FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-1084(3)	

1 / 86

F-1084(3)

HARRISON COUNTY
HAS-22-23.87

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
HAS-22-23.87

GREEN TOWNSHIP WAYNE TOWNSHIP
HARRISON COUNTY JEFFERSON COUNTY

GRADE SEPARATION WITH PENN CENTRAL CO.

DESIGN DESIGNATION

Current A. D. T.	3,270 (1965)
Design Year A. D. T.	5,180 (1988)
D. H. V.	622
D. (Directional Distribution)	60%
T. (Percent B & C Trucks)	21%
V. (Design Speed)	70 MPH

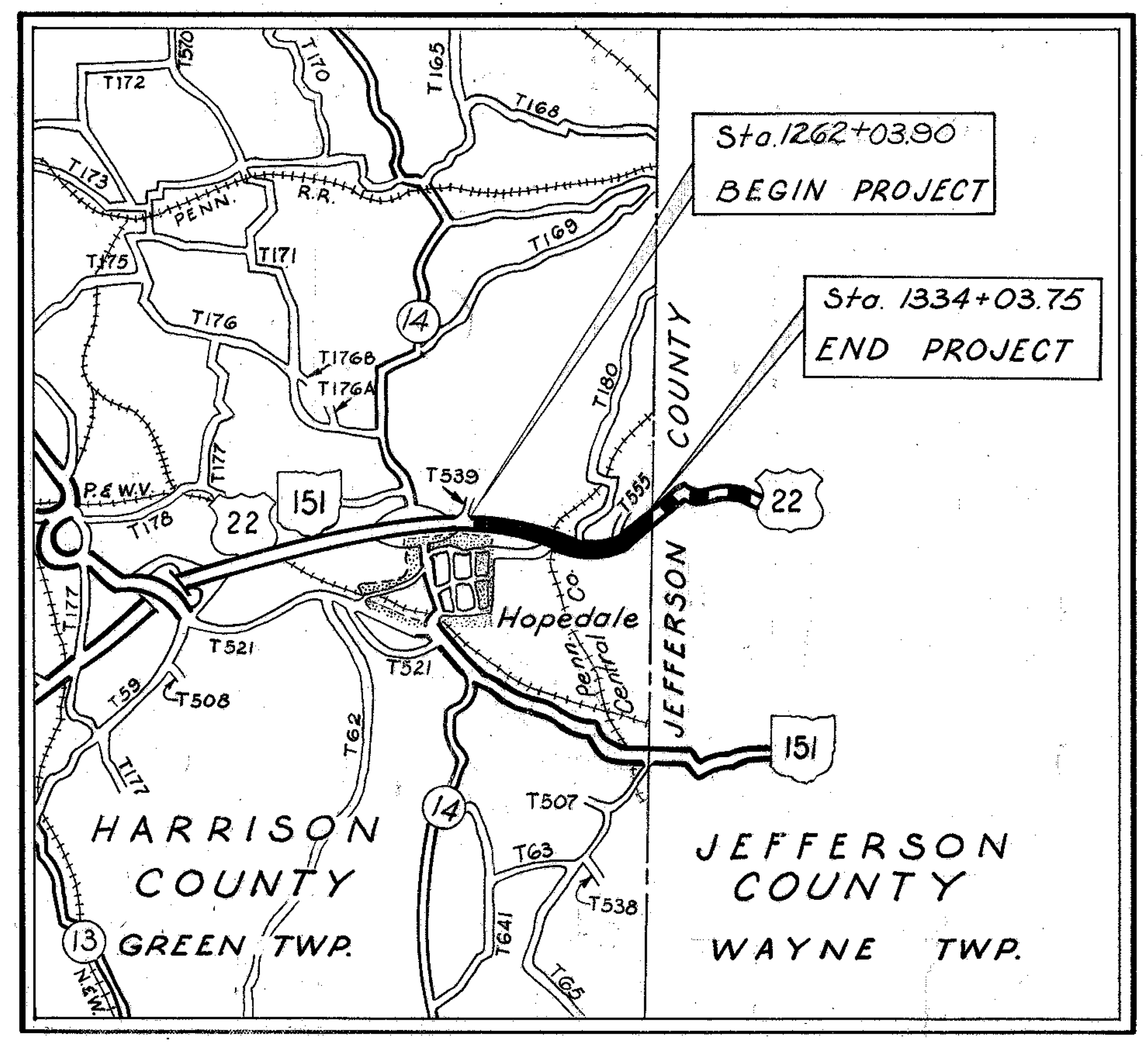
LIMITED ACCESS
This improvement is especially designed for through traffic and has been declared a limited access highway or freeway by action of the director of highways in accordance with the provision of section 5511.02 Revised Code of Ohio.

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
Guardrail (existing) (proposed)

INDEX OF SHEETS

Sht 84 revised 9-30-69



LOCATION MAP

SCALE OF MILES
0 1 2 3 4

Portion to be improved
State Roads
Other Roads

SCALES

Plan 0 20 40 60 80 100
Profile: Horizontal 0 20 40 60 80 100
Profile: Vertical 0 2 4 6 8 10

1969 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Highways, 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 not require the closing of the highway to traffic and that provisions for the maintenance and safety of traffic will be as set forth on plans and estimates.

Approved Lori Kimball
Date 3-24-69 Division Deputy Director

Approved C. H. Altvater
Date 7-3-69 Engineer of Bridges

Approved R. E. Catlin
Date 7-3-69 Engineer of Location & Design

Approved George J. Thormyer
Date 7-3-69 Deputy Director of Design & Construction

Approved T H Bovard
Date 7-10-69 Deputy Director of Right of Way

HRR 7-7-69

Approved Thomas M Major
Date 7-10-69 Deputy Director of Planning & Programming

Approved R.W. Wilson
Date 7-11-69 First Assistant Director

Approved P. E. Masheter
Date 7-11-69 Director of Highways

LINE DATA

Begin Project	Sta. 1262+03.90	
Station Equation	Sta. 1280+62.94 BK.	
Length		1,859.04 Lin. Ft.
Station Equation	Sta. 1280+72.73 AH.	
Station Equation	Sta. 1298+78.92 BK.	
Length		1,806.19 Lin. Ft.
Station Equation	Sta. 1298+80.75 AH.	
Station Equation	Sta. 1329+83.81 BK.	
Length		3,103.06 Lin. Ft.
Station Equation	Sta. 1329+98.29 AH.	
End Project	Sta. 1334+03.75 BK.	
Length		405.46 Lin. Ft.
Net Length of Project		7,173.75 Lin. Ft. or 1.358 Mi.
Begin Work	Sta. 1256+62.5	
Begin Project	Sta. 1262+03.90	
Length		541.40 Lin. Ft.
End Project	Sta. 0+00.00 AH	
End Work	Sta. 17+42.00	
Length		1,742.00 Lin. Ft.
Net Length of Work		9,457.15 Lin. Ft. or 1.791 Mi.

Plan Prepared By:

SEAL

Project: HARRISON CO. HAS-22-23.87
Date of Letting ______ 19__, Contract No. ______
Rev. 5-16-67

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS						
BP-1	6-1-65					
BP-2	12-1-68			BR-1-67 Sh.1	2-1-68	
BP-3	12-1-68			SD-1-65 Sh.2&3	11-8-65	
BP-4	12-1-68	GR-2B	2-15-68	AS-1-67	1-11-68	
BP-5	6-1-65	GR-5	1-15-68			
CB-2-2A&B	6-1-65	GR-6	7-15-68			
CB-4	6-6-68	HW-E	6-1-65			
CB-5	6-6-68	MC-1	6-13-69			
CB-8	6-6-68	MC-7	10-1-68			
F-1	3-10-69	L-1	6-1-65			
		MC-3	6-20-69			
FACI-1	9-15-67	MC-4	6-1-65			
FACI-2	6-1-65	MH-1	10-1-68			

SUPPLEMENTAL SPECIFICATIONS	
801	1-1-69
808	1-1-69
825	1-1-69
1001	1-1-69
811	1-1-69

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
APPROVED:

DIVISION ENGINEER DATE

MICROFILMED
MAY 2 1 1984

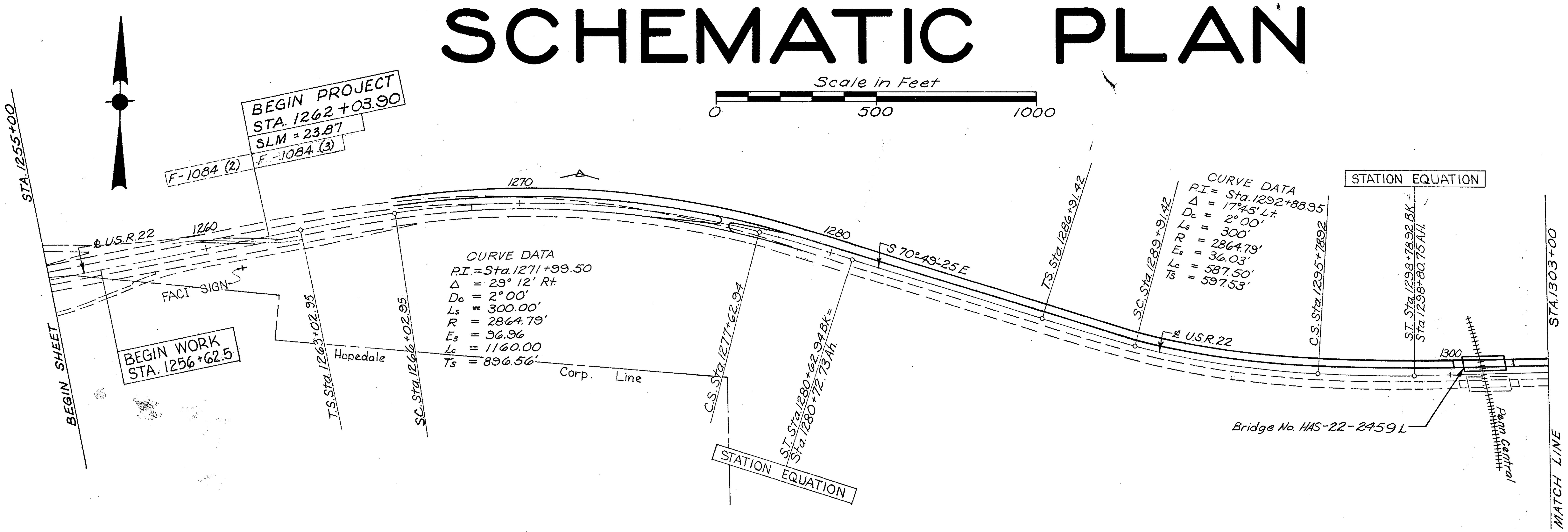
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

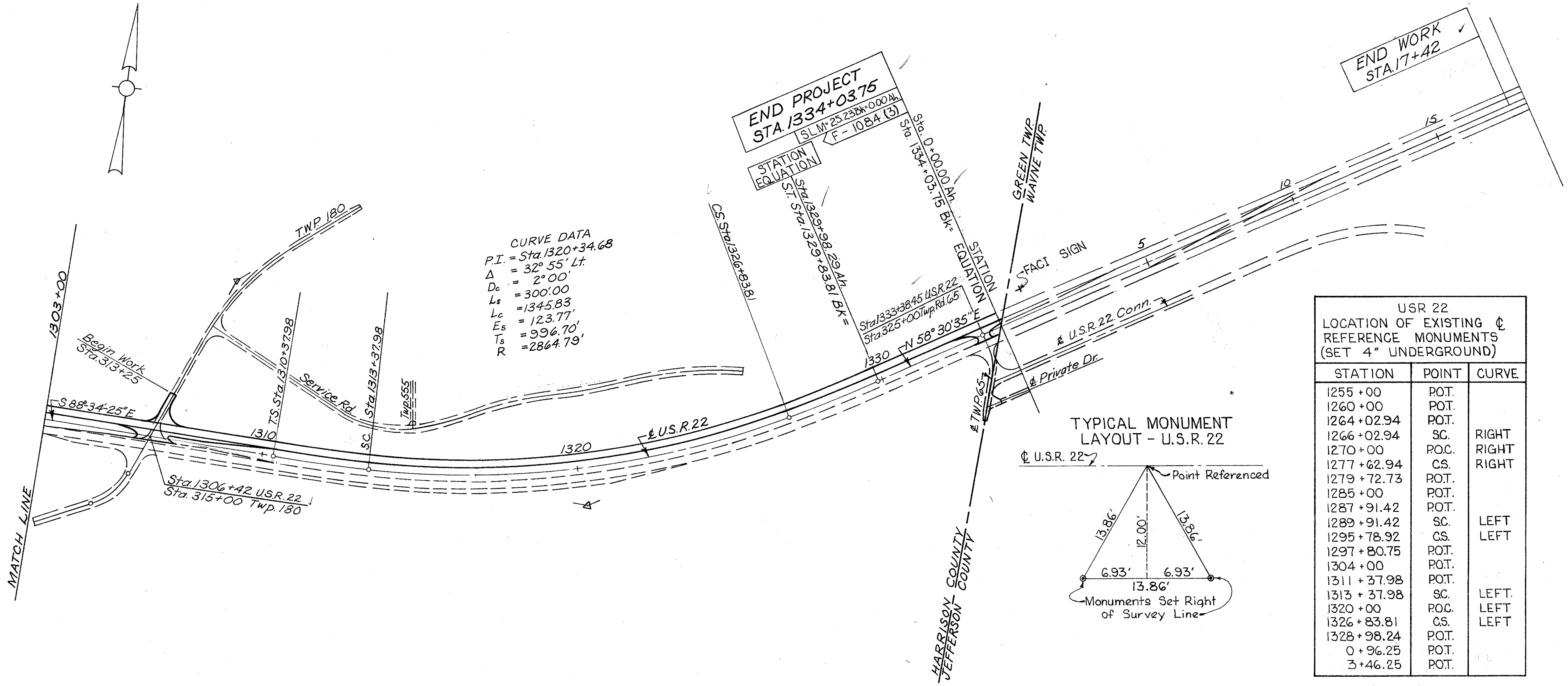
2

HARRISON COUNTY
HAS-22-23.87

SCHEMATIC PLAN

Scale in Feet
0 500 1000





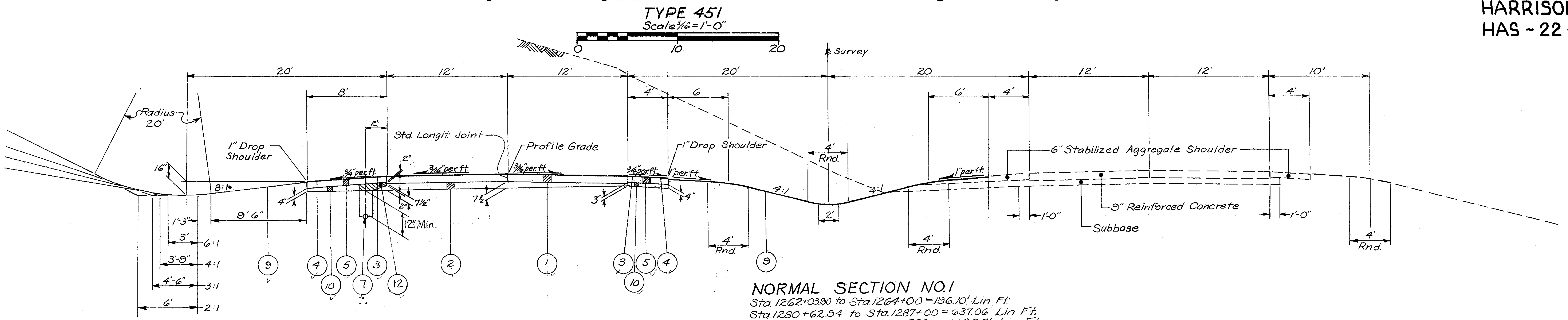
USR 22
LOCATION OF EXISTING ℄
REFERENCE MONUMENTS
(SET 4" UNDERGROUND)

STATION	POINT	CURVE
1255 + 00	P.O.T.	
1260 + 00	P.O.T.	
1264 + 02.94	P.O.T.	
1266 + 02.94	S.C.	RIGHT
1270 + 00	P.O.C.	RIGHT
1277 + 62.94	C.S.	RIGHT
1279 + 72.73	P.O.T.	
1285 + 00	P.O.T.	
1287 + 91.42	P.O.T.	
1289 + 91.42	S.C.	LEFT
1295 + 78.92	C.S.	LEFT
1297 + 80.75	P.O.T.	
1304 + 00	P.O.T.	
1311 + 37.98	P.O.T.	
1313 + 37.98	S.C.	LEFT.
1320 + 00	P.O.C.	LEFT
1326 + 83.81	C.S.	LEFT
1328 + 98.24	P.O.T.	
0 + 96.25	P.O.T.	
3 + 46.25	P.O.T.	

TYPICAL SECTIONS

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

HARRISON COUNTY
HAS - 22 - 23.87



NORMAL SECTION NO.1

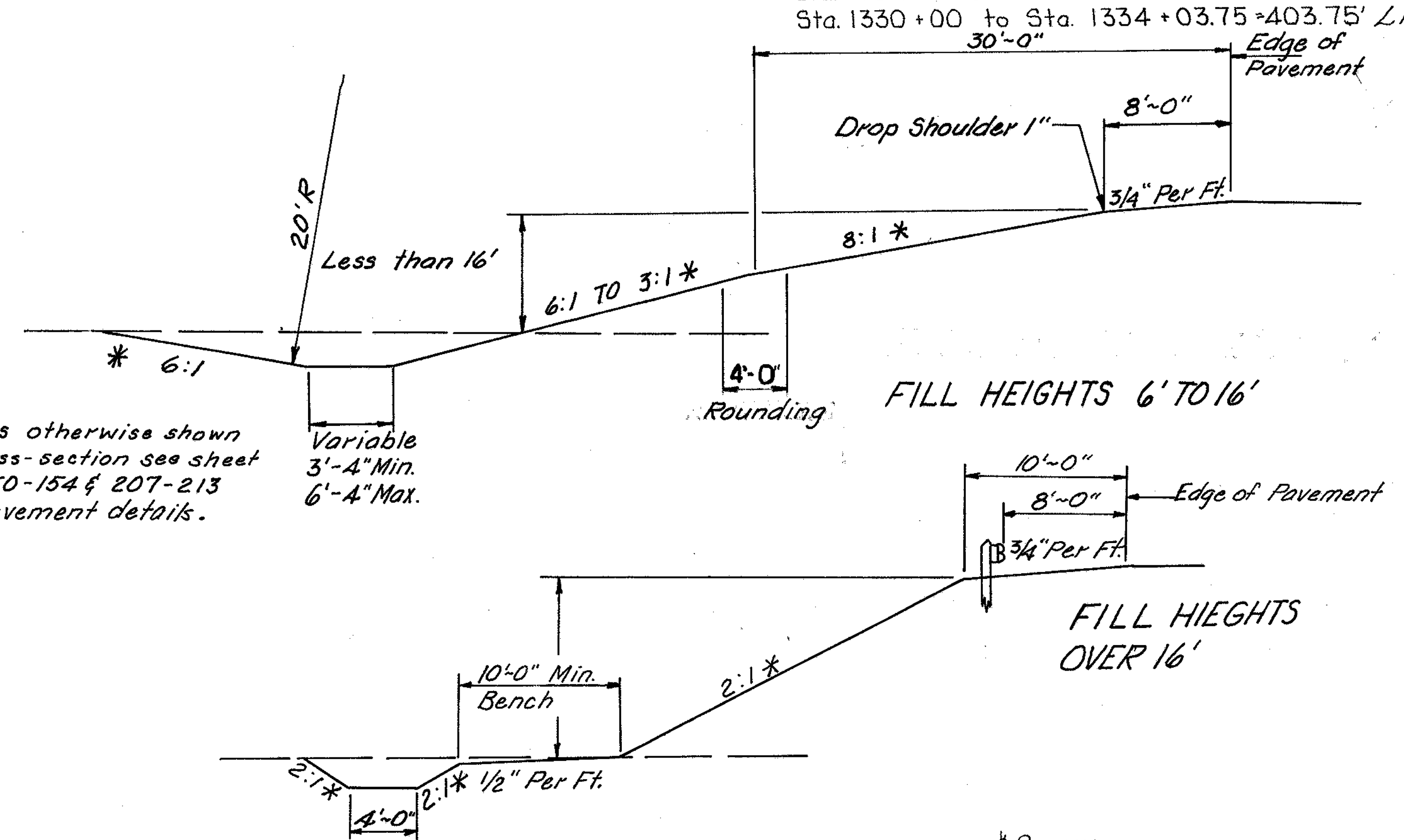
Sta. 1262+03.90 to Sta. 1264+00 = 196.10' Lin. Ft.
Sta. 1280+62.94 to Sta. 1287+00 = 637.06' Lin. Ft.
Sta. 1298+75 to Sta. 1300+17.98 = 142.98' Lin. Ft.
Sta. 1302+00.02 to Sta. 1310+50 = 849.98' Lin. Ft.
Sta. 1330+00 to Sta. 1334+03.75 = 403.75' Lin. Ft.

NOTES

∴ SEQUENCE OF OPERATION

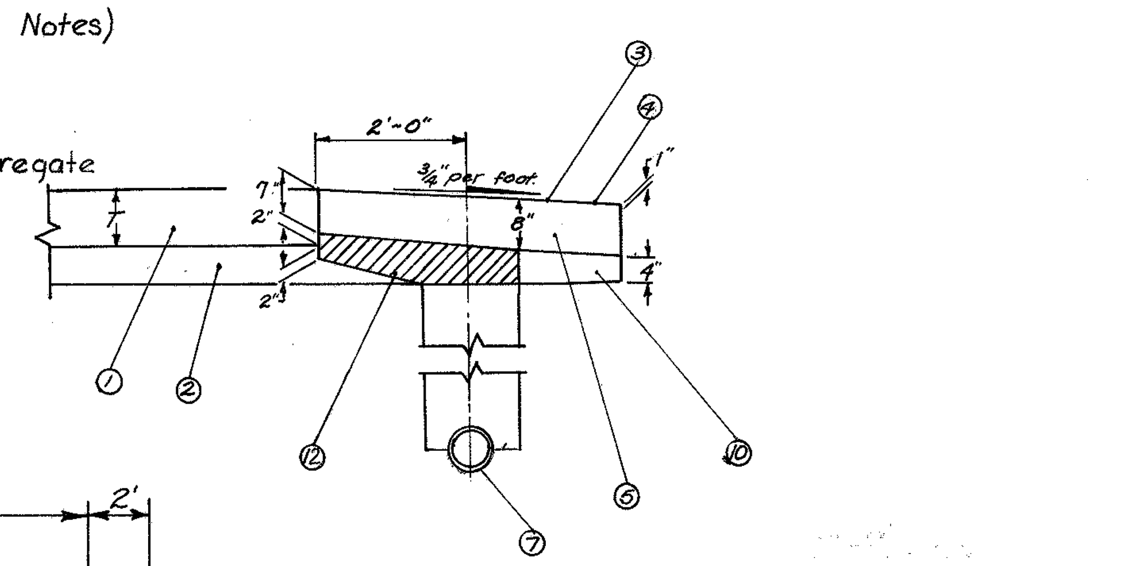
1. Install pipe underdrain.
2. Place subbase out to outside edge of underdrain. Payment shall be made for all subbase placed in this operation.
3. Construct pavement.
4. Remove subbase and any contaminated backfill over drain and replace with No. 8 aggregate as shown by (12).
5. Complete shoulder construction.

* Unless otherwise shown on Cross Sections.

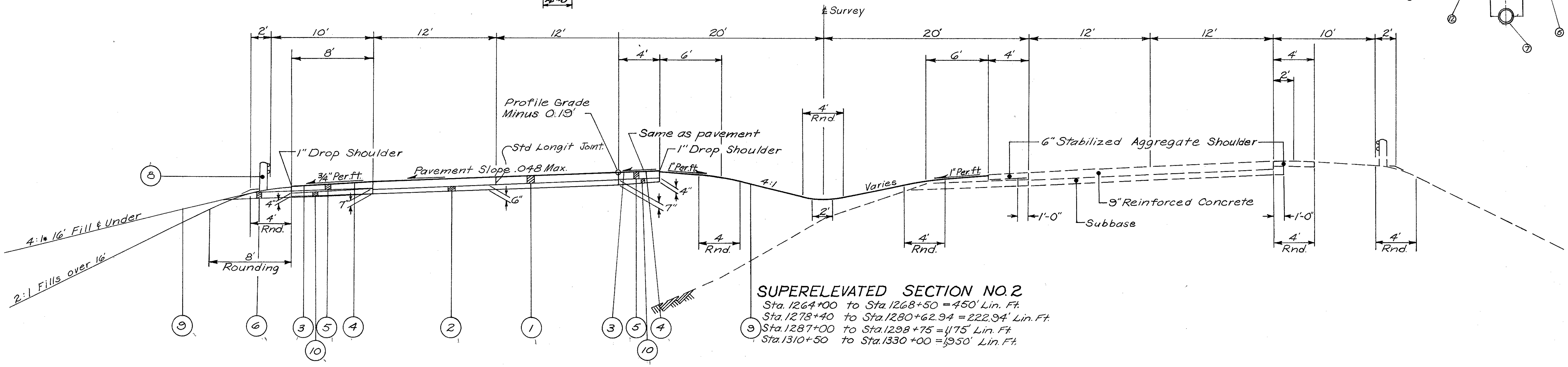


LEGEND

1. Item 451 9" Reinforced Portland Cement Pavement
2. Item 310 Subbase, Grading A as per plan. (See General Notes)
3. Item 408 Prime Coat 702.09. RT-2 or RT-3. applied @ rate 0.40 Gal. per Sq. Yd.
4. Item 409 Seal Coat using 0.008 Cu. Yd. No. 8 cover aggregate per sq. yd. and 0.30 gal. 702.09 Rt-9 or Rt-10 or 702.02 MC-800 or MC-3000 per sq. yd.
5. Item 304 8" Aggregate Base (Unless otherwise shown)
6. Item 605 Aggregate Drains (See General Notes)
7. Item 605 6" Pipe Underdrains, 707.12 or 707.01 Type III
8. Item 606 Guard Rail Type 5
9. Item 659 Seeding & Mulching (See General Notes)
10. Item 310 Subbase
12. Special Drainage Connection using No. 8 aggregate (See note in Proposal).



SPECIAL DRAINAGE CONNECTION



SUPERELEVATED SECTION NO.2

Sta. 1264+00 to Sta. 1268+50 = 450' Lin. Ft.
Sta. 1278+40 to Sta. 1280+62.94 = 222.94' Lin. Ft.
Sta. 1287+00 to Sta. 1298+75 = 1175' Lin. Ft.
Sta. 1310+50 to Sta. 1330+00 = 1950' Lin. Ft.

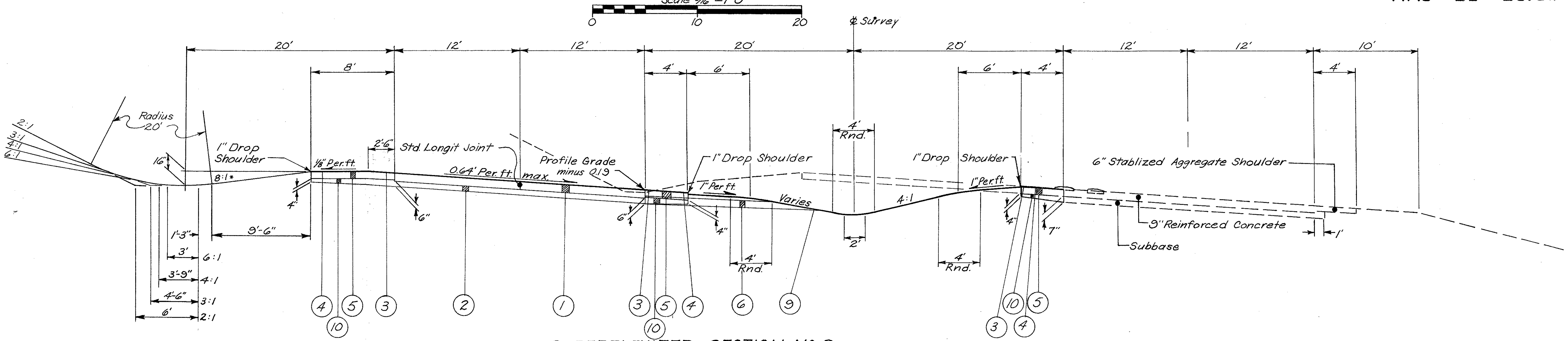
TYPICAL SECTIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

4

HARRISON COUNTY
HAS - 22 - 23.87

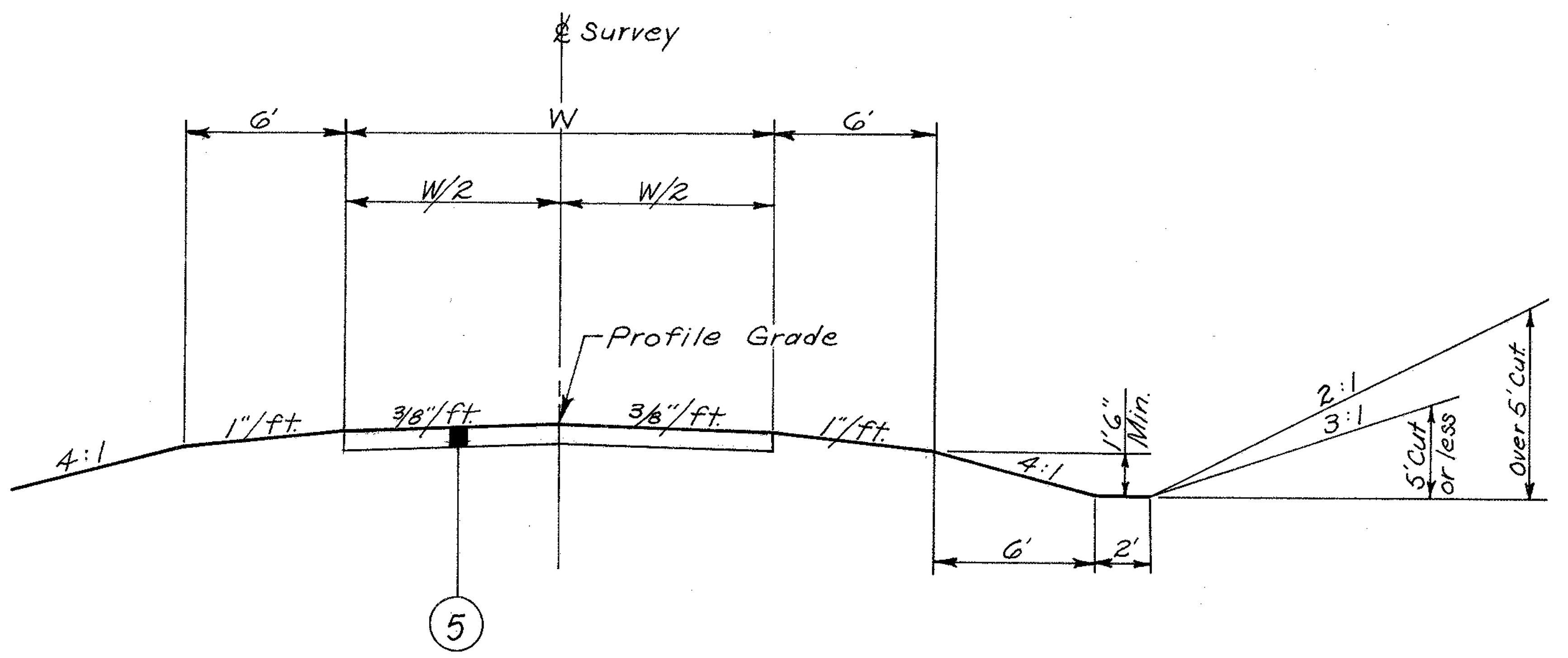
TYPE 451
Scale 3/16" = 1'0"



SUPERELEVATED SECTION NO. 3
WITH 4FT. BERM ALONG EXISTING E.B. LANES
Sta. 1268+50 To Sta. 1278+40 = 990' Lin. Ft.

LEGEND

1	Item	451	9" Reinforced Portland Cement Pavement.
2	Item	310	Subbase, Grading A as per plan. (See General Notes)
3	Item	408	Prime Coat 702.09 RT-2 or RT-3 applied @ rate 0.40 Gal. per Sq. Yd.
4	Item	409	Seal Coat using 0.008 Cu. Yd. No. 8 cover aggregate per sq. yd. and 0.30 gal. 702.09 Rt-9 or Rt-10 or 702.02 MC-800 or MC-3000 per Sq. Yd.
5	Item	304	8" Aggregate Base
6	Item	605	Aggregate Drains (See General Notes)
9	Item	659	Seeding & Mulching (See General Notes)
10	Item	310	Subbase



TWP. RD. 180
Sta. 313+25.00 to Sta. 313+50.00 = 25 Lin. Ft. W = 16'
Sta. 313+50.00 to Sta. 313+78.13 = 28.13 Lin. Ft. W = 16' to 20'

NOTES

* Unless otherwise shown on Cross Sections.

GENERAL NOTES

REMOVAL OF TREES AND 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, EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.

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

SIZES	18"	30"
TREES	19	
STUMPS	4	2

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.

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.

ESTIMATED QUANTITIES

SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

CONSTRUCTION LAYOUT STAKES

SEE NOTE IN PROPOSAL DESCRIBING THE WORK INCLUDED IN THIS LUMP SUM PAY ITEM.

FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS

THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS AT EACH OF THE FOLLOWING APPROXIMATE LOCATIONS:

1. STA. 1261+00
2. STA. 1+00

SIGN DETAILS SHALL BE AS SPECIFIED ON STANDARD DRAWING FACI-1, "CODE N-54(1)-96(2). THE SIGNS SHALL BE ERECTED IN ACCORDANCE WITH STANDARD DRAWING FACI-2. ADDITIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH NOTES IN THE PROPOSAL.

REMOVAL OF EXISTING PIPE

THE REMOVAL OF ALL EXISTING PIPE DRAINS WHICH WOULD NORMALLY BE REMOVED IN VARIOUS EXCAVATION ITEMS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICES BID FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

ITEM 619, FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 300 SQ FT OF FLOOR SPACE FOR THE FIELD OFFICE AND IN ADDITION TO THE REQUIREMENTS OF ITEM 619, SHALL PROVIDE AND MAINTAIN SANITARY PROVISIONS AS PER 107.06. ALL THE ABOVE IS INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619, FIELD OFFICE.

BENCHING OF FOUNDATION SLOPES

ALTHOUGH CROSS SECTIONS ON THIS PLAN INDICATE SPECIFIC WIDTHS AND DEPTHS OF PROPOSED BENCHING OF THE EMBANKMENT FOUNDATION IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED AND ALL OTHER SLOPED FOUNDATION AREAS SHALL BE BENCHED AS SET FORTH IN 203.09. NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED BY THE PROVISIONS OF 203.09.

SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN LINES 10 FT. OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS, OR TO THE RIGHT OF WAY LINE IF SUCH LINE IS LESS THAN 10 FT. FROM THE WORK LIMITS.

ITEM 203 PROOF ROLLING

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE IN PROOF ROLLING OF SUBGRADE FOR THE MAINLINE *and paved shoulders* IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 801.

EROSION CONTROL

ITEM 601 RIPRAP, ROCK CHANNEL PROTECTION AND PAVED GUTTER, 660 SODDING AND 667 SEEDING AND JUTE MATTING IS PROVIDED IN THE PLANS FOR EROSION CONTROL. ROCK OF A STABLE NATURE WILL NOT BE REMOVED IN ORDER TO PLACE ANY OF THESE ITEMS. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES OR ADJUST LOCATIONS AND QUANTITIES FOR THESE ITEMS WHERE INDICATED BY FIELD CONDITIONS DURING CONSTRUCTION.

TEMPORARY GUARD RAIL REMOVED AND DISPOSED OF

UPON COMPLETION OF THIS PROJECT, WHEN THE TEMPORARY GUARD RAIL IS NO LONGER NEEDED TO MAINTAIN TRAFFIC AT THE EAST END OF THE PROJECT, IT SHALL BE REMOVED AND DISPOSED OF.

CONNECTIONS TO EXISTING PIPE

AT PLACES WHERE THE PLANS PROVIDE FOR PROPOSED PIPE TO BE CONNECTED TO EXISTING PIPE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED PIPE. THE COST OF THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEM.

ITEM 605 AGGREGATE DRAINS

AGGREGATE DRAINS SHALL BE PLACED AT 20-FOOT INTERVALS ON THE LEFT SIDE OF NORMAL CROWNED SECTIONS, AT 20-FT ON THE LOW SIDE OF SUPERELEVATED SECTIONS (EVERY OTHER DRAIN ADJACENT TO THE PAVEMENT JOINTS). AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

SPRING DRAINS

REFERENCE IS MADE TO THE DETAILED DRAWING ON SHEET NO. 71 SHOWING THE METHOD OF DRAINING ANY SPRING THAT MAY BE SHOWN ON THE PLAN OR ENCOUNTERED DURING CONSTRUCTION AS DETERMINED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 605 6" UNCLASSIFIED PIPE UNDERDRAIN, 707.01 TYPE III OR 707.12 AS PER PLAN 50 LIN. FT.
ITEM 605 AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN 6 LIN. FT.

THE CONTRACTOR SHALL NOT ORDER MATERIALS FOR SPRING DRAINS UNTIL AUTHORIZED BY THE ENGINEER AND IN THE EVENT NO SPRINGS ARE ENCOUNTERED, THE ITEM SHALL BE NON-PERFORMED.

MAINTENANCE OF SEWER FLOWS

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MAINTAIN AT ALL TIMES SEWER FLOWS THROUGH EXISTING FACILITIES TO REMAIN IN PLACE, AND THROUGH EXISTING FACILITIES TO BE REPLACED UNTIL NEW FACILITIES ARE COMPLETED AND PLACED INTO USE.

PAYMENT FOR ANY ADDITIONAL COSTS INVOLVED IN MAINTAINING THESE FLOWS BY PUMPING OR BY ANY OTHER MEANS APPROVED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE RESPECTIVE ITEMS OF 603 CONDUIT.

CONTRACTION AND EXPANSION JOINTS

ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN EXPANSION AND CONTRACTION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL IN ALL CASES BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWINGS AND THE SPECIFICATIONS.

ITEM 310 SUBBASE, GRADING A AS PER PLAN

MATERIAL FOR THIS ITEM SHALL MEET THE REQUIREMENTS OF GRADING A OF 310.02, *except that* NO MORE THAN 10% OF THE MATERIAL SHALL PASS A NO. 200 SIEVE AFTER ALL OPERATIONS OF PLACING AND COMPACTING HAVE BEEN COMPLETED.

MAINTENANCE OF TRAFFIC

THE CONTRACTOR SHALL MAINTAIN TWO-WAY TRAFFIC AT ALL TIMES ON USR 22 BY USE OF EITHER THE EXISTING PAVEMENT, PROPOSED PAVEMENT. *OR TEMPORARY ROAD*

AT LEAST ONE-WAY TRAFFIC SHALL BE MAINTAINED ON TOWNSHIP ROADS NO. 65 AND 180. THE FOLLOWING QUANTITIES ARE INCLUDED IN THE GENERAL SUMMARY FOR MAINTENANCE OF TOWNSHIP ROAD TRAFFIC AND DUST CONTROL ON THE ENTIRE PROJECT.

410 TRAFFIC COMPACTED SURFACE TYPE A OR B	30 CU YDS
410 TRAFFIC COMPACTED SURFACE TYPE C	90 CU YDS
616 CALCIUM CHLORIDE	50 TONS
616 WATER	100 M GALS

REMOVAL OF EXISTING TEMPORARY CROSSOVER (STA 5+00 TO STA 11+00) ✓Calc Gaw. 12/17/68 ✓ HJ. 2/6/69

UPON COMPLETION OF THIS PROJECT, WHEN THE TEMPORARY CROSSOVER (STA 5+00 TO STA 11+00) IS NO LONGER NEEDED TO MAINTAIN TRAFFIC AT THE EAST END OF THE PROJECT, IT SHALL BE REMOVED AND THE AREA GRADED TO CONFORM TO THE CROSS SECTIONS.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO ACCOMPLISH THE REMOVAL OF THIS CROSSOVER.

ITEM 203 EMBANKMENT	120 CU YDS
ITEM 203 EXCAVATION	430 CU YDS
ITEM 202 TEMPORARY GUARD RAIL REMOVED AND DISPOSED OF, AS PER PLAN	1000 LIN FT
ITEM 659 SEEDING	1,355 SQ YDS
ITEM 310 6" SUBBASE	37 CU YDS
ITEM 304 8" AGGREGATE BASE	49 CU YDS
ITEM 408 PRIME COAT SEC 702.09 RT-2 OR RT-3 APPLIED AT RATE OF 0.4 GAL PER SQ YD	88 GAL
ITEM 409 SEAL COAT, BITUMINOUS MATERIAL 0.30 GAL 702.09 RT-9 OR RT-10 OR 702.02, MC-800 OR MC-3000 PER SQ YD	66 GAL
ITEM 409 SEAL COAT, AGGREGATE USING 0.008 CU YD NO. 8 COVER AGGREGATE PER SQ YD	2 CU YD
ITEM 659 COMMERCIAL FERTILIZER	.12 TONS
ITEM 659 *AGRICULTURAL LIMING*	.61 TONS

ITEM SPECIAL, COMPACTION OF MINE WASTE AREAS USING HEAVY PNEUMATIC TIRED ROLLERS

FROM STA 1314+00 TO STA 1325+00, OLD MINE WASTES WILL BE ENCOUNTERED IN THE SUBGRADE. THIS MATERIAL SHALL BE REMOVED UNDER THE PAVEMENT AND PAVED SHOULDERS TO A DEPTH OF 3 FEET BELOW THE SUBGRADE. THE AREA THUS EXPOSED SHALL BE ROLLED WITH A 50-TON PNEUMATIC-TIRED ROLLER ACCORDING TO THE PROPOSAL NOTE PERTAINING TO THIS ITEM. THE AREA SHALL THEN BE BACKFILLED WITH SUITABLE EMBANKMENT MATERIAL. QUANTITIES OF MINE WASTE REMOVAL AND REPLACEMENT WITH SUITABLE MATERIAL ARE INCLUDED IN ITEMS 203 EXCAVATION AND EMBANKMENT. AN ESTIMATED 7 HOURS OF ROLLER TIME HAS BEEN PROVIDED FOR THIS OPERATION.

LOCATION OF GUARDRAIL

The locations of guardrail runs as shown in these plans are subject to adjustment to assure that the planned installations will afford maximum protection for traffic.

