS THE RAILROAD.

TRAFFIC TO AND FROM USR 33 AT ALL INTERCHANGES SHALL BE MAINTAINED AT ALL TIMES OVER THE EXISTING OR PROPOSED PAVEMENTS. MINIMUM LANE WIDTHS OF 11 FEET MUST BE MAINTAINED FOR ALL MOVEMENTS. SHORT TERM USE OF PAVED BERMS FOR MAINTAINING TRAFFIC DURING RAMP RESURFACING WILL BE PERMITTED UPON APPROVAL BY THE ENGINEER.

ITEM SPECIAL - REPLACEMENT SIGNS

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS, AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC, FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR, SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE BID PRICE, PER SQUARE FOOT, FOR "ITEM SPECIAL, REPLACEMENT SIGNS", AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED SIGNS, HARDWARE, SUPPORTS, ETC. REPLACEMENT SIGNS SHALL BE NEW, BUT OTHER MATERIALS MAY BE USED, SUBJECT TO APPROVAL BY THE ENGINEER.

ITEM SPECIAL REPLACEMENT SIGNS 50 SQ. FT.

ITEM SPECIAL - REPLACEMENT DRUMS

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLAN, SPECIFICATIONS, AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDER BY THE ENGINEER AND PAID FOR UNDER "ITEM SPECIAL, REPLACEMENT DRUMS". PAYMENT FOR EACH NEW DRUM SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM AND PROVIDING AND MAINTAINING NEW DRUMS IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR ORIGINAL DRUMS.

ITEM SPECIAL REPLACEMENT DRUMS 25 EACH

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TRAFFIC CONTROL AND TRAFFIC CONTROL DEVICES REQUIRED BY THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" LATEST EDITION, SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

QUANTITIES

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 404	BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC	20 CU. YD.
ITEM 410	TRAFFIC COMPACTED SURFACE TYPE A OR B	200 CU. YD.
ITEM 616	CALCIUM CHLORIDE	4 TON
ITEM 616	WATER	50 M. GAL.
ITEM SPECIAL	LAW ENFORCEMENT OFFICER WITH PATROL CAR	400 HOURS

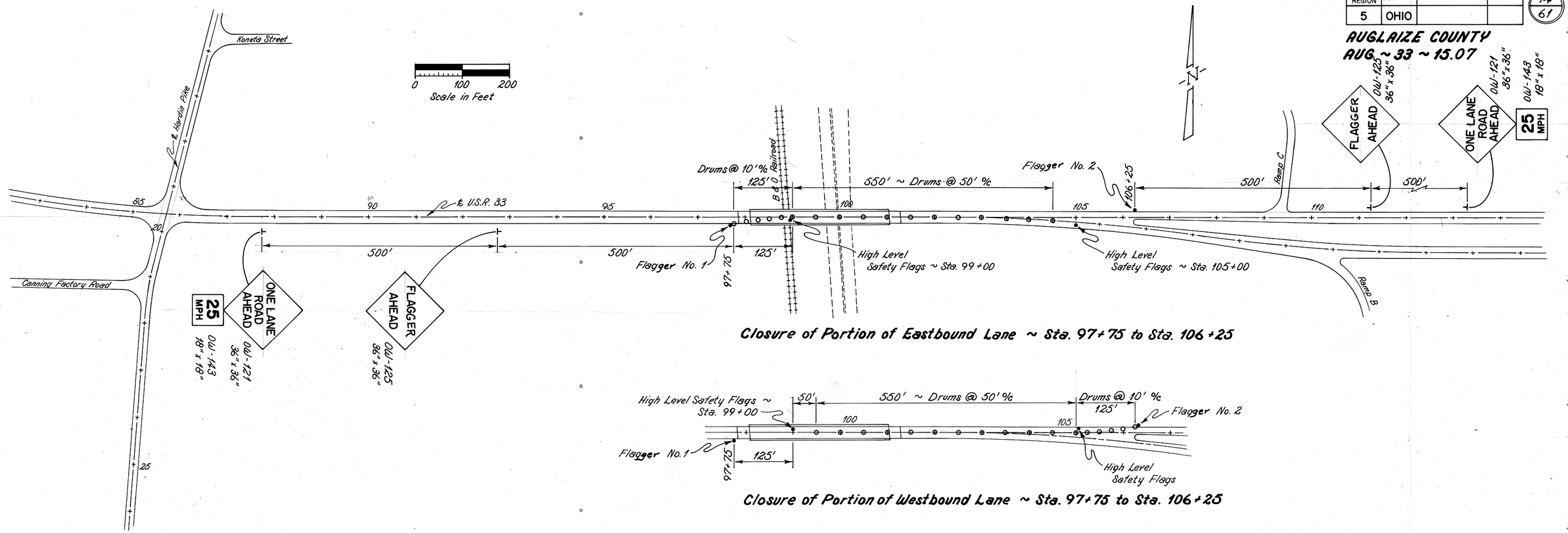
PAYMENT

PAYMENT FOR ALL OF THE MAINTENANCE OF TRAFFIC EXCEPT FOR ITEMS DESIGNATED AS "ITEM 404, BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC", "ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B", "ITEM 614, TEMPORARY PAVEMENT MARKINGS", ITEM 616, CALCIUM CHLORIDE", "ITEM 616, WATER", "ITEM SPECIAL, LAW ENFORCEMENT OFFICER WITH PATROL CAR", "ITEM SPECIAL, REPLACEMENT SIGNS", AND "ITEM SPECIAL, REPLACEMENT DRUMS", SHALL BE INCLUDED IN THE LUMP SUM "ITEM 614, MAINTAINING TRAFFIC". ESTIMATED QUANTITIES CARRIED TO GENERAL SUMMARY SHEET NOS. 15 & 16.

FHWA REGION	STATE	PROJECT	
5	OHIO		

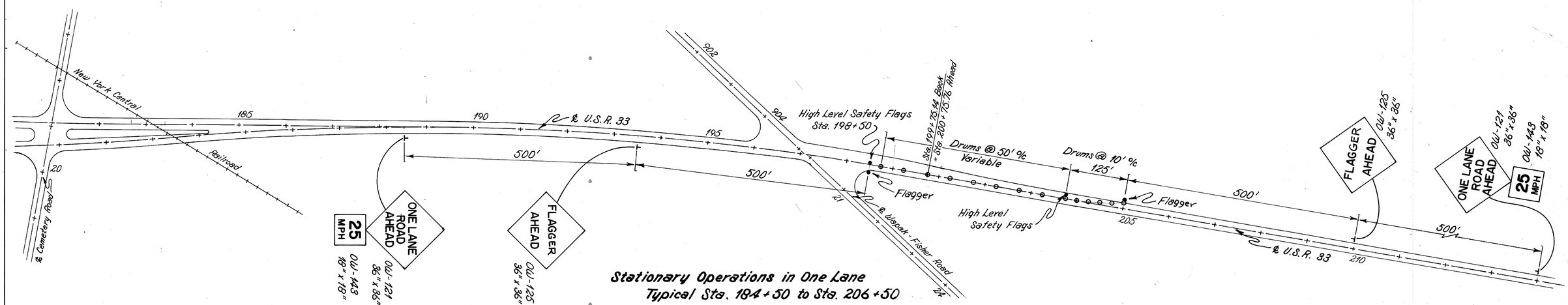
14/61

AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07



Closure of Portion of Eastbound Lane ~ Sta. 97+75 to Sta. 106+25

Closure of Portion of Westbound Lane ~ Sta. 97+75 to Sta. 106+25



Stationary Operations in One Lane
Typical Sta. 184+50 to Sta. 206+50

NOTES

1. Traffic shall never be backed up onto the railroad crossing. The contractor shall set the position of the traffic control devices to prevent this from happening.
2. The contractor shall schedule joint repair and paving so that no more roadway will be closed than absolutely necessary each day.
3. The contractor shall be responsible for maintaining crossroad traffic during construction.
4. The length of closure of one lane shall be kept to a maximum of 1000 feet unless otherwise approved in writing by the engineer.

JLD

CLOSING ONE LANE OF A TWO LANE HIGHWAY

MAINTENANCE OF TRAFFIC ~ U.S.R. 33

GENERAL SUMMARY

ITEM	SHEET NUMBER 7	8	9	10	13	18	19	21	25	31	32	33	35	36	42	Fed.& State	100% State	ITEM	QUANT. Total	UNIT	DESCRIPTION
																					ROADWAY
									Lump							Lump		202	Lump		Structures Removed
									2							2		202	2	lin. ft.	Pipe Removed ~ Over 24"
						1889										1889		202	1889	sq. yd.	Wearing Course Removed
							18,363									18,363		202	18,363	lin. ft.	Fence Removed
										1						1		202	1	each	Catch Basin Removed
											548					548		202	548	lin. ft.	Curb Removed
											3263					3263		202	3263	lin. ft.	Guardrail Removed
											5481					5481		202	5481	sq. ft.	Concrete Median Removed, as per plan
											362					362		202	362	each	Raised Pavement Markers Removed for Storage
						556										556		203	556	sq. yd.	Subgrade Compaction
									95			436				531		203	531	cu. yd.	Embankment
				30						40						70		203	70	cu. yd.	Excavation, not including embankment construction
					20											20		404	20	cu. yd.	Bituminous Concrete for maintaining traffic
					200											200		410	200	cu. yd.	Traffic Compacted Surface, Type A or B
											96					96		Special	96	each	Steel Post Assembly
											3288					3288		606	3288	lin. ft.	Guardrail, Type 5
											8					8		606	8	each	Anchor Assembly, Standard Type "A"
							18,363									18,363		607	18,363	lin. ft.	Fence, Type 47
					50											50		616	50	M gal.	Water
					4											4		616	4	Ton	Calcium Chloride
		1300														1300		Special	1300	lin. ft.	Grading of Berms under Existing Guardrails
																					EROSION CONTROL
										53						53		601	53	sq. yd.	Riprap, using 6" reinforced concrete slab
							10									10		601	10	cu. yd.	Rock Channel Protection, Type "B" with filter
	50															50		659	50	M gal.	Water
	2000								390	100		1591				4081		659	4081	sq. yd.	Seeding & Mulching
	0.20									0.01		0.15				1		659	1	Ton	Commercial Fertilizer
								300								300		660	300	sq. yd.	Sodding
	50															50		207	50	each	Straw or Hay Bales
																					DRAINAGE
									0.7							0.7		602	0.7	cu. yd.	Concrete Masonry
		50*															50*	603	50	lin. ft.	6" Conduit, Type F
									10							10		603	10	lin. ft.	36" Conduit, Type A, 706.02
										12						12		603	12	lin. ft.	18" Conduit, Type A, 706.01 or 706.02
										20						20		604	20	each	Catch Basin Reconstructed to Grade, as per plan
										1						1		604	1	each	Catch Basin, Standard No. 2-2-B
										1						1		604	1	each	Catch Basin, Reconstructed to Grade
				250												250		605	250	lin. ft.	Aggregate Drains
		440*															440*	605	440	lin. ft.	6" Unclassified Pipe Underdrains
		50*															50*	Special	50	each	Underdrain Opening
		35*															35*	Special	35	M gal.	Water
																					PAVEMENT
						91					16					107		301	107	cu. yd.	Bituminous Aggregate Base; AC-20, RT-11 or RT-12
				20		38										58		304	58	cu. yd.	Aggregate Base
						93					25					118		310	118	cu. yd.	Subbase, Type I, Grading A
											182					182		617	182	Cu. Yd	Compacted aggregate
						1930										1930		403	1930	cu. yd.	Asphalt Concrete, AC-20
						3358					3					3361		Special	3361	cu. yd.	Asphalt Concrete Surface Course, Type 1, AC-20
						9614					7					9621		407	9621	gal.	Tack Coat
						340					1					341		407	341	Ton	Cover Aggregate
				928												928		Special	928	sq. yd	Full Depth Rigid Pavement Removal and Rigid Replacement
				2784												2784		Special	2784	Lin. Ft.	Full Depth Pavement Sawing
											624					624		612	624	sq. yd.	Concrete Median, Standard Type

Rev. 3-6-85

GENERAL SUMMARY

ITEM	SHEET NUMBER 7	8	9	10	12	13	18	19	21	25	31	32	33	35	36	43	42	Fed. & State	100% State	ITEM	QUANT. Total	UNIT	DESCRIPTION
																							TRAFFIC CONTROL
														68				68		630	68	lin. ft.	Ground Mounted Supports ~ W6 x 9 Beam
														690				690			690	sq. ft.	Signs ~ Extrusheet
														409				409			409	sq. ft.	Signs ~ Flat Sheet
														155				155			155	sq. ft.	Signs ~ Flat Sheet ~ Type G Sheeting
														84				84			84	lin. ft.	Ground Mounted Supports ~ No. 2 Post
														651				651			651	lin. ft.	No. 3 Post
														102				102			102	lin. ft.	No. 4 Post
														63				63			63	lin. ft.	S4 x 7.7 Beam
														192				192			192	lin. ft.	W8 x 18 Beam
														56				56			56	lin. ft.	Ground Mounted Supports ~ W10 x 22 Beam
														13.7				13.7			13.7	cu. yd.	Concrete for Embedded Foundations
														16				16			16	each	Breakaway Beam Connection
															75		165	240			240	each	Removal of Ground Mounted Post Supports
															12			12			12	each	" " " " Beam Supports
															5			5			5	each	" " " " Major Signs for Storage
															91			91			91	each	" " " " Signs and Storage
															7			7			7	each	Removal of Ground Mounted Signs and Re-erection
														28				28		630	28	lin. ft.	One Way Supports, No. 4 POST
															3			3		630	3	EACH	SIGN BACKING ASSEMBLY
																	0.71	0.71		621	0.71	mile	Center Lines, as per plan
																	285	285			285	lin. ft.	Stop Lines, as per plan
																	2326	2326			2326	LIN. FT.	Channelizing Lines, as per plan
																	1784	1784			1784	lin. ft.	Transverse Lines, as per plan
																	9.33	9.33			9.33	mile	Edge Lines, as per plan
																	286	286			286	lin. ft.	12" Transverse Line, as per plan
																	4	4			4	each	Lane Arrows, as per plan
																	2	2			2	each	Word "ONLY" on pavement, 96 inch, as per plan
																	2.92	2.92			2.92	mile	LANE LINES, as per plan
																	3	3		621	3	each	Railroad Symbol Markings, as per plan
																217		217		620	217	each	Delineators ~ Type "C" ~ Flexible Post Mounted
																31		31		620	31	each	Delineators ~ Type "D" ~ Flexible Post Mounted
			4.90															4.90		614	4.90	MILE	TEMPORARY LANE LINES, CLASS II
			3.10															3.10		614	3.10	MILE	TEMPORARY CENTER LINES, CLASS II
			800															800		614	800	LIN. FT.	TEMPORARY GORE MARKINGS, CLASS II
					50													50		Special	50	Sq. Ft	Replacement Signs
					25													25		Special	25	EACH	REPLACEMENT DRUMS
						400												400		SPECIAL	400	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR
																		Lump		619	Lump		Field Office
																		Lump		614	Lump		Maintaining Traffic
																		Lump		623	Lump		Construction Layout Stakes
																		Lump		624	Lump		Mobilization

PAVEMENT RESURFACING CALCULATIONS

Location	Station to Station	Side	Length Linear Feet	Average Pavement Width Feet	Typical	Description	Pavement Area Sq. Feet	407 Tack Coat @ 0.1 gal. per sq. yd. gallons	407 Cover Agg. @ 7 lbs. per sq. yd. Tons	403 Average Thickness inches	403 Asphalt Concrete AC-20 cu. yd.	404 Average Thickness inches	404 Asphalt Concrete AC-20 cu. yd.	301 Average Thickness inches	301 Bitum. Agg. Base ~ AC-20 RT-11 or 12 cu. yd.	310 Average Thickness inches	310 Subbase cu. yd.	304 Average Thickness inches	304 Aggregate Base cu. yd.	203 Subbase Compaction sq. yd.	202 Wearing Course Removed sq. yd.
U.S.R. 33	101+15.00 to 101+50.00	Lt. & Rt.	35.00	32.00		Feather U.S.R.33	1120	12.5	0.5			1.25	4.4								125
U.S.R. 33 Westbound	101+50.00 to 108+95.84	Lt.	745.84	16.00	1-2	Pavement & Berm	11,934	132.6	4.7	0.75	27.7	1.25	46.1								
U.S.R. 33 Westbound	108+95.84 to 109+53.01	Lt.	57.17	12.00	2-4	Pavement	687	7.7	0.3	0.75	1.6	1.25	2.7								
U.S.R. 33 Westbound	109+53.01 to 109+62.00	Lt.	8.99	22.00	4	Pavement & Berm	198	2.3	0.1	0.75	0.5	1.25	0.8								
U.S.R. 33 Westbound	109+62.00 to 110+02.00	Lt.	40.00	21.00	4	Pavement & Berm	840	9.2	0.3	0.75	1.9	1.25	3.2								
U.S.R. 33 Westbound	110+02.00 to 110+37.24	Lt.	35.24	20.00	4	Pavement & Berm	705	7.8	0.3	0.75	1.6	1.25	2.7								
U.S.R. 33 Westbound	110+37.24 to 115+05.36	Lt. & Rt.	468.12	36.00	4-5	Pavement & Berm	16,853	187.3	6.6	0.75	39.1	1.25	65.1								
U.S.R. 33 Westbound	115+05.36 to 115+45.36	Lt. & Rt.	40.00	37.00	5	Pavement & Berm	1480	16.5	0.6	0.75	3.5	1.25	5.8								
U.S.R. 33 Westbound	115+45.36 to 116+45.36	Lt. & Rt.	100.00	40.00	5	Pavement & Berm	4000	44.5	1.6	0.75	9.3	1.25	15.5								
U.S.R. 33 Westbound	116+45.36 to 120+90.77	Lt. & Rt.	445.41	44.17	5	Nose Ramp "D"	19,674	218.6	7.7	0.75	45.6	1.25	76.0								
U.S.R. 33 Westbound	120+90.77 to 133+84.66	Lt. & Rt.	1293.89	32.00	5	Pavement & Berm	41,405	460.1	16.2	0.75	95.9	1.25	159.8								
U.S.R. 33 Westbound	133+84.66 to 136+15.64	Lt. & Rt.	230.98	28.00	5	Pavement & Berm	6468	71.9	2.6	0.75	15.0	1.25	25.0								
U.S.R. 33 Westbound	133+84.66 to 136+15.64	Rt.	230.98	23.03	5	Median Crossover	5320	59.2	2.1			1.25	20.6								
U.S.R. 33 Westbound	136+15.64 to 141+32.00	Lt. & Rt.	516.36	32.00	5-6	Pavement & Berm	16,524	183.6	6.5	0.75	38.3	1.25	63.8								
U.S.R. 33 Westbound	141+32.00 to 143+82.00	Lt. & Rt.	250.00	38.00	6	Pavement & Berm	9500	105.6	3.7	0.75	22.0	1.25	36.7								
U.S.R. 33 Westbound	143+82.00 to 149+28.78	Lt. & Rt.	547.39	44.00	6	Pavement & Berm	24,086	267.7	9.4	0.75	55.8	1.25	93.0								
U.S.R. 33 Westbound	149+28.78 to 153+31.98	Lt. & Rt.	403.34	34.00	6	Abutting Ramp "A"	13,714	152.4	5.3	0.75	31.8	1.25	52.9								
U.S.R. 33 Westbound	153+31.98 to 155+00.00	Lt. & Rt.	168.19	43.50	6	Ramp "A" Nose	7317	81.3	2.8	0.75	16.9	1.25	28.2								
I-75 Ramp "A"	0+00 to 4+03.91	Lt. & Rt.	403.91	23.00	6	Abutting U.S.R.33	9290	103.3	3.7	0.75	21.6	1.25	35.9								
I-75 Ramp "A"	4+03.91 to 6+53.75	Lt. & Rt.	249.84	29.96	14	U.S.R. 33 Nose	7486	83.2	3.0	0.75	17.4	1.25	28.9								
I-75 Ramp "A"	6+53.75 to 7+35.00	Lt. & Rt.	81.25	37.00	14	Pavement & Berm	3007	33.5	1.2	0.75	7.0	1.25	11.6								
I-75 Ramp "A"	7+35.00 to 7+70.00	Lt. & Rt.	35.00	37.00		Feather	1295	14.4	0.5			1.25	5.0								144
U.S.R. 33 Westbound	155+00.00 to 158+76.74	Lt. & Rt.	376.74	38.00	6	Pavement & Berm	14,317	159.1	5.6	0.75	33.2	1.25	55.3								
U.S.R. 33 Westbound	158+76.74 to 159+18.20	Lt. & Rt.	41.46	39.00	6-7	Pavement & Berm	1617	18.0	0.7	0.75	3.8	1.25	6.3								
U.S.R. 33 Westbound	158+81.05 to 159+08.70	Lt.	15.00	27.65		Feather Ramp "A" Ent.	415	4.6	0.2			1.25	1.6								47
U.S.R. 33 Westbound	158+84.74 to 160+54.76	Rt.	14.27	170.02	6	Crossover	2426	27.0	1.0			1.25	9.4								
U.S.R. 33 Westbound	159+18.20 to 159+58.20	Lt. & Rt.	40.00	38.00	7	Pavement & Berm	1520	16.9	0.6	0.75	3.6	1.25	5.9								
U.S.R. 33 Westbound	159+58.20 to 180+56.66	Lt. & Rt.	2098.46	37.00	7	Pavement & Berm	77,644	862.8	30.2	0.75	179.8	1.25	299.6								
U.S.R. 33 Westbound	162+19.47 to 164+29.23	Rt.	209.76	13.96	7	Ramp "G" Crossover	2929	32.6	1.2			1.25	11.3								
U.S.R. 33 Westbound	170+43.66 to 172+74.03	Rt.	230.37	15.67	7	Ramp "E" Crossover	3610	40.2	1.4			1.25	14.0								
U.S.R. 33 Westbound	180+56.66 to 181+46.00	Lt. & Rt.	89.34	37.00	7-8	Pavement & Berm	3306	36.8	1.3	0.75	7.7	1.25	12.8								
Cemetery Road	18+54.00 to 18+69.00	Lt. & Rt.	15.00	48.00		Feather	720	8.0	0.3			1.25	2.8								80
U.S.R. 33 Westbound	180+32.44 to 181+50.39	Rt.	117.95	10.11	8	Cemetery Rd. Cross.	1193	13.3	0.5			1.25	4.6								
U.S.R. 33 Westbound	181+46.00 to 182+69.55	Lt. & Rt.	123.55	33.00	8	Pavement & Berm	4078	45.4	1.6	0.75	9.5	1.25	15.8								
U.S.R. 33 Westbound	182+69.55 to 183+04.55	Lt. & Rt.	35.00	33.00	8	Railroad Feather	1155	12.9	0.5			1.25	4.5								129
U.S.R. 33 Westbound	183+22.29 to 183+57.29	Lt. & Rt.	35.00	33.00	8	Railroad Feather	1155	12.9	0.5			1.25	4.5								129
U.S.R. 33 Westbound	183+57.29 to 184+33.84	Lt. & Rt.	76.55	33.00	8	Pavement & Berm	2527	28.1	1.0	0.75	5.9	1.25	9.8								
U.S.R. 33 Westbound	184+33.84 to 189+62.97	Lt. & Rt.	529.13	43.50	9	Pavement & Berm	23,018	255.8	9.0	0.75	53.3	1.25	88.8								
U.S.R. 33	189+62.97 to 195+81.15	Lt. & Rt.	618.18	32.00	9	Pavement & Berm	19,782	219.8	7.7	0.75	45.8	1.25	76.4								
U.S.R. 33	195+81.15 to 197+12.87	Lt.	131.72	12.00	9	Pavement	1581	17.6	0.6	0.75	3.7	1.25	6.1								
Existing U.S.R. 33	903+75.57 to 903+90.57	Lt. & Rt.	15.00	24.00		Feather	360	4.0	0.2			1.25	1.4								40
Existing U.S.R. 33	903+90.57 to 904+99.00	Lt. & Rt.	108.43	40.23		Appr. to U.S.R. 33	4403	48.9	1.7	0.75	10.1	1.25	16.9								
Wapak-Fisher Road	20+12.17 to 21+40.17	Lt. & Rt.	128.00	38.80		Appr. to U.S.R.33	4966	55.2	1.9	0.75	11.5	1.25	19.2								
Wapak-Fisher Road	21+40.17 to 21+55.17	Lt. & Rt.	15.00	20.00		Feather	300	3.4	0.2			1.25	1.2								34
U.S.R. 33	195+81.15 to 196+99.61	Rt.	118.46	16.00	9	Pavement & Berm	1896	21.1	0.8	0.75	4.4	1.25	7.3								
U.S.R. 33	196+99.61 to 198+64.51	Rt.	164.90	12.00	9	Pavement	1979	22.0	0.8	0.75	4.6	1.25	7.7								
U.S.R. 33	197+12.87 to 198+64.51	Lt.	151.64	28.00	9	Pavement & Berm	4246	47.2	1.7	0.75	9.9	1.25	16.4								
U.S.R. 33	198+64.51 to 199+12.87	Lt. & Rt.	48.36	44.00	9	Pavement & Berm	2128	23.7	0.9	0.75	5.0	1.25	8.2								
U.S.R. 33	199+12.87 to 202+53.49	Lt. & Rt.	240.00	38.00	9	Pavement & Berm	9120	101.4	3.6	0.75	21.1	1.25	35.2								
U.S.R. 33	202+53.49 to 205+20.00	Lt. & Rt.	266.51	32.00	9	Pavement & Berm	8529	94.8	3.3	0.75	19.8	1.25	32.9								
U.S.R. 33	205+20.00 to 206+50.00	Lt. & Rt.	130.00	30.10	9	Pavement & Berm	3913	43.5	1.5	0.75	9.1	1.25	15.1								
U.S.R. 33	206+50.00 to 206+85.00	Lt. & Rt.	35.00	20.10		Feather	707	7.9	0.3			1.25	2.8								79
U.S.R. 33	200+90.00 to 201+60.00	Rt.	24.40	2.00		Mailbox Turnout	49	0.6	0.1			1.25	0.2								
U.S.R. 33	201+70.00 to 202+20.00	Rt.	30.00	10.00		Drive Feather	300	3.4	0.1			1.25	1.2								34
Ramp "X"	0+00.00 to 5+00.00	Rt.	499.02	16.00	1-3	Pavement & Berm	7985	88.7	3.1	0.75	18.5	1.25	30.8								
Ramp "X"	5+00.00 to 5+68.00	Rt.	68.00	15.50	3	Pavement & Berm	1054	11.7	0.4	0.75	2.5	1.25	4.1								
Ramp "X"	5+68.00 to 8+44.76	Rt.	276.76	21.21	3	Pavement & Berm	5871	65.3	2.3	0.75	13.6	1.25	22.7								
Ramp "X"	0+00.00 to 4+76.50	Lt.	476.50	11.00	1	Pavement	5264	58.5	2.1	0.75	12.2	1.25	20.3								
Ramp "X"	4+76.50 to 5+11.06	Lt.	34.56	6.58	3	Pavement	228	2.6	0.1	0.75	0.6	1.25	0.9								
U.S.R. 33 Westbound	106+27.07 to 106+61.40	Rt.	34.33	2.43	2	Pavement	84	1.0	0.1	0.75	0.2	1.25	0.4								
U.S.R. 33 Westbound	106+27.07 to 106+61.40	Rt.	34.33	15.00	2	Full Depth Par't.	515					1.25	2.0	9.00	14.3	6.00	9.6			58	
U.S.R. 33 Westbound	106+61.40 to 107+28.15	Rt.	66.75	3.68	2	Pavement	246	2.8	0.1	0.75	0.6	1.25	1.0								
U.S.R. 33 Westbound	106+61.40 to 107+28.15	Rt.	66.75	8.32	2	Full Depth Par't.	556					1.25	2.2	9.00	15.5	6.00	10.3			62	
U.S.R. 33 Westbound	106+61.40 to 107+28.15	Rt.	66.75	6.00	2	Full Depth Berm	401					1.25	1.6	3.00	3.8	6.00	7.5	6.00	7.5	45	
Ramp "X"	5+11.06 to 5+77.74	Lt.	66.68	8.26	3	Pavement	551	6.2	0.2	0.75	1.3	1.25	2.2								
Ramp "X"	5+11.06 to 5+77.74	Lt.	66.68	3.74	3	Full Depth Par't.	250					1.25	1.0	9.00	7.0	6.00	4.7			28	
U.S.R. 33 Westbound	107+28.15 to 110+37.24	Rt.	309.09	8.26	2	Pavement	2554	28.4	1.0	0.75	6.0	1.25	9.9								
U.S.R. 33 Westbound	107+28.15 to 110+37.24	Rt.	309.09	3.75	2	Full Depth Par't.	1160					1.25	4.5	9.00	32.3	6.00	21.5			129	
Sub-Totals Carried Forward to Next Sheet								4809.4	170.1		949.8		1682.5		72.9		53.6		7.5	322	841

