

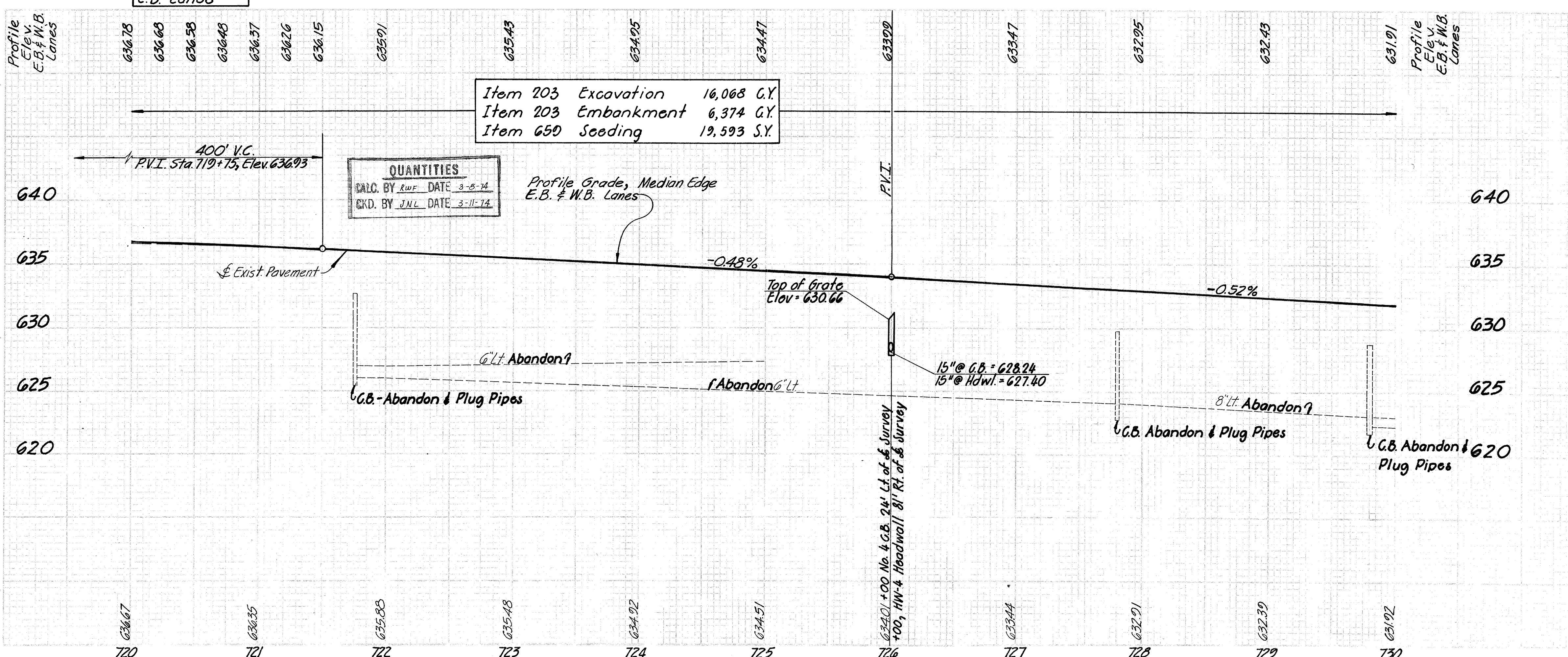
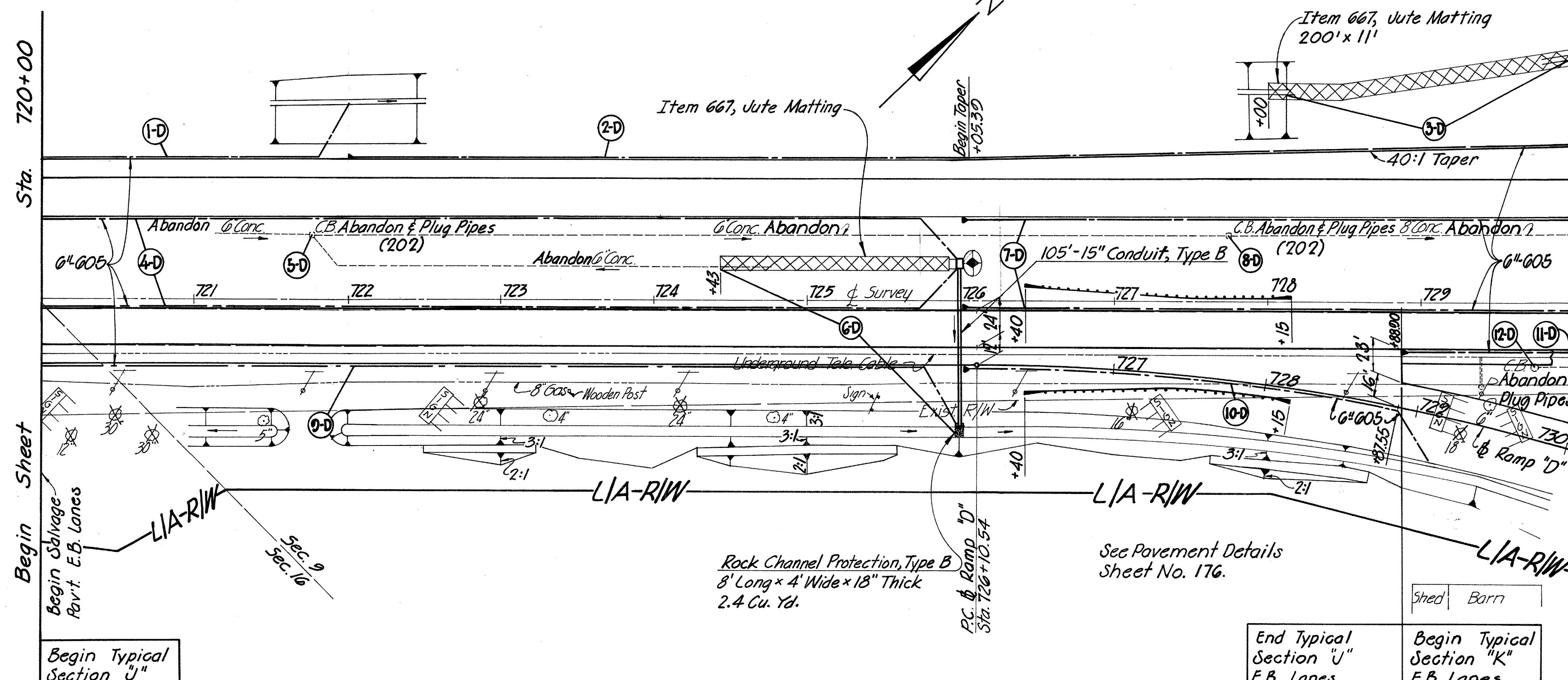
**BENCH MARK No. 32**  
R.R. Spike in Tele. Pole  
Sta. 721+72, 59' RT.  
Elev. 632.33

**BENCH MARK Nô. 33**  
R.R. Spike in Tele. Pole  
Sta. 726+38, 59' RT.  
Elev. 633.59

-L/A-R/W-

Exist. R/W  $\supset$   $|A - R|W$

L/A - R,



## D Drainage

Reference No.	Station	Side	202	605	601	602	603 Conduit Type					605	605	604	667
			Catch Basin Abandoned	6" Glass Pipe Underdrains	Rock Channel Protection, Type "B"	Concrete Masonry	"B"				"F"	"Shallow Pipe Underdrain	"B" Bends for Underdrains	Standard No. 4 Catch Basin	Auto Mouting
From	To or At	Ea.	L.F.	Gu.Yd.	Gu.Yd.	Lin. Ft.					L.F.	Ea.	Each	S.Y.	
1	720+00	Lt.		209							10		1		
2	722+00	Lt.		800											
3	728+00	Lt.													
4	720+00	726+00	Lt. Rt.		1200						20		2	244	
5		721+78	Lt.	1											
6	724+34	726+00	Lt. Rt.			2.4	0.25		105						
7	726+00	730+00	Lt. Rt.		400							400		125	
8		727+75	Lt.	1											
9	720+00	726+00	Rt.		610							10		1	
10	726+00	RAMP "D" 729+17	Rt.									10	315	1	
11	728+88	730+00	Rt.										112		
12		729+75	Rt.	1											
<b>Totals</b>			3	3210	2.4	0.25		105				50	826	1	369

QUANTITIES

55  
299

9

BENCH MARK No. 34  
R.R. Spike in Tele. Pole  
Sta. 730+71, 58.5' R.L.  
Elev. 630.70

**BENCH MARK No. 3**  
R.R. Spike in Tele. Pole  
Sta. 734+75, 58.5' RT.  
Elev. 628.65

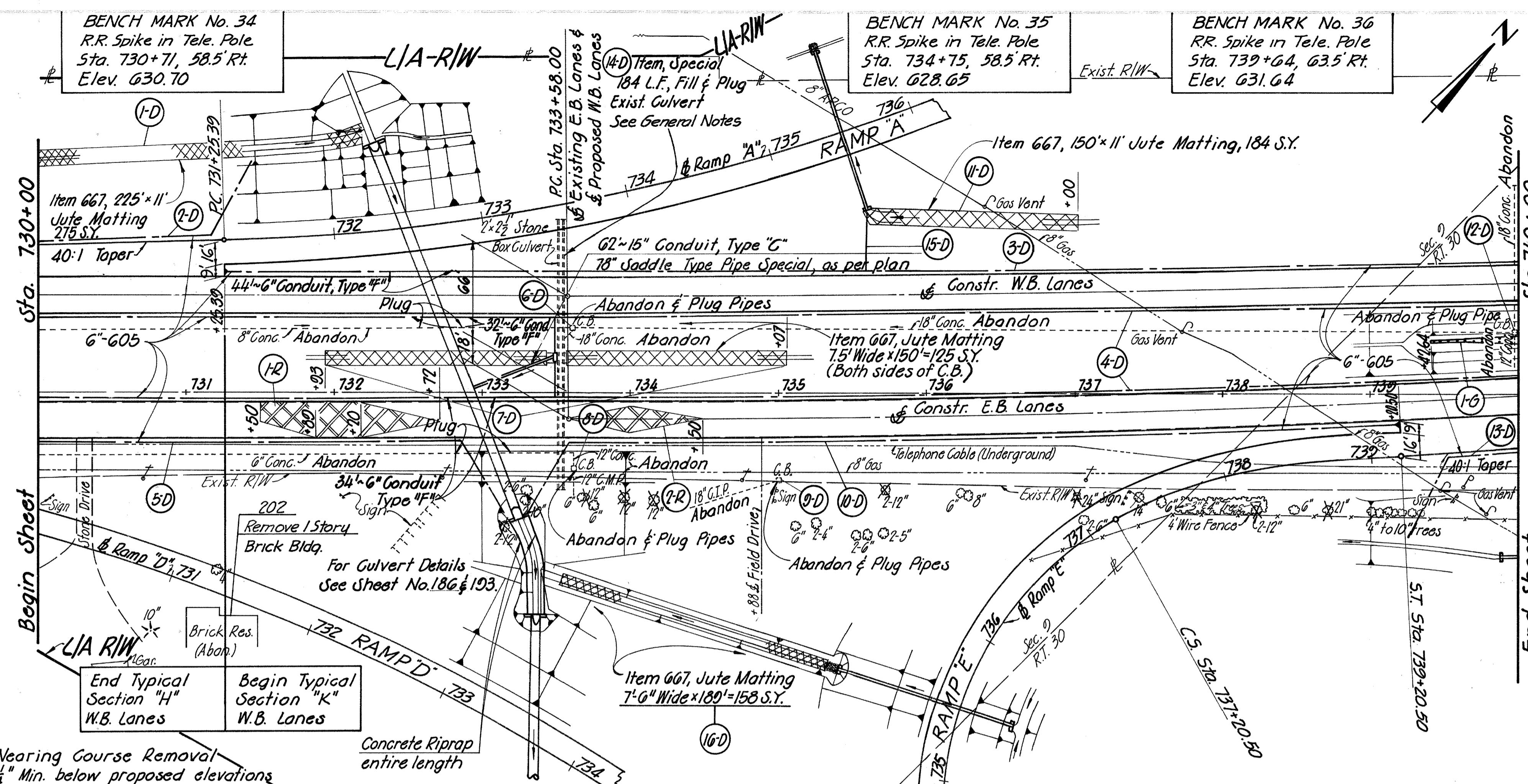
BENCH MARK No. 3  
R.R. Spike in Tele. Poi.  
Sta. 739+64, 63.5' R  
Elev. 631.64

CURVE DATA  
S. W. B. Lanes  
P. I. Sta. 737+83.06  
 $\Delta = 2^{\circ} - 16'$        $L = 850.00$

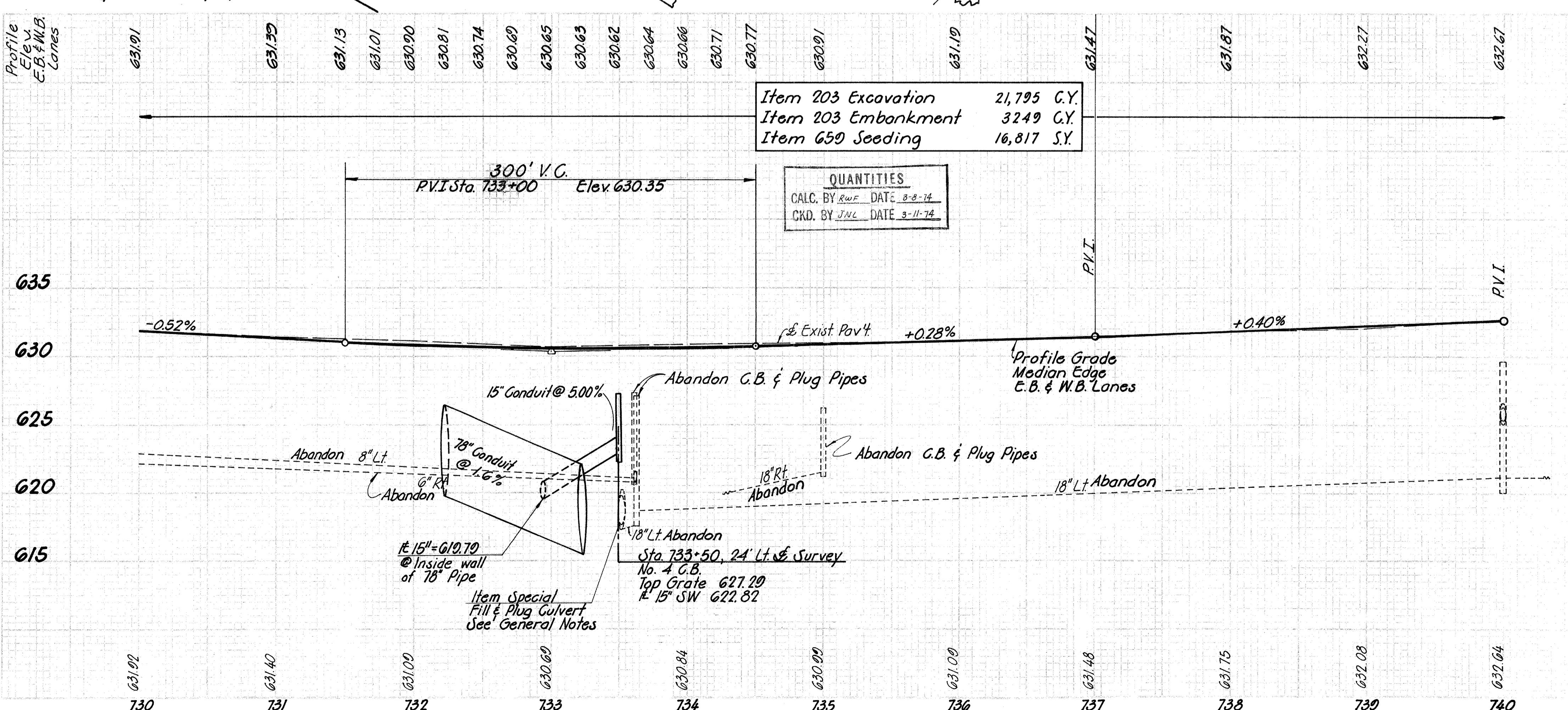
CURVE DATA  
S E. B. Lanes

P.I. Sta. 738+33.24  
 $= 4^{\circ} 26'$        $L = 950.00'$   
 $= 0^{\circ} 28'$        $T = 475.24'$   
 $= 12,277.67'$        $E = 0.10'$