REPAIR OF CAVITIES DUE TO REMOVAL OF EXISTING PRECAST TRAFFIC DIVIDERS

FOR REPAIR OF TRAFFIC DIVIDER CAVITIES FROM STA 1270+10 TO STA 1277+10, SEE NOTE IN PROPOSAL. THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED FOR THIS OPERATION:

ITEM SPECIAL: REPAIRING OF CAVITIES DUE TO REMOVAL OF EXISTING PRECAST CONCRETE TRAFFIC DIVIDERS WITH THIN BONDED PORTLAND CEMENT CONCRETE - 88 EACH

COMPUTATIONS

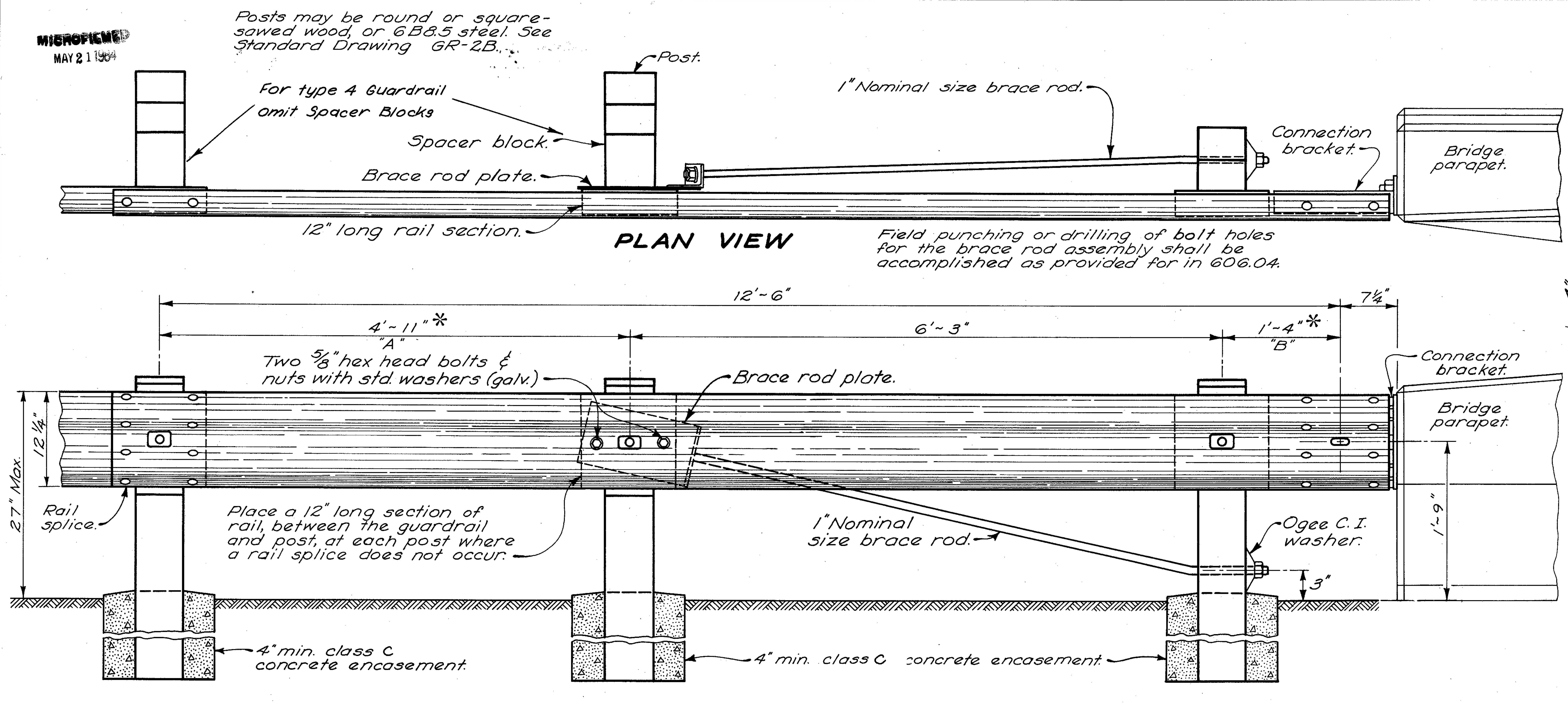
SUMMARY OF EARTHWORK AND SEEDING

STATION	STATION	SEEDING SQ YDS	CUT CU YDS	FILL CU YDS
1260+00	1270+00	7,811	10,229	205
1270+00	1280+00	10,940	33,952	191
1280+00	1290+00	9,903	20,594	8,253
1290+00	1300+00	17,405	5,980	90,572
1300+00	1310+00	7,785	25,246	4,485
1310+00	1320+00	11,777	57,580	3,637
1320+00	1330+00	13,130	78,107	3,144
1330+00	1334+03.75	3,543	678	3,614
TWP RD 180		386	223	49
		82,680	232,589	114,150
DED. JUTE MATTING		-750		
TO SUMMARY =		81,930		

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

5-A

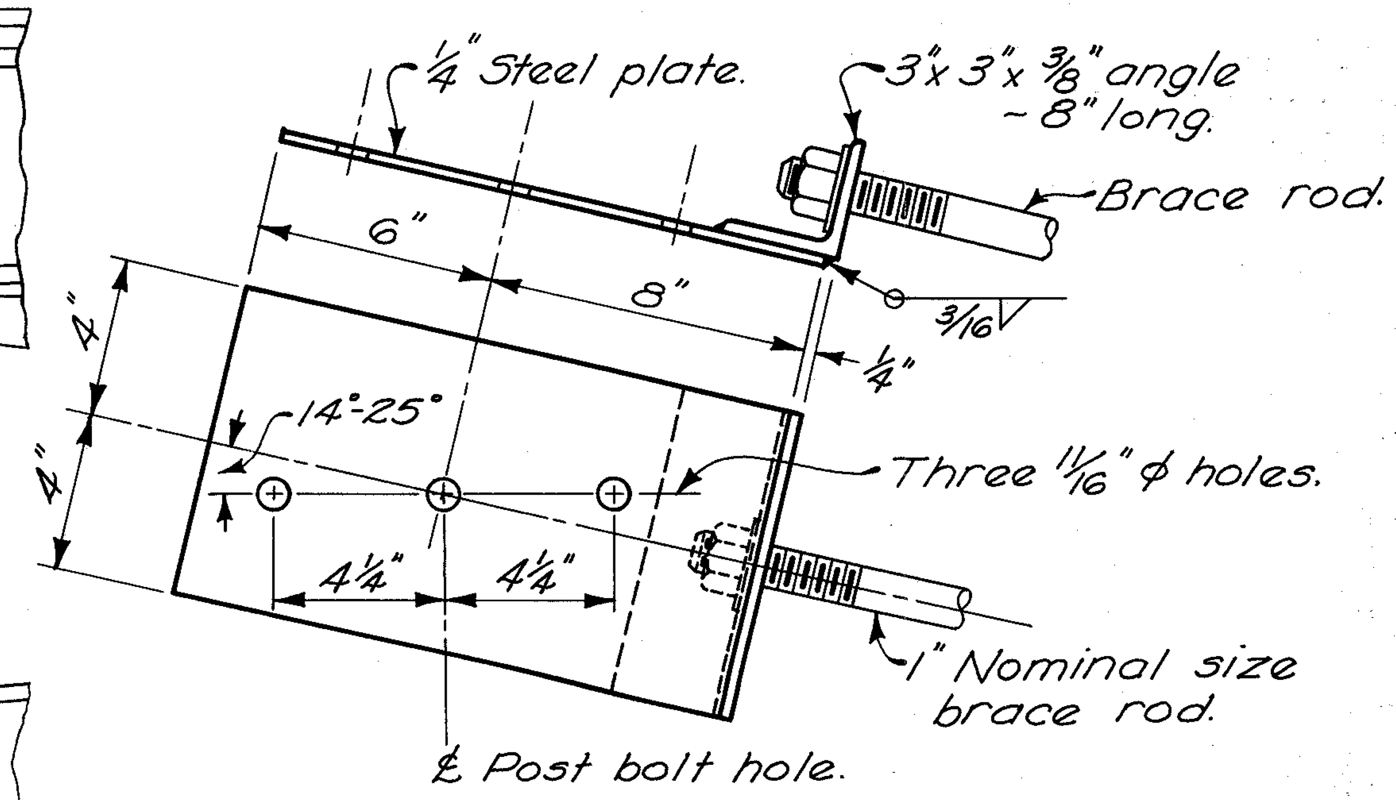
HAS-22-23.87



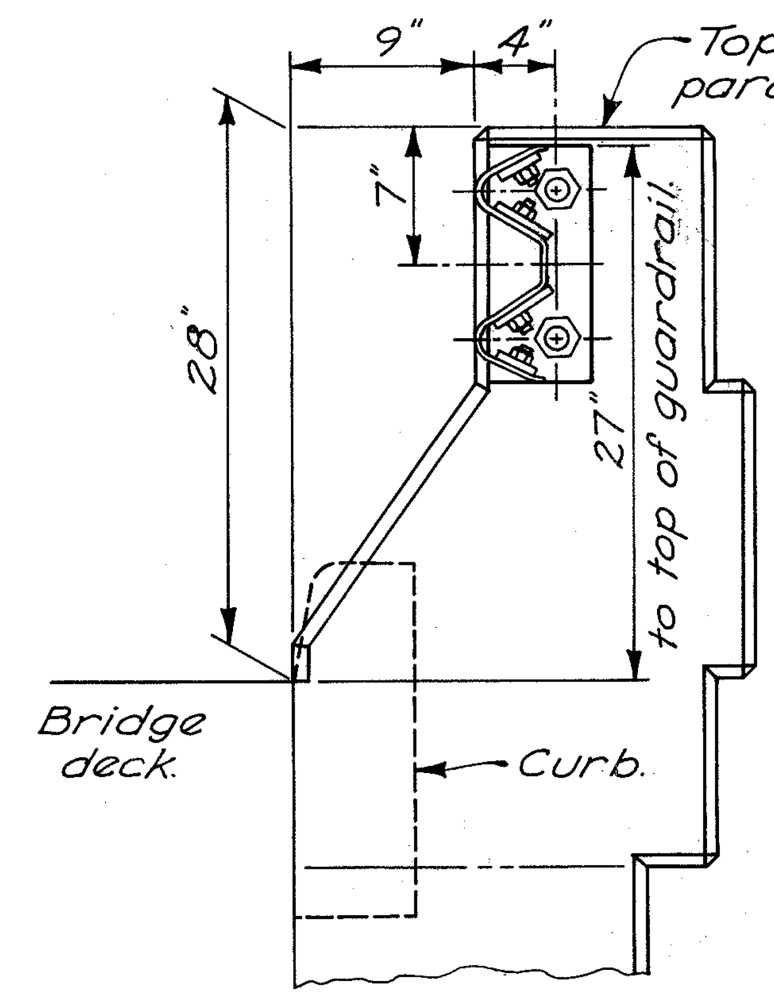
ELEVATION

GUARDRAIL TERMINAL AT BRIDGE

* Dimension "A" shall decrease as dimension "B" increases to accommodate interference by the bridge substructure.

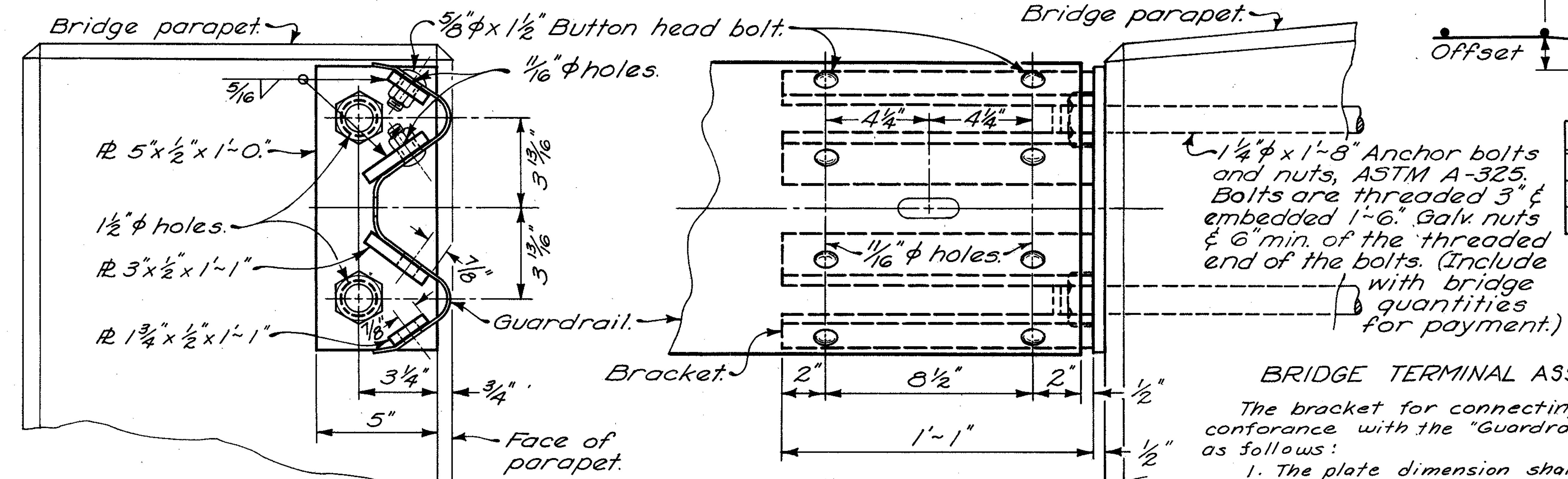


BRACE ROD PLATE



PARAPET APPROACH

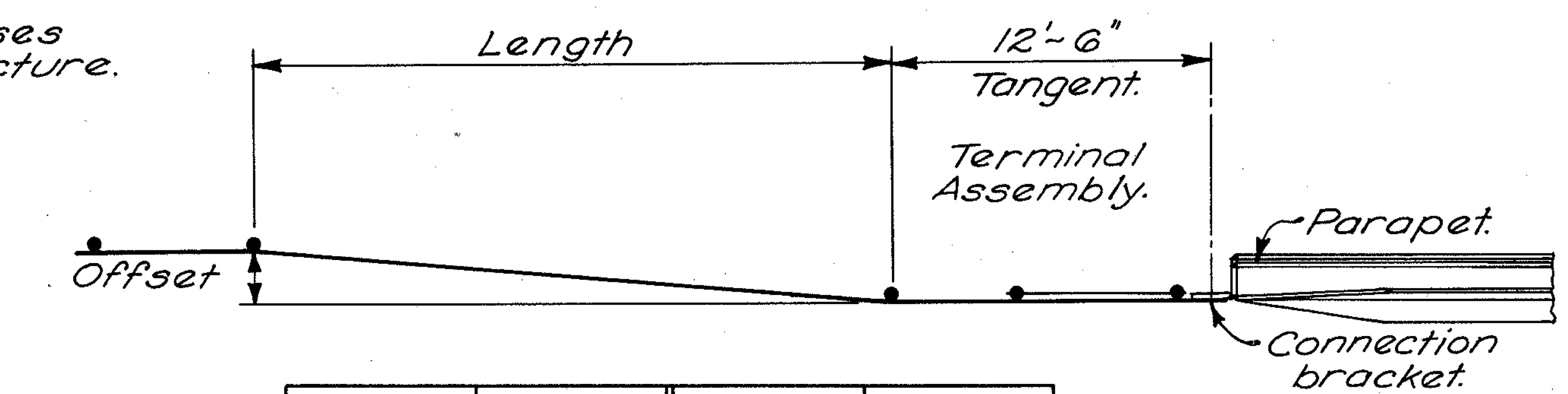
For uncurbed approaches, guardrail shall be set 27" above ground line at face of rail. For curbed approaches guardrail shall be located 27" above gutter line and 9" behind the face of curb.



CONNECTION BRACKET DETAIL

GUARDRAIL ~ BRIDGE CONNECTION

The connection bracket shall be galvanized after welding and shall be included with guardrail for payment.



Offset	Length	Offset	Length
1'~0"	25.00'	5'~0"	100.00'
2'~0"	50.00'	6'~0"	100.00'
4'~0"	100.00'	7'~0"	100.00'

GUARDRAIL OFFSET DETAIL

BRIDGE TERMINAL ASSEMBLY, AS PER PLAN.

The bracket for connecting guard rail to an existing bridge parapet shall be in conforance with the "Guardrail-Bridge Connection" detail shown on sheet Nº 5-A except as follows:

1. The plate dimension shall be 6"x 3/4"x 1'-0" in lieu of 5"x ½"x 1'-0".
2. The anchor holes shall be set over 4¼" in lieu of 3¼".

The bracket shall be galvanized after welding and shall be connected to the existing parapet by 1¼" ϕ x 1'-8" anchor bars and nuts. The anchor bars shall be swedged, threaded 3" and embeded 1'-6" with a non-shrinking grout as approved by the Engineer. The nuts and a minimum of 6" of the threaded end of the bolts shall be galvanized. The dowel holes in the existing parapet shall be in accordance with 510. Payment for all the above shall be included in the unit price bid for item 606, Bridge Terminal Assembly, as per plan.

Rev. 7-10-68

GR-3 : BRIDGE TERMINAL ASSEMBLY

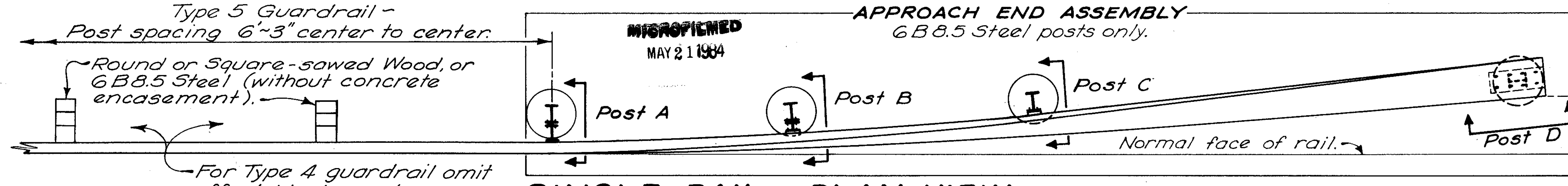
FED RD DIVISION 2 | STATE OHIO | PROJECT
5-B
HAS-22-23.87

NOTES

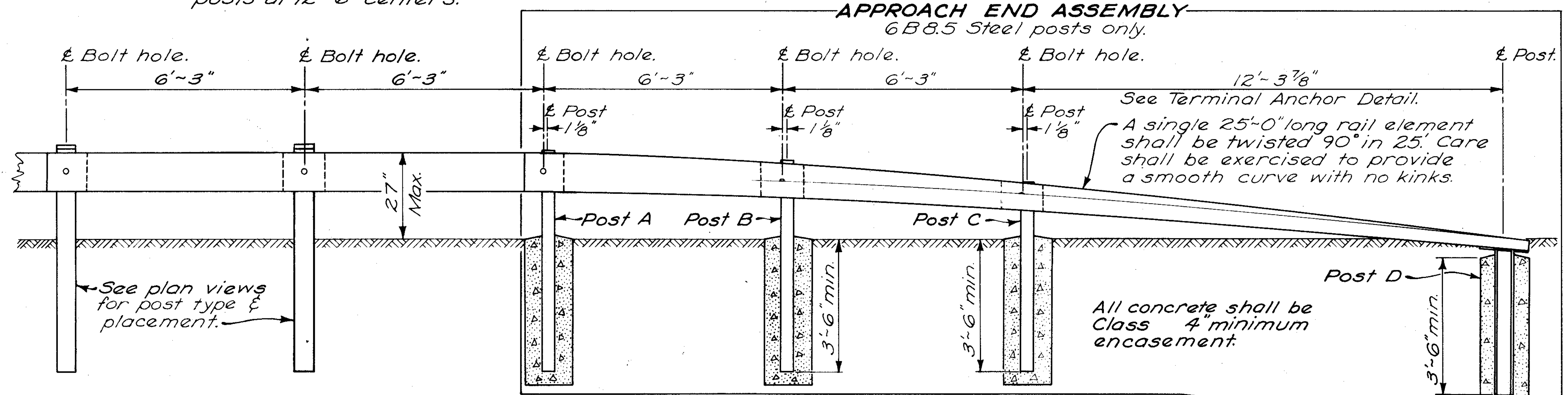
For details not shown, see Standard Drawing GR-2B.

All steel parts shall be galvanized in accordance with ASTM A123, A153 or A525, whichever may apply.

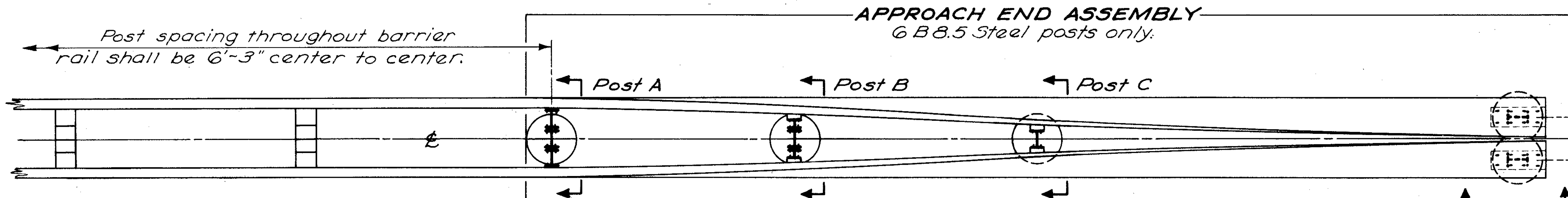
This drawing shall govern where a conflict arises.



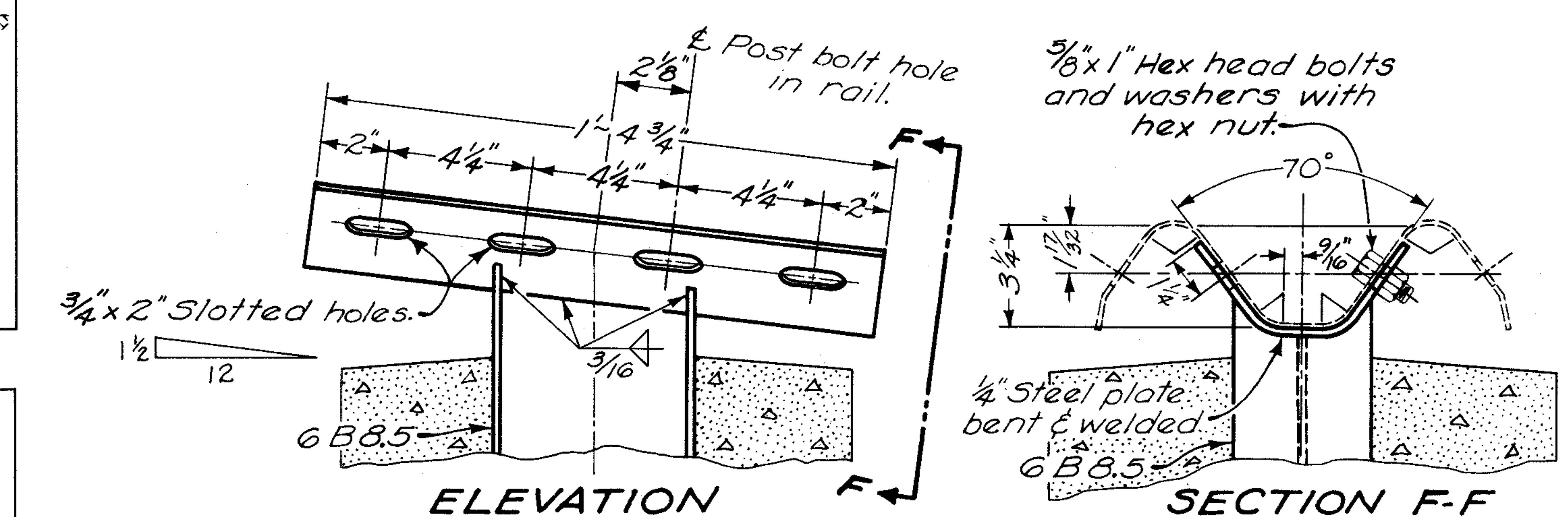
SINGLE RAIL ~ PLAN VIEW



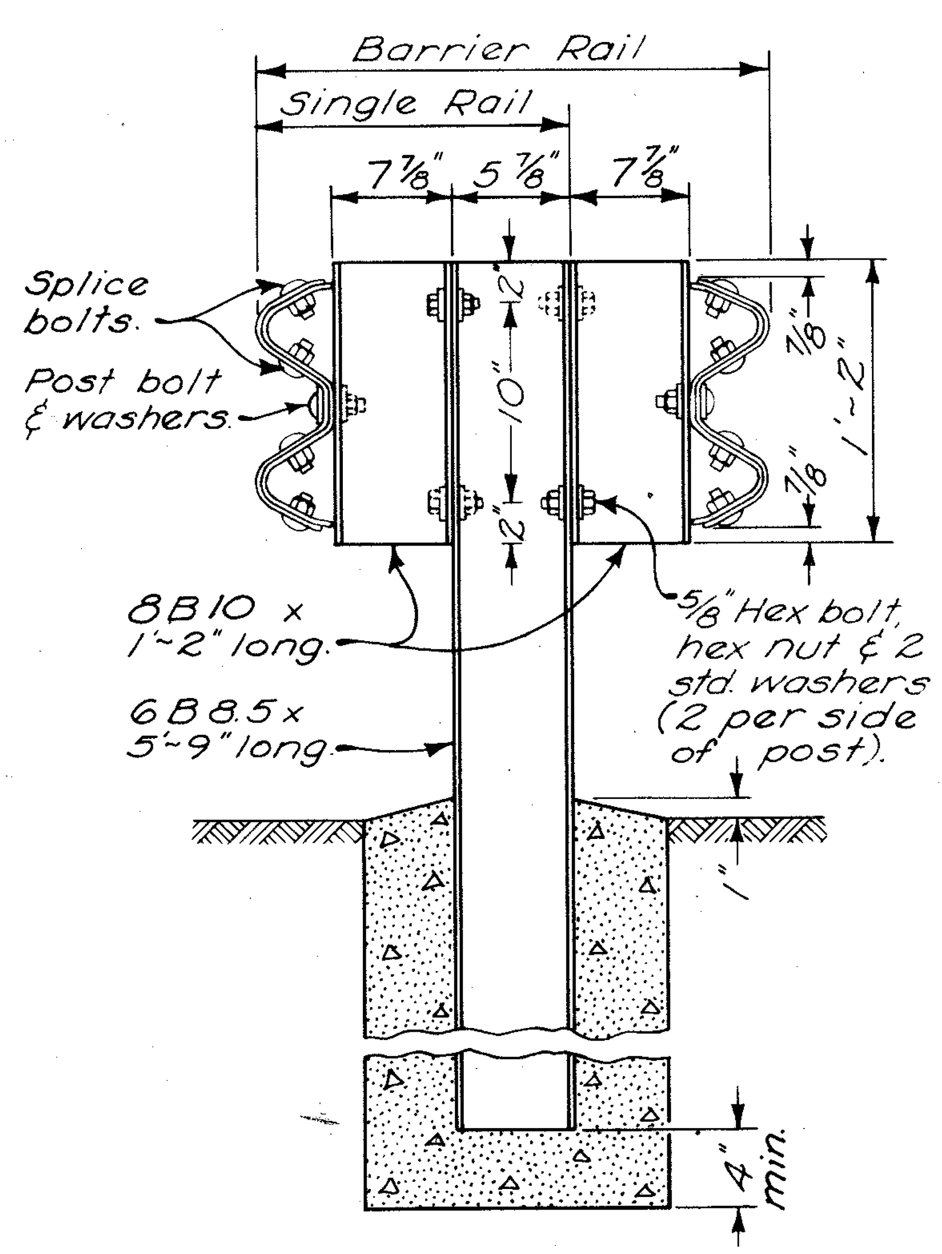
SINGLE & BARRIER RAIL ~ ELEVATION



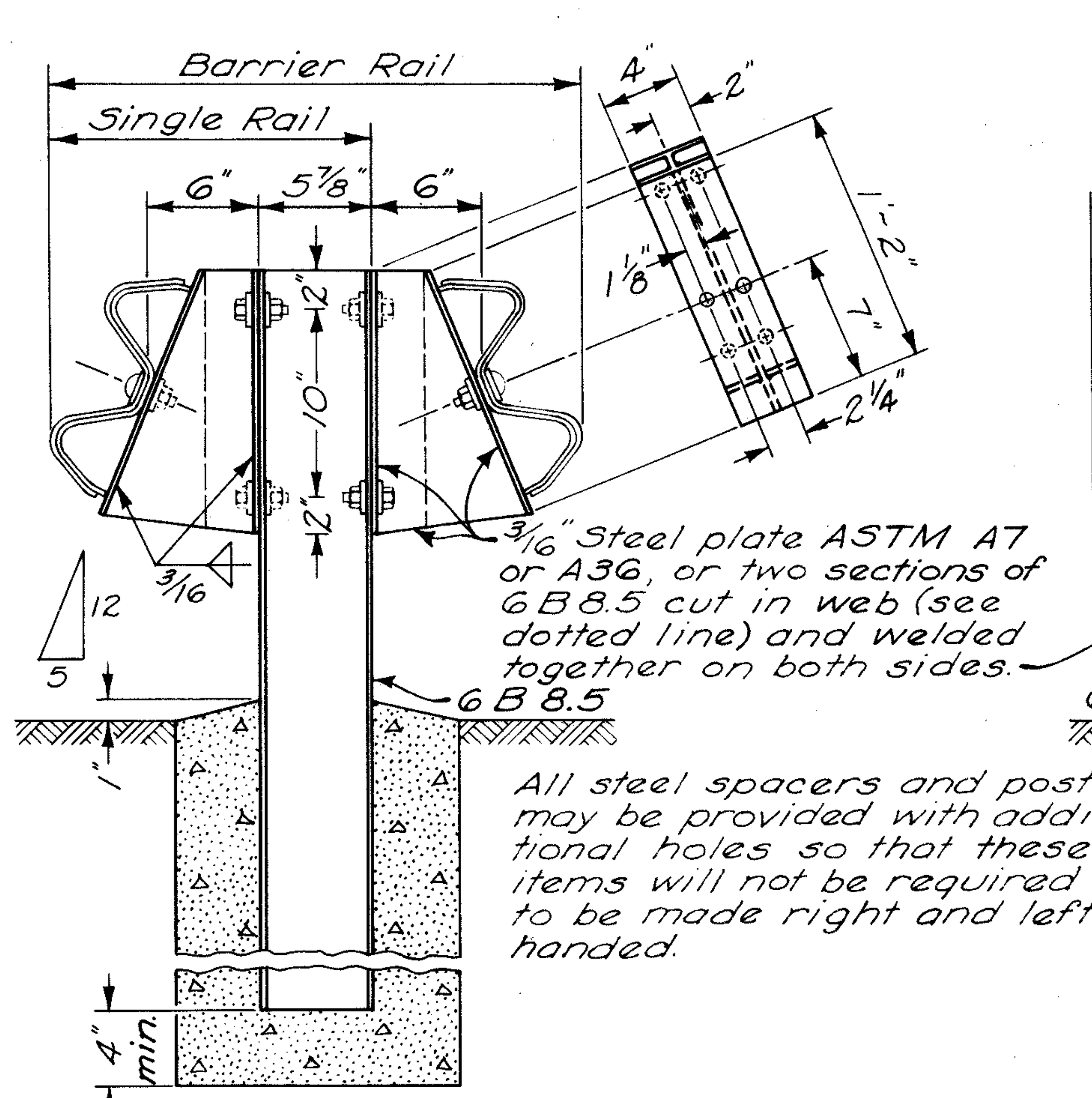
BARRIER RAIL ~ PLAN VIEW



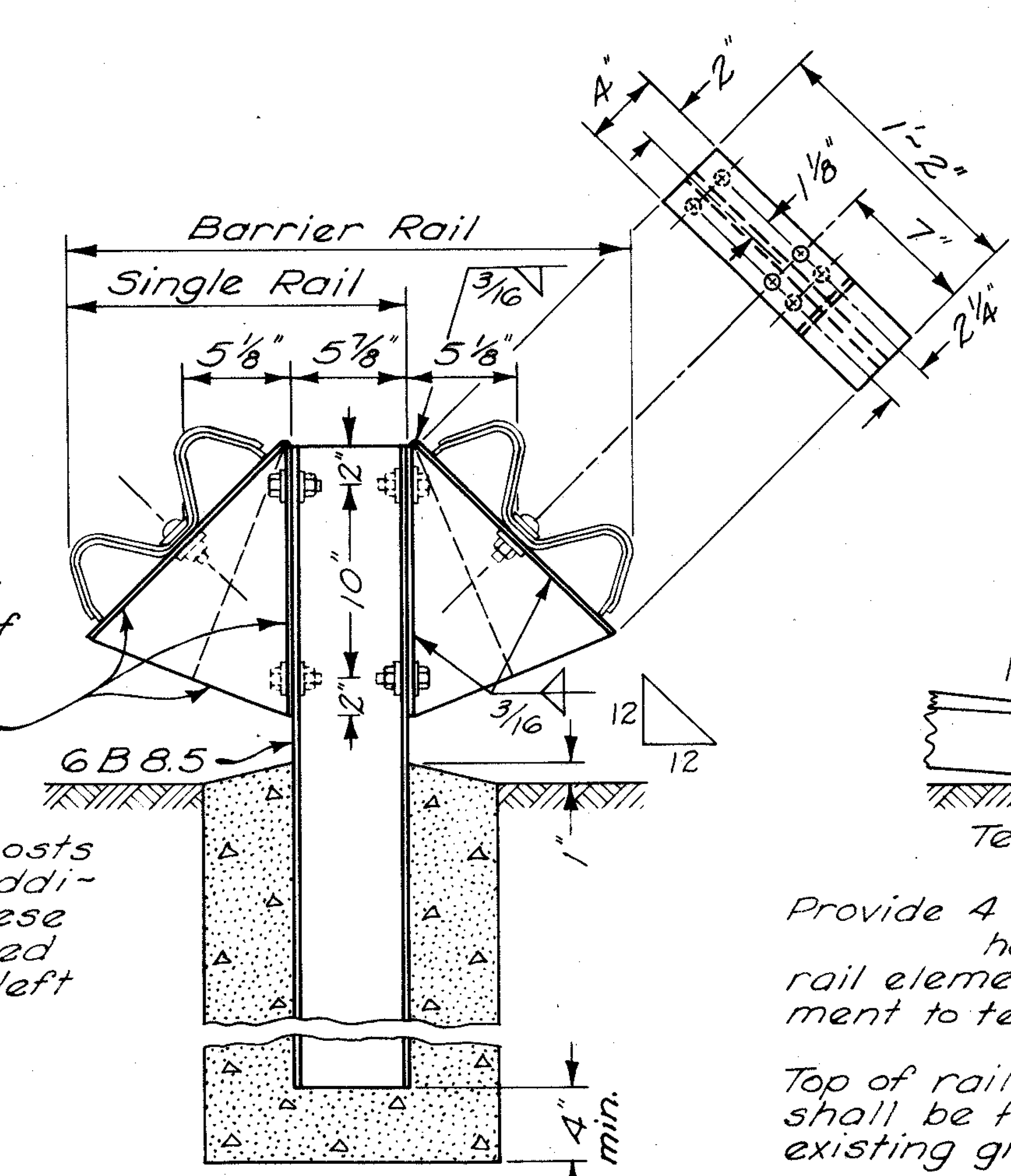
TERMINAL ANCHOR DETAIL



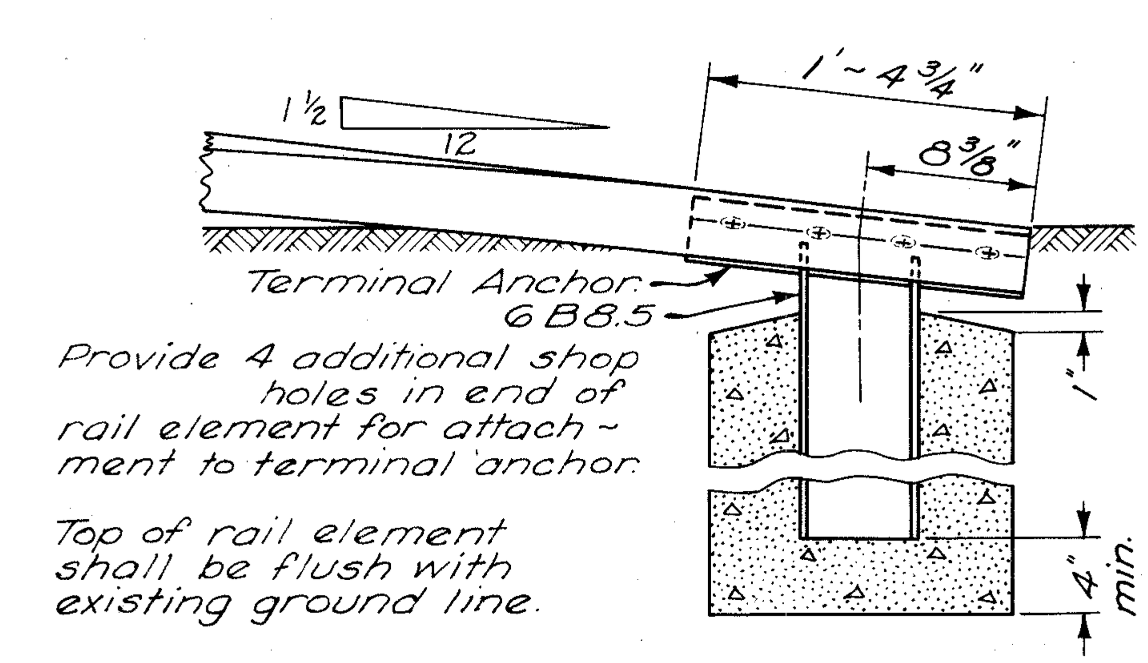
POST A



POST B



POST C



POST D

GR-4: GUARD RAIL ~ APPROACH END ASSEMBLY

Rev. 2-15-68

COMPUTATIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HARRISON COUNTY
HAS - 22 - 23.87

Calc. RCB 4/29/68
√ Gaw. 2/7/69

ITEM 451 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

NORMAL AND SUPERELEVATED SECTIONS		
LENGTH = (1262+03.90) - (1300+16.70) =	3,812.80 LIN FT	
LENGTH = (1302+01.30) - (1334+03.75) =	3,202.45 LIN FT	
WIDTH =	24 FT	
AREA = 3,812.80 + 3,202.45 x 24/9 =		18,707.33 SQ YDS
ADD FOR INTERSECTION		
TR 180 =		322.38 SQ YDS
ADD FOR CROSSOVER		
TR 180 =		701.10 SQ YDS
TR 65 =		339.31 SQ YDS
	TOTAL =	20,070.12 SQ YDS
	TO SUMMARY USE =	20,071 SQ YDS

ITEM 310 SUBBASE, GRADING "A" AS PER PLAN

TYPICAL SECTION NO. 1 (WITHOUT UNDERDRAIN)		
LENGTH =	877.25 FT	
END AREA =	0.4722 CU YD/LIN FT	
VOLUME = 0.4722 x 877.25 =		414.24 CU YDS
TYPICAL SECTION NO. 1 (WITH UNDERDRAIN)		
LENGTH =	1,350.06 FT	
END AREA=	0.4835 CU YD/LIN FT	
VOLUME = 0.4835 x 1350.06 =		652.75 CU YDS
TYPICAL SECTION NO. 2 (WITH SPECIAL DRAINAGE CONNECTION)		
LENGTH =	2,360.00 FT	
END AREA =	0.4527 CU YD/LIN FT	
VOLUME = 0.4527 x 2360.00 =		1,068.37 CU YDS
TYPICAL SECTION NO. 2 (WITH UNDERDRAIN)		
LENGTH =	1,652.94 FT	
END AREA =	0.4938 CU YD/LIN FT	
VOLUME = 0.4938 x 1652.95 =		816.22 CU YDS
TYPICAL SECTION NO. 2 (WITHOUT UNDERDRAIN)		
LENGTH =	775.00 FT	
END AREA	0.4444 CU YD/LIN FT	
VOLUME = 0.4444 x 775.00 =		344.41 CU YDS
ADD FOR INTERSECTION		
TR 180 =		53.73 CU YDS
ADD FOR CROSSOVER		
TR 180 =		116.85 CU YDS
TR 65 =		56.55 CU YDS
	TOTAL =	3,523.12 CU YDS
	SO SUMMARY USE =	3,524 CU YDS

ITEM 408 PRIME COAT

TYPICAL SECTION NO. 1 AND TYPICAL SECTION NO. 2		
LENGTH =	6,027.81 FT	
END AREA =	0.5333 GAL/LIN FT	
VOLUME = 0.5333 x 6,027.81 =		3,214.63 GALS
TYPICAL SECTION NO. 3		
LENGTH =	990.00 FT	
END AREA =	0.7111 GAL/LIN FT	
VOLUME = 0.7111 x 990.00 =		703.99 GALS
	TOTAL =	3,918.62 GALS
	TO SUMMARY USE =	3,919 GALS

ITEM 409 SEAL COAT, BITUMINOUS MATERIAL

TYPICAL SECTION NO. 1 AND TYPICAL SECTION NO. 2		
LENGTH =	6,027.81 FT	
END AREA =	0.4000 GAL/LIN FT	
VOLUME = 0.4000 x 6,027.81 =		2,411.12 GALS
TYPICAL SECTION NO. 3		
LENGTH =	990.00 FT	
END AREA =	0.5333 GAL/LIN FT	
VOLUME = 0.5333 x 990.00 =		527.97 GALS
	TOTAL =	2,939.09 GALS
	TO SUMMARY USE =	2,940 GALS

ITEM 409 SEAL COAT NO. 8 AGGREGATE

TYPICAL SECTION NO. 1 AND TYPICAL SECTION NO. 2		
LENGTH =	6,027.81 FT	
END AREA =	0.0107 CU YD/LIN FT	
VOLUME = 0.0107 x 6,027.81 =		64.50 CU YDS
TYPICAL SECTION NO. 3		
LENGTH =	990.00 FT	
END AREA =	0.0142 CU YD/LIN FT	
VOLUME = 0.0142 x 990.00 =		14.06 CU YDS
	TOTAL =	78.56 CU YDS
	TO SUMMARY USE =	79 CU YDS

