#5047

OHIO	FHWA REGION 5	1 / 14
BRS - 335(10)	FEDERAL PROJECT	

SAN - 19 - 15.30

QUANTITIES
CALC BY R.G.R. DATE 9-12-83
CKD BY JCW DATE 10-12-83

DESIGN DESIGNATION

Current ADT(1982)	=	3600
Design Year ADT(2002)	=	5040
DHV	=	750
D	=	60%
T	=	6%
V	=	60 M.P.H.

MICROFILMED NOV 15 1983

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
SAN-19-15.30
RICE TOWNSHIP
SANDUSKY COUNTY

BRS - 335(10)

UNDERGROUND UTILITIES
TWO WORKING DAYS BEFORE YOU DIG Call 800-862-2764 (Toll free) OHIO UTILITIES PROTECTION SERVICE Non-Members Must be called directly

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line or
Fence Line (existing) (proposed)
Center Line 352 353
Trees, Stumps, (to be removed)
Utility Poles: Telephone, Power, Light.

Limited Access (only) LA
Right of Way (only) RW
Limited Access & Right of Way LA & RW
Existing Right of Way
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)
Construction Limits

INDEX OF SHEETS

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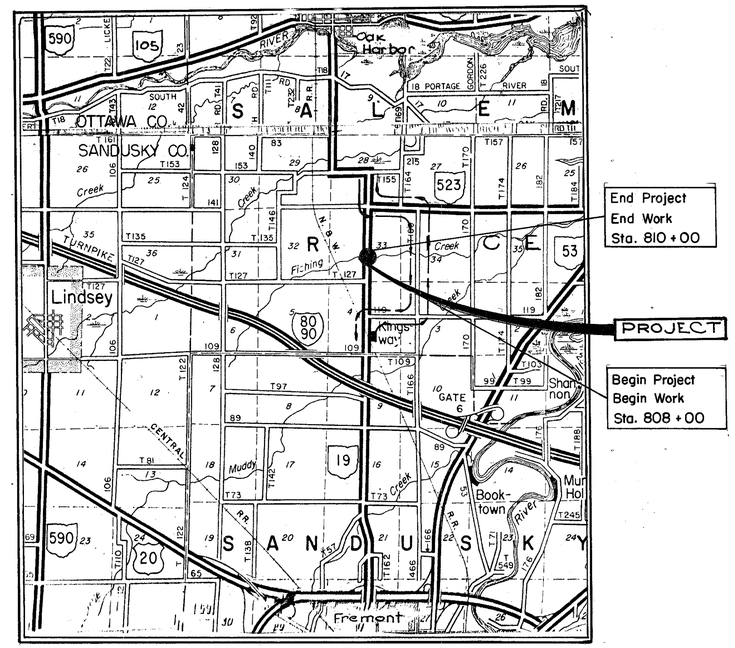
General Notes and General Summary — 2
Construction Detail and Subsummaries — 3
Alignment and Profile — 4
Roadway Cross Sections — 5
Channel Cross Sections — 6
Structure Over 20' Span — 7-12
Temporary Pavement Markings — 13
Right Of Way — 14



LOCATION MAP

SCALE IN MILES 0 1 2 3 4

DETOUR

Portion to be improved
State & Federal Routes
Other Roads

SCALES

Plan 0 10 20 30 40
Profile: Horizontal 0 10 20 30 40, Vertical 0 5 10
Cross Section: Horizontal 0 5 10, Vertical 0 5 10

1983 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 provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

Approved R. S. Gelman
Date 10-7-83 District Deputy Director of Transportation

SUPPLEMENTAL SPECIFICATIONS		
803	5-27-83	

WTF Approved Robert B. Pfeifer
Date 11-1-83 Engineer, Bureau of Bridges and Structural Design

11-1-83 Approved Wayne H. Lowe
Date 12-1-83 Chief Engineer, Planning and Design

Approved Wm. J. Smith
Date 12-1-83 Director, Department of Transportation

MICROFILMED JUL 1 1985

LINE DATA

PROJECT

Begin Project Sta. 808 + 00
End Project Sta. 810 + 00
Net Length of Project = 200 Lin.Ft. or 0.038 Miles

WORK

Begin Work Sta. 808 + 00
End Work Sta. 810 + 00
Net Length of Work = 200 Lin.Ft. or 0.038 Miles

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS					
BP-5	7-16-81				
BP-6	6-1-65				
GR-1	2-5-82				
GR-2B	2-5-82				
GR-3	2-5-82				
GR-4A	2-5-82				
MC-3	6-1-73				
MC-4	7-26-76				
BP-11	1-3-75				
DBR-2-73	4-10-73				
PSBD-1-81	9-18-81				
AS-1-81	11-27-81				
LA-1	6-1-79				

Plan Prepared By:
Structure: Bureau of Bridges and Structural Design - ODOT
Roadway: District 2 - ODOT

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED:

DIVISION ADMINISTRATOR DATE

Project SAN-19-15.30
Date of Letting 19 , Contract No.

SEAL

LDG300 Rev 11-1-78

GENERAL NOTES

FIELD OFFICE:

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 150 SQ. FT. OF FLOOR SPACE. PAYMENT SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

PROFILE:

THE PROPOSED PROFILE SHALL BE AS SHOWN ON THE PLAN AND PROFILE SHEET.

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 COMPLETION OF THIS PROJECT.

LOCATION OF GUARDRAIL:

THE LOCATIONS OF GUARDRAIL 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.

LIGHTS AND SIGNS AT ADJACENT ROAD INTERSECTIONS:

THE CONTRACTOR SHALL, IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614 ON THIS PROJECT PERFORM THE FOLLOWING:

PROVIDE, ERECT, AND MAINTAIN STANDARD 48" X 30" SIZE "ROAD CLOSED" SIGNS, SIGN SUPPORTS, AND LIGHTS AT THE FOLLOWING LOCATIONS DURING THE PERIOD IN WHICH THE AFFECTED ROAD IS CLOSED TO TRAFFIC:

1. S.R. 19 AND TWP. RD. 127 (OVERMEYER RD)
2. S.R. 19 AND S.R. 523

SIGN SUPPORTS AND LIGHTS FOR "ROAD CLOSED" SIGNS SHALL BE AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR PROVIDING, ERECTING, MAINTAINING, AND REMOVING LIGHTS, SIGNS, AND SIGN SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC.

PERMANENT PAVEMENT MARKING:

ALL PERMANENT PAVEMENT MARKING SHALL BE FURNISHED AND PLACED BY ODOT.

IN ORDER TO PROVIDE AMPLE WORKING TIME FOR THE INSTALLATION OF THE PERMANENT PAVEMENT MARKING, THE PROJECT ENGINEER SHALL NOTIFY THE DISTRICT TRAFFIC ENGINEER A MINIMUM OF FIVE WORKING DAYS PRIOR TO OPENING THE ROAD TO TRAFFIC.

SHOULD THERE BE ANY REASON THAT THE PERMANENT PAVEMENT MARKING CANNOT BE INSTALLED PRIOR TO OPENING THE ROAD TO TRAFFIC, TEMPORARY PAVEMENT MARKING MUST BE INSTALLED. IN NO CIRCUMSTANCES CAN THE ROAD BE OPENED WITHOUT PAVEMENT MARKINGS BEING IN PLACE.

TEMPORARY PAVEMENT MARKING:

FOR TEMPORARY PAVEMENT MARKING NOTES, SEE SHEET NO. 13

UTILITIES:

THE CONTRACTOR SHALL NOTIFY AT LEAST FIVE (5) WORKING DAYS BEFORE BREAKING GROUND, ALL UTILITIES HAVING WIRES, POLES OR OTHER STRUCTURES THAT MAY BE AFFECTED BY THIS PROJECT, INCLUDING ALL STRUCTURES WHICH ARE AFFECTED BUT NOT SHOWN ON THESE PLANS.

OWNERSHIP:

POWER: THE TOLEDO EDISON COMPANY
2600 SANDUSKY, U.S. 20 @ S.R. 590
LINDSEY, OHIO 43442
PHONE: 419-665-2621

TELEPHONE: OHIO BELL TELEPHONE COMPANY
1600 MADISON AVENUE
TOLEDO, OHIO 43624
PHONE: 419-245-7217

BOTH THE ABOVE UTILITIES ARE LOCATED ABOVE GROUND.

ELEVATION DATUM:

ALL ELEVATIONS ARE BASED ON U.S.C.S. DATUM.

CONSTRUCTION NOISE:

IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICE SHALL NOT BE OPERATED BETWEEN THE HOURS OF 10:00 P.M. AND 6:00 A.M. IN ADDITION, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICE SHALL NOT BE OPERATED IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

~~MAINTAINING LOCAL ACCESS:~~

~~QUANTITIES FOR THE FOLLOWING ITEMS ARE ESTIMATED AND ARE INCLUDED IN THE GENERAL SUMMARY FOR MAINTAINING ACCESS TO ADJACENT PROPERTIES, AS DIRECTED BY THE ENGINEER.~~

~~ITEM 410~~	~~TRAFFIC COMPACTED SURFACE, TYPE A OR B~~	~~CU. YDS.~~
~~ITEM 616~~	~~CALCIUM CHLORIDE~~	~~TONS~~
~~ITEM 616~~	~~WATER~~	~~M. GALS.~~

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.

REMOVAL OF TREES OR STUMPS:

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED.

SIZE	NO. TREES	NO. STUMPS	TOTAL
18"	2	0	2

TREE REMOVAL SCHEDULE

17" ASH STA. 809 + 13 - 25.5' LT.
20" ASH STA. 809 + 18 - 26' LT.

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE OF THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

GUARDRAIL REMOVED FOR STORAGE

GUARDRAIL REMOVED FOR STORAGE SHALL BE PICKED UP ON THE PROJECT BY STATE PERSONNEL.

R.G.R. 9-12-83
JCW 10-12-83

GENERAL SUMMARY

ITEM	QUANTITY	UNIT	DESCRIPTION
			ROADWAY
201	Lump		Clearing and Grubbing
202	27	Lin. Ft.	Pipe Removed, 24" and Under
202	153	Sq. Yd.	Pavement Removed
202	252	Sq. Yd.	Wearing Course Removed
202	88.12	Lin. Ft.	Guardrail Removed for Re-Use
202	161.88	Lin. Ft.	Guardrail Removed for Storage
203	164	Cu. Yd.	Excavation, Not Including Embankment Construction
203	79	Cu. Yd.	Embankment
203	169	Sq. Yd.	Subgrade Compaction
606	75.04	Lin. Ft.	Guardrail, Type 5
606	88.12	Lin. Ft.	Guardrail, Rebuilt, Type 5
606	1	Ea.	Anchor Assembly, Standard Type T
606	4	Ea.	Bridge Terminal Assembly, Standard Type B
614	0.04	Miles	Temporary Center Lines, Class II Markings
			EROSION CONTROL
601	37	Cu. Yd.	Rock Channel Protection, Type D Without Filter
659	428	Sq. Yd.	Seeding and Mulching
659	0.04	Ton	Commercial Fertilizer
			DRAINAGE
603	52	Lin. Ft.	12" Conduit, Type B
603	10	Lin. Ft.	6" Conduit, Type F
605	17	Lin. Ft.	6" Shallow Pipe Underdrains, 707.01
605	11	Lin. Ft.	Aggregate Drains
			PAVEMENT
304	23	Cu. Yd.	Aggregate Base
305	19	Sq. Yd.	9" Portland Cement Concrete Base
310	30	Cu. Yd.	Subbase, Type 1
402	18	Cu. Yd.	Asphalt Concrete, AC-20
404	12	Cu. Yd.	Asphalt Concrete, AC-20
404	4	Cu. Yd.	Asphalt Concrete, AC-20 (Driveways)
407	43	Gal.	Tack Coat
408	28	Gal.	Bituminous Prime Coat
611	167	Sq. Yd.	Reinforced Concrete Approach Slab (T-15")
Special	40	Lin. Ft.	Pressure Relief Joint, Standard Type D
407	1	Ton	Cover Aggregate
			STRUCTURES OVER 20' SPAN
			Br. No. SAN-19-15.32 - For Quantities See Sheet No. 9
614	Lump		Maintaining Traffic
619	Lump		Field Office
623	Lump		Construction Layout Stakes
624	Lump		Mobilization

TYPICAL CONSTRUCTION DETAILS

FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-335( )	

3/14

SAN-19-15.30

R.G.R 9-12-83
J.C.U. 10-12-83

PAVEMENT

REFERENCE NUMBER	STATION FROM	STATION TO	202 PAVEMENT REMOVED Sq. Yd.	202 WEARING COURSE REMOVED Sq. Yd.	203 SUBGRADE COMPACTION Sq. Yd.	304 AGGREGATE BASE Cu. Yd.	305 9" PORTLAND CEMENT CONCRETE BASE Sq. Yd.	310 SUBBASE Cu. Yd.	402 ASPHALT CONCRETE Cu. Yd.	404 ASPHALT CONCRETE Cu. Yd.	407 TACK COAT Gal.	611 APPROACH SLAB Sq. Yd.	SPECIAL PRESSURE RELIEF JOINT STANDARD TYPE D Lin. Ft.	404 ASPHALT CONCRETE FOR DRIVEWAYS Cu. Yd.	408 PRIME COAT @0.4GAL./SQ.YD. Gal.	407 Cover Aggregate Ton
1-P	808+00	808+52.42		120.3		0.6			5.0	3.3	12.0		20			
2-P	808+52.42	808+56.42	7.1		9.2	0.3	9.2	1.4	0.4	0.3	0.9					
3-P	808+56.42	808+81.42	68.5		75.3			13.4	3.5	2.3	8.3	83.3				
4-P	809+18.59	809+43.59	70.2		75.3			13.4	3.5	2.3	8.3	83.3				
5-P	809+43.59	809+47.59	7.1		9.2	0.5	9.2	1.7	0.4	0.3	0.9					
6-P	809+47.59	810+00		121.7		1.2			5.1	3.4	12.2		20			
7-P	808+15	808+59				9.7								3.2	23.3	.74
8-P	809+53.59	809+92				8.3										
9-P	808+00	808+20		10.0		1.7								0.6	4.0	.13
TOTALS TO GENERAL SUMMARY			152.9	252.0	169.0	22.3	18.4	29.9	17.9	11.9	42.6	166.6	40	3.8	27.3	.87

