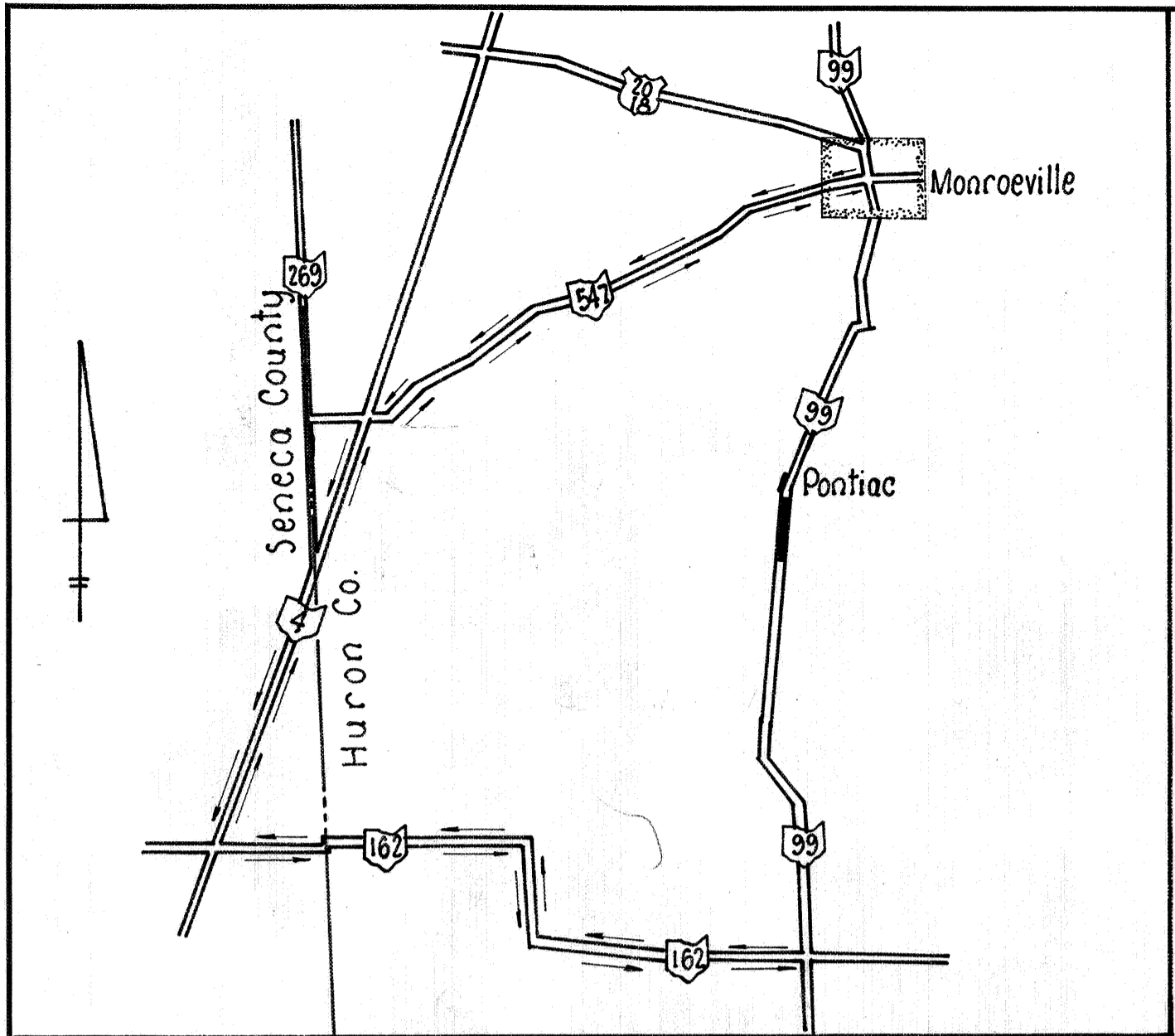


STATE OF OHIO
DEPARTMENT OF HIGHWAYS

DESIGN DESIGNATION
A.D.T. (1964) 1140
A.D.T. (1984) 2160
D.H.V. 290
D 67%
T 10%
V 50 M.P.H.

HUR-99-(9.91-10.35)
HURON COUNTY
PERU TOWNSHIP

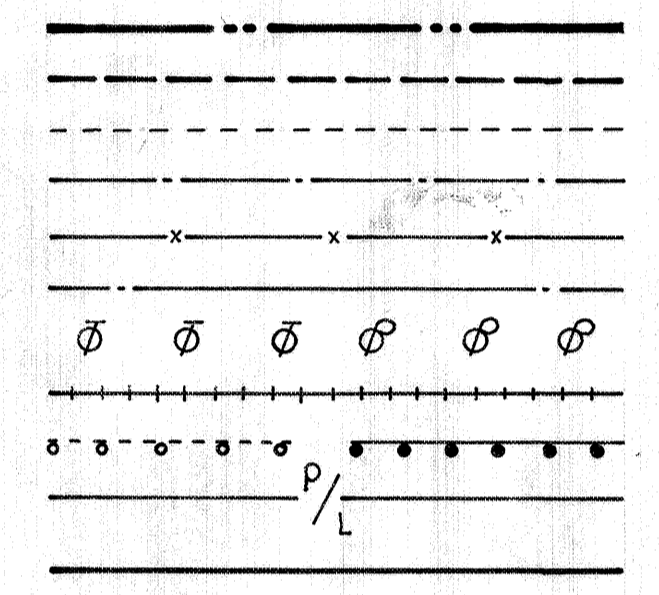
1967 SPECIFICATIONS



DETOUR MAP
Scale: 1" = 2 Mi.

CONVENTIONAL SIGNS

- COUNTY LINE
- TOWNSHIP LINE
- SECTION LINE
- CORPORATION LINE
- FENCE LINE
- CENTER LINE
- POLE LINE (TELEPHONE & POWER)
- RAILROAD
- GUARD RAIL (EXISTING & PROPOSED)
- PROPERTY LINE
- RIGHT OF WAY

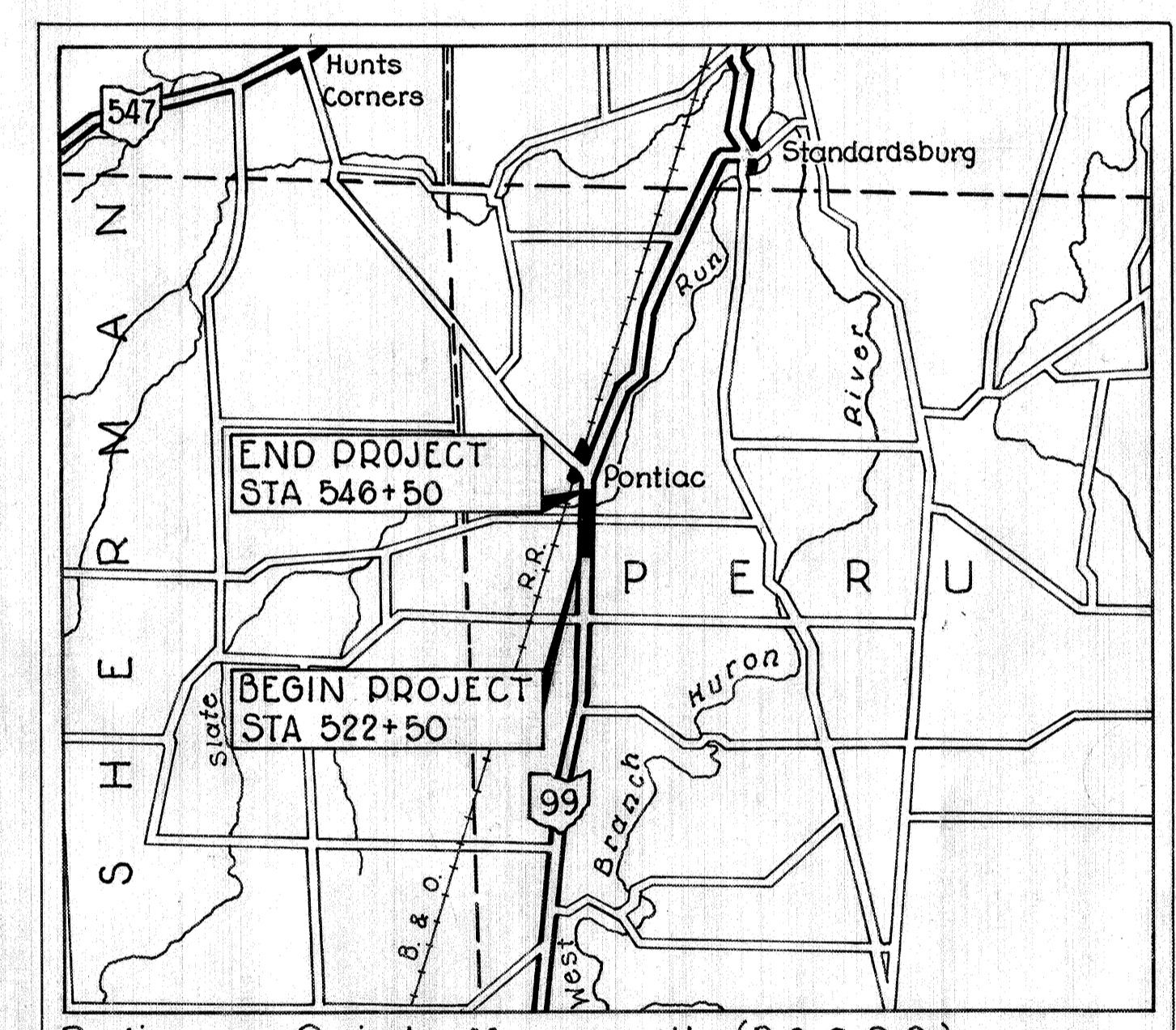


INDEX OF SHEETS

TITLE SHEET	1
TYPICAL SECTIONS & DRIVE DETAILS	2
GENERAL NOTES	3
CALCULATIONS & GENERAL SUMMARY	4
PLAN & PROFILE	5-8
CROSS SECTIONS	9-15
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CHANNEL DETAILS & CROSS SECTIONS	22-24
STRUCTURE 20' SPAN AND UNDER	25
STRUCTURE OVER 20' SPAN	26-29
RIGHT OF WAY	30-31

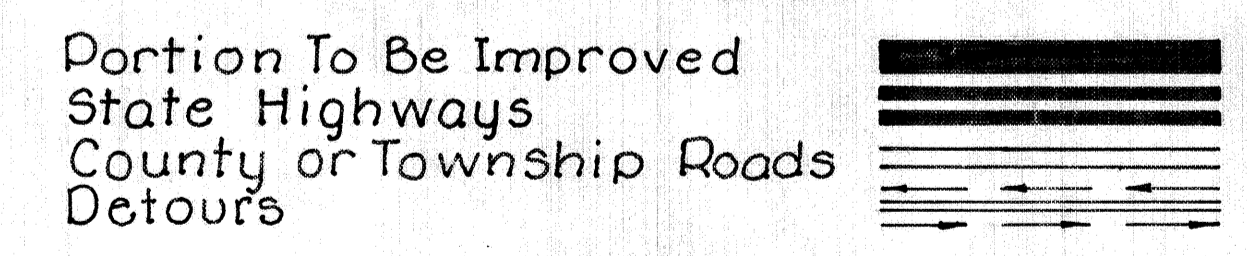
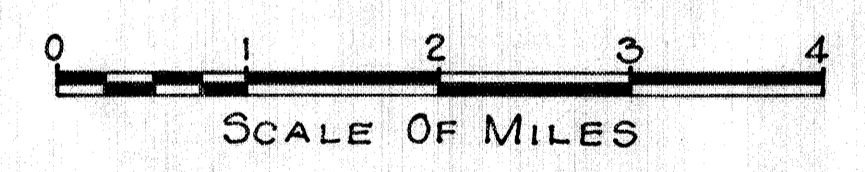
LINE DATA

	PROJECT	WORK
BEGIN	STA 522+50.00	STA 522+00.00
END	STA 546+50.00	STA 547+00.00
GROSS LENGTH	2400.00 LIN.FT.	2500.00 LIN.FT.
NO ADDITIONS OR DEDUCTIONS		
NET LENGTH	2400.00 LIN.FT. OR 0.454 MILES	2500.00 LIN.FT. OR 0.473 MILES



Delivery Point: Monroeville (B&O R.R.)
Average Haul: 4.2 Miles

LOCATION MAP



SCALES

Plan 1" = 50'
Profile Horizontal 1" = 50'
Profile Vertical 1" = 5'
Cross Sections 1" = 5'
Other Sheets as Shown

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 require the closing to traffic of the highway and that Detours will be provided as indicated on these plans.

- APPROVED D.W. Commey
DATE 1-20-67 DIVISION DEPUTY DIRECTOR
- APPROVED A.H. Alwater
DATE 2-28-67 ENGINEER OF BRIDGES
- APPROVED R.E. Gatti
DATE 3-1-67 ENGINEER OF LOCATION AND DESIGN
- APPROVED P.E. Schultz
DATE 3-1-67 DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION
- APPROVED T.H. Board
DATE 3-14-67 DEPUTY DIRECTOR OF RIGHT OF WAY
- APPROVED Thomas M. Major
DATE 2-16-67 DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING
- APPROVED F.W. Wilson
DATE 3-16-67 FIRST ASSISTANT DIRECTOR
- APPROVED P.E. Mesleard
DATE 3-16-67 DIRECTOR OF HIGHWAYS

FILE No.	HURON COUNTY HUR-99-(9.91-10.35)
DATE OF LETTING	
CONTRACT No.	

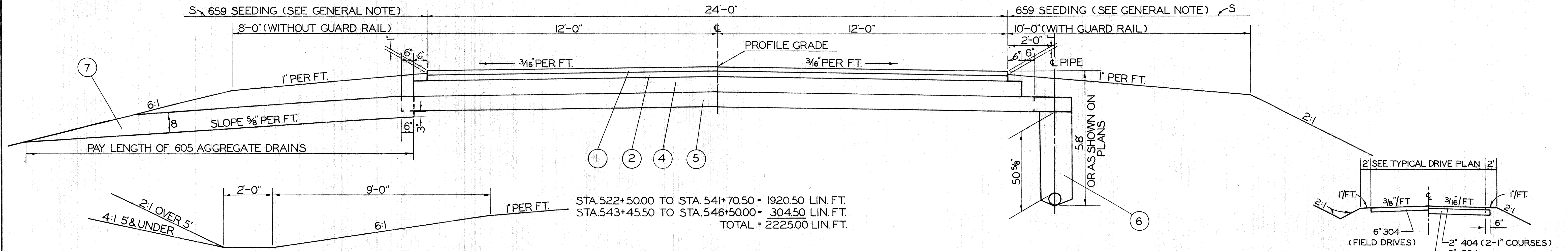
SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS					
BP-3	1-10-67	HW-E	6-1-65	AS-1-54	8-10-65
BP-5	6-1-65	I-1	6-1-65	CS-1-65 Sheets 1&2	6-1-65
BP-6	6-1-65	L-1	6-1-65		
CB-2-3&2-4	6-1-65	MC-1	6-1-65		
GR-1	1-1-67	MC-3	5-1-66		
GR-2A	1-1-67	MC-4	6-1-65		

SUPPLEMENTAL SPECIFICATIONS		
808	1-1-67	
825	1-1-67	
1001	3-21-66	

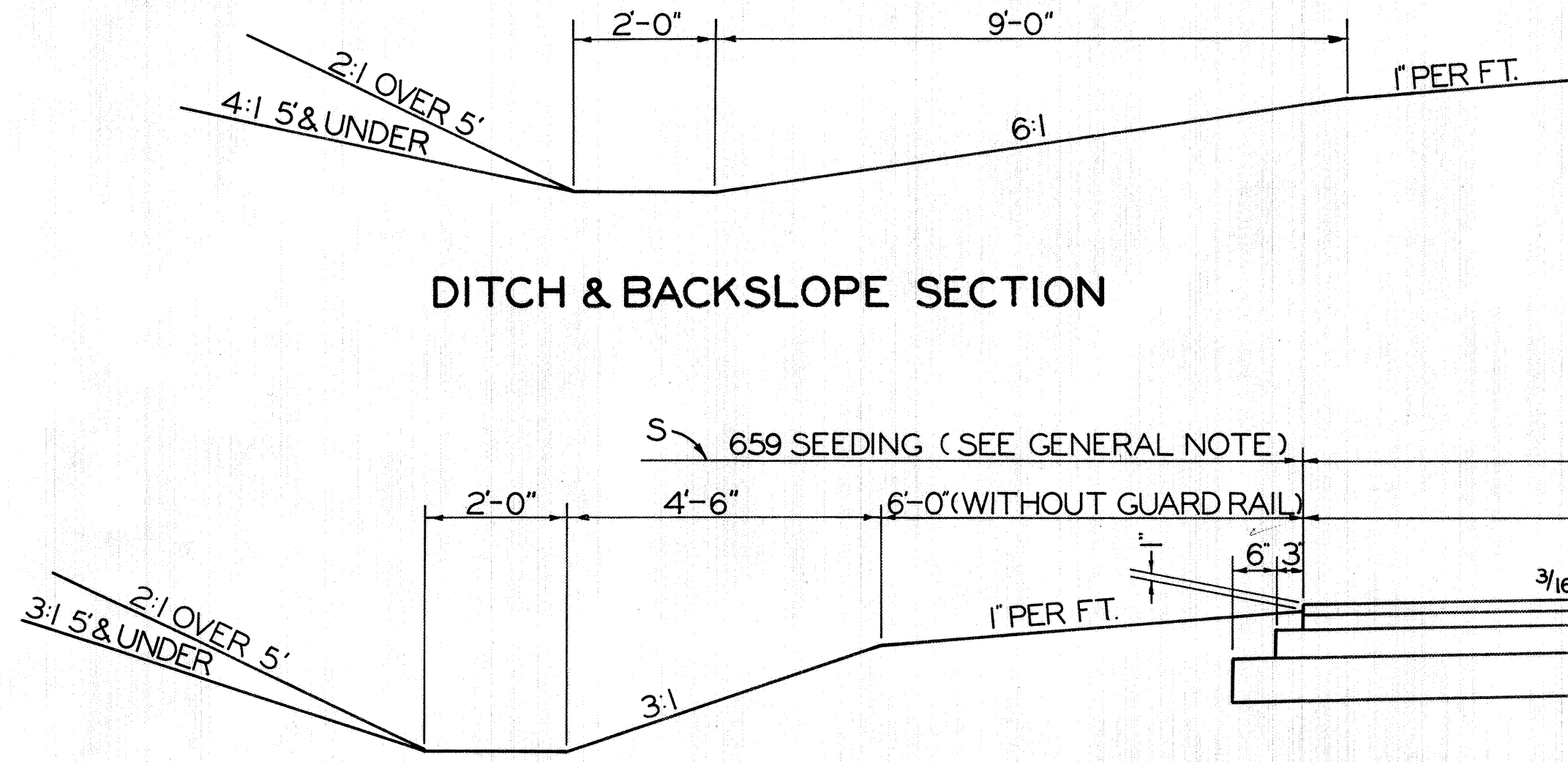
NOTE: DETAILS OF SHOULDERS, SLOPES AND DITCHES NOT SHOWN ARE TO CONFORM WITH STANDARD DRAWING MC-1 UNLESS OTHERWISE SHOWN ON CROSS SECTIONS.

TYPICAL SECTIONS TYPE 404 ON 301

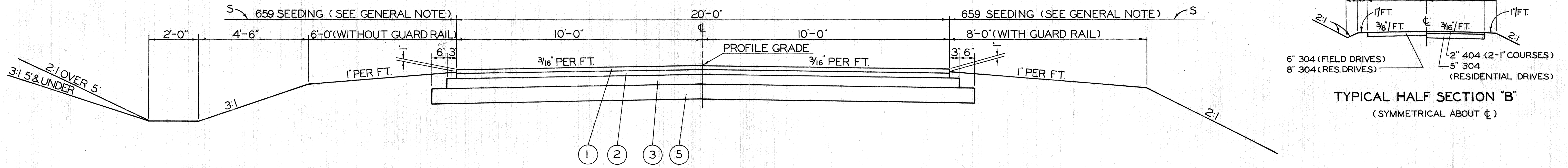
TYPICAL SECTION 'A' (S.R.99)



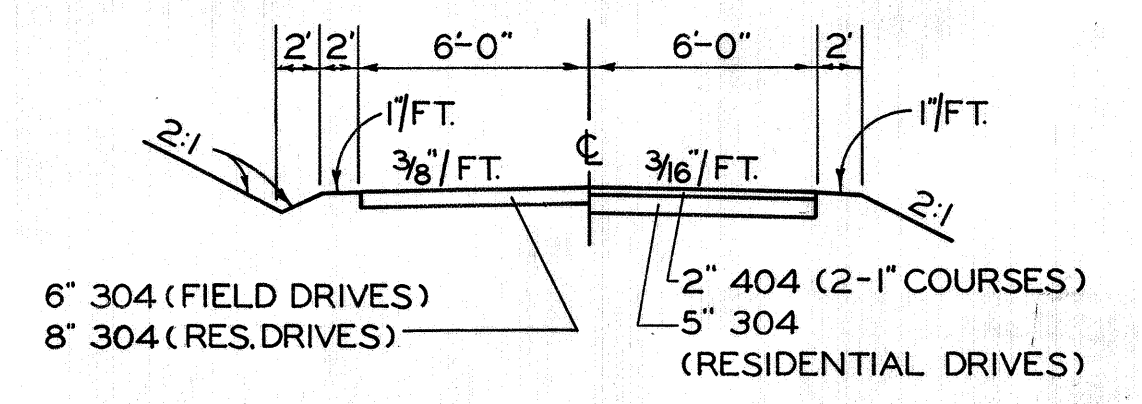
DITCH & BACKSLOPE SECTION



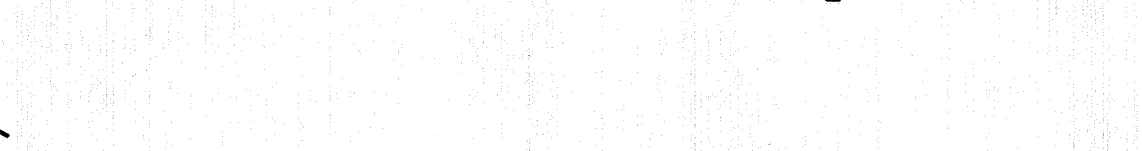
TYPICAL SECTION 'B' (PONTIAC ROAD)



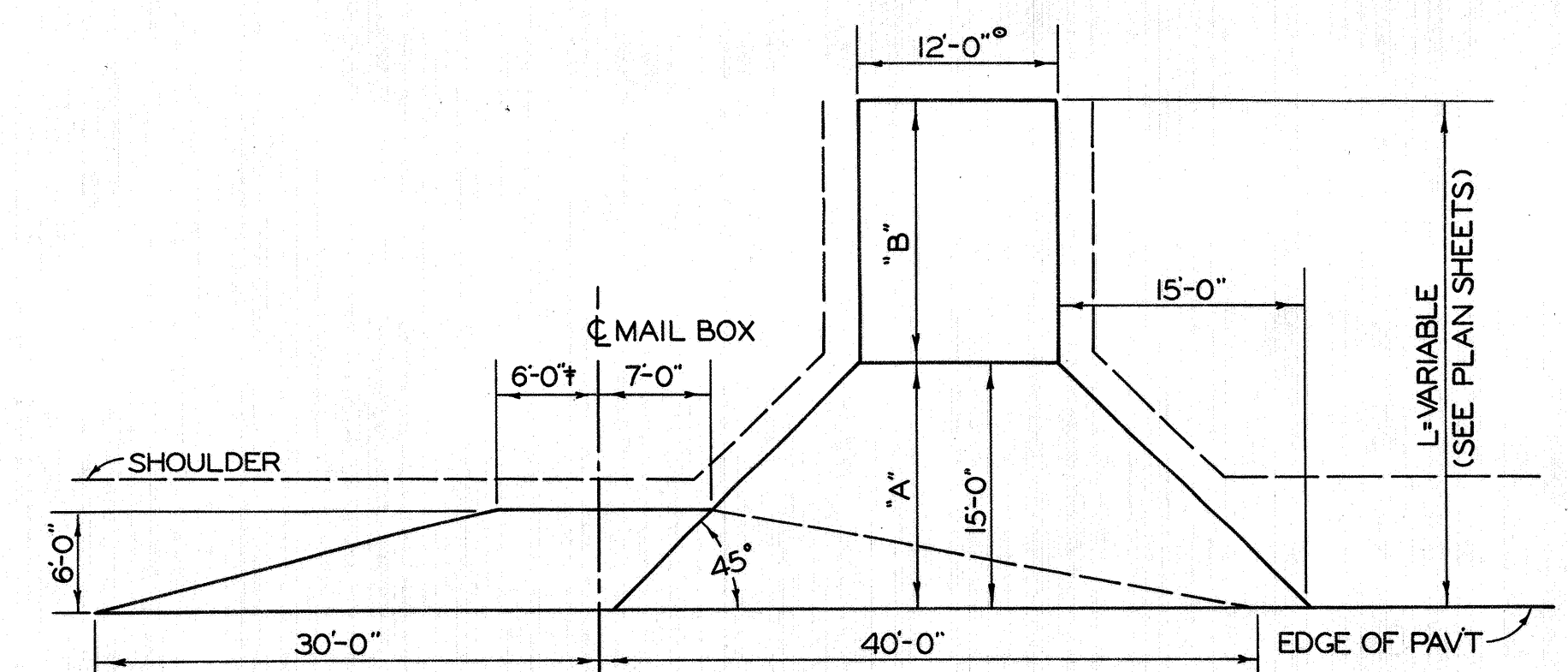
TYPICAL HALF SECTION 'A' (SYMMETRICAL ABOUT CL)



TYPICAL HALF SECTION 'B' (SYMMETRICAL ABOUT CL)



- ① 404 - 1 1/4" ASPHALT CONCRETE (70-85)
- ② 402 - 1 1/4" ASPHALT CONCRETE (70-85)
- ③ 301 - 3" BITUMINOUS AGGREGATE BASE: 702.01 (85-100) OR 702.09, RT-12
- ④ 301 - 5" BITUMINOUS AGGREGATE BASE: 702.01 (85-100) OR 702.09, RT-12
- ⑤ 310 - 5" SUBBASE
- ⑥ 605 - 6" DEEP PIPE UNDERDRAINS (WHERE CALLED FOR ON PLANS)
- ⑦ 605 - AGGREGATE DRAINS (SEE NOTE ON SHEET NO. 3)



† ADD 2' FOR EACH ADDITIONAL MAIL BOX ◊ UNLESS OTHERWISE SHOWN ON PLANS.
TYPICAL DRIVE & MAILBOX TURNOUT
 WHERE FEASIBLE MAILBOX TURNOUTS SHALL BE COMBINED WITH DRIVE AS INDICATED. QUANTITIES TO BE ADJUSTED BY THE ENGINEER.
 ESTIMATED QUANTITIES FOR MAILBOX TURNOUTS:
 2" 404 (2-1" COURSES) ASPHALT CONCRETE (70-85) = 2.4 CU. YDS.
 5" 304 AGGREGATE BASE = 5.6 CU. YDS.

GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

3
31

HUR-99-(9,01-10,35)

ELEVATION DATUM:

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

FIELD OFFICE:

THE CONTRACTOR SHALL, IN ADDITION TO THE REQUIREMENTS OF 105.152, PROVIDE A SUITABLE FIELD OFFICE HAVING A MINIMUM OF 150 SQ. FT. OF FLOOR SPACE. THE CONTRACTOR SHALL HAVE A TELEPHONE INSTALLED AND MAINTAINED IN THIS FIELD OFFICE DURING THE CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHALL ALSO PROVIDE AND MAINTAIN SANITARY PROVISIONS AS PER 107.06. ALL THE ABOVE IS INCLUDED IN THE LUMP SUM PRICE BID FOR FIELD OFFICE.

ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS:

THE ROUNDED CORNERS SHOWN ON STANDARD DRAWING MC-1, SHALL 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.

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.

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:

SIZE	TREES	STUMPS
18"	103	11
30"	28	7
48"	7	3
60"	0	0

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.

SEEDING:

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS.

THE FOLLOWING SEED MIXTURE SHALL, IN LIEU OF THE MIXTURES LISTED IN 659.09 BE USED THROUGHOUT THE LIMITS OF THIS PROJECT:

75% KENTUCKY 31 FESCUE
20% KENTUCKY BLUEGRASS
4% ALSIKE CLOVER
1% REDTOP

SEEDING LIMITS ARE INDICATED ON THE CROSS SECTIONS BY THE SYMBOL:  S.

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 ITEMS.

DRAINS:

ALL FIELD DRAINS, ROOF AND FOOTER DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER.

FIELD DRAINS WHICH ARE ENCOUNTERED ABOVE THE ELEVATIONS OF THE ROADWAY DITCH, SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY 603 TYPE F CONDUIT. THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE FOOT ABOVE THE FLOW LINE ELEVATION OF THE DITCH.

EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS AND WHICH CROSS THE ROADWAY SHALL BE REPLACED BY ITEM 603 CONDUIT, TYPE B WITH CLASS B BEDDING, ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

ROOF AND FOOTER DRAINS SHALL BE CONNECTED INTO APPROPRIATE 603 CONDUIT LINES OR OUTLETTED INTO ROADWAY DITCHES AS AVAILABLE.

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603 12" CONDUIT TYPE B WITH CLASS B BEDDING	100 LIN. FT.
ITEM 603 6" CONDUIT TYPE E	50 LIN. FT.
ITEM 603 6" CONDUIT TYPE F	30 LIN. FT.

ALL NECESSARY BENDS AND BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

NONE OF THE ABOVE MATERIALS SHALL BE ORDERED BY THE CONTRACTOR UNTIL REQUESTED BY THE ENGINEER.

ITEM 605 AGGREGATE DRAINS:

AGGREGATE DRAINS SHALL BE PLACED AT 50 FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS EXCEPT WHERE ITEM 605 PIPE UNDERDRAINS HAVE BEEN PROVIDED.

AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

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 IN USE.

PAYMENT FOR ANY ADDITIONAL COST 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.

SANITARY FLOW INTO HIGHWAY DRAINAGE SYSTEMS:

THIS PLAN MAKES NO PROVISION FOR CONNECTING, NOR SHALL THE ENGINEER OR CONTRACTOR CONNECT, ANY EXISTING OR NEW DRAINAGE INTO THE HIGHWAY DRAINAGE SYSTEM WHEN SUCH DRAINS CARRY FLOW FROM ANY PLUMBING FIXTURES INCLUDING FLOOR DRAINS AND SINK DRAINS OR DRAINS FROM LIVESTOCK LOTS OR BARNYARD POLLUTED WATER OF ANY KIND.

EXISTING PIPE CARRYING FLOW WHICH COMES WITHIN THE CATEGORY OUTLINED ABOVE SHALL BE PLUGGED WITH CLASS E CONCRETE AT THE RIGHT OF WAY LINE. PAYMENT FOR SAID PLUGGING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION.

PAVEMENT REMOVAL:

PAVEMENT REMOVAL QUANTITIES, ITEM 202, SHALL CONSIST OF RIGID TYPE PAVEMENT ONLY. AREAS OF RIGID TYPE PAVEMENT REMOVAL ARE INDICATED ON THE PLAN BY SHADING.

SCARIFICATION OF EXISTING FLEXIBLE PAVEMENT:

WITHIN THE LIMITS OF CONSTRUCTION WHERE THE EXISTING FLEXIBLE PAVEMENT WILL HAVE LESS THAN 3 FEET OF FILL PLACED UPON IT, THE PAVEMENT SHALL BE THOROUGHLY SCARIFIED FOR ITS FULL DEPTH, MIXED WITH SUFFICIENT SOIL AND PROPERLY RECOMPACTED TO INSURE THE ELIMINATION OF ANY PLANES OF SEPARATION BETWEEN IT AND THE EMBANKMENT PLACED THEREON. PAYMENT FOR SCARIFICATION AS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203 EXCAVATION.

