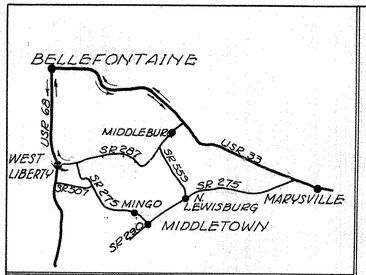

DETOUR MAP

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

~~S-1416(1)~~

FED.RD DIVISION	STATE	PROJECT	
2	OHIO	STATE	

1 / 48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)

JUL 29 1964
GROUND PHOTOLAB

LOG-287-(0.66)(4.48)(8.82)(10.52)
LOGAN COUNTY
MONROE TOWNSHIP & ZANE TOWNSHIP

NOTE:
Subsequent to the completion of these plans the financing was changed from Federal Aid Secondary funds to State funds. All references to Federal Project Number S-1416(1) and the Federal Aid Construction Identification Signs required by note on Sheet 4 shall be disregarded.

CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
CENTERLINE
FENCE LINE
POLE LINE — Telephone ℄ Power ℄
PROPERTY LINE
GUARD RAIL
DRAIN PIPE
New Old

INDEX OF SHEETS

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STRUCTURES OVER 20' SPAN	35 to 37, 39 to 44
RIGHT-OF-WAY	45 to 48

LINE DATA

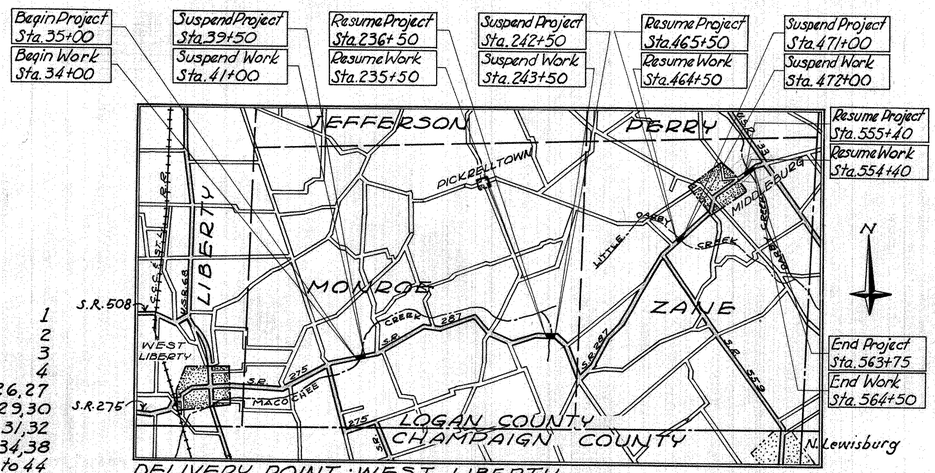
Begin Project 35+00,	Suspend Project 39+50	= 450 Lin.Ft.
Resume Project 236+50,	Suspend Project 242+50	= 600 Lin.Ft.
Resume Project 465+50,	Suspend Project 471+00	= 550 Lin.Ft.
Resume Project 555+40,	End Project 563+75	= 835 Lin.Ft.

No Additions or Deductions
Gross Length of Project = Net Length of Project = 2,435 Lin.Ft. or 0.461 Mi.

Begin Work 34+00	Suspend Work 41+00	= 700 Lin.Ft.
Resume Work 235+50	Suspend Work 243+50	= 800 Lin.Ft.
Resume Work 464+50	Suspend Work 472+00	= 750 Lin.Ft.
Resume Work 554+40	End Work 564+50	= 1010 Lin.Ft.

No Additions or Deductions
Gross Length of Work = Net Length of Work = 3260 Lin.Ft. or 0.617 Mi.

Sheets 39, 40, & 41 revised 9-25-62.



DELIVERY POINT: WEST LIBERTY
AVERAGE HAUL: 8.9 MILES

LOCATION PLAN

0 1 2 3 4 MILES

PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER ROADS
DETOUR

SCALES

PLAN 0 50' 100' 150'
PROFILE (Horizontal) 0 50' 100' 150'
PROFILE (Vertical) 0 1 2 3 4 5 10' 15'
CROSS SECTIONS (Horizontal) 0 1 2 3 4 5 10' 15'
CROSS SECTIONS (Vertical) 0 1 2 3 4 5 10' 15'

Sheets 36, 40 & 43 revised as-built

The standard specifications of the State of Ohio, Department of Highways, dated January 1, 1961, 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 of the highway to traffic, except as noted on sheet 3 and that detours will be provided as indicated on the plans.

Approved _____ Division Deputy Director
Date 4-23-62

Approved _____ Engineer of Bridges
Date 5-9-62

Approved _____ Engineer of Location & Design
Date 5-10-62

Approved _____ Deputy Director of Right-of-Way
Date 5-3-62

Approved _____ Deputy Director of Planning & Programming
Date 5-16-62

Approved _____ Deputy Director of Design & Construction
Date 5-11-62

Approved _____ First Assistant Director
Date 5-16-62

Approved _____ Director of Highways
Date 5-16-62

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
APPROVED:
DIVISION ENGINEER _____ DATE

KOHLI & KALIHER ENGINEERS LIMA, OHIO

Rev 8-7-62

Revised As-Built

LOG-(0.66-4.48)(8.82-10.52)

FILE No.	LOG-287-(0.66)(4.48)(8.82)(10.52)
	Date of Letting _____, 196__
	Contract No. _____

STANDARD DRAWINGS

DRAWING	DATE	DRAWING	DATE	DRAWING	DATE
DR-1	1-3-55	RI-1	7-15-58	L-3-1	4-1-50
G-7.07	6-1-56	HW-E	11-15-60	P-1-54	2-2-59
I-1	11-15-60	L-1	9-1-50	~~RACE-1~~	~~12-27-61~~
I-8 C.B., I-2A & B	1-26-59	AS-1-54	12-1-54	~~FACE-2~~	~~12-27-61~~
I-15 No. 1	11-15-60	SD-53	6-30-61	T-35	1-2-56
I-15 No. 2-A	8-17-60	CS-1-54 (Sheet 1 & 2)	7-16-56		
L-3	4-1-50	A-1-54	12-1-54		

SUPPLEMENTAL SPECIFICATIONS

NUMBER	DATE
~~S-129~~	~~7-31-59~~
~~S-129~~	~~R. 9-5-61~~
~~MS-107-18~~	~~R. 9-3-61~~
~~MS-109-28~~	~~R. 8-12-59~~

JUL 29 1964
GROUND PHOTOLAB

FED.RD. DIVISION	STATE	PROJECT	
2	OHIO		

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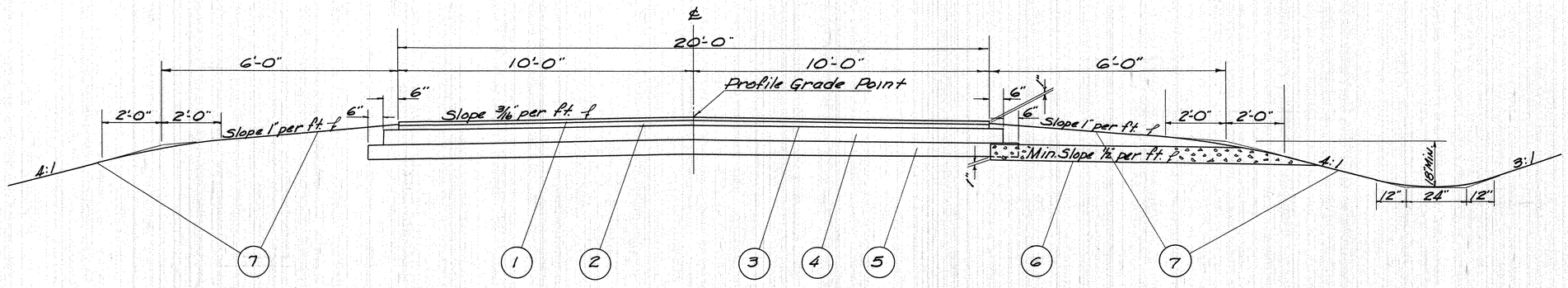
LOGAN COUNTY
LOG-287-(0066)(0448)(0882)(1052)

TYPICAL SECTION

TYPE T-35 on B-19



Above typical Section applies from

Sta.	35+00	to	Sta.	35+91.88	=	91.88 Lin. Ft.
Sta.	37+28.12	to	Sta	39+50	=	221.88 Lin. Ft.
Sta	236+50	to	Sta	242+50	=	600.00 Lin Ft.
Sta	465+50	to	Sta	467+14.70	=	164.70 Lin. Ft.
Sta	468+31.30	to	Sta	471+00	=	268.70 Lin. Ft.
Sta	555+40	to	Sta	558+59.22	=	319.22 Lin. Ft.
Sta	559+88.78	to	Sta	563+75	=	386.22 Lin. Ft.

Total Part 1 = 313.76 Lin. Ft.
Total Part 2 = 600.00 Lin. Ft.
Total Part 3 = 433.40 Lin. Ft.
Total Part 4 = 705.44 Lin. Ft.

(1) ≠ Item T-35 1¼" Asphaltic Concrete Surface Course Type "C" (85-100).

(2) ≠ Item B-35 1¾" Asphaltic Concrete Leveling Course (85-100).

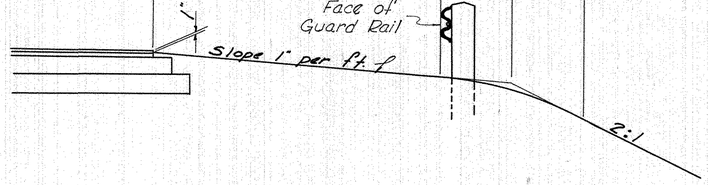
(3) Item T-30 Bituminous Prime Coat (0.40 gal. per sq. yd) Sec. M-5.7, RT-2 or RT-3.

(4) Item B-19 5" Aggregate Base Course.

(5) Item I-22 4" Subbase.

(6) Item I-9 Stone Underdrains № 2 as directed by the Engineer. (See Note on sheet 3)

(7) Item L-9 Seeding and Protecting.



Part Section Showing Location of Guard Rail

≠ NOTE: Thicknesses of Courses shown are design thicknesses as described in Sections T-35.01 and B-35.01.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

3
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LOGAN COUNTY
LOG-287- (0.66)(4.48)(8.82)(10.52)

GENERAL NOTES

DESIGN SPEED ~ A design speed of 50 M.P.H. was used on this project.

FIELD OFFICE ~ The Contractor shall provide a suitable field office in accordance with Sec.S-0.01 having a minimum floor area of 300 Sq.Ft. The Contractor shall have a telephone installed and maintained during the construction of this Project.

UTILITIES ~ All work required for the adjustment of public or private utilities will be done by and at the expense of their respective owners.

EXISTING GUARD RAIL ~ Existing guard rail will be removed and shall be included in the unit price bid for Item E-1 Roadway Excavation, Method B, except where otherwise noted.

STONE UNDERDRAINS ~ I-9 Stone Underdrains shall be placed as determined by the Engineer. Quantities are figured for 50 ft. intervals on each side of pavement . In the final finishing of slopes and ditches care shall be exercised to assure that the exposed ends of I-9 underdrains shall be left free of cover that would impede free drainage.

DRIVEWAYS ~ All driveways shown on these plans shall be Type 1 Std. Dwg. 1, field drive 6" I-18 residence drive 5" I-18 and 2" T-35.

PLUGGING PIPE: The upstream ends of all pipe or tile lines intercepted by earthwork operations (and, where indicated, the ends of the pipe lines to be abandoned in place) shall be effectively blocked and covered. Broken pieces and portions of pipe or tile shall be removed until a whole length is encountered which shall be blocked with concrete, flat stone or brick laid in mortar, or a precast clay or concrete stopper. Payment for the above work shall be included in the unit price bid for Item E-1 Roadway Excavation.

ROUNDING OF CORNERS ON CROSS-SECTIONS ~ The rounded corners, shown on the Typical Sections, apply to all cross-section even though otherwise shown on these Plans.

HAND FINISHING ~ Hand finishing will be permitted as per Item T-71.211 for the approach slabs on this Project.

SCARIFICATION OF EXISTING PAVEMENT ~ Prior to placement of proposed embankment in paved areas, the existing flexible pavement shall be throughly scarified, mixed with the proposed embankment material, and recompacted to insure the elimination of any planes of separation between the existing pavemant and proposed embankment materials. Payment for this operation shall be included in the unit price bid for Item E-1, Roadway Excavation, Method "B"

EXISTING DRAIN TILE ~ The Contractor shall be responsible for the damage of existing Drain Tile which may occur during construction and shall be replaced at the Contractor's expense.

PLACING SOD IN DITCHES ~ All sod placed in ditches shall be laid with the long edges of the strips perpendicular to the flow line of the ditch. Successive strips shall be neatly matched and all joints staggered or broken. The sod shall be staked securely with stakes placed on maximum two (2) ft. centers in rows not more than two (2) feet apart. Stakes in adjacent rows shall be staggered. The stakes shall be wood ½" x ¾" x 12" to 1" x 1" x 24" as required to hold the sod and shall be driven flush with the top of the sod.

ESTIMATED QUANTITIES TO BE USED AS DIRECTED BY THE ENGINEER ~ Specific locations where these quantities are used, shall be made a matter of record by incorporation in the final change order. These quantities are not to be delivered to the project until so ordered by the Engineer.

DETOUR ~ The length of time of detour shall be held to a minimum and in no case shall exceed **140** consecutive calendar days. Two-way traffic shall be maintained at all other times, except that one-way traffic will be permitted consistent with the requirements of the Specifications for the placement of the pavement items. The detour shall not be placed in effect prior to April 1, 1963.

REMOVAL AND DISPOSAL OF EXISTING PIPE ~ Any pipe listed on the plans to be removed and disposed of which is located within the limits of Excavation for any other item of the Contract will not be paid for under item E-12 but will be included for payment in the unit price bid for the excavation item of which it becomes a part.

SEEDING ~ Quantities for seeding are calculated for the soil areas between the work limits, as shown on the cross sections.

CONNECTIONS TO EXISTING PIPE ~ At places where the plans provide for the proposed drainage pipe to be connected to existing pipes, 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 item.

EROSION CONTROL ~ Items I-10 and L-10 are provided in these 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 nonperform quantities or adjust locations and quantities for these items where indicated by field conditions during construction.

GENERAL NOTES CONTINUED ON SHEET 4

GENERAL SUMMARY

ITEM	CODE NUMBER 6201 PART 1	PART 2	PART 3	PART 4	TOTAL CODE No 6201	UNIT	DESCRIPTION
							ROADWAY
E-1	1624	1184	722	882	4412	Cu.Yd.	Roadway Excavation, Method B, as per plan
E-1	1016	1333	1079	1679	5102	Sq.Yd.	Compacted Subgrade
E-4		1176	3043	4229	8448	Cu.Yd.	Borrow
E-9	Lump	Lump	Lump	Lump	Lump	Lump	Removal of Trees and Stumps
E-11	9	16	22	29	76	M.Gal.	Water
I-15	140.02	250.00	179.30	190.88	760.20	Lin.Ft.	Guard Rail, Steel Beam Standard Type (Deep)
I-18	19	19	15		53	Cu.Yd.	Stabilized Crushed Aggregate Shoulders and Approaches
L-9	4749	5397	3847	6627	20620	Sq.Yd.	Seeding and Protecting.
L-9	0.47	0.50	0.40	0.68	2.05	Tons	Commercial Fertilizer (12-12-12)
L-10	210	100	550	905	1765	Sq.Yd.	Sodding
T-10	50	50	50		150	Cu.Yd	Traffic Compacted Surface Course for Maintaining Traffic
M-10	1	1	1		3	Tons	Calcium Chloride Furnished & applied for Maintaining Traffic.
							DRAINAGE
E-3		1251			1251	Cu.Yd.	Channel Excavation
E-12	26				26	Lin.Ft.	Pipe Removed, 15" and Under
E-12	63				63	Lin.Ft.	Pipe Removed, over 15"
I-1		76			76	Lin.Ft.	24" Pipe, Class A-1
I-1	78				78	Lin.Ft.	18" Pipe, Class A-1
I-1	44				44	Lin.Ft.	36" Pipe, Class C-1
I-1		38			38	Lin.Ft.	12" Pipe, Class C-2
I-1			38		38	Lin.Ft	18" Pipe, Class F-2
I-1	20				20	Lin.Ft	12" Pipe, Class F-2
I-1				36	36	Lin.Ft	6" Pipe, Class F-2
I-1		152			152	Lin.Ft	8'-7" x 5'-11" Pipe Sec. M-6.4(g), 10-8 gage, Class G-1
I-1	4				4	Lin.Ft.	12" Pipe, Class H-2
I-1	21				21	Lin.Ft.	8" Pipe, Class H-2
I-1	9				9	Lin.Ft	4" Pipe, Class H-2
I-2	1.2	49.7			50.9	Cu.Yd.	Masonry
I-5	1				1	Each	18" Pipe Specials, Class A-1
I-5	1				1	Each	8" Pipe Specials, Class H-2
I-8	1				1	Each	Standard No 1-2-A Catch Basin.
I-9	225	300	260	410	1195	Lin.Ft	Stone Underdrains No 2
I-10	72	450	317	531	1370	Cu.Yd.	Dumped Rock Channel Protection.
I-16	1				1	Each	Catch Basin Abandoned
S-24	Lump	Lump			Lump	Lump	Removal of Existing Structures
							PAVEMENT
T-35	38	57	50	65	210	Cu.Yd	Asphaltic Concrete Surface Course, Type "C" (85-100)
B-35	53	74	62	86	275	Cu.Yd	Asphaltic Concrete Leveling Course (85-100)
T-30	424	583	493	685	2185	Gal	Bituminous Prime Coat, Sec. M-5.7, RT 2 or RT 3
T-30	7	28	18	24	77	Gal	Bituminous Tack Coat, Sec. M-5.5, MS-2 or RS-1; Sec. M-5.2, RC-1 or RC-2 as per Sec. T-302.2
B-19	147	215	170	243	775	Cu.Yd.	Aggregate Base Course
I-22	130	182	143	212	667	Cu.Yd	Subbase
I-7	111		111	111	333	Sq.Yd.	Reinforced Concrete Approach Slabs (T = 13")
							STRUCTURES OVER 20' SPAN
							B.R. LOG-287-0068, for estimated quantities See Sheet No 36
							B.R. LOG-287-0886, for estimated quantities See Sheet No 40
							B.R. LOG-287-1059, for estimated quantities See Sheet No 43

FED. RD. DIVISION	STATE	PROJECT	
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LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)

PAVEMENT COMPUTATION

	T-35 ASPHALTIC CONCRETE SURFACE COURSE	B-35 ASPHALTIC CONCRETE LEVELING COURSE	T-30 BITUMINOUS PRIME COAT Q.40 GAL. PER SQ. YD.	B-19 AGGREGATE BASE COURSE	I-22 SUBBASE	I-18 STAB'L'Z'D CRUSH'D AGGR. SHOULDERS & APPROACH	I-9 STONE UNDER-DRAINS	E-11 WATER 5 GAL. PER CU. YD.	E-1 COMPACTED SUBGRADE	L-9 FERTILIZER SQ. YDS. x (9÷1000) x (20÷2000)	I-7 REINFORCED CONCRETE APPROACH SLABS	T-30 BITUMINOUS TACK COAT Q10 GAL. PER SQ. YD.	
	Cu. Yd.	Cu. Yd.	GALS.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Lin. Ft.	M. Gal.	Sq. Yd.	Tons	Sq. Yd.	Gal.	
PART 1 OF 4													
From Typical Section 313.76 Lin. Ft.	24.21	33.89	278.90	101.68	85.22		225	0.93	698				
Feathering & Transition (Both Ends)	14.05	18.97	144.87	45.11	32.25			0.39	207			7.30	
Fertilizer (Seeding & Sod)										0.47			
Approach Slabs					12.97			0.06	111		111.11		
Water (Emb. +20%) 1417 Cu. Yds.								7.09					
Side Approaches						18.5		0.09					
Total Part 1 of 4	38.26	52.86	423.77	146.79	130.44	18.5	225	8.56	1016	0.47	111.11	7.30	
PART 2 OF 4													
From Typical Section 600 Lin. Ft.	46.30	64.81	533.33	194.44	162.96		300	1.90	1333.				
Feathering & Transition (Both Ends)	10.48	8.71	49.22	20.19	18.59			0.19				28.12	
Fertilizer (Seeding & Sod)										0.50			
Water (Emb. +20%) 2790 Cu. Yds.								13.95					
Side Approaches						19.15		0.10					
Total Part 2 of 4	56.78	73.52	582.55	214.63	181.55	19.15	300	16.14	1333.	0.50		28.12	
PART 3 OF 4													
From Typical Section 433.40 L.F.	33.44	46.82	385.24	140.45	117.71		260	1.29					
Feathering & Transition (Both Ends)	12.22	14.99	107.55	29.46	12.51			0.21				17.51	
Side Approaches	4.43					14.63		0.07					
Fertilizer (Seeding & Sod)										0.40			
Approach Slabs					12.97			0.06	111		111.11		
Water (Emb. +20%) 4010 Cu. Yds.								20.05					
Total Part 3 of 4	50.09	61.81	492.79	169.91	143.19	14.63	260	21.68	1079	0.40	111.11	17.51	
PART 4 OF 4													
From Typical Section 705.44 Lin. Ft.	54.43	76.20	627.06	228.61	191.60		410	2.10	1568				
Feathering & Transition (Both Ends)	10.89	9.87	57.72	14.21	6.93			0.11				24.31	
Fertilizer (Seeding & Sod)										0.68			
Approach Slabs					12.97			0.06	111		111.11		
Water (Emb. +20%) 5402 Cu. Yd.								27.01					
Total Part 4 of 4	65.32	86.07	684.78	242.82	211.50		410	29.28	1679	0.68	111.11	24.31	

GENERAL NOTES (CONTINUED)

EXISTING PAVEMENT REMOVAL~ The removal of existing pavement is included in Item E-1, Roadway Excavation for payment.

REMOVAL OF TREES AND STUMPS~ Trees or stumps shall be removed or preserved as indicated on the plans by the following symbols
Trees or stumps to be removed ⊗
Trees to be preserved ⊙
All trees and stumps lying within the construction limits of this project shall be removed under the lump sum price bid for Item E-3, Removal of Trees and Stumps, except that those trees and stumps 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	Number of Trees	Number of Stumps
12"-18"	22	2
18"-24"	0	2
24"-30"	1	4
30"-36"	2	0
36"-48"	1	1

The number shown 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 or easement lines. Payment for the removal of these additional trees or stumps shall be included in the lump sum price bid for item E-3, Removal of Trees and Stumps.

FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS:
The Contractor shall furnish, erect, maintain and subsequently remove Federal Aid Construction Identification Signs at each of the following locations:
1. Beginning of Project Sta. 35+00
2. End of Project Sta. 563+75

Sign details shall be as specified on standard drawing FACI-1, "Code N-45(2)78" and the signs shall be erected in accordance with standard drawing FACI-2. Additional requirements shall be in accordance with notes in the Proposal.

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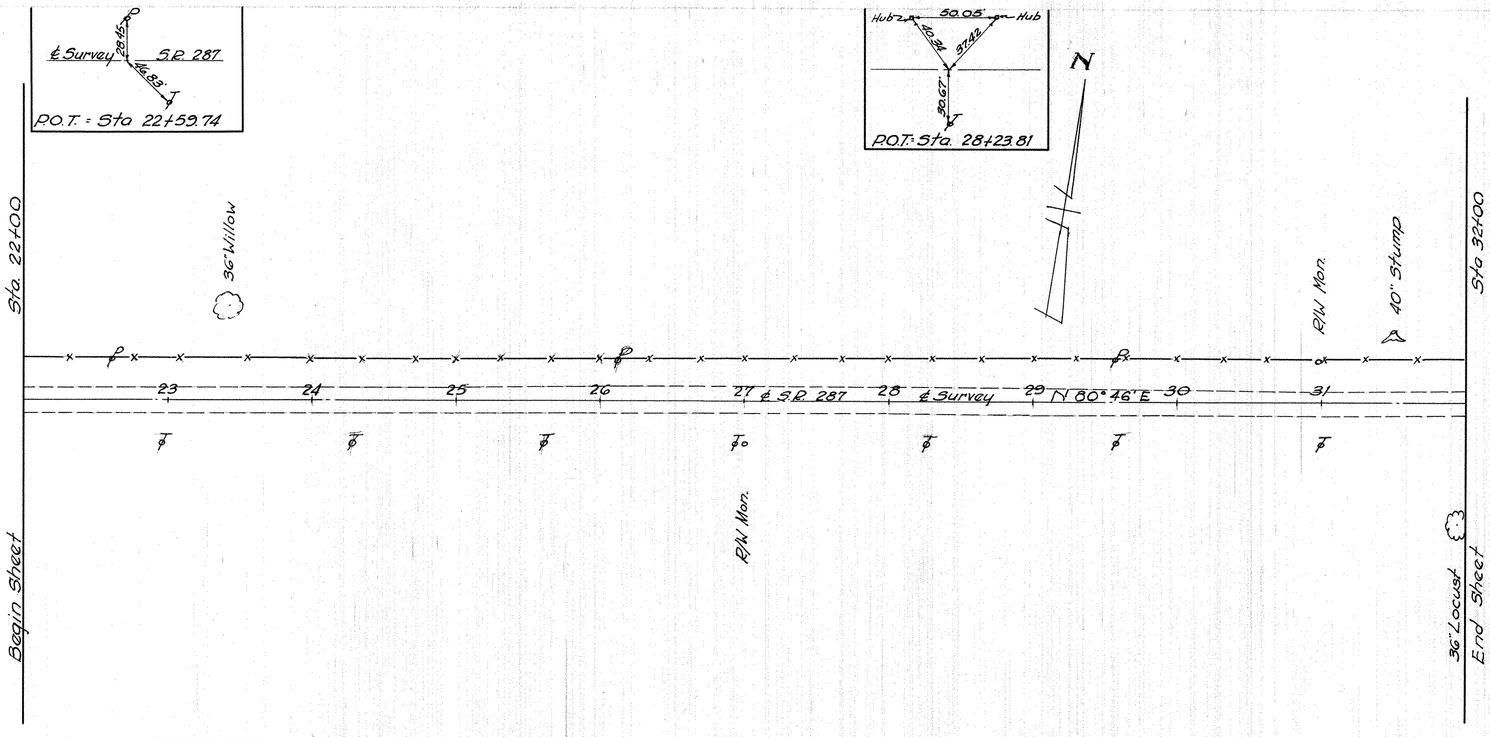
LOG - 287-(0.66)(4.48)(8.82)(10.52)
B.R. Nº LOG-287-0068
Part 1 of 4



ROADWAY DRAINAGE "D"

Item	Station From	Station To	Side	S-24 Removal of Exist. Struct. Lump	I-5 Pipe Sp. Each 45° Bend 8"	I-5 Pipe Sp. Each 45° Bend 18"	I-8 Catch Basins I-2-A Each	I-10 Chan. Prot. Cu. Yd.	E-12 Removal of Dipa Lin. Ft. 8"	E-12 Removal of Dipa Lin. Ft. 18"	L-10 Sodding Sq. Yd.	I-1 Pipe, Lin. Ft. CLASS H-2 4"	I-1 Pipe, Lin. Ft. CLASS H-2 8"	I-1 Pipe, Lin. Ft. CLASS H-2 12"	I-1 Pipe, Lin. Ft. CLASS F-2 12"	I-1 Pipe, Lin. Ft. CLASS A-1 18"	I-16 C. B. Abandoned Each	
1-D	36+04	36+21	Rt.					13										
2-D	36+34	36+56	Lt.					18										
3-D	36+62	36+79	Rt.					13										
4-D	37+00	37+33.4	Lt.					28										
5-D	38+71.5	39+17	Lt.&Rt.	Lump	1	1	1		26	63	10	9	21	4		78	1	
6-D	37+55	37+35.5	Lt.												20			
											200*							
Totals				Lump	1	1	1	72	26	63	210	9	21	4	20	78	1	

* To be used as directed by the Engineer.

