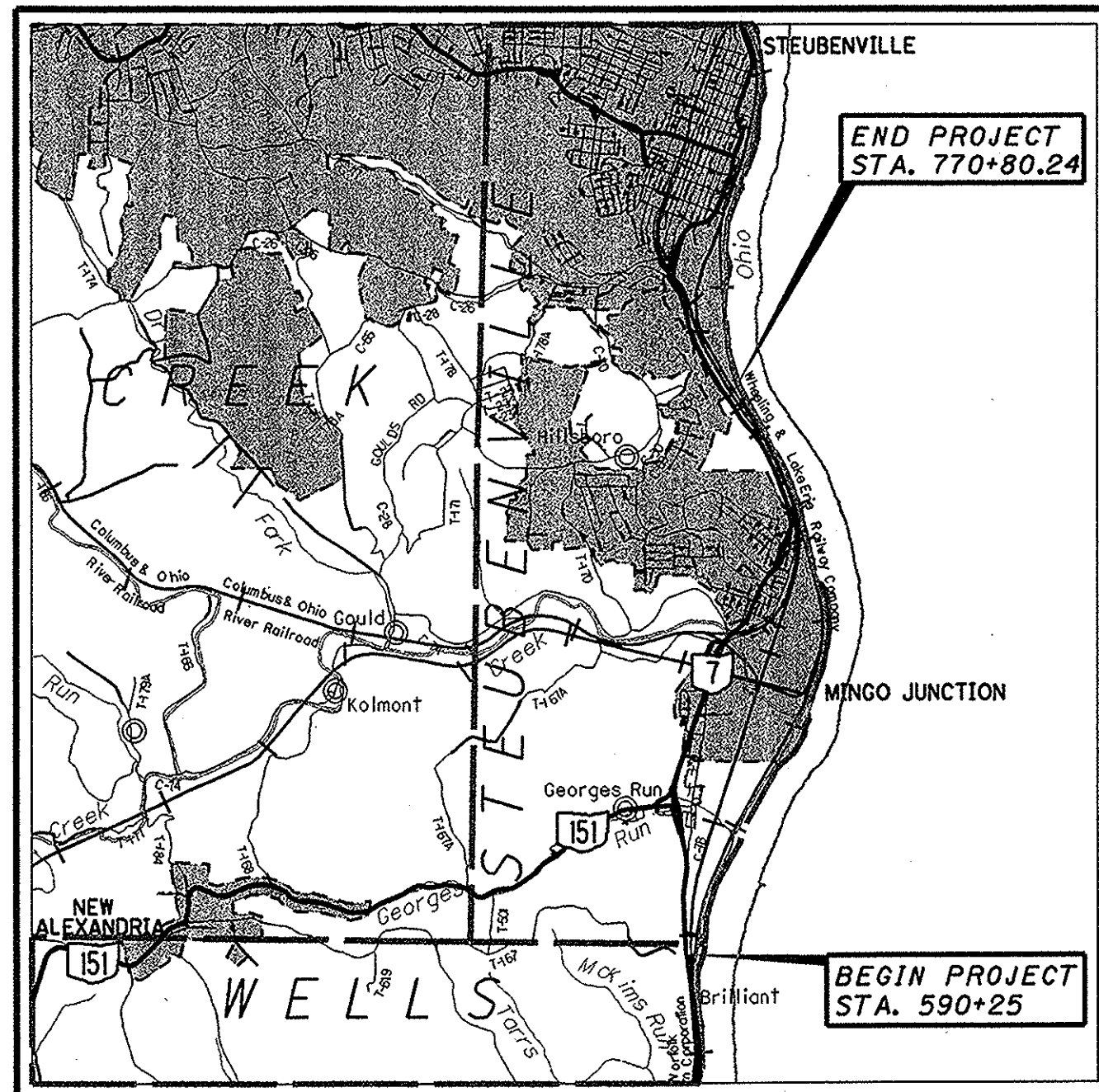


JEF-SR-7-10.83
110226 PID-75418
Dist 11 4/21/2011

ramstutz

22-DEC-2010 8:43AM

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LOCATION MAP

LATITUDE: 40°18'50" LONGITUDE: 80°36'55"



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

DESIGN DESIGNATION

	10.83 to 11.85	11.85 to 12.65	12.65 to 13.68	13.68 to 14.78
CURRENT ADT (2011)	14230	15720	20550	23310
DESIGN YEAR ADT (2023)	14230	15720	20900	23310
DESIGN HOURLY VOLUME (2023)	1400	1550	2060	2300
DIRECTIONAL DISTRIBUTION	53%	57%	57%	60%
TRUCKS (24 HOUR B&C)	16%	13%	13%	12%
DESIGN SPEED	55 MPH	55 MPH	55 MPH	55 MPH
LEGAL SPEED	55 MPH	55 MPH	55 MPH	55 MPH

DESIGN FUNCTIONAL CLASSIFICATION:

URBAN FREEWAY/EXPRESSWAY _____
NHS PROJECT _____ YES

DESIGN EXCEPTIONS APPROVAL DATE SHEET NO.

LANE WIDTH	12-14-10	6
SHOULDER WIDTH	12-14-10	4, 5
BRIDGE WIDTH	12-14-10	2, 3
SUPERELEVATION	12-14-10	2, 3
HORIZONTAL CLEARANCE	12-14-10	3

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG
CALL
1-800-362-2764
(TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY
OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL: 1-800-925-0988

PLAN PREPARED BY:
O.D.O.T.
DISTRICT II
NEW PHILADELPHIA, OHIO

ENGINEERS SEAL:



SIGNED: *Shane A. Locke*
DATE: December 22, 2010

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
JEF-7-10.83
VILLAGE OF BRILLIANT
CITY OF MINGO JUNCTION
WELLS & STEUBENVILLE TOWNSHIPS
JEFFERSON COUNTY

INDEX OF SHEETS:

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TRAFFIC CONTROL	37-44

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

STANDARD CONSTRUCTION DRAWINGS

STANDARD CONSTRUCTION DRAWINGS									SUPPLEMENTA SPECIFICATION.		
		RM-4.3	10-16-09	MT-35.10	4-20-01	MT-101.90	1-16-09	TC-41.20	1-19-01	800-2010	1-21-11
BP-3.1	10-19-07	RM-4.4	10-16-09	MT-95.30	7-17-09			TC-42.20	7-16-04	832	5-5-09
BP-5.1	7-28-00	RM-4.5	10-16-09								
BP-7.1	10-15-10	RM-4.6	4-16-10	MT-97.12	10-15-10	MT-105.10	1-16-09	TC-52.10	1-19-07		
BP-9.1	4-15-05			MT-98.10	7-17-09			TC-52.20	1-19-07		
				MT-98.11	7-17-09						
GR-1.1	7-16-04			MT-98.20	7-17-09			TC-61.30	4-16-10		
GR-2.1	1-16-04	I-2.2	7-15-05	MT-98.22	7-17-09						
		I-2.3	7-15-05	MT-98.28	7-17-09						
		I-2.4	7-15-05					TC-65.10	1-21-05		
GR-4.1	4-18-03							TC-65.11	1-21-05		
GR-4.2	1-19-07			MT-99.20	1-16-09			TC-71.10	1-15-10		
GR-5.1	4-16-10							TC-72.20	10-16-09		
GR-5.2	4-16-10	DM-4.3	4-17-09					TC-73.10	1-19-01		
GR-5.3	4-16-10	DM-4.4	4-17-09								

SPECIAL PROVISIONS

PROJECT DESCRIPTION

RESURFACING OF 3.95 MILES OF S.R. 7, INCLUDING
NEW CONCRETE MEDIAN BARRIER AND INLETS, REBUILT
GUARDRAIL, PAVEMENT MARKING, AND RUMBLE STRIPS.

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.

2010 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF
OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING
CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED
IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVED 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.

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

APPROVED *Richard A. Riddle, Jr.*
DATE 12/22/10 DISTRICT DEPUTY DIRECTOR

APPROVED *Shane A. Locke*
DATE 1-21-11 DIRECTOR, DEPARTMENT OF
TRANSPORTATION

FEDERAL PROJECT NO.
E100(001)

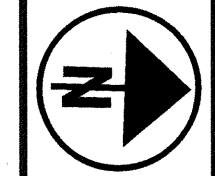
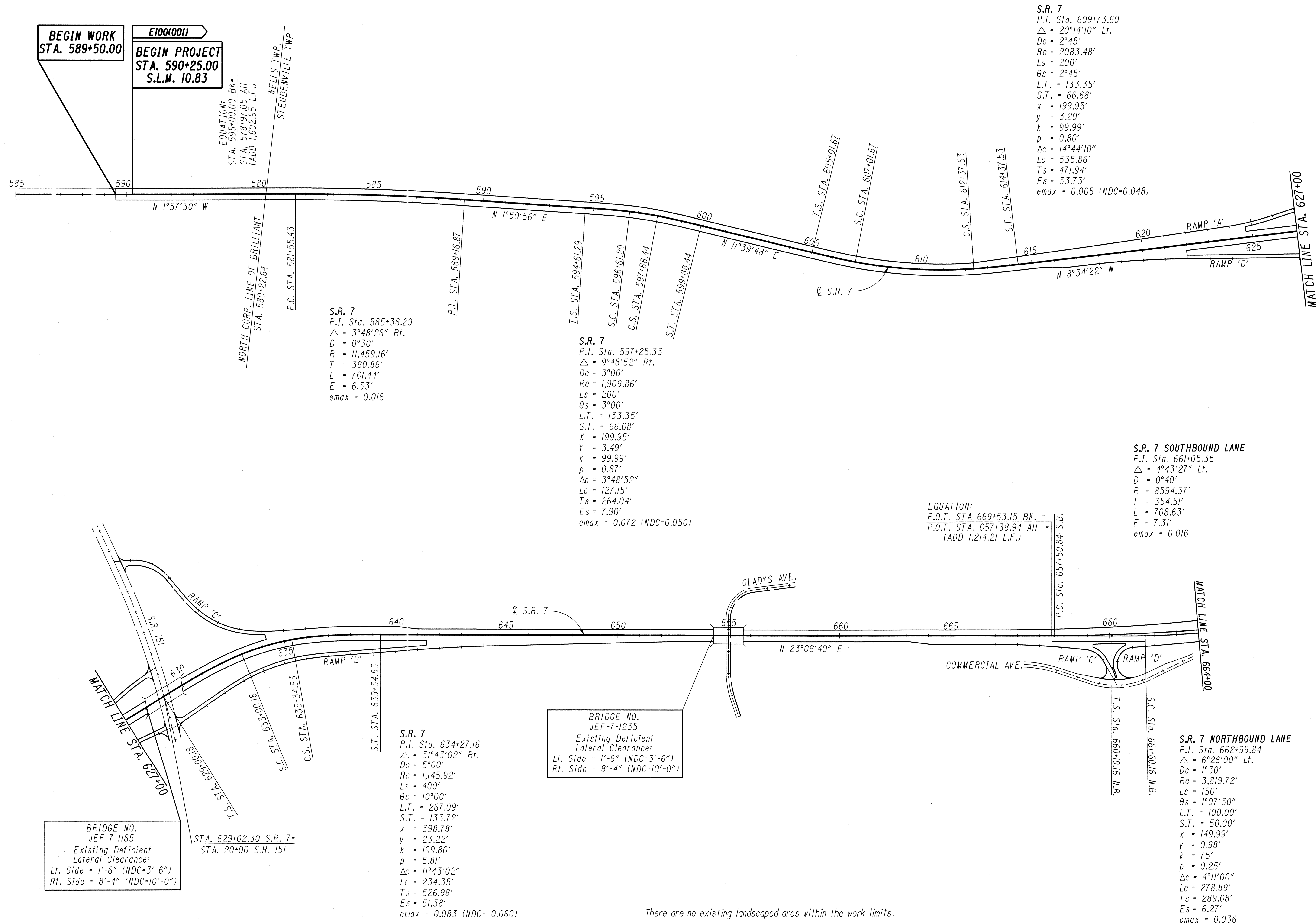
PID NO.
75418

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT
NONE

JEF-7-10.83

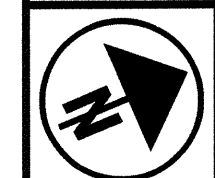
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0 200 400
HORIZONTAL
SCALE IN FEET

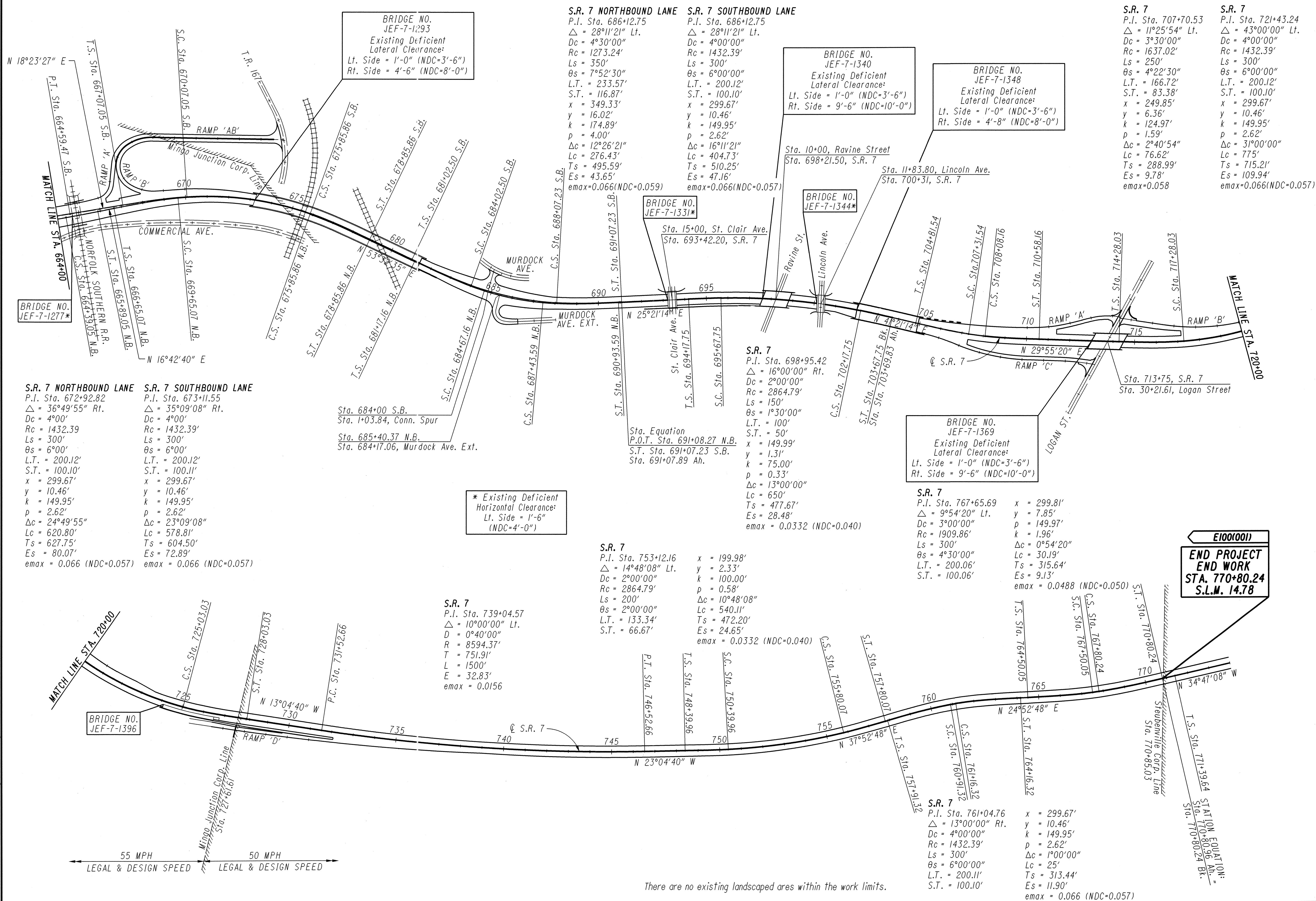
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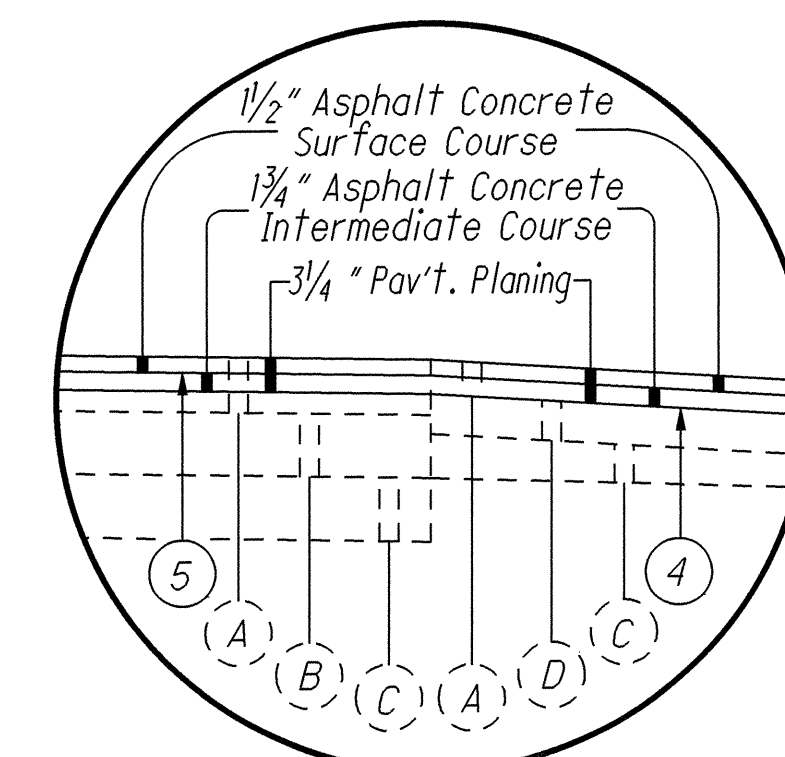
SCHEMATIC PLAN
STA. 585+00 TO STA. 664+00



JEF-7-10.83

2
44





NORMAL SECTION

Plan view of a proposed road improvement project. The section is 100 feet long, divided into segments with the following dimensions from left to right:

- 10'-0" (Rounding)
- 25'-0" (NDC=4'-0")
- 3'-0" (NDC=4'-0")
- 25'-0" (NDC=4'-0")
- 12'-0" (Rounding)

Key features and dimensions include:

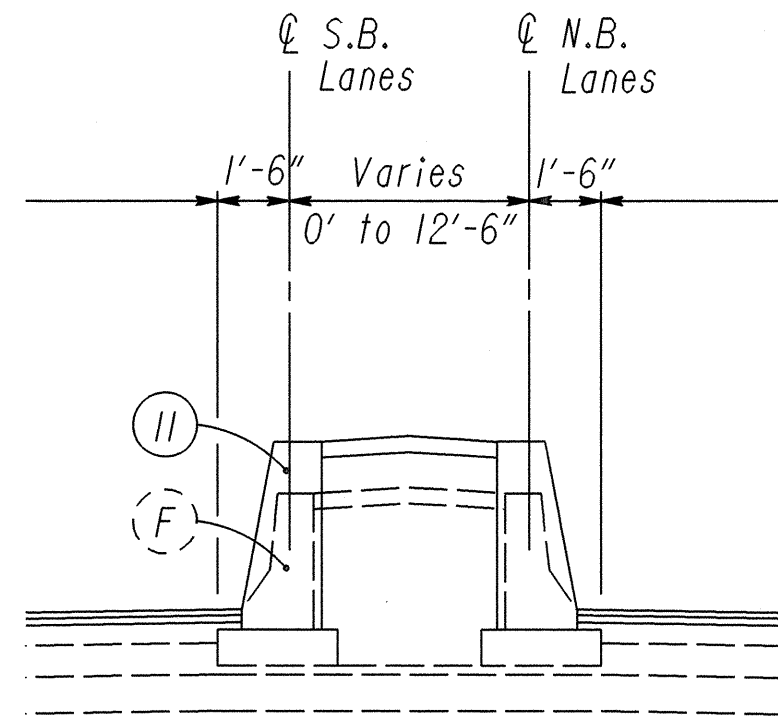
- 4'-0" Rounding at the left end.
- 8'-0" segment with a note: "0.04 or pavement slope whichever is greater".
- 1'-6" (NDC=4'-0") segments on either side of the centerline.
- Centerline (C.L.) S.R. 7.
- 5'-0" Rounding at the right end.
- 4'-0" Rounding at the far right end.
- 0.04 and 0.08 slope indicators.
- Same Slope as Existing label.
- Proposed and existing road alignments shown with dashed lines.
- Stationing markers 1 through 10 along the bottom.
- Stationing markers 6, 7, 9, and 10 along the right side.

EXISTING LEGEND

- PROPOSED LEGEND

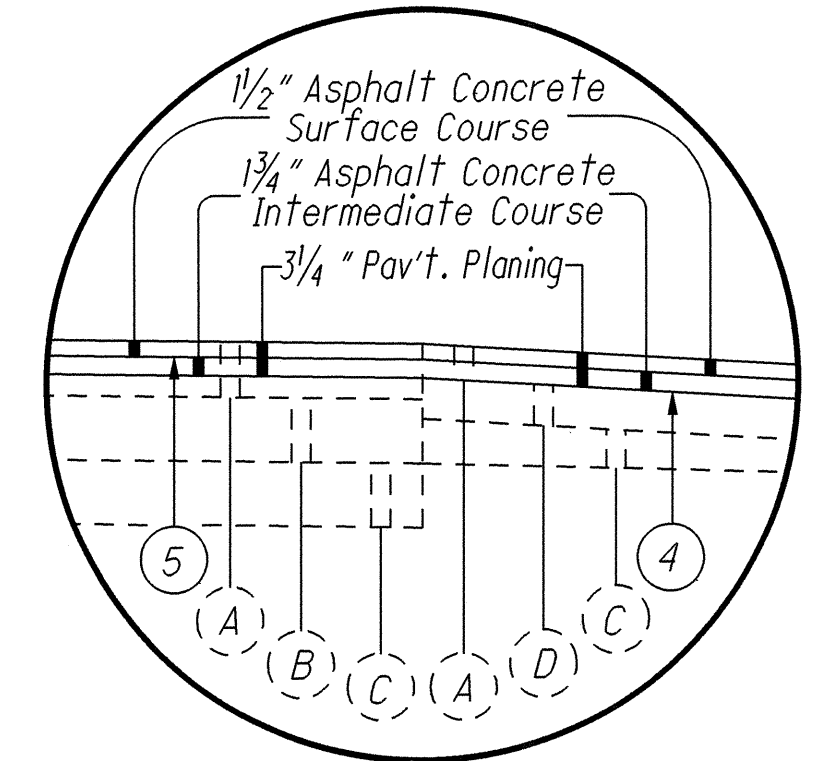
- 1 — ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE B (446), AS PER PLAN
- 2 — ITEM 442 - ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)
- 3 — ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE
- 4 — ITEM 407 - TACK COAT (0.075 GAL./S.Y.)
- 5 — ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE (0.04 GAL./S.Y.)
- 6 — ITEM 202 - PAVEMENT REMOVED
- 7 — ITEM 606 - GUARDRAIL, TYPE 5
- 8 — ITEM 209 - LINEAR GRADING, AS PER PLAN
- 9 — ITEM 408 - PRIME COAT, AS PER PLAN
- 10 — ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN
- 11 — ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B

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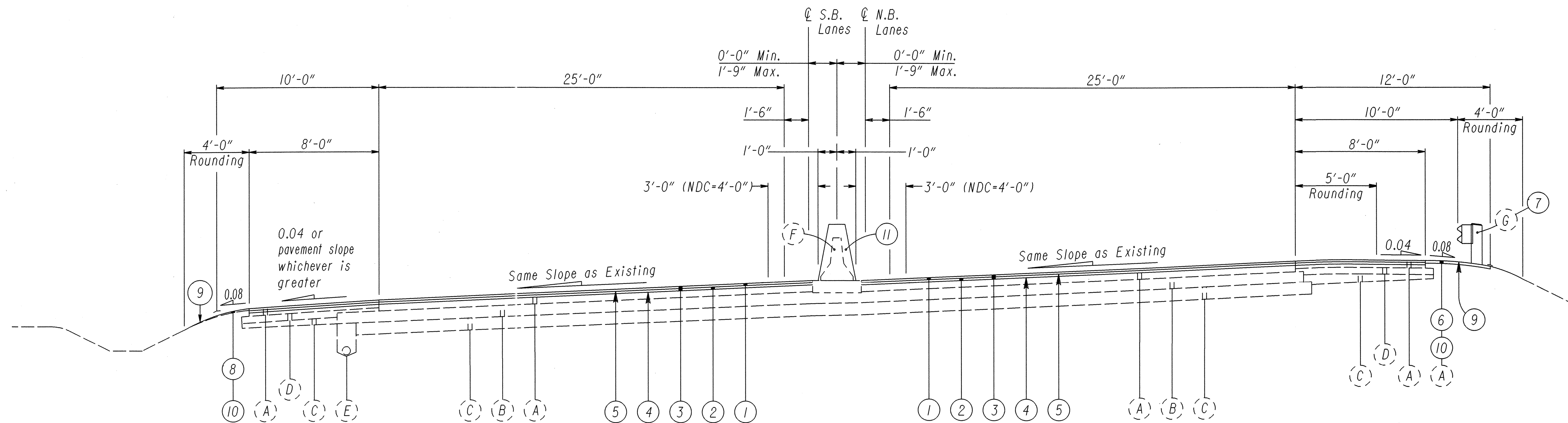


DOUBLE CENTERLINE SECTION

STA. 657+50.84 TO STA. 659+36.20 (BARRIER TRANSITION)
STA. 659+36.20 TO STA. 667+87.40 N.B. & STA. 667+86.70 S.B.
STA. 667+87.40 N.B. & STA. 667+86.70 S.B. TO STA. 670+07.79 N.B.
& STA. 670+07.05 S.B. = (STA. 670+07.79 one $\varnothing$ AHEAD) BARRIER TRANSITION



TYPICAL RESURFACING DETAIL
(MAINLINE & SHOULDER)



SUPERELEVATED SECTION

STA. 681+02.50 TO STA. 691+07.89 (S.B.) (STATION EQUATION: STA. 691+07.23 BACK = STA. 691+07.89 AHEAD)
STA. 681+17.16 TO STA. 691+07.89 (N.B.) (STATION EQUATION: STA. 691+08.27 BACK = STA. 691+07.89 AHEAD)

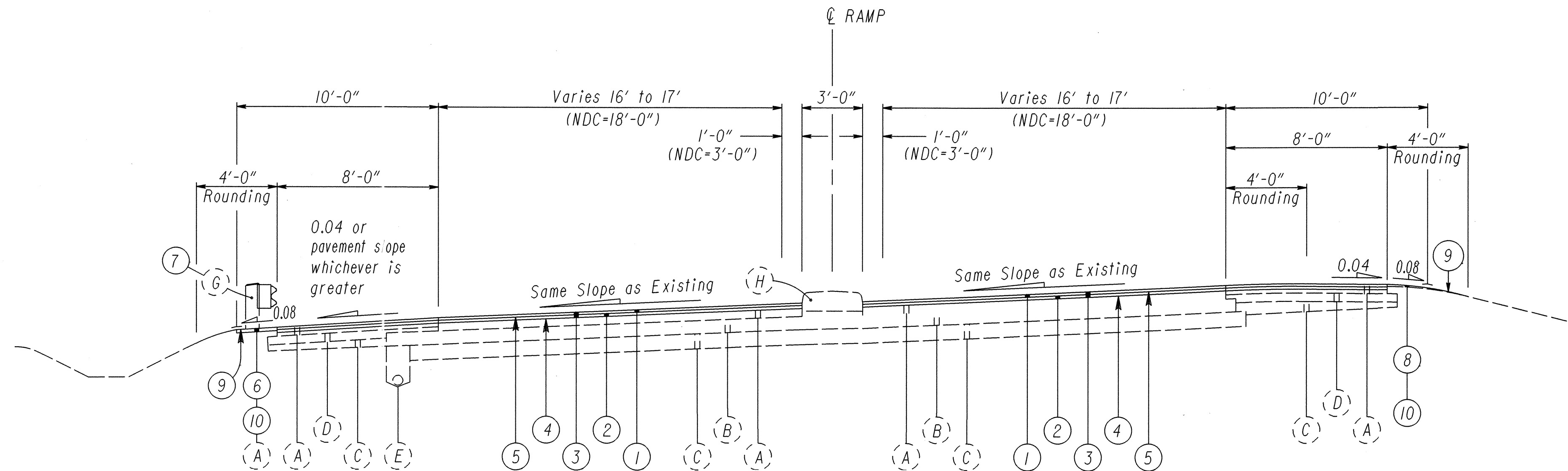
TYPICAL SECTIONS

JEF-7-10.83

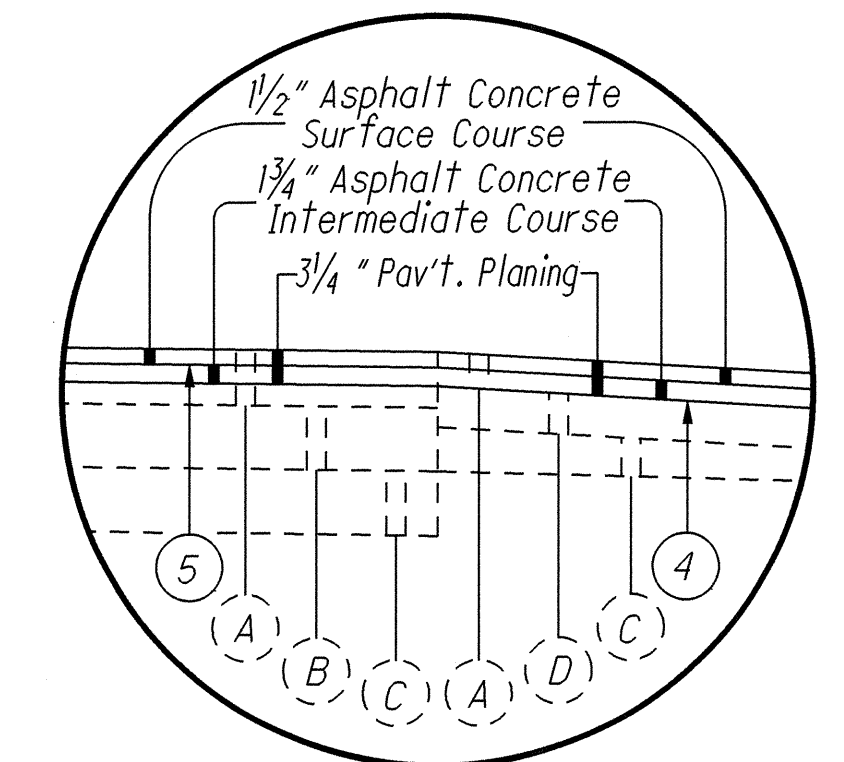
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FOR LEGEND SEE SHEET NO. 4.

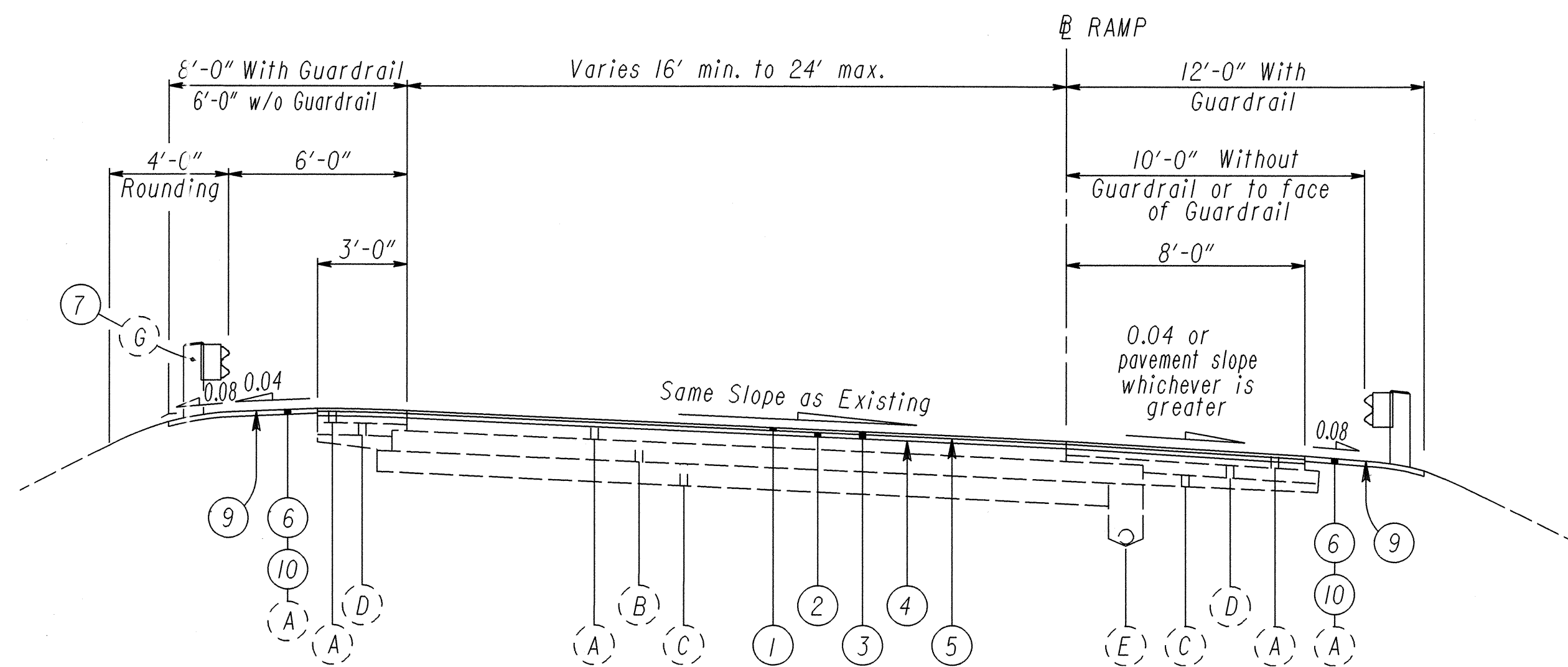
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COMMERCIAL AVENUE INTERCHANGE
RAMP A-B
STA. 55+06 TO STA. 63+29.63



TYPICAL RESURFACING DETAIL
(RAMP & SHOULDER)



TYPICAL ONE WAY RAMP

S.R. 151 INTERCHANGE
RAMP A - STA. 20+00.00 TO STA. 29+43.68
RAMP B - STA. 29+14.00 TO STA. 45+25.00
RAMP C - STA. 26+25.08 TO STA. 36+75.00
RAMP D - STA. 17+50.00 TO STA. 28+65.09

COMMERCIAL AVENUE INTERCHANGE
RAMP A - STA. 65+00.00 TO STA. 67+88.96
RAMP B - STA. 63+29.63 TO STA. 67+00.00
RAMP C - STA. 66+83.29 TO STA. 73+03.82
RAMP D - STA. 58+76.54 TO STA. 63+30.11

LOGAN STREET INTERCHANGE
RAMP A - STA. 9+60 TO STA. 14+38.90
RAMP B - STA. 14+48.69 TO STA. 17+73.97
RAMP C - STA. 7+04.94 TO STA. 13+38.50
RAMP D - STA. 26+45 TO STA. 32+10

FOR LEGEND SEE SHEET NO. 4.