* Add 1.00' to Width for Item 310 ~ Subbase

DATE	BY
6/04	PN
6/04	PN

DETAILED
DETAILS CHECKED
DETAILS REVISED

PAVEMENT RESURFACING CALCULATIONS

Location	Station to Station	Side	Length Linear Feet	Average Pavement Width Feet	Typical	Description	Pavement Area Sq. Feet	407 Tack Coat @ 0.1 gal. per sq. yd. gallons	407 Cover Agg. @ 7 lbs. per sq. yd. Tons	403 Average Thickness inches	403 Asphalt Concrete AC-20 cu. yd.	404 Average Thickness inches	404 Asphalt Concrete AC-20 cu. yd.	301 Average Thickness inches	301 Bitum. Agg. Base ~ AC-20 RT-11 or 12 cu. yd.	310 Average Thickness inches	310 Subbase cu. yd.	304 Average Thickness inches	304 Aggregate Base cu. yd.	203 Subbase Compaction sq. yd.	202 Wearing Course Removed Sq. yd.
U.S.R. 33 Westbound	107+28.15 to 110+37.24	Rt.	309.09	4.00*	2	Full Depth Berm	1237					1.25	4.8	3.00	11.5	6.00	28.7	6.00	23.0	172	
Ramp "X"	5+77.74 to 6+64.50	Lt.	86.76	10.69	3	Pavement	928	10.3	0.4	0.75	2.2	1.25	3.6								
Ramp "X"	5+77.74 to 6+64.50	Lt.	86.76	1.32	3	Full Depth Pav't.	115					1.25	0.5	9.00	3.2	6.00	2.2			13	
Ramp "X"	5+77.74 to 6+64.50	Lt.	86.76	4.00*	3	Full Depth Berm	348					1.25	1.4	3.00	3.3	6.00	8.1	6.00	6.6	49	
Ramp "X"	6+64.50 to 9+24.36	Lt.	259.86	16.00	3	Pavement & Berm	4158	46.2	1.6	0.75	9.7	1.25	16.0								
Ramp "X"	8+44.76 to 9+24.36	Rt.	79.60	39.83	3	Ramp "B" Nose	3171	35.3	1.3	0.75	7.4	1.25	12.3								
Ramp "X"	9+24.36 to 10+24.36	Lt. & Rt.	100.00	40.00	3	Pavement & Berm	4000	44.5	1.6	0.75	9.3	1.25	15.5								
Ramp "X"	10+24.36 to 12+06.67	Lt. & Rt.	182.31	38.00	4	Pavement & Berm	6928	77.0	2.7	0.75	16.0	1.25	26.8								
U.S.R. 33 Eastbound	113+53.22 to 118+48.32	Lt. & Rt.	495.10	38.00	4 - 5	Pavement & Berm	18,814	209.1	7.4	0.75	43.6	1.25	72.6								
U.S.R. 33 Eastbound	118+48.32 to 120+94.39	Lt. & Rt.	246.07	46.94	5	Ramp "A" Nose	11,551	128.4	4.5	0.75	26.8	1.25	44.6								
U.S.R. 33 Eastbound	120+94.39 to 123+44.39	Lt & Rt.	250.00	37.00	5	Ramp "A" Taper	9271	103.1	3.6	0.75	21.5	1.25	35.8								
U.S.R. 33 Eastbound	123+44.39 to 133+84.66	Lt. & Rt.	1040.27	32.00	5	Pavement & Berm	33,289	369.9	13.0	0.75	77.1	1.25	128.5								
U.S.R. 33 Eastbound	133+84.66 to 136+15.64	Lt. & Rt.	230.98	28.00	5	Pavement & Berm	6468	71.9	2.5	0.75	15.0	1.25	25.0								
U.S.R. 33 Eastbound	134+55.00 to 135+45.00	Rt.	65.00	15.00		Can. Fact. Rd. Feath.	975	10.9	0.4	0.75	2.3	1.25	3.8								
U.S.R. 33 Eastbound	136+15.64 to 145+91.91	Lt. & Rt.	971.01	32.00	5-6	Pavement & Berm	31,073	345.3	12.1	0.75	72.0	1.25	119.9								
U.S.R. 33 Eastbound	145+91.91 to 146+91.91	Lt. & Rt.	98.63	42.00	6	Pavement & Berm	4143	46.1	1.6	0.75	9.6	1.25	16.0								
U.S.R. 33 Eastbound	146+91.91 to 155+00.00	Lt. & Rt.	796.52	48.00	6	Pavement & Berm	38,233	424.8	14.9	0.75	88.5	1.25	147.5								
U.S.R. 33 Eastbound	155+00.00 to 159+11.79	Lt. & Rt.	406.47	61.66	6	Ramp "C" Nose	25,065	278.5	9.8	0.75	58.0	1.25	96.7								
I-75 Ramp "C"	4+08.90 to 4+43.90	Lt. & Rt.	35.00	28.65		Feather	1003	11.2	0.4			1.25	3.9								112
U.S.R. 33 Eastbound	159+11.79 to 160+11.79	Lt. & Rt.	101.37	40.50	6 - 7	Pavement & Berm	4106	45.6	1.6	0.75	9.5	1.25	15.9								
U.S.R. 33 Eastbound	160+11.79 to 161+05.34	Lt. & Rt.	94.80	39.00	7	Pavement & Berm	3698	41.1	1.4	0.75	8.6	1.25	14.3								
U.S.R. 33 Eastbound	161+05.34 to 162+05.34	Lt. & Rt.	101.38	44.00	7	Pavement & Berm	4461	49.6	1.7	0.75	10.3	1.25	17.2								
U.S.R. 33 Eastbound	162+05.34 to 167+00.00	Lt. & Rt.	501.70	49.00	7	Pavement & Berm	24,584	273.2	9.6	0.75	56.9	1.25	94.9								
I-75 Ramp "G"	2+73.00 to 2+76.00	Lt. & Rt.	1.50	29.00		Pavement & Berm	44	0.5	0.1	0.75	0.1	1.25	0.2								
I-75 Ramp "G"	2+76.00 to 2+91.00	Lt. & Rt.	15.00	29.00		Feather	435	4.9	0.2			1.25	1.7								
U.S.R. 33 Eastbound	167+00.00 to 170+05.34	Lt. & Rt.	309.28	54.82	7	Ramp "D" Nose	16,954	188.4	6.6	0.75	39.3	1.25	65.4								49
I-75 Ramp "D"	3+08.05 to 3+23.50	Lt. & Rt.	15.45	27.00		Pavement & Berm	418	4.7	0.2	0.75	1.0	1.25	1.6								
I-75 Ramp "D"	3+23.50 to 3+38.50	Lt. & Rt.	15.00	27.00		Feather	405	4.5	0.2			1.25	1.6								45
U.S.R. 33 Eastbound	170+05.34 to 171+05.34	Lt. & Rt.	101.35	41.00	7	Pavement & Berm	4156	46.2	1.6	0.75	9.6	1.25	16.0								
U.S.R. 33 Eastbound	171+05.34 to 172+24.09	Lt. & Rt.	120.34	39.00	7.	Pavement & Berm	4684	52.0	1.8	0.75	10.8	1.25	18.1								
I-75 Ramp "E"	0+96.00 to 1+02.00	Lt. & Rt.	6.00	29.00		Pavement & Berm	174	1.9	0.1	0.75	0.4	1.25	0.7								
I-75 Ramp "E"	1+02.00 to 1+17.00	Lt. & Rt.	15.00	29.00		Feather	435	4.8	0.2			1.25	1.7								49
I-75 Ramp "F"	15+18.36 to 15+23.36	Lt. & Rt.	5.00	44.00		Pavement & Berm	220	2.5	0.1	0.75	0.5	1.25	0.8								
I-75 Ramp "F"	15+03.36 to 15+18.36	Lt. & Rt.	15.00	33.00		Feather	495	5.5	0.2			1.25	1.9								55
U.S.R. 33 Eastbound	172+24.09 to 173+31.10	Lt. & Rt.	108.42	37.00	7	Pavement & Berm	4012	44.6	1.6	0.75	9.3	1.25	15.5								
Ramp "Y"	0+00 to 8+09.80	Lt. & Rt.	810.12	37.00	7-8	Pavement & Berm	29,935	332.6	11.7	0.75	69.3	1.25	115.5								
Cemetery Road	19+59.00 to 19+74.00	Lt. & Rt.	15.00	50.00		Feather	750	8.3	0.3			1.25	2.9								84
Ramp "Y"	8+09.80 to 9+98.05	Lt. & Rt.	188.25	27.08	8	Pavement & Berm	5097	56.6	2.0	0.75	11.8	1.25	19.7								
Ramp "Y"	9+98.05 to 10+33.05	Lt. & Rt.	35.00	24.00	8	Railroad Feather	840	9.3	0.3			1.25	3.2								94
Ramp "Y"	10+48.91 to 10+83.91	Lt. & Rt.	35.00	21.00	8	Railroad Feather	735	8.2	0.3			1.25	2.8								82
Ramp "Y"	10+83.91 to 11+14.18	Lt. & Rt.	30.27	16.29	8	Pavement & Berm	494	5.5	0.2	0.75	1.2	1.25	1.9								
C.R. 25A Ramp "A"	0+26.00 to 0+50.00	Lt. & Rt.	24.00	83.24		Feather	2248	25.0	0.9			1.25	8.7								250
C.R. 25A Ramp "A"	0+50.00 to 10+00.00	Lt. & Rt.	950.00	19.00	10	Pavement & Berm	18,200	202.2	7.1	0.75	42.1	1.25	70.2								
C.R. 25A Ramp "A"	10+00.00 to 16+36.84	Lt. & Rt.	636.84	22.00	11 - 12	Pavement & Berm	14,011	155.7	5.5	0.75	32.4	1.25	54.1								
C.R. 25A Ramp "A"	16+36.84 to 16+86.84	Lt. & Rt.	50.00	21.50	13	Pavement & Berm	1075	11.9	0.4	0.75	2.5	1.25	4.2								
C.R. 25A Ramp "A"	16+86.84 to 18+86.84	Lt. & Rt.	200.00	19.00	13	Pavement & Berm	3800	42.2	1.5	0.75	8.8	1.25	14.7								
C.R. 25A Ramp "B"	0+50.00 to 9+94.50	Lt. & Rt.	944.50	19.00	10	Pavement & Berm	17,971	199.7	7.0	0.75	41.6	1.25	69.3								
C.R. 25A Ramp "B"	9+94.50 to 12+44.09	Lt. & Rt.	249.59	22.00	11	Pavement & Berm	5491	61.0	2.1	0.75	12.7	1.25	21.2								
C.R. 25A Ramp "B"	12+44.09 to 13+44.09	Lt. & Rt.	100.00	23.00	11	Pavement & Berm	2300	25.6	0.9	0.75	5.3	1.25	8.9								
C.R. 25A Ramp "C"	0+58.00 to 8+75.00	Lt. & Rt.	817.00	19.00	10	Pavement & Berm	15,715	174.6	6.1	0.75	36.4	1.25	60.6								
C.R. 25A Ramp "C"	8+75.00 to 12+06.82	Lt. & Rt.	331.82	22.00	12	Pavement & Berm	7301	81.1	2.8	0.75	16.9	1.25	28.2								
C.R. 25A Ramp "C"	12+06.82 to 12+41.23	Lt. & Rt.	34.41	33.29	12	Pavement & Berm	1146	12.7	0.5	0.75	2.7	1.25	4.4								
C.R. 25A Ramp "D"	0+36.00 to 0+59.00	Lt. & Rt.	23.00	88.88		Feather	2045	22.7	0.8			1.25	7.9								228
C.R. 25A Ramp "D"	0+59.00 to 8+80.00	Lt. & Rt.	821.00	19.00	10	Pavement & Berm	15,599	173.3	6.1	0.75	36.1	1.25	60.2								
C.R. 25A Ramp "D"	8+80.00 to 16+48.68	Lt. & Rt.	768.68	22.00	11 - 12	Pavement & Berm	16,911	187.9	6.6	0.75	39.2	1.25	65.3								
C.R. 25A Ramp "D"	16+48.68 to 17+48.68	Lt. & Rt.	100.00	23.00	11	Pavement & Berm	2300	25.6	0.9	0.75	5.3	1.25	8.9								
Sub-Totals of This Sheet								4804.2	169.0		979.6		1675.5		18.0		39.0		29.6	234	1048
Sub-Totals from Previous Sheet								4809.4	170.1		949.8		1682.5		72.9		53.6		7.5	322	841
Totals to General Summary								9614	340		1930		3358		91		93		38	556	1889

DETAILED	RM	8/84
DETAILS CHECKED	RM	8/84
DETAILS REVIEWED	PN	

BY	DATE
DETAILED J.D.	8/04
DETAILS CHECKED K.M.	8/04
DETAILS REVISED	

FHWA REGION	STATE	PROJECT	
5	OHIO		

AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07

Code Number & Description	Total
(1) ~ End Post Assembly	16
(2) ~ Corner Post Assembly	11
(3) ~ Intermediate Post Assembly	11
(4) ~ Existing End Post Assembly	3
(5) ~ Existing Corner Post Assembly	1

Rigid Pavement Removal & Rigid Pavement Replacement Calculations

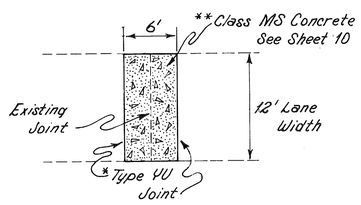
Joint Repair Location			Number of Repairs	Number of Cuts	Length of Cuts	Total Length of Cuts	Width of Repair	Repair Area
					feet	feet	feet	sq. ft.
U.S.R. 33	Eastbound		50	100	12	1200	6	3600
U.S.R. 33	Westbound		50	100	12	1200	6	3600
C.R. 25A	Ramp "A"		3	6	12	72	6	216
C.R. 25A	Ramp "B"		2	4	12	48	6	144
C.R. 25A	Ramp "C"		5	10	12	120	6	360
C.R. 25A	Ramp "D"		6	12	12	144	6	432
			Totals			2784 linear ft.		8352 sq. ft.
								928 sq. yd.

Estimated Quantities to Sh 9

Item Special ~ Full depth rigid pavement removal and rigid pavement replacement ~ 928 sq. yd.

Item Special ~ Full depth pavement sawing ~ 2784 linear feet

Quantities to Sheet 10



Joint Repair Detail

* Normal repair will use Type VU (contraction) joint treatment. A Type XU (expansion) joint treatment will be used every 1000± feet of pavement as directed by the engineer. See sheet 11 for details.

** Class FS Concrete will be permitted where two lane traffic exists and where traffic maintenance prohibits overnight closing of lanes. The use of Class FS Concrete will be determined by the engineer.

Limited Access Right-of-Way Fence & Post Location Table

Location	Station	Side	Distance from ℄	Code Number	Item 607 Type 47 Fence	Item 202 Fence Removed		Crossing See Std. Dwg. F-6
			lin. ft.		lin. ft.	lin. ft.		
C.R. 25A	261+82.5	Rt.	58.00	1				
					145	145		
C.R. 25A	262+82	Rt.	163.00	2				
					990	990		
U.S.R. 33	112+00	Rt.	478.00	3				
					455	455		
U.S.R. 33	116+00	Rt.	261.00	3				
					473	473		
U.S.R. 33	120+60	Rt.	153.50	3				
					192	192		
U.S.R. 33	122+50	Rt.	128.00	3				
					1214	1214		
U.S.R. 33	134+64	Rt.	134.00	1				
U.S.R. 33	135+40	Rt.	138.00	1				
					645	645		
U.S.R. 33	141+84.62	Rt.	138.00					
					1187*	1187		
U.S.R. 33	154+00	Rt.	138.00	3				
					276	276		
U.S.R. 33	156+73	Rt.	175.00	3				
					871	871		
I-75	310+21.4	Lt.	333.60	4				
U.S.R. 33	172+62.3	Rt.	425.90	4				
					255	255		
U.S.R. 33	172+98	Rt.	173.00	2				
					615	615		
U.S.R. 33	179+00	Rt.	131.00	2				
					200	200		
Cemetery	Rd. ~ 21+58	Rt.	21.00	1				
Cemetery	Rd. ~ 21+55	Lt.	20.00	1				
					213	213		
U.S.R. 33	182+31	Rt.	131.00	2				
					250	250		
U.S.R. 33	184+81	Rt.	131.00	1				
U.S.R. 33	185+90	Rt.	131.00	1				
					455	455		
U.S.R. 33	190+45	Rt.	131.00	3				
					793	793		
Wapak-Fisher Road	21+78	Rt.	33.00	2				
					147	147		
Wapak-Fisher Road	23+25	Rt.	25.00	1				
Wapak-Fisher Road	23+25	Lt.	25.00	1				
					101	101		
U.S.R. 33	201+48	Rt.	70.00	3				
					24	24		
U.S.R. 33	201+48	Rt.	46.00	1				
C.R. 25A	273+26	Rt.	90.00	1				
					144	144		
C.R. 25A	272+23	Rt.	190.00	2				
					916	916		
U.S.R. 33	110+70	Lt.	408.00	2				
					503	503		

* On Curve

Location	Station	Side	Distance from ℄	Code Number	Item 607 Type 47 Fence	Item 202 Fence Removed	Item 601 18" RCP Type B w/filter	Crossing See Std. Dwg. F-6
			lin. ft.		lin. ft.	lin. ft.	cu. yd.	
U.S.R. 33	115+00	Lt.	148.00	3				
					312	312		
U.S.R. 33	118+00	Lt.	63.00	3				
					1909	1909		
U.S.R. 33	137+09	Lt.	63.00					
					374	374		
U.S.R. 33	140+82	Lt.	75.00					
					103	103		
U.S.R. 33	141+85	Lt.	78.00					
					755*	755		*On Curve
U.S.R. 33	149+29	Lt.	78.00					
					1178	1178		
U.S.R. 33	161+00	Lt.	198.00	4				
U.S.R. 33	172+04	Lt.	67.00	5				
					787	787		Type 3 *On Curve
U.S.R. 33	180+00	Lt.	67.00	2				
					77	77		
U.S.R. 33	180+61	Lt.	114.00	2				
					37	37		Type 3
U.S.R. 33	180+93	Lt.	96.00	1				
U.S.R. 33	182+83	Lt.	48.00	1				
					762	762		
U.S.R. 33	190+45	Lt.	68.00					
					303	303		
U.S.R. 33	193+51	Lt.	78.00	2				
					125	125	10	Type 2
Ex. U.S.R. 33 ~ 901+82		Rt.	37.00	1				
Ex. U.S.R. 33 ~ 901+82		Lt.	37.00	1				
					18	18		
Ex. U.S.R. 33 ~ 901+68		Lt.	48.00	2				
					53	53		
Ex. U.S.R. 33 ~ 902+21		Lt.	48.00	3				
					506	506		
U.S.R. 33	199+73	Lt.	53.00	1				
Total to General Summary Sheet					18,363	18,363	10	
						Total Each Type		Type 2 - 1 Type 3 - 2

AUGLAIZE COUNTY
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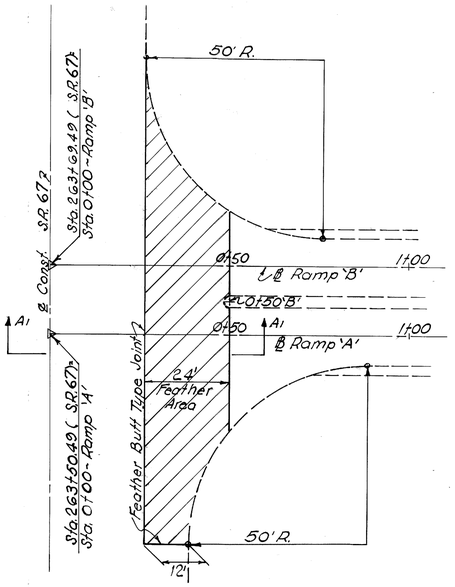
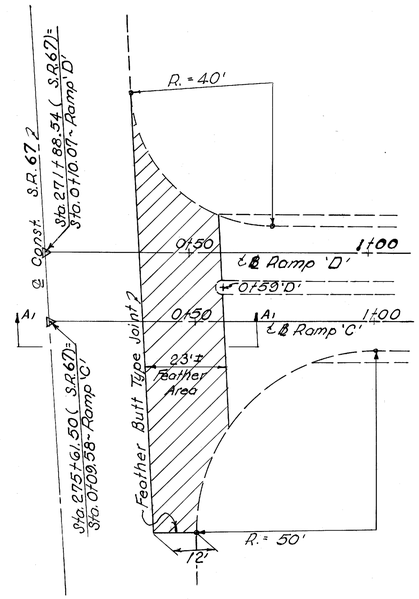
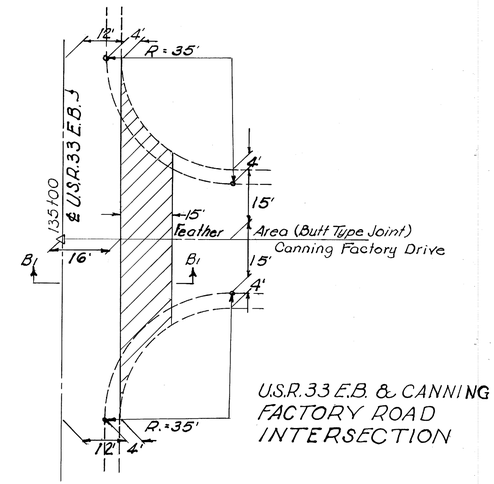


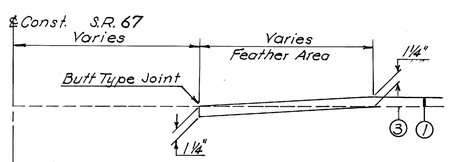
RAMP 'A', RAMP 'B' & S.R. 67
INTERSECTION



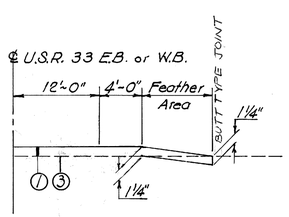
RAMP 'C', RAMP 'D' & S.R. 67
INTERSECTION



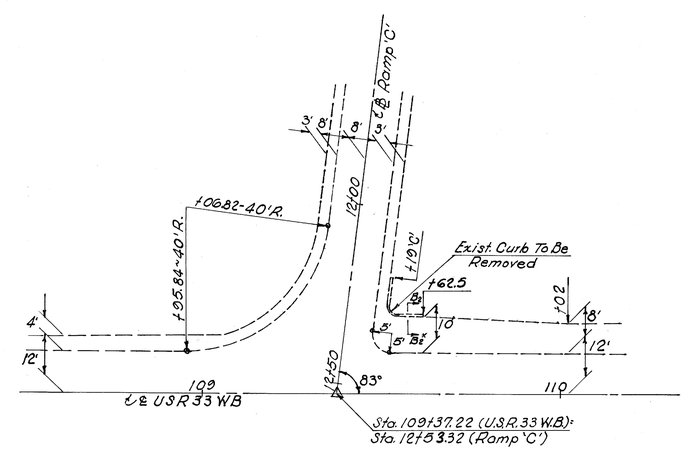
U.S.R. 33 E.B. & CANNING
FACTORY ROAD
INTERSECTION



SECTION A1-A1



SECTION B1-B1



RAMP 'C' (S.R. 67) & U.S.R. 33 W.B.
INTERSECTION

*SEE SH 22

INTERSECTION DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

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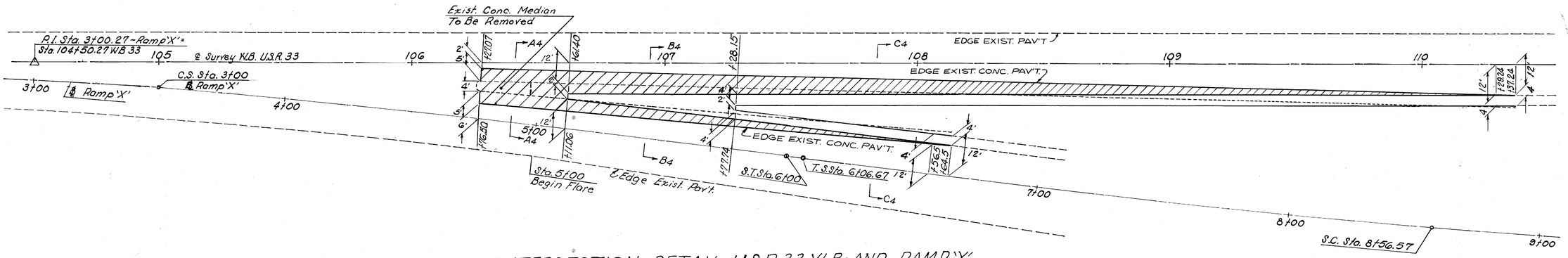
AUGLAIZE COUNTY
AUG-33-15.07



INTERSECTION DETAIL U.S.R. 33 W.B. AND RAMP 'X'

~ CODE ~

① Item 404 1¼" Asphalt Concrete, AC-20

*② Item 403 0" Minimum Asphalt Concrete, AC-20

③ Item 407 Tack Coat With Cover Aggregate

④ Item 301 9" Bituminous Aggregate Base, AC-20, RT-11, or RT-12

⑤ Item 310 6" Subbase, Type I Grading "A"

⑥ Item 301 3" Bituminous Aggregate Base, AC-20, RT-11, or RT-12

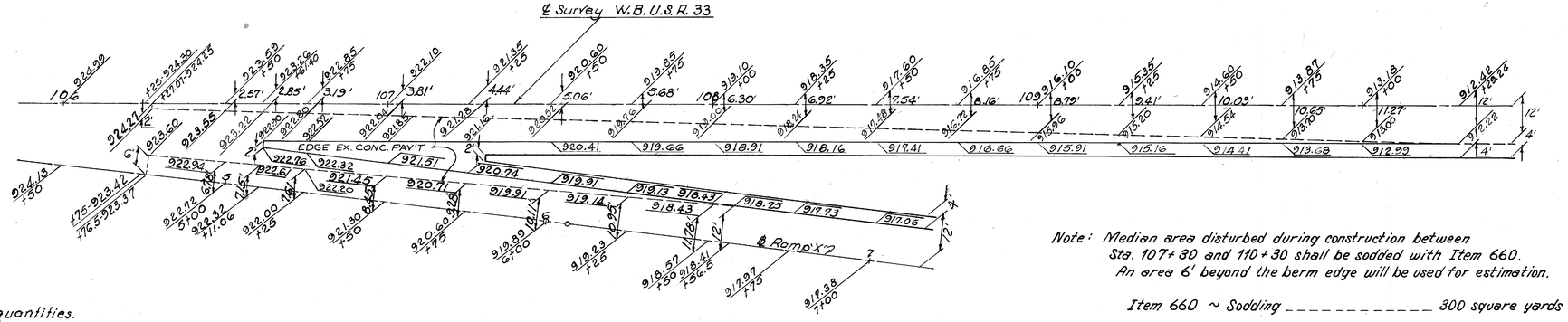
⑦ Item 304 6" Aggregate Base

⑨ Item 659 Seeding And Mulching (See General Note)

Ⓐ Existing 9" Reinforced Portland Cement Concrete Pavement

Ⓑ Existing Subbase

* Item 403 is used as a leveling course and will vary in depth. The average depth of ¾ inch will be used for estimating quantities.

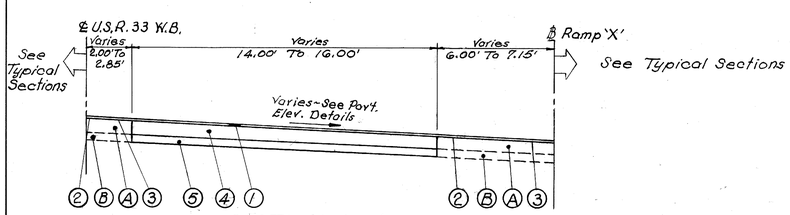


PAVEMENT ELEVATIONS U.S.R. 33 W.B. AND RAMP 'X'

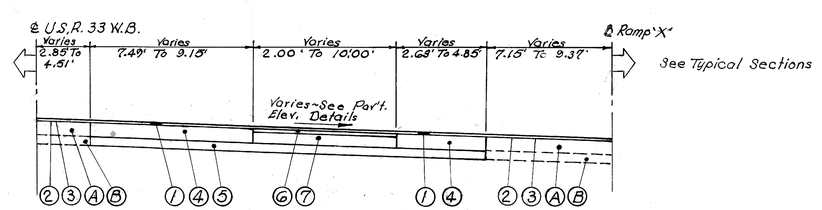
Note: Median area disturbed during construction between Sta. 107+30 and 110+30 shall be sodded with Item 660. An area 6' beyond the berm edge will be used for estimation.

Item 660 ~ Sodding _____ 300 square yards

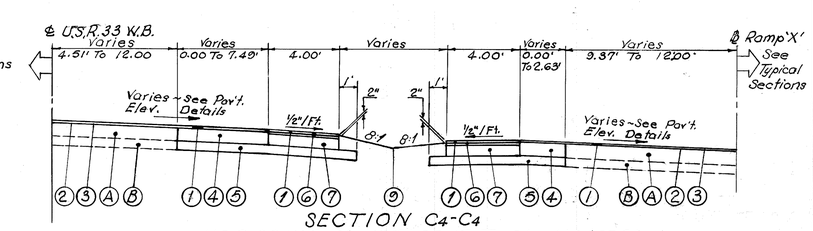
Quantity Carried to General Summary



SECTION A4-A4
U.S.R. 33 W.B. Sta. 106+27.07 To Sta. 106+61.40
Ramp 'X' Sta. 4+76.50 To Sta. 5+11.06



SECTION B4-B4
U.S.R. 33 W.B. Sta. 106+61.40 To Sta. 107+28.15
Ramp 'X' Sta. 5+11.06 To Sta. 5+77.74



SECTION C4-C4
U.S.R. 33 W.B. Sta. 107+28.15 To Sta. 110+37.24
Ramp 'X' Sta. 5+77.74 To Sta. 6+64.50

U.S.R. 33 W.B. AND RAMP 'X' INTERSECTION DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

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AUGLAIZE COUNTY
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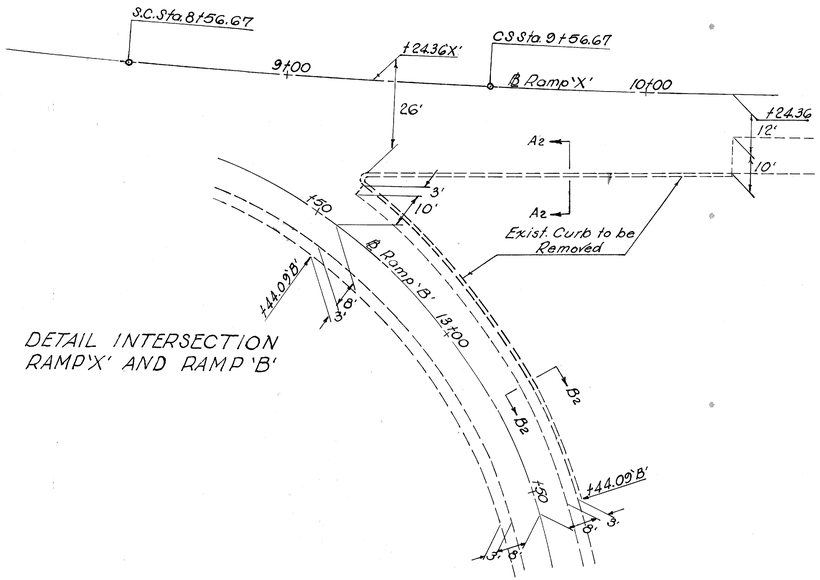
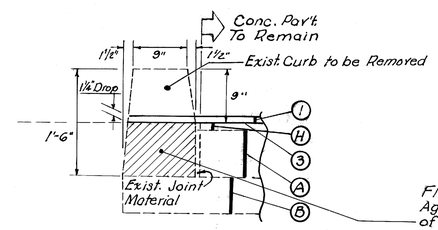
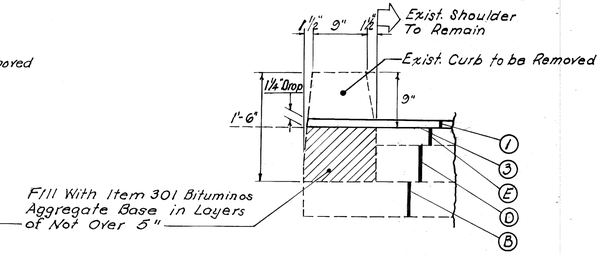


DETAIL INTERSECTION
RAMP 'X' AND RAMP 'B'

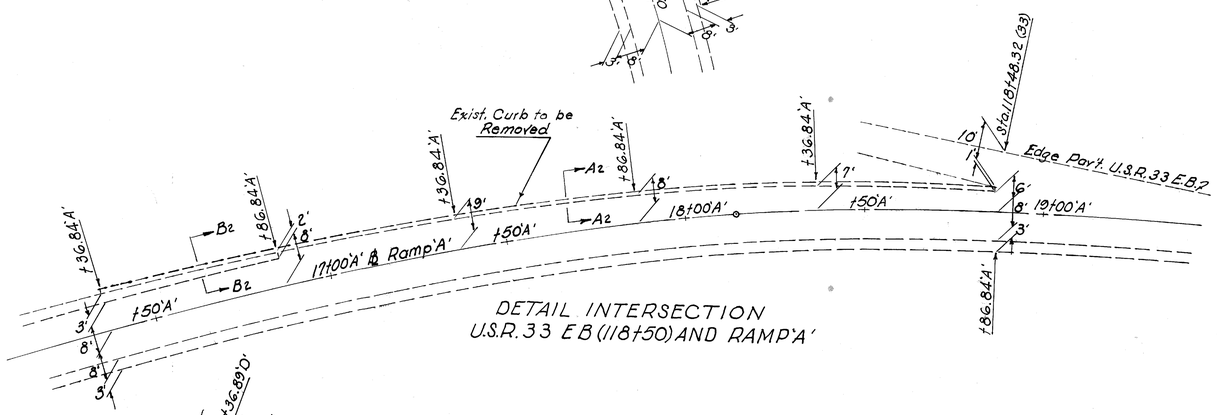


SECTION A2-A2

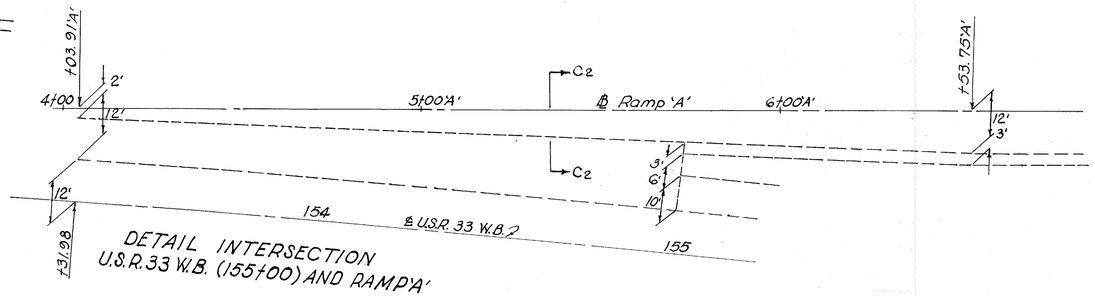


SECTION B2-B2

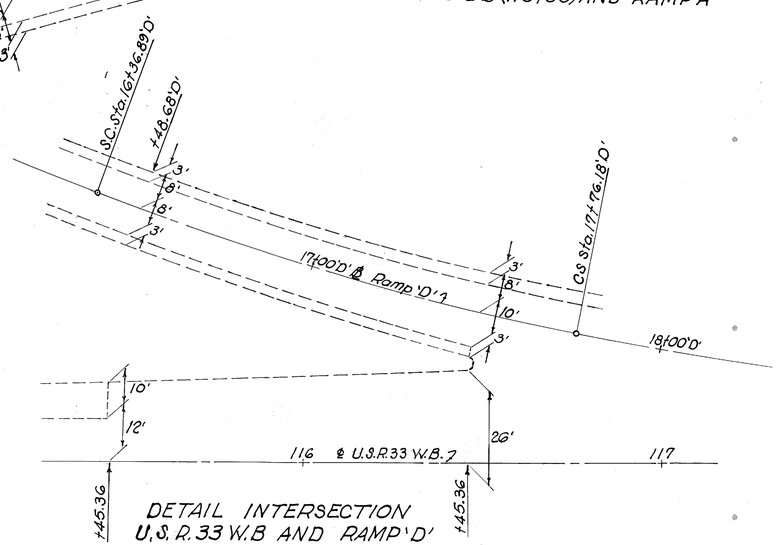
FOR CODE KEY SEE TYPICAL SECTIONS



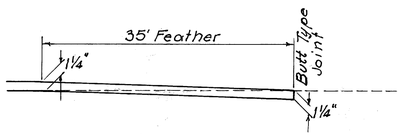
DETAIL INTERSECTION
U.S.R. 33 E.B (118+50) AND RAMP 'A'



