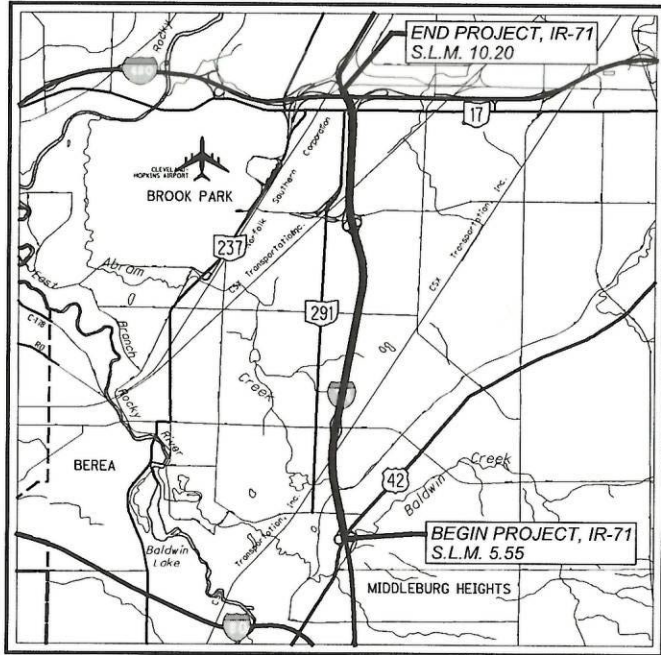


CUY - IR 71-05.71 Barrier  
220130 PID - 87904  
Dist 12 3/10/2022

Contract Proposal available @EIRRBV 17-5-17-NCU  
www.contracts.dot.state.oh.us

MODEL: Sheet PAPER SIZE: 17x11 DATE: 11/18/2021 TIME: 7:33:13 AM USER: drauer  
p:\10100000\p\benley.com\ohio\dot-pw\02\Documents\01 Active Projects\District 12\CUYahoga\87904\400-Engineering\Roadway\Sheets\87904\_GT001.dgn



LOCATION MAP

LATITUDE: 41°23'32.7" LONGITUDE: -81°48'56.5"



PORTION TO BE IMPROVED	
INTERSTATE HIGHWAY	
FEDERAL ROUTES	
STATE ROUTES	
COUNTY & TOWNSHIP ROADS	
OTHER ROADS	

DESIGN DESIGNATION

	S.L.M. 5.52-5.72	S.L.M. 5.72-6.25	S.L.M. 6.25-6.45	S.L.M. 6.45-6.86	S.L.M. 6.86-8.60	S.L.M. 8.60-8.84	S.L.M. 8.84-9.02	S.L.M. 9.02-9.62	S.L.M. 9.62-9.67	S.L.M. 9.67-10.08	S.L.M. 10.08-10.56
CURRENT ADT (2022)	113,000	112,000	112,000	115,000	115,000	115,000	115,000	118,000	118,000	74,500	75,500
DESIGN YEAR ADT (2042)	134,000	129,000	129,000	125,000	123,000	124,000	123,000	124,000	128,000	92,000	100,000
DESIGN HOURLY VOLUME (2042)	13,500	11,500	13,000	12,500	12,500	11,000	12,500	12,500	13,000	9,200	10,000
DIRECTIONAL DISTRIBUTION	0.59	0.58	0.60	0.53	0.52	0.54	0.52	0.52	0.51	0.51	0.51
TRUCKS (24 HOUR B&C)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03
DESIGN SPEED	65 MPH	65 MPH	65 MPH	65 MPH	65 MPH	65 MPH	65 MPH	65 MPH	65 MPH	65 MPH	65 MPH
LEGAL SPEED	60 MPH	60 MPH	60 MPH	60 MPH	60 MPH	60 MPH	60 MPH	60 MPH	60 MPH	60 MPH	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION:											
INTERSTATE											
NHS PROJECT											YES

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE



PLAN PREPARED BY:  
ODOT DISTRICT 12  
PLANNING & ENGINEERING  
5500 TRANSPORTATION BLVD.  
GARFIELD HEIGHTS, OH 44125

ENGINEER'S SEAL:



SIGNED: *Drake Brauer*  
DATE: 11-17-2021

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

CUY-71-5.71 BARRIER

CITY OF MIDDLEBURG HEIGHTS  
CITY OF BROOK PARK  
CITY OF CLEVELAND

CUYAHOGA COUNTY

INDEX OF SHEETS:

TITLE SHEET	1	PAVEMENT SUBSUMMARIES	54-56
SCHEMATIC PLANS	2-4	GUARDRAIL SUBSUMMARIES	57
TYPICAL SECTIONS	5-9	PAVEMENT MARKING SUBSUMMARIES	58-59
GENERAL NOTES	10-15	GENERAL PLANS	60-113
MAINTENANCE OF TRAFFIC	16-39	BARRIER DETAILS	114-117
GENERAL SUMMARY	40-41	TRAFFIC CONTROL	118-126
BARRIER SUBSUMMARIES	42-53	LIGHTING	127-152

FEDERAL PROJECT NUMBER

E100258

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF THE REPLACEMENT OF MEDIAN BARRIER AND LIGHTING UPGRADE ALONG I-71 FROM PEARL RD TO I-480 IN THE CITIES OF MIDDLEBURG HEIGHTS, BROOK PARK AND CLEVELAND.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: 0.21 ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: 0.25 ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: N/A (MAINTENANCE PROJECT)

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.

2019 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS AND CHANGES 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 ON THE PLANS AND ESTIMATES.

STANDARD CONSTRUCTION DRAWINGS								SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS
BP-3.1	1/17/20	HL-10.11	1/15/21	MT-101.75	1/17/20	TC-65.10	1/17/14	800-2019 10/15/21	
		HL-10.12	1/20/17	MT-102.10	1/17/20	TC-65.11	7/21/17	808 1/18/19	
I-3B, 3B1	7/16/21	HL-10.13	4/17/20	MT-103.10	1/19/18	TC-71.10	7/16/21	809 10/15/21	
I-3C, 3C1	7/16/21	HL-20.24	1/15/21	MT-104.10	10/16/15	TC-72.20	7/20/18	813 10/19/18	
		HL-30.11	1/15/21	MT-105.10	1/17/20			821 4/20/12	
BP-9.1	1/18/19	HL-30.41	4/17/20			ITS-14.10	1/15/21	829 1/20/17	
		HL-40.20	7/17/20	TC-15.116	7/16/21	ITS-14.11	1/15/21	832 10/19/18	
MGS-1.1	7/16/21	HL-60.11	7/21/17	TC-21.50	4/17/20	ITS-14.50	7/16/21	908 10/20/17	
MGS-2.1	1/19/18	HL-60.31	1/17/20	TC-41.20	10/18/13			909 10/15/21	
MGS-4.3	1/18/13			TC-41.30	10/18/13			916 10/16/20	
MGS-5.3	7/15/16	MT-95.40	1/17/20	TC-41.40	10/18/13			921 4/20/12	
		MT-95.45	1/17/20	TC-42.20	10/18/13			929 1/20/17	
RM-4.2	4/17/20	MT-95.50	7/21/17	TC-52.10	10/18/13				
RM-4.3	7/18/14	MT-99.20	4/19/19	TC-52.20	1/15/21				
RM-4.4	7/19/19	MT-99.30	1/17/20	TC-61.10	1/17/20				
		MT-101.70	1/17/20	TC-61.30	7/19/19				

APPROVED *[Signature]*  
DATE 11/17/21 DISTRICT DEPUTY DIRECTOR

APPROVED *[Signature]*  
DATE 11/18/2021 DIRECTOR, DEPARTMENT OF TRANSPORTATION

TITLE SHEET

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

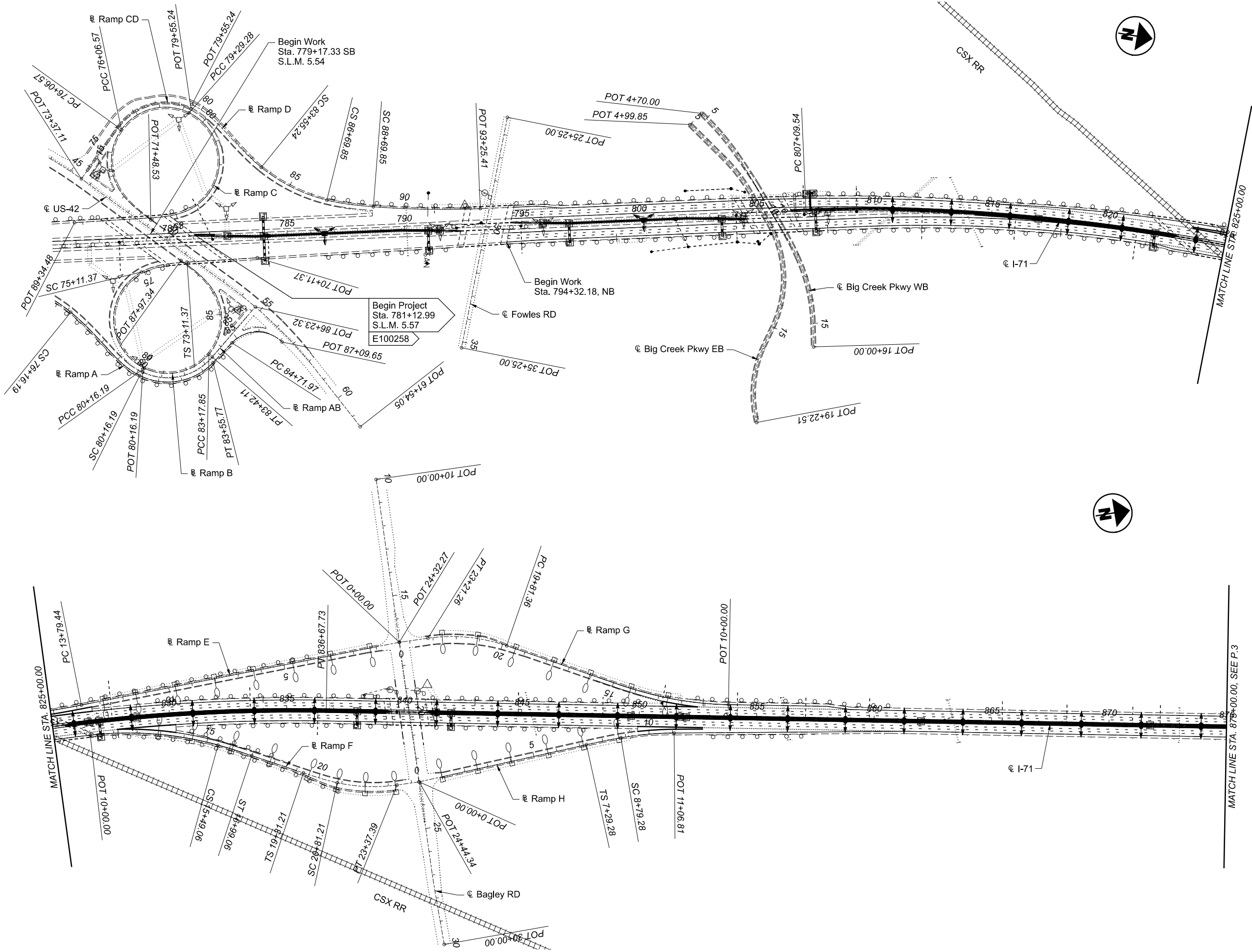
PROJECT ID

87904

SHEET TOTAL

P.1 152

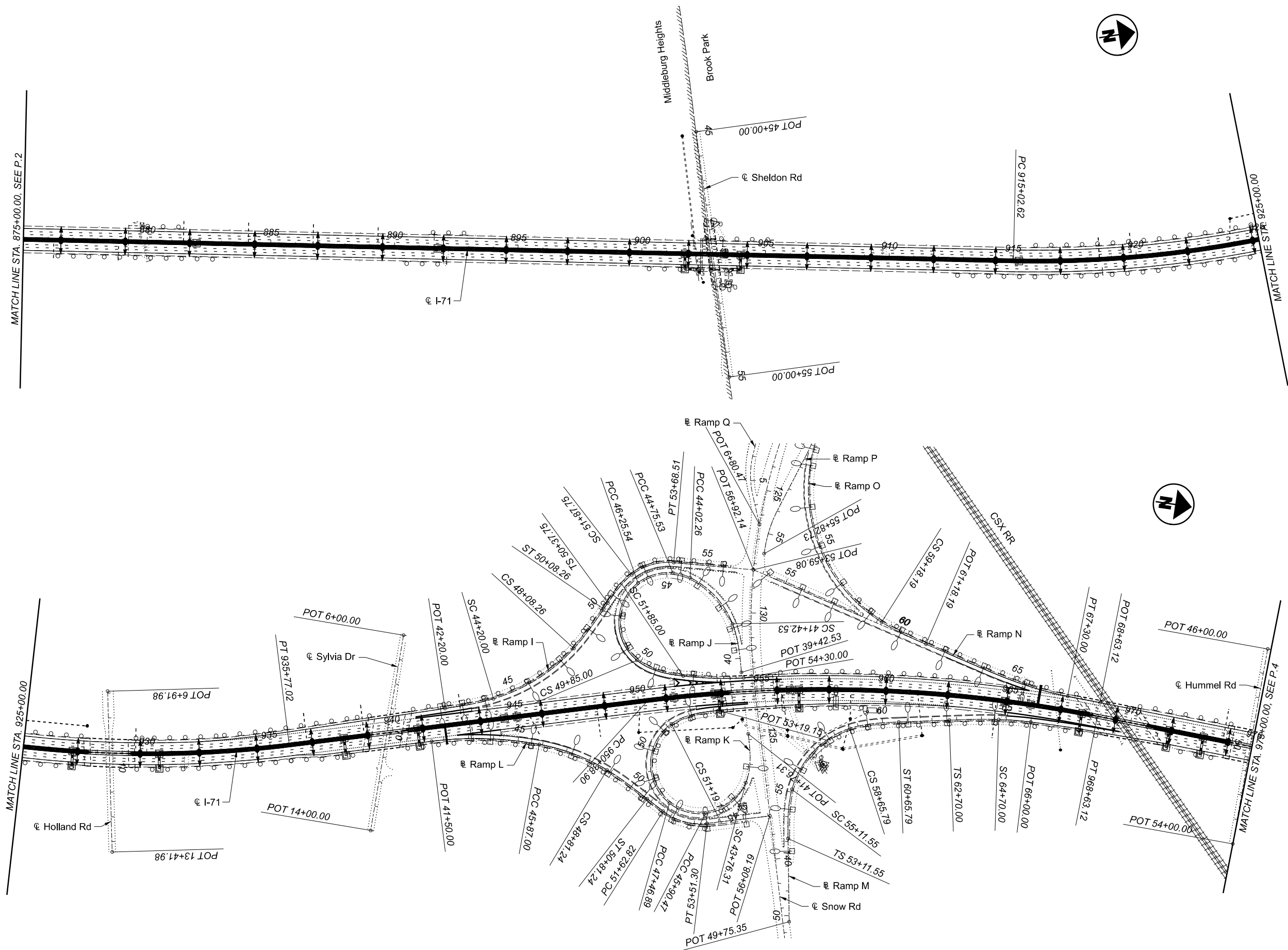




SCHEMATIC PLAN SHEET  
I.R. 71, STA. 775+00 TO STA. 875+00

DESIGN AGENCY	
DESIGNER	DAB
REVIEWER	EMK
PROJECT ID	87904
SHEET	P.2
TOTAL	152

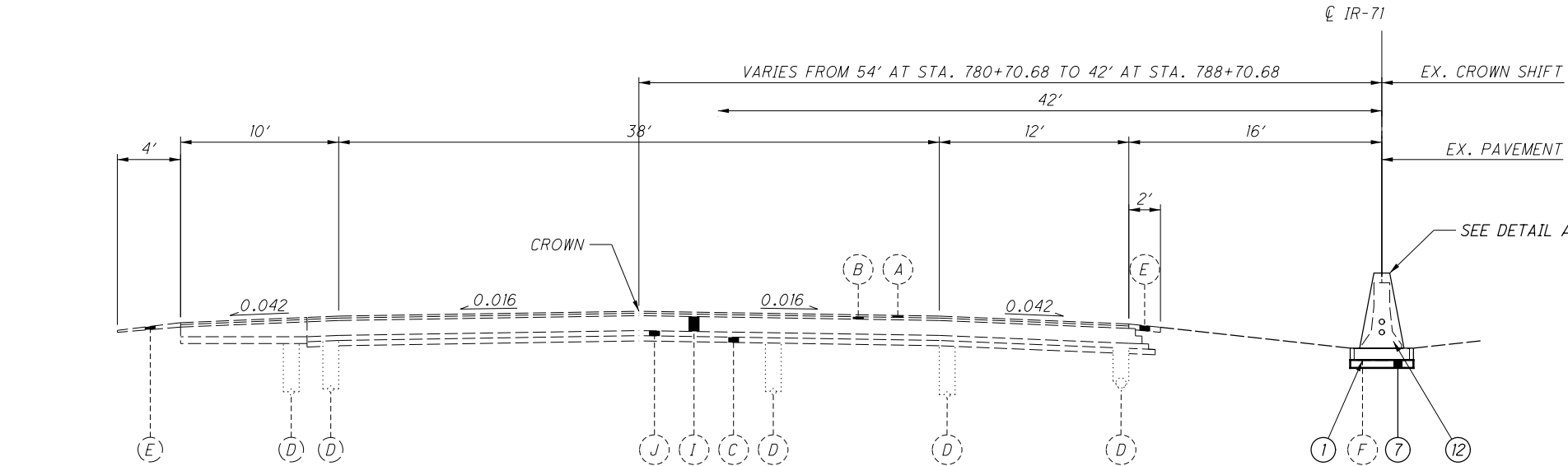




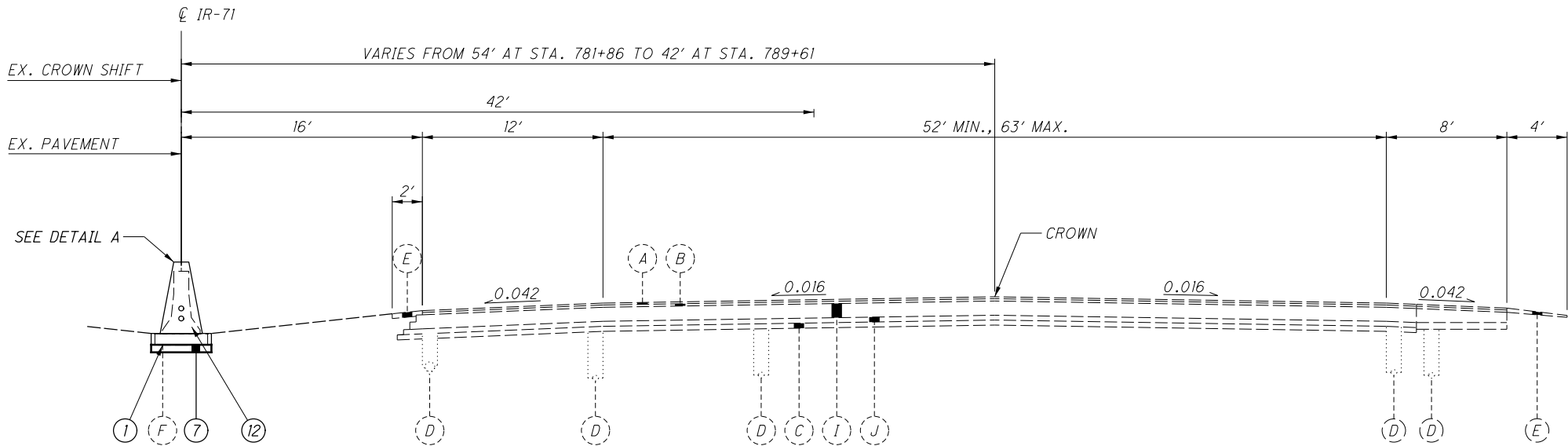








NORMAL SECTION - IR-71, SOUTHBOUND  
STA. 781+12.99 TO STA. 789+00



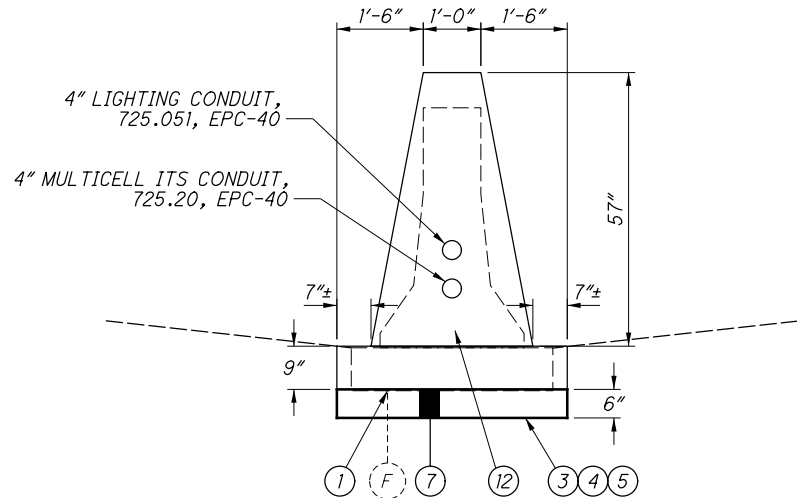
NORMAL SECTION - IR-71, NORTHBOUND  
STA. 781+12.99 TO STA. 789+00

EXISTING LEGEND

- |   |   |
|---|---|
| (A) 1 1/2" ASPHALT CONCRETE SURFACE COURSE      | (J) 4" ASPHALT TREATED FREE DRAINING BASE |
| (B) 1 3/4" ASPHALT CONCRETE INTERMEDIATE COURSE | (K) 5 1/2" ASPHALT OVERLAY                |
| (C) AGGREGATE BASE                              | (L) 10" REINFORCED CONCRETE PAVEMENT      |
| (D) UNDERDRAIN                                  | (M) SUBBASE                               |
| (E) COMPACTED AGGREGATE                         | (N) GUARDRAIL                             |
| (F) CONCRETE BARRIER, TYPE B50                  | (O) 9" PLAIN CONCRETE PAVEMENT            |
| (G) CONCRETE BARRIER, TYPE C                    | (P) ASPHALT UNDER GUARDRAIL               |
| (H) CONCRETE BARRIER, TYPE D                    | (Q) 13" REINFORCED CONCRETE PAVEMENT      |
| (I) 1 1/4" BITUMINOUS AGGREGATE BASE            | (R) 3 1/2" STABILIZED CRUSHED AGGREGATE   |

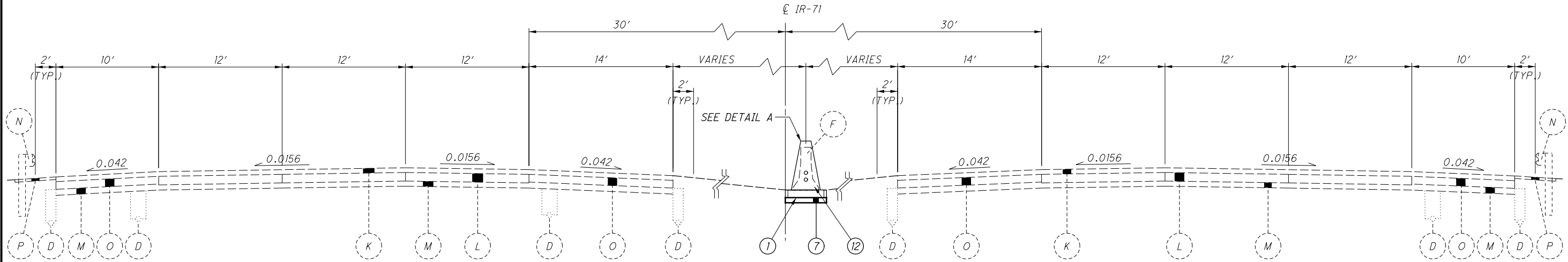
PROPOSED LEGEND

- |   |
|---|
| (1) ITEM 202 - CONCRETE BARRIER REMOVED, AS PER PLAN  |
| (2) ITEM 202 - PAVEMENT REMOVED   |
| (3) ITEM 203 - EXCAVATION   |
| (4) ITEM 203 - EMBANKMENT   |
| (5) ITEM 204 - SUBGRADE COMPACTION  |
| (6) ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 1.5"                                |
| (7) ITEM 304 - AGGREGATE BASE (THICKNESS AS DIMENSIONED)  |
| (8) ITEM 305 - 9" CONCRETE BASE, CLASS QC 1P  |
| (9) ITEM 407 - NON-TRACKING TACK COAT   |
| (10) ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), 4" (2 LIFTS)                   |
| (11) ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A, (446), AS PER PLAN, PG76-22M, 1.5" |
| (12) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN                                |
| (13) ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN                                |



DETAIL A

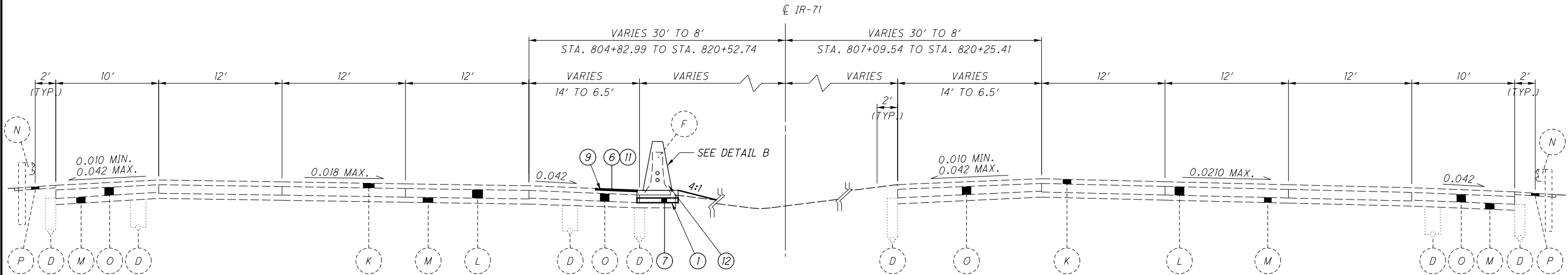




NORMAL SECTION - IR-71

STA. 789+00.00 TO STA. 792+33.50, SB  
STA. 792+33.50 TO STA. 794+50.62, SB (BRIDGE CUY-71-0579)  
STA. 794+50.62 TO STA. 801+82.99, SB

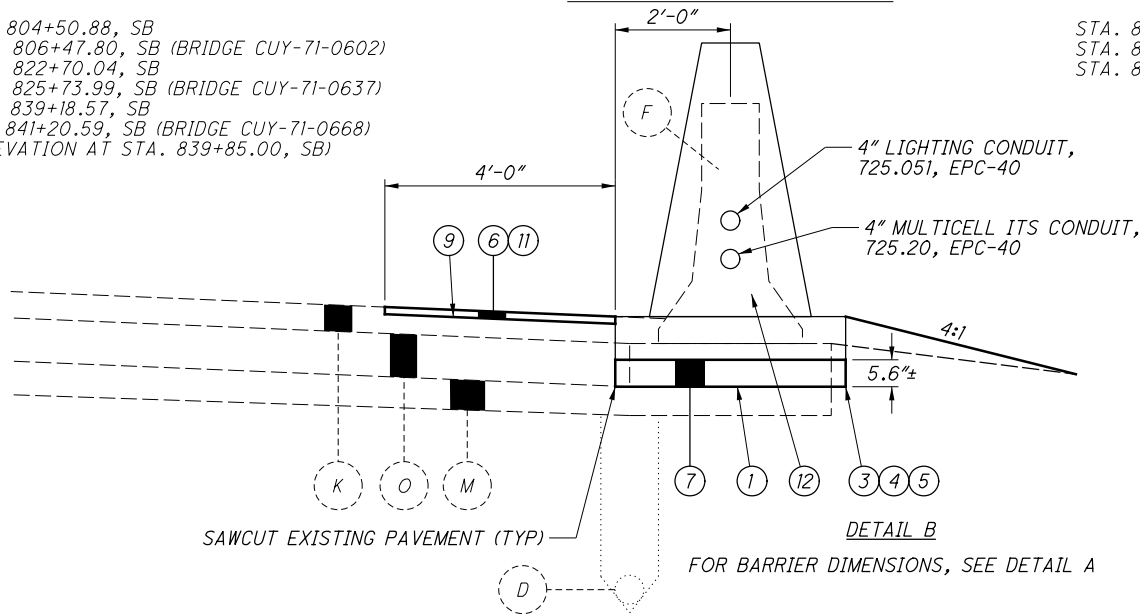
STA. 789+00.00 TO STA. 792+33.50, NB  
STA. 792+33.50 TO STA. 794+50.62, NB (BRIDGE CUY-71-0579)  
STA. 794+50.62 TO STA. 804+50.88, NB  
STA. 804+50.88 TO STA. 806+47.80, NB (BRIDGE CUY-71-0602)  
STA. 806+47.80 TO STA. 807+50.00, NB



SUPERELEVATED SECTION - IR-71

STA. 801+82.99 TO STA. 804+50.88, SB  
STA. 804+50.88 TO STA. 806+47.80, SB (BRIDGE CUY-71-0602)  
STA. 806+47.80 TO STA. 822+70.04, SB  
STA. 822+70.04 TO STA. 825+73.99, SB (BRIDGE CUY-71-0637)  
STA. 825+73.99 TO STA. 839+18.57, SB  
STA. 839+18.57 TO STA. 841+20.59, SB (BRIDGE CUY-71-0668)  
(END SUPERELEVATION AT STA. 839+85.00, SB)

STA. 807+50.00 TO STA. 822+70.04, NB  
STA. 822+70.04 TO STA. 825+73.99, NB (BRIDGE CUY-71-0637)  
STA. 825+73.99 TO STA. 838+35.00, NB



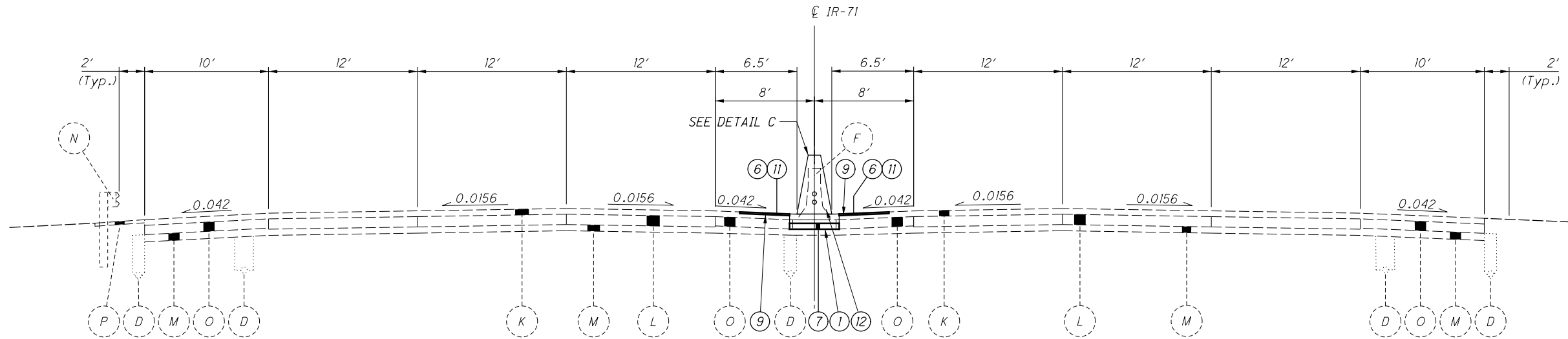
DETAIL B

FOR BARRIER DIMENSIONS, SEE DETAIL A

FOR TYPICAL SECTION LEGEND, SEE P.5



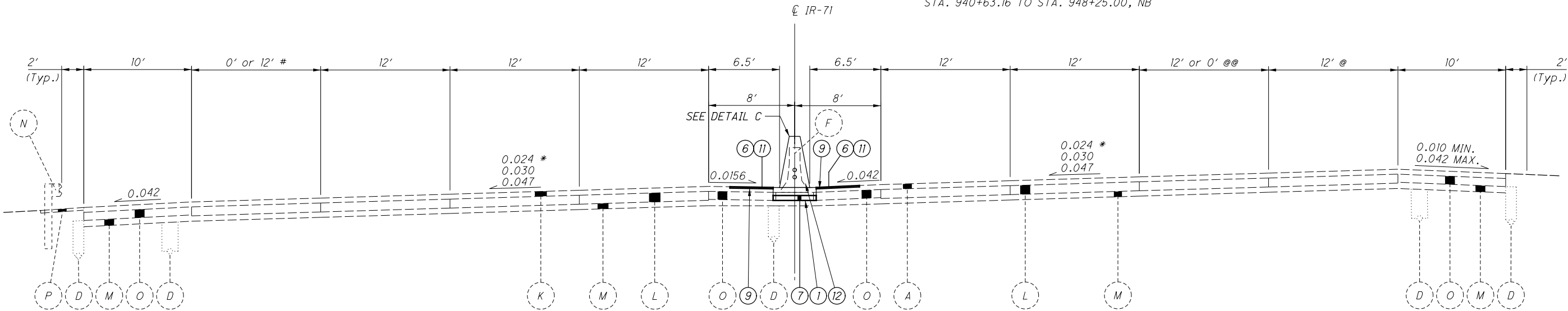
FOR TYPICAL SECTION LEGEND, SEE P.5



NORMAL SECTION - IR-71

STA. 839+85.00 TO STA. 841+20.59, SB (BRIDGE CUY-71-0668)  
 STA. 841+20.59 TO STA. 913+00.00, SB  
 STA. 937+79.00 TO STA. 938+88.24, SB  
 STA. 938+88.24 TO STA. 940+63.16, SB (BRIDGE CUY-71-0856)  
 STA. 940+63.16 TO STA. 946+75.00, SB

STA. 838+35.00 TO STA. 839+18.57, NB  
 STA. 839+18.57 TO STA. 841+20.59, NB (BRIDGE CUY-71-0668)  
 STA. 841+20.59 TO STA. 912+25.00, NB  
 STA. 938+54.00 TO STA. 938+88.24, NB  
 STA. 938+88.24 TO STA. 940+63.16, NB (BRIDGE CUY-71-0856)  
 STA. 940+63.16 TO STA. 948+25.00, NB

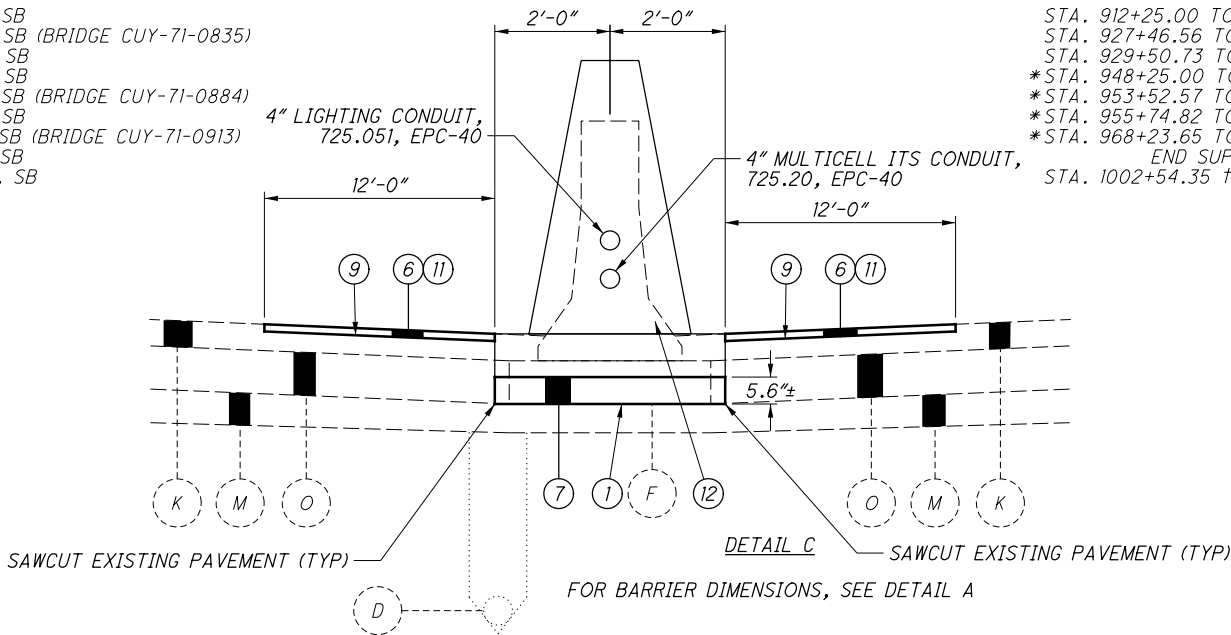


SUPERELEVATED SECTION - IR-71

STA. 913+00.00 TO STA. 927+46.56, SB  
 \*STA. 927+46.56 TO STA. 929+50.73, SB (BRIDGE CUY-71-0835)  
 \*STA. 929+50.73 TO STA. 937+79.00, SB  
 \*STA. 946+75.00 TO STA. 953+52.57, SB  
 \*STA. 953+52.57 TO STA. 955+74.82, SB (BRIDGE CUY-71-0884)  
 \*STA. 955+74.82 TO STA. 968+23.65, SB  
 STA. 968+23.65 TO STA. 970+84.51, SB (BRIDGE CUY-71-0913)  
 STA. 970+84.51 TO STA. 973+25.00, SB  
 STA. 1002+54.35 TO STA. 1010+82.68, SB

STA. 912+25.00 TO STA. 927+46.56, NB  
 STA. 927+46.56 TO STA. 929+50.73, NB (BRIDGE CUY-71-0835)  
 STA. 929+50.73 TO STA. 938+54.00, NB  
 \*STA. 948+25.00 TO STA. 953+52.57, NB  
 \*STA. 953+52.57 TO STA. 955+74.82, NB (BRIDGE CUY-71-0884)  
 \*STA. 955+74.82 TO STA. 968+23.65, NB  
 \*STA. 968+23.65 TO STA. 970+84.51, NB (BRIDGE CUY-71-0913)  
 END SUPERELEVATION AT STA. 970+75.00, NB  
 STA. 1002+54.35 TO STA. 1010+82.68, NB

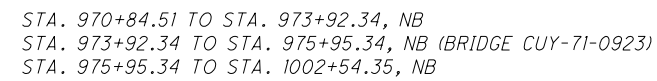
\* - CURVE RIGHT  
 # - 12' FROM STA. 951+75.00 TO STA. 973+25.00  
 @ - 12' FROM STA. 964+40.00 TO STA. 970+75.00  
 @@ - 0' FROM STA. 1004+00.00 TO STA. 1010+84.49



DETAIL C

FOR BARRIER DIMENSIONS, SEE DETAIL A



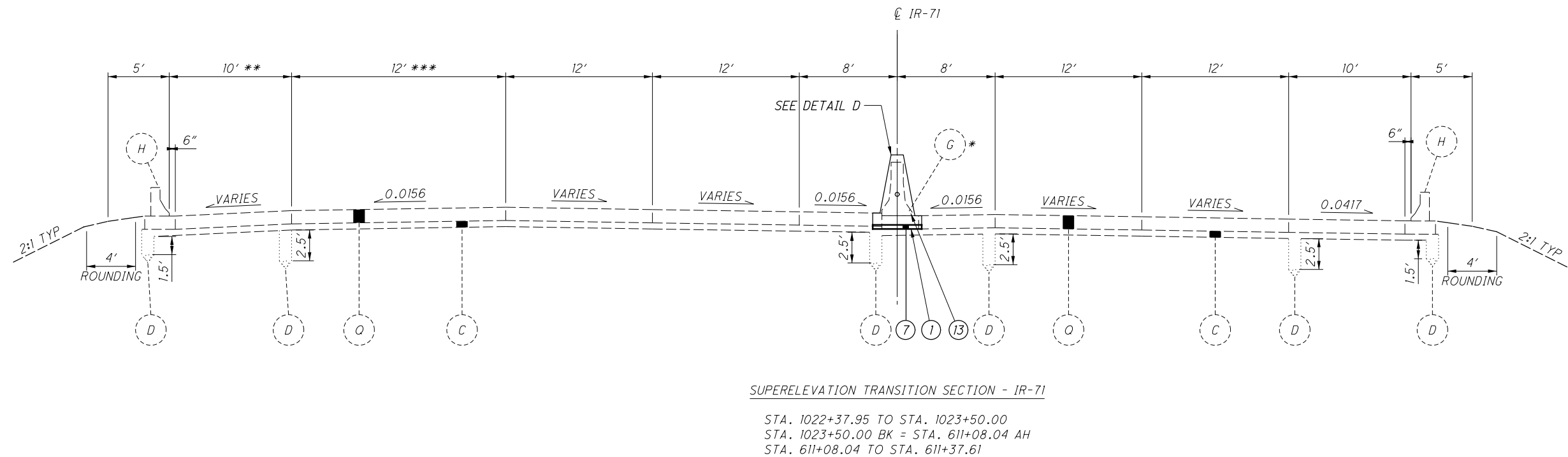
[illegible]

\*\*\* VARIES 10' TO 6' FROM STA. 1010+82.68 TO STA. 1011+81.10  
VARIES 6' TO 10' FROM STA. 1014+43.57 TO STA. 1016+40.42





MODEL: Sheet PAPER SIZE: 7x11 (in.) DATE: 11/17/2021 TIME: 8:27:42 AM USER: dbrauer  
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SB  
STA. 609+99.69 TO STA. 610+69.88

NB  
STA. 611+37.61 TO STA. 612+07.80

- \* SWITCH TO TYPE B BARRIER AT STA. 1023+39.00
- \*\* VARIES FROM 10' TO 8' FROM STA. 1022+59.85 TO STA. 1023+39.85  
VARIES FROM 8' TO 7.28' FROM STA. 609+99.69 TO STA. 610+69.88
- \*\*\* VARIES FROM 12' TO 17.5' FROM STA. 1022+59.85 TO STA. 610+69.88 SB

FOR TYPICAL SECTION LEGEND, SEE P.5

## TYPICAL SECTIONS

SIGN AGENCY



SIGNER

VN

REVIEWER

AR 10/15/21

PROJECT ID	
------------	--

904

FEET	TOTAL
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TOTAL	
152	



GENERAL

Project Description

This project consists of the replacement of median barrier and lighting upgrade along I-71 from Pearl Rd to I-480 in the Cities of Middleburg Heights, Brook Park, and Cleveland.

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.

Equipment and Material Storage

In order to provide for the safety of the traveling public the Contractor's attention is directed to 614.03. In addition the following provisions shall apply:

- 1. Any removed items shall not be stored on the right of way for more than thirty (30) days.
- 2. The storage of equipment, materials, and vehicles within the highway right of way will be permitted. The number of areas and exact locations shall be approved by the Engineer.
- 3. All disturbed areas shall be returned to their original condition at no expense to the state.

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.

Plan Sheet Stationing

The roadway was not surveyed prior to the preparation of these plans. Stationing was provided to prepare plan sheets and calculate pavement and pavement marking quantities.

Staging Areas

There are no specific areas given in the plans for the Contractor to use as a staging area(s). If the Contractor wants to use an area(s) for staging, regardless if it falls within the project limits or not, the Contractor is to use the Right of Way E-Permitting System located at <https://odhcp.bemcorp.net/Accounts/Account/Account> in order to apply for a permit per Section 107.02 of the CMS. For specific permitting questions, the Contractor can contact the District Permitting Office, (Melvin Safford) at 216-584-2137 or at [District12Permits@dot.ohio.gov](mailto:District12Permits@dot.ohio.gov).

If a permit is granted, all conditions of the permit shall be met in addition to the requirements of 104.04 of the CMS, at no additional cost to the State. If the Project Engineer deems that all the conditions of the permit were not met, then 10% of the Contract bid amount for mobilization shall be withheld until all the conditions of the permit are satisfied.

Item 619 – Field Office, Type B, As Per Plan

In addition to the requirements of CMS 619, the Contractor shall furnish and set up a Wi-Fi router meeting the requirements of IEEE 802.11ac for the exclusive use of the Department.

All other field office items supplied shall meet the requirements of a Type B Field Office.

Item 619 – Field Office, Type B, As Per Plan ..... **6 Months**

Item 623 – Construction Layout Stakes and Surveying, As Per Plan

In addition to the requirements of the CMS, this item of work will include the following additional requirements.

After completion of all work, but prior to final acceptance of the project, an Ohio Professional Surveyor shall determine the minimum vertical clearances of all existing and new bridges within the project limits. At a minimum, measurements shall be taken along each fascia beam at the edge of shoulders, edge lines, lane lines, and crown of the roadway below. The ODOT District 12 Vertical Clearance Survey Form shall be used, where applicable, to document the measurements. Where the ODOT District 12 Vertical Clearance Survey Form is not applicable, the measurements shall be documented on a contractor-developed form that closely resembles the ODOT District 12 Vertical Clearance Survey Form and accurately depicts the bridge and below lane and shoulder configuration. The completed form shall bear the stamp or seal of the Ohio Professional Surveyor who has taken the measurements and shall be submitted to the Project Engineer prior to final acceptance of the project.

The ODOT District 12 Vertical Clearance Survey Form can be downloaded from the following website:

<http://www.dot.state.oh.us/districts/D12/HighwayManagement/Pages/Permits.aspx>

Payment for all of the above work shall be at the unit price bid for Item 623 – Construction Layout Stakes and Surveying, As Per Plan, which shall include all labor, equipment, materials and incidentals necessary to complete the above work.

Protection of Right-of-Way Landscaping

Prior to beginning work, the Contractor, the Project Engineer and a representative of the maintaining agency will review and record all landscaping items within the right-of-way (both within and outside the construction limits). A record of this review will be kept in the Project Engineer's files. Prior to final acceptance, a final review of landscaping items will be made.

Constrict all activities, equipment storage and staging to within the construction limits. Unless otherwise identified in the plans or proposal, the construction limits are identified as 30 feet from the edge of pavement.

Submit a written request to the Project Engineer to use any area outside these limits. The document submitted must clearly identify the area and explain the proposed use and restoration of the area. Use of these areas for disposal of waste material and construction debris, excavation of borrow material and placement of portable plants is prohibited. The request must be approved, in writing, before the Contractor has permission to use the area.

Any items damaged beyond the construction limits, as defined above, will be replaced in kind or as approved by the Project Engineer.

Airway/Highway Clearance for Airports and Heliports

This project has been identified as being within the influence area of a public use airport or heliport. No temporary structures or construction equipment at maximum operating height shall exceed a height of 50 Ft. If any temporary structures or construction equipment will exceed this height, further coordination with the Federal Aviation Administration (FAA), and the ODOT Office of Aviation, will be necessary prior to erecting such temporary structures or operating such equipment on the project. The Contractor will be required to file a new FAA Form 7460-1, advising the FAA that Aeronautical Study Number 2021-AGL-1151-OE, 2021-AGL-1152-OE, 2021-AGL-1153-OE, 2021-AGL-1154-OE, 2021-AGL-1204-OE, 2021-AGL-1205-OE, 2021-AGL-1206-OE is being resubmitted and that an alteration to the original submission is requested.

Notify the ODOT Office of Aviation when resubmitting FAA Form 7460-1. No temporary structures or construction equipment shall exceed the permissible height, until a copy of the FAA approval and the ODOT Office of Aviation permit has been furnished to the project engineer.

FAA approval may take up to 45 days. All submissions shall be directed to these offices:

Federal Aviation Administration Southwest Regional Office Obstruction Evaluation Group 10101 Hillwood Parkway Fort Worth, TX 76177 FAX: (817) 222-5920 <a href="http://ceaaa.faa.gov">http://ceaaa.faa.gov</a>	Ohio Department of Transportation Office of Aviation 2829 West Dublin-Granville Road Columbus, Ohio 43235
--	--

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

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Utilities

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.

The Illuminating Co.  
6896 Miller Road  
Brecksville, Ohio 44141  
Attn: John Zassick  
Phone: 440-546-8706

AT&T  
13630 Lorain Ave. – 2<sup>nd</sup> Floor  
Cleveland, Ohio 44111  
Attn: James Janis  
Phone: 216-476-6142

Dominion Energy Ohio  
320 Springside Drive  
Suite 320, Akron, Ohio 44333  
Attn: 2<sup>nd</sup> Floor Relocation Design  
Phone: 330-664-2409

Century Link  
4000 Chester Ave  
Cleveland, Ohio 44103  
Attn: Doug Holloway  
Phone: 216-906-6284

Ohio Department of Transportation  
5500 Transportation Blvd.  
Garfield Heights, Ohio 44125  
Phone: 216-581-2100

BP Oil  
4421 Bradley Road  
Cleveland, Ohio 44109  
Attn: Dave Plevny  
Phone: 216-906-6374

Cox Communications  
12221 Plaza Drive  
Parma, Ohio 44130  
Attn: Craig Smith  
Phone: 216-535-3356

Northeast Ohio Regional Sewer District (NEORS D)  
3900 Euclid Ave  
Cleveland, Ohio 44115  
Attn: Mary Maciejowski  
Phone: 216-881-6600, Ext. 6466

Verizon  
12300 Ridge Road  
North Royalton, Ohio 44133  
Attn: Dan Arz  
Phone: 440-457-4832

Zayo Fiber Solutions  
305 E. Wiggin Street  
Gambier, Ohio 43022  
Attn: Scott Heinlen  
Phone: 740-501-6921

Cuyahoga County Sanitary Engineer  
2079 E. 9<sup>th</sup> Street, 5<sup>th</sup> Floor  
Cleveland, Ohio 44113  
Attn: Hugh Blocksidge  
Phone: 216-443-8205

City of Cleveland Division of Cleveland Public Power (MELP)  
1300 Lakeside Ave.  
Cleveland, Ohio 44114  
Attn: Chris Hirzel  
Phone: 216-664-3922, Ext. 76115

City of Cleveland Division of Water  
1201 Lakeside Ave.  
Cleveland, Ohio 44114  
Attn: Fred Roberts  
Phone: 216-664-2444 Ext. 75590

City of Cleveland Division of Water Pollution Control  
12302 Kirby Road  
Cleveland, Ohio 44108  
Attn: Rachid Zoghaib  
Phone: 216-664-3785

City of Cleveland Division of Traffic Engineering  
601 Lakeside Ave, Room 25  
Cleveland, Ohio 44114  
Attn: Andrew Cross  
Phone: 216-664-3197

ODOT Traffic Monitoring Section  
1980 West Broad Street  
Columbus, Ohio 43223  
Attn: Ed Newmeyer (Field Rep)  
Phone: (614) 204-0914  
Attn: Sandra Mapel (Field Operations)  
Phone: (614) 644-0291

Charter Communications  
8179 Dow Circle  
Strongsville, Ohio 44136  
Attn: Gary Naumann  
Phone: 216-575-8016, Ext. 5033

Columbia Gas of Ohio  
7080 Fry Road  
Middleburg Heights, Ohio 44130  
Attn: Dan Suren  
Phone: 440-891-2428

Everstream  
1228 Euclid Avenue, Suite 250  
Cleveland, Ohio 44115  
Attn: Stacy Dasher  
Phone: 216-923-2206

Wide Open West  
105 Blaze Industrial Parkway  
Berea, Ohio 44017  
Attn: Bob Hammond  
Phone: 440-625-0349

City of Middleburg Heights  
7017 Pearl Rd.  
Cleveland, Ohio 44130  
Attn: Michael Mackay  
Phone: 440-886-4500

City of Brook Park  
6161 Engle Road  
Brook Park, Ohio 44142  
Attn: Ed Piatak  
Phone: 440-260-1555

There are no underground utilities shown on this plan. The nature of the work required by this project will not affect any known underground utilities that exist under or adjacent to the work area.

Roadway and Erosion Control

Item 202 – Concrete Barrier Removed, As Per Plan

Removal of the existing concrete barrier foundation shall be included in this item of work. The Contractor may elect to sawcut the pavement at the barrier foundation edge prior to the concrete barrier and concrete barrier foundation removal as to prevent adjacent pavement from being disturbed. In areas where the proposed footer limits differ from the existing footer limits, removal of pavement between the sawcut and the existing footer shall be included in this item of work.

This item of work shall also include removal of reinforced sections of barrier located within the project limits including, but not limited to, light pole foundations, inlet tops, and sign foundations as well as removal of any reference markers and barrier mounted supports located on the existing barrier. Removal of the existing conduit and distribution cable shall also be included in this item. Existing light pole foundations shall be removed as per C&MS 625.21C. Exercise caution so as not to damage the existing conduit and circuit distribution cable entering/exiting any median junction boxes in the barrier. When removing inlet tops, care should be taken to avoid damaging inlet walls below the pavement surface. Existing sign foundations shall be removed as per C&MS 630.12.

All costs for this item of work, including sawcutting, labor, materials, equipment and incidentals shall be included in the unit bid price for Item 202 – Concrete Barrier Removed, As Per Plan.

Seeding and Mulching

The following quantities are provided to promote growth and care of permanent seeded areas:

Item 659 – Soil Analysis Test .....	2 Each
Item 659 – Topsoil .....	90 CY
Item 659 – Seeding and Mulching .....	810 SY
Item 659 – Repair Seeding and Mulching .....	41 SY
Item 659 – Inter-Seeding .....	41 SY
Item 659 – Commercial Fertilizer .....	0.11 Ton
Item 659 – Lime .....	0.17 Acres
Item 659 – Water .....	4.38 M. Gal.

Apply seeding and mulching to all areas of exposed soil between the right-of-way lines and within the construction limits for areas outside the right-of-way lines covered by work agreement or slope easement. Quantity calculations for seeding and mulching are based on these limits.

Earthwork

The following quantities are provided for barrier sections being replaced in the grass median:

Item 203 – Excavation .....	609 CY
Item 203 – Embankment .....	294 CY
Item 204 – Subgrade Compaction .....	2,119 SY

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, beam splice as shown in AASHTO M 180-12, except the beam washers are not to be used. Payment shall be included in the contract price for the respective guardrail items.

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.

Reshape and compact subgrade to ensure positive drainage. Establish a cross slope of 0.042 (half inch per foot). Grade to a maximum width of 6' to provide positive drainage away from the travel lanes.

All collected debris and topsoil shall be removed and disposed of as specified in section 105.17 of the CMS.

In areas where asphalt under guardrail will not be replaced, the removed material shall be replaced with compactable granular material conforming to 703.16 and placed to grade as approved by the Engineer. Seed and mulch these areas according to section 659.

In areas where existing pavement will not be planed, after the existing asphalt under guardrail is removed, compacted granular material shall be placed within 3" of final pavement elevation in preparation of the asphalt under guardrail.

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



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**Item 441 – Asphalt Concrete Intermediate Course, Type 1, (448), (Under Guardrail), As Per Plan**

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 441 – Asphalt Concrete Intermediate Course, Type 1, (448), (Under Guardrail), As Per Plan.

Herbicide shall be EPA approved for Paving Under Guardrail. It shall be applied to the prepared area after final leveling and grading has been completed. The application shall be just prior to paving and shall strictly adhere to the manufacturer's instructions. Do not spray within 1000 ft. of a state scenic river.

Each successful bidder must be licensed by the Ohio Department of Agriculture as a commercial applicator and all persons involved in the actual spraying shall be licensed as commercial operators in the appropriate spray category.

Herbicide label, material safety data sheet and copy of applicators licenses shall be submitted to the Engineer for verification prior to commencing work.

Paving Under Guardrail shall consist of placing Item 441 Asphalt Concrete to a depth of 3" and a maximum width of 4' using one of the following methods:

- Method A:
1. Set guardrail posts
  2. Place Item 441

- Method B:
1. Place Item 441
  2. Bore asphalt at post locations (may be omitted if steel posts are used)
  3. Set guardrail posts
  4. Patch around posts. The materials used for patching shall be an asphalt concrete approved by the Engineer. Patched areas shall be compacted using either hand or mechanical methods. Finished surfaces shall be 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 441 – Asphalt Concrete, Intermediate Course, Type 1, (448), (Under Guardrail), As Per Plan.

**Item 606 – Anchor Assembly, MGS Type E (MASH 2016)**

This item shall consist of furnishing and installing any of the guardrail end terminals for Type MGS guardrail as listed on roadway engineering's web page under roadside safety devices for approved guardrail end treatments. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications.

The face of the Type E impact head shall be covered with a sheet of Type G reflective sheeting, per CMS 730.19.

Refer to the manufacturer's instructions 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 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 31 inches 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 above the ground line.

Payment for the above work shall be made at the unit price bid for item 606, Anchor Assembly, MGS Type E (MASH 2016), 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.

**Item 622 – Concrete Barrier, Single Slope, Type B1, As Per Plan A**  
**Item 622 – Concrete Barrier, Single Slope, Type C1, As Per Plan**

This item shall consist of furnishing and installing Type B1 Concrete Barrier according to the CMS and Standard Construction Drawing RM-4.3 with the following modifications:

1. Provide a min. 9" thick concrete foundation with an approximate width of 4.0' as shown in the typical sections.
2. Install dowel bars between the concrete foundation and the concrete barrier. The size, length and placement of the dowel bars shall follow the doweling details shown on sheet 2 of RM-4.3.
3. Sections of Concrete Barrier, Single Slope, Type B1, As Per Plan A located adjacent to an inlet shall be doweled into the inlet.

In addition to the 4" lighting conduit, this item shall also include the installation of 4" Multicell ITS conduit, 725.20, EPC-40 as detailed on the typical sections.

All costs for this item of work, including sawcutting of existing shoulder asphalt, labor, materials, equipment and incidentals shall be included in the unit bid price for Item 622 – Concrete Barrier, Single Slope, Type B1, As Per Plan A & Item 622 – Concrete Barrier, Single Slope, Type C1, As Per Plan.

**Item 622 – Concrete Barrier, Single Slope, Type B1, As Per Plan B**

This item shall consist of furnishing and installing Type B1 Concrete Barrier according to the CMS and Standard Construction Drawing RM-4.3 with the following modifications:

1. Provide a 9" thick concrete foundation with an approximate width of 4.0' as shown in the typical sections.
2. Install dowel bars between the concrete foundation and the concrete barrier. The size, length and placement of the dowel bars shall follow the doweling details shown on sheet 2 of RM-4.3.
3. Drainage slots and reinforcing shall be installed as per the details on P.117.

In addition to the 4" lighting conduit, this item shall also include the installation of 4" Multicell ITS conduit, 725.20, EPC-40 as detailed on the typical sections.

All costs for this item of work, including sawcutting of existing shoulder asphalt, labor, materials, equipment and incidentals shall be included in the unit bid price for Item 622 – Concrete Barrier, Single Slope, Type B1, As Per Plan B.

**Item 622 – Barrier, Misc.: Concrete Barrier, Type B50**  
**Item 622 – Barrier, Misc.: Concrete Barrier, Type C50**

This item shall consist of furnishing and installing Type B50 & Type C50 Concrete Barrier according to the details shown on P.115 of this plan with the following modifications:

1. Install the no. 8 dowel bars between the concrete foundation and the concrete barrier. The size, length and placement of the dowel bars shall follow the doweling details shown for the 32" normal sections.
2. The cost of the min. 9" thick, 4' wide foundation shall be included in this pay item.

All costs for this item of work, including sawcutting of existing shoulder asphalt, labor, materials, equipment and incidentals shall be included in the unit bid price for Item 622 – Barrier, Misc.: Concrete Barrier, Type B50 & Item 622 – Barrier, Misc.: Concrete Barrier, Type C50.

**Item 622 – Barrier Transition, As Per Plan**

This item shall consist of furnishing and installing Barrier Transition according to the details on P.114 with the following modifications:

1. The length of the Barrier Transition shall be as shown in the plans. Transition rates shall be adjusted accordingly.
2. Dimensions shall be adjusted to account for the 2.5" max elevation difference when placed adjacent to Type C barrier.

All costs for this item of work, including sawcutting of existing shoulder asphalt, labor, materials, equipment and incidentals shall be included in the unit bid price for Item 622 – Barrier Transition, As Per Plan.

**Item 622 – Concrete Barrier, End Anchorage, Reinforced, Type B1, As Per Plan**  
**Item 622 – Concrete Barrier, End Anchorage, Reinforced, Type C1, As Per Plan**

This item shall consist of furnishing and installing Concrete Barrier, End Anchorage, Reinforced, Type B1 & Type C1 according to Standard Construction Drawing RM-4.3 with the following modifications:

1. The length of the Concrete Barrier, End Anchorage, Reinforced, Type B1 and Type C1 shall be as shown in the plans. Reinforcing shall be adjusted accordingly.
2. For sections of Concrete Barrier, End Anchorage, Reinforced, Type B1 and Type C1 that are located adjacent to an inlet and are less than the standard 15' length, the inlet side shall be doweled into the inlet.

All costs for this item of work, including sawcutting of the existing shoulder asphalt, labor, materials, equipment and incidentals shall be included in the unit bid price for Item 622 – Concrete Barrier, End Anchorage, Reinforced, Type B1, As Per Plan & Item 622 – Concrete Barrier, End Anchorage, Reinforced, Type C1, As Per Plan.

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Drainage

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 new conduits, inlets, catch basins and manholes constructed as part of the project shall be free of all foreign matter and in a clean condition before the project will be accepted 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 611 drainage items.

Item 611 – Inlet, No. 3 for Single Slope Barrier, Type B1, As Per Plan  
Item 611 – Inlet, No. 3 for Single Slope Barrier, Type C1, As Per Plan

This item shall consist of furnishing and installing Item 611 – Inlet, No. 3 for Single Slope Barrier, Type B1 and Type C1 according to the CMS and Standard Construction Drawing I-3B & I-3C with the following modifications:

- 1. This item is intended to replace the concrete barrier on top of the inlet only.
- 2. The length of the concrete barrier on top of the inlet varies as detailed in the subsummaries in order to avoid leaving very small sections of unreinforced barrier adjacent to the inlet.

All costs for this item of work, including labor, materials, equipment and incidentals shall be included in the unit bid price for Item 611 – Inlet, No. 3 for Single Slope Barrier, Type B1, As Per Plan & Item 611 – Inlet, No. 3 for Single Slope Barrier, Type C1, As Per Plan.

Item 611 – Inlet, Misc.: Inlet, No. 3B50

This item shall consist of furnishing and installing Item 611 – Inlet, Misc.: Inlet, No. 3B50 according to the details shown on P.116 of this plan with the following modifications:

- 1. This item is intended to replace the concrete barrier on top of the inlet only.
- 2. The dimensions for D-64 shall be adjusted to match the adjacent Type C Barrier as needed.
- 3. The length of the concrete barrier on top of the inlet varies as detailed in the subsummaries in order to avoid leaving very small sections of unreinforced barrier adjacent to the inlet.

All costs for this item of work, including labor, materials, equipment and incidentals shall be included in the unit bid price for Item 611 – Inlet, Misc.: Inlet No. 3B50.

Item 611 – Inlet Reconstructed to Grade, As Per Plan

The Contractor and Field Engineer shall field check all existing inlets located within the limits of the project. Any casting found that exhibits substantial deterioration shall be “Reconstructed to Grade”, as directed by the Engineer. In addition, if it is found that the inlet trough section exhibits substantial deterioration, then replacement of the trough shall be incidental to Item 611 – Inlet Reconstructed to Grade, As Per Plan.

The following estimated quantity has been carried to the General Summary for use as directed by the Engineer:

Item 611 – Inlet Reconstructed to Grade, As Per Plan ..... 10 Each

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 611 of the CMS 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 shall 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..... 3000 Lbs

Pavement

Profile and Alignment

Place the proposed pavement to follow the alignment of the existing pavement. Place the proposed asphalt concrete with a uniform thickness as shown on the typical sections.

Planing Requirements

The duration of time between planing the asphalt and placing the asphalt overlay shall be kept to a minimum. In no instance shall this time exceed 7 calendar days. The time limit shall begin on the first day of planing and shall continue based on calendar days, minus any weather days, until completion of the asphalt concrete surface course. This is to ensure that the potential degradation of the exposed pavement due to traffic is kept to a minimum. This requirement applies to both mainline and ramps alike.

In the event that the time between exposing the existing pavement and placing the asphalt surface course exceeds 7 calendar days, liquidated damages as per 108.07 of the C&MS shall be assessed.

Item 254 – Pavement Planing, Asphalt Concrete, As Per Plan

This item shall be used to remove a consistent width of the asphalt overlay from the inside shoulder at a depth of 1.5” as specified in the plans on IR-71. Areas which have transverse wedges (butt joints) are to be removed in two passes as required for maintaining traffic. No additional payment shall be made for the second pass. Care should be taken to avoid destroying or damaging existing rumble strips. Pavement planing limits shall be offset a minimum of 6” from the edge of the existing rumble strips. For estimating purposes, quantities are based

on a consistent width of 4’ as shown on the typical sections. The width shall be adjusted in the field, as directed by the Engineer, as required to maintain the minimum 6” offset to the existing rumble strips.

Asphalt Concrete Surface Course Sealing Requirements

In addition to the gutter sealing requirements specified in SCD BP-3.1 and C&MS 401.15, after completion of the surface course, the contractor shall use a certified 702.01 PG binder to seal the following locations:

- All castings including but not limited to monuments, manholes, water valves, catch basins, curb inlets.
- Butt joints and feather joints including bridge approaches.
- Forward joint for driveway asphalt and trailing joint when butting to existing asphalt drive.
- Perimeter of all pavement repairs or other asphalt inlays when pavement repairs/inlays are not overlaid with an asphalt concrete surface course.
- All cold longitudinal joints between paved shoulders and guardrail asphalt.

The material used shall be a certified 702.01 PG binder. The width of the sealer shall be 2-3 inches.

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

Item 442 – Asphalt Concrete Surface Course, 12.5mm, Type A, (447), As Per Plan, PG76-22M

The coarse virgin aggregate for this item shall be limited to a blend of air cooled blast furnace slag (ACBFS) or Trap Rock from Ontario and limestone. The Contractor shall use a minimum 60% of ACBFS or Trap Rock from Ontario with limestone comprising the remaining percentage. At least 50% of fine virgin aggregate for this item shall be limited to ACBFS or Trap Rock from Ontario.

Table 442.02-2 applies except No. 4 sieve requirements are 52 to 60 Total Percent Passing. For the No. 4 sieve do not exceed 63 in production.

When ACBFS is used for a fraction of the coarse aggregate, provide a total asphalt binder content greater than or equal to 6.2 percent. If ACBFS makes up 100% of the coarse aggregate, apply the binder content requirements of C&MS 442.

Item 442 – Asphalt Concrete Surface Course, 12.5mm, Type A, (448), As Per Plan, PG76-22M

The coarse aggregate for this item shall be limited to a blend of air cooled blast furnace slag (ACBFS) and limestone. The Contractor shall use a minimum of 50 percent ACBFS with limestone comprising the remaining percentage.

In addition to the joint sealing requirements specified in 401.17, the Contractor shall seal the perimeter of all rumble strip pavement replacement areas. The material used shall be a certified 702.01 PG binder. The width of the sealer shall be 2-3 inches.

Payment for all labor, materials and equipment required to perform the above work shall be included in the contract price for Item 442 – Asphalt Concrete Surface Course, 12.5MM, Type A (448), As Per Plan, PG70-22M.

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Traffic Control

Protection of traffic monitoring equipment

Prior to beginning any pavement activities or any excavation activities between Sta. 879+00 and Sta. 879+50 (ATR Site #566) the Contractor, the project engineer, and a representative from the owner will coordinate a time for the owner/maintaining agency to disconnect the equipment. Following the disconnection by the owner, the Contractor will be allowed to perform their pavement activities, including pavement removal. The removed loops and sensors become the property of the contractor.

During the meeting, the owner/maintaining agency will identify equipment locations. Do not disturb pull boxes, controllers, cabinets, poles and conduits. Any damage will be the responsibility of the Contractor and repairs must be accepted by the owner.

Sign Shop Drawings

The contractor shall submit a complete set of sign shop drawings to the project engineer for approval a minimum of four weeks prior to beginning of fabrication. The project engineer shall forward the sign shop drawings to the district Planning and Engineering department c/o Frank Konopka (216-584-2105) for approval.

Raised Pavement Markers

Install raised pavement markers for lane lines at a spacing of eighty feet (80') center-to-center.

Item 625 – Median Junction Box, As Per Plan A

The Contractor shall supply the median barrier junction pull boxes that meet the following specifications:

- Shall be of type polymer-concrete
- Size: 17 inches (height) X 30 inches (length)
- Minimum wall thickness: 0.5 inch
- Minimum lid thickness: 2 inches
- ANSI Tier 22 rating with a minimum design load of 22,000 pounds
- Lid shall be marked traffic
- The median junction box shall be secured in the median barrier wall using dowels (nonshrink grout may be used when necessary)

The Contractor shall also install the proposed 3” conduit and race pipes shown on P.125.

Payment for all labor, equipment and materials for the proposed conduit shall be included in the Item 625 – Median Junction Box, As Per Plan A. The following estimated quantities have been carried to the General Summary:

Item 625 – Median Junction Box, As Per Plan A ..... **2 Each**

Item 626 – Barrier Reflector, Type 1, One Way

This item is provided for the installation of one way yellow barrier reflectors on the proposed concrete barrier. The following estimated quantity of Item 626 – Barrier Reflector, Type 1, One Way has been carried to the General Summary:

Item 626 – Barrier Reflector, Type 1, One Way ..... **442 Each**

Item 630-Sign Support Assembly, Pole Mounted  
Item 630-Sign Support Assembly, Barrier Mounted  
Item 630-Sign, Flat Sheet  
Item 630-Removal of Ground Mounted Sign and Reerection

These pay items are being provided to remove and reerect miscellaneous flat sheet signs onto new sign support end frames, reerect object markers onto the new concrete barrier and to place new freeway reference markers onto the proposed concrete barrier. The contractor shall document the existing location of the object markers and reerect them in their original location.

The new freeway reference markers shall be the standard sign design D10-5 (white on blue) and bear the interstate 71 route shield. The approximate locations of the reference markers are shown on sheets 136-149 of this plan. The barrier mounted sign support assemblies shall be fabricated per the details on sheet 126 of this plan.

The following quantities are being carried to the general summary to perform these items of work:

Item 630-Sign Support Assembly, Pole Mounted ..... **2 Each**  
Item 630-Sign Support Assembly, Barrier Mounted ..... **38 Each**  
Item 630-Sign, Flat Sheet ..... **180 Sq.Ft.**  
Item 630-Removal of Ground Mounted Sign and Reerection ..... **16 Each**

Item 630-Overhead Sign Support, Type TC-15.116, Design 1, As Per Plan

In addition to C.M.S. 630.06, the sign supports shall have a wet or dry coating applied per Supplemental Specification **916**. The color shall be medium grey (Federal Color No. 16440).

The coating of the supports shall be included in the bid price for Item 630-Overhead Sign Support, Type TC-15.116, Design 1, As Per Plan. This support type shall be itemized as coating three (2) galvanized steel end frames and one (1) galvanized truss per support.

Item 630-Overhead Sign Support, Type TC-15.116, Design 2, As Per Plan

In addition to C.M.S. 630.06, the sign supports shall have a wet or dry coating applied per Supplemental Specification **916**. The color shall be medium grey (Federal Color No. 16440).

The coating of the supports shall be included in the bid price for Item 630-Overhead Sign Support, Type TC-15.116, Design 2, As Per Plan. This support type shall be itemized as coating three (2) galvanized steel end frames and one (1) galvanized truss per support.

Lighting

Power Agency

The power supplying agency for this project is:

First Energy-The Illuminating Company  
6896 Miller Road  
Brecksville, Ohio 44141  
Attn: Call for New Service Request  
Phone: 1-800-589-3101

ODOT Intelligent Transportation Systems Lab

Office of Traffic Operations  
Phone: 614-644-4113  
Email: cen.its.lab@dot.ohio.gov  
Non-OUPS member, notify for locates

Item 625-Light Pole, Low Mast, As Per Plan, ALM50

In addition to C&MS 625.09 the contractor shall label each low mast light pole with two (2) alpha numeric identifiers, one in each direction of traffic (NB & SB).

Item 625-Median Light Pole Foundation, 10’ Deep, As Per Plan A

The median light pole foundations, where itemized as such in this plan, shall be constructed per the details and notes on sheet 150 of this plan.

Payment will be made at the unit bid price of each for Item 625-Median Light Pole Foundation, 10’ Deep, As Per Plan A which shall be full compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manner.

Item 625-Median Light Pole Foundation, 10’ Deep, As Per Plan B

The median light pole foundations, where itemized as such in this plan, shall be constructed per the details and notes on sheet 152 of this plan.

Payment will be made at the unit bid price of each for Item 625-Median Light Pole Foundation, 10’ Deep, As Per Plan B which shall be full compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manner.

Item 625-Light Pole Foundation Misc.:Median Foundation on Spread Footer

The median light pole foundations, where itemized as such in this plan, shall be constructed per the details and notes on sheet 151 of this plan.

Payment will be made at the unit bid price of each for Item 625-Light Pole Foundation Misc.: Median Foundation on Spread Footer which shall be full compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manner.

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**Item 625 – Light Tower Foundation, 36” X 25’ Deep, As Per Plan**

This item has been provided to install a light tower foundation at Sta. 800+17.

The median light tower foundation as itemized in this plan shall be constructed per the details and notes on S.C.D. HL-20.24 except that the contractor shall strip the formwork the same working day to finish foundation tops smooth with the median barrier foundation tops.

Payment will be made at the unit bid price of each for Item 625 - Light Tower Foundation, 36” X 25’ Deep, As Per Plan which shall be full compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manner.

**Item 625 – Light Tower Foundation, 36” X 30’ Deep, As Per Plan**

This item has been provided to install a light tower foundation at Sta. 786+57.

The median light tower foundation as itemized in this plan shall be constructed per the details and notes on S.C.D. HL-20.24 except that the contractor shall strip the formwork the same working day to finish foundation tops smooth with the median barrier foundation tops.

Payment will be made at the unit bid price of each for Item 625 - Light Tower Foundation, 36” X 30’ Deep, As Per Plan which shall be full compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manner.

**Item 625-Luminaire, Low Mast, Solid State (LED), As Per Plan**

In addition to supplemental specification 813, use the following luminaire or approved equal as directed by the highway maintenance traffic engineer:

Holophane **HMLED4 PK2 30K HVOLT HGR AN PR7**with a color temperature of 3000K, type V distribution and a minimum 47000 lumen performance.

Payment will be made at the unit bid price of each for Item 625-Luminaire, Low Mast, Solid State (LED), As Per Plan which shall be full compensation for all labor, materials and incidentals required to complete this item in a satisfactory and workmanlike manner.

**Item 625 – Median Junction Box, As Per Plan B**

Concrete barrier quantities are not included in this item and have been itemized separately in pay Item 622 – Concrete Barrier, Single Slope, Type B1, As Per Plan B. Existing conduit entering the median junction boxes is assumed to be 3”. Contractor shall field verify when exposed after demolition of existing barrier prior to sizing couplings for new 3” conduit that is part of the proposed median junction box per HL-30.41.

**Item 625-Median Junction Box, As Per Plan C**

The median boxes as itemized in this plan shall be sized and constructed per the details and notes on SCD ITS-14.50.

**Item 625-Pull Box, 725.08, 32”, As Per Plan**

The 32” pull boxes as itemized in this plan shall be constructed per the details and notes on SCD ITS-14.11.

**Item 625 – Re-erect Existing Light Tower, As Per Plan**

This item has been provided to remove and re-erect the existing light towers at Sta. 786+57 and Sta. 800+17. Removal and storage of the existing light tower shall be incidental to this item. The Contractor shall supply new anchor nuts, leveling nuts and flat washers to match the anchor bolts in the new foundation. The new anchor bolts (4) shall be 60” in length with a 5” diameter plate washer. The new anchor bolts shall be of the same diameter and formed in the new foundation to match the existing bolt pattern of the base plate of the existing light tower to be re-erected. The Contractor shall field verify the bolt circle and the diameter of the existing anchor bolts.

