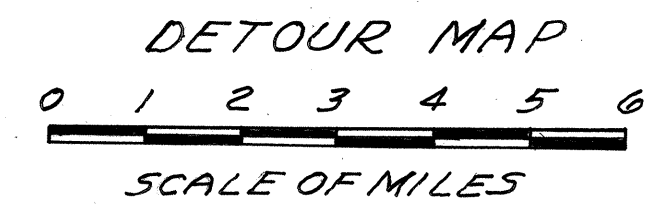
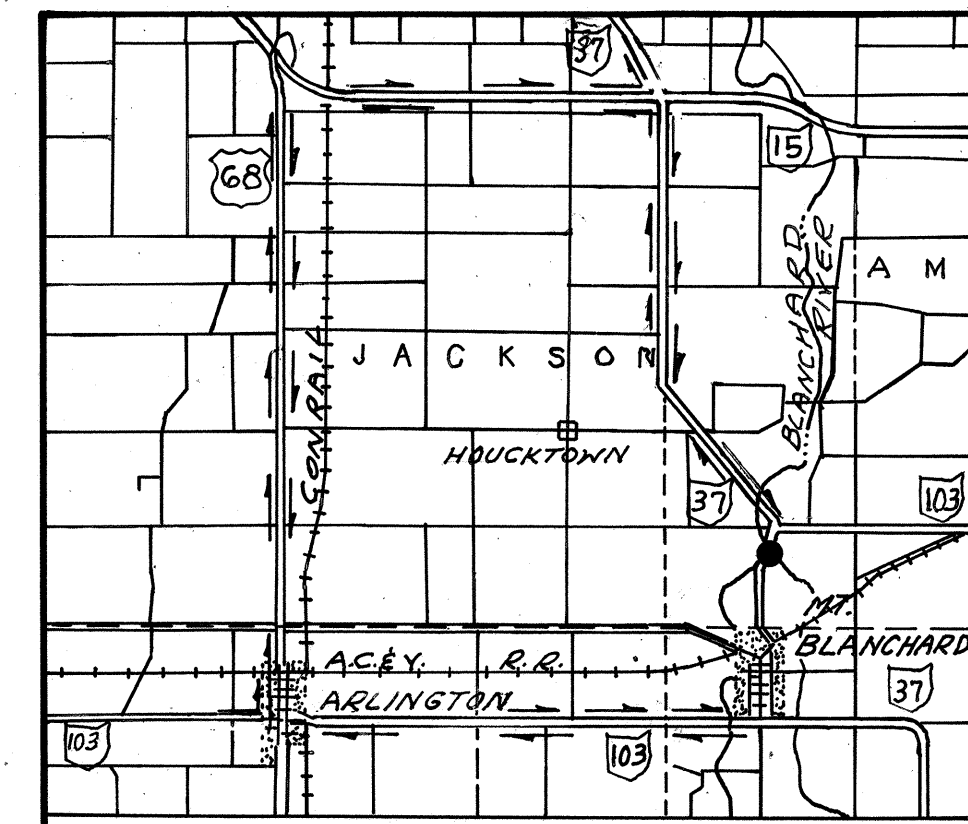


STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HAN-37-11.59
AMANDA TOWNSHIP
HANCOCK COUNTY

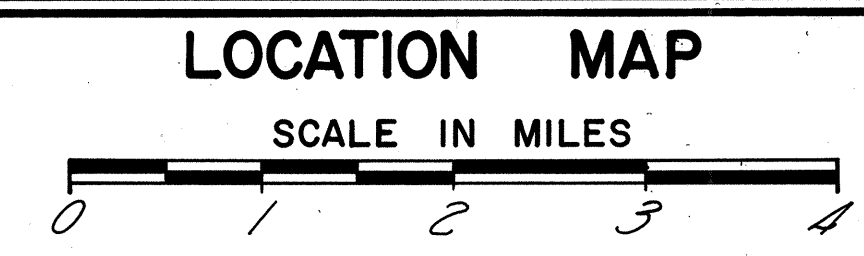
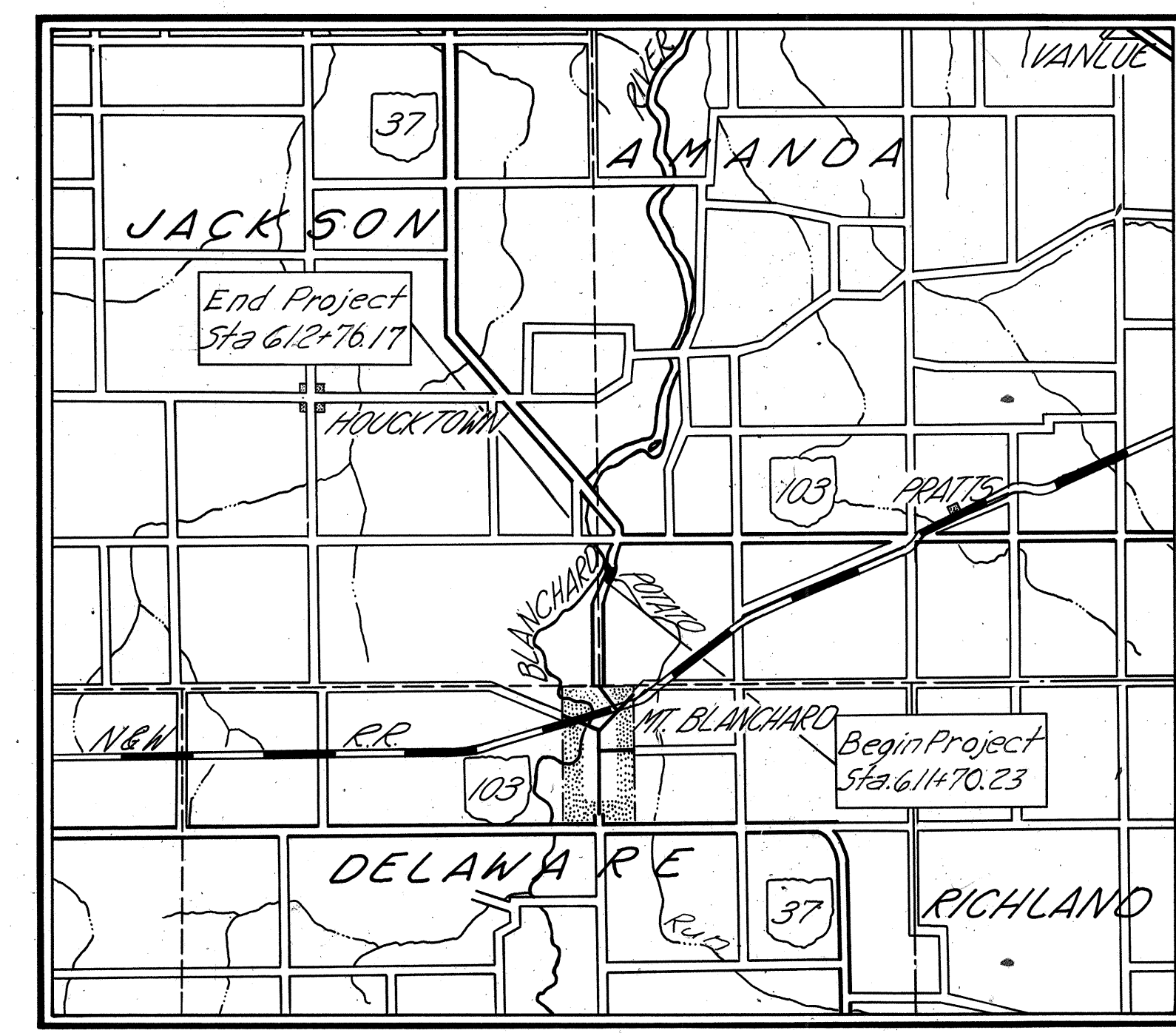
HANCOCK COUNTY	OHIO
HAN-37-11.59	FHWA REGION 5
BRS-322(7)	FEDERAL PROJECT

MICROFILMED
AUG 5 1988



- CONVENTIONAL SIGNS**
- | | | | |
|--------------------------|--------------------------------------|-------------------------------|---------------------------------|
| County Line | ----- | Limited Access (only) | -----LA----- |
| Township Line | ----- | Right of Way (only) | -----RW----- |
| Section Line | ----- | Limited Access & Right of Way | -----LA & RW----- |
| Corporation Line | ----- or ----- | Existing Right of Way | ----- |
| Fence Line (existing) | -x-x- | Property Line | ----- (in existing fence) -x-x- |
| Center Line | ----- 352 ----- (proposed) 353 ----- | Railroad | ----- or ----- |
| Trees, Stumps | ⊗, ⊗, ⊗ (to be removed) ⊗ ⊗ ⊗ | Guardrail (existing) | ----- (proposed) ----- |
| Utility Poles: Telephone | ⊕ | | |
| Power | ⊕ | | |
| Light | ⊕ | | |

- INDEX OF SHEETS**
- Title Sheet
 - Schematic
 - Typical Sections
 - General Notes
 - Calculations & General Summary
 - Miscellaneous Details
 - Plan and Profile
 - Cross Sections
 - Structures Over 200ft.



LINE DATA

Begin Project Sta. 611+70.23
End Project Sta. 612+76.17
Net length of Project 105.94 Lin. Ft. or 0.020 Mile

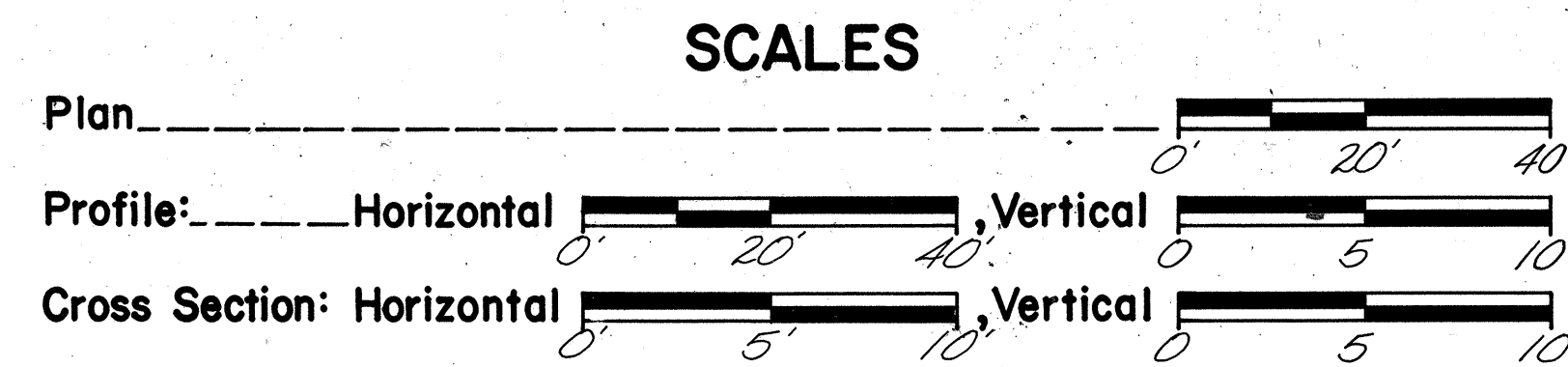
Begin Work Sta. 610+50.00
End Work Sta. 614+00.00
Net length of Work 350.00 Lin. Ft. or 0.066 Mile

UNDERGROUND UTILITIES

48 HOURS
BEFORE YOU DIG
Call 800-362-2764 (Toll free)
OHIO UTILITIES PROTECTION SERVICE

NON-MEMBERS
MUST BE CALLED DIRECTLY

Portion to be improved _____
State & Federal Routes _____
Other Roads _____



SUPPLEMENTAL SPECIFICATIONS	
1001	1-3-77

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
BP-5	7-16-81		
GR-1	2-5-82		
GR-2B	2-5-82		
GR-3	2-5-82		
GR-4	2-5-82		
MC-3	6-1-73		
MC-4	7-26-76		
AS-1-81	11-27-81		
PSBD-1-81	9-18-81		
DBR-2-73	4-10-73		

1981 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 require the closing to traffic of the highway and that detours will be provided as indicated on the plans

Approved Max D. Monahan
Date 7-27-82 District Deputy Director of Transportation

Approved Robert B. Pfeifer, P.E.
Date 8-18-82 Engineer, Bureau of Bridges and Structural Design

Approved Byrd Fenley Jr.
Date 9-7-82 Chief Engineer, Planning and Design (Acting)

Approved David L. Weir
Date 9-7-82 Director, Department of Transportation

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR _____ DATE _____

Plan Prepared By:
DISTRICT NO. 1
OHIO DEPARTMENT OF
TRANSPORTATION

Project: HAN-37-11.59
Date of Letting _____ 19____, Contract No. _____
LD0300 Rev. 1-1-81

SEAL

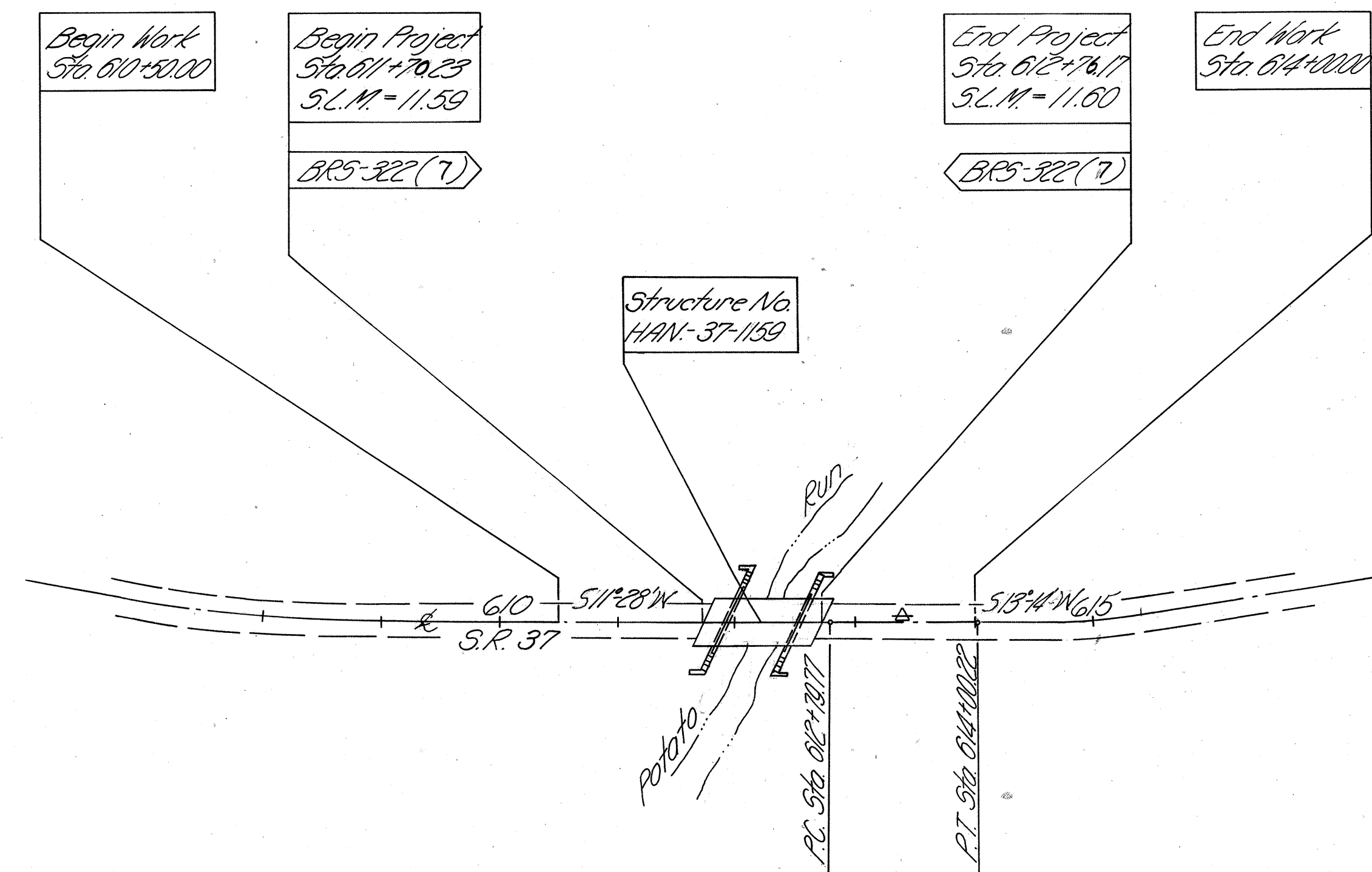
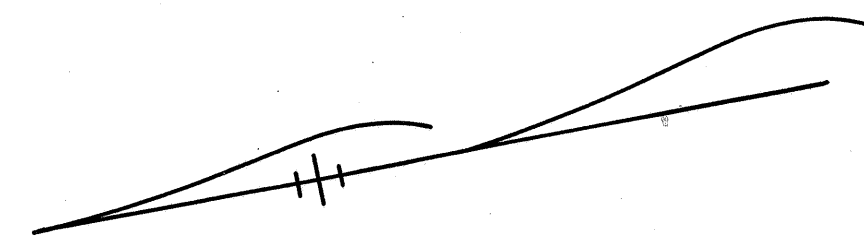
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Initials <i>JVP</i>	Date <i>7-26-82</i>
Computations Checked By	
Initials <i>[Signature]</i>	Date <i>7-27-82</i>

FHWA REGION	STATE	PROJECT	
5	OHIO		

HANCOCK COUNTY
HAN.-37-1159



SCALE:



CURVE DATA
 $PI = 574.013 + 40$
 $\Delta = 1^{\circ}46' RT.$
 $T = 60.23'$
 $E = 0.46'$
 $O_c = 1^{\circ}28'$
 $LC = 120.45'$
 $R = 3906.53'$

DESIGN DESIGNATION

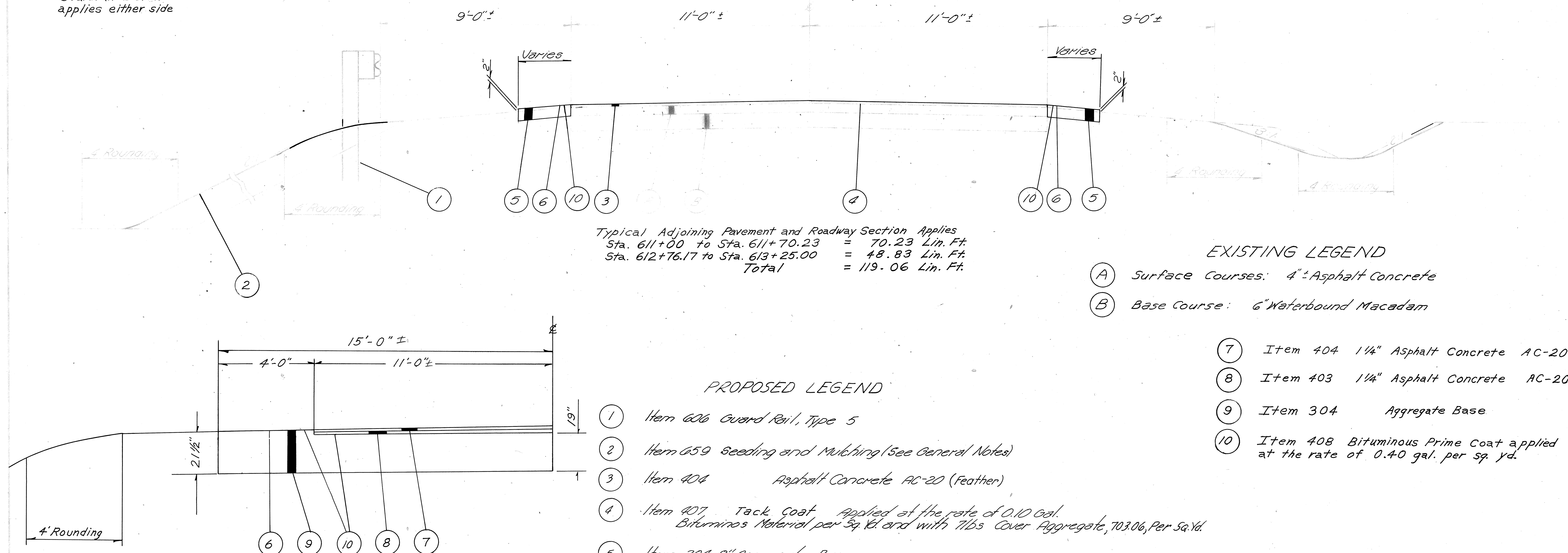
DESIGN DESIGNATION: 1743

Current A.D.T. (2022)	= 1478
Design Year A.D.T. (2022)	= 2226
D.H.V.	= 245
D	= 60%
T	= 9%
V	= 60 M.P.H.