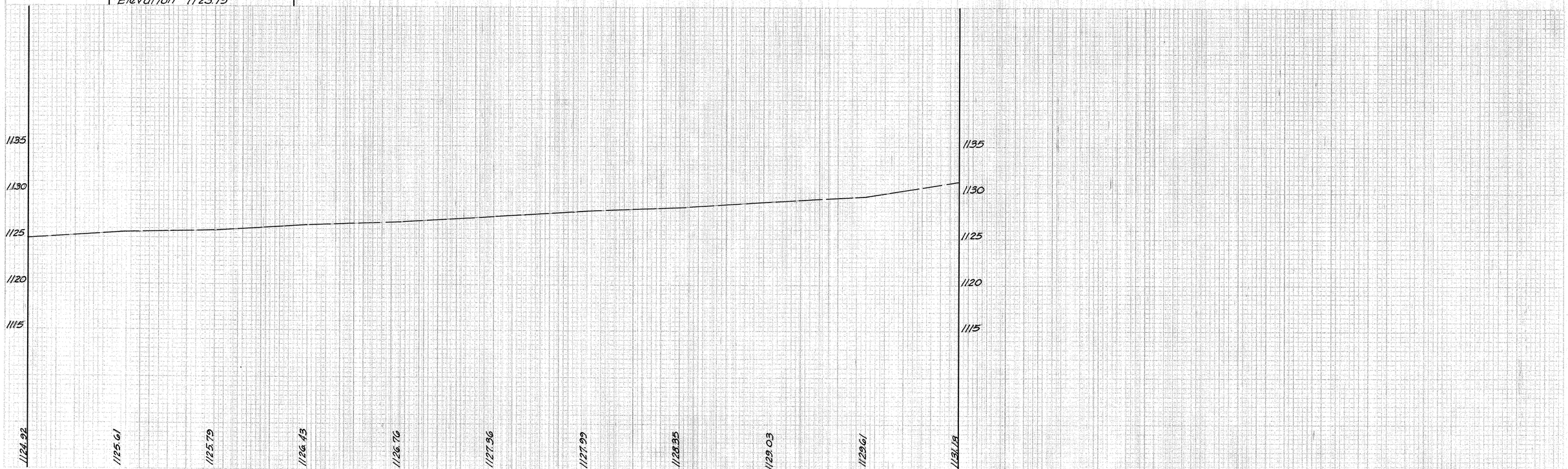
GUARD RAIL "G"

Item	Station From	Station To	Side	I-15 Steel Beam Type Deep Lin. Ft. Straight	I-15 Steel Beam Type Deep Lin. Ft. 20' Radius
1-G	35+72.64	36+07.65	Rt.	35.01	
2-G	35+97.36	36+26.11	Lt.	28.75	
3-G	36+93.89	37+22.64	Rt.	28.75	
4-G	37+12.35	37+47.00	Lt.	17.09	30.42
Total				140.02	

EARTHWORK

Sheet Nº	Station From	Station To	E-1 Roadway Excavation Cu. Yd. Exc.	Emb.	Emb.×.20
8 & 9	34+00	36+46.88	404	202	242
9	37+03.12	41+00	1220	979	1175
TOTAL			1624	1181	1417

BENCH MARK Nº 1
Spike in ℄ Sta. 24+27.3-30.3' Rt.
Elevation 1123.19



Sta 22+00 to Sta 32+00

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B.R. Nº LOG - 287-0068
Part 1 of 4

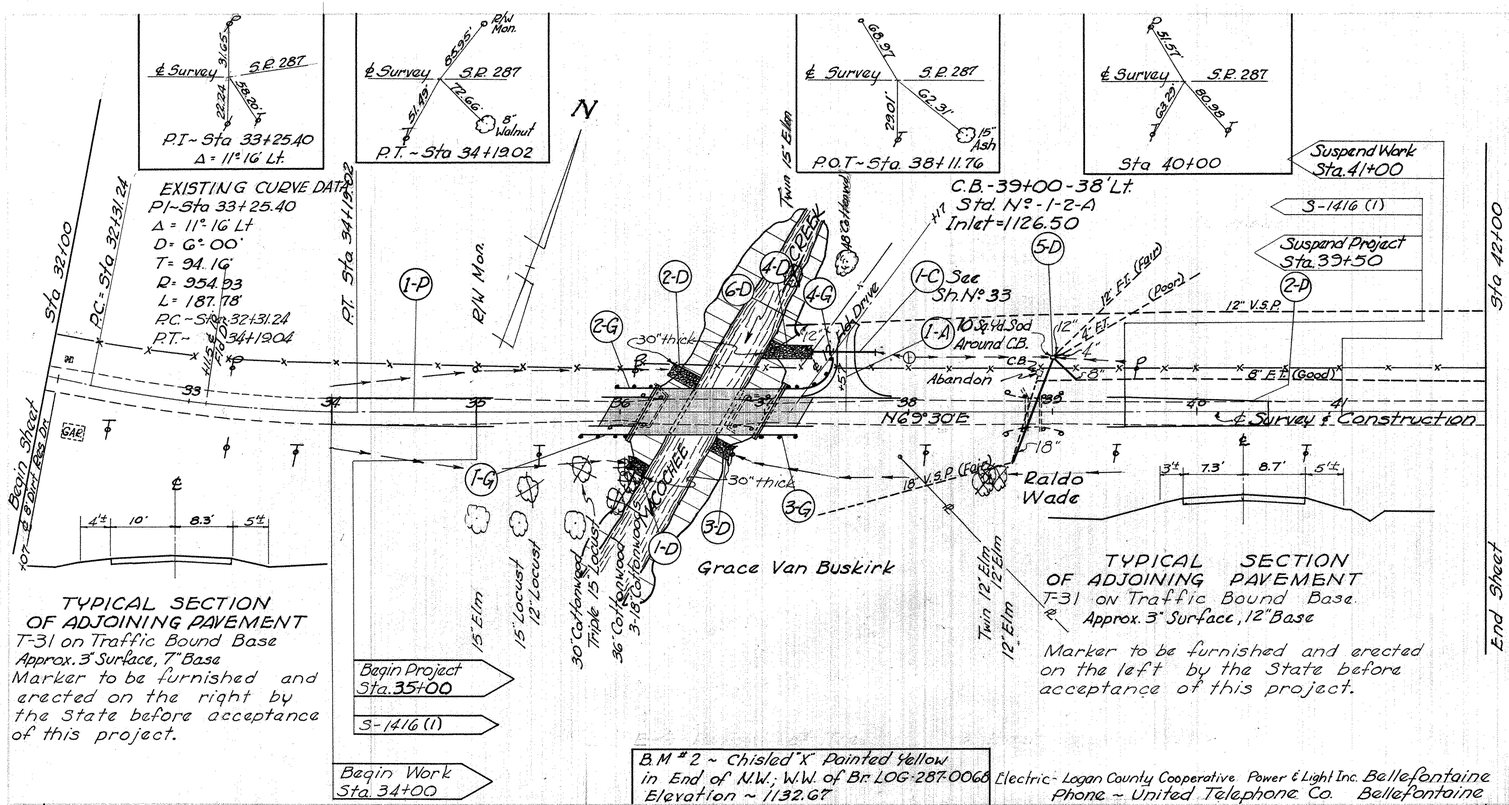
EXISTING STRUCTURE # 2 - 38+85
TYPE: Concrete Slab Top
SPAN: 8'-8" x 5'-6" Clear Opening
ROADWAY: 19.8'
SKEW: None
CONDITION: Poor To be Removed

SEEDING			
Sheet Nº	Station From	Station To	L-9 Seeding and Protecting Sq. Yd.
8	34+00	35+91.88	1106
9	35+91.88	41+00	3137
11 (Chan.)	3+00	6+00	984
L-10, Sodding			-210
I-10, Chan. Prot.			-86
I-10, Slope Prot.			-182
Total			4749

SIDE APPROACHES "A"					
Item Nº	Station	Side	I-18 Stab. Cr. Aggr. Cu. Yd. 6"	Length	Remarks
1-A	37+57	Lt.	18.5	55'	12' Fld. Dr.
Total			18.5		

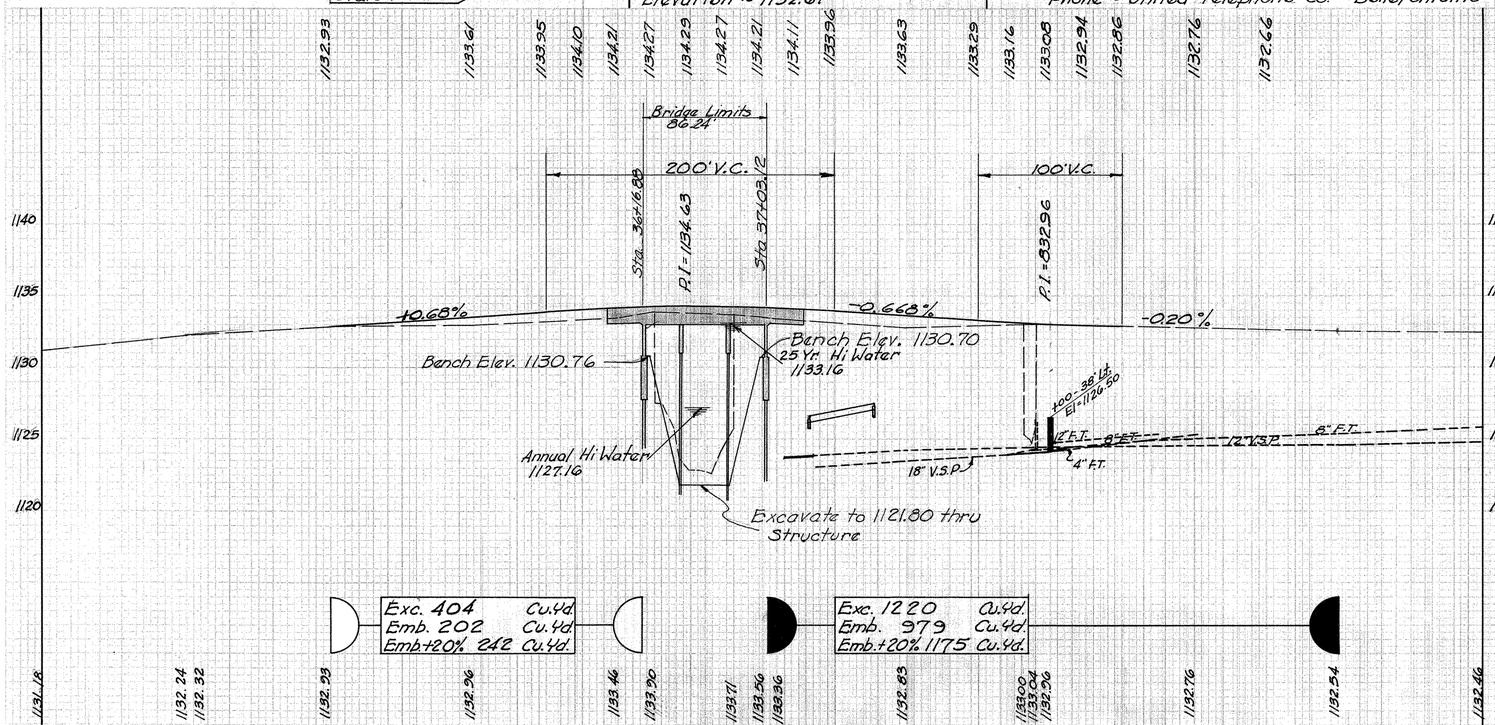
PROPOSED STRUCTURE
TYPE: Continuous Reinf. Concrete Slab with Capped Pile Substructure with Highway Guard Rail.
SPANS: 26'-32.5'-26' % brgs.
ROADWAY: 32' f/f guard rail
SKEW: 30° L.F.
LOADING: CF-130(57)
WEARING SURFACE: 3/4" Monolithic Conc.
APPROACH SLABS: AS-1-54 (25' Long)
ALIGNMENT: Tangent

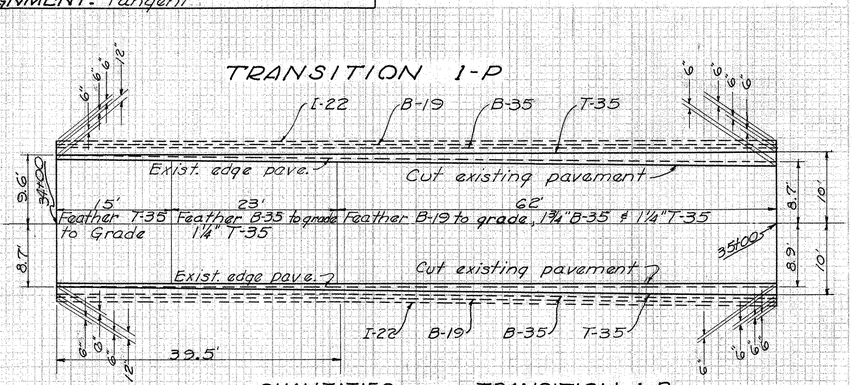
EXISTING STRUCTURE #1
TYPE: Low Truss on conc. f/stone Sub. Str.
SPAN: 55'-0" clear
ROADWAY: 14'-8" conc. floor with Bit. Wear. Surf.
SKEW: 30° L.F.
LOADING: 3-6.3 Load Reduction 10%
SUFFICIENCY: 54
CONDITION: Fair.
To be Removed



B.M # 2 ~ Chisled "X" Pointed Yellow in End of N.W. W.W. of Br. LOG-287-0068 Elevation ~ 1132.67

Electric - Logan County Cooperative Power & Light Inc. Bellefontaine
Phone ~ United Telephone Co. Bellefontaine





QUANTITIES FOR TRANSITION 1-P

Item T-35	Asphaltic Concrete Surface Course Type "C" (85-100)	6.87 Cu.Yd.
Item B-35	Asphaltic Concrete Leveling Course (85-100)	8.92 Cu.Yd.
Item T-30	Bituminous Prime Coat (0.40 gal. per sq.yd.)	62.2 Gal.
Item T-30	Bituminous Tack Coat (0.10 gal. per sq.yd.)	7.30 Gal.
Item B-19	Aggregate Base Course	14.86 Cu.Yd.
Item I-22	Subbase	6.82 Cu.Yd.

ESTIMATED QUANTITIES FOR APPROACH SLABS

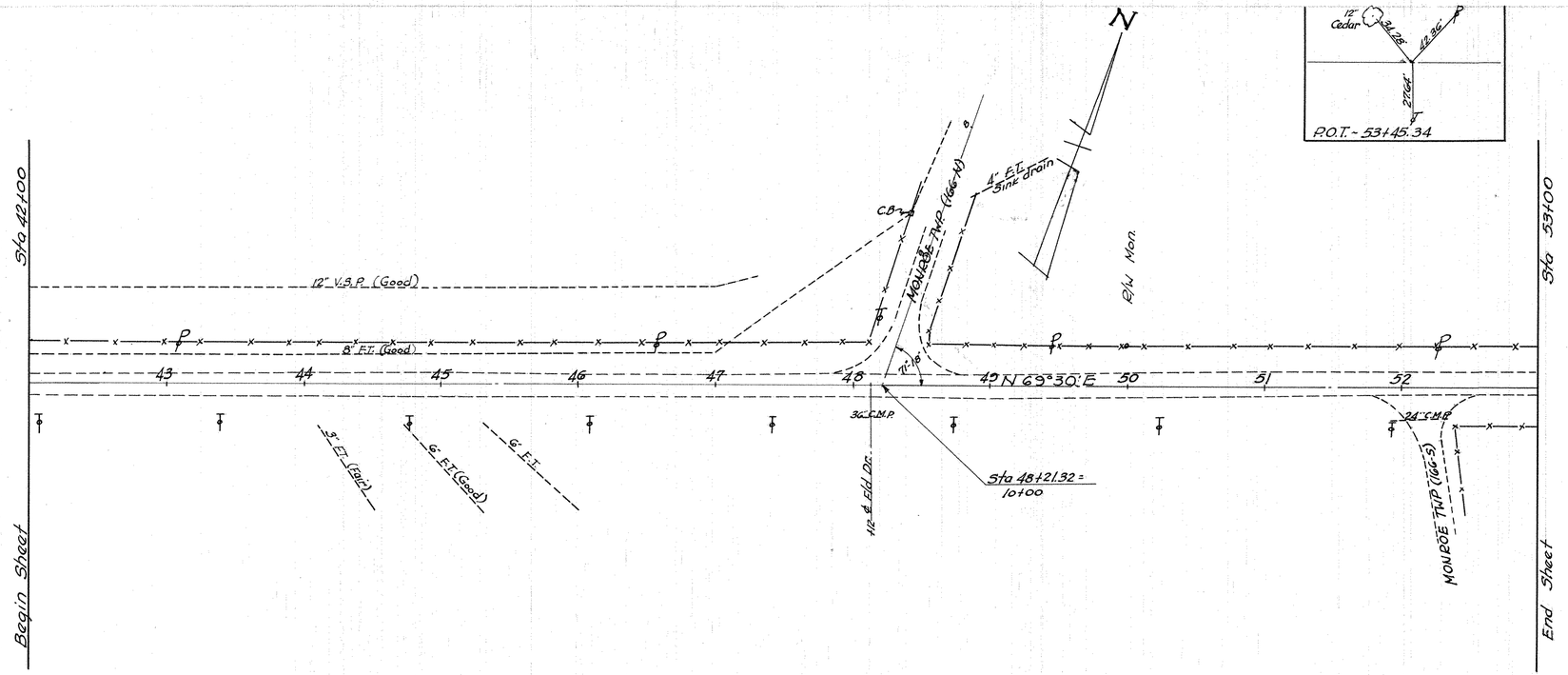
Item I-7	Reinforced Concrete Approach Slabs	111.11 Sq.Yd.
Item I-22	Subbase	12.97 Cu.Yd.
Item E-1	Compacted Subgrade	111. Sq.Yd.

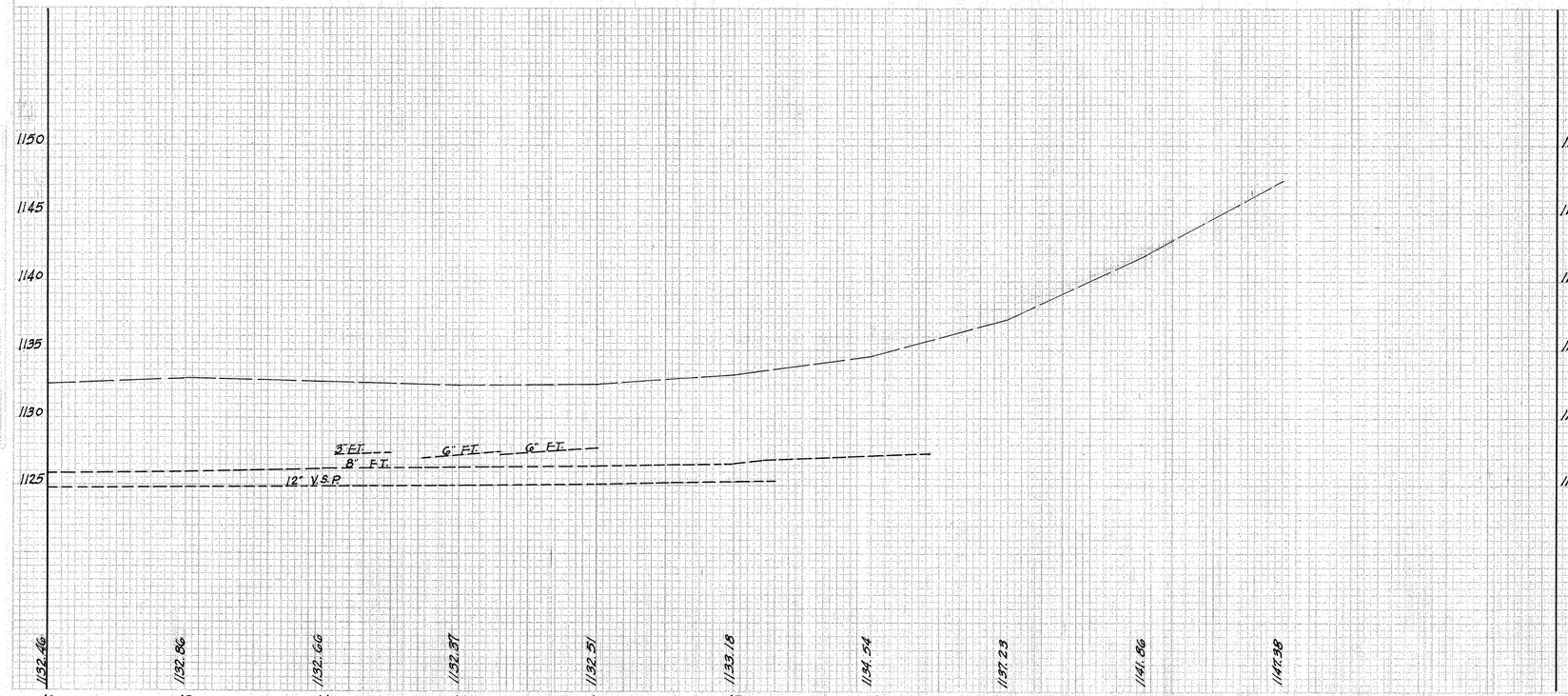
Sta 32+00 to Sta 42+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

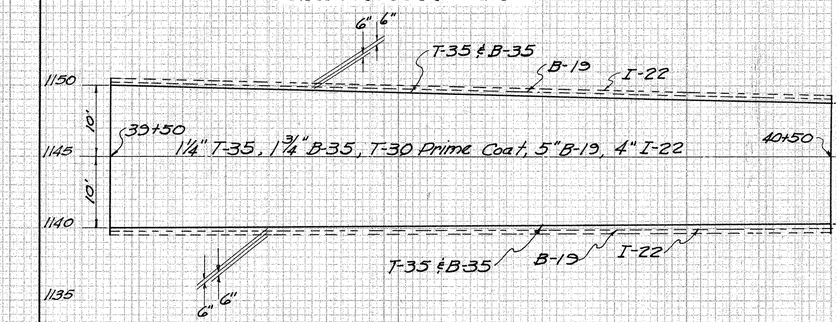
7/48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR. Nº LOG-287-0068
Part 1 of 4





TRANSITION 2-P

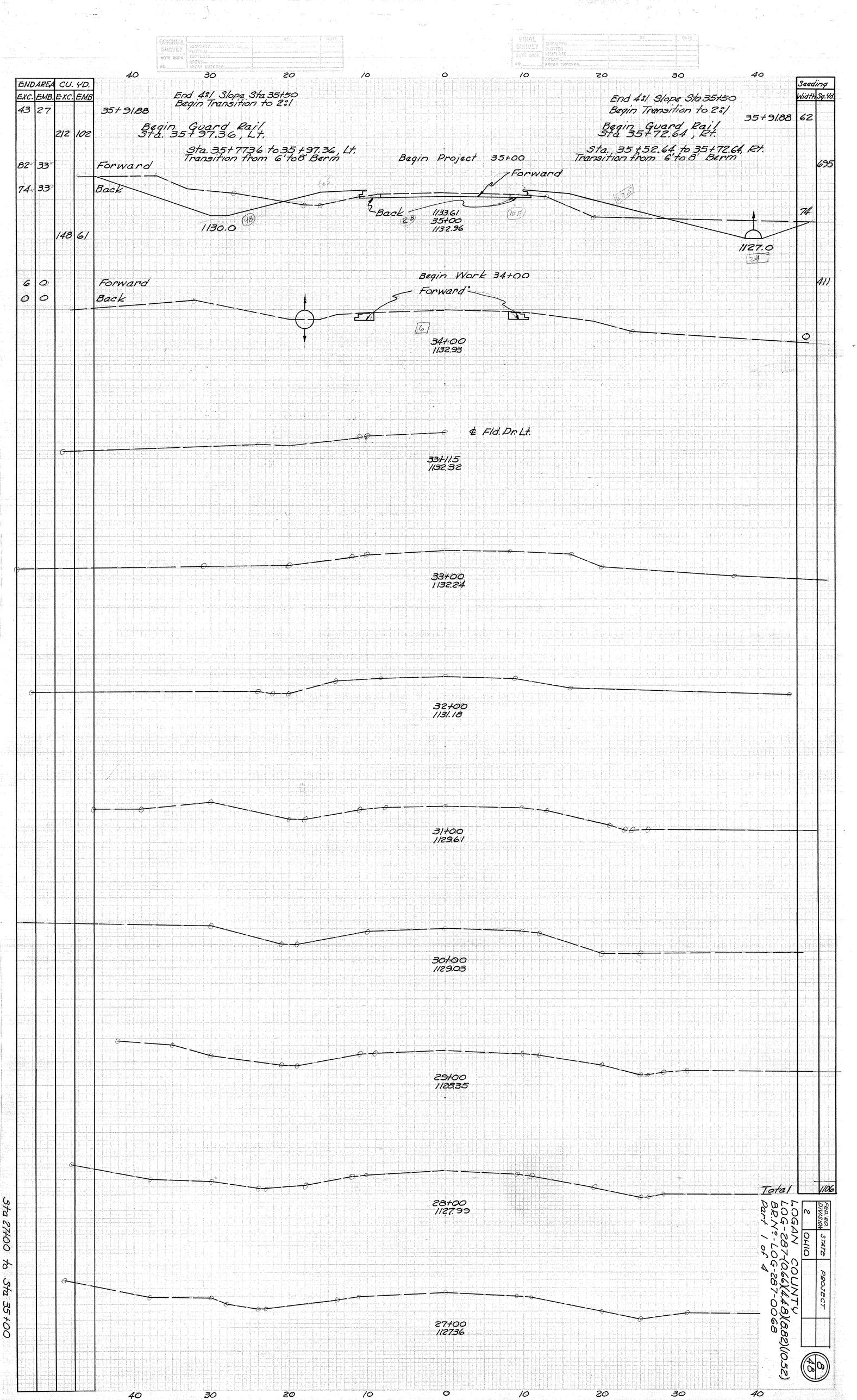


Quantities for Transition 2-P

Item T-35 Asphaltic Concrete Surface Course Type "C" (85-100)	7.18	Cu. Yd.
Item B-35 Asphaltic Concrete Leveling Course (85-100)	10.05	Cu. Yd.
Item T-30 Bituminous Prime Coat (0.40 gal. per sq. yd.)	82.67	Gal.
Item B-19 Aggregate Base Course	30.25	Cu. Yd.
Item I-22 Subbase	25.43	Cu. Yd.
Item E-1 Compacted Subgrade	207.	Sq. Yd.

Sta 42+00 to Sta 53+00

FINAL SURVEY — ORIGINAL SURVEY — SURVEYED — COMPUTED — CHECKED — TRACED — NOTE BOOK — SHEETS — NO. — DATE — INITIALS


ORIGINAL SURVEY
FINAL SURVEY
40 30 20 10 0 10 20 30 40
END AREA
EXC. EMB.
CU. YD.
EXC. EMB
Seeding
Width Sq. Yd.
End 4:1 Slope Sta 35+50
Begin Transition to 2:1
35+91.88
Begin Guard Rail
Sta. 35+97.36, Lt.
Sta. 35+77.36 to 35+97.36, Lt.
Transition from 6' to 8' Berm
End 4:1 Slope Sta 35+50
Begin Transition to 2:1
35+91.88
Begin Guard Rail
Sta 35+72.64, Rt.
Sta. 35+52.64 to 35+72.64, Rt.
Transition from 6' to 8' Berm
Begin Project 35+00
Forward
Back
1130.0
1133.61
35+00
1132.96
1127.0
Begin Work 34+00
34+00
1132.93
℄ Fld. Dr. Lt.
33+11.5
1132.32
33+00
1132.24
32+00
1131.18
31+00
1129.61
30+00
1129.03
29+00
1128.35
28+00
1127.93
27+00
1127.36
Total
1106
Sta 27+00 to Sta 35+00
FED. ROAD DIVISION 2
STATE OHIO
PROJECT
LOGAN COUNTY
LOG-287-(0664)(48)(882)(0.52)
BRN 9-LOG-287-0068
Part 1 of 4
8
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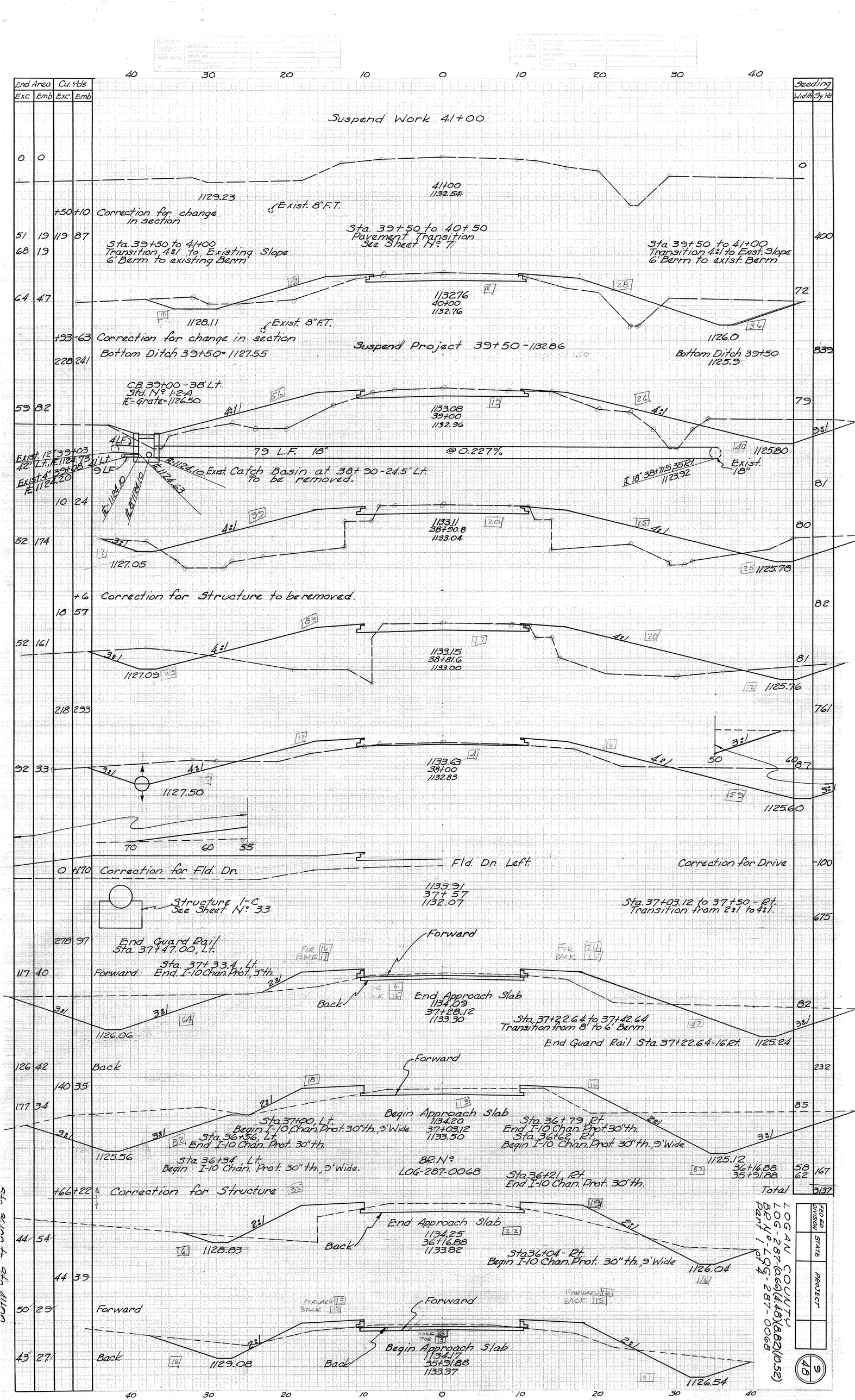
End Area Exc
End Area Emb
Cu. Yds. Exc.
Cu. Yds. Emb
Seeding Width
Seeding Sq. Yds.
Suspend Work 41+00
1129.23
Exist. 8" F.T.
41+00
1132.54
+50 +10 Correction for change in section
Sta. 39+50 to 40+50
Pavement Transition
See Sheet No. 7
51 19 119 87
Sta. 39+50 to 41+00
Transition 4:1 to Existing Slope
6' Berm to existing Berm
Sta 39+50 to 41+00
Transition 4:1 to Exist. Slope
6' Berm to exist. Berm
64 47
1132.76
40+00
1132.76
1128.11
Exist. 8" F.T.
1126.0
+93 -63 Correction for change in section
Suspend Project 39+50 - 1132.86
Bottom Ditch 39+50 = 1127.55
Bottom Ditch 39+50
1125.9
228 241
C.B. 39+00 - 38' Lt.
Std. No. 1-2-A
E-Grate = 1126.50
59 82
1133.08
39+00
1132.96
4:1
3:1
79 L.F. 18" @ 0.227%
Exist. 12" 42' Lt. E 1124.73
Exist. 4" E 1124.20
3 Lt
3 LF
E 1124.10 Exist. Catch Basin at 38+90 - 24.5' Lt. To be removed.
E 1124.0
E 1124.0
E 1124.63
E 18" 38+71.5 35' Rt. 1123.92
Exist. 18"
1125.80
10 24
1133.11
38+90.8
1133.04
52 174
1127.05
1125.78
+6 Correction for Structure to be removed.
18 57
1133.15
38+81.6
1133.00
52 161
1127.09
1125.76
218 293
1133.63
38+00
1132.83
92 33
1127.50
50
60
87
1125.60
70
60
55
0 +170 Correction for Fld. Dr.
Fld. Dr. Left.
Correction for Drive
1133.91
37+57
1132.07
Structure I-C
See Sheet No. 33
Sta. 37+03.12 to 37+50 - Rt.
Transition from 2:1 to 4:1.
278 97
End Guard Rail
Sta. 37+47.00, Lt.
Forward
Sta. 37+33.4, Lt.
End I-10 Chan. Prot. 30"th.
117 40
Back
End Approach Slab
1134.09
37+28.12
1133.30
1126.06
Sta. 37+22.64 to 37+42.64
Transition from 8' to 6' Berm
End Guard Rail Sta. 37+22.64 - 16' Rt.
1125.24
126 42
Back
Forward
140 35
177 34
Begin Approach Slab
1134.20
37+03.12
1133.50
Sta. 37+00, Lt.
Begin I-10 Chan. Prot. 30"th., 9' Wide.
Sta. 36+79, Rt.
End I-10 Chan. Prot. 30"th.
Sta. 36+56, Lt.
End I-10 Chan. Prot. 30"th.
Sta. 36+62, Rt.
Begin I-10 Chan. Prot. 30"th., 9' Wide
1125.56
1125.12
Sta. 36+34, Lt.
Begin I-10 Chan. Prot. 30"th., 9' Wide.
BR. No.
LOG-287-0068
Sta. 36+21, Rt.
End I-10 Chan. Prot. 30"th.
36+16.88
35+91.88
58
62
167
Total
3137
+66+22 Correction for Structure
End Approach Slab
1134.25
36+16.88
1133.82
44 54
1128.83
Back
Sta. 36+04 - Rt.
Begin I-10 Chan. Prot. 30"th., 9' Wide
1126.04
44 39
50 29
Forward
Forward
Begin Approach Slab
1134.17
35+91.88
1133.37
43 27
Back
1129.08
Back
1126.54
40
30
20
10
0
10
20
30
40
LOG AN COUNTY
LOG-287-(66)4.48)(8.82)(10.52)
BR. No. LOG-287-0068
FED. ROAD DIVISION
STATE
PROJECT
9
48

Seeding	
Mulch Sta.	