All costs for this item of work, including labor, materials, equipment and incidentals for removal and re-erection of the light tower shall be included in the unit bid price for Item 625 – Re-erect Existing Light Tower, As Per Plan.

**Item 625-Lighting Misc.: Light Pole Identifiers**

Existing conventional light poles on the ramps at Bagley Rd. and Snow Rd. interchanges shall have their alpha numeric identifier revised per CMS 625.09, paragraph 10. The contractor shall refer to the circuit diagrams on sheets 132 and 134 of this plan that show the pole locations that are to receive new identifiers.

Payment for all labor, equipment and materials for the proposed pole identifiers shall be included in the Item 625–Lighting Misc.: Light Pole Identifiers. The following quantity has been carried to the General Summary:

Item 625-Lighting Misc.: Light Pole Identifiers ..... **Lump**

**Item Special-Maintain Existing Lighting**

Existing roadways which are to remain open to traffic during construction of this project and which are lighted shall have the lighting maintained as described herein.

Before any work is started in the immediate vicinity of the existing lighting circuits, representatives of ODOT, the maintaining agency and the contractor shall make a visual inspection of the existing roadway lighting circuits to be maintained. During this inspection, a written record of the condition of existing lighting shall be made by ODOT’s representative. This written report shall note individual luminaires which are not in working order, individual poles which are not standing, and individual circuits which are not in working order. The completed report shall be signed by the representatives of ODOT, the maintaining agency and the contractor.

If, as a result of this inspection, it is determined that the condition of the existing system is below that required for the safety of the traveling public, then the maintaining agency shall make the repairs necessary to return the system to an acceptable condition. Following these repairs, the system shall again be inspected, and a report shall be made and signed as outlined herein.

When the existing system is in an acceptable condition, it shall be turned over to the contractor who shall then be required to maintain the existing lighting to the condition outlined in this report with the exception of knockdowns due to traffic accidents.

Replacement of knocked downed units shall be done only when the engineer has determined that the replacement of the knocked down unit is necessary and shall be paid separately on a unit basis.

Betterments shall be covered in items of work pertaining to the construction of permanent improvement.

When the sequence of construction activities requires, or should the contractor desire, the removal of the existing lighting before the new lighting is operational, the contractor shall be responsible for providing temporary lighting of this portion of the roadway. Temporary lighting to maintain existing lighting is not required provided that service is only interrupted for a maximum of fourteen (14) days or less.

Prior to installing such lighting, the contractor shall prepare and submit four sets of the temporary lighting plan to the engineer for review and approval.

This plan shall show locations of poles, lengths of bracket arms, styles of luminaires, mounting heights, wiring methods and other pertinent information. The temporary lighting shall provide an average initial intensity of 1.2 footcandles with an average to minimum uniformity not to exceed 3:1. Mounting height of temporary luminaires shall not be less than 30 feet, and the minimum overhead conductor clearance shall be 20 feet. Temporary overhead construction shall not be less than grade "a" for strength requirements as defined by the national electric safety code. Wood poles with overhead wiring may be used. However, temporary lighting shall meet federal and state safety criteria. If breakaway poles are used to meet these criteria, then underground wiring shall be used. Reconditioned or used materials may be furnished for temporary lighting.

All materials necessary to complete the temporary lighting shall be furnished and installed by the contractor. When no longer needed, the temporary lighting installation shall be removed and properly disposed of by the contractor. The maintaining agency will pay for electrical energy consumed by existing power services and by proposed permanent power services after acceptance of the lighting work. The contractor will pay for electrical energy, installation, removal and maintenance of any temporary power services.

The lump sum price bid for Item Special-Maintain Existing Lighting shall include payment for all labor, equipment, materials and incidentals necessary to maintain the existing lighting as specified herein.

The unit price bid for Item Special-Replacement of Existing Lighting Unit shall be full payment for the replacement of an existing lighting unit which has been knocked down after the aforementioned inspection and shall include all labor, equipment, materials and incidentals necessary to provide a replacement for such unit.

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Maintenance of Traffic

General

It is the responsibility of the Contractor to provide through vehicular access in both directions 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, the sequence of operations shall be planned in a fashion which minimizes 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 Permitted Lane Closure Schedule (PLCS). The time limits shown in this table shall be adhered to or road user costs will be assessed.

Sequence of Construction

Permanent maintenance of traffic zones, as detailed on sheets 26-39 of the plans, shall be maintained for the duration of the project.

Maintenance of Traffic Control Zones

The Contractor shall be responsible to maintain the signs, drums or cones specified in the Standard Construction Drawings. When the Contractor is notified of deficiencies, he shall correct the deficiencies as soon as possible, preferably within 12 hours and no later than 24 hours. If any noted deficiencies are not corrected within 24 hours the Engineer shall deduct one day pay for Item 614 – Maintaining Traffic, not as a penalty but as road user costs. The Contractor shall be subject to these road user costs for each and every day that these provisions are not met. All costs for maintaining the work zones as described above shall be included under Item 614 – Maintaining Traffic.

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 OMUTCD, the Engineer shall suspend work until the Contractor complies with the necessary requirements.

Payment

All work and traffic control devices shall be in accordance with CMS 614 and other applicable portions of the specifications, as well as the Ohio Manual of Uniform Traffic Control Devices. Payment for all labor, equipment, and materials shall be included in the lump sum contract price for Item 614 – Maintaining Traffic unless separately itemized in the plans.

Lane Closure/Reduction Required

Length and duration of lane closures and restrictions shall be at the approval of the Engineer. It is the intent to minimize the impact to the traveling public. Lane closures or restrictions over segments of the project in which no work is anticipated within a reasonable time frame, as determined by the Engineer, shall not be permitted. The level of utilization of maintenance of traffic devices shall be commensurate with the work in progress.

Schedule of Through Lanes to be Maintained

All lane closures may only be implemented at the times permitted by the “District 12 Permitted Lane Closure Times” list, which is located on the ODOT website:

<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, unless directed by the Engineer. Shoulder closures shall only be allowed at the times specified for lane closures.

Any roadway not listed shall not have any lane closures on weekdays from 6:30am to 9:00am and 3:00pm to 6:00pm. Contact Troy Onesti, District 12 Work Zone Traffic Manager, at (216) 584-2204 if there are any questions.

All notes on the Permitted Lane Closure Times shall be part of the project.

Alternate Methods

If the Contractor so elects, he may submit alternate methods for the maintenance of traffic, provided the intent of the provisions is followed and no additional inconvenience to the traveling public results there from. A review period of 30 days shall be provided for the Engineer to review the submitted alternate methods. No alternate plan shall be placed into effect until approval has been granted, in writing, by the Director.

All items proposed for use under these provisions must comply with current Department standards for their use when the plan detail, Standard Construction Drawing or other bid document governing their use is not provided as part of the bid package.

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 authorities.

Maintenance of Existing Signs

Per CMS 614.07, the Contractor shall maintain all existing signs for the duration of the project. For overhead signs being replaced by the project, leave the existing signage in place until the new signage is installed. If the existing signs cannot remain in place until the proposed signs are installed, install temporary ground mounted signs in the outside shoulder upon removal of the existing signs to ensure that directional signs are in place at all times.

Lane Value Contract Table

Description of Critical Lane/Ramp to be Maintained	Restricted Time Period	Time Unit	Disincentive \$ per Time Unit per Lane
IR-71			
SR-82 to US-42, NB & SB	As per the Permitted Lane Closure Schedule	Each Minute	\$285
US-42 to Snow Road, NB & SB	As per the Permitted Lane Closure Schedule	Each Minute	\$325
Snow Road to IR-480, NB & SB	As per the Permitted Lane Closure Schedule	Each Minute	\$250
Over IR-480 & RR, NB & SB (2 lane section)	As per the Permitted Lane Closure Schedule	Each Minute	\$310
Over IR-480 & RR, SB (3 lane section)	As per the Permitted Lane Closure Schedule	Each Minute	\$205
RR to Fulton, NB & SB	As per the Permitted Lane Closure Schedule	Each Minute	\$240

The Contractor shall be assessed a disincentive in the amount of the sum total of those sections impacted by the physical lane restriction, including the Transition Area, Activity Area, and Termination Area as defined by the OMUTCD. Holiday disincentives shall be applied per section per lane per time unit.





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 7 days 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 with CMS 401.15 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 submit to the Engineer two 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 the 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 shadow vehicles as per MT-99.20 following the pavement marking equipment. The shadow 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 shadow vehicle in a traffic lane shall be equipped with a truck mounted attenuator meeting NCHRP 350 requirements. Each shadow 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. Whenever a total closure is implemented, the Contractor shall provide a portable changeable message sign 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.
11. For any operation not specifically mentioned in these plans, the traffic shall be maintained in accordance with the OMUTCD.

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	Mother’s 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:

<u>Day of the Week</u>	<u>Times All Lanes Must Be Open to Traffic</u>
Sunday	12:00 Noon Friday through 6:00 AM Monday
Monday	12:00 Noon Friday through 6:00 AM Tuesday
Tuesday	12:00 Noon Monday through 6:00 AM Wednesday
Wednesday	12:00 Noon Tuesday through 6:00 AM Thursday
Thursday	12:00 Noon Wednesday through 6:00 AM Monday
Thursday	6:00AM Wednesday through 6:00AM Monday
(Thanksgiving only)	
Friday	12:00 Noon Thursday through 6:00 AM Monday
Saturday	12:00 Noon Friday through 6:00 AM Monday

Should the Contractor fail to meet any of these requirements, the Contractor shall be assessed a disincentive per the Lane Value Contract (PN 127).

Maintaining Traffic and Sequence of Operations

All asphalt concrete operations shall be conducted in a manner that will assure minimum danger and inconvenience to highway users. 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.

Traffic shall not be permitted to cross any partial-width removal or resurfacing joint during the actual removal or paving operation except as necessary. Any partial-width longitudinal joints with a discontinuity greater than 1-1/2” 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 “UNEVEN LANES” signs (dual sign installation). Placement shall be as directed by the Engineer and included in the lump sum payment 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 OMUTCD, the Traffic Engineering Manual and the applicable Standard Construction Drawings.

Floodlighting

Floodlighting of the work site for operations conducted during nighttime periods shall be accomplished so that the lights do not cause glare to the drivers on the roadway. To ensure the adequacy of the floodlight placement, the Contractor and the Engineer shall drive through the work site each night when the lighting is in place and operative prior to commencing any work. If glare is detected, the light placement and shielding shall be adjusted to the satisfaction of the Engineer before work proceeds.

Payment for all labor, equipment and materials shall be included in the lump sum contract price for Item 614 – Maintaining Traffic.

Major Work Items

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

- A. Remove existing RPMs
- B. Remove existing NB & SB outside shoulder rumble strips and replace with asphalt
- C. Remove existing pavement markings & place work zone pavement markings
- D. Remove existing median barrier
- E. Place proposed median barrier, lighting, and inlets
- F. Place proposed pavement markings and raised pavement markers
- G. Place rumble strips

Item 614 – Asphalt Concrete for Maintaining Traffic

This item shall be used to fix any potholes that form in the MOT zone during the life of the project. The following estimated quantity has been carried to the General Summary for use as directed by the Engineer:

Item 614 – Asphalt Concrete for Maintaining Traffic ..... **25 CY**

Rumble Strip Removal and Replacement

All existing rumble strips on the westbound outside shoulder that are in conflict with the proposed movement of traffic during the MOT operations shall be removed by pavement planing. The removed rumble strip areas shall be filled with asphalt concrete surface course. The rumble strip removal and replacement area shall be 2.5 feet wide and 1.5 inches deep, centered on the rumble strip. The pavement planing and placement of asphalt concrete surface course should be completed in the same operation. The estimated removal and replacement length is 34,784 Ft.

Immediately following completion of MOT operations and restoring the traffic to its original position, new rumble strips shall be installed at the location where the existing rumble strips were removed.

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

- Item 254 – Pavement Planing, Asphalt Concrete (1.5” depth) ..... **9,666 SY**
- Item 407 – Non-Tracking Tack Coat ..... **870 Gal**
- Item 442 – Asphalt Concrete Surface Course, 12.5 MM, Type A (448), As Per Plan, PG70-22M, 1-1/2” ..... **403 CY**
- Item 618 – Rumble Strips, Shoulder, (Asphalt Concrete) ..... **6.59 Mile**

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Item 614 – Work Zone Pavement Markings

The following estimated quantities have been carried to the General Summary to be used as directed by the Engineer for work zone pavement markings per the requirements of CMS 614.04 and 614.11. Remove all conflicting pavement markings prior to placing work zone markings. Place work zone markings at the locations shown on the maintenance of traffic typical section sheet.

Item 614 – Work Zone Lane Line, Class I, 6”, 642 Paint .....	<b>15.62 Mile</b>
Item 614 – Work Zone Edge Line, Class I, 6”, 642 Paint .....	<b>16.99 Mile</b>
Item 614 – Work Zone Channelizing Line, Class 1, 12”, 642 Paint .....	<b>15,994 Ft</b>
Item 614 – Work Zone Dotted Line, Class 1, 6”, 642 Paint .....	<b>7,661 Ft</b>

Item 614 – Work Zone Raised Pavement Marker

The following estimated quantity has been carried to the General Summary to be used as directed by the Engineer for work zone raised pavement markers per the requirements of SCD MT-99.30.

Item 614 – Work Zone Raised Pavement Marker .....	<b>1,613 Each</b>
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Item 614 – Portable Changeable Message Signs, As Per Plan

The Contractor shall furnish, install, maintain and remove, when no longer needed, a changeable message sign. The sign shall be of a type shown on a list of approved PCMS units available on the Office of Materials Management web page. The list contains Class A and B units with minimum legibility distances of 800 feet and 650 feet, respectively.

Each sign shall be trailer-mounted and equipped with a functional dimming mechanism, to dim the sign during darkness, and a tamper and vandal proof enclosure. Each sign shall be provided with appropriate training and operation instructions to enable on-site personnel to operate and troubleshoot the unit. The sign shall also be capable of being powered by an electrical service drop from a local utility company. The PCMS shall be delineated in accordance with C&MS 614.03.

Placement, operation, maintenance and all activation of the signs by the Contractor shall be as directed by the Engineer. The PCMS 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 shall be turned off. Additionally, when not in use for extended periods of time, the PCMS shall be turned away from all traffic.

The Engineer shall be provided access to each sign unit and shall be provided with appropriate training and operation instructions to enable ODOT personnel to operate and troubleshoot the unit, and to revise sign messages, if necessary.

All messages to be displayed on the sign will be provided by the Engineer. A list of all required pre-programmed messages will be given to the Contractor at the project preconstruction conference. The sign shall have the capability to store up to 99 messages. Message memory or pre-programmed displays shall not be lost as a result of power failures to the on-board computer. The sign legend shall be capable of being changed in the field. Three-line presentation formats with up to six message phases shall be supported. PCMS format shall permit the complete message for each phase to be read at least twice.

The PCMS shall contain an accurate clock and programming logic which will allow the sign to be activated, deactivated or messages changed automatically at different times of the day for different days of the week.

The PCMS unit shall be maintained in good working order by the Contractor in accordance with the provisions of C&MS 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. The entire cost to control traffic, accrued by the Department due to the Contractor’s noncompliance, will be deducted from moneys due, or to become due the Contractor on his contract.

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

The Portable Changeable Message Sign shall have a Web Based Communication System that will allow the Contractor or ODOT to change or program the message board remotely. This system shall be password protected and may be operated from a computer or have an application that can be opened from a cell phone, android or I phone. The Web Based Communication System will show the location of each message board on a map. All charges for the Web Based Communication System will be included in the cost of this item, Portable Changeable Message Sign, As Per Plan.

Payment for the above described item shall be at the contract unit price. Payment shall include all labor, materials, equipment, fuels, lubricating oils, software, hardware and incidentals to perform the above described work.

Item 614 – Portable Changeable Message Sign, As Per Plan .....	<b>12 Sign Month(s)</b>
Assuming 2 PCMS Signs for 6 Months	

Item 614 – Law Enforcement Officer with Patrol Car for Assistance

Use of Law Enforcement Officers (LEOs) by contractors other than the uses specified below will not be permitted at project cost. LEOs should not be used where the OMUTCD intends that flaggers be used.

In addition to the requirements of CMS 614 and the latest edition of the OMUTCD, a uniformed LEO with an official patrol car (car with top-mounted emergency flashing lights and complete markings of the appropriate law enforcement agency) shall be provided for the following traffic control tasks:

- During the entire advance preparation and closure sequence where complete blockage of traffic is required.
- During a traffic signal installation when impacting the normal function of the signal or the flow of traffic 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).

In addition to the requirement of CMS 614 and the OMUTCD, a uniformed LEO with an official patrol car (car with top-mounted emergency flashing lights and complete markings of the appropriate law enforcement agency) may be provided for the following traffic control tasks as approved by the Engineer:

- 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 for long-term lane closures/shifts (for the first and last day of major changes in traffic control setup).

In general, LEOs should be positioned in advance of and on the same side as the lane restriction or at the point of road closure, and to manually control traffic movements through intersections in work zones.

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 with the appropriate agencies 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 LEO shall report in to the Contractor prior to the start of the shift, in order to receive instructions regarding specific work assignments during his/her shift. The LEO is expected to stay at the project site for the entire duration of his/her shift. The LEO shall report to the Contractor at the end of his/her shift. Once the LEO has completed the duties described above and still has time remaining on his/her shift, the LEO may be asked to patrol through the work zone (with flashing lights off) or be placed at a location to deter motorists from speeding. Should it be necessary to leave the project site, the LEO shall 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 his/her shift.

LEOs (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) for Assistance. The following estimated quantities have been carried to the General Summary.

Item 614 – Law Enforcement Officer With Patrol Car for Assistance .....	<b>300 Hours</b>
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The hours paid shall include any 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 an LEO are included with the bid price for Item 614, Law Enforcement Officer with Patrol Car for Assistance.

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Item 614 - Worksite Traffic Supervisor

Subject to approval of the Engineer, the Contractor shall employ and identify (someone other than the superintendent) a prequalified Worksite Traffic Supervisor (WTS) before starting work in the field. The WTS shall be trained in accordance with CMS 614.03, shall have successfully completed ODOT administered WTS testing (and re-testing when applicable) and be listed on the ODOT prequalified WTS roster. Prequalification expires every 5 years. Re-testing shall be successfully repeated every 5 years to remain prequalified.

The name of the prequalified WTS and related 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 (secondary) WTS to be available when the primary is off duty; however the primary WTS shall remain the point of contact at all times. Any alternate (secondary) WTS is subject to the same training, prequalification and other requirements outlined within this plan note. At all times the Engineer, or Engineer's representatives, must be informed of who the primary WTS (and secondary WTS, if applicable) is at the current time.

The WTS position has the primary responsibility of implementing the Traffic Management Plan (TMP), monitoring the safety and mobility of the entire work zone, and correcting Temporary Traffic Control (TTC) deficiencies for the entire work zone. The WTS, and alternate WTS when on duty, shall have sufficient authority to effectively carry out the identified WTS responsibilities and duties. The duties of the WTS are as follows:

1. Be available on a 24-hour per day basis.
2. Be on site for all emergency TTC needs within one hour of notification by police or project staff, and effect corrective measures immediately on existing work zone TTC devices.
3. Attend preconstruction meeting and all project meetings where TTC management is discussed.
4. Be available on site for other meetings or discussions with the Engineer upon request.
5. Be aware of all existing and proposed TTC operations of the contractor, subcontractors and suppliers, and ensure coordination occurs between them to eliminate conflicting temporary and/or permanent traffic control.
6. Coordinate project activities with all Law Enforcement Officers (LEOs). The WTS shall also be the main contact person with the LEOs while LEOs are on the project.
7. Coordinate and facilitate meetings with ODOT personnel, LEOs and other applicable entities before each plan phase switch to discuss the work zone TTC for implementing the phase switch. Submit a written detail of MOT operations and schedule of events to implement the switch between phase plans to the Engineer 5 calendar days prior to this meeting.
8. Be present, on site for, and involved with, each TTC set up/take down and each phase change in accordance with CMS 614.03.
9. On a continual basis ensure that the TTC zone and all related devices are installed, maintained and removed in compliance with the contract documents.
10. On a continual basis facilitate corrective action(s) necessary to bring deficient TTC zones and all related devices into compliance with contract documents in the timeframe determined by the Engineer.

11. Inspect, evaluate, propose necessary modifications to, and document the effectiveness of, the TTC devices and traffic operations on a DAILY BASIS (7 days a week). In addition, perform one 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 TTC setup (day and night review).
  - b. Daily TTC setup and removal.
  - c. When construction staging causes a change in the TTC setup.
  - d. Crash occurrences within the construction area and within the influence area(s) approaching the work zone.
  - e. Removal of TTC devices at the end of a phase or project.
  - f. All other emergency TTC needs.
12. Complete the Department approved Long Term Inspection form (CA-D-8) after each inspection as required in # 11 and submit it to the Engineer the following workday. These reports shall include a checklist of all TTC 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 or completed corrective actions and the dates by which such corrections were, or will be, completed. A copy of the current CA-D-8 document can be found on the Office of Construction Administration's Inspection Forms website.
13. Have copies of the ODOT Temporary Traffic Control Manual and contract documents available at all times on the project.

The Department will deduct:

- A. The prorated daily amount of Item 614 Maintaining Traffic for any day in which the WTS fails to perform the duties set forth above. The prorated daily amount will be equal to the original bid amount for Item 614 Maintaining Traffic divided by the difference between the original completion date and the first day of work, in calendar days.
- B. 1% of the original bid amount for Item 614 Maintaining Traffic for any day that a TTC issue is identified in the field and is not corrected in the given timeframe per the Engineer. Deduction B shall not apply to situations covered by Deduction C.
- C. 1% of the original bid amount for Item 614 Maintaining Traffic for any day that a lane or ramp is blocked (fully or partially) without TTC, as determined by the Engineer. This deduction shall be in addition to any other disincentives established for unauthorized lane use.

For days in which more than one deduction listed above occur, the highest deduction amount will apply.

If three or more total days result in TTC issues described in Deduction B or C above, the primary WTS shall be immediately removed from the work in accordance with C&MS 108.05. Upon removal the Engineer shall notify ODOT Central Office (WTSPrequalification@dot.ohio.gov) to register a removal against the statewide prequalification for the primary WTS. Three removals shall cause statewide disqualification for any previously prequalified WTS.

Payment for the above requirements, responsibilities and duties shall be included in the lump sum price bid for Item 614, Maintaining Traffic.

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 current year CMS.

Payment for this item shall include, but not be limited to, the cost to furnish and erect the sign, including driving posts or other approved methods of sign 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 detailed in the Standard Construction Drawings and the OMUTCD.

The following estimated quantity has been carried to the General Summary to be used as directed by the Engineer:

Item 630 – Signing Misc.: Additional Signs, Ground Mounted, As Directed by the Engineer ..... **300 Sq Ft**

Covering of Ground-Mounted Signs--General

When required by other items or incidentally to Item 614 – Maintaining Traffic, cover existing ground-mounted signs with plywood or OSB blanks (1/2" minimum thickness) covering 80% of the sign area and all of the sign legend. The use of low quality materials such as duct tape and black plastic is not permitted.

DESIGN AGENCY



DESIGNER

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REVIEWER

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Item 614 Maintaining Traffic – Work Zone Speed Zone Signs for Freeway Resurfacings

The following Work Zone Speed Zone (WZSZ) Speed Limit Revision(s) have been approved for use on this project when work zone conditions and factors are met as described below:

WZSZ Revision Number	County & Route	Direction
WZ-65239	Cuyahoga IR-71	NB & SB

Potential WZSZ locations shall have an original (pre-construction) posted speed limit of 55 mph or greater, a qualifying work zone condition of at least 0.5 mile in length, an expected work duration of at least three hours, and a work zone condition in place that reduces the existing functionality of the travel lanes or shoulders (i.e., lane closure, lane shift, crossover, contraflow and/or shoulder closure). The length of the work zone condition is measured from the beginning of the taper for the subject work zone condition impacting the travel lanes and/or shoulder to the end of the downstream taper, where drivers are returned to typical alignment. An expected work duration of at least three hours is required to balance the additional exposure created by installing and removing WZSZ signing with the time needed to complete the work.

If the work zone meets these minimum criteria, it shall be analyzed further using Table 1 below to determine if and when it qualifies for a speed limit reduction. Depending on the original posted speed limit, the type of temporary traffic control used, and whether or not workers are present, a warranted WZSZ will vary in the approved speed limit to be posted over time.

C&MS Item 614, Paragraph 614.02(B), indicates that 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, a speed limit reduction in the direction of the work does not automatically constitute a speed limit reduction in the opposite direction. Each direction shall be analyzed independently from each other.

All WZSZs fluctuate between two approved reduced speed limits or between an approved reduced speed limit and the original posted speed limit. Only one of two signing strategies shall be used to implement a WZSZ. WZSZs using DSL Sign Assemblies shall be in accordance with this note, Approved List, Supplemental Specifications (SS) 808 and 908, and Traffic SCD MT-104.10.

Only one warranted speed limit applies at any one time; speed limit reductions are not cumulative. WZSZs shall not be used for Moving/Mobile activities, as defined in OMUTCD Part 6.

When looking up the warranted work zone speed limits, always use the original, preconstruction, posted speed limit. Do not use a prior or current work zone speed limit as a look up value in the table. Positive Protection is generally regarded as portable barrier or other rigid barrier in use along the work area within the subject warranted work zone condition. Without Positive Protection is generally regarded as using drums, cones, shadow vehicle, etc., along the work area within the subject warranted work zone condition. Workers are considered as being present when on-site, working within the subject warranted work zone condition. When the work zone condition reducing the existing functionality of the travel lanes or shoulders is removed, the speed limit displayed shall return to the original posted speed limit.

Table 1: Warranted Work Zone Speed Limits (MPH) for Work Zones on High-Speed (55 mph or greater) Multi-Lane Highways

Original Posted Speed Limit	WITH Positive Protection		WITHOUT Positive Protection	
	Workers Present	Workers NOT Present	Workers Present	Workers NOT Present
70	60	65	55	65
65	55	60	50	60
60	55	60	50	60
55	50	55	45	55

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

Item 808, Digital Speed Limit (DSL) Sign Assembly ..... **108 Sign Mnth**  
Assuming 18 DSL Sign Assemblies for 6 Months

Item 614 Work Zone Increased Penalties Sign

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.

The 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 consecutive calendar days, such as during winter shut-downs.

The signs on the mainline shall be dual mounted unless not physically possible. 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 through the construction work limits. Signs on the mainline shall be R11-H5a-48. Signs used on the ramps shall be R11-H5a-24. R11-H5a-24 signs may be used in the median in lieu of R11-H5a-48 signs if it is not physically possible to provide R11-H5a-48 signs in the median.

The R11-H5a-48 signs shall be mounted on 2 No. 3 posts when located within clear zones.

The Contractor may use signs and supports in used, but good, condition provided the signs meet current ODOT specifications. Sign faces shall be retroreflectorized with Type G sheeting complying with the requirements of C&MS 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 reerected 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..... **20 Each**

Item 614, Work Zone Impact Attenuator, 24” Wide Hazards, (Unidirectional)

This item shall consist of furnishing and installing a non-gating impact attenuator. Furnish an impact attenuator from the Office of Roadway Engineering's approved list for Work Zone Impact Attenuators, from the Roadway Standard's web page for Roadway Standards Approved Products.

Installation shall be at the locations specified in the plans in accordance with the manufacturer's specifications.

The Contractor shall repair or replace a damaged unit within 24 hours of a damaging impact.

When bidirectional designs are specified, the Contractor shall supply appropriate transitions.

When gating impact attenuators are desired, the Contractor shall submit documentation to the Engineer for acceptance.

The cost for the additional barrier required for a gating impact attenuator shall be included in the cost of the gating impact attenuator.

Payment for the above work shall be made at the unit price bid and shall include all labor, tools, equipment and materials necessary to construct and maintain a complete and functional impact attenuator system, including all related backups, transitions, leveling pads, hardware and grading, not separately specified, as required by the manufacturer. The following estimated quantity has been carried to the General Summary:

Item 614 – Work Zone Impact Attenuator,  
24” Wide Hazards, (Unidirectional) ..... **10 Each**

Item 622 – Portable Barrier, Unanchored

This item of work shall be used when placing proposed concrete barrier in the median at the locations specified in the plans. The following estimated quantity has been carried to the General Summary:

Item 622 – Portable Barrier, Unanchored ..... **47,650 Feet**

Delineation of Portable and Permanent Barrier

Barrier Reflectors and Object Markers shall be installed on all Portable Barrier (PB) used for traffic control and on permanent concrete barrier (including bridge parapets) located within 5 feet of the edge of the adjacent travel lane.

Barrier Reflectors shall conform to C&MS 626, except that the spacing shall be as per Traffic SCD MT-101.70. Object Markers and their installation shall conform to C&MS 614.03 and SCD MT-101.70. When the PB contains glare screen, one set of three vertical stripes of sheeting shall be considered equivalent to an object marker, one-way.

The following estimated quantities have been included in the plans and carried to the General Summary:

Item 614 – Barrier Reflector, Type 1, One Way..... **957 Each**  
Item 614 – Object Marker, One Way..... **953 Each**

Construction Access Points

To be able to access the work area, the Contractor will be permitted to set up two construction access points in each direction. Four additional work zone impact attenuators have been provided in the General Summary for this purpose. The quantity of portable barrier has been calculated for the entire length of the project, in both directions. The Contractor shall receive no additional payment for portable barrier or impact attenuators when moving the construction access points to complete the construction of the proposed median barrier. The Contractor shall submit proposed locations for the construction access points to the Engineer for approval prior to setting up the work zone.

DESIGN AGENCY



DESIGNER

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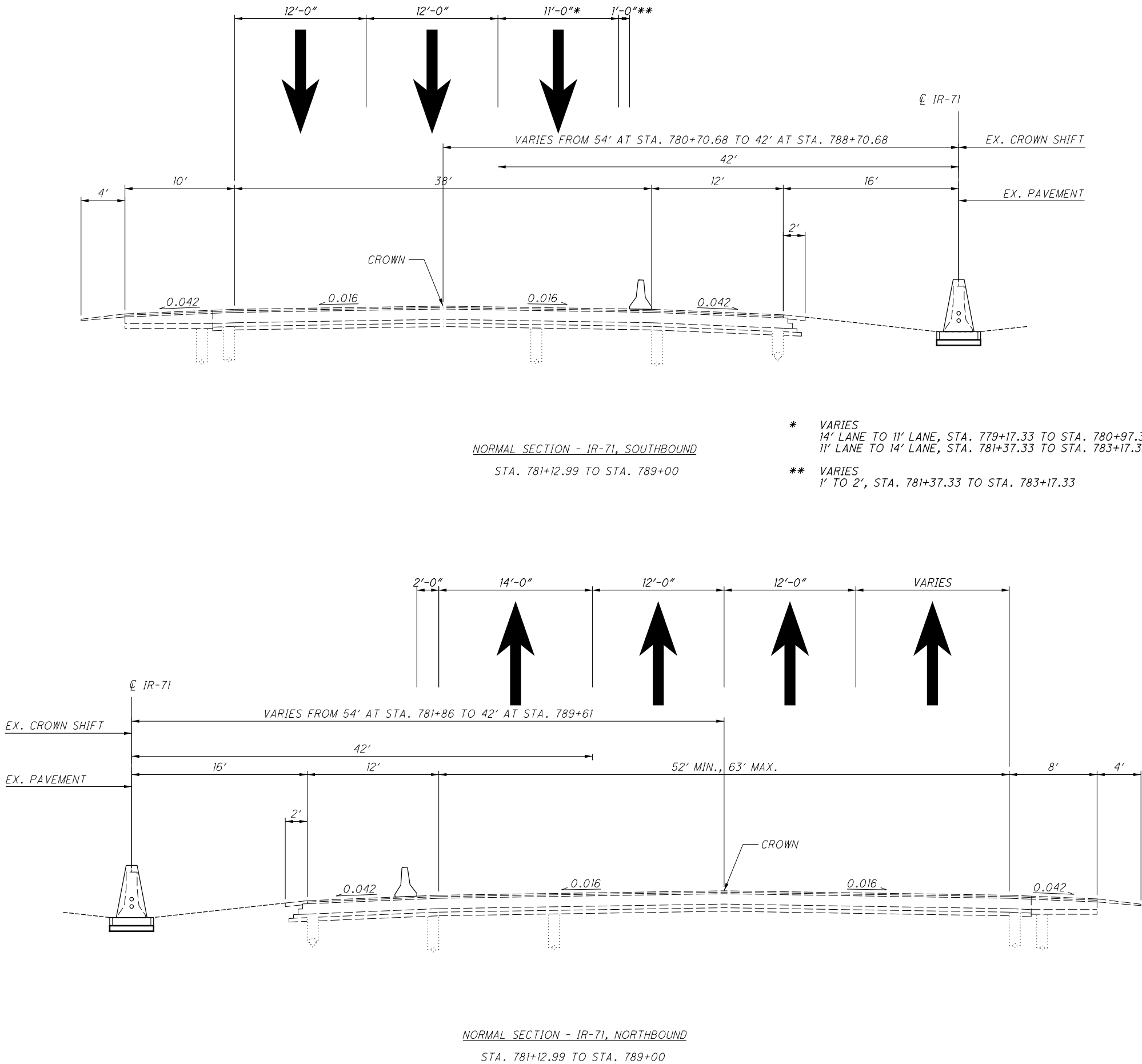
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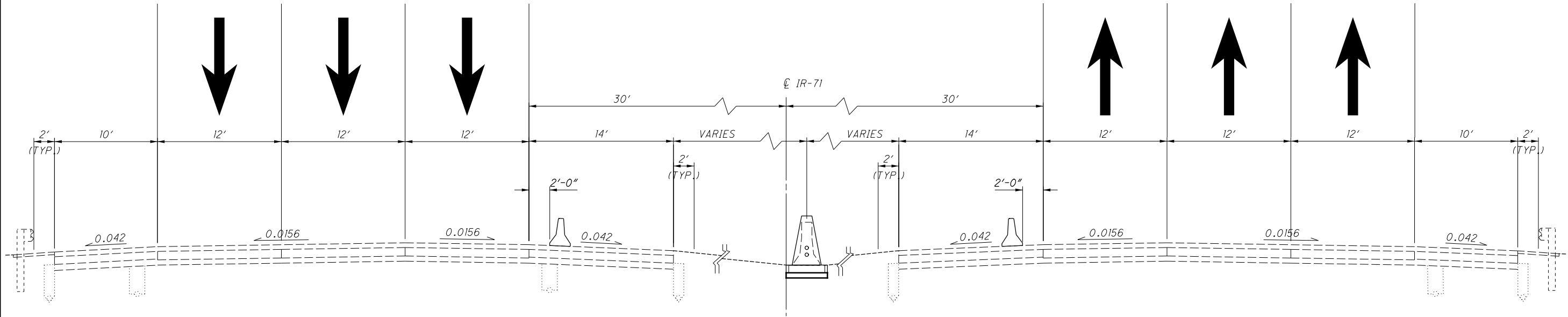
TOTAL

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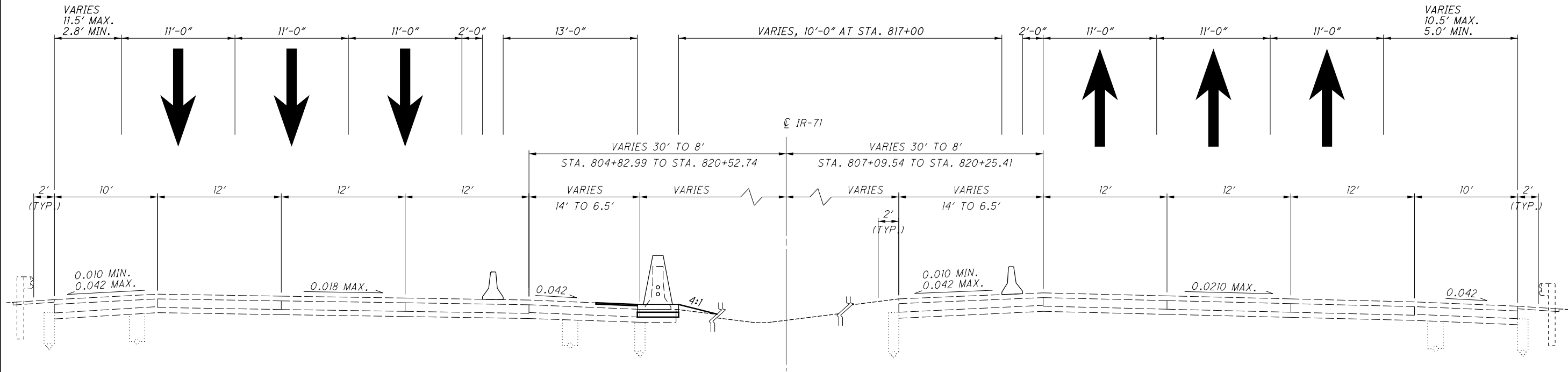




NORMAL SECTION - IR-71

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STA. 792+33.50 TO STA. 794+50.62, SB (BRIDGE CUY-71-0579)  
STA. 794+50.62 TO STA. 801+82.99, SB

STA. 789+00.00 TO STA. 792+33.50, NB  
STA. 792+33.50 TO STA. 794+50.62, NB (BRIDGE CUY-71-0579)  
STA. 794+50.62 TO STA. 804+50.88, NB  
STA. 804+50.88 TO STA. 806+47.80, NB (BRIDGE CUY-71-0602)  
STA. 806+47.80 TO STA. 807+50.00, NB

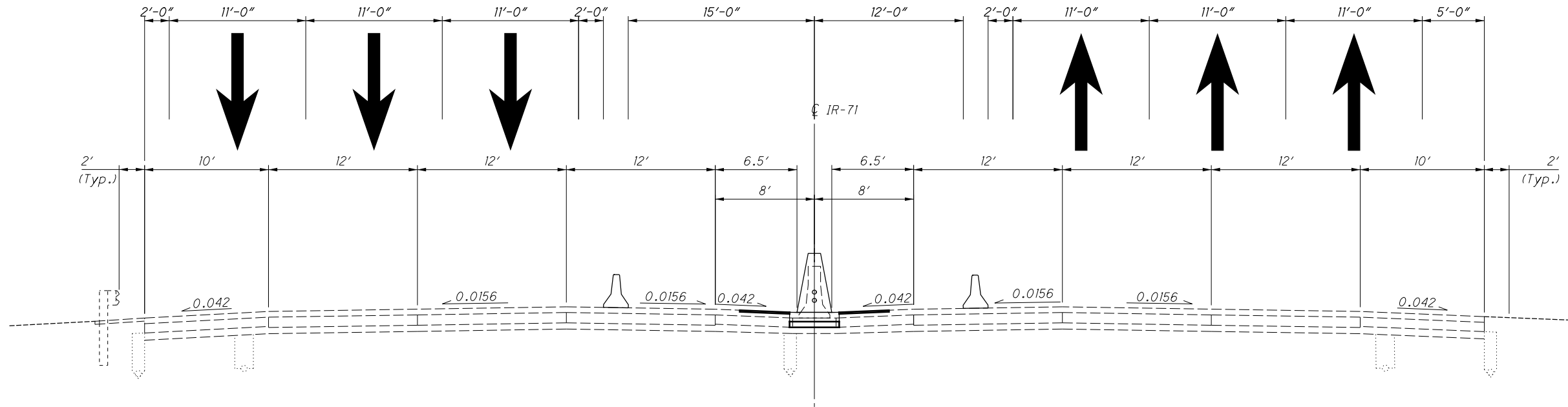


SUPERELEVATED SECTION - IR-71

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STA. 804+50.88 TO STA. 806+47.80, SB (BRIDGE CUY-71-0602)  
STA. 806+47.80 TO STA. 822+70.04, SB  
STA. 822+70.04 TO STA. 825+73.99, SB (BRIDGE CUY-71-0637)  
STA. 825+73.99 TO STA. 839+18.57, SB  
STA. 839+18.57 TO STA. 841+20.59, SB (BRIDGE CUY-71-0668)  
(END SUPERELEVATION AT STA. 839+85.00, SB)

STA. 807+50.00 TO STA. 822+70.04, NB  
STA. 822+70.04 TO STA. 825+73.99, NB (BRIDGE CUY-71-0637)  
STA. 825+73.99 TO STA. 838+35.00, NB

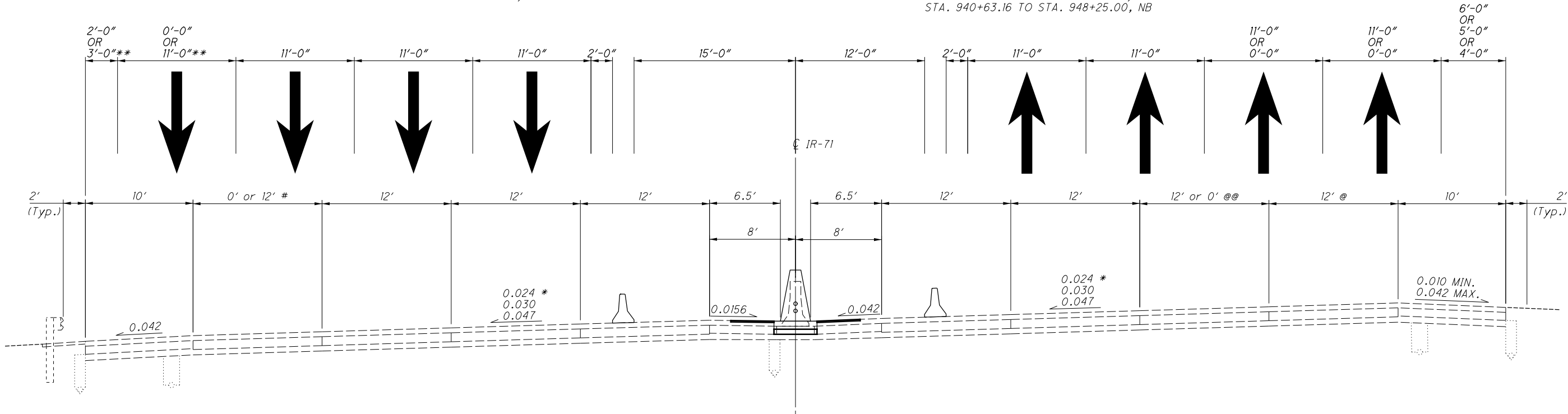




NORMAL SECTION - IR-71

STA. 839+85.00 TO STA. 841+20.59, SB (BRIDGE CUY-71-0668)  
STA. 841+20.59 TO STA. 913+00.00, SB  
STA. 937+79.00 TO STA. 938+88.24, SB  
STA. 938+88.24 TO STA. 940+63.16, SB (BRIDGE CUY-71-0856)  
STA. 940+63.16 TO STA. 946+75.00, SB

STA. 838+35.00 TO STA. 839+18.57, NB  
STA. 839+18.57 TO STA. 841+20.59, NB (BRIDGE CUY-71-0668)  
STA. 841+20.59 TO STA. 912+25.00, NB  
STA. 938+54.00 TO STA. 938+88.24, NB  
STA. 938+88.24 TO STA. 940+63.16, NB (BRIDGE CUY-71-0856)  
STA. 940+63.16 TO STA. 948+25.00, NB



SUPERELEVATED SECTION - IR-71

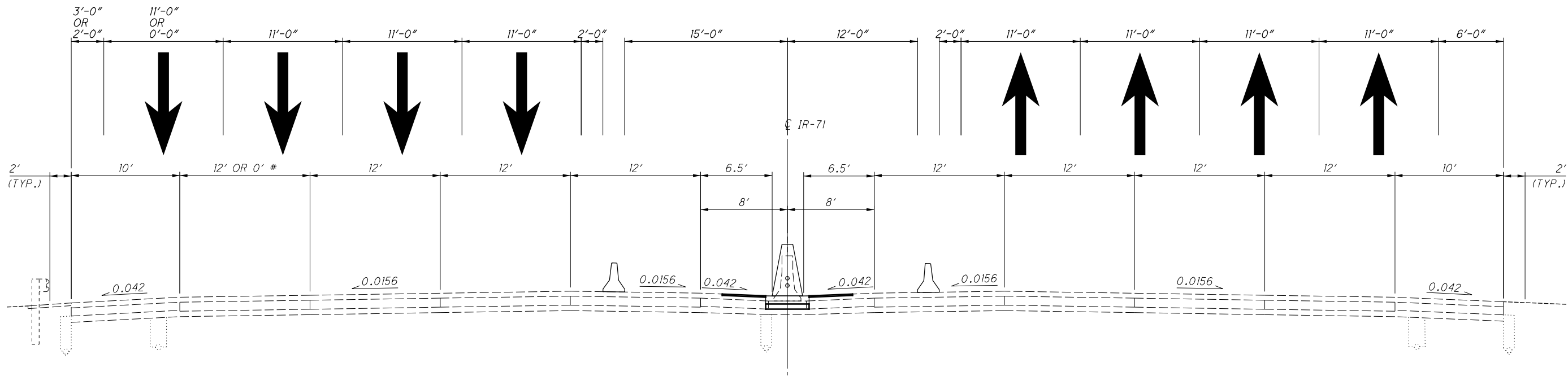
\*\* 10' LANE WIDTH, 2' SHOULDER WIDTH  
STA. 951+85.08 TO STA. 965+71.56  
11' LANE WIDTH, 1' SHOULDER WIDTH  
STA. 967+58.33 TO STA. 970+32.17

STA. 913+00.00 TO STA. 927+46.56, SB  
\* STA. 927+46.56 TO STA. 929+50.73, SB (BRIDGE CUY-71-0835)  
\* STA. 929+50.73 TO STA. 937+79.00, SB  
\* STA. 946+75.00 TO STA. 953+52.57, SB  
\* STA. 953+52.57 TO STA. 955+74.82, SB (BRIDGE CUY-71-0884)  
\* STA. 955+74.82 TO STA. 968+23.65, SB  
STA. 968+23.65 TO STA. 970+84.51, SB (BRIDGE CUY-71-0913)  
STA. 970+84.51 TO STA. 973+25.00, SB  
STA. 1002+54.35 TO STA. 1010+82.68, SB

\* - CURVE RIGHT  
# - 12' FROM STA. 951+75.00 TO STA. 973+25.00  
@ - 12' FROM STA. 964+40.00 TO STA. 970+75.00  
@@ - 0' FROM STA. 1004+00.00 TO STA. 1010+84.49

STA. 912+25.00 TO STA. 927+46.56, NB  
STA. 927+46.56 TO STA. 929+50.73, NB (BRIDGE CUY-71-0835)  
STA. 929+50.73 TO STA. 938+54.00, NB  
\* STA. 948+25.00 TO STA. 953+52.57, NB  
\* STA. 953+52.57 TO STA. 955+74.82, NB (BRIDGE CUY-71-0884)  
\* STA. 955+74.82 TO STA. 968+23.65, NB  
\* STA. 968+23.65 TO STA. 970+84.51, NB (BRIDGE CUY-71-0913)  
END SUPERELEVATION AT STA. 970+75.00, NB  
STA. 1002+54.35 to Sta. 1010+82.68, NB



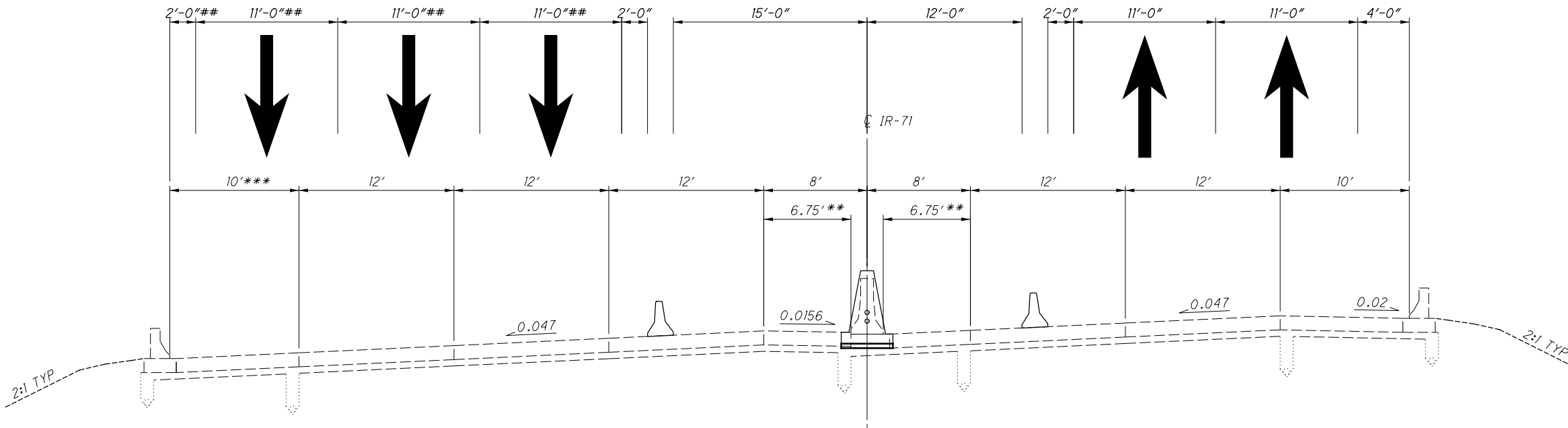


NORMAL SECTION - IR-71

STA. 973+25.00 TO STA. 973+92.34, SB  
STA. 973+92.34 TO STA. 975+95.34, SB (BRIDGE CUY-71-0923)  
STA. 975+95.34 TO STA. 1002+54.35, SB

STA. 970+84.51 TO STA. 973+92.34, NB  
STA. 973+92.34 TO STA. 975+95.34, NB (BRIDGE CUY-71-0923)  
STA. 975+95.34 TO STA. 1002+54.35, NB

# - 0'-0" FROM STA. 996+53.00 TO STA. 1002+54.35



SUPERELEVATED SECTION - IR-71

## VARIES FROM 11' LANES AND 2' SHOULDER TO 10' LANES AND 1' SHOULDER FROM STA. 1010+01.10 TO STA. 1011+81.10  
VARIES FROM 10' LANES AND 1' SHOULDER TO 11' LANES AND 2' SHOULDER FROM STA. 1014+60.42 TO STA. 1016+40.42

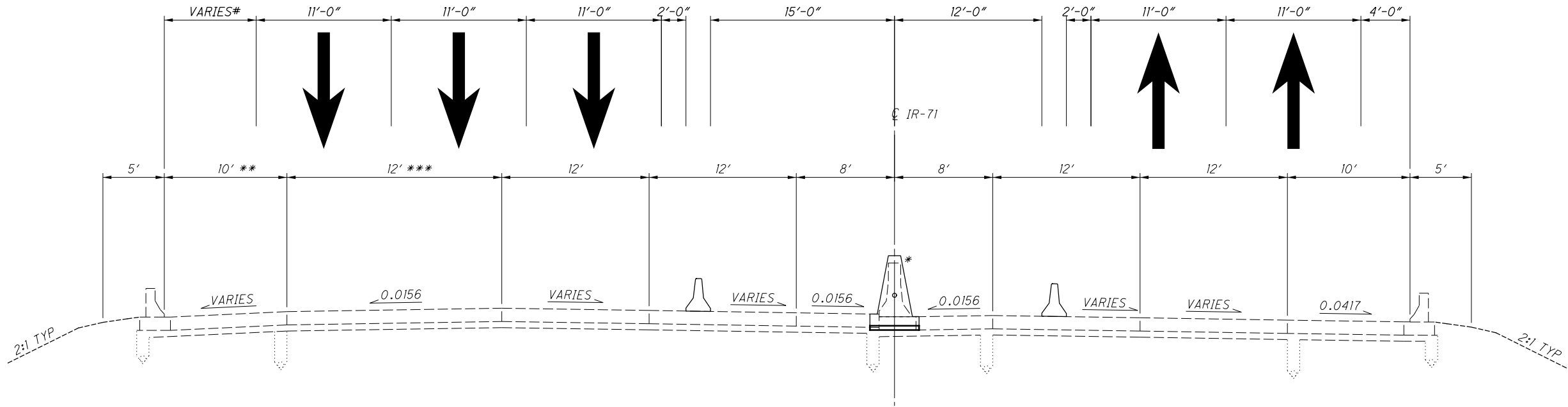
STA. 1010+82.68 TO STA. 1011+89.44  
STA. 1011+89.44 TO STA. 1014+19.15 (BRIDGE CUY-71-0996)  
STA. 1014+19.15 TO STA. 1019+30.23  
STA. 1019+30.23 TO STA. 1022+37.95 (BRIDGE CUY-71-1011)

\* BEGIN TYPE C BARRIER AT STA. 1014+19.15

\*\* VARIES 6.75' TO 3.75' FROM STA. 1011+80 TO STA. 1012+42.53  
VARIES 3.75' TO 6.75' FROM STA. 1013+61.53 TO STA. 1014+30

\*\*\* VARIES 10' TO 6' FROM STA. 1010+82.68 TO STA. 1011+81.10  
VARIES 6' TO 10' FROM STA. 1014+43.57 TO STA. 1016+40.42





- # VARIES 2' TO 6.11' FROM STA. 1023+39.85 TO STA. 611+24.41
- \* SWITCH TO TYPE B BARRIER AT STA. 1023+39.00
- \*\* VARIES FROM 10' TO 8' FROM STA. 1022+59.85 TO STA. 1023+39.85  
VARIES FROM 8' TO 7.28' FROM STA. 609+99.69 TO STA. 610+69.88
- \*\*\* VARIES FROM 12' TO 17.5' FROM STA. 1022+59.85 TO STA. 610+69.88 SB

SUPERELEVATION TRANSITION SECTION - IR-71  
STA. 1022+37.95 TO STA. 1023+50.00  
STA. 1023+50.00 BK = STA. 611+08.04 AH  
STA. 611+08.04 TO STA. 611+37.61

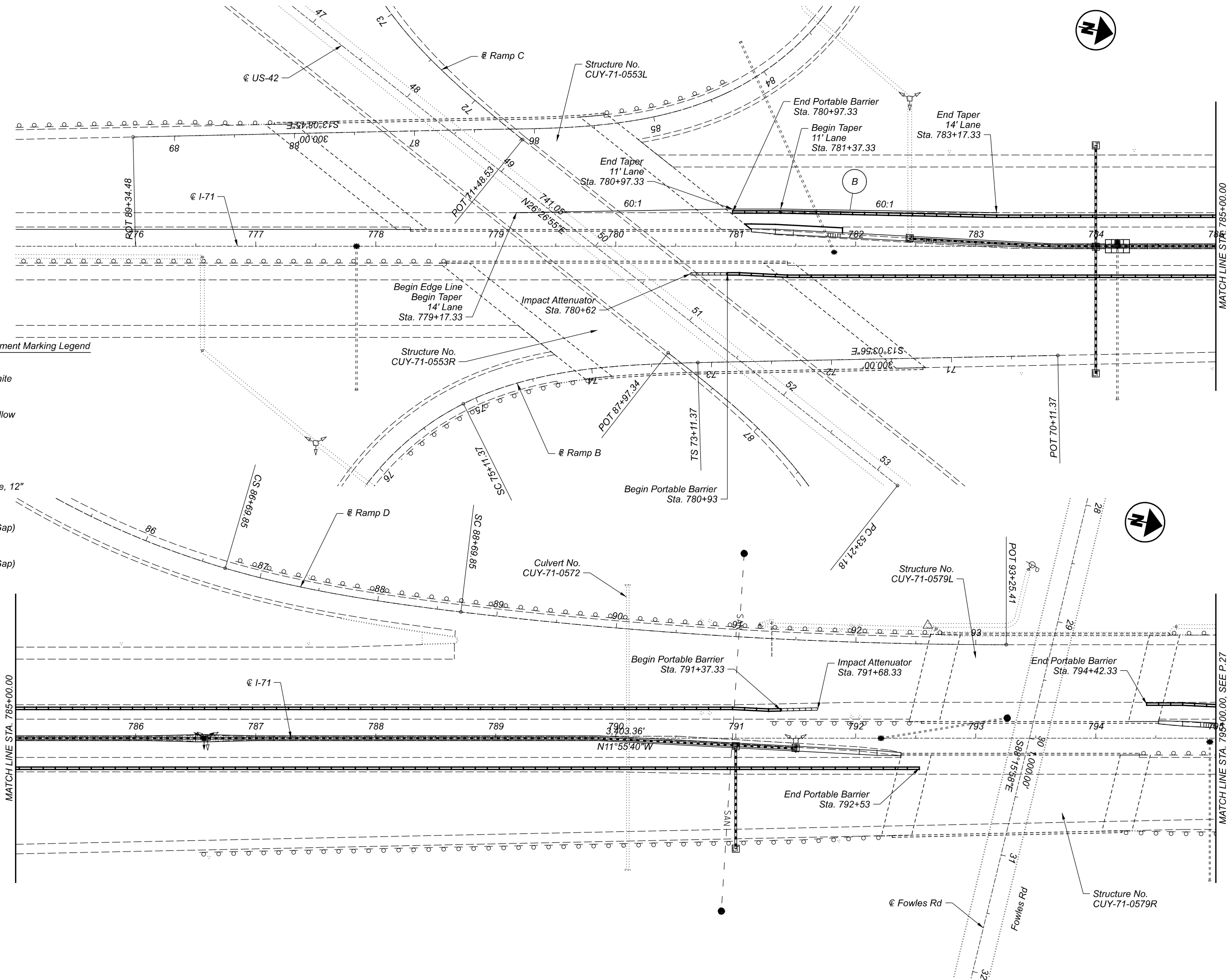
SB  
STA. 609+99.69 TO STA. 610+69.88

NB  
STA. 611+37.61 TO STA. 612+07.80

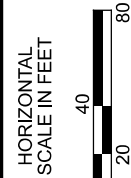




- Temporary Pavement Marking Legend**
- A Edge Line, 6" White
  - B Edge Line, 6" Yellow
  - C Lane Line
  - D Channelizing Line, 12"
  - E Dotted Line, 6" (3' Segment, 9' Gap)
  - F Dotted Line, 12" (3' Segment, 9' Gap)



MAINTENANCE OF TRAFFIC PLAN SHEET  
I.R. 71, STA. 775+00 TO STA. 795+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

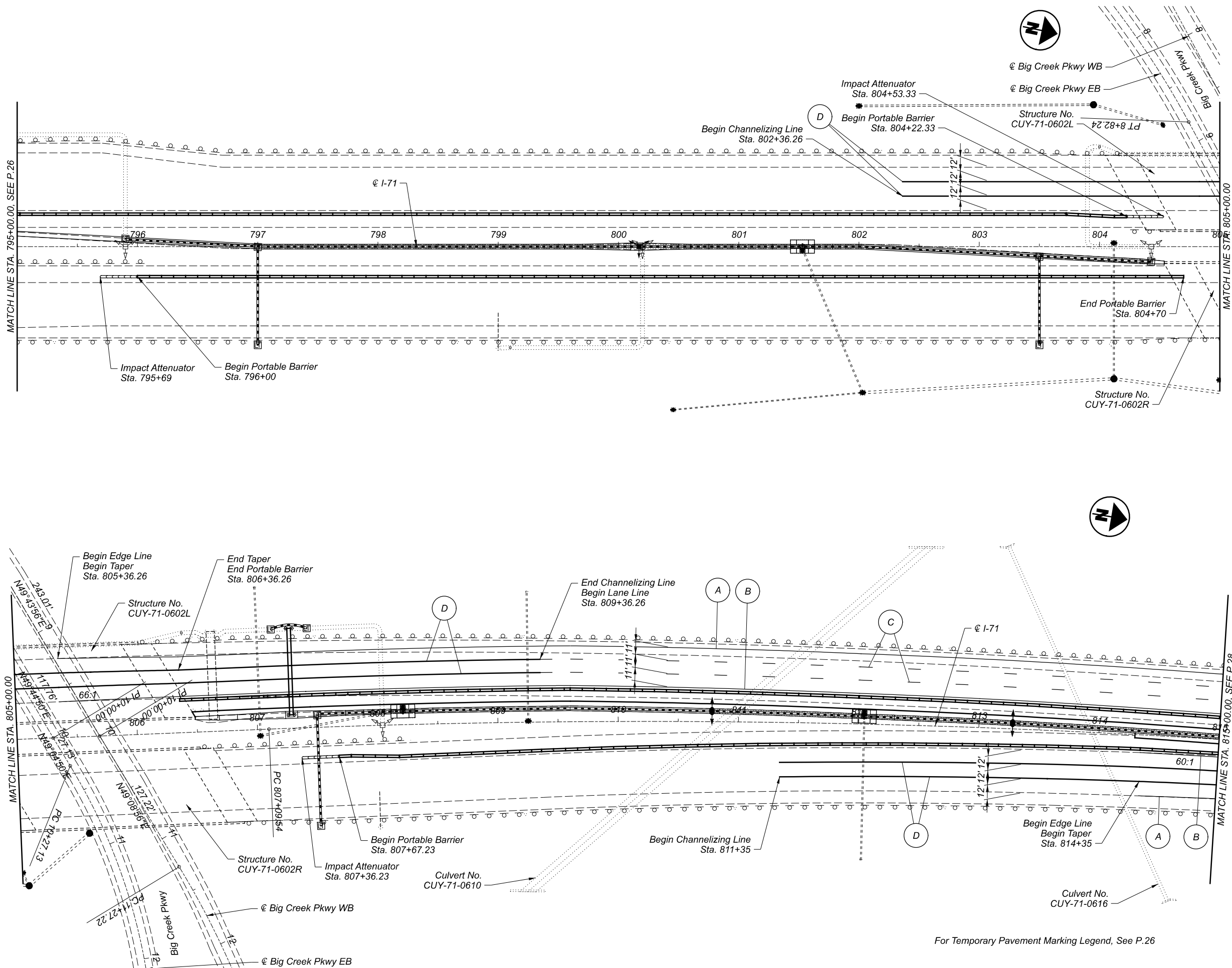
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TOTAL

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For Temporary Pavement Marking Legend, See P.26

MAINTENANCE OF TRAFFIC PLAN SHEET  
I.R. 71, STA. 795+00 TO STA. 815+00



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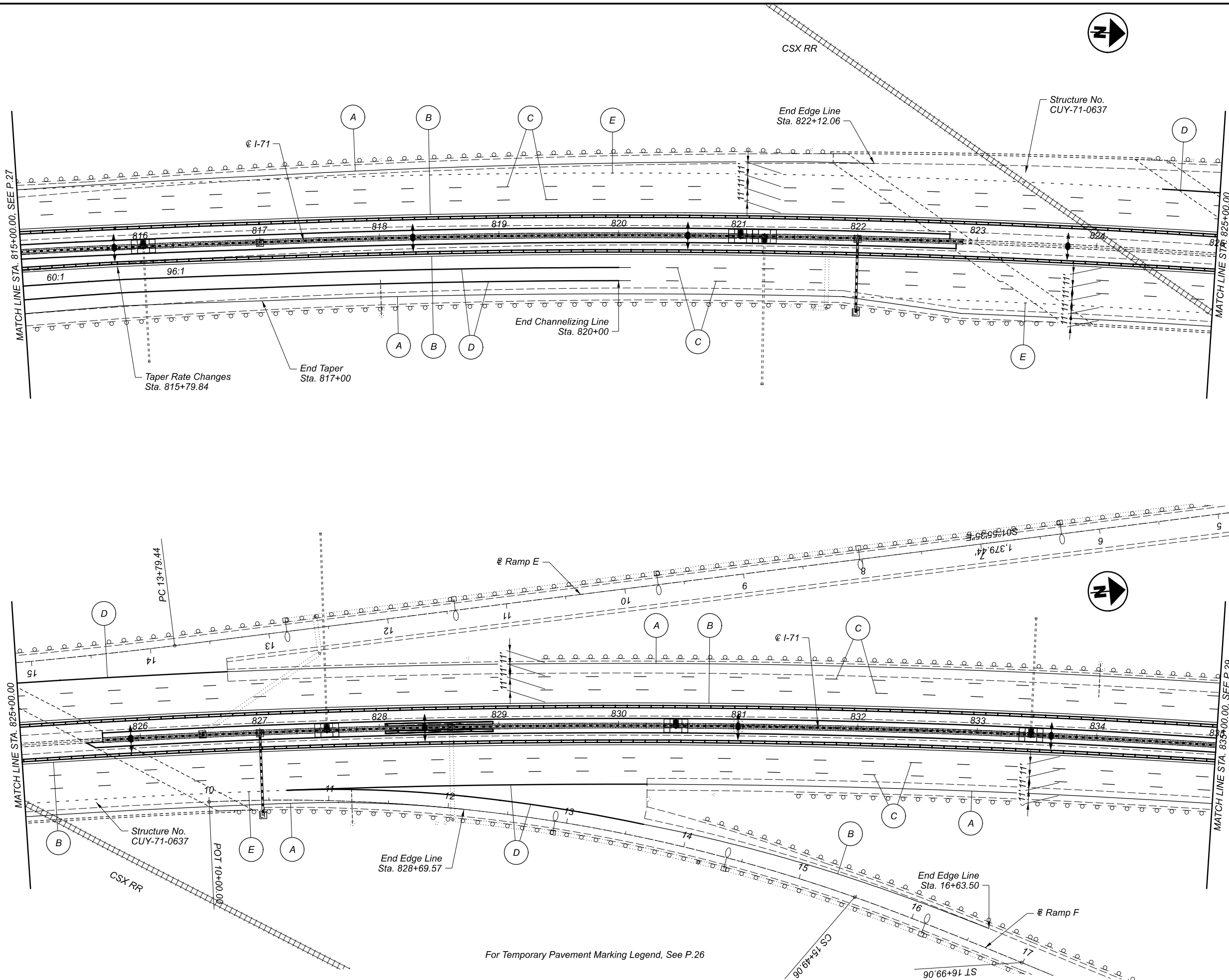
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For Temporary Pavement Marking Legend, See P.26

MAINTENANCE OF TRAFFIC PLAN SHEET  
I.R. 71, STA. 815+00 TO STA. 835+00



DESIGN AGENCY



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PROJECT ID

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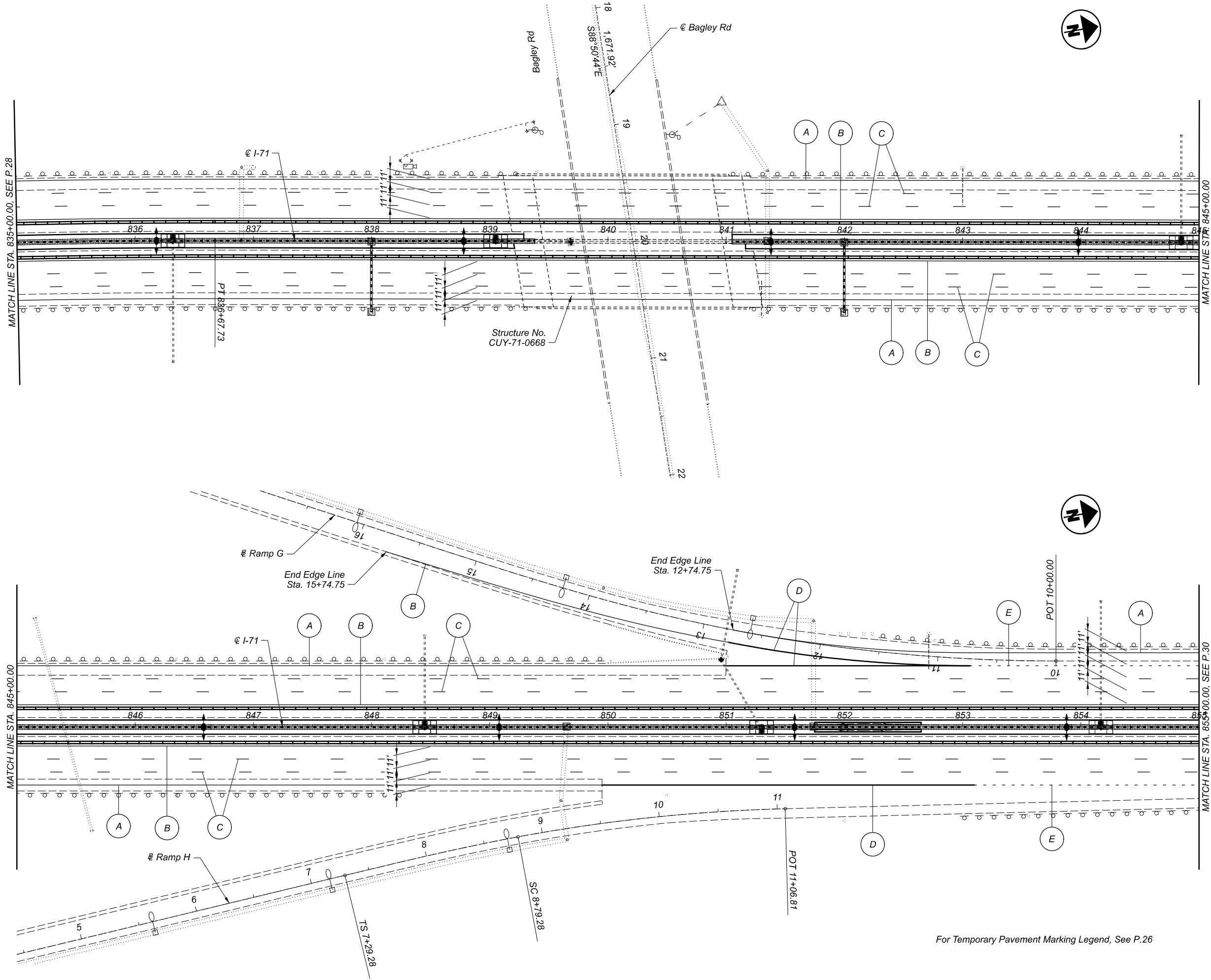
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For Temporary Pavement Marking Legend, See P.26

MAINTENANCE OF TRAFFIC PLAN SHEET  
I.R. 71, STA. 835+00 TO STA. 855+00

DESIGN AGENCY



DESIGNER

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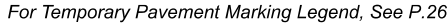
152

HORIZONTAL  
SCALE IN FEET





CUY-71-5.71 BARRIER



**HORIZONTAL  
SCALE IN FEET**

A horizontal scale bar with a black background and white markings. The scale is marked at 0, 20, 40, and 80 feet. The bar is divided into four equal segments of 20 feet each.


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CUY-71-5.71 BARRIER



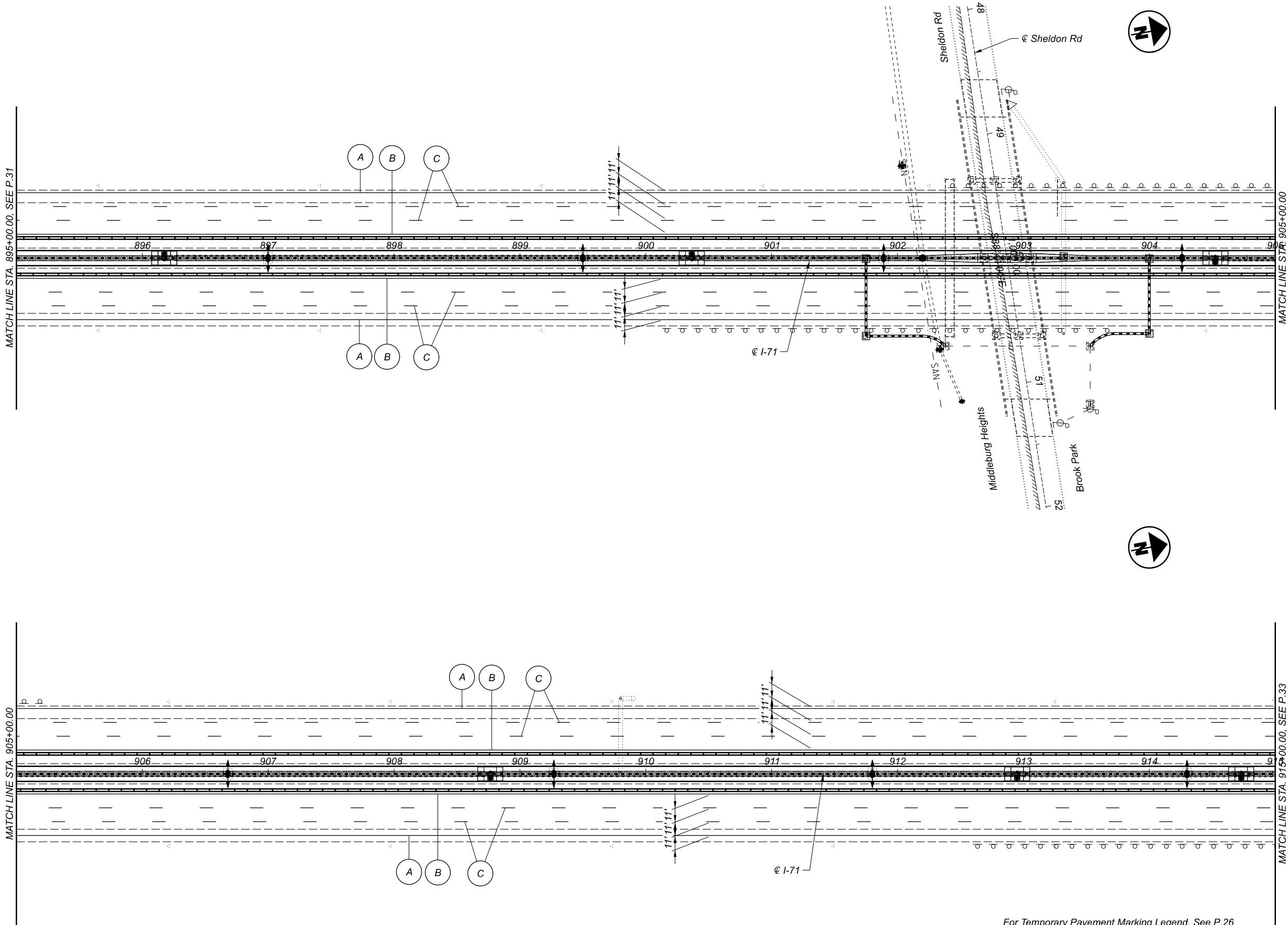
**HORIZONTAL  
SCALE IN FEET**



A horizontal scale bar with alternating black and white segments. The segments are labeled 0, 20, 40, and 80, indicating the scale is in feet.