TYPICAL SECTION

to existing Pavement and Roadway

Guardrail Detail
applies either side



GENERAL NOTES

Computations By	Date 7-26-82
Initials JVP	
Computations Checked By	Date 7-27-82
Initials JVB	

FHWA REGION	STATE	PROJECT	
5	OHIO		

4
15

HANDCOCK COUNTY
HAN-37-11.59

DETOUR LIMITATIONS ~ Two-Way Traffic shall be maintained at all times, except that for a period not to exceed 120 consecutive calendar days, through traffic may be detoured as shown on sheet 1.

MOBILIZATION AS PER PLAN ~ The Contractor shall provide a suitable Field Office having a minimum of 300 Sq. Ft. of floor space which shall be in accordance with 619.01 and 619.02. Payment for the above shall be included in the lump sum price bid for Item 624 Mobilization, as per plan.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS ~ The Rounded Corners shown on the Typical Sections, apply to all Cross Sections even though otherwise shown on these plans.

UNDERGROUND UTILITIES ~ The Locations of the Underground Utilities shown on the plans have been obtained by diligent field checks and searches of available records. It is believed that they are essentially correct, but the State of Ohio does not guarantee their accuracy or completeness.
At least 48 Hours before digging, the Contractor should call the Ohio Utilities Protection Service, toll free 800-362-2764. Non-Member Utility Companies must be called directly.

CONTINGENCY QUANTITIES ~ The Contractor shall not order materials or perform work for plan items set up to be used "as directed by the Engineer" unless authorized by the Engineer. The actual work locations and quantities used at the Engineer's discretion shall be made a matter of record by incorporation into the final change order governing the completion of this project.

LOCATIONS OF GUARD RAIL ~ The Locations of Guard Rail runs as shown in these plans are subject to adjustment prior to final acceptance. The Engineer shall be satisfied that all installations will afford maximum protection for traffic.

SEEDING ~ Quantities for Seeding are calculated for the soil areas between ten (10) feet outside the work limits as shown on the Cross Sections, or to the Right-of-Way line if such line is less than ten (10) feet from the work limits.

ELEVATION DATUM ~ All Elevations are based on U.S.G.S Datum.

407 TACK COAT ~ The Tack Coat and Cover Aggregate operation shall be determined as per Spec. 407.05. Plan quantities indicate average application rates of 0.10 gallons per Square Yard of Tack Coat and 7 Pounds per Square Yard of Cover Aggregate for estimating purposes only.

UTILITY OWNERSHIP ~ The following Utilities and Owners are located within the work limits of this project.
General Telephone 222 South Prospect St. Marion Ohio 43302 (614) 383-0436
Ohio Power Company 369 East O'Connor Ave. Lima Ohio 45801 (419) 222-9010

FARM DRAINS ~ All farm drains, which are encountered during construction, shall be provided with unobstructed outlets under the direction of the Engineer. Existing collectors which are located below the roadway ditch elevations, and which cross the roadway, shall be replaced within the right-of-way limits by Item 603 Conduit, Type B, one commercial size larger than the existing conduit.

Existing collectors and isolated farm drains, which are encountered above the elevation of the roadway ditches, shall be outletted into the roadway ditch by 603 Type F conduit. The optimum outlet elevation shall be if possible, one foot above the flowline elevation of the ditch. Lateral tile fields which cross the roadway shall be intercepted by 603, Type E Conduit, and carried in a longitudinal direction to an adequate outlet or roadway crossing.

The location, type, size and grade of required replacements shall be determined by the Engineer during construction, and payment shall be made on final measurements.

The following estimated quantities have been included in the General Summary for the work noted above.

Item 603 12" Conduit, Type B 50 Lin. Ft.
Item 603 8" Conduit, Type E 50 Lin. Ft.
Item 603 12" Conduit, Type E 50 Lin. Ft.
Item 603 8" Conduit, Type F 50 Lin. Ft.
Item 603 12" Conduit, Type F 50 Lin. Ft.

Necessary bends or branches shall be included for payment in the pertinent conduit item.

None of the above materials shall be ordered by the Contractor until authorized by the Engineer.

PAVEMENT QUANTITIES

Station		Length	203		304	403		404		407		408		409		611
From	To		Subgrade Compaction			Asphalt Concrete		Asphalt Concrete		Tack Coat	Cover Aggregate	Bituminous Prime Coat		Seal Coat Bituminous Material	Seal Coat Cover Aggregate No.8	
		Lin. Ft.	Sq. Yd.		Cu. Yd.	Cu. Yd.		Cu. Yd.		Gal.	Tons	Gal.		Gal.	Cu. Yd.	Sq. Yd.
611+00.00	611+70.23	70.23			11.27			7.15	17.17	0.60	20.29	15.22	0.41			
611+70.23	611+72.23	2.00	4.89		3.64	0.17		0.17				2.67	0.53	0.01		
611+72.23	611+92.23	20.00	84.80		14.13	3.09	3.09	8.89	0.31							88.89
611+92.23	612+54.17	61.94	Bridge Limits													
612+54.17	612+74.17	20.00	84.80		14.13	3.09	3.09	8.89	0.31							88.89
612+74.17	612+76.17	2.00	4.89		3.64	0.17	0.17			2.67	0.53	0.01				
612+76.17	613+25.00	48.83			7.84			3.32	11.94	0.42	14.11	10.58	0.28			
Totals			179.39		54.65	6.52	16.99	46.89	1.64	39.74	26.86	0.71	117.78			

PAVEMENT COMPUTATIONS

Feather Area ~
From Sta. 611+00.00 to Sta. 611+70.23 Length=70.23'
Pavement:
404: $2[(0+3)/2](11/2)(22)(70.23)(1/27) = 7.15$ Cu. Yd
407 Tack Coat: $(0.10)(22)(70.23)(1/9) = 17.17$ Gals.
407 Cover Aggregate: $7(22)(70.23)(1/2000) = 0.60$ Tons
Shoulders:
304: $2[(2.5+4)/2](70.23)(8/12)(1/27) = 11.27$ Cu. Yd
408: $2[(2.5+4)/2](70.23)(0.40)(1/9) = 20.29$ Gals.
409: Cover Aggregate: $2(0.008)(2.5+4)(70.23)(1/9) = 0.41$ Cu. Yd
409 Bituminous Material: $2(0.30)(2.5+4)(70.23)(1/9) = 15.22$ Gals.

Pavement Patch Area ~
From Sta. 611+70.23 to Sta. 611+72.23 Length=2.0'
Pavement:
203 Subgrade Compaction: $(2)(2)(1/9) = 4.89$ Sq. Yd
304: $2(22)(9/12)(1/27) + 2(2)(4)(2.5/12)(1/27) = 3.64$ Cu. Yd
403: $(2)(22)(1.25/12)(1/27) = 0.17$ Cu. Yd
404: $(2)(22)(1.25/12)(1/27) = 0.17$ Cu. Yd
408: $(0.40)(2)(30)(1/9) = 2.67$ Gals.
409 Cover Aggregate: $2(0.008)(4)(2)(1/9) = 0.01$ Cu. Yd
409 Bituminous Material: $2(0.30)(4)(2)(1/9) = 0.53$ Gals.

Approach Slab Area ~
From Sta. 611+72.23 to Sta. 611+92.23 = (20' Approach Slab)
Pavement:
203 Subgrade Compaction: $(808)(40)(1/9) = 84.80$ Sq. Yd
304: $(808)(40)(6/12)(1/27) = 14.13$ Cu. Yd
403: $(20)(40)(1.25/12)(1/27) = 3.09$ Cu. Yd
404: $(20)(40)(1.25/12)(1/27) = 3.09$ Cu. Yd
407 Tack Coat: $(0.10)(20)(40)(1/9) = 8.89$ Gals.
407 Cover Aggregate: $(7)(20)(40)(1/2000) = 0.31$ Tons
611 Reinforced Concrete Approach Slab: $(20)(40)(1/9) = 88.89$ Sq. Yd
From Sta. 611+92.23 to Sta. 612+54.17 Length=61.94'
Bridge Limits = HAN-37-11.59

Approach Slab Area ~
From Sta. 612+54.17 to Sta. 612+74.17 (20' Approach Slab)
Pavement:
203 Subgrade Compaction: $(1908)(40)(1/9) = 84.80$ Sq. Yd
304: $(1908)(40)(6/12)(1/27) = 14.13$ Cu. Yd
403: $(20)(40)(1.25/12)(1/27) = 3.09$ Cu. Yd
404: $(20)(40)(1.25/12)(1/27) = 3.09$ Cu. Yd
407 Tack Coat: $(0.10)(20)(40)(1/9) = 8.89$ Gals.
407 Cover Aggregate: $(7)(20)(40)(1/2000) = 0.31$ Tons
611 Reinforced Concrete Approach Slab: $(20)(40)(1/9) = 88.89$ Sq. Yd

Pavement Patch Area ~
From Sta. 612+74.17 to Sta. 612+76.17 Length=2.0'
Pavement:
203 Subgrade Compaction: $(2)(2)(1/9) = 4.89$ Sq. Yd
304: $2(22)(9/12)(1/27) + 2(2)(4)(2.5/12)(1/27) = 3.64$ Cu. Yd
403: $2(22)(1.25/12)(1/27) = 0.17$ Cu. Yd

SEEDING

Sheet	659
Seeding & Mulching	
Sq. Yd.	
9	547
10	706
11	841
Total	2094

EARTHWORK

Sheet	203	
	Excavation	Embankment
	Cu. Yd.	Cu. Yd.
7	129	661
Totals	129	661

Pavement Patch Area ~
From Sta. 612+74.17 to Sta. 612+76.17 (Cont.)
404: $2(22)(1.25/12)(1/27) = 0.17$ Cu. Yd
408: $(0.40)(2)(30)(1/9) = 2.67$ Gals.
409 Cover Aggregate: $2(0.008)(4)(2)(1/9) = 0.01$ Cu. Yd
409 Bituminous Material: $2(0.30)(4)(2)(1/9) = 0.53$ Gals.

Feather Area ~
From Sta. 612+76.17 to Sta. 613+25 Length=48.83'
Pavement:
404: $(0+2)/2(11/2)(22)(48.83)(1/27) = 3.32$ Cu. Yd
407 Tack Coat: $(0.10)(22)(48.83)(1/9) = 11.94$ Gals.
407 Cover Aggregate: $(7)(22)(48.83)(1/2000) = 0.42$ Tons

Shoulders:
304: $2[(2.5+4)/2](48.83)(8/12)(1/27) = 7.84$ Cu. Yd
408: $2[(2.5+4)/2](48.83)(0.40)(1/9) = 14.11$ Gals.
409 Cover Aggregate: $2(0.008)(2.5+4)(48.83)(1/9) = 0.28$ Cu. Yd
409 Bituminous Material: $2(0.30)(2.5+4)(48.83)(1/9) = 10.58$ Gals.

MISCELLANEOUS COMPUTATIONS

659 Seeding and Mulching ~
From Seeding Table = 2094 Sq. Yd
Deduct 601 RCP: $21 \times 27 \times 11.5 \times 1/9 = 42$ Sq. Yd
Net Seeding and Mulching = 2052 Sq. Yd
659 Commercial Fertilizer @ 20# per 1000 Sq. Ft.
Net Seeding and Mulching = 2052 Sq. Yd
Quantity: $2052 \times 9 \times 20 \times 1/1000 \times 1/2000 = 0.18$ Ton

GENERAL SUMMARY

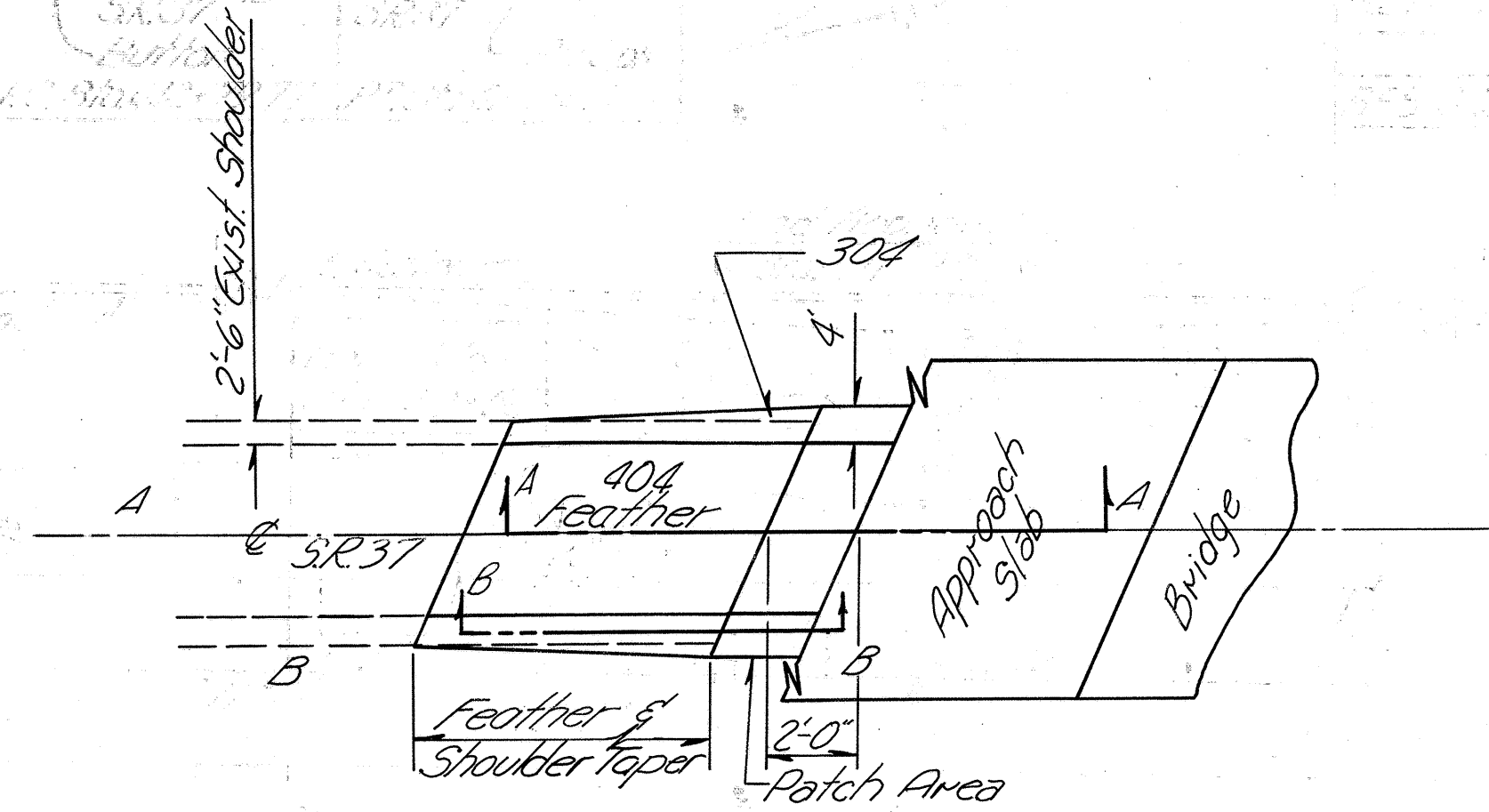
ITEM	SHEET NO						ITEM	TOTAL	UNIT	DESCRIPTION
	4	5	7							
ROADWAY										
201							201	Lump	Lump	Clearing and Grubbing.
202			25.00				202	25.00	Lin. Ft.	Guard Rail Removed.
203		129					203	129	Cu. Yd.	Excavation not including Embankment Construction.
203		661					203	661	Cu. Yd.	Embankment.
203		179					203	179	Sq. Yd.	Subgrade Compaction.
EROSION CONTROL										
606			326.12				606	326.12	Lin. Ft.	Guard Rail, Type 5.
606			4				606	4	Each	Anchor Assembly, Standard Type "A".
606			4				606	4	Each	Bridge Terminal Assembly, Standard Type "B".
PAVEMENT										
304		55					304	55	Cu. Yd.	Aggregate Base.
403		7					403	7	Cu. Yd.	Asphalt Concrete AC-20.
404		17					404	17	Cu. Yd.	Asphalt Concrete AC-20.
407		47					407	47	Gal.	Tack Coat.
407		2					407	2	Tons	Cover Aggregate.
408		40					408	40	Gal.	Bituminous Prime Coat.
409		27					409	27	Gal.	Seal Coat Bituminous Material.
409		1					409	1	Cu. Yd.	Seal Coat Cover Aggregate No.8.
611		118					611	118	Sq. Yd.	Reinforced Concrete Approach Slab (T=13').
DRAINAGE										
601			21				601	21	Cu. Yd.	Rock Channel Protection Type "B" without Bedding.
603		50					603	50	Lin. Ft.	12" Conduit, Type "B".
603		50					603	50	Lin. Ft.	8" Conduit, Type "E".
603		50					603	50	Lin. Ft.	12" Conduit, Type "E".
603		50					603	50	Lin. Ft.	8" Conduit, Type "F".
603		50					603	50	Lin. Ft.	12" Conduit, Type "F".
STRUCTURES OVER 20' SPAN										
For Quantities of Bridge No. Han-37-11.59 See Sheet No. 13										
MISCELLANEOUS										
614	Lump						614	Lump	Lump	Maintaining Traffic.
623	Lump						623	Lump	Lump	Construction Layout Stakes.
624	Lump						624	Lump	Lump	Mobilization as per plan.

