

MICROFILMED
AUG 5 1982

ADT=1050

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

HOL-515-(3.75) HOLMES COUNTY BRIDGE NO. HOL-515-0375 WALNUT CREEK TOWNSHIP

	OHIO	1
	FHWA REGION 5	7
STATE	FEDERAL PROJECT	
HOL-515-(3.75)		
PLAN NO. BR-54-81		

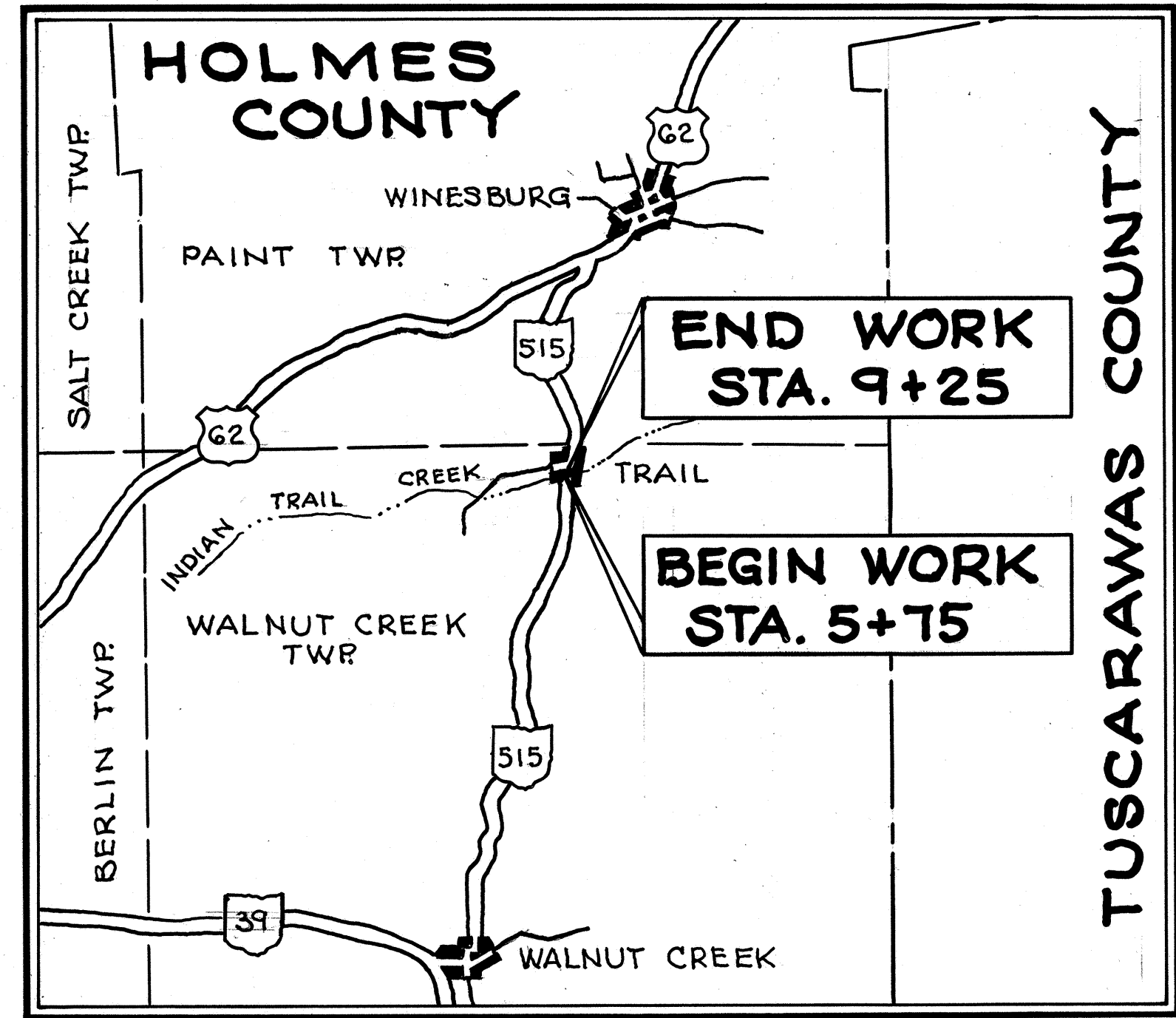
MICROFILMED
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CONVENTIONAL SIGNS

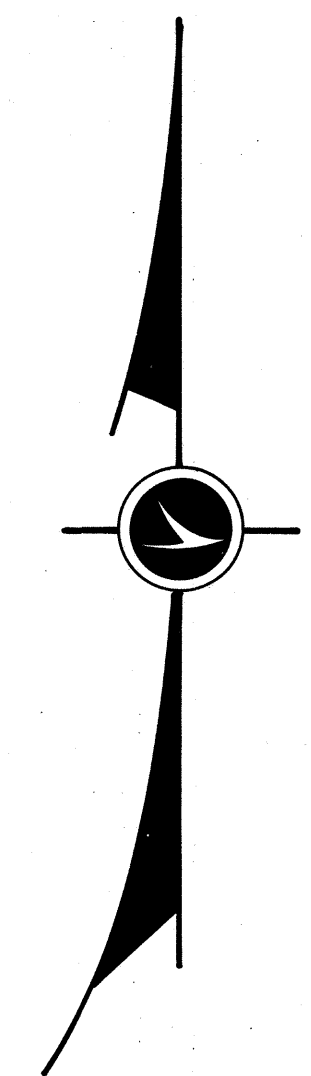
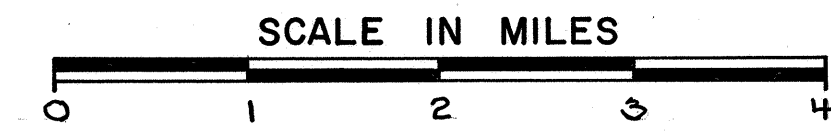
County Line ————	Limited Access (only) ———— LA
Township Line ————	Right of Way (only) ———— RW
Section Line ————	Limited Access & Right of Way — LA & RW
Corporation Line ———— or ————	Existing Right of Way ————
Fence Line (existing) — x — x — (proposed) — x — x —	Property Line — (in existing fence) — x — x —
Center Line ———— 352 ———— 353 ————	Railroad ———— or ————
Trees (to be removed) — x — x —	Guardrail (existing) — o — o — (proposed) — o — o —
Utility Poles: Telephone φ, Power φ, Light φ	

INDEX OF SHEETS

- TITLE SHEET
- SITE PLAN & TYPICAL SECTION
- CROSS SECTIONS
- GENERAL PLAN & ELEVATION AND GENERAL SUMMARY
- ABUTMENT DETAILS & NOTES
- REINFORCING STEEL LIST & PIER DETAILS
- SUPERSTRUCTURE DETAILS
- FOUNDATION INVESTIGATION



LOCATION MAP



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.

The right of way for this improvement will be provided by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the Highway and provisions for the maintenance and safety to traffic will be as set forth in these plans.

Approved: Robert M. Short
Date: 3-18-81 District Deputy Director of Transportation

Approved: Robert B. Pfeiffer
Date: 4-13-81 Engineer, Bureau of Bridges and Structural Design

Approved: David B. Hansen
Date: 4-22-81 Chief Engineer, Operations

Approved: David L. Weir
Date: 4-22-81 Director, Department of Transportation

LINE DATA

BEGIN WORK STA. 5+75
END WORK STA. 9+25
NET LENGTH OF WORK 350 LIN. FT. OR

0.066 MILE

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

SCALES

Plan: _____
Profile: _____ Horizontal _____, Vertical _____
Cross Section: Horizontal _____, Vertical _____

SUPPLEMENTAL SPECIFICATIONS	

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS			
GR-1	12-G-7G		
GR-2B	12-G-7G	AS-1-72	G-30-72
GR-3	12-G-7G	CPA-2-73	4-10-73
GR-4	12-G-7G	CPP-2-73	4-10-73
		CS-2-73	4-10-73
MC-3	6-1-73	DBR-2-73	4-10-73
BP-5	4-1G-79		

Plan Prepared By: _____

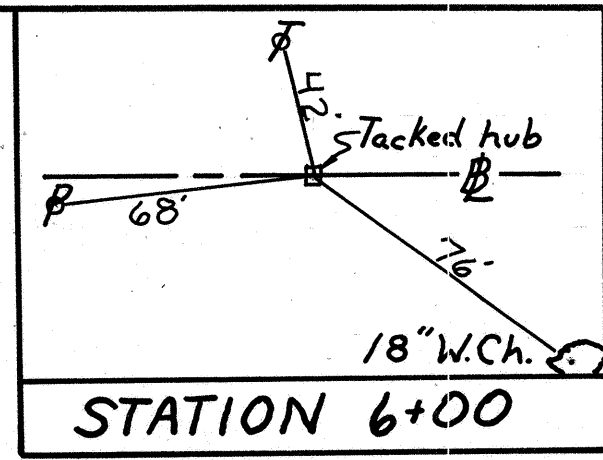
SEAL

Project: HOL-515-(3.75)
Date of Letting: _____ 19____, Contract No. _____
LD0300 Rev. 9-3-75

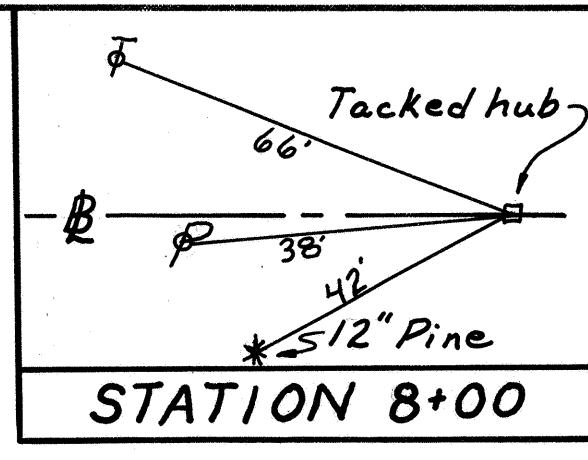
DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR DATE _____