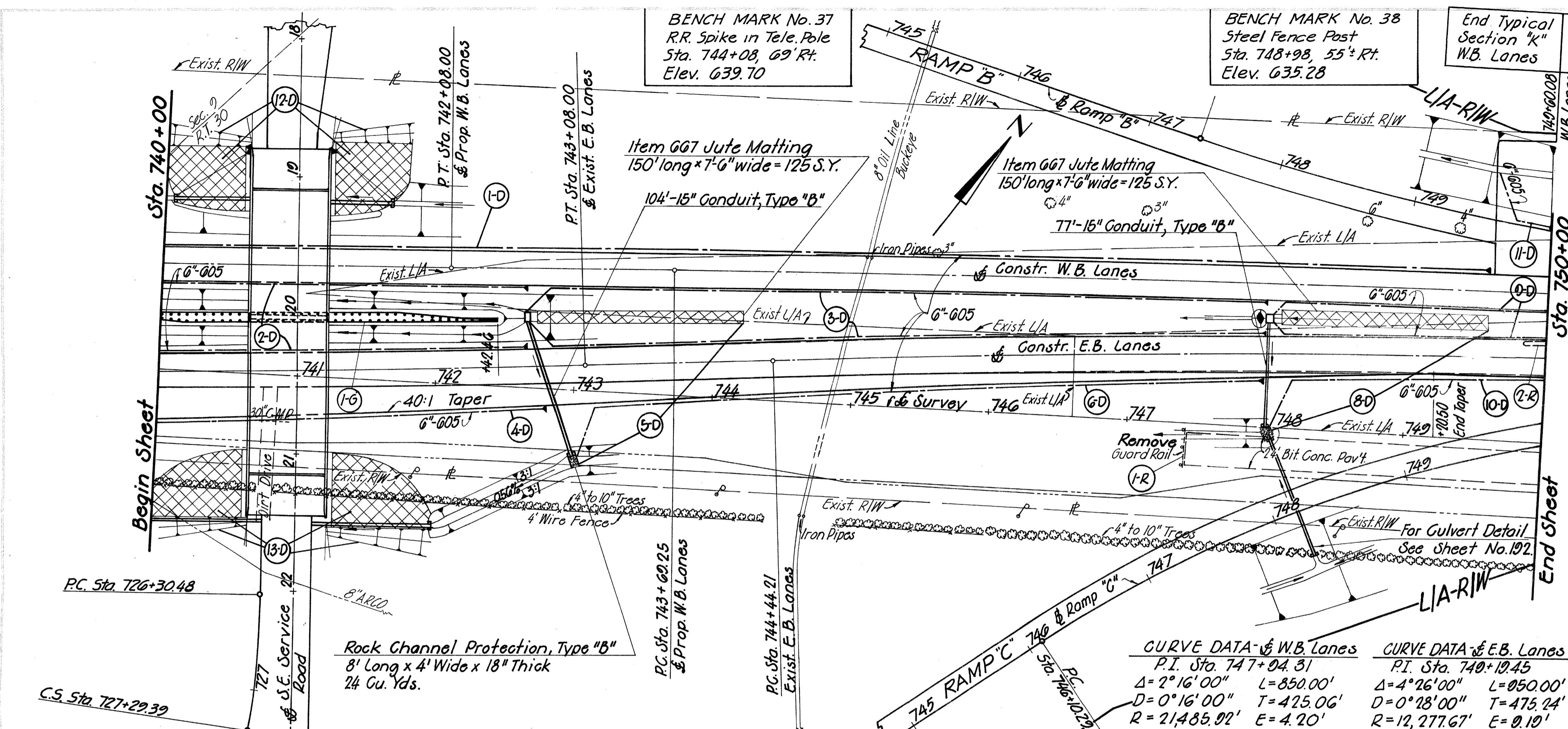
UCAS COUNTY  
UC-24-1241



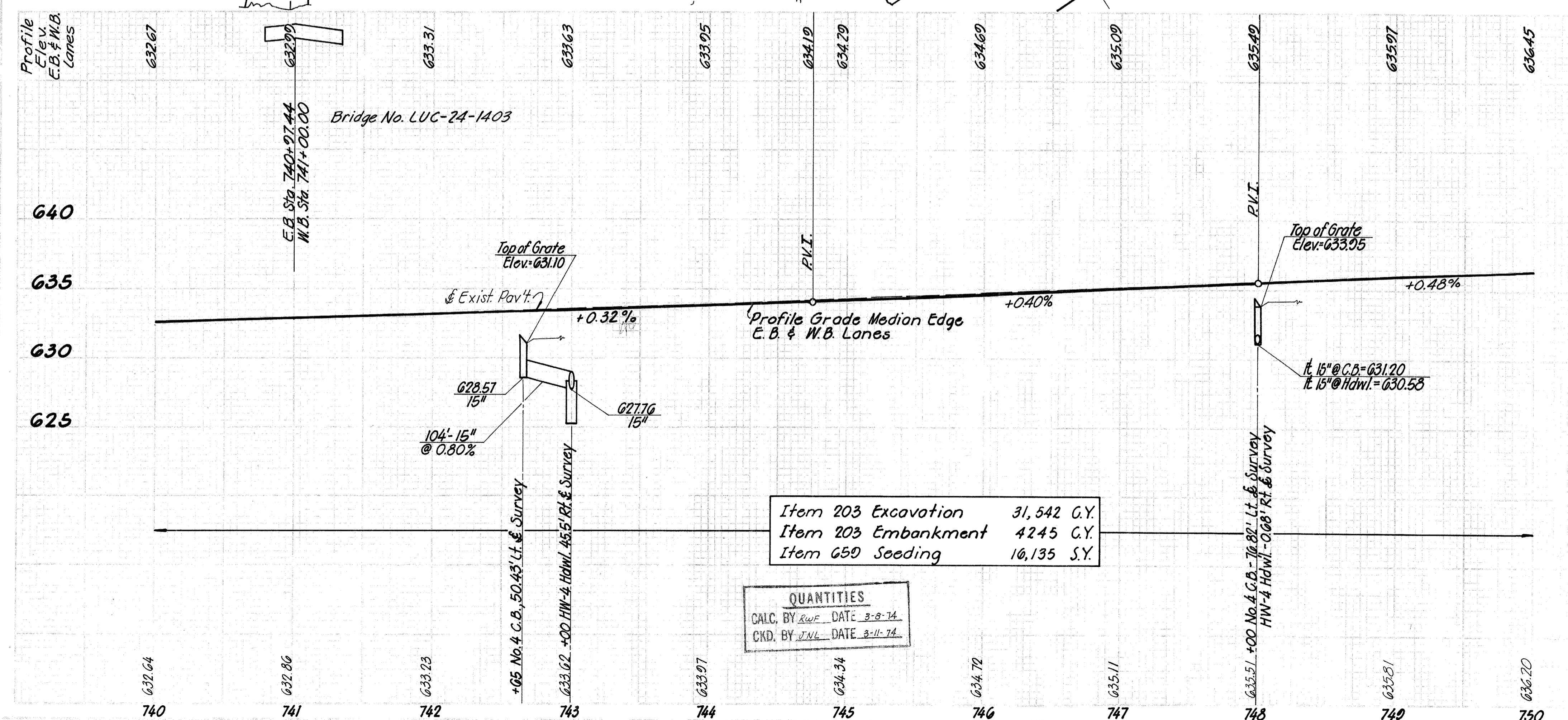
## D DRAINAGE



Sta. 730 + 00 to Sta. 740 + 00



QUANTITIES



# PROPOSED STRUCTURE

**TYPE:** Continuous steel (A588)  
plate girders with reinforced  
concrete deck and substructures.

PANS: 90'-3"; 112'-0" % brgs.

ROADWAY: 56'-0" f/f parapet

LOADING: HS 20-4

KEN: None  
EARING SURFACE: 2" Asphalt Concrete

APPROACH SI ABS: AS-1-

## PROAUAH SCADS: A SIGNMENT: Tropic

ENVIRONMENT: Tangent  
SUPERSTRUCTURE: None

**SUPERSTRUCTURE: None**

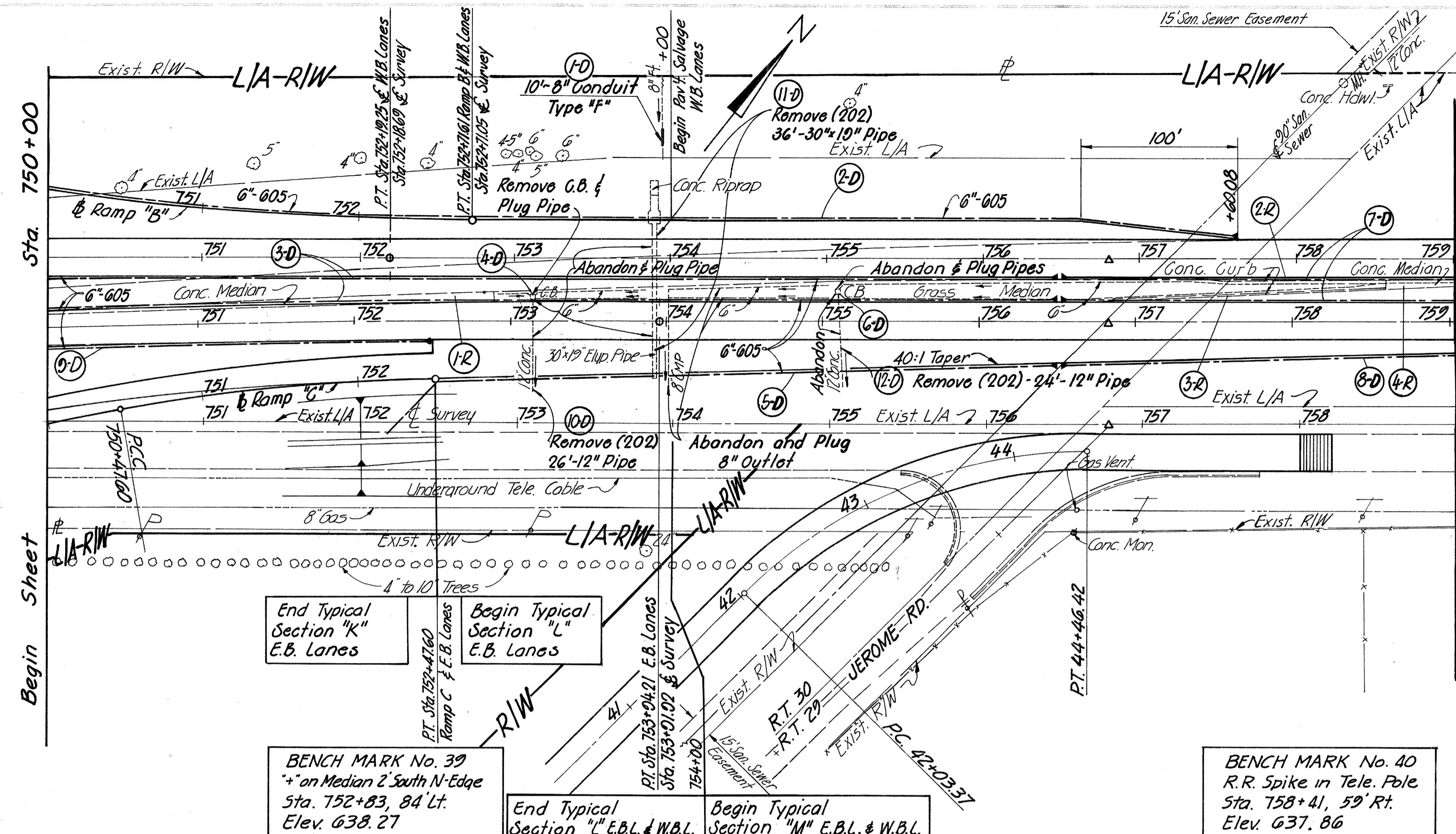
7/21/2016 10:51:00 AM - 7/21/2016 10:51:00 AM - 7/21/2016 10:51:00 AM -

7  
99

99

SEPT C. O. ORIGIN	STATE	PROVINCE
2	OHIO	

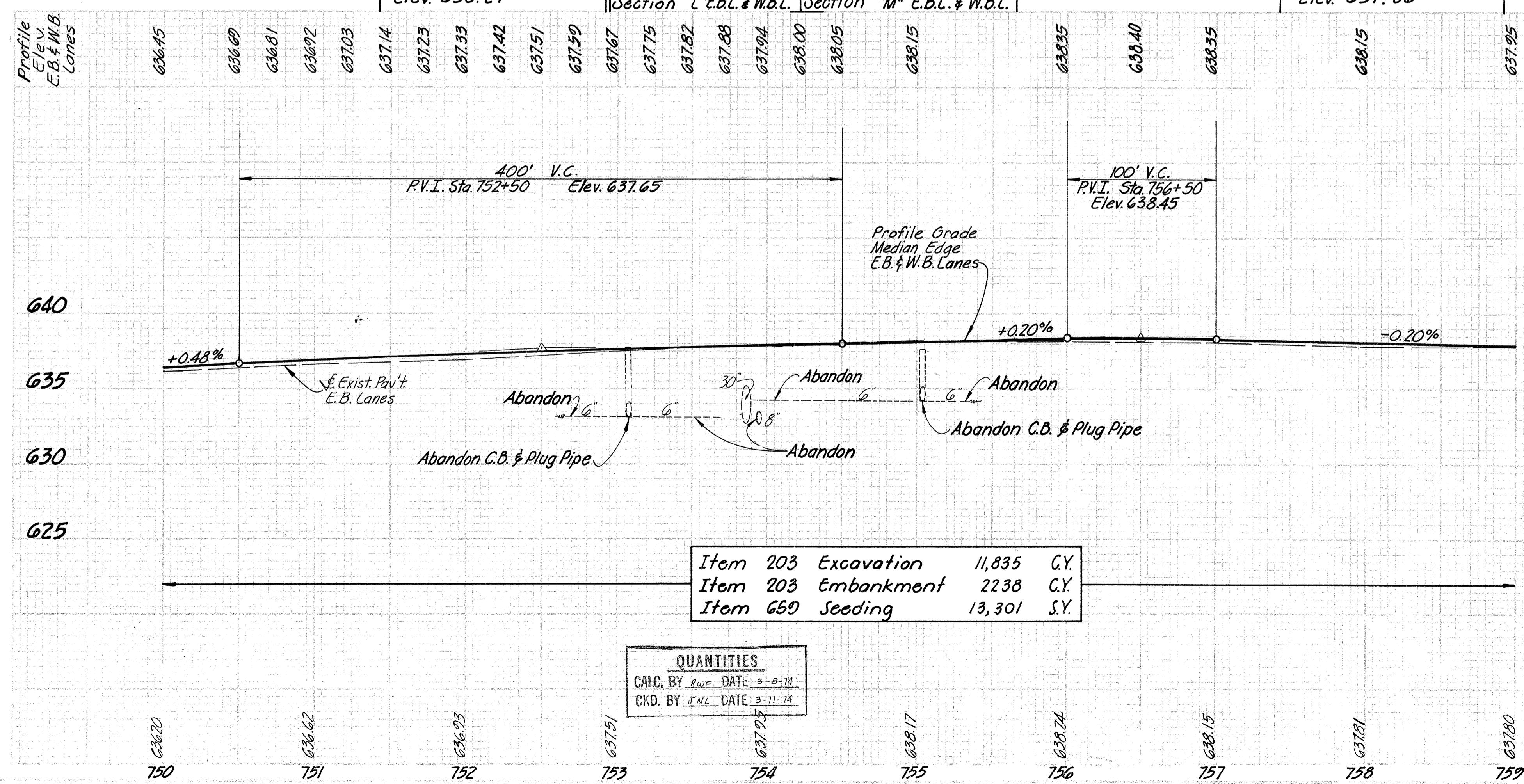
LUCAS COUNTY  
LUC-24-1241



## ⑥ Drainage

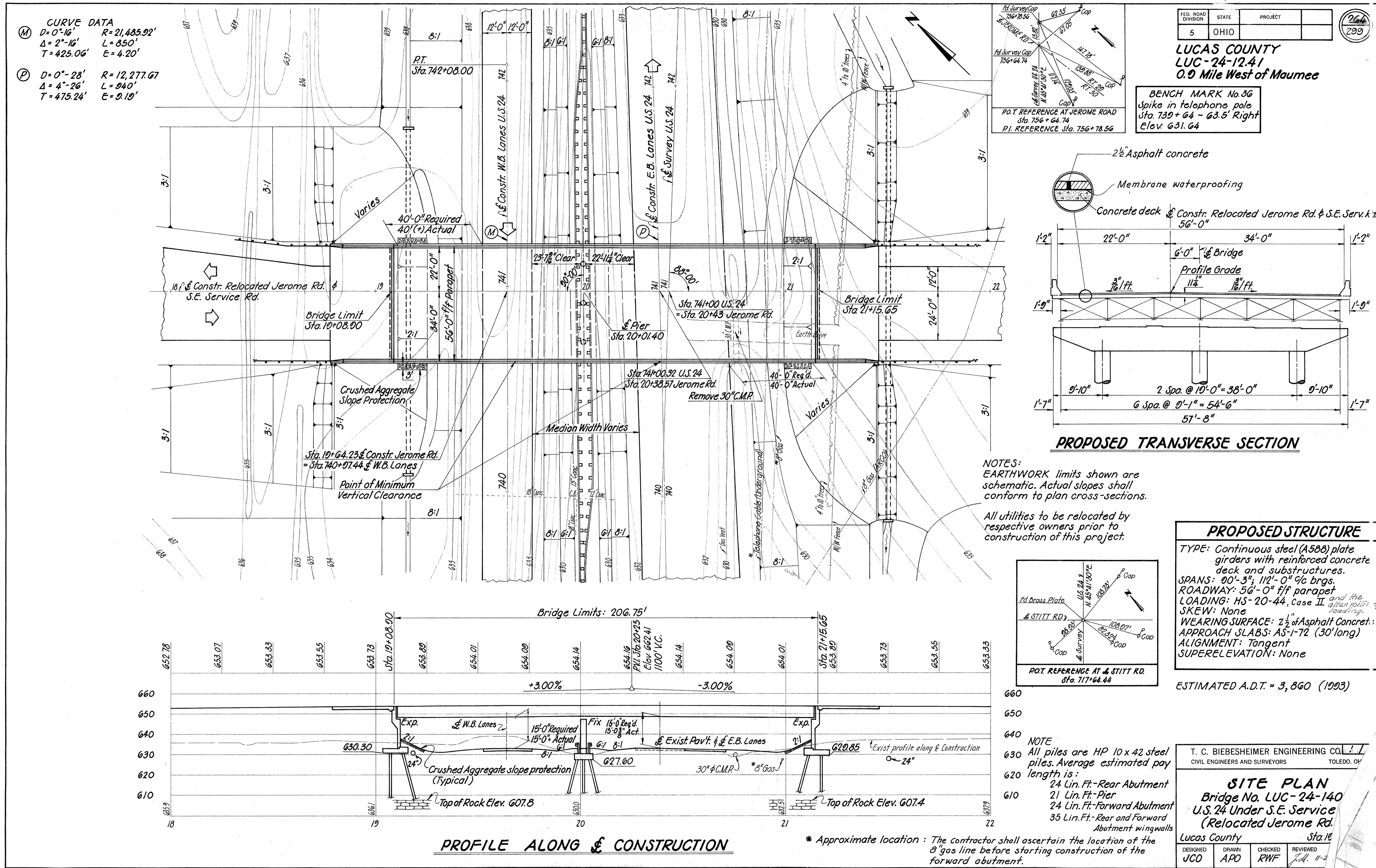
Reference No.	Station (& Survey)	Side	202				603						605		
			Catch Basin Abandoned	Catch basin Removed	Pipe Removed 15" and Under	Pipe Removed Over 15"	Conduit Type						6" Shallow Pipe Underdrain	6" Bends for Underdrains	6" Unclass. Pipe Underdrains
From	To or At		Each	Lin. Ft.	Lin.	Ft.							L.F.	Each	L.F.
1	753+93	L.t.											10		
2	750+00	751+60	L.t.												760
3	750+00	756+50	L.t.												1300
4	753+10	L.t.		1											
5	Ramp C, 752+15	756+50	L.t.										10	1	437
6	755+05	L.t.	1												
7	756+50	759+00	L.t.												500
8	756+50	759+00	L.t.												250.
9	750+00	752+48	L.t.												248
10		753+09.5	L.t.		26										
11		753+87.5	L.t.			36									
12		755+05	L.t.		24										
<b>TOTALS</b>			1	1	50	36							10	10	998 1 2497