Computations By
Initials JVP Date 7-26-82
Checked By
Initials JAB Date 7-27-82

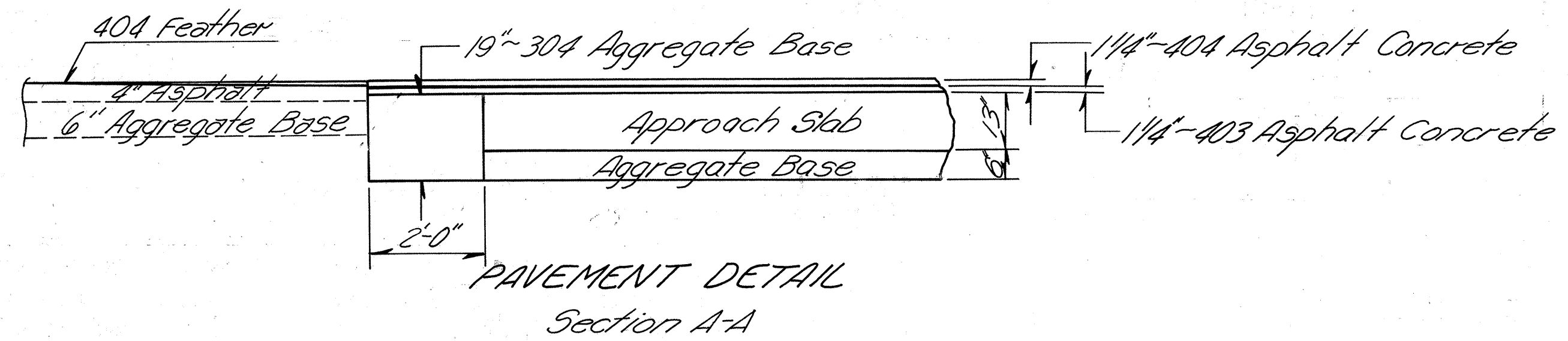
FHWA REGION	STATE	PROJECT
5	OHIO	

HANCOCK COUNTY
HAN-37-11.59
HANCOCK COUNTY
HAN-37-11.59

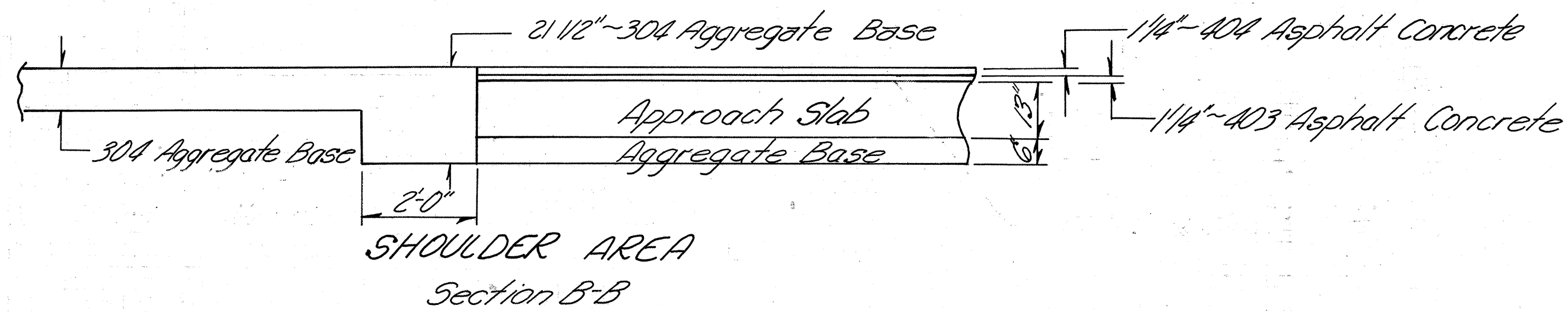
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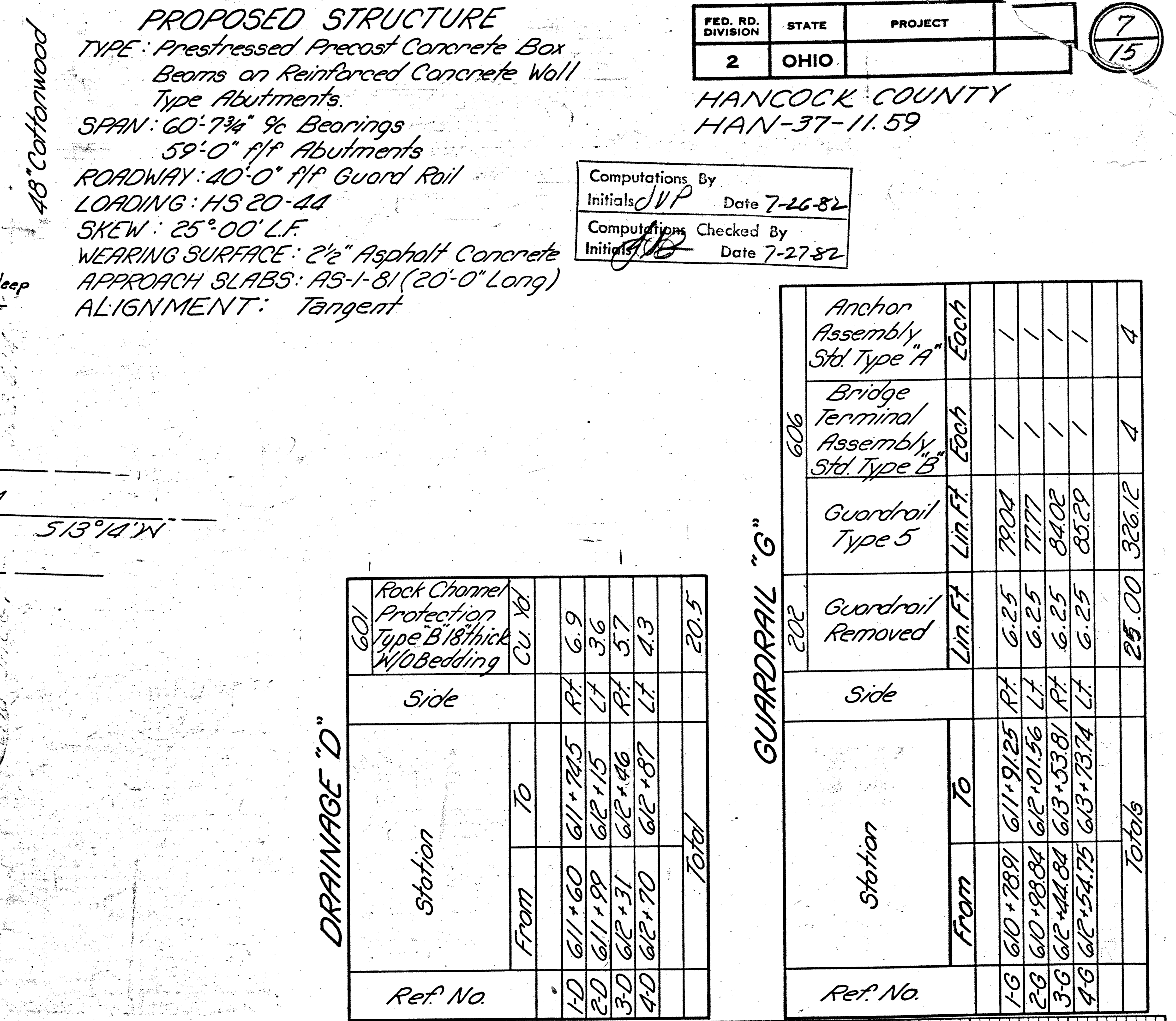
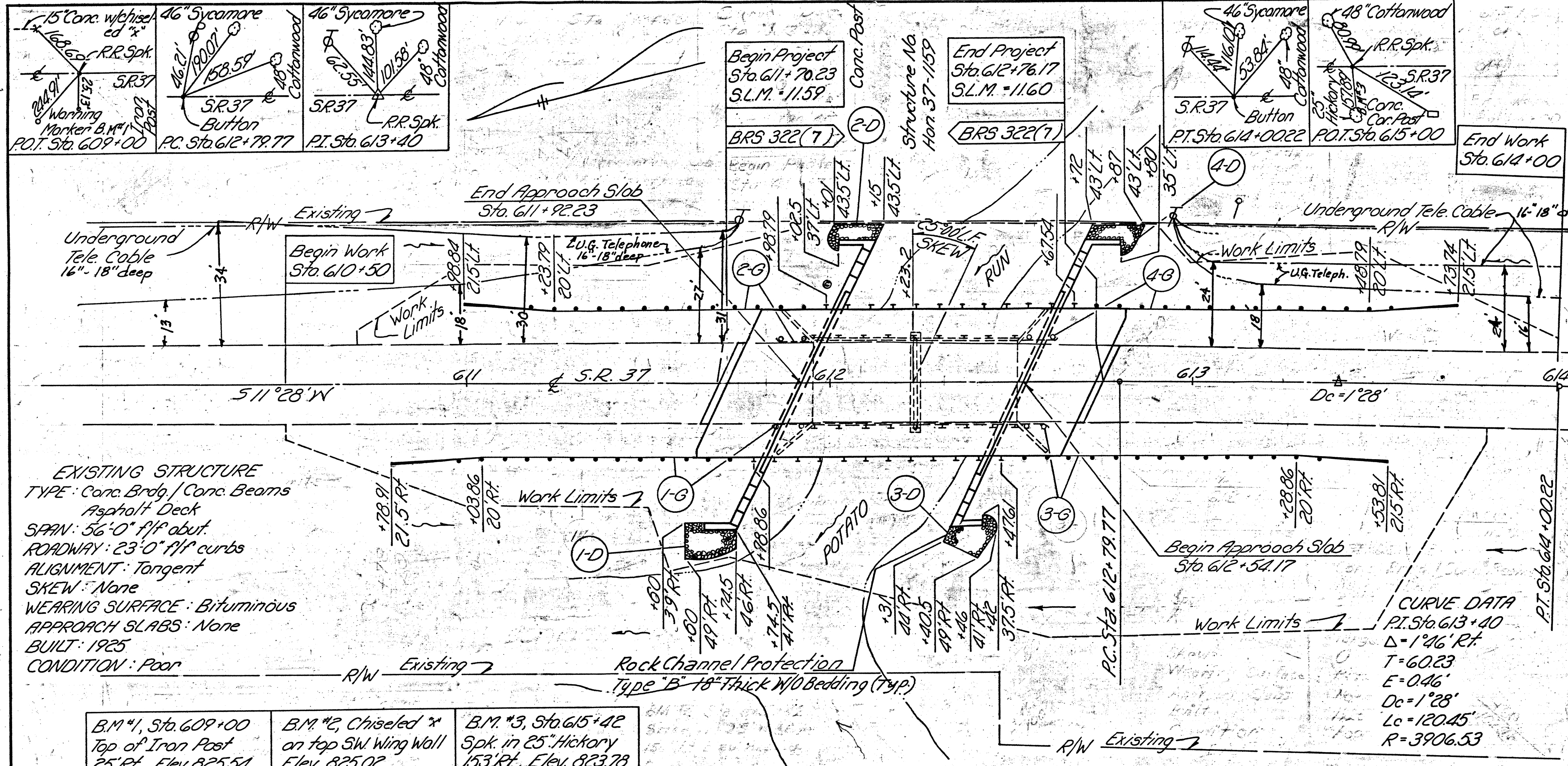
PATCH & SHOULDER DETAIL



PAVEMENT DETAIL
Section A-A



SHOULDER AREA
Section B-B



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	HANCOCK COUNTY HAN-37-11.59

7
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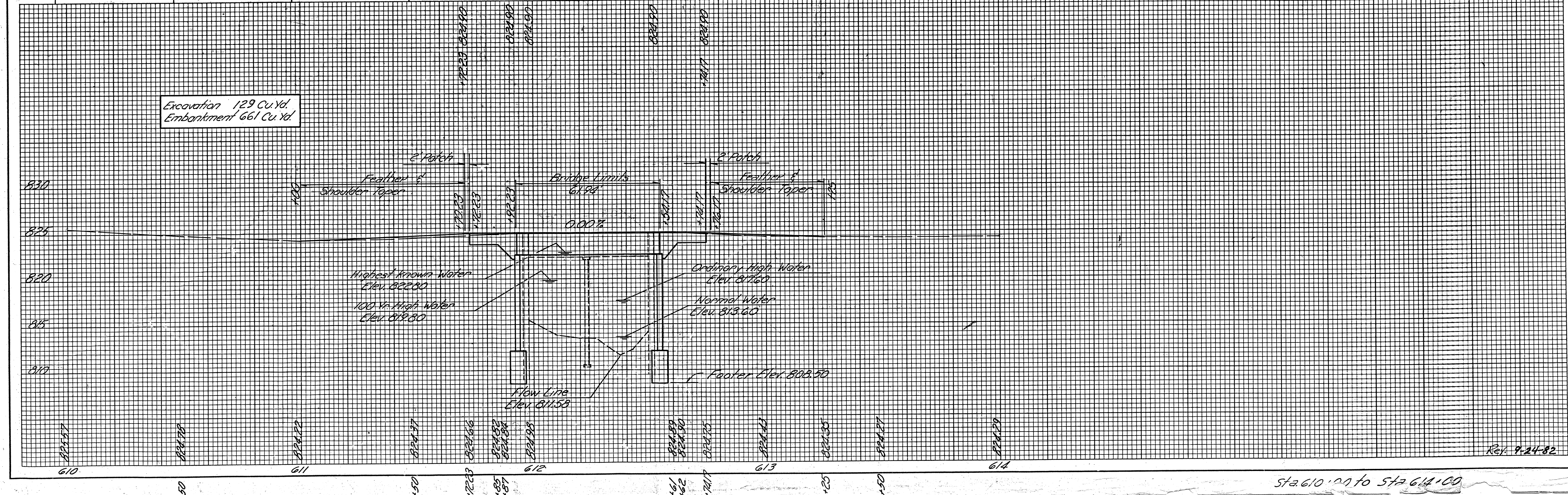
Computations By: Initials *JVP* Date 7-26-82
 Checked By: Initials *JVE* Date 7-27-82

GUARDRAIL "G"

Ref. No.	Station	From	To	Side	Lin. Ft.	Each
1-0	610+78.91	611+91.25	Rt.		79.04	1
2-0	610+98.84	612+01.56	Lt.		77.77	1
3-0	612+44.84	613+53.81	Rt.		84.02	1
4-0	612+54.75	613+73.74	Lt.		85.29	1
				Total	326.12	4

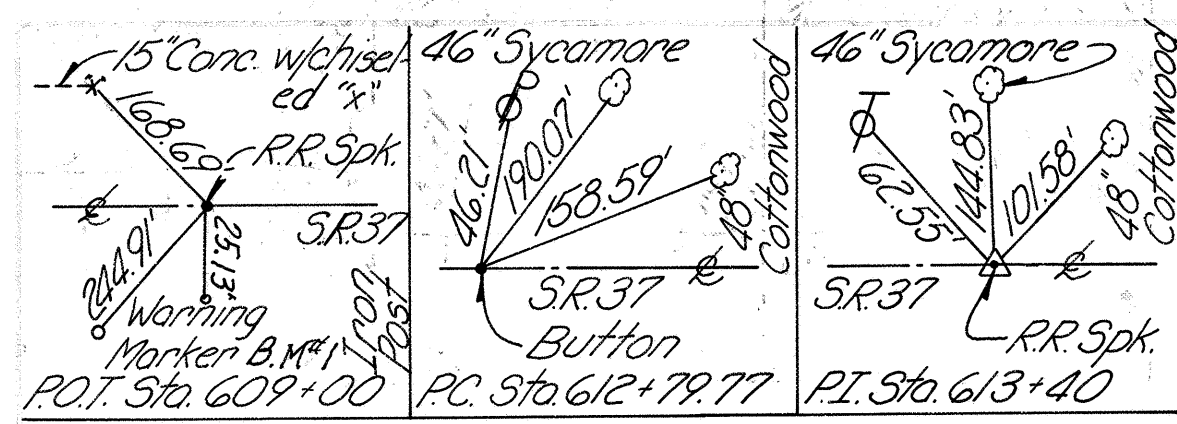
GUARDRAIL "D"

Ref. No.	Station	From	To	Side	Lin. Ft.	Each
1-0	610+78.91	611+91.25	Rt.		79.04	1
2-0	610+98.84	612+01.56	Lt.		77.77	1
3-0	612+44.84	613+53.81	Rt.		84.02	1
4-0	612+54.75	613+73.74	Lt.		85.29	1
				Total	326.12	4

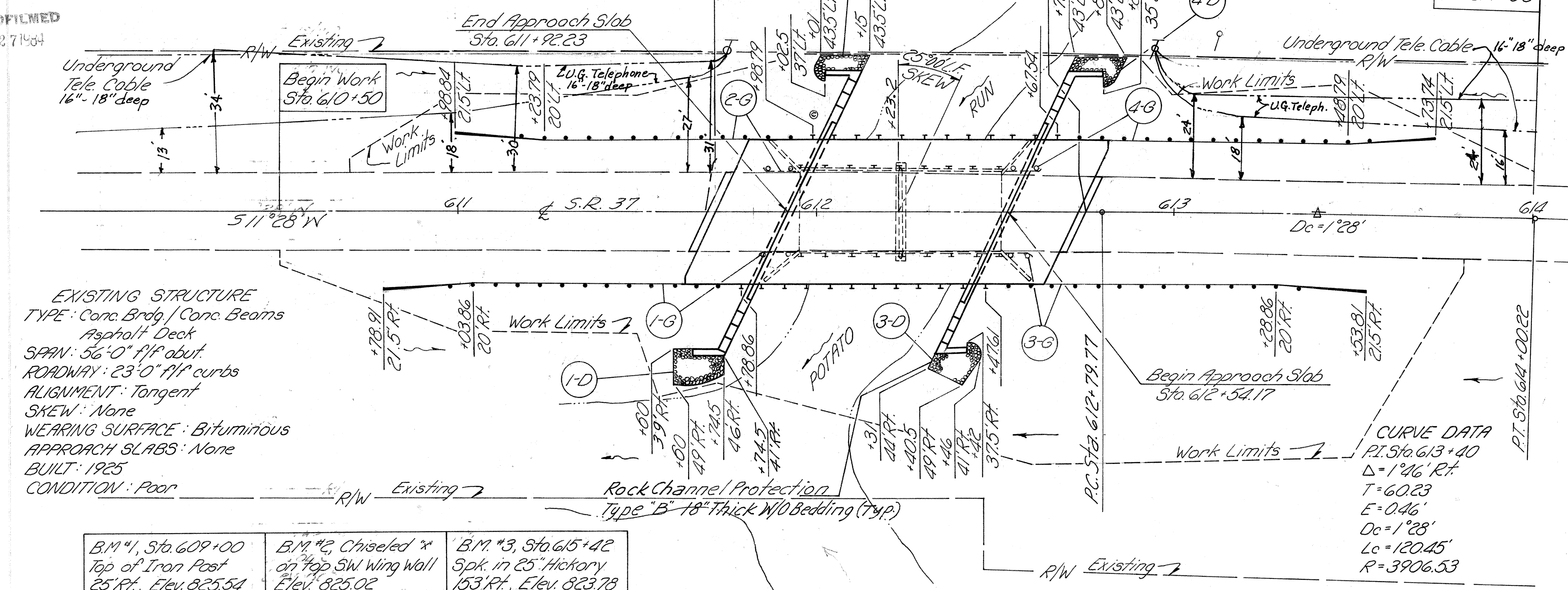


Rev. 9-24-82

Sta. 610.00 to Sta. 614.00



MICROFILMED
AUG 27 1984



PROPOSED STRUCTURE
 TYPE: Prestressed Precast Concrete Box Beams on Reinforced Concrete Wall Type Abutments.
 SPAN: 60'-7 3/4" % Bearings
 59'-0" f/f Abutments
 ROADWAY: 40'-0" f/f Guard Rail
 LOADING: HS 20-44
 SKEW: 25° 00' L.F.
 WEARING SURFACE: 2" Asphalt Concrete
 APPROACH SLABS: AS-1-81 (20'-0" Long)
 ALIGNMENT: Tangent

Computations By: JVP
 Initials: JVP Date: 7-26-82
 Computations Checked By: JVP
 Initials: JVP Date: 7-27-82

HANCOCK COUNTY
HAN-37-11.59

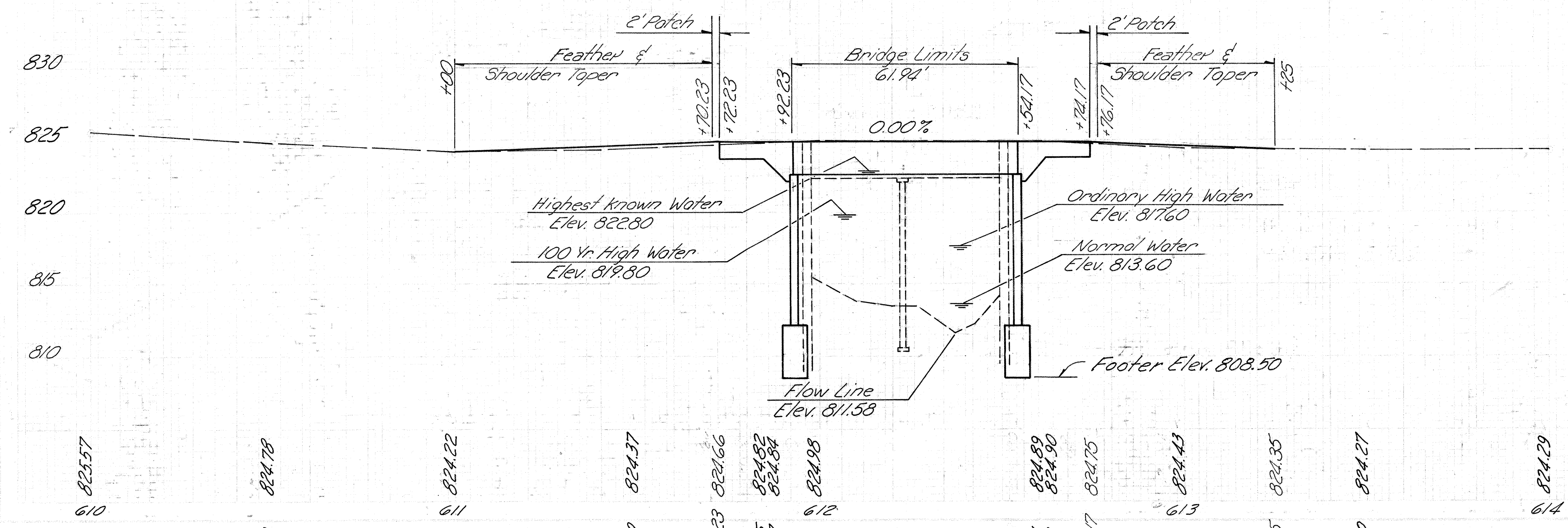
DRAINAGE "D"

Station	From	To	Ref. No.
1-D	611+60	611+74.5	RT
2-D	611+89	612+15	LT
3-D	612+31	612+46	RT
4-D	612+70	612+87	LT
Total			20.5

GUARDRAIL "G"

Station	From	To	Ref. No.
1-G	610+78.91	611+91.25	RT
2-G	610+98.84	612+10.56	LT
3-G	612+44.84	613+53.81	RT
4-G	612+54.15	613+73.14	LT
Total			25.00

Excavation 129 Cu. Yd.
 Embankment 661 Cu. Yd.



