

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION  
**CUY/LAK-271-14.09 / 0.00**

**PROJECT DESCRIPTION**

THIS PROJECT PROVIDES FOR THE PLANING AND RESURFACING OF 4.31 MILES OF MAINLINE IR 271. WORK ITEMS INCLUDE PAVEMENT PLANING, RESURFACING, GUARDRAIL REPAIR, PAVEMENT MARKINGS, RAISED PAVEMENT MARKERS AND SIGN REPLACEMENT.

**LIMITED ACCESS**

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

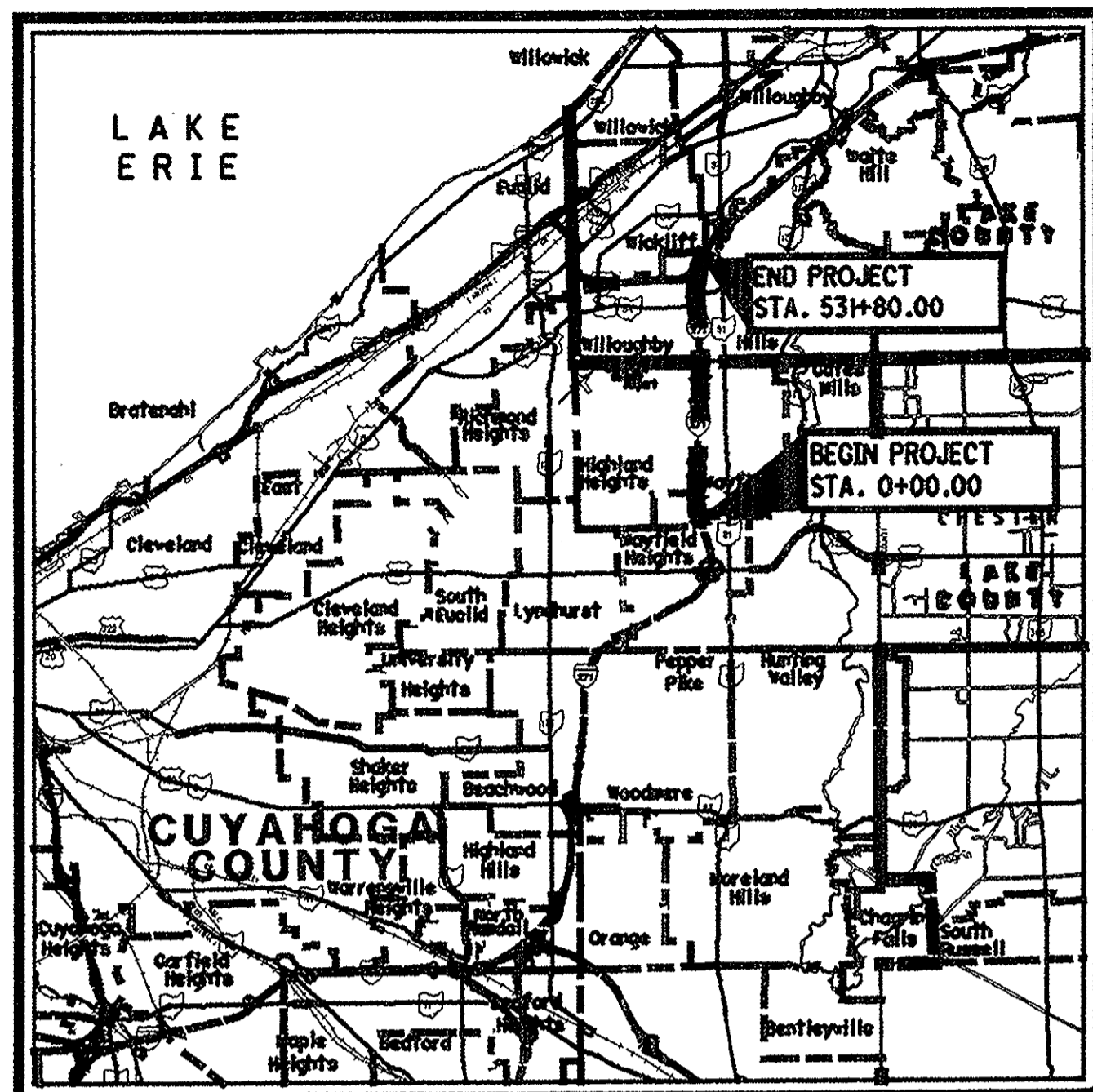
**2008 SPECIFICATIONS**

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 TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH IN THE PLANS AND ESTIMATES.

UNDER AUTHORITY OF SECTION 4511.21, DIVISION (I) OF THE REVISED CODE OF OHIO, THE REVISED PRIMA FACIE SPEED LIMITS AS INDICATED HEREIN ARE DETERMINED TO BE REASONABLE AND SAFE, AND ARE HEREBY ESTABLISHED FOR THE DURATION OF THIS PROJECT. THE PRIMA FACIE SPEED LIMIT OR LIMITS HEREBY ESTABLISHED SHALL BECOME EFFECTIVE WHEN APPROPRIATE SIGNS GIVING NOTICE THEREOF ARE ERECTED.

VILLAGE OF MAYFIELD  
CITY OF HIGHLAND HEIGHTS  
CUYAHOGA COUNTY  
CITY OF WILLOUGHBY HILLS  
CITY OF WICKLIFFE  
CITY OF WILLOUGHBY  
VILLAGE OF WAITE HILL  
LAKE COUNTY



LOCATION MAP

LATITUDE: N 41°34'04" ± LONGITUDE: W 81°26'50" ±

SCALE IN MILES



PORTION TO BE IMPROVED	—————
INTERSTATE & DIVIDED HIGHWAY	=====
UNDIVIDED STATE & FEDERAL ROUTES	—————
OTHER ROADS	—————

**DESIGN DESIGNATION**

CURRENT ADT (2009)	100,590
DESIGN YEAR ADT (2021)	102,870
DESIGN HOURLY VOLUME (2021)	10,300
DIRECTIONAL DISTRIBUTION	59%
TRUCKS (24 HOUR B&C)	10%
DESIGN SPEED	65 MPH
LEGAL SPEED	60 MPH

DESIGN FUNCTIONAL CLASSIFICATION - URBAN INTERSTATE

DESIGN EXCEPTIONS : NONE

**INDEX OF SHEETS:**

TITLE SHEET	1
SCHEMATIC PLAN	2-3
TYPICAL SECTIONS	4-5
GENERAL NOTES	6-11
MAINTENANCE OF TRAFFIC NOTES	12-17
SUB-SUMMARIES	18-21
GENERAL SUMMARY	22-24
PLAN SHEETS	25-37
MISC. DETAILS	38-45, 45A, 45B
PAVEMENT MARKING PLAN SHEETS	46-50
SIGNING SUB-SUMMARIES	51-64
SIGNING PLAN SHEETS	65-91
SIGNING ELEVATIONS	92-93
SIGNING DETAILS	94-96

PROJECT EARTH DISTURBED AREA	= N/A (MAINTENANCE PROJECT)
ESTIMATED CONTRACTOR EARTH DISTURBED AREA	= N/A (MAINTENANCE PROJECT)
NOTICE OF INTENT EARTH DISTURBED AREA	= N/A (MAINTENANCE PROJECT)

**UNDERGROUND UTILITIES**  
TWO WORKING DAYS  
**BEFORE YOU DIG**  
CALL 1-800-362-2764 (TOLL FREE)  
OHIO UTILITIES PROTECTION SERVICE  
NON-MEMBERS  
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:  
OHIO  
DEPARTMENT OF TRANSPORTATION  
DISTRICT TWELVE  
PRODUCTION



ENGINEERS SEAL:

SIGNED: *Eric M. Kallio*  
DATE: 3-4-9

STANDARD CONSTRUCTION DRAWINGS										SUPPLEMENTAL SPECIFICATIONS	
BP-2.1	07/18/08	RM-4.2	10/19/07	MT-35.10	04/20/01	TC-22.20	01/19/01	TC-61.10	01/19/01	800	4/17/09
BP-2.2	07/18/08	RM-4.5	01/19/07			TC-41.10	10/19/07				
BP-2.5	07/18/08	RM-4.6	01/16/04	MT-95.30	09/05/06	TC-41.20	01/19/01	TC-65.10	01/21/05	832	5/05/09
				MT-95.50	09/05/06	TC-41.30	01/19/07	TC-65.11	01/21/05		
BP-3.1	10/19/07										
BP-5.1	07/28/00			MT-98.10	10/19/07	TC-41.40	07/16/04	TC-71.10	01/16/09		
BP-7.1	01/19/07			MT-98.11	10/19/07	TC-41.50	01/19/07				
BP-9.1	04/15/05			MT-98.20	10/19/07	TC-42.10	01/19/07	TC-72.20	01/21/05		
				MT-98.22	10/19/07	TC-42.20	07/16/04				
GR-1.1	07/16/04			MT-98.28	10/19/07						
GR-2.1	01/16/04			MT-99.20	01/16/09	TC-51.11	04/20/01				
				MT-101.70	01/16/09	TC-52.10	01/19/07				
GR-3.1	01/19/07					TC-52.20	01/19/07				
GR-3.2	01/19/07										
GR-4.2	01/19/07			MT-105.10	01/16/09						

**SPECIAL PROVISIONS**

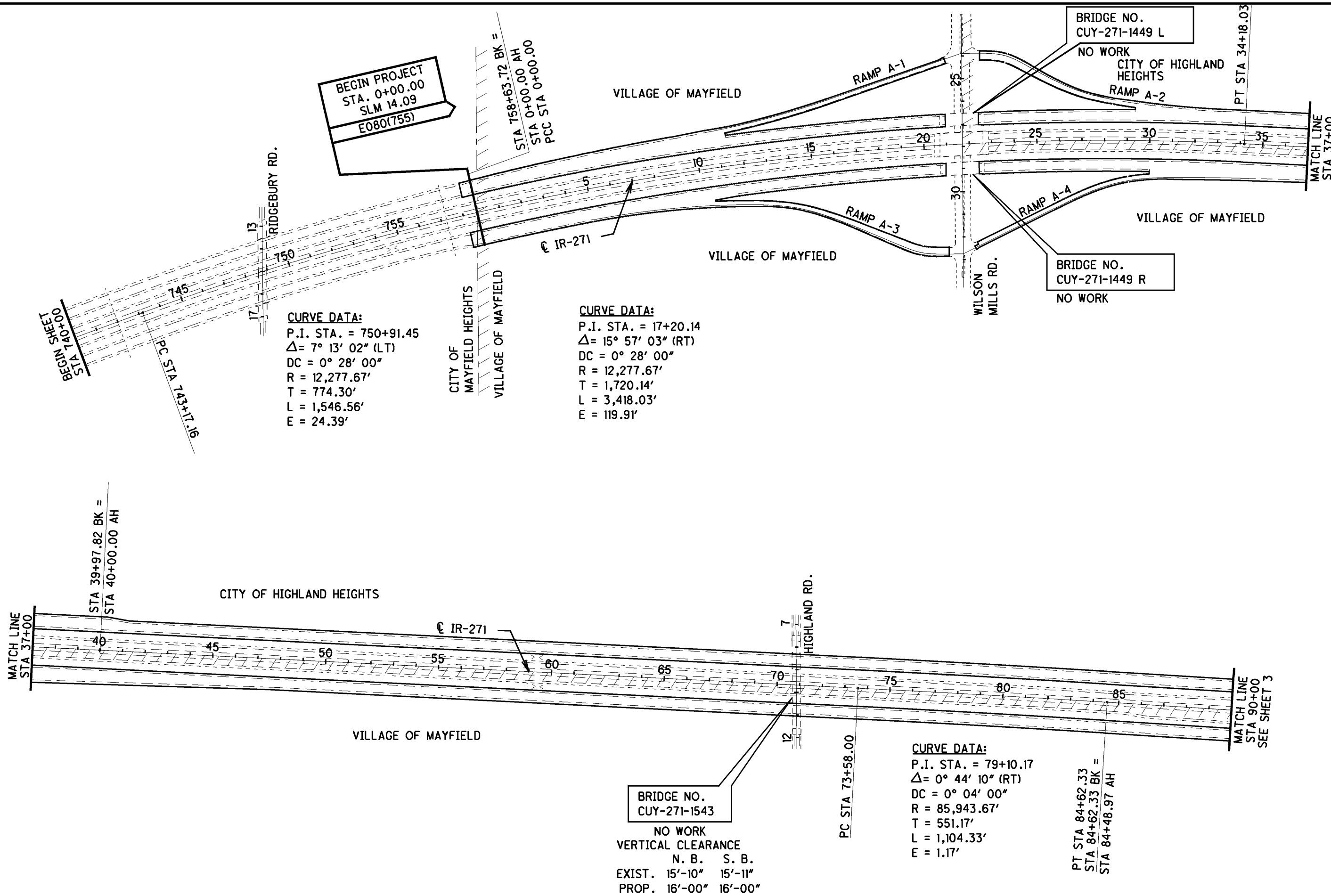
APPROVED *[Signature]* PE  
DATE 3/4/09 DISTRICT DEPUTY DIRECTOR

APPROVED *[Signature]*  
DATE 5/7/09 DIRECTOR, DEPARTMENT OF TRANSPORTATION

CUY - R/LAK-271-14.09/0.00  
 09/10/24 PID - 75482  
 Dist 12 6/24/2009  
 04-MAR-2009 10:30AM  
 18PPROJECTSRPID75482R.dgn 75482T001.dgn

FEDERAL PROJECT NO. E080(755)  
 PID NO. 75482  
 CONSTRUCTION PROJECT NO. NONE  
 RAILROAD INVOLVEMENT  
 CUY/LAK-271-14.09 / 0.00  
 96

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BEGIN PROJECT  
 STA. 0+00.00  
 SLM 14.09  
 E080(755)

BRIDGE NO.  
 CUY-271-1449 L

NO WORK  
 CITY OF HIGHLAND  
 HEIGHTS

BRIDGE NO.  
 CUY-271-1449 R

NO WORK

BRIDGE NO.  
 CUY-271-1543

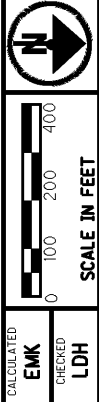
NO WORK  
 VERTICAL CLEARANCE  
 N. B. S. B.  
 EXIST. 15'-10" 15'-11"  
 PROP. 16'-00" 16'-00"

**CURVE DATA:**  
 P.I. STA. = 750+91.45  
 $\Delta$  = 7° 13' 02" (LT)  
 DC = 0° 28' 00"  
 R = 12,277.67'  
 T = 774.30'  
 L = 1,546.56'  
 E = 24.39'

**CURVE DATA:**  
 P.I. STA. = 17+20.14  
 $\Delta$  = 15° 57' 03" (RT)  
 DC = 0° 28' 00"  
 R = 12,277.67'  
 T = 1,720.14'  
 L = 3,418.03'  
 E = 119.91'

**CURVE DATA:**  
 P.I. STA. = 79+10.17  
 $\Delta$  = 0° 44' 10" (RT)  
 DC = 0° 04' 00"  
 R = 85,943.67'  
 T = 551.17'  
 L = 1,104.33'  
 E = 1.17'

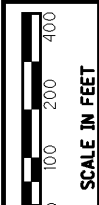
PT STA 84+62.33  
 STA 84+62.33 BK =  
 STA 84+48.97 AH



CALCULATED  
 EMK  
 CHECKED  
 LDH

**SCHEMATIC PLAN**

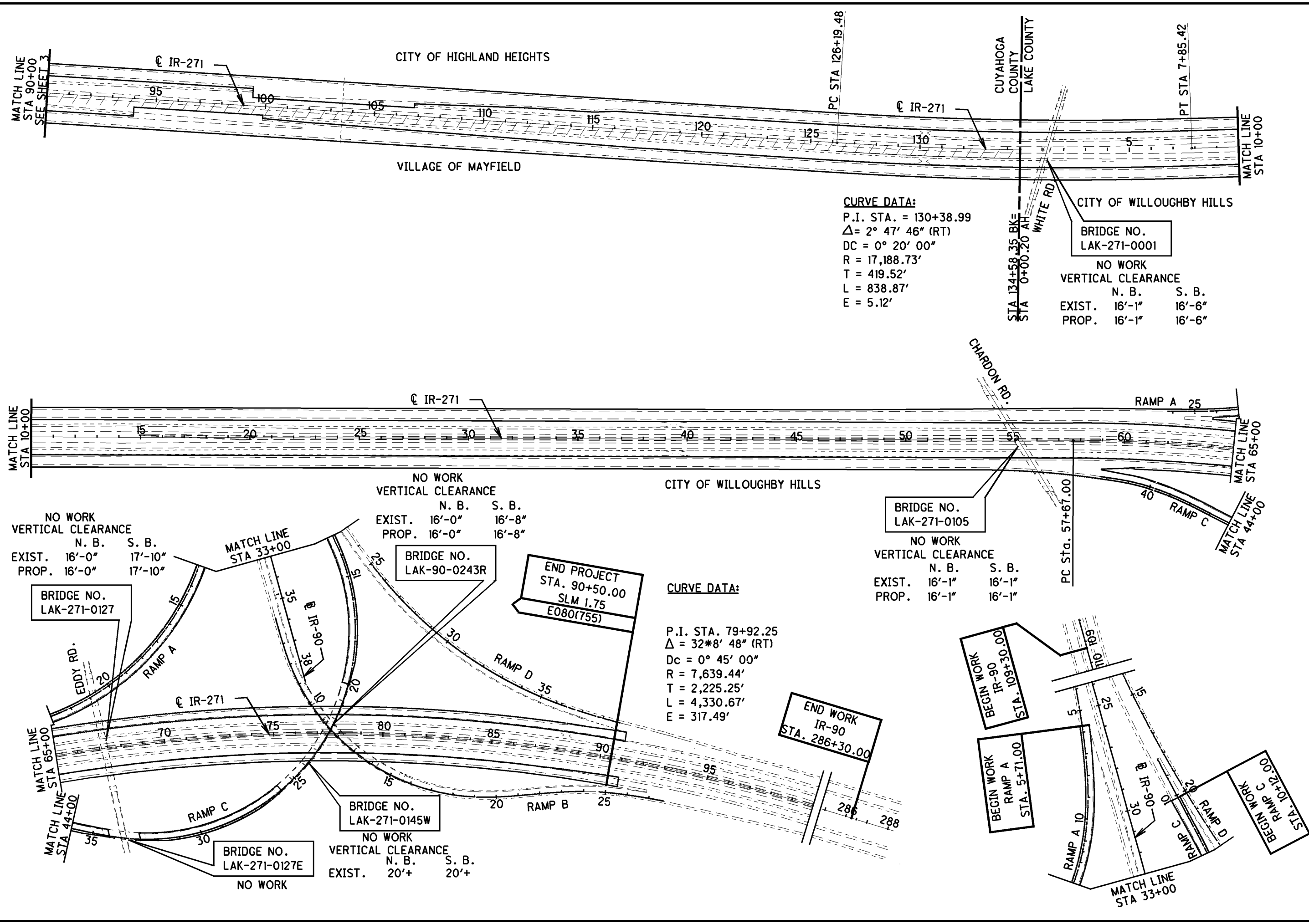
**CUY / LAK - 271 - 14.09 / 0.00**



CALCULATED  
EMK  
CHECKED  
LDH

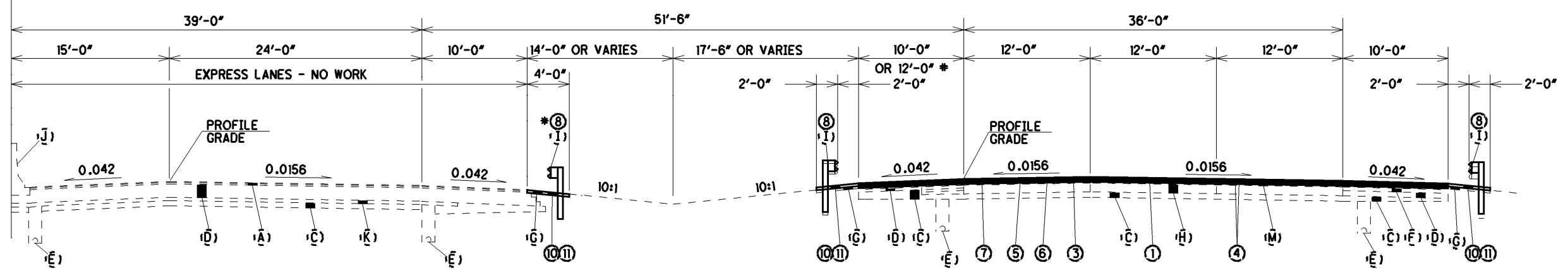
# SCHEMATIC PLAN

CUY / LAK-271-14.09 / 0.00



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CONSTRUCTION IR-271

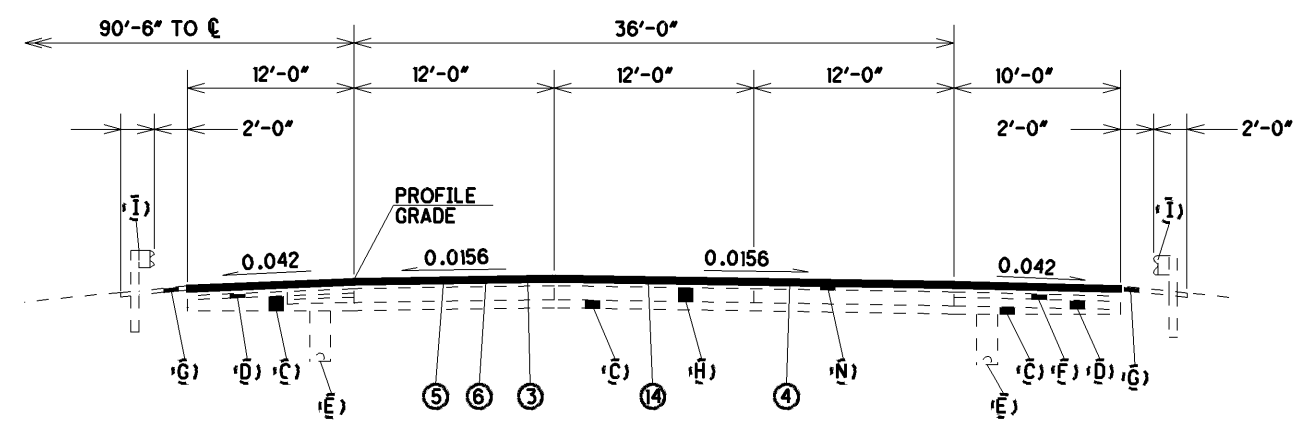


**3 LANE NORMAL SECTION**

STA. 0+00.00 TO STA. 20+71.77  
 BRIDGE CUY-271-1449 L & R OVER WILSON MILLS RD.  
 STA. 22+68.27 TO STA. 39+97.82 BK=  
 STA. 40+00.00 AH TO STA. 84+62.33 BK=  
 STA. 84+48.97 AH TO STA. 134+58.35 BK=  
 STA. 0+00.20 AH  
 (CUYAHOGA COUNTY)

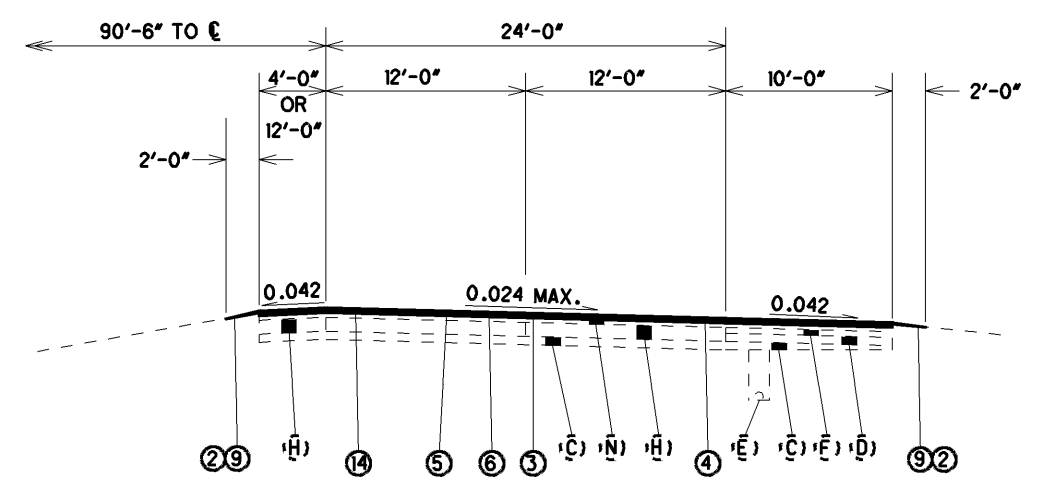
\* - GUARDRAIL TO BE REPLACED ON EXPRESS LANES ONLY WHERE IT IS CONNECTED TO GUARDRAIL THAT IS BEING REPLACED ON THE LOCAL LANES.

\* - STA. 126+94.62 TO STA. 134+58.35 BK=  
 STA. 0+00.00 AH



**3 LANE NORMAL SECTION**

STA. 0+00.20 AH TO STA. 55+40.60  
 (LAKE COUNTY)



**2 LANE SUPERELEVATED SECTION**

STA. 55+40.60 TO STA. 90+50.00 (CURVE RIGHT)  
 (LAKE COUNTY)

**EXISTING**

- |                                 |                                  |
|---------------------------------|----------------------------------|
| (A) ASPHALT OVERLAY (3"±)       | (H) 10" REINFORCED CONCRETE BASE |
| (B) 9" REINFORCED CONCRETE BASE | (I) GUARDRAIL                    |
| (C) SUBBASE                     | (J) CONCRETE BARRIER             |
| (D) BITUMINOUS AGGREGATE BASE   | (K) FREE DRAINING BASE           |
| (E) UNDERDRAIN                  | (L) CONCRETE CURB                |
| (F) WATERPROOF AGGREGATE BASE   | (M) ASPHALT OVERLAY (4-1/4"±)    |
| (G) ASPHALT UNDER GUARDRAIL     | (N) ASPHALT OVERLAY (7"±)        |

**PROPOSED**

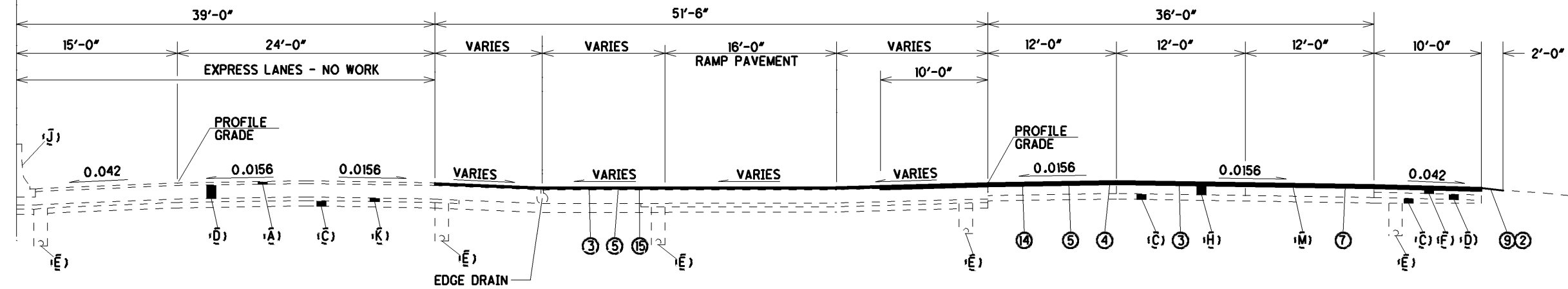
- |  |   |
|--|---|
| (1) ITEM 202 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (2-1/2")                        | (8) ITEM 606 - GUARDRAIL, TYPE 5  |
| (2) ITEM 209 - LINEAR GRADING, AS PER PLAN   | (9) ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN   |
| (3) ITEM 407 - TACK COAT   | (10) ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE<br>TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN |
| (4) ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE   | (11) ITEM 209 - RESHAPING UNDER GUARDRAIL, AS PER PLAN  |
| (5) ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE,<br>12.5 MM, TYPE A (446), AS PER PLAN A | (13) ITEM 442 - 1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM,<br>TYPE A (446), AS PER PLAN B       |
| (6) ITEM 442 - 2" ASPHALT CONCRETE INTERMEDIATE COURSE,<br>19 MM, TYPE A (446)                 | (14) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (3-1/2")                              |
| (7) ITEM 442 - 2" ASPHALT CONCRETE INTERMEDIATE COURSE,<br>19 MM, TYPE A (448)                 | (15) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (1-1/2")                              |

TYPICAL SECTIONS - I.R. 271

CUY / LAK - 271-14.09 / 0.00

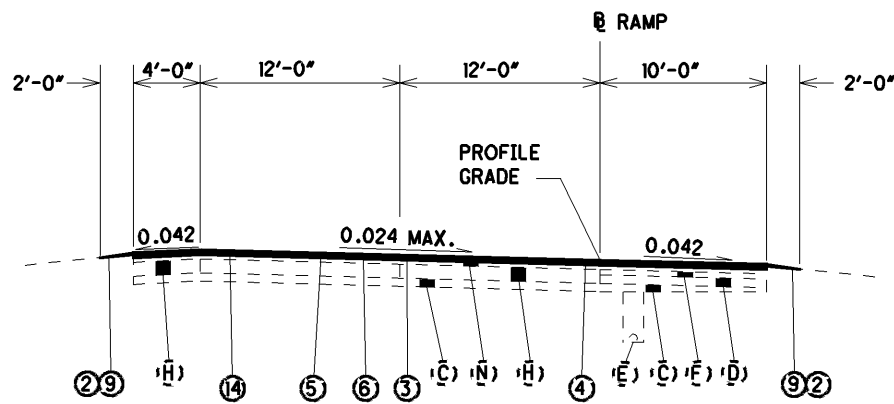
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CONSTRUCTION IR-271



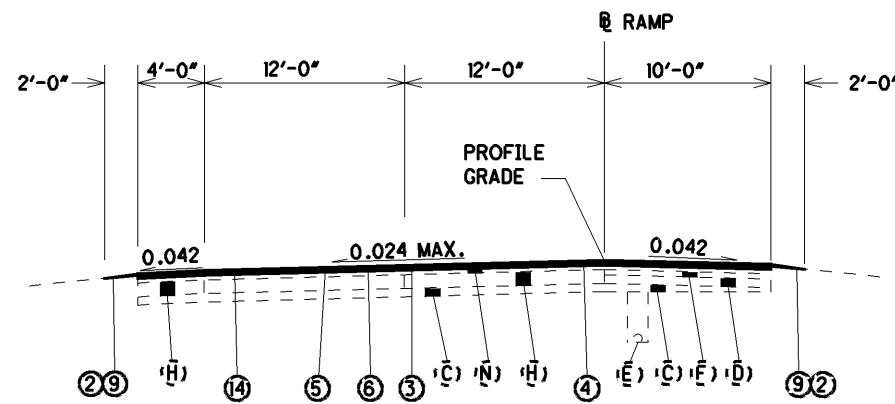
EXPRESS LANE SLIP RAMP DETAIL

\* - PAVE TO EDGE DRAIN  
(CUYAHOGA COUNTY)



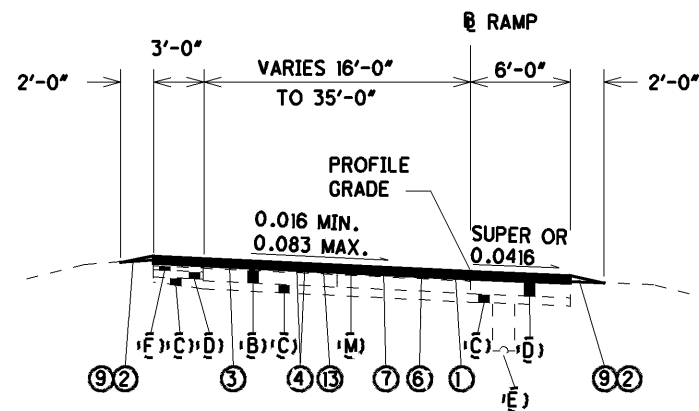
2 LANE SUPERELEVATED SECTION

STA. 6+21.00 TO STA. 24+27.00 RAMP A  
STA. 36+50.00 TO STA. 42+28.41 RAMP C  
(LAKE COUNTY)



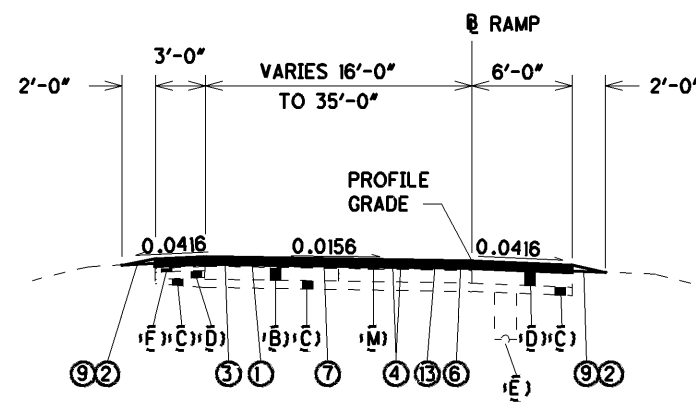
2 LANE SUPERELEVATED SECTION

STA. 10+62.00 TO STA. 26+09.00 RAMP C  
BRIDGE LAK-271-0145W OVER IR-271  
STA. 19+72.00 TO STA. 32+54.49 RAMP C  
BRIDGE LAK-271-0127E OVER EDDY RD.  
STA. 34+47.23 TO STA. 36+50.00 RAMP C  
(LAKE COUNTY)



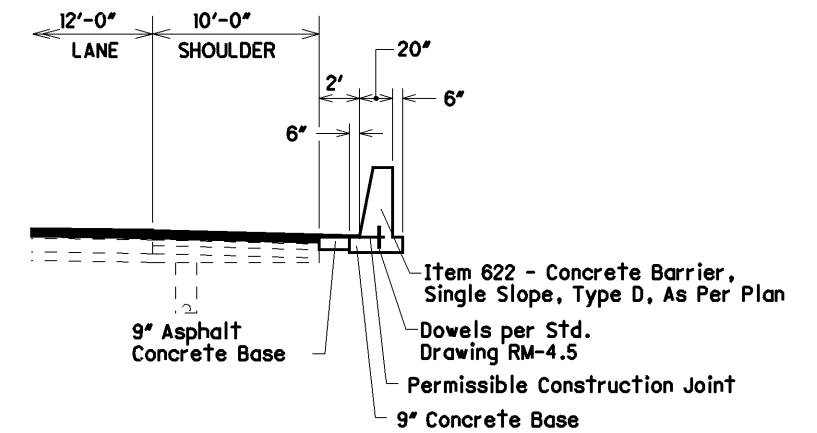
RAMP CURVE RIGHT (SHOWN)

STA. 1+50.59 TO STA. 9+22.30 RAMP A-2  
STA. 11+61.77 TO STA. 19+29.24 RAMP A-3  
STA. 5+62.84 TO STA. 10+05.83 RAMP A-4  
(CUYAHOGA COUNTY)



NORMAL RAMP SECTION

STA. 11+35.00 TO STA. 21+93.00 RAMP A-1  
STA. 10+47.48 TO STA. 11+61.77 RAMP A-3  
STA. 19+29.24 TO STA. 21+42.00 RAMP A-3  
STA. 1+48.00 TO STA. 5+62.84 RAMP A-4  
(CUYAHOGA COUNTY)



CONCRETE BARRIER DETAIL

Item 622 - Concrete Barrier, Single Slope, Type D, As Per Plan  
Dowels per Std. Drawing RM-4.5  
Permissible Construction Joint  
9" Concrete Base

SEE SHEET 4 FOR LEGEND

TYPICAL SECTIONS - I.R. 271

CUY / LAK - 271-14.09 / 0.00

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DRAWN	EMK
CHECKED	LDH
CALCULATED	EMK
REVISION	

# GENERAL

## Project Description

This project involves the improvement of IR-271 by removing the wearing course and overlaying the roadway from SLD 14.09 to SLD 16.65 in Cuyahoga County and SLD 0.00 to SLD 1.75 in Lake County. Incidental work includes minor pavement repair, guardrail repair and/or replacement, pavement markings and sign replacement.

## Existing Typical Sections

Existing typical sections have been taken from the records and are believed to represent the existing pavement, but the State of Ohio does not guarantee the accuracy of the same.

For further information in regard to the existing typical sections, the contractor shall refer to the previous construction plans.

These plans may be reviewed at the

Ohio Department Transportation  
District 12 Office  
5500 Transportation Boulevard  
Garfield Heights, Ohio 44125

## Contingency Quantities

The contractor shall not order materials or perform work for items designated by plan note to be used "as directed by the engineer" unless authorized by the engineer. The actual work locations and quantities used for such items shall be incorporated into the final change order governing completion of this project.

## Cooperation Between Contractors

The contractor shall cooperate and coordinate operations with the contractors on other projects that may be in force during the life of the contract.

## Work Limits

The work limits shown on these plans are for physical construction only. The installation and operation of all temporary traffic control and temporary traffic control devices required by these plans shall be provided by the contractor whether inside or outside these work limits

## Right Of Way

All work shall be performed within the existing right of way or easements.

## Item 623 - Construction Layout Stakes, As Per Plan

Prior to the planing of pavement beneath all overhead structures, a registered surveyor shall measure the vertical clearances and document the measurements on an approved Ohio Department of Transportation form available from the District Bridge Office. The measurements shall be taken at the locations indicated on the approved ODOT form and submitted to the Project Engineer. After the new paving has been completed, a registered surveyor again shall take vertical clearance measurements at locations indicated on the approved ODOT form. These final measurements shall be recorded on the form and submitted to the Project Engineer and the District Bridge Engineer. The record shall bear the stamp or seal of the registered surveyor who has taken the measurements and will verify that pre-construction vertical clearances have been preserved.

In addition to item 623 and the items outlined above, the contractor shall provide field surveys for all asphalt transitions. See detail on sheet 38. Said survey shall consist of elevations taken at the bridge expansion joint (where applicable) and extending as shown on the details. Elevations after resurfacing shall be taken along each edge line and lane line and shall be taken at the following distances: 0 feet, 5 feet, 10 feet, 25 feet, then every 25 feet and at the end of the transition. The contractor shall plot these at each location at a scale of 1 inch equals 10 foot horizontally and 1 inch equals 2 foot vertically. This survey shall be done and the plotted results given to the engineer as soon as possible after the placement of the surface course.

## Staging Area Within State Right Of Way

A specific area for the contractor to use as a staging area will be permitted between Stations 260+00 and 270+00 on IR-90, in the median (see sheet 88). No D-12 permit will be required for the contractor to utilize this location. The contractor shall submit a written description of their planned use to the Project Engineer for concurrence. All uses of the r/w shall be coordinated by the Project Engineer.

No concrete or asphalt plants are allowed. No crushing operations are allowed. The contractor shall not utilize this project's staging area for other projects. The contractor shall not stockpile material on top of existing drainage pipes and underground utilities.

The contractor shall be responsible for compliance with all applicable regulatory requirements.

The contractor shall be responsible for all restoration of the staging area(s). In addition to section 104.04 of the CMS, restoration work shall include, at no additional cost to the state:

1. Removal of at least 4 inches of material and replacement with topsoil per Item 659.
2. Seed and mulch the area per Item 659
3. Replacement of all trees removed by contractor on caliper-inch basis with one (1) year warranty

If the Project Engineer deems that all the conditions of r/w use are not met, then 10% of the contract bid amount for mobilization shall be withheld until all the conditions of the r/w use are satisfied.

## Utility ownership

The following utilities and owners are located within the work limits of this project. The Ohio Department of Transportation has used the best available information to determine the utility companies serving this area, but cannot guarantee the utility company list is complete.

City of Cleveland  
Division of Water  
1201 Lakeside Ave.  
Cleveland, Oh 44114  
(216) 664-2444, ext 5555  
Fax: (216) 664-2378

The Illuminating Co.  
6896 Miller Rd.  
Brecksville, Oh 44141  
(440) 546-8748  
Fax: (440) 546-8775

Cuyahoga County  
Sanitary Engineer  
6100 West Canal Rd.  
Valley View, Oh 44125  
(216) 443-8204  
Fax:(216) 443-8236

Village of Mayfield  
6621 Wilson Mills Rd.  
Mayfield, Oh 44143  
(440) 461-2210

City of Willoughby Hills  
35405 Chardon Rd.  
Willoughby Hills, Oh 44094  
(440) 946-1234

AT&T  
13630 Lorain Ave.  
4<sup>th</sup> floor  
Cleveland, Oh 44111  
(216) 476-6142  
fax: (216)573-5792

Dominion East Ohio Gas Co.  
1201 E. 55<sup>th</sup> St.  
Cleveland, Oh 44103  
(216) 736-6675  
fax: (216) 736-6883

Greater Cleveland Regional  
Transit Authority  
1240 West Sixth Street  
Cleveland, Oh 44113  
phone: (216) 566-5100  
fax: (216) 781-4043

City of Highland Heights  
5827 Highland Rd.  
Highland Heights, Oh 44143  
(440) 461-2440

# ROADWAY

## Item 201 - Clearing And Grubbing

Although there are no trees or stumps specifically marked for removal within the limits of the project, a lump sum quantity has been included in the general summary for item 201, Clearing And Grubbing to remove small trees and other vegetation which restricts sight distance or blocks the view of the existing or proposed signs throughout the project. All provisions as set forth in the specifications under this item shall be included in the lump sum price bid for item 201, Clearing And Grubbing.

## Paving Under Guardrail

This operation shall include preparation of the graded shoulder using Item 209, Reshaping Under Guardrail, As Per Plan and paving under the guardrail using Item 448, Asphalt Concrete Intermediate Course, Type 1, Under Guardrail, PG64-22, As Per Plan.

Paving under guardrail consists of placing Item 448 to the depth specified (3") using one of the following methods.

Method A:

- 1) Set guardrail posts
- 2) Place Item 448

Method B:

- 1) Place Item 448
- 2) Bore asphalt at post locations (may be omitted if steel posts are used)
- 3) Set guardrail posts
- 4) Patch around posts. Use an asphalt concrete approved by the engineer to perform the patching. Compact patched areas using either hand or mechanical means. Finish surfaces so that they are smooth and sloped to drain away from the posts.

All equipment, materials and labor required to perform the work outlined above, with the exception of setting guardrail posts, shall be included for payment under Item 448 – Asphalt Concrete Intermediate Course, Type 1, Under Guardrail, PG64-22, As Per Plan.

For estimated quantities, see sheets 20.

## Guardrail Protection

Existing guardrail which is scheduled to be replaced with Type 5 Guardrail, shall not be removed until the new guardrail is ready to be installed. Under no circumstances shall any hazard be without guardrail protection for more than 24 hours. (See Public Safety note on sheet 16).

## Connection Between Existing And Proposed Guardrail

When it is necessary to splice proposed guardrail to existing guardrail, only the existing guardrail shall be cut, drilled, or punched. The connection shall be made using a "w-beam rail splice" as shown on Standard Construction Drawing GR-1.1. Payment shall be included in the contract price for the respective guardrail items.

## Item 209 - Linear Grading, As Per Plan

This item of work shall consist of grading along the outside edge of the paved shoulder wide enough to provide positive drainage away from the shoulder and to prepare the ground surface for the placing of item 617.

Any debris collected shall be removed and disposed of as specified in section 203.05 of the Construction and Material Specification.

Payment for the above work shall be made at the unit bid price for Item 209, Sta., Linear Grading, As Per Plan and shall include all labor, tools, equipment and materials necessary to perform this item of work.

The following estimated quantity shall be carried to the General Summary to be used as outlined above:

Item 209 - Linear Grading, As Per Plan . . . . . **745 Sta.**

## Item 209 – Reshaping Under Guardrail, As Per Plan

This item of work shall be used to prepare proposed and existing guardrail runs for paving under guardrail, including the removal and disposal of existing asphalt under guardrail.

Fill all holes remaining after removal of guardrail posts and anchor assemblies with granular material. Do not use fill material containing sod. All fill material shall be approved by the engineer and shall be compacted as directed by the engineer. Payment for the above is included in the applicable guardrail item.

Any debris collected shall be removed and disposed of as specified in section 203.05 of the Construction and Material Specification.

Use EPA approved herbicide for paving under guardrail. Apply it to the prepared area after final leveling and grading has been completed. Apply just prior to paving and strictly adhere to the manufacturer's instructions.

Herbicide must be applied by persons licensed as commercial operators in the appropriate spray category.

Submit herbicide label, material safety data sheet and copy of applicator's licenses to the engineer for verification prior to commencing work.

Payment for the above work shall be made at the unit bid price for Item 209, Sta, Reshaping Under Guardrail, As Per Plan and shall include all labor, tools, equipment and materials necessary to perform this item of work.

For estimated quantities, see sheets 20.

## Item 622 – Concrete Barrier, Single Slope, Type D, As Per Plan

The standard details for Type D wall are modified as per the detail in the typical sections.

Install the proposed Type D barrier adjacent to the existing shoulder on a footer with dowels placed at the permissible construction joint between the footing and barrier as shown in the detail. Construct the top of the proposed footing flush with the top of the second intermediate course.

Payment for all materials, labor and equipment to construct the concrete barrier as described above and detailed in the typical sections shall be included in the unit bid price for Item 622, Concrete Barrier, Single Slope, Type D, As Per Plan.

## Item 202 – Guardrail Removed, As Per Plan

All rail sections including standard rail, thrie beam, barrier type rails, anchor assemblies and bridge terminal assembly rail sections shall be salvaged by the contractor. Along with these rail sections, all Type E-98 anchor assemblies and Type 1-98 impact attenuators, shall be salvaged.

The salvaged rail sections and E-98 anchor assembly shall be transported by the contractor to the ODOT Warrensville Yard located at 25609 Emery Rd., Warrensville, Oh. 44128, phone (216) 292-5840. The yard shall be contacted approximately 2 weeks prior to delivery.

The salvaged Type 1-98 impact attenuators shall be transported by the contractor to the ODOT Riveredge Yard located at 4940 Old Grayton Rd., Cleveland, Oh. 44135, phone (216) 676-5295. The yard shall be contacted approximately 2 weeks prior to delivery.

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GENERAL NOTES

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## DRAINAGE AND EROSION CONTROL

### Item 608 Curb Ramp, As Per Plan

Improve existing curb ramps by providing a landing area with truncated domes. Improve existing sidewalk at its current width and location. Work around existing utility features and within the existing back of sidewalk. Construct ramps conforming to the details related to the size and cross-slope of the landing area and with truncated domes as shown on Std. Drawing BP-7.1.

Minimize disturbed areas adjacent to curb ramps, curb, and sidewalk.

In addition to the CMS requirements for item 608, Curb Ramp, A.P.P. work shall include any sawcutting of adjacent walk or curb and any additional excavation needed to place the proposed truncated domes.

The following quantities shall be carried to the General Summary to replace curb ramps at the locations listed:

Reference No.	Location	202	202	608	608
		Walk Removed	Curb Removed	Curb Ramp, As Per Plan	4" Concrete Walk
		S. F.	FT.	S. F.	S. F.
CR-1	RAMP A-1	125	11	50	75
CR-2	RAMP A-1	125	11	50	75
CR-3	RAMP A-2	175	20	50	125
CR-4	RAMP A-2	125	11	50	75
CR-5	RAMP A-3	125	18	50	75
CR-6	RAMP A-3	125	11	50	75
CR-7	RAMP A-4	125	11	50	75
CR-8	RAMP A-4	125	11	50	75
<b>TOTAL TO GEN. SUMMARY</b>		<b>1050</b>	<b>104</b>	<b>400</b>	<b>650</b>

### Review of Drainage Facilities

Before any work is started on the project and again before final acceptance by the state, representatives of the state and the contractor, along with local representatives, shall make an inspection of all existing sewers which are to remain in service and which may be affected by the work. The condition of the existing conduits and their appurtenances shall be determined from field observations. Records of the inspection shall be kept in writing by the state.

All existing sewers inspected initially by the above mentioned parties shall be maintained and left in a condition reasonably comparable to that determined by the original inspection. Any change in the condition resulting from the contractor's operations shall be corrected by the contractor to the satisfaction of the Engineer.

Payment for all operations described above shall be included in the contract price for the pertinent 604 Items.

### Item Special – Miscellaneous Metal

Existing castings may prove to be unsuitable for reuse, as determined by the engineer. It shall be the contractor's responsibility to provide the castings of the required type, size and strength (heavy duty) for the particular structure in question. All materials must meet Item 604 of the specifications and shall have the prior approval of the Engineer.

The contractor is cautioned to use extreme care in the removal, storage and replacement of all existing castings. Castings damaged by the negligence of the contractor, as determined by the Engineer, shall be replaced with the proper new castings at the expense of the contractor. The contractor shall not order materials until authorized by the Engineer and if none are needed the item is to be non-performed.

The following estimated quantity has been carried to the general summary for use as directed by the Engineer.

Item Special – Miscellaneous Metal . . . . . **1000 Lbs**

### Item 604 - Catch Basin Adjusted To Grade, As Per Plan

### Item 604 - Manhole Adjusted To Grade, As Per Plan

Adjustment devices will not be permitted.

The following estimated quantities have been carried to the General Summary:

Item 604 - Catch Basin Adjusted To Grade, As Per Plan . . . . . **6 Each**

Item 604 - Manhole Adjusted To Grade, As Per Plan . . . . . **1 Each**

### Item 659 – Seeding, Misc.: Seeding And Mulching

This item shall be used to seed and mulch all disturbed areas adjacent to the proposed curb ramp work, as directed by the engineer. Use class 1 lawn mixture.

At disturbed areas, remove top 2" of soil and replace with material conforming to 659.05.

Provide a single application of commercial fertilizer per the requirements of 659.04.

Placement of topsoil and application of fertilizer are incidental to this item.

The following estimated quantity is carried to the general summary for this purpose.

Item 659 – Seeding, Misc.: Seeding And Mulching. . . . . **Lump Sum**



# PAVEMENT

## Item 251 - Partial Depth Pavement Repair, As Per Plan A

This item shall be used for the repair of unsound, cold-patch, or pop-out areas of longitudinal joints as directed by the engineer in Cuyahoga County. This work shall be performed after the milling operation and prior to resurfacing. The depth of the repair shall be 3". The width of the repair shall be 12" centered on the existing joint as shown on sheet 40.

For additional notes, details, and quantities, see sheet 40.

## Item 251 - Partial Depth Pavement Repair, As Per Plan B

This item shall be used for the repair of unsound, cold-patch, or pop-out areas of transverse joints and cracks as directed by the engineer in Cuyahoga County. This work shall be performed after the milling operation and prior to resurfacing. The depth of the repair shall be 3". The width of the repair shall be 12" centered on the existing joint or crack as shown on sheet 40.

For additional notes, details, and quantities, see sheet 40.

## Item 251 - Partial Depth Pavement Repair, As Per Plan C

This item shall be used for the repair of unsound, cold-patch, or pop-out areas of longitudinal joints as directed by the engineer in Lake County. This work shall be performed after the milling operation and prior to resurfacing. The depth of the repair shall be 3". The width of the repair shall be 12" centered on the existing joint as shown on sheet 40.

For additional notes, details, and quantities, see sheet 40.

## Item 251 - Partial Depth Pavement Repair, As Per Plan D

This item shall be used for the repair of unsound, cold-patch, or pop-out areas of transverse joints and cracks as directed by the engineer in Lake County. This work shall be performed after the milling operation and prior to resurfacing. The depth of the repair shall be 3". The width of the repair shall be 12" centered on the existing joint or crack as shown on sheet 40.

For additional notes, details, and quantities, see sheet 40.

## Longitudinal Joints (Flexible Pavement)

Longitudinal joints between a pavement lane and adjoining berm or speed change lane, and between a speed change lane and the adjoining berm shall be made the same day. All longitudinal joints shall be hot with the exception of one cold joint per roadway. Longitudinal joint locations shall be as approved by the engineer. Each ramp shall have only one longitudinal cold joint located approximately halfway across the ramp.

## Item 255 - Full Depth Rigid Pavement Removal And Rigid Replacement, Class FS, As Per Plan A

## Item 255 - Full Depth Rigid Pavement Removal And Rigid Replacement, Class FS, As Per Plan B

## Item 255 - Full Depth Rigid Pavement Removal And Rigid Replacement, Class FS, As Per Plan C

## Item 255 - Full Depth Rigid Pavement Removal And Rigid Replacement, Class FS, As Per Plan D

This item shall consist of replacing existing pavement per Item 255 and the notes below and details on sheet 40.

Existing concrete pavement thickness may vary from that shown on the typical sections by plus two inches or minus one inch. No adjustment in payment for this item shall be made providing that the average pavement thickness is within half inch of the thickness shown on the typical sections. Additional compensation shall be made by change order for the material cost of concrete only when the average thickness exceeds the one half inch maximum tolerance above. The volume of concrete paid for shall be based upon the amount of concrete additional above the one half inch tolerance limit.

If, after removal of the rigid pavement the engineer determines that the subbase or subgrade has failed or is pumping, the engineer will direct the contractor to excavate the unsuitable material and replace it with compacted 304 aggregate. Quantities of Item 203 - Excavation and Item 304 - Aggregate Base have been provided to repair said failed subbase or subgrade areas.

For pavement planing areas, 2-1/2" deep (Detail Sheet 40, repairs in Cuyahoga County):  
Pavement repair less than or equal to ten (10) feet in length shall be paid for under "Full Depth Rigid Pavement Removal And Replacement, Class FS, As Per Plan, A". Pavement repairs greater than ten (10) feet in length shall be paid for under "Full Depth Rigid Pavement Removal And Replacement, Class FS, As Per Plan B".

For pavement planing areas, 3-1/2" deep (Detail Sheet 40, repairs in Lake County):  
Pavement repair less than or equal to ten (10) feet in length shall be paid for under "Full Depth Rigid Pavement Removal And Replacement, Class FS, As Per Plan, C". Pavement repairs greater than ten (10) feet in length shall be paid for under "Full Depth Rigid Pavement Removal And Replacement, Class FS, As Per Plan D".

Item	Unit	Description
255	Sq. Yd.	Full Depth Rigid Pavement Removal And Rigid Replacement Class FS, As Per Plan A
255	Sq. Yd.	Full Depth Rigid Pavement Removal And Rigid Replacement Class FS, As Per Plan B
255	Sq. Yd.	Full Depth Rigid Pavement Removal And Rigid Replacement Class FS, As Per Plan C
255	Sq. Yd.	Full Depth Rigid Pavement Removal And Rigid Replacement Class FS, As Per Plan D
255	Lin. Ft.	Full Depth Pavement Sawing
203	Cy. Yd.	Excavation
304	Cy. Yd.	Aggregate Base

For estimated quantities, see sheet 40.

## Item 253 - Pavement Repair, As Per Plan A Item 253 - Pavement Repair, As Per Plan B

Perform these repairs prior to planing the existing overlay.

Remove existing asphalt, reinforced concrete, and/or bituminous aggregate base (at some previous repairs) to a minimum depth of 18" below the surface of existing pavement or to the top of existing subbase, whichever is less.

Place asphalt concrete in accordance with the provisions of 252.04, except that 3 or more lifts are required.

For "As Per Plan A" repairs (joint repairs): make repairs at least 6' long but less than or equal to 10' long.

For "As Per Plan B" repairs: repairs will be greater than 10' long. The Engineer will determine the length of repair.

If, after removal of existing pavement, the Engineer determines that the subbase or subgrade has failed or is pumping, he shall direct the contractor to excavate the unsuitable material and replace it with compacted aggregate. Quantities of Item 203 Excavation And Item 304 Aggregate Base have been provided to repair failed subbase or subgrade areas.

The department will pay for accepted quantities on a volumetric basis, based on field measurements at each repair.

The following quantities are carried to the general summary to accomplish these items of work.

Item 253 – Pavement Repair, As Per Plan A	700 CU.YD.
Item 253 – Pavement Repair, As Per Plan B	175 CU.YD.
Item 203 – Excavation	10 CU.YD.
Item 304 – Aggregate Base	10 CU.YD.

## Item 442 – Asphalt Concrete Surface Course, 12.5 mm, Type A, (446) , As Per Plan

Limit coarse aggregate to a blend of air cooled blast furnace slag (ACBFS) or trap rock from Ontario and limestone. Use ACBFS or trap rock from Ontario at a minimum of 50% of coarse aggregate. Use limestone for the remaining portion of coarse aggregate. When ACBFS is used all requirements of 442 apply except use a Ndes of 50, a Nmax of 75 and ensure the minimum total asphalt binder content is 6.5 percent.

## Item 407 - Tack Coat

The rate of application of the 407 tack coat shall be subject to adjustment as directed by the engineer. Plan quantities indicate an average application rate of 0.10 gallons per square yard of tack coat for estimating purposes only.

GENERAL NOTES

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## TRAFFIC CONTROL

### Item 407 - Tack Coat For Intermediate Course

The rate of application of the 407 tack coat shall be subject to adjustment as directed by the engineer. Plan quantities indicate an average application rate of 0.05 gallons per square yard of tack coat for each layer of intermediate course. This application rate is for estimating purposes only.

### Item 617 - Compacted Aggregate, As Per Plan

This item shall be used along all the shoulders. Material shall be limited to reclaimed asphalt concrete pavement.