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MAINTENANCE OF TRAFFIC PLAN SHEET  
I.R. 71, STA. 895+00 TO STA. 915+00



DESIGN AGENCY



DESIGNER

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REVIEWER

EMK 10/15/21

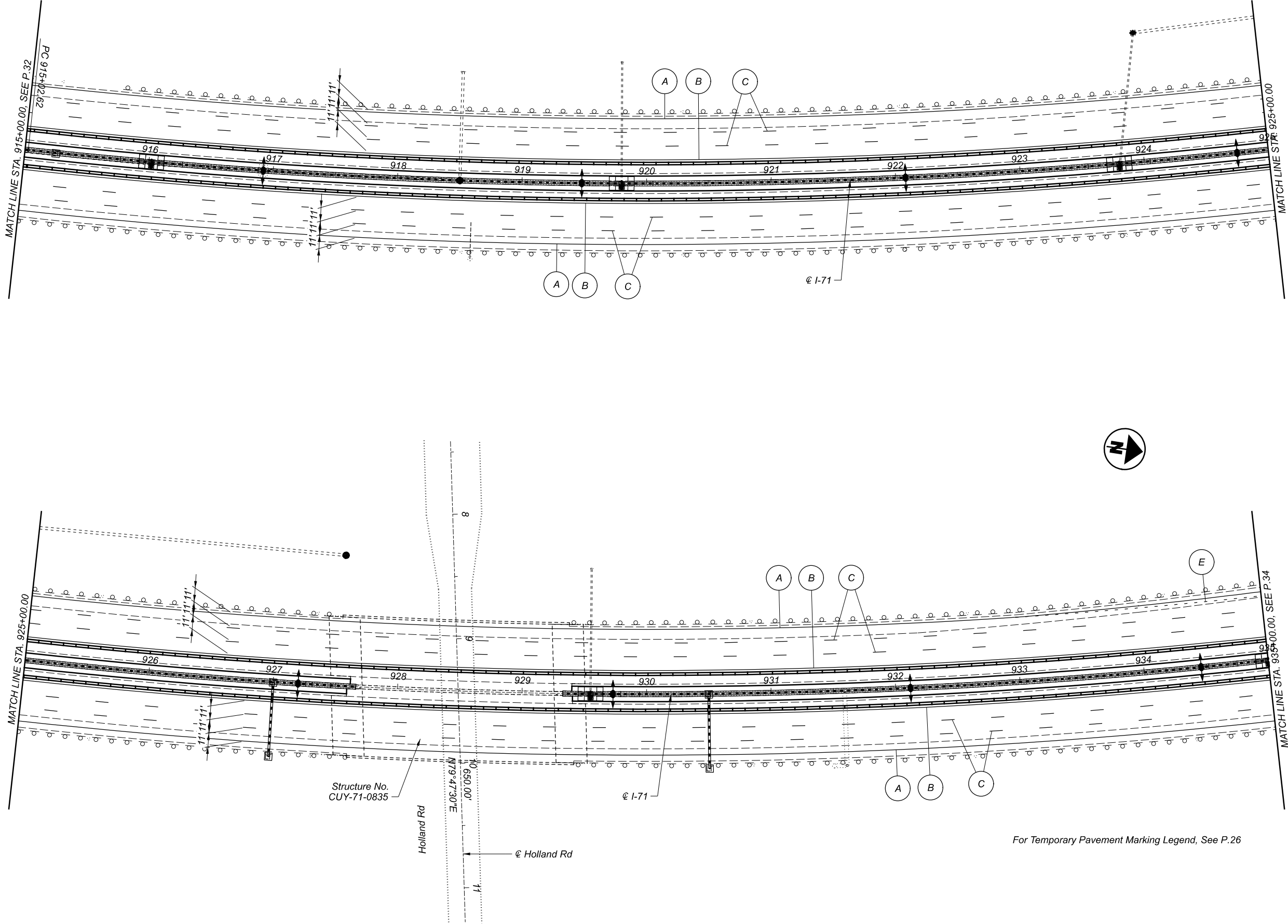
PROJECT ID

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SHEET TOTAL

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For Temporary Pavement Marking Legend, See P.26

MAINTENANCE OF TRAFFIC PLAN SHEET  
I.R. 71, STA. 915+00 TO STA. 935+00

DESIGN AGENCY



DESIGNER

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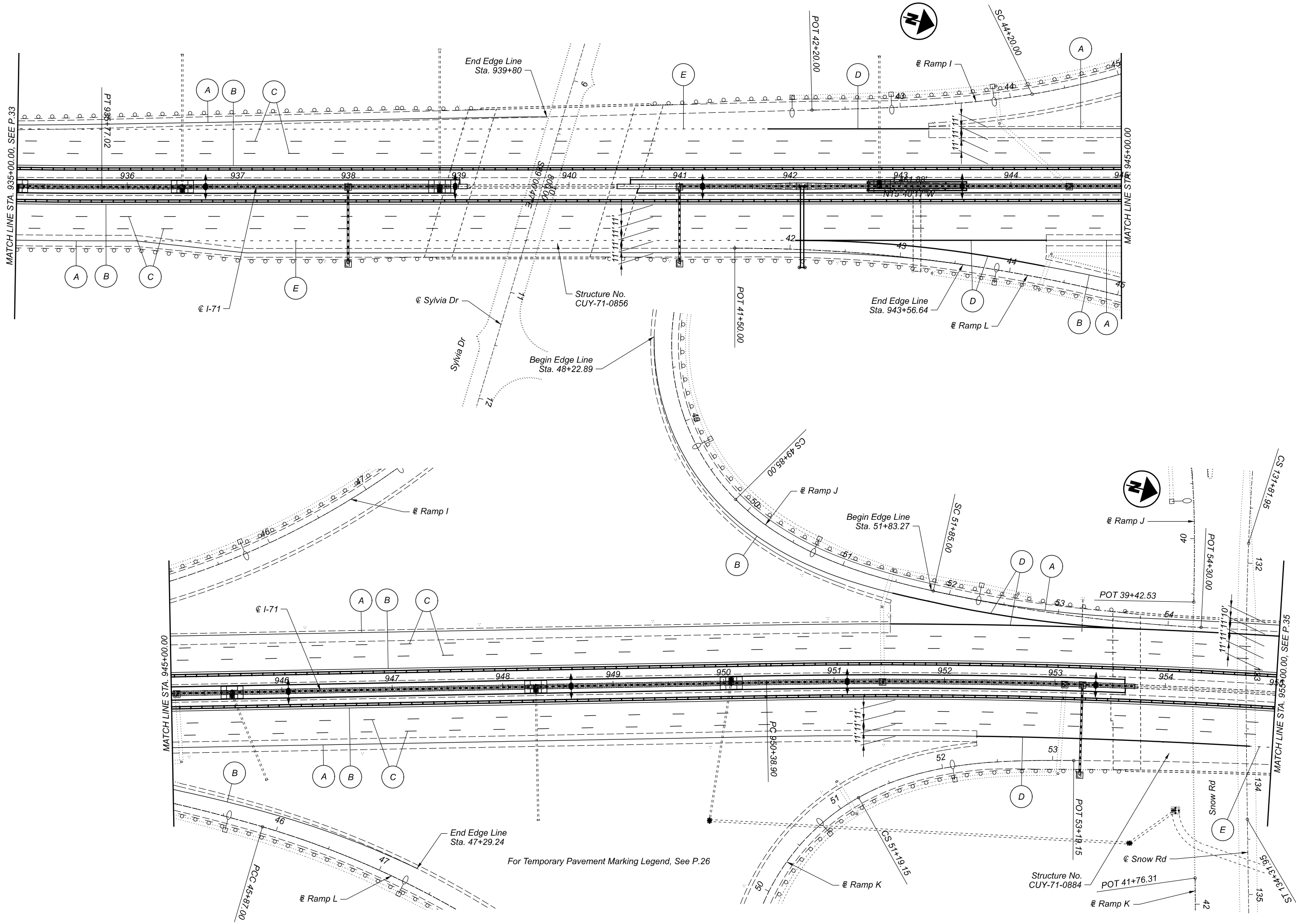
TOTAL

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HORIZONTAL  
SCALE IN FEET







HORIZONTAL SCALE IN FEET

0 20 40 80

DESIGN AGENCY

DESIGNER

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EMK 10/15/21

PROJECT ID

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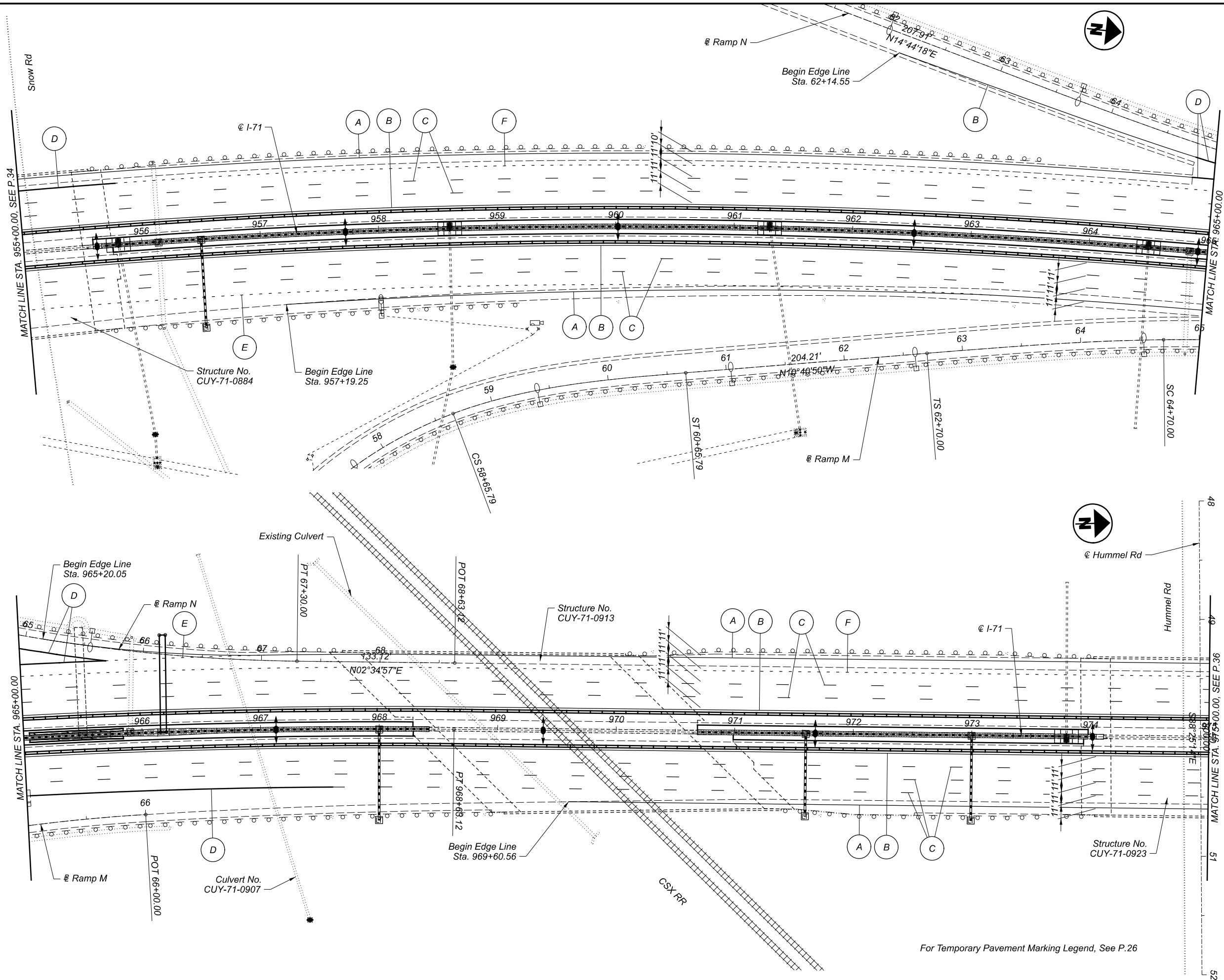
SHEET TOTAL

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MAINTENANCE OF TRAFFIC PLAN SHEET

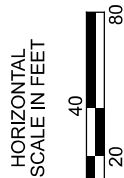
I.R. 71, STA. 935+00 TO STA. 955+00





For Temporary Pavement Marking Legend, See P.26

MAINTENANCE OF TRAFFIC PLAN SHEET  
I.R. 71, STA. 955+00 TO STA. 975+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

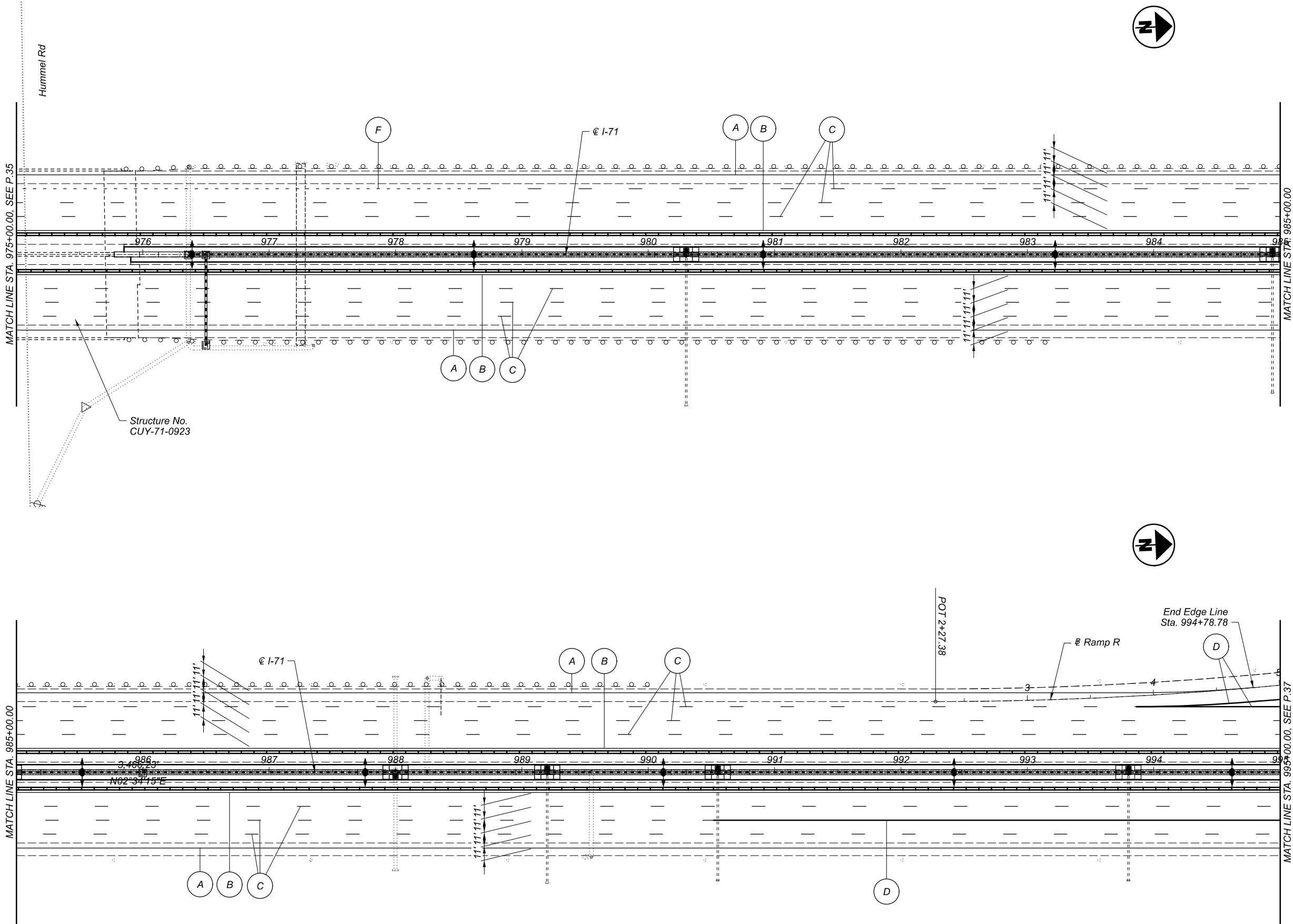
SHEET

P.35

TOTAL

152





For Temporary Pavement Marking Legend, See P.26

MAINTENANCE OF TRAFFIC PLAN SHEET  
I.R. 71, STA. 975+00 TO STA. 995+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

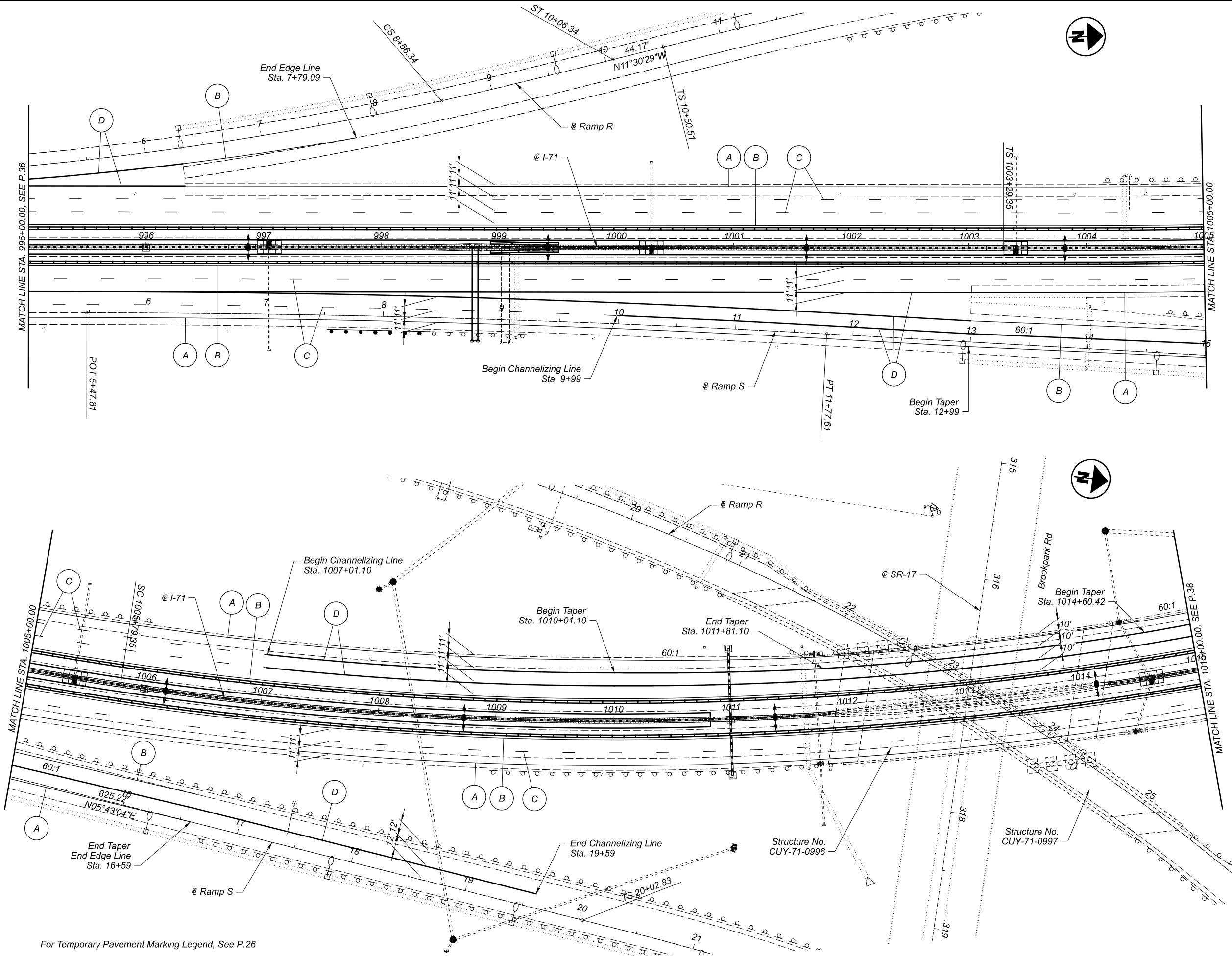
SHEET

P.36

TOTAL

152





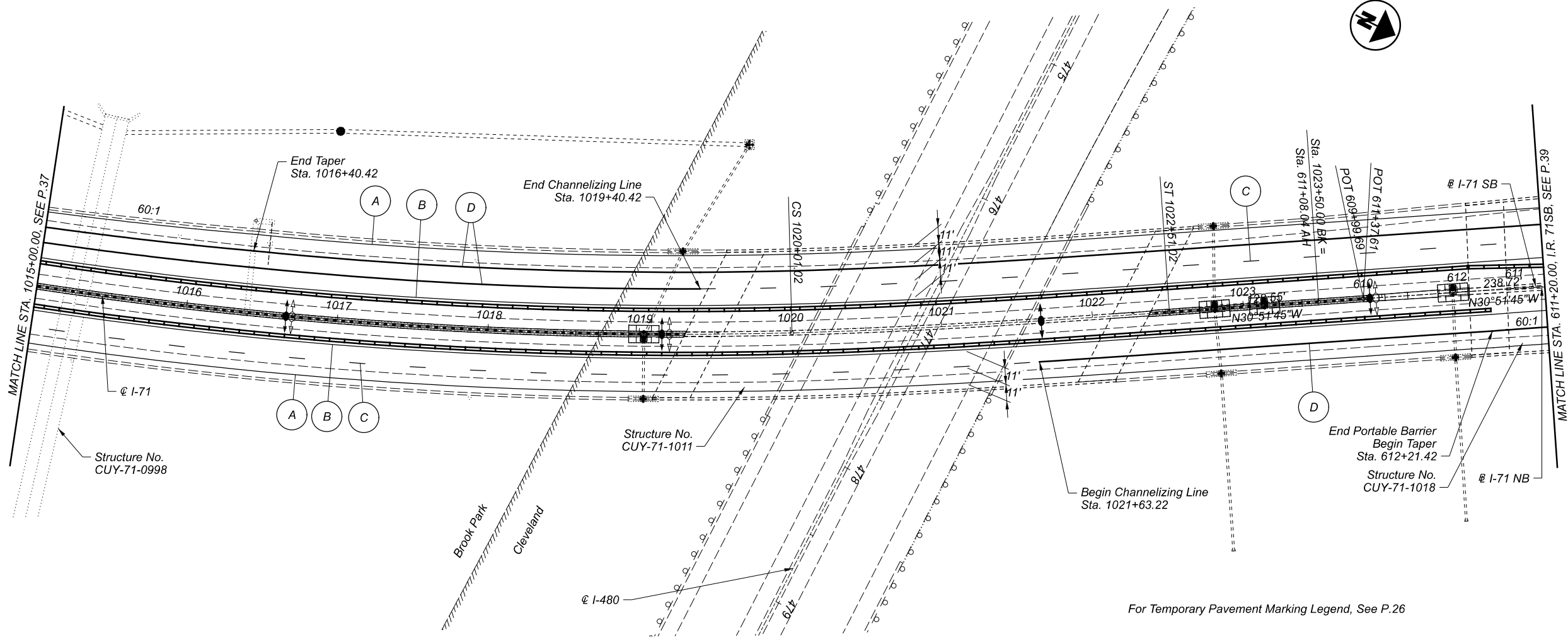
For Temporary Pavement Marking Legend, See P.26



MAINTENANCE OF TRAFFIC PLAN SHEET  
I.R. 71, STA. 995+00 TO STA. 1015+00

DESIGN AGENCY	
DESIGNER	DAB
REVIEWER	EMK
PROJECT ID	87904
SHEET	P.37
TOTAL	152





For Temporary Pavement Marking Legend, See P.26

MAINTENANCE OF TRAFFIC PLAN SHEET  
I.R. 71, STA. 1015+00 TO I.R. 71 SB, STA. 611+20



DESIGN AGENCY



DESIGNER

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EMK 10/15/21

PROJECT ID

87904

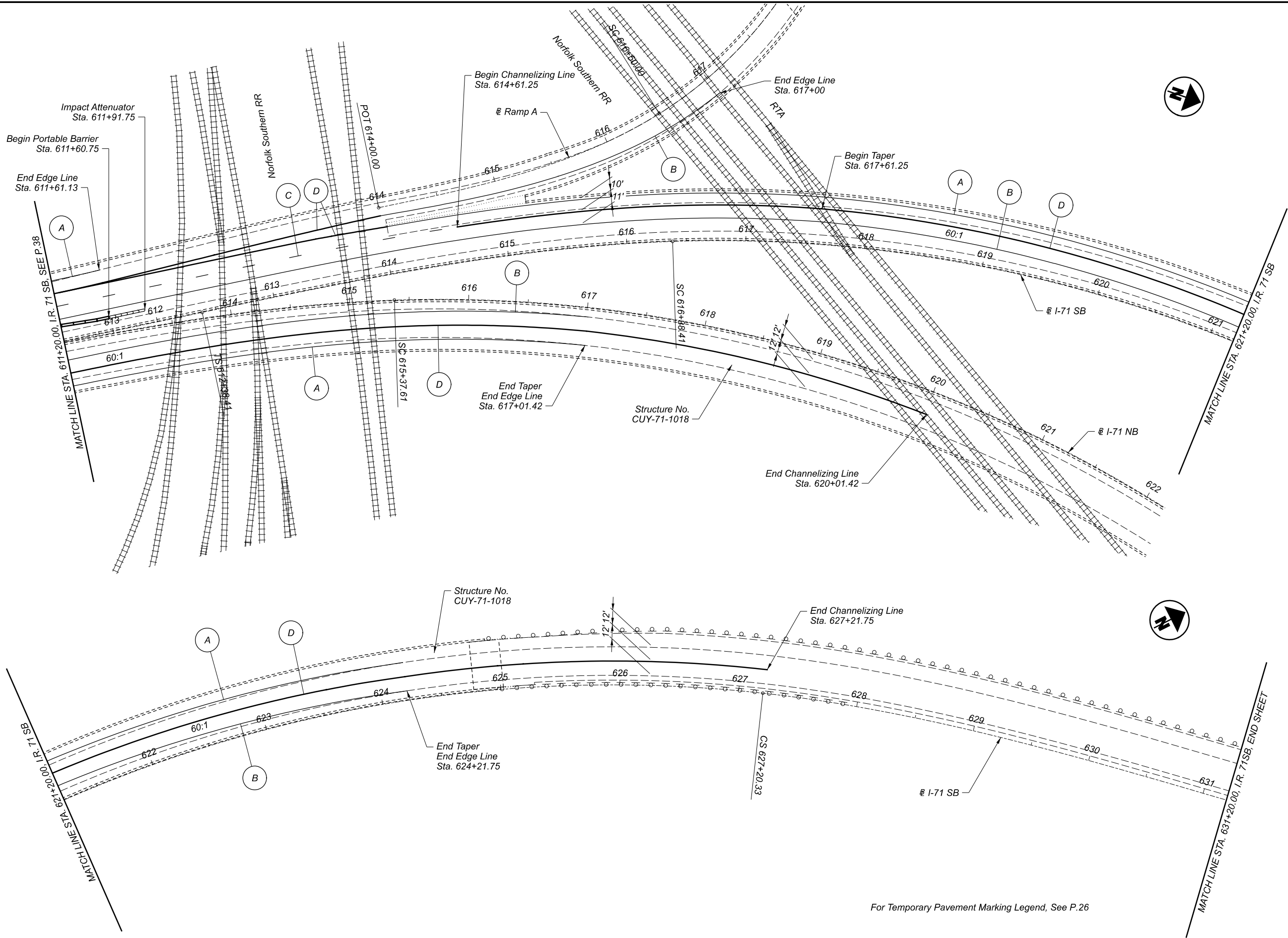
SHEET

P.38

TOTAL

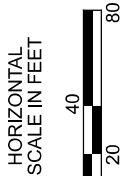
152





For Temporary Pavement Marking Legend, See P.26

MAINTENANCE OF TRAFFIC PLAN SHEET  
I.R. 71 SB, STA. 611+20 TO STA. 631+20



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.39

TOTAL  
152



SHEET NUM.															PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
10	11	13	14	15	17	18	19	20	53	56	57	59	118	127-130	01/IMS/OT						
										159					159	202	23000	159	SY	ROADWAY	
									22,042						22,042	202	30701	22,042	FT	PAVEMENT REMOVED	
											50				50	202	38000	50	FT	CONCRETE BARRIER REMOVED, AS PER PLAN	11
	609														609	203	10000	609	CY	GUARDRAIL REMOVED	
	294														294	203	20000	294	CY	EXCAVATION	
																				EMBANKMENT	
	2,119														2,119	204	10000	2,119	SY		
											0.88				0.88	209	15001	0.88	STA	SUBGRADE COMPACTION	
											37.5				37.5	606	15050	37.5	FT	RESHAPING UNDER GUARDRAIL, AS PER PLAN	11
											1				1	606	26150	1	EACH	GUARDRAIL, TYPE MGS	
									16,851						16,851	622	10101	16,851	FT	ANCHOR ASSEMBLY, MGS TYPE E (MASH 2016)	
																				CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN A	12
									42						42	622	10101	42	FT		
									365						365	622	10141	365	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN B	12
									19						19	622	10200	19	EACH	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN	12
									5						5	622	10201	5	EACH	BARRIER TRANSITION	
									133						133	622	25006	133	EACH	BARRIER TRANSITION, AS PER PLAN	12
																				CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1	
									12						12	622	25007	12	EACH		
									3						3	622	25014	3	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1, AS PER PLAN	12
									3						3	622	25015	3	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	
								47,650							47,650	622	41100	47,650	FT	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	12
									26						26	622	90000	26	FT	PORTABLE BARRIER, UNANCHORED	
									9						9	622	90000	9	FT	BARRIER, MISC.: CONCRETE BARRIER, TYPE B50	12
																				BARRIER, MISC.: CONCRETE BARRIER, TYPE C50	12
	2														2	659	00100	2	EACH	EROSION CONTROL	
	90														90	659	00300	90	CY	SOIL ANALYSIS TEST	
	810														810	659	10000	810	SY	TOPSOIL	
	41														41	659	14000	41	SY	SEEDING AND MULCHING	
	41														41	659	15000	41	SY	REPAIR SEEDING AND MULCHING	
																				INTER-SEEDING	
	0.11														0.11	659	20000	0.11	TON		
	0.17														0.17	659	31000	0.17	ACRE	COMMERCIAL FERTILIZER	
	4.38														4.38	659	35000	4.38	MGAL	LIME	
															1,000	832	30000	1,000	EACH	WATER	
																				EROSION CONTROL	
									59						59	611	99101	59	EACH	DRAINAGE	
									3						3	611	99111	3	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN	13
		10													10	611	99111	3	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN	13
									5						10	611	99155	10	EACH	INLET RECONSTRUCTED TO GRADE, AS PER PLAN	13
															5	611	99500	5	EACH	INLET, MISC.: INLET, NO. 3B50	13
		3,000													3,000	SPECIAL	61199820	3,000	LB	MISCELLANEOUS METAL	13
					9,666										9,666	254	01000	9,666	SY	PAVEMENT	
										16,301					16,301	254	01001	16,301	SY	PAVEMENT PLANING, ASPHALT CONCRETE, 1.5"	
									1,538						1,538	304	20000	1,538	CY	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 1.5"	13
										186					186	305	13010	186	SY	AGGREGATE BASE	
					870					1,501					2,371	407	20000	2,371	GAL	9" CONCRETE BASE, CLASS QC 1P	
																				NON-TRACKING TACK COAT	
										21					21	441	50300	21	CY		
											4				4	441	50701	4	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), 4"	
										688					688	442	10301	688	CY	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), (UNDER GUARDRAIL), AS PER PLAN	12
															688	442	10301	688	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (447), AS PER PLAN, PG76-22M, 1.5"	13
					403										403	442	20001	403	CY	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448), AS PER PLAN, PG70-22M, 1.5"	13
					6.59										6.59	618	40600	6.59	MILE	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (448), AS PER PLAN, PG70-22M, 1.5"	
																				RUMBLE STRIPS, SHOULDER (ASPHALT CONCRETE)	
														88	88	625	00450	88	EACH	LIGHTING	
														77	77	625	00460	77	EACH	CONNECTION, FUSED PULL APART	
														100	100	625	00480	100	EACH	CONNECTION, UNFUSED PULL APART	
														88	88	625	10495	88	EACH	CONNECTION, UNFUSED PERMANENT	
														2	2	625	14306	2	EACH	LIGHT POLE, LOW MAST, AS PER PLAN, ALM50	14
																				MEDIAN LIGHT POLE FOUNDATION, 10' DEEP	
														72	72	625	14307	72	EACH		
														1	1	625	14307	1	EACH	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN A	14
														9	9	625	14600	9	EACH	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN B	14
														1	1	625	15201	1	EACH	LIGHT POLE FOUNDATION, MISC.: MEDIAN FOUNDATION ON SPREAD FOOTER	14
														1	1	625	15201	1	EACH	LIGHT TOWER FOUNDATION, 36" X 25' DEEP, AS PER PLAN	15
														1	1	625	15301	1	EACH	LIGHT TOWER FOUNDATION, 36" X 30' DEEP, AS PER PLAN	15

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.40

TOTAL

152



SHEET NUM.															PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.		
10	11	13	14	15	17	18	19	20	53	56	57	59	118	127-130	01/IMS/OT								
																					LIGHTING (CONTINUED)		
														61,187	61,187	625	23200	61,187	FT		NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE		
														15,400	15,400	625	23400	15,400	FT		NO. 10 AWG POLE AND BRACKET CABLE		
														50	50	625	24320	50	FT		1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES		
														88	88	625	26273	88	EACH		LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, 3000K, 47000 LUMEN	15	
														160	160	625	29002	160	FT		TRENCH, 24" DEEP		
														18	18	625	29931	18	EACH		MEDIAN JUNCTION BOX, AS PER PLAN B	15	
														32	32	625	29931	32	EACH		MEDIAN JUNCTION BOX, AS PER PLAN C	15	
														2	2	625	30700	2	EACH		PULL BOX, 725.08, 18"		
														24	24	625	30711	24	EACH		PULL BOX, 725.08, 32", AS PER PLAN	15	
													8	79	87	625	32000	87	EACH		GROUND ROD		
														2	2	625	35021	2	EACH		RE-ERECT EXISTING LIGHT TOWER, AS PER PLAN	15	
				LS											LS	SPECIAL	62540000	LS			MAINTAIN EXISTING LIGHTING	15	
														88	88	625	75400	88	EACH		LIGHT POLE REMOVED		
														176	176	625	75506	176	EACH		LUMINAIRE REMOVED		
														1	1	625	75800	1	EACH		DISCONNECT CIRCUIT		
				LS											LS	625	98200	LS			LIGHTING, MISC.: LIGHT POLE IDENTIFIERS	15	
														3,780	3,780	809	24000	3,780	FT		CONDUIT, MULTICELL, JACKED OR DRILLED, 4"		
														240	240	809	24500	240	FT		CONDUIT, 4", MULTICELL, HDPE WITH 4 – 1" INNERDUCTS		
																					TRAFFIC CONTROL		
															1	620	00500	1	EACH		DELINEATOR, POST GROUND MOUNTED, TYPE C		
			2												2	625	29931	2	EACH		MEDIAN JUNCTION BOX, AS PER PLAN A	14	
			442												442	626	00102	442	EACH		BARRIER REFLECTOR, TYPE 1, ONE WAY		
															2	626	00110	2	EACH		BARRIER REFLECTOR, TYPE 2, ONE WAY		
														2		2	630	72411	2	EACH		OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 1, AS PER PLAN	14
															2		2	630	72421	2	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 2, AS PER PLAN	14
			2												2	630	79500	2	EACH		SIGN SUPPORT ASSEMBLY, POLE MOUNTED		
			38												38	630	79610	38	EACH		SIGN SUPPORT ASSEMBLY, BARRIER MOUNTED		
			180												180	630	80100	180	SF		SIGN, FLAT SHEET		
														4		4	630	84010	4	EACH		CONCRETE BARRIER MEDIAN OVERHEAD SIGN SUPPORT FOUNDATION, TYPE TC-21.50	
														4		4	630	84510	4	EACH		RIGID OVERHEAD SIGN SUPPORT FOUNDATION	
			16												16	630	85100	16	EACH		REMOVAL OF GROUND MOUNTED SIGN AND REERECTION		
														18		18	630	87100	18	EACH		REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	
														4		4	630	89802	4	EACH		REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65	
													19.42		19.42	646	10010	19.42	MILE		EDGE LINE, 6"		
														18.44		18.44	646	10110	18.44	MILE		LANE LINE, 6"	
														8,482		8,482	646	10310	8,482	FT		CHANNELIZING LINE, 12"	
														327		327	646	10620	327	FT		CHEVRON MARKING	
														5,885		5,885	646	20504	5,885	FT		DOTTED LINE, 6"	
														2,285		2,285	646	20510	2,285	FT		DOTTED LINE, 12"	
																					MAINTENANCE OF TRAFFIC		
							300								300	614	11110	300	hour		LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE		
								10							10	614	12380	10	EACH		WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)		
								20							20	614	12484	20	EACH		WORK ZONE INCREASED PENALTIES SIGN		
									1,613						1,613	614	12800	1,613	EACH		WORK ZONE RAISED PAVEMENT MARKER		
					25										25	614	13000	25	CY		ASPHALT CONCRETE FOR MAINTAINING TRAFFIC		
															957	614	13310	957	EACH		BARRIER REFLECTOR, TYPE 1, ONE WAY		
															953	614	13350	953	EACH		OBJECT MARKER, ONE WAY		
															12	614	18601	12	SNMT		PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	18	
															15.62	614	20110	15.62	MILE		WORK ZONE LANE LINE, CLASS I, 6", 642 PAINT		
															16.99	614	22110	16.99	MILE		WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT		
															15,994	614	23210	15,994	FT		WORK ZONE CHANNELIZING LINE, CLASS I, 12", 642 PAINT		
															7,661	614	24202	7,661	FT		WORK ZONE DOTTED LINE, CLASS I, 6", 642 PAINT		
								300							300	630	97800	300	SF		SIGNING, MISC.: ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER	19	
									108						108	808	18700	108	SNMT		DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY		
															LS	108	30000	LS			INCIDENTALS		
															LS	614	11000	LS			CPM PROGRESS SCHEDULE SHORT DURATION PROJECTS		
															6	619	16011	6	MNTH		MAINTAINING TRAFFIC		
6															LS	623	10001	LS			FIELD OFFICE, TYPE B, AS PER PLAN	10	
LS															LS	624	10000	LS			CONSTRUCTION LAYOUT STAKES AND SURVEYING, AS PER PLAN	10	
															LS	624	10000	LS			MOBILIZATION		

GENERAL SUMMARY

DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET  
P.41

TOTAL  
152



REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	304	611	611	611	622	622	622	622	622	622	622	622	622	622
				FT.	FT.	FT.	FT.	SQ. YD.	FT	CY	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	FT	FT
			IR-71																				
		1	781+12.99 781+32.99	20.00	4.00	4.00	4.00	8.89	20.00	1.49							1		1				
		1	781+32.99 781+47.99	15.00	4.00	4.00	4.00	6.67	15.00	1.12													
		1	781+47.99 781+75.00	27.01	4.00	4.00	4.00	12.01	27.01	2.01				27.01					1				
		1	781+75.00 781+89.00	14.00	4.00	4.00	4.00	6.23	14.00	1.04					14.00								
		1	781+89.00 782+55.00	66.00	4.00	4.00	4.00	29.34	66.00	4.89				66.00									
		1	782+55.00 782+69.00	14.00	4.00	4.00	4.00	6.23	14.00	1.04					14.00								
		1	782+69.00 783+93.00	124.00	4.00	4.00	4.00	55.12	124.00	9.19				124.00									
D-1	61	1	783+93.00 784+08.00	15.00	4.00	4.00	4.00	6.67	15.00	1.12									1				
		1	784+08.00 784+28.00	20.00	4.00	4.00	4.00	8.89	20.00	1.49	1												
		1	784+28.00 784+43.00	15.00	4.00	4.00	4.00	6.67	15.00	1.12									1				
		1	784+43.00 785+95.00	152.00	4.00	4.00	4.00	67.56	152.00	11.26				152.00									
		1	785+95.00 786+10.00	15.00	4.00	4.00	4.00	6.67	15.00	1.12									1				
		1	786+10.00 786+50.00	40.00	4.00	6.00	5.00	22.23	40.00	3.71				40.00									
		1	786+50.00 786+60.00	10.00	6.00	6.00	6.00	6.67	10.00	1.12													
		1	786+60.00 787+00.00	40.00	6.00	4.00	5.00	22.23	40.00	3.71				40.00									
		1	787+00.00 787+15.00	15.00	4.00	4.00	4.00	6.67	15.00	1.12									1				
		1	787+15.00 792+02.79	487.79	4.00	4.00	4.00	216.80	487.79	36.14				487.79									
		1	792+02.79 792+17.79	15.00	4.00	4.00	4.00	6.67	15.00	1.12									1				
		1	792+17.79 792+37.79	20.00	4.00	4.00	4.00	8.89	20.00	1.49							1						
			SUSPEND BARRIER, STA. 792+37.79																				
			RESUME BARRIER, STA. 794+52.33																				
		1	794+52.33 794+72.33	20.00	4.00	4.00	4.00	8.89	20.00	1.49							1						
		1	794+72.33 794+87.33	15.00	4.00	4.00	4.00	6.67	15.00	1.12									1				
		1	794+87.33 794+88.00	0.67	4.00	4.00	4.00	0.30	0.67	0.05				0.67									
		1	794+88.00 795+02.00	14.00	4.00	4.00	4.00	6.23	14.00	1.04					14.00								
		1	795+02.00 799+55.00	453.00	4.00	4.00	4.00	201.34	453.00	33.56				453.00									
		1	799+55.00 799+70.00	15.00	4.00	4.00	4.00	6.67	15.00	1.12									1				
		1	799+70.00 800+10.00	40.00	4.00	6.00	5.00	22.23	40.00	3.71				40.00									
		1	800+10.00 800+20.00	10.00	6.00	6.00	6.00	6.67	10.00	1.12													
		1	800+20.00 800+60.00	40.00	6.00	4.00	5.00	22.23	40.00	3.71				40.00									
		1	800+60.00 800+75.00	15.00	4.00	4.00	4.00	6.67	15.00	1.12									1				
		1	800+75.00 801+28.00	53.00	4.00	4.00	4.00	23.56	53.00	3.93				53.00									
D-2	65	1	801+28.00 801+43.00	15.00	4.00	4.00	4.00	6.67	15.00	1.12									1				
		1	801+43.00 801+63.00	20.00	4.00	4.00	4.00	8.89	20.00	1.49	1								1				
		1	801+63.00 801+78.00	15.00	4.00	4.00	4.00	6.67	15.00	1.12									1				
		1	801+78.00 804+18.80	240.80	4.00	4.00	4.00	107.03	240.80	17.84				240.80									
		1	804+18.80 804+33.80	15.00	4.00	4.00	4.00	6.67	15.00	1.12									1				
		1	804+33.80 804+53.80	20.00	4.00	4.00	4.00	8.89	20.00	1.49							1						
			SUSPEND BARRIER, STA. 804+53.80																				
			RESUME BARRIER, STA. 806+48.73																				
		1	806+48.73 806+68.73	20.00	4.00	4.00	4.00	8.89	20.00	1.39							1						
		1	806+68.73 806+83.73	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	806+83.73 807+23.73	40.00	4.00	6.00	5.00	22.23	40.00	3.46				40.00									
		1	807+23.73 807+33.73	10.00	6.00	6.00	6.00	6.67	10.00	1.04													
		1	807+33.73 807+73.73	40.00	6.00	4.00	5.00	22.23	40.00	3.46				40.00									
SUBTOTALS									2251.3	171.84	2			1844.27	42		5		13				
TOTALS CARRIED TO SHEET 53									2251	172	2			1844	42		5		13				
PLAN SPLIT #1 TOTAL									2251	172	2			1844	42		5		13				
PLAN SPLIT #2 TOTAL																							

BARRIER SUBSUMMARY

DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET  
P.42

TOTAL  
152



REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	304	611	611	611	622	622	622	622	622	622	622	622	622	622
				FT.	FT.	FT.	FT.	SQ. YD.	FT	CY	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	FT	FT
			IR-71																				
		1	807+73.73 807+88.73	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	807+88.73 807+96.25	7.52	4.00	4.00	4.00	3.35	7.52	0.53				7.52									
		1	807+96.25 808+11.25	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
D-3	66	1	808+11.25 808+31.25	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	808+31.25 808+46.25	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	808+46.25 810+76.00	229.75	4.00	4.00	4.00	102.12	229.75	15.89				229.75									
		1	810+76.00 810+84.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	810+84.00 811+79.50	95.50	4.00	4.00	4.00	42.45	95.50	6.61				95.50									
		1	811+79.50 811+94.50	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
D-4	67	1	811+94.50 812+14.50	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	812+14.50 812+29.50	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	812+29.50 813+26.00	96.50	4.00	4.00	4.00	42.89	96.50	6.68				96.50									
		1	813+26.00 813+34.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	813+34.00 815+72.00	238.00	4.00	4.00	4.00	105.78	238.00	16.46				238.00									
		1	815+72.00 815+80.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	815+80.00 815+92.50	12.50	4.00	4.00	4.00	5.56	12.50	0.87									1				
D-5	68	1	815+92.50 816+12.50	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	816+12.50 816+27.50	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	816+27.50 818+26.00	198.50	4.00	4.00	4.00	88.23	198.50	13.73				198.50									
		1	818+26.00 818+34.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	818+34.00 820+56.00	222.00	4.00	4.00	4.00	98.67	222.00	15.35				222.00									
		1	820+56.00 820+64.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	820+64.00 820+77.00	13.00	4.00	4.00	4.00	5.78	13.00	0.90				13.00									
		1	820+77.00 820+92.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
D-6	69	1	820+92.00 821+12.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
D-7	69	1	821+12.00 821+32.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	821+32.00 821+47.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	821+47.00 822+53.19	106.19	4.00	4.00	4.00	47.20	106.19	7.35				106.19									
		1	822+53.19 822+68.19	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	822+68.19 822+88.19	20.00	4.00	4.00	4.00	8.89	20.00	1.39							1						
			SUSPEND BARRIER, STA. 822+88.19 RESUME BARRIER, STA. 825+68.43																				
		1	825+68.43 825+90.00	21.57	4.00	4.00	4.00	9.59	21.57	1.50									1				
		1	825+90.00 825+98.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	825+98.00 826+13.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	826+13.00 827+31.00	118.00	4.00	4.00	4.00	52.45	118.00	8.16				118.00									
		1	827+31.00 827+46.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
D-8	70	1	827+46.00 827+66.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	827+66.00 827+81.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	827+81.00 828+36.00	55.00	4.00	4.00	4.00	24.45	55.00	3.81				55.00									
		1	828+36.00 828+44.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	828+44.00 830+23.00	179.00	4.00	4.00	4.00	79.56	179.00	12.38				179.00									
		1	830+23.00 830+38.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
D-9	71	1	830+38.00 830+58.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
SUBTOTALS									2004	138.78	7			1558.96			1	1	13	1			
TOTALS CARRIED TO SHEET 53									2004	139	7			1559			1	1	13	1			
PLAN SPLIT #1 TOTAL									2004	139	7			1559			1	1	13	1			
PLAN SPLIT #2 TOTAL																							

BARRIER SUBSUMMARY

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

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TOTAL


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REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202 CONCRETE BARRIER REMOVED, AS PER PLAN	304 AGGREGATE BASE (THICKNESSES SHOWN ON TYPICALS)	611 INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN	611 INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN	611 INLET, MISC.: INLET, NO. 3B50	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN A	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN B	622 CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN	622 BARRIER TRANSITION	622 BARRIER TRANSITION, AS PER PLAN	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1, AS PER PLAN	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	622 CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	622 BARRIER, MISC.: CONCRETE BARRIER, TYPE B50	622 BARRIER, MISC.: CONCRETE BARRIER, TYPE C50
				FT.	FT.	FT.	FT.	SQ. YD.	FT	CY	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT
			IR-71																					
		1	830+58.00 830+73.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	830+73.00 830+96.00	23.00	4.00	4.00	4.00	10.23	23.00	1.60				23.00										
		1	830+96.00 831+04.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	831+04.00 833+20.00	216.00	4.00	4.00	4.00	96.00	216.00	14.94				216.00										
		1	833+20.00 833+35.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
D-10	71	1	833+35.00 833+55.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	833+55.00 833+60.00	5.00	4.00	4.00	4.00	2.23	5.00	0.35				5.00										
		1	833+60.00 833+68.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	833+68.00 833+83.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	833+83.00 835+97.00	214.00	4.00	4.00	4.00	95.12	214.00	14.80				214.00										
		1	835+97.00 836+12.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	836+12.00 836+20.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
D-11	72	1	836+20.00 836+42.00	22.00	4.00	4.00	4.00	9.78	22.00	1.53	1													
		1	836+42.00 836+57.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	836+57.00 838+72.00	215.00	4.00	4.00	4.00	95.56	215.00	14.87				215.00										
		1	838+72.00 838+80.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	838+80.00 838+95.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
D-12	72	1	839+95.00 839+15.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	839+15.00 839+18.07	3.07	4.00	4.00	4.00	1.37	3.07	0.22				3.07										
		1	839+18.07 839+38.07	20.00	4.00	4.00	4.00	8.89	20.00	1.39							1							
			SUSPEND BARRIER, STA. 839+38.07 RESUME BARRIER, STA. 841+05.09																					
		1	841+05.09 841+25.09	20.00	4.00	4.00	4.00	8.89	20.00	1.39							1							
		1	841+25.09 841+36.00	10.91	4.00	4.00	4.00	4.85	10.91	0.76										1				
		1	841+36.00 841+44.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	841+44.00 843+96.00	252.00	4.00	4.00	4.00	112.00	252.00	17.43				252.00										
		1	843+96.00 844+04.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	844+04.00 844+60.00	56.00	4.00	4.00	4.00	24.89	56.00	3.88				56.00										
		1	844+60.00 844+75.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
D-13	73	1	844+75.00 844+95.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	844+95.00 845+10.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	845+10.00 846+56.00	146.00	4.00	4.00	4.00	64.89	146.00	10.10				146.00										
		1	846+56.00 846+64.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	846+64.00 848+20.00	156.00	4.00	4.00	4.00	69.34	156.00	10.79				156.00										
		1	848+20.00 848+35.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
D-14	74	1	848+35.00 848+55.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	848+55.00 848+70.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	848+70.00 849+06.00	36.00	4.00	4.00	4.00	16.00	36.00	2.49				36.00										
		1	849+06.00 849+14.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	849+14.00 851+05.00	191.00	4.00	4.00	4.00	84.89	191.00	13.21				191.00										
		1	851+05.00 851+20.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
D-15	75	1	851+20.00 851+40.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	851+40.00 851+56.00	16.00	4.00	4.00	4.00	7.12	16.00	1.11									1					
		1	851+56.00 851+64.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
SUBTOTALS									1939	134.29	6			1513.07			2		11	2				
TOTALS CARRIED TO SHEET 53									1939	134	6			1513			2		11	2				
PLAN SPLIT #1 TOTAL									1939	134	6			1513			2		11	2				
PLAN SPLIT #2 TOTAL																								

BARRIER SUBSUMMARY

DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET TOTAL  
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REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	304	611	611	611	622	622	622	622	622	622	622	622	622	622
				FT.	FT.	FT.	FT.	SQ. YD.	FT	CY	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	FT	FT
			IR-71																				
		1	851+64.00 853+82.00	218.00	4.00	4.00	4.00	96.89	218.00	15.08				218.00									
		1	853+82.00 853+90.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	853+90.00 853+92.00	2.00	4.00	4.00	4.00	0.89	2.00	0.14				2.00									
		1	853+92.00 854+07.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
D-16	75	1	854+07.00 854+27.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	854+27.00 854+42.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
		1	854+42.00 856+30.00	188.00	4.00	4.00	4.00	83.56	188.00	13.00				188.00									
		1	856+30.00 856+38.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	856+38.00 856+83.00	45.00	4.00	4.00	4.00	20.00	45.00	3.12				45.00									
		1	856+83.00 856+98.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
D-17	76	1	856+98.00 857+18.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	857+18.00 857+33.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
		1	857+33.00 858+76.00	143.00	4.00	4.00	4.00	63.56	143.00	9.89				143.00									
		1	858+76.00 858+84.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	858+84.00 859+55.00	71.00	4.00	4.00	4.00	31.56	71.00	4.91				71.00									
		1	859+55.00 859+70.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
D-18	76	1	859+70.00 859+90.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	859+90.00 860+05.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
		1	860+05.00 861+26.00	121.00	4.00	4.00	4.00	53.78	121.00	8.37				121.00									
		1	861+26.00 861+34.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	861+34.00 862+45.00	111.00	4.00	4.00	4.00	49.34	111.00	7.68				111.00									
		1	862+45.00 862+60.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
D-19	77	1	862+60.00 862+80.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	862+80.00 862+95.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
		1	862+95.00 863+76.00	81.00	4.00	4.00	4.00	36.00	81.00	5.60				81.00									
		1	863+76.00 863+84.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	863+84.00 865+20.00	136.00	4.00	4.00	4.00	60.45	136.00	9.41				136.00									
		1	865+20.00 865+35.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
D-20	78	1	865+35.00 865+55.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	865+55.00 865+70.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
		1	865+70.00 866+26.00	56.00	4.00	4.00	4.00	24.89	56.00	3.88				56.00									
		1	866+26.00 866+34.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	866+34.00 867+95.00	161.00	4.00	4.00	4.00	71.56	161.00	11.14				161.00									
		1	867+95.00 868+10.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
D-21	78	1	868+10.00 868+30.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	868+30.00 868+45.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
		1	868+45.00 868+80.00	35.00	4.00	4.00	4.00	15.56	35.00	2.43				35.00									
		1	868+80.00 868+88.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	868+88.00 870+75.00	187.00	4.00	4.00	4.00	83.12	187.00	12.93				187.00									
		1	870+75.00 870+90.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
D-22	79	1	870+90.00 871+10.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	871+10.00 871+25.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04											1		
		1	871+25.00 871+35.00	10.00	4.00	4.00	4.00	4.45	10.00	0.70				10.00									
		1	871+35.00 871+43.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	871+43.00 871+92.65	49.65	4.00	4.00	4.00	22.07	49.65	3.44				49.65									
SUBTOTALS									2028.6	140.49	7			1614.65							14		
TOTALS CARRIED TO SHEET 53									2029	140	7			1615							14		
PLAN SPLIT #1 TOTAL									2029	140	7			1615							14		
PLAN SPLIT #2 TOTAL																							

BARRIER SUBSUMMARY

DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET  
P.45

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152



REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	304	611	611	611	622	622	622	622	622	622	622	622	622	622
				FT.	FT.	FT.	FT.	SQ. YD.	FT	CY	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	FT	FT
			IR-71																				
D-23	79	1	871+92.65 872+07.65	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	872+07.65 872+27.65	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	872+27.65 872+42.65	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	872+42.65 873+36.00	93.35	4.00	4.00	4.00	41.49	93.35	6.46				93.35									
		1	873+36.00 873+51.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
D-24	79	1	873+51.00 873+71.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	873+71.00 873+86.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	873+86.00 873+90.00	4.00	4.00	4.00	4.00	1.78	4.00	0.28				4.00									
		1	873+90.00 873+98.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	873+98.00 875+98.00	200.00	4.00	4.00	4.00	88.89	200.00	13.83				200.00									
D-25	80	1	875+98.00 876+13.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	876+13.00 876+33.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	876+33.00 876+48.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	876+48.00 876+50.00	2.00	4.00	4.00	4.00	0.89	2.00	0.14				2.00									
		1	876+50.00 876+58.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
D-26	80	1	876+58.00 878+60.00	202.00	4.00	4.00	4.00	89.78	202.00	13.97				202.00									
		1	878+60.00 878+75.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	878+75.00 878+95.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	878+95.00 879+10.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	879+10.00 879+18.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
D-27	81	1	879+18.00 881+22.00	204.00	4.00	4.00	4.00	90.67	204.00	14.11				204.00									
		1	881+22.00 881+37.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	881+37.00 881+57.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	881+57.00 881+70.00	13.00	4.00	4.00	4.00	5.78	13.00	0.90													
		1	881+70.00 881+78.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
D-28	81	1	881+78.00 883+84.00	206.00	4.00	4.00	4.00	91.56	206.00	14.25				206.00									
		1	883+84.00 883+99.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	883+99.00 884+19.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	884+19.00 884+33.00	14.00	4.00	4.00	4.00	6.23	14.00	0.97													
		1	884+33.00 884+41.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
D-29	82	1	884+41.00 886+46.00	205.00	4.00	4.00	4.00	91.12	205.00	14.18				205.00									
		1	886+46.00 886+61.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	886+61.00 886+81.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	886+81.00 886+88.00	7.00	4.00	4.00	4.00	3.12	7.00	0.49													
		1	886+88.00 886+96.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
D-30	82	1	886+96.00 889+08.00	212.00	4.00	4.00	4.00	94.23	212.00	14.66				212.00									
		1	889+08.00 889+23.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	889+23.00 889+43.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	889+43.00 889+50.00	7.00	4.00	4.00	4.00	3.12	7.00	0.49													
		1	889+50.00 889+58.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	889+58.00 891+96.00	238.00	4.00	4.00	4.00	105.78	238.00	16.46				238.00									
		1	891+96.00 892+04.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	892+04.00 894+50.00	246.00	4.00	4.00	4.00	109.34	246.00	17.01				246.00									
		1	894+50.00 894+58.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	894+58.00 895+92.50	134.50	4.00	4.00	4.00	59.78	134.50	9.30				134.50									
SUBTOTALS									2399.9	166.14	8			1946.85					12	4			
TOTALS CARRIED TO SHEET 53									2400	166	8			1947					12	4			
PLAN SPLIT #1 TOTAL									2400	166	8			1947					12	4			
PLAN SPLIT #2 TOTAL																							

BARRIER SUBSUMMARY

DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET TOTAL  
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REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	304	611	611	611	622	622	622	622	622	622	622	622	622	622	622
				FT.	FT.	FT.	FT.	SQ. YD.	CONCRETE BARRIER REMOVED, AS PER PLAN	AGGREGATE BASE (THICKNESSES SHOWN ON TYPICALS)	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN	INLET, MISC.: INLET, NO. 3B50	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN A	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN B	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN	BARRIER TRANSITION	BARRIER TRANSITION, AS PER PLAN	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1, AS PER PLAN	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	BARRIER, MISC.: CONCRETE BARRIER, TYPE B50	BARRIER, MISC.: CONCRETE BARRIER, TYPE C50
			IR-71																					
D-31	84	1	895+92.50 896+07.50	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	896+07.50 896+27.50	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	896+27.50 896+42.50	15.00	4.00	4.00	4.00	6.67	15.00	1.04								1						
		1	896+42.50 896+96.00	53.50	4.00	4.00	4.00	23.78	53.50	3.70				53.50										
		1	896+96.00 897+04.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
									</															

BARRIER SUBSUMMARY

DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET TOTAL  
P.47 152



REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	304	611	611	611	622	622	622	622	622	622	622	622	622	622	622	
				FT.	FT.	FT.	FT.	SQ. YD.	CONCRETE BARRIER REMOVED, AS PER PLAN	AGGREGATE BASE (THICKNESSES SHOWN ON TYPICALS)	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN	INLET, MISC.: INLET, NO. 3B50	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN A	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN B	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN	BARRIER TRANSITION	BARRIER TRANSITION, AS PER PLAN	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1, AS PER PLAN	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	BARRIER, MISC.: CONCRETE BARRIER, TYPE B50	BARRIER, MISC.: CONCRETE BARRIER, TYPE C50	
			IR-71																						
D-37	88	1	915+77.00	915+92.00	15.00	4.00	4.00	6.67	15.00	1.04									1						
		1	915+92.00	916+12.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	916+12.00	916+27.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04								1						
		1	916+27.00	916+88.00	61.00	4.00	4.00	4.00	27.12	61.00	4.22			61.00											
		1	916+88.00	916+96.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	916+96.00	919+46.00	250.00	4.00	4.00	4.00	111.12	250.00	17.29				250.00										
		1	919+46.00	919+54.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
D-38	88	1	919+54.00	919+70.00	16.00	4.00	4.00	4.00	7.12	16.00	1.11									1					
		1	919+70.00	919+90.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	919+90.00	920+05.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04								1						
		1	920+05.00	922+06.00	201.00	4.00	4.00	4.00	89.34	201.00	13.90				201.00										
		1	922+06.00	922+14.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	922+14.00	923+55.00	141.00	4.00	4.00	4.00	62.67	141.00	9.75				141.00										
D-39	89	1	923+55.00	923+70.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	923+70.00	923+90.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	923+90.00	924+05.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	924+05.00	924+73.00	68.00	4.00	4.00	4.00	30.23	68.00	4.71				68.00										
		1	924+73.00	924+81.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	924+81.00	927+18.00	237.00	4.00	4.00	4.00	105.34	237.00	16.39				237.00										
		1	927+18.00	927+26.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	927+26.00	927+31.44	5.44	4.00	4.00	4.00	2.42	5.44	0.38				5.44										
		1	927+31.44	927+46.44	15.00	4.00	4.00	4.00	6.67	15.00	1.04								1						
		1	927+46.44	927+66.44	20.00	4.00	4.00	4.00	8.89	20.00	1.39						1								
			SUSPEND BARRIER, STA. 927+66.44																						
			RESUME BARRIER, STA. 929+32.73																						
D-40	90	1	929+32.73	929+45.00	12.27	4.00	4.00	4.00	5.46	12.27	0.85								1						
		1	929+45.00	929+65.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	929+65.00	929+71.00	6.00	4.00	4.00	4.00	2.67	6.00	0.42				6.00										
		1	929+71.00	929+79.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	929+79.00	929+94.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	929+94.00	932+10.00	216.00	4.00	4.00	4.00	96.00	216.00	14.94				216.00										
		1	932+10.00	932+18.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	932+18.00	934+44.00	226.00	4.00	4.00	4.00	100.45	226.00	15.63				226.00										
		1	934+44.00	934+52.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	934+52.00	934+75.00	23.00	4.00	4.00	4.00	10.23	23.00	1.60				23.00										
D-41	91, 92	1	934+75.00	934+90.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	934+90.00	935+10.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	935+10.00	935+25.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	935+25.00	936+25.00	100.00	4.00	4.00	4.00	44.45	100.00	6.92				100.00										
		1	936+25.00	936+40.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04										1				
D-42	92	1	936+40.00	936+60.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	936+60.00	936+69.00	9.00	4.00	4.00	4.00	4.00	9.00	0.63									1					
		1	936+69.00	936+77.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	936+77.00	938+38.00	161.00	4.00	4.00	4.00	71.56	161.00	11.14				161.00										
		1	938+38.00	938+53.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04										1				
SUBTOTALS									2109.7	146.09	6			1695.44			1	1	11	2					
TOTALS CARRIED TO SHEET 53									2110	146	6			1695			1	1	11	2					
PLAN SPLIT #1 TOTAL									2110	146	6			1695			1	1	11	2					
PLAN SPLIT #2 TOTAL																									

BARRIER SUBSUMMARY

DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET TOTAL  
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REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	304	611	611	611	622	622	622	622	622	622	622	622	622	622
				FT.	FT.	FT.	FT.	SQ. YD.	FT	CY	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	FT	FT
			IR-71																				
D-43	92	1	938+53.00 938+73.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39							1						
		1	938+73.00 938+93.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39			1										
			STA. 938+93 TO 939+00																				
			EXISTING LIGHT POLE BARRIER TO REMAIN																				
		1	939+00.00 939+07.79	7.79	4.00	4.00	4.00	3.47	7.79	0.54													
			SUSPEND BARRIER, STA. 939+07.79																				
			RESUME BARRIER, STA. 940+43.61																				
		1	940+43.61 940+63.61	20.00	4.00	4.00	4.00	8.89	20.00	1.39							1						
		1	940+63.61 940+78.61	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	940+78.61 941+19.00	40.39	4.00	4.00	4.00	17.96	40.39	2.80				40.39									
		1	941+19.00 941+27.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	941+27.00 941+51.00	24.00	4.00	4.00	4.00	10.67	24.00	1.66				24.00									
		1	941+51.00 941+66.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	941+66.00 942+06.00	40.00	4.00	6.00	5.00	22.23	40.00	3.46				40.00									
		1	942+06.00 942+16.00	10.00	6.00	6.00	6.00	6.67	10.00	1.04													
		1	942+16.00 942+56.00	40.00	6.00	4.00	5.00	22.23	40.00	3.46				40.00									
		1	942+56.00 942+71.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
D-44	93	1	942+71.00 942+91.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	942+91.00 943+06.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	943+06.00 943+54.00	48.00	4.00	4.00	4.00	21.34	48.00	3.32				48.00									
		1	943+54.00 943+62.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	943+62.00 945+30.00	168.00	4.00	4.00	4.00	74.67	168.00	11.62				168.00									
D-45	94	1	945+30.00 945+45.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	945+45.00 945+65.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	945+65.00 945+80.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	945+80.00 946+04.00	24.00	4.00	4.00	4.00	10.67	24.00	1.66				24.00									
		1	946+04.00 946+12.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	946+12.00 948+05.00	193.00	4.00	4.00	4.00	85.78	193.00	13.35				193.00									
D-46	94	1	948+05.00 948+20.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	948+20.00 948+40.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	948+40.00 948+55.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	948+55.00 948+60.00	5.00	4.00	4.00	4.00	2.23	5.00	0.35				5.00									
		1	948+60.00 948+68.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	948+68.00 949+82.00	114.00	4.00	4.00	4.00	50.67	114.00	7.89				114.00									
		1	949+82.00 949+97.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
D-47	94, 95	1	949+97.00 950+17.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	950+17.00 950+32.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04													
		1	950+32.00 951+10.00	78.00	4.00	4.00	4.00	34.67	78.00	5.40				78.00									
		1	951+10.00 951+18.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	951+18.00 953+31.00	213.00	4.00	4.00	4.00	94.67	213.00	14.73													
		1	953+31.00 953+39.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	953+39.00 953+52.51	13.51	4.00	4.00	4.00	6.01	13.51	0.94													
		1	953+52.51 953+72.51	20.00	4.00	4.00	4.00	8.89	20.00	1.39							1						
			SUSPEND BARRIER, STA. 953+72.51																				
			RESUME BARRIER, STA. 955+58.82																				
SUBTOTALS									1376.7	97.1	4		1	987.39			3		10	1		7.79	
TOTALS CARRIED TO SHEET 53									1377	97	4		1	987			3		10	1		8	
PLAN SPLIT #1 TOTAL									1377	97	4		1	987			3		10	1		8	
PLAN SPLIT #2 TOTAL																							

BARRIER SUBSUMMARY

DESIGN AGENCY



DESIGNER  
DAB

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87904

SHEET TOTAL  
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REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	304	611	611	611	622	622	622	622	622	622	622	622	622	622
				FT.	FT.	FT.	FT.	SQ. YD.	FT	CY	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	FT	FT
			IR-71																				
			STA. 955+58.82 TO 955+65.82																				
			EXISTING LIGHT POLE BARRIER TO REMAIN																				
D-48	96	1	955+65.82	955+70.00	4.18	4.00	4.00	4.00	1.86	4.18	0.29												
		1	955+70.00	955+90.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39		1									4.18	
		1	955+90.00	956+10.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39					1							
		1	956+10.00	956+25.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
		1	956+25.00	957+70.00	145.00	4.00	4.00	4.00	64.45	145.00	10.03			145.00									
		1	957+70.00	957+78.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56												
		1	957+78.00	958+35.00	57.00	4.00	4.00	4.00	25.34	57.00	3.95			57.00									
		1	958+35.00	958+50.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
D-49	96	1	958+50.00	958+70.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1											
		1	958+70.00	958+85.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
		1	958+85.00	960+00.00	115.00	4.00	4.00	4.00	51.12	115.00	7.96			115.00									
		1	960+00.00	960+08.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56												
		1	960+08.00	961+05.00	97.00	4.00	4.00	4.00	43.12	97.00	6.71			97.00									
		1	961+05.00	961+20.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
D-50	97	1	961+20.00	961+40.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1											
		1	961+40.00	961+55.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
		1	961+55.00	962+50.00	95.00	4.00	4.00	4.00	42.23	95.00	6.57			95.00									
		1	962+50.00	962+58.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56												
		1	962+58.00	964+25.00	167.00	4.00	4.00	4.00	74.23	167.00	11.55			167.00									
D-51	97	1	964+25.00	964+40.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
		1	964+40.00	964+60.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1											
		1	964+60.00	964+75.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
		1	964+75.00	964+90.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04			15.00									
		1	964+90.00	964+98.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56												
		1	964+98.00	965+58.00	60.00	4.00	4.00	4.00	26.67	60.00	4.15			60.00									
		1	965+58.00	965+73.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
		1	965+73.00	966+13.00	40.00	4.00	6.00	5.00	22.23	40.00	3.46			40.00									
		1	966+13.00	966+23.00	10.00	6.00	6.00	6.00	6.67	10.00	1.04												
		1	966+23.00	966+63.00	40.00	6.00	4.00	5.00	22.23	40.00	3.46			40.00									
		1	966+63.00	966+78.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
		1	966+78.00	967+11.00	33.00	4.00	4.00	4.00	14.67	33.00	2.29			33.00									
		1	967+11.00	967+19.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56												
		1	967+19.00	968+07.10	88.10	4.00	4.00	4.00	39.16	88.10	6.10			88.10									
		1	968+07.10	968+22.10	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
		1	968+22.10	968+42.10	20.00	4.00	4.00	4.00	8.89	20.00	1.39					1							
			SUSPEND BARRIER, STA. 968+42.10																				
		1	RESUME BARRIER, STA. 970+68.51																				
		1	970+68.51	970+88.51	20.00	4.00	4.00	4.00	8.89	20.00	1.39					1							
		1	970+88.51	971+03.51	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
		1	971+03.51	971+66.00	62.49	4.00	4.00	4.00	27.78	62.49	4.33			62.49									
		1	971+66.00	971+74.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56												
		1	971+74.00	973+35.00	161.00	4.00	4.00	4.00	71.56	161.00	11.14			161.00									
		1	973+35.00	973+50.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04												
SUBTOTALS									1557.8	109.64	3		1	1175.59			3		12			4.18	
TOTALS CARRIED TO SHEET 53									1558	110	3		1	1176			3		12			4	
PLAN SPLIT #1 TOTAL									1558	110	3		1	1176			3		12			4	
PLAN SPLIT #2 TOTAL																							

BARRIER SUBSUMMARY

DESIGN AGENCY



DESIGNER  
DAB

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REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	304	611	611	611	622	622	622	622	622	622	622	622	622	622	622
				FT.	FT.	FT.	FT.	SQ. YD.	CONCRETE BARRIER REMOVED, AS PER PLAN	AGGREGATE BASE (THICKNESSES SHOWN ON TYPICALS)	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN	INLET, MISC.: INLET, NO. 3B50	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN A	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN B	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN	BARRIER TRANSITION	BARRIER TRANSITION, AS PER PLAN	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1, AS PER PLAN	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	BARRIER, MISC.: CONCRETE BARRIER, TYPE B50	BARRIER, MISC.: CONCRETE BARRIER, TYPE C50
			IR-71																					
D-52	99	1	973+50.00 973+70.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39														
		1	973+70.00 973+90.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39			1				1							
		1	973+90.00 973+98.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													8.00	
			STA. 973+98 TO 974+05 EXISTING LIGHT POLE BARRIER TO REMAIN																					
		1	974+05.00 974+11.34 SUSPEND BARRIER, STA. 974+11.34 RESUME BARRIER, STA. 975+77.34	6.34	4.00	4.00	4.00	2.82	6.34	0.44													6.34	
		1	975+77.34 975+97.34	20.00	4.00	4.00	4.00	8.89	20.00	1.39								1						
		1	975+97.34 976+12.34	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1					
		1	976+12.34 976+37.00	24.66	4.00	4.00	4.00	10.97	24.66	1.71					24.66									
		1	976+37.00 976+45.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	976+45.00 978+60.00	215.00	4.00	4.00	4.00	95.56	215.00	14.87					215.00									
		1	978+60.00 978+68.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	978+68.00 980+05.00	137.00	4.00	4.00	4.00	60.89	137.00	9.48					137.00									
D-53	101	1	980+05.00 980+20.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04														
		1	980+20.00 980+40.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	980+40.00 980+55.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04														
		1	980+55.00 980+89.00	34.00	4.00	4.00	4.00	15.12	34.00	2.36					34.00									
		1	980+89.00 980+97.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	980+97.00 983+20.00	223.00	4.00	4.00	4.00	99.12	223.00	15.42					223.00									
		1	983+20.00 983+28.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	983+28.00 984+69.00	141.00	4.00	4.00	4.00	62.67	141.00	9.75					141.00									
		1	984+69.00 984+84.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04														
D-54	101, 102	1	984+84.00 985+04.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	985+04.00 985+19.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04														
		1	985+19.00 985+50.00	31.00	4.00	4.00	4.00	13.78	31.00	2.15					31.00									
		1	985+50.00 985+58.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	985+58.00 987+70.00	212.00	4.00	4.00	4.00	94.23	212.00	14.66					212.00									
		1	987+70.00 987+78.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
D-55	102	1	987+78.00 987+90.00	12.00	4.00	4.00	4.00	5.34	12.00	0.84											1			
		1	987+90.00 988+10.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	988+10.00 988+25.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04														
		1	988+25.00 988+95.00	70.00	4.00	4.00	4.00	31.12	70.00	4.85					70.00									
		1	988+95.00 989+10.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04														
D-56	102	1	989+10.00 989+30.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	989+30.00 989+45.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04														
		1	989+45.00 990+10.00	65.00	4.00	4.00	4.00	28.89	65.00	4.50					65.00									
		1	990+10.00 990+18.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
		1	990+18.00 990+30.00	12.00	4.00	4.00	4.00	5.34	12.00	0.84														
D-57	103	1	990+30.00 990+45.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04														
		1	990+45.00 990+65.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1													
		1	990+65.00 990+80.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04														
		1	990+80.00 992+40.00	160.00	4.00	4.00	4.00	71.12	160.00	11.07					160.00									
		1	992+40.00 992+48.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56														
SUBTOTALS									1725.00	119.5	5		1	1324.66			2		10	1		14.34		
TOTALS CARRIED TO SHEET 53									1725	120	5		1	1325			2		10	1		14		
PLAN SPLIT #1 TOTAL									1725	120	5		1	1325			2		10	1		14		
PLAN SPLIT #2 TOTAL																								

BARRIER SUBSUMMARY

DESIGN AGENCY



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REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	304	611	611	611	622	622	622	622	622	622	622	622	622	622
				CONCRETE BARRIER REMOVED, AS PER PLAN	AGGREGATE BASE (THICKNESSES SHOWN ON TYPICALS)	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN	INLET, MISC.: INLET, NO. 3B50	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN A	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN B	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN	BARRIER TRANSITION	BARRIER TRANSITION, AS PER PLAN	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1, AS PER PLAN	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	BARRIER, MISC.: CONCRETE BARRIER, TYPE B50	BARRIER, MISC.: CONCRETE BARRIER, TYPE C50				
				FT.	FT.	FT.	FT.	SQ. YD.	FT	CY	EACH	EACH	EACH	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	FT	FT
			IR-71																				
		1	992+48.00 993+55.00	107.00	4.00	4.00	4.00	47.56	107.00	7.40				107.00									
		1	993+55.00 993+70.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
D-58	103	1	993+70.00 993+90.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	993+90.00 994+05.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	994+05.00 994+60.00	55.00	4.00	4.00	4.00	24.45	55.00	3.81				55.00									
		1	994+60.00 994+68.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	994+68.00 996+70.00	202.00	4.00	4.00	4.00	89.78	202.00	13.97				202.00									
		1	996+70.00 996+85.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	996+85.00 996+93.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	996+93.00 996+95.00	2.00	4.00	4.00	4.00	0.89	2.00	0.14				2.00									
D-59	104	1	996+95.00 997+15.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	997+15.00 997+30.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	997+30.00 998+20.00	90.00	4.00	4.00	4.00	40.00	90.00	6.23				90.00									
		1	998+20.00 998+35.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	998+35.00 998+75.00	40.00	4.00	6.00	5.00	22.23	40.00	3.46				40.00									
		1	998+75.00 998+85.00	10.00	6.00	6.00	6.00	6.67	10.00	1.04													
		1	998+85.00 999+25.00	40.00	6.00	4.00	5.00	22.23	40.00	3.46				40.00									
		1	999+25.00 999+40.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	999+40.00 999+48.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	999+48.00 1000+05.00	57.00	4.00	4.00	4.00	25.34	57.00	3.95				57.00									
		1	1000+05.00 1000+20.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
D-60	105	1	1000+20.00 1000+40.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	1000+40.00 1000+55.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	1000+55.00 1001+60.00	105.00	4.00	4.00	4.00	46.67	105.00	7.26				105.00									
		1	1001+60.00 1001+68.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	1001+68.00 1003+15.00	147.00	4.00	4.00	4.00	65.34	147.00	10.17				147.00									
		1	1003+15.00 1003+30.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
D-61	105	1	1003+30.00 1003+50.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	1003+50.00 1003+65.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	1003+65.00 1003+80.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04				15.00									
		1	1003+80.00 1003+88.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	1003+88.00 1005+15.00	127.00	4.00	4.00	4.00	56.45	127.00	8.79				127.00									
		1	1005+15.00 1005+30.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
D-62	106	1	1005+30.00 1005+50.00	20.00	4.00	4.00	4.00	8.89	20.00	1.39	1												
		1	1005+50.00 1005+65.00	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	1005+65.00 1006+16.00	51.00	4.00	4.00	4.00	22.67	51.00	3.53				51.00									
		1	1006+16.00 1006+24.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	1006+24.00 1008+71.00	247.00	4.00	4.00	4.00	109.78	247.00	17.08				247.00									
		1	1008+71.00 1008+79.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	1008+79.00 1011+36.00	257.00	4.00	4.00	4.00	114.23	257.00	17.77				257.00									
		1	1011+36.00 1011+44.00	8.00	4.00	4.00	4.00	3.56	8.00	0.56													
		1	1011+44.00 1011+54.44	10.44	4.00	4.00	4.00	4.65	10.44	0.73				10.44									
		1	1011+54.44 1011+69.44	15.00	4.00	4.00	4.00	6.67	15.00	1.04									1				
		1	1011+69.44 1011+89.44	20.00	4.00	4.00	4.00	8.89	20.00	1.39							1						
			SUSPEND BARRIER, STA. 1011+89.44																				
SUBTOTALS									1941.4	136.17	5			1552.44			1		13				
TOTALS CARRIED TO SHEET 53									1941	136	5			1552			1		13				
PLAN SPLIT #1 TOTAL									1941	136	5			1552			1		13				
PLAN SPLIT #2 TOTAL																							