FED RD DIVISION	STATE	PROJECT	
2	OHIO		

10
48

LOGAN COUNTY
LOG-287-(0.62)(4.48)(8.82)(10.52)
BR N°-LOG-287-0068
Part 1 of 4

47+00
1133.18

46+00
1132.51

45+00
1132.37

44+00
1132.66

43+00
1132.86

42+00
1132.46

End Area	Cu. Yd.	
Exc.	Emb.	Exc.	Emb.

Sta 42+00 to Sta 47+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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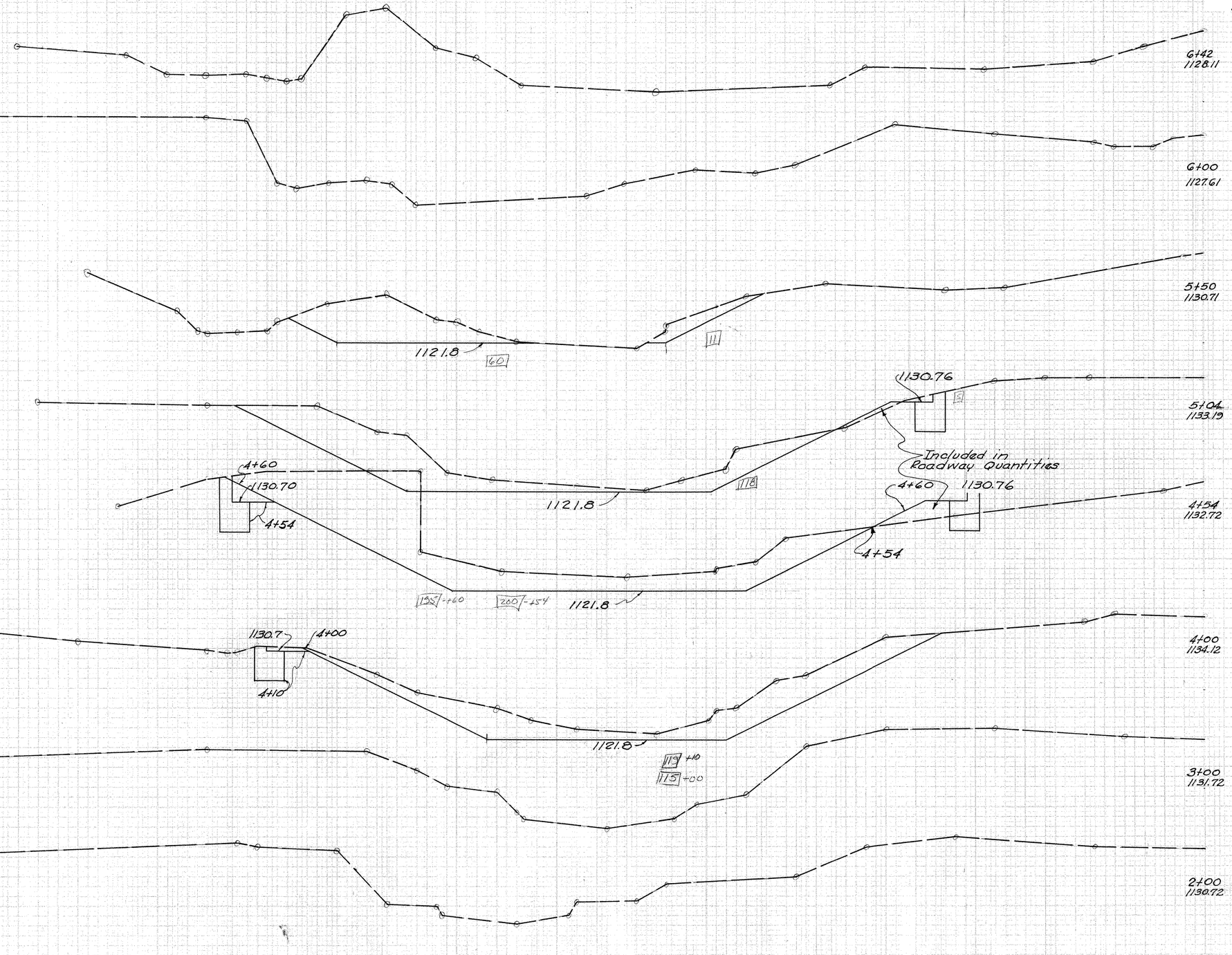
LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR Nº LOG-287-0068
Part 1 of 4

Seeding Width	Sq Yd.	
0		
20		
25	179	5+50
45		5+04
225		
47		4+60
30		
42		4+54
217		
47		4+10
52		
47		4+00
261		
0		
984	Total	



End Area		Cu. Yd.	
Exc.	Emb.	Exc.	Emb.
0	0		
		65	0
71	0		
		158	4
123	5		
		269	16
4+60	195	15	
		44	2
4+54	200	0	
		260	0
4+10	119	0	43	0
4+00	115	0	
		213	0
0	0		
Total		1052	22

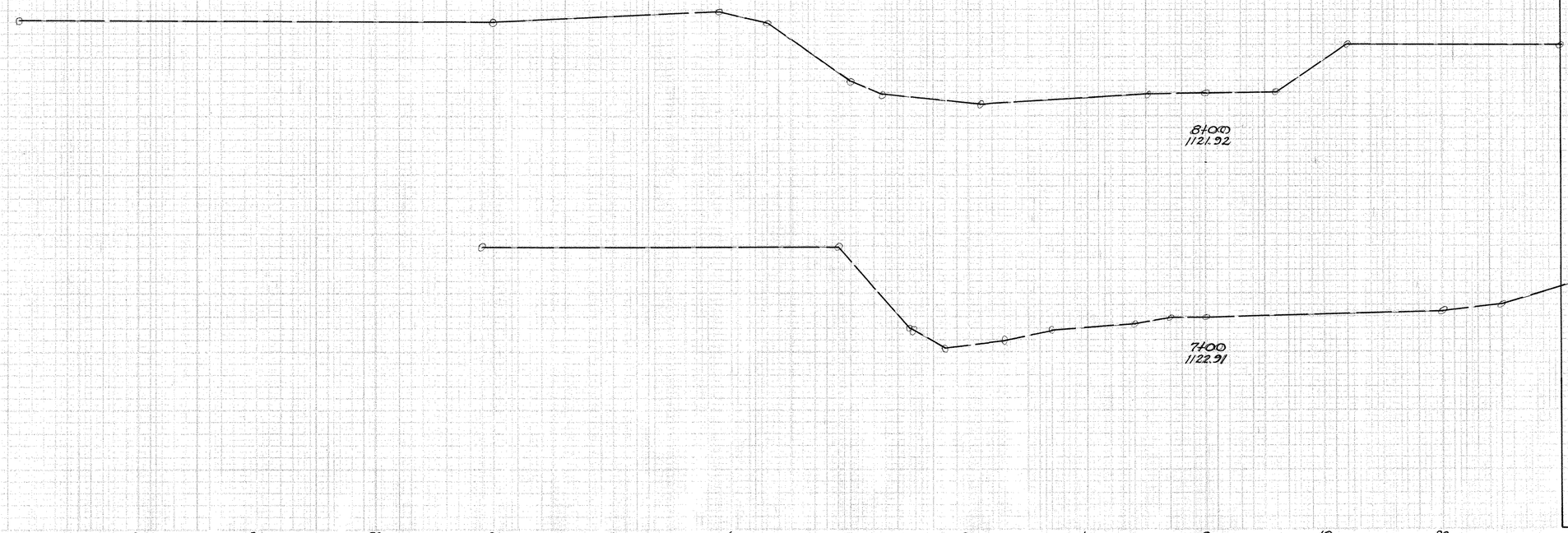
Channel Sections Sta 2+00 to G+42

FED RD DIVISION	STATE	PROJECT	
2	OH10		

12/48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR № LOG-287-0068
Part 1 of 4

End Area		Cu. Yd.	
Exc.	Emb.	Exc.	Emb.



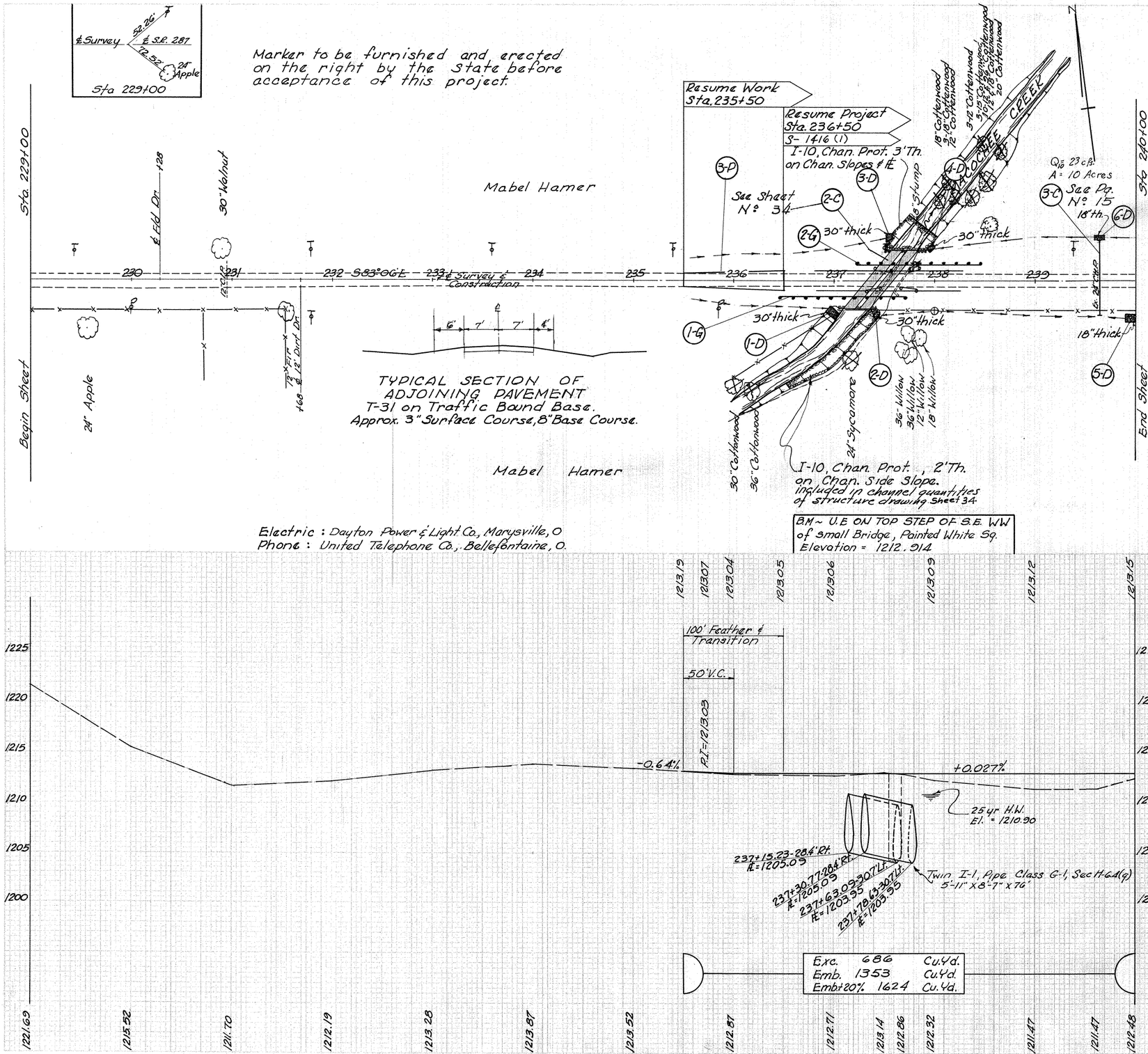
Channel Sections Sta 7+00 to 8+00

FED RD DIVISION	STATE	PROJECT	
2	OHIO		

13
48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR Nº LOG-287-0450
Part 2 of 4

Marker to be furnished and erected on the right by the State before acceptance of this project.



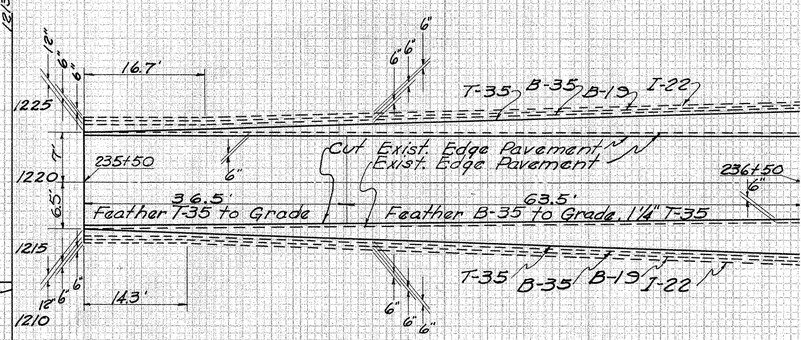
TYPICAL SECTION OF ADJOINING PAVEMENT
T-31 on Traffic Bound Base.
Approx. 3" Surface Course, 8" Base Course.

ROADWAY DRAINAGE "D"

Item	Station From	Station To	Side	I-10 Channel Protection Cu.Yd.	L-10 Sodding Sq.Yd.	I-1, Pipe Lin.Ft. Class C-2 12"
1-D	236+94	237+04	Rt.	11		
2-D	237+39	237+43	Rt.	5		
3-D	237+52	237+56	Lt.	5		
4-D	237+94	237+99	Lt.	5		
5-D	239+90	243+50	Rt.	180		
6-D	239+59	239+69	Lt	5		
7-D	240+56.75	240+82.75	Lt.			38'
					100*	
	Total			211	100	38'

*To be used as directed by the Engineer.

PROPOSED STRUCTURE	EXISTING BRIDGE DATA
TYPE: I-1, Pipe Class G-1, Sec. M-6.4(g), Sec. Corr. Metal Pipe-Arch Structure.	TYPE: Conc. Slab on Stone Conc. faced Substructure.
PAVEMENT: 20'-0"	SPAN: 12'-7" Clear.
ROADWAY: 32'-0"	ROADWAY: 13'-9"
SKEW: 39° L.F.	SKEW: 38° L.F.
SIZE: 2@5'-11" x 8'-7" x 76'.	LOADING: H-15 (No Reduction).
	SUFFICIENCY: 62.
	CONDITION: Poor. To be Removed



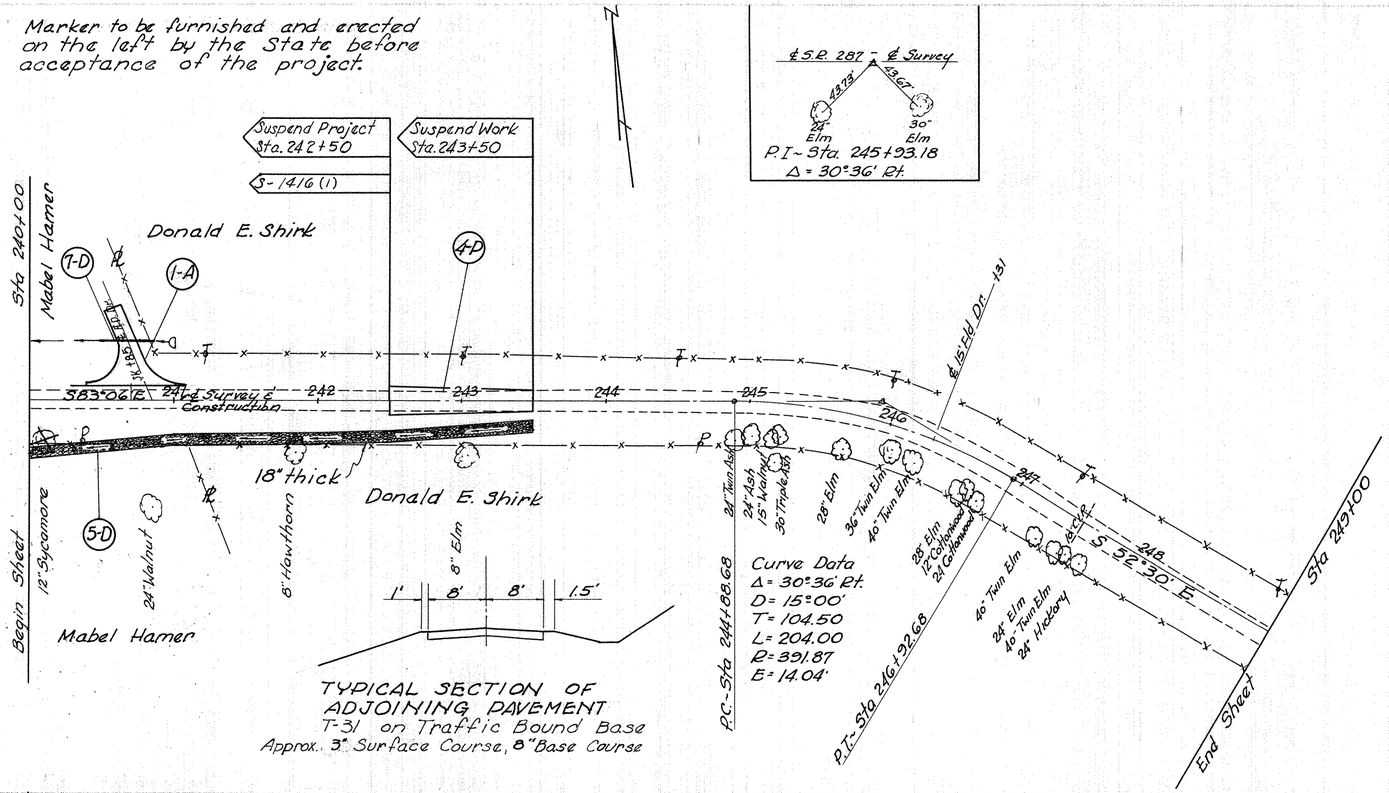
TRANSITION 3-P

Quantities for Transition 3-P

Item T-35	Asphaltic Concrete Surface Course Type "C" (85-100)	5.55 Cu.Yd.
Item B-35	Asphaltic Concrete Leveling Course (85-100)	5.85 Cu.Yd.
Item T-30	Bituminous Prime Coat (0.40 Gal. per sq.yd.)	25.74 Gal.
Item T-30	Bituminous Tack Coat (0.10 Gal. per sq.yd.)	13.33 Gal.
Item B-19	Aggregate Base Course	10.45 Cu.Yd.
Item I-22	Subbase	9.61 Cu.Yd.

Sta 229+00 to Sta 240+00

Marker to be furnished and erected on the left by the State before acceptance of the project.



TYPICAL SECTION OF ADJOINING PAVEMENT

T-31 on Traffic Bound Base

Approx. 3" Surface Course, 8" Base Course

FED RD DIVISION	STATE	PROJECT	
2	OHIO		

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LOGAN COUNTY

LOG-287-(0.66)(4.48)(8.82)(10.52)

B.R. Nº LOG-287-0450

Part 2 of 4

SIDE APPROACHES "A"

Item Nº	Station	Side		I-18 Stab. Cr. Aggr. 6" Cu. Yd.	Length	Remarks
1-A	240+70	Lt.		19.15	60'	Fld. Dr.
Total				19.15		

SEEDING

Sheet Nº	Station From	Station To	L-9 Seeding and Protecting Sq. Yd.
15	235+50	240+00	3067
16	240+00	243+50	2143
17 (Chan)	3+45	4+79	367
18 (Chan)	4+79	8+00	571
L-10, Sodding			-100
I-10, Chan. Prot. (Rdwy.)			-396
I-10, Chan. Prot. (Chan)			-255
Total			5397

EARTHWORK

Sheet Nº	Station From	Station To	E-1 Roadway Excavation Cu. Yd. Exc.	Emb.	Emb+20%
15 & 16	235+50	240+00	686	1353	1624
16	240+00	243+50	498	1134	1361
Total			1184	2487	2985

Borrow:
Excavation from Chan. Sec. 625 Cu Yd.
Excavation from Roadway Sec. 1184 Cu Yd.
Total Exc. 1809 Cu Yd.

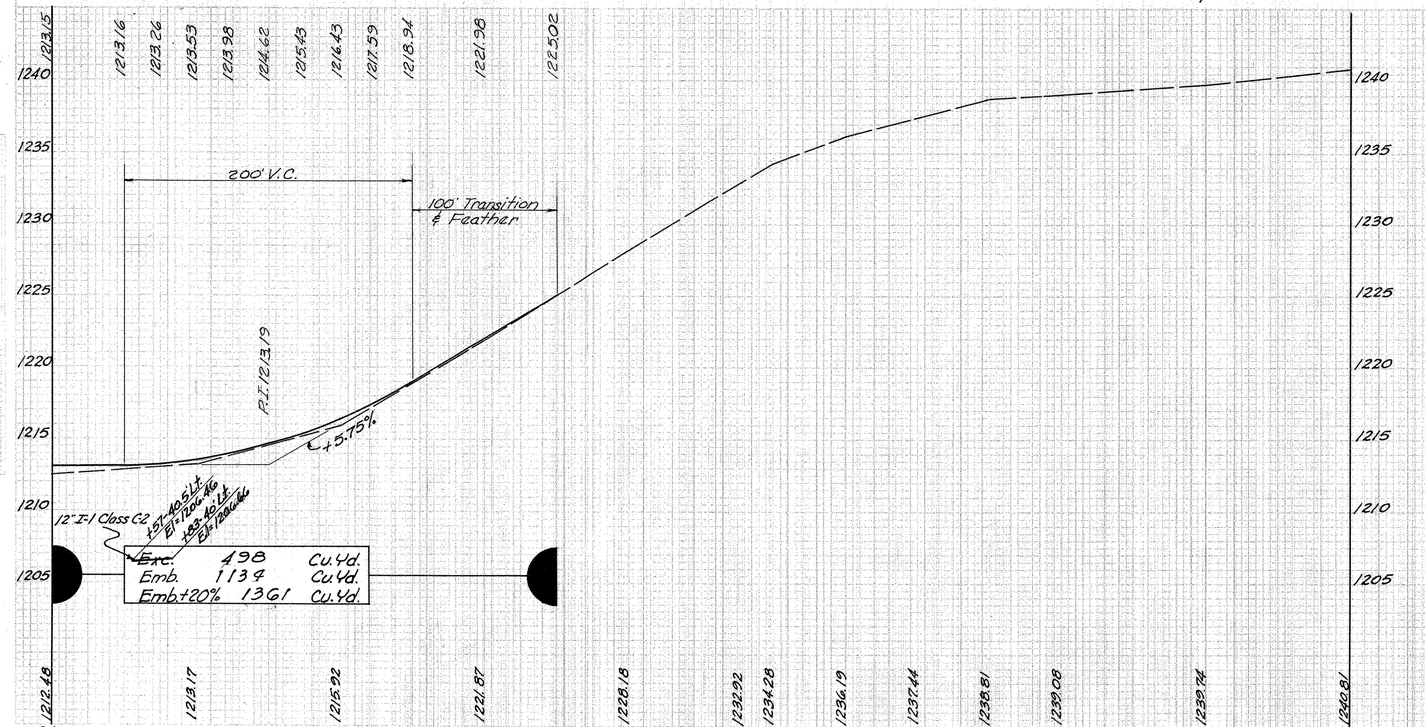
Borrow = (Emb+20%) - Excavation
= 2985 - 1809
Borrow = 1176 Cu Yd.

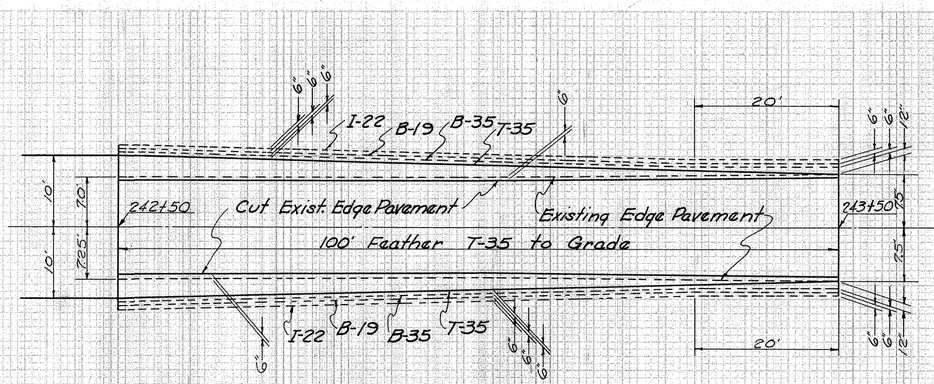
GUARD RAIL "G"

Item	Station From	Station To	Side	I-15 Steel Beam Type Deep Lin. Ft.
1-G	236+45.54	237+70.54	Rt.	125.00
2-G	237+21.46	238+46.46	Lt.	125.00
Total				250.00

RECAP TABLE

Table	I-10 Dumped Rock Chan. Prot. Cu. Yd.
Structures	239
Roadway Drainage	211
Total	450





TRANSITION 4-P

Quantities for Transition 4-P

Item T-35	Asphaltic Concrete Surface Course Type "C" (85-100)	4.93	Cu.Yd.
Item B-35	Asphaltic Concrete Leveling Course (85-100)	2.86	Cu.Yd.
Item T-30	Bituminous Prime Coat (0.40 Gal. per Sq. Yd.)	23.48	Gal.
Item T-30	Bituminous Tack Coat (0.10 Gal. per Sq. Yd.)	14.73	Gal.
Item B-19	Aggregate Base Course	9.70	Cu.Yd.
Item I-22	Subbase	8.98	Cu.Yd.

STRUCTURE TABLE

Struct Nº	E-3 Chan. Exc. Cu.Yd.	I-1, Pipe Class A-1 24" Lin.Ft.	I-1, Pipe Class G-1 8'-7"x5'-1" Lin.Ft.	I-2 Masonry Cu.Yd.	I-10 Dumped Rock Chan. Prot. Cu.Yd.	S-24 Removal of Exist. Struct.
2-C	1251		152	48.86	239	Lump
3-C		76		0.82		Lump
Total	1251	76	152	49.68	239	Lump

STRUCTURE 3-C

WORK REQUIRED 3-C

Remove existing 24" C.M.P. and install I-1, 24" Pipe, Class A-1 with Std. HW-E, End Walls.
Remove Existing Pipe Under Item 1-1
Std. Drwgs: I-1 , HW-E.