QUANTITIES  
CALC. BY REW DATE 11-73  
CKD. BY WHJ DATE 2-74

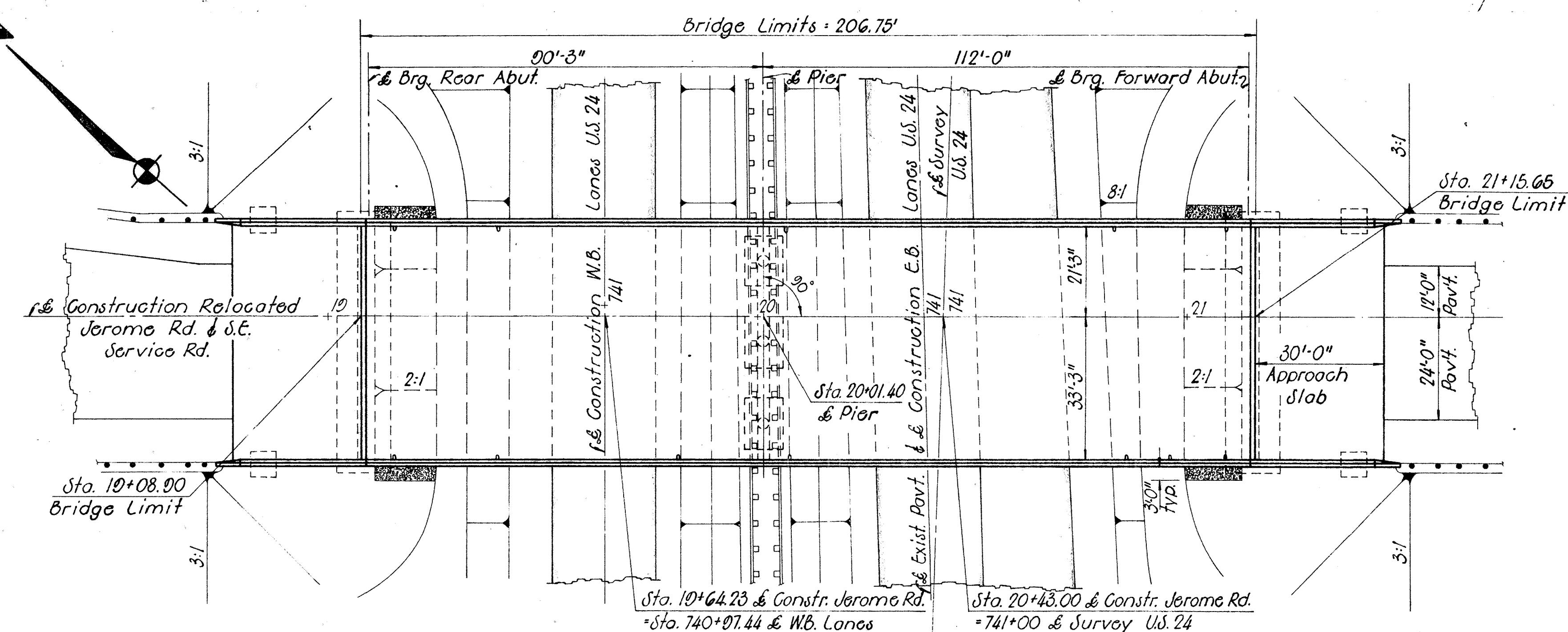


STA. 750+00 to STA. 759+00

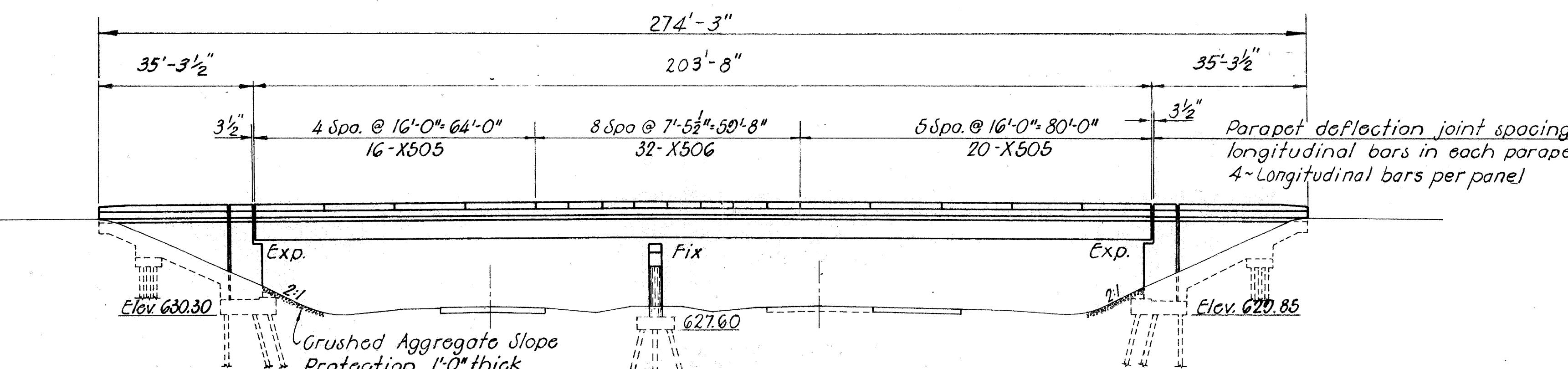




FED. ROAD DIVISION	STATE	PROJECT	
5	OHIO		

265  
299LUCAS COUNTY  
LUC-24-12.41

Comp by: RWF		ESTIMATED QUANTITIES		Chkd. by: J.C.O.			
Date: Jan 1974				Date: Sept. 74			
ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIER	SUPERST.	GENERAL
404	88	Cu.Yd.	Asphalt Concrete, AC - 20				88
503	403	Cu.Yd.	Unclassified Excavation	362	41		
505	Lump	Lump	Test Pile				
507	3340	Lin.Ft.	Steel Piles, HP 10x 42	2630	710		
509	190.815	Ibs.	Reinforcing Steel	64,473	16,897	109,445	
511	170	Cu.Yd.	Class "C" Concrete, Abutment Footings	170			
511	36	Cu.Yd.	Class "C" Concrete, Pier Footings	36			
511	386	Cu.Yd.	Class "C" Concrete, Superstructure (See proposal note)				386
511	312	Cu.Yd.	Class "C" Concrete, Abutments above Footings	312			
511	40	Cu.Yd.	Class "C" Concrete, Pier above Footings	40			
512	78	Lin.Ft.	Premolded Sealing Strip	78			
513	373,535	Ibs.	Structural Steel (A-588)				373,535
513	15,487	Ibs.	Structural Steel (A-36)				15,487
516	238	Sq.Ft.	Preformed expansion joint filler, 1" thick	238			
518	12	Each	Scuppers including supports	12			
518	189	Cu.Yd.	Porous Backfill	189			
518	93	Lin.Ft.	6" perforated helical corrugated metal pipe	93			
518	40	Lin.Ft.	6" non-perforated helical G.M.P. including specials	40			
518	72	Lin.Ft.	8" perforated helical G.M.P. including specials	72			
518	414	Lin.Ft.	Subdrainage for wearing course as per plan	414			
601	200	Sq.Yd.	Crushed Aggregate Slope Protection				200
808	386	Units	Chemical admixture for concrete, Type A,B, or C				386
Special	1252	Sq.Yd.	Membrane waterproofing, (see proposal note)				1252
Special	3153	Sq.Ft.	Protection of concrete surfaces	1994	1159		

T. C. BIEBESHEIMER ENGINEERING CO. 2 / 10  
CIVIL ENGINEERS AND SURVEYORS TOLEDO, OHIOGENERAL PLAN & ELEVATION  
and ESTIMATED QUANTITIES  
Bridge No. LUC-24-1403  
Relocated Jerome Rd. & S.E. Service Rd. over U.S. 24  
Lucas County Sta. 19+08.90

DESIGNED BY: J.C.O. TRACED BY: R.V.N. CHECKED BY: G.R.F. REVIEWED BY: J.M. DATE: 11-22-74 REVISED

63013

FED. ROAD DIVISION	STATE	PROJECT	
5	OHIO		

266  
299

LUCAS COUNTY  
LUC-24-12.41

## GENERAL NOTES

### STANDARD DRAWINGS

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS AS-1-72 SHEETS 1&2 DATED 6-30-72. BR-1-67 SHEET 1 REVISED 10-15-71. SD-1-69 SHEETS 1, 2 & 3 DATED 6-12-69. AND RB-1-55 DATED 2-2-59. APPROPRIATE DIMENSIONS OF BR-1-67 SHALL BE INCREASED 2-1/2 INCHES TO ACCOUNT FOR THE ASPHALT WEARING SURFACE

### SUPPLEMENTAL CONSTRUCTION SPECIFICATIONS

REFERENCE SHALL BE MADE TO SUPPLEMENTAL SPECIFICATIONS NO. 808 DATED 1-1-71 AND NO. 836 DATED 3-12-75

### DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS. 1973. INCLUDING THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

### DESIGN DATA

DESIGN LOADING HS 20-44 CASE II and the alternate military loading.

CONCRETE CLASS C UNIT STRESS 1200 P.S.I. FOR SUPERSTRUCTURE  
UNIT STRESS 1333 P.S.I. FOR SUBSTRUCTURE

STRUCTURAL STEEL ASTM A588 GRADE A - UNIT STRESS 27,000 P.S.I.  
ASTM A36 - UNIT STRESS 20,000 P.S.I.

REINFORCING STEEL ASTM A615, A616 OR A617 - UNIT STRESS 20,000 P.S.I.  
SPIRAL REINFORCEMENT MAY BE PLAIN BARS ASTM A82, OR A615.

STRUCTURAL STEEL ALL STRUCTURAL STEEL EXCEPT STEEL USED IN END DAM\*. BEARING UNITS AND HIGH STRENGTH BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A588 GRADE A, 1" DIA. HIGH STRENGTH BOLTS SHALL MEET THE REQUIREMENTS OF ASTM A325, TYPE 3, AND SHALL HAVE THE SAME ATMOSPHERIC CORROSION RESISTANCE AS ASTM A588 GRADE A STEEL.

STEEL USED IN FABRICATION OF END DAM\* AND BEARING UNITS SHALL MEET THE REQUIREMENTS OF ASTM A36 AND SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 711.02. THE COST OF GALVANIZING ASTM A36 STEEL SHALL BE INCLUDED IN PRICE BID FOR ITEM 513. STRUCTURAL STEEL. DAMAGED AREAS OF GALVANIZED SURFACES SHALL BE PAINTED WITH ZINC-RICH PAINT. THE STEEL IS TO BE USED IN THE EXPOSED, UNPAINTED CONDITION AND CARE SHALL BE TAKEN TO AVOID UNSIGHTLY GOUGES, SCRATCHES OR DENTS. THE BEARING UNITS SHALL BE A36 GALVANIZED STEEL IN LIEU OF BEING A588 STEEL EXCEPT FOR THE SOLE PLATES WHICH MUST BE A588 STEEL.

\* GUSSET PLATES SHALL BE FABRICATED FROM A588 STEEL.

### FOUNDATIONS

THE PILES SHALL BE DRIVEN TO REFUSAL OR 20 BLOWS PER INCH FOR THE LAST FEW INCHES OF PENETRATION. THE DESIGN LOAD IS 40 TONS PER PILE.

### EMBANKMENT CONSTRUCTION

BEFORE ANY PORTIONS OF THE ABUTMENT ARE CONSTRUCTED, THE APPROACH EMBANKMENT SHALL BE CONSTRUCTED TO THE LEVEL OF THE ABUTMENT FOOTING AND ON A 1.3:1 SLOPE FROM THE HEEL OF THE ABUTMENT FOOTING TO THE SUBGRADE FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENT.

BEFORE THE BACKWALL IS CONSTRUCTED, THE EMBANKMENT SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE WITH A 1:1 SLOPE FROM THE BRIDGE SEAT TO THE SUBGRADE, FOR A MINIMUM DISTANCE OF 200 FEET BACK OF THE ABUTMENT.

Modify Std. Dwg. AS-1-75 as follows:  
A. Change clearance for top reinforcing steel to 3" from 2".  
B. Pavement Jacking Holes shall not be provided.

### PROTECTION OF CONCRETE SURFACES

ALL SURFACES OF THE PIERS ABOVE GROUND LINE AND VISIBLE SURFACES OF THE ABUTMENTS WHICH WILL BE EXPOSED TO RUST-LADEN WATER FROM CORROSION RESISTANT STEEL DURING INITIAL WEATHERING SHALL RECEIVE A CLEAR VINYL RESIN COATING TO PROTECT AGAINST ABSORPTIVE STAINING. THE COATING SHALL BE APPLIED AFTER THE CONCRETE HAS RECEIVED A FINAL SURFACE FINISH INCLUDING ANY GROUT CLEANING OR RUBBING AND BEFORE THE ERECTION OF THE STRUCTURAL STEEL.

WATERPROOF MEMBRANE CURING COMPOUND AND CONCRETE CURING AND PROTECTIVE MEMBRANE, SUPPLEMENTAL SPECIFICATION 836, SHALL NOT BE USED ON THE SURFACES COATED WITH CLEAR PROTECTIVE COATING. SUCH SURFACES SHALL BE WATER CURED OR, AT THE CONTRACTOR'S OPTION, TWO FULL COATS OF CLEAR PROTECTIVE COATING, EACH APPROXIMATELY 1-1/3 MILS DRY FILM THICKNESS, MAY BE APPLIED TO ACT AS A COMBINATION CURING COMPOUND AND ANTI-STAINING AGENT.

THE AGENT SHALL BE APPLIED BY BRUSH OR ROLLER, OR BY SPRAYING, SO THAT THE SURFACE OF THE CONCRETE IS COMPLETELY AND UNIFORMLY COATED AT THE RATE OF ONE GALLON PER 200 SQUARE FEET. THIS RATE OF APPLICATION WILL PROVIDE A DRY FILM THICKNESS OF 1-1/3 MILS. IF RUNNING OR SAGGING OCCURS, THE MATERIAL SHALL BE APPLIED IN TWO OR MORE COATS OF APPROXIMATELY EQUAL THICKNESS, NOT LESS THAN 10 MINUTES SHALL ELAPSE BETWEEN APPLICATIONS. WHEN APPLIED BY SPRAYING, THE COATING MATERIAL MAY BE THINNED WITH NOT MORE THAN 10 PERCENT TOLUENE.

THE COMPOSITION OF THE CLEAR PROTECTIVE COATING SHALL BE AS FOLLOWS:

	PERCENT BY WEIGHT
VINYL RESIN**	25.0 MIN.
METHYL ETHYL KETONE SOLVENT	37.0 MIN.
TOLUENE SOLVENT	37.0 MIN.

\*\* THE RESIN SHALL BE A VINYL CHLORIDE-ACETATE COPOLYMER CONTAINING 86 PERCENT VINYL CHLORIDE AND 14 PERCENT VINYL ACETATE. THE VISCOSITY OF A 22 PERCENT BY WEIGHT SOLUTION OF RESIN IN A SOLVENT, CONSISTING OF EQUAL PARTS OF METHYL ISOBUTYL KETONE AND TOLUENE, SHALL BE 250/500 CENTIPOISES AT 77°F. THE RESIN SHALL BE UNION CARBIDE'S VYHH GRADE, OR APPROVED EQUAL.

COATING PROPERTIES:	WEIGHT PER GALLON AT 77°F, LB.	7.6 MIN.
	CONSISTENCY, VISCOSITY AT 77°F, KU	60-70
	COLOR	CLEAR AND COLORLESS
	DYING TIME, HR.	1/2 MAX.

THE COST OF THIS APPLICATION SHALL BE IN THE UNIT PRICE BID FOR ITEM SPECIAL, SQ. FT., PROTECTION OF CONCRETE SURFACES.

IN LIEU OF VINYL PROTECTIVE COATING CANYON TONE CLEAR CAN BE USED TO PROTECT CONCRETE SURFACES. SPECIFICATIONS FOR CANYON TONE CLEAR ARE AS FOLLOWS:

ALL CONCRETE SURFACES TO BE PROTECTED SHALL BE TREATED WITH TWO APPLICATIONS OF CANYON TONE CLEAR, A PURE HYDROPHOBIC RESIN BLEND IN SOLVENT SOLUTION THAT PRODUCES NO DARKENING OR COLOR CHANGE. APPLICATION SHALL BE IN ACCORDANCE WITH PRINTED INSTRUCTIONS OF UNITED COATINGS, 1130 E. SPRAGUE SPOKANE, WASHINGTON.

### SPECIFICATIONS

STEEL FOR PIER BEARINGS shall be A588. In lieu of A588, all plates except the sole plate may be A36 galvanized. If A36 steel is used the pins may be steel meeting CMS 711.04 and galvanized.

The pin shoulders may be fabricated from plate and welded to the pin with a flush ground single bevel partial penetration groove weld all around, effective throat 1/2".

Total weight of bearing including sheet lead and anchor bolts = 540 lbs. each.