GUARDRAIL

REFERENCE NUMBER	STATION FROM	STATION TO	SIDE	202 GUARDRAIL REMOVED FOR REUSE Lin. Ft.	202 GUARDRAIL REMOVED FOR STORAGE Lin. Ft.	606 GUARDRAIL REBUILT TYPE 5 Lin. Ft.	606 GUARDRAIL TYPE 5 Lin. Ft.		606 ANCHOR ASSEMBLY TYPE T Each	606 BRIDGE TERMINAL ASSEMBLY TYPE B Each	
1-G	808+21.88	808+81.42	Lt.			37.50	9.54		1	1	
2-G	809+18.59	*809+72.5±	Lt.			* 50.62	2.67			1	
3-G	808+57.10	808+81.42	Rt.				28.29			1	
4-G	809+18.59	809+50.06	Rt.				34.54			1	
5-G	808+22.5	*809+72.5±	Lt.	* 88.12	* 61.88						
6-G	808+53	809+52	Rt.		100.00						
TOTALS TO GENERAL SUMMARY				88.12	161.88	88.12	75.04		1	4	

*Note: This station and quantity could vary depending on the location of the nearest existing guard post and the length of rail necessary to make a closure with it.

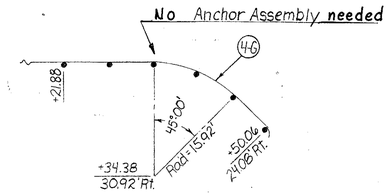
DRAINAGE

REFERENCE NUMBER	STATION FROM	STATION TO	SIDE	202 PIPE REMOVED 24" AND UNDER Lin. Ft.	605 AGGREGATE DRAINS Lin. Ft.	601 ROCK CHANNEL PROTECTION TYPE D W/O FILTER Cu. Yd.	603 12" CONDUIT TYPE B Lin. Ft.	603 6" CONDUIT TYPE F Lin. Ft.	605 6" SHALLOW PIPE UNDERDRAINS Lin. Ft.
1-D	808+82.75	808+88.83	Lt. & Rt.			13.7			
2-D	809+11.18	809+17.26	Lt. & Rt.			14.8			
3-D	809+11	809+20	Lt.			4.3			
4-D	809+11	809+19	Rt.			3.6			
5-D	808+76	808+86	Rt.	8				10	
6-D	809+44	809+96	Rt.				52		
7-D	809+55	809+74	Rt.	19					
8-D	808+24	808+26	Lt. & Rt.						17
9-D	809+88	809+89	Lt.		4				
10-D	809+91	809+95	Rt.		7				
TOTALS TO GENERAL SUMMARY				27	11	36.4	52	10	17

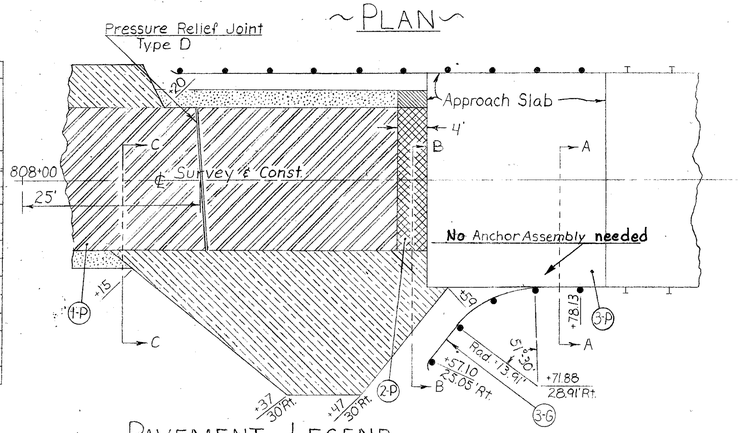
~ SYMBOLS ~

- Remove a sufficient amount of existing wearing course so as to lay 1" 404 on a minimum thickness of 1½"-402
- Full depth stabilized shoulders, 8"-304
- 1" 404 on 1½"-402 on 9"-305 on 6"-310
- Variable depth 304 on existing stabilized shoulder.
- Asphalt Drive, 2"-404 on 6"-304
- Stone Drive, 6"-304

~ GUARDRAIL DETAILS ~



~ PLAN ~



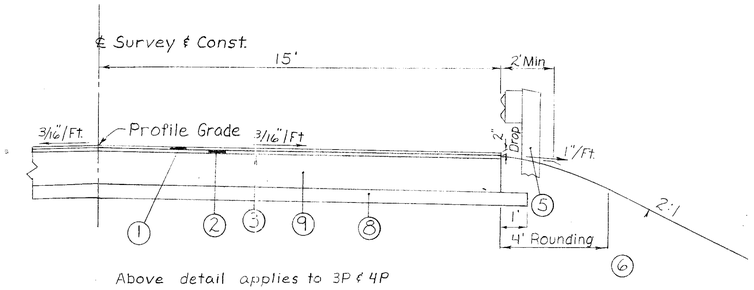
PAVEMENT LEGEND

1. Item 404 - 1" Asphalt Concrete, AC-20
2. Item 402 - 1½" Asphalt Concrete, AC-20
3. Item 407 - Tack Coat, applied at the rate of 0.10 Gal per. Sq Yd
4. Item 304 - Aggregate Base
5. Item 606 - Guardrail, Type 5
6. Item 659 - Seeding & Mulching
7. Item 305 - 9" Portland Cement Concrete Base
8. Item 310 - 6" Subbase, Type I
9. Item 611 - Reinforced Concrete Approach Slab (T=15")

Note: * Pavement slope varies from matching existing pavement slope at butt joint to 3/16" per Ft at Section B-B.

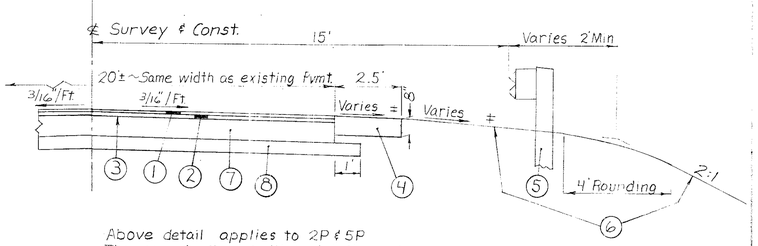
‡ Slope of aggregate shoulder and berm shall vary from meeting existing slopes at beginning or ending of project to meeting proposed 3/16" per Ft. of approach slabs.

~ SECTION A-A ~



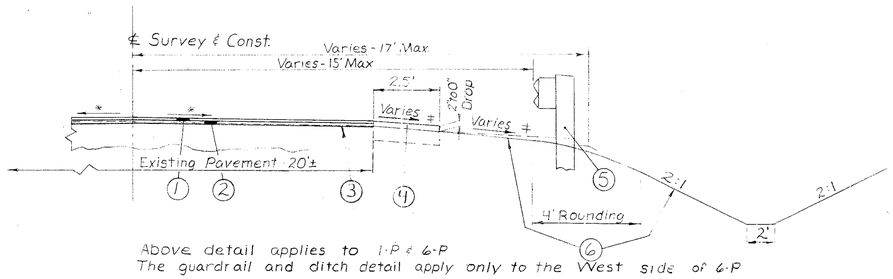
Above detail applies to 3P & 4P

~ SECTION B-B ~



Above detail applies to 2P & 5P
The guardrail and ditch detail apply only to the West side of 5P

~ SECTION C-C ~



Above detail applies to 1-P & 6-P
The guardrail and ditch detail apply only to the West side of 6-P

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO	BRS-335( )	

4 / 14

SAN-19-1530

JUL 1 1985

RR spk., N 1/4 Post, Sec. 4, Rice Twp
63.61' 60.06' Twp. Rd. 127 5.11' ℄ R/W S.R. 19 58.46' P
Ref. Mon. Stam Hole
Iron Rod, S 1/4 Post Sec 33, Rice Twp.

DATA ON EXISTING STRUCTURE

Sta. 808+89.60
Type: Concrete Slab on Concrete Gravity Substructure
Span: 20'-0"
Roadway Width: 25'-4"
Alignment: Tangent
Skew: 0°
Wearing Surface: 4" Bit. on 4" Brick
Approach Slabs: None
Condition: Poor
Drainage Area: 4.61 sq. mi.
Date Built: 1922

Note: Extend the 6" Shallow U.D. Pipe in Ref. No. 8-D, Lt. through the retaining wall. The engineer shall determine the exact location of the outlet. The cost of cutting the hole shall be included in the unit price bid of the pipe.

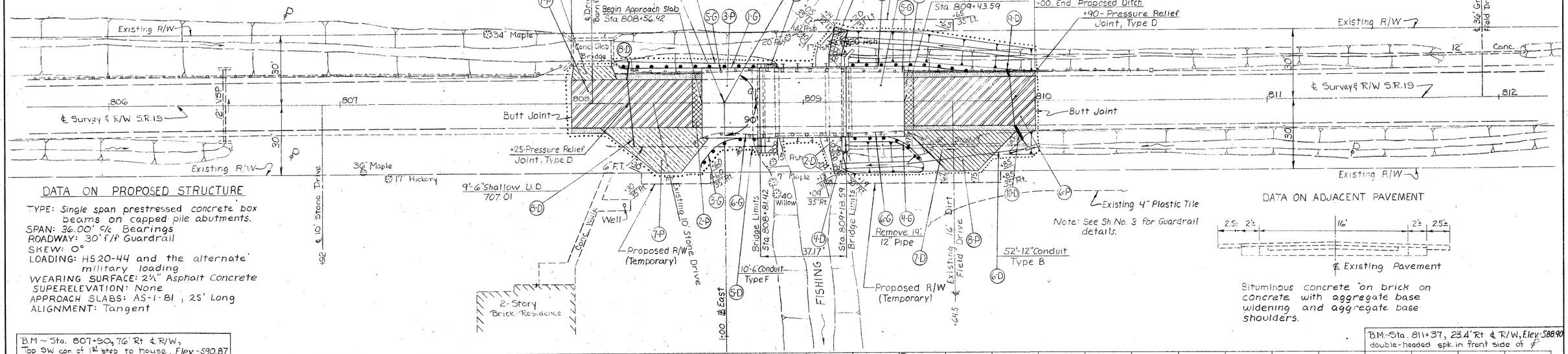
Note: Location details for 7-P and 9-P are shown on Sheet No. 3.

BEGIN PROJECT
BEGIN WORK
STA. 808+00
SLM 15.30
BRS-335(10)

Note: The steel sheet piling retaining wall shall begin at the north end of the east abutment of the concrete slab bridge at Sta. 808+09. The piling shall line up flush with the face of the abutment wall.

END PROJECT
END WORK
STA. 810+00
SLM 15.34
BRS-335(10)

37.61' Ref. Mon. ℄ R/W S.R. 19 79.29' P
Mon. Box over Stone, Cor. Stone Sec 33, Rice Twp.



DATA ON PROPOSED STRUCTURE

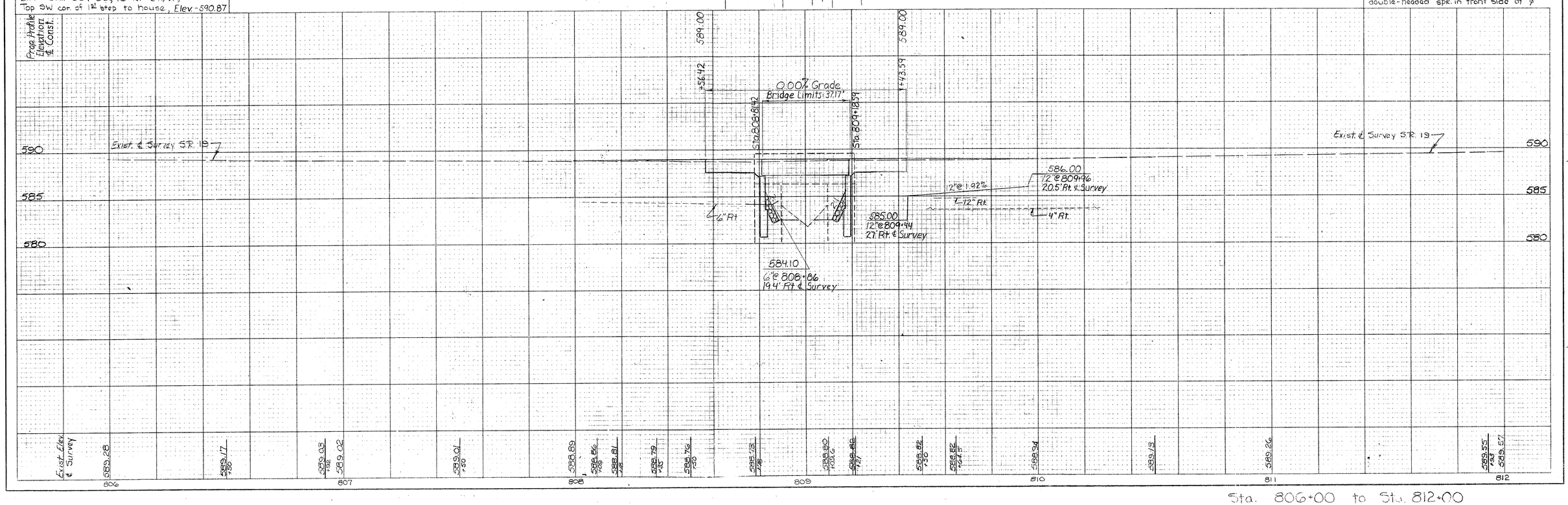
TYPE: Single span prestressed concrete box beams on capped pile abutments.
SPAN: 36.00' c/c Bearings
ROADWAY: 30' f/f Guardrail
SKEW: 0°
LOADING: HS20-44 and the alternate military loading
WEARING SURFACE: 2½" Asphalt Concrete
SUPERELEVATION: None
APPROACH SLABS: AS-1-81, 25' Long
ALIGNMENT: Tangent

DATA ON ADJACENT PAVEMENT

Bituminous concrete on brick on concrete with aggregate base widening and aggregate base shoulders.