UTILITY OWNERS:

THE FOLLOWING IS A LIST OF THE UTILITY OWNERS AFFECTED BY THIS PROJECT:

1. NORTHERN OHIO TELEPHONE COMPANY - 117 N. SANDUSKY STREET, BELLEVUE, OHIO.
2. OHIO EDISON COMPANY - 47 NORTH MAIN STREET, AKRON, OHIO
3. SUN OIL COMPANY - P.O. BOX 920, TOLEDO, OHIO

TRAFFIC MAINTENANCE:

THROUGH TRAFFIC ON S.R. 99 SHALL BE DETOURED AS INDICATED ON SHEET NUMBER 1. THE FOLLOWING QUANTITIES ARE INCLUDED IN THE GENERAL SUMMARY FOR MAINTAINING LOCAL TRAFFIC AS DIRECTED BY THE ENGINEER. ESTIMATED QUANTITIES:

ITEM 410 TRAFFIC COMPACTED SURFACE TYPE A OR B	25 CU. YDS.
ITEM 616 CALCIUM CHLORIDE	0.5 TON

DUST CONTROL:

THE FOLLOWING QUANTITIES ARE PROVIDED FOR DUST CONTROL TO BE USED AS DIRECTED BY THE ENGINEER.

ESTIMATED QUANTITIES:

ITEM 616 CALCIUM CHLORIDE	0.5 TON
ITEM 616 WATER	5 M-GAL.

CHANNEL EMBANKMENTS:

PORTIONS OF THE EXISTING CHANNEL SHALL BE FILLED AND SLOPED TO DRAIN AS CALLED FOR ON THE PLANS. IN SPECIFIED AREAS AS INDICATED ON THE CROSS SECTIONS, FILL MATERIAL SHALL BE PLACED IN ACCORDANCE WITH THE PROVISIONS OF 203 EMBANKMENT. OTHER AREAS WHERE CHANNEL EMBANKMENTS ARE TO BE PLACED SHALL BE CLEARED OF WEEDS AND BRUSH BUT NEED NOT BE SCALPED.

THE REQUIREMENTS FOR MOISTURE, DENSITY CONTROL, BENCHING, AND SUITABLE MATERIALS SHALL BE WAIVED.

THE DEPTH OF LAYERS IN WHICH THE EMBANKMENTS ARE PLACED AND THEIR COMPACTION SHALL, IN LIEU OF THE REQUIREMENTS OF ITEM 203, CONFORM WITH ACCEPTABLE CONSTRUCTION PRACTICES AS DETERMINED BY THE ENGINEER.

NO PROVISION OF THE SPECIFICATIONS SHALL BE WAIVED FOR EMBANKMENTS WHICH SUPPORT ANY PORTION OF THE NEW ROADBED OR STRUCTURAL MEMBERS.

STANDARD NO. 1 SIDE DITCH INLETS:

THE TOP ELEVATIONS OF STANDARD NO. 1 SIDE DITCH INLETS SHALL BE DETERMINED BY THE ENGINEER. THE ELEVATIONS AT WHICH WATER FLOWS INTO THE INLETS SHALL BE 2 TO 4 INCHES BELOW THE NORMAL DITCH ELEVATION RETURNING TO NORMAL 10 FT. EACH SIDE OF THE INLET.

CATCH BASINS, INLETS AND DITCHES:

WHERE PLAN LOCATIONS FOR CATCH BASINS AND INLETS DO NOT FALL WITHIN THE DITCHES AS SHOWN ON THE CROSS SECTIONS, THE DITCHES SHALL BE TURNED OUT TO MEET THE CATCH BASINS OR INLETS IN A MANNER SATISFACTORY TO THE ENGINEER AND INCLUDED FOR PAYMENT IN THE PRICE BID FOR THE PERTINENT INLET OR CATCH BASIN.

EROSION CONTROL:

ITEM 601 DUMPED ROCK CHANNEL PROTECTION 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.

CALCULATIONS

LINE	DESCRIPTION	QUANTITY
	404 1/4" ASPHALT CONCRETE (70-85)	
1	From Typical Section A: 2225 Lin. Ft.	
2	From Line 1: $2225 \times 24 \div 9 = 5933.33$ Sq. Yds.	
3	From Line 2: $5933.33 \times 1.25 \div 36 = 206.02$ Cu. Yds. Total 5R 99	
4	From Typical Section B: 205.52 Lin. Ft.	
5	From Line 4: $205.52 \times 20 \div 9 = 456.71$ Sq. Yds.	
6	From Line 5: $456.71 \times 1.25 \div 36 = 15.86$ Total Pontiac Road	
7	From Lines 3 & 6:	Total 221.88 Cu. Yds.
	402 1/4" ASPHALT CONCRETE (70-85)	
8	From Line 3: 206.02 Cu. Yds. Total 5R 99	
9	From Line 6: 15.86 Cu. Yds. Total Pontiac Road	
10	From Lines 8 & 9:	Total 221.88 Cu. Yds.
	301 BITUMINOUS AGGREGATE BASE Typical "A"	
	5" Course	
14	From Line 1: 2225 Lin. Ft.	
15	From Line 14: $2225 \times 25 \div 9 = 6180.5$ Sq. Yds.	
16	From Line 15: $6180.5 \times 5 \div 36 = 858.4$ Cu. Yds.	
17	From Lines 16: 858.4 Cu. Yds. Total 3R 99	
	Typical "B"	
18	From Line 4: 205.52 Lin. Ft.	
19	From Line 18: $205.52 \times 20.5 \div 9 = 468.13$ Sq. Yds.	
20	From Line 19: $468.13 \times 3 \div 36 = 39.01$ Cu. Yds. Total Pontiac Road	
21	From Lines 17 & 20:	Total 897.41 Cu. Yds.
	310 5" SUBBASE	
22	From Line 1: 2225 Lin. Ft.	
23	From Line 22: $2225 \times 25.833 \div 9 = 6386.49$ Sq. Yds.	
24	From Line 23: $6386.49 \times 5 \div 36 = 887.01$ Cu. Yds.	
25	Additional for Pipe Underdrains: $3271 \times 0.72 \div 27 = 87.23$ Cu. Yds.	
26	From Lines 24 & 25: 974.25 Cu. Yds. Total 5R 99	
27	From Line 4: 205.52 Lin. Ft.	
28	From Line 27: $205.52 \times 21.5 \div 9 = 490.96$ Sq. Yds.	
29	From Line 28: $490.96 \times 5 \div 36 = 68.19$ Cu. Yds. Total Pontiac Road	
30	From Lines 26 & 29:	Total 1042.44 Cu. Yds.
	203 SUBGRADE PREPARATION	
31	From Line 2: 5933.33 Sq. Yds. Total 5R 99	
32	From Line 5: 456.71 Sq. Yds. Total Pontiac Road	
33	From Lines 31 & 32:	Total 6390.04 Sq. Yds.
	605 AGGREGATE DRAINS	
34	From Line 1: $2225 \times 2 - 3271$ (Pipe Underdrain Coverage) $- 6.20$ (2:1 Slopes) = 539 Lin. Ft.	
35	From Line 34: $539 \div 50 = 11.18$ Drains, Use 12 Drains; 12×15.83 (Avg. Pay Length) = 189.96 Lin. Ft.	
36	For 2:1 Slopes (From Line 34): $620 \div 50 = 12.4$ Drains, Use 13 Drains; 13×11.53 (Avg. Pay Length) = 150.15 Lin. Ft.	
37	From Lines 35 & 36:	Total 340.11 Lin. Ft.
	659 COMMERCIAL FERTILIZER (12-12-12)	
38	From Totals: 659 Seeding = 27,962 Sq. Yds.	
39	From Line 38: $27,962 \times 9 \times 20 \div 1000 \times 2000$	Total 2.52 Tons

EARTHWORK & SEEDING TABLE

FROM SHEET NO.	EXCAVATION	EMBANKMENT	SEEDING
5	715	103	2067
6	10873	356	9373
7	15403	17177	16770
Deduct for Drives & Approaches			248
Totals	27,101	17,636	27,962

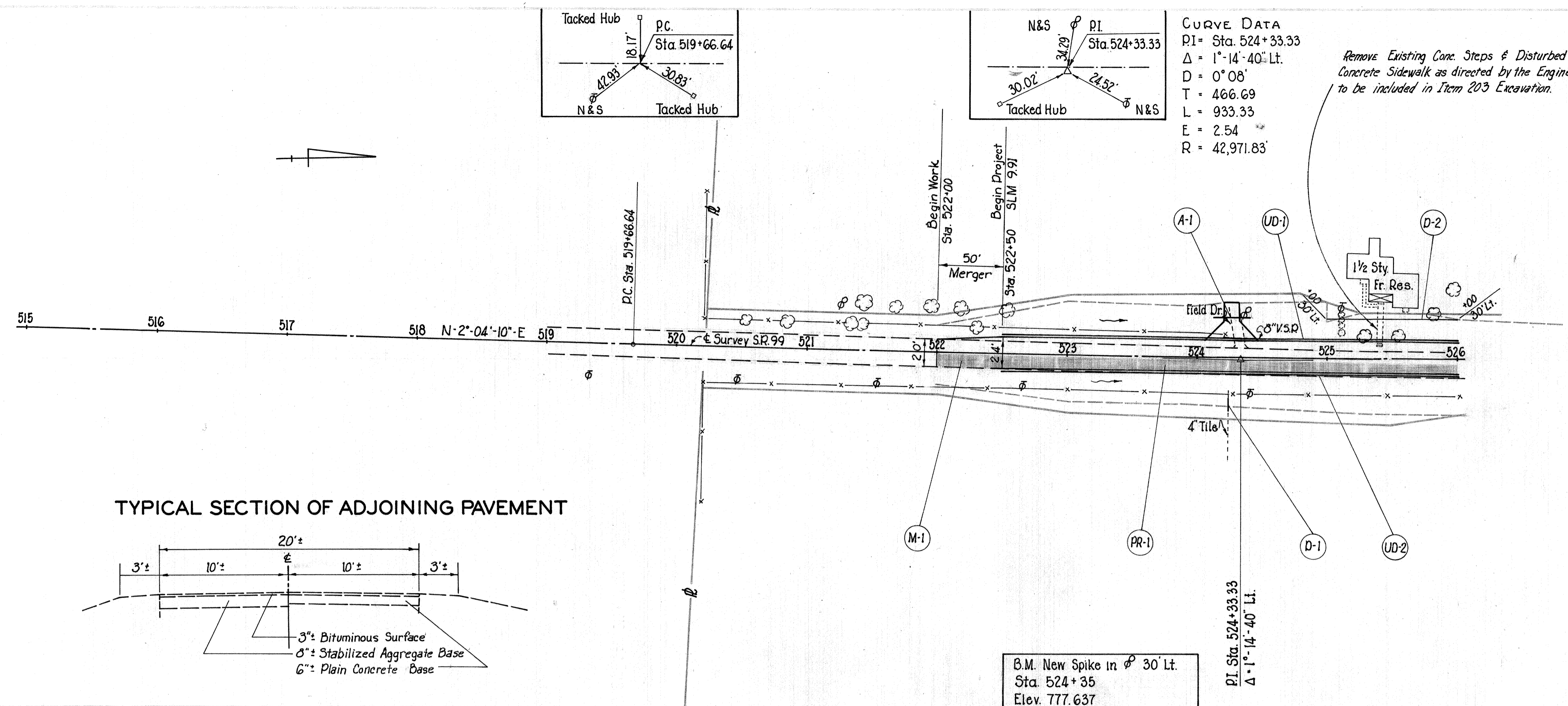
GENERAL SUMMARY

FROM SHEET NUMBER										ITEM	PLAN TOTAL	UNIT	DESCRIPTION		
2	3	4	5	6	7	16	22	25							
	Lump										201	Lump	Lump	ROADWAY	
			444	1222	942						202	2608	Sq. Yd.	Clearing and Grubbing	
			28	211				38			202	277	Lin. Ft.	Existing Pavement Removed and Disposed Of	
					238						202	238	Lin. Ft.	Pipe Removed, 24" and Under	
				1							202	1	Each	Guard Rail Removed for Storage	
											202	1	Each	Inlet Removed	
											203	27101	Cu. Yd.	Excavation not including Embankment Construction, as per plan	
											203	17636	Cu. Yd.	Embankment	
			6390	122	256	725					203	7493	Sq. Yd.	Subgrade Preparation	
					725						606	725	Lin. Ft.	Guard Rail, Type 4	
	5										616	5	M-Gal.	Water	
	1										616	1	Ton	Calcium Chloride	
	25										40	25	Cu. Yd.	Traffic Compacted Surface, Type A or B	
					17						601	20	Cu. Yd.	Dumped Rock Channel Protection	
							171		3		601	171	Cu. Yd.	Dumped Rock Channel Protection, As per Plan	
											659	27962	Sq. Yd.	Seeding and Mulching, as per plan	
											659	252	Tons	Commercial Fertilizer (12-12-12)	
											667	552	Sq. Yd.	Jute Matting	
				167	232	153									DRAINAGE
											602	1.9	Cu. Yd.	Concrete Masonry	
											603	164	Lin. Ft.	18" Conduit Type A, 706.01, 706.02 Class III or 706.08 with Class B Bedding	
											603	74	Lin. Ft.	30" Conduit Type A 706.02 or 706.08 with Class B Bedding	
				28							603	28	Lin. Ft.	6" Conduit Type B with Class B Bedding	
100											603	100	Lin. Ft.	12" Conduit Type B with Class B Bedding	
				34							603	34	Lin. Ft.	12" Conduit Type D	
			28	146							603	174	Lin. Ft.	12" Conduit Type D, 706.02 Class III, 707.01 14 Gage or 707.02 14 Gage	
50											603	50	Lin. Ft.	6" Conduit Type E	
				100	258	100					603	458	Lin. Ft.	12" Conduit Type E	
											603	80	Lin. Ft.	6" Conduit Type F	
30				10	20	20					603	10	Lin. Ft.	8" Conduit Type F	
											604	1	Each	Standard No. 2-3 Catch Basin	
											604	1	Each	Standard No. 1 Side Ditch Inlet	
											605	3358	Lin. Ft.	6" Deep Pipe Underdrains	
											605	340	Lin. Ft.	Aggregate Drains	
															PAVEMENT
											301	995	Cu. Yd.	Bituminous Aggregate Base 702.01, (85-100); or 702.09, RT-12	
6			898	18	18	61					304	176	Cu. Yd.	Aggregate Base	
				11	144	15					310	1183	Cu. Yd.	Subbase	
											402	255	Cu. Yd.	Asphalt Concrete (70-85)	
											404	262	Cu. Yd.	Asphalt Concrete (70-85)	
2				4	5	4		25			611	133	Sq. Yd.	Reinforced Concrete Approach Slabs (7'-13') Structure Over 20 Ft. Span - Hur-99-1028 - See Sheet No. 26	
											614	Lump	Lump	Maintaining Traffic	
												Lump	Lump	Field Office	

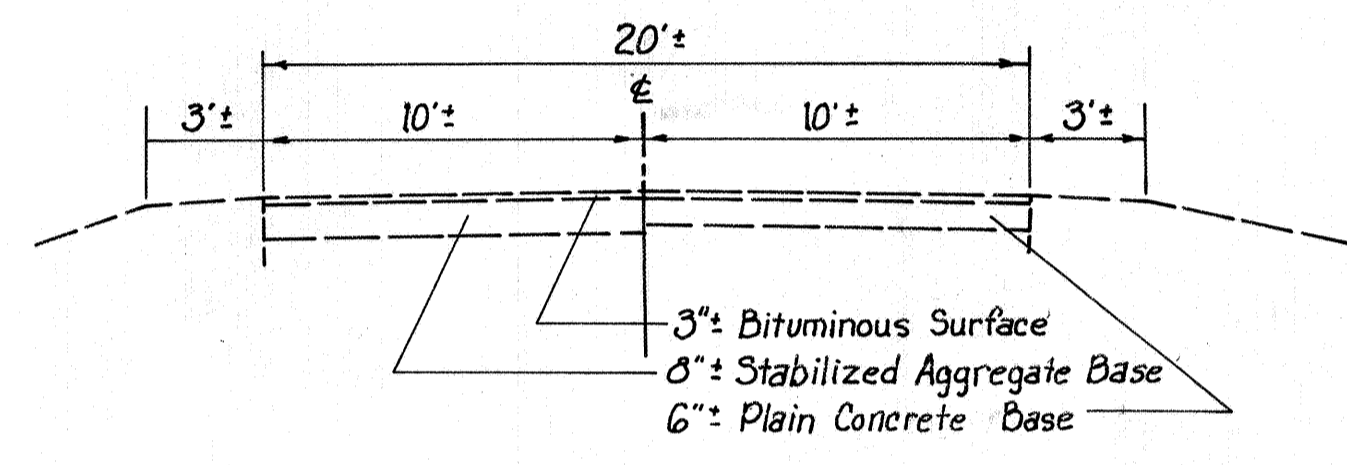
HUR-99-(991-10.35)

CURVE DATA
 PI = Sta. 524+33.33
 $\Delta = 1^\circ-14'-40''$ Lt.
 D = 0° 08'
 T = 466.69
 L = 933.33
 E = 2.54
 R = 42,971.83

Remove Existing Conc. Steps & Disturbed Portion of Existing Concrete Sidewalk as directed by the Engineer. Cost of removal to be included in Item 203 Excavation.

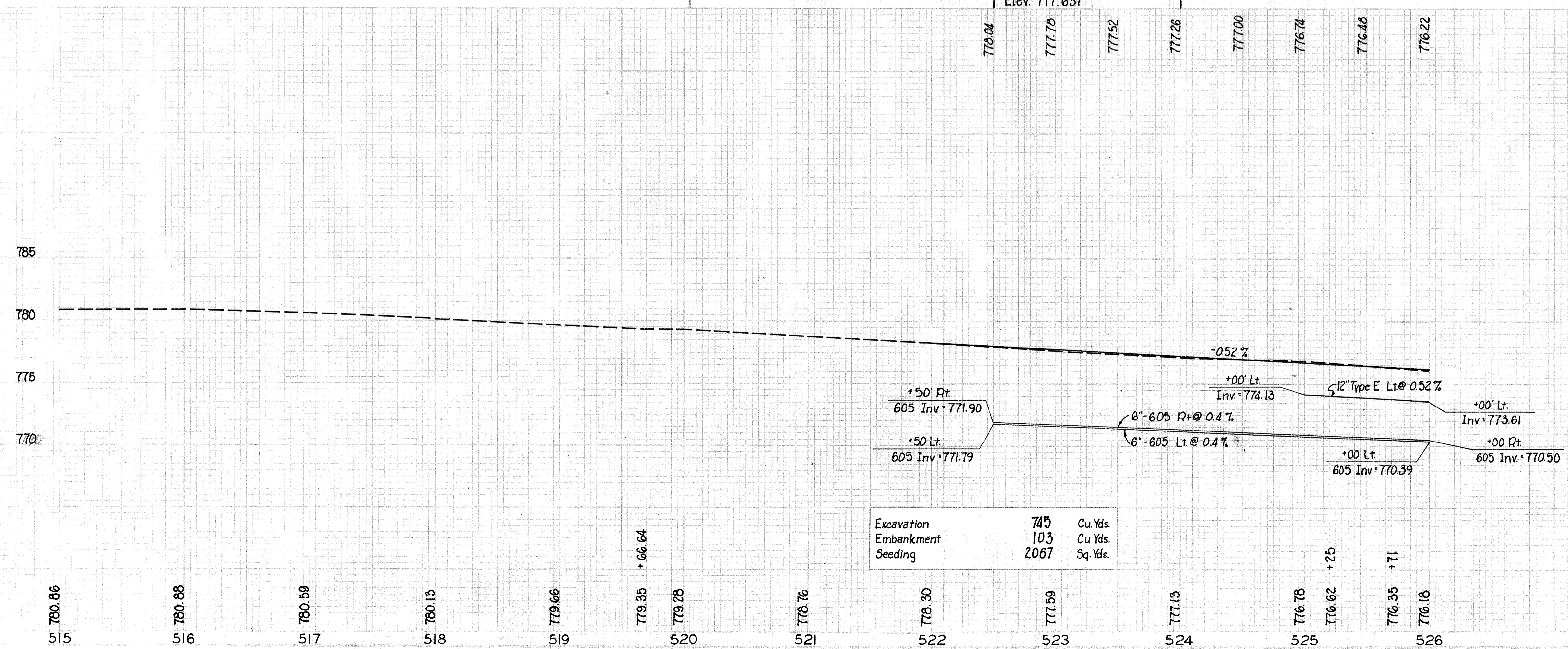


TYPICAL SECTION OF ADJOINING PAVEMENT



B.M. New Spike in ϕ 30 Lt.
 Sta. 524+35
 Elev. 777.637

P.I. Sta. 524+33.33
 $\Delta = 1^\circ-14'-40''$ Lt.

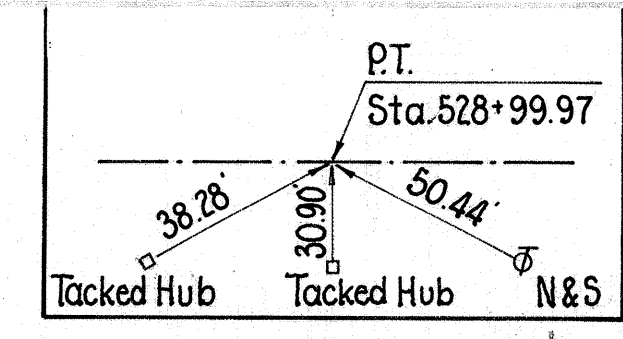
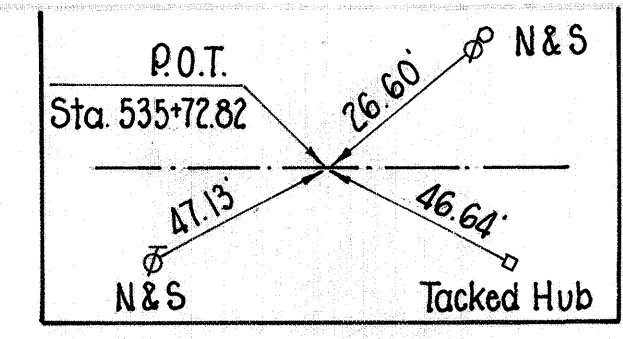


Ref. No.	Station	Description	Quantity	Unit
605	522+00 - 522+50	Deep Pipe Underdrains	6"	Lin. Ft.
202	522+00 - 522+50	Exist. Davit Removed & Disposed of	444.4	Sq. Yds.
202	522+00 - 522+50	Dipe Removed	28	24" & Under Lin.
603	522+00 - 522+50	Conduit	100	12" Lin. Ft.
603	522+00 - 522+50	Conduit	28	12" Lin. Ft.
203	522+00 - 522+50	Subgrade Prep.	122.2	Sq. Yds.
310	522+00 - 522+50	Subbase	18.4	5" Cu. Yds.
304	522+00 - 522+50	Aggregate Base	10.6	6" Cu. Yds.
301	522+00 - 522+50	Bituminous Aggregate Base	17.5	5" Cu. Yds.
402	522+00 - 522+50	Asphalt Conc.	4.2	14" Cu. Yds.
404	522+00 - 522+50	Asphalt Conc.	4.2	14" Cu. Yds.
Totals			444.4	

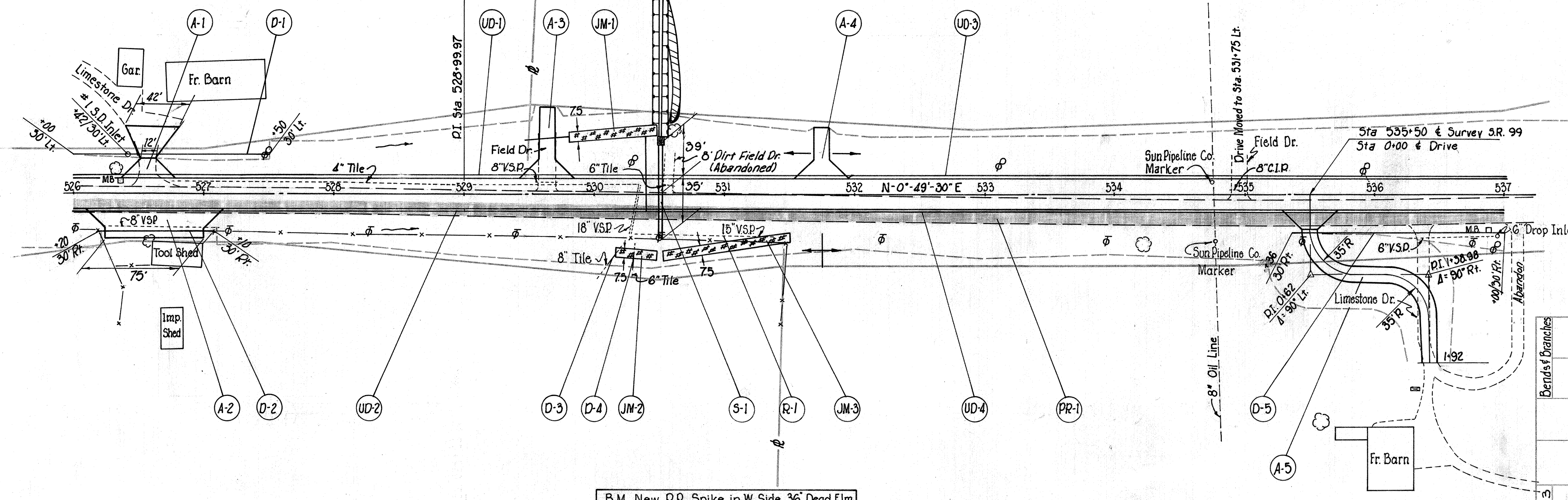
* 706.02 Class III, 707.01 14 Ga. or 707.02 14 Ga.
 † Outlet for Existing 4" Tile

HUR-99-(991-10.35)

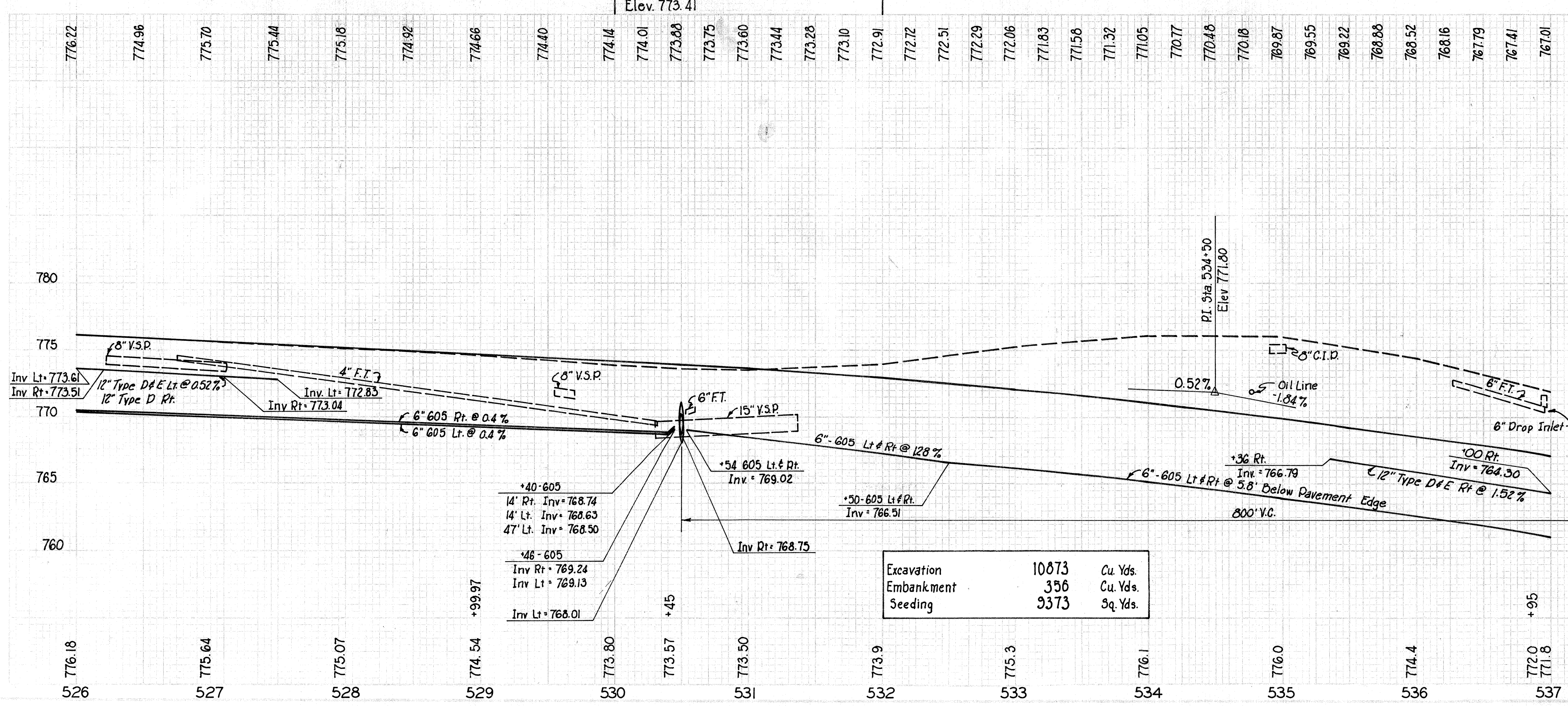
5-1 Structure Hur-99-10.06 Sta. 530+50
 D.A. 40 Acres Q 25 x 32 cfs.
 Existing: 24" V.S.P. with 18" V.S.P. Extension to be removed.
 Proposed: 30" Conduit Type A 706.02 or 706.08 with class B bedding
 with HW-E endwalls Lt. Rt. Skew 0° Cover @ E = 2.2'
 For Details & Quantities See Sheet No. 25



CURVE DATA
 Drive Sta. 535+00 Rt.
 P.I. = Sta. 0+62 DI = Sta. 1+38.98
 Δ = 90° Lt. Δ = 90° Rt.
 R = 35' R = 35'
 T = 35' T = 35'
 L = 54.98' L = 54.98'
 E = 14.50' E = 14.50'



B.M. New R.R. Spike in W. Side 36' Dead Elm
 250' Rt. Sta. 531+00
 Elev. 773.41



Excavation	10673	Cu. Yds.
Embankment	356	Cu. Yds.
Seeding	9373	Sq. Yds.

Def. No.	Station	Asphalt Aggregate Concrete	Cu. Yds.	2" # 5' 6" 8"	Type D	Linear Feet	603 Conduit	Type F	Type E	Type D	Dipe Removed 24" Under	Inlets Removed Each	Exist. Part Removed & Disposed of Sq. Yds.	667 Jute Matting Sq. Yds.	604 Std. #1 S.D. Inlet Each	605 Deep Pipe Under-drains Lin. Ft.	Type D	Lin. Ft.	Bends & Branches	Ice	Cross
A-1	526+57 Lt. - L=40'																				
A-2	526+62 Rt. - L=23'																				
A-3	529+63 Lt. - L=55'																				
A-4	531+75 Lt. - L=40'																				
A-5	533+50 Rt. - L=180'																				
D-1	526+00 - 527+50 Lt.																				
D-2	526+20 - 527+10 Rt.																				
D-3	530+17 Rt. *																				
D-4	530+30 Rt. *																				
D-5	535+36 - 537+00 Rt.																				
JM-1	529+80 - 530+49 Lt.																				
JM-2	530+17 - 530+49 Rt.																				
JM-3	530+31 - 531+50 Rt.																				
P-1	530+31 - 531+37 Rt.																				
UD-1	526+00 - 537+00																				
UD-2	526+00 - 530+46 Lt.																				
UD-3	526+00 - 530+46 Rt.																				
UD-4	530+54 - 537+00 Lt.																				
UD-4	530+54 - 537+00 Rt.																				
Totals																					

* 2'-1" Courses * Outlet for existing field tile * 706.02 Class III, 707.01 14 Ga. or 707.02 14 Ga.