### UTILITY LINES

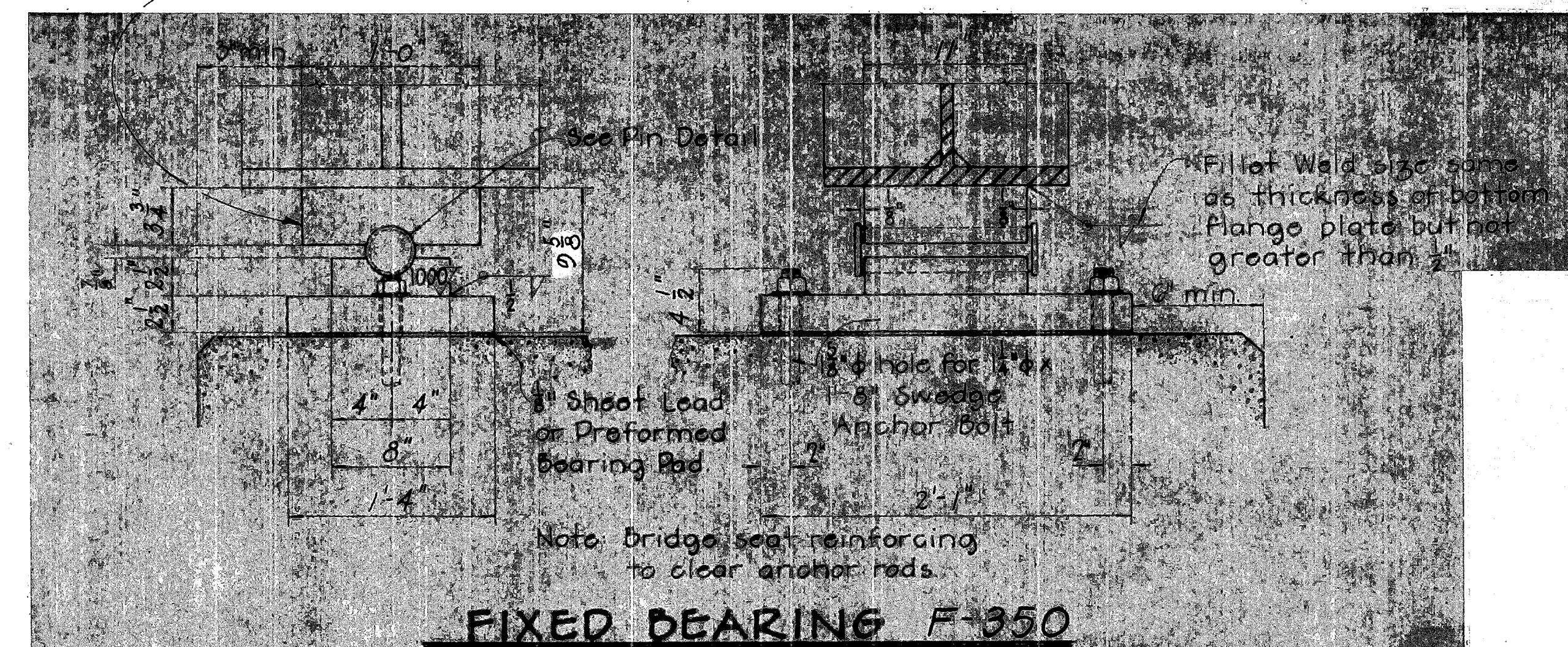
ALL EXPENSE IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

NOTE: THE 8" GAS LINE LOCATION NEAR THE FORWARD ABUTMENT IS APPROXIMATE. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION OF THE 8" GAS LINE BEFORE STARTING CONSTRUCTION OF THE FORWARD ABUTMENT.

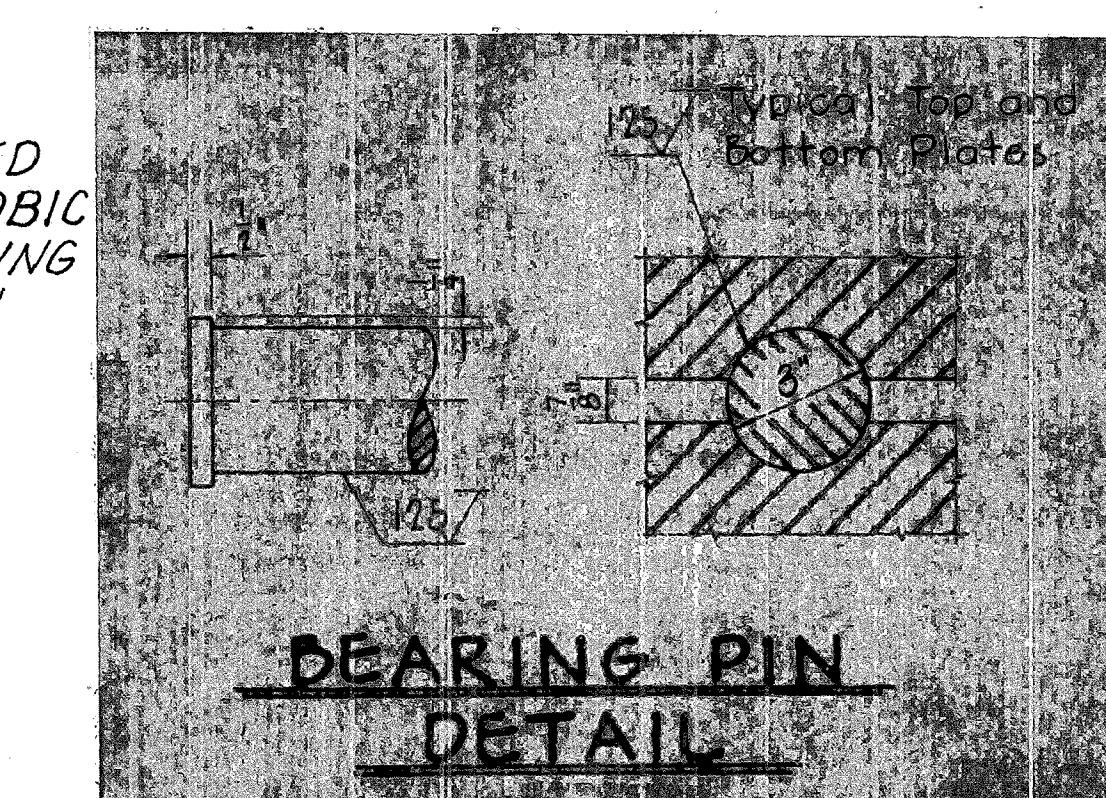
### MAINTENANCE OF TRAFFIC

TWO TRAFFIC LANES WITH A MINIMUM HORIZONTAL WIDTH OF 24'-0" AND A MINIMUM VERTICAL CLEARANCE OF 14'-0" SHALL BE MAINTAINED ON U. S. 24 AT ALL TIMES.

Upper bearing plate shall be fabricated from A588 steel.



**FIXED BEARING F-350**



Note: See Std. Dwg. RB-1-55 for R-150 Abutment bearing details.

T. C. BIEBESHEIMER ENGINEERING CO. 3/10  
CIVIL ENGINEERS AND SURVEYORS TOLEDO, OHIO

GENERAL NOTES and BEARING DETAILS  
Bridge No. LUC-24-1403  
Relocated Jerome Rd. & S.E. Service Rd. over U.S. 24

DESIGNED J.C.O.	TRACED RWF	CHECKED RWF	REVIEWED J.D.H.	DATE 11-22-74	REVISED
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O. ROAD VISION	STATE	PROJECT	
	OHIO		

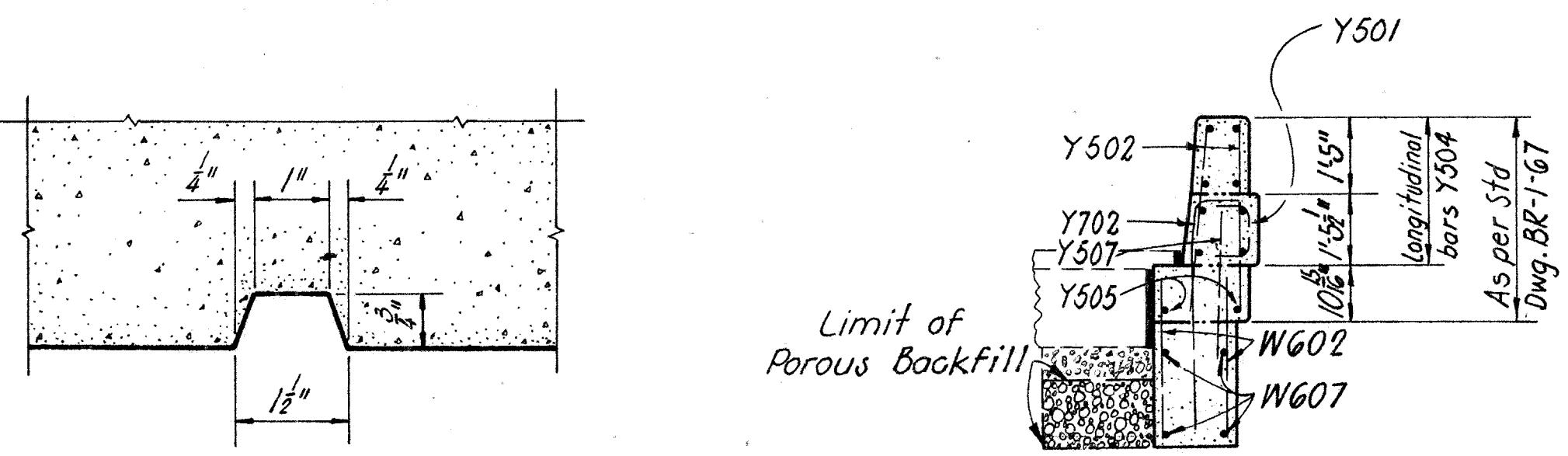
268  
299

UCAS COUNTY  
UC-24-12.41

-Premolded Sealing Strip in 13" x  $\frac{3}{4}$ " recess, extend from top of footing to bottom of approach slab.

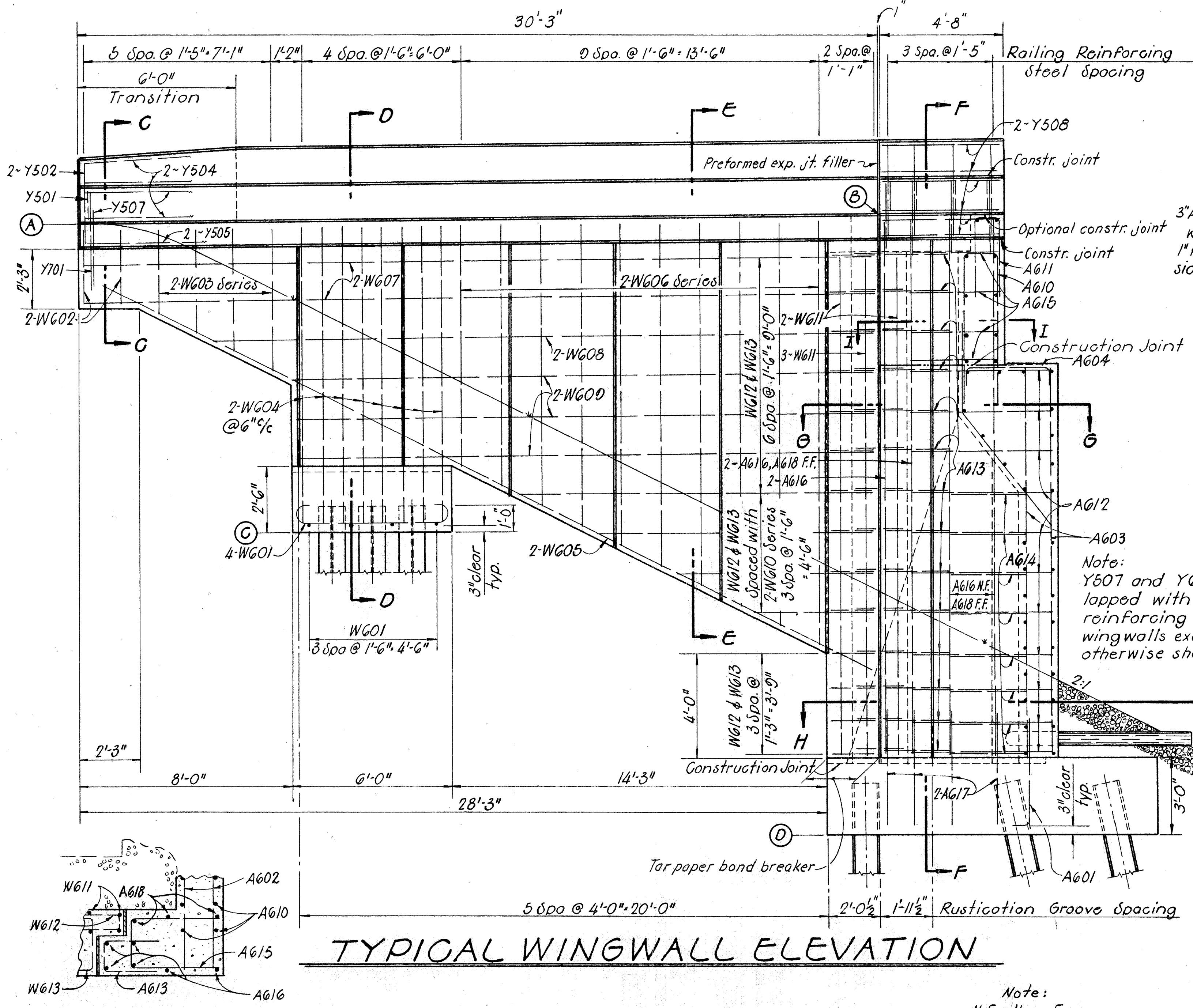
A diagram showing a cross-section of a concrete joint. A vertical strip of material, labeled "1" Preformed Expansion Joint Filler", is shown being inserted into a gap between two concrete blocks. The filler has a ribbed or textured surface.

TABLE OF ELEVATIONS				
LOCATION	ELEVATIONS			
	(A)	(B)	(C)	(D)
R.A. Lt. Wingwall	653.01	653.23	641.68	630.30
R.A. Rt. Wingwall	652.82	653.04	641.57	630.30
F.A. Lt. Wingwall	653.20	653.38	641.58	629.85
F.A. Rt. Wingwall	653.01	653.10	641.48	629.85



