

DESIGN DESIGNATION	RIC-39-3.88	RIC-61-4.80
CURRENT A.D.T.	15,460 (1995)	3,990 (1995)
DESIGN YEAR A.D.T.	23,190 (2015)	5,985 (2015)
D.H.V.	1907	403
D. (DIRECTIONAL DISTRIBUTION)	0.55	0.55
T. (PERCENT B. & C. TRUCKS)	4%	4%
V. (DESIGN SPEED)	35 M.P.H.	50 M.P.H.
V. (LEGAL SPEED)	35 M.P.H.	50 M.P.H.
FUNCTIONAL CLASSIFICATION	Urban Principle Arterial	Urban Minor Arterial
DESIGN EXCEPTIONS	None	None

STATE OF OHIO

BHF - 36 (21)
BRF - 94B (18)

FHWA REGION	STATE	PROJECT
5	OHIO	

1/45

DEPARTMENT OF TRANSPORTATION

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

RIC-39-3.88 RIC-61-4.80

P.I.D. NO. 10499

MICROFILMED
MAY 29 1997

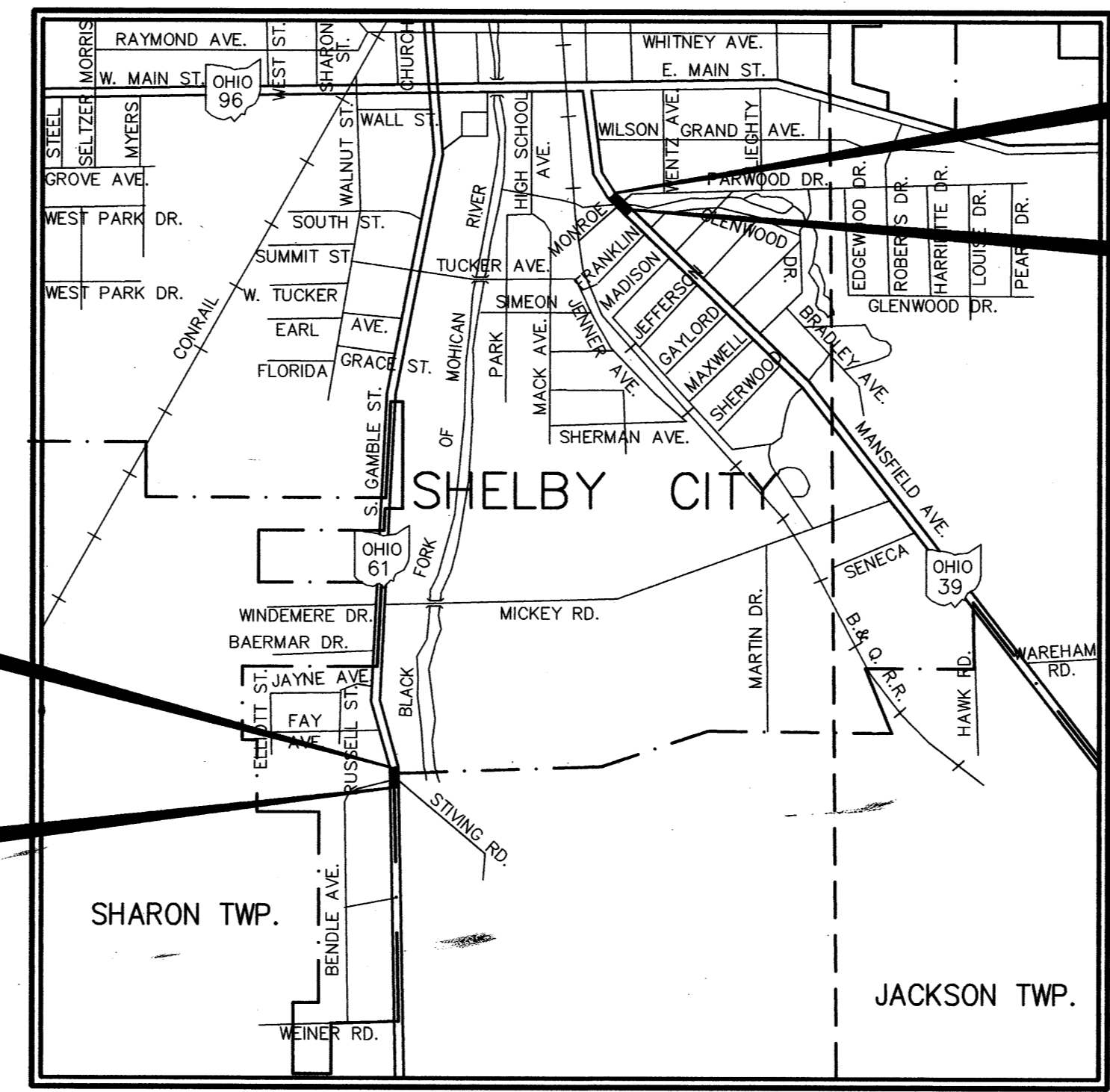
CITY OF SHELBY SHARON TOWNSHIP RICHLAND COUNTY

CONVENTIONAL SIGNS

COUNTY LINE	-----	LIMITED ACCESS	LA	LA
TOWNSHIP LINE	-----	RIGHT OF WAY	R/W	R/W
CORPORATION LINE	-----	TEMPORARY RIGHT OF WAY	Existing T/W	
SECTION LINE	-----	EXISTING RIGHT OF WAY	Existing R/W	
FENCE LINE (EXISTING)	-x-x-	PROPERTY LINE	--- (IN EXISTING FENCE)	x---x
CENTER LINE	10	RAILROAD	-----	
TREES	⊙ STUMPS	GUARDRAIL (EXISTING)	o-o-o-	(PROPOSED)
UTILITY POLES:	TELEPHONE ⚡ POWER ⚡ LIGHT ⚡	WORK LIMITS	W/L	
MAILBOX	□ PAPERBOX	GAS LINE	G	WATER LINE
WATERVALVE	⊕ GAS VALVE	SANITARY SEWER	SAN	STORM SEWER
MANHOLE	⊙ (ADJUSTED TO GRADE)	TELEPHONE	UGT	UGT

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END PROJECT
RIC-39-3.88
STA. 205+46.34

BEGIN PROJECT
RIC-39-3.88
STA. 204+71.68

END PROJECT
RIC-61-4.80
STA. 254+57.05

BEGIN PROJECT
RIC-61-4.80
STA. 253+52.70

1995 SPECIFICATIONS

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

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS SHOWN ON SHEET NO. 8, AND THE PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

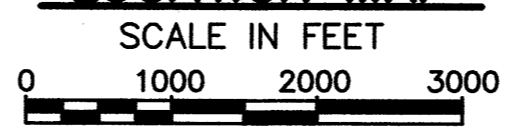
APPROVED: Phillip J. Hamwood
DATE: 8-17-94 DISTRICT DEPUTY DIRECTOR OF TRANSPORTATION

APPROVED: B.D. Hanchammi/DEH
DATE: 9-7-94 ENGINEER, BUREAU OF BRIDGES AND STRUCTURAL DESIGN

APPROVED: Christophy L. Danyan
DATE: 11-7-94 DEPUTY DIRECTOR OF DESIGN

APPROVED: Jerry Wray
DATE: 11-7-94 DIRECTOR, DEPARTMENT OF TRANSPORTATION

LOCATION MAP



LINE DATA			
RIC-39-3.88	PROJECT	WORK	
	BEGIN	204+71.68	201+70
	END	205+46.34	208+30
	GROSS	74.66 L.F.	660.00 L.F.
RIC-61-4.80			
	BEGIN	253+52.70	250+10
	END	254+57.05	257+55
	GROSS	104.35 L.F.	745.00 L.F.
NET LENGTH		179.01 L.F.	1405.00 L.F.
		0.034 MI.	0.266 MI.

UNDERGROUND UTILITIES
-- 2 WORKING DAYS
BEFORE YOU DIG
CALL 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE
NON - MEMBERS
MUST BE CALLED DIRECTLY

PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER STREETS

PLAN
PROFILE-HORIZONTAL
PROFILE-VERTICAL
CROSS SECTIONS
RIGHT OF WAY
OTHERS

AS SHOWN

SUPPLEMENTAL SPECIFICATIONS	
802	3-23-95
944	3-23-95
820	6-14-95
931	7-17-95
942	6-14-95

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS							
BP-3.1	2-21-92	TC-41.20	6-21-94	MT-105.10	7-1-92	AS-1-81	9-15-94
BP-4.1	2-21-92	TC-42.20	3-26-79	MT-105.11	7-1-92	DBR-2-73	4-10-73
BP-5.1	10-28-94	TC-52.10	4-3-79			PSBD-1-81	6-20-89
GR-1.1	5-6-91	TC-52.20	4-3-79	MC-2	7-7-81	SB-2-73	4-10-73
GR-1.2	10-30-92	TC-65.10	2-1-90	TC-41.10	8-29-84	BR-2-82	11-1-82
GR-1.3	2-21-92	MT-96.11	9-9-88	CB-2-2A&B	5-1-79	PCB-91	4-24-92
GR-2.1	5-6-91	MT-96.20	9-9-88	HW-4A	4-1-80		
GR-5.3	10-30-92	MT-96.25	9-9-88	HW-4B	4-1-80		
GR-3.4	5-6-91	MT-97.10	4-29-88	LA-1	6-1-79		
MC-1	6-13-69						
MC-9.2	5-6-91	MT-99.10	11-14-86				
MC-11	8-1-78	MT-101.60	7-1-92				
MC-4	7-26-76						

STRUCTURE PLANS REVIEWED BY:
Burgess & Niple, Limited
Engineers and Architects

PREPARED AND RECOMMENDED BY
RICHLAND ENGINEERING LIMITED
Consulting Engineers
MANSFIELD, CLEVELAND, OHIO

PROJECT RIC-39-3.88 RICHLAND COUNTY
RIC-61-4.80
DATE OF LETTING 19 CONTRACT NO.

**DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION**

APPROVED: _____
DIVISION ADMINISTRATOR DATE _____

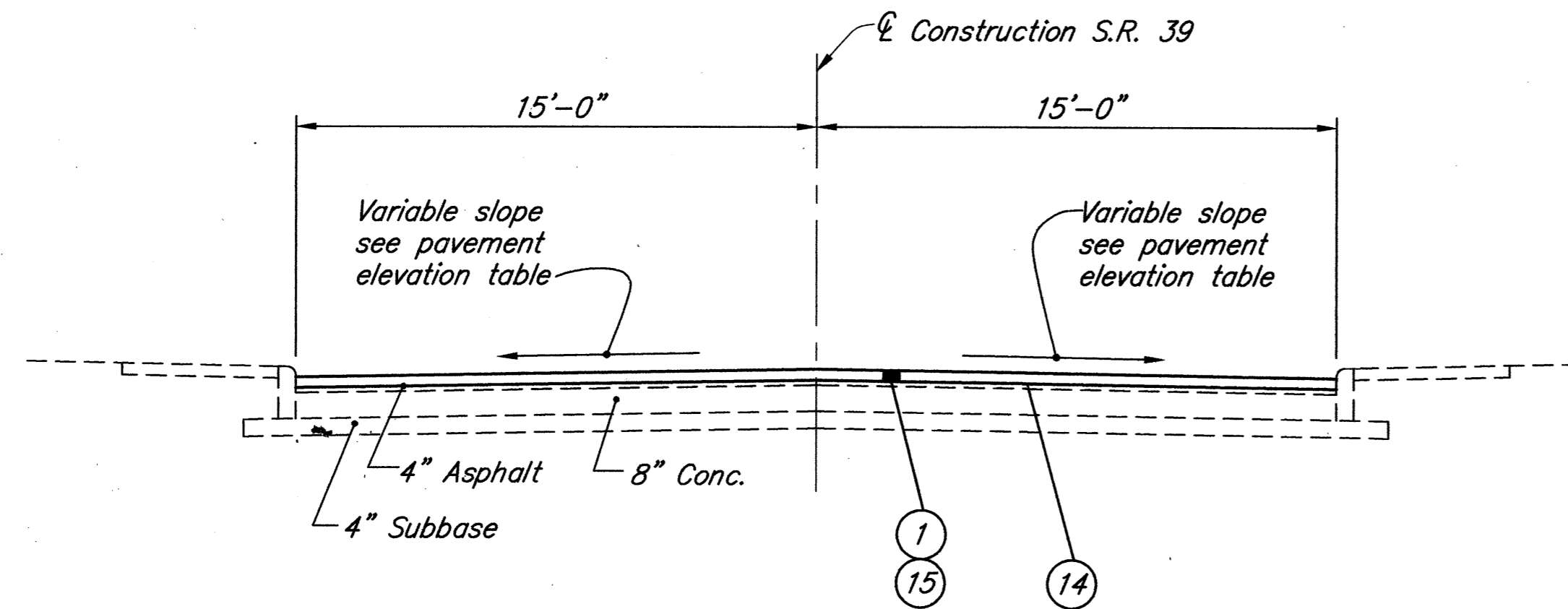
RIC-SR 39-3.88, SR 61
960487 06-26-96
45PGS DIST. 3

Job No. 92062 & 92063 Date 05/24/94 Drawn By L.S.

TYPICAL SECTIONS TYPE 404

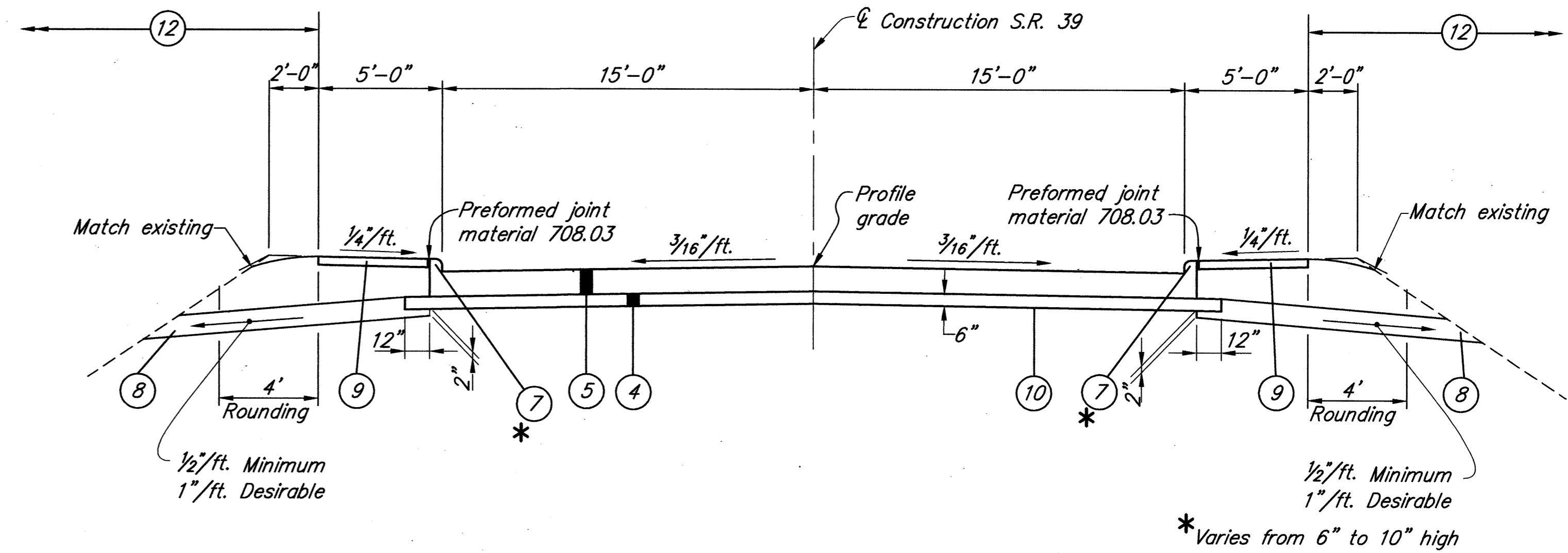
FHWA REGION	STATE	PROJECT
5	OHIO	

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80



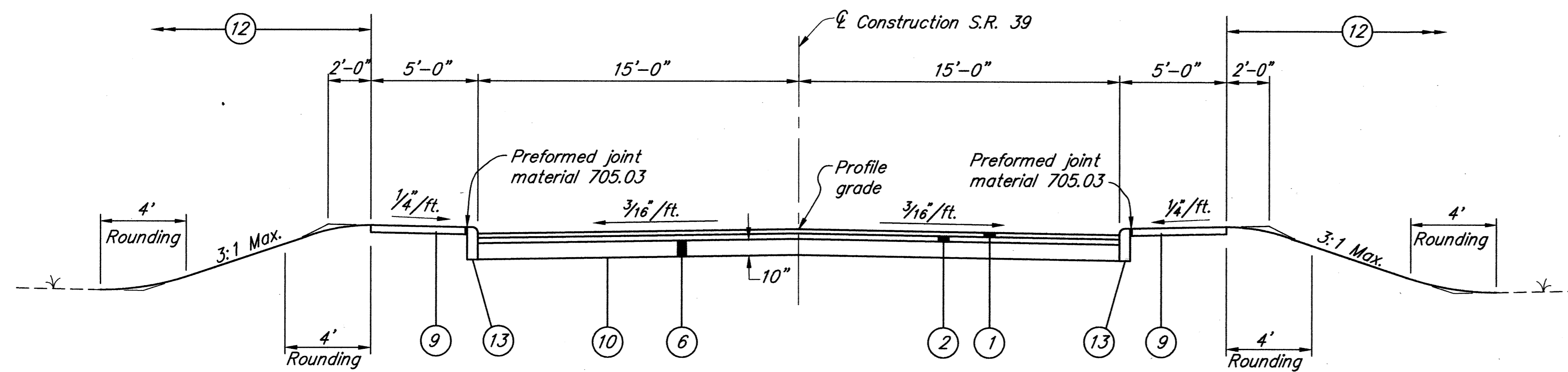
S.R. 39 RESURFACING SECTION

Sta. 204+37.00 To Sta. 204+71.68 = 34.68 L.F.
Sta. 205+46.34 To Sta. 205+80.00 = 33.66 L.F.
Total = 68.34 L.F.



S.R. 39 APPROACH SLAB SECTION

Sta. 204+76.68 To Sta. 204+96.68 = 20.00 L.F.
Sta. 205+21.34 To Sta. 205+41.34 = 20.00 L.F.
Total = 40.00 L.F.



S.R. 39 NORMAL SECTION

Sta. 204+71.68 To Sta. 204+76.68 = 5.00 L.F.
Sta. 205+41.34 To Sta. 205+46.34 = 5.00 L.F.
Total = 10.00 L.F.

LEGEND

- | | |
|--|---|
| ① 404 1 1/4" Asphalt concrete, AC-20 | ⑧ 605 Aggregate drain |
| ② 402 1 3/4" Asphalt concrete, AC-20 | ⑨ 608 4" Concrete walk |
| ③ 408 Bituminous prime coat applied at 0.40 Gal/Sq.Yd. | ⑩ 203 Subgrade compaction |
| ④ 304 Aggregate base (See Proposal Note) | ⑪ 606 Guardrail, Type 5 |
| ⑤ 611 Reinforced concrete approach slab (T=13"), As Per Plan | ⑫ 659 Seeding & mulching (See General Note) |
| ⑥ 301 Bituminous aggregate base, AC-20 | ⑬ 609 Curb, Type 6 |
| ⑦ Curb, Type 2-A (Included in the cost of Item 611) | ⑭ 407 Tack coat (See General Note) |
| | ⑮ 202 Wearing Course Removed |

Pavement Elevation Table - See sheet 13 of 45

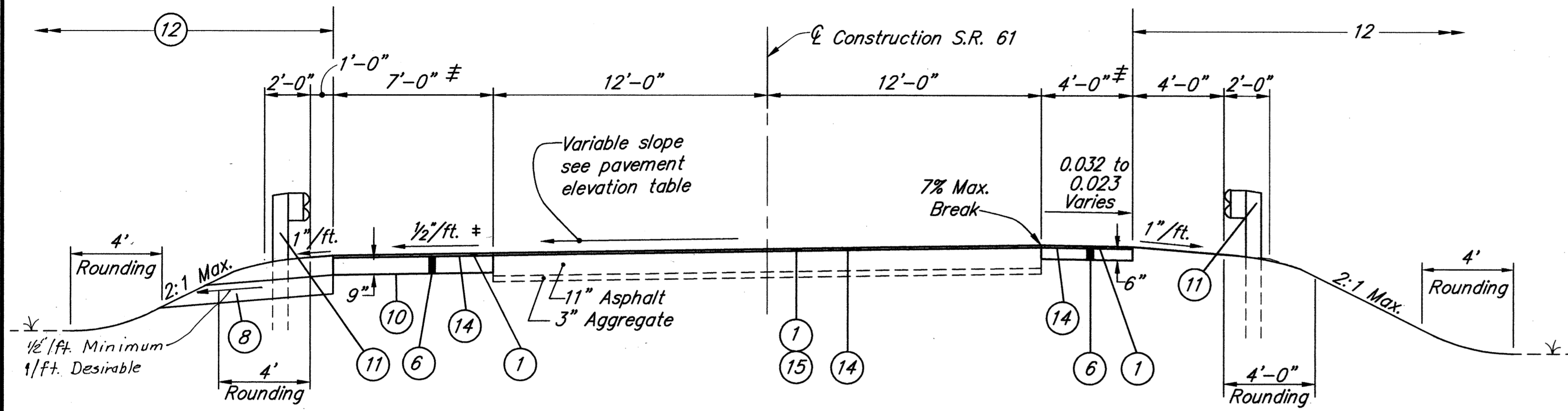
TYPICAL SECTIONS

TYPE 404

FHWA REGION	STATE	PROJECT
5	OHIO	

3
45

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

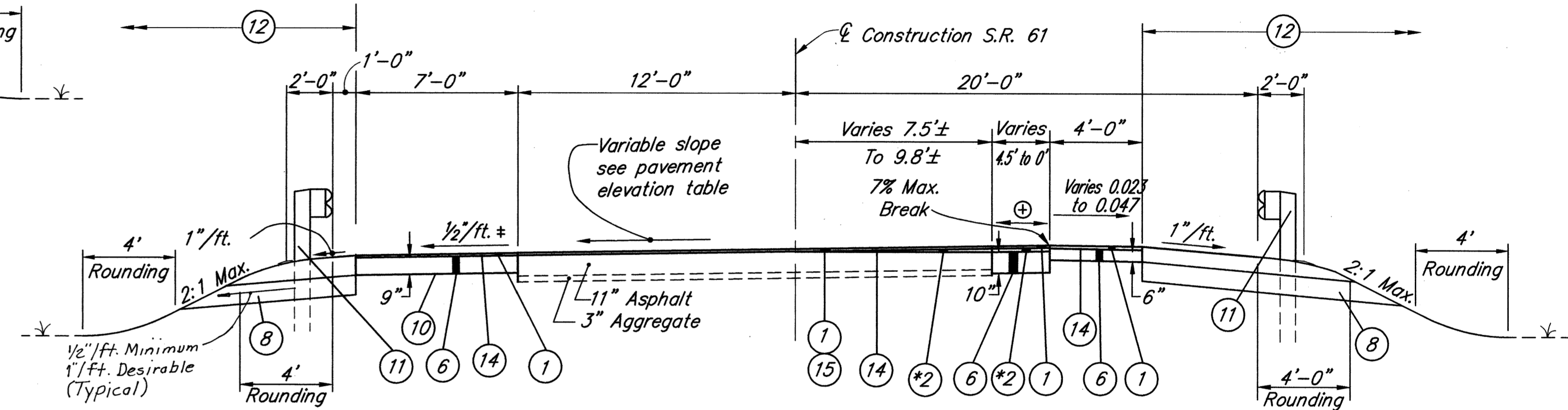


S.R. 61 RESURFACING SECTION

Sta. 253+04.00 To Sta. 253+52.70 = 48.70 L.F.

≠ Paved shoulder only Sta. 252+74 To Sta. 253+04 Left
Sta. 252+46 To Sta. 253+04 Right

* Pav't. slope if greater

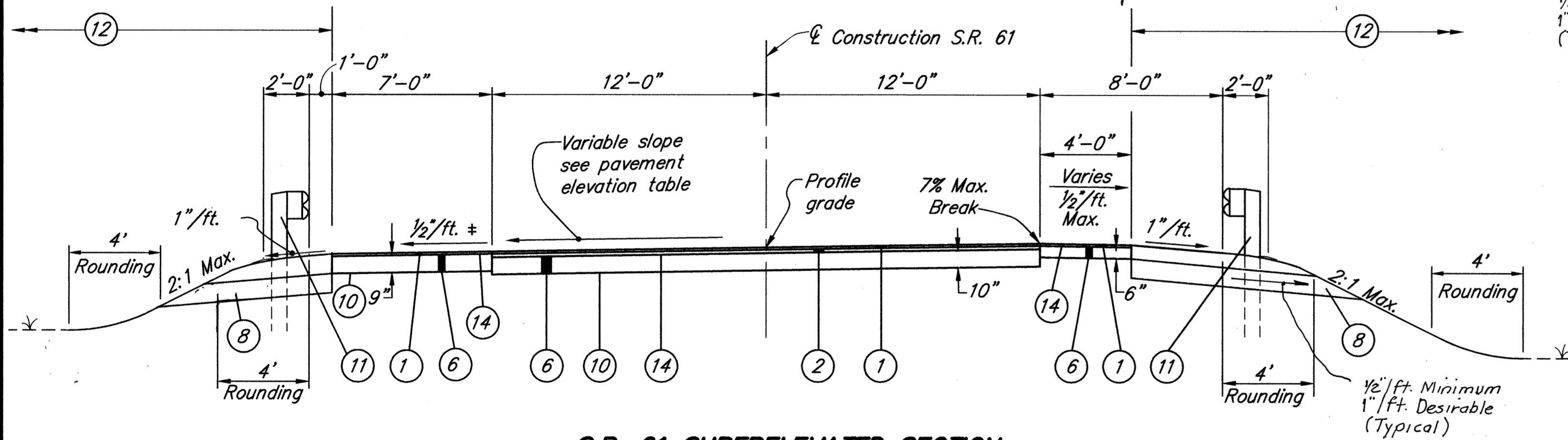


S.R. 61 WIDENING & RESURFACING SECTION

Sta. 254+57.05 to Sta. 255+91 = 133.95 L.F.

* Pav't. slope if greater

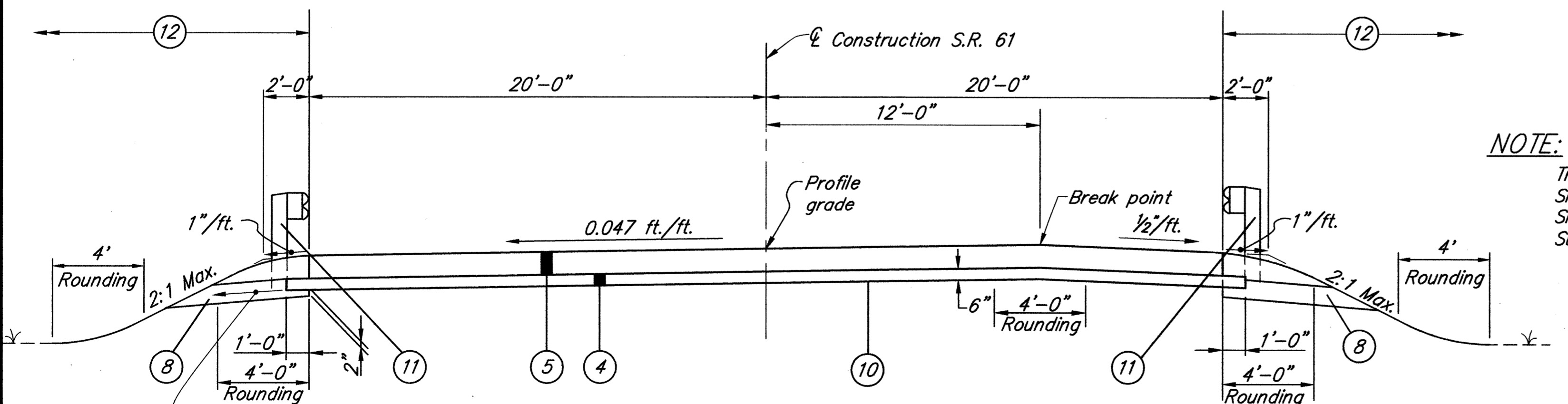
⊕ Pav't. Slope
* Variable Thickness



S.R. 61 SUPERELEVATED SECTION

Sta. 253+52.70 To Sta. 253+59.95 = 7.25 L.F.

* Pav't. slope if greater



S.R. 61 APPROACH SLAB SECTION-SUPERELEVATED

Sta. 253+59.95 To Sta. 253+79.95 = 20.00 L.F.
Sta. 254+37.05 To Sta. 254+57.05 = 20.00 L.F.
Total = 40.00 L.F.

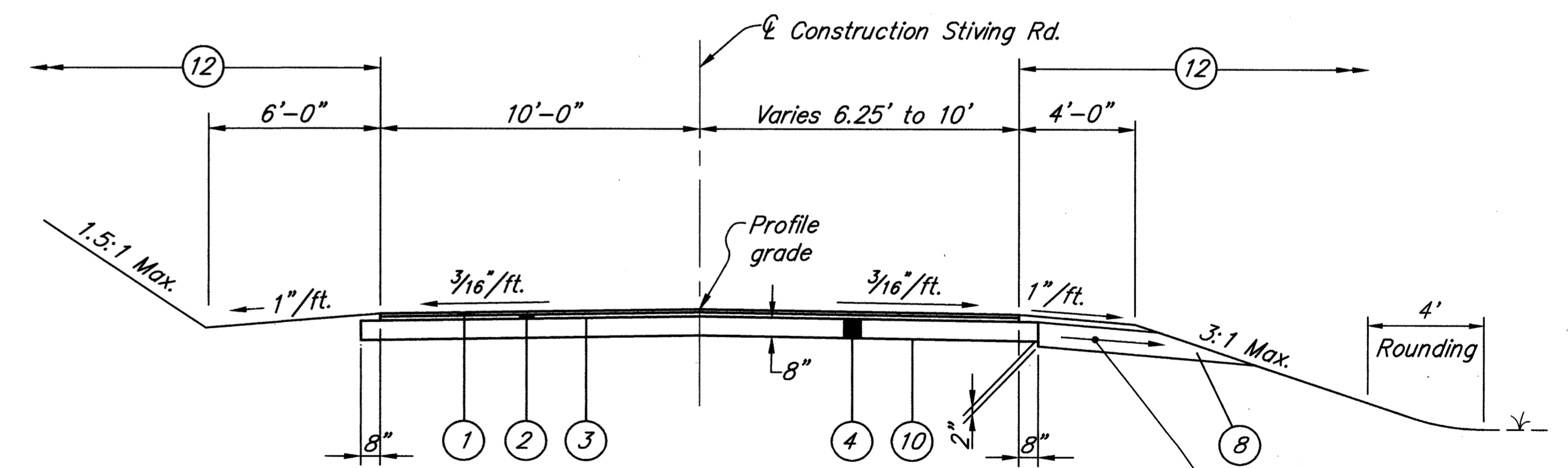
1/2" ft. Minimum
1" ft. Desirable
(Typical)

NOTE:

Transition High Side
Shoulder From Approach
Slab Section to Normal
Superelevated Section in 25'

NOTE

For Item Legend
See Sheet 2
Pavement Elevation Table - See sheet 17 of 45



STIVING RD. NORMAL SECTION

Sta. 7+00.00 To Sta. 8+97.45 = 197.45 L.F.

1/2" ft. Minimum
1" ft. Desirable
(Typical)

Job No. 92063 Date 05/12/94 Drawn By LS

GENERAL NOTES

QUANTITIES			FHWA REGION	STATE	PROJECT
CALCULATED	D.S.	8/93	5	OHIO	
CHECKED	R.P.	11/93			

4
45

RICHLAND COUNTY
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RIC-61-4.80

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 with the project construction limits together with their respective owners:

Electric: S.R. 39
City of Shelby
Light and Water Department
24 East Whitney Avenue
Shelby, Ohio 44875
(419) 342-5111

Telephone:
United Telephone of Ohio
175 Ashland Road
P.O. Box 3555
Mansfield, Ohio 44902
(419) 755-8011

Electric: S.R. 61
Columbus Southern Power Company
(Ohio Power Company)
215 North Front Street
Columbus, Ohio 43215
(614) 464-7700

Gas Service:
Columbia Gas of Ohio
380 North Main Street
P.O. Box 1326
Mansfield, Ohio 44902
(419) 521-3650

T.V. Cable Service
Adelphia Cable Communications Inc.
59 East Main Street
Shelby, Ohio 44875
(419) 342-3286

Water Service:
City of Shelby
115 North Gamble Street
Shelby, Ohio 44875
(419) 342-2171

The location of the underground utilities shown on the plans are as obtained from the Owners as required by Section 153.64 O.R.C.

CONTINGENCY QUANTITIES

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

ELEVATION DATUM

All Elevations are based on U.S.G.S. Datum.

WORK LIMITS

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

REMOVAL OF TREES OR STUMPS

All trees and stumps specifically marked for removal within the construction limits shall be removed under the Lump Sum bid for Item 201, Clearing and Grubbing. The following is an approximate estimate of the number of trees and stumps to be removed:

Sizes	No. Trees	No. Stumps	Total
18"	1	0	1
30"	0	0	0
48"	1	0	1
60"	0	0	0

MONUMENT ASSEMBLY AS PER PLAN

Monuments shall be constructed in accordance with details as shown on the Standard Construction drawings and at the locations shown on Sheet No. 43.

ITEM 606 ~ ANCHOR ASSEMBLY ~ TYPE E

This item shall consist of furnishing and installing an ET-2000, Option "B" guardrail end terminal as manufactured by Syro Steel Company, 1170 N. State Street, Girard, Ohio 44420 (Telephone : 216-545-4373).

The length of the ET-2000 system is considered to be 50', inclusive of two 25' long rail elements. Installation shall be in accordance with the manufacturer's specifications and at the locations shown in the plans.

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

ITEM 659 ~ SEEDING AND MULCHING S.R.-61 AND STIVING ROAD

Seeding and mulching shall be applied to all areas of exposed soil between the Right-of-Way lines, and within the construction limits for areas outside the Right-of-Way lines covered by work agreement or slope easement. Quantity calculations for Item 659, Seeding and Mulching are based on these limits.

ITEM 659 ~ SEEDING AND MULCHING S.R.-39

The following estimated quantity has been carried to the General Summary for use as directed by the engineer. This is to be used to seed the bare areas around the wingwalls and sidewalks.

659, Seeding and Mulching 100 Sq. Yd.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

The following estimated quantities are to be used as directed by the Engineer for temporary erosion and sediment control measures:

207, Straw or Hay bales 50 each
207, Filter Fabric Fence 600 Lin. Ft.

ITEM 407 ~ TACK COAT

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

CURBING ON APPROACH SLABS S.R.-39

The shape of the curbing on approach slabs shall be transitioned, from the standard section on the approaches to the section used on the bridge, within the limits of the approach slab.

ITEM 203 ~ EMBANKMENT AS PER PLAN

An estimated quantity of Item 203 Embankment has been provided for use as directed by the Engineer to dress up the areas around the existing wingwalls on the SR-39 bridge. The quantity will be measured as the loose volume per truck load.

203, Embankment 25 Cu. Yd.

ITEM 622 ~ PORTABLE CONCRETE BARRIER

It is anticipated that the same barrier will be used in various phases of construction. Movement of the concrete barrier between phases shall be accomplished in one working day. Flaggers shall be utilized for protection of vehicular traffic until movement of the barrier is complete.

ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T-13"), AS PER PLAN:

THE REINFORCING STEEL FOR THE APPROACH SLABS OF THIS STRUCTURE SHALL BE EPOXY COATED IN CONFORMANCE WITH 509.

TWO SEPARATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LENGTH AND WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLAB.

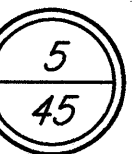
MATERIALS, LABOR AND INSTALLATION SHALL BE INCLUDED FOR PAYMENT IN THIS ITEM 611 REINFORCED CONCRETE APPROACH SLAB (T-13"), AS PER PLAN

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND CONSTRUCTING THE FULL PAVEMENT WIDTH IN STAGES, EXTREME CARE SHALL BE TAKEN TO PREVENT THE CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LONGITUDINAL JOINTS SHALL BE LAPPED AS SHOWN ON STANDARD CONSTRUCTION DRAWING BP-3.1.

614 TEMPORARY RAISED PAVEMENT MARKERS

FHWA REGION	STATE	PROJECT
5	OHIO	



RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, MAINTAINING, AND SUBSEQUENTLY REMOVING TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S). THE TRPM'S SHALL BE YELLOW OR WHITE, AS DESCRIBED IN THE PLANS.

MATERIAL

ALL UNITS SHALL BE OF SUFFICIENT STRENGTH AND PROPERLY SHAPED SO AS NOT TO BE DISLODGED OR BROKEN, OR THE REFLECTORS DISLODGED OR DAMAGED, BY IMPACTS FROM VEHICLE TIRES, INCLUDING HIGH-PRESSURE TRUCK TIRES LOADED TO 4500 POUNDS.

RETROREFLECTORS SHALL BE PROVIDED IN ONE OR TWO DIRECTIONS ON EACH UNIT AS REQUIRED BY THE USAGE AND SHALL RETURN WHITE OR YELLOW LIGHT AS IS APPROPRIATE FOR THE APPLICATION.

THE REFLECTOR SHALL HAVE AN EFFECTIVE AREA OF 0.35 SQUARE INCH FOR TYPE A OR 3.0 SQUARE INCH FOR TYPE B. ITS BRIGHTNESS OR SPECIFIC INTENSITY (WHEN TESTED AT 0.2 DEGREE ANGLE OF OBSERVATION AND THE FOLLOWING ANGLES OF INCIDENCE) SHALL MEET OR EXCEED THE FOLLOWING:

INCIDENCE ANGLE (DEGREES)	SPECIFIC INTENSITY	
	TYPE A WHITE	YELLOW
0	1.0	0.6
20	0.4	0.24
45	-	-

INCIDENCE ANGLE (DEGREES)	TYPE B WHITE	
	WHITE	YELLOW
0	3.0	0
20	1.2	20
45	0.3	45

ANGLE OF INCIDENCE IS FORMED BETWEEN A RAY FROM THE LIGHT SOURCE TO THE MARKER, AND THE NORMAL TO THE LEADING EDGE OF THE MARKER FACE (ALSO HORIZONTAL ENTRANCE ANGLE).

ANGLE OF OBSERVATION IS FORMED BETWEEN A RAY FROM THE LIGHT SOURCE TO THE MARKER AND THE RETURN RAY FROM THE MARKER TO THE MEASURING RECEPTOR.

SPECIFIC INTENSITY IS THE MEAN CANDLEPOWER OF THE REFLECTED LIGHT (AT GIVEN INCIDENCE AND DIVERGENCE ANGLES) FOR EACH FOOT-CANDLE AT THE REFLECTOR (ON A PLANE PERPENDICULAR TO THE INCIDENT LIGHT).

TYPE A UNITS ARE INTENDED TO PROVIDE HIGH VISIBILITY BOTH AT NIGHT AND DURING DAYLIGHT. THEIR DAYTIME VISIBILITY SHALL BE ASSURED BY SIZE, SHAPE, AND COLOR AS FOLLOWS:

1) THE UNITS SHALL BE A HIGH VISIBILITY YELLOW OR WHITE COLOR WHICH WILL NOT DEGRADE SUBSTANTIALLY DUE TO TRAFFIC WEAR AND WHICH WILL MATCH THE COLOR OF THE REFLECTOR

2) WHEN VIEWED FROM ABOVE, THE UNITS SHALL HAVE A VISIBLE AREA OF NOT LESS THAN 14 SQUARE INCHES.

3) WHEN VIEWED FROM THE FRONT PARALLEL TO THE PAVEMENT, AS FROM APPROACHING TRAFFIC, THE UNIT SHALL HAVE A WIDTH OF APPROXIMATELY 4 INCHES AND A VISIBLE AREA OF NOT LESS THAN 1.5 SQUARE INCHES.

TYPE B UNITS ARE INTENDED TO PROVIDE HIGH VISIBILITY AT NIGHT BY RETROREFLECTING A VEHICLE'S HEADLIGHTS BACK TO ITS DRIVER.

INSTALLATION EACH UNIT SHALL BE ATTACHED TO CLEAN, DRY PAVEMENT BY A BUTYL ADHESIVE PAD, A BITUMINOUS ADHESIVE, OR OTHER CONSTRUCTION GRADE ADHESIVE (SUCH AS FRANKLIN PANEL AND METAL ADHESIVE) SUITABLE FOR ANCHORING THE UNIT. WHEN IT IS NECESSARY TO ATTACH UNITS TO NEW CONCRETE HAVING CURING COMPOUNDS REMAINING ON IT, THE CURING COMPOUND MEMBRANE SHALL BE REMOVED BY SANDBLASTERS OR OTHER MECHANICAL CLEANING METHOD ACCEPTABLE TO THE ENGINEER. ALL UNITS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

THE CONTRACTOR SHALL IMMEDIATELY REPLACE AT HIS COST, ANY UNITS WHICH FAIL DUE TO: BROKEN HOUSING, HOUSING WORN TO THE EXTENT THAT DAYTIME VISIBILITY IS SIGNIFICANTLY DIMINISHED OR THE HOUSING IS OF AN UNACCEPTABLE COLOR; DETACHED OR BROKEN REFLECTOR; HOUSING DETACHED FROM ADHESIVE; ETC.

TRPM'S ARE LIKELY TO BE REMOVED BY SNOW PLOWING OPERATIONS; THEREFORE THEY ARE NOT CONSIDERED SUITABLE FOR USE DURING THE PERIOD FROM OCTOBER 15 TO APRIL 30. THE CONTRACTOR IS ADVISED TO SCHEDULE HIS WORK TO AVOID THE NEED TO USE THESE DEVICES DURING THAT PERIOD. SHOULD THE CONTRACTOR CHOOSE TO USE TRPM'S DURING THE TIME SPECIFIED AS INAPPROPRIATE FOR THEIR USE AND THEY ARE REMOVED BY SNOW AND ICE CONTROL ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY AT HIS COST, PROVIDE A SUBSTITUTE TRAFFIC GUIDANCE SYSTEM WHICH IS EFFECTIVE DURING LIGHT AND DARK AND WHICH IS ACCEPTABLE TO THE ENGINEER.

THE UNITS SHALL BE ACCURATELY PLACED TO FOLLOW LINES BEING SUPPLEMENTED OR TO DEFINE THE INTENDED LOCATIONS OF LINES BEING SIMULATED. UNITS USED TO SUPPLEMENT PAVEMENT MARKINGS MAY BE PLACED ON OR IMMEDIATELY ADJACENT TO THE MARKINGS BEING SUPPLEMENTED; HOWEVER, THEY SHALL NOT BE PLACED DIRECTLY ON PAVEMENT MARKINGS IF THAT PLACEMENT WOULD PREVENT ADEQUATE ADHESION OF THE MARKER TO THE PAVEMENT. MARKER LOCATIONS SHALL BE ADJUSTED UP TO ONE FOOT LONGITUDINALLY AND/OR SIX INCHES LATERALLY TO AVOID PLACEMENT ON JOINTS OR ON CRACKED OR OTHERWISE DETERIORATED PAVEMENT.

APPLICATION

1) WHEN USED TO SUPPLEMENT PAVEMENT MARKINGS, TRPM'S SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A OR B	20' C/C
LANE LINE	A OR B	40' C/C*
CENTER LINE (SINGLE/BROKEN)	A OR B	40' C/C*
CENTER LINE (DOUBLE SOLID)	A OR B	2 UNITS SIDE BY SIDE 4 INCHES APART 20' C/C
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A OR B	A OR B

*CENTERED IN GAP

2) WHEN USED TO SIMULATE (REPLACE) PAVEMENT MARKINGS, TRPM'S SHALL BE PLACED AS FOLLOWS:

LINE	TYPE	SPACING
EDGE LINE	A	5' C/C
LANE LINE	A	4 @ 3.33' C/C 30' GAP (40' CYCLE)
CENTER LINE (DOUBLE SOLID)	A	2 UNITS SIDE BY SIDE 5' C/C
CENTER LINE (SINGLE/BROKEN)	A	4 @ 3.33' C/C 30' GAP (40 CYCLE)
CHANNELIZING LINE (INCLUDES EXIT GORE NOSE)	A	5' C/C
EDGE LINE (TWO COLOR) (YELLOW WHITE)	A	BACK TO BACK 5' C/C

YELLOW TRPM'S USED TO SEPERATE OPPOSITE FLOWS OF TRAFFIC (CENTER LINES) SHALL PROVIDE RETROREFLECTION IN BOTH DIRECTIONS; ANY OTHER TRPM SHALL PROVIDE RETROREFLECTION IN ONLY ONE DIRECTION.

REMOVAL

REMOVAL SHALL BE ACCOMPLISHED IN A MANNER SUCH THAT LITTLE OR NONE OF THE ADHESIVE REMAINS ON THE PAVEMENT AND PERMANENT PAVEMENT SURFACES SHALL NOT BE SCARRED, BROKEN, OR SIGNIFICANTLY ROUGHENED.

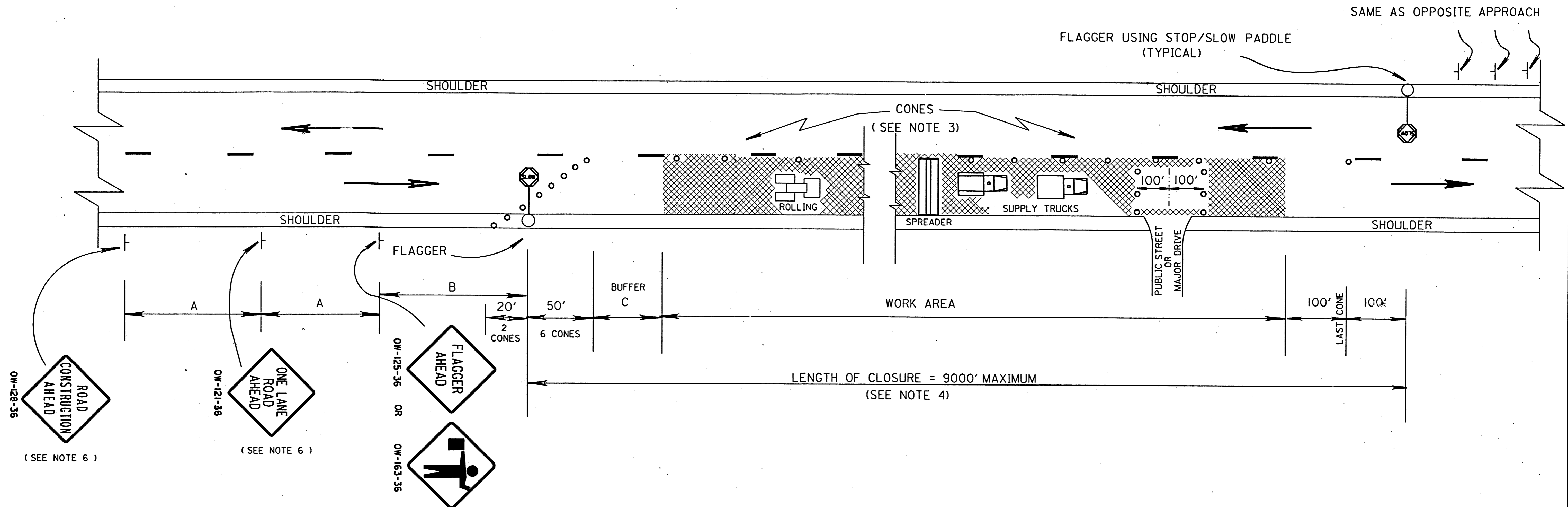
PAYMENT

BASIS OF PAYMENT SHALL BE THE CONTRACT UNIT PRICE BID FOR EACH TRPM WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, HARDWARE, AND INCIDENTALS REQUIRED TO PERFORM THE WORK. THE CONTRACT UNIT PRICE BID SHALL ALSO INCLUDE REPLACEMENT, WITHOUT COST TO THE STATE OF OHIO, OF ALL TRPM'S WHICH, IN THE JUDGEMENT OF THE ENGINEER, FAIL FOR ANY REASON OTHER THAN THE FAILURE OF THE PAVEMENT TO WHICH THEY ARE ATTACHED.

ITEM	UNIT	DESCRIPTION
614	EACH	TEMPORARY RAISED PAVEMENT MARKERS

STATIONING (FROM-TO)/(SIDE)	SPACING	TYPE A			TYPE B			LINE TYPE
		W	Y	Y/Y	W	Y	Y/Y	
S.R. 39 STAGE I 204+69 TO 205+49	5' c/c	17	17					Edge Line (Two Color)
S.R. 39 STAGE II 204+69 TO 205+49	5' c/c	17	17					Edge Line (Two Color)
S.R. 61 STAGE I 253+52 TO 254+52	5' c/c	21	21					Edge Line (Two Color)
S.R. 61 STAGE I 253+42 TO 255+95	5' c/c	51	51					Edge Line (Two Color)
S.R. 61 STAGE II 253+52 TO 254+52	5' c/c	21	21					Edge Line (Two Color)
S.R. 61 STAGE II 252+19 TO 255+91	5' c/c	74	74					Edge Line (Two Color)
SUB-TOTALS		201	201					
TOTALS		402						

Job No. 92062/92063 Date 05/12/94 Drawn By LS



GENERAL NOTES:

1. THE LOCATION OF THE ADVANCE WARNING SIGNS SHOULD ONLY BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT.
2. FLAGGERS, ONE FOR EACH DIRECTION SHALL BE USED TO CONTROL TRAFFIC CONTINUOUSLY FOR AS LONG AS A ONE LANE OPERATION IS IN EFFECT. THE FLAGGERS SHALL BE ABLE TO COMMUNICATE WITH EACH OTHER AT ALL TIMES.
3. CONES ON THE TAPERS SHALL BE SPACED AT 10' CENTER TO CENTER. CONES SHALL BE SPACED AT 200' CENTER TO CENTER PARALLEL TO THE CENTER LANE BUT 1 TO 2 FT. WITHIN THE CLOSED LANE. CONES MAY BE TEMPORARILY MOVED OFF THE ROAD IN THE IMMEDIATE VICINITY OF THE SUPPLY TRUCKS, PAVING SPREADER OR ROLLERS BUT SHALL BE IMMEDIATELY REPLACED WHEN THAT ACTIVITY HAS PASSED BY THE CONE LOCATION. CONES SHALL HAVE A MINIMUM HEIGHT OF 28 INCHES AND SHALL BE STABILIZED TO PREVENT THEM FROM BLOWING OVER. CLOSURES AT NIGHT SHALL USE DRUMS RATHER THAN CONES.
4. IT IS REQUIRED THAT THE LENGTH OF CLOSURE BE KEPT TO A MINIMUM AT ALL TIMES, AS DIRECTED BY THE ENGINEER.

WHEN THE AMBIENT TEMPERATURE EXCEEDS 80 DEGREES F, THE ENGINEER MAY INCREASE THE LENGTH OF CLOSURE TO ALLOW FOR SUFFICIENT COOLING OF NEW PAVEMENT.

4. CONT. THE ENGINEER MAY SHORTEN THE MAXIMUM ALLOWABLE LENGTH OF CLOSURE TO RELIEVE EXCESSIVE TRAFFIC BACKUPS OR TO IMPROVE TRAFFIC OPERATION.
ALL TRAFFIC CONTROL SIGNS, CONES (OR DRUMS), AND THE FLAGGER SHALL BE MOVED FORWARD AS A GROUP BEFORE THE CLOSURE REACHES THE MAXIMUM ALLOWABLE LENGTH. ONLY ONE SIDE OF THE ROAD SHALL BE CLOSED AT ANY TIME.