BARRIER SUBSUMMARY

DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET  
P.52

TOTAL  
152



REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	202	304	611	611	611	622	622	622	622	622	622	622	622	622	622	622
				FT.	FT.	FT.	FT.	SQ. YD.	CONCRETE BARRIER REMOVED, AS PER PLAN	AGGREGATE BASE (THICKNESSES SHOWN ON TYPICALS)	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE B1, AS PER PLAN	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C1, AS PER PLAN	INLET, MISC.: INLET, NO. 3B50	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN A	CONCRETE BARRIER, SINGLE SLOPE, TYPE B1, AS PER PLAN B	CONCRETE BARRIER, SINGLE SLOPE, TYPE C1, AS PER PLAN	BARRIER TRANSITION	BARRIER TRANSITION, AS PER PLAN	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE B1, AS PER PLAN	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE C1, AS PER PLAN	BARRIER, MISC.: CONCRETE BARRIER, TYPE B50	BARRIER, MISC.: CONCRETE BARRIER, TYPE C50
			IR-71																					
			RESUME BARRIER, STA. 1014+19.15																					
		1	1014+19.15 1014+39.15	20.00	4.00	4.00	4.00	8.89	20.00	0.99														
		1	1014+39.15 1014+50.00	10.85	4.00	4.00	4.00	4.83	10.85	0.54							1							
D-63	107	1	1014+50.00 1014+70.00	20.00	4.00	4.00	4.00	8.89	20.00	0.99		1												
		1	1014+70.00 1014+85.00	15.00	4.00	4.00	4.00	6.67	15.00	0.75											1			
		1	1014+85.00 1016+64.00	179.00	4.00	4.00	4.00	79.56	179.00	8.84						179.00								
		1	1016+64.00 1016+72.00	8.00	4.00	4.00	4.00	3.56	8.00	0.40														
		1	1016+72.00 1018+58.00	186.00	4.00	4.00	4.00	82.67	186.00	9.19						186.00								
		1	1018+58.00 1018+73.00	15.00	4.00	4.00	4.00	6.67	15.00	0.75											1			
		1	1018+73.00 1018+93.00	20.00	4.00	4.00	4.00	8.89	20.00	0.99								1						
D-64	108	1	1018+93.00 1019+13.00	20.00	4.00	4.00	4.00	8.89	20.00	0.99			1											
		1	1019+13.00 1019+21.00	8.00	4.00	4.00	4.00	3.56	8.00	0.40														
		1	1019+21.00 1019+30.23	9.23	4.00	4.00	4.00	4.11	9.23	0.46														9.23
			SUSPEND BARRIER, STA. 1019+30.23																					
			RESUME BARRIER, STA. 1022+37.94																					
		1	1022+37.94 1022+57.94	20.00	4.00	4.00	4.00	8.89	20.00	0.99														
		1	1022+57.94 1022+71.00	13.06	4.00	4.00	4.00	5.81	13.06	0.65								1						
D-65	109	1	1022+71.00 1022+91.00	20.00	4.00	4.00	4.00	8.89	20.00	0.99		1											1	
		1	1022+91.00 1023+04.00	13.00	4.00	4.00	4.00	5.78	13.00	0.65													1	
D-66	109	1	1023+04.00 1023+24.00	20.00	4.00	4.00	4.00	8.89	20.00	0.99		1												
		1	1023+24.00 1023+39.00	15.00	4.00	4.00	4.00	6.67	15.00	0.75												1		
		1	1023+39.00 1023+50.00	11.00	4.00	4.00	4.00	4.89	11.00	0.55					11.00									
			STA. 1023+50 BK = STA. 611+08.04 AH							0.00														
		1	611+08.04 611+40.00	31.96	4.00	4.00	4.00	14.21	31.96	1.58					31.96									
		1	611+40.00 611+48.00	8.00	4.00	4.00	4.00	3.56	8.00	0.40														
		1	611+48.00 611+52.00	4.00	4.00	4.00	4.00	1.78	4.00	0.20					4.00									
		1	611+52.00 611+67.00	15.00	4.00	4.00	4.00	6.67	15.00	0.75									1					
		1	611+67.00 611+87.00	20.00	4.00	4.00	4.00	8.89	20.00	0.99								1						
D-67	109	1	611+87.00 612+07.80	20.80	4.00	4.00	4.00	9.25	20.80	1.03			1											
SUBTOTALS									722.9	35.81		3	2	46.96		365	1	3	1		3	3		9.23
TOTALS CARRIED BELOW									723	36		3	2	47		365	1	3	1		3	3		9
PLAN SPLIT #1 TOTAL									723	36		3	2	47		365	1	3	1		3	3		9
PLAN SPLIT #2 TOTAL																								
TOTALS FROM SHEET 42									2251	172	2			1844	42		5		13					
TOTALS FROM SHEET 43									2004	139	7			1559			1	1	13	1				
TOTALS FROM SHEET 44									1939	134	6			1513			2		11	2				
TOTALS FROM SHEET 45									2029	140	7			1615					14					
TOTALS FROM SHEET 46									2400	166	8			1947					12	4				
TOTALS FROM SHEET 47									1985	142	6			1591					13	1				
TOTALS FROM SHEET 48									2110	146	6			1695			1	1	11	2				
TOTALS FROM SHEET 49									1377	97	4		1	987			3		10	1			8	
TOTALS FROM SHEET 50									1558	110	3		1	1176			3		12				4	
TOTALS FROM SHEET 51									1725	120	5		1	1325			2		10	1			14	
TOTALS FROM SHEET 52									1941	136	5			1552			1		13					
TOTALS FROM THIS SHEET									723	36		3	2	47		365	1	3	1		3	3		9
TOTALS CARRIED TO GENERAL SUMMARY									22042	1538	59	3	5	16851	42	365	19	5	133	12	3	3	26	9

BARRIER SUBSUMMARY

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.53

TOTAL

152



REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA		202	254		305	407	441	442				
				FT.	FT.	FT.	FT.	SQ. YD.		PAVEMENT REMOVED	PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 1.5"		9" CONCRETE BASE, CLASS QC 1P	NON-TRACKING TACK COAT	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, (448), 4"	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE A (447), AS PER PLAN, PG76-22M, 1.5"				
										SY	SY		SY	GAL	CY	CY				
			IR-71 NB RESURFACING																	
		1	814+30.00 822+82.48	852.48	4.00	4.00	4.00	378.88			378.88			34.10		15.79				
		1	825+54.52 825+68.43	13.91			CADD AREA	5.06			5.06			0.46		0.22				
		1	825+68.43 828+05.00	236.57	4.00	4.00	4.00	105.15			105.15			9.47		4.39				
		1	828+05.00 828+95.00	90.00	2.00	2.00	2.00	20.00			20.00			1.80		0.84				
		1	828+95.00 839+21.03	1026.03	4.00	4.00	4.00	456.02			456.02			41.05		19.01				
		1	841+16.38 851+75.00	1058.62	4.00	4.00	4.00	470.50			470.50			42.35		19.61				
		1	851+75.00 852+65.00	90.00	2.00	2.00	2.00	20.00			20.00			1.80		0.84				
		1	852+65.00 879+22.00	2657.00	4.00	4.00	4.00	1180.89			1180.89			106.29		49.21				
		1	879+28.00 902+23.67	2295.67	4.00	4.00	4.00	1020.30			1020.30			91.83		42.52				
		1	902+23.67 902+63.67	40.00	4.00	2.50	3.25	14.45			14.45			1.31		0.61				
		1	902+63.67 903+10.11	46.44	2.50	2.50	2.50	12.91			12.91			1.17		0.54				
		1	903+10.11 903+50.11	40.00	2.50	4.00	3.25	14.45			14.45			1.31		0.61				
		1	903+50.11 927+59.23	2409.12	4.00	4.00	4.00	1070.72			1070.72			96.37		44.62				
		1	929+40.54 938+96.33	955.79	4.00	4.00	4.00	424.80			424.80			38.24		17.70				
		1	940+61.35 941+66.00	104.65	4.00	4.00	4.00	46.52			46.52			4.19		1.94				
		1	941+66.00 942+06.00	40.00	4.00	3.00	3.50	15.56			15.56			1.41		0.65				
		1	942+06.00 942+16.00	10.00	3.00	3.00	3.00	3.34			3.34			0.31		0.14				
		1	942+16.00 942+56.00	40.00	3.00	4.00	3.50	15.56			15.56			1.41		0.65				
		1	942+56.00 942+70.00	14.00	4.00	4.00	4.00	6.23			6.23			0.57		0.26				
		1	942+70.00 943+60.00	90.00	2.00	2.00	2.00	20.00			20.00			1.80		0.84				
		1	943+60.00 953+63.89	1003.89	4.00	4.00	4.00	446.18			446.18			40.16		18.60				
		1	955+75.44 965+05.00	929.56	4.00	4.00	4.00	413.14			413.14			37.19		17.22				
		1	965+05.00 965+73.00	68.00	2.00	2.00	2.00	15.12			15.12			1.37		0.63				
		1	965+73.00 965+84.00	11.00	2.00	1.73	1.86	2.28			2.28			0.21		0.10				
		1	965+84.00 966+13.00	29.00	3.73	3.00	3.36	10.84			10.84			0.98		0.46				
		1	966+13.00 966+23.00	10.00	3.00	3.00	3.00	3.34			3.34			0.31		0.14				
		1	966+23.00 966+63.00	40.00	3.00	4.00	3.50	15.56			15.56			1.41		0.65				
		1	966+63.00 968+28.77	165.77	4.00	4.00	4.00	73.68			73.68			6.64		3.07				
		1	970+98.80 973+94.48	295.68	4.00	4.00	4.00	131.42			131.42			11.83		5.48				
		1	975+90.48 998+35.00	2244.52	4.00	4.00	4.00	997.57			997.57			89.79		41.57				
		1	998+35.00 998+75.00	40.00	4.00	3.00	3.50	15.56			15.56			1.41		0.65				
		1	998+75.00 998+85.00	10.00	3.00	3.00	3.00	3.34			3.34			0.31		0.14				
		1	998+85.00 998+93.00	8.00	3.00	3.20	3.10	2.76			2.76			0.25		0.12				
		1	998+93.00 999+25.00	32.00	1.20	2.00	1.60	5.69			5.69			0.52		0.24				
		1	999+25.00 999+51.00	26.00	2.00	2.00	2.00	5.78			5.78			0.53		0.25				
		1	999+51.00 1010+82.68	1131.68	4.00	4.00	4.00	502.97			502.97			45.27		20.96				
			IR-71 SB RESURFACING																	
		1	781+07.33 781+12.99	5.66			CADD AREA	1.42												
		1	781+12.99 781+89.00	76.01	4.00	4.00	4.00	33.79		7.51	33.79			3.05		1.41				
SUBTOTALS										7.51	7980.36			718.47		332.68				
TOTALS CARRIED TO SHEET 56										8	7980			718		333				
PLAN SPLIT #1 TOTAL										8	7980			718		333				
PLAN SPLIT #2 TOTAL																				

PAVEMENT SUBSUMMARY

DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET  
P.54

TOTAL  
152



MODEL: Sheet PAPER SIZE: 17x11 (in.) DATE: 11/17/2021 TIME: 8:35:53 AM USER: dbrauer  
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REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA		202	254		305	407	441	442					
				FT.	FT.	FT.	FT.	SQ. YD.		SY	SY		SY	GAL	CY	CY					
			IR-71 SB RESURFACING (CONT.)																		
		1	806+46.28 806+83.73	37.45	4.00	4.00	4.00	16.65		0.70	16.65			1.50		0.70					
		1	806+83.73 807+23.73	40.00	4.00	3.00	3.50	15.56		3.34	15.56			1.41		0.65					
		1	807+23.73 807+33.73	10.00	3.00	3.00	3.00	3.34		1.40	3.34			0.31		0.14					
		1	807+33.73 807+73.73	40.00	3.00	4.00	3.50	15.56		3.35	15.56			1.41		0.65					
		1	807+73.73 822+77.04	1503.31	4.00	4.00	4.00	668.14		5.19	668.14			60.14		27.84					
		1	825+68.43 828+05.00	236.57	4.00	4.00	4.00	105.15			105.15			9.47		4.39					
		1	828+05.00 828+95.00	90.00	2.00	2.00	2.00	20.00			20.00			1.80		0.84					
		1	828+95.00 839+28.78	1033.78	4.00	4.00	4.00	459.46			459.46			41.36		19.15					
		1	841+05.09 851+75.00	1069.91	4.00	4.00	4.00	475.52			475.52			42.80		19.82					
		1	851+75.00 852+65.00	90.00	2.00	2.00	2.00	20.00			20.00			1.80		0.84					
		1	852+65.00 879+22.00	2657.00	4.00	4.00	4.00	1180.89			1180.89			106.29		49.21					
		1	879+28.00 902+23.67	2295.67	4.00	4.00	4.00	1020.30			1020.30			91.83		42.52					
		1	902+23.67 902+63.67	40.00	4.00	2.50	3.25	14.45			14.45			1.31		0.61					
		1	902+63.67 903+10.11	46.44	2.50	2.50	2.50	12.91			12.91			1.17		0.54					
		1	903+10.11 903+50.11	40.00	2.50	4.00	3.25	14.45			14.45			1.31		0.61					
		1	903+50.11 927+61.89	2411.78	4.00	4.00	4.00	1071.91			1071.91			96.48		44.67					
		1	929+39.91 939+01.15	961.24	4.00	4.00	4.00	427.22			427.22			38.45		17.81					
		1	940+55.57 941+66.00	110.43	4.00	4.00	4.00	49.08			49.08			4.42		2.05					
		1	941+66.00 942+06.00	40.00	4.00	3.00	3.50	15.56			15.56			1.41		0.65					
		1	942+06.00 942+16.00	10.00	3.00	3.00	3.00	3.34			3.34			0.31		0.14					
		1	942+16.00 942+56.00	40.00	3.00	4.00	3.50	15.56			15.56			1.41		0.65					
		1	942+56.00 942+70.00	14.00	4.00	4.00	4.00	6.23			6.23			0.57		0.26					
		1	942+70.00 943+60.00	90.00	2.00	2.00	2.00	20.00			20.00			1.80		0.84					
		1	943+60.00 953+63.26	1003.26	4.00	4.00	4.00	445.90			445.90			40.14		18.58					
		1	955+58.82 965+05.00	946.18	4.00	4.00	4.00	420.53			420.53			37.85		17.53					
		1	965+05.00 965+73.00	68.00	2.00	2.00	2.00	15.12			15.12			1.37		0.63					
		1	965+73.00 965+84.00	11.00	2.00	1.73	1.86	2.28			2.28			0.21		0.10					
		1	965+84.00 966+13.00	29.00	3.73	3.00	3.36	10.84			10.84			0.98		0.46					
		1	966+13.00 966+23.00	10.00	3.00	3.00	3.00	3.34			3.34			0.31		0.14					
		1	966+23.00 966+63.00	40.00	3.00	4.00	3.50	15.56			15.56			1.41		0.65					
		1	966+63.00 968+28.45	165.45	4.00	4.00	4.00	73.54			73.54			6.62		3.07					
		1	970+68.51 973+98.20	329.69	4.00	4.00	4.00	146.53			146.53			13.19		6.11					
		1	975+85.20 998+35.00	2249.80	4.00	4.00	4.00	999.92			999.92			90.00		41.67					
		1	998+35.00 998+75.00	40.00	4.00	3.00	3.50	15.56			15.56			1.41		0.65					
		1	998+75.00 998+85.00	10.00	3.00	3.00	3.00	3.34			3.34			0.31		0.14					
		1	998+85.00 998+93.00	8.00	3.00	3.20	3.10	2.76			2.76			0.25		0.12					
		1	998+93.00 999+25.00	32.00	1.20	2.00	1.60	5.69			5.69			0.52		0.24					
		1	999+25.00 999+51.00	26.00	2.00	2.00	2.00	5.78			5.78			0.53		0.25					
		1	999+51.00 1010+82.68	1131.68	4.00	4.00	4.00	502.97			502.97			45.27		20.96					
SUBTOTALS											13.98	8320.94			749.13		346.88				
TOTALS CARRIED TO SHEET 56											14	8321			749		347				
PLAN SPLIT #1 TOTAL											14	8321			749		347				
PLAN SPLIT #2 TOTAL																					

PAVEMENT SUBSUMMARY

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

REVIEWED  
FMM 10/10/10

EMR 10/

PROJECT ID

87904

QUEST TO

SHEET 10



MODEL: Sheet PAPER SIZE: 17x11 (in.) DATE: 11/17/2021 TIME: 8:36:05 AM USER: dbrauer  
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## CUY-71-5.71 BARRIER

MODEL: Sheet PAPERSIZE: 17x11 (in.) DATE: 11/17/2021 TIME: 8:36:16 AM USER: dbrauer  
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[illegible]



SHEET NO.	PLAN SPLIT NO.	LOCATION	STATION		646	646	646	646	646	646	646								
					EDGE LINE, 6", WHITE	EDGE LINE, 6", YELLOW	LANE LINE, 6"	CHANNELIZING LINE, 12"	CHEVRON MARKING	DOTTED LINE, 6"	DOTTED LINE, 12"								
			FROM	TO	FT	FT	MILE	FT	FT	FT	FT								
	1	IR-71 NB	794+36.90	821+88.63	2751.73	2751.73	1.05												
	1		821+88.63	827+74.92	586.29	586.29	0.23			586.29									
	1		827+74.92	830+24.00	249.08	249.08	0.10	498.16											
	1		830+24.00	849+95.00	1971.00	1971.00	0.75												
	1		849+95.00	852+69.82	274.82	274.82	0.11	549.64											
	1		852+69.82	861+50.00	880.18	880.18	0.34			880.18									
	1		861+50.00	936+07.72	7457.72	7457.72	2.83												
	1		936+07.72	942+57.57	649.85	649.85	0.25			649.85									
	1		942+57.57	944+32.00	174.43	174.43	0.07	348.86											
	1		944+32.00	952+30.00	798.00	798.00	0.31												
	1		952+30.00	954+38.97	208.97	208.97	0.08	417.94											
	1		954+38.98	963+19.15	880.17	880.17	0.34			880.17									
	1		963+19.15	965+03.00	183.85	183.85	0.07												
	1		965+03.00	969+60.36	457.36	457.36	0.18	914.72											
	1		969+60.36	990+52.00	2091.64	2091.64	1.19												
	1		990+52.00	995+49.74	497.74	497.74	0.19	497.74											
	1		995+49.74	1003+02.40		752.66	0.15	752.66	207										
	1		1003+02.40	1023+50.00	2047.60	2047.60	0.39												
			STA. 1023+50.00 BK = STA. 611+08.04 AH																
	1		611+08.04	620+01.42	893.38	893.38	0.17												
	1	IR-71 SB	779+17.33	783+17.33		400.00													
	1		794+62.06	796+70.68	208.62	208.62	0.08			208.62									
	1		796+70.68	814+97.46	1826.78	1826.78	0.70												
	1		814+97.46	823+56.26	858.80	858.80	0.33			858.80									
	1		823+56.26	826+75.00	318.74	318.74	0.13	637.48											
	1		826+75.00	850+99.88	2424.88	2424.88	0.92												
	1		850+99.88	852+46.99	147.11	147.11	0.06	294.22											
	1		852+46.99	859+00.00	653.01	653.01	0.25			653.01									
	1		859+00.00	932+20.00	7320.00	7320.00	2.78												
	1		932+20.00	941+00.20	880.20	880.20	0.34			880.20									
	1		941+00.20	943+25.69	225.49	225.49	0.09	450.98											
	1		943+25.69	951+51.00	825.31	825.31	0.32												
	1		951+51.00	953+34.36	183.36	183.36	0.07	366.72	120										
	1		953+34.36	955+80.00	245.64	245.64	0.10	245.64											
	1		955+80.00	964+82.00	902.00	902.00	0.35				902.00								
	1		964+82.00	965+74.89	92.89	92.89	0.04	185.78			92.89								
	1		965+74.89	968+63.12	288.23	288.23	0.11			288.23	288.23								
	1		968+63.12	978+65.00	1001.88	1001.88	0.38				1001.88								
	1		978+65.00	993+79.16	1514.16	1514.16	0.87												
	1		993+79.16	996+33.00	253.84	253.84	0.10	507.68											
	1		996+33.00	1021+25.82	2492.82	2492.82	0.95												
	1		1021+25.82	1023+50.00	224.18	224.18	0.05	224.18											
			STA. 1023+50.00 BK = STA. 611+08.04 AH																
	1		611+08.04	611+37.61	29.57	29.57	0.01	29.57											
			IR-71 STA. 611+37.61 = IR-71 SB 609+99.69																
SUBTOTALS					45971.3	47124	17.83	6921.97	327	5885.35	2285								
TOTALS CARRIED TO SHEET 59					8.71 MI	8.93 MI	17.83	6922	327	5885	2285								
PLAN SPLIT #1 TOTAL					8.71 MI	8.93 MI	17.83	6922	327	5885	2285								
PLAN SPLIT #2 TOTAL																			

PAVEMENT MARKING SUBSUMMARY

DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

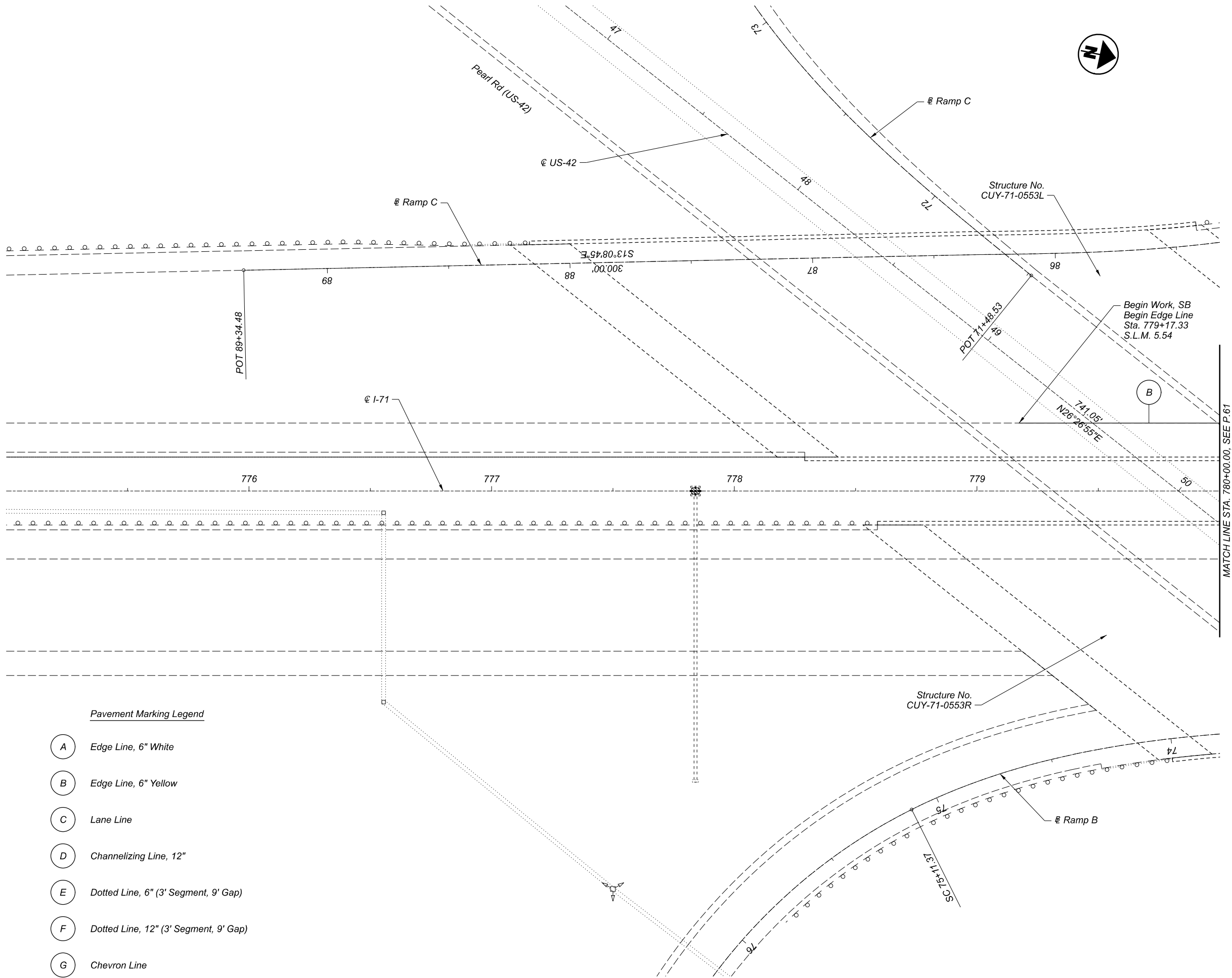
SHEET  
P.58

TOTAL  
152



PAVEMENT MARKING SUBSUMMARY	
DESIGN AGENCY	
	
DESIGNER	
DAB	
REVIEWER	
EMK	10/15/21
PROJECT ID	
87904	
SHEET	TOTAL
P.59	152





- Pavement Marking Legend
- A Edge Line, 6" White
  - B Edge Line, 6" Yellow
  - C Lane Line
  - D Channelizing Line, 12"
  - E Dotted Line, 6" (3' Segment, 9' Gap)
  - F Dotted Line, 12" (3' Segment, 9' Gap)
  - G Chevron Line

GENERAL PLAN SHEET  
I.R. 71, STA. 775+00 TO STA. 780+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.60

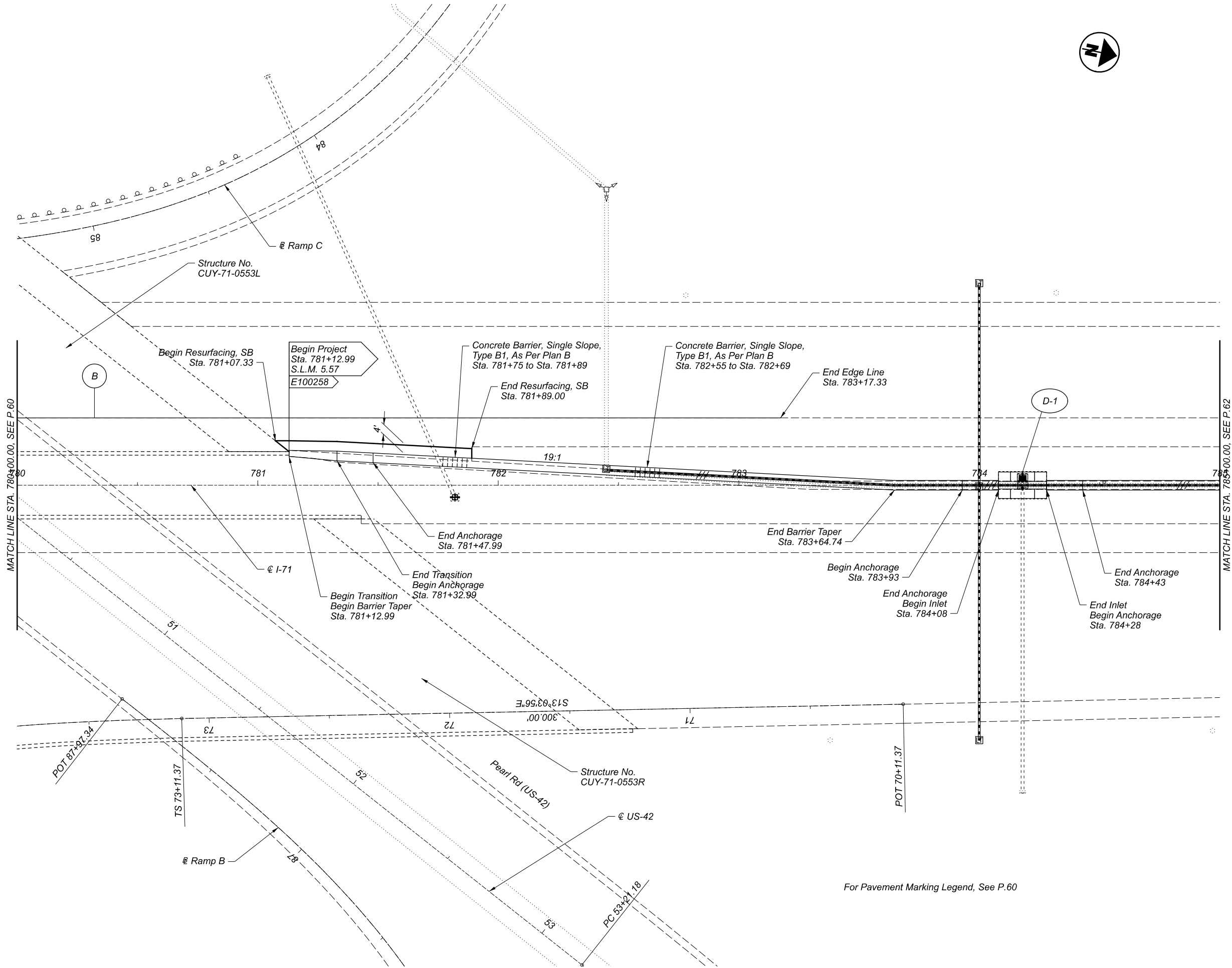
TOTAL

152

HORIZONTAL  
SCALE IN FEET







For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 780+00 TO STA. 785+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

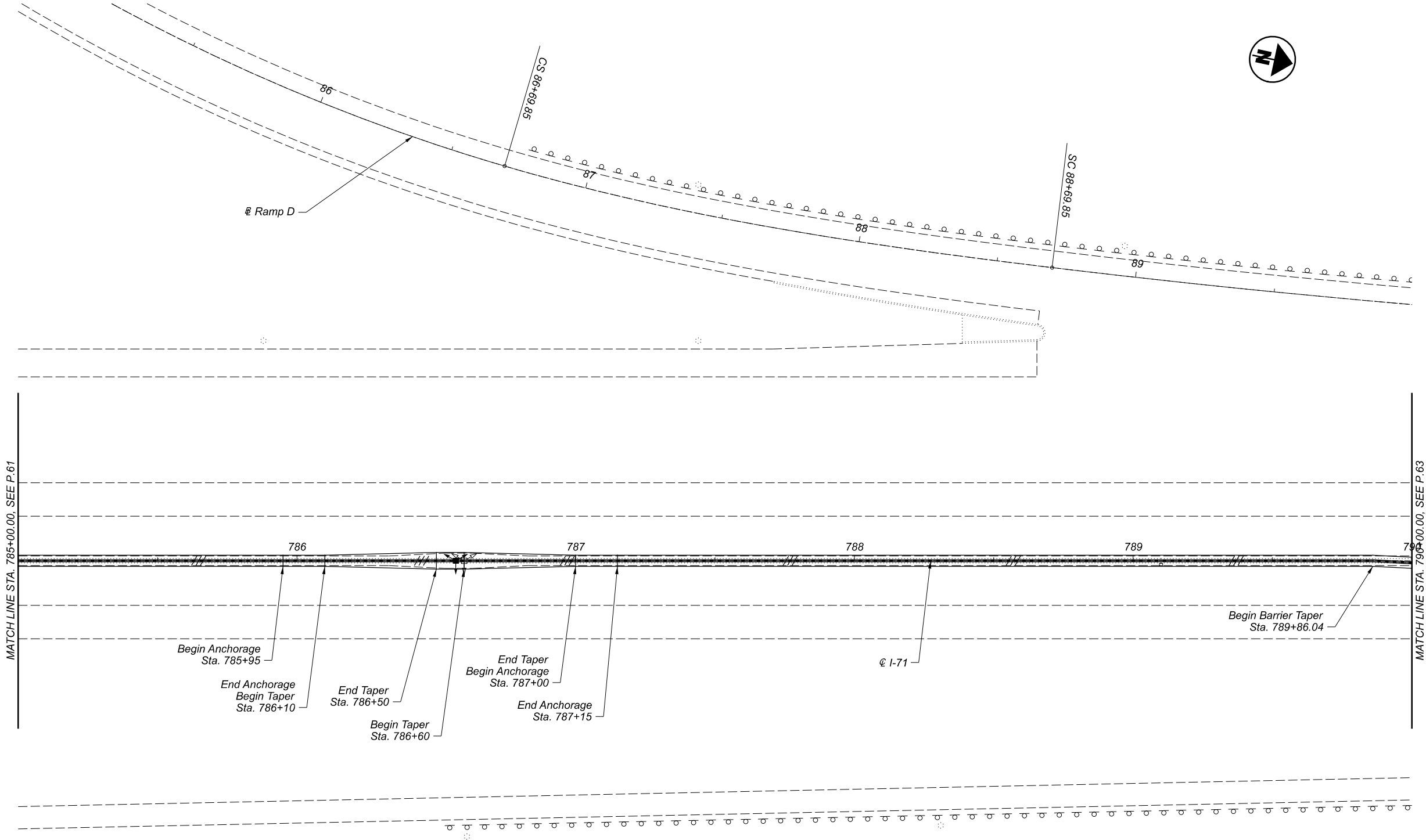
SHEET

P.61

TOTAL

152





For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 785+00 TO STA. 790+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.62

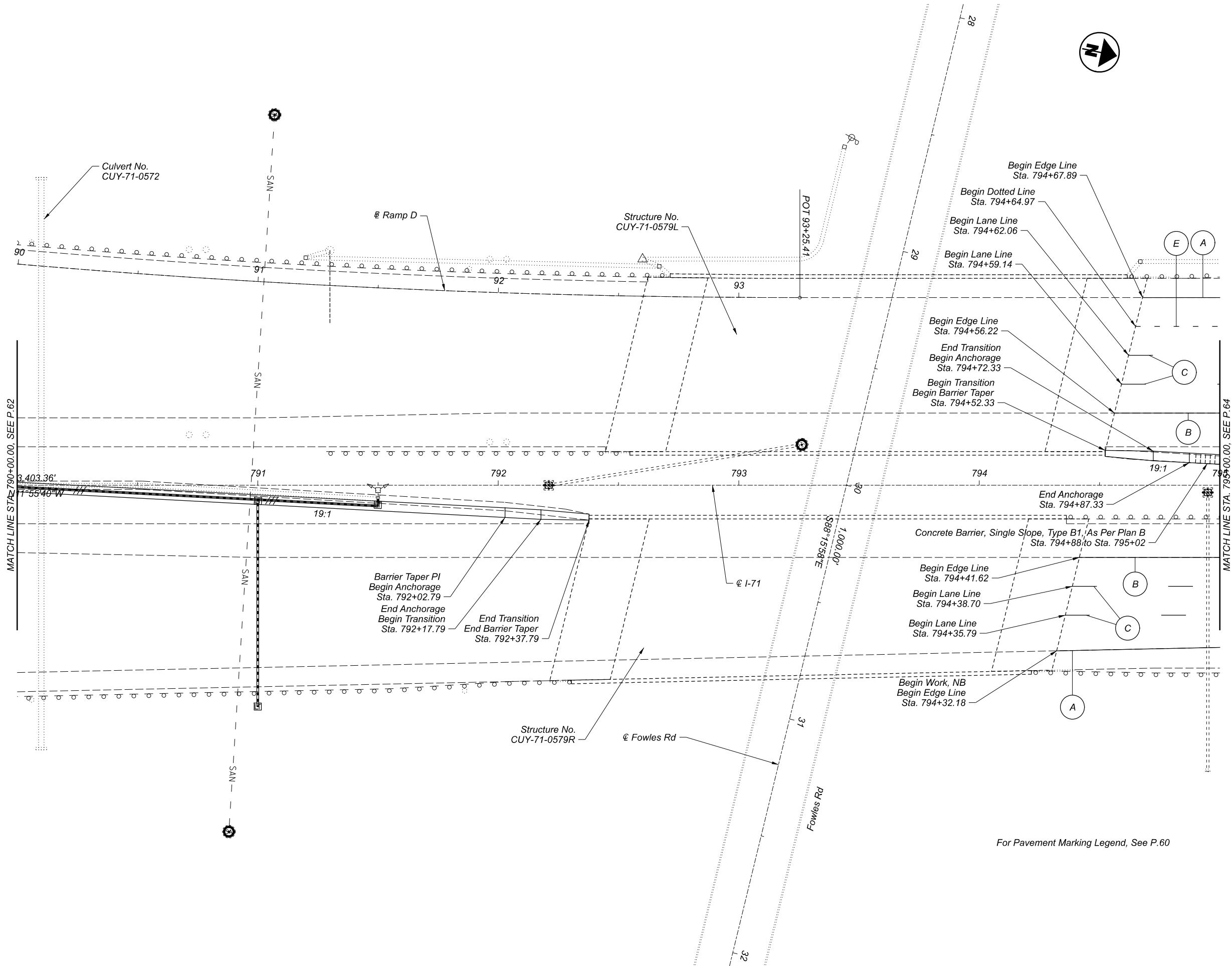
TOTAL

152

HORIZONTAL  
SCALE IN FEET

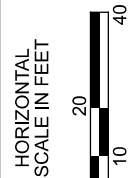






For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 790+00 TO STA. 795+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

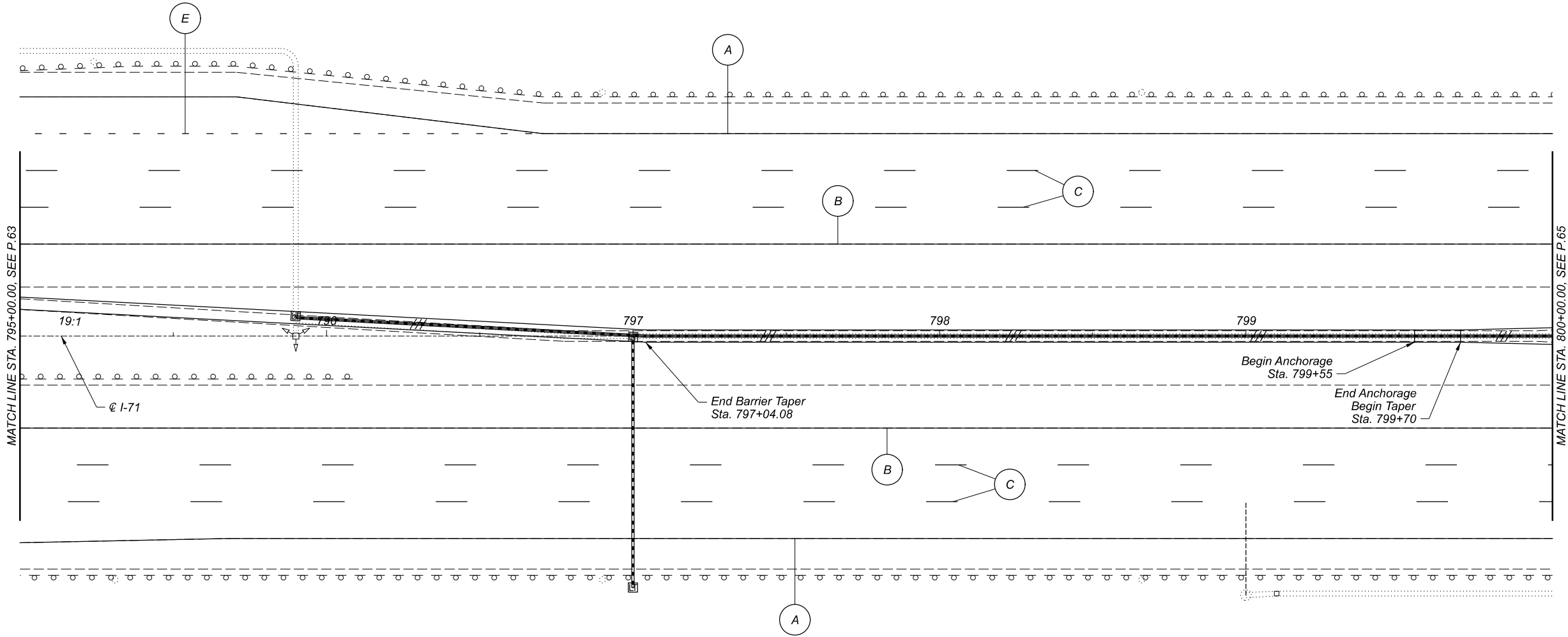
SHEET

P.63

TOTAL

152





For Pavement Marking Legend, See P.60



GENERAL PLAN SHEET  
I.R. 71, STA. 795+00 TO STA. 800+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

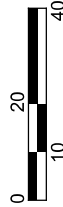
SHEET

P.64

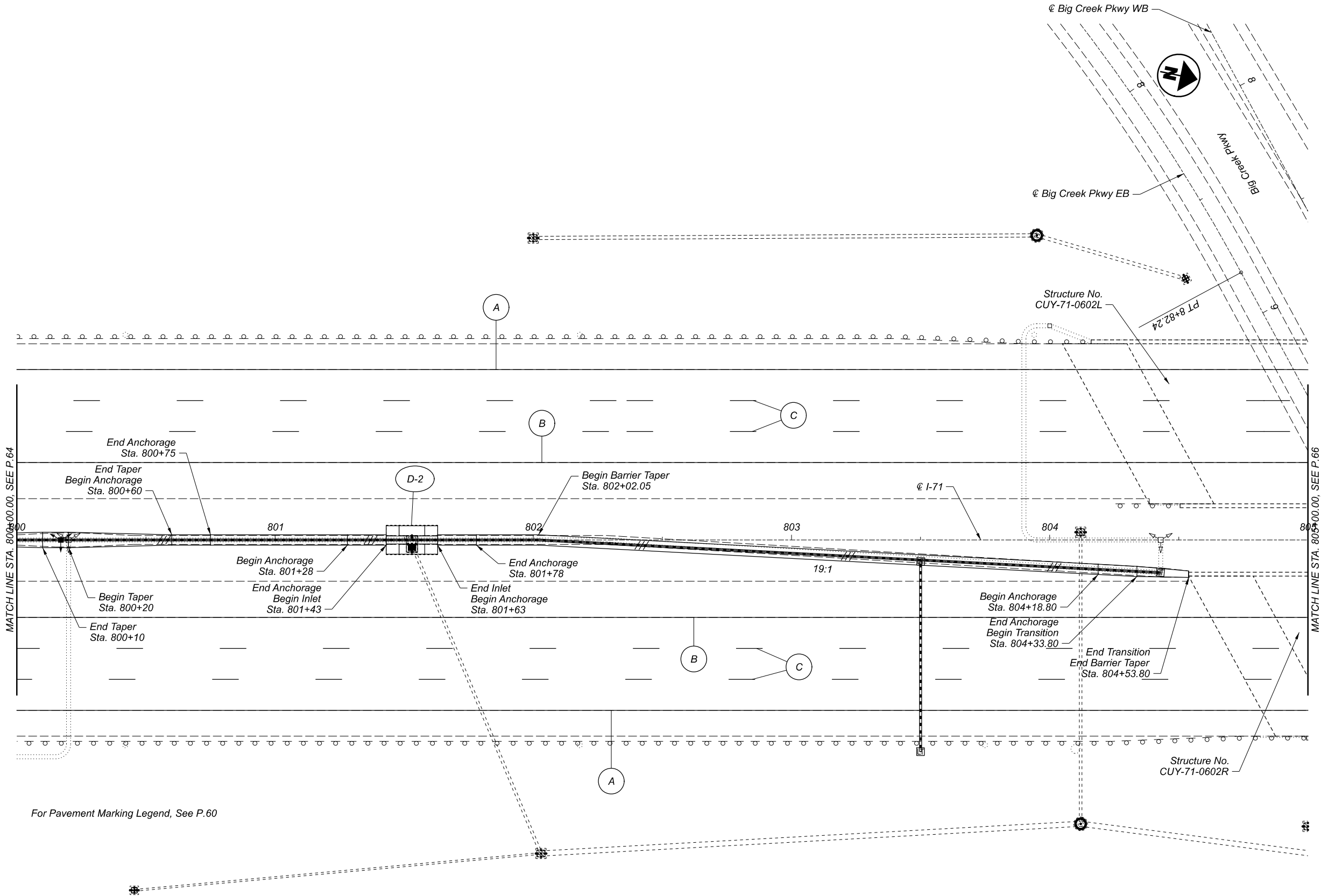
TOTAL

152

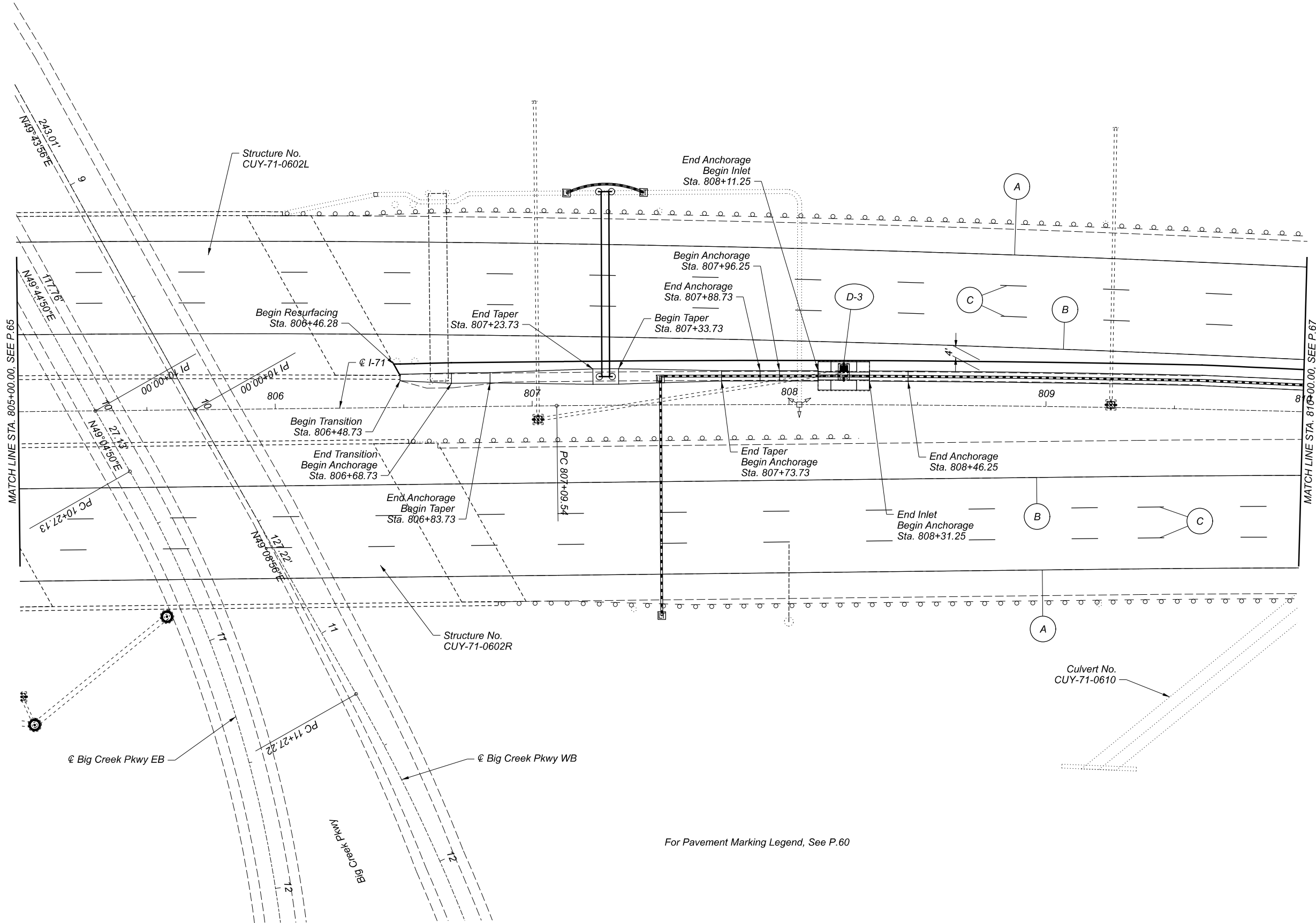
HORIZONTAL  
SCALE IN FEET



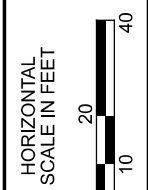






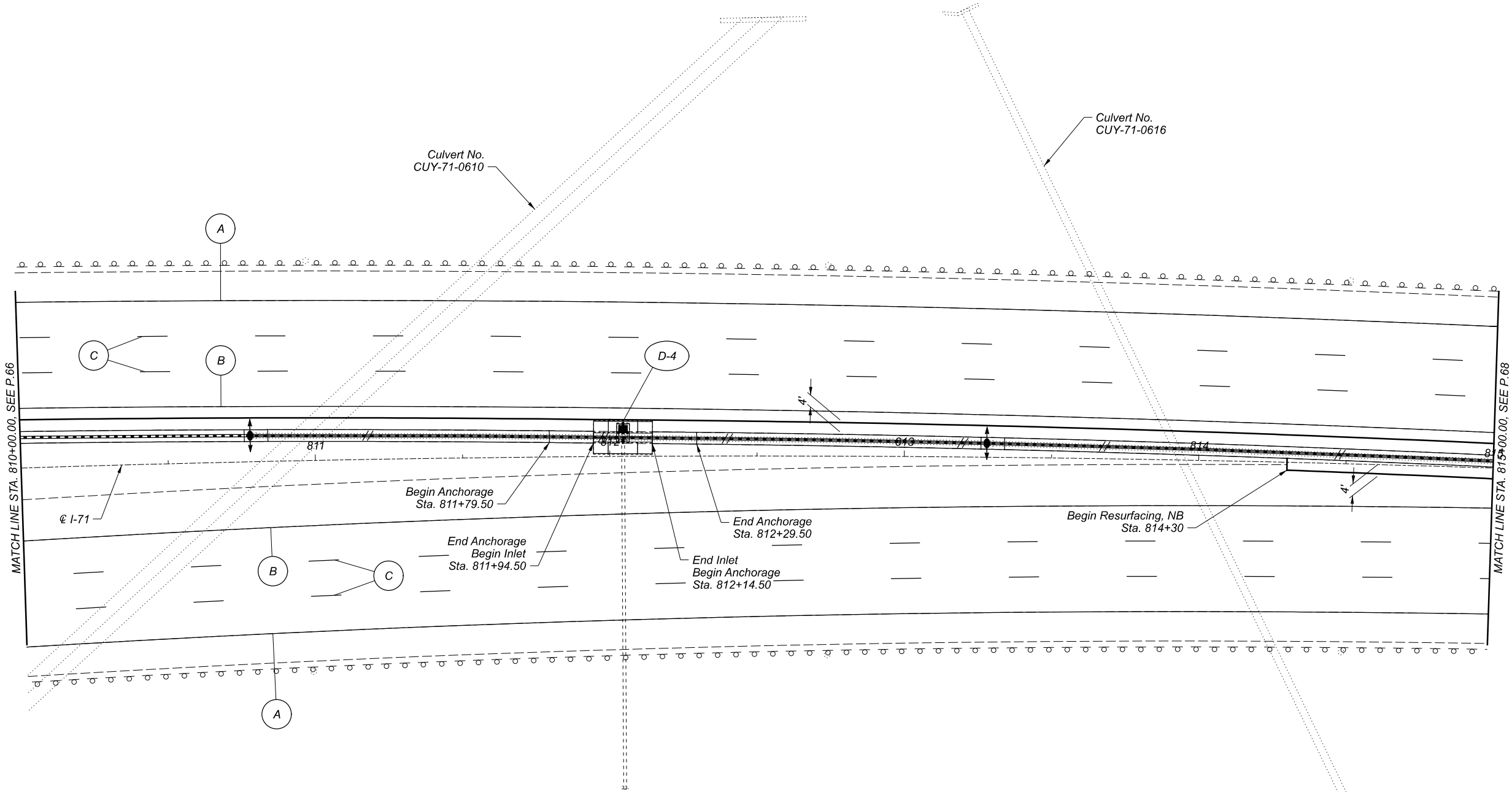


GENERAL PLAN SHEET  
I.R. 71, STA. 805+00 TO STA. 810+00



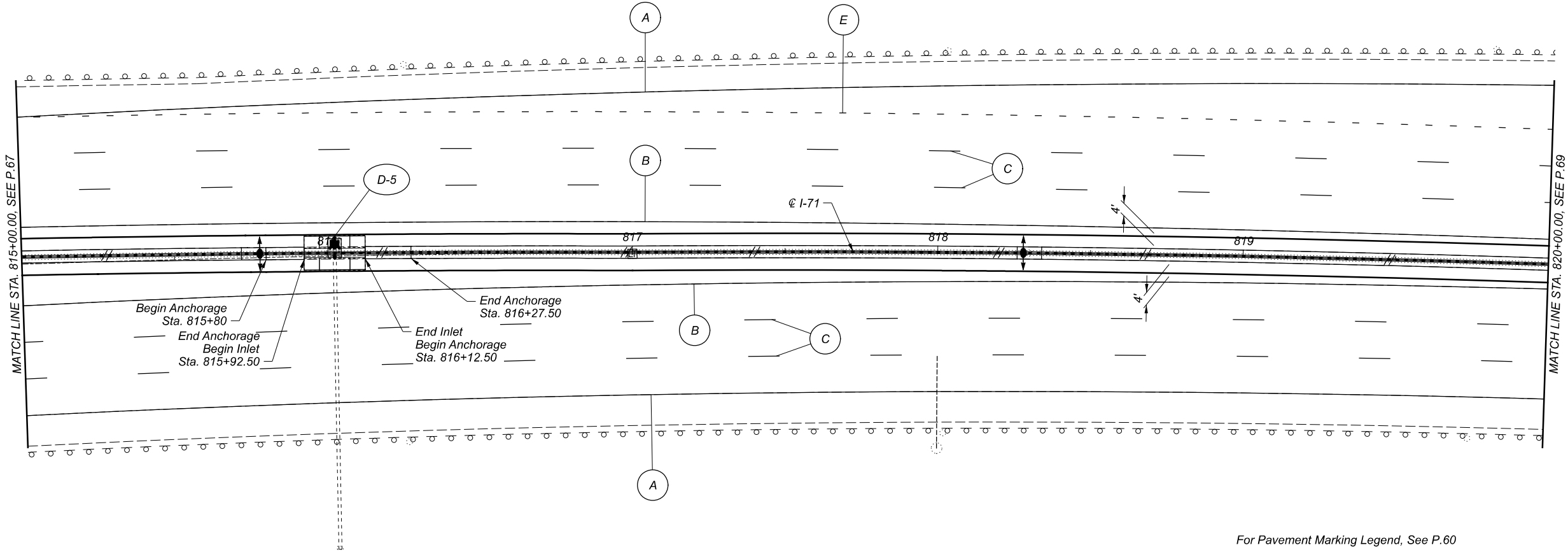
DESIGN AGENCY	
DESIGNER	DAB
REVIEWER	EMK
PROJECT ID	87904
SHEET	P.66
TOTAL	152





For Pavement Marking Legend, See P.60





For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 815+00 TO STA. 820+00



DESIGN AGENCY

DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.68

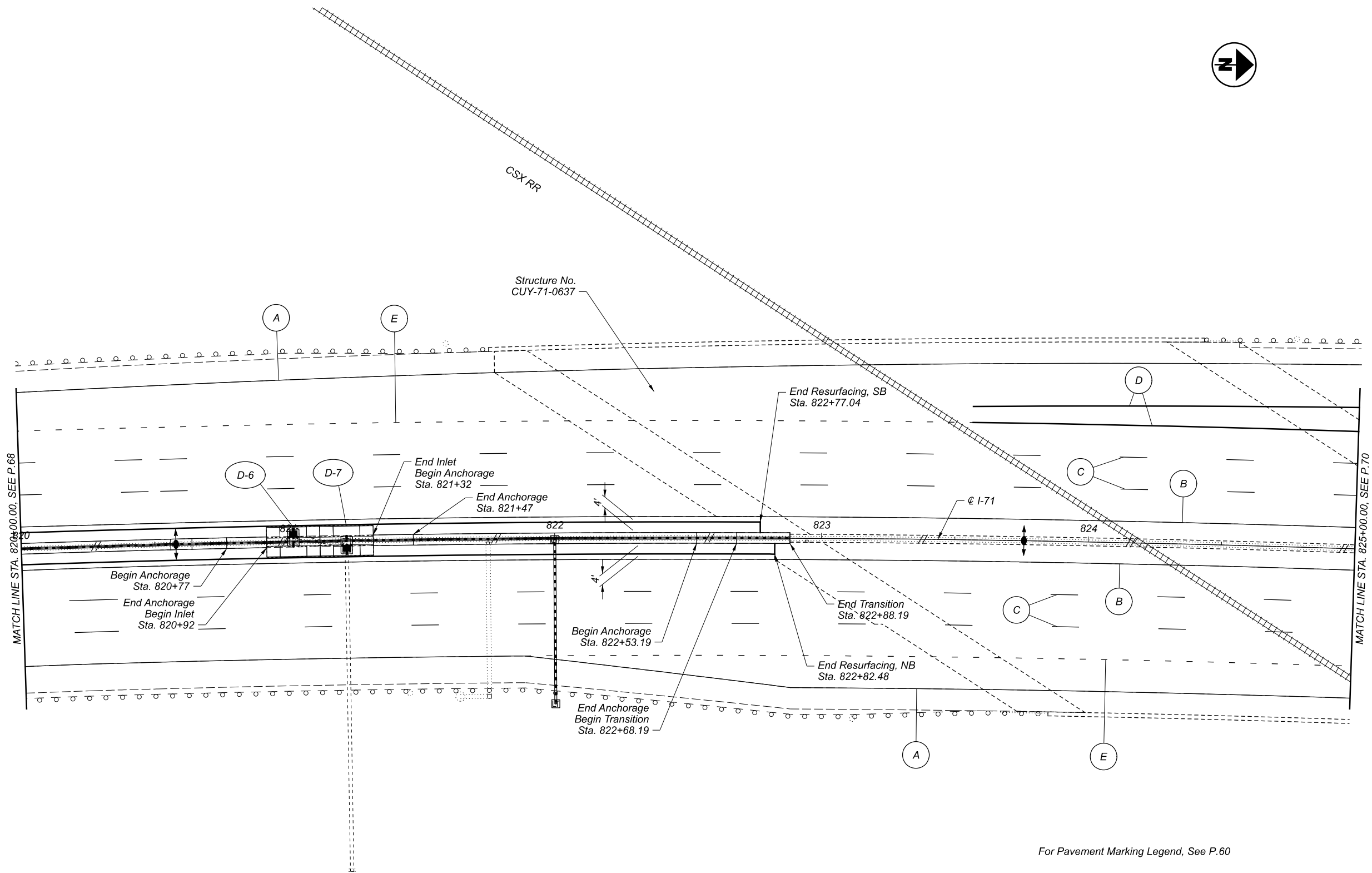
TOTAL

152

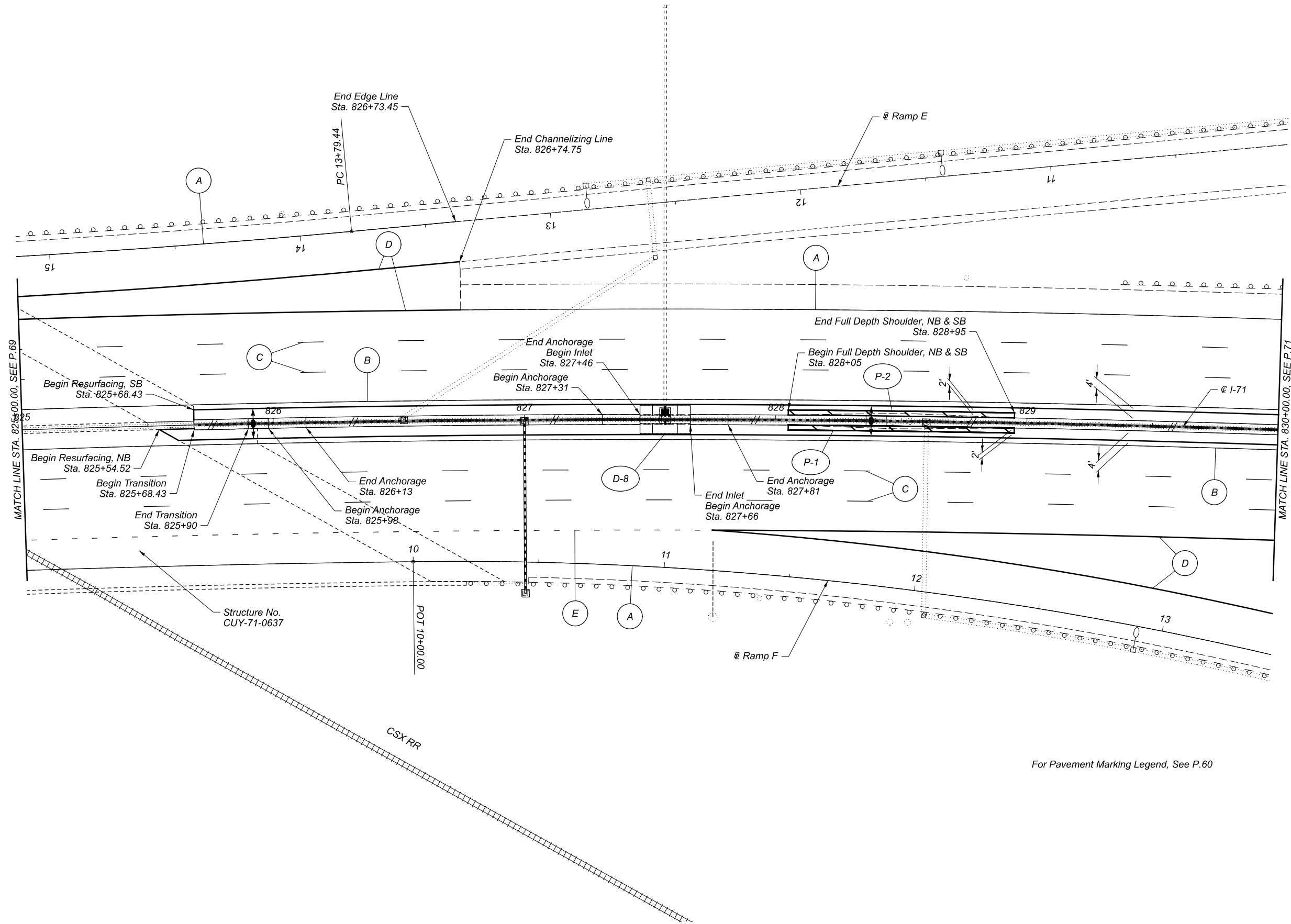


HORIZONTAL  
SCALE IN FEET









For Pavement Marking Legend, See P.60



GENERAL PLAN SHEET  
I.R. 71, STA. 825+00 TO STA. 830+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

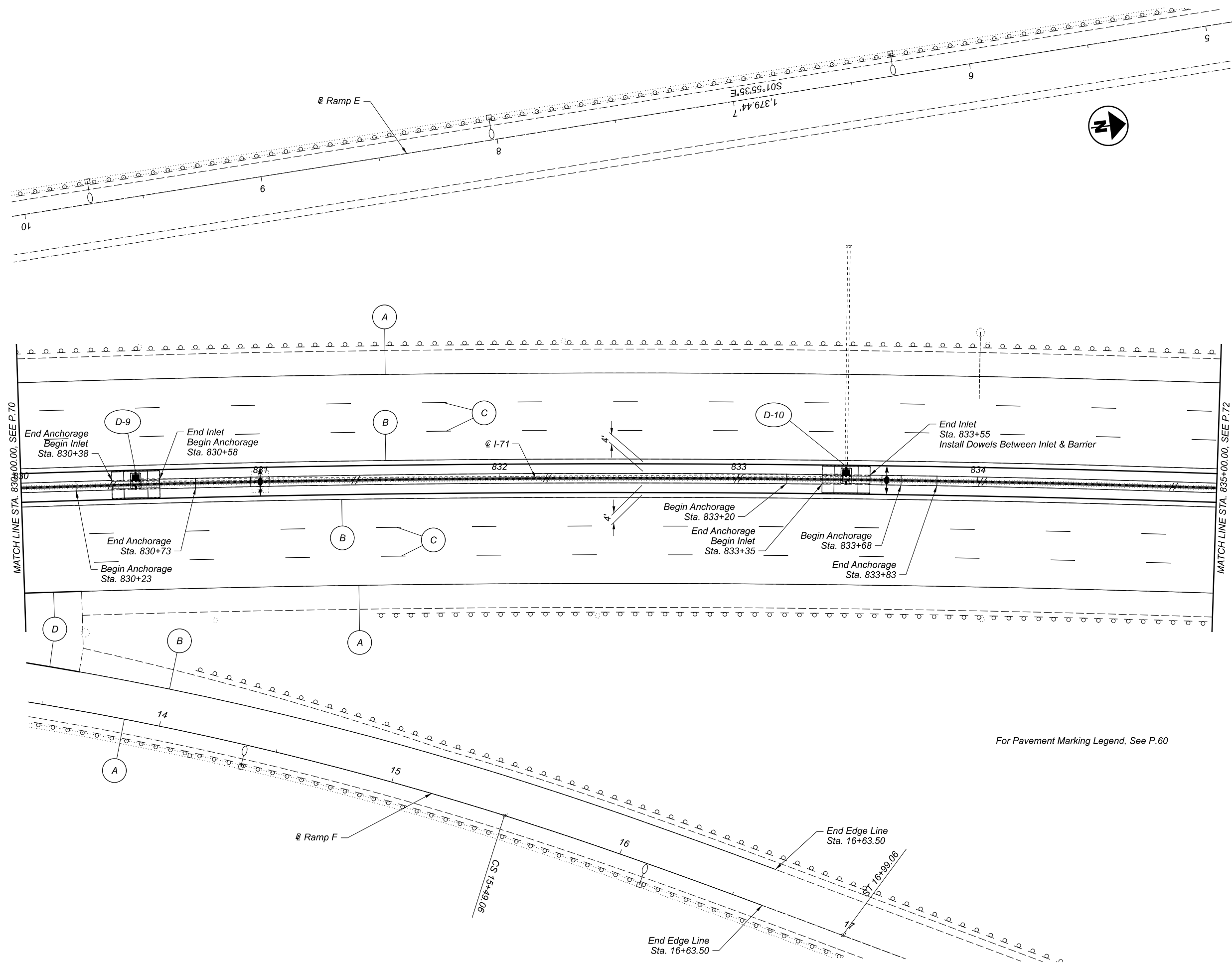
SHEET

P.70

TOTAL

152





For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 830+00 TO STA. 835+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

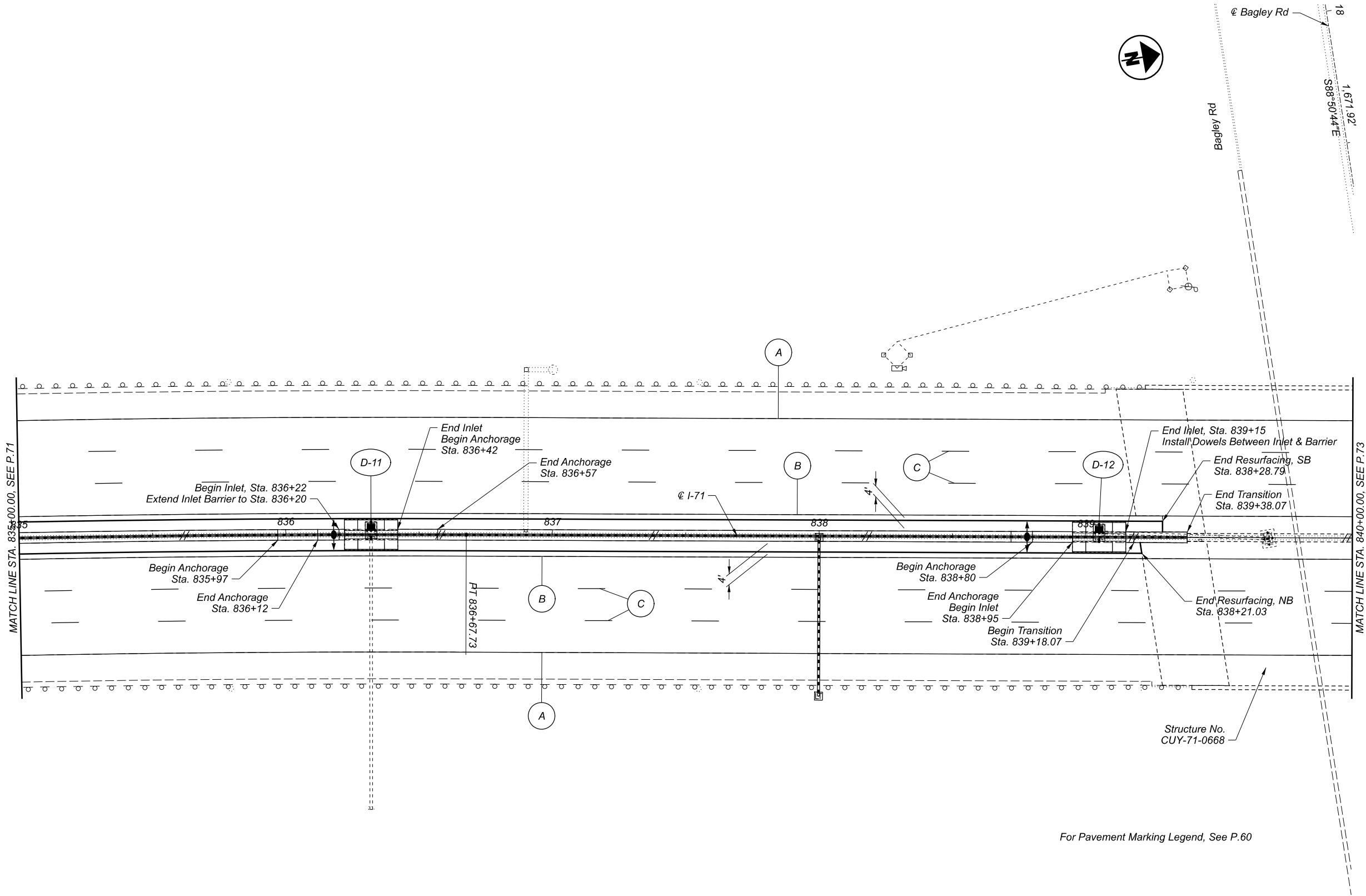
SHEET

P.71

TOTAL

152





GENERAL PLAN SHEET  
I.R. 71, STA. 835+00 TO STA. 840+00



DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

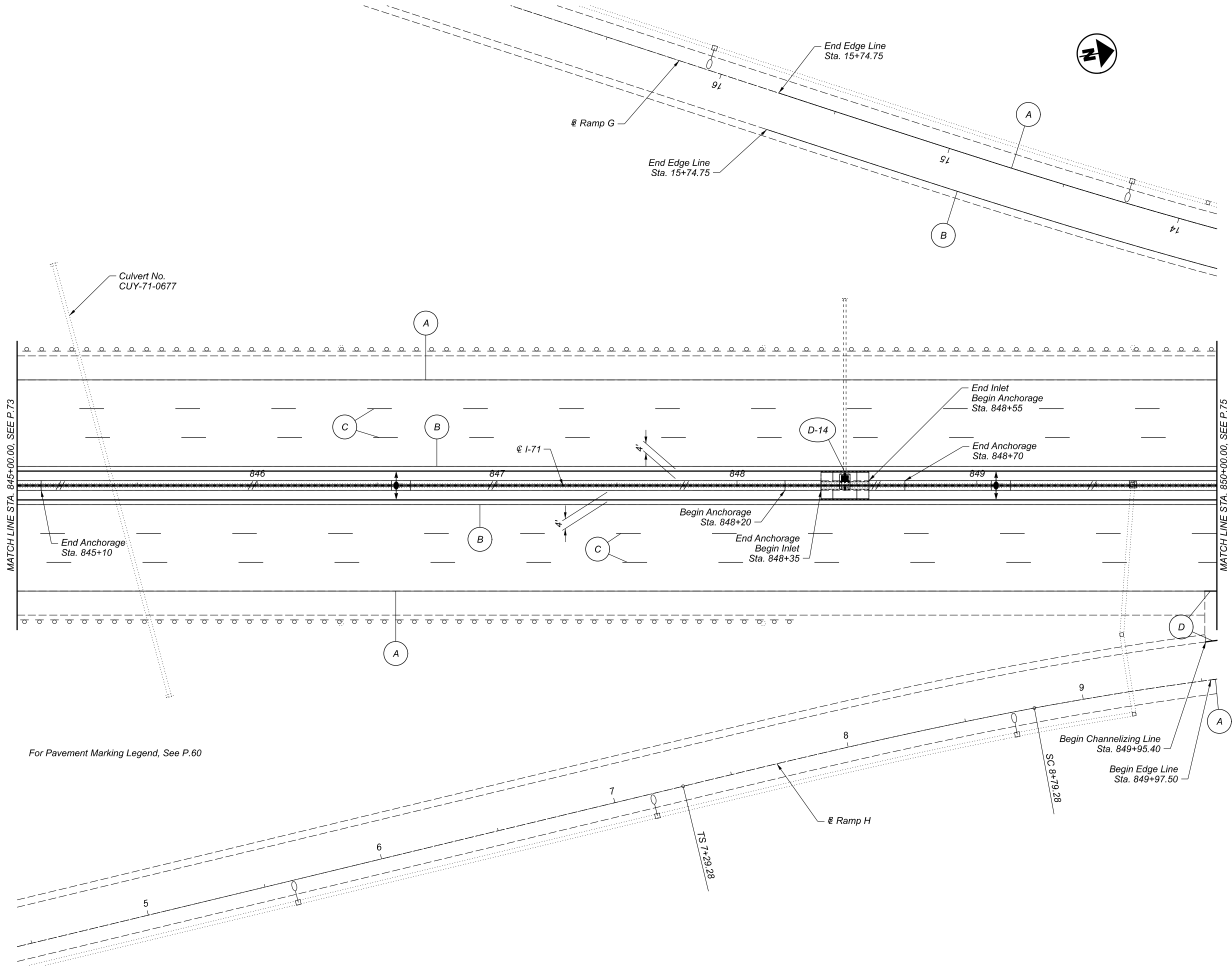
PROJECT ID  
87904

SHEET TOTAL  
P.72 152









For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 845+00 TO STA. 850+00

DESIGN AGENCY



DESIGNER  
DAB

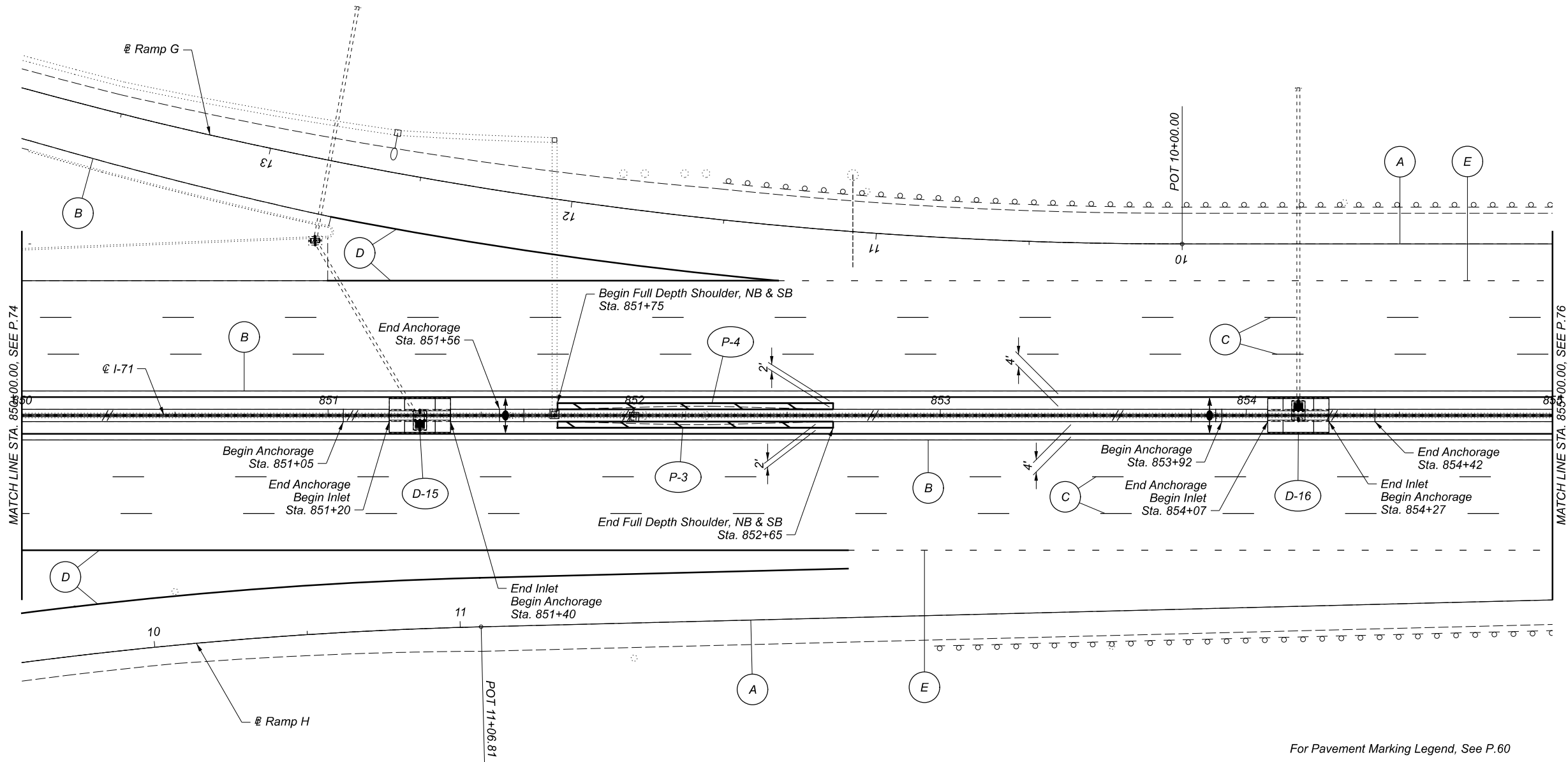
REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET  
P.74