The actual depth used will vary depending upon existing conditions. For estimating purposes, an average depth of 1-1/2 inches will be used. Water, if needed, shall be applied as per 617 and included under item 617, Compacted Aggregate, As Per Plan.

The following estimated quantity has been carried to the General Summary:

Item 617 - Compacted Aggregate, As Per Plan . . . . . **690 Cu. Yd.**

### Item 618 - Rumble Strips, (Asphalt Concrete)

The following estimated quantity shall be used to construct Item 618, Rumble Strips, (Asphalt Concrete) as per standard drawing BP-9.1:

Item 618 - Rumble Strips, (Asphalt Concrete) . . . . . **18.68 Mile**

### Asphalt Concrete Surface Courses

In addition to the gutter sealing requirements specified on SCD BP-3.1 and in 401.15, after completion of the surface course, the contractor shall seal, with asphalt binder, the following locations:

- all castings including but not limited to monuments, manholes, water valves, catch basins.
- butt joints and feather joints including bridge approaches.
- foreword joint for driveway asphalt and trailing joint when butting to existing asphalt drive.
- perimeter of all pavement repairs when pavement repairs are not overlaid with asphalt concrete.
- all longitudinal and transverse cold joints (shall be sealed prior to placement of permanent pavement markings).

The material used shall be a hot applied pg 64-22 binder. The width of the sealer shall be 4 inches as per 401.15.

Any additional costs associated with the work identified in this note shall be included in the appropriate asphalt concrete surface course item of work.

### Raised Pavement Markers

Raised pavement marker spacing shall be 80 feet.

### Pavement Markings

Entrance and exit markings shall be located and installed as per Standard Construction Drawing TC-72.20. Plan details showing gore locations are approximate. The contractor shall be responsible to perform any measurements as needed to determine the location of the markings.

Auxiliary markings shall be located and installed as per Standard Construction Drawing TC-71.10.

### Item 621 - Raised Pavement Marker Removed

The following estimated quantity has been included in the general summary to remove and dispose of RPM's.

Item 621 - Raised Pavement Marker Removed . . . . . **740 Each**

### Item 646 - Lane Line, As Per Plan

The width of the lane lines shall be six inches (6").

### Item 620 - Delineator

The following estimated quantities have been carried to the general summary to allow for the total replacement of delineators on the project. The removal and disposal quantity is 75% of the replacement quantity based on the fact that many existing delineators are damaged or missing.

Item 620 - Delineator, Post Mounted . . . . . **312 Each**  
Item 620 - Removal Of Delineator . . . . . **175 Each**

### ODOT Automatic Traffic Recorder Sites

The Contractor is advised automatic traffic recording (ATR) sites #580 is located near Sta. 84+00 on IR-271.

ODOT project engineer shall contact Office of Technical Services, Attention Dave Stewart, phone (614) 275-1382, prior to pavement operations and upon completion of the overlay. The Department will restore operation of the ATR site.

### Item 632 - Detector Loop, As Per Plan

Prior to planing the pavement, the contractor shall field survey the locations of the existing loop detectors within the project limits. The survey shall include the location of the loop, size of the loop, offset from curb and/or centerline and the location of the stub. A copy of this survey shall be given to the project engineer.

An estimated quantity of Item 632 - Detector Loop, As Per Plan has been provided as a contingency when wire is cut, broken, or destroyed due to pavement planing operations.

New loop detectors shall be placed at the same locations and same size as the existing.

When replacing the loop detectors, the loop detector wire shall be replaced to the pull box or pole, whichever is applicable, under Item 632 and TC-82.10. The new cable splice kits shall be included in this pay item.

The contractor shall contact the project engineer, 7 days prior to planing through an intersection to adjust signal operation as needed. The detector loops shall be placed in the intermediate course prior to the placement of the surface course.

Refer to plan sheets for approximate location. These locations are from record plans and field verification of loops is needed.

The following estimated quantities have been carried to the general summary to be used as directed by the engineer:

Item 632 - Detector Loop, As Per Plan . . . . . **4 Each**

### Detector Loop Locations:

Ref.	Locations:	6' X 20'	6' X 30'		
		Loop Size	Loop Size	Each	Each
L-1	Ramp A-2				1
L-2	Ramp A-2				1
L-3	Ramp A-3	1			
L-4	Ramp A-3				1

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## Signing

### General

The assembly locations shall be restored as noted in the plans and standard construction drawings.

All work (fabrication / installation) shall be performed in accordance with the following manuals:

**2008 Construction and Material Specifications Handbook**  
**Traffic Engineering Manual** (with current revisions)  
**2005 Ohio Manual of Uniform Traffic Control Devices** (with current revisions)  
**Traffic Control Standard Construction Drawings** (with current revisions)

The plan quantities are estimates based on field surveys of each route. Although the surveys are essentially complete, ODOT does not guarantee their accuracy due to continually changing field conditions.

### Sign Position

Unless otherwise directed by the engineer, ground mounted signs should have the correct lateral and vertical clearance and longitudinal position in accordance with the standard construction drawings and Ohio Manual of Uniform Traffic Control Devices (OMUTCD) where physical conditions permit.

Ground mounted post supports shall be located no more than one (1) foot away (up-station or down-station) from the existing support(s) that it is replacing unless otherwise noted in this plan. New ground mounted beam support locations shall be field reviewed prior to fabricating beams to establish slope conditions that will insure proper installation. New beams shall be installed no more than five (5) feet away (in the direction of traffic) from the existing support(s).

If there is a conflict with any of the proposed locations, the contractor should get the approval of the project engineer first before installing the new sign(s) and support(s).

### Sign Location Plan Sheets

The Sign Location Plan Sheets, sheets 65-91, are intended to depict the text and approximate sign location. All items that are shown as proposed, such as pavement markings, pavement, guardrail and overhead sign supports shall be ignored.

### Item 630-Sign, Flat Sheet, As Per Plan

The contractor shall fabricate the flat sheet sign, **W8-13 (MOD)**, per the design and notes on sheet 94 of this plan.

### Item 630-Removal of Ground Mounted Post Support and Disposal, As Per Plan

The contractor shall remove **sign post reflectors** from existing drive posts and reerect them on the new drive posts with existing hardware at all locations throughout this project as a part of this pay item. Refer to standard construction drawing TC-41.30 for reflector details.

All posts driven through a material which is neither asphalt nor concrete shall be removed in their entirety. That is, no post section shall be left in the ground.

Post supports that are embedded in asphalt or concrete should be removed in their entirety if possible. If the support is able to be removed, the hole should be reused for the new support(s) and sign(s). If this is not possible the support should be cut a minimum of 4" below the top of either surface. The void should then be filled with similar material. Restore all areas disturbed by the work to a condition comparable to the adjacent undisturbed ground conditions.

### Item 630-Signing, Misc.: Inventory Tag

Where existing signs and supports are being replaced with new signs and supports at the same location, the contractor shall transfer the yellow inventory tag affixed to the existing sign support to the new sign support with a plastic zip-tie.

Where a new support location is being established the contractor shall contact Travis Bonnett, District 12 Traffic Engineer at (216) 584-2220, to obtain inventory tags and affix it to the new location(s) by the zip-tie method. Once this is done the contractor shall notify the project engineer of the new location. The project engineer shall forward the new location information to the traffic office for proper documentation. If an existing sign and support is being replaced at a new location the contractor shall transfer the inventory tag to the new support and notify the project engineer of the new location.

The cost for this work shall be included in the lump sum bid price for Item 630-Signing, Misc.: Inventory Tag.

### Cable Splice Kit

2 cable splice kits are being provided per each location where sign lighting and sign service is being removed. They are to be used to properly restore the continuity of the main power feed at the pull box where the sign service supplied power to the sign location. Sign service wiring is not to be cut and capped. Sign service from the disconnect switch shall be completely removed.

### Sign Shop Drawings

Extrusheet sign designs for this project were developed using *SignCAD* software. A copy of these shop drawings will be supplied to the contractor at the pre-construction meeting.

The contractor shall submit a final set of shop drawings from the sign fabricator to the project engineer for approval. The project engineer should forward the sign shop drawings to the district production department c/o Frank Konopka for review.

**General**

It is the responsibility of the contractor to provide thru vehicular access at all times throughout the project area. The project shall be constructed in phases in order to minimize traffic disruption and inconvenience to the general public. The contractor shall be responsible for providing all equipment, materials and manpower needed to adequately maintain traffic as provided for in the plans and specifications.

The contractor is reminded that, in the conduct of this project, his sequence of operations shall be planned in such a way as to minimize the number of lane reductions and/or lane width reductions required to maintain traffic through the project.

Permitted lane closures shall be as shown on the "Schedule Of Thru Lanes To Be Maintained Table." the time limits shown in this table shall be adhered to or road user costs will be assessed.

**Construction Sequence**

No permanent maintenance of traffic zones are detailed in these plans. Traffic shall be maintained in accordance to the "Schedule of Through Lanes to be Maintained" note. All work zone closures shall comply with the appropriate Standard Drawings.

Prior to opening all lanes to normal traffic, the contractor shall ensure that the pavement is in a drivable condition with no potholes or dust and that all longitudinal drop-offs greater than 1-1/2" and transverse drop-offs are ramped as per the "Maintaining Traffic and Sequence of Operations" note .

All costs associated with the set up and take down of the maintenance of traffic zones including all labor, equipment, signs, drums and flashing arrow board shall be included in the lump sum bid for Item 614, Maintaining Traffic.

**Night vest**

All of the contractors and sub-contractors personnel working during the hours of darkness shall wear a 100% silver reflective safety vest. The safety vest shall be provided by the contractor. The vest may have several lime or orange stripes on it.

**Maintenance of traffic control zones**

The contractor shall be responsible to maintain the signs, drums or cones specified in the standard drawings. When the contractor is notified of deficiencies he shall correct the deficiencies as soon as possible.

**Construction Traffic**

All construction traffic shall use acceptable truck routes to access the construction area. Use of local residential streets is strictly prohibited unless allowed in writing by the local enforcement authority.

The contractor shall be responsible to any damage to turn-arounds located within the project limits. Any damage caused by the contractor's actions shall be repaired at no cost to the state.

**Major Work Items**

The following major work items will require traffic maintenance which shall be incorporated into the contractor's sequence of operations:

- a. Removal of existing rpm's
- b. Plane asphalt concrete
- c. Place asphalt concrete courses
- d. Place proposed pavement markings and raised pavement markers
- e. Remove and replace signs

**Item 630 - Signing Misc.: Additional Signs, Ground Mounted, As Directed By The Engineer**

When additional signing is needed to maintain traffic, the contractor shall furnish the sign or signs as directed by the Engineer. These signs shall be ground mounted and meet all the specifications of the plan, proposal and the current year CMS.

Payment for this item shall include but not be limited to the cost to furnish and erect the sign, including drive posts or other approved methods of support, maintaining the sign and removal of the sign.

This item of work shall be used to provide signs that are beyond the requirements of the signage that is detailed in the Standard Drawings and the OMUTCD.

The following quantity shall be carried to the General Summary:

Item 630 - Signing Misc.: Additional Signs, Ground Mounted, As Directed By The Engineer . . . . . **300 Sq. Ft.**

**Item 614 - Law Enforcement Officer With Patrol Car For Assistance During Construction Operations**

Use of law enforcement officers (LEOs) by contractors other than the uses specified in this note will not generally be permitted at project cost unless prior approval has been obtained from the engineer. LEOs should not be used where the Ohio Manual Of Uniform Traffic Control Devices (OMUTCD) intends that flaggers be used.

In addition to the requirements of CMS 614 and the latest edition of the Ohio Manual Of Uniform Traffic Control Devices (OMUTCD), a uniformed law enforcement officer with an official patrol car with working top mounted emergency flashing lights and complete markings of the appropriate law enforcement agency should be provided for controlling traffic for the following tasks:

- for lane closures: during initial set-up periods, tear down periods, substantial shifts of a closure point or when new lane closure arrangements are initiated. In general, LEOs should be positioned at the point of lane restriction or road closure and to manually control traffic movements through intersections in work zones.
- during the entire advance preparation and closure sequence where complete blockage of traffic is required.

- during a traffic signal installation or when traffic needs to be directed through an energized traffic signal contrary to the signal display (e.g., directing motorists through a red light).

- routing patrolling through the work zone (with flashing lights off) as specified in the plans.

LEOs should not forgo their traffic control responsibilities to apprehend motorists for routine traffic violations. However, if a motorist's actions are considered to be reckless, then pursuit of the motorist is appropriate.

The LEOs work at the direction of the contractor. The contractor is responsible for securing the services of the LEOs and communicating the intentions of the plans with respect to duties of the LEOs. The engineer shall have final control over the LEOs' duties and placement, and will resolve any issues that may arise between the two parties. The contractor shall provide the engineer with a list of the appropriate law enforcement agency(s), including address and telephone number.

The LEO should report in to the contractor prior to the start of the shift to receive instructions regarding specific work assignments during the shift. The LEO is expected to stay at the project site for the entire duration of the shift. Should it be necessary to leave the project site, the LEO should notify the engineer. The contractor shall provide the LEO with a two-way communication device which shall be returned to the contractor at the end of the shift.

Law enforcement officers (with patrol car) required by the traffic maintenance tasks above shall be paid for on a unit price (hourly) basis under Item 614, Law Enforcement Officer (With Patrol Car). The following estimated quantity has been carried to the general summary.

Item 614 - Law Enforcement Officer With Patrol Car . . . . . **1500 Hrs**

The hours paid shall include minimum show-up time required by the law enforcement agency involved.

Any additional costs (administrative or otherwise) incurred by the contractor to obtain the services of a LEO are included with the bid unit price for Item 614, Law Enforcement Officer With Patrol Car.

**Planed Surfaces**

The duration of time between removing the existing asphalt concrete pavement and placing the first intermediate course of asphalt shall be kept to a minimum. In no instance shall this time exceed 21 calendar days. This is to ensure that the potential degradation of the exposed pavement Due to traffic is kept to a minimum.

In the event that the time between exposing the existing pavement and placing the first asphalt intermediate course exceeds 21 calendar days, liquidated damages as per 108.07 of the construction and material specifications manual shall be assessed.

**Suspension Of Work**

If the contractor fails to comply with the provisions for traffic control as set forth in these plans or with provisions of the Ohio Manual Of Uniform Traffic Control Devices, the Engineer shall suspend work until the contractor complies with the necessary requirements.

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**Item 614 - Asphalt Concrete For Maintaining Traffic, As Per Plan**

This item shall be used to provide temporary asphalt ramps for transverse discontinuities. Ramping shall be placed at the rate of 1" per 10 ft or to be used as directed by the Engineer.

Temporary asphalt ramps shall be removed as part of this item.

Item 614 - Asphalt Concrete For Maintaining Traffic, As Per Plan ..... **400 Cu. Yd.**

**Work Zone Pavement Markings**

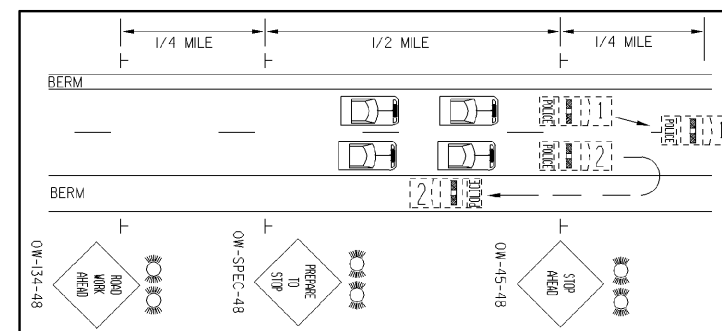
The following estimated quantities have been carried to the general summary, to be used as directed by the Engineer, to place work zone pavement markings after the contractor has placed the intermediate courses and after the surface course has been placed.

Item 614 - Work Zone Edge Line, Class I,  
642 Paint ..... **78.83 Mile**  
Item 614 - Work Zone Lane Line, Class I,  
642 Paint ..... **63.18 Mile**  
Item 614 - Work Zone Channelizing Line, Class I,  
642 Paint ..... **28,100 Ft.**  
Item 614 - Work Zone Stop Line, Class I,  
642 Paint ..... **400 Ft.**

**Maintaining Traffic-General Provisions**

1. Traffic shall be maintained in accordance with the "Schedule Of Through Lanes To Be Maintained." The contractor shall set up and operate his equipment in such a manner as to minimize encroachment upon the traveled width of pavement.
2. The contractor shall notify the Engineer, the responsible law enforcement agency and the Ohio Department Of Transportation, District 12 public information officer ((216) 584-2007) not less than 24 hours prior to a scheduled disruption of traffic.
3. Nighttime work shall be permitted in accordance with these plans and notes. The contractor shall provide flood lighting of the work area in accordance to 401.15 of the Construction and Material Specifications in order to assure the safest conditions during nighttime work. A lighting plan for nighttime operations shall be presented to and approved by the Engineer.
4. The contractor shall furnish, erect and maintain all warning and information signs necessary for maintaining traffic. The sign faces shall be reflectorized with type G sheeting complying with the requirements of CMS 730.19. The contractor shall determine what signs are needed and advise the Engineer two (2) weeks in advance of his detailed plans. See the OMUTCD and standard drawings for the minimum signage required."
5. Traffic control devices shall be set up prior to the start of construction, and shall be properly maintained during the time special conditions exist. They shall remain in place only as long as they are needed and shall be immediately removed thereafter. Where operations are performed in stages, there shall be in place only those devices that apply to the condition present during stage in progress. All signs with messages which do not apply during a certain period shall be covered or set aside out of the view of traffic.

6. Placement of final roadway pavement markings and raised pavement markers shall be accomplished in accordance with the "Schedule Of Through Lanes To Be Maintained." The contractor shall provide 2 trailing vehicles as per MT-99.20M following the pavement marking equipment. The trailing vehicles shall travel 500' apart with the remote vehicle traveling on the shoulder (left or right as applicable) where usable shoulder is available. The first trail vehicle in a traffic lane shall be equipped with a truck mounted attenuator meeting NCHRP 350 requirements. Each trailing vehicle shall have a yellow flashing beacon plus 48" construction warning signs mounted on the back facing traffic with standard type messages advising motorists of the work ahead, advisory warning speed, and which lane is closed.
7. During non-working periods, open excavations shall be delineated with warning flashers and/or other approved devices as deemed appropriate by the Engineer.
8. Existing signs located within the road work areas which are necessary for interim or permanent traffic control shall be removed and re-erected in locations as approved by the engineer.
9. No stoppage of traffic shall occur without law enforcement personnel at each location to direct traffic.
10. Any time traffic must be completely stopped on a freeway or interstate, it shall be as follows. The complete traffic stoppage of all lanes of any directional roadway shall be no more than 10 minutes in any one consecutive 30 minute period. A minimum of two (2) law enforcement officers (LEO's) with patrol vehicles shall be used to pace motorists to a stop. One LEO with patrol car should be provided for each lane of traffic to be closed. Payment for LEO's shall be incidental to Item 614 Maintaining Traffic, unless itemized separately elsewhere in the plans. After traffic has been slowed, one (1) patrol vehicle shall travel along the roadway shoulder 500' behind the back up of stopped vehicles. Where stoppage occurs in the vicinity of freeway entrances, the contractor shall place flaggers on the ramps to stop traffic. Patrol vehicles shall have flashing beacons. To provide adequate visibility to approaching motorists, the contractor shall erect and maintain "road work ahead", "prepare to stop", and "stop ahead" signs with two flashing 12" traffic signal heads in accordance with 632.05. Flares may be substituted for flashing lights and sign illumination. These signs shall be illuminated during night operations and shall be 48" by 48" signs. Stopping traffic shall be done when the greatest numbers of lanes are permitted to be closed according to the schedule of through lanes to be maintained. A portable changeable message sign shall be placed 1.5 miles to 2 miles in advance of the closure. Patrol vehicles and signs shall be located in accordance with the sketch below.



11. Whenever a total closure is implemented, the contractor shall provide a portable changeable message sign, type from ODOT's pre-approved list. It shall be placed 1.5 miles to 2 miles in advance of the closure or as directed by the engineer.
12. For any operation not specifically mentioned in these plans, the traffic shall be maintained in accordance with the OMUTCD.
13. All labor, materials, equipment and any incidentals required to complete the work as described above shall be included in the lump sum bid for Item 614 Maintaining Traffic.

**Maintaining Traffic And Sequence Of Operations**

All asphalt concrete operations shall be conducted in a manner that will assure minimum danger and inconvenience to the highway users. All work shall be performed at the times provided in the "Schedule Of Through Lanes To Be Maintained." The procedure for the removal or placement of any existing or proposed asphalt course shall be such that no greater than 1-1/2" discontinuity in the elevation of the traveled surface shall be exposed to traffic.

Proposal Note 415 shall be used to ramp the 2" intermediate course when it is exposed to traffic when the paving is completed for the day. Proposal Note 415 shall not be used for placing the surface course.

Traffic shall not be permitted to cross any partial-width removal or resurfacing joint except as necessary during the actual removal or paving operation. Any partial-width longitudinal joints which must be exposed to traffic shall be ramped using Item 614 Asphalt Concrete For Maintaining Traffic at a rate not steeper than 6:1.

Temporary transverse removal or paving joints which must be exposed to traffic shall be ramped using Item 614 Asphalt Concrete For Maintaining Traffic at a rate not to exceed 1" in 10'.

For removal of existing overlays, a transition may be planed into the existing overlay and may be substituted for the asphalt ramps previously described.

Whenever traffic is subject to partial width removals or overlays prior to full width completion, the contractor shall provide W8-11-48 signs (dual sign installation). Placement shall be as directed by the Engineer and included in the Lump Sum bid for Item 614 Maintaining Traffic.

Whenever any part of the traveled surface is closed, the motorists shall be warned and diverted by the contractor through the use of a flashing arrow, in addition to those provisions set forth in the Ohio Manual Of Uniform Traffic Control Devices.

**Worksite Traffic Supervisor**

Subject to approval of the Engineer, the contractor shall employ and identify (someone other than the superintendent) a certified worksite traffic supervisor (WTS) before starting work in the field. The WTS may be certified from one of the following organizations:

1. American Traffic Safety Service Association (ATSSA), phone number 1-800-272-8772, certified TRAFFIC CONTROL SUPERVISOR (TCS).
2. National Highway Institute, design and operation of work zone traffic control, phone number 1-703-235-0528.
3. The Ohio Contractors Association, Traffic Control Supervisor (OCA/TCS) work zone class, only if taken after May 5, 2004, phone number 1-614-599-7915.
4. Ohio laborers' training, traffic control supervisors class, phone number 1-740-599-7915.

A copy of each WTSS certification and 24-hour contact information shall be provided to the Engineer at the preconstruction conference. If the designated WTS will not be available full time (24/7) the contractor may designate an alternate WTS to be available when the primary is off duty. Each WTS shall have a current WTS certification (with an expiration date no more than 5 years from the date of issue) from any of the approved organizations.

The WTS position has the responsibility of monitoring and correcting traffic control deficiencies for the entire work zone. The duties of the WTS are as follows:

1. Be available on a 24-hour per day basis, and be able to be on site for all emergency traffic control needs within one hour of notification by police or project staff and be prepared to effect corrective measures immediately on existing work zone traffic control devices.
2. Attend preconstruction meeting and all project meetings where traffic control management is discussed.
3. Be available for meetings or discussions with the Engineer upon request or within 36 hours.
4. Be aware of, and coordinate if necessary, all traffic control operations, including those of subcontractors and suppliers.
5. Coordinate project activities with all law enforcement officers (LEOs). A WTS shall also be the main contact person with the LEOs while they are on the project.
6. Coordinate meetings with ODOT personnel, LEOs and other applicable entities before each plan phase switch to discuss work zone traffic control.
7. Ensure compliance with the contract documents for signs, barricades, temporary concrete barrier, pavement markings, portable message signs, and other traffic control devices on a daily basis; and facilitate any corrective action necessary.

8. Notify the contractor of the need for cleaning and maintenance of all traffic control devices, including the covering and removal of inapplicable signs.
9. Inspect, evaluate, propose necessary modifications to, and document the effectiveness of, the traffic control devices and/or traffic operations on a daily basis (7 days a week). In addition, a weekly night inspection of the work zone setup for daytime work operations; and one daytime inspection per week for nighttime projects. This shall include (but not be limited to) documentation on the following project events:
  - a. Initial traffic control setup (day and night review).
  - b. Daily traffic control setup and removal.
  - c. When construction staging causes a change in the traffic control setup.
  - d. Crash occurrences within the construction area.
  - e. Removal of traffic control devices at the end of a phase or project.
  - f. All other emergency traffic control needs.
10. Complete the department approved long term inspection form (CA-D-8) after each inspection as required in # 9 and submit it to the Engineer the following work day. These reports shall include a checklist of all traffic control maintenance items to be reviewed. A copy of the form will be provided at the pre-construction meeting. Any deficiencies observed shall be noted, along with recommended corrective actions and the dates by which such corrections were, or will be, completed. A copy of this document can be found in the department of transportation construction inspection forms manual dated 10/15/06 or current revision.
11. Verify that all flagging operations are being conducted per the Ohio Manual Of Uniform Traffic Control Devices.
12. Have copies of the ODOT temporary traffic control manual and applicable standards and specifications included in the contract documents available at all times on the project.

The department will not pay the unit price bid for the WTS for any day on which the contractor fails to perform the duties set forth above. Should the contractor's failure to perform any of the duties described above result in a maintenance of traffic safety issue, the department will deduct the prorated daily amount for Item 614 Maintenance Of Traffic from the contractor's next scheduled estimate.

If three or more failures to perform the duties set forth above occur, the WTS shall be immediately removed from the work in accordance with C&MS 108.05.

The following estimated quantity has been included for the worksite traffic supervisor:

Item 614 - Worksite Traffic Supervisor ..... **6 Month**

**Item 614 - Portable Changeable Message Sign, As Per Plan**

The contractor shall furnish, install, maintain, and remove when no longer needed a portable changeable message sign(s). The PCMS shall be of the type shown on the list of approved PCMS maintained by the Director. The PCMS shall be a class I or II type unit.

The portable changeable message sign shall be mounted on a trailer. The location of the PCMS shall be as directed by the Engineer. The PCMS unit shall be located in a highly visible position yet protected from traffic. The contractor Shall, at the direction of the engineer, relocate the PCMS to improve visibility or accommodate changed conditions. When not in use, the PCMS will be off.

The engineer shall be provided access to each sign unit and shall be provided with appropriate training and operation instructions.

The contractor shall provide to the engineer the software necessary to control the PCMS remotely.

No flip disk units are allowed. At the direction of the Engineer the PCMS may be removed for Periods or times when not in use. No payment will be made for these times (ex. winter months).

The PCMS unit shall be maintained in good working order by the contractor in accordance with the provisions of 614.07. The contractor shall, prior to activating the unit, make arrangements with an authorized service agent for the PCMS to assure prompt service in the event of failure. Any failure shall not result in the sign being out of service for more than 12 hours including weekends. Failure to comply may result in an order to stop work and open all traffic lanes and/or in the department taking appropriate action to safely control traffic and the entire cost to control traffic accrued by the department will be deducted from moneys due, or to become due the contractor on his contract.

The contractor shall be responsible for 24 hours per day operation and maintenance of these signs on the project for the duration of the phases when the plan requires their use.

Payment for the above described item shall be at the contract unit price bid per Sign Month for each Item 614 Portable Changeable Message Sign, As Per Plan and shall include all labor, materials, equipment, fuels, lubricating oils, software, hardware and incidentals to perform the above described work.

There shall be two class I or II changeable message signs at 6 months each.

Item 614 - Portable Changeable Message Sign, As Per Plan ..... **12 Sign-Months**

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**Item 614 - Work Zone Speed Limit Sign**

The contractor shall furnish, install, maintain, cover during suspension of work, and subsequently remove work zone speed limit (R2-1) (50 MPH speed limit) signs and supports within the work limits in accordance with the following requirements:

The contractor shall cover or remove any existing speed limit signs within the reduced speed zone. These signs shall be restored during suspension or termination of the reduced speed limit. The expense of covering or removal and restoration of existing speed limit or minimum speed limit signs shall be included in the pay item for the work zone speed limit signs.

The work zone speed limit signs may be erected or uncovered no more than four hours before the actual start of work. The signs shall be removed or covered no later than four hours following restoration of all lanes to traffic with no restrictions, or sooner as directed by the engineer. Temporary sign covering and uncovering due to temporary lane restorations shall be guided by the four-hour limitations stated above. Such lane restorations should be expected to remain in effect for 30 or more days, such as during winter shut-downs.

Construction and Material Specifications, Item 614, paragraph 614.02(b) indicates that the two directions of a divided highway are considered separate highway sections. Therefore, if the work on a multi-lane divided highway is limited to only one direction, speed reduction in the direction of the work does not automatically constitute speed reduction in the opposite direction. Speed limit reduction in the opposite direction, in such case, is appropriate only if conditions are expected to have an impact on the directional traffic flow, as directed by the engineer.

The contractor shall erect a work zone speed limit sign in advance of any lane restriction expected to last at least 30 consecutive calendar days, or as directed by the Engineer. The sign shall be mounted on both sides of a directional roadway of divided highways. The first work zone speed limit sign shall be placed 500 feet (150 meters) in advance of the lane reduction or shift taper or at a point wherever construction begins, whichever comes first. On undivided highway the sign shall be mounted on the right side, 250 feet (75 meters) in advance of the taper. The sign shall be repeated, on the side nearest traffic, every 1 mile (1.6 kilometers) for 55 MPH zones and every one-half mile (0.8 kilometers) for 50 MPH and 45 MPH zones. These signs shall also be erected immediately after each open entrance ramp within the zone.

Reduced speed ahead signs shall be erected in advance of the speed reduction, approximately 1300 feet (390 meters) on multi-lane highways and 500 feet (150 meters) on 2-lane highways.

A sign(s) to indicate the resumption of the statutory speed limit shall be erected at the end of any reduced speed zone. R2-1 (speed limit) signs shall be used on undivided roadways. R2-1 (speed limit) and R2-H2A signs shall be used on divided roadways. When used the R2-1 and R2-H2A signs shall be mounted side-by-side on separate supports. The contractor may use signs and supports in used, but good, condition provided the signs meet current ODOT specifications. Sign faces shall be reflectorized with type g sheeting complying with the requirements of CMS 730.19. Work zone speed limit signs shall be mounted on two Item 630, Ground Mounted Supports, No. 3 Posts. Work zone speed limit signs and supports will be measured as the number of sign installations, including the signs and necessary supports. If a sign and support combination is removed and re-erected at another location within the project due to changes in the speed zone directed by the Engineer, it shall be considered another unit.

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 furnishing, erecting, maintaining, covering during suspension of work, and removing the signs and supports. The following estimated quantity has been carried to the general summary.

Item 614 - Work Zone Speed Limit Sign . . . . . **24 Each**

**Holiday Closures**

No work shall be performed and all existing lanes shall be open to traffic during the following designated holidays or events:

- Christmas                      New Years                      Mothers Day
- Memorial Day                      Fourth of July                      Easter
- Labor Day                      Thanksgiving

The period of time that the lanes are to be open depends on the day of the week on which the holiday or event falls. The following schedule shall be used to determine this period:

**Day Of The Week      Time All Lanes Must Be Open To Traffic**

Sunday	12:00n	Friday	through 12:00n	Monday
Monday	12:00n	Friday	through 12:00n	Tuesday
Tuesday	12:00n	Monday	through 12:00n	Wednesday
Wednesday	12:00n	Tuesday	through 12:00n	Thursday
Thursday	12:00n	Wednesday	through 12:00n	Monday
Friday	12:00n	Thursday	through 12:00n	Monday
Saturday	12:00n	Friday	through 12:00n	Monday

No extensions of time shall be granted for delays in material deliveries, unless such delays are industry-wide, or for labor strikes, unless such strikes are area-wide.

Should the contractor fail to meet any of these requirements, the contractor shall be assessed liquidated damages in accordance with 108.07.

**Schedule Of Through Lanes To Be Maintained**

Location	Lane Reductions		Yes / No	Permitted Ramp Closures		Half Width Ramp Paving
	1 Lane Closure	2 Lane Closure		Short Term Closure		
				Weekdays	Weekends	
IR-271 2 Lanes	Weekday ♦	NA				
	Weekend ♦	NA				
IR-271 3 Lanes	Weekday ♦	Weekday ♦				
	Weekend ♦	Weekend ♦				
All One Lane Ramps			**	10:00PM - 6:00AM	10:00PM - 6:00AM	
All Two Lane Ramps	10:00PM - 6:00AM		NO	NO	NO	10:00PM - 6:00AM

♦ - All lane closures listed above may only be implemented at the times permitted by the "District 12, Permitted Lane Closure Times" list, which is located on the ODOT website at:

[www.dot.state.oh.us/districts/D12/HighwayManagement/Pages/PermittedLaneClosures.aspx](http://www.dot.state.oh.us/districts/D12/HighwayManagement/Pages/PermittedLaneClosures.aspx)

The latest revision, at 14 days prior to the bid date, shall be in effect for this project. No lane or shoulder closures shall be in place when no work is being performed.

\*\* - one lane ramps shall each be closed a total of no more than six nights, or as approved by the Engineer.

**Road User Costs/Short Term Lane Closures**

Short term lane closures are those which are permitted by the "Schedule Of Through Lanes To Be Maintained" table. Short term road user costs shall also be assessed when a ramp closure is violated.

These times shall not be revised without prior approval from the District 12 Work Zone Traffic Control Engineer.

If short term lane closures are in place outside the specified times, the contractor will be assessed road user costs in the amount of \$75.00 per minute shall be assessed to the contractor for each minute the lane remains closed.

Short term lane closures shall only be implemented when work is being continuously performed. The closure shall be removed as soon as possible after work has stopped.

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**Item 614 - Work Zone Impact Attenuator, Unidirectional**

This item shall consist of furnishing and installing one of the following impact attenuators:

1. The Quadguard CZ, (24 inches wide six-bay) Work Zone Impact Attenuator manufactured by Energy Absorption Systems, Inc., One East Wacker Drive, Chicago, IL 60601 (telephone: 312-467-6750.)

The length of the six-bay Quadguard CZ is 20'-9". Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

Drawing	Title	Drawing and revision date	ODOT approval date
QSCZCVR-T4	Quadguard CZ System For Construction Zones	5/13/99 rev. J	8/27/99
35-40-10	Quadguard System Concrete Pad, CZ, QG	11/19/99 rev. D	8/27/99
35-40-16	Quadguard System Backup Assembly, CZ, QG	7/30/99 rev. F	8/27/99
354051z	Quadguard CZ System Nose Assembly, CZ, QG, 24, 30, 36	5/17/99	8/27/99
35-40-18	Transition Assembly, 4 Offset, QG	6/25/99 rev. F	8/27/99
35400260	Quadguard System PCMB Anchor Assembly	11/19/97 rev. C	8/27/99

2. The TRACC (Trinity Attenuating Crash Cushion) manufactured by Trinity Industry, 1170 N. State Street, Girard, Ohio 44420 (telephone: 330-545-4373).

The TRACC is 21'-0" long and 27" wide. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

Drawing	Title	Drawing and revision date	ODOT approval date
SS450	Crash-cushion attenuating terminal plan, elevation & sections	3/12/99 rev. 1	8/27/99
SS455	TRACC transition to w-beam median barrier plan, elevation & sections	2/18/99	8/27/99
SS461	TRACC transition to concrete safety shape barrier plan, elevation & sections	6/30/99 rev. 1	8/27/99

Drawing	Title	Drawing and revision date	ODOT approval date
SS462	TRACC transition to concrete barrier single slope plan, elevation & sections	6/30/99	8/27/99

3. The Barrier Systems, Inc. TAU-II impact attenuator, distributed by Road Systems, Inc., sales support, 2183 Elm Trace, Austintown, Ohio 44515 (telephone: 330-799-9291).

The TAU-II is a parallel 8-bay unit 24'-0" long and 35" wide. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

Drawing	Title	Drawing and revision date	ODOT approval date
A040416	Universal TAU-II parts list	4/22/04	10/16/04
A040420	Universal TAU-II foundation, flush mount backstop	4/28/04	10/16/04
A040105	Universal TAU-II foundation, PCB backstop (referenced on a04020)	1/07/04	10/16/04
B040239	Application, flush mount backstop (typical for parallel 60 mph unit)	4/21/04	10/16/04

The contractor shall provide a replacement unit when an impact is severe enough to require complete replacement of the attenuator. The contractor shall have a spare parts package available on the project site at all times when an attenuator is in place. The contractor shall provide a minimum of one complete spare parts package for every 1 to 6 units installed on the project site. For example, 5 installed units require 1 spare parts package and 7 installed units require 2 spare parts packages.

**Public Safety**

The following provisions "A", "B", and "C" shall apply when the lane adjacent to the guardrail is open to traffic. The period of time that a hazard is left unprotected by the removal of guardrail shall be held to an absolute minimum. If, after one day, the entire run of guardrail construction is not complete, the following shall apply:

- A. In areas where existing guardrail has been removed or the guardrail is in a partial stage of completion, the contractor shall provide and maintain Type II barricades with Type C (steady burning) warning lights within the limits of the unprotected area. The barricades shall be placed at 50' intervals and offset at least 2' from the edge of the traveled roadway and in close proximity to the construction. The approach end of a partially completed run of guardrail shall be fastened at ground level to a steel drum.
- B. If the existing guardrail is for the protection of an obstacle (such as a sign support, bridge pier or bridge parapet), the contractor shall erect portable concrete barrier in the direction of traffic. The requirements of paragraph "A" shall apply to the remaining guardrail within the run. Temporary barrier shall be flared at a 17:1 (minimum) taper rate and shall terminate outside the clear zone, behind existing guardrail or barrier or with a work zone impact attenuator.
- C. The requirements stated in "A" shall apply for a period not to exceed one week. Where the rebuilding or construction of any run of guardrail cannot be accomplished within one week, the contractor shall provide and maintain temporary concrete barrier in the interim time it takes to complete the work. The approach end of the portable concrete barrier shall be flared to the outer edge of the paved shoulder and shall terminate outside the clear zone, behind existing guardrail or barrier or with a work zone impact attenuator. In addition, a Type II barricade with Type B (high intensity flasher) warning light shall be placed in front of this initial section of temporary barriers to provide forewarning to the approaching traffic.

The term "guardrail" as used herein shall be understood to cover all types of existing or proposed barrier, including standard guardrail, barrier design guardrail, bridge parapet, and concrete barrier.

The cost of complying with these safety procedures shall be included in the lump sum bid price for Item 614 Maintaining Traffic.

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**Item 614 - Work Zone Increased Penalties Sign (R11-H5A)**

R11-H5A-48 signs shall be furnished, erected, and maintained in good condition and/or replaced as necessary and subsequently removed by the contractor. Signs shall be mounted at the appropriate offsets and elevations as prescribed by the Ohio Manual Of Uniform Traffic Control Devices. They shall be maintained on supports meeting current safety criteria.

Uncover or place work increased penalties signs once the pavement surface is under construction for overlay removal, pavement repair, and placement of intermediate and surface courses. Uncover or place increased penalties signs no more than four hours before the actual start of work. Do not cover signs when lanes are re-opened to traffic subject to the provisions of the "Schedule Of Through Lanes To Be Maintained." Once implemented, the penalties will be increased for the duration of the project until all work requiring lane closures is complete.

Once work requiring lane closures is complete, cover or remove work zone speed limit signs within 4 hours.

The signs shall be dual mounted. The first sign shall be placed between the Road Work Ahead (W20-1) sign and the next sign in the sequence. Signs shall be erected on each entrance ramp and every 2 miles (3 kilometers) through the construction work limits.

The contractor may use signs and supports in used, but good, condition provided the signs meet current ODOT specifications. Sign faces shall be reflectorized with Type G sheeting complying with the requirements of CMS 730.19.

Work zone increased penalties signs and supports will be measured as the number of sign installations, including the sign and necessary supports. If a sign and support combination is removed and re-erected at another location as directed by the engineer, it shall be considered another unit.

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 furnishing, erecting, maintaining, covering during suspension of work, and removal of the sign and support.

Item 614 - Work Zone Increased Penalties Sign . . . . . **24 Each**

**Item 614 - Modified American Recovery and Reinvestment Act (ARRA) Sign**

This item shall consist of the furnishing and installing, and subsequent removal, of Modified American Recovery and Reinvestment Act (ARRA) signs on yielding post supports.

Install one ARRA sign near the beginning of the project in each route direction in a location as approved by the engineer. One sign should be located near Chardon Rd. in the southbound direction and one sign should be located North of Wilson Mills Rd. in the northbound direction. The ARRA sign consists of one 120" x 84" white on green extrusheet sign with pictographs, one 120" x 24" black on orange extrusheet sign, and one 24" x 24" diamond flat sheet sign. The sign fabrication details are found at:

<http://www.dot.state.oh.us/Divisions/HighwayOps/Traffic/Pages/OTEHomePage.aspx>

Install the sign on three No. 3 yielding posts as per Standard Drawing TC-41.20, with one post on sign centerline and one post 12" from each end. Signs in protected locations may be installed on other supports as approved by the engineer. Used signs are allowed provided they are in a condition acceptable to the engineer. Remove the ARRA signs and supports at the end of the project. Removed ARRA signs and supports are the property of the contractor.

Payment shall be included in the contract lump sum bid price for Item 614 Maintaining Traffic and shall include all labor, equipment, materials (including supports), tools and other incidentals to provide for a complete and accepted item of work.

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LOCATION	LOCATIONS - FROM PLAN RECORD						254	254	254	407	407	442	442	442	NOTES
	STATION		LENGTH	AVERAGE WIDTH	PAVEMENT AREA		PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (2-1/2")	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (3-1/2")	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (1-1/2")	TACK COAT ● 0.10 GAL./SQ.YD.	TACK COAT FOR INTERMEDIATE COURSE ● 0.05 GAL./SQ.YD.	1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN A	2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446)	
	FROM	TO	FEET	FEET	SQ. FT.	SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.	GAL.	GAL.	CU. YD.	CU. YD.	CU. YD.	
I.R.-271	NORTHBOUND														
	757+88.72	758+63.72 BK=	75.00	64.50	4838	538	538		54	54	22.4	29.9	29.9	OVERLAY TRANSITION	
	0+00.00 AH	4+99.93	499.93	66.00	32995	3666	3666		367	367	152.8	203.7	203.7		
		10+55.00	555.07	78.50	43573	4841	4841		484	484	201.7	269.0	269.0		
		11+55.00	100.00	58.00	5800	644	644		64	64	26.9	35.8	35.8		
		20+96.77	941.77	56.00	52739	5860	5860		586	586	244.2	325.5	325.5		
	BRIDGE CUY-271-1449 R, OVER WILSON MILLS RD.														
	22+43.27	30+00.00	756.73	56.00	42377	4709	4709		471	471	196.2	261.6	261.6		
		39+97.82 BK=	997.82	81.00	80823	8980	8980		898	898	374.2	498.9	498.9		
	40+00.00 AH	47+66.00	766.00	63.50	48641	5405	5405		540	540	225.2	300.3	300.3		
		69+45.00	2179.00	56.00	122024	13558	13558		1356	1356	564.9	753.2	753.2		
		72+25.00	280.00	56.00	15680	1742	1742		174	87	48.4	60.5	60.5	UNDER HIGHLAND RD	
		84+62.33 BK=	1237.33	56.00	69290	7699	7699		770	770	320.8	427.7	427.7		
		93+65.00	916.03	56.00	51298	5700	5700		570	570	237.5	316.6	316.6		
		94+00.00	35.00	56.00	1960	218	218		22	11	9.1	12.1	12.1	OVERLAY TRANSITION	
		99+90.00	590.00	56.00	33040	3671		3671	367	184	153.0	203.9	203.9	MAINLINE AT SLIP RAMP	
		99+90.00	590.00	41.50	24485	2721		2721	272		113.4			SLIP RAMP	
		100+25.00	35.00	82.25	2879	320		320	32	16	13.3	17.8	17.8	OVERLAY TRANSITION	
		117+00.00	1675.00	69.00	115575	12842	12842		1284	1284	535.1	713.4	713.4		
		126+94.62	994.62	56.00	55699	6189	6189		619	619	257.9	343.8	343.8		
	126+94.62	134+43.34	748.72	58.00	43426	4825	4825		483	483	201.0	268.1	268.1		
		134+43.34 BK=	15.00	58.00	870	97		97	10	5	4.0	5.4	5.4	OVERLAY TRANSITION	
		0+00.20 AH	5349.80	58.00	310288	34476		34476	3448	1724	1436.5	1915.3	1915.3		
	53+50.00	59+00.00	550.00	77.00	42350	4706		4706	471	235	196.1	261.4	261.4		
		60+50.00	150.00	48.00	7200	800		800	80	40	33.3	44.4	44.4		
		65+30.00	480.00	42.00	20160	2240		2240	224	112	93.3	124.4	124.4		
		87+60.11	2230.11	38.00	84744	9416		9416	942	471	392.3	523.1	523.1		
		90+50.00	289.89	40.50	11741	1305		1305	130	65	54.4	72.5	72.5		
		91+00.00	50.00	43.00	2150	239		239	24	12	10.0	13.3	13.3	OVERLAY TRANSITION	
I.R.-271	SOUTHBOUND														
	757+88.72	758+63.72 BK=	75.00	64.50	4838	538	538		54	54	22.4	29.9	29.9	OVERLAY TRANSITION	
	0+00.00 AH	11+35.00	1135.00	79.00	89665	9963	9963		996	996	415.1	553.5	553.5		
		20+96.77	961.77	56.00	53859	5984	5984		598	598	249.3	332.5	332.5		
	BRIDGE CUY-271-1449 L, OVER WILSON MILLS RD.														
	22+43.27	29+25.14	681.87	56.00	38185	4243	4243		424	424	176.8	235.7	235.7		
		33+18.30	393.16	81.00	31846	3538	3538		354	354	147.4	196.6	196.6		
		39+97.82 BK=	679.52	68.00	46207	5134	5134		513	513	213.9	285.2	285.2		
		40+00.00 AH	25.00	68.00	1700	189	189		19	19	7.9	10.5	10.5		
		41+25.00	100.00	62.00	6200	689	689		69	69	28.7	38.3	38.3		
	41+25.00	69+55.00	2830.00	56.00	158480	17609	17609		1761	1761	733.7	978.3	978.3		
		72+15.00	260.00	56.00	14560	1618	1618		162	81	67.4	78.6	78.6	UNDER HIGHLAND RD	
		84+62.33 BK=	1247.33	56.00	69850	7761	7761		776	776	323.4	431.2	431.2		
		99+05.00	1456.03	56.00	81538	9060	9060		906	906	377.5	503.3	503.3		
		99+05.00	35.00	56.00	1960	218	218		22	11	9.1	12.1	12.1	OVERLAY TRANSITION	
		99+40.00	740.00	56.00	41440	4604		4604	460	230	191.9	255.8	255.8	MAINLINE AT SLIP RAMP	
		99+40.00	740.00	41.50	30710	3412		3412	341		142.2			SLIP RAMP	
		106+80.00	35.00	79.25	2774	308		308	31	31	12.8	17.1	17.1	OVERLAY TRANSITION	
		112+15.00	576.61	72.50	41804	4645	4645		464	464	193.5	258.0	258.0		
		112+91.61	208.39	66.00	13754	1528	1528		153	153	63.7	84.9	84.9		
		115+00.00	100.00	61.00	6100	678	678		68	68	28.2	37.7	37.7		
		126+94.62	1094.62	56.00	61299	6811	6811		681	681	283.8	378.4	378.4		
		134+43.34	748.72	58.00	43426	4825	4825		483	483	201.0	268.1	268.1		
<b>TOTALS TO SHEET 19</b>							<b>173073</b>	<b>61554</b>	<b>6133</b>	<b>24076</b>	<b>20179</b>	<b>10007</b>	<b>12329</b>	<b>10027</b>	

**PAVEMENT SUBSUMMARY**  
CUY / LAK -271-14.09 / 0.00

CALCULATED  
EMK  
CHECKED  
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LOCATION	LOCATIONS - FROM PLAN RECORD						254	254	254	407	407	442	442	442	NOTES	
	STATION		LENGTH FEET	AVERAGE WIDTH FEET	PAVEMENT AREA		PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (2-1/2") SQ. YD.	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (3-1/2") SQ. YD.	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN (1-1/2") SQ. YD.	TACK COAT ● 0.10 GAL./SQ. YD. CAL.	TACK COAT FOR INTERMEDIATE COURSE ● 0.05 GAL./SQ. YD. CAL.	1-1/2" ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN A CU. YD.	2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446) CU. YD.	2" ASPHALT CONCRETE INTERMEDIATE COURSE, 19 MM, TYPE A (446) CU. YD.		
	FROM	TO			SQ. FT.	SQ. YD.										SQ. YD.
I.R.-271	SOUTHBOUND															
	134+43.34	134+58.34 BK=	15.00	58.00	870	97		97		10	5	4.0	5.4		OVERLAY TRANSITION	
	0+00.20 AH	46+98.00	4697.80	58.00	272472	30275		30275		3027	1514	1261.4	1681.9			
	46+98.00	63+95.00	1697.00	75.00	127275	14142		14142		1414	707	589.2	785.6			
	63+95.00	67+47.71	352.71	41.00	14461	1607		1607		161	80	66.9	89.3			
	67+47.71	85+83.78	1836.07	38.00	69771	7752		7752		775	388	323.0	430.7			
	85+83.78	90+50.00	466.22	42.00	19581	2176		2176		218	109	90.7	120.9			
	90+50.00	91+00.00	50.00	43.00	2150	239		239		24	12	10.0	13.3		OVERLAY TRANSITION	
RAMP A-1	11+40.00	21+46.00	1006.00	25.00	25150	2794		2794		279	279	116.4	155.2	155.2		
	21+46.00	21+61.00	15.00	CADD	424	47		47		5	5	2.0	2.6	2.6		
RAMP A-2	1+96.00	3+90.00	194.00	41.00	7954	884		884		88	88	36.8	49.1	49.1		
	3+90.00	8+30.00	440.00	33.75	14850	1650		1650		165	165	68.7	91.7	91.7		
	8+30.00	9+27.30	97.30	27.25	2651	295		295		29	29	12.3	16.4	16.4		
RAMP A-3	10+47.48	12+60.00	212.52	26.00	5526	614		614		61	61	25.6	34.1	34.1		
	12+60.00	14+60.00	200.00	25.00	5000	556		556		56	56	23.1	30.9	30.9		
	14+60.00	19+00.00	440.00	33.00	14520	1613		1613		161	161	67.2	89.6	89.6		
	19+00.00	21+14.83	214.83	41.00	8808	979		979		98	98	40.8	54.4	54.4		
RAMP A-4	1+72.00	1+90.00	18.00	CADD	267	30		30		3	3	1.2	1.7	1.7		
	1+90.00	10+10.00	820.00	25.00	20500	2278		2278		228	228	94.9	126.5	126.5		
RAMP A	5+71.00	6+21.00	50.00	38.00	1900	211		211		21	11	8.8	11.7	11.7	OVERLAY TRANSITION	
	6+21.00	24+17.00	1796.00	38.00	68248	7583		7583		758	379	316.0	421.3	421.3		
RAMP C	10+12.00	10+62.00	50.00	40.00	2000	222		222		22	11	9.3	12.3	12.3	OVERLAY TRANSITION	
	10+62.00	12+93.64	231.64	40.00	9266	1030		1030		103	51	42.9	57.2	57.2		
	12+93.64	19+00.00	606.36	38.00	23042	2560		2560		256	128	106.7	142.2	142.2		
	19+00.00	19+97.00	97.00	35.00	3395	377		377		38	19	15.7	21.0	21.0		
	BRIDGE CUY-271-0145W, OVER IR-271 & IR-90 EB															
	25+84.00	27+09.00	125.00	35.00	4375	486		486		49	24	20.3	27.0	27.0		
	27+09.00	31+55.00	446.00	38.00	16948	1883		1883		188	94	78.5	104.6	104.6		
	31+55.00	32+80.00	125.00	35.00	4375	486		486		49	24	20.3	27.0	27.0		
	BRIDGE CUY-271-0127E, OVER EDDY RD															
	34+23.00	35+48.00	125.00	35.00	4375	486		486		49	24	20.3	27.0	27.0		
	35+48.00	40+97.00	549.00	38.00	20862	2318		2318		232	116	96.6	128.8	128.8		
	40+97.00	42+28.41	131.41	40.00	5256	584		584		58	29	24.3	32.4	32.4		
I.R.-271	CROSSOVERS															
	59+50		*	*	1795	199		199		20	20	8.3	11.1	11.1	* - CADD MEASURED	
	59+50		*	*	1795	199		199		20	20	8.3	11.1	11.1	* - CADD MEASURED	
	130+25		*	*	1475	164		164		16	16	6.8	9.1	9.1	* - CADD MEASURED	
	130+25		*	*	1475	164		164		16	16	6.8	9.1	9.1	* - CADD MEASURED	
	39+50		*	*	1620	180		180		18	9	7.5	10.0	10.0	* - CADD MEASURED	
	39+50		*	*	1620	180		180		18	9	7.5	10.0	10.0	* - CADD MEASURED	
	88+50		*	*	1930	214		214		21	11	8.9	11.9	11.9	* - CADD MEASURED	
<b>TOTALS THIS SHEET</b>							<b>12465</b>	<b>75088</b>		<b>8755</b>	<b>5001</b>	<b>3648</b>	<b>4864</b>	<b>692</b>		
<b>TOTALS FROM SHEET 18</b>							<b>173073</b>	<b>61554</b>	<b>6133</b>	<b>24076</b>	<b>20179</b>	<b>10007</b>	<b>12329</b>	<b>10027</b>		
<b>TOTALS TO GENERAL SUMMARY</b>								<b>328313</b>		<b>32831</b>	<b>25180</b>	<b>13655</b>	<b>17193</b>	<b>10720</b>		

PAVEMENT SUBSUMMARY  
CUY / LAK -271-14.09 / 0.00  
19  
96

CALCULATED  
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LOCATION AND STATION		646										621							
		EDGE LINE		LANE LINE, AS PER PLAN	CHANNELIZING LINE		STOP LINE	CROSSWALK LINE	TRANSVERSE/DIAGONAL LINE (WHITE)	LANE ARROW	RAISED PAVEMENT MARKER	WHITE	WHITE/RED	YELLOW/RED					
		WHITE FOOT	YELLOW FOOT		FOOT	CORE FOOT									FOOT	EACH	EACH	EACH	
<b>IR-271 NB</b>																			
757+88.72	758+63.72 BK	75	75	150													2		
0+00.00 AH	3+50	350	350	700													8		
3+50	7+14	364	364	1092													15		
7+14	10+55	341	341	682	682												8	17	
10+55	30+00	1945	1945	3890													48		
30+00	36+18	1236	618	1236													16	16	
36+18	39+30	312	312	936													12		
39+30	39+97.82 BK	68	68	136													2		
40+00.00 AH	84+62.33 BK	4462	4462	8924													112		
84+48.97 AH	94+00	951	951	1902													24		
94+00	99+90	1180	590	1180	1180			215									14	30	
99+90	102+00	210	420	420	210												6	5	
102+00	106+00	400	400	1200													15		
106+00	134+58.34 BK	2858	2858	5716													72		
0+00.00 AH	56+54	5654	5654	11308													142		
56+54	60+50	396	396	792	792			165									10	20	
60+50	90+50	3000	3000	3000													38		
90+50	91+00	50	50	100													2		
<b>IR-271 SB</b>																			
757+88.72	758+63.72 BK	75	75	150													2		
0+00	3+25	325	325	650													8		
3+25	6+10	285	285	855													12		
6+10	11+35	1050	525	1050	525												14	14	
11+35	29+35	1800	1800	3600													46		
29+35	31+67	232	232	464	464												6	13	
31+67	35+92	425	425	1275													15		
35+92	39+97.82 BK	406	406	812													10		
40+00.00 AH	84+62.33 BK	4462	4462	8924													112		
84+48.97 AH	99+40	1491	1491	2982													38		
99+40	106+80	1480	740	1480	1480			295									18	38	
106+80	110+65	385	385	770	770			50									10	20	
110+65	112+95	230	230	690													9		
112+95	134+58.34 BK	2163	2163	4326													54		
0+00.00 AH	60+50	6050	6050	12100													152		
60+50	63+50	600	300	600	300												8	8	
63+50	90+50	2700	2700	2700													34		
90+50	91+00	50	50	100													2		
<b>RAMP A-1</b>																			
11+40	21+65	1025	1025																
	21+87							120											
<b>RAMP A-2</b>																			
	1+64							125											
1+71	3+90	219	219			438	50				9						12	3	
3+90	5+90	200	200	200													3	3	
5+90	9+30	340	340															4	
<b>RAMP A-3</b>																			
10+47	16+47	600	600																
16+47	19+00	253	253	253														4	
19+00	21+28	228	228			456	50				9						12	3	
	21+35							110											
<b>RAMP A-2</b>																			
	1+57							105											
1+60	10+06	846	846															11	
<b>RAMP A</b>																			
5+71	24+62	1891	1891	1891															
<b>RAMP C</b>																			
10+12	41+00	3088	3088	3088															
<b>SHEET TOTAL</b>		56751	54488	92324	6403	894	100	460	725		18						39	212	49
		=21.07 MILE	=17.49 MILE	7297													1420		