ITEM 304 AGGREGATE BASE

TYPICAL SECTION NO. 1 AND TYPICAL SECTION NO. 2 WITHOUT SPECIAL DRAINAGE CONNECTION		
LENGTH =	2,315.19 FT	
END AREA =	0.2963 CU YD/LIN FT	
VOLUME = 0.2963 x 2,315.19		685.99 CU YDS
TYPICAL SECTION NO. 1 AND TYPICAL SECTION NO. 2 WITH SPECIAL DRAINAGE CONNECTION		
LENGTH =	3,710.06 FT	
END AREA =	0.2922 CU YD/LIN FT	
VOLUME = 0.2922 x 3,710.06 =		1,084.08 CU YDS
TYPICAL SECTION NO. 3 WITHOUT SPECIAL DRAINAGE CONNECTION		
LENGTH =	990.00 FT	
END AREA =	0.3951 CU YD/LIN FT	
VOLUME = 0.3951 x 990.00 =		391.15 CU YDS
ADD FOR INTERSECTION		
TR 180 =		16.78 CU YDS
	TOTAL =	2,178.00 CU YDS
	TO SUMMARY USE =	2,178 CU YDS

ITEM 310 SUBBASE

TYPICAL SECTION NO. 1 (WITHOUT UNDERDRAIN)		
LENGTH =	877.25 FT	
END AREA =	0.2160 CU YD/LIN FT	
VOLUME = 0.2160 x 877.25 =		189.49 CU YDS
TYPICAL SECTION NO. 1 (WITH UNDERDRAIN)		
LENGTH =	1,350.06 FT	
END AREA =	0.1454 CU YD/LIN FT	
VOLUME = 0.1454 x 1350.06 =		196.30 CU YDS
TYPICAL SECTION NO. 2 (WITH SPECIAL DRAINAGE CONNECTION)		
LENGTH =	2,360.00 FT	
END AREA =	0.1502 CU YD/LIN FT	
VOLUME = 0.1502 x 2360.00 =		354.47 CU YDS
TYPICAL SECTION NO. 2 (WITH UNDERDRAIN)		
LENGTH =	672.94 FT	
END AREA =	0.1543 CU YD/LIN FT	
VOLUME = 0.1543 x 672.94		103.83 CU YDS
TYPICAL SECTION NO. 2 (WITHOUT UNDERDRAIN)		
LENGTH =	765.00 FT	
END AREA =	0.2037 CU YD/LIN FT	
VOLUME = 0.2037 x 765.00 =		155.83 CU YDS
TYPICAL SECTION NO. 3 (WITH UNDERDRAIN)		
LENGTH =	980.00 FT	
END AREA =	0.2222 CU YD/LIN FT	
VOLUME = 0.2222 x 980.00 =		217.76 CU YDS
TYPICAL SECTION NO. 3 (WITHOUT UNDERDRAIN)		
LENGTH =	10.00 FT	
END AREA =	0.2716 CU YD/LIN FT	
VOLUME = 0.2716 x 10.00 =		2.72 CU YDS
	TOTAL =	1,220.40 CU YDS
	TO SUMMARY USE =	1,221 CU YDS

ITEM 659 AGRICULTURAL LIMING

RATE OF APPLICATION = 100 LBS PER 1000 SQ FT		
83,938 x 100 x 9/1000x2000 =		37.74 TONS
	TO SUMMARY USE =	37.74 TONS

ITEM 605 AGGREGATE DRAINS

NORMAL SECTION (WESTBOUND LANE LEFT SIDE)		
LENGTH =	2,032 LIN FT	
NO OF DRAINS = 2027.40/20 = 101		
LENGTH OF DRAIN =	13 FT	
TOTAL LENGTH = 13 x 101	=	1,313.00 LIN FT
SUPERELEVATED SECTION (WESTBOUND LANE LEFT SIDE)		
LENGTH =	2,170 LIN FT	
NO OF DRAINS = 2170/20 = 109		
LENGTH OF DRAIN	16.50 FT	
TOTAL LENGTH = 16.5 x 109	=	1,798.50 LIN FT
SUPERELEVATED SECTION (WESTBOUND LANE RT SIDE)		
LENGTH =	710 LIN FT	
NO OF DRAINS = 710 /20 = 36		
LENGTH OF DRAIN =	14.00 FT	
TOTAL LENGTH = 14 x 26	=	504.00 LIN FT
	TOTAL =	3,615.50 LIN FT
	TO SUMMARY USE =	3,616 LIN FT

SPECIAL DRAINAGE CONNECTION USING NO. 8 AGGREGATE

NORMAL SECTION		
LENGTH =	1,350 FT	
END AREA =	0.0556 CU YD/LIN FT	
VOLUME = 0.0556 x 1350 =		75.06 CU YDS
SUPERELEVATED SECTION		
LENGTH =	2,360 FT	
END AREA =	0.0453 CU YD/LIN FT	
VOLUME = 0.0453 x 2370 =		107.36 CU YDS
	TOTAL =	182.42 CU YDS
	TO SUMMARY USE =	183 CU YDS

ITEM 203 PROOF ROLLING

AREA SUBGRADE COMPACTION	=21,271 SQ YDS	
HOURLY ROLLING RATE	= 3,000 SQ YDS PER HR	
21,271 /3,000 = TOTAL		7.09 HRS
	TO SUMMARY USE =	7 HRS

ITEM 203 SUBGRADE COMPACTION

NORMAL AND SUPERELEVATED SECTIONS		
LENGTH = (1262+03.90) (1277+25)	= 1,521.10 LIN FT	
LENGTH = (1279+75) (1283+50	= 375.00 LIN FT	
LENGTH = (1286+50) (1289+50)	= 300.00 LIN FT	
LENGTH = (1290+50) (1300+17.98)	= 967.98 LIN FT	
LENGTH = (1302+00.02) (1308+00)	= 599.98 LIN FT	
LENGTH = (1314+00) (1325+00)	= 1,100.00 LIN FT	
LENGTH = (1329+50) (1334+03.75)	= 453.75 LIN FT	
WIDTH = 36 FT		
AREA = 5,317.81 x 36/9	=	21,271.24 SQ YDS
ADD FOR INTERSECTION		
TR 180	=	322.38 SQ YDS
ADD FOR CROSSOVER		
TR 180	=	701.10 SQ YDS
TR 65	=	339.31 SQ YDS
	TOTAL =	22,634.03 SQ YDS
	TO SUMMARY USE =	22,635 SQ YDS

ITEM 659 COMMERCIAL FERTILIZER (12-12-12)

SPECIAL SODDING	= 61	
SEEDING	= 81,930 SQ YDS	
SODDING	= 1,197 SQ YDS	
JUTE MATTING	= 750 SQ YDS	
TOTAL AREA OF SEEDING, SODDING, AND JUTE MATTING FROM SUMMARY	=83,938 SQ YDS	
RATE OF APPLICATION = 20 LBS PER 1000 SQ FT		
83,938 x 20 x 9/1000x2000	=	7.55 TONS
	TO SUMMARY USE =	7.55 TONS

GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HARRISON COUNTY
HAS - 22 - 23.87

Calc. R.C.B. 2/17/69
✓ Glw. 2/20/69

ITEM	10	11	12	13	14	15	16	17	5 NOTES	5 & 6 COMPS	ITEM	QUANT.	UNIT	DESCRIPTION Type Code 7221 except as noted
														ROADWAY
201									Lump		201	Lump	Lump	Clearing and Grubbing
202	2,123	1,620			278						202	4,021	Sq. Yds.	Existing Pavement Removed and Disposed of
									88		Special	88	EACH	*Repairing of Cavities*
202		88									202	88	Each	Precast Traffic Divider Removed and Disposed of
202			97		117						202	214	Lin. Ft.	Existing Paved Gutter Removed and Disposed of
202					21						202	21	Sq. Yds.	Existing 6" Reinforced Concrete Slab Removed and Disposed of
Special									7		Special	7	Hrs.	Compaction of Mine Waste Areas Using Heavy Pneumatic Tired Rollers
202				Lump							202	Lump	Lump	Existing Structures Removed
202									1,000		202	1,000	Lin. Ft.	Temporary Guard Rail Removed for Disposal as per plan
202	250										202	250	Lin. Ft.	Pipe Removed, 15" & Under
606					*1*						*606*	*1*	*Each*	*Bridge Terminal Assembly, as per plan*
203									430	232,589	203	233,019	Cu. Yds.	Excavation not Including Embankment Construction as per plan
203									120	114,150	203	114,150	Cu. Yds.	Embankment
410									30		410	30	Cu. Yds.	Traffic Compacted Surface, Type A or B
203										22,635	203	22,635	Sq. Yds.	Subgrade Compaction
410									90		410	90	Cu. Yds.	Traffic Compacted Surface, Type C
203										7	203	7	Hrs.	Proof Rolling
607						286					607	286	Lin. Ft.	Fence, *Type 39*
606	25		225	875.5	374.5		25				606	1,525	Lin. Ft.	Guard Rail, Type 5
606				37.5	37.5						606	75	Lin. Ft.	Guard Rail, Type 5, Barrier Design
606			1	1	1						606	3	Each	Anchor Assembly
606	1		2	2	1		1				606	7	Each	Approach End Assembly
606					3						606	3	Each	Bridge Terminal Assembly
615	356	372									615	728	Sq. Yds.	Temporary Pavement, Class *B*
616									50		616	50	Tons	Calcium Chloride
616									100		616	100	M Gals.	Water
615	*Lump*	*Lump*									*615*	*Lump*	*Lump*	*Temporary Roads*
606	*812.5*										*606*	*812.5*	*Lin. Ft.*	*Temporary Beam Rail, as per plan*
														EROSION CONTROL Type Code Y-005
601			12	79	16			4			601	111	Cu. Yds.	Rock Channel Protection, Type B
601					21		7				601	28	Sq. Yds.	Riprap, Using 6" Reinforced Concrete Slab
659									.12	7.55	659	7.67	Ton	Commercial Fertilizer (12 - 12 - 12)
659									.61	37.74	659	38.35	Ton	Agricultural Liming
659									1,355	81,930	659	83,285	Sq. Yds.	Seeding and Mulching
660		77	204	228	418	67	26	171			660	1,191	Sq. Yds.	Sodding
660					61						660	61	Sq. Yds.	Sodding, Special Berm and Slope Protection, *as per plan*
667		125	167	125	87	79	125	42			667	750	Sq. Yds.	Seeding and Jute Matting
														DRAINAGE
602		0.2	0.9	2.7	1.6		0.4	0.3			602	6.1	Cu. Yds.	Concrete Masonry
603							80				603	80	Lin. Ft.	24" Conduit, Type A, 706.08
603				76							603	76	Lin. Ft.	27" Conduit, Type A, 707.05 Type C, 14 Gage
603					74						603	74	Lin. Ft.	30" Conduit, Type A, 706.02 Class III with 1/3 Clay Vitrified Liner as per 706.05
603			72								603	72	Lin. Ft.	33" Conduit, Type A, 707.05 Type C, 12 Gage
603				110							603	110	Lin. Ft.	42" Conduit, Type A, 707.05 Type C, 10 Gage

GENERAL SUMMARY

Calc. R.C.B. 2/17/69
✓ Glew 2/20/69

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HARRISON COUNTY
HAS - 22 - 23.87

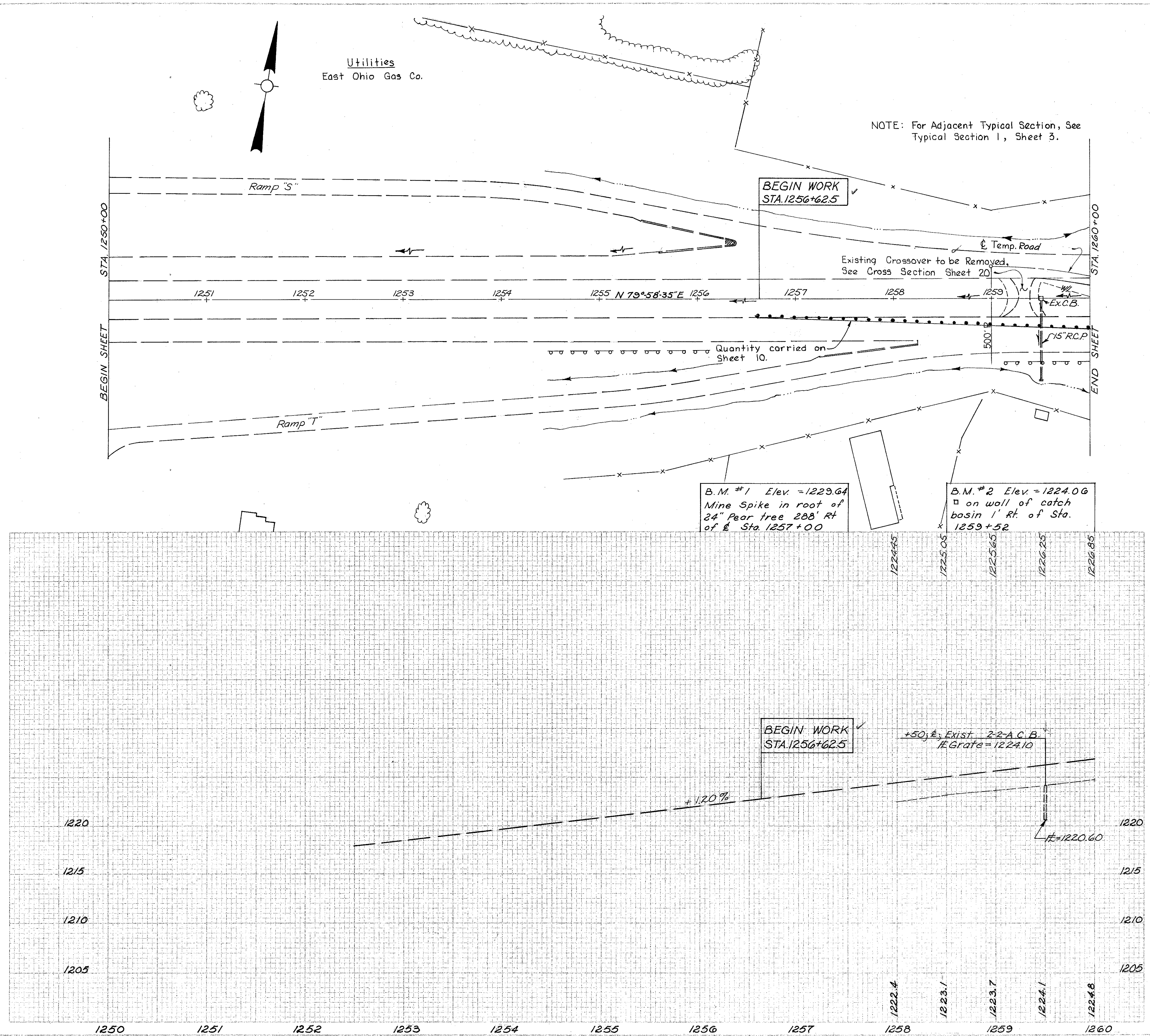
ITEM	SHEET NUMBER 10	11	12	13	14	15	16	17	5 NOTES	5 & 6 COMPS	ITEM	QUANT.	UNIT	DESCRIPTION Type Code 7221 except as noted
														DRAINAGE (Cont'd)
603		95	85	55	73						603	308	Lin. Ft.	12" Conduit, Type B
603					92			95			603	187	Lin. Ft.	15" Conduit, Type B
603					85						603	85	Lin. Ft.	24" Conduit, Type B, 706.08
603			250	100	282			100			603	732	Lin. Ft.	12" Conduit, Type C
603					57						603	57	Lin. Ft.	24" Conduit, Type C, 706.08
603			10	10	20		10	10			603	60	Lin. Ft.	6" Conduit, Type F
603				149							603	149	Lin. Ft.	12" Conduit, Type F
604					2						604	2	Each	Standard No. 2-2-B Catch Basin
604					1						604	1	Each	Standard No. 4 Catch Basin
604					1						604	1	Each	Standard No. 5 Catch Basin
604		1	2	2	2			2			604	9	Each	Standard No. 8 Catch Basin
605	50										605	50	Lin. Ft.	6" Unclassified Pipe Underdrains
605						1,000			50		605	1,050	Lin. Ft.	6" Unclassified Pipe Underdrains, 707.01 Type III or 707.12 As Per Plan
605	500	160	1,016	205	586		975	121			605	3,563	Lin. Ft.	6" Pipe Underdrains, 707.01 Type III or 707.12
605										3,616	605	3,616	Lin. Ft.	Aggregate Drains
605									6		605	6	Lin. Ft.	Aggregate Drains for Springs As Per Plan
														PAVEMENT
304		62							49	2,178	304	2,289	Cu. Yds.	Aggregate Base
310		31							37	1,221	310	1,289	Cu. Yds.	Subbase
310										3,524	310	3,524	Cu. Yds.	Subbase, Grading A As Per Plan
SPECIAL										183	SPECIAL	183	Cu. Yds.	Drainage Connection, Using No. 8 Aggregate
408		111							88	3,919	408	4,118	Gals.	Bituminous Prime Coat 702.09 RT-2 or RT-3
409		83							66	2,940	409	3,089	Gals.	Seal Coat Bituminous Material 702.09 RT-9 or RT-10 or 702.02 MC-800 or MC-3000
409		2							2	79	409	83	Cu. Yds.	Seal Coat Cover Aggregate No. 8
451										20,071	451	20,071	Sq. Yds.	9" Reinforced Portland Cement Concrete Pavement
611					134						611	134	Sq. Yds.	Reinforced Concrete Approach Slabs (T = 13")
619									Lump		619	Lump	Lump	Field Office
Lump									Lump			Lump	Lump	Construction Layout Stakes
614									Lump		614	Lump	Lump	Maintaining Traffic

STRUCTURES OVER 20' SPAN
For estimated quantities

HAS - 22 - 2459 L see sheet no. 84

HARRISON COUNTY
HAS - 22 - 23.87

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			9



ESTIMATED QUANTITIES

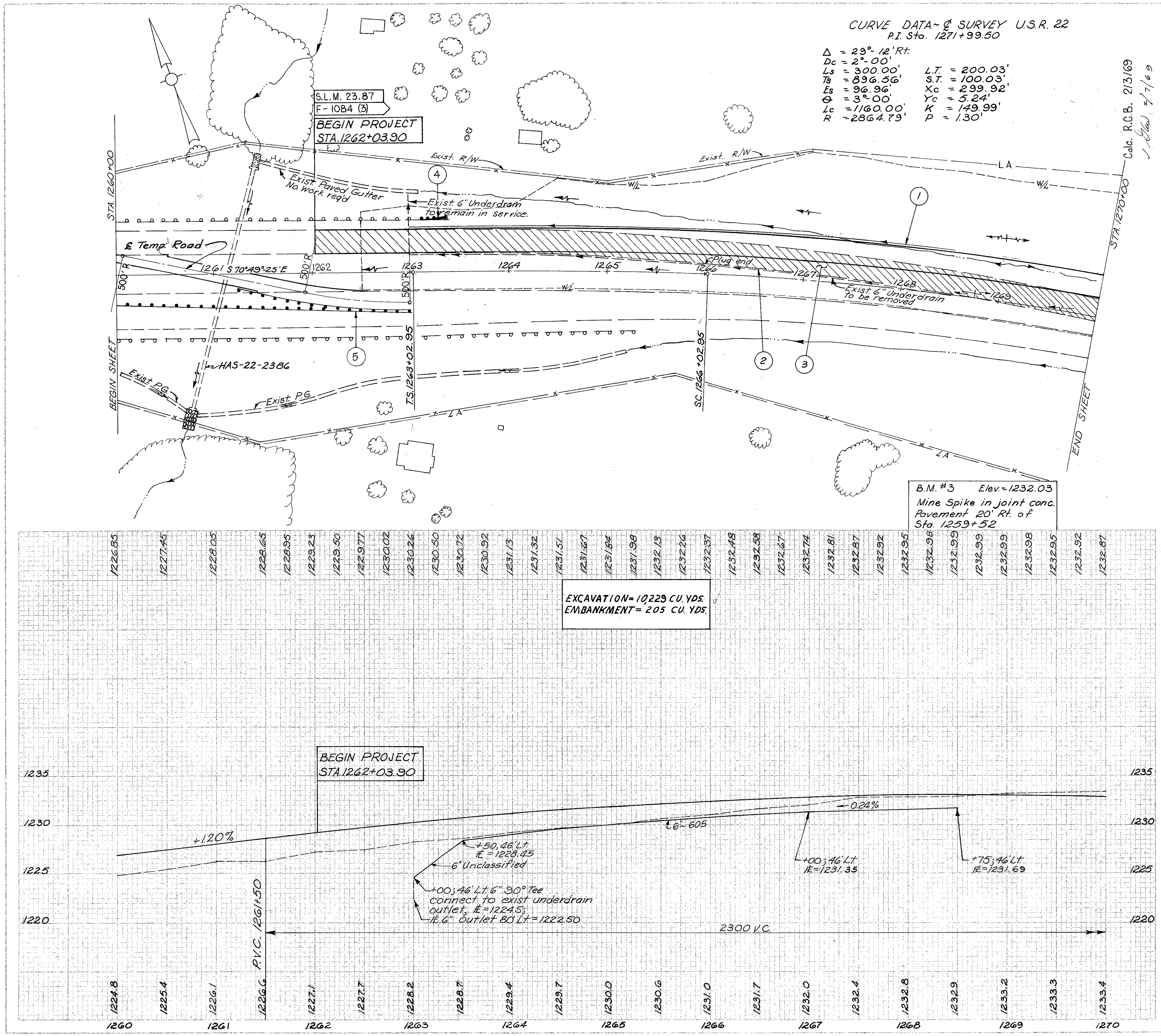
SEE SHEET NO.					

REF. NO.	STATION TO STATION	SIDE

STA. 1250+00 to STA. 1260+00 U.S.R. 22

HARRISON COUNTY
HAS - 22 - 23.87

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			10



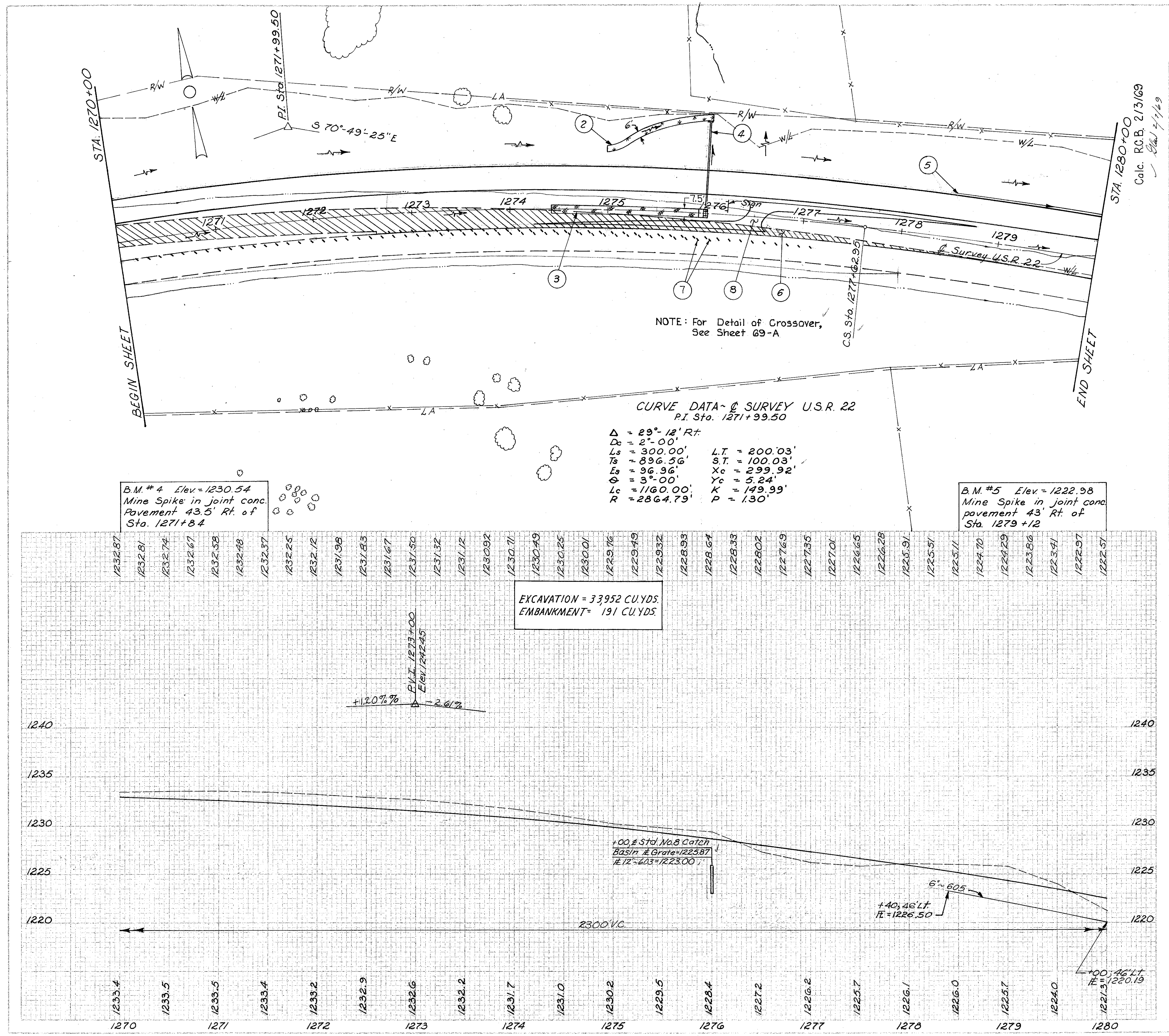
ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	202 Pipe Removal 15" & Under (Lin. Ft.)	202 Exist. Pvmt. Rem. & Disp. of (Sq. Yds.)	605 6" 707.01 Ty. III or 707.12 (Lin. Ft.)	605 6" Unclassified (Lin. Ft.)	606 Temp. Beam Rail (Lin. Ft.)	606 Appr. End Assembly (Each)	606 Guard Rail Type 5 (Lin. Ft.)	615 Temp. Road (Lump)	615 Temp. Pav't. Class B. (Sq. Yd.)	Bends & Branches 6"	SEE SHEET NO.
1	1263+00 To 1268+50	Lt.			500	50						1	
2	1266+00 To 1268+50	Lt.	250										
3	1262+03.90 To 1270+00	Lt.		2,123									
4	1263+12 To 1263+37	Lt.						1	25				
5	1256 +625 to 1263+00	Rt.					812.5						
6	to 1262+50	Rt. & Lt.								Lump	356		
TOTALS			250	2,123	500	50	812.5	1	25	Lump	356		

STA. 1260+00 to STA. 1270+00 U.S.R. 22

HARRISON COUNTY
HAS - 22 - 23.87

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		



ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	202 Precast Traffic Dividers (Each)	202 Exist. Pvmt. Rem. & Disp. of (Sq. Yds.)	602 Concrete Masonry (Cu. Yds.)	603 12" Type B (Lin. Ft.)	304 Aggr. Base (As Shown) (Cu. Yds.)	604 Std. No. 8 Catch Basin (Each)	605 6" 707.01 Type III or 707.12 (Lin. Ft.)	660 Sodding (Sq. Yds.)	667 Jute Matt. (Sq. Yds.)	310 Sub-base (As Shown) (Cu. Yds.)	408 Prime Coat (Gals.)	409 Seal Coat Cover Aggr. No. 8 (Cu. Yds.)	409 Seal Coat Bit. Mat'l. (Gals.)	615 Temp. Roads (Lump)	615 Temp. Pav't. Class B (Sq. Yd.)	SEE SHEET NO.
2	1275+00 To 1276+02	Lt.								75								
3	1274+43 To 1275+93	℄									125							
4	1276+00	℄			0.2	95		1		2								29
5	1278+40 To 1280+00	Lt.							160									
6	1270+00 To 1278+48	℄		1,620														
7	1270+10 To 1277+10	Rt.	88															
8	1276+50	℄					62					31	111	2	83			
9	1270+00 to 1278+00	Rt.														Lump	372	69-A
TOTALS			88	1,620	0.2	95	62	1	160	77	125	31	111	2	83	Lump	372	

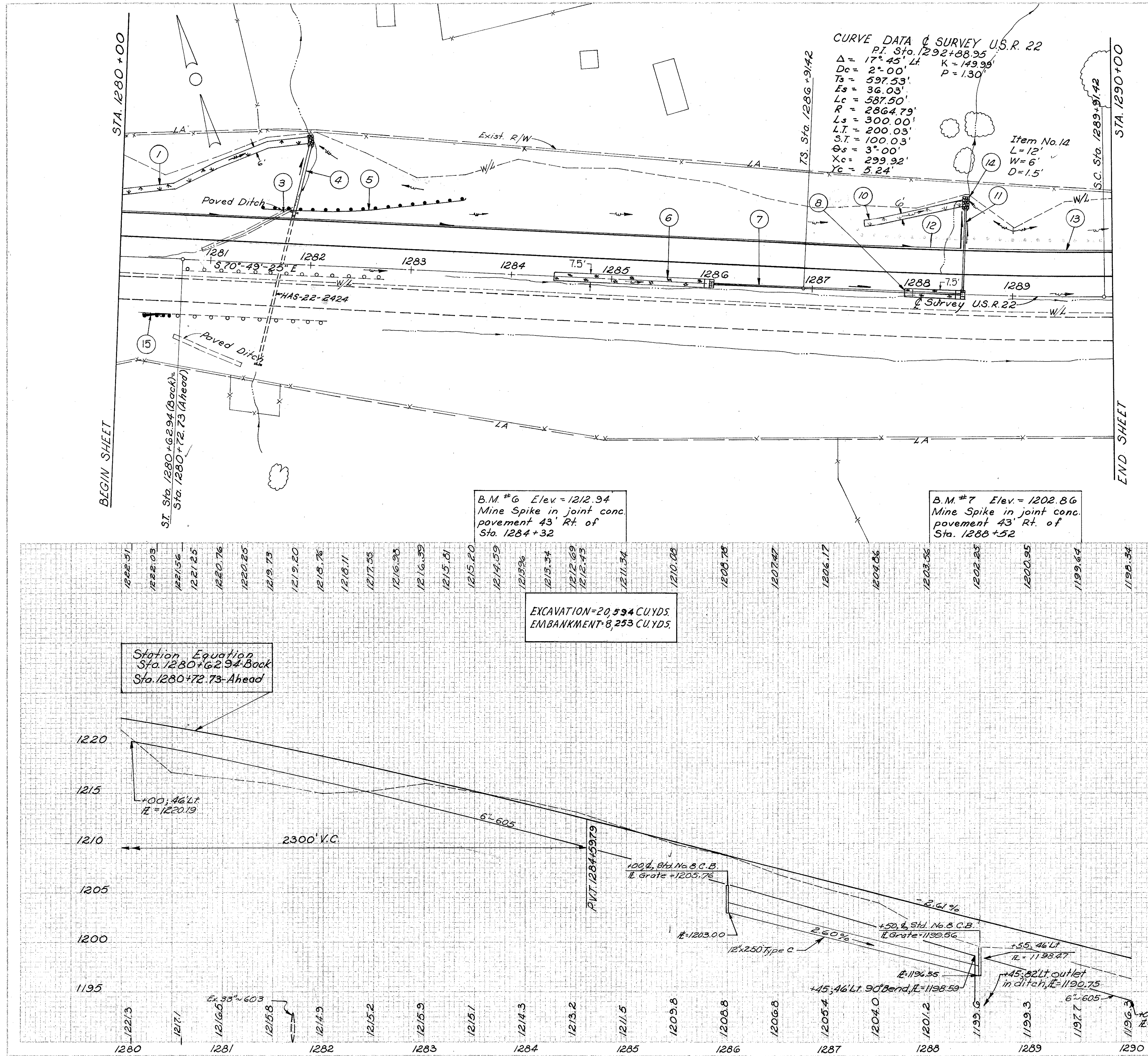
STA. 1270+00 to STA. 1280+00 U.S.R. 22

HARRISON COUNTY
HAS - 22 - 23.87

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

12

Calc. R.C.B. 2/3/69
✓ [signature] 2/7/69



ESTIMATED QUANTITIES

* 12 Gage

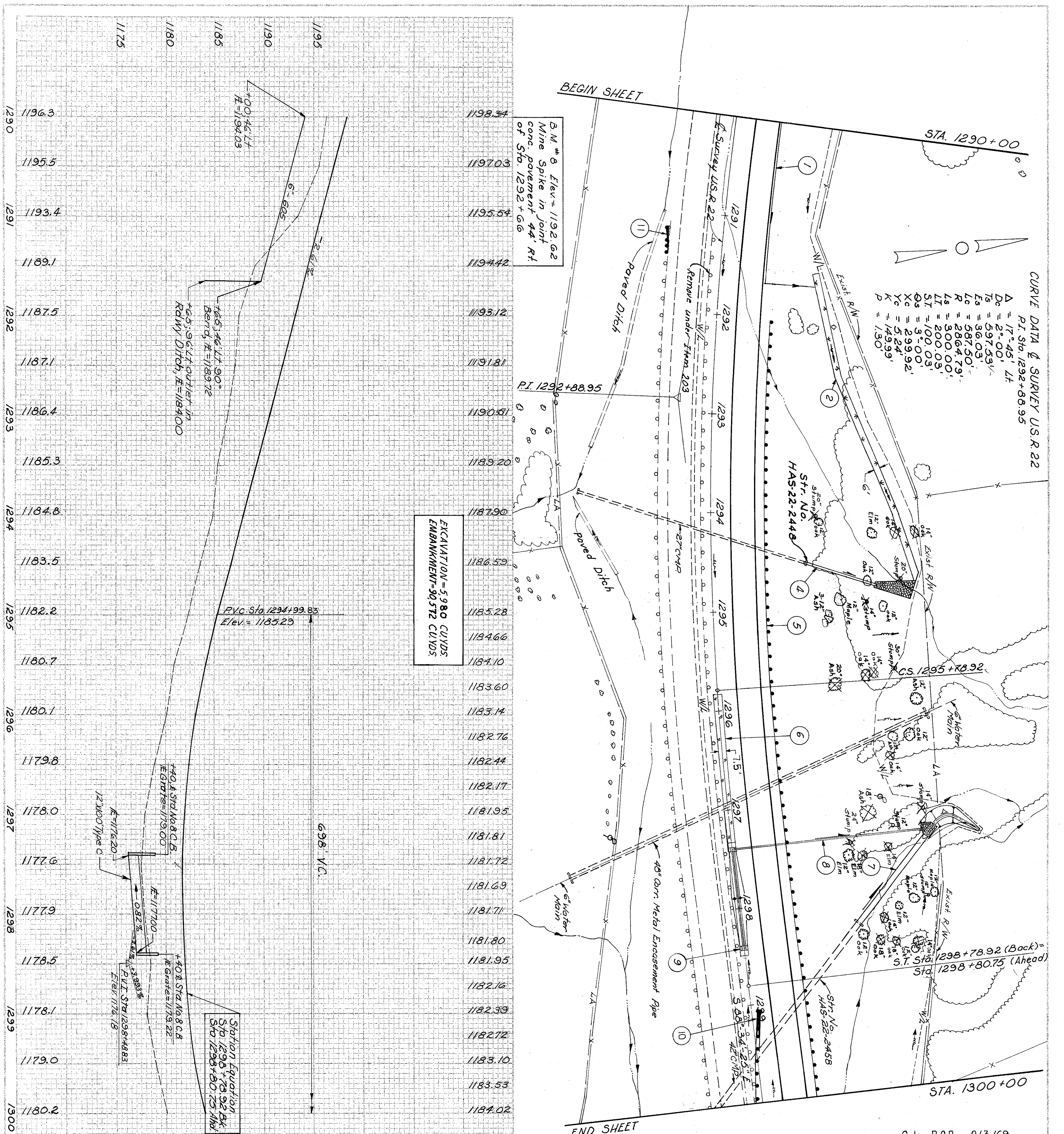
REF. NO.	STATION TO STATION	SIDE	202 Paved Gutter Removed Lin. Ft.	601 Rock Chan. Prot. Cu. Yds.	602 Concrete Masonry Cu. Yds.	603 33" Type A 707.05* Type C Lin. Ft.	603 12" Type B Lin. Ft.	603 12" Type C Lin. Ft.	603 6" Type F Lin. Ft.	604 Std. No. 8 Catch Basin Each	605 6" 707.01 Ty. III 707.12 Lin. Ft.	606 Guard Rail Type 5 Lin. Ft.	660 Sodding Sq. Yds.	667 Jute Matt. Sq. Yds.	606 Anch. or Assembly Each	606 Appr. End Assembly Each	Bends 6"	SEE SHEET NO.
1	1280+00 To 1281+92	Lt.											129					
3	1280+90 To 1281+75	Lt.	97															
4	1281+71.46	℄		7	0.7	72							6			1		72
5	1281+40 To 1283+40	Lt.										200			1	1		
6	1284+43 To 1285+93	℄												125				
7	1286+00 To 1288+50	℄						250		1								33
8	1287+93 To 1288+43	℄												42				
10	1287+50 To 1288+47	Lt.											67					
11	1288+50	℄ Lt.			0.2		85			1			2					34
12	1280+00 To 1288+45	Lt.							10		871						1	71
13	1288+50 To 1290+00	Lt.									145							
14	1288+50	Lt.		5														
15	1280+27 To 1280+52	Rt.										25				1		
TOTALS			97	12	0.9	72	85	250	10	2	1016	225	204	167	1	2		

STA. 1280+00 to STA. 1290+00 U.S.R. 22

HARRISON COUNTY
HAS - 22 - 23.87

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

13



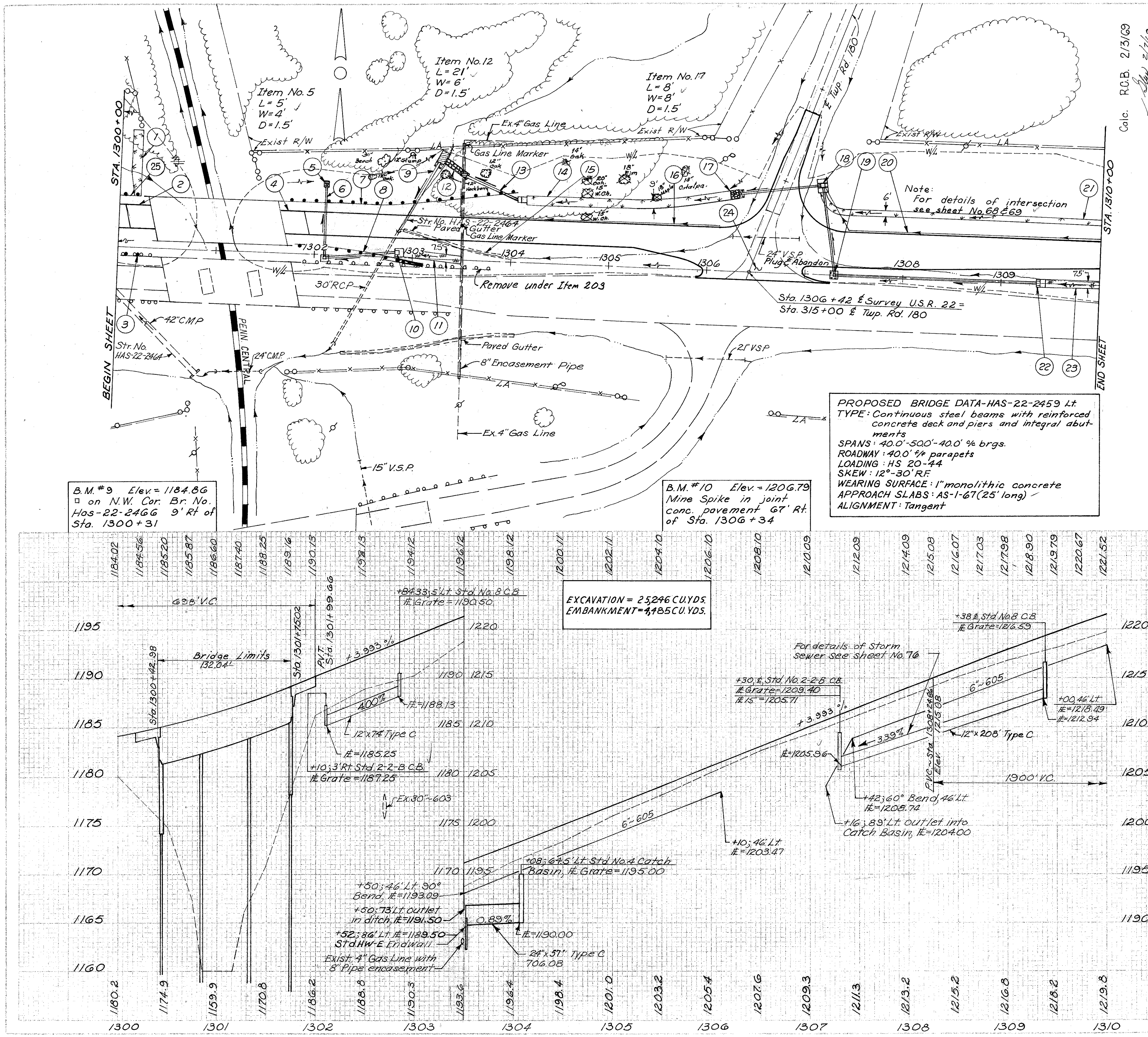
Calc. R.C.B. 2/3/69
✓ Glw 2/7/69

* Type C

ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	202 Exist. Structure Removed	601 Rock Chan. Prot.	602 Concrete Masonry	603 27" Type A 707.05* Gage 14	603 42" Type A 707.05* Gage 10	603 12" Type B	603 12" Type C	603 6" Type F	603 12" Type F	604 Std. No. 8 Catch Basin	605 6" 707.01 TYPE III or 707.12	606 Guard Rail	606 Guard Rail Barrier	660 Sodding	667 Jute Matt.	606 Appr. End Assembly	606 Anchor Assembly	Bends 12"	Bends 6"	SEE SHEET NO.
			Lump	Cu. Yds.	Cu. Yds.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Each	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq. Yds.	Sq. Yds.					
1	1290+00 To 1291+65	Lt.								10			205								1	71
2	1291+50 To 1294+77	Lt.														216						
4	1294+22	Lt.		57		76										3						73
5	1292+05 To 1300+00	Lt.												795					1			
6	1295+83 To 1297+33	℄															125					
7	1299+50.84	℄	Lump	22	2.5		110									7						74
8	1297+40	℄ Lt.			0.2			55			149	1				2				2		40
9	1297+40 To 1298+40	℄							100			1										41
10	1299+07 To 1300+00	Rt. Lt.												55.5	37.5			1				
11	1291+16 To 1291+41	Rt.												25				1				
TOTALS			Lump	79	2.7	76	110	55	100	10	149	2	205	875.5	37.5	228	125	2	1			