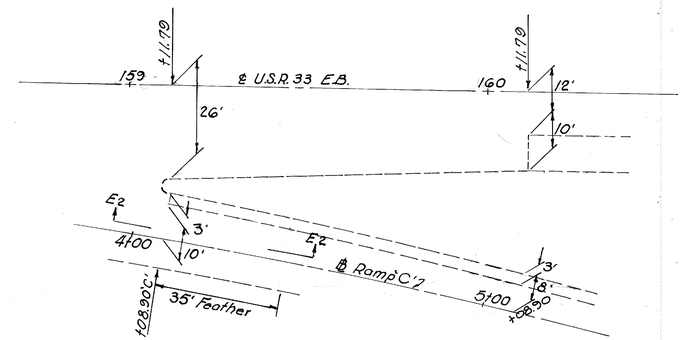
DETAIL INTERSECTION
U.S.R. 33 W.B. (155+00) AND RAMP 'A'



DETAIL INTERSECTION
U.S.R. 33 W.B AND RAMP 'D'



SECTION E2-E2



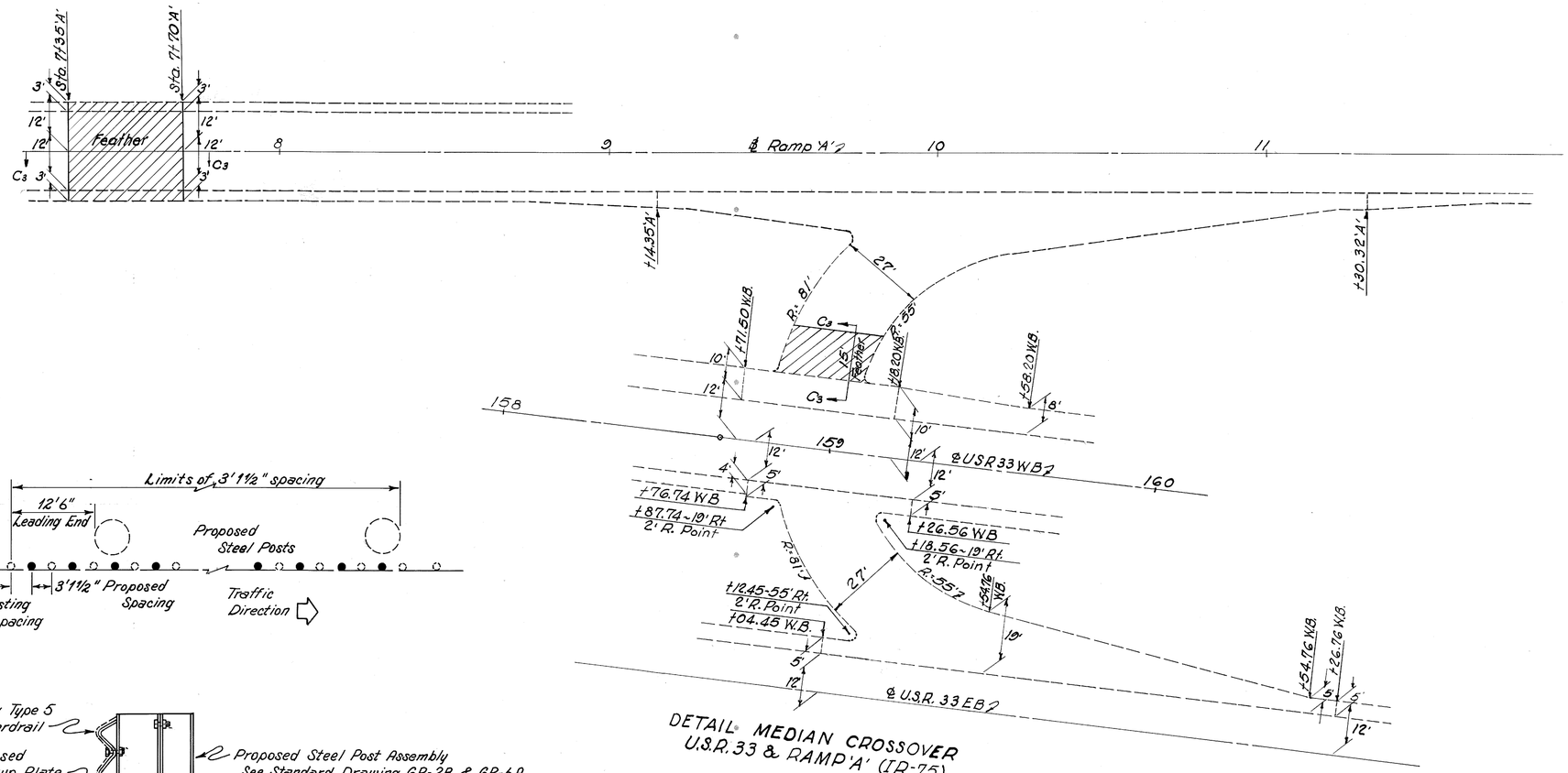
DETAIL INTERSECTION
U.S.R. 33 E.B. (159+00) AND RAMP 'C'

INTERSECTION DETAILS

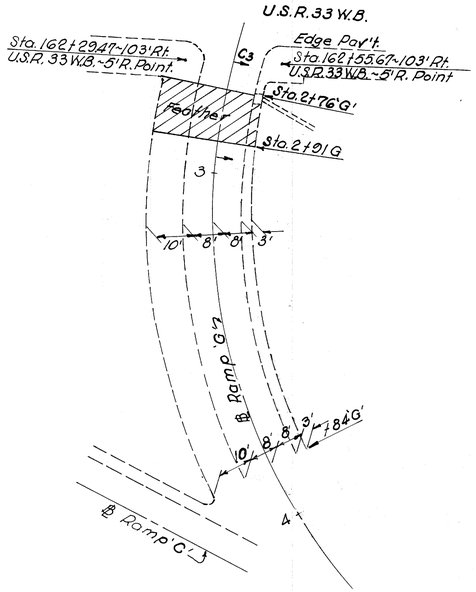
FHWA REGION	STATE	PROJECT	
5	OHIO		

23
61

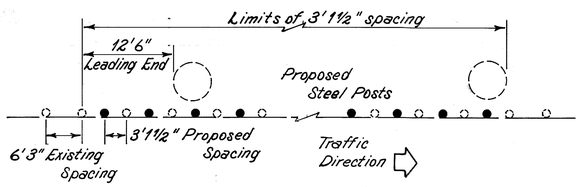
AUGLAIZE COUNTY
AUG-33-15.07

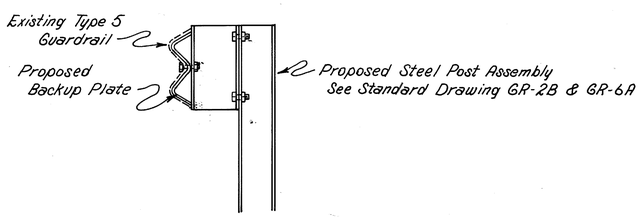


DETAIL MEDIAN CROSSOVER
U.S.R. 33 & RAMP 'A' (TR-75)



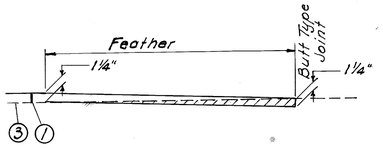
DETAIL INTERSECTION
U.S.R. 33 W.B. & RAMP 'G'



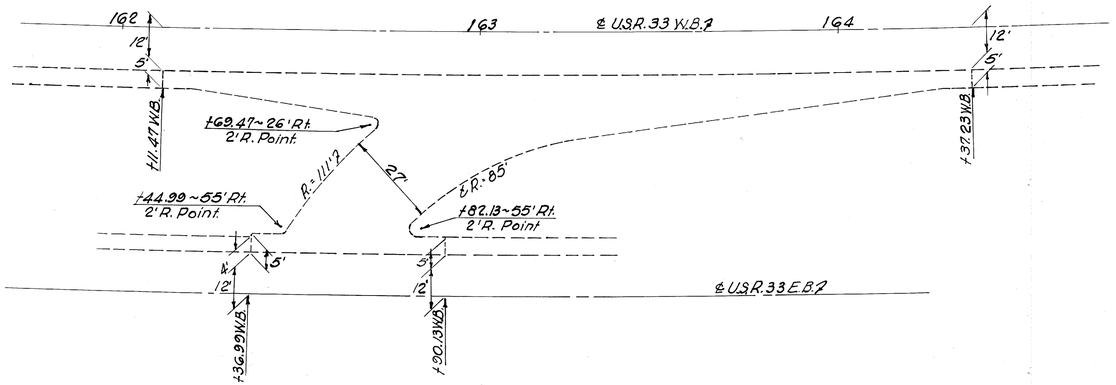


Item Special
Steel Post Assembly for Existing Type 5 Guardrail

Item Special ~ Steel Post Assembly ~ The contractor shall install steel post assemblies at the locations shown on the plans on 3' 1½" centers from 12' 6" in advance of the leading piers to the end of the trailing piers. The existing steel post assemblies will remain in place. The new post assemblies will be installed between the existing post assemblies. The price bid shall be for each steel post assembly installed. Price shall include all labor, equipment, material and incidentals necessary to install the steel post assemblies as shown and specified.



SECTION C3 ~ C3



DETAIL CROSSOVER FOR RAMP 'G'

INTERSECTION DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

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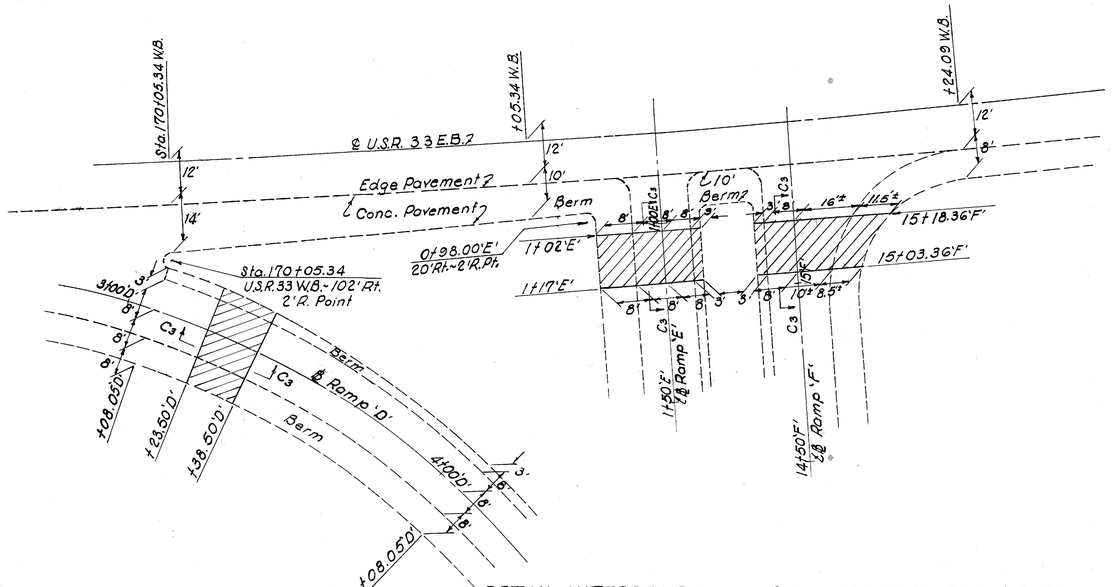
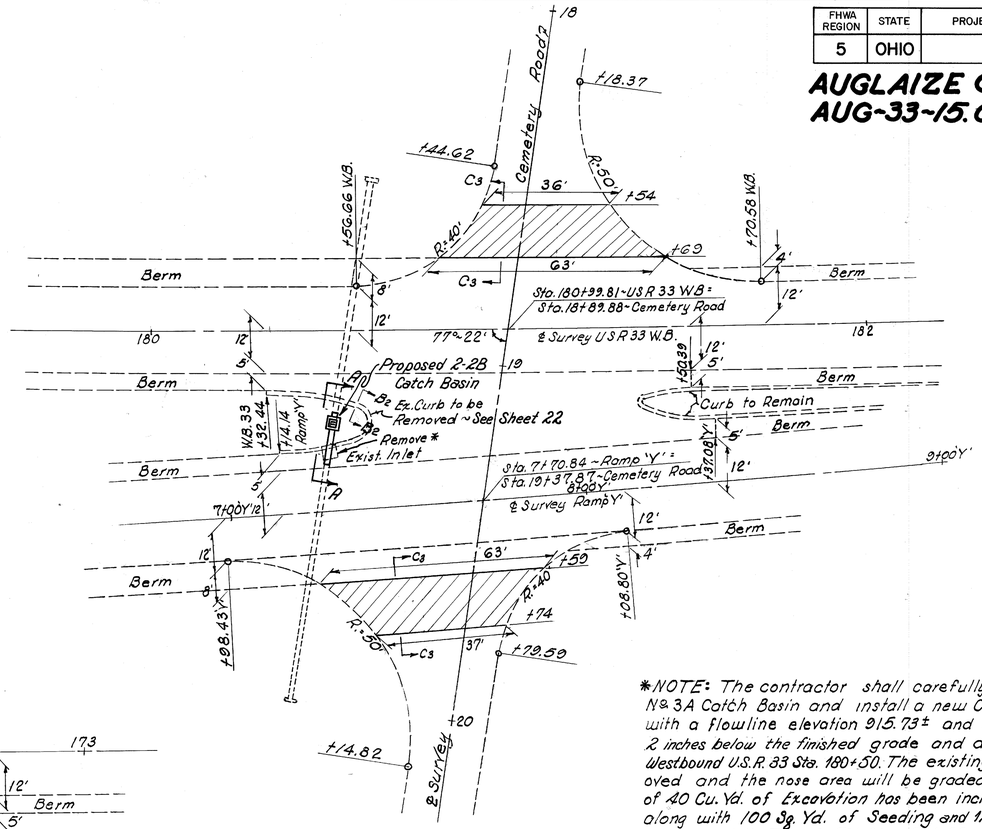
61

AUGLAIZE COUNTY
AUG-33-15.07

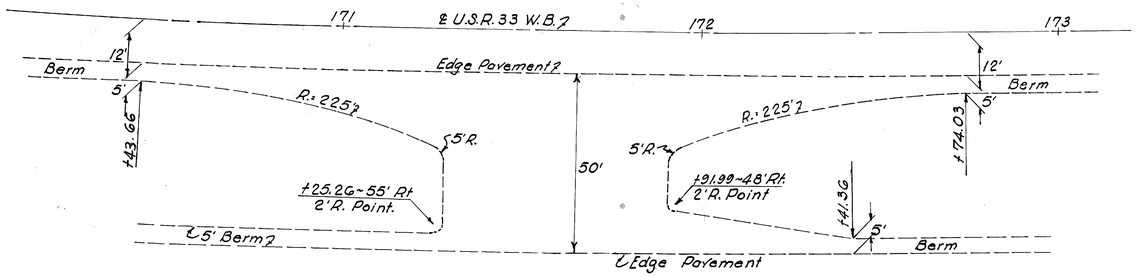


DETAIL INTERSECTION ~ U.S.R. 33 ~ RAMPS 'D' ~ 'E' ~ 'F' ~ (I-75)



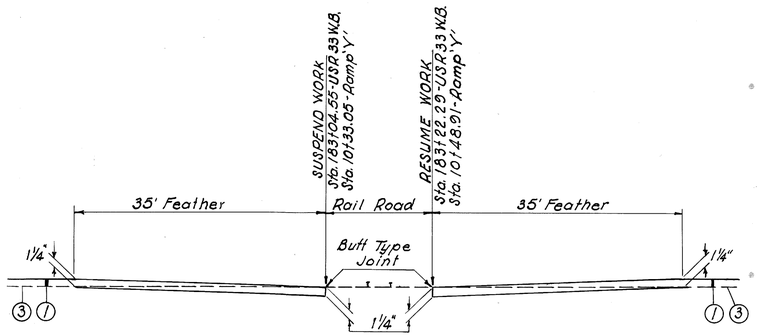
DETAIL U.S.R. 33 AND CEMETERY ROAD

*NOTE: The contractor shall carefully remove the existing No. 3A Catch Basin and install a new CB 2-2B Catch Basin with a flowline elevation 915.73± and a grate elevation 2 inches below the finished grade and a location 26' right of Westbound U.S.R. 33 Sta. 180+50. The existing curb will be removed and the nose area will be graded to drain. A quantity of 40 Cu. Yd. of Excavation has been included for this purpose along with 100 Sq. Yd. of Seeding and 12 linear feet of 18" conduit, Type A, 706.01 or 706.02.

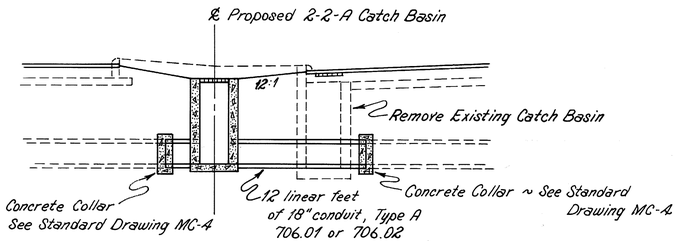


DETAIL CROSSOVER ~ U.S.R. 33 ~ RAMPS 'E' & 'F' (I-75)

FOR SECTION C_3-C_3 SEE SH 23



RAIL ROAD CROSSING TREATMENT



Section A-A

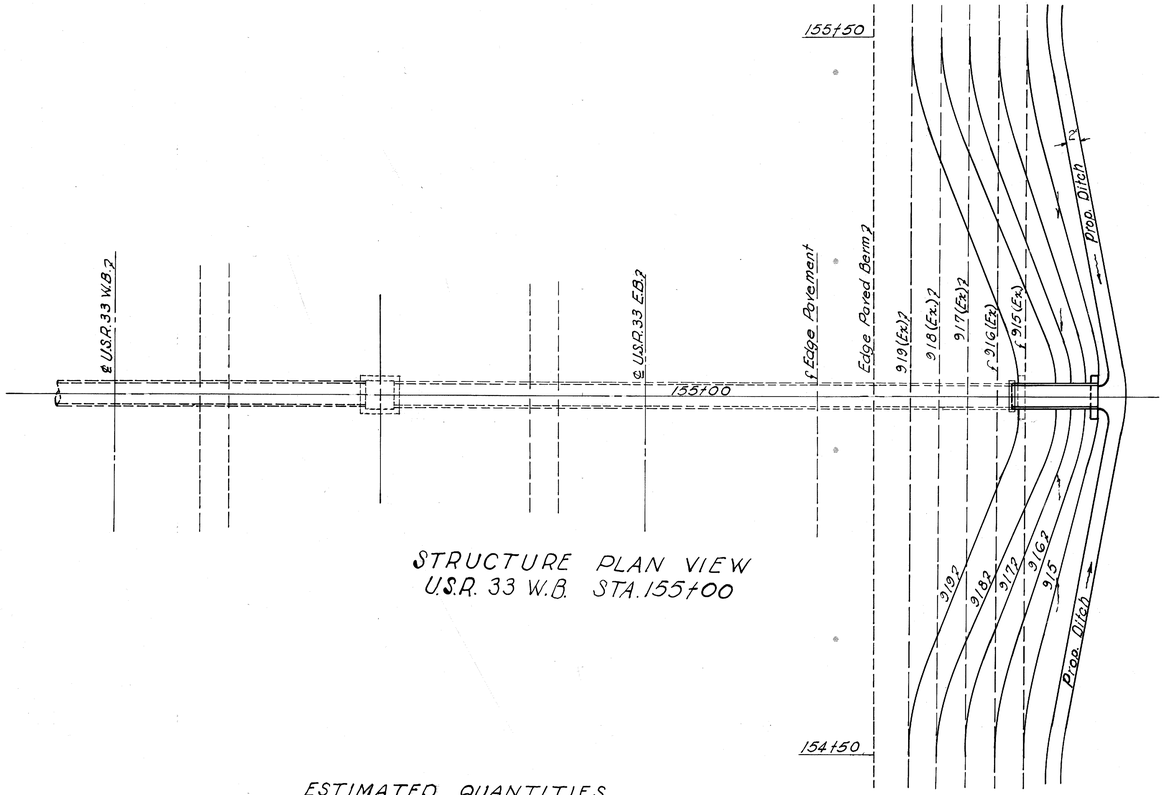
INTERSECTION DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO		

25/61

AUGLAIZE COUNTY
AUG-33-15.07

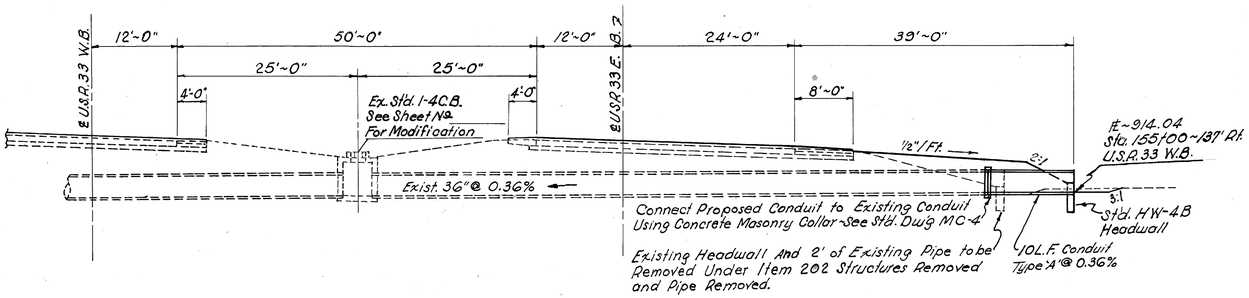
*NOTE: The Contractor Shall Remove The Existing Wings And Grate of The Existing Catch Basin Taking Care to Leave the Top of the Inlet Surface in a Smooth Plane. The Contractor Shall also Remove the Concrete (1"x 2") Around the Inlet Top Opening to Provide a Seat for the New Grate Casting. Care Shall be Taken in Removing the Concrete so the Surface is Smooth to Permit a Good Seating of the New Casting With No Wobble or Apparent Cant. The Cost of Removal as Shown, New Casting and any other Repair Necessary Within the Catch Basin along with all Labor, Equipment and Incidentals to Construct the Inlet as Shown Shall be Paid for at the Unit Price Bid for Item 604 Each "Catch Basin Reconstructed to Grade as per Plan."



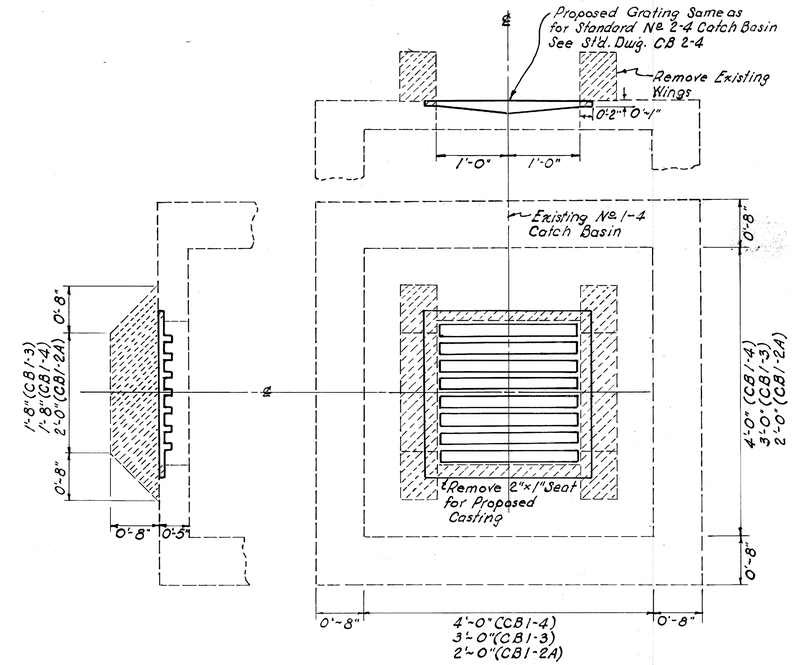
STRUCTURE PLAN VIEW
U.S.R. 33 W.B. STA. 155+00

ESTIMATED QUANTITIES

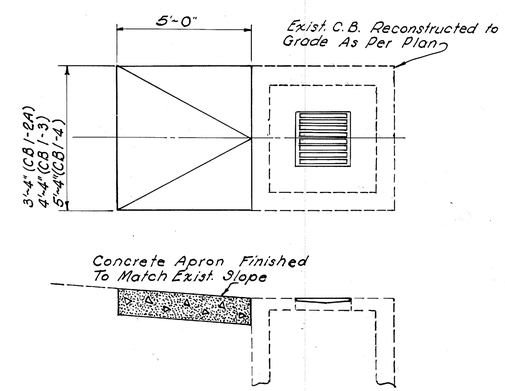
Item 202	Structures Removed	Lump	Lump
Item 202	Pipe Removed 24" and Over	2	Lin. Ft.
Item 602	Concrete Masonry	0.69	Cu. Yd.
Item 603	36" Conduit, Type 'A', 706.02	10	Lin. Ft.
Item 203	Embankment	95	Cu. Yd.
Item 659	Seeding & Mulching	390	Sq. Yd.



SECTION ALONG ℄ STRUCTURE
U.S.R. 33 W.B. STA. 155+00



*CATCH BASIN RECONSTRUCTED TO GRADE
AS PER PLAN ~ EXISTING 1-2A, 1-3, & 1-4

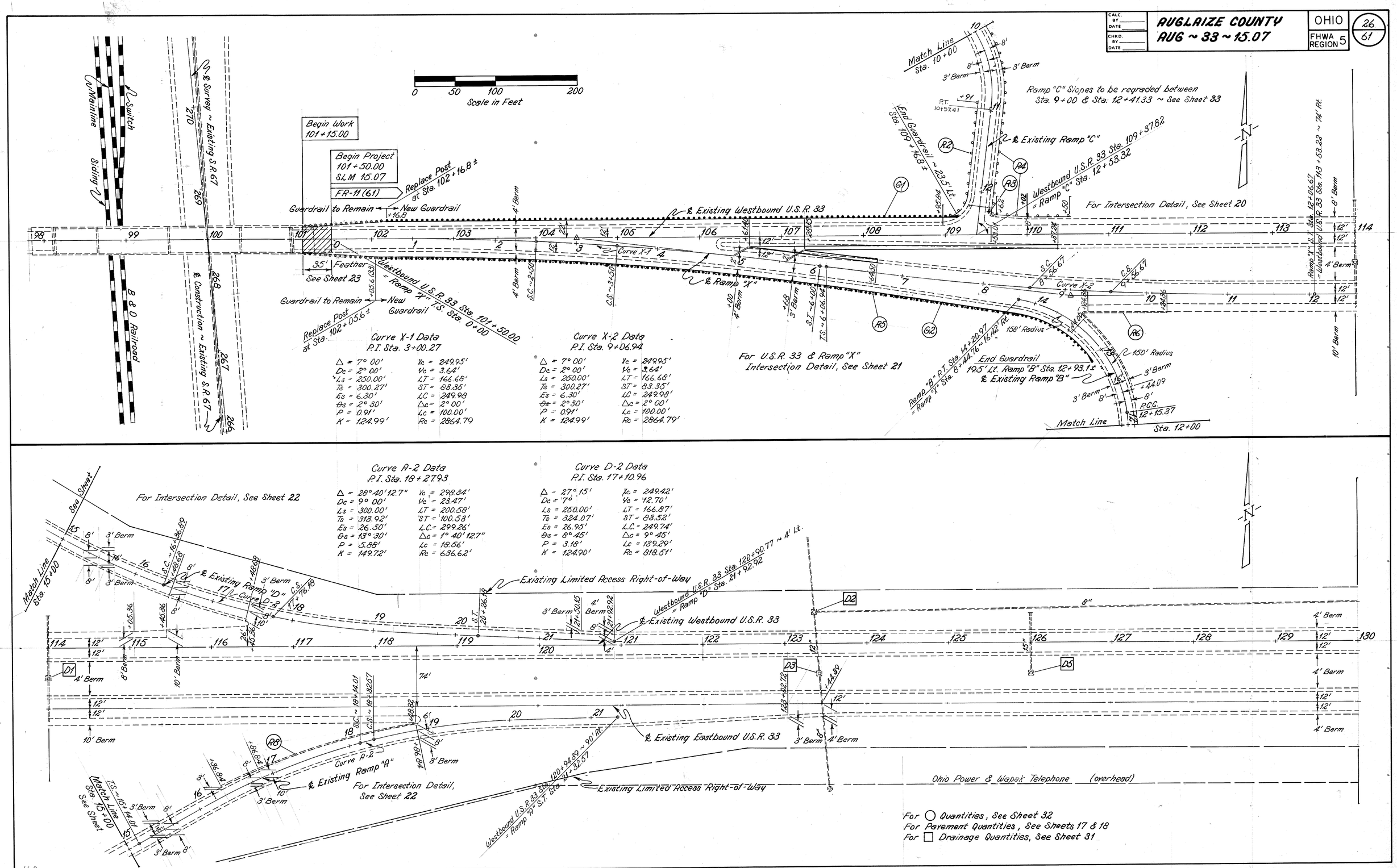


+CONCRETE APRON

+When a Catch Basin is in a Sag, A Concrete Apron Shall Be Provided on Each Side of the Catch Basin. The Concrete Aprons Shall be Adjusted in Such a Manner That the Outside Edges Are at Equal Elevations. The Concrete Aprons Shall Be Paid For At The Unit Price Per Sq. Yd. For Item 601, 6" Reinforced Concrete Riprap.