SECTION
 ELEVATION
 AREA

Computations By
 Initials *B.R.A.* Date 7-26-82
 Computations Checked By
 Initials *A.J.D.* Date 7-26-82

FED. RD. DIVISION STATE PROJECT
 2 OHIO

HANCOCK COUNTY
 HAN-37-11.59

8
 15

END AREA VOLUME
 CUT FILL CUT FILL

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

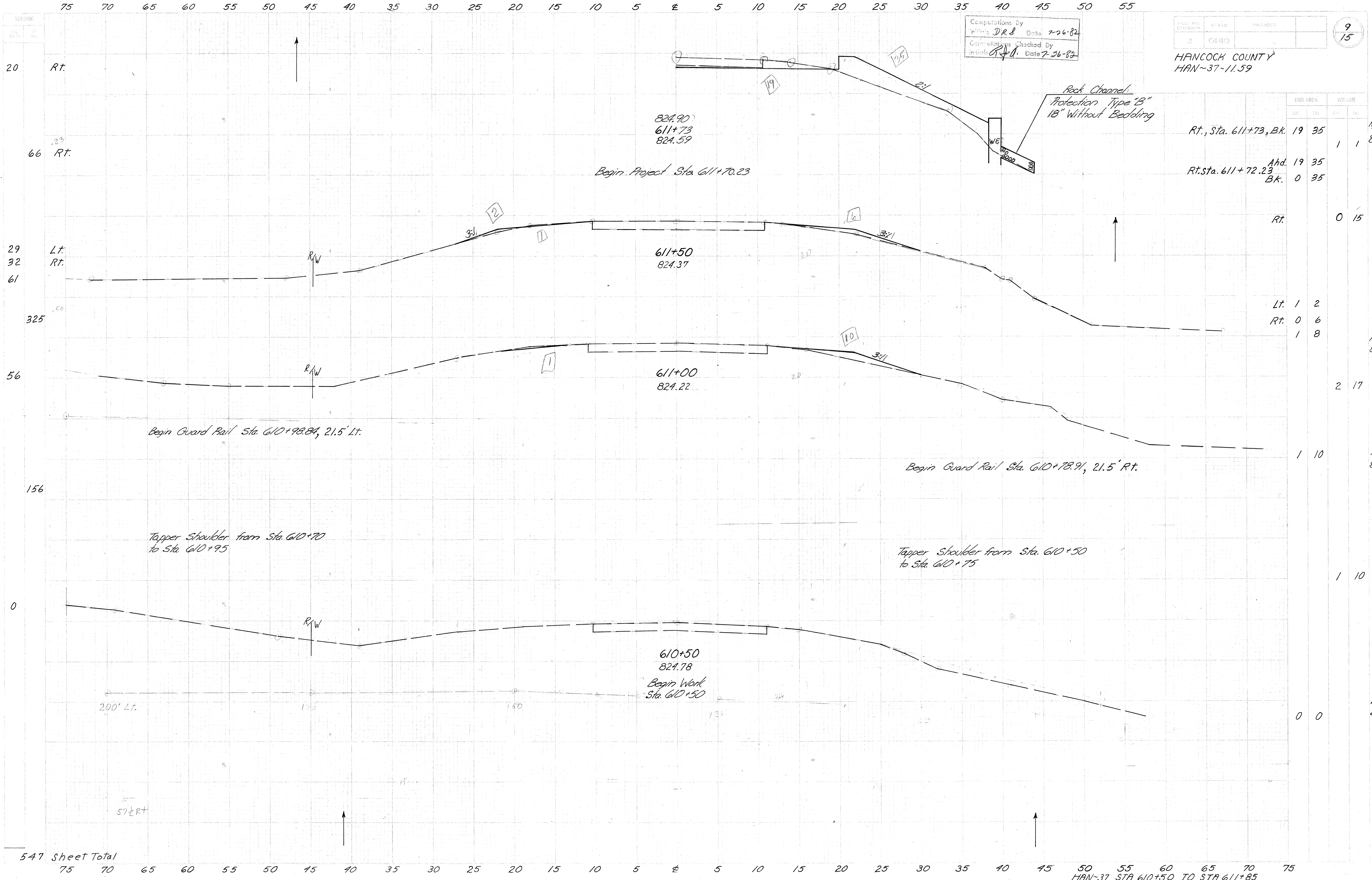
R/W

610+00
 825.57

609+50
 826.12

609+00
 826.74

HAN-37 STA 609+00 TO STA 610+00



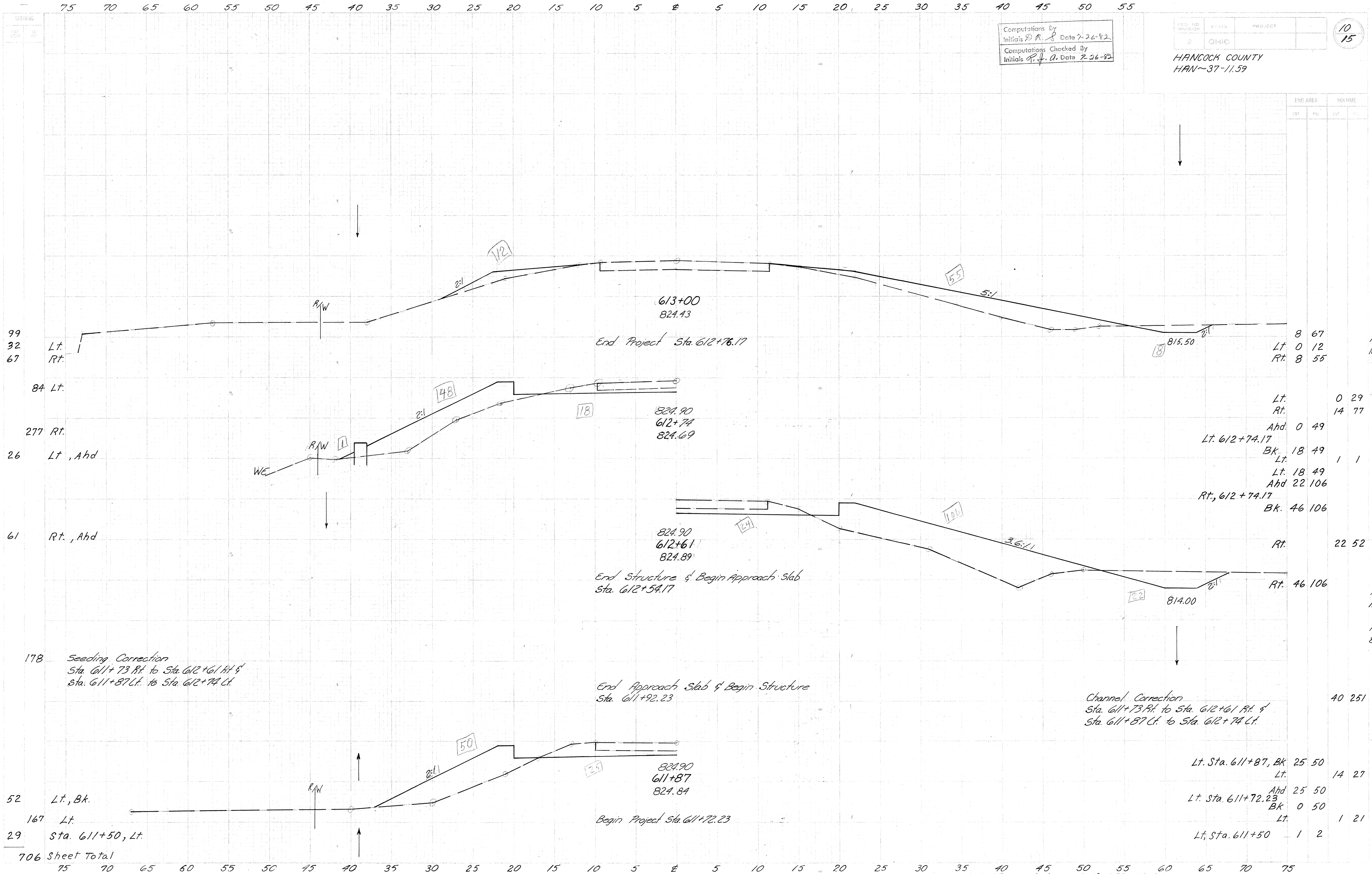
Computations By
John D. B. Date 7-26-82
Computations Checked By
J. H. L. Date 7-26-82

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HANCOCK COUNTY
HAN-37-11.59

9
15

END AREA	VOL. NAME	
	CUT	FILL
Rt., Sta. 611+73, Bk.	19	35
Rt. Sta. 611+72.23	Ahd. 19	35
	Bk. 0	35
Rt.	0	15
Lt.	1	2
Rt.	0	6
	1	8
	2	17
	1	10
	1	10
	0	0



Computations By
Initials *D. R.* Date 7-26-82
Computations Checked By
Initials *P. J. A.* Date 7-26-82

FED. RD. DIVISION
2 OHIO PROJECT
HANCOCK COUNTY
HAN-37-11.59

10
15

END AREA		VOLUME	
CUT	FILL	CUT	FILL

8 67
Lt. 0 12
Rt. 8 55

Lt. 0 29
Rt. 14 77

Ahd. 0 49
Lt. 612+74.17
Bk. 18 49
Lt. 18 49
Ahd. 22 106
Rt. 612+74.17
Bk. 46 106

Rt. 22 52

Rt. 46 106

Rt. 100'
Rt. 80'

40 251

Lt. Sta. 611+87, Bk. 25 50
Lt. 14 27
Ahd. 25 50
Lt. Sta. 611+72.23
Bk. 0 50
Lt. 1 21
Lt. Sta. 611+50 1 2

178 Seeding Correction
Sta. 611+73 Rt. to Sta. 612+61 Rt. &
Sta. 611+87 Lt. to Sta. 612+74 Lt.

End Approach Slab & Begin Structure
Sta. 611+92.23

Channel Correction
Sta. 611+73 Rt. to Sta. 612+61 Rt. &
Sta. 611+87 Lt. to Sta. 612+74 Lt.

824.90
611+87
824.84

Begin Project Sta. 611+72.23

706 Sheet Total

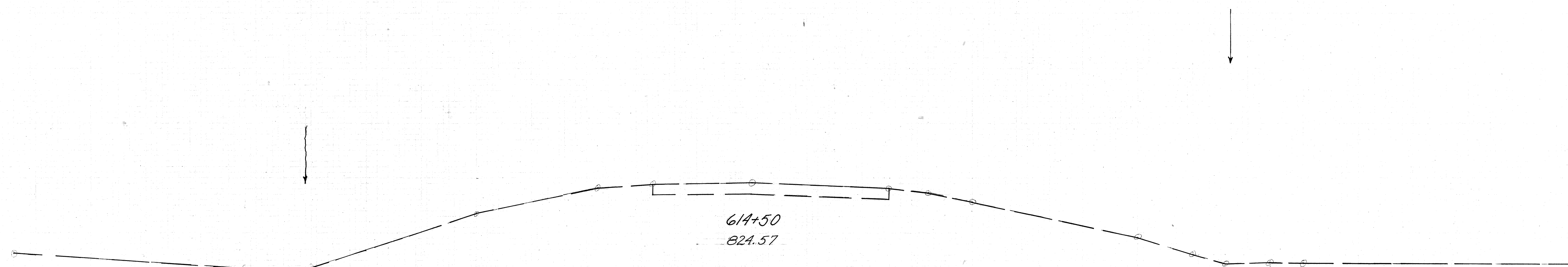
HAN-37 STA 611+87 TO STA 613+00

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Computations By
Initials *S.N.L.* Date 7-26-82
Computations Checked By
Initials *R.F.D.* Date 7-26-82

HANCOCK COUNTY
HAN ~37-11.59

11
15



End Work
Sta 614+00

614+00
824.29

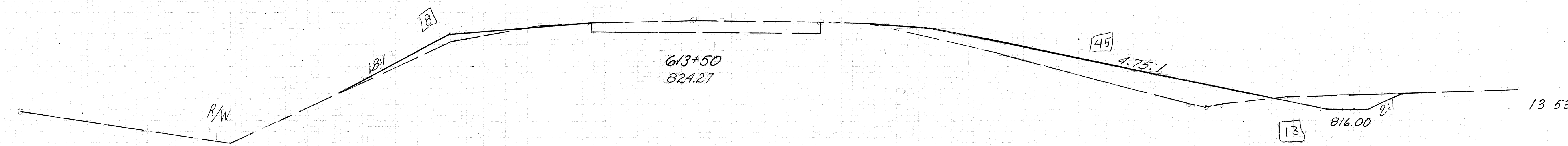
R/W

Topper Shoulder
Sta 613+75 to Sta 614+00

End Guard Rail Sta 613+73.74, 21.5' Lt

Topper Shoulders
Sta 613+58 to Sta 613+80, 21.5' Rt

End Guard Rail Sta 613+53.81



613+50
824.27

R/W

4.75:1

13:1

816.00

2:1

Sta. 613+00 8 67

Sta. 613+00

Sheet Total

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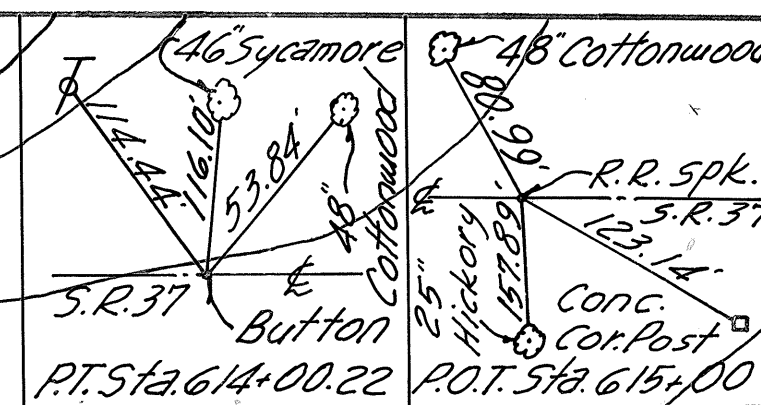
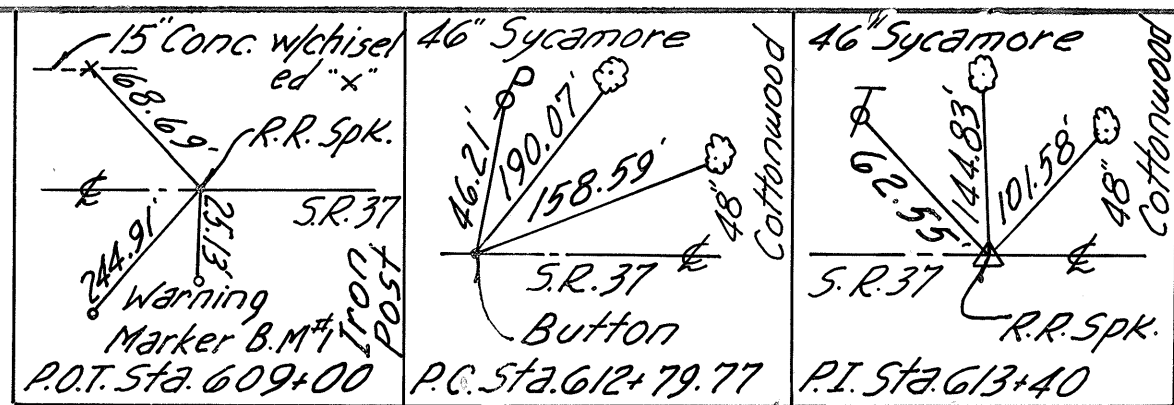
HAN ~37

STA 613+50 TO STA 614+50

Total

129 661

MICROFILMED
AUG 27 1984



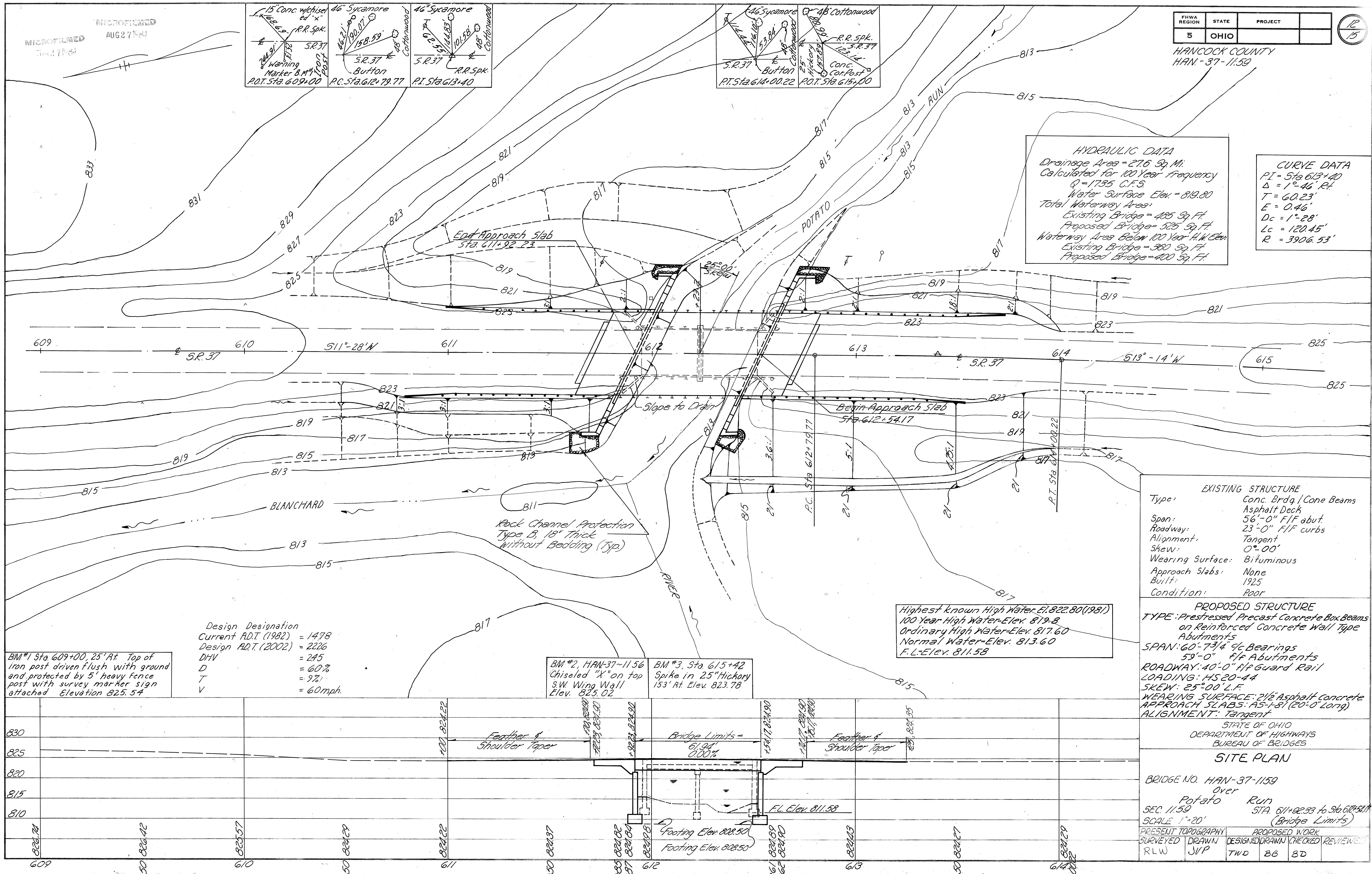
FHWA REGION	STATE	PROJECT
5	OHIO	

12
15

HANCOCK COUNTY
HAN-37-1159

HYDRAULIC DATA
Drainage Area = 27.6 Sq. Mi.
Calculated for 100 Year Frequency
 $Q = 1735$ C.F.S.
Water Surface Elev. = 819.80
Total Waterway Area:
Existing Bridge = 485 Sq. Ft.
Proposed Bridge = 525 Sq. Ft.
Waterway Area Below 100 Year H.W. Elev.
Existing Bridge = 380 Sq. Ft.
Proposed Bridge = 400 Sq. Ft.