ESTIMATED QUANTITIES 3-C

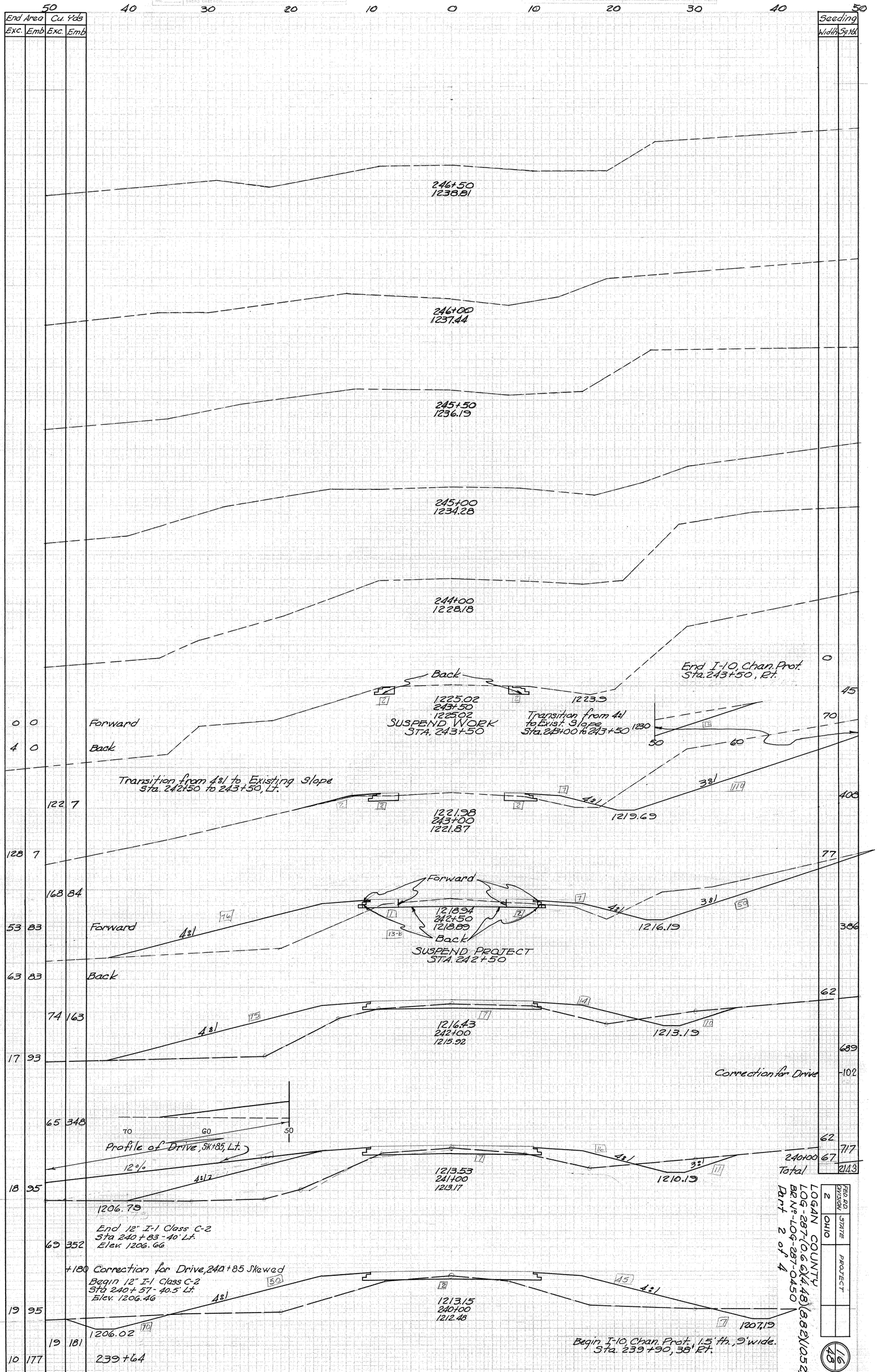
I-2, Masonry	0.82 Cu. Yd.
I-1, 24" Pipe Class A-1	76.0 Lin. Ft.

End Area Exc.	End Area Emb	Cu. Yds. Exc.	Cu. Yds. Emb		Seeding Width	Seeding Sq. Yd.
				240+00	67	
				Sta. 239+69, 43' Lt. End I-10, Channel Protection		278
10	177			STRUCTURE 3-C 4:1 4:1 12.13.14 239+64 1211.47 -24" @ -1.65% Exist. 24" C.M.P. (To be removed) 239+63, 40.5' Lt. ℄ = 1205.75 239+63, 35.5' Rt. ℄ = 1207.00	72	
	40	334		Sta. 239+59, 43' Lt. Begin I-10, Channel Protection, 1.5' thick., 9' Wide.		512
24	105			4:1 12.13.12 239+00 1211.47 1205.69 1207.77	72	
	191	269		End Guard Rail +46.46, 16' Lt. Transition from 2:1 to 4:1 Slope Sta. 238+00 to 239+00 Sta. 238+46.46 to 238+66.46, Lt. Transition from 8' to 6' Berm.		776
79	40			2:1 4:1 12.13.09 238+00 1212.32 1205.59 1209.0	67	
	53	115		Sta. 237+99, Lt. End I-10, Chan. Prot. Sta. 237+94, Lt. Begin I-10, Chan. Prot., 2.5' th, 9' wide. End Guard Rail 237+70.54, 16 Rt. Sta. 237+70.54 to 237+90.54, Rt. Transition from 8' to 6' Berm.		198
	-13	+1		Correction for Structure		
15	167			12.13.08 237+70 1212.86 1207.85	52	
	35	107		℄ = 1203.95 30.7' Lt. Sta. 237+56, Lt. End I-10, Chan. Prot. Sta. 237+52, Lt. Begin I-10, Chan. Prot. 2.5' th, 9' wide. Transition from 2:1 to 4:1 Slope Sta. 237+50 to 238+00, Lt. Sta. 237+43, Rt. End I-10, Chan. Prot.		166
	-3	+21		Correction for Structure		
80	121			2:1 2:1 12.13.07 237+50 1213.14 1208.9 1210.0 1208.75 1207.75	97 60	
		-24		Correction for Structure Transition from 4:1 to 2:1 Slope Sta. 237+00 to 237+50		
				℄ = 1203.95 30.7' Lt. End of Headwall +50.11, 30.7' Lt. BP. № LOG-287-0450 See Sheet № 34 Begin Guard Rail +21.46, 16' Lt. Sta. 237+01.46 to 237+21.46, Lt. Transition from 6' to 8' Berm. Sta. 237+39 Rt. Begin I-10, Chan. Prot., 2.5' th, 9' wide. Sta. 237+04, Rt. End I-10, Chan. Prot.		400
	140	147				
71	38			4:1 12.13.06 237+00 1212.71 1208.5 1210.3 Included Channel Excavation	47	
	103	+10 53		Correction for Change in Section		283
		+104		Correction for Channel Change		
40	19			Forward 4:1 12.13.05 236+50 1212.76 Back Forward Back 1208.75 1209.75 RESUME PROJECT Sta. 236+50	55	
33	19			Back		
	67	26		Transition from Existing to 4:1 slope Sta. 235+50 to 236+50 Sta 236+25.54 to 236+45.54, Rt. Transition from 6' to 8' Berm. Begin Guard Rail +45.54, 16' Rt. Transition from 4:1 to 2:1 slope Sta. 236+00 to 237+00		305
50	9			4:1 3:1 12.13.04 236+00 1212.87 1209.0 1210.0	55	
	54	9		Transition from existing to 4:1 slope Sta 235+50 to 236+00		153
4	0			Forward	0	0
0	0			Back 1211.60 Back Forward 12.13.19 235+50 12.13.19 RESUME WORK 235+50 12.12.10		
				235+00 12.13.52		
				234+00 12.13.87		
				233+00 12.13.28		
				232+00 12.12.19		
				Total		3067

CROSS-SECTIONS STA 232+00 to 239+63

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	LOGAN COUNTY LOG-287-(0.66)(4.48)(8.82)(10.52) BRN№-LOG-287-0450 Part 2 of 4

15
48



FED. RD. DIVISION: 2
STATE: OHIO
PROJECT:

LOGAN COUNTY
LOG-287-(06.64)48(8.82)(1052)
BR.NO.-LOG-287-0450
Part 2 of 4

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48

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

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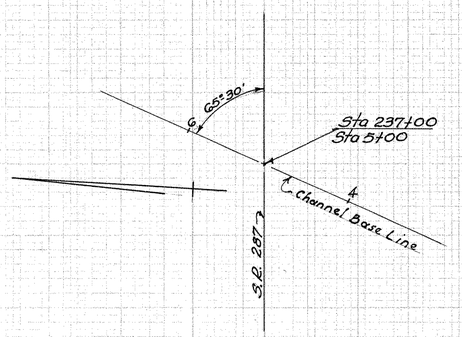
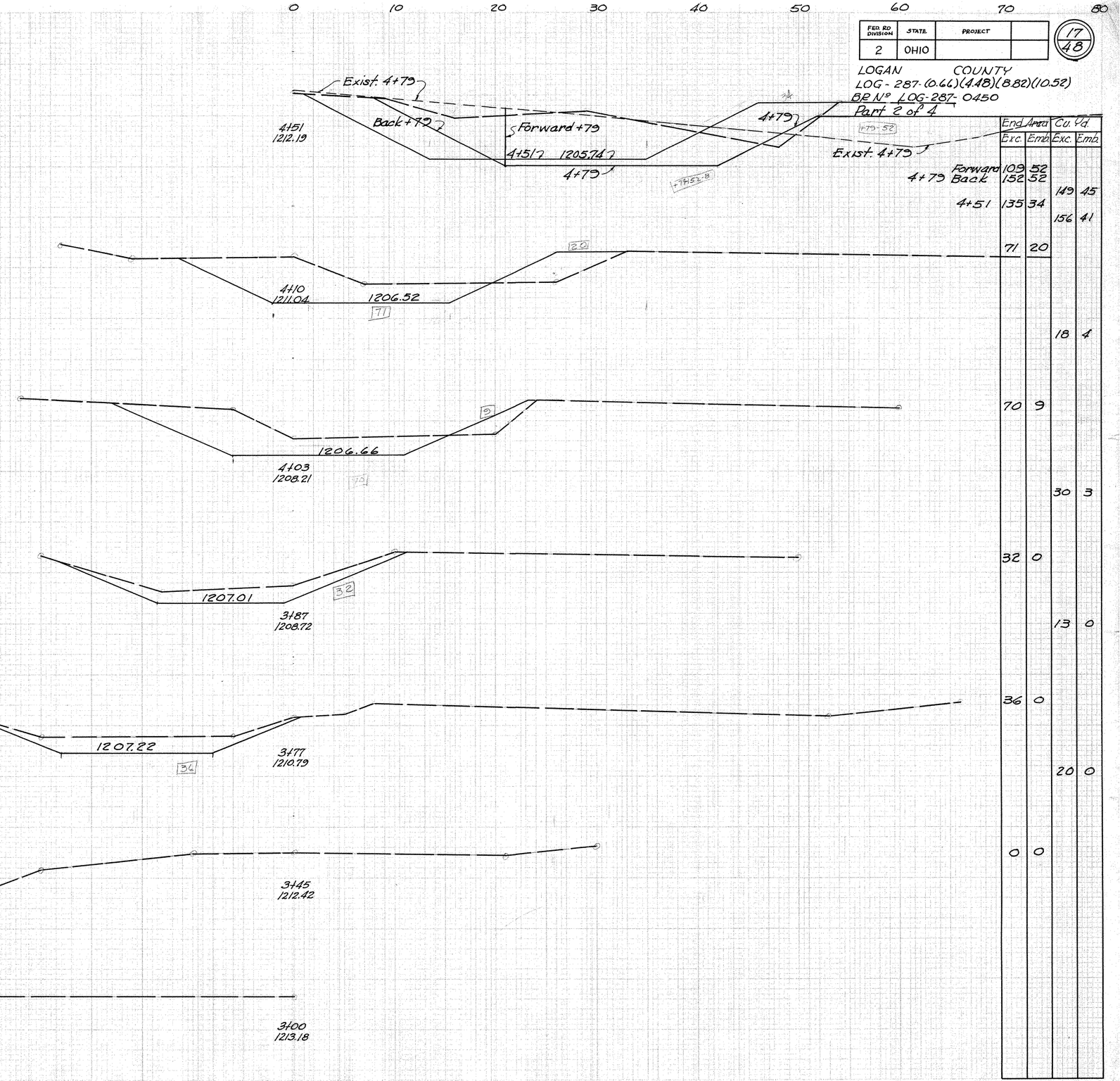
48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BRN° LOG-287-0450
Part 2 of 4

Seeding Width	Sq. Yd.	
12		4+79 Forward
27		4+79 Back
	100	
37		4+51
	139	
24		4+10
	19	
25		4+03
	44	
25		3+87
	26	
22		3+77
	39	
0		
	367	Total





	End Area		Cu. Yd.	
	Exc.	Emb.	Exc.	Emb.
Forward	109	52		
4+79 Back	152	52		
			149	45
4+51	135	34		
			156	41
	71	20		
			18	4
	70	9		
			30	3
	32	0		
			13	0
	36	0		
			20	0
	0	0		

0 10 20 30 40 50 60 70 80

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

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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LOGAN COUNTY
LOG- 287-(0.66)(4.48)(8.82)(10.52)
BR N° LOG-287-0450
Part 2 of 4

Seeding Width	Seeding Sq.Yd.		
	0		
	150		
	27		
	292		
	25	6+00	
	22	Forward	5+63
	15	Back	
	97		
	19		
	16	Forward	5+52
	0	Back	
	0		
	0	Forward	4+30
	10	Back	
	13		
	12	4+79 Forward	
	571	Total	

8+00
1205.06

7+00
1206.19

1203.34

Exist. 5+63

6+00
1208.27

5+63

6+00

5+63 Forward Back

106 116

6+00

1209.3

Exist 5+52

5+52 Forward

5+00
1212.14

Exist. 4+90

4+90 Back

		End Area Exc.	End Area Emb	Cu. Yds. Exc.	Cu. Yds. Emb
		0	0		
				181	0
		98	0		
				450	0
6+00		145	0		
5+63	Forward	116	0	180	0
	Back	106	0		
				29	0
5+52	Forward	37	0		
	Back	0	0		
				0	0
4+30	Forward	0	0		
	Back	12	0		
				25	11
4+79	Forward	109	52		
Total E-3				125	

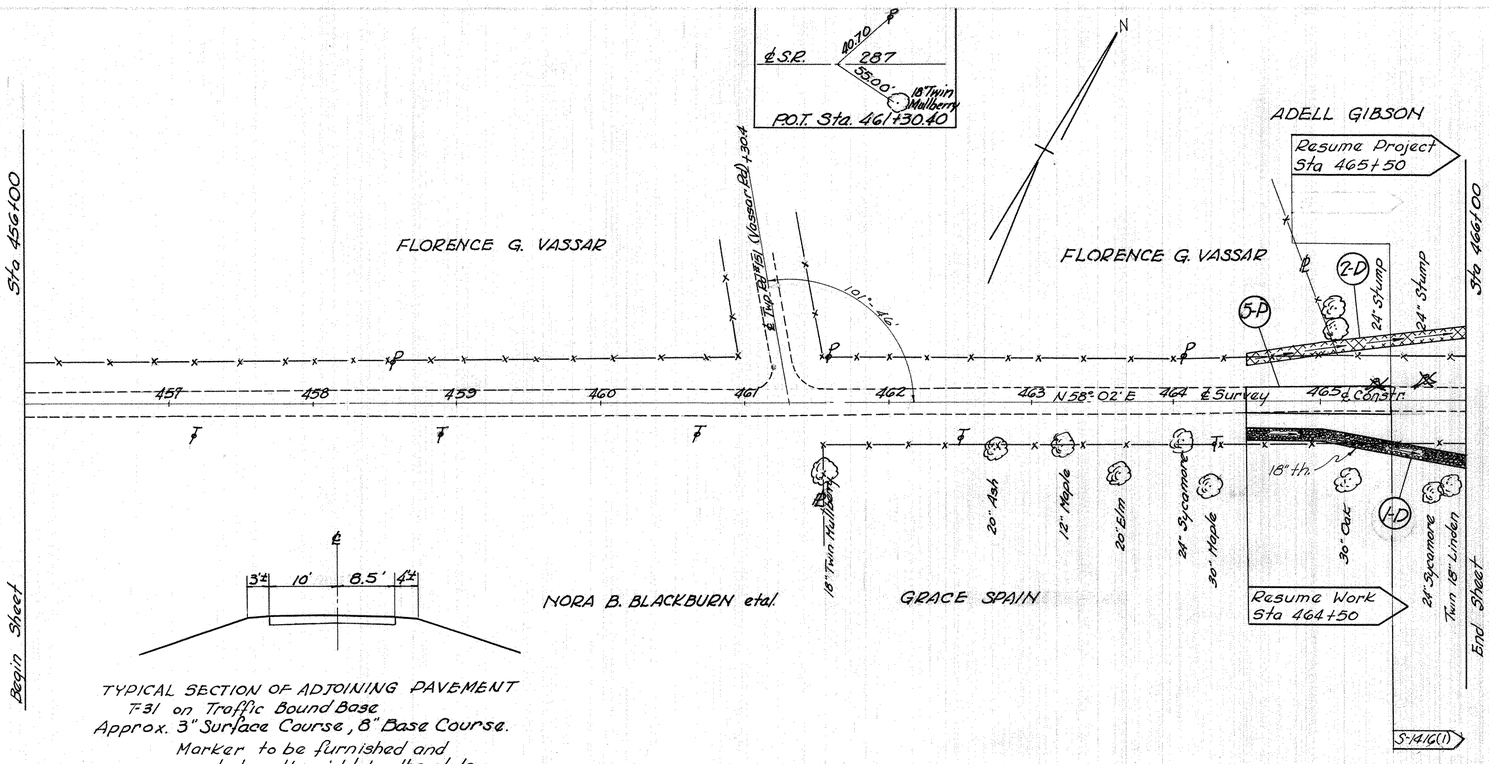
Considering 50% Suitable
Suitable Channel Exc. = 1251 x 0.50 = 625

0 10 20 30 40 50 60 70 80 90 100 110 120

FED RD DIVISION	STATE	PROJECT	
2	OHIO		

19/48

LOGAN COUNTY
LOG- 287-(0.66)(4.48)(8.82)(10.52)
BR Nº LOG-287-0886
Part 3 of 4



TYPICAL SECTION OF ADJOINING PAVEMENT
F-31 on Traffic Bound Base
Approx. 3" Surface Course, 8" Base Course.
Marker to be furnished and erected on the right by the state before acceptance of this project.

Electric ~ Pioneer Rural Electric Coop Inc. Piqua, Ohio.
Telephone ~ United Telephone Co., Bellefontaine, Ohio.

SIDE APPROACHES "A"

Item Nº	Station	Side	T-35 2" Asph. Con. Surf. Course (85-100) Cu. Yd.	I-18 Stab. Cr. Aggr. Cu. Yd. 5"	Length	Remarks
I-A	466+28	Rt.	4.43	14.63	45'*	Res. Drive
Total			4.43	14.63		

*T-35 = 26', I-18 = 45'.

EARTHWORK

Sheet Nº	Station From	Station To	E-1 Roadway Excavation Cu. Yd. Exc.	Emb.	Emb+20%
22	464+50	467+397	110	1520	1824
22+23	468+063	470+00	108	1440	1728
23	470+00	472+00	504	382	458
Total			722	3342	4010

ROADWAY DRAINAGE "D"

Item Nº	Station From	Station To	Side	I-1 Pipe, Lin. Ft. Class F-2 18"	I-10 Dumped Rock Channel Protection Cu. Yd.	L-10 Sodding Sq. Yd.
1-D	464+50	466+12	Rt.		81	
2-D	464+50	466+10	Lt.			160
3-D	466+12	466+50	Rt.	38'		
4-D	466+50	466+60	Rt.		5	
5-D	467+10	467+48	Lt.		32	
6-D	467+57	467+70	Rt.		11	
7-D	467+77	467+95	Lt.		15	
8-D	468+00	468+15	Rt.		13	
9-D	469+00	470+90	Lt.			190
10-D	469+90	472+00	Rt.		105	
11-D	470+90	472+00	Lt.		55	200*
Total				38'	317	550

*To be used as directed by the Engineer.

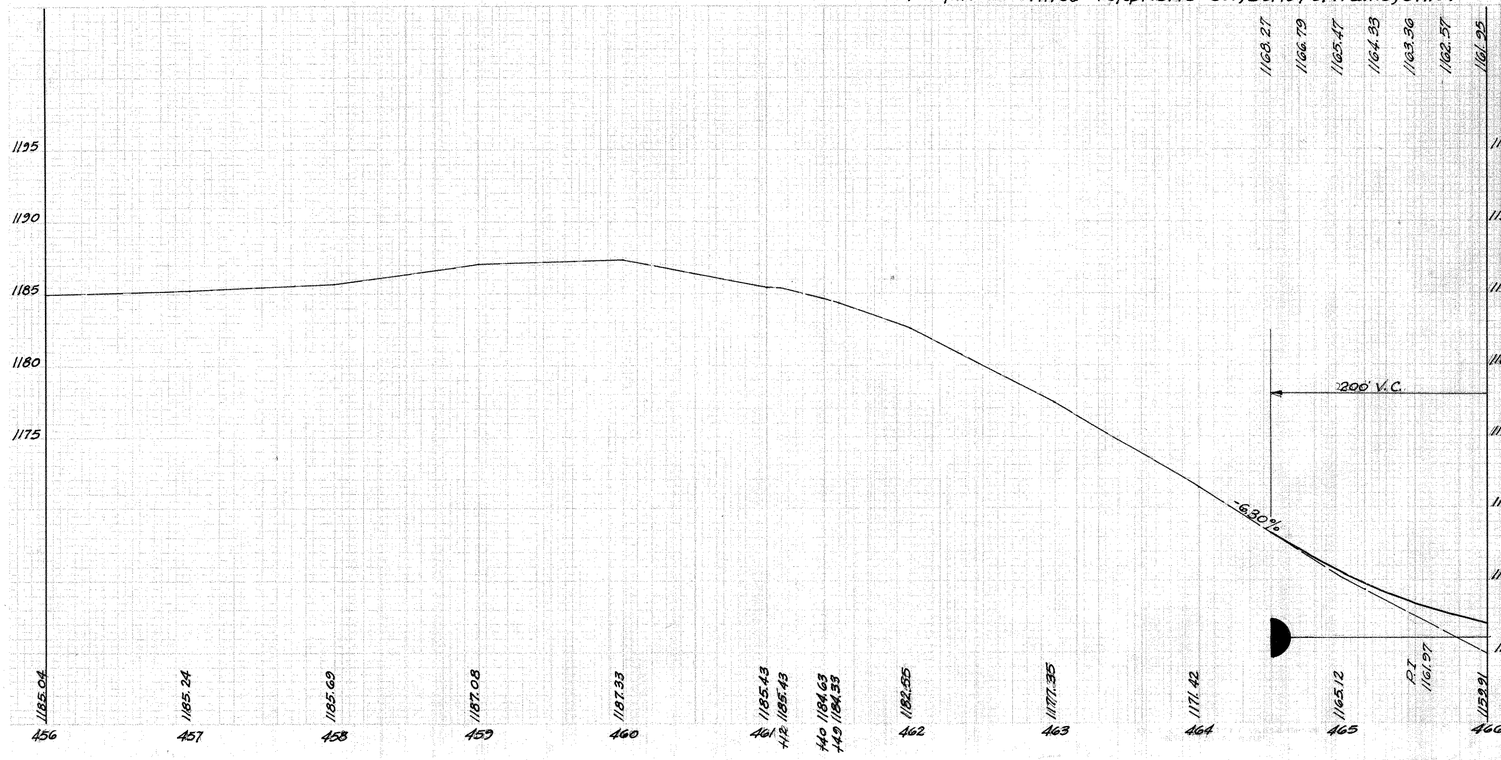
GUARD RAIL "G"

Item Nº	Station From	Station To	Side	I-15 Steel Beam Type Deep Lin. Ft.
1-G	466+91.41	467+45.52	Rt.	54.11
2-G	467+04.59	467+33.88	Lt.	29.29
3-G	468+00.48	468+54.59	Lt.	54.11
4-G	468+12.12	468+53.91	Rt.	41.79
Total				179.30

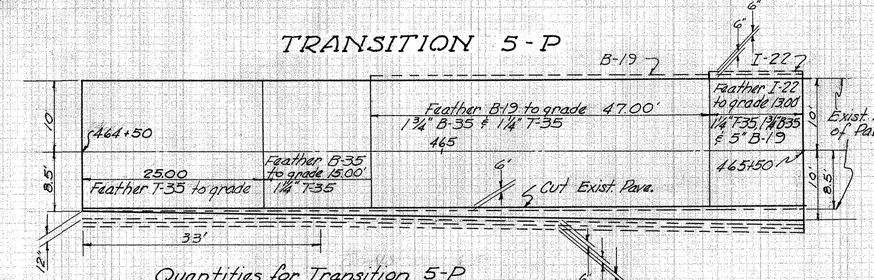
SEEDING

Sheet Nº	Station From	Station To	L-9 Seeding and Protecting Sq. Yd.
22	464+50	469+00	2493
23	469+00	472+00	2028
24 (Chan)	1+00	4+00	464
I-10, Slope Prot.			-112
I-10, Chan. Prot.			-476
L-10, Sodding			-550
Total			3847

Borrow:
Exc. from Chan. 245 Cu. Yd.
Exc. from Rdwy. 722 Cu. Yd.
Total 967 Cu. Yd.
Borrow = (Emb+20%) - Exc.
= 4010 - 967
Borrow = 3043 Cu. Yd.



TRANSITION 5-P



Quantities for Transition 5-P

Item T-35 Asphaltic Concrete Surface Course Type "C" (85-100)	6.56 Cu. Yd.
Item B-35 Asphaltic Concrete Leveling Course (85-100)	7.82 Cu. Yd.
Item T-30 Bituminous Prime Coat (0.40 gal. per sq. yd.)	56.16 Gal.
Item T-30 Bituminous Tack Coat (@ 0.10 gal. per Sq. yd.)	0.00 Gal.
Item B-19 Aggregate Base Course	14.02 Cu. Yd.
Item I-22 Subbase	4.29 Cu. Yd.

Sta 456+00 to Sta 466+00

FED RD DIVISION	STATE	PROJECT		
2	OHIO			

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48

LOGAN COUNTY
LOG- 287-(0.66)(448)(8.82)(10.52)
BR Nº LOG-287-0886
Part 3 of 4

EXISTING STRUCTURE
TYPE: Low Truss on Conc & Stone Substr.
SPAN: 27'-9" clear
ROADWAY: 15'4" strip floor with Bit. Surf.
SKEW: None
LOADING: S-4.1 Load Reduction 50'
SUFFICIENCY: 49
Condition: Fair to be removed

℄ SR 287
℄ SR 40 35.00
P.I.~ Sta 474+43.80
Δ = 12° 36' Lt.

P.I.~ Sta 474+43.80
Δ = 12°-36' Lt.
D = 6° 00'
T = 105.42
R = 954.93
L = 210.00
E = 5.80'

P.C.~ Sta 473+38.38
P.T.~ Sta 475+48.38
Sta 466+00
Sta 476+00
N45°-26'E

S-1416(1)
ADELL GIBSON
DARBY CREEK
LITTLE
GRACE SPAIN
ROBERT A. DIXON et ux
Begin Sheet
End Sheet
Constr. ℄
469 ℄ Survey
N 58°-02' E
Suspend Project Sta 471+00
Suspend Work Sta 472+00
Q = 8 c.f.s.
Area = 2.5 Acres
12" Stump
30" Sycamore
30" Stump
15" Sycamore
12" Sycamore
12" ℄ Gravel Dr.
℄ Elw Mon.
18" th.
30" th.

Marker to be furnished and erected on the left by the state before acceptance of this project.

PROPOSED STRUCTURE
TYPE: Continuous Reinf. Concrete Slab with Capped Pile Substructure with Highway Guard Rail
SPANS: 20'-25'-20' ℄ brgs.
ROADWAY: 32' f/f guard rail
SKEW: 20° R.F.
LOADING: CF-130(57)
WEARING SURFACE: ¾" Monolithic Conc.
APPROACH SLABS: AS-1-54 (25 Long)
ALIGNMENT: Tangent

Bench Mark~ Nail in Base 24" Sycamore
Sta 467+80 - 125' Rt.
ELEVATION = 1153.32

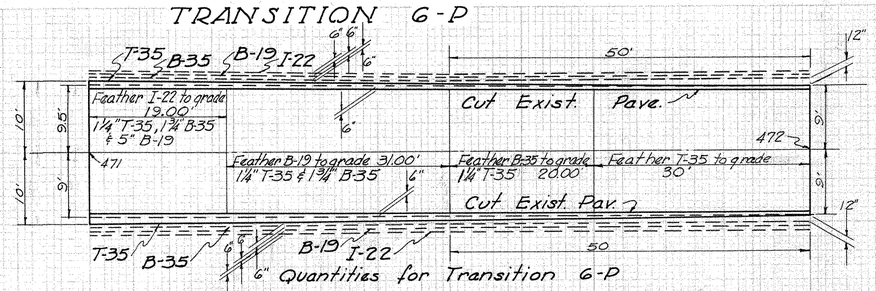
TYPICAL SECTION OF ADJOINING PAVEMENT
T-31 on Traffic Bound Base
Approx. 3" Surface Course, 8" Base Course

1161.25 1161.50 1161.23 1160.86 1160.12 1153.37 1159.25 1159.25 1159.39 1159.63 1160.02 1160.52 1161.15 1161.90 1162.79 1163.79 1164.92 1166.18

Bridge Limits 66.60
200' V.C.
300' V.C.
Sta 467+39.70
Sta 468+06.30
-0.742%
+5.26%
Bench Elev = 1157.05
Bench Elev = 1156.56
Elev 1158.21 (1950)
Normal Water Elev = 1151.15
Excavate thru structure to Elev 1150.00
P.T. 1158.26
EXC 110 Cu.Yd.
EMB 1520 Cu.Yd.
EMB+20% 1824 Cu.Yd.
EXC. 108 Cu.Yd.
EMB. 1440 Cu.Yd.
EMB+20% 1728 Cu.Yd.
EXC 504 Cu.Yd.
EMB 382 Cu.Yd.
EMB+20% 458 Cu.Yd.