STA. 1290+00 to STA 1300+00 U.S.R. 22



* Class III with Vitrified liner as per 706.05

ESTIMATED QUANTITIES

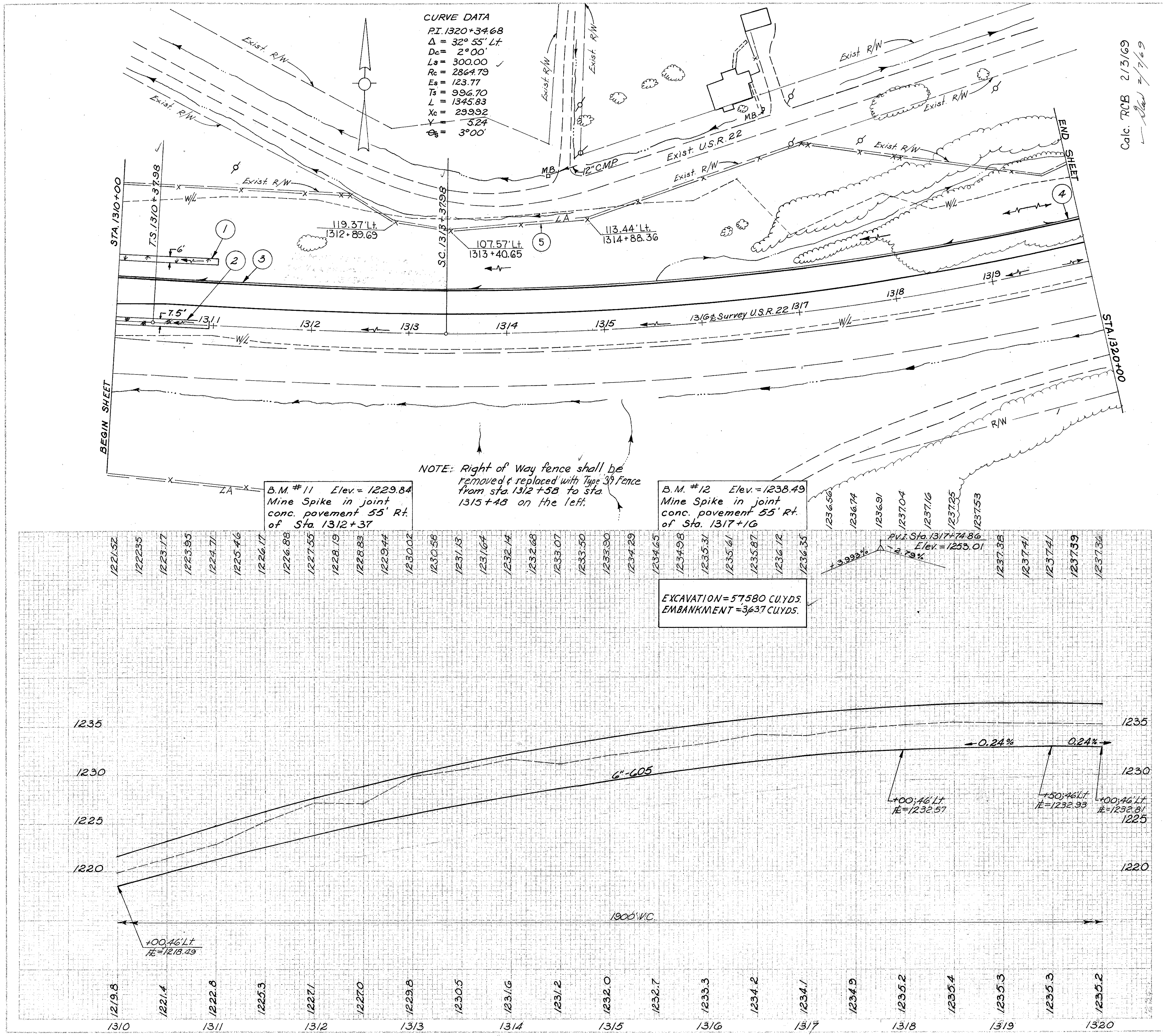
Ref. No.	Station to Station	Side	202 Rip Rap & Rein. Conc. Slab Removed & Disposed of Sq. Yds.	606 Br. Rem. Removed as per plan Each	202 Paved Gutter Removed & Disposed of Lin. Ft.	601 Rip Rap Sq. Yds.	601 Rock Chan. Prot. Cu. Yds.	602 Concrete Masonry Cu. Yds.	603 30" Type A 706.02 * Lin. Ft.	603 12" Type B Lin. Ft.	603 15" Type B Lin. Ft.	603 24" Type B 706.08 Lin. Ft.	603 12" Type C Lin. Ft.	603 24" Type C Lin. Ft.	603 6" Type F Lin. Ft.
1	1300+18	Lt.													
2	1300+10 to 1300+35	Lt.													
3	1300+00 to 1300+32	Rt.	21	1											
4	1301+65 to 1301+90	Lt.					1								
5	1302+10	Lt.													
6	1302+10	Rt. Lt.						0.2		73					
7	1301+75 to 1304+00	Lt.													
8	1301+85 to 1303+87.5	Lt. Rt.				17		0.6	74						
9	1302+71.17	℄											74		
10	1302+10 to 1302+84.33	℄													
11	1302+91.33 to 1303+21.33	℄					10								
12	1303+24 to 1303+50	Lt.				4		0.4						57	
13	1303+46 to 1304+08	Lt.													
14	1304+15 to 1306+22	Lt.			117										10
15	1302+90 to 1304+00	Lt.													
16	1306+22 to 1306+10	Lt.										85			
17	1306+50 to 1306+30	Lt.					5	0.4			92				
18	1306+30 to 1307+15	Lt.													
19	1307+15 to 1307+30	Lt.													
20	1307+15 to 1310+00	Lt.													10
21	1307+15 to 1310+00	℄											208		
22	1307+30 to 1310+00	℄													
23	1309+45 to 1310+00	℄													
24	1306+27 to 1306+92	℄													
25	1300+00 to 1300+30	Lt.													
			21	1	117	21	16	1.6	74	73	92	85	282	57	20

Ref. No.	604 Std. No. 2-2-B Catch Basin Each	604 Std. No. 4 Catch Basin Each	604 Std. No. 5 Catch Basin Each	604 Std. No. 8 Catch Basin Each	605 6" 707.01 Type III Lin. Ft.	606 Guard Rail Lin. Ft.	606 G.R. Barrier Lin. Ft.	606 Anch. Assy. Each	606 Bri. Term. Assy. Ea.	606 Appr. Anch. Assy. Ea.	202 Existing Pavement Removed & Disposed of Sq. Yds.	660 Special Berm & Slope Prot. Sq. Yds.	660 Sodding Sq. Yds.	667 Jute Matt. Sq. Yds.	611 Sq. Yds.	Ends	See Sheet No.
1																	
2												61			67		
3						32											
4															67		
5	1												2				43
6																	
7						225											
8						87.5		1	1	1			6				
9				1			37.5		1				6				75
10														42			
11																	
12													3				
13		1											209				
14																	
15																	
16			1		286											1	71
17													3				76
18																	76
19	1																71
20					300											1	
21													195				76
22				1													
23														45			
24											278						
25						30			1								
	2	1	1	2	586	374.5	37.5	1	3	1	278	61	424	87	134	2	

HARRISON COUNTY
HAS - 22 - 23.87

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		15

Calc. RCB 2/3/69
[illegible] 2/7/69



ESTIMATED QUANTITIES

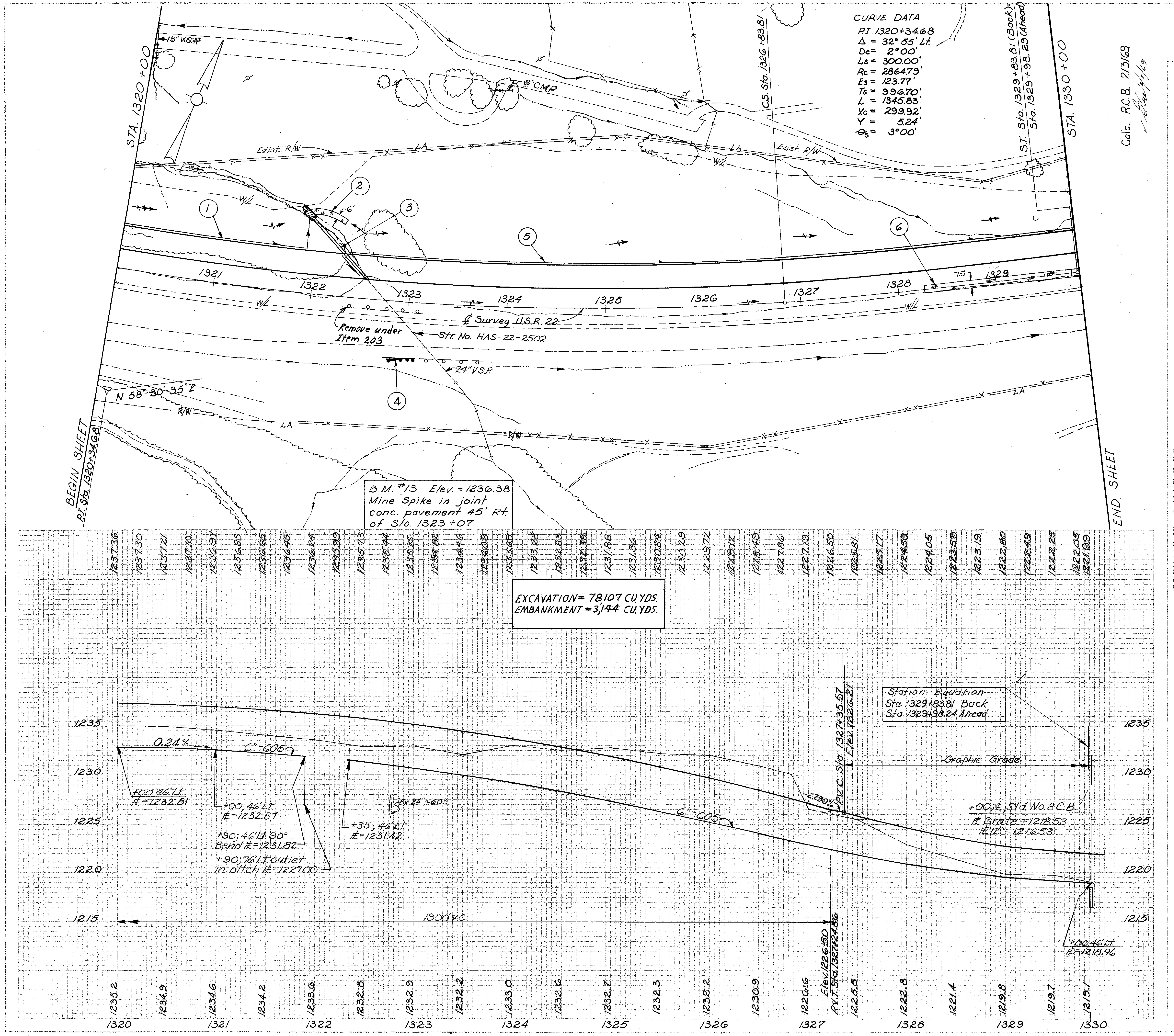
REF. NO.	STATION TO STATION	SIDE	605 6" 706.01 Ty. III or 707.12 Lin. Ft.	660 Sodding Sq. Yds.	667 Jute Matting Sq. Yds.	607 Fence Type 39 Lin. Ft.
1	1310+00 To 1311+00	Lt.		67		
2	1310+00 To 1310+99	℄			79	
3	1310+00 To 1319+50	Lt.	950			
4	1319+50 To 1320+00	Lt.	50			
5	1312+58 To 1315+48	Lt.				286
TOTALS			1000	67	79	286

STA. 1310+00 to STA. 1320+00 U.S.R. 22

HARRISON COUNTY
HAS - 22 - 23.87

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		16

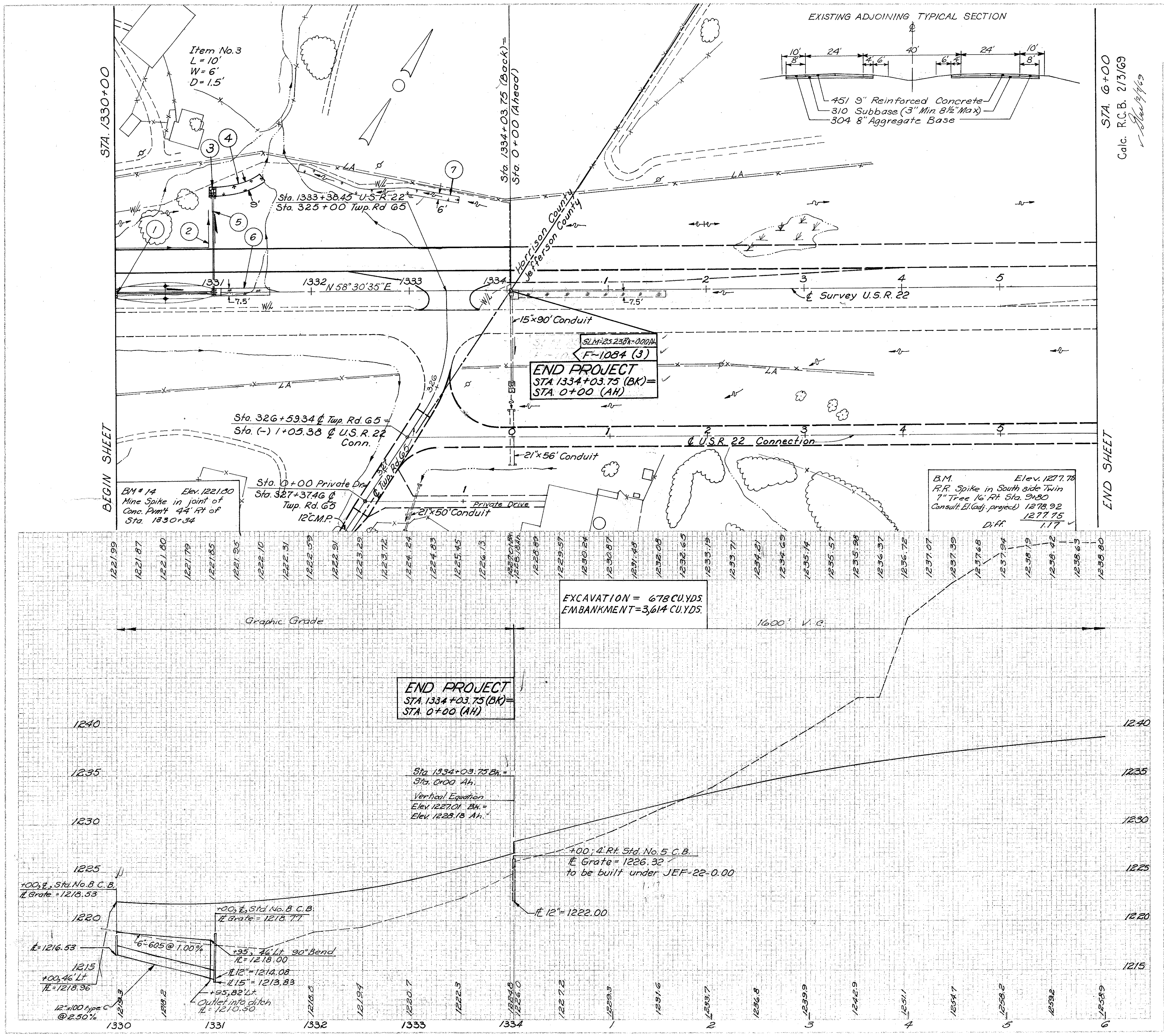
Calc. R.C.B. 2/3/69



ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	606 Guard Rail Type 5 Lin. Ft.	601 Rip Rap Sq. Yds.	602 Concrete Masonry Cu. Yds.	603 24" Type A 706.08 Lin. Ft.	603 6" Type F Lin. Ft.	605 6" 707.0 Type III or 707.12 Lin. Ft.	660 Sodding Sq. Yds.	667 Jute Matt. Sq. Yds.	606 Appr. End Assy. Each	Bend 6"	SEE SHEET NO.
1	1320+00 to 1321+90	Lt.					10	210				1	71
2	1321+95 to 1322+30	Lt.							23				
3	1322+77.93	Lt.		7	0.4	80			3				77
4	1322+82 to 1323+07	Rt.	25								1		
5	1322+35 to 1330+00	Lt.						765					
6	1328+28.52 to 1329+78.52	℄								125			
			25	7	0.4	80	10	975	26	125	1		

STA. 1320+00 to STA. 1330+00 U.S.R. 22



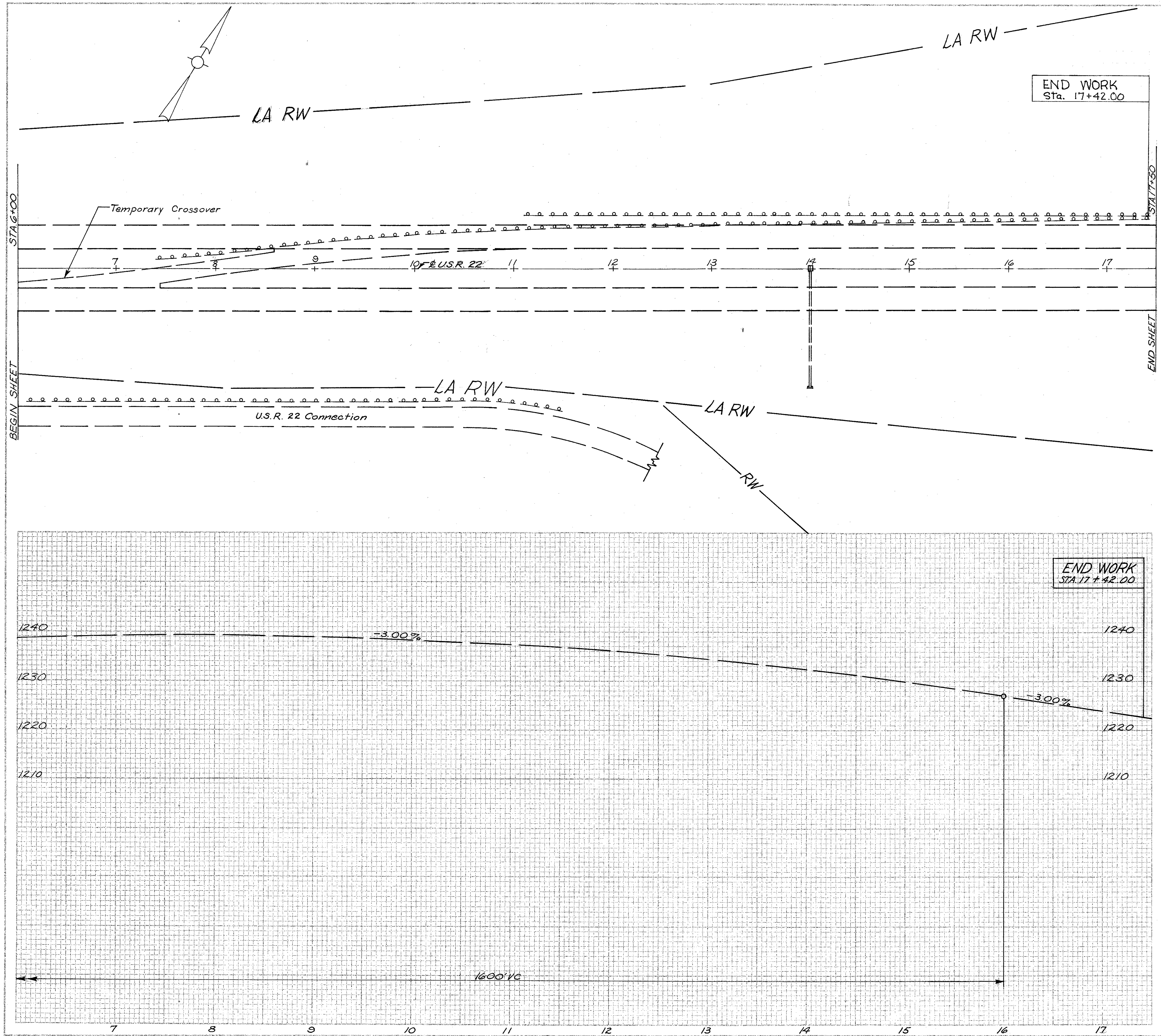
ESTIMATED QUANTITIES

Ref. No.	Station to Station	Side	601 Rock Chan. Prot. Cu. Yds.	602 Concrete Masonry Cu. Yds.	603 15" Type B Lin. Ft.	603 12" Type C Lin. Ft.	6" Type F Lin. Ft.	604 Std. No. 8 Catch Basin Each	605 6" 706.01 Type III or 707.12 Lin. Ft.	660 Sodding Sq. Yds.	667 Jute Matt. Sq. Yds.	Bend 6"	See Sheet No.
1	1330+00 To 1331+00	℄				100		1					60
2	1330+00 To 1330+95	Lt.					10		121			1	71
3	1331+00	Lt.	4										
4	1331+03 To 1331+50	Lt.											
5	1331+00	℄ Lt.		0.3	95			1		56			61
6	1331+07 To 1331+57	℄								2			
7	1331+90 To 1333+50	Lt.								113	42		
			4	0.3	95	100	10	2	121	171	42		

HARRISON COUNTY
HAS - 22 - 23.87

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

18



ESTIMATED QUANTITIES

REF. NO.	STATION TO STATION	SIDE	SEE SHEET NO.	TOTALS

STA.6+00 to STA.17+50

SUPERELEVATION TABLES

CURVE NO. 1 WESTBOUND

PI = STA 1271+99.50 Dc = 2°-00'
Δ = 29°-12' RT S = 0.064 FT/FT

STATION	PROFILE GRADE	LT EDGE	C_L	RT EDGE
1262+50	1229.77	1229.63	1229.76	1229.58
1263+00	1230.26	1230.27	1230.26	1230.07
+50	1230.72	1230.92	1230.73	1230.53
1264+00	1231.13	1231.56	1231.25	1230.94
+50	1231.51	1232.17	1231.75	1231.32
1265+00	1231.84	1232.71	1232.18	1231.65
+50	1232.13	1233.23	1232.59	1231.94
1266+00	1232.37	1233.70	1232.94	1232.18
+50	1232.58	1233.92	1233.15	1232.39
1267+00	1232.74	1234.08	1233.51	1232.55
+50	1232.87	1234.21	1233.44	1232.68
1268+00	1232.95	1234.29	1233.52	1232.76
+50	1232.99	1234.33	1233.56	1232.80
1269+00	1232.99	1234.33	1233.56	1232.80
+50	1232.95	1234.29	1233.52	1232.76
1270+00	1232.87	1234.21	1233.44	1232.68
+50	1232.74	1234.08	1233.31	1232.55
1271+00	1232.58	1233.92	1233.15	1232.39
+50	1232.37	1233.71	1232.94	1232.18
1272+00	1232.12	1233.46	1232.69	1231.93
+50	1231.83	1233.17	1232.40	1231.64
1273+00	1231.50	1232.84	1232.07	1231.31
+50	1231.12	1232.46	1231.69	1230.93
1274+00	1230.71	1232.05	1231.28	1230.52
+50	1230.25	1231.59	1230.82	1230.06
1275+00	1229.76	1231.10	1230.33	1229.57
+50	1229.22	1230.56	1229.79	1229.03
1276+00	1228.64	1229.98	1229.21	1228.45
+50	1228.02	1229.36	1228.59	1227.83
1277+00	1227.35	1228.69	1227.92	1227.16
+50	1226.65	1227.99	1227.22	1226.46
1278+00	1225.91	1227.08	1226.40	1225.72
+50	1225.11	1224.92	1224.36	1223.79
1279+00	1224.29	1225.01	1224.55	1224.10
+50	1223.41	1223.90	1223.56	1223.22
1280+00	1222.51	1222.77	1222.54	1222.32
+50	1221.56	1221.37	1221.32	1221.13
1281+00	1220.76	1220.69	1220.76	1220.57
+50	1219.73	1219.54	1219.73	1219.54

CURVE NO. 2 WESTBOUND

PI = STA 1292+88.95 Dc = 2°-00'
Δ = 17°-45' LEFT S = 0.064 FT/FT

STATION	PROFILE GRADE	LT EDGE	C_L	RT EDGE
1286+00	1208.78	1208.59	1208.78	1208.59
+50	1207.47	1207.19	1207.38	1207.28
1287+00	1206.17	1205.76	1205.95	1205.98
+50	1204.86	1204.21	1204.44	1204.67
1288+00	1203.56	1202.69	1203.03	1203.37
+50	1202.25	1201.17	1201.62	1202.06
1289+00	1200.95	1199.64	1200.20	1200.76
+50	1199.64	1198.10	1198.78	1199.45
1290+00	1198.34	1196.61	1197.38	1198.15
+50	1197.03	1195.30	1196.07	1196.84
1291+00	1195.73	1194.00	1194.77	1195.54
+50	1194.42	1192.69	1193.46	1194.23
1292+00	1193.12	1191.39	1192.16	1192.93
+50	1191.81	1190.08	1190.85	1191.62
1293+00	1190.51	1188.78	1189.55	1190.32
+50	1189.20	1187.47	1188.24	1189.01
1294+00	1187.90	1186.17	1186.94	1187.71
+50	1186.59	1184.86	1185.63	1186.40
1295+00	1185.28	1183.55	1184.32	1185.09
+50	1184.10	1182.37	1183.14	1183.91
1296+00	1183.14	1181.52	1182.24	1182.95
+50	1182.44	1181.03	1181.64	1182.25
1297+00	1181.95	1180.77	1181.26	1181.76
+50	1181.72	1180.77	1181.15	1181.53
1298+00	1181.71	1180.98	1181.25	1181.52
+50	1181.95	1181.45	1181.64	1181.76
1299+00	1182.39	1182.06	1182.25	1182.20
+50	1183.10	1182.90	1183.09	1182.91

CURVE NO. 3 WESTBOUND

PI = STA 1320+34.68 Dc = 2°-00'
Δ = 32°-55' LEFT S = 0.064 FT/FT

STATION	PROFILE GRADE	LT EDGE	C_L	RT EDGE
1310+00	1221.52	1221.23	1221.42	1221.33
+50	1223.17	1222.75	1222.94	1222.98
1311+00	1224.71	1224.14	1224.33	1224.52
+50	1226.17	1225.35	1225.67	1225.98
1312+00	1227.55	1226.49	1226.93	1227.36
+50	1228.83	1227.54	1228.09	1228.64
1313+00	1230.02	1228.49	1229.16	1229.83
+50	1231.13	1229.41	1230.19	1230.94
1314+00	1232.14	1230.41	1231.18	1231.95
+50	1233.07	1231.34	1232.11	1232.88
1315+00	1233.90	1232.17	1232.94	1233.71
+50	1234.65	1232.92	1233.69	1234.46
1316+00	1235.31	1233.58	1234.35	1235.12
+50	1235.87	1234.14	1234.91	1235.68
1317+00	1236.35	1234.62	1235.39	1236.16
+50	1236.74	1235.01	1235.78	1236.55
1318+00	1237.04	1235.31	1236.08	1236.85
+50	1237.25	1235.52	1236.29	1237.06
1319+00	1237.38	1235.65	1236.42	1237.19
+50	1237.41	1235.68	1236.45	1237.22
1320+00	1237.36	1235.63	1236.40	1237.17
+50	1237.21	1235.48	1236.25	1237.02
1321+00	1236.97	1235.24	1236.01	1236.78
+50	1236.65	1234.92	1235.69	1236.46
1322+00	1236.24	1234.51	1235.28	1236.05
+50	1235.73	1234.00	1234.77	1235.54
1323+00	1235.15	1233.42	1234.19	1234.96
+50	1234.46	1232.73	1233.50	1234.27
1324+00	1233.69	1231.96	1232.73	1233.50
+50	1232.83	1231.10	1231.87	1232.64
1325+00	1231.88	1230.15	1230.92	1231.69
+50	1230.84	1229.11	1229.88	1230.65
1326+00	1229.72	1227.99	1228.76	1229.53
+50	1228.49	1226.76	1227.53	1228.30
1327+00	1227.19	1225.56	1226.28	1227.00
+50	1225.81	1224.42	1225.02	1225.62
1328+00	1224.58	1223.44	1223.92	1224.39
+50	1223.59	1222.67	1223.04	1223.40
1329+00	1222.80	1222.13	1222.37	1222.61
+50	1222.25	1221.77	1221.96	1222.06
1330+00	1221.99	1221.61	1221.80	1221.80
+50	1221.80	1221.55	1221.74	1221.61

2 OHIO

HARRISON COUNTY

HAS-22-23.87

Sta. 1258+00 to Sta. 1260+00

2 OHIO

HARRISON COUNTY

HAS · 22 · 23.87

Earthwork Calculated 1-15-69 D.W.R.
Earthwork Checked 2-27-69 R.C.A.

Sta. 1260+50 to Sta. 1262+00

Sta. 1262+50 to Sta. 1264+50

Sta. 1265+00 to Sta. 1267+00

Sta. 1267+50 to Sta. 1269+00

2 OHIO
HARRISON COUNTY
HAS-22-23.87

Sta. 1269+50 to Sta. 1270+50

Sta. 1271+00 to Sta. 1272+00

2 OHIO

HARRISON COUNTY
HAS-22-23.87

Sta. 1272+50 to Sta. 1273+50

Sta. 1274+00 to Sta. 1275+50

2	OHIO		29

HARRISON COUNTY
HAS-22-23.87

Sta. 1276+00 to Sta. 1277+50

Sta. 1278+00 to Sta. 1280+00

Sta. 1280+50 to Sta. 1282+50

Sta. 1283+00 to Sta. 1284+50

Sta 1285+00 to Sta. 1286+50

	STATE	PROJECT
2	OHIO	

HARRISON COUNTY
HAS-22-23.87

Sta. 1287+00 to Sta. 1288+50

2 OHIO

HARRISON COUNTY
HAS-22-23.87

Sta.1289+00 to Sta.1290+50

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HARRISON COUNTY
HAS-22-23.87

Sta. 1291+00 to Sta. 1292+50

Sta. 1293+00 to Sta. 1294+00

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

38

HARRISON COUNTY
HAS-22-23.87

Earthwork Calculated 1-16-69 D.W.R.
Earthwork Checked 2-28-69 R.C.A.

Sta. 1294+50 to Sta. 1295+00


39
2
OHIO
HARRISON COUNTY
HAS-22-23.87
1182.44
1296+50
1178.8
1183.14
1296+00
1180.1
1184.10
1295+50
1180.7
R/W
2:1
4:1
Varies
218 2225
4364160
253 2268
577 4838
370 2957
603 6041
149
157
192
850
969
Earthwork Calculated 1-17-69 D.W.R.
Earthwork Checked 2-28-69 R.C.A.
Sta. 1295+50 to Sta. 1296+50

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

40

HARRISON COUNTY
HAS 22 23.87

Sta. 1297+00 to Sta. 1297+50

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HARRISON COUNTY

HAS-22-23.87

Sta. 1298+00 to Sta. 1298+50

Sta. 1299+00 to Sta. 1300+00

2	OHIO	

HARRISON COUNTY

HAS-22-23.87

Earthwork Calculated 1-17-69 D.W.R.

Earthwork Checked 2-28-69 R.C.A.

Sta. to Sta. 1302+00

2 | OHIO

HARRISON COUNTY

HAS 22 23.87

44

Earthwork Calculated 1-17-69 D.W.R.
Earthwork Checked 2-28-69 R.C.A.

Sta. 1302+50 to Sta. 1304+00

Sta. 1304+50 to Sta. 1306+00

Sta. 1306+50 to Sta. 1308+00

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HARRISON COUNTY
HAS. 22- 23.87

Earthwork Calculated 1-20-69 D.W.R.
Earthwork Checked 2-28-69 R.C.A.

Sta. 1308+50 to Sta. 1309+50

Sta. 1310+00 to Sta. 1311+00

Sta. 1311 + 50 to Sta. 1312 + 50

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HARRISON COUNTY
HAS-22-23.87

Sta. 1313+00 to Sta. 1314+00

Sta. 1314+50 to Sta. 1315+50


52
2
OHIO
HARRISON COUNTY
HAS-22-23.87
R/W
1280
1270
160
140
4:1
2:1
Varies
1236.35
1317+00
1234.1
1½ : 1
8:1
See General Notes
1235.87
1316+50
1234.2
1:1
1235.31
1316+00
1233.3
68
583
142
753
129
717
383 163
1573 278
1316 137
2169 253
1026 136
2220 252
Earthwork Calculated 1-20-69 D.W.R.
Earthwork Checked 3-3-69 R.C.A.
Sta. 1316+00 to Sta. 1317+00

Sta. 1317+50 to Sta. 1318+50

Sta. 1319+00 to Sta. 1320+50

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HARRISON COUNTY
HAS - 22 - 23.87

Earthwork Calculated 1-20-69 D.W.R.
Earthwork Checked 3-3-69 R.C.A.

Sta. 1321+00 to Sta. 1322+50

Sta. 1323+00 to Sta. 1324+00

Sta. 1324+50 to Sta. 1325+50

Sta. 1326+00 to Sta. 1327+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

[redacted]

Sta. 1327+50 to Sta. 1328+50

Sta. 1329+00 to Sta. 1330+50

Sta. 1331+00 to Sta. 1333+00

	STATE	PROJECT
2	OHIO	

[redacted]

Sta. 1333+50 to Sta. 1+50

2
OHIO
HARRISON COUNTY
HAS 22 23.87
63
R/W
1235.98
3+50
1233.4
1235.14
3+00
1232.6
1234.21
2+50
1231.8
1233.19
2+00
1230.8
1250
1240
1230
1220
140 120 100 80 60 40 20 ℄ 20 40 60 80 100 120 140
Earthwork Calculated 1-21-69 D.W.R.
Earthwork Checked 3-3-69 R.C.A.
Sta. 2+00 to Sta. 3+50

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

HARRISON COUNTY

HAS-22-23.87

64

Sta 4+00 to Sta 5+50

Sta. 6+00 to Sta. 7+50


2
OHIO
66
HARRISON COUNTY
HAS-22-23.87
140
120
100
80
60
40
20
℄
20
40
60
80
100
120
140
1250
1240
1230
1236.5
9+50
1237.5
1237.0
9+00
1238.9
1237.3
8+50
1238.9
1237.3
8+00
1238.9
Earthwork for temporary crossover removal carried on sheet No. 5
Earthwork Calculated 1-21-69 D.W.R.
Earthwork Checked 3-3-69 R.C.A.
Sta. 8+00 to 9+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

67

HARRISON COUNTY

HAS-22-23.87

Earthwork for temporary crossover removal carried on sheet No. 5

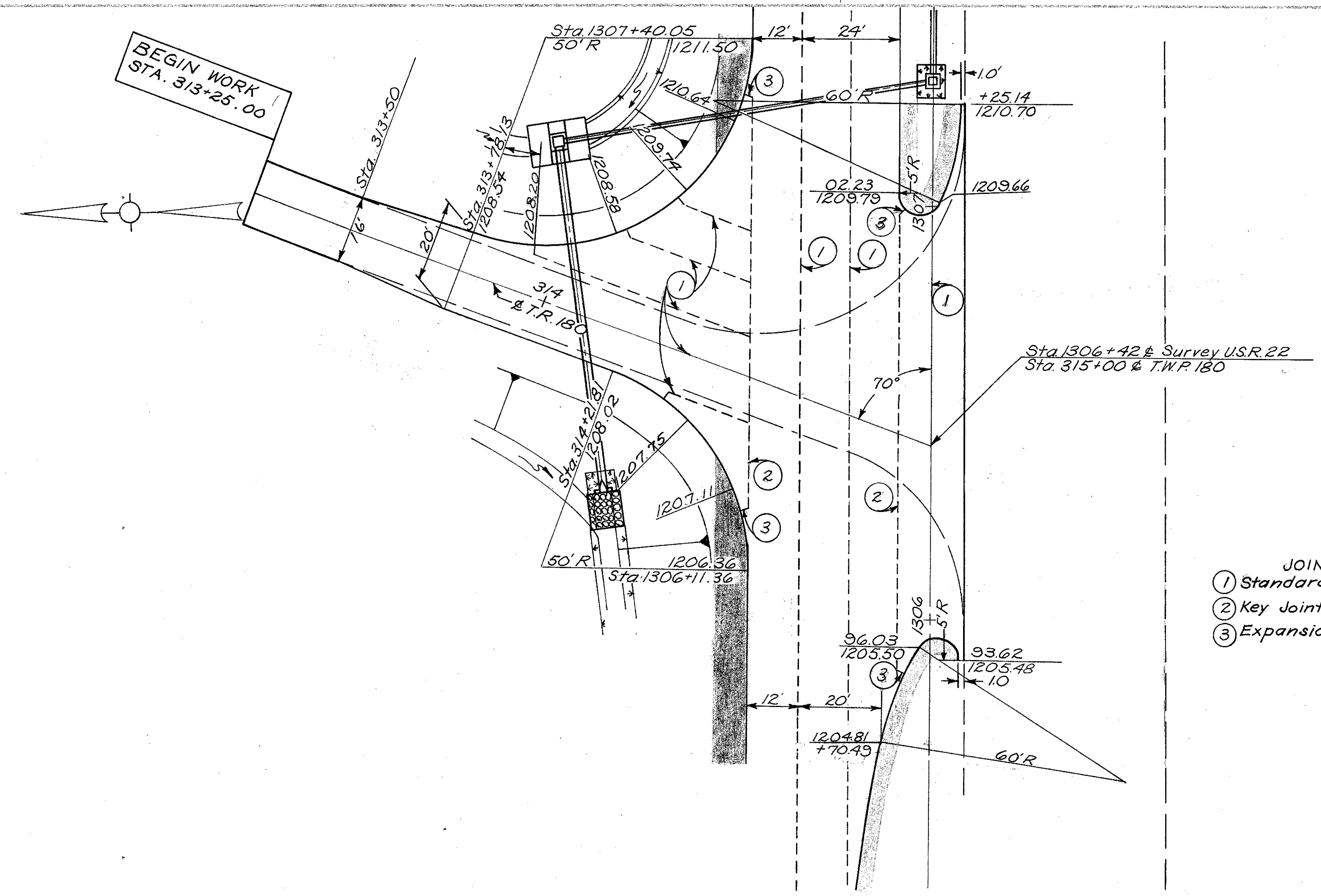
Earthwork Calculated 1-21-69 D.W.R.

Earthwork Checked 3-3-69 R.C.A.