B.M. ~ Sta. 807+90, 76' Rt ℄ R/W, Top SW cor of 1st step to house, Elev. - 590.87

B.M. - Sta. 811+37, 23.4' Rt ℄ R/W, Elev. 588.90 double-headed spk. in front side of ✱



Sta. 806+00 to Sta. 812+00

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO	BRS-335( )	

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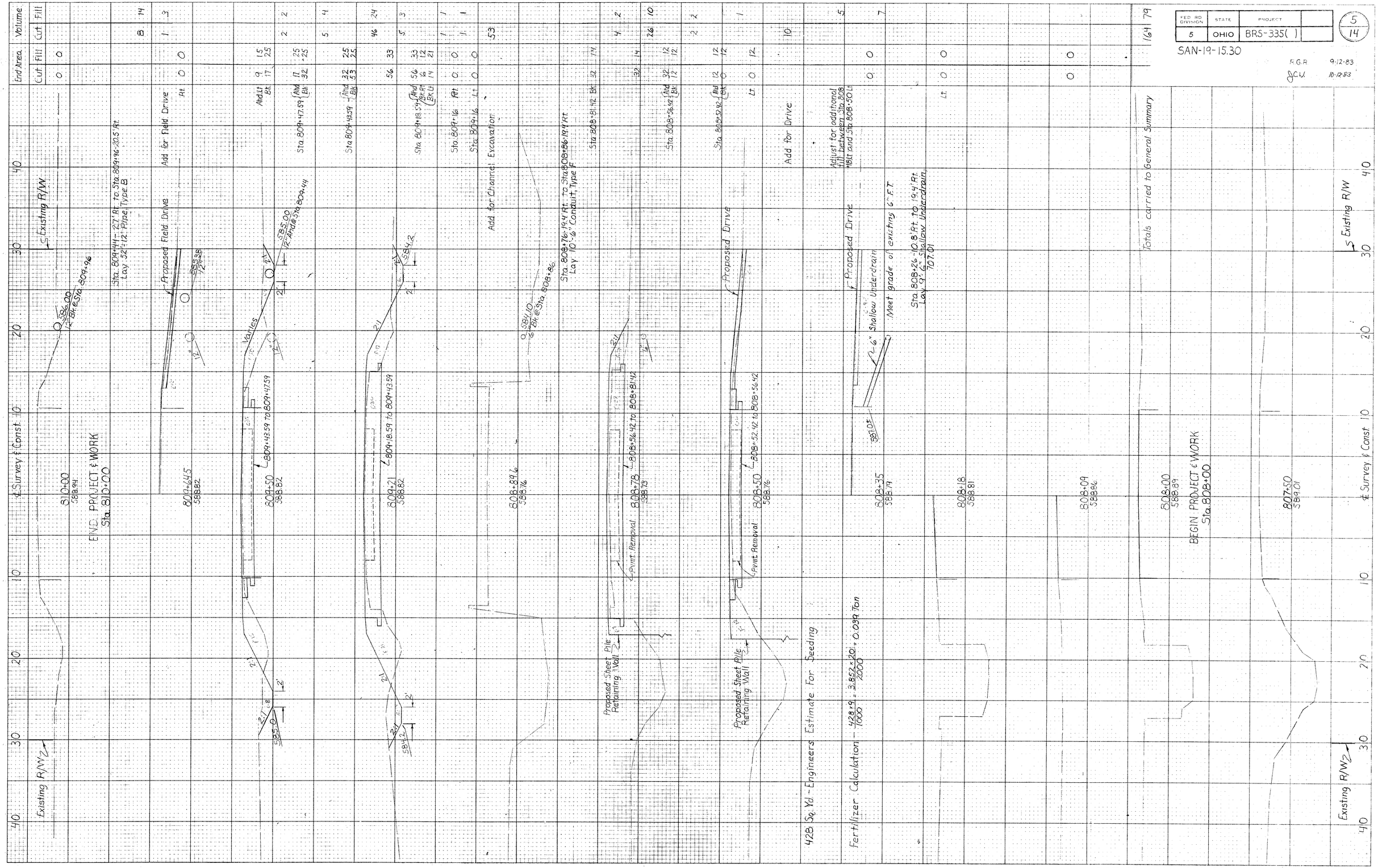
SAN-19-15.30

R.G.R. 9-12-83
J.C.U. 10-12-83



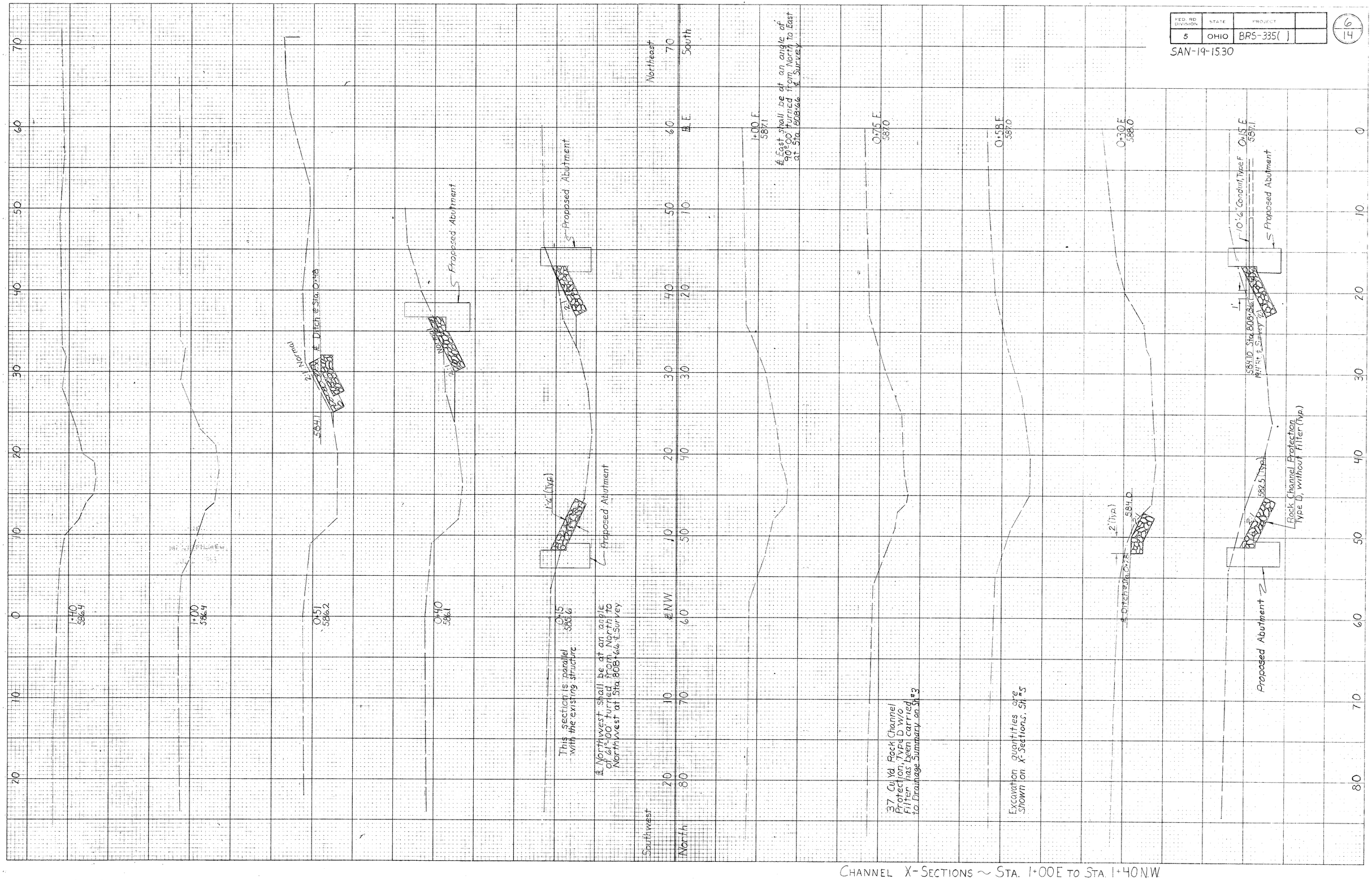
428 Sq. Yd. - Engineers Estimate For Seeding

Fertilizer Calculation — $\frac{428 \times 9}{1000} = \frac{3.852 \times 20}{2000} = 0.039$ Ton

X-SECTIONS ~ STA 807+50 TO STA. 810+00

FED. RD DIVISION	STATE	PROJECT	
5	OHIO	BRS-335( )	

SAN-19-15.30



CHANNEL X-SECTIONS ~ STA. 1+00 E TO STA. 1+40 N.W.

FHWA REGION	STATE	PROJECT	
5	OHIO		

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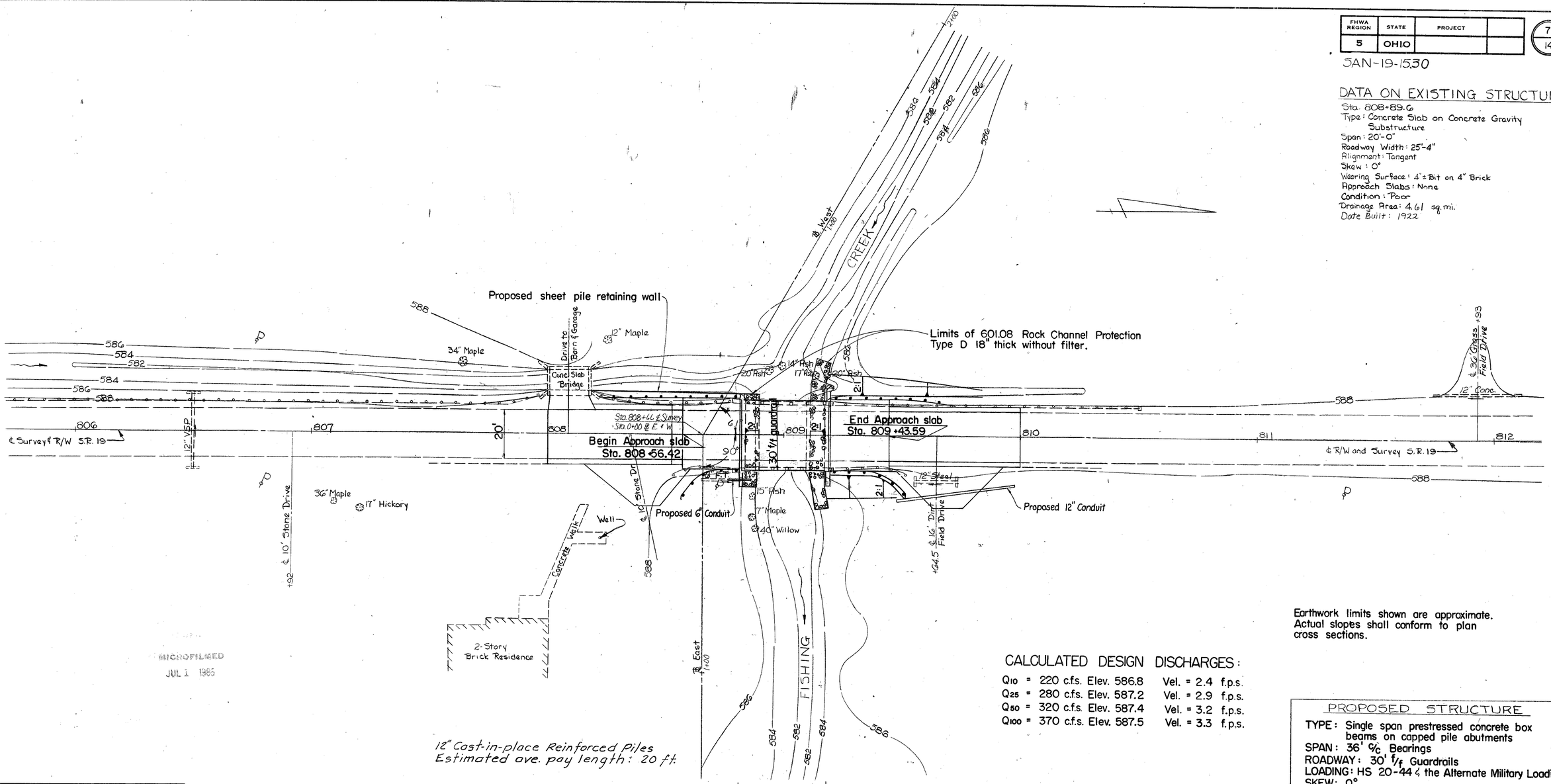
SAN-19-1530