\* - IN PLACE OF LANE LINE

CALCULATED EMK CHECKED LDH	<b>PAVEMENT MARKING / RAISED PAVEMENT MARKER</b> <b>SUB - SUMMARY</b>	<b>CUY / LAK - 271 - 14.09 / 0.00</b> 21 96
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SHEET NUMBER										PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
7	8	9	10	19	20	39	40	NORM. PROJ.	100% STATE								
LUMP								LUMP		201	11000	LUMP		CLEARING AND GRUBBING			
									199902	202	23500	199902	SQ YD	WEARING COURSE REMOVED			
	1050							1050		202	30000	1050	SQ FT	WALK REMOVED			
	104							104		202	32000	104	FT	CURB REMOVED			
					18830.5				18830.5	202	38001	18830.5	FT	GUARDRAIL REMOVED, AS PER PLAN		7	
		10				15	10	35		203	10000	35	CU YD	EXCAVATION			
					196.1			196.1		209	15001	196.1	STATION	RESHAPING UNDER GUARDRAIL, AS PER PLAN		7	
745								745		209	60201	745	STATION	LINEAR GRADING, AS PER PLAN		7	
					16714			16714		606	13000	16714	FT	GUARDRAIL, TYPE 5			
					287.5			287.5		606	13050	287.5	FT	GUARDRAIL, TYPE 5A			
					200			200		606	15500	200	FT	GUARDRAIL, BARRIER DESIGN, TYPE 5			
					27			27		606	22010	27	EACH	ANCHOR ASSEMBLY, TYPE E-98			
					47			47		606	26500	47	EACH	ANCHOR ASSEMBLY, TYPE T			
					20			20		606	35000	20	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1			
					8			8		606	35100	8	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 2			
					16			16		606	60000	16	EACH	IMPACT ATTENUATOR, TYPE 1-98 (UNIDIRECTIONAL)			
	650							650		608	10000	650	SQ FT	4" CONCRETE WALK			
	400							400		608	52001	400	SQ FT	CURB RAMP, AS PER PLAN		8	
					80			80		622	10161	80	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN		7	
					2			2		622	25000	2	EACH	CONCRETE BARRIER END SECTION, TYPE D			
					2			2		622	25050	2	EACH	CONCRETE BARRIER, END ANCHOR, REINFORCED, TYPE D			
					1			1		622	90200	1	EACH	BARRIER, MISC.: CONCRETE BARRIER END SECTION		44	
														<b>EROSION CONTROL</b>			
	LUMP							LUMP		659	98700	LUMP		SEEDING, MISC.: SEEDING AND MULCHING		8	
										832	30000	90000	EACH	EROSION CONTROL			
														<b>DRAINAGE</b>			
	6							6		604	09001	6	EACH	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN		8	
	1							1		604	34501	1	EACH	MANHOLE ADJUSTED TO GRADE, AS PER PLAN		8	
	1000							1000		604	50000	1000	POUND	SPECIAL - MISCELLANEOUS METAL		8	
														<b>PAVEMENT</b>			
						250		250		251	01001	250	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN A		9	
						550		550		251	01001	550	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN B		9	
							150	150		251	01001	150	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN C		9	
							320	320		251	01001	320	SQ YD	PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN D		9	
		700						700		253	02001	700	CU YD	PAVEMENT REPAIR, AS PER PLAN A		9	
		175						175		253	02001	175	CU YD	PAVEMENT REPAIR, AS PER PLAN B		9	
					128366			128366		254	01000	128366	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE			
						2500		2500		255	10101	2500	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A		9	
						400		400		255	10101	400	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B		9	
							1500	1500		255	10101	1500	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN C		9	
							200	200		255	10101	200	SQ YD	FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN D		9	
						18000	10500	28500		255	20000	28500	FT	FULL DEPTH PAVEMENT SAWING			
					4.6			4.6		301	46000	4.6	CU YD	ASPHALT CONCRETE BASE, PG64-22			
		10				15	10	35		304	20000	35	CU YD	AGGREGATE BASE			
					12837			12837		407	10000	12837	GALLON	TACK COAT			
					19990			19990		407	13900	19990	GALLON	TACK COAT, 702.13			
					26278			26278		407	14000	26278	GALLON	TACK COAT FOR INTERMEDIATE COURSE			
					13678			13678		442	10001	13678	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (446), AS PER PLAN		9	
					18219			18219		442	10100	18219	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (446)			
					310			310		442	20100	310	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 9.5MM, TYPE A (448)			
					10135			10135		442	20200	10135	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE A (448)			
					726.7			726.7		448	46061	726.7	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, UNDER GUARDRAIL, PG64-22, AS PER PLAN		7	
					380			380		609	24510	380	FT	CURB, TYPE 4-C			
					690			690		617	10101	690	CU YD	COMPACTED AGGREGATE, AS PER PLAN		10	
					18.68			18.68		618	40600	18.68	MILE	RUMBLE STRIPS, (ASPHALT CONCRETE)			

CALCULATED  
 EMK  
 CHECKED  
 LDH  
**GENERAL SUMMARY**  
 CUY / LAK - 271 - 14.09 / 0.00  
 22  
 96

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SHEET NUMBER											PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
10	20	21	45B	63	64	NORM. PROJ.	100% STATE											
														<b>TRAFFIC CONTROL</b>				
312						312		620	00500	312	EACH	DELINEATOR, POST MOUNTED						
175						175		620	31200	175	EACH	REMOVAL OF DELINEATOR						
		1420				1420		621	00100	1420	EACH	RPM						
740						740		621	54000	740	EACH	RAISED PAVEMENT MARKER REMOVED						
					76	76		625	01500	76	EACH	CABLE SPlicing KIT						
	291					291		626	00100	291	EACH	BARRIER REFLECTOR						
						2092		630	03100	2092	FT	GROUND MOUNTED SUPPORT, NO. 3 POST						
						31.5		630	04100	31.5	FT	GROUND MOUNTED SUPPORT, NO. 4 POST						
						577		630	06400	577	FT	GROUND MOUNTED SUPPORT, S4X7.7 BEAM						
						293		630	06500	293	FT	GROUND MOUNTED SUPPORT, W6X9 BEAM						
						49		630	07500	49	FT	GROUND MOUNTED SUPPORT, W10X22 BEAM						
						172		630	07600	172	FT	GROUND MOUNTED SUPPORT, W10X12 BEAM						
						200.5		630	08004	200.5	FT	ONE WAY SUPPORT, NO. 3 POST						
						32		630	09000	32	EACH	BREAKAWAY BEAM CONNECTION						
						174		630	75000	174	EACH	SIGN ATTACHMENT ASSEMBLY						
						1268.7		630	80100	1268.7	SQ FT	SIGN, FLAT SHEET						
						80		630	80101	80	SQ FT	SIGN, FLAT SHEET, AS PER PLAN	11					
						1734		630	80200	1734	SQ FT	SIGN, GROUND MOUNTED EXTRUSHEET						
						9714		630	80224	9714	SQ FT	SIGN, OVERHEAD EXTRUSHEET						
						66		630	84500	66	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION						
					207	207		630	84900	207	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL						
						16		630	85400	16	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND DISPOSAL						
						179		630	86003	179	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, AS PER PLAN	11					
						50		630	86102	50	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL						
						82		630	87400	82	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL						
						113		631	94200	113	EACH	REMOVAL OF LUMINAIRE AND DISPOSAL						
						38		631	94304	38	EACH	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL						
						53		631	94408	53	EACH	REMOVAL OF SIGN WIRING AND DISPOSAL						
						38		631	94412	38	EACH	REMOVAL OF SIGN SERVICE AND DISPOSAL						
4						4		632	26501	4	EACH	DETECTOR LOOP, AS PER PLAN	10					
					2	2		632	90020	2	EACH	REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM, PAVEMENT SENSOR						
		21.07				21.07		646	10000	21.07	MILE	EDGE LINE						
		17.49				17.49		646	10101	17.49	MILE	LANE LINE, AS PER PLAN	10					
		7297				7297		646	10300	7297	FT	CHANNELIZING LINE						
		100				100		646	10400	100	FT	STOP LINE						
		460				460		646	10500	460	FT	CROSSWALK LINE						
		725				725		646	10600	725	FT	TRANSVERSE/DIAGONAL LINE						
		18				18		646	20300	18	EACH	LANE ARROW						
					2	2		SPECIAL	69098000	2	EACH	MISC.: ROADWAY MOUNTED SENSOR	45A					
					2	2		SPECIAL	69098000	2	EACH	MISC.: ROADWAY MOUNTED SENSOR COMMISIONING	45A					

GENERAL SUMMARY

CUY / LAK - 271 - 14.09 / 0.00

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SHEET NUMBER											PARTICIPATION		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
12	13	14	15	17	45	NORM. PROJ.	100% STATE											
<b>MAINTENANCE OF TRAFFIC</b>																		
1500						1500		614	11100	1500	HOURLY	LAW ENFORCEMENT OFFICER WITH PATROL CAR						
		6				6		614	11500	6	MONTH	WORKSITE TRAFFIC SUPERVISOR	14					
						3		614	12336	3	EACH	WORK ZONE IMPACT ATTENUATOR (UNIDIRECTIONAL)						
			24			24		614	12470	24	EACH	WORK ZONE SPEED LIMIT SIGN						
				24		24		614	12484	24	EACH	WORK ZONE INCREASED PENALTIES SIGN						
	400					400		614	13001	400	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC, AS PER PLAN	13					
						11		614	13300	11	EACH	BARRIER REFLECTOR, TYPE B						
						11		614	13350	11	EACH	OBJECT MARKER, ONE WAY						
			12			12		614	18601	12	SIGN MNTH	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	14					
	63.18					63.18		614	20100	63.18	MILE	WORK ZONE LANE LINE, CLASS I, 642 PAINT						
	78.83					78.83		614	22100	78.83	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT						
	28100					28100		614	23200	28100	FT	WORK ZONE CHANNELIZING LINE, CLASS I, 642 PAINT						
	400					400		614	26200	400	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT						
300						540		622	40020	540	FT	PORTABLE CONCRETE BARRIER, 32"						
						300		630	97800	300	SQ FT	SIGNING, MISC.: ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER	12					
								614	11000	LUMP		MAINTAINING TRAFFIC						
								619	16020	12	MONTH	FIELD OFFICE, TYPE C						
								623	10001	LUMP		CONSTRUCTION LAYOUT STAKES, AS PER PLAN	6					
								624	10000	LUMP		MOBILIZATION						

GENERAL SUMMARY

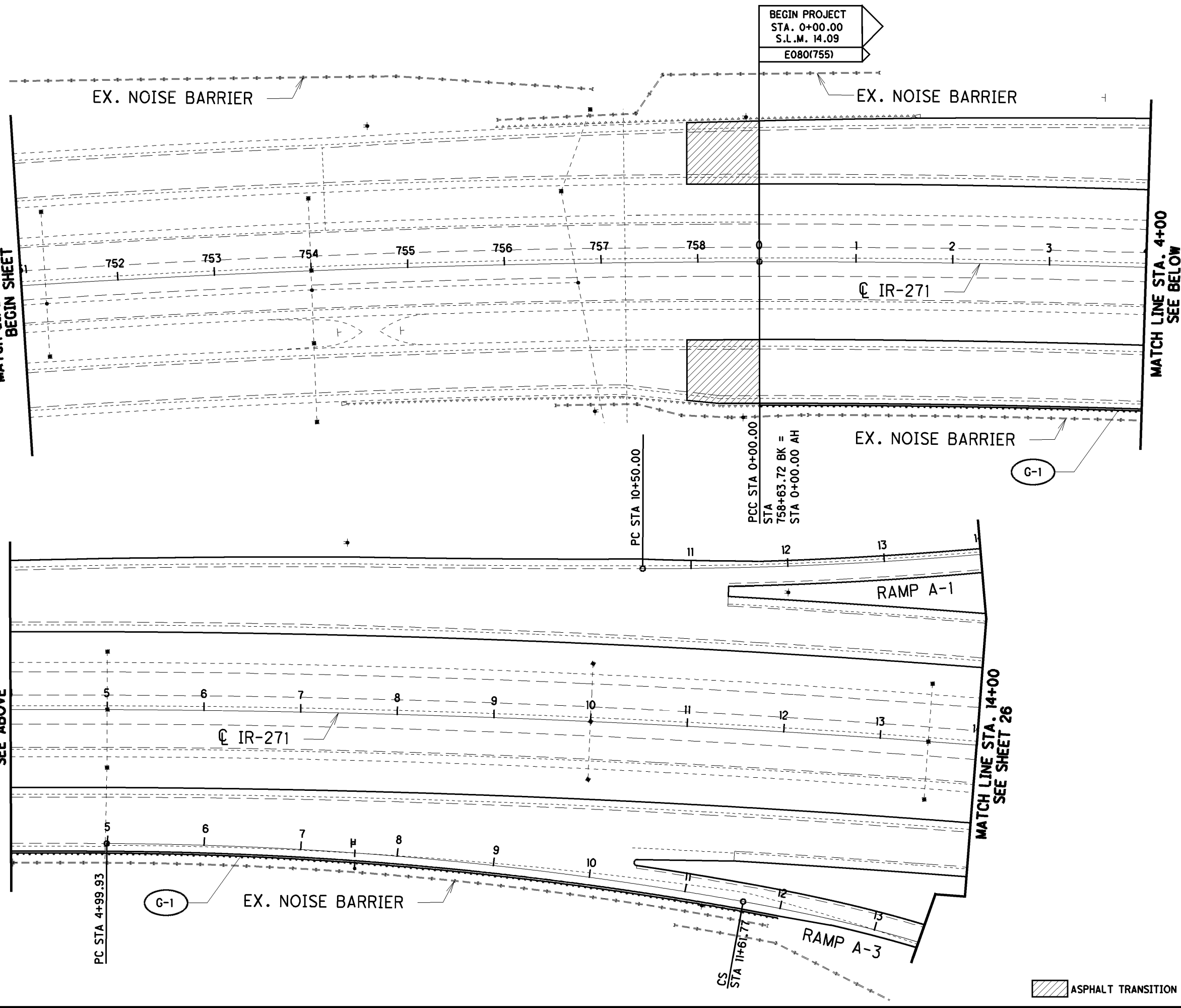
CUY / LAK - 271 - 14.09 / 0.00



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MATCH LINE STA. 751+00  
BEGIN SHEET

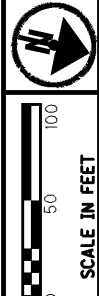
MATCH LINE STA. 4+00  
SEE ABOVE



MATCH LINE STA. 4+00  
SEE BELOW

MATCH LINE STA. 14+00  
SEE SHEET 26

BEGIN PROJECT  
STA. 0+00.00  
S.L.M. 14.09  
E080(755)



CALCULATED  
EMK  
CHECKED  
LDH

PLAN SHEET - I.R. 271  
STA. 751+00 TO STA. 14+00

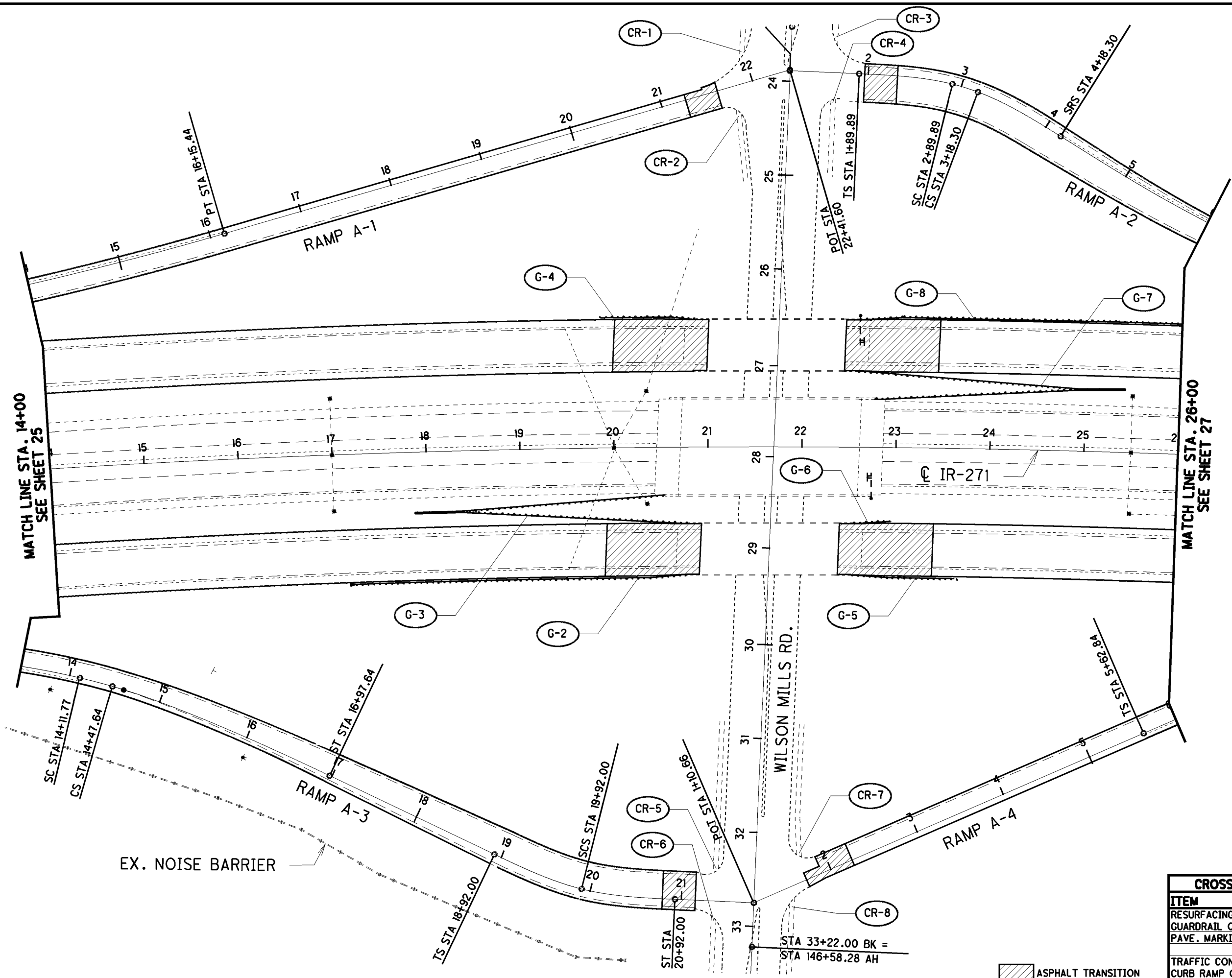
CUY / LAK-271-14.09 / 0.00

CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18-19
GUARDRAIL QTYS	20
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	46

ASPHALT TRANSITION

25  
96

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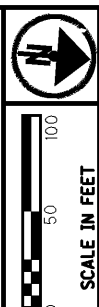
MATCH LINE STA. 14+00  
SEE SHEET 25

MATCH LINE STA. 26+00  
SEE SHEET 27

EX. NOISE BARRIER

CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18-19
GUARDRAIL QTYS	20
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	46
CURB RAMP QTYS	8

ASPHALT TRANSITION



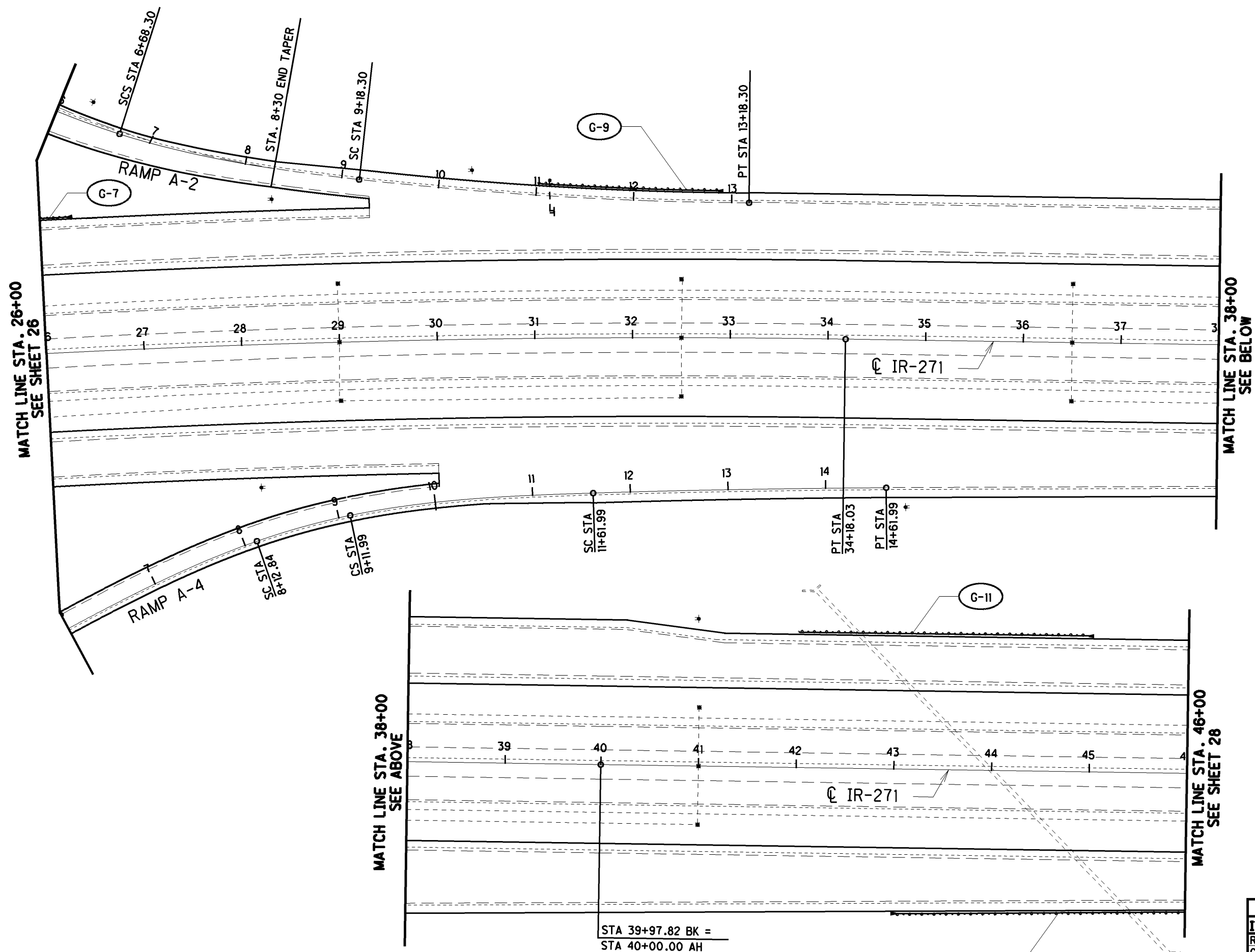
CALCULATED  
EMK  
CHECKED  
LDH

PLAN SHEET - I.R. 271  
STA. 14+00 TO STA. 26+00

CUY / LAK-271-14.09 / 0.00

26  
96

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STA 39+97.82 BK =  
STA 40+00.00 AH

CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18-19
GUARDRAIL QTYS	20
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	46-47

PLAN SHEET - I.R. 271  
STA. 26+00 TO STA. 46+00

CUY / LAK - 271-14.09 / 0.00

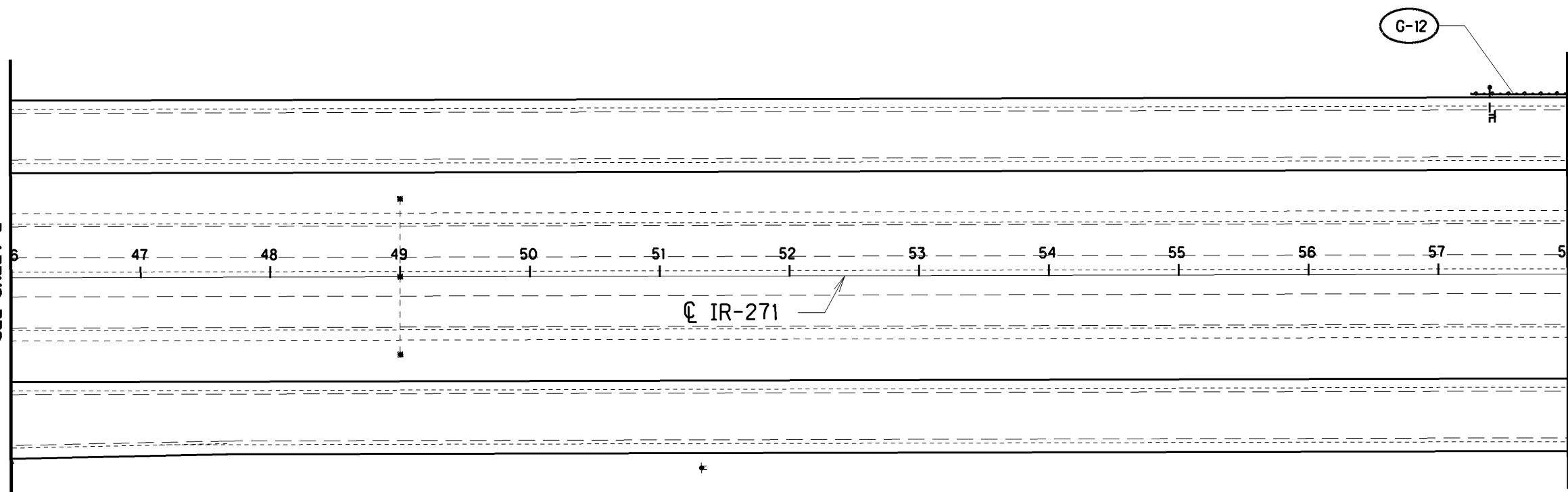
27  
96

CALCULATED  
EMK  
CHECKED  
LDH

SCALE IN FEET

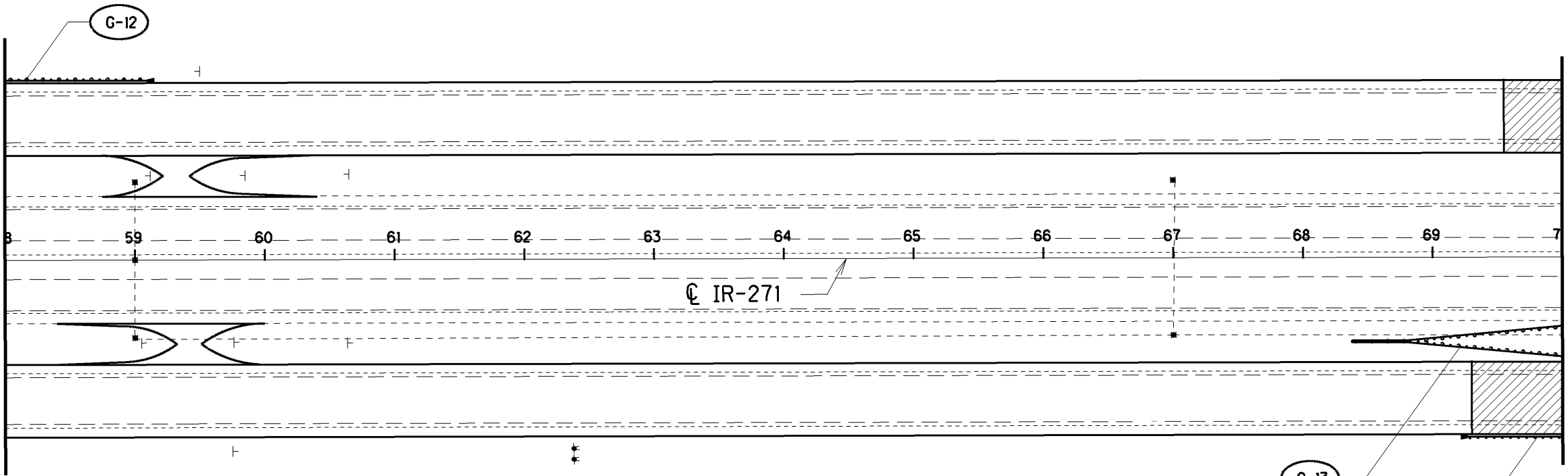
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MATCH LINE STA. 46+00  
SEE SHEET 27



MATCH LINE STA. 58+00  
SEE BELOW

MATCH LINE STA. 58+00  
SEE ABOVE



MATCH LINE STA. 70+00  
SEE SHEET 29

EX. NOISE BARRIER

ASPHALT TRANSITION

CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18
GUARDRAIL QTYS	20
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	47

CUY / LAK - 271 - 14.09 / 0.00

PLAN SHEET - I.R. 271  
STA. 46+00 TO STA. 70+00

CALCULATED  
EMK  
CHECKED  
LDH



28  
96

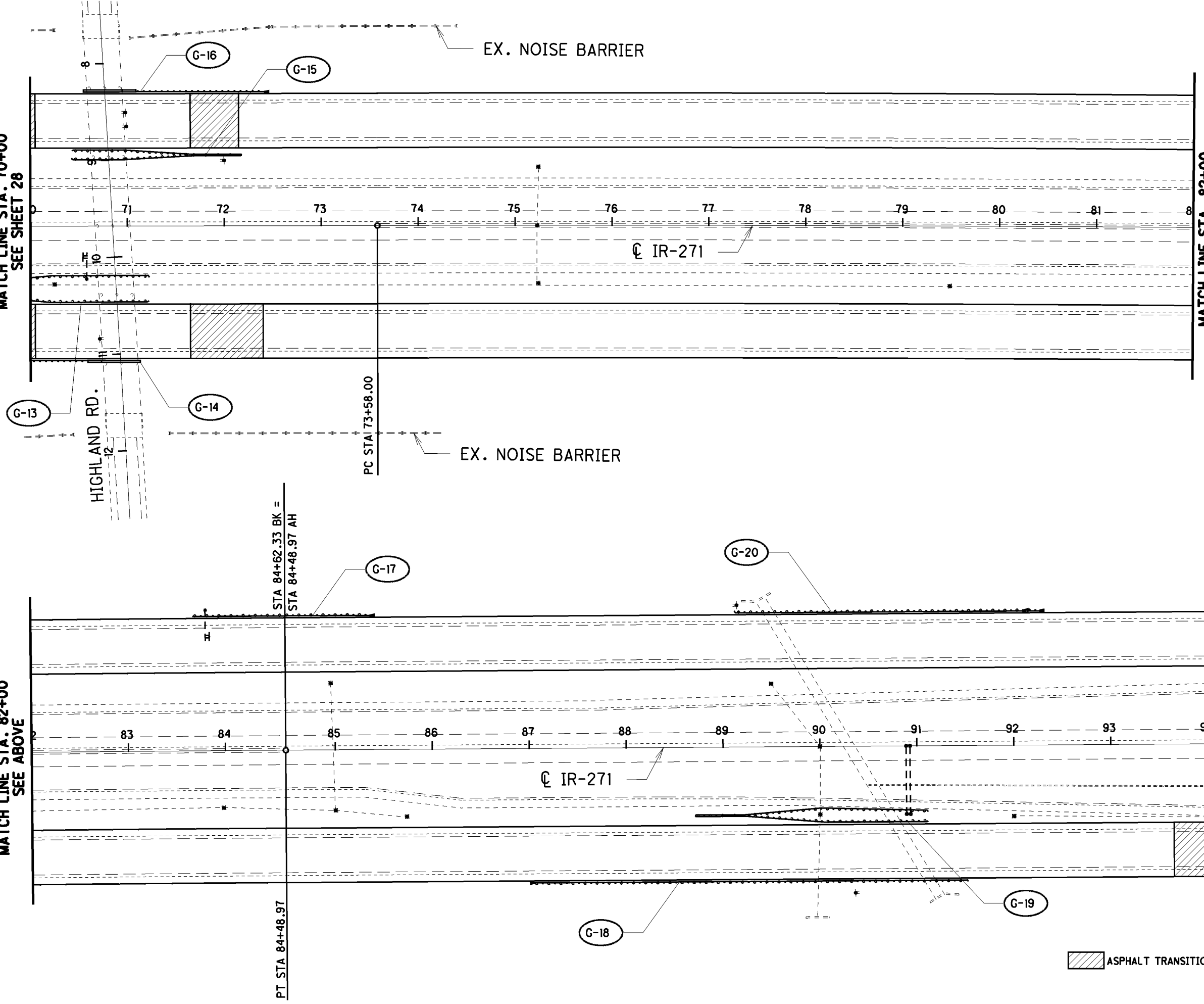
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MATCH LINE STA. 70+00  
SEE SHEET 28

MATCH LINE STA. 82+00  
SEE ABOVE

MATCH LINE STA. 82+00  
SEE BELOW

MATCH LINE STA. 94+00  
SEE SHEET 30



EX. NOISE BARRIER

EX. NOISE BARRIER

IR-271

IR-271

HIGHLAND RD.

STA 84+62.33 BK =  
STA 84+48.97 AH

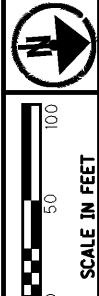
PC STA 73+58.00

PT STA 84+48.97

ASPHALT TRANSITION

CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18
GUARDRAIL QTYS	20
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	47-48

CALCULATED  
 EMK  
 CHECKED  
 LDH

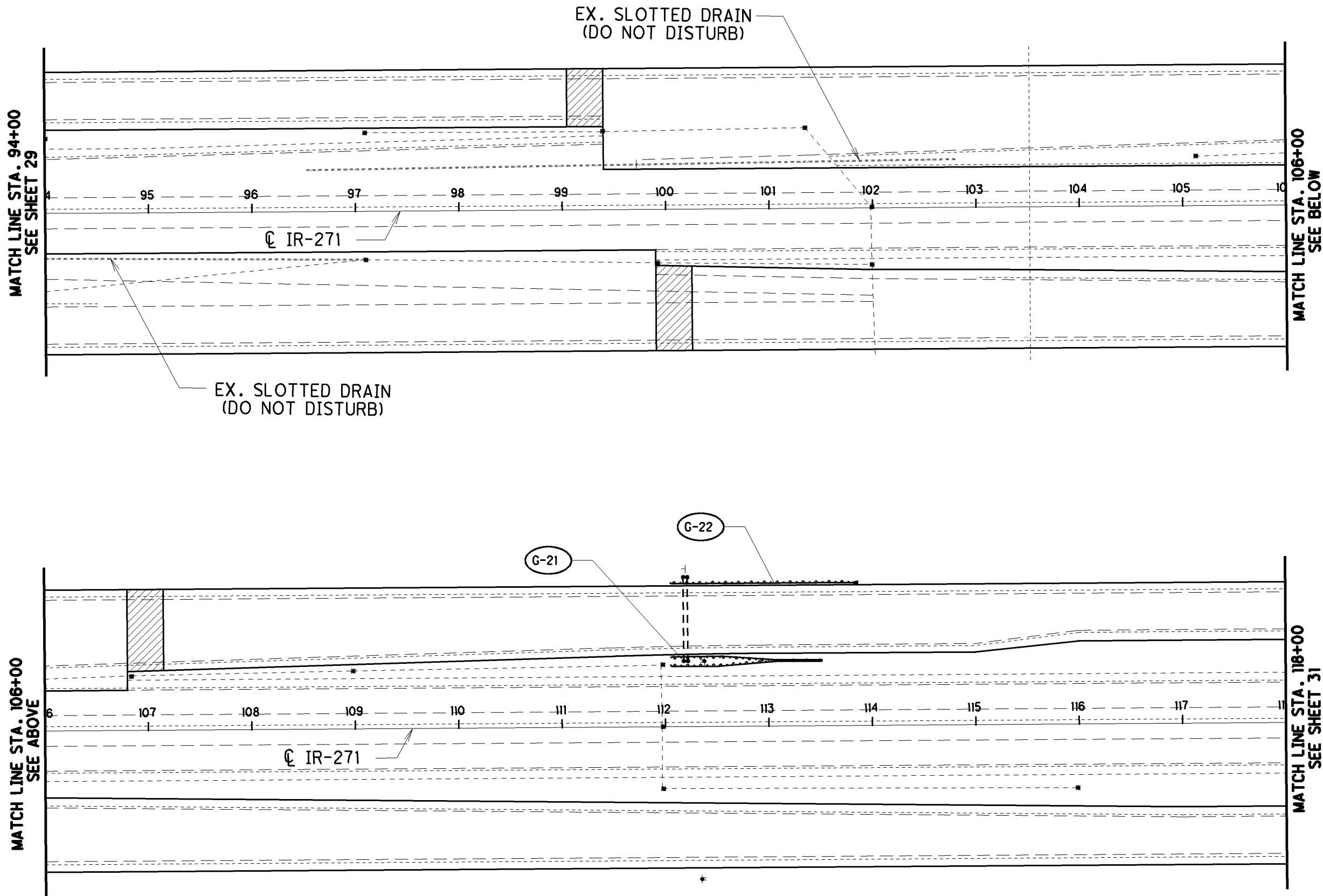


PLAN SHEET - I.R. 271  
STA. 70+00 TO STA. 94+00

CUY / LAK-271-14.09 / 0.00

29  
96

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 ASPHALT TRANSITION

CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18
GUARDRAIL QTYS	20
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	48

**PLAN SHEET - I.R. 271**

STA. 94+00 TO STA. 118+00

CUY / LAK - 271 - 14.09 / 0.00

30  
96

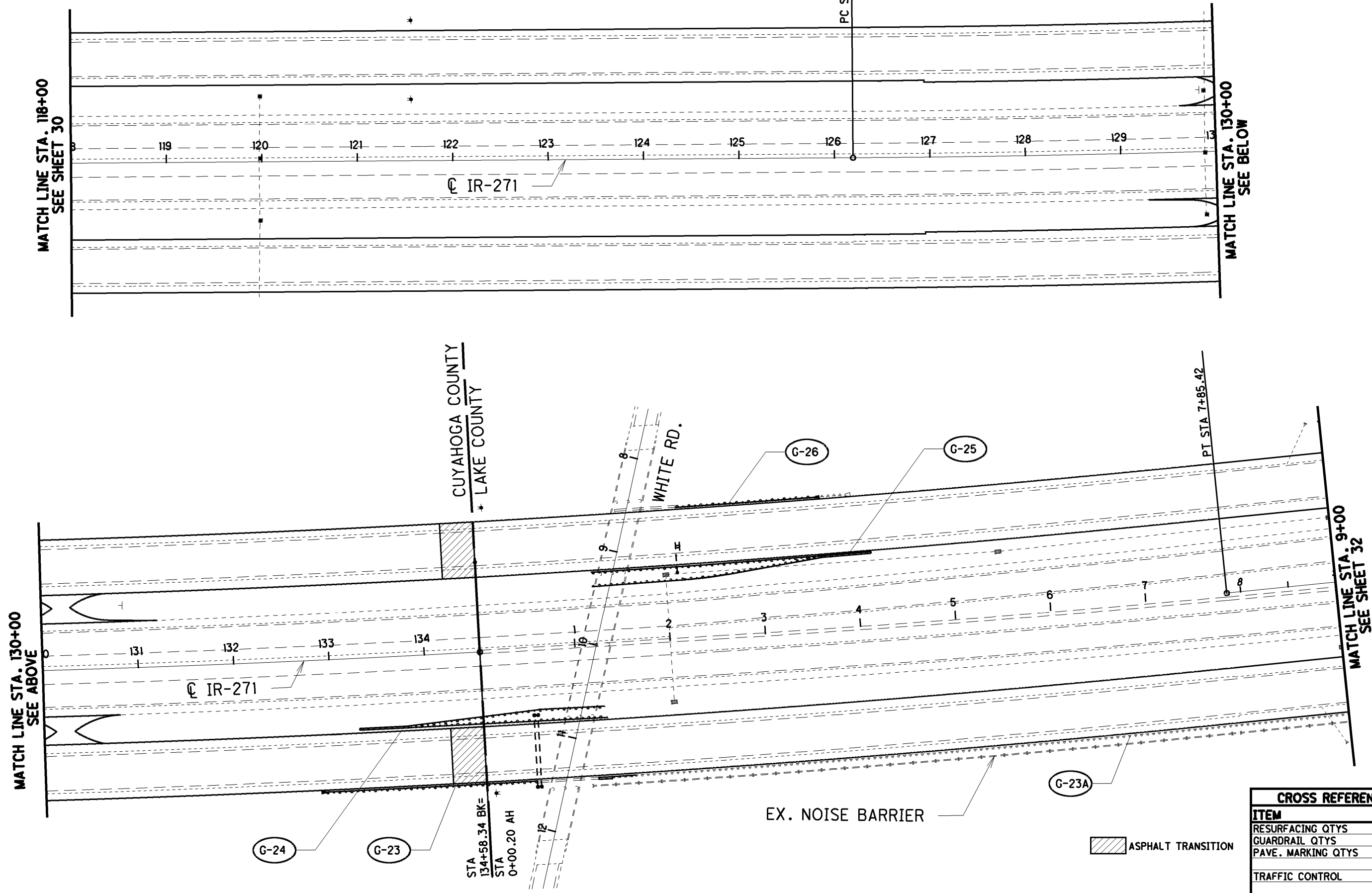
SCALE IN FEET

0 50 100

CALCULATED  
EMK  
CHECKED  
LDH



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MATCH LINE STA. 118+00  
SEE SHEET 30

MATCH LINE STA. 130+00  
SEE BELOW

CUYAHOGA COUNTY  
LAKE COUNTY

WHITE RD.

EX. NOISE BARRIER

ASPHALT TRANSITION

PC STA 126+19.48

PT STA 7+85.42

STA 134+58.34 BK=  
STA 0+00.20 AH

CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18
GUARDRAIL QTYS	20
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	48-49

CALCULATED  
EMK  
CHECKED  
LDH

SCALE IN FEET

PLAN SHEET - I.R. 271  
STA. 118+00 TO STA. 9+00

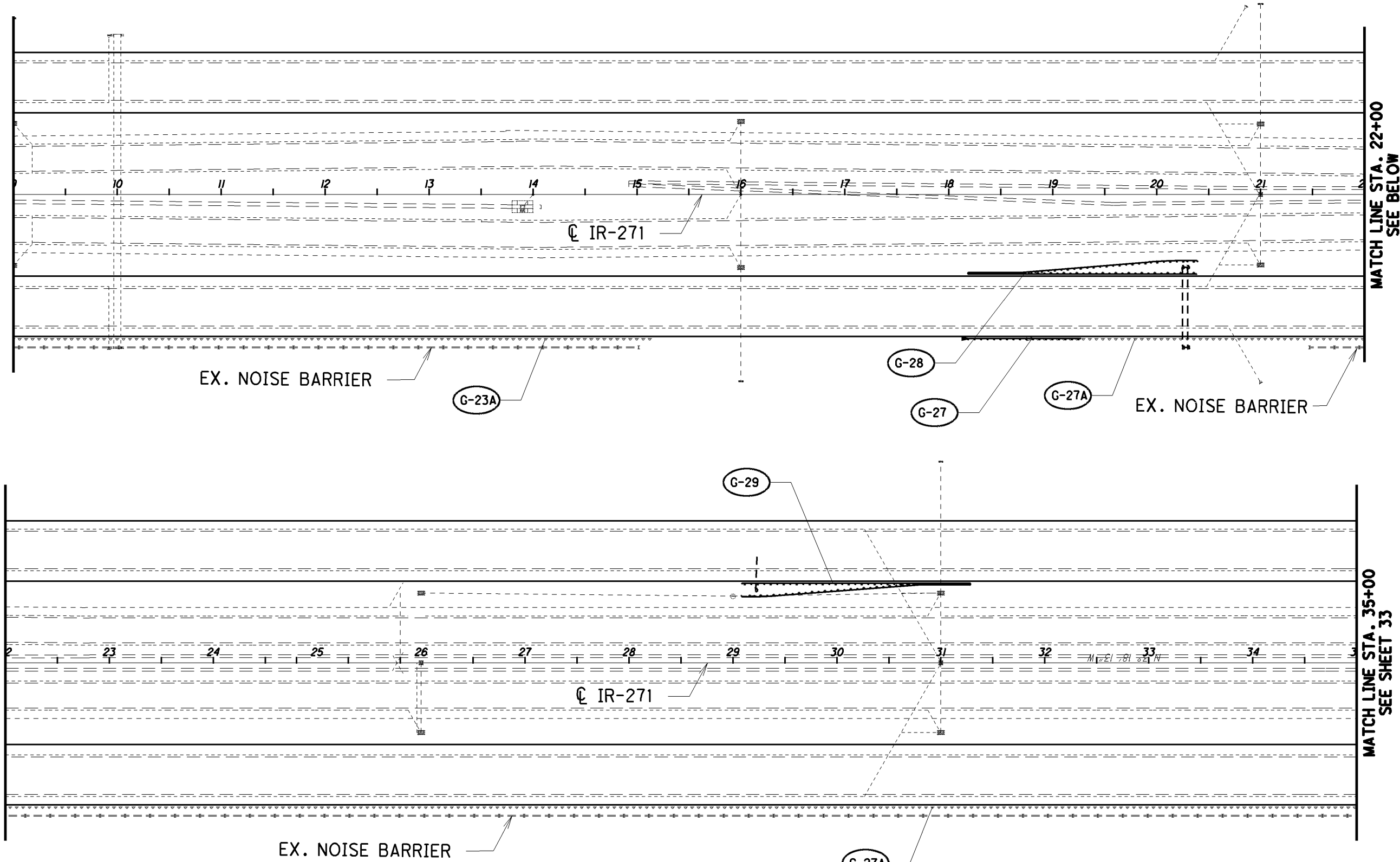
CUY / LAK - 271-14.09 / 0.00

31  
96

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MATCH LINE STA. 9+00  
SEE SHEET 31

MATCH LINE STA. 22+00  
SEE ABOVE



CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18
GUARDRAIL QTYS	20
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	49

CUY / LAK - 271-14.09 / 0.00

PLAN SHEET - I.R. 271  
STA. 9+00 TO STA. 35+00

CALCULATED  
EMK  
CHECKED  
LDH



32  
96



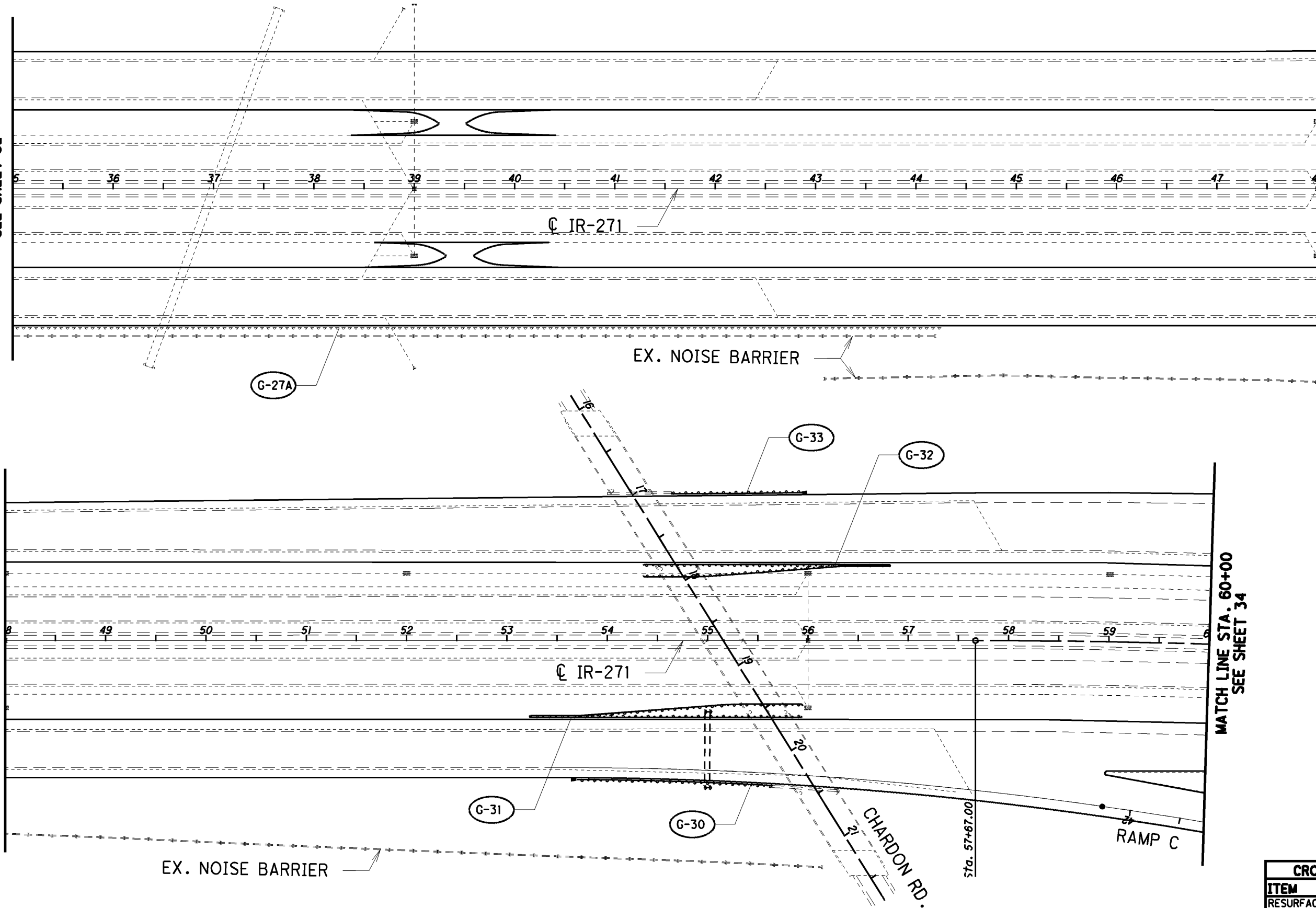
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MATCH LINE STA. 35+00  
SEE SHEET 32

MATCH LINE STA. 48+00  
SEE ABOVE

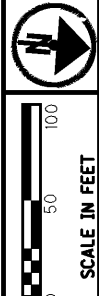
MATCH LINE STA. 48+00  
SEE BELOW

MATCH LINE STA. 60+00  
SEE SHEET 34



CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18-19
GUARDRAIL QTYS	20
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	49-50

CALCULATED  
 EMK  
 CHECKED  
 LDH



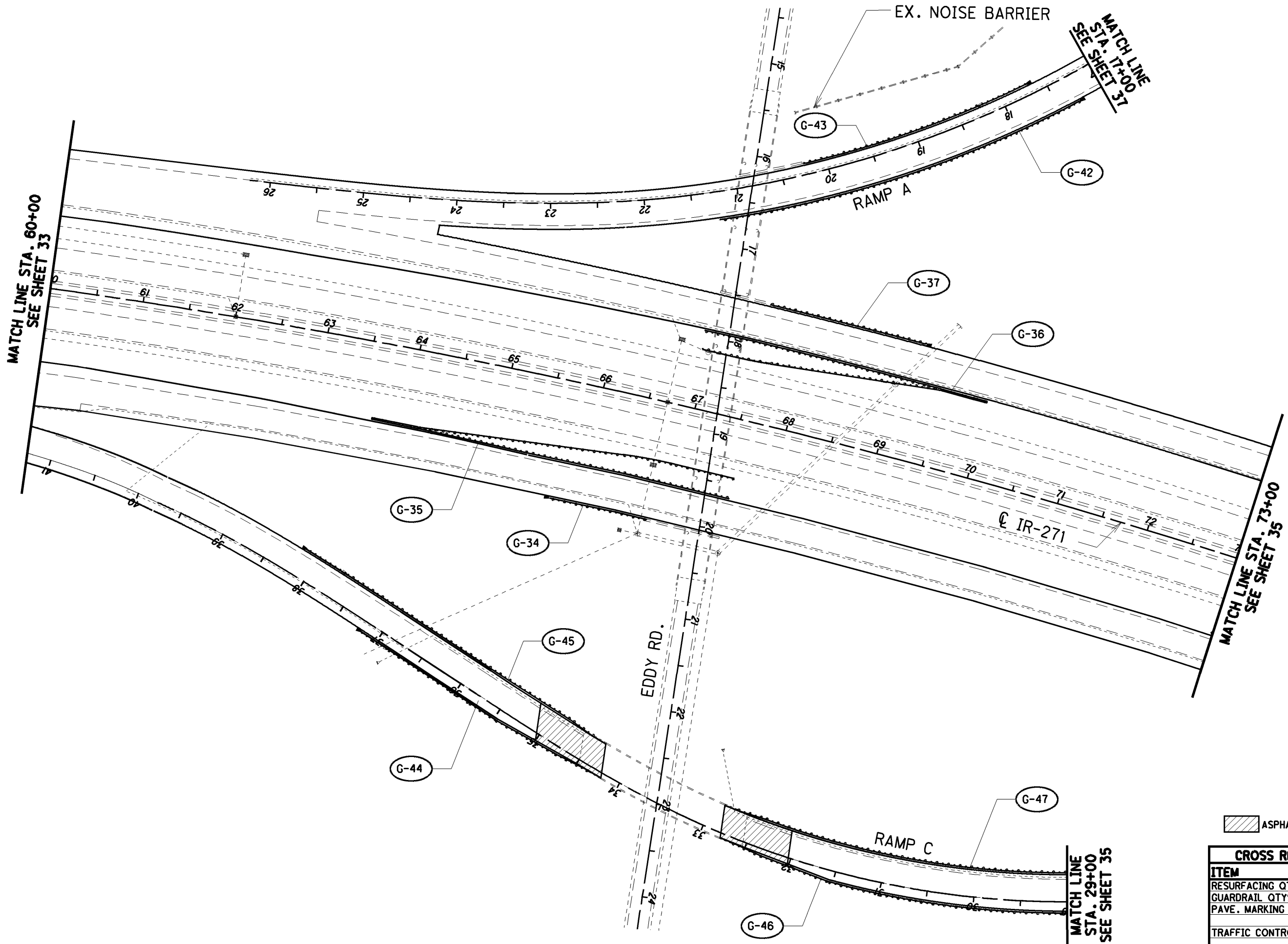
PLAN SHEET - I.R. 271  
STA. 35+00 TO STA. 60+00

CUY / LAK-271-14.09 / 0.00

33  
96

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MATCH LINE STA. 60+00  
SEE SHEET 33



ASPHALT TRANSITION

CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18-19
GUARDRAIL QTYS	20
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	50

MATCH LINE  
STA. 29+00  
SEE SHEET 35

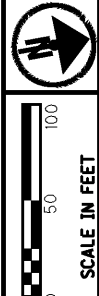
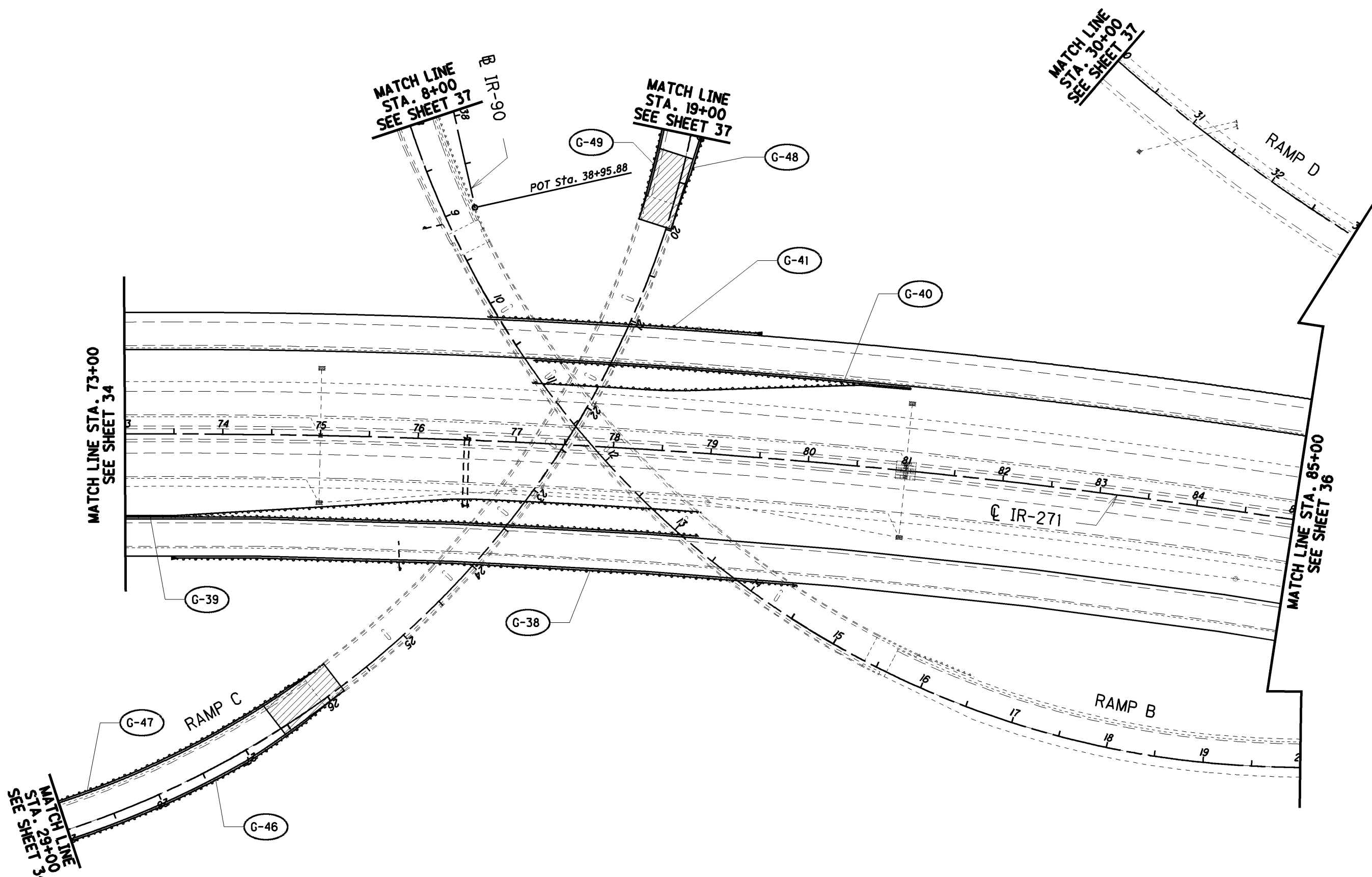
MATCH LINE STA. 73+00  
SEE SHEET 35