Sta. 10+00 to 11+50

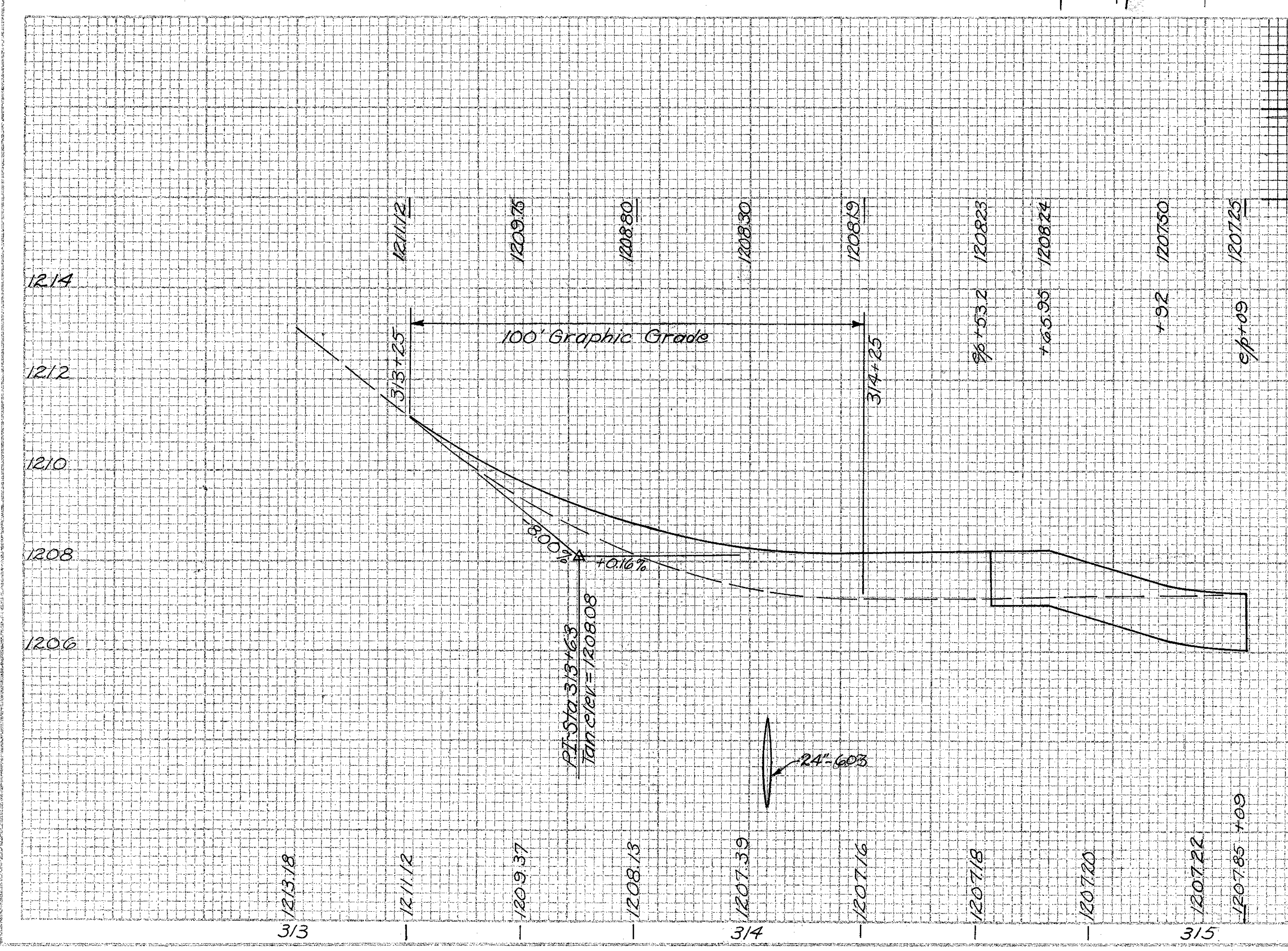
HARRISON COUNTY
HAS-22-23.87

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		68

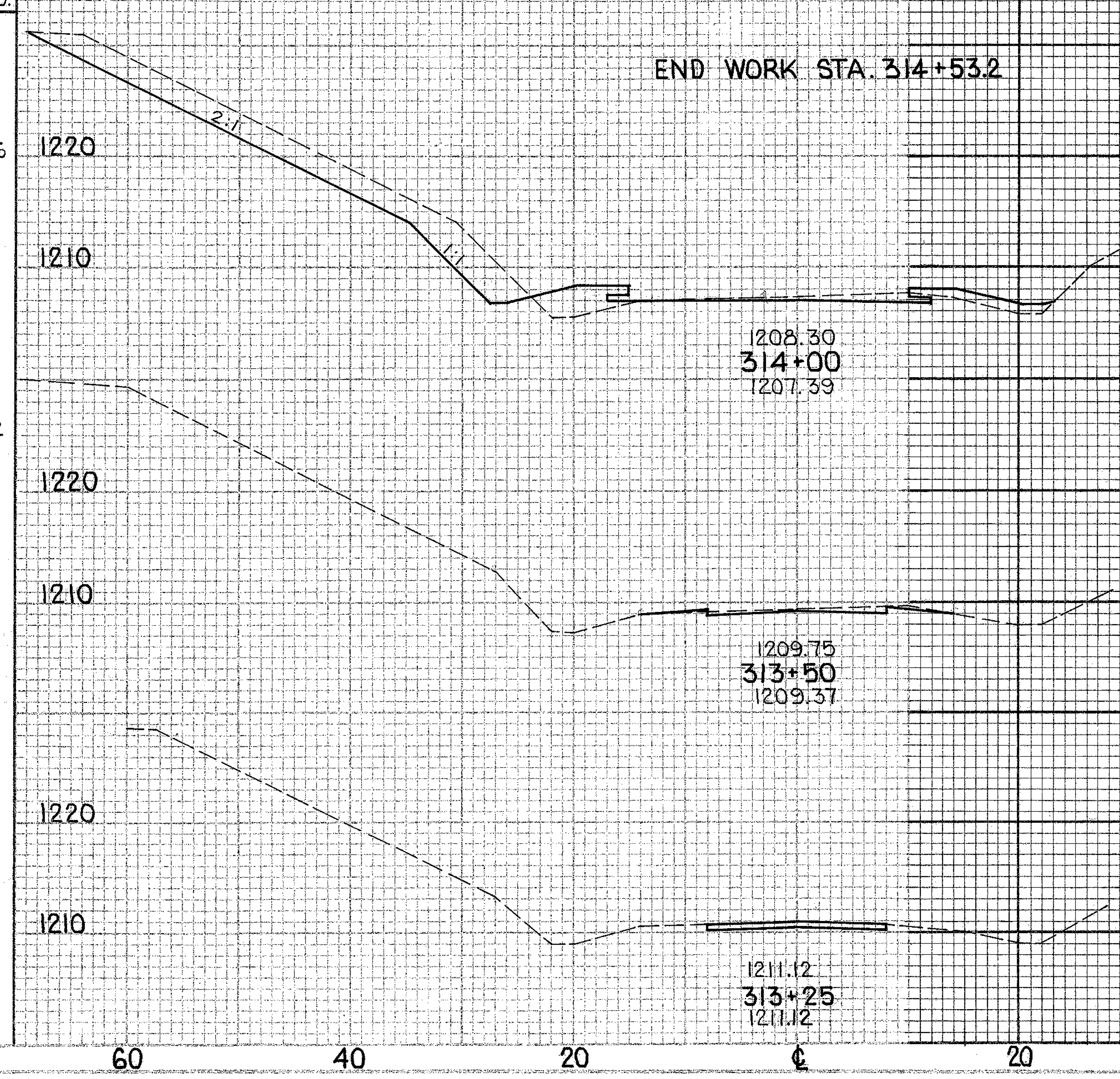


JOINT LEGEND
(1) Standard Longitudinal Joint
(2) Key Joint Without Tiebars
(3) Expansion Joint Without Dowels

Earthwork Calculated 1-21-69 D.W.R.
Earthwork Checked 3-3-69 R.C.A



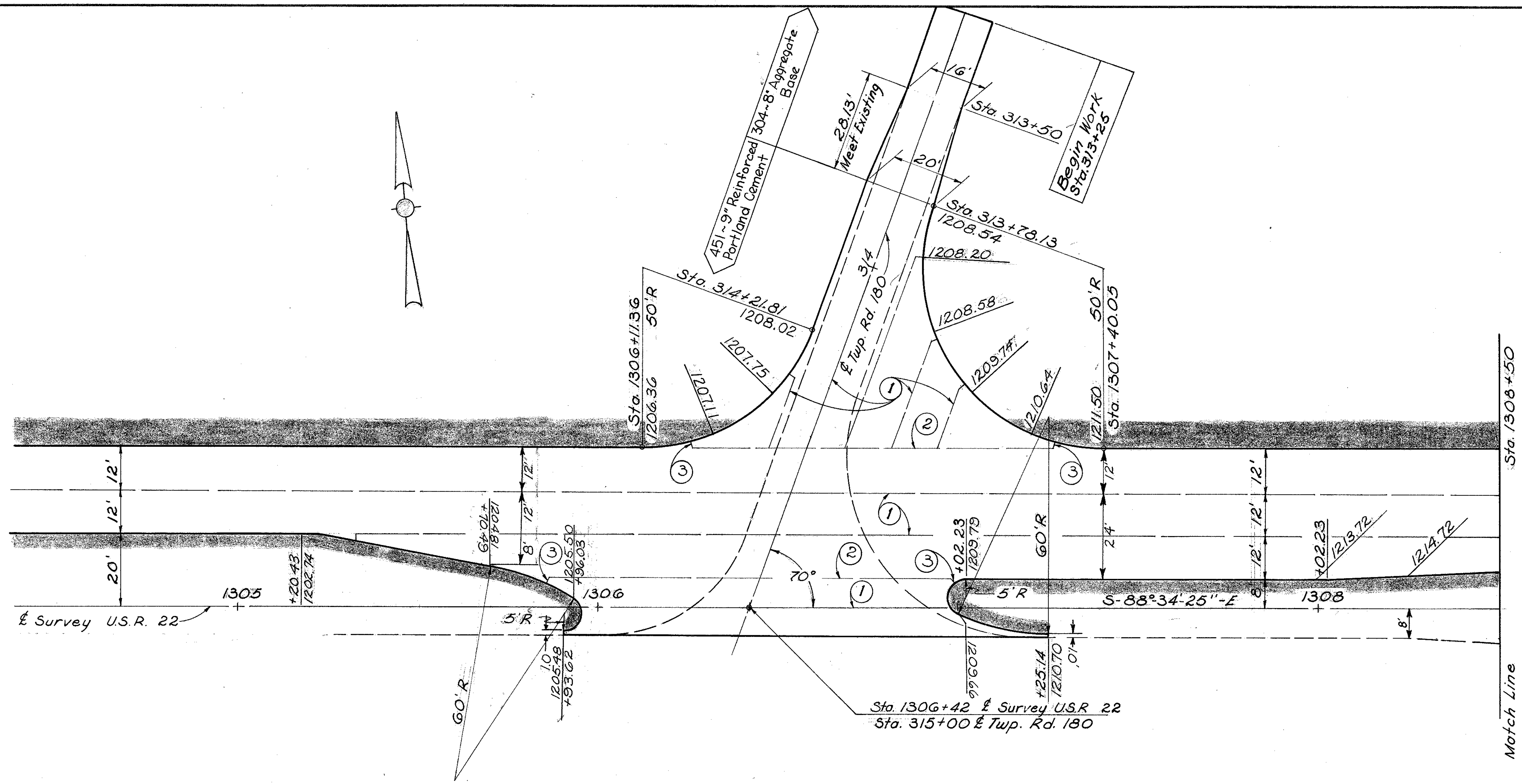
SEEDING END WIDTH	SEEDING SQ. YDS.
0	
	186
63	
	192
6	
	8
0	

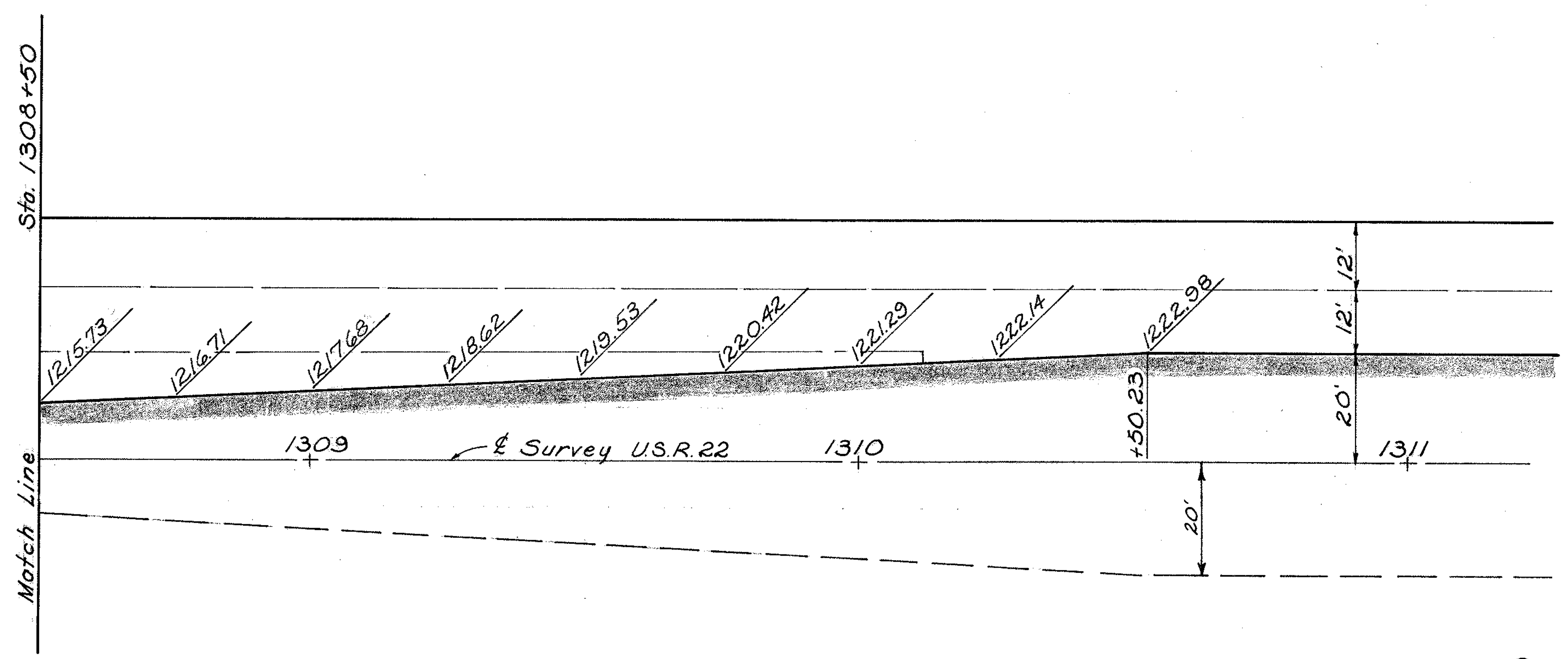


END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
0	0		
		110	25
112	25		
		107	24
4	1		
		6	0
8	0		

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HARRISON CO.
HAS-22-23.87





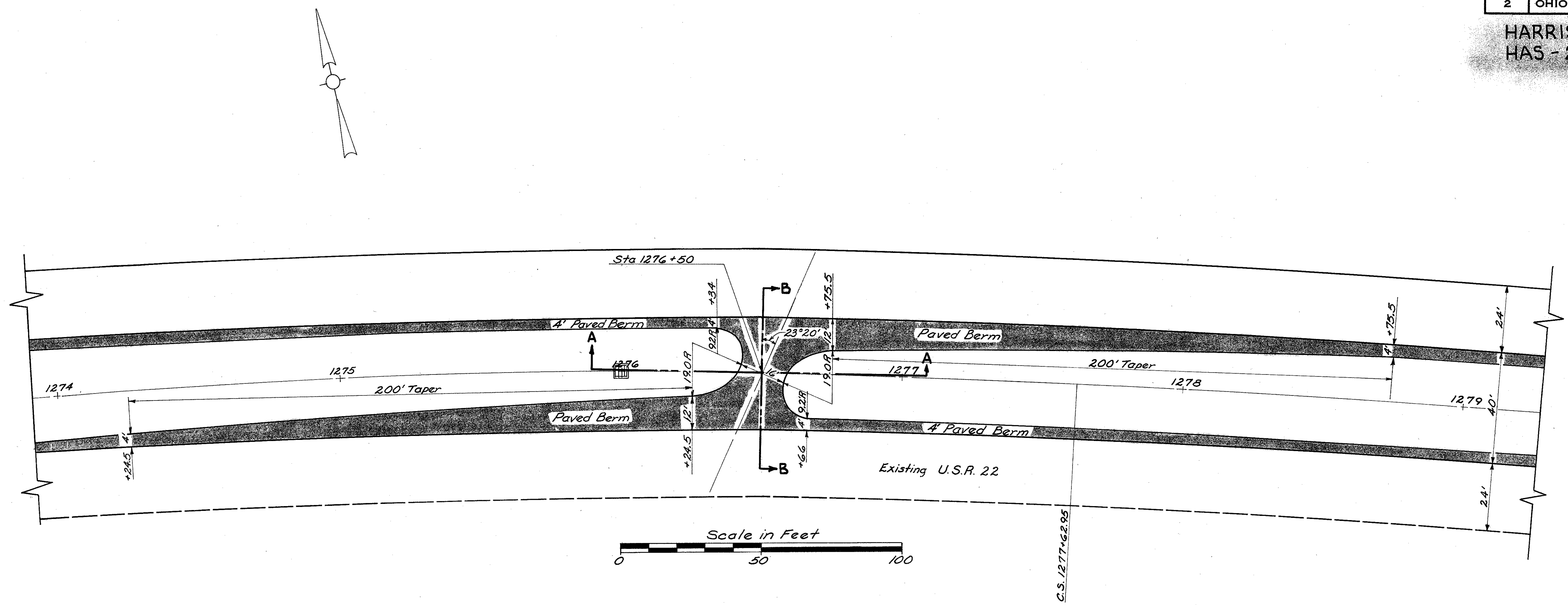
JOINT LEGEND
1. Standard Longitudinal Joint
2. Key Joint Without Tiebars
3. Expansion Joint Without Dowels

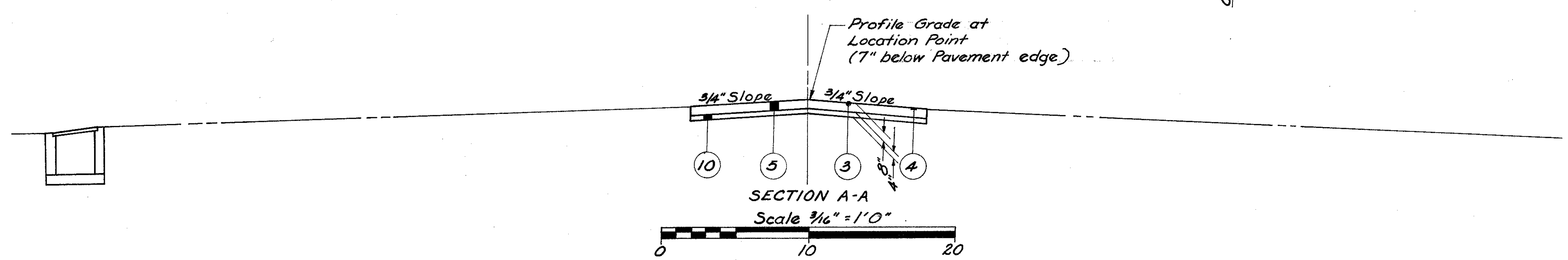
INTERSECTION DETAIL (Twp. Rd. 180)

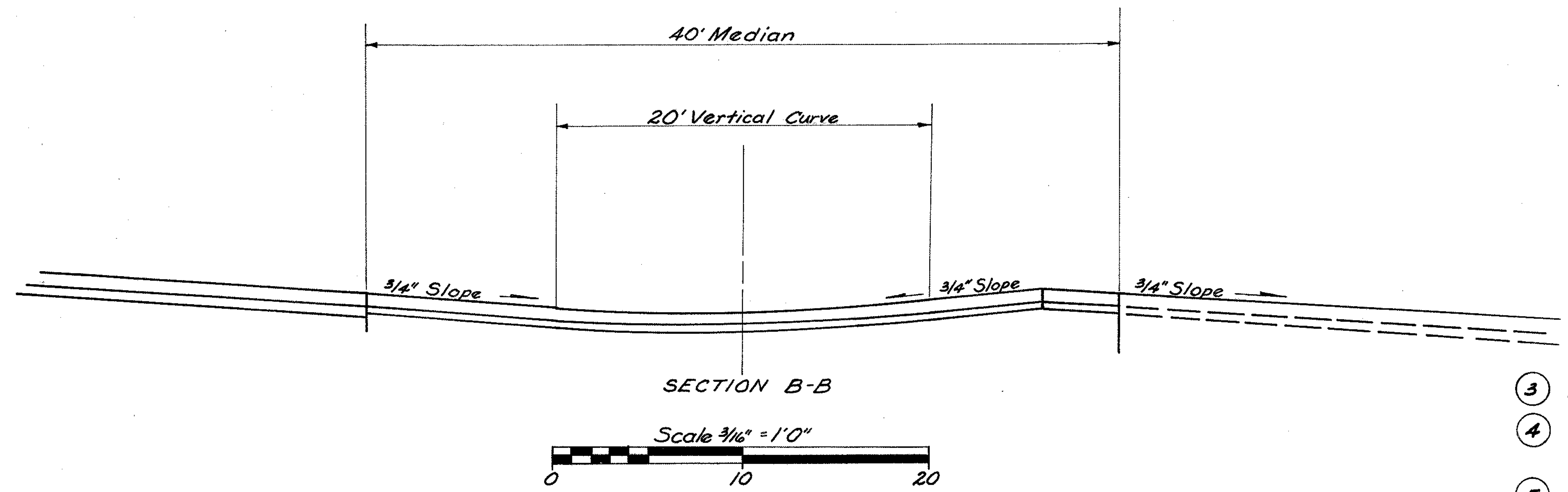
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

69-A

HARRISON COUNTY
HAS - 22 - 23.87







(3) Item 408 Prime Coat 702.09 RT-2 or RT-3 applied @ rate 0.40 Gal. per Sq. Yd.

(4) Item 409 Seal Coat using 0.008 Cu. Yd. No. 8 cover aggregate Per Sq. Yd. and 0.30 gal. 702.09 RT-9 or RT-10 or 702.02 MC-800 or MC-3000 Per Sq. Yd.

(5) Item 304 8" Aggregate Base

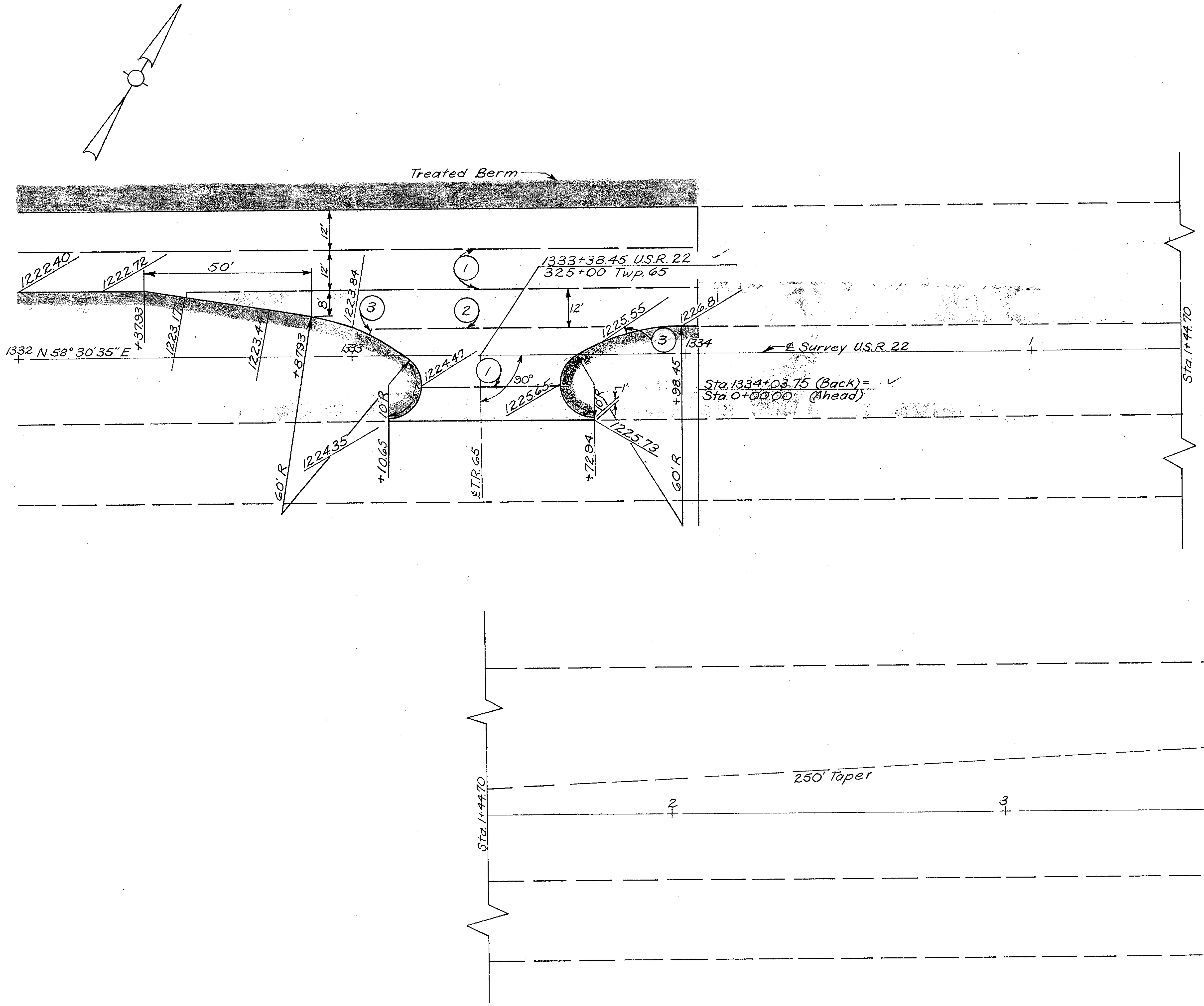
(10) Item 310 Subbase

MEDIAN CROSSOVER STA 1276+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

70

HARRISON COUNTY
HAS-22-23.87

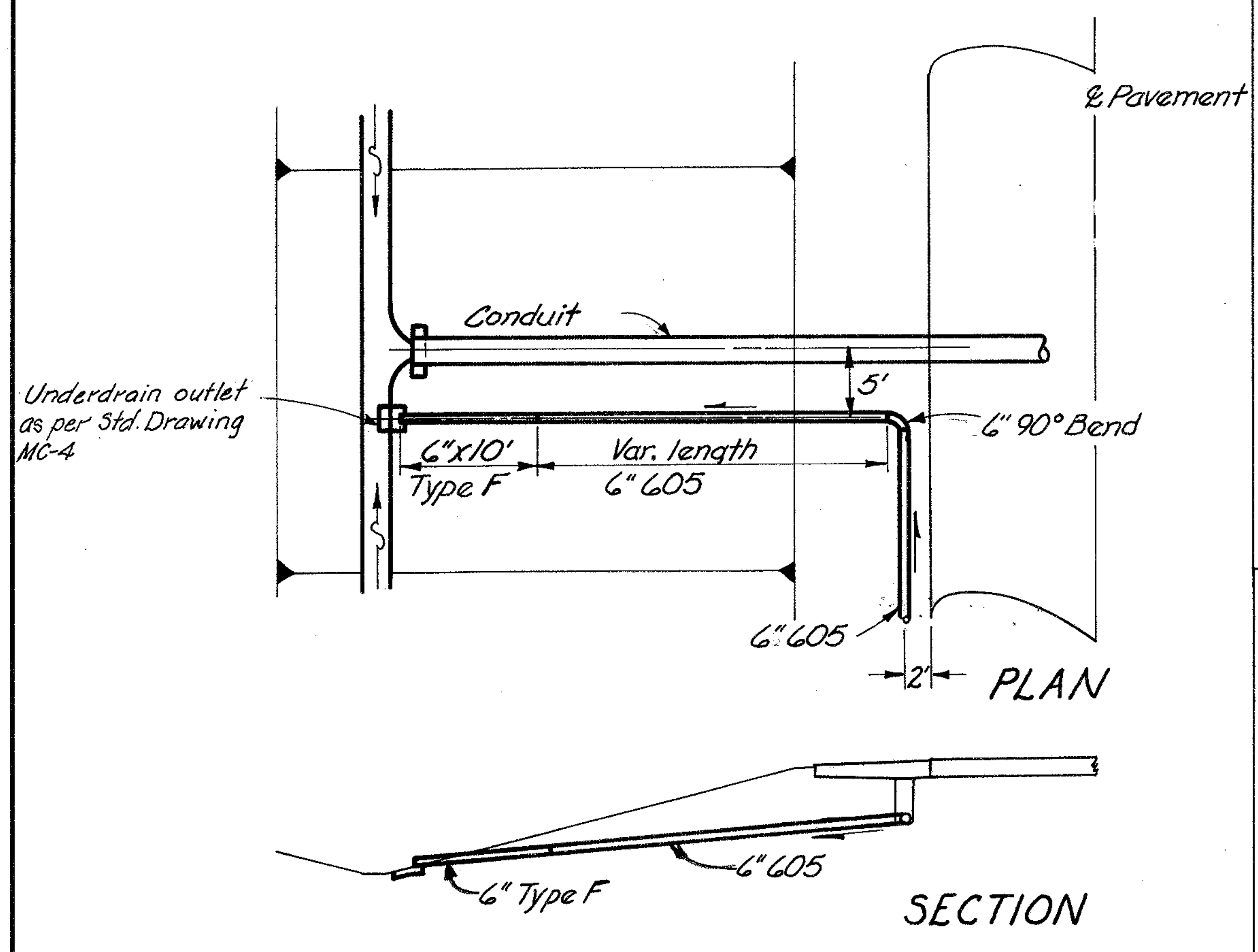


JOINT LEGEND
1. Standard Longitudinal Joint
2. Key Joint Without Tiebars
3. Expansion Joint Without Dowels

CROSS-OVER 1333+38.45

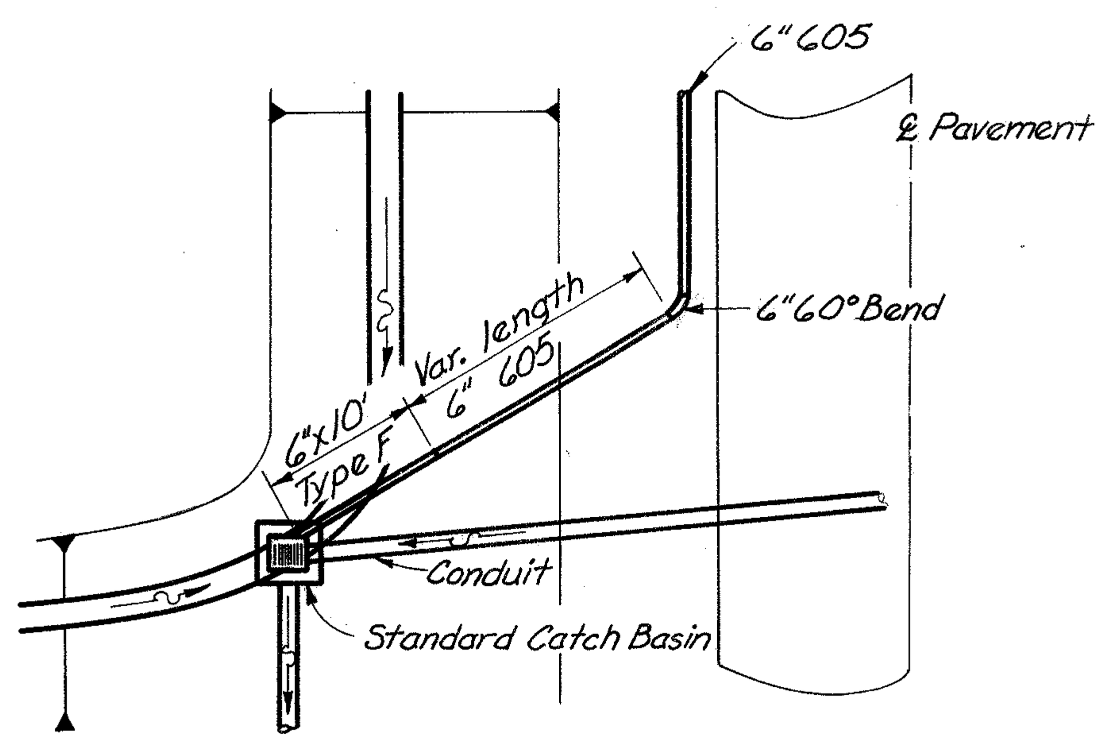
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HARRISON COUNTY
HAS-22-23.87

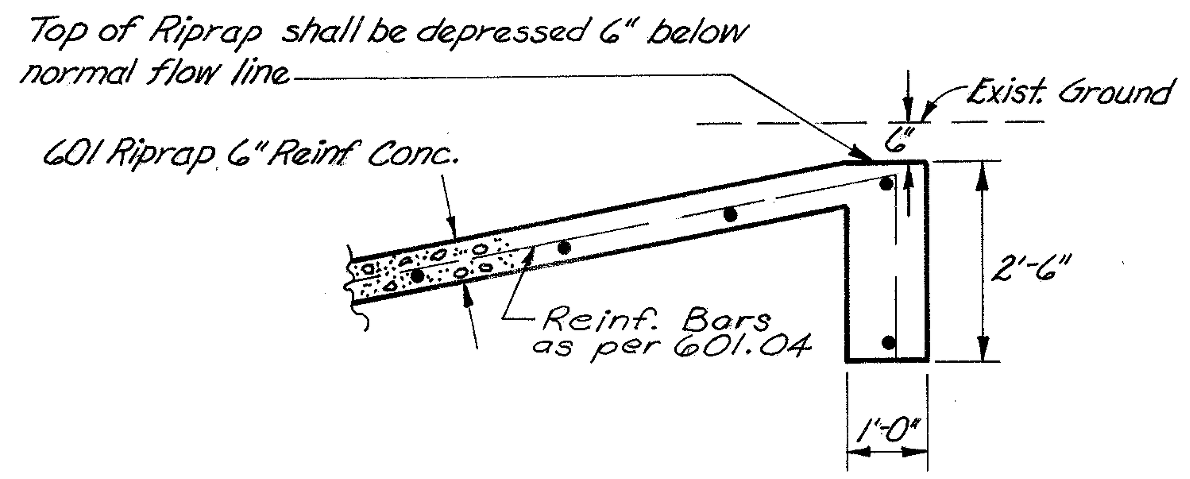


UNDERDRAIN OUTLET DETAIL "A"

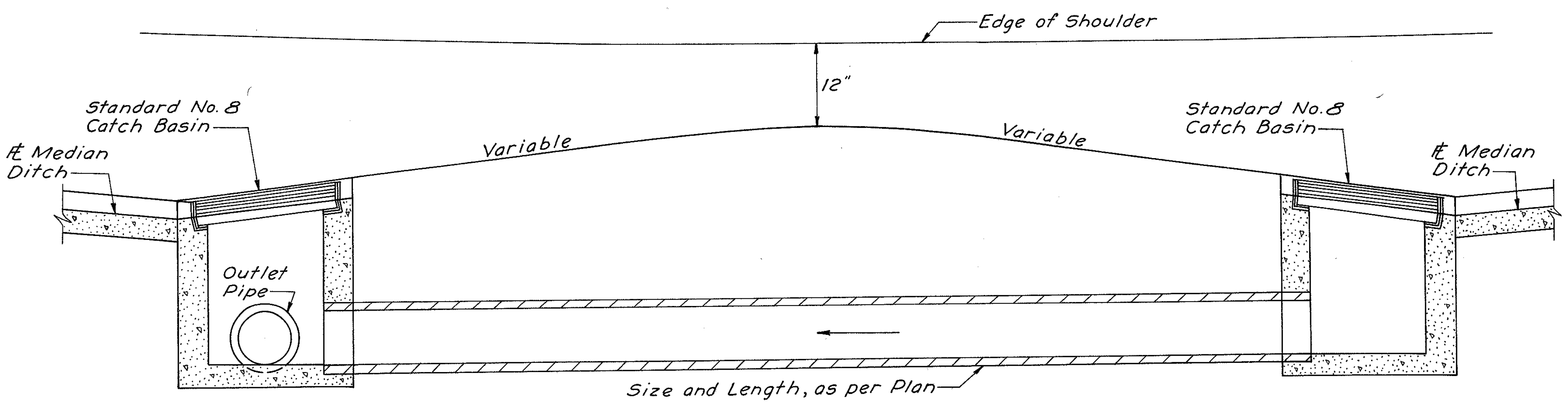
Note: Refer to section view in detail "A" for view of outlet pipe



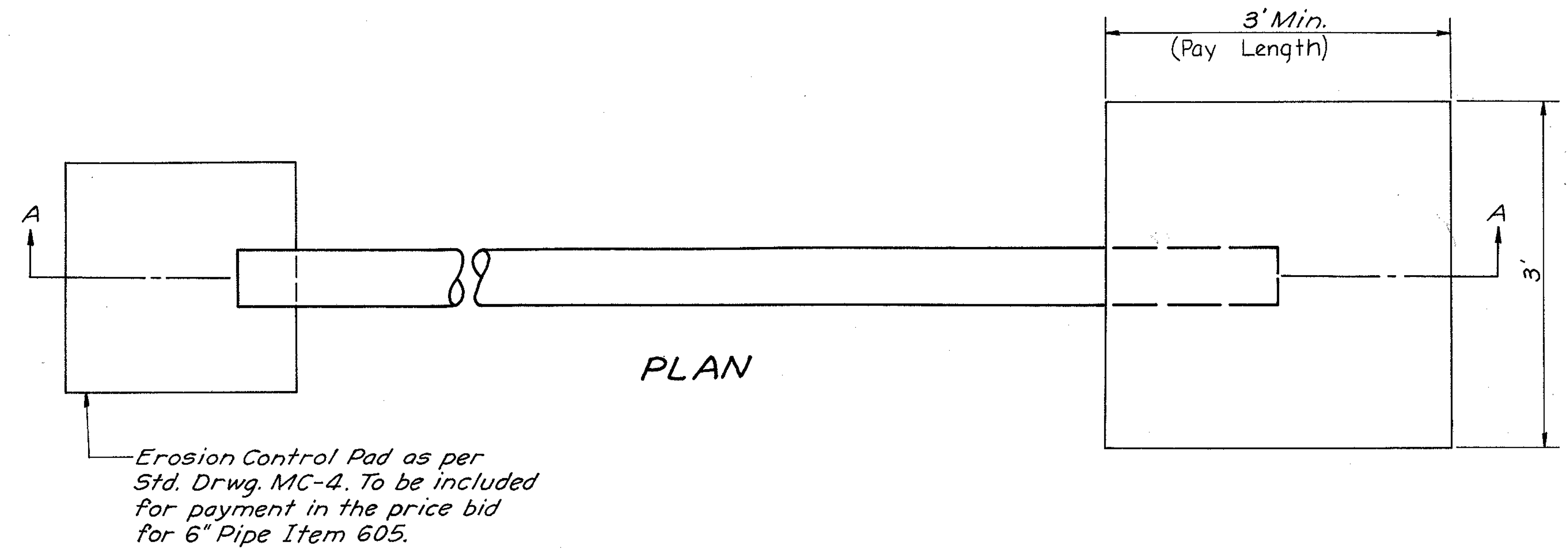
UNDERDRAIN OUTLET DETAIL "B"

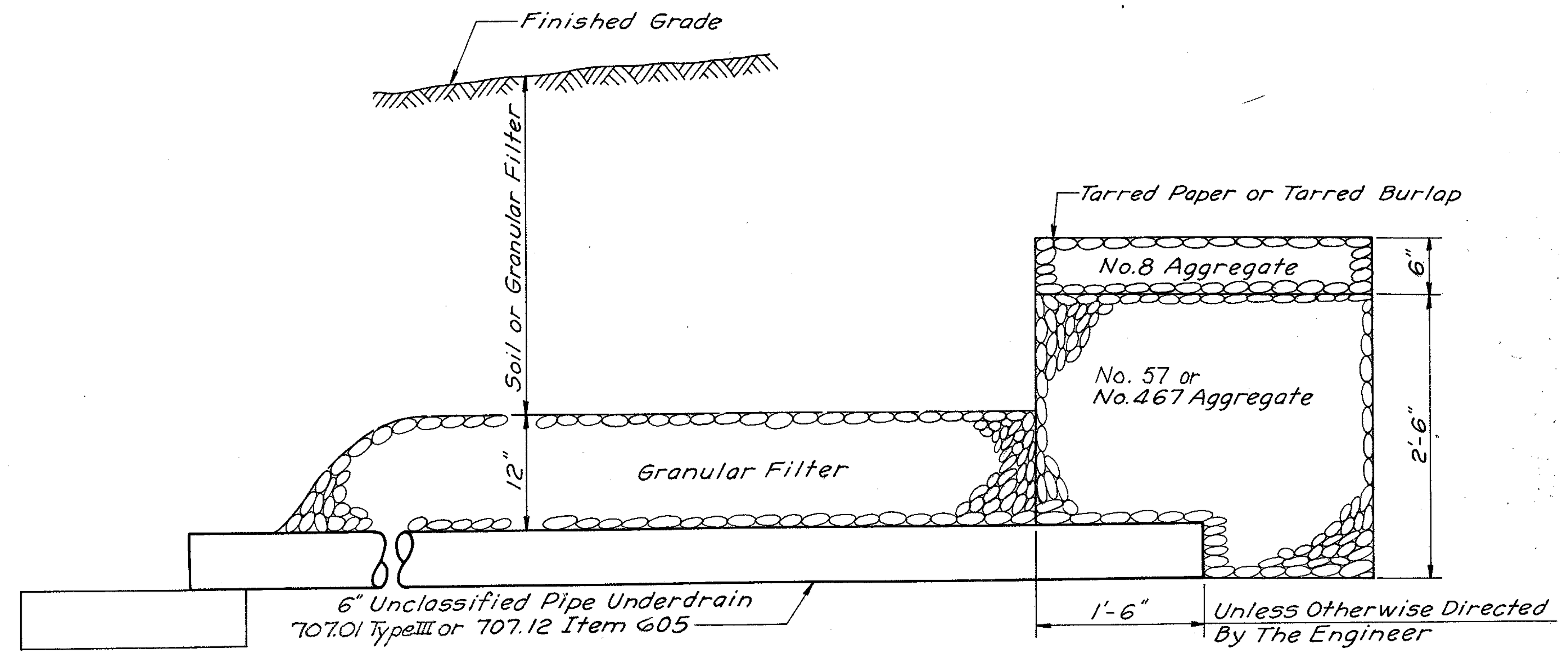


CUT OFF WALL DETAIL



MEDIAN CATCH BASIN IN SAG





SECTION A-A

Note: Aggregates, Tarred Paper or Tarred Burlap and necessary Excavation for Spring Drains shall be included for payment in the Unit Price Bid per Lin. Ft. for "Item 605, Aggregate Drains For Springs, As Per Plan."

The 6" Pipe 707.01 Ty. III or 707.12 shall be covered with Granular Filter Material (605.03(C)) to a height of One (1) Foot above the top of the pipe. The remainder of the Backfill for this Item shall be soil or granular filter Backfill placed in accordance with 603.08.

Spring Drains shall be built in reasonably close conformity with the detail shown above. The lengths and exact locations of the Drains shall be determined by the Engineer.

See General Notes.

For details not shown see Std. Dwg. MC-1

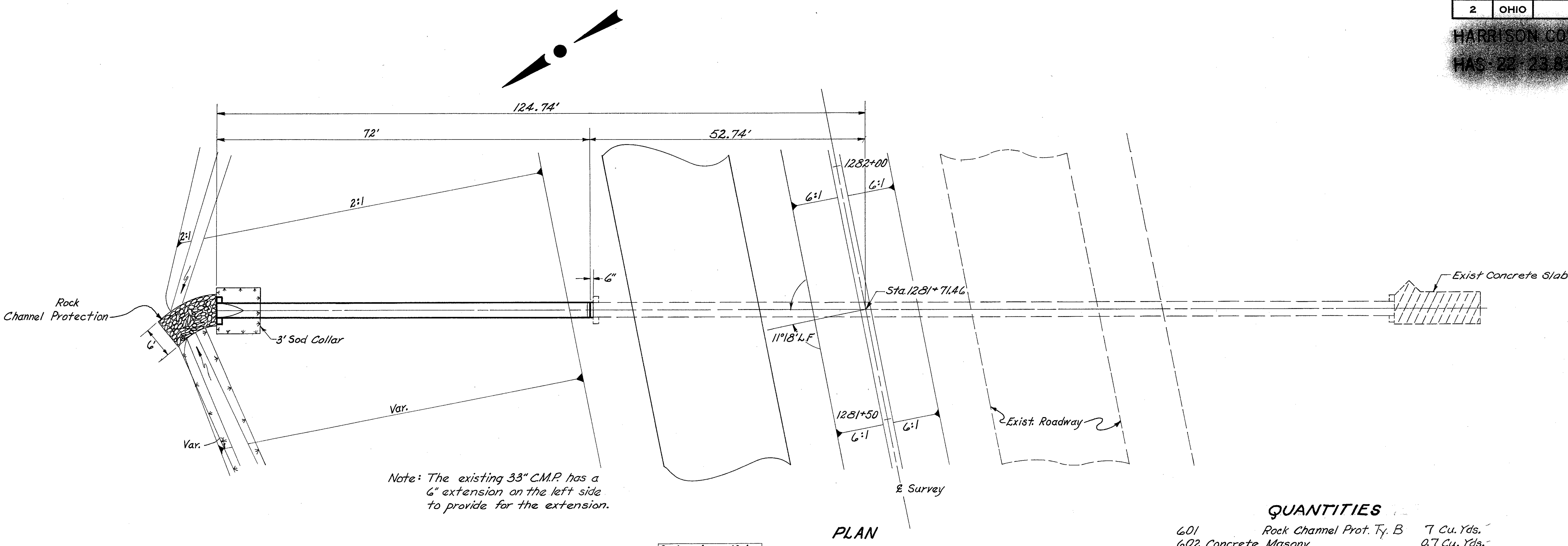
SPRING DRAIN DETAIL

DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

72

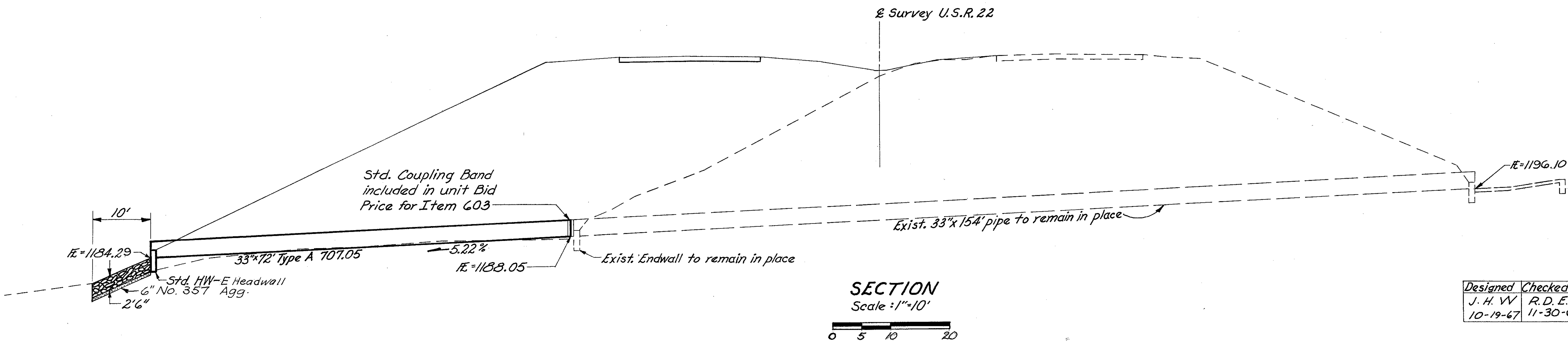
HARRISON COUNTY
HAS-22-23.87



QUANTITIES

601 Rock Channel Prot. Ty. B	7 Cu. Yds.
602 Concrete Masonry	0.7 Cu. Yds.
603 33" Conduit Type A, 707.05 Type C 12 Gage	72 Lin. Ft.
660 Sodding	6 Sq. Yds.