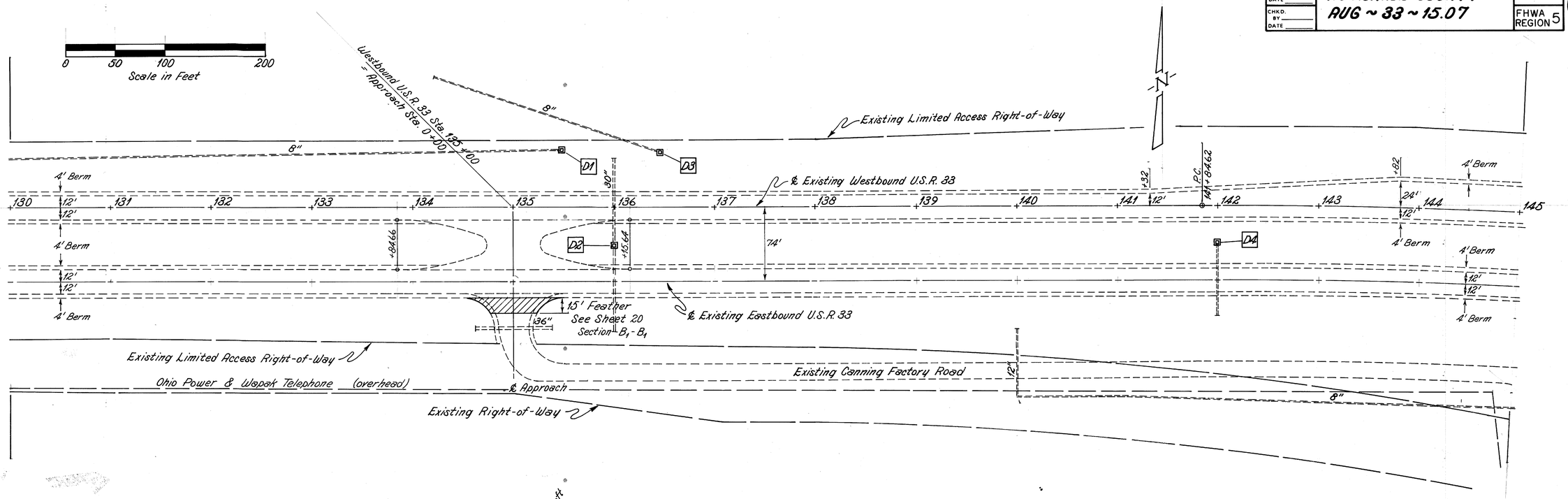
STRUCTURE STA. 155+00 W.B. & CATCH BASIN MODIFICATION DETAILS

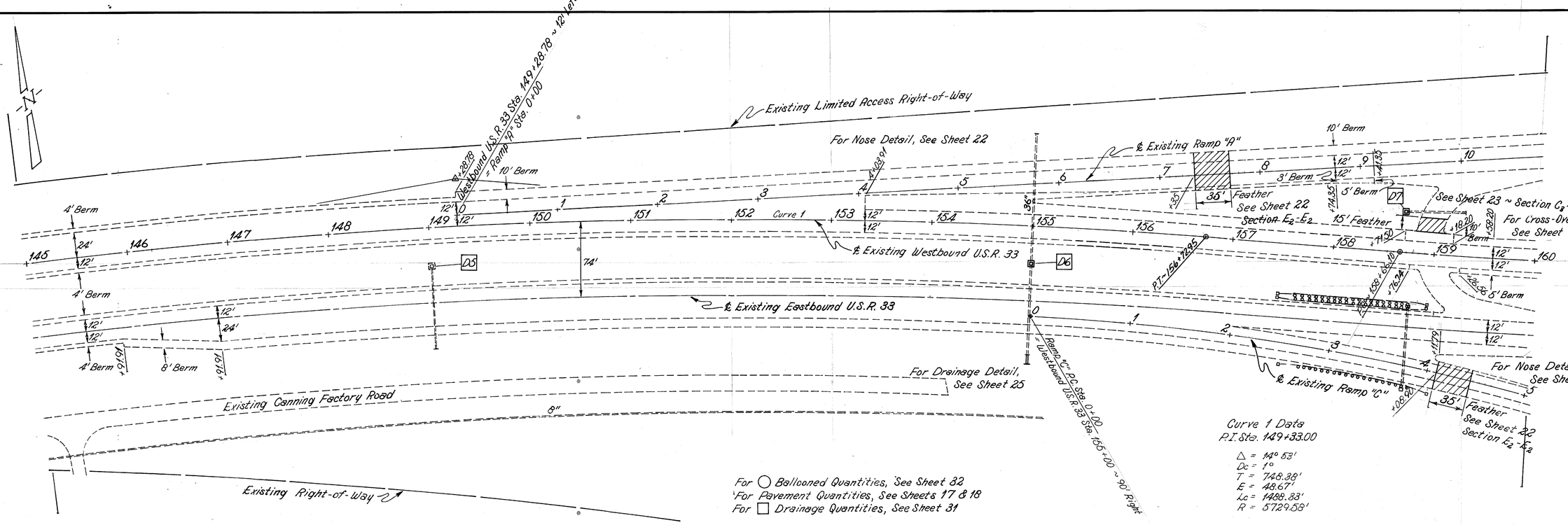
CALC. BY ____ DATE ____	AUGLAIZE COUNTY	OHIO	26
CHKD. BY ____ DATE ____	AUG ~ 33 ~ 15.07	FHWA REGION 5	61



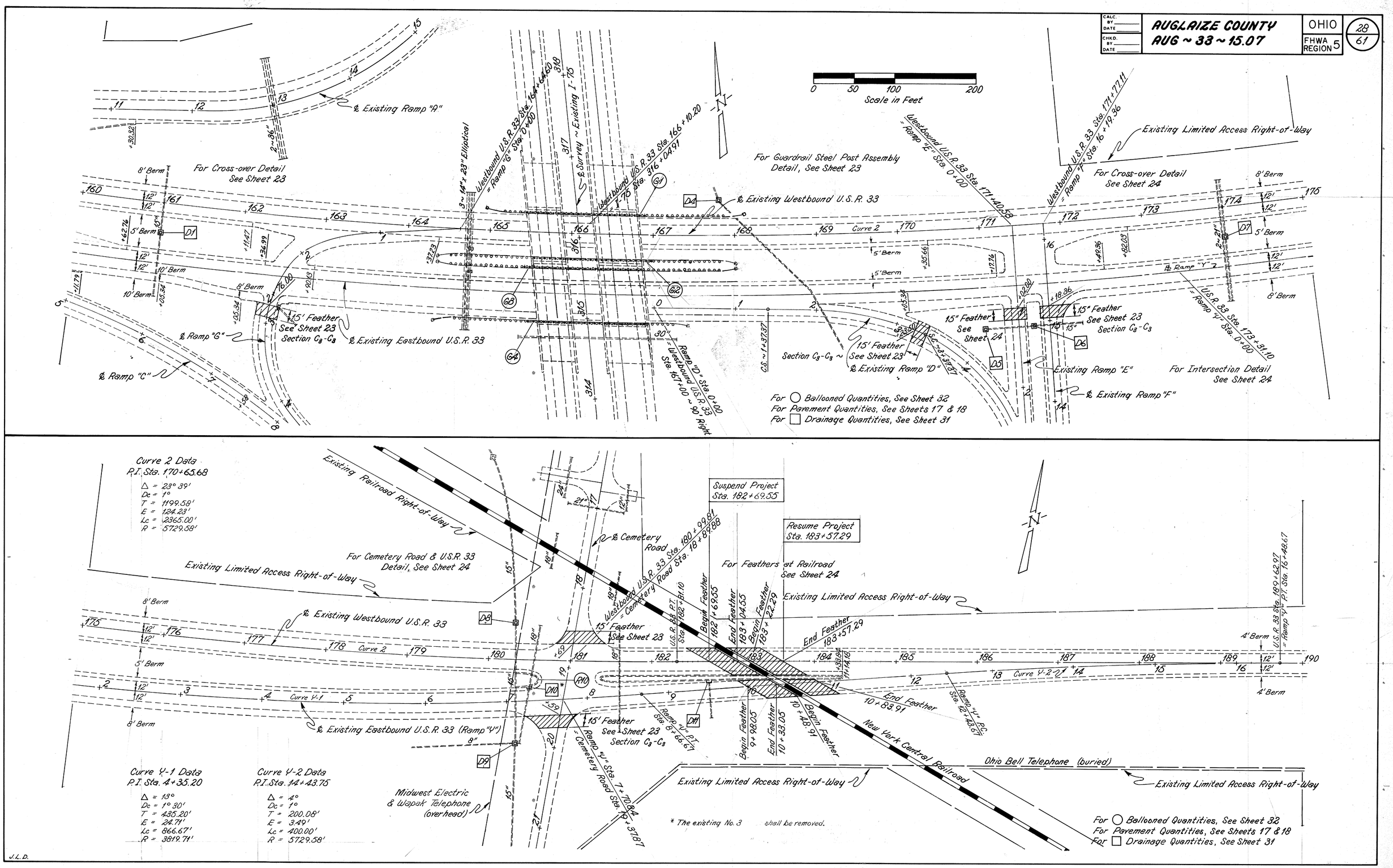
U.S.R. 33 PLAN ~ STA. 98 + 00 TO STA. 130 + 00

CALC. BY ____ DATE ____ CHKD. BY ____ DATE ____	AUGLAIZE COUNTY AUG ~ 33 ~ 15.07	OHIO FHWA REGION 5	27 / 61



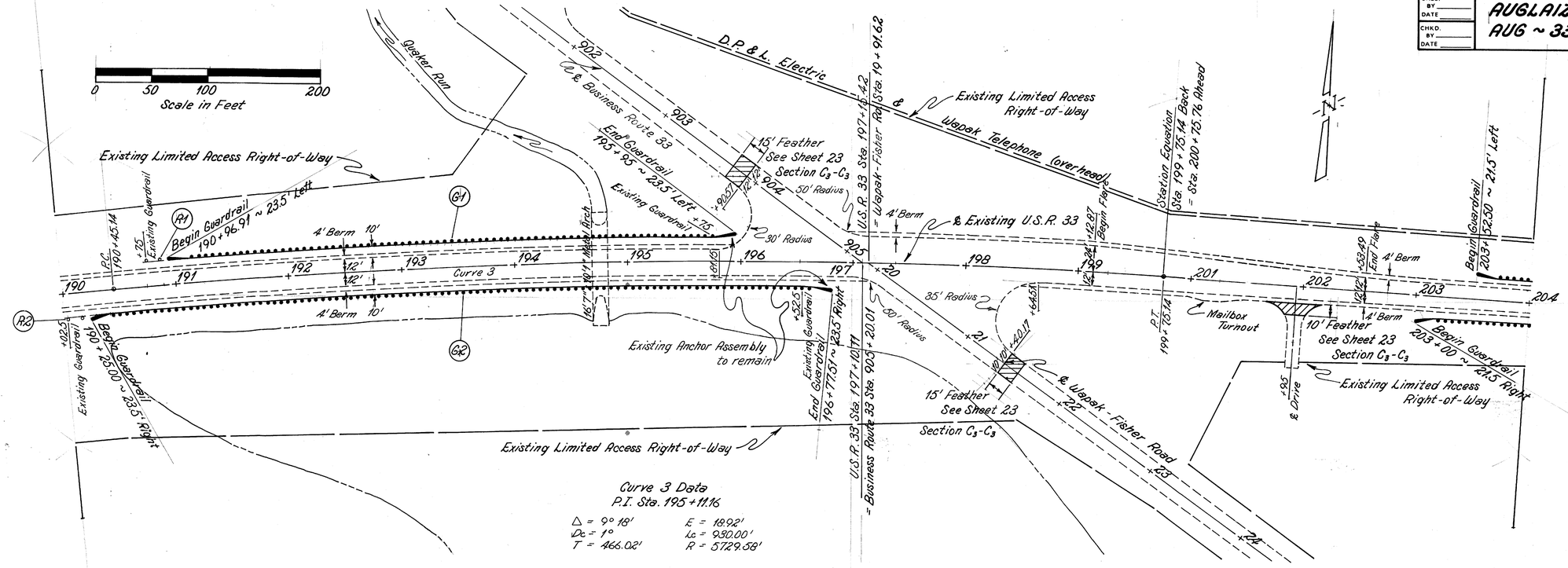


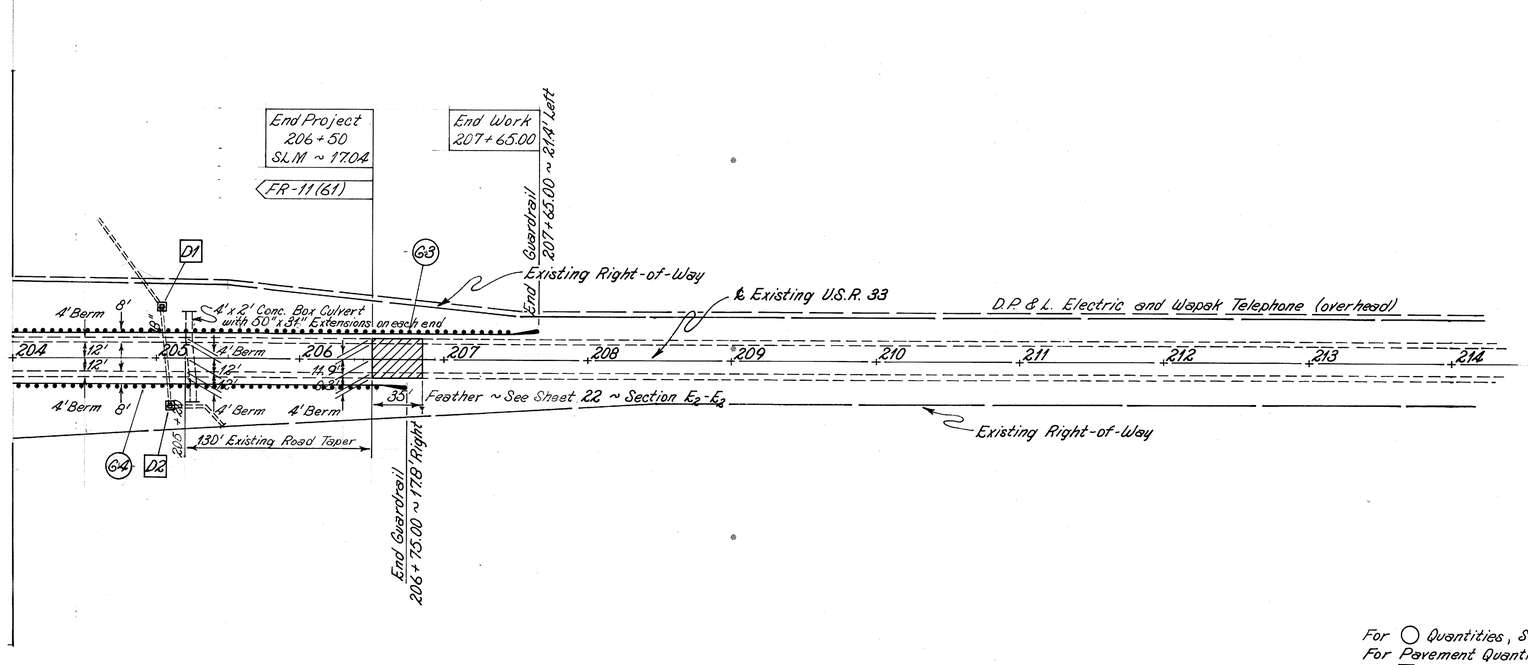
U.S.R. 33 PLAN ~ STA. 130+00 TO STA. 160+00



U.S.R. 33 PLAN ~ STA. 160 + 00 TO STA. 190 + 00

CALC. BY		AUGLAIZE COUNTY	OHIO	29
DATE		AUG ~ 33 ~ 15.07	FHWA REGION 5	61
CHKD. BY				
DATE				





For ○ Quantities, See Sheet 32
For Pavement Quantities, See Sheets 17 & 18
For □ Drainage Quantities, See Sheet 31

J.L.D.

U.S.R. 33 PLAN ~ STA. 190+00 TO STA. 214+00

FHWA REGION	STATE	PROJECT	
5	OHIO		

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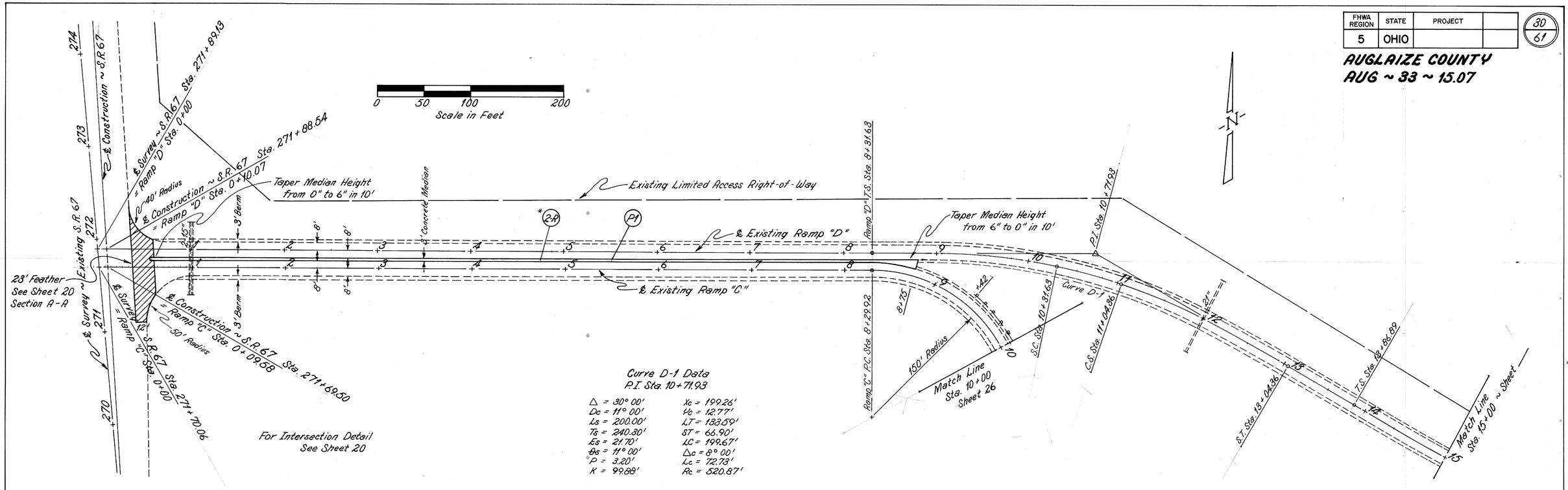
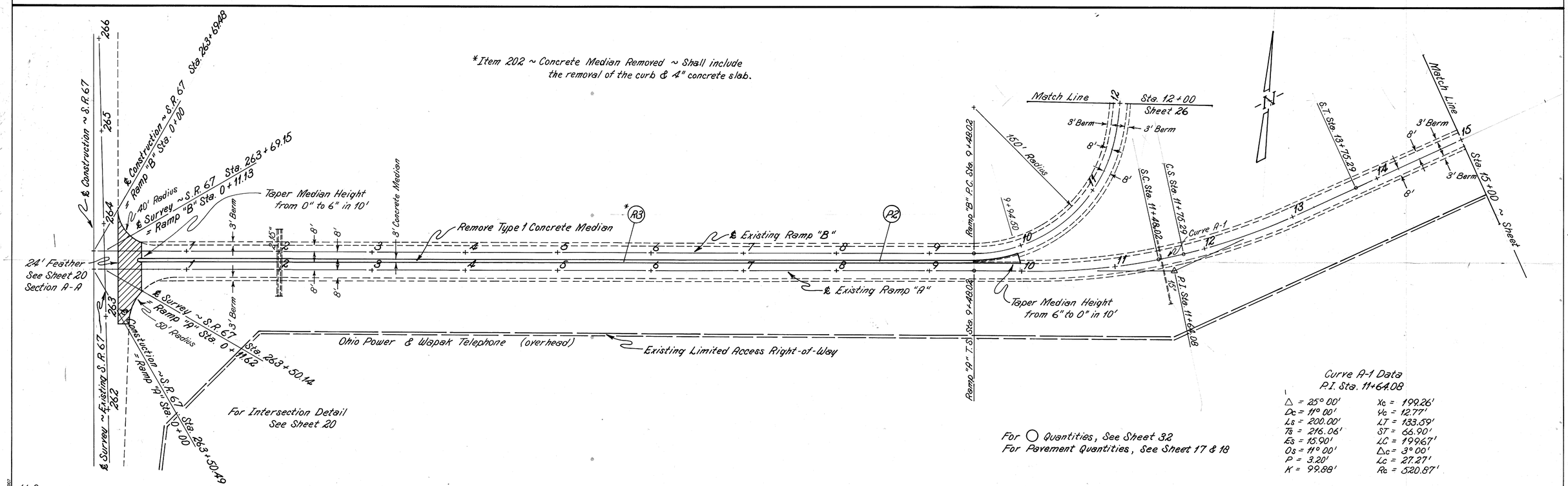
61

AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07



Curve D-1 Data
P.I. Sta. 10+71.93

Δ = 30° 00'	Xc = 199.26'
Dc = 11° 00'	Yc = 12.77'
Ls = 200.00'	LT = 133.59'
Ts = 240.30'	ST = 66.90'
Es = 21.70'	LC = 199.67'
θs = 11° 00'	Δc = 8° 00'
P = 3.20'	Lc = 72.73'
K = 99.88'	Rc = 520.87'



Curve A-1 Data
P.I. Sta. 11+64.08

Δ = 25° 00'	Xc = 199.26'
Dc = 11° 00'	Yc = 12.77'
Ls = 200.00'	LT = 133.59'
Ts = 216.06'	ST = 66.90'
Es = 15.90'	LC = 199.67'
θs = 11° 00'	Δc = 3° 00'
P = 3.20'	Lc = 27.27'
K = 99.88'	Rc = 520.87'

U.S.R. 33 ~ RAMPS "A" "B" "C" & "D"

CATCH BASIN TABLE

Designation	Station	Sheet No.	Location	Type Existing C. Basin	Grate Flow Line Elevation	Bottom Flow Line Elevation	Item 202 Catch Basin Removed	Item 203 Excavation	Item 601 6" Reinf. Concrete Riprap	Item 604 Catch Basin Reconstruct. as per plan	Item 603 19" Conduit Type "A" 706.01/.02	Item 604 Catch Basin Type CB-2-2-B	Item 604 Catch Basin Reconstruct.	Item 659 Seeding & Mulching	Item 659 Fertilizer
							Each	cu. yd.	sq. yd.	Each	lin. ft.	Each	Each	sq. yd.	Ton
D-1	114 + 00	26	37' Rt.	No.1-2-A	905.0	903.4			3.8	1					
D-2	123 + 30		38' Lt.	No.1-2-A	904.8	901.6			1.9	1					
D-3	123 + 41		37' Rt.	No.1-2-A	906.3	901.8			1.9	1					
D-5	126 + 00	26	37' Rt.	No.1-2-A	907.5	906.1			1.9	1					
D-1	135 + 50	27	55' Lt.	No.1-2-A	905.2	903.8			3.8	1					
D-2	136 + 00		37' Rt.	No.1-3	911.0	905.9			2.5	1					
D-3	136 + 50		55' Lt.	No.1-2-A	905.2	903.7			1.9	1					
D-4	142 + 00		37' Rt.	No.1-2-A	914.3	911.5			1.9	1					
D-5	149 + 00		37' Rt.	No.1-2-A	916.9	914.7			1.9	1					
D-6	155 + 00		37' Rt.	No.1-4	919.0	913.7			3.0	1					
D-7	158 + 70	27	40' Rt.	No.1-2-A	919.0	916.8			1.9	1					
D-1	161 + 00	28	37' Rt.	No.1-2-A	918.0	915.5			3.8	1					
D-4	167 + 80	28	45' Lt.	No.1-2-A	914.1	913.3			1.9	1					
D-5	171 + 00		125' Rt.	No.1-2-A	919.0	917.0			1.9	1					
D-6	171 + 59		125' Rt.	No.1-2-A	921.0	916.4			1.9	1					
D-7	174 + 00		37' Rt.	No.1-2-A	918.5	915.9			3.8	1					
D-8	180 + 32		44.5' Lt.	No.1-2-A	915.3	912.6			3.8	1					
D-9	180 + 32		105' Rt.	No.1-2-A	915.9	913.7			1.9	1					
D-10	180 + 50		32' Rt.	No.3-A	922.1	915.7	1	40			12	1		100	0.01
D-11	182 + 70	28	24' Rt.	No.3-A	922.0	919.0							1		
D-1	205 + 03.5	29	38.5' Lt.	No.1-3	915.3	912.9			2.5	1					
D-2	205 + 10.5	29	35.5' Rt.	No.1-3	915.9	913.0			5.0	1					
Totals to General Summary							1	40	58	20	12	1	1	100	0.01

Location of Underdrains to be Flushed & Repaired

Location	Station to Station		Side	Underdrains lin. ft.
U.S. R. 33	101+35	113+95	Lt.	1352
33 Ramp "X"	101+35	8+45	Rt.	860
25A Ramp "B"	0+66	14+21	Lt.	1365
Westbd. 33	107+00	114+00	Rt.	707
25A Ramp "C"	1+05	12+00	Rt.	1115
33 "X" - EB33	6+00	135+95	Lt.	2849
Eastbd. 33	114+00	118+45	Rt.	500
25A - EB33	18+90	135+95	Rt.	1744
Eastbd. 33	136+00	140+50	Lt.	470
Eastbd. 33	136+00	141+96	Rt.	626
Eastbd. 33	142+05	154+95	Rt.	1315
I-75 Ramp "C"	0+05	4+09	Rt.	422
Westbd. 33	155+00	157+00	Rt.	210
Westbd. 33	157+00	160+95	Lt.	423
Eastbd. 33	157+00	161+00	Lt.	408
Westbd. 33	161+05	164+66	Lt.	389
Eastbd. 33	161+05	164+66	Lt.	429
Westbd. 33	164+83	173+92	Lt.	937
Eastbd. 33	164+80	173+92	Lt.	922
Westbd. 33	174+05	180+53	Lt.	664
Eastbd. 33	174+00	180+28	Lt.	636
Westbd. 33	181+65	182+75	Lt.	135
Eastbd. 33	181+65	182+70	Lt.	105
U.S.R. 33	183+05	189+75	Lt.	705
U.S.R. 33	184+00	194+60	Rt.	1082
U.S.R. 33	194+90	205+20	Rt.	1055
U.S.R. 33	201+50	205+00	Lt.	375
				21,800

Ref. No.	Location From	Location To	Sheet No.	202 Curb Removed lin. ft.	202 Guardrail Removed lin. ft.	202 Concrete Median Removed sq. ft.	301 Bituminous Aggregate Base cu. yd.	310 Subbase cu. yd.	404 Asphalt Concrete cu. yd.	407 Tack Coat @ 0.1 gal. per sq. yd. gal.	407 Cover Aggr. @ 7 lbs. per sq. yd. Ton	606 Guardrail Type 5 lin. ft.	606 Anchor Assembly Type A each	618 Concrete Median sq. yd.	Special Steel Post Assembly each	Item 617 Compacted Aggregate Cu. Yd	Raised Pavement Markers Removed for Storage Location		Number
R-2	U.S.R. 33 ~ 102+16.8 ~ Lt.	Ramp "C" ~ 10+91 ~ Rt.	26		825												Eastbound	U.S.R. 33	126
R-3	Ramp "C" ~ 12+19 ~ Lt.	U.S.R. 33 ~ 109+62 ~ Lt.	↕	20			0.6		0.1	0.2	0.1						Westbound	U.S.R. 33	153
R-4	Ramp "C" ~ 9+42 ~ Lt.	U.S.R. 33 ~ 110+50 ~ Lt.			388												Co. Rd. 25A	Ramp "A"	12
R-5	U.S.R. 33 ~ 102+05.6 ~ Rt.	Ramp "B" ~ 12+97 ~ Lt.			900												Co. Rd. 25A	Ramp "B"	19
R-6	Ramp "B" ~ 12+44.09 ~ Rt.	Ramp "X" ~ 10+24.36 ~ Rt.	26	213			5.9		0.8	2.4	0.1						Co. Rd. 25A	Ramp "C"	42
R-8	Ramp "A" ~ 16+36.84 ~ Lt.	Ramp "A" ~ 18+86.84 ~ Lt.	26	253			7.0		1.0	2.8	0.1						Co. Rd. 25A	Ramp "D"	10
G-1	U.S.R. 33 ~ 102+16.8 ~ Lt.	U.S.R. 33 ~ 109+16.8 ~ Lt.	26									675.0	1						
G-2	U.S.R. 33 ~ 102+05.6 ~ Rt.	Ramp "B" ~ 12+93.1 ~ Lt.	26									875.0	1						
R-10	U.S.R. 33 ~ 180+32.44 ~ Rt.	Ramp "Y" ~ 7+14.14 ~ Lt.	28	62			1.7		0.2	0.7	0.1								
G-1	U.S.R. 33 ~ 165+45 ~ Lt.	U.S.R. 33 ~ 166+95 ~ Lt.	28																
G-2	U.S.R. 33 ~ 165+50 ~ Rt.	U.S.R. 33 ~ 167+00 ~ Rt.	28												24				
G-3	U.S.R. 33 ~ 165+42 ~ Rt.	U.S.R. 33 ~ 166+92 ~ Rt.	28												24				
G-4	U.S.R. 33 ~ 165+50 ~ Rt.	U.S.R. 33 ~ 167+00 ~ Rt.	28												24				
															24				
R-1	U.S.R. 33 ~ 190+75 ~ Lt.	U.S.R. 33 ~ 195+75 ~ Lt.	29		500											29,500 × 2' × 1' (Av. Depth) = 182 Cu. Yd			
R-2	U.S.R. 33 ~ 190+02.5 ~ Rt.	U.S.R. 33 ~ 196+52.5 ~ Rt.	29		650														
G-1	U.S.R. 33 ~ 190+96.91 ~ Lt.	U.S.R. 33 ~ 195+95 ~ Lt.	29									450.0	1						
G-2	U.S.R. 33 ~ 190+25 ~ Rt.	U.S.R. 33 ~ 196+77.51 ~ Rt.	29									600.0	1						
G-3	U.S.R. 33 ~ 203+52.50 ~ Lt.	U.S.R. 33 ~ 207+65 ~ Lt.	29									362.5	2						
G-4	U.S.R. 33 ~ 203+00 ~ Rt.	U.S.R. 33 ~ 206+75 ~ Rt.	29									325.0	2						
R-2	Ramp "D" ~ 0+57.5 ~ Rt.	Ramp "D" ~ 8+80 ~ Rt.	30			2488													
R-3	Ramp "A" ~ 0+48.5 ~ Lt.	Ramp "A" ~ 10+00 ~ Lt.	30			3013													
P-1	Ramp "D" ~ 0+57.5 ~ Rt.	Ramp "D" ~ 8+80 ~ Rt.	30					11.4						289					
P-2	Ramp "A" ~ 0+48.5 ~ Lt.	Ramp "A" ~ 10+00 ~ Lt.	30					12.7						335					
Totals to General Summary				548	3263	5481	16	24.1	3	7	1	3288	8	624	96	182			362

Length of berms = 29,500'
Width = 2'
Av. Depth = 1"