SCALE IN FEET

PLAN SHEET - I.R. 271  
 STA. 60+00 TO STA. 73+00

CUY / LAK-271-14.09 / 0.00

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CALCULATED  
EMK  
CHECKED  
LDH

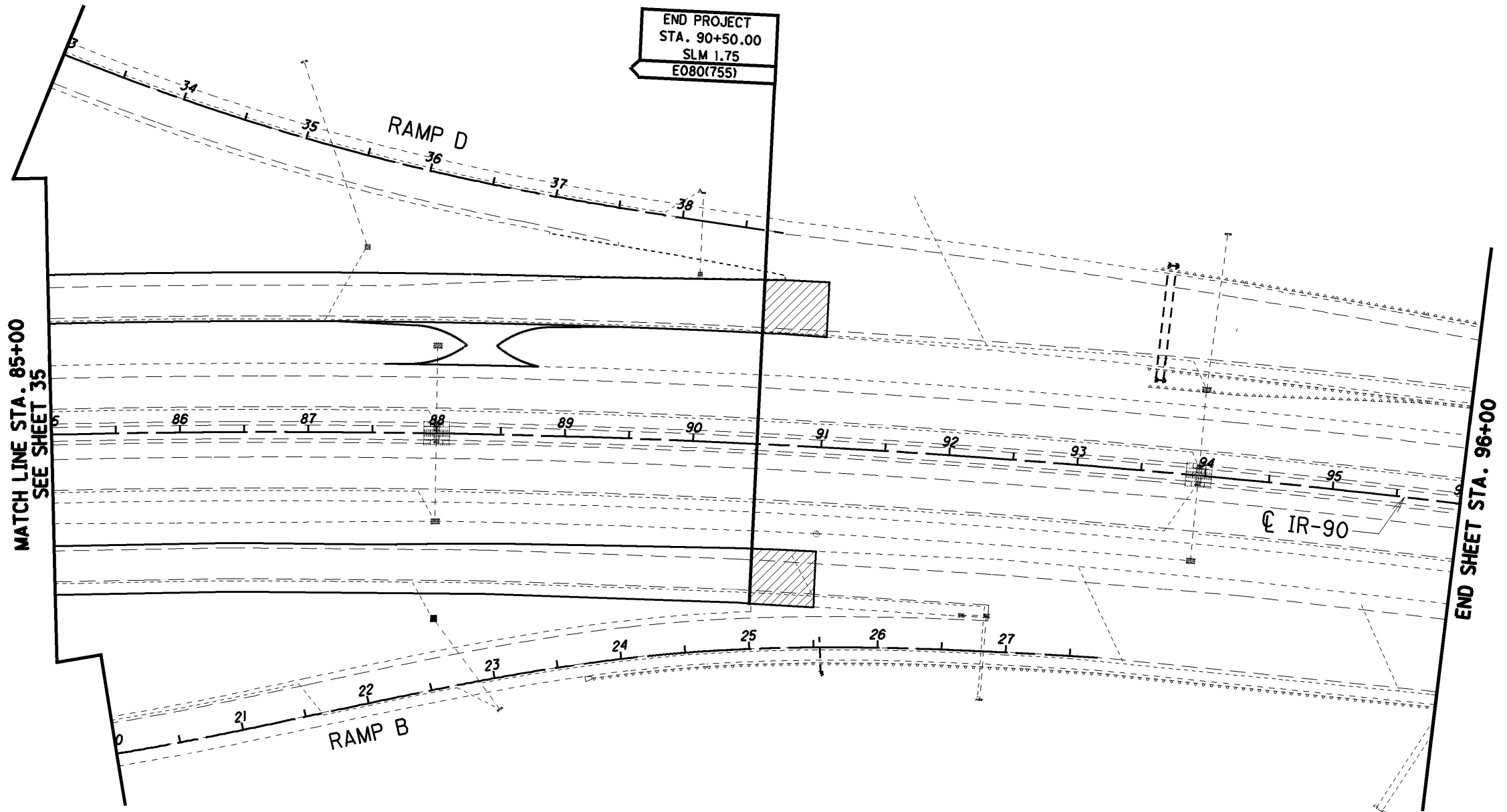
**PLAN SHEET - I.R. 271**  
**STA. 73+00 TO STA. 85+00**

**CUY / LAK - 271-14.09 / 0.00**

CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18-19
GUARDRAIL QTYS	20
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	50

ASPHALT TRANSITION

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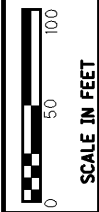
ASPHALT TRANSITION

CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYS	18-19
PAVE. MARKING QTYS	21
TRAFFIC CONTROL	50

CUY / LAK - 271 - 14.09 / 0.00

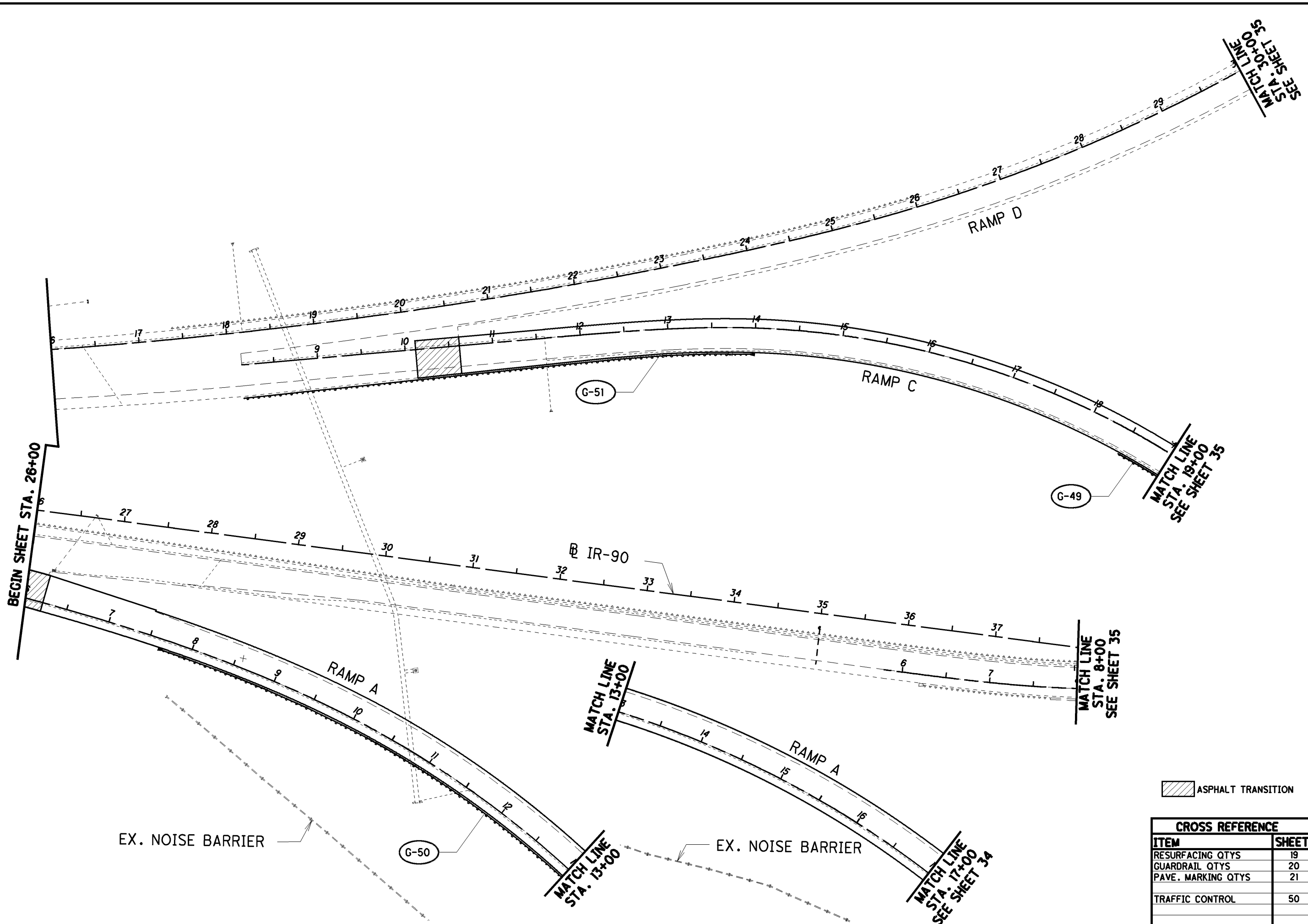
PLAN SHEET - I.R. 271  
STA. 85+00 TO STA. 96+00

CALCULATED  
EMK  
CHECKED  
LDH



36  
96

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ASPHALT TRANSITION

CROSS REFERENCE	
ITEM	SHEET
RESURFACING QTYs	19
GUARDRAIL QTYs	20
PAVE. MARKING QTYs	21
TRAFFIC CONTROL	50

SCALE IN FEET

CALCULATED

EMK

CHECKED

LDH

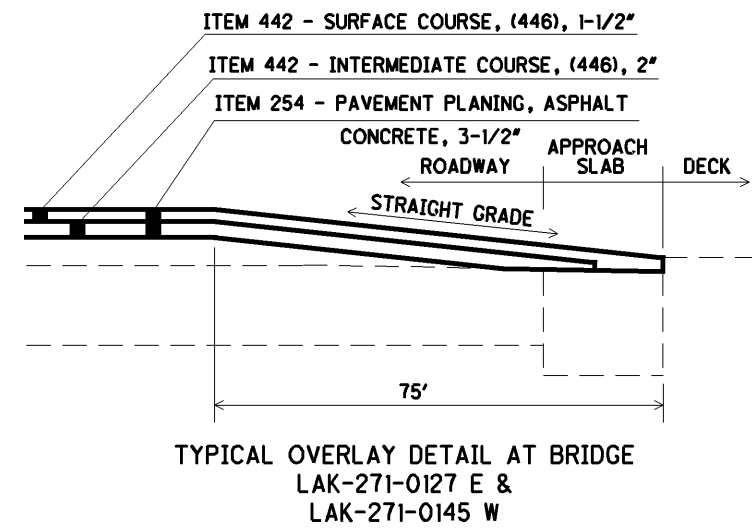
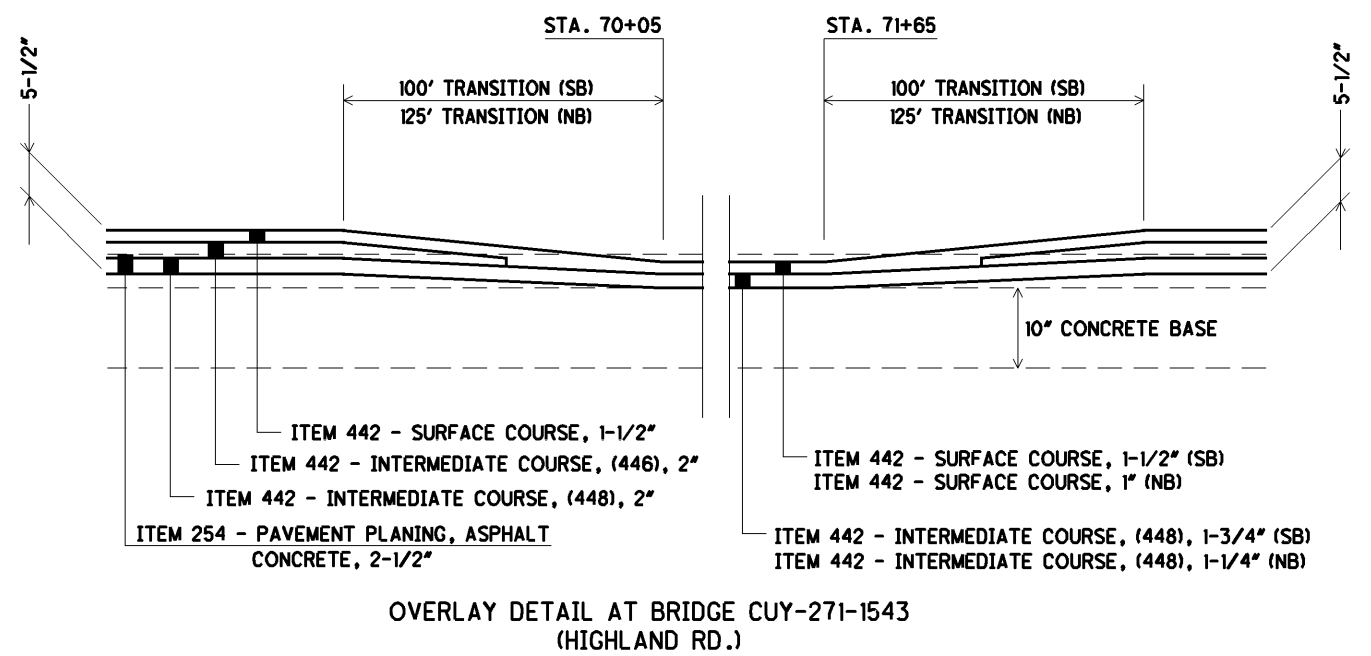
**PLAN SHEET - I.R. 90**

**STA. 26+00 TO STA. 37+95**

**CUY / LAK-271-14.09 / 0.00**

37

96

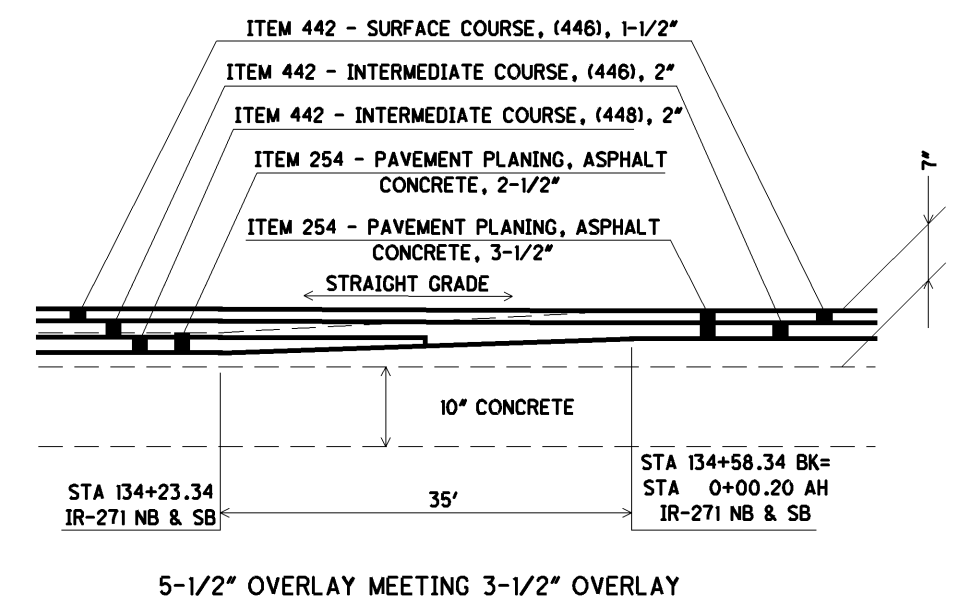
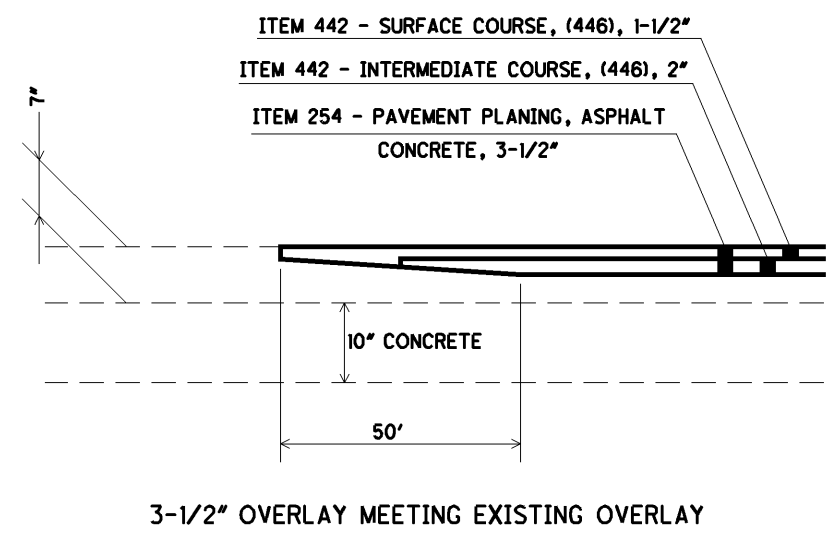
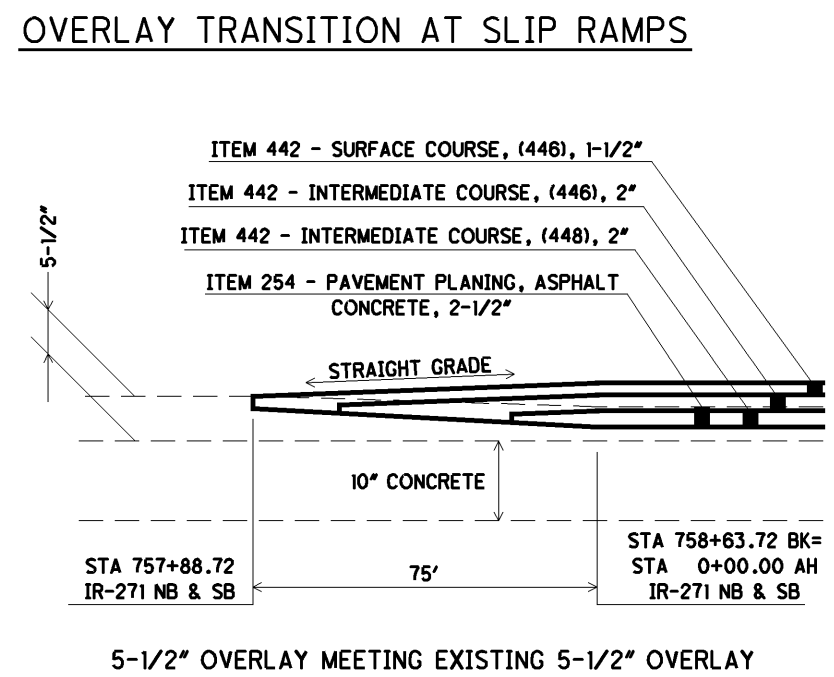
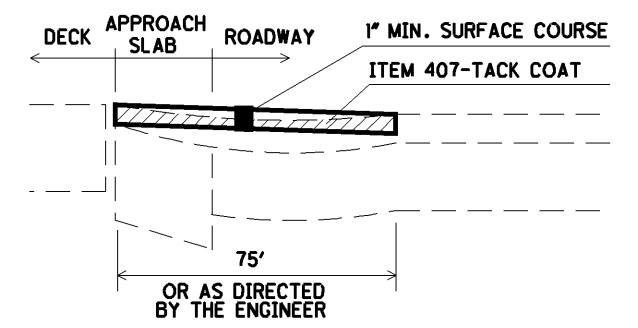
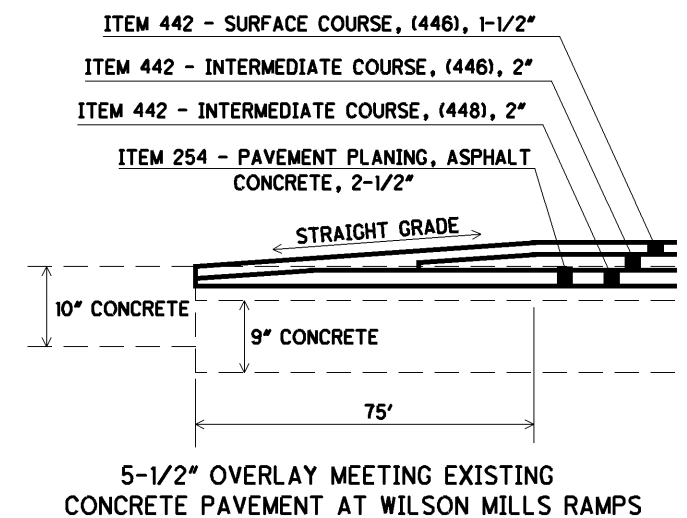
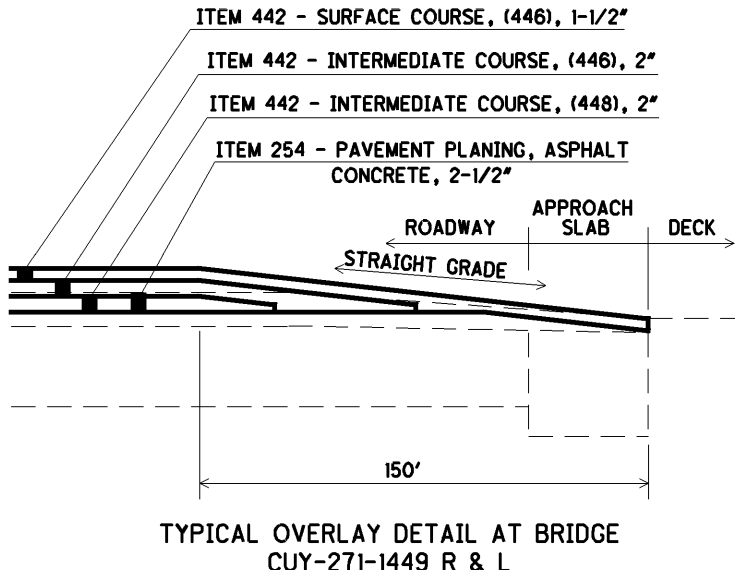
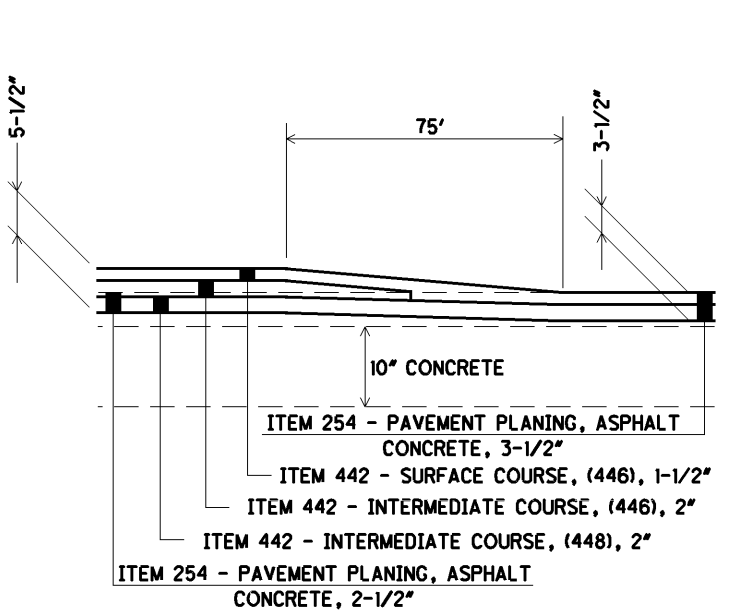


\*- STRAIGHT GRADE - THE ASPHALT TRANSITIONS SHALL BE CONSIDERED UNACCEPTABLE IF THE FINAL GRADE VARIES FROM THE DESIRED STRAIGHT GRADE BY GREATER THAN 3/8 INCHES ANYWHERE THROUGHOUT THE LENGTH OF THE TRANSITION. THIS TOLERANCE IS REDUCED TO 1/4 INCH FOR THE FIRST 5 FEET ADJACENT TO AN EXPANSION JOINT.

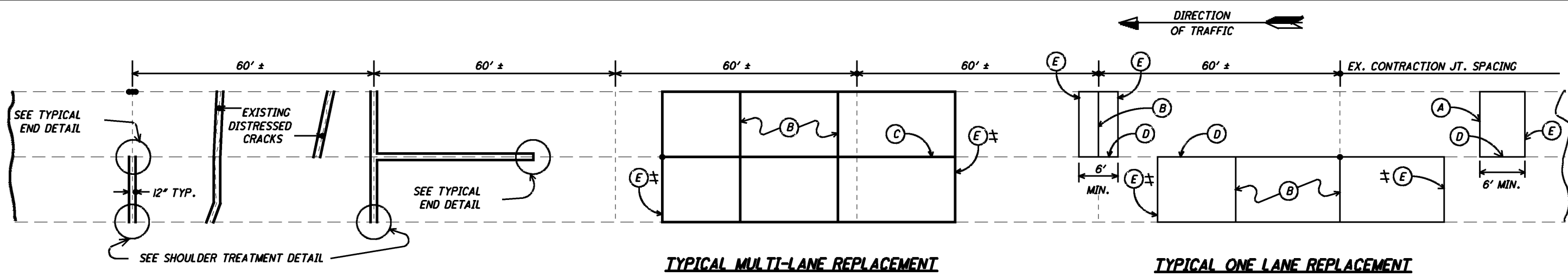
PAYMENT WILL BE HELD FOR 1 C.Y. OF ASPHALT PER FOOT OF PAVING WIDTH AT EACH TRANSITION LOCATION UNTIL THE TRANSITION IS SHOWN TO BE ACCEPTABLE. THE CONTRACTOR IS TO PROVIDE THE NECESSARY SURVEY WORK TO SHOW THAT THESE STRAIGHT GRADES ARE MET ALONG EACH EDGE LINE AND LANE LINE.

ALL UNACCEPTABLE ASPHALT TRANSITIONS SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE. THE REPAIR METHOD SHALL BE AS FOLLOWS:

- DETERMINE FINAL GRADE LINE BY EXTENDING A STRAIGHT LINE FROM THE TOP OF THE BRIDGE END DAM JOINT TO A POINT 75' AWAY ON THE TOP OF RESURFACING.
- REMOVE ASPHALT CONCRETE EXACTLY 1' BELOW THE FINAL GRADE.
- PLACE ITEM 407 - TACK COAT AND ITEM 446 - ASPHALT CONCRETE, TO DESIRED GRADE.
- SURVEY TRANSITION TO VERIFY THAT THE REPAIR IS WITHIN THE ALLOWABLE TOLERANCE.



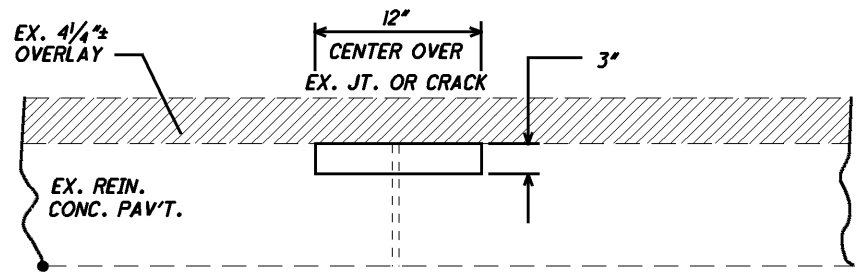
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**PARTIAL DEPTH JOINT OR CRACK REPAIR**

**TYPICAL MULTI-LANE REPLACEMENT**

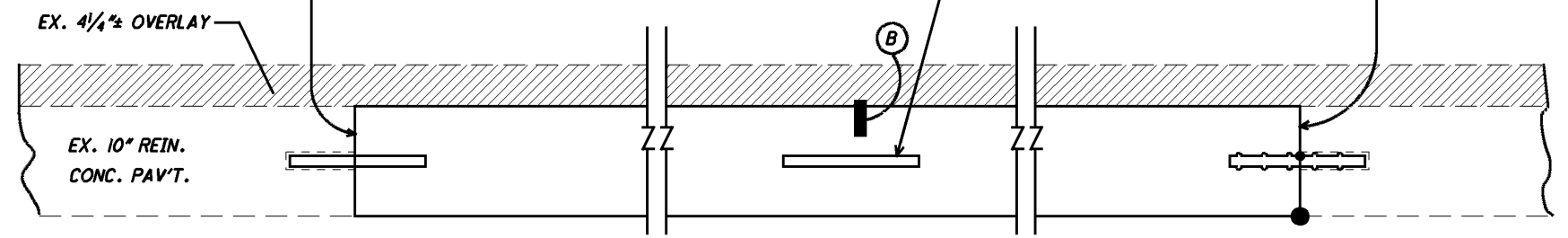
**TYPICAL ONE LANE REPLACEMENT**



**ITEM 251 - PARTIAL DEPTH PAV'T REPAIR**

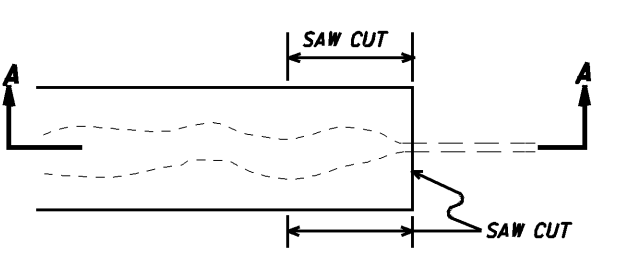
- CRACK REPAIRS (NO JOINT WITHIN REPAIR) - (A)
- JOINT REPAIRS (LESS THAN 10 FEET) - (E)
- PANEL REPAIRS (GREATER THAN 10 FEET) - (E) ‡

‡ USE (A) JOINT IF EITHER ADJACENT (EXISTING OR PROPOSED) CONTRACTION JOINT IS FARTHER THAN 20 FEET.

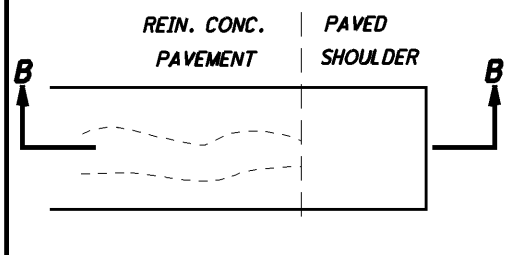


**ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT**

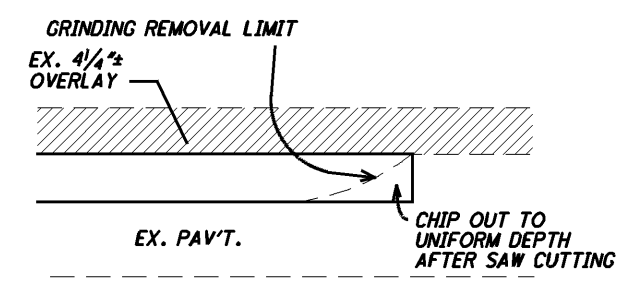
SEE GENERAL NOTES ON SHEET 14 FOR ADDITIONAL INFORMATION.



**DISTRESSED JOINT-PLAN VIEW**

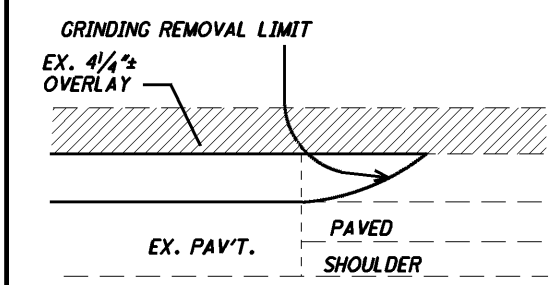


**DISTRESSED JOINT-PLAN VIEW**



**TYPICAL END DETAIL**

NO SEPARATE PAYMENT WILL BE MADE FOR THESE SAW CUTS



**SHOULDER TREATMENT DETAIL**

MEASURED QUANTITY SHALL NOT INCLUDE THE PAVED SHOULDER AREA

SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.

**LEGEND**

- WEARING COURSE REMOVED

- (A) TYPE Y DOWELLED REPAIR JOINTS, AS PER BP-2.5
- (B) SAWED CONTRACTION JOINT AS PER BP-2.2, WITH DOWELS, MAX. SPACING 20' C/C FOR ONE LANE REPLACEMENTS ALIGN JOINT WITH EXISTING CRACKS IN THE ADJACENT LANE WHENEVER POSSIBLE. (EX. CRACKS OCCUR APPROX. 15' C/C)
- (C) LONGITUDINAL BUTT JOINT AS PER BP-2.1 (USING HOOK BOLTS)
- (D) TYPE D JOINT AS PER BP-2.1 FOR PATCHES 10' OR GREATER IN LENGTH
- (E) TYPE T TIED REPAIR JOINT, AS PER BP-2.5

ESTIMATED QUANTITIES *		
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A	2500 SQ.YD.
ITEM 255	FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B	400 SQ.YD.
ITEM 255	FULL DEPTH PAVEMENT SAWING	18000 FT.
ITEM 203	EXCAVATION	15 CU. YD.
ITEM 304	AGGREGATE BASE	15 CU. YD.

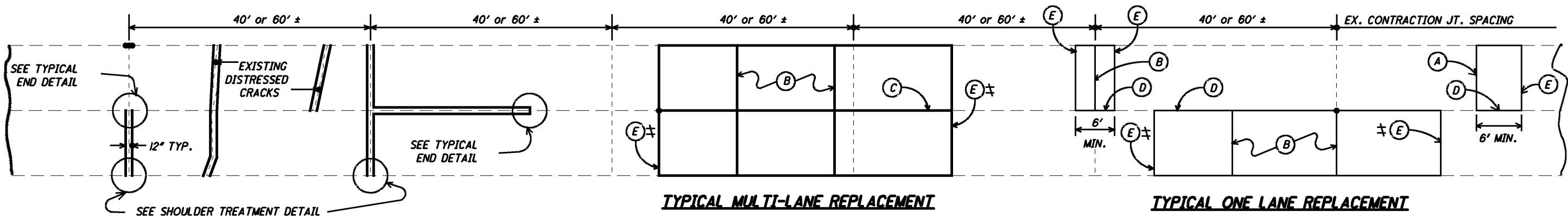
ESTIMATED QUANTITIES *	
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN A	250 SQ. YD.
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN B	550 SQ. YD.

\* QUANTITY ESTIMATES ARE BASED ON VISUAL INSPECTION. AN ADDITIONAL 5% WAS ADDED TO THE REPAIR AREA TO COMPENSATE FOR ANY ROADWAY DETERIORATION THAT MAY OCCUR BETWEEN THE TIME OF PLAN PREPARATION AND ACTUAL CONSTRUCTION.

NOTE: FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A AND B AND PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN A AND B ARE TO BE PERFORMED IN CUYAHOGA COUNTY

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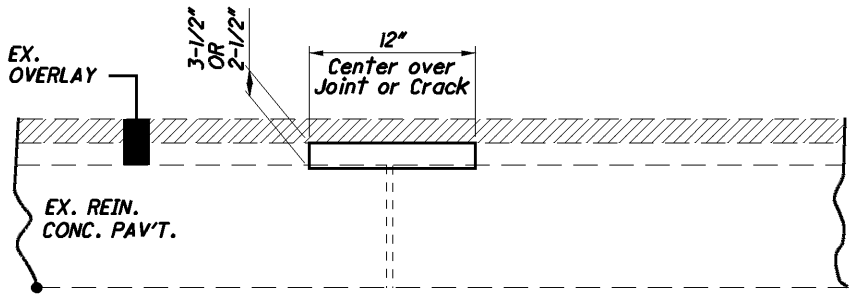
DIRECTION OF TRAFFIC



**TYPICAL MULTI-LANE REPLACEMENT**

**TYPICAL ONE LANE REPLACEMENT**

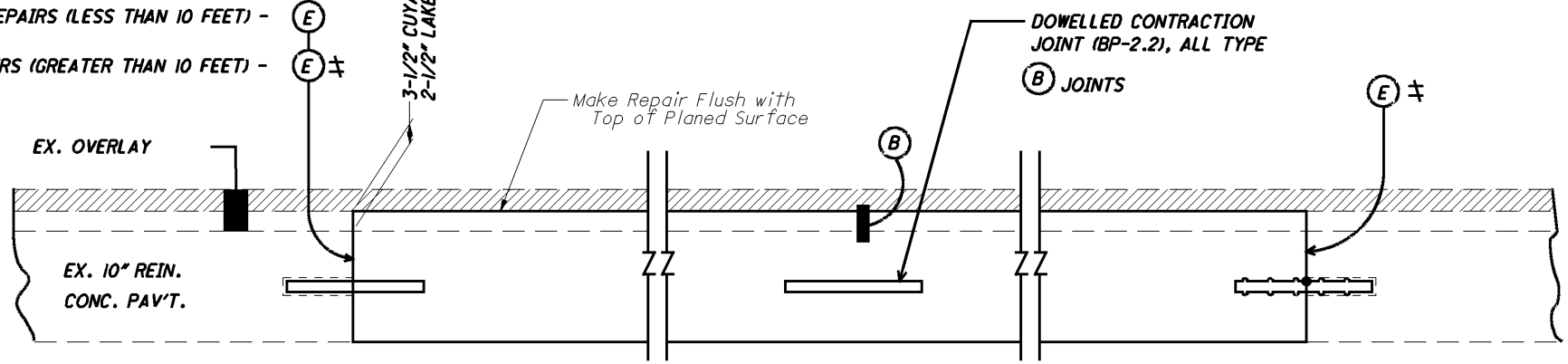
**PARTIAL DEPTH JOINT OR CRACK REPAIR**



**ITEM 251 - PARTIAL DEPTH PAV'T REPAIR**

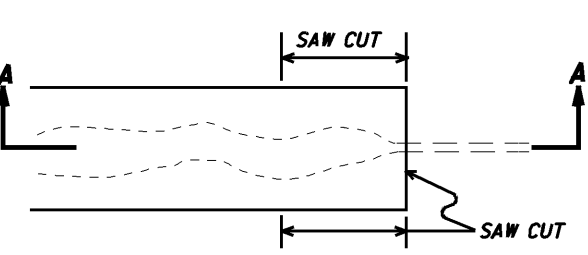
- CRACK REPAIRS (NO JOINT WITHIN REPAIR) - (A)
- JOINT REPAIRS (LESS THAN 10 FEET) - (E)
- PANEL REPAIRS (GREATER THAN 10 FEET) - (E) ±

± USE (A) JOINT IF EITHER ADJACENT (EXISTING OR PROPOSED) CONTRACTION JOINT IS FARTHER THAN 20 FEET.

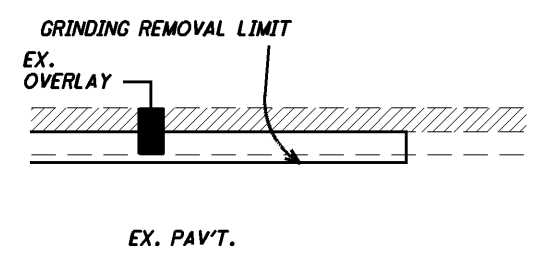


**ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT**

SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.



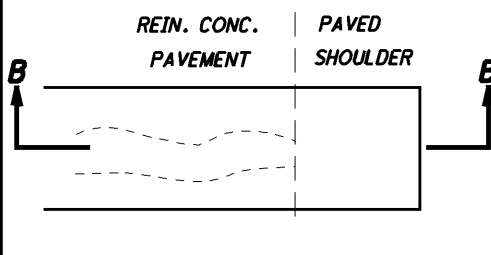
**DISTRESSED JOINT-PLAN VIEW**



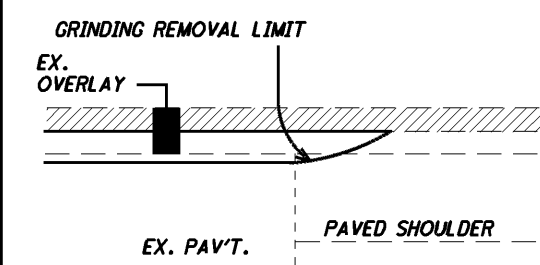
SECTION A-A

**TYPICAL END DETAIL**

NO SEPARATE PAYMENT WILL BE MADE FOR THESE SAW CUTS



**DISTRESSED JOINT-PLAN VIEW**



SECTION B-B

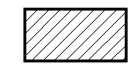
**SHOULDER TREATMENT DETAIL**

MEASURED QUANTITY SHALL NOT INCLUDE THE PAVED SHOULDER AREA

SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.

**LEGEND**

- (A) TYPE Y DOWELLED REPAIR JOINTS, AS PER BP-2.5
- (B) SAWED CONTRACTION JOINT AS PER BP-2.2, WITH DOWELS, MAX. SPACING 20' C/C FOR ONE LANE REPLACEMENTS ALIGN JOINT WITH EXISTING CRACKS IN THE ADJACENT LANE WHENEVER POSSIBLE. (EX. CRACKS OCCUR APPROX. 15' C/C)
- (C) LONGITUDINAL BUTT JOINT AS PER BP-2.1 (USING HOOK BOLTS)
- (D) TYPE D JOINT AS PER BP-2.1 FOR PATCHES 10' OR GREATER IN LENGTH
- (E) TYPE T TIED REPAIR JOINT, AS PER BP-2.5



PAVEMENT PLANING, ASPHALT CONCRETE, CUYAHOGA CO. (2-1/2"), LAKE CO. (3-1/2")

\* QUANTITY ESTIMATES ARE BASED ON VISUAL INSPECTION. AN ADDITIONAL 5% WAS ADDED TO THE REPAIR AREA TO COMPENSATE FOR ANY ROADWAY DETERIORATION THAT MAY OCCUR BETWEEN THE TIME OF PLAN PREPARATION AND ACTUAL CONSTRUCTION.

NOTE: FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A AND B AND PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN A AND B ARE TO BE PERFORMED IN CUYAHOGA COUNTY. FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN C AND D AND PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN C AND D ARE TO BE PERFORMED IN LAKE COUNTY.

ESTIMATED QUANTITIES CUY. CO. *
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN A <u>500</u> SQ. YD.
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN B <u>700</u> SQ. YD.

ESTIMATED QUANTITIES LAKE CO. *
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN C <u>300</u> SQ. YD.
ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR, AS PER PLAN D <u>420</u> SQ. YD.

ESTIMATED QUANTITIES *	CUY. CO.	LAKE CO.
ITEM 255 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN A	<u>2500</u> SQ. YD.	
ITEM 255 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN B	<u>400</u> SQ. YD.	
ITEM 255 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN C		<u>1500</u> SQ. YD.
ITEM 255 FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT, CLASS FS, AS PER PLAN D		<u>200</u> SQ. YD.
ITEM 255 FULL DEPTH PAVEMENT SAWING	<u>18000</u> FT.	<u>10500</u> FT.
ITEM 203 EXCAVATION	<u>15</u> CU. YD.	<u>10</u> CU. YD.
ITEM 304 AGGREGATE BASE	<u>15</u> CU. YD.	<u>10</u> CU. YD.

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ITEM 606 - ANCHOR ASSEMBLY, TYPE E-98

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING EITHER OF THE FOLLOWING GUARDRAIL END TERMINALS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS:

- 1) THE ET-2000 (1997) MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE ET-2000 (1997) SYSTEM IS CONSIDERED TO BE 50'-0" [15.24 m], INCLUSIVE OF TWO 25'-0" [7.62 m] LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS265M	ET-2000 (1997) PLAN, ELEVATION & SECTIONS	6/20/97	3/6/98
SS142	ET2000 PLUS 50'-0" PLAN, ELEVATION & SECTION 25'-0" RAIL, SLEEVE W/PL POSTS 1-4	4/12/00	7/31/00
SS141	ET2000 PLUS PLAN, ELEVATION & SECTION 25'-0" RAIL, HBA POSTS 1-4	2/29/00	7/31/00
SS158	ET2000 PLUS 50'-0" WITH 12'-6" PANELS & HBA POSTS 1-4 PLAN, ELEVATION & SECTION	5/22/00	7/31/00

- 2) THE SKT-350 MANUFACTURED BY ROAD SYSTEMS, INC., 2516 MALLORY LANE, STOW, OHIO, 44224, (TELEPHONE: 330-346-0721).

THE LENGTH OF THE SKT-350 SYSTEM IS CONSIDERED TO BE 50'-0" [15.24 m], INCLUSIVE OF FOUR 12'-6" [3.81 m] LONG RAIL ELEMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

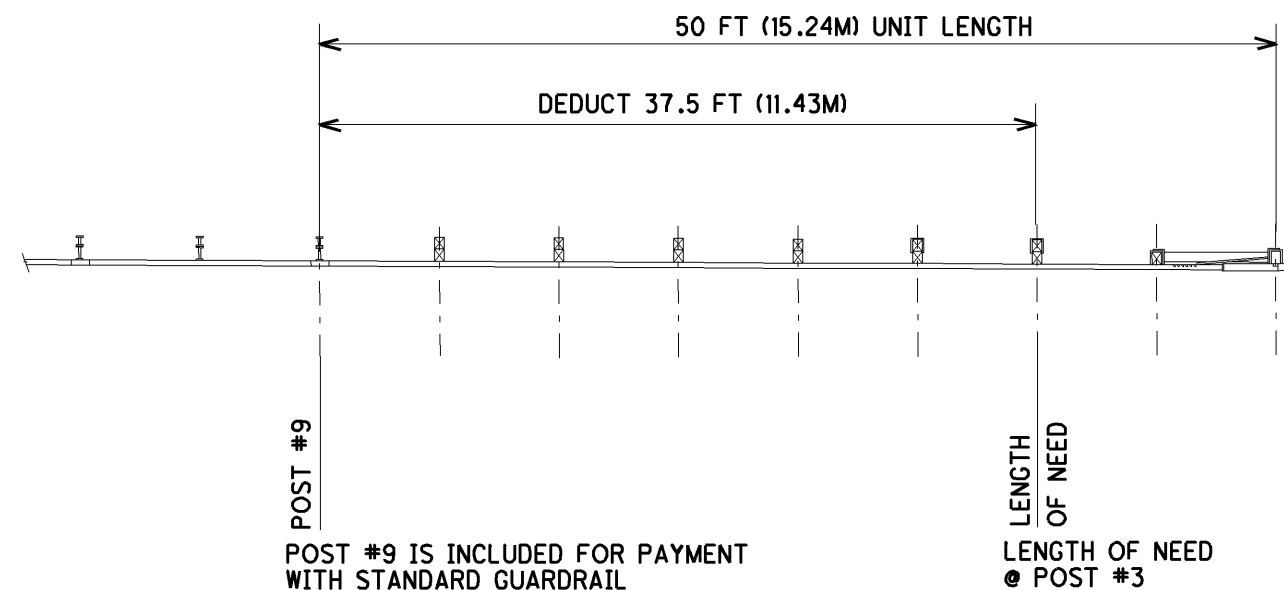
DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SKT-4M	SEQUENTIAL KINKING TERMINAL (SKT-350) ASSEMBLY WITH 4 FOUNDATION TUBES	12/11/97	3/6/98

THE FACE OF THE TYPE E-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 18" X 18" [450 mm X 450 mm.], OR 12" [30 mm] X 18" [450 mm] IF APPLIED TO A RECTANGULAR ET-2000 "PLUS" EXTRUDER HEAD.

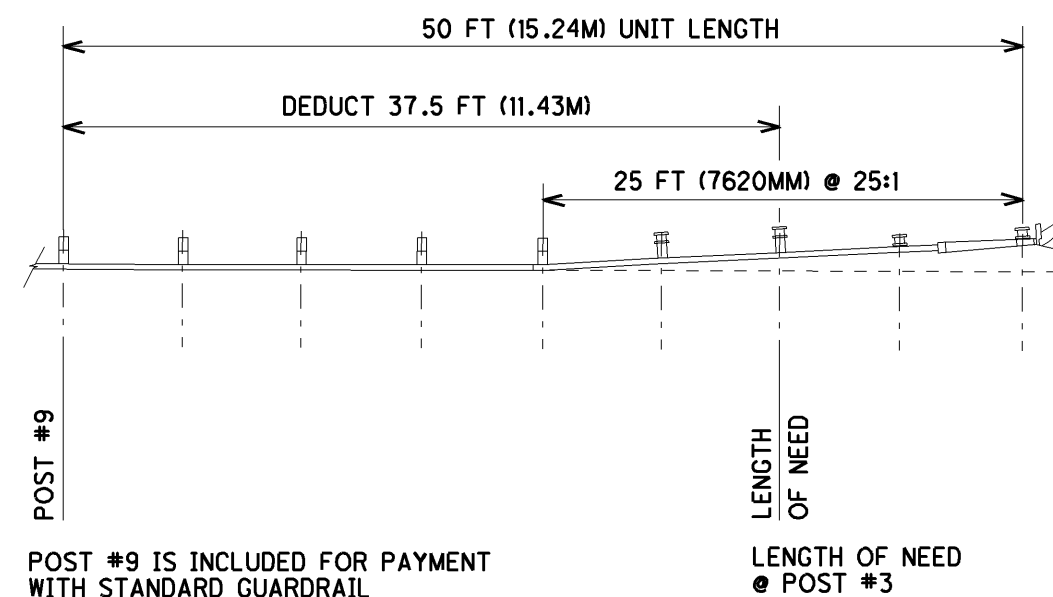
REFER TO THE MANUFACTURER'S INSTRUCTION REGARDING THE INSTALLATION OF, AND THE GRADING AROUND, THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4-INCHES [100 mm] ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 27-3/4-INCHES [706 mm] FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4-INCHES [100 mm] ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E-98, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.



ET-2000



SKT-350

ITEM 606 - IMPACT ATTENUATOR, TYPE 1-98 (UNIDIRECTIONAL)

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY ONE OF THE FOLLOWING IMPACT ATTENUATORS, OR AN APPROVED EQUAL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE AT WWW.DOT.STATE.OH.US/DRRC/ UNDER ROADSIDE SAFETY DEVICES FOR APPROVED IMPACT ATTENUATORS:

- 1) THE C-A-T MANUFACTURED BY TRINITY INDUSTRY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 330-545-4373).

THE LENGTH OF THE C-A-T SYSTEM IS CONSIDERED TO BE 31'-3" [9525 mm] LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
SS245M	CRASH-CUSHION ATTENUATING TERMINAL PLAN, ELEVATION & SECTIONS FOR USE AS A LONGITUDINAL MEDIAN BARRIER TERMINAL OR CRASH CUSHION ATTENUATOR	4/10/97	3/6/98
SS224M	C-A-T TRANSITION TO MEDIAN BARRIER GUARDRAIL PLAN, ELEVATION & SECTIONS	4/26/96	3/6/98
SS226M	C-A-T TRANSITION TO VERTICAL WALL OR PIER PLAN, ELEVATION & SECTIONS	4/26/96	3/6/98

- 2) THE BRAKEMASTER MANUFACTURED BY ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, IL 60601 (TELEPHONE: 312-467-6750).

THE LENGTH OF THE BRAKEMASTER SYSTEM IS CONSIDERED TO BE 32'-8" [9957 mm] LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS:

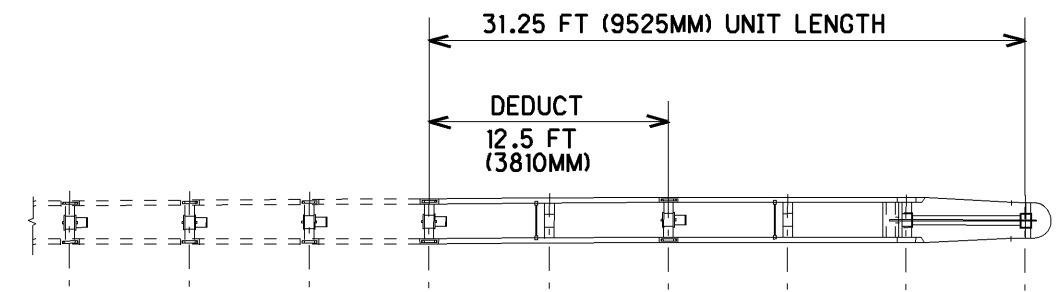
DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
92-00-01	BRAKEMASTER GENERAL ASSEMBLY (UNIDIRECTIONAL SYSTEM)	3/6/97	3/6/98
92-00-81	BRAKEMASTER (UNIDIRECTIONAL) WITH FOUNDATION TUBES	2/9/98	3/6/98
92-00-02	BRAKEMASTER GENERAL ASSEMBLY (BIDIRECTIONAL SYSTEM)	3/10/97	3/6/98
92-00-82	BRAKEMASTER (BIDIRECTIONAL) WITH FOUNDATION TUBES	2/9/98	3/6/98
9202024	ANCHOR ASSEMBLY, FOUNDATION TUBE, 6 * FT., BRS	6/12/97	3/6/98

- 3) THE FLEAT-MT MANUFACTURED BY ROAD SYSTEMS, INC. (RSI), 3616 OLD HOWARD COUNTY AIRPORT ROAD, BIG SPRINGS, TX, 79720 (TELEPHONE 915-263-2435) AND AVAILABLE FROM RSI'S LIST OF APPROVED DISTRIBUTORS.

THE LENGTH OF THE FLEAT-MT SYSTEM IS CONSIDERED TO BE 37'-6" [11430 mm] LONG. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION AS DETAILED ON THE FOLLOWING PRE-APPROVED SHOP DRAWINGS AND THE MANUFACTURERS INSTALLATION MANUAL.

DWG. #	DRAWING NAME	DWG./REV. DATE	ODOT APPROVAL DATE
MEDFLT-W-US	FLARED ENERGY ABSORBING TERMINAL - FLEAT-MT ASSEMBLY FOR WOOD BREAKAWAY POST SYSTEM	4/10/02	1/6/03
MEDFLT-S-US	FLARED ENERGY ABSORBING TERMINAL - FLEAT-MT ASSEMBLY FOR STEEL BREAKAWAY POST SYSTEM	4/10/02	1/6/03
MEDFLT-W-M	FLARED ENERGY ABSORBING TERMINAL - FLEAT-MT (Metric) ASSEMBLY FOR WOOD BREAKAWAY POST SYSTEM	4/10/02	1/6/03
MEDFLT-S-M	FLARED ENERGY ABSORBING TERMINAL - FLEAT-MT (Metric) ASSEMBLY FOR STEEL BREAKAWAY POST SYSTEM	4/10/02	1/6/03

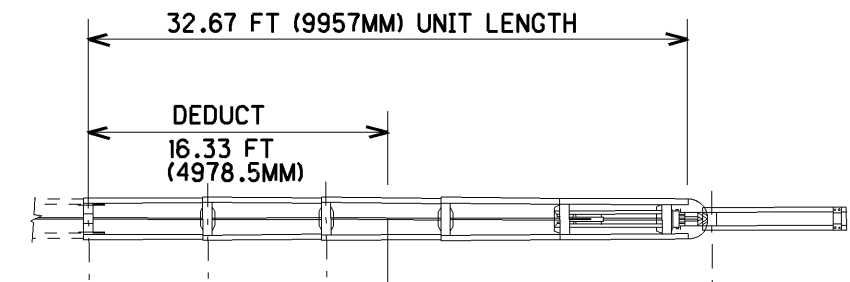
THE FACE OF THE TYPE 1-98 IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.19, APPROXIMATELY 36" X 12" [915 mm W X 305 mm H] (ONE 9" X 18" [225 mm W X 450 mm H FOR EACH FLEAT-MT IMPACT HEAD). PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, IMPACT ATTENUATOR, TYPE 1-98 [(UNIDIRECTIONAL OR BIDIRECTIONAL)], EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL IMPACT ATTENUATOR SYSTEM, INCLUDING ALL RELATED TRANSITIONS, HARDWARE, REFLECTIVE SHEETING AND GRADING, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.