Std. Drwg's: MC-4; HW-E

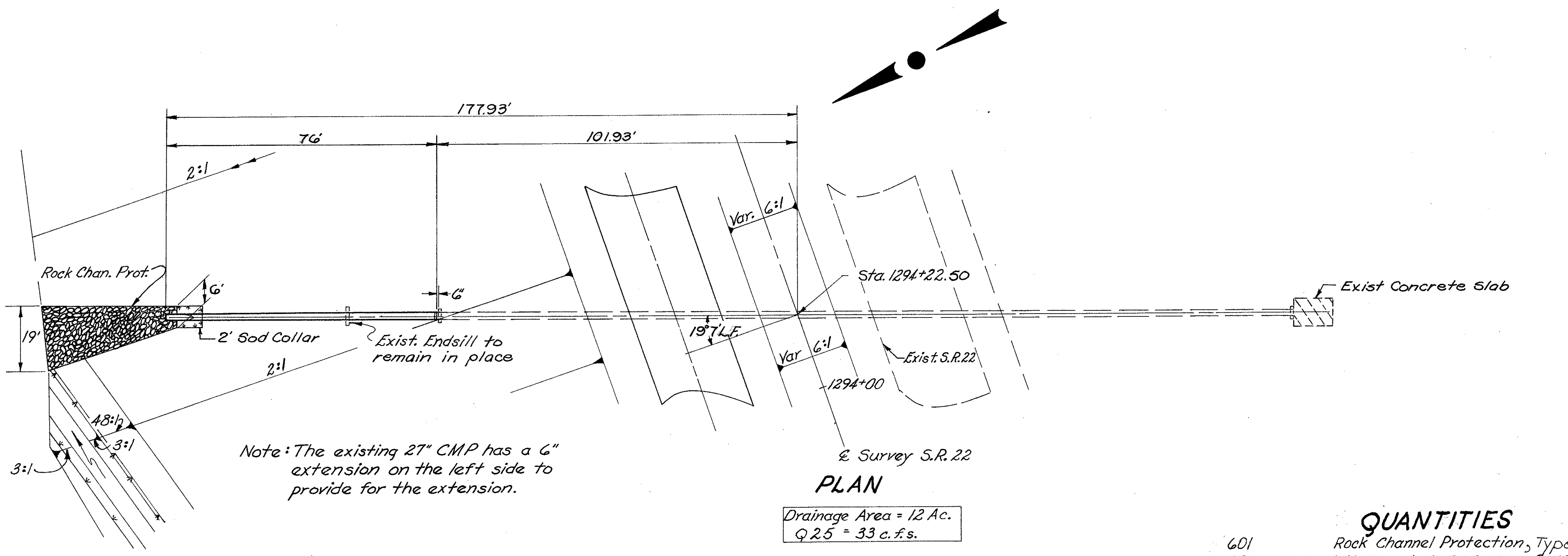


Designed	Checked	Inked
J. H. W. 10-19-67	R. D. E. 11-30-67	R.K.L. 12-13-67

PIPE DETAIL ~ STA. 1281+71.46

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

HARRISON COUNTY
HAS-22-23.87



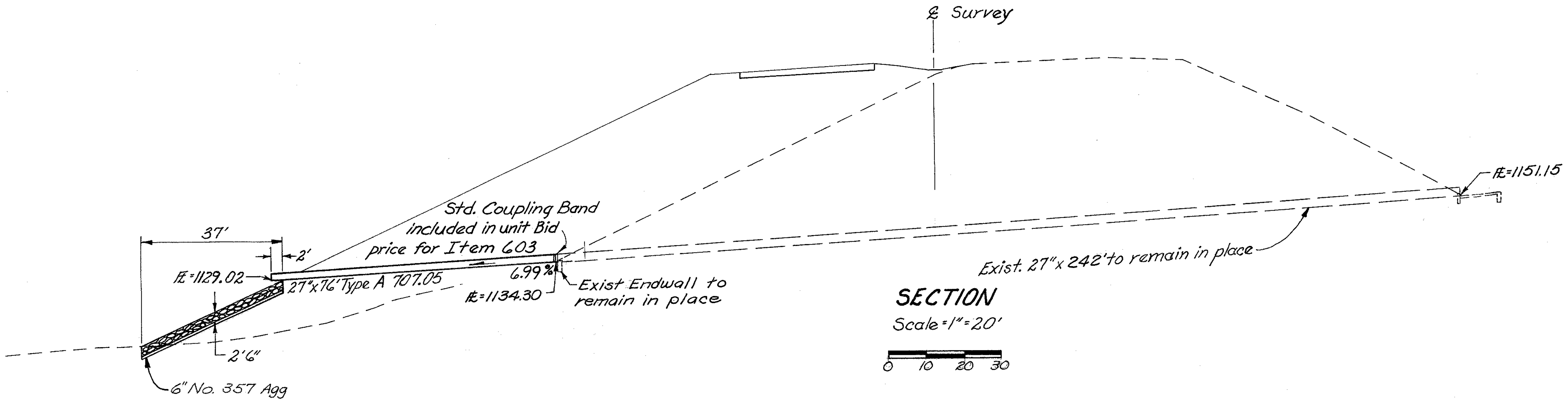
PLAN

Drainage Area = 12 Ac.
Q25 = 33 c.f.s.

QUANTITIES

601	Rock Channel Protection, Type B	57 Cu. Yds.
603	27" Conduit Type A 707.05 Type C, 14 Gage	76 Lin. ft.
660	Sodding	3 Sq. Yds.

Std. Drwg's : MC-4



SECTION

Scale 1" = 20'

0 10 20 30

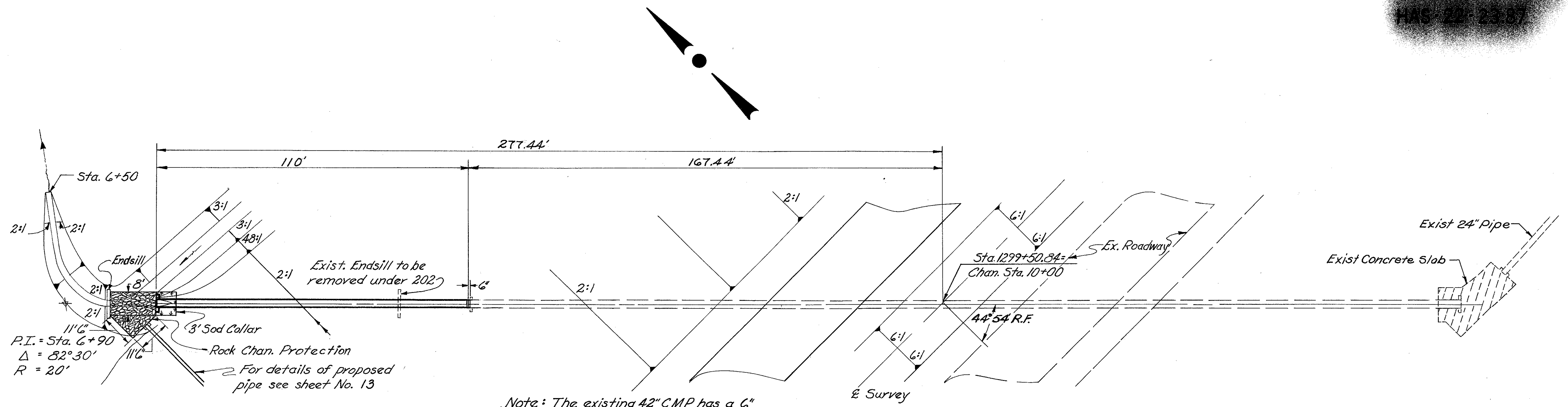
Designed	Checked	Inked
J. H. W.	R. D. E.	AKL
Oct 18, 1967	12-5-67	12-12-67

PIPE DETAIL ~ STA. 1294+22.50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

74

HARRISON COUNTY
HAS-22-23.87



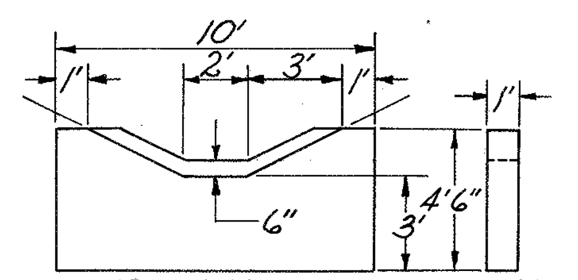
Note: The existing 42" CMP has a 6" extension on the left side to provide for the extension.

PLAN

Drainage Area = 40 Ac.
Q 25 = 74 c.f.s.

Channel Cross Section	203 E.A.	203 C.Y.
Sta. 7+22	0	
		11
1108.05 / 7+04 / 1111.4	33	
		30
1107.17 / 6+60 / 1108.1	4	
		1
Sta. 6+50	0	
Scale: 1"=10' Total		42

Quantities Carried to sheet No. 40



ENDSILL DETAIL
Scale: 1" = 5'

QUANTITIES

202	Existing Structures Removed	Lump
601	Rock Channel Protection, Type B	22 cu. yds.
602	Concrete Masonry	2.5 cu. yds.
603	42" Conduit Type A 707.05 Type C; 10 Gage,	110 Lin. Ft.
660	Sodding	7 Sq. Yds.

Std. Drwg's: MC-4, HW-E

SECTION

Scale 1" = 20'

0 10 20 30

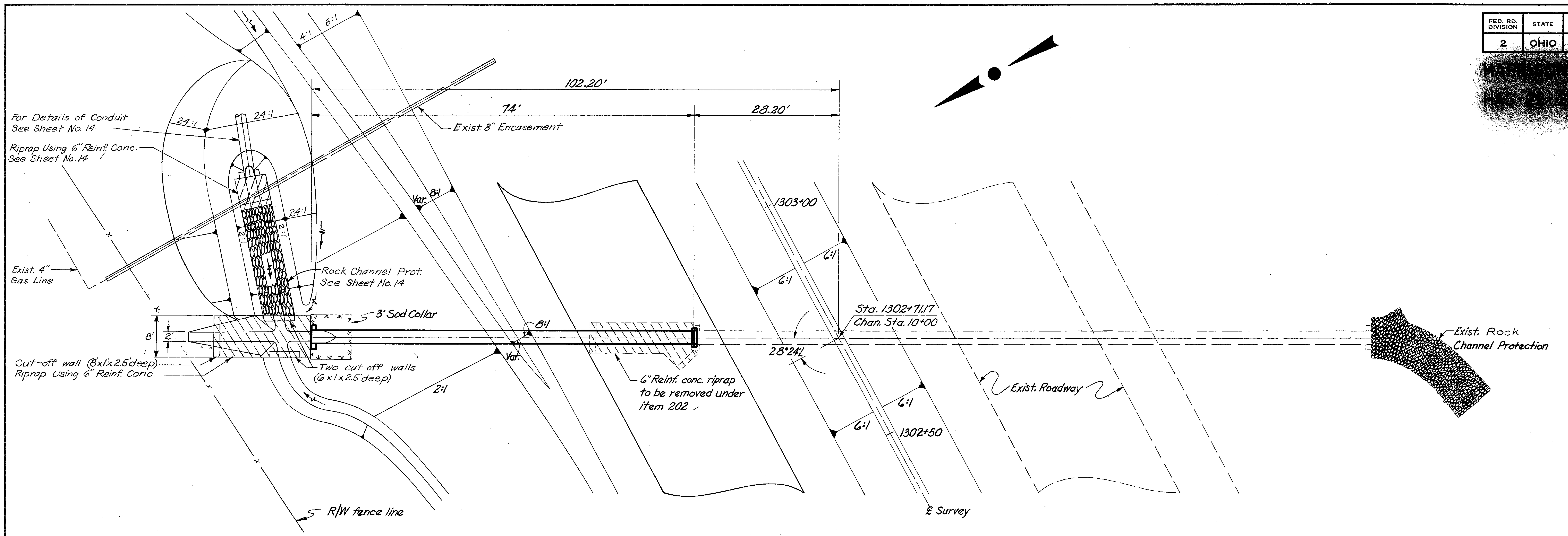
Designed	Checked	Inked
J.H.W.	R.D.E.	R.K.L.
Oct. 17, 67	12-7-67	12-8-67

PIPE DETAIL ~ STA. 1299+50.84

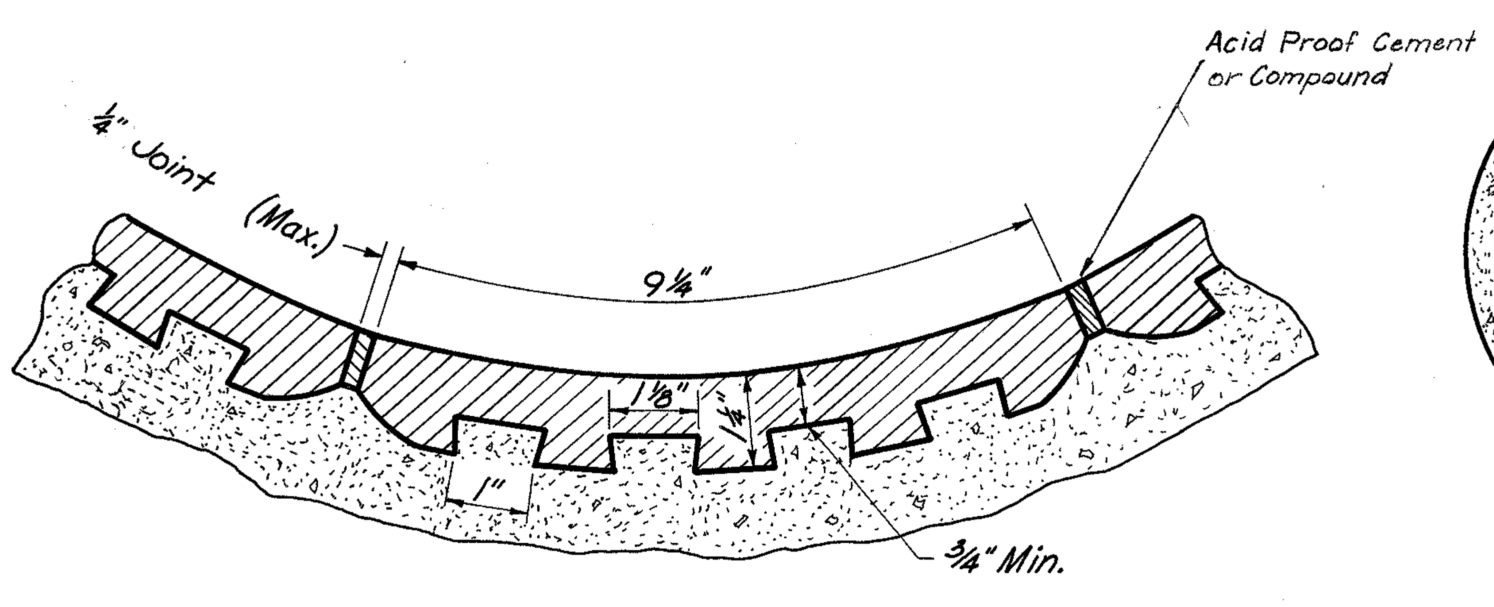
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

75

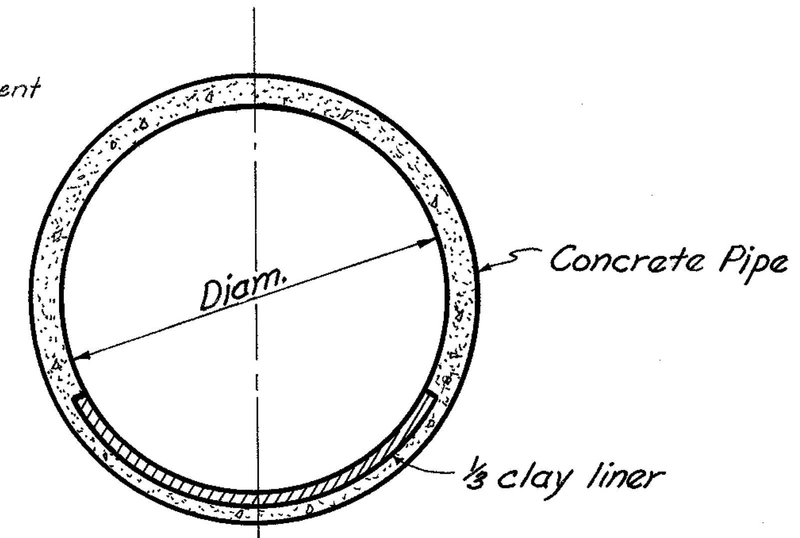
[redacted]



PLAN



ONE THIRD VITRIFIED CLAY LINER PLATE DETAIL



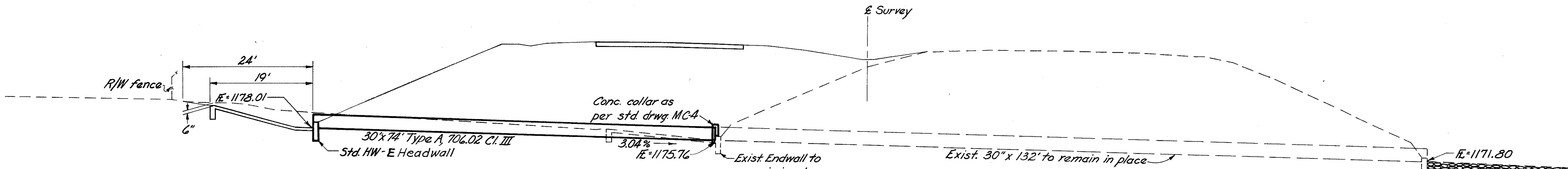
Drainage Area = 19 Acres
Q 25=46 C.F.S.

QUANTITIES

202	Exist. 6" Reinforced Concrete Slab Removed and Disposed of	21 Sq. Yds.
601	Riprap, Using 6" Reinforced Concrete Slab	17 Sq. Yds.
602	Concrete Masonry	0.6 Cu. Yds.
603	30" Conduit, Type A, 706.02 Cl. III with 1/3 Vitrified Clay Liner as per 706.05	74 Lin. ft.
660	Sodding	6 Sq. Yds.

Std. Drwg's: HW-E, MC-4

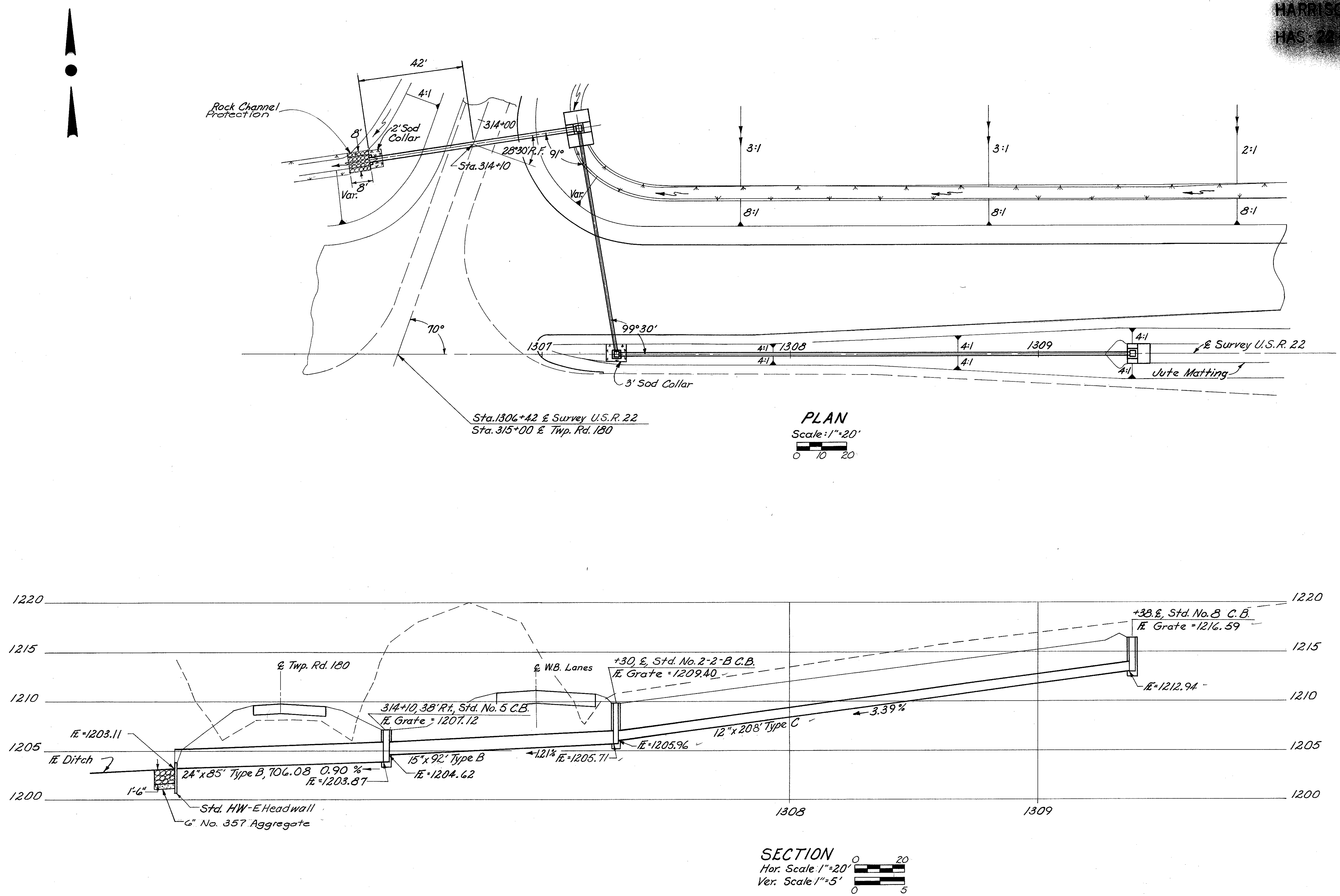
Note: Channel excavation carried to sheet No. 44



SECTION
scale: 1"=10'
0 5 10 20

Designed	Checked	Inked
J. H. W.	R. D. E.	RKL
10-13-67	12-21-67	4-18-68

PIPE DETAIL ~ STA. 1302+71.17

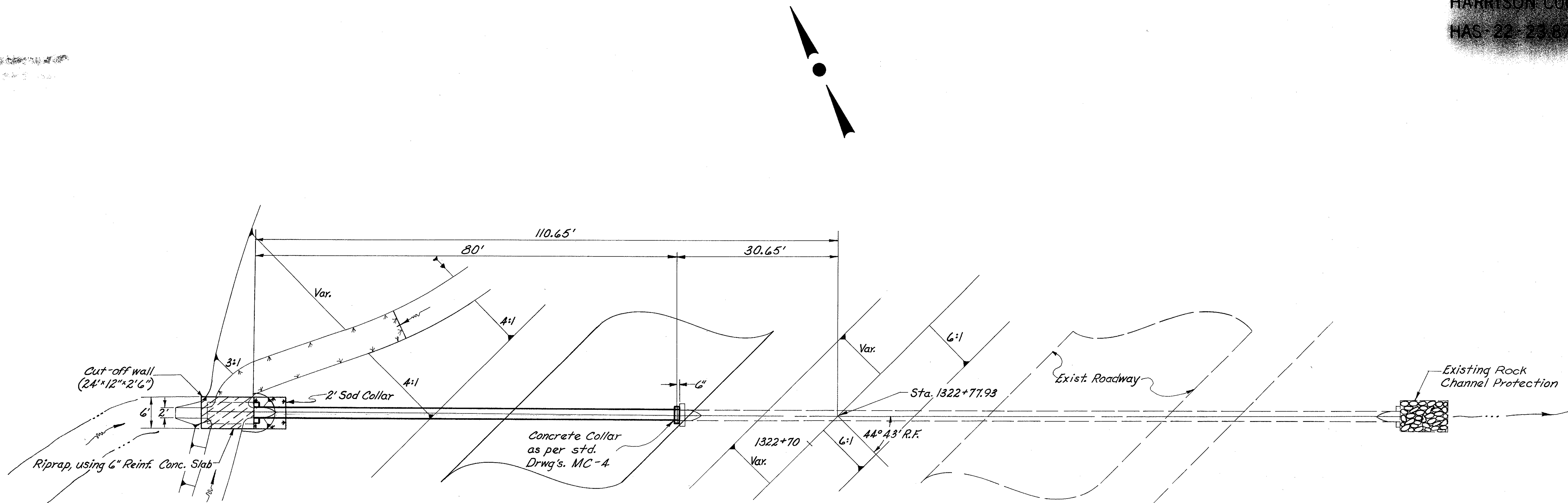


STORM SEWER DETAIL ~ STA. 314+10 Twp. 180 to 1309+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

77

HARRISON COUNTY
HAS-22-23.67



Note: The existing 24" VSP has a 6" extension on the left side to provide for the extension.

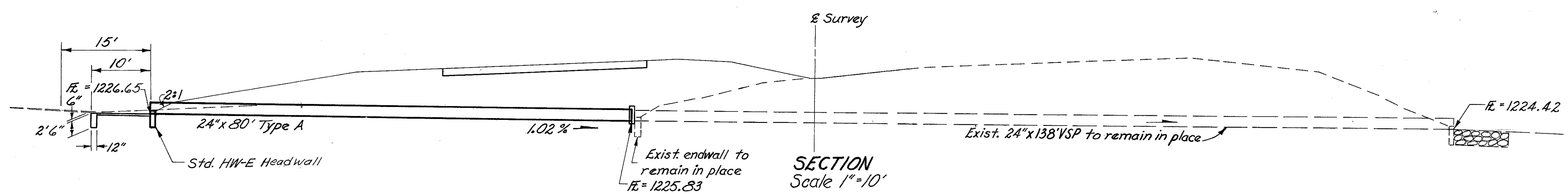
℄ - Survey

PLAN

Drainage Area = 8 Ac
Q 25 = 26 c.f.s.

QUANTITIES

601	Riprap using 6" Reinforced Concrete slab	7 Sq. Yds.
602	Concrete Masonry	0.4 Cu. Yds.
603	24" Conduit type A 706.08	80 Lin. ft.
660	Sodding	3 Sq. Yds.
	Std. Drwg's: MC-4; HW-E.	



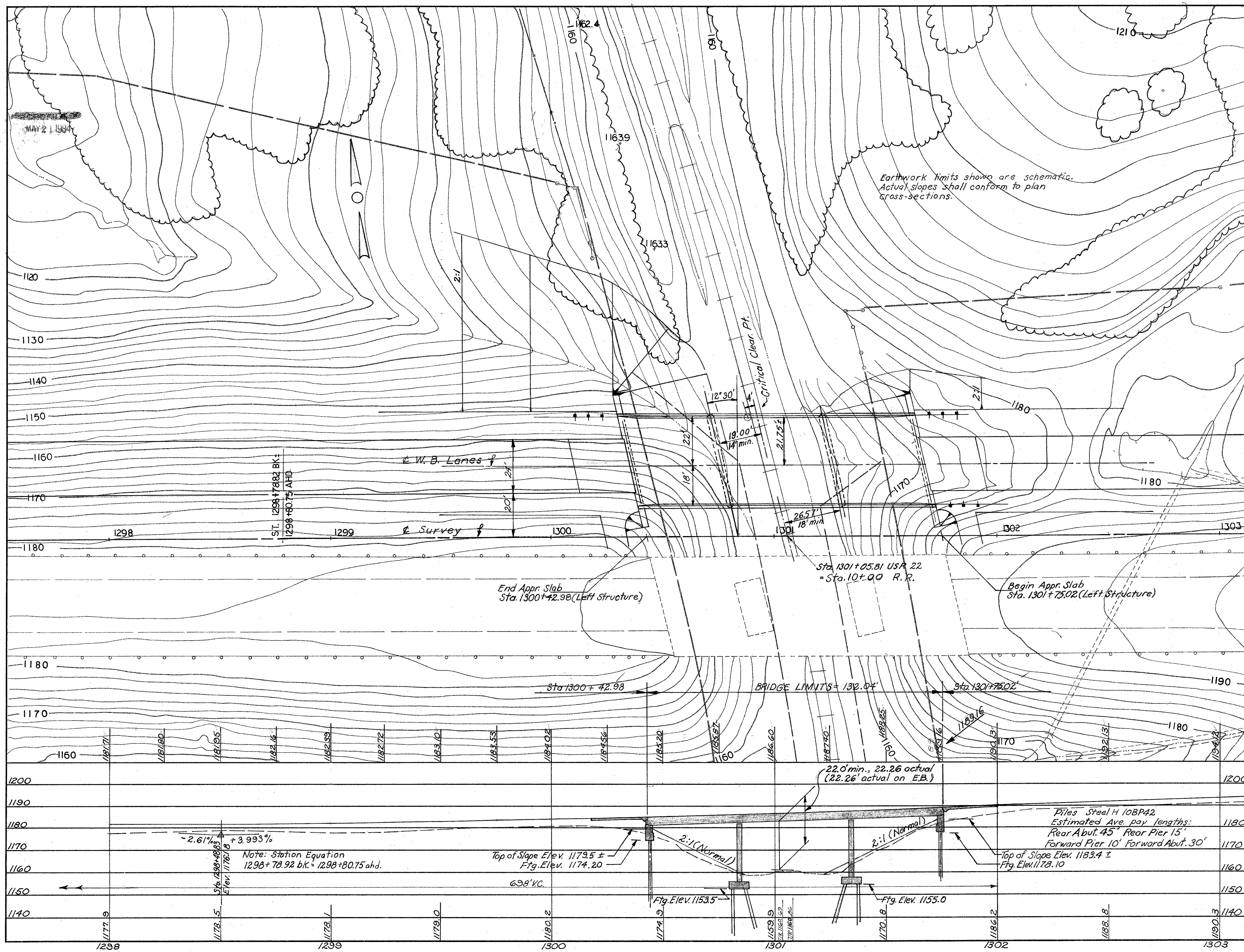
SECTION
Scale 1" = 10'

0 5 10 20

Designed	Checked	Inked
J.K.W.	PMG	RKL
Oct 13 1967	12-16-67	12-18-67

PIPE DETAIL ~ STA. 1322+77.93

HAS-22-2387
0.4± miles east of Hopedale



1988 DESIGN TRAFFIC = 12700 A. D. T.

~~EXISTING BRIDGE DATA - HAS-22-2464 R~~
TYPE: Continuous steel beams with reinforced concrete deck and substructure
SPANS: 40.0'-50.0'-40.0' c/c brgs.
ROADWAY: 44.0' f/f concrete parapet
LOAD FREQUENCY: CF = 2000 (57)
SKEW: 12
BUILT: 1962

PROPOSED STRUCTURE

TYPE: Continuous steel beams with reinforced concrete deck and piers and integral abutments.
SPANS: 40.0'-50.0'-40.0' c/c brgs.
ROADWAY: 40.0' f/f parapets
LOADING: HS 20-44
SKEW: 12°-30' R.F.
WEARING SURFACE: 1" monolithic concrete
APPROACH SLABS: AS-1-67 (25' long)
ALIGNMENT: Tangent

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

1/7

SITE PLAN

BRIDGE NO. HAS-22-2459 L
OVER PENN CENTRAL R.R.
HARRISON CO. S.R. 22
SEC.
STA. 1300+42.98
1301+75.02
SCALE 1" = 20'

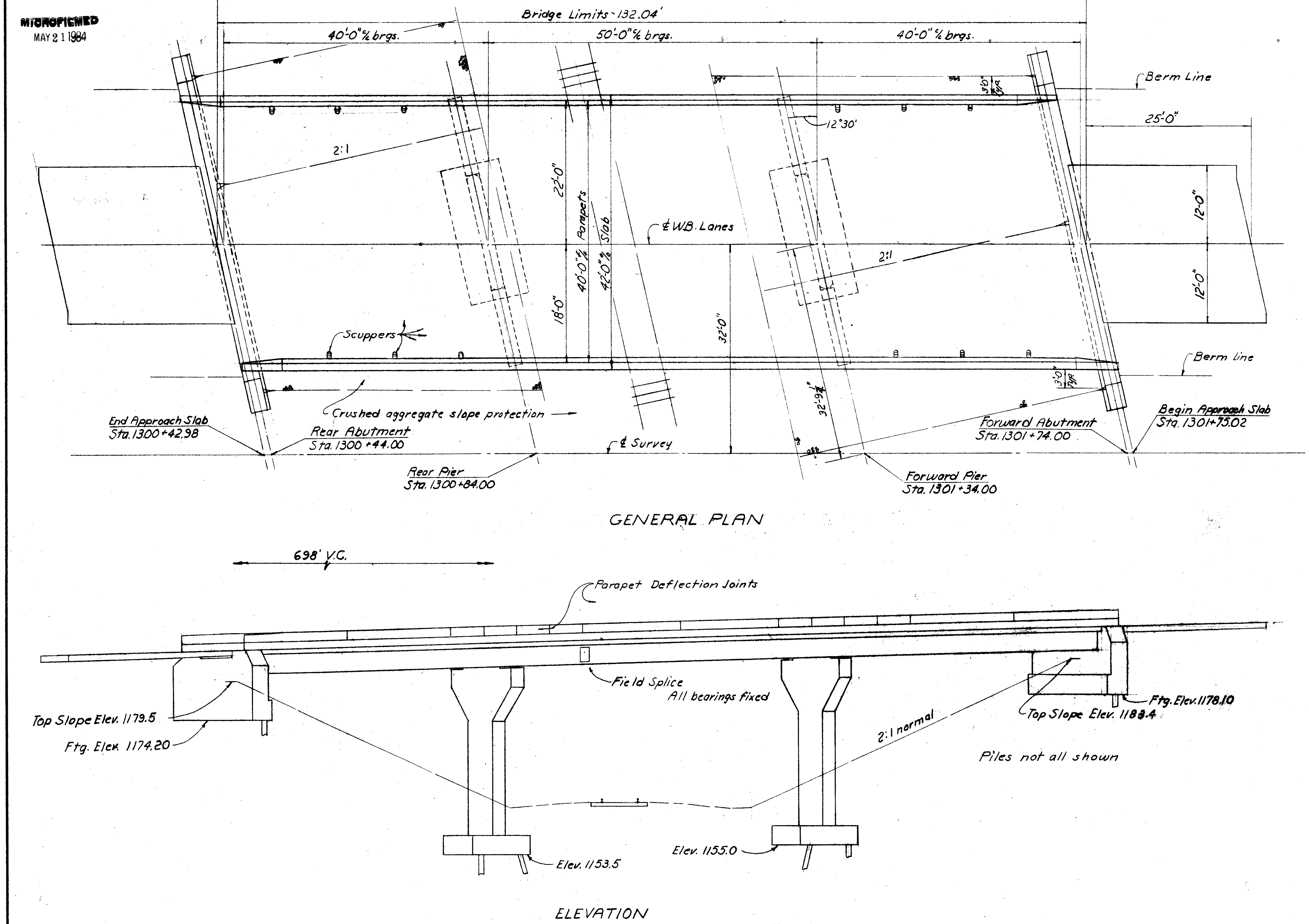
PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
AERIAL SURVEY	AERIAL SURVEY	D.H.S.	D.H.S.	D.G.M.	P.E.S.

BFG 6-16-69

11657

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

79



HAS-22-2387

GENERAL NOTES

REFERENCE shall be made to Standard Drawings BR-1-67 sheet 1 dated 2-1-68 and SD-1-65 sheet 2 and 3 dated 11-8-65, and to Supplemental Specifications 808, 811 and 825 all dated 1-1-69.

DESIGN SPECIFICATIONS: This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officals, 1965, including the Ohio "Supplement" to these specifications.

DESIGN DATA
Design Loading - HS20-44
Concrete Class C - unit stress 1200 p.s.i. for superstructure.
unit stress 1333 p.s.i. for substructure.
Structural Steel - ASTM A36 - unit stress 20,000 p.s.i.
Reinforcing Steel - ASTM A615, A616 or A617 - unit stress 20,000 p.s.i.

EMBANKMENT CONSTRUCTION: The embankments shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the abutments. Excavation shall then be made for the abutments and Piers.

PILES shall be driven with a hammer of not less than 11000 ft. lbs. per blow to firm contact with bedrock. If the length of penetration is approximately equal to the depth to bedrock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in 507.05 is not less than the following value for a pile hammer of the indicated energy rating:
60 tons per pile using an 11000 ft. lb. hammer
55 tons per pile using a 15000 ft. lb. or greater hammer.
If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design Load is 35 tons per pile.

CONSTRUCTION CLEARANCE of 19'-0" vertically above the top of the railroad rails and 8'-0" horizontally from the center of tracks shall be maintained at all times.

RAILROAD AERIAL LINES will be relocated by the Railroad. The Contractor shall use all precautions necessary to see that the lines are not disturbed during the construction stage and shall cooperate with the Railroad in the relocation of these lines. The cost of the relocation shall be included in the railroad force account work.

FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of rod and soil-sampling soundings made at the site and on pile driving experience at Bridge No. HAS-22-2464EB. This information may be inspected in the Office of the Bureau of Bridges in Columbus or in the Division office, but the State does not guarantee its accuracy.

For Estimated Quantities see sh 7/7

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

2/7

GENERAL PLAN,
ELEVATION & NOTES
BRIDGE NO. HAS-22-2459L
OVER PENN-CENTRAL RAILROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FPK	FPK			BFG	6-16-69	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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HAS-22-2387

ELEVATION

† Pad 3'-0" dia. to be included with Crushed aggregate slope protection for payment.

POROUS BACKFILL, 1.5 ft. thick full length of abutment and wings, shall extend up to the subgrade or to the finished ground surface.
R.A = Rear Abutment

ns = near side
fs = far side

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

3 | 7

SUPERSTRUCTURE & REAR ABUTMENT DETAILS
BRIDGE NO. HAS-22-2459L
OVER PENN-CENTRAL RAILROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FPK	FPK			BFG	6-16-69	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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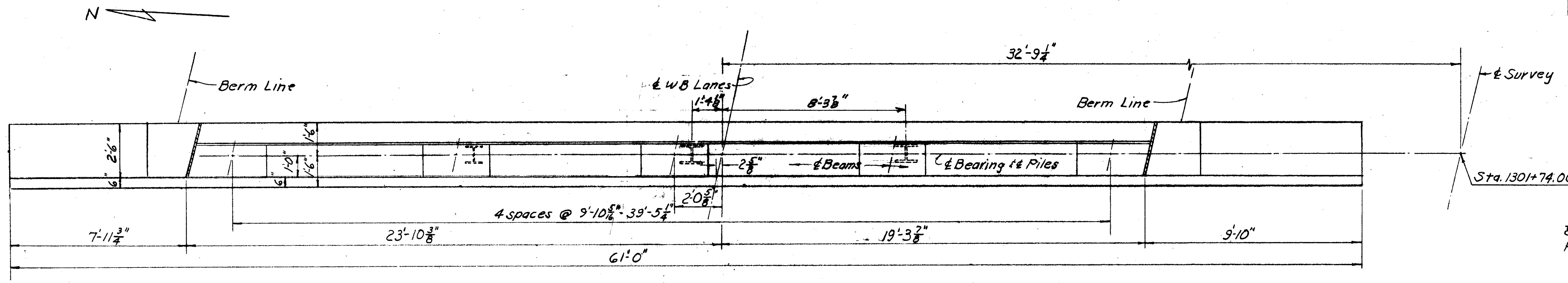
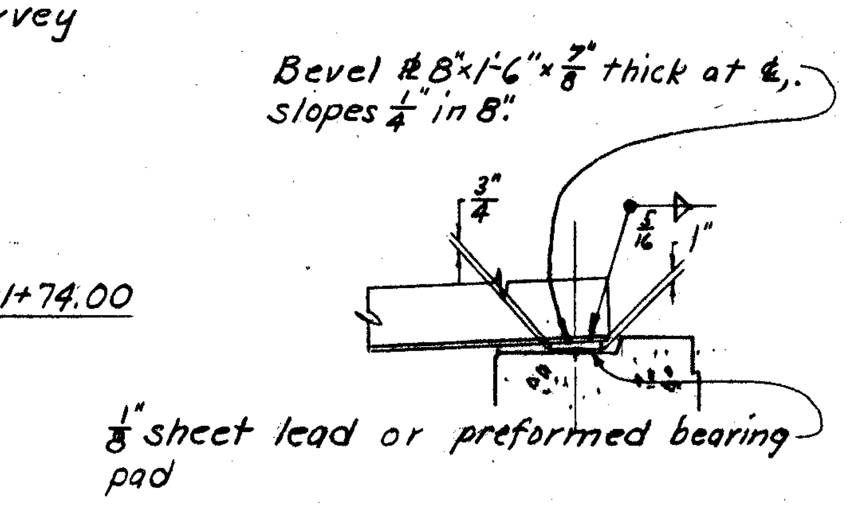
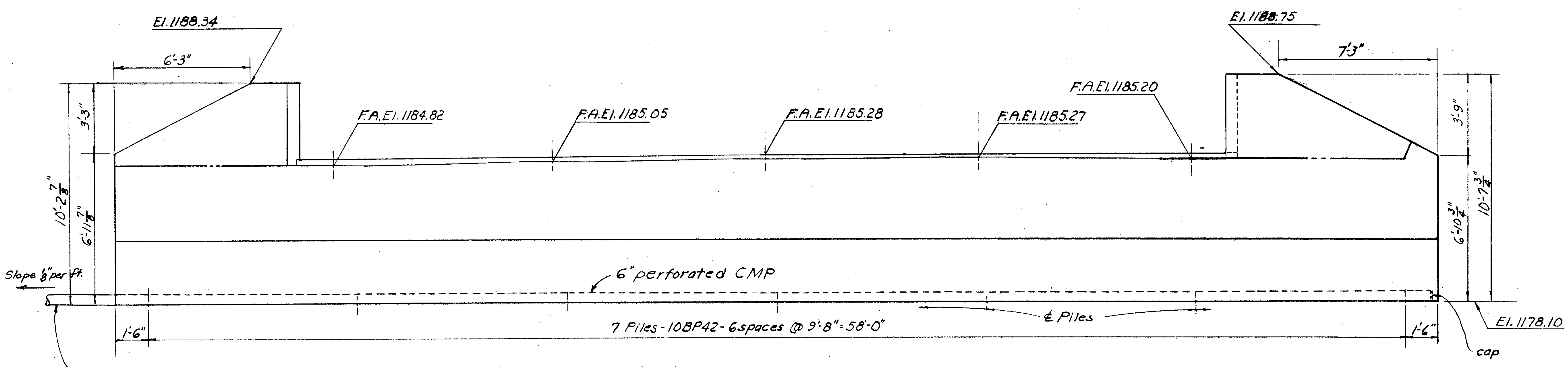
HAS-22-2387



FORWARD ABUTMENT PLAN



BEARING DETAIL



6" non-perforated CMP. Terminate in crushed aggregate slope protection as shown on Sheet 3/7.