APPROVED
AUG 5 1982



Assumed Elev. 1007.00
Mine Spike in Power Pole
30' R.L. 7+62

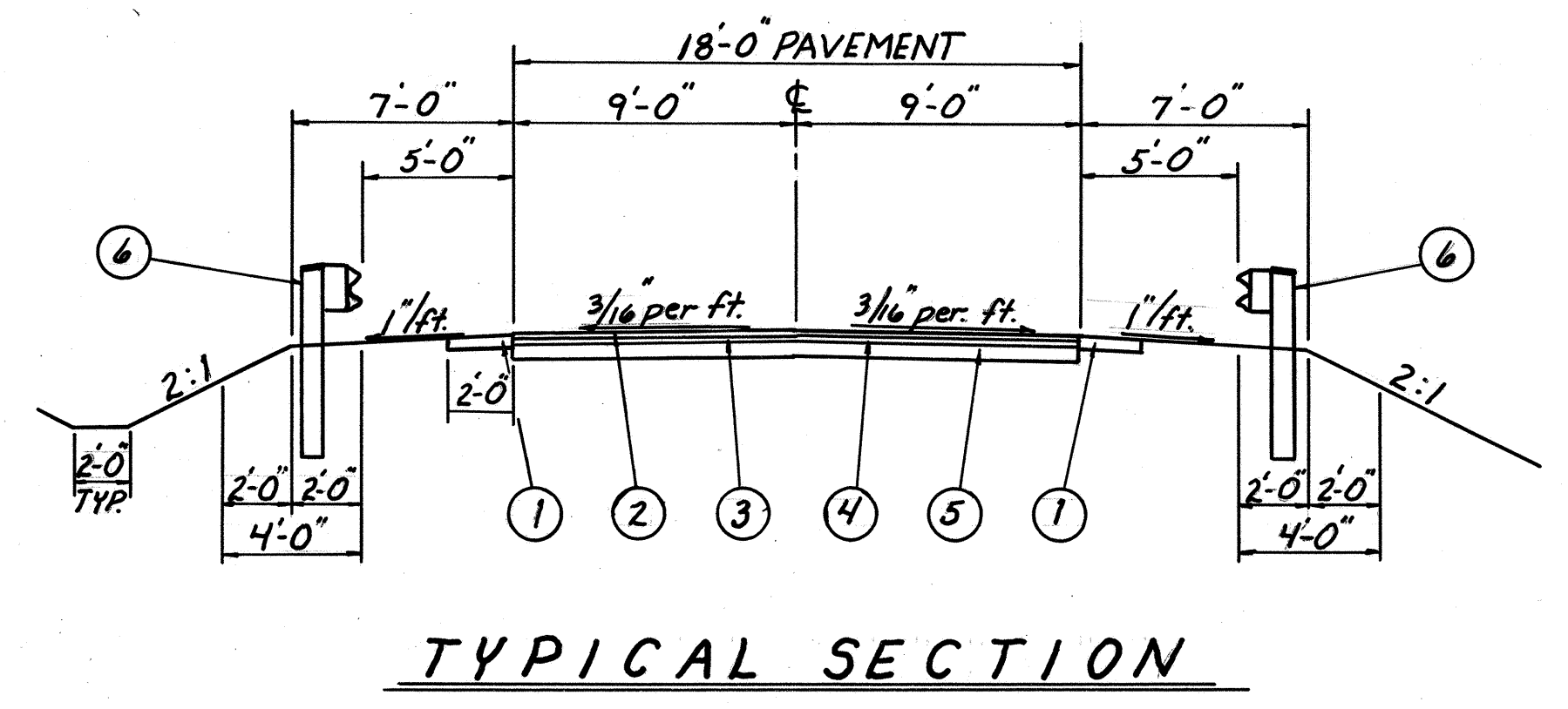
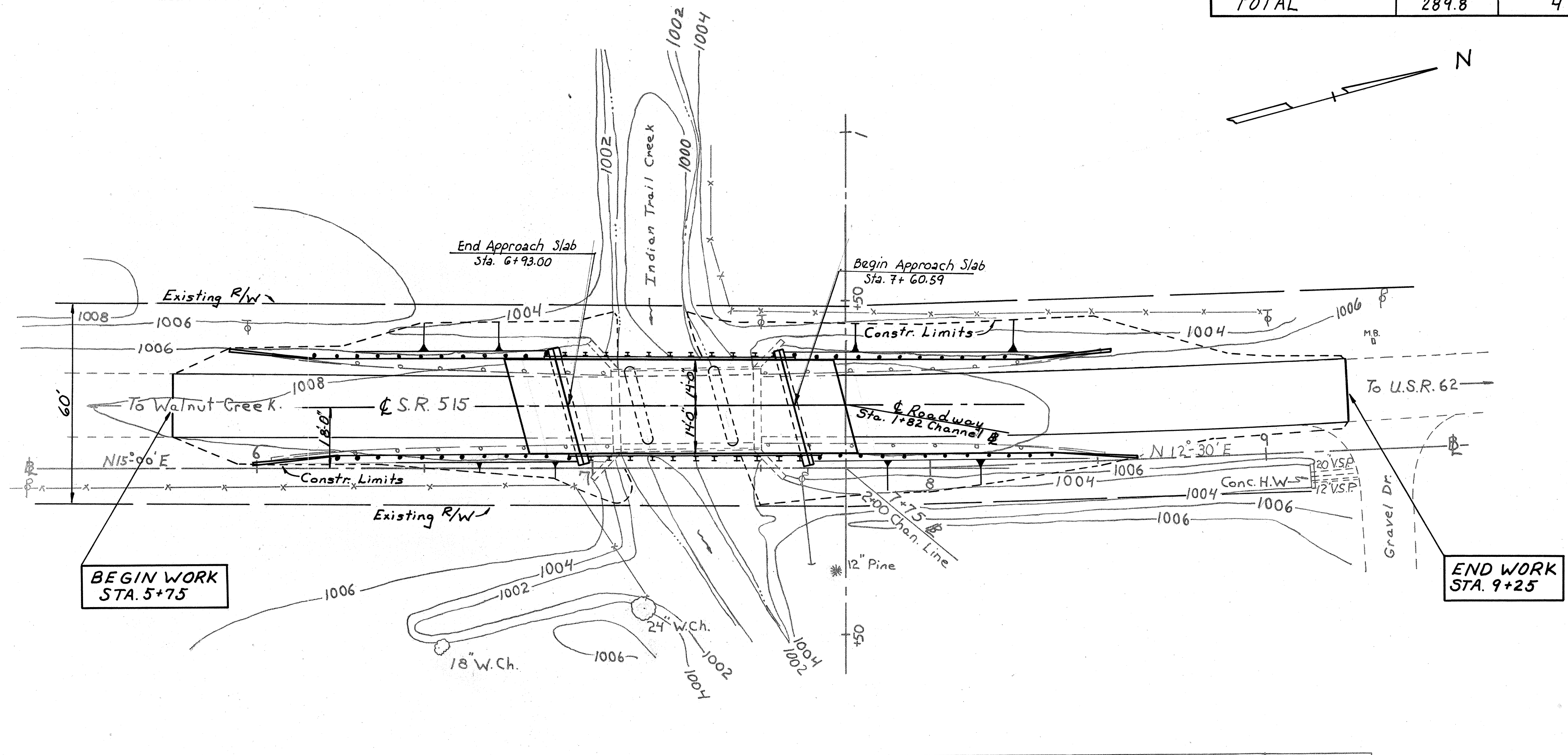


GUARDRAIL						
STATION		SIDE	ITEM 606	ITEM 606	ITEM 606	ITEM 202
FROM	TO		GUARDRAIL, REBUILT, TYPE 5 LIN. FT.	ANCHOR ASSEMBLY REBUILT, TYPE A EACH	BRIDGE TERMINAL ASSEMBLY, TYPE B EACH	GUARDRAIL REMOVED LIN. FT.
5+91.7	8+54.2	LT.	212.5	2	2	200
5+99.2	8+61.7	RT.	212.5	2	2	200
Deduct Bridge Rail			-135.2			
TOTAL			289.8	4	4	400

FHWA REGION	STATE	PROJECT	
5	OHIO		

HOL-515-(0375)

BR-54-81



- KEY**
- ① Item 617 4" Compacted Aggregate
 - ② Item 404 Asphalt concrete AC-20 1" thick
 - ③ Item 402 Asphalt concrete AC-20 Variable thickness
 - ④ Item 407 Tack Coat
 - ⑤ Existing pavement
 - ⑥ Item 606 Guardrail, rebuilt, Type 5

DESIGN TRAFFIC:
1980=900 ADT
2000=1050 ADT

EXISTING STRUCTURE
TYPE: Concrete Girder
LENGTH: Clear Span, 40'-0"
ROADWAY: 19'-4" between curbs
LOADING: H-15
SKEW: 1° L.C.
SFN: 3802612
General Appraisal & Operational Status 2A
Sufficiency Rate 19.5 SD

DRAINAGE AREA = 775 sq. mi.
DESIGN DISCHARGE
Q₂₅ = 1200 c.f.s. Elev. = 1005.0
Q₅₀ = 1481 c.f.s. Elev. = 1006.1
Q₁₀₀ = 1672 c.f.s. Elev. = 1006.6

QUANTITIES	
Calc. Date	Chkd. Date
7-10-81	SLU 3-5-81

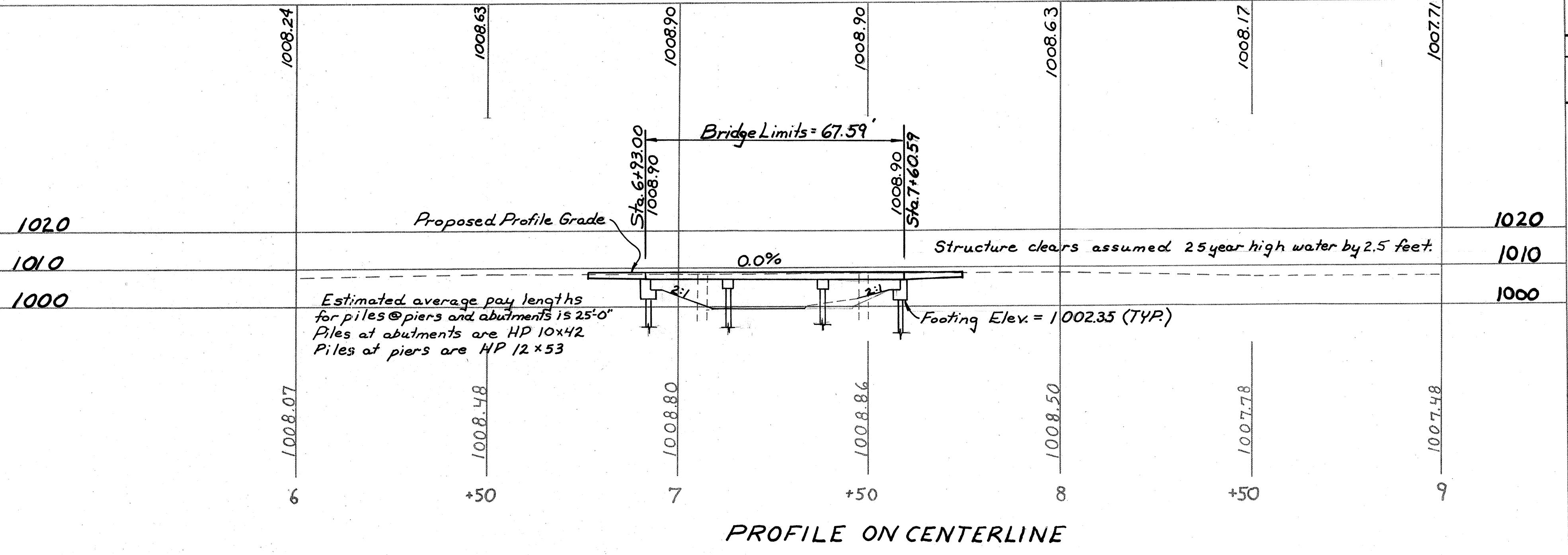
PAVEMENT CALCULATIONS
Length of paving:
Sta. 5+75 to Sta. 6+78 = 103.00 Lin. ft.
Sta. 7+75.59 to Sta. 9+25 = 149.41 Lin. ft.
252.41 Lin. ft.
Item 402, Asphalt concrete
(0.1458' x 18' x 252.41') ÷ 27 cf/cy. = 20 Cu. yds.
Item 404, Asphalt concrete
(0.1042' x 18' x 252.41') ÷ 27 cf/cy. = 18 Cu. yds.
Item 407, Tack coat
(18.5' x 252.41') ÷ 9.5 f/sy. x 0.10 gal/sy. = 52 Gals.
Item 407, Cover aggregate
518 s.y. x 7 lbs./s.y. = 2000 lbs./ton = 1.0 Tons

NOTE: The Contractor shall use a butt joint type feather as per Standard Drawing BP-5 at Sta. 5+75 and Sta. 9+25.