POST #6 IS INCLUDED FOR PAYMENT WITH STANDARD GUARDRAIL

LENGTH OF NEED @ POST #4

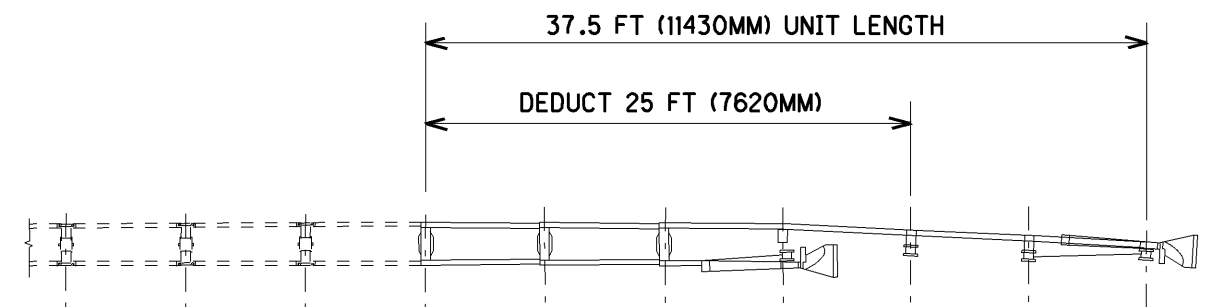
C-A-T



POST #6 IS INCLUDED FOR PAYMENT WITH STANDARD GUARDRAIL

LENGTH OF NEED @ MIDPOINT

BRAKEMASTER



POST #7 IS INCLUDED FOR PAYMENT WITH STANDARD GUARDRAIL

LENGTH OF NEED @ POST #3

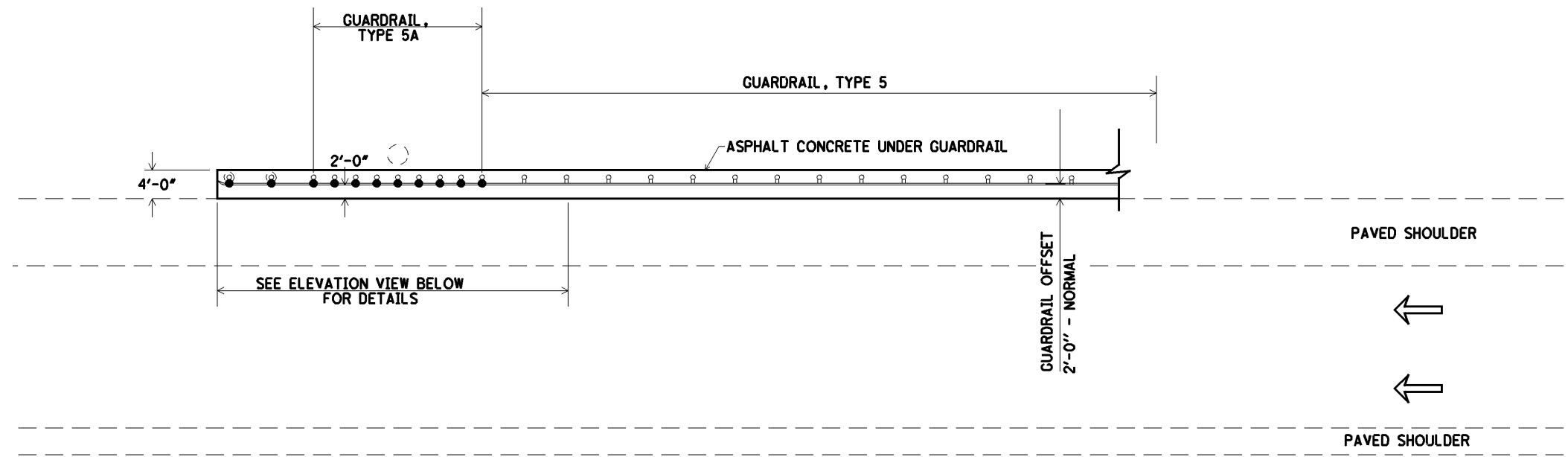
FLEAT-MT

CALCULATED  
EMK  
CHECKED  
LDH

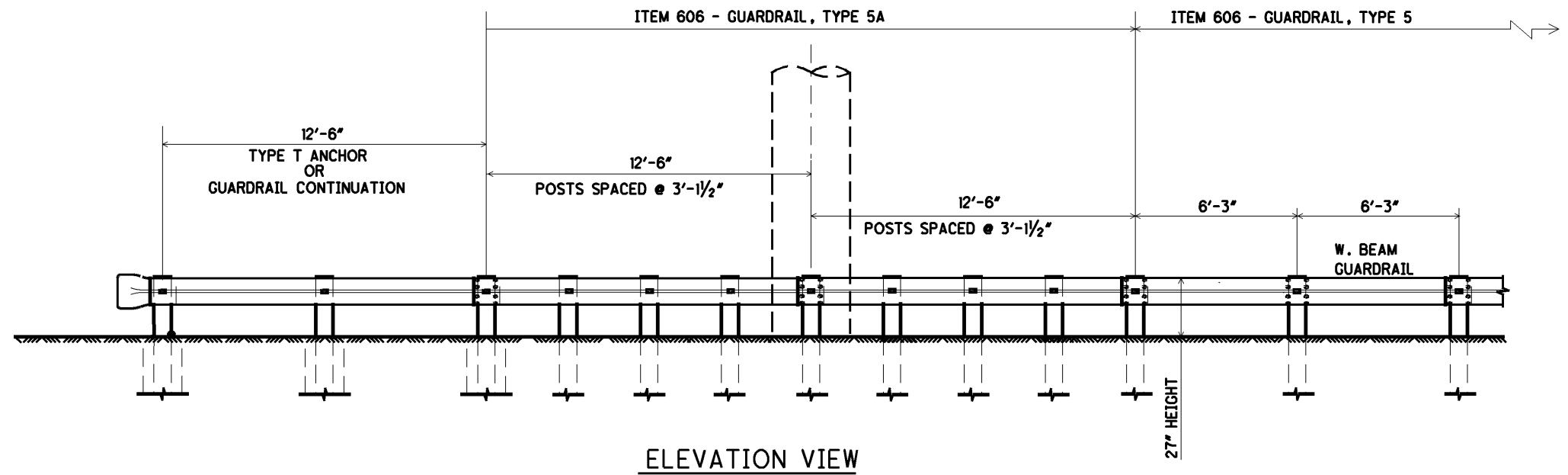
TYPE 1-98 IMPACT ATTENUATOR DETAILS

CUY / LAK - 271-14.09 / 0.00

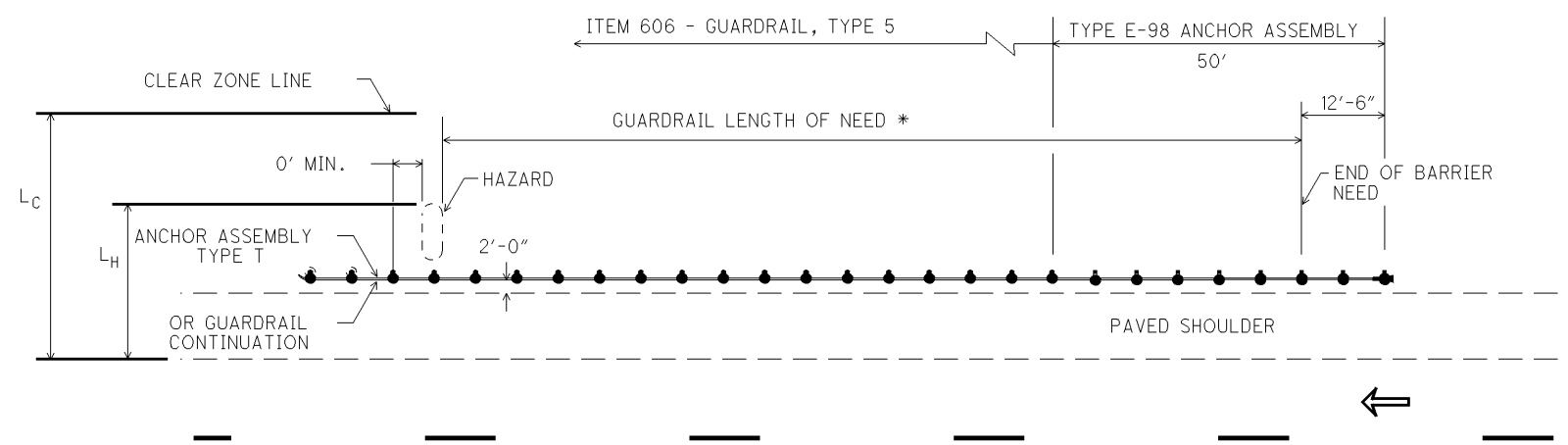
42  
96



**TYPE 5A GUARDRAIL PROTECTION FOR OVERHEAD SIGN SUPPORTS**  
 REQUIRED WHEN FACE OF HAZARD IS BETWEEN 5'-6" AND 3'-6" OF FACE OF GUARDRAIL

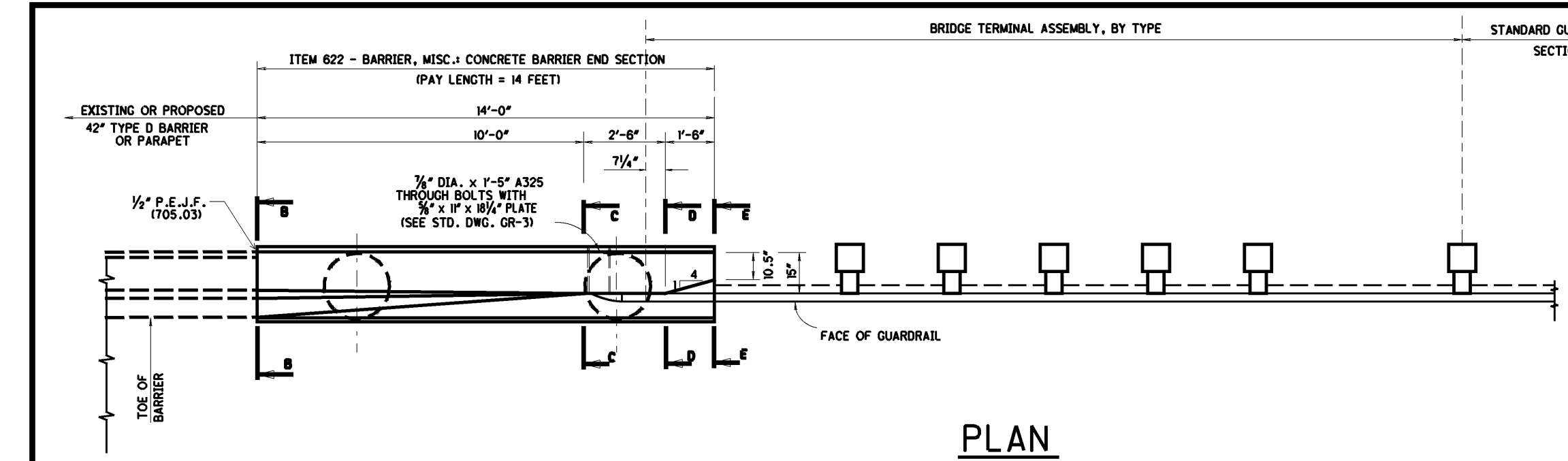


**ELEVATION VIEW**



**TYPICAL GUARDRAIL PROTECTION OF HAZARDS**

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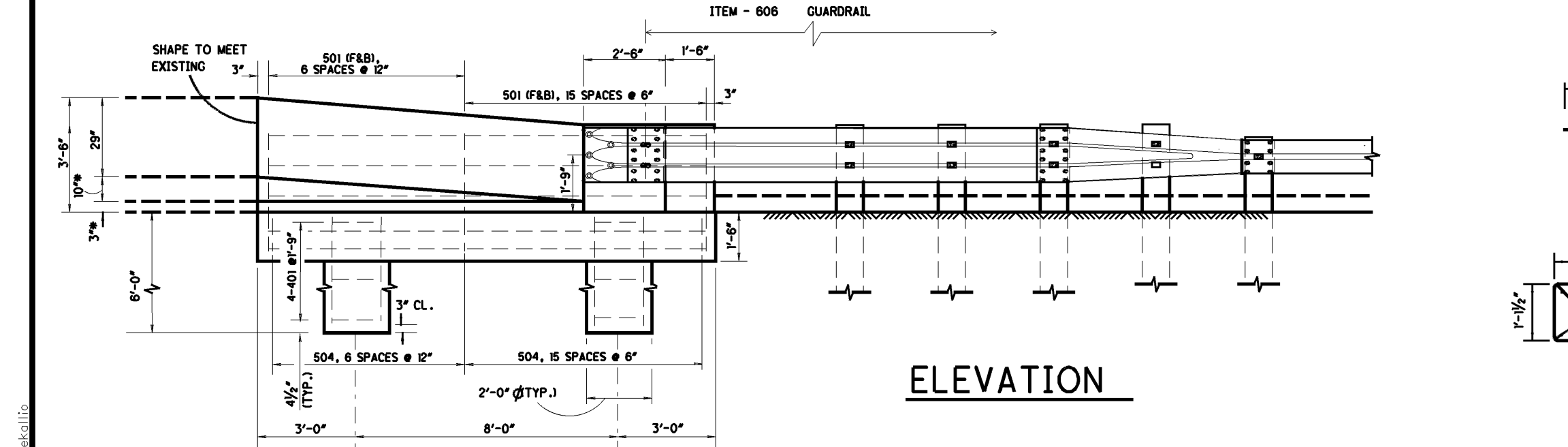
**PLAN**

**GENERAL NOTES**

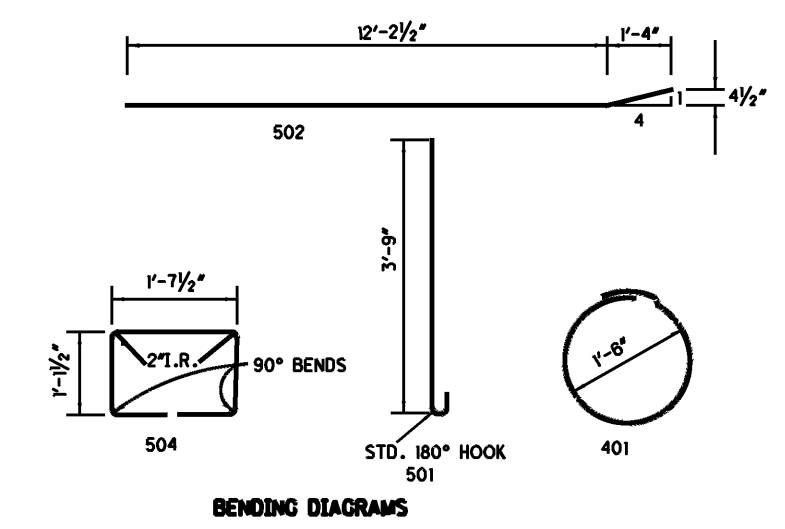
**DESIGN DATA:** CONCRETE SHALL BE CLASS C, REINFORCING STEEL SHALL BE GRADE 60

**PAYMENT:** PAYMENT FOR THE BARRIER, MISC.: CONCRETE BARRIER END SECTION SHALL BE AT THE UNIT BID PRICE FOR ITEM 622 - BARRIER, MISC.: CONCRETE BARRIER END SECTION, EACH, AND SHALL INCLUDE ALL MATERIALS, LABOR, AND REINFORCING STEEL REQUIRED TO CONSTRUCT THE BARRIER END AS SHOWN.

ALL COSTS FOR EXCAVATION AND EMBANKMENT SHALL BE PAID FOR SEPARATELY UNDER LINEAR GRADING.



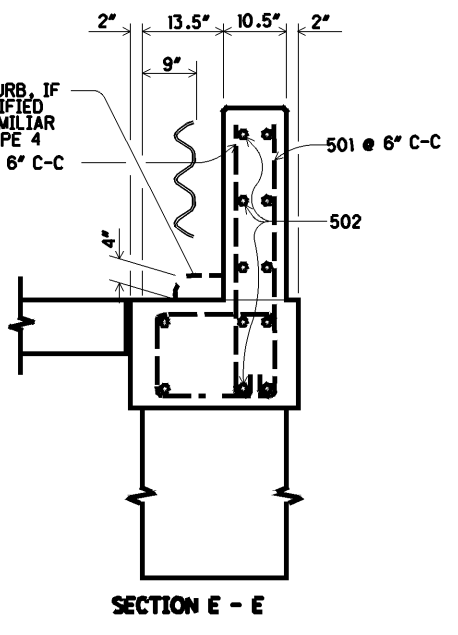
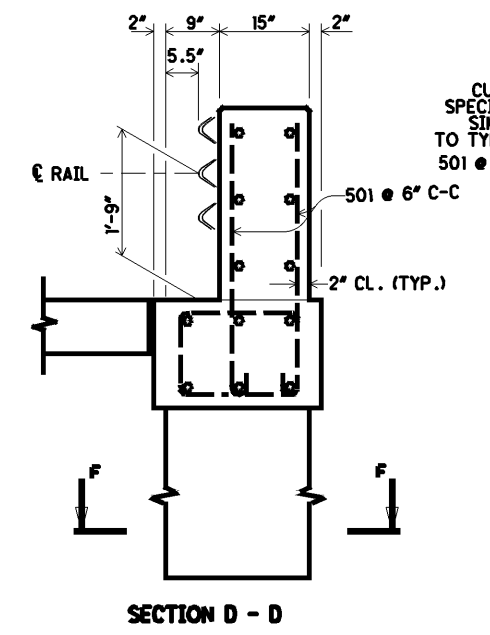
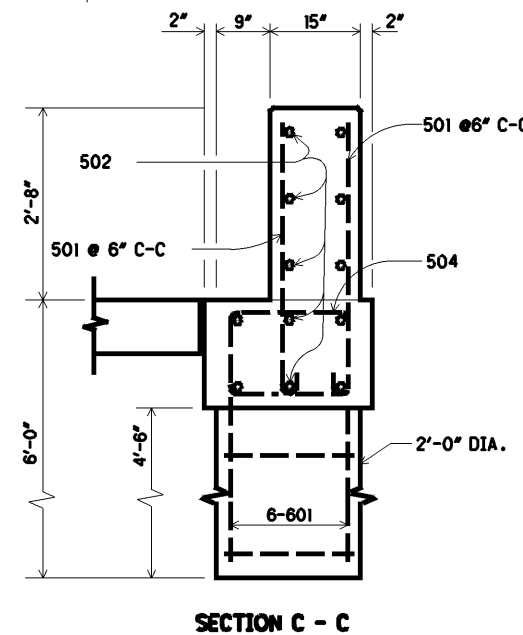
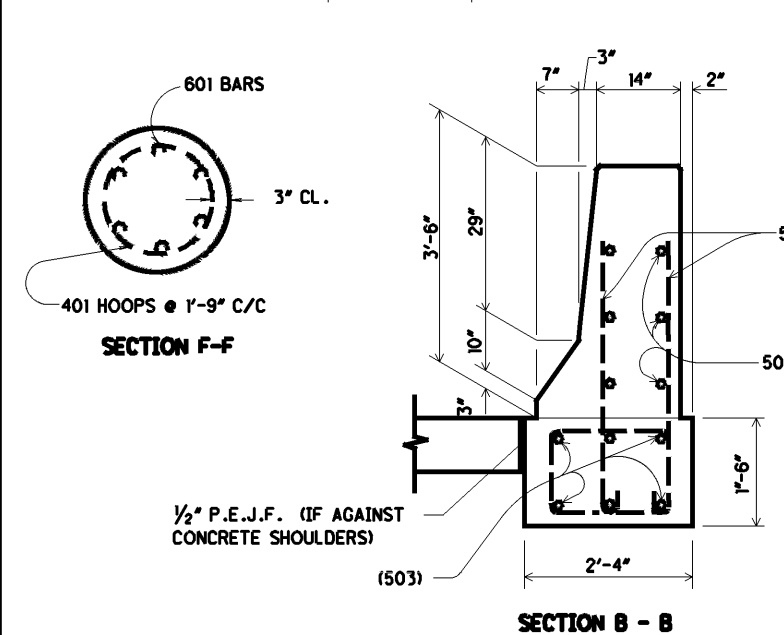
**ELEVATION**



**REINFORCING BAR LIST**

MARK	NO.	LENGTH	TYPE
401	8	6'-0"	BT.
501	44	4'-4"	BT.
502	5	13'-7"	BT.
503	7	13'-7"	STR.
504	22	5'-0 1/2"	BT.
601	12	5'-8"	STR.

ALL REINFORCING BARS SHALL BE EPOXY COATED



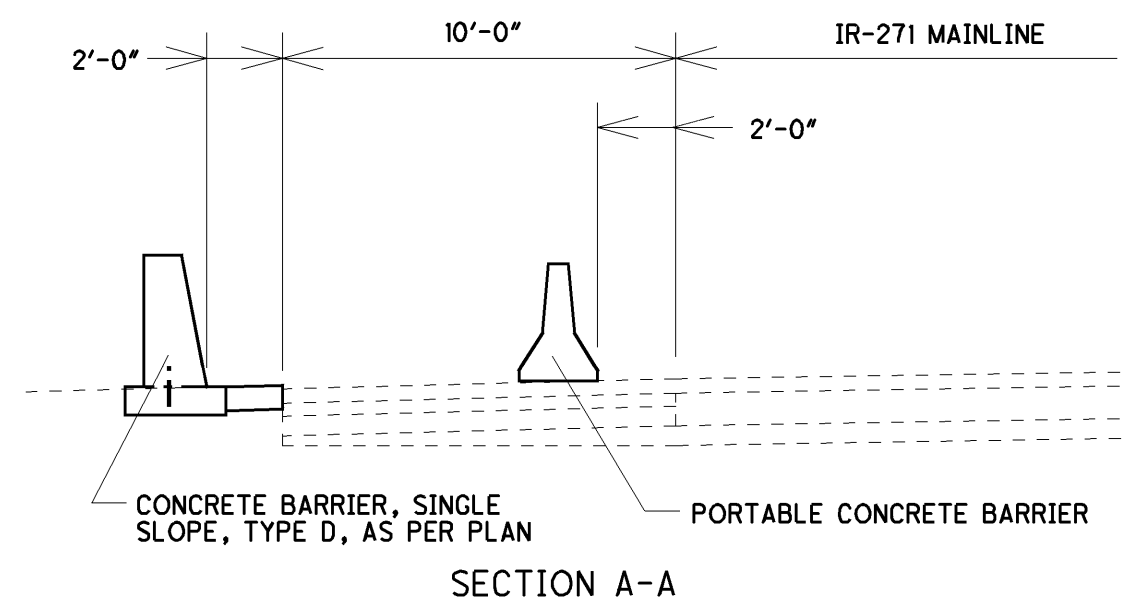
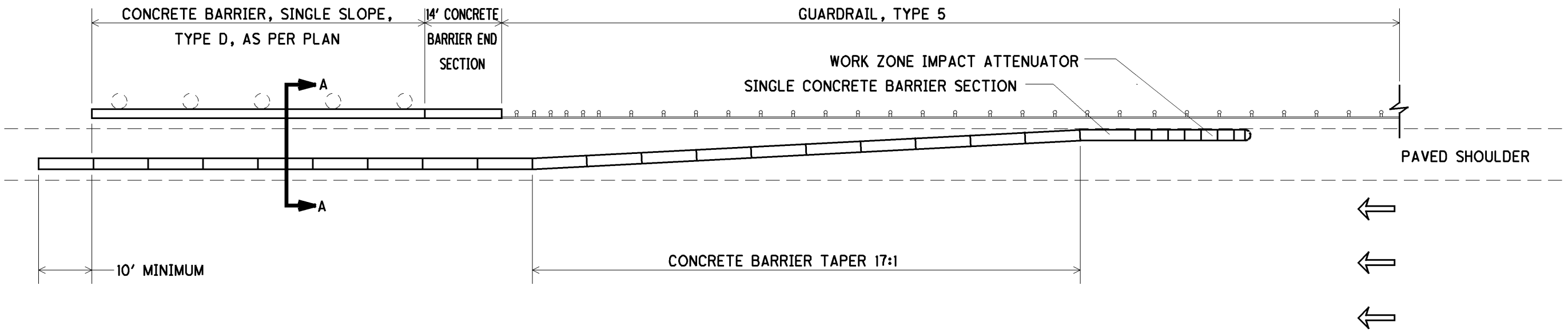
MARCH 12, 1991

STATE OF OHIO  
 DEPARTMENT OF TRANSPORTATION  
 DISTRICT 12 LOCATION & DESIGN

**32"/42" GUARDRAIL/BARRIER TRANSITION WITH TAPERED BOTTOM (WITH OR WITHOUT CURBS)**

DESIGNED	TRACED	CHECKED	REVIEWED	REVISED
LDH	JAG	ENF		
DATE	DATE	DATE	DATE	SHEET

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SHEET NUMBER	LOCATION	DIRECTION OF LANES	SIDE OF LANES	614	614	614	622
				WORK ZONE IMPACT ATTENUATOR, (UNIDIRECTIONAL)	BARRIER REFLECTOR, TYPE B	OBJECT MARKER	PORTABLE CONCRETE BARRIER, 32"
				EACH	CU. YD.	EACH	FOOT
29	HIGHLAND RD. (PIERS)	SB	RT	1	4	4	190
28-29	HIGHLAND RD. (PIERS)	NB	RT	1	4	4	190
31	WHITE RD (PIERS)	NB	RT	1	3	3	160
<b>TOTALS TO GENERAL SUMMARY</b>				3	11	11	540

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**ITEM SPECIAL - MISC.: ROADWAY MOUNTED SENSOR**

THIS WORK SHALL CONSIST OF INSTALLING A ROADWAY MOUNTED SENSOR AT LOCATIONS SHOWN ON SHEET 45B. ALL MATERIALS AND INSTALLATION METHODS SHALL CONFORM TO SPECIFICATIONS OF THE MANUFACTURE OF THE FP2000, PART # 76420151 (GREY) AND FP2000, PART # 76421151 (BLACK). THE BLACK SENSORS (TOTAL OF 2) SHALL BE PLACED IN ASPHALT PAVEMENT.

THE NEW SENSOR CABLE SHALL BE SPLICED IN THE NEAREST EXISTING PULL BOX. IF THE SENSOR WIRE IS TO RUN BETWEEN GUARDRAIL POSTS, 1" CONDUIT SHALL BE USED AS DETAILED ON THIS SHEET. COST FOR THIS CONDUIT SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM SPECIAL, MISC.: ROADWAY MOUNTED SENSORE, EACH.

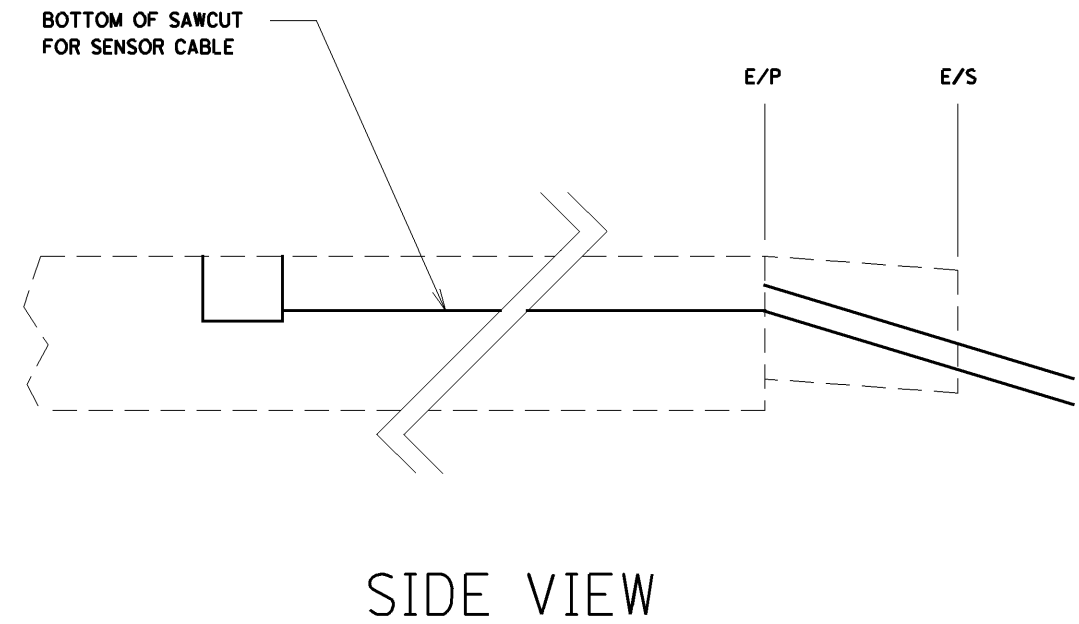
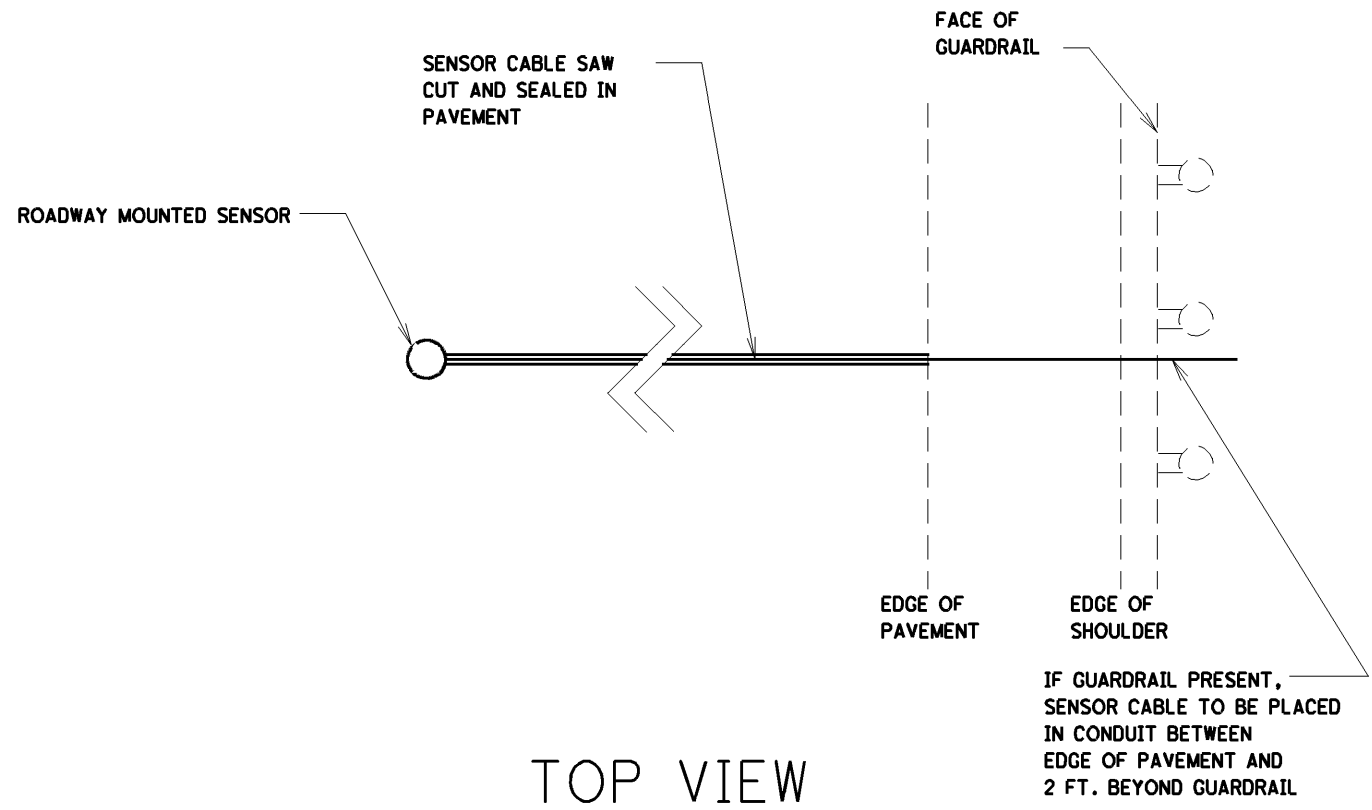
THE ENGINEER SHALL CONTACT THE ROADWAY SERVICES ENGINEER FIVE (5) WORKING DAYS PRIOR TO THE SENSOR REMOVAL AND SUBSEQUENT INSTALLATION OF THE NEW SENSOR. THIS NOTICE WILL ALLOW THE DEPARTMENT TO DE-ENERGIZE THE AFFECTED CABLES AND MARK THE EXACT LOCATION FOR THE NEW SENSOR.

FOR THE REMOVAL AND REPLACEMENT OF THE PAVEMENT SENSOR, TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THIS PLAN, ITEM 614 - MAINTAINING TRAFFIC AND THE OMTCD.

THE ROADWAY SENSOR SPECIFIED IS MANUFACTURED BY SURFACE SYSTEMS INC. (SSI) WHICH IS PART OF QUIXOTE TRANSPORTATION TECHNOLOGIES, INC. ([HTTP://WWW.QTTINC.COM/PAGES/SSPRODUCTS.HTML](http://www.qttinc.com/pages/ssproducts.html)). THE DISTRIBUTOR FOR THESE ITEMS IN OHIO IS M. H. CORBIN INC. (614) 873-5216.

**ITEM SPECIAL - MISC.: ROADWAY MOUNTED SENSOR COMMISSIONING**

THIS ITEM SHALL BE USED TO CONNECT THE ROADWAY MOUNTED SENSOR TO THE CONTROLLER CABINET. THE ITEM SHALL INCLUDE THE ACTUAL CONNECTION, CALIBRATION AND TESTING OF THE NEWLY INSTALLED SENSORS PER THE MANUFACTURER'S SPECIFICATIONS.



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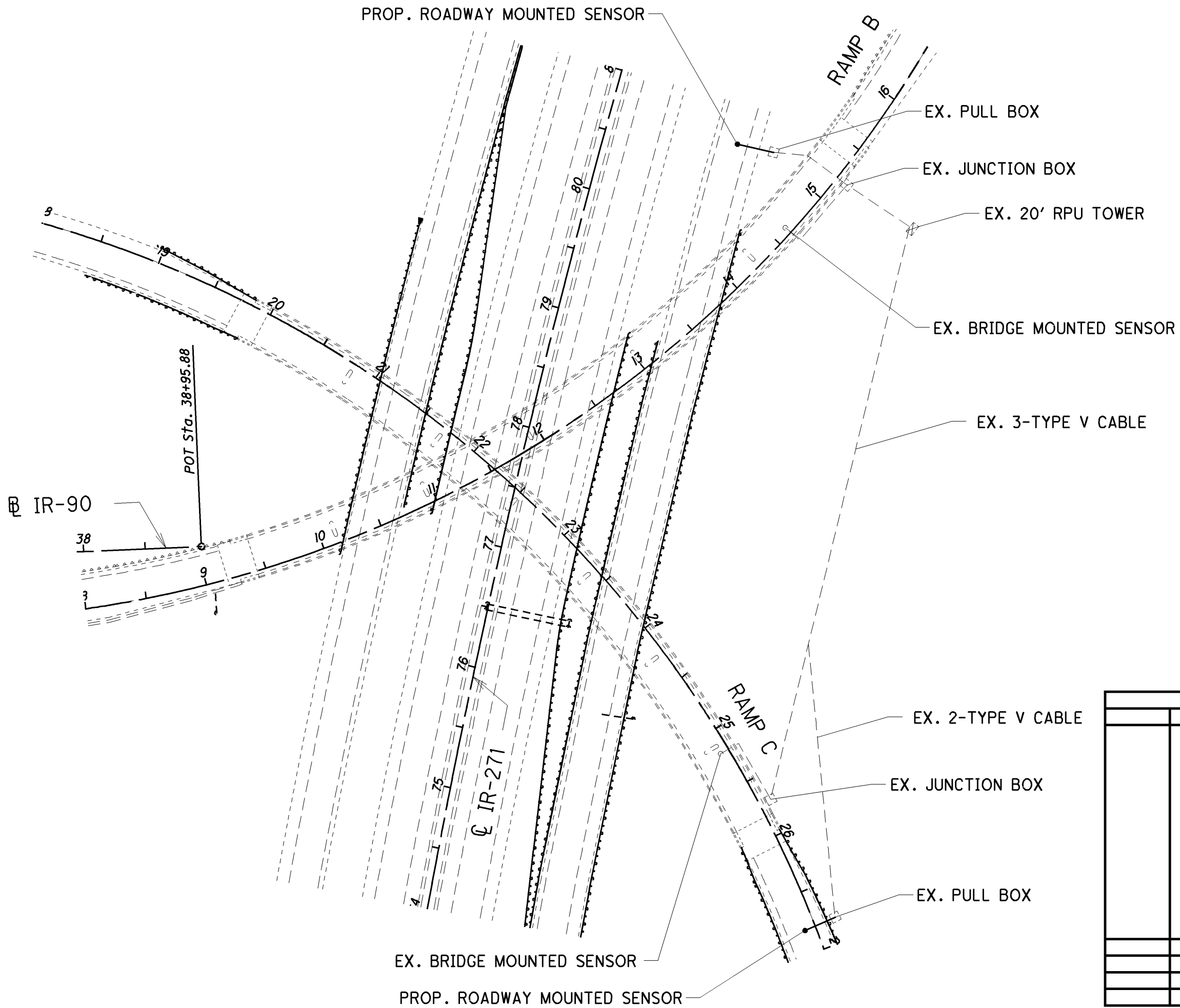
DESIGNED BY  
EMK  
CHECKED BY  
LDH

PAVEMENT SENSOR DETAIL

CUY / LAK - 271 - 14.09 / 0.00

45A  
96

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	QUANTITIES		
	632		690
REMOVAL OF MISCELLANEOUS TRAFFIC SIGNAL ITEM, PAVEMENT SENSOR			
MISC.: ROADWAY MOUNTED SENSOR		690	690
MISC.: ROADWAY MOUNTED SENSOR COMMISSIONING			
	EACH	EACH	EACH
	2	2	2

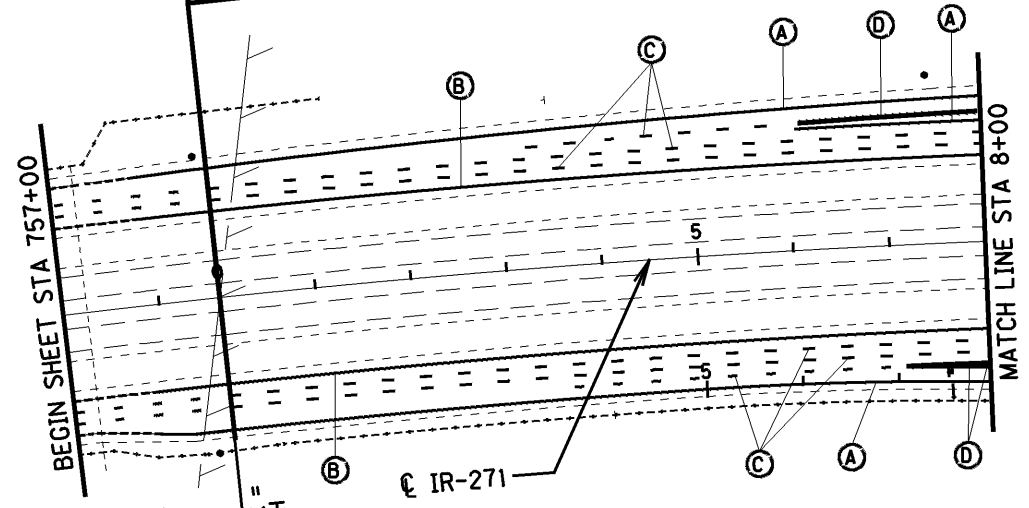


PAVEMENT SENSOR LOCATION DETAIL  
IR-271/IR-90 INTERCHANGE

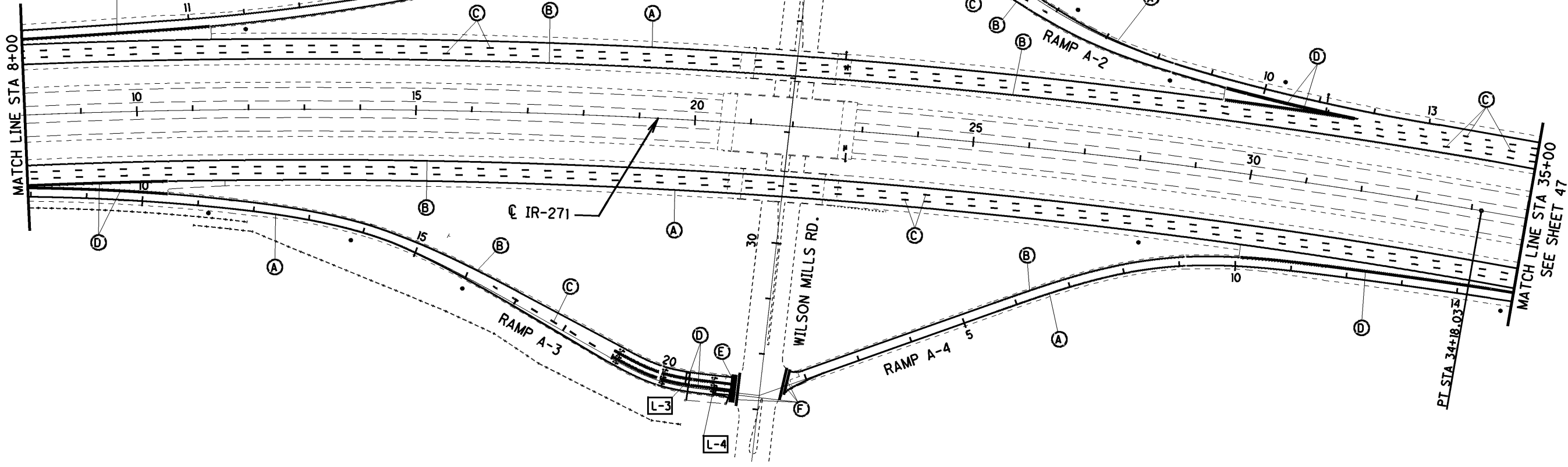
CUY / LAK-271-14.09 / 0.00

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BEGIN PROJECT  
STA. 0+00.00  
SLM 14.09  
E080(755)



CITY OF  
MAYFIELD HEIGHTS  
VILLAGE OF  
MAYFIELD  
PCC STA 0+00.00  
STA 758+63.72 BK =  
STA 0+00.00 AH



- LEGEND**
- (A) EDGE LINE (WHITE)
  - (B) EDGE LINE (YELLOW)
  - (C) LANE LINE
  - (D) CHANNELIZING LINE
  - (E) STOP LINE
  - (F) CROSSWALK LINE
  - (G) TRANSVERSE LINE (WHITE)

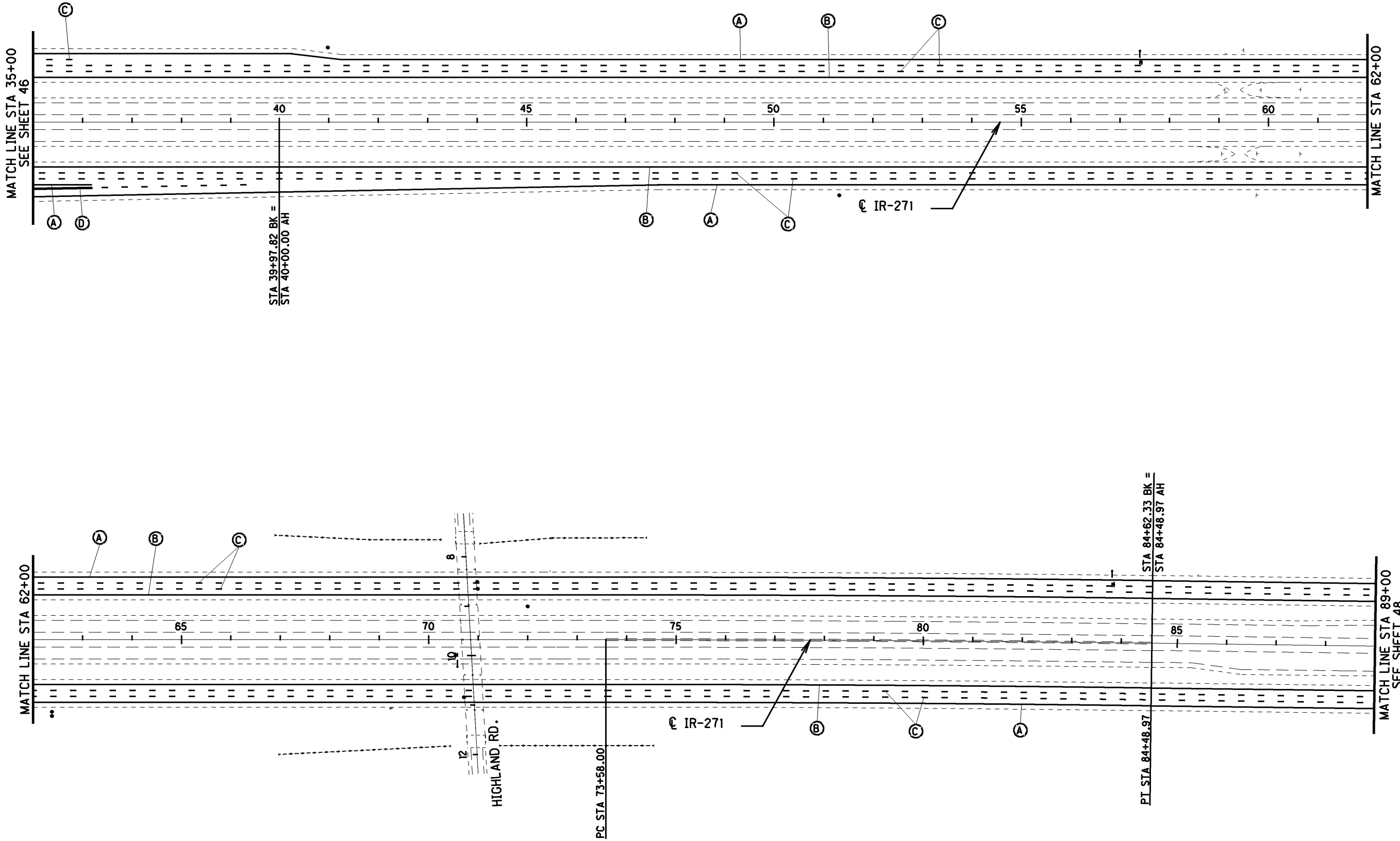


CALCULATED  
EMK  
CHECKED  
LDH

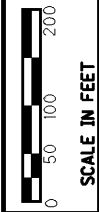
**PAVEMENT MARKING PLAN  
STA. 757+00 TO STA. 35+00**

CUY / LAK-271-14.09 / 0.00





SEE SHEET 46 FOR LEGEND

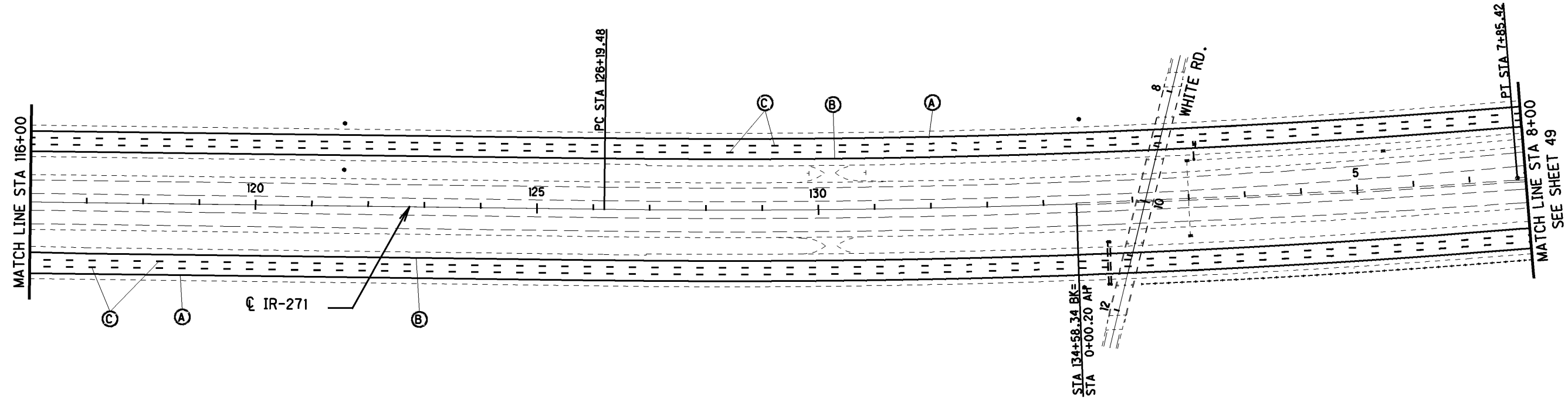
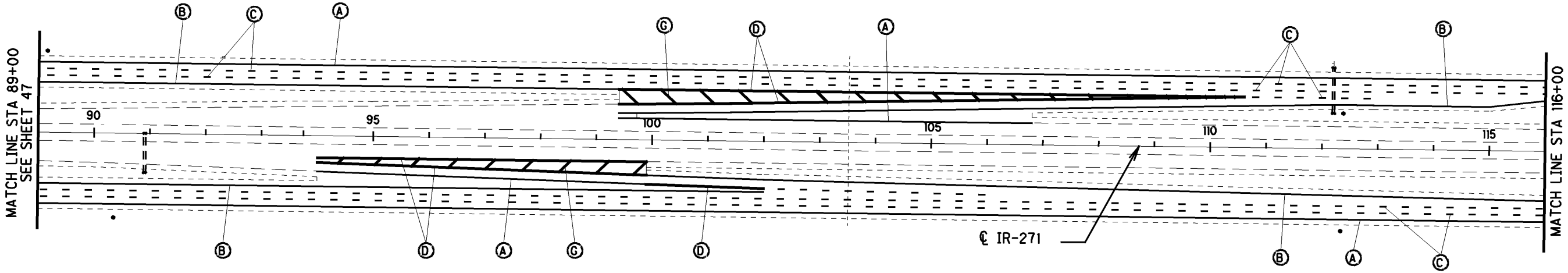


CALCULATED  
EMK  
CHECKED  
LDH

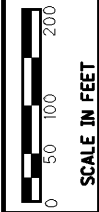
**PAVEMENT MARKING PLAN**  
STA. 35+00 TO STA. 89+00

CUY / LAK - 271 - 14.09 / 0.00

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SEE SHEET 46 FOR LEGEND

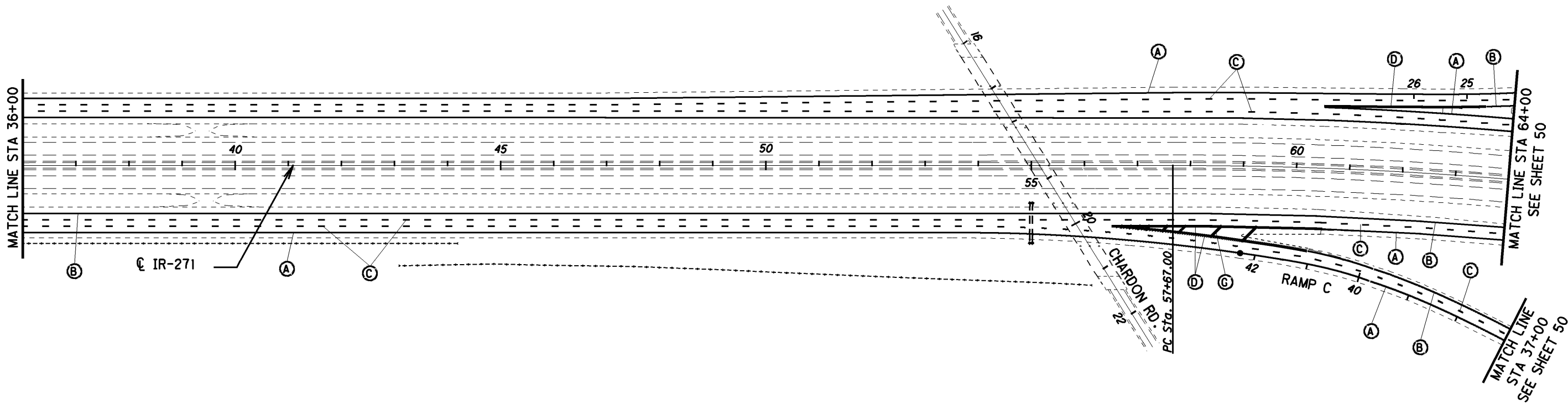
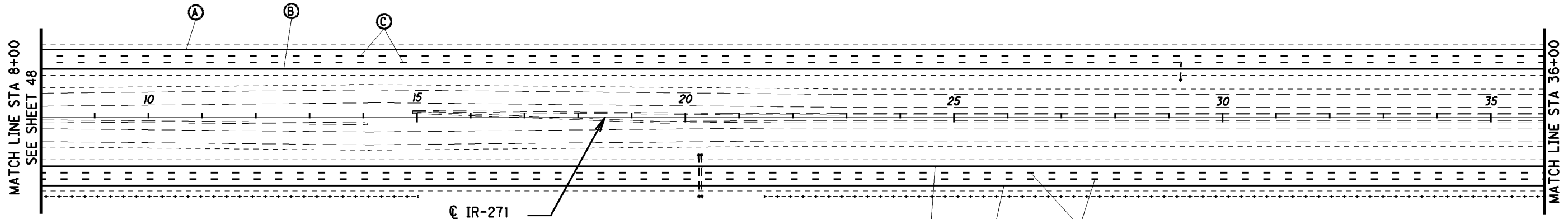


CALCULATED  
EMK  
CHECKED  
LDH

**PAVEMENT MARKING PLAN**  
**STA. 89+00 TO STA. 8+00**

**CUY / LAK-271-14.09 / 0.00**

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SEE SHEET 46 FOR LEGEND

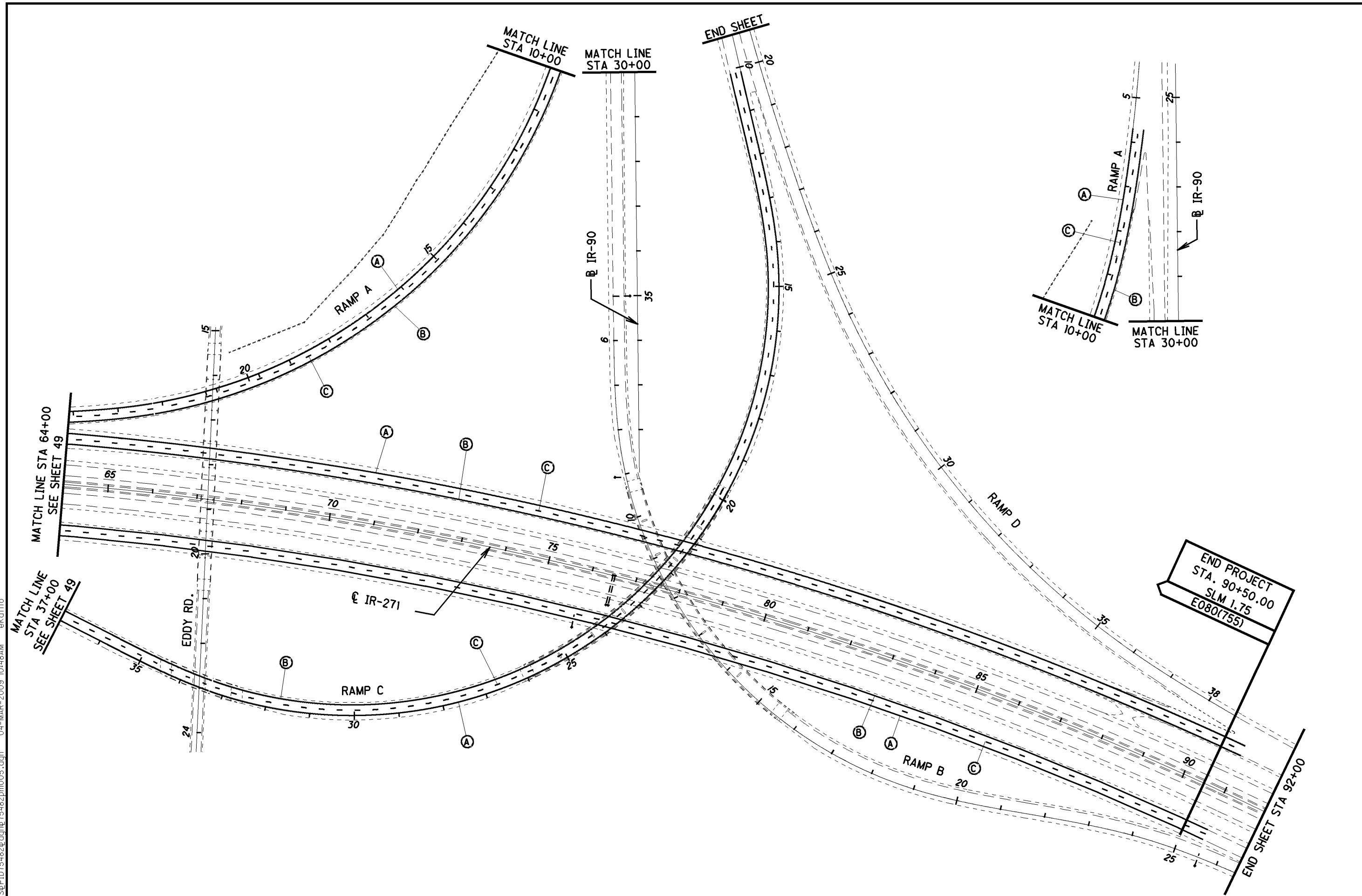
CALCULATED  
EMK  
CHECKED  
LDH

SCALE IN FEET

**PAVEMENT MARKING PLAN**  
**STA. 8+00 TO STA. 64+00**

CUY / LAK-271-14.09 / 0.00

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CALCULATED  
EMK  
CHECKED  
LDH