5. WITHIN THE LENGTH OF CLOSURE, PROVISION SHALL BE MADE TO CONTROL TRAFFIC ENTERING FROM INTERSECTING STREETS AND MAJOR DRIVES AS NECESSARY TO PREVENT WRONG WAY MOVEMENTS AND TO KEEP VEHICLES OFF OF NEW PAVEMENT NOT READY FOR TRAFFIC. AS A MINIMUM, THE CONTRACTOR SHALL:

- A) PROVIDE AN ADDITIONAL FLAGGER AT EVERY PUBLIC STREET INTERSECTION AND MAJOR DRIVEWAY AND -
- B) PLACE A ROW OF 3 CONES ACROSS THE CLOSED LANE APPROXIMATELY 100 FT. ON EACH SIDE OF AN INTERSECTION.
- C) ADDITIONAL ROWS OF 3 CONES EACH SHALL BE PLACED ACROSS THE CLOSED LANE AT A MAXIMUM SPACING OF 1000 FT. BETWEEN ROWS OF CONES.

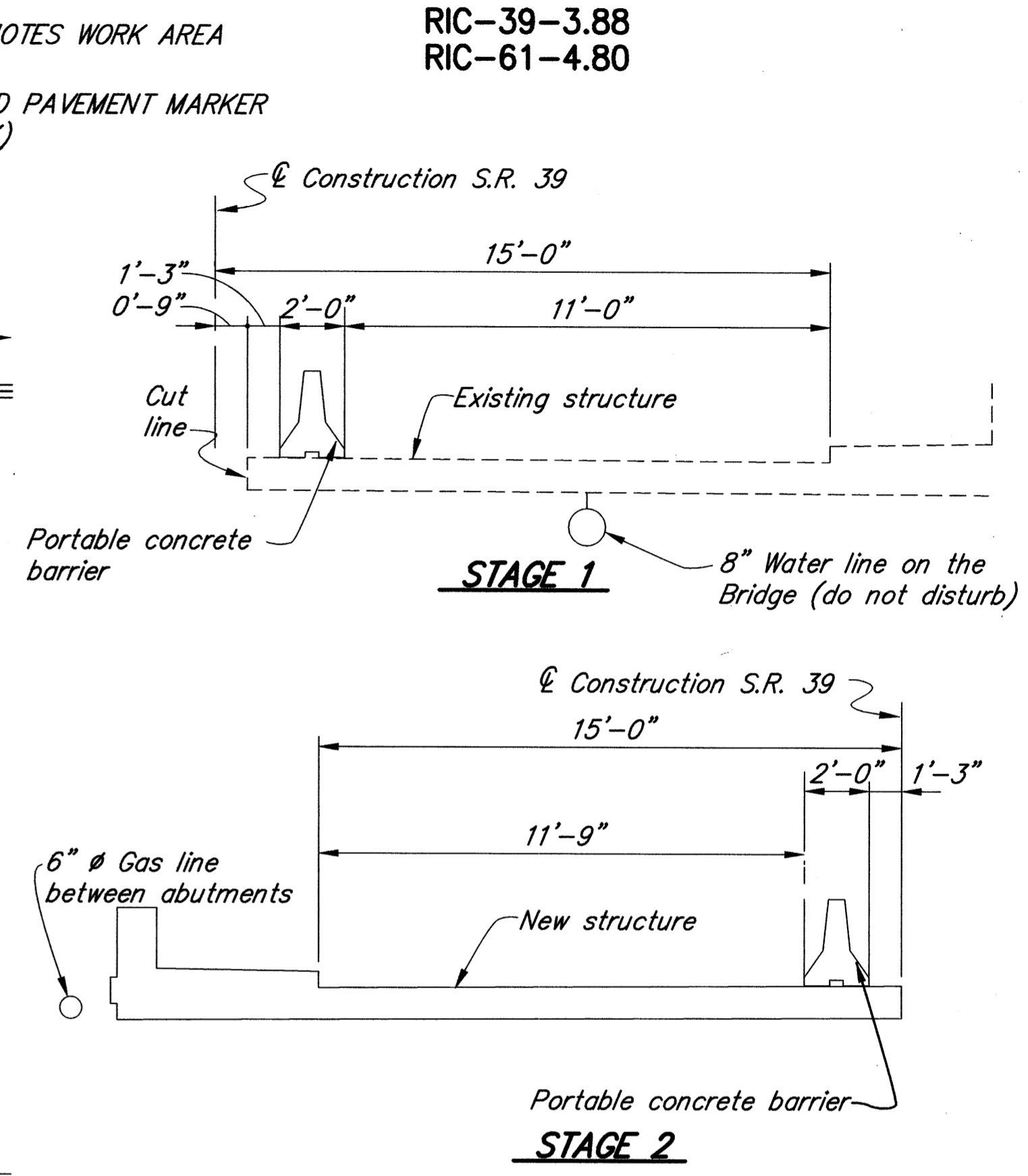
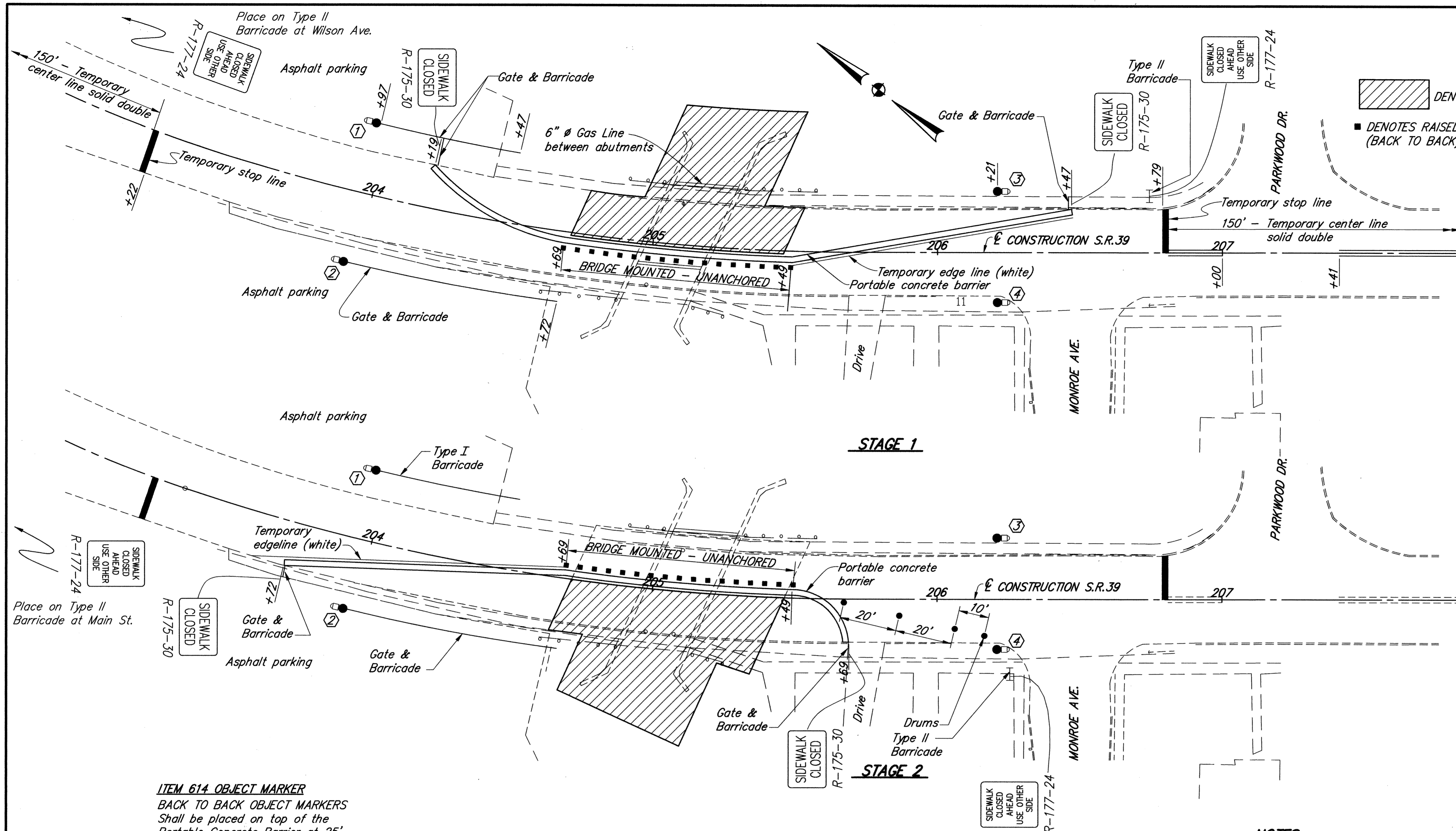
ROWS OF CONES MAY BE MOVED OFF THE ROAD TO ALLOW PASSAGE OF ROLLERS, PAVING SPREADER OR SUPPLY TRUCKS BUT SHALL BE MOVED BACK ONTO THE ROAD WHEN THE ACTIVITY HAS PASSED.

6. THE TYPE A FLASHING WARNING LIGHTS ARE REQUIRED ON THE 'ROAD CONSTRUCTION AHEAD' (OW-128) AND THE 'ONE LANE ROAD AHEAD' (OW-121) SIGNS WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.
7. TYPE C STEADY BURNING WARNING LIGHTS SHALL BE ERECTED ON EACH DRUM FOR NIGHT LANE CLOSURES.
8. ADEQUATE AREA ILLUMINATION OF EACH FLAGGER STATION SHALL BE PROVIDED AT NIGHT BY USING 150 WATT MINIMUM HIGH PRESSURE SODIUM LUMINAIRES OR 250 WATT MINIMUM MERCURY LUMINAIRES. LUMINAIRES SHALL BE LOCATED ADJACENT TO ONE FLAGGER STATION FOR EACH DIRECTION OF TRAFFIC.

DISTANCE	A	B	C
URBAN	200	350	100
RURAL	500	650	200

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF ODOTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCLUDED IN THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

REVISED BY:	DATE:
209711FED	DATE 04/05/89
FLAGGER CLOSING 1 LANE OF A 2 LANE HIGHWAY FOR PAVING OPERATIONS WITH CONES	
PLAN INSERT SHEET	



ITEM 614 OBJECT MARKER
BACK TO BACK OBJECT MARKERS
 Shall be placed on top of the Portable Concrete Barrier at 25' intervals evenly spaced between the barrier reflectors.

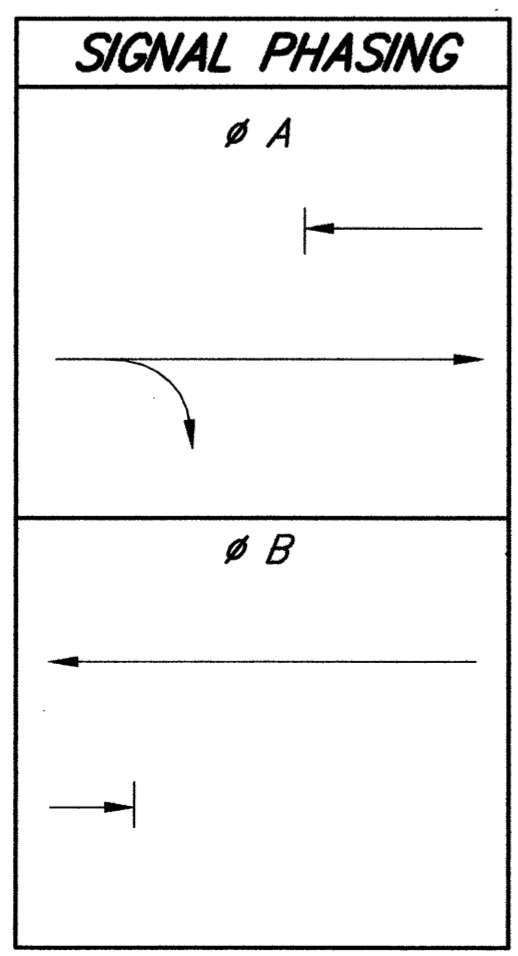
ITEM 614. BARRIER REFLECTORS
 Reflectors and their mounting shall conform to Supplemental Specification 802 except that the spacing shall be 25'.

NOTES

- 1.) The luminaires shown on Std. Dwg. MT-96.11 are not required.
- 2.) The R-15B-30 signs and supports are considered incidental to Item 614 maintaining traffic.
- 3.) When moving the portable concrete barrier from Stage 1 to Stage 2 exercise care that the traffic does not drop into the gap between the centerline and the cutline. The switch between phases is to be made in the absolute minimum amount of time utilizing flaggers.
- 4.) The intent of the portable concrete barrier placement is that portions of portable concrete barrier may need to be removed during working hours to complete work in the resurfacing areas.
- 5.) Place Type II Barricades so as not to block more than one-half of the sidewalk.

SEQUENCE OF CONSTRUCTION

- 1.) Erect and test temporary traffic signals keep signal heads covered until put into actual operation.
- 2.) Remove existing wearing course where indicated on plan & profile sheet.
- 3.) Install temporary pavement markings & signing.
- 4.) Install portable concrete barrier, barrier reflectors and object markers.
- 5.) Complete Stage 1 construction except for 404 course.
- 6.) Switch to and complete Stage 2 construction except for the final 404 course.
- 7.) Remove temporary maintenance of traffic items
- 8.) Place the required 404 surface course (See Plan & Profile sheet and Standard Drawing MT-97.10).
- 9.) Place the temporary center line in the same place as the permanent center line between Sta. 204+37 to Sta. 205+80.
- 10.) Place the permanent center line between Sta. 204+37 to Sta. 205+80.



SIGNAL TIMING

ø A	
GREEN	17 Seconds
YELLOW	3 Seconds
ALL RED	10 Seconds
ø B	
GREEN	17 Seconds
YELLOW	3 Seconds
ALL RED	10 Seconds

SIGNAL DISPLAY

Signal No.	INTERVALS								Flash
	ø A	ø B							
1	G	Y	R	R	R	R	R	R	R
2	G	Y	R	R	R	R	R	R	R
3	R	R	R	R	G	Y	R	R	R
4	R	R	R	R	G	Y	R	R	R

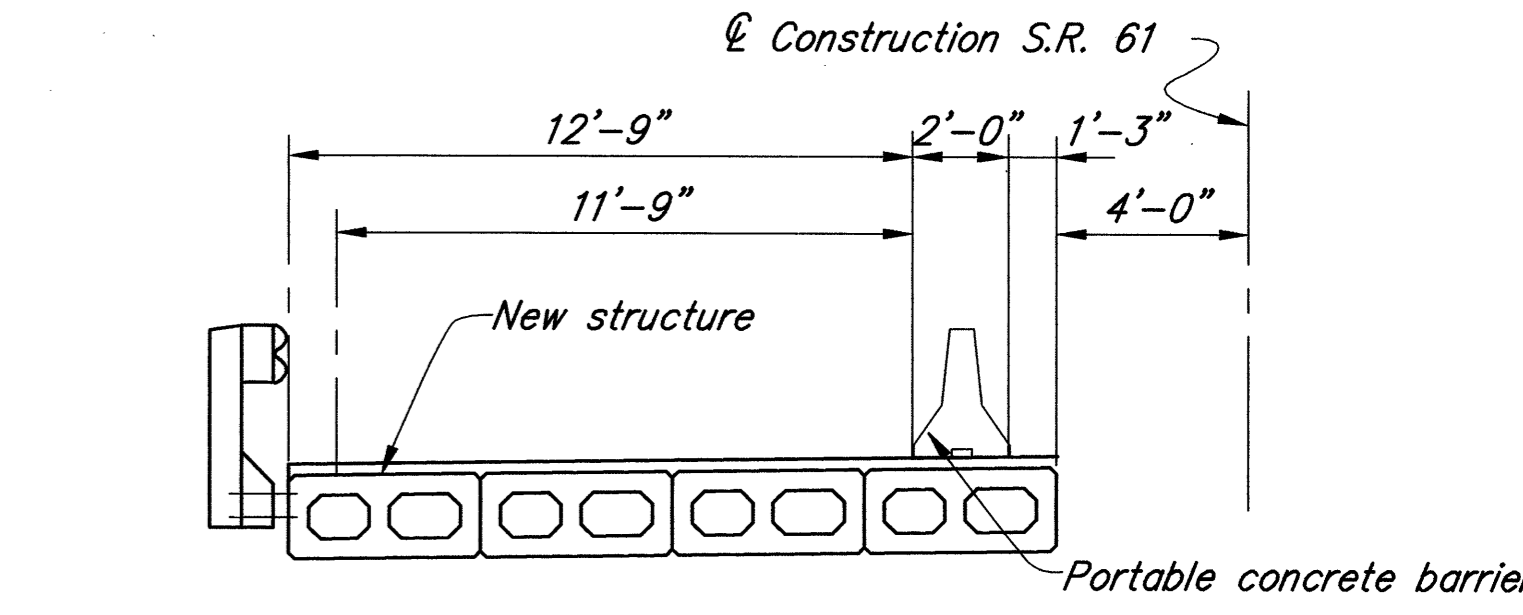
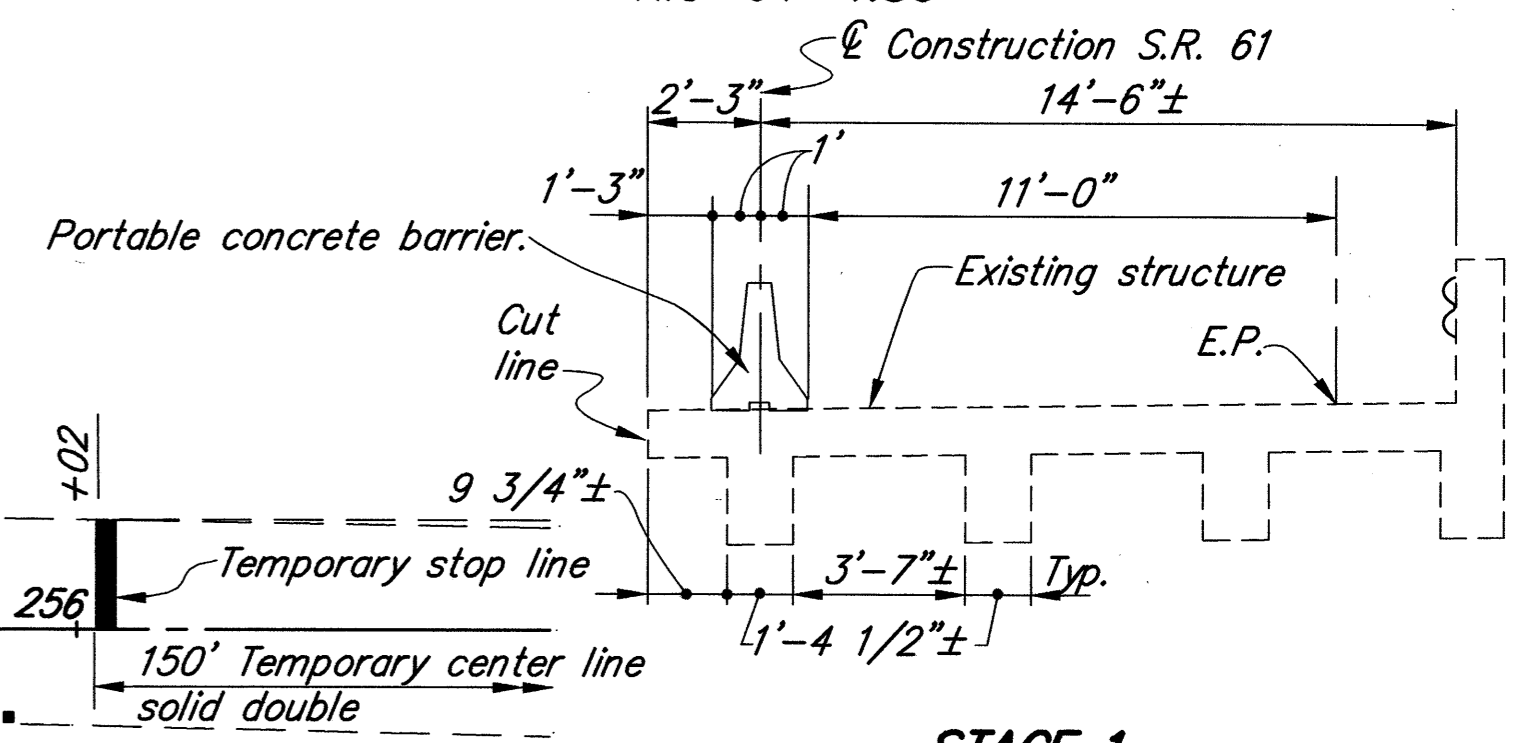
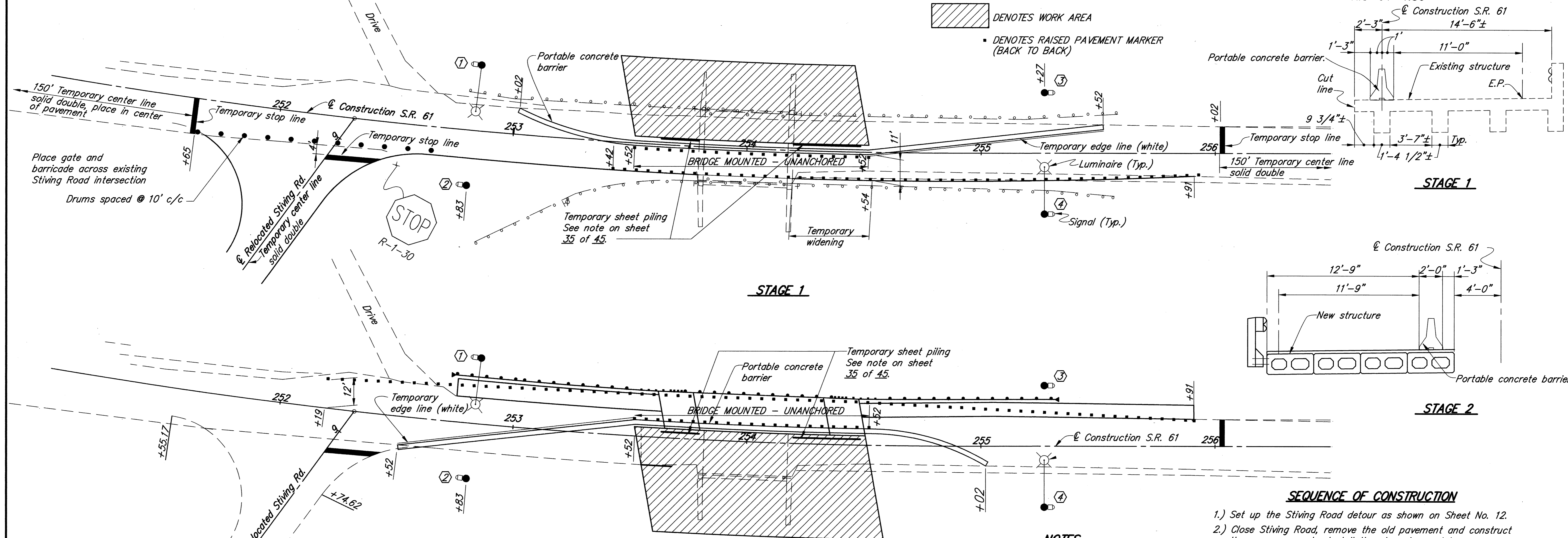
MAINTENANCE OF TRAFFIC QUANTITIES

	614	614	614	614	622	622	614	614
	Barrier reflector, Type B2	Temporary center line, Class 1, 740.05, Type C (solid double)	Temporary edge line, Class 1, 740.05, Type C	Temporary Stop line, Class 1, 740.05, Type C	Portable concrete barrier, 32"	Portable concrete barrier, 32", bridge mounted, unanchored	Temporary center line, Class II, (solid double)	Object Marker
	Each	Ft. Mile	Ft. Mile	Lin.Ft.	Lin.Ft.	Lin. Ft.	Ft. Mile	Each
Stage 1 Quantities	10	300 0.06	116 0.02	30	170	80		18
Stage 2 Quantities	9		110 0.02		130	80		16
Quantities after Stage 2							143 0.03	
Total	19	0.06	0.04	30	300	160	0.03	34

The locations are as shown on this sheet.

QUANTITIES		FWHA REGION	STATE	PROJECT
CALCULATED	D.S. 3/15/93	5	OHIO	
CHECKED	R.P. 11/93			

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80



SEQUENCE OF CONSTRUCTION

- 1.) Set up the Stiving Road detour as shown on Sheet No. 12.
- 2.) Close Stiving Road, remove the old pavement and construct the new pavement. Install the stop sign and temporary pavement markings. Reopen the road. The 404 course may be delayed and placed with S.R. 61.
- 3.) Erect and test temporary traffic signals keep signal heads covered until put into actual operation.
- 4.) Remove existing wearing course where indicated on plan & profile sheet.
- 5.) Construct the temporary widening and the permanent taper on the right from Sta. 254+19 to Sta. 255+91 except for the final 404 course.
- 6.) Install temporary pavement markings, signing & raised pavement markings.
- 7.) Install portable concrete barrier, reflectors and object markers.
- 8.) Complete Stage 1 construction including the guardrail and paved berm except for the final 404 course.
- 9.) Switch to and complete Stage 2 construction except for the final 404 course.
- 10.) Remove temporary maintenance of traffic items
- 11.) Place the required 404 surface course (see plan & profile sheet and Standard Drawing MT-97.10).
- 12.) Place the temporary center line in the same place as the permanent center line between Sta. 253+04 to Sta. 255+91.
- 13.) Place the permanent center line and edge lines between Sta. 253+04 to Sta. 255+91.
- 14.) Place the permanent center line, edge lines and stop line on Stiving Rd.

NOTES

- 1.) For details not shown see Std. Drawing MT-96.11
- 2.) When moving the portable concrete barrier from stage 1 to stage 2 exercise care that traffic does not drop into the gap between the stage 1 box beam and the cut line. The switch between phases is to be made in the absolute minimum amount of time using flaggers.

ITEM 614 OBJECT MARKER
BACK TO BACK OBJECT MARKERS
Shall be placed on top of the Portable Concrete Barrier at 25' intervals evenly spaced between the barrier reflectors.

ITEM 614 BARRIER REFLECTORS
Reflectors and their mounting shall conform to Supplemental Specification 802 except that the spacing shall be 25'.

SIGNAL PHASING

ø A	→
ø B	←

SIGNAL TIMING

ø A	
GREEN	17 Seconds
YELLOW	3 Seconds
ALL RED	10 Seconds
ø B	
GREEN	17 Seconds
YELLOW	3 Seconds
ALL RED	10 Seconds

SIGNAL DISPLAY

Signal No.	INTERVAL								Flash
	ø A	ø B	ø A	ø B	ø A	ø B	ø A	ø B	
1	G	Y	R	R	R	R	R	R	R
2	G	Y	R	R	R	R	R	R	R
3	R	R	R	R	G	Y	R	R	R
4	R	R	R	R	G	Y	R	R	R

MAINTENANCE OF TRAFFIC QUANTITIES

	614	614	614	614	622	614	614	301	614	622
	Each	Ft.	Mile	Ft.	Mile	Lin.Ft.	Lin.Ft.	Ft.	Mile	Lin.Ft.
Barrier reflector, Type B-2										
Temporary center line, Class I, 740.05, Type C (solid double)										
Temporary edge line, Class I, 740.05, Type C										
Temporary stop line, Class I, 740.05, Type C										
Portable concrete barrier, 32"										
Temporary center line, Class II, (solid double)										
Temporary stop line, Class I										
10" bituminous aggregate base, AC-20										
Object Marker										
Portable concrete barrier, 32", bridge mounted, unanchored										
Stiving Road Quantities										
S.R. 61 Stage 1 Quantities	11	300	0.06	101	0.02	24	150			
S.R. 61 Stage 2 Quantities	11			101	0.02		150			
Quantities after Stage 2						24	287	0.05		
Total	22		0.06		0.04	48	300		0.09	21

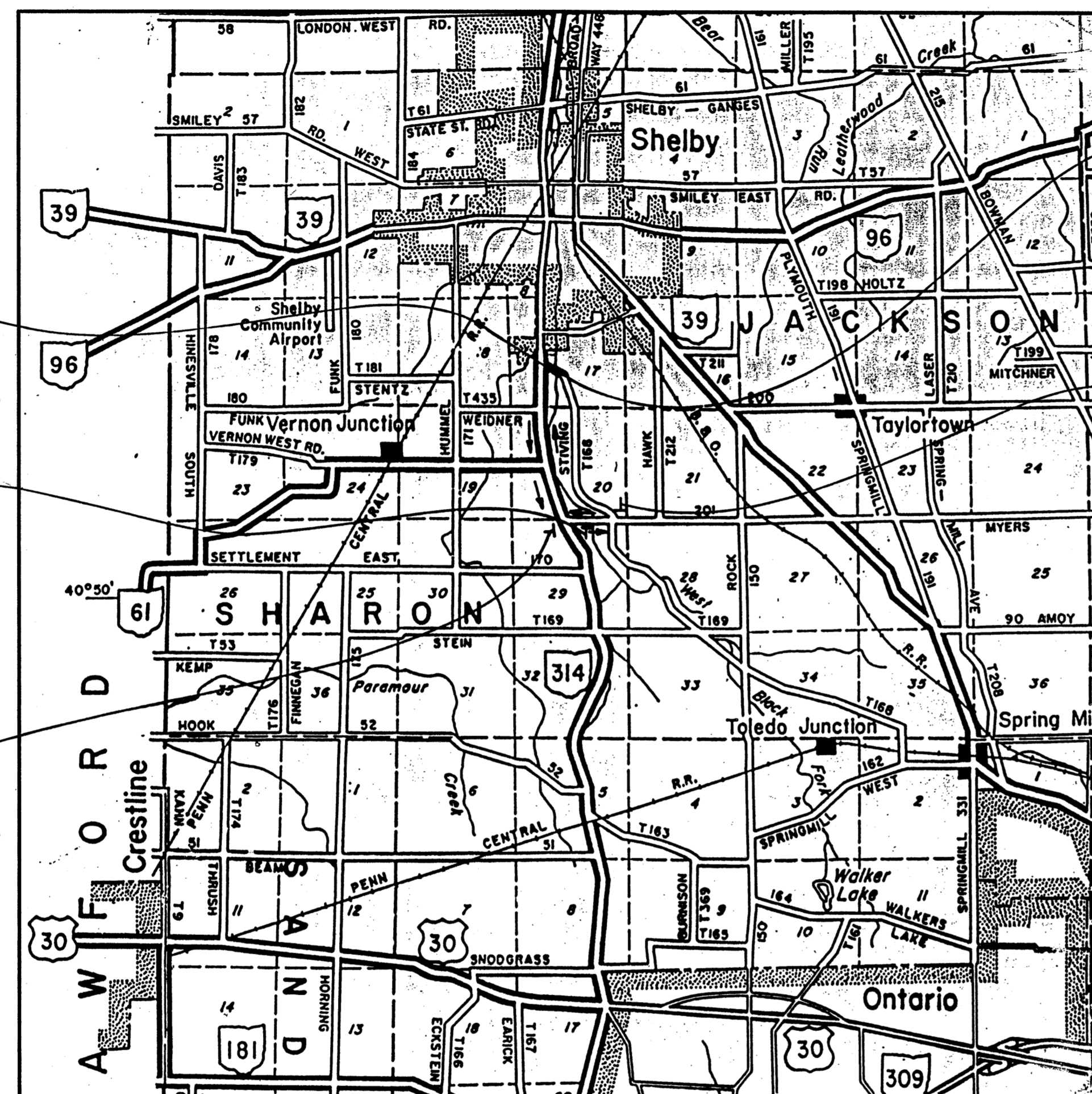
Stiving Road Quantities

The locations are as shown on this sheet.

FHWA REGION	STATE	PROJECT	
5	OHIO		

8
45

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80



ROAD CLOSED
R-75-48
DETOUR
OC-14R-48

DETOUR
OC-14L-48

STIVING RD.
D-14

DETOUR
OC-14R-48

ROAD CLOSED
R-75-48

ROAD CLOSED TO THRU TRAFFIC
R-76C-60

DETOUR
OC-14L-48

Detour Route

DETOUR NOTES

Two-Way traffic shall be maintained at all times, except for a period not to exceed 14 consecutive calendar days, through traffic will be detoured as shown on this sheet.

The Contractor shall notify the Richland County Engineer in writing a minimum of seven (7) days in advance of the date the detour is needed. The Contractor will provide, install, maintain and subsequently remove the detour signing.

The Contractor shall be responsible for furnishing, installing, maintaining and removing the gates and barricades (at the approximate work limits of the project) and the advance warning signs as shown on the Standard Construction Drawing MT-101.60.

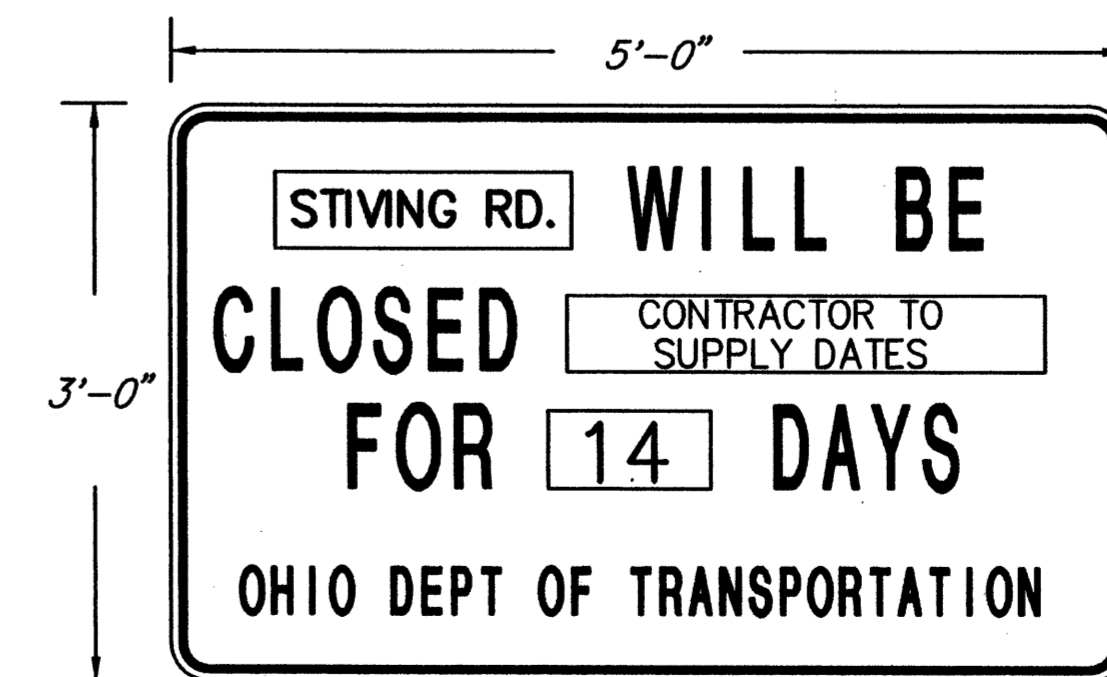
The 14 consecutive calendar days shall be considered as an interim completion date (Section 108) and for each calendar day beyond the 14 consecutive calendar days that the roadway remains closed to traffic, the Contractor will be assessed liquidated damages as per Section 108.07 of the Construction and Material Specifications.

NOTICE OF CLOSURE SIGNS

These signs shall be erected by the Contractor at least one week in advance of the scheduled road closure. The signs shall be erected on the right hand side of the road facing traffic. They shall be located in the field so as not to interfere with any permanent signs. On roadways they should be erected at the point of closure.

Payment for this work shall be included in the lump sum bid for Item 614 Maintaining Traffic and shall include furnishing, erecting, maintaining, and removing the signs including supports.

DETOUR PLAN



QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S. 8/93	5	OHIO	
CHECKED	R.P. 11/93			

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45

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

GENERAL SUMMARY

FROM SHEET NUMBER												BHF-36(21)	BRF-94B(18)	ITEM	ITEM EXT.	TOTAL QUANTITY	UNIT	DESCRIPTION	AS PER PLAN SHEET NO.
4	5	6	7	11	12	13	16	17	21	24	43	RIC-39-3.88 Subtotal	RIC-61-4.80 Subtotal						
									ROADWAY										
LUMP						166		134				LUMP	LUMP	201	11000	LUMP		CLEARING AND GRUBBING	
												166	134	202	22900	300	SQ.YD.	APPROACH SLAB REMOVED	
				665								228	437	202	23500	665	SQ.YD.	WEARING COURSE REMOVED	
						655						655		202	30000	655	SQ.FT.	WALK REMOVED	
							56						56	202	35100	56	LIN.FT.	PIPE REMOVED, 24" AND UNDER	
												75		202	38000	625	LIN.FT.	GUARDRAIL REMOVED	
							34	516				75	550	202	38000	625	LIN.FT.	GUARDRAIL REMOVED	
							62	838	457				1357	203	12000	1357	CU.YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
							78	667	44				789	203	20000	789	CU.YD.	EMBANKMENT	
25												25		203	20001	25	CU.YD.	EMBANKMENT, AS PER PLAN	4
					1067							168	899	203	50000	1067	SQ.YD.	SUBGRADE COMPACTION	
											3		3	604	38501	3	EACH	MONUMENT ASSEMBLY, AS PER PLAN	43
								212.5					212.50	606	13000	212.50	LIN.FT.	GUARDRAIL, TYPE 5	
							2	2					4	606	26100	4	EACH	ANCHOR ASSEMBLY, TYPE E	
								4					4	606	35140	4	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
						705						705		608	10000	705	SQ.FT.	4" CONCRETE WALK	
							1	1				1	1	638	10800	2	EACH	VALVE BOX ADJUSTED TO GRADE	
									PAVEMENT										
		4	91									9	86	301	10002	95	CU.YD.	BITUMINOUS AGGREGATE BASE, AC-20	
			178				3		35			24	192	304	20000	216	CU.YD.	AGGREGATE BASE (SEE PROPOSAL NOTE)	
			30									2	28	402	20000	30	CU.YD.	ASPHALT CONCRETE, AC-20	
			54									9	45	404	20000	54	CU.YD.	ASPHALT CONCRETE, AC-20	
									7				7	404	25000	7	CU.YD.	ASPHALT CONCRETE, AC-20 (DRIVEWAYS)	
			89									23	66	407	10000	89	GAL.	TACK COAT	
			210						46				256	408	10000	256	GAL.	BITUMINOUS PRIME COAT	
						20						20		609	26000	20	LIN.FT.	CURB, TYPE 6	
						138		178				138	178	611	15001	316	SQ.YD.	REINFORCED CONCRETE APPROACH SLAB (T=13"), AS PER PLAN	4
									MAINTAINING TRAFFIC										
402												68	334	614	12800	402	EACH	TEMPORARY RAISED PAVEMENT MARKER	
	19	22										19	22	614	13302	41	EACH	BARRIER REFLECTOR, TYPE B2	
	34	40										34	40	614	13350	74	EACH	OBJECT MARKER	
	0.06	0.06										0.06	0.06	614	21300	0.12	MILE	TEMPORARY CENTER LINE, CLASS I, 740.05, TYPE C	
	0.03	0.09										0.03	0.09	614	21400	0.12	MILE	TEMPORARY CENTER LINE, CLASS II	
	0.04	0.04										0.04	0.04	614	22300	0.08	MILE	TEMPORARY EDGE LINE, CLASS I, 740.05, TYPE C	
		21											21	614	26000	21	LIN.FT.	TEMPORARY STOP LINE, CLASS I	
		30	48									30	48	614	26600	78	LIN.FT.	TEMPORARY STOP LINE, CLASS I, 740.05, TYPE C	
		300	300									300	300	622	40020	600	LIN.FT.	PORTABLE CONCRETE BARRIER, 32"	
		160	200									160	200	622	40040	360	LIN.FT.	PORTABLE CONCRETE BARRIER, 32", BRIDGE MOUNTED	
									EROSION CONTROL										
600													600	207	30000	600	LIN.FT.	FILTER FABRIC FENCE (SEE PROPOSAL NOTE)	
50													50	207	70000	50	EACH	STRAW OR HAY BALES	
								1					1	601	32204	1	CU.YD.	ROCK CHANNEL PROTECTION, TYPE C WITH FABRIC FILTER	
								203					203	601	34100	203	CU.YD.	ROCK CHANNEL PROTECTION, TYPE B WITHOUT FILTER	
						54						54		601	34200	54	CU.YD.	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
100							251	1983	1039			100	3273	659	10000	3373	SQ.YD.	SEEDING AND MULCHING	
					0.29							0.01	0.28	659	20000	0.29	TON	COMMERCIAL FERTILIZER	
					7							1	6	659	35000	7	MGAL.	WATER	

Job No. 92062 & 92063 Date 05/24/94 Drawn By LS

QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S. 8/93	5	OHIO	
CHECKED	R.P. 11/93			

10
45

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

GENERAL SUMMARY

FROM SHEET NUMBER					RIC-39-3.88	RIC-61-4.80	ITEM	ITEM	TOTAL	UNIT	DESCRIPTION	AS PER PLAN
13	16	17	21	24	Subtotal	Subtotal	EXT.	QUANTITY			SHEET NO.	
TRAFFIC CONTROL												
				90	13	77	630	03100	90	LIN.FT.	GROUND MOUNTED SUPPORT, NO. 3 POST	
				34	5	29	630	80100	34	SQ.FT.	SIGN, FLAT SHEET	
				9	1	8	630	84900	9	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
				10	1	9	630	86002	10	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
				0.20		0.20	642	00102	0.20	MILE	EDGE LINE, TYPE 2	
				0.13	0.03	0.10	642	00302	0.13	MILE	CENTER LINE, TYPE 2	
				20		20	642	00502	20	LIN.FT.	STOP LINE, TYPE 2	
DRAINAGE												
		0.2				0.2	602	20000	0.2	CU.YD.	CONCRETE MASONRY	
	64	80				144	603	04600	144	LIN.FT.	12" CONDUIT, TYPE C	
	1					1	604	04500	1	EACH	CATCH BASIN, NO. 2-2B	
1					1		604	34500	1	EACH	MANHOLE ADJUSTED TO GRADE	
46		133	36		46	169	605	31100	215	LIN.FT.	AGGREGATE DRAIN	
STRUCTURES OVER 20 FOOT SPAN												
FOR QUANTITIES STR. NO. RIC-39-0388 SEE SHEET NO. 26												
FOR QUANTITIES STR. NO. RIC-61-0481 SEE SHEET NO. 35												
					LUMP	LUMP	614	11000	LUMP		MAINTAINING TRAFFIC	
					LUMP	LUMP	619	15010	LUMP		FIELD OFFICE, TYPE B	
					LUMP	LUMP	623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	
					LUMP	LUMP	624	10000	LUMP		MOBILIZATION	
					LUMP	LUMP	SPECIAL	61925010	LUMP		COMPUTER EQUIPMENT FOR TYPE B OR C OFFICE (SEE PROPOSAL NOTE)	

CALCULATIONS

QUANTITIES			FHWA REGION	STATE	PROJECT
CALCULATED	D.S.	6/93	5	OHIO	
CHECKED	R.P.	11/93			

11
45

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

LINE	DESCRIPTION	QUANTITY	UNIT
404 ASPHALT CONCRETE, AC-20			
SR-39			
1	STA. 204+37 TO STA. 204+76.68 = 44.68 L.F. x 30.00 = 1190.40 S.F.		
2	STA. 205+41.34 TO STA. 205+80 = 43.66 L.F. x 30.00 = 1159.80 S.F.		
3	SUM OF LINES 1 & 2 = (2350.20 x 1.25 / 12) / 27 =	9.07 C.Y.	
SR-61			
4	STA. 252+74 TO STA. 253+04 LT. = 30.00 L.F. x 2276.33 / 2291.83 = 29.80 L.F. x 7.00 = 208.60 S.F.		
5	STA. 252+46 TO STA. 253+04 RT. = 58.00 L.F. x 2305.83 / 2291.83 = 58.34 L.F. x 4.00 = 233.42 S.F.		
6	STA. 253+04 TO STA. 253+59.95 = 55.95 L.F. x 2290.33 / 2291.83 = 55.91 L.F. x 35.00 = 1956.85 S.F.		
7	STA. 254+57.05 TO STA. 255+91 = 133.95 L.F. x (35.00 + 32.80) / 2 = 4540.91 S.F.		
8	SUM OF LINES 4 THRU 7 = (6939.78 S.F. x 1.25 / 12) / 27 =	26.77 C.Y.	
STIVING ROAD			
9	STA. 7+00 TO STA. 8+03.13 = 103.13 L.F. x (16.25 + 20.00) / 2 = 1869.23 S.F.		
10	STA. 8+03.13 TO STA. 8+32.56 = 29.43 L.F. x 20.00 = 588.60 S.F.		
11	APPROACH AREA FROM COMPUTER = 2270.70 S.F.		
12	SUM OF LINES 9 THRU 11 = (4728.53 x 1.25 / 12) / 27 =	18.24 C.Y.	
13	SUM OF LINES 3, 8 & 12 =	54	CU. YD.
402 ASPHALT CONCRETE, AC-20			
SR-39			
14	STA. 204+71.68 TO STA. 204+76.68 = 5.00 L.F. x 30.00 = 150.00 S.F.		
15	STA. 205+41.34 TO STA. 205+46.34 = 5.00 L.F. x 30.00 = 150.00 S.F.		
16	SUM OF LINES 14 & 15 = (300.00 S.F. x 1.75 / 12) / 27 =	1.62 C.Y.	
SR-61			
17	STA. 253+52.70 TO STA. 253+59.95 = 7.25 L.F. x 24.00 = 174.00 S.F.		
18	STA. 254+57.05 TO STA. 255+91 = 133.95 L.F. x 4.50 / 2 = 301.39 S.F.		
19	SUM OF LINES 17 & 18 = (475.39 S.F. x 1.75 / 12) / 27 =	2.57 C.Y.	
STIVING ROAD			
20	STA. 7+00 TO STA. 8+03.13 = 103.13 L.F. x (16.25 + 20.00) / 2 = 1869.23 S.F.		
21	STA. 8+03.13 TO STA. 8+32.56 = 29.43 L.F. x 20.00 = 588.60 S.F.		
22	APPROACH AREA FROM COMPUTER = 2270.70 S.F.		
23	SUM OF LINES 20 THRU 22 = (4728.53 S.F. x 1.75 / 12) / 27 =	25.54 C.Y.	
24	SUM OF LINES 16, 19 & 23 =	30	CU. YD.
408 BITUMINOUS PRIME COAT			
STIVING ROAD			
25	FROM LINE 23 = 4728.53 S.F. / 9 x 0.40 =	210	GAL.
407 TACK COAT			
SR-39			
26	STA. 204+37 TO STA. 204+71.68 = 34.68 L.F. x 30.00 = 1040.40 S.F.		
27	STA. 205+46.34 TO STA. 205+80 = 33.66 L.F. x 30.00 = 1009.80 S.F.		
28	SUM OF LINES 26 & 27 = 2050.20 S.F. / 9 x 0.10 =	22.78 GAL.	
SR-61			
29	STA. 253+04 TO STA. 253+52.70 = 48.70 L.F. x 24.00 = 1168.80 S.F.		
30	STA. 254+57.05 TO STA. 255+91 = 133.95 L.F. x (35.00 + 32.80) / 2 = 4540.91 S.F.		
31	STA. 253+52.70 TO STA. 253+59.95 = 7.25 L.F. x 35.00 = 253.75 S.F.		
32	SUM OF LINES 29, 30 & 31 = 5963.46 S.F. / 9 x 0.10 =	66.26 GAL.	
33	SUM OF LINES 28 & 32 =	89	GAL.

LINE	DESCRIPTION	QUANTITY	UNIT
202 WEARING COURSE REMOVED			
SR-39			
34	FROM LINE 28 = 2050.20 S.F. / 9 =	227.80 S.Y.	
SR-61			
35	FROM LINE 29 = 1168.80 S.F. / 9 =	129.87 S.Y.	
36	STA. 254+57.05 TO STA. 255+91 = 133.95 L.F. x (19.50 + 21.80) / 2 / 9 =	307.34 S.Y.	
37	SUM OF LINES 34, 35 & 36 =	665	SQ. YD.
304 AGGREGATE BASE (SEE PROPOSAL NOTE)			
SR-39			
38	STA. 204+76.68 TO STA. 204+96.18 = 19.50 L.F. x 33.00 = 643.50 S.F.		
39	STA. 205+21.84 TO STA. 205+41.34 = 19.50 L.F. x 33.00 = 643.50 S.F.		
40	SUM OF LINES 38 & 39 = (1287.00 S.F. x 6 / 12) / 27 =	23.83 C.Y.	
SR-61			
41	STA. 253+59.95 TO STA. 253+79.45 = 19.50 L.F. x 42.00 = 819.00 S.F.		
42	STA. 254+37.55 TO STA. 254+57.05 = 19.50 L.F. x 42.00 = 819.00 S.F.		
43	SUM OF LINES 41 & 42 = (1638.00 S.F. x 6 / 12) / 27 =	30.33 C.Y.	
STIVING ROAD			
44	STA. 7+00 TO STA. 8+03.13 = 103.13 L.F. x (17.58 + 21.33) / 2 = 2006.39 S.F.		
45	STA. 8+03.13 TO STA. 8+32.56 = 29.43 L.F. x 21.33 = 627.74 S.F.		
46	APPROACH AREA FROM COMPUTER = 2380.57 S.F.		
47	SUM OF LINES 44 THRU 46 = (5014.70 S.F. x 8 / 12) / 27 =	123.82 C.Y.	
48	SUM OF LINES 40, 43 & 47 =	178	CU. YD.
301 BITUMINOUS AGGREGATE BASE, AC-20			
SR-39			
49	SUM OF LINES 14 & 15 = (300.00 S.F. x 10 / 12) / 27 =	9.26 C.Y.	
SR-61			
50	SUM OF LINES 17 & 18 = (475.39 S.F. x 10 / 12) = 396.16 C.F.		
51	STA. 252+74 TO STA. 253+59.95 LT. = 85.95 L.F. x 2276.33 / 2291.83 = 85.37 L.F. x 7.00 = 597.58 S.F.		
52	STA. 254+57.05 TO STA. 255+91 LT. = 133.95 L.F. x 7.00 = 937.65 S.F.		
53	SUM OF LINES 51 & 52 = (1535.23 S.F. x 9 / 12) = 1151.42 C.F.		
54	STA. 252+46 TO STA. 253+59.95 RT. = 113.95 L.F. x 2305.83 / 2291.83 = 114.65 L.F. x 4.00 = 458.58 S.F.		
55	STA. 254+57.05 TO STA. 255+91 RT. = 133.95 L.F. x 4.00 = 535.80 S.F.		
56	SUM OF LINES 54 & 55 = (994.38 S.F. x 6 / 12) = 497.19 C.F.		
57	STA. 254+57.05 TO STA. 255+91 = 133.95 L.F. x 4.5 / 2 x 6 / 12 = 150.61 C.F.		
58	SUM OF LINES 50, 53, 56 & 57 = 2195.38 C.F. / 27 =	81.31 C.Y.	
59	SUM OF LINES 49 & 58 =	91	CU. YD.