1153.91 1157.16 1157.01 1156.86 1156.86 1156.86 1156.06 1157.51 1160.90 1166.18 1171.22 1175.62 1175.92 1171.32
466 467 467.8 468 469 470 471 472 473 474 475 476

TRANSITION 6-P



6" Quantities for Transition 6-P

Item	T-35	Asphaltic Concrete Surface Course Type "C" (B5-100)	5.66 Cu.Yd.
Item	B-35	Asphaltic Concrete Leveling Course (85-100)	7.17 Cu.Yd.
Item	T-30	Bituminous Prime Coat (0.40 gal. per sq. yd.)	51.39 Gal.
Item	T-30	Bituminous Tack Coat (0.10 gal. per sq. yd.)	9.51 Gal.
Item	B-19	Aggregate Base Course	15.44 Cu.Yd.
Item	I-22	Subbase	8.22 Cu.Yd.

ESTIMATED QUANTITIES FOR APPROACH SLABS

Item	I-7	Reinforced Concrete Approach Slabs	111.11 Sq.Yd.
Item	I-22	Subbase	12.97 Cu.Yd.
Item	E-1	Compacted Subgrade	111. Sq.Yd.

Seeding	
Width Spkd.	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR.NO.-LOG-287-0886
Part 3 of 4

End Area	Cu. Yd.
Exc.	Emb.
Exc.	Emb.

464+00
1171.42

463+00
1177.35

462+00
1182.55

461+49
1124.53

461+40
1184.63

461+42
1185.43

461+00
1185.43

0.5%

460+00
1187.33

8.7

459+00
1187.08

458+00
1185.69

457+00
1185.24

456+00
1185.04

CROSS-SECTIONS STA 456+00 to 464+00

ORIGINAL SURVEY — SURVEYED / TEMPLATE / NOTE BOOK / AREAS COMPUTED — BY / DATE

FINAL SURVEY — SURVEYED / PLOTTED / TEMPLATE / NOTE BOOK / AREAS COMPUTED — BY / DATE

50 40 30 20 10 ℄ 10 20 30 40 50

End Area Exc.	End Area Emb.	Cu Yd. Exc.	Cu Yd. Emb.		Seeding Width	Seeding Sq. Yd.
12	193			469+00		
					469+00	77
				Sta. 468+54.59 to 468+74.59, Lt. Transition from 8' to 6' Berm.		
				End Guard Rail, Lt. Sta. 468+54.59		
				Sta. 468+53.91 to 468+73.91, Rt., Transition from 8' to 6' Berm.		
				End Guard Rail, 16' Rt. Sta. 468+53.91		
		33	496	Forward 197 / Back 188		500
14	197			Forward		69
				1159.89 468+31.30 1156.33 End Approach Slab		
				1152.1 [2]	1152.2 [12]	
14	188			Back		
				Sta. 468+06.30 to 469+00 Both Sides, Transition from 2:1 to 4:1 Slope.		
						182
		13	185	211		
				End I-10, Chan. Prot., 9' wide, Rt. Sta. 468+15		
14	211			2:1		62
				1160.07 468+06.30 1156.73 Begin Approach Slab		
				1151.9 [11]	1152.1 [13]	
		+4	142	Correction for Structure		
				End I-10, Chan. Prot. Sta. 467+35, Lt.		
				BR. No.-LOG-287-0886		
				Begin I-10, Chan. Prot. 9' wide, 2.5' th. Sta. 468+00, Rt.		
				End I-10, Chan. Prot. Sta. 467+70		
				Begin I-10, Chan. Prot. 9' wide, 2.5' th. Sta. 467+77		
				174		
				End I-10, Chan. Prot. Sta. 467+48, Lt.		
				Begin I-10, Chan. Prot. 9' wide, 2.5' th. Sta. 467+57, Rt.		
13	174			2:1		62
				1160.56 467+39.70 1157.13 End Approach Slab		
				1152.3 [9]	1152.30 [5]	
				Begin I-10, Chan. Prot., 2.5' th., 9' wide Sta. 467+16		
		11	182	227 / Back / Forward 218		188
10	218			Forward		73
				1160.75 467+14.70 1157.15 Begin Approach Slab		
				1152.43 [3]	1152.43 [7]	
10	227			Back		
				Begin Guard Rail, 16' Lt. Sta. 467+04.59		
				Sta. 466+84.59 to 467+04.59, Lt. Transition from 6' to 8' Berm.		
						119
		5	133	251		
				1160.86 467+00 1157.16		73
7	251			[3]	[4] 1152.5	
				Sta. 466+50 to 467+39.70 Both Sides, Transition from 4:1 to 2:1 Slope.		
				Begin Guard Rail, 16' Rt. Sta. 466+91.41,		
				Sta. 466+71.41 to 466+91.41, Rt. Transition from 6' to 8' Berm.		
				End 18" I-1 pipe Class F-2 Sta. 466+50 -49.5' Rt. Elev. = 1152.75		
						861
		+89		Correction for Drive +28		-105
				Correction for Drive		
				1161.47 466+28 1158.84		
		39	757	[8]		
				Begin 18" I-1 pipe, Class F-2, Sta. 466+12 -43' Rt. Elev. 1154.44		
				End L-10, Sodding, Sta. 466+10, Lt.		
					466+00	82 7117
					465+00	47
					464+50	0 31
					Total	2493
				158		
				End I-10 Chan. Prot. Sta. 466+12		
				4:1 4:1		
				1161.95 466+00 1159.91		
14	158			[10] 1154.5		
				[4] 1153.5		
				Resume Project Sta. 465+50		
		-1	+13	Correction for Change in Section.		
		44	328			
				12 [7] [2]		
				1165.47 465+00 1165.12		
10	19			1163.0		
				Begin I-10, Chan. Prot., 9' wide, 15' th. Sta. 464+50.		
		12	18	1159.5 [8]		
				Sta. 464+50, Lt. Begin L-10, Sodding, 9' wide.		
3				Forward		
0	0			Back 464+50		
				Resume Work Sta. 464+50		

50 40 30 20 10 ℄ 10 20 30 40 50

CROSS-SECTIONS STA 465+00 to 469+93

LOGAN COUNTY
LOG-287-(0614.48)8.82(0052)
BRN-LOG-287-0886
Part 3 of 4

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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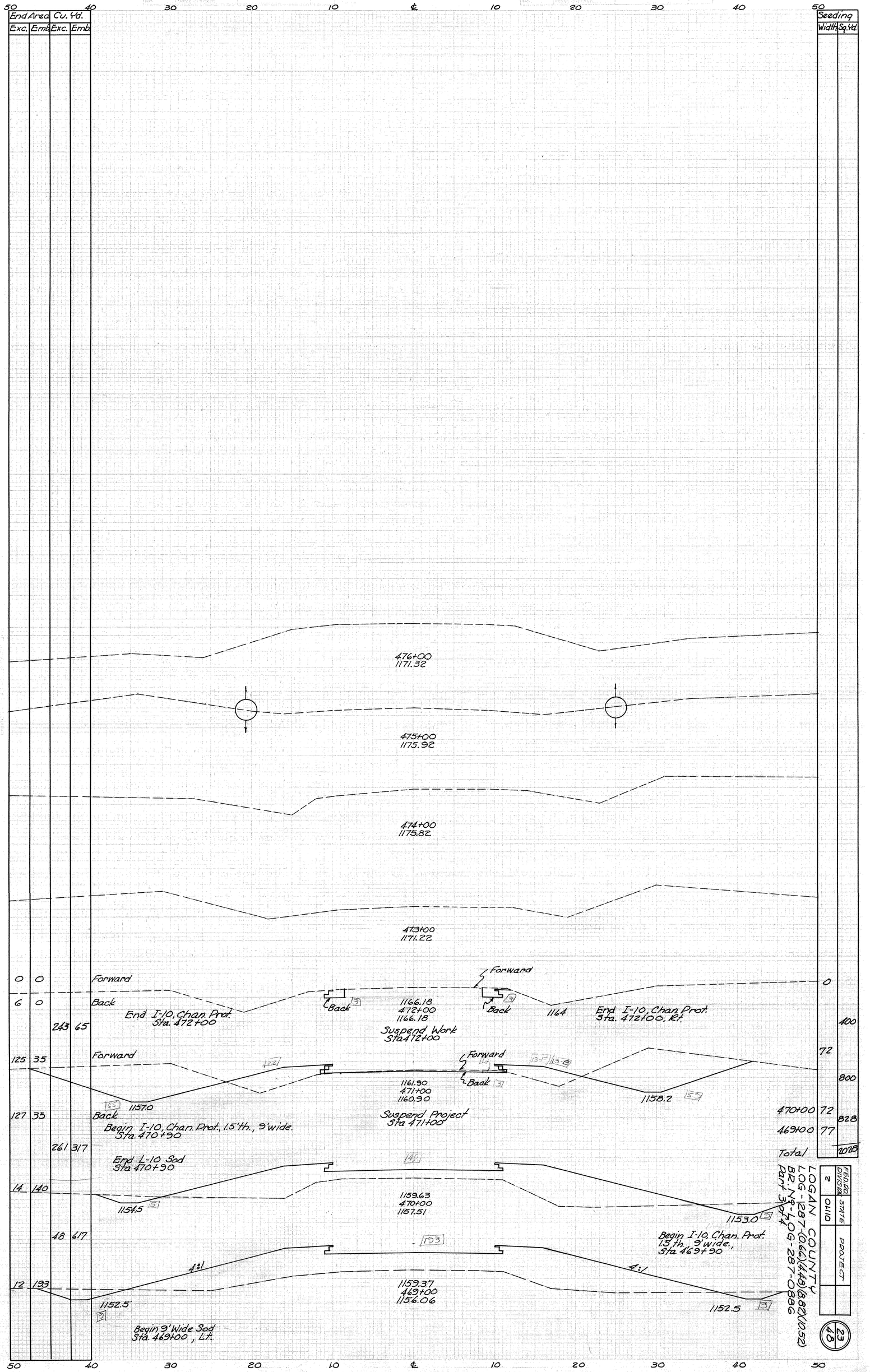
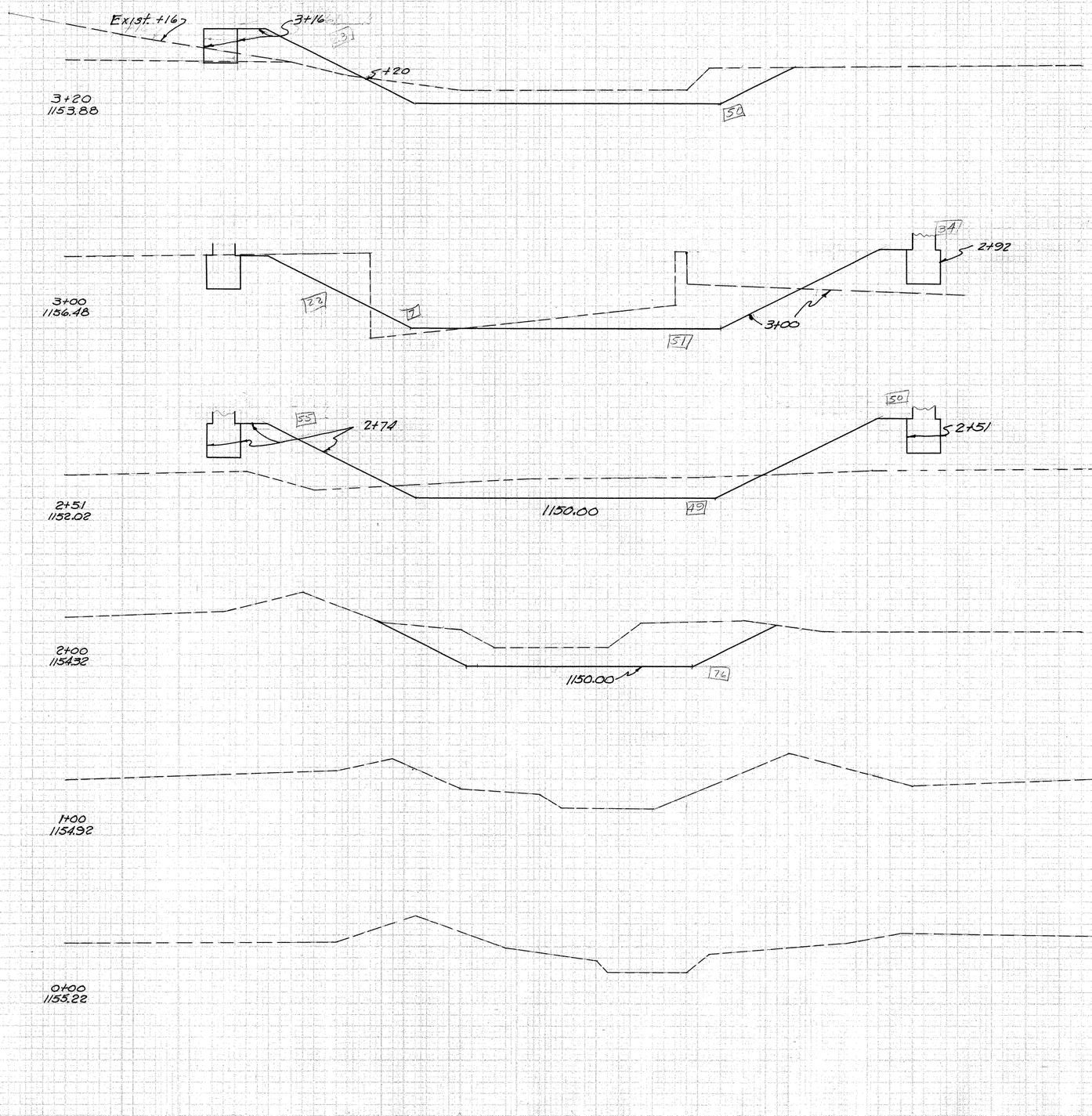

50 40 30 20 10 ℄ 10 20 30 40 50
End Area
Exc. Emb.
Cu. Yd.
Exc. Emb.
Seeding
Width Sq. Yd.
476+00
1171.32
475+00
1175.92
474+00
1175.82
473+00
1171.22
0 0 Forward
6 0 Back
End I-10, Chan. Prot.
Sta. 472+00
243 65
Back
Forward
1166.18
472+00
1166.18
Suspend Work
Sta 472+00
Back
Forward
1164
End I-10, Chan. Prot.
Sta. 472+00, Rt.
0
400
125 35 Forward
1157.0
Back
Begin I-10, Chan. Prot., 1.5'th., 9' wide.
Sta. 470+90
127 35
261 317
End L-10 Sod
Sta 470+90
1161.90
471+00
1160.90
Suspend Project
Sta 471+00
Forward
Back
1158.2
72
800
470+00 72 828
469+00 77
Total 1028
14 140
1154.5
1159.63
470+00
1157.51
1153.0
Begin I-10, Chan. Prot.
1.5 th., 9' wide.,
Sta 469+90
48 617
193
4:1
4:1
12 193
1152.5'
1159.37
469+00
1156.06
1152.5
Begin 9' Wide Sod
Sta. 469+00, Lt.
CROSS-SECTIONS STA. 469+00 to 476+00
LOGAN COUNTY
LOG-287-(0.66)(48.82)(0.52)
BR-NS-LOG-287-0886
Part 3 of 4
FED. ROAD DIV. NO. 2
STATE OHIO
PROJECT
23
48

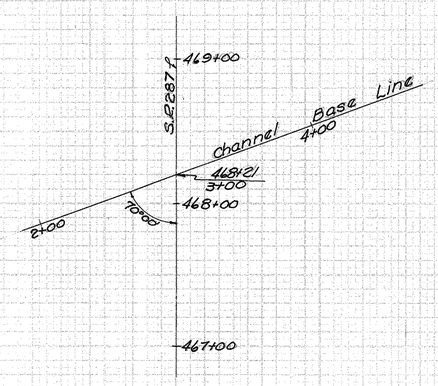
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

24
48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(882)(10.52)
BR. No.- LOG-287-0886
Part 3 of 4

Seeding Width	Sq. Yd.	
0		4+00
	62	
14		3+20
	9	
25		3+16
	42	
22		3+00
	21	
26		2+92
	48	
22		2+74
	50	
17		2+51
	110	
22		2+00
	122	
0		1+00
	464	Total





	End Area Exc.	End Area Emb.	Cu. Yd. Exc.	Cu. Yd. Emb.
4+00	0	0		
			74	0
3+20	50	0		
			7	2
3+16	50	23		
			46	9
3+00	73	7		
			22	7
2+92	73	41		
			41	32
2+74	49	55		
			42	45
2+51	49	50		
			118	47
2+00	76	0		
			141	0
1+00	0	0		
			491	

Total E-3

Considering 50% Suitable
Suitable Channel Exc.= 491 x .50 = 245 Cu Yd.

CHANNEL SECTIONS STA 0+00 to 3+20

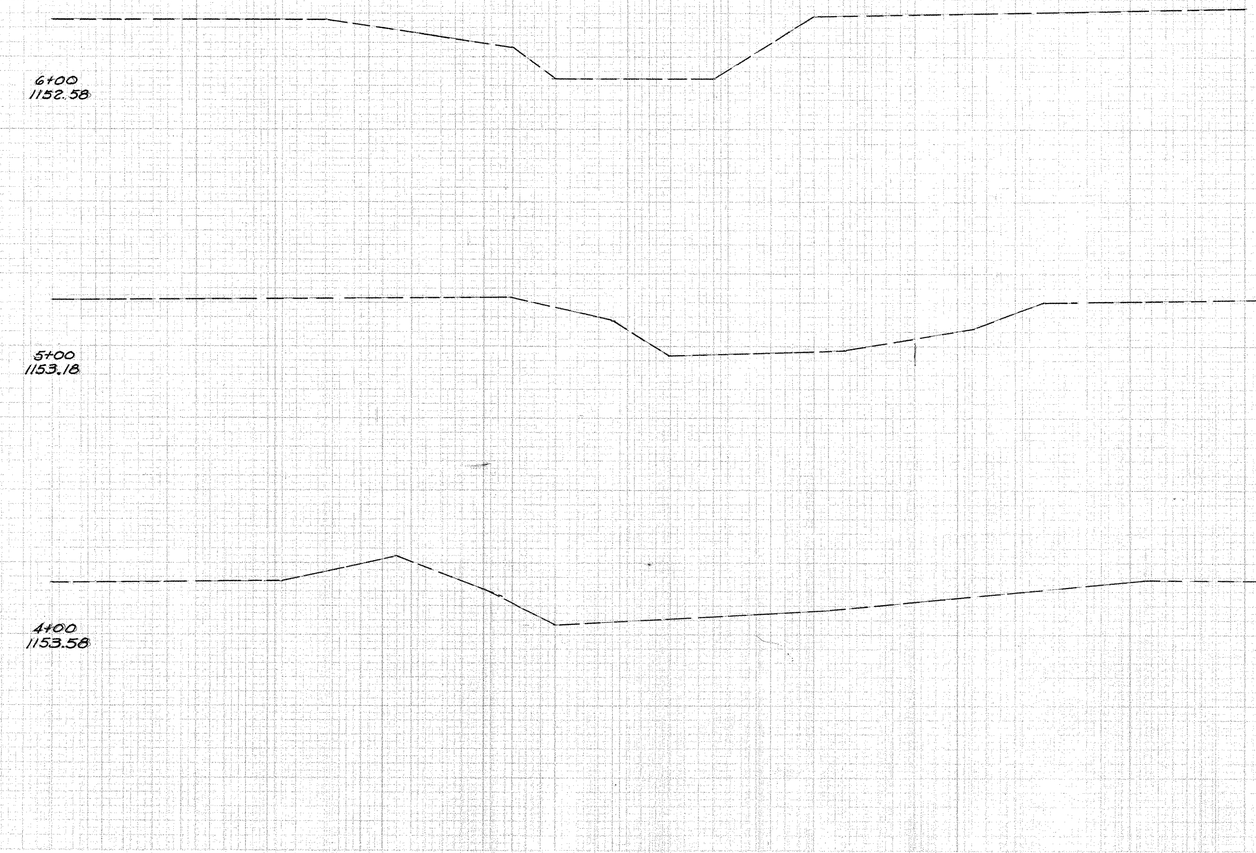
Seeding	
Width	Sq.Yd

FED. RD. DIVISION	STATE	PROJECT	
2	OH10		

25
48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR. No.-LOG-287-0886
Part 3 of 4

End Area		Cu. Yd.	
Exc.	Emb.	Exc.	Emb.



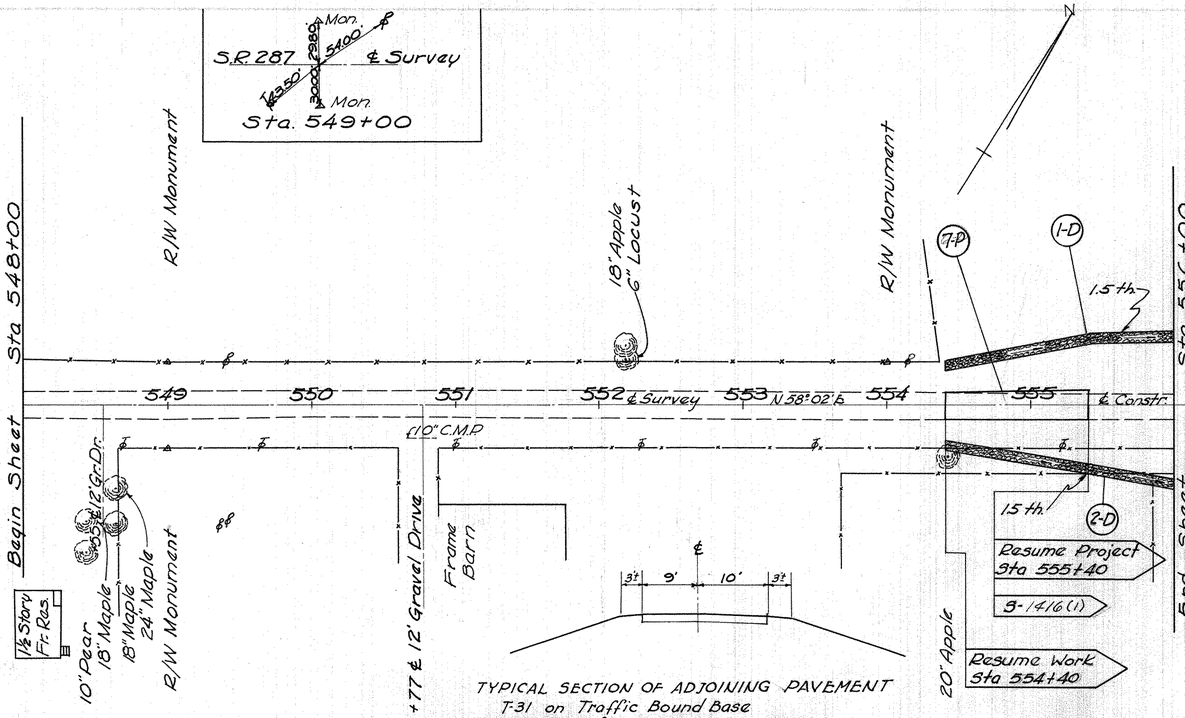
0 0

CHANNEL SECTIONS STA 4+00 & 6+00

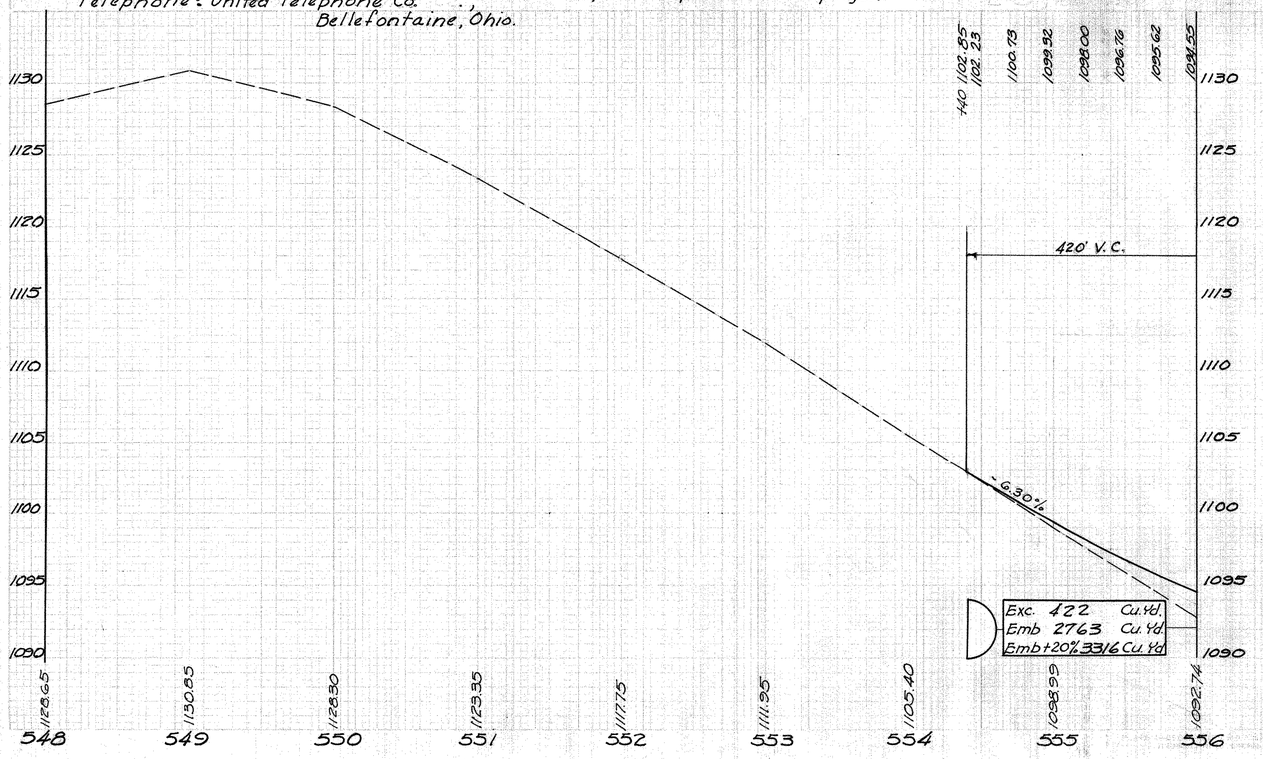
FED.RD. DIVISION	STATE	PROJECT	
2	OHIO		

26/48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR.No. LOG-287-1059
Part 4 of 4



Electric: Pioneer Rural Electric Co-op Inc., Piqua, Ohio
Telephone: United Telephone Co. ., Bellefontaine, Ohio.



ROADWAY DRAINAGE "D"

Item	Station From	Station To	Side	I-10 Chan. Prot. Cu. Yd.	L-10 Sodding Sq. Yd.	I-1 Pipe Class F-2 Lin. Ft. 6"
1-D	554+40	557+20	Lt.	140		
2-D	554+40	556+20	Rt.	90		
3-D	556+20	558+59.72	Rt.		240	
4-D	557+20	558+84.22	Lt.		164	
5-D	558+59.72	559+03	Rt.	38		
6-D	558+84.22	559+24	Lt.	35		
7-D	559+24	559+88.78	Rt.	55		
8-D	559+47	559+61	Lt.	13		
9-D	559+88.78	562+90	Rt.		301	
10-D	562+90	564+50	Rt.	80		
11-D	562+90	564+50	Lt.	80	200*	
12-D	558+87	559+23	Lt.			36
Totals				531	905	36

* To be used as directed by the Engineer (not a part of Item 11-D)

GUARD RAIL "G"

Item	Station From	Station To	Side	I-15 Steel Beam TYPE "DEEP" Lin. Ft.
1-G	558+25.96	558+79.93	Rt.	53.97
2-G	558+34.54	558+88.51	Lt.	53.97
3-G	559+59.49	560+00.96	Rt.	41.47
4-G	559+68.07	560+09.54	Lt.	41.47
Total				190.88

SEEDING

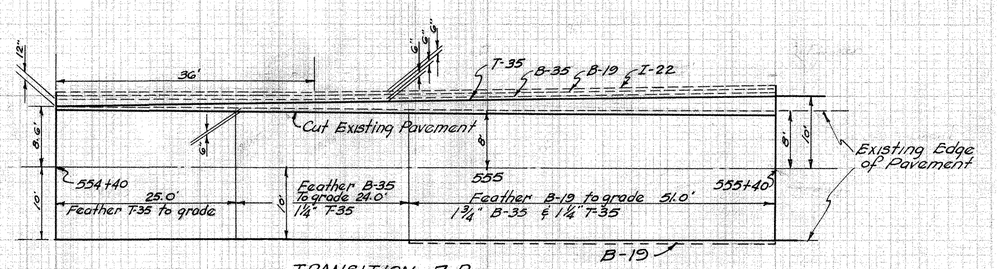
Sheet No.	Station From	Station To	L-9 Seeding and Protecting Sq. Yd.
28	554+40	558+59.72	3849
29	558+59.72	564+50	4169
31(Chan)	2+00	5+00	676
L-10	Sodding		-905
I-10,	Chan.	Prot.	-950
I-10,	Slope	Prot.	-212
Total			6627

EARTHWORK

Sheet No	Station From	Station To	E-1 Roadway Excavation Cu.Yd. Exc.	Emb	Emb+20%
28&29	554+40	558+84.22	422	2763	3316
29	559+43.78	564+50	460	1738	2086
Total			882	4501	5402

Borrow:
Exc. from Channel 291 Cu.Yds.
Exc. from Roadway 882 Cu.Yds.
Total 1173 Cu.Yds.

Borrow = (Emb+20%) - Exc.
= 5402 - 1173
Borrow = 4229 Cu.Yds.



TRANSITION 7-P

QUANTITIES FOR TRANSITION 7-P

Item T-35	Asphaltic Concrete Surface Course Type "C" (85-100)	6.57 Cu. Yd.
Item B-35	Asphaltic Concrete Leveling Course (85-100)	7.15 Cu. Yd.
Item T-30	Bituminous Prime Coat (0.40 gal. per sq. yd.)	49.54 Gal.
Item T-30	Bituminous Tack Coat (0.10 Gal. per sq. yd.)	9.80 Gal.
Item B-19	Aggregate Base Course	10.97 Cu. Yd.
Item I-22	Subbase	3.87 Cu. Yd.