S-2 Str. No. Hur-99-10.23 S.R.L.
 Sta. 14+37 - Pontiac Road.
 D.A. = 55 Ac Q₁₀ 7.7 cfs Cover = 10.1' V = 11.4 fps.
 Existing: 9" C.M.P. to be removed
 Proposed: 18" Conduit Type A 708.02 Cl III or 708.08 with Std. HW-E Endwalls Lt & Rt.

For Channel Details
 See Sheet No. 22

For Intersection Details
 See Sheet No. 18

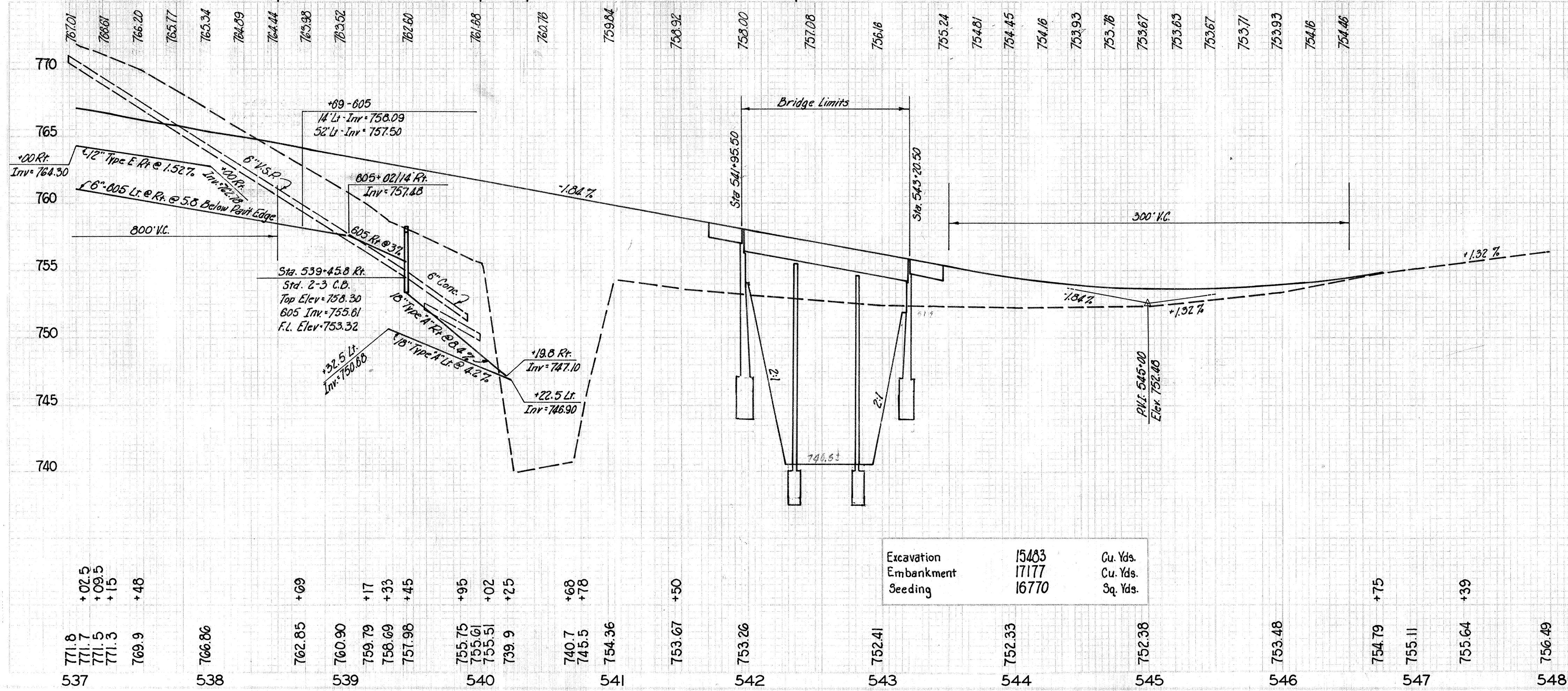
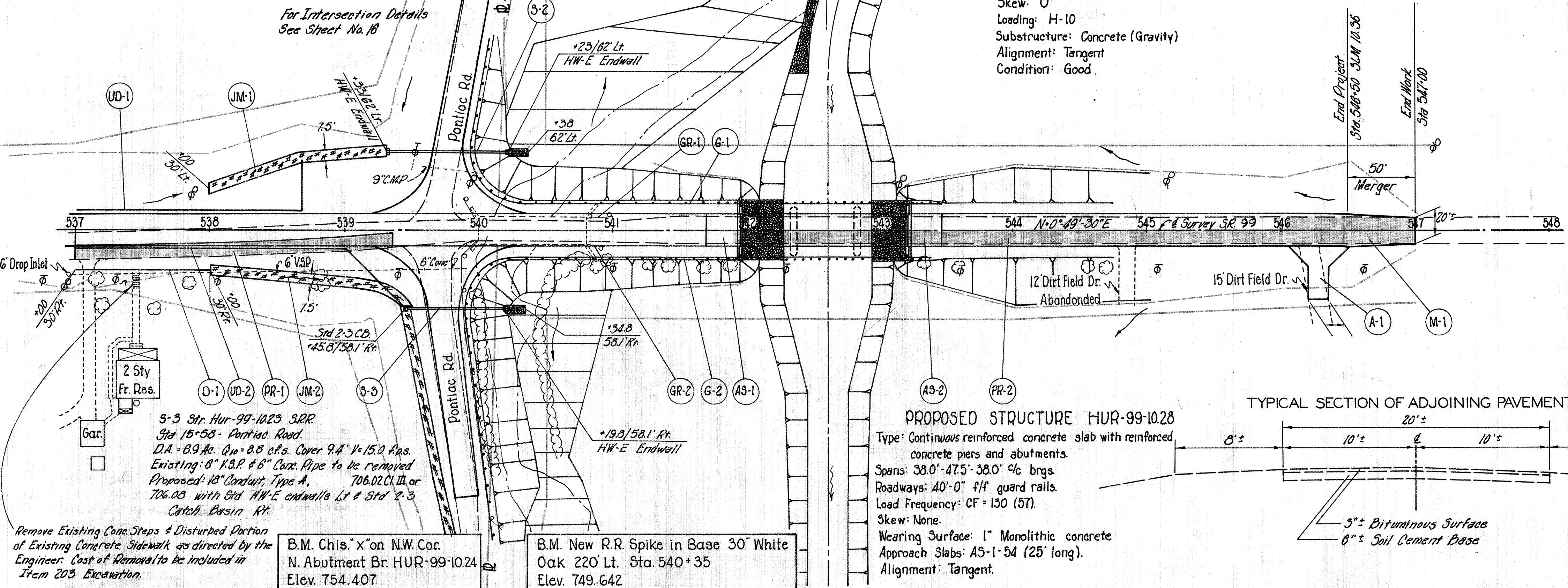
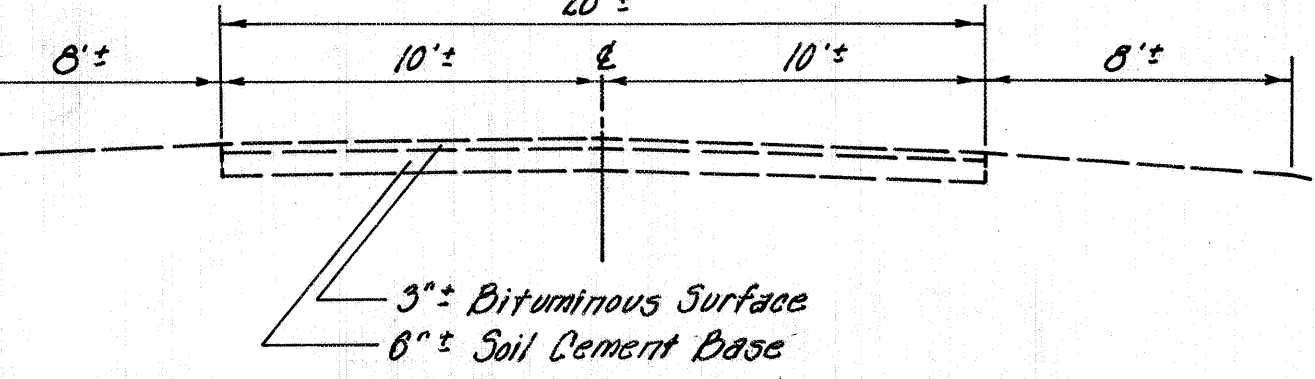
EXISTING BRIDGE DATA HUR-99-10.24

Type: Truss
 Span: 76'-9"
 Roadway: 13'-0"
 Wearing Surface: Bituminous
 Skew: 0°
 Loading: H-10
 Substructure: Concrete (Gravity)
 Alignment: Tangent
 Condition: Good

PROPOSED STRUCTURE HUR-99-10.28

Type: Continuous reinforced concrete slab with reinforced concrete piers and abutments.
 Spans: 38.0'-47.5'-38.0' %c brgs.
 Roadways: 40'-0" f/f guard rails.
 Load Frequency: CF = 130 (57).
 Skew: None.
 Wearing Surface: 1" Monolithic concrete
 Approach Slabs: AS-1-54 (25' long).
 Alignment: Tangent.

TYPICAL SECTION OF ADJOINING PAVEMENT



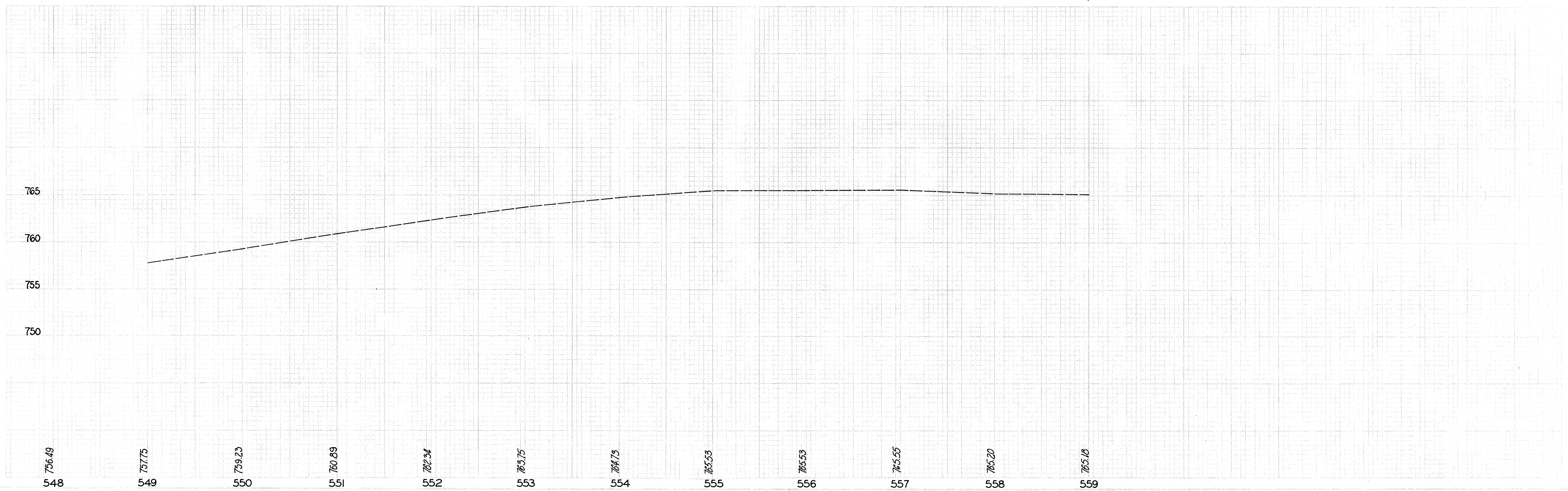
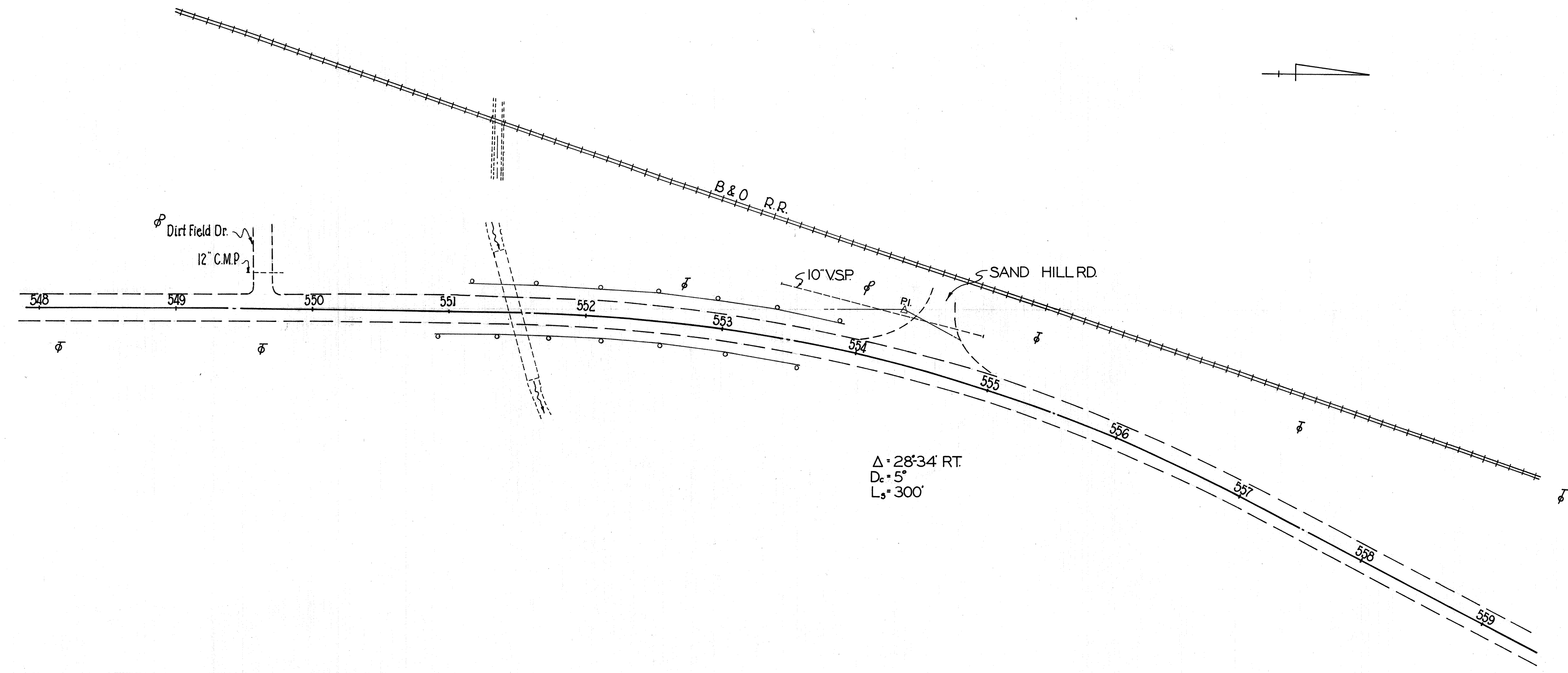
Excavation	15483	Cu. Yds.
Embankment	17177	Cu. Yds.
Seeding	16770	Sq. Yds.

HUR-99-(991-10.35)

Ref. No.	Station	Description	Type		Lin. Ft.	6"	12"	6"	20"	Densities/Branches
			A	F						
603	546+50-547+00	Conduit	100		100					
203	546+27-Rt. L-40'	Subgrade Prep.								
310	537+00-538+00 Rt.	Subbase	90	74						
304	539+330-540+250 Lt.	Aggregate Base								
301	539+458-540+19.8 Rt.	Bituminous Aggregate Base								
402	541+90-547+00	Asphalt Concrete								
404	541+70.50-541+95.50	Asphalt Concrete								
	543+20.50-543+45.50									
	537+00-538+89 Lt.									
	537+00-539+45.8 Rt.									
	17-306.5 Rt. 543+36.15									
	539+66-541+01.5 Lt.									
	539+88.5-540+95 Rt.									
	538+00-539+53 Lt.									
	538+00-539+55.6 Rt.									
	Totals									

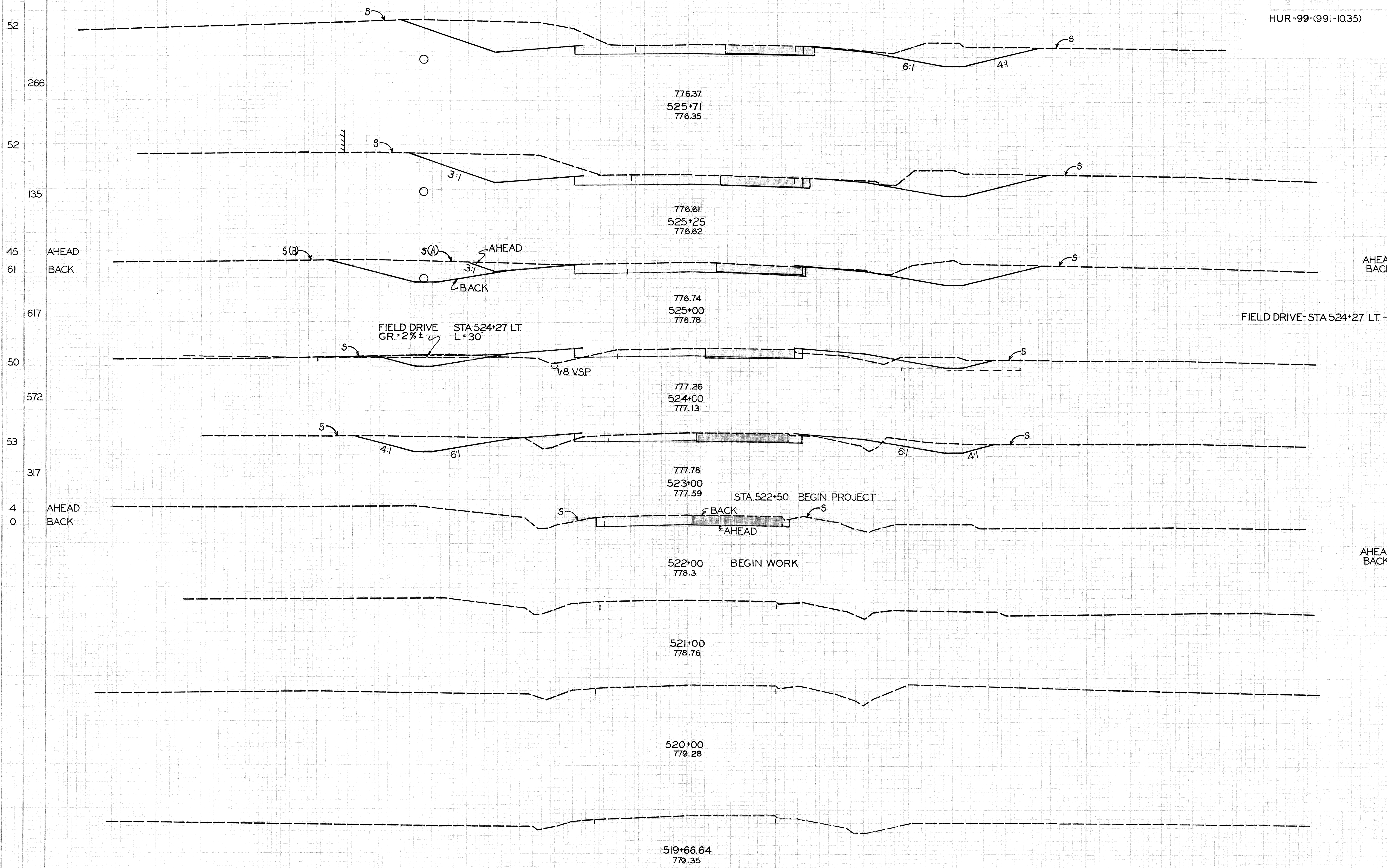
* 706.01, 706.02 cl. III or 706.08 with Class B Bedding + 15' 4" x 2.5"

HUR-99-(991-10.35)



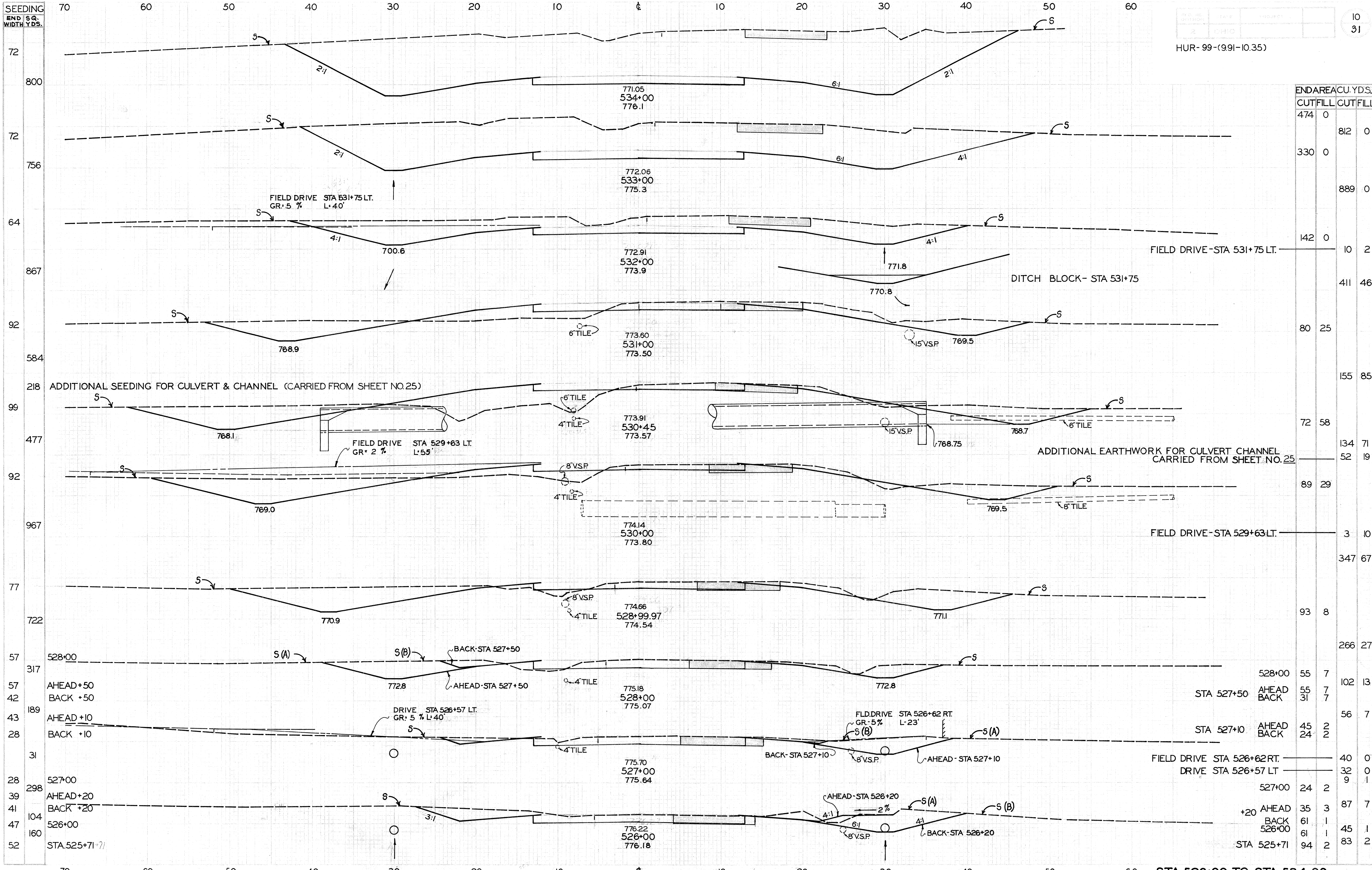
SEEDING
END SQ.
WIDTH YDS.

70 60 50 40 30 20 10 0 10 20 30 40 50 60



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
94	2		
		154	3
87	1		
		64	1
52	1		
83	1		
		9	2
		211	30
31	15		
		130	46
39	10		
		94	19
12	0		
0	0		

SEEDING
END SQ.
WIDTH YDS.

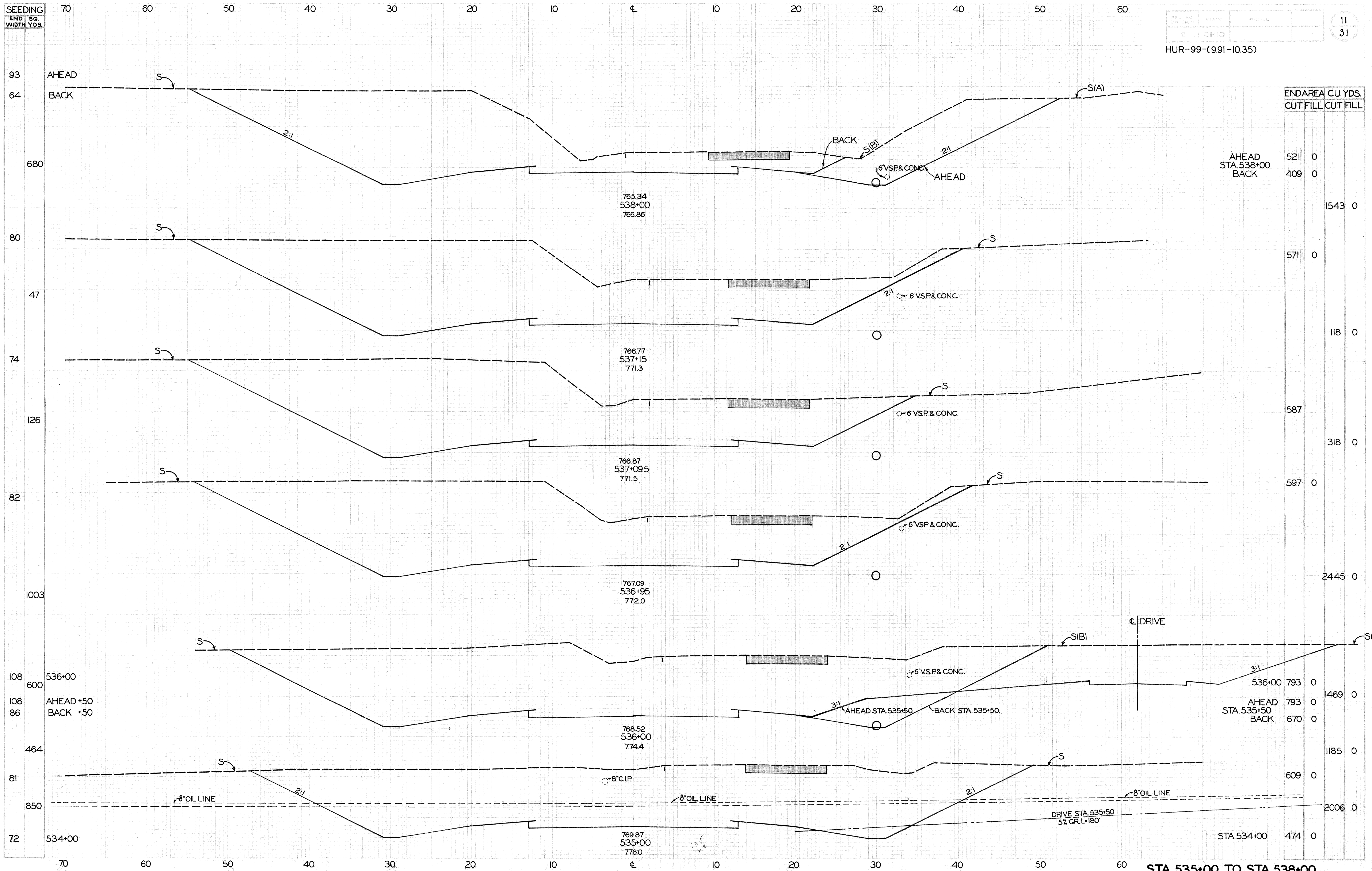


END AREA CU. YDS.	CUT	FILL	CUT	FILL
474	0			
		812	0	
330	0			
		889	0	
142	0		10	2
		411	46	
80	25			
		155	85	
72	58			
134	71			
52	19			
89	29			
		3	10	
		347	67	
93	8			
		266	27	
528+00	55	7		
528+00	55	7	102	13
528+00	55	7		
527+10	45	2		
527+10	45	2	56	7
527+10	45	2		
526+62 RT.	40	0		
526+57 LT.	32	0		
527+00	24	2		
527+00	24	2	9	1
+20 AHEAD	35	3	87	7
526+00	61	1		
526+00	61	1	45	1
525+71	94	2	83	2

STA. 526+00 TO STA. 534+00.

SEEDING
END SQ.
WIDTH YDS.

HUR-99-(9.91-10.35)



END AREA STA.	CU. YDS.	
	CUT	FILL
AHEAD STA. 538+00	521	0
BACK	409	0
		1543
	571	0
		118
	587	0
		318
	597	0
		2445
536+00	793	0
AHEAD +50	793	0
BACK +50	670	0
		1469
	609	0
		1185
	609	0
		2006
534+00	474	0

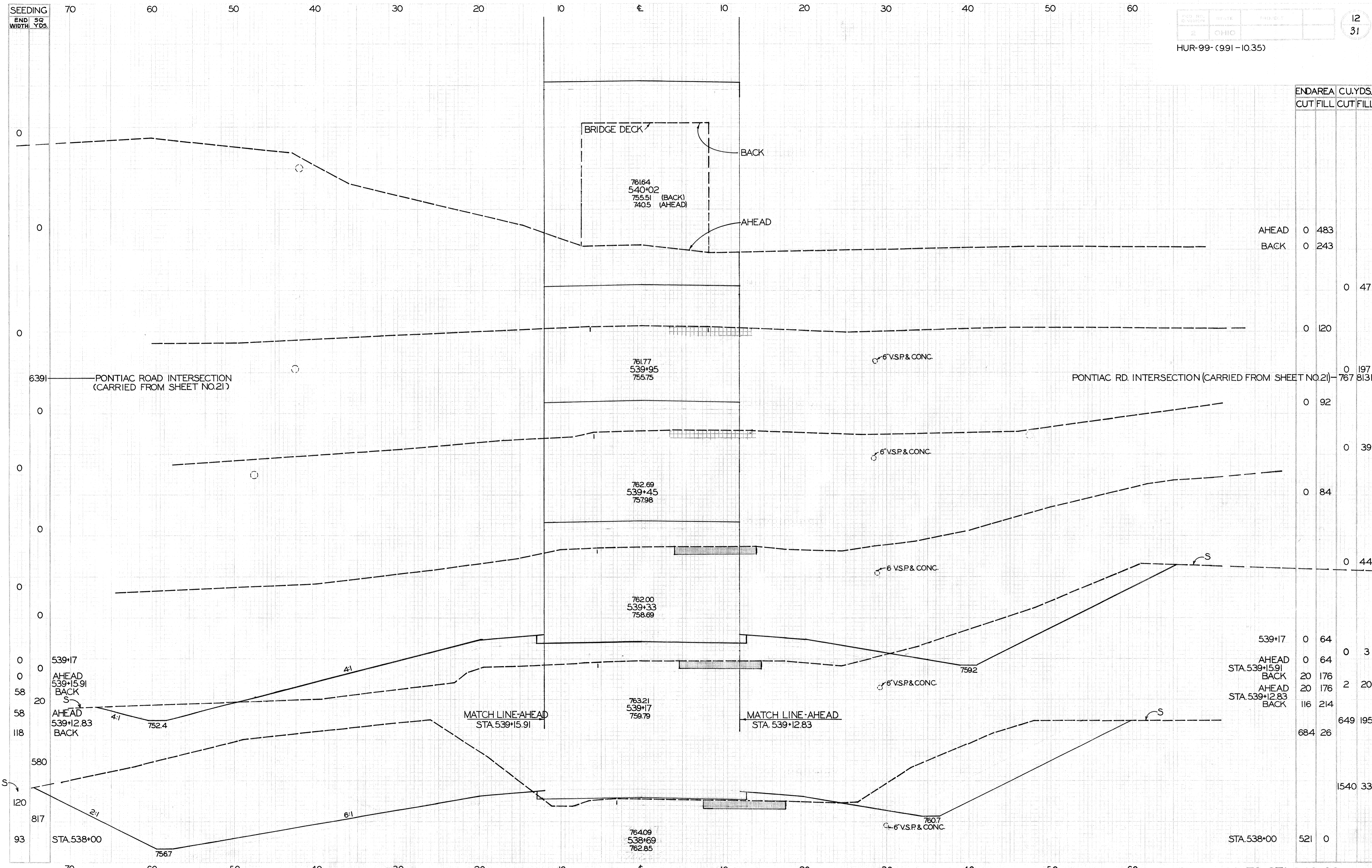
STA. 535+00 TO STA. 538+00

SEEDING
END SQ
WIDTH YDS.