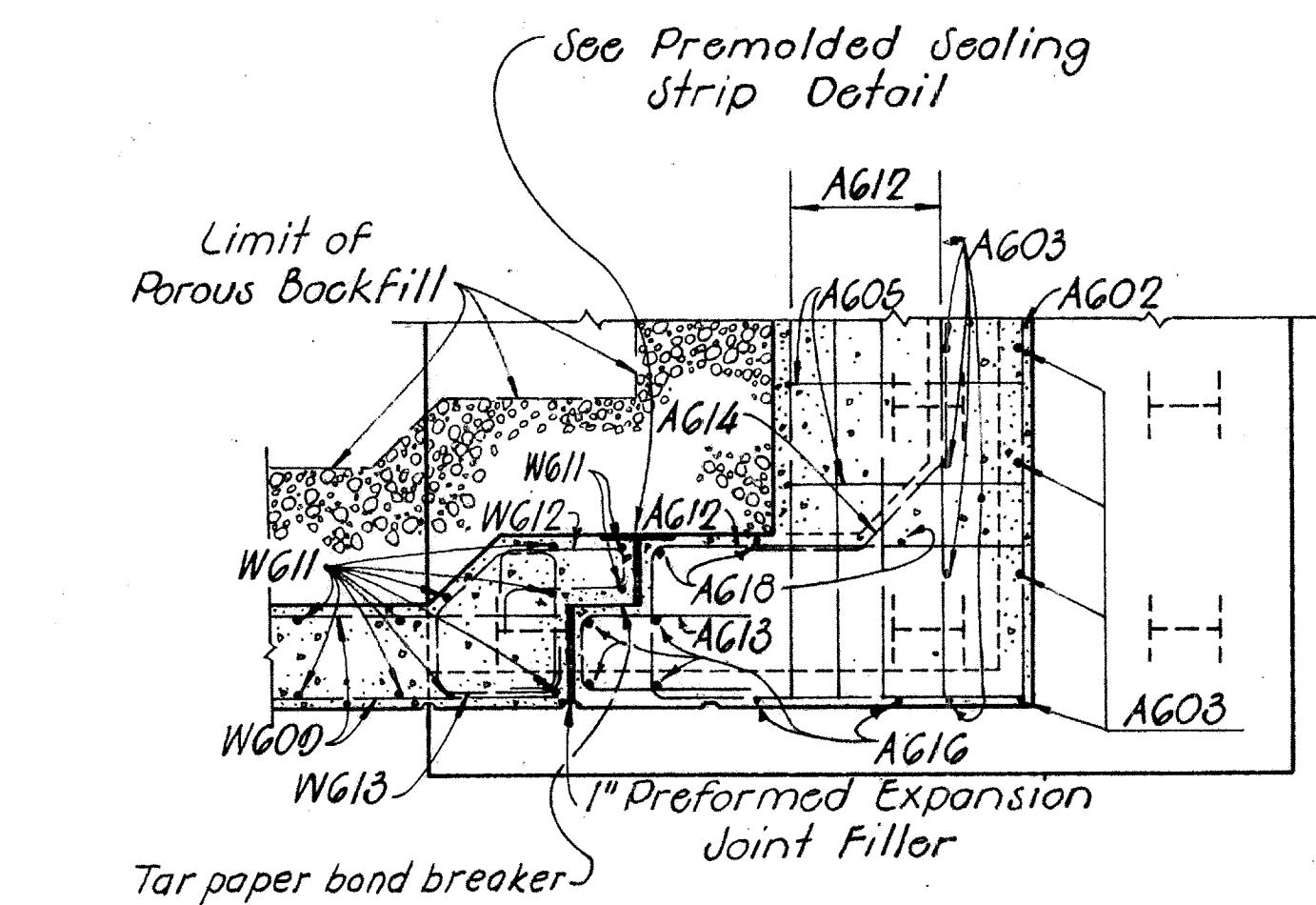
# RUSTICATION GROOVE DETAIL

## SECTION C-C



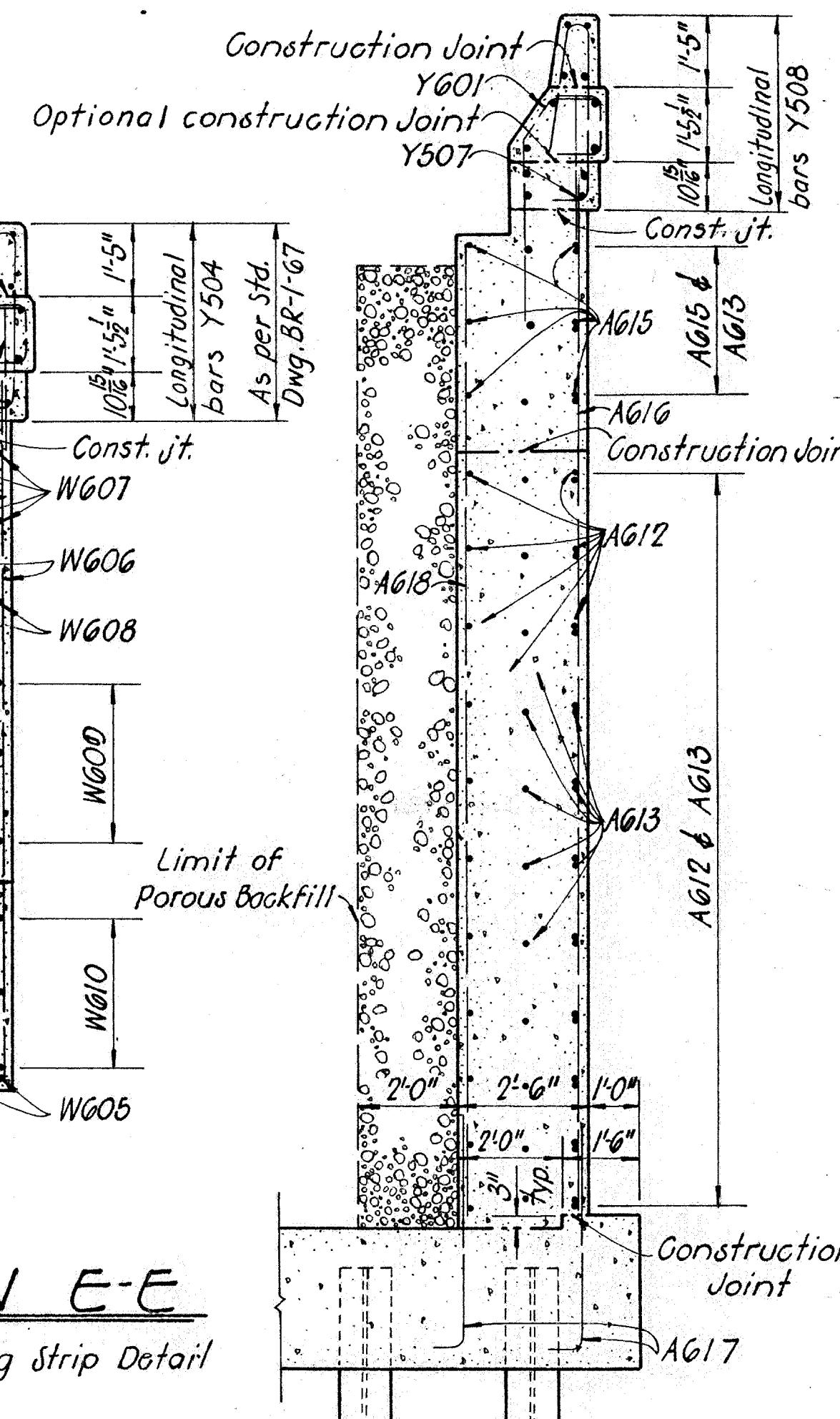
# TYPICAL WINGWALL ELEVATION

Note:  
N.F. = Near Face  
F.F. = Far Face

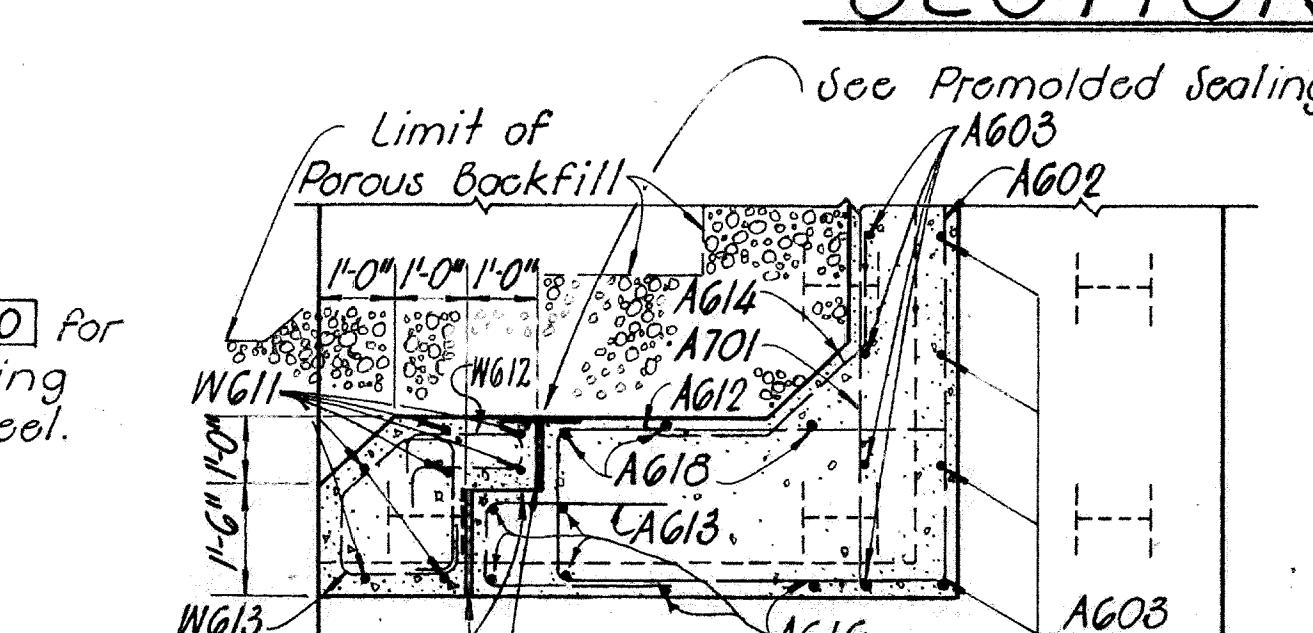


# PREMOLDED SEALING STRIP

## DETAIL



SECTION D-D



Tar paper bond breaker included with Item 511 class "C" concrete abutments for payment.

## SECTION H-H

J. C. BIEBESHEIMER ENGINEERING CO. 5 / 10  
CIVIL ENGINEERS AND SURVEYORS TOLEDO, OHIO

WINGWALL DETAILS

Bridge No. LUC-24-1403

Relocated Jerome Rd. & S.E.  
Service Rd. over U.S. 24

Lucas County Sta. 10+08.00

WINGWALL DETAILS  
Bridge No. LUC-24-1403  
Relocated Jerome Rd. & S.E.  
Service Rd. over U.S. 24  
Lucas County                   Sta. 10+08.00

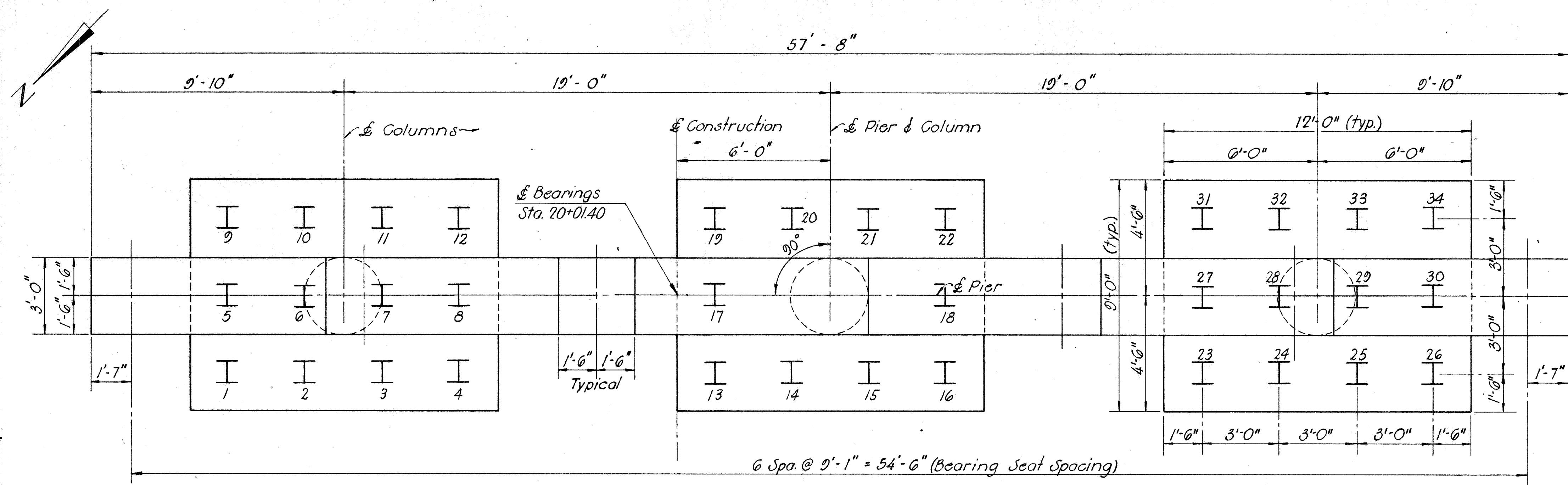
ROAD VISION	STATE	PROJECT	
	OHIO		

269  
299

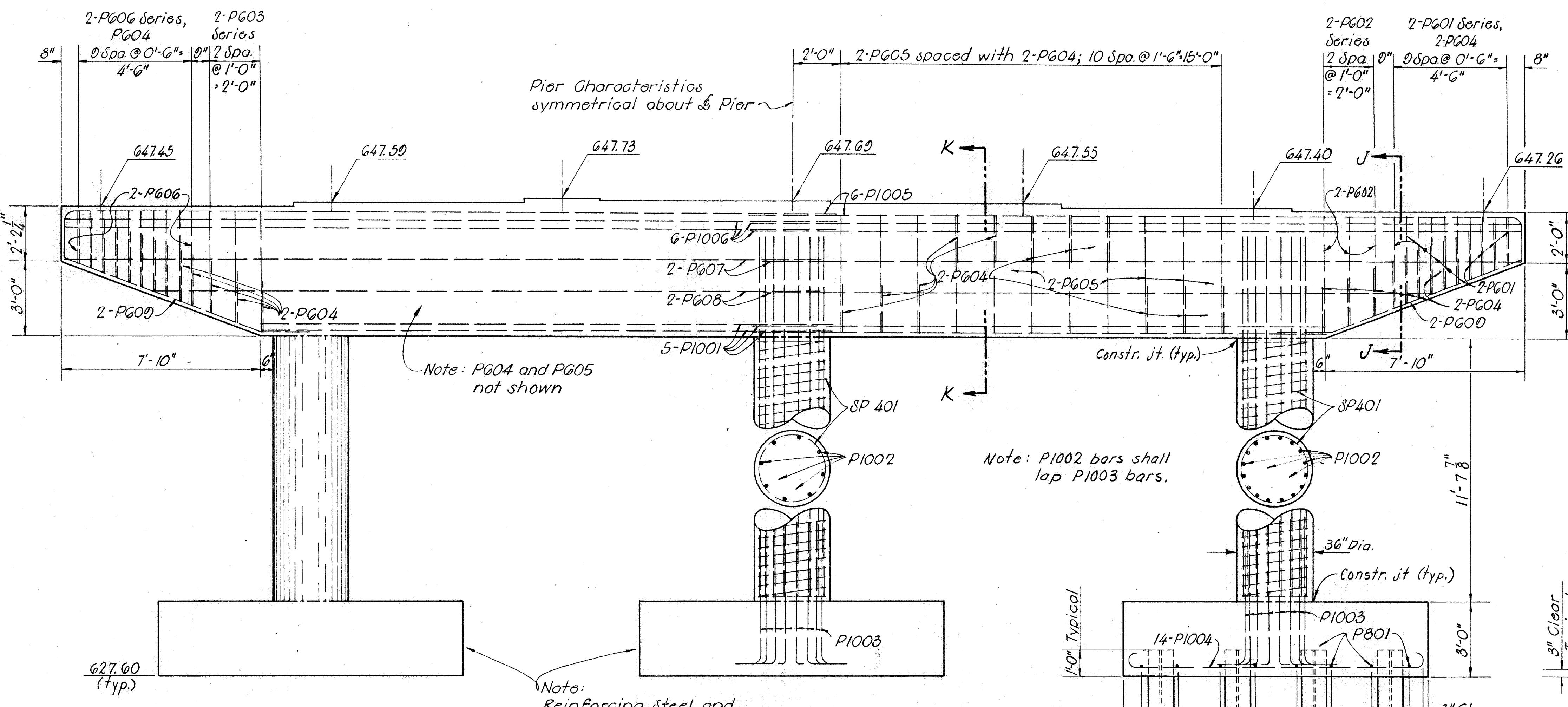
# LUCAS COUNTY

LUC-24-12.41

g the reinforcing steel  
so as to avoid interference  
S.



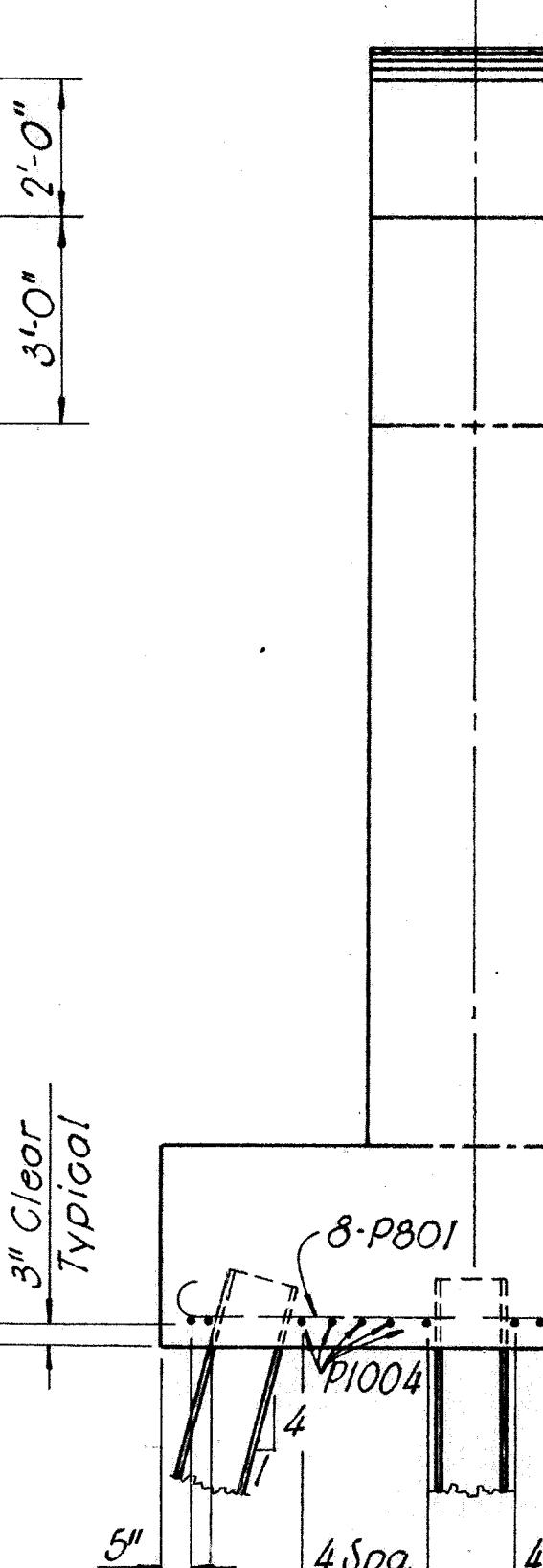
## PLAN



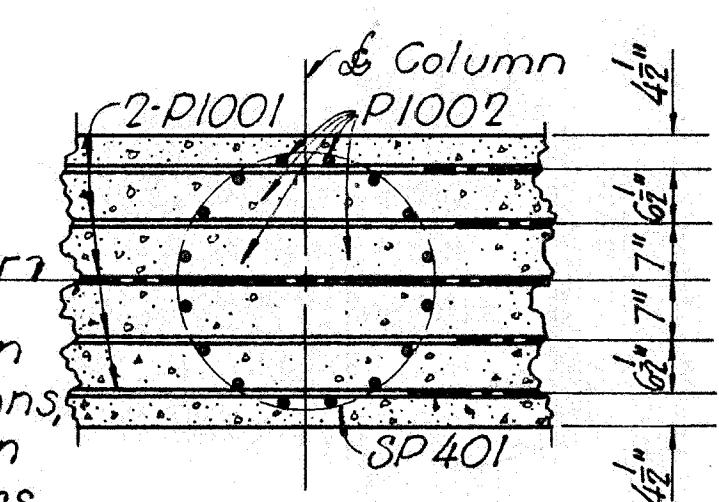
## ELEVATION

Note: All piles are HP 10x42

# END VIEW



## ANCHOR BOLT LAYOUT



DETAIL OF BOTTOM CAP  
REINFORCING STEEL &  
COLUMN REINFORCING STEE

T. C. BIEBESHEIMER ENGINEERING CO. 6 / 10  
CIVIL ENGINEERS AND SURVEYORS TOLEDO, OHIO

## PIER DETAILS

BRIDGE NO 1115-24-1403

Relocated Jerome Rd. & S.E.