SCALE IN FEET  
0 50 100 200

**PAVEMENT MARKING PLAN  
STA. 64+00 TO STA. 92+00**

CUY / LAK - 271 - 14.09 / 0.00

SEE SHEET 46 FOR LEGEND

REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630																		
				GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S4 X 7.7 BEAM	GROUND MOUNTED SUPPORT, W6 X 9 BEAM	GROUND MOUNTED SUPPORT, W8 X 18 BEAM	GROUND MOUNTED SUPPORT, W10 X 22 BEAM	GROUND MOUNTED SUPPORT, W10 X 12 BEAM	GROUND MOUNTED SUPPORT, W12 X 30 BEAM	ONE WAY SUPPORT, NO. 3 POST	BREAKAWAY BEAM CONNECTION	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET, AS PER PLAN	SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION		
				FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	EACH	EACH	EACH	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	EACH		
			IN X IN																			
1	IR-271 SB		16' X 11'																		176	
2A	IR-271 NB		15' X 12'																		180	
2B			15' X 10'																		150	
3	IR-271 NB	D12-H14	60 X 36	13.5/14														15				
4	IR-271X SB	R3-4	36 X 36												14							9
		R3-H4A	24 X 30																			5
5	IR-271X NB	R3-4	36 X 36												14							9
		R3-H4A	24 X 30																			5
6A	IR-271 NB		15' X 12'																			180
6B			19' X 11'																			209
7	IR-271 SB		15' X 11'																			165
8	IR-271 SB	D10-2	12 X 36	13.5																		3
9	IR-271X SB																					
10	IR-271 SB	R2-H2B	4' X 8'			20/20.5									2							32
11	IR-271X SB	R3-H4A	24 X 30	13																		2
12	IR-271 SB	R3-H4A	24 X 30	13																		5
13	IR-271 NB	R3-H4A	24 X 30	13																		5
14	IR-271X NB	R3-H4A	24 X 30	13																		5
15	IR-271 NB	D10-2	12 X 36	13.5																		3
16	IR-271 SB	M3-3	36 X 18	15/15.5																		4.5
		M1-1	45 X 36																			11.25
17	IR-271X NB	W11-3	48 X 48	14.5/15																		16
18	IR-271 NB		10' X 5'																			50
19A	IR-271 NB		17' X 12'																			204
19B			17' X 11'																			187
20	IR-271 NB	E5-H1	72 X 60			17/17.5									2							30
21	IR-271 SB	W4-H1	48 X 48	14.5/15																		16
22	RAMP A	W1-8R	30 X 36	13																		7.5
23	RAMP A	W1-8R	30 X 36	13																		7.5
24	RAMP A	W1-8R	30 X 36	13																		7.5
24	RAMP A	W1-8R	30 X 36	13																		7.5
26	RAMP A	W1-8R	30 X 36	13																		7.5
27	RAMP A	W1-8R	30 X 36	13																		7.5
28	RAMP C	W8-13(MOD)	48 X 48	14.5/15														16				
29	RAMP C	OM-3L	12 X 36	11																		3
30	RAMP C	OM-3R	12 X 36	11																		3
31	RAMP C	W1-8L	30 X 36	13																		7.5
32	RAMP C	W1-8L	30 X 36	13																		7.5
33	RAMP C	W1-8L	30 X 36	13																		7.5
34	RAMP C	W1-8L	30 X 36	13																		7.5
35	IR-271 NB		8' X 2'																			16
			10' X 7'																			70
SHEET TOTALS				377.5		75					42.5		28	4	24	0	16	197.75	198	1451		6

SIGNING SUB-SUMMARY

CUY / LAK - 271-14.09 / 0.00

CALCULATED  
FLK  
CHECKED  
EMK

REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630								631										
				REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, AS PER PLAN	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL, AS PER PLAN			REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL, AS PER PLAN	625-CABLE SPLICING KIT				
				IN X IN	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH			
1	IR-271 SB LOCAL		16' X 11'							1					3	1	1	1		2		
2A	IR-271 NB LOCAL		15' X 12'							1					2	1	1	1		2		
2B			15' X 10'							1					2		1					
3	IR-271 NB LOCAL	D12-H14	60 X 36	1		2																
4	IR-271X SB	R3-4 R3-H4A	36 X 36 24 X 30	2		1																
5	IR-271X NB	R3-4 R3-H4A	36 X 36 24 X 30	2		1																
6A	IR-271 NB		15' X 12'							1				2	1	1	1			2		
6B			19' X 11'							1				2		1						
7	IR-271 SB		15' X 11'							1				3	1	1	1			2		
8	IR-271 SB	D10-2	12 X 36	1		1																
9	IR-271X SB			1		1																
10	IR-271 SB	R2-H2B	4' X 8'	1			2															
11	IR-271X SB	R3-H4A	24 X 30	1		1																
12	IR-271 SB	R3-H4A	24 X 30	1		1																
13	IR-271 NB	R3-H4A	24 X 30	1		1																
14	IR-271X NB	R3-H4A	24 X 30	1		1																
15	IR-271 NB	D10-2	12 X 36	1		1																
16	IR-271 SB	M3-3 M1-1	36 X 18 45 X 36	2		2																
17	IR-271 NB	W11-3	48 X 48	1		2																
18	IR-271 NB		10' X 5'		1																	
19A	IR-271 NB		17' X 12'							1				2	1	1	1			2		
19B			17' X 11'							1				2		1						
20	IR-271 NB	E5-H1	72 X 60	1			2															
21	IR-271 SB	W4-H1	48 X 48	1		2																
22	RAMP A	W1-8L	30 X 36	1		1																
23	RAMP A	W1-8L	30 X 36	1		1																
24	RAMP A	W1-8L	30 X 36	1		1																
24	RAMP A	W1-8L	30 X 36	1		1																
26	RAMP A	W1-8L	30 X 36	1		1																
27	RAMP A	W1-8L	30 X 36	1		1																
28	RAMP C	W8-13(MOD)	48 X 48	1		2																
29	RAMP C	OM-3L	12 X 36	1		1																
30	RAMP C	OM-3R	12 X 36	1		1																
31	RAMP C	W1-8L	30 X 36	1		1																
32	RAMP C	W1-8L	30 X 36	1		1																
33	RAMP C	W1-8L	30 X 36	1		1																
34	RAMP C	W1-8L	30 X 36	1		1																
35	IR-271 NB		8' X 2' 10' X 7'	1			2															
SHEET TOTALS				32	2	31	6	0	8	0			18	5	8	5	0	10				

CALCULATED  
FLK  
CHECKED  
EMK

SIGNING SUB - SUMMARY

CUY / LAK - 271-14.09 / 0.00



REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630										631						
				REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, AS PER PLAN	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL, AS PER PLAN			REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL, AS PER PLAN	625-CABLE SPLICING KIT		
				IN X IN	EACH	EACH	EACH	EACH	EACH	EACH			EACH	EACH	EACH	EACH	EACH	EACH		
36	RAMP C	W1-2L	48 X 48	2		2														
		W13-1	24 X 24																	
37	RAMP C	W1-2L	48 X 48	2		2														
		W13-1	24 X 24																	
38	RAMP C	W4-HI	48 X 48	1		2														
39	RAMP B		16' X 7'						1					3	1	1	1		2	
40	RAMP B	OM-3R	12 X 36																	
41	RAMP B	OM-3L	12 X 36																	
42	RAMP C	W1-8L	30 X 36	1		1														
43	RAMP C	W1-8L	30 X 36	1		1														
44	RAMP C	W1-8L	30 X 36	1		1														
45	RAMP C	W1-8L	30 X 36	1		1														
46	RAMP C	W1-8L	30 X 36	1		1														
46a	RAMP C	W1-8L	30 X 36	1																
46b	RAMP C	W1-8L	30 X 36	1																
46c	RAMP C	W1-8L	30 X 36	1																
46d	RAMP C	W1-8L	30 X 36	1																
46e	RAMP C	W1-8L	30 X 36	1																
47	IR-271 SB	M3-3	36 X 18	2		2														
		M1-1	45 X 36																	
47a	IR-271X SB	M3-3	36 X 18	2		2														
		M1-1	45 X 36																	
48A	IR-271X NB		7' X 7'						1					1	1	1	1		2	
48B			17' X 10'						1					2	1	1				
49	RAMP C	OM-3L	12 X 36	1		1														
50	RAMP C	OM-3R	12 X 36	1		1														
51	IR-271 NB		8' X2'						1					3	1	1	1		2	
			21' X 12'						1											
52	RAMP B		12' X 10'						1											
53	RAMP B	W1-8R	30 X 36	1		1														
54	RAMP B	W1-8R	30 X 36	1		1														
55	RAMP B	W1-8R	30 X 36	1		1														
56	RAMP B	W1-8R	30 X 36	1		1														
57	RAMP B	W1-8R	30 X 36	1		1														
57a	RAMP B	W1-8L	30 X 36	1																
57b	RAMP B	W1-8L	30 X 36	1																
57c	RAMP B	W1-8L	30 X 36	1																
57d	RAMP B	W1-8L	30 X 36	1																
57e	RAMP B	W1-8L	30 X 36	1																
57f	RAMP B	W1-8L	30 X 36	1																
58A	IR-90 EB		17' X 12'						1					2	1	1	1		2	
58B			8' X2'						1											
			17' X 11'						1					2	1					
59	IR-90 EB	E5-H1A	96 X 60		1		2													
60	RAMP A	W1-8R	30 X 36	1		1														
SHEET TOTALS				33	1	23	2	0	9	0			13	4	6	4	0	8		

SIGNING SUB-SUMMARY

CUY / LAK - 271-14.09 / 0.00



REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630																	
				GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S4 X 7.7 BEAM	GROUND MOUNTED SUPPORT, W6 X 9 BEAM	GROUND MOUNTED SUPPORT, W8 X 18 BEAM	GROUND MOUNTED SUPPORT, W10 X 22 BEAM	GROUND MOUNTED SUPPORT, W10 X 12 BEAM	GROUND MOUNTED SUPPORT, W12 X 30 BEAM	ONE WAY SUPPORT, NO. 3 POST	BREAKAWAY BEAM CONNECTION	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET, AS PER PLAN	SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
				FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	EACH	EACH	EACH	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	EACH	
61	IR-271 SB	D10-2	12 X 36	13.5																	
62	IR-271 NB	W4-HI	48 X 48	14.5/15																	
63	RAMP B		8' X 2'							21/21.5											
			10' X 7'																		
64	RAMP B	W1-8L	30 X 36	13																	
65	IR-271 NB	D10-2	12 X 36	13.5																	
66	IR-271 SB	E5-H1A	96 X 60																		
67A	IR-90/271 SPLIT		8' X2'																		
			17' X 11'																		
67B			17' X 10'																		
68	IR-90 WB	D10-3	12 X 48	13.5																	
69	IR-90 EB	D10-3	12 X 48	13.5																	
70	IR-90 EB		8' X2'																		
			21' X 12'																		
71A	IR-90 WB		8' X2'																		
			19' X 11'																		
71B			15' X 10'																		
72	IR-90 EB		8' X2'																		
			10' X 4'																		
73	IR-90 EB		8' X2'																		
			21' X 12'																		
74	IR-90 WB		8' X2'																		
			17' X 9'																		
75	IR-90 WB	R1-2	60 X 60 X 60	15.5/16																	
76	IR-90 WB	W4-IR	48 X 48	14.5/15																	
77	IR-90 EB		8' X2'																		
			24' X 10'																		
78	IR-90 EB	R3-H4A	24 X 30	13																	
79	IR-90X EB	R3-H4A	24 X 30	13																	
80A	SR-91		7' X 7'																		
80B	(BACK TO BACK)		7' X 7'																		
81		R1-2	48 X 48 X 48	14																	
82	RAMP E	R6-IL	36 X 12	12																	
83	RAMP E	R3-2	36 X 36																		
		R5-1	36 X 36																		
84	RAMP E	R1-2	48 X 48 X 48	14																	
85	RAMP E		11' X 5'																		
86	SR-91 SB	M2-H5	108 X 48																		
87	RAMP E	R5-H1OE	30 X 30	13																	
88	RAMP E	R5-H1OE	30 X 30	13																	
89	RAMP F	R6-IR	48 X 18																		
		R6-IL	48 X 18																		
		R5-1	36 X 36																		
		R3-5G	30 X 30																		
SHEET TOTALS				249.5			36.5			84		29.5	2	35	0	0	149	182	1898	6	

I:\PROJECTS\PID75482\dgn\754821s001.dgn 04-MAR-2009 10:58AM ekallio

REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630								631							
				REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, AS PER PLAN	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL, AS PER PLAN	REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL, AS PER PLAN	625-CABLE SPLICING KIT			
				EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH			
61	IR-271 SB	D10-2	12 X 36	1		1													
62	IR-271 NB	W4-HI	48 X 48	1		2													
63	RAMP B		8' X 2'	1			2												
			10' X 7'		1														
64	RAMP B	W1-8L	30 X 36	1		1													
65	IR-271 NB	D10-2	12 X 36	1		1													
66	IR-271 SB	E5-H1A	96 X 60		1		2												
67A	IR-90/271 SPLIT		8' X2'						1				1		1		2		
			17' X 11'						1			2		1					
67B			17' X 10'						1			2		1					
68	IR-90 WB	D10-3	12 X 48	1		1													
69	IR-90 EB	D10-3	12 X 48	1		1													
70	IR-90 EB		8' X2'						1				1		1		2		
			21' X 12'						1			3		1					
71A	IR-90 WB		8' X2'						1				1		1		2		
			19' X 11'						1			2		1					
71B			15' X 10'						1			2		1					
72	IR-90 EB		8' X2'	1			2												
			10' X 4'	1															
73	IR-90 EB		8' X2'						1				1		1		2		
			21' X 12'						1			3		1					
74	IR-90 WB		8' X2'						1				1		1		2		
			17' X 9'						1			2		1					
75	IR-90 WB	R1-2	60 X 60 X 60	1		2													
76	IR-90 WB	W4-IR	48 X 48	1		2													
77	IR-90 EB		8' X2'						1				1		1		2		
			24' X 10'						1			3		1					
78	IR-90 EB	R3-H4A	24 X 30	1		1													
79	IR-90X EB	R3-H4A	24 X 30	1		1													
80A	SR-91		7' X 7'						1			1	1	1	1		2		
80B	(BACK TO BACK)		7' X 7'						1			1	1	1	1				
81		R1-2	48 X 48 X 48	1		1													
82	RAMP E	R6-IL	36 X 12	1		1													
83	RAMP E	R3-2	36 X 36	2		1													
		R5-1	36 X 36																
84	RAMP E	R1-2	48 X 48 X 48	1		1													
85	RAMP E		11' X 5'						1			1	1	1	1		2		
86	SR-91 SB	M2-H5	108 X 48						1			1	1	1	1		2		
87	RAMP E	R5-HIOE	30 X 30	1		1													
88	RAMP E	R5-HIOE	30 X 30	1		1													
89	RAMP F	R6-IR	48 X 18	4		2													
		R6-IL	48 X 18																
		R5-1	36 X 36																
		R3-5G	30 X 30																
SHEET TOTALS				24	2	21	6	0	18	0		23	9	12	9	0	18		

CALCULATED  
FLK  
CHECKED  
EMK

SIGNING SUB-SUMMARY

CUY / LAK - 271-14.09 / 0.00

REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630																					
				GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S4 X 7.7 BEAM	GROUND MOUNTED SUPPORT, W6 X 9 BEAM	GROUND MOUNTED SUPPORT, W8 X 18 BEAM	GROUND MOUNTED SUPPORT, W10 X 22 BEAM	GROUND MOUNTED SUPPORT, W10 X 12 BEAM	GROUND MOUNTED SUPPORT, W12 X 30 BEAM	ONE WAY SUPPORT, NO. 3 POST	BREAKAWAY BEAM CONNECTION	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET, AS PER PLAN	SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION					
				FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	EACH	EACH	EACH	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	EACH				
90	RAMP F	R6-IR	48 X 18												14/15.5				6						
		R6-IL	48 X 18																6						
		R5-1	36 X 36																9						
		R3-5G	30 X 30																6.25						
91	SR-91 NB		9' X 7'														2						63		
92	RAMP F	R3-5G	30 X 30	13.5															6.25						
		R5-IA	36 X 24																6						
93	RAMP F	R3-5G	30 X 30	13.5															6.25						
		R5-IA	36 X 24																6						
94A	IR-90 WB		8' X 2'																				16		
			19' X 11'																				209		
94B			15' X 10'																				150		
95	RAMP G	W1-6R	96 X 48																				32		
96	IR-90 EB	E5-H1A	96 X 60					18/18.5							2								40	2	
97	RAMP G	W1-11	48 X 48	14.5/15															16						
		W13-1	24 X 24																4						
98	SR-91 NB	M2-H5	108 X 48													2							36		
99	RAMP G-H	R6-IR	48 X 18																						
		R6-IL	48 X 18																						
		R5-1	36 X 36																						
		R3-5G	30 X 30																						
100	RAMP G-H	R4-7B	24 X 30	13.5																					
101	RAMP G-H	R5-H1OE	30 X 30	13																					
102	RAMP G-H	D9-2	24 X 24	13.5																					
		M6-IR	21 X 15																						
103	RAMP G-H	R3-5G	30 X 30	13.5																					
		R5-IA	36 X 24																						
104	RAMP G-H	M1-5	36 X 36	7																					
		M6-4	30 X 24																						
		D1-H6	144 X 48																				48		
105	RAMP G-H	W3-3	48 X 48	14.5/15																					
106	RAMP H	W3-2	48 X 48	14.5/15																					
107	RAMP G	R5-IA	36 X 24	13																					
107a	RAMP G	R5-IA	36 X 24	13																					
108	RAMP G	W1-8R	30 X 36	13																					
109	RAMP G	W1-8R	30 X 36	13																					
110	RAMP G	W1-8R	30 X 36	13																					
111	RAMP G	W1-8R	30 X 36	13																					
112	RAMP G	W1-8R	30 X 36	13																					
113	RAMP F	M1-5	36 X 36	7																					
		M6-4	30 X 24																						
		D1-H6	144 X 48																						
114	RAMP F	W3-3	48 X 48	14.5/15																					
115	IR-90 WB	E5-H1A	96 X 60					18/18.5							2									2	
116	IR-90 EB	W4-IR	48 X 48	14.5/15																					
117	IR-90 EB	R1-2	60 X 60 X 60	15.5/16																					
SHEET TOTALS				364.5				73								59	4	10	0	0	280.95	208	474		4

REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630								631								
				REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, AS PER PLAN	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL, AS PER PLAN			REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL, AS PER PLAN	625-CABLE SPLICING KIT		
				IN X IN	EACH	EACH	EACH	EACH	EACH	EACH			EACH	EACH	EACH	EACH	EACH	EACH		
90	RAMP F	R6-IR	48 X 18	4		2														
		R6-IL	48 X 18																	
		R5-1	36 X 36																	
		R3-5G	30 X 30																	
91	SR-91 NB		9' X 7'							1			1	1	1			2		
92	RAMP F	R3-5G	30 X 30	2		1														
		R5-1A	36 X 24																	
93	RAMP F	R3-5G	30 X 30	2		1														
		R5-1A	36 X 24																	
94A	IR-90 WB		8' X 2'							1					1		1		2	
			19' X 11'							1										
94B			15' X 10'							1			2		1					
95	RAMP G	W1-6R	96 X 48	1																
96	IR-90 EB	E5-H1A	96 X 60		1		2													
97	RAMP G	W1-11	48 X 48	2		2														
		W13-1	24 X 24																	
98	SR-91 NB	M2-H5	108 X 48							1			1	1	1	1		2		
99	RAMP G-H	R6-IR	48 X 18	4		2														
		R6-IL	48 X 18																	
		R5-1	36 X 36																	
		R3-5G	30 X 30																	
100	RAMP G-H	R4-7B	24 X 30	1		1														
101	RAMP G-H	R5-H1OE	30 X 30	1		1														
102	RAMP G-H	D9-2	24 X 24	2		1														
		M6-IR	21 X 15																	
103	RAMP G-H	R3-5G	30 X 30	2		2														
		R5-1A	36 X 24																	
104	RAMP G-H	M1-5	36 X 36	1																
		M6-4	30 X 24	1																
		D1-H6	144 X 48		1															
105	RAMP G-H	W3-3	48 X 48	1		2														
106	RAMP H	W3-2	48 X 48	1		2														
107	RAMP G	R5-1A	36 X 24	1		1														
107a	RAMP G	R5-1A	36 X 24	1		1														
108	RAMP G	W1-8R	30 X 36	1		1														
109	RAMP G	W1-8R	30 X 36	1		1														
110	RAMP G	W1-8R	30 X 36	1		1														
111	RAMP G	W1-8R	30 X 36	1		1														
112	RAMP G	W1-8R	30 X 36	1		1														
113	RAMP F	M1-5	36 X 36	1																
		M6-4	30 X 24	1																
		D1-H6	144 X 48		1															
114	RAMP F	W3-3	48 X 48	1		2														
115	IR-90 WB	E5-H1A	96 X 60		1		2													
116	IR-90 EB	W4-IR	48 X 48	1		2														
117	IR-90 EB	R1-2	60 X 60 X 60	1		2														
SHEET TOTALS				37	4	30	4	0	5	0			6	3	4	3	0	6		

REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630																		
				GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S4 X 7.7 BEAM	GROUND MOUNTED SUPPORT, W6 X 9 BEAM	GROUND MOUNTED SUPPORT, W8 X 18 BEAM	GROUND MOUNTED SUPPORT, W10 X 22 BEAM	GROUND MOUNTED SUPPORT, W10 X 12 BEAM	GROUND MOUNTED SUPPORT, W12 X 30 BEAM	ONE WAY SUPPORT, NO. 3 POST	BREAKAWAY BEAM CONNECTION	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET, AS PER PLAN	SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION		
			IN X IN	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	EACH	EACH	EACH	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.		EACH
118	IR-90 WB	W13-2	48 X 60		15/16.5													20				
119A	IR-90 WB		8' X 2'																			16
			14' X 9'												3							126
119B			8' X 2'																			16
			24' X 10'												4							240
120	IR-90X WB	R2-H2B	4' X 8'			20/20.5								2							32	2
121	IR-90 WB	R2-H2B	4' X 8'			20/20.5															32	2
122	IR-90 EB	R2-H2B	4' X 8'			20/20.5								2							32	2
123	IR-90X EB	R2-H2B	4' X 8'			20/20.5								2							32	2
124	IR-90 WB	E5-H1A	96 X 60				18/18.5							2							40	2
125	IR-90 WB	D10-3	12 X 48	13.5														4				
126A	IR-90 WB		8' X 2'																			16
			17' X 13'												3							221
126B			25' X 12'												4							300
127	IR-90 EB	D10-3	12 X 48	13.5														4				
128	IR-90 EB	W4-3L	48 X 48	14.5/15														16				
129A	IR-90 WB		8' X 2'																			16
			19' X 13'												3							247
129B			24' X 12'												4							288
130	IR-90 EB	W9-H5L	13' X 8'												3							104
131	IR-90 WB		120 X 48				17/19.5														40	
132	IR-90 WB		30' X 16'												5							480
133	IR-90 EB		8' X 2'					24/25						2							16	2
			10' X 3'																			
			10' X 7'																			
134	IR-90 EB	R1-2	60 X 60 X 60	15.5/16														10.75				
135	IR-90 EB	W4-IR	48 X 48	14.5/15														16				
136	IR-90 EB	W9-H4L	16' X 8'												3							128
137	IR-90 WB		8' X 2'																			16
			21' X 12'												4							252
138	IR-90 EB	M3-2	36 X 18	17/18														4.5				
		MI-1	36 X 36															9				
139	IR-90 EB	W9-H5L	13' X 8'												3							104
140	IR-90 WB	D10-3	12 X 48	13.5														4				
141	IR-90 WB	W11-3	48 X 48	14.5/15														16				
		W16-4	30 X 24															5				
142	IR-90 WB		8' X 2'																			16
			16' X 12'												3							192
143	IR-90 WB	R3-4	36 X 36										14								9	
		R3-H4A	24 X 30																		5	
144	IR-90 EB	R3-4	36 X 36																		9	
		R3-H4A	24 X 30																		5	
145	IR-90 EB	W8-13(MOD)	48 X 48	14.5/15														16				
146	IR-90 EB	W8-13(MOD)	48 X 48	14.5/15														16				
SHEET TOTALS				254.5	31.5	162	73			49				28	10	42	0	32	137.25	224	2778	12

I:\PROJECTS\PID75482\dgn\754821s001.dgn 04-MAR-2009 11:00AM ekalito

REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630								631								
				REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, AS PER PLAN	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL, AS PER PLAN			REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL, AS PER PLAN	625-CABLE SPLICING KIT		
				IN X IN	EACH	EACH	EACH	EACH	EACH	EACH			EACH	EACH	EACH	EACH	EACH	EACH		
118	IR-90 WB	W13-2	48 X 60	1		2														
119A	IR-90 WB		8' X2'						1				1		1			2		
			14' X 9'						1				2		1					
119B			8' X2'						1											
			24' X 10'						1				3		1					
120	IR-90X WB	R2-H2B	4' X 8'	2		4														
121	IR-90 WB	R2-H2B	4' X 8'	2		4														
122	IR-90 EB	R2-H2B	4' X 8'	2		4														
123	IR-90X EB	R2-H2B	4' X 8'	1			2													
124	IR-90 WB	E5-H1A	96 X 60		1		2													
125	IR-90 WB	D10-3	12 X 48	1		1														
126A	IR-90 WB		8' X2'						1				1		1			2		
			17' X 13'						1				2		1					
126B			25' X 12'						1				3		1					
127	IR-90 EB	D10-3	12 X 48	1		1														
128	IR-90 EB	W4-3L	48 X 48	1		2														
129A	IR-90 WB		8' X2'						1					1		1		2		
			19' X 13'						1				2		1					
129B			24' X 12'						1				3		1					
130	IR-90 EB	W9-H5L	13' X 8'						1				2	1	1	1		2		
131	IR-90 WB		120 X 48		1	2														
132	IR-90 WB		30' X 16'						1				4	1	1	1		2		
133	IR-90 EB		8' X 2'	1			2													
			10' X 3'	1																
			10' X 7'		1															
134	IR-90 EB	R1-2	60 X 60 X 60	1		2														
135	IR-90 EB	W4-IR	48 X 48	1		2														
136	IR-90 EB	W9-H4L	16' X 8'						1				2	1	1	1		2		
137	IR-90 WB		8' X2'						1											
			21' X 12'						1				3	1	1	1		2		
138	IR-90 EB	M3-2	36 X 18	2		1														
		MI-1	36 X 36																	
139	IR-90 EB	W9-H5L	13' X 8'						1				2	1	1	1		2		
140	IR-90 WB	D10-3	12 X 48	1		1														
141	IR-90 WB	W11-3	48 X 48	2		2														
		W16-4	30 X 24																	
142	IR-90 WB		8' X2'						1					1		1		2		
			16' X 12'						1				2		1					
143	IR-90 WB	R3-4	36 X 36	2		1														
		R3-H4A	24 X 30																	
144	IR-90 EB	R3-4	36 X 36	2		1														
		R3-H4A	24 X 30																	
145	IR-90 EB	W8-13(MOD)	48 X 48	1		2														
146	IR-90 EB	W8-13(MOD)	48 X 48	1		2														
SHEET TOTALS				26	3	34	6	0	18	0			30	9	12	9	0	18		

CALCULATED  
FLK  
CHECKED  
EMK

SIGNING SUB-SUMMARY

CUY / LAK - 271-14.09 / 0.00

REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630																
				GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S4 X 7.7 BEAM	GROUND MOUNTED SUPPORT, W6 X 9 BEAM	GROUND MOUNTED SUPPORT, W8 X 18 BEAM	GROUND MOUNTED SUPPORT, W10 X 22 BEAM	GROUND MOUNTED SUPPORT, W10 X 12 BEAM	GROUND MOUNTED SUPPORT, W12 X 30 BEAM	ONE WAY SUPPORT, NO. 3 POST	BREAKAWAY BEAM CONNECTION	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET, AS PER PLAN	SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION
				FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	EACH	EACH	EACH	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	EACH
147	IR-90 EB	R2-H2B	4' X 8'			20/20.5											32		2	
148	IR-90 EB	D10-3	12 X 48	13.5												4				
149	IR-90 EB	W9-H4L	16' X 8'										3					128		
150	IR-90 EB	OM-3L	12 X 36	11												3				
151	IR-90 EB	OM-3R	12 X 36	11												3				
152	IR-90 WB	M3-4	36 X 18	17/18												4.5				
		MI-1	36 X 36													9				
153	IR-90 WB	OM-3R	12 X 36	11												3				
154	IR-90 WB	OM-3L	12 X 36	11												3				
155A	IR-90 WB		8' X 2'															16		
			17' X 11'										3					187		
155B			8' X 2'															16		
			15' X 9'										3					135		
156	IR-90 EB	E8-H2	132 X 36			17/20.5											33		2	
157	IR-90 WB	W8-13(MOD)	48 X 48	14.5/15											16					
158	IR-90 WB	W8-13(MOD)	48 X 48	14.5/15											16					
159	IR-90 EB		15' X 5'						20.5/25								75		2	
160	IR-90 WB	E8-H2	84 X 36			15/15.5											21		2	
161	IR-90 EB	E8-H2	96 X 36			15.5/17											24		2	
162	IR-90 EB	E8-H2	84 X 36			15/15.5											21		2	
163	IR-90 WB		8' X 2'														16			
			15' X 12'										3				180			
164	IR-90 WB	E8-H2	96 X 36			15.5/19											24		2	
165	IR-90 WB		8' X 2'															16		
			16' X 12'										3					192		
166	IR-90 WB	D10-3	12 X 48	13.5												4				
167	IR-90 WB	OM-3R	12 X 36	11												3				
168	IR-90 WB	OM-3L	12 X 36	11												3				
169	IR-90 WB	OM-3R	12 X 36	11												3				
170	IR-90 WB	OM-3L	12 X 36	11												3				
171	IR-90 EB		8' X 2'														16			
			12' X 6'														72			
172	IR-90 EB	E8-H2	84 X 36			15.5/17											21		2	
173	IR-90 EB	OM-3L	12 X 36	11												3				
174	IR-90 EB	OM-3R	12 X 36	11												3				
175	IR-90 EB	OM-3L	12 X 36	11												3				
176	IR-90 EB	OM-3R	12 X 36	11												3				
177	IR-90 EB	D10-3	12 X 48	13.5												4				
178	IR-90 WB		8' X 2'														16			
			16' X 3'	10													48			
			16' X 8'														128			
179	IR-90 EB	W11-3	48 X 48	14.5/15												16				
		W16-4	30 X 24													5				
180	IR-90 EB		8' X 2'															16		
			15' X 5'										3					75		
SHEET TOTALS				306		201	37.5			45.5			0	18	0	32	82.5	727	781	16

REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630								631								
				REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, AS PER PLAN	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL, AS PER PLAN			REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL, AS PER PLAN	625-CABLE SPLICING KIT		
				EACH	EACH	EACH	EACH	EACH	EACH	EACH			EACH	EACH	EACH	EACH	EACH	EACH		
147	IR-90 EB	R2-H2B	4' X 8'	1			2													
148	IR-90 EB	D10-3	12 X 48	1		1														
149	IR-90 EB	W9-H4L	16' X 8'						1				2	1	1	1		2		
150	IR-90 EB	OM-3L	12 X 36	1		1														
151	IR-90 EB	OM-3R	12 X 36	1		1														
152	IR-90 WB	M3-4	36 X 18	2		1														
		MI-1	36 X 36																	
153	IR-90 WB	OM-3R	12 X 36	1		1														
154	IR-90 WB	OM-3L	12 X 36	1		1														
155A	IR-90 WB		8' X 2'						1				2	1		1		2		
			17' X 11'						1				2		1					
155B			8' X 2'						1											
			15' X 9'						1				2		1					
156	IR-90 EB	E8-H2	132 X 36	1			2													
157	IR-90 WB	W8-13(MOD)	48 X 48	1		2														
158	IR-90 WB	W8-13(MOD)	48 X 48	1		2														
159	IR-90 EB		15' X 5'		1		2													
160	IR-90 WB	E8-H2	84 X 36	1			2													
161	IR-90 EB	E8-H2	96 X 36	1			2													
162	IR-90 EB	E8-H2	84 X 36	1			2													
163	IR-90 WB		8' X 2'	1																
			15' X 12'		1															
164	IR-90 WB	E8-H2	96 X 36	1			2													
165	IR-90 WB		8' X 2'						1				2	1		1		2		
			16' X 12'						1				2		1					
166	IR-90 WB	D10-3	12 X 48	1		1														
167	IR-90 WB	OM-3R	12 X 36	1		1														
168	IR-90 WB	OM-3L	12 X 36	1		1														
169	IR-90 WB	OM-3R	12 X 36	1		1														
170	IR-90 WB	OM-3L	12 X 36	1		1														
171	IR-90 EB		8' X 2'	1																
			12' X 6'		1															
172	IR-90 EB	E8-H2	84 X 36	1			2													
173	IR-90 EB	OM-3L	12 X 36	1		1														
174	IR-90 EB	OM-3R	12 X 36	1		1														
175	IR-90 EB	OM-3L	12 X 36	1		1														
176	IR-90 EB	OM-3R	12 X 36	1		1														
177	IR-90 EB	D10-3	12 X 48	1		1														
178	IR-90 WB		8' X 2'	1																
			16' X 3'		1															
			16' X 8'																	
179	IR-90 EB	W11-3	48 X 48	2		2														
		W16-4	30 X 24																	
180	IR-90 EB		8' X 2'						1				2	1		1		2		
			15' X 5'						1				2		1					
SHEET TOTALS				31	4	22	16	0	9	0			10	4	5	4	0	8		



REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630																													
				GROUND MOUNTED SUPPORT, NO. 3 POST	GROUND MOUNTED SUPPORT, NO. 4 POST	GROUND MOUNTED SUPPORT, S4 X 7.7 BEAM	GROUND MOUNTED SUPPORT, W6 X 9 BEAM	GROUND MOUNTED SUPPORT, W8 X 18 BEAM	GROUND MOUNTED SUPPORT, W10 X 22 BEAM	GROUND MOUNTED SUPPORT, W10 X 12 BEAM	GROUND MOUNTED SUPPORT, W12 X 30 BEAM	ONE WAY SUPPORT, NO. 3 POST	BREAKAWAY BEAM CONNECTION	SIGN ATTACHMENT ASSEMBLY	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN, FLAT SHEET, AS PER PLAN	SIGN, FLAT SHEET	SIGN, GROUND MOUNTED EXTRUSHEET	SIGN, OVERHEAD EXTRUSHEET	GROUND MOUNTED BEAM SUPPORT FOUNDATION													
				FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	EACH	EACH	EACH	SQ. FT.	SQ. FT.	SQ. FT.	SQ. FT.	EACH												
181	IR-90 WB	W12-2	48 X 48	14.5/15														16															
		W16-2	30 X 24															5															
182	IR-90 WB	W12-2	48 X 48	14.5/15														16															
		W16-2	30 X 24															5															
183	IR-90 WB		8' X 2'																	16													
			14' X 9'																	126													
184	IR-90 EB	D10-3	12 X 48	13.5														4															
185	IR-90 WB	D10-3	12 X 48	13.5														4															
186	IR-90 WB	R3-4	36 X 36															9															
		R3-H4A	24 X 30															5															
187	IR-90 EB	R3-4	36 X 36															9															
		R3-H4A	24 X 30															5															
188	IR-90 WB	E8-H2	72 X 36			14.5/15													18		2												
189	IR-90 WB	R2-H2B	4' X 8'			20/20.5													32		2												
190	IR-90 WB		8' X 2'																		16												
			17' X 8'																		136												
191	IR-90 WB		8' X 2'																		16												
			17' X 9'																		153												
192	IR-90 EB	R2-H2B	4' X 8'			20/21														32		2											
193	IR-90 WB		8' X 2'																			16											
			14' X 9'																			126											
194A	IR-90 EB		15' X 10'																			150											
194B	IR-90 WB		8' X 2'																			16											
			19' X 13'																			247											
195	IR-90 EB	R3-4	36 X 36																			9											
		R3-H4A	24 X 30																			5											
196	IR-90 WB	R3-4	36 X 36																			9											
		R3-H4A	24 X 30																			5											
197	IR-90 EB	E8-H2	132 X 36			15/13																33	2										
198A	IR-90 WB		8' X 2'																				16										
			14' X 10'																				140										
198B	IR-90 WB		8' X 2'																				16										
			17' X 8'																				136										
199	IR-90 EB	R1-2	60 X 60 X 60	15.5/16																			10.75										
200	IR-90 EB	W4-IR	48 X 48	14.5/15																			16										
201	IR-90 EB	D10-3	12 X 48	13.5																			4										
202	IR-90 WB	D10-3	12 X 48	13.5																			4										
203	IR-90 WB	E5-H1A	96 X 60				18/18.5																40	2									
204	IR-90 WB	W3-3	48 X 48	14.5/15																			16										
SHEET TOTALS				203.5		139	36.5																56	10	24	0	0	156.75	155	1326		10	
TOTALS TO GENERAL SUMMARY				2092	31.5	577	293			49	172													200.5	32	174		80	1268.7	1734	9714		66

CALCULATED  
FLK  
CHECKED  
EMK

SIGNING SUB-SUMMARY

CUY / LAK - 271-14.09 / 0.00

REFERENCE NO.	LOCATION	SIGN CODE	SIGN SIZE	630								631								
				REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL, AS PER PLAN	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF STRUCTURE MOUNTED SIGN AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND DISPOSAL	REMOVAL OF POLE MOUNTED SIGN AND DISPOSAL, AS PER PLAN	REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF SIGN WIRING AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL	REMOVAL OF SIGN SERVICE AND DISPOSAL, AS PER PLAN	625-CABLE SPLICING KIT				
				IN X IN	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH			
181	IR-90 WB	W12-2	48 X 48	2		2														
		W16-2	30 X 24																	
182	IR-90 WB	W12-2	48 X 48	2		2														
		W16-2	30 X 24																	
183	IR-90 WB		8' X 2'							1										
			14' X 9'							1										
184	IR-90 EB	D10-3	12 X 48	1		1							2		1		1		2	
185	IR-90 WB	D10-3	12 X 48	1		1														
186	IR-90 WB	R3-4	36 X 36	2		1														
		R3-H4A	24 X 30																	
187	IR-90 EB	R3-4	36 X 36	2		1														
		R3-H4A	24 X 30																	
188	IR-90 WB	E8-H2	72 X 36	1			2													
189	IR-90 WB	R2-H2B	4' X 8'	1			2													
190	IR-90 WB		8' X 2'							1										
			17' X 8'							1										
191	IR-90 WB		8' X 2'							1										
			17' X 9'							1										
192	IR-90 EB	R2-H2B	4' X 8'	1			2													
193	IR-90 WB		8' X 2'							1										
			14' X 9'							1										
194A	IR-90 EB		15' X 10'							1										
194B			8' X 2'							1										
			19' X 13'							1										
195	IR-90 EB	R3-4	36 X 36	2		1														
		R3-H4A	24 X 30																	
196	IR-90 WB	R3-4	36 X 36	2		1														
		R3-H4A	24 X 30																	
197	IR-90 EB	E8-H2	132 X 36	1			2													
198A	IR-90 WB		8' X 2'							1										
			14' X 10'							1										
198B			8' X 2'							1										
			17' X 8'							1										
199	IR-90 EB	R1-2	60 X 60 X 60	1		2														
200	IR-90 EB	W4-IR	48 X 48	1		2														
201	IR-90 EB	D10-3	12 X 48	1		1														
202	IR-90 WB	D10-3	12 X 48	1		1														
203	IR-90 WB	E5-H1A	96 X 60	1			2													
204	IR-90 WB	W3-3	48 X 48	1		2														
SHEET TOTALS				24	0	18	10	0	15	0			13	4	6	4	0	8		
TOTALS TO GENERAL SUMMARY				207	16	179	50		82				113	38	53	38		76		

SIGNING SUB-SUMMARY

**A**

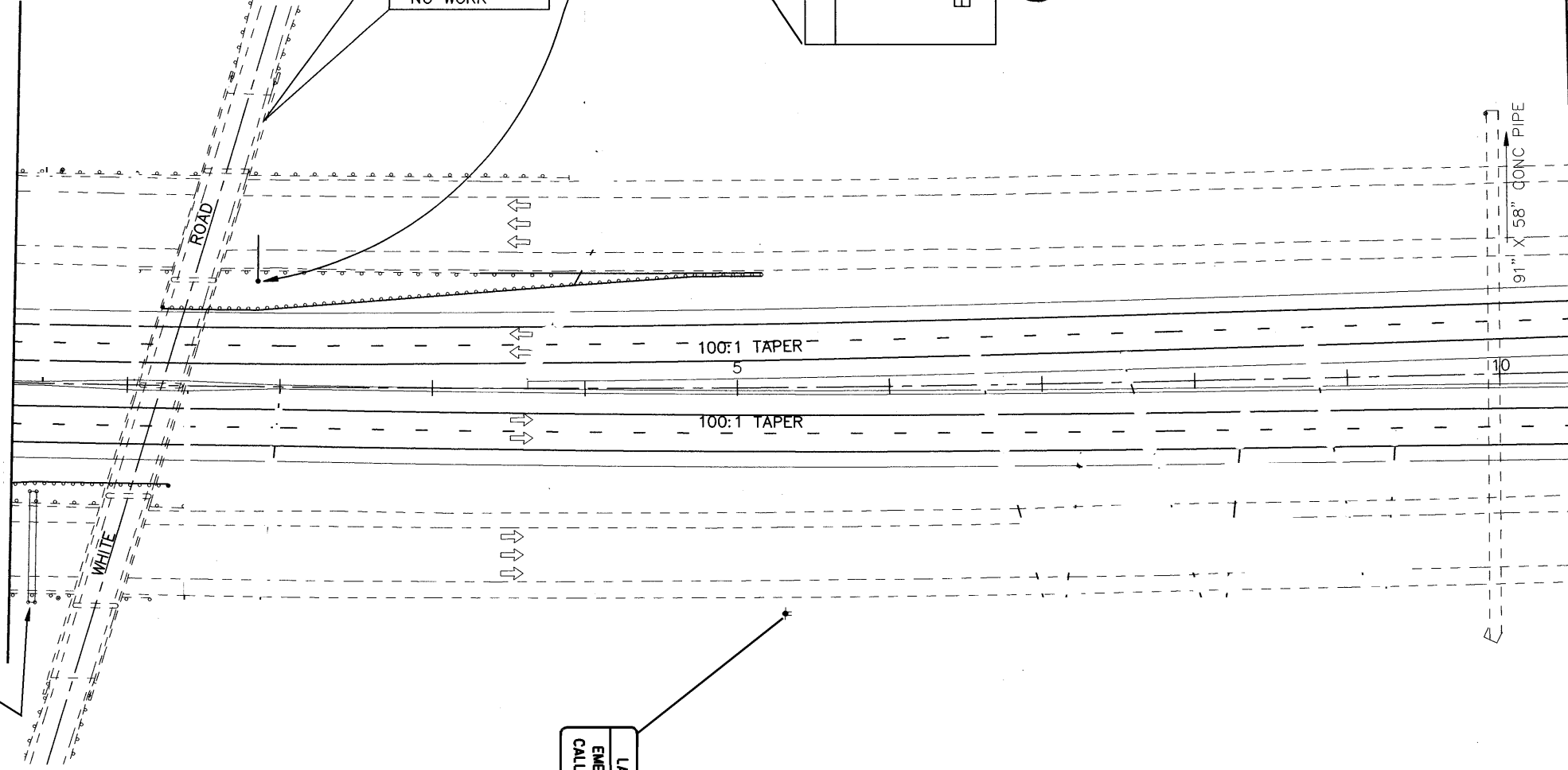
↑	EAST TO	(90)
↑	Erie Pd	91
↑	1 Mile	

**B**

↑	WEST	(90)
↑	Cleveland	
↑	1 Mile	

2

BEGIN SHEET



BRIDGE NO.  
LAK-271-0001  
"NO WORK"

**3**

LAKE CO
EMERGENCY
CALL 9-1-1

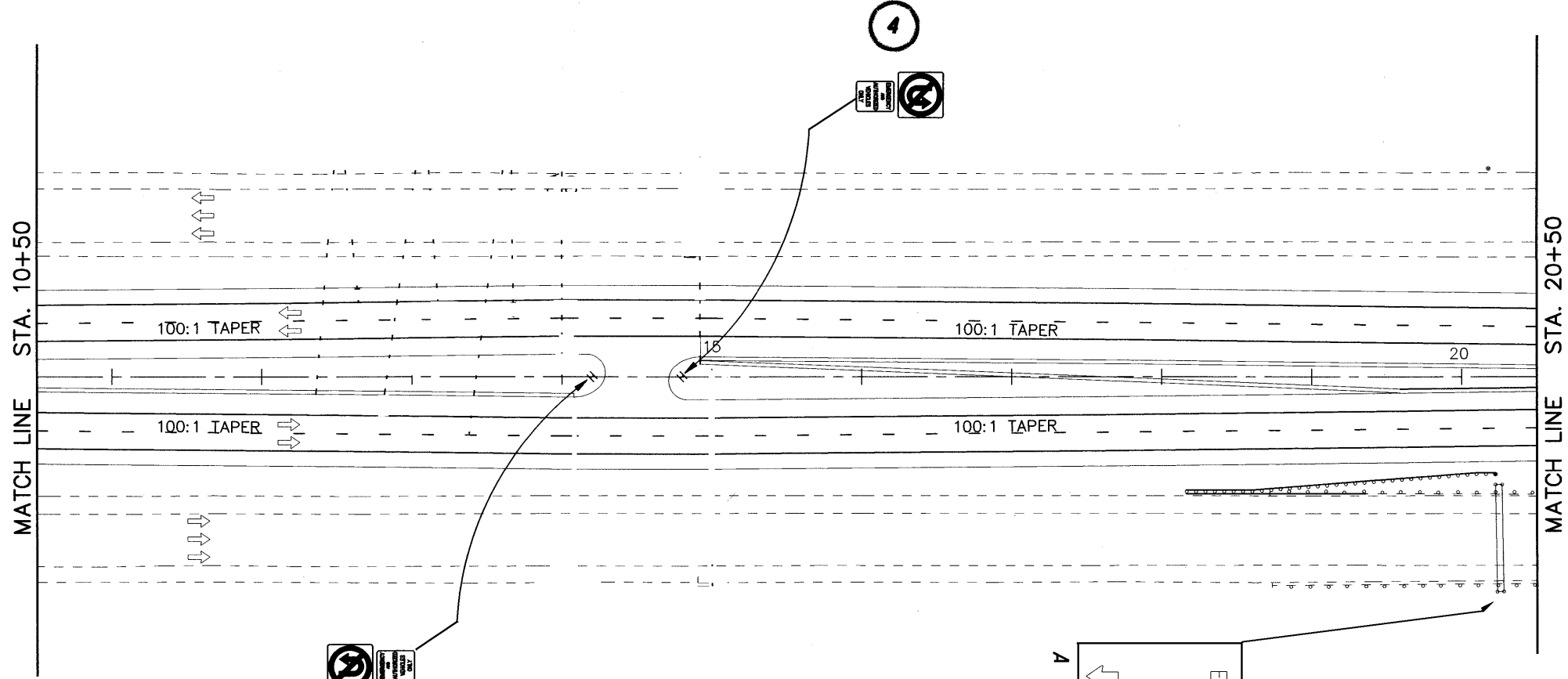
3

EXPRESS LANES
SOUTH TO
(271)
TO
(480)
EXIT LEFT 1/2 MILE

1

MATCH LINE STA. 10+50





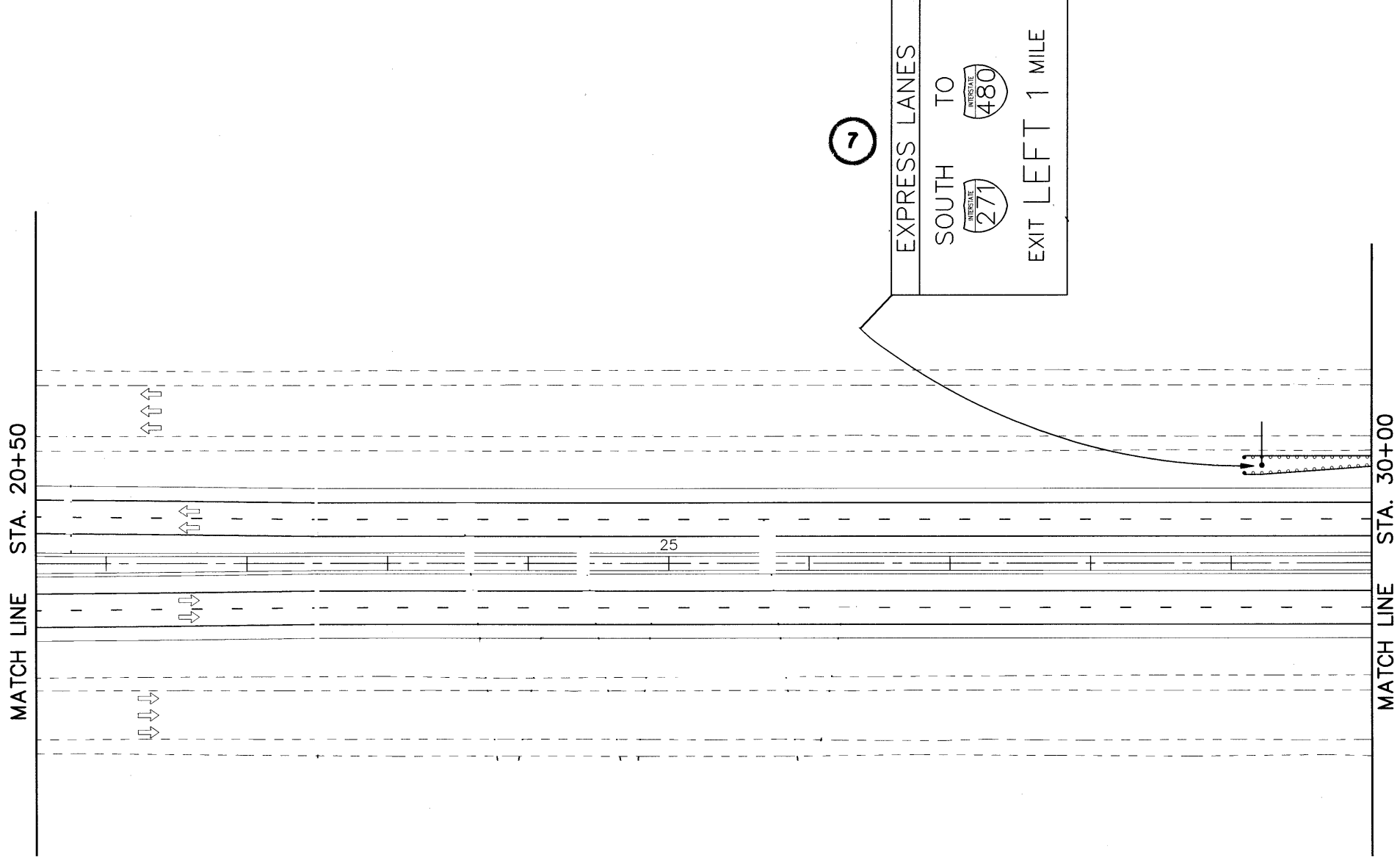
5

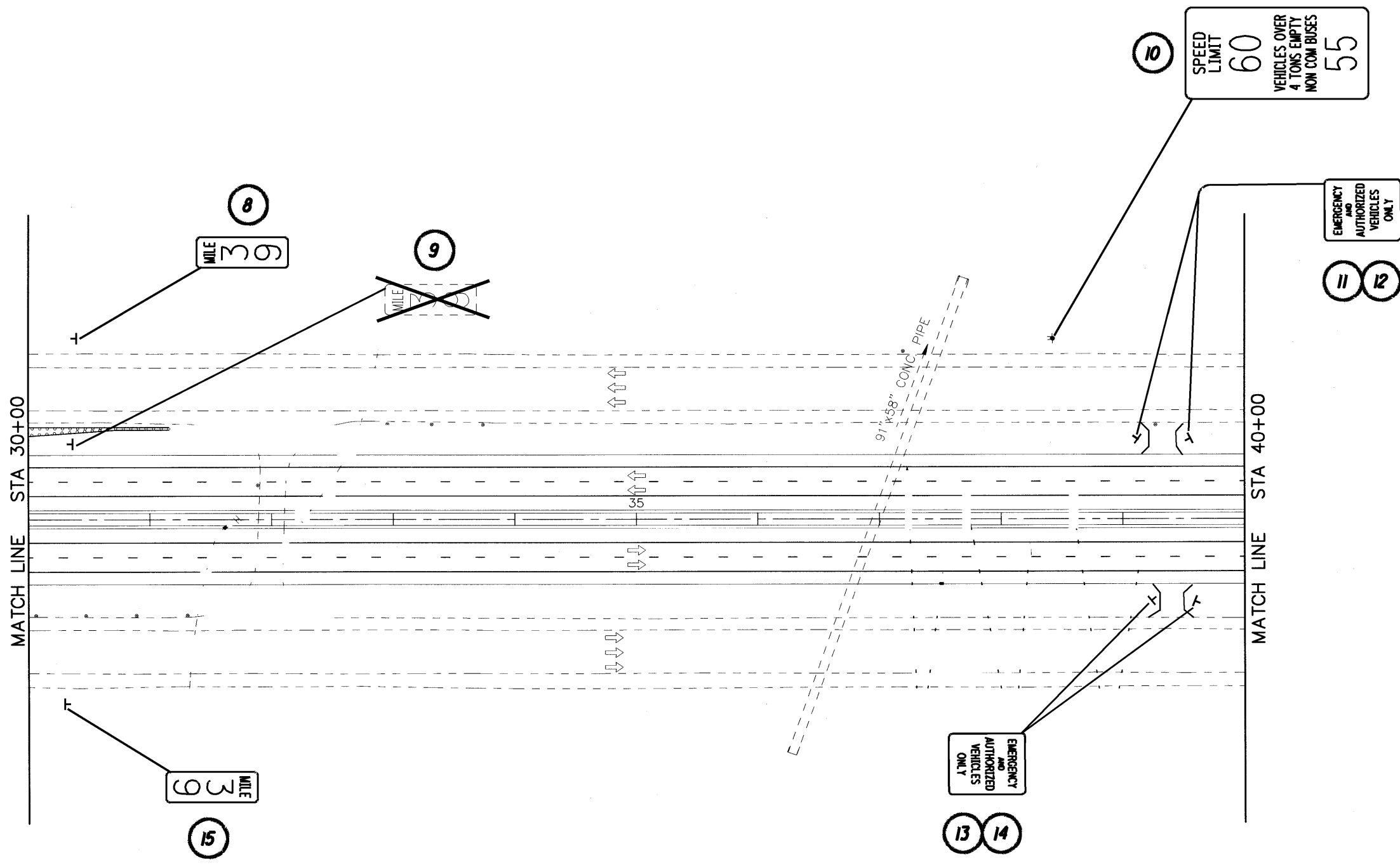
4

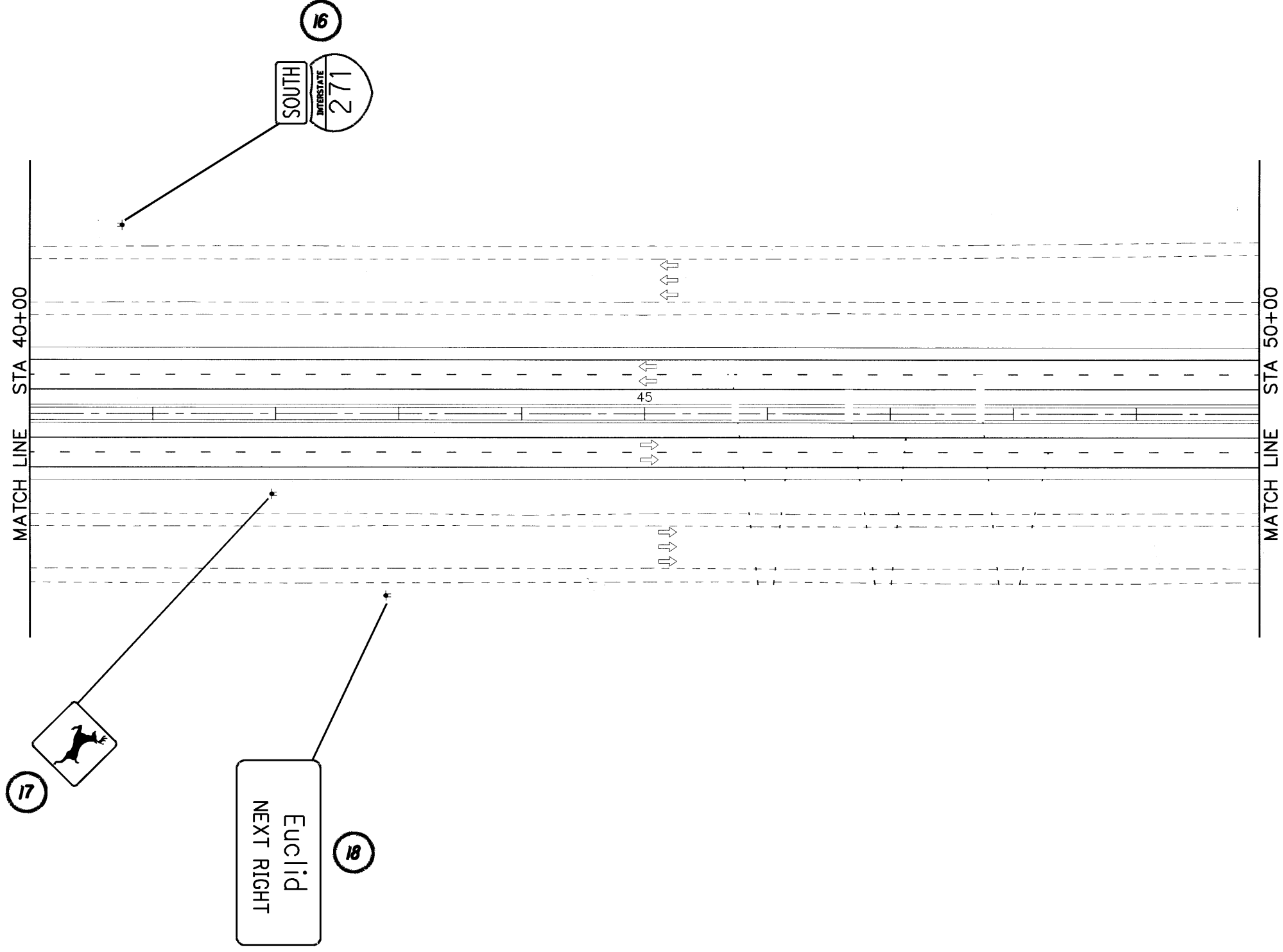
A  
 EAST TO  
 Erie Pa  
 90  
 91

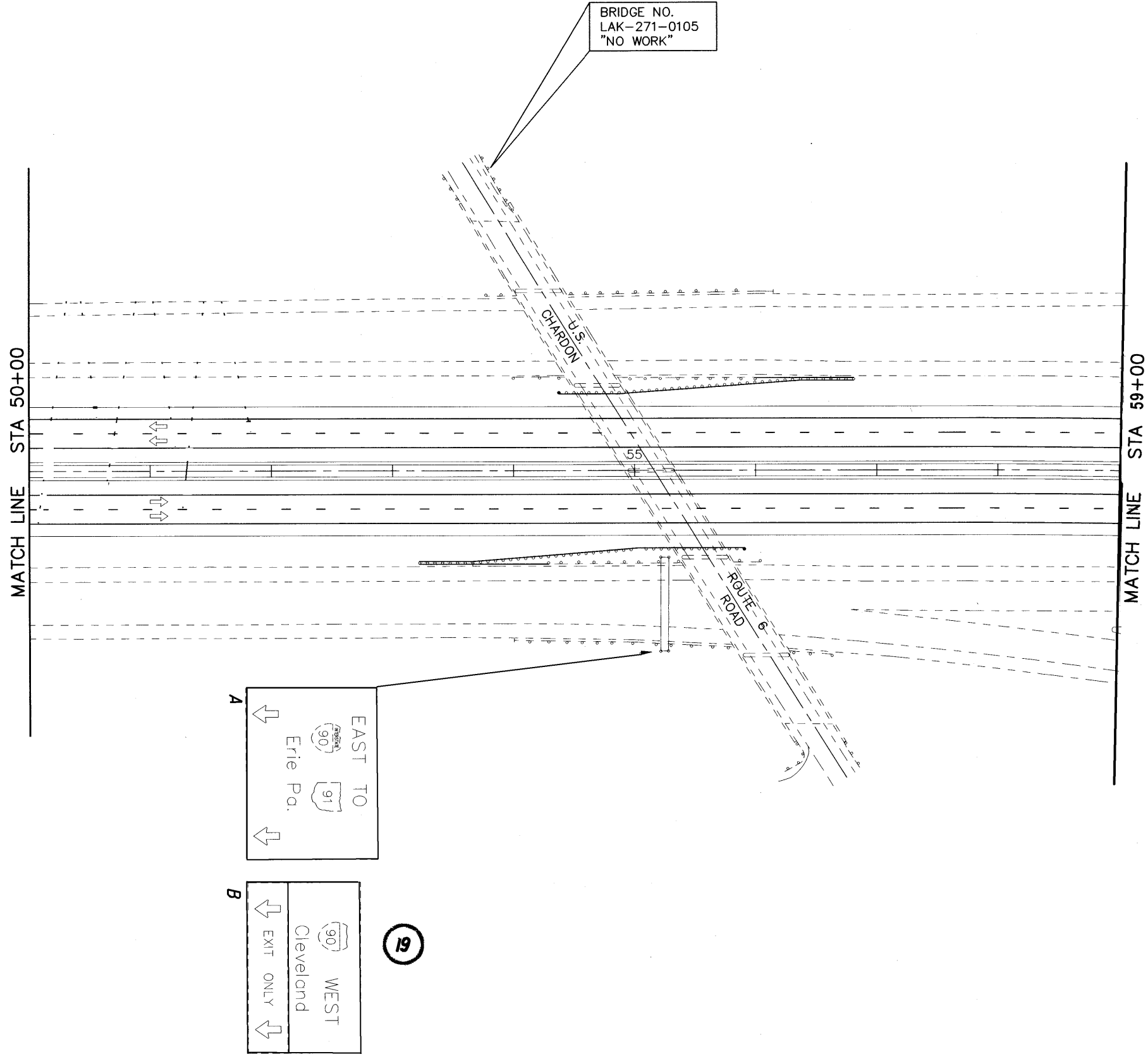
B  
 WEST  
 Cleveland  
 EXIT ONLY  
 90