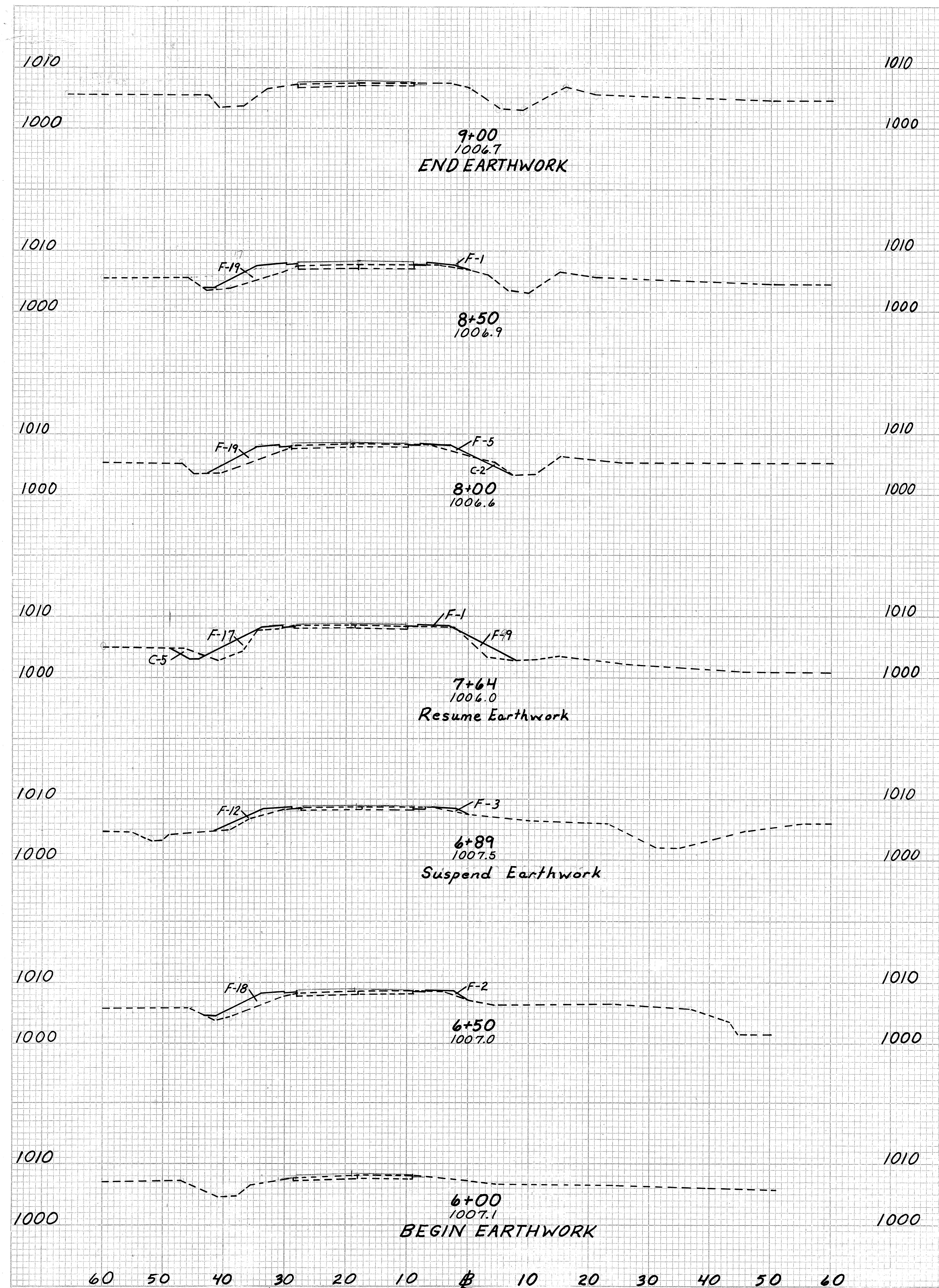
PROPOSED STRUCTURE
TYPE: Continuous Concrete Slab
LENGTH: 3 Spans 20'-25'-20"
ROADWAY: 28'-0" w/ rail
ABUTMENTS: Capped Pile
PIERS: Capped Pile
LOADING: HS 20-44
WEARING SURFACE: Monolithic concrete
APPROACH SLAB: AS-1-72 (15' long)
SKEW: 15° R.F.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
BUREAU OF MAINTENANCE

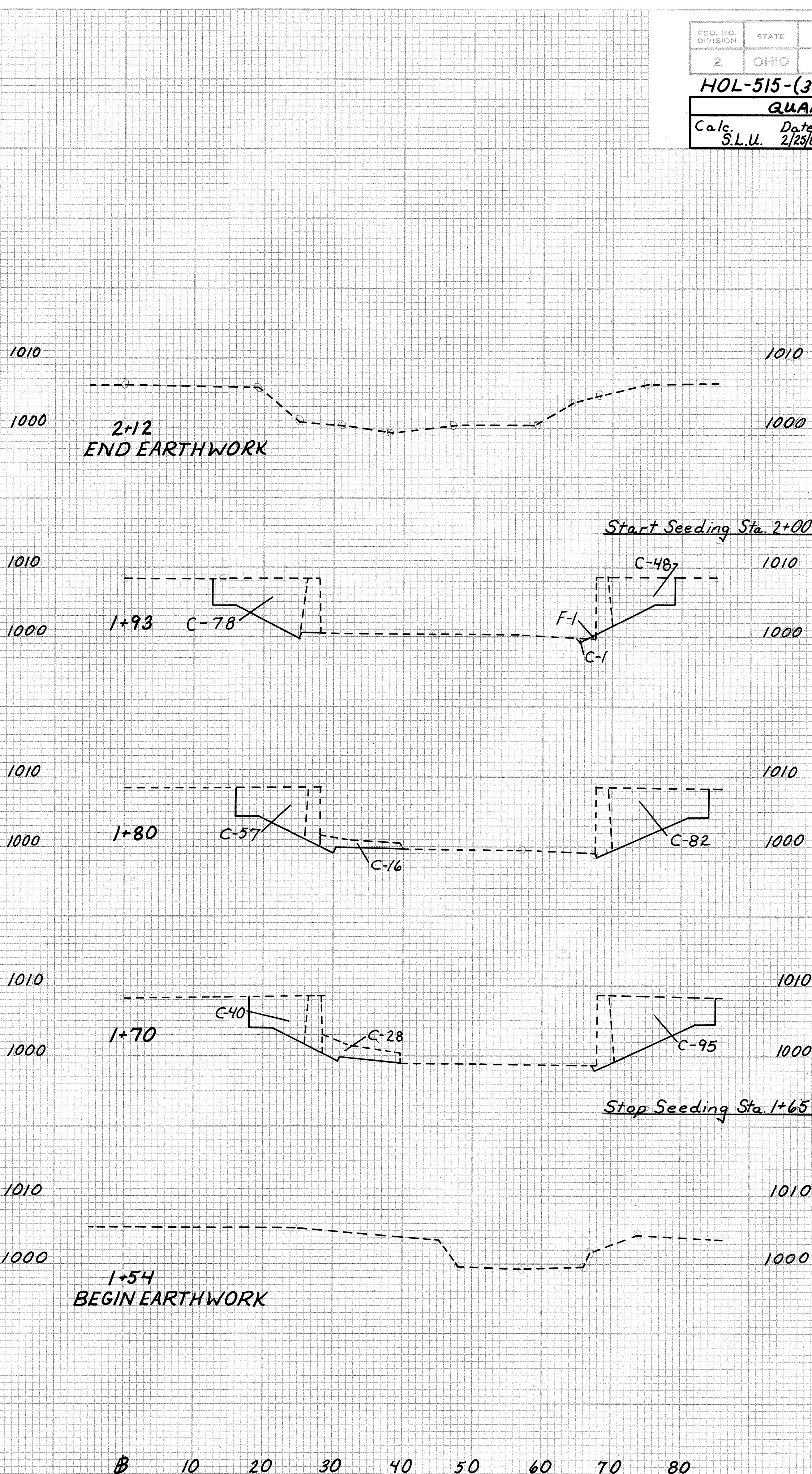
SITE PLAN
and
TYPICAL SECTION
Bridge No. HOL-515-0375
Over TRAIL CREEK



DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JTN	SLU	SLU	JLO			



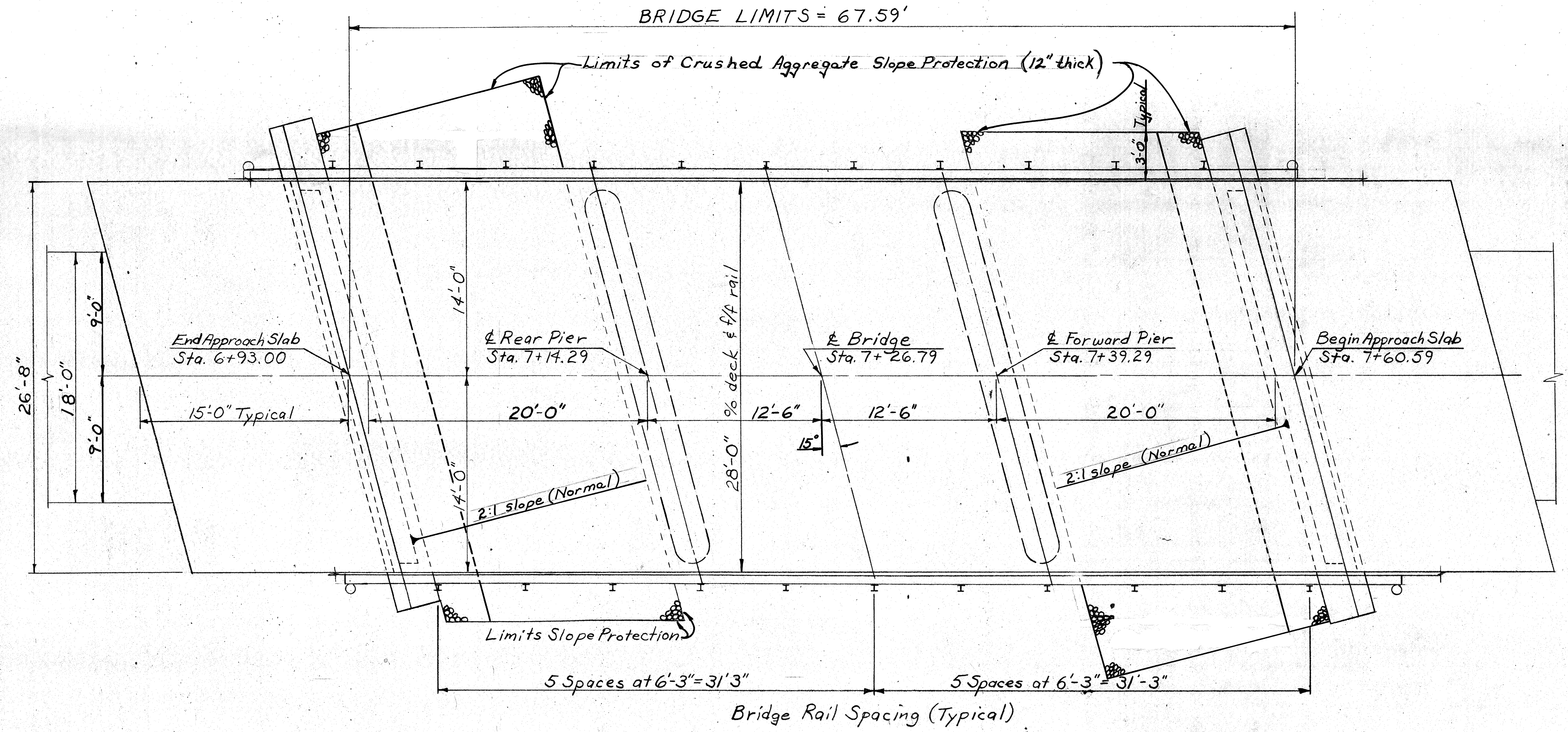
Seeding Width	End Area	Cu. Yds.	
		Cut	Fill
0	0	0	0
61		0	19
22		0	20
142		2	41
29		2	24
134		5	34
38		5	27
21		0	15
93		0	25
22		0	20
61		0	19
0		0	0