TYPICAL SECTIONS

JEF-7-10.83

CALCULATED
RDA
CHECKED
TES

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ROUNDING

The rounding at slope breakpoints shown on the Typical Sections apply to all cross sections even though otherwise shown.

UTILITIES

Listed below are all utilities located within the project construction limits together with their respective owners.

AEP Ohio Power Company
P.O. Box 99
47587 National Road
St. Clairsville, Ohio 43950
740-699-7845

Jefferson Co. Water & Sewer District
P.O. Box 2579
596 State Route 43
Wintersville, Ohio 43953
740-537-2214

Columbia Gas Transmission
589 North State Road
Medina, Ohio 44256
419-340-6403

Comcast
100 Welday Avenue, Suite A
Wintersville, Ohio 43953
740-346-2250

AT&T Ohio, Inc.
3935 Northpointe Road
Zanesville, Ohio 43701
740-454-3455

Verizon
1121 Tuscarawas Avenue
New Philadelphia, Ohio 44663
330-364-0510

Columbiana Gas of Ohio, Inc
300 Luray Drive
Wintersville, Ohio 43953
740-266-4282

The Honorable Domenic Chappano
Village of Mingo Junction
501 Commercial Street
Mingo Junction, Ohio 43938
740-535-1511

Ohio Department of Transportation
2201 Reiser Avenue, SE
New Philadelphia, Ohio 44663
330-308-3980

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.

ELEVATION DATUM

All elevations are assumed, unless otherwise noted.

WORK LIMITS

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

PROFILE AND ALIGNMENT

The work proposed by this project is for the grinding and resurfacing of the existing pavement. The alignment and superelevation rates of the existing pavement will not be changed and the profile of the proposed surface will be similar to that of the existing pavement. Previous construction plans showing the original alignment and profile are listed below.

PREVIOUS CONSTRUCTION PLANS

The following previous construction plans, which show the original alignment and profile, are available for inspection at the ODOT District II office:

JEF-7-11.35 Original Construction Plan, 1959
JEF-7-13.53 Original Construction Plan, 1959
JEF-7-10.82 Upgrading Plan, 1992
JEF-7-13.11 Upgrading Plan, 1994
JEF-7-14.62 Slope Stabilization, 2001

SAME SEASON COMPLETION OF SURFACE COURSE

Any length of resurfacing work started in a construction season shall have the surface course placed that same season.

ITEM 201 - CLEARING AND GRUBBING

Although there are no trees or stumps specifically marked for removal within the limits of the project, a lump sum quantity is included in the General Summary for Item 201, Clearing and Grubbing. All provisions as set forth in the specifications under this item are included in the lump sum price bid for Item 201, Clearing and Grubbing.

ITEM 442 - ASPHALT CONCRETE SURFACE COURSE, 12.5mm, TYPE B (446), AS PER PLAN

Materials furnished for fine and coarse aggregates used in this item shall exclude all stone and crushed carbonate stone.

ITEM 408 - PRIME COAT, AS PER PLAN

The Contractor will apply "MC-70" at a rate of 0.4 gallons per square yard, or as determined by the Engineer, to the completed aggregate shoulder. A shield shall be provided to prevent the spraying or drifting of liquid bituminous material onto the edge of the pavement or edgeline. The attention of the Contractor is directed to 107.10 of the specifications.

CENTERLINE REFERENCE MONUMENTS

Existing centerline monument assemblies are located at the following stations on S.R. 7. The Contractor shall take care not to disturb any of these centerline reference monuments.

STATION	
P.O.T.	578+97.05
P.O.T.	580+22.64
P.C.	581+55.43
P.T.	589+16.87
P.C.	595+27.96
P.C.C.	596+61.29
P.C.C.	597+88.44
P.T.	599+21.77
P.C.	605+68.34
P.C.C.	607+01.67
P.C.C.	612+37.53
P.T.	613+70.86
P.O.T.	621+70.86
P.O.T.	627+75.00
P.C.	630+33.55
P.C.C.	633+00.18
P.C.C.	635+34.53
P.T.	638+01.16
P.O.T.	646+00.00
P.O.T.	654+00.00
P.O.T.	662+00.00
P.O.T.	669+53.15 Bk.
P.O.T.	657+38.94 Ah.
P.C.	660+60.16
P.C.C.	661+60.16
P.C.C.	664+39.05
P.T.	665+39.05
P.C.	667+65.07
P.C.C.	669+65.06
P.C.	682+02.51
P.C.C.	684+02.53 Bk. = 684+02.50 Ah.

STATION	
P.C.C.	688+07.23
P.T.	690+07.25 Bk. = 690+07.88 Ah.
P.C.	694+77.95
P.C.C.	695+77.95
P.C.C.	702+17.75
P.T.	703+17.75 Bk.
P.C.	705+64.88
P.C.C.	707+31.56 Bk.
P.C.C.	708+08.16
P.T.	709+74.84 Bk.
P.C.	715+28.03
P.C.C.	717+28.05 Bk.
P.C.C.	725+03.02
P.T.	727+03.04 Bk.
P.C.	731+52.66
P.O.C.	739+00.00
P.T.	746+52.66
P.C.	749+06.63
P.C.C.	750+39.96
P.C.C.	755+80.07
P.T.	757+13.40
P.C.	758+91.32
P.C.C.	760+91.34 Bk.
P.C.C.	761+16.31
P.T.	763+16.33 Bk.
P.C.	765+50.05
P.C.C.	767+50.07 Bk.
P.C.C.	767+80.24
P.T.	769+80.26 Bk.
P.O.T.	770+80.24 Bk.

ITEM 209 - LINEAR GRADING, AS PER PLAN

Graded shoulders shall be reshaped as directed by the Engineer to ensure a smooth drainable surface that is free of all irregularities. Vegetation, material buildup, and collected debris on the shoulder or within the linear grading limits shall be removed and disposed of by the Contractor as specified in section 209.01, or wasted over fill slopes at the direction of the Engineer.

This item shall meet the requirements of Item 209 Linear Grading except as follows:

The Contractor shall use the grindings from the project in lieu of Item - 617 Compacted Aggregate. See Item 617, Compacted Aggregate, As Per Plan note.

All equipment, materials, and labor required to perform the work outlined above shall be included for payment under Item 209, Linear Grading, As Per Plan.

ITEM 617 - COMPACTED AGGREGATE, AS PER PLAN

Graded shoulders shall be reshaped as per the requirements of Item 617, Compacted Aggregate. Grindings shall be used in lieu of Item 617, Compacted Aggregate. The cost for storing the grindings on the project and placing the grindings shall also be included in this item.

COORDINATION OF RESURFACING AND PLANING OPERATIONS

The pavement planing and resurfacing operation shall be completed in a timely manner as directed by the Engineer. The grindings shall become the property of the Contractor with the exception that some grindings will be utilized as noted in the plans for the graded shoulders. The 446 Intermediate Course resurfacing shall begin no more than seven (7) days after beginning the milling operation.

ITEM 621 - RAISED PAVEMENT MARKER REMOVED

Existing raised pavement markers shall become the property of the Contractor for disposal off the project. The requirement to fill the depressions shall be waived. The following quantity has been carried to the General Summary to remove existing raised pavement markers:

Item 621, Raised Pavement Marker Removed - - - - - 808 Each

AIR SPEED ZONE MARKING

The Contractor shall contact the District II Survey Operations Manager when the paving and linear grading is complete for the restoration of the Air Speed Zone Markings. The Air Speed Zone Markings will be applied by District personnel.

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ITEM 606 - ANCHOR ASSEMBLY, TYPE E

This item shall consist of furnishing and installing either of the following guardrail end terminals, or an approved equal as listed on Roadway Engineering's Web Page at WWW.DOT.STATE.OH.US/DRRC/ under roadside safety devices for approved guardrail end treatments:

- 1). The ET-2000 (1997) manufactured by Trinity Industry, 1170 N. State Street, Girard, Ohio 44420 (Telephone: 330-545-4373).

The length of the ET-2000 (1997) system is considered to be 50'-0", inclusive of two 25'-0" long rail elements. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
SSI42	E2000 PLUS 50'-0" Plan, Elevation & Sections 25'-0" Rail, Sleeve w/PL Posts 1-4	4/12/00	7/31/00
SSI41	ET2000 PLUS Plan, Elevation & Sections 25'-0" Rail, HBA Posts 1-4	2/29/00	7/31/00
SSI58	ET2000 PLUS 50'-0" With 12'-6" Rail, HBA Posts 1-4 Plan, Elevation & Sections	5/22/00	7/31/00
SS330	ET2000 PLUS 50'-0" With Four Foundation Tubes & Four CRT Posts	3/28/06	3/29/06
SS373	ET2000 PLUS 50'-0" With 7 SYT Posts & One HBA Post	6/20/09	1/20/09

- 2). The SKT-350 manufactured by Road Systems, Inc., 2516 Mallory Lane, Stow, Ohio 44224 (Telephone: 330-346-0721).

The length of the SK-350 system is considered to be 50'-0", inclusive of four 12'-6" long rail elements. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
SKT-4M	Sequential Kinking Terminal (SKT-350) Assembly with 4 Foundation Tubes	12/11/97	3/6/98
SKT Hinged CRT	Sequential Kinking Terminal (SKT-350) Four Posts Are Steel Hinged And Five Posts Are CRT	4/30/06	5/23/06
SKT-SP	Sequential Kinking Terminal (SKT-350) A Seven Post Option Using Standard Steel Post	3/30/09	3/4/09

The face of the Type E impact head shall be covered with a sheet of Type G Reflective Sheeting, per CMS 730.19, approximately 18" x 18", or 12" x 18" if applied to a rectangular ET-2000 "PLUS" extruder head.

Refer to manufacturer's instruction regarding the installation of, and the grading around, the foundation tubes and ground strut. The top of any foundation tube should be less than 4-inches above the ground. The placement of the foundation tubes should be an appropriate depth below the level line in order to maintain the finished guardrail height of 27 $\frac{3}{4}$ " 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, Type E, 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 606 - ANCHOR ASSEMBLY, TYPE B

This item shall consist of furnishing and installing either of the following guardrail end terminals, or an approved equal as listed on Roadway Engineering's Web Page at WWW.DOT.STATE.OH.US/DRRC/ under roadside safety devices for approved guardrail end treatments:

- 1). The SRT-350, guardrail end terminal as manufactured by Trinity Industry, 1170 N. State Street, Girard, Ohio 44420 (Telephone: 330-545-4373).

The length of the SRT-350 system is considered to be 37'-6", inclusive of three 12'-6" long rail elements. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
SS444	Slotted Rail Terminal Post Layout	7/12/99 Rev. 1	8/27/99
SS444M	and Erection Details SRT-350 (12.5, 8 Post)	7/12/99	
SS425M	Slotted Rail Terminal SRT-350 Post Layout and Erection Details (12.5, 9 Post)	6/21/97 Rev. 1	3/6/98

- 2). The FLEAT-350 manufactured by Road Systems, Inc., 2516 Mallory Lane, Stow, Ohio 44224 (Telephone: 330-346-0721).

The length of the FLEAT-350 is considered to be 37'-6", inclusive of three 12'-6" long rail elements. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications as detailed on the following pre-approved shop drawings:

Dwg. #	Drawing Name	Dwg./Rev. Date	ODOT Approval Date
FLT-M	Flared Energy Absorbing Terminal (FLEAT-350) Assembly	4/16/98	7/31/98
FLT-M Hinged CRT	Flared Energy Absorbing Terminal (Posts 1 and 2 are Steel Hinged)	5/4/06	5/23/06
FLT-SP	Flared Energy Absorbing Terminal (A Seven Post Option Using Standard Steel Posts)	3/30/09	3/4/09

Refer to the manufacturer's instruction regarding the installation of, and the grading around, the foundation tubes and ground strut. The top of any foundation tube should be less than 4-inches above the ground. The placement of the foundation tubes should be an appropriate depth below the level line in order to maintain the finished guardrail height of 27 $\frac{3}{4}$ " 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.

The face of the Type B impact head shall be covered with Type G reflective sheeting, per CMS 730.19: Approximately 36" w x 12" h for the SRT-350 and 14" w x 20" h for the FLEAT.

Payment for the above work shall be made at the unit price bid for Item 606, Anchor Assembly, Type B, Each, and shall include all labor, tools, equipment and materials necessary to construct a complete and functional anchor assembly system, including reflective sheeting and all related hardware, grading, embankment and excavation not separately specified, as required by the manufacturer.

ITEM 630 - REMOVAL OF STRUCTURE MOUNTED SIGN AND REERECTION, AS PER PLAN

The following estimated quantity has been carried to the General Summary for the removal and reerection of the 'ONE WAY' sign on the median barrier at the Murdock Ave. Intersection. The Contractor shall note the location of the sign and reerection at same location.

Payment for the above work shall be made at the unit price bid for Item 630, Removal of Structure Mounted Sign and Reerection, As Per Plan and shall include all labor, tools, equipment, materials, and any necessary fabrication for the support assembly.

Item 630, Removal of Structure Mounted Sign and Reerection, As Per Plan - - - - - 1 Each

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

When it is necessary to splice proposed guardrail to existing guardrail, only the existing guardrail shall be cut, drilled, or punched. The connection shall be made using a "W-Beam Rail Splice" as shown in AASHTO M 180. Payment shall be included in the contract price for the respective guardrail items.

GUARDRAIL PLACEMENT

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

GENERAL NOTES

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MAINTAINING TRAFFIC, AS PER PLAN

The Contractor shall maintain traffic at all times in accordance with the requirements of CMS Item 614, these maintenance of traffic notes and details, the Standard Construction Drawings, and the traffic control details described in these plans.

The minimum lane width for traffic control shall be 11 feet at all times. It is the responsibility of the Contractor to organize his work in such a manner to provide the most safety with the least inconvenience to the traveling public.

The Contractor is responsible for designing the maintenance of traffic scheme. The Contractor shall submit, in writing, this maintenance of traffic scheme and a schedule of operations to the Engineer and receive approval before work is started on the project.

Any open pavement trench or dropoff shall be adequately maintained and protected. The protection used shall meet the requirements of Standard Construction Drawing MT-101.90.

Under no circumstances shall the Contractor be permitted to have work zones which alternately close both the passing and travel lane unless the distance between the lane restrictions exceeds 2 miles.

The Contractor shall be responsible for smooth and orderly flow of traffic through the project area 24 hours per day for the duration of the project. This consists of notifying the Ohio State Patrol after encountering any accidents or disabled vehicles or objects hindering the flow of traffic.

The Contractor shall designate to the Engineer a person responsible for maintenance of traffic control during non-work hours who shall be available within thirty (30) minutes after notification.

Payment for providing watchmen, furnishing, erecting, maintaining and removing signs, cones, markers, special lighting, floodlighting, work zone pavement markings, work zone raised pavement markers, etc., shall be included in the lump sum price bid for Item 614 Maintaining Traffic, As Per Plan.

The Contractor shall furnish, install and maintain all additional signs or other traffic control devices as required above. All costs involved in furnishing, installing and maintaining these devices shall be included in the lump sum price bid for Item 614, Maintaining Traffic, As Per Plan.

Unless the Engineer deems it physically impossible, all construction equipment shall exit all work zones from the downstream end of the work zone or by interchange ramps. Under no circumstances shall the Contractor be permitted to directly transport or operate any equipment across the open lanes of the roadway.

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.

The planing and resurfacing will proceed continuously a minimum of five (5) days per week, weather permitting, excepting holidays and events listed below:

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

Memorial Day	Fourth of July
Labor Day	Thanksgiving

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

Day of the week	Time all lanes must be opened to traffic
Sunday	12:00N Friday through 12:00N Monday
Monday	12:00N Friday through 12:00N Tuesday
Tuesday	12:00N Monday through 12:00N Wednesday
Wednesday	12:00N Tuesday through 12:00N Thursday
Thursday	12:00N Wednesday through 12:00N Monday
Friday	12:00N Thursday through 12:00N Monday
Saturday	12:00N Friday through 12:00N Monday

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

All work and traffic control devices shall be in accordance with 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, As Per Plan, unless separately itemized in the plan.

NOTIFICATION OF WORK ZONE LANE RESTRICTIONS

The Contractor shall notify the Engineer at least eighteen (18) days prior to implementing any work zone restriction that will reduce the width or vertical clearance of any lane on which traffic will be maintained during construction. The Engineer shall immediately notify the District Roadway Services Manager to advise the Office of Highway Management of the restrictions.

CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE

In addition to the requirements of section 614.03 of the Construction and Material Specifications the following shall apply. The Contractor's equipment shall be operated in the direction of traffic where practical. A flagger shall be used where the Contractor's equipment must merge with the traffic stream. The Contractor's vehicles and equipment shall be equipped with at least one amber flashing light visible for 300°.

Equipment may be parked in areas along the highway, thirty feet (30') from the edge of traveled highway unless behind guardrail, when various operations are scheduled to continue the next workday. On weekends or at other times of suspension of work, the equipment shall be stored at a storage area removed from the state route right of way. No equipment shall be parked in the median of the highway. Adequate barricades and light shall be placed on the pavement side of the equipment to identify the limits of the equipment. All other equipment, including private vehicles, shall be stored at the approved Contractor's storage area.

MOVEMENT OF DRUMS

The row of drums along a closed lane shall be moved out of the open lane onto the new pavement as soon as paving operations permit.

ITEM 614 - WORK ZONE INCREASED PENALTIES SIGN (R11-H5a)

R11-H5a-48 signs shall be furnished, erected, and maintained in good condition and/or replaced as necessary and subsequently removed by the Contractor. Signs shall be mounted at the appropriate offsets and elevations as prescribed by the Ohio Manual of Uniform Traffic Control Devices. They shall be maintained on supports meeting current safety criteria.

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

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

DROPOFFS IN WORK ZONES

The wedge treatment as detailed in Standard Drawing MT-101.90 will be required and shall be included in the lump sum bid for Item 614 - Maintaining Traffic, As Per Plan.

WORK ZONE PAVEMENT MARKINGS

The Contractor shall be required to install work zone pavement markings. Work zone pavement markings shall be 642 paint.

Prior to placement of any work zone pavement markings, the Contractor shall completely obliterate, as per 641.10, all existing pavement markings that would create confusion or conflict with the work zone pavement markings.

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

Item 614, Work Zone Lane Line, Class 1, 642 Paint - - - - 25.47 Mile
Item 614, Work Zone Edge Line, Class 1, 642 Paint - - - - 57.15 Mile

Work zone raised pavement markers cannot be used to simulate (replace) any type of work zone pavement marking.

FLOODLIGHTING

Floodlighting of the work site for operations conducted during night time 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 throughout the worksite 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, As Per Plan.

ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC

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 - - - 50 Cu. Yd.

ITEM 614, REPLACEMENT DRUM

Drums furnished by the Contractor in accordance with the requirements of the plans, specifications and proposal which become damaged by traffic for reasons beyond the control of the Contractor shall be replaced in kind when ordered by the Engineer. Replacement drums shall be new.

Payment for the new drums shall be made at the contract price per each for Item 614, Replacement Drum, and shall include the cost of removing and disposing of the damaged drum, and providing and maintaining the replacement drum in accordance with the contract requirements for the original drum.

An estimated quantity of 50 each has been provided in the General Summary.

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ITEM 614 - WORK ZONE SPEED LIMIT SIGN

The Contractor shall furnish, install, maintain, cover during suspension of work, and subsequently remove Work Zone Speed Limit (R2-I-48) (45 MPH Speed Limit) signs and supports within the work limits in accordance with the following requirements:

The Contractor shall cover or remove any existing Speed Limit signs within the reduced Speed Zone. These signs shall be restored during suspension or termination of the reduced speed limit. The expense of covering or removal and restoration of existing Speed Limit or Minimum Speed Limit signs shall be included in the pay item for the Work Zone Speed Limit signs.

The Work Zone Speed Limit signs may be erected or uncovered no more than 4 hours before the actual start of work. The signs shall be removed or covered no later than 4 hours following restoration of all lanes to traffic with no restrictions, or sooner as directed by the Engineer. Temporary sign covering and uncovering due to temporary lane restorations shall be guided by the four-hour limitations stated above. Such lane restorations should be expected to remain in effect for 30 or more days, such as during winter shut-downs. Cleanup work and other work beyond the shoulder such as seeding, to be performed after restoration of all full-width lanes and shoulders to traffic, does not constitute a condition warranting a speed reduction. Therefore, when activity is limited to such work, the speed limit in effect shall be the normal speed limit for the site.

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

The Contractor shall erect a Work Zone Speed Limit sign in advance of any lane restriction expected to last at least 30 consecutive calendar days, or as directed by the Engineer. The sign shall be mounted on both sides of a directional roadway of divided highways. The first Work Zone Speed Limit sign shall be placed 500 feet in advance of the lane reduction or shift taper or other roadway or shoulder restriction. On undivided highways the sign shall be mounted on the right side, approximately 250 feet in advance of such restrictions. The sign shall be repeated every 1 mile for 55 mph zones and every one-half mile for 50 mph and 45 mph zones. These signs shall also be erected immediately after each open entrance ramp within the zone.

On projects for which the activity or roadway restriction is limited to one section of the project for at least thirty days and then is moved to another section of the project upon completion of work in the first section, the speed limit reduction shall be limited to only the active portion of the project at the given time. Signing for a speed limit reduction, as well as all other advance construction signing, shall be relocated when the concentration of activity is relocated.

On projects for which speed reduction is called for on more than one roadway, the display of reduced speed limit signing on a given roadway shall be dependent on the scheduling of work activity on the given roadway.

Speed Reduction signs (W3-5) shall be erected in advance of the speed reduction, approximately 1250 feet on multi-lane highways and 500 feet on 2-lane highways.

A sign(s) to indicate the resumption of the statutory speed limit shall be erected at the end of any reduced Speed Zone, typically at the point where roadway and shoulder widths return to normal. On undivided roadways, the R2-I (Speed Limit) sign shall be used. On divided highways where the speed limit varies by vehicle type, the R2-I (Speed Limit) sign and the R2-H2a (Truck Speed Limit) signs shall be mounted side-by-side on separate supports. The Contractor may use signs and supports in used, but good condition, provided the signs meet current ODOT specifications. Sign faces shall be retroreflectorized with Type G sheeting complying with the requirements of CMS 730.19.

Work Zone Speed Limit signs shall be mounted on two Item 630, Ground Mounted Supports, No. 3 Posts.

Work Zone Speed Limit signs and supports will be measured as the number of sign installations, including the signs and necessary supports. If a sign and support combination is removed and reerected at another location within the project due to changes in the Speed Zone directed by the Engineer, it shall be considered another unit.

Payment for accepted quantities, complete in place, will be made at the contract unit price. Payment shall be full compensation for all materials, labor, incidentals and equipment for furnishing, erecting, maintaining, covering during suspension of work, and removing the signs and supports. Speed limit signing for the point of resumption of the statutory speed limit shall be paid for as Work Zone Speed Limit signs. The following estimated quantity has been carried to the General Summary.

Item 614, Work Zone Speed Limit Sign - - - - - 34 Each
Item 614, Speed Zone Ahead symbol sign - - - - - 8 Each

ITEM 614 - LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS

Use of Law Enforcement Officers (LEOs) by Contractors other than the uses specified below will not be permitted at project cost. LEOs should not be used where the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) intends that flaggers be used.

In addition to the requirements of CMS 614 and the 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:

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 at the point of lane restriction or road closure and to manually control traffic movements through intersections in work zones.

When construction vehicles are entering/exiting the zone directly from/into an open lane of traffic. If a lane has been closed to provide an acceleration/deceleration lane for the vehicle, the LEO will not be required.

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 LEO's 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 quantity has been carried to the General Summary.

Item 614, Law Enforcement Officer with Patrol Car for Assistance - - 100 Hours

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

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

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SHEET NUMBER													OFFICE Calcs.	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED RDA	CHECKED	SAL
7		14	28	29	31	36																
																		ROADWAY				
LUMP														201	11000	LUMP		CLEARING AND GRUBBING	7			
		8871				828								202	23000	8871	SQ YD	PAVEMENT REMOVED				
					639									202	30000	828	SQ FT	WALK REMOVED				
														202	30600	639	SQ YD	CONCRETE MEDIAN REMOVED	31			
		300		19,194		198								202	30700	19,194	FT	CONCRETE BARRIER REMOVED				
														202	32000	498	FT	CURB REMOVED				
		19,762												202	38000	19,762	FT	GUARDRAIL REMOVED				
				36										202	58201	36	EACH	INLET REMOVED, AS PER PLAN	31			
					40									202	98100	40	EACH	REMOVAL MISC.: BARRIER REFLECTORS	31			
													317	209	60201	317	STATION	LINEAR GRADING, AS PER PLAN	7			
					19,303									512	10100	19,303	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	31			
						100								519	11100	100	SQ FT	PATCHING CONCRETE STRUCTURE	31			
		18,890												606	13000	18,890	FT	GUARDRAIL, TYPE 5				
		187.5												606	13050	187.5	FT	GUARDRAIL, TYPE 5A				
		5												606	25000	5	EACH	ANCHOR ASSEMBLY, TYPE A				
		1												606	26000	1	EACH	ANCHOR ASSEMBLY, TYPE B	8			
		14												606	26100	14	EACH	ANCHOR ASSEMBLY, TYPE E	8			
		13												606	26500	13	EACH	ANCHOR ASSEMBLY, TYPE T				
						828								608	52000	828	SQ FT	CURB RAMP				
		300												609	10000	300	FT	ASPHALT CONCRETE CURB, TYPE 1				
					608									609	72000	608	SQ YD	CONCRETE MEDIAN	31			
				16,145										622	10061	16,145	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN	31			
				1146										622	10121	1146	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE C, AS PER PLAN	31			
				1642										622	10161	1642	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN	31			
				2										622	10200	2	EACH	BARRIER TRANSITION				
				2										622	25004	2	EACH	CONCRETE BARRIER END ANCHORAGE, REINFORCED, TYPE B				
				12										622	25005	12	EACH	CONCRETE BARRIER END ANCHORAGE, REINFORCED, TYPE B, AS PER PLAN	32			
																		EROSION CONTROL				
														832	30000	1000	EACH	EROSION CONTROL				
																		DRAINAGE				
				26										604	09000	26	EACH	CATCH BASIN ADJUSTED TO GRADE				
				8										604	20520	8	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C				
				3										604	20530	3	EACH	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D				
				25										604	20550	25	EACH	INLET, NO. 4 FOR SINGLE SLOPE BARRIER, TYPE B				
				1										604	34500	1	EACH	MANHOLE ADJUSTED TO GRADE				
				36										604	98000	36	EACH	DRAINAGE STRUCTURE MISC.: INLET CLEANOUT				
		200												605	31100	200	FT	AGGREGATE DRAINS	28			

GENERAL SUMMARY

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SHEET NUMBER													OFFICE	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE	CALCULATED	RDA	CHECKED	SAL
7	8	9	10	14	28	31	44						Calcs.		EXT.	TOTAL			NO.				
																		PAVEMENT					
					7642									253	01000	7642	SQ YD	PAVEMENT REPAIR	28				
													181,991	254	01000	181,991	SQ YD	PAVEMENT PLANING, ASPHALT CONCRETE					
						39,107								255	20000	39,107	FT	FULL DEPTH PAVEMENT SAWING	31				
						764								304	20000	764	CU YD	AGGREGATE BASE	31				
						215								304	20001	215	CU YD	AGGREGATE BASE, AS PER PLAN	31				
													13,649	407	10000	13,649	GALLON	TACK COAT					
													7280	407	14000	7280	GALLON	TACK COAT FOR INTERMEDIATE COURSE					
													8986	408	10001	8986	GALLON	PRIME COAT, AS PER PLAN	7				
													7583	442	10051	7583	CU YD	ASPHALT CONCRETE SURFACE COURSE, 12.5 MM, TYPE B (446), AS PER PLAN	7				
													8847	442	10150	8847	CU YD	ASPHALT CONCRETE INTERMEDIATE COURSE, 19MM, TYPE B (446)					
				586																			
													196	617	10101	782	CU YD	COMPACTED AGGREGATE, AS PER PLAN	7				
													76,330	618	40100	76,330	FT	RUMBLE STRIPS, (ASPHALT CONCRETE)					
																		TRAFFIC CONTROL					
808							592							621	00100	592	EACH	RPM					
														621	54000	808	EACH	RAISED PAVEMENT MARKER REMOVED	7				
			246			390								626	00100	636	EACH	BARRIER REFLECTOR	31				
	1													630	86321	1	EACH	REMOVAL OF STRUCTURE MOUNTED SIGN AND REERECTION, AS PER PLAN	8				
							18.96							642	00100	18.96	MILE	EDGE LINE, TYPE I					
							8.49							642	00200	8.49	MILE	LANE LINE, TYPE I					
							0.03							642	00300	0.03	MILE	CENTER LINE, TYPE I					
							4,245							642	00400	4,245	FT	CHANNELIZING LINE, TYPE I					
							298							642	00500	298	FT	STOP LINE, TYPE I					
							589							642	00600	589	FT	CROSSWALK LINE, TYPE I					
							1,265							642	00700	1,265	FT	TRANSVERSE/DIAGONAL LINE, TYPE I					
							3,538							642	00900	3,538	SQ FT	ISLAND MARKING, TYPE I					
							8							642	01300	8	EACH	LANE ARROW, TYPE I					
																		MAINTENANCE OF TRAFFIC					
			100											614	11110	100	HOURL	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	10				
			8											614	12410	8	EACH	SPEED ZONE AHEAD SYMBOL SIGN	10				
			34											614	12470	34	EACH	WORK ZONE SPEED LIMIT SIGN	10				
		20												614	12484	20	EACH	WORK ZONE INCREASED PENALTIES SIGN	9				
		50												614	12600	50	EACH	REPLACEMENT DRUM	9				
		50												614	13000	50	CU YD	ASPHALT CONCRETE FOR MAINTAINING TRAFFIC	9				
		25.47												614	20100	25.47	MILE	WORK ZONE LANE LINE, CLASS I, 642 PAINT	9				
		57.15												614	22100	57.15	MILE	WORK ZONE EDGE LINE, CLASS I, 642 PAINT	9				
		LUMP												614	11001	LUMP		MAINTAINING TRAFFIC, AS PER PLAN	9				
														619	16020	4	MONTH	FIELD OFFICE, TYPE C					
														623	10000	LUMP		CONSTRUCTION LAYOUT STAKES					
														624	10000	LUMP		MOBILIZATION					