PROJ. DIVISION	STATE	FED. DIST.
2	OHIO	

12
31

HUR-99- (991-10.35)



END AREA	CUT	FILL	CU. YDS.	CUT	FILL
----------	-----	------	----------	-----	------

AHEAD	0	483			
BACK	0	243			
			0	47	
	0	120			
	0	197			
	0	767			8131
	0	92			
			0	39	
	0	84			
			0	44	
539+17	0	64			
AHEAD	0	64			3
STA. 539+5.91	20	176			
BACK	20	176			20
STA. 539+12.83	116	214			
BACK			649		195
	684	26			
					1540
					33
STA. 538+00	521	0			

STA. 538+69 TO STA. 540+02.

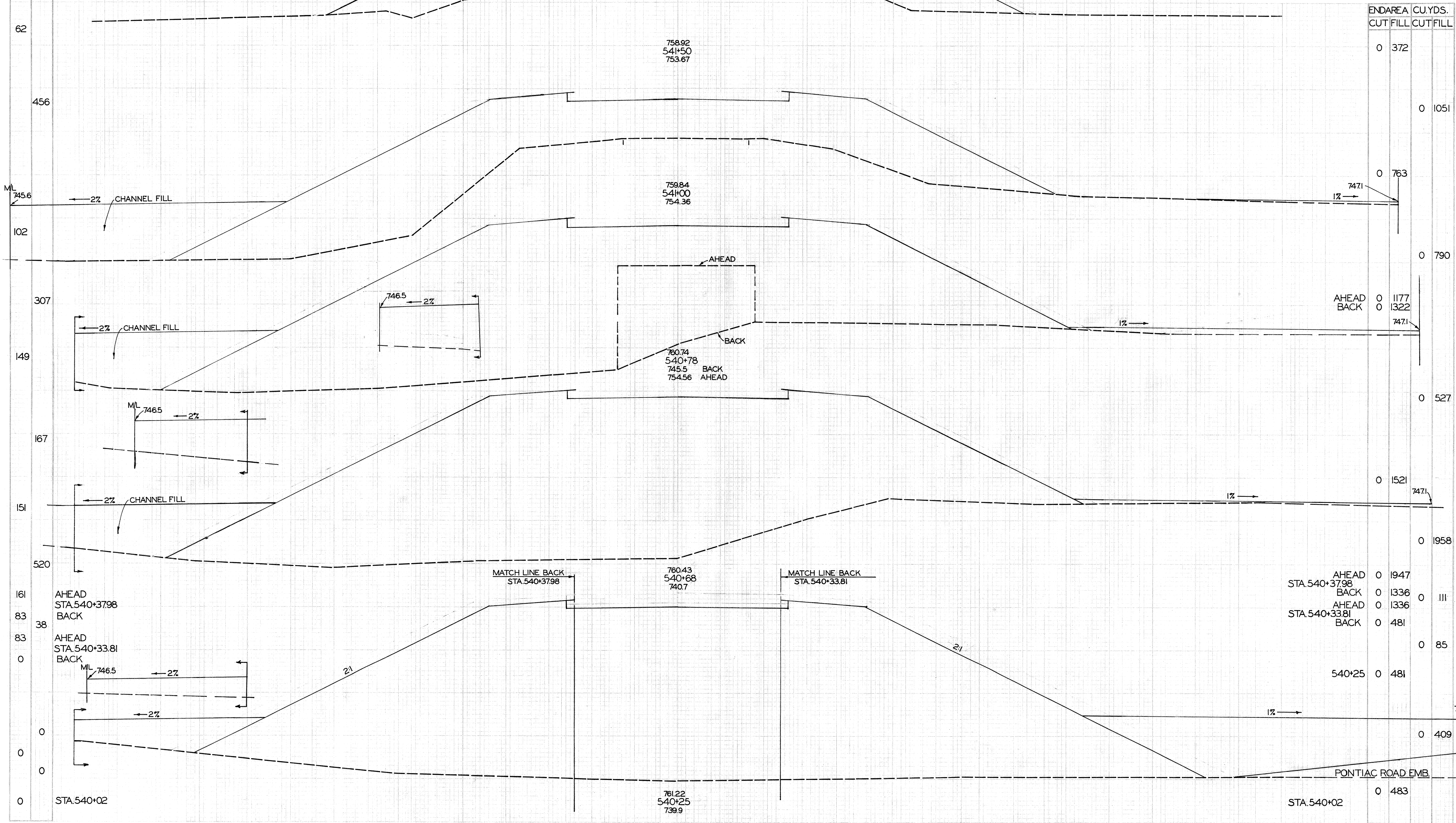
SEEDING
END SQ
WIDTH YDS.

70 60 50 40 30 20 10 0 10 20 30 40 50 60

2 CHIC

13
31

HUR-99-(9.91-10.35)



END AREA	CUT	FILL	CUT	FILL
0	372			
0		1051		
0		763		
0		790		
AHEAD	0	1177		
BACK	0	1322		
		747.1		
0		527		
0		1521		
0		1958		
AHEAD	0	1947		
STA. 540+37.98				
BACK	0	1336		
0		1111		
AHEAD	0	1336		
STA. 540+33.81				
BACK	0	481		
0		85		
540+25	0	481		
0		409		
0		483		

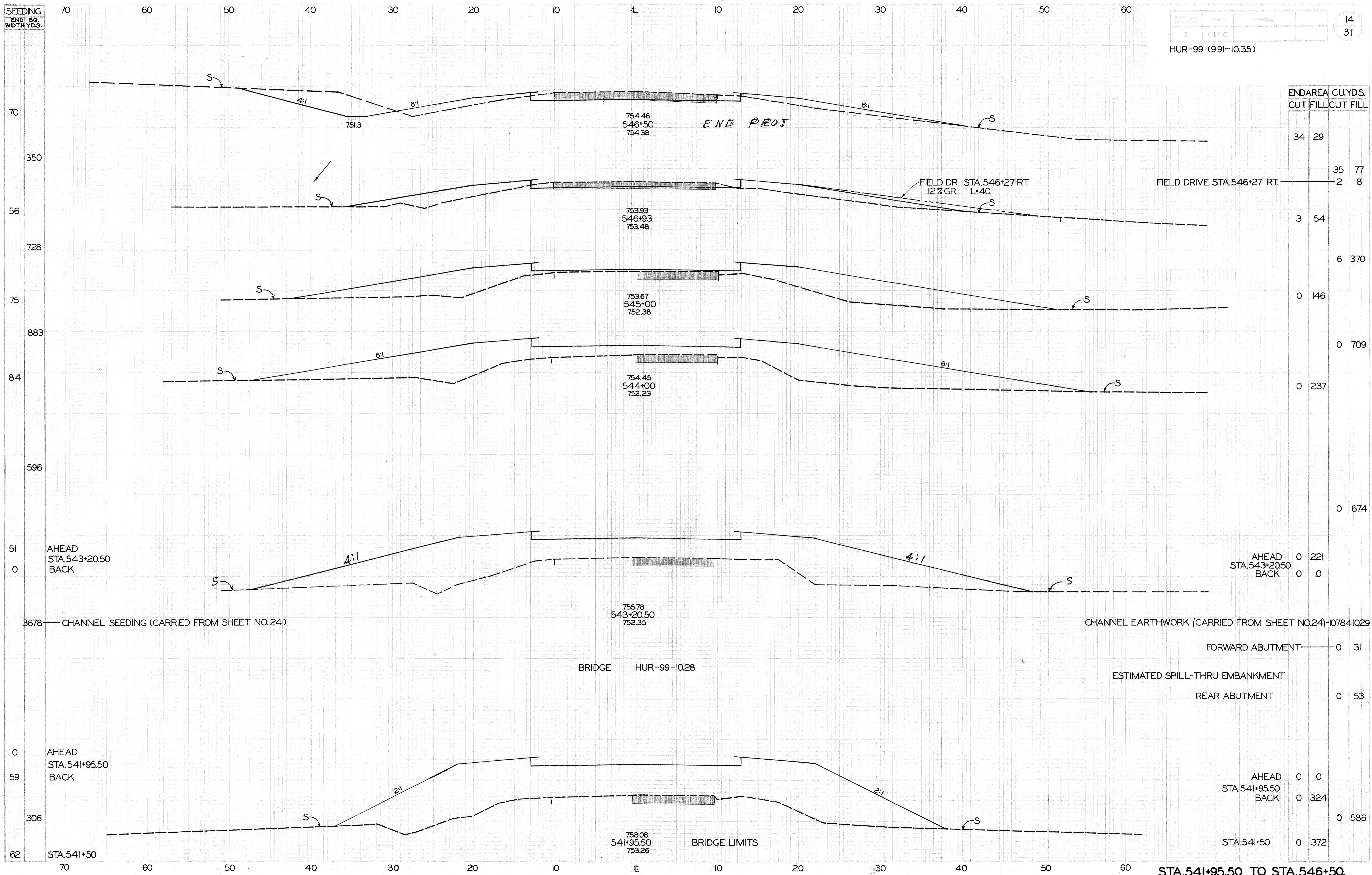
STA. 540+25 TO STA. 541+50.

SEEDING
END SQ.
WIDTH YDS.

RD NO.	STATE	PROJECT
2	OHIO	

14
31

HUR-99-(991-10.35)



END AREA		CU. YDS.	
CUT	FILL	CUT	FILL
34	29		
35	77		
2	8		
3	54		
6	370		
0	146		
0	709		
0	237		
0	674		
0	221		
0	0		
0	10784		
0	31		
0	53		
0	0		
0	324		
0	586		
0	372		

70
350
56
728
75
883
84
596
51
0
3678
0
59
306
62

AHEAD
STA. 543+20.50
BACK

AHEAD
STA. 541+95.50
BACK

STA. 541+50

AHEAD
STA. 543+20.50
BACK

AHEAD
STA. 541+95.50
BACK

STA. 541+50

754.46
546+50
754.38

753.93
546+93
753.48

753.67
545+00
752.38

754.45
544+00
752.23

755.78
543+20.50
752.35

758.08
541+95.50
753.26

END PROJ

BRIDGE HUR-99-10.28

BRIDGE LIMITS

FIELD DR. STA. 546+27 RT.
12% GR. L+40

FIELD DRIVE STA. 546+27 RT.

CHANNEL EARTHWORK (CARRIED FROM SHEET NO. 24) 10784 1029

FORWARD ABUTMENT 0 31

ESTIMATED SPILL-THRU EMBANKMENT

REAR ABUTMENT 0 53

STA. 541+95.50 TO STA. 546+50.

SEEDING
END
WIDTH

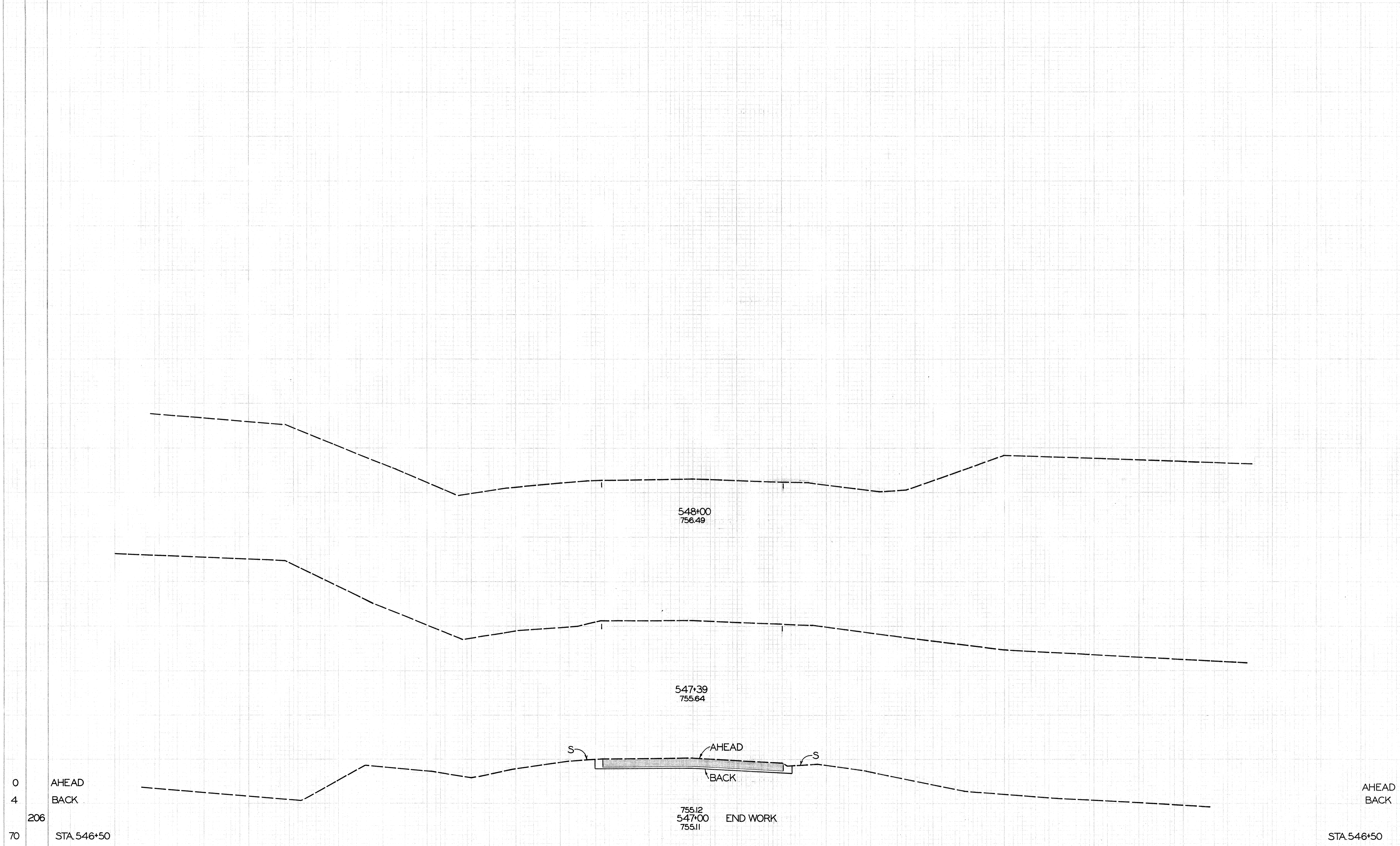
70 60 50 40 30 20 10 0 10 20 30 40 50 60

PROJECT DIVISION	STATE	PROJECT
2	OHIO	

15
31

HUR-99 (991-10.35)

END AREA	CU. YDS.
CUT	FILL



0
4
206
70

AHEAD
BACK

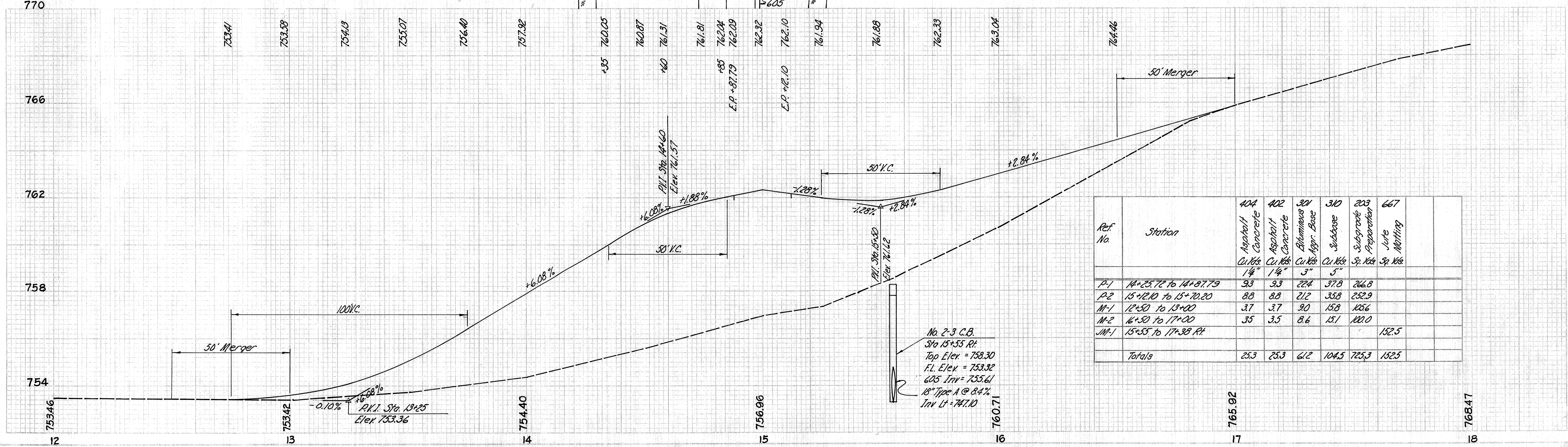
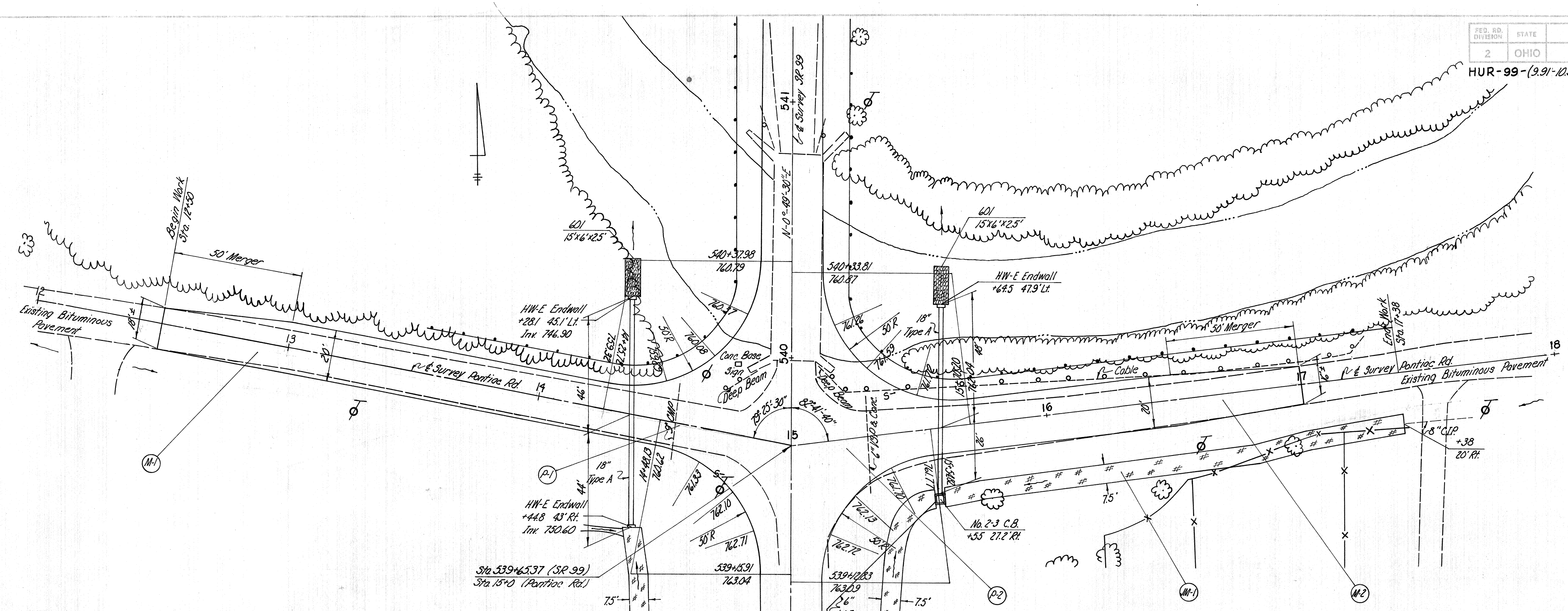
STA. 546+50

AHEAD	0	0
BACK	6	0
	37	27

STA. 546+50 34 29

STA. 547+00 TO STA. 548+00.

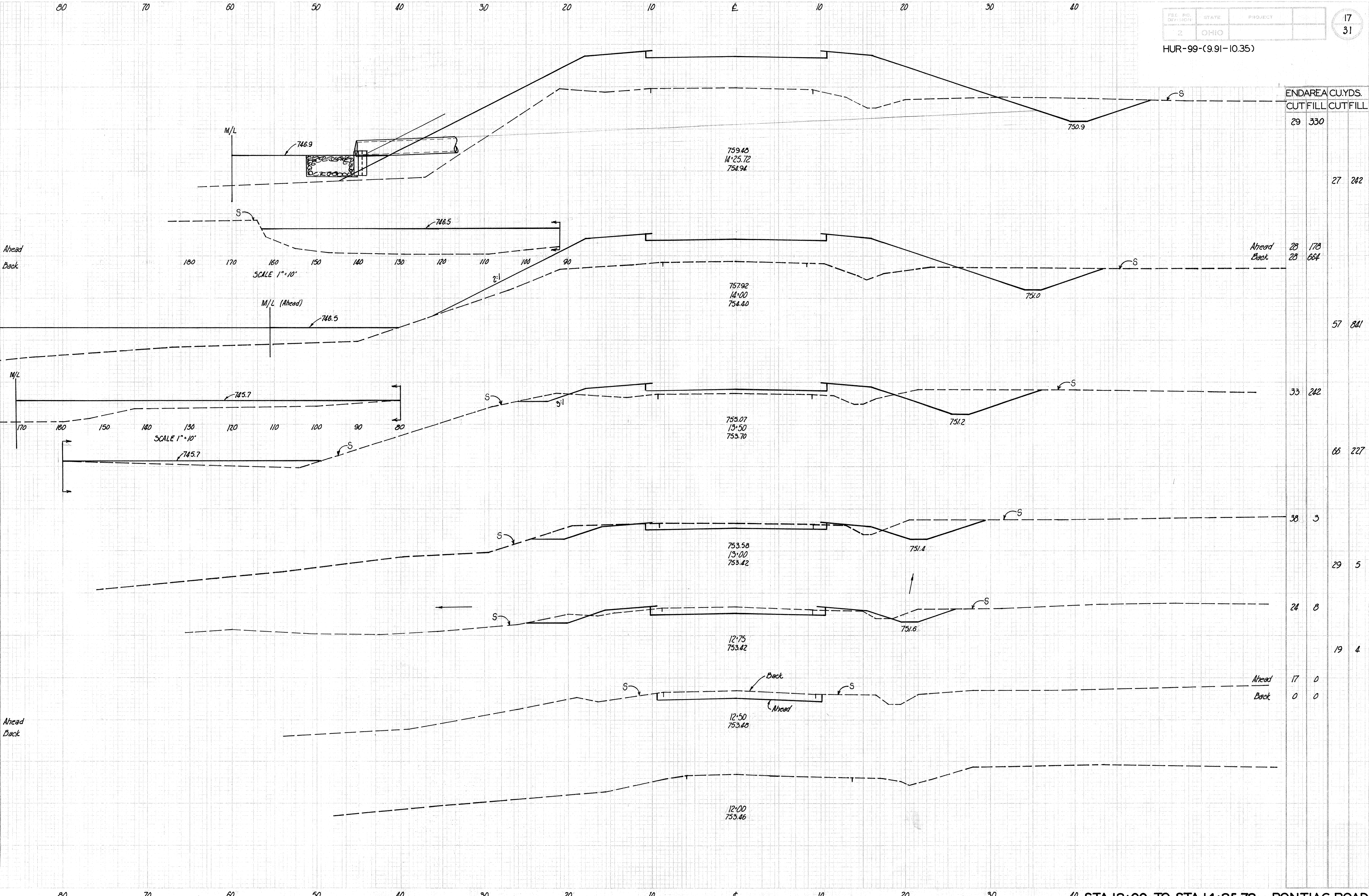
HUR-99-(9.91-10.35)



Ref. No.	Station	40A Asphalt Concrete Cu. Yds	402 Asphalt Concrete Cu. Yds	301 Bituminous Aggr. Base Cu. Yds	310 Subbase Cu. Yds	203 Subgrade Preparation Sp. Yds	667 Jute Matting Sp. Yds
P-1	14+25.72 to 14+81.79	93	93	224	37.8	262.8	
P-2	15+12.10 to 15+20.20	8.8	8.8	212	35.8	252.9	
M-1	12+50 to 13+00	37	37	90	15.8	105.6	
M-2	16+50 to 17+00	35	35	8.6	15.1	100.0	
JM-1	15+55 to 17+38 Rt.						152.5
Totals		253	253	612	104.5	725.3	152.5

Intersection Details - Pontiac Road

SEEDING
END
WIDTH



FED. RD. DIVISION	STATE	PROJECT	17
2	OHIO		31

HUR-99-(9.91-10.35)

STATION	CUT	FILL	CU YDS.
29	330		
27		242	
28	178		
28	664		
57		841	
33		242	
66		227	
38		3	
29		5	
24		8	
19		4	
Ahead	17	0	
Back	0	0	

STA.12+00 TO STA.14+25.72 PONTIAC ROAD.

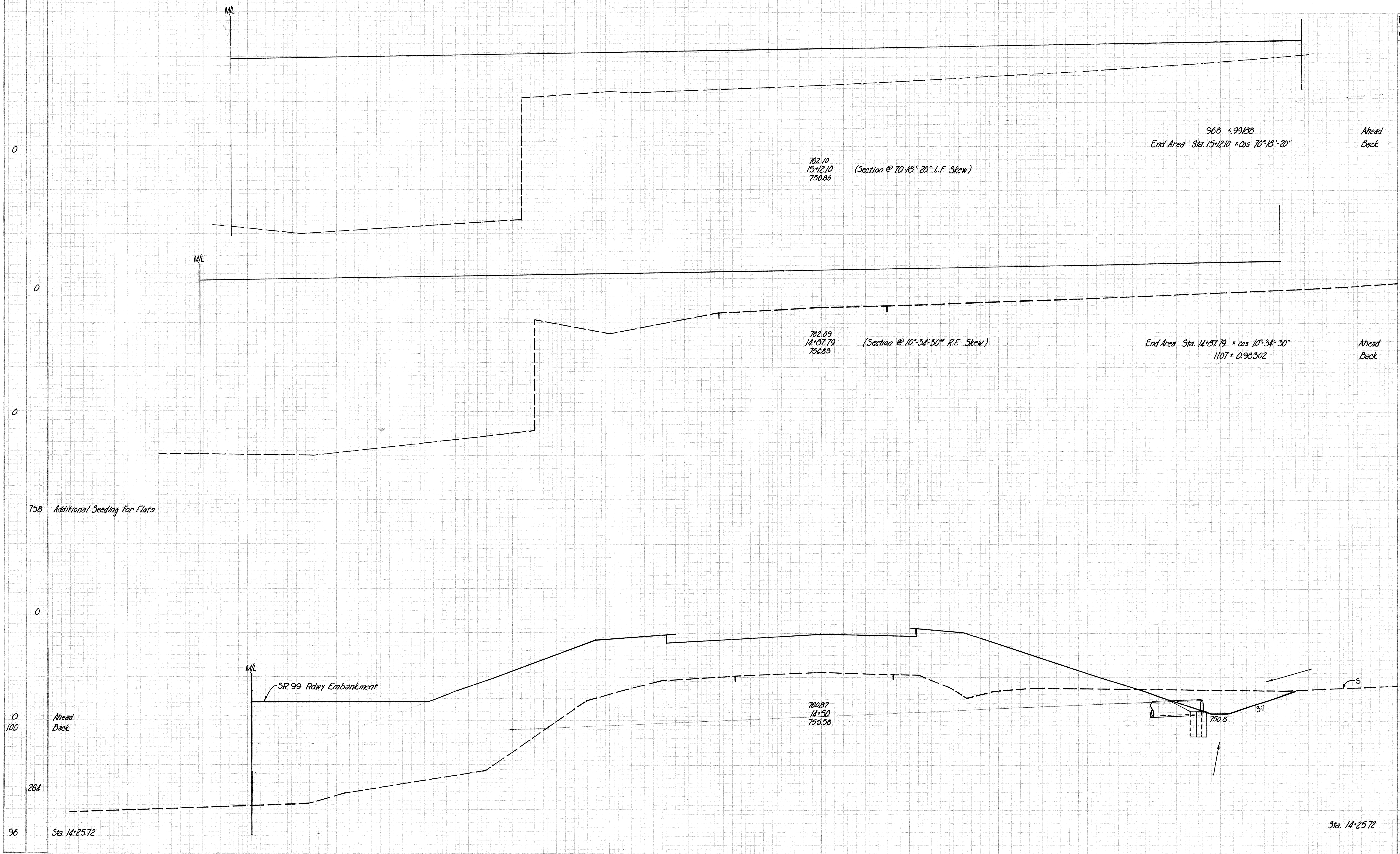
SEEDING
END SQ.
WIDTH YDS.

80 70 60 50 40 30 20 10 0 10 20 30 40

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

18
31

HUR-99(991-10.35)



END AREA CU.YDS.	
CUT	FILL
0	960
0	0
0	0
0	1088
0	0
20	1210
29	641
28	437
29	330

968 * 99/108
End Area Sta. 15+12.10 * cos 70°-13'-20"

762.10
15+12.10
756.86
(Section @ 70°-13'-20" L.F. Skew)

End Area Sta. 14+07.79 * cos 10°-34'-30"
1107 * 0.98302

762.09
14+07.79
756.83
(Section @ 10°-34'-30" R.F. Skew)

758 Additional Seeding For Flats

SR 99 Rdwy Embankment

Ahead
Back

264

Sta. 14+25.72

Sta. 14+25.72

STA. 14+50 TO STA. 15+12.10 PONTIAC ROAD.

SEEDING
END SQ.
WIDTH YDS.