ELEVATION

For additional details see Rear Abutment Details sheet 3/7

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

4/7

FORWARD ABUTMENT DETAILS
BRIDGE NO. HAS-22-2459L
OVER PENN-CENTRAL RAILROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FPK	FPK		WJJ	BFG	6-16-69	

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

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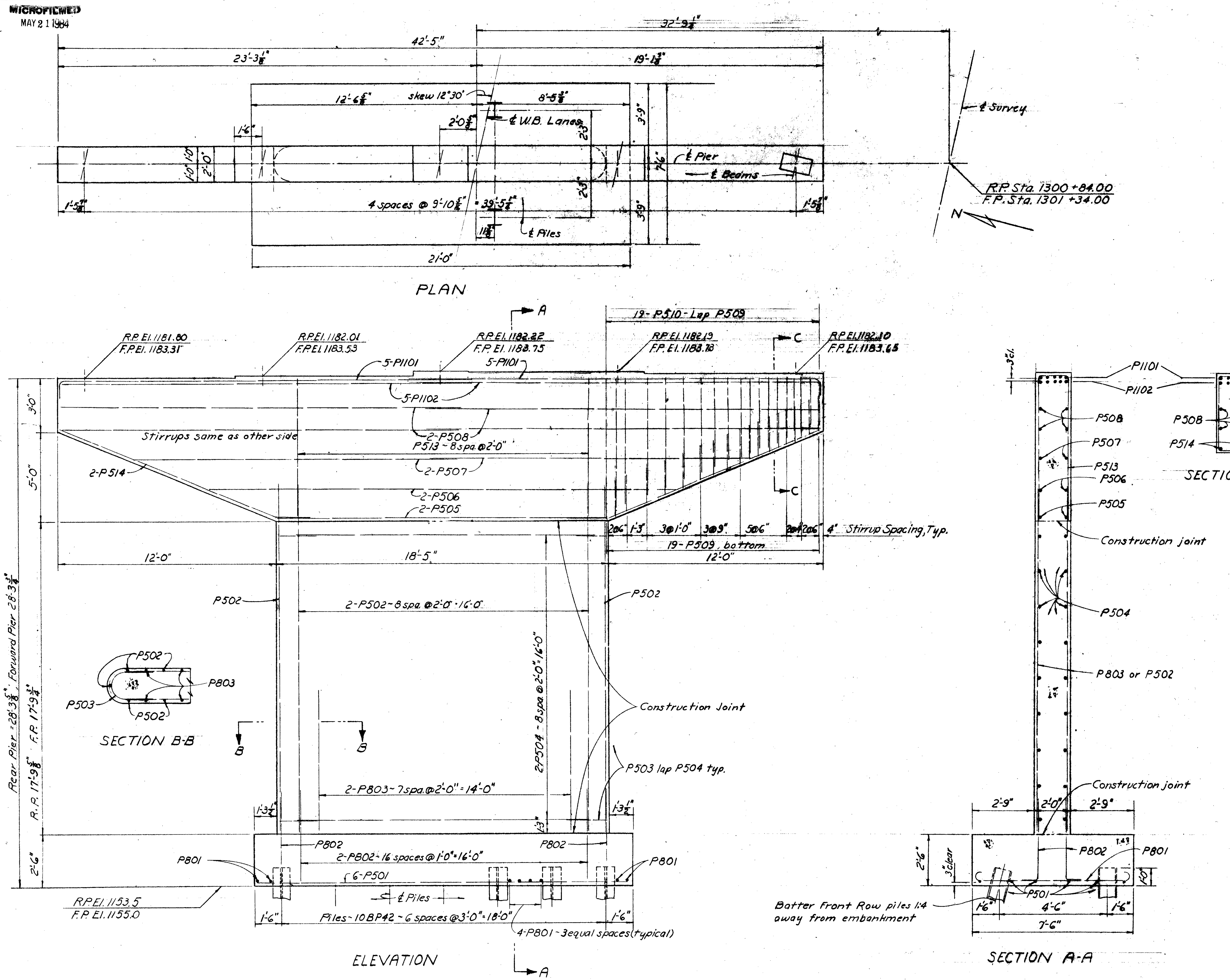
HAS-22-2387



BRIDGE SEAT REINFORCING: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bar holes.

RP = Rear Pier
FP = Forward Pier

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

5/7

PIER DETAILS
BRIDGE NO. HAS-22-2459 L
OVER PENN-CENTRAL RAILROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
FPK	FPK			BFG	6-10-69

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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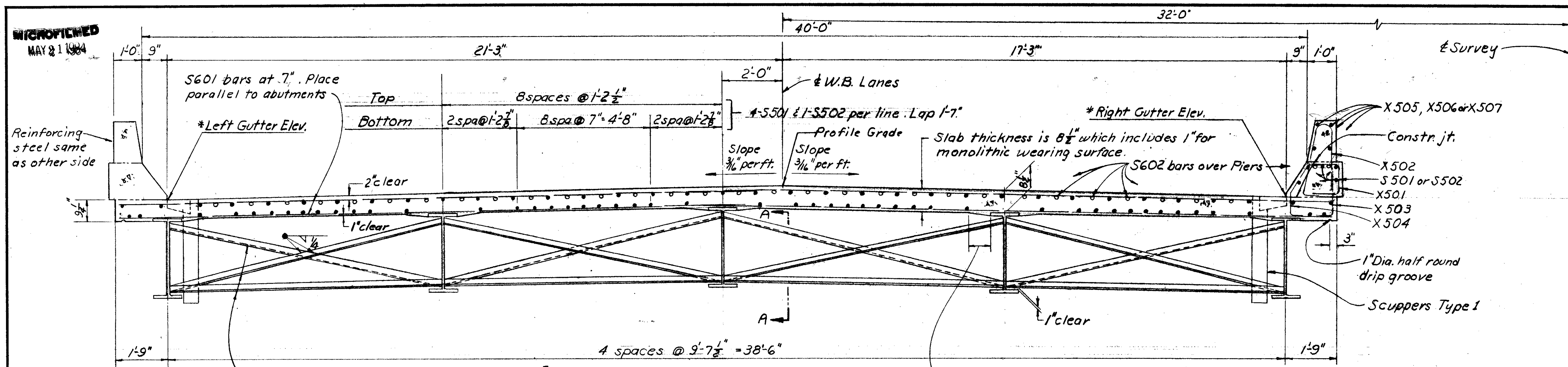
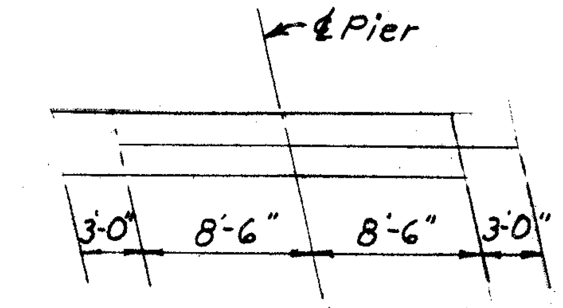
HAS-22-2387



Intermediate crossframe angles 3×3×5/16. Weld both sides of vertical leg and top side of horizontal leg to beam with ¼" continuous fillet weld.

A typical haunch width of 9" has been used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width. Payment is based on the 9" width.

TRANSVERSE SECTION

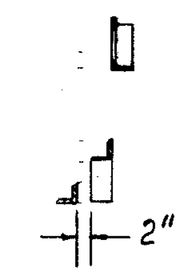


S602 BARS OVER PIERS

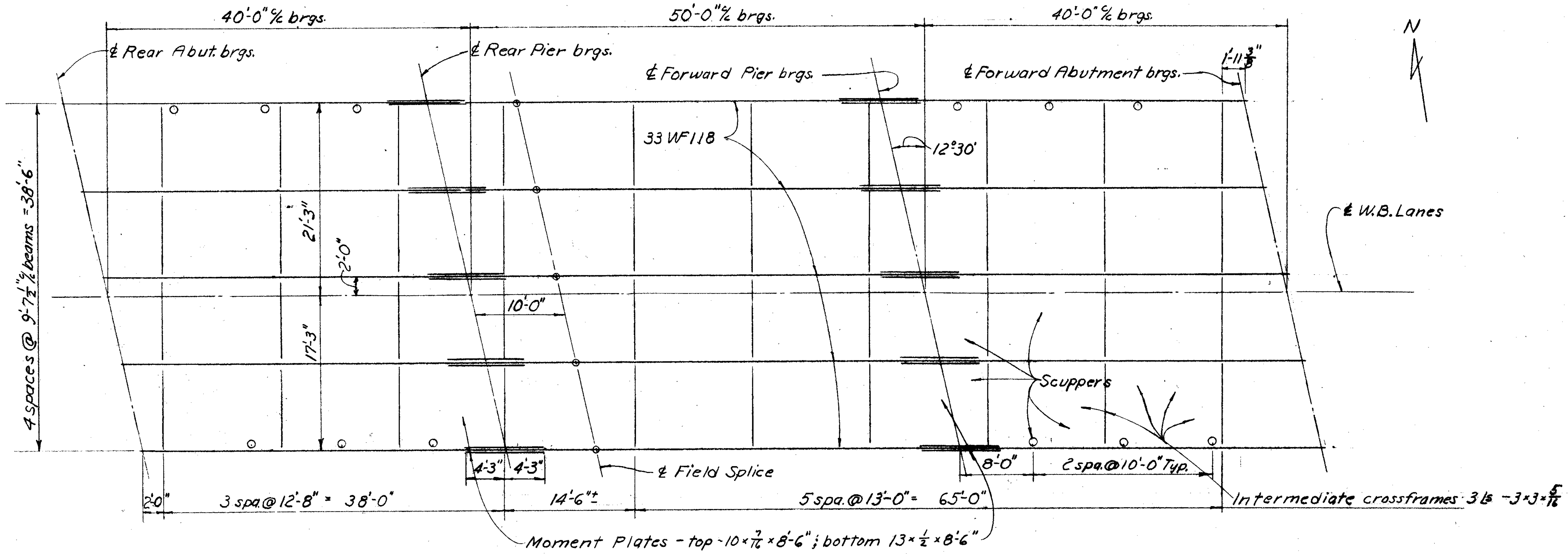
SEE STANDARD DRAWINGS FOR:

Bridge Roadway Railing ———— BR-1-67 sheet 1
Scuppers, Bolted Beam Field Splice
Moment Plate Welding Details ———— SD-1-65 sheets 2&3

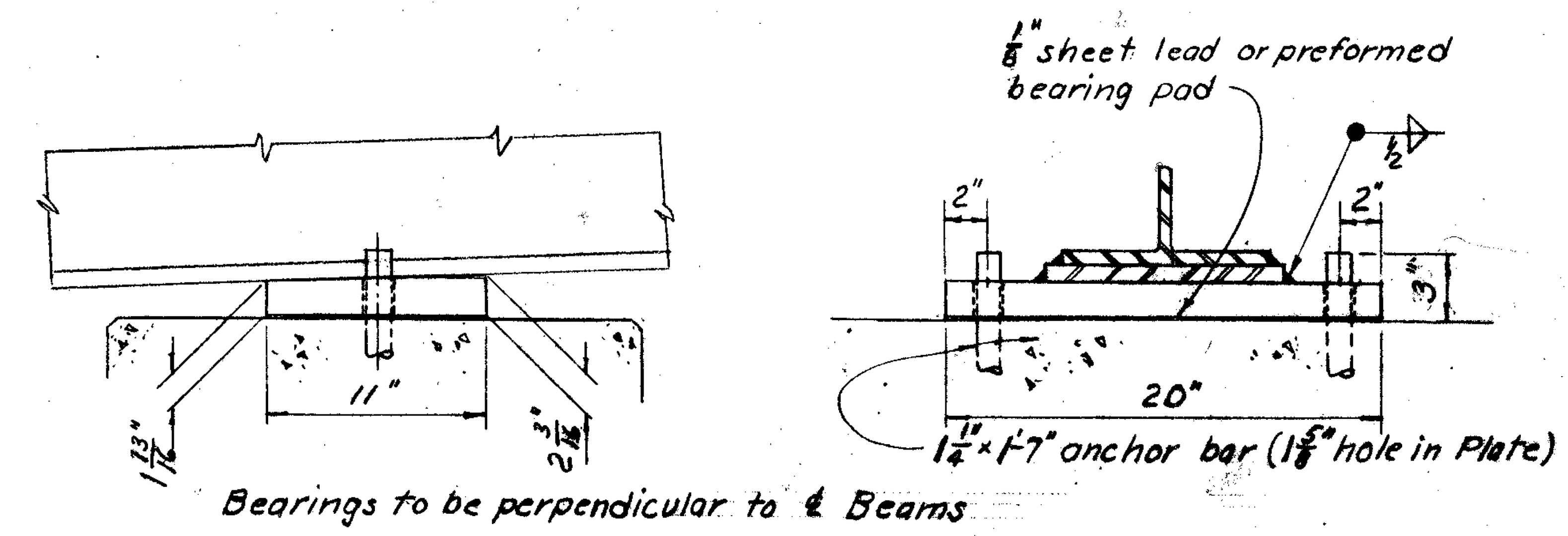
DECK SLAB DEPTH: The distance shown from top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.



SECTION A-A



STEEL FRAMING PLAN



PIER BEARINGS

SCUPPERS: The 1½"×½" support bar shown on Standard Drawing SD-1-65 shall be omitted. Scuppers, including support angles, shall be galvanized.

GUTTER ELEVATIONS *

Station	Left	Right
1300+50	1184.88	1184.94
+75	1185.54	1185.60
1301+00	1186.28	1186.34
+25	1186.07	1186.13
+50	1187.93	1187.99

These are the elevations required before the deck concrete is placed. They include an allowance for deflection due to weight of deck concrete.

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

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SUPERSTRUCTURE DETAILS
BRIDGE NO. HAS-22-2453L
OVER PENN-CENTRAL RAILROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FPH	FPH			BFG	6-16-69	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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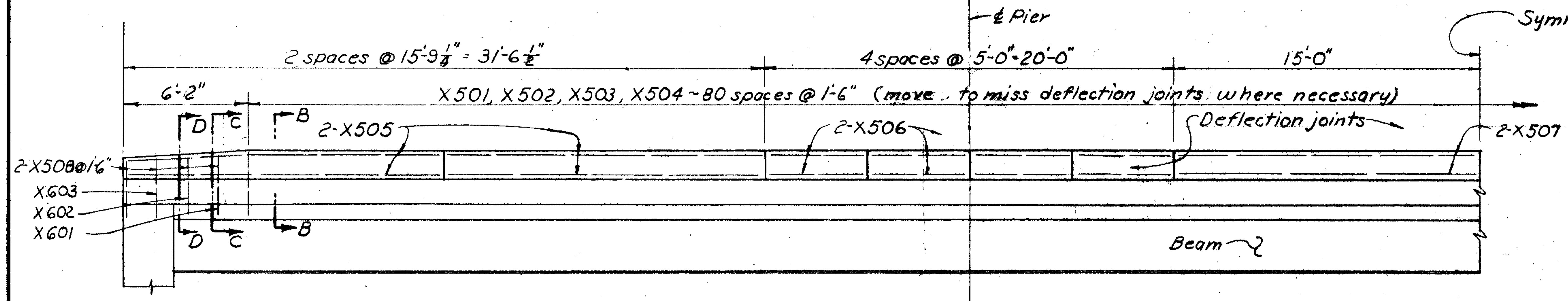
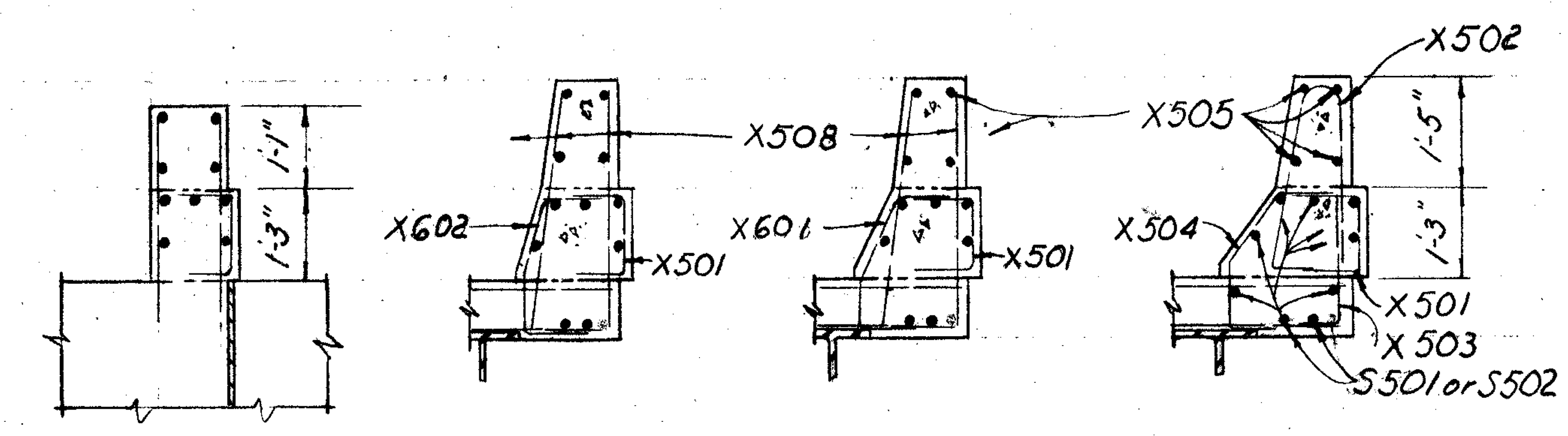
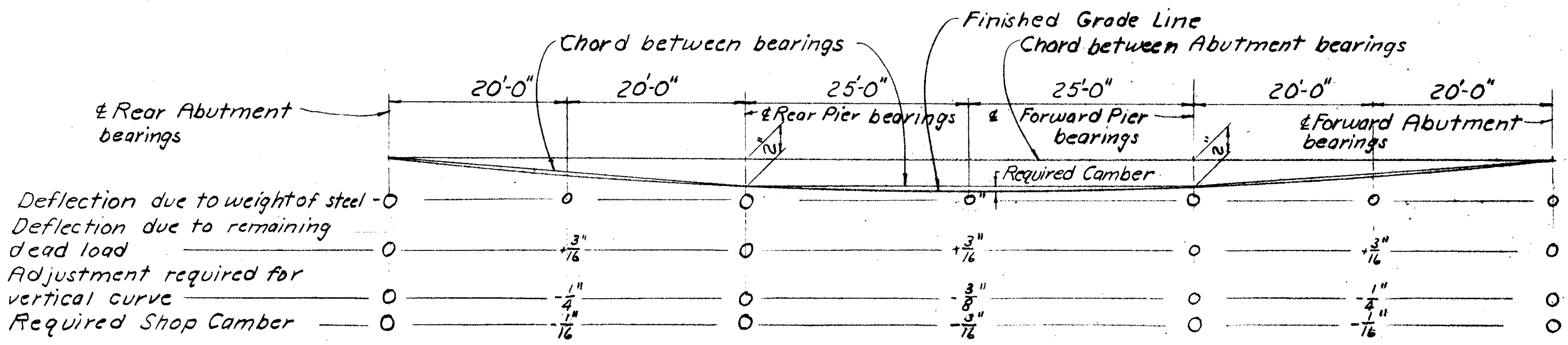
HAS-22-2387



PARAPET



END VIEW SECTION D-D SECTION C-C SECTION B-B



DEFLECTION AND CAMBER DIAGRAM

12427

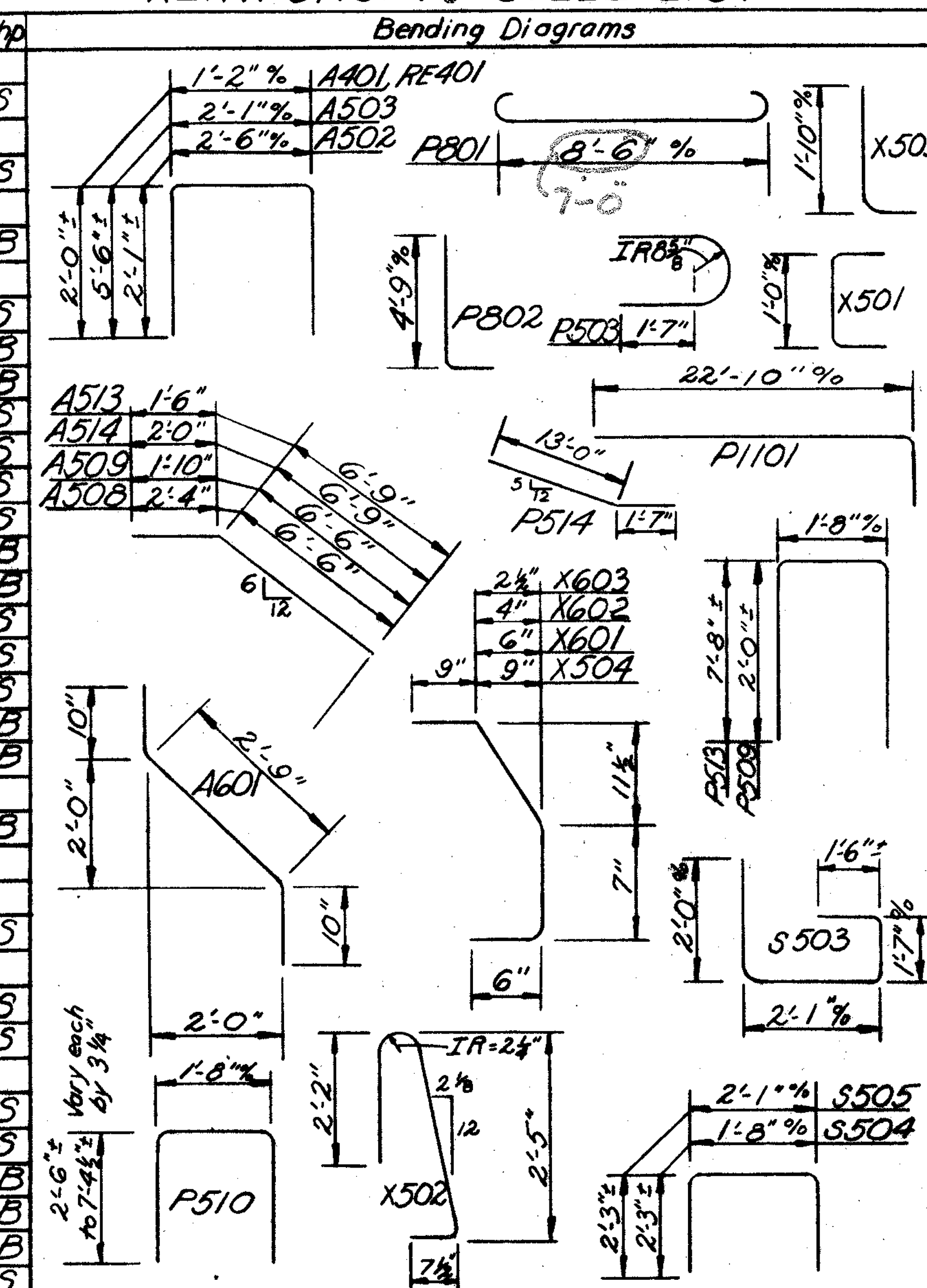
Item	Total	Unit	ESTIMATED QUANTITIES	Abuts	Piers	Super.	Gen'l	As-Built	
503	Lump	Sum	Cofferdams cribs and sheeting				Lump		
503	265	Cu.yd.	Unclassified excavation	135	130				
505	Lump	Sum	First test pile				Lump		
507	880	Lin.ft.	Steel piles, 10BP42	530	350				
509	73859	lbs	Reinforcing steel	8387	12647	52825			
511	201	Cu.yd.	Class C concrete, superstructure			201			
511	91	Cu.yd.	Class C concrete, piers above footings		91				
511	94	Cu.yd.	Class C concrete, abutments	94					
511	30	Cu.yd.	Class C concrete, pier footings		30				
512	86	Lin.ft.	Premolded sealing strip	86					
513	90,300	lbs	Structural steel			90,300			
514	90,300	lbs	Field painting of structural steel			90,300			
516	96	Sq.ft.	1" Preformed expansion joint filler	96					
516	72	Sq.ft.	¼" Preformed expansion joint filler	72					
518	60	Cu.yd.	Porous backfill	60					
518	122	Lin.ft.	6" perforated, helical corrugated metal pipe including specials, 707.01	122					
518	26	Lin.ft.	6" non-perforated helical corrugated metal pipe, 707.01	26					
518	12	Each	Scuppers, including supports			12			
601	610	Sq.yd.	Crushed aggregate slope protection				610		
808	201	Units	Water-reducing, set-retarding admixture			201			
825	675	Sq.yd.	Concrete surface treatment			675			

73639

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp
Abutments				
A1001	16	31'-11"	2197	S
A801	16	31'-7"	1349	S
A601	160	4'-3"	1021	B
A501	28	31'-2"	910	S
A502	184	6'-5"	1231	B
A503	92	12'-10"	1231	B
A504	8	3'-0"	25	S
A505	4	4'-0"	17	S
A506	16	5'-0"	83	S
A507	4	5'-6"	23	S
A508	2	8'-10"	18	B
A509	2	8'-4"	17	B
A510	4	4'-9"	20	S
A511	4	3'-6"	15	S
A512	4	2'-9"	11	S
A513	2	8'-3"	17	B
A514	2	8'-9"	18	B
A401	56	4'-11"	184	B
Superstructure				
S801	40	23'-2	2474	S
S601	904	22'-4"	30324	S
S602	68	20'-0"	2043	S
S501	372	30'-0"	11640	S
S502	93	19'-1"	1851	S
S503	44	6'-10"	314	B
S504	44	5'-11"	272	B
S505	72	6'-4"	476	B
S506	2	7'-0"	15	S
S507	2	11'-0"	23	S
X601	4	2'-10"	17	B
X602	4	2'-8"	16	B
X603	4	2'-6"	15	B

Bending Diagrams



BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A700 is a No. 7 size bar and A1014 is a No. 10 size.

Mark	No.	Length	Weight	Shp
Superstructure Con't				
X501	178	2'-0"	371	B
X502	162	5'-4"	901	B
X503	162	2'-4"	394	B
X504	162	3'-0"	507	B
X505	32	15'-5"	515	S
X506	64	4'-8"	312	S
X507	16	14'-8"	245	S
X508	32	3'-0"	100	S
Piers				
P1101	20	24'-0"	2550	B
P1102	20	22'-7"	2400	S
P801	56	10'-8"	1595	B
P802	72	5'-8"	1089	B
P803	32	8'-0"	684	S
P501	12	20'-6"	257	S
P502	40	19'-5"	810	S
P503	36	5'-6"	207	B
P504	36	16'-5	616	S
P505	4	18'-5"	77	S
P506	4	26'-3"	110	S
P507	8	18'-0"	150	S
P508	16	21'-10"	364	S
P509	72	5'-5"	407	B
P510	4 series of 19	6'-5" to 16'-2	895	B
P513	18	16'-9"	314	B
P514	8	14'-7"	122	B
Replacement Bars				
RE1101	1	8'-6"	-	S
RE1001	1	8'-2"	-	S
RE801	1	7'-6"	-	S
RE601	2	6'-11"	-	S
RE501	2	6'-7"	-	S
RE401	1	4'-11"	-	B

9-2
1375

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

7/7

SUPERSTRUCTURE DETAILS, REINFORCING STEEL LIST AND ESTIMATED QUANTITIES
BRIDGE NO. HAS-22-2459L
OVER PENN CENTRAL RAILROAD

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FPK	FPK		5-7-69	BFG	6-16-69	

Rev 9-30-69

GREEN TWP.-SEC.3-T10N-R4W

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

85

HAS-22-23.87

RIGHT OF WAY PLAN

1/2

PLAN COMPLETED	4-21-69

R/W JOB NO.	FED. RD. DIVISION	STATE	PROJECT	
	2	OHIO		

86

HAS-22-23.87
R/W PLAN
LIMITED ACCESS

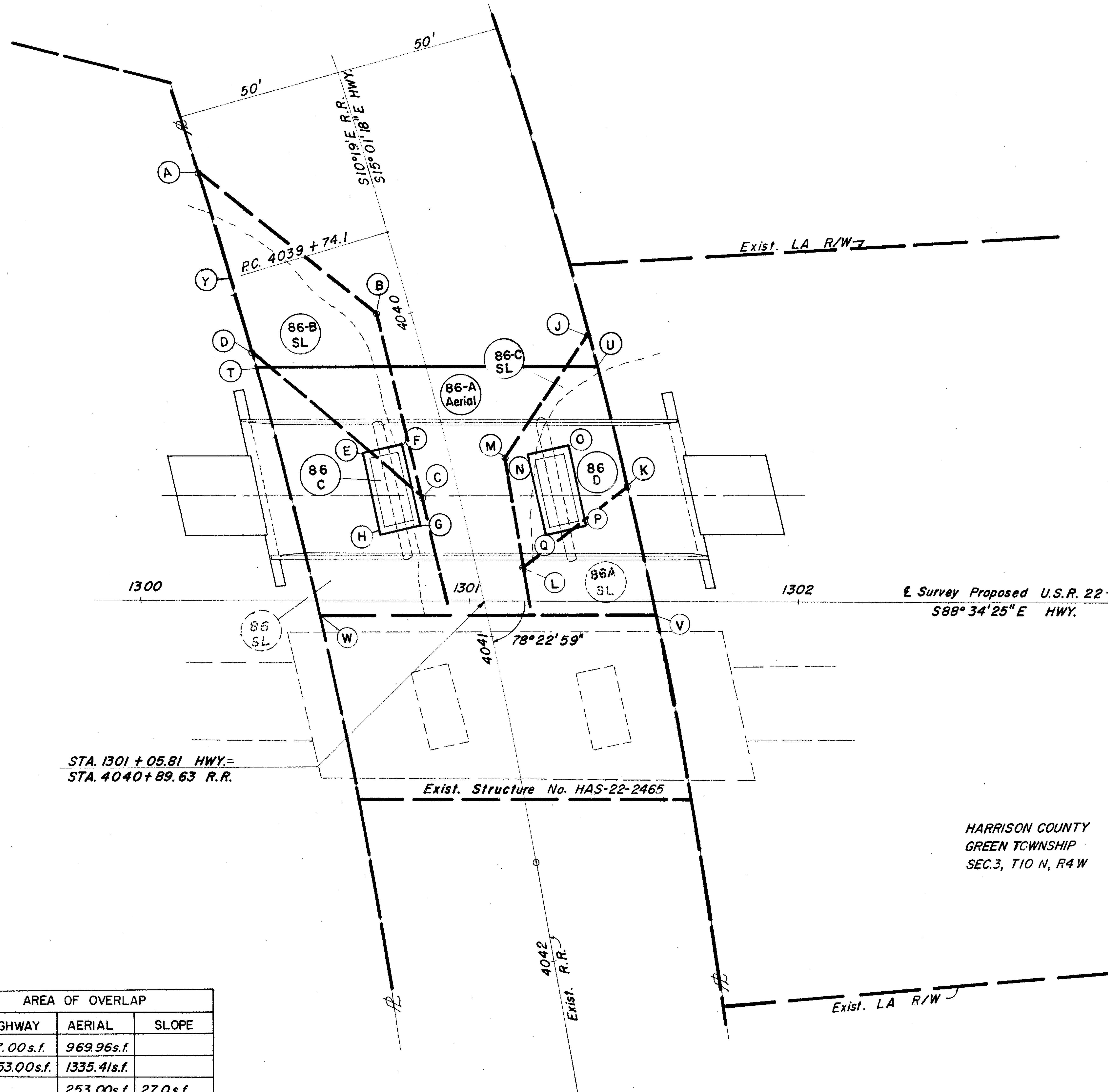
2/2

LINE	BEARING	DISTANCE	RADIUS	ARC LENGTH
A - B	S50° 08' 42" E	69.18'		
B - C	S12° 50' 43" E	57.20'		
C - D	N48° 29' 13" W	68.61		
D - Y	N14° 31' 19" W	23.03	1319.92'	23.03'
Y - A	N15° 01' 18" W	33.48'		
E - F	N78° 55' 35" E	11.00'		
F - G	S11° 04' 25" E	23.00'		
G - H	S78° 55' 35" W	11.00'		
H - E	N11° 04' 25" W	23.00'		
K - L	S55° 15' 12" W	40.46'		
L - M	N5° 56' 36" W	32.62'		
M - J	N35° 52' 26" E	45.47'		
J - K	S12° 10' 27" E	47.30'	1419.92'	47.30'
N - O	N78° 55' 35" E	11.00'		
O - P	S11° 04' 25" E	23.00'		
P - Q	S78° 55' 35" W	11.00'		
Q - N	N11° 04' 25" W	23.00'		
T - U	S88° 34' 25" E	103.37'		
U - V	S11° 09' 41" E	76.85'	1419.92'	76.86'
V - W	N88° 34' 25" W	102.03'		
W - T	N12° 08' 01" W	77.15'	1319.92	77.16

PARCEL DESCRIPTION DATA

POINT	HWY. STATION	OFFSET	R.R. STATION	OFFSET
A	1300+20.37	130.00' Lt.	4039+40.62	50.00' Rt.
B	1300+74.57	87.00' Lt.	4039+97.38	10.00' Rt.
C	1300+88.67	31.57' Lt.	4040+55.00	10.00' Rt.
D	1300+36.18	75.75' Lt.	4039+98.00	50.00' Rt.
E	1300+68.66	43.83' Lt.	4040+38.21	26.62' Rt.
F	1300+79.39	46.21' Lt.	4040+38.46	15.63' Rt.
G	1300+84.37	23.57' Lt.	4040+61.72	15.94' Rt.
H	1300+73.63	21.37' Lt.	4040+61.67	26.94' Rt.
J	1301+38.30	81.00' Lt.	4040+19.36	50.00' Lt.
K	1301+49.42	35.03' Lt.	4040+65.00	50.00' Lt.
L	1301+16.76	11.15' Lt.	4040+81.00	13.00' Lt.
M	1301+12.58	43.50' Lt.	4040+48.85	16.00' Lt.
N	1301+18.66	43.83' Lt.	4040+49.92	21.99' Lt.
O	1301+29.39	46.21' Lt.	4040+50.07	32.99' Lt.
P	1301+34.37	23.75' Lt.	4040+72.53	32.87' Lt.
Q	1301+23.63	21.37' Lt.	4040+72.56	21.87' Lt.
T	1300+37.48	71.00' Lt.	4040+03.11	50.00' Rt.
U	1301+40.86	71.00' Lt.	4040+29.32	50.00' Lt.
V	1301+57.60	4.00' Rt.	4040+03.47	50.00' Lt.
W	1300+55.57	4.00' Rt.	4040+83.20	50.00' Rt.
Y	1300+29.85	97.89' Lt.	4039+74.10	50.00' Rt.

NOTE: Parcels 86-SL and Parcel 86-A SL and Parcel 86-A SL were previously purchased on the HAS-22-18.97-JEF-22-0.00 Project.



NOTE: The centerline of survey for U.S.R. 22 is the same as shown for HAS-22-18.97 and is recorded In Vol. 5, Page 32-33-34 of the Harrison County Plat Records and dated June 28, 1961.

PROPOSED STRUCTURE NO. HAS-22-2459L
TYPE: Continuous beam with reinforced concrete deck and piers and integral abutments.
SPANS: 40.0'-56.0'-40.0' c/c brgs.
ROADWAY: 40.0' f/f parapets.

HARRISON COUNTY
GREEN TOWNSHIP
SEC. 3, T10 N, R4 W

Scale
0 20 50

PARCEL NUMBER	EASEMENT REQUIRED	TOTAL AREA	AREA OF OVERLAP		
			HIGHWAY	AERIAL	SLOPE
86B-SL	SLOPE	2269.41sq.ft.	27.00s.f.	969.96s.f.	
86C-SL	SLOPE	1384.22sq.ft.	253.00s.f.	1335.41s.f.	
86C	HIGHWAY	253.00sq.ft.		253.00s.f.	27.0s.f.
86D	HIGHWAY	253.00sq.ft.		253.00s.f.	253.0s.f.
86A	AERIAL	770032s.f.	506.00s.f.		2305.37s.f.

COMPLETION DATE 4-18-69

DATE	REVISIONS

TYPE FUND	Surveyed	Drawn By	Design	Checked	Supervised	2
F		Daniel Hissom			Tracey Hess	2

PENN-CENTRAL RAILROAD PLAT

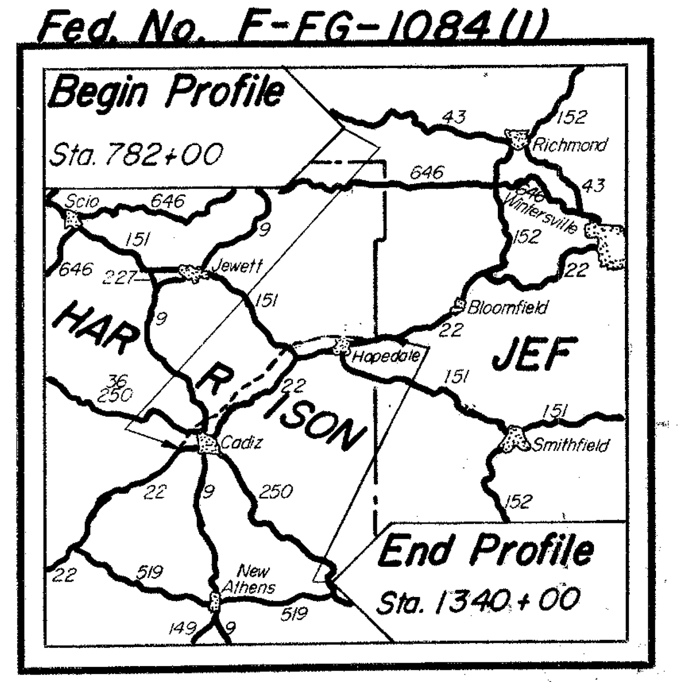
SOIL PROFILE
HARRISON COUNTY
HAS-22-23.87

STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

1 / 9

NOTE: INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR 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.

Fed. No. F-FG-1084(1)



LOCATION MAP

Recon - J.S.M. May 15, 1958
Auger - C.A.S., T.R.S., D.J.H., C.E.G. - June 12, 1958
Core - W.R.B., J.A.M., J.S.S., W.A.M., W.F.H. - June 19, 1958
Drafting W.L.T., J.H.W., G.V.T., D.M., M.J.H., H.H.S., D.L.W. July 17, 1958

Revised November 20, 1959

Recon - J.S.M. - 9-29-59
Drilling - J.M.M. - 8-26-59 to 8-28-59
Drafting - H.R.S., W.M.R., L.N.L. - 11-20-59

Revised March 17, 1959

Recon - J.S.M. - January 8, 1959
Auger - C.A.S. - January 27, 1959
Core - W.R.B. - February 3, thru February 5, 1959
Drafting - G.R.M., L.N.L., R.V.S. - March 17, 1959

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS-403 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel with sand	A-1-b (0)	A-1-b	54	6	22	11	7	NP	NP	13	1
Gravel or stone fragments with sand and silt	A-2-4 (0)	A-2-4	54	7	9	18	22	30	9	16	5
Gravel and/or stone fragments with sand, silt, and clay	A-2-6 (0)	A-2-6	70	2	3	14	11	33	14	10	5
Sandy silt	A-4 (5)	A-4 a	22	5	14	37	22	30	8	20	37
Silt	A-4 (8)	A-4b	5	3	6	57	29	32	8	26	23
Silt and clay	A-6 (9)	A-6a	14	4	9	41	32	35	13	22	137
Silty clay	A-6 (11)	A-6b	12	3	6	41	38	38	17	22	46
Elastic clay without organic material unless otherwise indicated	A-7-5 (19)	A-7-5	4	3	4	39	50	64	27	43	19
Clay	A-7-6 (15)	A-7-6	6	2	5	37	50	47	23	27	130

Overburden (Visual classification)
Coal (Visual classification)
Coal blossom (Visual classification)
Sandstone (Visual classification)
Shale (Visual classification)
Weathered shale (Visual classification)
Indurated clay (Visual classification)
Weathered sandstone (Visual classification)
Limestone (Visual classification)

Sod and/or Topsoil=X"-Approx. depth.
Berm material
Auger boring plotted to vertical scale only.
Auger boring-plan view.
Drive sample-core boring - plan view.
Number of blows for "Standard Penetration" Test.
x=number of blows for the first 6 inches.
y=number of blows for the second 6 inches.
Note: Rock core scale of hardness — Hard, medium, firm, soft.
Weathered indurated clay
Clay bedrock

Water content nearly equal to or greater than liquid limit.
W Free water

Note: Figures beside borings indicate water content in per cent. e.g. 15.

Samples Taken Lab. No. Sa.
92328 - 92470 incl.
92867 - 92886 incl.
93067 - 93167 incl.
93171 - 93257 incl.
93277 - 93363 incl.
93484 - 93485 incl.
93549 - 93653 incl.
94217 - 94227 incl.
94868 - 94874 incl.
11091 - 11111 incl.
31271 - 31320 incl.