Seeding Width	End Area	Cu. Yds.	
		Cut	Fill
0		0	0
12			
18			45
127			1
			68
			155
			59
			163
21			48
13			0
0		0	0

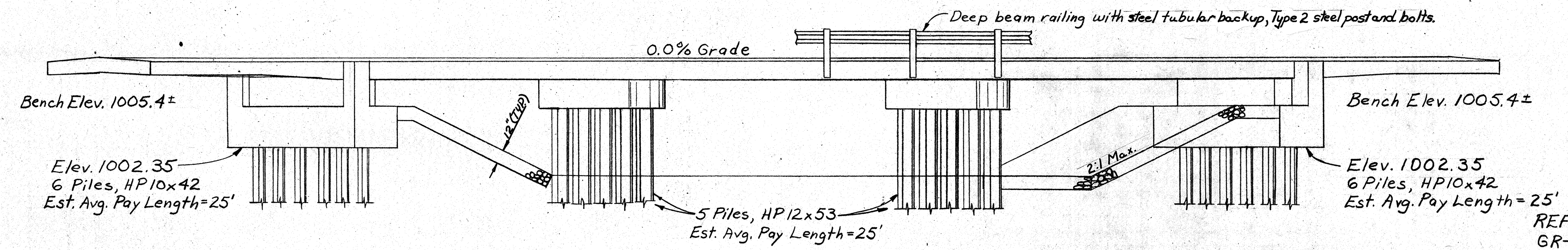
PAVEMENT AND CHANNEL CROSS SECTIONS

HOL-515-(3.75)



PLAN

NOTE: Bridge Centerline Stationing is 18.00' Left of Roadway Baseline.



ELEVATION

GENERAL SUMMARY			
Item	Total	Unit	Description
202	Lump	Sum	Structure removed
202	400	Lin. ft.	Guardrail removed for re-use or storage
203	227	Cu. yds.	Excavation, not including embankment construction
203	140	Cu. yds.	Embankment
402	20	Cu. yds.	Asphalt concrete, AC-20
404	18	Cu. yds.	Asphalt concrete, AC-20
407	52	Gals.	Tack coat: SS-1, SS-1h, MS-2, or RS-1
407	1.8	Tons	Cover aggregate
503	60	Cu. yd.	Unclassified excavation
505	Lump	Sum	Test pile
507	250	Lin. ft.	Steel piles, HP12x53, Piers
509	16,831	Lbs.	Reinforcing steel
511	35	Cu. yds.	Class C concrete, Abutments
511	10	Cu. yds.	Class C concrete, Piers
511	89	Cu. yds.	Class S concrete, Superstructure
517	1352	Lin. ft.	Railing (Deep beam with tubular backup, Type 2 steel posts and bolts)
518	10	Cu. yds.	Porous backfill
601	133	Sq. yds.	Crushed aggregate slope protection
606	289.8	Lin. ft.	Guardrail, rebuilt, Type 5
606	4	Each	Bridge terminal assembly, Type B
606	4	Each	Anchor assembly, rebuilt, Type A
611	89	Sq. yds.	Reinforced concrete approach slab, 12"
614	Lump	Sum	Maintaining traffic
617	25	Cu. yds.	Compacted aggregate
617	1	Mgals.	Water
619	Lump	Sum	Field office
623	Lump	Sum	Construction layout stakes
624	Lump	Sum	Mobilization
659	516	Sq. yds.	Seeding and mulching
659	0.23	Tons	Agricultural liming
659	0.05	Tons	Commercial fertilizer
Special	7467	Lbs.	Epoxy coated reinforcing steel
Special	68	Sq. ft.	Steel drip strip
507	300	Lin. ft.	Steel piles, HP10x42, Abutments

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 1978, 1979 and 1980 Interim Specification and the Ohio "Supplement" to these specifications.

DESIGN DATA: Design Loading - HS 20-44
 Concrete Class C - unit stress 1600 psi. for substructure
 Concrete Class S - unit stress 1800 psi. for superstructure
 Reinforcing Steel - ASTM A615, A616, or A617 - unit stress 20,000 p.s.i.
 Deck Protective Method - Epoxy coated reinforcing steel, top mat only

- REFERENCES shall be made to Standard Drawings:
 GR-1 Dated 12-6-76 AS-1-72 Dated 6-30-72
 GR-2B Revised 12-6-76 CPA-2-73 Dated 4-10-73
 GR-3 Revised 12-6-76 CPP-2-73 Dated 4-10-73
 GR-4 Revised 12-6-76 CS-2-73 Dated 4-10-73
 MC-3 Revised 6-1-73 DBR-2-73 Dated 4-10-73
 BP-5 Revised 4-16-79

See additional notes on Abutment Details Sheet 5.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND STRUCTURAL DESIGN					
GENERAL PLAN & ELEVATION AND GENERAL SUMMARY					
BRIDGE NO. HOL-515-0375 OVER TRAIL CREEK					
DESIGNED Dist'l	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JJA	JLO	—	SLU		

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FHWA REGION	STATE	PROJECT	
5	OHIO		

5
7

HOL-515-(3.75) BR-54-81

GENERAL NOTES

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed. Abutments shall be removed to Elev. 1000.5± or a minimum of one foot below proposed ground surface as per 202.03.

POROUS BACKFILL shall extend upward to the plane of the subgrade and laterally to the surface of the embankment slopes.

APPROACH SLAB jacking holes as called for on Standard Drawing AS-1-72 will not be required on this project. Clearance between the top reinforcing steel and top of slab shall be 3".

ROUNDING OF CORNERS as shown on the Typical Section apply to all cross-sections even though otherwise shown on these plans.

RIGHT OF WAY: All work shall be performed within the existing right of way.

GUARDRAIL REMOVED FOR RE-USE OR STORAGE: This item shall consist of dismantling and storing all existing guardrail including existing anchor assemblies and bridge terminal assemblies. At the Contractor's option guardrail posts and concrete anchorage may be pulled and reset at the new locations shown on the Site Plan or may be removed as per 202.07. All guardrail materials removed, but not reused, shall be stored for removal by State forces.

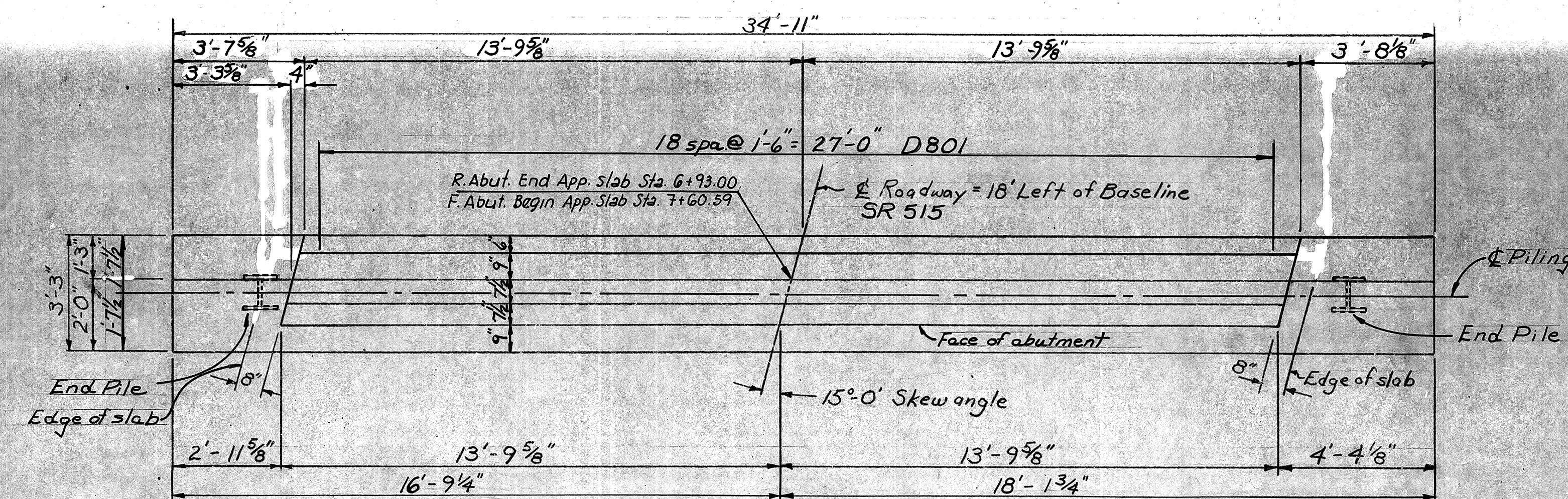
FILL ACTIVITIES DONE BELOW ORDINARY HIGH WATER. Elevation 1002.5 must be in accordance with specific conditions of Section 323.4-3 of the Federal Register, Vol. 42, No.138 dated July 19, 1977.

ELEVATIONS shown on these plans are based on assumed elevation of bench mark shown on the Site Plan - mine spike in power pole, Sta. 7+62, 30' Rt., assumed elevation 1007.00.