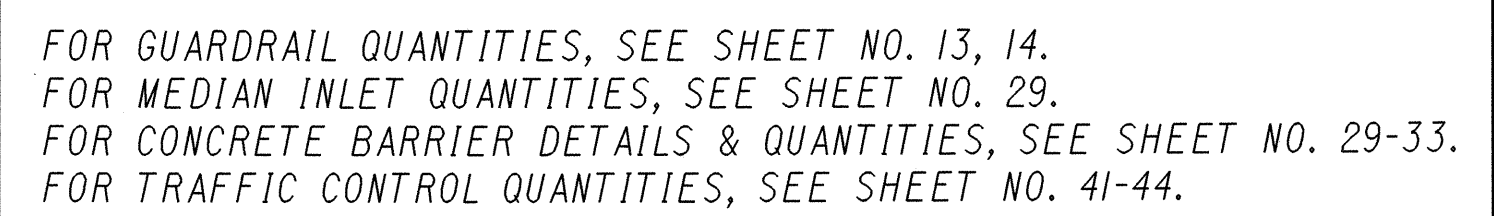
GENERAL SUMMARY

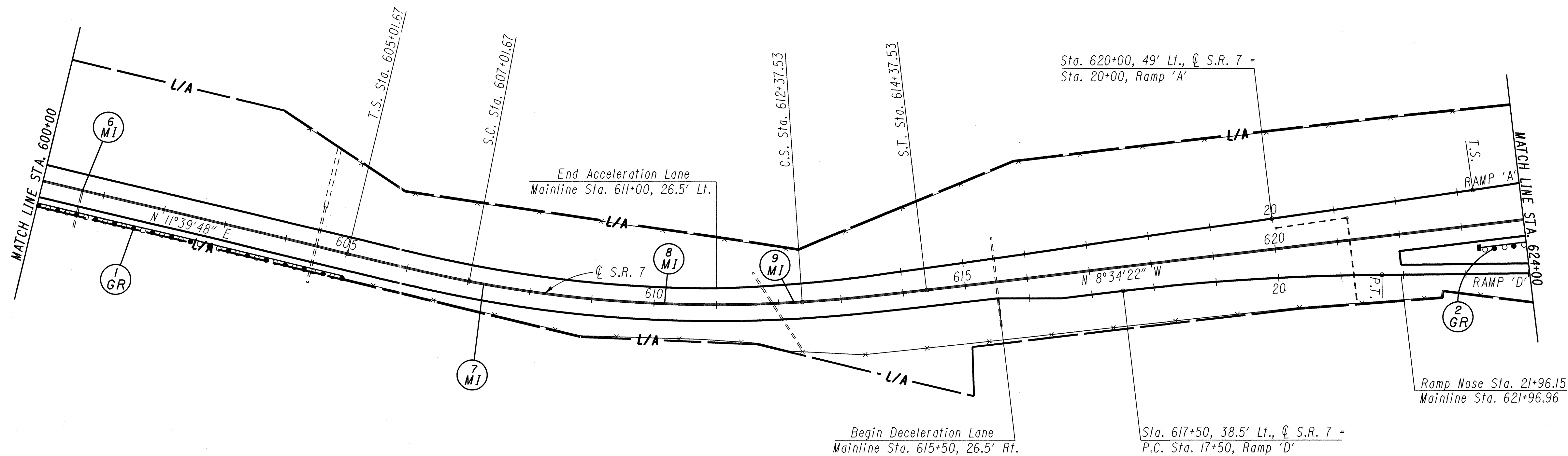
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REF. NO.	PLAN SHEET NO.	STATION		SIDE	202			609	617			GUARDRAIL, TYPE 5	GUARDRAIL, TYPE 5A	606				626		COMMENTS	SEE SHEET NO.	CALCULATED DAH	CHECKED RDA	
					PAVEMENT REMOVED	GUARDRAIL REMOVED	CURB REMOVED	ASPHALT CONCRETE CURB, TYPE 1	2" COMPACTED AGGREGATE, AS PER PLAN					ANCHOR ASSEMBLY TYPE				BARRIER REFLECTOR						
		FROM	TO		SQ. YD.	FT.	FT.	FT.	LENGTH	WIDTH	CU. YD.	FT.	FT.	A EA.	B EA.	E EA.	T EA.	A EA.	A EA.					
(NOTE: THRIE-BEAM TRANSITION SECTIONS END 18.75' FROM END OF BTA'S)																								
1-GR	15 & 16	*589+50.00	*605+05.73	RT	1,400.00	3,150			3,150	4	77.78	3,000	137.5			1			33	CONNECT TO EXISTING GUARDRAIL AT STA. 589+50.00 TYPE 5A GUARDRAIL FROM STA. 582+13.84 TO STA. 583+51.78				
2-GR	16 & 17	623+24.25	627+86.75	RT	197.22	443.75			443.75	4	10.96	393.75			1			5	CONNECT TO EXISTING BTA TYPE 3 THRIE-BEAM TRANSITION SECTION					
3-GR	17	624+95.75	628+08.25	LT	130.56	293.75			293.75	4	7.25	281.25			1			4	CONNECT TO EXISTING BTA TYPE 3 THRIE-BEAM TRANSITION SECTION					
4-GR	17	629+98.30	638+39.20	RT	358.33	806.25			806.25	4	19.91	793.75			1			9	CONNECT TO EXISTING BTA TYPE 3 THRIE-BEAM TRANSITION SECTION					
5-GR	17	630+18.90 630+18.90	31+50.95 Ramp 'C' 633+61.97	LT	141.67	318.75			350	4	8.64	281.25			1			4	CONNECT TO EXISTING BTA TYPE 3 THRIE-BEAM TRANSITION SECTION EXTEND EXISTING RUN AND CONSTRUCT NEW TYPE E ANCHOR ASSEMBLY					
6-GR	17	14+14.45 S.R. 151 14+14.45 S.R. 151	31+49.25 Ramp 'C' 33+62.22 Ramp 'C'	LT	381.94	462.5			687.5	5	21.22	637.5			1			9	CONNECT TO EXISTING GUARDRAIL ALONG S.R. 151 EXTEND EXISTING RUN AND CONSTRUCT NEW TYPE E ANCHOR ASSEMBLY 25' OF GUARDRAIL ON 13.4' RADIUS					
7-GR	17	29+98.00 Ramp 'B'	32+98.00 Ramp 'B'	RT	133.33	300			300	4	7.41	262.5		1		1		4						
8-GR	17	13+33.23 S.R. 151	27+75.00 Ramp 'C'	LT	144.44	325			325	4	8.02	275			1			7	CONNECT TO EXISTING GUARDRAIL ALONG S.R. 151 37.5' OF GUARDRAIL ON 30' RADIUS					
9-GR	17 & 18	641+85.20 651+23.10	654+23.10 654+23.10	RT RT	541.67	1,218.75			1,218.75	4	30.09	1,168.75			1			13	CONNECT TO EXISTING BTA TYPE 3 THRIE-BEAM TRANSITION SECTION					
10-GR	17	644+50.00	646+00.00	LT	66.67	150			150	4	3.70	87.5			1	1		2						
11-GR	18	653+23.10	654+23.10	LT	36.11	81.25			81.25	4	2.01	68.75				1		2	CONNECT TO EXISTING BTA TYPE 3 THRIE-BEAM TRANSITION SECTION					
12-GR	18	655+76.90	657+14.40	LT	52.78	118.75			118.75	4	2.93	58.75			1			2	CONNECT TO EXISTING BTA TYPE 3 THRIE-BEAM TRANSITION SECTION					
13-GR	18	655+76.90	656+64.40	RT	38.89	87.5			87.5	4	2.16	75				1		2	CONNECT TO EXISTING BTA TYPE 3 THRIE-BEAM TRANSITION SECTION					
14-GR	18	*668+39.30	*657+75.00	RT	66.67	150			150	4	3.70	87.5	25		1	1		3	STATION EQUATION: STA. 669+53.15 BK. = STA. 657+38.94 AH. OVERHEAD SIGN AT STA. 657+50 TYPE 5A GUARDRAIL FROM STA. 657+37.50 TO STA. 657+62.50					
15-GR	18 & 19	660+48.75	664+42.50	LT	166.67	375			375	4	9.26	362.5				1		5	CONNECT TO EXISTING BTA TYPE 3 THRIE-BEAM TRANSITION SECTION					
16-GR	18 & 19	663+59.60 663+59.60	664+59.60 664+59.60	RT RT	36.11	81.25			81.25	4	2.01	31.25			1			2	REMOVE EXISTING BARRIER DESIGN GUARDRAIL AND IMPACT ATTENUATOR. REPLACE WITH TYPE 5 GUARDRAIL AND TYPE E ANCHOR ASSEMBLY. CONNECT TO EXISTING BTA TYPE 1 THRIE-BEAM TRANSITION SECTION CONNECT TO EXISTING BTA TYPE 3 THRIE-BEAM TRANSITION SECTION 75' OF GUARDRAIL ON 67' RADIUS					
17-GR	19	665+32.50	62+13.50 Ramp 'AB'	LT	163.89	368.75			368.75	4	9.10	343.75		1				6						
18-GR	19	62+25.35 Ramp 'AB'	673+12.50	LT	344.44	775			775	4	19.14	737.5	25			1		12	CONNECT TO EXISTING BTA TYPE 2 W-BEAM TERMINAL CONNECTOR OVERHEAD SIGN AT STA. 669+00. TYPE 5A GUARDRAIL FROM STA. 668+87.50 TO STA. 669+12.50					
19-GR	19	665+25.40	673+04.50	RT	338.89	762.5			762.5	4	18.83	762.5						9	CONNECT TO EXISTING BTA TYPE 2 W-BEAM TERMINAL CONNECTOR CONNECT TO EXISTING BTA TYPE 1 THRIE BEAM TRANSITION SECTION					
20-GR	19	681+67.91	687+46.80 Murdock Ave.	RT	283.33	637.5			637.5	4	15.74	637.5						9	CONNECT TO EXISTING BTA TYPE 2 W-BEAM TERMINAL CONNECTOR 62.5' OF GUARDRAIL ON 65' RADIUS CONNECT TO EXISTING GUARDRAIL AT STA. 687+46.80 ON MURDOCK AVE.					
21-GR	19	681+74.30	683+37.80	LT	63.89	143.75			143.75	4	95.83	131.25			1			3	CONNECT TO EXISTING BTA TYPE 1 THRIE-BEAM TRANSITION SECTION					
22-GR	19	687+37.50	689+02.80	RT	72.22	162.5			162.5	4	4.01	100				1	1	3						
23-GR	19 & 20	685+71.20 Murdock Ave.	692+12.10	RT	305.56	687.5			687.5	4	16.98	687.5		1				9	CONNECT TO EXISTING BTA TYPE 1 THRIE-BEAM TRANSITION SECTION 50' OF GUARDRAIL ON 17' RADIUS					
24-GR	20	692+59.50	693+22.00	LT	27.78	62.5			62.5	4	1.54	50				1		2	CONNECT TO EXISTING BTA TYPE 2 W-BEAM TERMINAL CONNECTOR					
SUB-TOTALS CARRIED TO SHEET 14					5,493.06	11,962.50	300	300			398.22	11,315.00	187.5	3	1	10	12		159					

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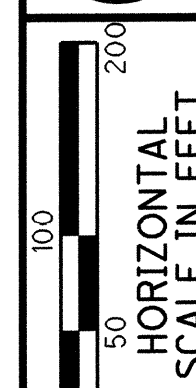
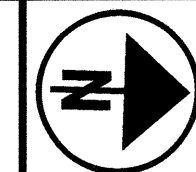


S.R. 7
P.I. Sta. 609+73.60
 $\Delta = 20^\circ 14' 10''$ Lt.
Dc = 2°45'
Rc = 2083.48'
Ls = 200'
 $\theta s = 2^\circ 45'$
L.T. = 133.35'
S.T. = 66.68'
x = 199.95'
y = 3.20'
 $\Delta c = 14^\circ 44' 10''$
Lc = 535.86'
Ts = 471.94'
Es = 33.73'
emax = 0.065

RAMP 'A'
P.I. Sta. 24+83.62
 $\Delta = 10^\circ 00' 00''$ Lt.
Dc = 6°00'00"
Rc = 954.93'
Ls = 150'
 $\theta s = 4^\circ 30' 00''$
L.T. = 100.03'
S.T. = 50.03'
x = 149.90'
y = 3.93'
 $\Delta c = 1^\circ 00' 00''$
Lc = 16.68'
Ts = 158.61'
Es = 4.63'
T.S. Sta. 23+25
S.C. Sta. 24+75
S.C. Sta. 24+91.67
S.T. Sta. 26+41.67

RAMP 'D'
P.I. Sta. 19+57.98
 $\Delta = 6^\circ 14' 00''$ Rt.
D = 1°30'
R = 3819.72'
T = 207.98'
L = 415.56'
E = 0.33'
P.C. Sta. 17+50
P.T. Sta. 21+65.56

FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 13, 14.
FOR MEDIAN INLET QUANTITIES, SEE SHEET NO. 29.
FOR CONCRETE BARRIER DETAILS & QUANTITIES, SEE SHEET NO. 29-33.
FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 41-44.



CALCULATED
RDA
CHECKED
TES

PLAN SHEET
STA. 600+00 TO STA. 624+00

JEF-7-10.83

S.R. 151
 P.I. Sta. 17+25.24
 $\Delta = 10^\circ 36' 00''$ Rt.
 $D = 1^\circ 30' 00''$
 $R = 3819.72'$
 $T = 354.34'$
 $L = 706.67'$
 $E = 16.40'$
 P.C. Sta. 13+70.90
 P.T. Sta. 20+77.57

Sta. 26+25.08 Ramp 'C'
 Sta. 13+51.38 S.R. 151

Sta. 29+43.68 Ramp 'A'
 Sta. 18+64.02, $\angle$ S.R. 151

Sta. 629+02.30, S.R. 7 =
 Sta. 20+00.00, $\angle$ S.R. 151

Ramp Nose Sta. 24+71.36
 Mainline Sta. 624+72.70

BRIDGE NO.
 JEF-7-1185

Ramp Nose Sta. 34+17.24
 Mainline Sta. 634+24.18

Sta. 636+75, 38.5' Lt., $\angle$ S.R. 7 =
 Sta. 36+75, Ramp 'C'

Begin Deceleration Lane
 Mainline Sta. 641+00, 26.5' Lt.

Sta. 28+65.09 Ramp 'D'
 Sta. 21+43.38, $\angle$ S.R. 151

Sta. 29+14 Ramp 'B'
 Sta. 21+50, $\angle$ S.R. 151

RAMP 'B'
 P.I. Sta. 34+56.36
 $\Delta = 30^\circ 00' 00''$ Rt.
 $Dc = 7^\circ 00' 00''$
 $Rc = 818.51'$
 $Ls = 200'$
 $\theta s = 7^\circ 00' 00''$
 $L.T. = 133.44'$
 $S.T. = 66.76'$
 $x = 199.70'$
 $y = 8.14'$
 $\Delta c = 16^\circ 00' 00''$
 $Lc = 228.57'$
 $Ts = 319.82'$
 $Es = 30.98'$
 T.S. Sta. 31+36.54
 S.C. Sta. 33+36.54
 C.S. Sta. 35+65.11
 S.T. Sta. 37+65.11

RAMP 'B'
 P.I. Sta. 42+87.53
 $\Delta = 2^\circ 45' 00''$ Rt.
 $D = 1^\circ 00' 00''$
 $R = 5729.58'$
 $T = 137.53'$
 $L = 275'$
 $E = 1.65'$
 P.C. Sta. 41+50
 P.T. Sta. 44+25

S.R. 7
 P.I. Sta. 634+27.16
 $\Delta = 31^\circ 43' 02''$ Rt.
 $Dc = 5^\circ 00'$
 $Rc = 1,145.92'$
 $Ls = 400'$
 $\theta s = 10^\circ 00'$
 $L.T. = 267.09'$
 $S.T. = 133.72'$
 $x = 398.78'$
 $y = 23.22'$
 $\Delta c = 11^\circ 43' 02''$
 $Lc = 234.35'$
 $Ts = 526.98'$
 $Es = 51.38'$
 $e_{max} = 0.083$

RAMP 'A'
 P.I. Sta. 24+83.62
 $\Delta = 10^\circ 00' 00''$ Lt.
 $Dc = 6^\circ 00' 00''$
 $Rc = 954.93'$
 $Ls = 150'$
 $\theta s = 4^\circ 30' 00''$
 $L.T. = 100.03'$
 $S.T. = 50.03'$
 $x = 149.90'$
 $y = 3.93'$
 $\Delta c = 1^\circ 00' 00''$
 $Lc = 16.68'$
 $Ts = 158.61'$
 $Es = 4.63'$
 T.S. Sta. 23+25
 S.C. Sta. 24+75
 C.S. Sta. 24+91.67
 S.T. Sta. 26+41.67

RAMP 'A'
 P.I. Sta. 27+80.12
 $\Delta = 07^\circ 30' 00''$ Rt.
 $Dc = 6^\circ 00' 00''$
 $Rc = 954.93'$
 $Ls = 150'$
 $\theta s = 4^\circ 30' 00''$
 $L.T. = 100.03'$
 $S.T. = 50.03'$
 $x = 149.90'$
 $y = 3.93'$
 $\Delta c = 3^\circ 00' 00''$
 $Lc = 50'$
 $Ts = 137.64'$
 $Es = 3.03'$
 T.S. Sta. 26+50
 S.C. Sta. 28+00
 P.T. Sta. 28+50

RAMP 'C' (Curve)
 P.I. Sta. 28+03.63
 $\Delta = 55^\circ 45' 00''$ Rt.
 $Dc = 30^\circ 09' 20''$
 $Rc = 190'$
 $Ts(Back) = 103.14'$
 $Ts(Ahead) = 148.89'$
 $\Delta c = 40^\circ 40' 20''$ Rt.
 $Lc = 134.87'$
 $Tc = 70.42'$
 P.C. Sta. 27+00.49
 C.S. Sta. 28+35.36

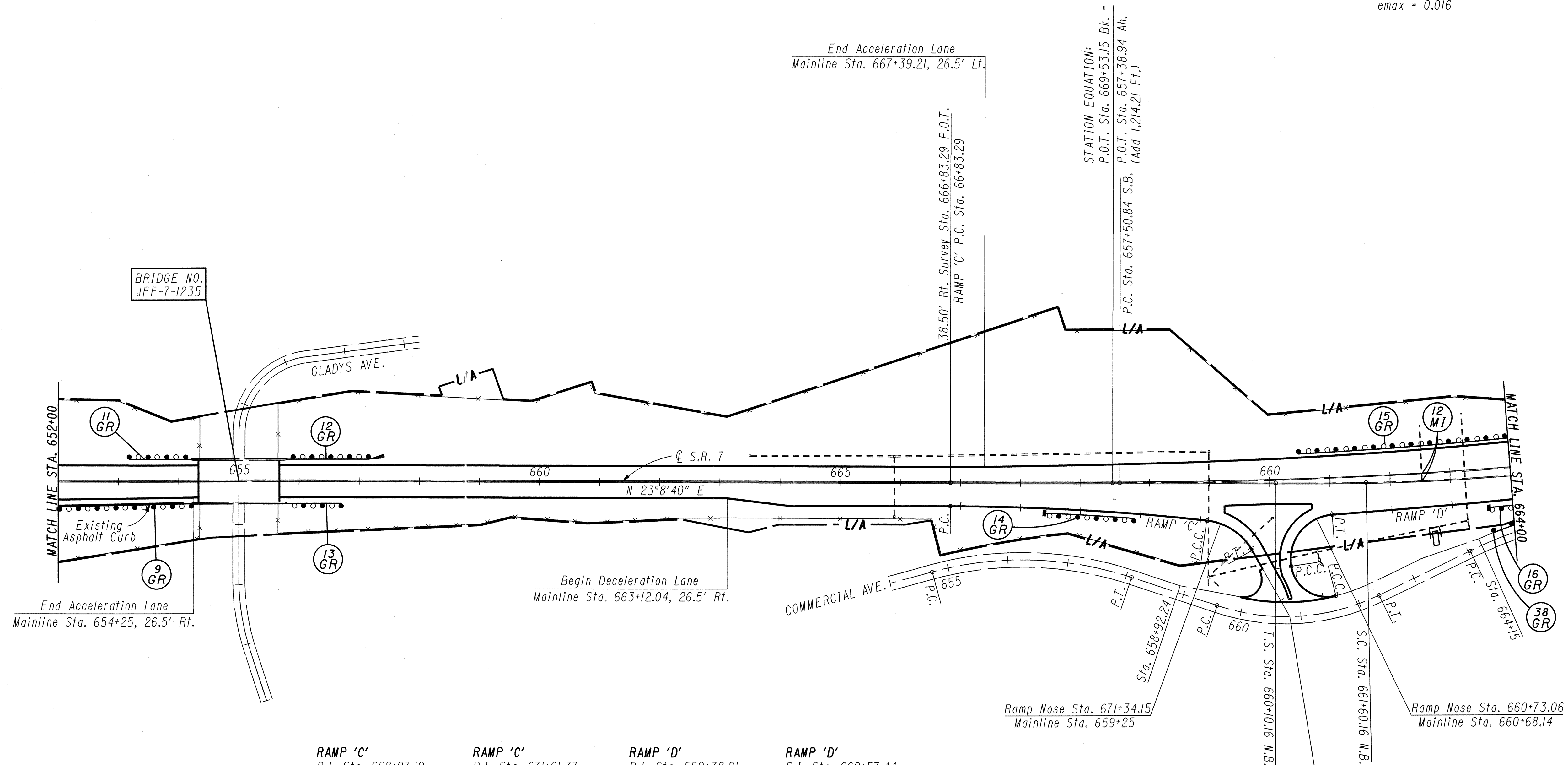
RAMP 'C' (Spiral)
 P.I. Sta. 28+68.92
 $\theta s = 15^\circ 04' 40''$
 $Ls = 100'$
 $p = 2.19'$
 $k = 49.88'$
 $L.T. = 66.91'$
 $S.T. = 33.56'$
 C.S. Sta. 28+35.36
 S.T. Sta. 29+35.36

RAMP 'C' (Spiral)
 P.I. Sta. 30+40.54
 $\theta s = 10^\circ 30' 00''$
 $Ls = 150'$
 $p = 2.29'$
 $k = 74.92'$
 $L.T. = 100.18'$
 $S.T. = 50.16'$
 T.S. Sta. 29+40.36
 S.C. Sta. 30+90.36

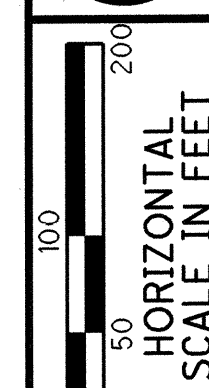
RAMP 'C' (Curve)
 P.I. Sta. 32+35.59
 $\Delta = 55^\circ 15' 00''$ Rt.
 $Dc = 14^\circ 00' 00''$
 $Rc = 409.26'$
 $Ts(Back) = 295.23'$
 $Ts(Ahead) = 337.18'$
 $\Delta c = 27^\circ 15' 00''$ Lt.
 $Lc = 194.64'$
 $Tc = 99.20'$
 S.C. Sta. 30+90.36
 C.S. Sta. 32+85

RAMP 'C' (Spiral)
 P.I. Sta. 33+69.08
 $\theta s = 17^\circ 30' 00''$
 $Ls = 250'$
 $p = 6.34'$
 $k = 124.61'$
 $L.T. = 167.49'$
 $S.T. = 124.61'$
 C.S. Sta. 32+85
 S.T. Sta. 35+35

FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 13, 14.
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 FOR TRAFFIC CONTROL QUANTITIES, SEE SHEET NO. 41-44.



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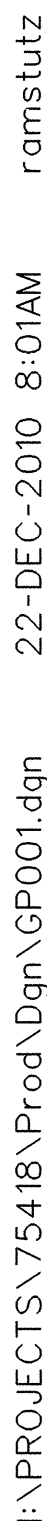


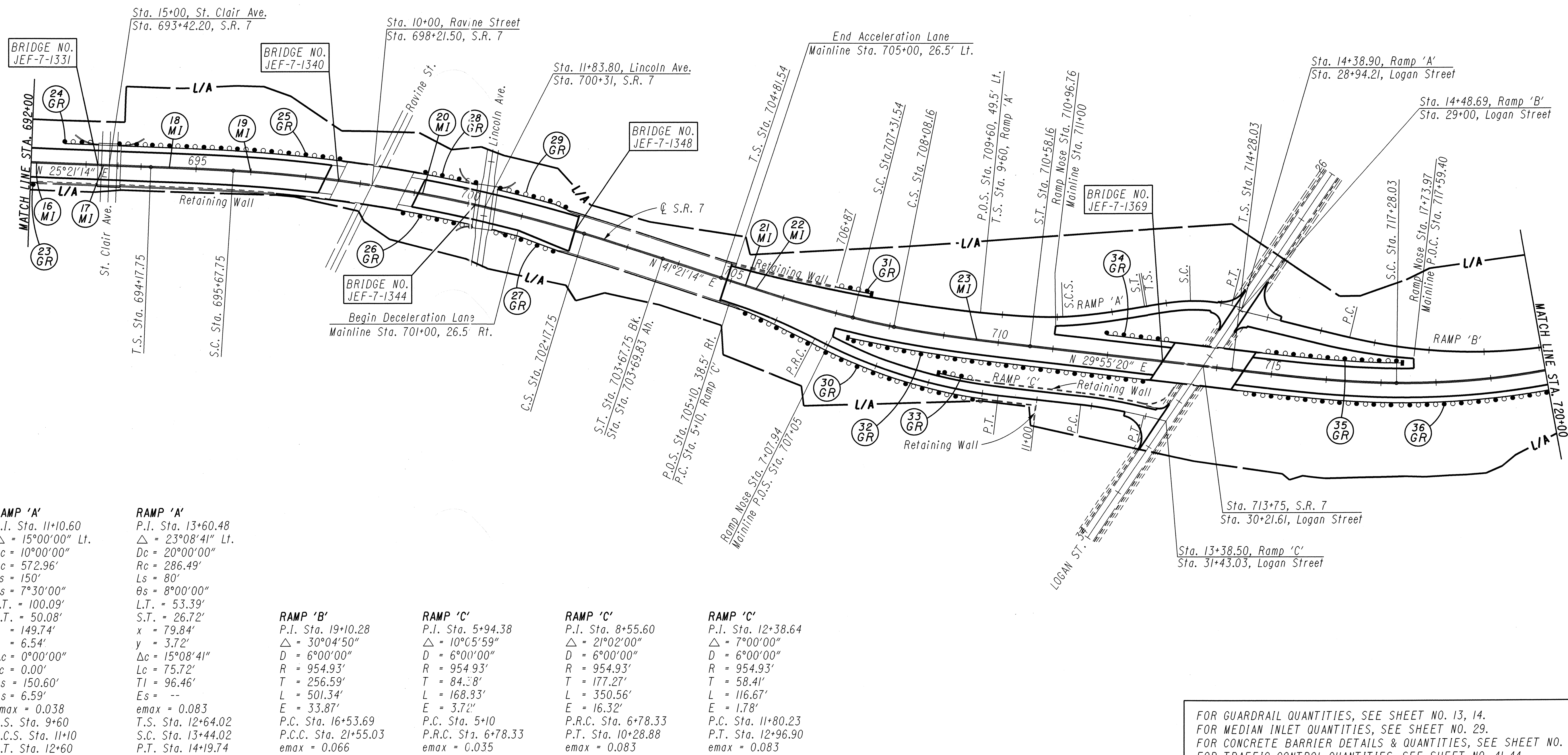
CALCULATED
RDA
CHECKED
TES

PLAN SHEET
STA. 652+00 TO STA. 664+00

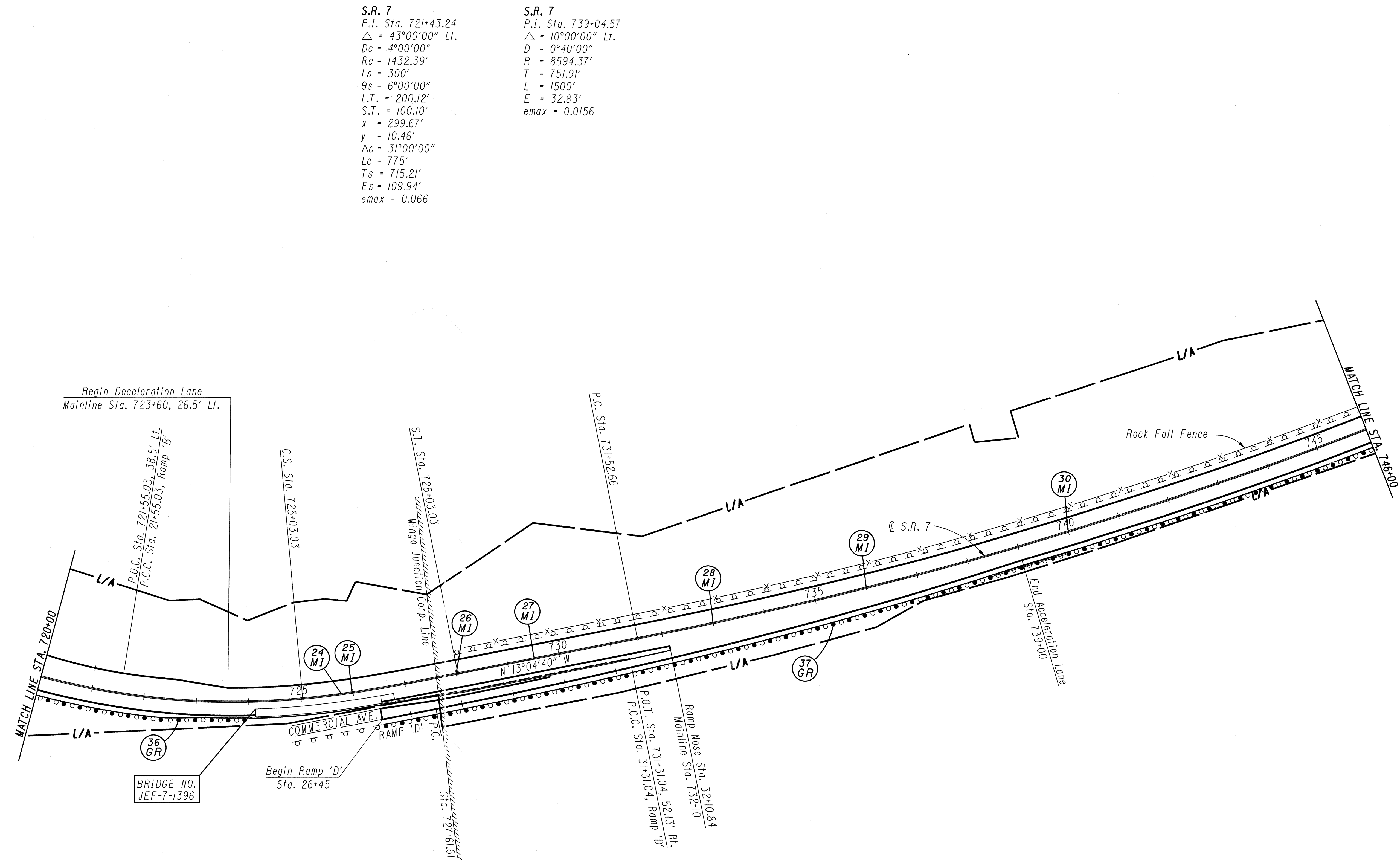
JEF-7-10.83

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FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 13, 14.
FOR MEDIAN INLET QUANTITIES, SEE SHEET NO. 29.
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S.R. 7
P.I. Sta. 721+43.24
 $\Delta = 43^{\circ}00'00''$ Lt.
Dc = $4^{\circ}00'00''$
Rc = 1432.39'
Ls = 300'
 $\theta_s = 6^{\circ}00'00''$
L.T. = 200.12'
S.T. = 100.10'
x = 299.67'
y = 10.46'
 $\Delta c = 31^{\circ}00'00''$
Lc = 775'
Ts = 715.21'
Es = 109.94'
emax = 0.066

S.R. 7
P.I. Sta. 739+04.57
 $\Delta = 10^{\circ}00'00''$ Lt.
D = $0^{\circ}40'00''$
R = 8594.37'
T = 751.91'
L = 1500'
E = 32.83'
emax = 0.0156

RAMP 'D'
P.I. Sta. 29+40.11
 $\Delta = 1^{\circ}54'33''$
D = $0^{\circ}30'00''$
R = 11,459.16'
T = 190.93'
L = 381.83'
E = 1.59'
P.C. Sta. 27+49.21
P.C.C. Sta. 31+31.04

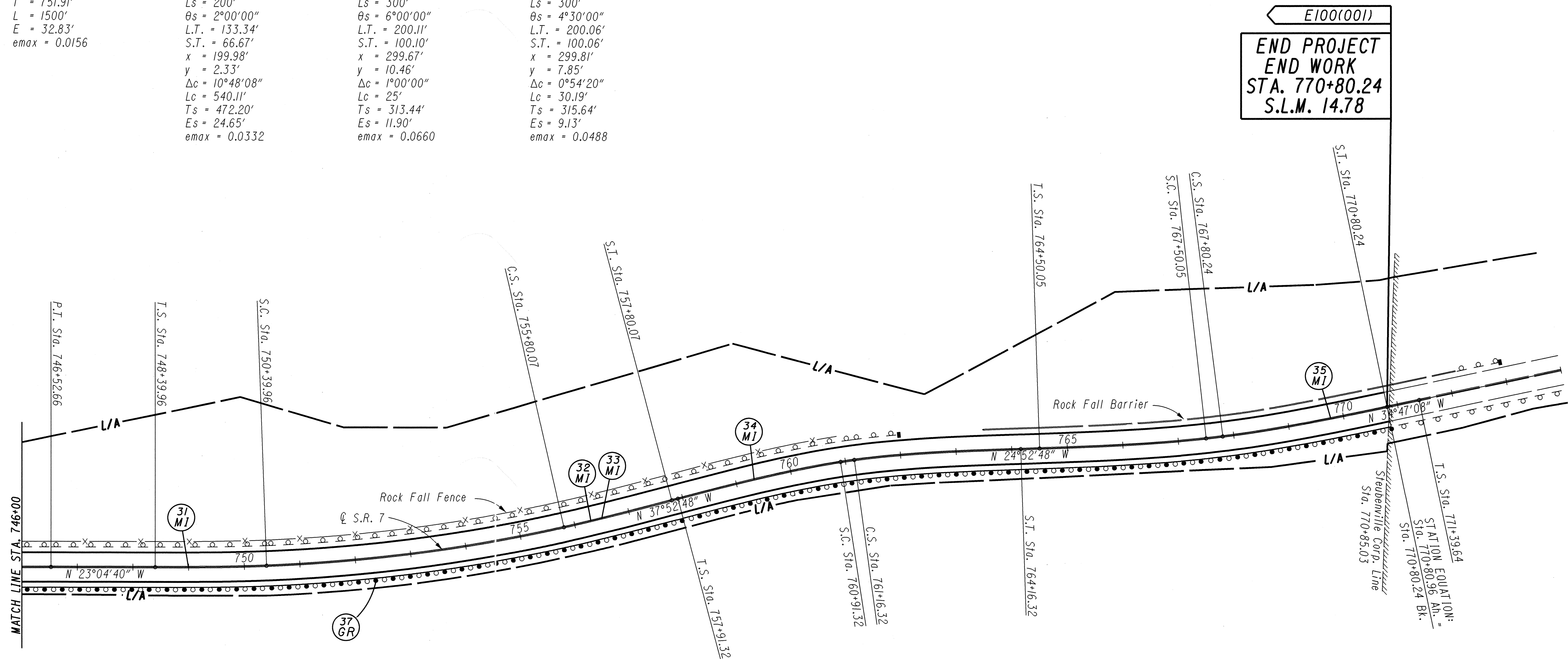
FOR GUARDRAIL QUANTITIES, SEE SHEET NO. 13, 14.
FOR MEDIAN INLET QUANTITIES, SEE SHEET NO. 29.
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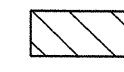
S.R. 7
P.I. Sta. 739+04.57
 $\Delta = 10^{\circ}00'00''$ Lt.
 $D = 0^{\circ}40'00''$
 $R = 8594.37'$
 $T = 751.91'$
 $L = 1500'$
 $E = 32.83'$
 $e_{max} = 0.0156$

S.R. 7
P.I. Sta. 753+12.16
 $\Delta = 14^{\circ}48'08''$ Lt.
 $Dc = 2^{\circ}00'00''$
 $Rc = 2864.79'$
 $Ls = 200'$
 $\theta s = 2^{\circ}00'00''$
 $L.T. = 133.34'$
 $S.T. = 66.67'$
 $x = 199.98'$
 $y = 2.33'$
 $\Delta c = 10^{\circ}48'08''$
 $Lc = 540.11'$
 $Ts = 472.20'$
 $Es = 24.65'$
 $e_{max} = 0.0332$