DATA ON EXISTING STRUCTURE

Sta. 808+89.6
Type: Concrete Slab on Concrete Gravity Substructure
Span: 20'-0"
Roadway Width: 25'-4"
Alignment: Tangent
Skew: 0°
Wearing Surface: 4"± Bit on 4" Brick
Approach Slabs: None
Condition: Poor
Drainage Area: 4.61 sq. mi.
Date Built: 1922

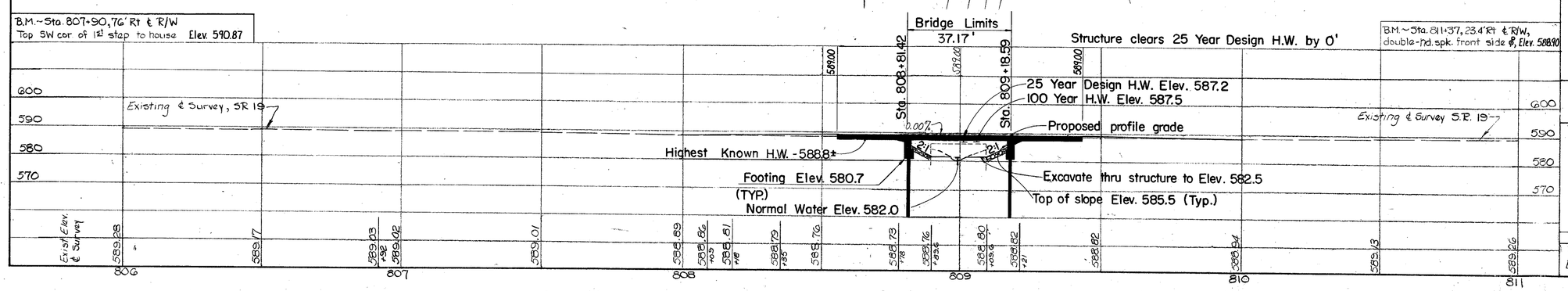


Earthwork limits shown are approximate. Actual slopes shall conform to plan cross sections.

CALCULATED DESIGN DISCHARGES:

Q_{10} = 220 c.f.s. Elev. 586.8	Vel. = 2.4 f.p.s.
Q_{25} = 280 c.f.s. Elev. 587.2	Vel. = 2.9 f.p.s.
Q_{50} = 320 c.f.s. Elev. 587.4	Vel. = 3.2 f.p.s.
Q_{100} = 370 c.f.s. Elev. 587.5	Vel. = 3.3 f.p.s.

12" Cast-in-place Reinforced Piles
Estimated ave. pay length: 20 ft.



PROPOSED STRUCTURE

TYPE: Single span prestressed concrete box beams on capped pile abutments
SPAN: 36' c/c Bearings
ROADWAY: 30' f/f Guardrails
LOADING: HS 20-44 & the Alternate Military Loading
SKEW: 0°
WEARING SURFACE: 2½" Asphalt Concrete
APPROACH SLABS: AS-1-81 (25' Long)
ALIGNMENT: Tangent

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

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SITE PLAN

BRIDGE NO. SAN-19-1532
OVER FISHING CREEK

SANDUSKY COUNTY STA. 808+81.42 809+18.59

Present Topography		Proposed Work			
Surveyed	Drawn	Design	Drawn	Checked	Reviewed
District	District	MJR	MJR	ULH	N.J.B

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FHWA REGION	STATE	PROJECT	
5	OHIO		

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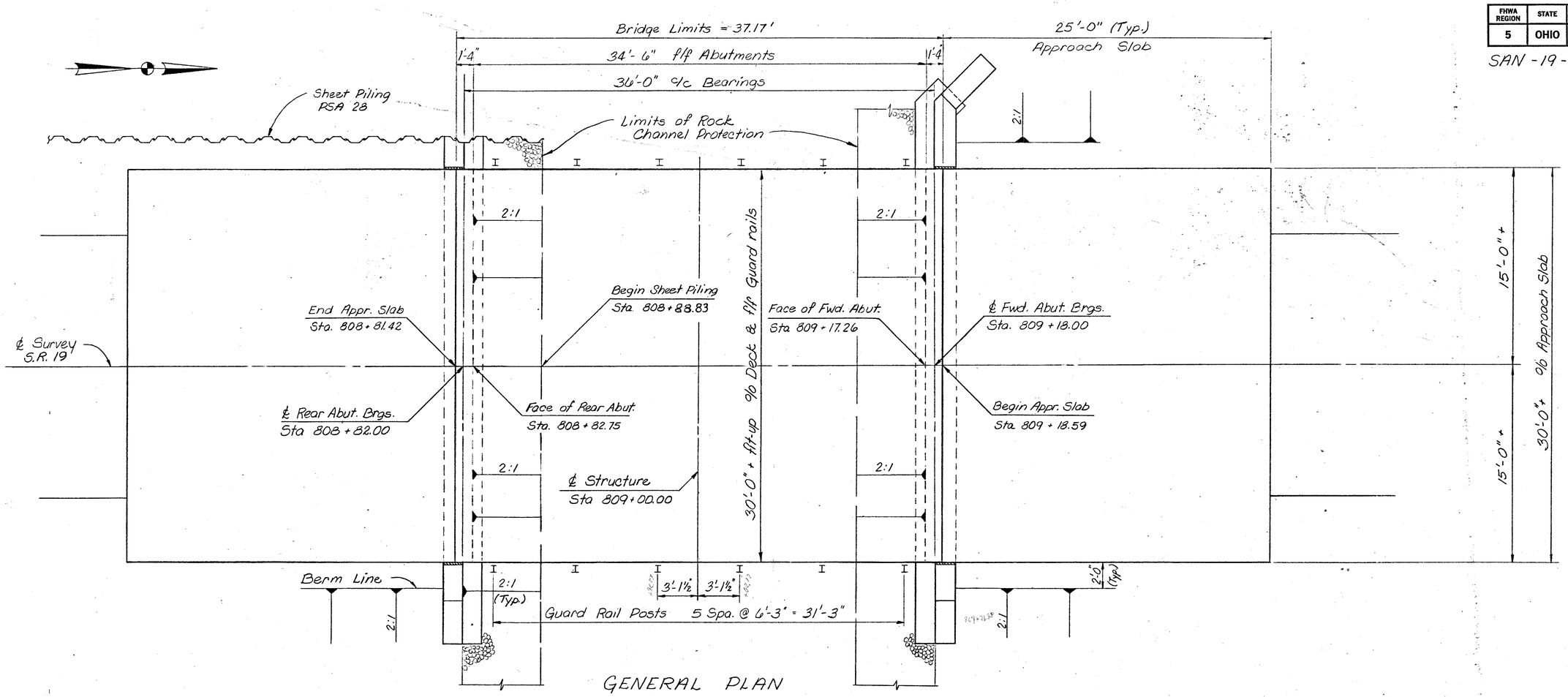
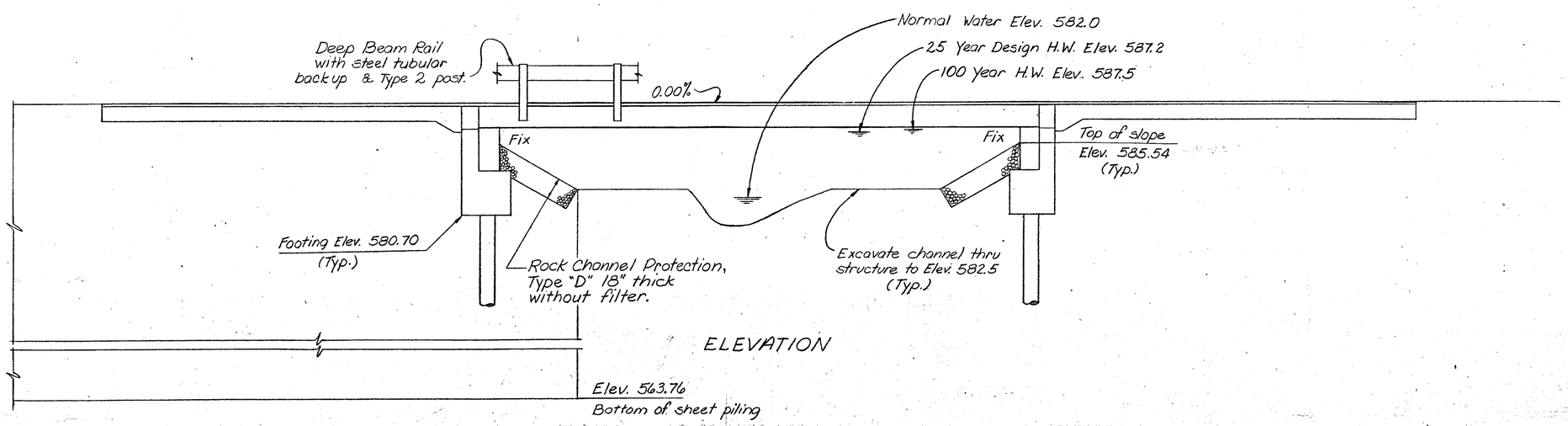
SAN-19-15.30



GENERAL PLAN



ELEVATION

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DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

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GENERAL PLAN & ELEVATION

BRIDGE NO. SAN-19-1532
OVER FISHING CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LMZ	LMZ		JTC SDW	WTF	9-8-83	

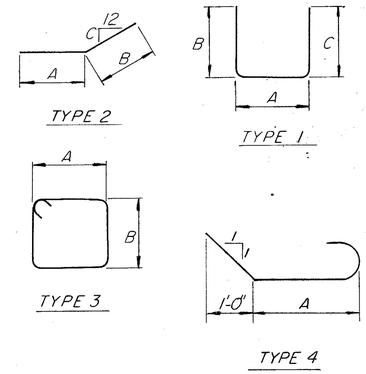
HILLS CO.—1000 #10—7155—7-79

REINFORCING STEEL LIST

ABUTMENTS

Mark	NUMBER Rear	NUMBER Fwd.	NUMBER Total	Length	Weight	Type	A	B	C	D	E	R	INC.
A401	10	12	22	9'-2"	135	3	1'-9"	2'-6 3/4"					
A501		18	18	21'-6"	404	St.							
A502	8	8	16	16'-0"	267	St.							
A503		1	1	7'-11"	8	1	1'-2"	3'-6"	3'-6"				
A504	2	2	4	7'-4"	31	St.							
A505		2	2	6'-5"	13	2	4'-9"	1'-9"	12				
A506		1	1	5'-5"	6	2	3'-9"	1'-9"	12				
A507		2	2	4'-2"	9	2	3'-9"	6"	5				
A508		1	1	5'-0"	5	2	3'-4"	1'-9"	12				
A509		2	2	4'-8"	10	St.							
A510		2	2	4'-0"	8	St.							
A511	2	2	4	5'-2"	22	2	2'-7"	2'-8"	6				
A512	5	8	13	13'-7"	184	1	1'-2"	6'-4"	6'-4"				
A513		2	2	2'-8"	6	2	1'-2"	1'-7"	12				
A514	1	1	2	12'-1"	25	1	1'-2"	5'-7"	5'-7"				
A515	2	2	4	5'-0"	21	St.							
A516		1	1	3'-5"	4	2	1'-11"	1'-7"	12				
A517	4		4	1'-8"	7	St.							
A518	52	60	112	6'-11"	808	1	2'-8"	2'-3"	2'-3"				
A519	21	21	42	11'-2"	489	1	1'-11"	4'-9"	4'-9"				
A520	18		18	20'-1"	377	St.							
A521	2	2	4	6'-9"	28	2	4'-9"	2'-1"	24				
A522		1	1	9'-5"	10	1	1'-2"	4'-3"	4'-3"				
A523		2	2	5'-2"	11	2	3'-0"	2'-3"	29				
A524		2	2	3'-10"	8	2	2'-4"	1'-7"	12				
A525	2		2	3'-5"	7	St.							
A701		3	3	6'-6"	40	2	4'-3"	2'-4"	12				
A702		1	1	7'-1"	14	2	4'-10"	2'-4"	12				
A801		8	8	21'-11"	468	St.							
A802	21	21	42	5'-2"	580	4	2'-11"						
A803	8		8	20'-5"	436	St.							
A804		1	1	4'-9"	13	2	2'-4"	2'-6"	12				
A805		1	1	4'-4"	12	2	1'-11"	2'-6"	12				
A806		1	1	3'-10"	10	2	1'-5"	2'-6"	12				
A807		1	1	3'-7"	10	2	1'-2"	2'-6"	12				

BENDING DIAGRAMS



REFER TO CMS SECTION 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 STRUCTURES BY THE ADDITIONAL STEEL, SPLICED IN ACCORDANCE WITH 509.08.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Abut.	Super.	Gen'l
202	Lump		Structure Removed			Lump
403	6	Cu. Yd.	Asphalt Concrete, AC-20		6	
404	5	Cu. Yd.	Asphalt Concrete, AC-20		5	
503	Lump		Cofferdams, cribs and sheeting			Lump
503	85	Cu. Yd.	Unclassified Excavation	85		
504	1740	Sq. Ft.	Steel Sheet Piling Left in place (min. section modulus of 2.45 in^3 per foot of wall)			1740
505	Lump		Pile driving equipment mobilization	Lump		
507	220	Lin. Ft.	12" Cast-in-place reinforced concrete piles, as per plan	220		
509	4486	Lb.	Reinforcing Steel	4486		
511	50	Cu. Yd.	Class C Concrete, Abutments	50		
515	2	Each	Prestressed Concrete Bridge Members (17"x36"x37'-0")		2	
515	6	Each	Prestressed Concrete Bridge Members (17"x48"x37'-0")		6	
516	89	Sq. Ft.	1" Preformed Expansion Joint Filler		89	
516	32	Each	5"x10"x 1" Elastomeric Bearing Pads (50 Hardness)		32	
516	6	Sq. Ft.	Preformed bearing pads		6	
516	67	Lin. Ft.	Joint Sealer, 705.01 or 705.02		67	
517	74.34	Lin. Ft.	Railing (Deep beam railing with steel tubular backup, Type 2 posts and bolts)		74.34	
518	23	Cu. Yd.	Porous Backfill	23		
Special	56	Sq. Ft.	Steel Drip Strip		56	
Special	139	Sq. Yd.	Membrane Waterproofing (See Proposal Note)		139	

GENERAL NOTES

REFERENCE shall be made to Standard Drawings:
DBR-2-73 dated 4-10-73
PSBD-1-81 dated 9-18-81

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, 1980, 1981, 1982 & 1983 Interm Specifications and the Ohio "Supplement" to these specifications.