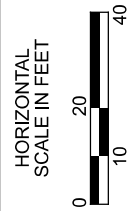
TOTAL  
152





For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 850+00 TO STA. 855+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

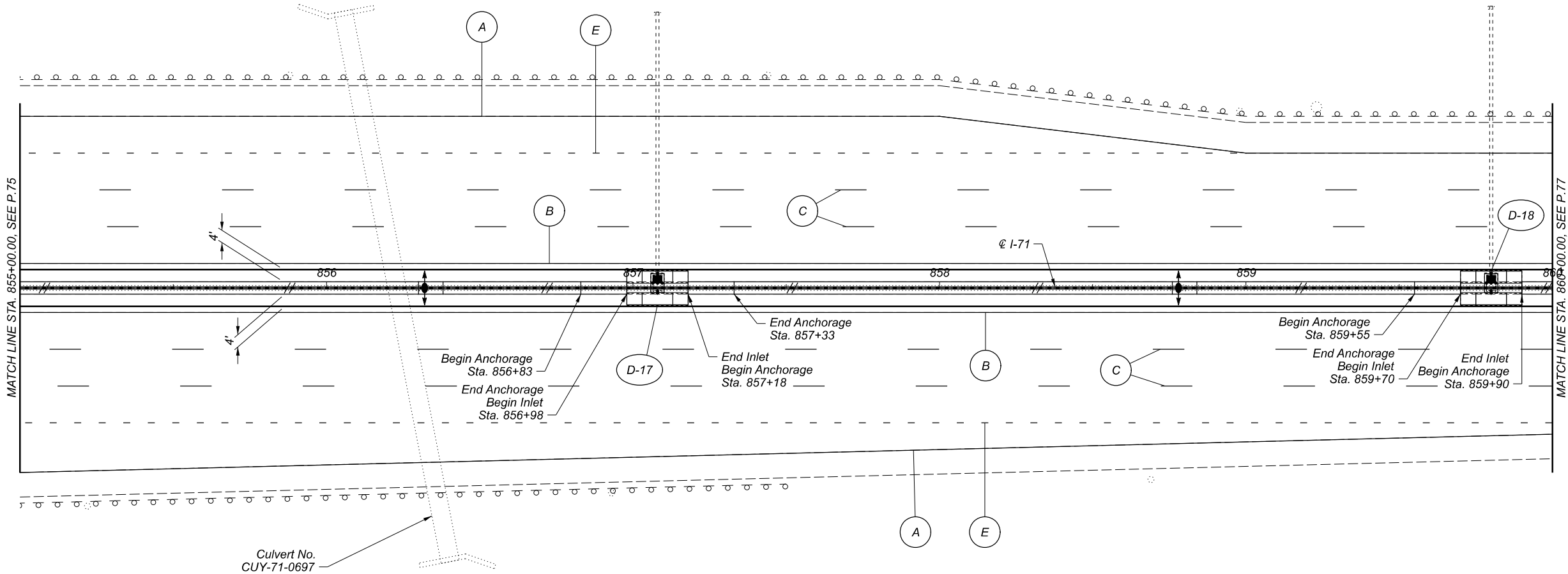
SHEET

P.75

TOTAL

152





For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 855+00 TO STA. 860+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.76

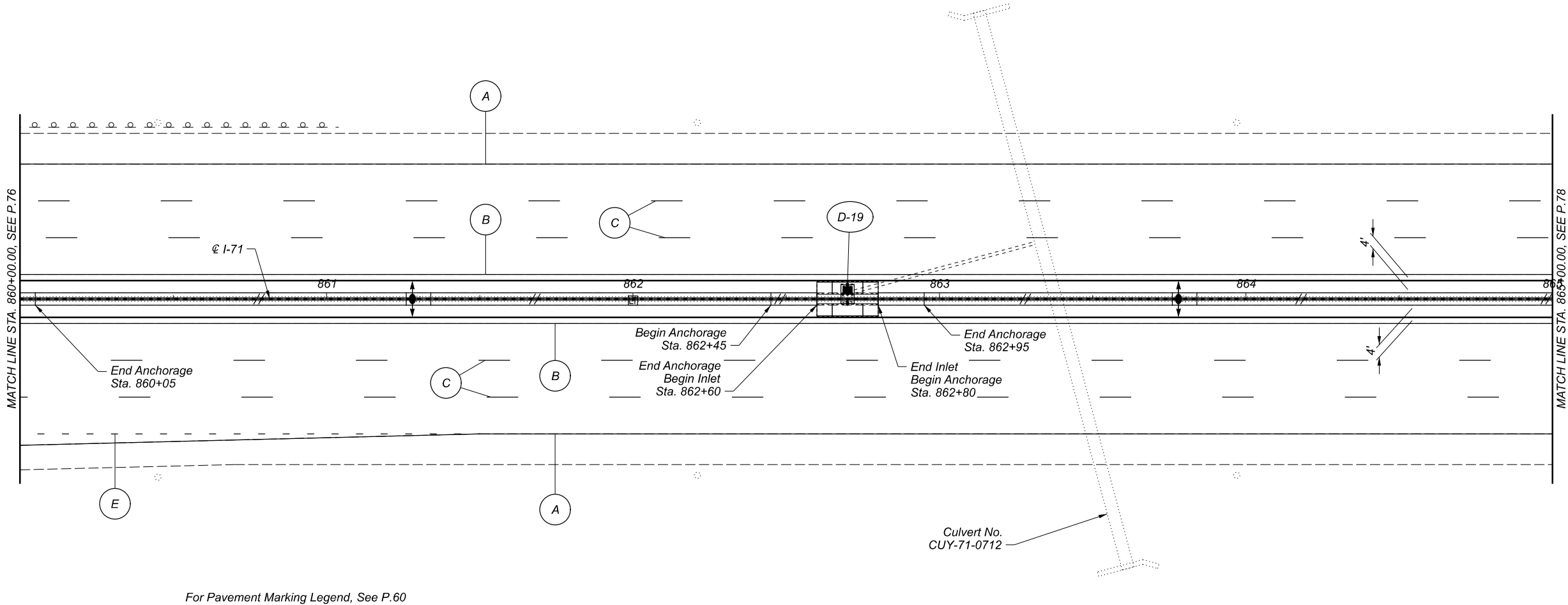
TOTAL

152

HORIZONTAL  
SCALE IN FEET







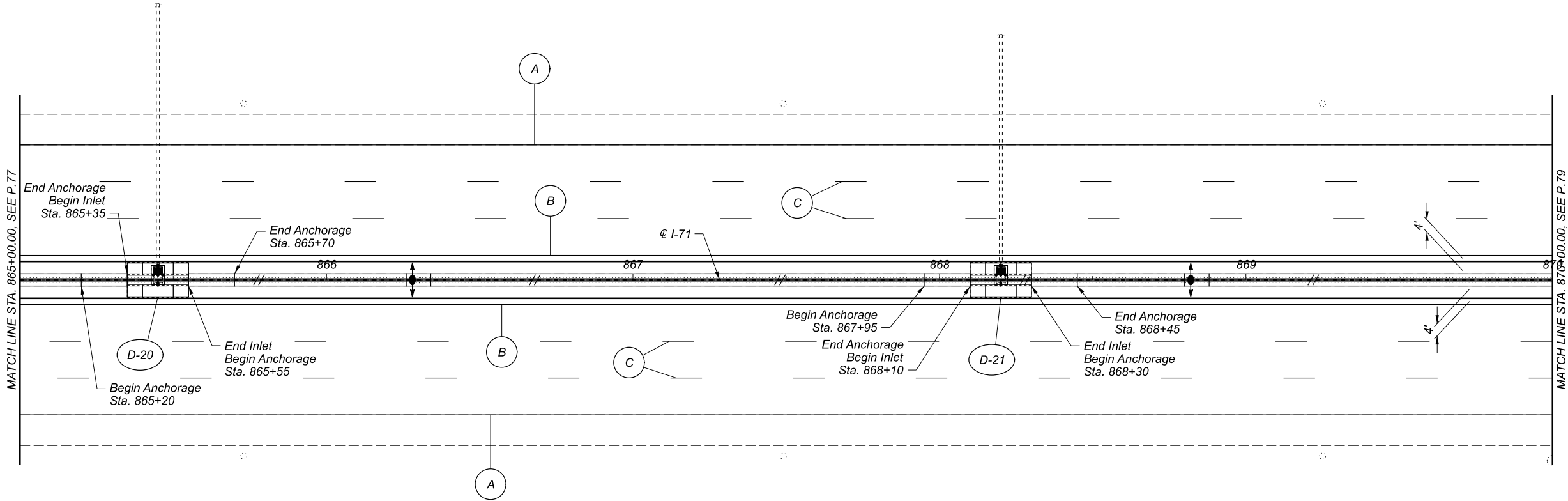
GENERAL PLAN SHEET  
I.R. 71, STA. 860+00 TO STA. 865+00



DESIGNER	
DAB	
REVIEWER	
EMK 10/15/21	
PROJECT ID	
87904	
SHEET	TOTAL
P.77	152







For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 865+00 TO STA. 870+00

DESIGN AGENCY



DESIGNER  
DAB

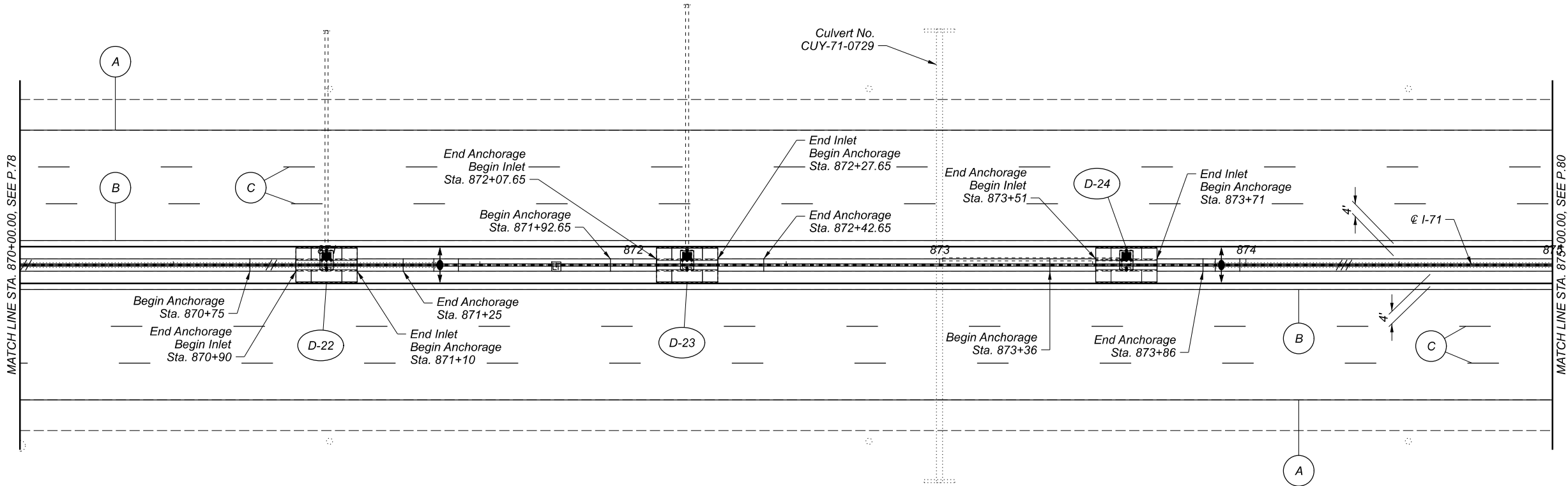
REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET TOTAL  
P.78 152

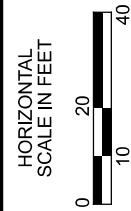






For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 870+00 TO STA. 875+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

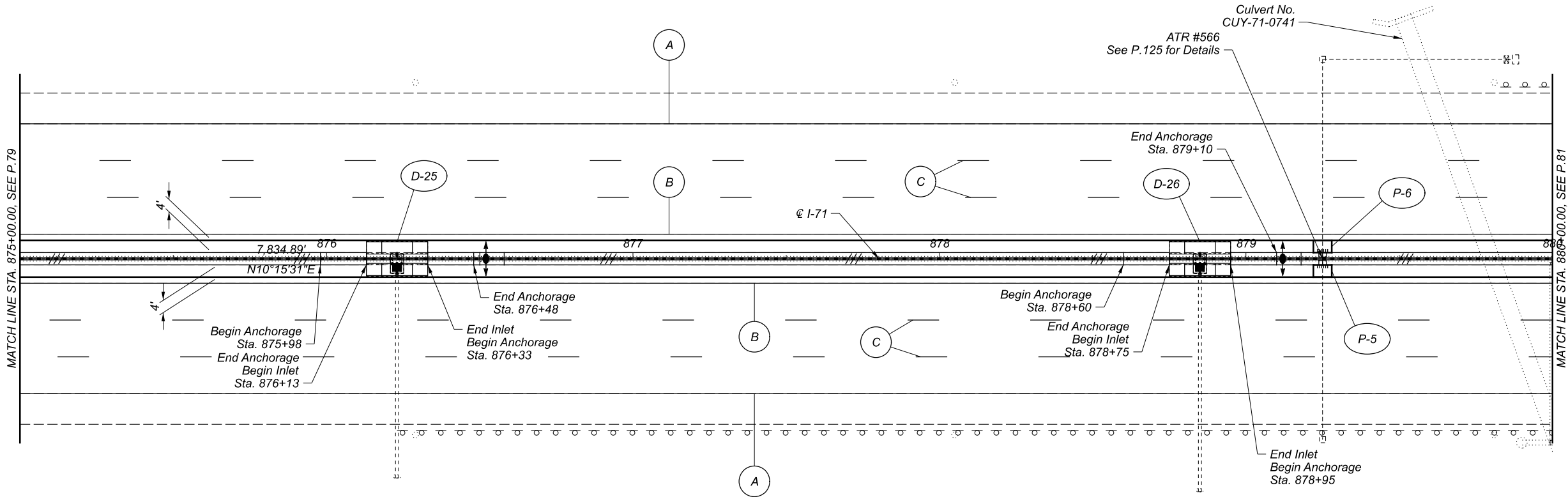
SHEET

P.79

TOTAL

152





For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 875+00 TO STA. 880+00

DESIGN AGENCY



DESIGNER  
DAB

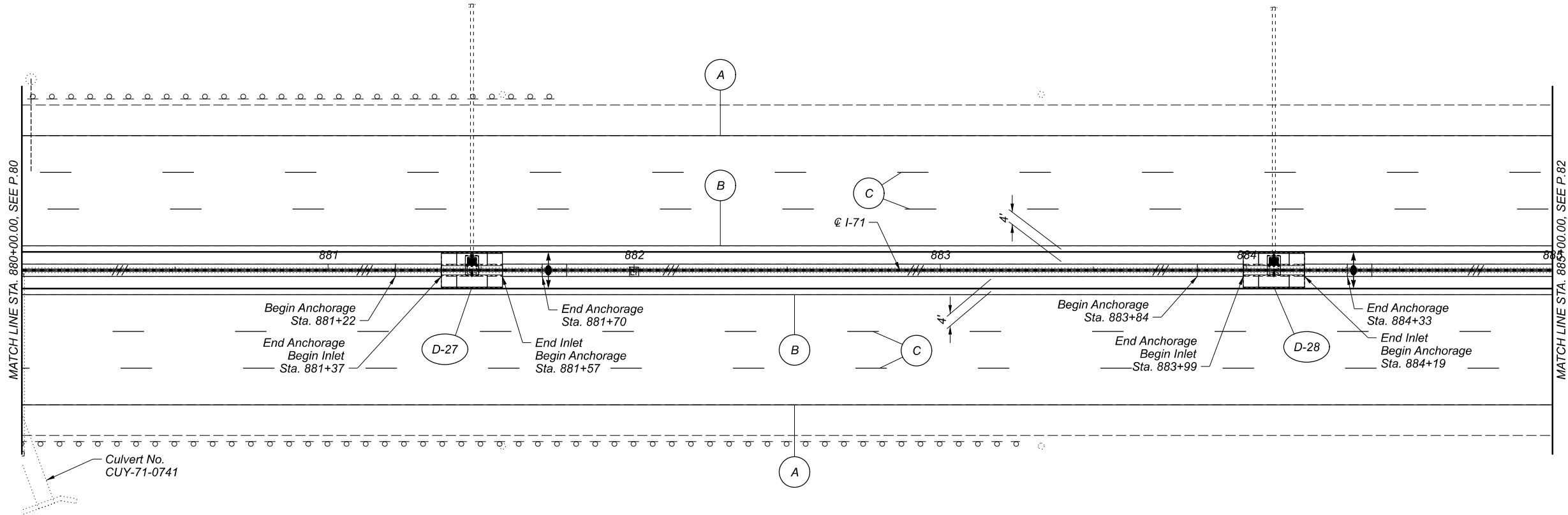
REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET TOTAL  
P.80 152







For Pavement Marking Legend, See P.60



GENERAL PLAN SHEET  
I.R. 71, STA. 880+00 TO STA. 885+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.81

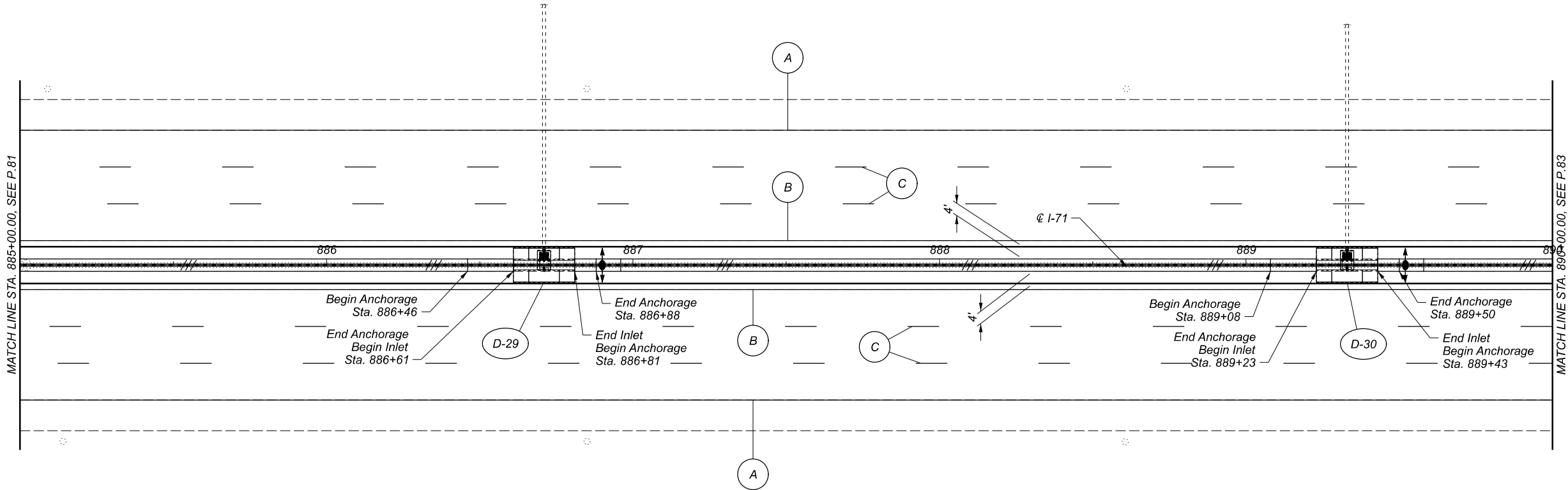
TOTAL

152

HORIZONTAL  
SCALE IN FEET







For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 885+00 TO STA. 890+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.82

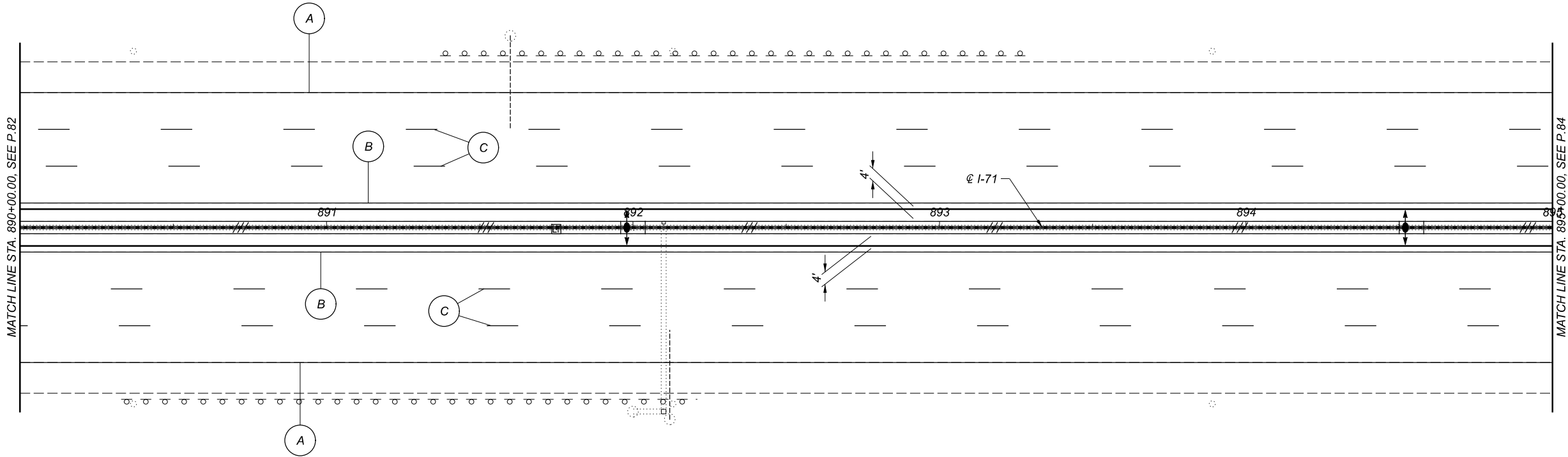
TOTAL

152

HORIZONTAL  
SCALE IN FEET





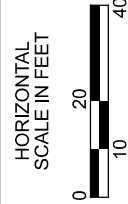


For Pavement Marking Legend, See P.60

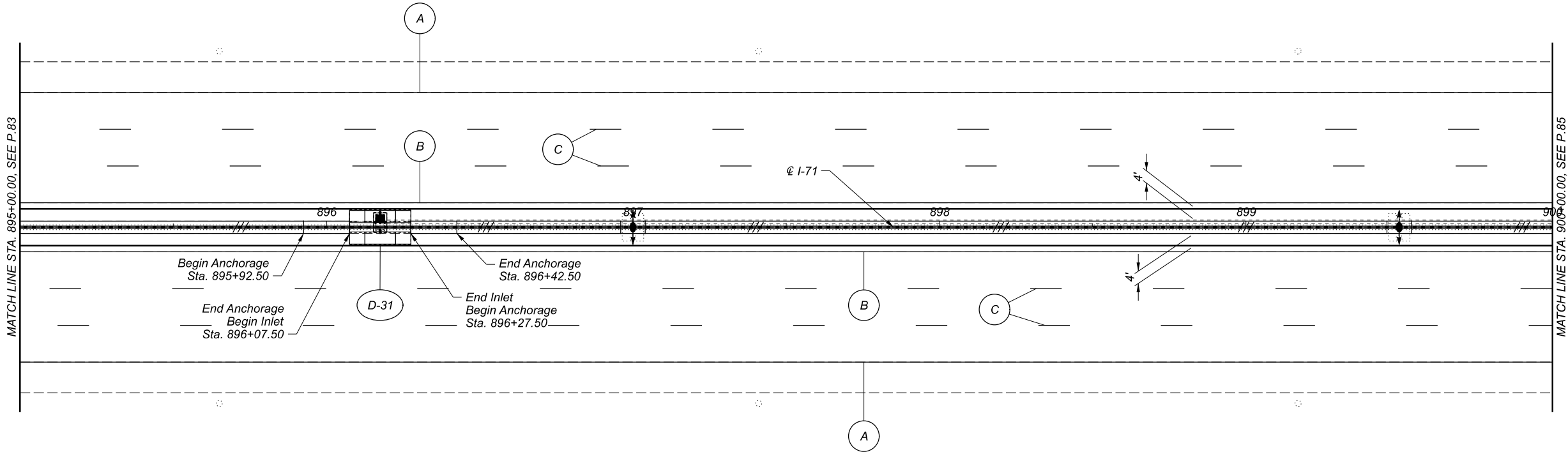
GENERAL PLAN SHEET  
I.R. 71, STA. 890+00 TO STA. 895+00



DESIGNER	
DAB	
REVIEWER	
EMK 10/15/21	
PROJECT ID	
87904	
SHEET	TOTAL
P.83	152







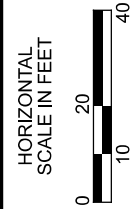
For Pavement Marking Legend, See P.60



GENERAL PLAN SHEET  
I.R. 71, STA. 895+00 TO STA. 900+00



DESIGN AGENCY	
DESIGNER	
DAB	
REVIEWER	
EMK 10/15/21	
PROJECT ID	
87904	
SHEET	TOTAL
P.84	152

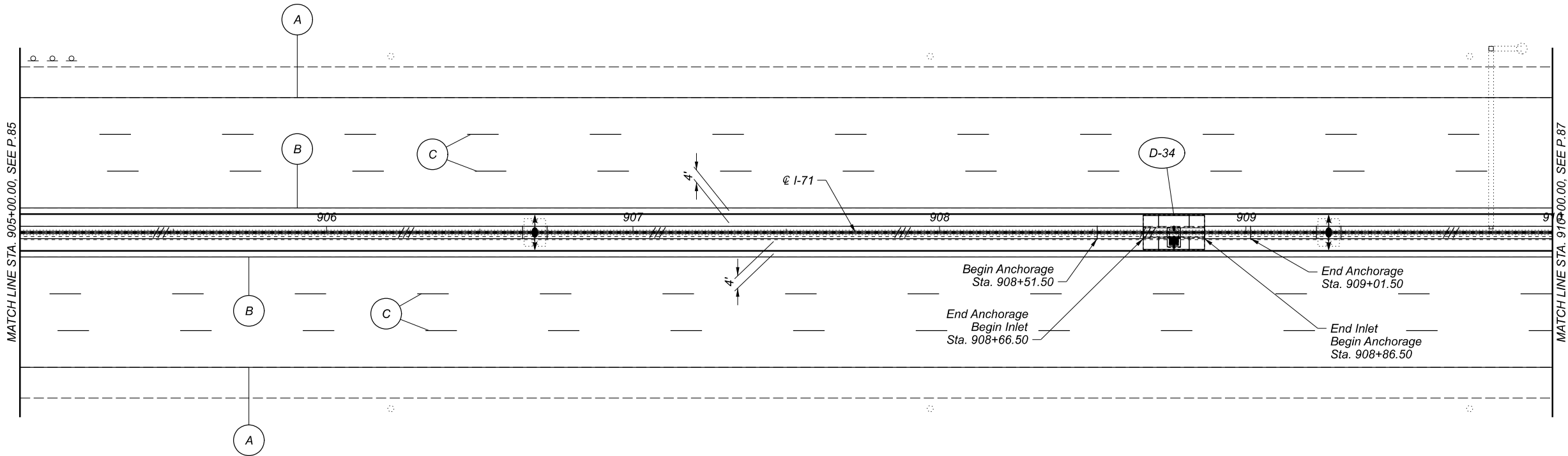






- ## Notes





For Pavement Marking Legend, See P.60



GENERAL PLAN SHEET  
I.R. 71, STA. 905+00 TO STA. 910+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.86

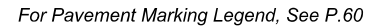
TOTAL

152

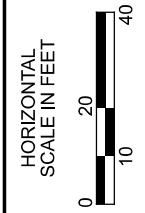
HORIZONTAL  
SCALE IN FEET



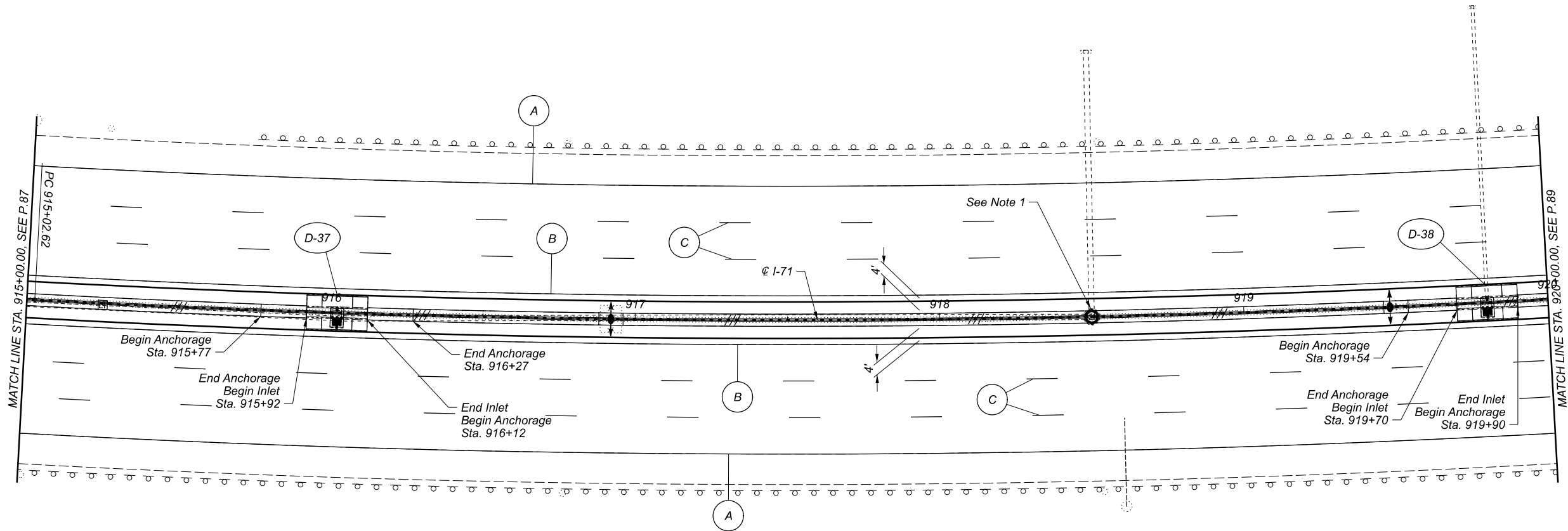




DESIGNER	
DAB	
REVIEWER	
EMK	10/15/21
PROJECT ID	
87904	
SHEET	TOTAL
P.87	152







Notes

- Record plans show a manhole in the median. The location of the manhole could not be verified. The Contractor shall work cautiously in this location to ensure the manhole is not damaged if it exists under the barrier.

For Pavement Marking Legend, See P.60



GENERAL PLAN SHEET  
I.R. 71, STA. 915+00 TO STA. 920+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.88

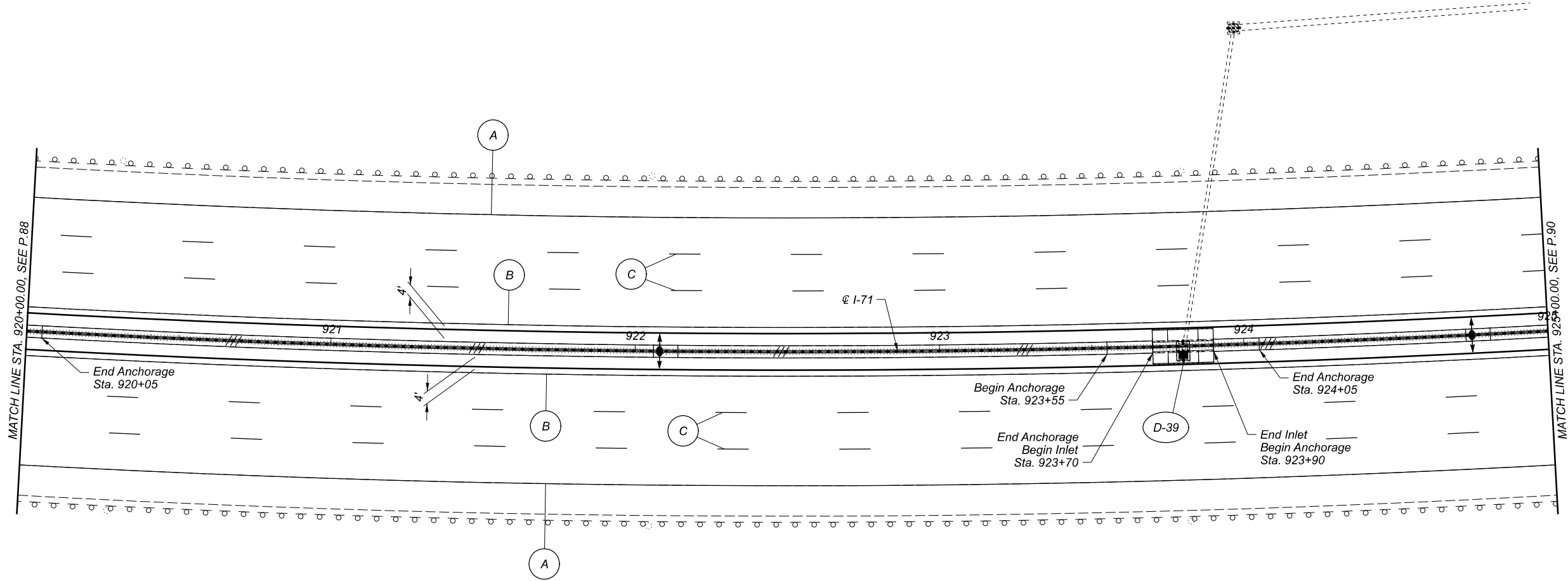
TOTAL

152

HORIZONTAL  
SCALE IN FEET







For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 920+00 TO STA. 925+00

DESIGN AGENCY



DESIGNER  
DAB

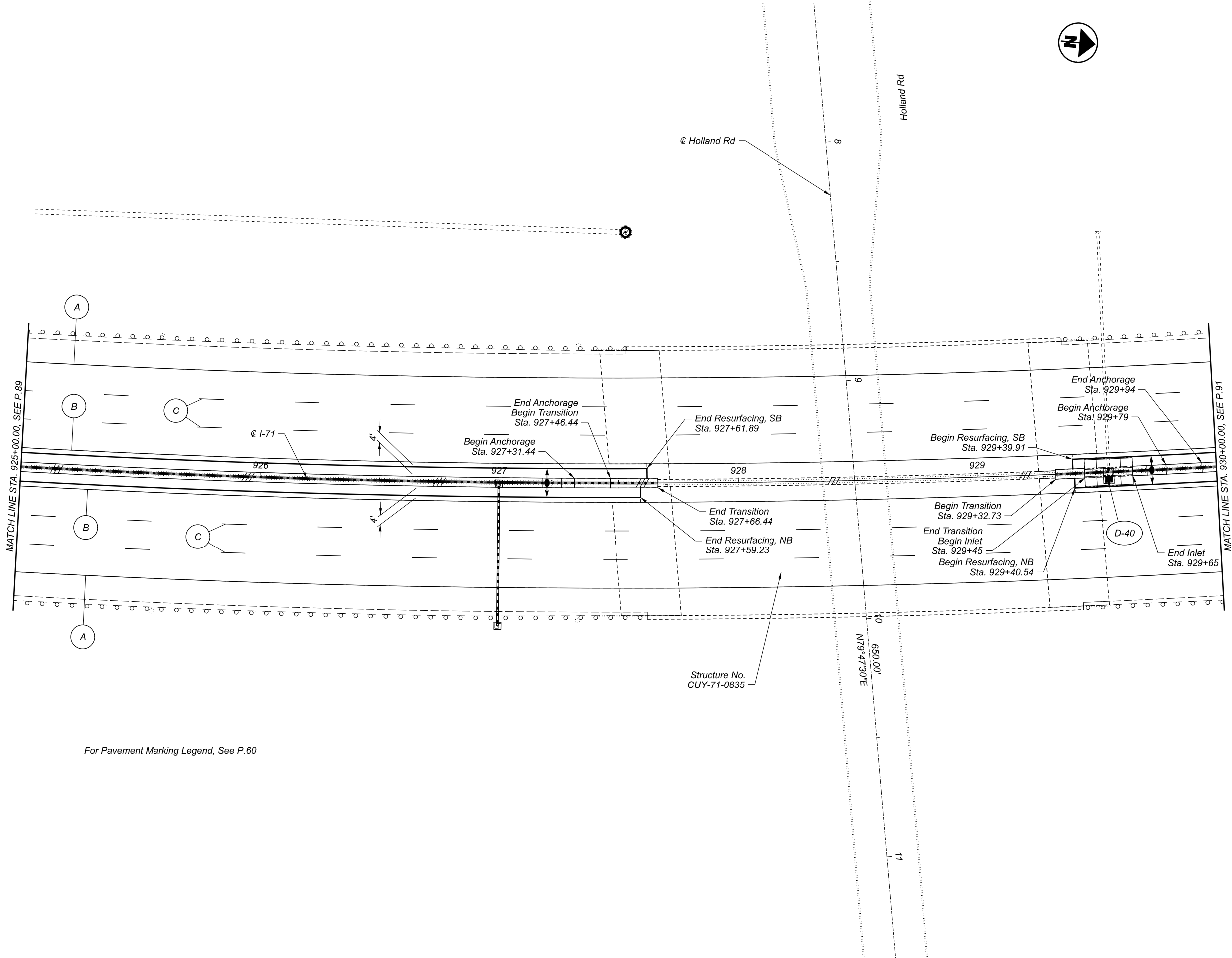
REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET	TOTAL
P.89	152







For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 925+00 TO STA. 930+00

DESIGN AGENCY



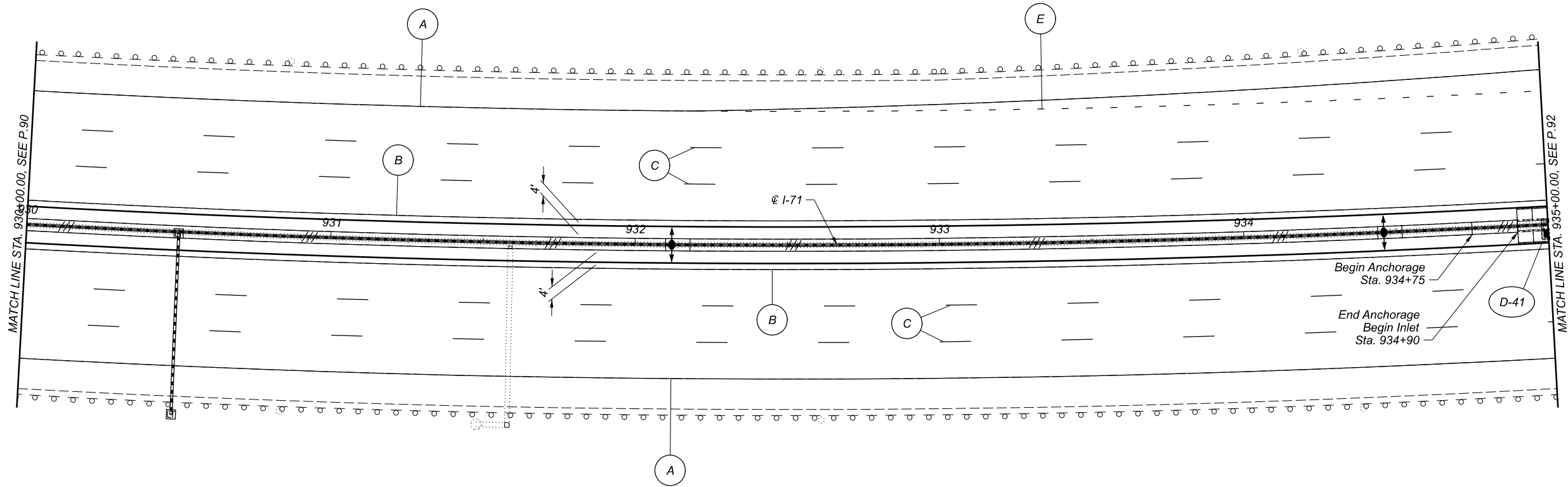
DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET TOTAL  
P.90 152





For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 930+00 TO STA. 935+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.91

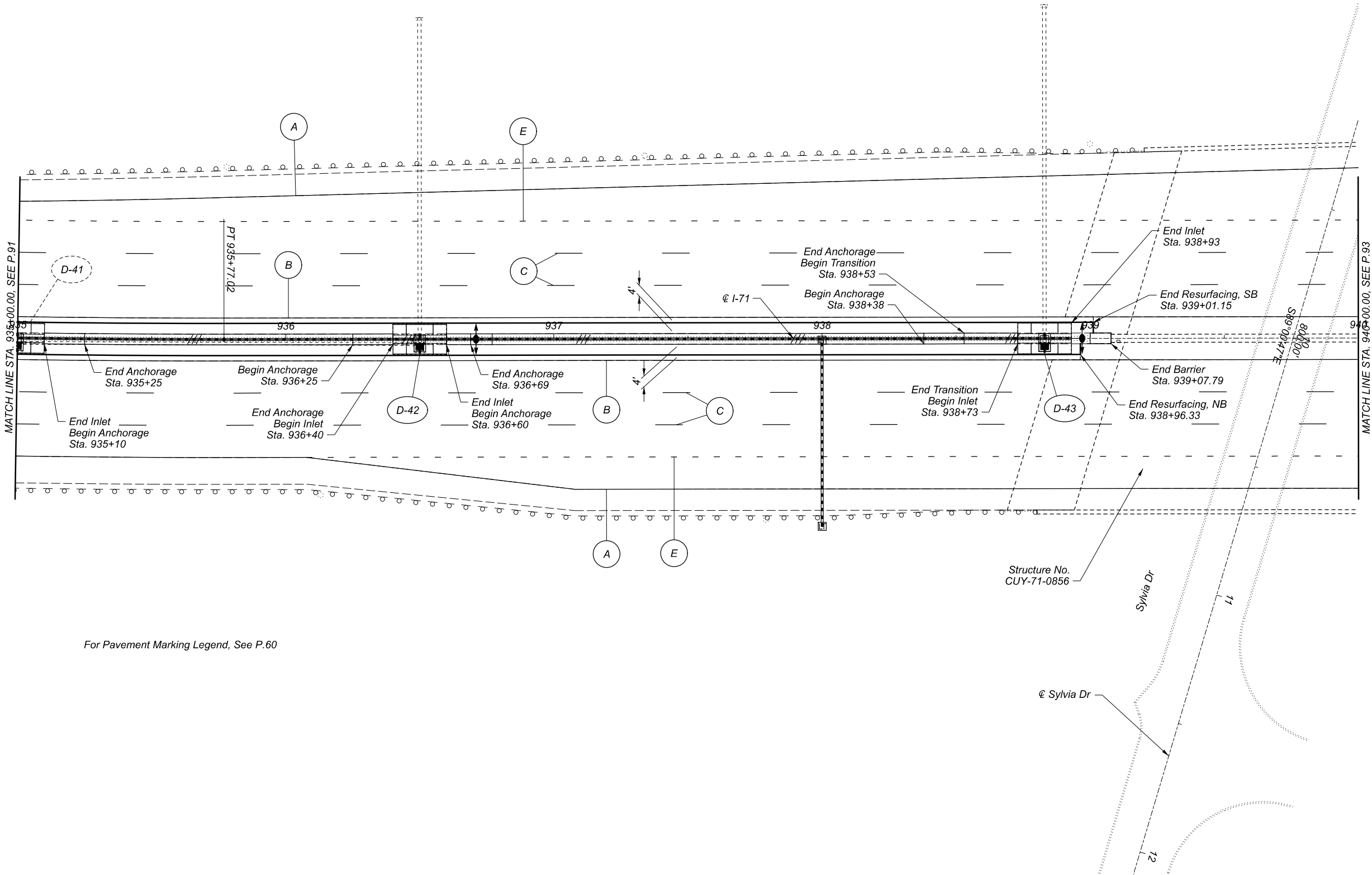
TOTAL

152

HORIZONTAL  
SCALE IN FEET







For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 935+00 TO STA. 940+00

DESIGN AGENCY



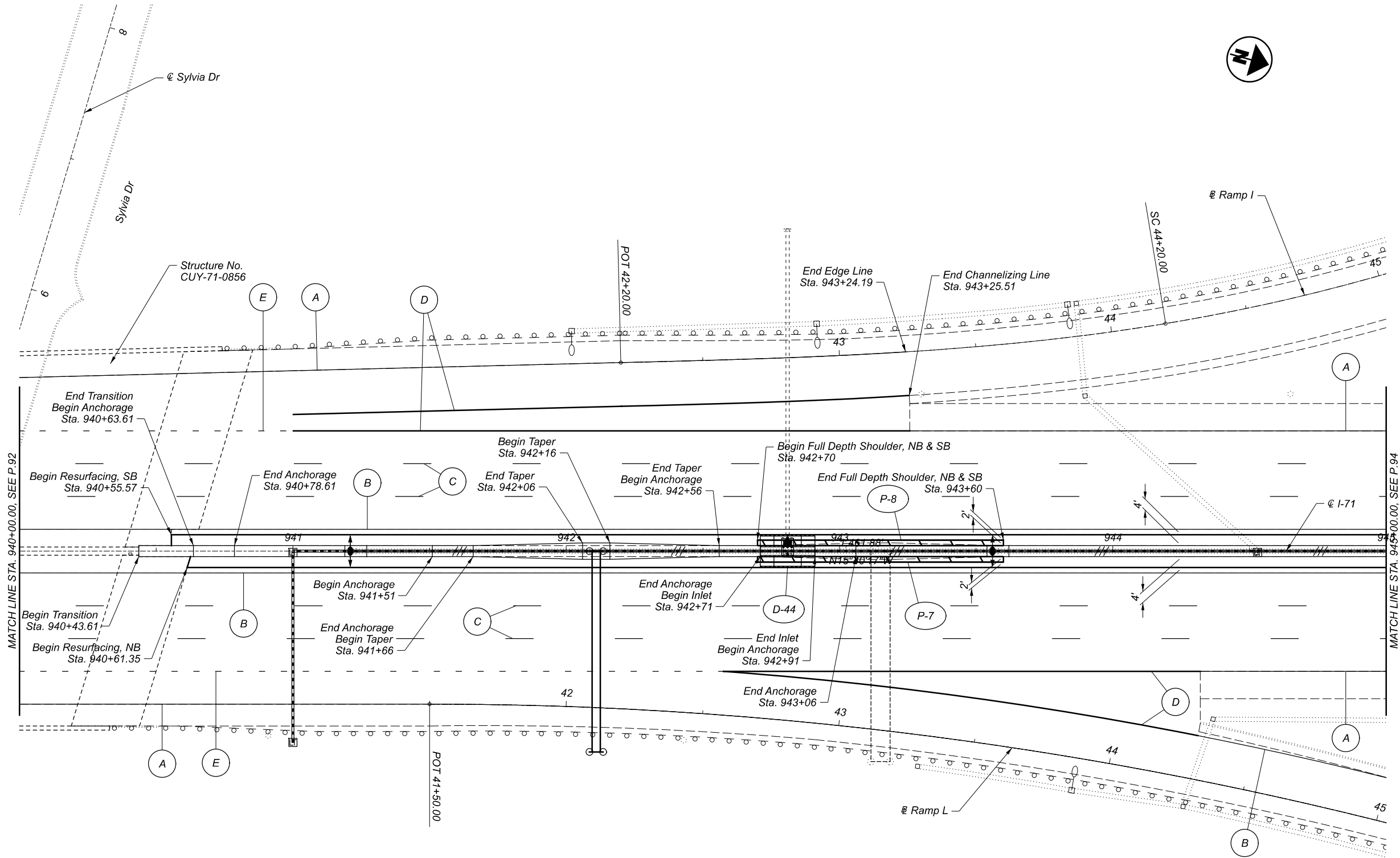
DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET TOTAL  
P.92 152

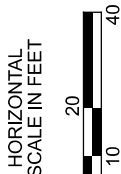




For Pavement Marking Legend, See P.60



GENERAL PLAN SHEET  
I.R. 71, STA. 940+00 TO STA. 945+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

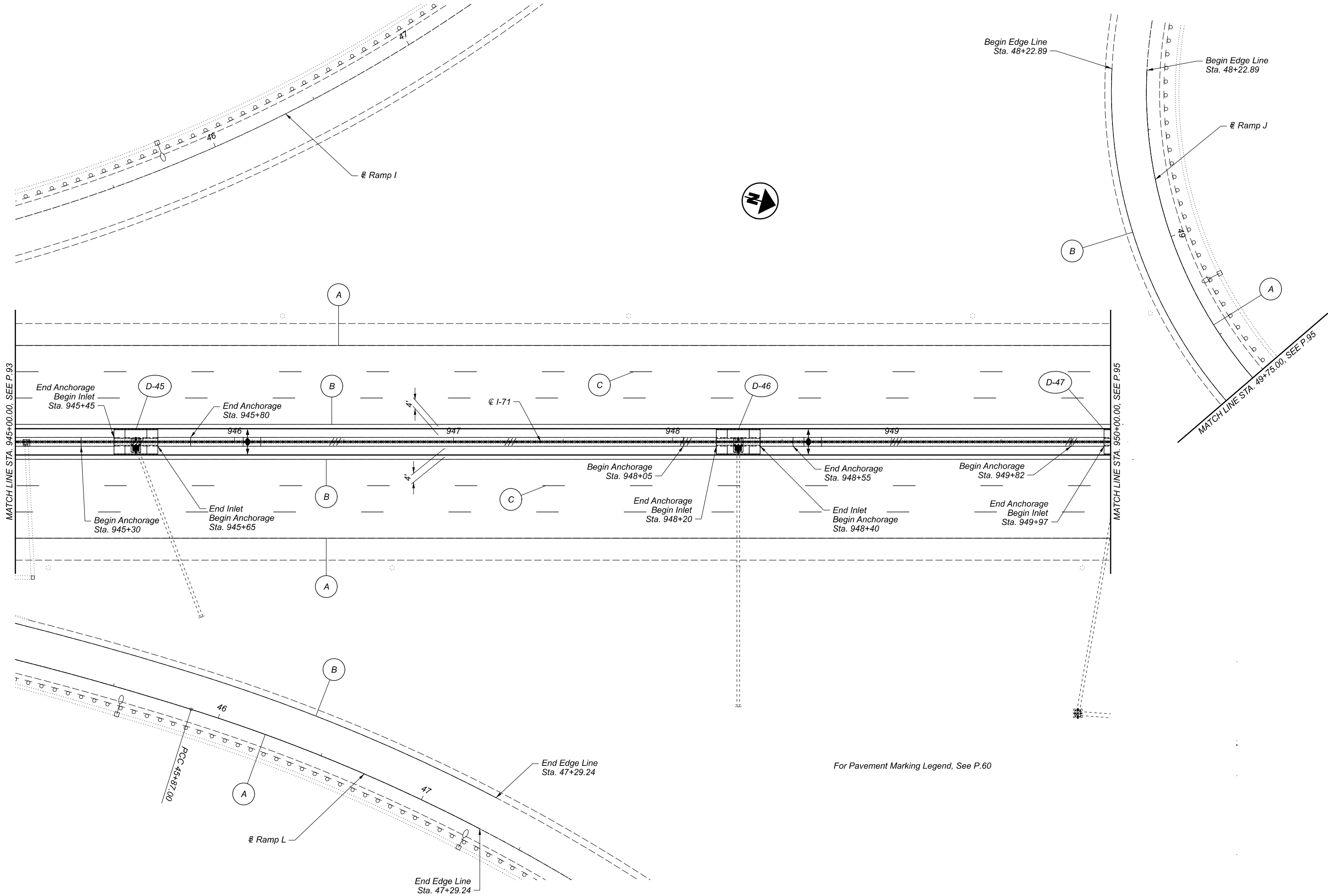
SHEET

P.93

TOTAL

152





GENERAL PLAN SHEET  
I.R. 71, STA. 945+00 TO STA. 950+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

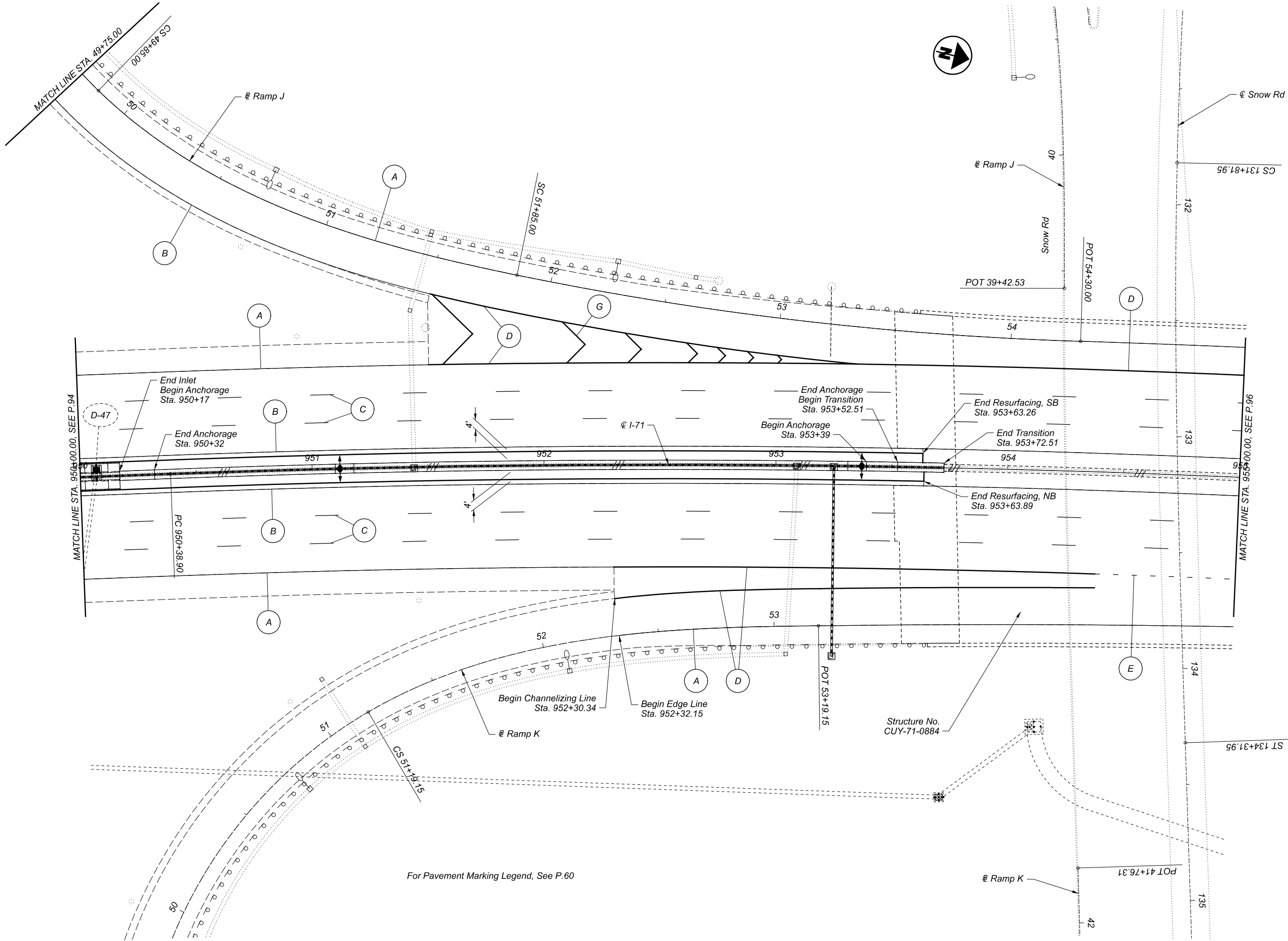
SHEET

P.94

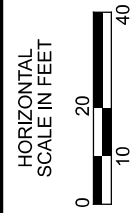
TOTAL

152





GENERAL PLAN SHEET  
I.R. 71, STA. 950+00 TO STA. 955+00



DESIGN AGENCY



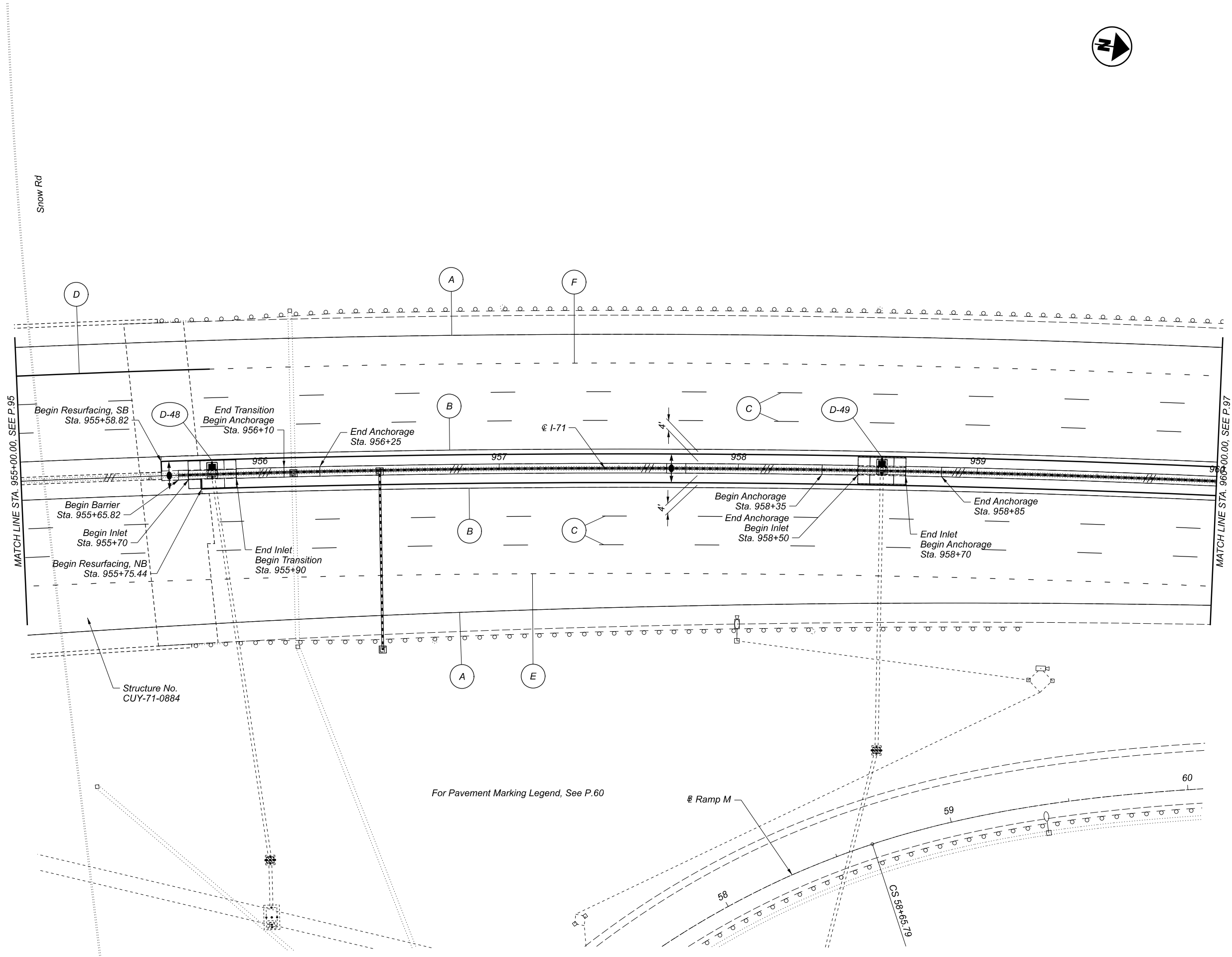
DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

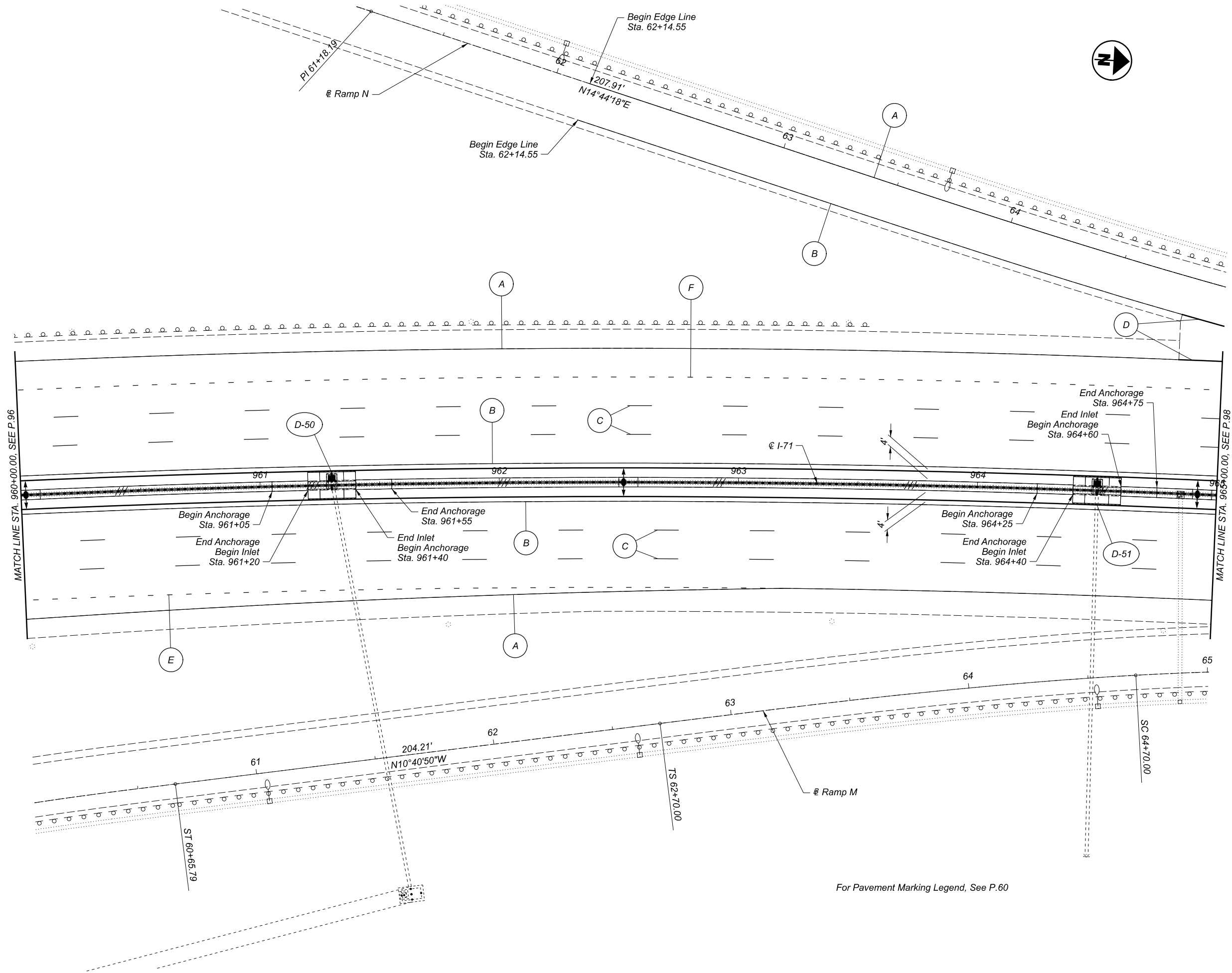
PROJECT ID  
87904

SHEET TOTAL  
P.95 152









For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 960+00 TO STA. 965+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

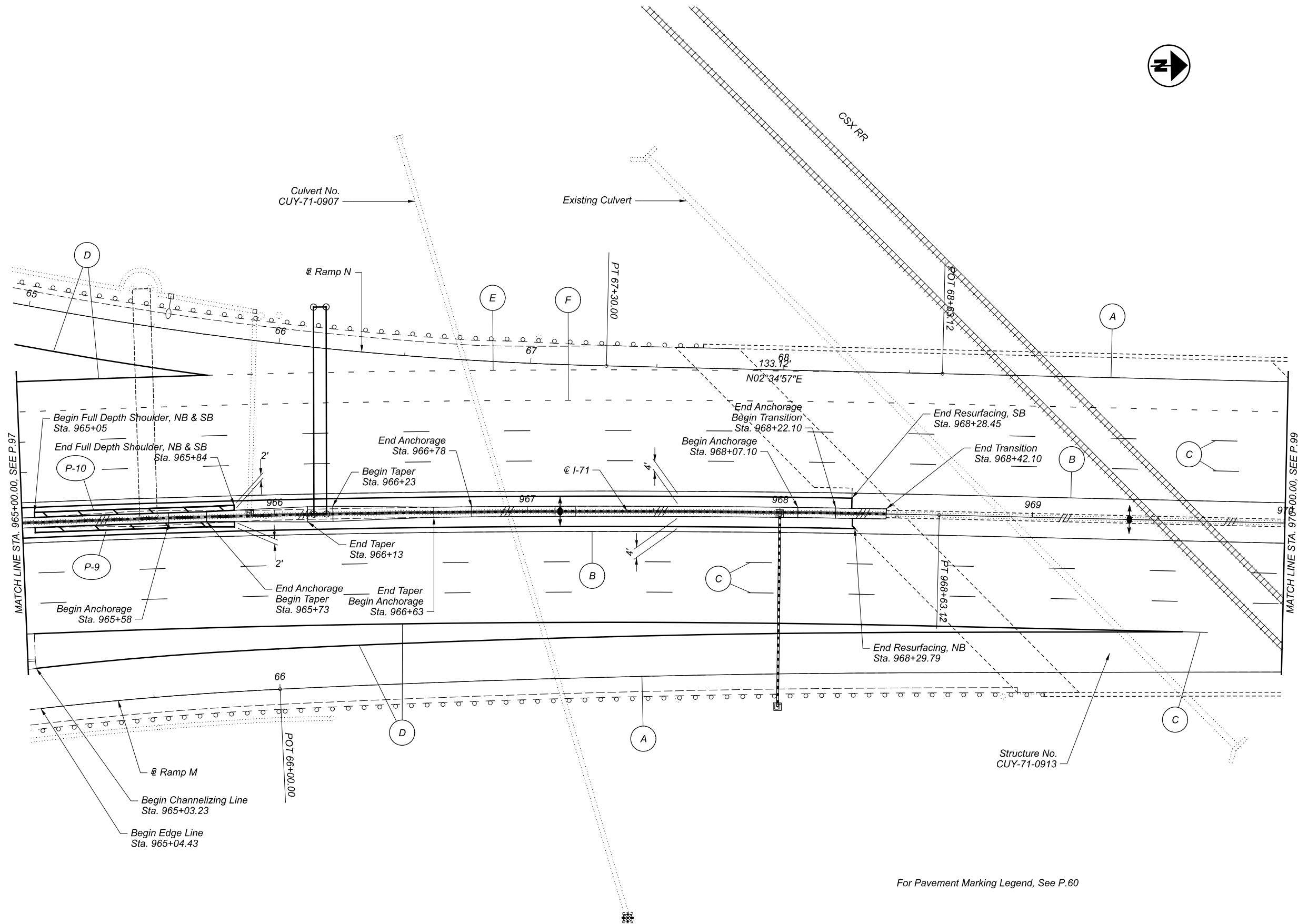
SHEET

P.97

TOTAL

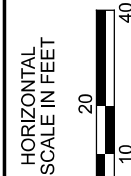
152





For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
 I.R. 71, STA. 965+00 TO STA. 970+00



DESIGN AGENCY



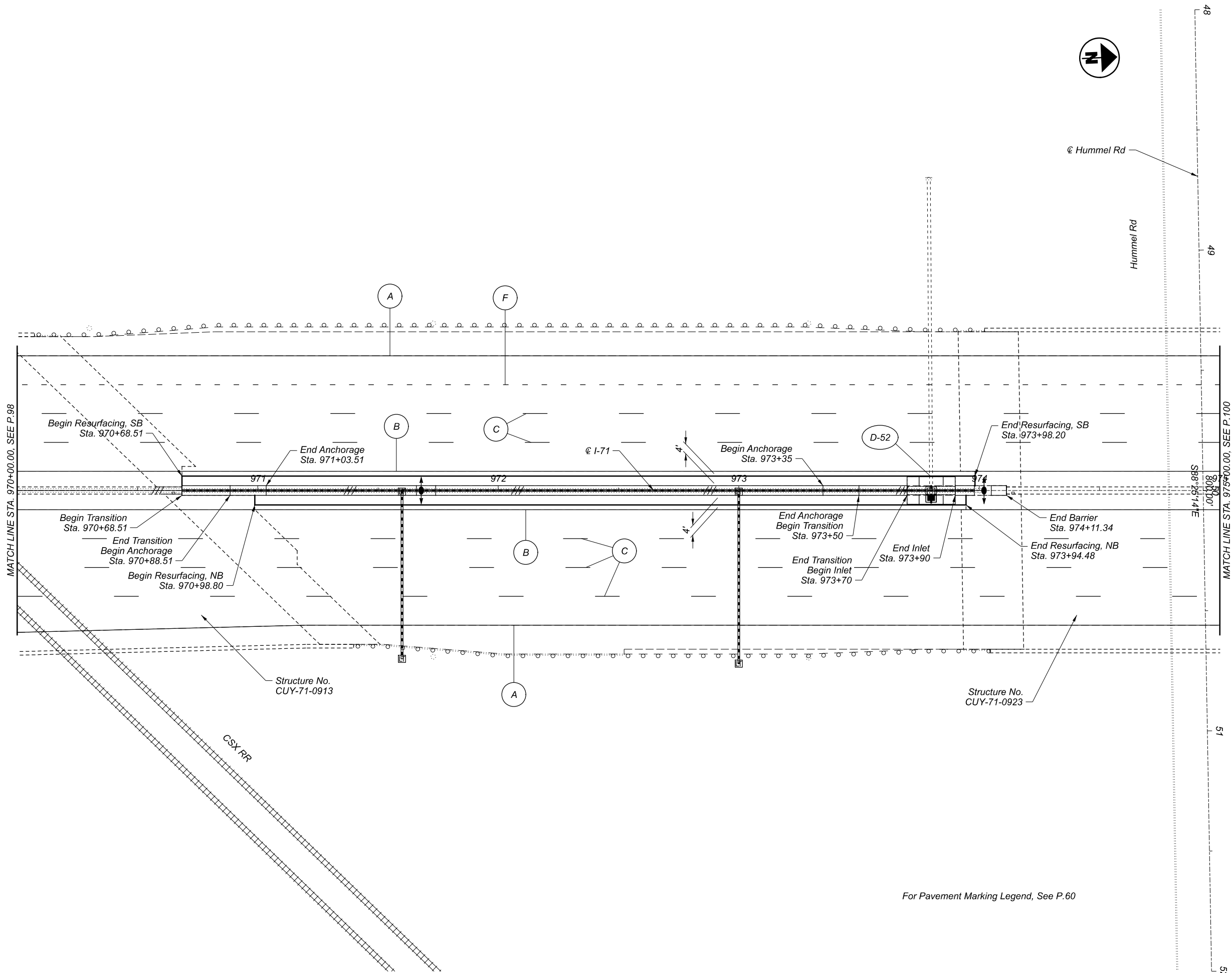
DESIGNER  
 DAB

REVIEWER  
 EMK 10/15/21

PROJECT ID  
 87904

SHEET TOTAL  
 P.98 152





For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 970+00 TO STA. 975+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.99

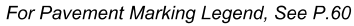
TOTAL

152






CUY-71-5.71 BARRIER



**HORIZONTAL  
SCALE IN FEET**

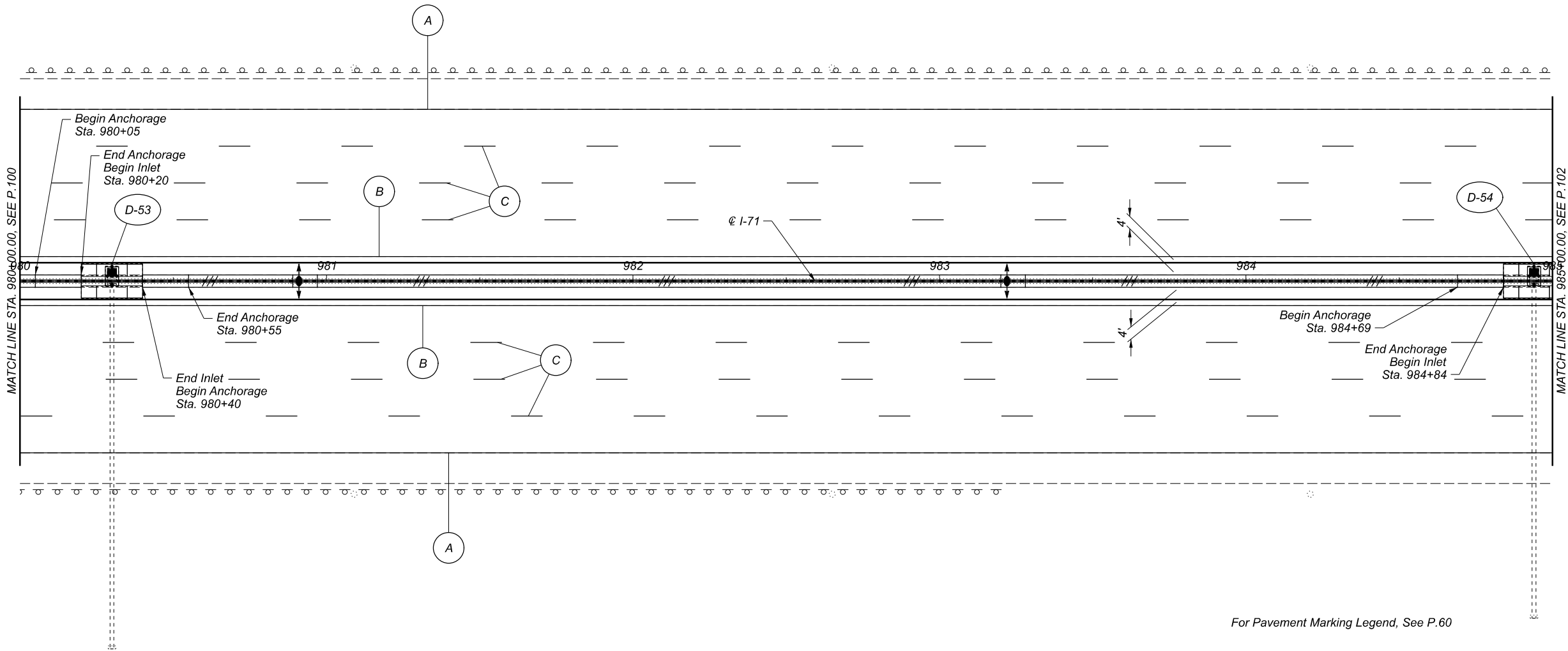


A horizontal scale bar with alternating black and white segments. The segments are labeled 0, 10, 20, and 40, indicating the scale in feet.