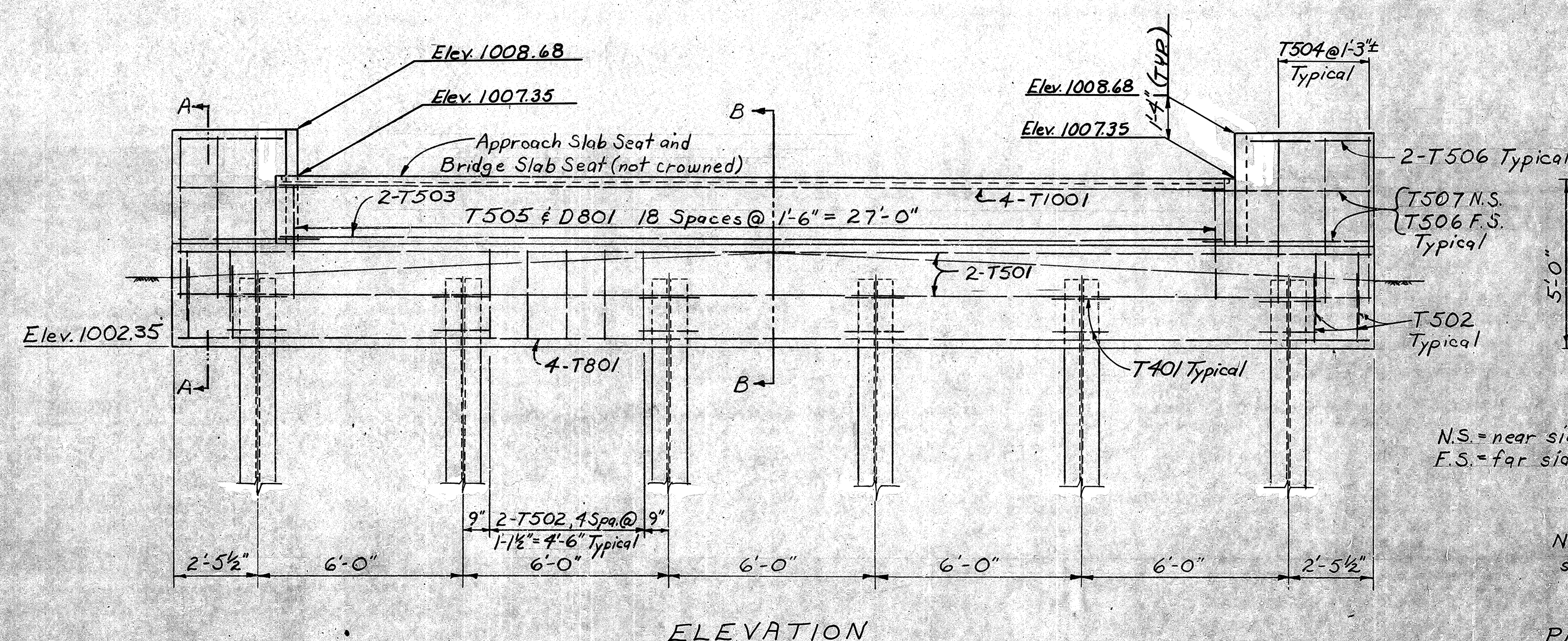
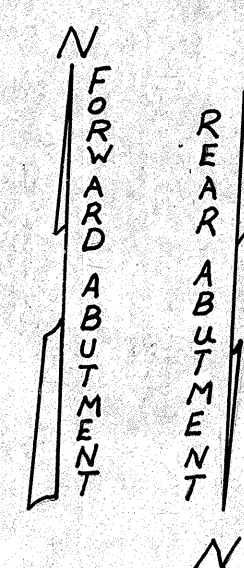
FIELD OFFICE: The Contractor shall provide a suitable field office having a minimum of 150 sq. ft. of floor space and in addition to the requirements of Item 619, he shall provide and maintain sanitary provisions as per 107.06. All of the above is included in the lump sum price bid for Item 619, Field Office.

ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION shall include the removal of the full depth of existing pavement from approach slab to approach slab.

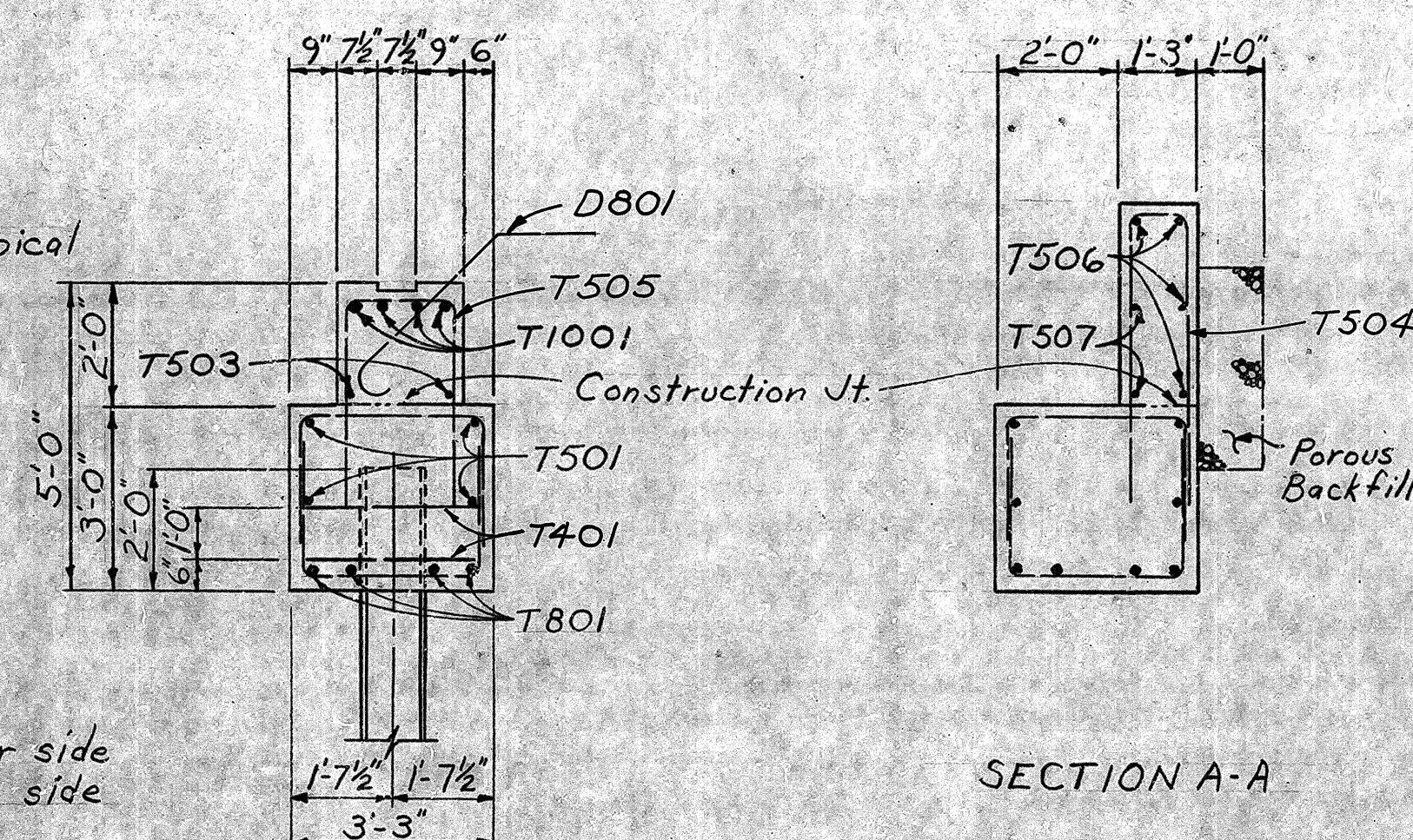
UTILITIES: All expense involved in relocating the affected utilities shall be borne by the Owners. The Contractor and the Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum. Following are owners known to be within the work area:
Holmes-Wayne Electric Coop. Inc. General Telephone Co. of Ohio
Millersburg, Ohio 44654 1121 Tuscarawas Ave. N.W.
New Philadelphia, Ohio 44663
Phone: 216-674-1055 Phone: 216-364-0572



PLAN



ELEVATION



SECTION A-A

SECTION B-B

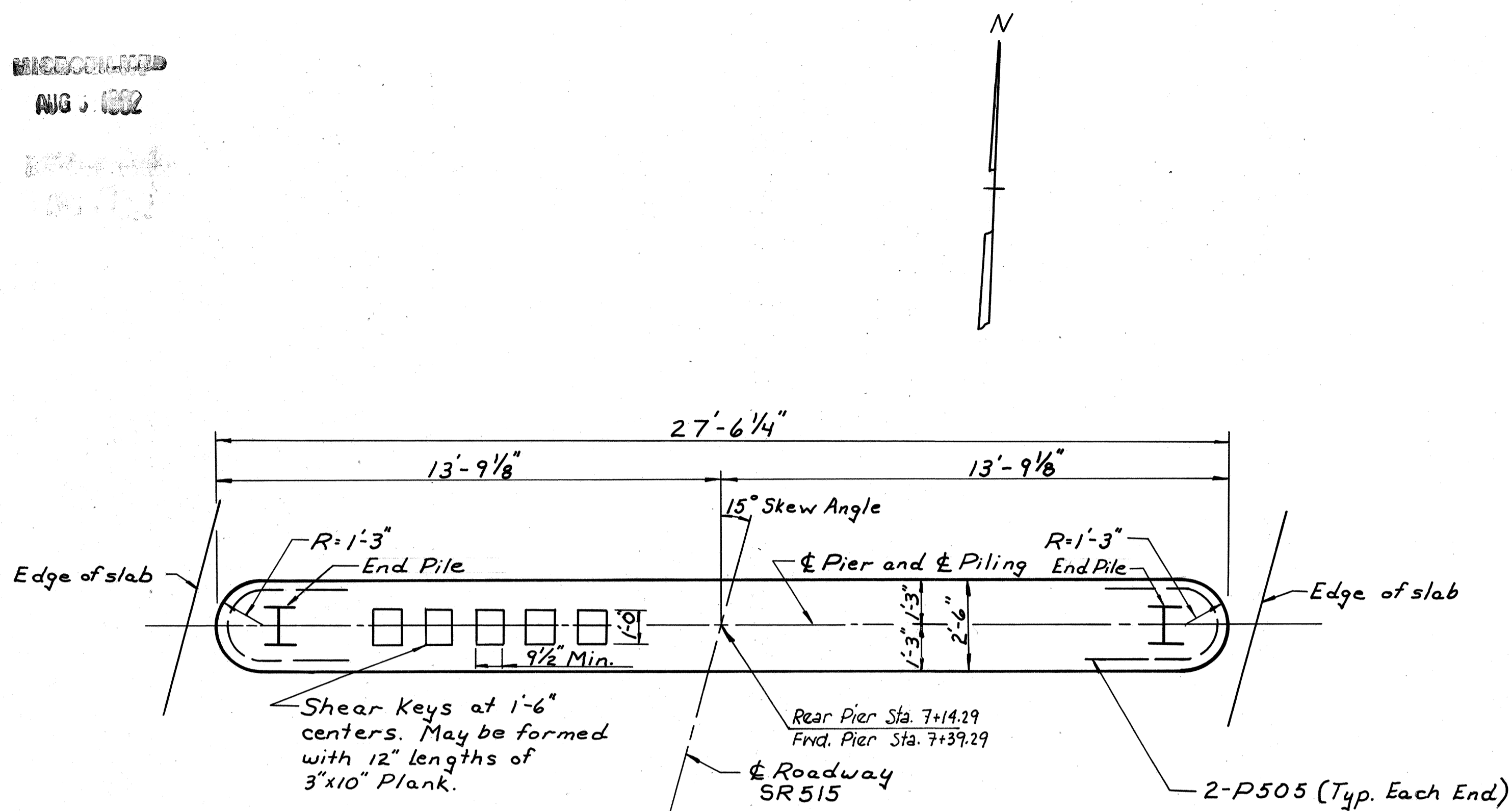
NOTE: For details not shown see Standard Drawing CPA-2-73.

PILES shall be driven to a minimum bearing capacity of 21 tons per pile for the abutments. Piles are to be HP10x42.