Service Rd. over U.S. 24

*ucos County* Sta. 19+08.90

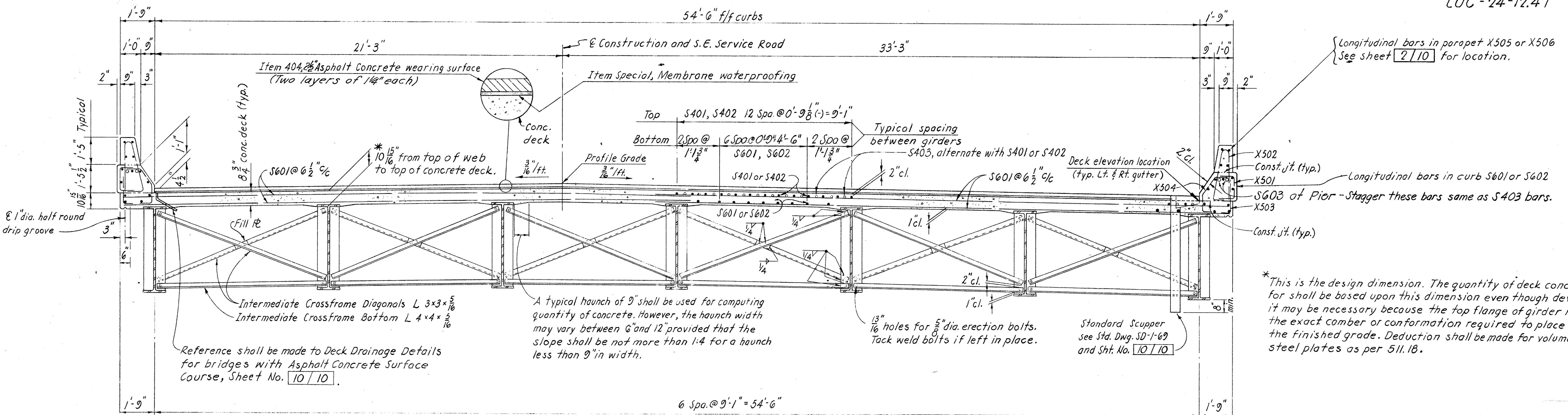
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE	REVISED
GRF	RVN	JCO	Zef.	11-22-14	

6901

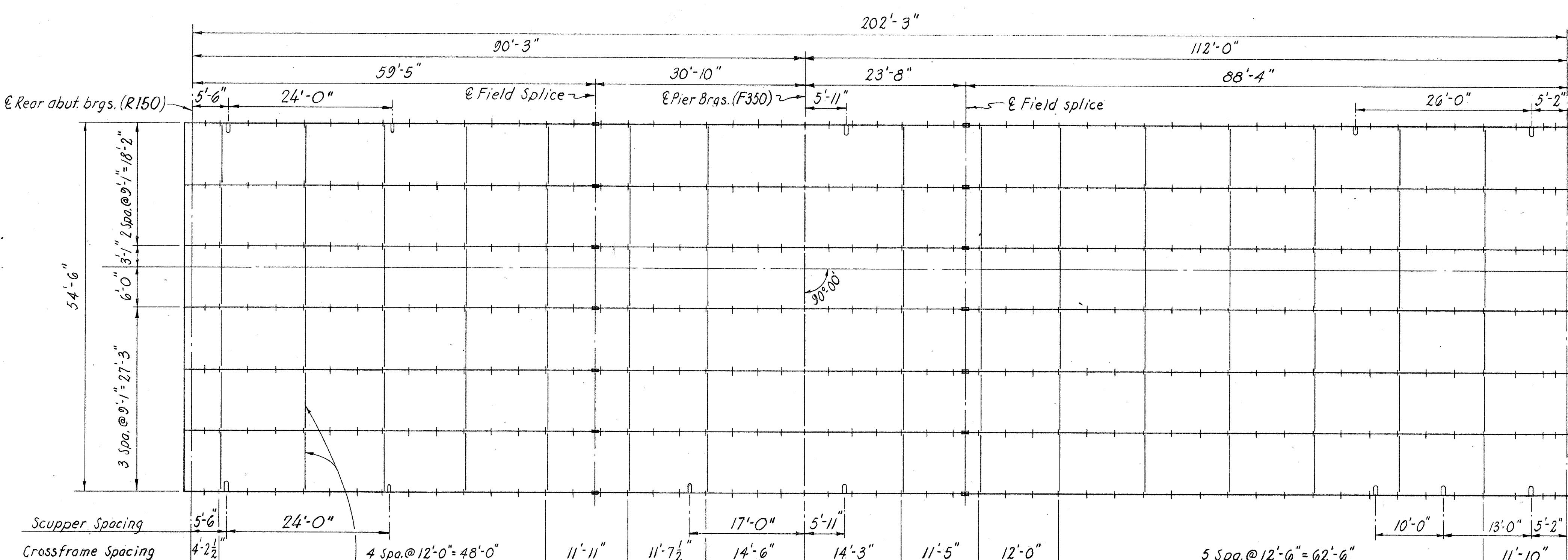
FED ROAD DIVISION	STATE	PROJECT	
OHIO			

270  
299

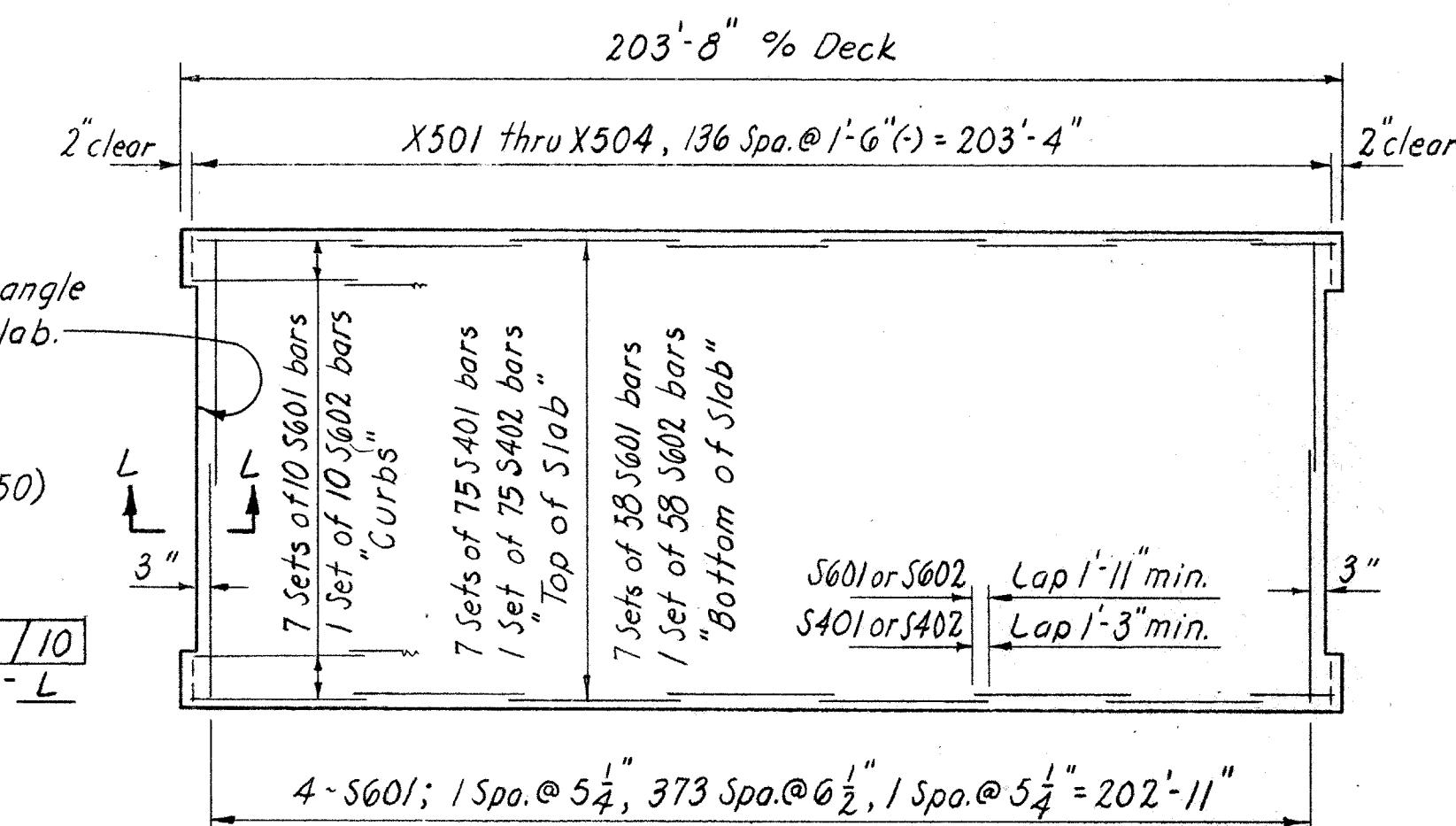
LUCAS COUNTY  
LUC-24-12.41



### TRANSVERSE SECTION



### PLAN OF STEEL FRAMING



### DECK SLAB REINFORCING STEEL LAYOUT

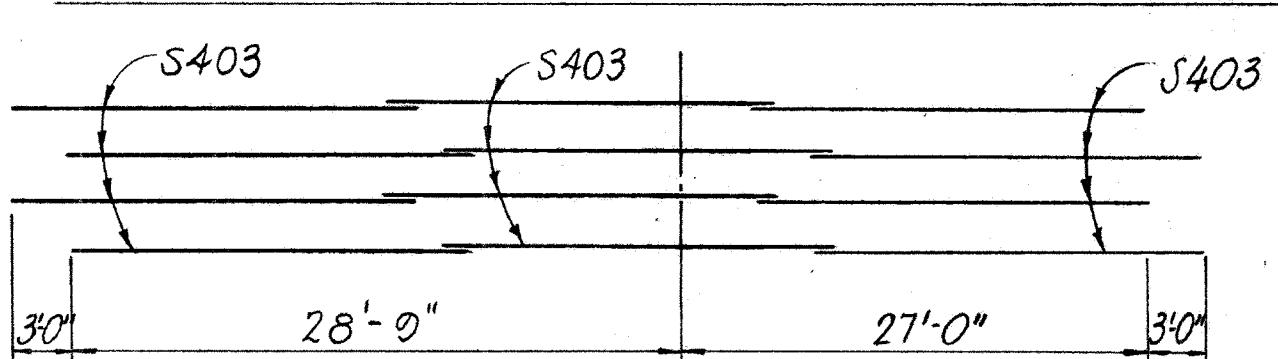


DIAGRAM SHOWING STAGGER OF S403 BARS

T. C. BIEBESHEIMER ENGINEERING CO. 7/10  
CIVIL ENGINEERS AND SURVEYORS  
TOLEDO, OHIO

**SUPERSTRUCTURE DETAILS**  
Bridge No. LUC-24-1403  
Relocated Jerome Rd. & S.E.  
Service Rd. over U.S. 24  
Lucas County Sta. 19+08.90

Abutment Bearings shall be in accordance with Std. Dwg. RB-155 dated 2-2-59 except that upper plate element shall be beveled to match roadway grade. Tabulated plate thickness "C" shall apply at centerline of plate.

For Pier Bearing Details, See Sht. No. [3/10].

DESIGNED	TRACED	CHECKED	REVIEWED
RWF	RWF	JGO	JGO

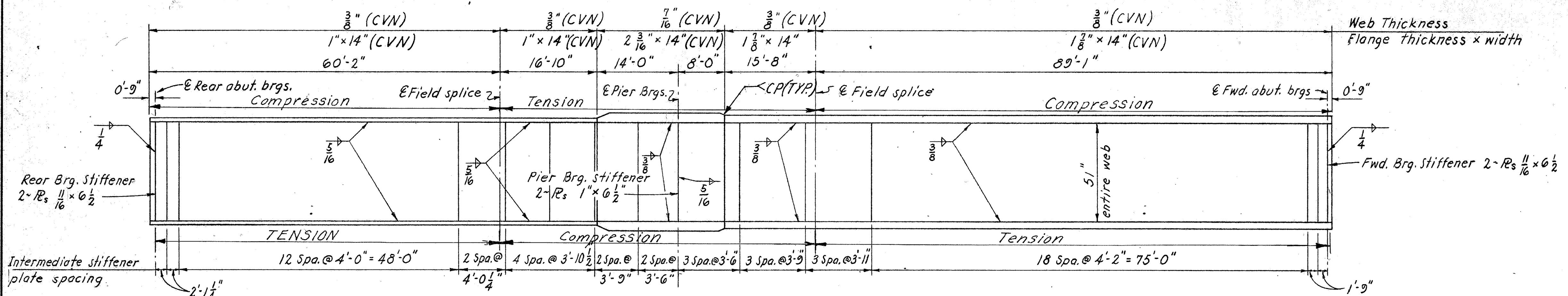
REVISED

Note: For Flanges (CVN) applies to tension plates only.

ROAD VISION	STATE	PROJECT	
	OHIO		

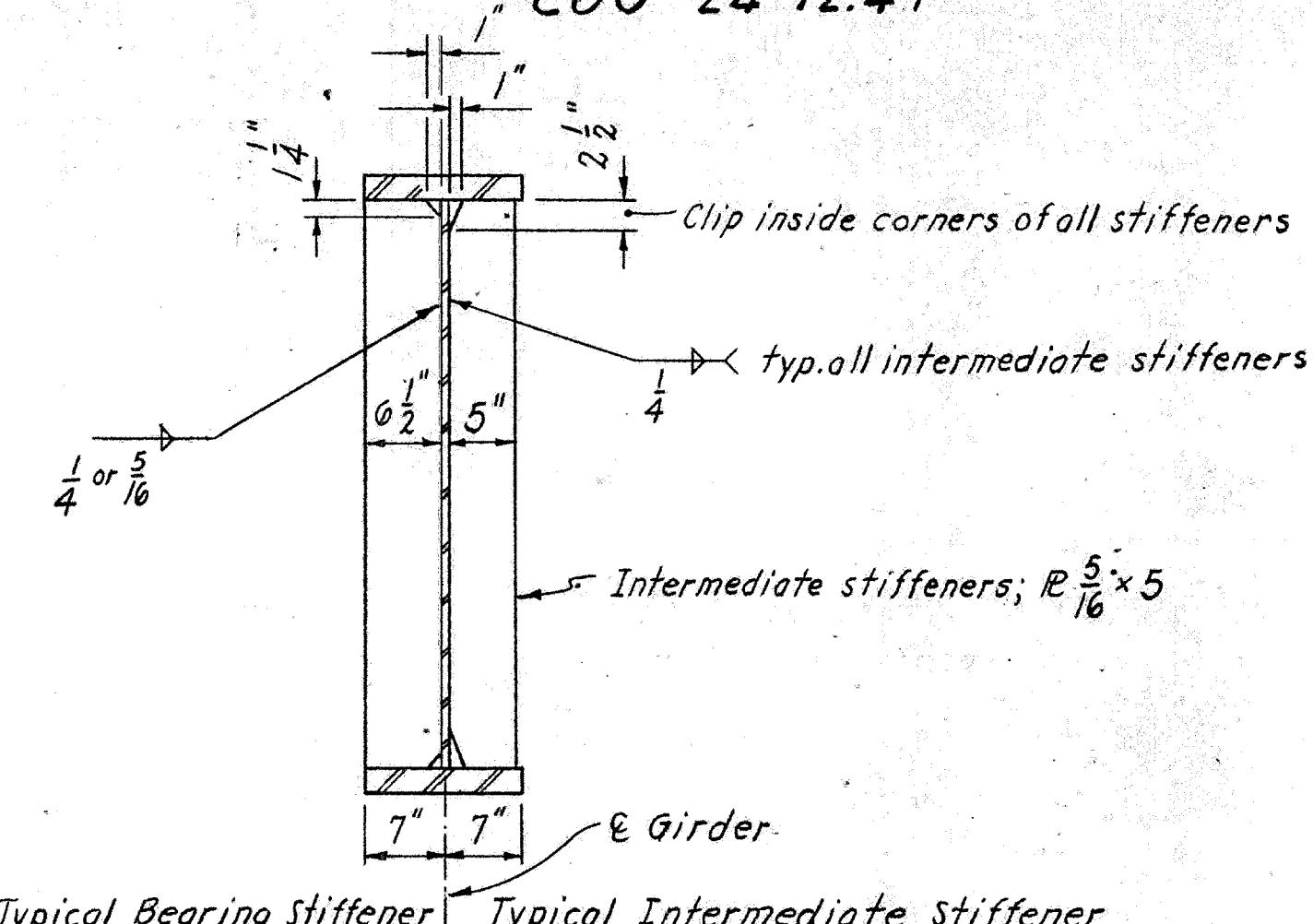
271  
299

UCAS COUNTY  
UG-24-12.41



## TYPICAL GIRDER ELEVATION

Where "(CVN)" follows a shape or plate size designation, the material shall meet specified minimum notch toughness requirements. The Fabricator shall submit to the Director a procedure designed for positive identification of material through all phases of fabrication. No material shall be fabricated until the Director has approved the procedure.

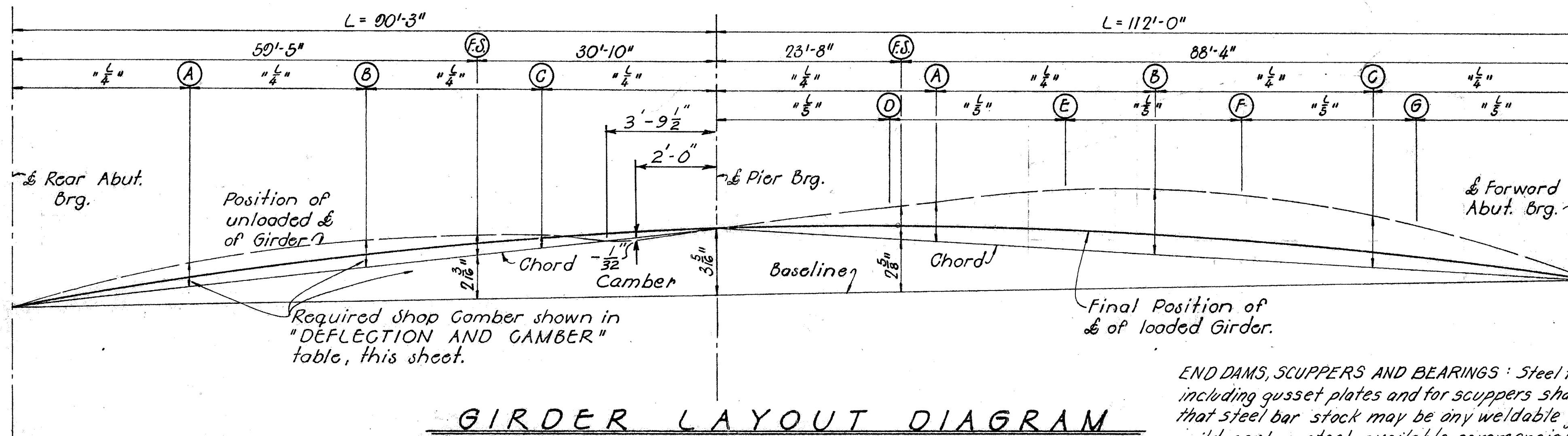


# TYPICAL GIRDER SECTION

*Intermediate stiffeners shall be placed in pairs and shall have a "tight fit" at both ends.*