DESIGN DATA:
DESIGN LOADING - HS20-44 and the Alternate Military Loading

CONCRETE CLASS C - unit stress 1,333 p.s.i for substructure

REINFORCING STEEL - ASTM A615, A616, or A617
- unit stress 20,000 p.s.i.

CONCRETE FOR PRESTRESSED CONCRETE BEAMS
- unit stress 2200 p.s.i. compression
444 p.s.i. tension

PRESTRESSING STRAND ASTM A416
f'_s = 270,000 P.S.I.
Initial stress = 0.70 f'_s

DECK PROTECTION METHOD: Membrane waterproofing and asphalt concrete overlay.

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed. Guardrail shall be salvaged by State Forces.

PILES: The design load is 50 tons per pile.
The pile hammer used to install the cast-in-place, reinforced concrete piles shall have a State's Energy Rating of not less than 12,000 foot-pounds. This note does not relieve the Contractor from the requirement of 108.05, which states that the Contractor is to provide sufficient equip ment for prosecuting the required work.

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DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

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GENERAL NOTES, ESTIMATED QUANTITIES AND REINFORCING STEEL LIST

BRIDGE NO. SAN-19-1532

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LMZ	g.f.j			WTF	9-8-83	

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FHWA REGION	STATE	PROJECT	
5	OHIO		

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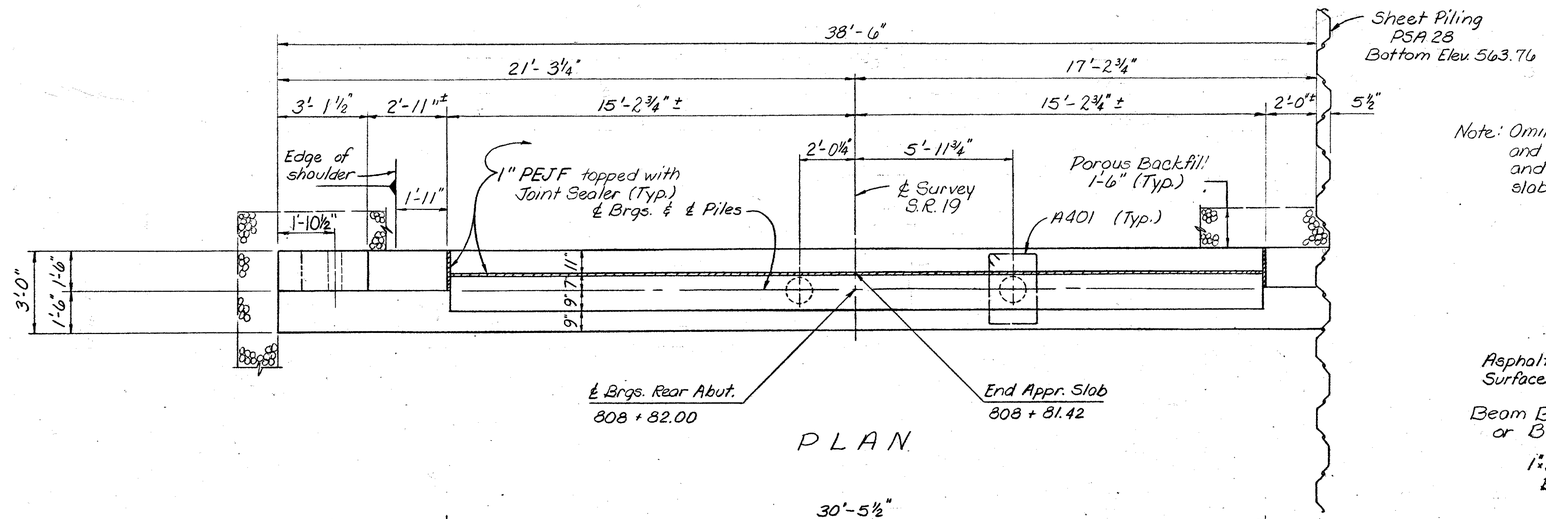
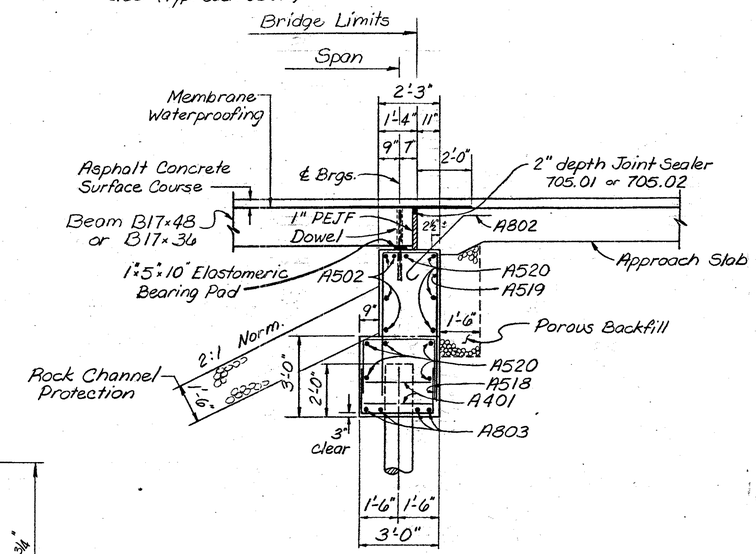
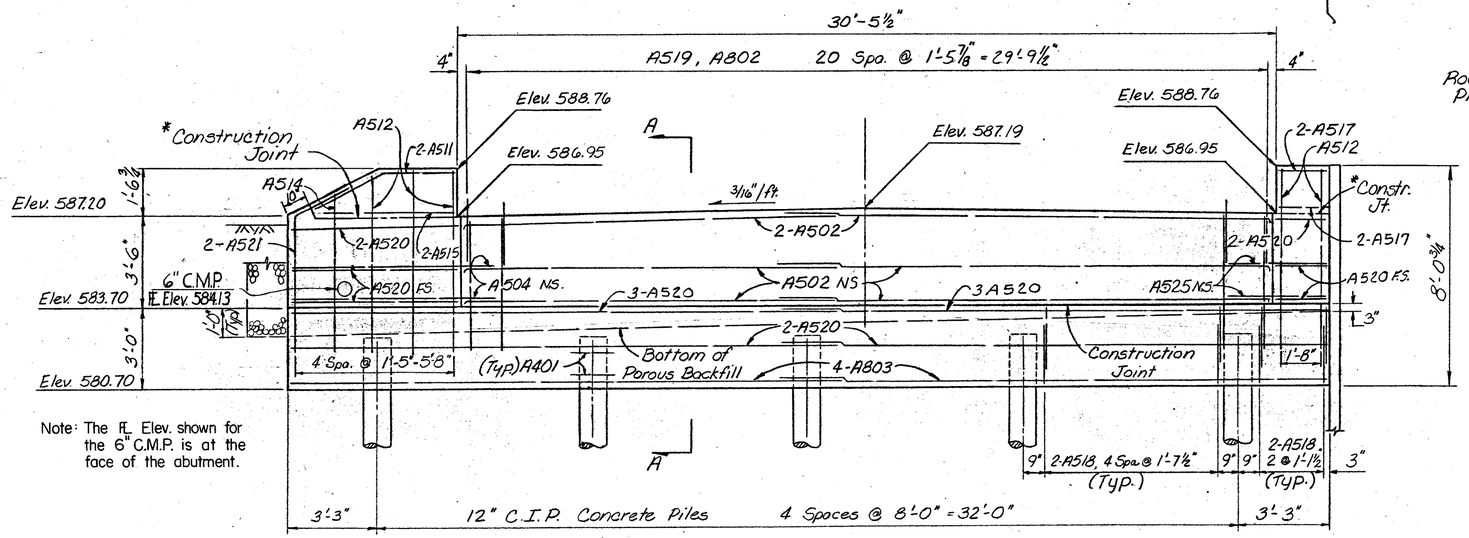


PLAN

Note: Omit additional PEJF and sealer at corners and sides of approach slab (Typ. each abut.)



SECTION A-A



Note: The FL Elev. shown for the 6" C.M.P. is at the face of the abutment.

ELEVATION

ABUTMENT NOTES

* Abutment concrete above the bridge seat construction joint shall not be placed untill the P/S beams have been erected.

Porous backfill shall extend upward to the plane of the subgrade, laterally to the ends of the wingwalls and around the end of the east wing and outward to the rock channel protection on the spill-thru slope.

Care shall be taken to place reinforcing steel in the vicinity of the bridge seat not to interfere with drilling of anchor dowel holes.

LEGEND

N.S. ~ Near side
F.S. ~ Far side

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REAR ABUTMENT DETAILS

BRIDGE NO. SAN-19-1532
OVER FISHING CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LMZ	LMZ			WTF	9-8-83	

JUL 1 1985

HILLS CO.—1000 (210—7185—7-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

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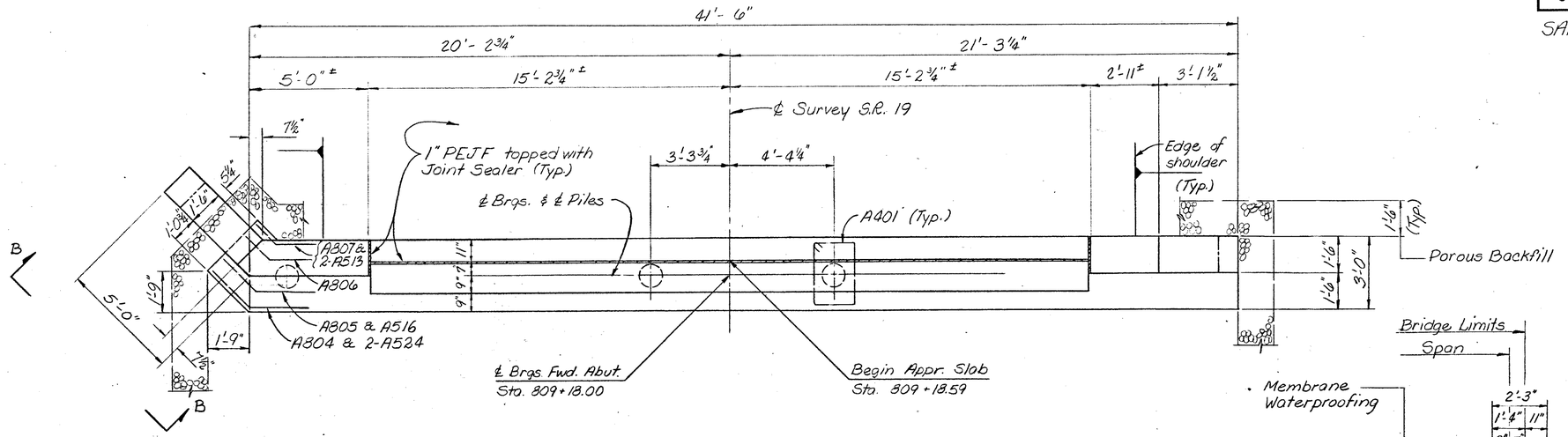
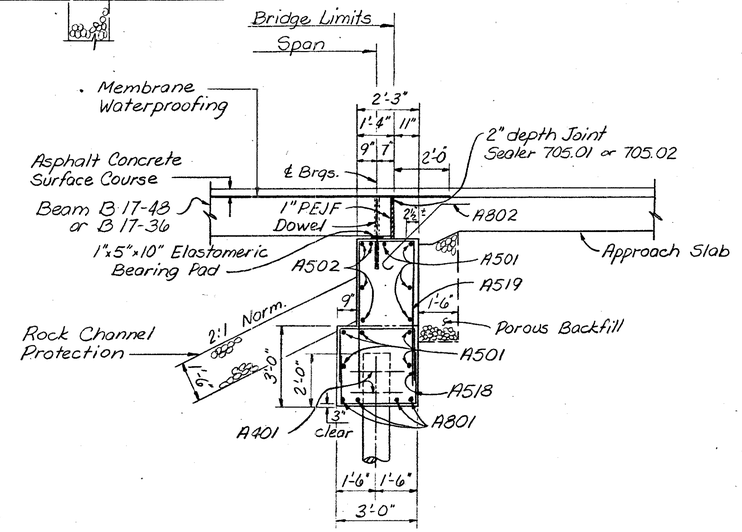
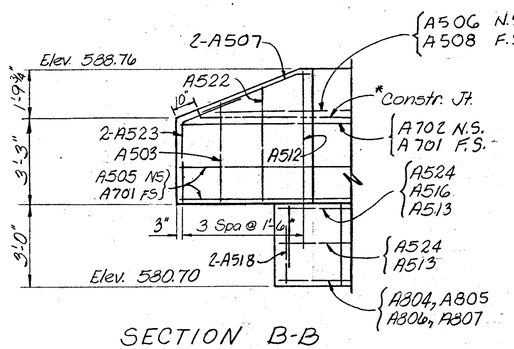
SAN-19-15.30