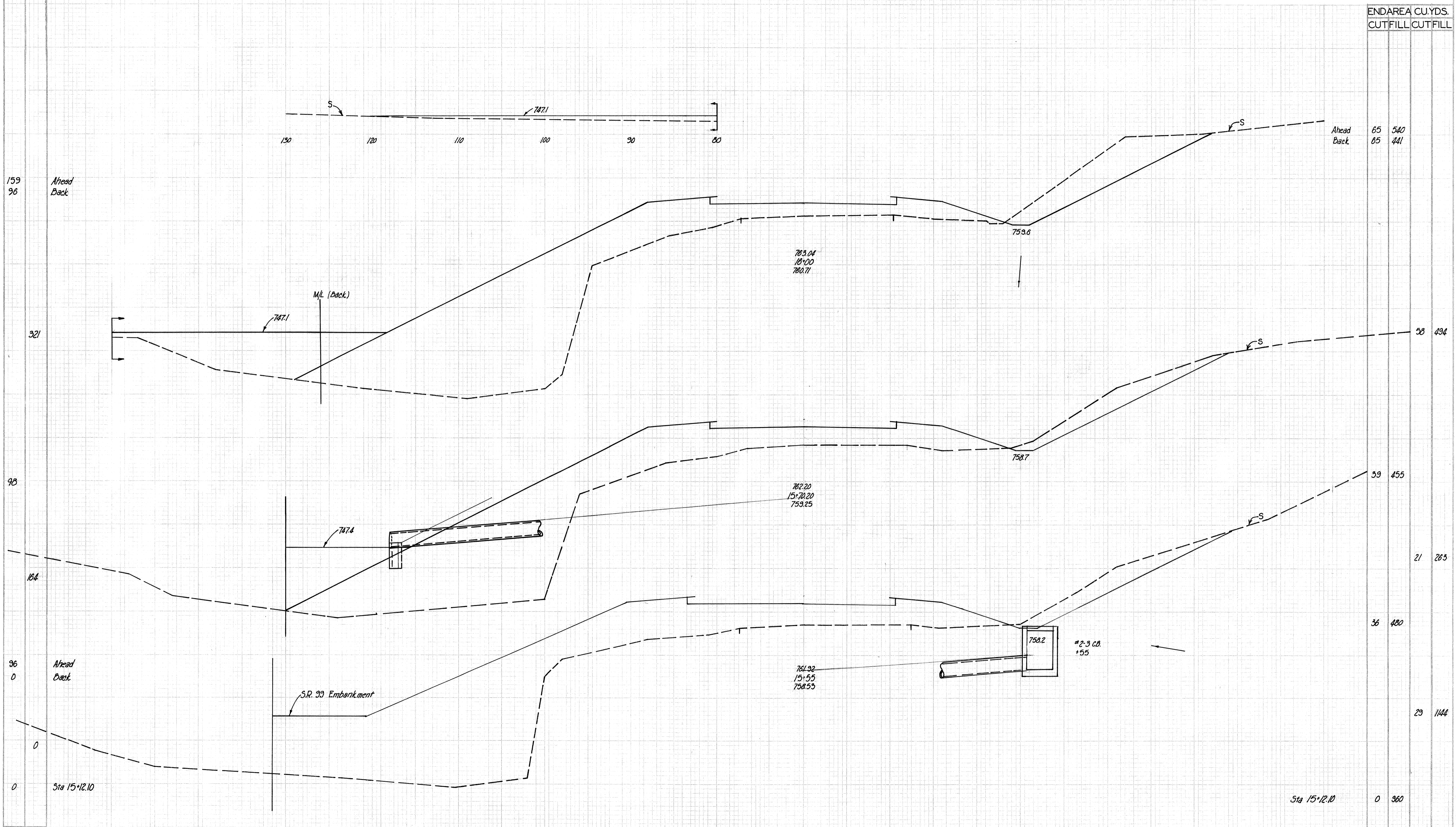
80 70 60 50 40 30 20 10 0 10 20 30 40

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

19
31

HUR-99-(991-10.35)

ENDAREA CU.YDS.
CUTFILL CUTFILL



STA. 15+55 TO STA. 16+00 PONTIAC ROAD

SEEDING
END
WIDTH

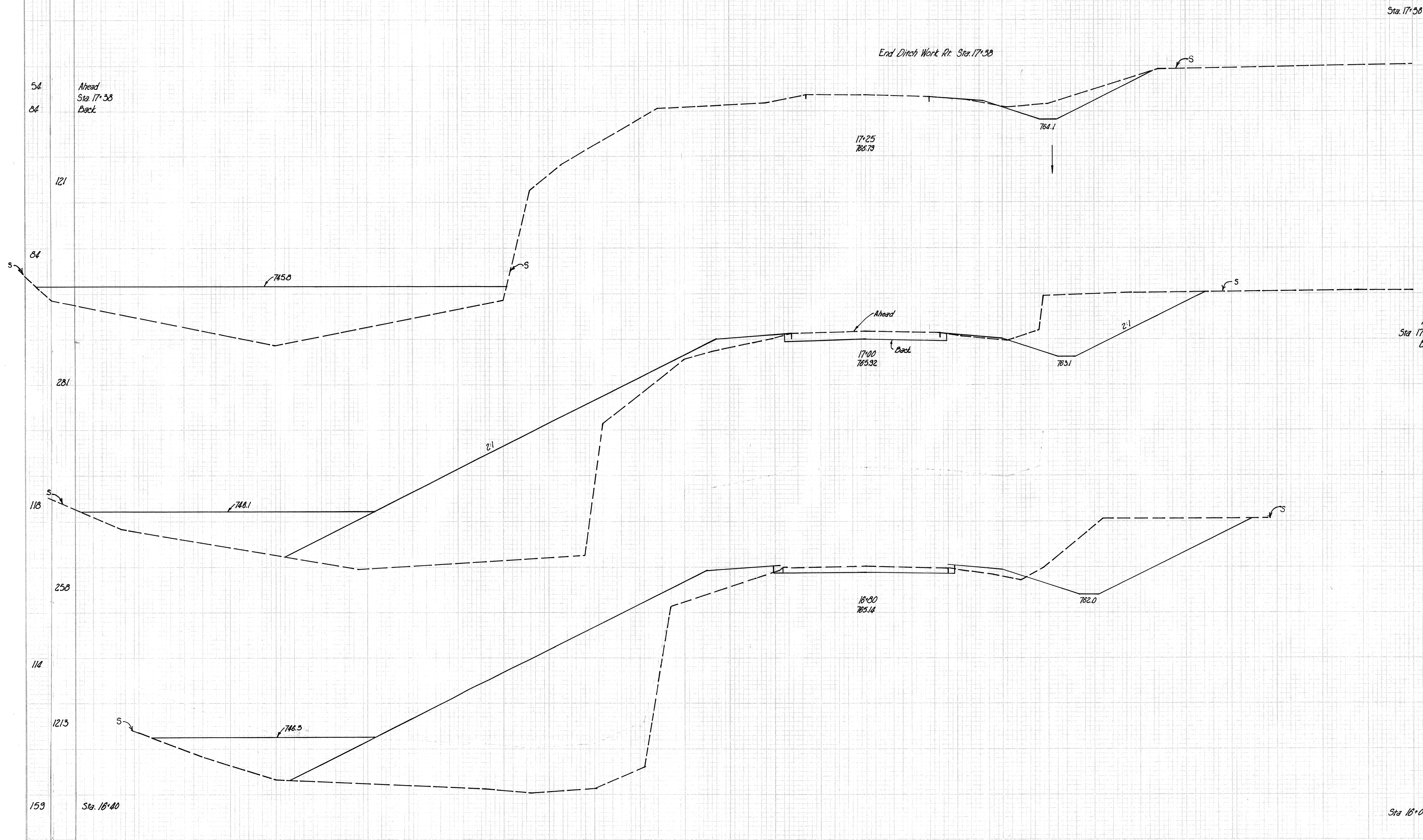
80 70 60 50 40 30 20 10 E 10 20 30 40

FED. DIST. DIVISION	STATE	PROJECT
2	OHIO	

20
31

HUR-99-(991-1035)

END AREA CU. YDS.
CUT FILL CUT FILL



Sta. 17+38	0	138		
	17	139	4	36
			44	294
Sta. 17+00	77	425		
	32	435		
			81	345
	128	437		
			286	1536
Sta. 16+00	65	540		

STA. 16+80 TO STA. 17+38 PONTIAC ROAD.

SEEDING
END SO.
WIDTH YDS.

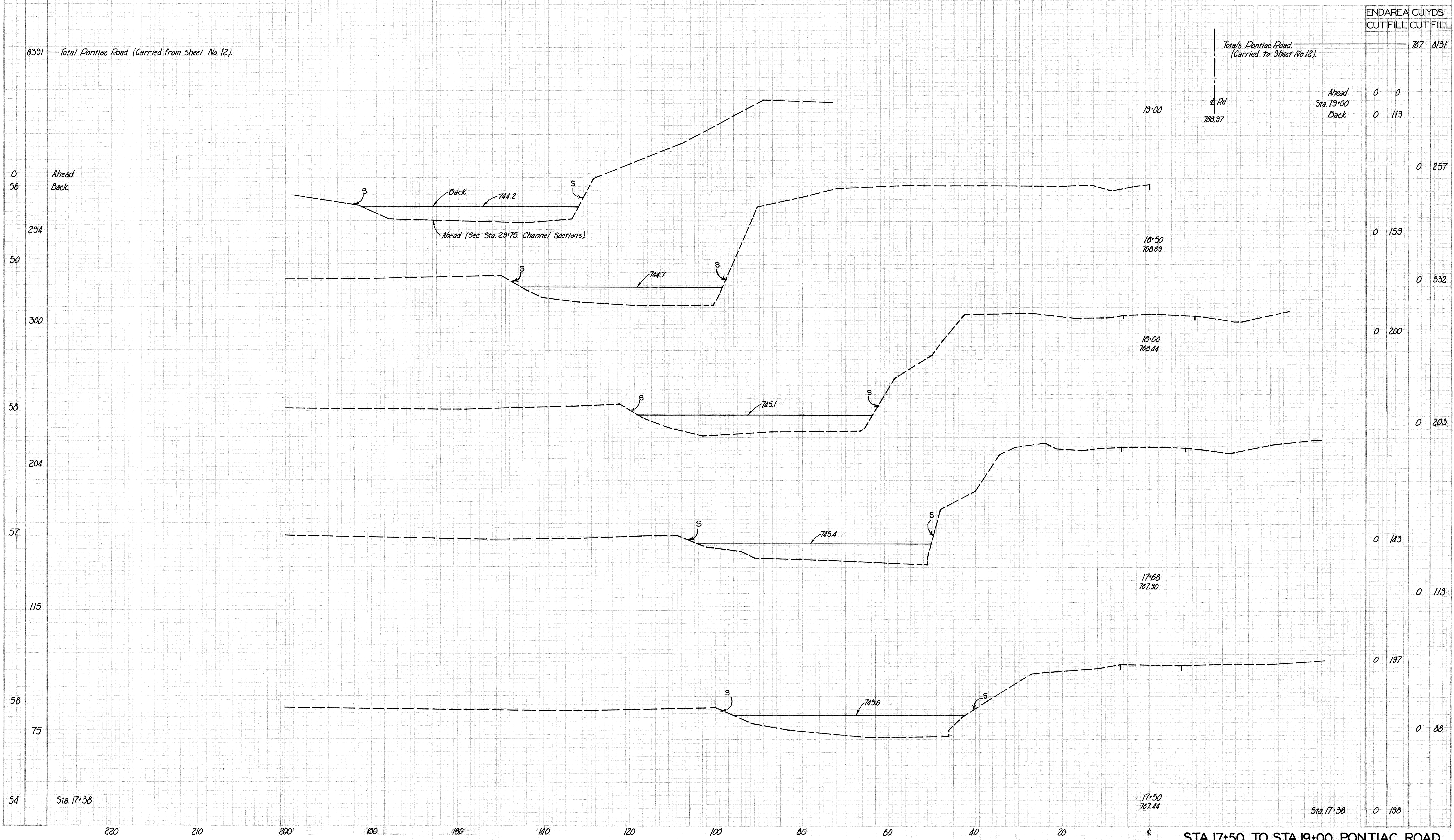
220 210 200 180 160 140 120 100 80 60 40 20 0

SCALE 1"=10'

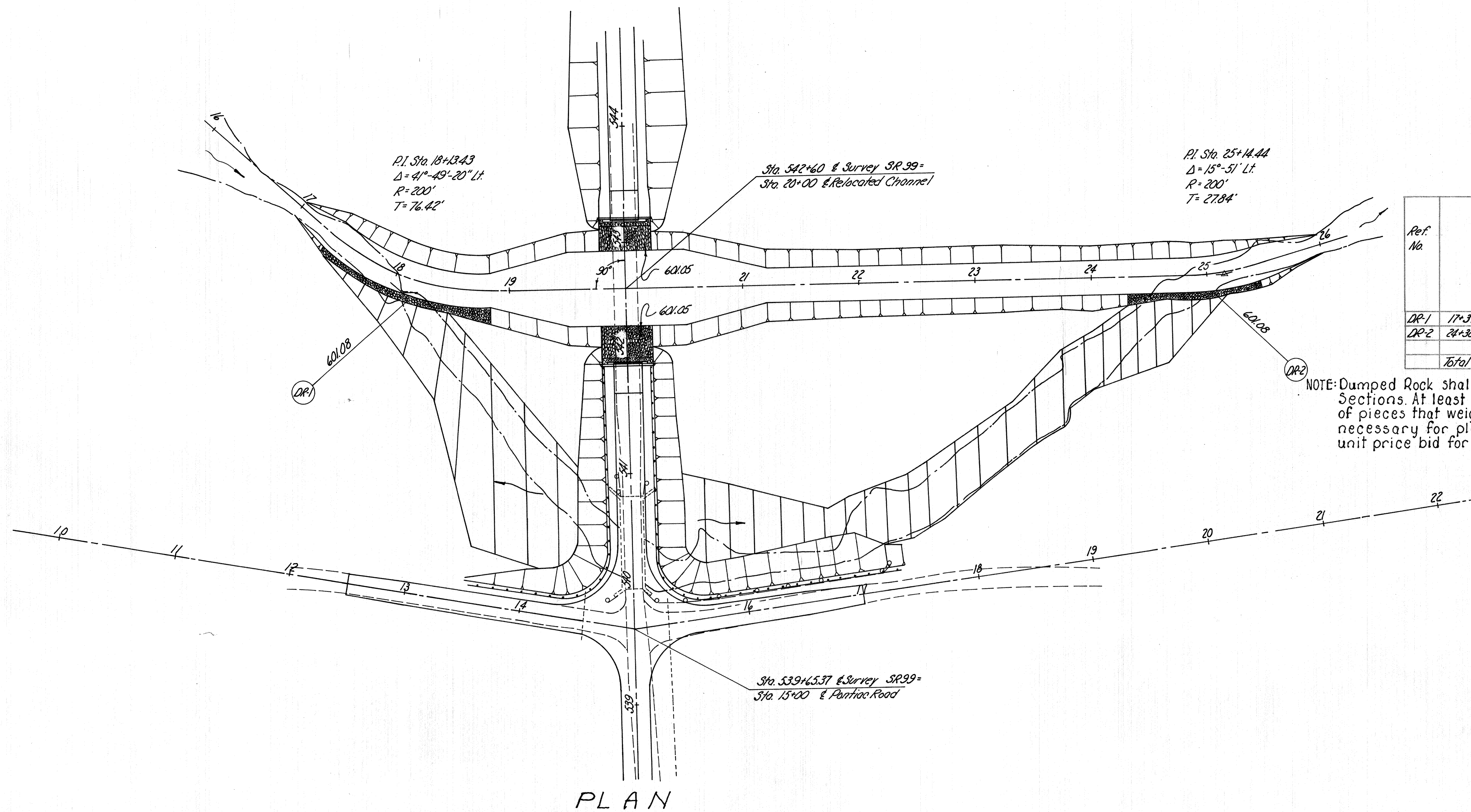
PED. DIV.	STATE	PROJECT
2	OHIO	

21
31

HUR-99-(991-10.35)

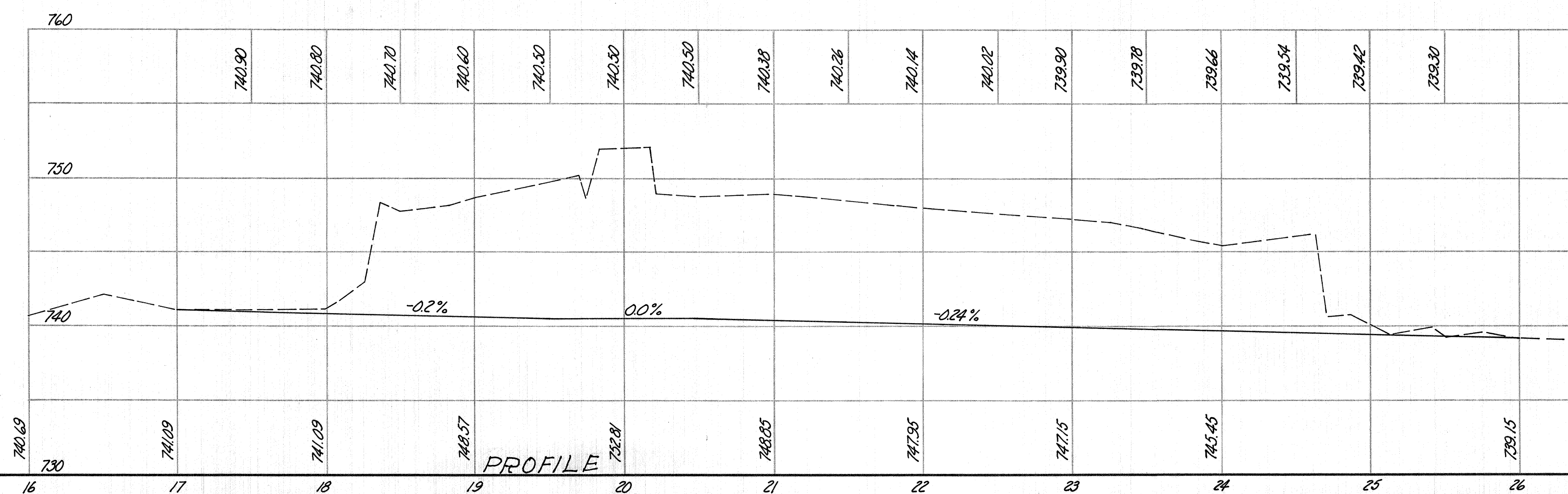


STA. 17+50 TO STA. 19+00. PONTIAC ROAD.



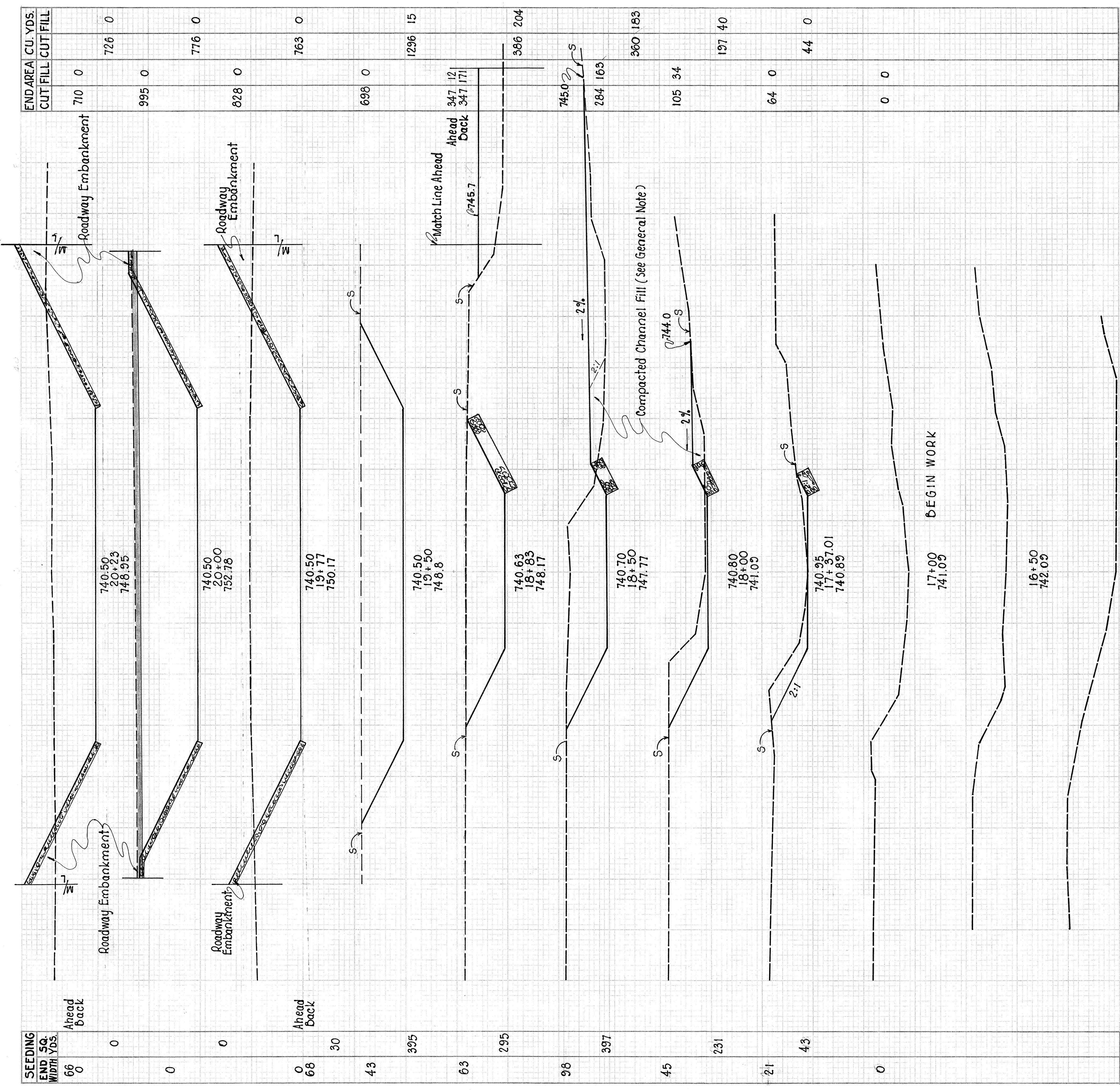
Ref. No.	Station	601 Dumped Rock Channel Protection As Per Plans Cu. Yds.
DR-1	17+37.01 to 18+83 Rt.	106
DR-2	24+30 to 25+41.93 Rt.	65
Total		171

NOTE: Dumped Rock shall be placed as shown on the Channel Cross Sections. At least 75% of the total material by weight shall consist of pieces that weigh at least 150 Pounds. Cost of excavation necessary for placing the Dumped Rock is included in the unit price bid for Item 601 Dumped Rock Channel Protection, As per plan.



Channel Relocation - Slate Run

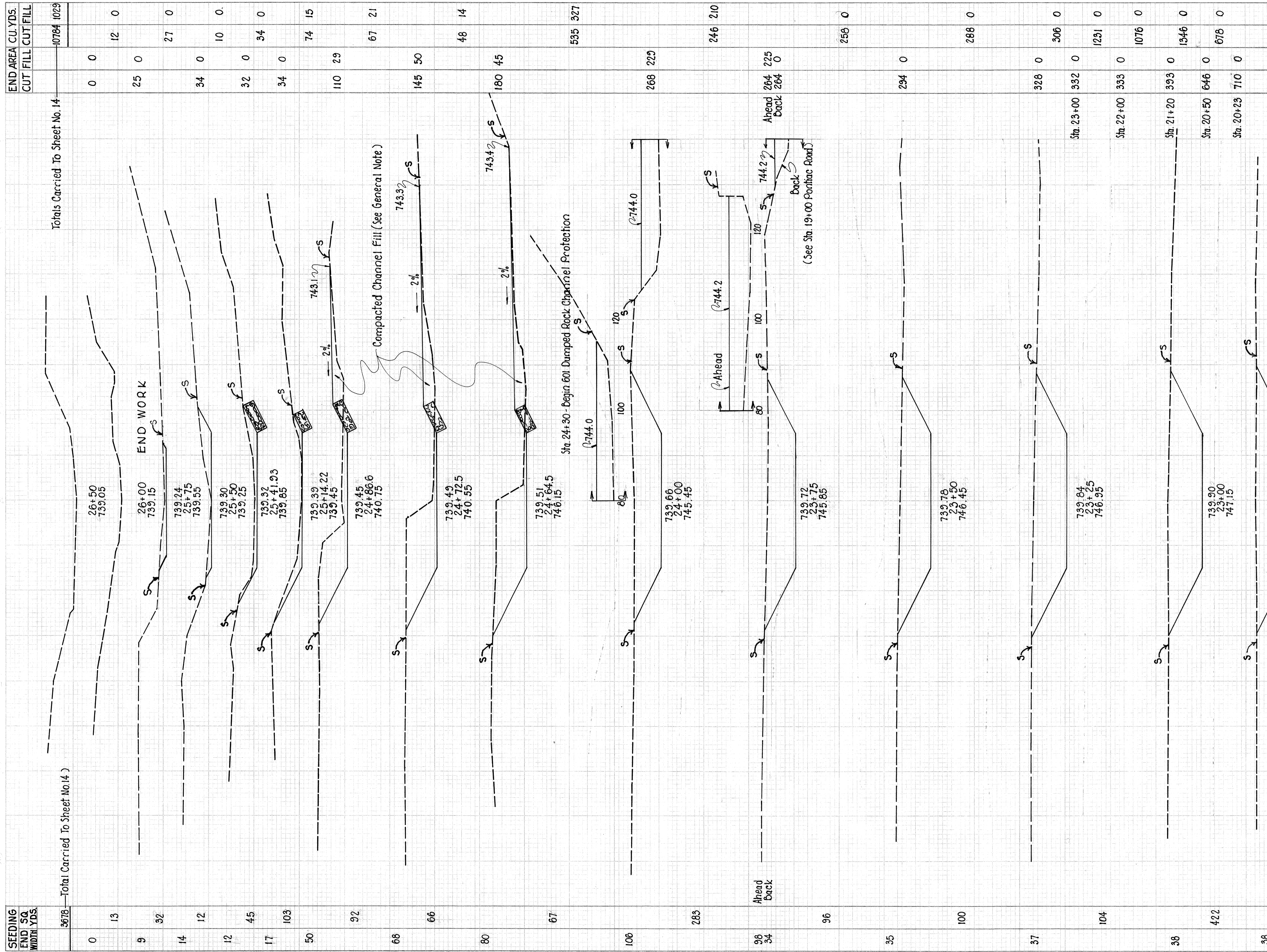
HUR-99-(9.91-10.35)



SEEDING END SQ. WIDTH YDS.	SEEDING	END AREA CU. YDS.	CUT FILL CUT FILL
66	0	710	0
0	0	995	726 0
0	0	628	776 0
0	68	698	763 0
30	43	1296	15
395	63	366	204
295	98	745.0	163
397	45	284	183
45	231	105	34
231	43	64	0
21	0	0	0

80
60
40
20
0
20
40
60
80

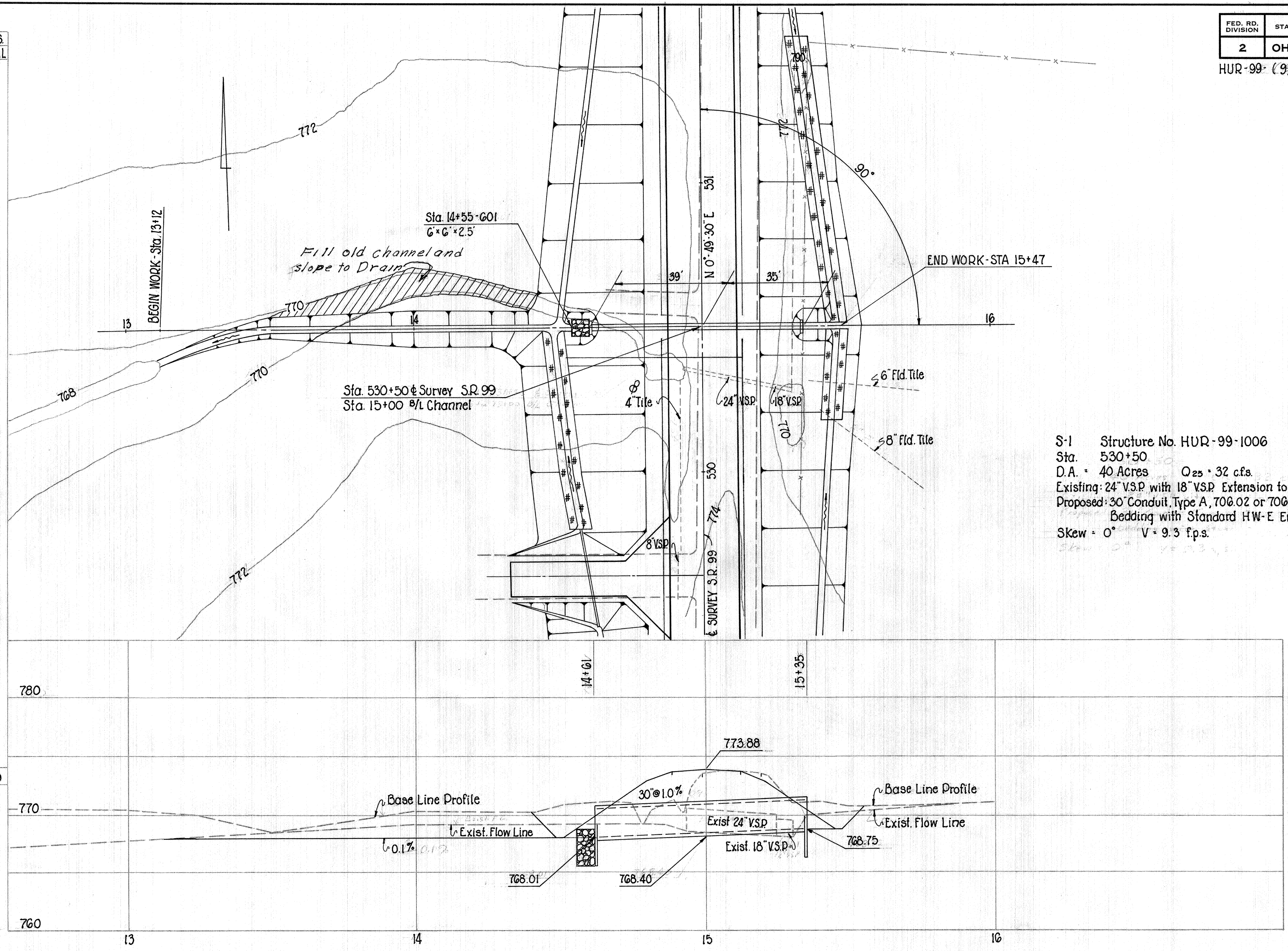
RELOCATED CHANNEL CROSS SECTIONS STA. 16+00-20+23



RELOCATED CHANNEL CROSS SECTIONS STA. 20+50-26+50

HUR-99 (9.91+10.35)

Seeding End Width Sq. Yds.	Sta.	Description	END AREA		CU. YDS.	
			CUT	FILL	CUT	FILL
	Sta. 15+47	END WORK	0	0		
		Roadway Excavation		2	0	
		768.75 Ahead 15+35 Back	11	0		
		771.0	0	0		
		768.01 Ahead 14+61 Back	0	0		
		770.2	11	1		
		Zero Section Sta. 14+50	0	0		
		Ahead	5	1		
0		Back	15	1		
20		767.99 14+40 770.2	23	8		
100						
5			5	9		
25		767.95 14+00 770.3	19	9		
97						
10			4	0		
21		767.90 13+50 768.5	3	0		
0		Sta. 13+12	0	0		
		BEGIN WORK	0	0		
218	Total	Totals	52	19		



S-1 Structure No. HUR-99-1006
 Sta. 530+50
 D.A. = 40 Acres O₂₅ = 32 c.f.s.
 Existing: 24" V.S.P. with 18" V.S.P. Extension to be removed.
 Proposed: 30" Conduit, Type A, 700.02 or 700.08 with Class B Bedding with Standard HW-E Endwalls Lt. and Rt.
 Skew = 0° V = 9.3 f.p.s.