6

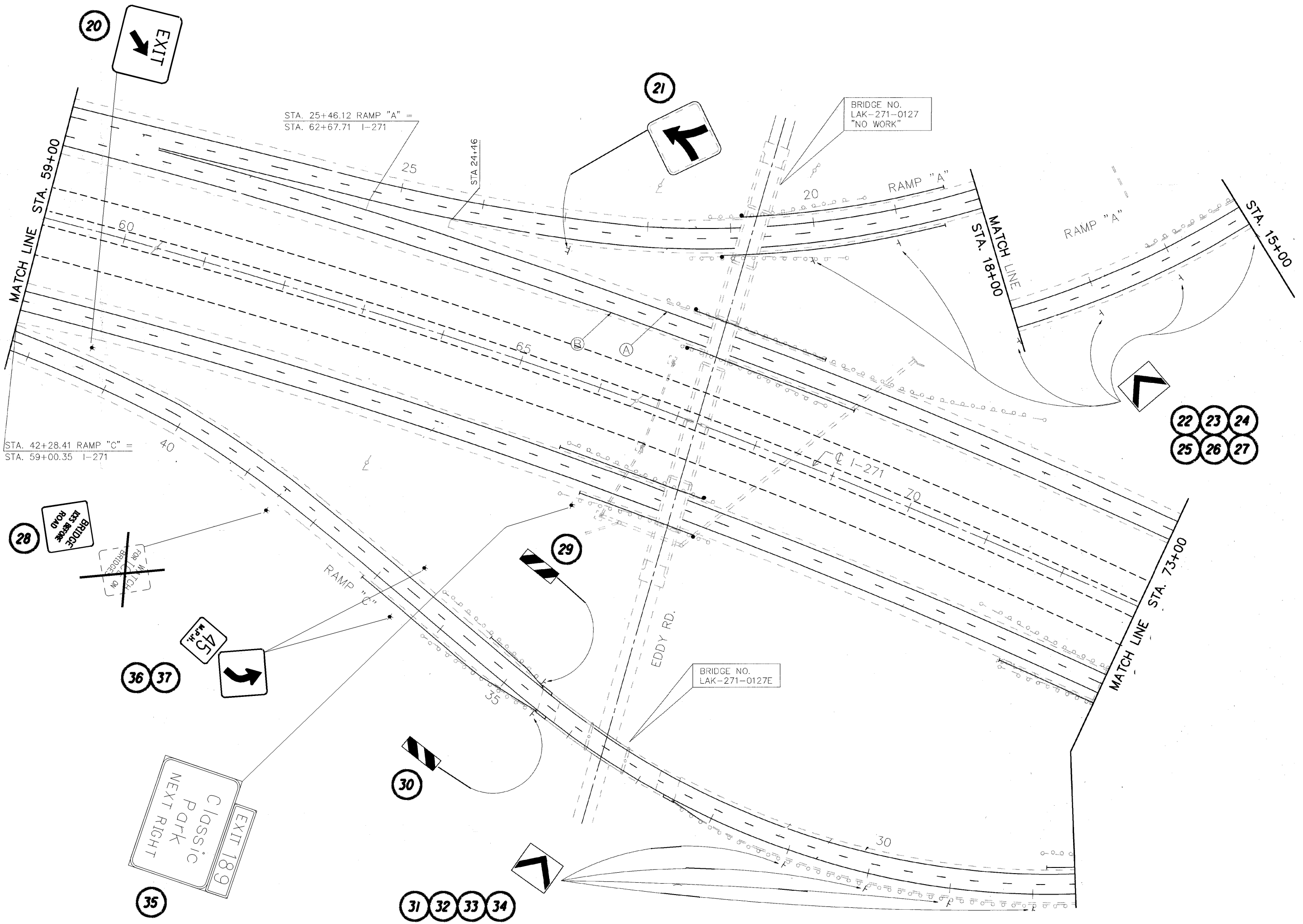












STA. 25+46.12 RAMP "A" =  
STA. 62+67.71 I-271

BRIDGE NO.  
LAK-271-0127  
"NO WORK"

STA. 42+28.41 RAMP "C" =  
STA. 59+00.35 I-271

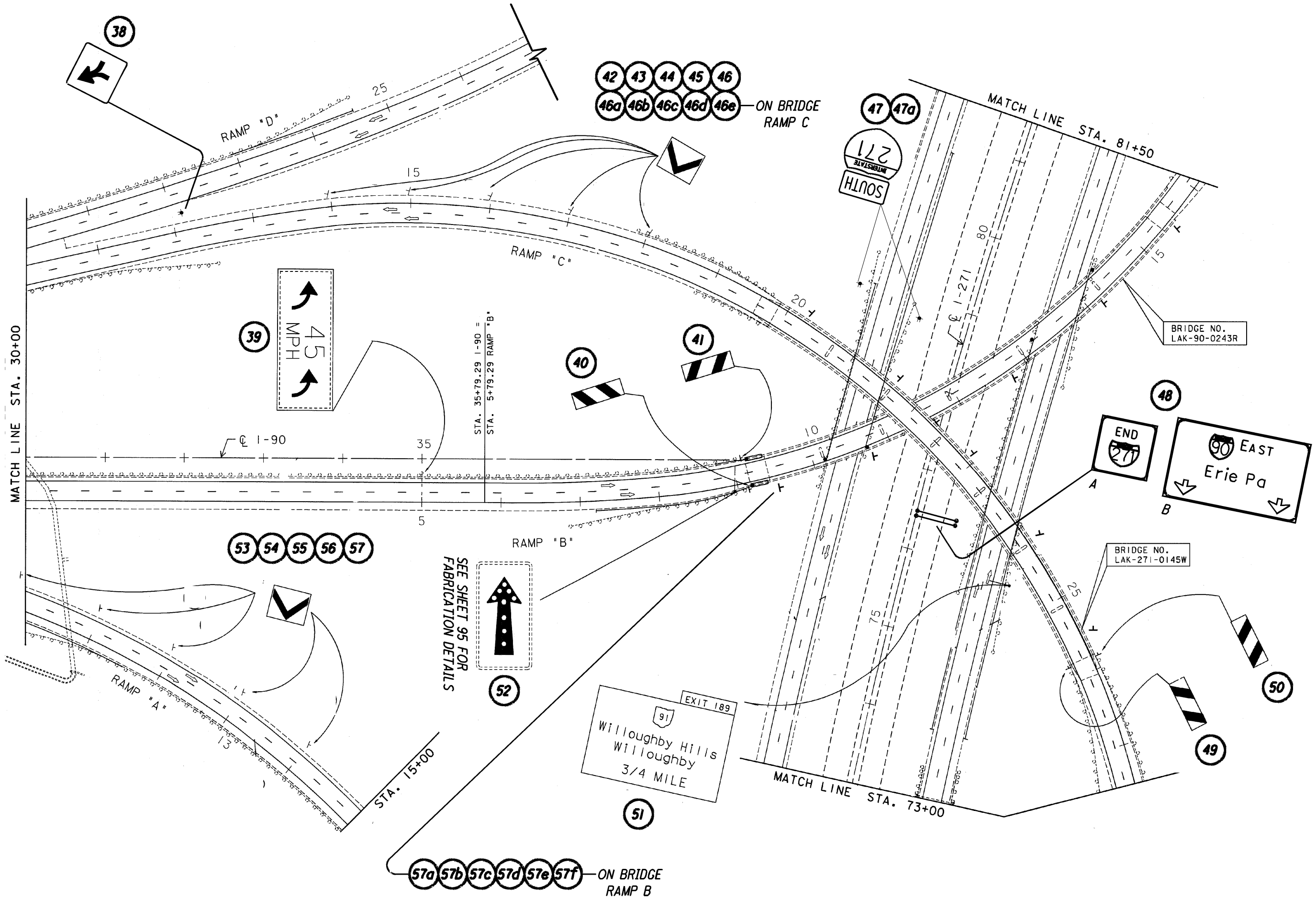
BRIDGE NO.  
LAK-271-0127E

DRAWN	FLK
CHECKED	EMK

SIGN LOCATION PLAN SHEET IR-271/90  
STA. 59+00 TO STA. 73+00

CUY/LAK-271-14.09 / 0.00

I:\PROJECTS\PID75482\dgn\75482p.008.dgn 04-MAR-2009 11:16AM ekallio

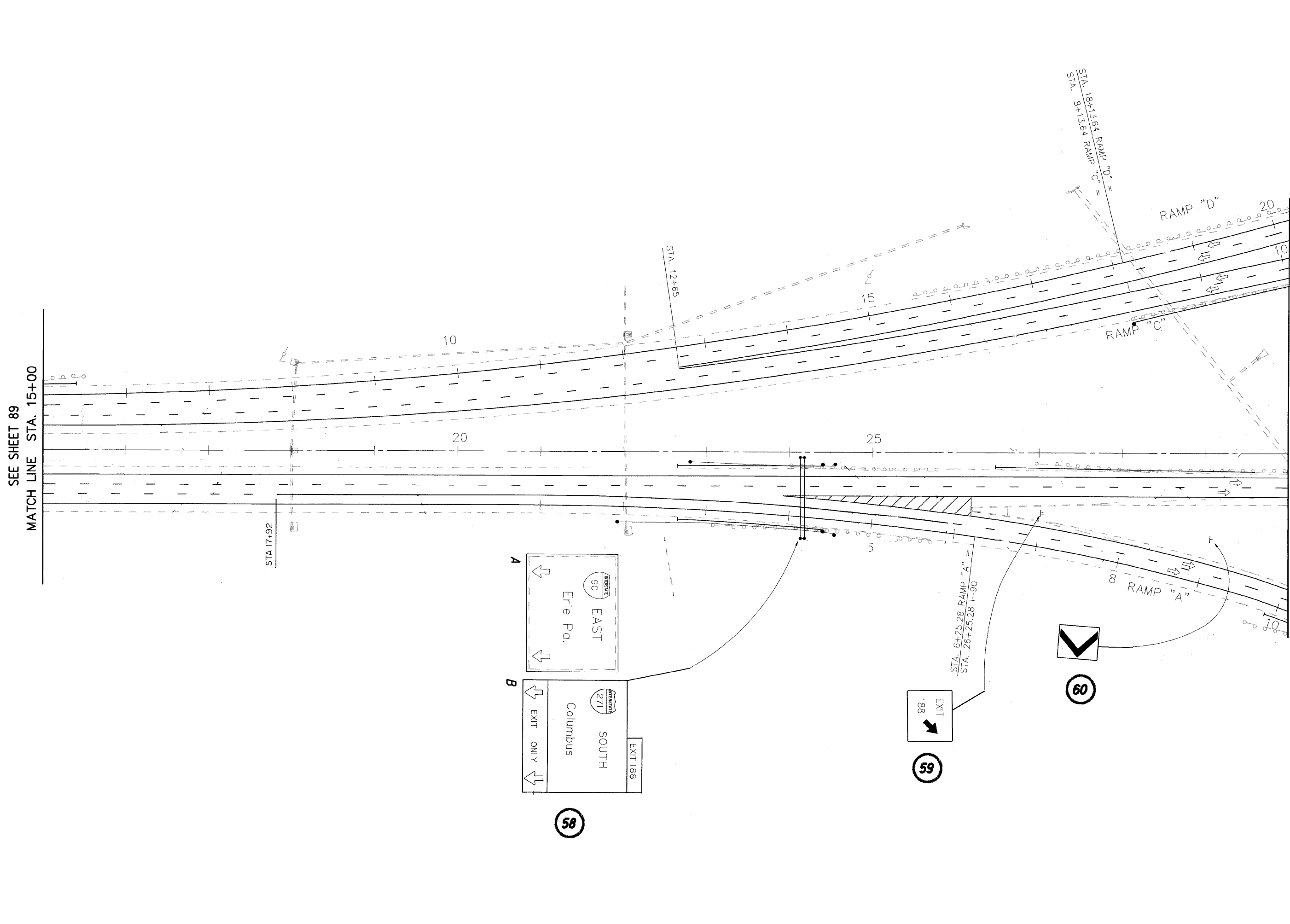


DRAWN	FLK	CHECKED	EMK
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SIGN LOCATION PLAN SHEET IR-271/90  
STA. 73+00 TO STA. 81+50

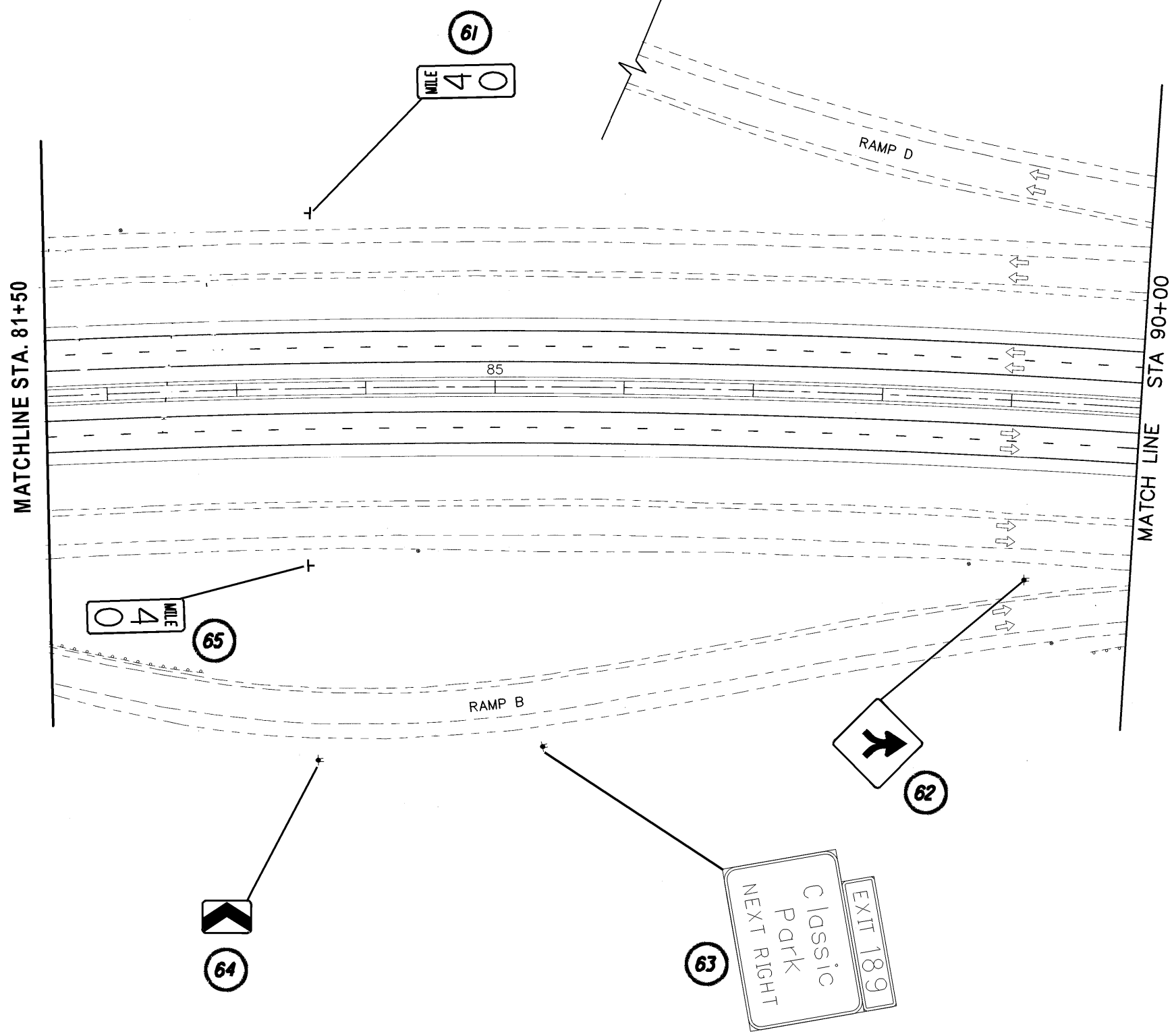
CUY / LAK-271-14.09 / 0.00

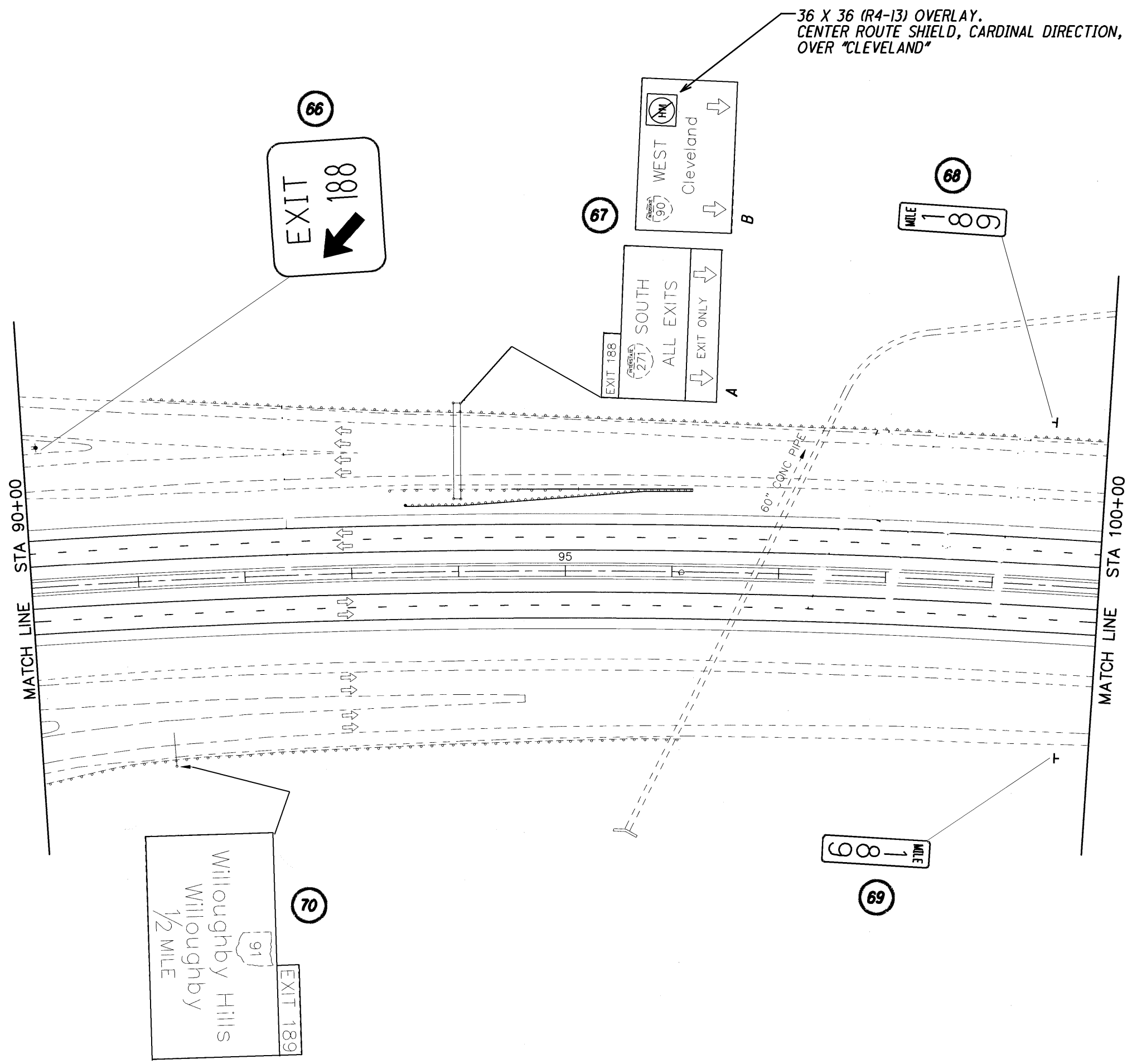
72
96



SEE SHEET 89  
MATCH LINE STA. 15+00

MATCH LINE STA. 30+00





36 X 36 (R4-13) OVERLAY.  
CENTER ROUTE SHIELD, CARDINAL DIRECTION, R4-13  
OVER "CLEVELAND"

66  
EXIT 188  
←

67  
EXIT 188  
SOUTH  
ALL EXITS  
EXIT ONLY  
A

WEST  
Cleveland  
B

68  
MILE 100

70  
EXIT 189  
Willoughby Hills  
Willoughby  
1/2 MILE

69  
MILE 100

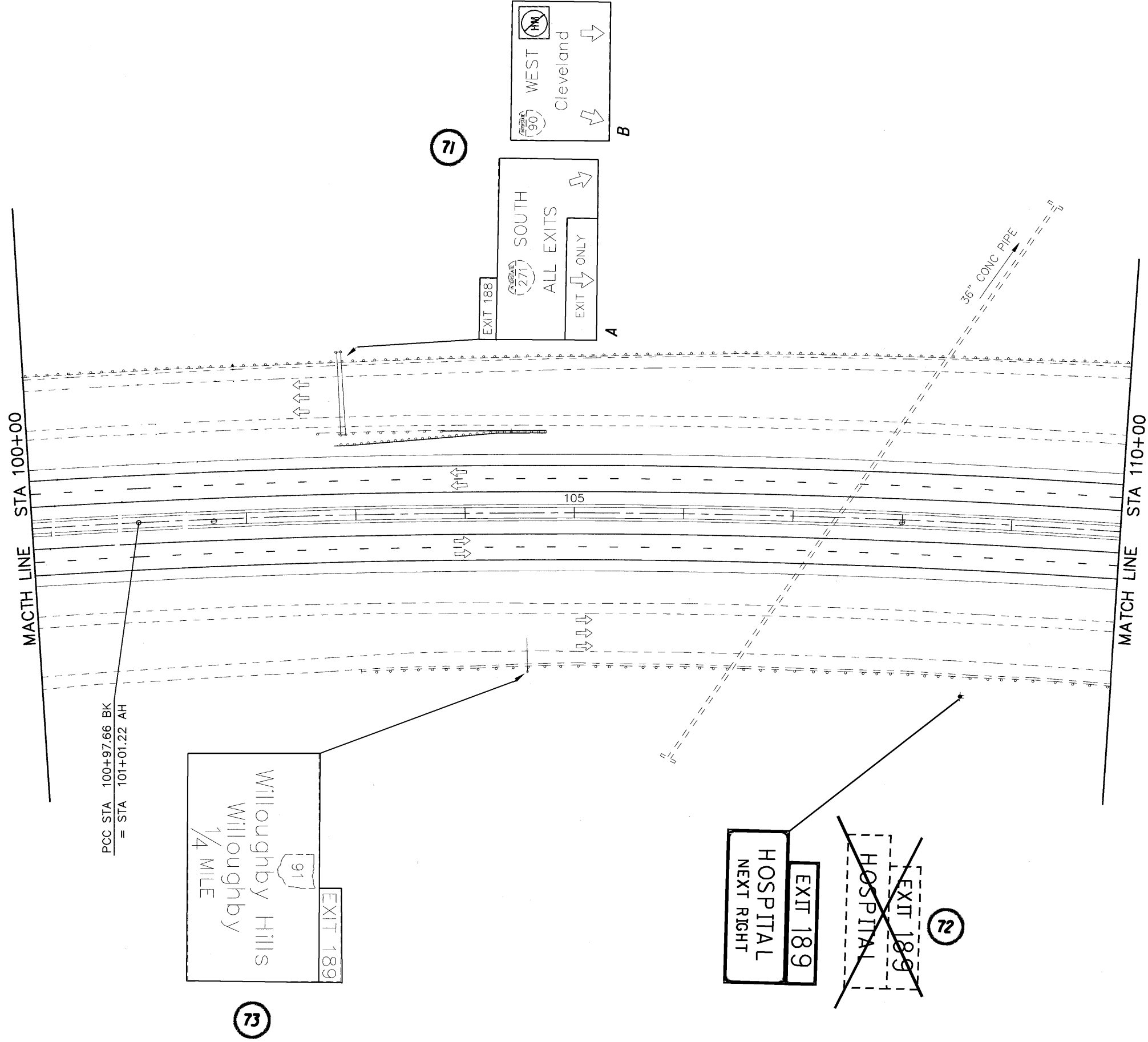
MATCH LINE STA 90+00

MATCH LINE STA 100+00

DRAWN	FLK	CHECKED	EMK
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SIGN LOCATION PLAN SHEET IR-90  
STA. 90+0 TO STA. 100+00

75  
96  
CUY / LAK - 271-14.09 / 0.00



MATCH LINE STA 100+00

MATCH LINE STA 110+00

PCC STA 100+97.66 BK  
= STA 101+01.22 AH

91  
Willoughby Hills  
Willoughby  
1/4 MILE  
EXIT 189

EXIT 188  
SOUTH  
ALL EXITS  
EXIT ONLY

WEST  
Cleveland  
EXIT 188

73

71

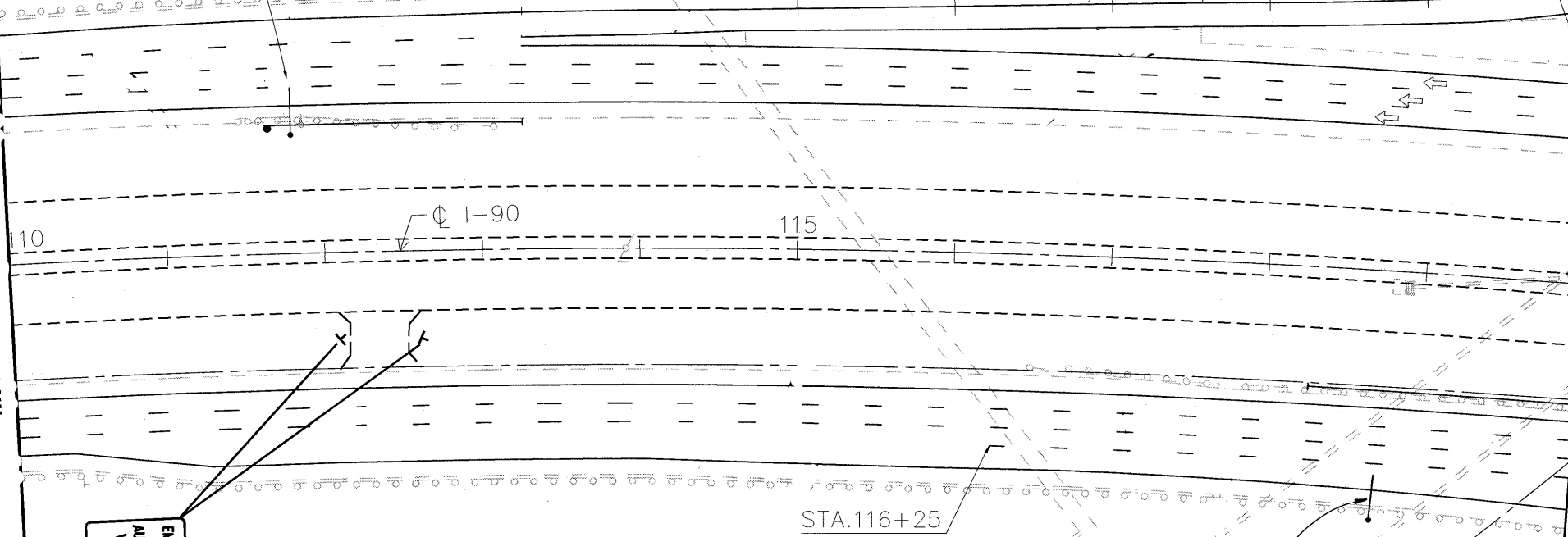
72

HOSPITAL  
NEXT RIGHT  
EXIT 189

~~HOSPITAL  
EXIT 189~~

EXIT 188  
271 SOUTH  
East Suburbs  
LEFT 2 LANES

MATCHLINE STA. 110+00



78 79  
EMERGENCY  
and  
AUTHORIZED  
VEHICLES  
ONLY

STA. 116+25

STA. 7+56.15 RAMP "E"  
STA. 117+49.69 I-90

75  
YIELD

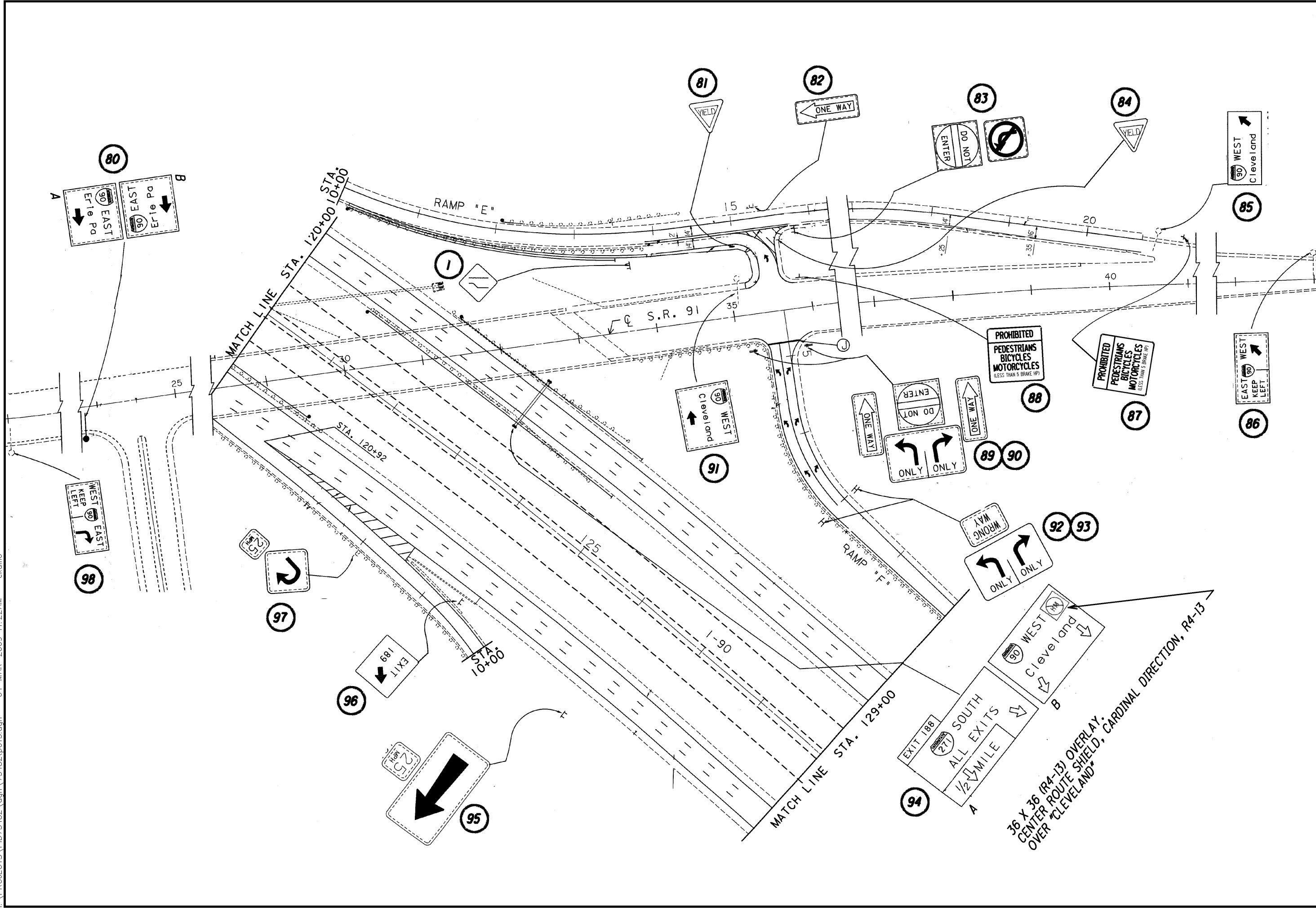
STA. 10+00  
MATCH LINE STA. 120+00

77  
EXIT 189  
Willoughby Hills  
Willoughby

76  
Arrow pointing left

DATE	FLK	CHECKED	EMK

SIGN LOCATION PLAN SHEET IR-90  
STA. 110+00 TO STA. 120+00



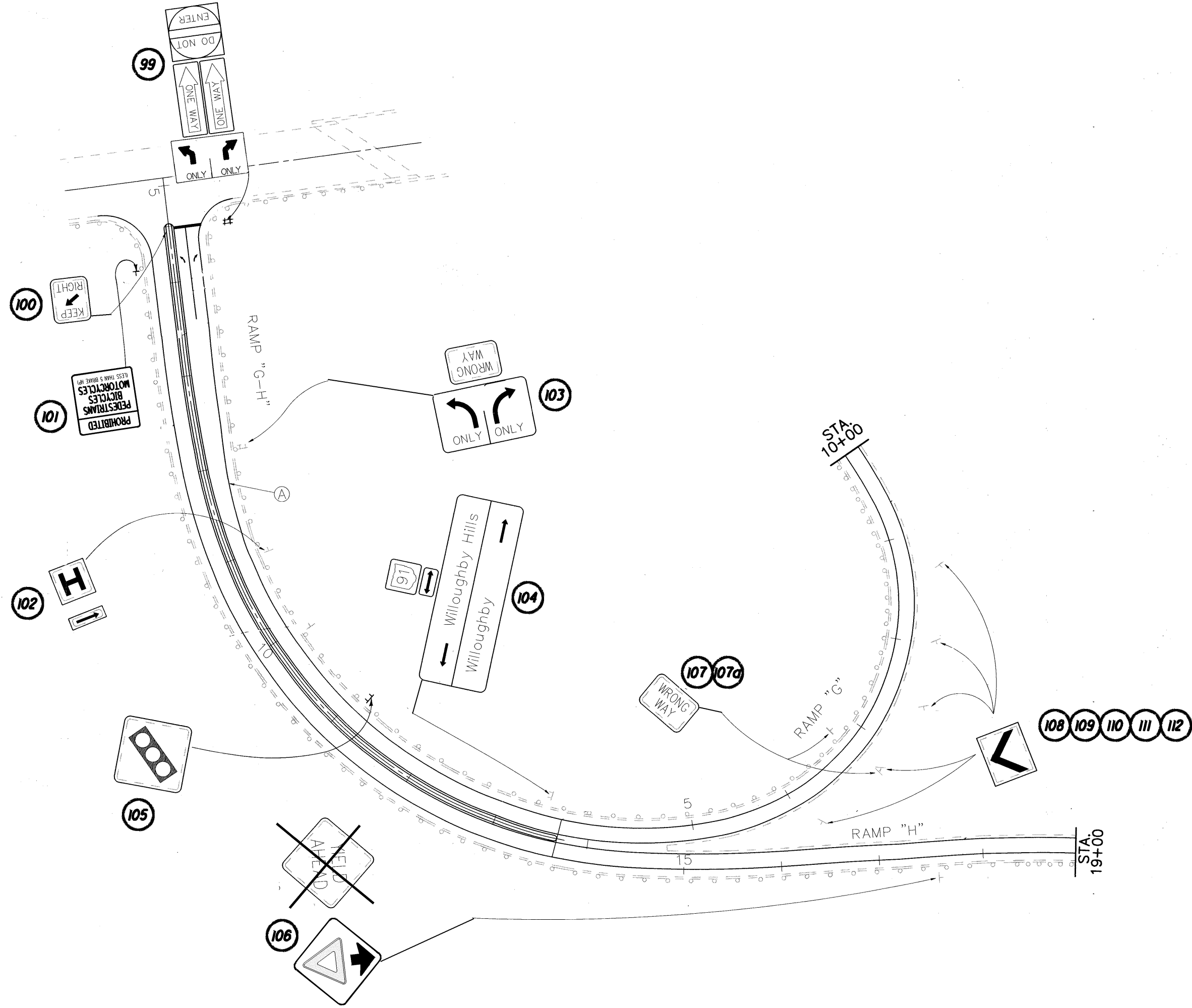
36 X 36 (R4-13) OVERLAY  
 CENTER ROUTE SHIELD, CARDINAL DIRECTION, R4-13

DRAWN	FLK	CHECKED	EMK
-------	-----	---------	-----

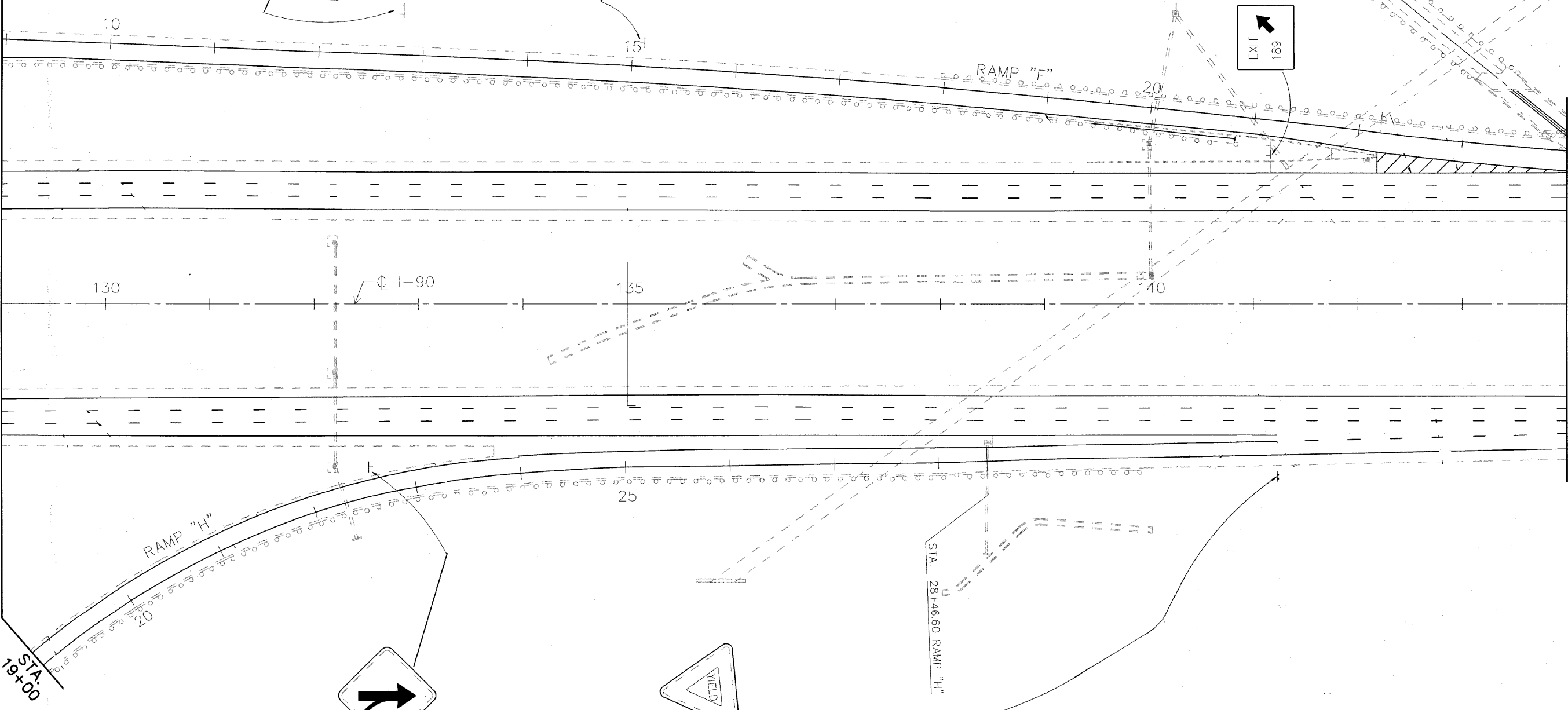
**SIGN LOCATION PLAN SHEET IR-90  
 STA. 120+00 TO STA. 129+00**

CUY / LAK-271-14.09 / 0.00

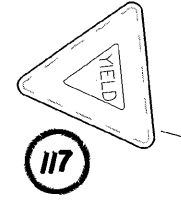
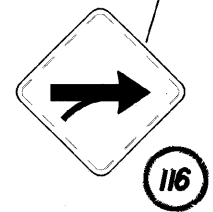
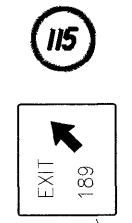
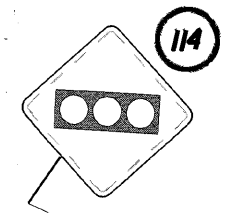
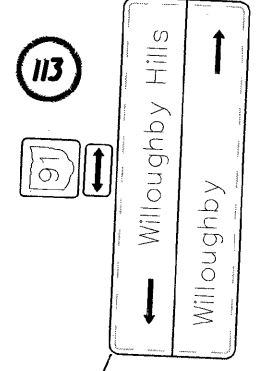




MATCH LINE STA. 129+00



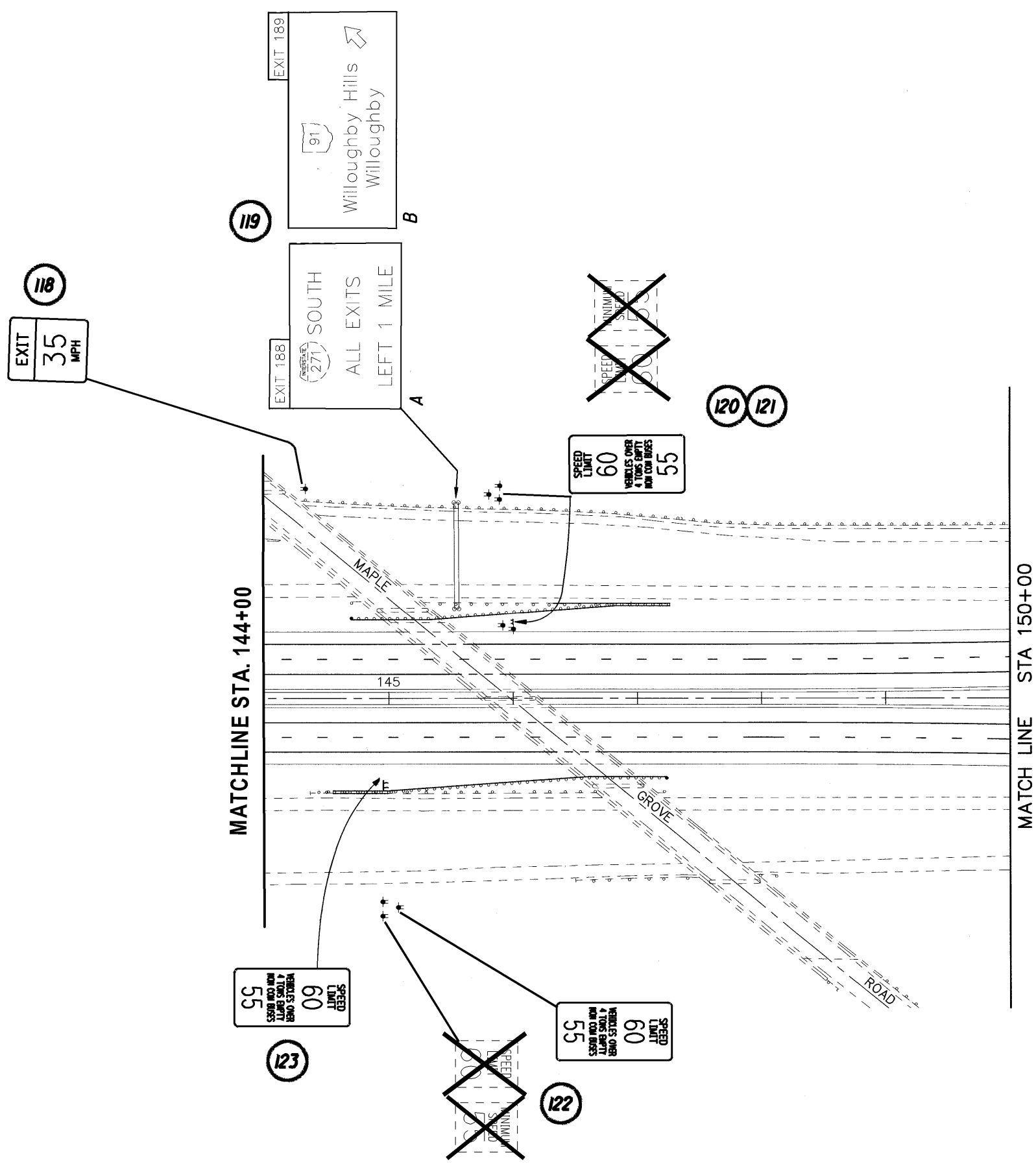
MATCH LINE STA. 144+00

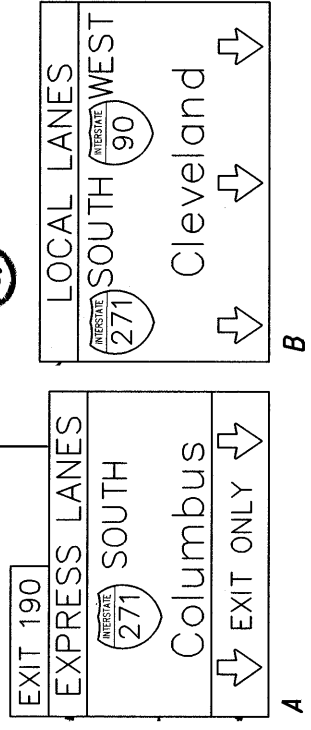
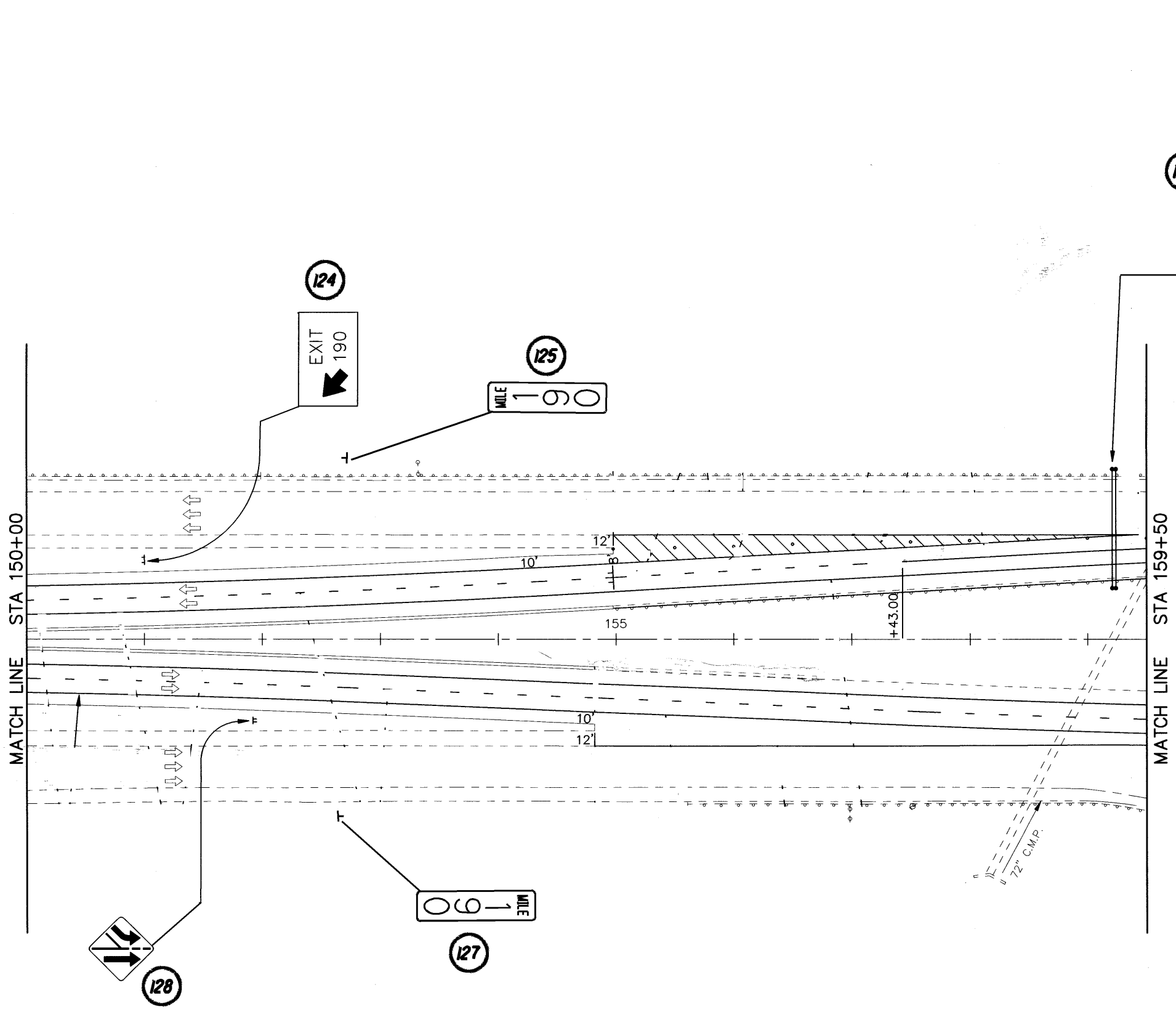


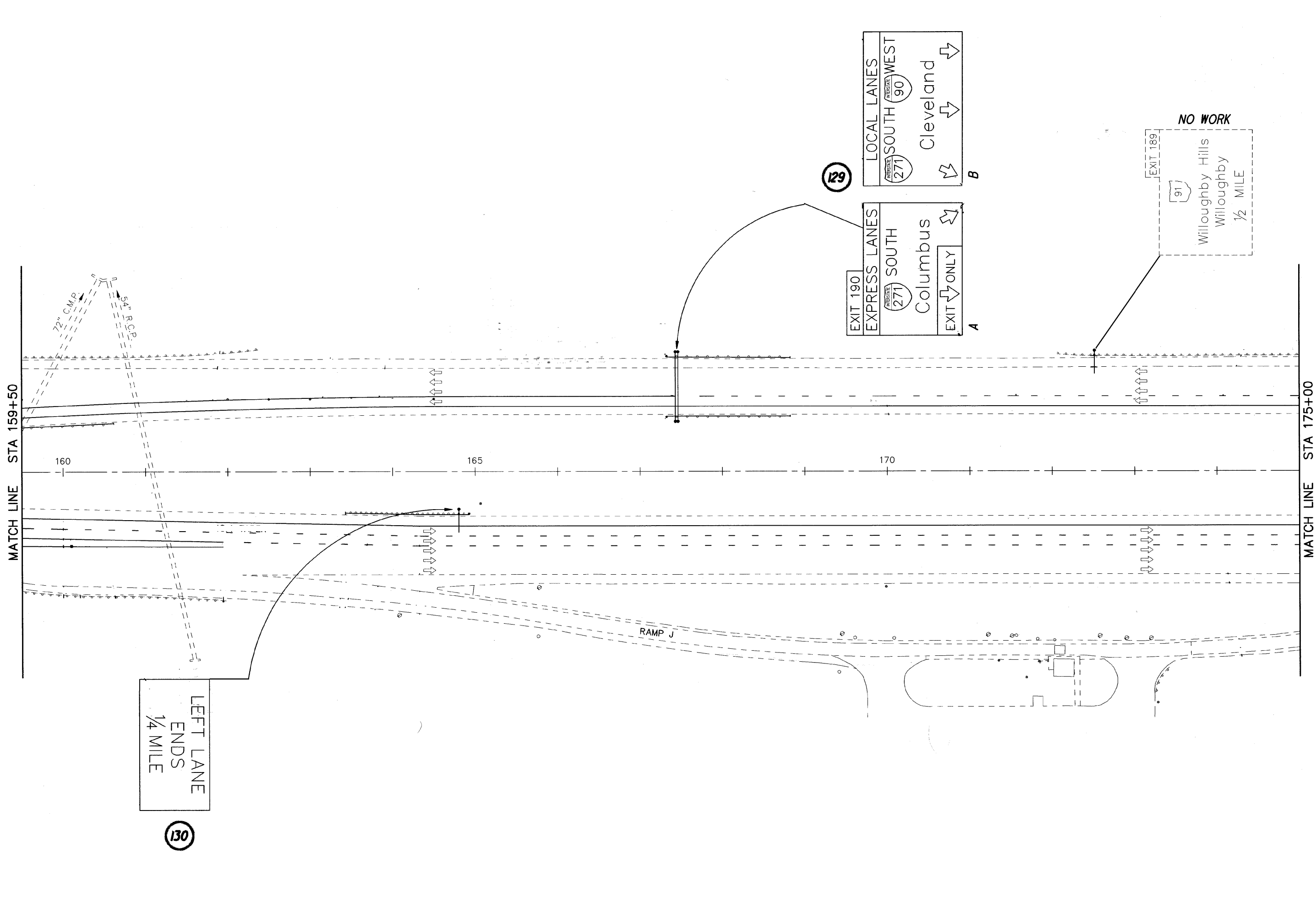
DRAWN	FLK	CHECKED	EMK
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**SIGN LOCATION PLAN SHEET IR-90**  
**STA. 129+00 TO STA. 144+00**