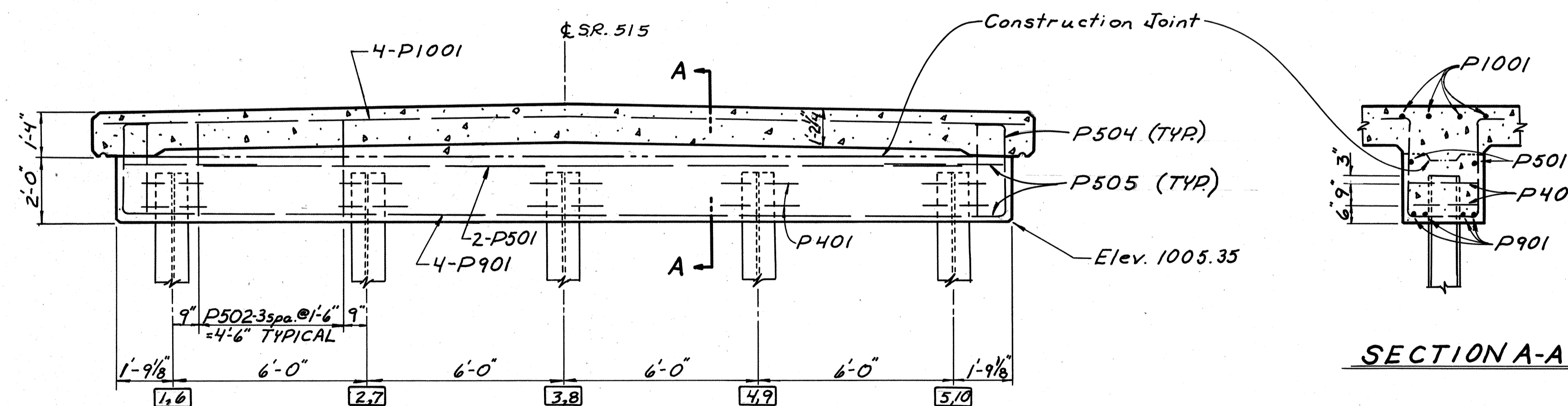
Additional Notes: See Sheet 4.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND STRUCTURAL DESIGN					
ABUTMENT DETAILS & GENERAL NOTES					
BRIDGE NO. HOL-515-0375 OVER INDIAN TRAIL CREEK					
DESIGNED Dist. II	DRAWN	TRACED	CHECKED	REVIEWED	DATE
JLO	JLO		SLU		

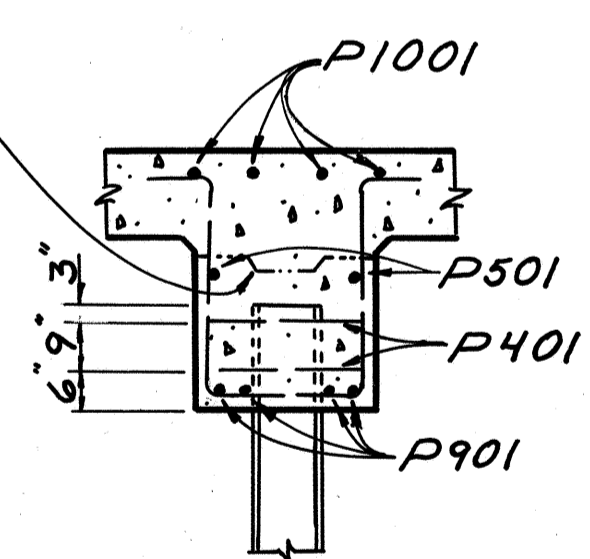
MICROFILMED
AUG 5 1982



PLAN



ELEVATION



SECTION A-A

PILE NUMBERING:
1-5 - Piles in Rear Pier
6-10 - Piles in Fwd. Pier

Piles are Steel Piles HP12x53
Piles shall be driven to a minimum bearing capacity of 35 tons per pile for the piers.

Refer to Standard Drawing CPP-2-73 for details not shown.

REINFORCING STEEL LIST
ABUTMENTS

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS			
	REAR	FWD.	TOTAL				A	B	C	D
T1001	4	4	8	27'-3"	938	Str.				
T801	4	4	8	34'-5"	735	Str.				
T501	4	4	8	34'-5"	287	Str.				
T502	58	58	116	6'-10"	827	1	2'-11"	2'-1"	2'-1"	
T503	2	2	4	27'-3"	114	Str.				
T504	6	6	12	10'-4"	129	1	11"	4'-10"	4'-10"	
T505	19	19	38	7'-11"	314	1	1'-8"	3'-3"	3'-3"	
T506	8	8	16	3'-1"	51	Str.				
T507	4	4	8	4'-9"	40	Str.				
DB01	19	19	38	5'-9"	583	2	3'-4"	1'-1"	12	
T401	12	12	24	9'-2"	147	3	1'-9"	2'-7 3/4"		

PIERS

MARK	NUMBER			LENGTH	WEIGHT	TYPE	DIMENSIONS			
	1st.	2nd.	TOTAL				A	B	C	D
P901	4	4	8	25'-0"	680	Str.				
P501	2	2	4	25'-0"	104	Str.				
P502	16	16	32	8'-9"	292	4	2'-8"	2'-2"	10 1/2"	
P503	2	2	4	8'-7"	36	4	2'-8"	2'-0"	10 1/2"	
P504	2	2	4	4'-2"	17	5	2'-8"			
P505	4	4	8	6'-4"	53	6	2'-0 1/4"	1'-7"		
P401	10	10	20	8'-0"	107	3	2'-0 1/4"	1'-9"		

EPOXY COATED STEEL

P1001	4	4	8	27'-4"	941	Str.				
-------	---	---	---	--------	-----	------	--	--	--	--

SUPERSTRUCTURE

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS			
					A	B	C	D
A820	90	24'-1"	5,787	Str.				
B820	22	18'-1"	1,062	7	17'-0"			
C820	24	16'-10"	1,079	7	15'-9"			
D820	11	15'-9"	463	Str.				
E820	12	13'-3"	425	Str.				
M601	60	28'-5"	2,561	Str.				

EPOXY COATED STEEL

F820	58	16'-6"	2,555	Str.				
G820	26	9'-6"	659	Str.				
H820	26	6'-11"	480	Str.				
J501	58	14'-8"	887	Str.				
K501	29	12'-5"	376	Str.				
M401	104	4'-0"	278	8	1'-0 1/2"	1'-1"	2'-0"	7
N401	68	28'-5"	1,291	Str.				

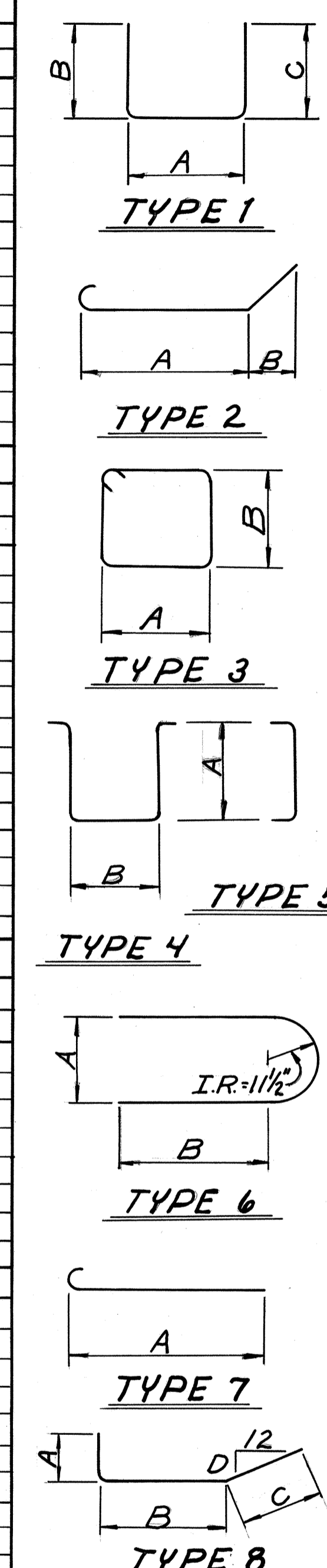
Calc. by: Date: JLO / 3-18-81
Ch'kd. by: Date: SLU / 3-18-81

Reinforcing Steel Samples:
Refer to CMS Sections 106.03, 700, 709.01 through 709.05 and 709.08. Sufficient additional reinforcing steel shall be provided for sampling. Random samples shall be replaced in the structure by the additional steel, spliced in accordance with 509.08.