Job No. 92062 & 92063 Date 05/16/94 Drawn By LS

CALCULATIONS

QUANTITIES			FHWA REGION	STATE	PROJECT
CALCULATED	D.S.	6/93	5	OHIO	
CHECKED	R.P.	11/93			

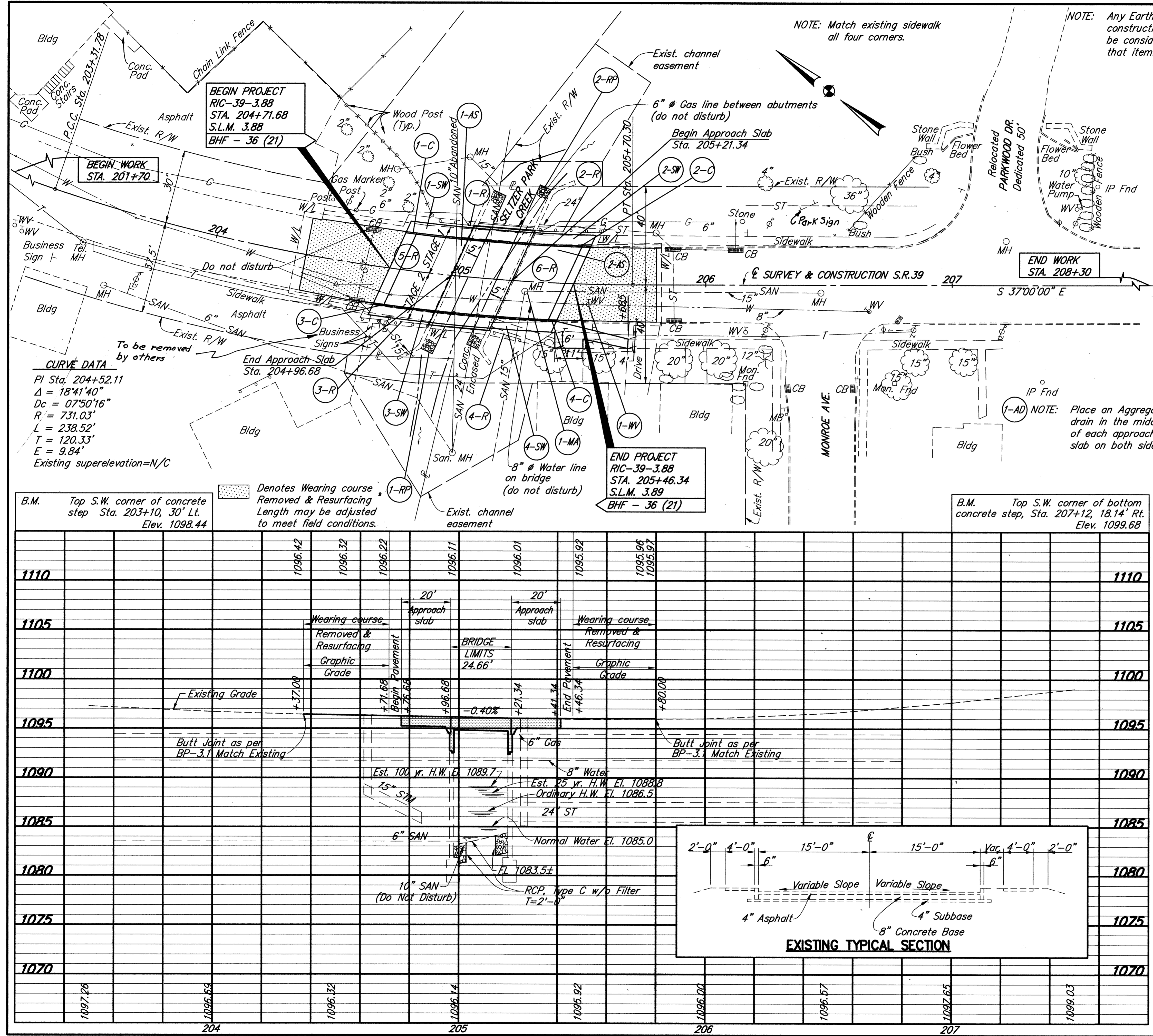
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RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

LINE	DESCRIPTION	QUANTITY	UNIT
	203 SUBGRADE COMPACTION		
	<i>SR-39</i>		
60	SUM OF LINES 14 & 15 = 310.00 S.F.		
61	STA. 204+76.68 TO STA. 204+96.18 = 19.50 L.F. x 31.00 = 604.50 S.F.		
62	STA. 205+21.84 TO STA. 205+36.34 = 19.50 L.F. x 31.00 = 604.50 S.F.		
63	SUM OF LINES 60 THRU 62 = 1519.00 S.F. / 9 =	168.8	S.Y.
	<i>SR-61</i>		
64	FROM LINE 17 = 174.00 S.F.		
65	FROM LINE 51 = 597.58 S.F.		
66	FROM LINE 52 = 937.65 S.F.		
67	STA. 253+59.95 TO STA. 253+79.45 = 19.50 L.F. x 40.00 = 780.00 S.F.		
68	STA. 254+37.55 TO STA. 254+57.05 = 19.50 L.F. x 40.00 = 780.00 S.F.		
69	SUM OF LINES 64 THRU 68 = 3269.23 S.F. / 9 =	363.25	S.Y.
	<i>STIVING ROAD</i>		
70	FROM LINE 9 = 975.67 S.F.		
71	FROM LINE 10 = 1574.60 S.F.		
72	FROM LINE 11 = 2270.70 S.F.		
73	SUM OF LINES 70 THRU 72 = 4820.97 S.F. / 9 =	535.66	S.Y.
74	SUM OF LINES 63, 69 & 73 =	1067	SQ. YD.
	659 COMMERCIAL FERTILIZER		
	<i>SR-39</i>		
75	AREA OF SEEDING = (100 S.Y. x 9 S.F./S.Y. / 1000) x 20 / 2000 =	0.009	TON
	<i>SR-61</i>		
76	AREA OF SEEDING = (2069 S.Y. x 9 S.F./S.Y. / 1000) x 20 / 2000 =	0.186	TON
	<i>STIVING ROAD</i>		
77	AREA OF SEEDING = (1039 S.Y. x 9 S.F./S.Y. / 1000) x 20 / 2000 =	0.094	TON
78	SUM OF LINES 75, 76 & 77 =	0.29	TON

LINE	DESCRIPTION	QUANTITY	UNIT
	659 WATER		
	<i>SR-39</i>		
79	AREA OF SEEDING = x 2 (100 S.Y. x 9 S.F./S.Y. / 1000) x 120 = x 2	216	GAL.
	<i>SR-61</i>		
80	AREA OF SEEDING = x 2 (2069 S.Y. x 9 S.F./S.Y. / 1000) x 120 = x 2	4469	GAL.
	<i>STIVING ROAD</i>		
81	AREA OF SEEDING = x 2 (1039 S.Y. x 9 S.F./S.Y. / 1000) x 120 = x 2	2244	GAL.
82	SUM OF LINES 83, 84 & 85 = 6929 GAL. / 1000 =	7	MGAL.

Job No. 92062 Date 05/25/94 Drawn By LS



CURVE DATA
 PI Sta. 204+52.11
 $\Delta = 18^{\circ}41'40''$
 $D_c = 07^{\circ}50'16''$
 $R = 731.03'$
 $L = 238.52'$
 $T = 120.33'$
 $E = 9.84'$
 Existing superelevation = N/C

B.M. Top S.W. corner of concrete step Sta. 203+10, 30' Lt. Elev. 1098.44

Denotes Wearing course Removed & Resurfacing Length may be adjusted to meet field conditions.

END PROJECT
 RIC-39-3.88
 STA. 205+46.34
 S.L.M. 3.89
 BHF - 36 (21)

B.M. Top S.W. corner of bottom concrete step, Sta. 207+12, 18.14' Rt. Elev. 1099.68

NOTE: Match existing sidewalk all four corners.

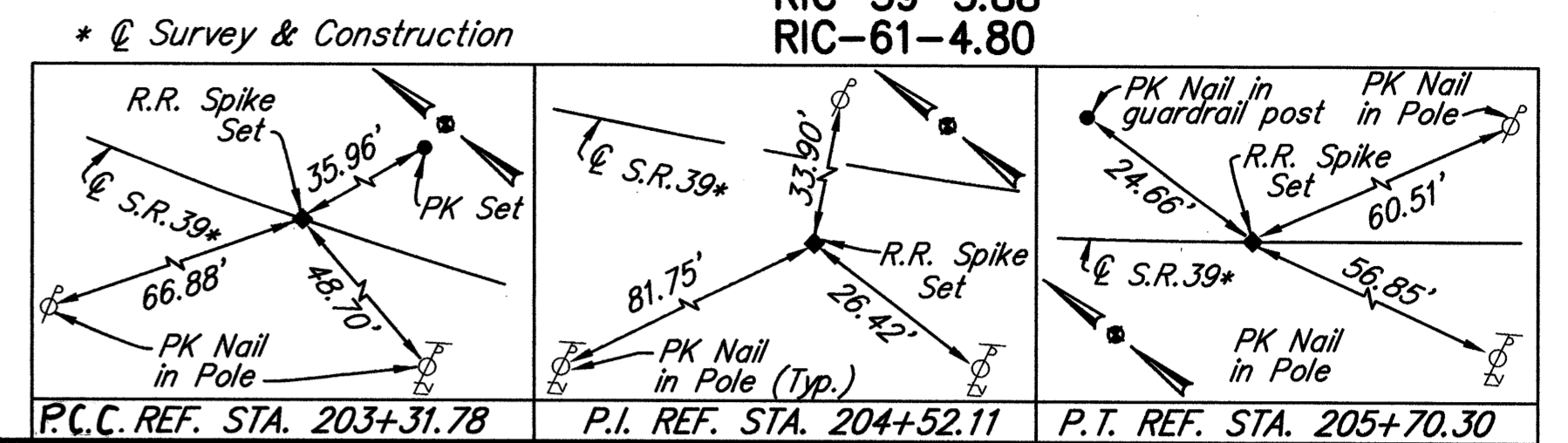
NOTE: Any Earthwork required for construction of any item shall be considered incidental to that item.

QUANTITIES	
CALCULATED	D.S. 8/93
CHECKED	R.P. 11/93

FHWA REGION	STATE	PROJECT
5	OHIO	

RICHLAND COUNTY
 RIC-39-3.88
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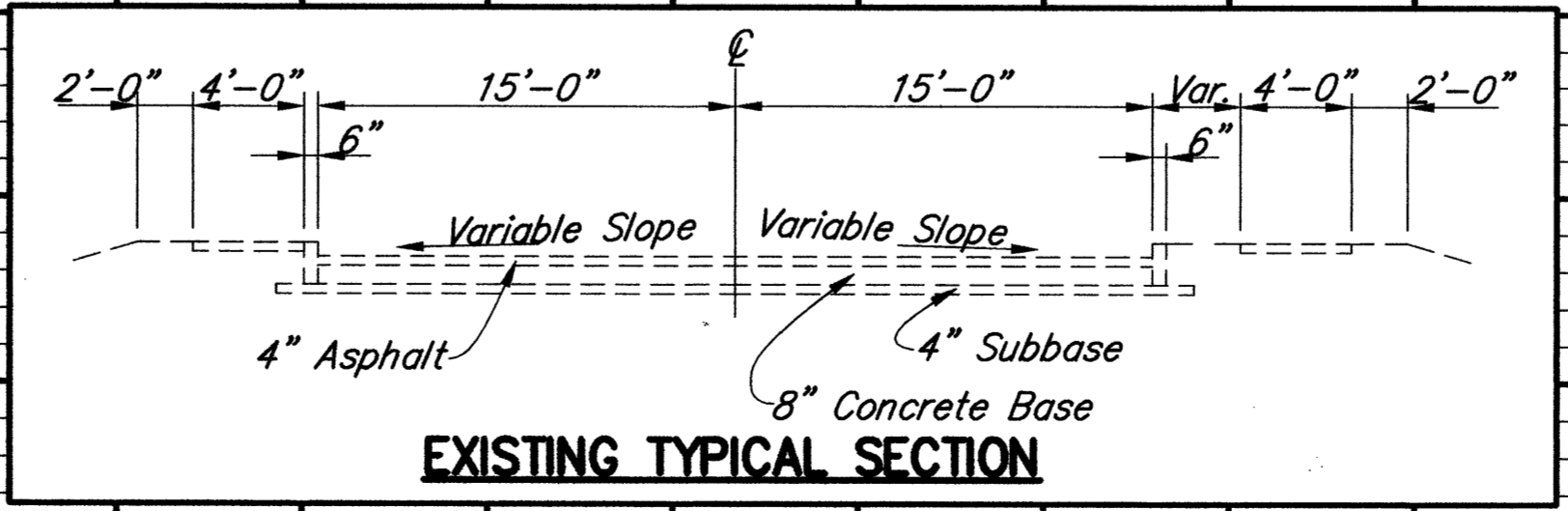


REFERENCE NO.	SIDE	STATION		APPROACH SLAB		WALK REMOVED		GUARD RAIL REMOVED		MANHOLE ADJUSTED TO GRADE		AGGREGATE DRAIN		CONCRETE WALK		CURB, TYPE 6		REINFORCED CONCRETE APPROACH SLAB, T=12		VALVE BOX ADJUSTED TO GRADE		ROCK CHANNEL PROTECTION, TYPE C		WITHOUT FILTER	
		FROM	TO	SO. YD.	NO. FT.	L.F.	EA.	L.F.	S.F.	L.F.	S.Y.	EA.	C.Y.	L.F.	S.F.	L.F.	S.Y.	EA.	C.Y.	L.F.	S.Y.	EA.	C.Y.		
1-R	L.T.	204+90	205+03																						
2-R	L.T.	205+32	205+57																						
3-R	R.T.	204+63	204+89																						
4-R	R.T.	205+16	205+26																						
5-R	L.T.&R.T.	204+71.68	204+96.68	83																					
6-R	L.T.&R.T.	205+21.34	205+46.34	83																					
1-RP	L.T.&R.T.	204+98	205+03																						
2-RP	L.T.&R.T.	205+15	205+20																						
1-SW	L.T.	204+76.5	205+04			125																			
2-SW	L.T.	205+27.5	205+55			125																			
3-SW	R.T.	204+65	204+91.5			125																			
4-SW	R.T.	205+14	205+68.5			280																			
1-C	L.T.	204+76.5	204+81.5																						
2-C	L.T.	205+48	205+53																						
3-C	R.T.	204+67	204+72																						
4-C	R.T.	205+35.5	205+40.5																						
1-AS	L.T.&R.T.	204+76.68	204+96.68																						
2-AS	L.T.&R.T.	205+21.34	205+41.34																						
1-MA	R.T.	205+27																							
1-WV	R.T.	205+53																							
1-AD	L.T.&R.T.	APP. SLABS																							
TOTALS						166	655	75			1	46	705	20						138		1		54	

RCP CALCULATIONS
 1-RP 5.0' x 71.0' x 2.0' / 27 = 27 C.Y.
 2-RP 5.0' x 71.0' x 2.0' / 27 = 27 C.Y.

EXISTING STRUCTURE
 TYPE: Reinforced concrete slab with wall type reinforced concrete abutments and wingwalls
 SPAN: 22'-0" ± f/f abutments
 ROADWAY: 30'-0" ± f/f curbs with two 5'-3" sidewalks
 LOADING: CF=400(57)
 SKEW: 20' ± L.F. from chord line
 WEARING SURFACE: Asphalt
 APPROACH SLABS: AS-1-54, 25' long(Special)
 ALIGNMENT: 7'-50' 16" curve left
 CONDITION: Superstructure- fair, Substructure- good
 YEAR BUILT: 1963
 SUPERELEVATION: None
 STRUCTURE FILE: 7002017

PROPOSED STRUCTURE
 TYPE: Reinforced concrete slab on reused reinforced concrete substructure
 SPAN: 22'-0" ± f/f abutments
 ROADWAY: 30'-0" ± f/f curb with two 5'-3" sidewalks
 LOADING: HS-20-44 and the alternate Military Loading
 SKEW: 20' ± L.F. from chord line
 WEARING SURFACE: Monolithic concrete
 APPROACH SLABS: AS-1-81(20'-0" long)
 ALIGNMENT: Tangent of 7'-50'-16" curve left
 SUPERELEVATION: None



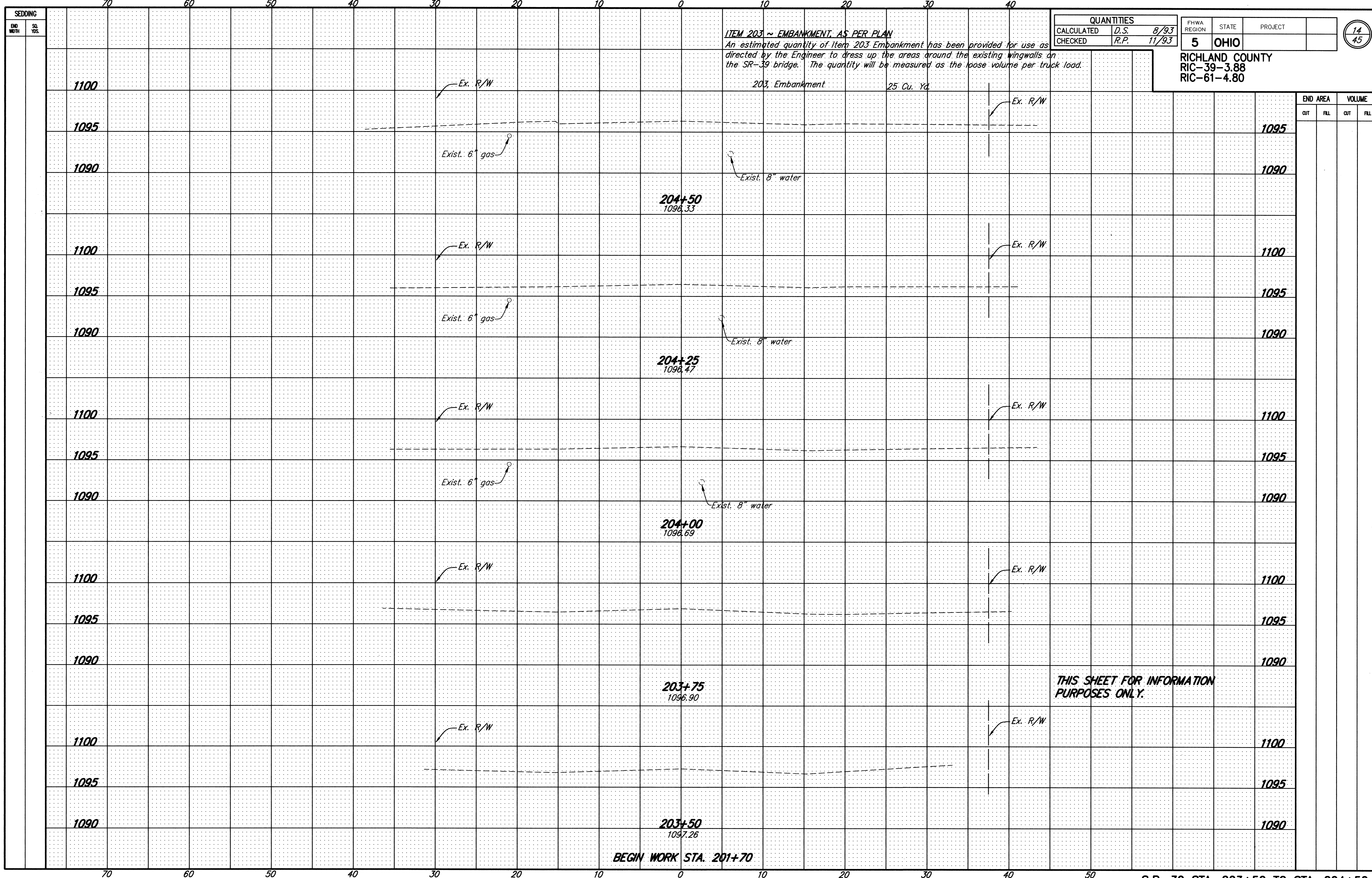
HYDRAULICS INFORMATION
 Drainage Area = 2.97 Sq. Mi.
 Est Q₂₅ = 623 cfs; V₂₅ = 5.7 fps
 Est Q₁₀₀ = 852 cfs; V₁₀₀ = 6.8 fps
 The estimated 25 Yr. H.W. is 5.8' below the bottom of the structure and the estimated 100 Yr. H.W. is 4.9' below the bottom of the structure.

PAVEMENT ELEVATION TABLE

STATION	L.T. EDGE ELEV.	P.G.	R.T. EDGE ELEV.
204+37	1096.20	1096.42	1096.02
+50	1096.12	1096.32	1095.92
+75	1096.00	1096.22	1095.99
205+00	1095.89	1096.11	1095.89
+25	1095.79	1096.01	1095.79
+50	1095.66	1095.92	1095.68
+75	1095.50	1095.96	1095.58
+80	1095.48	1095.97	1095.58

Edge Elevations are 15' L.T. & R.T.

Job No. 92062 Date 05/16/94 Drawn By LS



ITEM 203 ~ EMBANKMENT, AS PER PLAN
 An estimated quantity of Item 203 Embankment has been provided for use as directed by the Engineer to dress up the areas around the existing wingwalls on the SR-39 bridge. The quantity will be measured as the loose volume per truck load.

203, Embankment 25 Cu. Yd.

QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S. 8/93	5	OHIO	
CHECKED	R.P. 11/93			

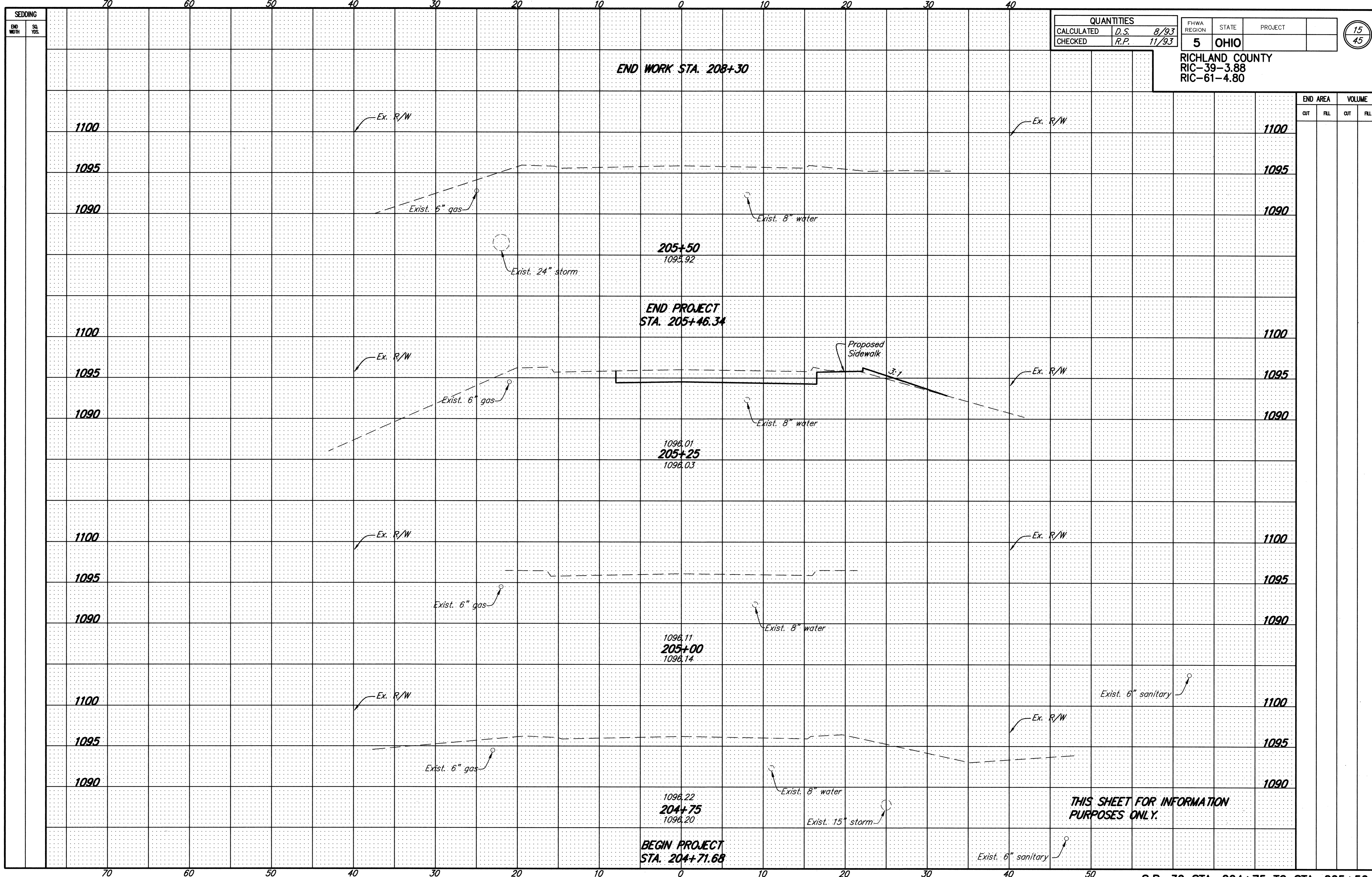
RICHLAND COUNTY
 RIC-39-3.88
 RIC-61-4.80

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END AREA		VOLUME	
CUT	FILL	CUT	FILL

S.R. 39 STA. 203+50 TO STA. 204+50

Job No. 92062 Date 05/16/94 Drawn By LS



QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S. 8/93	5	OHIO	
CHECKED	R.P. 11/93			

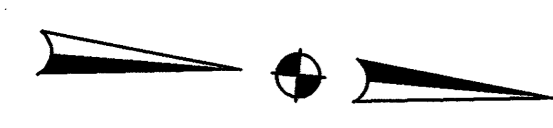
RICHLAND COUNTY
 RIC-39-3.88
 RIC-61-4.80

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END AREA		VOLUME	
CUT	FILL	CUT	FILL

THIS SHEET FOR INFORMATION
 PURPOSES ONLY.

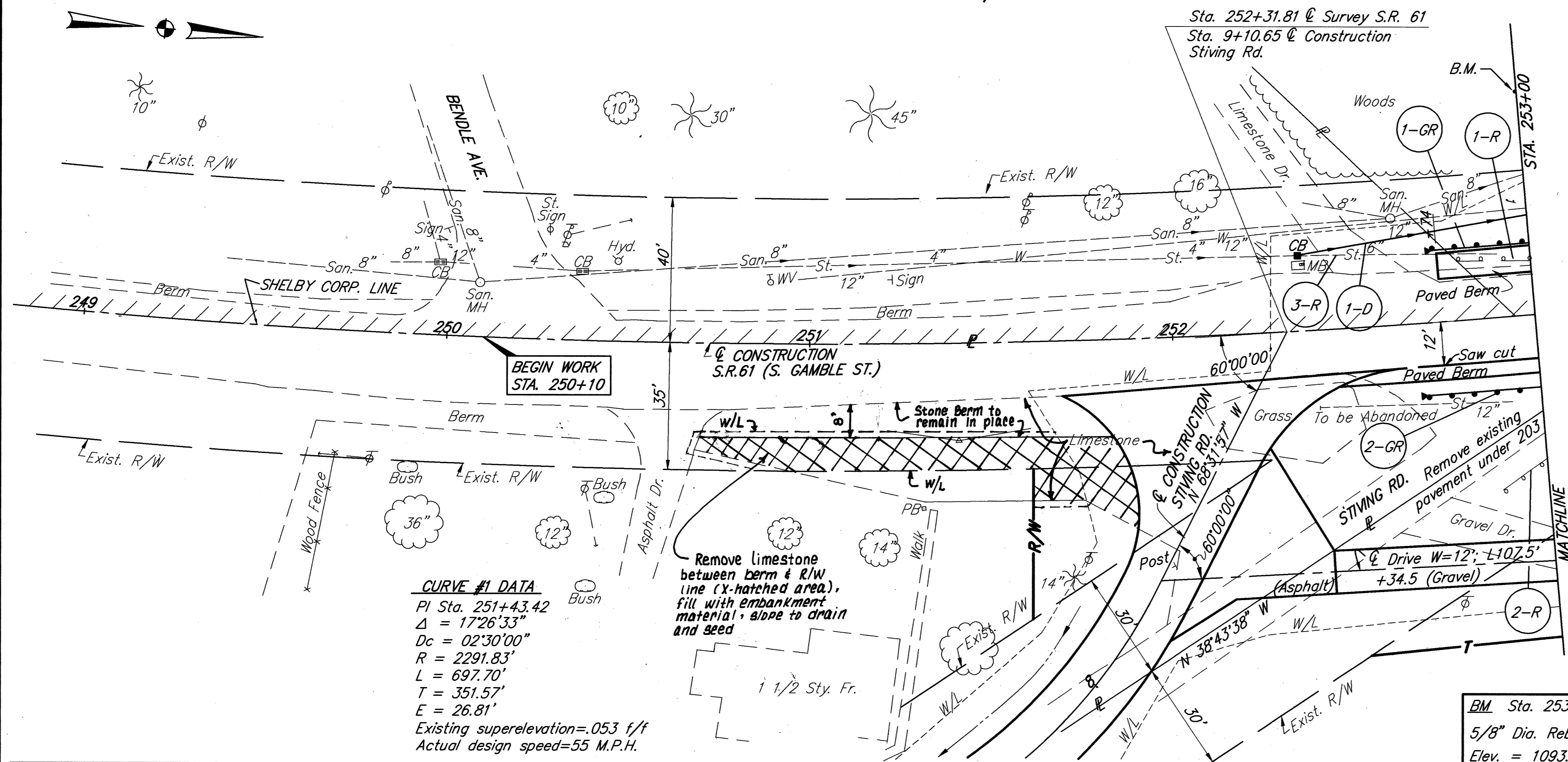
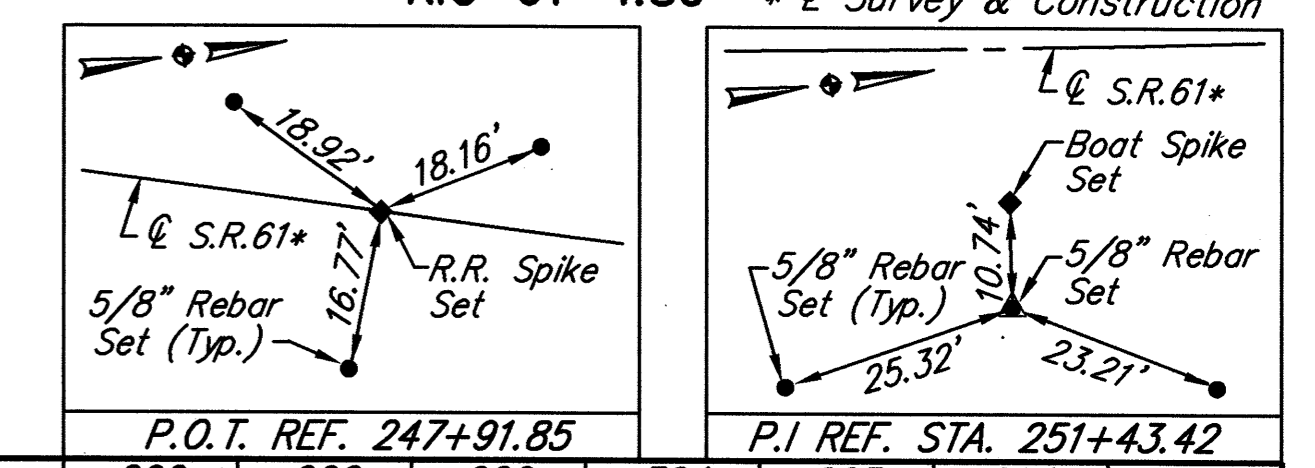
S.R. 39 STA. 204+75 TO STA. 205+50



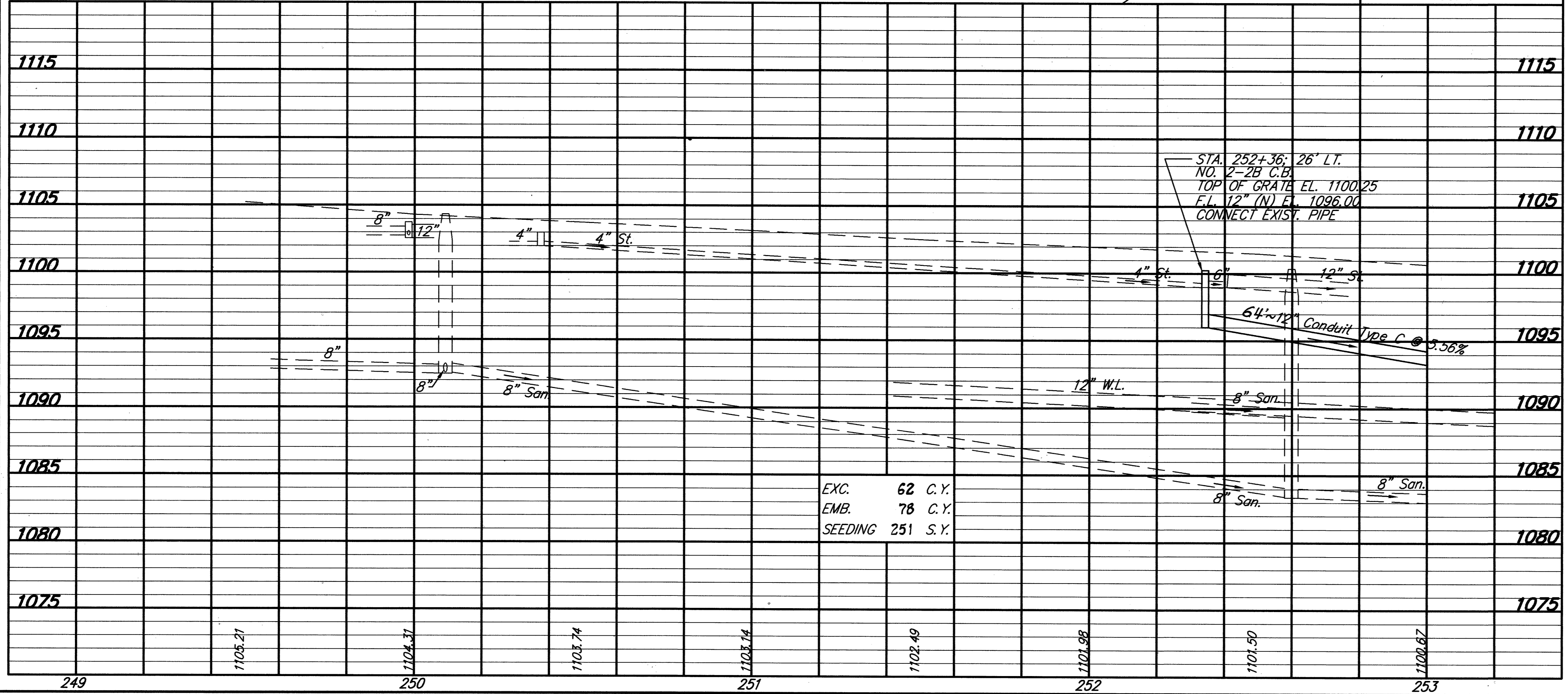
QUANTITIES		FHWA REGION	STATE	PROJECT	16 45
CALCULATED	D.S. 8/93	5	OHIO		
CHECKED	R.P. 11/93				

RICHLAND COUNTY
 RIC-39-3.88
 RIC-61-4.80 * @ Survey & Construction

For Stiving Rd. Plan & Profile
 See Sheet No. 21.



REFERENCE NO.	SIDE	STATION		GUARD RAIL REMOVED Lin. Ft.	PIPE REMOVED 24\"/>					
		FROM	TO			ANCHOR ASSEMBLY TYPE E Each	6\"/>			
1-R	L.T.	252+80	253+00	20						
2-R	R.T.	252+88	253+00	14						
3-R	L.T.	252+36	252+92		56					
1-GR	L.T.	252+73.21	253+23.21			1				
2-GR	R.T.	252+69.32	253+19.32			1				
1-D	L.T.	252+36	253+00				3	64	1	
TOTALS				34	56	2	3	64	1	



EXC. 62 C.Y.
 EMB. 78 C.Y.
 SEEDING 251 S.Y.

Job No. 92063 Date 08/03/94 Drawn By JLM

QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S.	5	OHIO	
CHECKED	R.P.			

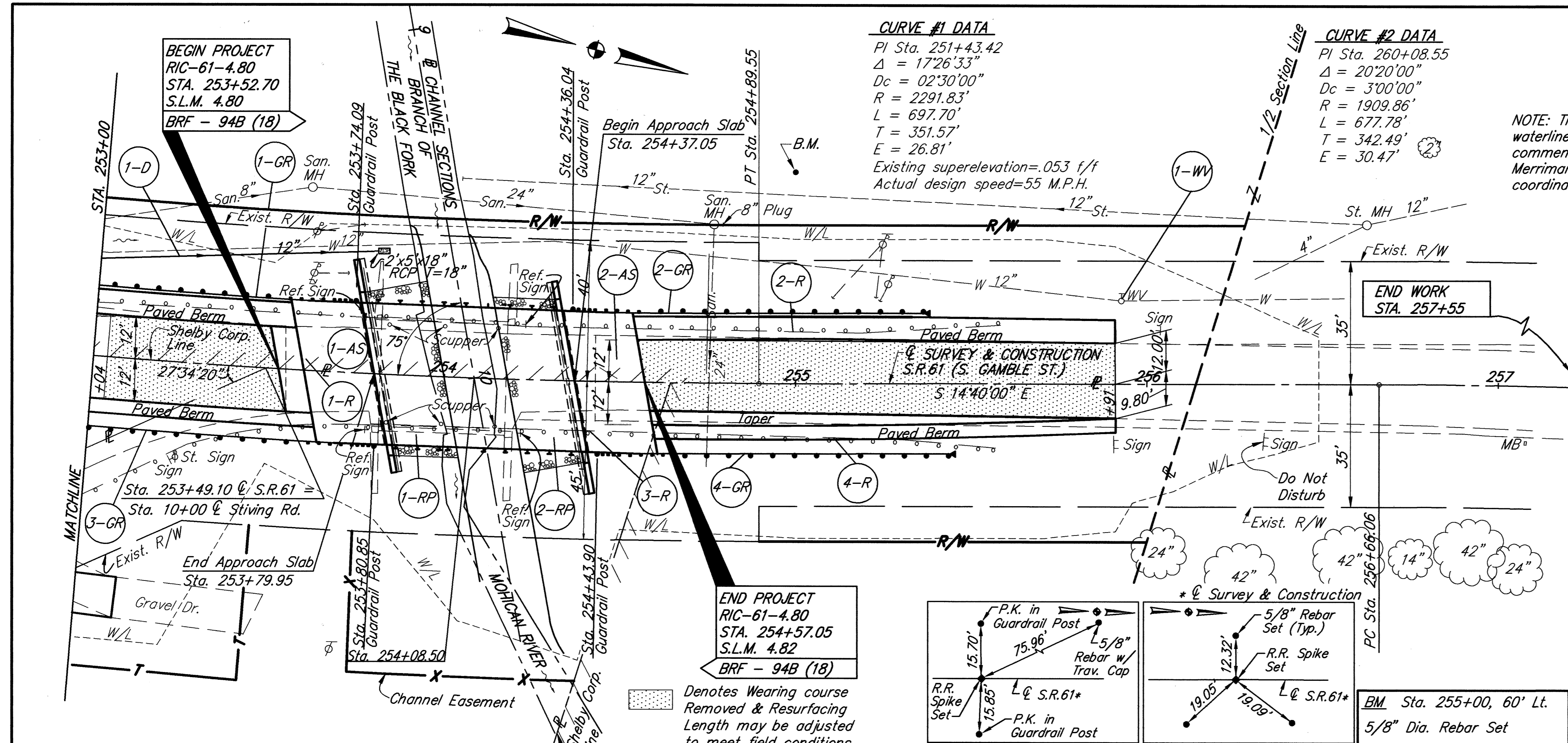
RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

RCP CALCULATIONS
 1-RP 20' x 1.12 x 50' x 2.5' / 27 = 104 C. Y.
 2-RP 19' x 1.12 x 50' x 2.5' / 27 = 99 C. Y.
 1-D 2' x 5 x 1.5' / 27 = 1 C. Y.

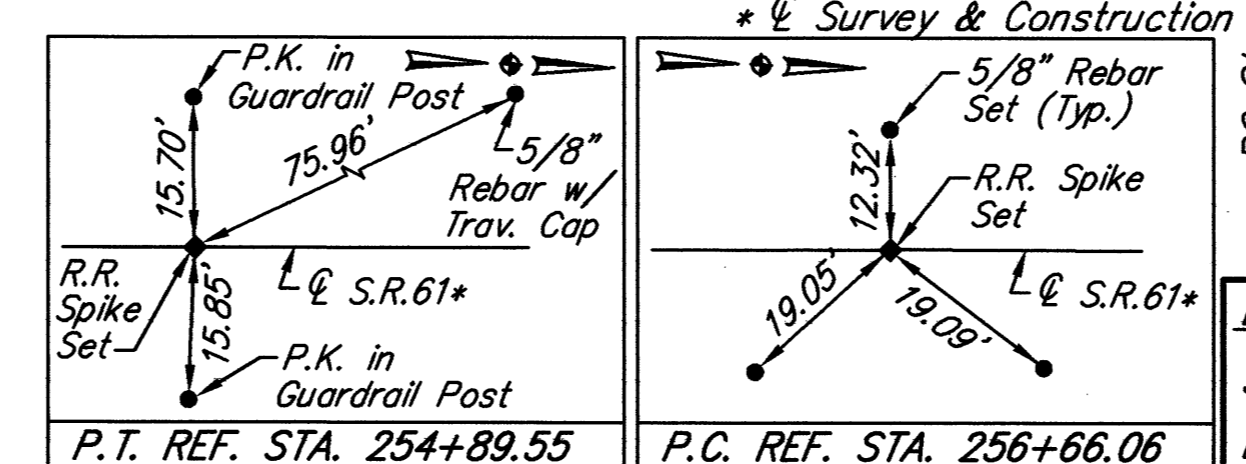
NOTE: The Contractor is to verify the location of the existing waterline at the northwest and southwest wingwalls prior to commencing construction on the bridge. Contact Mr. Roger Merriman, Director of Utilities at (419) 342-4085 to coordinate location activity.

CURVE #1 DATA
 PI Sta. 251+43.42
 $\Delta = 172^{\circ}33'$
 $D_c = 02^{\circ}30'00''$
 $R = 2291.83'$
 $L = 697.70'$
 $T = 351.57'$
 $E = 26.81'$
 Existing superelevation = .053 f/f
 Actual design speed = 55 M.P.H.

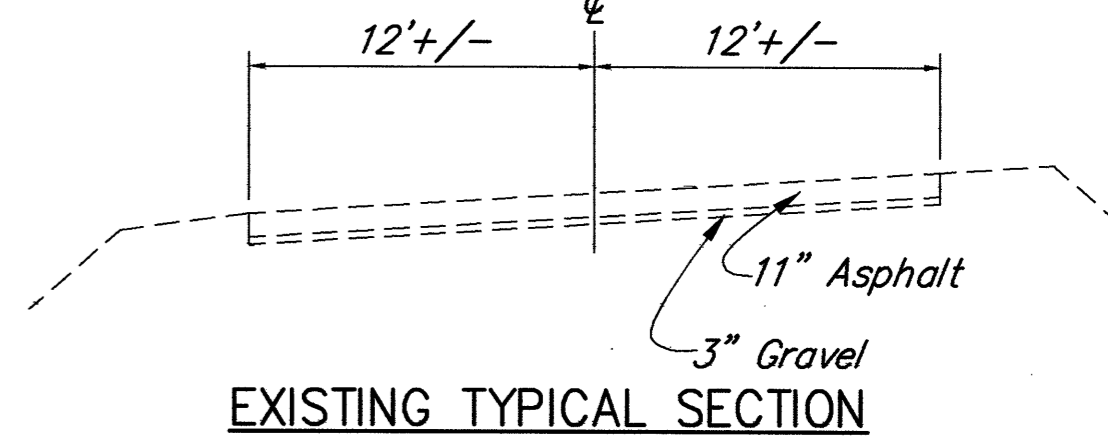
CURVE #2 DATA
 PI Sta. 260+08.55
 $\Delta = 20^{\circ}20'00''$
 $D_c = 3^{\circ}00'00''$
 $R = 1909.86'$
 $L = 677.78'$
 $T = 342.49'$
 $E = 30.47'$



REFERENCE NO.	SIDE	STATION		202		601		602		603		605		606		611		638	
		FROM	TO	APPROACH SLAB REMOVED	GUARDRAIL REMOVED	ROCK CHANNEL PROTECTION TYPE B WITHOUT FILTER	ROCK CHANNEL PROTECTION TYPE C WITH FABRIC FILTER	CONCRETE MASONRY	12" CONDUIT, TYPE C	AGGREGATE DRAIN	GUARDRAIL, TYPE 5	ANCHOR ASSEMBLY, TYPE E	BRIDGE TERMINAL ASSEMBLY, TYPE 4	REINFORCED CONCRETE APPROACH SLAB, T=13"	VALVE BOX ADJUSTED TO GRADE				
1-R	LT & RT	253+55	253+80	67															
2-R	LT	253+00	255+58		255														
3-R	LT & RT	254+18	254+43	67															
4-R	RT	253+00	255+56		261														
1-RP	LT & RT	253+83	254+04			104													
2-RP	LT & RT	254+14	254+34			99													
1-GR	LT	253+23.21	253+74.09									50			1				
2-GR	LT	254+36.04	255+36.51									50			1				
3-GR	RT	253+19.32	253+80.85									62.50			1				
4-GR	RT	254+43.90	255+43.50									50			1				
1-AS	LT & RT	253+59.95	253+79.95															89	
2-AS	LT & RT	254+37.05	254+57.05															89	
1-WV	LT	255+93						1	0.2	80									1
1-D	LT	253+00	253+80																
1-AD	LT & RT	253+00	255+85								1.33								
TOTALS				134	516	203	1	0.2	80	1.33	212.50	2	4	178	1				



BM Sta. 255+00, 60' Lt.
 5/8" Dia. Rebar Set
 Elev. = 1090.78



EXISTING STRUCTURE
 TYPE: Reinforced concrete beams on reinforced concrete wall type abutments and wingwalls
 SPAN: 36'-0" ±
 ROADWAY: 29'-0" ±
 LOADING: H-15-33
 SKEW: None
 WEARING SURFACE: Asphalt
 APPROACH SLABS: 25' long
 ALIGNMENT: 2'30" curve left
 CONDITION: Fair
 YEAR BUILT: 1940
 SUPERELEVATION: 0.053 ft./ft.
 STRUCTURE FILE: 7003153

PROPOSED STRUCTURE
 TYPE: Composite prestressed concrete box beams on reinforced concrete capped pile abutments.
 SPAN: 54'-0" c/c abutments
 ROADWAY: 40'-0" + fit-up f/f guardrail
 LOADING: HS-20-44 and the Alternate Military Loading
 SKEW: 15' R.F.
 WEARING SURFACE: Monolithic concrete
 APPROACH SLABS: AS-1-81(20'-0" long)
 ALIGNMENT: Chord of 2'-30' curve
 SUPERELEVATION: 0.047 ft/ft

TAPER TABLE

STATION	DISTANCE RT.
254+59.33	12.00'
+75	11.67'
255+00	11.27'
+25	10.86'
+50	10.46'
+75	10.06'
+91	9.80'

PAVEMENT ELEVATION TABLE

STATION	LT. EDGE ELEV.	P.G.	RT. EDGE ELEV.
253+04	1100.04	1100.59	1101.13
+25	1099.48	1100.17	1100.64
+50	1099.05	1099.71	1100.19
+75	1098.81	1099.37	1099.93
254+00	1098.56	1099.12	1099.68
+25	1098.31	1098.87	1099.43
+50	1098.06	1098.62	1099.18
+75	1098.01	1098.49	1098.96
255+00	1097.96	1098.38	1098.74
+25	1097.91	1098.25	1098.50
+50	1097.86	1098.12	1098.27
+75	1097.80	1098.00	1098.06
+91	1097.75	1097.90	1097.87

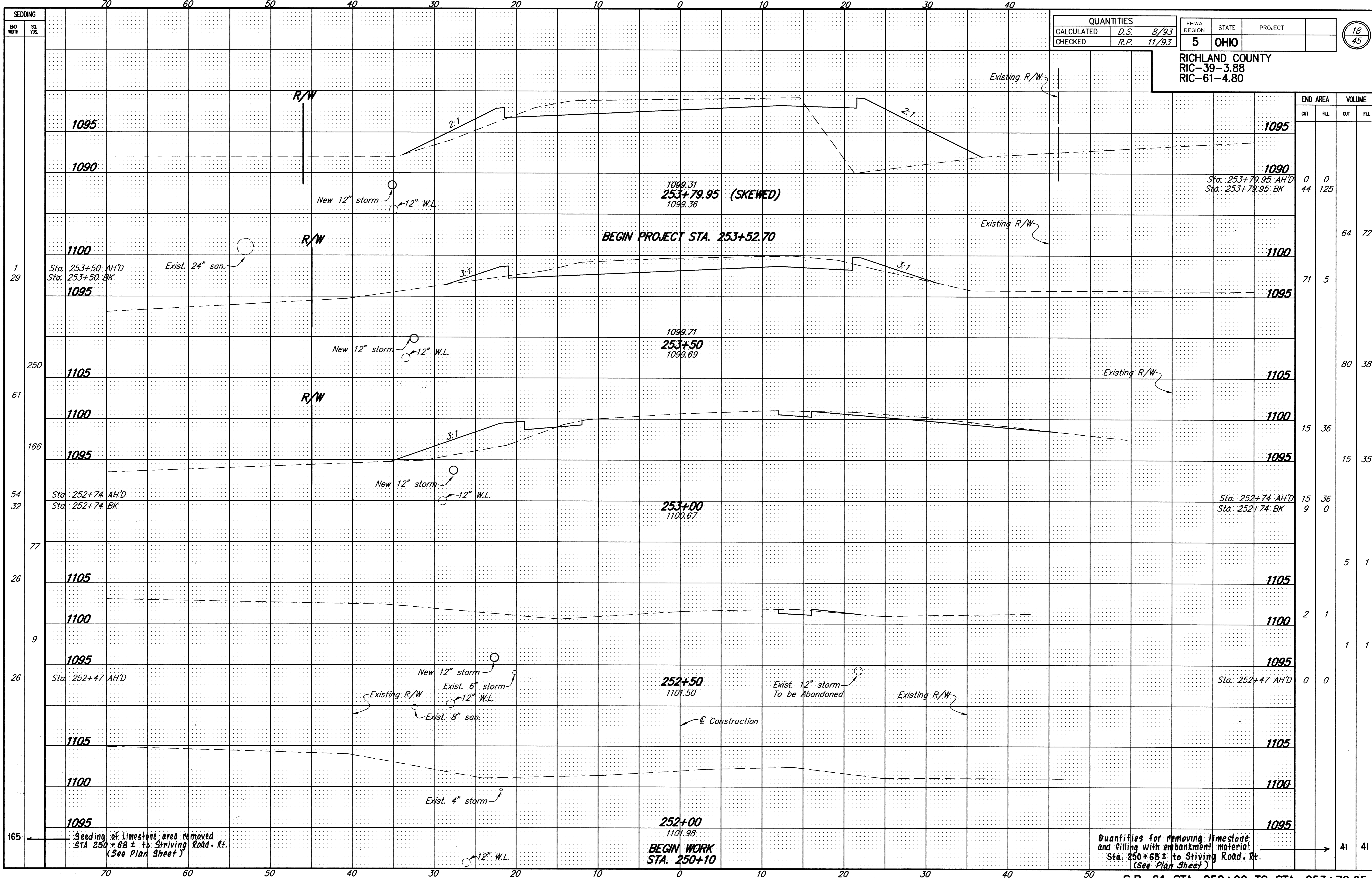
STATION	ELEVATION	DESCRIPTION
1115	1100.59	RT. EDGE
1110	1100.17	RT. EDGE
1105	1099.71	RT. EDGE
1100	1099.37	RT. EDGE
1095	1099.12	RT. EDGE
1090	1098.87	RT. EDGE
1085	1098.62	RT. EDGE
1080	1098.38	RT. EDGE
1075	1098.13	RT. EDGE

Exc. 838 C.Y.
 Emb. 667 C.Y.
 Seeding 1983 S.Y.

Job No. 92063 Date 08/03/94 Drawn By JLM

Edge elevations are 12' Lt. & Rt. except along taper.