Plan & Profile
Sta 548+00 to 556+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

27/48

LOGAN COUNTY
LOG-287-(066)(4.48)(8.82)(10.52)
BR. Nº-LOG-287-1059
Part 4 of 4

EXISTING STRUCTURE
TYPE: Low Truss on stone Substructure
SPAN: 45'-6" clear
ROADWAY: 15'-0"
SKEW: None
LOADING: S-8.9 No Reduction
SUFFICIENCY: 58
Condition: Fair

PROPOSED STRUCTURE
TYPE: Continuous Reinf. Concrete Slab with Capped Pile Substructure with Highway Guard Rail
SPANS: 24'-30'-24' % brgs.
ROADWAY: 32' f/f guard rail
SKEW: 15° L.F.
LOADING: CF-130 (57)
WEARING SURFACE: ¾ Monolithic Conc.
APPROACH SLABS: AS-1-54 (25' Long)
ALIGNMENT: Tangent

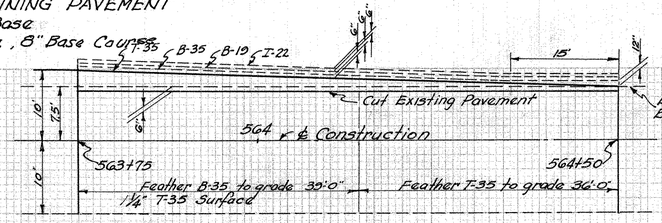
PAUL T. BLACKBURN

Benchmark - "X" cut & painted yellow on S.W. Wing of Bridge Elev. 1087.06

Sta 556+00
Begin Sheet
1.5' Th.
4" Fld. Tile
30" Th.
6" Locust E-1
10" Locust E-1
Locust Clump 4"&8" E-1
CREEK
BIG DARBY
MAUDE SHIRK
30" Stump
S-1416(1)
15" Ash
15" Walnut
15" Stump
Frame Garage
2 STORY FRAME
27" CATALPA
2" CHERRY E-1
12" CHERRY
22" CATALPA
3" CHERRY
14" APPLE
12" APPLE
8" OAK E-1
14" MAPLE
10" CEDAR
16" PEAR
6" Tile
±2.5% Gr.
J.C. MORRISON
18" Apple
R/W Monument
18" Apple
℄ Survey
P.I. - Sta 570+67.20
Δ = 33°-0' Rt
R 57.87
T 16.78
L 32.72
557 558 559 560 561 N 58°-02' E 562 563 ℄ Survey & Construction 564 565 566 567 568 569
18" C.M.P
+40 ℄ Fld. Drive
End Work Sta 564+50
End Project Sta 563+75
Marker to be furnished and erected on the left by the state before acceptance of this project.
P.C. 569+82.34
P.I. 570+67.20
P.T. 571+47.34
Δ = 33°00'
T = 84.86'
R = 286.48'
L = 165.00'
D = 20°00'
R/W Monument

Excavation = 460 Cu Yds
Emb = 1738 Cu Yds
Emb + 20% = 2086 Cu Yds

TYPICAL SECTION OF ADJOINING PAVEMENT
T-31 on Traffic Bound Base
Approx. 3" Surface Course, 8" Base Course



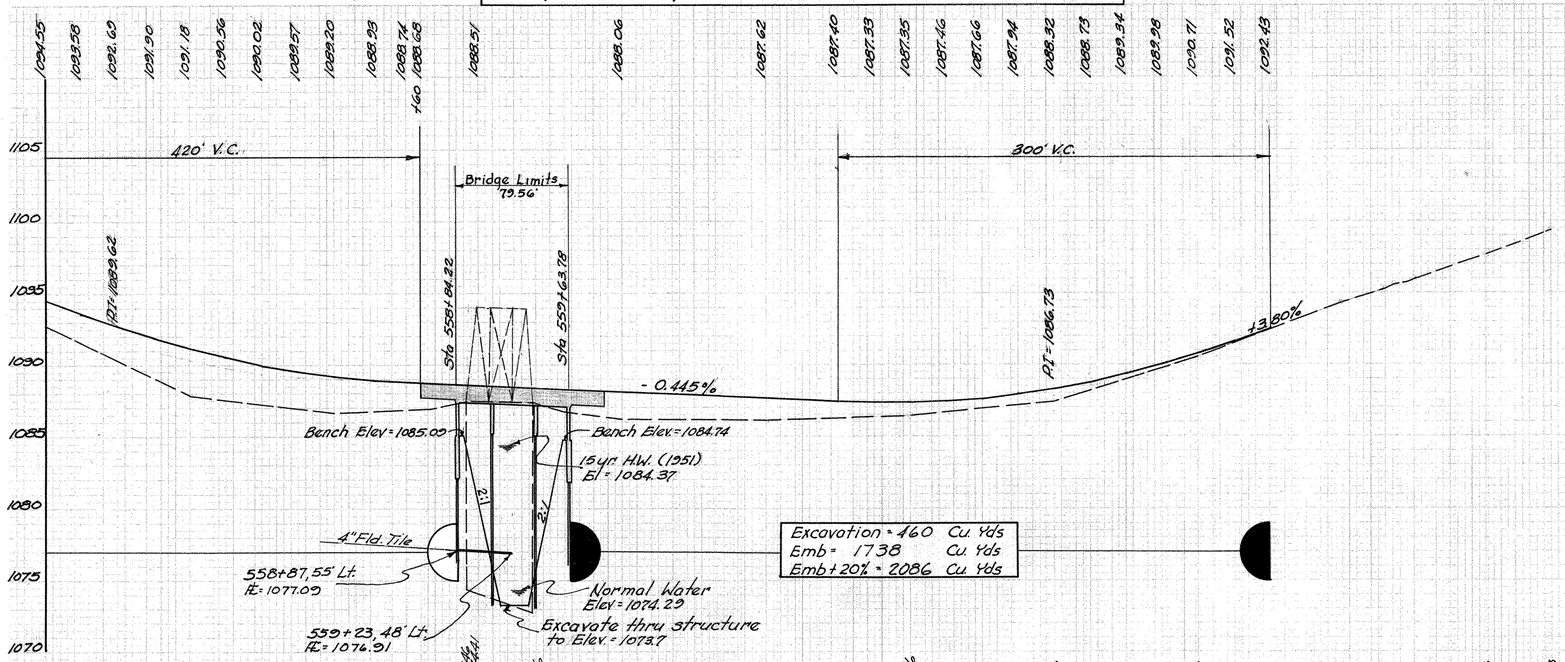
TRANSITION Nº 8-P

ESTIMATED QUANTITIES FOR TRANSITION 8-P

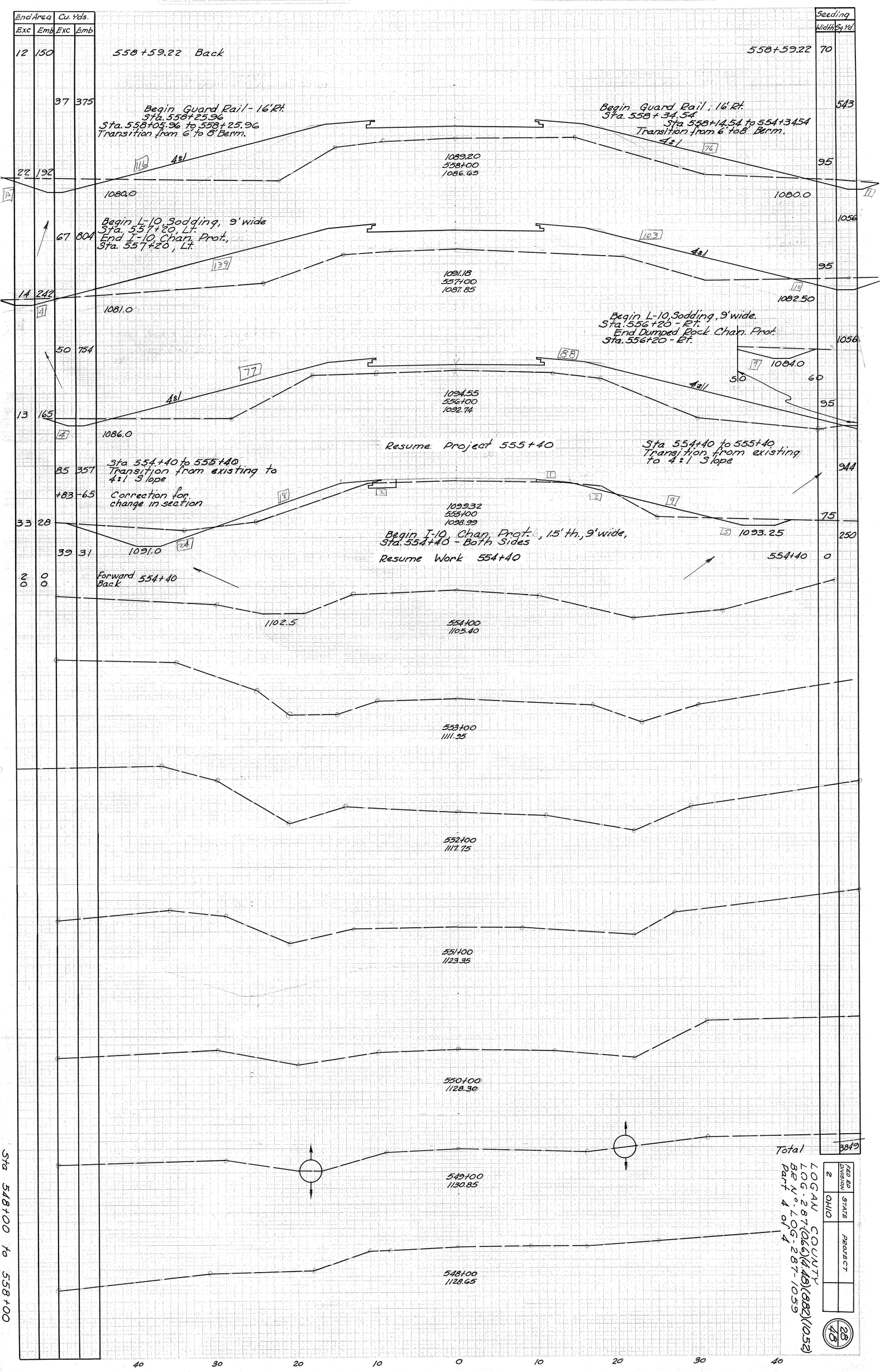
Item	T-35	Asphaltic Concrete Surface Course Type "C" (85-100)	4.32 Cu Yd
Item	B-35	Asphaltic Concrete Leveling Course (85-100)	2.72 Cu Yd
Item	T-30	Bituminous Prime Coat (0.40 gal per sq yd)	8.18 gal
Item	B-19	Aggregate Base Course	3.24 Cu Yd
Item	I-22	Subbase	3.06 Cu Yd
Item	T-30	Bituminous Tack Coat @ 0.10 Gal per Sq Yd	14.51 gal

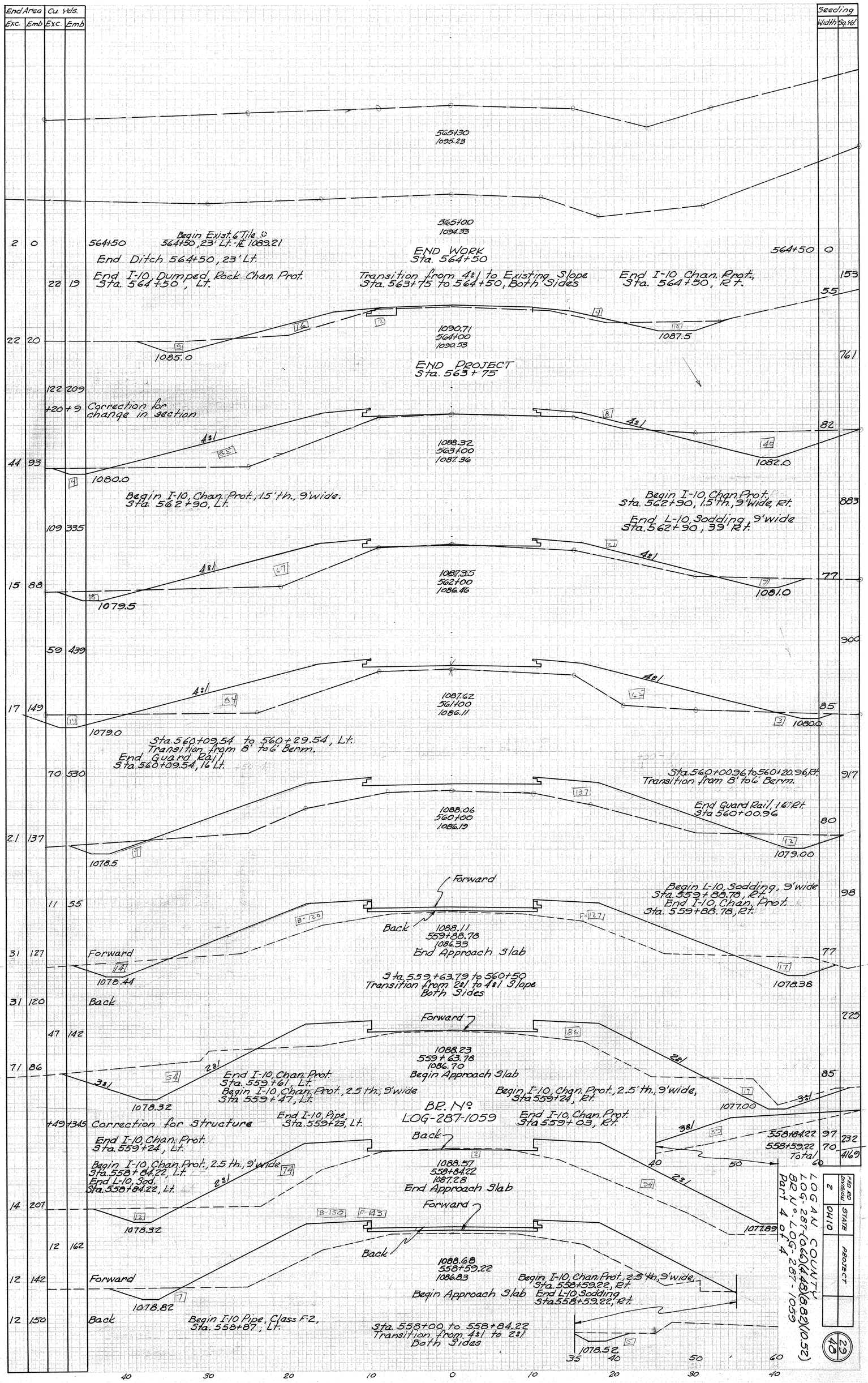
ESTIMATED QUANTITIES FOR APPROACH SLABS

Item	I-7	Reinforced Concrete Approach Slabs	111.11 Sq Yds.
Item	I-22	Subbase	12.97 Cu Yds.
Item	E-1	Compacted Subgrade	111. Sq Yds.



Plan & Profile Sta 556 to Sta. 569


End Area
Exc Emb
Cu. Yds.
Exc Emb
Seeding
Width Sq Yd
558+59.22 Back
558+59.22
Begin Guard Rail - 16' Rt.
Sta. 558+25.96
Sta. 558+05.96 to 558+25.96
Transition from 6' to 8' Berm.
Begin Guard Rail, 16' Rt.
Sta. 558+34.54
Sta 558+14.54 to 554+34.54
Transition from 6' to 8' Berm.
1089.20
558+00
1086.65
1080.0
1080.0
Begin L-10 Sodding, 9' wide
Sta. 557+20, Lt.
End I-10 Chan. Prot.,
Sta. 557+20, Lt.
1091.18
557+00
1087.85
1082.50
1081.0
Begin L-10 Sodding, 9' wide.
Sta. 556+20 - Rt.
End Dumped Rock Chan. Prot.
Sta. 556+20 - Rt.
1084.0
1094.55
556+00
1092.74
1086.0
Resume Project 555+40
Sta 554+40 to 555+40
Transition from existing to 4:1 Slope
Sta 554+40 to 555+40
Transition from existing
to 4:1 Slope
Correction for
change in section
1099.32
555+00
1098.99
1093.25
Begin I-10, Chan. Prot., 1.5' th., 9' wide,
Sta. 554+40 - Both Sides
Resume Work 554+40
1091.0
554+40
Forward
Back 554+40
1102.5
554+00
1105.40
553+00
1111.35
552+00
1117.75
551+00
1123.35
550+00
1128.30
549+00
1130.85
548+00
1128.65
Total
Sta 548+00 to 558+00
40 30 20 10 0 10 20 30 40
LOGAN COUNTY
LOG-287(066)(48)(682)(052)
82 N°. LOG-287-1059
Part 4 of 4
FED. ED. DIVISION 2
STATE OHIO
PROJECT
28
48


End Area Exc. | End Area Emb | Cu. Yds. Exc. | Cu. Yds. Emb
Seeding Width | Seeding Sq. Yd.
565+30
1095.23
565+00
1094.33
564+50
Begin Exist. 6" Tile ◇
564+50, 23' Lt. -E 1089.21
End Ditch 564+50, 23' Lt.
End I-10 Dumped Rock Chan. Prot.
Sta. 564+50, Lt.
END WORK
Sta. 564+50
Transition from 4:1 to Existing Slope
Sta. 563+75 to 564+50, Both Sides
End I-10 Chan. Prot.
Sta. 564+50, Rt.
564+50
1090.71
564+00
1090.53
1085.0
1087.5
END PROJECT
Sta. 563+75
+20+9 Correction for change in section
4:1
1088.32
563+00
1087.36
1080.0
1082.0
Begin I-10, Chan. Prot., 1.5' th., 9' wide.
Sta. 562+90, Lt.
Begin I-10 Chan. Prot.
Sta. 562+90, 1.5' th., 9' Wide, Rt.
End L-10, Sodding, 9' wide
Sta. 562+90, 39' Rt.
1087.35
562+00
1086.46
1079.5
1081.0
1087.62
561+00
1086.11
1079.0
1080.0
Sta. 560+09.54 to 560+29.54, Lt.
Transition from 8' to 6' Berm.
End Guard Rail
Sta. 560+09.54, 16' Lt.
Sta. 560+00.96 to 560+20.96, Rt.
Transition from 8' to 6' Berm.
End Guard Rail, 16' Rt.
Sta. 560+00.96
1088.06
560+00
1086.19
1078.5
1079.00
Forward
Back
1088.11
559+88.78
1086.33
End Approach Slab
Begin L-10, Sodding, 9' wide
Sta. 559+88.78, Rt.
End I-10, Chan. Prot.
Sta. 559+88.78, Rt.
B-120
F-127
1078.44
1078.38
Sta. 559+63.79 to 560+50
Transition from 2:1 to 4:1 Slope
Both Sides
Back
Forward
1088.23
559+63.78
1086.70
Begin Approach Slab
2:1
3:1
End I-10, Chan. Prot.
Sta. 559+61 Lt.
Begin I-10 Chan. Prot., 2.5 th., 9' wide
Sta. 559+47, Lt.
Begin I-10, Chan. Prot., 2.5' th., 9' wide,
Sta. 559+24, Rt.
1078.32
1077.00
+49+13.45 Correction for Structure
End I-10, Pipe,
Sta. 559+23, Lt.
BR. N°
LOG-287-1059
End I-10, Chan. Prot.
Sta. 559+03, Rt.
End I-10, Chan. Prot.
Sta. 559+24, Lt.
Back
Begin I-10, Chan. Prot., 2.5 th., 9' wide
Sta. 558+84.22, Lt.
End L-10, Sod,
Sta. 558+84.22, Lt.
1088.57
558+84.22
1087.28
End Approach Slab
Forward
B-150
F-43
1078.32
1077.89
Back
1088.68
558+59.22
1086.83
Forward
Begin Approach Slab
Begin I-10, Chan. Prot., 2.5 th., 9' wide,
Sta. 558+59.22, Rt.
End L-10, Sodding
Sta. 558+59.22, Rt.
1078.82
1078.52
Begin I-10 Pipe, Class F-2,
Sta. 558+87, Lt.
Sta. 558+00 to 558+84.22
Transition from 4:1 to 2:1
Both Sides
Sta 558+59.22 to 565+00
558+84.22
558+59.22
Total
LOGAN COUNTY
LOG-287-0665(48)(882)(052)
BR N°. LOG-287-1059
Part 4 of 4
FED. RD. DIVISION 2
STATE OHIO
PROJECT
22
46

Seeding width 8ft

FED RD DIVISION	STATE	PROJECT	
2	OH10		

30/48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR. No-LOG-287-1059
Part 4 of 4

Sta 569+00 1101.58
Sta 568+00 1102.03
Sta 567+00 1101.63
Sta 566+45 1099.33
Sta 566+20 1098.43
Sta 566+00 1097.68
Sta 565+50 1095.58
Sta 565+45 1095.73
Sta 565+36 1095.63

End Area		Cu. Yds.	
Exc.	Emb.	Exc.	Emb.

Sta 565+36 to 569+00

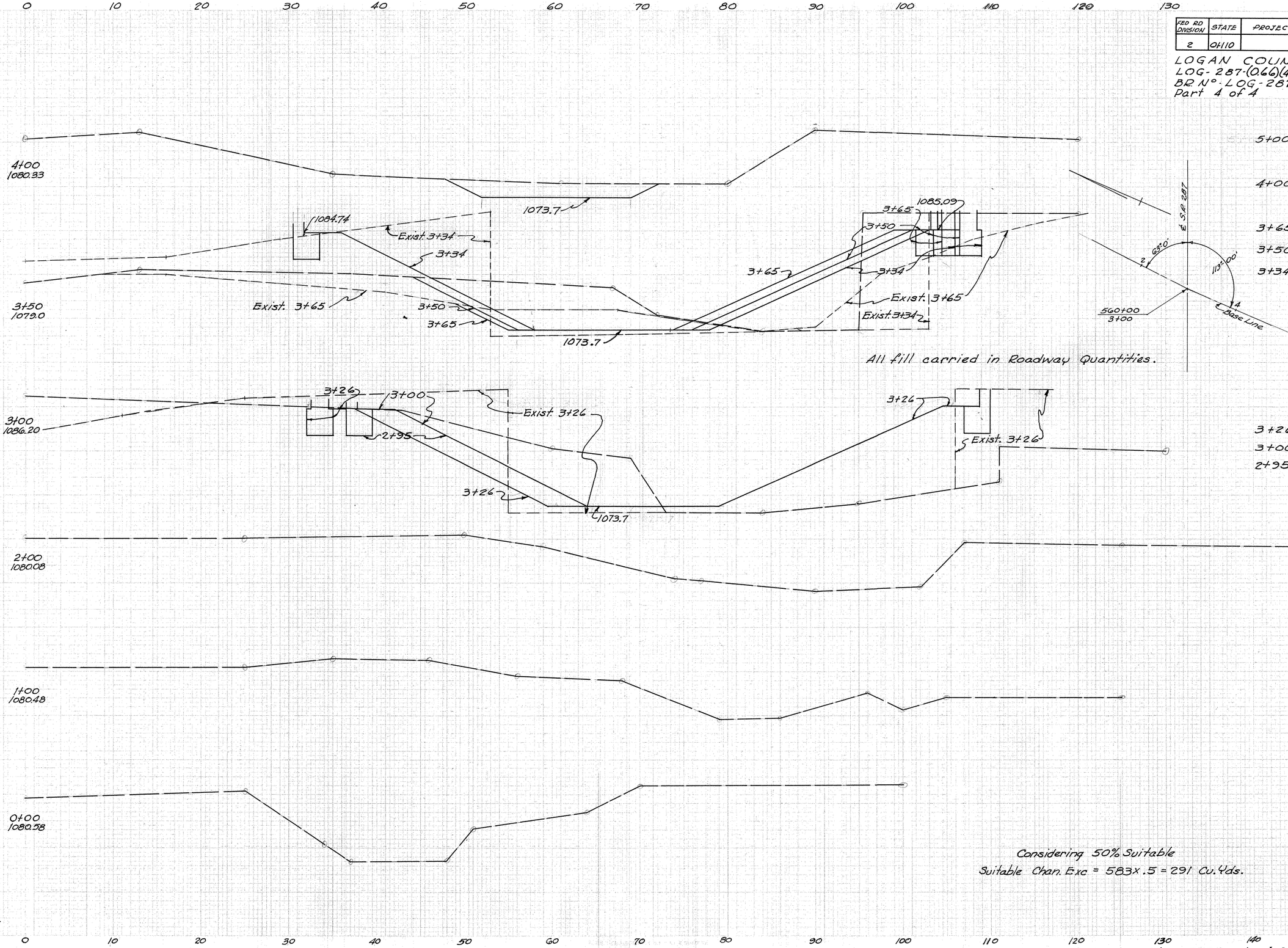
FED RD DIVISION	STATE	PROJECT	
2	OH-110		

31/48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR No. LOG-287-1059
Part 4 of 4

Seeding Width	Sq. Yd.	
0		5+00
	67	
12		
	101	
40		3+65
	70	
44		3+50
	96	
62		3+34
	55	
62		3+26
	129	
27		3+00
	15	
27		2+95
	143	
0		

676 Total



	End Area Exc.	End Area Emb.	Cu. Yds. Exc.	Cu. Yds. Emb.
5+00	0	0		
			65	0
4+00	35	0		
			53	81
3+65	47	124		
			52	57
3+50	138	81		
			73	74
3+34	108	170		
			35	51
3+26	128	171		
			110	82
3+00	100	0		
			19	0
2+95	100	0		
			176	0
	0	0		
			583	

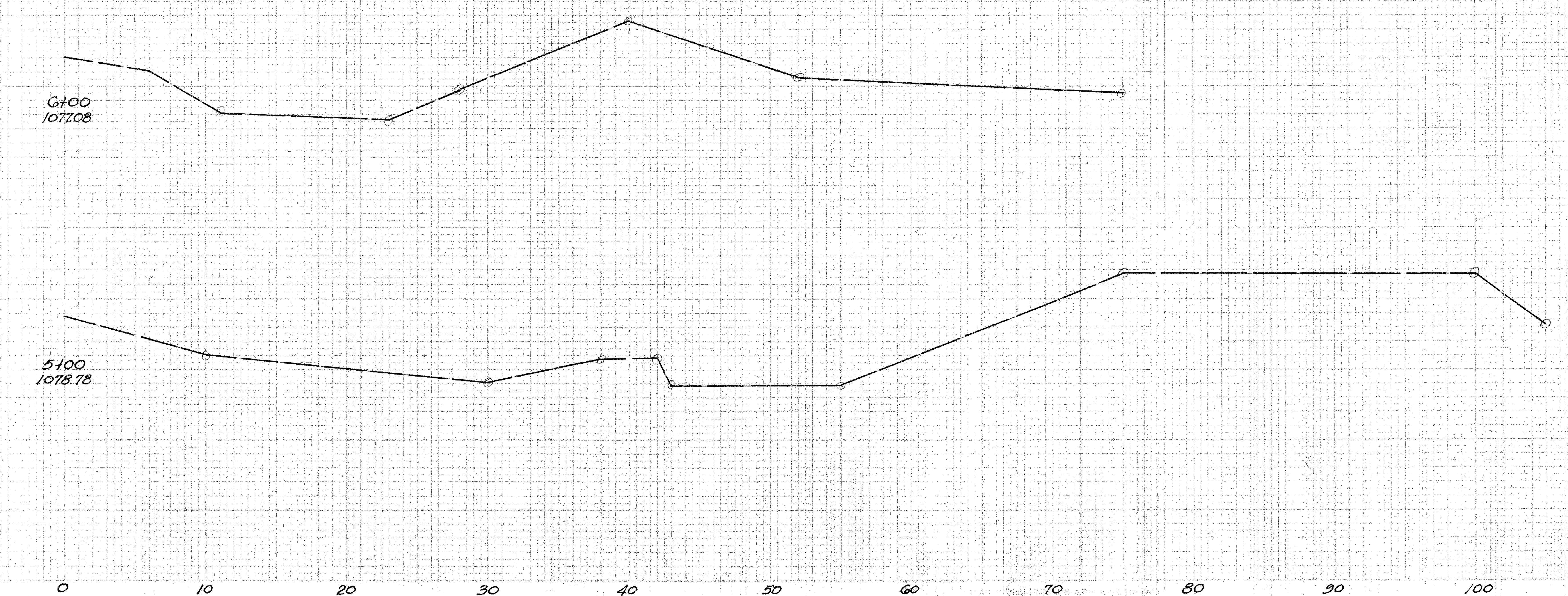
Considering 50% Suitable
Suitable Chan. Exc = 583 x .5 = 291 Cu. Yds.