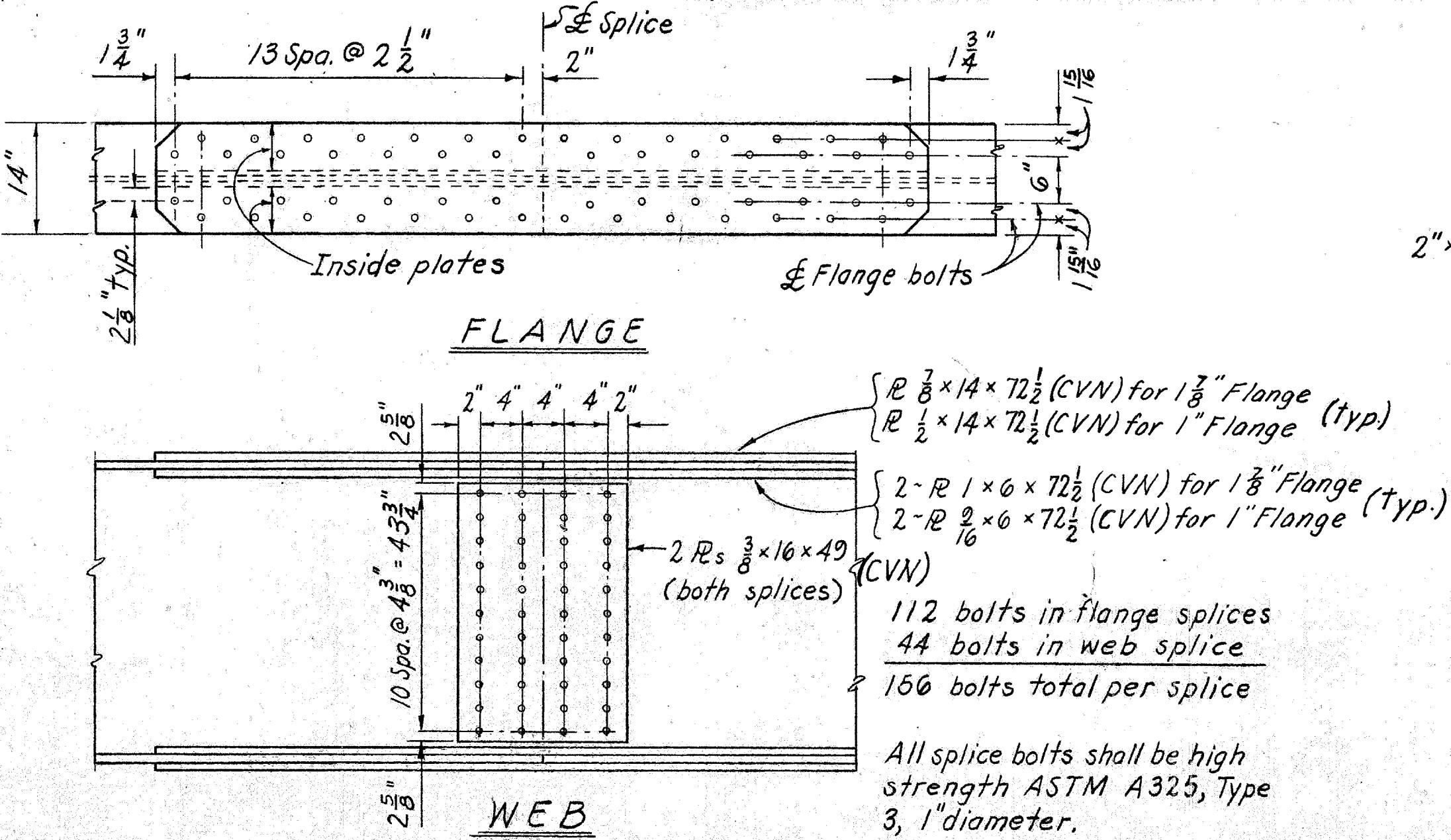
Bearing stiffeners shall be placed in pairs; one on each side of the web.

**GRINDING OF SHOP WELDS :** Flange butt welds shall be ground flush in tension areas only. Except for webs of fascia beams (girders), web welds shall be ground flush from the neutral axis of the web to the flange which is in tension. Webs of fascia beams (girders) shall be ground flush for their full depth. Grinding shall be done in the direction of stress.



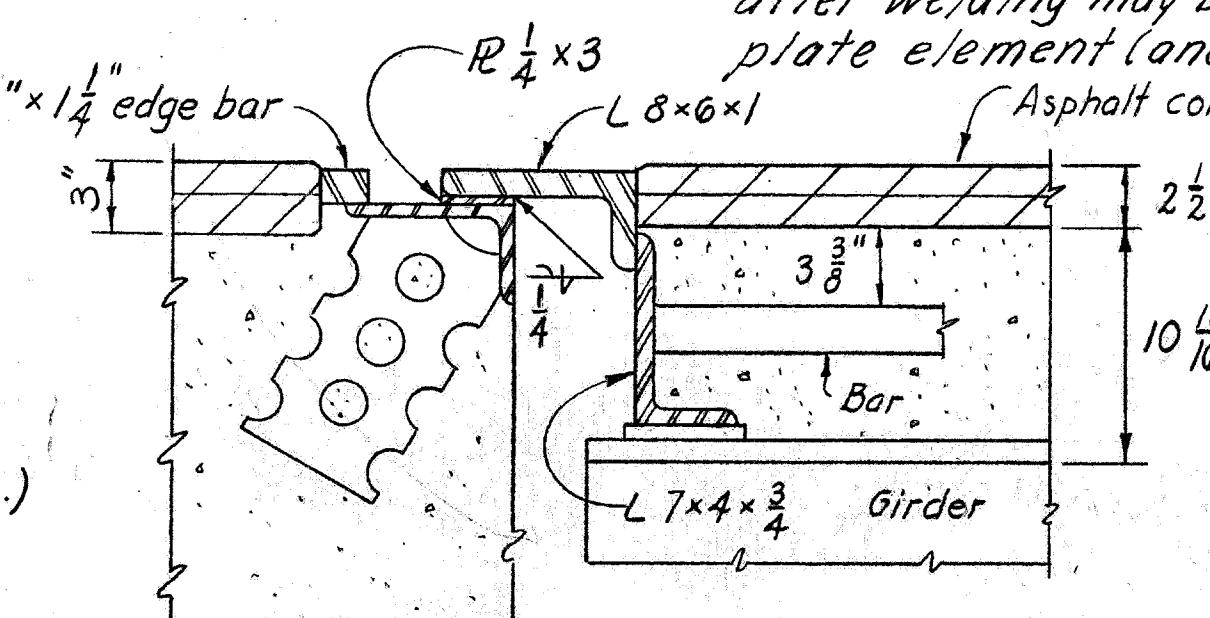
# GIRDER LAYOUT DIAGRAM

**END DAMS, SCUPPERS AND BEARINGS :** Steel for end dams including gusset plates and for scuppers shall be A36, except that steel bar stock may be any weldable grade of low or mild carbon steel available commercially. The commercial material is to be excluded from the requirements of 501.07 for test reports. End dams and scuppers including all welded attachments and gusset plates shall be galvanized. In lieu of A588, Steel, A36 steel galvanized after welding may be used for bearings except the upper plate element (and pins).



## SPLICE DETAILS

All splice Rs symmetrical about  $\neq$  splice.



SECTION L-L

Showing roadway end dam for asphalt concrete surface course. (Refer to Std. DWG. SD-1-69, Sht. 1 of 4.)

All splice bolts shall be high strength ASTM A325, Type 3. 1" diameter.

**\*DECK ELEVATIONS  
FORE PLACEMENT OF SUPERSTRUCTURE  
CONCRETE AND ASPHALT CONCRETE**

For location of deck elevations, see TRANSVERSE SECTION Sht. 7 / 10  
and GIRDER LAYOUT DIAGRAM, this sheet.  
\*Concrete Surface

## DEFLECTION AND CAMBER

LOCATION	First Span				Second Span			
	A	B	F.S.	C	F.S.	A	B	C
Deflection due to weight of steel	$\frac{1}{16}$ "	$\frac{1}{16}$ "	$\frac{1}{16}$ "	0	$\frac{3}{16}$ "	$\frac{3}{16}$ "	$\frac{3}{8}$ "	$\frac{5}{16}$ "
Deflection due to remaining dead load	$\frac{5}{8}$ "	$\frac{9}{16}$ "	$\frac{1}{4}$ "	$\frac{1}{16}$ "	$\frac{7}{8}$ "	$\frac{11}{16}$ "	2"	$\frac{9}{16}$ "
Adjustment required for vertical curve	$\frac{1}{2}$ "	$\frac{11}{16}$ "	$\frac{9}{16}$ "	$\frac{1}{2}$ "	$\frac{5}{8}$ "	$\frac{3}{4}$ "	1"	$\frac{3}{4}$ "
REQUIRED SHOP CAMBER	$1\frac{3}{16}$ "	$1\frac{5}{16}$ "	$\frac{7}{8}$ "	$\frac{9}{16}$ "	$1\frac{11}{16}$ "	2"	$3\frac{3}{8}$ "	$2\frac{5}{8}$ "

**REFERENCE TO STANDARD DRAWINGS** shall be made for the following items :

SD-1-69 dated 6-12-69 Sht. No. 1 End Cross frames and End Dams  
Sht. No. 2 Curb Plates  
Sht. No. 3 Scuppers

BR-1-67 dated 10-15-71 Sht. No. 1 Railing  
RB-1-55 dated 2-2-59 Rockers and Bolsters  
For additional superstructure details, see sheet 7 10.

T. C. BIEBESHEIMER ENGINEERING CO. 8 / 10  
CIVIL ENGINEERS AND SURVEYORS TOLEDO, OHIO

## SUPERSTRUCTURE DETAILS

Bridge No. LUC-24-1403  
Relocated Jerome Rd. & S.E.  
Service Rd. over U.S. 24

SIGNED W.F.	TRACED R.W.F. RVN	CHECKED J.C.O.	REVIEWED J.M.	DATE 11-22-74	REVISE
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272  
5 OHIO  
299

LUCAS COUNTY  
LUC - 24-12.41

## REINFORCING STEEL LIST

### ABUTMENTS

MARK	N.O.	LENGTH	TYPE	a	b	c	d	e	WEIGHT
Y501	16	2'-3"	C std.	1'-3"					38
Y503	16	6'-10"	L	3'-5"	0'-24"	2'-8"	std.		114
Y507	16	3'-1"	S						51
Y508	48	4'-4"	S						217
YG01	16	5'-0"	I	0'-7½"	0'-0"	0'-1½"	3'-4"		120
AG01	72	5'-2"	A	std.	4'-6"				550
AG02	128	20'-7"	S						5088
AG03	144	13'-1"	S						2830
AG04	72	6'-11"	C	1'-11"	3'-5"				748
AG05	70	9'-0"	E	3'-11"	5'-3"	3'-5"	4'-0"		940
AG06	6	10'-6"				4'-2"			
AG06 Series	to	{ Q	std.	1'-2"	to	"varies by			997
of 8						5 3/4" (-)			
AG07	72	11'-0"	S						108
AG08	72	12'-3"	S						221
AG09	72	8'-2"	S						147
AG10	110	14'-5"	C	6'-8"	1'-5"				2382
AG11	110	7'-8"	C	3'-7"	0'-10"				1267
AG12	44	12'-4"	C	5'-3"	2'-2"				815
AG13	56	6'-0"	C	3'-0"	1'-1"				568
AG14	32	5'-0"	R	1'-11"	2'-0"	1'-5"	2'-0"		270
AG15	16	8'-6"	C	3'-4"	2'-2"				204
AG16	24	10'-0"	S						712
AG17	32	5'-4"	A	std.	4'-8"				256
AG18	72	18'-5"	S						332
A801	178	16'-3"	C	2'-4"	12'-0"				7723
A701	28	20'-8"	S						1698
D801	74	5'-6"	R	3'-6"	1'-6"	1'-1"	0'-6"	0'-8 1/2"	1087
A901	18	31'-10"	S						1048
A902	18	30'-0"	S						1830
A903	178	10'-2"	C	2'-4"	12'-0"				9784
A1101	18	32'-0"	S						3108
A1102	18	30'-0"	S						2869
A1103	30	19'-7"	O	std.	16'-5"				3746
Sub-Total									53,485

### WINGWALLS

MARK	N.O.	LENGTH	TYPE	a	b	c	d	e	WEIGHT
Y501	88	2'-3"	C std.	1'-3"					207
Y502	40	3'-5"	S						143
Y503	68	6'-10"	L	3'-5"	0'-24"	2'-8"	std.		485
Y504	32	20'-11"	S						998
Y505	8	7'-3"	S						60
Y506	8	24'-3"	S						202
Y507	88	3'-1"	S						283
Y508	48	4'-4"	S						217
YG01	68	5'-0"	I	0'-7½"	0'-0"	0'-1½"	3'-4"		120
WG01	32	6'-10"	O std.	5'-6"					328
WG02	70	2'-10"	S						68
WG03	8	3'-2"		{ S					varies by 9"
WG03 Series	of 4								206
WG04	64	11'-6"	A std.	10'-10"					1,105
WG05	8	33'-0"	S						397
WG06	Series	to	{ S						varies by 0"
WG06 Series	of 10								1,502
WG07	16	20'-11"	S						719
WG08	8	25'-0"	S						300
WG09	24	21'-1"	S						790
WG10	8	4'-6"		{ S					varies by 3'-0" increments
WG10 Series	of 4								433
WG11	28	19'-0"	S						799
WG12	50	4'-8"	U	0'-8"	1'-6"	std.			303
WG13	50	7'-8"	T	1'-8"	2'-0"	0"	0'-11"	1'-1"	645
Y701	4	4'-6"	P std.	3'-8"					37
Y702	4	4'-9"	I	0'-7½"	0'-2"	0'-1½"	3'-4"		39
Y703	4	4'-10"	I	0'-7½"	0'-4"	0'-1½"	3'-4"		40
Y704	4	4'-11"	I	0'-7½"	0'-6"	0'-1½"	3'-4"		40
Y705	4	5'-0"	I	0'-7½"	0'-0"	0'-1½"	3'-4"		41
P601	2	5'-3"	C	1'-1"					208
P601 Series	of 10								varies by 2 1/4" (+) increments
P602	2	9'-1"	C	3'-7"					89
P602 Series	of 3								varies by 4 1/2" increments
P603	2	9'-5"	C	4'-0"					92
P603 Series	of 3								varies by 4 1/2" increments
P604	90	5'-1"	C	1'-10"	1'-9"				733
P605	44	10'-9"	C	4'-8"	1'-9"				110
P606	2	5'-7"	C	2'-1"					218
P606 Series	of 10								varies by 2 1/4" (+) increments
P607	4	20'-8"	S						178
P608	4	20'-4"	S						158
P609	4	10'-1"	E	8'-3"	1'-11"	0'-9"	1'-9"		61
P801	24	10'-8"	O std.	8'-6"					684
P1001	20	22'-7"	S						1944
P1002	40	15'-3"	S						2625
P1003	40	6'-10"	A std.	5'-9"					1170
P1004	42	14'-4"	O std.	11'-6"					2590
P1005	12	31'-7"	A	1'-8"	30'-3"				1631
P1006	24	30'-3"	S						3124
SP401	3	32"		11'-7 1/2"	4 1/2"				676
Sub-Total									10,988
Sub-Total									16,897

### SUPERSTRUCTURE

MARK	N.O.	LENGTH	TYPE	a	b	c	d	e	WEIGHT
S401	525	30'-0"	S						10,521
S402	75	2'-1"	S						104
S403	216	20'-5"	S						2940
X501	274	2'-3"	C std.	1'-3"					643
X502	274	5'-10"	K	2'-5"	2 1/4"	2'-8"	7 1/2"		1,667
X503	274	2'-5"	A std.	1'-11"					601
X504	274	3'-4"	J	9"	0"-1 1/2"	0"-1 1/2"	std.		1,053
X505	72	15'-7"	S						1,170
X506	64	7'-0"	S						467
SG01	1,080	30'-0							

FHWA REGION	STATE	PROJECT
5	OHIO	

273  
299LUCAS COUNTY  
LUC-24-1241

SUBDRAINAGE FOR ASPHALT CONCRETE SURFACE COURSE  
The subdrainage system shall consist of PVC pipes and fittings and structural tubes as specified on this sheet. The pipes shall be spaced at approximately six foot intervals with a pipe placed within one foot of each expansion joint, except that they shall be relocated or extended as necessary for any discharge to clear bridge seats, structural members such as beams, diaphragms and crossbracing by at least six (6) inches. Pipes shall not be placed over or within four (4) feet of a pavement or sidewalk, within ten (10) feet of the centerline of a railroad track or along curb lines where the deck configuration does not permit water to accumulate.

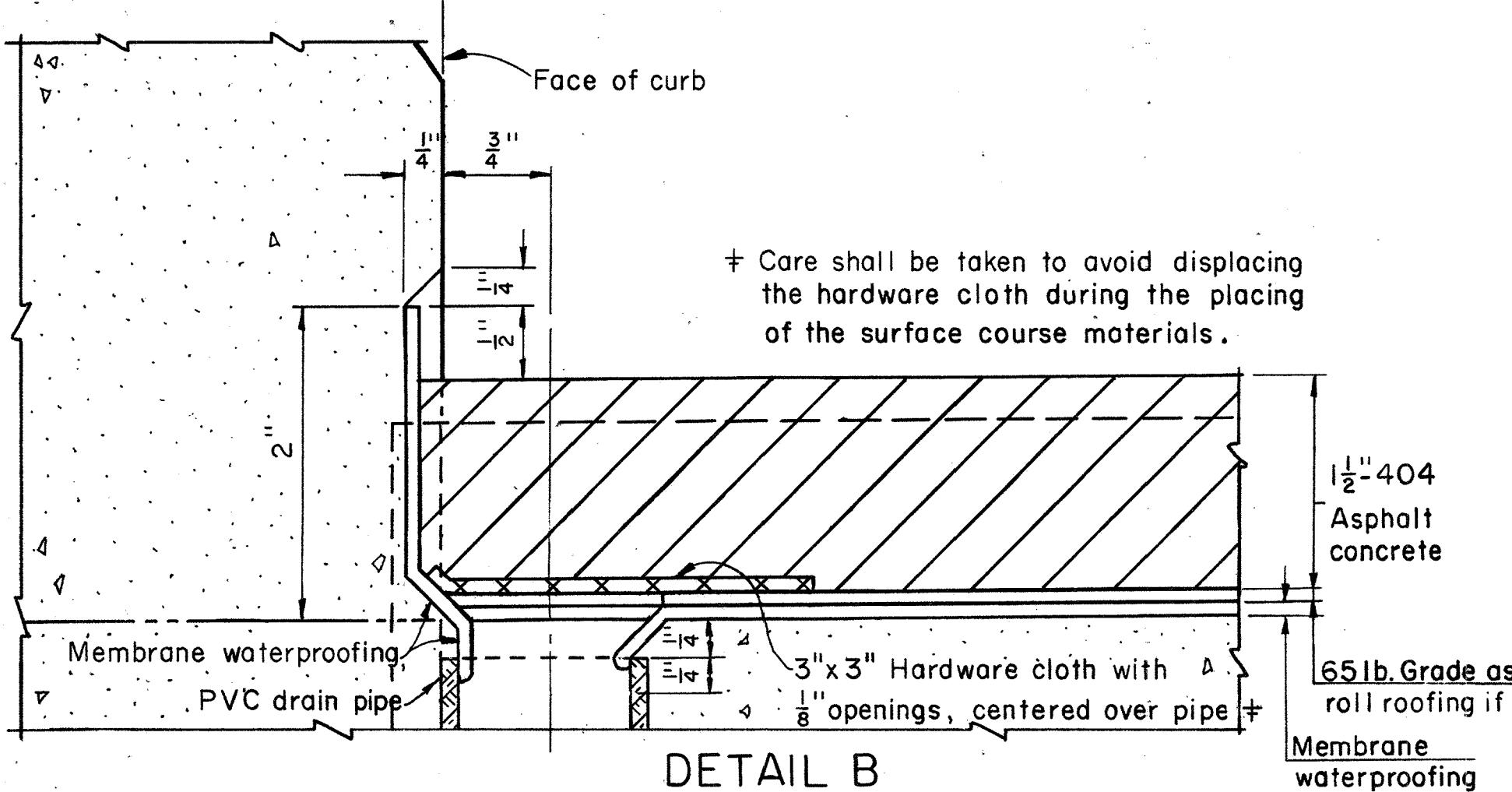
Where the plans specify a two and one half ( $2\frac{1}{2}$ ) inch surface course, the subdrainage shall be as shown on Detail A. The structural tube may be placed in any convenient lengths using butt joints. The price bid per linear foot for this drainage system shall include all PVC pipe and fittings, structural tubes, and all labor necessary to complete the item. The quantity will be the actual length of structural tube required. Payment will be made at the contract price for Item 518, Lin. Ft., Subdrainage for wearing course, as per plan.