S.R. 61 STA. 253+00 TO STA. 257+00



QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S. 8/93	5	OHIO	
CHECKED	R.P. 11/93			

RICHLAND COUNTY
 RIC-39-3.88
 RIC-61-4.80

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45

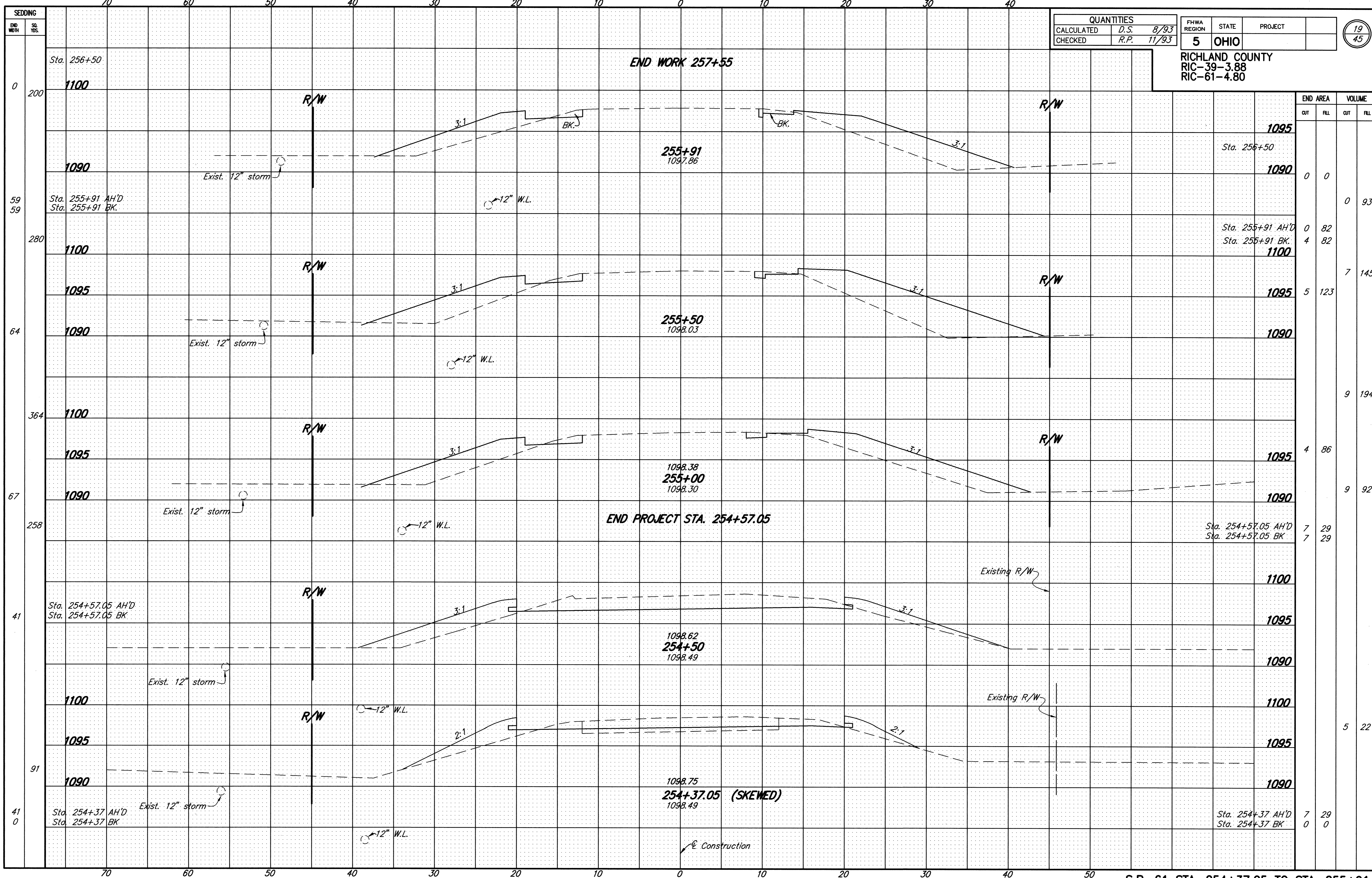
STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
1095				
1090	0	0	0	125
1100			64	72
1095	71	5		
1105			80	38
1100	15	36		
1095	15	35		
1105	15	36		
1100	5	1		
1105	2	1		
1095			1	1
1105	0	0		
1100				
1095			41	41

Job No. 92063 Date 08/03/94 Drawn By JLM

Seeding of limestone area removed STA 250+68 ± to Striving Road - Rt. (See Plan Sheet)

Quantities for removing limestone and filling with embankment material Sta. 250+68 ± to Striving Road, Rt. (See Plan Sheet)

S.R. 61 STA. 252+00 TO STA. 253+79.95



QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S. 8/93			
CHECKED	R.P. 11/93	5	OHIO	

RICHLAND COUNTY
 RIC-39-3.88
 RIC-61-4.80

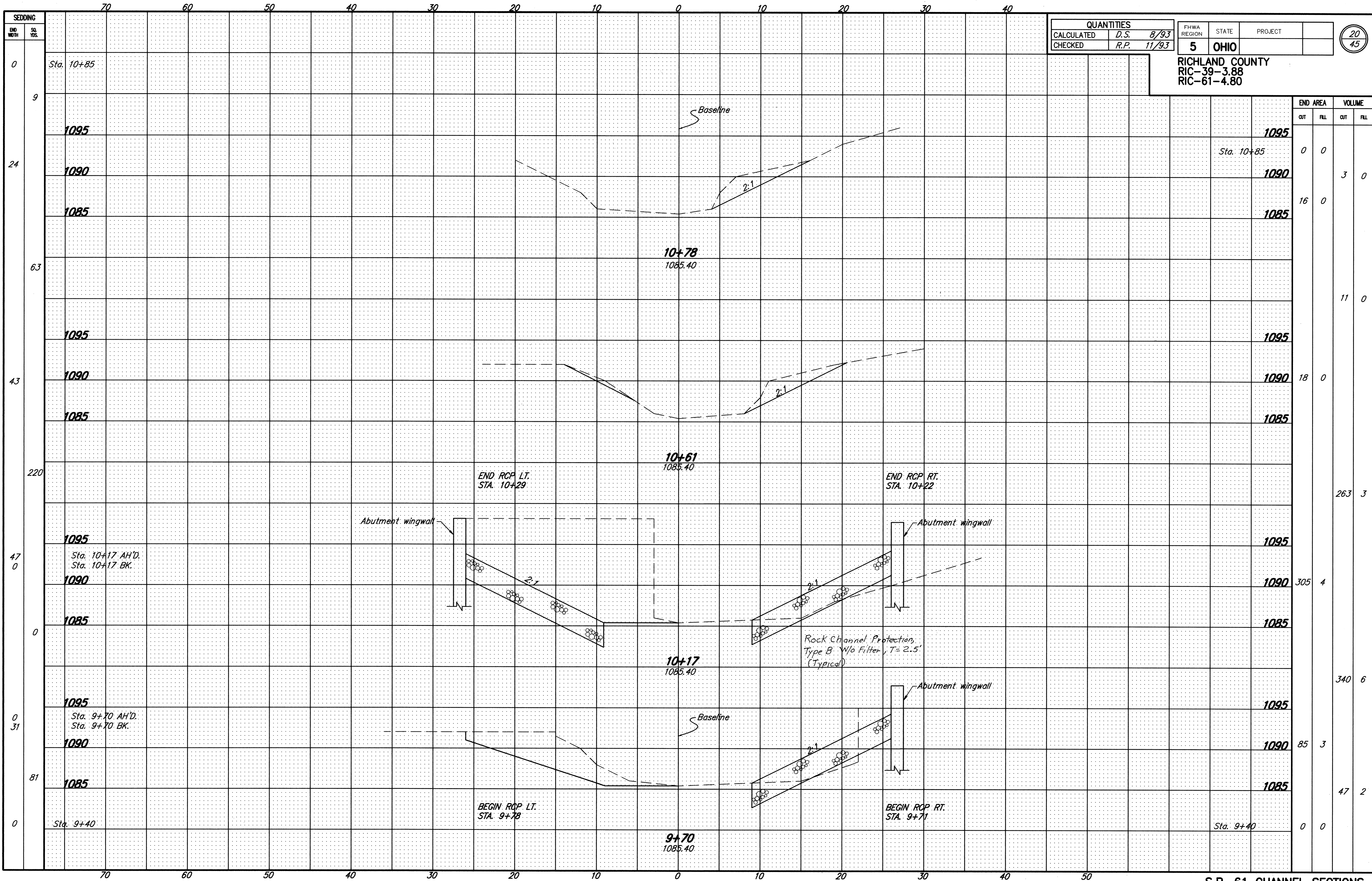
19
45

STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
256+50	0	0	0	93
255+91	0	82	4	82
255+50	5	123	7	145
254+57.05	9	194	9	194
254+37.05	4	86	4	86
254+37	7	29	7	29
254+37	0	0	0	0

Job No. 92063 Date 08/04/94 Drawn By JM

S.R. 61 STA. 254+37.05 TO STA. 255+91

Job No. 92063 Date 05/17/94 Drawn By LS



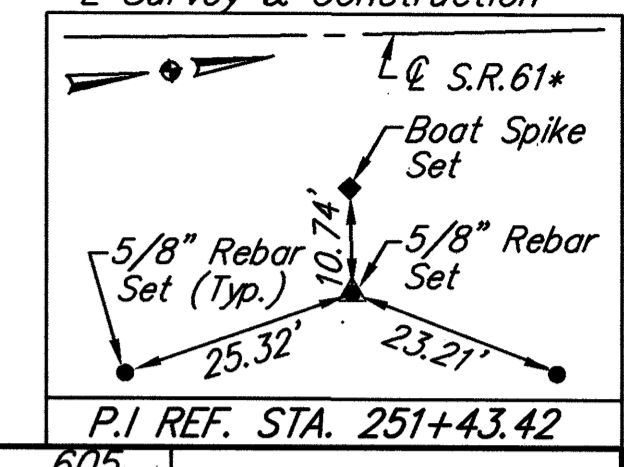
QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S. 8/93	5	OHIO	
CHECKED	R.P. 11/93			

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

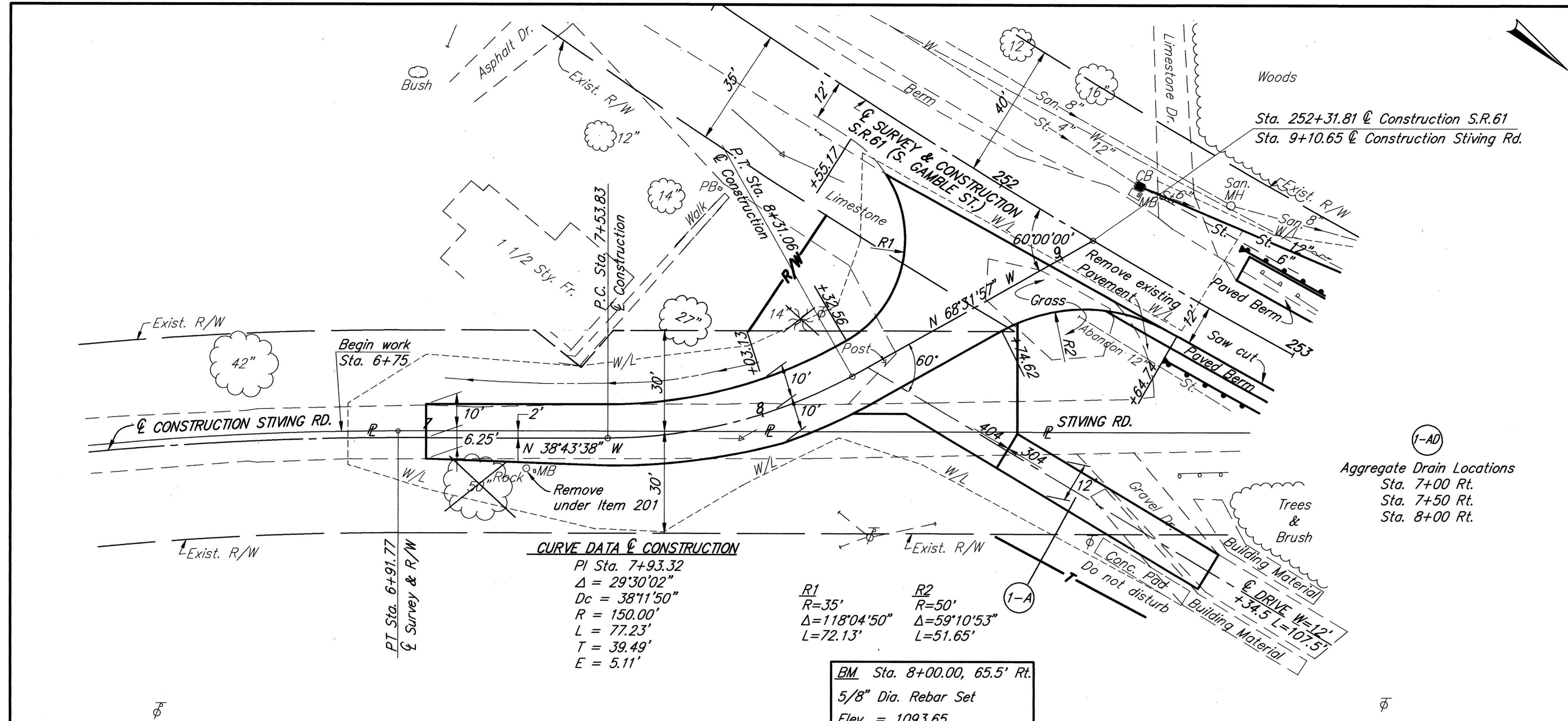
END AREA	VOLUME	
	CUT	FILL
0	0	0
16	0	3
11	0	0
18	0	0
263	3	0
305	4	0
340	6	0
85	3	0
47	2	0
0	0	0

QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S. 8/93	5	OHIO	
CHECKED	R.P. 11/93			

RICHLAND COUNTY
 RIC-39-3.88
 RIC-61-4.80 @ Survey & Construction



REFERENCE NO.	SIDE	STATION		404	304	408	605
		FROM	TO	2" Asphalt Concrete, AC-20 (Driveways) Cu. Yd.	6" Aggregate Base Cu. Yd.	Bituminous Prime Coat Gal.	Aggregate Drains Lin. Ft.
1-A	Rt.	8+34.5		6.4	35	46	
1-AD	Rt.	7+00	8+00				36
Totals				6.4	35	46	36

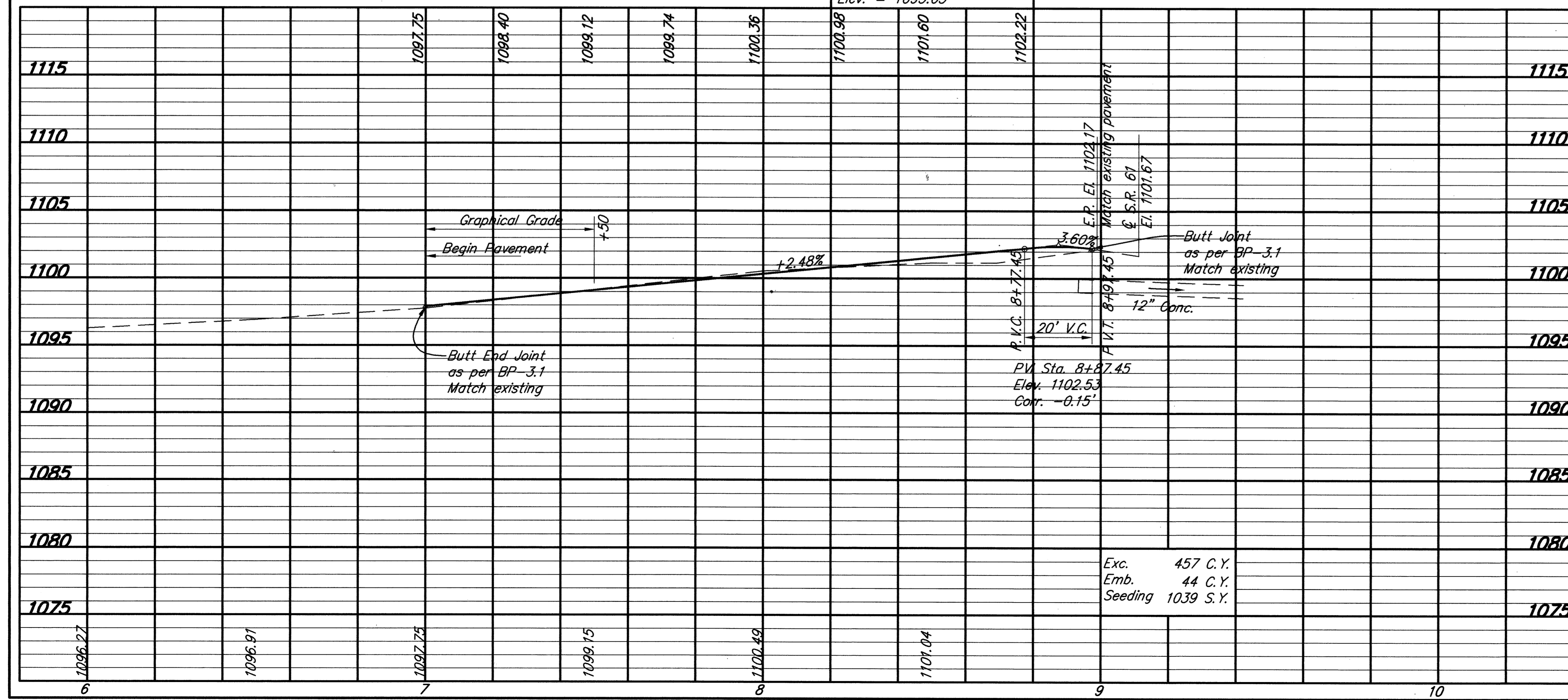


CURVE DATA @ CONSTRUCTION
 P.I. Sta. 7+93.32
 $\Delta = 29^{\circ}30'02''$
 $D_c = 38^{\circ}11'50''$
 $R = 150.00'$
 $L = 77.23'$
 $T = 39.49'$
 $E = 5.11'$

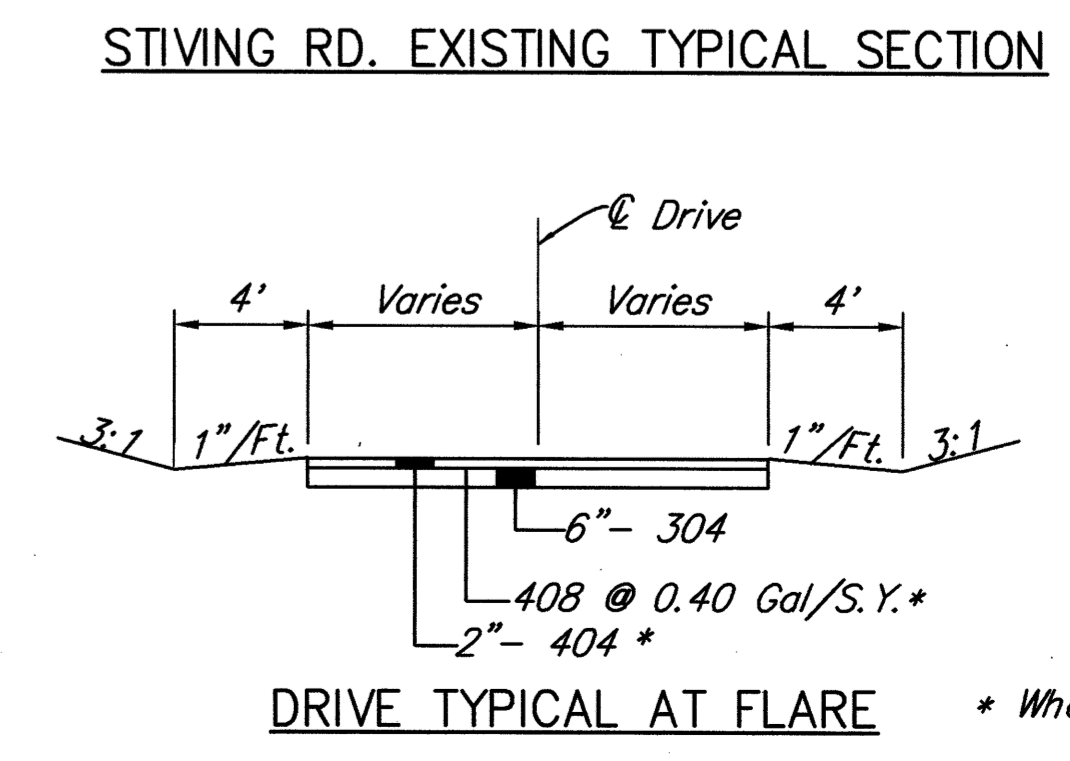
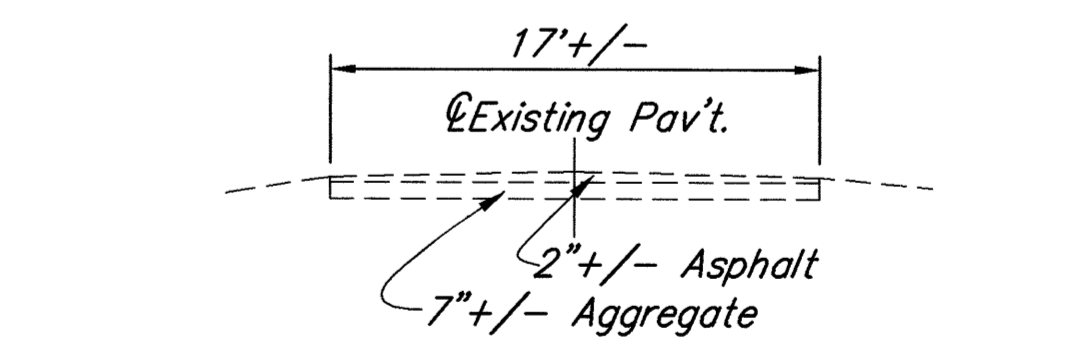
R1
 $R = 35'$
 $\Delta = 118^{\circ}04'50''$
 $L = 72.13'$

R2
 $R = 50'$
 $\Delta = 59^{\circ}10'53''$
 $L = 51.65'$

BM Sta. 8+00.00, 65.5' Rt.
 5/8" Dia. Rebar Set
 Elev. = 1093.65

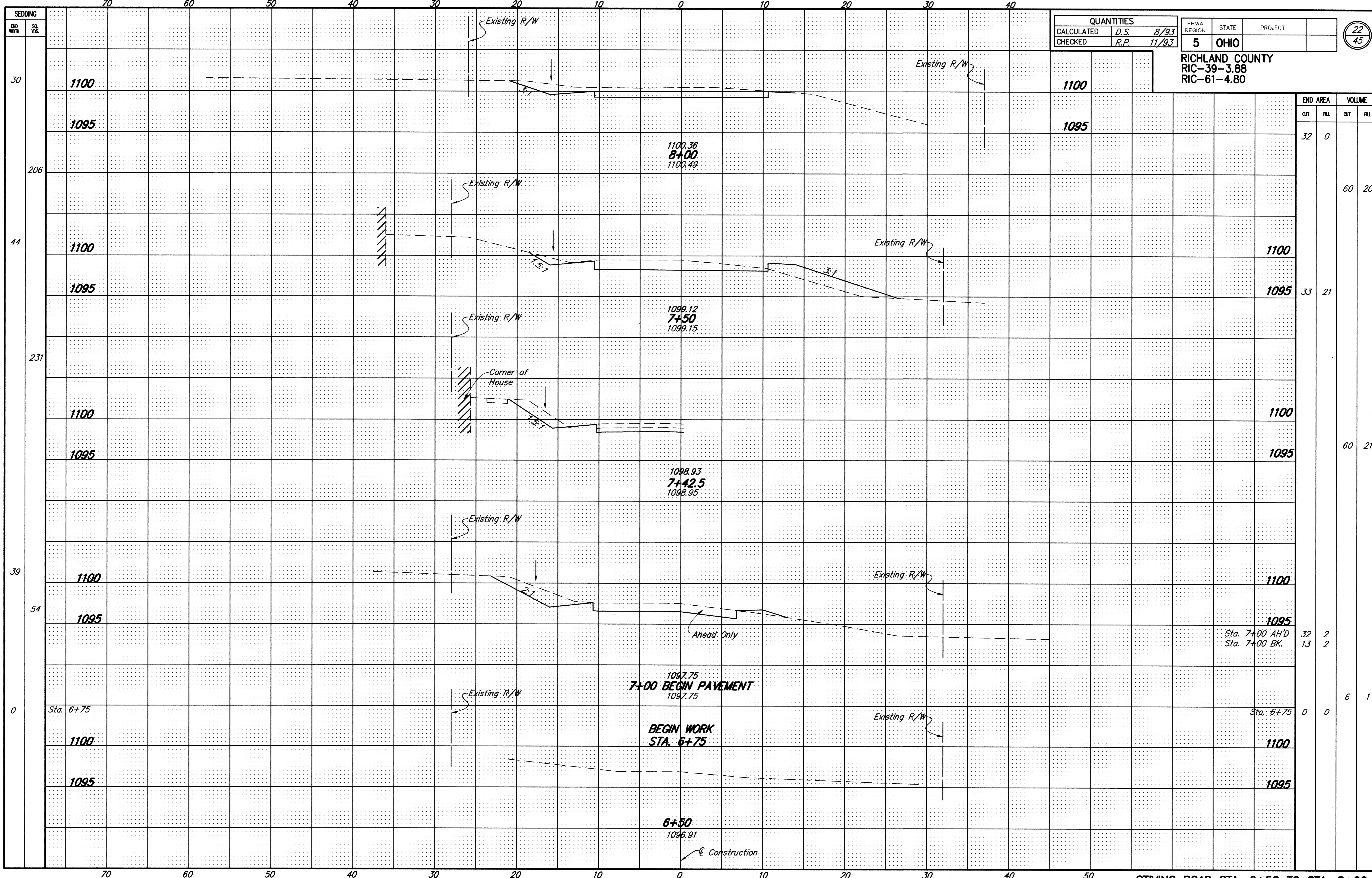


Exc. 457 C.Y.
 Emb. 44 C.Y.
 Seeding 1039 S.Y.



Job No. 92063 Date 08/04/94 Drawn By JM

Job No. 92063 Date 05/17/94 Drawn By LS



QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S. 8/93	5	OHIO	
CHECKED	R.P. 11/93			

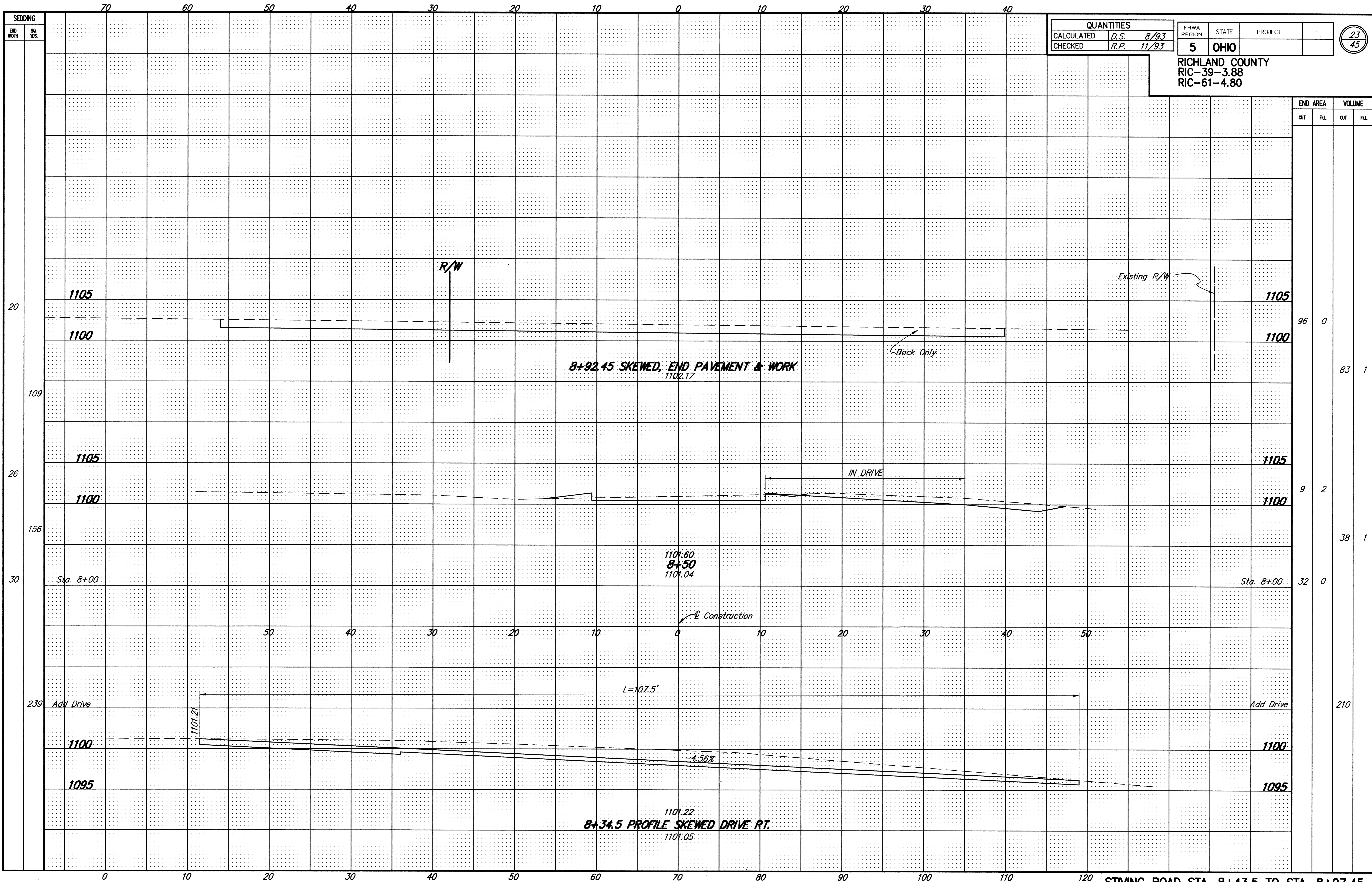
RICHLAND COUNTY
 RIC-39-3.88
 RIC-61-4.80

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END STA.	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
30				
206	32	0	60	20
44				
231	33	21	60	21
39				
54	32	2		
0	13	2	6	1

STIVING ROAD STA. 6+50 TO STA. 8+00

Job No. 92063 Date 05/17/94 Drawn By LS



QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S. 8/93	5	OHIO	
CHECKED	R.P. 11/93			

RICHLAND COUNTY
 RIC-39-3.88
 RIC-61-4.80

END AREA		VOLUME	
CUT	FILL	CUT	FILL
96	0	83	1
9	2	38	1
32	0	210	

23
45

STIVING ROAD STA. 8+43.5 TO STA. 8+97.45

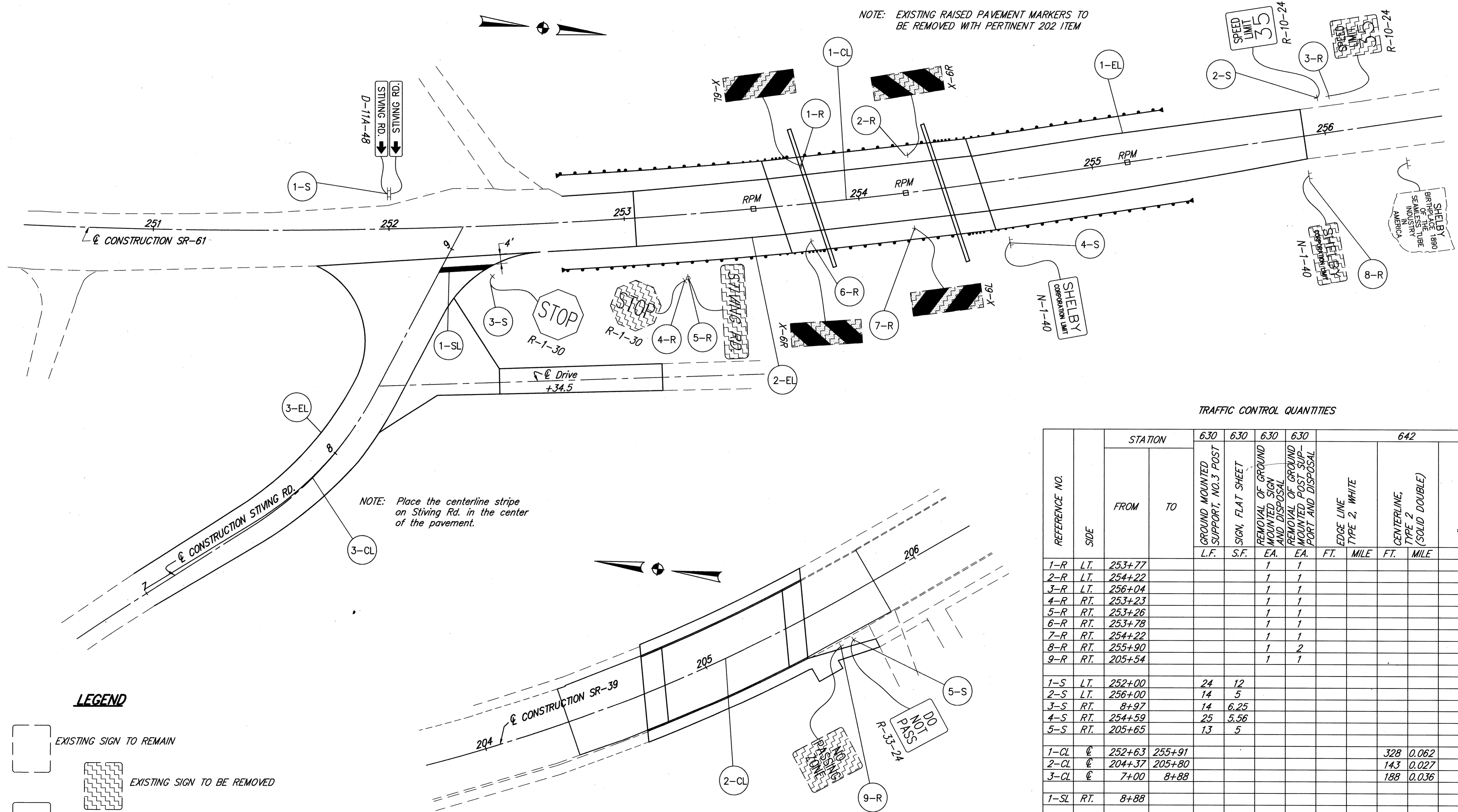
TRAFFIC CONTROL

QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	D.S. 7/26/93	5	OHIO	
CHECKED	R.P. 11/93			

24
45

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

NOTE: EXISTING RAISED PAVEMENT MARKERS TO BE REMOVED WITH PERTINENT 202 ITEM



TRAFFIC CONTROL QUANTITIES

REFERENCE NO.	SIDE	STATION		630		630		630		642		
		FROM	TO	GROUND MOUNTED SUPPORT, NO. 3 POST	SIGN, FLAT SHEET	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	EDGE LINE TYPE 2, WHITE	CENTERLINE, TYPE 2 (SOLID DOUBLE)	24" STOP LINE, TYPE 2		
				L.F.	S.F.	EA.	EA.	FT.	MILE	FT.	MILE	L.F.
1-R	LT.	253+77					1	1				
2-R	LT.	254+22					1	1				
3-R	LT.	256+04					1	1				
4-R	RT.	253+23					1	1				
5-R	RT.	253+26					1	1				
6-R	RT.	253+78					1	1				
7-R	RT.	254+22					1	1				
8-R	RT.	255+90					1	2				
9-R	RT.	205+54					1	1				
1-S	LT.	252+00		24	12							
2-S	LT.	256+00		14	5							
3-S	RT.	8+97		14	6.25							
4-S	RT.	254+59		25	5.56							
5-S	RT.	205+65		13	5							
1-CL	℄	252+63	255+91							328	0.062	
2-CL	℄	204+37	205+80							143	0.027	
3-CL	℄	7+00	8+88							188	0.036	
1-SL	RT.	8+88										20
1-EL	LT.	252+74	255+91					317	0.060			
2-EL	RT.	7+00	255+91					559	0.106			
3-EL	LT.	7+00	SR-61					185	0.035			
TOTALS				90	33.81	9	10		0.201		0.125	20

LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

Job No. 92062 & 92063 Date 05/16/94 Drawn By LS

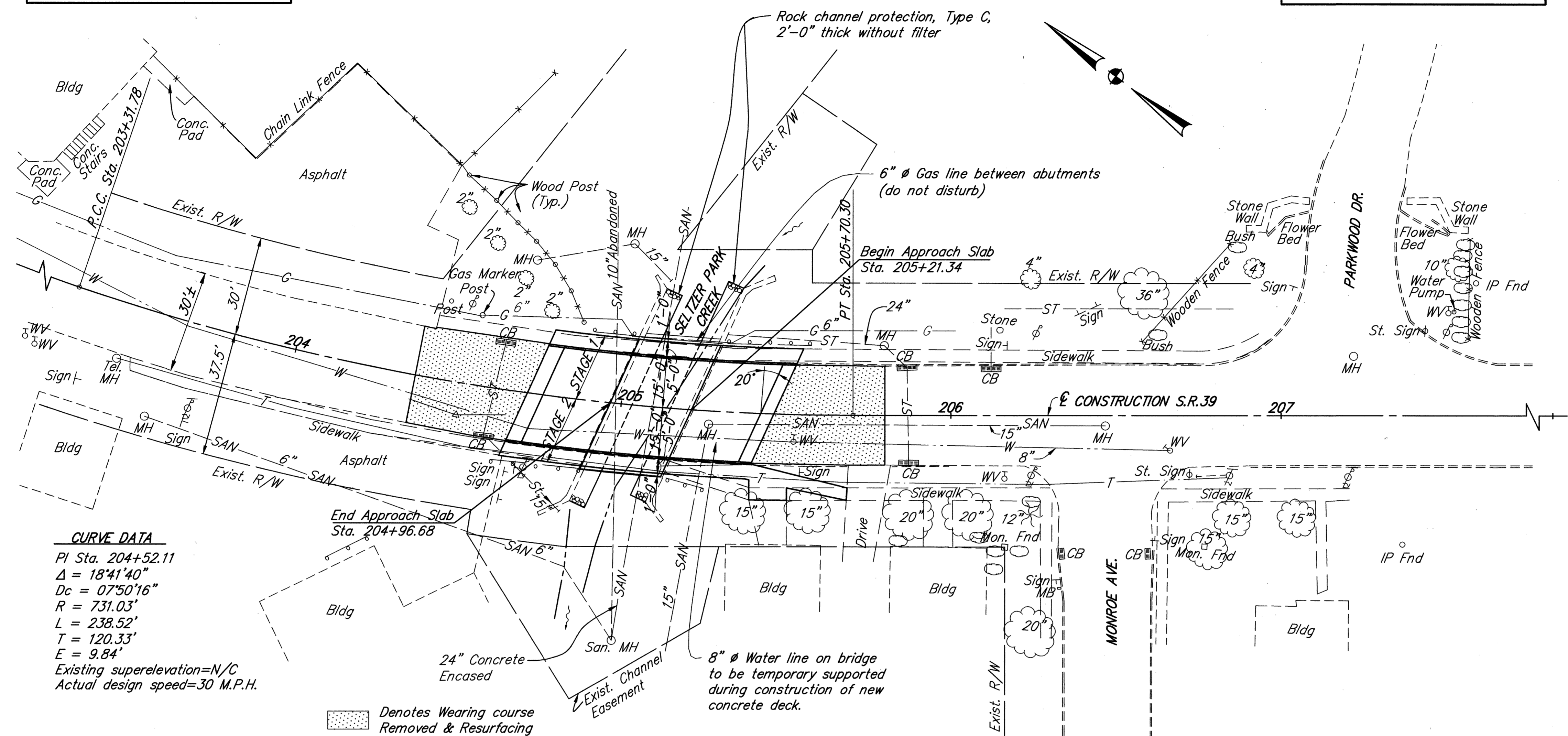
B.M. Top S.W. corner of concrete step Sta. 203+10, 30' Lt. Elev. 1098.44

B.M. Top S.W. corner of bottom concrete step, Sta. 207+12, 18.14' Rt. Elev. 1099.68

FHWA REGION	STATE	PROJECT
5	OHIO	

25
45

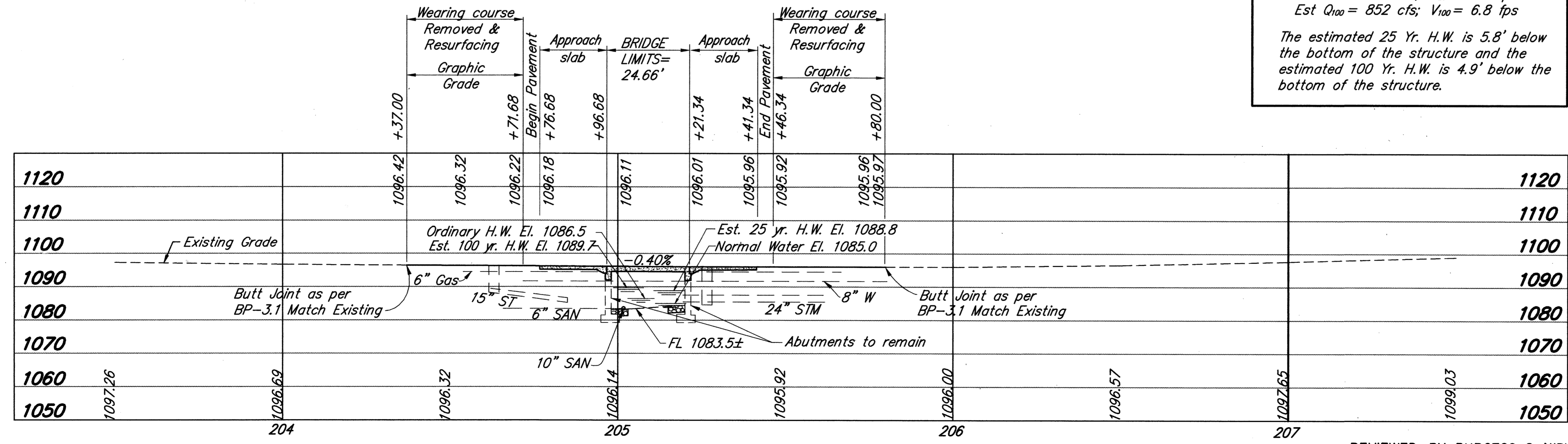
RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80



CURVE DATA
 PI Sta. 204+52.11
 $\Delta = 18^{\circ}41'40''$
 $D_c = 07^{\circ}50'16''$
 $R = 731.03'$
 $L = 238.52'$
 $T = 120.33'$
 $E = 9.84'$
 Existing superelevation=N/C
 Actual design speed=30 M.P.H.

PLAN

HYDRAULICS INFORMATION
 Drainage Area = 2.97 Sq. Mi.
 Est $Q_{25} = 623$ cfs; $V_{25} = 5.7$ fps
 Est $Q_{100} = 852$ cfs; $V_{100} = 6.8$ fps
 The estimated 25 Yr. H.W. is 5.8' below the bottom of the structure and the estimated 100 Yr. H.W. is 4.9' below the bottom of the structure.



PROFILE ALONG CENTERLINE CONSTRUCTION

EXISTING STRUCTURE
 TYPE: Reinforced concrete slab with wall type reinforced concrete abutments and wingwalls
 SPAN: 22'-0" ± f/f abutments
 ROADWAY: 30'-0" ± f/f curbs with two 5'-3" sidewalks
 LOADING: CF = 400(57)
 SKEW: 20° ± L.F. from chord line
 WEARING SURFACE: Asphalt
 APPROACH SLABS: AS-1-54, 25' long(Special)
 ALIGNMENT: 7' 50' 16" curve left
 CONDITION: Superstructure- fair, Substructure- good
 YEAR BUILT: 1963
 SUPERELEVATION: None
 STRUCTURE FILE: 7002017

PROPOSED STRUCTURE
 TYPE: Reinforced concrete slab on reused reinforced concrete substructure
 SPAN: 22'-0" ± f/f abutments
 ROADWAY: 30'-0" ± f/f curbs with two 5'-0" sidewalks
 LOADING: HS-20-44 and the Alternate Military Loading
 SKEW: 20° ± L.F. from chord line
 WEARING SURFACE: Monolithic concrete
 APPROACH SLABS: AS-1-81(20'-0" long)
 ALIGNMENT: Chord of 7'-50'-16" curve left between faces of abutments
 SUPERELEVATION: None
 DESIGN AVERAGE DAILY TRAFFIC: 23190 (2014)
 DESIGN AVERAGE DAILY TRUCK AVERAGE: 930 (2014)

RE RICHLAND ENGINEERING LIMITED
 MANSFIELD, OHIO

GENERAL PLAN
 BRIDGE NO. RIC-39-0388
 OVER SELTZER PARK CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BLN	JPS	JPS	RHU	DT	5/2/93	

REVIEWED BY BURGESS & NIPLE, LTD.
 D.R.K. 8-2-94

Job No. 92062 Date 05/17/94 Drawn By LS

GENERAL NOTES

REFERENCE shall be made to Standard Drawings:
 AS-1-81, (dated 9-15-94)
 BR-2-82 (dated 11-1-82)
 SB-2-73, (dated 4-10-73)
 and to Supplemental Specification

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1992 including the 1993 Interim Specifications, and the ODOT Bridge Design Manual.

DESIGN DATA:
 Design Loading-HS20-44 and the Alternate Military Loading
 Concrete Class S-f'c = 4500 p.s.i. for superstructure
 Concrete Class C-f'c = 4000 p.s.i. for substructure
 Reinforcing Steel-ASTM A615, A616 or A617-Fy=60,000 p.s.i. Splices indicated are for Grade 60 steel.

MONOLITHIC WEARING SURFACE: Monolithic wearing surface is assumed, for design purposes, to be 1" thick.

DECK PROTECTION METHOD:
 Epoxy coated reinforcing steel
 2 1/2" Concrete cover

EXISTING STRUCTURE VERIFICATION: Details and dimensions shown on these plans pertaining to the existing structure have been obtained from plans of the existing structure and from field observation and measurements. Consequently, they are indicative of the existing structure and the proposed work. They shall be considered tentative and approximate. The Contractor is referred to CMS Sections 102.05 and 105.02.

Contract bid prices shall be based upon a recognition of the uncertainties described above and upon a prebid examination of the existing structure by the Contractor. However, all project work shall be based upon actual details and dimensions which have been verified by the Contractor in the field.

REPLACEMENT OF EXISTING REINFORCING STEEL: Any existing reinforcing bars which are to be incorporated into the new work and which are made unusable by the Contractor's concrete removal operations shall be replaced with new steel at their cost. Any existing reinforcing bars deemed by the Engineer to be unusable because of corrosion shall be replaced with new steel. An allowance of 70 pounds is included in Item 509, epoxy coated reinforcing steel, and an allowance of 22 each is included in Item 510 Dowel holes, for this purpose, listed in the "General" column of the Estimated Quantities table.

COARSE AGGREGATE: All coarse aggregate for Items 511 or 517 Class S or Class C concrete shall be limestone.

TEMPORARY SUPPORT OF EXISTING ABUTMENTS: A temporary support of the existing abutments will be necessary to account for lateral earth pressure upon removal of existing slab. A temporary support can comprise of 8x8 timber struts spaced 8 feet center to center, placed normal to the abutment faces and placed 2' below the horizontal cutline. Earth pressure may also be relieved by the removal of soil behind abutments. This shall be included in Item 503 for payment. Backfilling shall comply with ODOT CMS 503.10.

SEALING OF CONCRETE SURFACES: An epoxy or nonepoxy concrete surface sealer shall be applied to the gutter lines, curbs, sidewalks, parapets (all sides), and the outer six inches (6") of the undersides of the deck as shown on the Transverse Section on sheet 678. All exposed existing and proposed surfaces of the abutments shall be sealed with an epoxy sealer. See the Proposal Note for surface preparation requirements, application rates, material requirements and application procedures.

CAMBER: The deck slab forms shall be cambered in order to compensate for slab and falsework deflections. Deflection of slab when self supporting is 1/4". This is in addition to required camber to compensate for deflection of falsework due to weight of falsework and freshly placed concrete.

ESTIMATED QUANTITIES									
ITEM	EXT. NO.	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	GEN'L.		
202	11203	Lump		Portions of structure removed, over 20 foot span, as per plan	Lump				
202	11301	25	Cu.Yd.	Portions of structure removed, as per plan, abutment		25			
503	21301	Lump		Unclassified excavation, as per plan		Lump			
509	15830	14,364	Pound	Epoxy coated reinforcing steel, Grade 60	11,347	2947	70		
510	10000	108	Each	Dowel holes with nonshrink, nonmetallic grout		86	22		
511	33401	70	Cu.Yd.	Class S concrete, superstructure, as per plan	70				
511	45701	24	Cu.Yd.	Class C concrete, abutment, as per plan		24			
Special	51267500	82	Sq.Yd.	Sealing of concrete surfaces (See proposal note)	82				
Special	51267502	230	Sq.Yd.	Sealing of concrete surfaces (epoxy) (See proposal note)		230			
516	13200	22	Sq. Ft.	1/2" Preformed expansion joint filler	22				
517	71501	52	Lin. Ft.	Railing (concrete parapet with double pipe rail), as per plan	52				
517	73500	83	Lin. Ft.	Railing, pipe		83			
518	21201	27	Cu.Yd.	Porous backfill with filter fabric, as per plan		27			

DOWEL HOLES: All dowel holes shall be grouted with an epoxy mortar. Anchoring shall be done according to CMS 510. Payment shall be at unit price bid per each for Item 510 - Dowel Holes, which shall include all labor, equipment, materials and incidentals necessary to complete the work.

POROUS BACKFILL with filter fabric, 2 feet thick shall extend up to the plane of the subgrade, to one foot below the embankment surface, and laterally to the ends of the wingwalls. Geotextile fabric shall conform with 712.09, Type A. The bottom of the porous backfill shall be sloped laterally to drain. Geotextile fabric shall be included with porous backfill for payment. The material shall be No. 57 gravel. Two cubic feet of bagged No. 3 aggregate shall be placed at each existing weephole. Bagged aggregate is included with porous backfill for payment.

ITEM 202 ~ PORTIONS OF STRUCTURE REMOVED, AS PER PLAN: The contractor shall protect the existing utilities during all removal operations. The cost shall be included in this item.

TEMPORARY SUPPORT OF WATER LINE: Temporary supports shall be 4"x4" wood posts placed at each of the existing hangers. Post shall be braced to prevent the stream from washing them out and embedded in soil or placed on concrete to prevent settlement. The design shall be approved by the engineer. This shall be included with Item 511 for payment.

MAINTENANCE OF TRAFFIC: See sheet 6 of 45.