Summary of Soil Test Data

NOTE: NP shown in Liquid Limit and Plasticity Index columns indicates that the material is non-plastic.

Station	Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
799+80	12'LT	0.6-4.0	38	8	13	23	18	29	8	17	A-4a
		4.0-7.0	0	2	8	42	48	48	20	33	A-7-6
		7.0-10.0	10	5	26	32	27	39	13	26	A-6a
802+75	CL	0.3-4.0	0	4	3	35	58	46	23	22	A-7-6
809+50	CL	0.6-2.0	54	6	22	11	7	NP	NP	13	A-1-b
		2.0-6.0	0	2	6	55	37	46	18	42	A-7-6
		6.0-8.5	25	2	7	30	36	49	24	38	A-7-6
810+80	20'RT	0.8-4.0	0	3	25	34	38	38	13	23	A-6a
		4.0-7.0	0	3	9	59	29	39	11	20	A-6a
		7.0-8.5	COAL BLOSSOM							27	VISUAL
		8.5-10.5	7	6	12	35	40	48	21	23	A-7-6
		10.5-13.0	MINE SHAFT								
		13.0-15.0	26	1	8	34	31	47	20	48	A-7-6
814+50	CL	0.0-0.5	COAL							68	VISUAL
		0.5-1.5	36	8	8	23	25	38	12	27	A-6a
819+00	CL	0.3-1.0	7	4	5	38	46	41	16	48	A-7-6
		1.0-2.0	42	8	6	21	23	34	13	24	A-6a
821+00	20'LT	0.6-3.0	24	4	10	29	33	38	18	24	A-6b
825+00	CL	0.6-4.0	30	3	7	35	25	39	14	16	A-6a
828+50	CL	0.3-2.0	0	4	11	30	55	55	27	35	A-7-6
831+50	CL	0.3-1.3	9	1	6	58	26	35	6	20	A-4b
834+50	CL	0.6-3.5	10	9	20	33	28	41	23	32	A-7-6
835+00	CL	0.0-1.0	49	1	7	25	18	39	11	21	A-6a
837+25	CL	0.0-1.5	12	9	14	39	26	31	6	19	A-4a
842+00	CL	0.6-2.0	25	1	1	34	39	71	46	19	A-7-6
		2.0-4.0	0	2	3	27	68	56	29	33	A-7-6
843+00	CL	0.6-3.0	0	1	3	42	54	62	35	25	A-7-6
		3.0-6.0	0	7	6	53	34	40	19	17	A-6b
		6.0-7.5	EXTREMELY WEATHERED BROWN SHALE							19	VISUAL
844+00	CL	0.6-4.0	0	1	5	54	40	39	15	18	A-6a
		4.0-7.0	31	2	2	44	21	39	18	19	A-6b
		7.0-11.5	EXTREMELY WEATHERED SHALE							14	VISUAL
848+00	CL	0.8-4.0	0	1	2	25	72	64	31	26	A-7-5
		4.0-6.0	23	3	6	32	36	36	15	14	A-6a
		6.0-8.0	EXTREMELY WEATHERED BROWN SHALE							12	VISUAL
		8.0-10.0	WEATHERED RED & BROWN SHALE							13	VISUAL
849+00	CL	0.6-3.0	17	3	3	27	50	45	24	18	A-7-6
		3.0-7.0	8	5	5	40	42	41	15	26	A-7-6
850+00	CL	0.6-2.0	0	4	4	31	61	60	27	31	A-7-5
		2.0-8.0	22	5	5	35	33	37	14	14	A-6a
		8.0-9.5	GRAY SHALE							10	VISUAL
851+50	CL	0.6-2.0	0	2	6	37	55	45	20	26	A-7-6
		2.0-6.0	0	2	5	45	48	46	21	24	A-7-6
		6.0-8.0	0	1	3	24	72	66	33	49	A-7-5
		8.0-13.0	20	7	6	39	28	34	14	36	A-6a
		13.0-14.5	WEATHERED BROWN SANDY SHALE							9	VISUAL
853+50	CL	0.6-3.0	0	2	4	31	63	59	30	28	A-7-6
		3.0-6.5	EXTREMELY WEATHERED GRAY SHALE							21	VISUAL
854+50	CL	0.6-3.0	31	6	3	33	27	41	22	15	A-7-6
		3.0-5.0	18	2	4	35	41	49	24	34	A-7-6
		5.0-9.0	EXTREMELY WEATHERED GRAY SHALE							27	VISUAL
855+50	CL	0.6-2.0	3	3	4	51	39	35	13	21	A-6a
		2.0-4.0	7	2	3	34	54	48	22	22	A-7-6
		4.0-10.0	31	7	5	23	34	37	16	22	A-6b
		10.0-15.0	GRAY SHALE							8	VISUAL
856+50	CL	0.8-2.0	17	5	8	29	41	47	24	21	A-7-6
		2.0-5.0	SANDY SHALE							10	VISUAL
		5.0-13.0	EXTREMELY WEATHERED SHALE							17	VISUAL
		13.0-15.0	SHALE							6	VISUAL
859+50	8'RT	0.8-4.0	0	4	9	56	31	41	12	33	A-7-6
		4.0-7.0	15	3	9	38	35	38	11	37	A-6a
		7.0-10.0	EXTREMELY WEATHERED GRAY SHALE							17	VISUAL
862+50	CL	0.6-2.0	0	2	6	58	34	39	12	29	A-6a
		2.0-6.0	16	10	11	34	29	38	14	26	A-6a
		6.0-7.0	0	0	1	45	54	51	18	21	A-7-5
		7.0-8.0	37	9	5	25	24	47	15	39	A-7-5
865+65	CL	0.6-3.0	0	1	6	52	41	45	18	54	A-7-6
		3.0-5.0	EXTREMELY WEATHERED GRAY SHALE							25	VISUAL
		5.0-8.0	GRAY SHALE							7	VISUAL
868+50	CL	0.6-3.0	8	7	11	43	31	36	13	18	A-6a
		3.0-4.5	11	8	13	41	27	30	9	20	A-4a
873+50	CL	0.8-3.0	6	8	21	37	28	33	12	22	A-6a
		3.0-6.0	5	5	15	42	33	37	14	28	A-6a
		6.0-8.0	EXTREMELY WEATHERED BROWN SHALE							19	VISUAL
876+00	CL	0.8-2.0	24	9	5	36	26	38	13	16	A-6a
		2.0-5.0	EXTREMELY WEATHERED BR. & GR. INDURATED CLAY							25	VISUAL
		5.0-6.0	EXTREMELY WEATHERED BROWN INDURATED CLAY							28	VISUAL
879+00	CL	0.6-2.0	16	11	6	40	27	36	11	19	A-6a
		2.0-6.0	37	14	10	25	14	27	4	13	A-4a
		6.0-8.0	EXTREMELY WEATHERED BROWN SHALE							12	VISUAL
882+00	CL	0.6-8.0	24	5	9	38	24	31	9	19	A-4a
890+00	CL	0.5-4.0	6	5	8	48	33	33	11	24	A-6a
		4.0-5.0	COAL BLOSSOM							53	VISUAL
		5.0-6.0	0	2	9	32	57	55	26	29	A-7-6
		6.0-7.0	0	4	7	34	55	58	27	40	A-7-5
		7.0-10.0	7	4	9	58	22	34	12	32	A-6a
892+00	CL	0.6-1.0	0	5	7	52	36	36	13	23	A-6a
		1.0-3.0	0	3	8	39	50	43	18	25	A-7-6
		3.0-8.5	39	5	7	36	13	30	9	12	A-4a
892+00	50'RT	0.6-1.0	0	2	4	43	51	47	20	29	A-7-6
		1.0-3.0	42	5	10	25	18	40	17	22	A-6b
		3.0-6.0	14	3	11	53	19	29	6	15	A-4b
		6.0-10.0	37	5	8	32	18	34	9	24	A-4a
897+50	CL	0.6-3.0	0	3	12	52	33	36	13	17	A-6a
		3.0-4.0	0	4	14	58	24	39	14	20	A-6a
		4.0-10.0	WEATHERED BROWN SHALE							8	VISUAL
899+50	CL	0.6-5.0	8	4	8	49	31	34	15	21	A-6a
901+50	CL	0.6-2.0	0	5	7	52	36	46	17	26	A-7-6
		2.0-3.0	COAL BLOSSOM							59	VISUAL
		3.0-4.0	0	1	2	42	55	58	27	23	A-7-5
		4.0-5.0	COAL BLOSSOM								VISUAL
904+00	CL	0.0-3.0	11	9	14	44	22	29	9	18	A-4a
905+00	60'LT	0.5-5.0	0	7	22	46	25	29	9	14	A-4a
905+00	100'RT	0.4-2.3	8	6	9	48	29	34	8	22	A-4a
908+25	CL	0.0-2.0	0	3	5	51	41	47	15	45	A-7-5
		2.0-5.0	24	6	9	35	26	47	14	49	A-7-5
909+80	CL	0.6-4.0	6	4	7	46	37	37	13	26	A-6a
		4.0-8.0	4	1	4	42	49	43	20	21	A-7-6
911+46	CL	0.6-6.0	4	2	14	50	30	35	12	22	A-6a
919+50	CL	0.3-4.0	29	8	6	33	24	39	14	16	A-6a
924+00	CL	0.3-5.0	16	6	13	40	25	31	11	19	A-6a
933+00	CL	0.5-5.0	BROWN AND GRAY SHALE							11	VISUAL
936+48	11'LT	0.5-4.0	30	2	4	28	36	36	16	14	A-6b
939+91	31'LT	0.4-1.0	0	1	6	56	37	36	11	34	A-6a
		1.0-3.0	2	1	5	54	38	37	10	40	A-4b
		3.0-6.0	7	1	10	47	35	34	14	29	A-6a
939+88	72'LT	0.3-7.0	0	1	3	44	52	51	25	44	A-7-6
942+50	50'LT	0.6-3.0	0	2	16	42	40	40	15	46	A-6a
		3.0-5.0	22	3	18	35	22	35	10	51	A-4a
945+43	80'LT	0.6-3.0	0	2	10	48	40	39	15	17	A-6a
		3.0-5.0	EXTREMELY WEATHERED BROWN & YELLOW SHALE							31	VISUAL
		5.0-7.0	EXTREMELY WEATHERED BROWN SHALE							14	VISUAL
		7.0-10.0	BROWN SHALE							9	VISUAL
948+94	116'LT	0.8-2.0	0	1	4	53	42	66	39	29	A-7-6
		2.0-3.0	0	1	7	50	42	37	17	21	A-6b
		3.0-4.0	EXTREMELY WEATHERED BROWN SHALE							29	VISUAL
		4.0-7.5	BROWN SHALE							11	VISUAL
950+98	137'LT	0.0-0.5	3	6	8	37	46	48	23	37	A-7-6
		0.5-1.5	24	4	9	29	34	41	13	49	A-7-6
952+49	150'LT	0.3-2.0	16	3	4	33	44	40	18	19	A-6b
		2.0-4.0	52	2	3	20	23	37	17	17	A-6b
955+98	185'LT	0.0-3.0	60	2	3	19	16	32	13	9	A-2-6
		3.0-7.0	80	1	1	10	8	37	17	9	A-2-6
959+22	218'LT	0.0-2.0	75	1	2	12	10	32	12	7	A-2-6
960+94	235'LT	0.0-5.0	53	10	5	20	12	30	8	13	A-2-4
		5.0-9.0	49	7	6	23	15	36	14	17	A-6a
		9.0-12.0	GRAY SHALE							12	VISUAL
962+44	250'LT	0.0-6.0	GRAY SHALE							7	VISUAL
		6.0-11.0	BROWN SHALE							8	VISUAL
963+04	255'LT	0.6-4.0	BROWN SHALE							8	VISUAL
		4.0-7.0	BROWN SHALE							12	VISUAL
963+50	259'LT	0.6-4.0	BROWN SANDY SHALE							9	VISUAL
964+42	270'LT	0.0-8.0	BROWN SHALE							8	VISUAL
970+25	310'LT	0.0-6.0	GRAY SHALE AND COAL							12	VISUAL
		6.0-12.0	49	5	5	20	21	32	11	11	A-6a
		12.0-19.0	40	7	6	23	24	37	13	18	A-6a
971+39	313'LT	0.0-5.0	35	7	8	29	21	37	14	15	A-6a
		5.0-10.0	51	6	7	21	15	37	13	17	A-6a
		10.0-14.0	BROWN SHALE							[illegible]	VISUAL

TE-54-B
600-6-57

SOIL PROFILE
HARRISON COUNTY
HAS-22-23.87

STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

Continued from page 2

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
144+00 75'LT	0.6-6.0	WEATHERED BROWN SHALE							10	
	6.0-11.0	WEATHERED BROWN SHALE							13	
	11.0-12.0	GRAY SHALE							20	
144+00 CL	0.4-3.0	12	2	6	37	43	44	24	19	A-7-6
	3.0-4.0	12	0	1	31	56	52	31	24	A-7-6
	4.0-7.0	4	1	2	45	48	44	32	23	A-7-6
	7.0-14.0	EXTREMELY WEATHERED BROWN SHALE							26	
1146+00 CL	0.6-3.0	16	4	8	40	32	36	18	21	A-6b
	3.0-4.0	0	1	2	46	51	41	22	17	A-7-6
	4.0-5.0	EXTREMELY WEATHERED BROWN & GRAY SHALE							17	
	5.0-8.0	EXTREMELY WEATHERED BROWN SHALE							19	
1147+50 CL	0.6-3.0	0	1	11	54	34	40	14	41	A-6a
1148+50 CL	0.6-3.0	EXTREMELY WEATHERED BROWN SHALE							21	
	3.0-6.0	EXTREMELY WEATHERED BROWN & GRAY SHALE							29	
1152+00 100'LT	0.6-2.0	LIGHT BROWN SANDSTONE							11	
1152+00 CL	0.0-6.0	EXTREMELY WEATHERED LIGHT BROWN SHALE							19	
1152+00 100'RT	0.6-5.0	0	2	8	51	39	35	16	23	A-6b
1153+50 CL	0.6-3.0	WEATHERED LIGHT BROWN SANDY SHALE							18	
1156+00 CL	0.6-5.0	EXTREMELY WEATHERED LIGHT BROWN SHALE							21	
	5.0-8.0	EXTREMELY WEATHERED BROWN & GRAY SHALE							25	
1157+50 100'LT	0.3-6.0	16	1	4	44	35	42	27	25	A-7-6
1157+50 CL	0.0-3.0	BROWN SHALE							9	
1157+50 100'RT	0.3-1.0	9	4	9	50	28	37	15	21	A-6a
	1.0-3.0	EXTREMELY WEATHERED LIGHT BROWN SHALE							17	
1159+00 50'RT	0.6-4.0	5	1	11	58	25	32	8	17	A-4b
1159+50 CL	0.6-4.0	39	2	8	33	18	32	6	40	A-4a
1161+00 CL	0.6-4.0	41	3	5	30	21	36	11	19	A-6a
	4.0-6.0	28	5	7	29	31	39	17	22	A-6b
	6.0-10.0	8	2	6	41	43	41	17	34	A-7-6
	10.0-12.0	0	2	6	42	50	49	29	26	A-7-6
	12.0-13.0	EXTREMELY WEATHERED LIGHT BROWN SHALE							17	
1163+00 100'LT	0.6-3.0	0	2	3	53	42	41	18	21	A-7-6
	3.0-5.0	EXTREMELY WEATHERED BROWN SHALE							20	
	5.0-6.0	EXTREMELY WEATHERED BROWN & GRAY SHALE							20	
	6.0-8.0	EXTREMELY WEATHERED GRAY SHALE							19	
	8.0-10.0	EXTREMELY WEATHERED BROWN SHALE							22	
1163+00 CL	0.6-2.0	0	1	3	49	47	43	20	27	A-7-6
	2.0-4.0	7	4	24	45	20	28	8	14	A-4a
	4.0-5.0	EXTREMELY WEATHERED BROWN & GRAY SHALE							25	
	5.0-8.0	WEATHERED BROWN SHALE							15	
	8.0-10.0	WEATHERED LIGHT & DARK BROWN SHALE							29	
1179+00 CL	0.6-2.0	4	3	10	59	24	52	14	53	A-7-6
	2.0-5.0	EXTREMELY WEATHERED BROWN & GRAY SHALE							23	
1181+00 100'LT	0.0-3.0	BROWN SHALE							13	
1181+00 CL	0.6-2.0	0	2	5	50	43	42	16	24	A-7-6
	2.0-6.0	EXTREMELY WEATHERED LIGHT BROWN SHALE							19	
1181+00 100'RT	0.6-2.0	0	0	5	53	42	40	16	22	A-6b
	2.0-4.0	17	0	6	26	51	42	14	25	A-7-6
1183+00 100'LT	0.5-5.0	0	3	5	49	43	46	18	21	A-7-6
1183+00 CL	0.6-3.0	LIGHT BROWN SHALE							11	
1183+00 100'RT	0.6-5.0	9	4	6	53	28	35	9	25	A-4b
1184+00 CL	0.5-4.0	27	4	11	35	23	33	9	33	A-4a
1185+00 200'RT	0.3-3.0	0	1	4	36	59	52	28	23	A-7-6
1186+50 100'LT	0.3-2.0	4	6	6	57	27	33	5	18	A-4b
	2.0-5.0	1	2	4	51	42	48	19	21	A-7-6
1186+50 CL	0.4-5.0	0	1	5	59	35	30	7	22	A-4b
1186+50 100'RT	0.3-5.0	19	4	7	40	30	37	11	17	A-6a
1187+25 CL	0.0-2.0	-SLAG FILL								
1189+00 CL	0.6-4.0	0	4	4	28	64	62,	30	28	A-7-5
1193+50 CL	0.8-5.0	2	2	8	47	41	39	14	24	A-6a
1195+50 CL	0.6-6.0	0	1	7	29	63	54	27	32	A-7-6
1197+00 CL	0.5-4.0	LIGHT BROWN SHALE							13	
1198+50 CL	0.4-5.0	0	1	2	40	57	44	17	25	A-7-6
1200+00 CL	0.4-2.0	BROWN SHALE							10	
1202+00 CL	0.0-4.0	12	3	18	37	30	42	13	34	A-7-6
1205+00 CL	0.6-4.0	WEATHERED BROWN SHALE							16	
1207+00 CL	0.6-3.0	14	3	8	43	32	39	16	46	A-6b
1210+85 CL	0.3-7.0	EXTREMELY WEATHERED BROWN & GRAY SHALE							26	
	7.0-8.0	EXTREMELY WEATHERED GRAY SHALE							18	
1212+00 100'LT	0.8-4.0	0	1	4	37	58	62	33	27	A-7-6
	4.0-6.0	0	2	5	42	51	39	19	20	A-6b
	6.0-7.0	9	4	22	37	28	25	12	13	A-6a
1211+90 CL	0.8-3.0	0	10	8	49	33	34	11	24	A-6a
	3.0-5.0	0	1	3	34	62	46	23	23	A-7-6
	5.0-6.0	SHALE							7	
1212+00 100'RT	0.8-4.0	0	3	9	46	42	41	18	21	A-7-6
	4.0-10.0	0	0	7	34	59	44	20	20	A-7-6
	10.0-12.0	EXTREMELY WEATHERED GRAY SHALE							25	
1214+50 100'LT	0.8-4.0	EXTREMELY WEATHERED BROWN & GRAY INDURATED CLAY							19	
	4.0-8.0	SHALE							9	
1214+50 CL	0.8-4.0	EXTREMELY WEATHERED BROWN & GRAY INDURATED CLAY							18	
	4.0-11.0	COAL								
	11.0-14.0	0	4	3	40	53	47	23	37	A-7-6
1214+50 100'RT	0.8-5.0	9	7	11	38	35	36	13	17	A-6a
	5.0-11.0	0	4	6	55	35	46	24	25	A-7-6
	11.0-23.0	13	6	5	44	32	39	17	21	A-6b
1216+00 100'LT	0.0-3.0	EXTREMELY WEATHERED BROWN & GRAY SHALE							17	
	3.0-8.0	COAL								
	8.0-9.0	7	5	3	38	47	50	24	40	A-7-6
1216+00 100'RT	0.8-3.0	EXTREMELY WEATHERED BROWN SHALE							17	
	3.0-7.0	SANDY SHALE							8	
1217+00 100'LT	0.8-3.0	16	6	11	41	26	36	13	19	A-6a
	3.0-6.0	COAL								
	6.0-9.0	0	0	3	45	52	44	17	31	A-7-6
	9.0-12.0	EXTREMELY WEATHERED GRAY SHALE							16	
	12.0-13.0	GRAY SHALE							11	
1217+00 CL	0.0-4.0	19	3	7	49	22	30	7	13	A-4a
	4.0-5.0	COAL BLOSSOM								
	5.0-8.0	17	0	4	52	27	31	9	27	A-4b
	8.0-11.0	0	1	3	39	57	47	23	34	A-7-6
	11.0-15.0	EXTREMELY WEATHERED BROWN SHALE							19	
	15.0-16.0	SHALE							13	
1217+00 83'RT	0.6-3.0	WEATHERED GRAY SHALE							14	
	3.0-9.0	SANDY SHALE							5	
1218 +00 100'LT	0.8-5.0	21	4	5	31	39	39	17	14	A-6b
	5.0-15.0	18	8	6	33	35	39	19	23	A-6b
	15.0-21.5	5	3	9	41	42	37	15	22	A-6a
1218+00 CL	0.6-4.0	8	1	4	51	36	37	12	14	A-6a
	4.0-7.0	BROWN SANDY SHALE							9	
1218+00 96'RT	0.6-3.0	39	2	11	33	15	NP	NP	13	A-4a
	3.0-7.0	0	0	1	22	77	60	32	37	A-7-6
	7.0-13.0	GRAY SHALE							10	
1219+50 CL	0.8-3.0	37	1	18	28	16	27	5	13	A-4a
	3.0-5.0	EXTREMELY WEATHERED GRAY SHALE							18	
	5.0-11.5	SANDY SHALE							9	
1220+00 95'LT	0.8-4.0	25	1	14	35	25	32	11	16	A-6a
	4.0-7.0	SANDY SHALE							8	
1220+00 CL	0.8-5.0	6	2	26	47	19	22	5	14	A-4a
	5.0-7.0	EXTREMELY WEATHERED GRAY SHALE							25	
	7.0-10.0	GRAY SANDY SHALE							9	
1220+00 60'RT	0.8-3.0	SANDSTONE							9	
	3.0-4.0	SANDSTONE							9	
1228+15 CL	0.6-3.0	0	1	2	60	37	34	10	38	A-4b
	3.0-6.0	0	2	3	58	37	38	16	31	A-6b
	6.0-7.0	14	6	11	45	24	36	15	31	A-6a
1232+00 CL	0.8-3.0	EXTREMELY WEATHERED BROWN SHALE							22	
	3.0-8.0	SANDY SHALE							7	
1233+00 CL	0.8-3.0	9	4	4	47	36	33	12	23	A-6a
	3.0-8.0	0	1	2	29	68	81	48	37	A-7-5
	8.0-10.0	GRAY SHALE							9	
1234+00 CL	0.8-5.0	10	3	4	45	38	34	11	21	A-6a
	5.0-11.0	SANDY SHALE							10	
	11.0-15.0	GRAY SHALE							8	
1239+00 CL	0.6-4.0	WEATHERED BROWN SHALE							15	
	4.0-9.0	WEATHERED BROWN SHALE							14	
	9.0-10.0	SHALE							11	
1240+00 CL	0.6-5.0	EXTREMELY WEATHERED BROWN AND GRAY SHALE							20	
	5.0-7.0	EXTREMELY WEATHERED GRAY SHALE							17	
	7.0-12.0	SANDY SHALE							9	
1241+00 CL	0.6-3.0	0	6	11	43	40	38	13	39	A-6a
	3.0-8.0	BROWN SHALE							13	
	8.0-11.0	COAL								
	11.0-12.0	EXTREMELY WEATHERED BROWN SHALE							27	
1243+00 100'LT	0.0-2.0	WEATHERED BROWN SHALE							21	
	2.0-3.0	WEATHERED BROWN SHALE							21	
1243+00 CL	0.8-3.0	4	6	8	47	35	34	14	19	A-6a
	3.0-6.0	EXTREMELY WEATHERED BROWN & GRAY SHALE							19	
	6.0-8.0	EXTREMELY WEATHERED BROWN SHALE							16	
1243+00 100'RT	0.6-4.0	EXTREMELY WEATHERED BROWN SHALE							23	
	4.0-7.0	EXTREMELY WEATHERED BROWN & GRAY SHALE							35	
	7.0-13.0	EXTREMELY WEATHERED BROWN SHALE							20	
	13.0-15.0	EXTREMELY WEATHERED BROWN SHALE							17	
1246+00 CL	0.6-3.0	EXTREMELY WEATHERED BROWN SHALE							15	
	3.0-6.0	COAL BLOSSOM								
1247+90 10'RT	0.6-3.0	16	4	11	47	22	33	10	14	A-4a
	3.0-4.0	SANDSTONE							11	
1248+75 60'LT	0.9-3.0	10	10	19	43	19	29	10	19	A-4a
	3.0-4.0	52	8	17	15	8	26	8	26	A-2-4
1248+75 20'LT	0.6-1.5	0	6	9	56	29	40	10	45	A-4b
	1.5-4.0	0	4	7	60	29	54	15	34	A-6a
	4.0-5.0	EXTREMELY WEATHERED SANDSTONE							16	
1249+00 75'LT	0.8-4.0	EXTREMELY WEATHERED BROWN S'NDSTONE							15	
1250+10 10'RT	0.0-8.0	EXTREMELY WEATHERED BROWN SANDSTONE							11	
	8.0-9.0	EXTREMELY WEATHERED SANDSTONE							9	
1252+50 CL	0.8-3.0	0	1	2	69	28	30	9	22	A-4b
	3.0-5.0	18	1	2	51	28	32	12	15	A-6a
	5.0-8.0	EXTREMELY WEATHERED BROWN SHALE							12	
1254+25 CL	0.8-3.0	0	2	1	65	32	34	15	23	A-6a
	3.0-6.0	EXTREMELY WEATHERED BROWN & GRAY CLAY SHALE							24	
	6.0-11.0	SANDY SHALE							8	
1255+00 CL	0.6-2.0	0	2	2	56	40	35	12	21	A-6a
	2.0-4.0	0	1	4	30	65	54	31	21	A-7-6
1255+50 CL	0.6-3.0	0	1	2	61	36	38	17	22	A-6b
	3.0-5.5	0	3	4	31	62	49	25	24	A-7-6
1256+12 CL	0.8-4.0	4	2	2	66	26	32	9	24	A-4b
	4.0-6.5	22	2	3	29	44	58	30	30	A-7-6
1257+00 CL	0.6-3.0	0	2	3	57	38	33	14	20	A-6a
	3.0-7.0	0	3	2	31	64	47	19	20	A-7-6
	7.0-9.0	EXTREMELY WEATHERED GRAY SHALE							15	
	9.0-12.0	WEATHERED BROWN & GRAY INDURATED CLAY							10	
	12.0-16.0	SHALE							7	
1258+00 CL	0.6-2.0	0	3	3	54	40	38	18	19	A-6b
	2.0-7.0	0	1	1	28	70	42	20	21	A-7-6
	7.0-12.0	SANDY SHALE							8	
1259+50 CL	0.8-4.0	0	2	2	60	36	35	14	24	A-6a
	4.0-8.0	EXTREMELY WEATHERED BROWN SHALE							16	
1261+50 CL	0.8-4.0	0	1	3	61	35	37	13	41	A-6a
	4.0-6.0	0	7	8	56	29	32	7	37	A-4b
1266+85 CL	0.6-4.0	3	2	3	30	62	39	16	22	A-6b
1276+90 CL	0.0-4.0	EXTREMELY WEATHERED BROWN AND GRAY INDURATED CLAY							17	
	4.0-8.0	EXTREMELY WEATHERED BROWN SHALE							9	
	8.0-10.0	BROWN SHALE							10	
1277+58 CL	0.0-3.0	32	2	4	22	40	53	27	30	A-7-6
1278+00 CL	0.8-2.0	0	1	4	42	53	47	15	36	A-7-5
	2.0-4.0	17	0	1	33	49	51	26	22	A-7-6
	4.0-5.0	27	3	4	29	37	37	16	24	A-6b
1278+50 CL	0.8-3.0	48	5	6	20	21	36	14	16	A-6a
	3.0-4.5	EXTREMELY WEATHERED GRAY SANDY SHALE								

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STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

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Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class
1279+00 CL	0.8-3.0	0	5	5	54	36	40	17	23	A-6b
	3.0-4.0	44	3	4	19	30	47	20	26	A-7-6
1279+50 CL	0.8-2.0	0	3	4	38	55	49	24	23	A-7-6
	2.0-3.5	34	0	1	13	52	54	27	24	A-7-6
1280+00 CL	0.8-2.0	5	2	3	37	53	52	30	21	A-7-6
	2.0-5.0	5	2	12	47	34	32	10	14	A-4a
	5.0-10.0	WEATHERED SANDY SHALE							11	VISUAL
	10.0-12.0	SHALE							8	VISUAL
1280+50 CL	0.8-3.0	0	1	2	41	56	49	28	19	A-7-6
	3.0-8.0	EXTREMELY WEATHERED BROWN SANDY SHALE							15	VISUAL
1282+50 CL	0.8-6.0	EXTREMELY WEATHERED BROWN SANDY SHALE							17	VISUAL
	6.0-8.0	WEATHERED SANDY SHALE							10	
1283+50 100'LT	0.8-3.0	30	3	5	34	28	39	18	16	A-6b
	3.0-6.0	EXTREMELY WEATHERED BROWN SHALE							11	VISUAL
	6.0-10.0	EXTREMELY WEATHERED SANDY SHALE							15	VISUAL
1283+50 CL	0.8-4.0	18	3	19	37	23	28	8	12	A-4a
	4.0-8.0	5	3	17	51	24	28	10	13	A-4b
	8.0-9.5	EXTREMELY WEATHERED SANDY SHALE							10	VISUAL
1283+50 100'RT	0.8-2.0	0	2	6	48	44	39	15	25	A-6a
	2.0-6.0	0	0	1	29	70	52	28	18	A-7-6
	6.0-11.0	WEATHERED SANDY SHALE							10	VISUAL
1284+95 100'LT	0.8-3.0	EXTREMELY WEATHERED BROWN SHALE							13	VISUAL
	3.0-7.0	WEATHERED SANDY SHALE							11	VISUAL
1284+95 CL	0.8-3.0	0	1	2	44	53	45	18	24	A-7-6
	3.0-6.0	10	2	6	48	34	36	15	15	A-6a
	6.0-9.5	WEATHERED SANDY SHALE							13	VISUAL
1284+95 138'RT	0.6-5.0	COAL								VISUAL
	5.0-8.0	0	1	6	37	56	45	22	33	A-7-6
1286+00 100'LT	0.6-6.0	EXTREMELY WEATHERED BROWN SANDY SHALE							9	VISUAL
	6.0-10.5	SANDY SHALE							9	VISUAL
1286+00 CL	0.8-5.0	4	3	6	50	37	33	8	20	A-4b
	5.0-10.0	EXTREMELY WEATHERED SANDY SHALE							11	VISUAL
1286+00 100'RT	0.8-4.0	14	3	3	19	61	59	38	24	A-7-6
	4.0-6.0	EXTREMELY WEATHERED BROWN SHALE							9	VISUAL
	6.0-7.0	WEATHERED SANDY SHALE							10	VISUAL

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
1287+00 CL	0.8-6.0	0	3	4	53	40	32	12	18	A-6a
	6.0-11.5	WEATHERED SANDY SHALE							10	VISUAL
1288+00 CL	0.8-5.0	8	5	9	47	31	30	10	17	A-4a
	5.0-8.0	WEATHERED BROWN SHALE							6	VISUAL
1289+00 CL	0.8-3.0	EXTREMELY WEATHERED BROWN SANDY SHALE							12	VISUAL
	3.0-8.0	WEATHERED SANDY SHALE							10	VISUAL
1289+50 CL	0.6-4.0	EXTREMELY WEATHERED BROWN SANDY SHALE							14	VISUAL
	4.0-8.5	WEATHERED SANDY SHALE							9	VISUAL
1290+00 CL	0.6-5.0	12	4	20	40	24	28	10	11	A-4a
	5.0-9.0	WEATHERED SANDY SHALE							12	VISUAL
1290+50 CL	0.8-4.0	EXTREMELY WEATHERED BROWN SANDY SHALE							13	VISUAL
	4.0-8.0	WEATHERED SANDY SHALE							8	VISUAL
1291+00 103'LT	0.6-5.0	22	5	21	35	17	26	6	11	A-4a
	5.0-9.0	WEATHERED SANDY SHALE							9	VISUAL
1291+00 CL	0.6-4.0	48	3	8	29	12	28	9	12	A-4a
1292+00 CL	0.6-4.5	EXTREMELY WEATHERED BROWN SHALE							9	VISUAL
1293+00 CL	0.8-2.0	0	2	4	41	53	36	15	28	A-6a
	2.0-4.0	0	0	2	39	59	43	21	24	A-7-6
	4.0-4.5	EXTREMELY WEATHERED BROWN SANDY SHALE							13	VISUAL
1294+20 58'LT	0.6-4.0	21	5	16	37	21	29	12	15	A-6a
	4.0-7.0	EXTREMELY WEATHERED RED INDURATED CLAY							17	VISUAL
	7.0-8.0	EXTREMELY WEATHERED BROWN SANDY SHALE							15	VISUAL
1296+00 90'LT	0.6-3.0	0	0	1	30	69	57	35	26	A-7-6
	3.0-6.0	4	0	2	44	50	44	18	21	A-7-6
	6.0-10.0	EXTREMELY WEATHERED RED INDURATED CLAY							16	VISUAL
	10.0-12.0	WEATHERED RED INDURATED CLAY							15	VISUAL
1296+00 CL	0.6-3.0	44	7	6	25	18	30	10	15	A-4a
	3.0-14.0	EXTREMELY WEATHERED RED INDURATED CLAY							15	VISUAL
	14.0-15.0	WEATHERED RED INDURATED CLAY							13	VISUAL

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
1296+00 75'RT	0.6-3.0	12	4	16	34	24	25	4	18	A-4a
	3.0-8.0	WEATHERED BROWN SANDY SHALE							13	VISUAL
	8.0-10.0	SANDY SHALE							9	VISUAL
1298+00 CL	0.6-4.0	11	4	10	46	29	34	12	21	A-6a
	4.0-5.0	6	6	10	46	32	32	9	18	A-4a
1300+00 CL	0.8-2.0	8	7	8	43	34	36	10	38	A-4a
	2.0-5.5	30	10	10	31	19	33	12	28	A-6a
1302+82 CL	0.6-2.0	0	7	4	43	46	47	24	24	A-7-6
	2.0-4.0	0	5	10	45	40	35	13	23	A-6a
1304+00 CL	0.6-4.0	14	6	4	43	33	40	18	17	A-6b
	4.0-5.0	EXTREMELY WEATHERED BROWN & GRAY SHALE							22	VISUAL
	5.0-6.5	EXTREMELY WEATHERED GRAY SHALE							16	VISUAL
1305+20 CL	0.8-7.0	4	3	14	41	38	36	14	28	A-6a
	7.0-11.0	SANDY SHALE							10	VISUAL
1305+80 CL	0.6-4.0	3	5	16	39	37	33	11	21	A-6a
	4.0-6.0	0	7	44	33	16	NP	NP	18	A-4a
	6.0-7.0	EXTREMELY WEATHERED BROWN SANDSTONE							17	VISUAL
1306+60 CL	0.8-4.0	4	2	3	35	56	45	23	22	A-7-6
	4.0-6.0	0	1	13	44	42	37	16	25	A-6b
	6.0-7.0	EXTREMELY WEATHERED BROWN & GRAY SANDSTONE							15	VISUAL
	7.0-9.0	BROWN SANDSTONE							9	VISUAL
1311+20 70'LT	0.6-2.0	22	5	6	29	38	41	17	15	A-7-6
	2.0-5.0	15	6	6	30	43	43	14	22	A-7-6
	5.0-17.0	22	7	6	26	39	40	14	25	A-6a
	17.0-18.0	WEATHERED BROWN SHALE							28	VISUAL
	18.0-19.0	WEATHERED DARK GRAY SHALE							25	VISUAL
1314+05 143'LT	0.6-5.0	EXTREMELY WEATHERED BROWN SHALE							21	VISUAL
	5.0-6.0	WEATHERED BROWN & GR. SHALE							24	VISUAL
	6.0-8.0	COAL BLOSSOM							34	VISUAL
1319+60 248'LT	0.8-4.0	6	6	6	50	32	32	11	15	A-6a
	4.0-6.0	0	2	8	50	40	41	17	26	A-7-6
	6.0-8.0	SANDY SHALE							13	VISUAL

SUPPLEMENTARY SOIL TEST DATA

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
1311+58 CL	0.4-4.0	24	4	10	34	28	32	11	24	A-6a
	4.0-6.0	BLACK & BROWN EXTREMELY WEATHERED SHALE W/COAL BLOSSOM							44	VISUAL
	6.0-7.0	7	0	1	27	65	55	29	31	A-7-6
1314+00 CL	0.0-0.9	32	5	8	26	29	35	13	22	A-6a
1314+00 85'LT	0.4-2.0	14	7	3	50	26	34	8	24	A-4b
	2.0-4.0	BROWN WEATHERED SHALE							21	VISUAL
1325+00 CL	0.4-3.0	11	2	4	42	44	44	19	20	A-7-6
	3.0-6.5	GRAY EXTREMELY WEATHERED SHALE							12	VISUAL
1326+00 CL	0.6-5.0	14	2	4	41	39	45	21	[illegible]	A-7-6
	5.0-7.5	BROWN SOFT EXTREMELY WEATHERED SHALE							[illegible]	VISUAL

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
1327+00 CL	0.6-3.0	4	4	6	42	44	37	11	27	A-6a
	5.0-7.0	GRAY & BROWN EXTREMELY WEATHERED SHALE							23	VISUAL
1329+00 8'LT	0.4-5.0	15	4	7	27	47	43	19	22	A-7-6
	5.0-9.0	6	1	1	33	59	38	18	17	A-6b
	9.0-11.0	COAL BLOSSOM							29	VISUAL
	11.0-12.0	5	1	3	37	54	33	11	11	A-6a
1332+00 10'RT	0.4-4.0	0	5	11	58	26	33	7	31	A-4b
	4.0-10.0	11	4	5	43	37	39	18	26	A-6b
1336+00 10'RT	0.4-5.0	0	1	1	36	62	37	14	18	A-6a
	5.0-8.0	13	3	7	33	44	41	15	33	A-6a
	8.0-10.0	COAL							25	VISUAL

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HARRISON COUNTY

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STATE HIGHWAY TESTING AND RESEARCH LABORATORY

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Note: For cross section see sheet 36

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STATE HIGHWAY TESTING AND RESEARCH LABORATORY
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Description of Core Boring - Sta. 1284+50, 100' Rt.

(1) Top of Rock
(2) Indurated clay, gray, firm to medium, broken. Core loss 40%
(3) Shale, gray, with extremely weathered brown seams, siliceous, micaceous, broken and crumbly. Core loss 10%
(4) Sandstone, gray, with brown weathered seams, fine to medium grained, firm, broken and jointed. No loss.
(5) Shale, gray, siliceous, micaceous, firm to medium, 0.4' gray sandstone stringer, jointed and broken. Core loss 1%
(6) Sandstone, gray, fine to medium grained, with two siliceous shale seams at 43.5' and 45.7', 0.5' and 1.0' thick respectively, firm to medium, jointed. No loss.

Core Boring Soil Test Data

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
1271+00 100' RT	5.0-6.0	11	4	8	42	35	40	12	15	A-6a

Core Boring Soil Test Data

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
1284+50 100' RT	5.0-6.0	13	7	6	24	50	42	20	27	A-7-6
	10.0-11.0	21	5	6	45	23	29	11	11	A-6a

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STATE HIGHWAY TESTING AND RESEARCH LABORATORY

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Revised October 13, 1958

Revised March 17, 1959

Revised October 13, 1958
Revised March 17, 1959

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DRIVE SAMPLE SOIL TEST DATA

Station & Offset	Depth From-To	% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.	% W.C.	SHTL Class.
1301+41 45'RT	5.0-6.0	62	3	3	17	15	35	11	30	A-2-6
	10.0-11.0	60	4	4	17	15	30	9	14	A-2-4
	15.0-16.0	60	3	3	20	14	29	8	13	A-2-4
1317+65 230'LT	5.0-6.0	0	1	6	56	37	42	17	22	A-7-6

Description of Core Boring - Sta. 1326+00, ℄

1. Top of Soft Weathered Rock
2. Shale, weathered, brown to gray at base, argillaceous, soft and crumbly above elev. 1266.0', generally soft below elev. 1266.0, with clay seams. Core loss 10%
3. Top of Firm Rock
4. Shale, black, carbonaceous, medium firm, jointed in top half. No loss
5. Shale, gray to dark gray, argillaceous, firm to medium firm. No loss
6. Coal, broken. Core loss 25%
7. Shale, black, carbonaceous, soft to medium firm, broken. Core loss 18%
8. Shale, gray, containing numerous calcareous nodules, firm, jointed. Core loss 13%
9. Limestone, gray, with yellowish-brown weathered zones, impure, interbedded with shale. Core loss 5%
10. Shale, gray, calcareous, generally firm, but soft, broken, jointed from elev. 1235.7 to 1234.2 and elev. 1232.0' to 1230.9' No loss
11. Shale, brownish-gray, soft and crumbly above elev. 1229.0', medium firm to soft below elev. 1229.0' No loss
12. Coal. No loss
13. Shale, gray, argillaceous, medium firm. No loss
14. Coal, jointed. No loss
15. Shale, dark gray, calcareous, carbonaceous at top, firm. No loss
16. Limestone, gray, fine grained, dense, hard, firm, thin to medium bedded. No loss
17. Shale, gray, calcareous, slightly siliceous, soft to firm. No loss
18. Limestone, gray, fine grained, firm, jointed, thin bedded. Core loss 9%
19. Mudstone, gray to dark gray, very friable. Core loss 23%
20. Shale, gray, siliceous, micaceous, dense, firm. No loss
21. Shale, gray, argillaceous, hard, firm. No loss
22. Limestone, gray, arenaceous and argillaceous, firm. No loss
23. Sandstone, light gray, fine grained, firm, medium bedded. No loss

TE-54-B
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SOIL PROFILE
HARRISON COUNTY
HAS-22-23.87
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

9/9

Cross Section
Sta. 1296+00