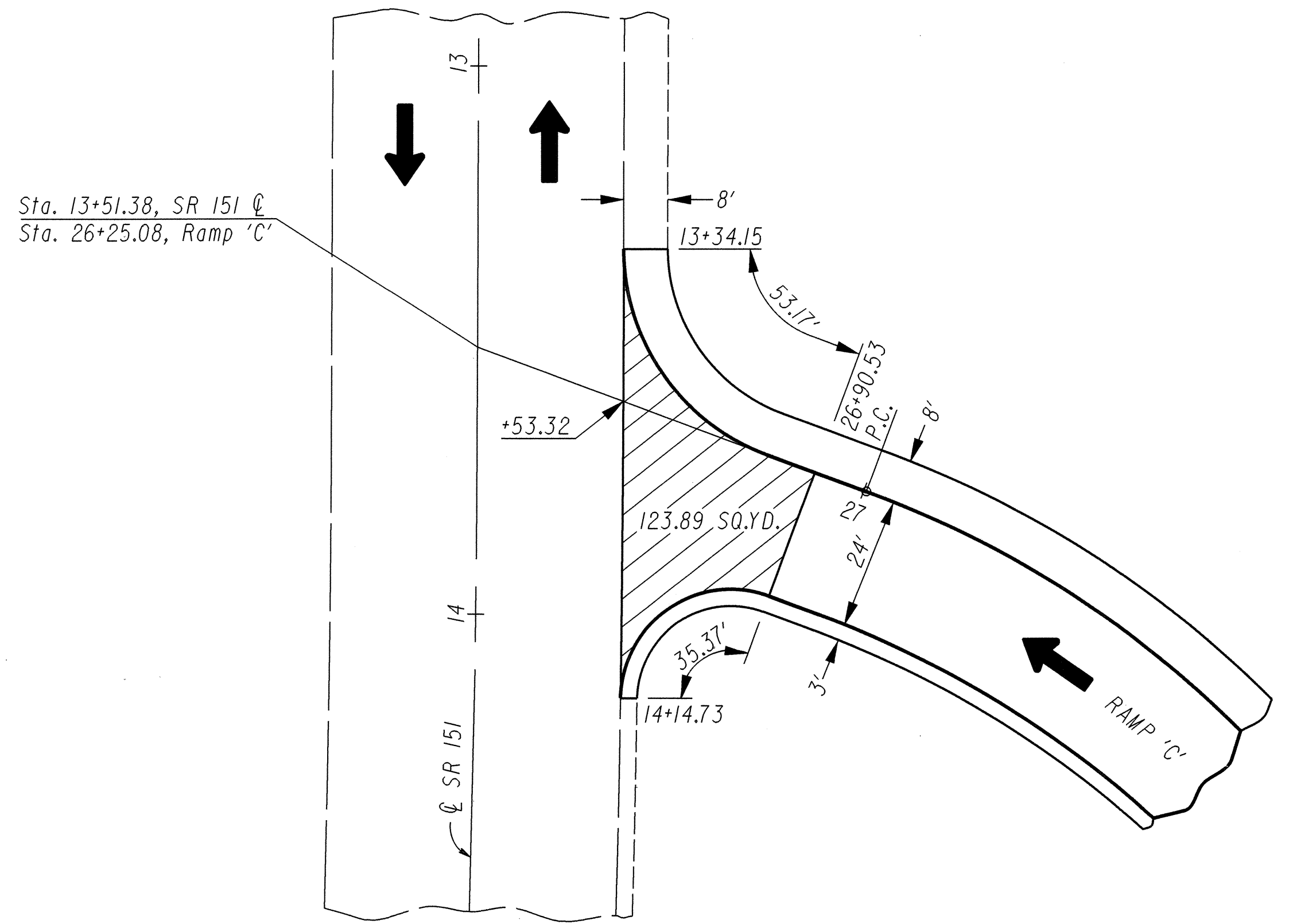
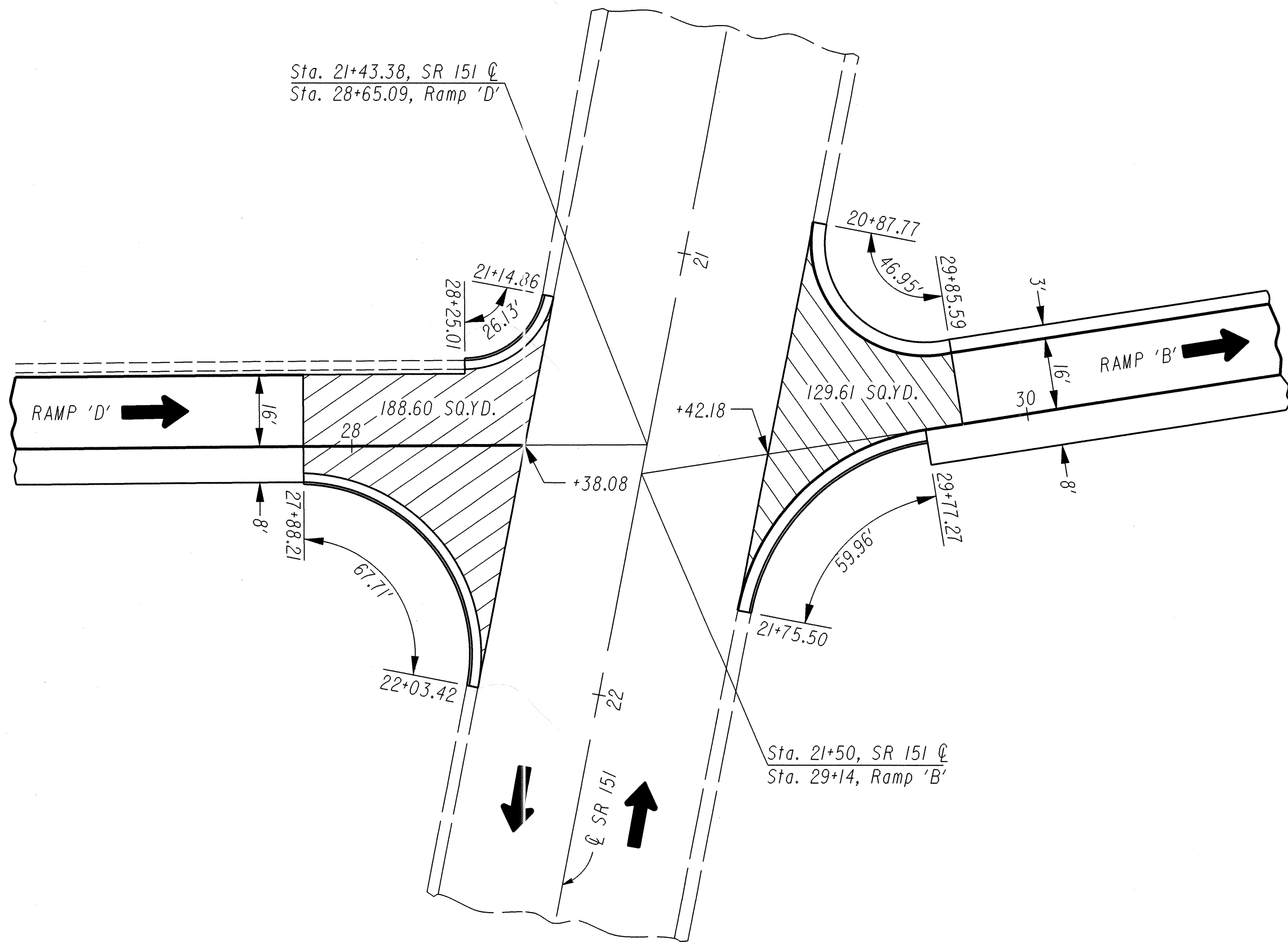
S.R. 7
P.I. Sta. 761+04.76
 $\Delta = 13^{\circ}00'00''$ Rt.
 $Dc = 4^{\circ}00'00''$
 $Rc = 1432.39'$
 $Ls = 300'$
 $\theta s = 6^{\circ}00'00''$
 $L.T. = 200.11'$
 $S.T. = 100.10'$
 $x = 299.67'$
 $y = 10.46'$
 $\Delta c = 1^{\circ}00'00''$
 $Lc = 25'$
 $Ts = 313.44'$
 $Es = 11.90'$
 $e_{max} = 0.0660$

S.R. 7
P.I. Sta. 767+65.69
 $\Delta = 9^{\circ}54'20''$ Lt.
 $Dc = 3^{\circ}00'00''$
 $Rc = 1909.86'$
 $Ls = 300'$
 $\theta s = 4^{\circ}30'00''$
 $L.T. = 200.06'$
 $S.T. = 100.06'$
 $x = 299.81'$
 $y = 7.85'$
 $\Delta c = 0^{\circ}54'20''$
 $Lc = 30.19'$
 $Ts = 315.64'$
 $Es = 9.13'$
 $e_{max} = 0.0488$



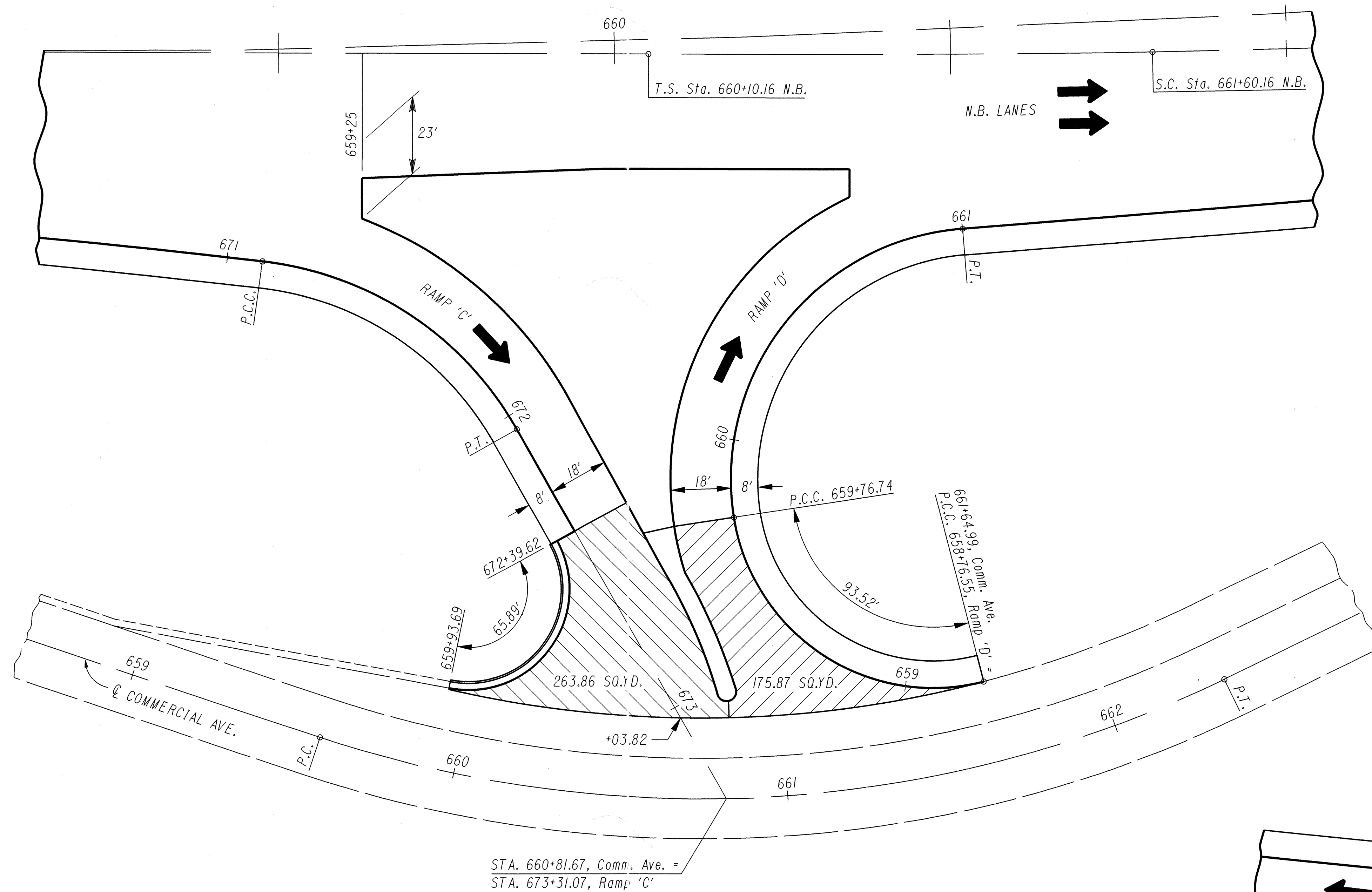
 CADD GENERATED AREAS USED IN RESURFACING CALCULATIONS

NOTE: RAMPS A, B & D HAVE FLARES WITH CONCRETE CURB AND GUTTERS, TYPE 2.



INTERSECTION DETAILS
S.R. 151 INTERCHANGE

JEF-7-10.83



CADD GENERATED AREAS USED
RESURFACING CALCULATIONS

RAMP 'C'
P.I. Sta. 668+97.10
 $\Delta = 6^\circ 24' 28''$ Rt.
D = 1°30'
R = 3819.71'
T = 213.81'
L = 427.18'
E = 5.98'
P.C. Sta. 666+83.29
P.C.C. Sta. 671+10.47

RAMP 'C'
P.I. Sta. 671+61.37
 $\Delta = 53^\circ 56' 52''$ Rt.
D = 57°17'45"
R = 100'
T = 50.90'
L = 94.16'
E = 12.21'
P.C.C. Sta. 671+10.47
P.T. Sta. 672+04.63

RAMP 'D'
P.I. Sta. 659+38.81
 $\Delta = 95^\circ 40' 41''$ Rt.
D = 95°29'35"
R = 60'
T = 62.26'
L = 100.19'
E = 29.39'
P.C.C. Sta. 658+76.55
P.C.C. Sta. 659+76.74

RAMP 'D'
P.I. Sta. 660+57.44
 $\Delta = 94^\circ 11' 31''$ Rt.
D = 76°23'40"
R = 75'
T = 80.70'
L = 123.30'
E = 35.17'
P.C.C. Sta. 659+76.74
P.T. Sta. 661+00.04

COMMERCIAL
P.I. Sta. 661+04.32
 $\Delta = 44^\circ 15' 00''$ Lt.
D = 16°00'00"
R = 358.10'
T = 145.59'
L = 276.56'
E = 28.46'
P.C. Sta. 659+58.73
P.T. Sta. 662+35.29

T.R. 167
P.I. Sta. 17+53.15
 $\Delta = 47^\circ 00' 00''$ Rt.
D = 12°00'
R = 477.47'
T = 207.61'
L = 391.67'
E = 43.18'
P.C. Sta. 15+45.54
P.T. Sta. 19+37.21

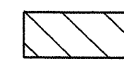
Sta. 54+94.57, Ramp 'A,B'
Sta. 16+95.54, Twp. Rd. 167

CALCULATED
RDA
CHECKED
TES

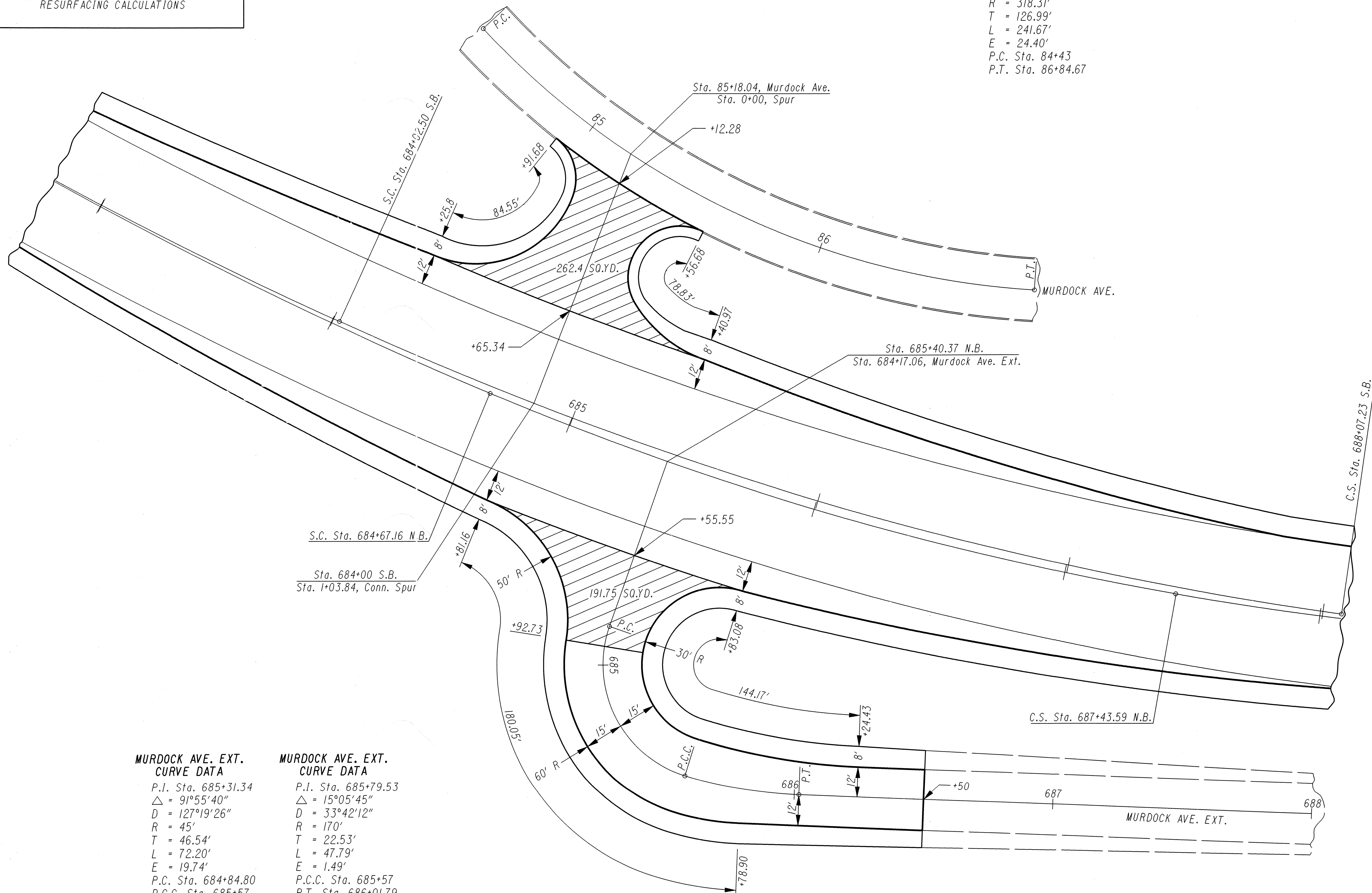
INTERSECTION DETAILS
COMMERCIAL AVENUE & T.R. 167 INTERCHANGE

JEF-7-10.83

24
44

 CADD GENERATED AREAS USED IN RESURFACING CALCULATIONS

**MURDOCK AVE.
CURVE DATA**
P.I. Sta. 85+69.99
 $\Delta = 43^\circ 30'$
 $D = 18^\circ$
 $R = 318.31'$
 $T = 126.99'$
 $L = 241.67'$
 $E = 24.40'$
P.C. Sta. 84+43
P.T. Sta. 86+84.67



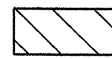
**MURDOCK AVE. EXT.
CURVE DATA**
P.I. Sta. 685+31.34
 $\Delta = 91^\circ 55' 40''$
 $D = 127^\circ 19' 26''$
 $R = 45'$
 $T = 46.54'$
 $L = 72.20'$
 $E = 19.74'$
P.C. Sta. 684+84.80
P.C.C. Sta. 685+57
 $e_{max} = 0.083$

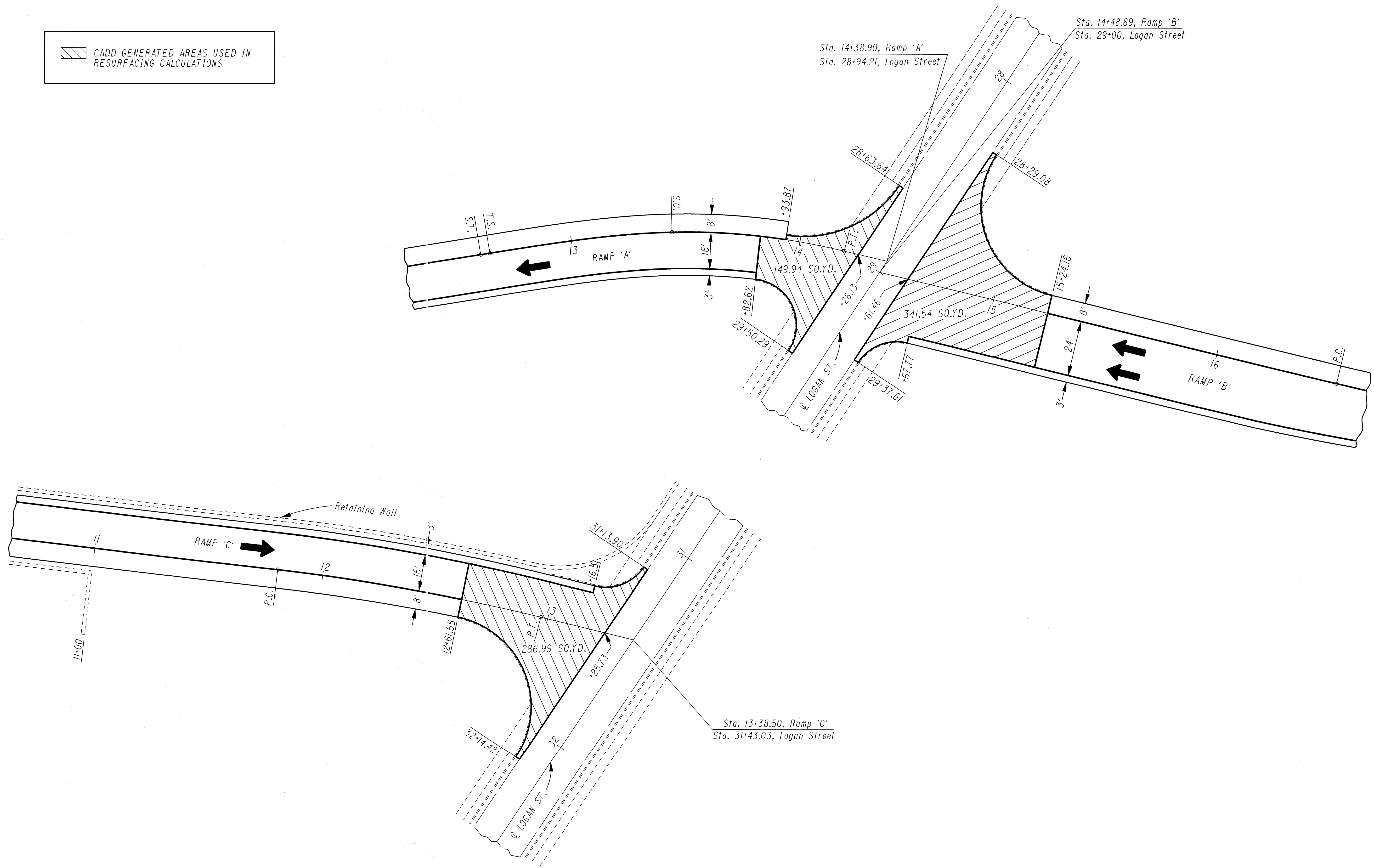
**MURDOCK AVE. EXT.
CURVE DATA**
P.I. Sta. 685+79.53
 $\Delta = 15^\circ 05' 45''$
 $D = 33^\circ 42' 12''$
 $R = 170'$
 $T = 22.53'$
 $L = 47.79'$
 $E = 1.49'$
P.C.C. Sta. 685+57
P.T. Sta. 686+01.79
 $e_{max} = 0.083$

**INTERSECTION DETAILS
MURDOCK AVENUE INTERSECTION**

JEF-7-10.83

CALCULATED
RDA
CHECKED
TES

 CADD GENERATED AREAS USED IN RESURFACING CALCULATIONS

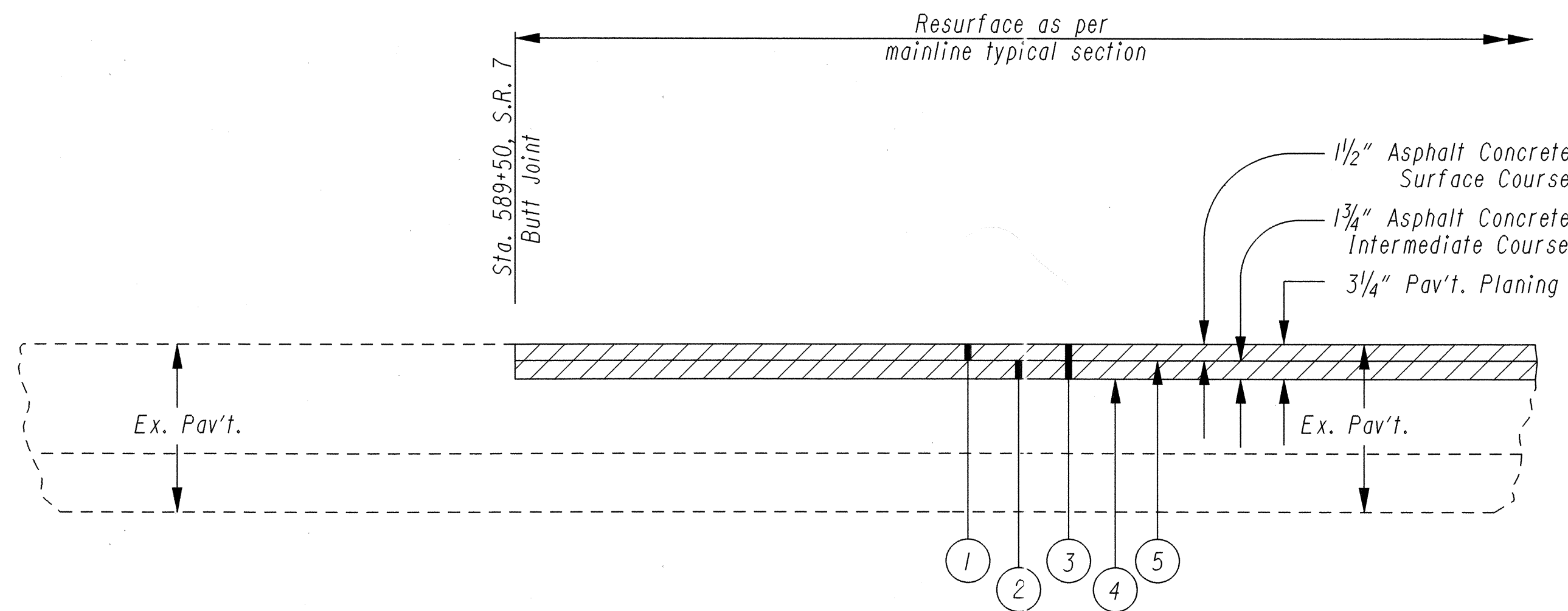


INTERSECTION DETAILS
 LOGAN STREET INTERCHANGE

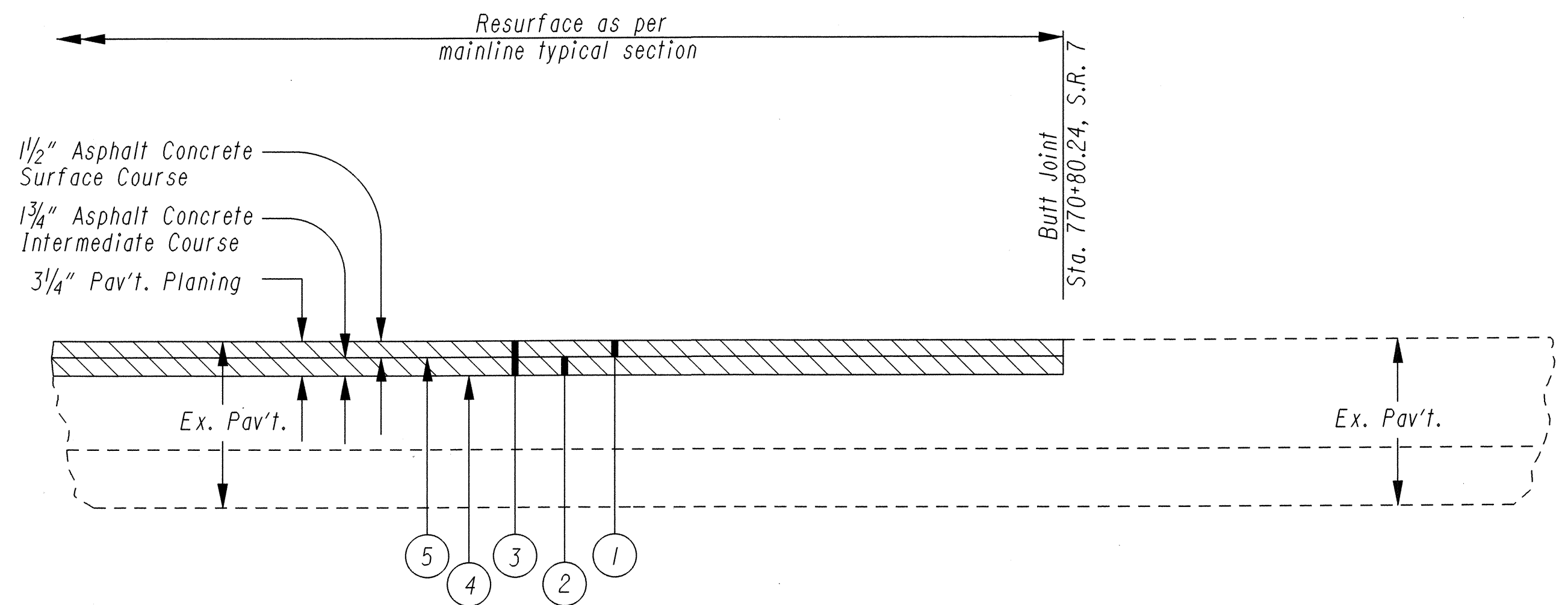
JEF-7-10.83

CALCULATED
 RDA
 CHECKED
 TES

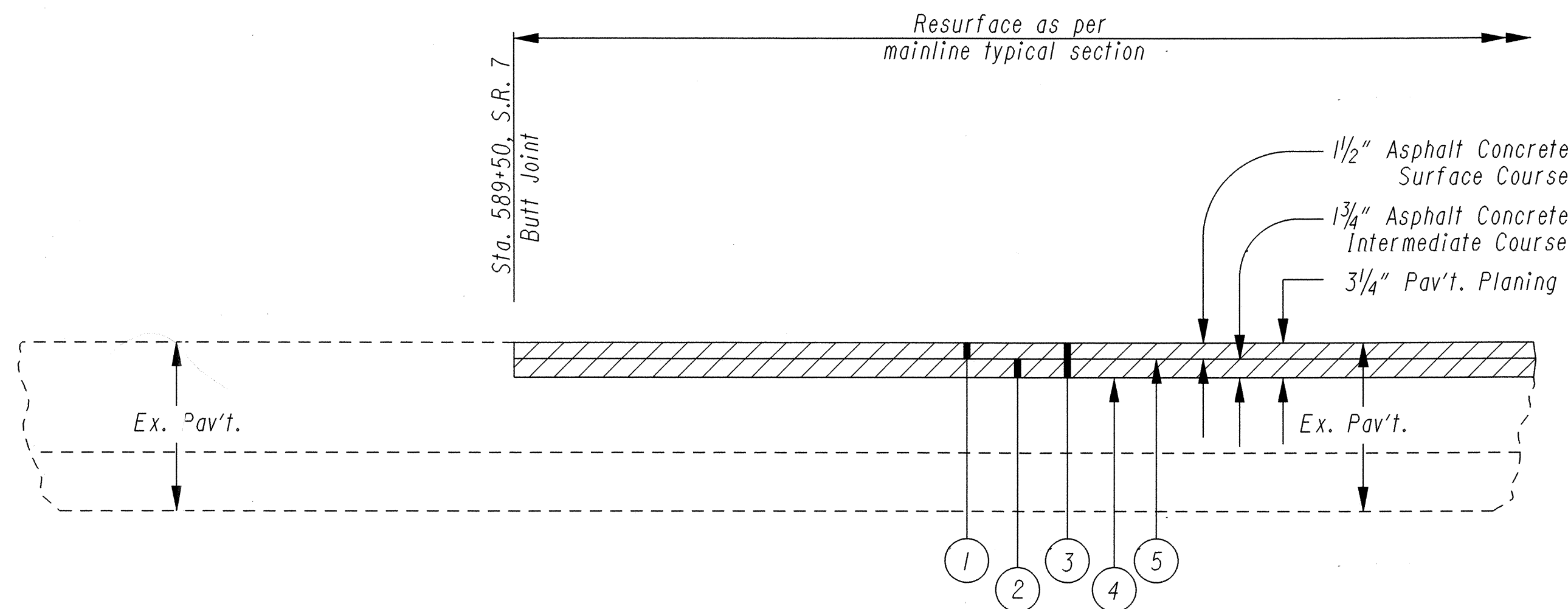
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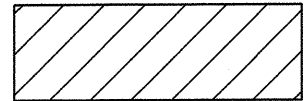
PAVEMENT TRANSITION AT BEGIN PROJECT

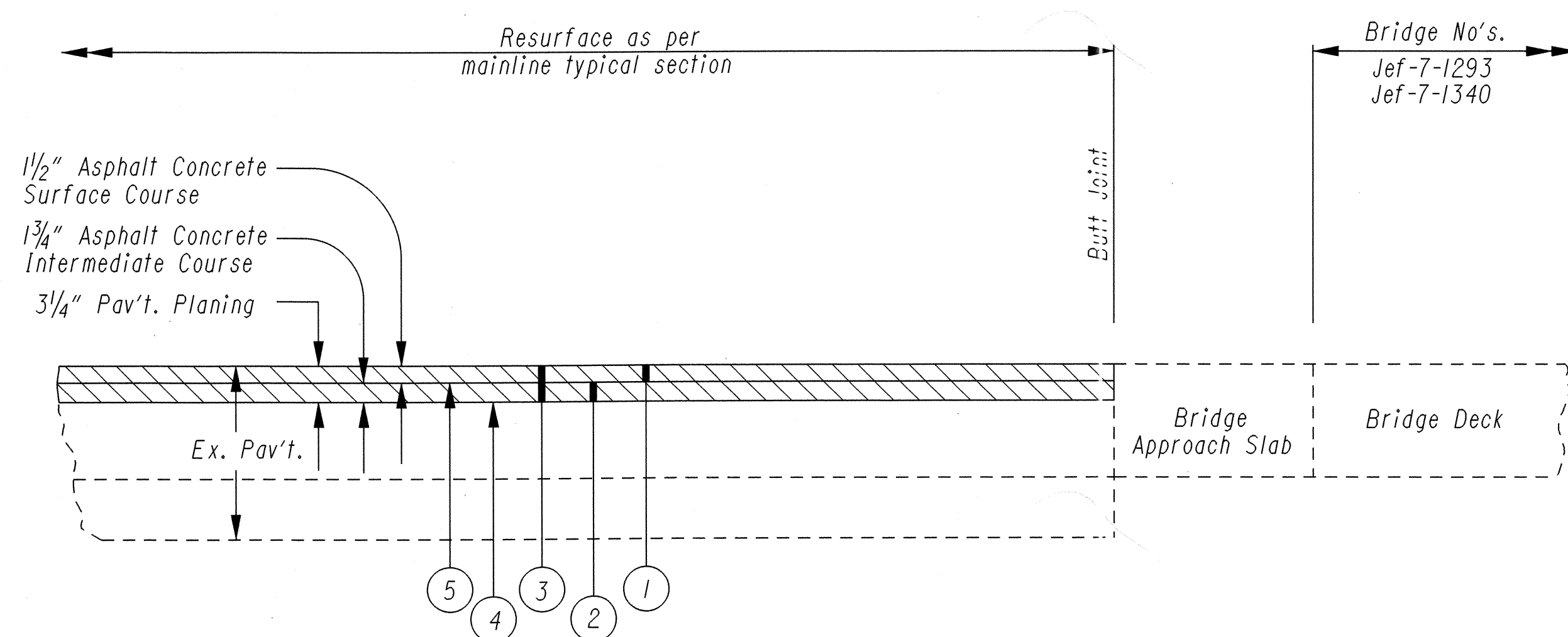


PAVEMENT TRANSITION AT END PROJECT

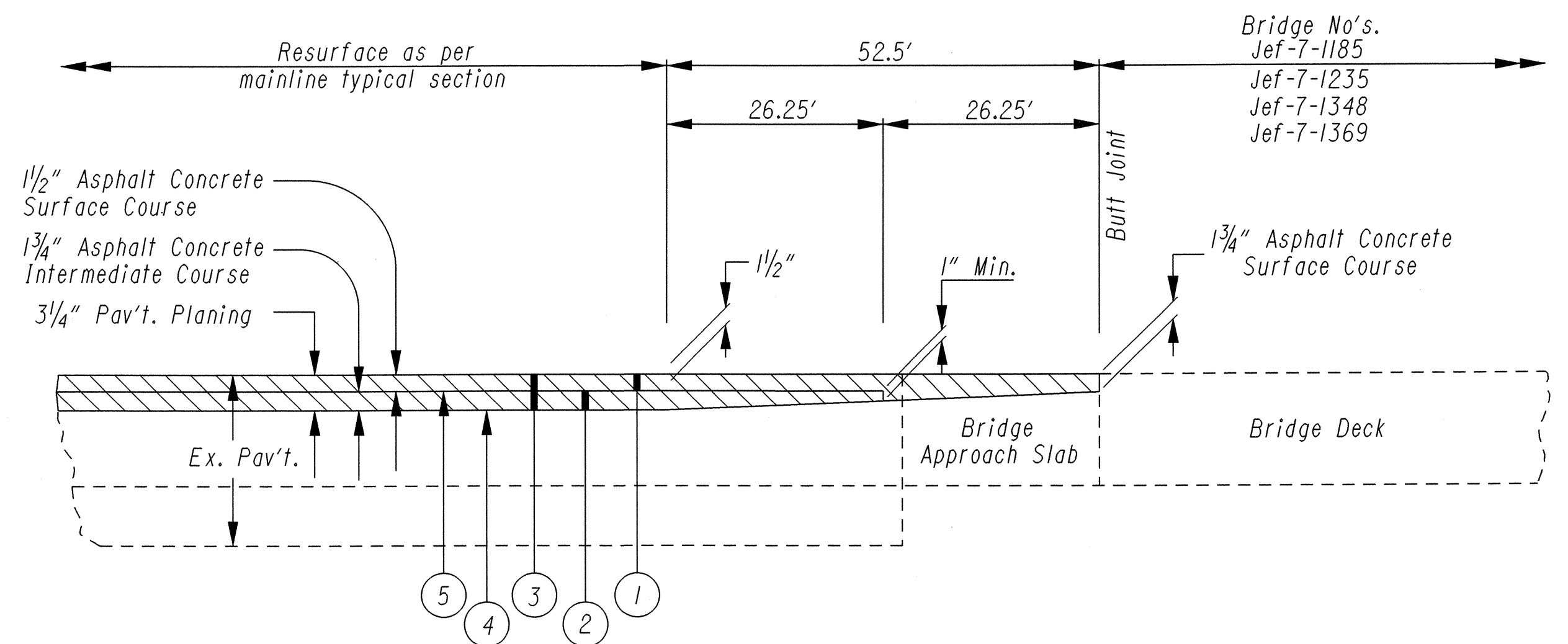


PAVEMENT TRANSITION AT RAMPS

 Pavement Planing
For Legend See Sheet No. 4

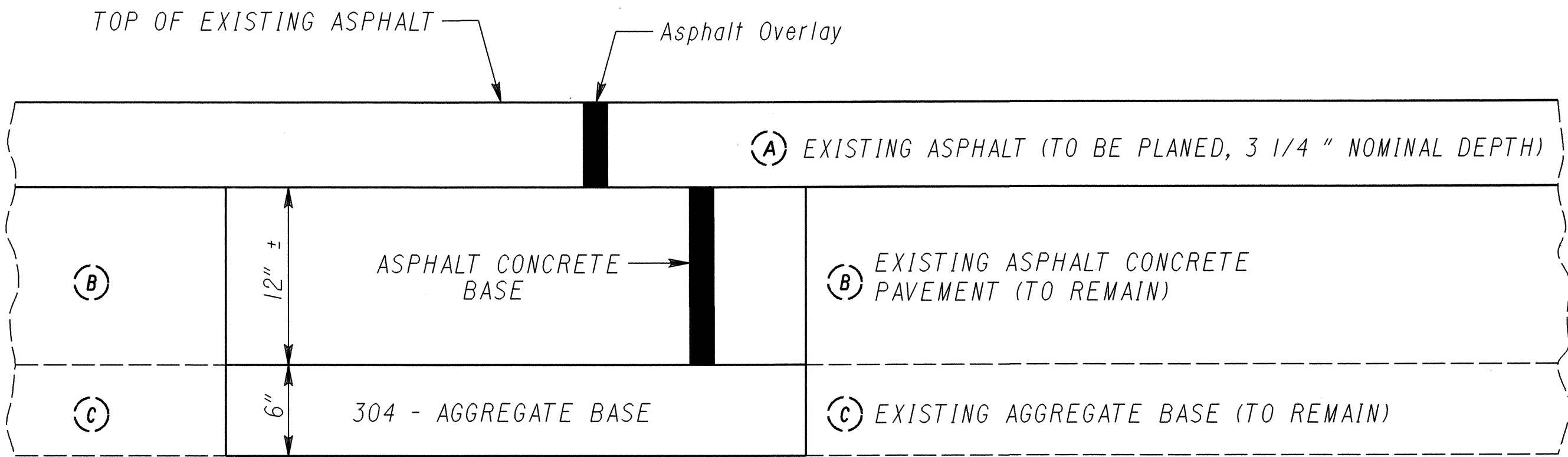


PAVEMENT TRANSITION AT STRUCTURES



PAVEMENT TRANSITION AT STRUCTURES

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FULL DEPTH REPAIR TYPICAL
MAINLINE & SHOULDERS

ITEM 253 - PAVEMENT REPAIR

This item shall be used for the repair of the existing pavement and shall meet the requirements of Item 253, Pavement Repair, and the above typical section.