QUANTITIES		FHWA REGION	STATE	PROJECT
CALCULATED	JLS 1/94	5	OHIO	
CHECKED	TWH 1/94			

RICHLAND COUNTY
 RIC-39-3.88
 RIC-61-4.80

Job No. 92062 Date 06/1/94 Drawn By JLS

2 / 8

RE RICHLAND ENGINEERING LIMITED
 MANSFIELD, OHIO

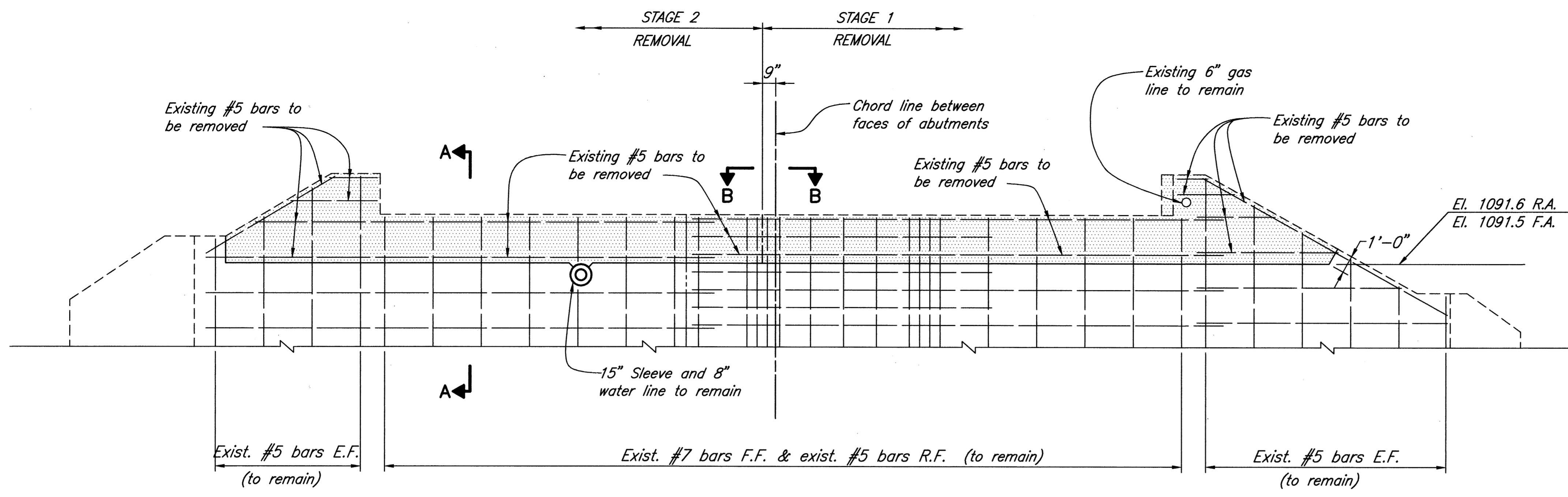
GENERAL NOTES AND ESTIMATED QUANTITIES
 BRIDGE NO. RIC-39-0388
 OVER SELTZER PARK CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	JLS	JLS	JPS	BLN	2/28/94	

FHWA REGION	STATE	PROJECT
5	OHIO	

27
45

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80



REAR ABUTMENT ELEVATION

(Forward Abutment Similar)

- Indicates removal per Item 202, Portions of structure removed, as per plan.

NOTES

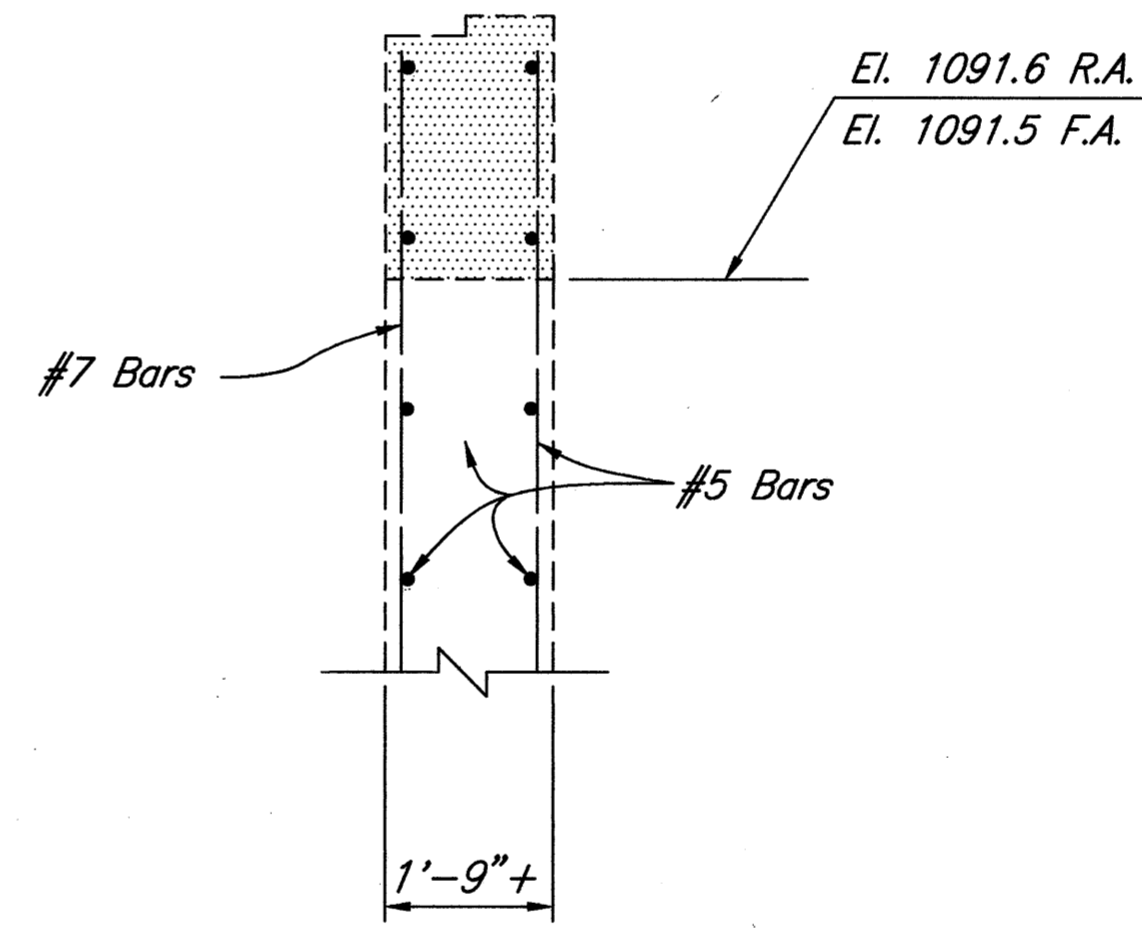
ITEM 202- PORTIONS OF STRUCTURES REMOVED, ABUTMENT, AS PER PLAN

This work shall include removal of portions of the abutments as designated in the plan. The concrete shall be removed by a hydraulic splitting method. A line of holes shall be drilled along the removal line and a hydraulic splitter used as per the manufacturer's recommendations. Thirty-five (35) and fifteen (15) pound jack hammers shall be used for any required finish work. Hoe rams and/or concrete crushers will not be permitted to do any of the work. No saw cutting will be allowed. Concrete shall be removed in a manner that prevents cutting, elongating, or damaging of the existing reinforcing steel designated for salvage, if damaged during the removal operation dowelled reinforcing steel must be added at the contractor's expense.

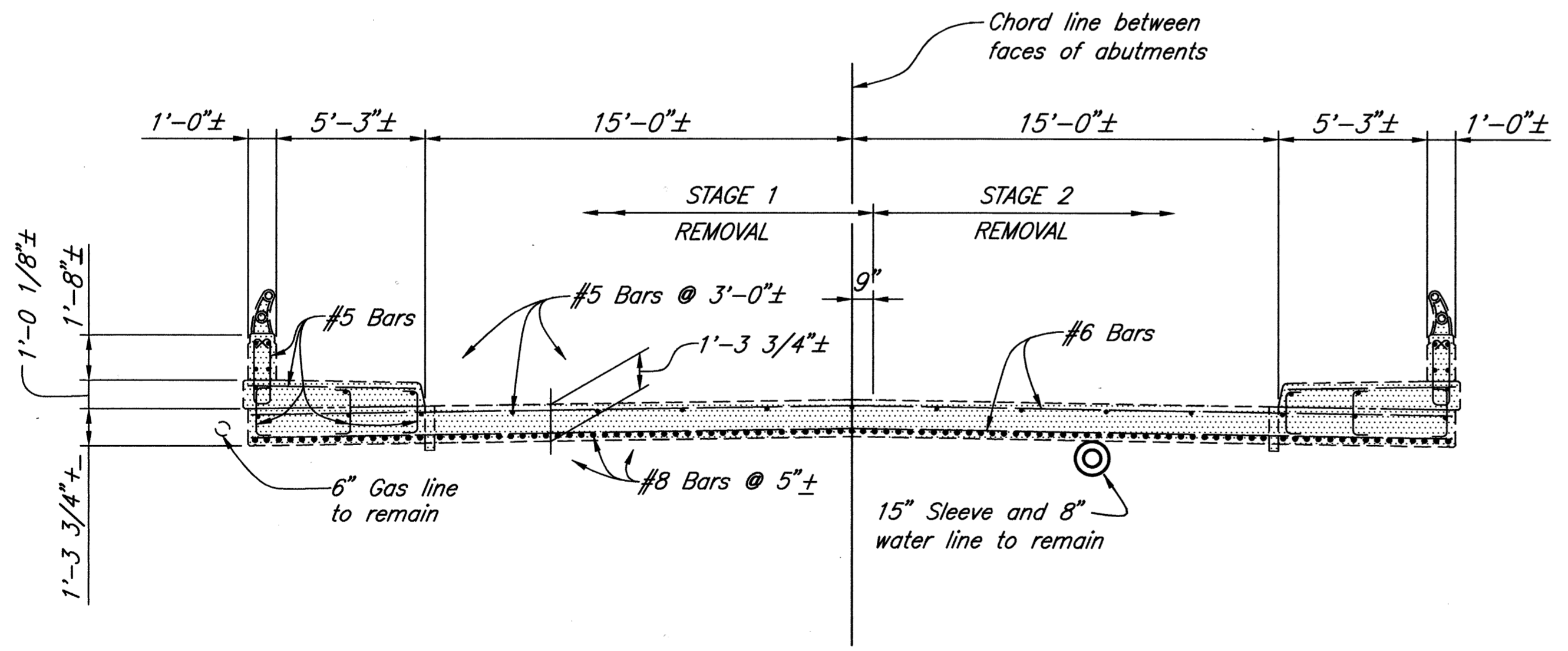
Payment for all of the above shall be at the unit price bid per cubic yard for Item 202, Portions of Structures Removed, Abutment, As Per Plan which shall include all labor, equipment, materials, and incidentals necessary to complete the above work.

EXISTING REINFORCING STEEL partially exposed by concrete removal should be left in place, except that it shall be bent as necessary to clear proposed concrete surfaces by at least 2 inches.

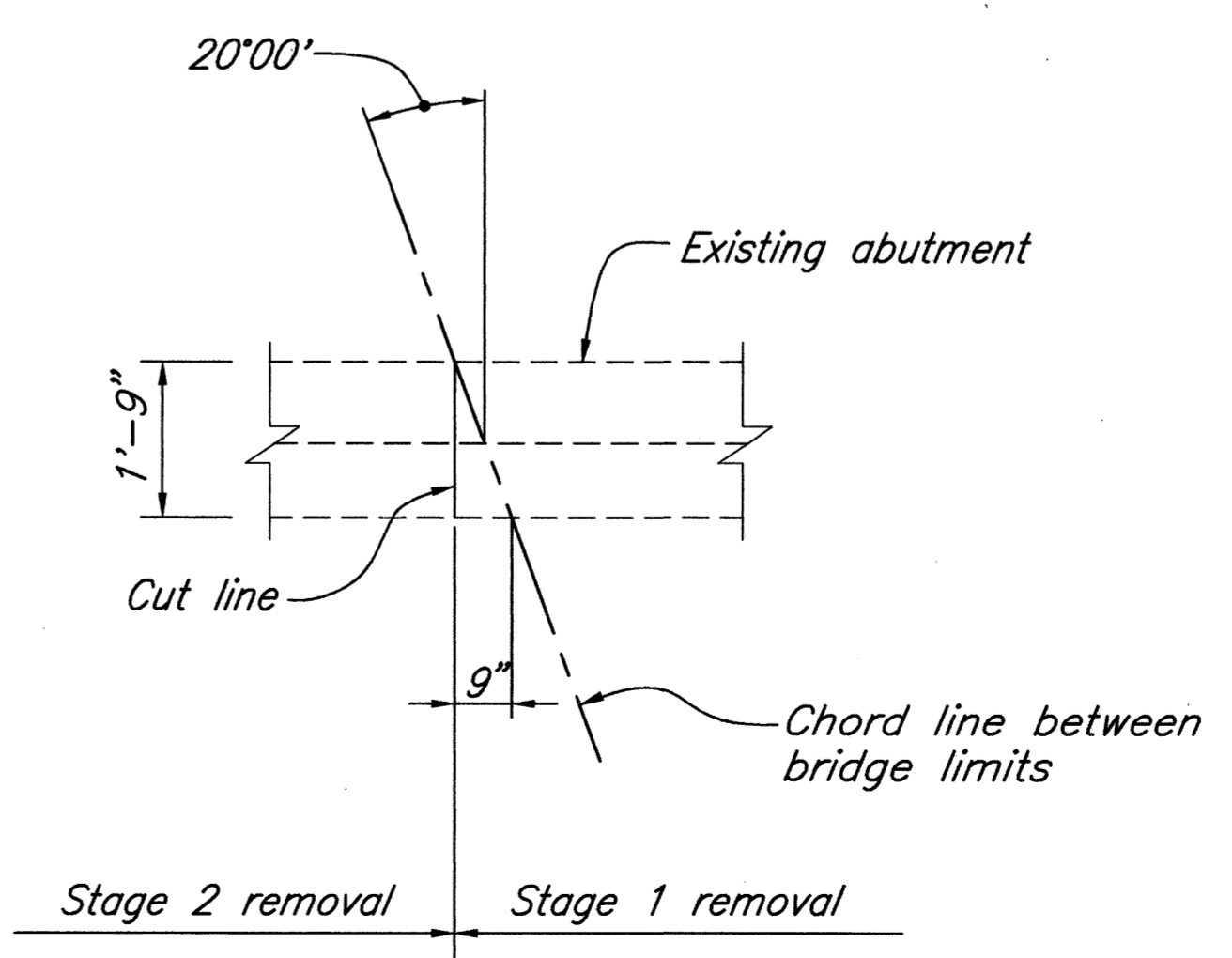
NOTATION: R.A.-Rear Abutment; F.A.-Forward Abutment; F.F.-Front Face; R.F.-Rear Face; E.F.-Each Face.



SECTION A-A



TRANSVERSE SECTION



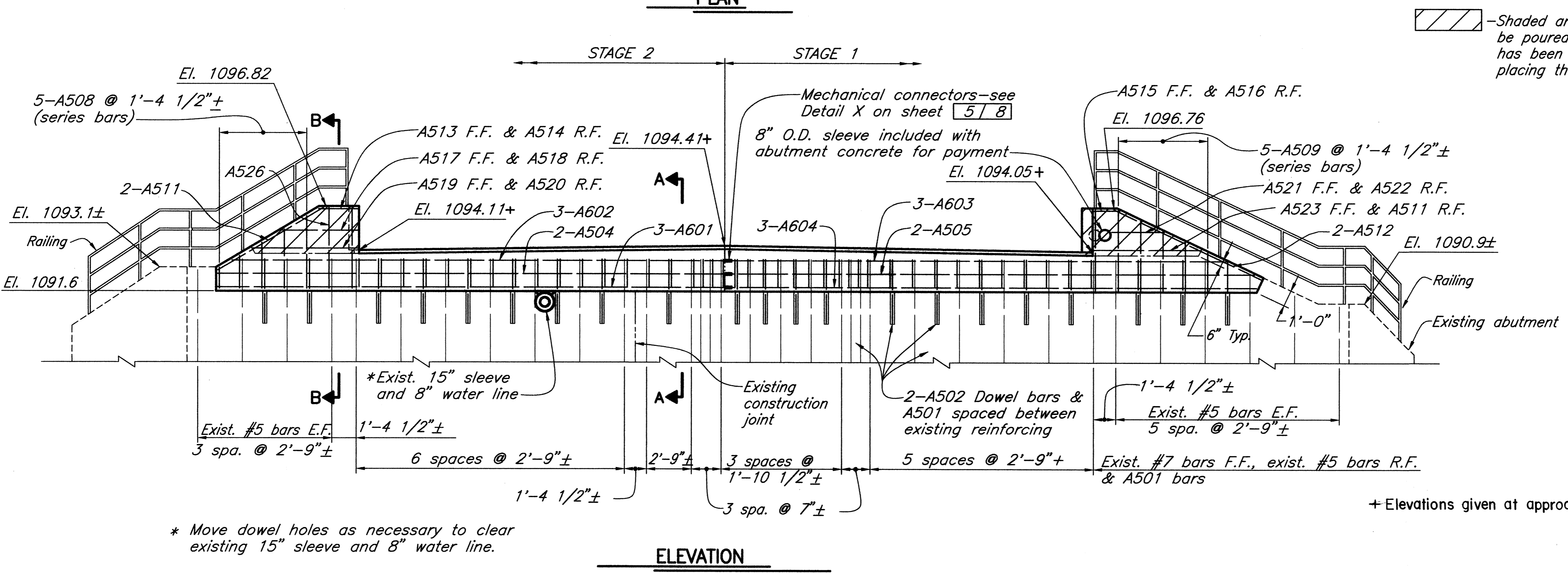
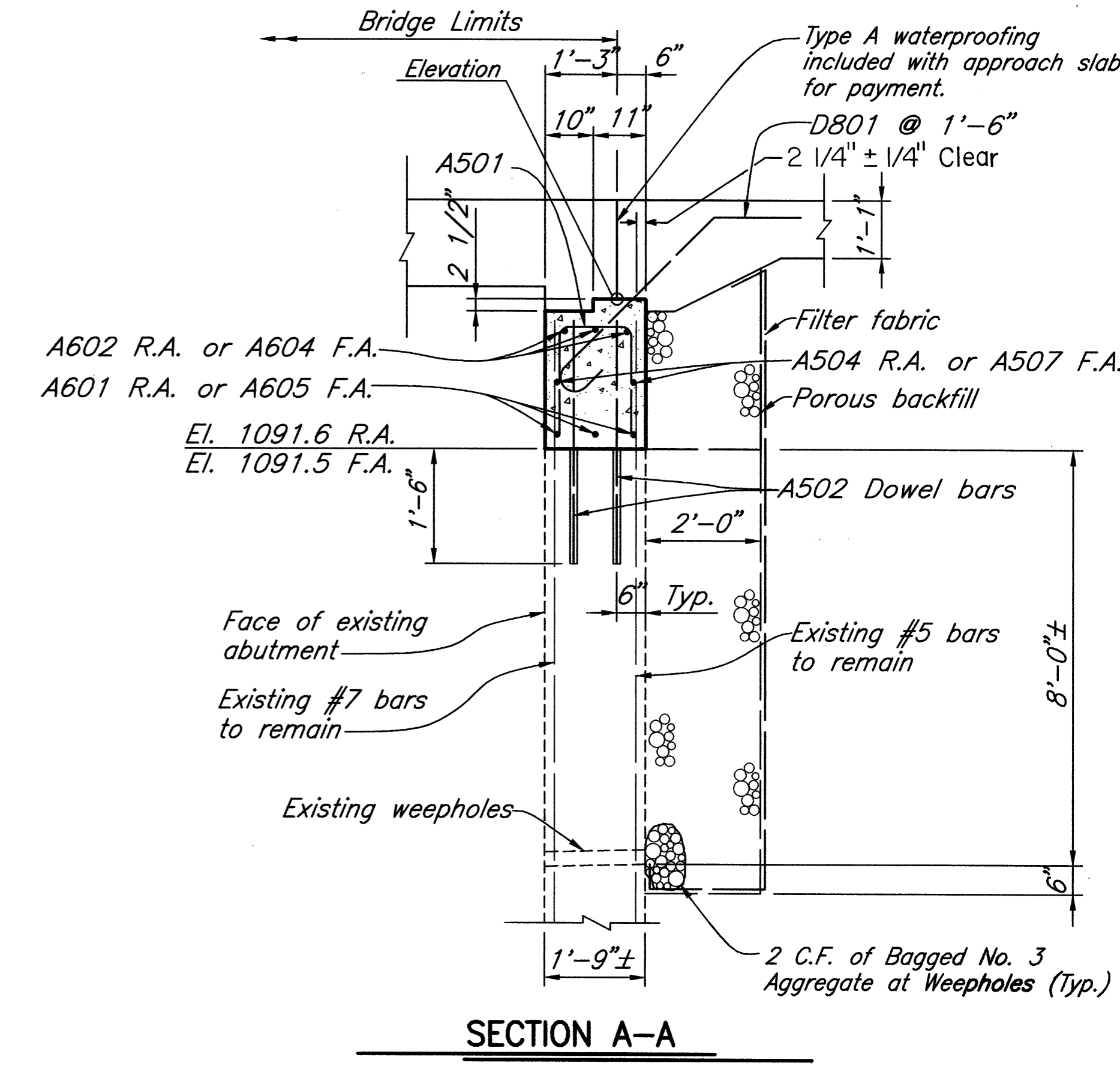
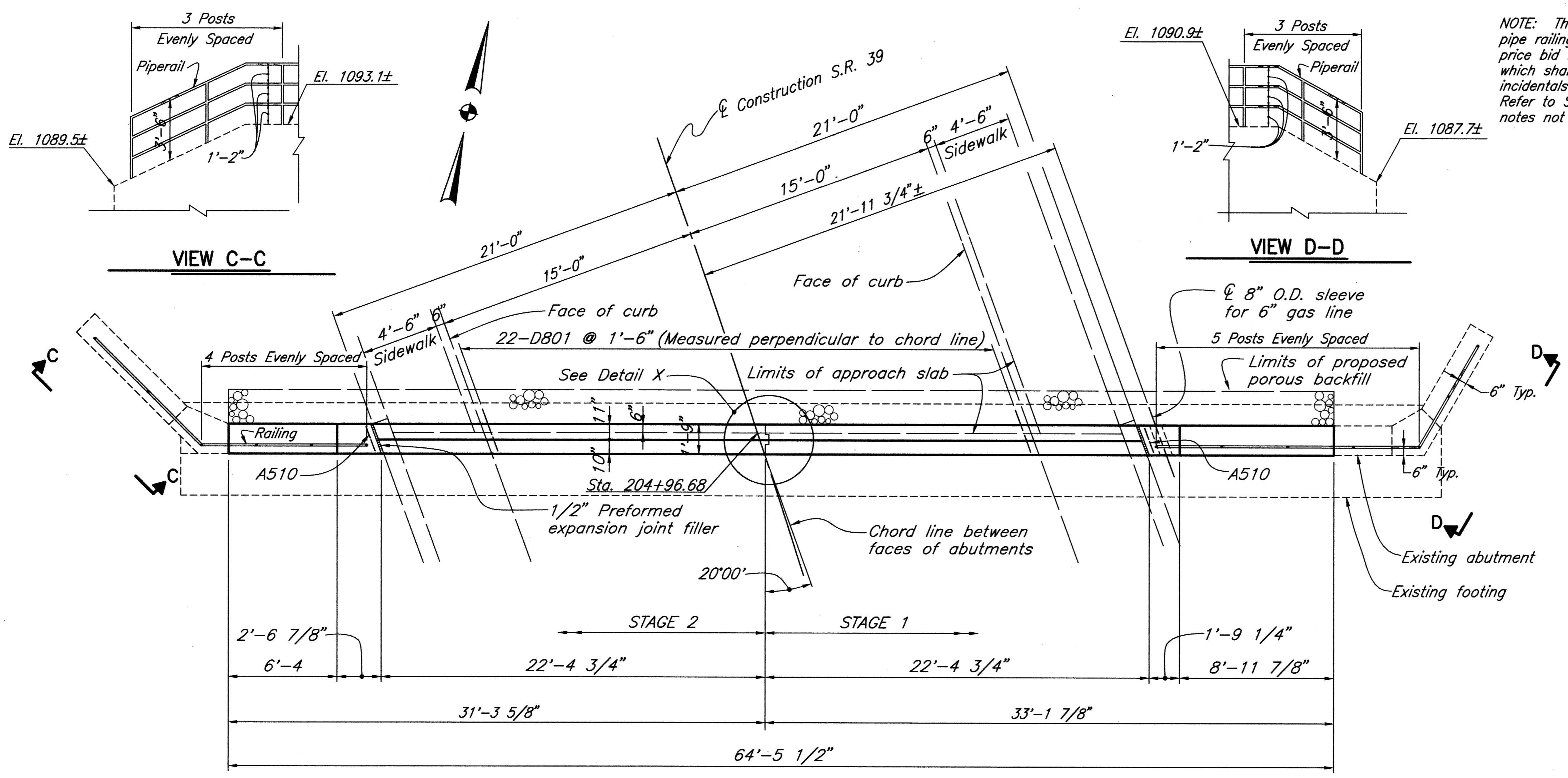
VIEW B-B

Job No. 92062 Date 06/1/94 Drawn By JLS

		RICHLAND ENGINEERING LIMITED MANSFIELD, OHIO		3 / 8		
REMOVAL DETAILS						
BRIDGE NO. RIC-39-0388 OVER SELTZER PARK CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	JLS	JLS	JPS	BLN	2/28/94	

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

NOTE: The cost of providing the pipe railing shall be included in the price bid for Item 517 ~ Railing, Pipe which shall include material, labor, and incidentals necessary to complete the item. Refer to Std. Dwg. MC-2 for details & notes not shown.



NOTES

SIDEWALK: The porous backfill shall be brought up to the level of sidewalk subgrade and compacted. Any over excavation due to abutment work shall be thoroughly compacted under the sidewalk.

CLEANING OF WEEPHOLES: Weepholes at bases of existing abutments shall be adequately cleaned to allow for backwall drainage. This shall be included with the porous backfill with filter fabric, as per plan for payment.

NOTATION: R.A.—Rear Abutment; F.A.—Forward Abutment; F.F.—Front Face; R.F.—Rear Face; E.F.—Each Face.

SECTION B-B: See sheet 5/8

DETAIL X: See sheet 5/8

MECHANICAL CONNECTOR NOTE: See sheet 7/8

Shaded areas indicate concrete to be poured after the concrete slab has been poured and prior to placing the approach slab.

+ Elevations given at approach slab limit

* Move dowel holes as necessary to clear existing 15" sleeve and 8" water line.

		RICHLAND ENGINEERING LIMITED MANSFIELD, OHIO				
		REAR ABUTMENT BRIDGE NO. RIC-39-0388 OVER SELTZER PARK CREEK				
DESIGNED RWR	DRAWN JLS	TRACED JLS	CHECKED JPS	REVIEWED BLN	DATE 2/28/94	REVISED

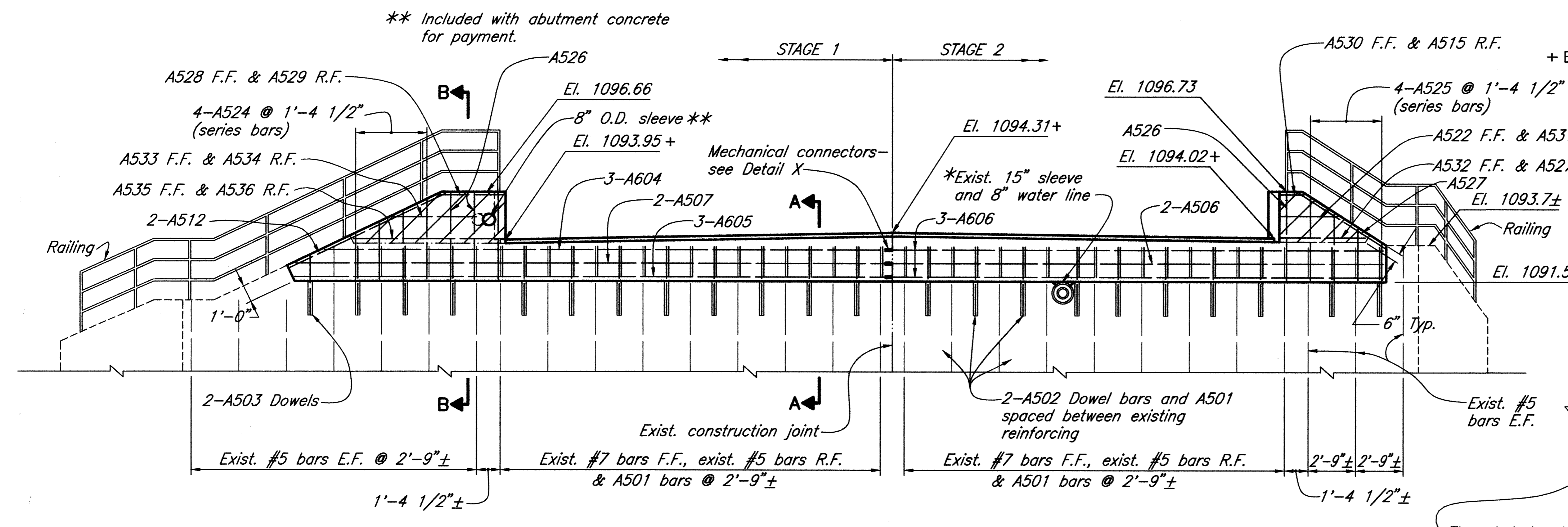
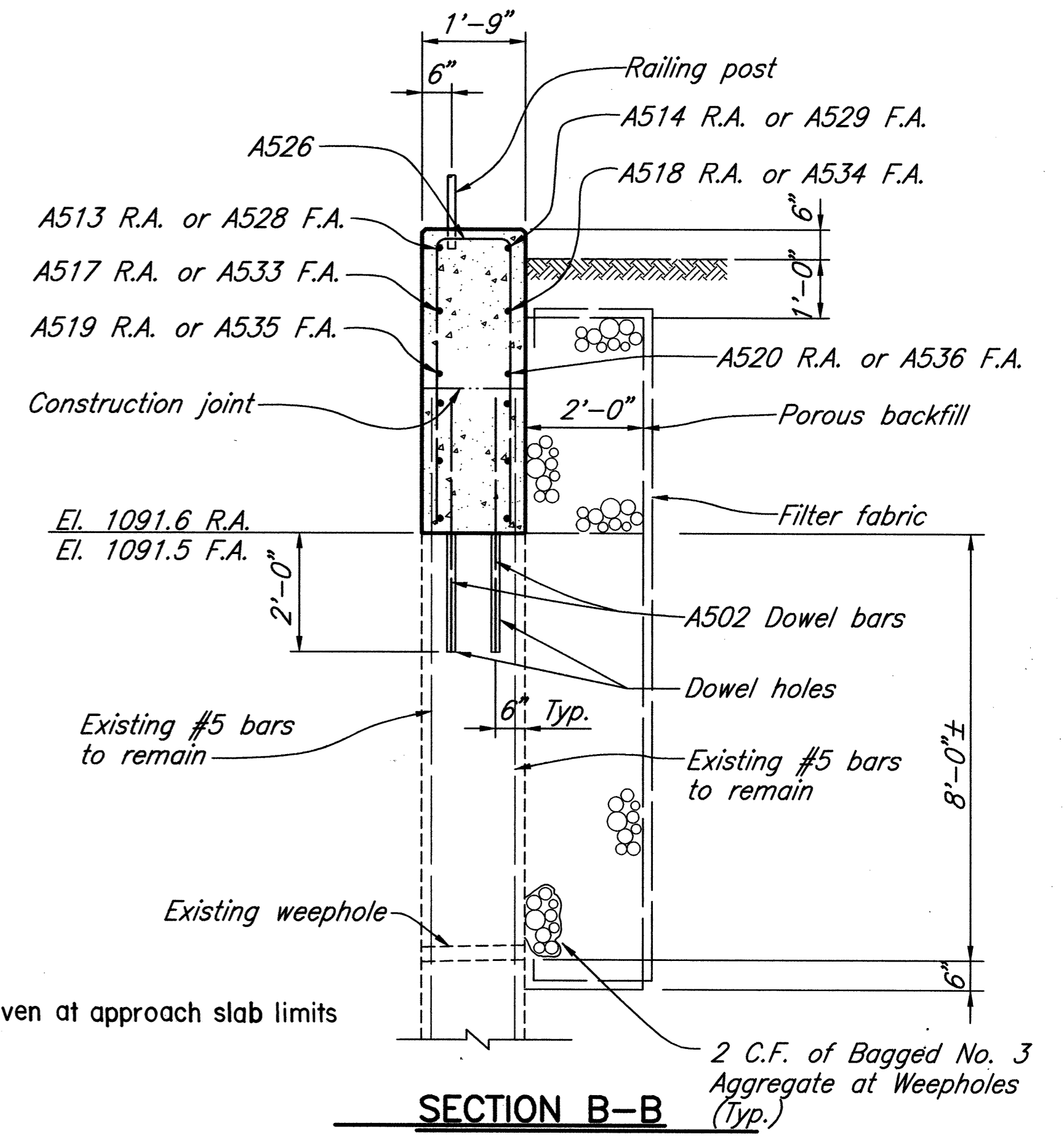
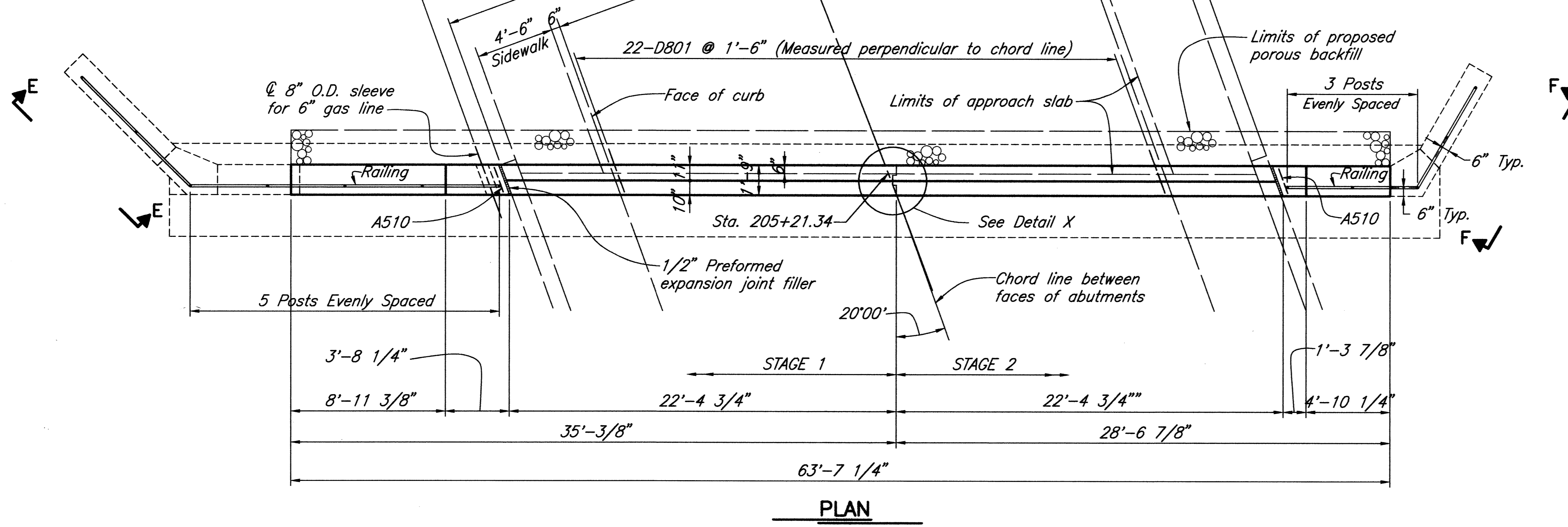
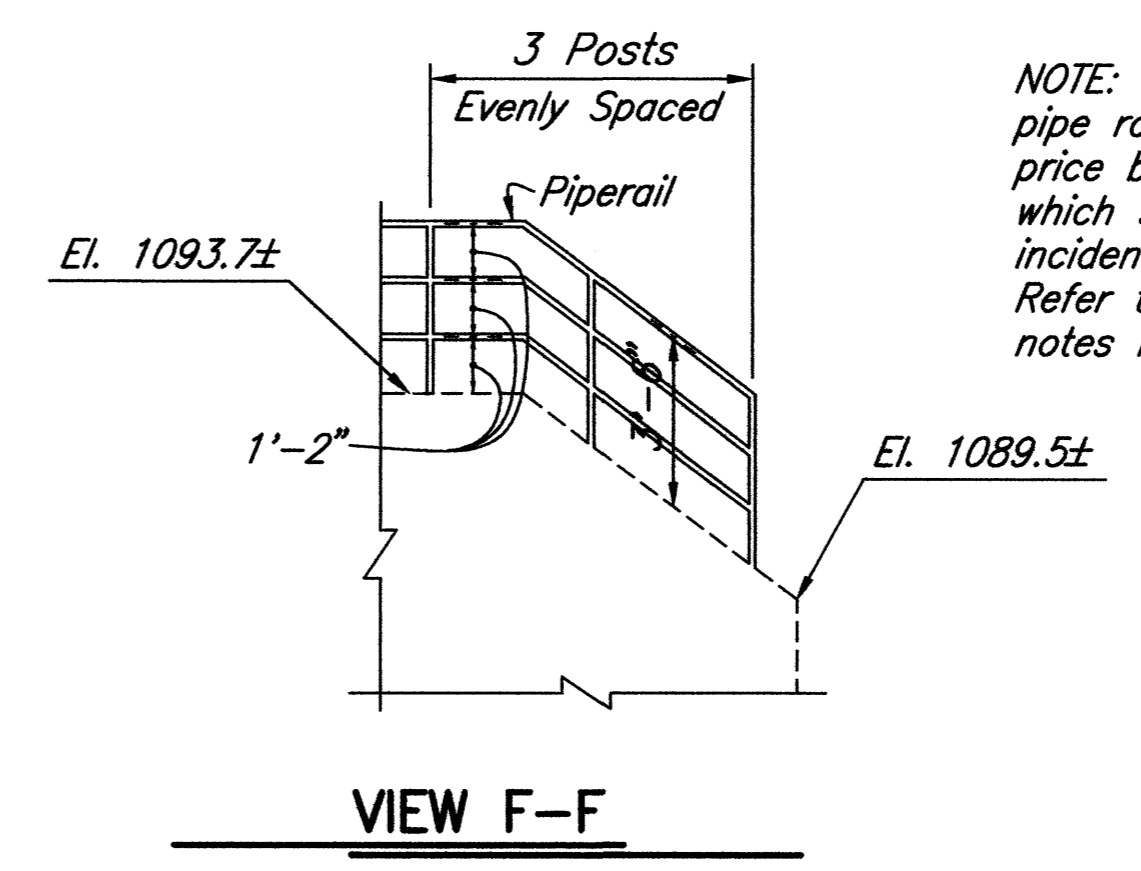
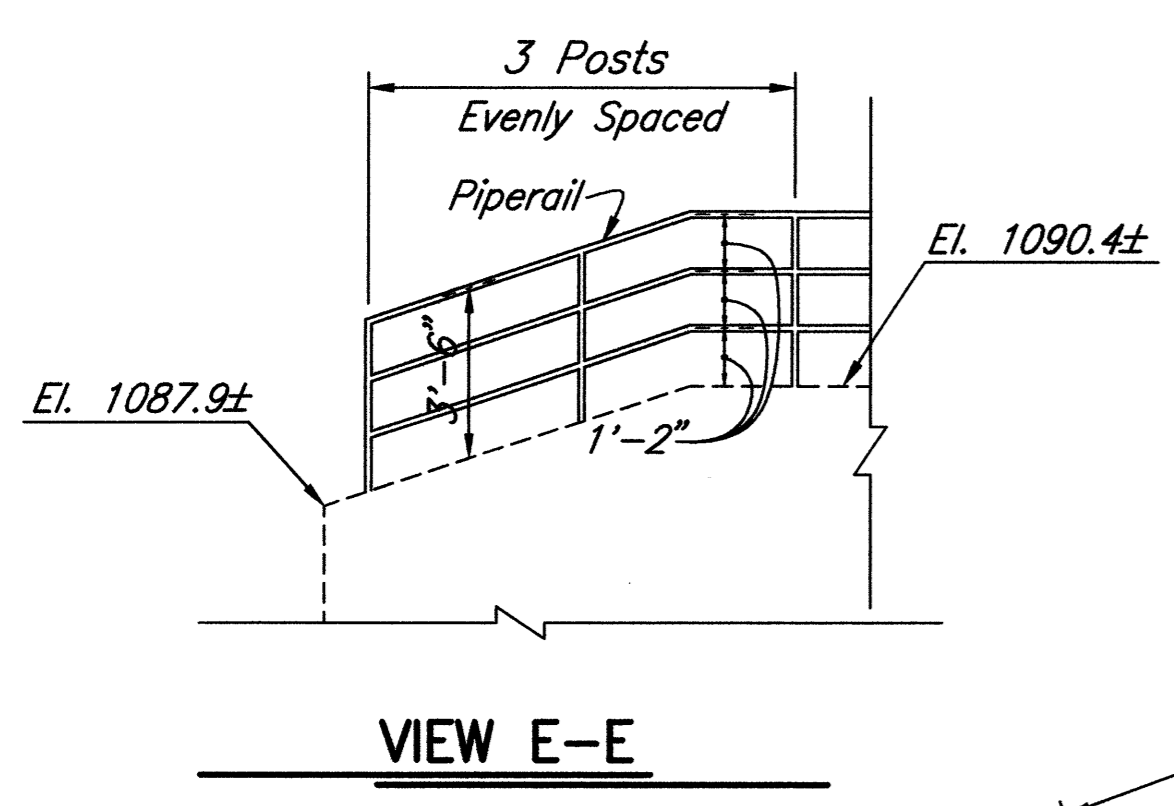
Job No. 92062 Date 06/1/94 Drawn By JLS

FHWA REGION	STATE	PROJECT
5	OHIO	

29
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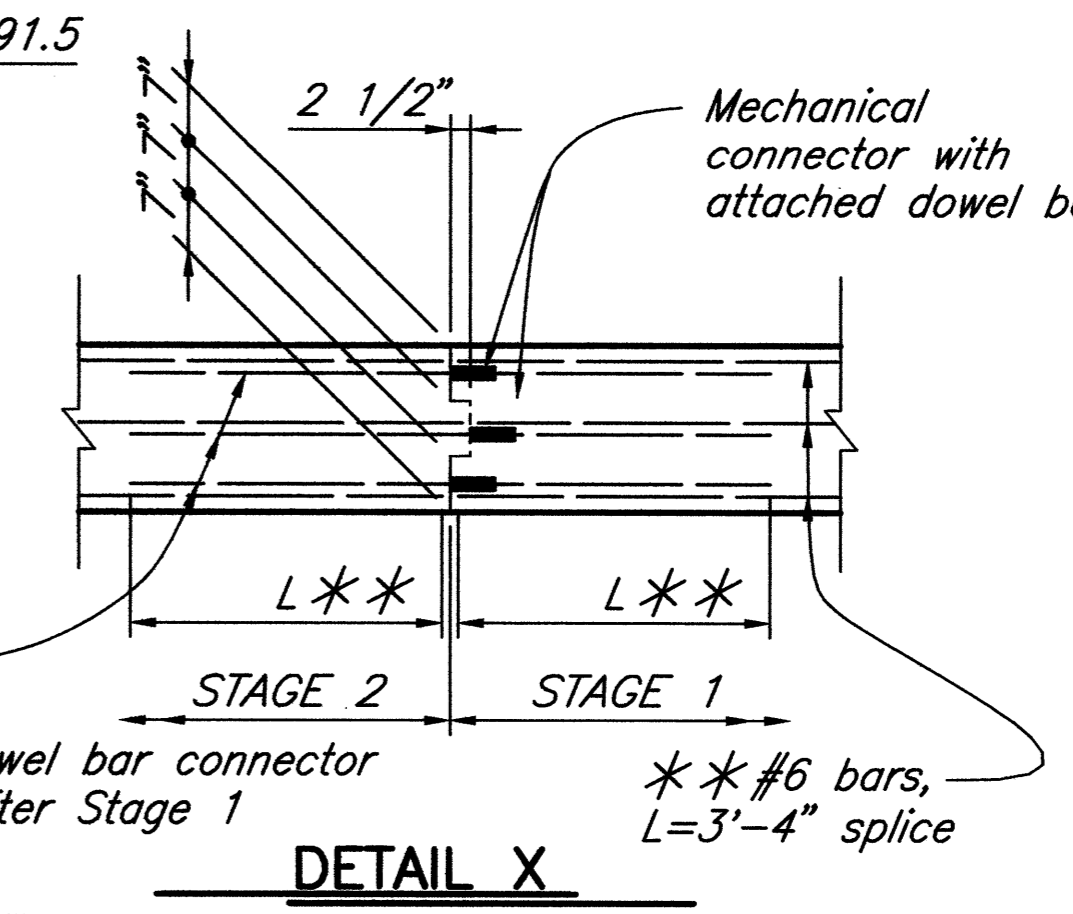
NOTE: The cost of providing the pipe railing shall be included in the price bid for Item 517 ~ Railing, Pipe which shall include material, labor, and incidentals necessary to complete the item. Refer to Std. Dwg. MC-2 for details & notes not shown.



+ Elevations given at approach slab limits

Shaded areas indicate concrete to be poured after the concrete slab has been poured and prior to placing the approach slab.

NOTES
SECTION A-A: See sheet 4/8



* Move dowel holes as necessary to clear existing 15" sleeve and 8" water line.

** #6 bars, L=3'-4" splice

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MANSFIELD, OHIO

FORWARD ABUTMENT

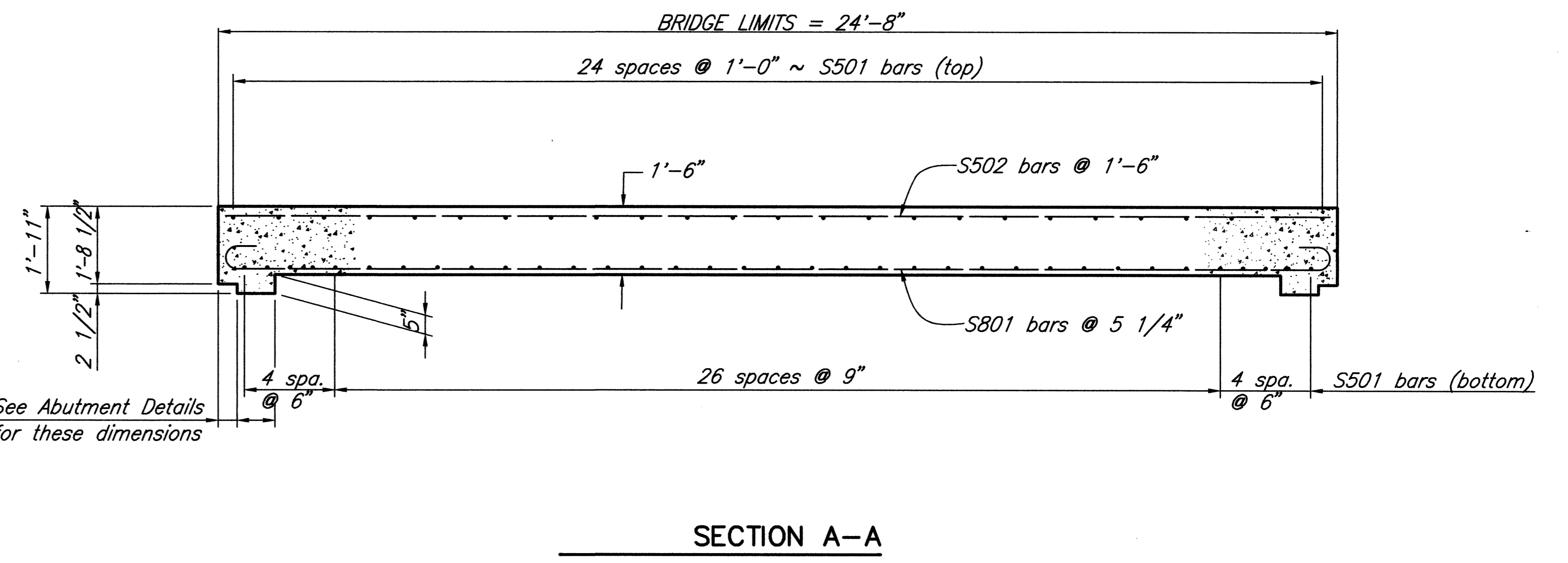
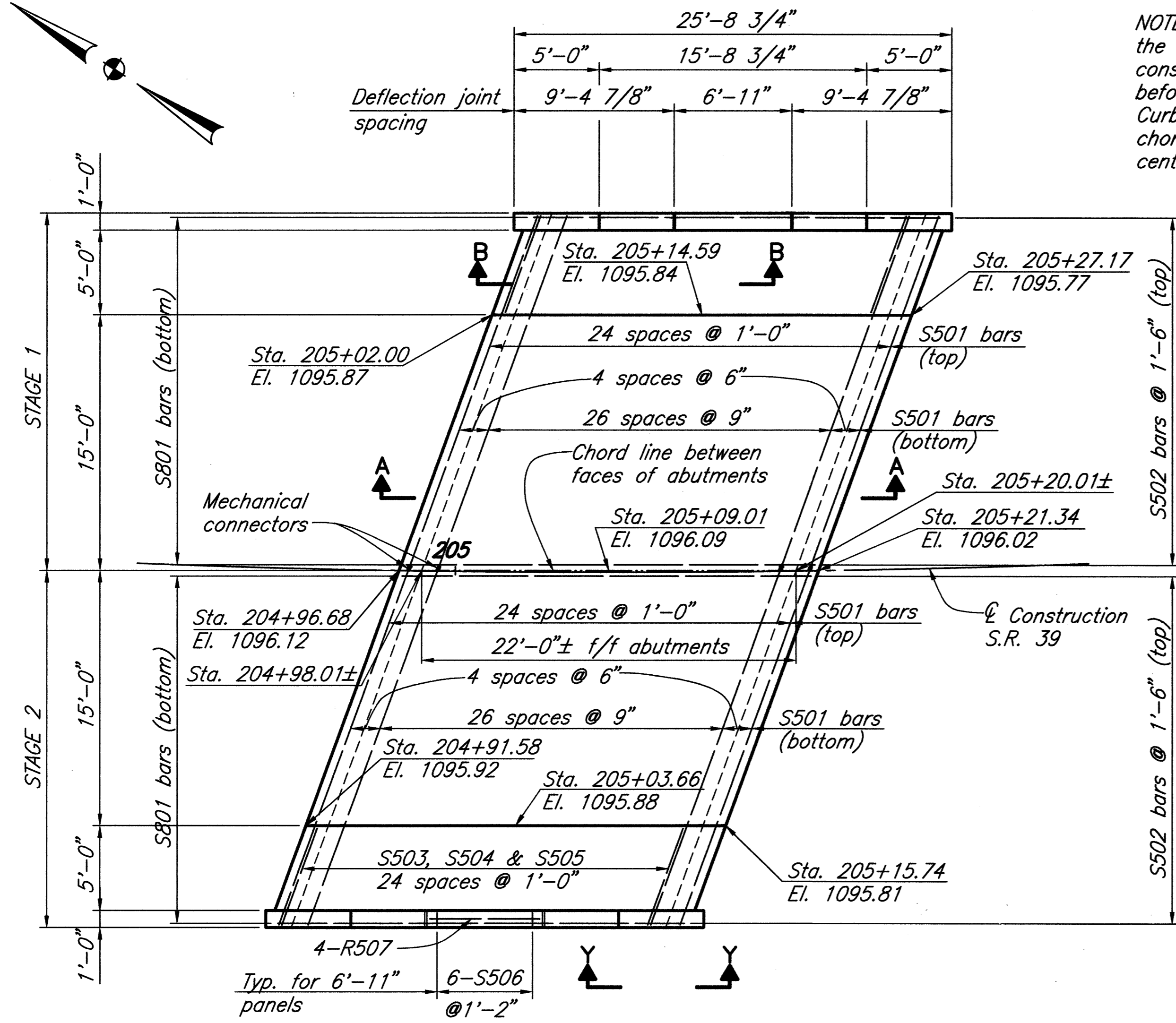
BRIDGE NO. RIC-39-0388
OVER SELTZER PARK CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	JLS	JLS	JPS	BLN	2/28/94	

Job No. 92062 Date 06/1/94 Drawn By JLS

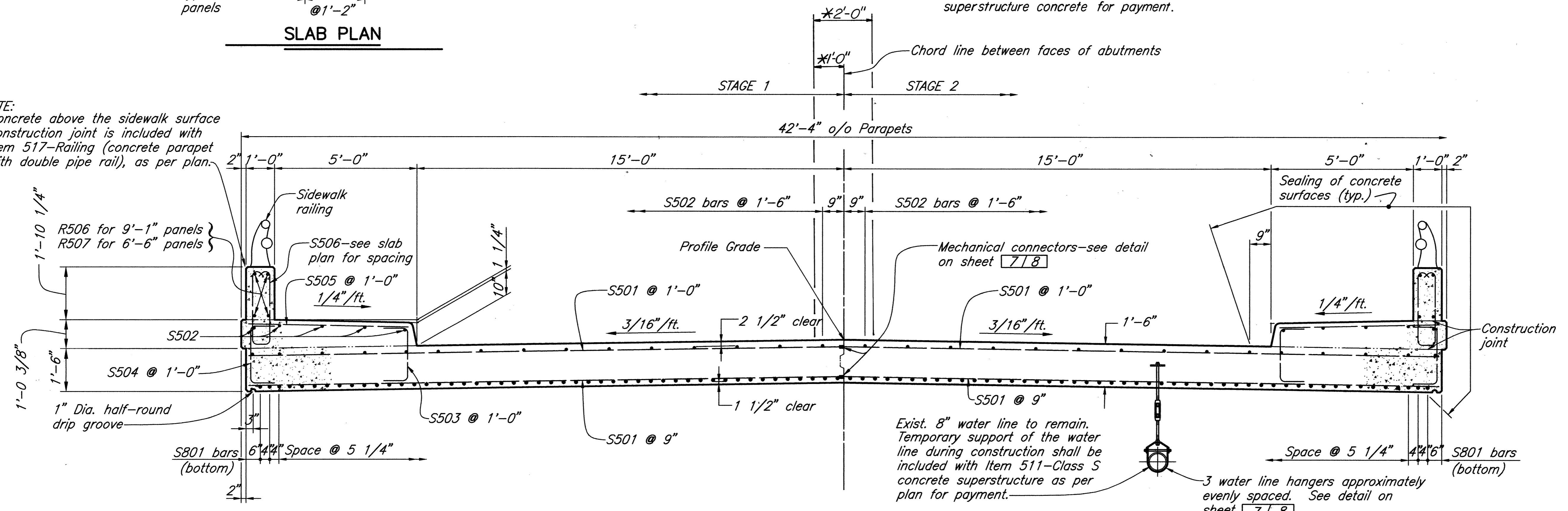
RICHLAND COUNTY
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NOTE: Screed elevations are the elevations at the top of the concrete slab at the curb line and at the stage construction joint (along chord line) that are required before the concrete is placed. Curbs and railings are to be constructed parallel to the chord line. Stations are given along the curved centerline of construction.