CURVE DATA
PI = Sta. 613+40
 $\Delta = 1^\circ 46' R.$
 $T = 60.23'$
 $E = 0.46'$
 $D_c = 1^\circ 28'$
 $L_c = 120.45'$
 $R = 3906.53'$



Design Designation
Current A.D.T. (1982) = 1478
Design A.D.T. (2002) = 2226
DHV = 245
D = 60%
T = 92%
V = 60 mph.

BM #1 Sta. 609+00, 25' Rt. Top of
iron post driven flush with ground
and protected by 5' heavy fence
post with survey marker sign
attached Elevation 825.54

BM #2, HAN-37-1156
Chiseled "X" on top
3" W. Wing Wall
Elev. 825.02

BM #3, Sta. 615+42
Spike in 25" Hickory
153' Rt. Elev. 823.78

Highest known High Water El. 822.80 (1981)
100 Year High Water Elev. 819.8
Ordinary High Water Elev. 817.60
Normal Water Elev. 813.60
F.L. Elev. 811.58

EXISTING STRUCTURE
Type: Conc. Brdg./Cone Beams
Span: 56'-0" F/F abut.
Roadway: 23'-0" F/F curbs
Alignment: Tangent
Skew: $0^\circ 00'$
Wearing Surface: Bituminous
Approach Slabs: None
Built: 1925
Condition: Poor

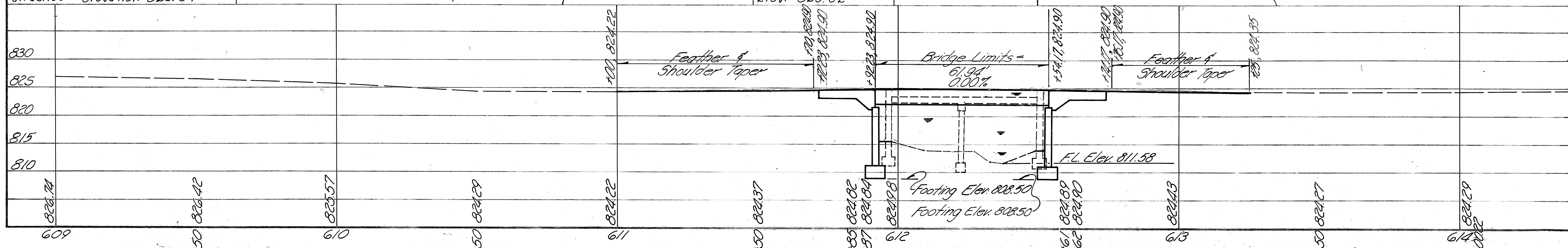
PROPOSED STRUCTURE
TYPE: Prestressed Precast Concrete Box Beams
on Reinforced Concrete Wall Type
Abutments
SPAN: 60'-7 3/4" c/c Bearings
59'-0" F/F Abutments
ROADWAY: 40'-0" F/F Guard Rail
LOADING: HS 20-44
SKEW: $25^\circ 00' L.F.$
WEARING SURFACE: 2 1/2" Asphalt concrete
APPROACH SLABS: AS-1-B1 (20'-0" Long)
ALIGNMENT: Tangent

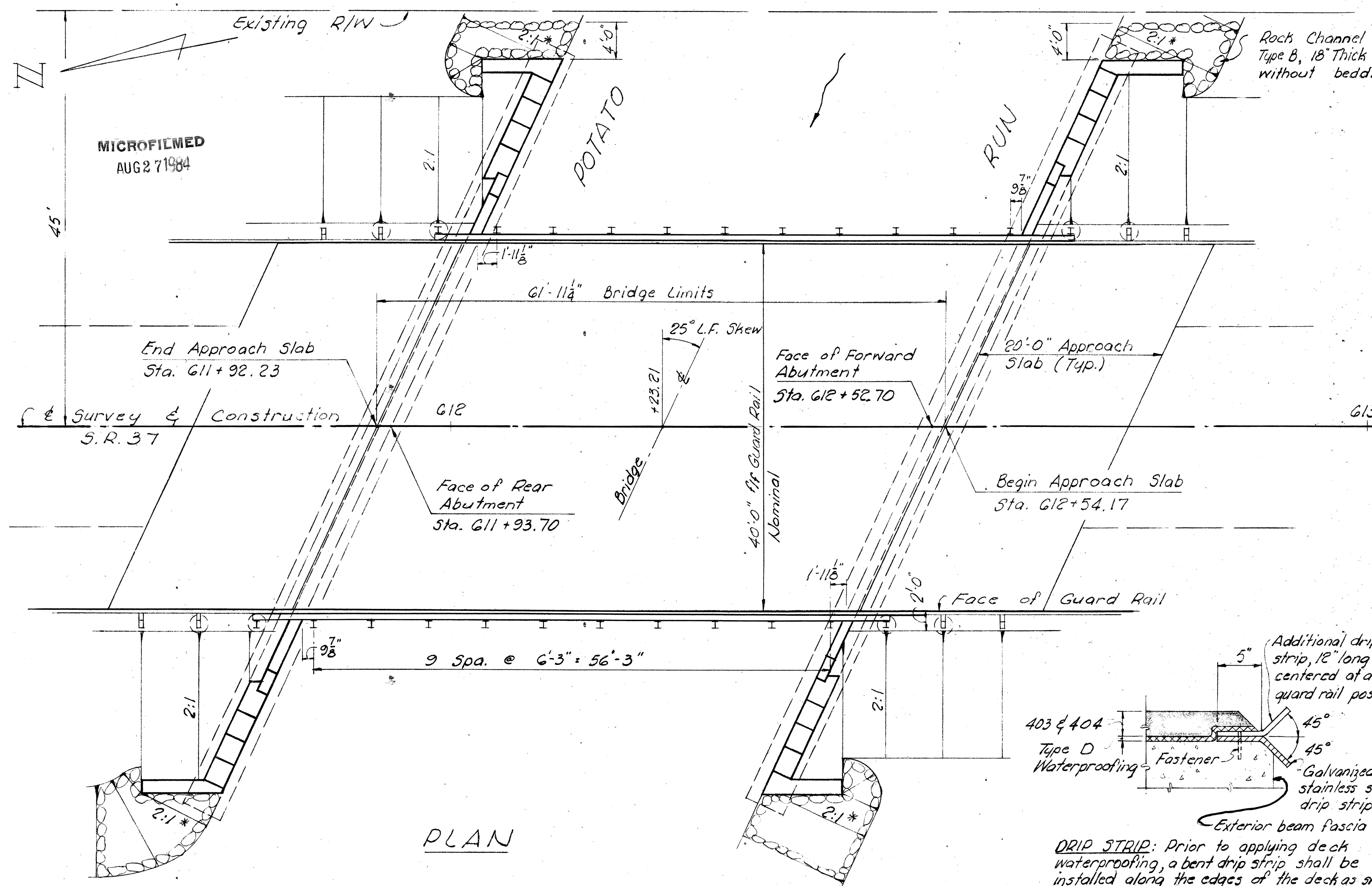
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN

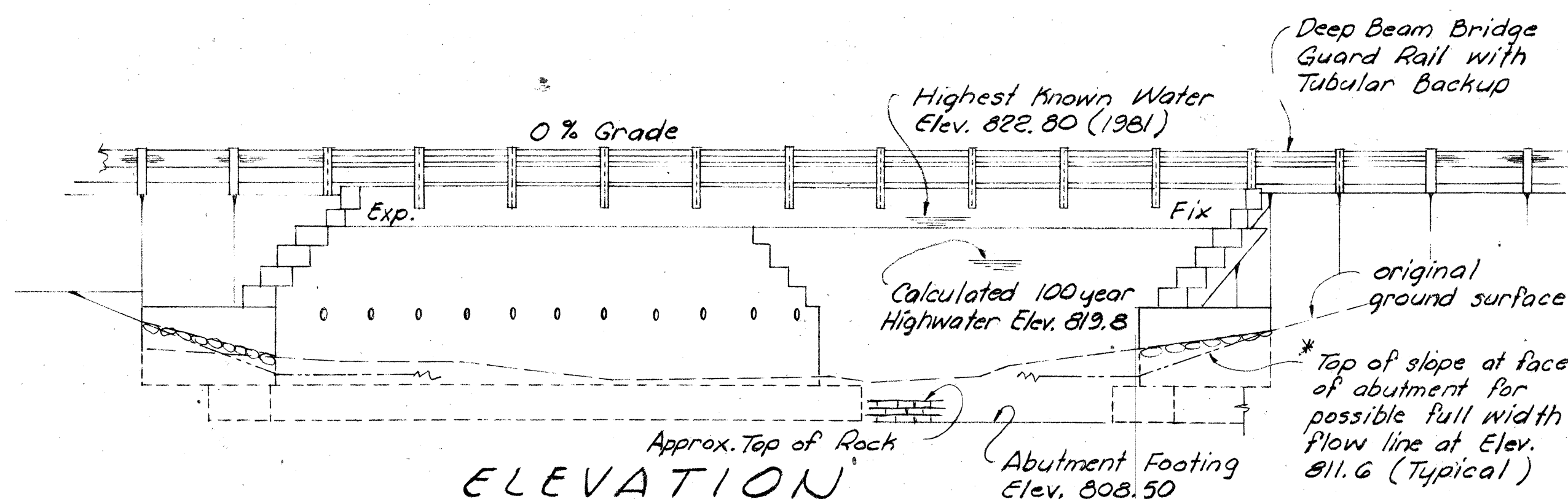
BRIDGE NO. HAN-37-1159
Over
Potato Run
SEC 11.59 STA. 611+92.33 to Sta. 615+40.22
SCALE 1"=20' (Bridge Limits)

PRESENT TOPOGRAPHY	PROPOSED WORK
SURVEYED	DRAWN
RLW	JVP
	TWD
	BB
	BD
	REVIEWED

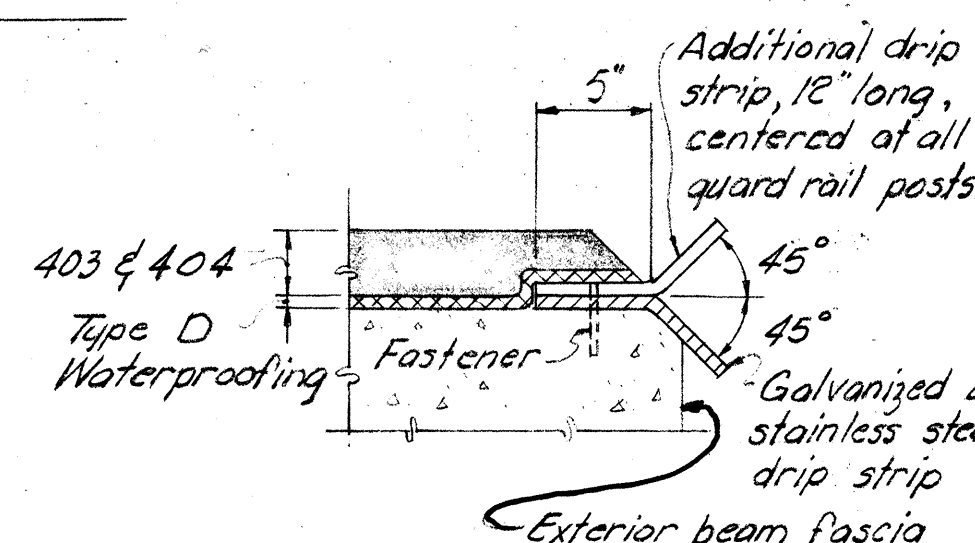




PLAN



ELEVATION



DRIP STRIP: Prior to applying deck waterproofing, a bent drip strip shall be installed along the edges of the deck as shown. The strips shall be fastened at 1'-6" maximum with 1/2" x 3/4" flat head drive pin and washer. (Length x Shank Dia. x Head Dia.) or #10 galvanized screws and expansion anchors, subject to the approval of the Engineer. The strips shall be placed the full length of the deck, ending at the face of the abutment wingwall. Where splices are required a 3" (Min.) lap shall be used with a fastener through the lap. Steel for galvanized strips shall be 8" x 0.105" and shall meet the requirements of ASTM A568. Galvanizing shall be in accordance with 711.02. Stainless steel shall be 20 gauge ASTM A167, Type 304, mill finish. Payment shall be at the contract price bid for item Special, Sq. Ft., Steel Drip Strip, which shall include all materials, labor, tools and incidentals necessary to complete the item.

DRIP STRIP DETAIL

GENERAL NOTES

REFERENCE shall be made to Standard Drawings:
AS-1-B1, "Reinforced Concrete Approach Slabs", dated 11-27-81
PSBD-1-B1, "Prestressed Concrete Box Beam Bridge Details", dated 9-18-81
DBR-2-73, "Deep Beam Bridge Guard Rail with Tubular Backup", dated 4-10-73

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway and Transportation Officials, 1977 including the current Interim Specifications and the Ohio "Supplement" to these specifications.

DESIGN DATA

Design Loading HS 20-44
Concrete Class C, Abutments - Compressive Stress $f'_c = 4,000$ p.s.i.
Reinforcing Steel, Abutments - ASTM A615, A616 or A617 Grade 60, unit stress 20,000 p.s.i.
Concrete for Prestressed Concrete Beams - Unit Stress 2200 p.s.i. compression
440 p.s.i. tension
Prestressing Strands - ASTM A416, $f'_s = 270,000$ p.s.i.
Initial Stress = 0.70 f'_s

REMOVAL OF EXISTING STRUCTURE: The existing structure shall be removed to accommodate the placement of the new footings.

FOUNDATION BEARING PRESSURE: Abutment footings are designed for a maximum bearing pressure of 1.95 Tons per sq. ft. Allowable maximum = 8.0 Tons per sq. ft.

FOOTINGS shall extend a minimum 3 inches into bedrock or to the elevation shown, whichever is lower.

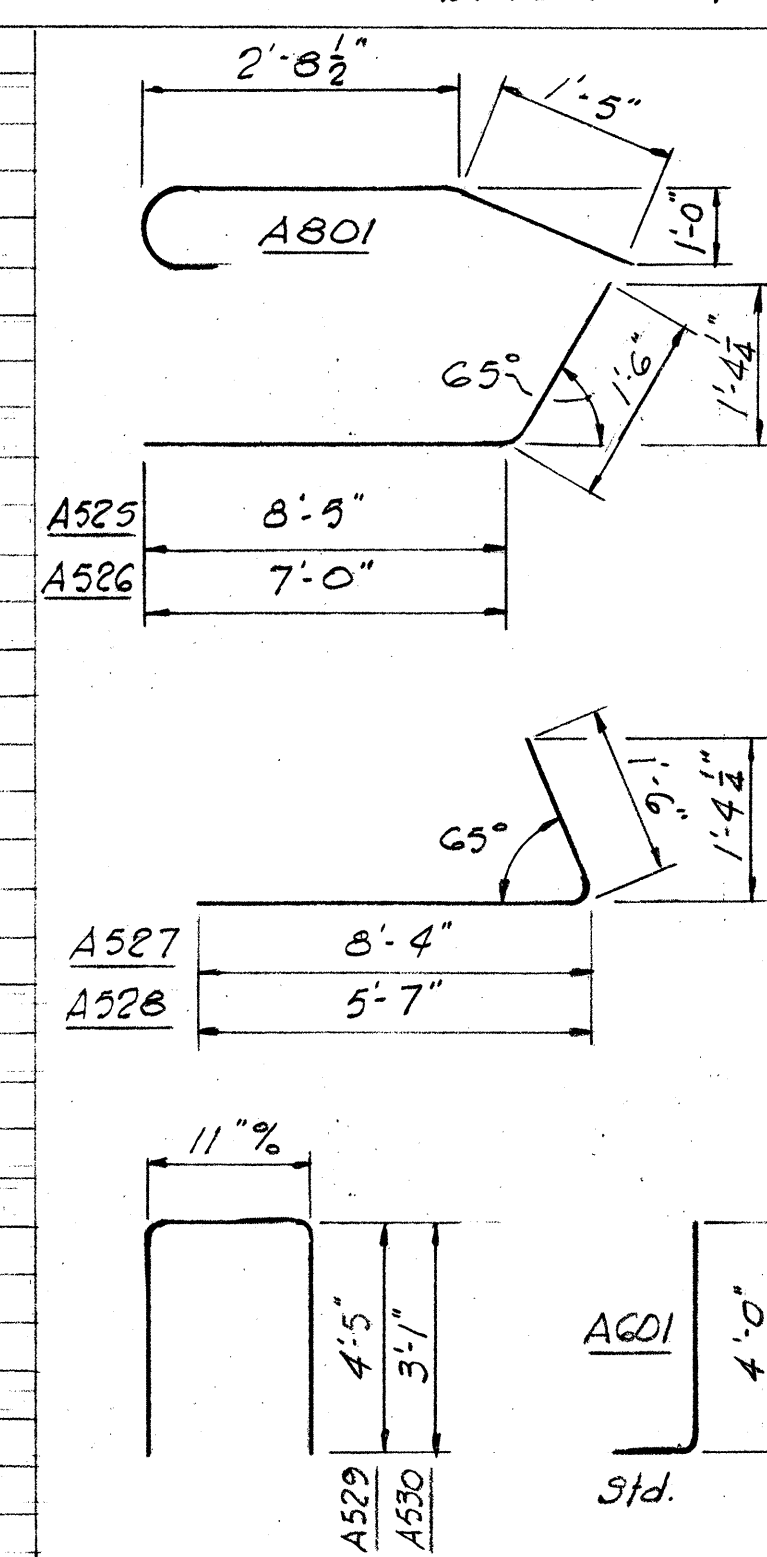
CHANNEL BOTTOM: The existing channel under the bridge is to remain as is. Excavation required to construct the abutments shall be backfilled to the original ground line. Abutments have been designed to accommodate a full width channel.

SPAN: Design span length is the distance shown between bearings.