The estimated quantities are to be considered approximate. A final field review will be performed by ODOT prior to construction and final locations will be given to the Contractor prior to construction.

This work consists of removing the existing asphalt concrete and the aggregate base courses; shaping and compacting the exposed material; placing 304 Aggregate Base; followed by 302 Asphalt Concrete Base.

The following estimated quantities have been provided for information only.

302 - Asphalt Concrete Base	2547 Cu. Yd.
304 - Aggregate Base	1274 Cu. Yd.

The following estimated quantity has been carried to the General Summary to be used as directed by the Engineer. Final payment for this item shall be for the accepted quantity completed in place.

Item 253 - Pavement Repair	7642 Sq. Yd.
----------------------------	--------------

ITEM 605 - AGGREGATE DRAINS

This item shall be used to construct aggregate drains and shall meet the requirements of Item 605, Aggregate Drains.

The following estimated quantity has been carried to the General Summary to be used as directed by the Engineer. Final payment for these items shall be for the accepted quantity completed in place.

Item 605 - Aggregate Drains	200 Ft.
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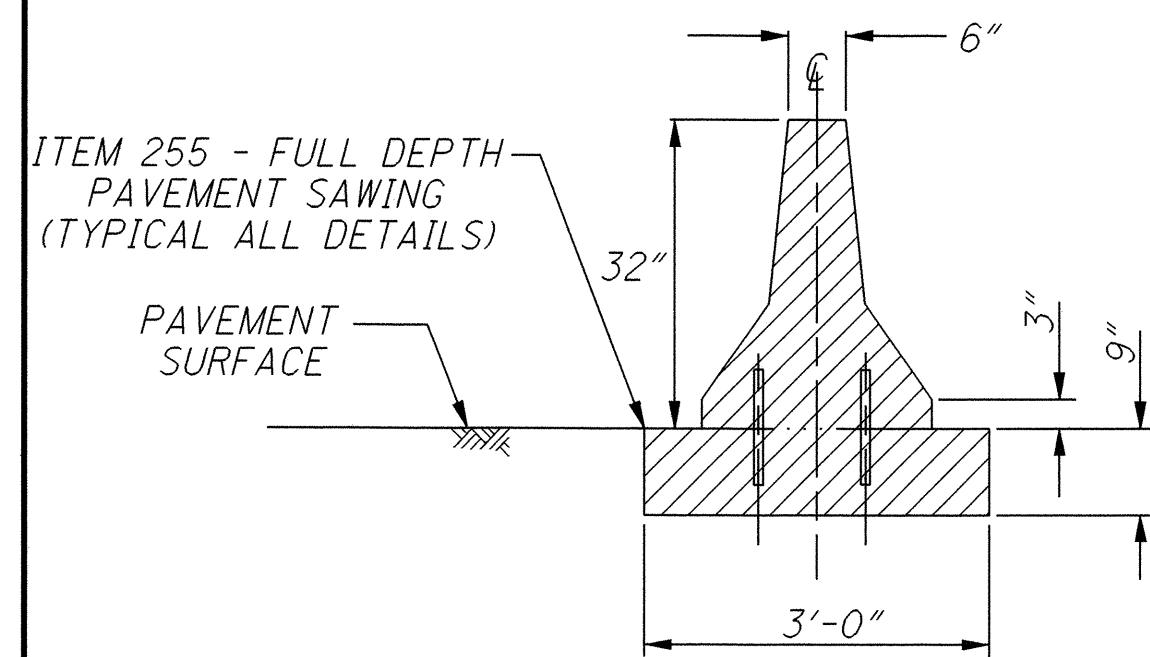
REF. NO.	PLAN SHEET NO.	STATION		SIDE	202		604			202		622					COMMENTS	SEE SHEET NO.	CALCULATED	SAL	CHECKED	RMA
					INLET REMOVED, AS PER PLAN	CATCH BASIN ADJUSTED TO GRADE	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE C	INLET, NO. 3 FOR SINGLE SLOPE BARRIER, TYPE D	INLET, NO. 4 FOR SINGLE SLOPE BARRIER, TYPE B	MANHOLE ADJUSTED TO GRADE	DRAINAGE STRUCTURE MISC. INLET CLEANOUT	CONCRETE BARRIER REMOVED	CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN	CONCRETE BARRIER, SINGLE SLOPE, TYPE C, AS PER PLAN	CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN	BARRIER TRANSITION						
		FROM	TO		EACH	EACH	EACH	EACH	EACH	EACH	EACH	FT	FT	FT	FT	EACH						
	15	590+25	590+45	℄								20.00			1			Transition from 32" barrier to 42" barrier	33			
	15	590+45	595+00 BK	℄								455.00	435.00			1						
	15-16	578+97.05 AH	622+85	℄								4207.95	4207.95									
	16-17	622+85	627+88.23	℄								403.23	403.23									
	17	627+88.23	628+13.23	℄								25.00	10.00				1	Transition from 42" barrier to 34" barrier across Approach Slab Bridge No. JEF-7-1185	32			
	17	629+92.91	630+17.91	℄								25.00	10.00				1	Transition from 34" barrier to 42" barrier across Approach Slab Bridge No. JEF-7-1185	32			
	17-18	630+17.91	654+07.75	℄								2349.84	2349.84									
	18	654+07.75	654+32.75	℄								25.00	10.00				1	Transition from 42" barrier to 34" barrier across Approach Slab Bridge No. JEF-7-1235	32			
	18	655+67.25	655+92.25	℄								25.00	10.00				1	Transition from 34" barrier to 42" barrier across Approach Slab Bridge No. JEF-7-1235	32			
	18	655+92.25	669+53.15 BK	℄								1360.90	1360.90									
	18	657+38.94 AH	657+50.84	℄								11.90	11.90									
	18	657+50.84	659+36.20	℄								185.36	185.36					Transition from Type B Barrier to Type D Barrier. See Detail 13 on Barrier Detail Sheets	31			
	18-19	659+36.20	667+87.40 NB	℄								1642.40			1642.40			Type D Barrier and 4" Slab. See Detail 13 on Barrier Detail Sheets	31			
	19	667+87.40 NB	670+07.79 NB	℄								220.39	220.39					Transition from Type D Barrier to Type B Barrier. See Detail 13 on Barrier Detail Sheets	31			
	19	670+07.79	672+96.71	℄								288.92	288.92									
	19	672+96.71	673+21.71	℄								25.00	10.00				1	Transition from 42" barrier to 36" barrier across Approach Slab Bridge No. JEF-7-1293	32			
	19	681+55.42	681+80.42	℄								25.00	10.00				1	Transition from 36" barrier to 42" barrier across Approach Slab Bridge No. JEF-7-1293	32			
	19	681+80.42	691+08.27 BK	℄								887.85	887.85									
	19	691+07.89 AH	691+50	℄								42.11	42.11									
	19-20	691+50	696+00	℄								370.00			370.00			Type C Barrier				
	20	696+00	697+35.40	℄								135.40	135.40									
	20	697+35.40	697+60.40	℄								25.00	10.00				1	Transition from 42" barrier to 32" barrier across Approach Slab Bridge No. JEF-7-1340	32			
	20	698+82.22	699+07.22	℄								25.00	10.00				1	Transition from 32" barrier to 42" barrier across Approach Slab Bridge No. JEF-7-1340	32			
	20	699+07.22	701+75.00	℄								247.78			247.78			Type C Barrier				
	20	701+75.00	702+00.00	℄								25.00	10.00				1	Transition from 42" barrier to 34" barrier across Approach Slab Bridge No. JEF-7-1348	32			
	20	704+92.60	705+17.60	℄								25.00	10.00				1	Transition from 34" barrier to 42" barrier across Approach Slab Bridge No. JEF-7-1348	32			
	20	705+17.60	712+75.97	℄								698.37	698.37									
	20	712+75.97	713+00.97	℄								25.00	10.00				1	Transition from 42" barrier to 34" barrier across Approach Slab Bridge No. JEF-7-1369	32			
	20	714+49.03	714+74.03	℄								25.00	10.00				1	Transition from 34" barrier to 42" barrier across Approach Slab Bridge No. JEF-7-1369	32			
	20-21	714+74.03	722+50.25	℄								776.22	776.22									
	21	722+50.25	728+38.25	℄								528.00			528.00			Type C Barrier				
	21-22	728+38.25	770+60.24	℄								4041.99	4021.99				1					
	22	770+60.24	770+80.24	℄								20.00				1		Transition from 42" barrier to 32" barrier	33			
1-MI	15	581+70		℄	1				1		1											
2-MI	15	585+00		℄	1				1		1											
3-MI	15	591+25		℄	1				1		1											
4-MI	15	594+00		℄	1				1		1											
5-MI	15	597+25		℄	1				1		1											
6-MI	16	600+65		℄	1				1		1											
7-MI	16	607+25		℄	1				1		1											
8-MI	16	610+17		℄	1				1		1											
9-MI	16	612+25		℄	1				1		1											
10-MI	17	630+25		℄	1	1			1		1											
11-MI	17	636+00		℄	1	1			1		1											
12-MI	18	662+53	℄NB	1	1		1				1											
		662+53	℄SB	1	1		1				1											
13-MI	19	667+20		℄	1	1			1		1											
14-MI	19	682+05		℄	1	1			1		1											
15-MI	19	685+00		℄	1	1			1		1											
16-MI	20	692+10		℄	1		1			1	1											
17-MI	20	693+32		℄	1	1	1				1											
18-MI	20	694+51.50		℄	1	1	1				1											
19-MI	20	695+99.50		℄	1	1	1				1											
20-MI	20	699+15		℄	1	1	1				1											
21-MI	20	705+28		℄	1	1			1		1											
22-MI	20	705+48		℄	1	1			1		1											
23-MI	20	709+60.70		℄	1	1			1		1											
24-MI	21	725+78		℄	1	1	1				1											
25-MI	21	725+98		℄	1	1	1				1											
26-MI	21	728+00		℄	1	1	1				1											
27-MI	21	729+52		℄	1	1			1		1											
28-MI	21	733+00		℄	1	1			1		1											
29-MI	21	736+00		℄	1	1			1		1											
30-MI	21	740+00		℄	1	1			1		1											
31-MI	22	749+00		℄	1	1			1		1											
32-MI	22	756+30		℄	1	1			1													

BARRIER QUANTITIES

JEF - 7 - 10.83

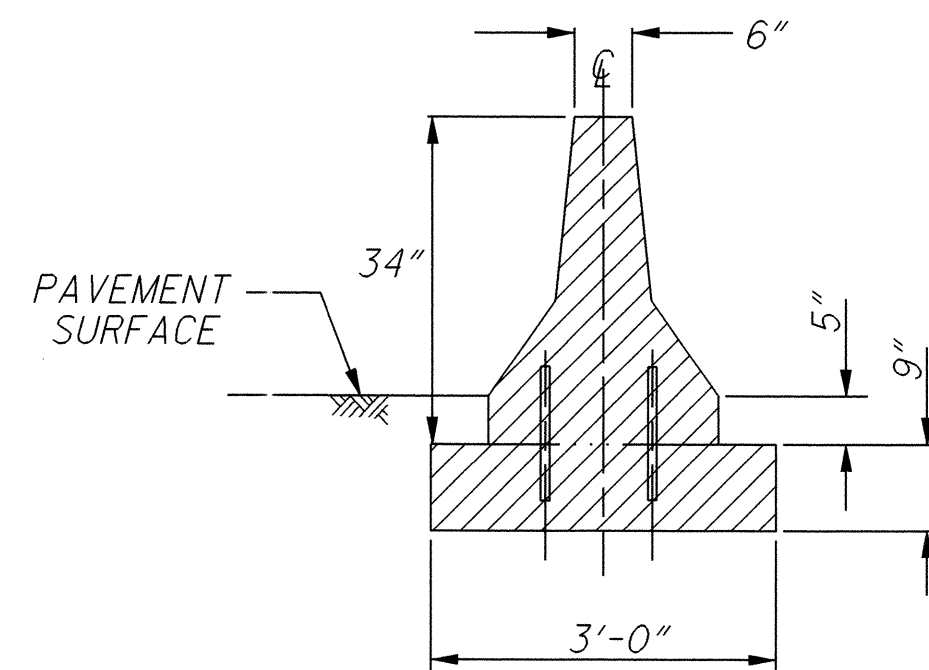
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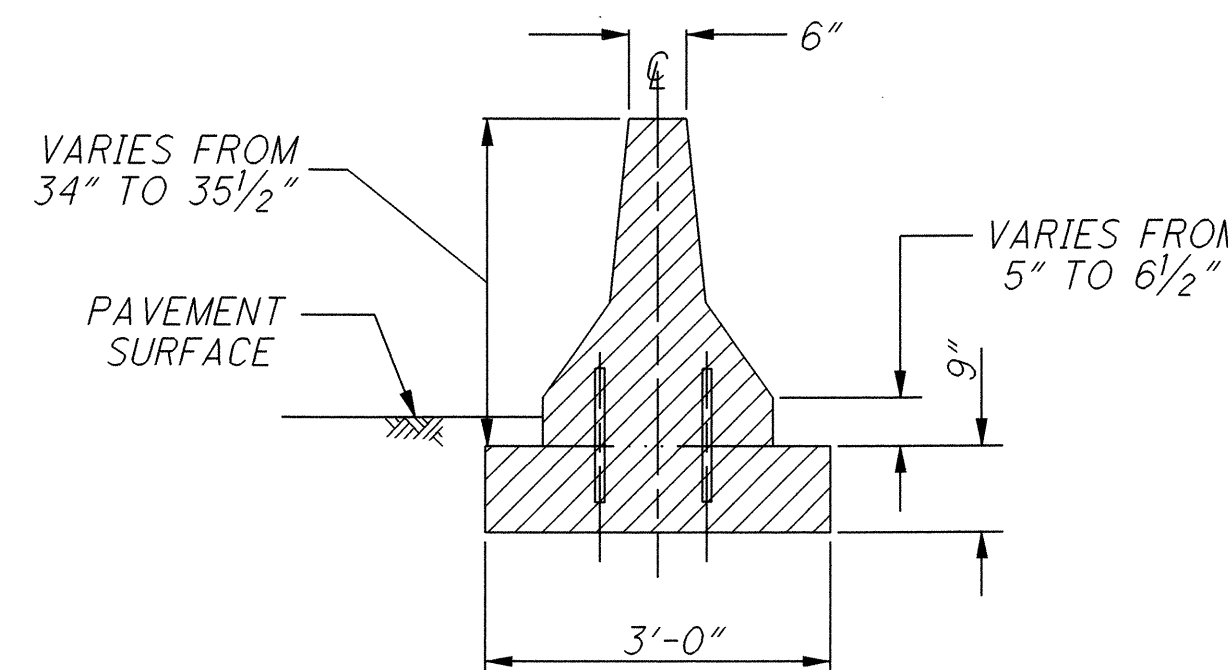
DETAIL 1

STA. 590+25 TO STA. 595+00 BACK
(STA. 595+00 BACK = STA. 578+97.05 AHEAD)
STA. 578+97.05 AHEAD TO STA. 622+85



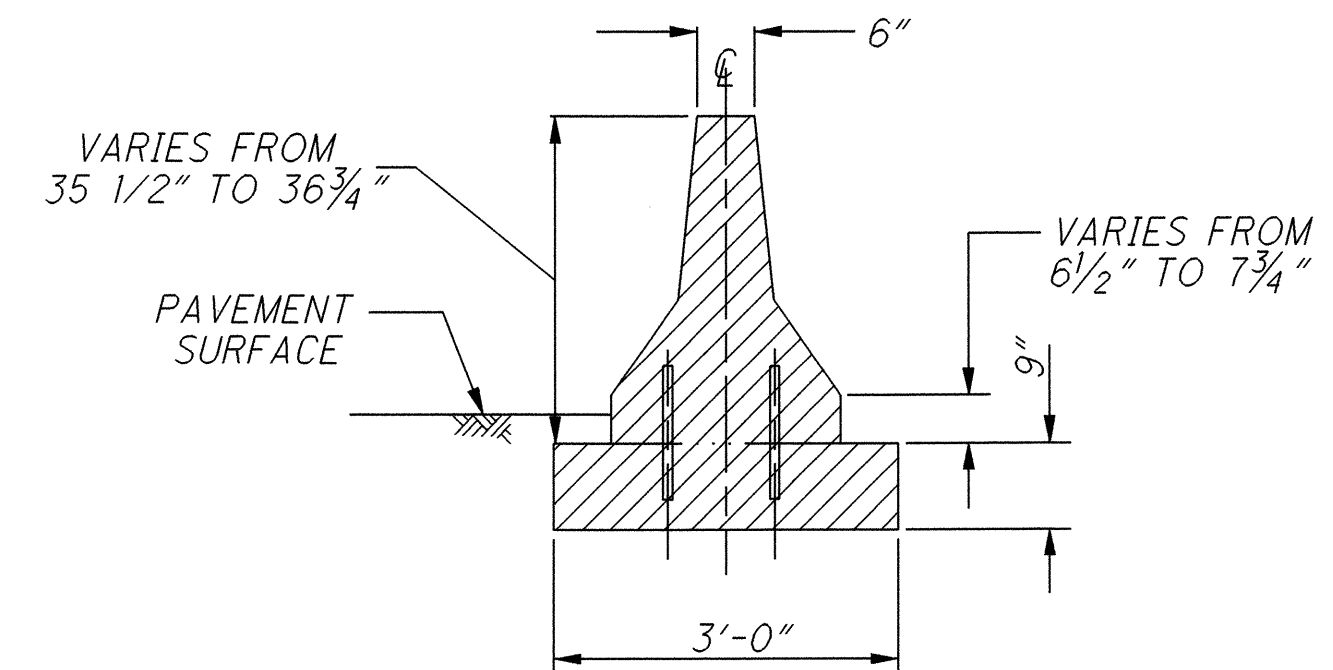
DETAIL 2

STA. 622+85 TO STA. 627+88.23
STA. 630+17.91 TO STA. 654+07.75
STA. 655+92.25 TO STA. 669+53.15 BACK
(STA. 669+53.15 BACK = STA. 657+38.94 AHEAD)
STA. 657+38.94 AHEAD TO STA. 672+96.71



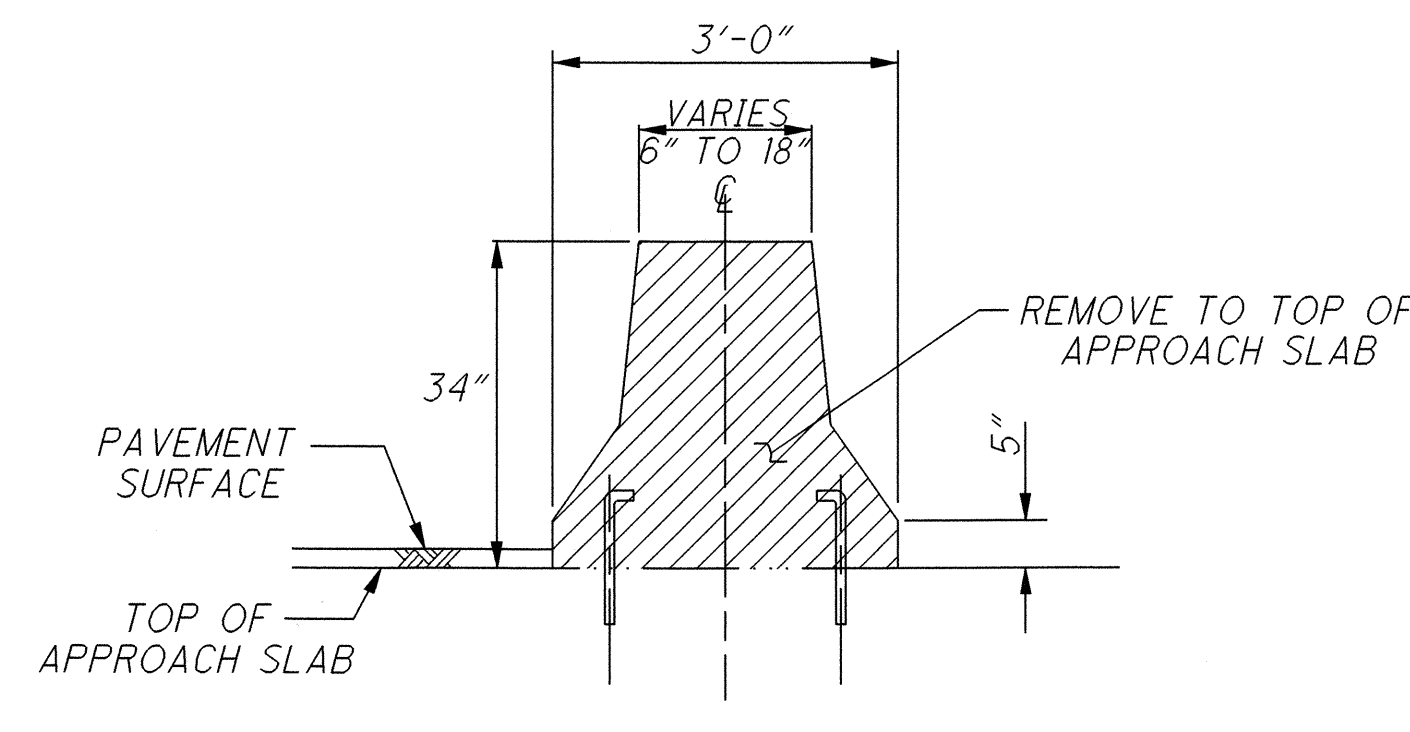
DETAIL 3

STA. 681+80.42 TO STA. 691+08.27 BACK
(STA. 691+08.27 BACK = STA. 691+07.89 AHEAD)



DETAIL 4

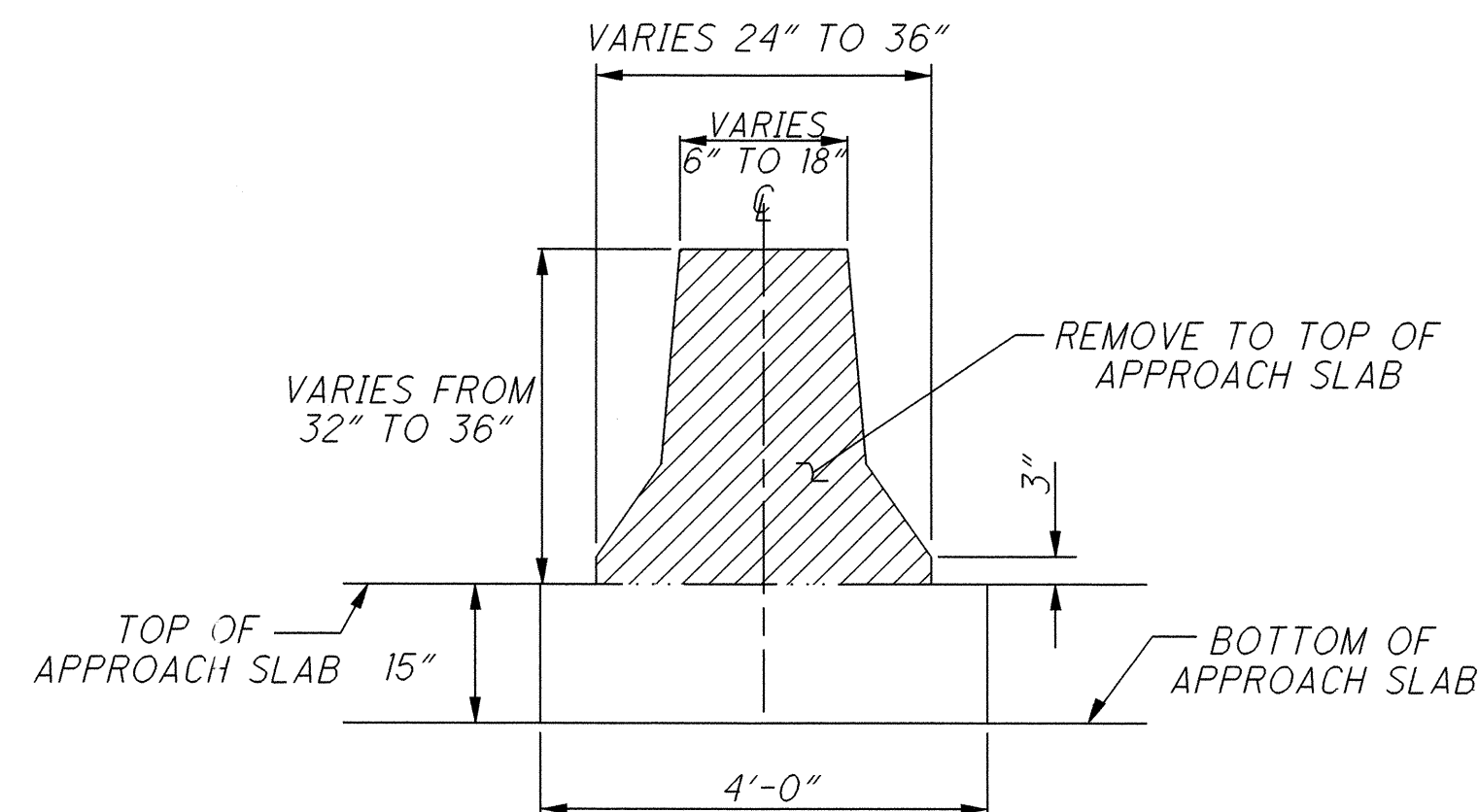
(STA. 691+08.27 BACK = STA. 691+07.89 AHEAD)
STA. 691+07.89 AHEAD TO STA. 691+50
STA. 696+00 TO STA. 697+35.40
STA. 705+17.60 TO STA. 712+75.97
STA. 714+74.03 TO STA. 722+50.25
STA. 728+38.25 TO STA. 770+80.24



DETAIL 5

VARIES FROM 6" AT BEGINNING OF THE APPROACH SLAB TO 18" AT THE END OF THE APPROACH SLAB.

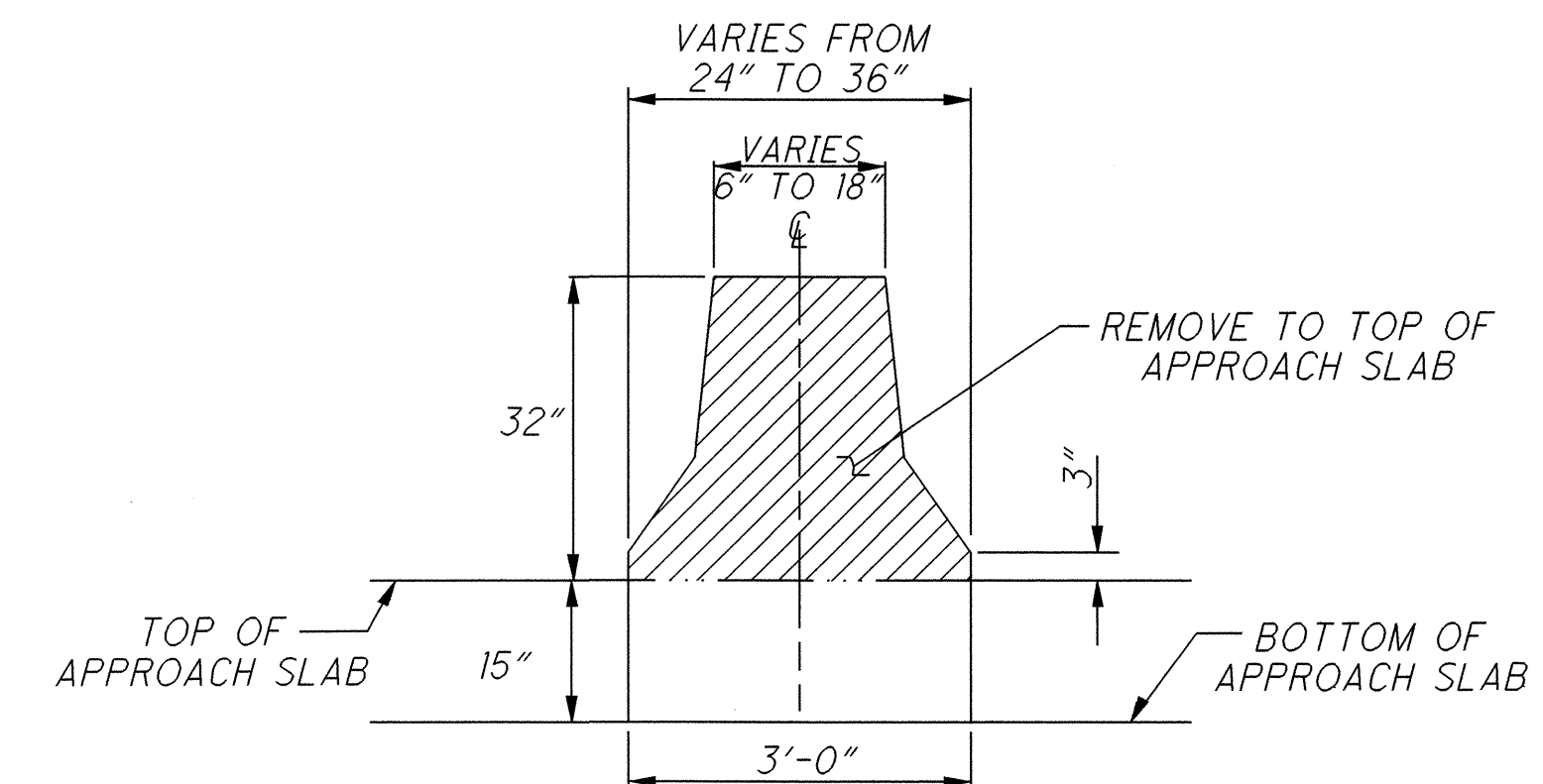
DETAIL 5 APPLIES TO APPROACH SLABS FOR
BRIDGE NO. JEF-7-1185
STA. 627+88.23 TO STA. 628+13.23
STA. 629+92.91 TO STA. 630+17.91
BRIDGE NO. JEF-7-1235
STA. 654+07.75 TO STA. 654+32.75
STA. 655+67.25 TO STA. 655+92.25



DETAIL 6

TOP OF BARRIER VARIES FROM 6" AT BEGINNING OF THE APPROACH SLAB TO 18" AT THE END OF THE APPROACH SLAB.