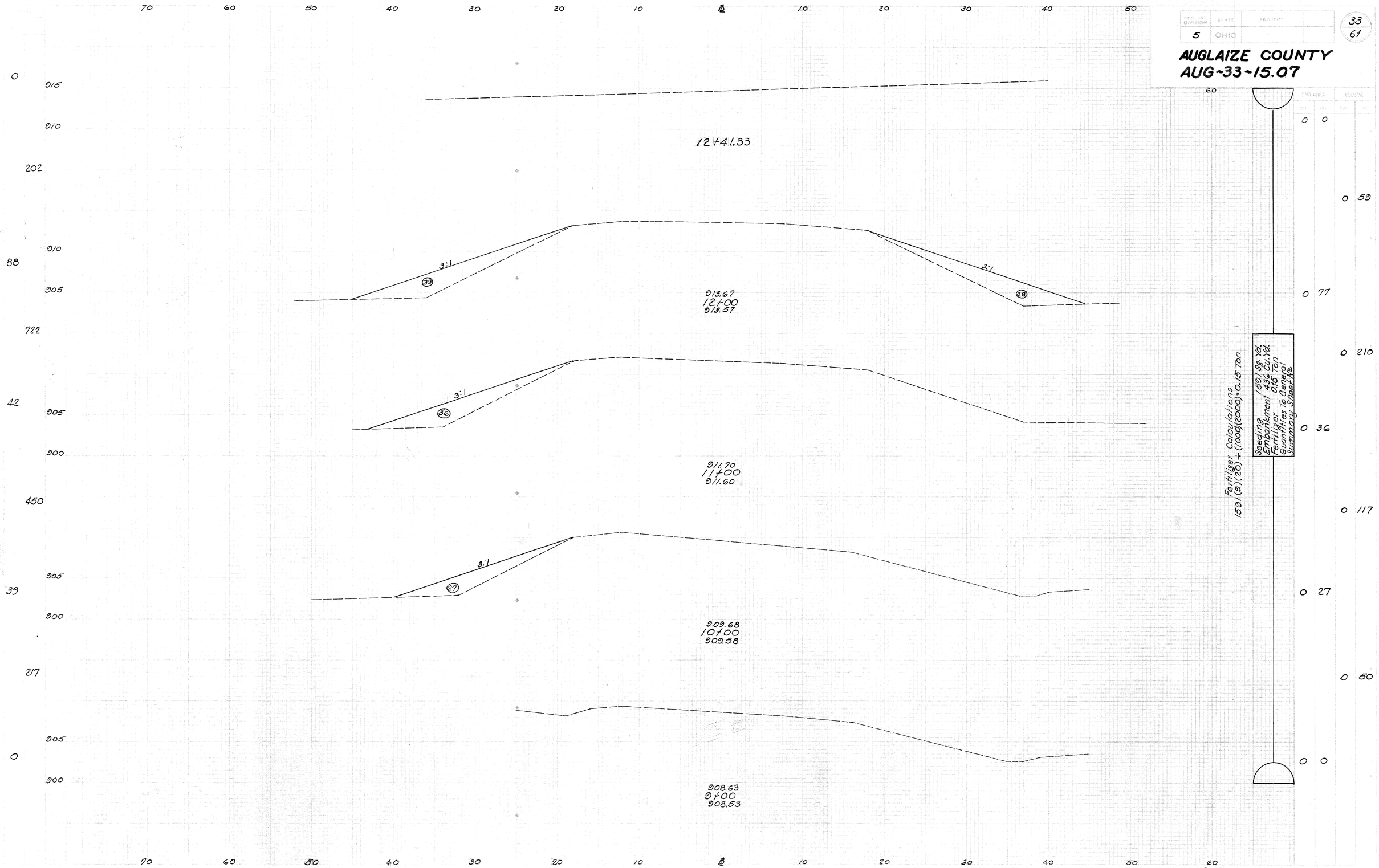
BM	DATE
RW	8/04
PN	8/04

DETAILED
DETAILS CHECKED
DETAILS REVISED

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

33
61

AUGLAIZE COUNTY
AUG-33-15.07



DETAILED	BY	DATE
DETAILS CHECKED	LJS	8/94
DETAILS REVISED	PH	8/94

X-SECTIONS - STA. 9+00 TO STA. 12+41.33 - RAMP 'C' U.S.R. 33 & S.R. 67

SIGN SUMMARY

AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07

CALC. BY		FHWA REGION	STATE	PROJECT	
DATE		5	OHIO		
CHKD. BY					
DATE					

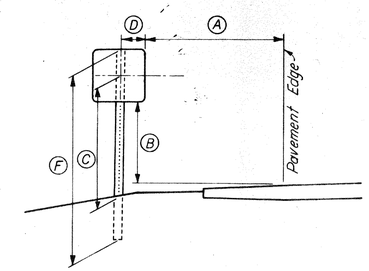
GROUND MOUNTED SIGN DETAILS / ESTIMATED QUANTITIES

SHEET No.	SIGN DESIGNATION	LOCATION & STATION	SIDE		SIGN No.	SIGN SIZE	SIGN AND POST DIMENSIONS (A)	(B)	(C)	(D)	(E)	(F)	(G)	SIGNS: EXTRU SHEET SQ. FT.	SIGNS: FLAT SHEET SQ. FT.	FLAT SHEET TYPE 16 SHEETING SQ. FT.	POSTS AND SUPPORTS: W 6x9 BEAM LINEAR FEET	ONE WAY SUPPORT LINEAR FEET	No. 8 POST LINEAR FEET	No. 3 POST LINEAR FEET	No. 4 POST LINEAR FEET	3x4x27 BEAM LINEAR FEET	3x4x22 BEAM LINEAR FEET	3x4x18 BEAM LINEAR FEET	CONCRETE FOR EMBEDDED FOUNDATIONS: DIA. FT.	LENGTH FT.	VOL. CU. YD.	BREAKAWAY CONNECTION EACH
	1	0+70	Lt.	Ramp "D"	R-1-48	48"x48"	12'0"	5'0"	6'3"	1'0"	2'0"	13'6"	13'9"			16.00				27'3"								
	1	0+70	Lt.		R-41B-36	36"x36"				0'6"	2'0"					9.00												
	2	0+70	Rt.		R-37R-24	24"x30"	1'6"	5'0"	5'9"	1'0"		10'6"			5.00					11'								
	3	4+00	Lt.		M-24-21	21"x15"									2.19													
	3	4+00	Lt.		M-24-21	21"x15"									2.19													
	3	4+00	Lt.		M-24-21	21"x15"									2.19													
	3	4+00	Lt.		M-6-24-2	24"x24"									4.00													
	3	4+00	Lt.		M-6-24-3	30"x24"									5.00													
	3	4+00	Lt.		M6-24-3	30"x24"									5.00													
	3	4+00	Lt		D-11A	120x24"	14'0"	5'0"	11'0"	2'2½"	5'7½"	17'0"	17'0"	20.00			34'0"							1.5	5.00	0.66	2
	5	10+50	Rt.		R-41A-36	36"x24"	12'0"	5'0"	7'6"	1'6"		12'0"				6.00				12'0"								
	6	10+50	Lt.		R-41A-36	36"x24"	12'0"	5'0"	7'6"	1'6"		12'0"				6.00				12'0"								
	7	9+00	Rt.	Ramp "D"	U-32-48	48"x84"	8'6"	5'0"	8'3"	0'9"	2'6"	12'0"			8.00					24'0"								
	8	0+50	Lt.	Ramp "E"	R-1-48	48"x48"	12'0"	5'0"	8'3"	1'0"	2'0"	13'6"	13'9"			16.00				27'3"								
	8	0+50	Lt.		R-41B-36	36"x36"				0'6"	2'0"					9.00												
	9	0+75	Rt.		R-37R-24	24"x30"	1'6"	5'0"	5'9"	1'0"		10'6"			5.00					11'								
	11	11+00	Lt.		R-41A-36	36"x24"	12'0"	5'0"	7'6"	1'6"		12'0"				6.00				12'0"								
	12	11+00	Rt.		R-41A-36	36"x24"	12'0"	5'0"	7'6"	1'6"		12'0"				6.00				12'0"								
	14	103+00	Lt.	WB 33	U-71-36	36"x36"	11'6"	5'0"	7'6"	2'1½"		13'3"			9.00					13'3"								
	15	106+50	Lt.	WB 33	R-33-30	30"x36"	11'6"	5'0"	7'6"	1'3"		12'6"			7.50					12'6"								
*	16	12+00	Rt.	Ramp "C"	R-1-48	48"x48"	12'0"	5'0"	8'3"	1'0"	2'0"	13'6"	14'0"			16.00				14'0"								
	16	12+00	Rt.	Ramp "C"	R-41B-36	36"x36"				0'6"	2'0"					9.00	15'0"											
	17	111+20	Lt.	WB 33	R-41A-36	36"x24"				1'6"						6.00												
	17	111+20	Lt.	WB 33	R-39R-48	48"x48"	12'6"	5'3"	7'6"	1'0"		12'3"			16.00					28'								
	18	111+20	Rt.	WB 33	R-41A-36	36"x24"				1'6"						6.00												
	18	111+20	Rt.	WB 33	R-39R-48	48"x48"	12'6"	5'3"	7'6"	1'0"		12'3"			16.00					28'								
	19	107+50	Rt.	WB 33	R-37R-24	24"x30"	6'0"	5'0"	6'6"	1'0"		11'3"			5.00					11'3"								
	20	121+25	LT	WB 33	GE	156"x120"	18'6"	8'0"	14'0"	2'3"	8'6"	24'0"	24'0"	130.00									48'0"	2.5	6.00	2.20	2
	21	5+70	Rt.	Ramp "A"	GE	156"x120"	18'6"	8'0"	14'0"	2'3"	8'6"	24'0"	24'0"	130.00									48'0"	2.5	6.00	2.20		
	22	7+50	Rt.	Ramp "A"	U-97-48	48"x60"	13'0"	7'0"	11'9"	0'9"	2'6"	15'6"	16'9"		20.00				32'3"									
	23	9+50	Rt.	Ramp "A"	GF	72"x60"	16'0"	7'0"	9'6"	1'4"	3'4"	16'0"	16'0"	20.00							32'0"			1.5	4.	0.54	2	
	24	115+00	Lt.	WB 33	U-60D-36	36"x36"	12'0"	5'0"	8'0"	2'1½"		13'9"			9.00					13'9"								
	25	115+00	Rt.	WB 33	U-60D-36	36"x36"	12'0"	5'0"	8'0"	2'1½"		13'9"			9.00					13'9"								
	26	110+30	Lt.	WB 33	GF	72"x60"	24'6"	7'0"	10'0"	1'4"	3'4"	16'6"	16'6"	20.00							21'0"			1.5	4.	0.54	2	
	27	115+75	Rt.	WB 33	U-49R-36	36"x36"	12'0"	5'0"	8'2"	2'1½"		13'9"			9.00					13'9"								
	28	119+50	Rt.	Ramp "A"	R-2-36	36"x36"	12'6"	5'0"	7'9"	1'6"		13'2"				3.90				13'2"								
	29	122+25	Rt.	WB 33	M-1-36-3	36"x36"	12'0"	5'0"		1'6"					9.00													
	29	122+25	Rt.		M-39-36	36"x8"	12'0"	8'9"	8'4"	1'6"		13'1"			4.50				13'9"								
	30	122+50	Lt.		U-52-36	36"x36"	12'0"	5'0"	8'2"	2'1½"		13'9"			9.00					13'9"								
	31	122+50	Rt.		U-52-36	36"x36"	12'0"	5'0"	8'2"	2'1½"		13'9"			9.00					13'9"								
	32	127+50	Lt.		U-86-36	36"x36"	12'0"	5'0"	8'2"	2'1½"		13'9"			9.00					13'9"								
	33	127+50	Rt.		U-86-36	36"x36"	12'0"	5'0"	8'2"	2'1½"		13'9"			9.00					13'9"								
	34	134+55	Rt.		R-19-24	24"x30"	14'0"	5'0"	7'3"	1'0"		12'0"			5.00													
	35	135+50	Rt.		R-19-24	24"x30"	14'0"	5'0"	7'3"	1'0"		12'0"			5.00													
	36	135+50	Rt.		R-123-36	36"x36"	12'0"	5'0"	7'6"	1'6"		12'6"			9.00					12'6"								
	37	144+50	Lt.		M-1-36-2	36"x36"	12'0"	5'0"		1'6"					9.00													
	37	144+50	Lt.		M-40-36	36"x18"	12'0"	8'9"	8'4"	1'6"		13'1"			4.50				13'9"									
	38	133+00	Rt.		GB	144"x120"	31'6"	5'0"	15'2"	1'9"	8'6"	27'11"	27'3"	120.00								55'2"		2.5	6.25	2.46	2
	39	134+55	Rt.		R-123-36	36"x36"	12'0"	5'0"	7'6"	1'6"		12'6"			9.00					12'6"								
	40	135+25	Rt.		R-1-30	30"x30"	12'0"	5'0"	6'9"	1'3"		11'6"				6.25				11'6"								
	41	145+50	Rt.		GH	120"x96"	19'0"	8'0"	12'0"	2'2½"	5'7½"	24'0"	24'0"	80.00									48'0"	2.5	6.00	2.20	2
	42	173+00	Rt.		U-52-36	36"x36"	12'0"	5'0"	8'2"	2'1½"		13'9"			9.00					13'9"								
	43	173+00	Rt.	WB 33	U-52-36	36"x36"	12'0"	5'0"	8'2"	2'1½"		13'9"			9.00					13'9"								
	44	2+70	Lt.	Ramp "V"	U-60D-36	36"x36"	12'0"	5'0"	8'2"	2'1½"		13'9"			9.00					13'9"								
	45	2+70	Rt.	Ramp "V"	U-60D-36	36"x36"	12'0"	5'0"	8'2"	2'1½"		13'9"			9.00					13'9"								
	46	190+10	Rt.	WB 33	M-30-24	24"x24"	12'0"	6'7"	7'10"	1'0"		13'1"			4.00					13'1"								
	46	190+10	Rt.		M-30-24	24"x18"	12'0"	5'0"		1'0"					3.00													
	47	190+30	Lt.		D-7-48	48"x10"	14'0"	5'0"	7'2"	0'9"	2'6"	10'0"	10'0"		3.34			20'0"									
	48	190+30	Rt.		R-37R-24	24"x30"	14'0"	5'0"	7'3"	1'0"		12'0"			5.00					12'0"								
	49	191+60	Rt.		R-37R-24	24"x30"	12'0"	5'0"	5'9"	1'0"		10'6"			5.00					11'								
	50	184+25	Rt.	WB 33	R-38R-24	24"x20"	7'0"	5'0"	5'9"	1'0"		10'6"			5.00					10'6"								
	51	189+65	Lt.	U.S.R. 33	U-85-36	36"x36"	12'0"	5'0"	8'2"	2'1½"		13'9"			9.00					13'9"								
	52	5+70	Lt.	Ramp "V"	U-94-36	36" dia.	12'0"	5'0"	7'6"	1'6"		12'6"			3.00					12'6"								
	53	5+70	Rt.	Ramp "V"	U-94-36	36" dia.	12'0"	5'0"	7'6"	1'6"		12'6"			3.00					12'6"								
														540 sq. ft.	318.4 sq. ft.	121.1 sq. ft.	34 lin. ft.	15 lin. ft.	20 lin. ft.	541.8 lin. ft.	58.4 lin. ft.	63 lin. ft.	55.2 lin. ft.	144 lin. ft.			10.80 cu. yd.	12 each

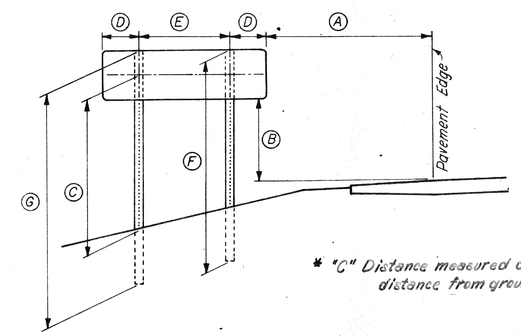
*SEE SH 35 FOR SIGN Nos 4, 13, 16 & 16A

Sub-Totals Carried to Sheet 35

GROUND MOUNTED POST DETAILS:

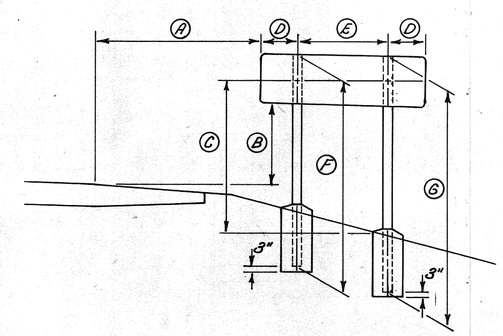


SINGLE POST INSTALLATION



* "C" Distance measured on post having greatest distance from ground to middle of sign.

DOUBLE POST INSTALLATION



CONCRETE FOUNDATION

SIGN SUMMARY

AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07

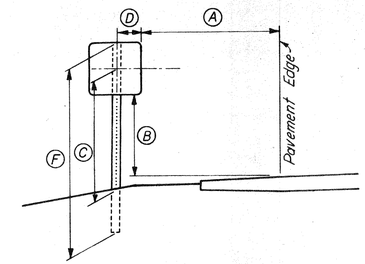
CALC. BY ____ DATE ____
CHK'D. BY ____ DATE ____

FHWA REGION	STATE	PROJECT	
5	OHIO		

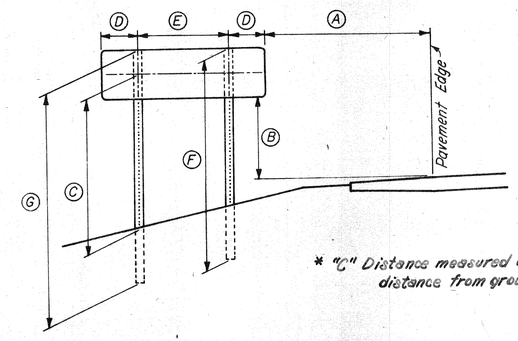
GROUND MOUNTED SIGN DETAILS / ESTIMATED QUANTITIES

SHEET No.	SIGN DESIGNATION	LOCATION & STATION	SIDE		SIGN No.	SIGN SIZE	SIGN AND POST DIMENSIONS (A)	(B)	(C)	(D)	(E)	(F)	(G)	SIGNS: EXTRA SHEET SQ. FT.	SIGNS: FLAT SHEET SQ. FT.	FLAT SHEET TYPE 16 SHEETING SQ. FT.	POSTS AND SUPPORTS: ONE WAY SUPPORT	W6x9 BEAM	No. 2 POST (LINEAR FEET)	No. 3 POST (LINEAR FEET)	No. 4 POST (LINEAR FEET)	8x27 BEAM (LINEAR FEET)	W14x22 BEAM (LINEAR FEET)	W14x18 BEAM (LINEAR FEET)	CONCRETE FOR EMBEDDED FOUNDATIONS: DIA. FT.	DEPTH FT.	VOL. CU. YD.	GREENWAY CONNECTION EACH
	54	7+00	Lt.	Ramp "W"	R-43R-36	36"x12"	12'0"	5'0"	6'6"	1'6"		10'6"				3.00				10'8"								
	55	181+20	Rt.	U.S.R. 33	R-1-30	30"x20"	12'0"	5'0"	7'3"	1'3"		12'0"				6.25				12'0"								
	56	181+45	Rt.		D-7-48	48"x10"	58'0"	5'0"	7'2"	0'9"	2'6"	10'0"	10'0"		3.34				20'0"									
	57	191+50	Lt.		W-94-66	36"dia.	12'0"	5'0"	7'6"	1'6"		12'6"			9.00					12'6"								
	58	196+00	Lt.		D-1-72	72"x12"	27'0"	5'0"	7'0"	1'4"	3'4"	11'0"	11'0"		6.00				22'0"									
	59	202+50	Lt.		D-1-72	72"x12"	16'0"	5'0"	7'0"	1'4"	3'4"	13'7"	12'7"		6.00					26'2"								
	59	202+50	Lt.		D-1-72	72"x12"	16'0"	6'1"		1'4"	3'4"				6.00													
	60	191+70	Rt.		W-24-36	36"x36"	12'0"	5'9"	8'6"	2'1½"		14'6"			9.00						14'6"							
	60	191+70	Rt.		D-8V-8	48"x8"	12'1½"	5'0"		2'0"					2.67													
	61	194+00	Rt.		D-1-72	72"x12"	12'0"	5'0"	9'6"	1'4"	3'4"	11'6"	14'0"		6.00					25'6"								
	61	194+00	Rt.		D-1-72	72"x12"	12'0"	6'1"		1'4"	3'4"				6.00													
	62	197+80	Rt.		R-1-30	30"x60"	12'0"	5'0"	6'8"	1'3"		11'0"				6.25				11'0"								
	63	198+50	Rt.		D-7-72	72"x12"	20'0"	5'0"	6'6"	1'4"	3'4"	11'0"	11'0"		6.00				22'0"									
	64	201+30	Rt.		M-1-36	36"x36"	12'0"	5'0"	8'3"	1'6"		14'6"			9.00						14'0"							
	64	201+30	Rt.		M-W-36	36"x19"	12'0"	8'1"							4.50													
	65	204+90	Lt.		W-24-36	36"x36"	12'0"	5'9"	8'6"	2'1½"		14'6"			9.00						14'6"							
	65	204+90	Lt.	U.S.R. 33	D-5V-8	48"x8"	12'1½"	5'0"		2'0"					2.67													
	66	181+70	RT	USR33	R-43R36	36"x12"	10'0"	5'0"	6'6"	1'6"		10'6"				3.00				11'0"								
							Sub-Totals This Sheet							150	90.2	33.5	13	34	64	108.7	43			48			2.86	4
							Sub-Totals from Sheet 35							540	318.4	121.1	15	34	20	541.8	58.4	63	55.2	144			10.80	12
	16	12+00	RT	RAMP "C"	R-43L-36	36"x12"										3.00												
	16A	12+00	LT	RAMP "C"	R-43L-36	36"x12"										3.00	13'0"											
	16A	12+00	LT	RAMP "C"	R-41B-36	36"x36"	12'-0"	5'-0"	9'-0"	1'-6"		14'-0"				3.00												
	4	140+00	LT	WB 33	GB	156"x120"	18'-6"	8'0"	14'0"	2'3"	8'6"	24'0"	24'0"	130										48'-0"	2.5	6.00	2.20	2
	13	4+00	LT	RAMP "B"	D-11A	120"x24"	14'0"	5'0"	11'0"	2'2½"	5'7½"	17'0"	17'0"	20				34'0"							1.5	5.00	0.66	2
	13	4+00	LT	RAMP "B"	M-2-24-3	30"x24"									5.00													
							Totals Carried to General Summary							690 sq. ft.	408.6 sq. ft.	154.6 sq. ft.	28 lin. ft.	68 lin. ft.	84 lin. ft.	650.5 lin. ft.	101.4 lin. ft.	63 lin. ft.	55.2 lin. ft.	192 lin. ft.			13.66 cu. yd.	16 each

GROUND MOUNTED POST DETAILS:

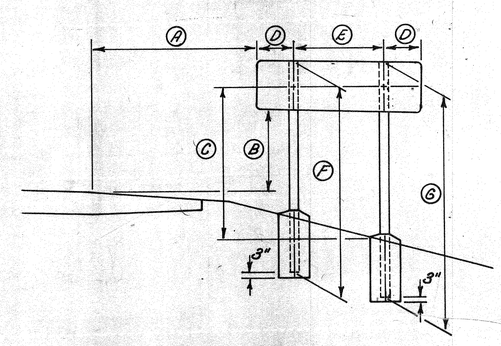


SINGLE POST INSTALLATION



* "C" Distance measured on post having greatest distance from ground to middle of sight.

DOUBLE POST INSTALLATION



CONCRETE FOUNDATION

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

36/61

AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07

REMOVAL OF SIGNS & SUPPORTS

	STATION	SIDE	SIGN REFERENCE OR CODE NO.	SIZE	Removal of ground mounted post supports	Removal of ground mounted beam supports	Removal of ground mounted major signs for storage	Removal of ground mounted signs for storage
					EACH	EACH	EACH	EACH
WB 33	115+00	Rt	W-6D-48	48"x48"	2			1
	115+00	Lt.	W-6D-48	48"x48"	2			1
	115+75	Rt.	W-49R-48	48"x48"	2			1
	116+80	Lt.	6F	72"x60"	2			1
	122+25	Rt.	M-1-36-2	36"x36"	1			1
			M-39-36	36"x18"				1
	123+40	Lt.	W-52-48	48"x48"	2			1
	123+40	Rt.	W-52-48	48"x48"	2			1
	127+50	Lt.	W-86-48	48"x48"	2			1
	127+50	Rt.	W-86-48	48"x48"	2			1
	132+00	Rt.	6B	144"x120"		2	1	
	134+00	Rt.	R-128-36	36"x36"	1			1
			No U-Turn	24"x18"				1
	134+55	Rt.	R-19-24	24"x30"	1			1
	135+50	Rt.	R-19-24	24"x30"	1			1
	135+75	Rt.	R-128-36	36"x36"	1			1
			No U-Turn	24"x18"				1
	144+50	Lt.	M-40-36	36"x18"	1			1
			M-1-36-2	36"x36"				1
	145+50	Rt.	6H	168"x96"		2	1	
	175+00	Rt.	W-94-36	36" dia.	1			1
	175+00	Rt.	W-94-36	36" dia.	1			1
	179+25	Rt.	W-60D-36	36"x36"	1			1
	179+25	Rt.	W-60D-36	36"x36"	1			1
	177+00	RT	W-85-48	48"x48"	2			2
	180+10	Rt.	N-180-30	30"x36"	1			1
			N-15-30	8"x30"				1
	180+10	Rt.	N-180-30	30"x36"	1			1
			M-26-21	21"x15"				1
	180+30	Rt.	R-37R-36	36"x48"	1			1
	180+30	Lt.	D-7-36	36"x9"	1			1
	181+20	Rt.	R-1-30	30"x30"				1
	181+45	Rt.	D-7-36	36"x9"	1			1
	181+60	Rt.	R-37R-36	36"x48"	1			1
	182+10	Rt.	G-89R-48	48"x48"	1			1
	184+25	Rt.	R-37R-36	36"x48"	1			1
WB 33	188+00	Lt.	W-94-36	36" dia.	1			1
U.S.R. 33	190+70	Rt.	W-24-36	36"x36"	1			1
			D-8V-8	48"x8"				1
	191+00	Lt.	W-85-36	36"x36"	1			1
	194+00	Rt.	D-1-72	72"x12"	2			2
	195+50	Rt.	N-180-30	24"x30"	1			1
	195+50	Rt.	N-15-24	24"x6"				1
	196+00	Lt.	D-7-72	72"x12"	1			1
	197+40	Rt.	R-1-30	30"x30"	1			1
	198+50	Rt.	D-7-72	72"x12"				1
	201+30	Rt.	M-1-36-2	36"x36"				1
			M-40-36	36"x18"				1
	202+50	Lt.	D-1-72	72"x12"	2			1
			D-1-72	72"x12"				1
U.S.R. 33	204+90	Lt.	W-24-36	36"x36"	1			1
			D-8V-8	48"x8"				1
WB 33	121+25	LT	GE	156"x96"		2	1	
			INFO SIGN	24"x24"				1
			M-27-21	21"x15"				1
WB 33	140+00	LT	GB	150"x96"		2	1	1
			INFO SIGN	24"x24"				1
	Sub-Totals ~ This Section				47	8	4	56

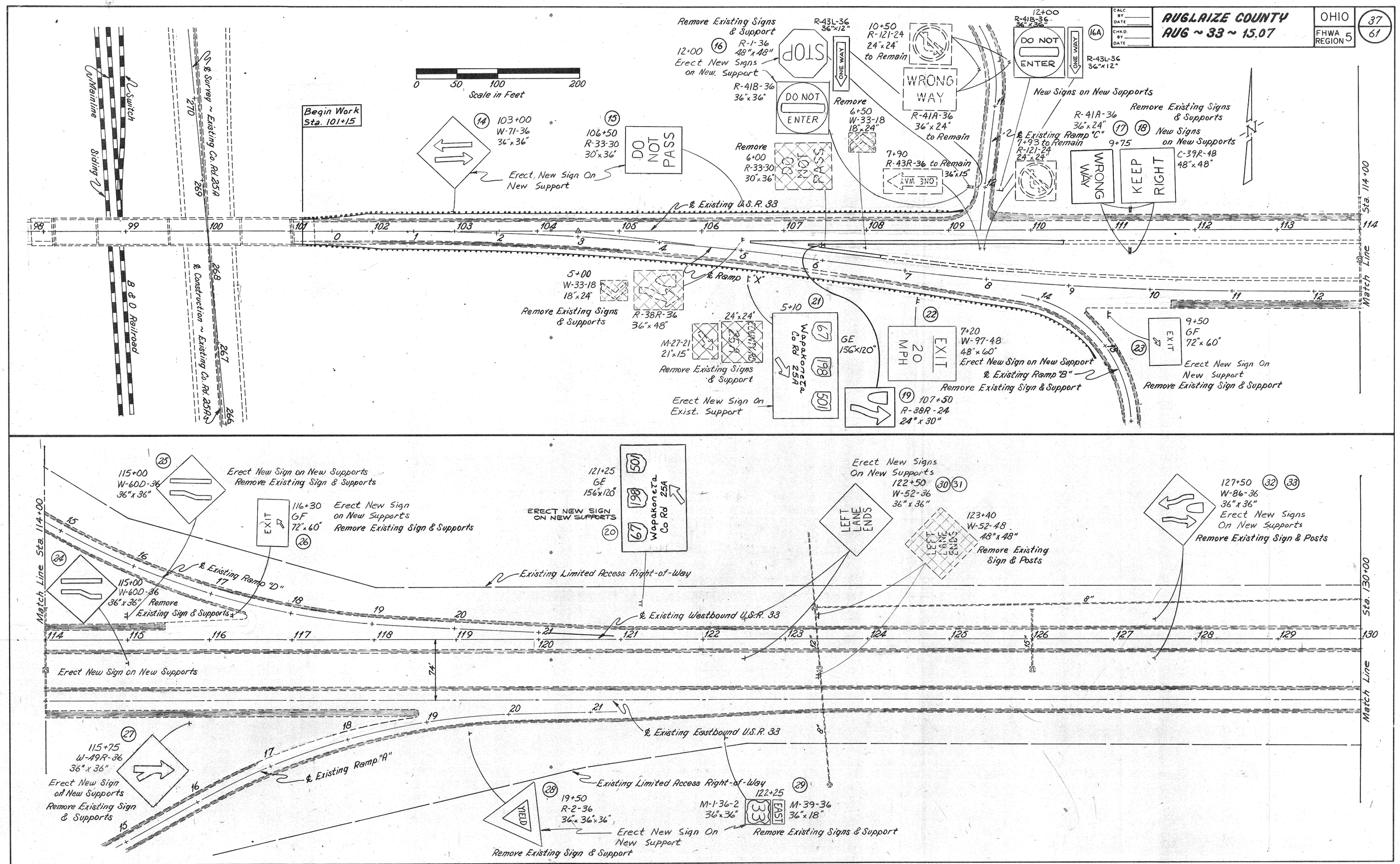
	STATION	SIDE	SIGN REFERENCE OR CODE NO.	SIZE	Removal of ground mounted post supports	Removal of ground mounted beam supports	Removal of ground mounted major signs for storage	Removal of ground mounted signs for storage	Removal of ground mounted signs and reerection	SIGN BACKING ASSEMBLY
					EACH	EACH	EACH	EACH	EACH	EACH
Ramp "A"	5+00	Lt.	R-38R-36	36"x48"	2			1		
			W-38-18	18"x24"				1		
	5+10	Rt.	6S	156"x96"		2	1			
			County Sign	24"x24"	1			1		
			M-27-21	21"x15"				1		
	6+50	Lt.	W-38-18	18"x24"	1			1		
	7+20	Rt.	W-97-48	48"x60"	2			1		
	8+75	Lt.	R-41A-36	36"x36"	1			2		
	9+75	Lt.	G-89R-48	48"x48"	2			2		
Ramp "X"	9+50	Rt.	6F	72"x60"	2			1		
	6+00	LT	R-33-30	30"x36"	1			1		
Ramp "A"	19+50	Rt.	R-2-36	36"x36"x36"	1			1		
Ramp "B"	11+00	Lt.	R-41A-36	36"x24"	1			1		
	11+00	Rt.	R-41A-36	36"x24"	1			1		
	6+00	Lt.	W-45-36	36"x36"	1			1		
	4+00	Lt.	M-6-24-3	30"x24"					1	
	0+75	Rt.	R-37R-24	24"x30"	1			1		
Ramp "B"	0+50	Lt.	R-41B-36	36"x36"	1			1		
	4+00	LT	M-24-21	21"x15"					3	3
	4+00	LT	M-2-24-2	24"x24"					1	
	4+00	LT	D-11A	120"x24"		2			1	
Ramp "C"	10+50	Rt.	R-41A-36	36"x24"	1			1		
			R-1-24	24"x24"				1		
Ramp "C"	12+00	Rt.	R-1-36	36"x36"	1			1		
			R-41B-36	36"x36"				1		
Ramp "D"	10+50	Rt.	R-41A-36	36"x24"	1			1		
	10+50	Lt.	R-41A-36	36"x24"	1			1		
	9+00	Rt.	W-32-48	48"x24"	1			1		
	7+75	Lt.	W-45-36	36"x36"	1			1		
	4+00	Lt.	M-24-21	21"x15"				3		
	4+00	Lt	D-11A	120"x24"	2				1	
			M-2-24-2	24"x24"				1		
			M-2-24-3	30"x24"				1		
			M-2-24-3	30"x24"				1		
	0+70	Lt.	R-1-48	48"x48"	1			1		
			R-41B-36	36"x36"				1		
Ramp "D"	0+70	Rt.	R-37R-24	24"x30"	1			1		
	Sub-Totals ~ This Section				28	4	1	35		
	Sub-Totals ~ Previous Section				47	8	4	56		
	Totals to General Summary				75	12	5	91	7	3

	Removal of ground mounted post supports	Removal of ground mounted beam supports	Removal of ground mounted major signs for storage	Removal of ground mounted signs for storage
	EACH	EACH	EACH	EACH
Totals to General Summary	75	12	5	91