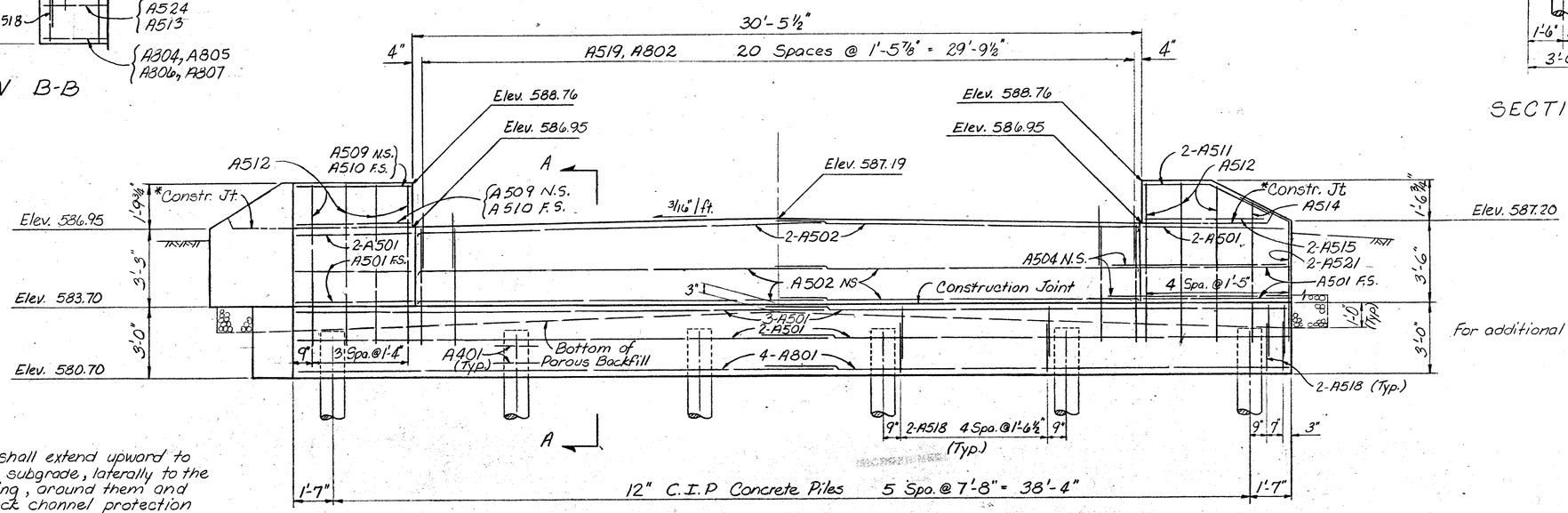
PLAN



SECTION A-A



SECTION B-B



ELEVATION

LEGEND
N.S. ~ Near Side
F.S. ~ Far Side

For additional abutment notes see Sh. 4/6

Porous backfill shall extend upward to the plane of the subgrade, laterally to the ends of the footing, around them and outward to the rock channel protection on the spill-thru slope.

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BUREAU OF BRIDGES AND STRUCTURAL DESIGN

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FORWARD ABUTMENT DETAILS

BRIDGE NO. SAN-19-1532
OVER FISHING CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LMZ	LMZ			WTF	9-8-83	

HILLS CO.—1000 #10—7155—7-79

FHWA REGION	STATE	PROJECT	
5	OHIO		

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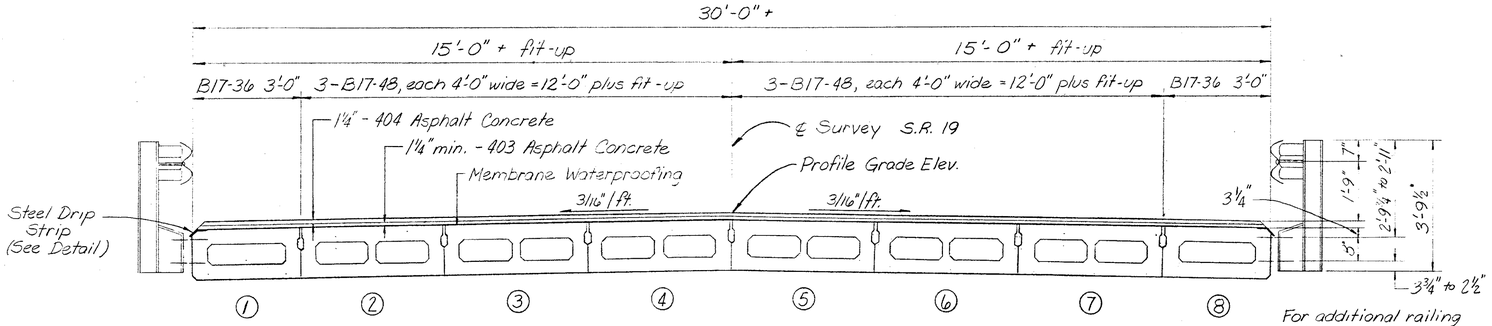
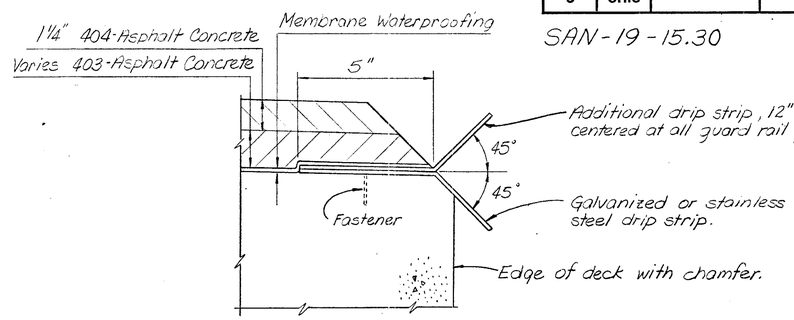
SAN-19-15.30



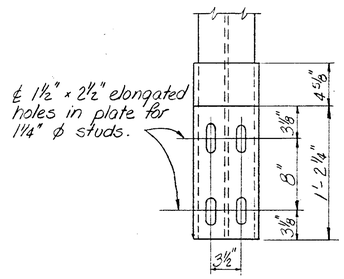
For additional railing details see Std. Dwg. DBR-2-73

TYPICAL DECK SECTION

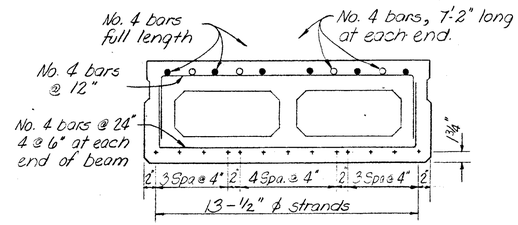


DRIP STRIP DETAIL

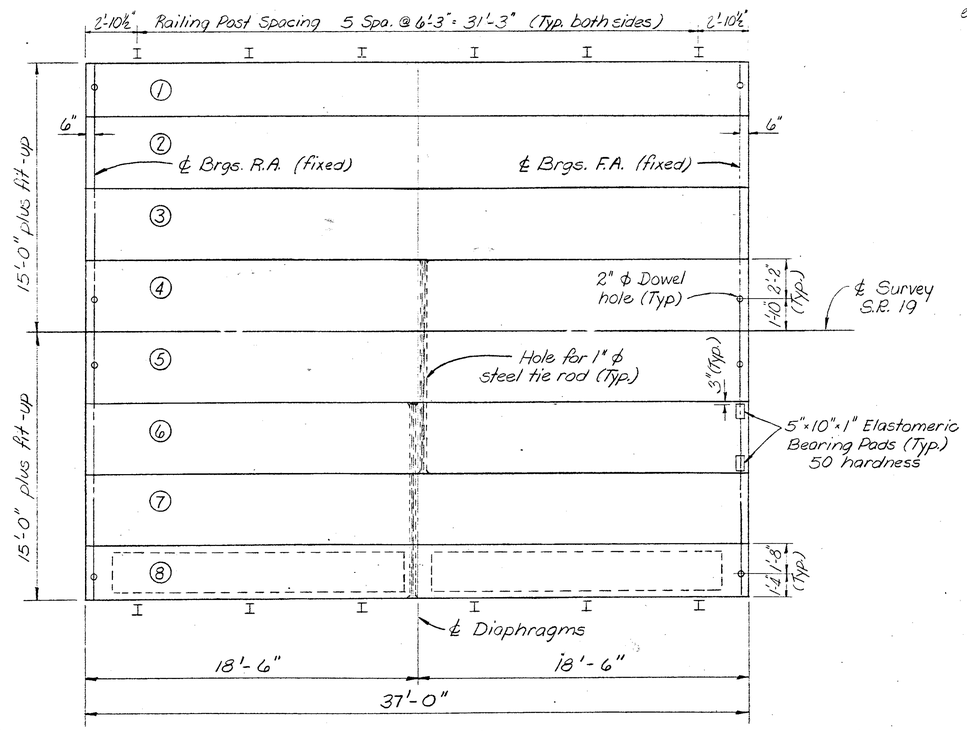
DRIP STRIP: Prior to applying deck membrane waterproofing, a bent drip strip shall be installed along the edges of the deck as shown. The strips shall be fastened at 1'-6" c/c maximum with 1¼" × 5/32" × 1¼" flat head drive pin and washer. (Length × Shank Dia. × Head Dia.) or #10 galvanized screws and expansion anchors, subject to the approval of the Engineer. The strip shall be placed the full length of the deck, ending at the face of the abutment wingwall or steel end dam angle. Where splices are required a 3" (Min.) lap shall be used with a fastener through the lap. Steel for galvanized strips shall be 8" × 0.105" and shall meet the requirements of ASTM A568. Galvanizing shall be in accordance with 711.02. Stainless steel shall be 20 guage 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.



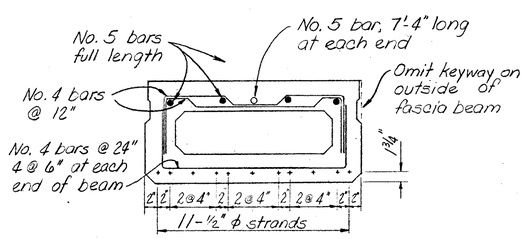
SLOTTED HOLE DETAIL FOR PLATE ON RAIL POST



BEAM B17-48



DECK PLAN



BEAM B17-36

NOTES

Prestressing strands are ASTM A416 ½" dia., 7 wire uncoated, stress-relieved strands with an ultimate strength of 270,000 PSI and an initial tension of 28,900 lbs. per strand.

Refer to Standard Drawing PSBD-1-81 for the following details:

- Crown treatment at ℄ Roadway
- Beam lifting inserts
- Reinforcing steel and reinforcement of beam ends
- Anchor dowels
- End details of transverse tie rod anchorage
- Beam dimensional tolerances
- Dimensions of beam sections
- Wall thickening at railing post anchors
- Typical plans of diaphragms and transverse tie rods

Calculated camber at time of paving including allowance for camber growth due to creep is 1¼".

Net final camber of beams is 1¼". This is 1¼" in excess of the amount required to place the top of the beam parallel to profile grade. This excess amount shall be compensated for by thickening the 403 leveling course from 1¼" at center of span to 2½" at ends of span.

Asphalt concrete surface course shall consist of a variable thickness of 403 and a 1¼" thickness of 404. The 403 shall be placed in two operations. The first course shall be of 1¼" uniform thickness. The second course shall be feathered to place the surface parallel to and 1¼" below final pavement surface elevation.

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DEPARTMENT OF TRANSPORTATION
BUREAU OF BRIDGES AND STRUCTURAL DESIGN

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SUPERSTRUCTURE DETAILS

BRIDGE NO. SAN-19-1532
OVER FISHING CREEK

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
LMZ	LMZ		YIC	WTF	9-8-83	

HILLS CO.—1000 #10—7155—7-79

TEMPORARY PAVEMENT MARKINGS
NOTE B

GENERAL

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, AND WHEN NECESSARY, REMOVE TEMPORARY RETROREFLECTIVE PAVEMENT MARKINGS ON EXISTING, RECONSTRUCTED, RESURFACED OR TEMPORARY ROADS WITHIN THE WORK LIMITS, IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE MARKINGS SHALL BE MAINTAINED IN GOOD CONDITION DURING THE REQUIRED SERVICE PERIOD TO PROVIDE DAY AND NIGHT VISIBILITY. THE MARKINGS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER TO MAINTAIN REQUIRED VISIBILITY AND/OR REFLECTIVITY AT NO ADDITIONAL COST TO THE STATE.