**CUY / LAK-271-14.09 / 0.00**







LEFT LANE  
ENDS  
1/4 MILE

130

129

EXIT 190  
EXPRESS LANES  
SOUTH  
Columbus  
EXIT ONLY

EXIT 189  
LOCAL LANES  
SOUTH WEST  
Cleveland  
EXIT ONLY

NO WORK  
91  
Willoughby Hills  
Willoughby  
1/2 MILE

MATCH LINE STA 175+00

MATCH LINE STA 175+00

MATCH LINE STA 190+00

RAMP K

LEFT LANE  
ENDS  
MERGE RIGHT

136

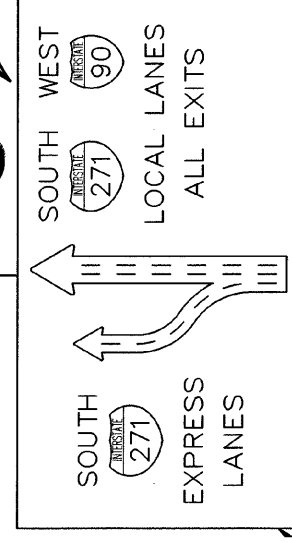


135

CAR/VAN POOL  
INFO  
1-800-825-RIDE

131

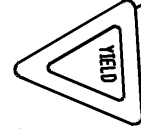
SEE SHEET 96 FOR LEGEND LAYOUT DIMENSIONS



132

EXIT 189  
HOSPITAL  
Classic  
Park  
NEXT RIGHT

133



134

SIGN LOCATION PLAN SHEET IR-90  
STA. 190+00 TO STA. 204+00

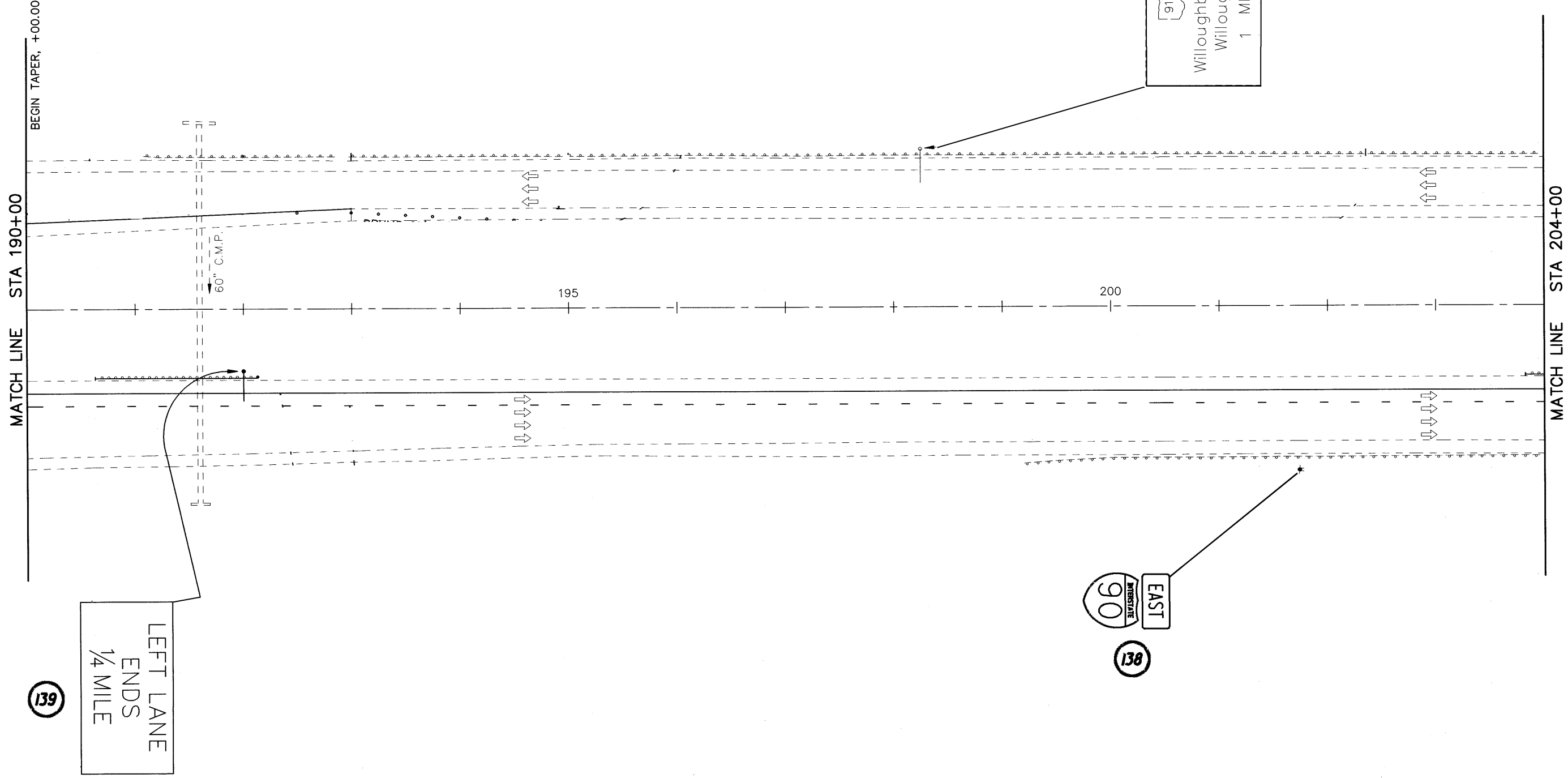
CUY / LAK - 271-14.09 / 0.00

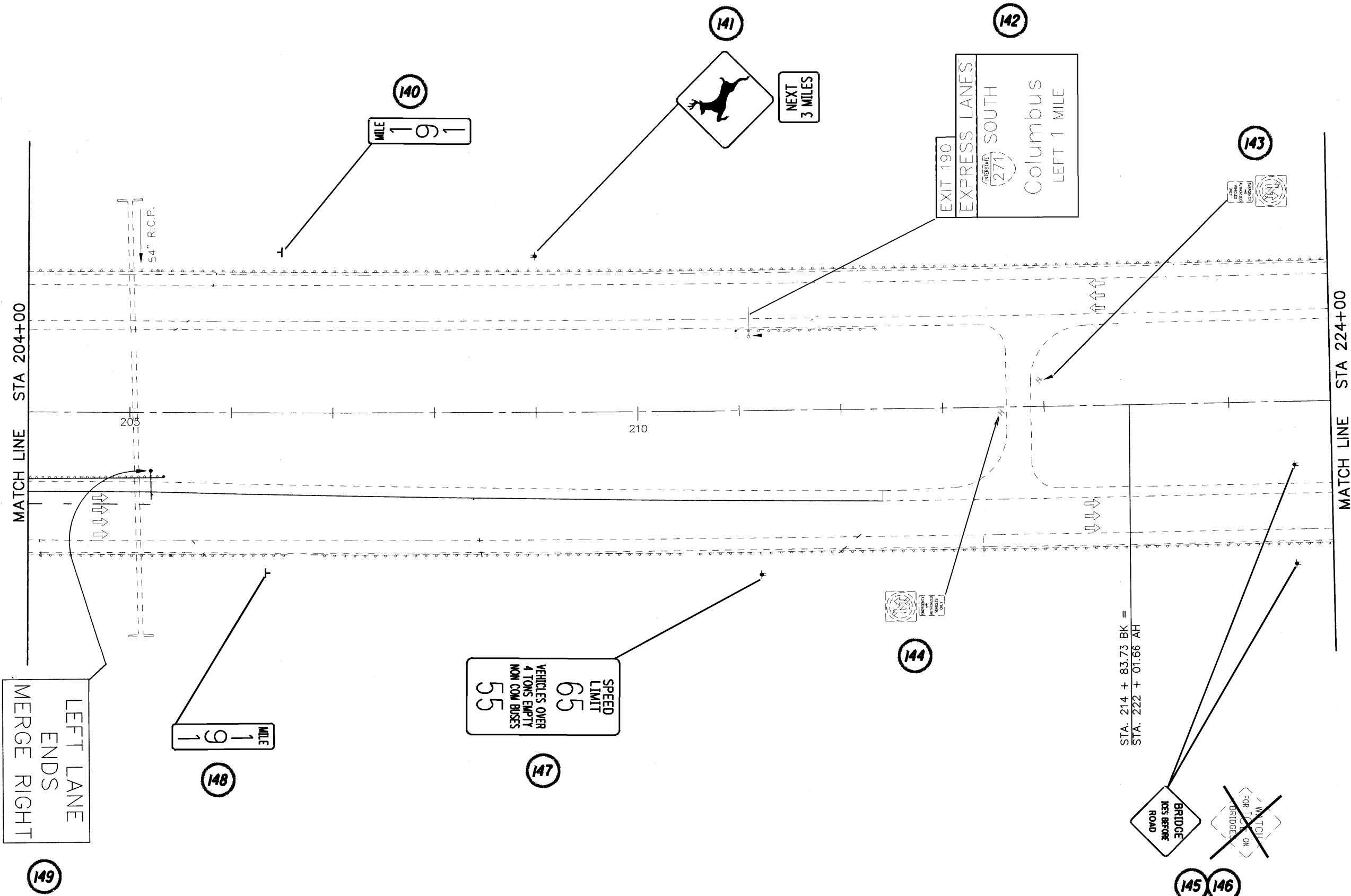
84  
96

DRAWN  
FLK

CHECKED  
EMK





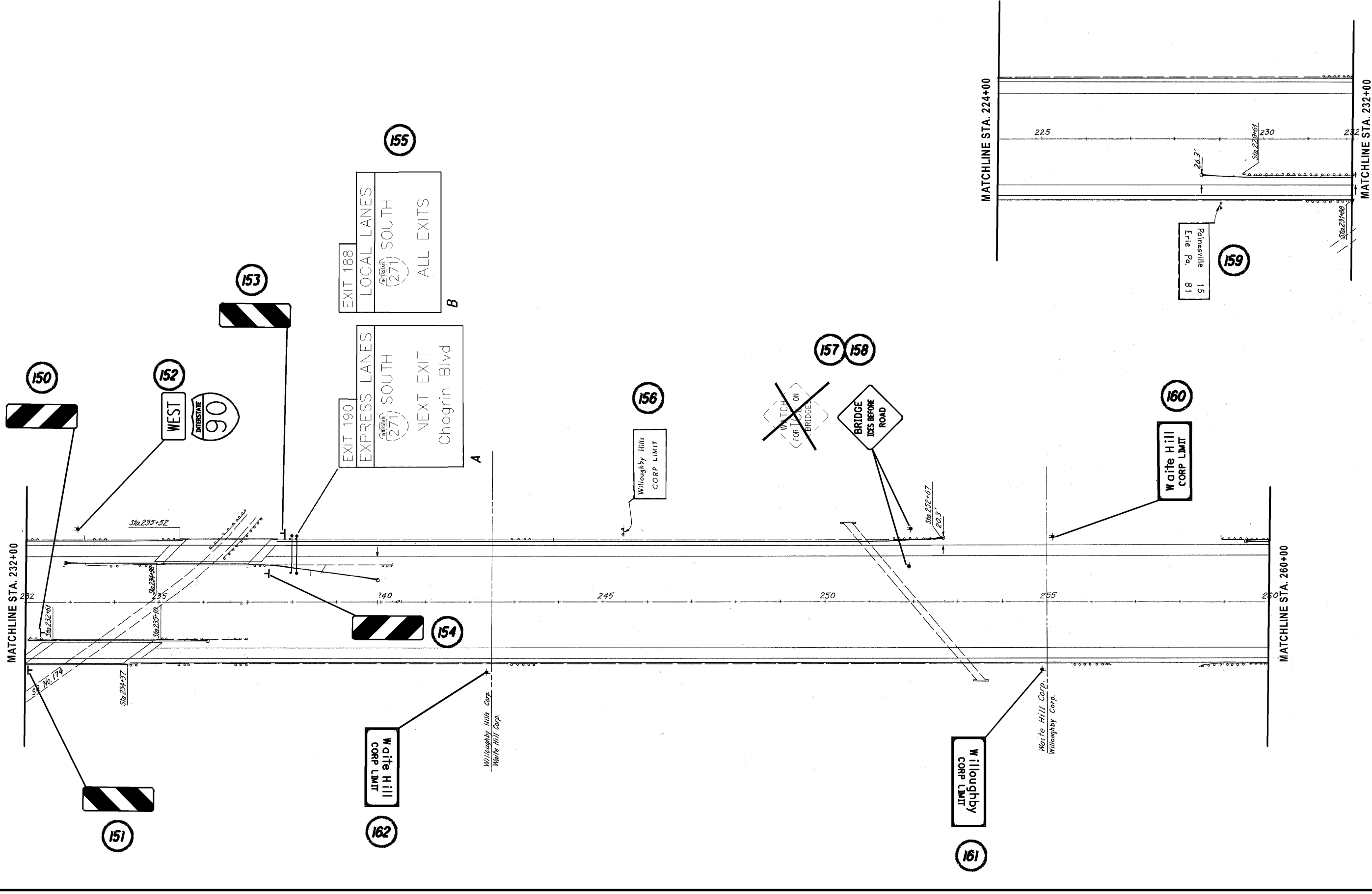


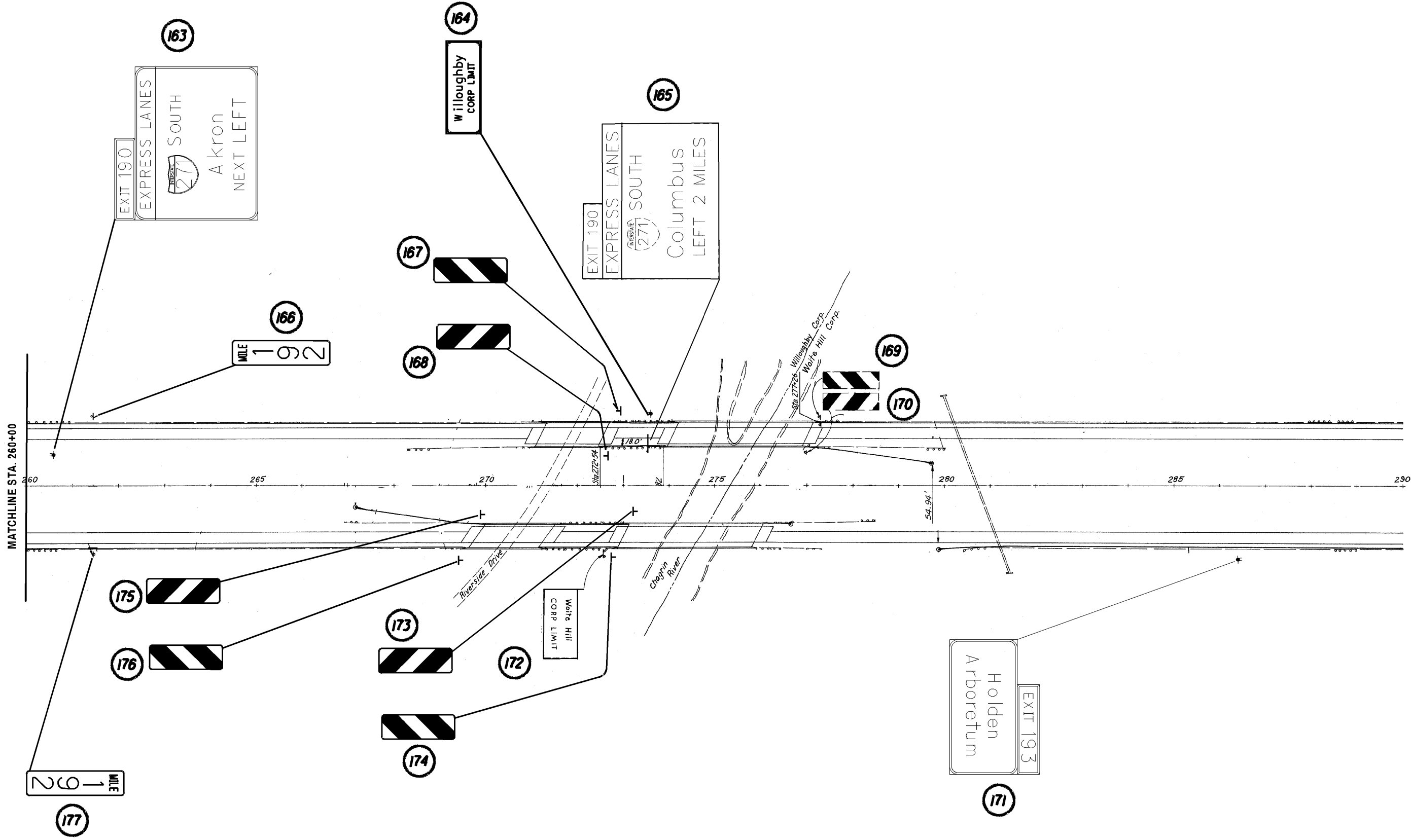
DATE	FLK	CHECKED	EMK
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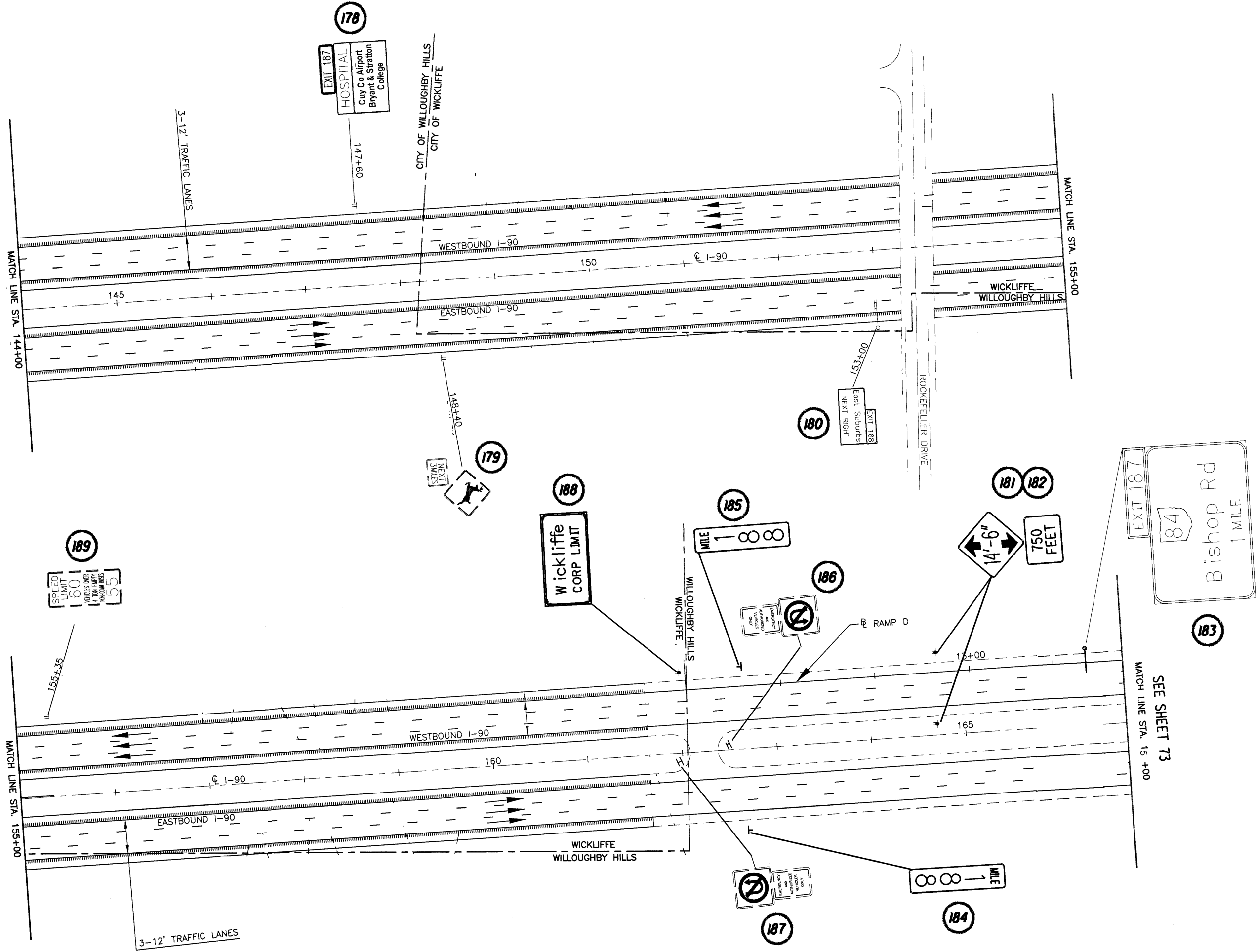
**SIGN LOCATION PLAN SHEET IR-90**  
**STA. 204+00 TO STA.224+00**

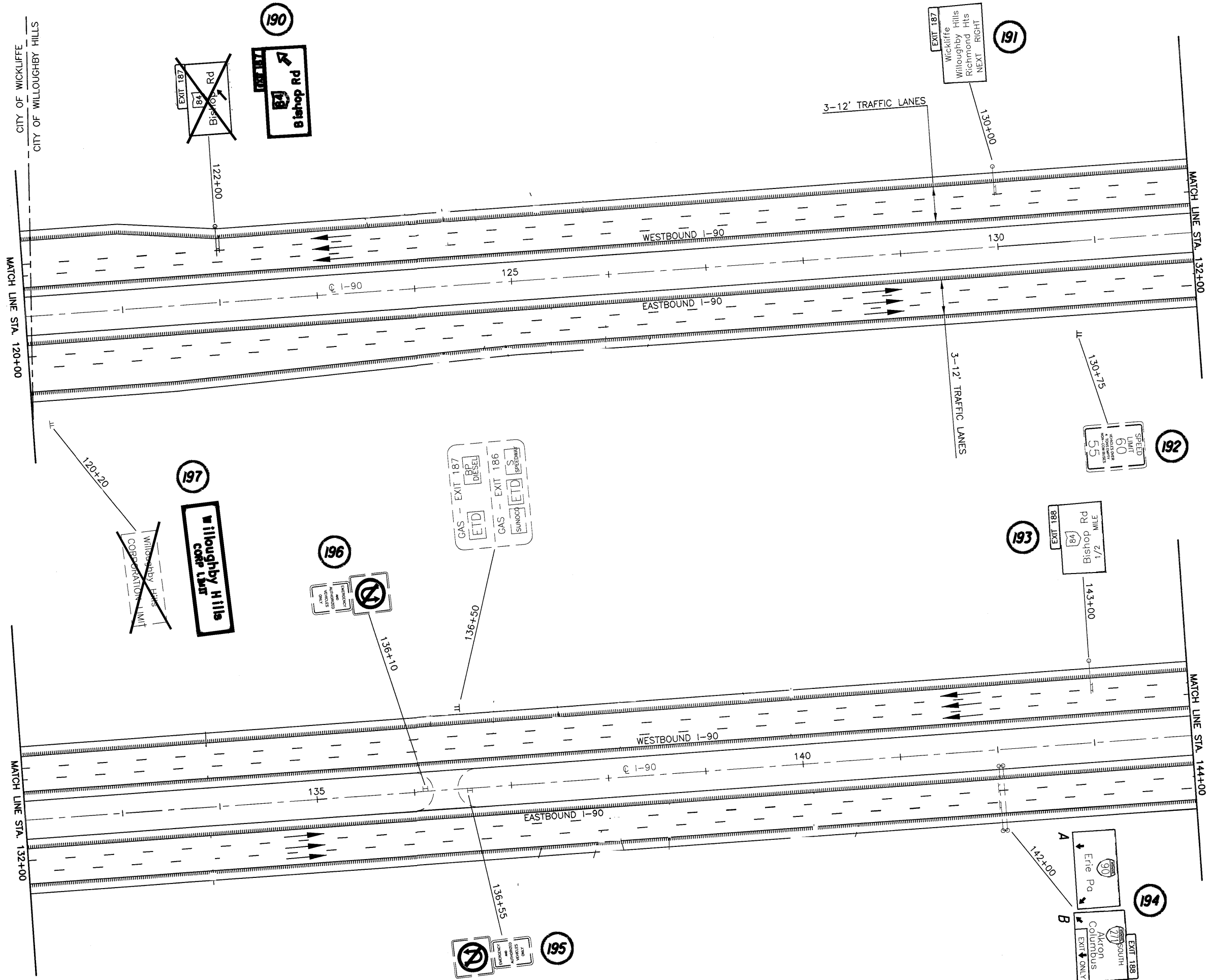
CUY / LAK - 271-14.09 / 0.00





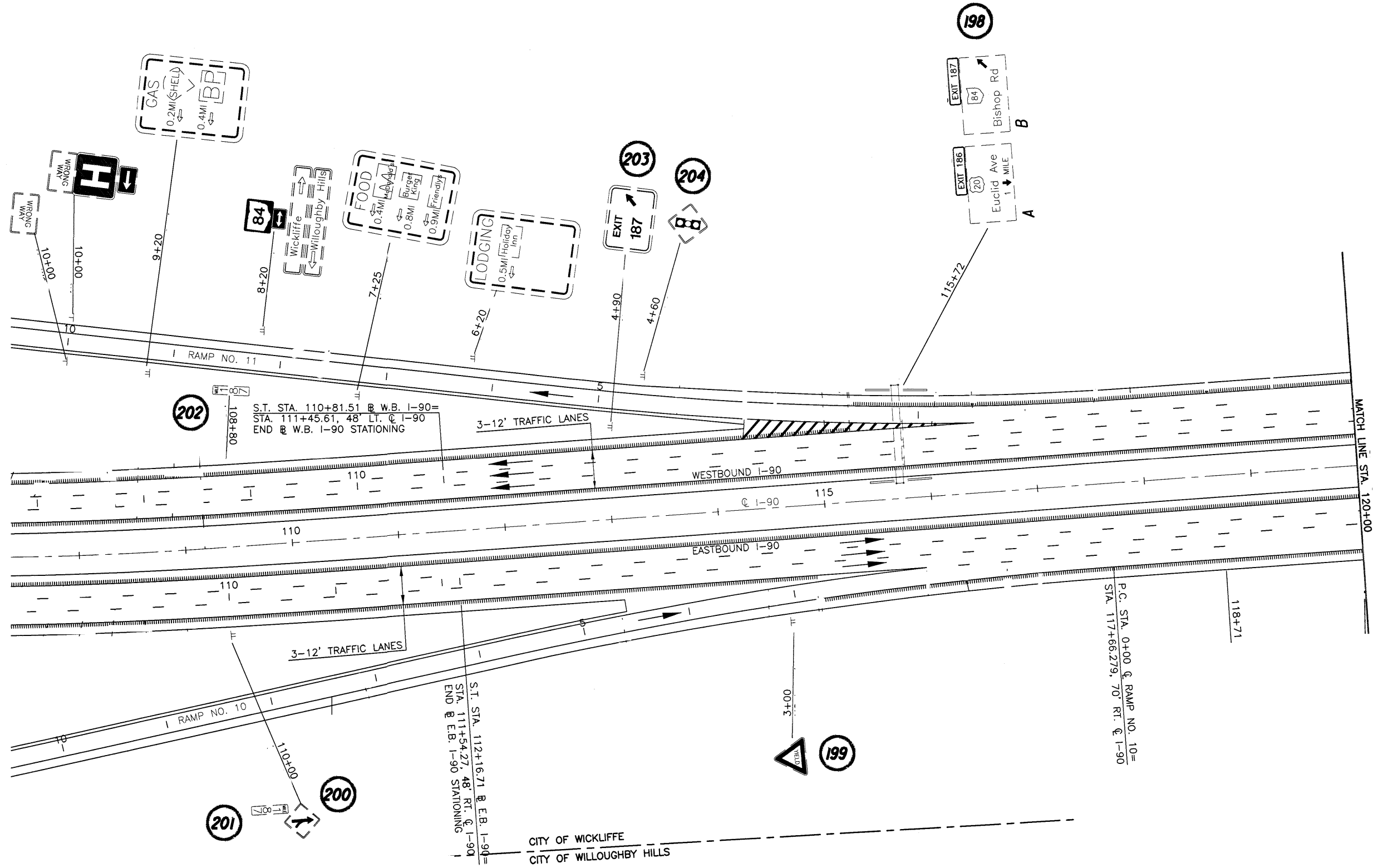






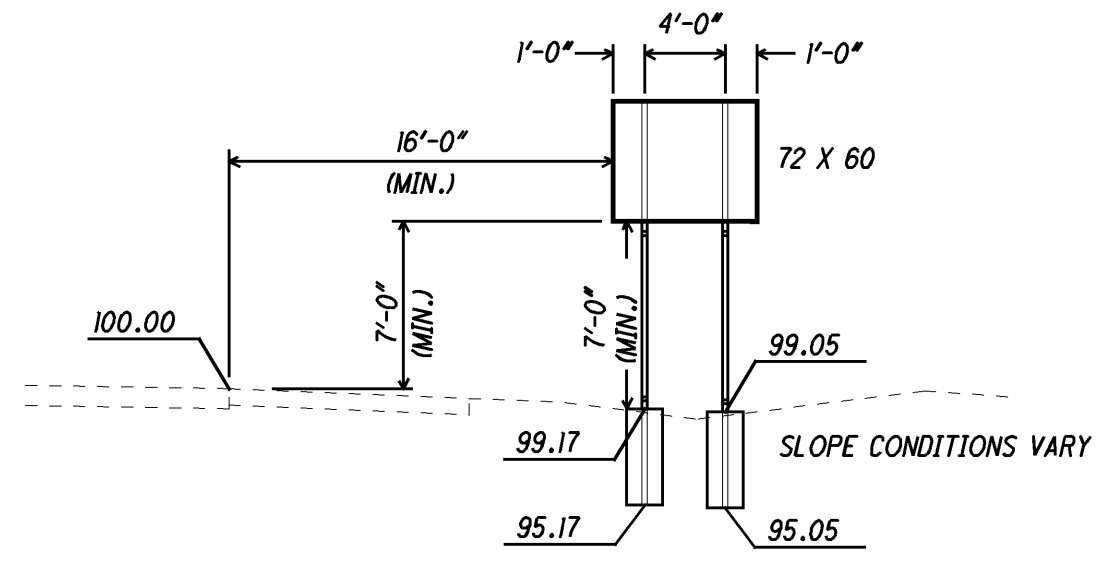
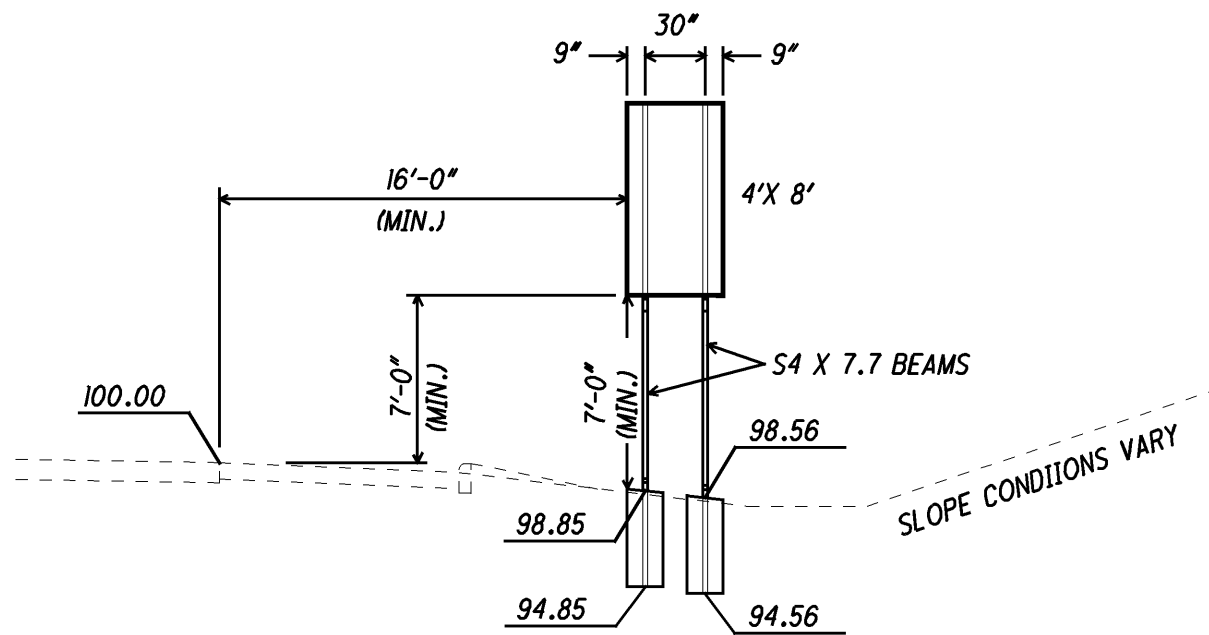
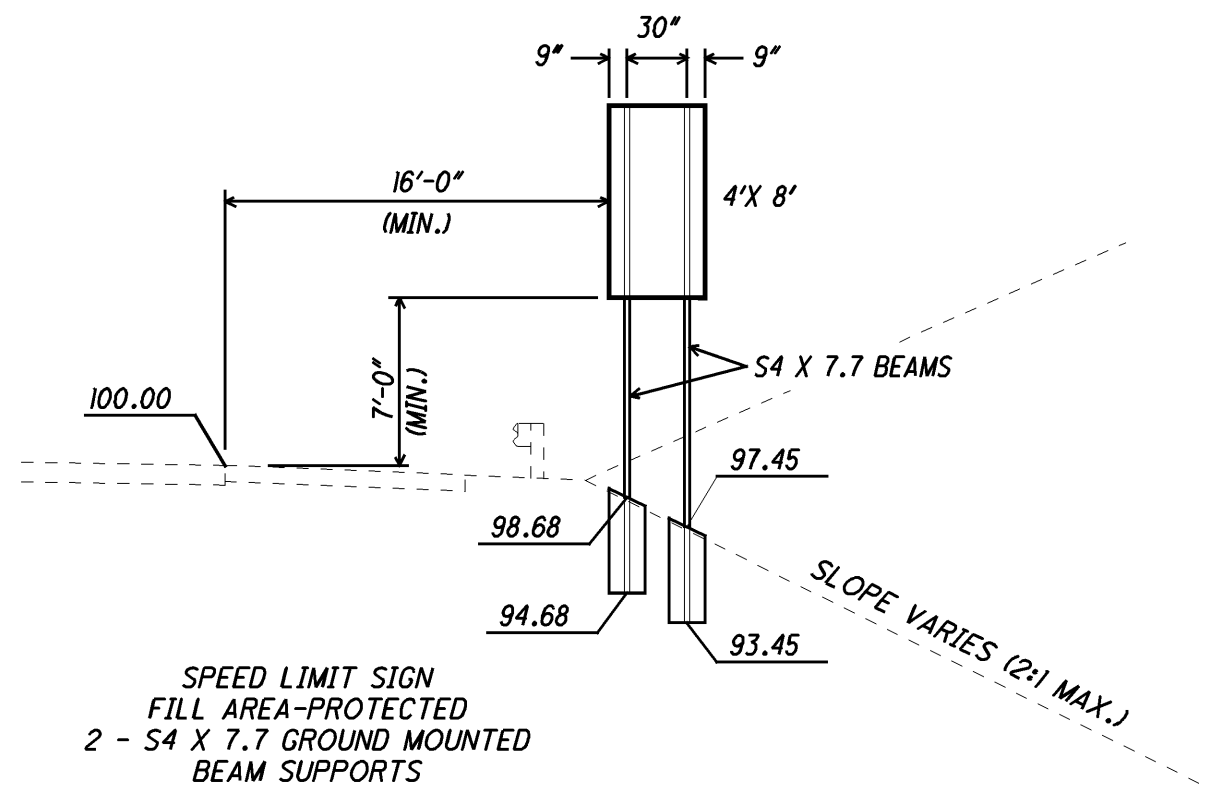
**SIGN LOCATION PLAN SHEET IR-90**  
**STA. 120+00 TO STA. 144+00**

**CUY / LAK-271-14.09 / 0.00**



NOTES:

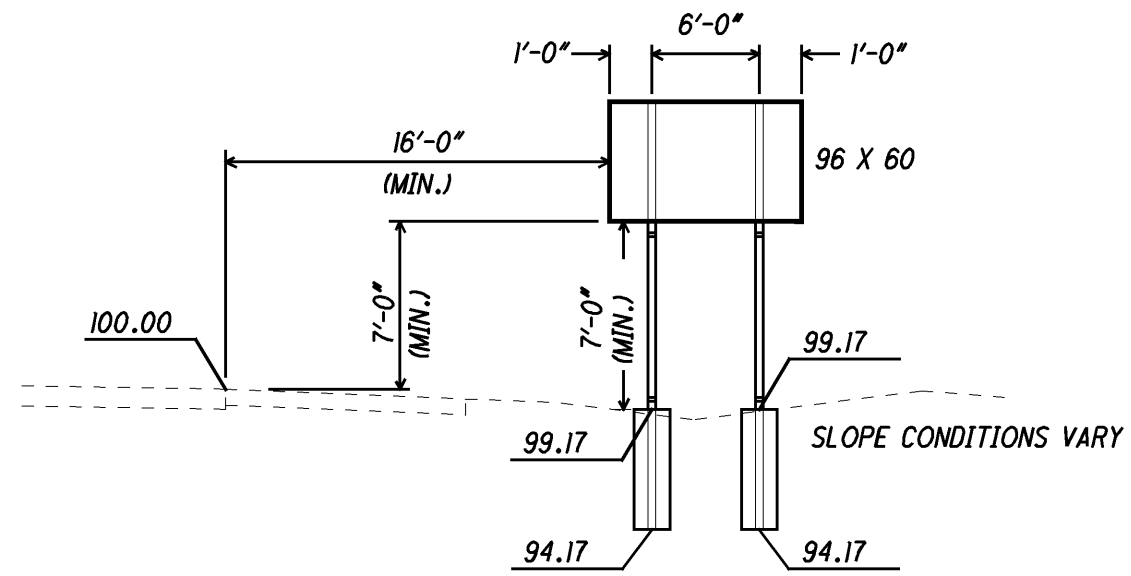
1. ELEVATIONS AND SLOPE CONDITIONS ARE FOR REFERENCE ONLY. LOCATIONS SHOULD BE FIELD VERIFIED TO INSURE PROPER ERECTION. CROSS SECTIONS ARE AVAILABLE AT THE DISTRICT 12 MAP ROOM.
2. ALL ELEVATION VIEWS ARE SHOWN IN DIRECTION OF VIEWING SIGN FACES.



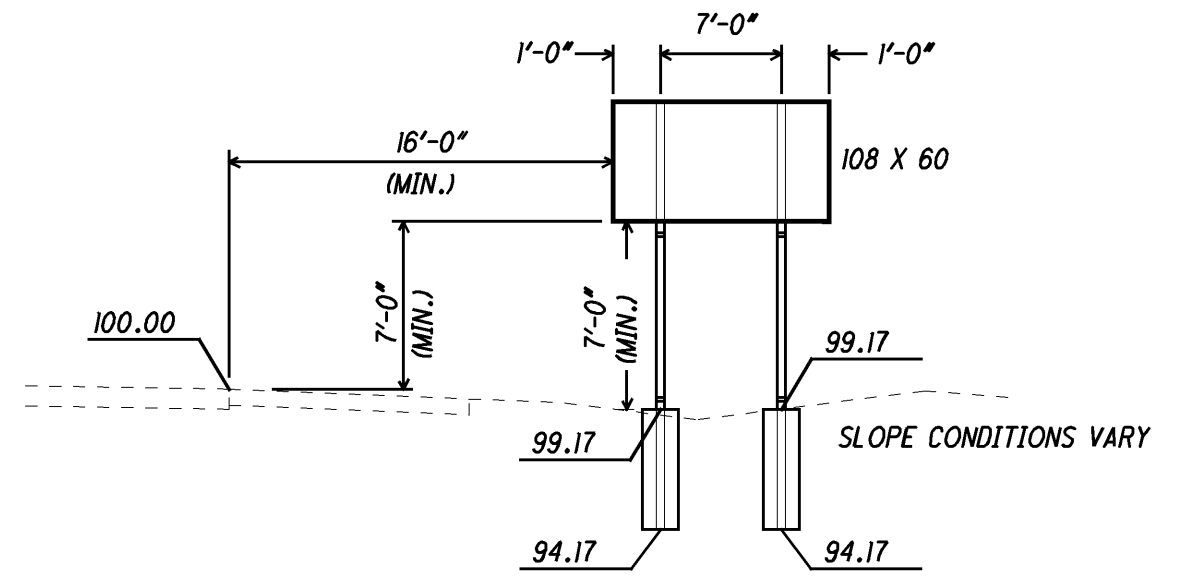
ELEVATION VIEWS

CUY / LAK - 271-14.09 / 0.00

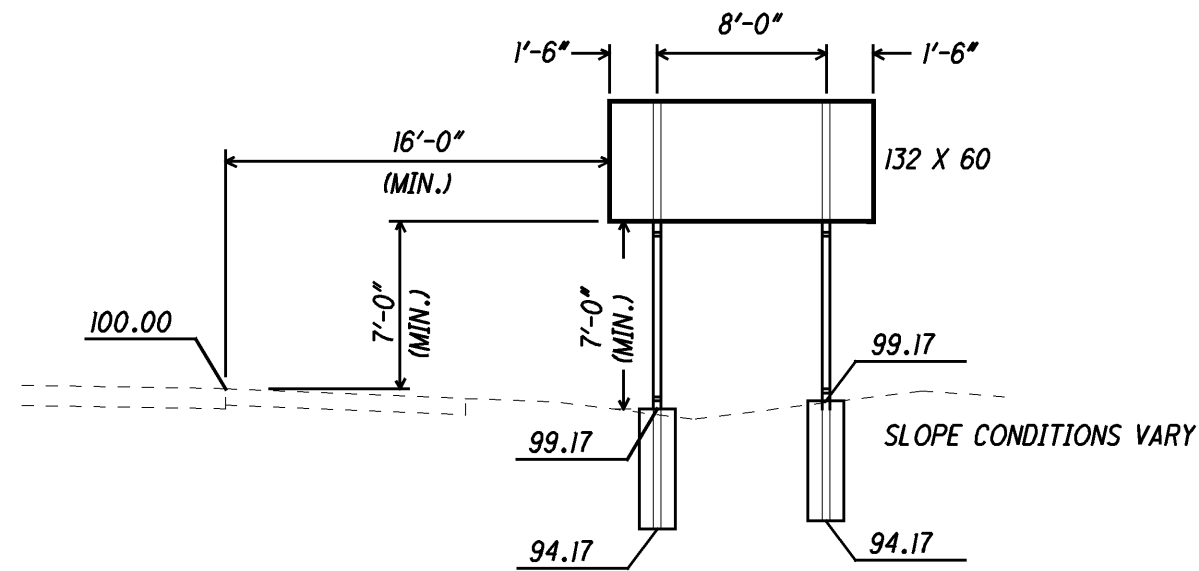
I:\PROJECTS\PID75482\dgn\75482te001.dgn 04-MAR-2009 11:33AM ekallio



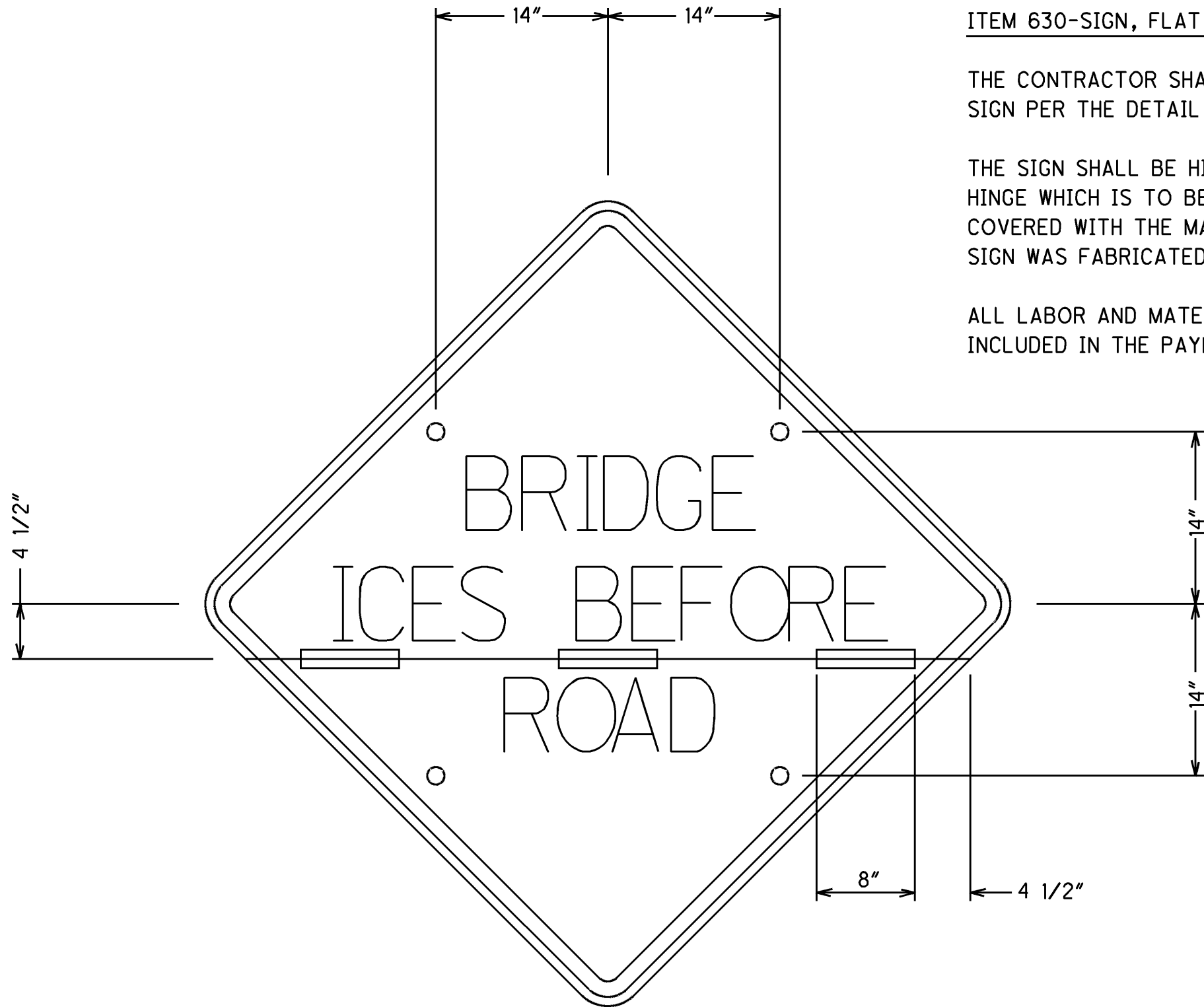
96 X 60 EXIT SIGN  
UNPROTECTED  
2 - W6 X 9 GROUND MOUNTED  
BEAM SUPPORTS W/BREAKAWAY CONNECTIONS



108 X 60 EXIT SIGN  
UNPROTECTED  
2 - W6 X 9 GROUND MOUNTED  
BEAM SUPPORTS W/BREAKAWAY CONNECTIONS



132 X 60 EXIT SIGN  
UNPROTECTED  
2 - W6 X 9 GROUND MOUNTED  
BEAM SUPPORTS W/BREAKAWAY CONNECTIONS



W8-13(MOD)-48

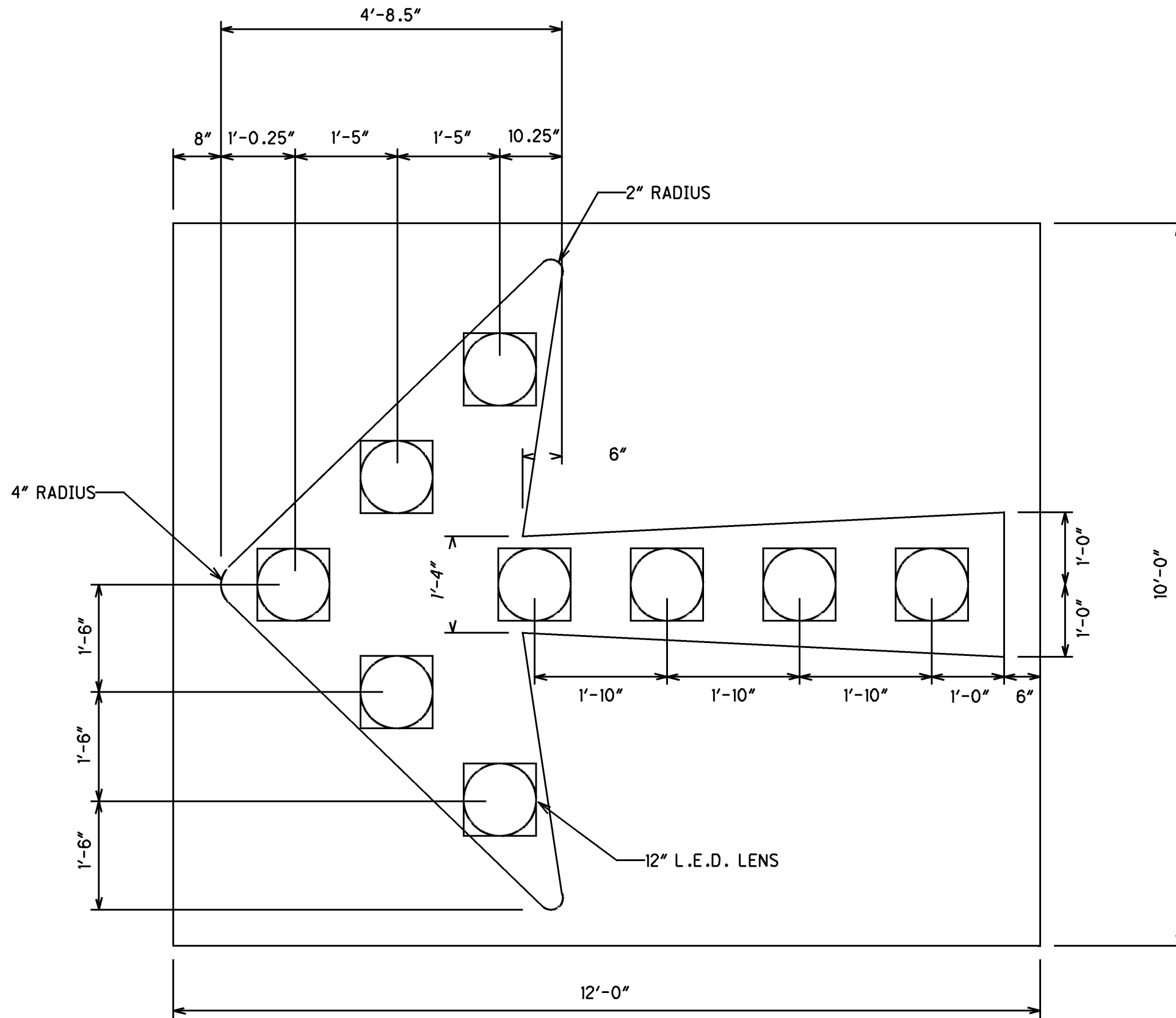
ITEM 630-SIGN, FLAT SHEET, AS PER PLAN

THE CONTRACTOR SHALL FURNISH AND INSTALL A W8-13(MOD)-48 HINGED SIGN PER THE DETAIL SHOWN.

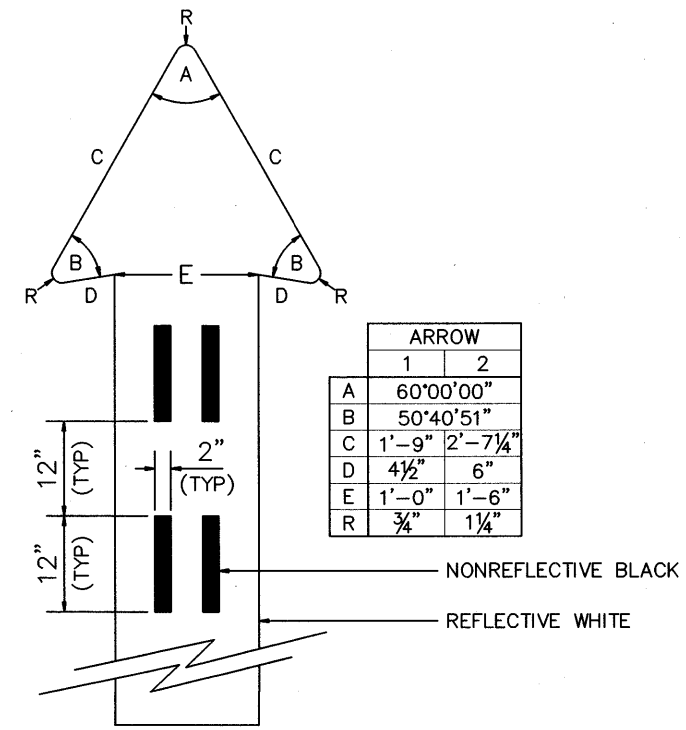
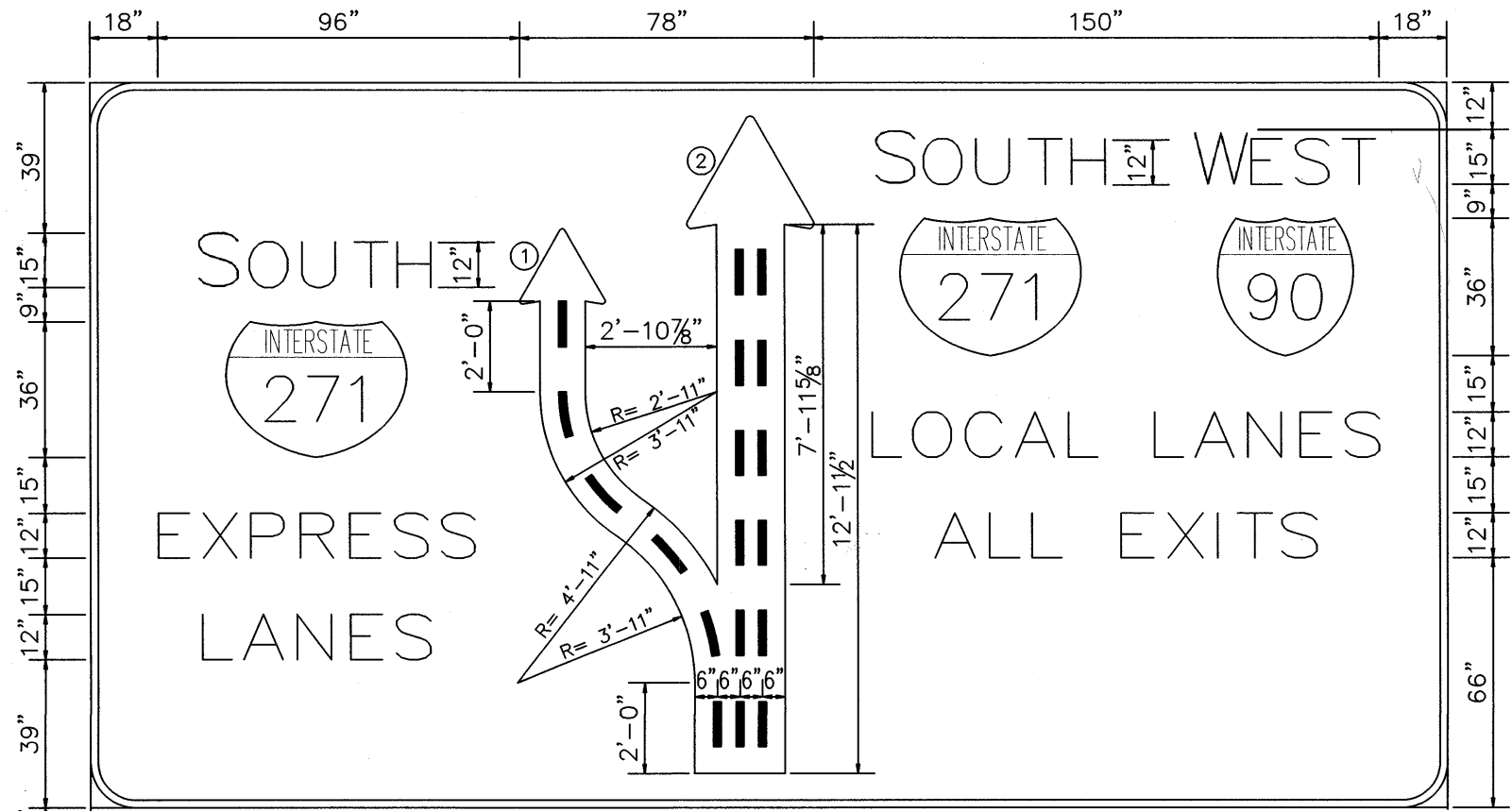
THE SIGN SHALL BE HINGED WITH 8 INCH LENGTHS OF BRASS PLATED HINGE WHICH IS TO BE RIVETED TO EACH SECTION OF THE SIGN AND THEN COVERED WITH THE MATCHING YELLOW REFLECTIVE SHEETING THAT THE SIGN WAS FABRICATED WITH.

ALL LABOR AND MATERIALS NEEDED FOR THIS ITEM OF WORK SHALL BE INCLUDED IN THE PAYMENT FOR ITEM 630-SIGN, FLAT SHEET, AS PER PLAN.





ITEM 630-SIGN, OVERHEAD EXTRUSHEET, AS PER PLAN



ARROW DETAIL