Sta. 0+00 to 4+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR. N°-LOG-287-1059
Part 4 of 4

Seeding	
Width	Sq.Yd.
0	



End Area		Cu. Yds.	
Exc.	Emb.	Exc.	Emb.
0	0		

Sta. 5+00 to 6+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

33
40

LOGAN COUNTY
LOG-287-(0.66)(4.48)(6.82)(10.52)
BR. Nº-LOG-287-0068
Part 1 of 4

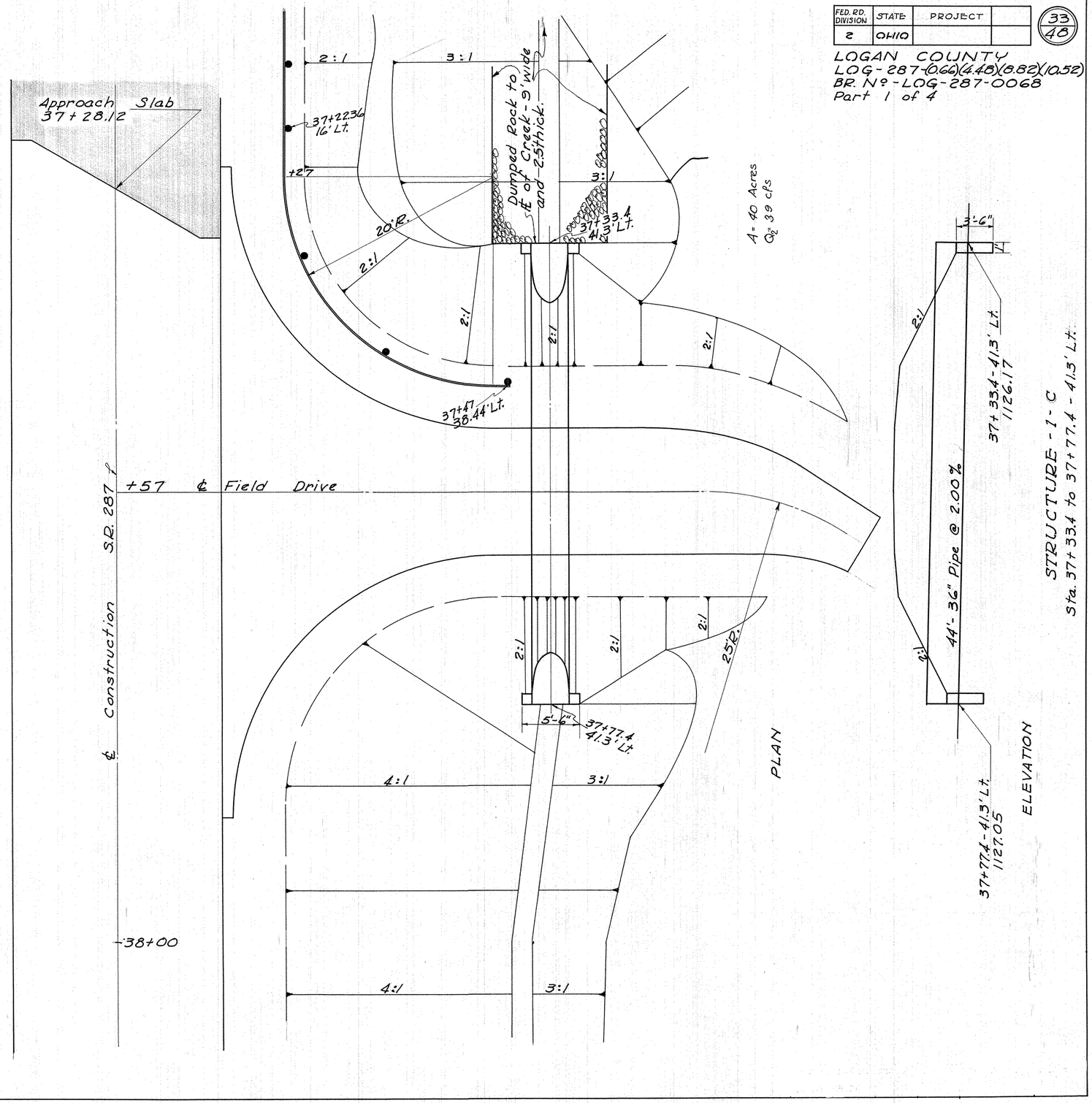
ESTIMATED QUANTITIES

I-1 36" Pipe Class C-1	44 Ft.
I-2 Masonry,	1.18 Cu.Yd.

WORK REQUIRED

Install 36" Pipe Culvert with Std. HW-E End Walls

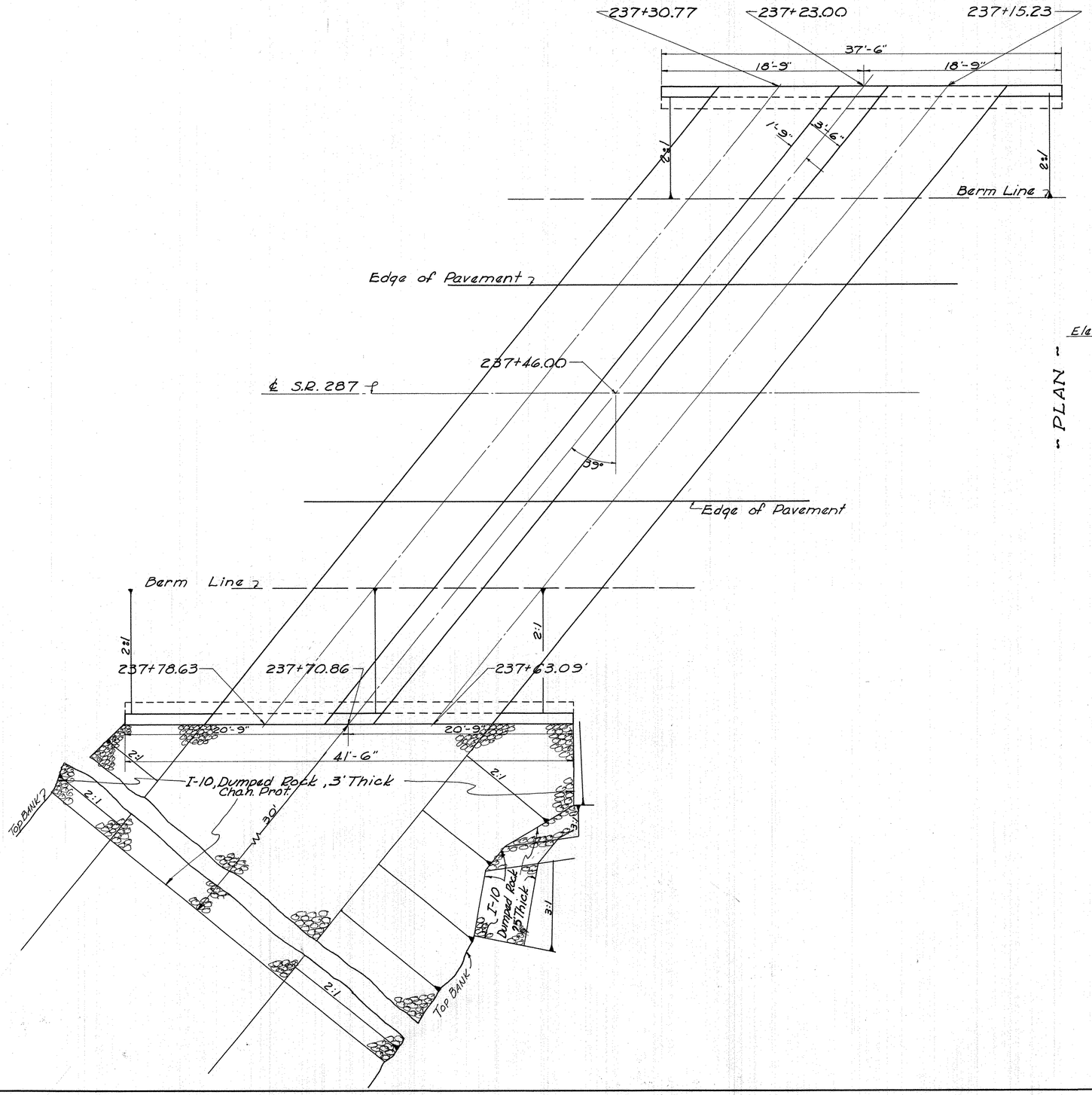
Std. Drawings: HW-E & I-1



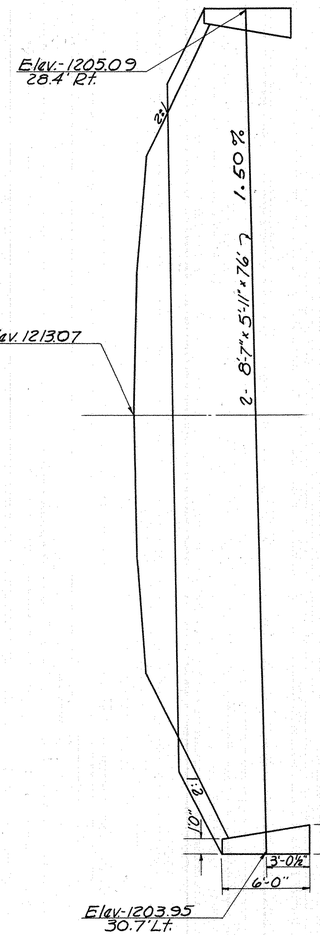
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

34
48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR.№-LOG-287-0450
Part 2 of 4.



- PLAN -



- ELEVATION -

STRUCTURE 2-C

ESTIMATED QUANTITIES

E-3	Channel Excavation	1251 Cu. Yd.
I-1	Pipe Class G-1, Sec. M-6.4(g) Sectional Corrugated Metal Pipe-Arch Structure 2-8'-7" x 5'-1" x 76'. 10-8 Gage.	152 Lin. Ft.
I-2	Masonry	4886 Cu. Yd.
I-10	Dumped Rock Channel Protection *	239 Cu. Yd.
3-24	Removal of Existing Structures	Lump

* Includes all Dumped Rock Channel Protection used in channel.
Q10 = 390 cfs
Area = 130 Acres

WORK REQUIRED

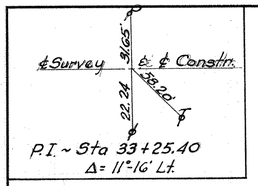
Removal of existing structure
Install 152 Lin. Ft. of 8'-7" x 5'-1" Pipe-Arch with Std. SP-53 Headwalls on each end and Dumped Rock Chan. Prot. on each end as shown on the plans or as directed by the Engineer.

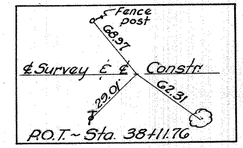
Std. Drgs.: SP-53, I-1

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

35/46

LOGAN COUNTY
LOG-287-(0.64)(4.48)(8.82)(10.52)
B.R. Nº LOG-287-0068
2.6 Mi. East of West Liberty
Part 1 of 4





UPSTREAM BRIDGE
TYPE: Steel Beam (Wood Deck).
SKEW: None
SPAN: 38.2' Clear
WATERWAY AREA: 308 Sq. Ft.

DOWNSTREAM BRIDGE
TYPE: Steel Beam (Wood Deck)
SKEW: 11°-30'
SPAN: 26.4' Clear
WATERWAY AREA: 217 Sq. Ft.

CURVE DATA
P.I. ~ Sta. 33+25.40
Δ = 11°-16' Lt.
D = 6°-00'
T = 94.16'
R = 954.93
L = 187.78

P.T. ~ Sta 34+19.02

End Approach Slab
Sta 36+16.88

Channel Base Line

Sta 35+85
6+00

Sta 36+60

Begin Approach Slab
Sta 37+03.12

Bridge Limits = 86.24'

℄ Survey

℄ Construction

N 70° 44' E

℄ STRUCTURES

CREEK

MACOCHEE

Note: Small structure to be eliminated and ditch provided along roadway with pipe under drive

12" V.S.P.

8" E.T.

4" E.T.

157' ℄ Approach Dr.

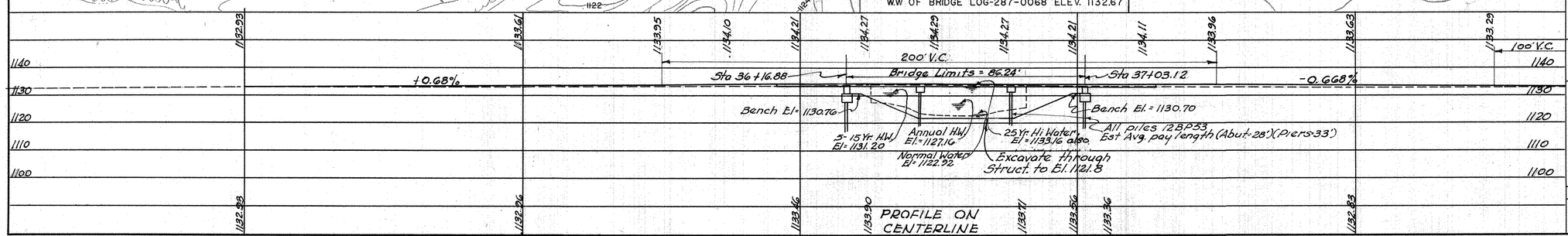
Road Ditch

FOUNDATION SOUNDINGS: Foundation design and quantities are based on a study of soil sampling soundings made at the site. This sounding information may be inspected at the office of The Bureau of Bridges in Columbus or at the Division office, but The State does not guarantee the accuracy thereof.

EXISTING BRIDGE DATA
TYPE: Low Truss on concrete & stone Substr.
SPAN: 55'-0" clear
ROADWAY: 14'-8" conc. floor with Bit. Wear Surf.
SKEW: 30° L.F.
LOADING: S-6.3 Load Reduction 10%
SUFFICIENCY: 54
CONDITION: Fair To be Removed

Note: Structure clears 10-15 Year High water by 1.53± feet.

B.M. CHISLED + PAINTED YELLOW IN END OF N.W. W.W. OF BRIDGE LOG-287-0068 ELEV. 1132.67



DRAINAGE AREA = 13.34 Sq. Mi.

PROPOSED STRUCTURE
TYPE: Continuous Reinf. Concrete Slab with Capped Pile Substructure with Highway Guard Rail
SPANS: 26-32.5-26 % brgs.
ROADWAY: 32' f/f guard rail
SKEW: 30° L.F.
LOADING: CF-130 (57)
WEARING SURFACE: ¾" Monolithic Conc.
APPROACH SLABS: AS-1-54 (25' Long)
ALIGNMENT: TANGENT

KOHLI & KALIHER
ENGINEERS LIMA, OHIO

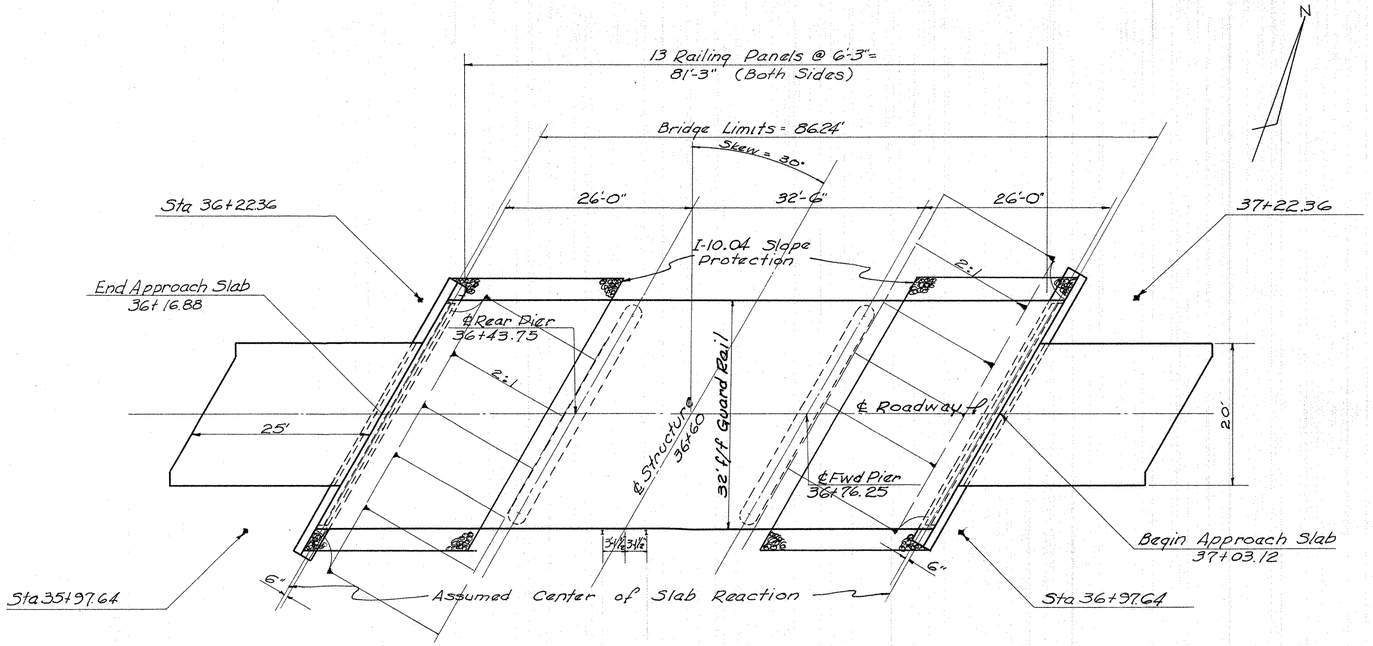
SITE PLAN
B.R. Nº LOG-287-0068 over MACOCHEE CREEK

BRIDGE NO.	LOG-287-0068
LOGAN CO	SR-287
SEC. LOG-287-0.66	STA. 36+16.88 37+03.12

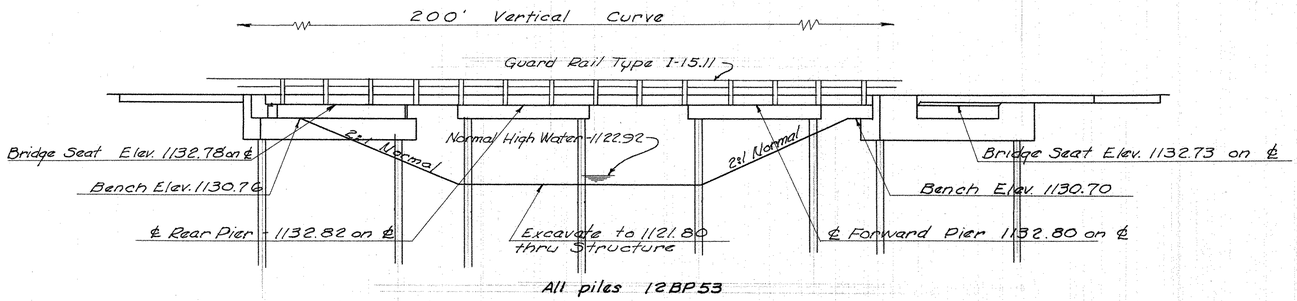
PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Aerial Survey	R.K.K.	R.K.K.	B.C.P.	

FED. RD. DIVISION	STATE	PROJECT		36 / 48
2	OHIO			

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR.NO.-LOG-287-0068
Part 1 of 4



~PLAN~



~ELEVATION~

GENERAL NOTES

REFERENCE shall be made to Standard Drawings A-1-54, P-1-54, and CS-1-54, revised 12-1-54, 2-2-59, and 7-16-56 respectively

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic, the existing structure shall be removed. The substructure shall be removed to at least 6 in. below the proposed ground surface and to whatever extent is necessary to avoid interference with the new construction, including pile driving. Suitable waste masonary may be used as bank protection as directed by the Engineer.

The remainder of the removed materials shall be disposed of by the Contractor except; steel floor beams and joists; creasoted strip flooring and metal construction clips; steel beam railing on bridge & approaches; floor in sections not to exceed 4'-0" in width. These materials shall be carefully removed and piled along the right-of-way for disposal by the States Forces. Floor beams may be cut on ends near the connection angles.

EXCAVATION QUANTITY for the abutments in addition to that outlined in Sec. E-2.09, includes the removal of material bounded by the proposed bench, by the front vertical plane described in Sec. E-2.09 and by the finished slope of the cut.

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

MACHINE FINISH: At the Contractors option, the top of the bridge deck slab may be machine finished.

REPLACEMENT BARS: If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. S-4.02 need not be furnished and replacement bars will not be required.

PIER PILE ENCASEMENT as shown on Std. Drwg. No. P-1-54 is not required. The painting of the piles shall extend to low water elevation or, if the proposed surface of the ground is above low water, it shall extend to at least one foot below the proposed surface of the ground.

PILES: shall be driven to a minimum bearing capacity of 25 tons per pile for abutments and 33 tons per pile for the piers.

As Built		ESTIMATED QUANTITIES							
		ITEM	TOTAL	UNIT	DESCRIPTION	SUB.STR.	ABUT.	PIERS	GEN.
		E-2	51	Cu.Yd.	Excavation for Structures, Unclassified		51		
104.-333	719	E-3	~~105~~ 52	Cu.Yd.	Channel Excavation				1052
		S-1	132	Cu.Yd.	Concrete for Structures, Superstructure and pier caps, Class "C"	119		13	
		S-1	44	Cu.Yd.	Concrete for Structures, Abutments, Class "E"		44		
		S-4	37,273	lbs.	Reinforcing Steel	23,671	4641	2961	
		S-14	172.48	Lin.ft.	Railing (Type T-15.11 with galvanized steel posts and bolts	172.48			
		S-16	Lump	Lump Sum	First test pile				Lump
101 +153	358	S-18	732	Lin.ft.	Steel Piles 12BP53		336	396	
		S-21	Lump	Lump Sum	Removal of existing structure				Lump
		S-29	15	Cu.Yd.	Porous backfill		15		
		I-10	182	Sq.Yd.	Crushed Aggregate Slope Protection				182
		Spec.	132	Ea.	Water-reducing set-retarding admixture*	119		13	

* See Proposal.

KOHLI & KALIHER
ENGINEERS LIMA, OHIO

GENERAL PLAN AND ELEVATION, ESTIMATED QUANTITIES, AND GENERAL NOTES.
BR.No.-LOG-287-0068 OVER MACOCHEE CREEK
LOGAN COUNTY
STA. 36+16.88
37+03.12

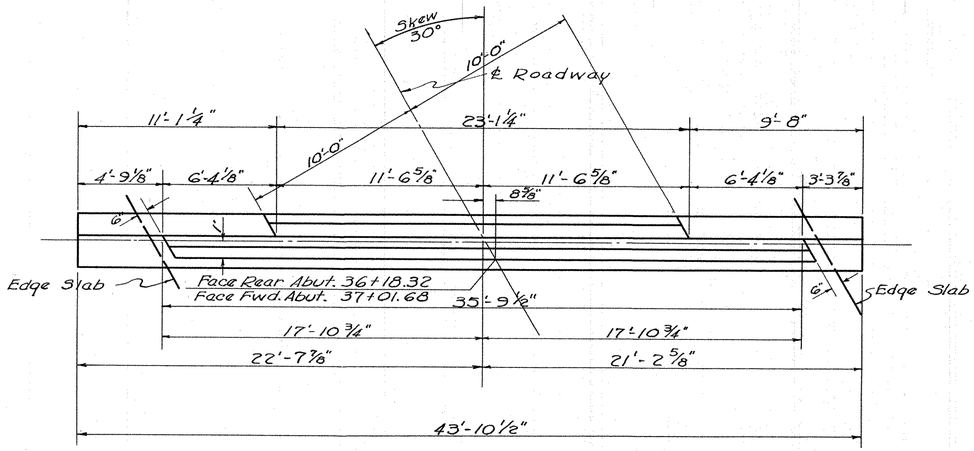
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED BY	REVISED
B.C.P.	B.C.P.	B.C.P.	P.R.K.		

(18) REVISED AS NOTED
CAM-2-18-64

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

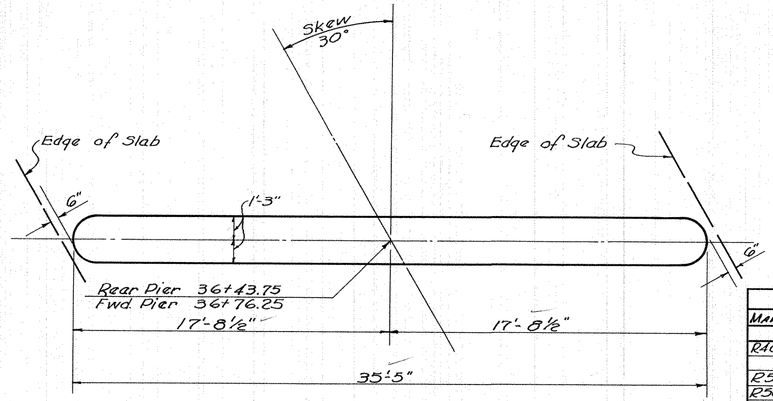
37
48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR. Nº LOG-287-0068
Part 1 of 4



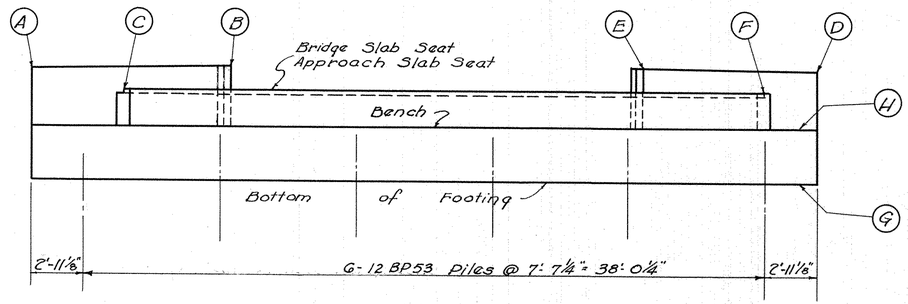
~PLAN~

ELEVATIONS		
Point on Abutment	Rear Abutment	Forward Abutment
A	1133.92	1133.85
B	1134.08	1134.02
C	1132.76	1132.70
D	1133.99	1133.95
E	1134.11	1134.07
F	1132.80	1132.76
G	1127.76	1127.70
H	1130.76	1130.70

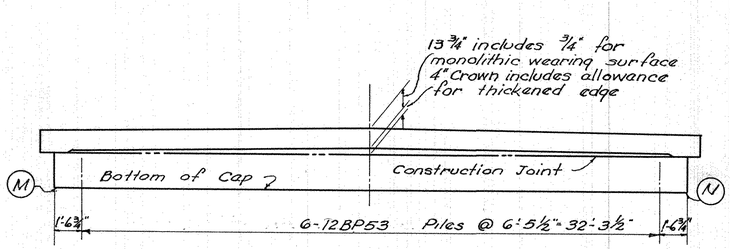


~PLAN~

ELEVATIONS		
Point on Pier	Rear Pier	Forward Pier
M	1130.82	1130.78
N	1130.81	1130.81



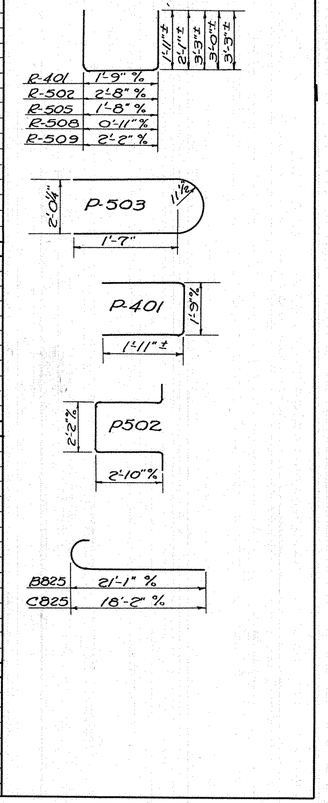
~ELEVATION~



~ELEVATION~

REINFORCING STEEL LIST

Mark	No.	Length	Wt.	Shp.
Abutments				
R401	48	5'-5"	174	B
R501	16	22'-7"	377	S
R502	116	6'-7"	796	B
R503	8	18'-7"	155	S
R504	24	5'-4"	134	S
R505	30	7'-11"	248	B
R506	8	9'-4"	78	S
R507	16	5'-8"	95	S
R508	16	6'-8"	111	B
R509	16	8'-5"	140	B
R801	16	23'-2"	990	S
R1001	16	19'-6"	1343	S
Piers				
P401	48	5'-5"	174	B
P501	4	32'-11"	137	S
P502	48	9'-0"	451	B
P503	8	6'-4"	53	B
P901	8	32'-11"	895	S
P1001	8	36'-4"	1251	S
Superstructure				
A825	93	30'-3"	7511	S
B825	30	22'-2"	1776	B
C825	30	19'-3"	1542	B
D825	15	20'-10"	834	S
E825	15	15'-8"	627	S
F925	62	27'-0"	5692	S
G925	30	15'-0"	1530	S
H925	30	12'-2"	1241	S
J601	32	16'-6"	793	S
K601	16	10'-4"	248	S
M601	87	36'-5"	4759	S
N601	57	36'-5"	3118	S
Replacement Bars				
RE401	1	5'-3"		S
RE501	1	5'-7"		S
RE601	1	5'-11"		S
RE701	1	6'-3"		S
RE801	1	6'-6"		S
RE901	1	6'-10"		S
RE1001	1	7'-2"		S



KOHLI & KALIVER
ENGINEERS LIMA, OHIO

PIER AND ABUTMENT DETAILS, AND STEEL LIST
BR. Nº-LOG-287-0068
OVER MACOCHEE CREEK
LOGAN COUNTY

STA 36+16.88
37+03.12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED BY	REVISED
BCP	BCP	BCP	R.R.K.		

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

38/48

LOGAN COUNTY

LOG - 287-(0.64)(4.48)(8.82)(10.52)

BRN° LOG-287-0450

6.3± Miles East of West Liberty

Part 2 of 4

EXISTING BRIDGE DATA
TYPE: Conc. Slab on Stone Conc. faced Substr.
SPAN: 12'-7" clear
ROADWAY: 13'-9"
SKEW: 38° L.F.
LOADING: H-15 (No Reduction)
SUFFICIENCY: 62
CONDITION: Poor

℄ Survey
52.26'
78.52'
Sta 229+00

Note Channel via XC. To Sta. 8+00

℄ S.R. 287
43.78'
43.67'
24" Elm
30" Elm
P.I.~ Sta. 245+93.18
Δ = 30°36' Rt.

237+21.46
Base Line
30" Thick
6400
I-10.07 Dumped Rock Channel Protection 3' thick
30" Th.
Sta 237+00 = Sta 5+00
238+46.46
I-10, Chan. Prot. 1.5' Th.
To be removed
24" T.I. Class A-1-a Backfill
℄ Survey
℄ Construction
S 83°06'E
48' Jump
1.5' Th.
2" Bituminous

234+15.64
30" Th.
Sta. 237+46
237+70.54
30" Th.
MACOCHEE BRANCH OF
30" Cottonwood
30" Cottonwood
24" Sycamore
Fill to Elev. 1210±
I-10.07 Dumped Rock Channel Protection 2' thick
12" Willow
18" Willow
36" Willow
36" Willow

8-18" Cottonwood
6-18" Cottonwood
10-12" Cottonwood
12" Cottonwood
18" Cottonwood
12" Cottonwood
18" Cottonwood

1210 1210.5 1211.2 1211.4 1212 1213.4 1213.1 1212.7 1212.9 1211.3 1211.0 1208.3 1206.7 1208.5 1208.4 1209.0 1208.8 1210 1212 1204 1218

235 236 237 238 239 240

B.M. U.E. ON TOP STEP OF S.E. W.W. OF SMALL BRIDGE, PAINTED WHITE SQ. ELEV. 1212.914

DRAINAGE AREA = 1.205 SQ. MI.