REINFORCING STEEL LIST

BRIDGE NO. HAN-37-1159

Mark	No.	Length	Weight	Shape	Rear	Fwd.
ABUTMENT						
A801	34	5'-0"	721	B	27	27
A601	126	4'-10"	915	B	63	63
A502	92	10'-9"	1032	S	46	46
A503	92	11'-0"	1056	S	46	46
A504	8	9'-6"	79	S	4	4
A505	8	9'-9"	81	S	4	4
A506	4	8'-2"	34	S	2	2
A507	4	8'-5"	35	S	2	2
A508	8	6'-11"	58	S	4	4
A509	8	7'-2"	60	S	4	4
A510	6	5'-7"	35	S	3	3
A511	44	5'-9"	264	S	22	22
A512	72	30'-0"	2253	S	36	36
A513	10	15'-10"	165	S	5	5
A514	10	16'-7"	173	S	5	5
A515	10	16'-1"	168	S	5	5
A516	10	15'-4"	160	S	5	5
A517	4	15'-2"	63	S	2	2
A518	4	12'-4"	51	S	2	2
A519	4	9'-6"	40	S	2	2
A520	4	6'-8"	28	S	2	2
A521	4	13'-5"	56	S	2	2
A522	4	10'-7"	44	S	2	2
A523	4	7'-9"	32	S	2	2
A524	4	4'-11"	21	S	2	2
A525	10	9'-11"	103	B	5	5
A526	18	8'-6"	160	B	9	9
A527	10	9'-9"	102	B	5	5



Mark	No.	Length	Weight	Shape	Rear	Fwd.
ABUTMENT						
A528	18	7'-0"	131	B	9	9
A529	18	9'-6"	178	B	9	9
A530	8	6'-10"	57	B	4	4
A531	2	6'-7"	14	S	1	1
A532	2	6'-1"	13	S	1	1
A533	4	9'-6"	40	S	2	2
A534	4	9'-0"	38	S	2	2
A535	2	4'-7"	10	S	1	1
A536	2	5'-0"	10	S	1	1
A537	4	7'-6"	31	S	2	2
A538	4	7'-11"	33	S	2	2

ESTIMATED QUANTITIES

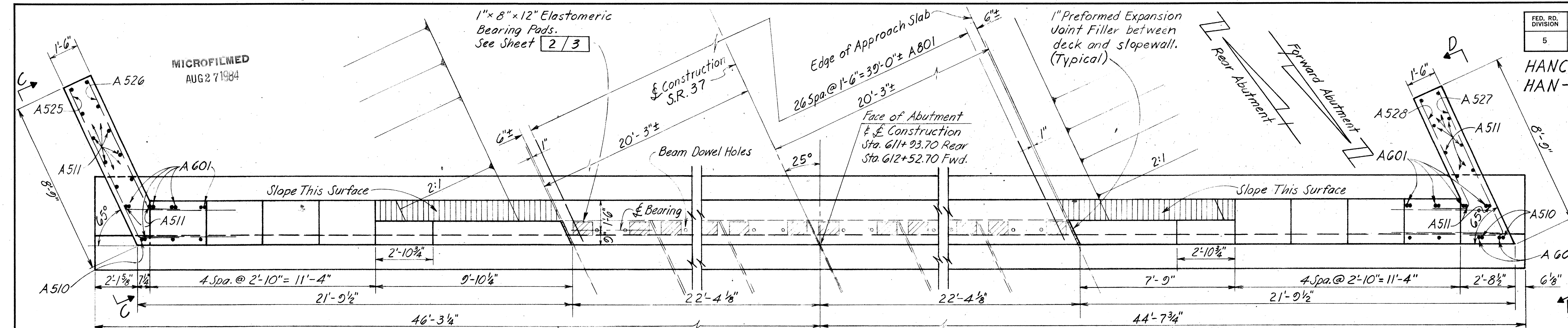
BRIDGE No. HAN-37-1159

Item	Total	Unit	Description	Abutment's Rear	Super-structure	General
202	Lump Sum	Lump Sum	Structure removed			Lump Sum
403	14	Cu. Yd.	Asphalt concrete (AC-20)			14
404	10	Cu. Yd.	Asphalt concrete (AC-20)			10
503	Lump Sum	Lump Sum	Cofferdams, cribs and sheeting			Lump Sum
503	202	Cu. Yd.	Unclassified excavation	112	90	
503	59	Cu. Yd.	Rock excavation	22	37	
509	8544	Lb.	Reinforcing steel, Grade 60	4272	4272	
511	76	Cu. Yd.	Class C concrete, footings	38	38	
511	168	Cu. Yd.	Class C concrete, abutment walls	84	84	
512	8	Sq. Yd.	Type B waterproofing	4	4	
512	296	Sq. Yd.	Type D waterproofing			296
515	10	Each	Prestressed concrete bridge members			10
516	208	Sq. Ft.	1" preformed expansion joint filler	104	104	
516	40	Each	8"x12"x1" elastomeric bearing pads	20	20	
516	20	Each	1/2" preformed bearing pads, 711.21, 8"x12"			20
516	90	Lin. Ft.	Joint sealer	45	45	
517	123.88	Lin. Ft.	Railing (deep beam rail with tubular backup and steel posts & bolts)			123.88
518	58	Cu. Yd.	Porous backfill	29	29	
Special	92	Sq. Ft.	Steel drip strip			92

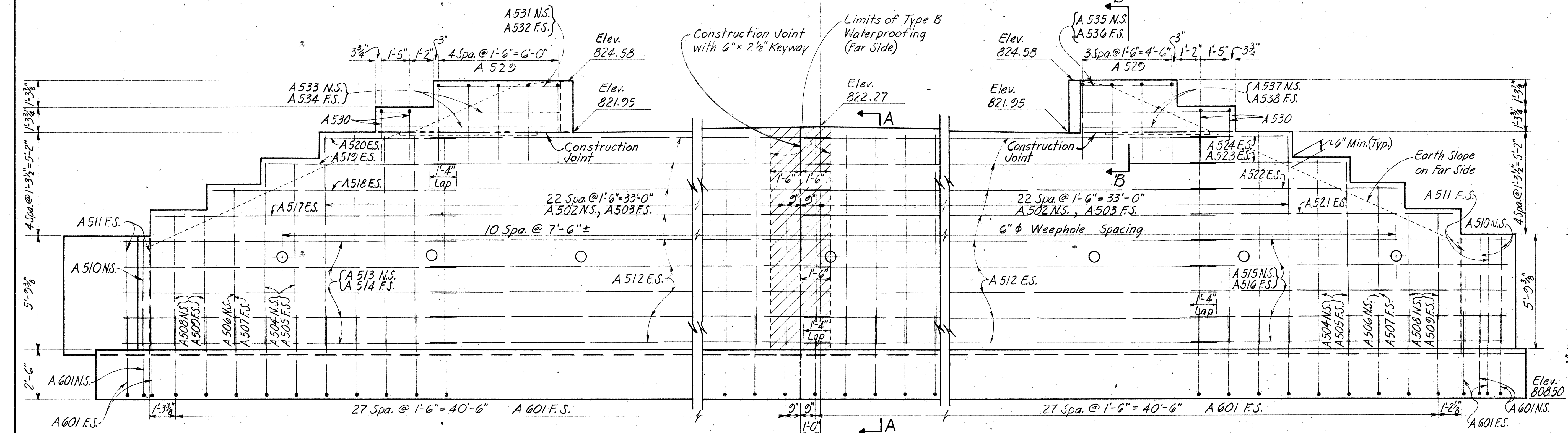
Estimated Quantities By: T.W.D. July 7, 82
Checked By: G.P.L. July 21, 82

DANSARD GROHNE LONG, LTD. CONSULTING ENGINEERS TOLEDO, OHIO					
GENERAL PLAN & ELEVATION, ESTIMATED QUANTITIES, REINFORCING STEEL LIST, AND GENERAL NOTES BRIDGE No. HAN-37-1159 over POTATO RUN					
HANCOCK COUNTY Sta. 611+92.23 to Sta. 612+54.17					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
T.W.D. Besse	Rep.	T.W.D.	B.D.	7-13-82	

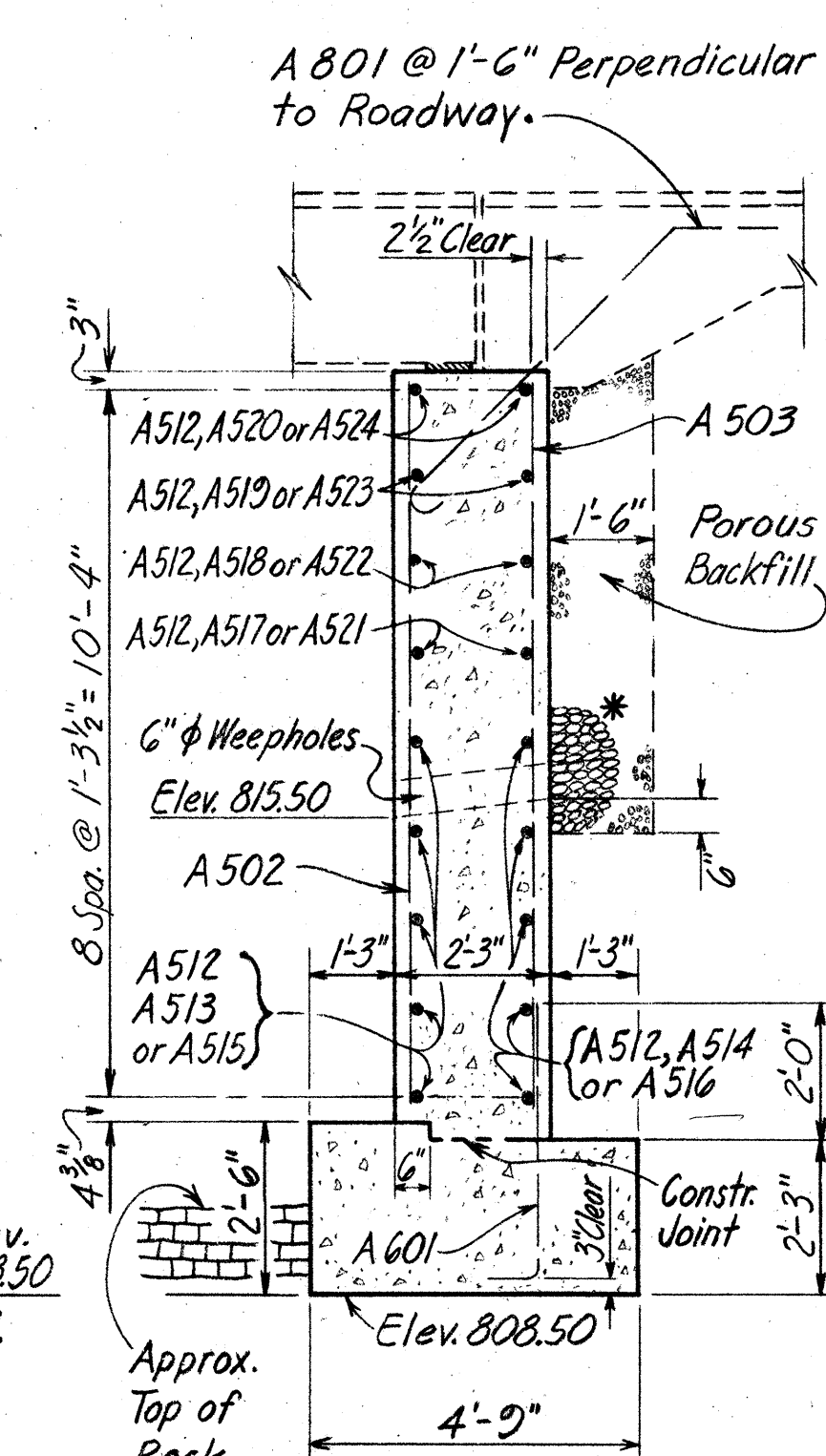
HANCOCK COUNTY
HAN-37-11.59



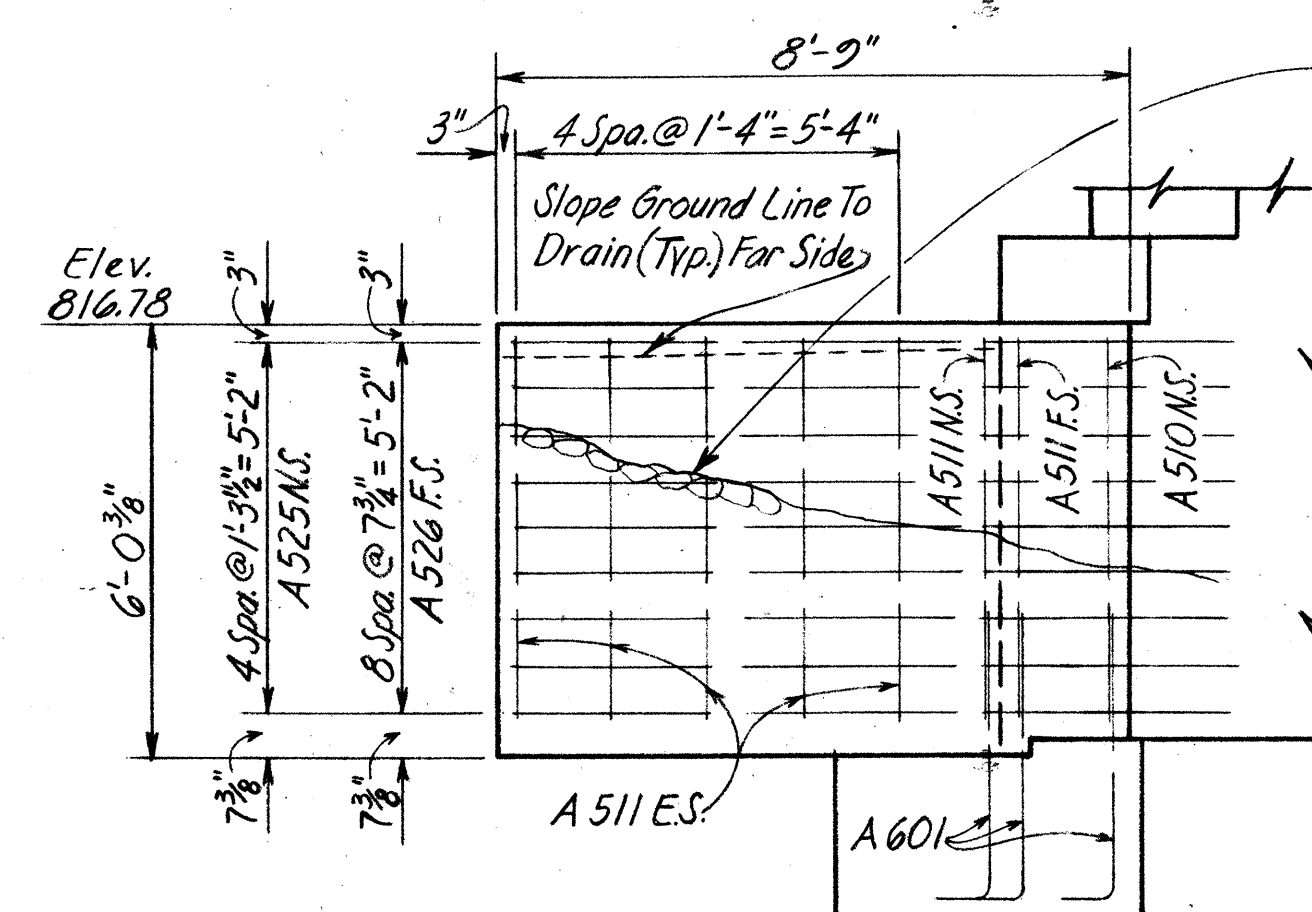
PLAN



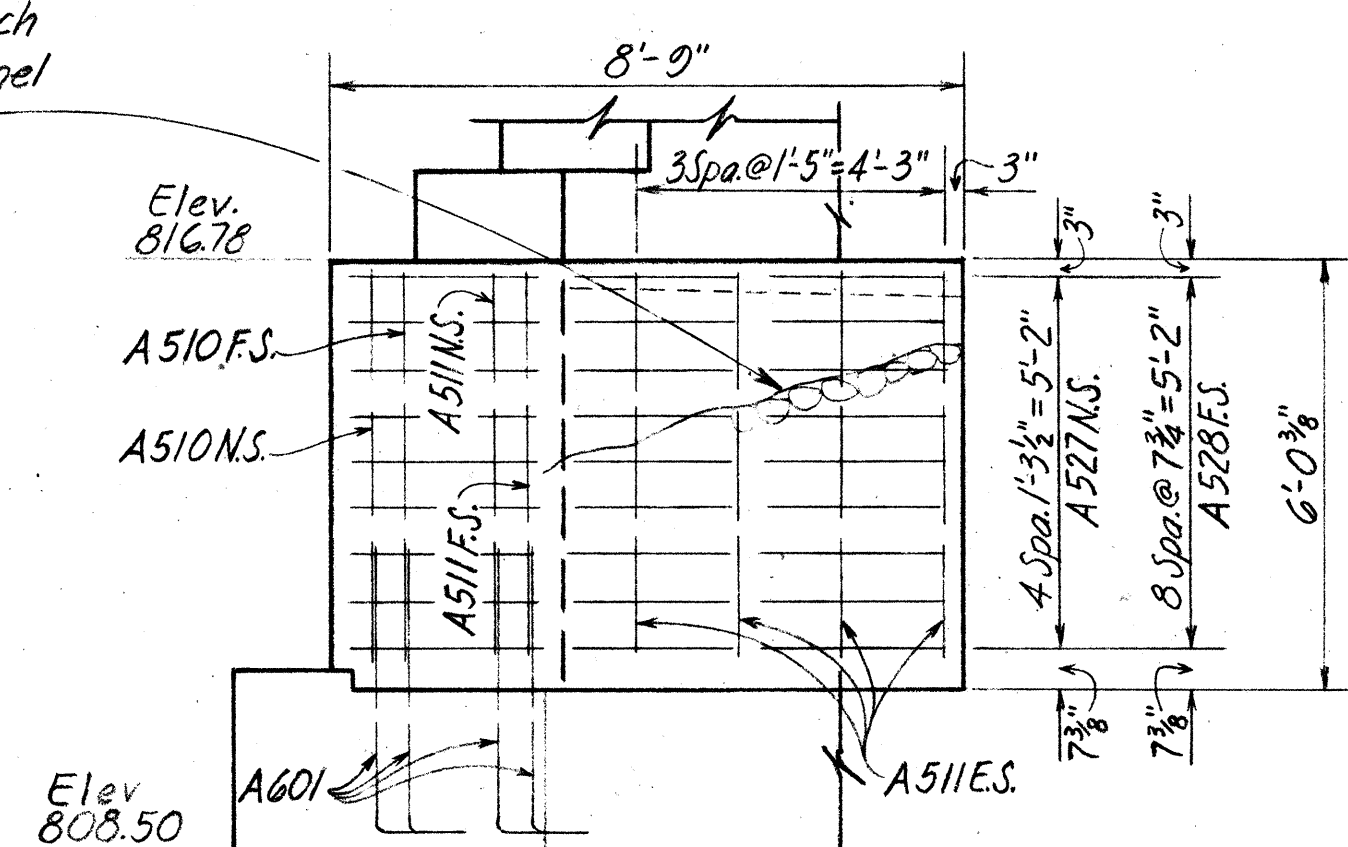
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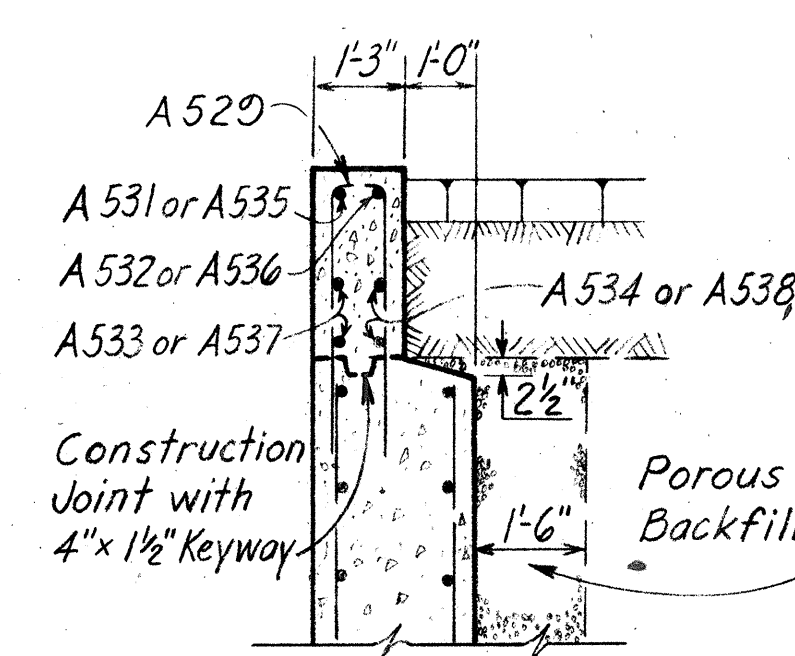
SECTION A-A



ELEVATION C-C



ELEVATION D-D



SECTION B-B

NOTES

POROUS BACKFILL shall extend from 6" below the weepholes upward to the plane of the subgrade within the roadway area and extended laterally to the surface of the embankment slopes. Backfill shall be placed no higher than Elev. 811.6 prior to placing and anchoring the deck beams.

BRIDGE SEAT ELEVATIONS have been adjusted upward 1/8" to compensate for the vertical deformation of the bearing pads.

N.S. = Near Side
F.S. = Far Side
E.S. = Each Side

Rear and Forward Abutments are the same.