MATERIALS

UNLESS OTHERWISE INDICATED ON THE PLANS, TEMPORARY PAVEMENT MARKINGS MAY BE OF PAINT, PAVEMENT MARKING TAPE OR REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE).

A. PAINT

PAINT SHALL COMPLY WITH 708.14 AND SHALL BE APPLIED IN ACCORDANCE WITH 621 EXCEPT AS MODIFIED HEREIN.

B. PAVEMENT MARKING TAPE

FLEXIBLE RETROREFLECTIVE PREFORMED PRESSURE SENSITIVE TAPE SHALL HAVE STRAIGHT EDGES AND BE FREE OF CRACKS. THE TAPE SHALL CONSIST OF PIGMENT AND FILLERS WITH SUFFICIENT BINDER AND PLASTICIZER TO RETAIN GLASS BEADS HAVING A REFRACTIVE INDEX MEETING THE MINIMUM REFLECTIVE INTENSITY STANDARD STATED IN THE MANUFACTURERS INFORMATION. THE TAPE SHALL BE FLEXOLITE "WET REFLECTIVE", 3M "SCOTCHLANE", OR AN APPROVED EQUAL.

THE GLASS BEADS SHALL BE DISTRIBUTED UNIFORMLY THROUGHOUT THE TAPE WITH SUFFICIENT SURFACE BEADS TO PROVIDE OPTIMUM REFLECTORIZATION AT ALL TIMES.

PAVEMENT MARKING TAPE SHALL COMPLY WITH THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL HAVE A PRECOATED ADHESIVE LAYER FOR PAVEMENT APPLICATION WITHOUT THE USE OF HEAT, SOLVENTS OR ADDITIONAL ADHESIVES. THE ADHESIVE SHALL BE SUFFICIENT TO RETAIN COMPLETE MARKINGS ON THE PAVEMENT SURFACE THROUGHOUT THE USEFUL LIFE OF THE MARKINGS.

IN ADDITION TO THE FOREGOING, ALL TEMPERATURE APPLICATION REQUIREMENTS AND OTHER APPLICABLE MANUFACTURERS MATERIAL AND APPLICATION INSTRUCTIONS SHALL BE FOLLOWED.

WHEN APPROVED BY THE ENGINEER THE CONTRACTOR MAY USE REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE), IN LIEU OF THAT DESCRIBED ABOVE, TO FACILITATE REMOVAL OF MARKINGS.

C. REMOVABLE PAVEMENT MARKING TAPE (TYPE R TAPE)

THE MARKING MATERIAL SHALL BE A MIXTURE OF POLYMERIC MATERIALS, PIGMENTS, REINFORCING MEDIUM TO FACILITATE REMOVAL, GLASS BEADS THROUGHOUT THE PIGMENTED PORTION, AND A RETROREFLECTIVE LAYER OF GLASS BEADS BONDED TO THE TOP SURFACE.

THE TAPE SHALL BE PRECOATED WITH A PRESSURE SENSITVE ADHESIVE CAPABLE OF TEMPORARILY BONDING TO ASPHALT CONCRETE OR PORTLAND CEMENT CONCRETE PAVEMENT AT AN AMBIENT TEMPERATURE OF NOT LESS THAN 50° F AND RISING, AT A PAVEMENT TEMPERATURE OF NOT LESS THAN 50° F NOR MORE THAN 150° F, WITHOUT THE USE OF HEAT, SOLVENTS, AND ADDITIONAL ADHESIVES OR ACTIVATORS.

MATERIALS SHALL CONFORM TO THE COLOR REQUIREMENTS OF 708.14.

THE TAPE SHALL BE REMOVABLE FROM APSHALT AND PORTLAND CEMENT CONCRETE INTACT OR IN LARGE PIECES AT TEMPERATURES ABOVE 40° F WITHOUT USE OF HEAT, SOLVENTS, GRINDING, OR SANDBLASTING. REMOVAL SHALL NOT RESULT IN DAMAGE TO OR OBJECTIONABLE STAINING OF THE PAVEMENT.

GLASS BEADS SHALL BE PROVIDED IN A PROPER SIZE, QUANTITY AND DISTRIBUTION TO ASSURE OPTIMUM RETROREFLECTIVITY AS THE FILM WEARS. THE FOLLOWING INITIAL AVERAGE REFLECTANCE VALUES AT 86.0 ENTRANCE ANGLE AS MEASURED IN ACCORDANCE WITH THE TESTING PROCEDURES OF FEDERAL TEST METHOD 370 SHALL BE CERTIFIED:

	WHITE		YELLOW	
OBSERVATION ANGLE	0.2	0.5	0.2	0.5
SPECIFIC LUMINANCE	1770	1270	1310	810

(MCD/FT²)/FC

THE TAPE SHALL BE 3-M COMPANY'S "STAMARK, DETOUR GRADE (SERIES 57L0, 57H, 6270, 62H)" OR AN APPROVED EQUAL.

THE CONTRACTOR SHALL FURNISH TO THE ENGINEER CERTIFICATION THAT THE MATERIAL SUPPLIED MEETS THE PROPERTIES SPECIFIED HEREIN.

LAYOUT

THE TEMPORARY MARKINGS SHALL BE ACCURATELY LAID OUT IN CONFORMANCE WITH 621.051 AND SHALL BE LOCATED IN A TRUE LINE ON THE CENTER LINE, LANE LINE, EDGE LINE, OR CHANNELIZING LINE WHERE PERMANENT MARKINGS WOULD LIE UNLESS OTHERWISE SPECIFIED IN THE PLANS.

PLACEMENT

TEMPORARY MARKINGS SHALL BE PLACED IN ACCORDANCE WITH LAYOUTS ON SHEETS _____ AND THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE PLANS.

TEMPORARY MARKINGS SHALL BE COMPLETE AND IN PLACE ON ALL PAVEMENT PRIOR TO EXPOSING IT TO TRAFFIC. WHEN TEMPORARY MARKINGS ARE NO LONGER NEEDED, THEY SHALL BE REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH 621.134 AND NECESSARY PAVEMENT MARKINGS INSTALLED BEFORE THE FLOW OF TRAFFIC IS CHANGED TO THE NEXT PHASE OR RETURNED TO ITS NORMAL CHANNEL.

WHERE PERMANENT PAVEMENT MARKINGS ARE CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL FURNISH AND PLACE THE PERMANENT MARKINGS WITHIN 30 CALENDAR DAYS FOLLOWING COMPLETION OF ALL SURFACE COURSES IN A SINGLE ROADWAY OR PRIOR TO THE END OF THE CONSTRUCTION SEASON, WHICHEVER COMES FIRST. PERMANENT MARKINGS SHALL NOT BE PLACED OVER ANY TAPE MARKINGS.

A. CLASS I MARKINGS

CLASS I MARKINGS SHALL BE AS DEFINED IN 621, EXCEPT AS FOLLOWS:
1) LANE LINES SHALL BE 4-INCHES IN WIDTH.
2) TRANSVERSE LINES SHALL BE 8-INCHES IN WIDTH.
3) STOP LINES SHALL BE 12-INCHES IN WIDTH.
4) CROSS WALK LINES SHALL BE 8-INCHES IN WIDTH.

GORE MARKINGS SHALL CONSIST OF TWO CHANNELIZING LINES PLACED AT THE THEORETICAL OR TEMPORARY GORE OF RAMPS AND DIVERGING OR CONVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR SOLID 4-INCH LINES, 24 GALLONS PER MILE FOR SOLID 6-INCH LINES, 48 GALLONS PER MILE FOR SOLID 12-INCH LINES, AND 4 GALLONS PER MILE FOR 4-INCH DASHED LINES.

B. CLASS II MARKINGS

CENTER LINES SHALL CONSIST OF SINGLE, YELLOW 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

LANE LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 40-FOOT INTERVALS.

CHANNELIZING LINES SHALL CONSIST OF WHITE 12-INCH BY 4-INCH DASHES SPACED AT A MAXIMUM OF 20-FOOT INTERVALS.

GORE MARKINGS SHALL BE TWO CONTINUOUS, WHITE 50-FOOT BY 4-INCH LINES PLACED AT THE THEORETICAL GORE OF AN EXIT RAMP OR DIVERGING ROADWAYS.

THE PAINT APPLICATION RATE SHALL BE NOT LESS THAN 16 GALLONS PER MILE FOR GORE MARKINGS, 0.8 GALLONS PER MILE FOR CHANNELIZING LINE, AND 0.4 GALLONS PER MILE FOR LANE LINE AND CENTER LINE.

CONFLICTING MARKINGS

THE CONTRACTOR SHALL, PRIOR TO, PLACING TEMPORARY MARKINGS, REMOVE ALL EXISTING CONFLICTING MARKINGS VISIBLE TO THE TRAVELING PUBLIC DURING DAYLIGHT OR NIGHTTIME HOURS IN ACCORDANCE WITH 621.134. THE COST FOR REMOVAL OF CONFLICTING MARKINGS SHALL BE INCIDENTAL TO THE VARIOUS PAY ITEMS.

METHOD OF MEASUREMENT

TEMPORARY PAVEMENT MARKINGS WILL BE MEASURED COMPLETE IN PLACE, BY CLASS AND MATERIAL, IN THE UNITS DESIGNATED. DASHED LINE QUANTITIES WILL BE THE LENGTH OF THE COMPLETED STRIPE, INCLUDING GAPS, INTERSECTIONS, AND OTHER SECTIONS OF PAVEMENT NOT NORMALLY MARKED, IN ACCORDANCE WITH 621.15.

TEMPORARY PAVEMENT MARKINGS WILL INCLUDE THE LAYOUT, APPLICATION AND REMOVAL OF THE MARKINGS, WHEN REQUIRED.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES COMPLETE IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR PLACEMENT, MAINTENANCE AND NECESSARY REMOVAL OF THE MARKINGS.

ITEM	UNIT	DESCRIPTION
614	MILES	TEMPORARY LANE LINES, CLASS ____ (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY CENTER LINES, CLASS II (PAINT, TAPE OR TYPE R TAPE)
614	MILES/LIN. FT.	TEMPORARY CHANNELIZING LINES, CLASS ____ (PAINT, TAPE OR TYPE R TAPE)
614	MILES	TEMPORARY EDGE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY GORE MARKING, CLASS II, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY STOP LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	LIN. FT.	TEMPORARY CROSSWALK LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY LANE ARROWS, CLASS I, (PAINT, TAPE OR TYPE R TAPE)
614	EACH	TEMPORARY WORD "ONLY" ON PAVEMENT, 72-INCH, CLASS I, (PAINT OR TAPE)
614	LIN. FT.	TEMPORARY TRANSVERSE LINES, CLASS I, (PAINT, TAPE OR TYPE R TAPE)

A QUANTITY OF 0.04 MILES OF TEMPORARY CENTER LINES, CLASS II IS CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

5/13/82

SW 1/4 Sec. 33, T5N, R15E, Rice Twp.

FHWA REGION	STATE	PROJECT	
5	OHIO	BRS-335 ( )	

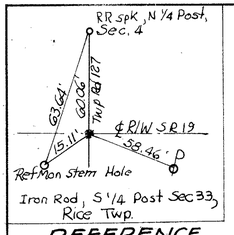
14/14

1/1

SAN-19-15.30

JOB NO 027190

R/W - SAN-19-15.32



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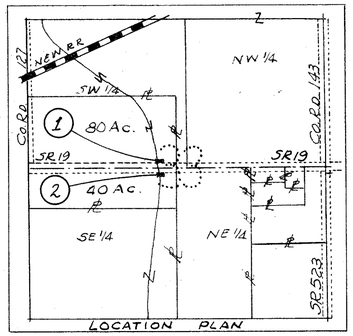
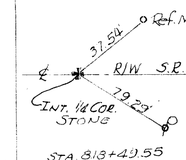


LOCATION PLAN

1

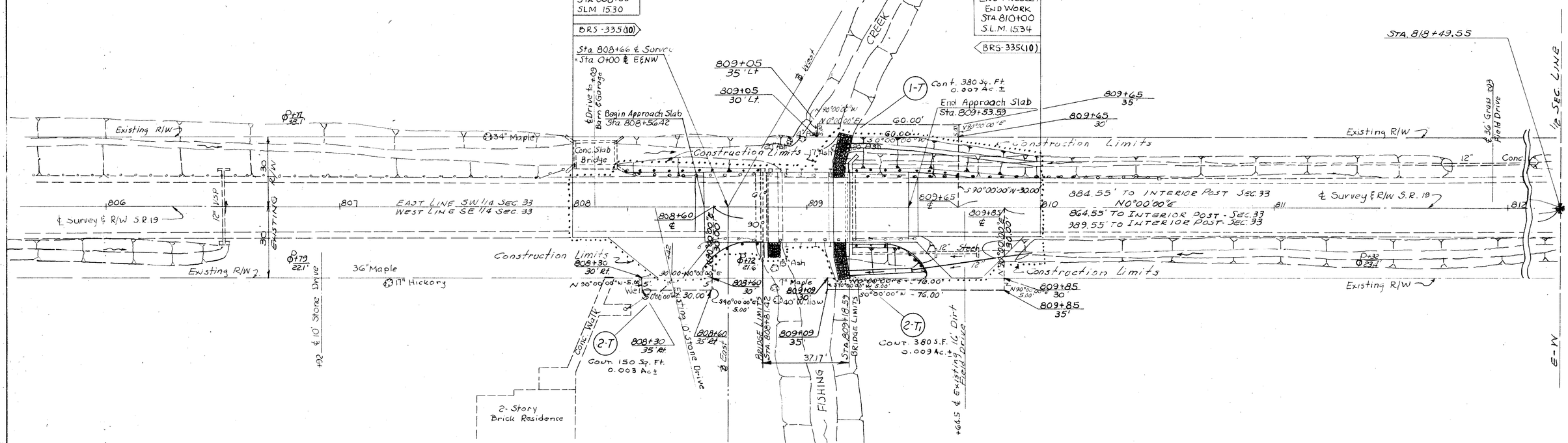
JUNE & BERNARD A. HENRY
VOL 185, PG. 255
80 Ac.