DESIGNER	
DAB	
REVIEWER	
EMK	10/15/21
PROJECT ID	
87904	
SHEET	TOTAL
P.100	152





For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 980+00 TO STA. 985+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

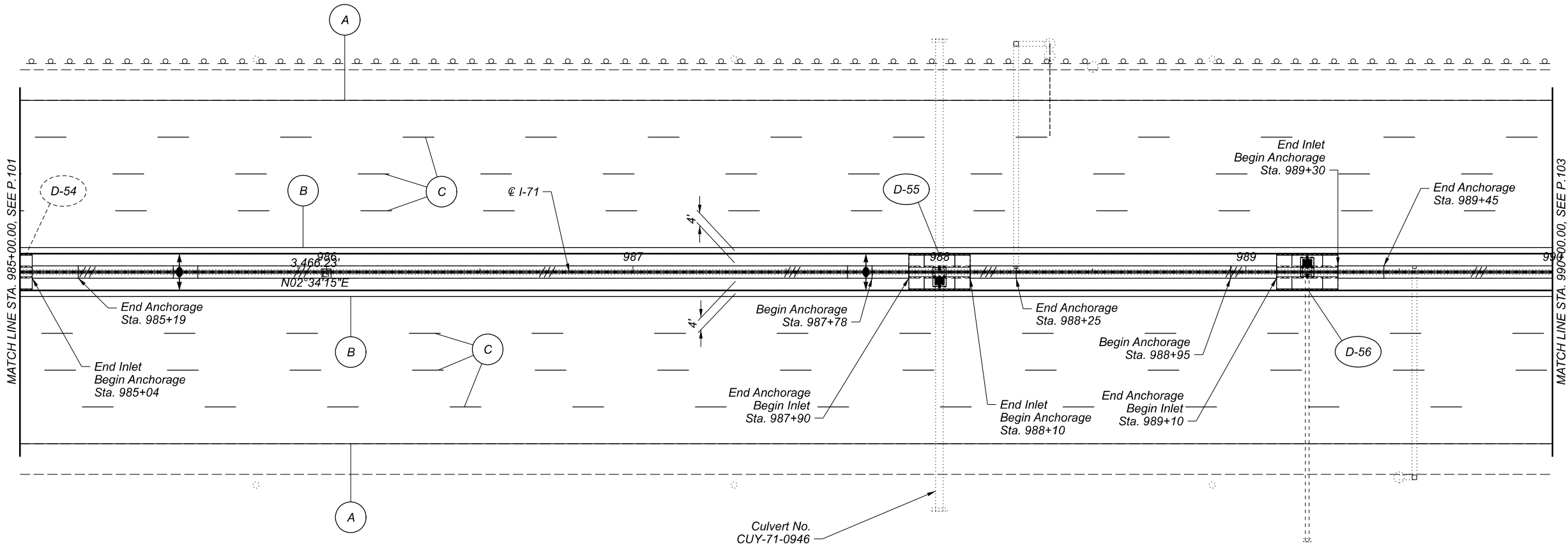
P.101

TOTAL

152







For Pavement Marking Legend, See P.60



GENERAL PLAN SHEET  
I.R. 71, STA. 985+00 TO STA. 990+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

P.102

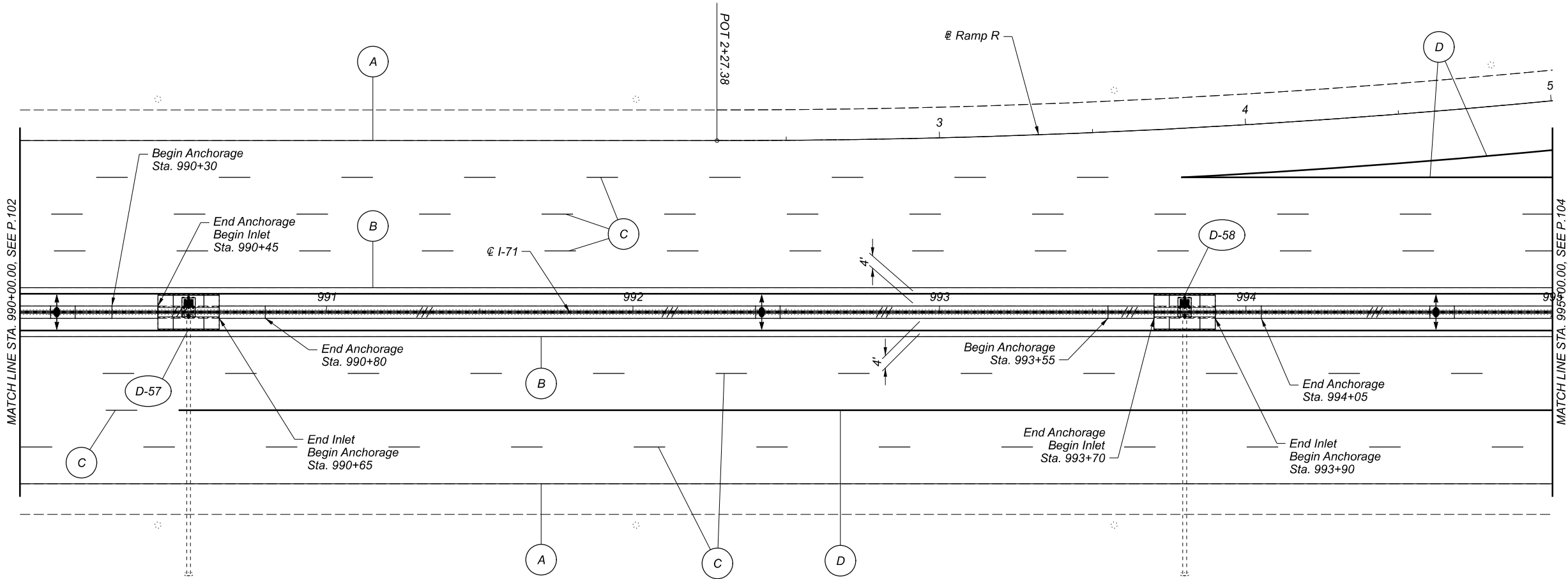
TOTAL

152

HORIZONTAL  
SCALE IN FEET







For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 990+00 TO STA. 995+00

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

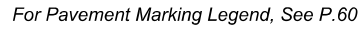
P.103

TOTAL

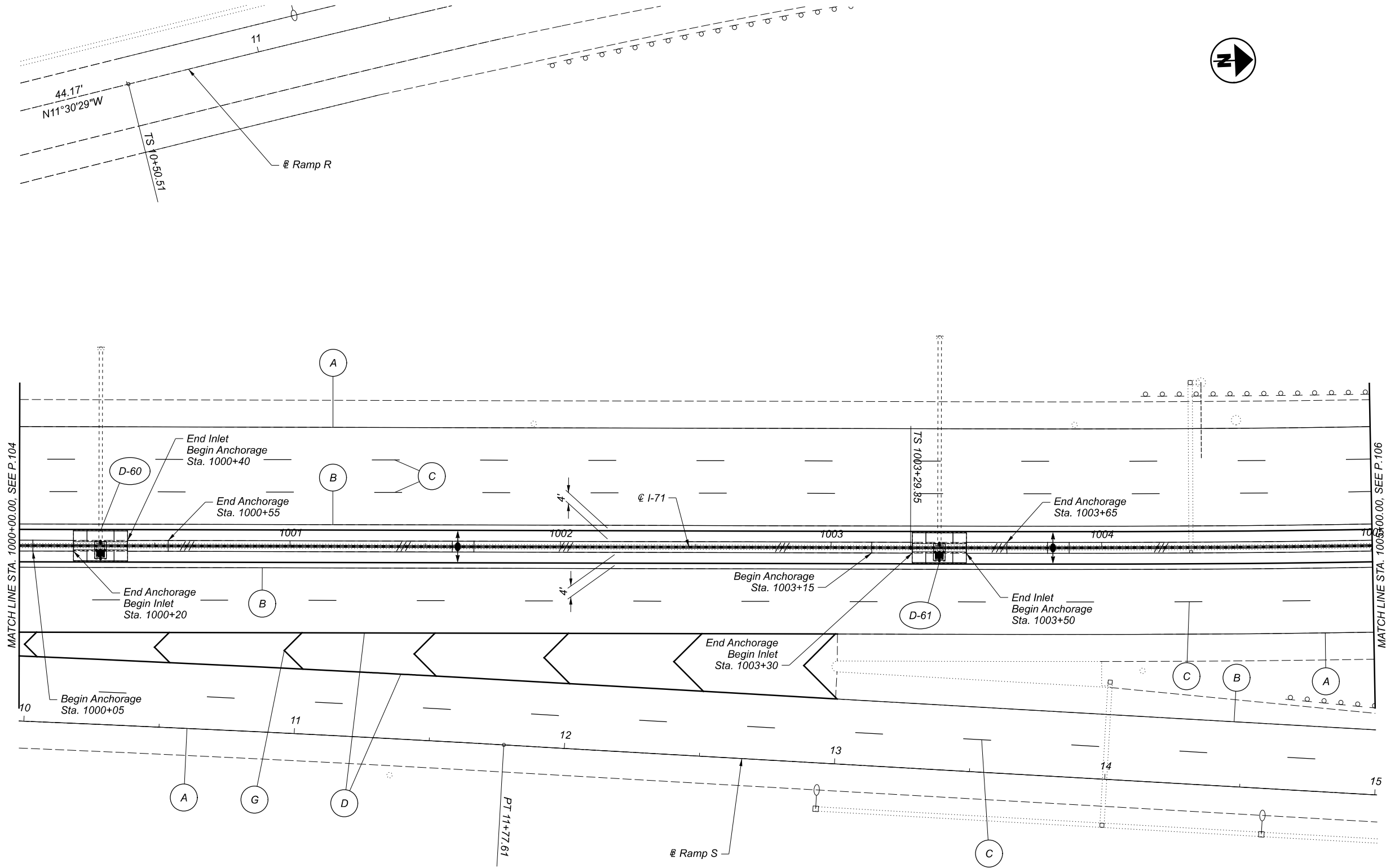
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GENERAL PLAN SHEET  
I.R. 71, STA. 1000+00 TO STA. 1005+00

DESIGN AGENCY



DESIGNER  
DAB

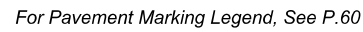
REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

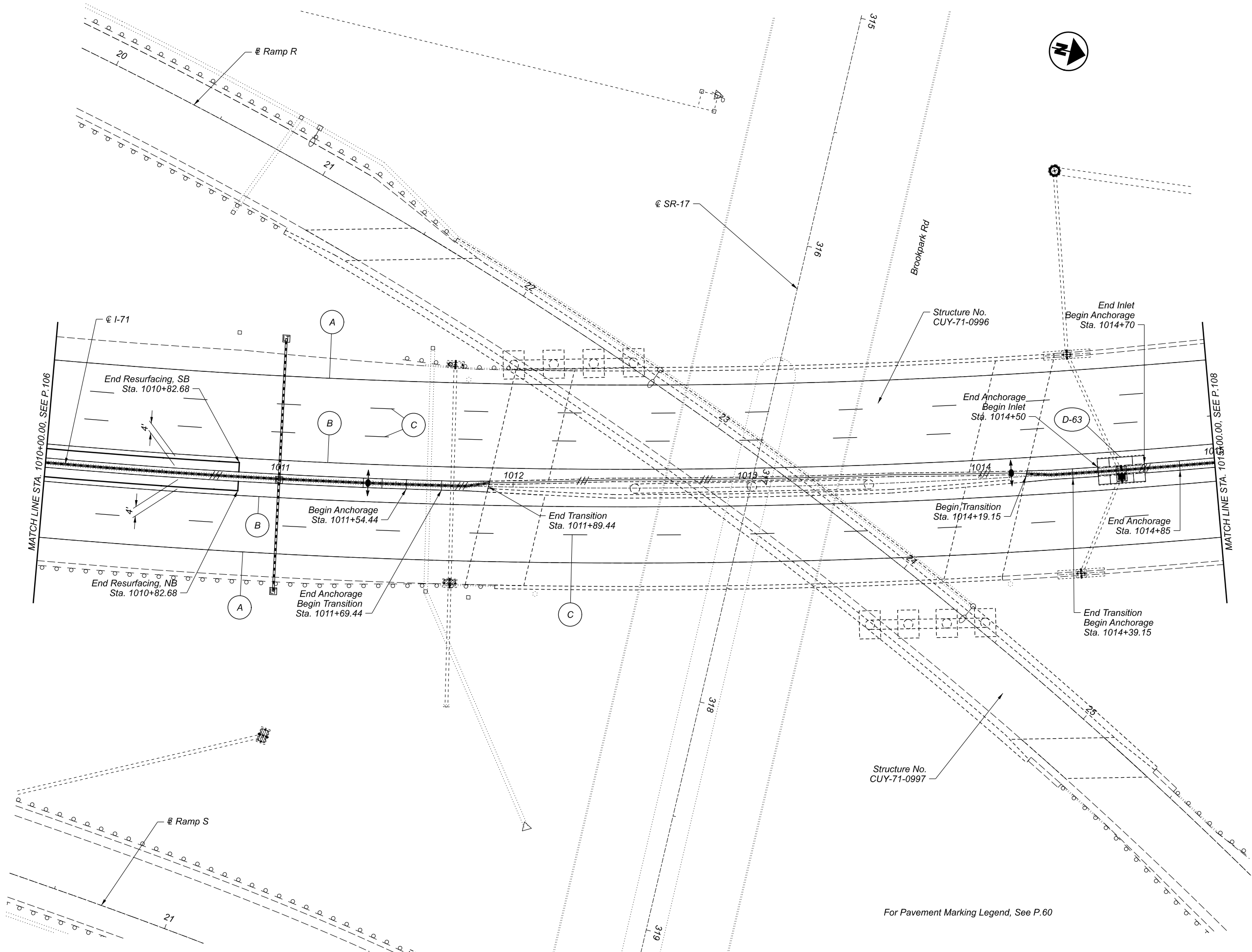
SHEET TOTAL  
P.105 152

HORIZONTAL  
SCALE IN FEET  
0 10 20 40



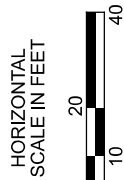






For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71, STA. 1010+00 TO STA. 1015+00



DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

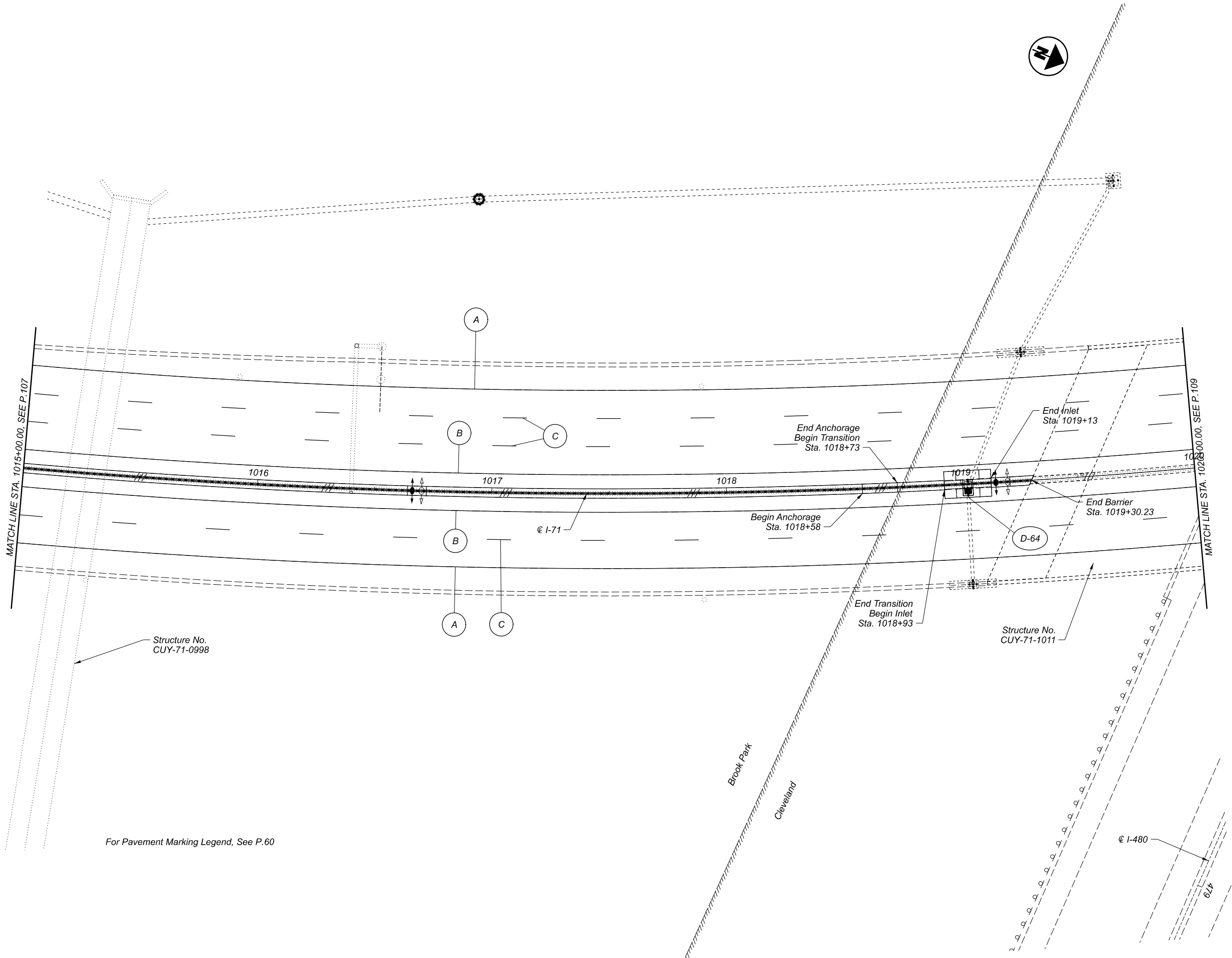
SHEET

P.107

TOTAL

152





GENERAL PLAN SHEET  
I.R. 71, STA. 1015+00 TO STA. 1020+00

DESIGN AGENCY



DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

PROJECT ID  
87904

SHEET TOTAL  
P.108 152



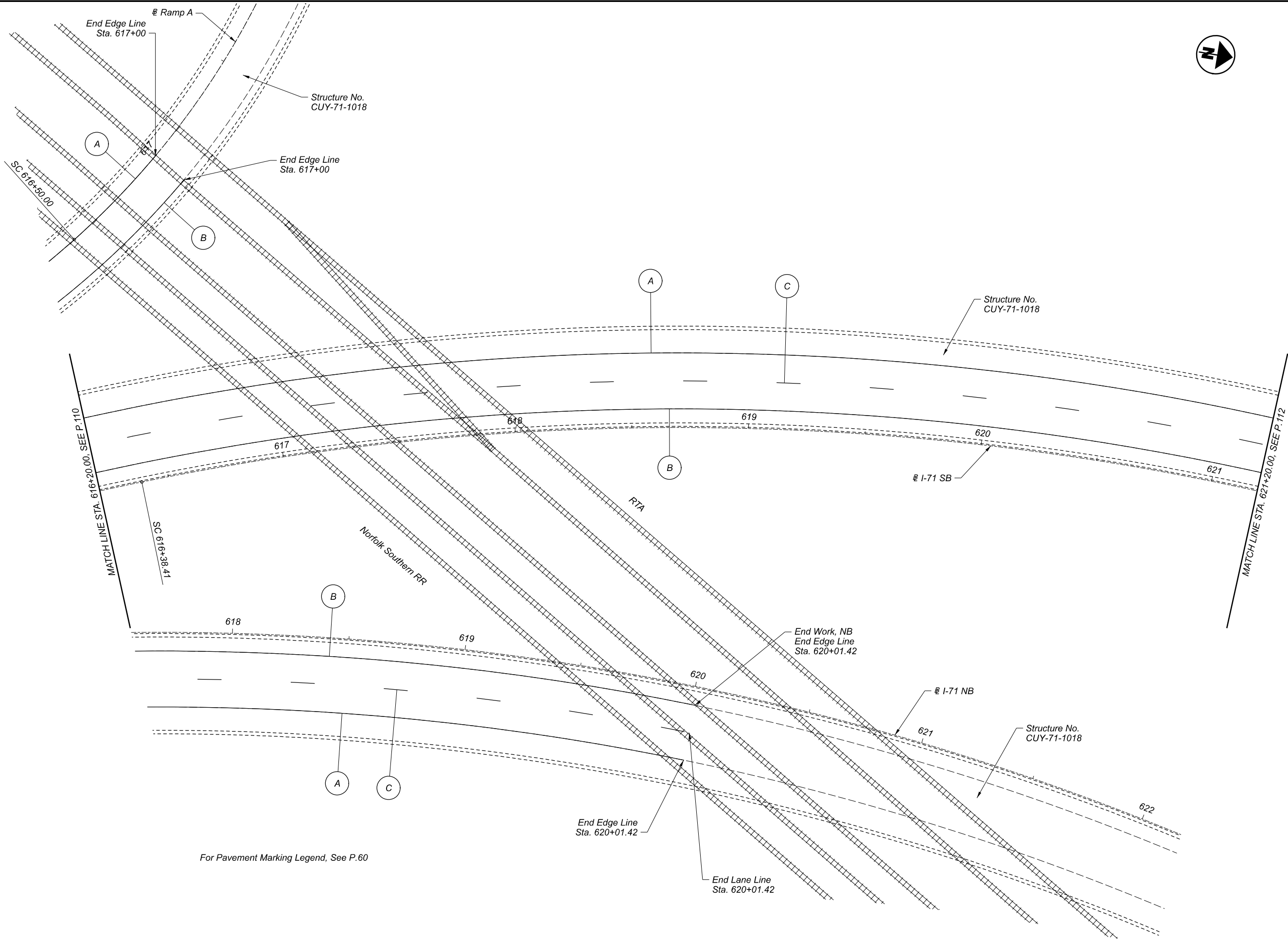












For Pavement Marking Legend, See P.60

GENERAL PLAN SHEET  
I.R. 71 SB, STA. 616+20 TO STA. 621+20

DESIGN AGENCY



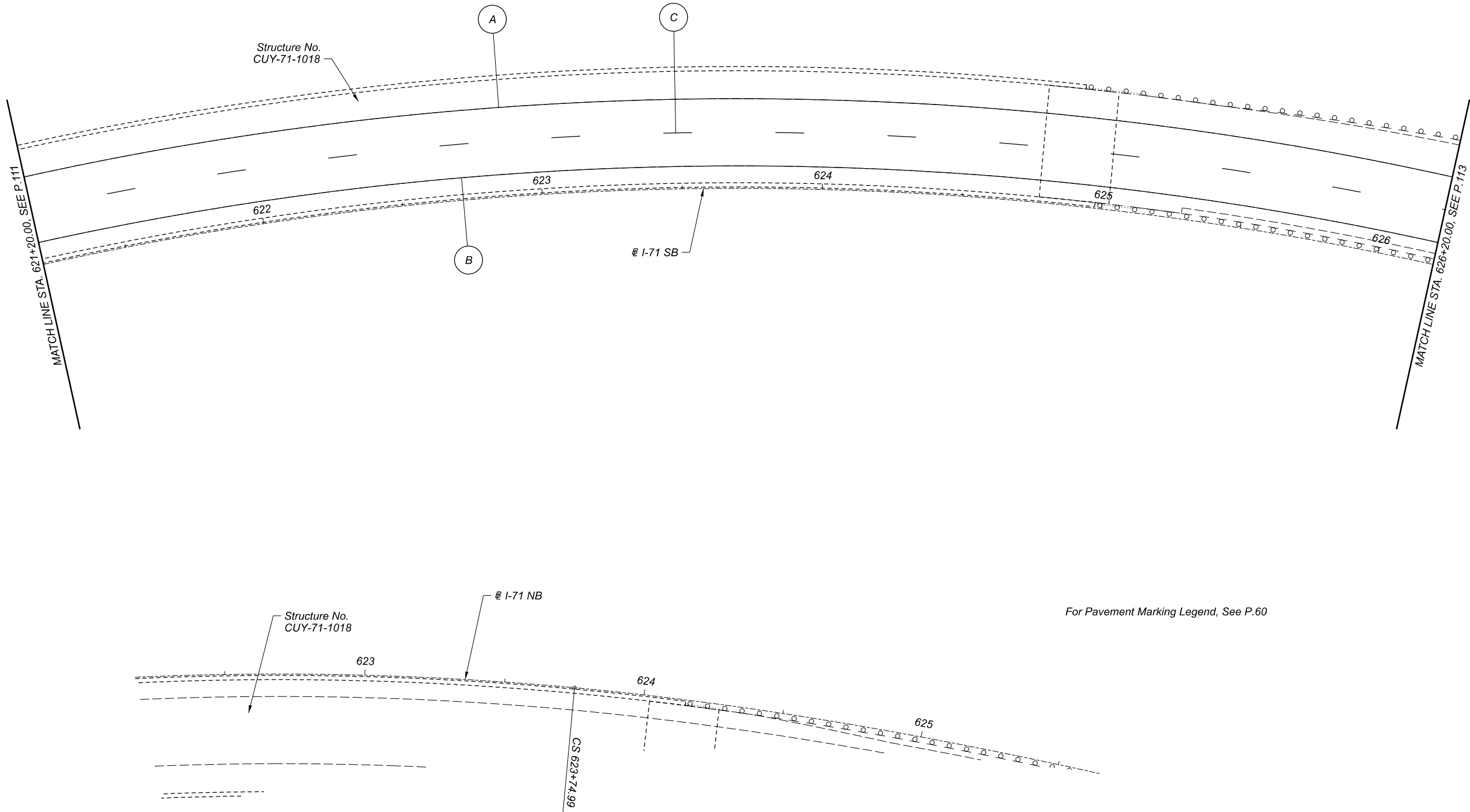
DESIGNER  
DAB

REVIEWER  
EMK 10/15/21

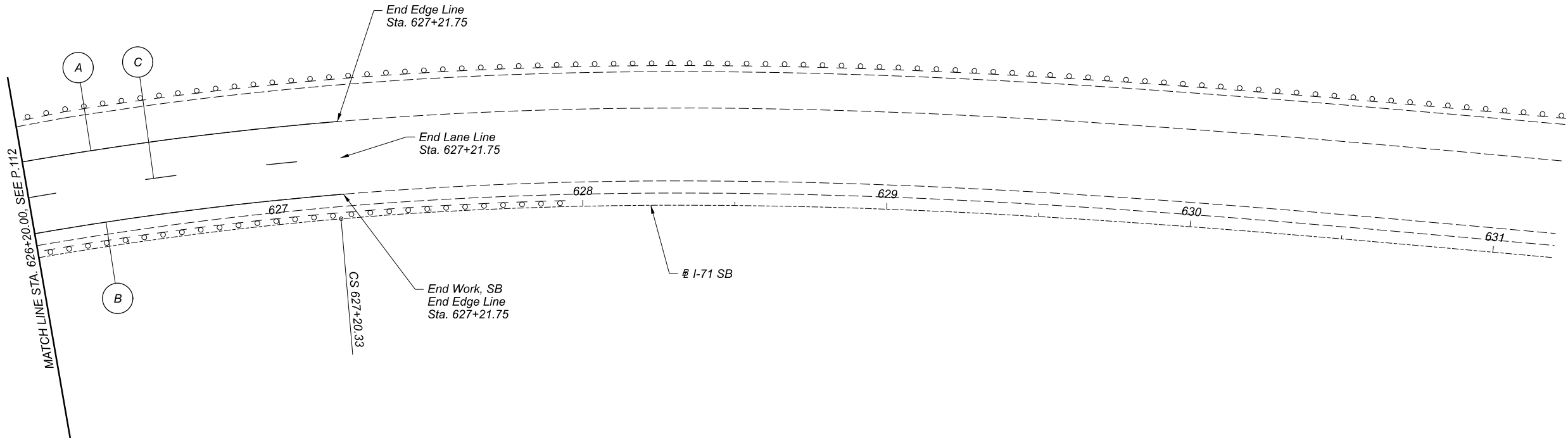
PROJECT ID  
87904

SHEET P.111	TOTAL 152
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GENERAL PLAN SHEET  
I.R. 71 SB, STA. 626+20 TO STA. 631+20

DESIGN AGENCY



DESIGNER

DAB

REVIEWER

EMK 10/15/21

PROJECT ID

87904

SHEET

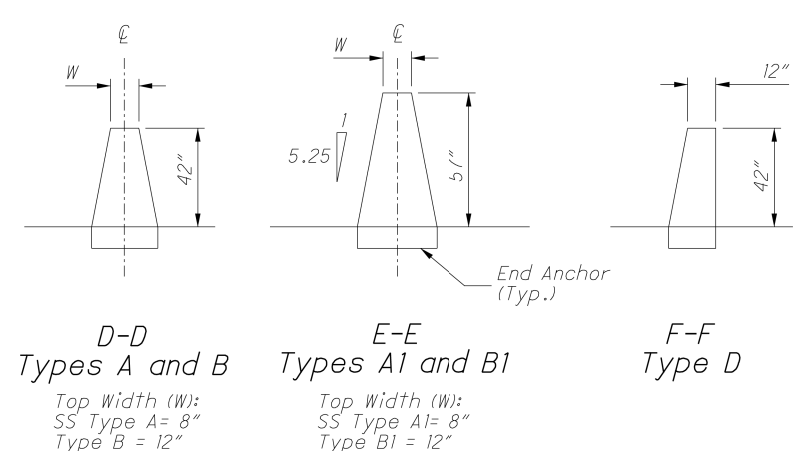
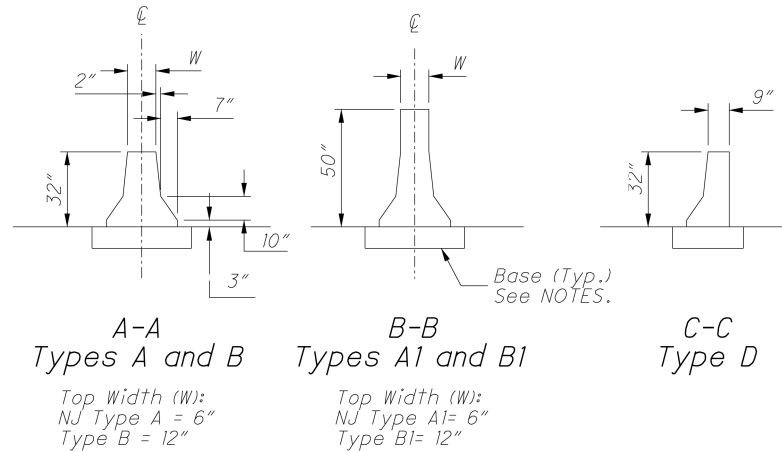
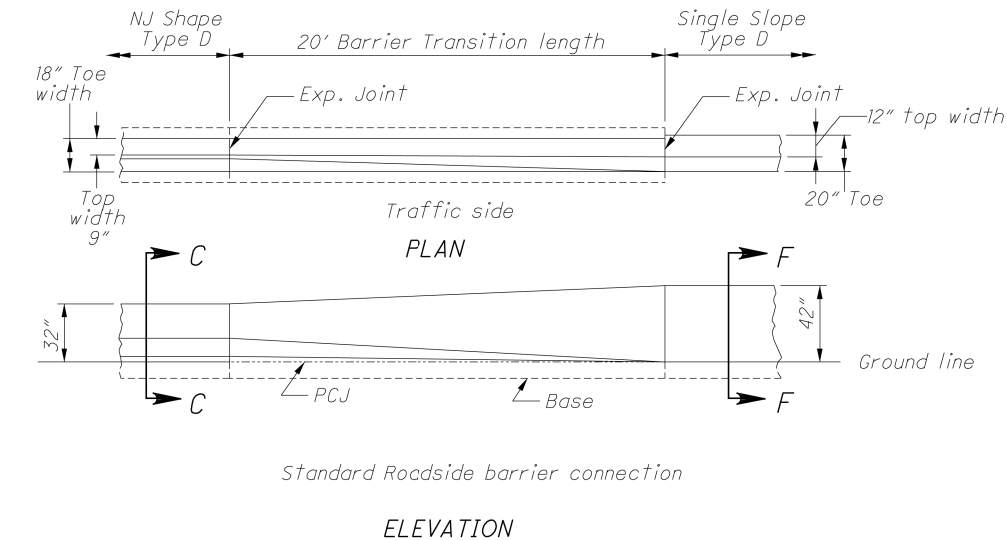
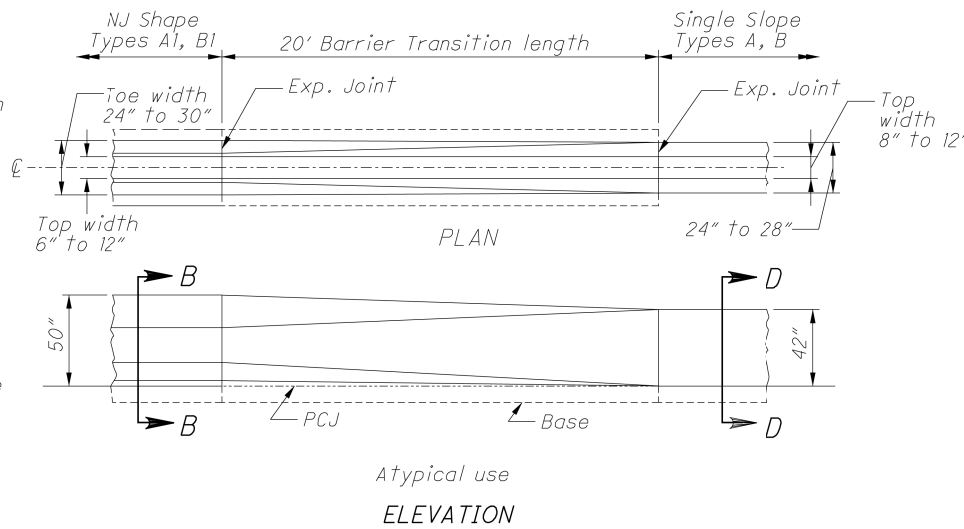
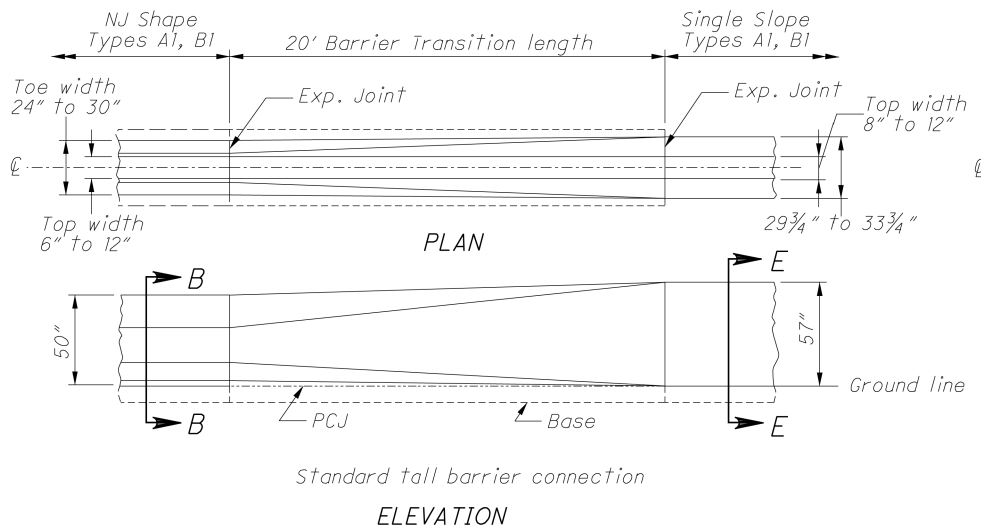
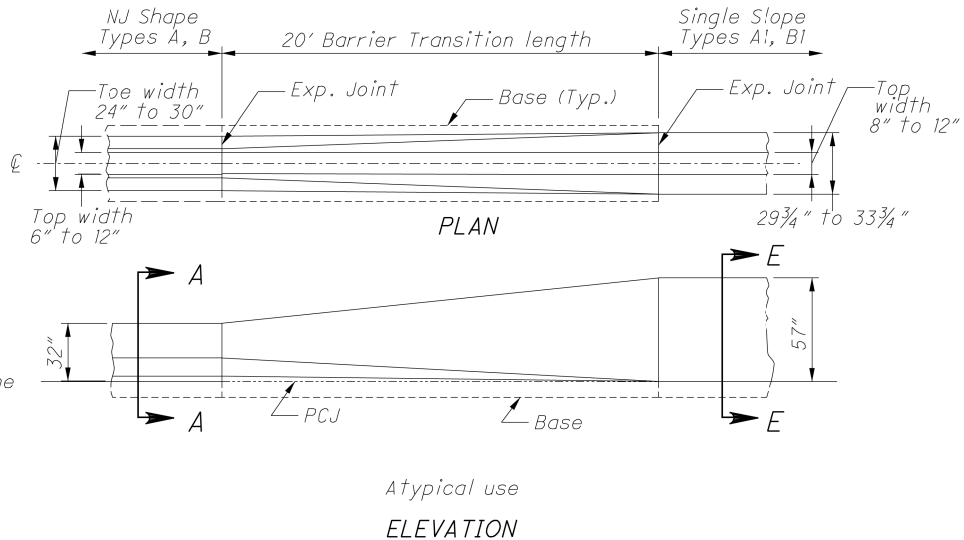
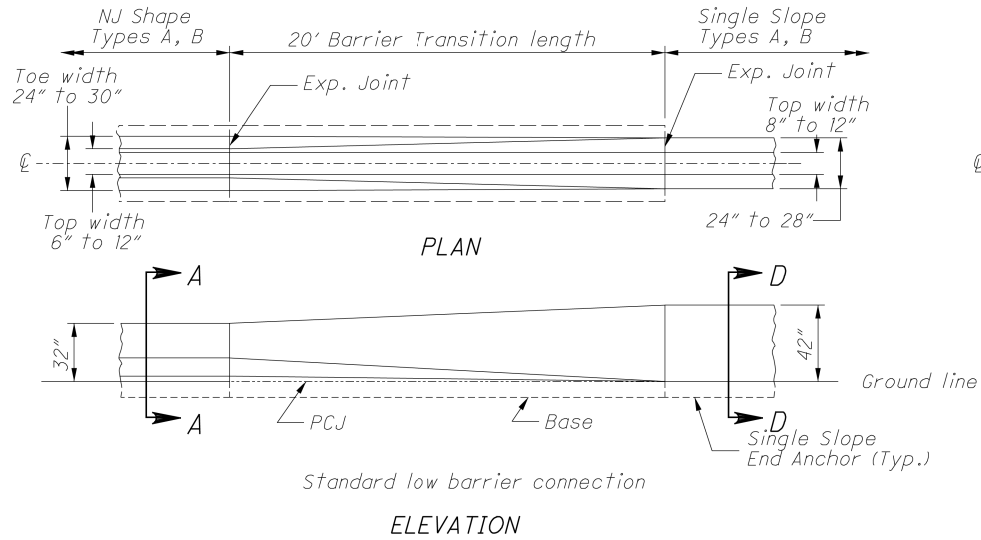
P.113

TOTAL

152







NOTES

GENERAL: This insert details the Barrier Transition, to connect existing NJ Concrete Barrier (safety shape) to a new run of Single Slope Concrete Barrier at locations shown on the plans. For NJ barrier shape and other details see the respective plan insert sheets. For Single Slope barrier details, see SCD RM-4.3 (RM-4.5 For Type D).

ADJACENT CONCRETE BARRIER RUNS: Remove any tapered end sections, Impact attenuators, or other guardrail hardware from existing barrier end. The barrier to barrier transition is not intended to be used at transition sections (those shown on SCD RM-4.4), Inlets, or on Type C or CI Barrier. If proposed adjacent single slope barrier is Type A or A1, the Barrier Transition should contain horizontal reinforcing steel similar to that required in the respective single slope barrier. Reinforcement is not shown and should be detailed separately. The adjacent single slope end should be terminated with a reinforced End Anchor as detailed on the SCDs.

BARRIER FACE TRANSITION: To prevent vehicle snagging, a smooth transition from the safety shape face to the single slope face is made over a 20' length. The actual shape of the Transition is dependent on both the adjacent NJ barrier and the single slope barrier Types, as detailed on the plans. The contractor and Engineer will agree on a construction method to ensure a smooth barrier face.

MATERIALS: Materials are same for those shown on RM-4.3 and RM-4.5, except that cast-in-place is the only acceptable method. Edges may be chamfered or radiused as shown on those drawings.

CONCRETE BASE: Construct base as shown on the NJ shape insert sheets, including the methods detailing the footing joint, Permissible Construction Joint (PCJ), and Dowelling requirements. The width of the base matches the existing NJ barrier.

JOINTS: Construct joints as shown on respective barrier drawings.

RACEWAYS: When specified, place raceway(s) to match raceway elevation in adjoining segments. Place to obtain maximum concrete cover.

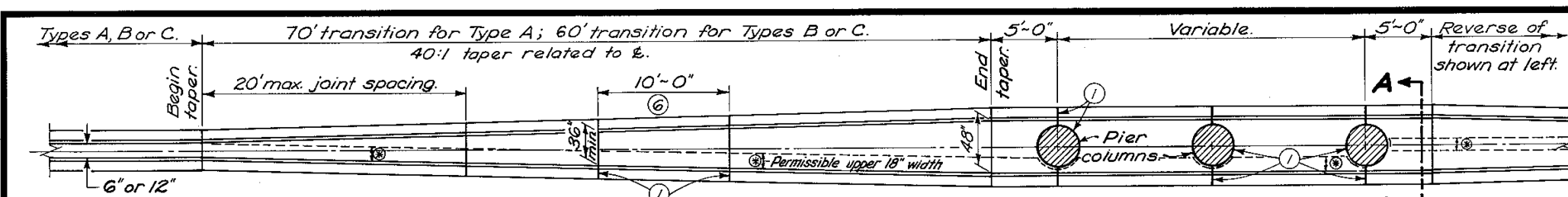
METRIC UNITS: Refer to respective barrier drawings or inserts for metric dimensions.

PAYMENT: This Barrier Transition shall include all material and labor needed to construct this 20' section, including any raceways, reinforcing steel, dowels and other necessary incidentals. Payment shall be made at the unit price for Item 622 - Barrier Transition, Each.

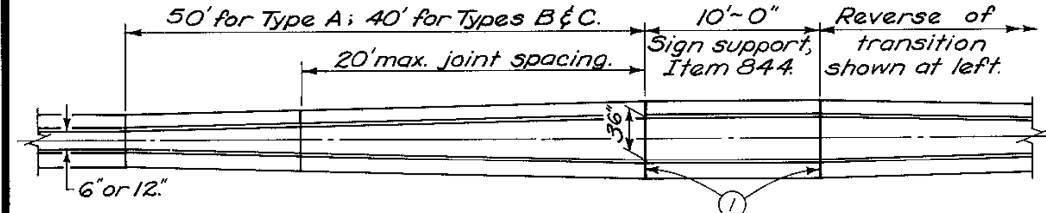
NJ SHAPE SECTIONS  
See Plan Insert sheets for specific  
NJ Shape Concrete barrier details.

See SCD RM-4.3 and RM-4.5 for specific  
Single Slope concrete barrier details.





**BRIDGE PIER TRANSITION - PLAN VIEW**



**SIGN SUPPORT TRANSITION - PLAN VIEW**  
(For 50" barriers the upper 18" varies from 6" or 12" to 36" width)

- LEGEND**
- ① Expansion joint,  $\frac{3}{4}$ " min. Preformed Filler 705.03.
  - ② No. 8 deformed steel bars, 12" long, spaced on staggered (except Type D) 4' centers. The End Terminal will require shorter dowel between points A & B. Omit dowels when top is constructed integral with the base.
  - ③ 1" Radius or  $\frac{3}{4}$ " chamfer.
  - ④ Permissible 10" radius.
  - ⑤ Permissible 1" radius.
  - ⑥ 844 Overhead Sign Support Foundation, if specified in the plan.

**NOTES**

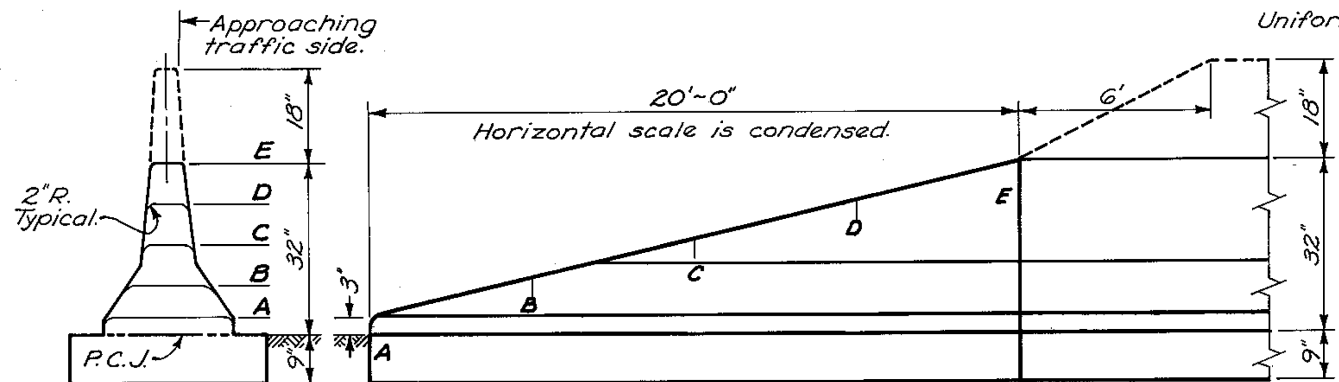
**JOINTS:** Unsealed contraction joints spaced at 20' max. shall be constructed throughout the run of Concrete Barrier except that expansion joints shall be used at the center line of and around each bridge pier column and on either side of overhead sign supports, inlets and light pole foundations. If inlet top is slip formed the expansion joints adjacent to it may be omitted. Contraction joints may be constructed with metal inserts inside the forms, preformed full width joint filler, a grooving tool, or by sawing. Inserts or tooled or sawed joints shall have a  $\frac{1}{2}$ " min. depth. All joints shall be constructed for the full height of the barrier including the base.

**LIGHTING:** The 4" polyvinyl chloride raceway shall be included in the unit price bid for 622.

**MEASUREMENT:** 622 Concrete Barrier, including transitions and end terminals and pier sections, is paid for in linear feet as one of the four types (A, B, C or D) or as Type A50, B50, etc. (for 50" high barrier), with appropriate deductions for other items such as:  
604 I-3 Median inlet — 20 Lin. Ft.  
625 Light pole foundation or pullbox — 2.5 Lin. Ft.  
844 Overhead sign support foundation — 10 Lin. Ft.

**50 INCH HIGH BARRIER** shall be built where specified on the plan, with the same bottom 32" shape and 9" foundation as the standard Type specified. The upper 18" may be constructed integral with the bottom, or separately with #4 rebar dowels at 4' max. spacing. Start and end dowels 6" from barrier vertical joints. On variable width (i.e. pier transition) barrier sections not having sign support foundations, the upper 18" may be built with a 6" or 12" top width (per Type specified) on the E or along one face of the barrier. At End Terminals taper the upper 18" to 0" in 6'.

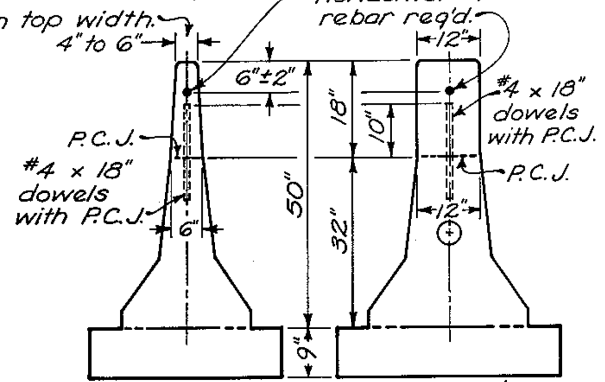
**CONCRETE**, cast-in-place, to be Class C. All precast concrete shall meet the requirements of 706.13 with  $6 \pm 2\%$  air void content in the hardened concrete.



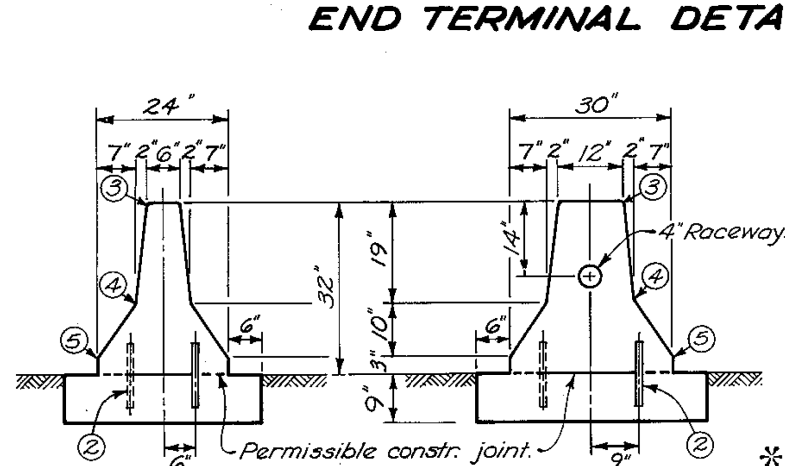
**END VIEW**

**PROFILE VIEW**

**END TERMINAL DETAIL**



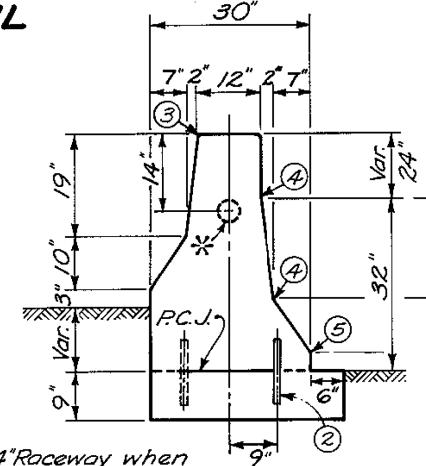
**50" BARRIERS**  
Types A50 & D50      Types B50 & C50



**TYPE A**

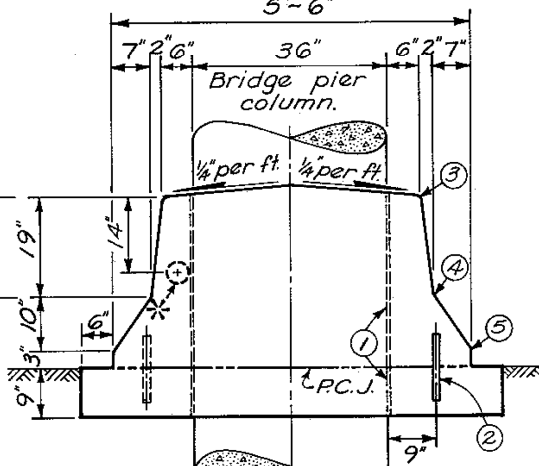
**TYPE B**

**NORMAL SECTIONS**

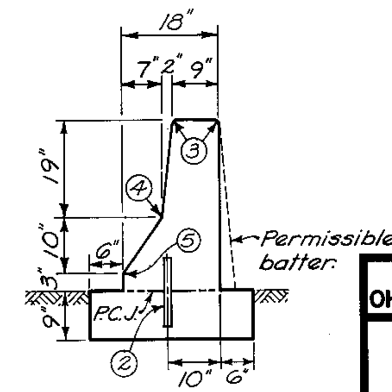


**TYPE C**

\* 4" Raceway when req'd on the plans.



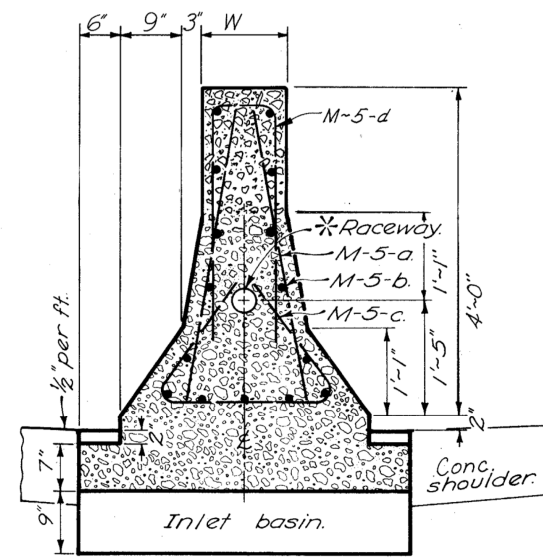
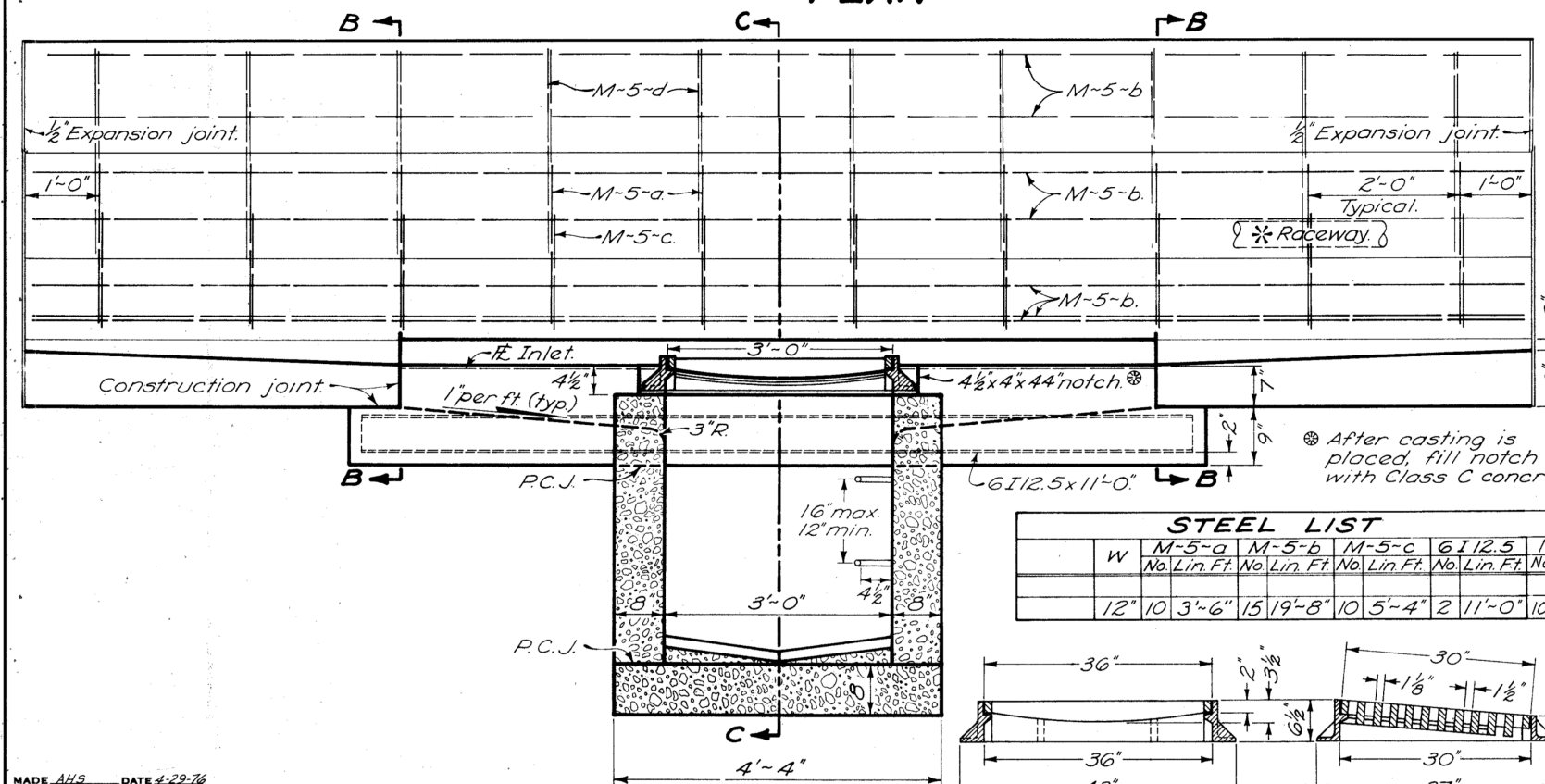
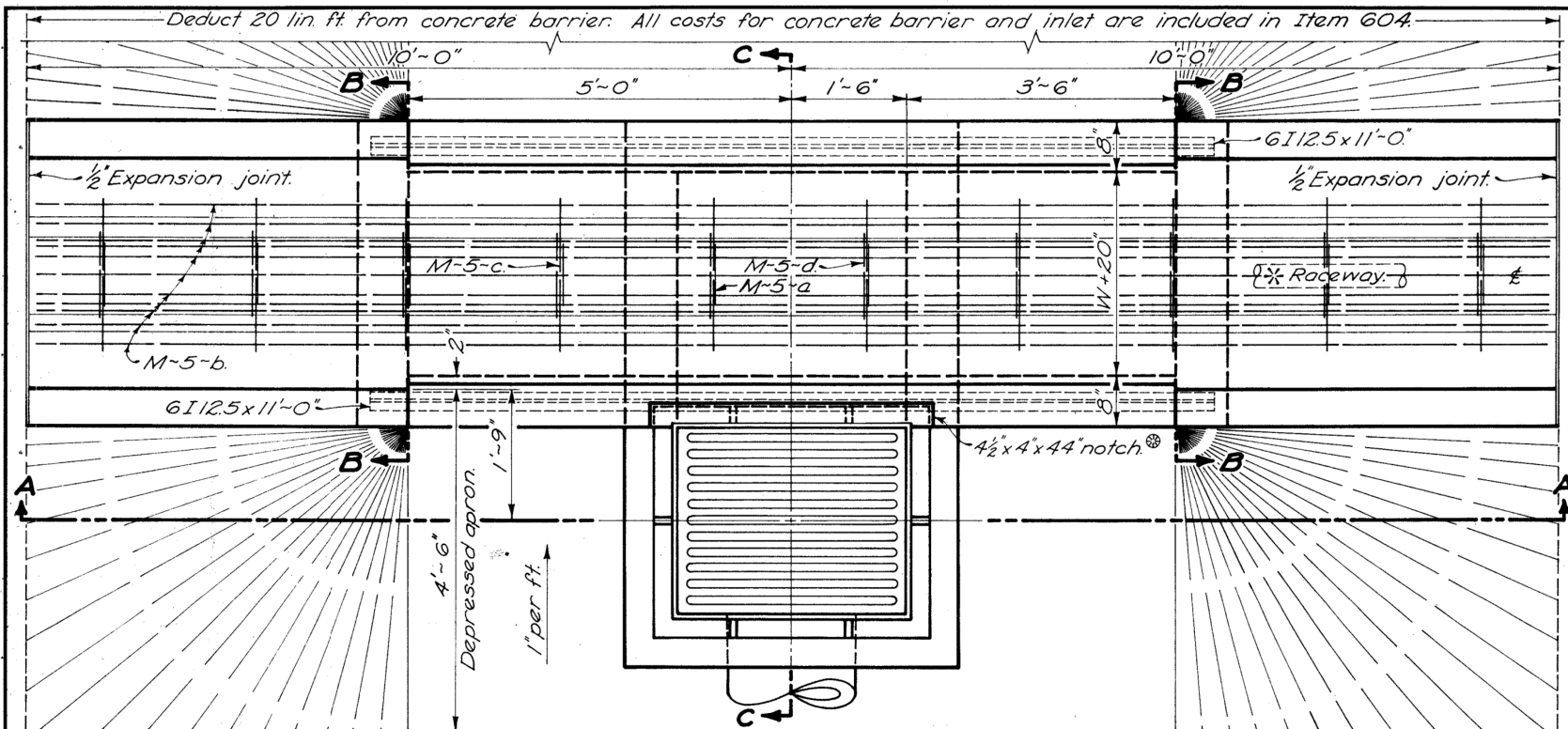
**SECTION A-A**



**TYPE D**

BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
<b>CONCRETE BARRIER</b>	
STANDARD CONSTRUCTION DRAWING	MC-9
APPROVED <i>[Signature]</i> ENGR., L. & D.	
DATE 1-1-74 11-1-77	





# NOTES

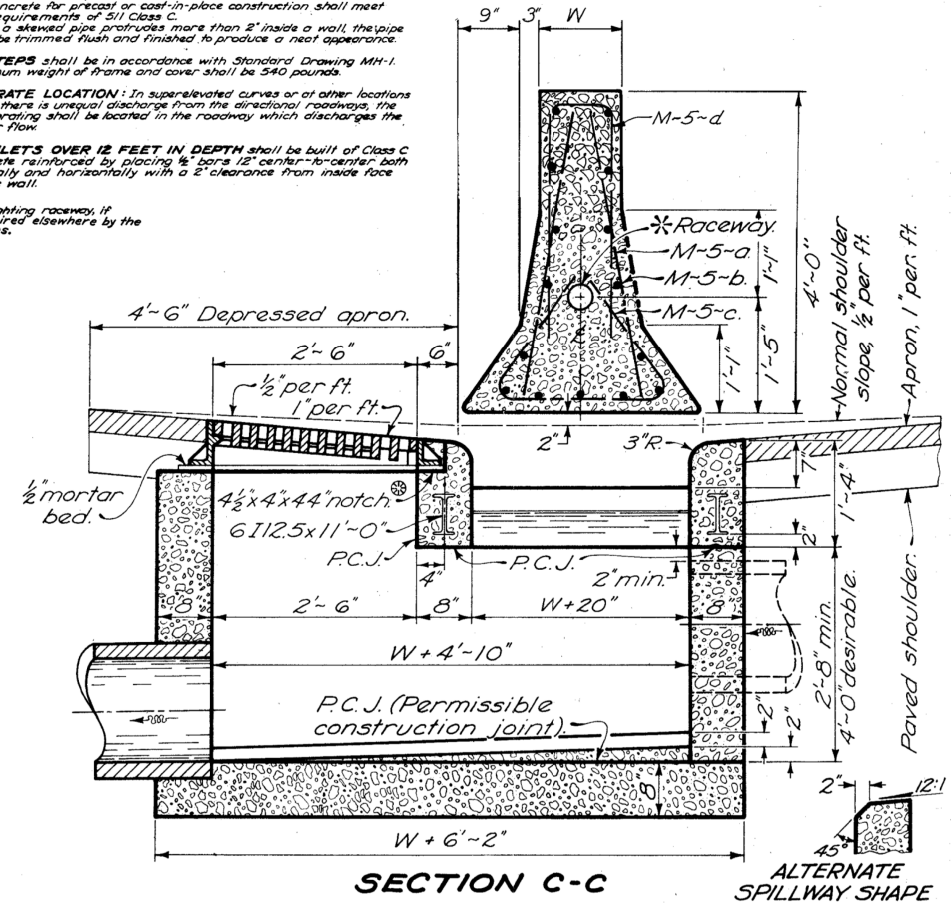
**WALLS:** The sections between the base and the upper permissible construction joint may be built of brick, concrete block, or cast-in-place concrete, 8" nominal thickness, for depths of 12' or less. The unit above the upper permissible construction joint may be precast or cast-in-place. Concrete for precast or cast-in-place construction shall meet the requirements of SII Class C. If a skewed pipe protrudes more than 2" inside a wall, the pipe shall be trimmed flush and finished to produce a neat appearance.

**STEPS** shall be in accordance with Standard Drawing MH-1. Minimum weight of frame and cover shall be 540 pounds.

**GRATE LOCATION:** In super-elevated curves or at other locations where there is unequal discharge from the directional roadway, the inlet grating shall be located in the roadway which discharges the major flow.

**INLETS OVER 12 FEET IN DEPTH** shall be built of Class C concrete reinforced by placing 1/2" bars 12" center-to-center both vertically and horizontally with a 2" clearance from inside face of the wall.

\* 4" lighting raceway, if required elsewhere by the plans.



FHWA REGION	STATE	PROJECT
5	OHIO	

38A  
149

CUYAHOGA COUNTY  
CUY-71-3.43

NOTE:  
THE PURPOSE OF THIS DRAWING IS TO SHOW THE MODIFICATION TO STANDARD CONSTRUCTION DRAWING I-3, FOR THE PURPOSE OF INCLUDING AN 18 INCH VERTICAL EXTENSION, AS PART OF THIS DETAIL.