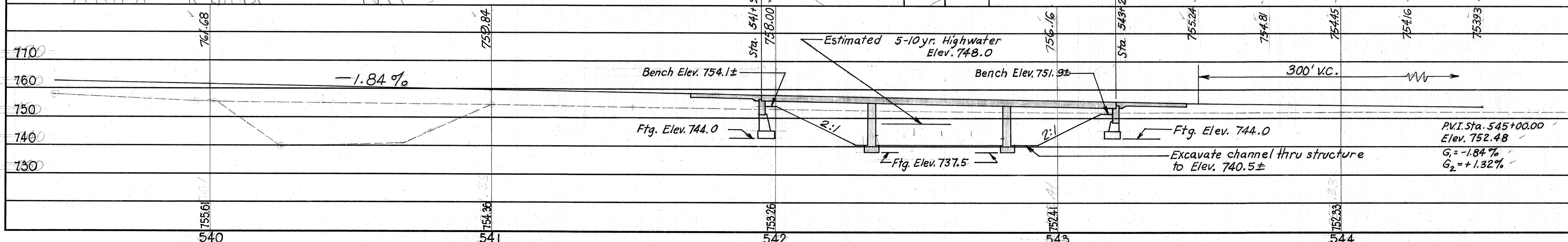
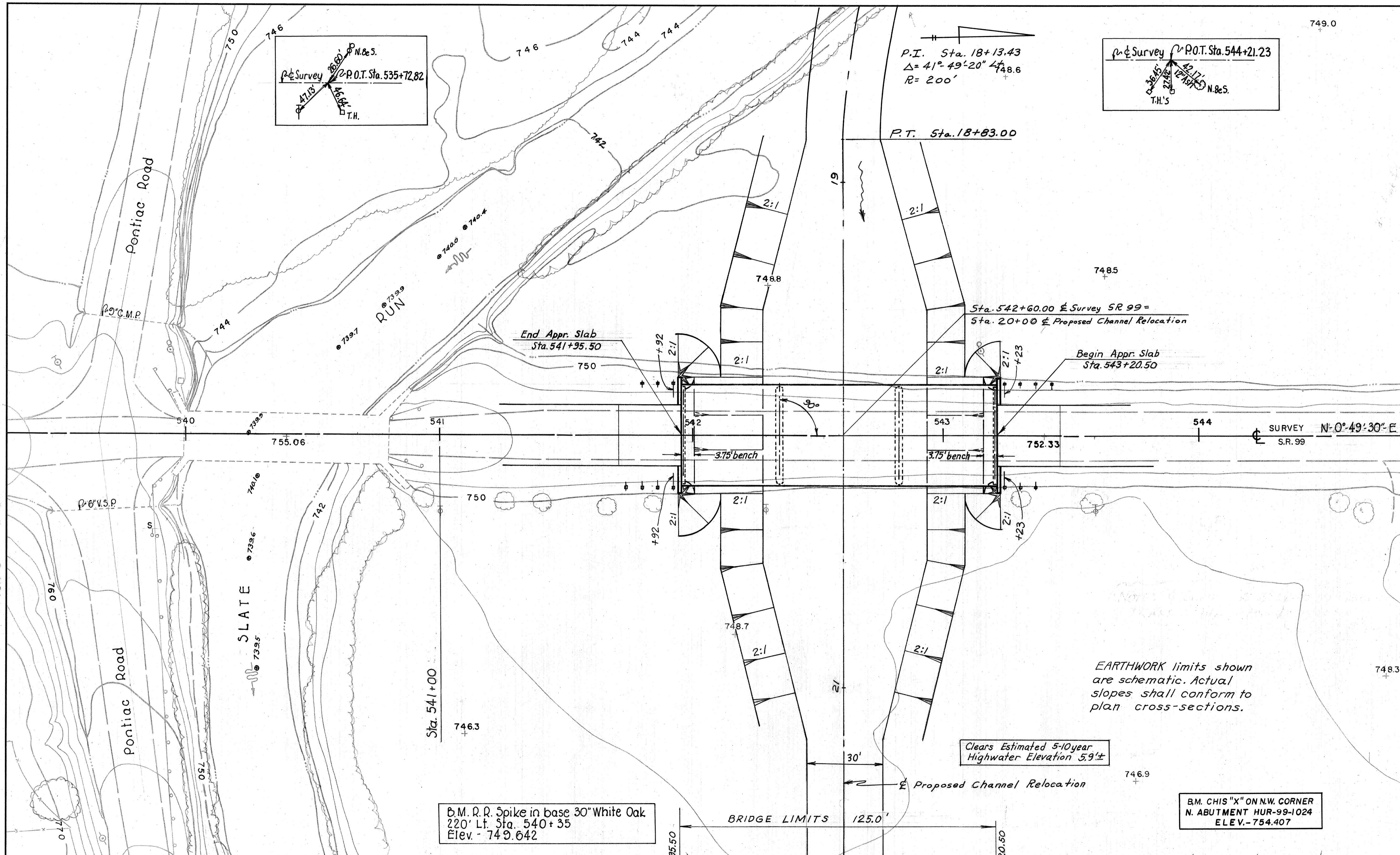
SCALES
 Plan 1" = 20'
 Profile - Horizontal 1" = 20'
 Profile - Vertical 1" = 5'
 Cross Sections 1" = 5'

ESTIMATED QUANTITIES			
Quant.	Unit	Item	Description
38	Lin. Ft.	202	Pipe Removed, 24" and Under
19	Cu. Yds.	203	Embankment (Carried to Sheet No. 10)
52	Cu. Yds.	203	Excavation (Carried to Sheet No. 10)
3.3	Cu. Yds.	601	Dumped Rock Channel Protection
1.02	Cu. Yds.	602	Concrete Masonry
74	Lin. Ft.	603	30" Conduit, Type A, 700.02 or 700.08 with Class B Bedding
218	Sq. Yds.	659	Seeding And Mulching, As Per Plan (Carried To Sheet No. 10)

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

26

HURON COUNTY
 HUR-99-(9.91-10.35)
 5.7± MILES NORTH OF S.R.162
 3.9± MILES SOUTH OF MONROVILLE



1984 DESIGN TRAFFIC = 2160 A.D.T.

EXISTING BRIDGE DATA
 HUR-99-1024
 TYPE: Truss
 SPAN: 76'-9"
 ROADWAY: 15'-0"
 WEARING SURFACE: Bituminous
 SKEW: 0°
 LOADING: H-10
 SUBSTRUCTURE: Concrete (Gravity)
 ALIGNMENT: Tangent
 CONDITION: Good

Drainage Area = 40.6 Square Miles

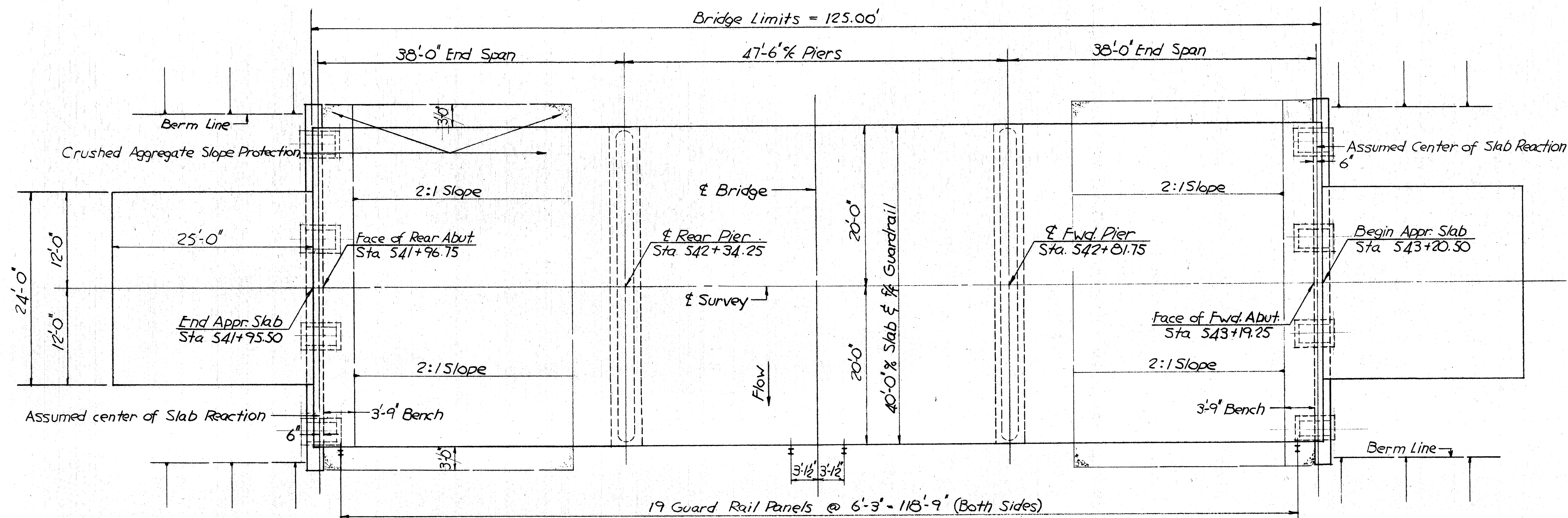
PROPOSED STRUCTURE
 TYPE: Continuous reinforced concrete slab with reinforced concrete piers and abutments
 SPANS: 38.0'-47.5'-38.0' 9/16 brgs.
 ROADWAY: 40'-0" 1/2 guard rail
 LOAD FREQUENCY: CF=130 (S7)
 SKEW: None
 WEARING SURFACE: 1" monolithic concrete
 APPROACH SLABS: AS-1-54 (25' long)
 ALIGNMENT: Tangent

STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 BUREAU OF BRIDGES

SITE PLAN

BRIDGE NO. HUR-99-1028
 OVER SLATE RUN
 HURON CO. SR-99
 STA. 541+95.50
 543+20.50

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Amiel	Amiel	D.H.S.	D.H.S.	DGM	P. & S.



GENERAL PLAN

GENERAL NOTES

REFERENCE shall be made to Standard Drawing CS-1-G5 sheets no. 1 & 2 dated 6-1-65, and to Supplemental Specifications 808 dated 1-13-67 & 825 dated 1-1-67.

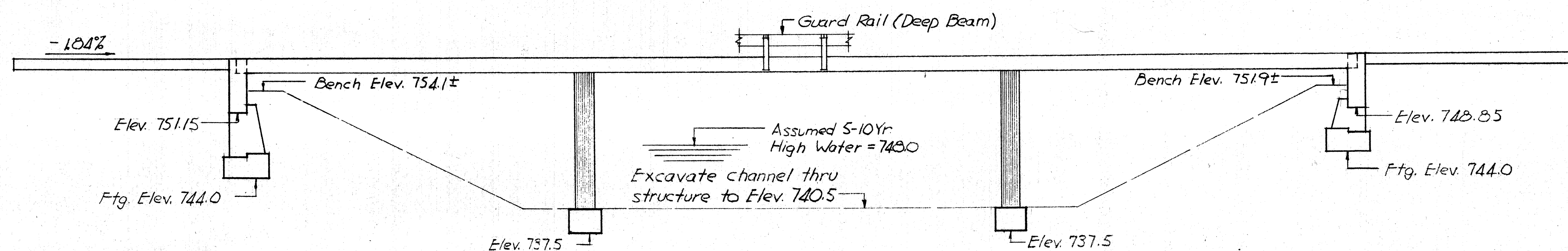
DESIGN DATA:
 Design Loading - CF130 (57)
 Concrete Class C - Basic unit stress 1,333 p.s.i.
 Concrete Class E - Basic unit stress 1,133 p.s.i.
 REINFORCING STEEL - ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i.

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed. Guard Rail shall be carefully dismantled and piled along the right-of-way for disposal by the State's forces.

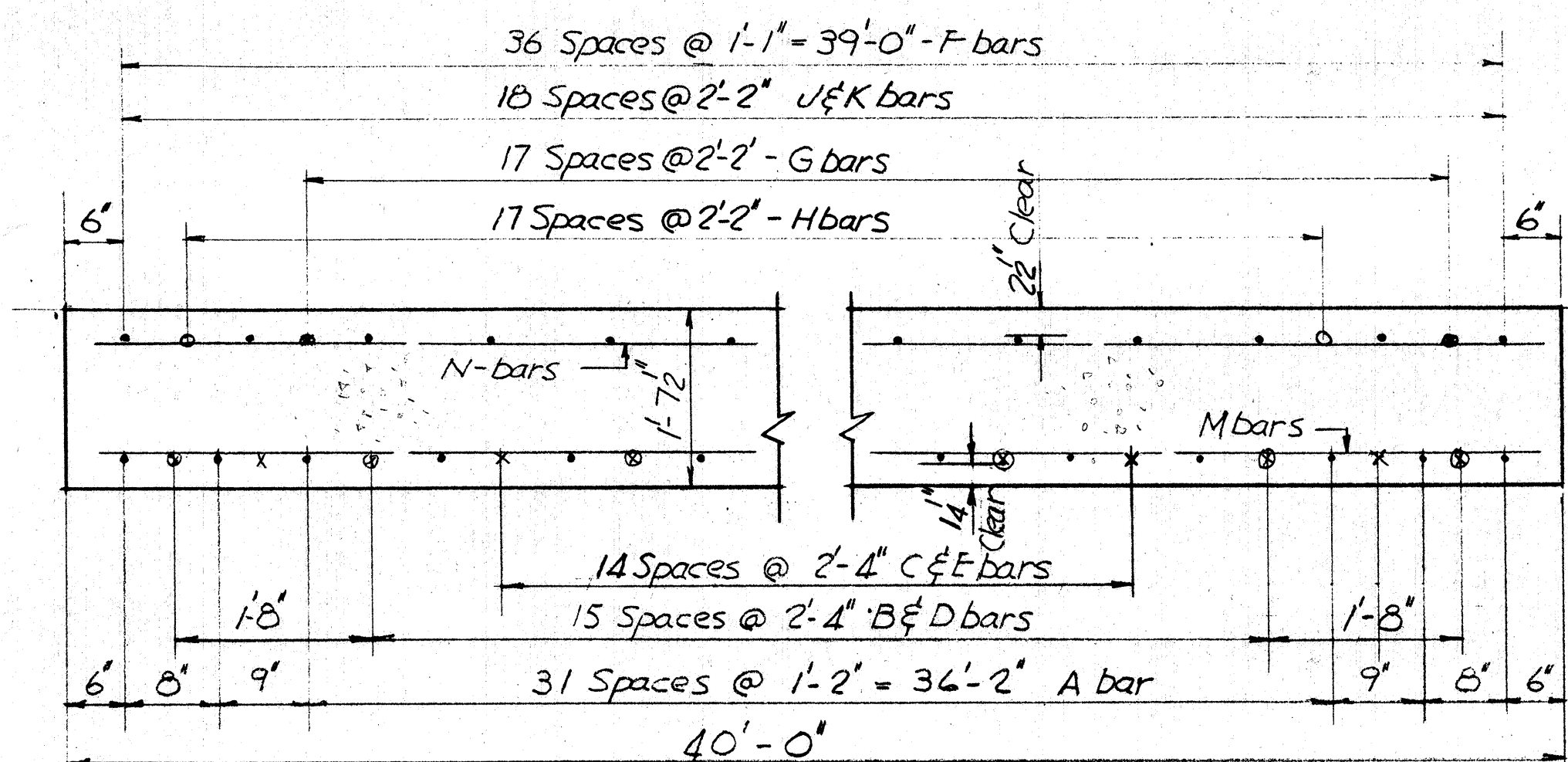
FOOTINGS shall extend a minimum of 3" into undisturbed rock or to the elevation shown, whichever is lower.

FOUNDATION BEARING PRESSURE: Pier and abutment footings are designed for a maximum bearing pressure of 7 tons per sq. ft.

DECK SLAB THICKNESS is 1'-7 1/2" which includes 1" for monolithic wearing surface.



ELEVATION



PARTIAL COMPOSITE TRANSVERSE SECTION

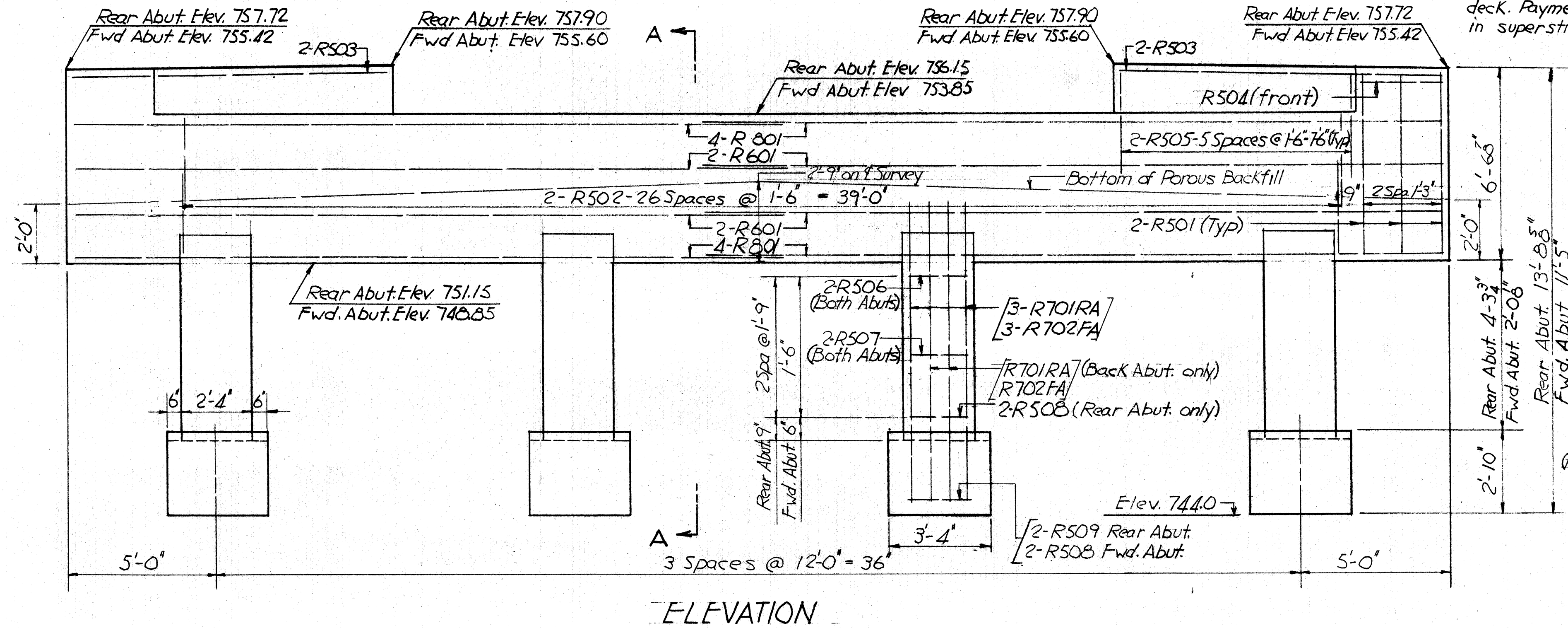
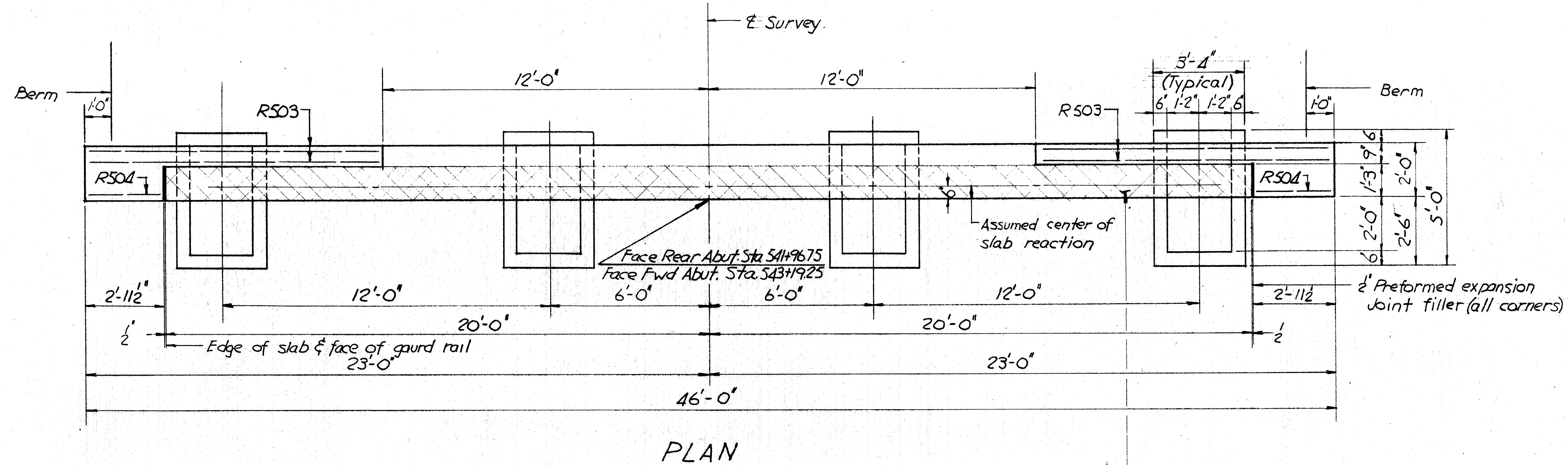
ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	Piers	Abuts.	Genl.	As Built
202	Lump	Sum	Existing structure removed				Lump	
503	31	Cu.Yds.	Rock excavation, at piers		31			
503	90	Cu.Yds.	Unclassified excavation, including rock, at abutments			90		
509	74,271	Lbs.	Reinforcing steel	63,792	5,003	5,476		
511	303	Cu.Yds.	Class C concrete, superstructure	303				
511	46	Cu.Yds.	Class E concrete, abutments above footings			46		
511	82	Cu.Yds.	Class E concrete, pier walls		82			
511	45	Cu.Yds.	Class E concrete, footings		31	14		
516	9	Sq.Ft.	1/2" Preformed expansion joint filler AASHO Spec. M153			9		
517	250.0	Lin.Ft.	Railing (Deep beam rail with steel posts and bolts)	250.0				
518	22	Cu.Yds.	Porous backfill			22		
503	Lump	Sum	Cofferdams, Crips and Sheeting				Lump	
601	324	Sq.Yds.	Crushed aggregate slope protection				324	
808	303	Units	Water-reducing, set-retarding admixture	303				
825	600	Sq.Yds.	Concrete surface treatment	600				

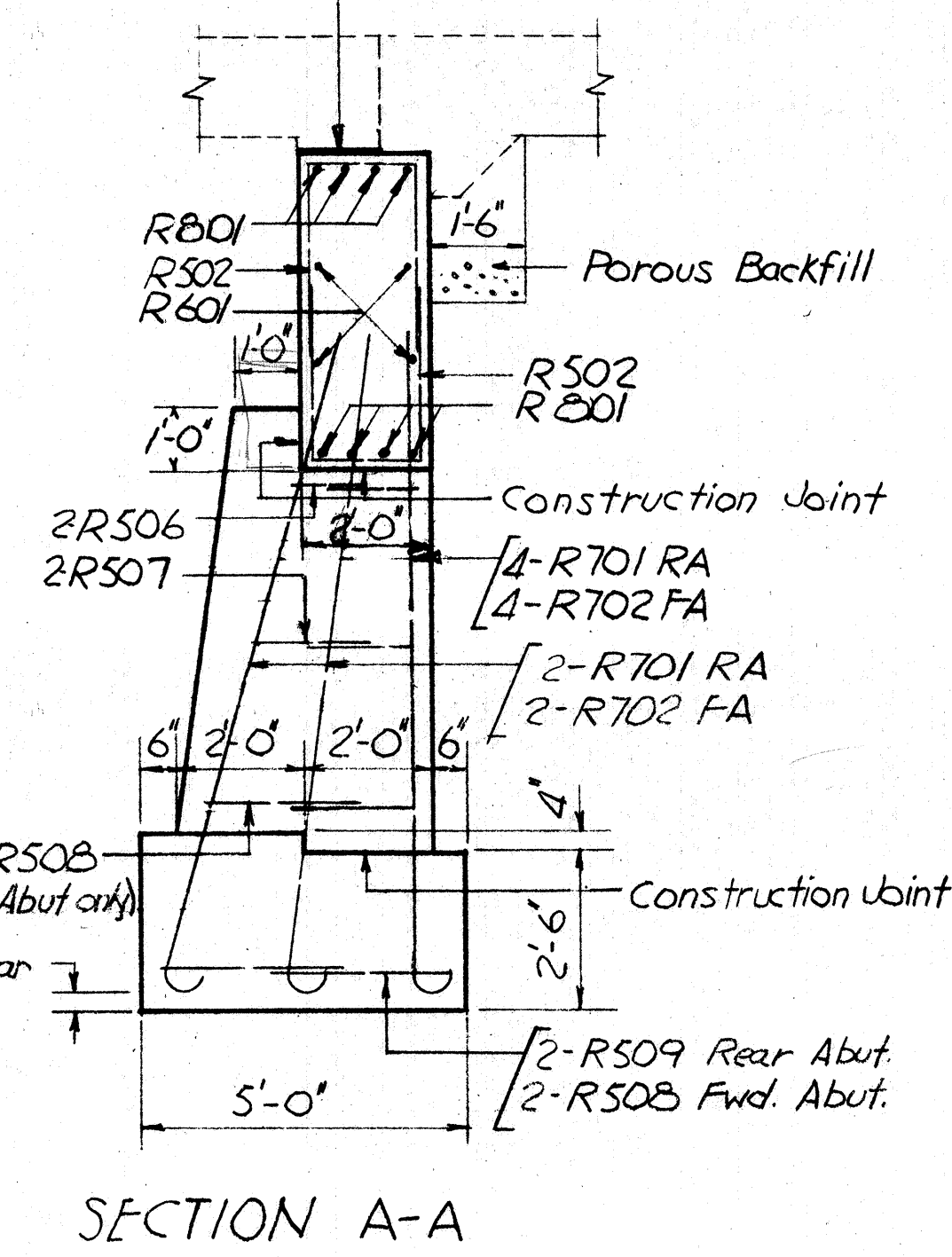
STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 DIVISION OF DESIGN AND CONSTRUCTION
 BUREAU OF BRIDGES

GENERAL PLAN, ELEVATION,
 NOTES, ESTIMATED QUANTITIES
 & DECK SECTION
 BRIDGE NO. HUR-99-102B
 OVER SLATE RUN

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JEM	JEM	SP	WCK	BFG	1-18-67	



Trowel smooth and apply two layers of 1/8" thick sheet asbestos before placing deck. Payment therefor to be included in superstructure concrete.



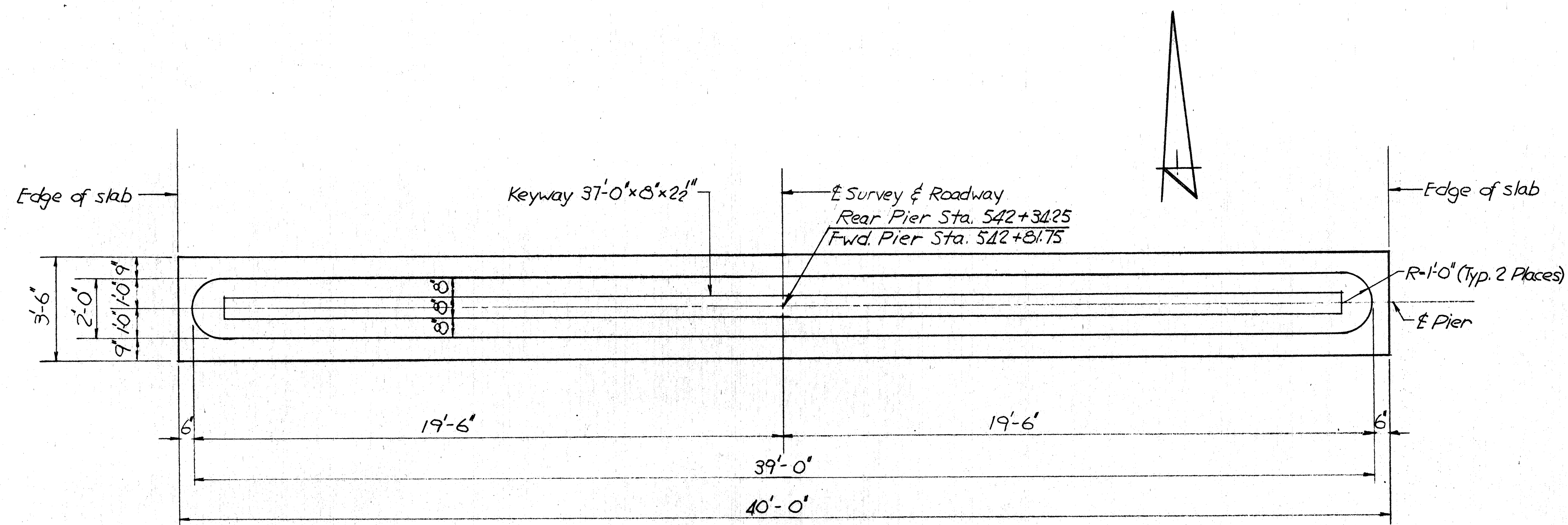
EXCAVATION QUANTITY includes the removal of fill material between the top of the earth bench and the bottom of the abutment crossbeam.

POROUS BACKFILL shall extend upward to the approach slab and to the surface of the earth shoulders and outward to the surface of the embankment slopes. Excavation therefor, in excess of that required for construction of the abutment, shall be considered as paid for in the bid price per cu.yd paid for porous backfill.

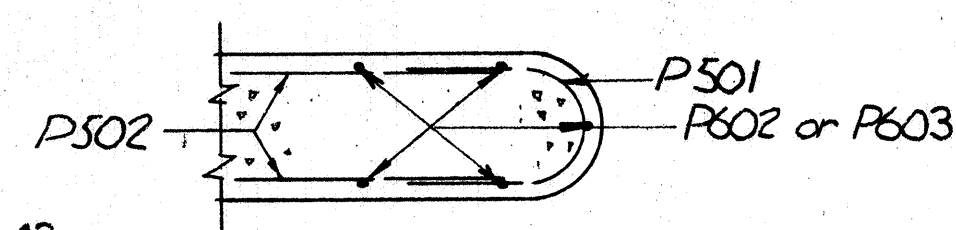
PROCEDURE: After the pedestals have been constructed the earth fill shall be placed and compacted up to the height of the earth bench after which excavation shall be made for the crossbeam.