0 10 20 30 40 50
SCALE IN FEET



STA 818+49.55
Mon. Box over Stone, Int 1/4 Cor Sec 33, Rice Twp.

REFERENCE



2

LUELLA S. HENRY, ET AL
C/O JUNE HENRY
VOL. 238, PG 89
40 Ac.

R/W SUMMARY

PARCEL NO	OWNER	DEED RECORD VOL.	DEED RECORD PAGE	DEED AREA ACRES	TOTAL PRO ACRES	TOTAL TAKE ACRES	PRO IN TAKE ACRES	NET TAKE ACRES	RESIDUE ACRES	REMARKS
1-T	JUNE & BERNARD HENRY	185	255	80 Ac	1.818	0.007	0	0.007	78.182	To Place Rock Protection and Shape Slopes
2-T	LUELLA S. HENRY, ET AL	238	89	40 Ac	2.404	0.003	0	0.003	37.596	To Build Driveway
2-T-1	C/O JUNE HENRY					0.009		0.009		To place Rock Protection and build driveway

DATE	PAR	REMARKS

SE 1/4 SEC. 33, T5N, R15E, RICE TOWNSHIP

SAN-19-15.32

TE-118
600-6-73

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED IN THE RELATIVELY FLAT GLACIATED LAKE PLAIN REGION, IN AN AREA WHERE DEEP GLACIAL AND ALLUVIAL DEPOSITS OVERLIE BEDROCK, OF THE MONROE FORMATION.

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 ON SEPTEMBER 29, 1982.

INVESTIGATIONAL FINDINGS AND OBSERVATIONS

THE BORINGS ENCOUNTERED INTERVALS OF EXTREMELY LOOSE TO EXTREMELY DENSE UNSTRATIFIED BASIC SILTS AND CLAYS MODIFIED WITH SAND, GRAVEL AND VARYING AMOUNTS OF EACH OTHER THAT RAPIDLY INCREASE (ERRATIC AT TIMES) IN DENSITY WITH INCREASE IN DEPTH. BORING B-1 (IN THE VICINITY OF THE REAR ABUTMENT) PENETRATED TO A DEPTH OF 40.5 FEET, ELEVATION 551.4 FEET AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 15.5 FEET OF MATERIAL REQUIRING IN EXCESS OF 30 BLOWS PER FOOT IN THE STANDARD PENETRATION TEST. BORING B-2 (IN THE VICINITY OF THE FORWARD ABUTMENT) PENETRATED TO A DEPTH OF 41.0 FEET, ELEVATION 550.8 FEET AND WAS TERMINATED AFTER PENETRATING IN EXCESS OF 16.0 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.

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.
- X/Y/Z — 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
- Casing
- Resistance "R" < 10,000 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.

Particle Size Definitions

Boulders	12" Cobbles	3" Gravel	2.0mm Coarse Sand (No. 10 sieve)	0.42mm Fine Sand (No. 40 sieve)	0.074mm Silt (No. 200 sieve)	0.005mm Clay

LOG OF BORING

Date Started 9-29-82 | Sampler Type SS | Dia. 1 3/8" | Water Elev. ____
Date Completed 9-29-82 | Casing: Length ____ | Dia. ____
Boring No. B-1 | Station & Offset 9+70 10' RT. (REAR ABUTMENT) | Surface Elev 591.9'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C	SHTL Class.
591.9	0														
590.5	2				BLACK TOP AND SLAG										
	4														
586.9	6	3/4/6			BROWN WITH GRAY CLAY	1	0	0	1	32	67	50	27	28	A-7-6
	8														
581.9	10	2/2/3			GRAY WITH BROWN SILT AND CLAY	2	0	0	0	43	57	33	13	26	A-6a
	12														
	14														
576.9	16	2/2/2			GRAY SILT AND CLAY	3	3	2	6	27	62	35	15	34	A-6a
	18														
571.9	20	3/4/5			GRAY SANDY SILT	4	9	7	14	28	42	25	10	17	A-4a
	22														
	24														
566.9	26	25/50			GRAY SANDY SILT	5	5	9	17	32	37	21	6	7	A-4a
	28														
561.9	30	20/35/46			GRAY CLAYEY SILT	6	7	3	6	34	50	29	10	12	A-4a
	32														
	34														
556.9	36	9/36/44			GRAY CLAYEY SILT	7	5	4	5	33	53	27	10	9	A-4a
	38														
551.9	40	74(0.5')			GRAY CLAY SILT	8	3	2	4	37	54	28	9	11	A-4a
551.4					BOTTOM OF BORING										

LOG OF BORING

Date Started 9-29-82 | Sampler Type SS | Dia. 1 3/8" | Water Elev. ____
Date Completed 9-29-82 | Casing: Length ____ | Dia. ____
Boring No. B-2 | Station & Offset 10+30 10' RT. (FORWARD ABUTMENT) | Surface Elev 591.8'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	W.C	SHTL Class.
591.8	0														
590.3	2				BLACK TOP AND SLAG										
	4														
586.8	6	4/5/6			BROWN WITH GRAY CLAY	1	0	1	5	33	61	48	27	23	A-7-6
	8														
581.8	10	4/6/8			BROWN WITH GRAY SILT AND CLAY	2	2	0	1	44	53	34	14	25	A-6a
	12														
	14														
576.8	16	2/4/5			BROWN AND GRAY SANDY SILT	3	6	5	13	32	44	24	9	24	A-4a
	18														
571.8	20	3/5/7			BROWN AND GRAY SANDY CLAY	4	4	7	12	30	47	28	11	22	A-6a
	22														
	24														
566.8	26	75(0.5')			GRAY SANDY SILT	5	13	8	15	36	28	20	7	7	A-4a
	28														
561.8	30	24/50			GRAY SILT AND CLAY	6	6	3	6	32	53	30	11	12	A-6a
	32														
	34														
556.8	36	21/40			GRAY SANDY SILT	7	8	10	17	32	33	23	6	12	A-4a
	38														
551.8	40	25/57			GRAY SANDY SILT	8	4	5	9	36	46	28	10	14	A-4a
550.8					BOTTOM OF BORING										

MICROFILMED
JUL 1 1985

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.

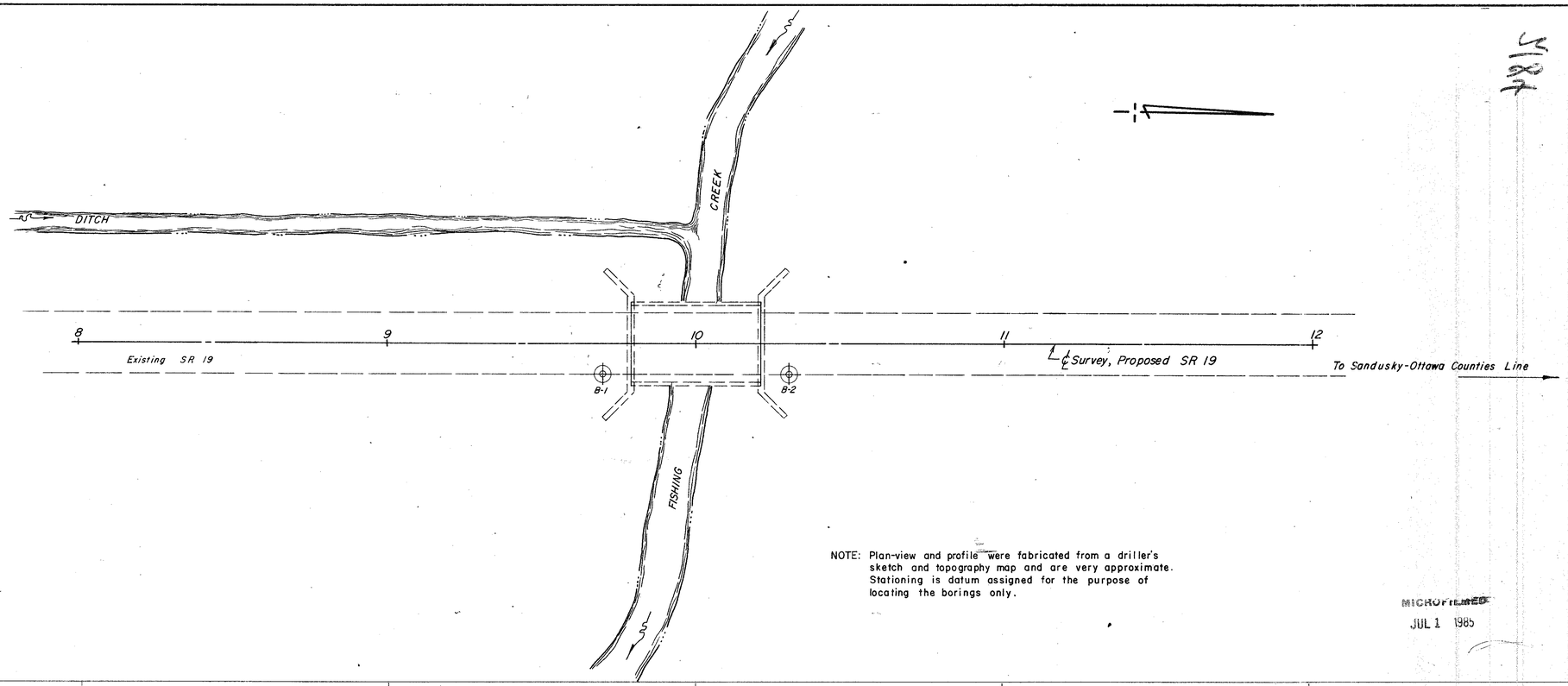
NOTE: Information shown by this subsurface investigation was obtained solely for the use in establishing design controls for the project. The State of Ohio does not guarantee the accuracy of this data and it is not to be construed as a part of the plans governing construction of the project.

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

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. SAN-19-1532
OVER FISHING CREEK
SEC. SAN-19-15.32

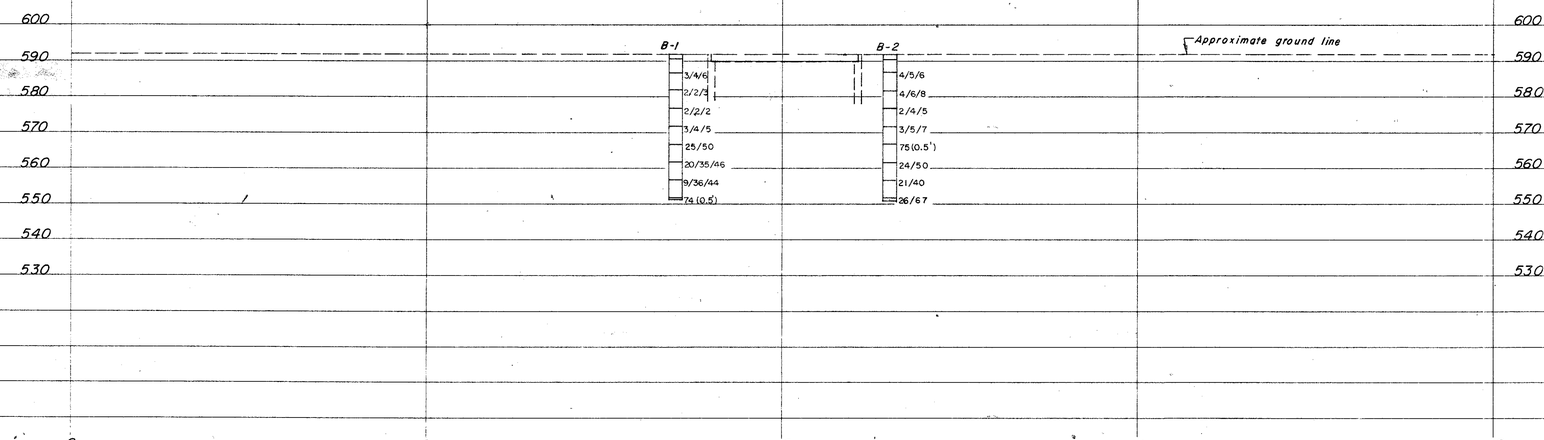
CHECKED BY	REVIEWED BY	DATE
L. N. L.	R. D. R.	12/14/82

SAN-19-15.30 2/2



NOTE: Plan-view and profile were fabricated from a driller's sketch and topography map and are very approximate. Stationing is datum assigned for the purpose of locating the borings only.

MICROFILMED
JUL 1 1985



SCALE: 1" = 20'

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

STRUCTURE FOUNDATION INVESTIGATION

BRIDGE NO. SAN-19-1532
OVER FISHING CREEK
SEC. SAN-19-15.32

PLAN AND PROFILE

DRAWN BY	CHECKED BY	REVIEWED BY	DATE
A. F.	L. N. L.	R. D. R.	12/14/82