STANDARD NO. I-3B MEDIAN INLET MODIFIED, AS PER PLAN








SHEET NO.	REFERENCE NO.	PLAN SPLIT NO.	LOCATION	STATION	SIDE	CODE	SIZE (FEET)	625		630	630	630	630		630	630				
								GROUND ROD		OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 1, AS PER PLAN	OVERHEAD SIGN SUPPORT, TYPE TC-15.116, DESIGN 2, AS PER PLAN	CONCRETE BARRIER MEDIAN OVERHEAD SIGN SUPPORT FOUNDATION, TYPE TC-21.50	RIGID OVERHEAD SIGN SUPPORT FOUNDATION		REMOVAL OF OVERHEAD MOUNTED SIGN AND REERECTION	REMOVAL OF OVERHEAD SIGN SUPPORT AND DISPOSAL, TYPE TC-7.65				
								EACH		EACH	EACH	EACH	EACH		EACH	EACH				
121	S-1	1	IR-71 SB	807+28			9' X 2.5' 16' X 12' 9' X 2.5' 12' X 9'	2		1		1	1		4	1				
122	S-2	1	IR-71 NB	942+11			13' X 8' 9' X 2.5' 16' X 12' 9' X 2.5' 15' X 6'	2		1		1	1		5	1				
123	S-3	1	IR-71 SB	966+18			13' X 8' 2.5' X 2.5' 10' X 2.5' 15' X 9' 10' X 2.5' 15' X 8'	2			1	1	1		6	1				
124	S-4	1	IR-71 NB	998+80			13' X 8' 9' X 2.5' 18' X 13'	2			1	1	1		3	1				
TOTALS CARRIED TO THE GENERAL SUMMARY								8		2	2	4	4		18	4				

SIGNING SUBSUMMARY

DESIGN AGENCY



DESIGNER

FLK

REVIEWER

DAB 10/15/21

PROJECT ID

87904

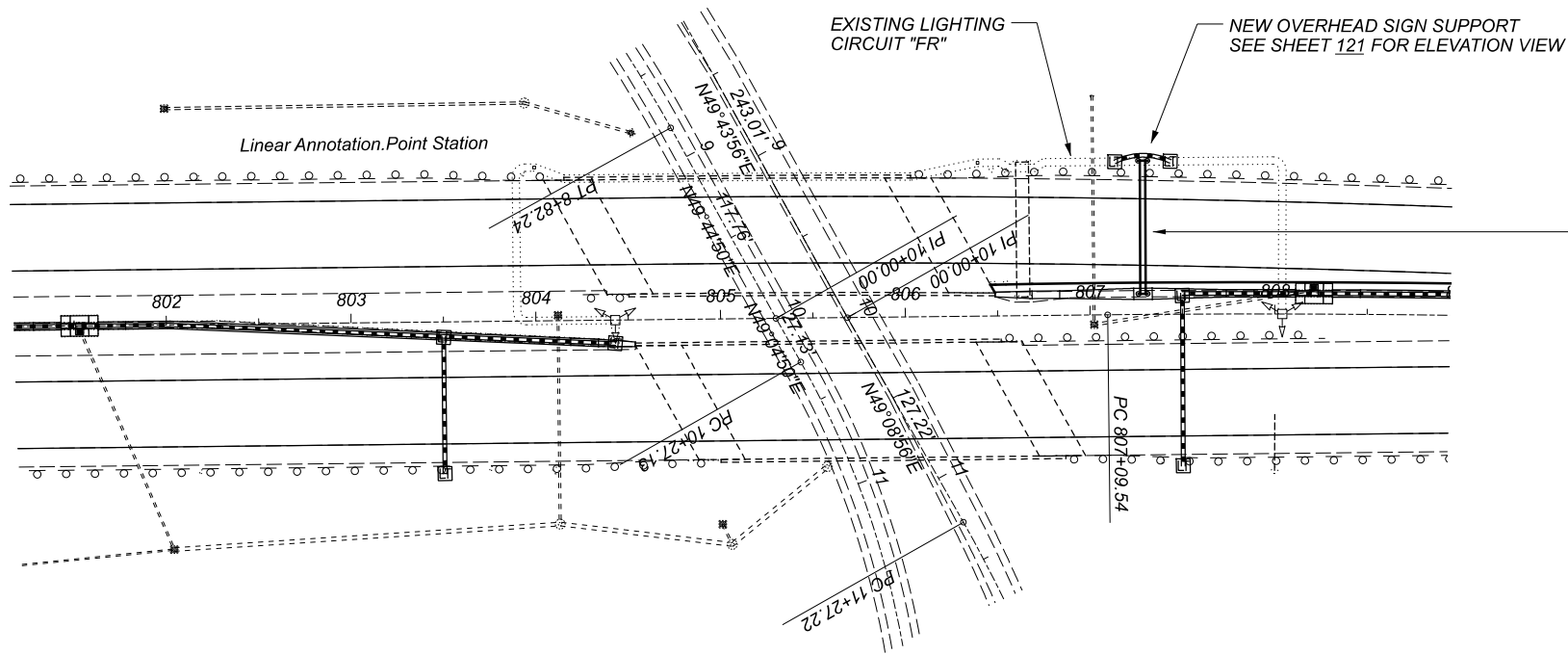
SHEET

P.118

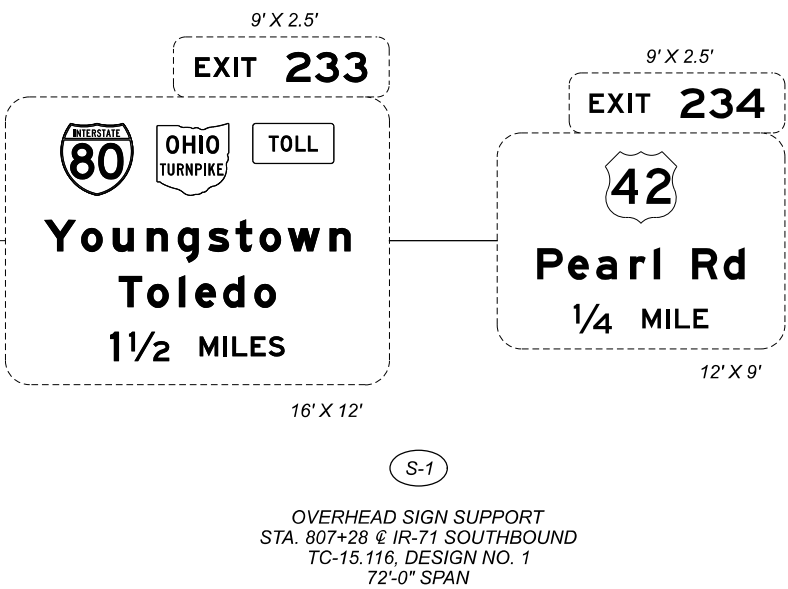
TOTAL

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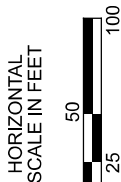


NOTE: EXISTING SIGNS TO BE REERECTED ON TO NEW SUPPORT



S-1

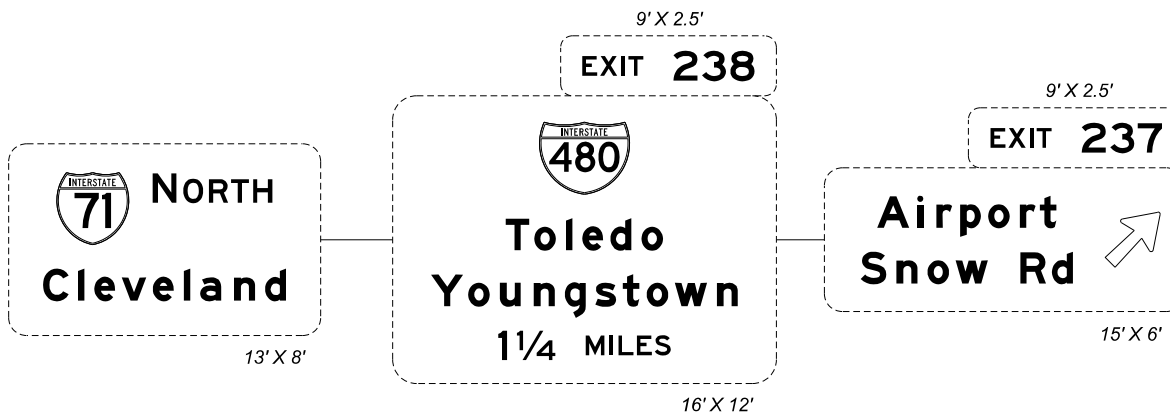
OVERHEAD SIGN SUPPORT  
STA. 807+28 @ IR-71 SOUTHBOUND  
TC-15.116, DESIGN NO. 1  
72'-0" SPAN



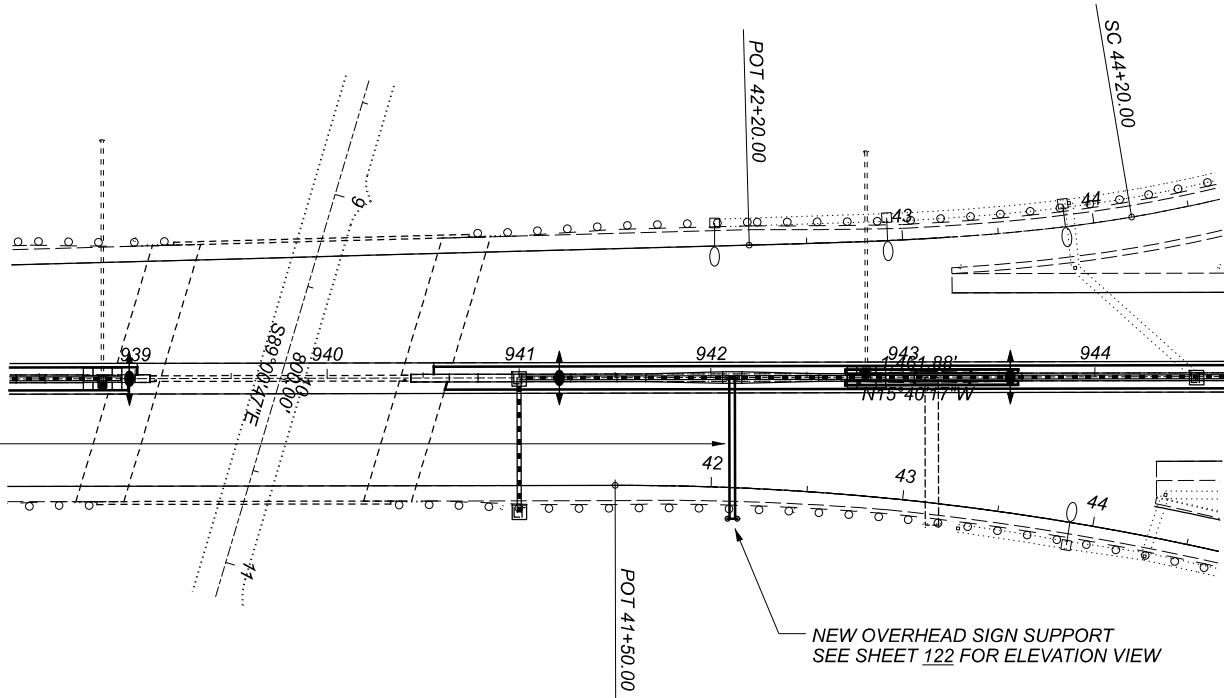
TRAFFIC CONTROL PLAN SHEET  
S-1, S-2



OVERHEAD SIGN SUPPORT  
STA. 942+11, @ IR-71 NORTHBOUND  
TC-15.116, DESIGN NO. 1  
73'-6" SPAN



NOTE: EXISTING SIGNS TO BE REERECTED ON TO NEW SUPPORT



DESIGN AGENCY



DESIGNER

FLK

REVIEWER

DAB 10/15/21

PROJECT ID

87904

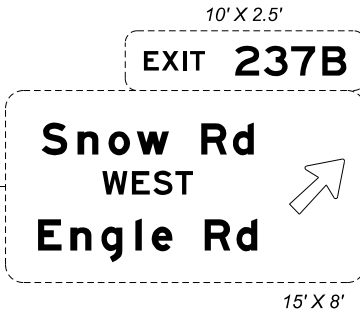
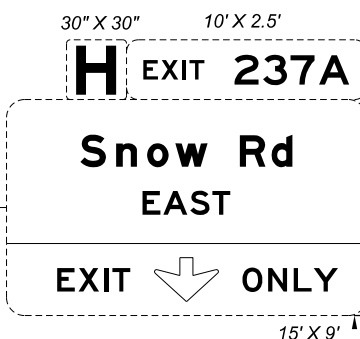
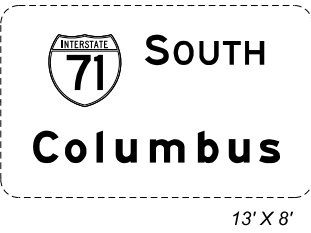
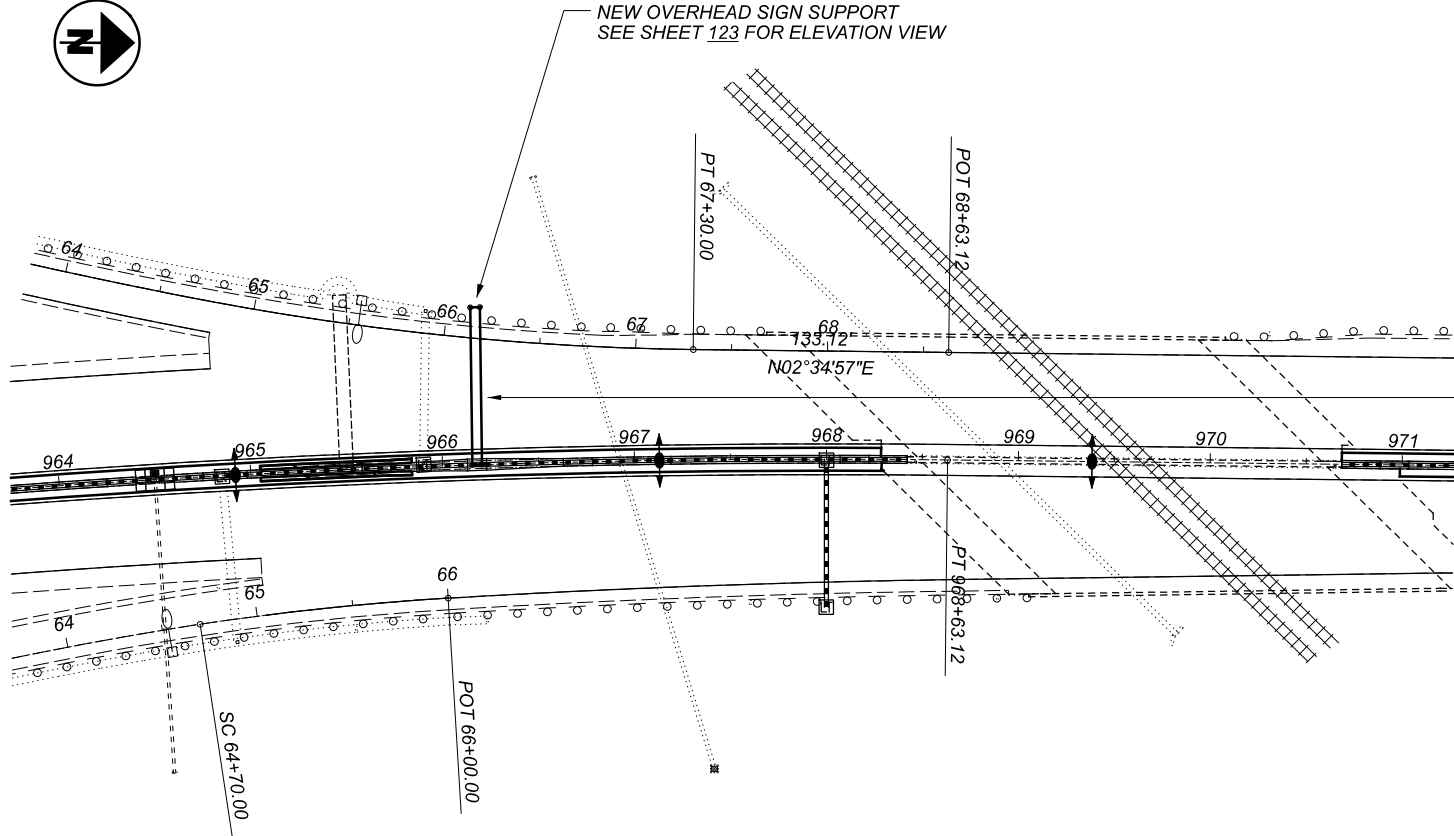
SHEET

P.119

TOTAL

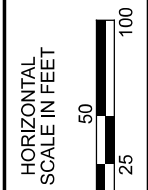
152



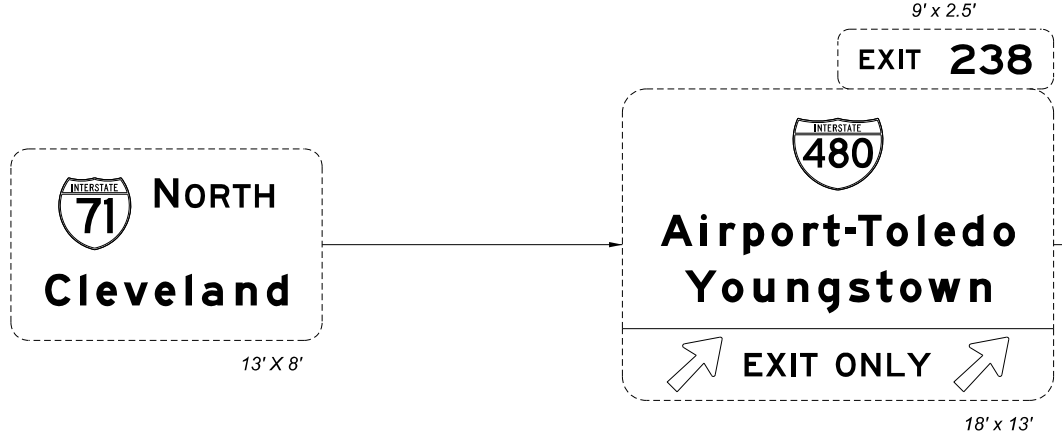


S-3  
OVERHEAD SIGN SUPPORT  
STA. 966+18, @ IR-71 SOUTHBOUND  
TC-15.116, DESIGN NO. 2  
79'-6" SPAN

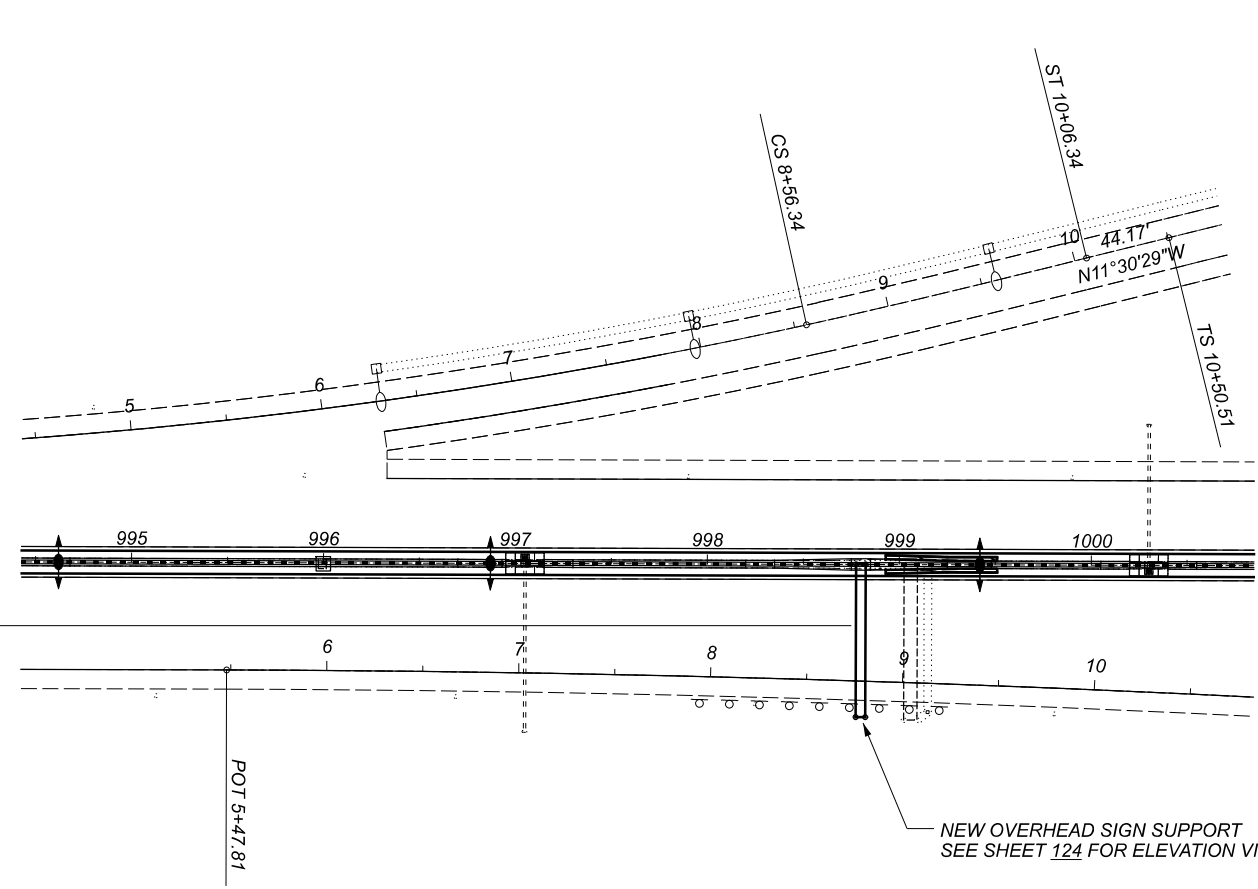
NOTE: EXISTING SIGNS TO BE REERECTED ON TO NEW SUPPORT



TRAFFIC CONTROL PLAN SHEET  
S-3, S-4



S-4  
OVERHEAD SIGN SUPPORT  
STA. 998+80, @ IR-71 NORTHBOUND  
TC-15.116, DESIGN NO. 2  
79'-6" SPAN



NEW OVERHEAD SIGN SUPPORT  
SEE SHEET 124 FOR ELEVATION VIEW

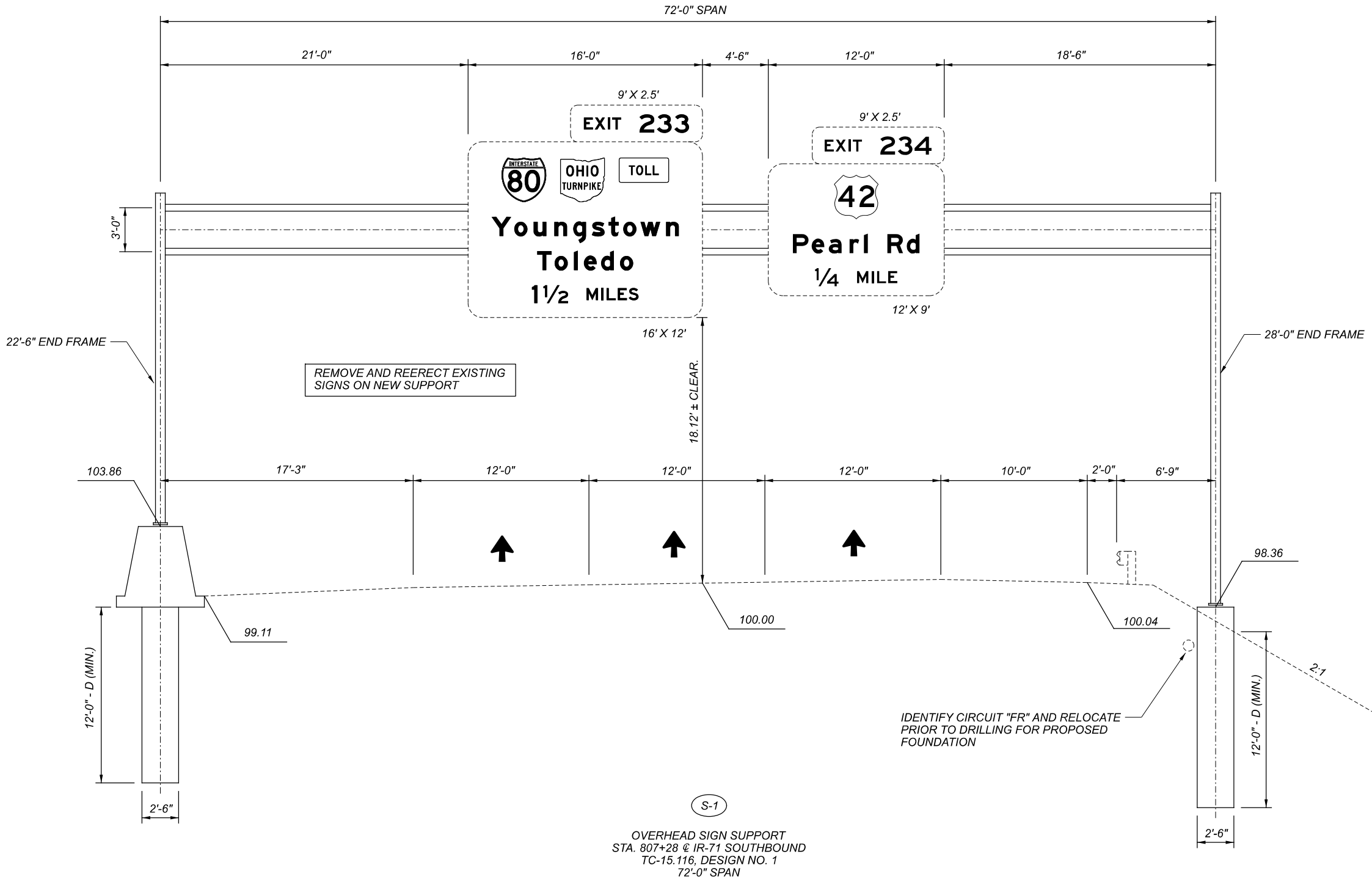
NOTE: EXISTING SIGNS TO BE REERECTED ON TO NEW SUPPORT

DESIGN AGENCY	
DESIGNER	FLK
REVIEWER	DAB
PROJECT ID	87904
SHEET	TOTAL
P.120	152



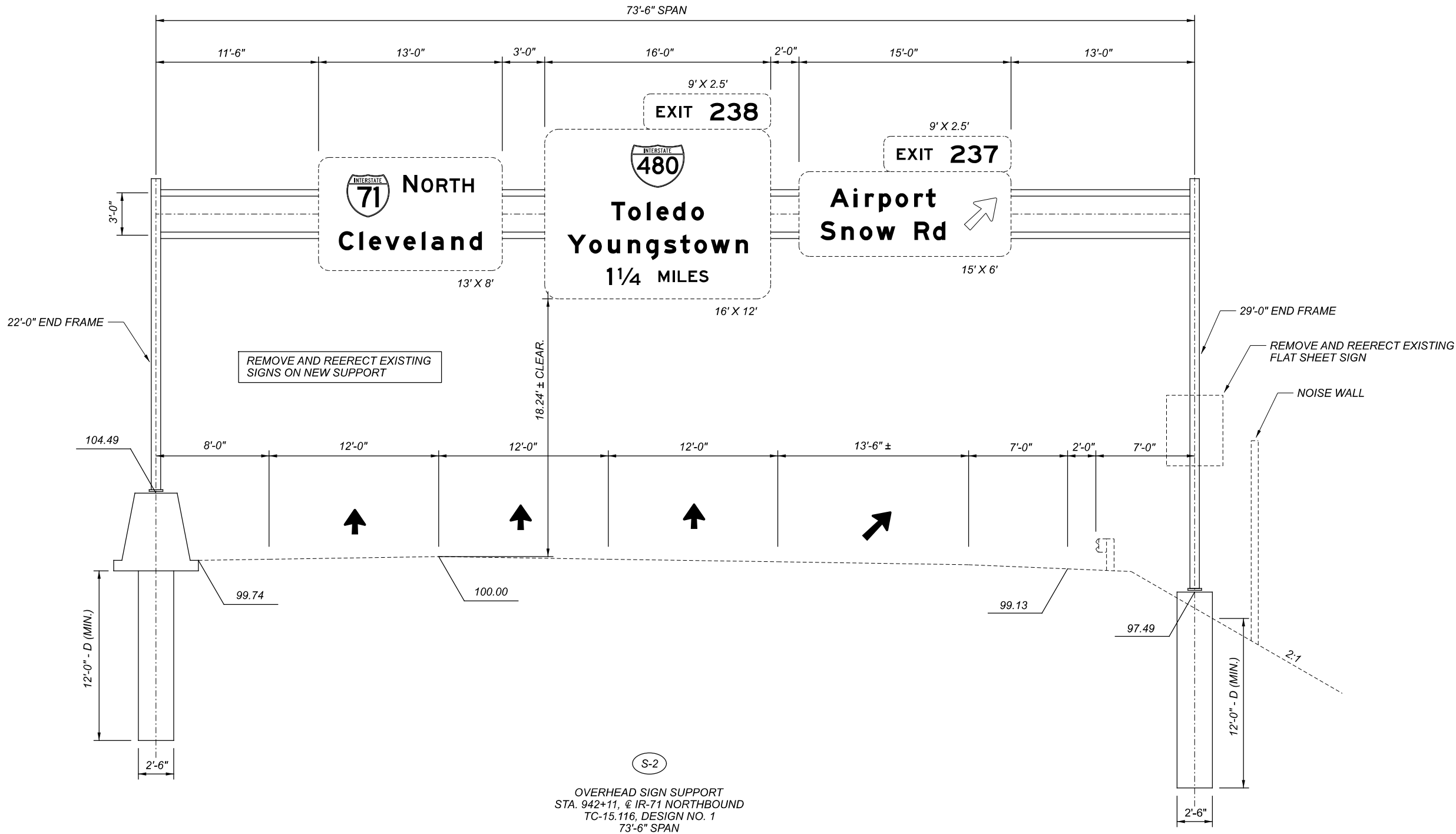
NOTES:

1. ELEVATIONS AND SLOPE CONDITIONS SHOWN ARE FOR **REFERENCE ONLY**.  
LOCATIONS SHALL BE SURVEYED AND FIELD CONDITIONS VERIFIED PRIOR  
TO THE ORDERING AND FABRICATION OF NEW SIGN SUPPORTS. CROSS  
SECTIONS ARE AVAILABLE TO VIEW FROM THE DISTRICT 12 MAP ROOM.
2. ALL ELEVATION VIEWS ARE SHOWN IN THE DIRECTION OF TRAFFIC AND  
VIEWING OF SIGN FACES



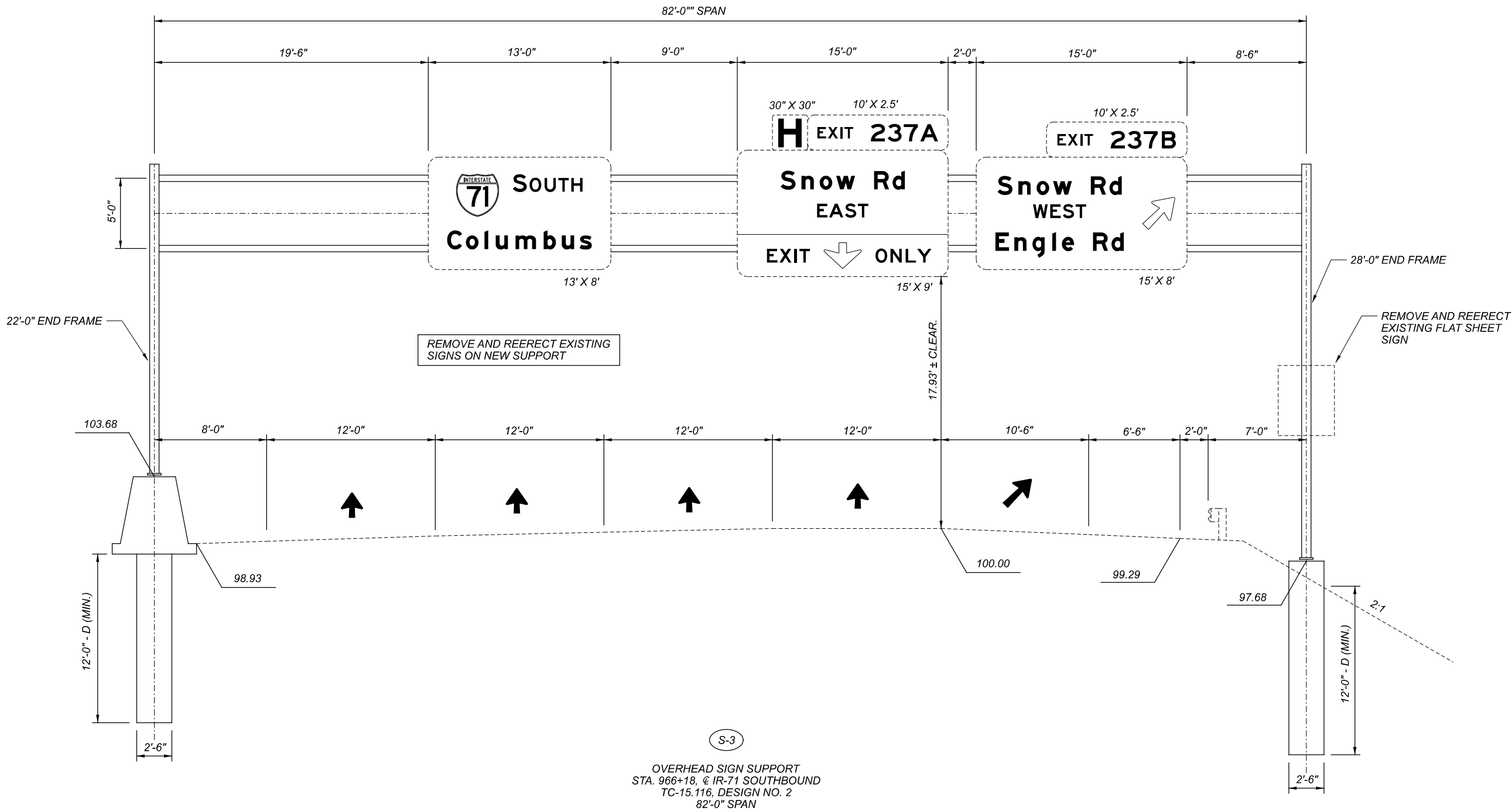


- NOTES:
1. ELEVATIONS AND SLOPE CONDITIONS SHOWN ARE FOR **REFERENCE ONLY**.  
LOCATIONS SHALL BE SURVEYED AND FIELD CONDITIONS VERIFIED PRIOR  
TO THE ORDERING AND FABRICATION OF NEW SIGN SUPPORTS. CROSS  
SECTIONS ARE AVAILABLE TO VIEW FROM THE DISTRICT 12 MAP ROOM.
  2. ALL ELEVATION VIEWS ARE SHOWN IN THE DIRECTION OF TRAFFIC AND  
VIEWING OF SIGN FACES





- NOTES:
1. ELEVATIONS AND SLOPE CONDITIONS SHOWN ARE FOR **REFERENCE ONLY**. LOCATIONS SHALL BE SURVEYED AND FIELD CONDITIONS VERIFIED PRIOR TO THE ORDERING AND FABRICATION OF NEW SIGN SUPPORTS. CROSS SECTIONS ARE AVAILABLE TO VIEW FROM THE DISTRICT 12 MAP ROOM.
  2. ALL ELEVATION VIEWS ARE SHOWN IN THE DIRECTION OF TRAFFIC AND VIEWING OF SIGN FACES





CUY-71-5.71 BARRIER

1. ELEVATIONS AND SLOPE CONDITIONS SHOWN ARE FOR **REFERENCE ONLY**. LOCATIONS SHALL BE SURVEYED AND FIELD CONDITIONS VERIFIED PRIOR TO THE ORDERING AND FABRICATION OF NEW SIGN SUPPORTS. CROSS SECTIONS ARE AVAILABLE TO VIEW FROM THE DISTRICT 12 MAP ROOM.
2. ALL ELEVATION VIEWS ARE SHOWN IN THE DIRECTION OF TRAFFIC AND VIEWING OF SIGN FACES



OVERHEAD SIGN SUPPORT  
STA. 998+80, @ IR-71 NORTHBOUND  
TC-15.116, DESIGN NO. 2  
79'-6" SPAN

OVERHEAD SIGN SUPPORT ELEVATION VIEW (S-4)

DESIGN AGENCY



DESIGNER

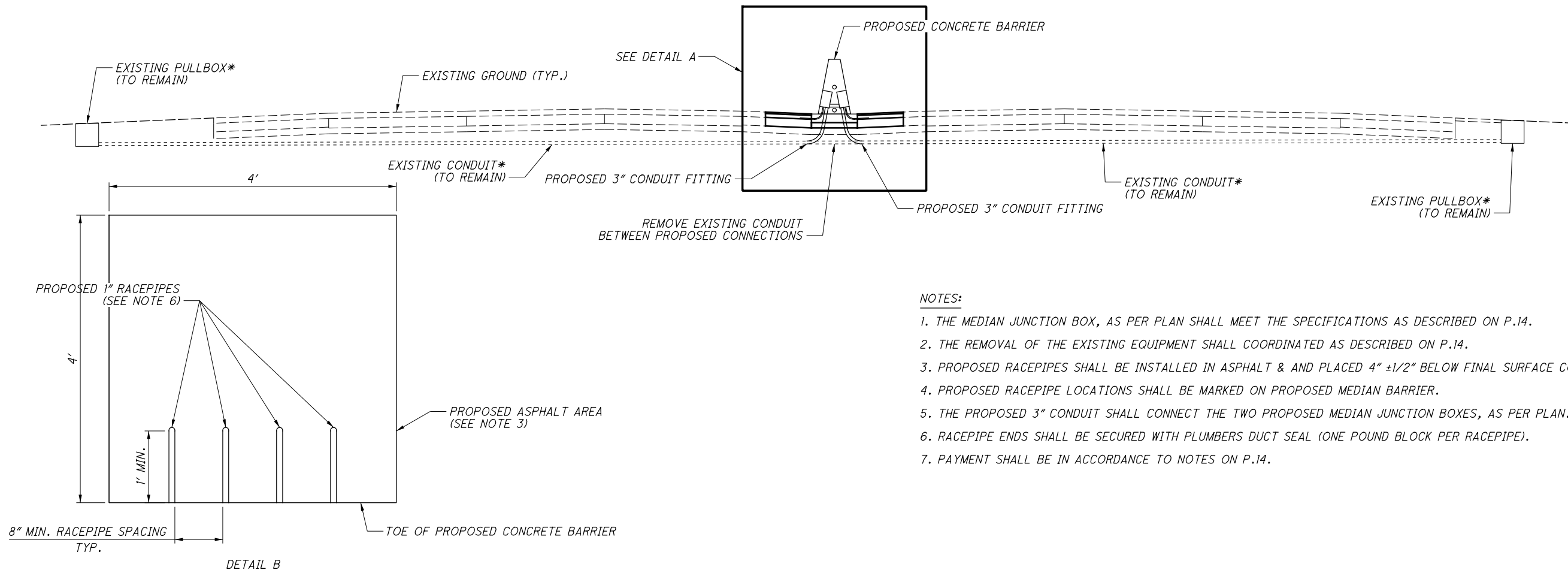
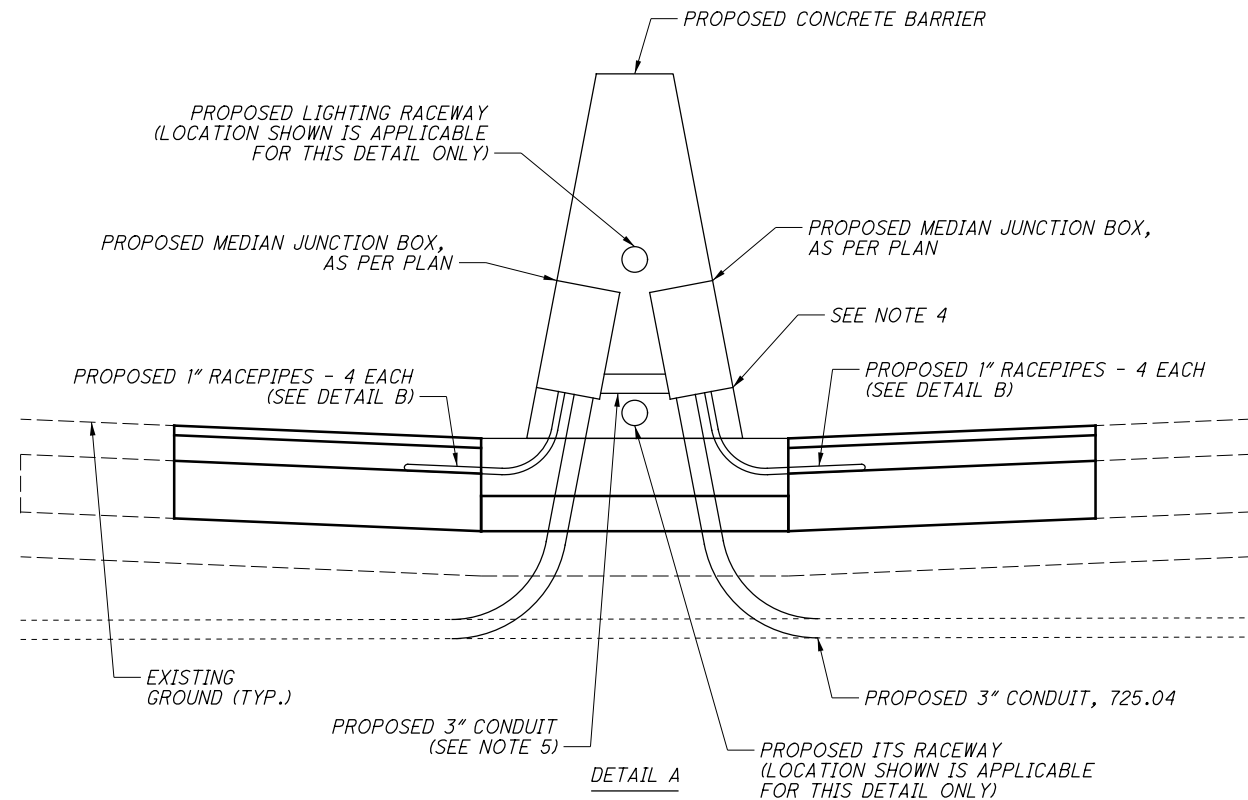
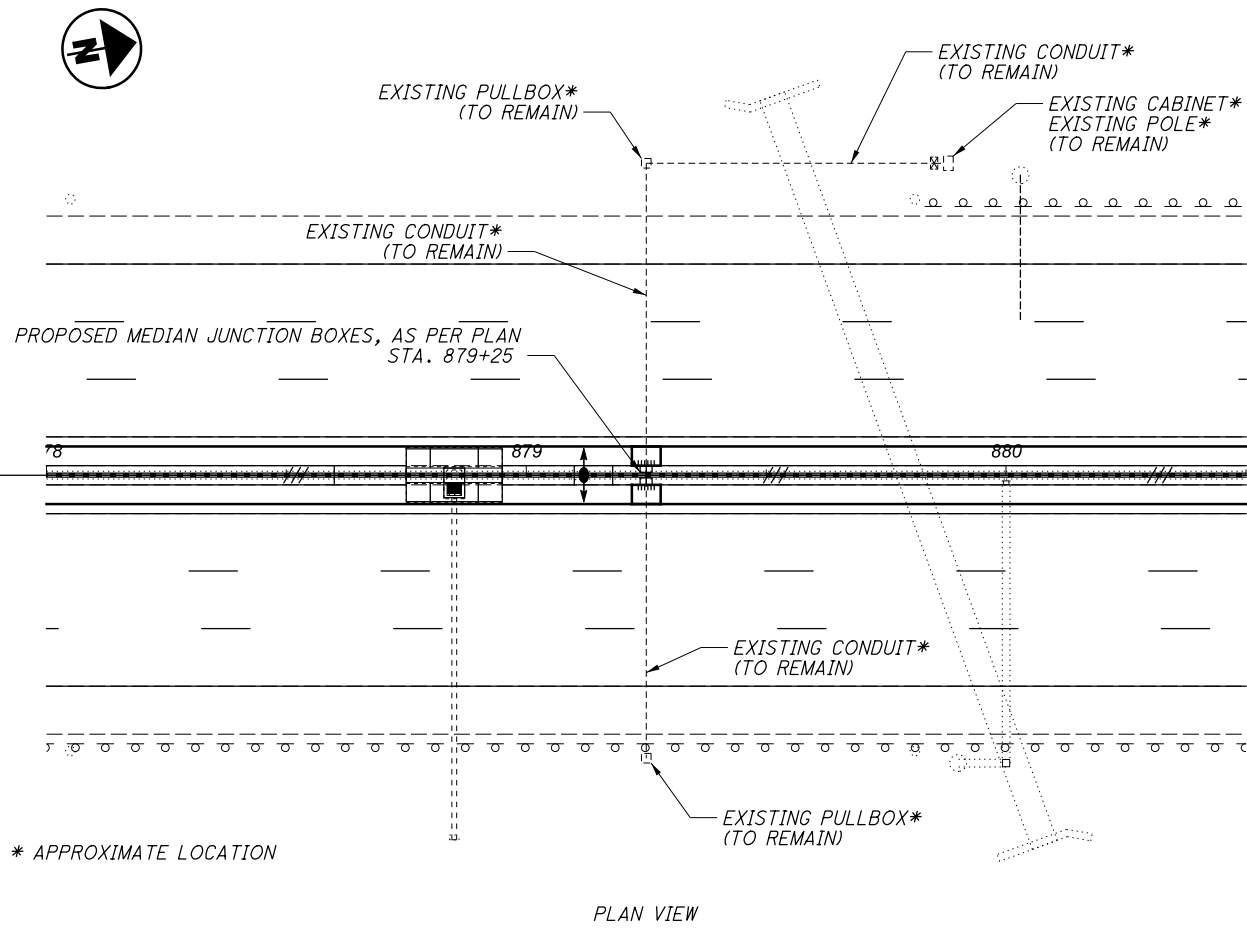
FLK

REVIEWER  
DAB 10/15/21

PROJECT ID  
87904

SHEET P.124 TO



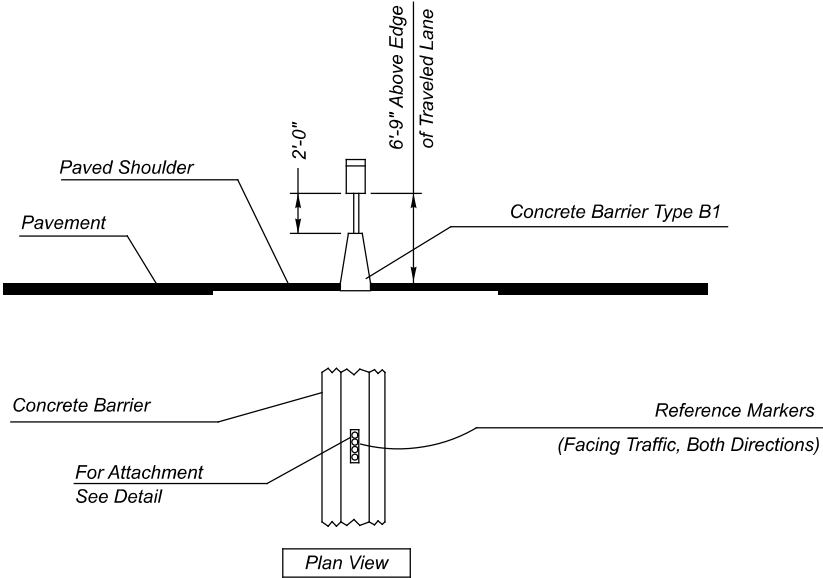


NOTES:

1. THE MEDIAN JUNCTION BOX, AS PER PLAN SHALL MEET THE SPECIFICATIONS AS DESCRIBED ON P.14.
2. THE REMOVAL OF THE EXISTING EQUIPMENT SHALL COORDINATED AS DESCRIBED ON P.14.
3. PROPOSED RACEPIPES SHALL BE INSTALLED IN ASPHALT & AND PLACED 4"  $\pm 1/2$ " BELOW FINAL SURFACE COURSE.
4. PROPOSED RACEPIPE LOCATIONS SHALL BE MARKED ON PROPOSED MEDIAN BARRIER.
5. THE PROPOSED 3" CONDUIT SHALL CONNECT THE TWO PROPOSED MEDIAN JUNCTION BOXES, AS PER PLAN.
6. RACEPIPE ENDS SHALL BE SECURED WITH PLUMBERS DUCT SEAL (ONE POUND BLOCK PER RACEPIPE).
7. PAYMENT SHALL BE IN ACCORDANCE TO NOTES ON P.14.

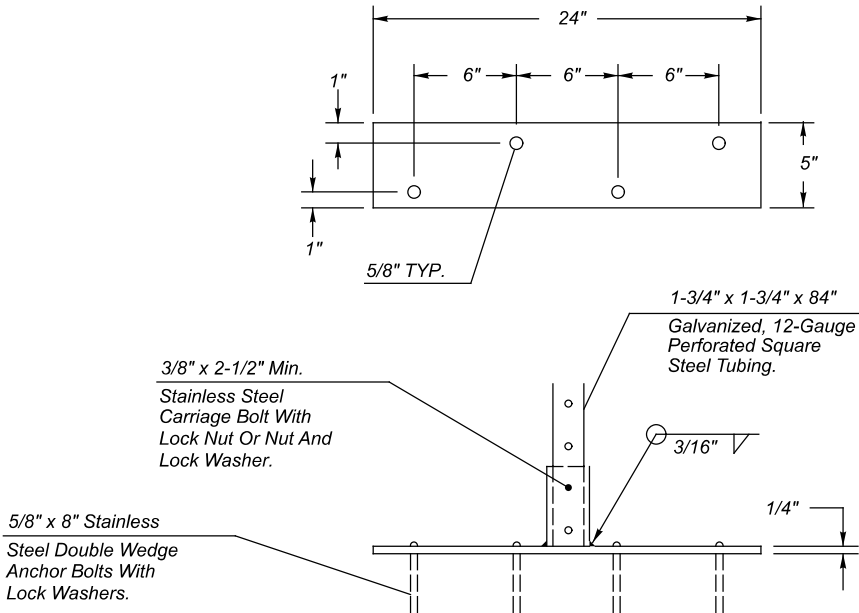


Single Median Barrier



Mainline Reference Markers (D10-5)

Sign Support Assembly, Barrier Mounted

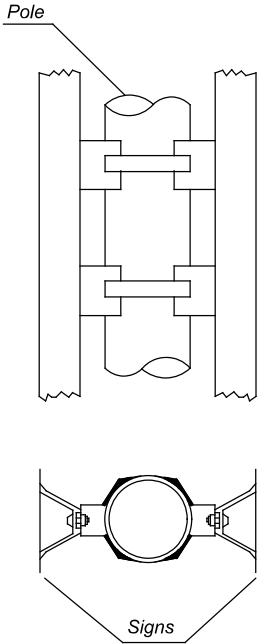


Notes:

1. All hardware shall be galvanized or stainless steel as specified.
2. All work and materials shall be in accordance with standard specifications.
3. 5/8" x 7" Stainless steel anchor bolts may be used if 8" lengths are not available.

Sign Support Assembly, Pole Mounted

See TC-41.40 For Attachment





SHEET NO.	PLAN SPLIT NO.	CIRCUIT	POLE/PULL BOX NO.	STATION TO STATION	625	625	625	625	625	625	625	625	625	625	625	625	809	809	625	625	625	625	625	625	625	625	625	625	625	625	
					CONNECTION, FUSED PULL APART	CONNECTION, UNFUSED PULL APART	CONNECTION, UNFUSED PERMANENT	LIGHT POLE, LOW MAST, AS PER PLAN, ALM50	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN A	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN B	LIGHT POLE FOUNDATION, MISC.: MEDIAN FOUNDATION ON SPREAD FOOTER	LIGHT TOWER FOUNDATION, 36" X 25' DEEP, AS PER PLAN	LIGHT TOWER FOUNDATION, 36" X 30' DEEP, AS PER PLAN	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	NO. 10 AWG POLE AND BRACKET CABLE	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	CONDUIT, 4", MULTICELL, HDPE WITH 4 – 1" INNERDUCTS	CONDUIT, MULTICELL, JACKED OR DRILLED, 4"	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, 3000K, 47000 LUMEN	TRENCH, 24" DEEP	MEDIAN JUNCTION BOX, AS PER PLAN B	MEDIAN JUNCTION BOX, AS PER PLAN C	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 32", AS PER PLAN	GROUND ROD	RE-ERECT EXISTING LIGHT TOWER, AS PER PLAN	LIGHT POLE REMOVED	LUMINAIRE REMOVED	DISCONNECT CIRCUIT	
					EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	EACH	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
				IR-71 CL			3									1,251							1								
136	1	PRN	MJ-1	782+50 786+57																											
136	1		PRN-4	786+57 791+50											1											2	1				
137	1		MJ-2	791+50			3																1								
137	1	FR	MJ-3	795+90 800+17			3									1,311							1								
137	1		FR-2	800+17 804+40										1		1,299										2	1				
137	1		MJ-4	804+40			3															1									
	1			807+25 IR-71 LT			6												50				40			2					
	1			IR-71 CL																											
137	1	BAG1	BAG1-12	810+78 813+28	1	1		1			1					520	175									1			1	2	
138	1		BAG1-11	813+28 815+78	1	1		1			1					520	175									1			1	2	
138	1		BAG1-10	815+78 818+28	1	1		1			1					520	175									1			1	2	
138	1		BAG1-9	818+28 820+58	1	1		1			1					480	175									1			1	2	
138	1		BAG1-8	820+58 823+75	1	1	2	1			1					654	175									1			1	2	
138	1		BAG1-7	823+75 825+82	1	1	2	1								434	175												1	2	
139	1		BAG1-6	825+82 826+50	1	1		1			1					156	175									1			1	2	
139	1		MJ-5	826+50 828+38			2									396							1								
139	1		BAG1-5	828+38 828+58	1	1		1			1					60	175									1			1	2	
139	1		MJ-6	828+58 831+00			2									504										1					
139	1		BAG1-4	831+00 833+62	1	1		1			1					544	175									1			1	2	
139	1		BAG1-3	833+62 836+18	1	1		1			1					532	175									1			1	2	
139	1		BAG1-2	836+18 838+78	1	1		1			1					540	175									1			1	2	
140	1		BAG1-1	838+78 841+35	1	1	4	1			1					534	175									1			1	2	
140	1		MJ-7	841+35			4																								
	1	BAG2		841+35 841+38												25															
140	1		BAG2-1	841+38 843+98	1	1		1			1					540	175										1			1	2
140	1		BAG2-2	843+98 846+58	1	1		1			1					540	175										1			1	2
140	1		BAG2-3	846+58 849+08	1	1		1			1					520	175										1			1	2
140	1		BAG2-4	849+08 849+65	1	1		1			1					134	175										1			1	2
140	1		MJ-8	849+65 851+58			2									406							1								
141	1		BAG2-5	851+58 851+70	1	1		1			1					44	175										1			1	2
141	1		MJ-9	851+70 853+88			2									296											1				
141	1		BAG2-6	853+88 856+32	1	1		1			1					508	175										1			1	2
141	1		BAG2-7	856+32 858+78	1	1		1			1					512	175										1			1	2
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141	1		BAG2-13	871+38	1	1		1			1						175										1			1	2
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142	1		SHL2-3	879+12 881+72	1	1		1			1					810	175										1			1	2
142	1		SHL2-4	881+72 884+35	1	1		1			1					819	175										1			1	2
142	1		SHL2-5	884+35 886+88	1	1		1			1					789	175														

LIGHTING SUBSUMMARY

DESIGN AGENCY



DESIGNER

FLK

REVIEWER

DAB 10/15/21

PROJECT ID

87904

SHEET

P.127

TOTAL

152



**CUY-71-5.71 BARRIER**

MODEL: Sheet PAPER SIZE: 17x11 (in.) DATE: 2/11/2021 TIME: 12:41:43 PM USER: dbrauer  
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SHEET NO.	PLAN SPLIT NO.	CIRCUIT	POLE/PULL BOX NO.	STATION TO STATION	625	625	625	625	625	625	625	625	625	625	625	625	809	809	625	625	625	625	625	625	625	625	625	625	625	625	625	
					CONNECTION, FUSED PULL APART	CONNECTION, UNFUSED PULL APART	CONNECTION, UNFUSED PERMANENT	LIGHT POLE, LOW MAST, AS PER PLAN, ALM50	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN A	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN B	LIGHT POLE FOUNDATION, MISC.: MEDIAN FOUNDATION ON SPREAD FOOTER	LIGHT TOWER FOUNDATION, 36" X 25' DEEP, AS PER PLAN	LIGHT TOWER FOUNDATION, 36" X 30' DEEP, AS PER PLAN	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	NO. 10 AWG POLE AND BRACKET CABLE	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	CONDUIT, 4", MULTICELL, HDPE WITH 4 – 1" INNERDUCTS	CONDUIT, MULTICELL, JACKED OR DRILLED, 4"	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, 3000K, 47000 LUMEN	TRENCH, 24" DEEP	MEDIAN JUNCTION BOX, AS PER PLAN B	MEDIAN JUNCTION BOX, AS PER PLAN C	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 32", AS PER PLAN	GROUND ROD	RE-ERECT EXISTING LIGHT TOWER, AS PER PLAN	LIGHT POLE REMOVED	LUMINAIRE REMOVED	DISCONNECT CIRCUIT		
					EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	FT	EACH	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
				IR-71 CL																												
143	1	SHL1	SHL1-1	904+26	906+68	1	1		1				1			756	175				1									1	2	
143	1		SHL1-2	906+68	909+27	1	1		1				1			807	175				1									1	2	
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143	1		SHL1-4	911+80	914+30	1	1		1				1			780	175				1									1	2	
143	1		SHL1-5	914+30	916+92	1	1		1				1			816	175				1									1	2	
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143	1		SHL1-7	919+48	922+08	1	1		1	1						810	175				1								1	2		
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144	1		SHL1-13	934+46	936+71	1	1		1	1						705	175				1								1	2		
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145	1	SNW1	SNW1-1	941+21	943+56	1	1		1	1						735	175				1								1	2		
145	1		SNW1-2	943+56	944+50	1	1		1	1						312	175				1							1	2			
145	1		MJ-11	944+50	945+05			3								195																
145	1		MJ-12	945+05	946+06			3								333						1										
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		SNW2		956+15	957+72											501																
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147	1		SNW2-4	964+92	965+90	1	1		1	1						324	175				1							1	2			
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147	1		SNW2-5	967+12	968+45	1	1	3	1	1						429	175				1							1	2			
147	1		SNW2-6	969+37		1	1		1								175				1								1	2		
				970+60	971+68			3								354																
147	1		SNW2-7	971+68	974+03	1	1		1	1						735	175				1							1	2			
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	1	HML		976+30	976+38		3									54						1										1
147	1		HML1-1	976+38	978+62	1		1	1	1						702	175				1							1	2			
147	1		HML1-2	978+62	980+90	1		1	1	1						714	175				1							1	2			
147	1		HML1-3	980+90	983+22	1		1	1	1						726	175				1							1	2			
147	1		HML1-4	983+22	985+52	1		1	1	1						720	175				1							1	2			
147	1		HML1-5	985+52	987+70	1		1	1	1						684	175				1							1	2			
148	1		HML1-6	987+70	990+11	1		1	1	1						753	175				1							1	2			
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148	1		HML1-8	992+41	994+62	1		1	1	1						693	175				1							1	2			
148	1		HML1-9	994+62	996+87	1		1	1	1						705	175				1							1	2			
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148	1		HML1-14	1006+18	1008+73	1		1	1	1						795	175				1							1	2			
TOTALS CARRIED TO GENERAL SUMMARY					44	33	56	44		37		6				30852	7700				44		8				37		44	88	1	

## LIGHTING SUBSUMMARY

DESIGN AGENCY



DESIGNER

FLK

REVIEWE

DAR 10/1

57 (5) 10/11

PROJECT ID

87904

SHEET	TOTAL
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D 129 |



## CUY-71-5.71 BARRIER

MODEL: Sheet PAPER SIZE: 17x11 (in.) DATE: 12/1/2021 TIME: 12:41:50 PM USER: dbrauer  
pw:\votiodot-pw.bentley.com\chidot-pw-02\Documents\01 Active Projects\District 12\Cuyahoga\87904\400-Engineering\Lighting\Sheets\87904\_L5003.dgn

SHEET NO.	PLAN SPLIT NO.	CIRCUIT	POLE/PULL BOX NO.	STATION TO STATION	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	625	LIGHTING SUBSUMMARY		
					CONNECTION, FUSED PULL APART	CONNECTION, UNFUSED PULL APART	CONNECTION, UNFUSED PERMANENT	LIGHT POLE, LOW MAST, AS PER PLAN, ALM50	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN A	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN B	LIGHT POLE FOUNDATION, MISC.: MEDIAN FOUNDATION ON SPREAD FOOTER	LIGHT TOWER FOUNDATION, 36" X 25' DEEP, AS PER PLAN	LIGHT TOWER FOUNDATION, 36" X 30' DEEP, AS PER PLAN	NO. 4 AWG 2400 VOLT DISTRIBUTION CABLE	NO. 10 AWG POLE AND BRACKET CABLE	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 2400 VOLT CABLES	CONDUIT, 4", MULTICELL, HDPE WITH 4 – 1" INNERDUCTS	CONDUIT, MULTICELL, JACKED OR DRILLED, 4"	LUMINAIRE, LOW MAST, SOLID STATE (LED), AS PER PLAN, 3000K, 47000 LUMEN	TRENCH, 24" DEEP	MEDIAN JUNCTION BOX, AS PER PLAN B	MEDIAN JUNCTION BOX, AS PER PLAN C	PULL BOX, 725.08, 18"	PULL BOX, 725.08, 32", AS PER PLAN	GROUND ROD	RE-ERECT EXISTING LIGHT TOWER, AS PER PLAN	LIGHT POLE REMOVED		LUMINAIRE REMOVED	DISCONNECT CIRCUIT
				IR-71 CL																											
148	1	HML1	HML1-15	1008+73 1011+38	1	1		1		1						825	175				1					1		1	2		
148	1		HML1-16	1011+38 1014+13	1	1		1		1						588	175				1					1		1	2		
149	1		HML1-17	1014+13 1016+65	1	1		1								786	175				1							1	2		
149	1		HML1-18	1016+65 1019+15	1	1		1	1							780	175				1				1		1	2			
149	1		HML1-19	1019+15 1021+60	1	1		1			1					765	175				1				1		1	2			
149	1		HML1-20	1021+60 611+41	1	1		1				1				699	175				1						1	2			
149	1		HML1-21	611+41	1	1		1	1								175				1				1		1	2			
				ITS																											
136	1		ITJ-1	784+00 IR-71CL																											
136	1		ITP-1	784+00 IR-71 LT																											
136	1		ITP-2	784+00 IR-71 RT																											
137	1		ITJ-2	791+00 IR-71CL																											
137	1		ITP-3	791+00 IR-71 RT																											
137	1		ITJ-3	797+00 IR-71CL																											
137	1		ITP-4	797+00 IR-71 RT																											
137	1		ITJ-4	803+50 IR-71CL																											
137	1		ITP-5	803+00 IR-71 RT																											
137	1		ITJ-5	807+50 IR-71CL																											
137	1		ITP-6	807+50 IR-71 RT																											
138	1		ITJ-6	817+00 IR-71CL																											
138	1		ITJ-7	822+00 IR-71CL																											
138	1		ITP-7	IR-71 RT																											
139	1		ITJ-8	827+00 IR-71CL																											
139	1		ITP-8	IR-71 RT																											
140	1		ITJ-9	838+00 IR-71CL																											
140	1		ITP-9	IR-71 RT																											
140	1		ITJ-10	842+00 IR-71CL																											
140	1		ITP-10	IR-71 RT																											
141	1		ITJ-11	852+00 IR-71CL																											
141	1		ITJ-12	862+00 IR-71CL																											
141	1		ITJ-13	871+75 IR-71CL																											
142	1		ITJ-14	882+00 IR-71CL																											
142	1		ITJ-15	891+75 IR-71CL																											
143	1		ITJ-16	901+75 IR-71CL																											
143	1		ITP-11	901+75 IR-71 RT																											
143	1		ITJ-17	904+00 IR-71CL																											
143	1		ITP-12	904+00 IR-71 RT																											
143	1		ITJ-18	915+25 IR-71CL																											
144	1		ITJ-19	927+00 IR-71CL																											
144	1		ITP-13	IR-71 RT																											
144	1		ITJ-20	930+50 IR-71CL																											
144	1		ITP-14	IR-71 RT																											
145	1		ITJ-21	938+00 IR-71CL																											
145	1		ITP-15	IR-71 RT																											
145	1		ITJ-22	941+00 IR-71CL																											
145	1		ITP-16	IR-71 RT																											
146	1		ITJ-23	853+25 IR-71CL																											
146	1		ITP-17	IR-71 RT																											
146	1		ITJ-24	956+50 IR-71CL																											
146	1		ITP-18	IR-71 RT																											



## CUY-71-5.71 BARRIER

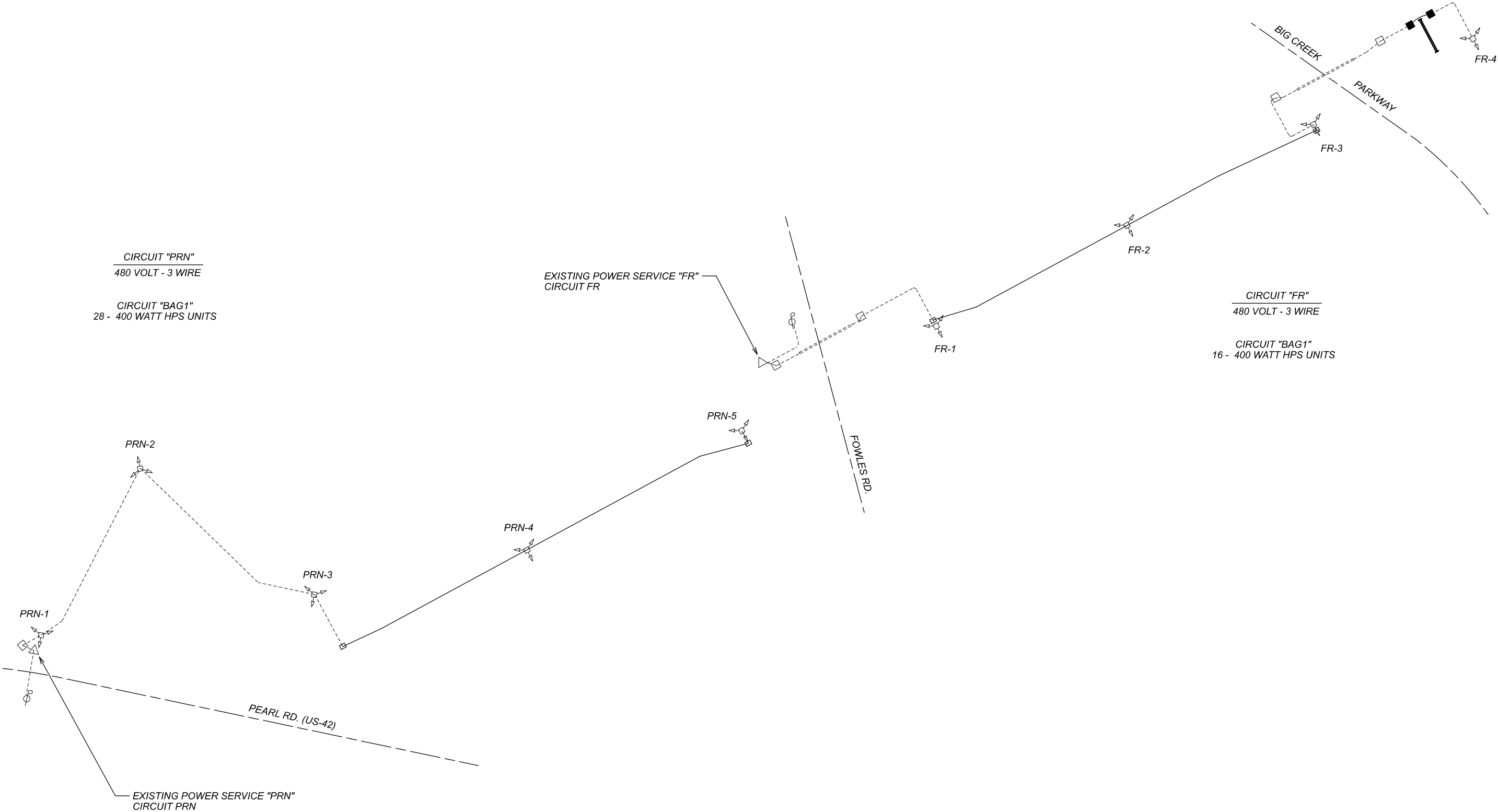
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[illegible]





EXIST.	PROP.	LEGEND
		HIGH MAST UNIT, W/ 400 WATT HIGH PRESSURE SODIUM LUMINAIRES
		POWER SERVICE
		MEDIAN JUNCTION BOX
		PULL BOX/JUNCTION BOX WITH SPLICES
		PULL BOX/JUNCTION BOX WITH SPLICES



CIRCUIT DIAGRAMS

DESIGN AGENCY



DESIGNER

FLK

REVIEWER

DAB 10/15/21

PROJECT ID

87904

SHEET

P.131

TOTAL

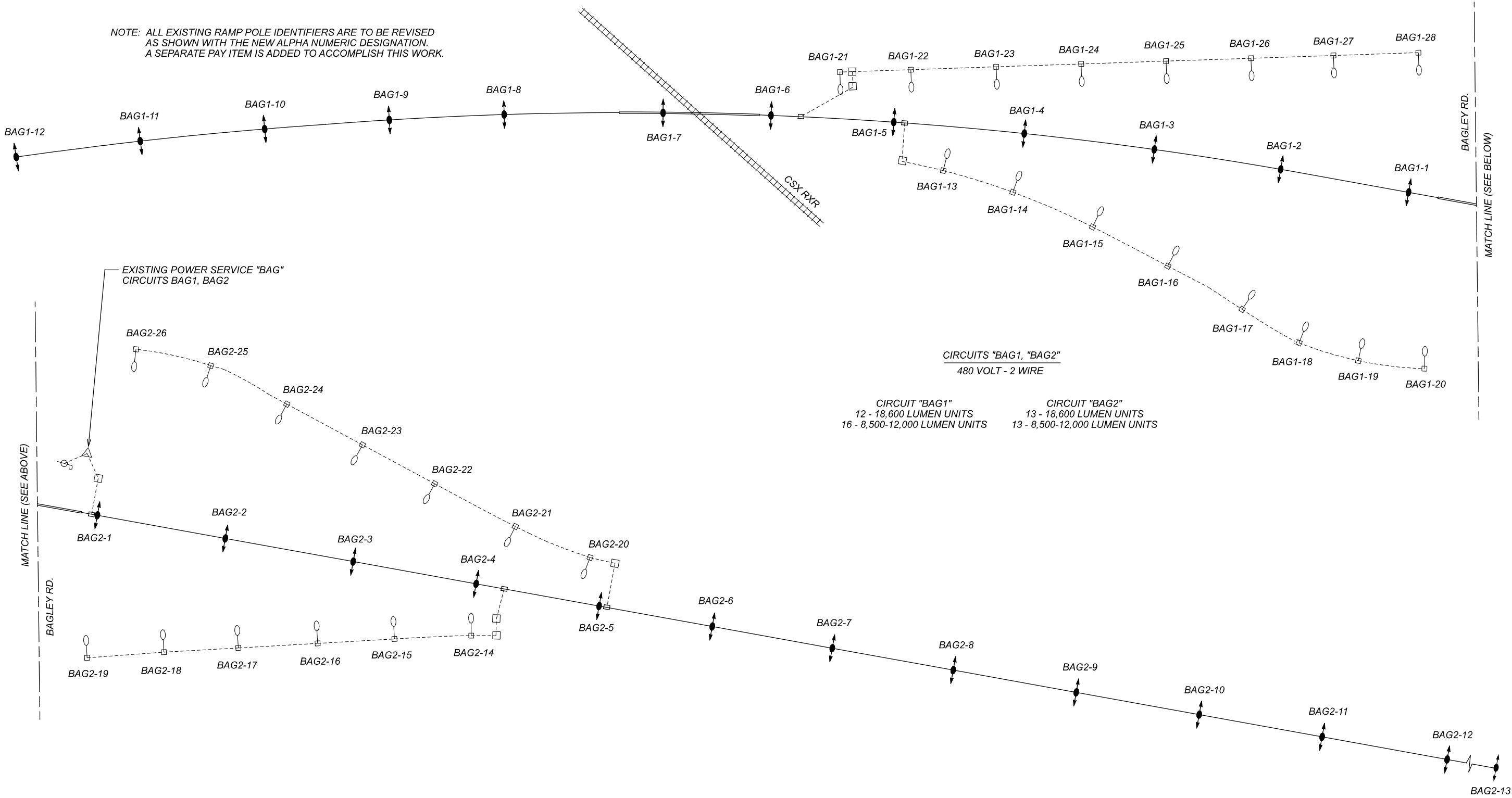
152





EXIST.	PROP.	LEGEND
		LOW MAST UNIT, W/ 1-42,000 LUMEN SYMETRIC LED LUMINAIRE
		LIGHT POLE, W/ 8,500-12,000 LUMEN LED LUMINAIRE
		POWER SERVICE
		MEDIAN JUNCTION BOX
		PULL BOX/JUNCTION BOX WITH SPLICES

NOTE: ALL EXISTING RAMP POLE IDENTIFIERS ARE TO BE REVISED  
AS SHOWN WITH THE NEW ALPHA NUMERIC DESIGNATION.  
A SEPARATE PAY ITEM IS ADDED TO ACCOMPLISH THIS WORK.



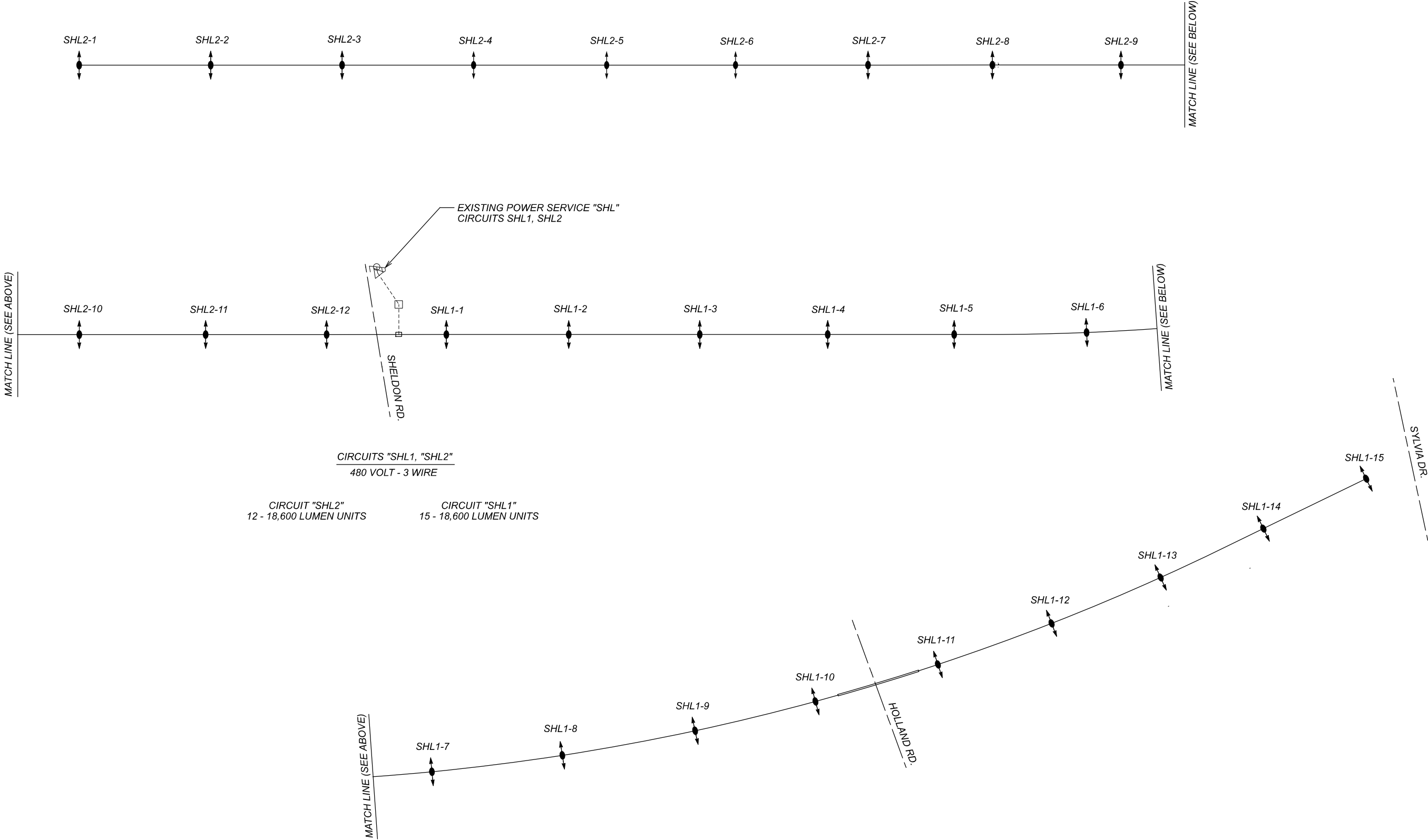
CIRCUIT DIAGRAMS

DESIGN AGENCY	
DESIGNER	FLK
REVIEWER	DAB
PROJECT ID	87904
SHEET	P.132
TOTAL	152





EXIST.	PROP.	LEGEND
		LOW MAST UNIT, W/ 1-42,000 LUMEN SYMETRIC LED LUMINAIRE
		LIGHT POLE, W/ 8,500-12,000 LUMEN LED LUMINAIRE
		POWER SERVICE
		MEDIAN JUNCTION BOX
		PULL BOX/JUNCTION BOX WITH SPLICES

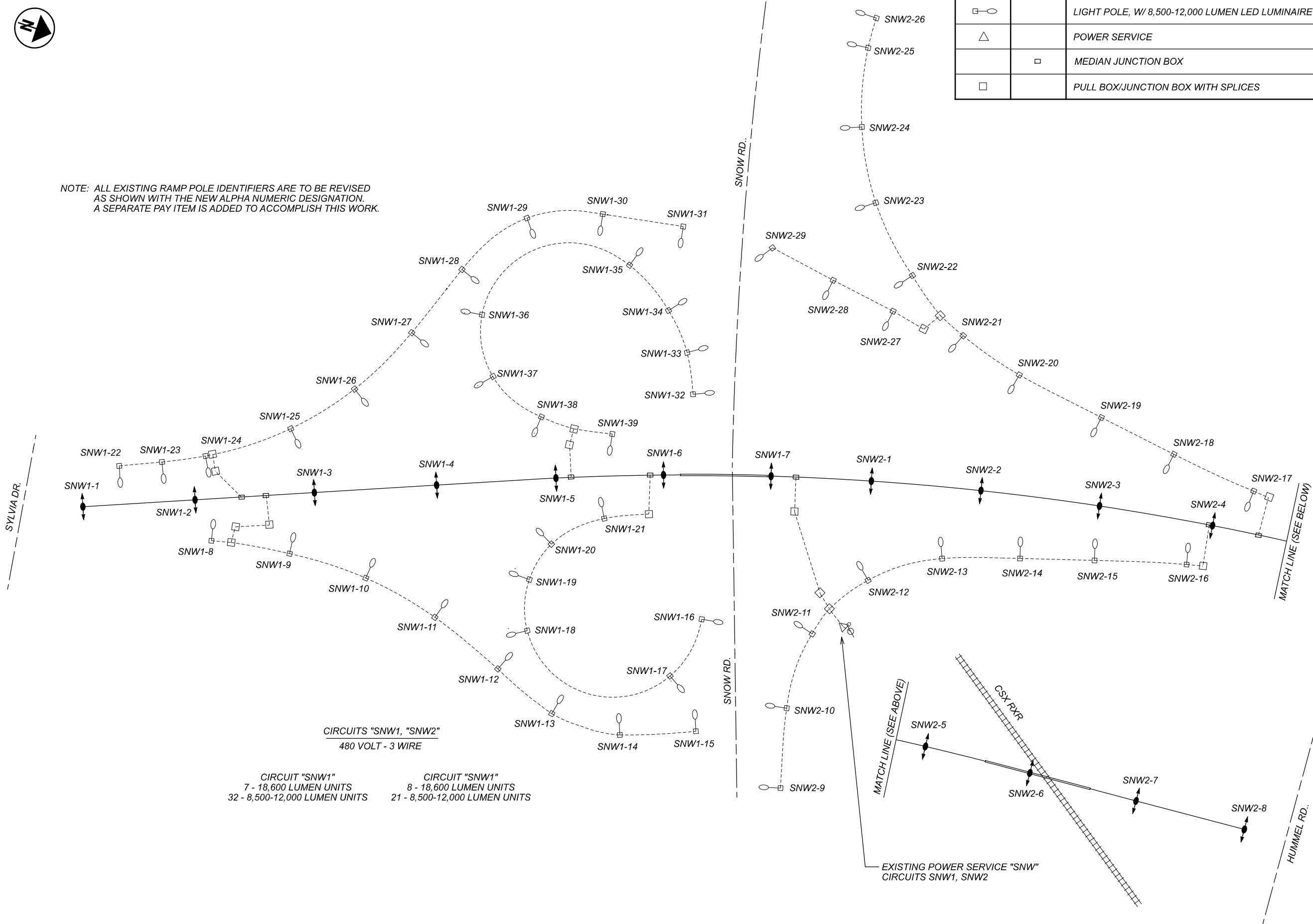






NOTE: ALL EXISTING RAMP POLE IDENTIFIERS ARE TO BE REVISED AS SHOWN WITH THE NEW ALPHA NUMERIC DESIGNATION. A SEPARATE PAY ITEM IS ADDED TO ACCOMPLISH THIS WORK.