* Seal phase construction joint with High Molecular Weight Methacrylate (HMWM) as per proposal note. Cost included with superstructure concrete for payment.

NOTE: Concrete above the sidewalk surface construction joint is included with Item 517-Railing (concrete parapet with double pipe rail), as per plan.



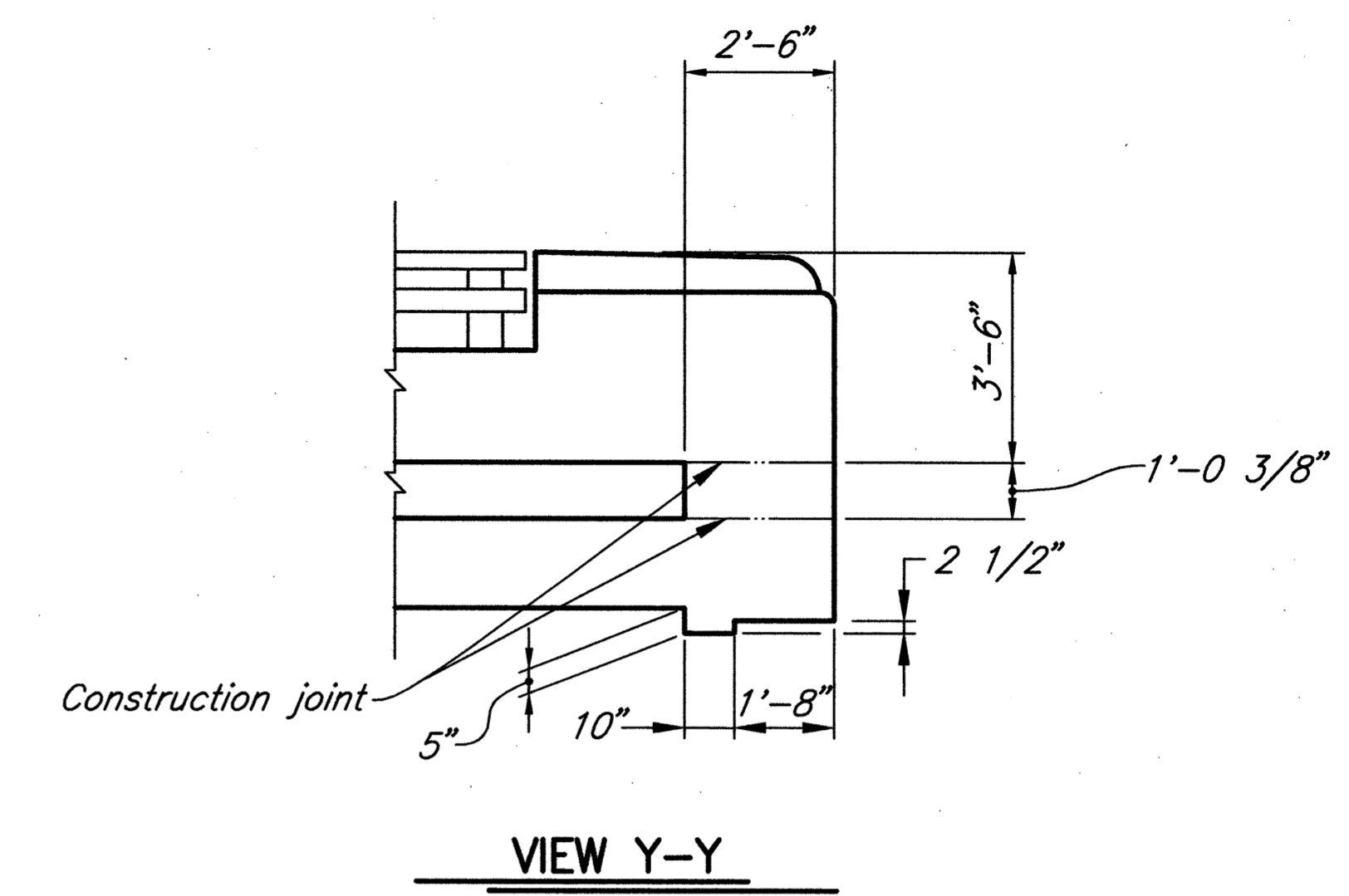
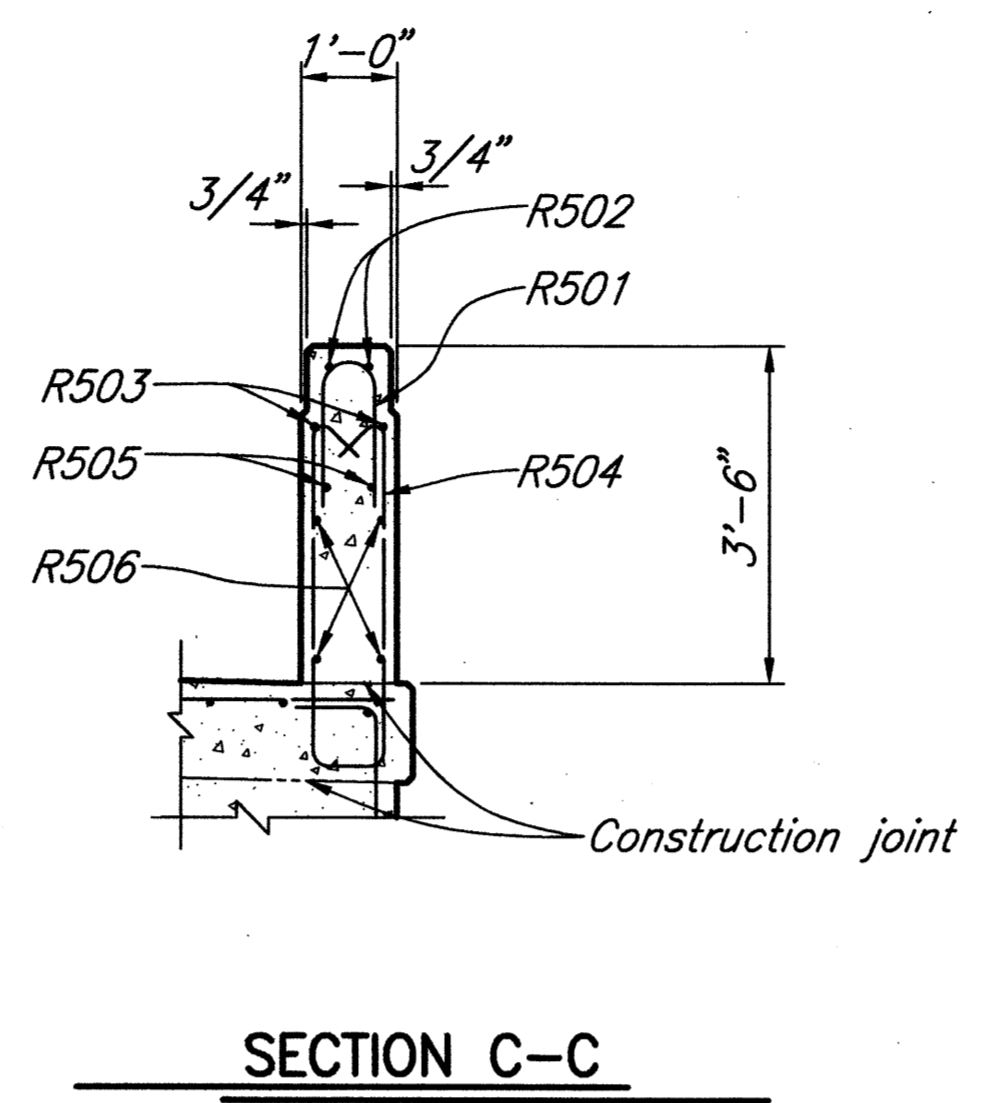
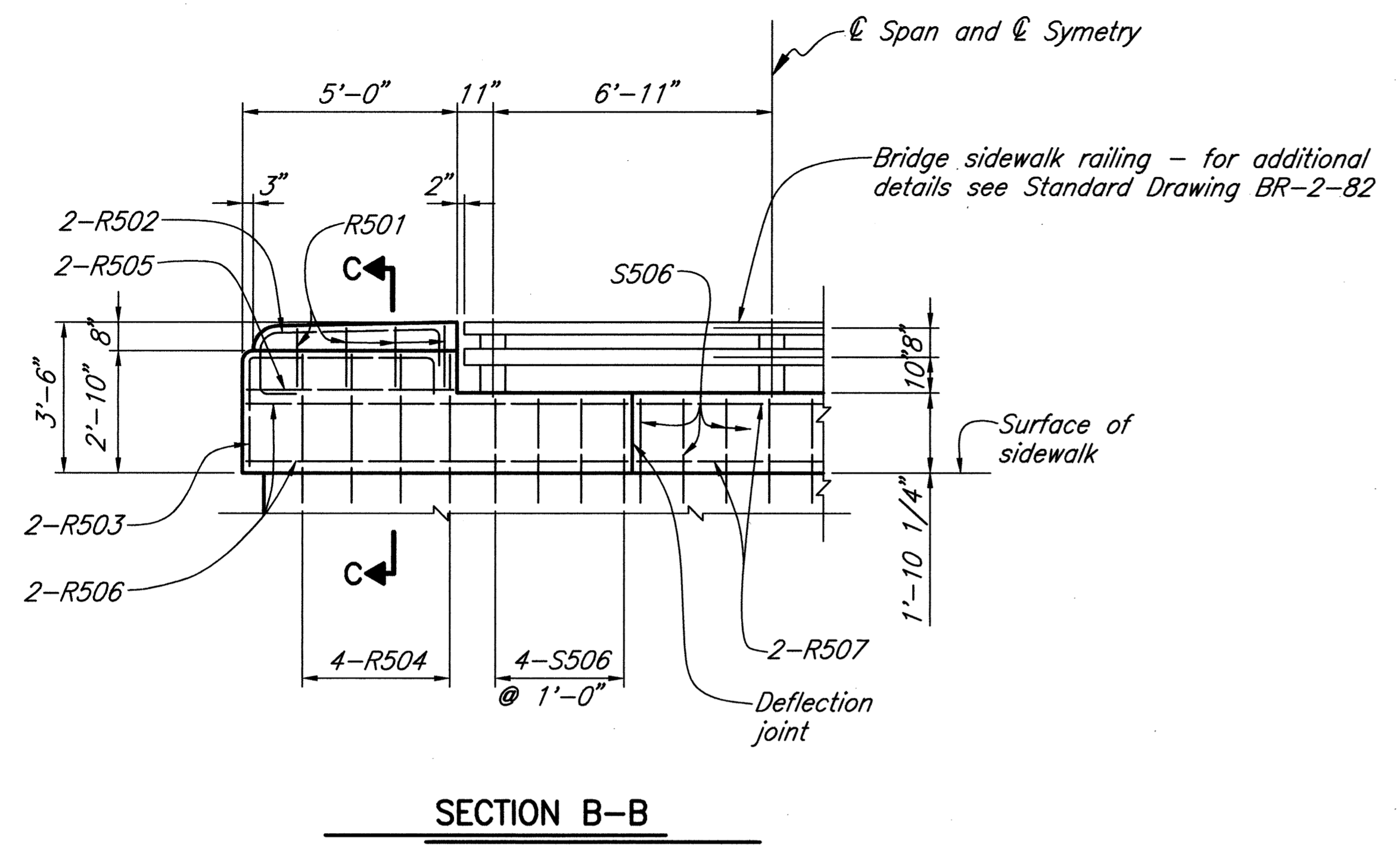
NOTES

- SECTION B-B: See sheet 7/8
- ADDITIONAL NOTES: See sheet 7/8
- VIEW Y-Y: See sheet 7/8

		RICHLAND ENGINEERING LIMITED MANSFIELD, OHIO				
SUPERSTRUCTURE - 1						
BRIDGE NO. RIC-39-0388 OVER SELTZER PARK CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	JLS	JLS	JPS	BLN	2/28/94	

Job No. 92062 Date 06/1/94 Drawn By JLS

RICHLAND COUNTY
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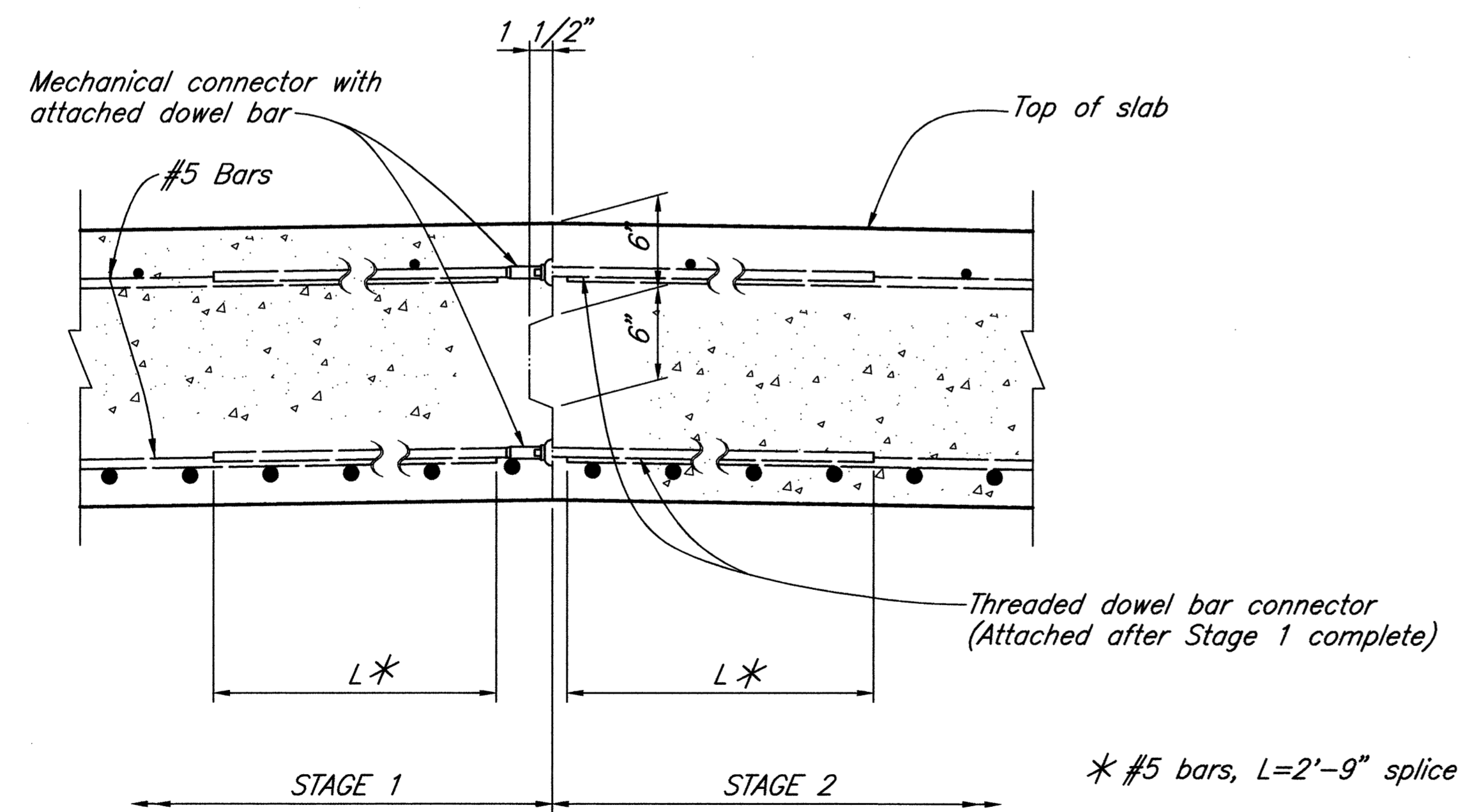
SECTION B-B

SECTION C-C

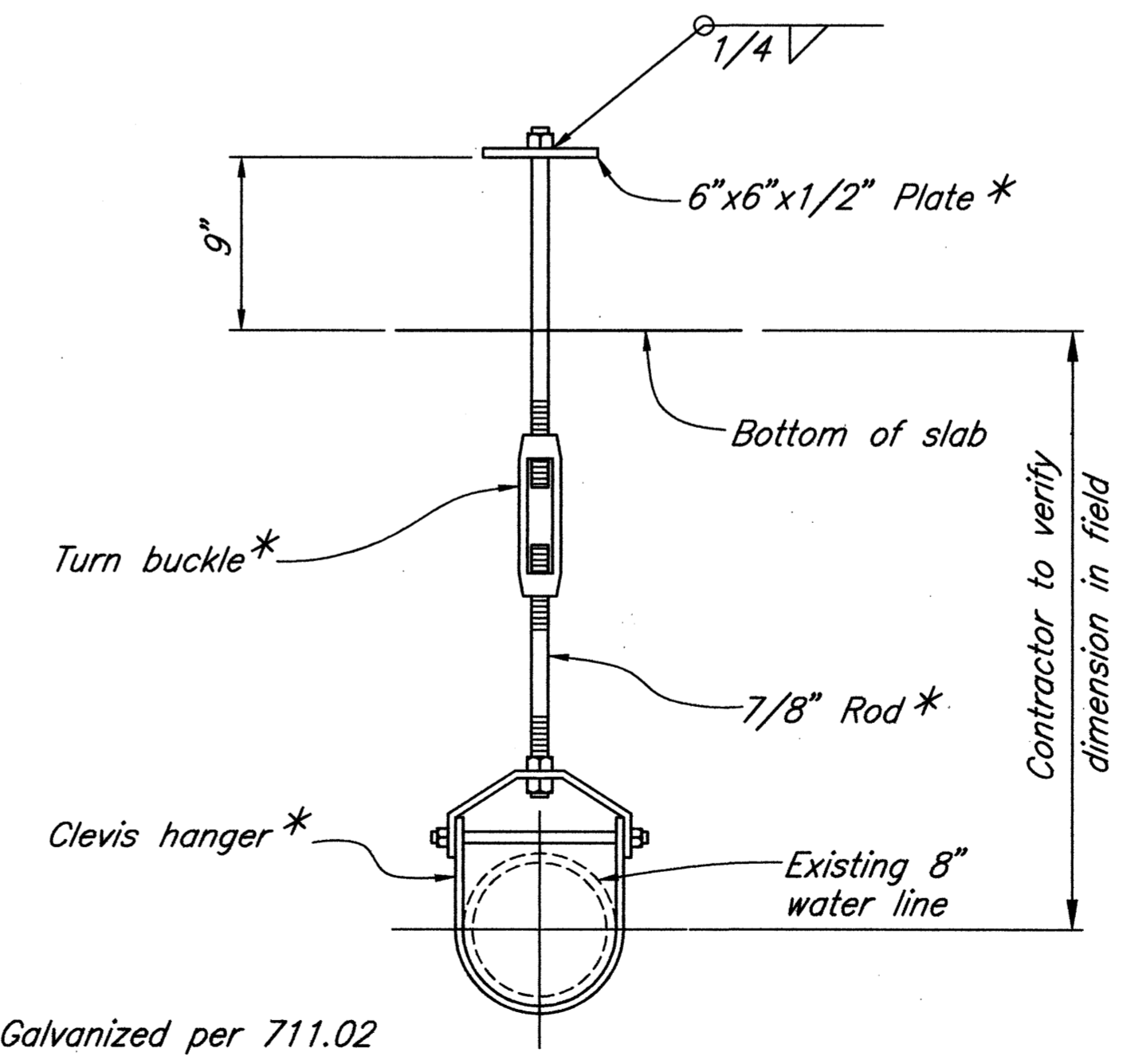
VIEW Y-Y

NOTES

MECHANICAL CONNECTORS: An approved type of mechanical connector for reinforcing bars shall be provided. Installation of connectors shall conform with manufacturer's recommended procedures.
Connectors and dowel bars shall be epoxy coated. Coating for both connectors and bars shall conform to the same specifications. Coatings which have been damaged or which otherwise do not meet specifications with respect to color, continuity and uniformity may be repaired as directed by the Engineer or they shall be replaced with material which meets the specifications.
Connectors and dowel bar extensions shall conform with Item 509 and be included in the bid price per pound for Item 509.



MECHANICAL CONNECTOR DETAIL



WATER LINE HANGER

Included with Item 511-Class S concrete, superstructure, as per plan, for payment. 3 Required.

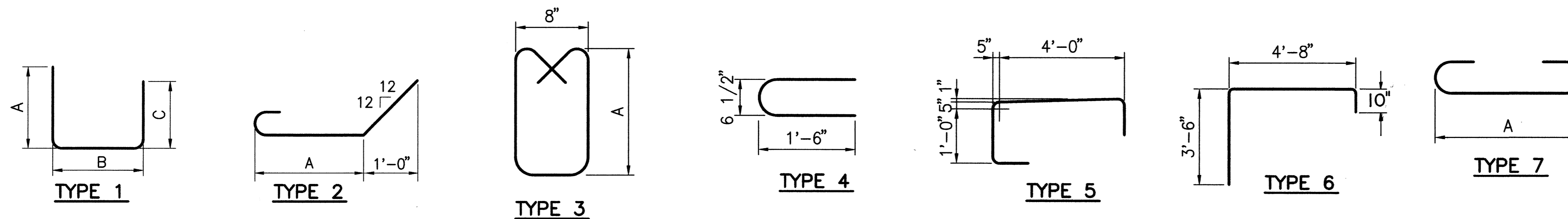
REL RICHLAND ENGINEERING LIMITED
MANSFIELD, OHIO

SUPERSTRUCTURE - 2
BRIDGE NO. RIC-39-0388
OVER SELTZER PARK CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	JLS	JLS	JPS	BLN	2/28/94	

Job No. 92062 Date 05/18/94 Drawn By LS

RICHLAND COUNTY
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ABUTMENTS

MARK	REAR	FWD.	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	INC.
A501	40	34	74	2'-10"	219	1	10"	1'-5"	10"			
A502	42	42	84	4'-0"	350	Str.						
A503		2	2	4'-3"	9	1	1'-4 1/2"	3'-0"	0			
A504	2		2	31'-0"	65	Str.						
A505	2		2	32'-5"	68	Str.						
A506		2	2	28'-4"	59	Str.						
A507		2	2	34'-4"	107	Str.						
A508	1 Ser. of 5		1 Ser. of 5	3'-10" To 10'-6"	37	1	1'-4" To 4'-8"	1'-5"	1'-4" To 4'-8"			10"
A509	1 Ser. of 5		1 Ser. of 5	7'-0" To 10'-10"	47	1	2'-11" To 4'-10"	1'-5"	2'-11" To 4'-10"			5 3/4"
A510	2	2	4	11'-1"	46	1	4'-11"	1'-6"	4'-11"			
A511	3		3	7'-0"	22	Str.						
A512	2	2	4	9'-7"	40	Str.						
A513	1		1	2'-2"	3	Str.						
A514	1		1	1'-8"	2	Str.						
A515	1	1	2	1'-6"	3	Str.						
A516	1		1	2'-0"	2	Str.						
A517	1		1	4'-2"	4	Str.						
A518	1		1	3'-0"	4	Str.						
A519	1		1	6'-2"	6	Str.						
A520	1		1	5'-8"	6	Str.						
A521	1		1	2'-6"	3	Str.						
A522	1	1	2	3'-0"	6	Str.						
A523	1		1	6'-6"	7	Str.						
A524		1 Ser. of 4	1 Ser. of 4	6'-2" To 8'-11"	31	1	2'-6" To 3'-10 1/2"	1'-5"	2'-6" To 3'-10 1/2"			5 1/2"
A525		1 Ser. of 4	1 Ser. of 4	5'-2" To 10'-0"	32	1	2'-0" To 4'-5"	1'-5"	2'-0" To 4'-5"			7 1/2"
A526	1	3	4	11'-0"	46	1	4'-11"	1'-5"	4'-11"			
A527		3	3	5'-4"	17	Str.						
A528		1	1	3'-4"	3	Str.						
A529		1	1	2'-8"	3	Str.						
A530		1	1	1'-0"	1	Str.						
A531		1	1	3'-6"	4	Str.						
A532		1	1	4'-10"	5	Str.						
A533		1	1	5'-0"	5	Str.						
A534		1	1	4'-4"	5	Str.						
A535		1	1	8'-6"	9	Str.						
A536		1	1	7'-10"	8	Str.						
A601	3		3	31'-0"	140	Str.						
A602	3		3	30'-3"	136	Str.						
A603	3		3	30'-6"	137	Str.						
A604	3	3	6	32'-7"	294	Str.						
A605		3	3	34'-3"	154	Str.						
A606		6	6	28'-2"	254	Str.						
D801	22	22	44	4'-8"	548	2	2'-4"					
TOTAL WEIGHT					2,947							

SUPERSTRUCTURE

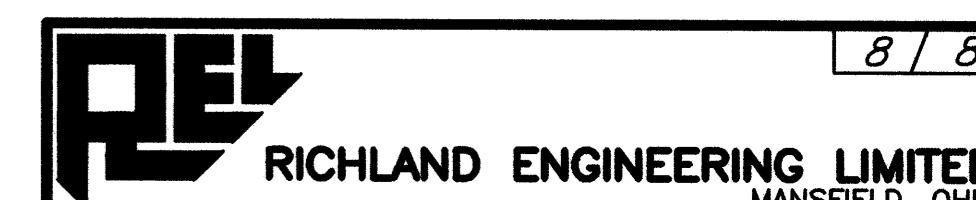
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	INC.
# S501	120	22'-1"	2,764	Str.				
# S502	40	24'-4"	1,015	Str.				
S503	50	3'-5"	178	1	0'-10"	2'-0"	0'-10"	
S504	50	3'-7"	187	1	0'-10"	2'-2"	0'-10"	
S505	76	6'-0"	313	Str.				
S506	28	6'-3"	183	3	2'-6"			
S801	96	26'-2"	6,707	7	24'-4"			
R501	16	3'-3"	**	4				
R502	8	7'-2"	**	5				
R503	8	8'-9"	**	6				
R504	16	8'-3"	**	3	3'-6"			
R505	8	4'-8"	**	Str.				
R506	16	9'-0"	**	Str.				
R507	8	6'-7"	**	Str.				
TOTAL WEIGHT			11,347					

** Included with Item 517-Railing, for payment.
Indicates bar requiring mechanical connector.

Bar size is indicated in the bar mark. The first digit indicates the bar size number. For example, A700 is a No. 7 size. Bar dimensions shown are out to out unless otherwise indicated.

All reinforcing steel to be epoxy coated.

Job No. 92062 Date 2/22/94 Drawn By LS



REINFORCING STEEL LIST
BRIDGE NO. RIC-39-0388
OVER SELTZER PARK CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	JLS	JLS	JPS	BLN	2/28/94	

BM Sta. 253+00, 61.5' Lt.
5/8" Dia. Rebar Set
Elev. = 1093.49

BM Sta. 255+00, 60' Lt.
5/8" Dia. Rebar Set
Elev. = 1090.78

FHWA REGION	STATE	PROJECT
5	OHIO	

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RICHLAND COUNTY
RIC-39-3.88
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CURVE #2 DATA

PI Sta. 260+08.55
 $\Delta = 20'20''00''$
 $Dc = 3'00''00''$
 $R = 1909.86'$
 $L = 677.78'$
 $T = 342.49'$
 $E = 30.47'$
PC Sta. 256+69.66
PT Sta. 263+47.44

CURVE #1 DATA

PI Sta. 251+43.42
 $\Delta = 17'26''33''$
 $Dc = 2'30''00''$
 $R = 2291.83'$
 $L = 697.70'$
 $T = 351.57'$
 $E = 26.81'$
PC Sta. 247+91.85
PT Sta. 254+89.55

HYDRAULICS INFORMATION

DRAINAGE AREA = 4.2 Sq. Mi.
Est. Q25=895 cfs ; V25=8.3 fps
Est. Q100=1230 cfs ; V100=9.1 fps

The estimated 25 Yr. H.W. is 4.7' below the bottom of the structure and the estimated 100 Yr. H.W. is 3.9' below the bottom of the structure.

EARTHWORK LIMITS shown are approximate. Actual slope shall conform to plan cross sections.

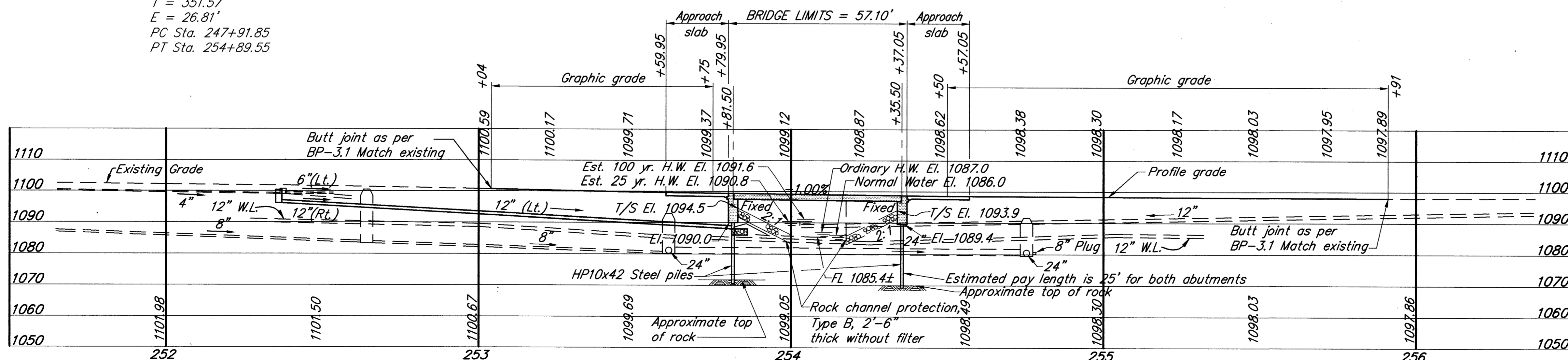
EXISTING STRUCTURE

TYPE: Reinforced concrete beams on reinforced concrete wall type abutments and wingwalls
SPAN: 36'-0" ±
ROADWAY: 29'-0" ±
LOADING: H-15-33
SKEW: None
WEARING SURFACE: Asphalt
APPROACH SLABS: 25' long
ALIGNMENT: 2'30" curve left
CONDITION: Fair
YEAR BUILT: 1940
SUPERELEVATION: 0.053 ft./ft.
STRUCTURE FILE: 7003153

PROPOSED STRUCTURE

TYPE: Composite prestressed concrete box beams on reinforced concrete capped pile abutments.
SPAN: 54'-0" c/c abutments
ROADWAY: 40'-0" + fit-up f/f guardrail
LOADING: HS-20-44 and the Alternate Military Loading
SKEW: 15° R.F.
WEARING SURFACE: Monolithic concrete
APPROACH SLABS: AS-1-81 (20'-0" long)
ALIGNMENT: Chord of 2'-30" left curve between bridge limits
SUPERELEVATION: 0.047 ft./ft.
DESIGN AVERAGE DAILY TRAFFIC: 5985 (2014)
DESIGN AVERAGE DAILY TRUCK TRAFFIC: 240 (2014)
FOUNDATION INVESTIGATION LEGEND
⊙ - Indicates boring location.

PLAN



PROFILE ALONG CENTERLINE CONSTRUCTION

REVIEWED BY BURGESS & NIPLE, LTD.
D.R.K. 8-12-94

RICHLAND ENGINEERING LIMITED
MANSFIELD, OHIO

SITE PLAN
BRIDGE NO. RIC-61-0481
OVER BRANCH OF THE BLACK FORK
MOHICAN RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BLN	RRB	RRB	RHU	DT	5/24/93	

GENERAL NOTES

REFERENCE shall be made to Standard Drawings:
 AS-1-81, (dated 9-15-94)
 DBR-2-73 (dated 4-10-73)
 PSBD-1-81, (revised 6-20-89)
 and to Supplemental Specification 944 (dated 5-2-94).

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1992 including the 1993 interim specifications, and the ODOT Bridge Design Manual.

DESIGN DATA:
 Design Loading-HS20-44 and the Alternate Military Loading
 Concrete Class S-fc = 4500 p.s.i. for superstructure
 Concrete Class C-fc = 4000 p.s.i. for substructure
 Reinforcing Steel-ASTM A615, A616 or A617-Fy=60,000 p.s.i. Splices indicated are for Grade 60 steel.
 Reinforcing steel for prestressed concrete beams-Grade 40, Fy=40,000 p.s.i. or Grade 60, Fy=60,000 p.s.i. steel may be used.
 Concrete for prestressed concrete beams-fc = 5,500 p.s.i. and 28 day (min.) unit stress 2200 p.s.i. compression and 444 p.s.i. tension.
 Prestressing strand ASTM A416-fs = 270,000 p.s.i. Initial stress 0.70 fs. (Stress-Relieved)
 Deck Protection Method: Epoxy coated reinforcing steel, 2 1/2" cover, and drip strip.

UTILITY LINES: All expenses involved in relocating the affected utility lines shall be borne by the Owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

REMOVAL OF EXISTING STRUCTURE: The existing structure shall be removed in accordance with Item 202 Specifications. The Contractor must take all necessary precautions to prevent any material from falling into the river. When no longer needed to maintain traffic the existing structure shall be removed upon receiving permission from the Engineer.

COARSE AGGREGATE: All coarse aggregate for Items 511 Class S or Class C concrete shall be limestone.

SEALING OF CONCRETE SURFACES: An epoxy or nonepoxy concrete surface sealer shall be applied to the exposed fascia beam sides and the outside six (6) inches of the bottom of the two fascia beams, see Transverse Section on sheet 7/10. An epoxy concrete sealer shall be applied to the abutment seat and breastwall as shown on sheet 5/7/10. The entire front rear, and top faces of wingwalls above the ground line shall be sealed with an epoxy sealer. See the Proposal Note for surface preparation requirements, application rates, material requirements and application procedures.

PILES shall be driven to refusal on bedrock. Refusal shall be considered as obtained by penetrating soft bedrock for several inches with a minimum resistance of 20 blows per inch or refusal shall be considered as obtained after the pile has contacted hard bedrock and the pile has then received at least 20 blows.

PILE DESIGN LOAD: The design load is 44 tons per pile for the abutment piles.

PILE DRIVING CONSTRAINTS: Prior to driving piles, the spill through slopes and the bridge approach embankment behind the abutments shall be constructed up to the level of the subgrade elevation for a minimum distance of 200 feet behind each abutment. The excavation for the abutment footings and the installation of the abutment piles shall not begin until after the above required embankment has been constructed.

ITEM 518. 6" PERFORATED CORRUGATED PLASTIC PIPE, AS PER PLAN: Corrugated pipe used in abutment drainage shall be 6 inch diameter, plastic corrugated as per Supplemental Specification 944, AASHTO M294, Type SP.

ITEM 518. 6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS, AS PER PLAN: Corrugated pipe used in abutment drainage shall be 6 inch diameter plastic corrugated as per Supplemental Specification 944, AASHTO M294, Type S. This item shall include all elbows, tees and end caps required to complete the abutment drainage system.

QUANTITIES		
CALCULATED	JLS	1/94
CHECKED	RB	1/94

FHWA REGION	STATE	PROJECT
5	OHIO	

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RICHLAND COUNTY
 RIC-39-3.88
 RIC-61-4.80

ESTIMATED QUANTITIES							
ITEM	EXT. NO.	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUTS.	GEN'L.
202	11002	Lump		Structure removed, over 20 foot span			Lump
503	11101	Lump		Cofferdams, cribs and sheeting, as per plan			Lump
503	21100	116	Cu. Yd.	Unclassified excavation		116	
505	11100	Lump		Pile driving equipment mobilization			Lump
507	11100	400	Lin. Ft.	Steel piles, HP10x42		400	
509	15830	19,075	Pound	Epoxy coated reinforcing steel, Grade 60	10,068	9,007	
511	31601	68	Cu. Yd.	Class S concrete, superstructure, as per plan	68		
511	43501	85	Cu. Yd.	Class C concrete, abutment including footing, as per plan		85	
Special	51267500	32	Sq. Yd.	Sealing of concrete surfaces (See proposal note)	32		
Special	51267502	54	Sq. Yd.	Sealing of concrete surfaces (epoxy) (See proposal note)	25	29	
515	54841	10	Each	Prestressed concrete composite box beam (51-62' length), as per plan, CB21-48 (See Proposal Note)	10		
516	20000	29	Sq. Ft.	3/4" Elastomeric erection strip	29		
517	72300	125	Lin. Ft.	Railing (deep beam rail with steel tubular backup and Type 2 steel posts and anchor)*	125		
518	21200	55	Cu. Yd.	Porous backfill with filter fabric		55	
518	40001	115	Lin. Ft.	6" Perforated corrugated plastic pipe, as per plan		115	
518	40011	29	Lin. Ft.	6" Non-perforated corrugated plastic pipe, including specials, as per plan		29	
Special	51822300	102	Lin. Ft.	Steel drip strip	102		

* SEE PROPOSAL NOTE

CONSTRUCTION JOINTS shall have rough surfaces. Prior to concrete placement, all concrete bonding surfaces shall be thoroughly cleaned of all dirt, dust, or other foreign material by the use of water, air under pressure, or other method that produces results satisfactory to the Engineer. Care shall be taken to protect epoxy coating on exposed reinforcement during cleaning. Bonding surfaces shall be wet without free water as concrete is placed.

TEMPORARY SHEET PILING FOR STAGED CONSTRUCTION Temporary sheet piling shall be performed in accordance with Item 504 and driven to support the roadway embankment during stage construction excavations.
 Sheet piling behind the existing rear abutment shall extend from Sta. 253+63.3, approximately 16'-6", to the back face of the existing abutment. It shall be driven to a minimum elevation of 1072.5 and have a minimum section modulus of 19.2 in³ per foot of wall.
 Sheet piling behind the existing forward abutment shall extend from the back face of the existing abutment, approximately 28'-2", to Sta. 254+48.4. The portion of sheet piling between the backface of the existing abutment and Sta. 254+33.5, approximately 13'-6", shall be driven to a minimum elevation of 1072.0 and have a minimum section modulus of 19.2 in³ per foot of wall. The portion between Sta. 254+33.5 and Sta. 254+48.4, approximately 14'-8", shall be driven to a minimum elevation of 1081.3 and have a minimum section modulus of 7.5 in³ per foot of wall.
 Portions of sheet piling shall be removed as necessary to place proposed abutment concrete. All sheet piling shall be removed when Stage 2 backfilling is complete. This work shall be included with Item 503 - Cofferdams, cribs and sheeting, as per plan for payment.

MAINTENANCE OF TRAFFIC: See sheet 6 of 45.

MONOLITHIC WEARING SURFACE is assumed, for design purposes, to be 1" thick.

Job No. 92063 Date 06/2/94 Drawn By JLS

3/10

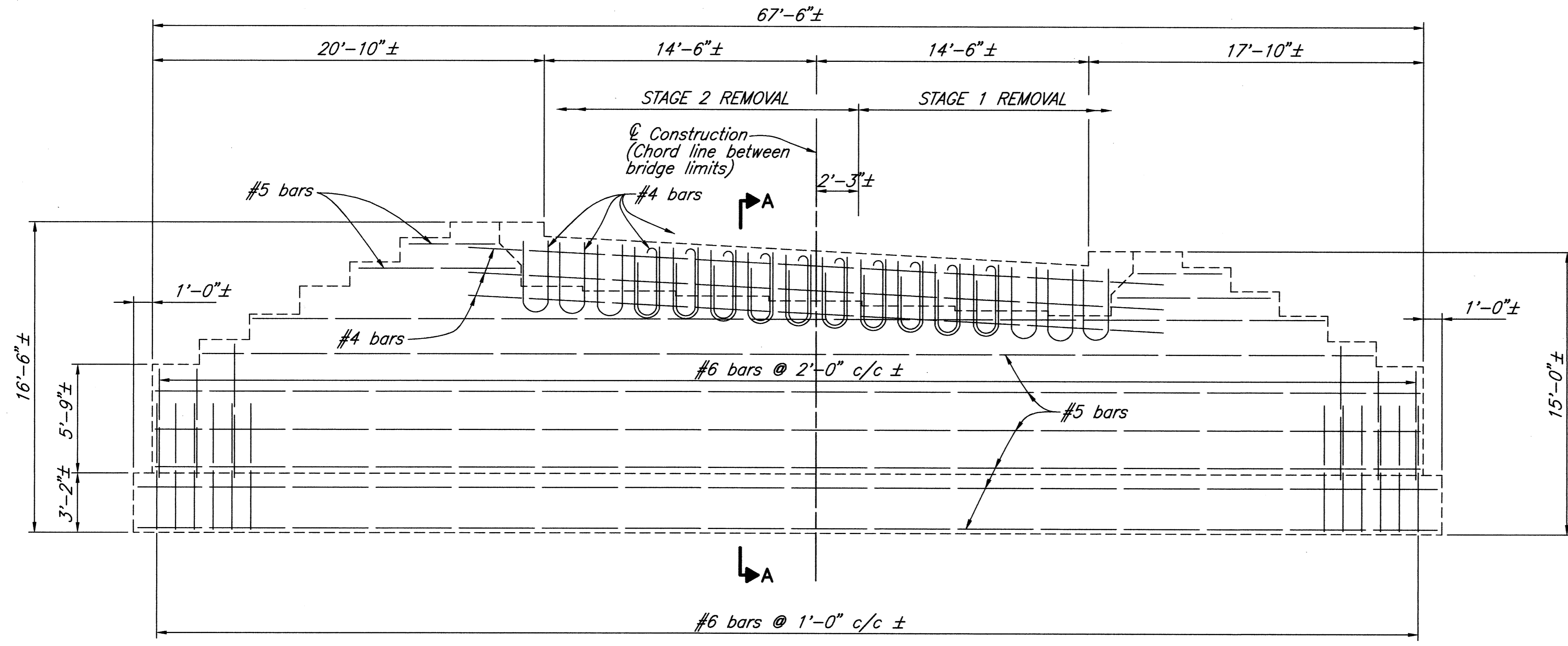
REL **RICHLAND ENGINEERING LIMITED**
 MANSFIELD, OHIO

GENERAL NOTES AND ESTIMATED QUANTITIES

BRIDGE NO. RIC-61-0481
 OVER BRANCH OF THE BLACK FORK MOHICAN RIVER

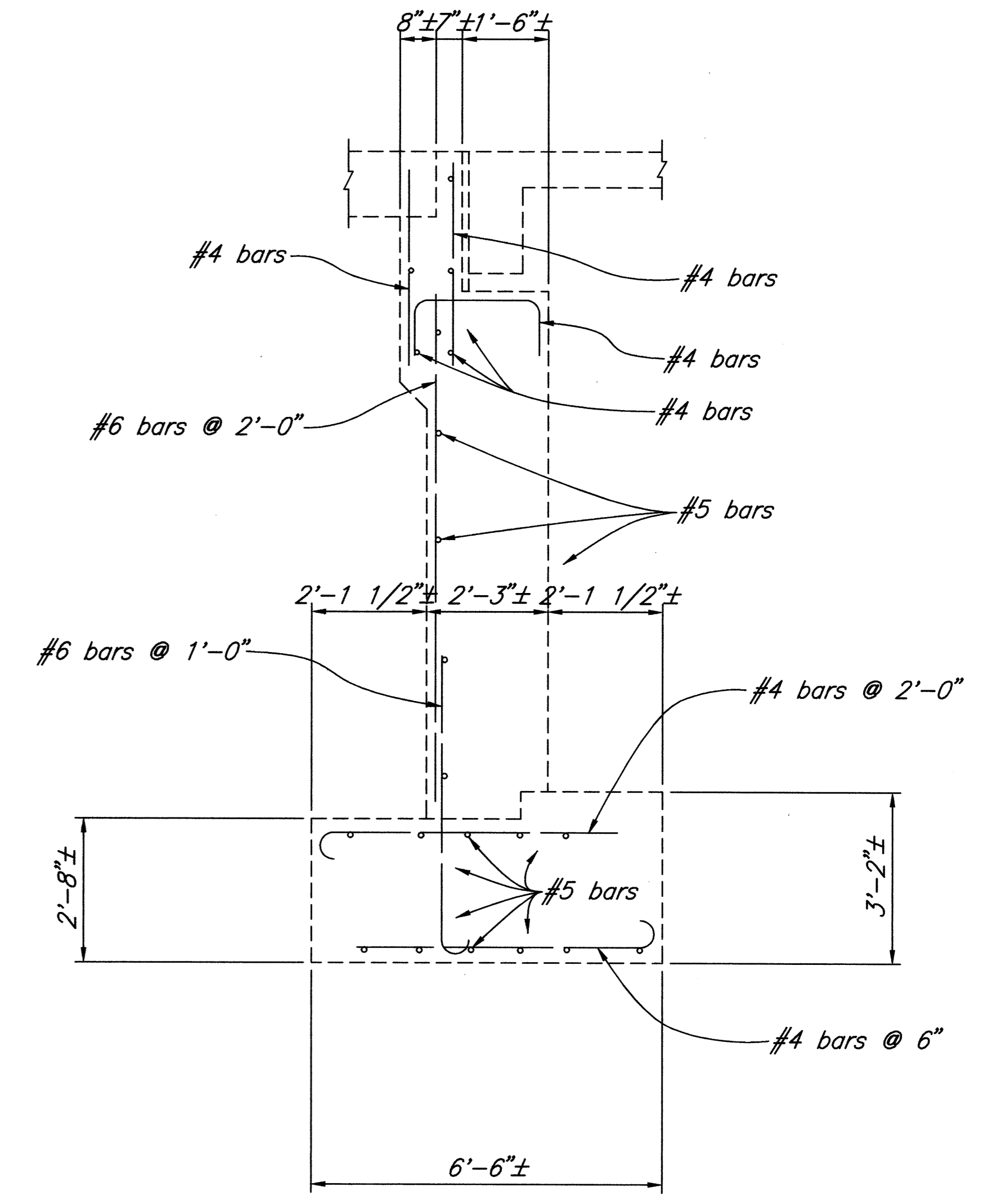
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	JLS	JLS	JPS	BLN	2/28/94	

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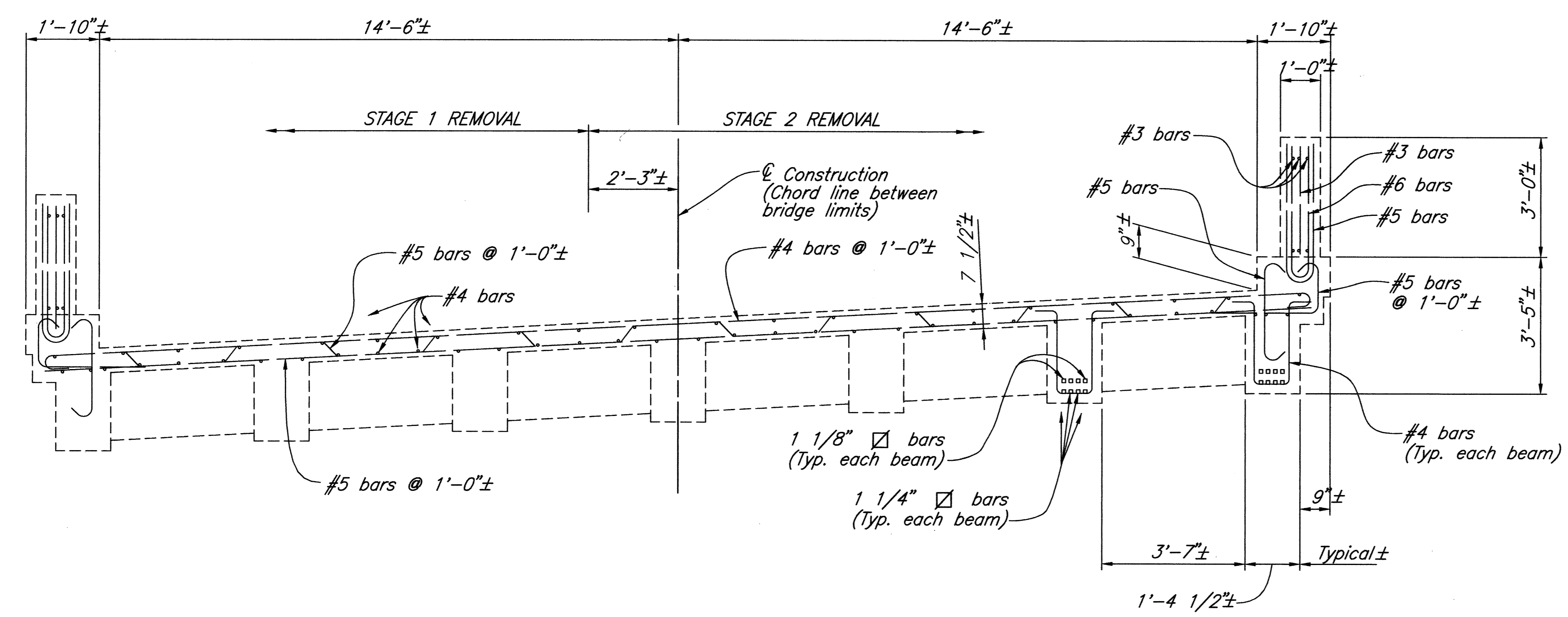