RA denotes Rear Abutment
FA denotes Forward Abutment

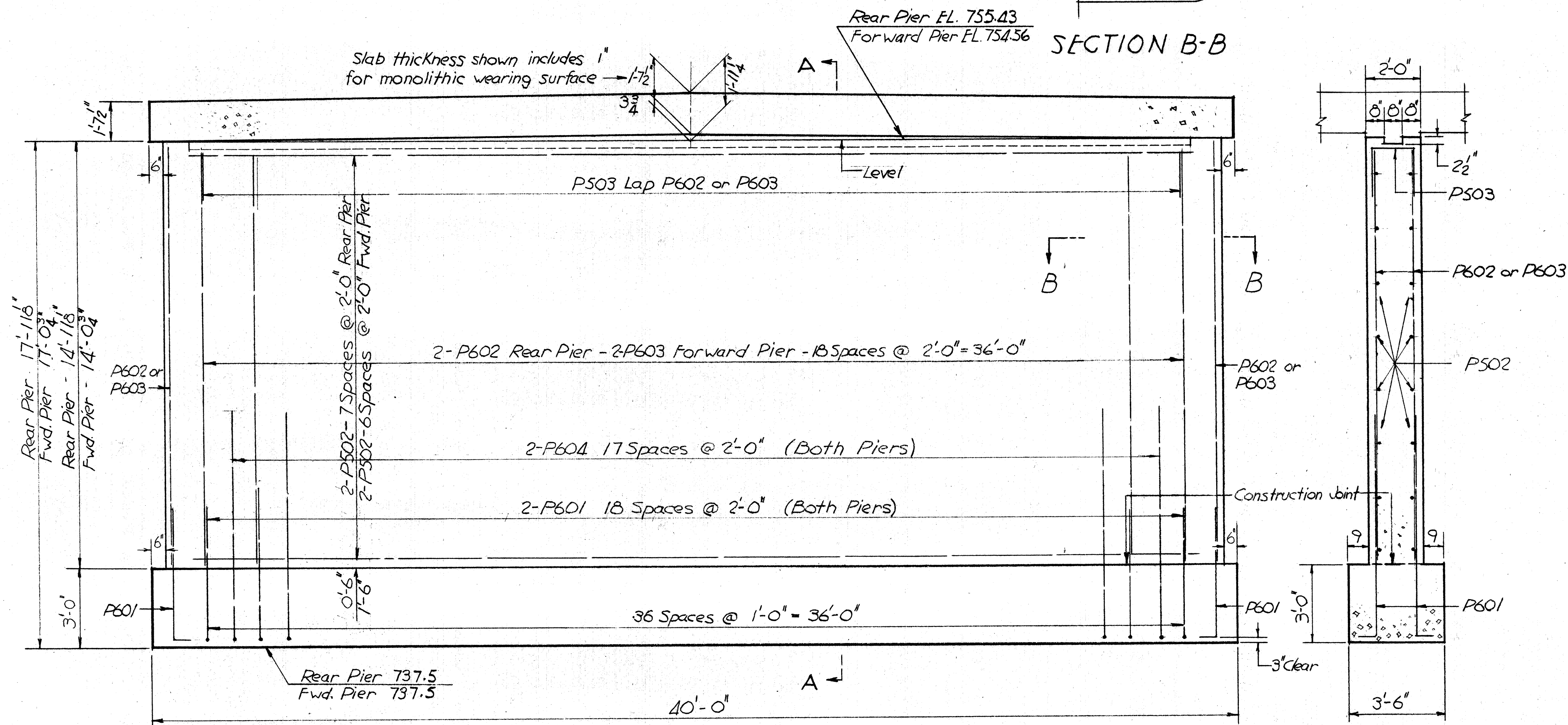
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES							
ABUTMENT DETAILS							
BRIDGE NO HUR-99-1028 OVER SLATE RUN HURON CO.							
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED	
JEM	JEM		WCK	BFG	1-18-67		



PLAN



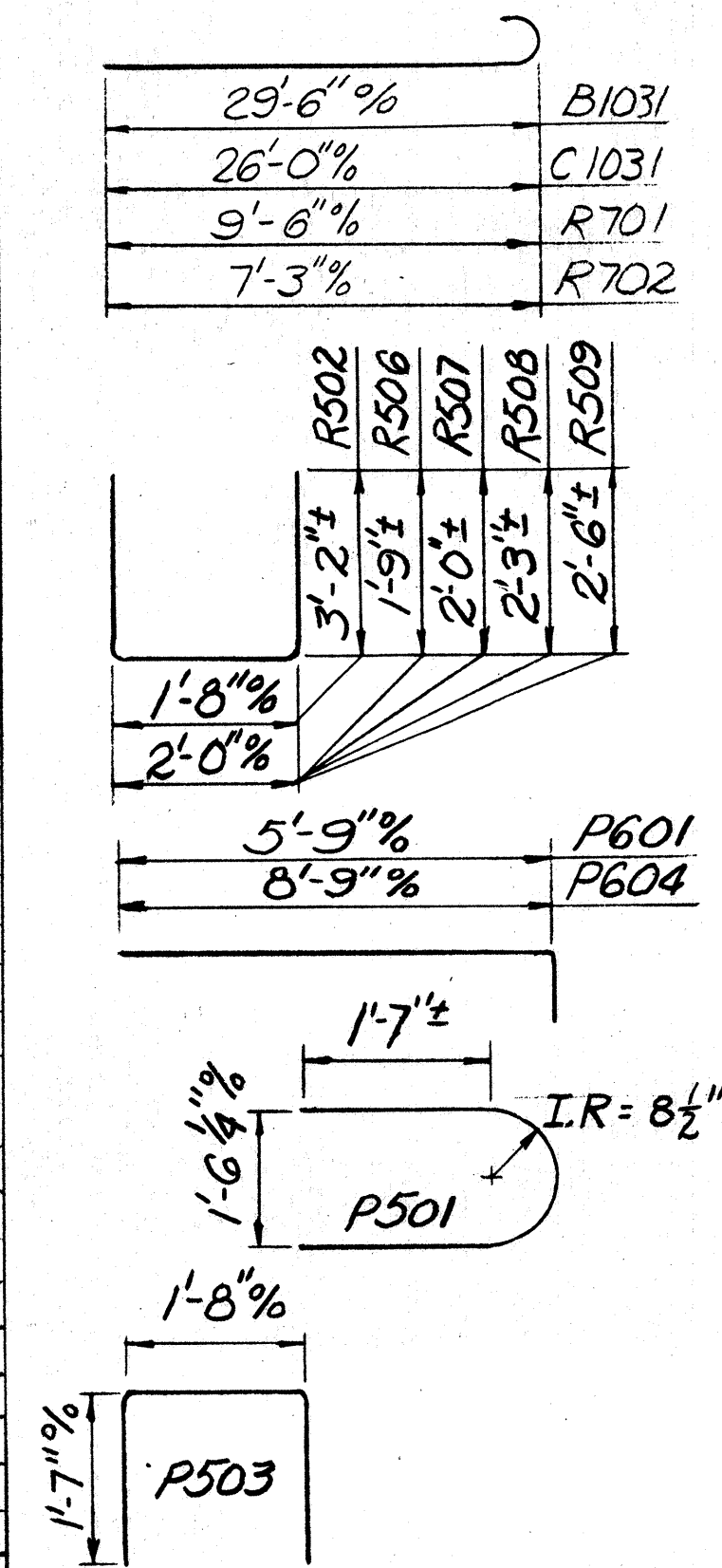
SECTION B-B



ELEVATION

SECTION A-A

REINFORCING STEEL LIST			
Mark	No.	Length	Weight Shp
Superstructure			
A031	108	43'-8"	20,293 S
B1031	36	30'-11"	4,789 B
C1031	34	27'-5"	4,011 B
D1031	18	27'-6"	2,130 S
E1031	17	20'-10"	1,524 S
F1131	74	28'-10"	11,336 S
G1131	36	13'-8"	2,614 S
H1131	36	9'-6"	1,817 S
J601	38	25'-10"	1,474 S
K601	19	23'-0"	656 S
M701	107	39'-6"	8,639 S
N601	76	39'-6"	4,509 S
Abutments			
R801	32	24'-1"	2,058 S
R701	32	18'-4"	676 B
R702	32	8'-1"	529 B
R601	16	23'-10"	573 S
R501	24	6'-3"	156 S
R502	108	7'-9"	873 B
R503	8	10'-8"	89 S
R504	4	2'-7"	11 S
R505	48	3'-4"	167 S
R506	16	5'-3"	88 B
R507	16	5'-9"	96 B
R508	16	6'-3"	104 B
R509	8	6'-9"	56 B
Piers			
P501	30	5'-6"	172 B
P502	30	37'-0"	11,58 S
P503	38	4'-7"	182 B
P601	80	6'-5"	771 B
P602	40	14'-7"	876 S
P603	40	13'-9"	826 S
P604	72	9'-5"	1,018 B
Replacement Bars			
RE1101	1	7'-6"	- S
RE1001	2	7'-2"	- S
RE801	1	6'-6"	- S
RE701	1	6'-2"	- S
RE601	1	5'-11"	- S
RE501	1	5'-7"	- S

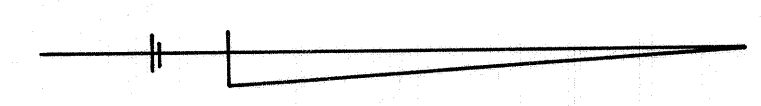


STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

PIER DETAILS AND
REINFORCING STEEL LIST

BRIDGE NO. HUR-99-1028
OVER SLATE RUN

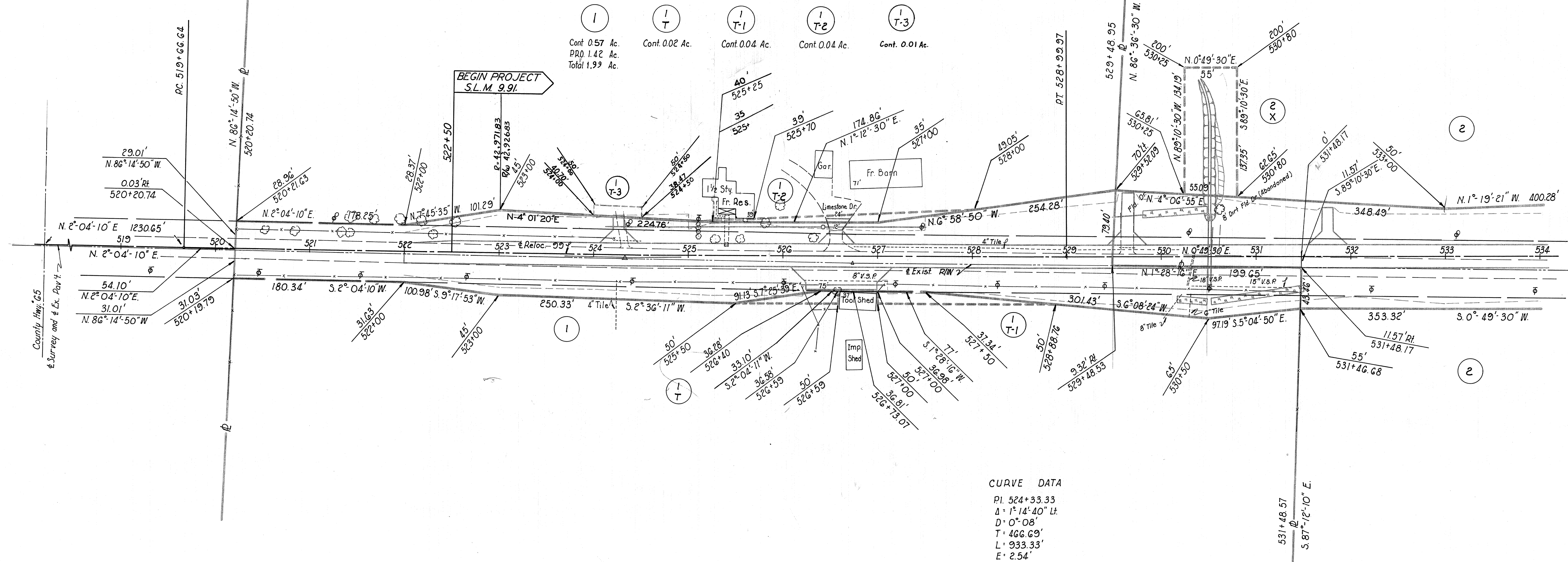
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
JEM	JEM	EP	WCK	BFG	1-18-67	



EDGAR A. AND HARRIET J. STEIN

Vol 226 Pg. 626

ADOLPH AND CORA SMITH STEIN



CURVE DATA
 PI: 524+33.33
 Δ: 1° 14' 40" Lt.
 D: 0° 08'
 T: 466.69'
 L: 933.33'
 E: 2.54'
 R: 42,971.83'

EDGAR A. AND HARRIET J. STEIN

TYPE FUNDS - STATE		
PLAN COMPLETED 1-10-67		
Rev. Date	Description	
3-22-67	REVISED COUNTY, ROUTE & SECTION	
4-10-67	REVISED PARCEL 1 1T-3 ADDED	

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

31
31

HUR-99- 9.91
RIGHT OF WAY PLAN
Scale 1" = 50'

2
2

4
Cont. 0.57 Ac.
PR.O. 0.64 Ac.
Total 1.21 Ac.

4 X
Cont. 0.61 Ac.

4 T
Cont. 0.51 Ac.

HARVEY K. AND HELEN A. SCHEID
Vol. 147/146 Pg. 454/44

END PROJECT 546+50
S.L.M. 10.36

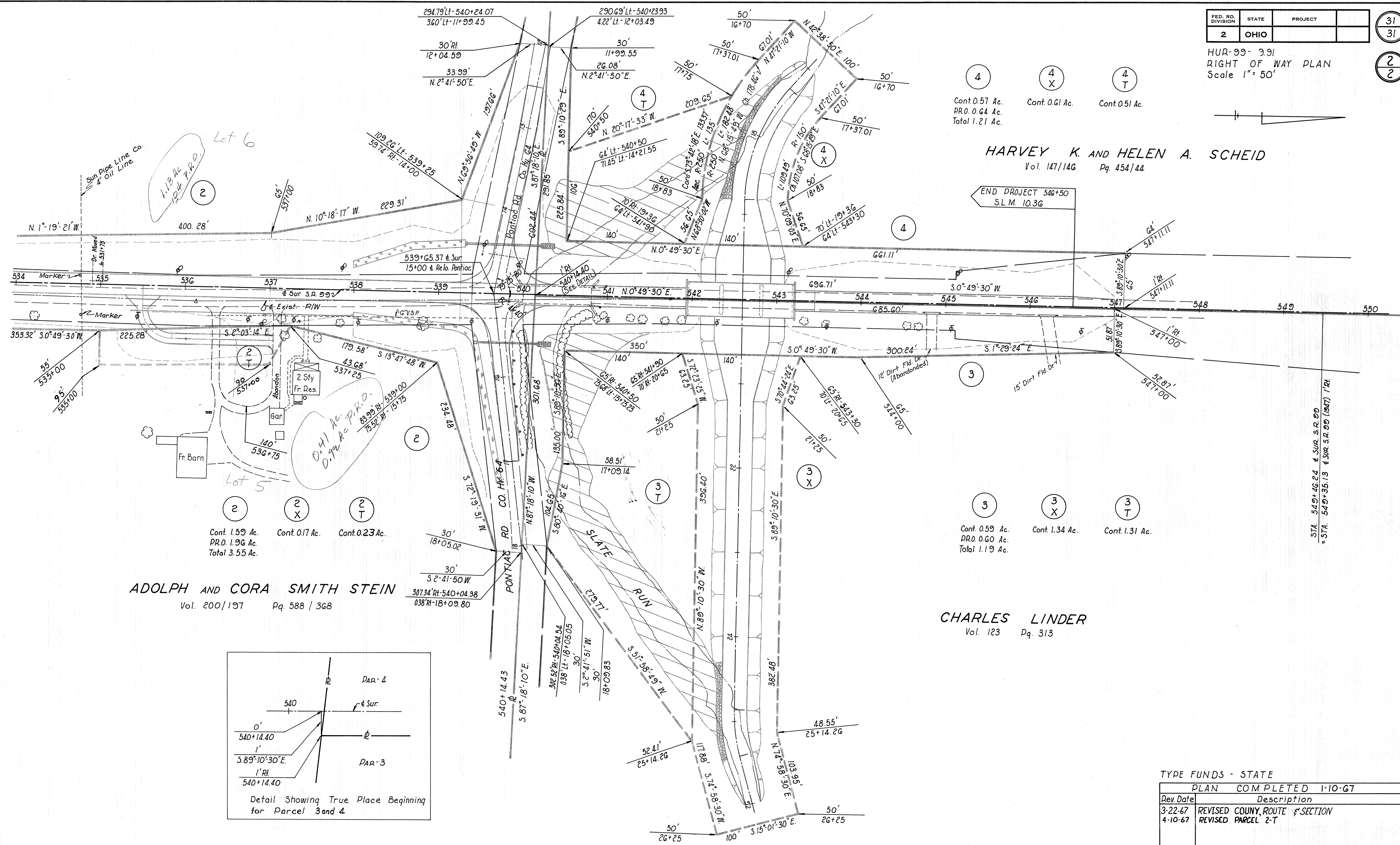
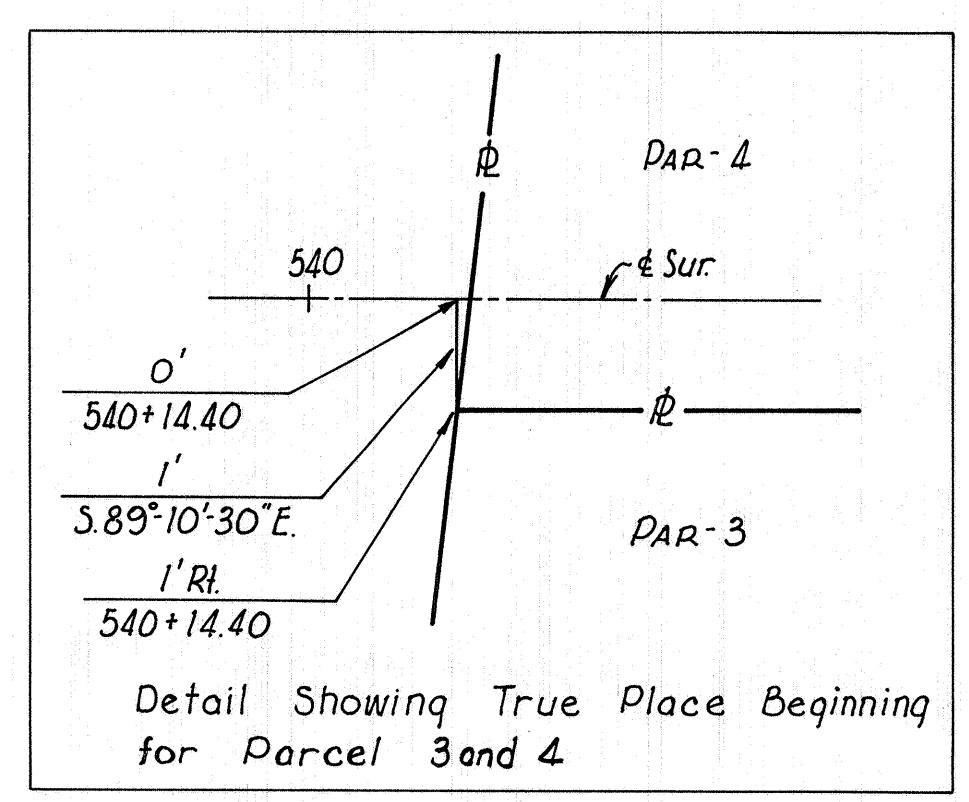
3
Cont. 0.59 Ac.
PR.O. 0.60 Ac.
Total 1.19 Ac.

3 X
Cont. 1.34 Ac.

3 T
Cont. 1.31 Ac.

ADOLPH AND CORA SMITH STEIN
Vol. 200/197 Pg. 588 / 368

CHARLES LINDER
Vol. 123 Pg. 313



STA. 549+46.24 & SUR. S.R. 99
= STA. 549+35.13 & SUR. S.R. 99 (947) 1' R

TYPE FUNDS - STATE	
PLAN	COMPLETED 1-10-67
Rev. Date	Description
3-22-67	REVISED COUNTY, ROUTE & SECTION
4-10-67	REVISED PARCEL 2-T

GENERAL INFORMATION

INTRODUCTION

THE PROJECT CONSISTS OF MINOR ALIGNMENT AND GRADE IMPROVEMENT OF 0.47 MILE OF SR 99, BEGINNING 1800 FEET SOUTH OF PONTIAC ROAD, APPROXIMATELY 3.7 MILES SOUTH OF MONROEVILLE. INCLUDED IN THIS REPORT ARE SOIL PROFILES OF PONTIAC ROAD AND THE SLATE RUN CHANNEL RELOCATION.

PROPOSED GRADES AND FLOWLINE INDICATE THE FOLLOWING MAXIMUM PROPOSED CUTS AND FILL EMBANKMENTS.

	CUT (MAX.)	FILL EMBANKMENTS (MAX.)
SR 99	6'	21'
PONTIAC ROAD	-	5'
SLATE RUN CHANNEL RELOCATION	12'	-

GEOLOGY OF THE PROJECT

THE PROJECT IS LOCATED ON A GENTLY ROLLING PORTION OF THE GLACIATED MISSISSIPPI VALLEY PLAIN, IN AN AREA WHERE MODERATELY DEEP TO THIN GLACIAL DRIFT OVERLIES SHALE BEDROCK, OF DEVONIAN AGE.

EXPLORATION

EXPLORATORY BORINGS WERE MADE BY MEANS OF TRUCK-MOUNTED MECHANICAL SOIL AUGER AND HAND AUGER (IN AREAS OF DIFFICULT ACCESS), ON OCTOBER 4, 1966.

INVESTIGATIONAL FINDINGS

MATERIALS ENCOUNTERED ON THE PROJECT ARE PREDOMINANTLY COMPRISED OF SANDY SILTS (A-4a) AND SILT CLAYS (A-6a), GENERALLY HAVING LOW MOISTURE CONTENTS AND MOISTURE CONTENTS IN THE LOWER PORTIONS OF THE PLASTIC RANGE.

POSSIBLY SOME SHALE BEDROCK WILL BE ENCOUNTERED AT FLOWLINE IN THE CHANNEL RELOCATION EXCAVATION, BETWEEN STATIONS 18+50 AND 22+00.

WET MATERIALS WERE ENCOUNTERED AT STATIONS 523+00, 528+00, AND 533+00.

LEGEND FOR PROJECT AVERAGE RESULTS OF TESTS — 40 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
COARSE AND FINE SAND	-----	A-3a	0	1	75	11	13	NP	NP	12	1
SANDY SILT	A-4(4)	A-4a	10	7	26	29	28	25	7	16	18
SILT	A-4(2)	A-4b	5	4	6	58	27	22	6	20	2
SILT AND CLAY	A-6(9)	A-6a	9	6	16	27	43	31	12	16	14
ELASTIC CLAY	A-7-5(17)	A-7-5	0	1	7	17	75	60	23	16	1
CLAY	A-7-6(10)	A-7-6	21	8	10	20	41	46	20	28	2
SHALE											2

VISUAL CLASSIFICATION

⊕ AUGER BORING-PLAN VIEW.

— AUGER BORING PLOTTED TO VERTICAL SCALE ONLY.

● WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT.

⊖ INDICATES A NON-PLASTIC MATERIAL WITH A HIGH WATER CONTENT.

—w FREE WATER.

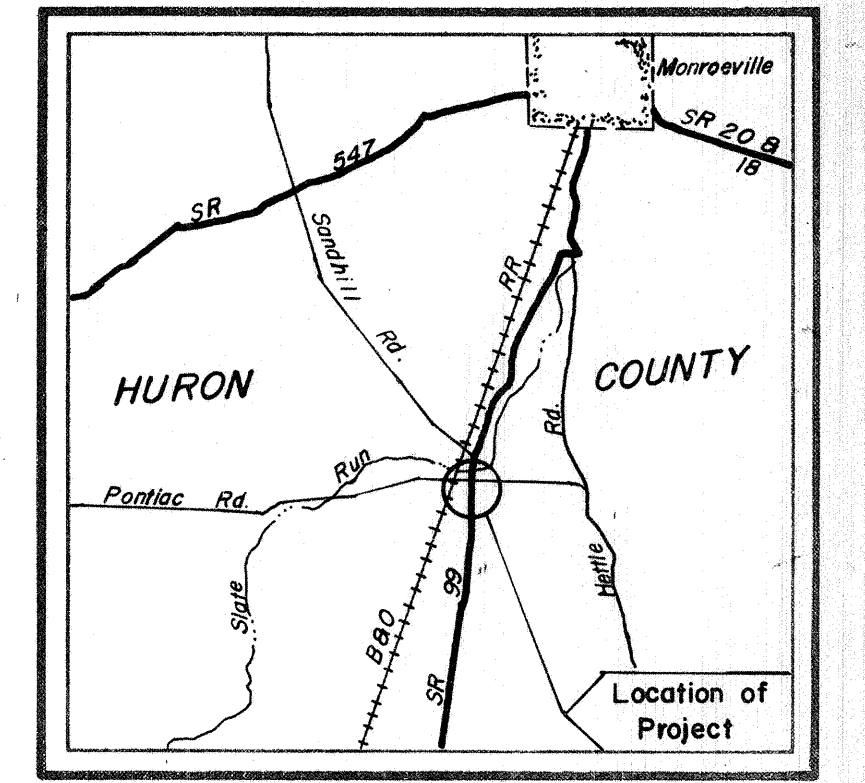
B INDICATES BROKEN ROCK INTERVAL.

NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT. E.G. 15

SOIL PROFILE
HURON COUNTY
HUR-99-(9.91-10.35)

OHIO STATE HIGHWAY TESTING LABORATORY
 1620 W. BROAD ST. COLUMBUS 23, OHIO

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.



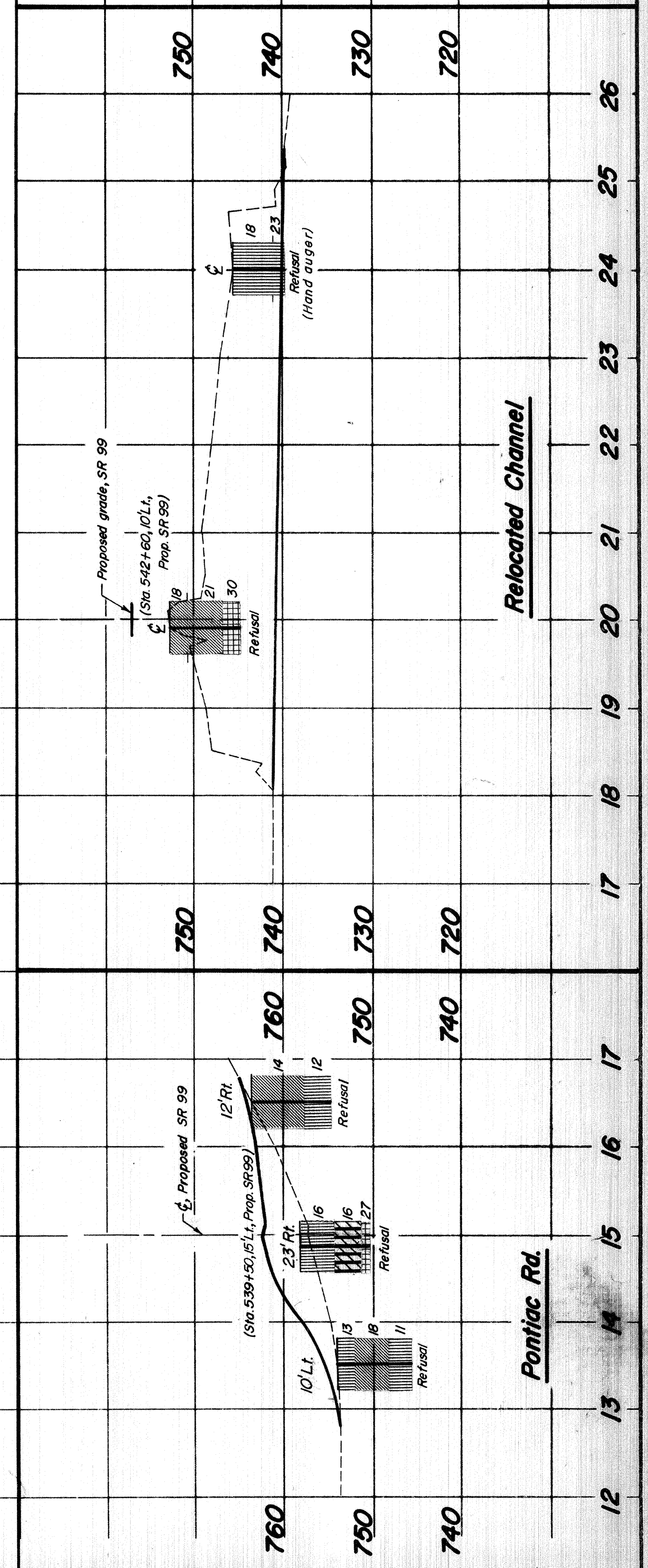
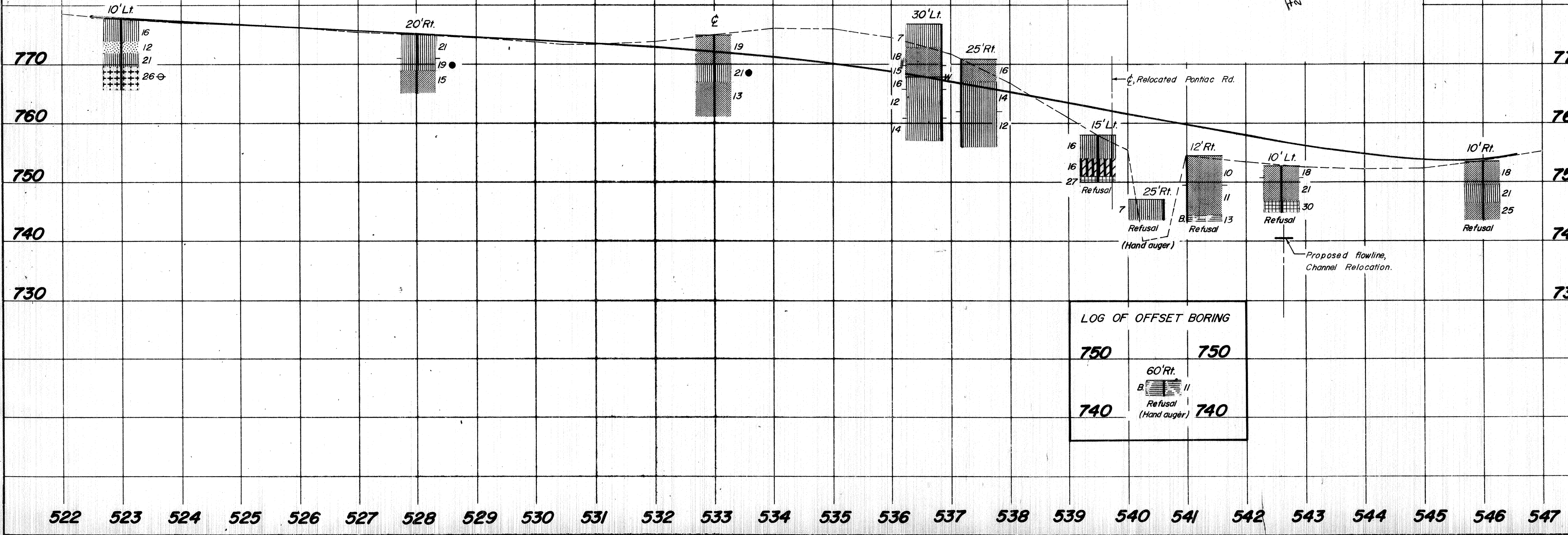
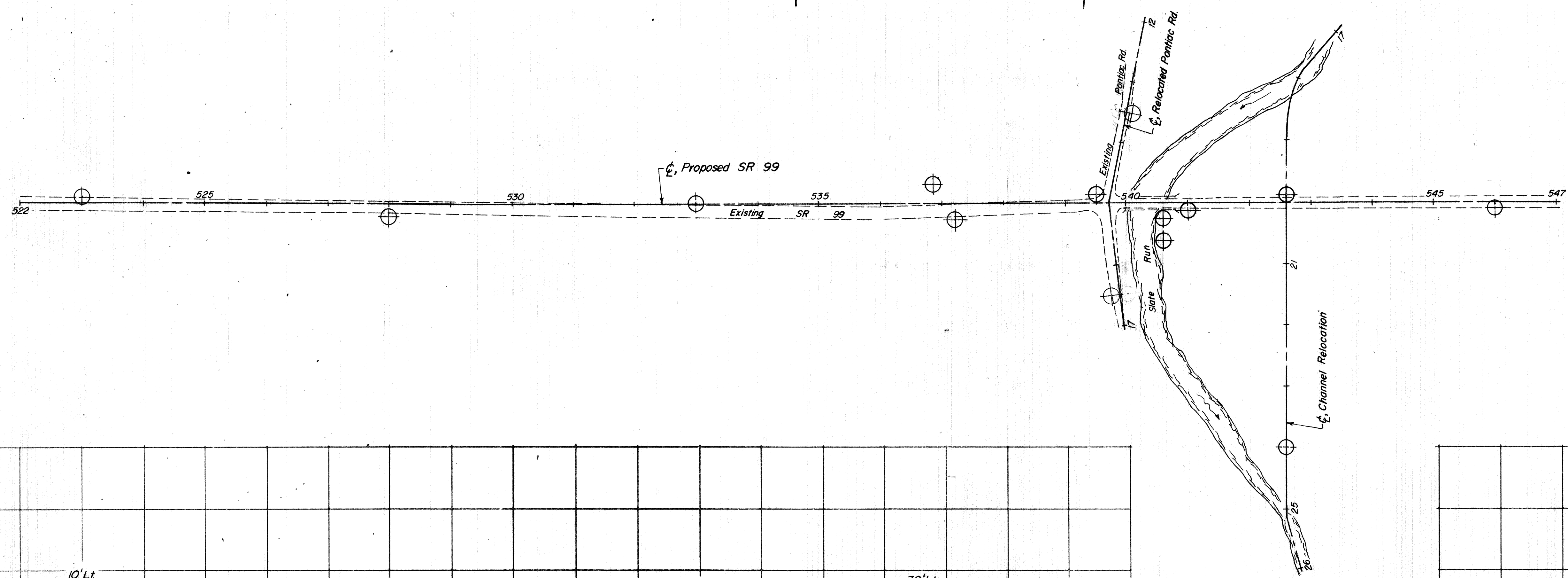
LOCATION MAP

Drilling - Auger - L.M.D. - 10-4-66
 Drafting - E.J.S. - 11-8-66

SUMMARY OF SOIL TEST DATA

NOTE: NP SHOWN IN LIQUID LIMIT AND PLASTICITY INDEX COLUMNS INDICATES THAT THE MATERIAL IS NON-PLASTIC. * DENOTES SAMPLE TAKEN AT OR NEAR GRADE.