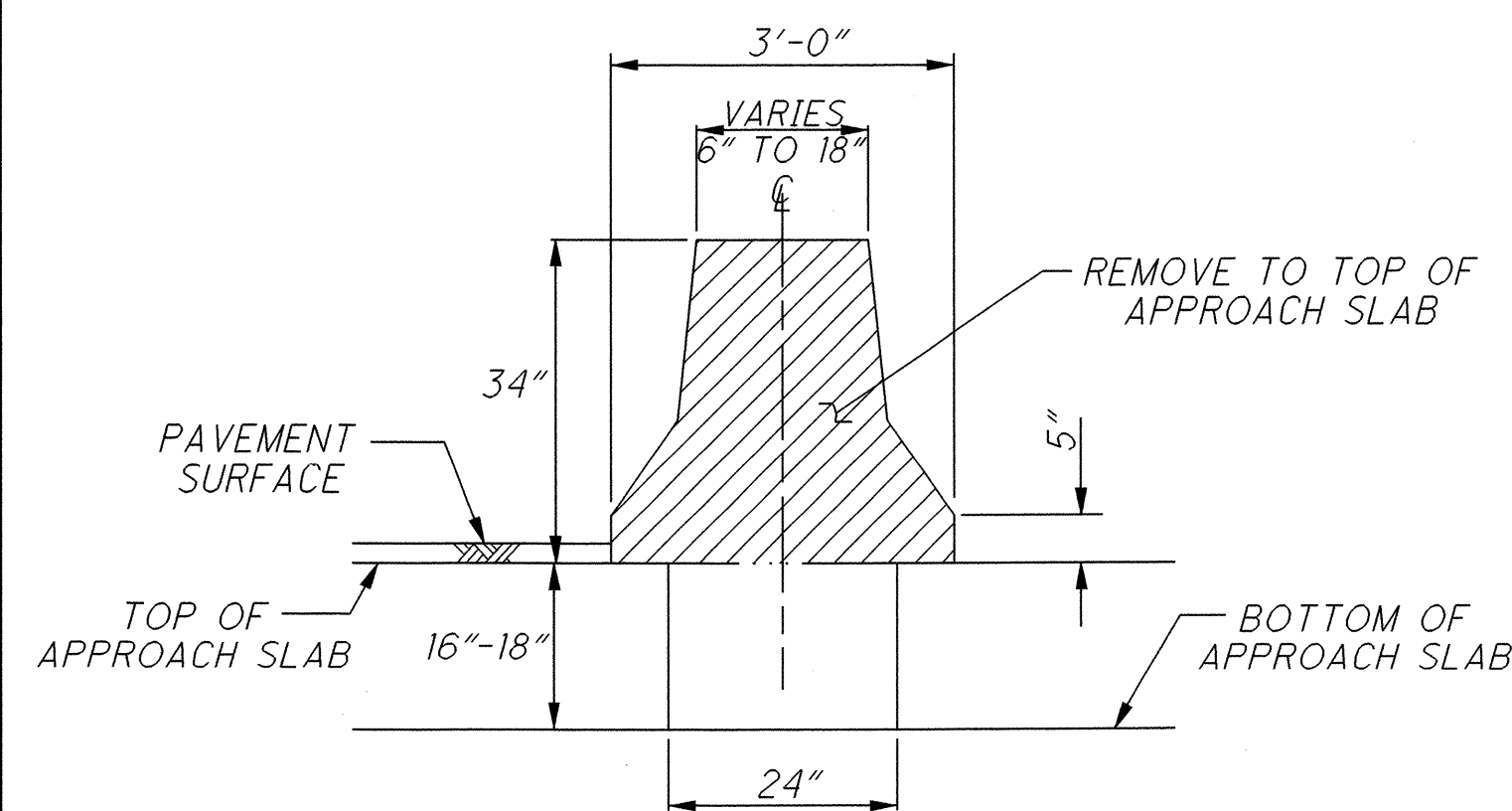
DETAIL 6 APPLIES TO APPROACH SLABS FOR
BRIDGE NO. JEF-7-1293
STA. 672+96.71 TO STA. 673+21.71
STA. 681+55.42 TO STA. 681+80.42



DETAIL 7

VARIES FROM 6" AT BEGINNING OF THE APPROACH SLAB TO 18" AT THE END OF THE APPROACH SLAB.

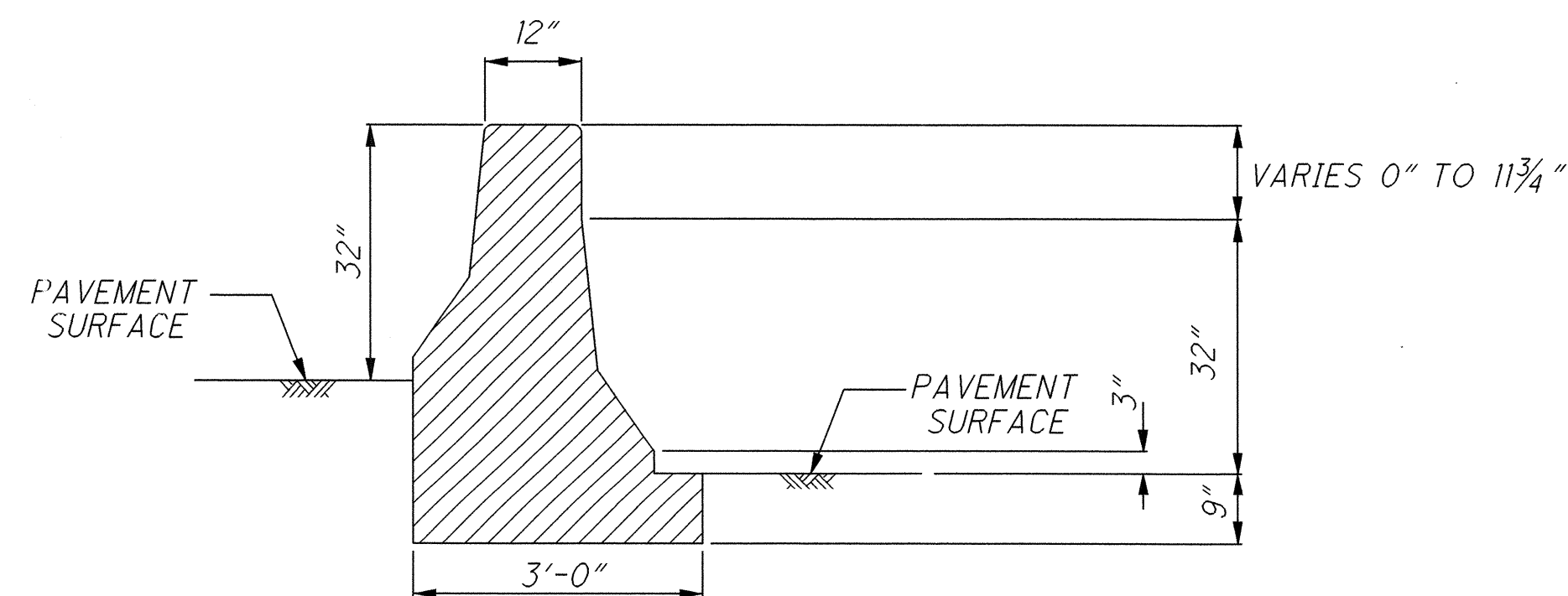
DETAIL 7 APPLIES TO APPROACH SLABS FOR
BRIDGE NO. JEF-7-1340
STA. 697+35.40 TO STA. 697+60.40
STA. 698+82.22 TO STA. 699+07.22



DETAIL 8

VARIES FROM 6" AT BEGINNING OF THE APPROACH SLAB TO 18" AT THE END OF THE APPROACH SLAB.

DETAIL 8 APPLIES TO APPROACH SLABS FOR
BRIDGE NO. JEF-7-1348
STA. 701+75 TO STA. 702+00
STA. 704+92.60 TO STA. 705+17.60
BRIDGE NO. JEF-7-1369
STA. 712+75.97 TO STA. 713+00.97
STA. 714+49.03 TO STA. 714+74.03

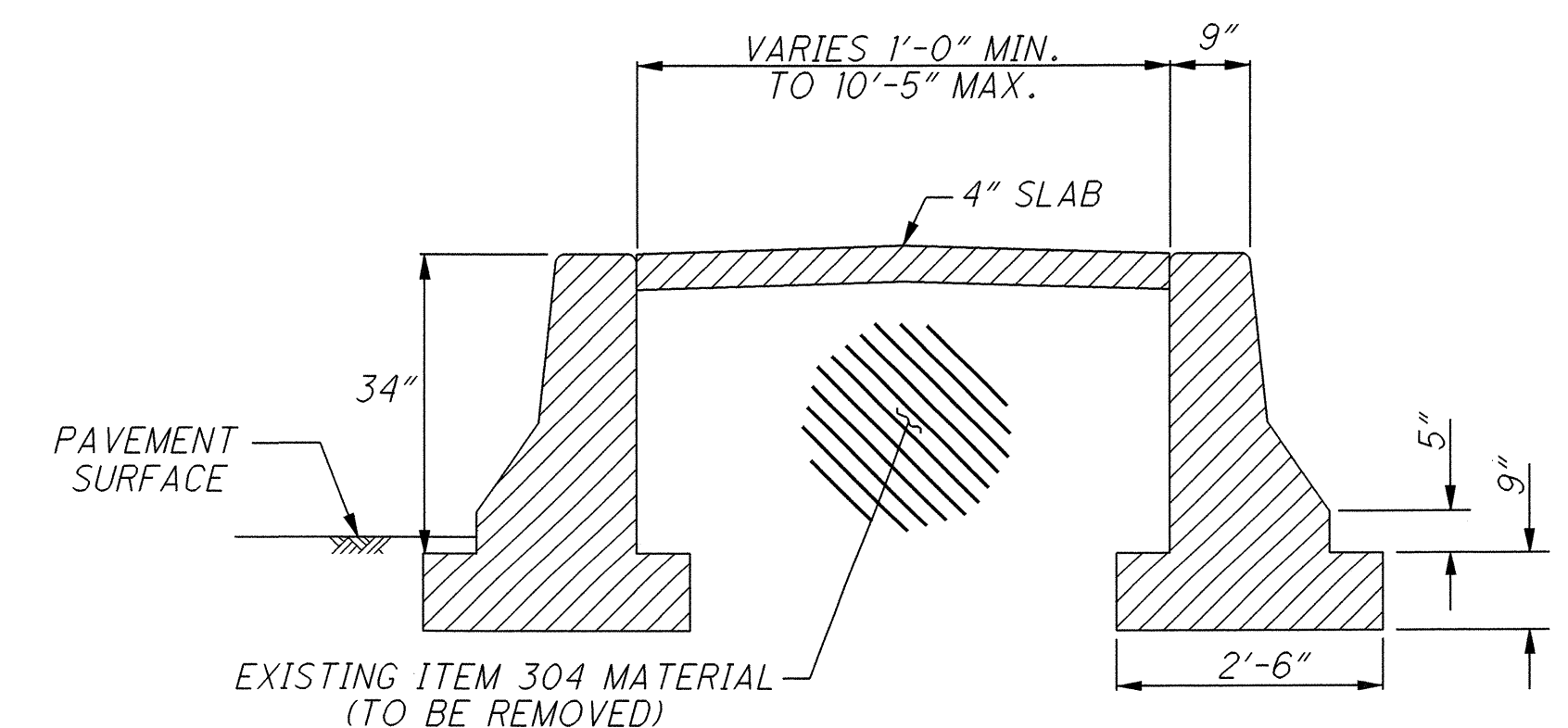


DETAIL 9
TYPE C BARRIER

STA. 691+50 TO STA. 696+00
STA. 699+07.22 TO STA. 701+25
STA. 722+50.25 TO STA. 728+38.25



— BARRIER TO BE REMOVED

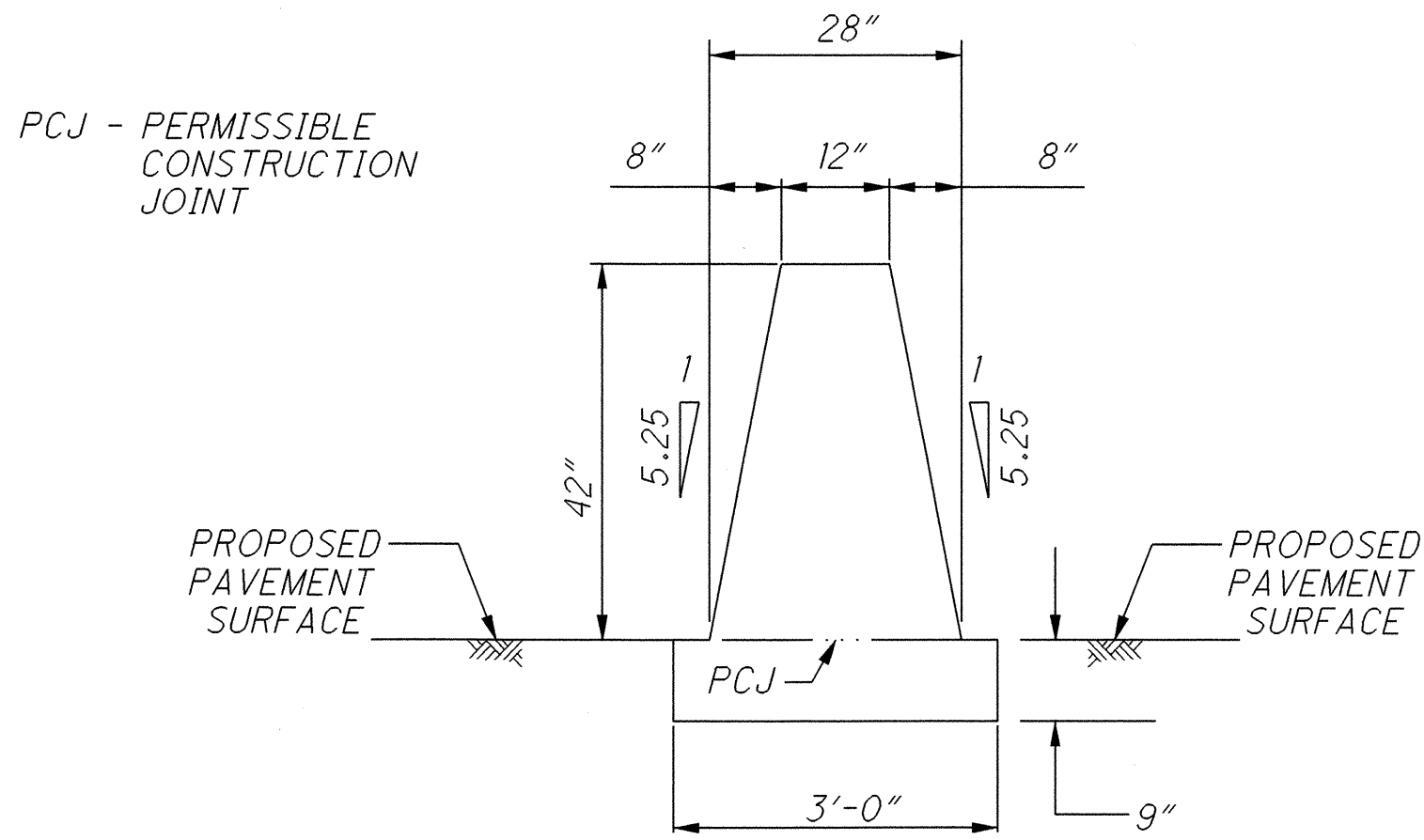


DETAIL 10
TYPE D BARRIER WITH 4" SLAB

STA. 659+36.20 TO STA. 667+87.40 NB & STA. 667+86.70 SB**
** BEGIN TRANSITION FROM TYPE A BARRIER (SEE DETAIL 2) TO TYPE D BARRIER WITH 4" SLAB
(SEE DETAIL 10) FROM STA. 657+50.84 TO STA. 659+36.20 AND STA. 667+87.40 NB TO STA. 670+07.79 NB.

NOTE: THE TOP OF THE TYPE A BARRIER (SHOWN IN DETAIL 2) WIDENS FROM 6" TO 2'-6".

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DETAIL 11
TYPE B BARRIER

SEE BARRIER QUANTITIES

- ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE B, AS PER PLAN
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE C, AS PER PLAN
ITEM 622 - CONCRETE BARRIER, SINGLE SLOPE, TYPE D, AS PER PLAN

THIS ITEM CONSISTS OF PLACING CONCRETE BARRIER, SINGLE SLOPE, AS PER THE PROVISIONS OF THE CMS AND THE STANDARD CONSTRUCTION DRAWINGS, EXCEPT THAT THE BARRIER WILL BE PLACED ON A 36" WIDE BY 9" THICK CONCRETE BASE. IF THE BASE IS BUILT SEPARATELY FROM THE SINGLE SLOPE BARRIER, THE CONSTRUCTION JOINTS MUST BE DOWELED AS PER THE STANDARD CONSTRUCTION DRAWING DETAILS AND NOTES. THE TOP OF THE BASE MUST BE LEVEL WITH THE TOP OF THE ITEM 442 SURFACE COURSE (SEE DETAILS ABOVE).

ITEM 304 - AGGREGATE BASE

IN SOME AREAS THE BASE FOR THE EXISTING NEW JERSEY BARRIER, THAT IS BEING REMOVED, IS UP TO 5 INCHES BELOW THE EXISTING ASPHALT SURFACE AND, THEREFORE, WILL BE BELOW THE PROPOSED ASPHALT SURFACE. SINCE THE TOP OF THE CONCRETE BASE FOR THE PROPOSED SINGLE SLOPE BARRIER, ALL TYPES, IS TO BE LEVEL WITH THE PROPOSED ASPHALT SURFACE COURSE ITEM 304 AGGREGATE BASE MATERIAL WILL BE PROVIDED TO FILL THIS VOID AREA. AN ESTIMATED QUANTITY HAS BEEN PROVIDED BELOW.

ITEM 304 - AGGREGATE BASE 764 CUBIC YARDS

ITEM 255 - FULL DEPTH PAVEMENT SAWING

FULL DEPTH PAVEMENT SAWING HAS BEEN PROVIDED TO SAW CUT BOTH SIDES OF THE EXISTING MEDIAN BARRIER TO FACILITATE ITS REMOVAL. ALL PROVISIONS OF ITEM 255 APPLY.

ITEM 255 - FULL DEPTH PAVEMENT SAWING 39,107 FEET

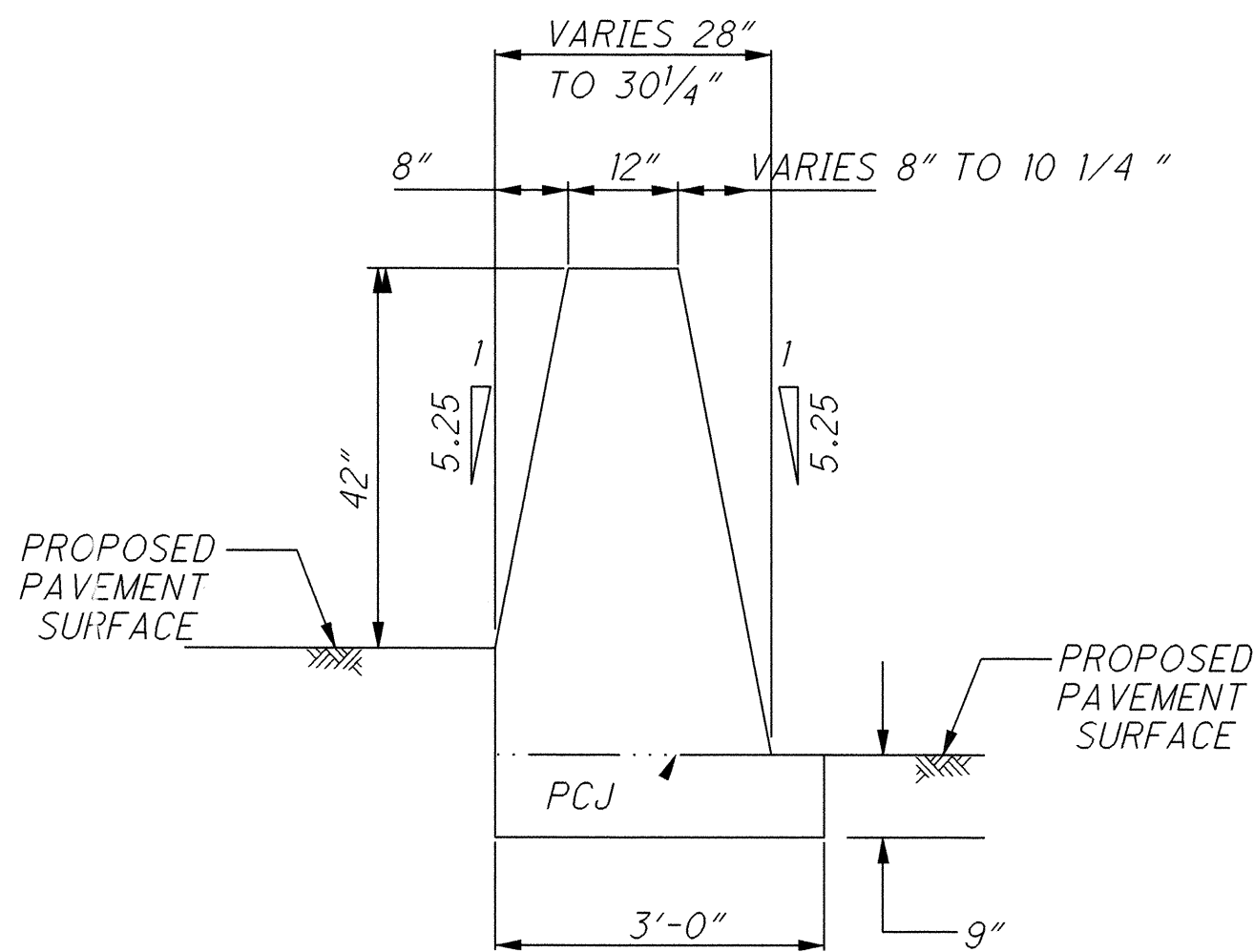
ITEM 626 - BARRIER REFLECTOR

PROVIDE BARRIER REFLECTORS, TYPE B, ALONG BOTH SIDES OF THE MEDIAN BARRIER, AS PER CMS 626. AN ESTIMATED QUANTITY FOR THE BARRIER REFLECTORS TO BE PLACED HAS BEEN PROVIDED BELOW. AN ESTIMATED QUANTITY HAS BEEN PROVIDED BELOW TO REMOVE THE BARRIER REFLECTORS ON CONCRETE MEDIAN BARRIER ACROSS THE BRIDGES.

ITEM 202 - REMOVAL, MISC.: BARRIER REFLECTORS 40 EACH
ITEM 626 - BARRIER REFLECTOR 390 EACH

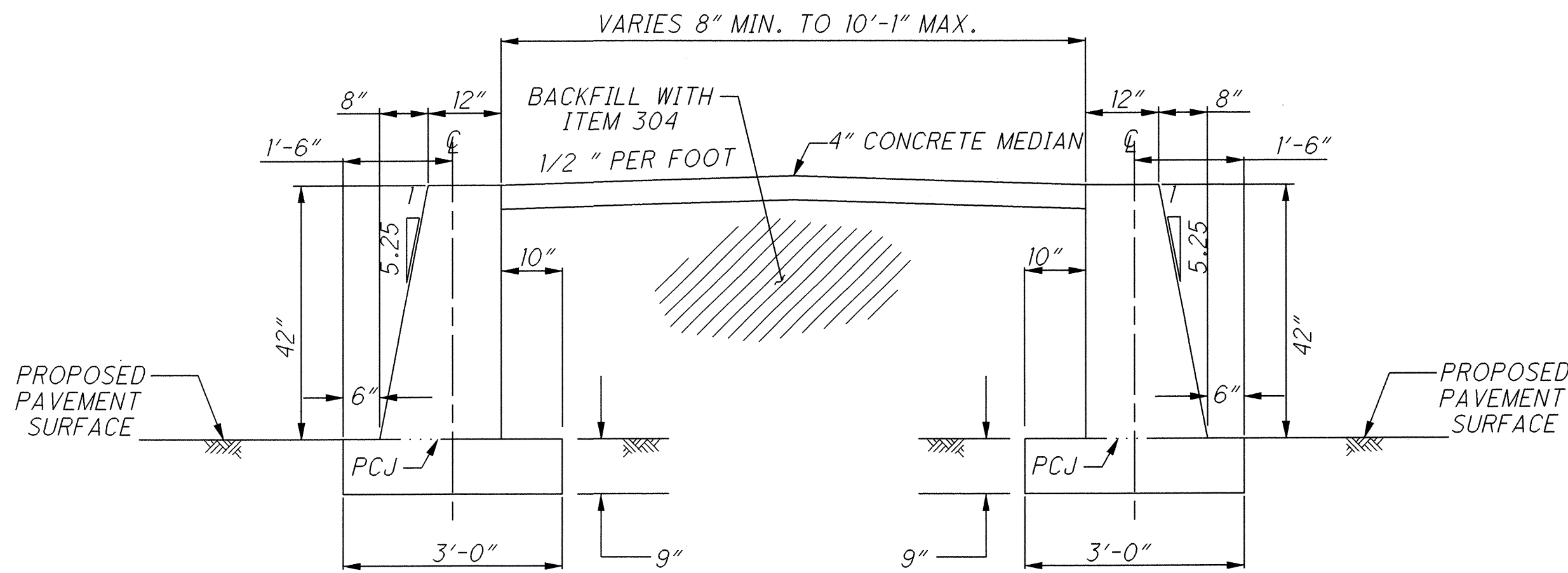
ITEM 202 - INLET REMOVED, AS PER PLAN

THIS ITEM CONSISTS OF REMOVING THE EXISTING MEDIAN BARRIER INLETS. CARE SHALL BE TAKEN DURING THE REMOVAL OPERATIONS TO PROTECT THE PORTIONS OF THE EXISTING INLET, INCLUDING THE TROUGH, THAT ARE TO REMAIN AND BE INCORPORATED INTO THE PROPOSED INLET.



DETAIL 12
TYPE C BARRIER

STA. 691+50 TO STA. 696+00
STA. 699+07.22 TO STA. 701+25
STA. 722+50.25 TO STA. 728+38.25



DETAIL 13
TYPE D BARRIER WITH 4" SLAB

STA. 659+36.20 TO STA. 667+87.40 NB & STA. 667+86.70 SB**

** BEGIN TRANSITION FROM TYPE A BARRIER (SEE DETAIL 2) TO TYPE D BARRIER WITH 4" SLAB (SEE DETAIL 10) FROM STA. 657+50.84 TO STA. 659+36.20 AND STA. 667+87.40 NB TO STA. 670+07.79 NB.

NOTE: THE TOP OF THE TYPE B BARRIER (SHOWN IN DETAIL 11) WIDENS FROM 12" TO 2'-8".

ITEM 304 - AGGREGATE BASE, AS PER PLAN

THIS ITEM CONSISTS OF REMOVING THE EXISTING 304 AGGREGATE BASE MATERIAL BETWEEN THE EXISTING TYPE D BARRIER (SEE DETAIL 10 OF EXISTING NEW JERSEY BARRIER DETAILS) TO BE ABLE TO CONSTRUCT THE NEW SINGLE SLOPE BARRIER, TYPE D, THEN PLACING ITEM 304 AGGREGATE BASE TO THE THE BOTTOM OF THE PROPOSED 4" CONCRETE MEDIAN.

ITEM 304 - AGGREGATE BASE, AS PER PLAN 215 CUBIC YARDS

ITEM 202 - CONCRETE MEDIAN REMOVED

THIS ITEM CONSISTS OF REMOVING THE EXISTING 4 INCH CONCRETE MEDIAN BETWEEN THE EXISTING TYPE D BARRIER (SEE DETAIL 10 OF EXISTING NEW JERSEY BARRIER DETAILS) TO BE ABLE TO CONSTRUCT THE NEW SINGLE SLOPE BARRIER, TYPE D.

ITEM 202 - CONCRETE MEDIAN REMOVED 639 SQUARE YARDS

ITEM 609 - CONCRETE MEDIAN

THIS ITEM CONSISTS OF PLACING A 4 INCH CONCRETE MEDIAN BETWEEN THE PROPOSED SINGLE SLOPE TYPE D BARRIER (SEE DETAIL 13 OF SINGLE SLOPE BARRIER DETAILS). THE MEDIAN WILL BE SLOPED DOWN, FROM THE CENTER, AT 1/2" PER FOOT TO THE TYPE D BARRIER.

ITEM 609 - CONCRETE MEDIAN 608 SQUARE YARDS

ITEM 519 - PATCHING CONCRETE STRUCTURE

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE PATCHING OF THE CONCRETE BARRIER AT THE LOCATIONS AS DIRECTED BY THE ENGINEER. THE PATCHING SHALL BE COMPLETED BEFORE THE ASPHALT SURFACE COURSE IS PLACED. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 519, PATCHING CONCRETE STRUCTURE AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS.

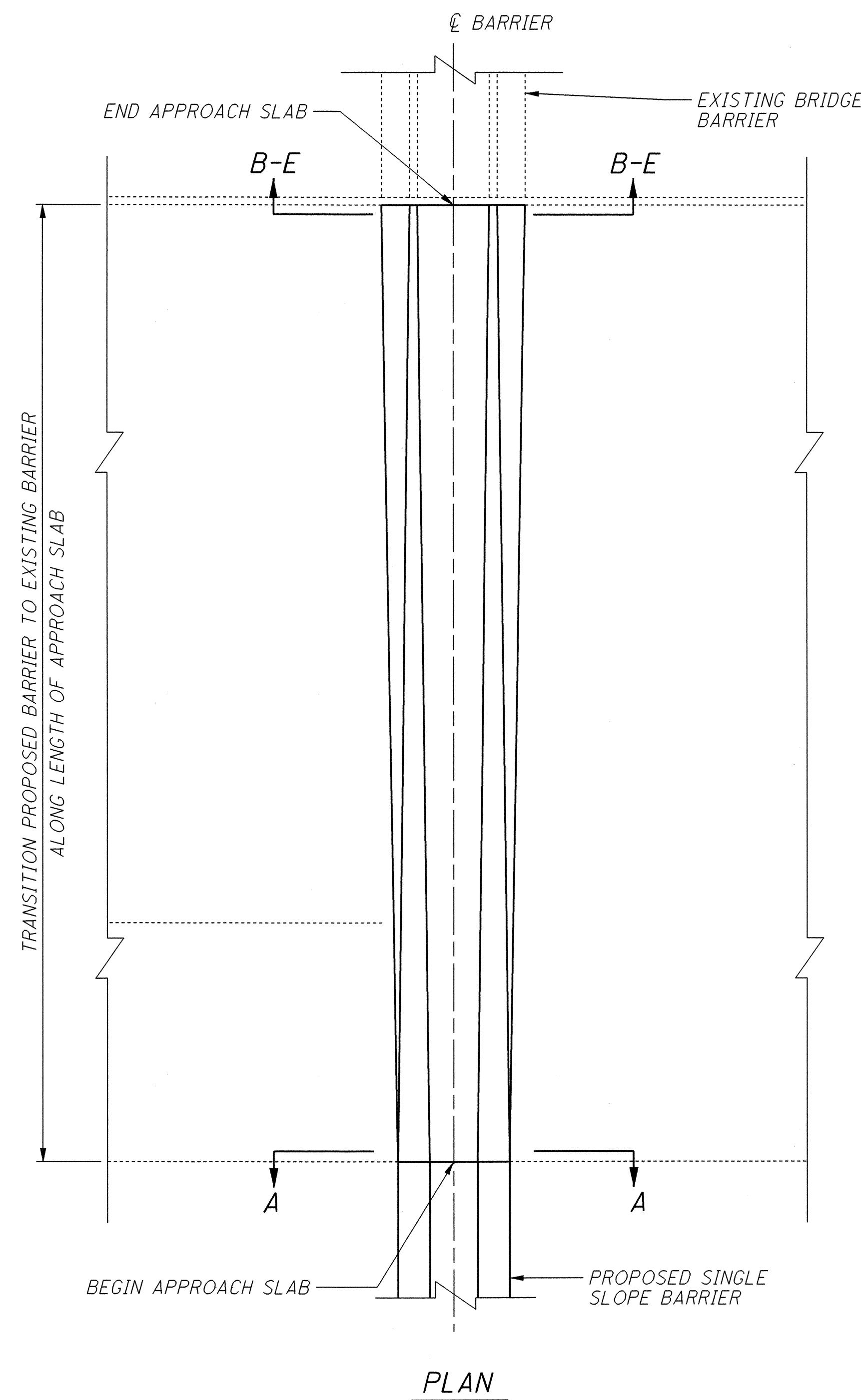
ITEM 519, PATCHING CONCRETE STRUCTURE 100 SQUARE FEET

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

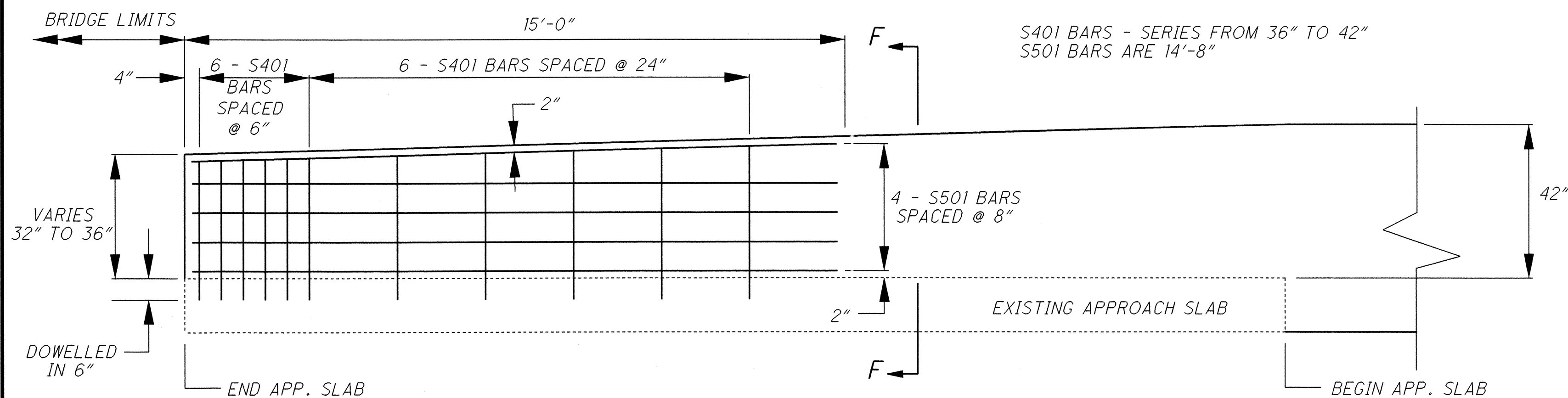
ALL NEW MEDIAN BARRIER AND MEDIAN BARRIER INLETS ARE TO BE SEALED USING ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE). THIS INCLUDES THE TOP EXPOSED SURFACE OF THE BASE. THE EPOXY SEALER SHALL BE TINTED FEDERAL COLOR STANDARD NO. 17778 (Light Neutral).