ABUTMENT ELEVATION

Rear Abutment shown - Forward Abutment similar and opposite hand



SECTION A-A



TRANSVERSE SECTION

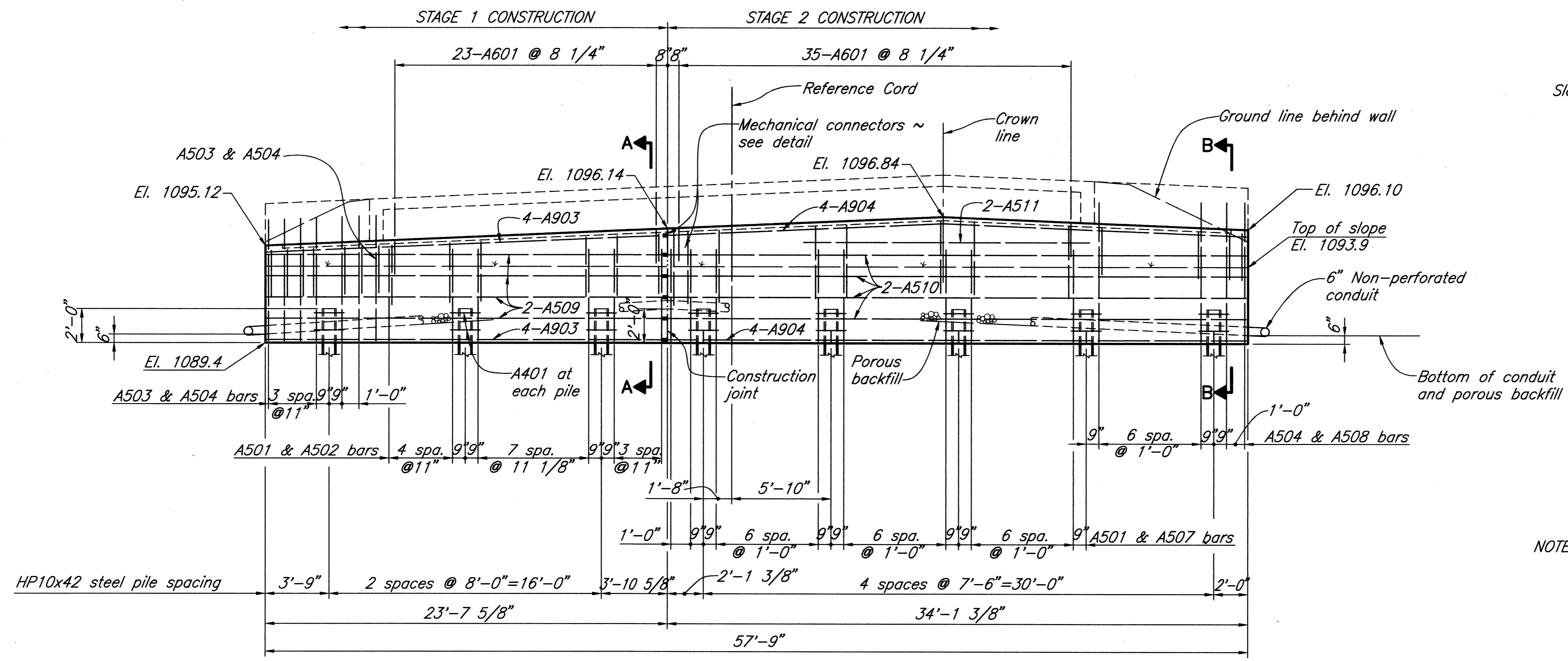
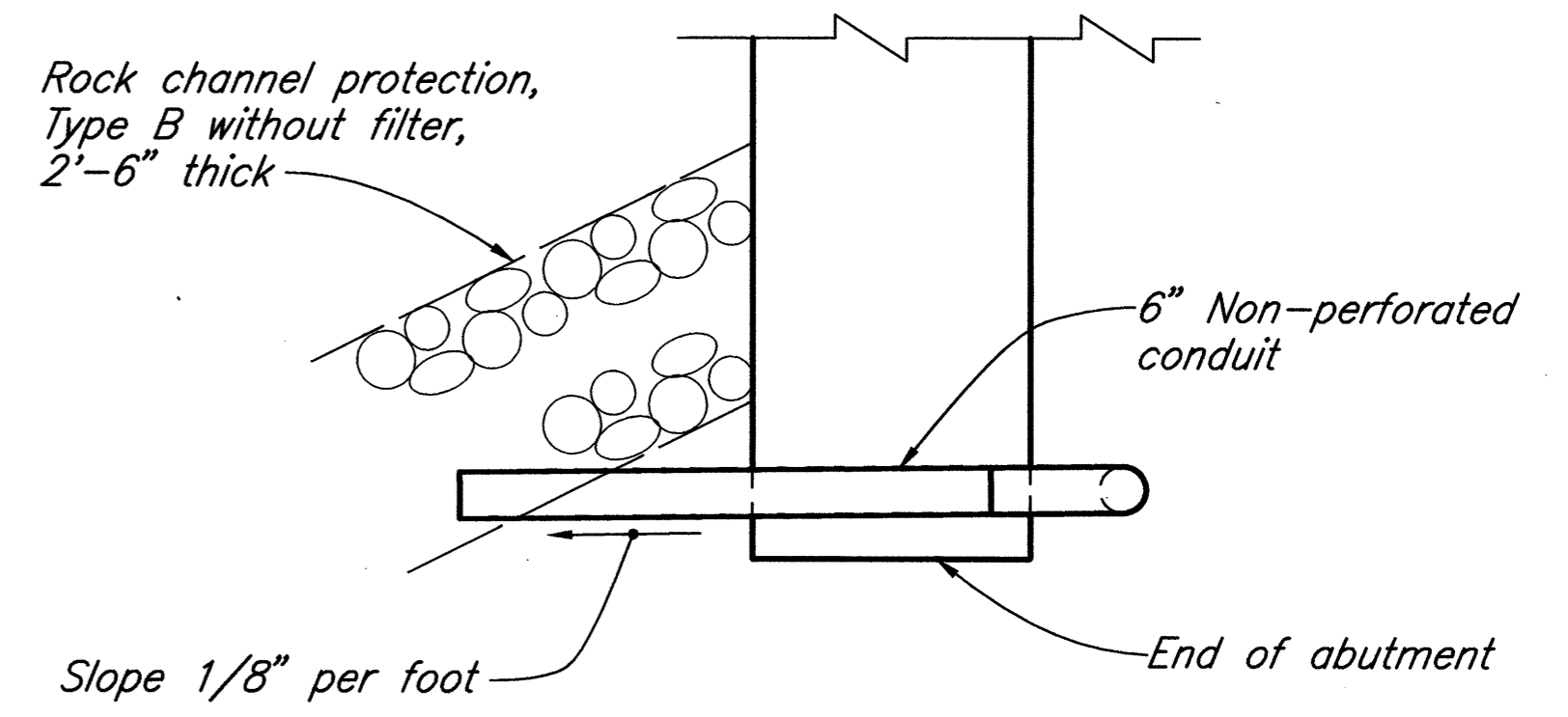
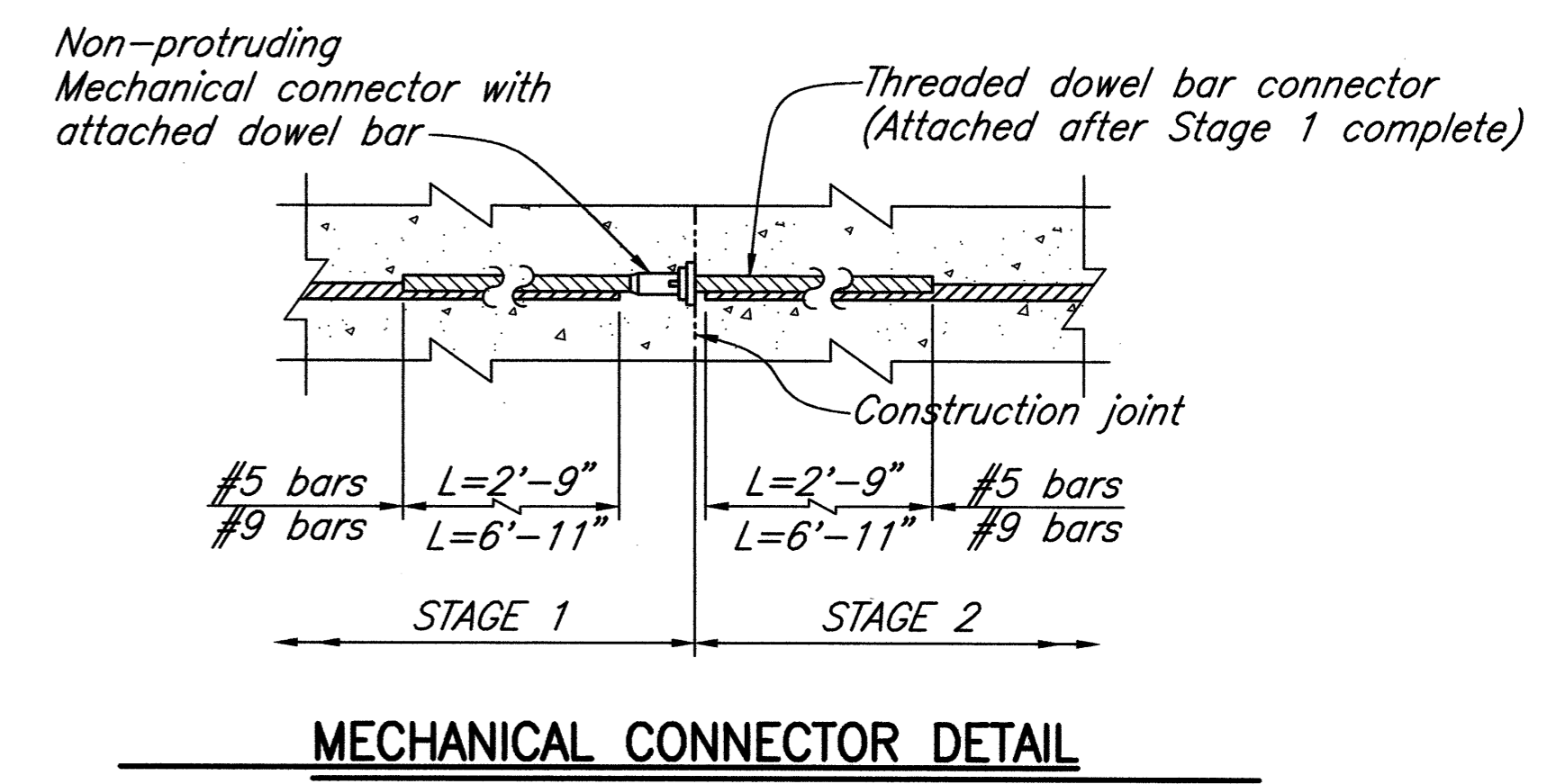
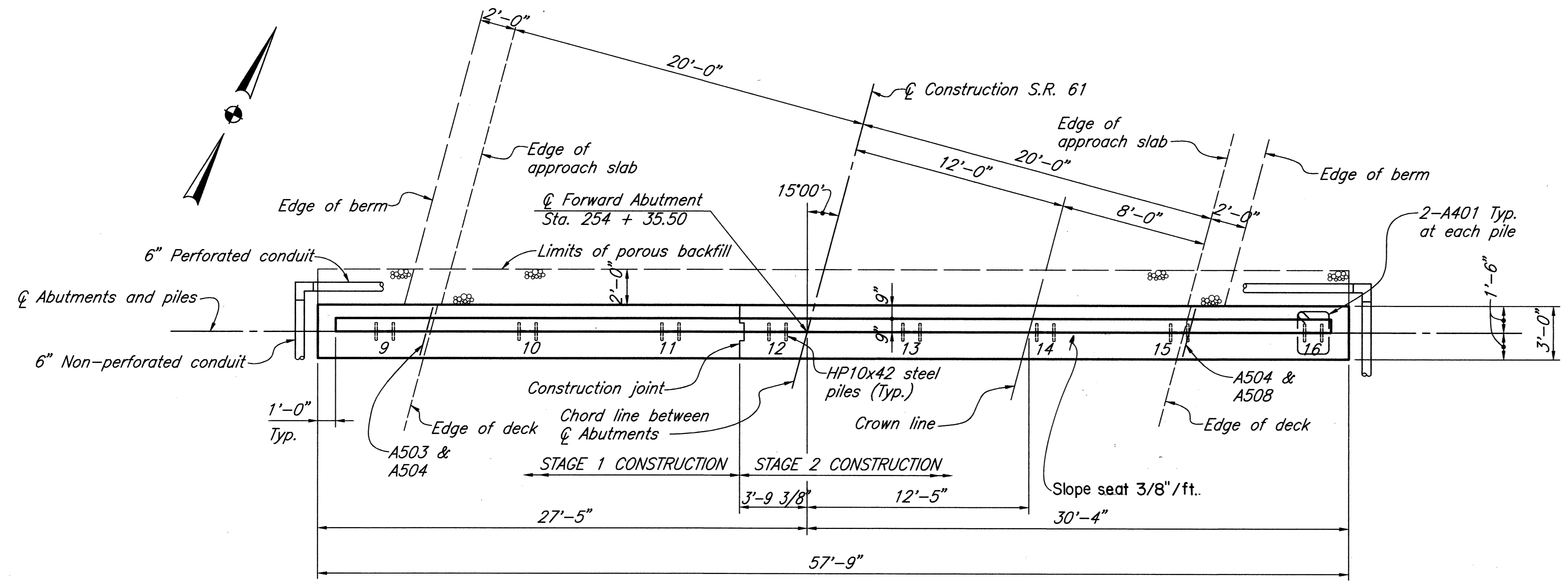
Job No. 92063 Date 02/14/94 Drawn By LS

REL **RICHLAND ENGINEERING LIMITED**
MANSFIELD, OHIO

REMOVAL DETAILS
BRIDGE NO. RIC-61-0481
OVER BRANCH OF THE BLACK FORK
MOHICAN RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	JLS	JLS	JPS	BLN	2/28/94	

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80



- NOTES**
- SECTIONS A-A & B-B: See sheet 5/10
 - ADDITIONAL NOTES: See sheet 5/10
 - MECHANICAL CONNECTOR NOTE: See sheet 31 of 45.

NOTE: Elevations shown are at \bar{C} Abutment

6/10

RICHLAND ENGINEERING LIMITED
MANSFIELD, OHIO

FORWARD ABUTMENT

BRIDGE NO. RIC-61-0481
OVER BRANCH OF THE BLACK FORK
MOHICAN RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	TWH	JLS	JPS	BLN	2/28/94	

Job No. 92063 Date 06/2/94 Drawn By JLS

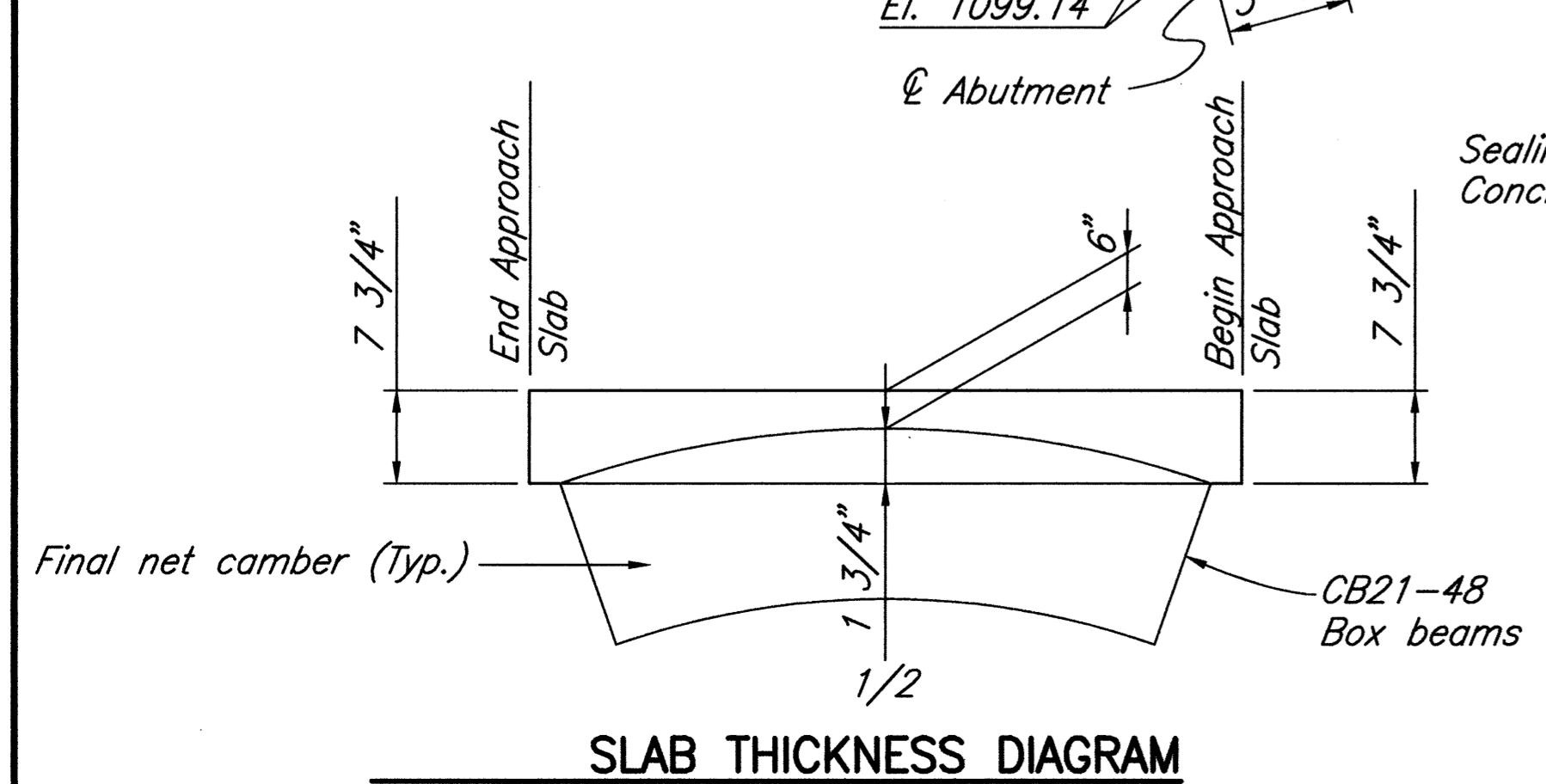
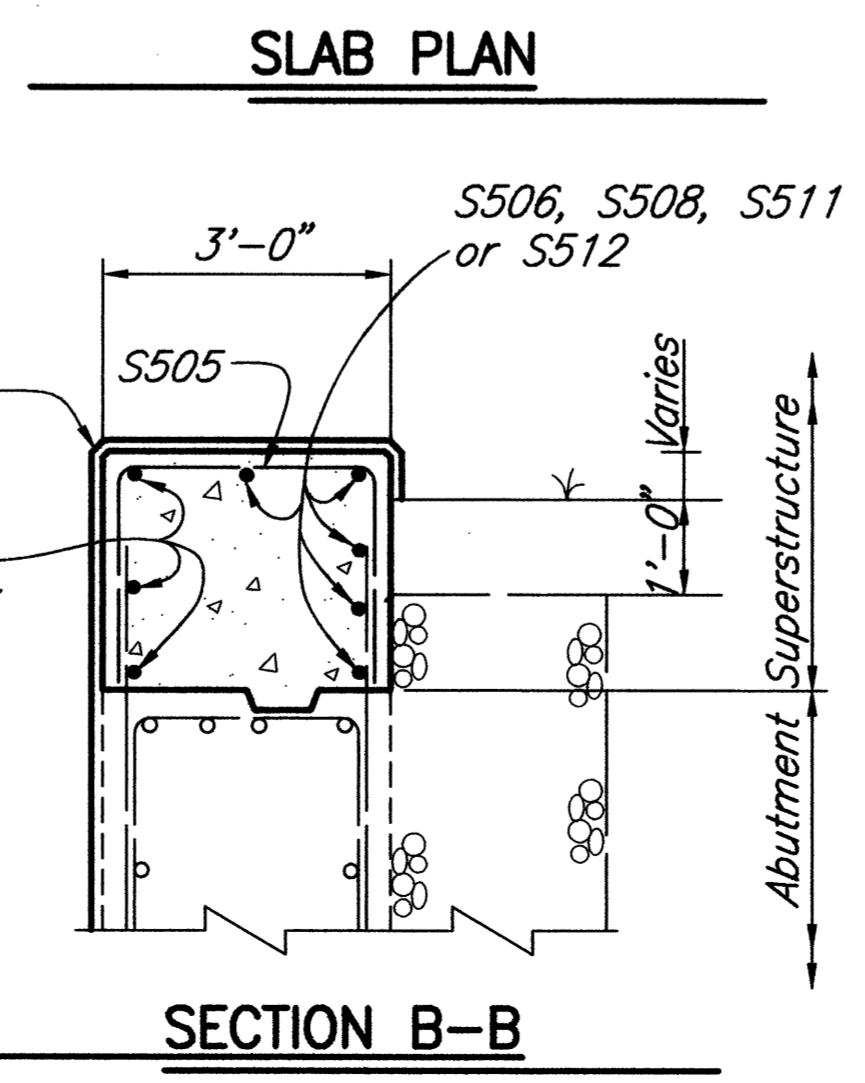
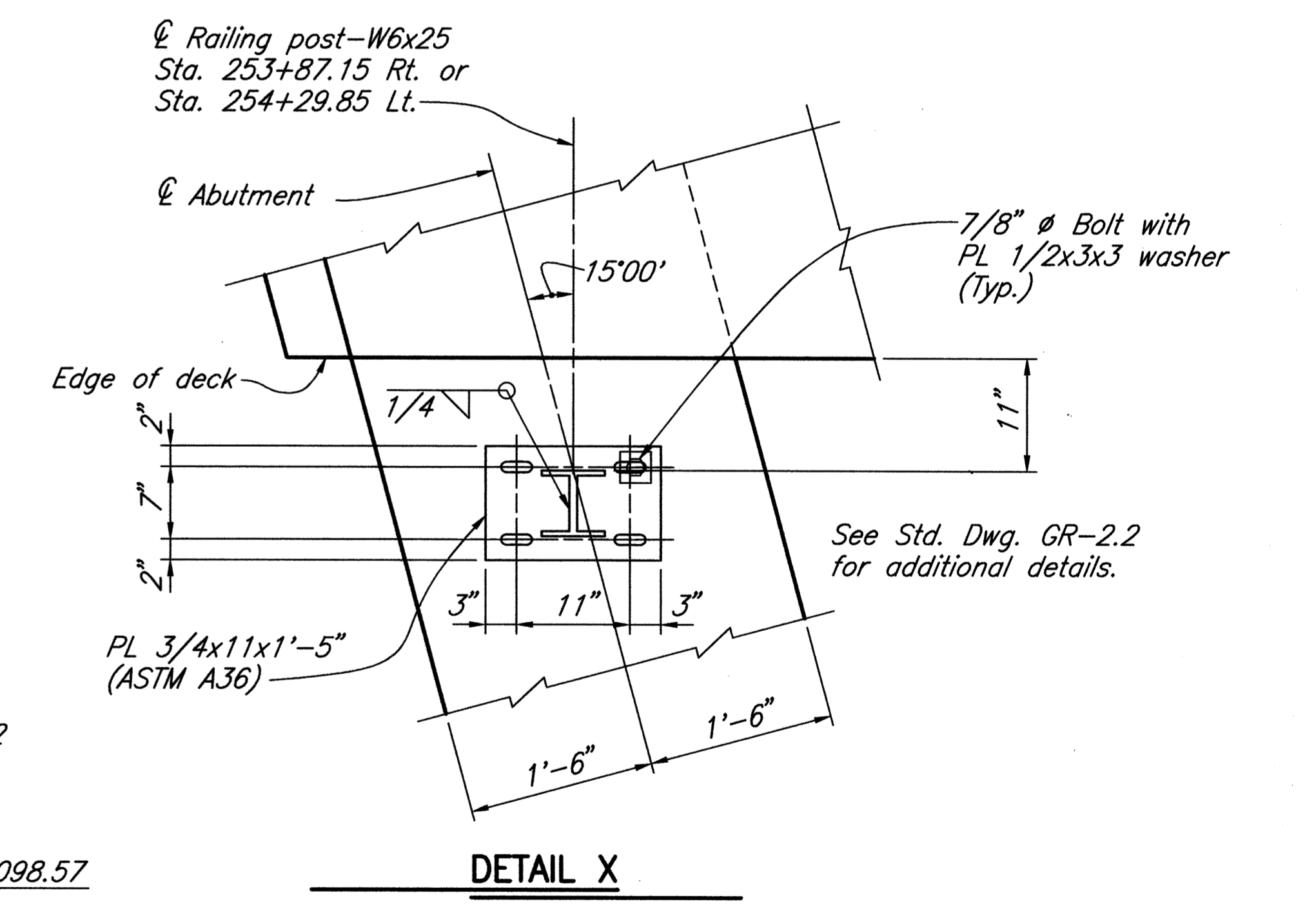
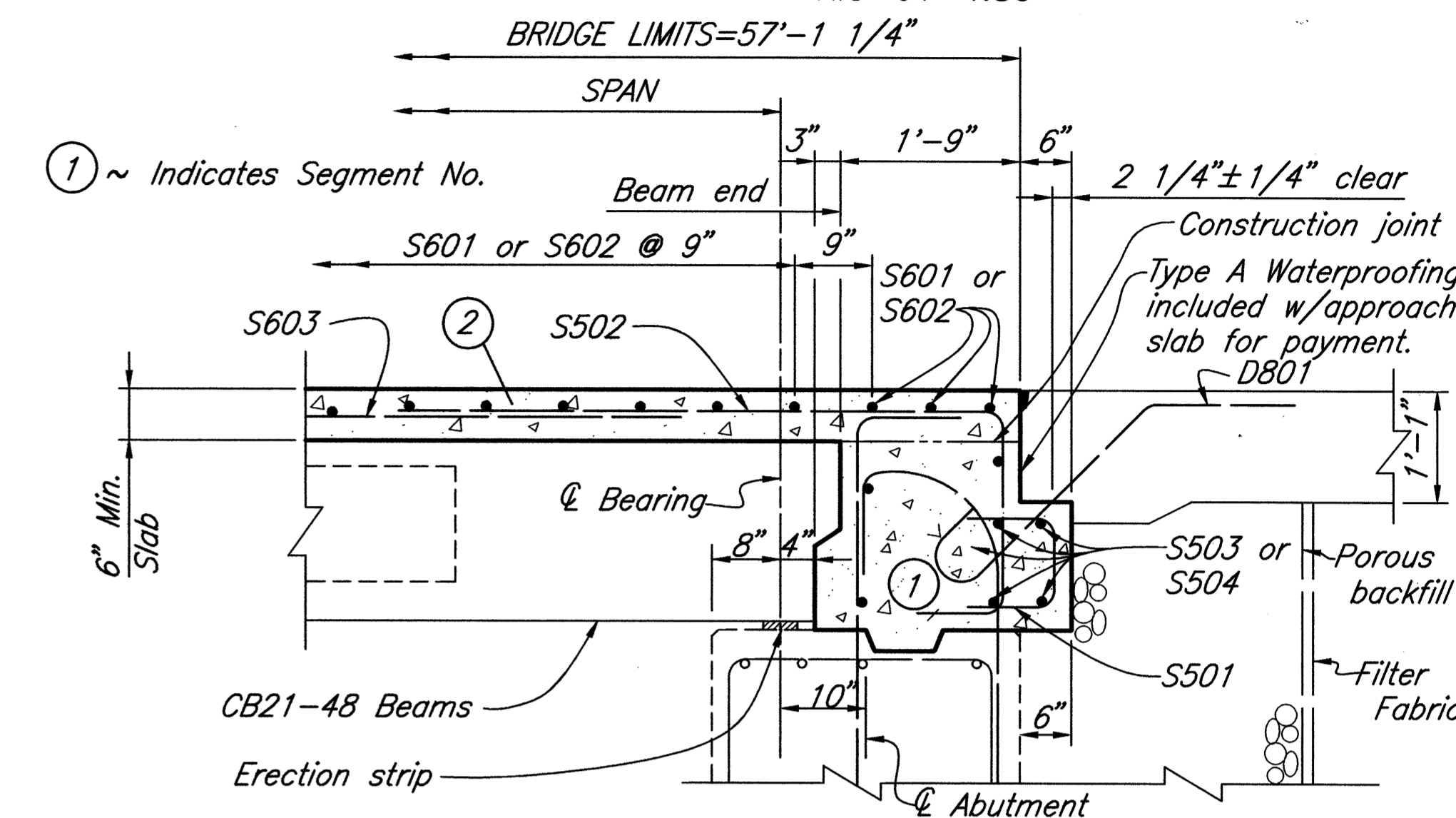
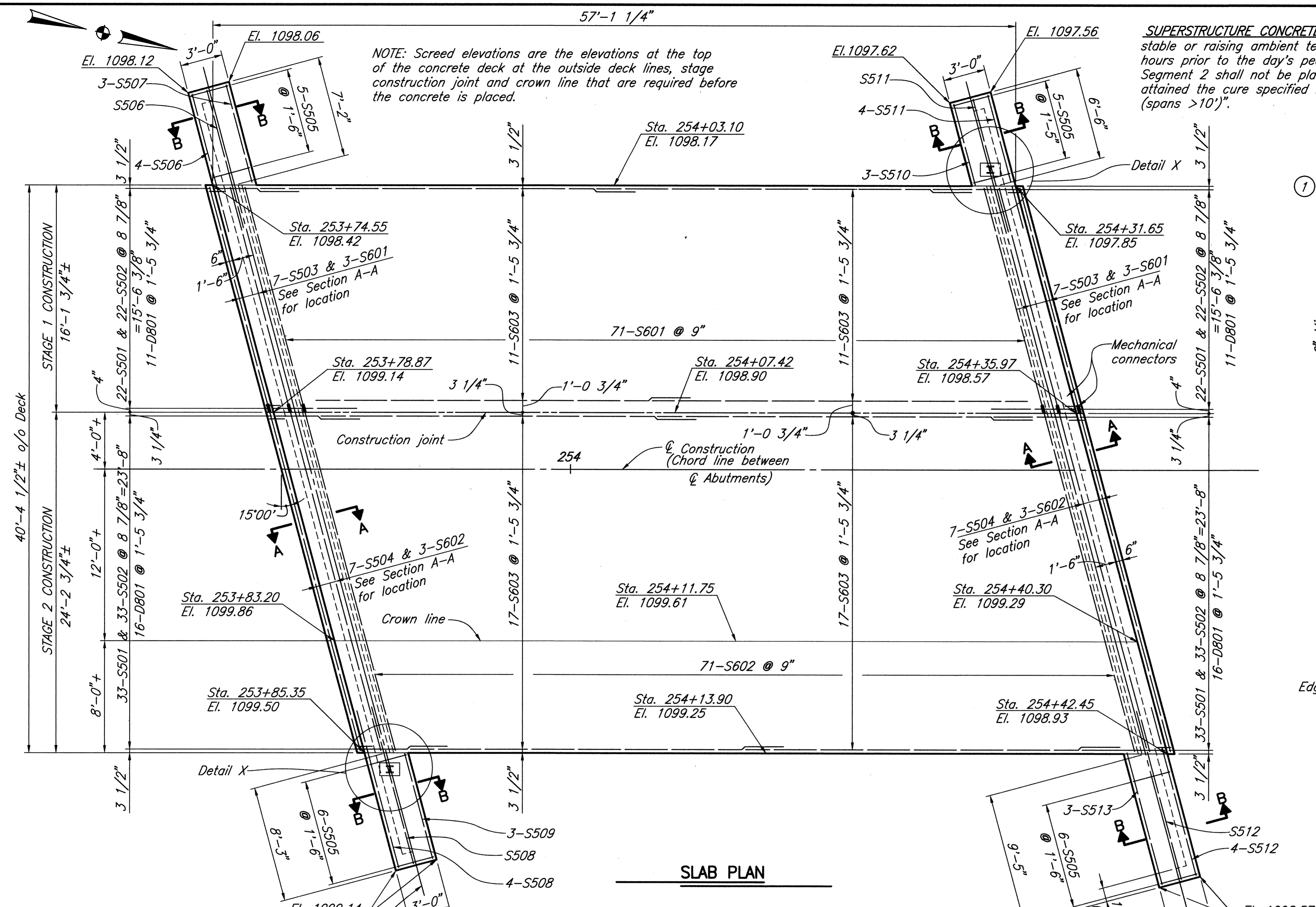
FHWA REGION	STATE	PROJECT
5	OHIO	

40
45

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

SUPERSTRUCTURE CONCRETE for Segment 1 shall be placed during stable or raising ambient temperatures and be concluded at least four hours prior to the day's peak ambient temperature. Concrete for Segment 2 shall not be placed until the concrete of Segment 1 has attained the cure specified in 511.14 for "Removing Falsework (spans >10)".

NOTE: Screed elevations are the elevations at the top of the concrete deck at the outside deck lines, stage construction joint and crown line that are required before the concrete is placed.



NOTES

COMPOSITE CONCRETE DECK SLAB: Calculated camber of beams at time of paving, including allowance for camber growth due to creep is 2 1/4". Estimated deflection of beams due to weight of deck slab and railing is 1/2". Net camber is 1 3/4". Net curvature is 1 3/4", which is more than necessary to place the deck slab surface parallel to the proposed roadway surface. To compensate for this excess curvature, the deck slab shall be thickened from 6" at mid span to 7 3/4" at span ends.

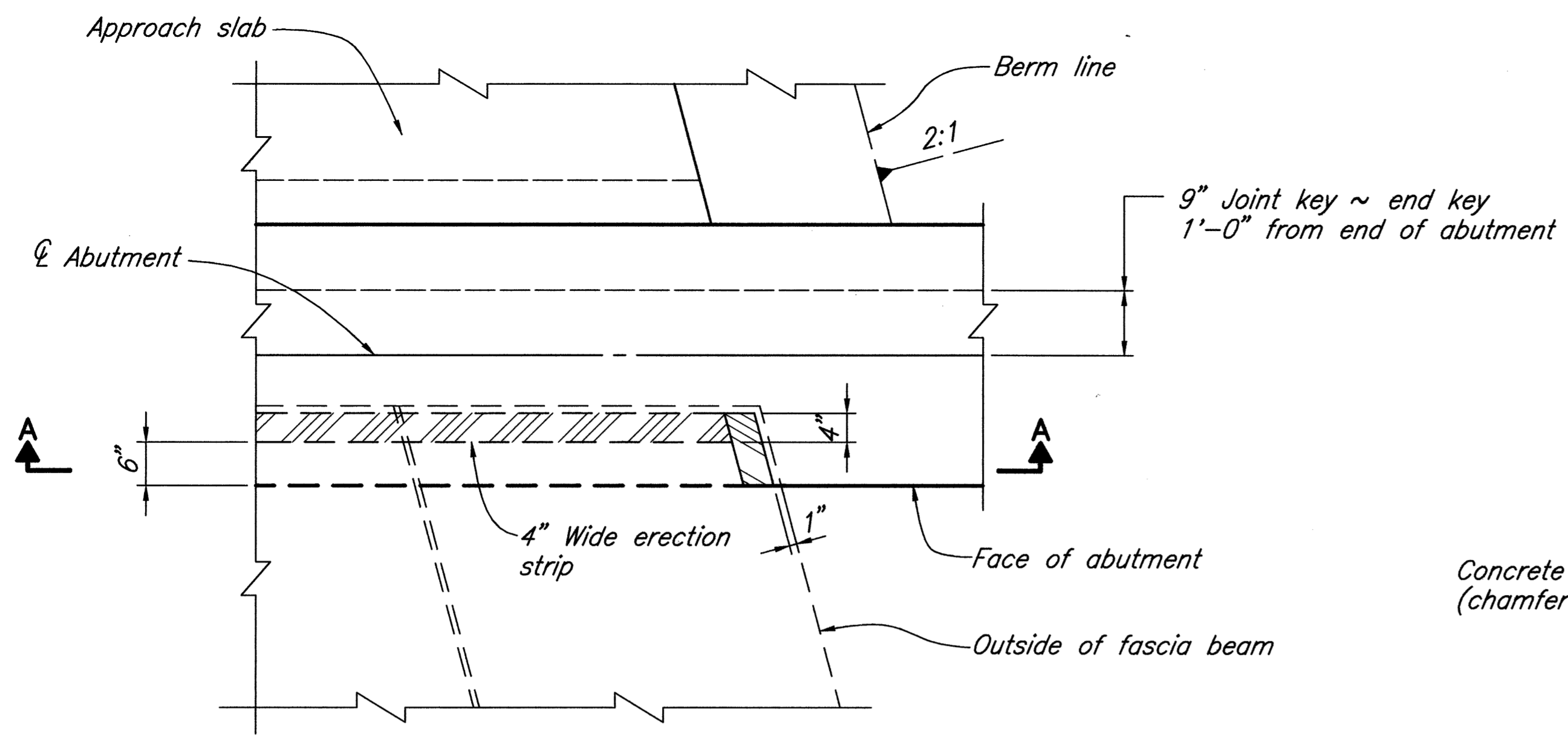
ERECTION LIVE LOADS shall not be placed on the superstructure prior to placement and curing of the composite deck slab, except as otherwise permitted by the Director.

REL RICHLAND ENGINEERING LIMITED
MANSFIELD, OHIO

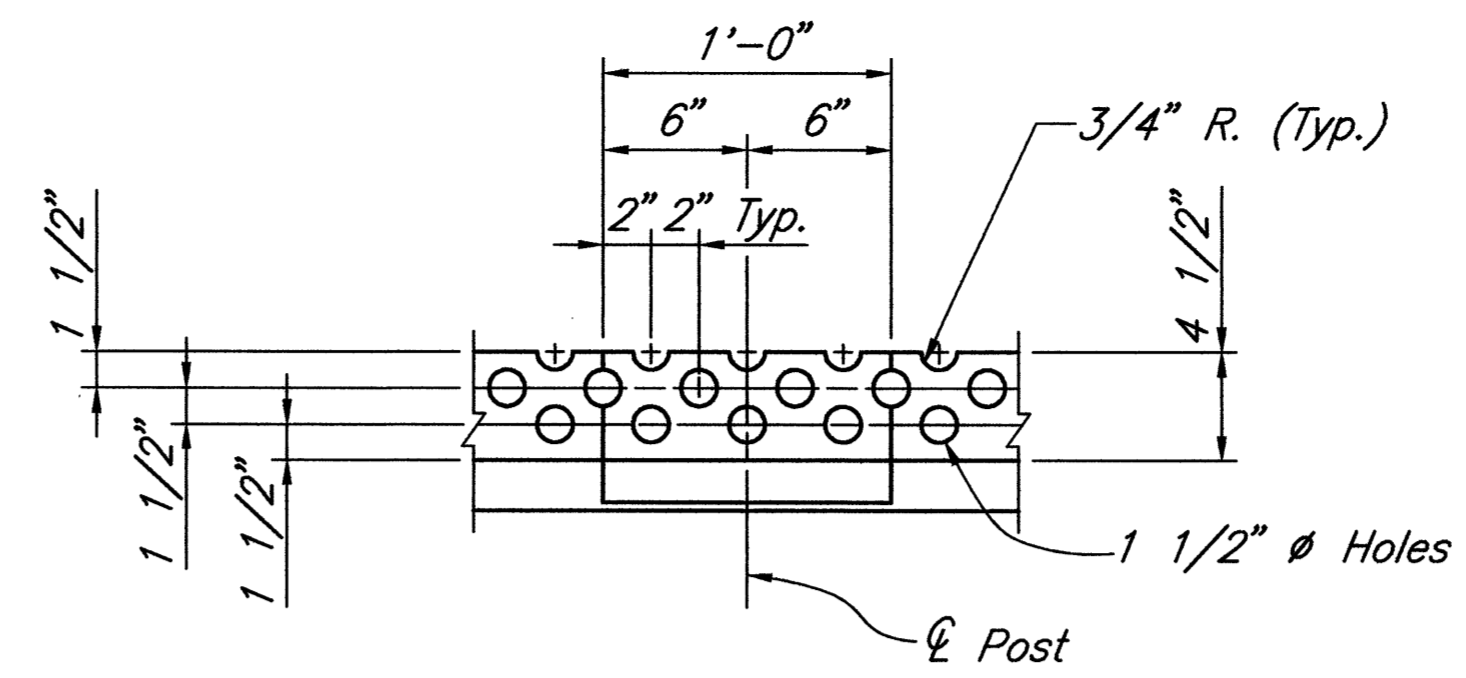
SLAB PLAN
BRIDGE NO. RIC-61-0481
OVER BRANCH OF THE BLACK FORK
MOCHEAN RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	TWH	JLS	JPS	BLN	2/28/94	

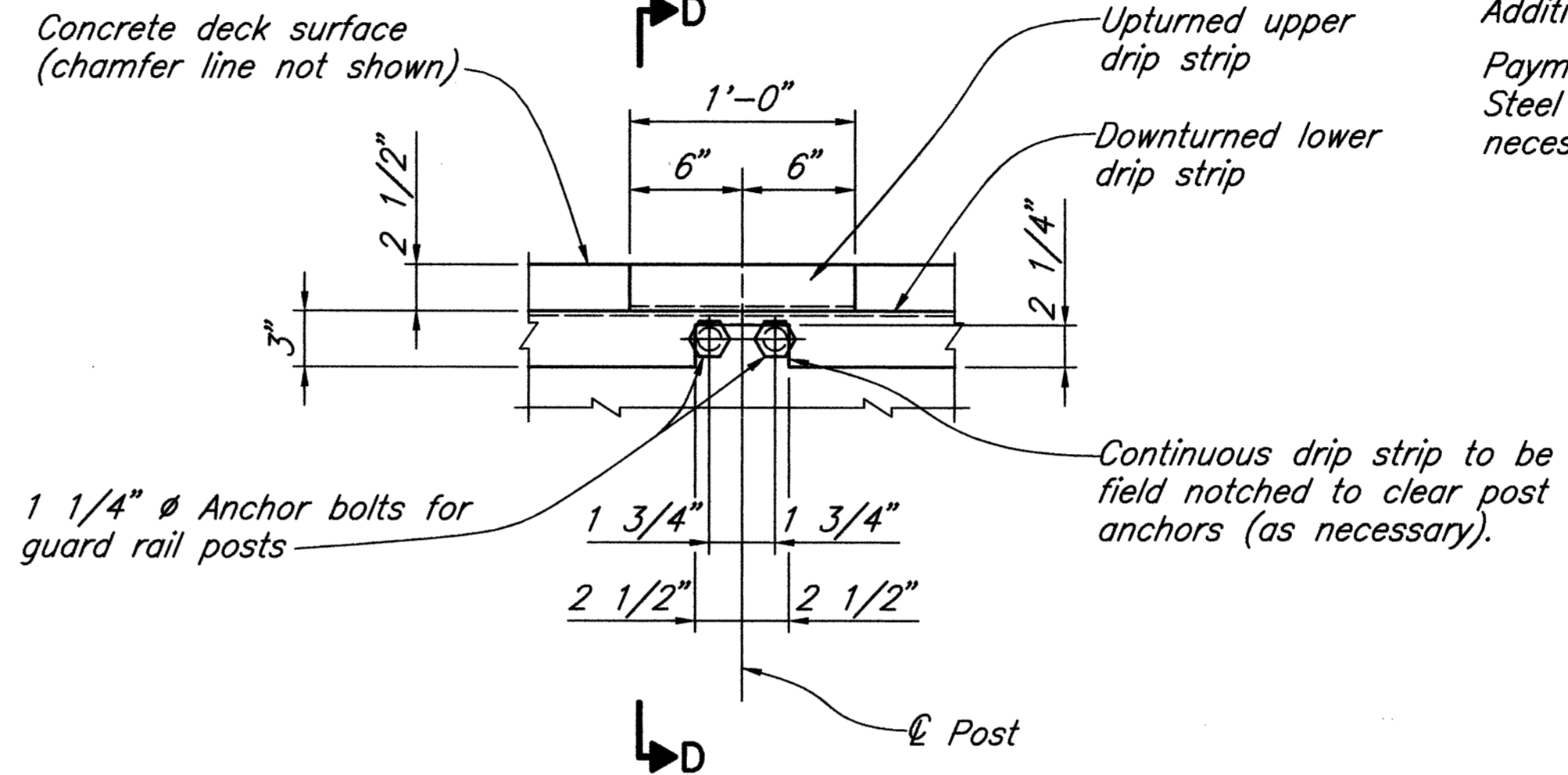
Job No. 92063 Date 06/2/94 Drawn By JLS



PARTIAL DECK PLAN



PARTIAL PLAN

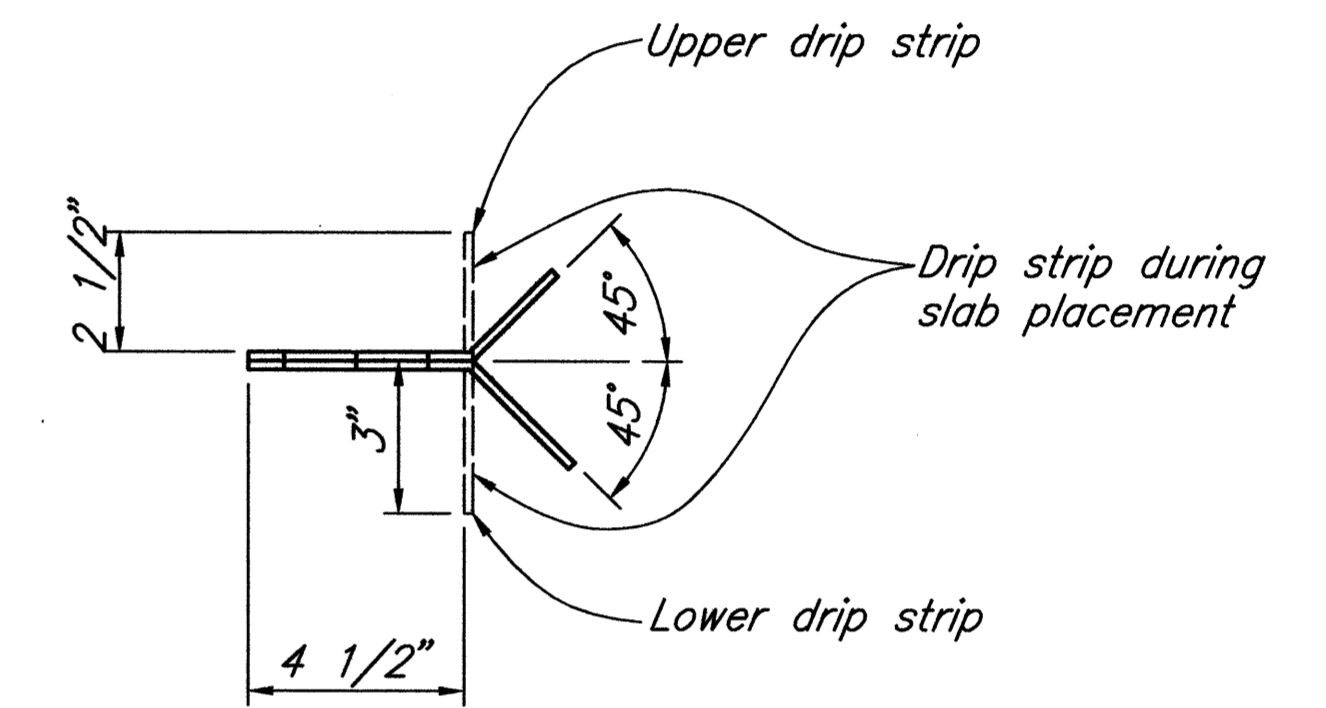


ELEVATION

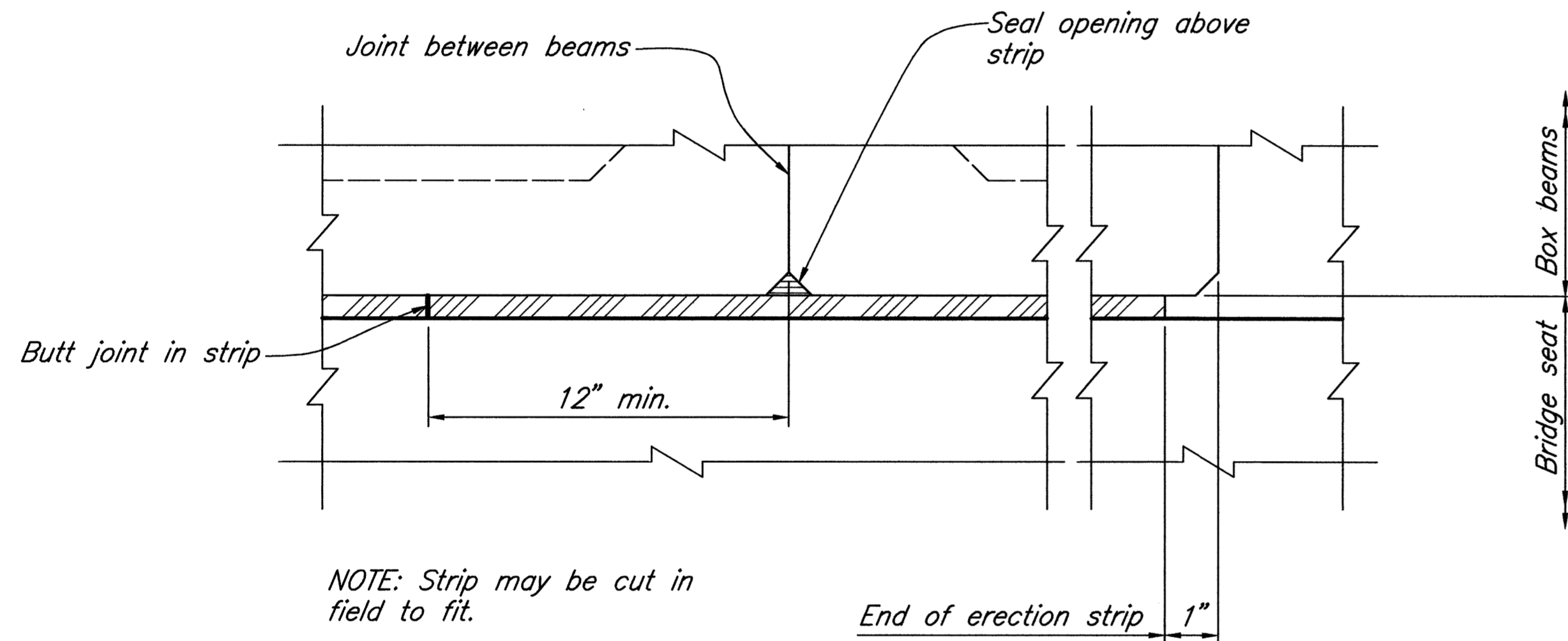
STAINLESS STEEL DRIP STRIP: Prior to the concrete deck placement a bent drip strip shall be installed along the edges of the deck by anchoring to the top layer of reinforcing steel and being butted, with a 90 degree bend, against the formwork. An additional 1'-0" long drip strip shall also be installed centered on each post.

The strips shall be placed the full length of the deck, ending at the abutments. Where splices are required the individual pieces shall be butted together. Stainless steel shall be 22 gauge ASTM A167, Type 304, mill finish. The final pay quantity shall be the actual overall length of the drip strip. Additional strips at posts shall not be measured for payment.

Payment shall be at the contract price bid for Item Special, linear feet, Steel Drip Strip, which shall include all materials, labor, tools, and incidentals necessary to complete the item.