* 2 Cu. Ft. of bagged No. 3 Aggregate at each weep hole (Included with Porous Backfill for Payment)

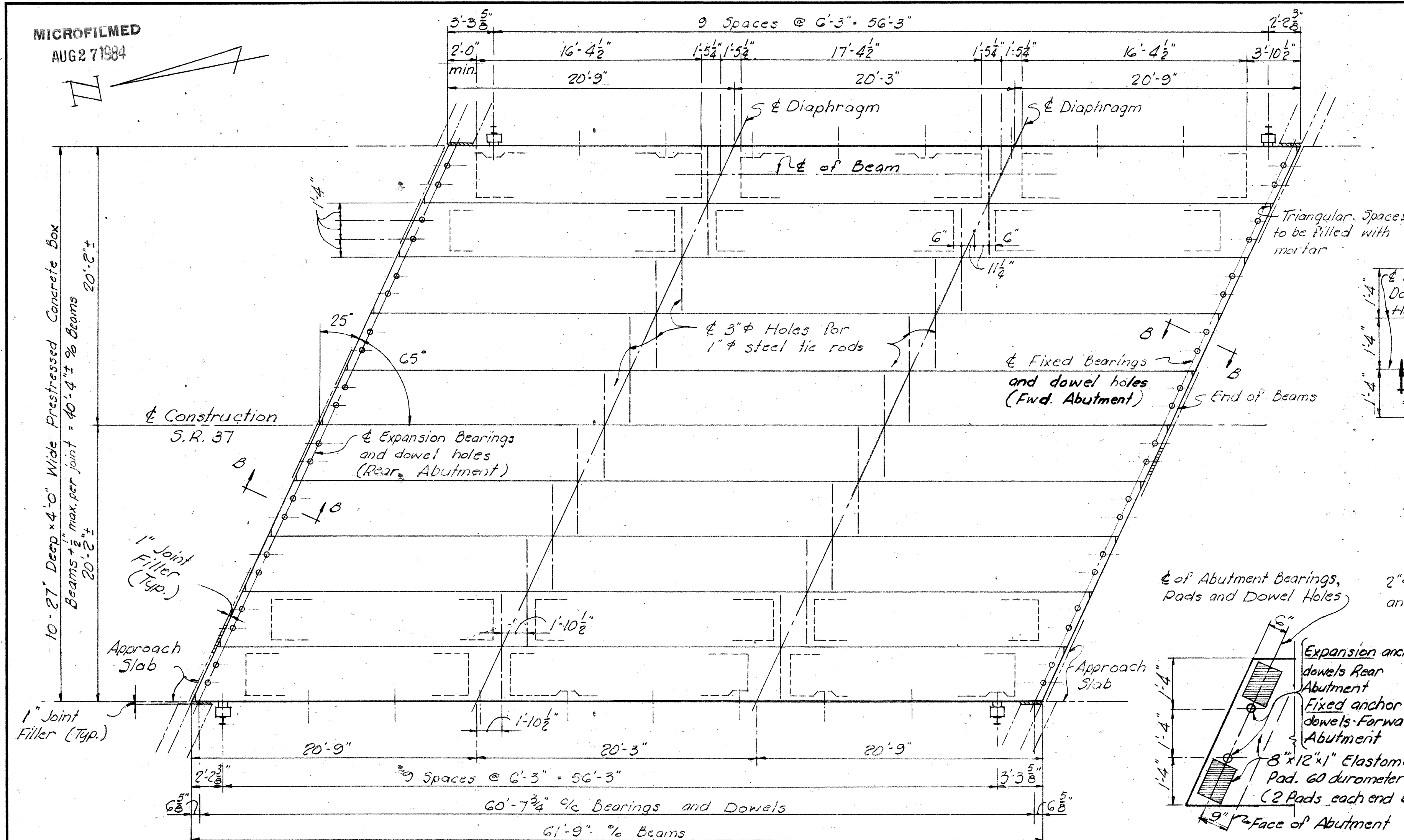
DANSARD · GROHNKE · LONG, LTD.						
CONSULTING ENGINEERS TOLEDO, OHIO						
ABUTMENT DETAILS BRIDGE NO. HAN-37-1159 over POTATO RUN						
HANCOCK COUNTY Sta. 611+22.23 To Sta. 612+54.17						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
TWD	LWN	Rep.	TWD	BD	7-13-82	

MICROFILMED
AUG 27 1984

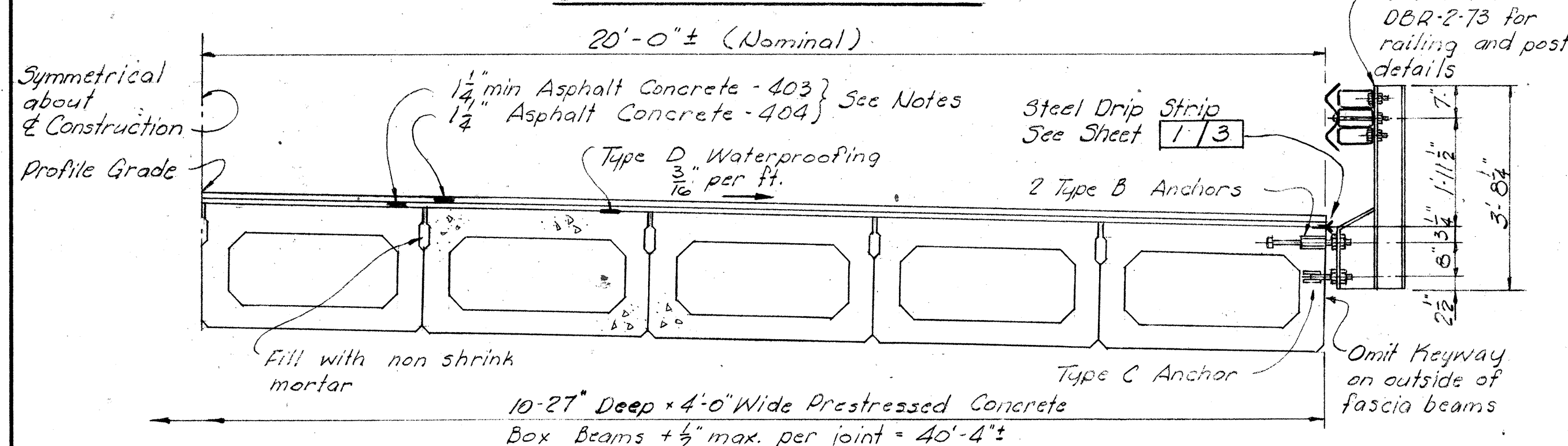
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5	OHIO		

HANCOCK COUNTY
HAN-37-11.59

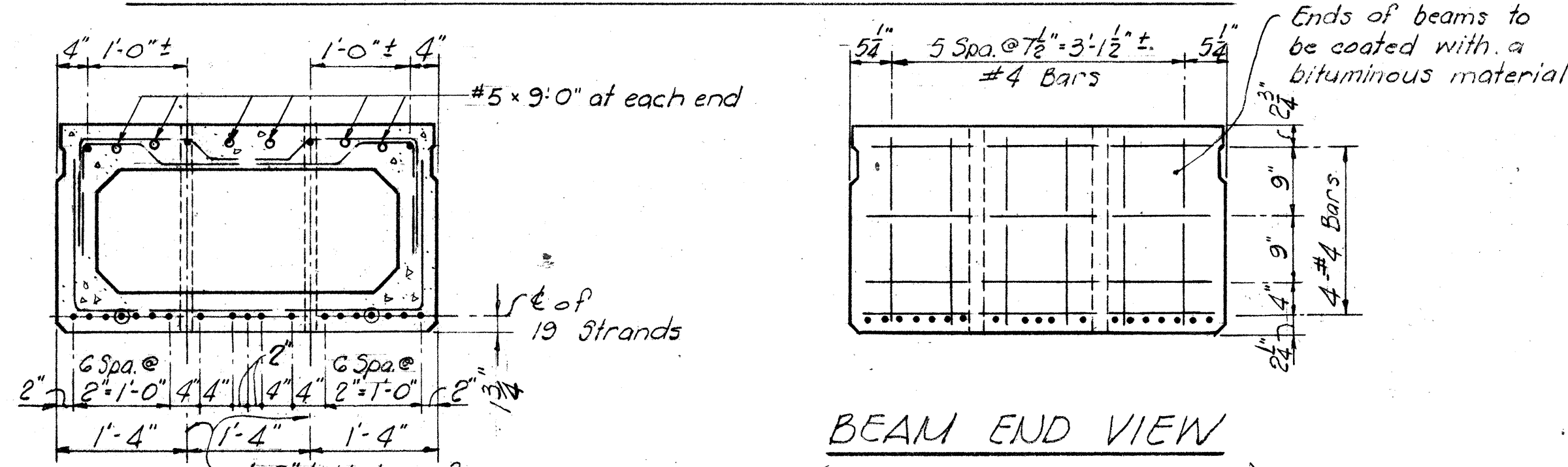
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15



BEAM DECK PLAN



HALF TRANSVERSE SECTION OF DECK

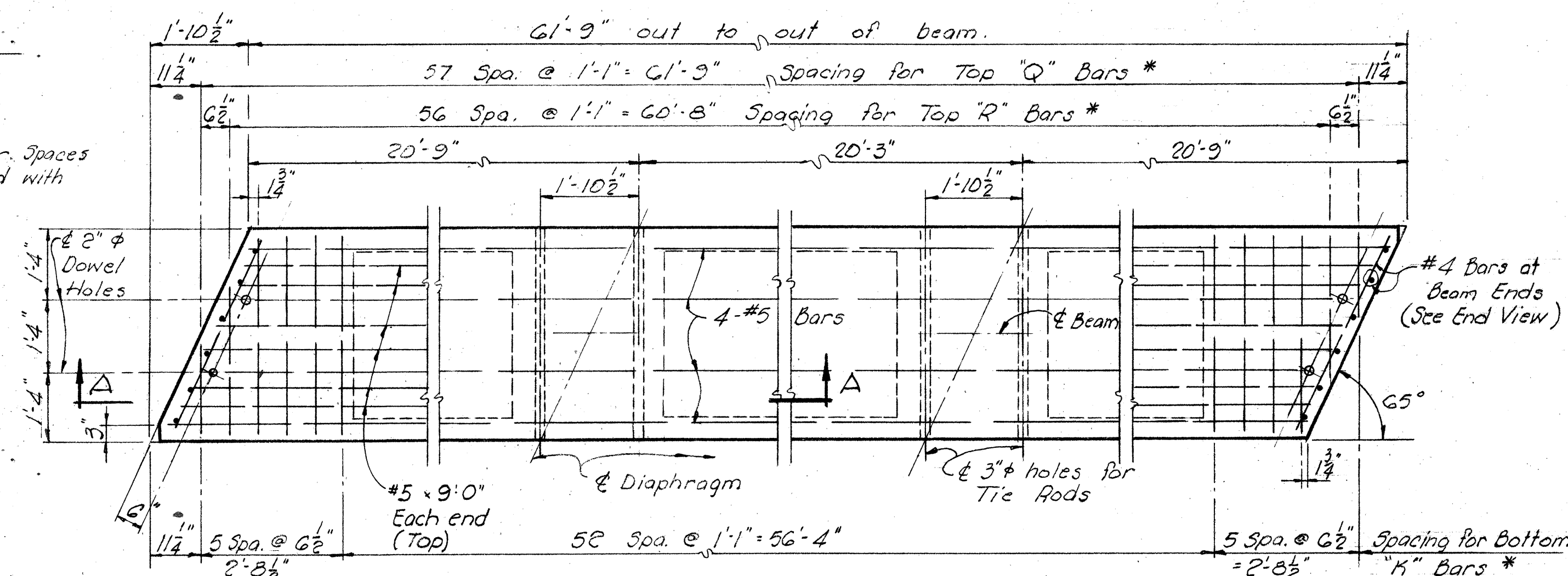


BEAM END VIEW

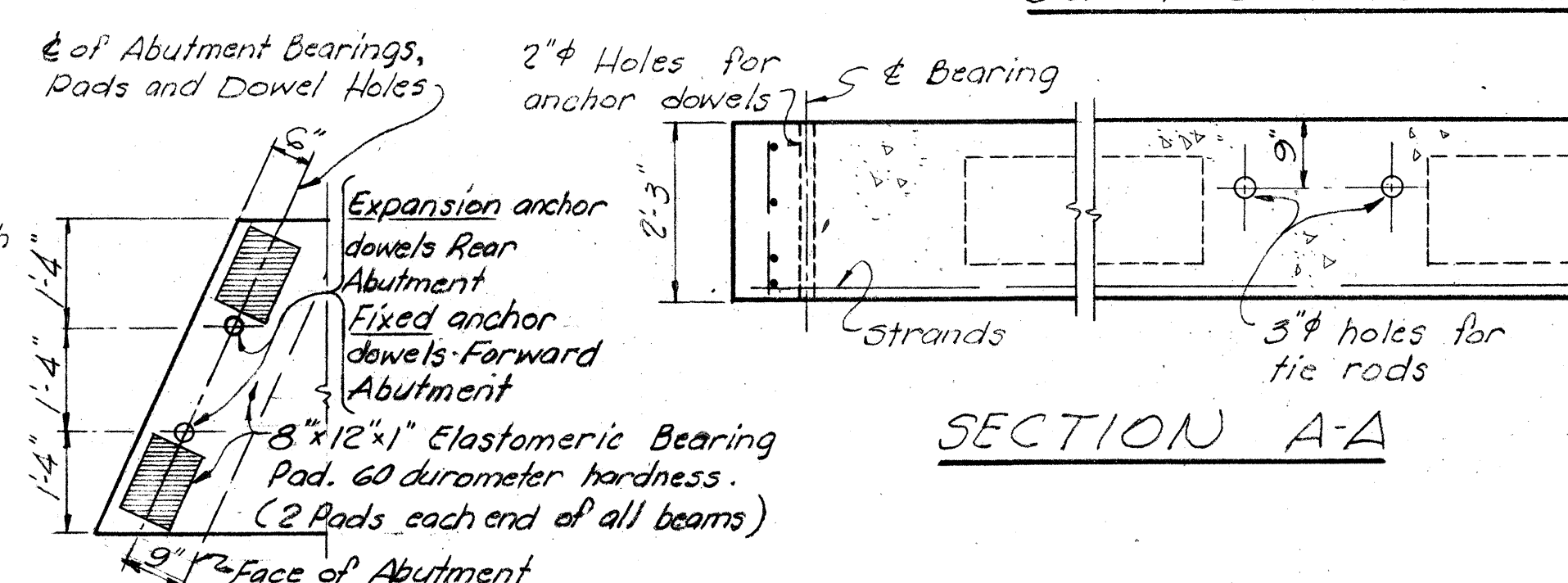
(Showing Reinforcing at ends)

Indicates location of debanded strands 1'-6" from ends of beams

BEAM SECTION

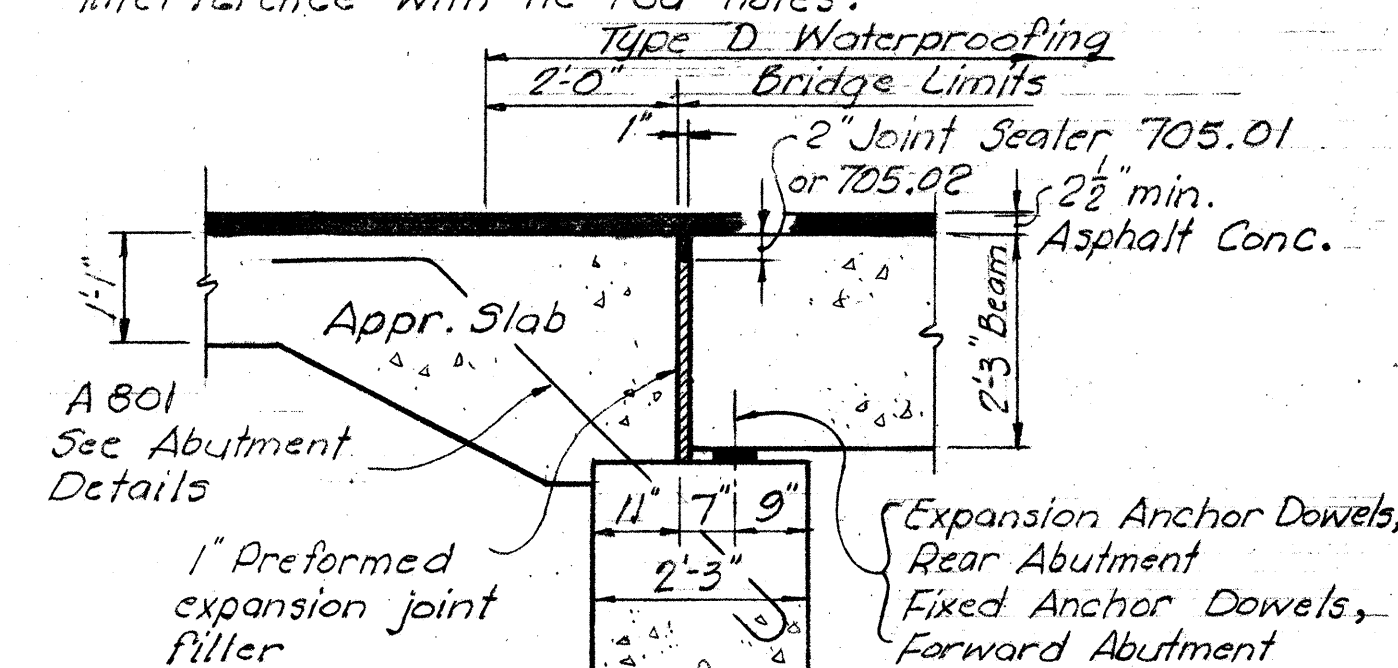


BEAM DETAIL PLAN



BEARING PAD LOCATION PLAN

* See Std. PSBD-1-81, Sheet 3 of 4 for reinforcing details. Adjust bar spacing where required to avoid interference with tie rod holes.



SECTION A-A

SECTION B-B

NOTES

PRESTRESSED BEAM

Minimum concrete compressive strength at 28 days = 5,500 p.s.i.
Minimum concrete compressive strength at time of initial prestress = 4,000 p.s.i.
Prestressing strands are: ASTM A416, grade 270; 1/2" diameter, seven wire, uncoated, stress relieved, $A_s = .153 \text{ in}^2$; initial tension = 23,900 lbs. per strand; ultimate strength = 41,300 lbs. per strand.
Non prestressing steel shall meet the requirements of Item 509. The Fabricator's Shop Drawings shall show complete details of the reinforcing.

ELASTOMERIC BEARING PADS shall conform to ASTM requirements referred to in Item 711.23. Elastomeric compound shall be of grade 60 hardness.

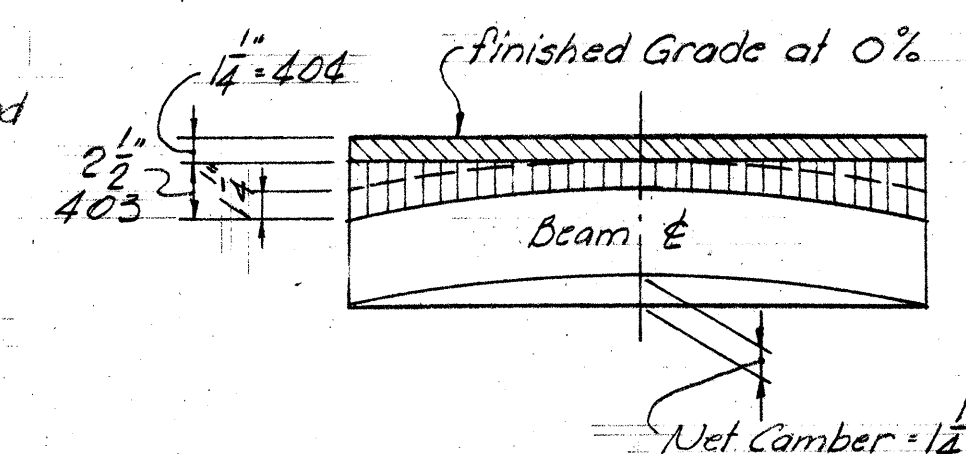
PREFORMED BEARING PADS, 711.21, 1/2" thick x 8" x 12" shall be provided as shims to accommodate any non-parallelism between bottom of beams and bridge seat. 20 pads have been included in the Estimated Quantities.

CAMBER: Calculated camber at time of paving, including allowance for camber growth due to creep, is 1 1/16"

Calculated deflection due to weight of asphalt concrete and railing is 3/16"

Net final camber of beams is 1/4". This is 1/4" in excess of the amount required to place the top of the beam parallel to profile grade. This excess shall be compensated for by thickening the 403 leveling course from 1 1/2" at center of span to 2 1/2" at ends of span.

ASPHALT CONCRETE SURFACE COURSE shall consist of a variable thickness of 403 and a 1/2" thickness of 404. The 403 shall be placed in two operations. The first course shall be of 1/2" uniform thickness. The second course shall be feathered to place the surface parallel to and 1/4" below final pavement surface elevation.



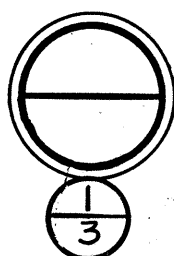
DANSARD - GROHNKE - LONG, LTD.
CONSULTING ENGINEERS
TOLEDO, OHIO

SUPERSTRUCTURE DETAILS
BRIDGE No. HAN-37-11.59

POTATO RUN

Sta. 611+92.23 to
Sta. 612+54.17

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
T.W.D.	Besse	Rep.	T.W.D.	B.D.	7/13-82	



INTRODUCTION

THE FOLLOWING INFORMATION IS FOR A PROPOSED REPLACEMENT OF THE EXISTING BRIDGE OVER POTATOE RUN ON S.R. 37 IN THE SOUTHEASTERN PORTION OF HANCOCK COUNTY, OHIO. THE EXISTING BRIDGE WAS BUILT IN 1925 AND IS A CONCRETE BRIDGE WITH CONCRETE BEAMS WITH A SPAN LENGTH OF 56' AND ROADWAY WIDTH OF 23'.