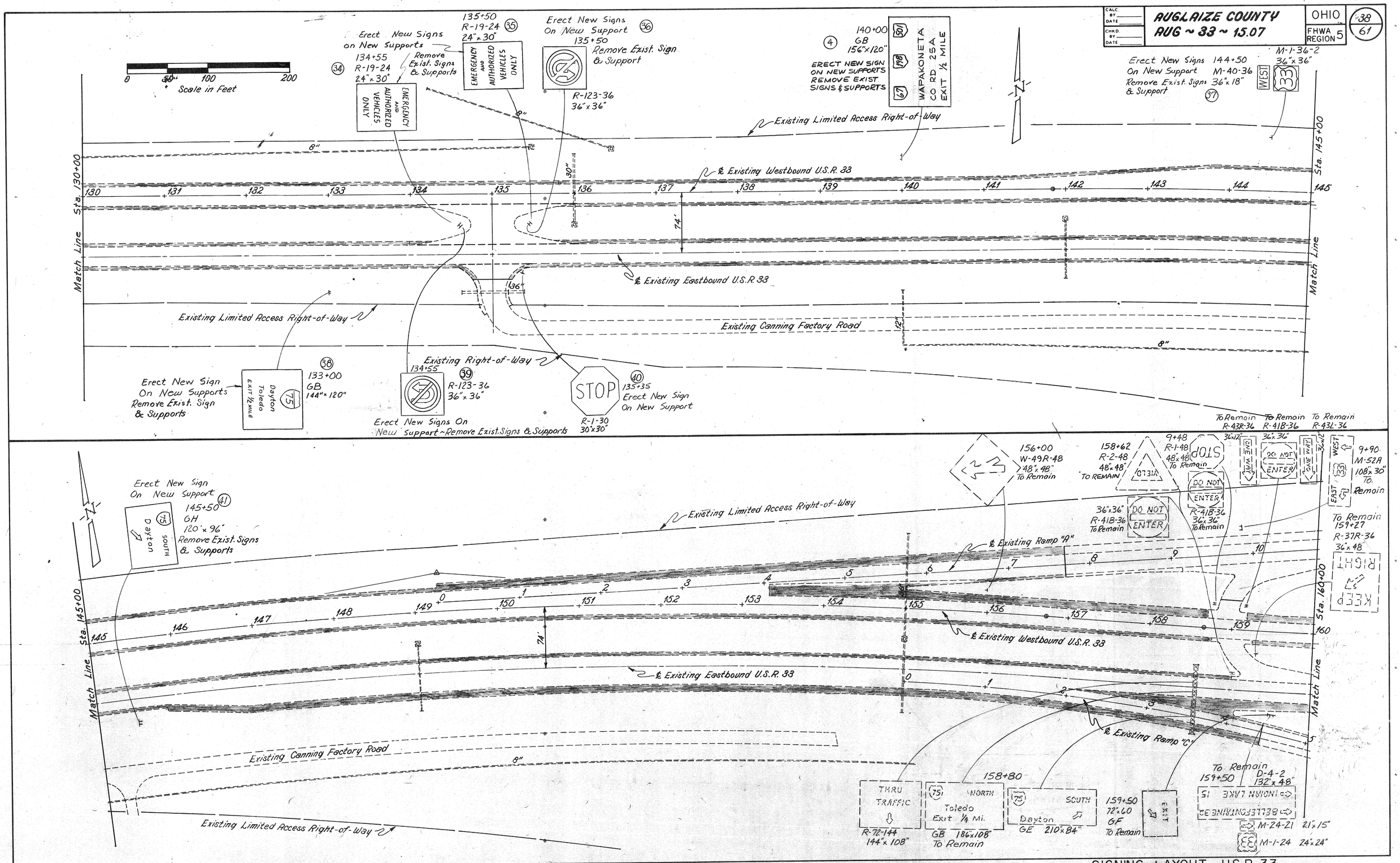
DETAILED	BY
DETAILS CHECKED	RM
DETAILS REVISED	PN
	DATE
	6/84
	8/84

SIGN AND SUPPORT REMOVAL

CALC. BY
DATE
CHK'D BY
DATE

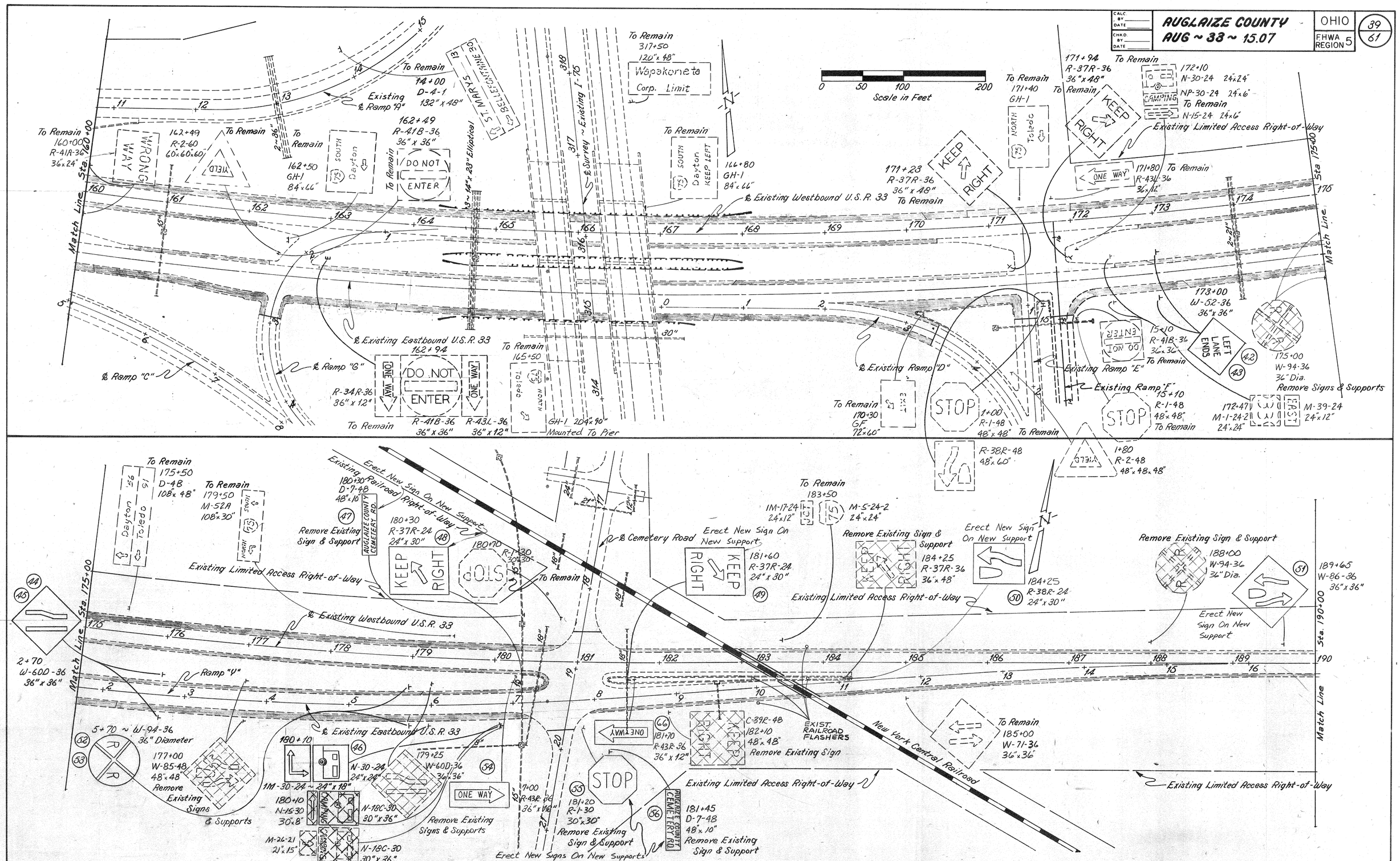


SIGNING LAYOUT U.S.R. 33



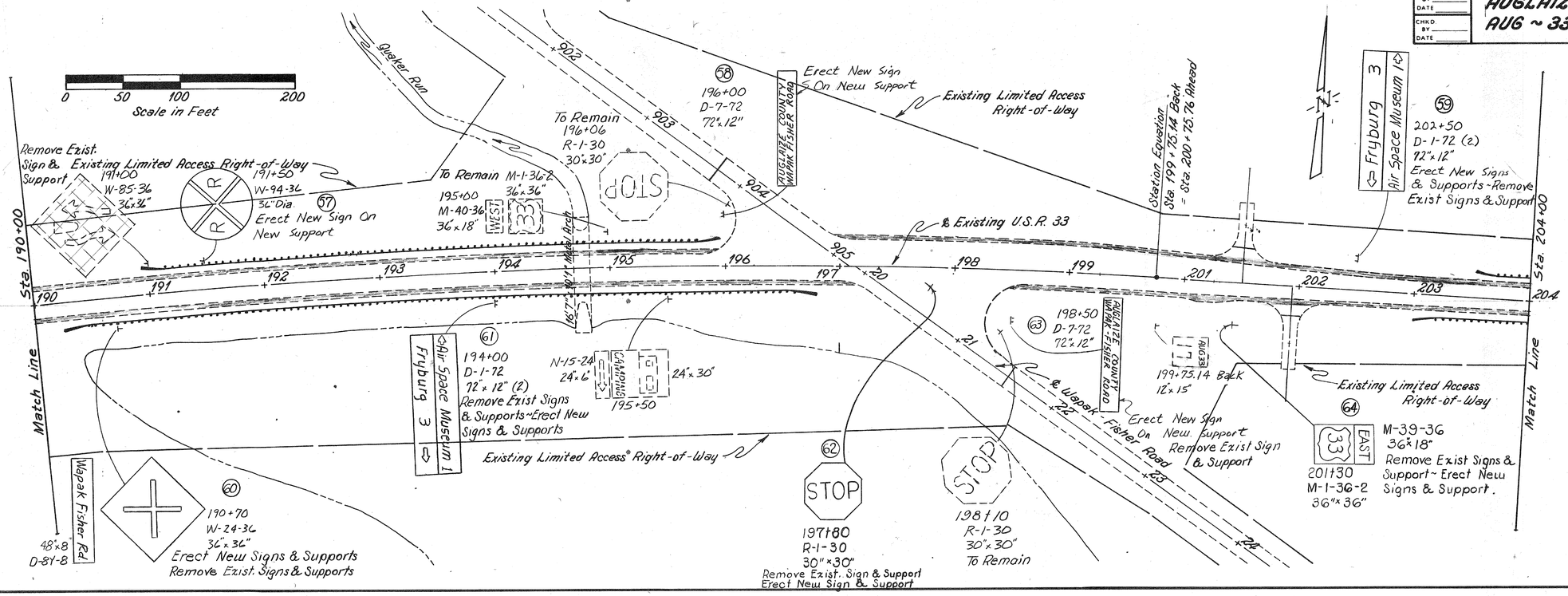
SIGNING LAYOUT U.S.R. 33

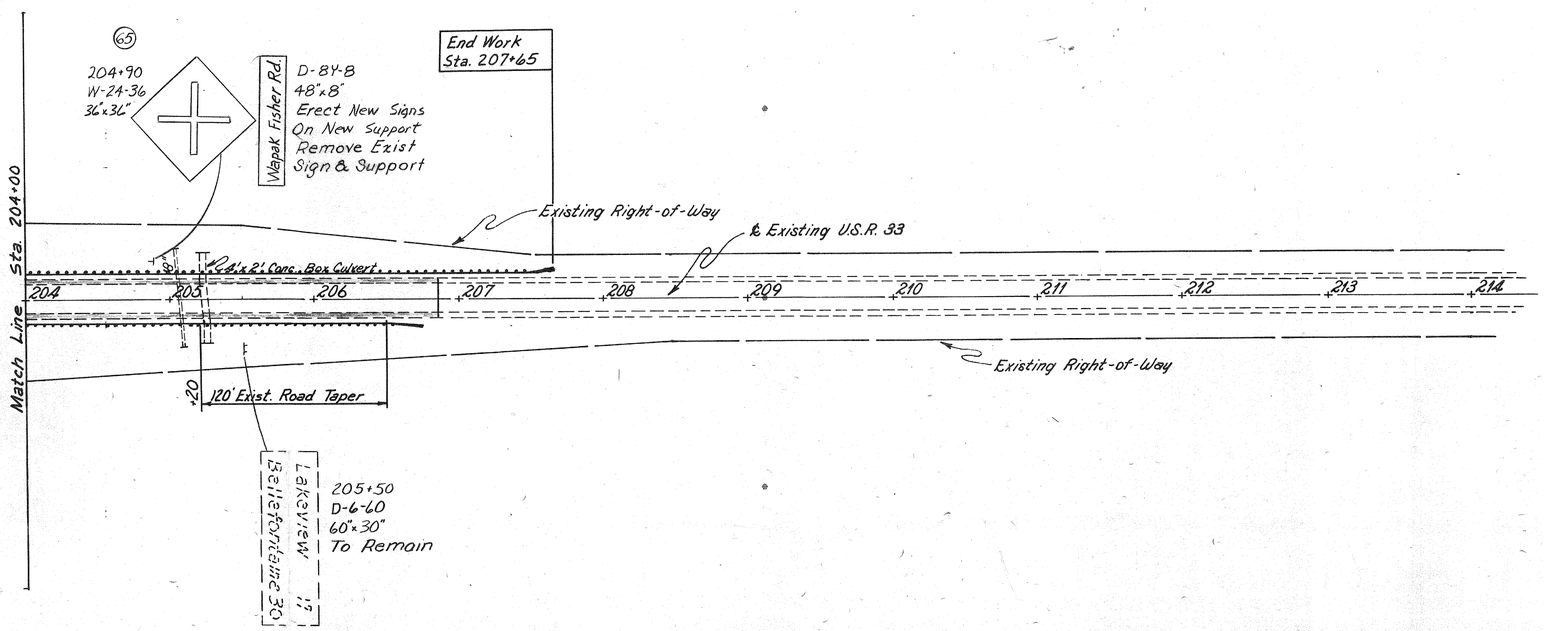
CALC. BY	AUGLAIZE COUNTY	OHIO	39
CHKD. BY	AUG ~ 33 ~ 15.07	FHWA REGION 5	61



SIGNING LAYOUT U.S.R. 33

CALC. BY ____ DATE ____	AUGLAIZE COUNTY	OHIO	40
CHKD. BY ____ DATE ____	AUG ~ 33 ~ 15.07	FHWA REGION 5	61



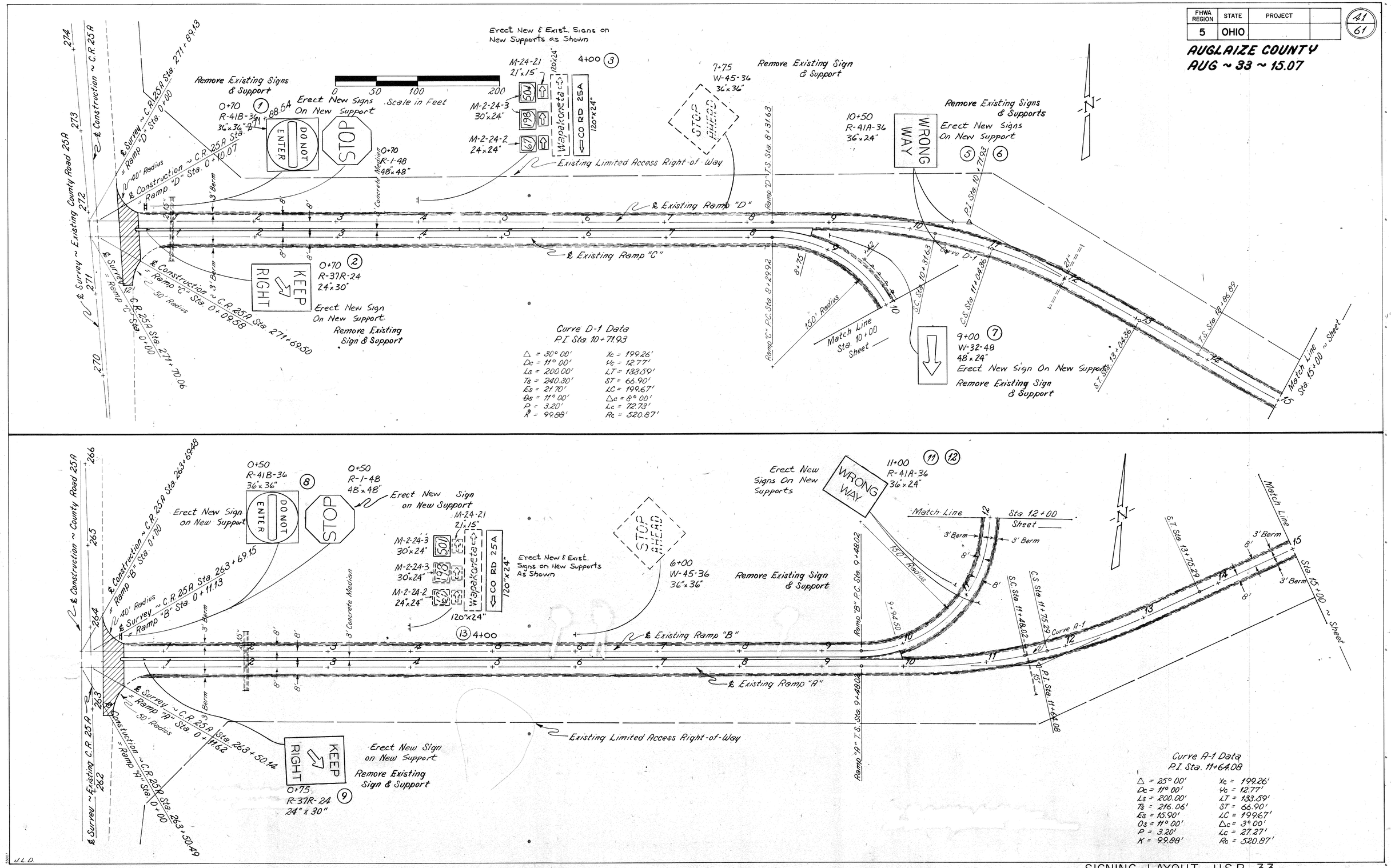


SIGNING LAYOUT U.S.R. 33

FHWA REGION	STATE	PROJECT	
5	OHIO		

41/61

AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07



J.L.D.

SIGNING LAYOUT U.S.R. 33

621 ~ ESTIMATED PAVEMENT MARKING QUANTITIES

AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07

FHWA REGION	STATE	PROJECT	
5	OHIO		

Location	Station to Station	Side	4" Yellow Edge Line lin. ft.	4" White Edge Line lin. ft.	4" White Lane Line lin. ft.	4" Double Yellow Center Line lin. ft.	8" White Channel Lines lin. ft.	24" Stop Lines lin. ft.	24" Yellow Transverse Lines lin. ft.	24" White Transverse Lines lin. ft.
Westbound U.S.R. 33	101+15 to 108+96	Lt.		781						
Ramp "X"	0+35 to 8+45	Rt.		880						
Westbound U.S.R. 33	101+15 to 112+75	Lt. & Rt.							•	
Westbound U.S.R. 33	109+22 to 109+52	Lt.				1160		30		
Westbound U.S.R. 33	109+52 to 115+46	Lt.		594						
Westbound U.S.R. 33	113+10 to 158+72	Rt.			4562					
Ramp "X"	5+11 to 12+07	Rt.			696					
Ramp "X"	1+50 to 5+11	Rt. & Lt.				361				
Ramp "X"	5+11 to 12+07	Lt.	696							
Westbound U.S.R. 33	106+61 to 134+75	Rt.	2809							
Westbound U.S.R. 33	101+50 to 113+10	Rt.							950	
Ramp "X"	3+75 to 9+35	Rt.								50
Ramp "X"	8+75 to 10+25	Rt.					150			
C.R. 25A Ramp "B"	13+44 to 13+92	Rt.					52		•	
C.R. 25A Ramp "B"	0+26 to 14+21	Lt.		1394						
C.R. 25A Ramp "A"	0+38 to 21+33	Rt.		2124						
C.R. 25A Ramp "B"	9+94 to 13+45	Rt.	369							
C.R. 25A Ramp "A"	9+98 to 18+87	Lt.	889							
C.R. 25A Ramp "C"	0+47 to 12+07	Rt.		1175						
C.R. 25A Ramp "D"	0+35 to 21+93	Lt.		2181						
C.R. 25A Ramp "C"	8+75 to 12+30	Lt.	367							
C.R. 25A Ramp "D"	8+80 to 17+49	Rt.	869							
C.R. 25A Ramp "B"	0+50 to 0+52	Lt. & Rt.						24		
C.R. 25A Ramp "D"	0+59 to 0+61	Lt. & Rt.						24	•	
Westbound U.S.R. 33	115+45 to 117+74	Lt.					229			
C.R. 25A Ramp "D"	17+48 to 18+72	Rt.					124			
Westbound U.S.R. 33	116+40 to 117+74	Lt.								125
Ramp "X"	8+44 to 8+75	Rt.			44					
Westbound U.S.R. 33	117+73 to 118+50	Lt.			77					
Ramp "X"	10+24 to 12+07	Rt.		183						
Eastbound U.S.R. 33	113+53 to 118+85	Rt.		532						
Eastbound U.S.R. 33	113+53 to 133+85	Rt.			2032					
Eastbound U.S.R. 33	113+53 to 149+29	Lt.		3576						
C.R. 25A Ramp "A"	18+86 to 19+20	Lt.					35			
C.R. 25A Ramp "A"	19+20 to 21+33	Lt.			213				•	
Westbound U.S.R. 33	120+92 to 149+29	Lt.		2837						
Eastbound U.S.R. 33	120+85 to 134+54	Rt.		1369						
Eastbound U.S.R. 33	113+53 to 134+75	Lt.	2117							
Eastbound U.S.R. 33	136+15 to 162+37	Rt.			2622					
Westbound U.S.R. 33	135+00 to 135+27	Rt.						27		
Eastbound U.S.R. 33	135+50 to 155+00	Rt.		1950						
Eastbound U.S.R. 33	135+25 to 159+05	Lt.	2375							
Westbound U.S.R. 33	135+25 to 158+77	Rt.	2347							
Westbound U.S.R. 33	146+55 to 149+29	Lt.			274					
I-75 Ramp "A"	0+00 to 4+04	Rt. & Rt.					404		•	
I-75 Ramp "A"	0+00 to 7+70	Lt.		770						
I-75 Ramp "A"	4+03 to 7+70	Rt.	367							
I-75 Ramp "A"	6+53 to 7+70	Rt.			117					
I-75 Ramp "C"	0+00 to 4+44	Rt.		440						
Eastbound U.S.R. 33	151+96 to 157+15	Rt.			519					
Eastbound U.S.R. 33	157+15 to 160+12	Rt.					297			
I-75 Ramp "C"	2+10 to 4+44	Lt.					234			
I-75 Ramp "C"	2+10 to 4+10	Lt.								234
Westbound U.S.R. 33	149+28 to 158+72	Lt.		944						
Westbound U.S.R. 33	158+92 to 159+09	Lt.						27		
Westbound U.S.R. 33	158+71 to 158+86	Lt.		35					•	
Westbound U.S.R. 33	159+09 to 159+12	Lt.	15							
Westbound U.S.R. 33	158+76 to 159+05	Rt.		75						
Eastbound U.S.R. 33	159+27 to 162+37	Lt.	845							
Westbound U.S.R. 33	159+26 to 180+57	Rt.			2131					
Westbound U.S.R. 33	159+18 to 180+57	Lt.		2139						
Westbound U.S.R. 33	159+26 to 162+13	Rt.	286							
Westbound U.S.R. 33	162+12 to 162+37	Rt.	110							
Westbound U.S.R. 33	162+90 to 171+18	Rt.	920							
Eastbound U.S.R. 33	160+11 to 162+35	Rt.		255						
Eastbound U.S.R. 33	162+65 to 170+25	Rt.		790					•	
I-75 Ramp "S"	2+66 to 2+91	Lt.	25							
Eastbound U.S.R. 33	162+90 to 171+18	Rt.			828					
Eastbound U.S.R. 33	162+90 to 171+18	Lt.	828							
Sub-Totals Carried Forward to Next Section			15,734	25,024	14,115	1521	1525	132	950	409

Location	Station to Station	Side	4" Yellow Edge Line lin. ft.	4" White Edge Line lin. ft.	4" White Lane Line lin. ft.	4" Double Yellow Center Line lin. ft.	8" White Channel Lines lin. ft.	24" Stop Lines lin. ft.	24" Yellow Transverse Lines lin. ft.	24" White Transverse Lines lin. ft.	White Lane Arrow Each	White Word "ONLY" Each		Railroad Symbol Marking Each	12" White Transverse Lines lin. ft.	4" Dashed Yellow Center Line lin. ft.
Eastbound U.S.R. 33	169+00 to 170+20	Rt.								120						
Eastbound U.S.R. 33	169+00 to 171+06	Rt.					206									
I-75 Ramp "D"	2+00 to 3+10	Lt.					110									
I-75 Ramp "D"	3+10 to 3+39	Lt.	29													
Westbound U.S.R. 33	172+41 to 180+65	Rt.	980													
Ramp "Y"	0-135 to 7+40	Rt.			875											
Ramp "Y"	0-85 to 7+40	Lt.	840													
Eastbound U.S.R. 33	171+70 to 172+00	Rt.						30								
I-75 Ramp "E"	0+92 to 1+17	Rt.		25												
I-75 Ramp "E"	0+92 to 1+17	Lt.	25													
I-75 Ramp "F"	15+03 to 15+28	Lt.	25													
Eastbound U.S.R. 33	172+24 to 6+99~Y	Rt.		810												
Ramp "Y"	6+20	Lt. & Rt.												2		
Westbound U.S.R. 33	180+85 to 181+05	Lt.						20								
Cemetery Road	18+54 to 18+67	Rt.				13										
Ramp "Y"	7+65 to 7+83	Rt.						18								
Cemetery Road	19+60 to 19+74	Rt.				14										
Ramp "Y"	8+08 to 16+63	Rt.		855												
Ramp "Y"	8+30 to 16+63	Rt.				833										
Westbound U.S.R. 33	184+33 to 185+92	Rt.				159										
Ramp "Y"	8+12 to 11+12	Lt.	310													
Ramp "Y"	8+12 to 11+12	Lt.							175							
Westbound U.S.R. 33	184+33 to 185+50	Rt.							70							
Westbound U.S.R. 33	181+30 to 184+34	Rt.	314													
Westbound U.S.R. 33	181+70 to 903+75~Wapak~Lt.			1507												
Westbound U.S.R. 33	181+70 to 185+92	Rt.			422											
U.S.R. 33	189+62 to 21+56~Wapak~Rt.			908												
U.S.R. 33	195+93 to 196+15	Lt.						22								
U.S.R. 33	196+54 to 196+74	Lt.						20								
U.S.R. 33	197+38 to 197+63	Rt.						25								
U.S.R. 33	198+25 to 198+43	Rt.						18								
Wapak-Fisher Rd.	20+20 to 21+56	Rt.				136										
Wapak-Fisher Rd.	903+75 to 904+76	Rt.				101										
U.S.R. 33	196+15 to 196+54	Lt.					112								91	
U.S.R. 33	197+63 to 198+15	Rt.					172								195	
U.S.R. 33	197+13 to 199+13	Lt.					201									
U.S.R. 33	197+60 to 205+15	Rt.				755										
U.S.R. 33 Wapak	90.3+75 to 206+85	Lt.		1020												
U.S.R. 33 Wapak	21+56 to 206+85	Rt.		840												
U.S.R. 33	205+15 to 206+85	Rt.														170
U.S.R. 33	197+60	Lt.									2					
U.S.R. 33	198+30	Lt.										2				
U.S.R. 33	199+03	Lt.									2					
U.S.R. 33	191+00	Lt.												1		
Sub-Totals ~ This Section			2523	5965	1297	2011	801	153	245	180	4	2		3	286	170
Sub-Totals brought forward from previous sect.			15,734	25,024	14,115	1521	1525	132	950	409						
Totals to General Summary			18,257	30,989	15,412	3532	2326	285	1195	589	4	2		3	286	170
			3.46 mi.	5.87 mi.	2.92 mi.	0.67 mi.		285 lin.ft.	1195 lin.ft.	589 lin.ft.	4 each	2 each		3 each	286 lin.ft.	0.04 mi.

9.33 MILES

0.67+0.04=
0.71 MILES

1784 LIN. FT.

ESTIMATED PAVEMENT MARKING QUANTITIES

DATE 8/84 8/84
SW R/W P/N
DETAILED DETAILS CHECKED DETAILS REVIEWED

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

AUGLAIZE COUNTY
AUG - 33 - 15.07

620 DELINEATOR TABLE

I

CODE	STATION TO STATION		SIDE	INTERVAL	A POST	A BRACKET	C POST	C BRACKET	D POST	D BRACKET
Co. Rd. 25A Ramp "A"										
	1+20	9+20	Rt.	200			5			
	9+20	10+50	Rt.	130			1			
	10+50	13+75	Rt.	65			5			
	13+75	15+05	Rt.	130			1			
	15+05	21+35	Rt.	70			9			
	15+05	18+55	Lt.	70					6	
Co. Rd. 25A Ramp "B"										
	2+00	6+00	Lt.	200			3			
	6+00	7+80	Lt.	180			1			
	7+80	8+70	Lt.	90			1			
	8+70	9+30	Lt.	60			1			
	9+30	14+10	Lt.	30			16			
	10+00	13+30	Rt.	30					12	
Co. Rd. 25A Ramp "C"										
	1+00	5+00	Rt.	200			3			
	5+00	6+80	Rt.	180			1			
	6+80	7+70	Rt.	90			1			
	7+70	8+30	Rt.	60			1			
	8+30	11+00	Rt.	30			9			
	11+00	11+60	Rt.	60			1			
	8+90	11+00	Lt.	30					8	
Co. Rd. 25A Ramp "D"										
	2+05	8+05	Lt.	200			4			
	8+05	9+35	Lt.	130			1			
	9+35	12+60	Lt.	65			5			
	12+60	13+90	Lt.	130			1			
	13+90	15+50	Lt.	160			1			
	15+50	18+70	Lt.	80			4			
	18+70	20+30	Lt.	160			1			
	20+30	22+30	Lt.	200			1			
	14+20	17+40	Rt.	80					5	
SUB-TOTAL I							77		31	

II

CODE	STATION TO STATION		SIDE	INTERVAL	A POST	A BRACKET	C POST	C BRACKET	D POST	D BRACKET
U.S.R. 33 Ramp "X"										
	1+25	5+25	Rt.	200			3			
	5+25	7+05	Rt.	180			1			
	7+05	7+95	Rt.	90			1			
U.S.R. 33 Ramp "Y"										
	3+25	6+85	Rt.	30			13			
	8+00	16+40	Rt.	30			29			
I-75 Ramp "A"										
	0+00	8+00	Lt.	200			4			
I-75 Ramp "D"										
	0+20	1+25	Rt.	105			1			
	1+25	1+95	Rt.	70			1			
	1+95	3+35	Rt.	35			4			
SUB-TOTAL II							57			

III

CODE	STATION TO STATION		SIDE	INTERVAL	A POST	A BRACKET	C POST	C BRACKET	D POST	D BRACKET
Westbound U.S.R. 33										
	101+65	106+45	Lt.	30			17			
	106+45	116+45	Lt.	250			4			
	121+30	141+30	Lt.	400			5			
	141+30	149+30	Lt.	200			4			
	155+20	204+20	Lt.	400			13			
SUB-TOTAL III							43			

IV

CODE	STATION TO STATION		SIDE	INTERVAL	A POST	A BRACKET	C POST	C BRACKET	D POST	D BRACKET
Eastbound U.S.R. 33										
	111+00	117+50	Rt.	325			3			
	121+00	123+00	Rt.	200			1			
	123+00	147+00	Rt.	400			6			
	147+00	159+00	Rt.	200			6			
	159+20	167+20	Rt.	200			5			
	172+20	176+20	Rt.	400			2			
	189+85	193+15	Rt.	30			14			
	193+15	206+80	Rt.	400			3			
SUB-TOTAL IV							40			

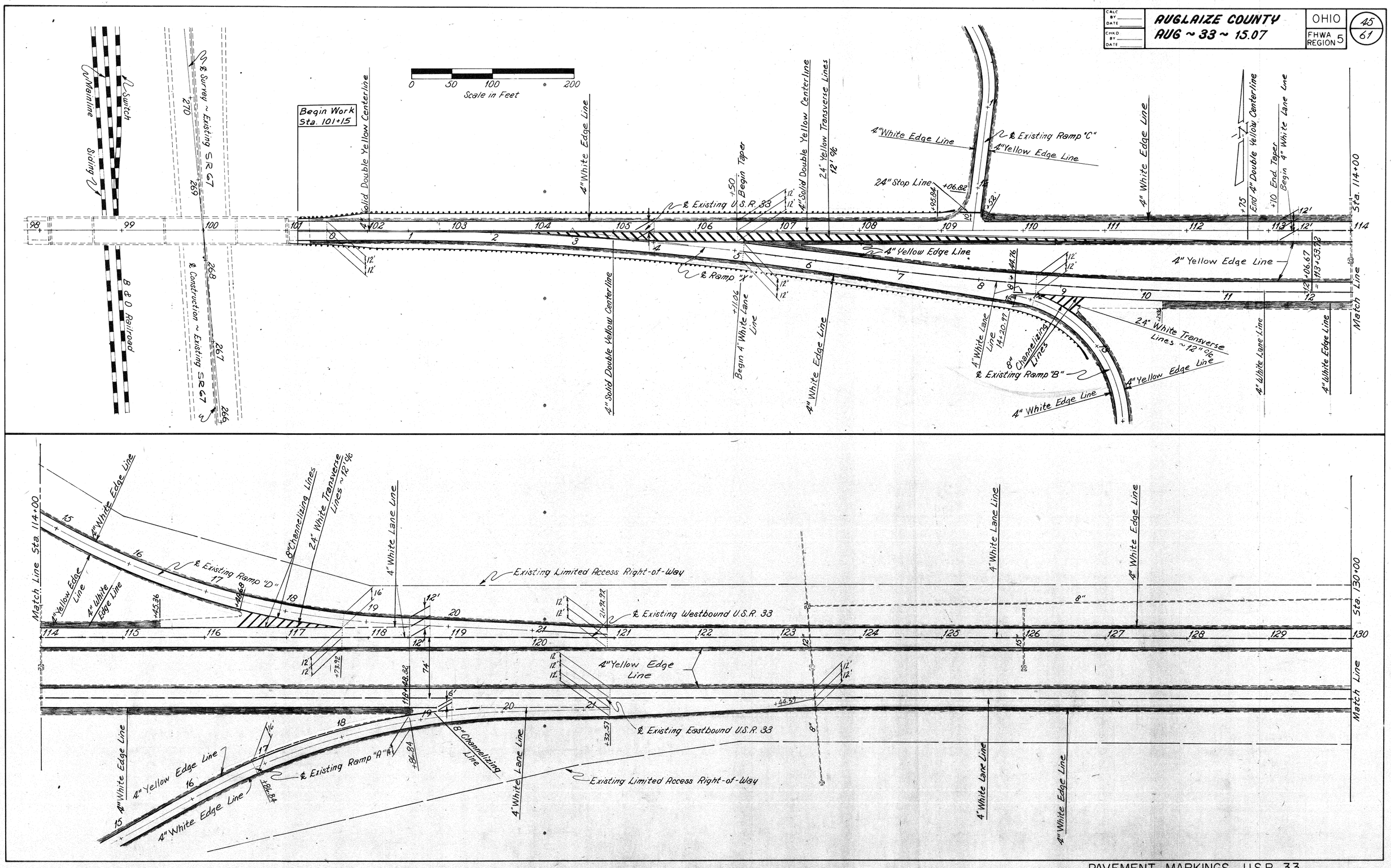
REMOVAL OF GROUND MOUNTED POST SUPPORTS	
Delineators Removed	
Location	Total
I-70 & U.S.R. 33 Interchange	32
Eastbound U.S.R. 33	44
S.R. 67 Ramp "A"	29
S.R. 67 Ramp "B"	19
S.R. 67 Ramp "C"	20
S.R. 67 Ramp "D"	21
Total to General Summary	165

620 DELINEATORS											
TOTALS											
	A-COLORLESS		C-COLORLESS		D-YELLOW						
SUB-TOTALS	POST	BRACKET	POST	BRACKET	POST	BRACKET					
I			77			31					31
II			57								
III			43								
IV			40								
TOTALS			217								