Where the plans specify a one and one half ( $1\frac{1}{2}$ ) inch surface course, the subdrainage shall be as shown in Detail B. The price bid for each drain shall include the PVC pipe and fitting, the hardware cloth and all necessary labor to complete the item. Payment will be made at the contract price for: Item 518, Ea., Subdrainage for wearing course, as per plan.

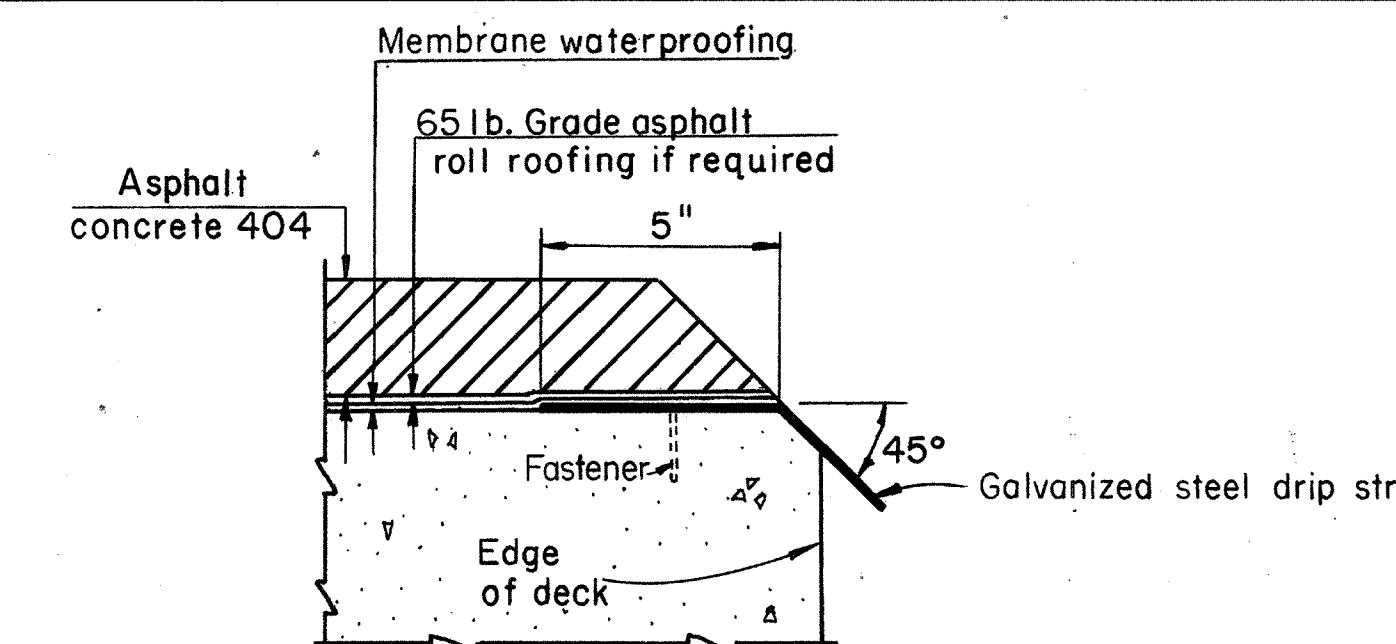
The 404 shall be either  $2\frac{1}{2}$  placed in two  $1\frac{1}{4}$  courses or  $1\frac{1}{2}$  placed in one course.

### STRUCTURAL STEEL BELOW CURB LINE    NO STRUCTURAL STEEL BELOW CURB LINE

#### DRAINAGE TUBE ARRANGEMENT

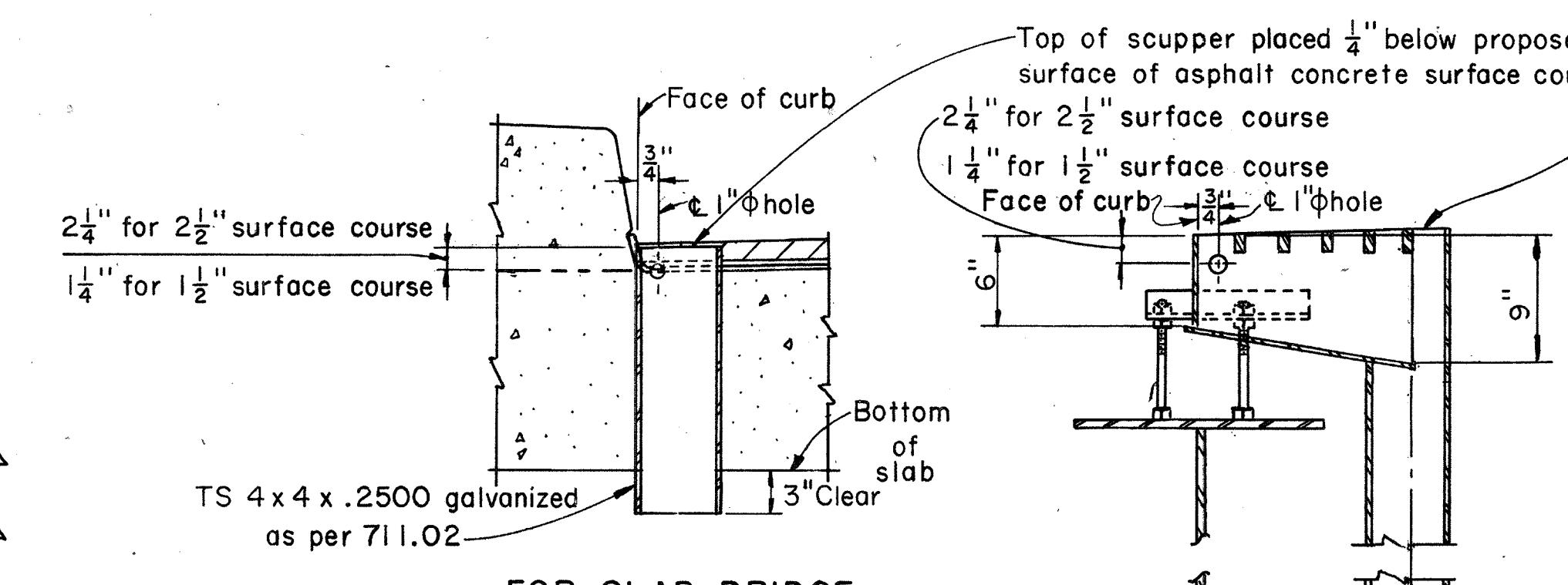


#### SUBDRAINAGE FOR $1\frac{1}{2}$ SURFACE COURSE



#### DRIP STRIP BRIDGES WITHOUT CURBS

Galvanized Steel Drip Strip: Prior to applying deck membrane waterproofing, a bent galvanized steel drip strip,  $8'' \times 0.105''$  shall be installed along the edges of the deck as shown. The strips shall be fastened at  $3'-0''\%$  maximum with power driven pins or #10 galvanized expansion screws, subject to the approval of the Engineer. The strips shall be placed the full length of the deck. Where splices are required a  $3''$ (min.) lap shall be used, with a fastener through the lap. Steel shall meet the requirements of ASTM A568 and galvanizing shall be in accordance with 711.02. Payment shall be at the contract price bid for Item Special, Sq. Ft., Galvanized steel drip strip, which shall include all materials, labor, tools and incidentals necessary to complete the item.



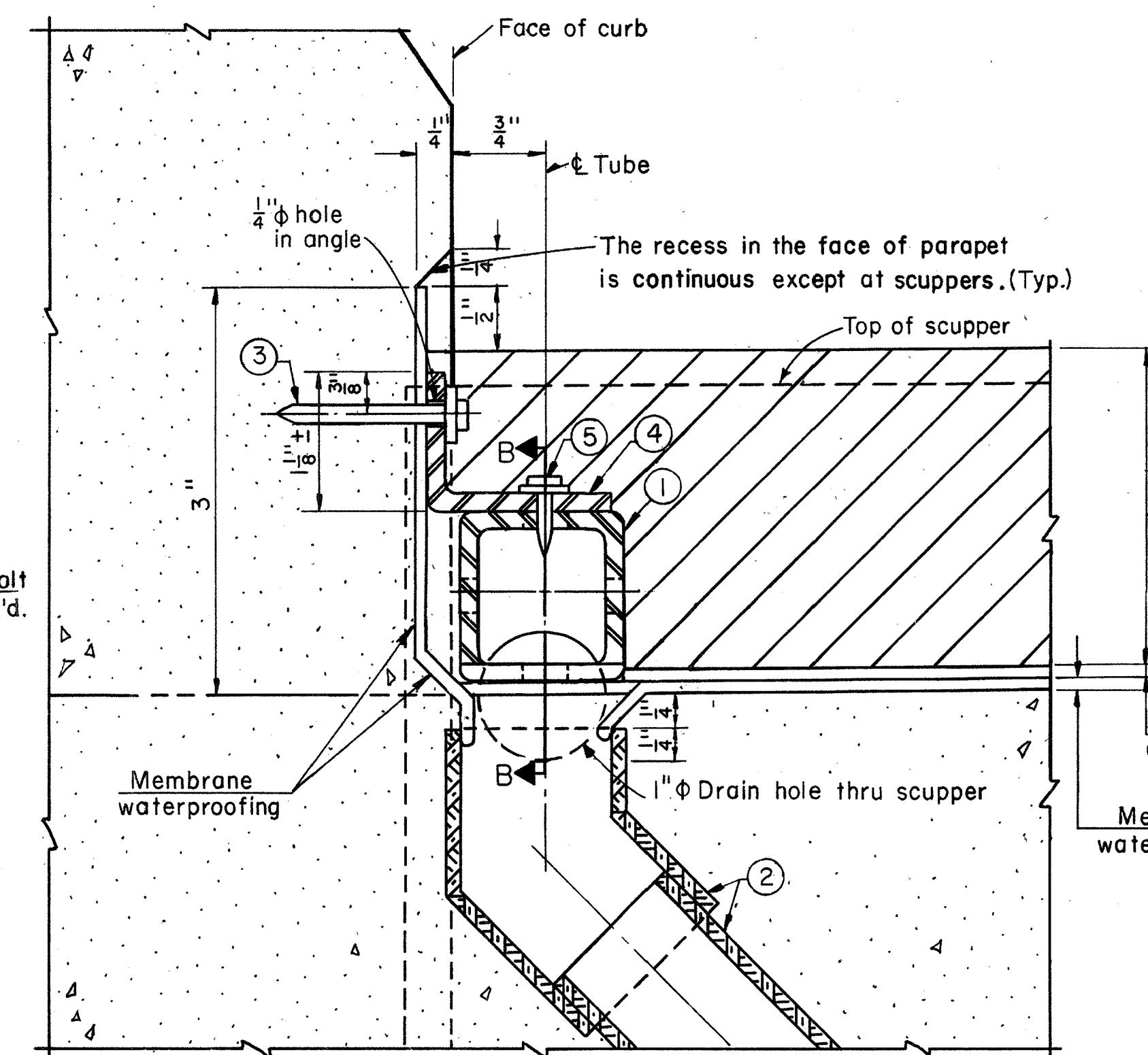
#### FOR SLAB BRIDGE



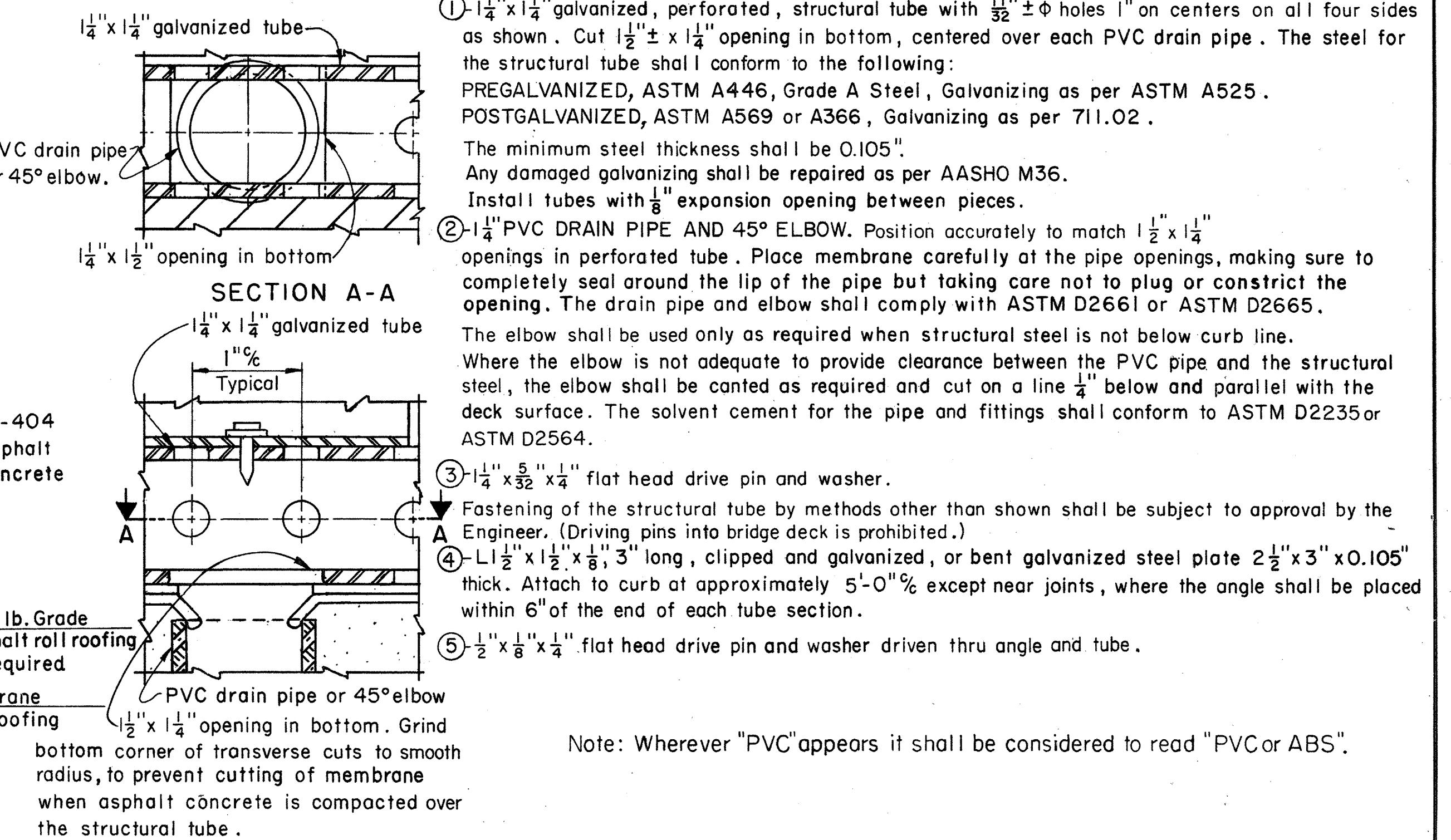
#### FOR GIRDER OR BEAM BRIDGE

### SCUPPER DETAILS

(Scupper details conform to SD-I-69 except as noted)

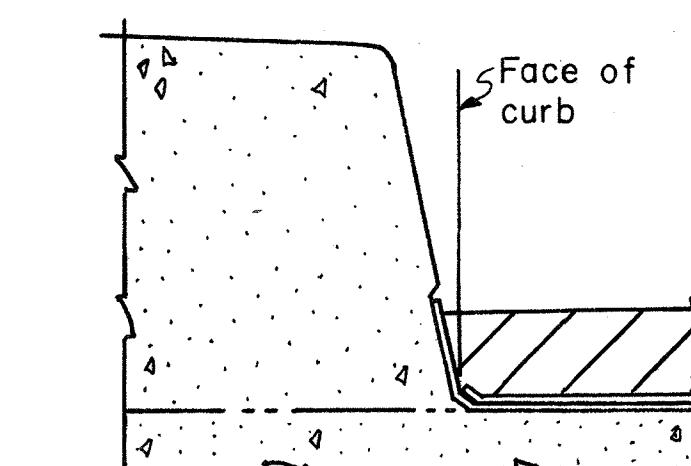


#### SUBDRAINAGE FOR $2\frac{1}{2}$ SURFACE COURSE



Note: Wherever "PVC" appears it shall be considered to read "PVC or ABS".

#### SECTION B-B



#### SHAPE OF SIDEWALK CURB

STATE OF OHIO DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS BUREAU OF BRIDGES			
10/10			
DECK DRAINAGE DETAILS FOR BRIDGES WITH ASPHALT CONCRETE SURFACE COURSE			
Bridge No. LUC-24-1403 Relocated Jerome Rd. & S.E. Service Rd. over U.S. 24 Lucas County			
DESIGNED	DRAWN	TRACED	CHECKED
DLM	GJ		CPD
REVIEWED	DATE	REVISED	
WJJ 12-3-75			