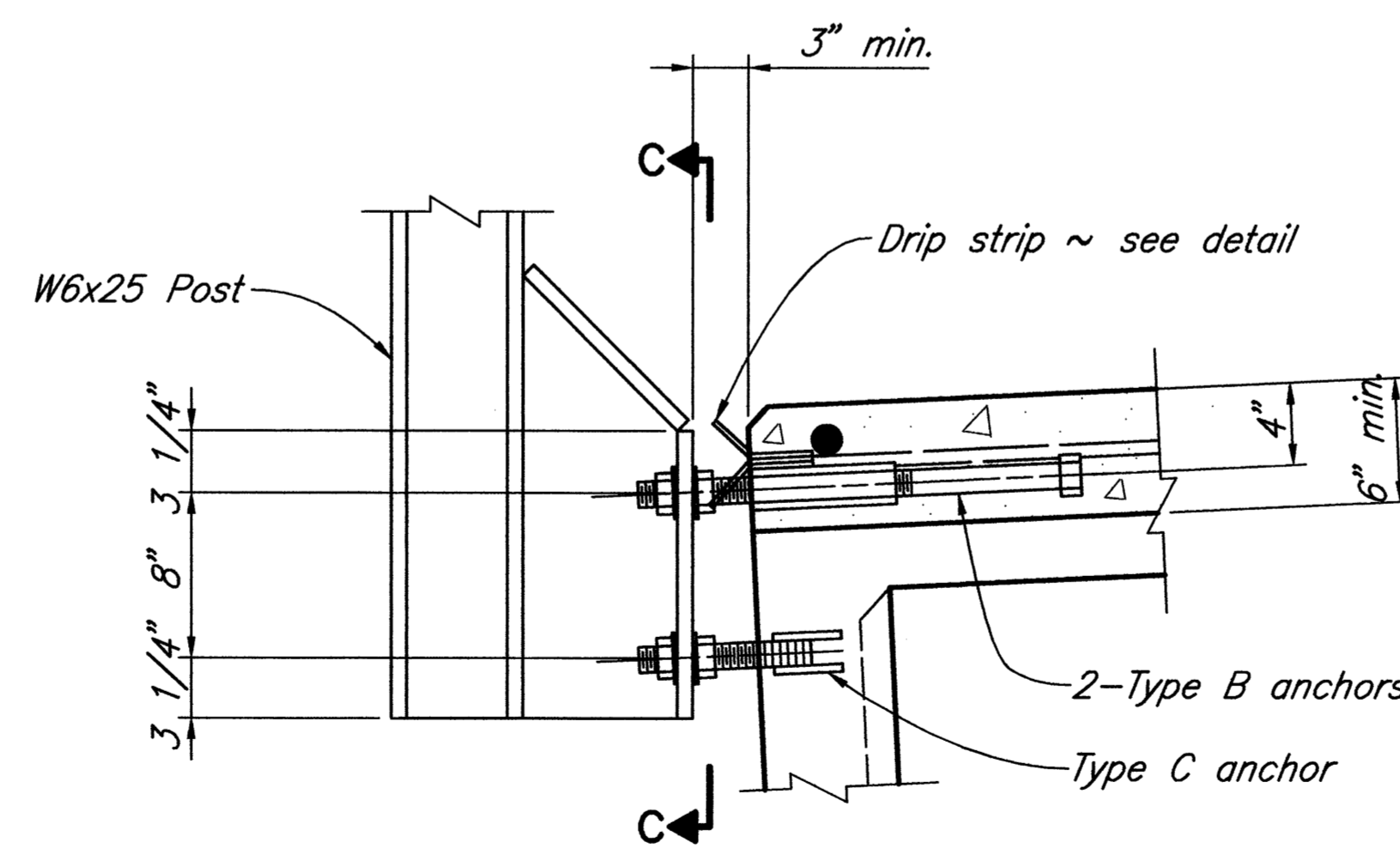
SECTION D-D



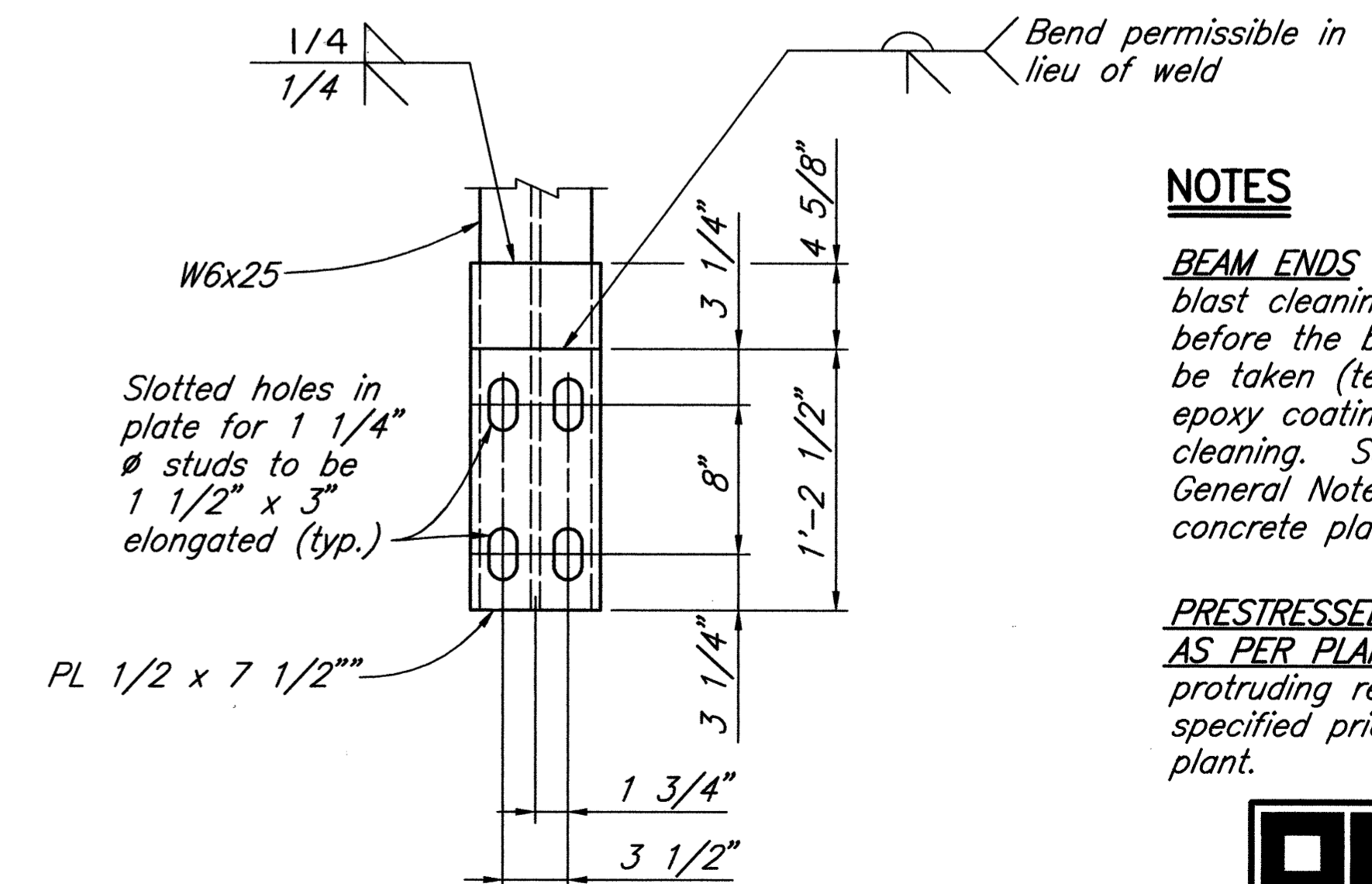
SECTION A-A

ERECTION STRIPS shall be 3/4 inch x 4 inch for the full length of the bridge seat. Strips shall be 50 or 60 durometer elastomer meeting the requirements of 711.23. Joints in strip shall be located near beam centers and be tightly butted together.

ERECTION STRIP DETAILS



DETAIL B



VIEW C-C

NOTES

BEAM ENDS shall be given a medium abrasive blast cleaning at the plant within four days before the beams leave the plant. Care shall be taken (temporary wrapping, ect.) to protect epoxy coating on exposed reinforcement during cleaning. See "Construction Joints" note in General Notes for surface preparation prior to concrete placement.

PRESTRESSED CONCRETE COMPOSITE BOX BEAM, AS PER PLAN: Beam ends shall be shaped and protruding reinforcement bent and tied as specified prior to shipment of beams from the plant.

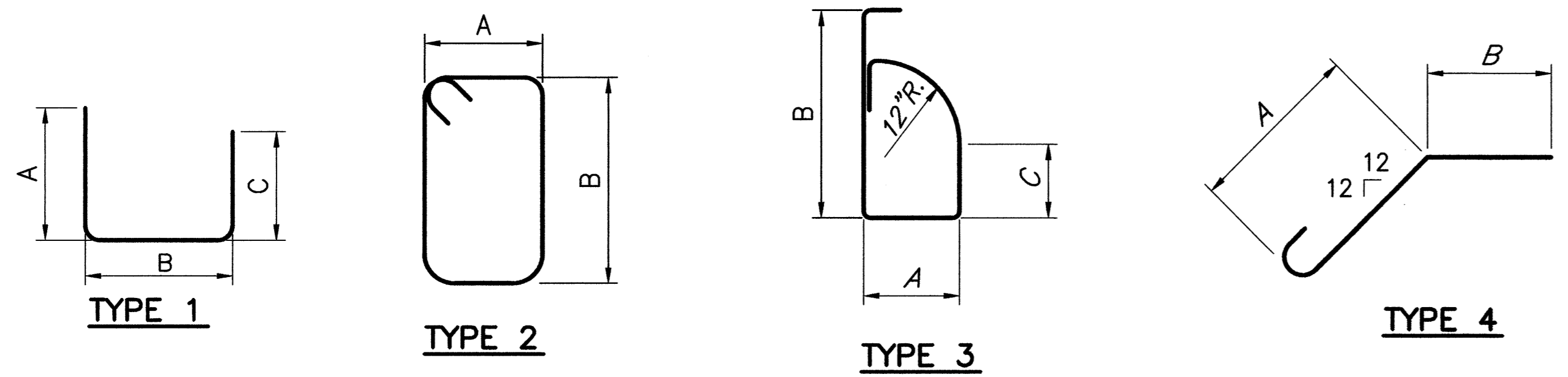
For additional notes and details see Std. Dwg. DBR-2-73.

REL **RICHLAND ENGINEERING LIMITED**
 MANSFIELD, OHIO

SUPERSTRUCTURE DETAILS

BRIDGE NO. RIC-61-0481
 OVER BRANCH OF THE BLACK FORK
 MOHICAN RIVER

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	JLS	JLS	JPS	BLN	2/28/94	



ABUTMENTS												
MARK	REAR	FWD.	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	INC.
A401	16	16	32	8'-11"	191	2	1'-9"	2'-6"				
A501	41	40	81	13'-1"	1105	1	5'-5"	2'-6"	5'-5"			
A502	17	17	34	9'-3"	328	1	3'-6"	2'-6"	3'-6"			
A503	8	7	15	17'-7"	275	1	7'-8"	2'-6"	7'-8"			
A504	16	16	32	7'-9"	259	1	2'-9"	2'-6"	2'-9"			
* A505	6		6	23'-10"	149	Str.						
* A506	6		6	32'-7"	190	Str.						
A507	24	23	47	10'-9"	527	1	4'-3"	2'-6"	4'-3"			
A508	8	9	17	18'-3"	324	1	8'-0"	2'-6"	8'-0"			
* A509		8	8	23'-3"	194	Str.						
* A510		8	8	33'-9"	282	Str.						
A511		2	2	17'-0"	35	Str.						
A512	2		2	14'-9"	31	Str.						
A601	58		116	11'-8"	2033	3	1'-4 1/2"	4'-3"	2'-8"			
* A901	8		8	23'-10"	648	Str.						
* A902	8		8	32'-7"	886	Str.						
* A903		8	8	23'-3"	632	Str.						
* A904		8	8	33'-9"	918	Str.						
					TOTAL WEIGHT	9,007						

SUPERSTRUCTURE									
MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	INC.	
S501	110	2'-6"	287	1	0'-10"	1'-1"	0'-10"		
S502	110	8'-8"	994	1	5'-11"	2'-2"	0'-10"		
* S503	14	16'-5"	240	Str.					
* S504	14	24'-9"	361	Str.					
S505	22	6'-5"	147	1	2'-0"	2'-8"	2'-0"		
S506	5	10'-0"	52	Str.					
S507	3	7'-3"	23	Str.					
S508	5	11'-5"	60	Str.					
S509	3	7'-7"	24	Str.					
S510	3	6'-0"	19	Str.					
S511	5	9'-8"	50	Str.					
S512	5	12'-3"	64	Str.					
S513	3	9'-6"	30	Str.					
* S601	77	16'-5"	1899	Str.					
* S602	77	24'-9"	2862	Str.					
S603	56	27'-0"	2271	Str.					
S801	54	4'-9"	685	4	2'-6"	1'-4"			
TOTAL WEIGHT			10,068						

* Indicates bar requiring mechanical connector.

Bar size is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A700 is a No. 7 and A1014 is a No. 10 size. Bar dimensions shown are out to out unless otherwise indicated. R indicates inside radius, unless otherwise noted.

All reinforcing steel to be epoxy coated.

10 / 10

REINFORCING STEEL LIST

BRIDGE NO. RIC-61-0481
OVER BRANCH OF THE BLACK FORK
MOHICAN RIVER

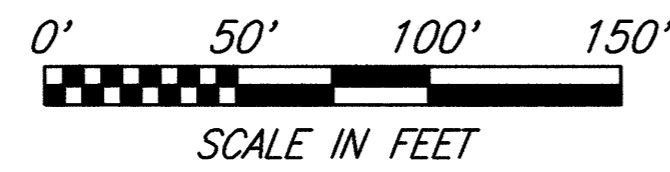
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RWR	JLS	JLS	JPS	BLN	2/28/94	

CENTERLINE SURVEY PLAT

RIC-39-3.88
RIC-61-4.80
RICHLAND COUNTY, OHIO
SHARON TWP., SECTION 17
T-22N, R-19W
CITY OF SHELBY

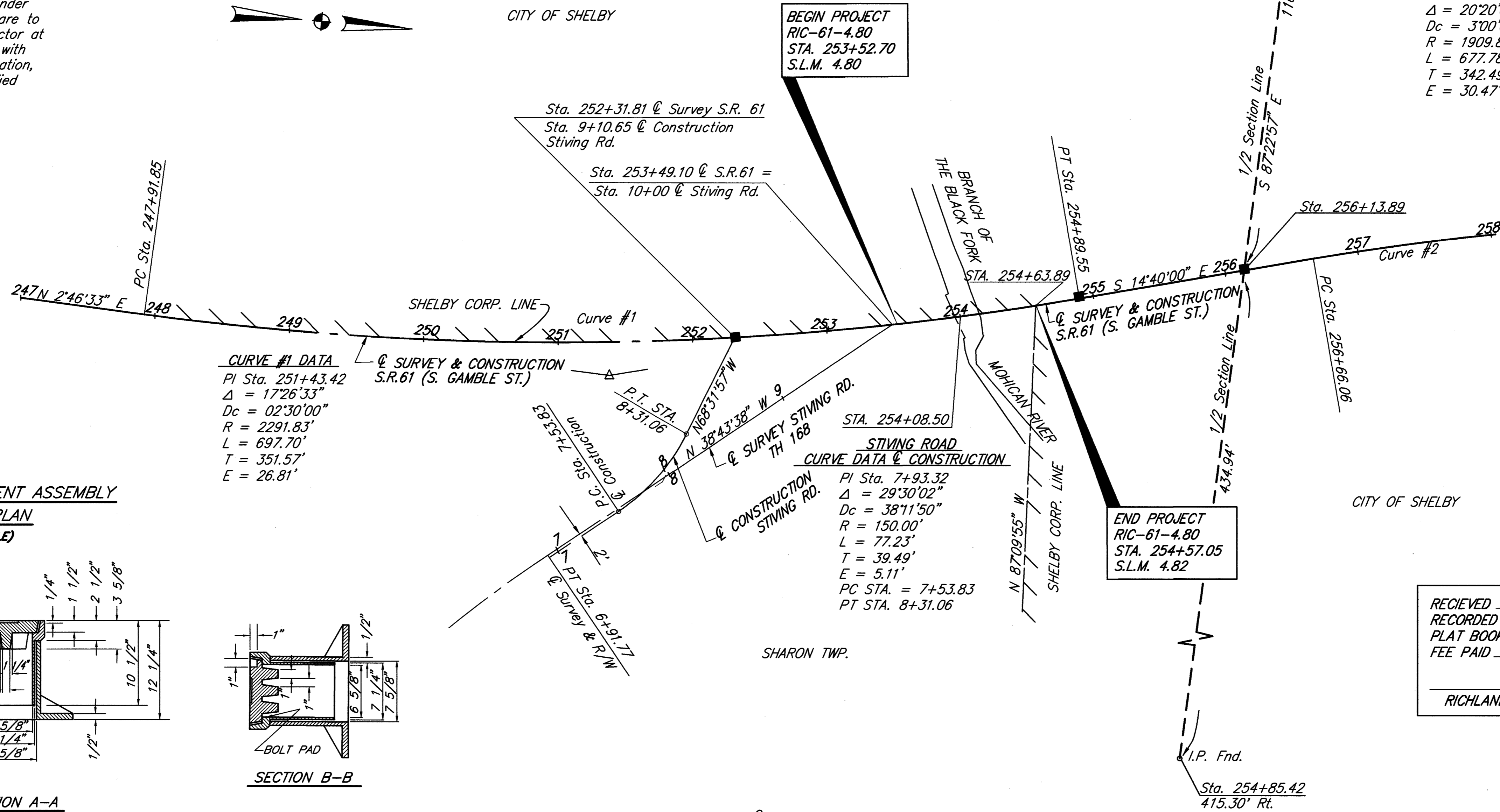
QUANTITIES			STATE	FHWA	STATE	PROJECT
CALCULATED	D.S.	8/93	03859(0)	5	OHIO	
CHECKED	J.M.	2/94				

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

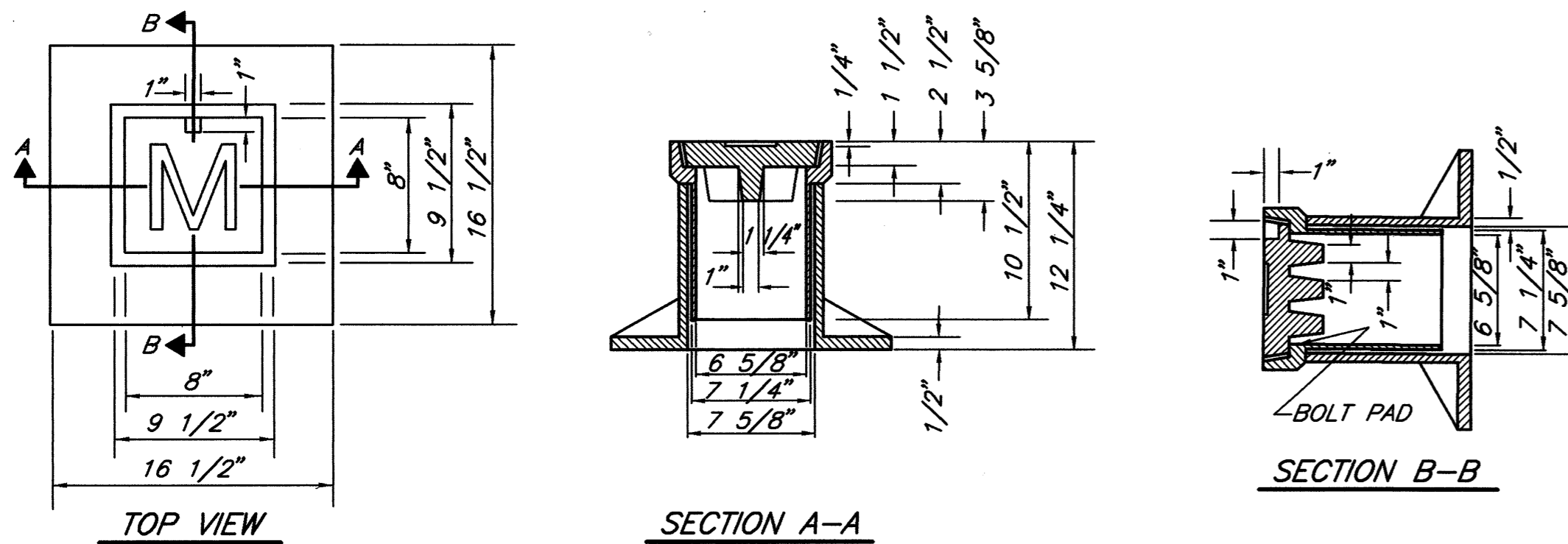


Centerline monuments are as shown hereon. The placing of the monuments shall be under the direction of a Register Surveyor and are to be set, as shown, by the Highway Contractor at the time of construction. Any alterations, with prior approval of Department of Transportation, shall be noted and O.D.O.T. shall be notified of the new location.

CENTERLINE MONUMENTS	
P.O.C. STA. 252+31.81	1
P.T. STA. 254+89.55	1
P.O.T. STA. 256+13.90	1
TOTAL	3



DETAIL OF MONUMENT ASSEMBLY
AS PER PLAN
(NOT TO SCALE)



WEIGHTS

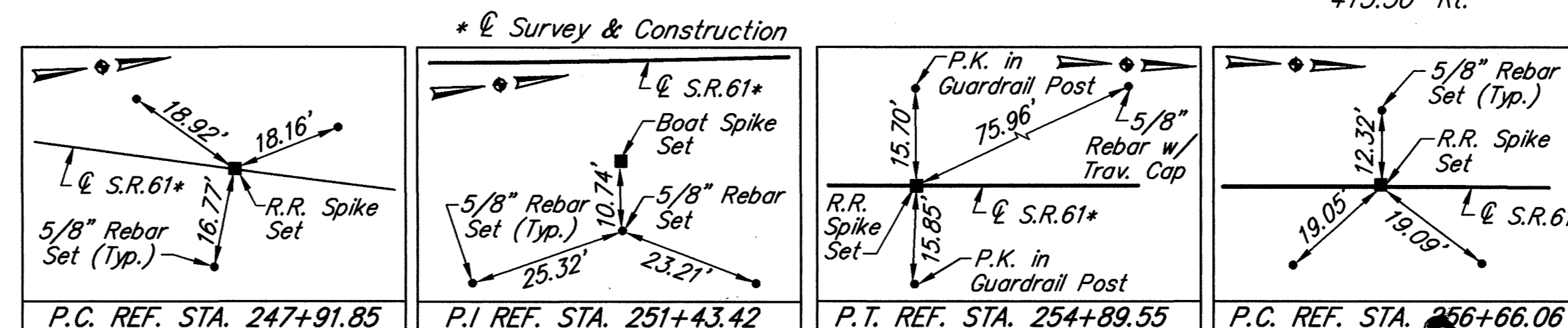
FRAME 66 LBS.
 SLEEVE 37 LBS.
 LID 31 LBS.
TOTAL 134 LBS.

ONE 3/8 x 2" STAINLESS STEEL
 STEEL HEXHEAD BOLT (COUNTER-
 SUNK, DRILL & TAP FRAME

WEIGHTS

1. GRAY IRON, ASTM. A98 CLASS 30
2. PAINT: ONE COAT BLACK ASPHALT

NOTE: ALL DETAILS NOT SHOWN HERE
 SHALL BE AS PER STD. DWG. MC-1,
 (REVISED 6-13-69)



RECEIVED _____
 RECORDED _____
 PLAT BOOK _____ PAGE _____
 FEE PAID _____

_____ RICHLAND COUNTY RECORDER



I HEREBY CERTIFY THAT THIS PLAT IS A TRUE DELINEATION OF A SURVEY MADE FOR THE OHIO DEPARTMENT OF TRANSPORTATION IN 1990 BY RICHLAND ENGINEERING LIMITED CONSULTING ENGINEERS.

David A. Armstrong 8/2/94
 DAVID A. ARMSTRONG DATE
 REG. SURVEYOR NO. 5788

Job No. 92063 Date 08/02/94 Drawn By JLM

STATE JOB NO.	FHWA REGION	STATE	PROJECT
03859(0)	5	OHIO	

44
45

2
3

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80

UTILITY OWNERS

Sanitary Service:
City of Shelby
Sewage Treatment Plant
3626 London West Rd.
Shelby, Ohio 44875
(419) 347-7453

Telephone:
United Telephone of Ohio
175 Ashland Road
P.O. Box 3555
Mansfield, Ohio 44902
(419) 755-8011

Electric:
Columbus Southern Power Company
(Ohio Power Company)
215 North Front Street
Columbus, Ohio 43215
(614) 464-7700

Gas Service:
Columbia Gas of Ohio
380 North Main Street
P.O. Box 1326
Mansfield, Ohio 44902
(419) 521-3650

T.V. Cable Service
Adelphia Cable Communications Inc.
59 East Main Street
Shelby, Ohio
(419) 342-3286

Water Service:
City of Shelby
115 North Gamble Street
Shelby, Ohio 44875
(419) 342-2171

PROPERTY MAP

RIC-39-3.88

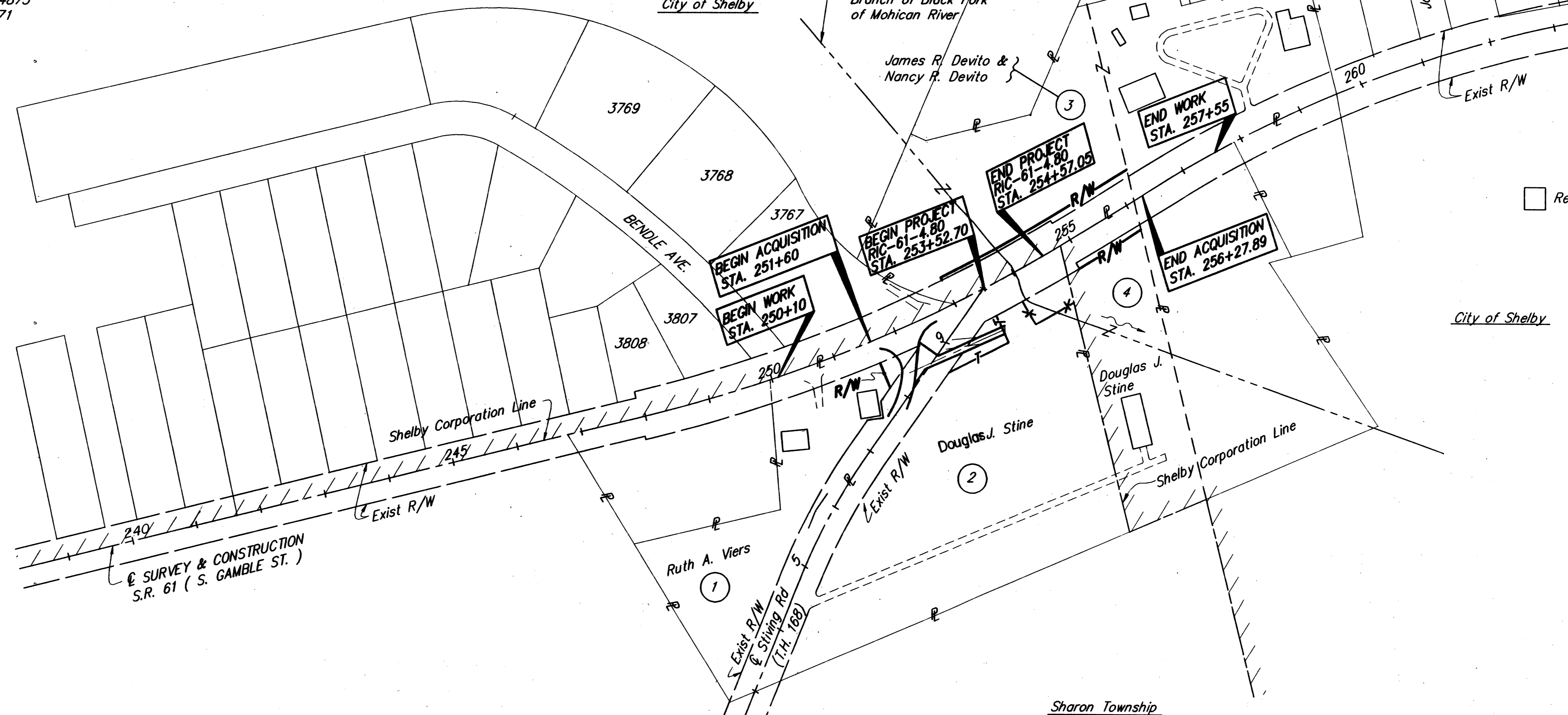
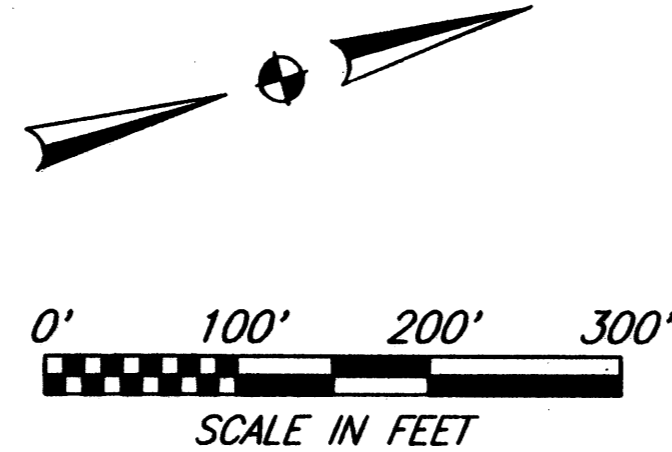
RIC-61-4.80

SHARON TOWNSHIP, SECTION 17

RICHLAND COUNTY

CITY OF SHELBY

T-22N; R-19W



STRUCTURE KEY:
□ Residential or Out Buildings

TOTAL NO. OF OWNERS----- 4
TOTAL TAKES----- 0
STRUCTURE PARCELS----- 0
OWNERSHIPS WITH "P" ITEMS- 0

SUMMARY OF ADDITIONAL R/W REQUIRED

S.W. 03859 (0)
PID NO. 10499

PARCEL NO.	SHEET NO.	PROPERTY OWNERS	PERMANENT PARCEL NO.	RECORDED		DEED AREA	TOTAL P.R.O.	GROSS TAKE	P.R.O. IN TAKE	NET TAKE	NET RESIDUE		STRUCTURE	TYPE FUNDS	REMARKS	AS ACQUIRED	
				VOL.	PAGE						LEFT	RIGHT				VOLUME	PAGE
1	3	Ruth A. Viers	044-47-030-02-000	782	388	2.63 Ac.	0.713 Ac.	0.236 Ac.	0.205 Ac.	0.031 Ac.	1.886 Ac.	No	State				
2-T	3	Douglas J. Stine	044-47-030-03-001	281	311	3.736 Ac.	0.53 Ac.	0.062 Ac.	0	0.062 Ac.		No	State	Constr. Drive-6 Months			
2-X	3			908	341			0.066 Ac.		0.066 Ac.	3.144 Ac.	No	State	Channel Easement			
3	3	James R. Devito & Nancy R. Devito	046-08-201-17-000	OR-20	921	4.11 Ac.	0.55 Ac.	0.353 Ac.	0.300 Ac.	0.053 Ac.	3.51 Ac.	No	State				
4	3	Douglas J. Stine	046-08-222-18-000	879	495	1.505 Ac.	0.131 Ac.	0.155 Ac.	0.129 Ac.	0.026 Ac.	1.348 Ac.	No	State				
				879	493												

TYPE FUNDS..STATE		
REV.	DATE	DESCRIPTION
SH	7-27-95	Rev. existing R/W line Stirling Road as vacated 6-8-95
SH	12-5-94	Rev. Par. 2 Owner and add Vol/Pg Par. 2 and 4
		COMPLETION DATE.... 2-9-94

Job No. 92063 Date 08/02/94 Drawn By JLM

**RICHLAND COUNTY
SHARON TOWNSHIP
SW 1/4 SECTION 17
T-22N; R-19W
CITY OF SHELBY**

QUANTITIES		STATE	FHWA	STATE	PROJECT
CALCULATED	R.M.	9/93			
CHECKED	D.S.	9/93			

STATE JOB NO.	FHWA REGION	STATE	PROJECT
03859(0)	5	OHIO	

James R. Devito &
Nancy R. Devito
Cont. 0.053 Ac.
Pro. 0.300 Ac.
Total 0.353 Ac.

**End Acquisition
Sta. 256+27.89**

**END PROJECT
RIC-61-4.80
STA. 254+57.05
S.L.M. 4.82**

Douglas J. Stine
Cont. 0.026 Ac.
Pro. 0.129 Ac.
Total 0.155 Ac.

CURVE DATA
PI Sta. 251+43.42
 $\Delta = 17'26''33''$
 $Dc = 02'30''00''$
 $R = 2291.83'$
 $L = 697.70'$
 $T = 351.57'$
 $E = 26.81'$

**STIVING ROAD
CURVE DATA & CONSTRUCTION**
PI Sta. 7+93.32
 $\Delta = 29'30''02''$
 $Dc = 38'11''50''$
 $R = 150.00'$
 $L = 77.23'$
 $T = 39.49'$
 $E = 5.11'$
P.C. STA. 7+53.83
P.T. STA. 8+31.06

■ Denotes monuments to be set

Existing Right Of Way determined from State Plans S.H. 204, Sec. C and the Richland County Engineer. Vacation of 0.0031 ac. by O.R. Vol. 372 Pg. 713 & 714

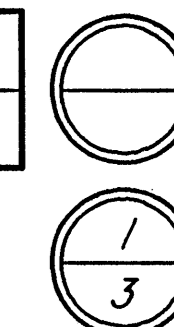
9	RAD. = 2291.83' ARC = 25.66' CH'D. = S 14'20'43" E; 25.66'	13	RAD. = 2291.83' ARC = 140.46' CH'D. = S 12'54'39" E; 140.44'
10	RAD. = 2251.83' ARC = 186.25' CH'D. = S 12'17'50" E; 186.20'	14	RAD. = 2291.83' ARC = 54.12' CH'D. = S 10'28'42" E; 54.12'
11	RAD. = 2246.83' ARC = 185.84' CH'D. = N 12'17'50" W; 185.78'	15	RAD. = 2251.83' ARC = 44.47' CH'D. = N 9'21'42" W; 44.47'
12	RAD. = 2246.83' ARC = 185.84' CH'D. = N 12'17'50" W; 185.78'	16	RAD. = 2251.83' ARC = 44.47' CH'D. = N 9'21'42" W; 44.47'
1	RAD. = 2326.83' ARC = 66.55' CH'D. = N 7'14'49" W; 66.55'	5	RAD. = 2336.83' ARC = 105.63' CH'D. = S 12'23'51" E; 105.62'
2	RAD. = 2291.83' ARC = 189.09' CH'D. = N 8'47'31" W; 189.04'	6	RAD. = 2336.83' ARC = 77.08' CH'D. = N 12'44'54" W; 77.08'
3	RAD. = 2381.83' ARC = 101.11' CH'D. = S 9'53'12" E; 101.10'	7	RAD. = 2376.83' ARC = 66.60' CH'D. = S 12'36'24" E; 66.60'
4	RAD. = 2336.83' ARC = 19.04' CH'D. = N 10'52'08" W; 19.04'	8	RAD. = 2336.83' ARC = 39.73' CH'D. = S 14'10'50" E; 39.73'

REV.	DATE	DESCRIPTION
SH	7-27-95	Rev. existing R/W line Stiving Road as vacated 6-8-95
CWJ	12/5/94	Rev. Par. 2 Owner
SAS	9/20/94	Added X-hatched area & note Par. 1
COMPLETION DATE... 2-9-94		

Job No. 92063 Date 08/02/94 Drawn By JLM

FHWA REGION	STATE	PROJECT	
5	OHIO		

RICHLAND COUNTY
RIC-39-3.88 BHF-36(21)
RIC-61-4.80 BRF-94B(18)



GENERAL NOTES

SAMPLE IDENTIFICATION

The Unified Soil Classification System is used to identify the soil unless otherwise noted.

SOIL PROPERTY SYMBOLS

- N: Standard "N" penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2 inch O.D. split-spoon.
- Qu: Unconfined compressive strength, TSF
- Qp: Penetrometer value, unconfined compressive strength, TSF
- Mc: Water content, %
- LL: Liquid limit, %
- PI: Plasticity Index, %
- γ_d: Natural dry density, PCF
- ▽: Apparent groundwater level at time noted after completion.

DRILLING AND SAMPLING SYMBOLS

- SS: Split-Spoon - 1 3/8" I.D., 2" O.D., except where noted.
- ST: Shelby Tube - 3" O.D., except where noted.
- AU: Auger Sample.
- DB: Diamond Bit.
- CB: Carbide Bit.
- WS: Washed Sample.

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

TERM (NON-COHESIVE SOILS)	STANDARD PENETRATION RESISTANCE
Very Loose	0 - 2
Loose	2 - 4
Slightly Compact	4 - 8
Medium Dense	8 - 16
Dense	16 - 26
Very Dense	Over 26
TERM (COHESIVE SOILS)	Qu - (TSF)
Very Soft	0 - 0.25
Soft	0.25 - 0.50
Firm (Medium)	0.50 - 1.00
Stiff	1.00 - 2.00
Very Stiff	2.00 - 4.00
Hard	4.00+

PARTICLE SIZE

Boulders	8 in. +	Coarse Sand	5mm-0.6mm	Silt	0.074mm-0.005mm
Cobbles	8 in.-3 in.	Medium Sand	0.6mm-0.2mm	Clay	-0.005mm
Gravel	3 in.-5mm	Fine Sand	0.2mm-0.074mm		

DESCRIPTION OF SITE

Site Location

The proposed bridge replacement project is located on State Route 61, north of its intersection with Stiving Road in Shelby, Richland County, Ohio.

Site Topography, Drainage, and Vegetation

The project site is within a region of gently rolling hills and valleys, in an area where rock is generally deep. The immediate bridge area is relatively flat, with regional slopes to the north away from Black Fork. Surrounding areas are commercially or residentially developed. The current roadway surface is approximately ten (10) to twelve (12) feet above river level. The existing bridge is a single-span concrete beam design.

Site drainage is through surface runoff into roadway ditches which discharge to the creek.

GEOLOGY

General Area Geology

The bedrock surface in the Richland County area is generally at variable depths below the surface. On steep hillsides in the southern and southeastern portions of the county, rock is often shallow, while in the more level western portions, it is covered by a thicker layer of glacial drift. The bedrock formations are typically sandstones of the Mississippian Age Group. The materials consist primarily of shales and sandstones in horizontal beds. The area overburden soils are glacial in origin, and involve cohesive till deposits associated with the Wisconsinan glacial stage. The glacial drift partially masks the pre-glacial bedrock topography, smoothing its character.

Stream valleys can contain outwash sands and gravels, as well as recent alluvial deposits.

Drainage in the area is poorly developed except within the major stream valley areas which predated glaciation.

FIELD EXPLORATION

Drilling and Sampling Procedures

The soil borings were advanced by means of a rotary-drive drilling rig utilizing hollow-stem, continuous-flight augers. Representative samples were obtained from the subsurface materials utilizing split-spoon sampling procedures in substantial accordance with ASTM standard method D-1586. Topsoil and pavement thicknesses were observed and measured in the borehole after withdrawal of the auger. The recovered soil samples were visually described in the field, and representative portions of each split-spoon sample were placed in labeled sealed glass jars for return to the laboratory.

Coring operations were carried out through hollow-stem auger flights by means of NX-size double-tube rotary core barrels equipped with diamond bits. The core is retained in the stationary inner tube of the barrel as the bit is advanced. After each run, the core is removed from the barrel, the percent recovery is determined, and the core is placed in a suitable storage box. Rock quality designation percentages (RQD) were determined and represent the ratio of the total length of core sections in excess of four (4) inches to the total cored length. "RQD" and recovery values are noted on the boring logs.

ADDITIONAL SOIL INFORMATION

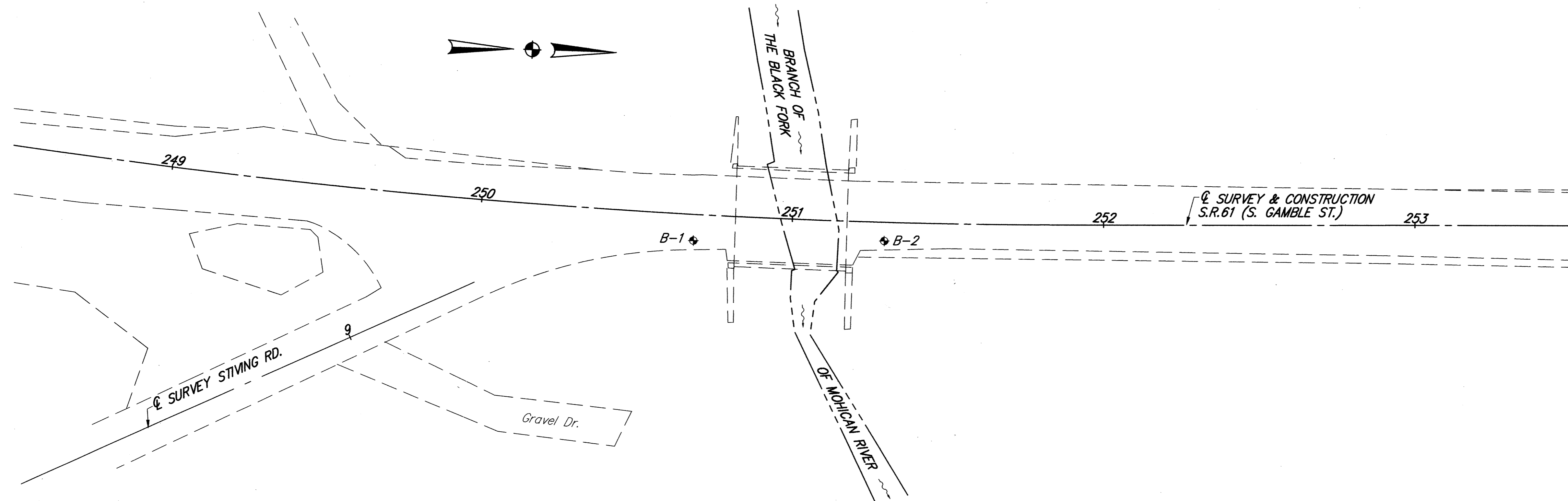
THE SOIL PROFILE AND/OR STRUCTURE FOUNDATION INVESTIGATION SHEETS CONTAIN ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME ASPECT OF THE PROJECT. MORE INFORMATION, IF ANY, MAY BE OBTAINED IN DISTRICT 3, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE BUREAU OF LOCATION AND DESIGN, OR THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN AT 25 SOUTH FRONT STREET IN COLUMBUS, OHIO.

Job No. 92063 Date 1/14/93 Drawn By LS

PROFESSIONAL SERVICE INDUSTRIES, INC.

REPORT OF SUBSURFACE
INVESTIGATION
BRIDGE NO. RIC-61-0481
ST. RT. 61 OVER BRANCH
OF BLACK FORK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
		LS				



LEGEND

- Asphalt
- Aggregate Fill
- Sandy Silt (A-4a)
- Coarse and Fine Sand (A-3a)
- Weathered Shale
- Bore Location
- X/Y/Z - Number of blow for "Standard Penetration Test"
 X - Number of blow in first 6"
 Y - Number of blow in second 6"
 Z - Number of blow in third 6"
- 14 - Water Content

1100					1100
1095					1095
1090					1090
1085					1085
1080					1080
1075					1075
1070					1070
1065					1065
1060					1060
1055					1055
1050					1050
1045	249	250	251	252	253

		B-1		B-2	
		14		14	
	5/4/5	11		21	5/5/3
	2/3/2	17		14	2/4/3
	4/4/4	21		15	4/2/5
	6/6/6	11		9	4/7/9
	3/4/4	14		14	4/7/10
	6/10/14	11		20	10/10/8
	46/50 in 5"	6		6	21/50 in 6"
				7	50 in 4"
				6	50 in 6"

Job No. 92063 Date 1/14/94 Drawn By LS

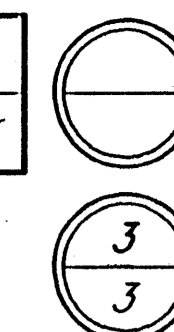
PROFESSIONAL SERVICE INDUSTRIES, INC.

REPORT OF SUBSURFACE INVESTIGATION
BRIDGE NO. RIC-61-0481
ST. RT. 61 OVER BRANCH OF BLACK FORK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BLN	LS	LS	RHU	DT	5/24/93	

FHWA REGION	STATE	PROJECT
5	OHIO	

RICHLAND COUNTY
RIC-39-3.88
RIC-61-4.80



LOG OF BORING
Date Started 11/17/92 Sampler Type SS Dia. 2.0" Water Encountered -17'2"
Date Completed 11/17/92 Casing Length - Dia. - Water on Completion -17'4"
Boring No: B-1 Station & Offset Sta. 250 + 69, 8' Rt. Surface Elevation 1098.1

Project Identification: BRIDGE NO: RIC 61-4.75
STATE ROUTE 61 OVER BRANCH OF BLACK FORK
SHELBY, RICHLAND COUNTY, OHIO

Elev.	Depth	Std. Pen. Test	Description	SAMPLE NUMBER	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.O.	SMTL Class.
1098.1	2	-	11" ASPHALT, 3" AGGREGATE BASE, FILL.	AU-1								14	
1094.1	4	5-4-5	BROWN AND GRAY SANDY CLAYEY SILT WITH ROCK FRAGMENTS, A-4a	SS-2								11	A-4a
1092.1	6	2-3-2		SS-3								17	A-4a
	8			SS-4								21	A-4a
	10	4-4-4		SS-5	8	9	16	42	25	22	4	11	A-4a
	12			SS-6								14	A-4a
	14	6-6-6	GRAY SANDY CLAYEY SILT, TRACE GRAVEL, A-4a	SS-7								11	A-4a
	16			SS-8								14	A-4a
	18	3-4-4		SS-9								11	A-4a
	20			SS-10								11	A-4a
	22	6-10-14		SS-11								11	A-4a
	24			SS-12								11	A-4a
1070.1	26			SS-13								11	A-4a
	28			SS-14								11	A-4a
	30	46-50/5"	GRAY WEATHERED SHALE, SOME SMALL SEAMS OF SOFT GRAY CLAY SHALE.	SS-15								6	A-4a
	32			SS-16								6	A-4a

LOG OF BORING
Date Started 11/17/92 Sampler Type SS Dia. 2.0" Water Encountered -14'3"
Date Completed 11/17/92 Casing Length - Dia. - Water on Completion -18'6"
Boring No: B-2 Station & Offset Sta. 251 + 30, 6' Rt. Surface Elevation 1097.4

Project Identification: BRIDGE NO: RIC 61-4.75
STATE ROUTE 61 OVER BRANCH OF BLACK FORK
SHELBY, RICHLAND COUNTY, OHIO

Elev.	Depth	Std. Pen. Test	Description	SAMPLE NUMBER	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.O.	SMTL Class.
1097.4	2	-	10" ASPHALT, 3" AGGREGATE BASE.	AU-1								14	A-4a
	4	5-5-3		SS-2	15	11	19	34	21	25	7	21	A-4a
	6	2-4-3	BROWN AND GRAY SANDY CLAYEY SILT WITH ROCK FRAGMENTS, MOIST, A-4a	SS-3								14	A-4a
1088.4	8			SS-4								15	A-4a
	10	4-2-5		SS-5								9	A-4a
	12			SS-6								14	A-3a
	14	4-7-9	GRAY SANDY CLAYEY SILT, TRACE SAND, MOIST, A-4a	SS-7								20	A-4a
1078.4	16			SS-8								14	A-3a
	18	4-7-10	GRAY SILTY SAND AND GRAVEL, WET, A-3a	SS-9								20	A-4a
1075.4	20			SS-10								20	A-4a
	22	10-10-8	GRAY SANDY CLAYEY SILT, TRACE GRAVEL, VERY MOIST, A-4a	SS-11								6	A-4a
	24			SS-12								6	A-4a
1068.4	26	21-50/6"	GRAY WEATHERED SHALE, SOME SMALL SEAMS OF SOFT GRAY CLAY SHALE.	SS-13								6	A-4a
	28			SS-14								6	A-4a
	30			SS-15								6	A-4a
	32			SS-16								6	A-4a

LOG OF BORING
Date Started 11/17/92 Sampler Type SS Dia. 2.0" Water Encountered -17'2"
Date Completed 11/17/92 Casing Length - Dia. - Water on Completion -17'4"
Boring No: B-1 Station & Offset Sta. 250 + 69, 8' Rt. Surface Elevation -

Project Identification: BRIDGE NO: RIC 61-4.75
STATE ROUTE 61 OVER BRANCH OF BLACK FORK
SHELBY, RICHLAND COUNTY, OHIO

Elev.	Depth	Std. Pen. Test	Description	SAMPLE NUMBER	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.O.	SMTL Class.
	34		GRAY WEATHERED SHALE, SOME SMALL SEAMS OF SOFT GRAY CLAY SHALE.	NX-9									
	36			NX-9									
	38		RECOVERY: 8'2"										
	40		R.Q.D.: 0.0%										
1057.35	42		RUN LENGTH: 10'0"										
	42		← BOTTOM OF BORING										

LOG OF BORING
Date Started 11/17/92 Sampler Type SS Dia. 2.0" Water Encountered -14'3"
Date Completed 11/17/92 Casing Length - Dia. - Water on Completion -18'6"
Boring No: B-2 Station & Offset Sta. 251 + 30, 6' Rt. Surface Elevation -

Project Identification: BRIDGE NO: RIC 61-4.75
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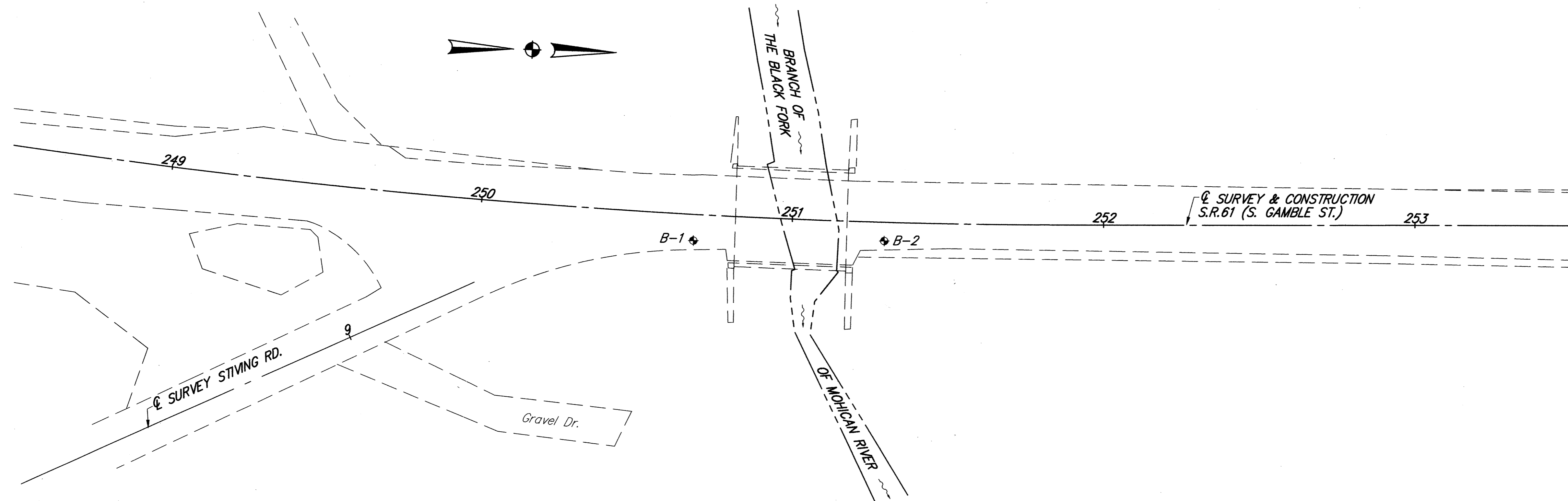
Elev.	Depth	Std. Pen. Test	Description	SAMPLE NUMBER	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.O.	SMTL Class.
	34			SS-9								7	
	36	50/4"		SS-9								7	
	38			SS-10								6	
	40	50/6"	GRAY WEATHERED SHALE, SOME SMALL SEAMS OF SOFT GRAY CLAY SHALE.	SS-10								6	
	42		RECOVERY: 5'10"										
	44		R.Q.D.: 0.0%										
	46		RUN LENGTH: 10'0"	NX-11									
	48			NX-11									
1047.9	50		← BOTTOM OF BORING										

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	LS					



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1100				1100	
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1090		B-1	B-2	1090	
1085		5/4/5 2/3/2	14 11 17	5/5/3 2/4/3	
1080		4/4/4	21	4/2/5	
1075		6/6/6	11	9	
1070		3/4/4	14	14	
1065		6/10/14	11	20	
1060		46/50 in 5"	6	6	
1055				7	
1050				6	
1045	249	250	251	252	253

Job No. 92063 Date 1/14/94 Drawn By LS

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DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
BLN	LS	LS	RHU	DT	5/24/93	