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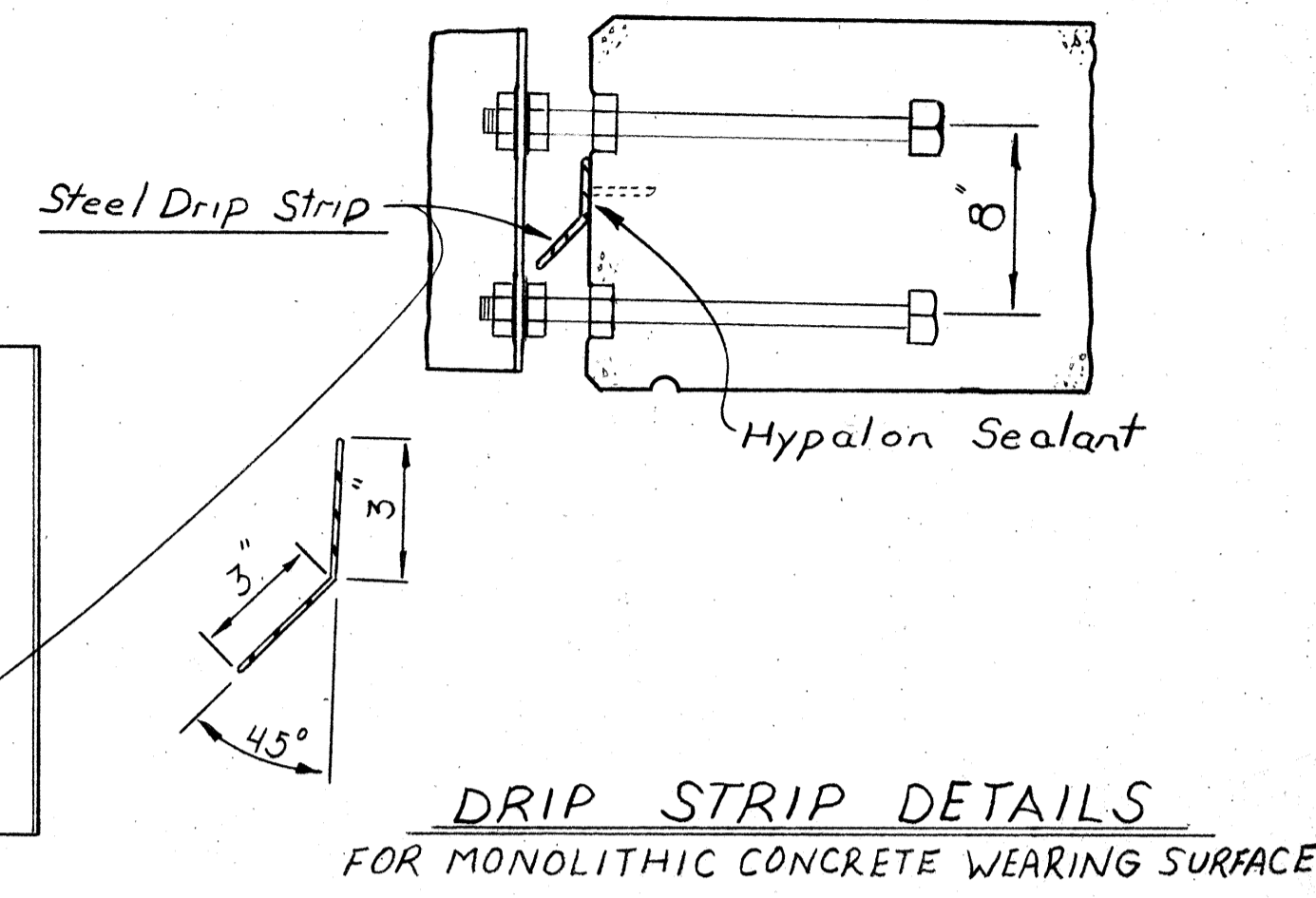
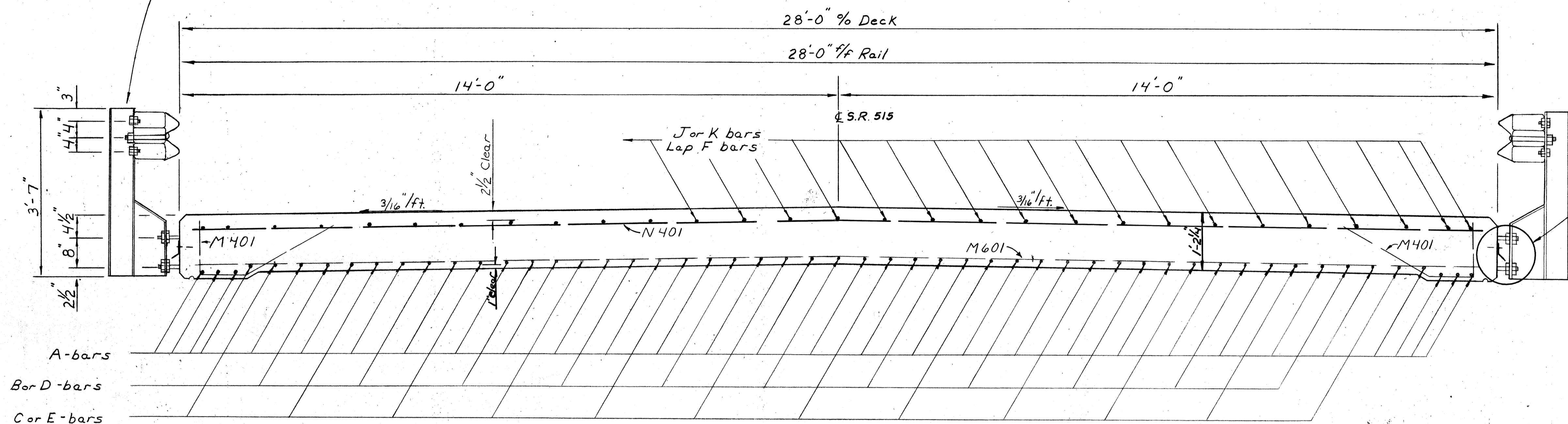
PIER DETAILS
REINFORCING STEEL LIST
BRIDGE NO. HOL-515-0375
OVER INDIAN TRAIL CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JLO	SLU	SLU	JJN			



See Standard Drawing No. DBR-2-73 for any Bridge Rail detail not shown.

FIG. 102



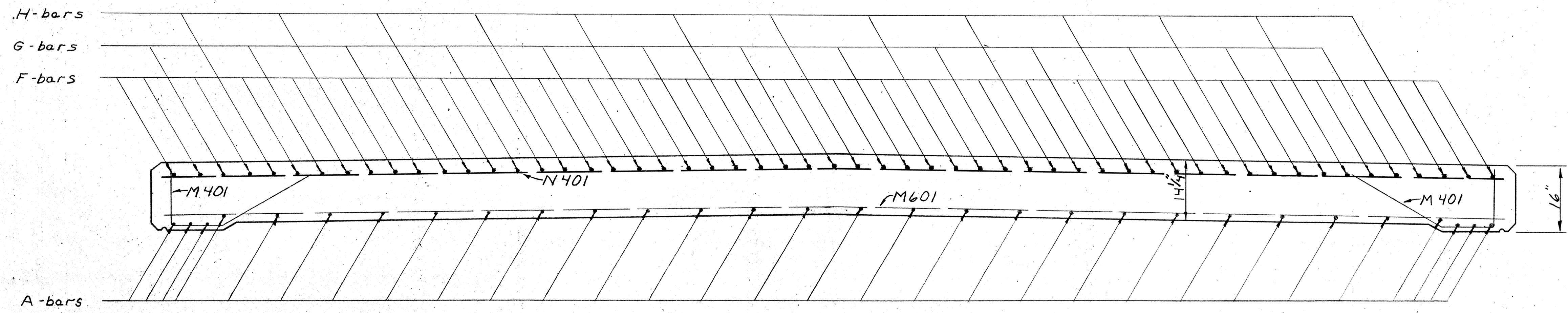
SECTION AT ABUTMENT AND CENTER OF SPANS

DRIP STRIP

Note: Top mat of deck shall be epoxy coated reinforcing steel.

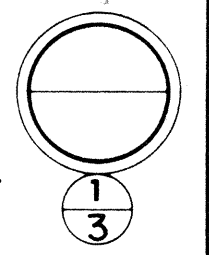
See Standard Drawing No. CS-2-73 for any details not shown.

A bent drip strip shall be installed along the edge of the deck as shown. The drip strips shall be embedded in a 1/8" x 3" layer of hypalon sealant. The strips shall be fastened at 1'-6" c/c maximum with 1/4" x 3/4" flat head drive pin and washer (length shall include heads) 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 the individual pieces shall be butted together, not lapped. Steel for galvanized strips shall be 6" x 0.105" and shall meet the requirements of ASTM A568. Galvanizing shall be in accordance with 711.02. Stainless steel alternate 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 item. Sealant shall meet Government Specification TT-S-0023.C, Type II



SECTION AT PIER
(Reinforcing steel detail only)

STATE OF OHIO DEPARTMENT OF TRANSPORTATION BUREAU OF BRIDGES AND STRUCTURAL DESIGN						
SUPERSTRUCTURE DETAILS						
Bridge No. HOL-515-0375 Over INDIAN TRAIL CREEK						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
SLU	SLU		JLO			



GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED IN THE HIGHLY DISSECTED UNGLACIATED PORTION OF THE ALLEGHENY PLATEAU REGION, ON THE NARROW FLOODPLAIN OF AND OVER INDIAN TRAIL CREEK, IN AN AREA WHERE EXTREMELY DEEP VALLEY AND ALLUVIAL DEPOSITS OVERLIE BEDROCK, OF PENNSYLVANIAN AGE.

EXPLORATION

THE EXPLORATION CONSISTED OF TWO DRIVE SAMPLE BORINGS MADE BY MEANS OF A MECHANICALLY-POWERED HOLLOW STEM AUGER MOUNTED ON A MOBILE PLATFORM, PERFORMED BETWEEN MARCH 4 AND 10, 1981.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE BORINGS ENCOUNTERED INTERVALS OF EXTREMELY LOOSE TO EXTREMELY DENSE STRATIFIED SAND AND GRAVEL MODIFIED WITH SILTS AND CLAYS THAT GRADUALLY INCREASE IN DENSITY (ERRATIC AT TIMES) WITH INCREASE IN DEPTH. THE BORINGS WERE TERMINATED AT 51 TO 56-FOOT DEPTH, ELEVATION 956 TO 952 FEET, AFTER PENETRATING IN EXCESS OF 7 FEET OF MATERIAL, REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST.

BEDROCK SURFACE WAS NOT ENCOUNTERED IN EITHER OF THE TEST BORINGS PERFORMED.

NO FREE WATER OBSERVATIONS WERE MADE DURING OR AT THE CONCLUSION OF DRILLING OPERATIONS, HOWEVER A WET ZONE WAS NOTED IN BORING B-2 AT 10-FOOT DEPTH, ELEVATION 998 FEET AND IN BORING B-7 AT 8-FOOT DEPTH, ELEVATION 1000 FEET.

LEGEND

- Auger Boring Location - Plan View.
- Press and/or Drive Sample and/or Core Boring Location - Plan View.
- Drive Rod Penetration Resistance Sounding Location - Plan View.
- Capped Pile
- Footing
- Footing on Pile
- TR Top of Rock

- Horizontal Bar on Boring Log Indicates the Depth the Sample Was Taken.
- Figures Beside the Boring Log in Profile Indicate the Number of Blows for Standard Penetration Test.
X = Number of Blows for First 6 inches.
Y = Number of Blows for Second 6 inches.
Z = Number of Blows for Third 6 inches.
- Drive Rod Penetration Resistance Sounding Log - Profile
- Resistance "R" <math>< 10,000</math> lbs.
- Resistance "R" > 10,000 lbs.
- Z Indicates Final Measurement of Penetration, in Inches.
- W Indicates Free Water Elevation.
- Indicates Static Water Elevation.

SYMBOLS OF ROCK TYPES

- Coal
- Weathered Mudstone or Claystone
- Mudstone or Claystone
- Weathered Shale
- Shale
- Weathered Siltstone
- Siltstone
- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone
- Boulders or Cobbles

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

Drive rod penetration resistance tests constitute driving a 1.315-inch diameter steel rod, with a 45° cone point, into the ground, using a 122-pound drop-hammer with a free fall of five feet. At one or two-foot depth intervals, a measurement is taken to determine the amount of penetration achieved in three hammer drops. This reading is converted to an empirical value for capacity "R", in thousands of pounds (which is a measure of both the point resistance and frictional resistance on the rod), by using charts prepared by the Ohio Department of Highways, Bureau of Bridges, on the basis of correlation study of rod penetration with past performance of pile driving. For interpretation, a graph is prepared by plotting the value "R" against the depth at which the reading was taken, and connecting the plotted points. The curve so obtained reflects the density of subsurface materials in a manner that can be readily compared with data from similar tests at other locations on the structure site. From this comparison, the overall uniformity of subsurface condition may be evaluated.

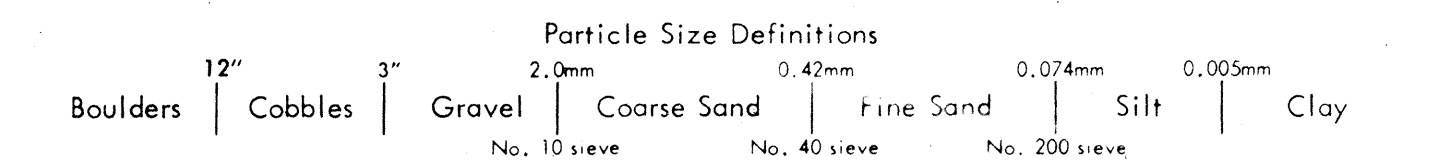
Drive Sample Borings - Drive-Press Sample Borings

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 2-1/2 and/or 5-foot depth intervals, driven by means of a 140-pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 18 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.

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in three 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. 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 can not be driven, a wash sample is procured for visual classification, in order to determine the general character of the material. These samples are not considered sufficiently representative to warrant laboratory testing.