EXIST.	PROP.	LEGEND
		LOW MAST UNIT, W/ 1-42,000 LUMEN SYMETRIC LED LUMINAIRE
		LIGHT POLE, W/ 8,500-12,000 LUMEN LED LUMINAIRE
		POWER SERVICE
		MEDIAN JUNCTION BOX
		PULL BOX/JUNCTION BOX WITH SPLICES



CIRCUITS "SNW1, "SNW2"  
480 VOLT - 3 WIRE

CIRCUIT "SNW1"  
7 - 18,600 LUMEN UNITS  
32 - 8,500-12,000 LUMEN UNITS

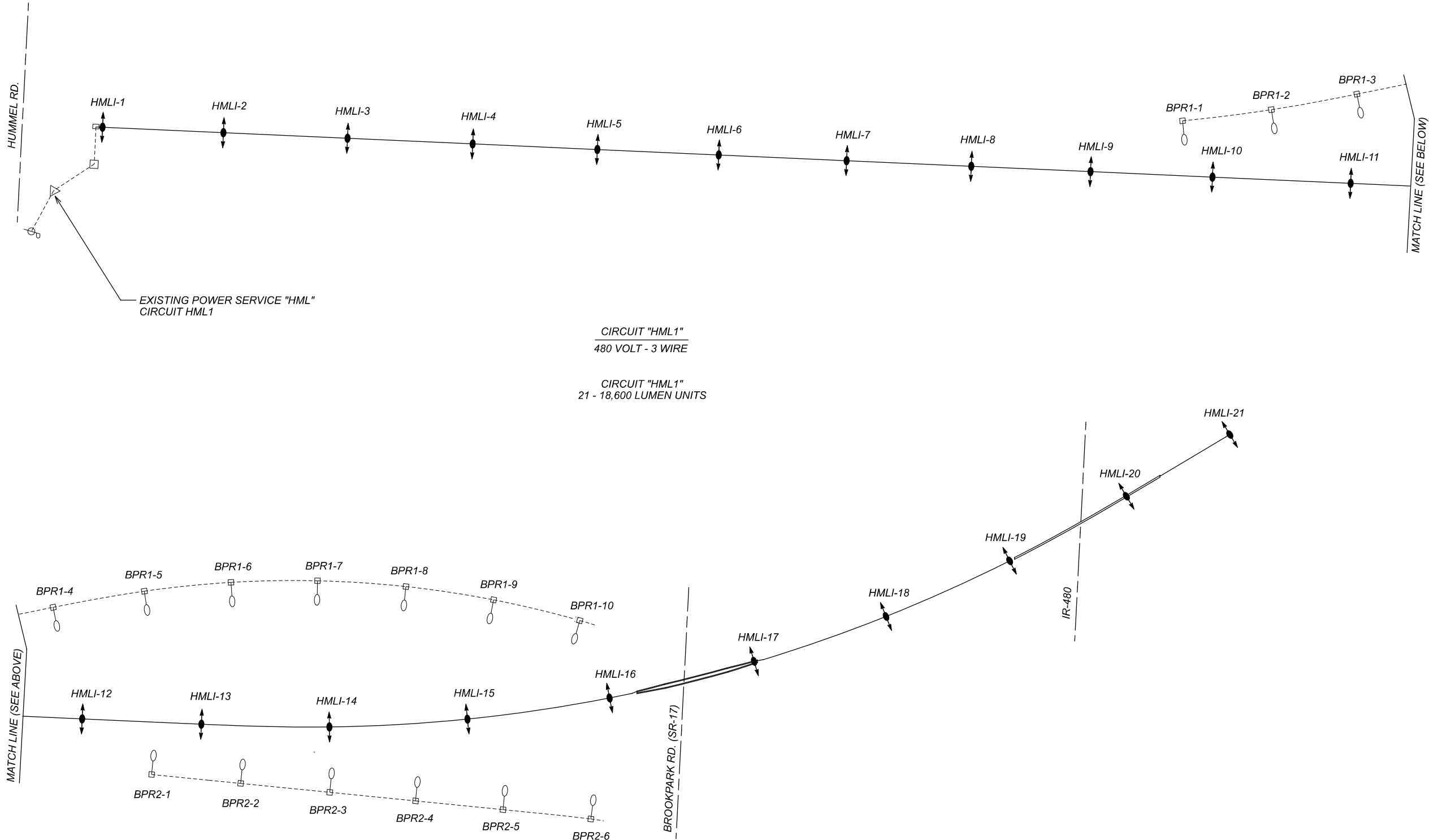
CIRCUIT "SNW1"  
8 - 18,600 LUMEN UNITS  
21 - 8,500-12,000 LUMEN UNITS







EXIST.	PROP.	LEGEND
		LOW MAST UNIT, W/ 1-42,000 LUMEN SYMETRIC LED LUMINAIRE
		LIGHT POLE, W/ 8,500-12,000 LUMEN LED LUMINAIRE
		POWER SERVICE
		MEDIAN JUNCTION BOX
		PULL BOX/JUNCTION BOX WITH SPLICES



CIRCUIT DIAGRAMS

DESIGN AGENCY



DESIGNER

FLK

REVIEWER

DAB 10/15/21

PROJECT ID

87904

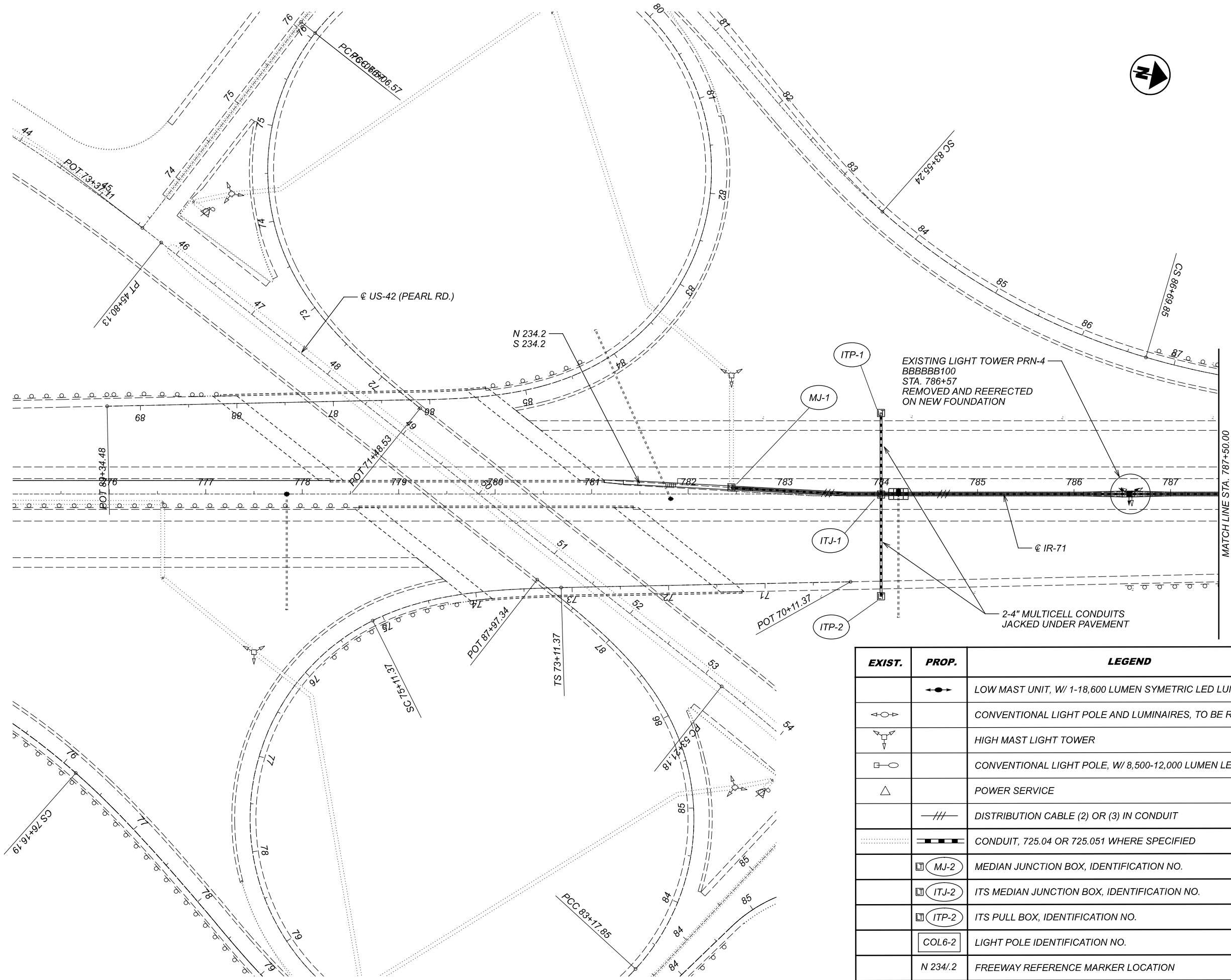
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P.135

TOTAL

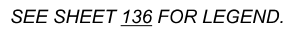
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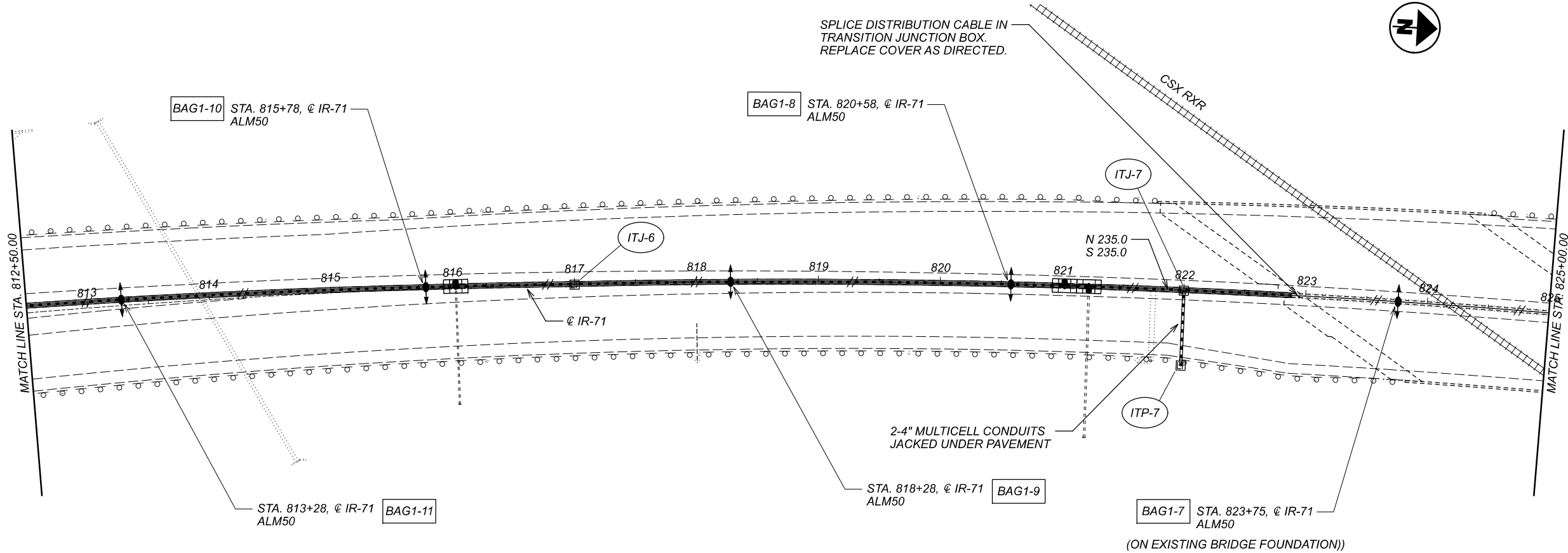


EXIST.	PROP.	LEGEND
		LOW MAST UNIT, W/ 1-18,600 LUMEN SYMETRIC LED LUMINAIRE
		CONVENTIONAL LIGHT POLE AND LUMINAIRES, TO BE REMOVED
		HIGH MAST LIGHT TOWER
		CONVENTIONAL LIGHT POLE, W/ 8,500-12,000 LUMEN LED LUMINAIRE
		POWER SERVICE
		DISTRIBUTION CABLE (2) OR (3) IN CONDUIT
		CONDUIT, 725.04 OR 725.051 WHERE SPECIFIED
		MJ-2 MEDIAN JUNCTION BOX, IDENTIFICATION NO.
		ITS MEDIAN JUNCTION BOX, IDENTIFICATION NO.
		ITS PULL BOX, IDENTIFICATION NO.
		COL6-2 LIGHT POLE IDENTIFICATION NO.
		N 234.2 FREEWAY REFERENCE MARKER LOCATION



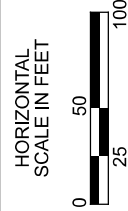






SEE SHEET 136 FOR LEGEND.

LIGHTING PLAN SHEET  
I.R. 71, STA. 812+50 TO STA. 825+00



DESIGN AGENCY



DESIGNER

FLK

REVIEWER

DAB 10/15/21

PROJECT ID

87904

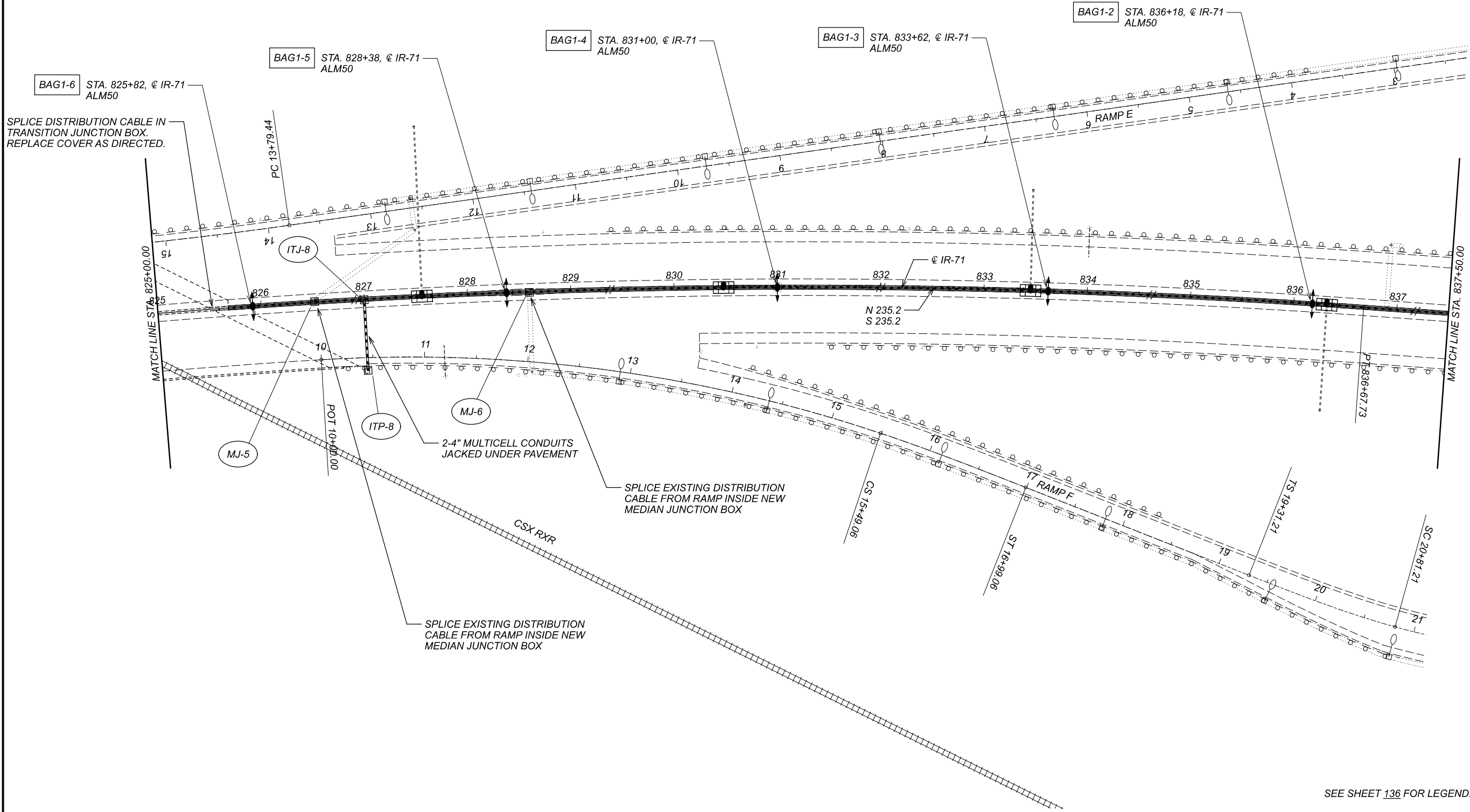
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P.138

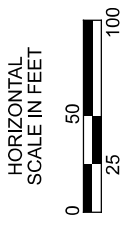
TOTAL

152





SEE SHEET 136 FOR LEGEND.



LIGHTING PLAN SHEET  
I.R. 71, STA. 825+00 TO STA. 837+50

DESIGN AGENCY



DESIGNER

FLK

REVIEWER

DAB 10/15/21

PROJECT ID

87904

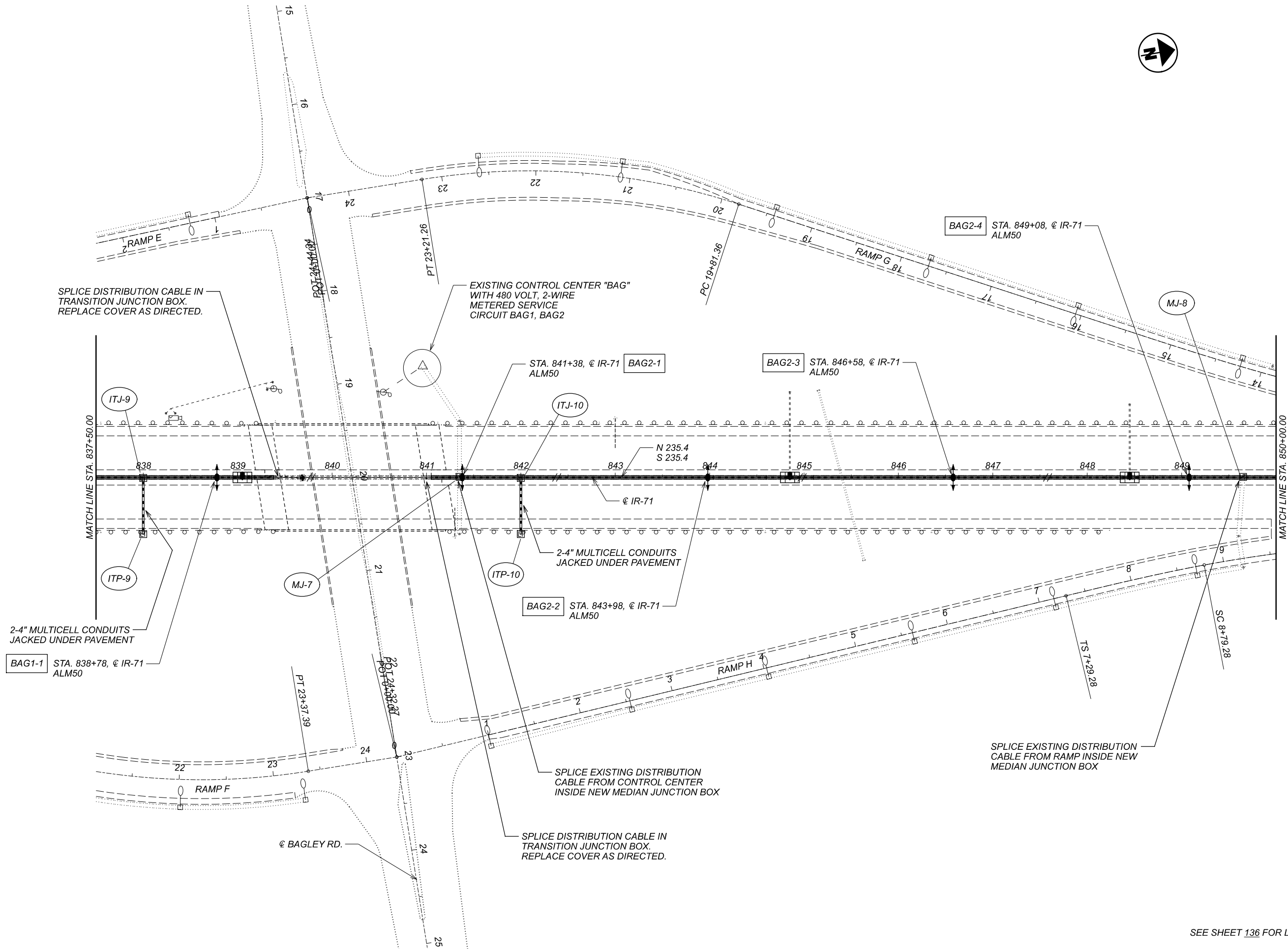
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P.139

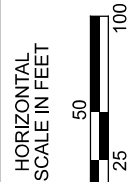
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SEE SHEET 136 FOR LEGEND.



LIGHTING PLAN SHEET  
I.R. 71, STA. 837+50 TO STA. 850+00

DESIGN AGENCY



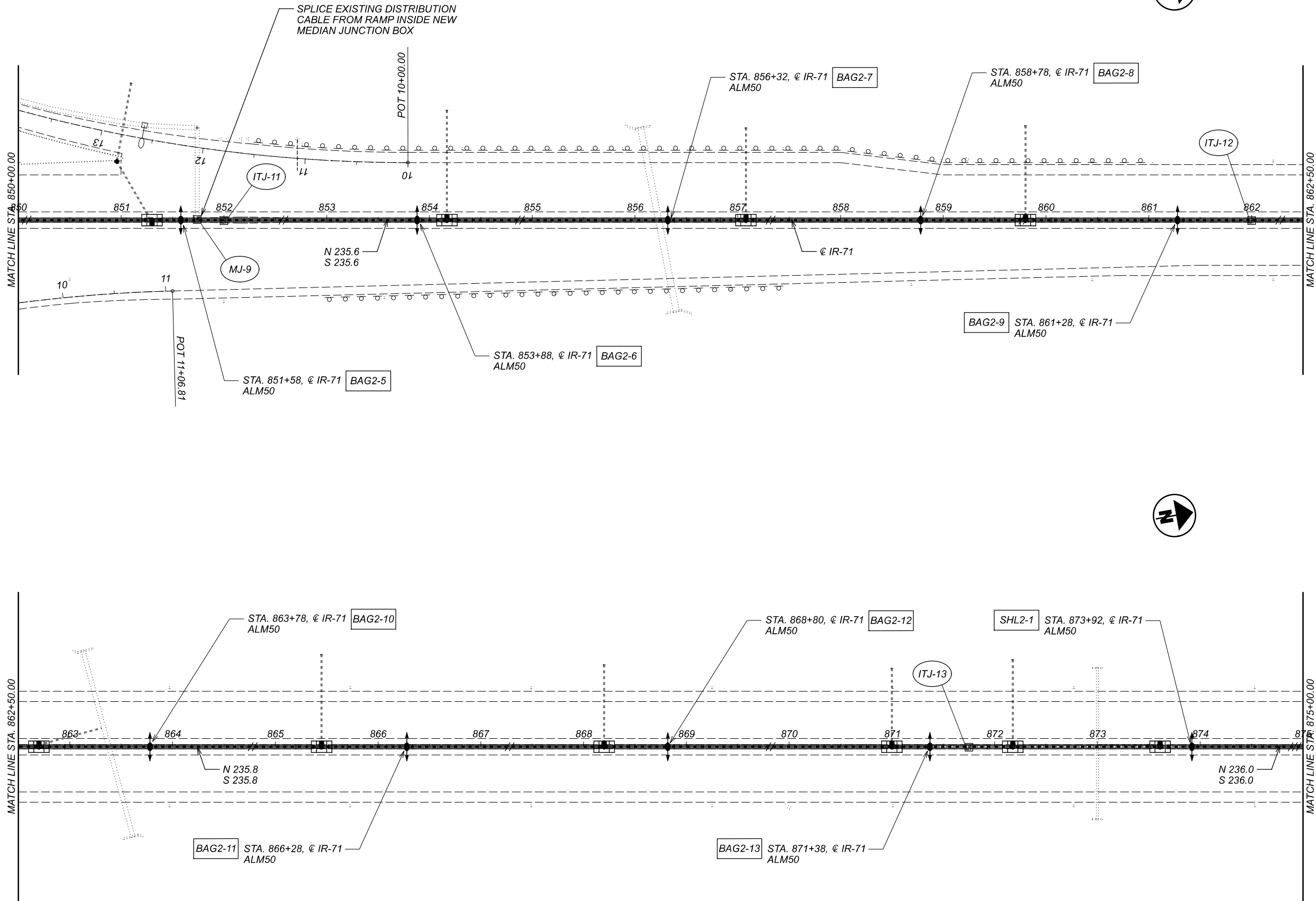
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REVIEWER  
DAB 10/15/21

PROJECT ID  
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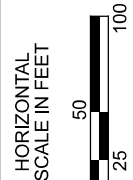
SHEET TOTAL  
P.140 152





SEE SHEET 136 FOR LEGEND.

LIGHTING PLAN SHEET  
I.R. 71, STA. 850+00 TO STA. 875+00



DESIGN AGENCY



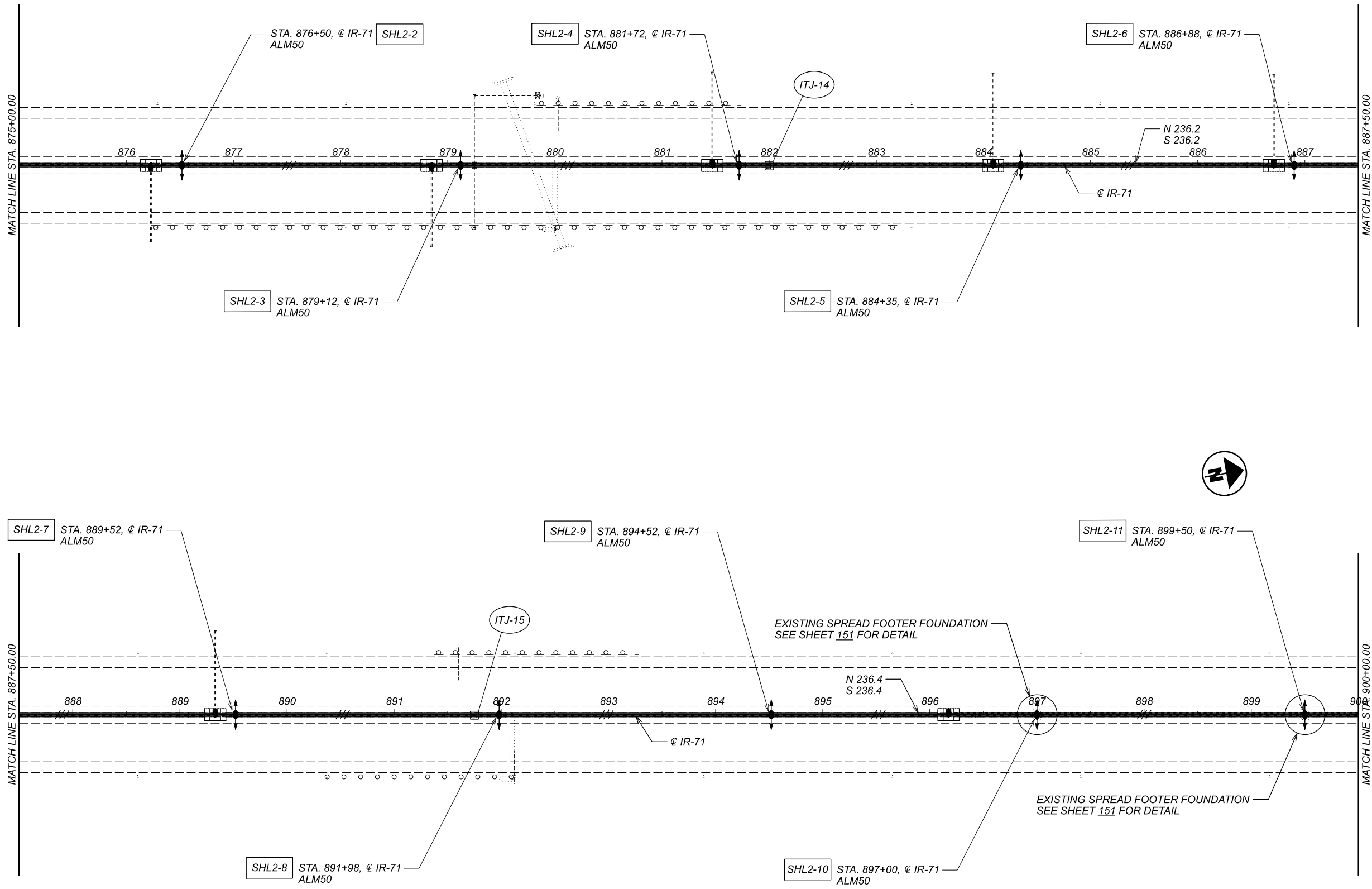
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REVIEWER  
DAB 10/15/21

PROJECT ID  
87904

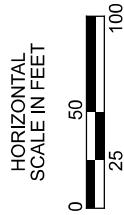
SHEET TOTAL  
P.141 152





SEE SHEET 136 FOR LEGEND.

LIGHTING PLAN SHEET  
I.R. 71, STA. 875+00 TO STA. 900+00



DESIGN AGENCY



DESIGNER

FLK

REVIEWER

DAB 10/15/21

PROJECT ID

87904

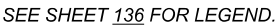
SHEET

P.142

TOTAL

152









**HORIZONTAL  
SCALE IN FEET**

A horizontal scale bar with a black and white checkerboard pattern. It is marked with the numbers 0, 25, 50, and 100.

## DESIGN AGENCY



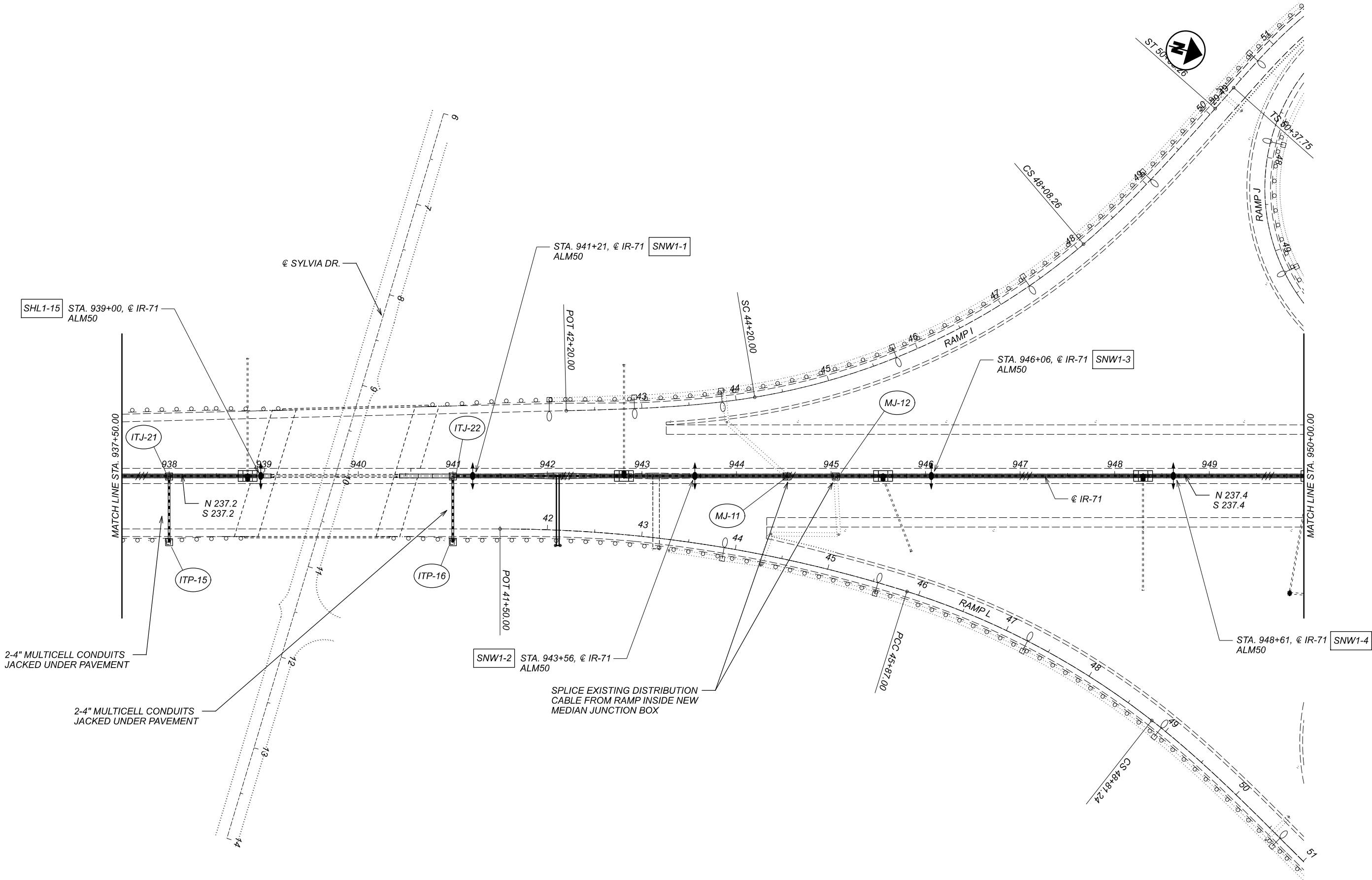
DESIGNER  
FLK

REVIEWER
DAB 10/15/

PROJECT ID	87904
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SHEET	TOTAL
P.144	15





SEE SHEET 136 FOR LEGEND.

DESIGN AGENCY

DESIGNER

FLK

REVIEWER

DAB 10/15/21

PROJECT ID

87904

SHEET

P.145

TOTAL

152

LIGHTING PLAN SHEET

I.R. 71, STA. 937+50 TO STA. 950+00

HORIZONTAL SCALE IN FEET

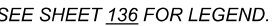
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25

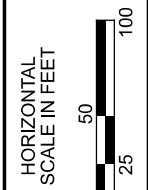
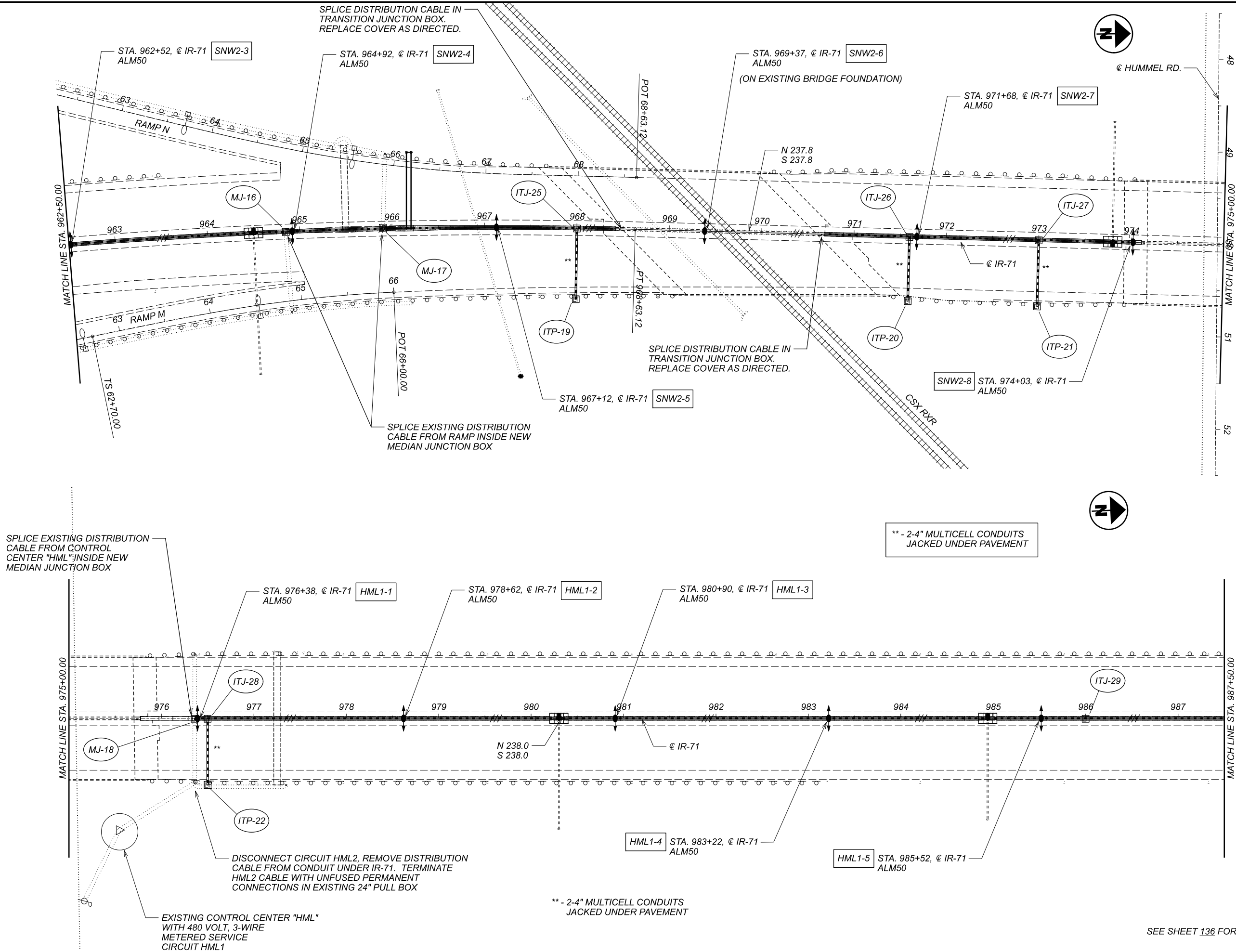
50

100









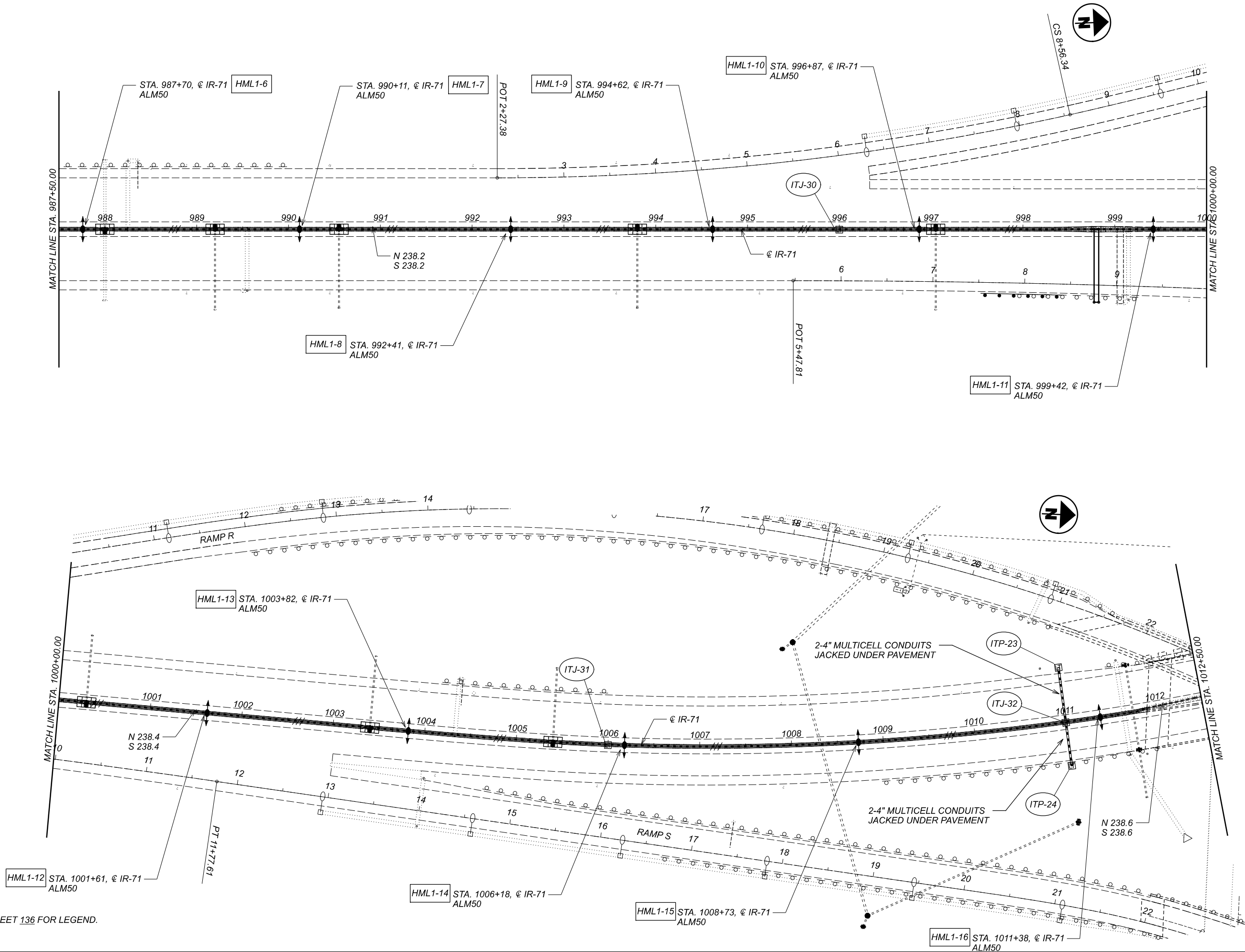
LIGHTING PLAN SHEET  
 I.R. 71, STA. 962+50 TO STA. 987+50

DESIGN AGENCY	
DESIGNER	FLK
REVIEWER	DAB 10/15/21
PROJECT ID	87904
SHEET	P.147
TOTAL	152

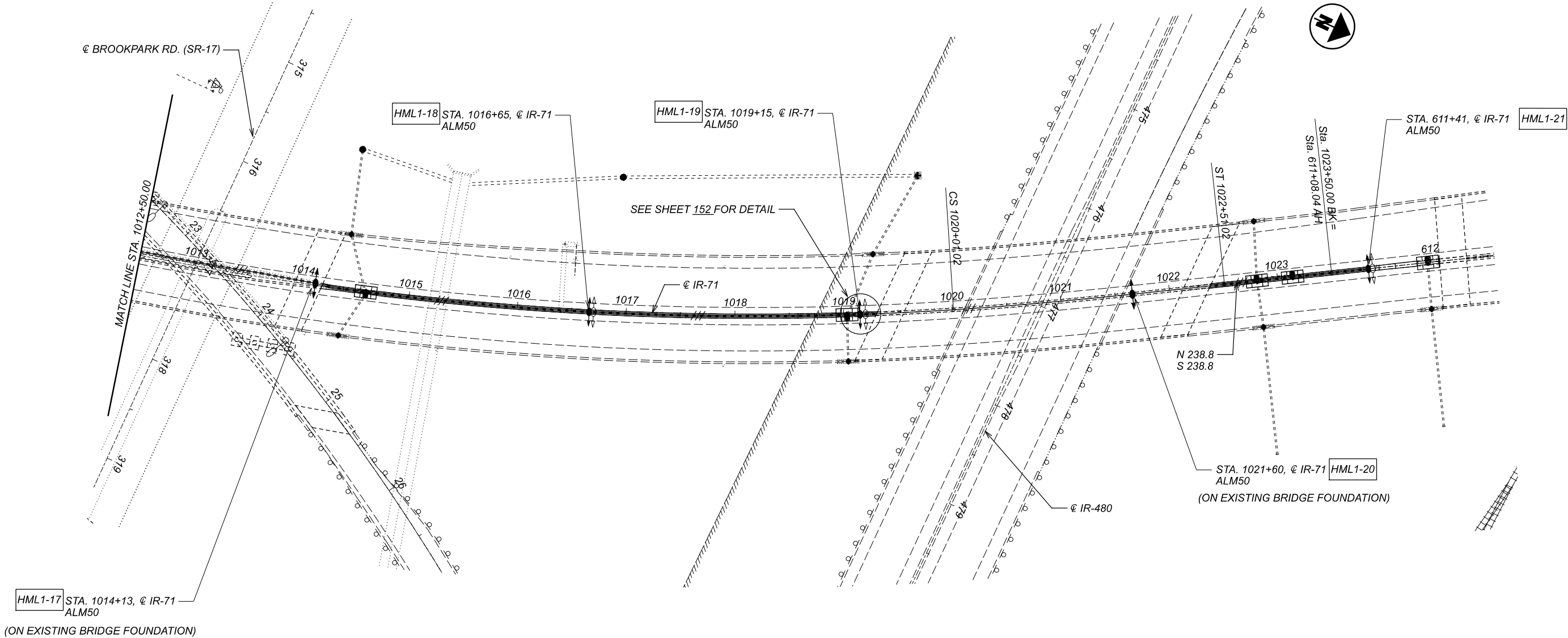
SEE SHEET 136 FOR LEGEND.



SEE SHEET 136 FOR LEGEND.







LIGHTING PLAN SHEET  
I.R. 71, STA. 1012+50 TO I.R. 71 SB, STA. 611+20

DESIGN AGENCY



DESIGNER

FLK

REVIEWER

DAB 10/15/21

PROJECT ID

87904

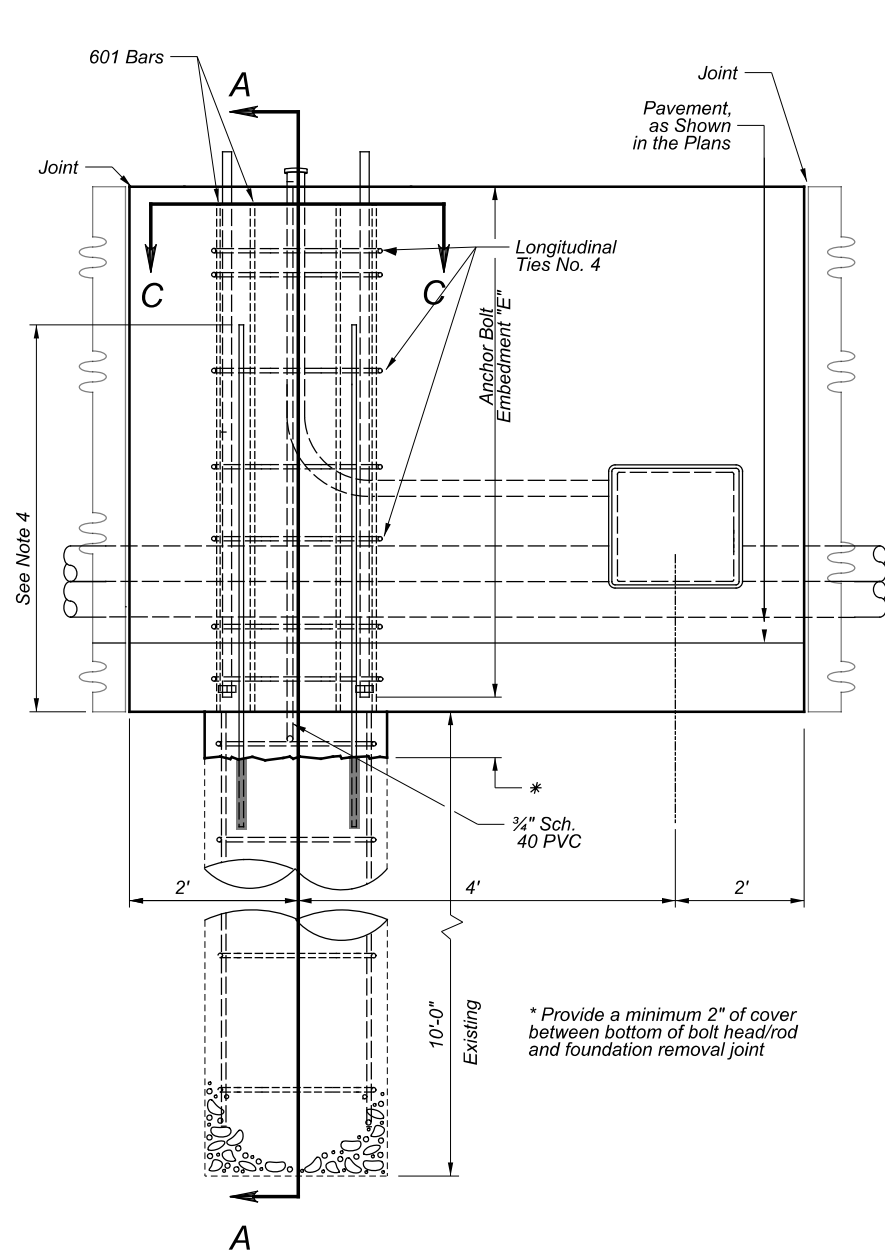
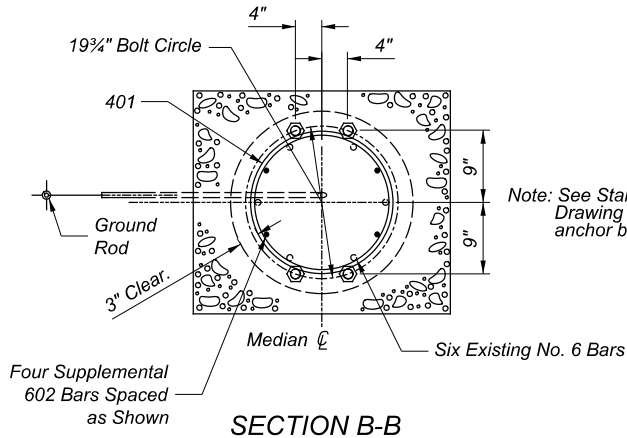
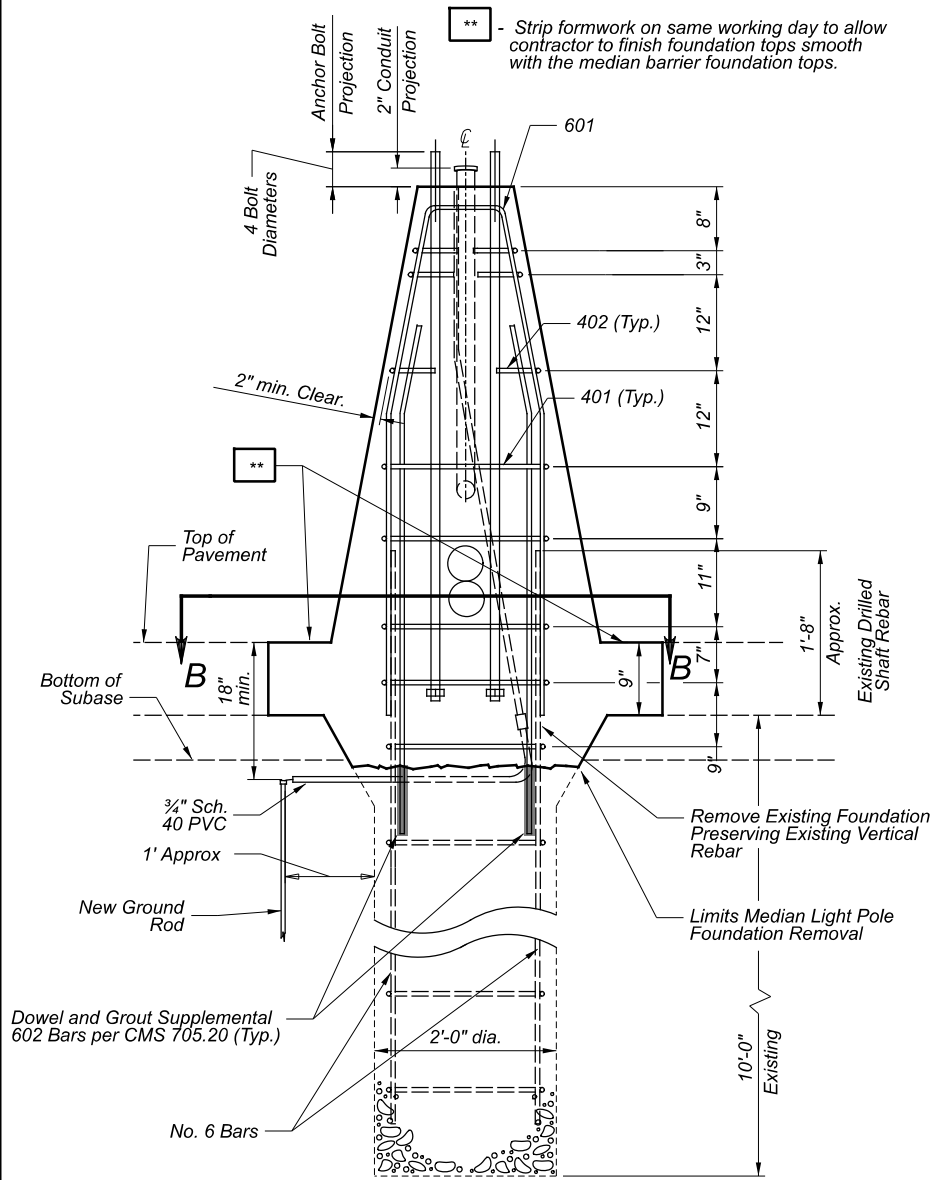
SHEET

P.149

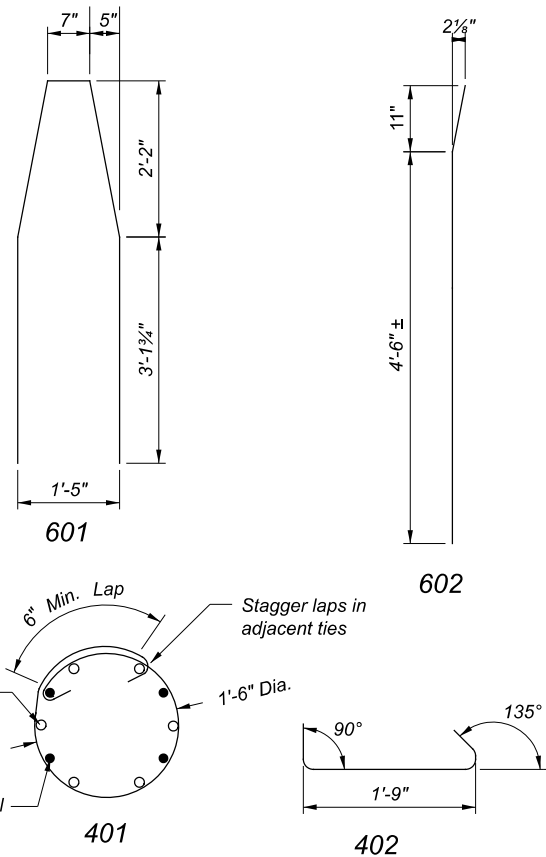
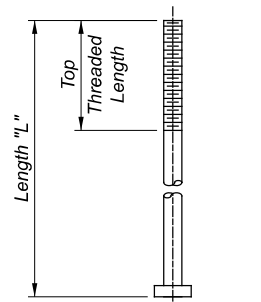
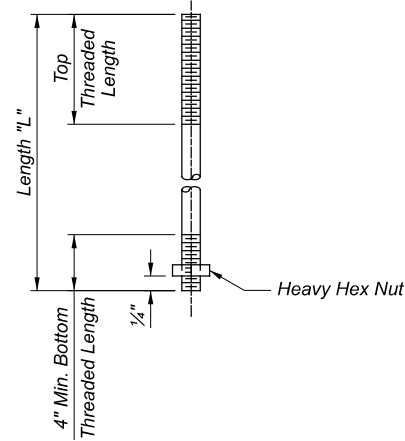
TOTAL

152





ANCHOR BOLT LENGTH		
Barrier Section Type	Length "L" (in)	Anchor Bolt Embedment "E" (in)
B1	69	64



**NOTES:**

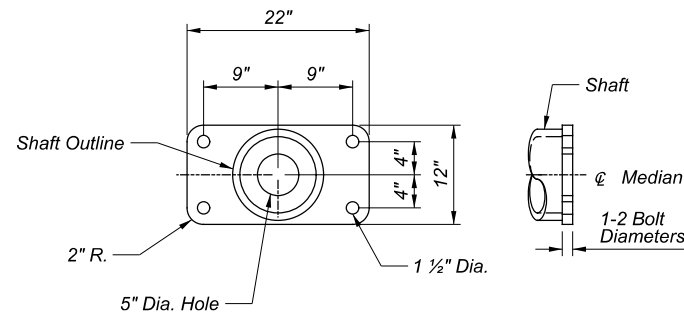
- Construction shall conform to the requirements of C&MS 622 and 625.
- All reinforcing steel shall be epoxy coated and comply with and be placed in accordance with C&MS 509.
- Light pole anchor bolts to be 1 1/4" diameter x length "L", Grade 55, with a top thread length of 5 bolt diameters. Threads shall be UNC-2A, and may be either rolled or cut, and coarse threaded. The embedded end of the anchor bolt shall be headed or threaded with a heavy hex nut.

Anchor bolt material may be smooth steel rod that is threaded at the ends or threaded over its entire length. Hex nuts shall be ASTM A563, American Standard heavy hex, Grade DH, with UNC-2B threads. Anchor bolts shall be hot-dip galvanized over their entire length, as per C&MS 711.02, after fabrication and threading. Nuts shall also be galvanized per C&MS 711.02.

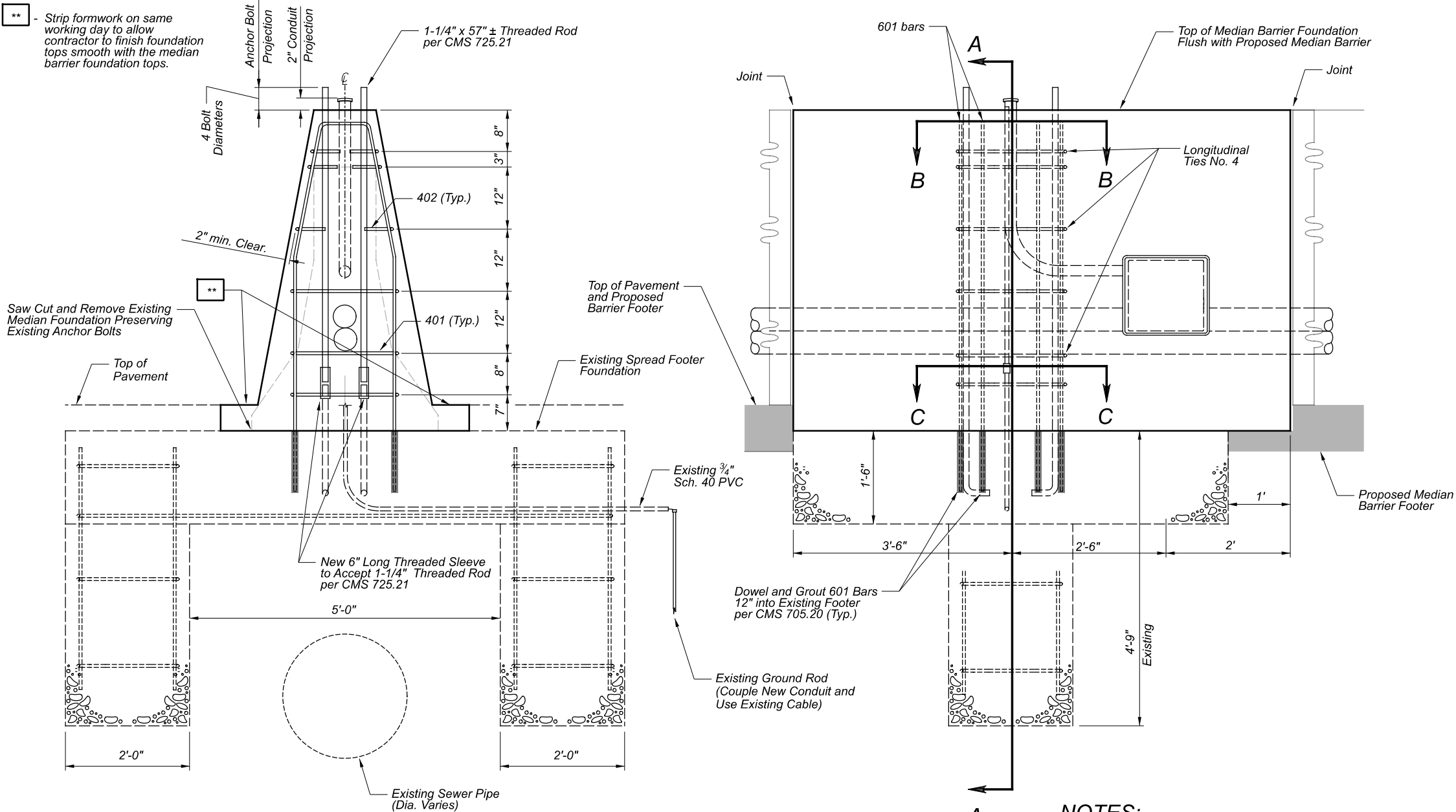
- Maintain a 2'-10" minimum lap length for doweled and grouted rebar and U-bars.
- The top of the concrete barrier shall be flat, smooth and level to eliminate need for light pole shims. Grind surface, if required, to make concrete level.
- Refer to the Roadway Barrier Standard Construction Drawing for barrier dimensions.
- Provide continuity of equipment ground between junction box and light pole.
- Dowel foundation to adjacent barrier in accordance with the requirements of the standard drawings for the barrier.

**NOTES:**

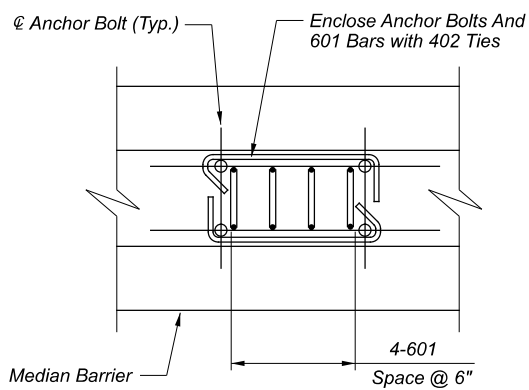
- Orient pole base so that junction box and hand hole are accessed from the same side of barrier.
- See HL-30.41 for additional Median Barrier Junction Box details.



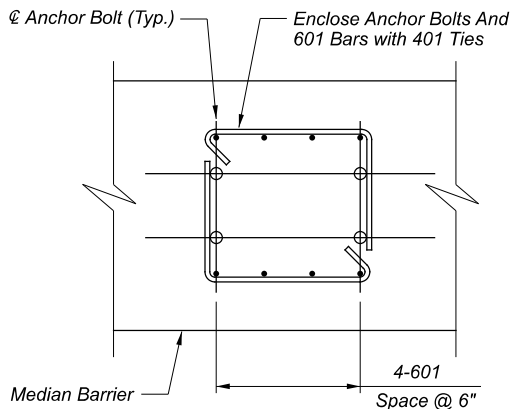




**LIGHT POLE FOUNDATION MISC.:  
MEDIAN FOUNDATION ON SPREAD FOOTER**



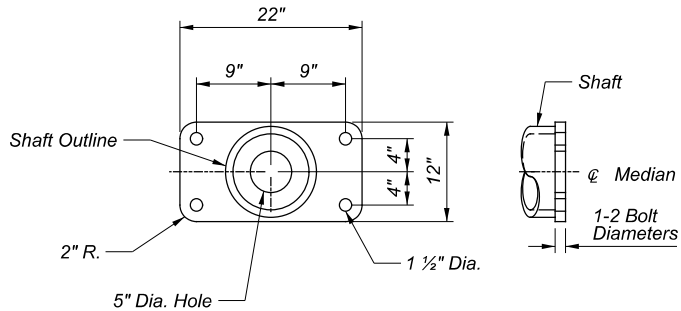
**SECTION B-B**



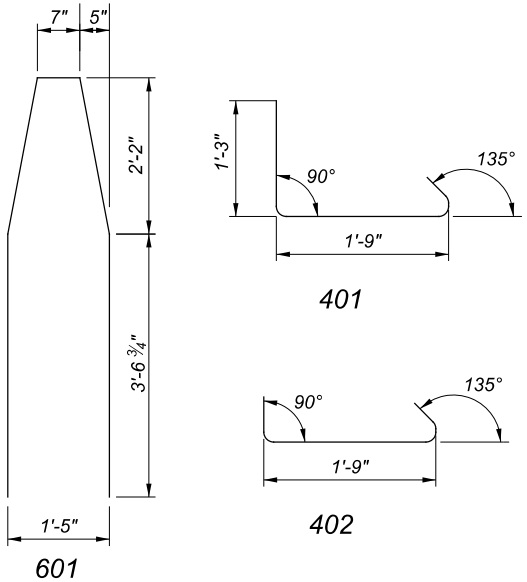
**SECTION C-C**

**NOTES:**

1. Orient pole base so that junction box and hand hole are accessed from the same side of barrier.
2. See HL-30.41 for additional Median Barrier Junction Box details.



**MEDIAN BARRIER  
POLE BASE DETAIL  
(Note 1)**

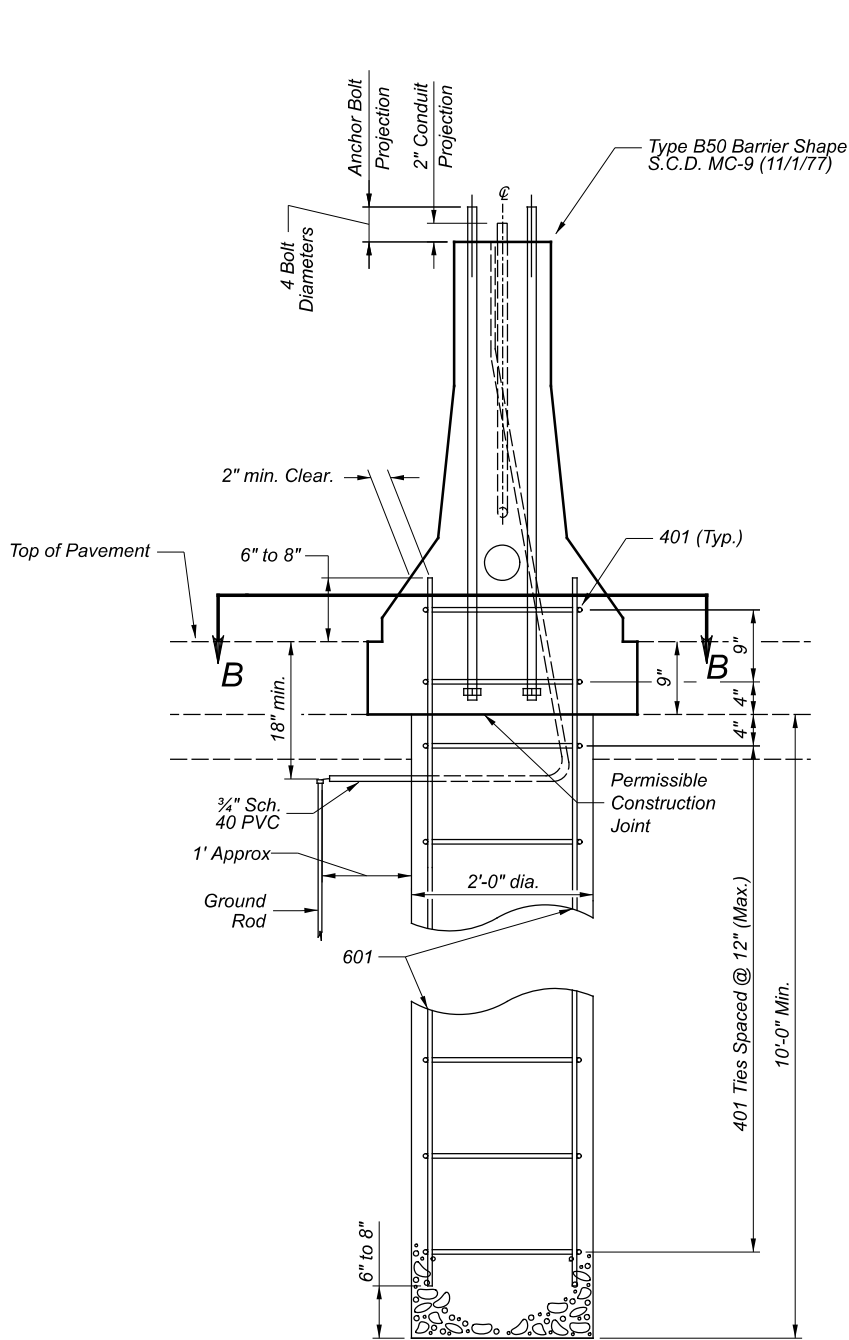


**Bar Bending Diagrams**

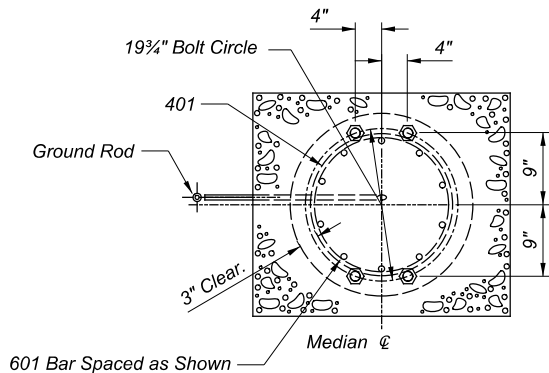
**NOTES:**

1. Construction shall conform to the requirements of C&MS 622 and 625.
2. All reinforcing steel shall be epoxy coated and comply with and be placed in accordance with C&MS 509.
3. Light pole anchor bolts to be 1 1/4" diameter x length "L", Grade 55, with a top thread length of 5 bolt diameters. Threads shall be UNC-2A, and may be either rolled or cut, and coarse threaded. The embedded end of the anchor bolt shall be headed or threaded with a heavy hex nut.  
  
Anchor bolt material may be smooth steel rod that is threaded at the ends or threaded over its entire length. Hex nuts shall be ASTM A563, American Standard heavy hex, Grade DH, with UNC-2B threads. Anchor bolts shall be hot-dip galvanized over their entire length, as per C&MS 711.02, after fabrication and threading. Nuts shall also be galvanized per C&MS 711.02.
4. Maintain a 2'-10" minimum lap length for doweled and grouted rebar and U-bars.
5. The top of the concrete barrier shall be flat, smooth and level to eliminate need for light pole shims. Grind surface, if required, to make concrete level.
6. Refer to the Roadway Barrier Standard Construction Drawing for barrier dimensions.
7. Provide continuity of equipment ground between junction box and light pole.
8. Dowel foundation to adjacent barrier in accordance with the requirements of the standard drawings for the barrier.

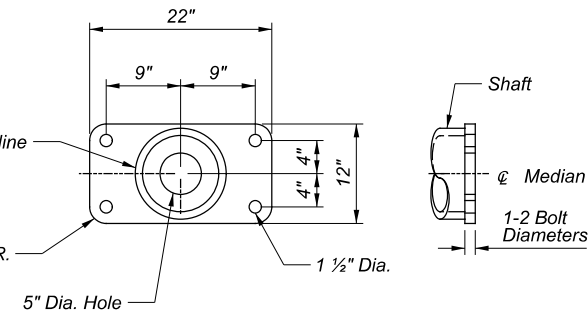




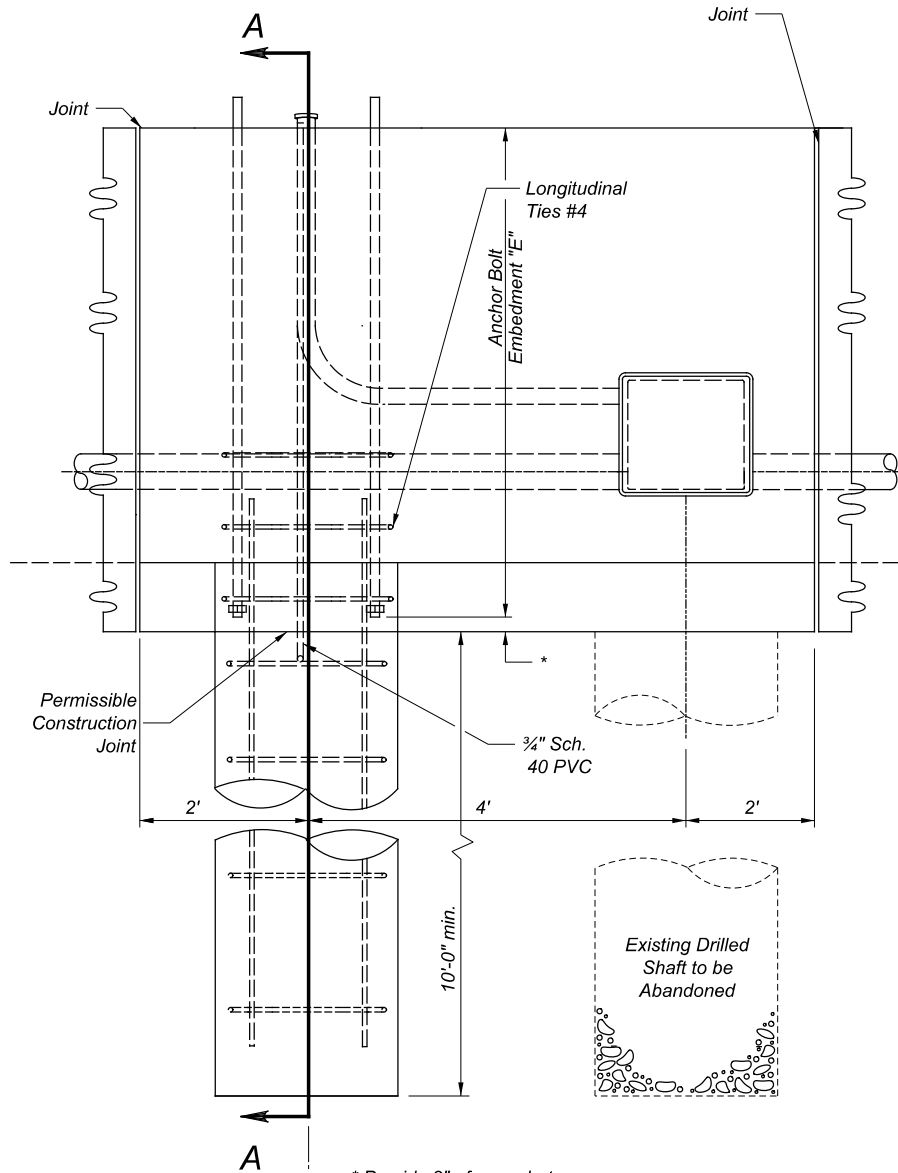
SECTION A-A



SECTION B-B



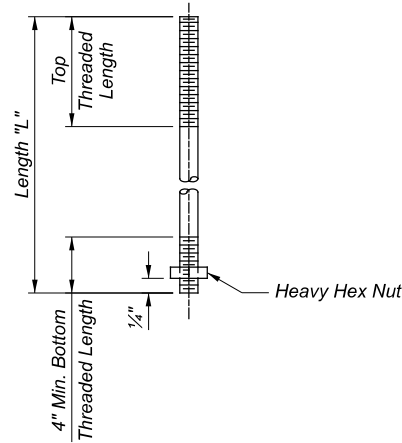
MEDIAN BARRIER  
POLE BASE DETAIL  
(Note 1)



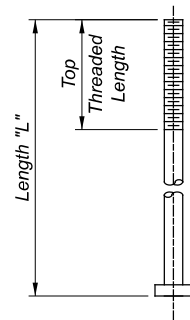
MEDIAN LIGHT POLE FOUNDATION,  
10' DEEP, AS PER PLAN B

\* Provide 2" of cover between  
bottom of bolt head/rod and  
permissible construction joint

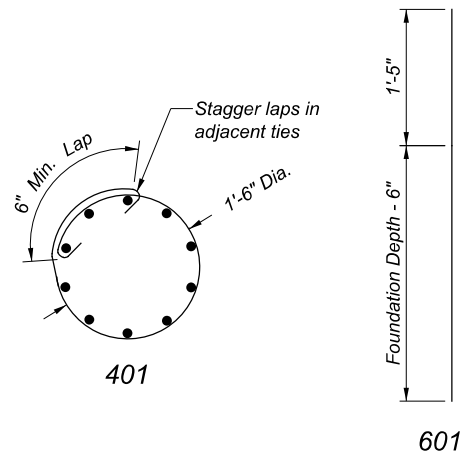
ANCHOR BOLT LENGTH		
Barrier Section Type	Length "L" (in)	Anchor Bolt Embedment "E" (in)
B50	62	57



NUTTED ANCHOR  
BOLT OPTION



HEADED ANCHOR  
BOLT OPTION



Bar Bending Diagrams

NOTES:

- Construction shall conform to the requirements of C&MS 622 and 625.
- All reinforcing steel shall be epoxy coated and comply with and be placed in accordance with C&MS 509.
- Light pole anchor bolts to be 1 1/4" diameter x length "L", Grade 55, with a top thread length of 5 bolt diameters. Threads shall be UNC-2A, and may be either rolled or cut, and coarse threaded. The embedded end of the anchor bolt shall be headed or threaded with a heavy hex nut.

Anchor bolt material may be smooth steel rod that is threaded at the ends or threaded over its entire length. Hex nuts shall be ASTM A563, American Standard heavy hex, Grade DH, with UNC-2B threads. Anchor bolts shall be hot-dip galvanized over their entire length, as per C&MS 711.02, after fabrication and threading. Nuts shall also be galvanized per C&MS 711.02.

- The top of the concrete barrier shall be flat, smooth and level to eliminate need for light pole shims. Grind surface, if required, to make concrete level.
- Refer to the Roadway Barrier Standard Construction Drawing for barrier dimensions. (MC-9, 11/1/77)
- Provide continuity of equipment ground between junction box and light pole.
- Dowel foundation to adjacent barrier in accordance with the requirements of the standard drawings for the barrier.