ITEM 512 - SEALING OF CONCRETE SURFACES (EPOXY-URETHANE) 19,303 SQUARE YARDS

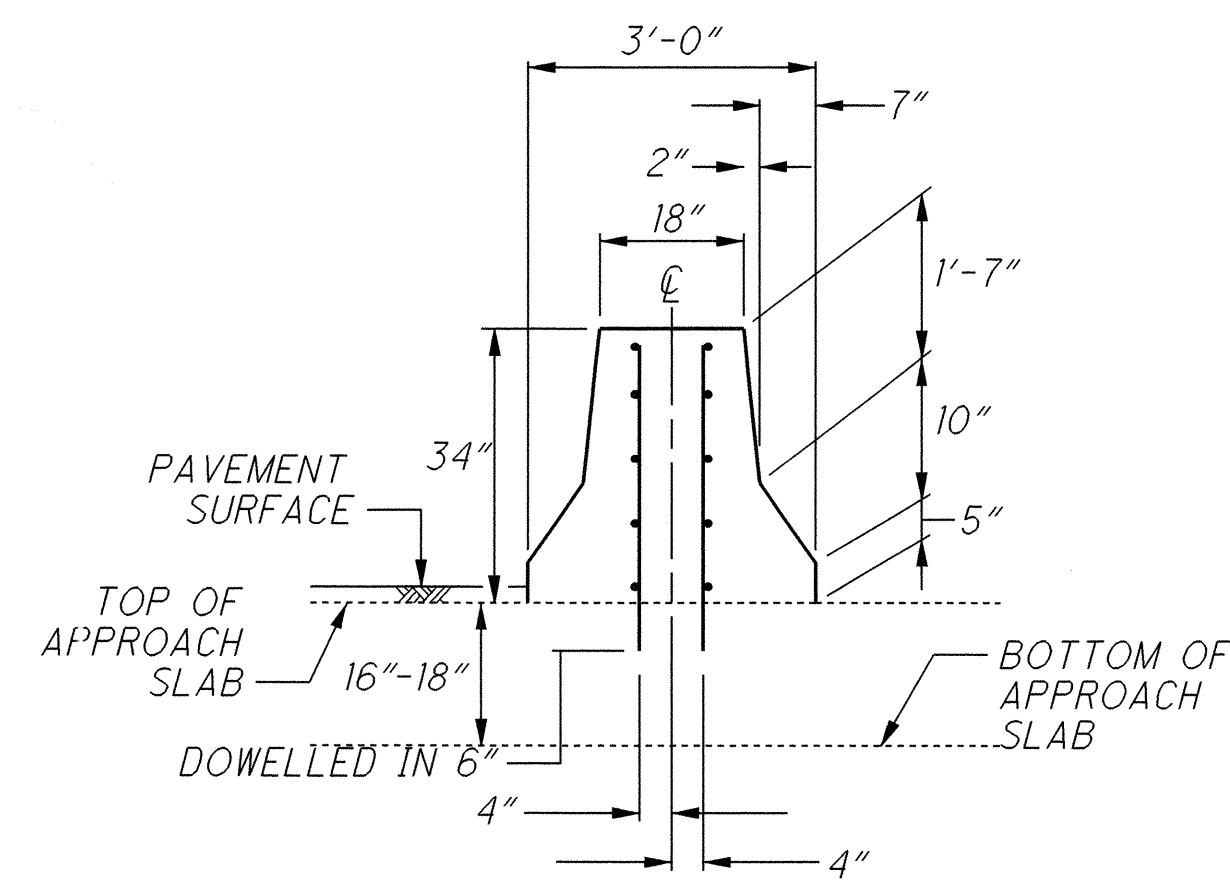
I:\PROJECTS\75418\Prod\Drawings\Approach Slab Single Slope Barrier Details.dgn 22-DEC-2010 7:43AM ramstutz



PLAN



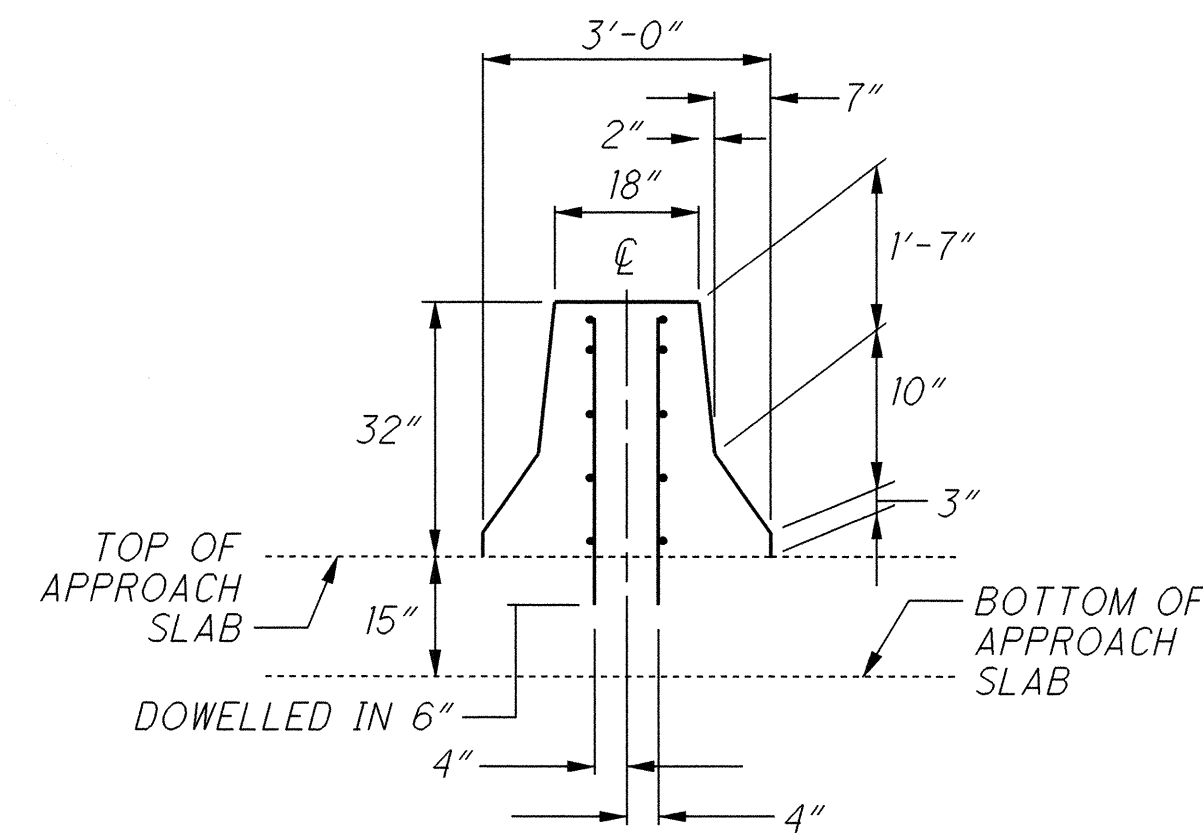
ELEVATION



SECTION B-B

TOP WIDTH OF THE BARRIER IS 18" AT THE END OF THE APPROACH SLAB. NEW BARRIER TO MATCH THE BARRIER ON THE BRIDGE STRUCTURE.

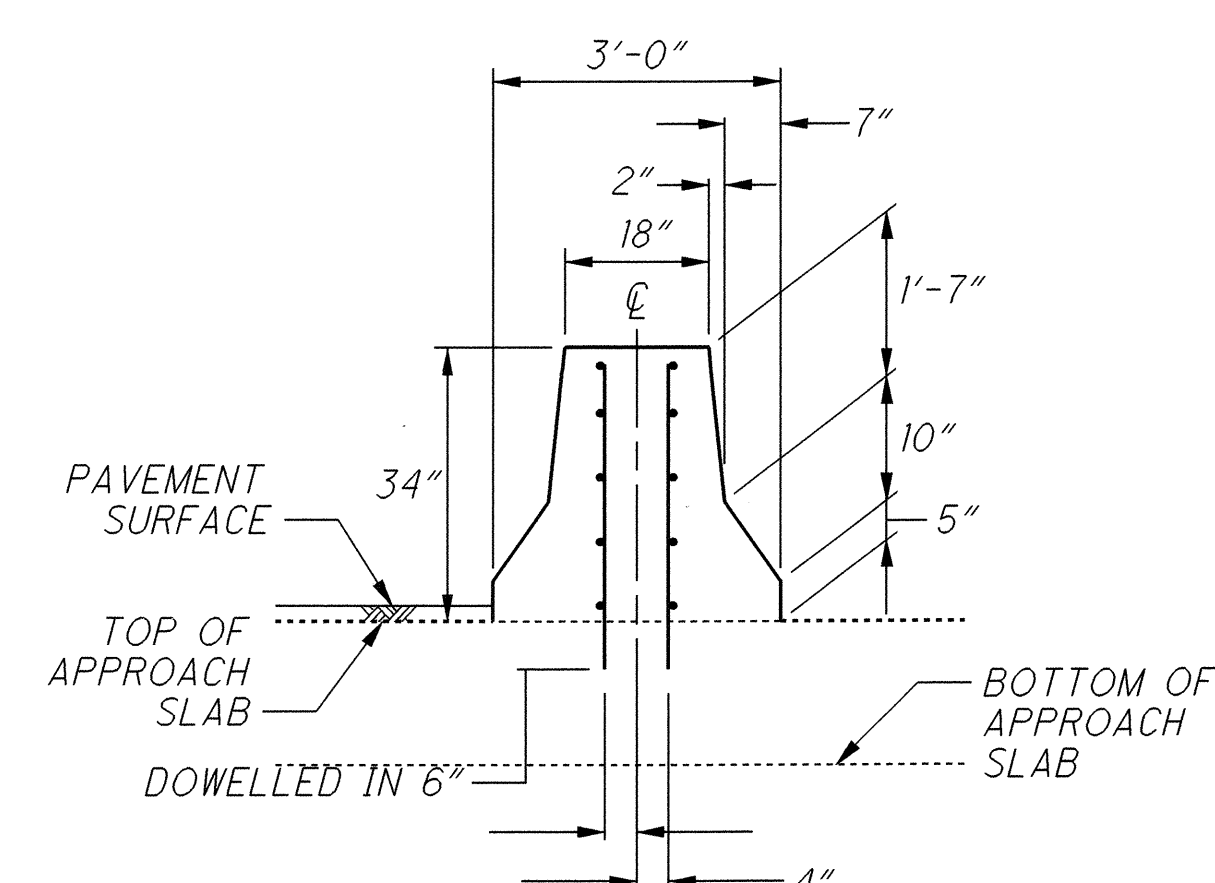
SECTION B-B APPLIES TO APPROACH SLABS FOR
BRIDGE NO. JEF-7-1348
STA. 701+75 TO STA. 702+00
STA. 704+92.60 TO STA. 705+17.60
BRIDGE NO. JEF-7-1369
STA. 712+75.97 TO STA. 713+00.97
STA. 714+49.03 TO STA. 714+74.03



SECTION C-C

TOP WIDTH OF THE BARRIER IS 18" AT THE END OF THE APPROACH SLAB. NEW BARRIER TO MATCH THE BARRIER ON THE BRIDGE STRUCTURE.

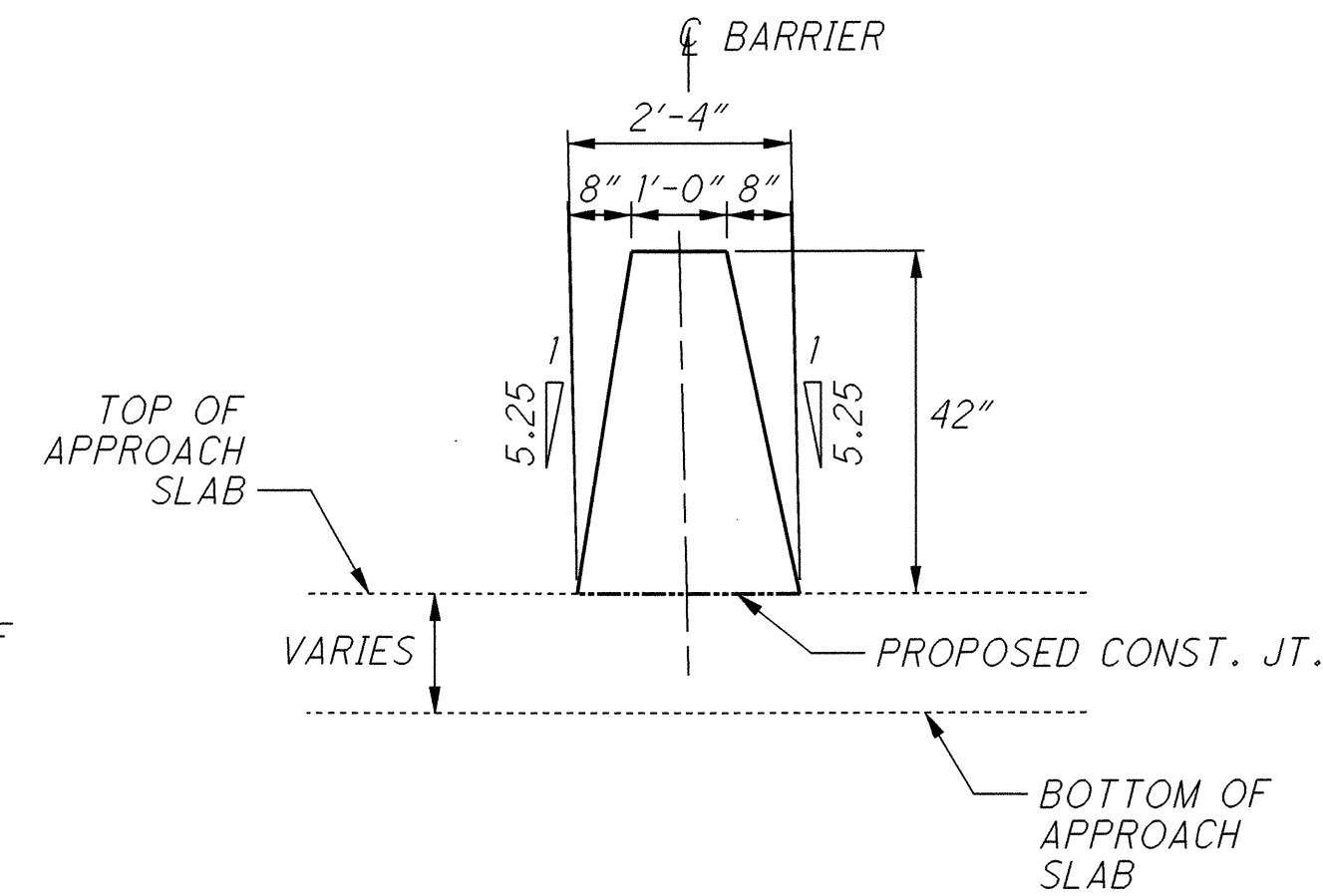
SECTION C-C APPLIES TO APPROACH SLABS FOR
BRIDGE NO. JEF-7-1340
STA. 697+35.40 TO STA. 697+60.40
STA. 698+82.22 TO STA. 699+07.22



SECTION D-D

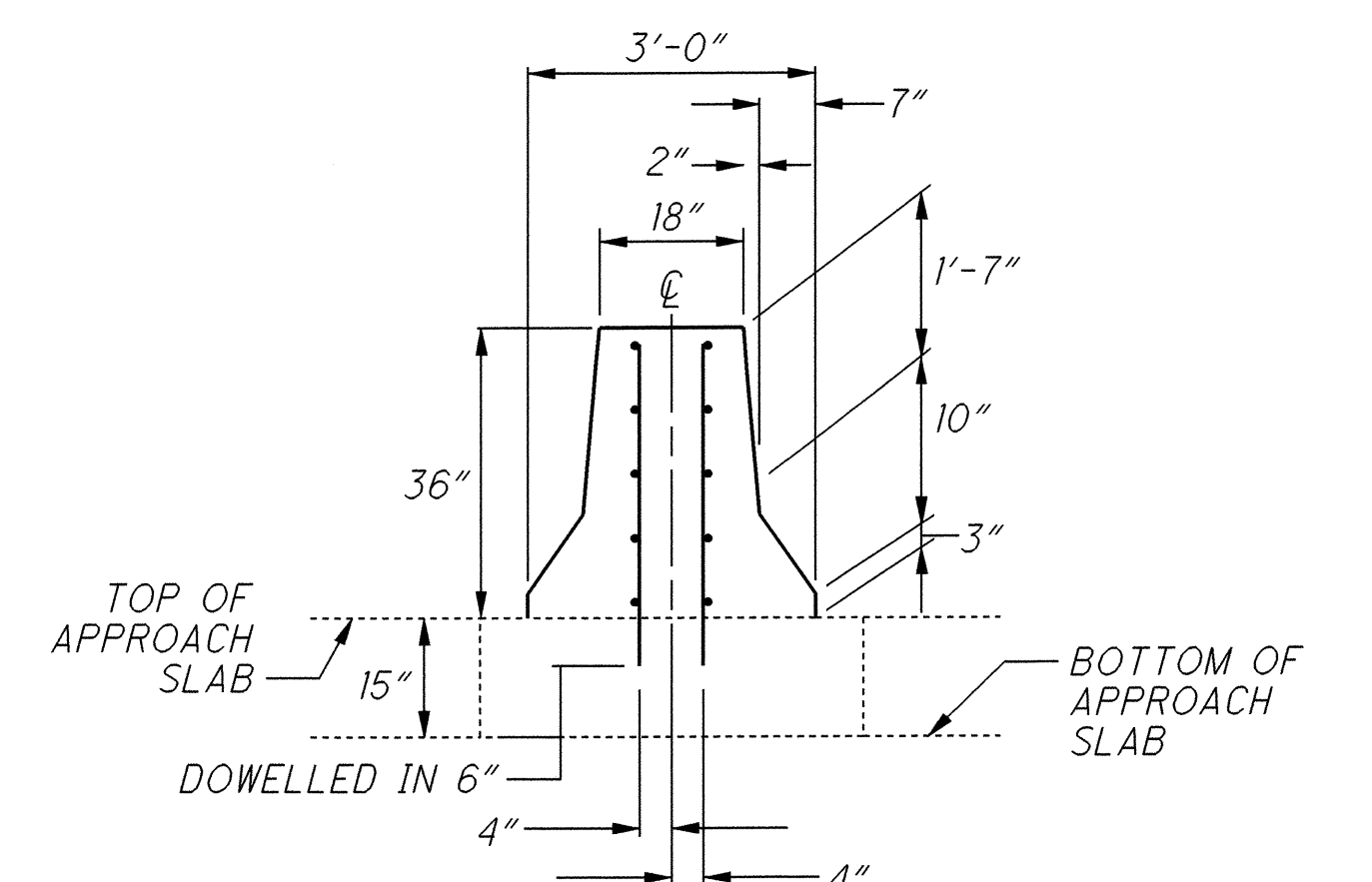
TOP WIDTH OF THE BARRIER IS 18" AT THE END OF THE APPROACH SLAB. NEW BARRIER TO MATCH THE BARRIER ON THE BRIDGE STRUCTURE.

SECTION D-D APPLIES TO APPROACH SLABS FOR
BRIDGE NO. JEF-7-1185
STA. 627+88.23 TO STA. 628+13.23
STA. 629+92.91 TO STA. 630+17.91
BRIDGE NO. JEF-7-1235
STA. 654+07.75 TO STA. 654+32.75
STA. 655+67.25 TO STA. 655+92.25



SECTION A-A

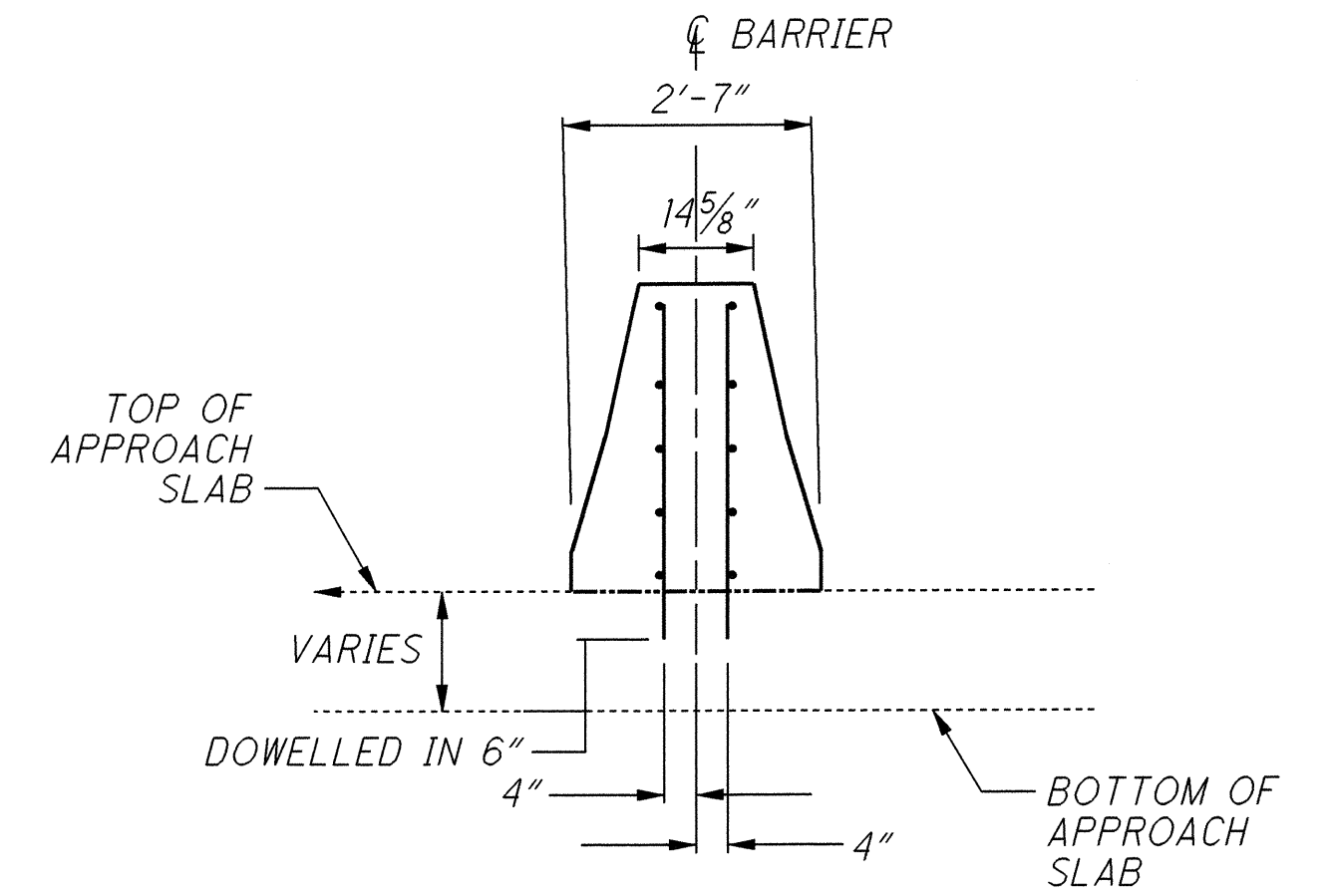
TYPICAL ALL APPROACH SLABS



SECTION E-E

TOP WIDTH OF THE BARRIER IS 18" AT THE END OF THE APPROACH SLAB. NEW BARRIER TO MATCH THE BARRIER ON THE BRIDGE STRUCTURE.

SECTION E-E APPLIES TO APPROACH SLABS FOR
BRIDGE NO. JEF-7-1293
STA. 672+96.71 TO STA. 673+21.71
STA. 681+55.42 TO STA. 681+80.42

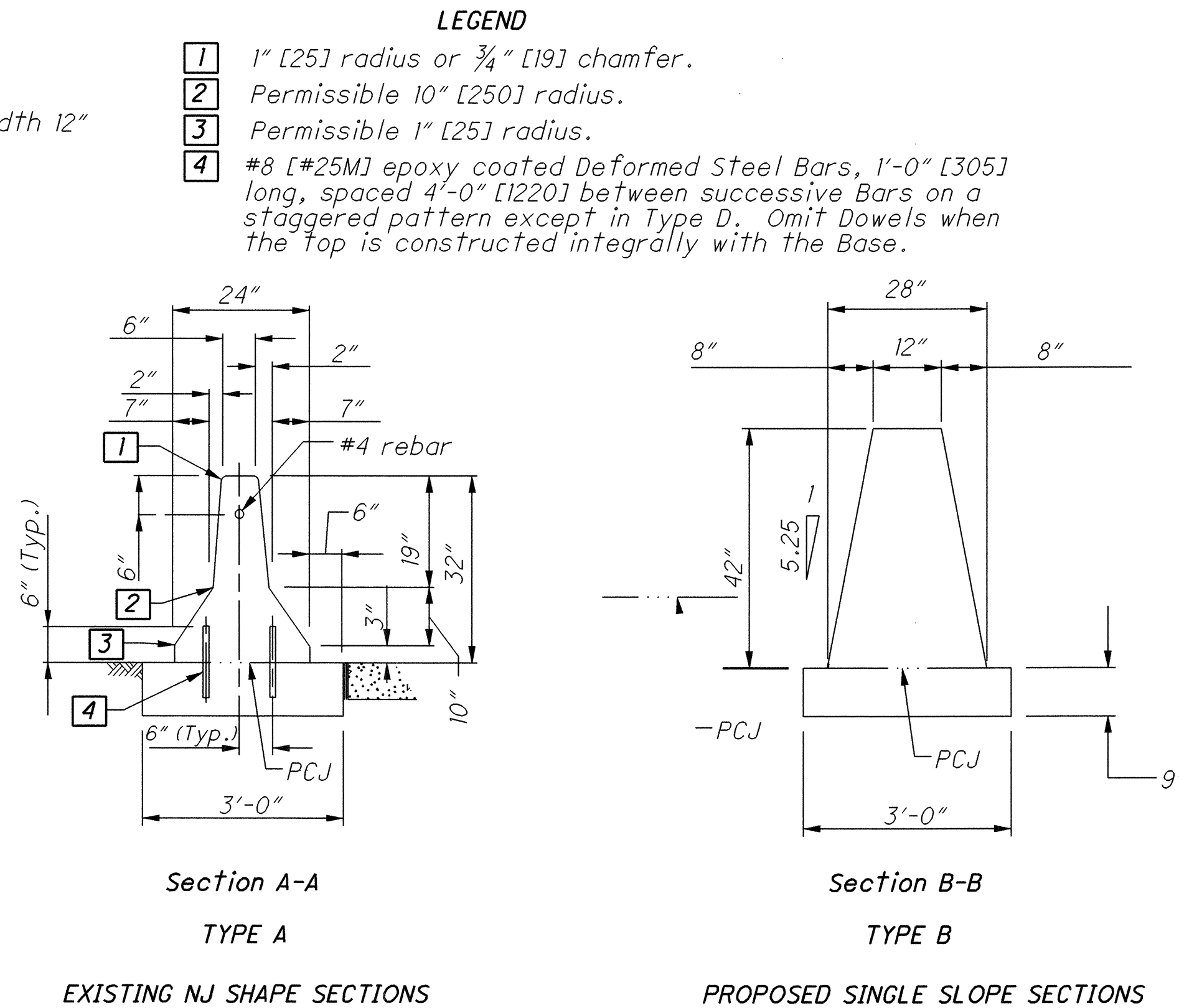
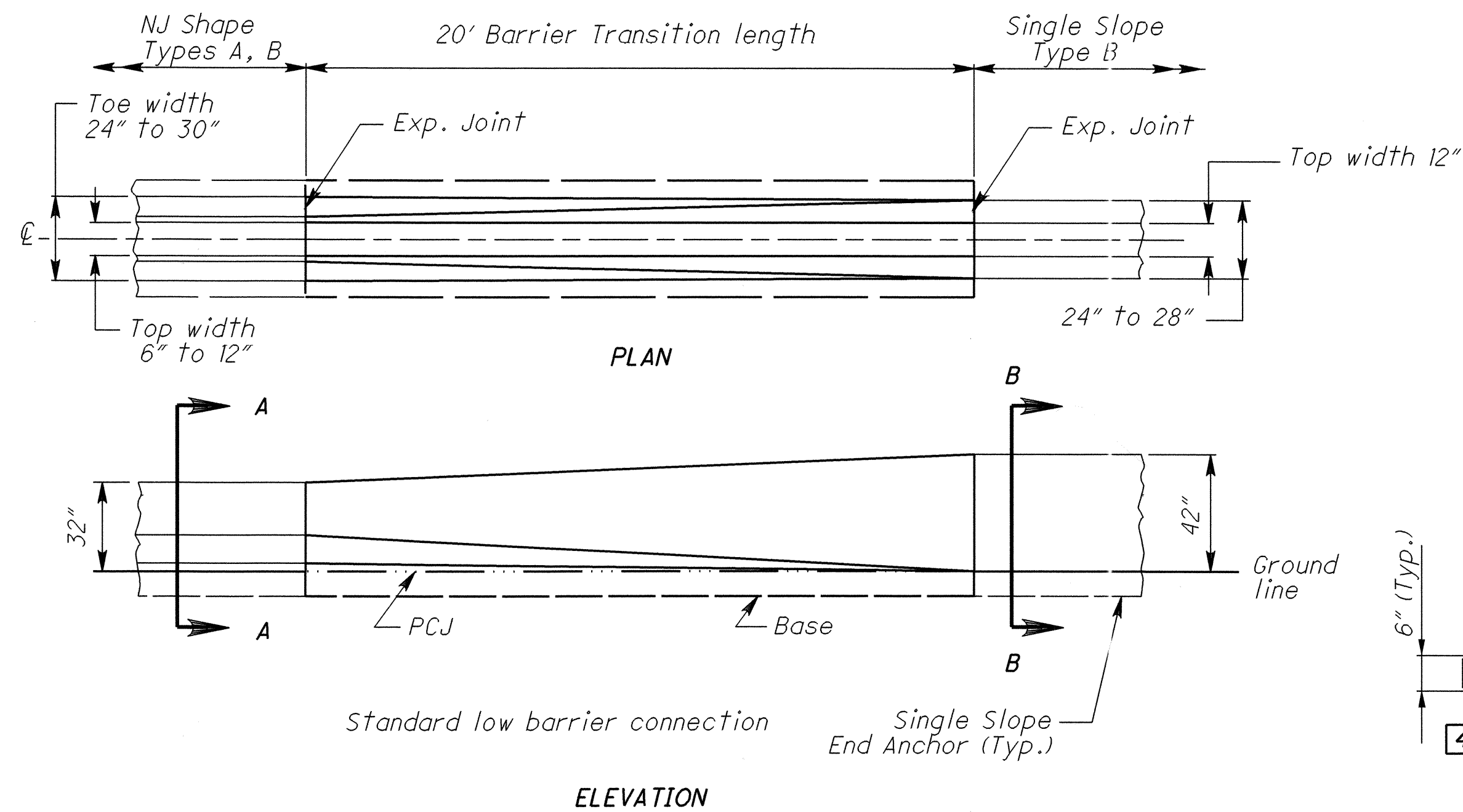


SECTION F-F

TYPICAL ALL APPROACH SLABS

ITEM 622 - CONCRETE BARRIER END ANCHORAGE, REINFORCED, TYPE B, AS PER PLAN

THIS WORK WILL CONSIST OF BUILDING CONCRETE BARRIER END ANCHORAGES, AS PER THE DETAILS ON THIS SHEET AND IN SDC RM-4.3, ACROSS THE APPROACH SLABS FOR THE BRIDGES ON THIS PROJECT. THE S401 BARS WILL BE DOWELED INTO THE APPROACH SLAB A MINIMUM OF 6 INCHES. THE TOP S501 BAR WILL MATCH THE TOP SLOPE OF THE BARRIER TRANSITION AND HAVE A MINIMUM OF 2 INCHES OF CONCRETE COVER. ALL REINFORCING STEEL SHALL BE EPOXY COATED. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 622, CONCRETE BARRIER END ANCHORAGE, REINFORCED, TYPE B, AS PER PLAN, AND SHALL INCLUDE ALL MATERIALS, LABOR, AND OTHER INCIDENTALS NECESSARY TO CONSTRUCT THIS ANCHOR.



NOTES

GENERAL: This sheet 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 Single Slope barrier details, see RM-4.3.

ADJACENT CONCRETE BARRIER RUNS: Remove any tapered end sections, Impact attenuators, or other guardrail hardware from existing barrier end.

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' [6 m] 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, except that cast-in-place is the only acceptable method. Edges may be chamfered or radiused as shown on those drawings.

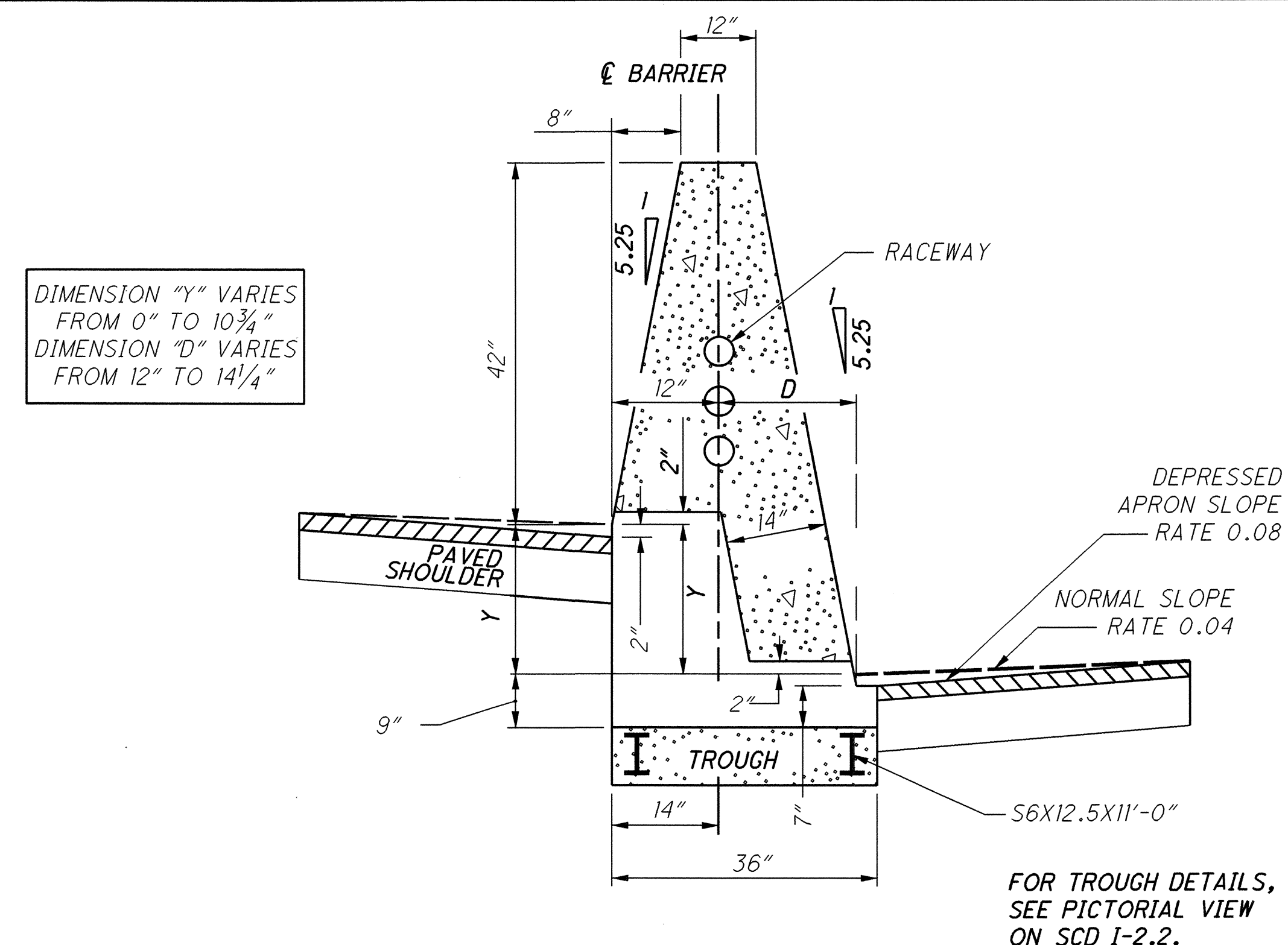
CONCRETE BASE: Construct proposed barrier on new concrete base.

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.