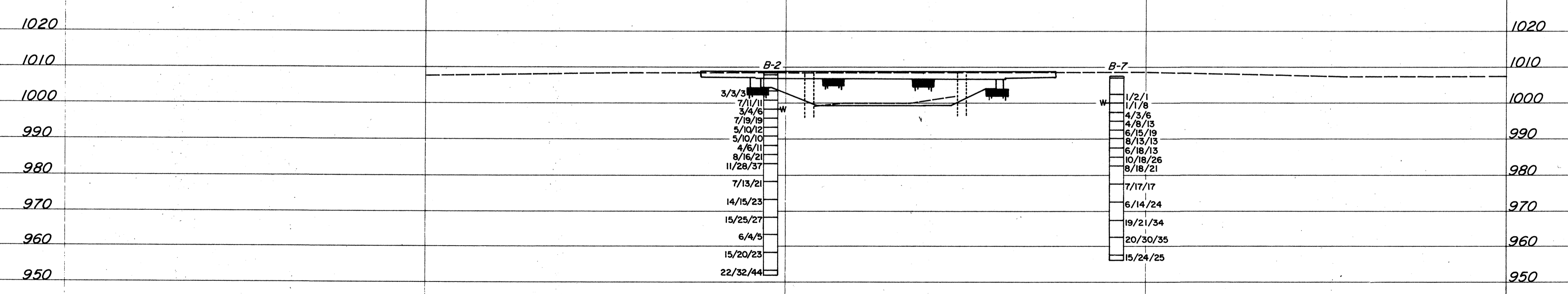
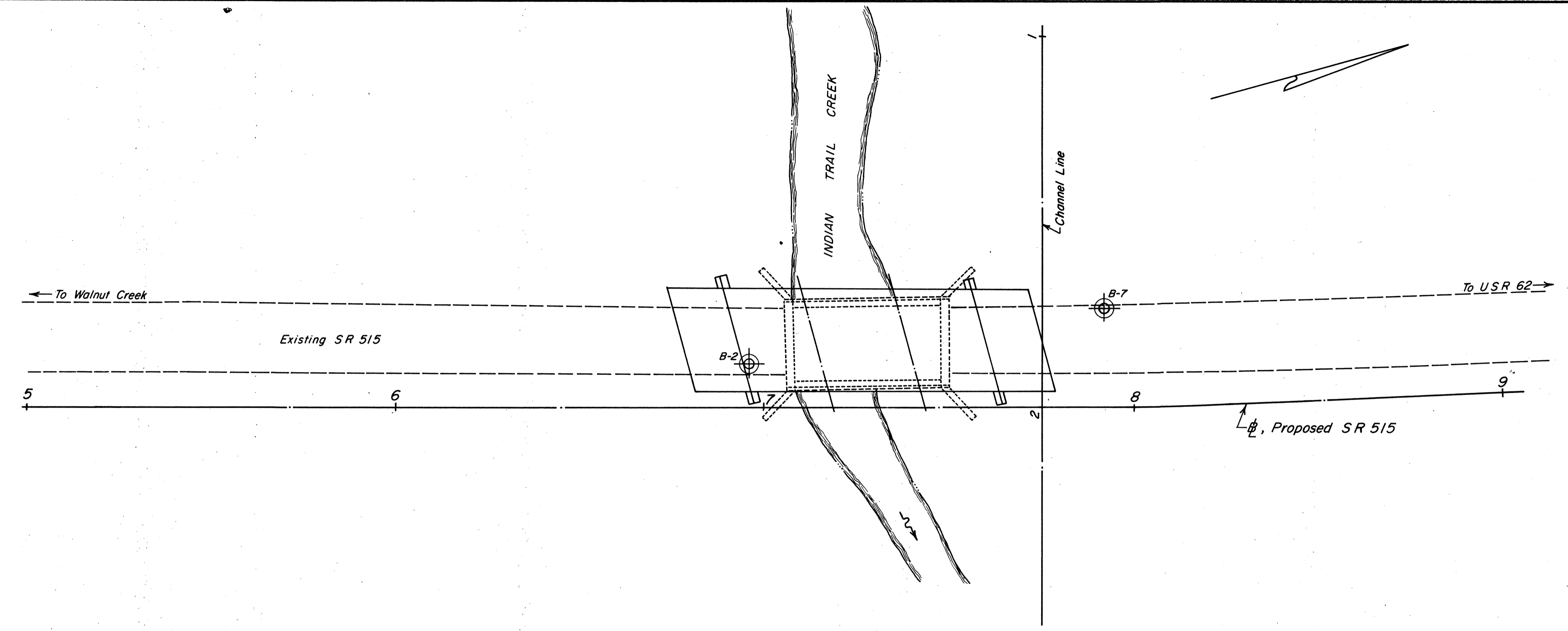
NOTE - ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE STRUCTURE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATIONS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN THE DISTRICT DEPUTY DIRECTOR'S OFFICE, THE BUREAU OF TESTS AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE BUREAU OF LOCATION AND DESIGN OR IN THE BRIDGE BUREAU AT 25 SOUTH FRONT STREET.

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.

OHIO DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS - TESTING LABORATORY
1600 WEST BROAD STREET, COLUMBUS, OHIO 43223

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. HOL-515-0375
OVER INDIAN TRAIL CREEK
SEC. HOL-515-3.75

CHECKED BY L. N. L.	REVIEWED BY R. D. R.	DATE 4/1/81
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PLAN AND PROFILE

DRAWN BY L. N. L.	CHECKED BY L. N. L.	REVIEWED BY R. D. R.	DATE 4/1/81
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SCALE: 1" = 20'

LOG OF BORING

Date Started 3/9/81 Sampler Type SS Dia 1 3/8" Water Elev. 998.3' (NET ZONE)
 Date Completed 3/9/81 Casing Length _____ Dia _____ WASHED OUT SAMPLE AT 45.0' ELEV. 963.3'
 Boring No. B-2 Station & Offset 6+96 -12' LT. FROM BL Surface Elev. 1008.3'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics										SHTL Class.		
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.					
1008.3	0				BLACKTOP														VISUAL
1007.9	2																		
1005.8	4				AUGERED BROWN SANDY SILT WITH STONE FRAGMENTS (DRILLER'S DESCRIPTION)														VISUAL
1003.3	6																		
1000.8	8	3/3/3			BROWN SANDY SILT	1	0	0	38	38	24	NP	NP	22					A-4a
998.3	10	7/11/11			BROWN SILTY GRAVELLY SAND	2	25	13	32	17	13	NP	NP	11					A-2-4
995.8	12	3/4/6			BROWN SILTY SANDY GRAVEL	3	53	13	12	14	8	NP	NP	18					A-1-b
993.3	14	7/19/19			BROWN SILTY GRAVELLY SAND	4	31	18	25	14	12	NP	NP	13					A-2-4
990.8	16	5/10/12			BROWN SILTY SANDY GRAVEL	5	54	18	13	9	6	NP	NP	14					A-1-a
988.3	18	5/10/10			BROWN SANDY GRAVEL	6	56	26	10	4	4	NP	NP	14					A-1-b
985.8	22	4/6/11			BROWN SILTY SANDY GRAVEL	7	54	16	14	9	7	NP	NP	15					A-1-b
983.3	24	8/16/21			BROWN SILTY SANDY GRAVEL	8	46	16	18	11	9	NP	NP	15					A-1-b
978.3	28	11/28/37			BROWN SILTY SANDY GRAVEL	9	46	14	21	12	7	NP	NP	10					A-1-b
973.3	32	7/13/21			BROWN SILTY GRAVELLY SANDY	10	21	27	30	13	9	NP	NP	13					A-3a
968.3	36	14/15/23			BROWN WITH GRAY SILTY SANDY GRAVEL	11	44	15	21	13	7	NP	NP	9					A-1-b
963.3	40	15/25/27			BROWN SILTY SANDY GRAVEL	12	44	19	16	14	7	NP	NP	11					A-1-b
958.3	44	6/4/5			GRAY SANDY AND GRAVEL (DRILLER'S DESCRIPTION) (WASH SAMPLE - NO RECOVERY)	13	41	V	I	S	U	A	L	14					A-1-b
953.3	48	15/20/23			GRAY AND BROWN SILTY GRAVELLY SAND	13	41	29	18	7	5	NP	NP	14					A-1-b
951.8	52	22/32/44			BROWN SILTY SANDY GRAVEL	14	44	22	13	13	8	NP	NP	10					A-1-b

↑ BOTTOM OF BORING

LOG OF BORING

Date Started 3/10/81 Sampler Type SS Dia 1 3/8" Water Elev. 1000.1' (NET ZONE)
 Date Completed 3/10/81 Casing Length _____ Dia _____ WASHED OUT SAMPLE AT 40.0' -ELEV. 967.2'
 Boring No. B-7 Station & Offset 7+92 - 27' LT. FROM BL Surface Elev. 1007.6'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics										SHTL Class.		
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C.					
1007.6	0				BLACKTOP														VISUAL
1007.2	2																		
1002.2	4				AUGERED BROWN SANDY CLAYEY SILT (DRILLER'S DESCRIPTION)														VISUAL
999.7	6	1/2/1			BROWN SANDY SILT	15	0	1	37	37	25	NP	NP	25					A-4a
997.2	8	1/1/8			BROWN SANDY SILT	16	4	5	44	31	16	NP	NP	22					A-4a
994.7	12	4/3/6			BROWN SILTY SANDY GRAVEL	17	45	14	18	13	10	NP	NP	21					A-1-b
992.2	14	4/8/13			GRAY WITH BROWN SILTY SANDY GRAVEL	18	40	16	20	17	7	NP	NP	14					A-1-b
989.7	16	6/15/19			BROWN AND GRAY SILTY SANDY GRAVEL	19	44	18	14	16	8	NP	NP	15					A-1-b
987.2	18	8/13/13			BROWN SILTY SANDY GRAVEL	20	54	18	12	11	5	NP	NP	8					A-1-b
984.7	20	6/18/13			BROWN AND GRAY SILTY SANDY GRAVEL	21	53	17	16	8	6	NP	NP	14					A-1-a
982.2	22	10/18/26			BROWN AND GRAY SILTY SANDY GRAVEL	22	48	20	14	12	6	NP	NP	9					A-1-b
977.2	24	8/18/21			BROWN WITH GRAY SILTY SANDY GRAVEL	23	40	19	19	14	8	NP	NP	12					A-1-b
972.2	28	7/17/17			BROWN WITH GRAY SILTY GRAVELLY SAND	24	27	13	40	14	6	NP	NP	15					A-3a
967.2	32	6/14/24			BROWN WITH GRAY SILTY GRAVELLY SAND	25	20	24	30	17	9	NP	NP	13					A-3a
962.2	36	19/21/34			BROWN WITH GRAY SILTY SANDY GRAVEL	26	39	18	19	14	10	NP	NP	10					A-1-b
957.2	40	20/30/35			BROWN SILTY GRAVELLY SAND	27	33	27	16	14	10	NP	NP	11					A-4-b
955.7	44	15/24/25			BROWN SILTY SANDY GRAVEL	28	52	18	13	8	9	NP	NP	11					A-1-b

↑ BOTTOM OF BORING

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BORING DATA

TYPED BY S. M. G.	CHECKED BY L. N. L.	REVIEWED BY R. D. R.	DATE 4/1/81
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