BY	DATE
RM	8/84
PW	8/84

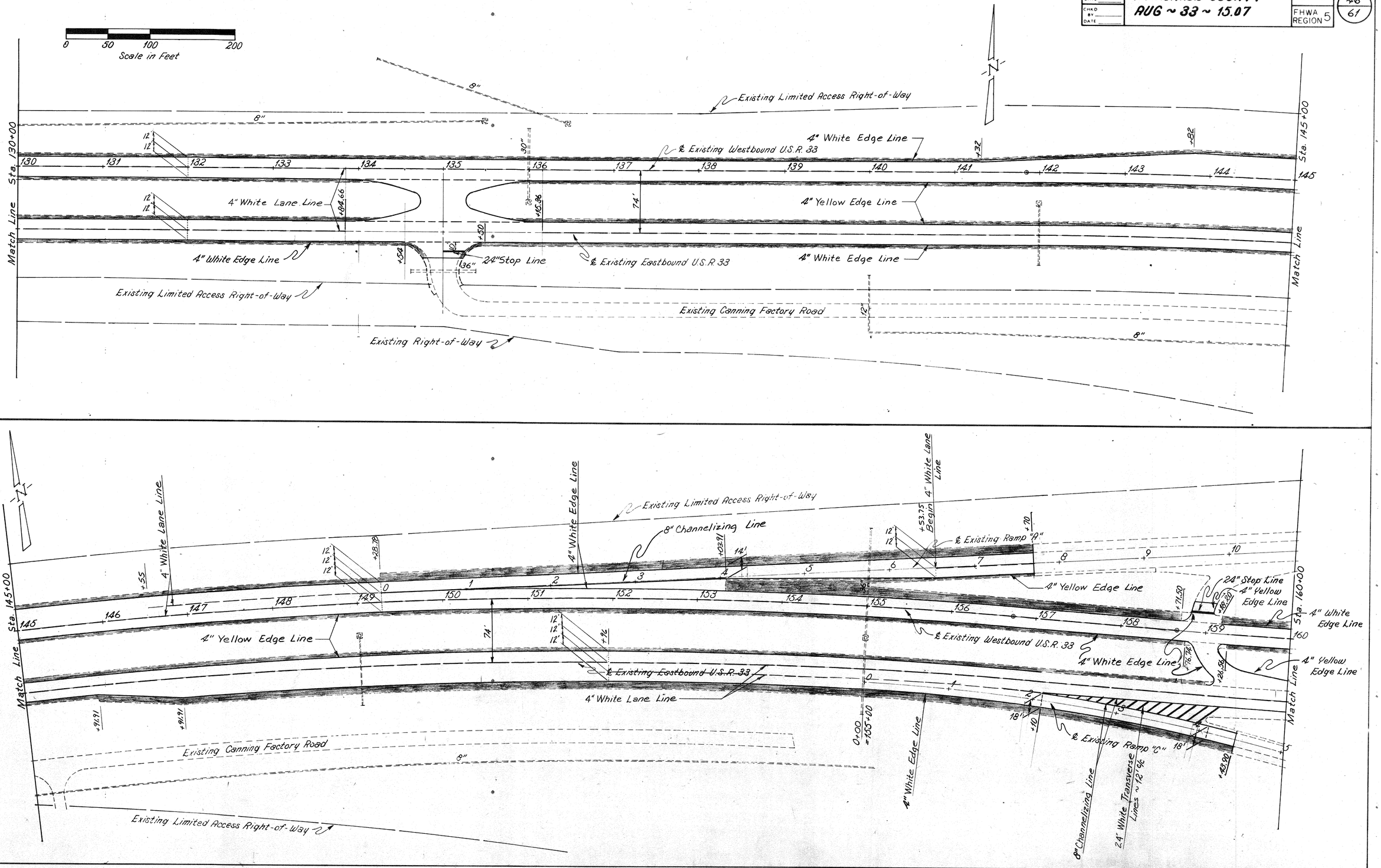
DETAILED
DETAILS CHECKED
DETAILS REVISED

CALC BY ____ DATE ____	AUGLAIZE COUNTY	OHIO	45
CHKD BY ____ DATE ____	AUG ~ 33 ~ 15.07	FHWA REGION 5	61



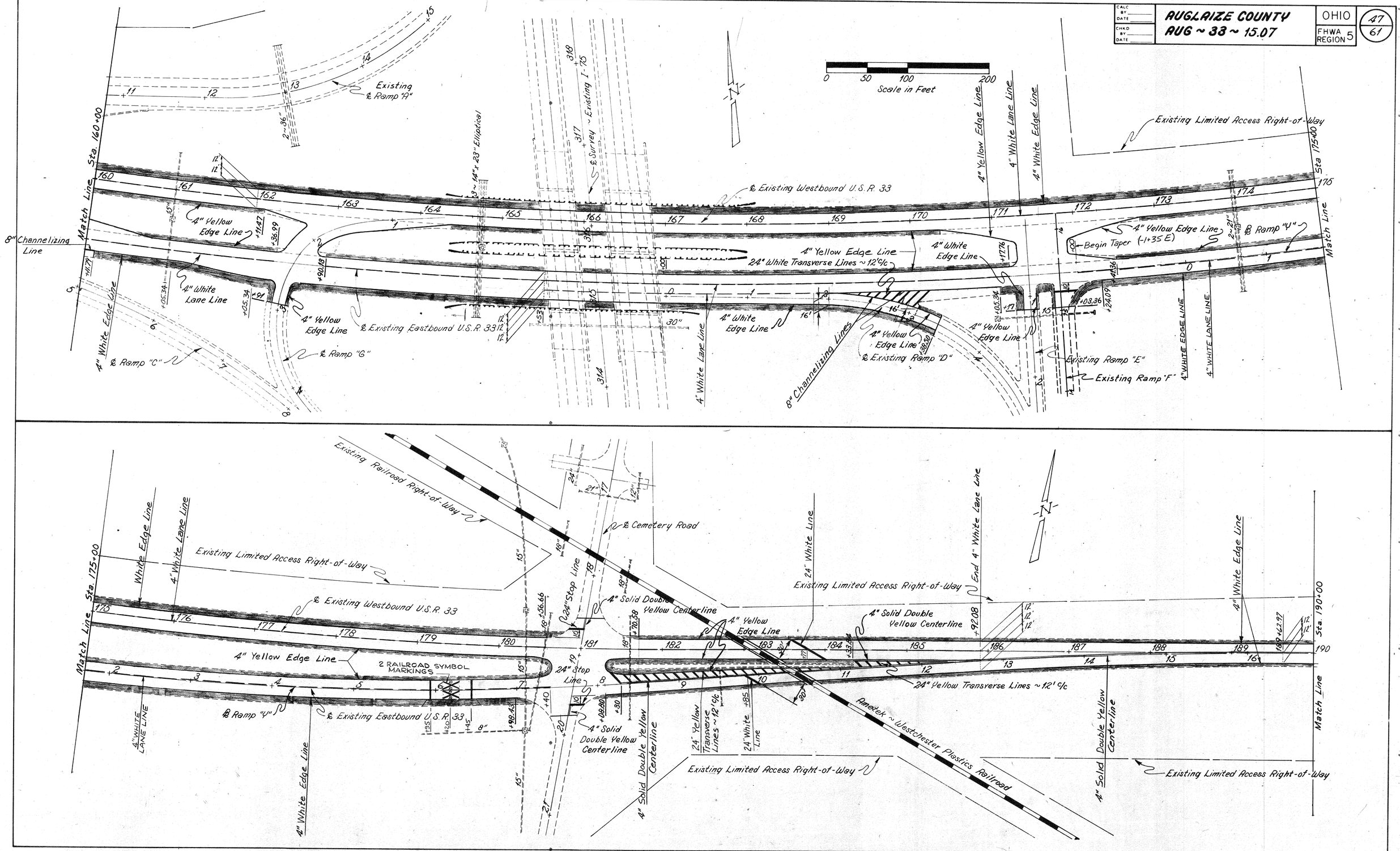
PAVEMENT MARKINGS U.S.R. 33

CALC BY	AUGLAIZE COUNTY	OHIO	46
CHKD BY	AUG ~ 33 ~ 15.07	FHWA REGION 5	61
DATE			



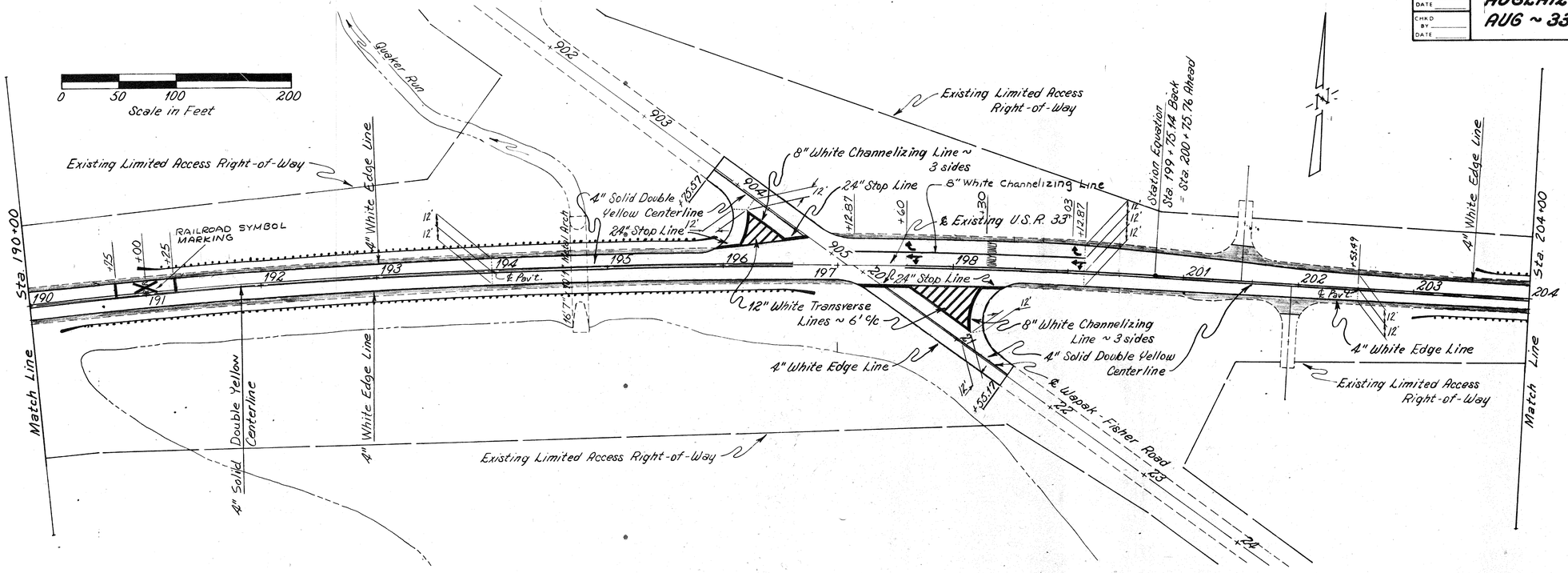
PAVEMENT MARKINGS U.S.R. 33

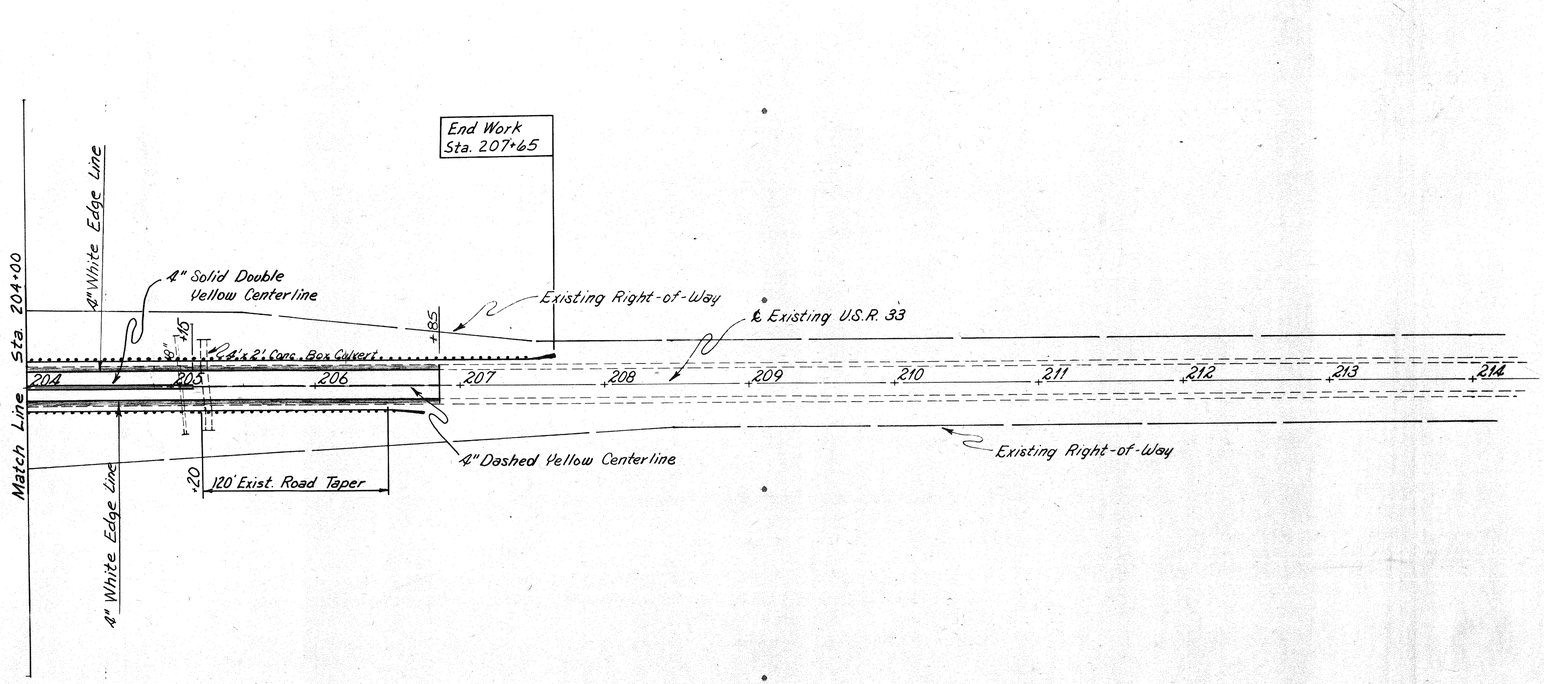
CALC BY ____ DATE ____	AUGLAIZE COUNTY	OHIO	47
CHKD BY ____ DATE ____	AUG ~ 33 ~ 15.07	FHWA REGION 5	61



PAVEMENT MARKINGS U.S.R. 33

CALC BY ____ DATE ____	AUGLAIZE COUNTY	OHIO	48
CHKD BY ____ DATE ____	AUG ~ 33 ~ 15.07	FHWA REGION 5	61



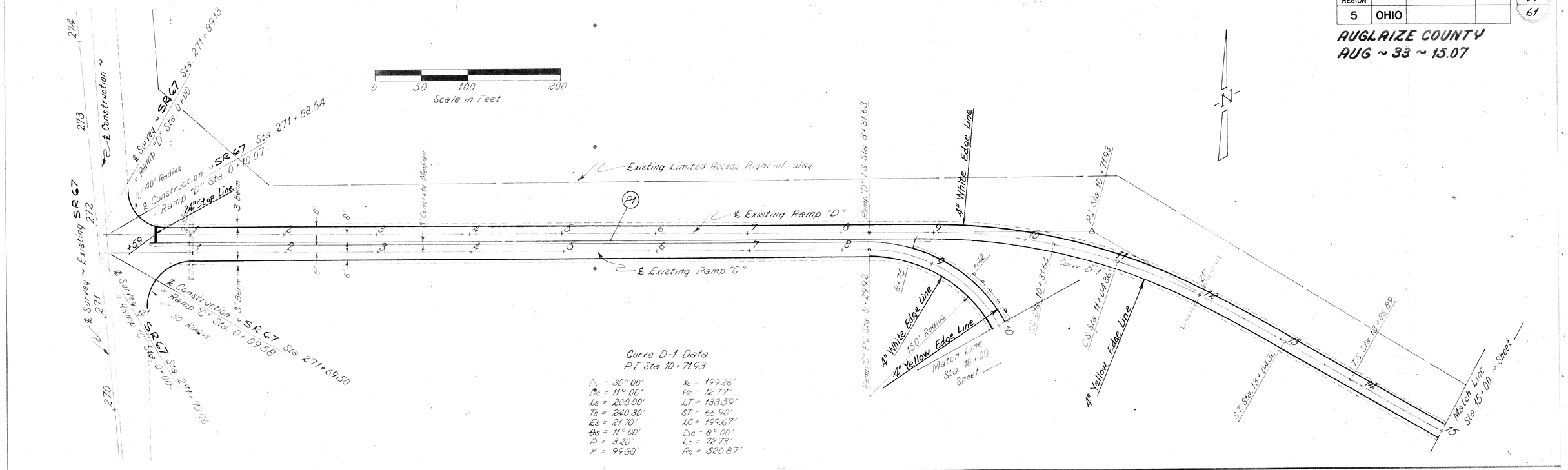


PAVEMENT MARKINGS U.S.R. 33

FHWA REGION	STATE	PROJECT	
5	OHIO		

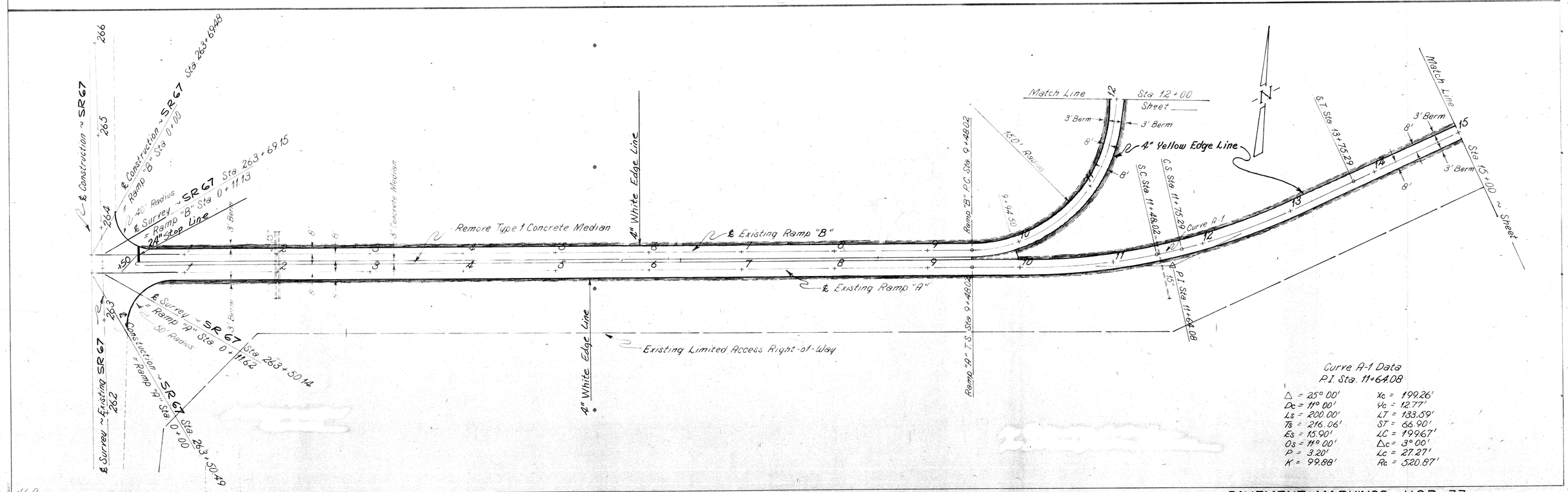
49
61

AUGLAIZE COUNTY
AUG ~ 33 ~ 15.07



Curve D-1 Data
P.I. Sta. 10+71.93

Δ = 30° 00'	Xc = 199.26'
Dc = 11° 00'	Yc = 12.77'
Ls = 200.00'	LT = 133.59'
Ts = 240.30'	ST = 66.90'
Es = 21.70'	LC = 199.67'
Θs = 11° 00'	Δc = 8° 00'
P = 3.20'	Lc = 72.73'
K = 99.88'	Rc = 520.87'

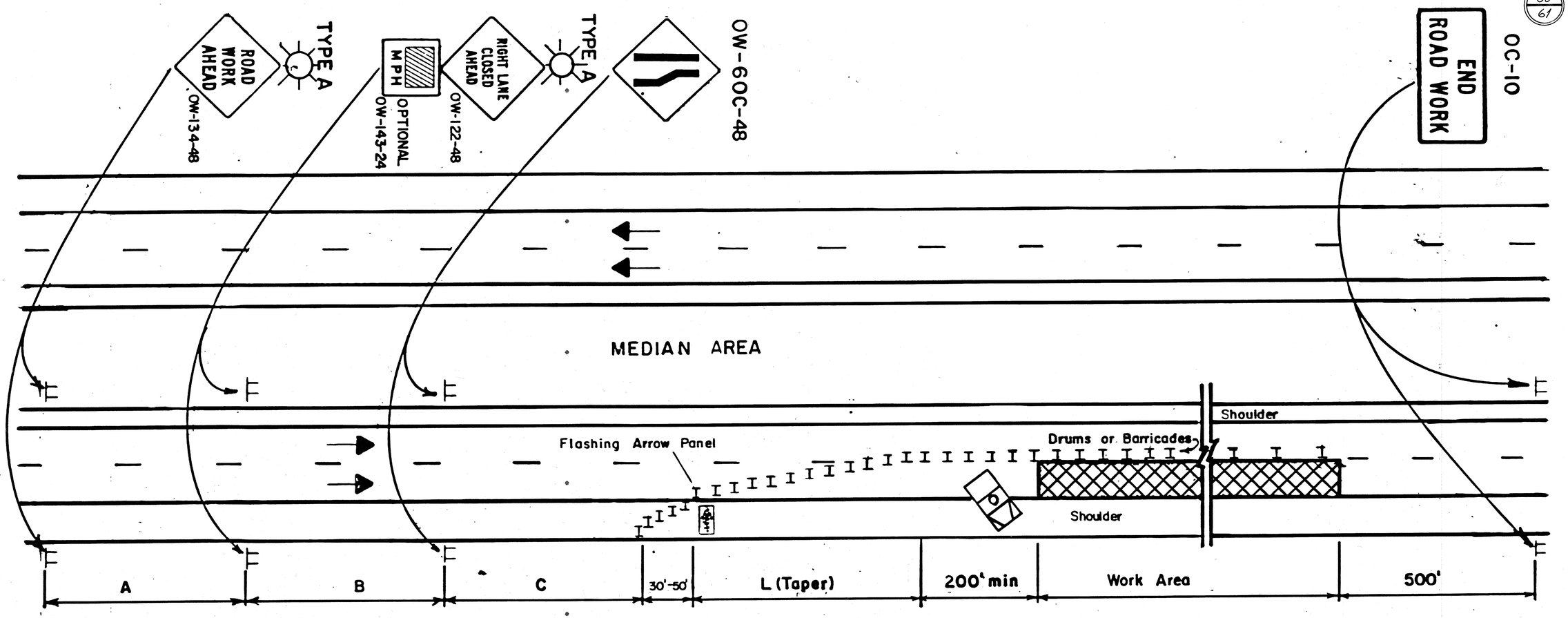


Curve A-1 Data
P.I. Sta. 11+64.08

Δ = 25° 00'	Xc = 199.26'
Dc = 11° 00'	Yc = 12.77'
Ls = 200.00'	LT = 133.59'
Ts = 216.06'	ST = 66.90'
Es = 15.90'	LC = 199.67'
Θs = 11° 00'	Δc = 3° 00'
P = 3.20'	Lc = 27.27'
K = 99.88'	Rc = 520.87'

JLD

PAVEMENT MARKINGS U.S.R. 33



GENERAL NOTES:

1. The taper length (L) shall be in accordance with Section 7F-17 of the OMUTCD. The location of the transition taper and location of the advance warning signs should be adjusted to provide for adequate sight distance for the existing vertical and horizontal roadway alignment. In order to determine the minimum number of channelizing devices for the transition taper see Table 7-5 OMUTCD. For a 55 MPH prevailing speed and a 12 ft. lane, not less than thirteen (13) drums or barricades shall be used to form the lane transition taper in advance of the work area. Not less than five (5) drums or barricades shall be used to form the taper on the shoulder. Drums or barricades shall be spaced approximately 50' to 60' center to center for the first 1000 feet of the work area and at a maximum of 100 to 120 feet for the balance of the work area. Cones may be substituted for barricades or drums for short term lane closures during daylight hours only.

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

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

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

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

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

MINIMUM DISTANCE	A	B	C
MAJOR STANDARD	500'	500'	500'
URBAN FREEWAY & EXPRESSWAY	500' TO 1000'	500' TO 1000'	500' TO 1000'
RURAL FREEWAY & EXPRESSWAY	2800'	1600'	1000'

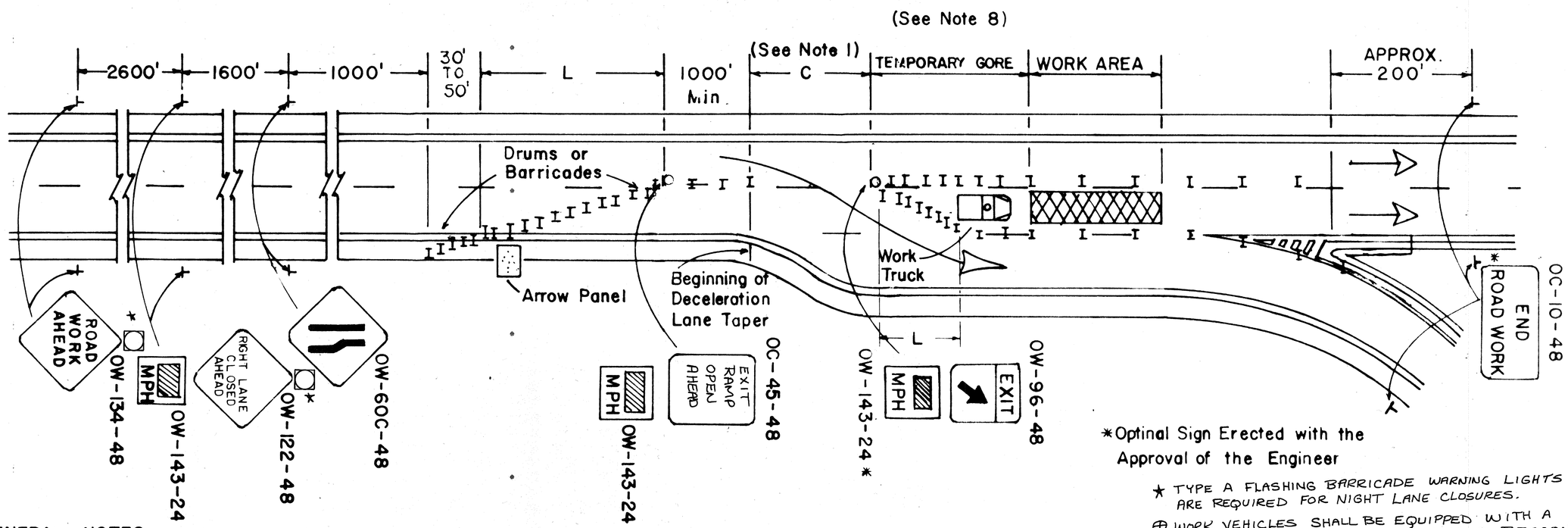
7. Type A flashing barricade warning lights shown on the "Road Work Ahead" and the "Right Lane Closed Ahead" signs are required whenever a night lane closure is necessary.

8. Some work area locations may require more than just static or conventional signs to enhance communication with the driver. At these locations Portable Changeable Message Signs (PCMS) units are recommended. These devices should be located 2,000 TO 4,000 FEET in advance of a lane closure or other point of required action. See Section 7G-8.1, OMUTCD for further guidance on use of PCMS units.

OHIO DEPARTMENT OF TRANSPORTATION

CLOSING ONE LANE OF A FOUR LANE DIVIDED HIGHWAY

DATE 12/82



*Optinal Sign Erected with the Approval of the Engineer

★ TYPE A FLASHING BARRICADE WARNING LIGHTS ARE REQUIRED FOR NIGHT LANE CLOSURES.

⊕ WORK VEHICLES SHALL BE EQUIPPED WITH A 360° ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF A 1/4 MILE.

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. 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.

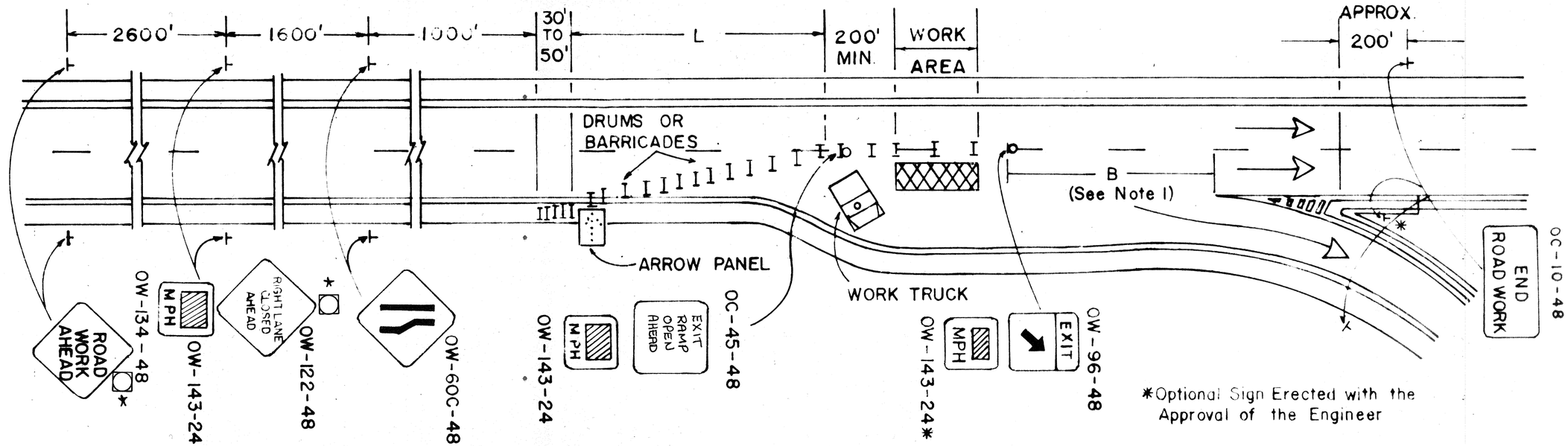
   WHERE:

   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.

OHIO DEPARTMENT OF TRANSPORTATION.	
LANE CLOSURE AT EXIT GORE	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. 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.

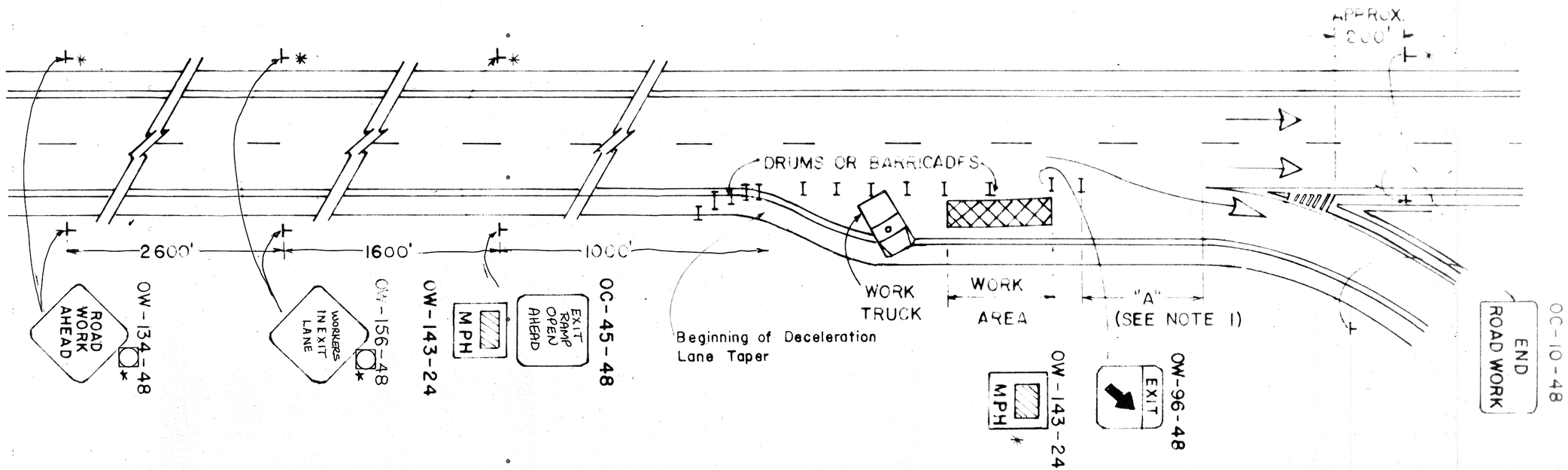
★ TYPE A FLASHING BARRICADE WARNING LIGHTS ARE REQUIRED FOR NIGHT LANE CLOSURES.

⊕ WORK VEHICLES SHALL BE EQUIPPED WITH A 360° ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF A 1/4 MILE.

OHIO DEPARTMENT OF TRANSPORTATION

LANE CLOSURE BEFORE EXIT GORE

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.