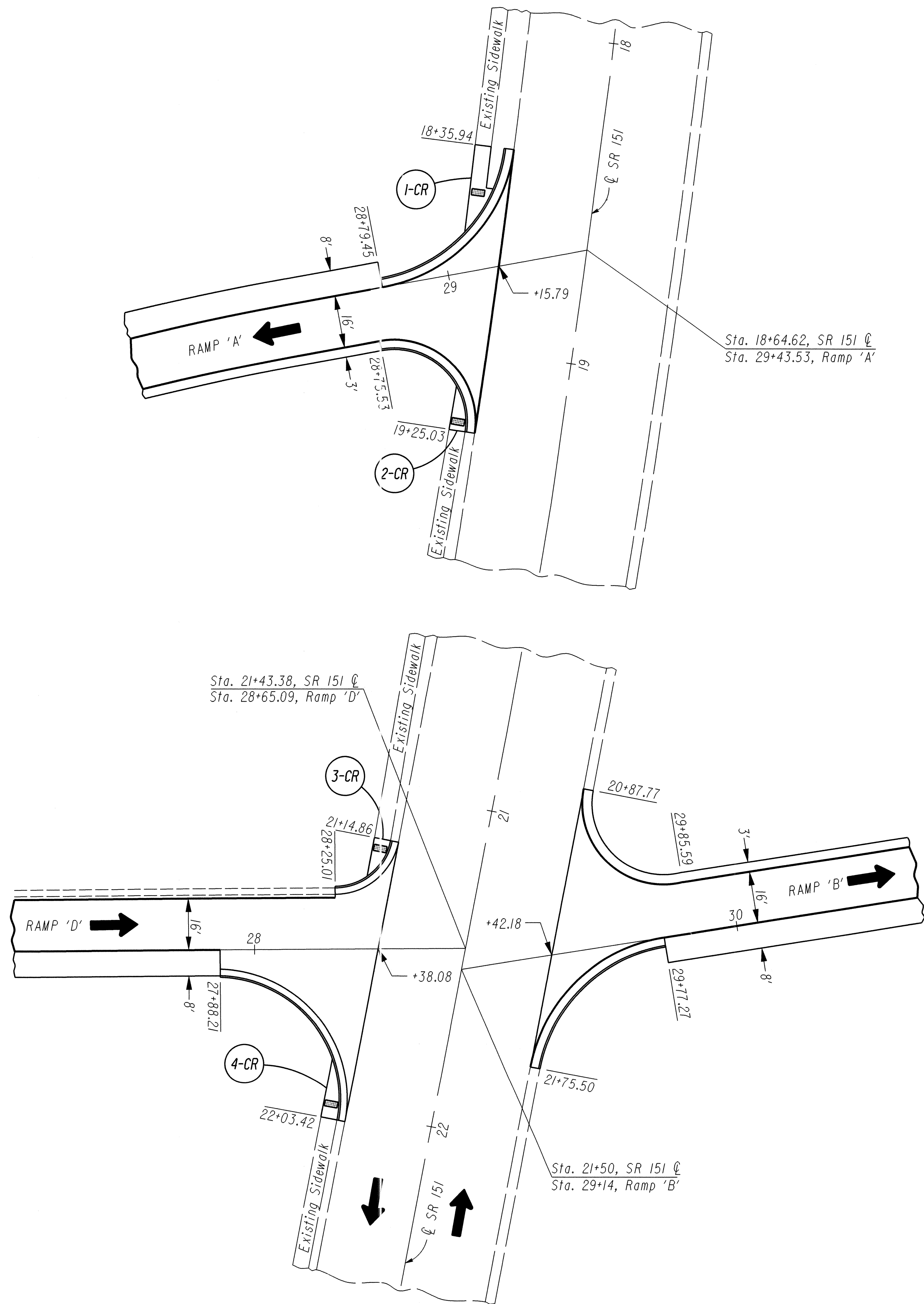
PAYMENT: This Barrier Transition shall include all material and labor needed to construct this 20' [6 m] section, including any raceways, reinforcing steel, dowels and other necessary incidentals. Payment shall be made at the unit price for Item 622- Barrier Transition, Each.

NJ SHAPE BARRIER TO SINGLE SLOPE BARRIER TRANSITION



SECTION THROUGH INLET NO. 3, SINGLE SLOPE, BARRIER, TYPE C

CONTRACTOR WILL FIELD VERIFY THE "Y" DIMENSION FOR EACH INLET NO. 3, TYPE C, LOCATION
FOR DETAILS NOT SHOWN SEE SCD I-2.2



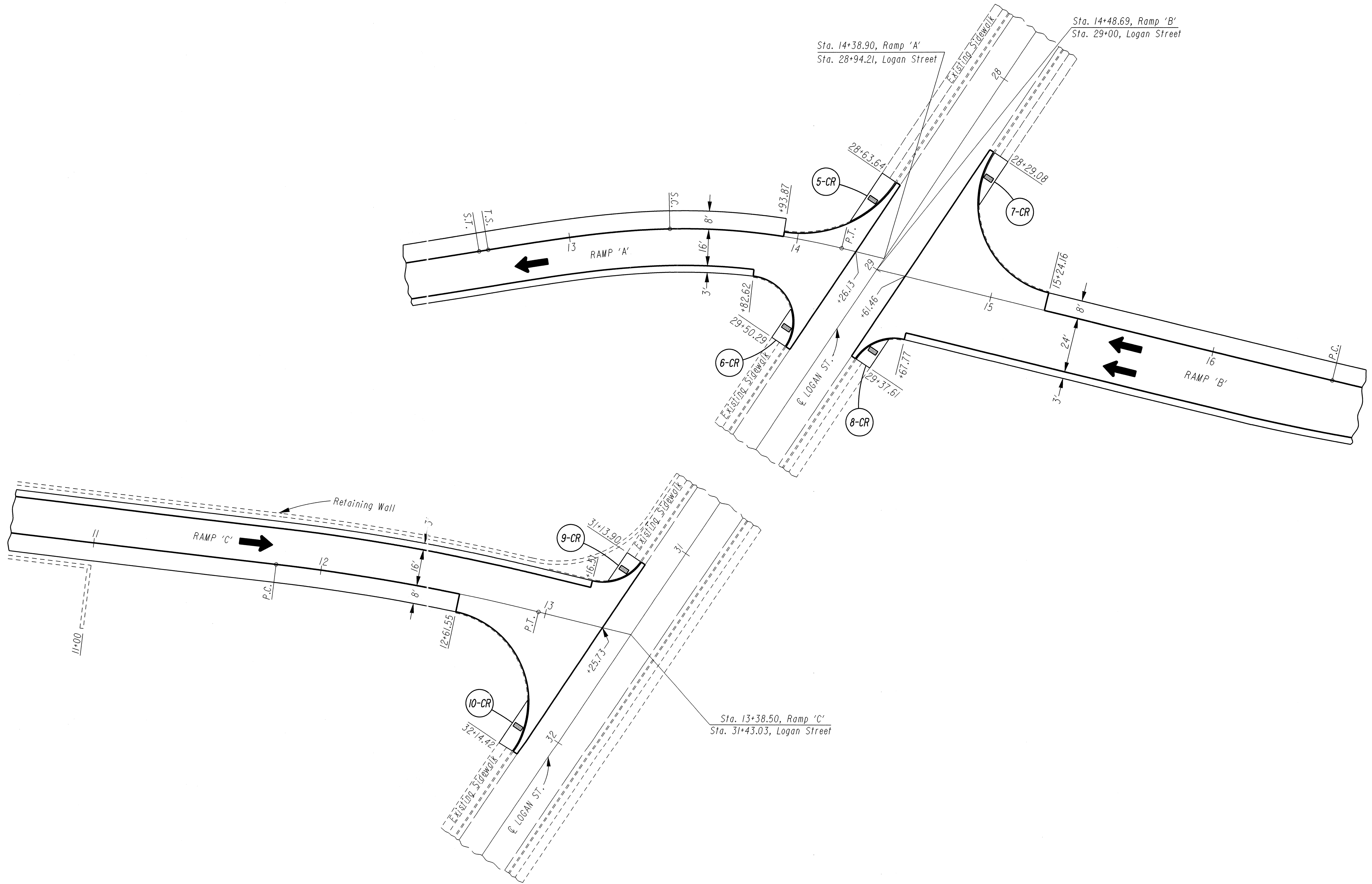
For Curb Ramp Quantities, See Sheet No. 36.

**CURB RAMP DETAILS
S.R. 151 INTERCHANGE**

JEF - 7 - 10.83

CALCULATED	RDA
CHECKED	TES

34
44



For Curb Ramp Quantities, See Sheet No. 36.

**CURB RAMP DETAILS
LOGAN STREET INTERCHANGE**

JEF-7-10.83

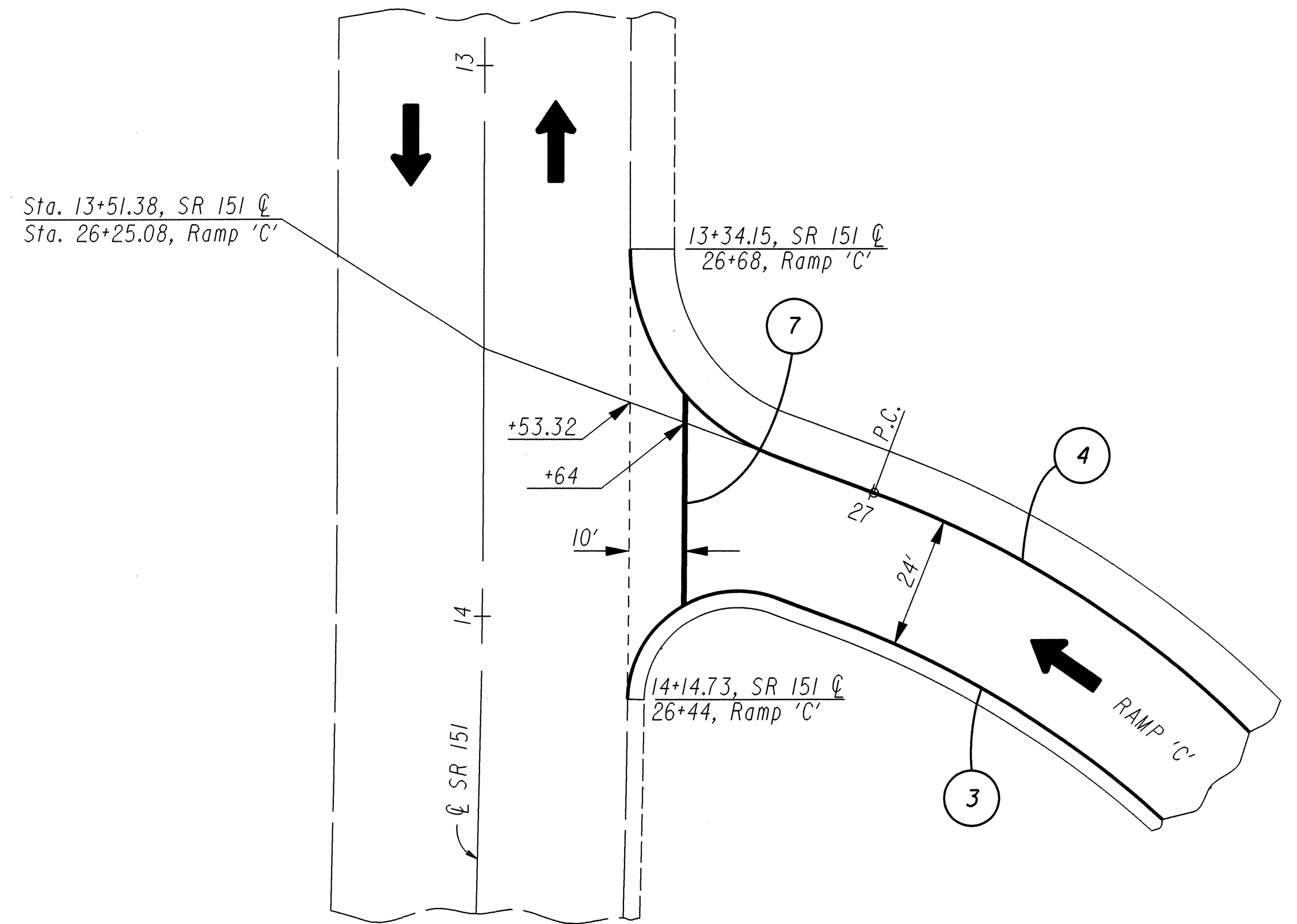
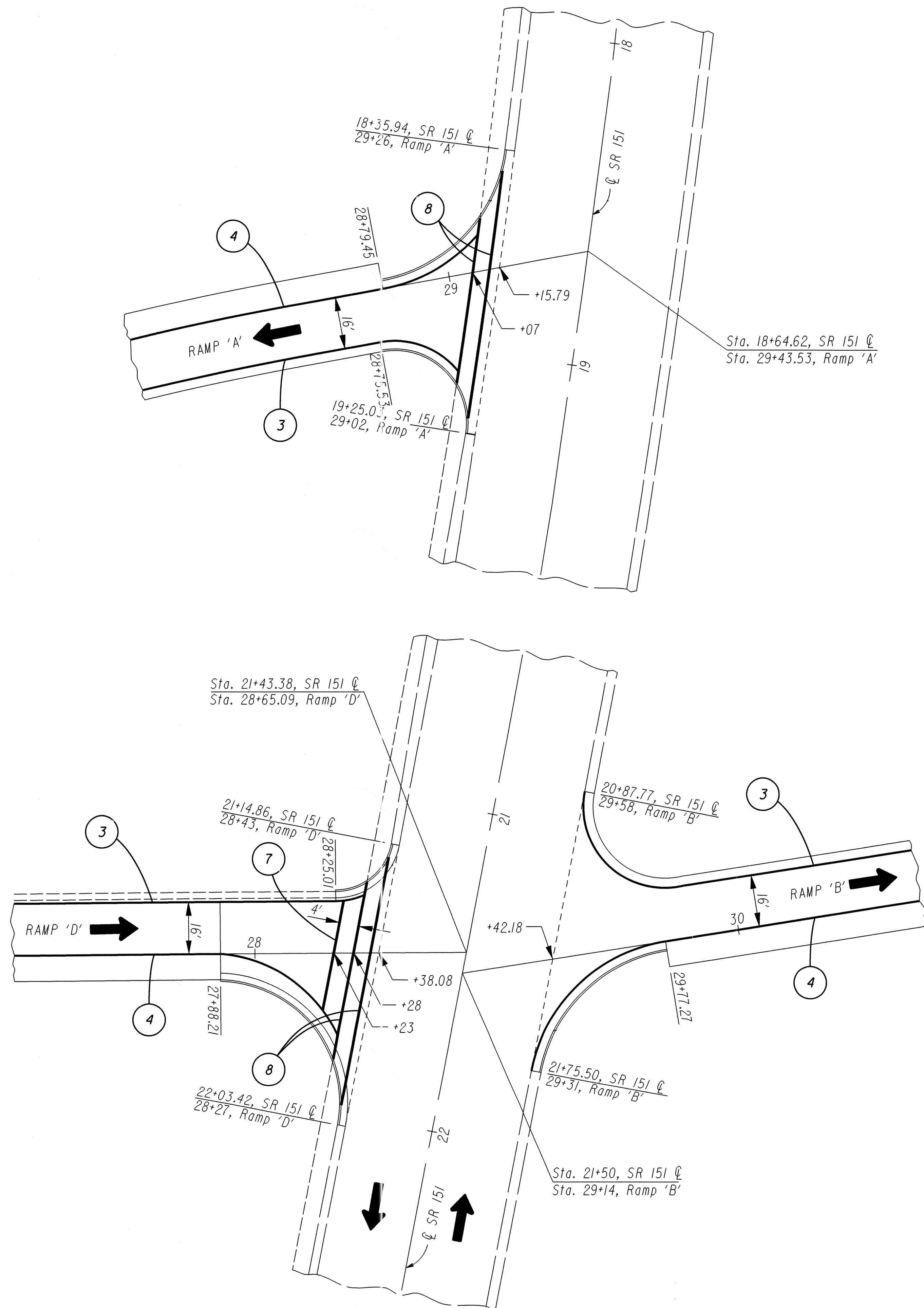
CALCULATED	RDA
CHECKED	TES

The figure consists of four separate diagrams, each representing a different intersection configuration. Each diagram shows a horizontal street and a vertical street intersecting at a right angle. The intersection is divided into four quadrants by the center lines of the streets. The diagrams are labeled A, B, C, and D.

- Diagram A:** The horizontal street is labeled "UP SLM" with an arrow pointing to the right. The vertical street is labeled "INTERSECTING STREET" with text oriented vertically. The intersection is a T-junction where the horizontal street ends at the vertical street. The quadrants are numbered: 1 is the top-right quadrant, 2 is the bottom-left quadrant, and 3 is the bottom-right quadrant. A circle labeled "A" is in the top-left quadrant.
- Diagram B:** The horizontal street is labeled "UP SLM" with an arrow pointing to the right. The vertical street is labeled "INTERSECTING STREET" with text oriented vertically. The intersection is a T-junction where the horizontal street ends at the vertical street. The quadrants are numbered: 1 is the bottom-right quadrant, 2 is the top-left quadrant, and 3 is the top-right quadrant. A circle labeled "B" is in the bottom-left quadrant.
- Diagram C:** The horizontal street is labeled "UP SLM" with an arrow pointing to the right. The vertical street is labeled "INTERSECTING STREET" with text oriented vertically. The intersection is a T-junction where the horizontal street ends at the vertical street. The quadrants are numbered: 1 is the top-left quadrant, 2 is the bottom-right quadrant, and 3 is the bottom-left quadrant. A circle labeled "C" is in the top-right quadrant.
- Diagram D:** The horizontal street is labeled "UP SLM" with an arrow pointing to the right. The vertical street is labeled "INTERSECTING STREET" with text oriented vertically. The intersection is a T-junction where the horizontal street ends at the vertical street. The quadrants are numbered: 1 is the bottom-left quadrant, 2 is the top-right quadrant, and 3 is the top-left quadrant. A circle labeled "D" is in the bottom-right quadrant.

INTERSECTING QUADRANT DIAGRAM

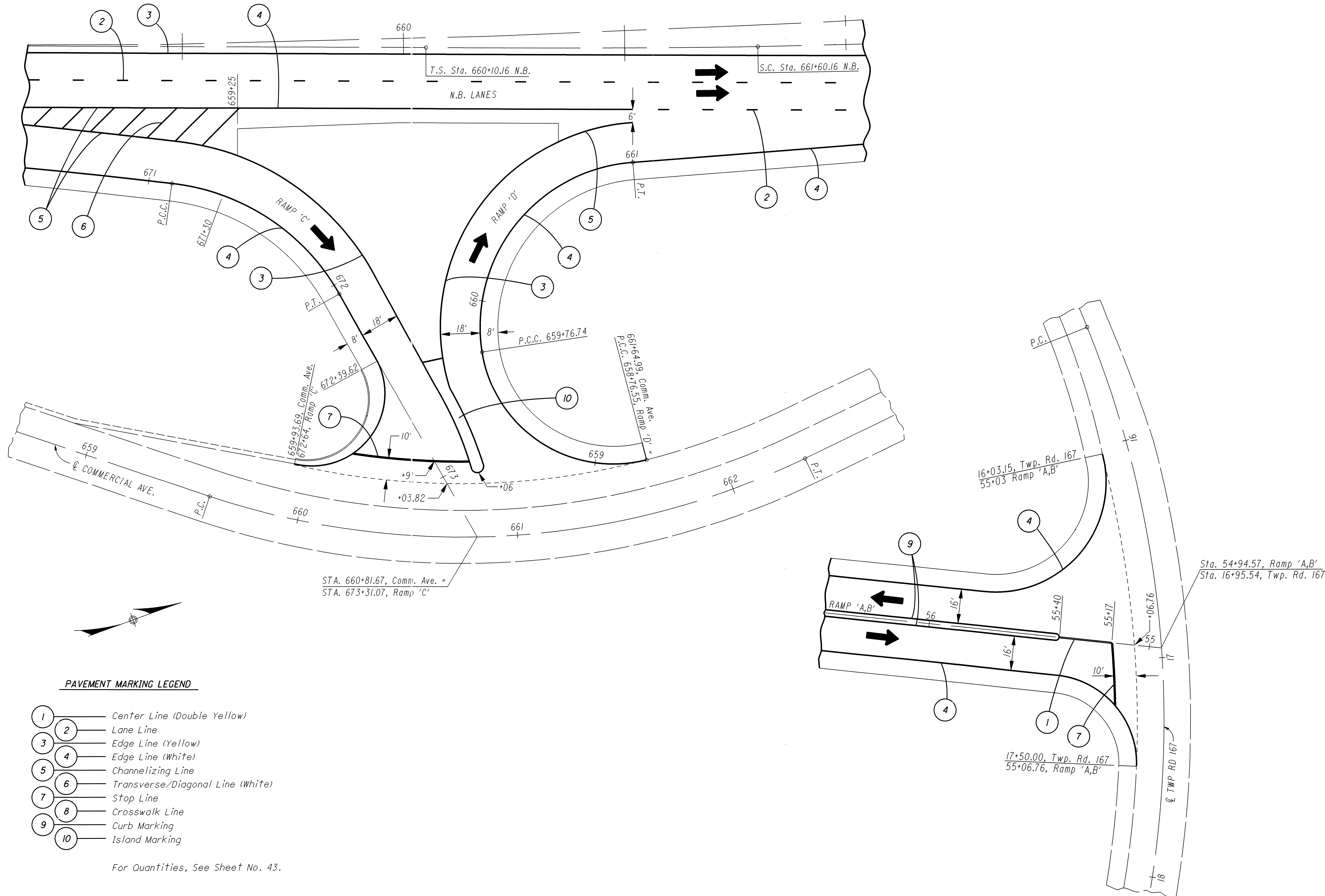
36 44	JEF-7-10.83	CURB RAMP QUANTITIES		CALCULATED DAH CHECKED JPB



PAVEMENT MARKING LEGEND

- 1 Center Line (Double Yellow)
- 2 Lane Line
- 3 Edge Line (Yellow)
- 4 Edge Line (White)
- 5 Channelizing Line
- 6 Transverse/Diagonal Line (White)
- 7 Stop Line
- 8 Crosswalk Line
- 9 Curb Marking
- 10 Island Marking

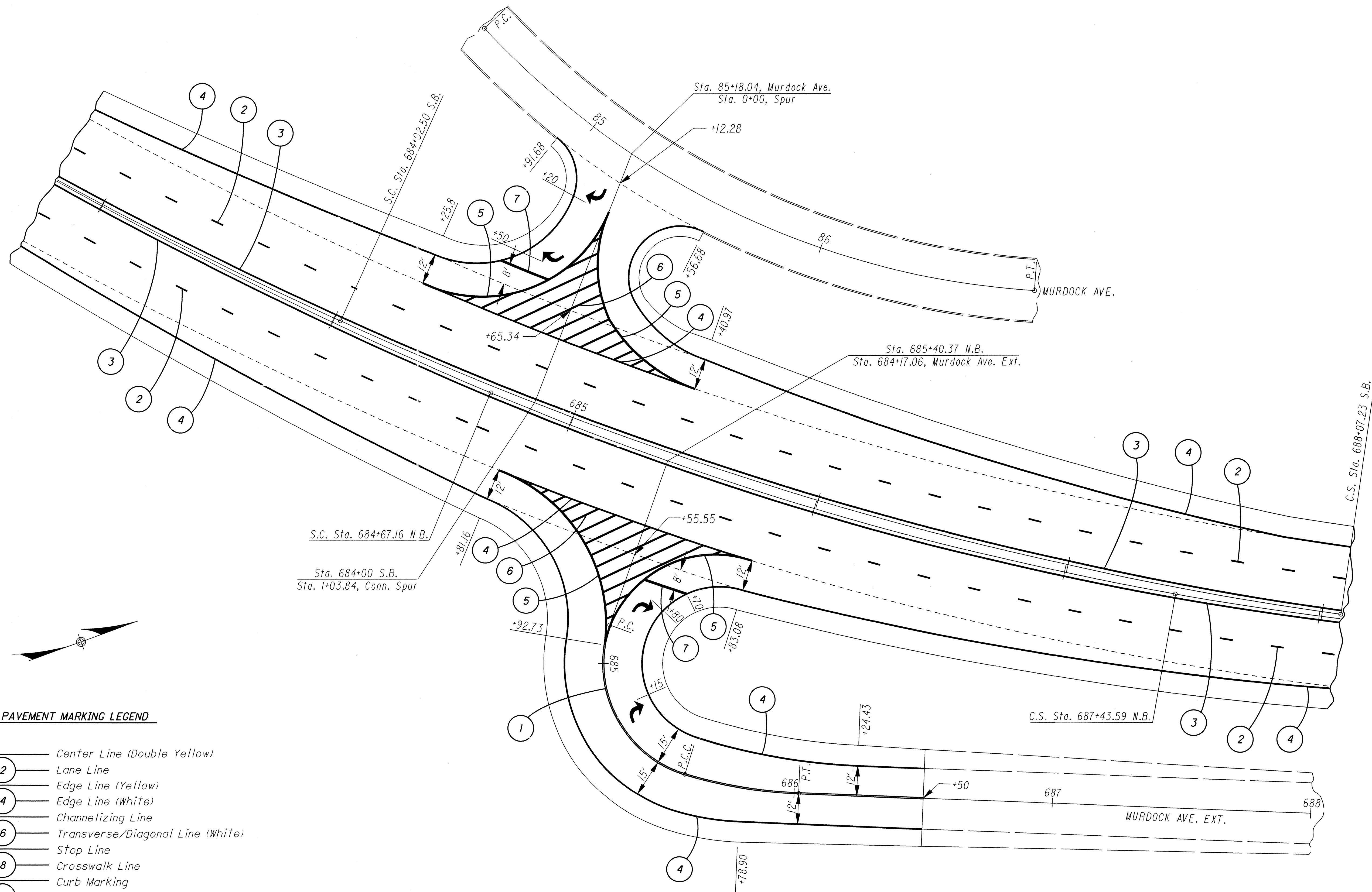
For Quantities, See Sheet No. 43.

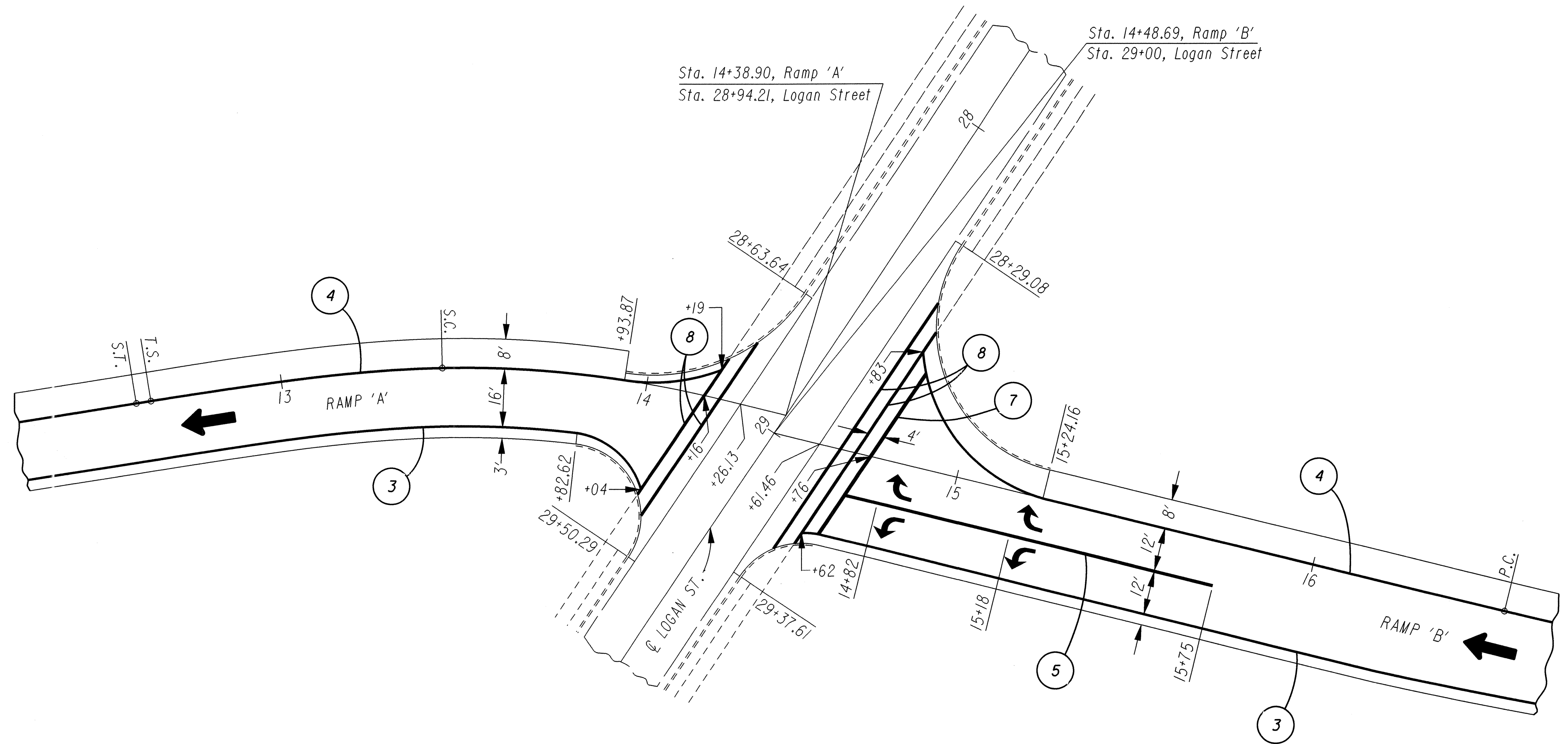
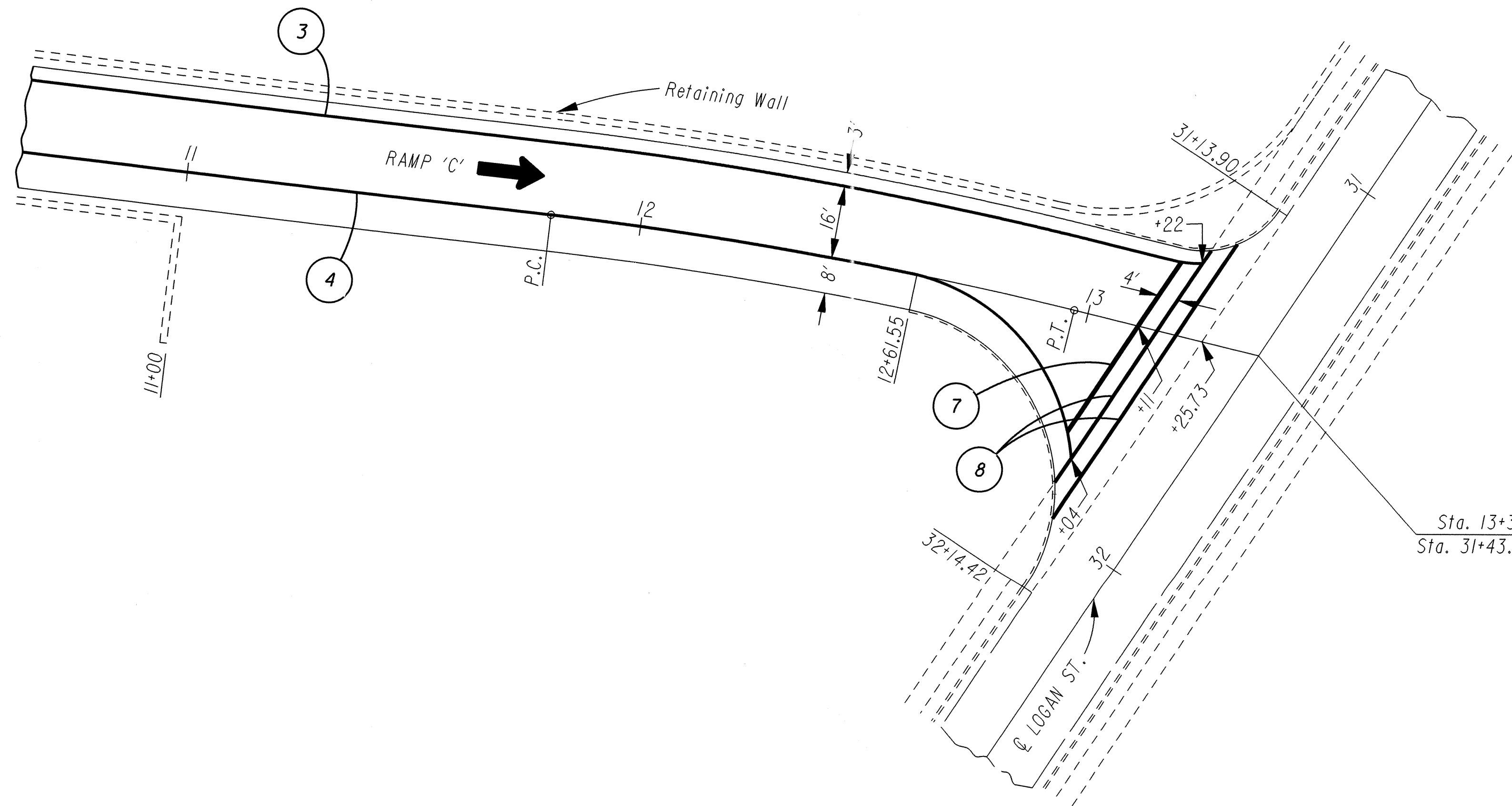


PAVEMENT MARKING LEGEND

- 1 Center Line (Double Yellow)
- 2 Lane Line
- 3 Edge Line (Yellow)
- 4 Edge Line (White)
- 5 Channelizing Line
- 6 Transverse/Diagonal Line (White)
- 7 Stop Line
- 8 Crosswalk Line
- 9 Curb Marking
- 10 Island Marking

For Quantities, See Sheet No. 44.





PAVEMENT MARKING LEGEND

- | | |
|----|----------------------------------|
| 1 | Center Line (Double Yellow) |
| 2 | Lane Line |
| 3 | Edge Line (Yellow) |
| 4 | Edge Line (White) |
| 5 | Channelizing Line |
| 6 | Transverse/Diagonal Line (White) |
| 7 | Stop Line |
| 8 | Crosswalk Line |
| 9 | Curb Marking |
| 10 | Island Marking |

For Quantities, See Sheet No. 44.

LOCATION	STATION		SIDE "Direction of Travel"	642											621					CALCULATED DAH CHECKED RDA
				EDGE LINE, TYPE 1 (YELLOW)	EDGE LINE, TYPE 1 (WHITE)	LANE LINE, TYPE 1		CHANNELIZING LINE, TYPE 1			TRANSVERSE/ DIAGONAL LINE, TYPE 1					RPM				
	2 - WAY, WHITE/ RED	1 - WAY, WHITE																		
	FROM	TO		FT.	FT.	FT.		FT.			FT.					EACH	EACH			
S.R. 7 MAINLINE NORTHBOUND																				
	* 589+50	* 770+80.24	CTR.			20,947.40											176			
	* 589+50	* 770+80.24	LT.	20,947.40																
	* 589+50	* 621+96.96	RT.		4,849.91															
	621+96.96	646+07.14	RT.		2,410.21															
	* 641+97.61	* 659+25	RT.		2,941.60															
	659+25	661+32.74	RT.		207.74															
	660+68.14	684+81.26	RT.		2,413.12															
	685+83.07	707+05	RT.		2,121.93															
	707+05	733+60.96	RT.		2,655.96															
	732+09.96	770+80.24	RT.		3,870.28															
RAMP 'D' DECEL. LANE																				
	617+91.79	619+33.51	LT.			141.72														
	619+33.51	621+96.96	LT.					526.90			345					15				
RAMP 'B' ACCEL. LANE																				
	641+97.61	646+07.14	LT.					409.53								11				
	646+07.14	648+71.80	LT.			264.66														
RAMP 'C' DECEL. LANE																				
	666+34.54	668+58.42	LT.			223.88														
	* 668+58.42	* 659+25	LT.					561.58			257					15				
RAMP 'D' ACCEL. LANE																				
	660+68.14	661+32.74	LT.					64.60								3				
	661+32.74	664+74.86	LT.			342.12														
RAMP 'C' DECEL. LANE																				
	703+51.04	705+95.12	LT.			244.08														
	705+95.12	707+05	LT.					219.76			50					7				
RAMP 'D' ACCEL. LANE																				
	732+09.96	733+60.96	LT.					151.00								5				
	733+60.96	735+40.91	LT.			179.95														
									</											



[illegible]

TRAFFIC CONTROL ESTIMATED QUANTITIES