THE PROPOSED NEW STRUCTURE WILL BE PLACED AT THE EXISTING GRADE AND WILL HAVE THE SAME ALIGNMENT WITH THE WIDTH INCREASED TO 40' AND THE LENGTH TO 59'. THE EXISTING ROADWAY IS AT AN APPROXIMATE ELEVATION OF 825' WITH THE ORIGINAL GROUNDLINE NEAR ELEVATION 817. THE NEW ABUTMENTS WILL BE WALL-TYPE AND THE EXISTING WATERWAY OPENING WILL BE USED.

GEOLOGY OF THE SITE

THE SITE IS ON POTATOE RUN CREEK, A TRIBUTARY OF THE BLANCHARD RIVER. THE AREA WAS GLACIATED BY BOTH THE ILLINOIAN AND WISCONSIN ICE SHEETS AND LIES ON THE MISSISSIPPI VALLEY PLAIN. THE SITE LIES ON A GROUND MORaine BETWEEN THE DEFIANCE AND FT. WAYNE END MORAINES. THE AREA IS COVERED WITH A THIN COATING OF DRIFT AVERAGING LESS THAN 25' IN THICKNESS.

LATE WISCONSIN DRIFT OVERLIES THE BEDROCK AT THE SITE AND IS COMPOSED OF AN UNSORTED AND UNSTRATIFIED MIXTURE OF CLAY, SILT, SAND AND COARSER FRAGMENTS. THE ILLINOIAN DRIFT WAS ERODED BY THE DISCONTINUOUS DEPOSITION OF ICE ADVANCING OVER SMOOTH BEDROCK AND OLDER GLACIAL DEPOSITS. THE NEAR SURFACE SOIL AT THE SITE BELONGS TO THE USDA EEL SOIL SERIES WHICH OCCUR ON NEARLY LEVEL GROUND AND FLOOD PLAINS ALONG LARGER STREAMS. THESE SOILS FORMED IN ALLUVIUM FROM UPLANDS AND ARE UNDERLAIN BY HIGHLY CALCAREOUS GLACIAL TILL.

UNDERLYING THE SITE IS THE NIAGARA DOLOMITE OF THE UPPER SILURIAN TIME SPAN.

EXPLORATION

TWO STANDARD PENETRATION TEST BORINGS WERE PERFORMED ON APRIL 1, 1982 USING A TRUCK-MOUNTED DRILL RIG. BORING DEPTH WAS 24' AND 24.5' AND EACH BORING EXTENDED A MINIMUM OF 10 FEET INTO BEDROCK.

SITE CONDITIONS

THE BORINGS INDICATE THAT THE SUBSURFACE CONDITIONS ARE TYPICAL OF WISCONSIN AGE DRIFT DEPOSITS. GLACIAL TILL WAS PENETRATED BELOW THE FILL MATERIAL AND RECENT ALLUVIUM WAS NOT ENCOUNTERED. BEDROCK WAS ENCOUNTERED AT DEPTHS OF 13.5' BELOW THE EXISTING GRADE.

IN BORING A, 2' OF FILL AND IN BORING B, 7.5' OF FILL WAS PENETRATED. THIS FILL MATERIAL CONSISTED OF SANDY SILTY CLAY WITH TRACES OF FINE GRAVEL AND ORGANICS AND WAS MEDIUM STIFF TO STIFF IN BORING B.

THIS FILL MATERIAL WAS UNDERLAIN BY SANDY SILTY CLAY WITH SOME GRAVEL. TWO SAMPLES OF THE SANDY SILTY CLAY SHOWED APPROXIMATELY 80% PASSING THE 200 SIEVE WITH A PLASTICITY INDEX FROM 10 TO 13 FOR THE FINES. N-VALUES FOR THIS WISCONSIN AGE TILL WERE LOW, VARYING FROM 6 TO 11.

THE FINAL SAMPLE OBTAINED IN BORING A ABOVE BEDROCK WAS A SANDY CLAY WITH N-VALUE 56. IN BORING B A SANDY CLAYEY SILT AND GRAVEL WAS ENCOUNTERED ABOVE THE BEDROCK. THIS MATERIAL WAS NON-PLASTIC WITH 30% PASSING THE 200 SIEVE. THE N-VALUE WAS 60.

BEDROCK WAS ENCOUNTERED AT AN ELEVATION OF APPROXIMATELY 810. THE BEDROCK IS A LIGHT GRAY VUGGY, JOINTED, HARD DOLOMITE TO GRAY, SOMETIMES VUGGY DOLOMITE WITH SHALE PARTINGS WHICH WAS HARD.

WATER WAS ENCOUNTERED AT A DEPTH OF 12.5' IN BORING A AND 13.5' IN BORING B. THIS INDICATES THE GROUNDWATER TABLE IS JUST ABOVE THE BEDROCK. THE PERMEABILITY OF THIS SOIL IS MODERATE.

LEGEND

-  AUGER BORING LOCATION-PLAN VIEW.
-  PRESS AND/OR DRIVE SAMPLE AND/OR CORE BORING LOCATION-PLAN VIEW.
-  CAPPED PILE
-  FOOTING
-  FOOTING ON PILE
- TR TOP OF ROCK

-  HORIZONTAL BAR ON BORING LOG INDICATES THE DEPTH (MEDIAN) AT WHICH THE SAMPLE WAS TAKEN.
- X/Y FIGURES BESIDE THE BORING LOG IN PROFILE INDICATES THE NUMBER OF BLOWS FOR STANDARD PENETRATION TEST.
X=NUMBER OF BLOWS FOR FIRST 6-INCHES.
Y=NUMBER OF BLOWS FOR SECOND 6-INCHES.
-  INDICATES PRESS (SHELBY-TUBE) SAMPLE.
-  INDICATES FREE WATER ELEVATION.
-  INDICATES STATIC WATER ELEVATION.

SYMBOLS OF ROCK TYPES

-  COAL
-  WEATHERED INDURATED CLAY
-  INDURATED CLAY
-  WEATHERED SHALE
-  SHALE

-  WEATHERED SANDSTONE
-  SANDSTONE
-  LEACHED DOLOMITE
-  DOLOMITE
-  LEACHED LIMESTONE
-  LIMESTONE

GENERAL INFORMATION

Drive Sample Borings— Drive-Press Sample Borings— Core Borings

Drive sample borings are made by means of a rotary-type drill rig employing a 2" O.D., 1-3/8" I.D. sampler at 2.5 and/or 5-ft. depth intervals driven by means of a 140-lb. drop hammer with a free fall of 30-inches. For each sample obtained the sampler is driven a total of 18-inches except where a condition of refusal (less than 6-inches penetration under 50-blow) is met before obtaining a penetration of 18-inches. The first 6-inches of drive is considered setting the sampler while the number of blows required to drive the sampler the final 12-inches is considered the Standard Penetration Test.

Drive-press sample borings are made by means of a rotary-type drill rig employing a 2" O.D., 1-3/8" I.D. drive sampler and 3" O.D. thin wall press sampler. The press sampler is advanced by continuous uniform pressure applied by the drill rig.

Core borings in rock are made by means of a rotary-type drill rig employing an NXM-series type, double tube core barrel and diamond bit, obtaining a continuous core having a nominal diameter of 2-1/8". The core barrel is removed from the test hole at maximum intervals of 5-ft. and the entire core recovered retained.

When necessary to stabilize the bore hole in caving material or simply as a means of advancing the boring, hollow stem augers or flush joint casing is used, each having an inside diameter of 3-1/2". Water under pressure is employed to advance the test hole in non-caving materials or to wash out the casing when hollow stem augers are not used. When hollow stem augers are used, water is introduced into the hole as necessary to maintain the water level inside the hollow stem auger at or above the level first encountered in the ground. The methods employed in advancing the boring are shown on the boring logs. All of the sampling above described is accomplished in undisturbed material below the bottom of the casing or hollow stem augers.

The boring log sheets show a graphic plot of the information obtained including depth and elevation of the sample, the number of blows for the Standard Penetration Test for each 6-inch drive, the depth of press samples, field sample number, sample description-based on laboratory tests and the Casagrande A.C. Classification System, gradation, plasticity and moisture content determinations. The results of strength and consolidation testing, if performed, appear on separate enclosures.

At depths where materials are bouldery or gravelly to the extent that the sampler cannot be driven a wash sample is procured for visual classification in order to determine the general character of the material. These are not considered sufficiently representative to warrant laboratory testing.

Particle Size Definitions							
8"	3"	2.0mm	0.42mm	0.074mm	0.005mm		
Boulders	Cobbles	Gravel	Coarse	Sand	Fine Sand	Silt	Clay
		No. 10 sieve		No. 40 sieve	No. 200 sieve		

NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

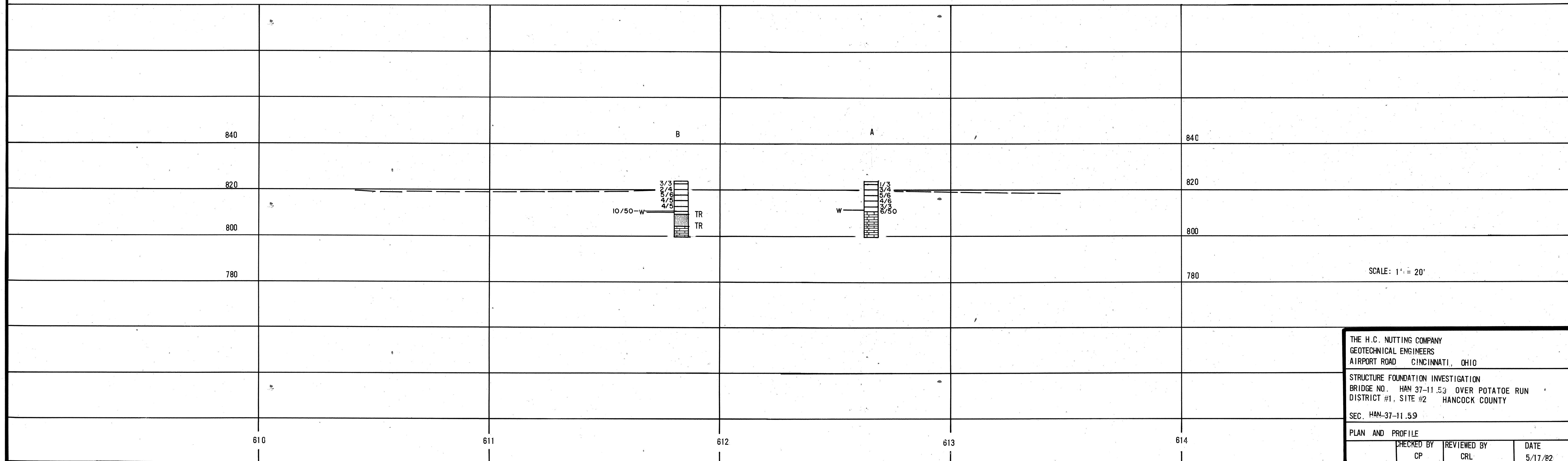
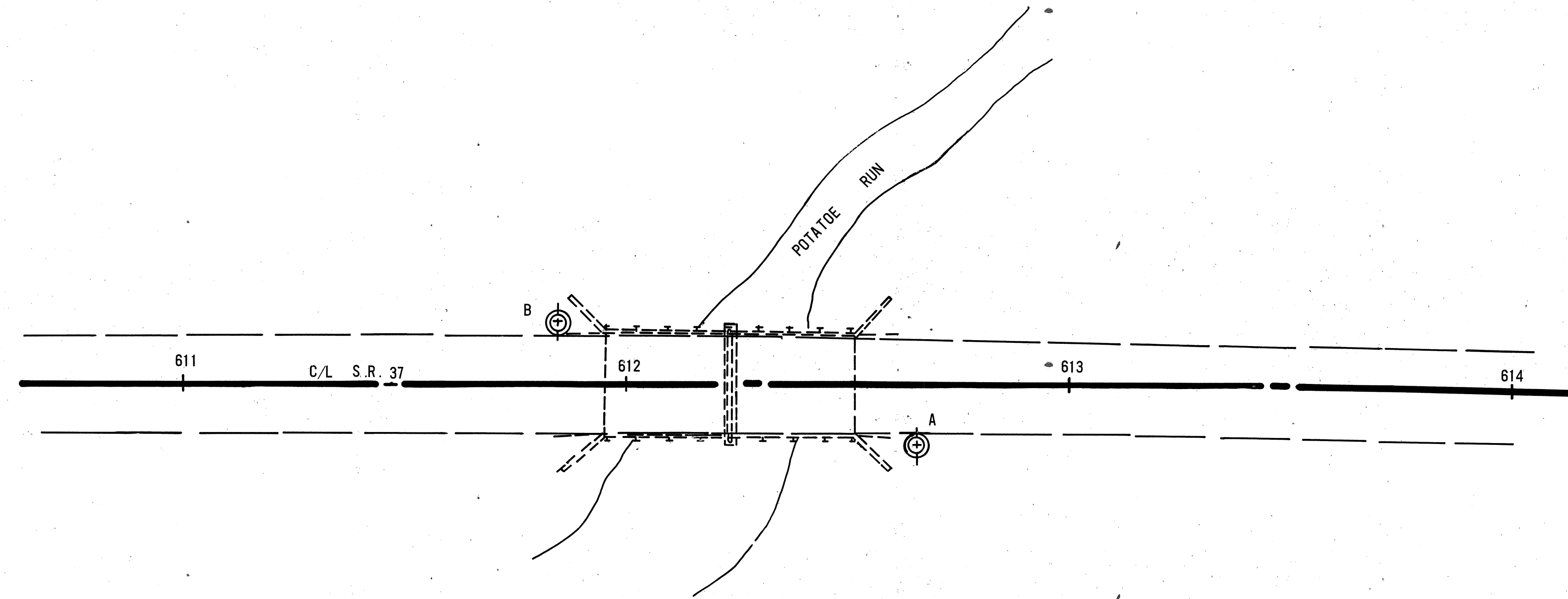
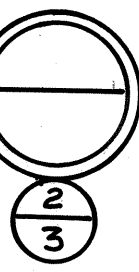
THE H. C. NUTTING COMPANY
SOIL ENGINEERS
AIRPORT ROAD CINCINNATI, OHIO 45226

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. HAN 37-11.59 OVER POTATOE RUN
DISTRICT #1 SITE #2 HANCOCK COUNTY
SEC. HAN-37-11.59

CHECKED BY CP	REVIEWED BY CRL	DATE 5/17 /82
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MICROFILMED
AUG 27 1984

ODOT FAST TRACK BRIDGE PROGRAM
HAN-37-11.59



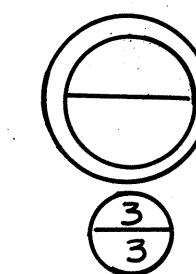
MICROFILMED
AUG 27 1984

DATE STARTED 4-1-82 SAMPLER: TYPE S.S. DIA. 2.0" O.D. WATER ELEVATION
DATE COMPLETED 4-1-82 CASING: LENGTH H.S.A. DIA. 3.5" I.D. IMMEDIATE 811.9
BORING NUMBER A CORE BARREL: TYPE NXM SIZE 2-1/8" DIAM AFTER HRS. BACKFILLED
STATION & OFFSET 611+90, 13' LT. OF C/L BRIDGE NO. 37-11.59 DISTRICT #1 SITE #2 HANCOCK COUNTY SURFACE ELEVATION 823.9

ELEV.	DEPTH	STN. PEN (N)	DESCRIPTION	SA NO.	PHYSICAL CHARACTERISTICS								
					% AGG	% CS	% FS	% SILT	% CLAY	LL	PI	WC	
823.9	0												
821.4	2	2-1-3	BROWN AND GRAY SANDY SILTY CLAY, TRACE OF FINE GRAVEL, AND ORGANICS (FILL), MOIST-MEDIUM STIFF	1				V	S	U	A	L	22.2
	4	4-3-4	BROWN SANDY SILTY CLAY, TRACE OF FINE GRAVEL, MOIST-STIFF TO MEDIUM STIFF	2				V	S	U	A	L	17.9
818.4	6	3	DO DO DO	3				V	S	U	A	L	26.7
816.4	8	5-6	GRAYISH BROWN SANDY SILTY CLAY, MOIST-STIFF TO MEDIUM STIFF	4				V	S	U	A	L	23.6
813.9	10	2-4-6	GRAY AND BROWN SANDY SILTY CLAY, TRACE OF GRAVEL, MOIST-MEDIUM STIFF	5	4	0	19	49	28	39.4	9.7	30.4	
811.4	12	2-3-3	BROWN SANDY SILTY CLAY, MOIST-SOFT TO MEDIUM STIFF	6				V	S	U	A	L	37.2
809.9	14	3-6-50	BROWN SANDY CLAY, MOIST-MEDIUM STIFF TO STIFF	7				V	S	U	A	L	
807.4	16	CORE RECOVERY 97%	LIGHT GRAY DOLOMITE, TRACE VUGGY, JOINTED, HARD										
802.3	18												
	20	CORE RECOVERY	GRAY DOLOMITE WITH THIN SHALE PARTINGS, BECOMING VUGGY BOTTOM THIRD OF SECTION, HARD.										
799.9	22												
	24	96%	GRAY DOLOMITE, SOMETIMES VUGGY, JOINTED, HARD										

BORING COMPLETED

ODOT FAST TRACK BRIDGE PROGRAM
HAN 37-11.59



DATE STARTED 4-1-82 SAMPLER: TYPE S.S. DIA. 2.0" O.D. WATER ELEVATION
DATE COMPLETED 4-1-82 CASING: LENGTH H.S.A. DIA. 3.5" I.D. IMMEDIATE 810.8
BORING NUMBER B CORE BARREL: TYPE NXM SIZE 2-1/8" DIAM AFTER HRS. BACKFILLED
STATION & OFFSET 612+65, 13' RT. OF C/L BRIDGE NO. HAN 37-1159 DISTRICT #1 SITE #2, HANCOCK CO. SURFACE ELEVATION 824.3

ELEV.	DEPTH	STN. PEN (N)	DESCRIPTION	SA NO.	PHYSICAL CHARACTERISTICS								
					% AGG	% CS	% FS	% SILT	% CLAY	LL	PI	WC	
824.3	0												
819.3	2	2-3-3	DARK BROWN SANDY SILTY CLAY, TRACE OF FINE GRAVEL, AND ORGANICS (FILL), MOIST-MEDIUM STIFF	1				V	S	U	A	L	20.2
	4	2-2-4	DO DO DO	2				V	S	U	A	L	18.2
816.8	6	4-5-6	BROWN SANDY SILTY CLAY, TRACE OF GRAVEL (FILL), MOIST-STIFF	3				V	S	U	A	L	27.6
811.8	8	2-4-5	GRAYISH BROWN SANDY SILTY CLAY, MOIST-STIFF	4				V	S	U	A	L	36.4
	10												
810.8	12	3-4-5	DO DO DO	5	0	2	22	50	26	41.4	12.9	33.9	
809.8	14	2-10-50	BROWN SANDY CLAYEY SILT AND GRAVEL, MOIST-VERY DENSE	6	43	10	16	26	5	N	P	29.1	
805.8	16	CORE RECOVERY 90%	LIGHT GRAY DOLOMITE, TRACE VUGGY, JOINTED, HARD										
	18												
799.8	20		GRAY DOLOMITE WITH SHALE PARTINGS, BECOMING VUGGY BOTTOM 1.5' OF SECTION, HARD										
	22	CORE RECOVERY 90%											
	24												
	26												

BORING COMPLETED

THE H.C. NUTTING COMPANY
GEOTECHNICAL ENGINEERS
AIRPORT ROAD CINCINNATI, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. HAN-37-1159 OVER POTATOE RUN
DISTRICT #1 SITE #2 HANCOCK COUNTY

SEC. HAN 37-11.59

BORING DATA

CHECKED BY	REVIEWED BY	DATE
CP	CRL	5/17/82