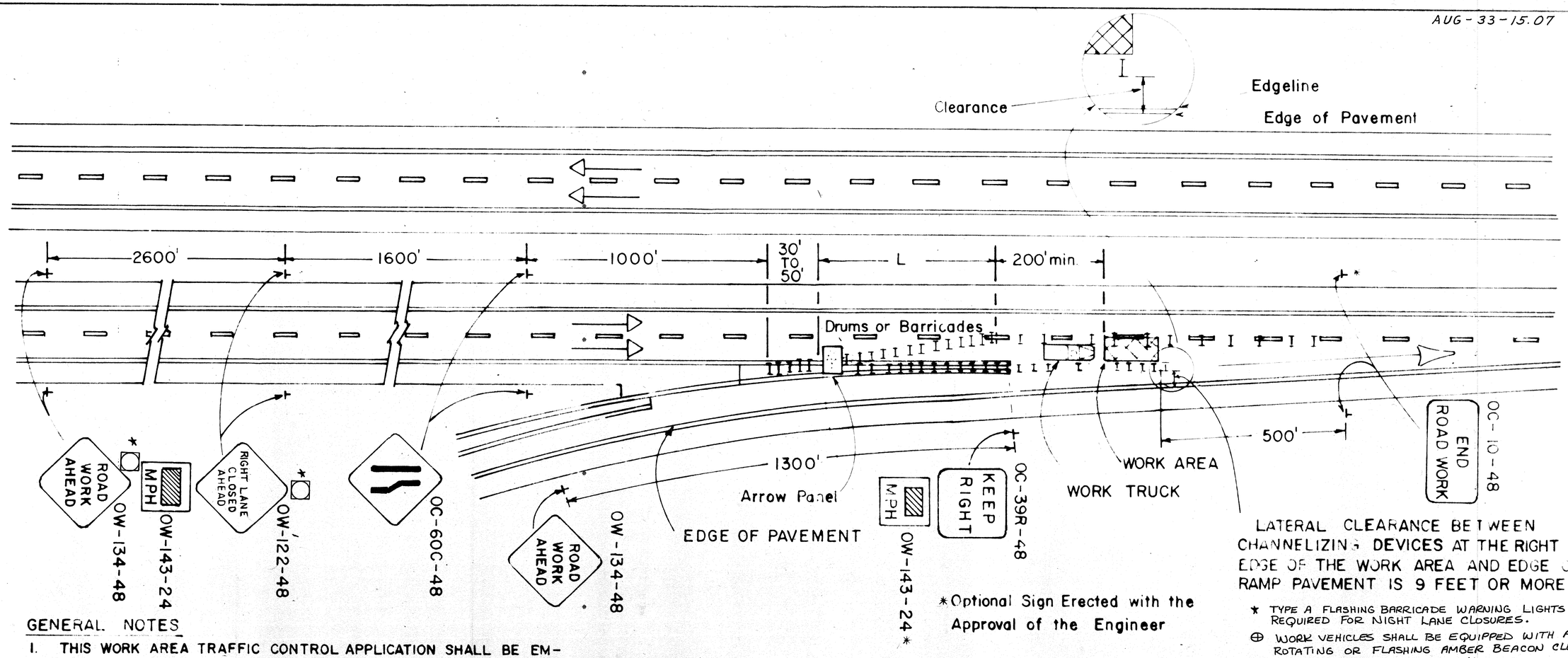
★ TYPE A FLASHING BARRICADE WARNING LIGHTS ARE REQUIRED FOR NIGHT LANE CLOSURES.

⊕ WORK VEHICLES SHALL BE EQUIPPED WITH A 360° ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF A 1/4 MILE.

OHIO DEPARTMENT OF TRANSPORTATION

LANE CLOSURE IN DECELERATION LANE

DATE 8-3-79



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. 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.

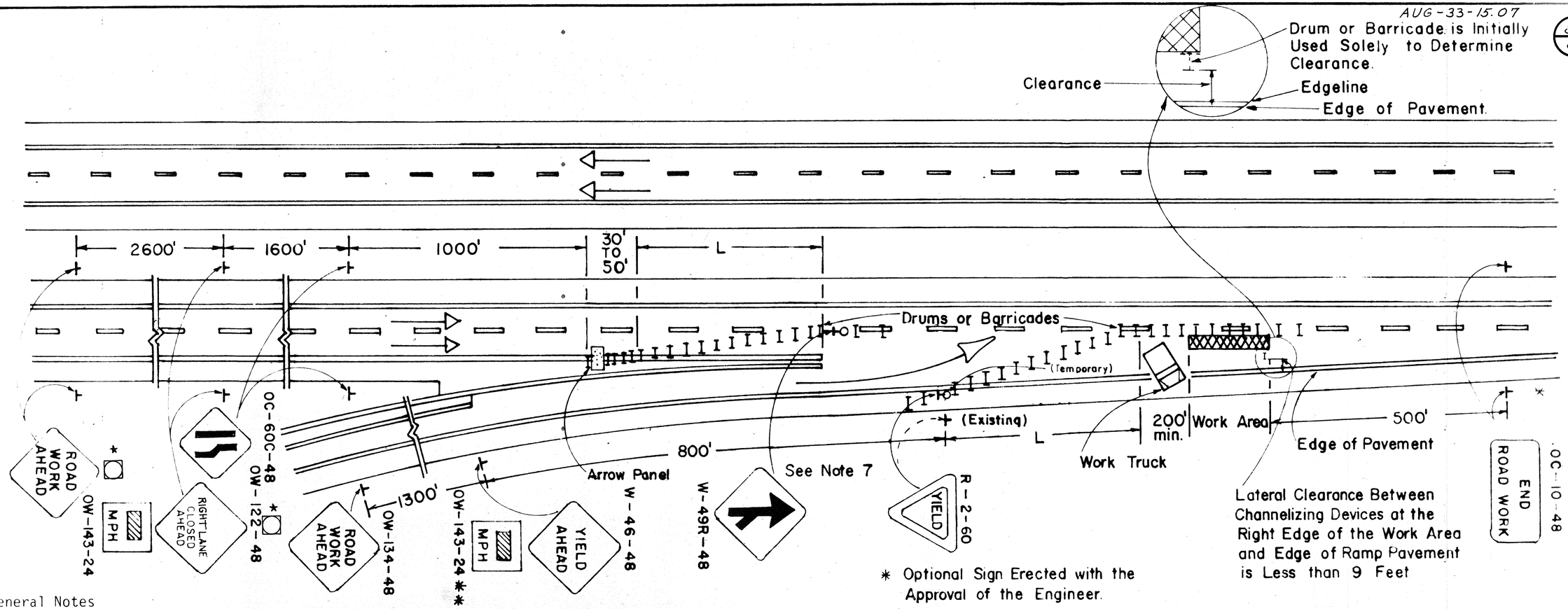
WHERE:

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.

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 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. 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.

★ TYPE A FLASHING BARRICADE WARNING LIGHTS ARE REQUIRED FOR NIGHT LANE CLOSURES.

⊕ WORK VEHICLES SHALL BE EQUIPPED WITH A 360° ROTATING OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF A 1/4 MILE.

OHIO DEPARTMENT OF TRANSPORTATION

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

INITIAL PAVEMENT MARKINGS FOR RESURFACED SECTIONS

GENERAL NOTES

In addition to the requirements of 621 and 847 the following shall apply:

621 Materials

Glass beads shall be kept dry during storage and prior to use.

621 SPECIAL EQUIPMENT

The Contractor's striper shall be equipped with an odometer graduated to 1/100 of a mile. The Engineer will determine the degree of accuracy of the Contractor's odometer and establish an adjustment factor as may be required to accurately determine the pay item quantities. The Engineer will periodically check the odometer's operation to assure maintenance of accurate measurements.

Failure of the odometer to function properly shall be cause to stop the work until the odometer is made to function properly. On short projects the Engineer may approve alternate methods to accurately measure the length of the various types of markings applied. If measurement of the work has to be done by the Department, the cost of the Department labor and equipment plus 10 percent shall be deducted from payment due the Contractor for the work. When measuring lane, edge and center line marking the odometer shall be started at the first marked line and remain in operation, until the end of the section being marked, where it shall be shut off and the reading of the odometer recorded.

Electrical foot counters shall be provided and installed in the striper. The counters shall individually tabulate the amount of footage applied by each striping gun on the center line carriage and lane line carriage, whether solid or dashed. The counters shall be 6 digit type with a reset feature.

The pavement marking equipment shall be equipped with a pressure regulated air jet which shall remove all debris from the pavement in advance of the applicator gun. The air jet shall operate when marking material is being applied and shall be synchronized with marking material application or remain "on" at all times.

The Contractor shall use an accurate dashing mechanism, capable of being easily adjusted

Provision for the above special equipment by the Contractor shall be incidental to the application.

847 LAYOUT AND PREMARKING

In addition to the requirements of 847 premarking for auxiliary markings shall be located from schematic forms provided at the pre-construction conference.

621 MATERIAL QUANTITY MEASUREMENT

The quantity of marking material or glass beads per unit of measurement will be computed by the Engineer at the end of each day's work. A day's applied mileage of less than 2 miles may be included in the next day's applied markings for the purpose of computing marking material and bead application rates.

The Contractor shall provide a calibrated measuring device acceptable to the Engineer for measuring material in the striper tanks.

The quantity of marking material used shall be determined by measuring the marking material in the tanks before and after marking material is applied. The Contractor shall cooperate with the Engineer in providing measurements whenever requested. The marking material application rate shall be determined by dividing the total gallons used by the appropriate marking length as determined from the foot counter as described within the Special Equipment Section of these notes. Any determination of pay deduction resulting from shortages in marking quantities shall be based on the measurements obtained by this method. The amount of glass beads applied will be ascertained by the Engineer by observation and from information supplied by the Contractor as to quantity used.

847 AUXILIARY PAVEMENT MARKING

For this project auxiliary markings shall be defined as: stop lines, crosswalk lines, transverse lines, railroad symbol markings, lane arrows, word on pavement and dotted lines except when used to extend edge lines.

STANDARD CONSTRUCTION DRAWING TC 71.10

The dimensions shown on Standard Construction Drawing TC 71.10 are nominal. Letters, numerals and symbols conforming to the requirements of section 3B-17 of the 1978 National Manual On Uniform Traffic Control Devices may also be used. Any of the following standards for letters, numeral or symbol dimensioning may be used; A.) Standard dimensions shown on this detail or B.) Standard dimensions (either metric or their hard converted English unit equivalents) in accord with the 1977 Metric Edition Standard Alphabets For Highway Signs and Pavement Marking with Errata or C.) Standard dimensions shown in figures 3-17, 3-18, 7-2, 7-3, 8-2 or 9-6 of the 1978 National Manual On Uniform Traffic Contol Devices.

AUG-33-15.07

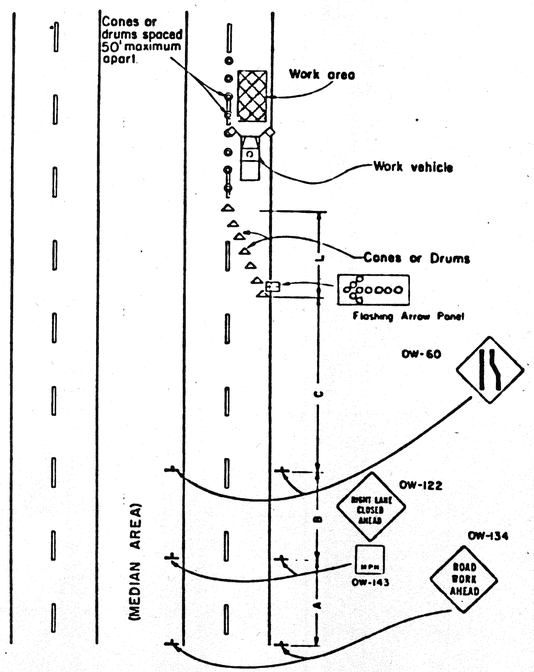
FED.RD. DIVISION	STATE	PROJECT	
5	OHIO		

57/61

PLAN NO.

MAINTENANCE OF TRAFFIC

TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR CLOSING ONE LANE ON A 4-LANE DIVIDED HIGHWAY



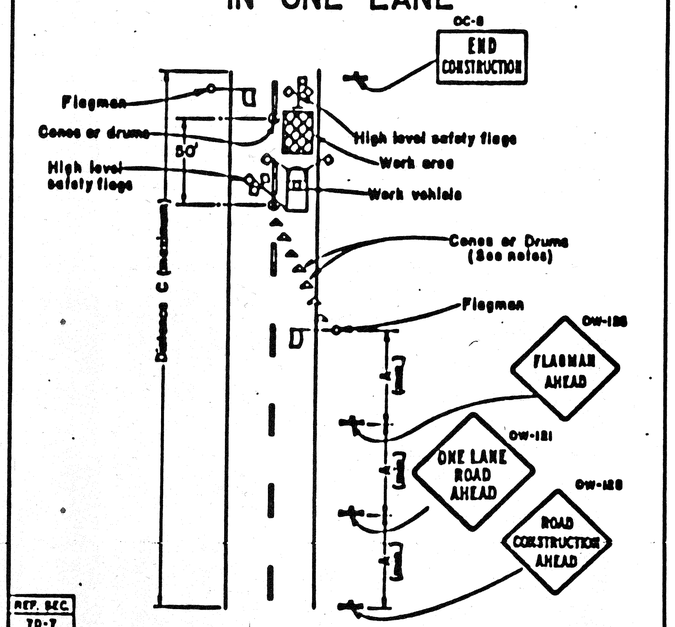
NOTE: See Section 7F-17 for taper lengths.

DISTANCE	A	B	C
Urban	200'	200'	200'
Major Standard	500'	500'	500'
Expressway & Freeway	2600'	1600'	1000'

REF. SEC. 7D-6

C-21

TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES FOR STATIONARY OPERATIONS IN ONE LANE



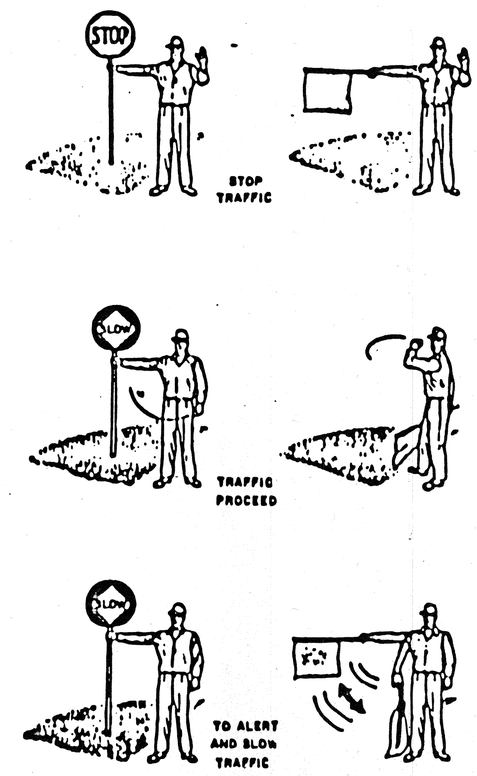
REF. SEC.
7D-7
7D-8
7D-9
7E-10

NOTES:
1. See Table 7-5 for taper lengths.
2. Use the same warning signs on the opposite approach.
3. Space the cones at 50' max. on tangent.

TYPE OF ROADWAY	DISTANCES	
	A-ft.	C-mi
Urban	200	0.5
Standard	500	1.0

C-18

PROCEDURES FOR FLAGMAN



REF. SEC.
7H-3
7H-4

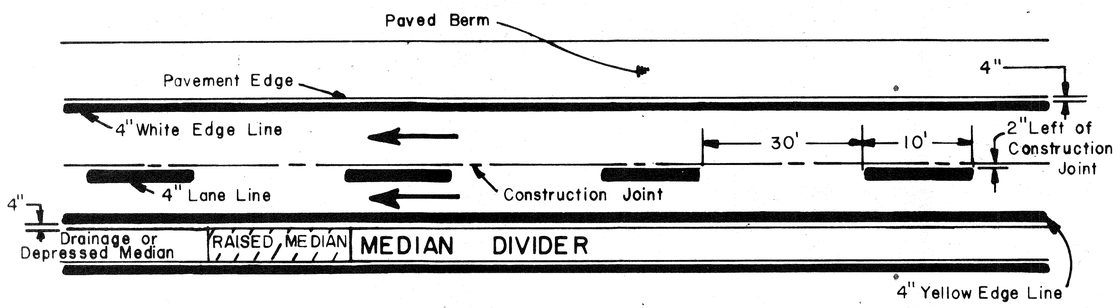
C-10

Cones or drums shall be placed so that the Contractor's workmen and equipment are totally within the channelized area when working.

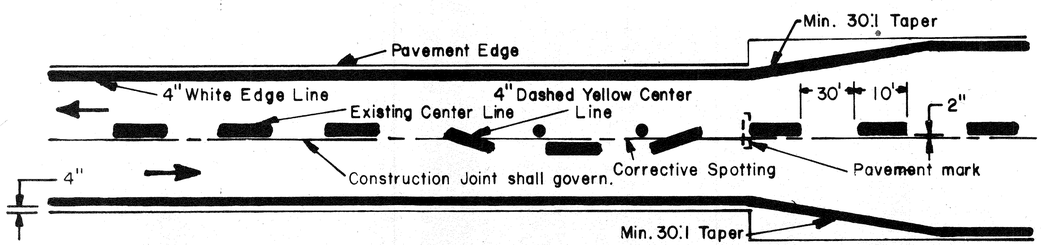
12-82

PAVEMENT MARKING TYPICAL DETAILS

FREEWAY & EXPRESSWAY MAINLINE MARKINGS

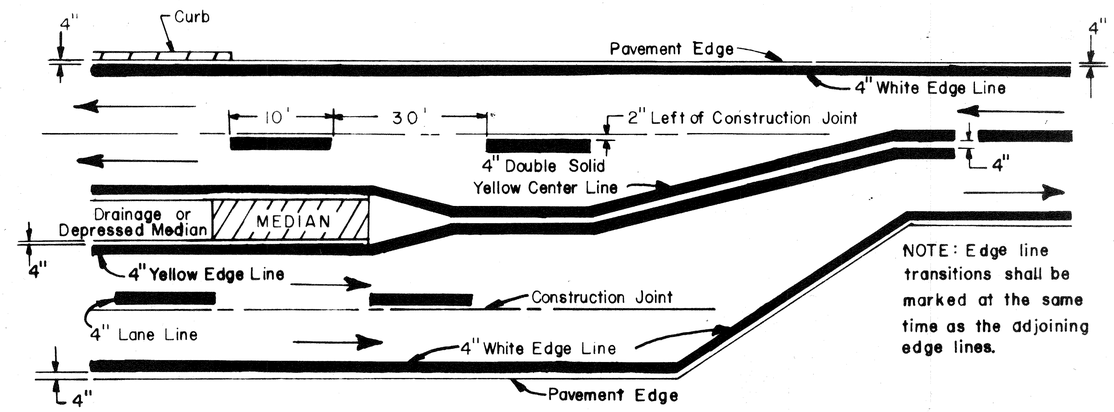


TWO LANE MARKINGS



At all locations where pavement widths change by construction plans.

MULTILANE DIVIDED & UNDIVIDED HIGHWAY MARKINGS



NOTE: Edge line transitions shall be marked at the same time as the adjoining edge lines.

NOTES:

1. THE DISTANCE FROM THE PAVEMENT EDGE TO THE NEARSIDE EDGE OF THE EDGELINE MAY BE INCREASED WITH THE APPROVAL OF THE ENGINEER IN ORDER TO MAINTAIN UNIFORM LANE WIDTH.

2. SEE TC 72.20 FOR PAVEMENT ENTRANCE AND EXIT RAMP TERMINALS.

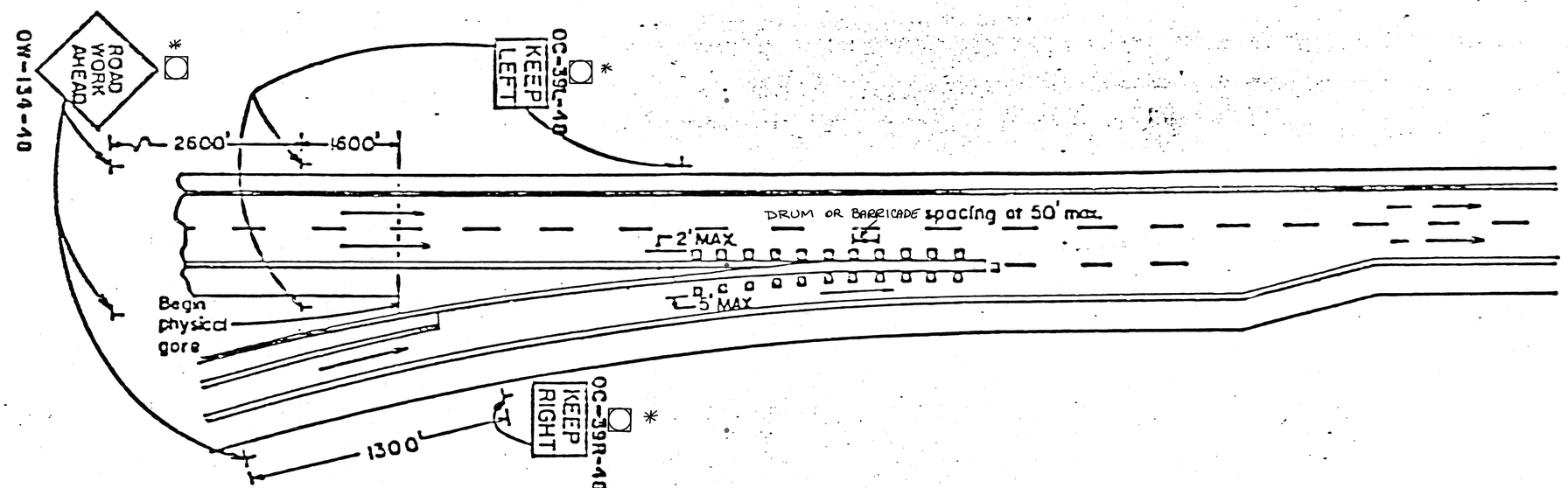
STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	
PAVEMENT MARKING TYPICAL DETAILS	DATE 11/80
12/81 J.D.L. CK CDR.	

FED RD DIVISION	STATE	PROJECT	
5	OHIO		

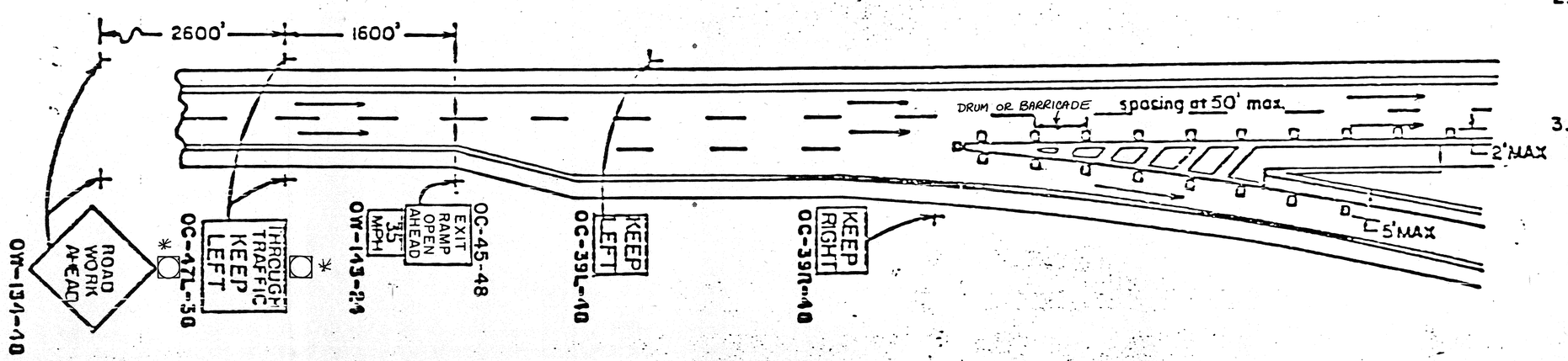
59/61

PLAN NO.
AUG-33-15.07

ENTRANCE GORE TRAFFIC CONTROL



EXIT GORE TRAFFIC CONTROL



* TYPE A FLASHING BARRICADE WARNING LIGHTS ARE REQUIRED FOR NIGHT WORK.

GENERAL NOTES

1. THE SPACING BETWEEN SIGNS SHOWN ON THIS DETAIL MAY BE ADJUSTED (INCREASED OR DECREASED) WITH THE APPROVAL OF THE ENGINEER TO POSITION THEM NO CLOSER THAN 200 FEET TO EXISTING SIGNS WHICH MUST REMAIN IN USE.
2. AT AN ISOLATED ENTRANCE GORE AREA, A FLASHING ARROW PANEL CONFORMING TO THE REQUIREMENTS OF TC 35.10 MAY BE SUBSTITUTED FOR THE ADVANCE OC-39-48 SIGNS.
3. AT AN INTERCHANGE WHERE BOTH EXITS AND ENTRANCES ARE MARKED WITH TRAFFIC CONTROL IN PLACE AT THE SAME TIME, THE OW-134-48 SIGN ON THE ENTRANCE RAMP IS NOT REQUIRED.
4. CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS FOR SHORT TERM USE DURING DAYLIGHT HOURS ONLY.

OHIO DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR WORK IN GORE AREAS

DATE

DR JDL CK CDR

6/84

TRAFFIC CONTROL FOR LONG LINE PAVEMENT MARKING OPERATIONS

GENERAL

In addition to 614, traffic shall be maintained in accordance with the following requirements.

The purpose of the following requirements for Traffic Control for Pavement Marking operations is to provide safety for highway users, workers and equipment and to protect the markings from damage during application. These requirements are the required minimums. If at any time during the application of markings it is found by the Engineer that these minimum traffic control device requirements are not achieving the necessary safety and marking protection, additional traffic control devices shall be implemented in accordance with 104.02.

The Engineer may suspend work in order to relieve traffic congestion at any time. No work shall be done during peak hours, as determined by the Engineer.

LEAD VEHICLE

A lead vehicle is to be used to warn opposing traffic of the approach of centerline and other marking equipment when this equipment extends into the adjacent opposing traffic lane. The lead vehicle shall precede the "left of center" marking equipment a distance that will provide advance safe warning to approaching traffic. The operator of this unit should drive ahead of the crest of a vertical curve or around a horizontal curve and wait until the "left of center" marking equipment nears and then proceed, maintaining an advance location of 400 feet to 600 feet.

A lead vehicle shall be equipped and operated with the following traffic control devices:

1. A 360° rotating or flashing amber beacon clearly visible in all directions a minimum of ¼ mile.
2. Lighted head lights and tail lights, and
3. A KEEP RIGHT sign (OC-31R-48) and WET PAINT sign (OC-52-48) mounted a minimum of 5' above the road surface measured to the bottom of the sign and visible to opposing traffic.

POWER BROOM EQUIPMENT

Power broom equipment shall be equipped and operated during pavement preparations (Item 621.04) with the following traffic control devices:

1. A 360° rotating or flashing amber beacon clearly visible in all directions a minimum of ¼ mile.
2. Lighted head lights and tail lights, and
3. A flashing arrow panel 54" x 30" (Type B) visible to the rear mounted a minimum of 7' above the road surface measured to the bottom of the panel and used only on multi-lane highways.

LINE MARKING MACHINE

All traffic line marking machines shall be equipped and operated with the following traffic control equipment:

1. Three 360° rotating or flashing amber beacons clearly visible a minimum of ¼ mile mounted a minimum of 7' above the road surface; one forward, one on the right rear and one on the left rear of the vehicle.
2. (a) A flashing arrow panel 54" x 30" (Type B) displayed to the rear mounted a minimum of 7' above the road surface measured to the bottom of the panel and used only on multilane highways, or
   (b) A DO NOT PASS sign (R-33A-48) visible to the rear during centerline marking on two lane, two way roadways and mounted a minimum of 7' above the road surface measured to the bottom of the sign. This sign may be used to cover the arrow panel, which shall Not be used on two lane, two way roadways.
3. A WET PAINT with arrow sign (OC-50-24 or OC-51-48) shall face the rear. The sign shall be positioned with the arrow pointing to the wet line. When used, OC-50-24 shall be mounted on the in use carriage side of the vehicle. OC-50-24 and OC-51-48 signs shall be mounted a minimum of 1' above the road surface.
4. A KEEP RIGHT sign (OC-31R-48) and WET PAINT sign (OC-52-48) mounted a minimim of 5' above the road surface measured to the bottom of the sign and facing opposing traffic when this unit extends into the adjacent opposing traffic lane.
5. The guide and side mounted marking carriages shall each be equipped with a clean red flag not less than 16" square and fastened to staffs of sufficient length so as to permit the flags to move freely of any obstruction.

TRAIL VEHICLE

When required a trail vehicle shall be positioned at the track free end of the wet line. An additional trail vehicle shall be used when applying lane lines of fast dry material (i.e. $\leq$ 2 min. dry) to protect the wet line between the line marking machine and the track free end of the wet line. All pavement marking application, protection and support equipment following the line marking machine shall be equipped with the traffic control of a trail vehicle.

Trail vehicles shall be equipped and operated with the following traffic control equipment:

1. A 360° rotating or flashing amber beacon clearly visible in all directions a minimum of ¼ mile.
2. (a) A flashing arrow panel 54" x 30" (Type B) visible to the rear mounted at a minimum height of 7' above the road surface measured to the bottom of the panel and used only on multi-lane highways, or
   (b) A DO NOT PASS sign ((R-33A-48) visible to the rear during centerline marking on two lane, two way roadways, and mounted a minimum of 7' above the road surface measured to the bottom of the sign. This sign may be used to cover the arrow panel, which shall Not be used on two lane, two way roadways.
3. A WET PAINT with arrow sign (OC-50-24 or OC-51-48) shall face the rear. The sign shall be positioned with the arrow pointing to the wet line. When used, OC-50-24 shall be mounted on the side of the vehicle nearest the wet marking material. When used, OC-50-24 shall be mounted a minimum of 4'6" above the road surface and OC-51-48 shall be mounted a minimum of 5'0" above the road surface, both measured to the bottom of the sign.

CONES AND WET PAINT-KEEP OFF SIGNS

Cones and WET PAINT-KEEP OFF signs (R-87-24) shall be placed to protect the line whenever the track free time exceeds two minutes. These devices shall not be removed until the line has dried to a track free condition. Retrieval equipment shall have traffic control of a trail vehicle. Cones shall have a minimum height of 18". They shall be spaced to protect the wet line, normally between 120' and 200'. In areas of traffic congestion, on curves and at other locations where tracking of the wet line is expected spacings as close as 20' may be required. The WET PAINT-KEEP OFF signs (R-87-24) shall be placed facing traffic at:

A. The beginning and end of line application,
B. All side and cross roads, and
C. Maximum intervals of one mile.

OHIO DEPARTMENT OF TRANSPORTATION	
TRAFFIC CONTROL FOR LONG LINE PAVEMENT MARKING OPERATIONS	DATE 9-1-82 12-82
DR.	CK.

IMMOBILE OPERATIONS

When loading material, cleaning or performing other operations in the field every effort shall be made to have all equipment completely off of the traveled roadway. When it becomes necessary to enter upon private property, permission shall be obtained in advance. When the Contractor cannot remove his equipment from the traveled roadway all traffic control devices on the vehicles shall be in operation and flaggers and vehicles shall be stationed to protect the work site and the travelling public.

Two way traffic shall be maintained. Flaggers shall be equipped in accordance with Item 614.03.

AUXILIARY MARKINGS

Pavement preparation and placing of auxiliary markings are considered to be stationary operations and traffic control shall be in accordance with plan details shown on Sheet(s)_____ and Part 7, Ohio Manual of Uniform Traffic Control Devices (OMUTCD).

LAYOUT AND PREMARKING

The vehicle used in layout and premarking (Item 621.051) shall be equipped and operated with the following equipment:

1. A 360° rotating or flashing amber beacon clearly visible a minimum of ½ mile.
2. Lighted head lights and tail lights, and
3. A KEEP RIGHT sign (OC-31R-48) mounted a minimum of 5' above the road surface measured to the bottom of the sign and visible to opposing traffic.

NIGHTTIME OPERATION

Nighttime operation is defined to include the time from one-half hour after sunset to one-half hour before sunrise, and at any other time when there are unfavorable atmospheric conditions or when there is not sufficient natural light to render discernible persons, vehicles, and substantial objects on the highway at a distance of one thousand feet.

During nighttime conditions the following additional traffic control shall be provided:

1. Cones shall be reflectorized or equipped with lighting devices for maximum visibility (See 7F-5, OMUTCD), and
2. The guide and side mounted carriages shall be illuminated.

The presence of highway lighting does not waive these requirements.

MINIMUM PAVEMENT MARKING TRAFFIC CONTROL EQUIPMENT REQUIREMENTS

This table indicates the traffic control equipment which shall be furnished for each type of long line pavement marking operation. In addition, those types of traffic control equipment which shall be furnished when directed by the Engineer are indicated.

EQUIPMENT	PAVEMENT MARKING LINE TYPE [1]					
	CENTER LINE		EDGE LINE		LANE LINE [2] CHANNELIZING LINE	
	>2 MIN. DRY	≤2 MIN. DRY	> 2 MIN. DRY	≤2 MIN. DRY	>2 MIN. DRY	≤2 MIN. DRY
LEAD VEHICLE						
POWER BROOM EQUIPMENT						
LINE MARKING MACHINE						
TRAIL VEHICLE						
TRAIL VEHICLE (ADDITIONAL)						
TRAIL VEHICLE (SIGN & CONE RETRIEVAL)						

1. For equipment requirements for auxiliary operations see plan sheet(s)_____ and Part 7, OMUTCD.
2. Includes both dashed and solid lane lines.

Required Equipment

Equipment Required When Directed by the Engineer

Not Required

TRAFFIC CONTROL FOR LONG LINE PAVEMENT MARKING OPERATIONS

DATE
9-62
12-62