STATION & OFFSET	DEPTH FROM TO	% AGG.	% C.S.	% F.S.	% SILT	% CLAY	L.L.	P.I.	W.C.	SHTL CLASS.	
PROPOSED SR 99											
523+00	10' Lt	0.0-4.0	13	3	45	11	28	24	7	16	A-4a*
		4.0-6.0	0	1	75	11	13	NP	NP	12	A-3a
		6.0-8.0	0	0	48	40	12	NP	NP	21	A-4a
		8.0-12.0	0	0	1	54	35	NP	NP	25	A-4b
528+00	20' Rt	0.0-4.0	0	3	50	17	30	26	9	21	A-4a*
		4.0-6.0	7	9	46	15	23	22	7	19	A-4a
		6.0-10.0	6	7	12	29	46	22	11	15	A-6a
533+00	CL	0.0-5.0	0	5	28	23	44	29	13	19	A-6a*
		5.0-8.0	0	0	40	25	30	23	7	21	A-4a
		8.0-14.0	3	6	12	30	44	27	11	13	A-6a
536+85	30' Lt	0.0-4.0	19	16	20	14	22	22	6	7	A-4a
		4.0-7.0	7	6	16	25	46	31	12	13	A-6a
		7.0-9.0	14	6	11	27	42	28	11	15	A-6a
		9.0-11.0	21	5	26	28	20	17	2	16	A-4a*
		11.0-16.0	7	3	13	39	33	22	5	12	A-4a*
		16.0-20.0	11	3	11	52	18	22	6	14	A-4b
537+20	25' Rt	0.0-4.0	7	9	13	30	42	30	11	16	A-6a
		4.0-9.0	7	8	13	42	36	21	3	14	A-4a*
		9.0-15.0	9	9	11	37	34	25	7	12	A-4a
539+50	15' Lt	0.0-4.0	10	8	23	30	29	25	8	16	A-4a
		4.0-7.0	0	1	7	17	75	60	23	16	A-7-5
		7.0-8.0	42	6	7	13	27	45	19	27	A-7-6
540+60	25' Rt	0.0-3.5	21	10	27	22	20	27	6	7	A-4a
540+60	60' Rt	0.0-2.5	60	9	11	10	10	31	8	11	VISUAL
			BROWN BROKEN SHALE								
PONTIAC ROAD											
13+50	10' Lt	0.0-2.0	25	8	13	29	25	31	9	13	A-4a*
		2.0-6.0	16	6	7	26	45	37	14	13	A-6a
		6.0-8.5	13	7	12	34	34	24	5	11	A-4a
16+50	12' Rt	0.0-6.0	10	7	13	34	36	28	11	14	A-6a*
		6.0-9.0	10	6	11	39	34	25	7	12	A-4a
CHANNEL RELOCATION											
24+00	CL	0.0-4.5	0	6	31	28	35	27	5	18	A-4a
		4.5-5.7	18	8	20	24	30	32	10	23	A-4a



Relocated Channel

Pontiac Rd

GEOLOGY OF THE SITE

THE STRUCTURE SITE IS LOCATED AT THE SOUTHERN LIMITS OF THE FLAT, GLACIATED LAKE PLAIN REGION, 200 FEET NORTH OF SLATE RUN, WHERE THIN GLACIAL DEPOSITS OVERLIE SHALE BEDROCK, OF DEVONIAN AGE.

EXPLORATION

TWO DRIVE SAMPLE-CORE BORINGS AND FOUR DRIVE ROD PENETRATION TESTS WERE MADE ON OCTOBER 17 AND NOVEMBER 9, 14, AND 15, 1966.

INVESTIGATIONAL FINDINGS

BORINGS ENCOUNTERED BEDROCK SURFACE AT 7 AND 8-FOOT DEPTHS, ELEVATIONS 745 AND 744 FEET, OVERLAIN BY LOOSE SANDY SILTS.

ROD SOUNDINGS MET REFUSAL TO PENETRATION AT 9 AND 10-FOOT DEPTHS, ELEVATIONS 744 AND 743 FEET, AFTER PENETRATING 1 TO 2 FEET OF BADLY BROKEN OR WEATHERED BEDROCK.

NO FREE WATER WAS OBSERVED IN ANY OF THE ROD SOUNDING HOLES.

ON THE BASIS OF TESTS, BEDROCK SURFACE IS CONSIDERED TO BE FLAT-LYING ACROSS THE SITE BETWEEN ELEVATIONS 745 AND 744 FEET.

IT IS CONSIDERED ADVISABLE THAT THE OPEN EXCAVATIONS BE INSPECTED IN THE FIELD IN ORDER TO INSURE THAT THE EXCAVATIONS HAVE BEEN EXTENDED TO ROCK THROUGHOUT THE ENTIRE FOUNDING AREA. IT IS FURTHER SUGGESTED THAT THE AREA OF THE FOOTING CONTACT NOT BE SUBJECT TO PROLONGED ATMOSPHERIC EXPOSURE, AND THAT THE EXCAVATION BE WELL DRAINED AT ALL TIMES.

UNCONFINED COMPRESSION TESTS ON SIMILAR BEDROCK INDICATE A CRUSHING STRENGTH ON THE ORDER OF 75 TONS PER SQUARE FOOT FOR THE TOP APPROXIMATELY 2-FOOT INTERVAL OF WEATHERED OR BADLY BROKEN SHALE, AND 150 TONS PER SQUARE FOOT FOR THE FIRM SHALE.

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

- Coal
- Weathered Indurated Clay
- Indurated Clay
- Weathered Shale
- Shale

LEGEND

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

SYMBOLS OF ROCK TYPES

- Weathered Sandstone
- Sandstone
- Leached Dolomite
- Dolomite
- Leached Limestone
- Limestone

GENERAL INFORMATION

Drive Rod Penetration Sounding Tests

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

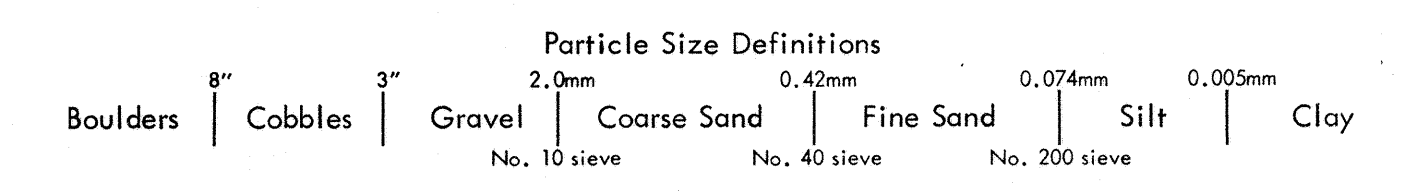
Drive Sample Borings - Drive-Press Sample Borings

Drive sample borings are made by means of a rotary-type drill rig, employing a 2" O.D., 1-3/8" I.D. sampler, at 2-1/2 and / or 5-foot depth intervals, driven by means of a 140 - pound drop-hammer with a free fall of 30 inches. The number of blows required to drive the sampler 12 inches is considered the standard penetration test.

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

The boring log sheets show a graphic plot of the information obtained, including depth and elevation of the sample, number of blows for the standard penetration tests in two 6-inch increments, depth of press samples, field sample number, sample description - based on laboratory tests and the Casagrande AC classification system - and gradation, plasticity, and moisture content determinations. Results of strength and consolidation testing, if performed, appear on separate enclosures.

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



LOG OF BORING

Date Started 11-14-66 Sampler Type SS Dia. 1 3/8 Water Elev. _____
 Date Completed 11-15-66 Casing Length 10' Dia. 3 1/2"
 Boring No. B-1 Station & Offset 542+01, 15' Lt. (Rear Abutment) Surface Elev. 752.4'

Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics							SHTL Class.			
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.		
752.4	0																
	2																
	4																
747.4	6	3/3			Brownish-Gray Sandy Silt	1	0	4	23	32	41	30	10	26	A-4a		
744.9	8	30#			Brownish-Gray Sandy Silt	2	0	17	21	28	34	35	9	20	A-4a		
	10		1.1	0.9	TOP OF ROCK												
	12																
	14		5.0	0.0	Shale, dark-gray, hard, carbonaceous, pyritiferous, petroliferous, fissile, broken, badly broken in upper 2 feet. Core Loss 9%.												
	16																
	18																
732.4	20				BOTTOM OF BORING												

*Refusal

LOG OF BORING

Date Started 11-9-66 Sampler Type SS Dia. 1 3/8 Water Elev. _____
 Date Completed 11-9-66 Casing Length 10' Dia. 3 1/2"
 Boring No. B-8 Station & Offset 543+19, 15' Rt. (Forward Abutment) Surface Elev. 752.1'

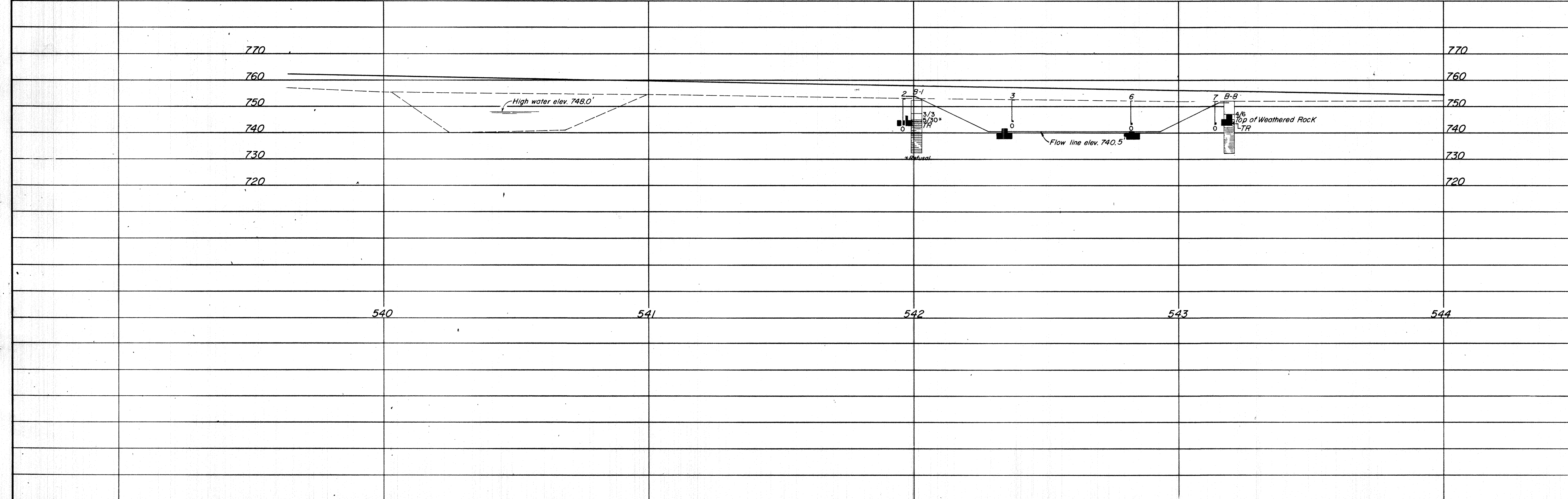
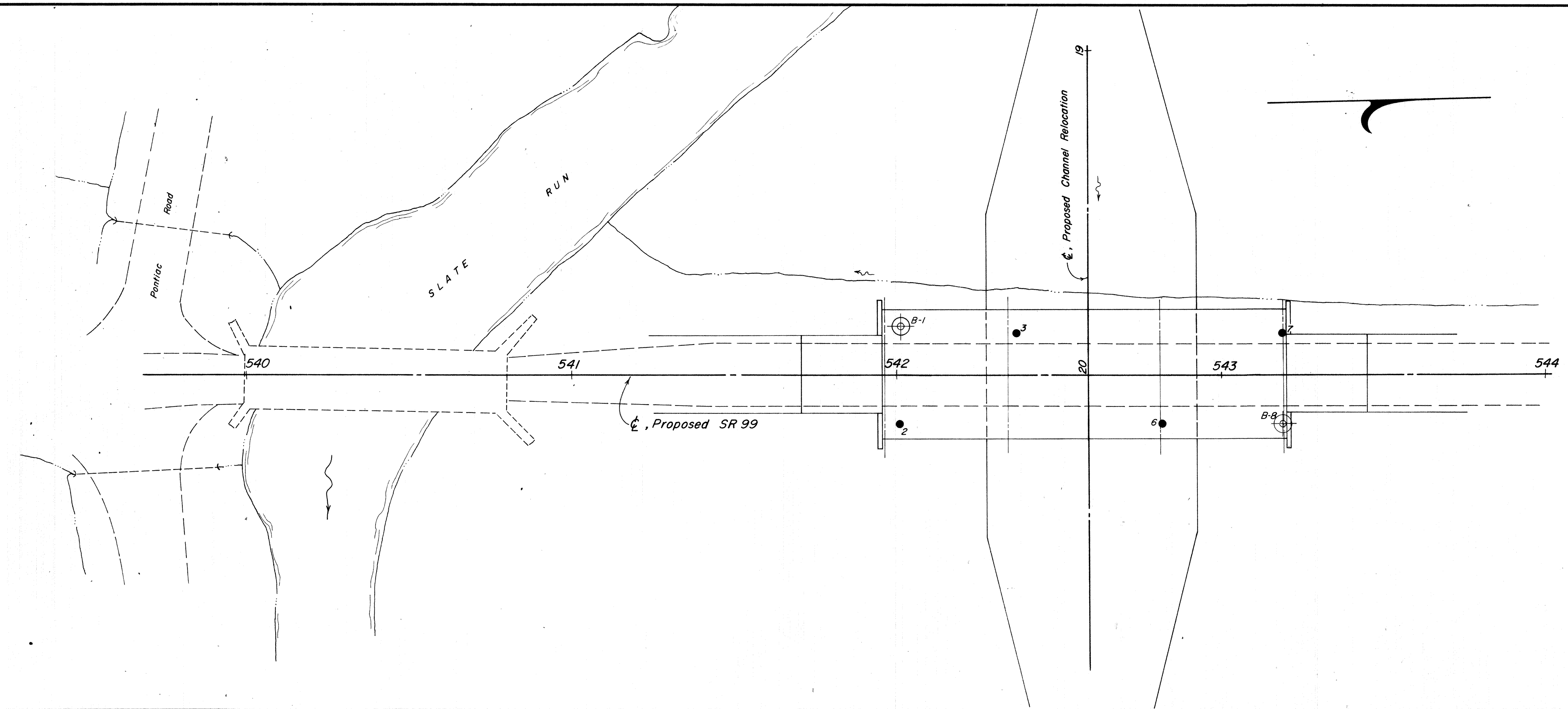
Elev.	Depth	Std. Pen. (N)	Rec. ft.	Loss ft.	Description	Sample No.	Physical Characteristics							SHTL Class.			
							% Agg.	% C.S.	% F.S.	% Silt	% Clay	L.L.	P.I.		W.C.		
752.1	0																
	2																
	4																
747.1	6	4/6			TOP OF WEATHERED ROCK												
745.1	8				Brown and Gray Sandy Silt	1	V	I	S	U	A	L	-	-	27		
743.4	10				Black weathered shale (Driller's Description).	2	24	17	12	18	29	39	11	20	A-6a		
	12				TOP OF FIRM ROCK												
	14		1.3	0.5													
	16																
	18		5.0	0.0	Shale, dark-gray, carbonaceous, fissile, firm, pyritiferous, broken. Core Loss 4%.												
	20																
732.1	20				BOTTOM OF BORING												

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

**OHIO DEPARTMENT OF HIGHWAYS
TESTING LABORATORY**
1620 WEST BROAD STREET, COLUMBUS 23, OHIO

STRUCTURE FOUNDATION INVESTIGATION
BRIDGE NO. HUR - 99 - 1028
OVER SLATE RUN
SEC. HUR - 99 - 10.24

CHECKED BY L.N.L.	REVIEWED BY G.P.H.	DATE 12/2/66
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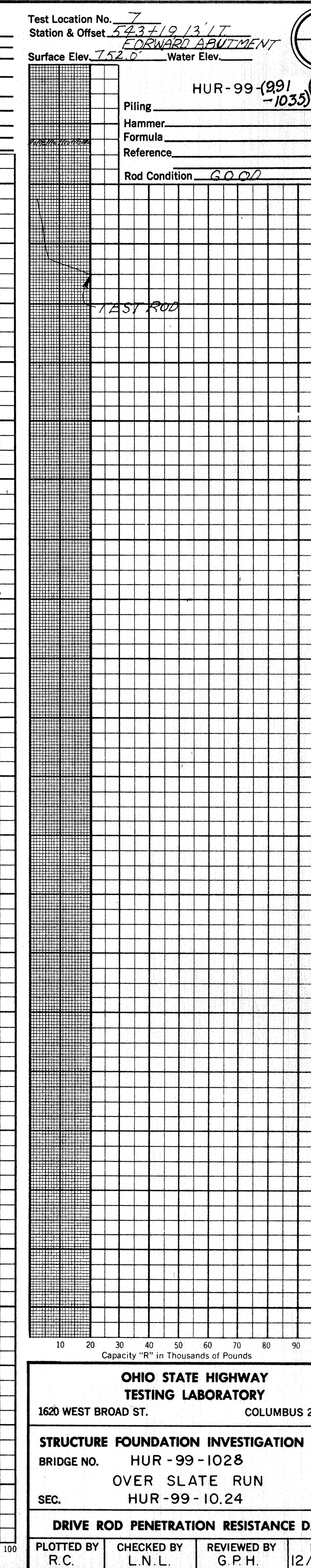
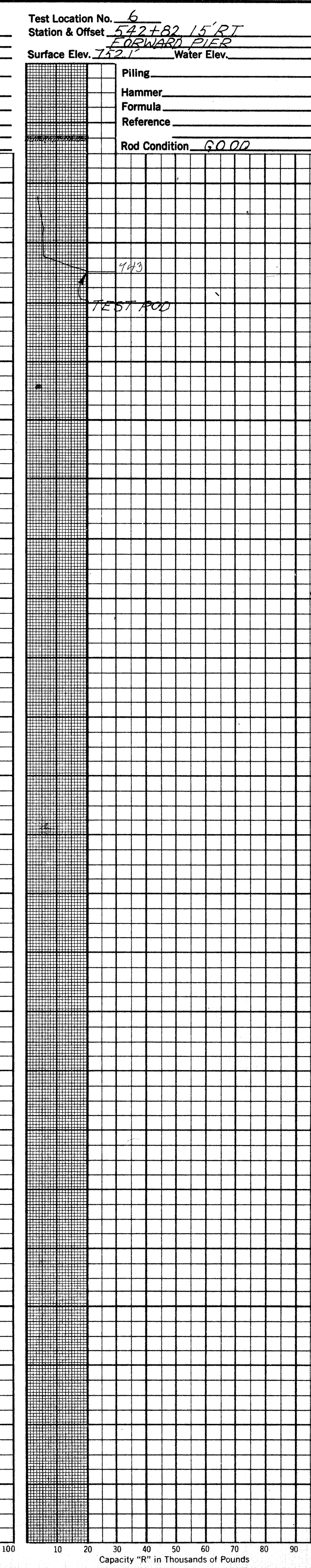
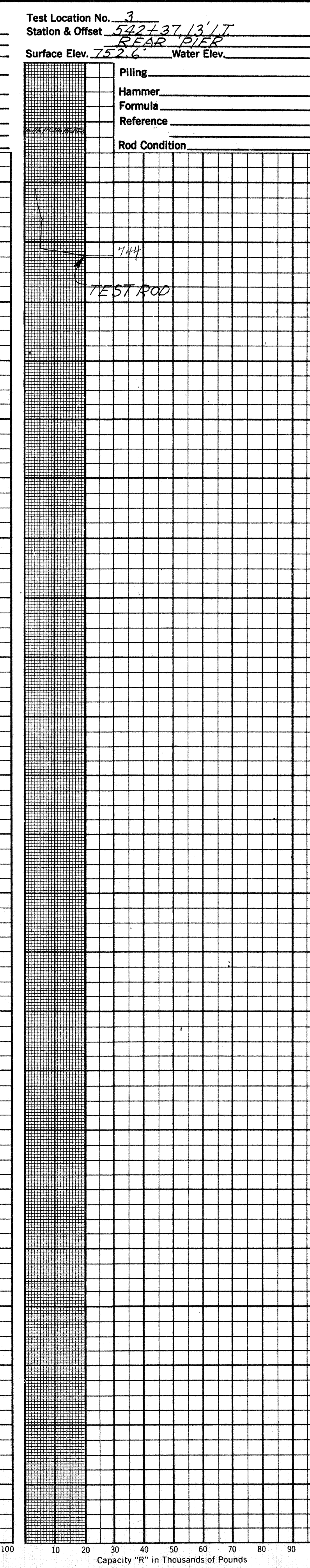
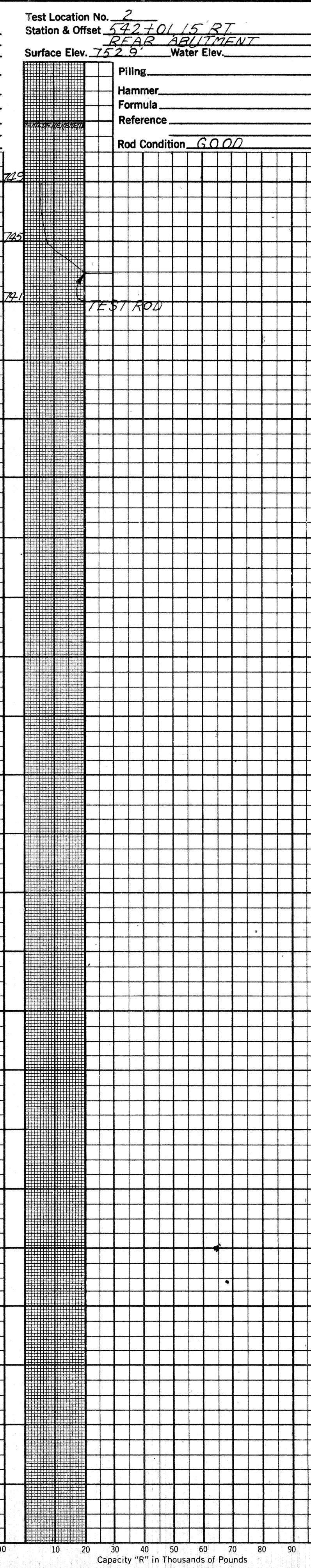
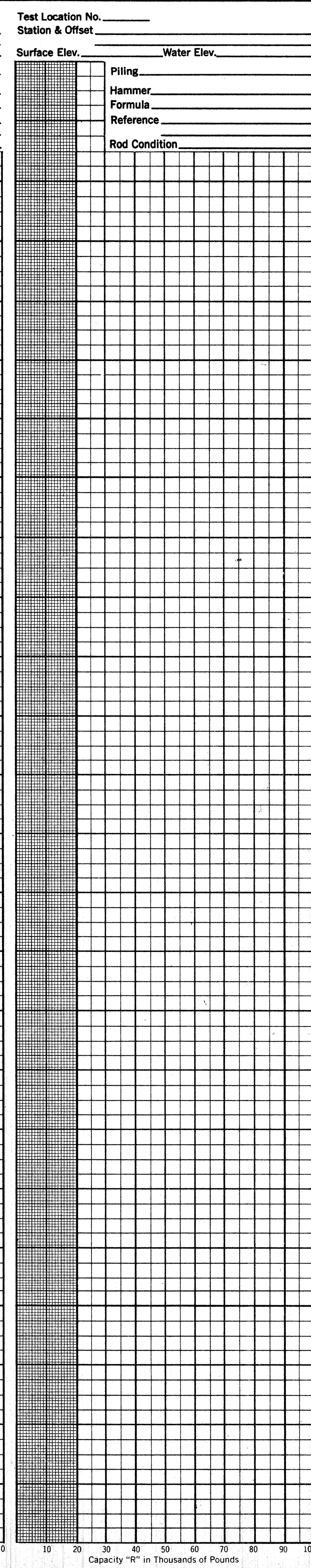
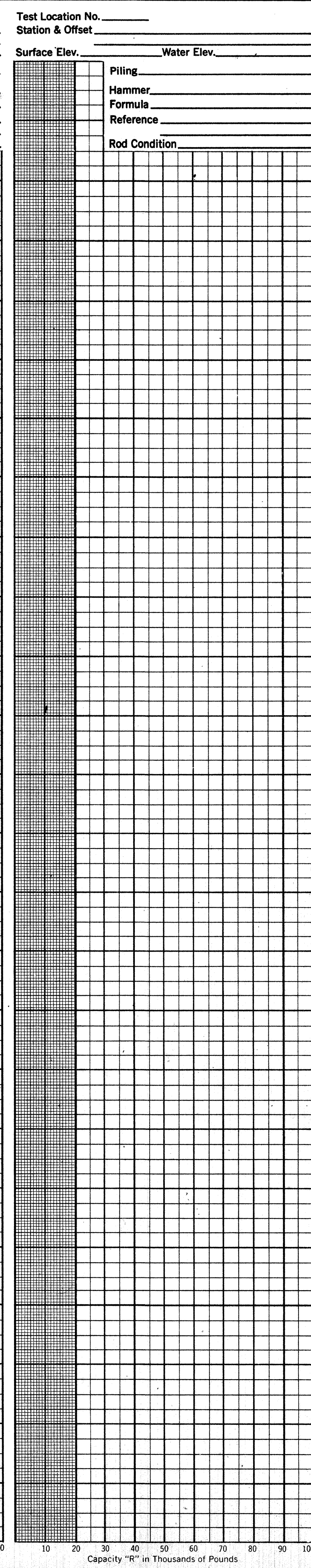
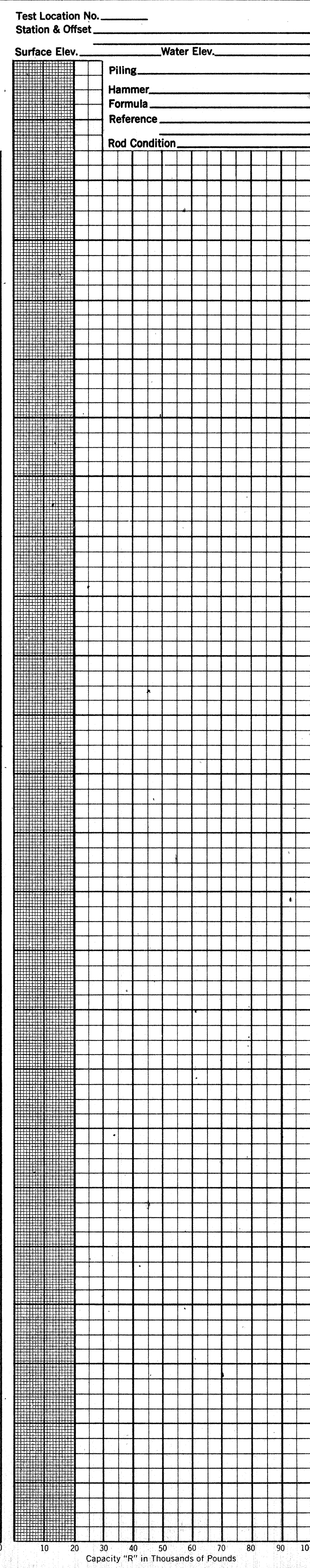
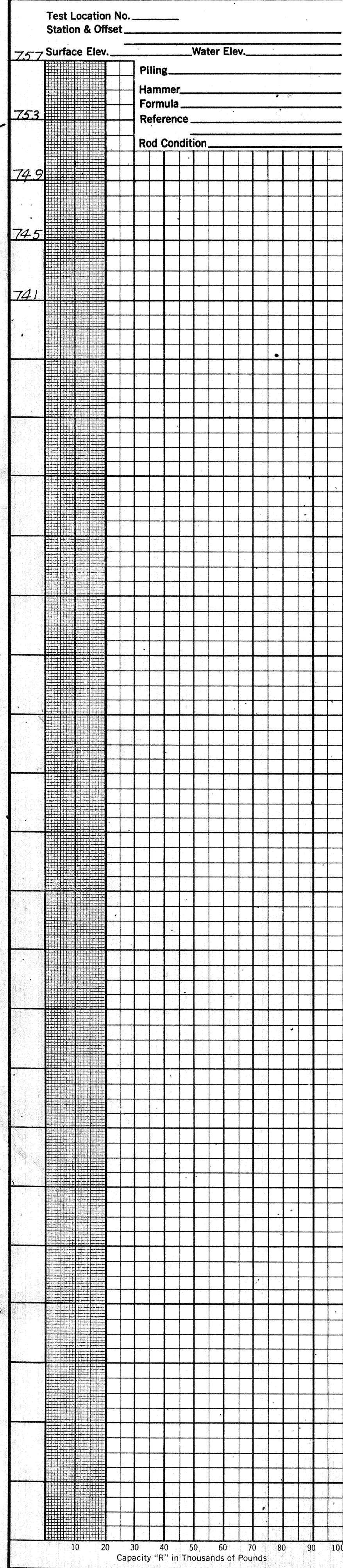
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OVER SLATE RUN
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PLAN AND PROFILE

DRAWN BY R.L.D.	CHECKED BY L.N.L.	REVIEWED BY G.P.H.	DATE 12/2/66
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SCALE: 1" = 20'



5
5

HUR-99-1028
-1035

OHIO STATE HIGHWAY TESTING LABORATORY
1620 WEST BROAD ST. COLUMBUS 23, OHIO

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SEC. HUR-99-10.24

DRIVE ROD PENETRATION RESISTANCE DATA

PLOTTED BY R.C. CHECKED BY L.N.L. REVIEWED BY G.P.H. DATE 12/2/66