PROPOSED STRUCTURE

TYPE: I-1 Pipe, Class G-1 Sec. M-6.4(g) Sectional Corr. Metal Pipe-Arch Structures
PAVEMENT: 20'-0"
ROADWAY: 32'-0"
SKEW: 39°00' L.F.
SIZE: 2-5'-11" x 8'-7" x 76'

KOHLI & KALIHER
ENGINEERS~ LIMA, OHIO

SITE PLAN

BRIDGE NO. LOG-287-0450
over BRANCH of Macochee Creek
LOGAN CO. SR-287
SEC. STA. 237+46
SCALE 1" = 20'

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Aerial Survey	C.E.K.	R.R.K.	B.C.P.	

PROFILE ON CENTERLINE

1230 1220 1210 1200 1190

50' V.C.

+0.027%

23.4' Hi Water 1210.90

237+22.38 El=1205.09
237+30.77 El=1205.09
237+49.02 El=1205.35
237+58.69 El=1205.35
237+70.54 El=1204.95
237+70.54 El=1212.86

1213.52 1212.87 1212.71 1213.14 1212.80 1212.38 1211.47

1213.19 1213.07 1213.04 1213.06 1213.02 1213.12

FED RD DIVISION	STATE	PROJECT	
2	OHIO		

39
48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
B.R. Nº LOG-287-0886
1.0± Miles West of Middleburg
Part 3 of 4

℄ Survey ℄ Constn
Sta 461+30.40

UPSTREAM BRIDGE
TYPE: Steel Beam (Wood Deck)
SKEW: None
SPAN: 200' Clear
WATERWAY AREA: 206 Sq. Ft.

DOWNSTREAM BRIDGE
TYPE: Low Truss (Conc. Deck)
SKEW: None
SPAN: 39.0' Clear
WATERWAY AREA = 395 Sq. Ft.

℄ Survey ℄ Constn
P.I. ~ Sta 474+43.80
Δ = 12° 36' Lt.

CURVE DATA
P.I. ~ Sta 474+43.80
Δ = 12° 36' Lt.
D = 6° 00'
T = 105.42'
R = 954.93
L = 210.00'

CREEK Sta 467+73
20° Skew
Guard Rail Post 467+29.59
I-10, Chan. Prot. 9' wide, 2.5' th.
I-10, Chan. Prot. 9' wide, 2.5' th.
Guard Rail Post 468+04.59
Begin Approach Slab 468+06.30
I-10, Slope Protection
Sod, 9' wide
Sod, 9' wide
I-10, Chan. Prot., 9' wide, 1.5' th.
110.00
3:00 468+21
N 58° 02' E
℄ Survey ℄ Construction
End Approach Slab 467+39.70
Guard Rail Post 467+41.41
Guard Rail Post 468+16.41
I-10, Chan. Prot. 9' wide, 1.5' th.
I-10, Chan. Prot. 9' wide, 1.5' th.
I-10, Chan. Prot. 9' wide, 2.5' th.
I-10, Chan. Prot., 9' wide, 2.5' th.
I-10, Chan. Prot., 9' wide, 1.5' th.
±28 & 12' Gravel Drive
DARBY STRUCTURE
LITTLE
Skew
Skew
15" Elm
18" Walnut
12" Maple
24" Sycamore
30" Oak
Twin 18" Linden
30" Sycamore
30" Sycamore
15" Sycamore
12" Sycamore

EXISTING BRIDGE DATA
TYPE: Low Truss on concrete & stone Substr.
SPAN: 27'-9" clear
ROADWAY: 15'-4" strip floor with Bit. Wear. Surf.
SKEW: None
LOADING: S-4.1 Load Reduction 50%
SUFFICIENCY: 49
CONDITION: Fair. To be removed.

FOUNDATION SOUNDINGS: Foundation design and quantities are based on a study of soil sampling soundings made at the site. This sounding information may be inspected at the office of The Bureau of Bridges in Columbus or at the Division office, but The State does not guarantee the accuracy thereof.

Note: Structure clears 5-10 year High Water by 2.83± feet.

B.M. ~ Nail in Base 24" Sycamore
Sta 467+80-125' Rt. ELEV = 1153.32

DRAINAGE AREA = 3.7 SQ. MI.

PROPOSED STRUCTURE
TYPE: Continuous Reinf. Concrete Slab with Capped Pile Substructure with Highway Guard Rail
SPANS: 20-25-20 ℄ Brgs.
ROADWAY: 32' f/f guard rail
SKEW: 20° RF
LOADING: CF-130 (57)
WEARING SURFACE: 3/4" Monolithic Conc.
APPROACH SLABS: AS-1-54 (25' Long)
ALIGNMENT: TANGENT

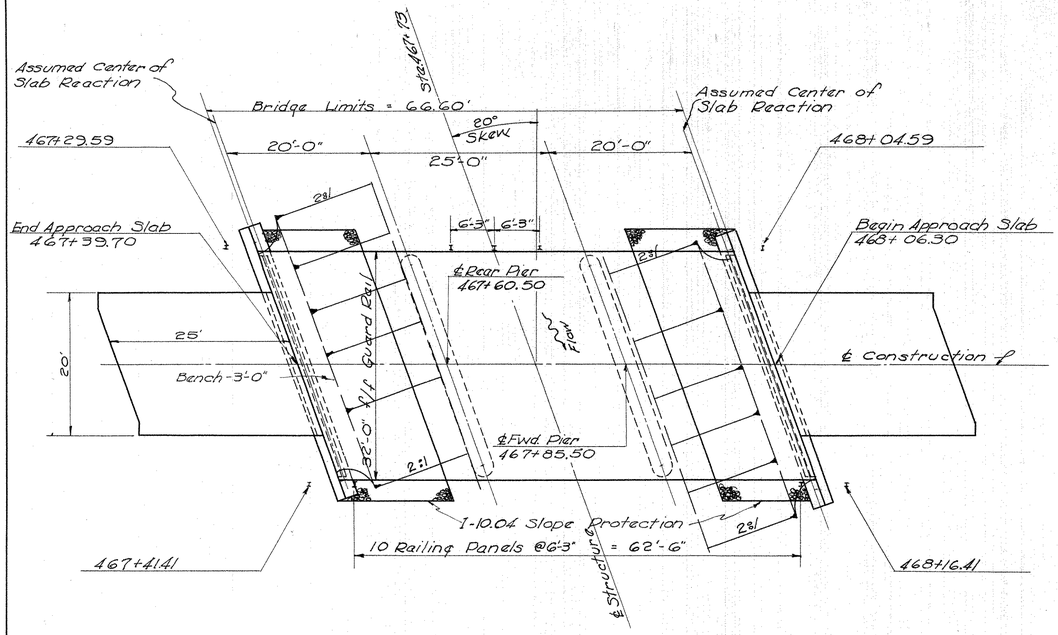
KOHLI & KALIHER
ENGINEERS ~ LIMA, OHIO

PROFILE ON CENTERLINE
200' V.C.
Sta 467+39.70
Bridge Limits = 66.60'
Sta 468+06.30
300' V.C.
-0.742%
Bench-1157.05
Bench-1156.56
Normal Water-1151.15
25 yr. High Water 1158.21
5-10 yr. High Water 1156.02
14" Cast-in-place reinforced concrete
All piles (12 BP 53) Est. Avg. pay length (Piers 32') (Rear Abut 29') (Forward Abut 38')
Excavate to 1150.00 Thru Structure

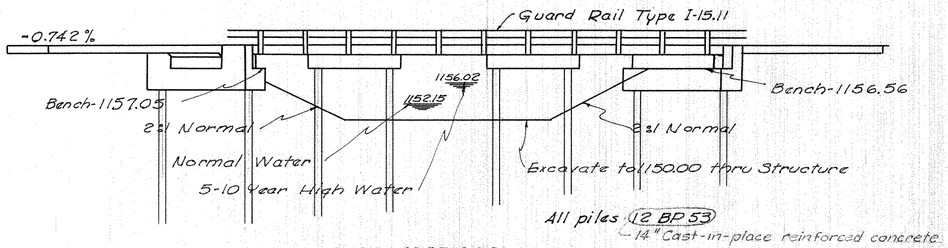
SITE PLAN
B.R. Nº LOG-287-0886 over LITTLE DARBY CR.

BRIDGE NO.	LOG-287-0886
LOGAN CO.	SR-287
SEC. 2.87-8.82	STA. 467+39.70 468+06.30

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED REVISED 9-25-62
JAC	R.R.K	R.R.K	R.R.K	R.Q.R	



-PLAN-



-ELEVATION-

As Built		ESTIMATED QUANTITIES								
		ITEM	TOTAL	UNIT	DESCRIPTION	SUP STR.	ABUT.	PIERS	GEN.
		E-2	47	Cu. Yd.	Excavation for Structures, Unclassified		47		
CO.3 -72	419	S-3	~~491~~	Cu. Yd.	Channel Excavation				491
		S-1	~~36~~	Cu. Yd.	Concrete for Structures, Superstructure and pier Caps, Class "C"	84		12	
		S-1	41	Cu. Yd.	Concrete for Structures, Abutments, Class "E"		41	3372	
27067		S-4	~~26478~~	lbs.	Reinforcing Steel	19,307	4388	~~2783~~	
		S-14	133.20	lin. ft.	Railing (Type I-15.11 with galvanized steel posts & bolts)	133.20			
		S-16	Lump	Lump Sum	First test pile				Lump
CO.4 +157	943	S-18	~~786~~	lin. ft.	14" cast-in-place reinforced concrete piles		402	384	
		S-24	Lump	Lump Sum	Removal of existing structure				Lump
		S-29	13	Cu. Yd.	Porous backfill		13		
		I-10	112	Sq. Yd.	Crushed Aggregate Slope Protection				112
CO.1 -96	0	Spec.	~~96~~	Ea.	Water-reducing set-retarding admixture*	84		12	

*See Proposal.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

40
48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR. NO.-LOG-287-0886
Part 3 of 4

GENERAL NOTES

REFERENCE shall be made to Standard Drawings A-1-54, P-1-54, and CS-1-54, revised 12-1-54, 2-2-59, and 7-16-56 respectively

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic, the existing structure shall be removed. The substructure shall be removed to at least 6 in. below the proposed ground surface and to whatever extent is necessary to avoid interference with the new construction, including pile driving. Suitable waste masonary may be used as bank protection as directed by the Engineer. The remainder of the removed materials shall be disposed of by the Contractor except; steel floor beam and joists; creosoted strip flooring and metal construction clips; floor in sections not to exceed 4'-0" in width. These materials shall be carefully removed and piled along the right-of-way for disposal by the States Forces. Floor beam may be cut on ends near the connection angles.

EXCAVATION QUANTITIES for the abutments, in addition to that outlined in Sec. E-2.09, includes the removal of material bounded by the proposed bench, by the front vertical plane described in Sec. E-2.09 and by the finised slope of the cut.

MACHINE FINISH: At the Contractors option, the top of the bridge deck slab may be machine finished.

PIER PILE ENCASEMENT as shown on Std. Dwg. Nº P-1-54 is not required. The painting of the piles shall extend to low water elevation or, if the proposed surface of the ground is above low water, it shall extend to at least one foot below the proposed surface of the ground.

EXISTING GUARD RAIL to be dismantled by the Contractor and placed within the Right-of-Way for removal by State Forces. Payment to be included in Item S-24, Removal of Existing Structure.

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 A1010 is a Nº 10 size bar.

REPLACEMENT BARS: If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. 3-4.02 need not be furnished and replacement bars will not be required.

PILES: shall be driven to a minimum bearing capacity of 22 tons per pile for the abutments and 25 tons per pile for the piers.

KOHLI & KALIHER ENGINEERS LIMA, OHIO

GENERAL PLAN & ELEVATION, NOTES, AND ESTIMATED QUANTITIES
BR. NO.-LOG-287-0886
OVER LITTLE DARBY CREEK
LOGAN COUNTY

STA.-467+39.70
468+06.30

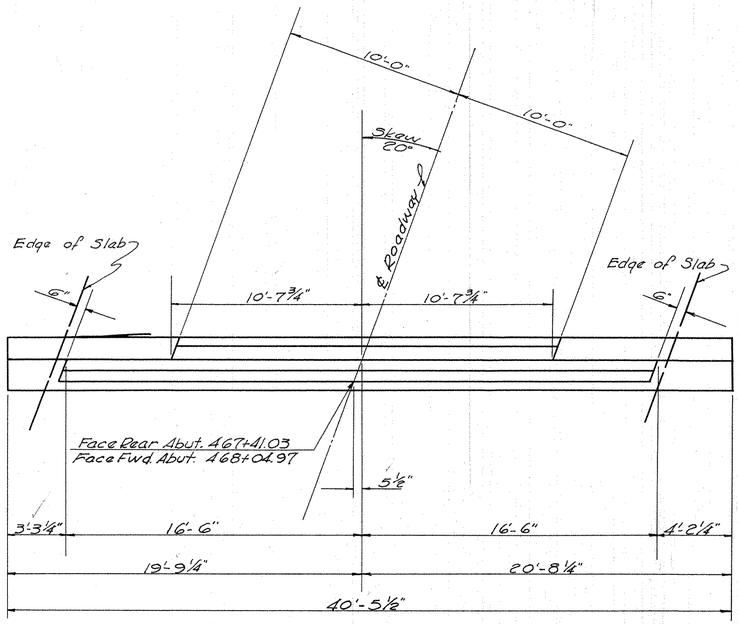
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED BY	REVISED
B.C.P.	B.C.P.	B.C.P.	R.R.K.		9-25-62

18 Revised As-Built C.A.M. 8-19-64

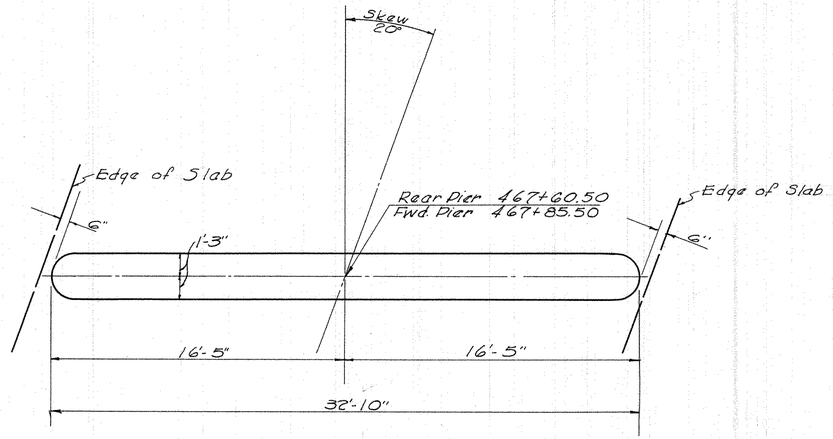
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

41/48

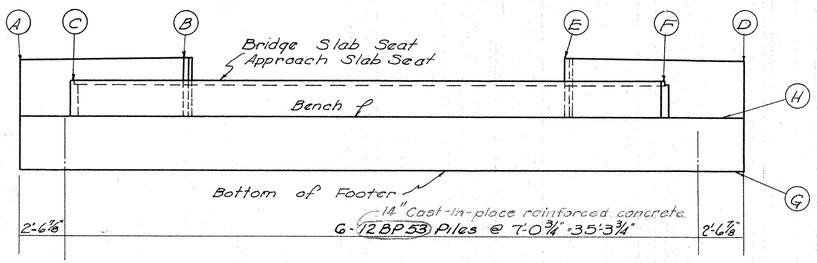
LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR. NO.-LOG-287-0886
Part 3 of 4



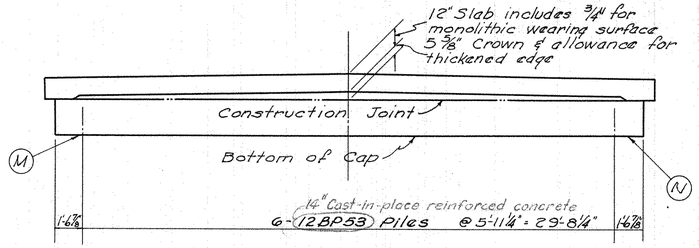
PLAN



PLAN



ELEVATION



ELEVATION

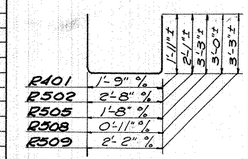
ELEVATIONS		
POINT ON ABUTMENT	REAR ABUTMENT	FORWARD ABUTMENT
A	1160.22	1159.83
B	1160.38	1159.94
C	1159.05	1158.65
D	1160.31	1159.72
E	1160.44	1159.89
F	1159.13	1158.56
G	1154.05	1153.56
H	1157.05	1156.56

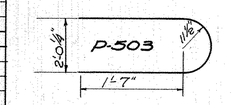
ELEVATIONS		
POINT ON PIER	REAR PIER	FWD. PIER
M	1156.98	1156.79
N	1156.90	1156.71

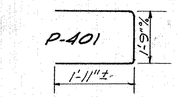
REINFORCING STEEL LIST

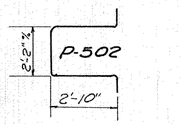
MARK	NO	LENGTH	WT.	SHP
ABUTMENTS				
R401	48	5'-5"	174	B
R501	16	20'-10"	348	S
R502	116	6'-7"	796	B
R503	8	17'-1"	143	S
R504	24	5'-4"	134	S
R505	28	7'-11"	231	B
R506	8	8'-9"	73	S
R507	16	5'-3"	88	S
R508	16	6'-8"	111	B
R509	16	8'-5"	140	B
R801	16	21'-4"	911	S
R1001	16	18'-0"	1239	S
PIERS				
P401	48	5'-5"	174	B
P501	4	30'-4"	127	S
P502	48	9'-0"	451	B
P503	8	6'-4"	53	B
P701	72	4'-0"	589	S
P901	8	30'-4"	825	S
P1001	8	33'-6"	1153	S
SUPERSTRUCTURE				
A822	78	23'-9"	4946	S
B822	24	18'-1"	1159	B
C822	26	15'-10"	1099	B
D822	12	17'-10"	571	S
E822	13	13'-4"	463	S
F822	60	19'-0"	3044	S
G822	28	10'-5"	779	S
H822	30	9'-5"	754	S
J601	32	13'-1"	629	S
K601	16	11'-7"	278	S
M601	64	33'-6"	3220	S
N601	47	33'-6"	2365	S
REPLACEMENT BARS				
RE401	1	5'-3"		S
RE501	1	5'-7"		S
RE601	1	5'-11"		S
RE701	1	6'-3"		S
RE801	1	6'-6"		S
RE901	1	6'-10"		S
RE1001	1	7'-2"		S

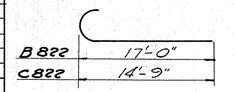
BENDING DIAGRAM











KOHLI & KALIHER
ENGINEERS LIMA, OHIO

PIER & ABUTMENT DETAILS
AND STEEL LIST
BR. NO.-LOG-287-0886
OVER LITTLE DARBY CREEK
LOGAN COUNTY

STA.-467+39.70
468+06.30

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED BY	REVISED
B.C.P.	B.C.P.	B.C.P.	R.H.K.		9-25-62

FED. RD. DIVISION	STATE	PROJECT		42 / 48
2	OHIO			

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR. N° LOG-287-1059
0.7± Miles East of Middleburg
Part 4 of 4

P.O.T.~Sta 549+00
℄ Survey ℄ Constr.
R/W Mon
22.80
54.00
43.50
30.00

UPSTREAM BRIDGE
TYPE: Multi-plate (2-7'-3"x5'-3")
SKEW: 30° R.F.
SPAN:
WATERWAY AREA: 62 Sq. Ft.

DOWNSTREAM BRIDGE
TYPE: Steel Beam (Wood Deck)
SKEW: None
SPAN: 43.10' Clear
WATERWAY AREA: 413.76 sq. ft.

Note: Suitable waste masonary shall be disposed in this area and where directed by the Engineer

BIG DARBY CREEK

Sta 559+24

℄ Survey ℄ Constr.
R=57.87'
74.75'
T 74.42'
Δ = 33°00'
PI~Sta 570+67.20

I-10, Chan. Prot., 9'Wide, 1.5'th.
L-10, Sod, 9'wide
℄ 4" Fld. Tile
I-16" Pipe, Cl. F.
I-10, Chan. Prot. 9'wide, 2.5'th.
End Approach Slab Sta 558+84.22
184.34
175.56
15.00
172.04
25.00
30°
118°00'
560+00 37.00
Begin Approach Slab Sta 559+63.78
I-10 b4 Slope ℄ protection
Property Line
N 58°-02' E
420' V.C.
Bridge Limits 79.56'
-0.445%
Bench El 1085.09
Normal Water El= 1074.29
2:1 Normal
15% Water El= 1084.37
Bench El. 1084.74
All Piles 12BP53 Est. Avg. pay length (Abut. 31' X Piers 34')
Excavate to Elev. 1073.7 through Structure
PROFILE ON CENTERLINE
℄ Structure

EXISTING BRIDGE DATA
TYPE: Low Truss on stone substructure
SPAN: 45'-6" clear
ROADWAY: 15'-0"
SKEW: None
LOADING: S-8.9 No Reduction
SUFFICIENCY: 58
CONDITION: Fair. To be Removed.

Structure clears 10-15 Yr. HiWater 2.37 feet.

FOUNDATION SOUNDINGS: Foundation design and quantities are based on a study of soil sampling soundings made at the site. This sounding information may be inspected at the office of The Bureau of Bridges in Columbus or at the Division office, but The State does not guarantee the accuracy thereof.

B.M. + CUT & PAINTED YELLOW ON S.W. WING OF BRIDGE LOG-287-1030 ELEV. 1087.06

DRAINAGE AREA = 4.3 SQ. MI.

PROPOSED STRUCTURE
TYPE: Continuous Reinf. Concrete Slab with Capped Pile Substructure with Highway Guard Rail
SPANS: 24-30-24 c/c brgs.
ROADWAY: 32' f/f guard rail
SKEW: 15° L.F.
LOADING: CF-130 (57)
WEARING SURFACE: ¾" Monolithic Conc.
APPROACH SLABS: AS-1-54 (25' Long)
ALIGNMENT: TANGENT

KOHLI & KALIHER
ENGINEERS - LIMA OHIO

SITE PLAN

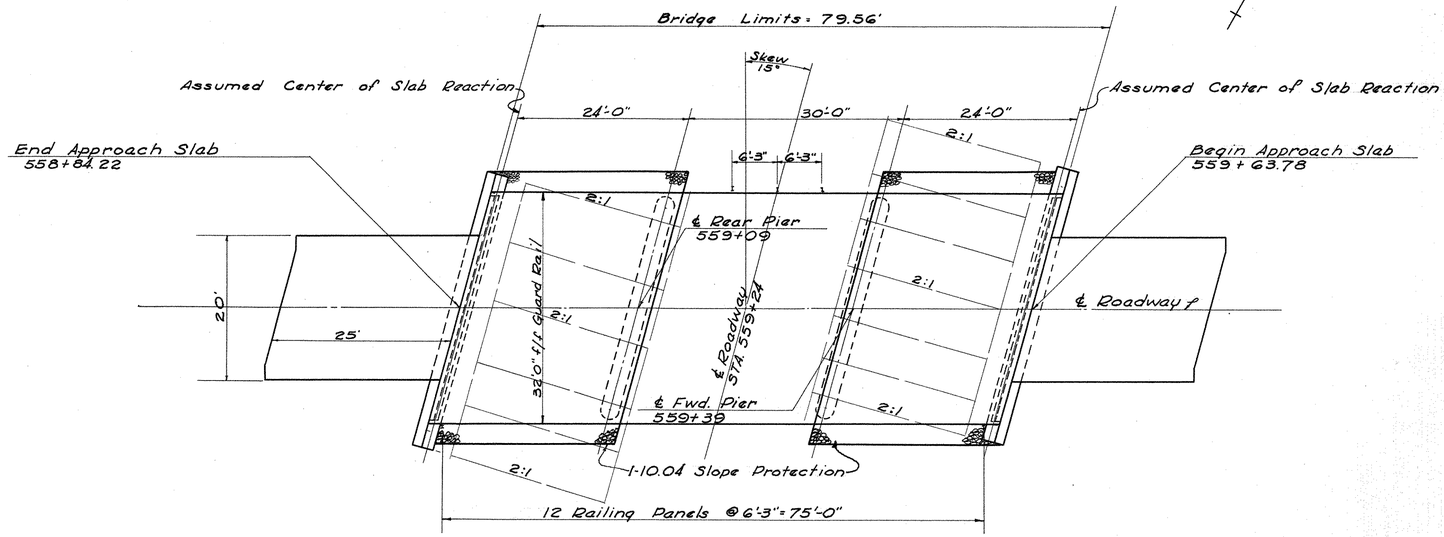
B.R. N° LOG-287-1059 over BIG DARBY CR.

BRIDGE NO. LOG-287-1059
LOGAN CO. SR-287
SEC. LOG-287-10.52 STA. 558+84.22 559+63.78

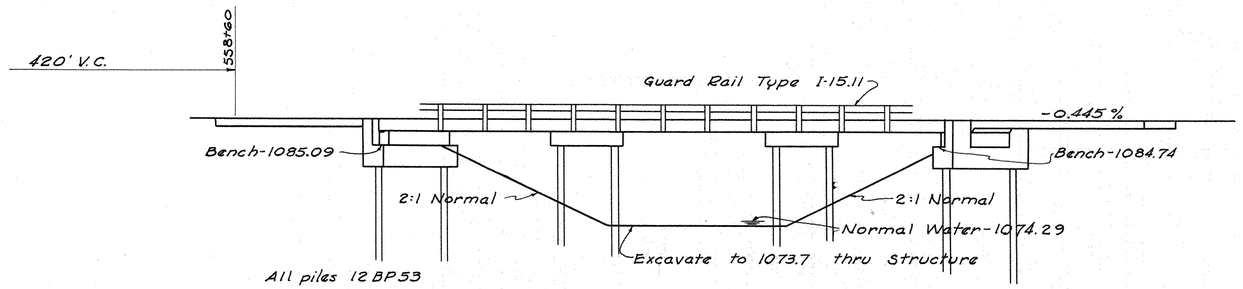
PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Aerial Survey	P.P.K.	P.P.K.	B.C.P.	

FED. RD. DIVISION	STATE	PROJECT		43/48
2	OHIO			

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR. Nº-LOG-287-1059
Part 4 of 4



PLAN



ELEVATION

GENERAL NOTES

REFERENCE shall be made to Standard Drawings A-1-54, P-1-54, and CS-1-54 revised 12-1-54, 2-2-59, and 7-16-56 respectively

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic, the existing structure shall be removed. The substructure shall be removed to at least 6 in. below the proposed ground surface and to whatever extent is necessary to avoid interference with the new construction, including pile driving. Suitable waste masonary shall be used as bank protection as directed by the Engineer.

The remainder of the removed materials shall be disposed of by the Contractor except; steel floor beams and joists; creosoted strip flooring and metal construction clips; steel beam railing on bridge and approaches; steel beams on abutments; floor in sections not to exceed 4'-0" in width. These materials shall be carefully removed and piled along the right-of-way for disposal by the States Forces.

EXCAVATION QUANTITIES for the abutments, in addition to that outlined in Sec. E-2.09, includes the removal of material bounded by the proposed bench, by the front vertical plane described in Sec. E-2.09 and by the finished slope of the cut.

MACHINE FINISH: At the option of the Contractor, the top of the bridge deck slab may be machine finished.

PIER PILE ENCASEMENT as shown on Std. Drwg. Nº P-1-54 is not required. The painting of the piles shall extend to low water elevation or, if the proposed surface of the ground is above low water, it shall extend to at least one foot below the proposed surface of the ground.

EXISTING GUARD RAIL to be dismantled by the Contractor and placed within the Right-of-Way to be removed by State Forces. Payment to be included in Item 3-24, Removal of Existing Structure.

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 bar

REPLACEMENT BARS: If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. 3-4.02 need not be furnished and replacement bars will not be required.

PILES: shall be driven to a minimum bearing capacity of 24 tons per pile for the abutments and 30 tons per pile for the piers.

DISPOSITION OF RETAINING WALL left sta. 558+93 to be included under Item S-24, Removal of Existing Structure.

As Built		ESTIMATED QUANTITIES							
		ITEM	TOTAL	UNIT	DESCRIPTION	SUPSTR.	ABUT.	PIERS	GEN.
CO-4 F 229	0 11	E-2	46	Cu. Yd.	Excavation for Structures, Unclassified		46		
		E-3	583	Cu. Yd.	Channel Excavation				583
		S-1	119	Cu. Yd.	Concrete for Structures, Superstructure and pier caps, Class "C"	107		12	
		S-1	40	Cu. Yd.	Concrete for Structures, Abutments, Class "E"		40		
		S-4	31958	Lbs.	Reinforcing Steel	24917	4313	2728	
		S-14	159.12	Lin. Ft.	Railing, Type I-15.11 with galvanized steel posts and bolts.	159.12			
		S-16	Lump	LumpSum	First test pile.				Lump
CO-4 F-19	706	S-18	480	Lin. Ft.	Steel Piles 12 BP 53		372	408	
		S-24	Lump	LumpSum	Removal of existing structure				Lump
		S-29	12	Cu. Yd.	Porous backfill		12		
		I-10	212	Sq. Yd.	Crushed aggregate slope protection				212
		Spec.	119	Ea.	Water-reducing set-retarding admixture*	107		12	

*See Proposal.

KOHLI & KALIHER ENGINEERS LIMA, OHIO

GENERAL PLAN AND ELEVATION, NOTES, AND ESTIMATED QUANTITIES
BR. Nº-LOG-287-1059 OVER
BIG DARBY CREEK
LOGAN COUNTY

STA. 558+84.22
559+63.78

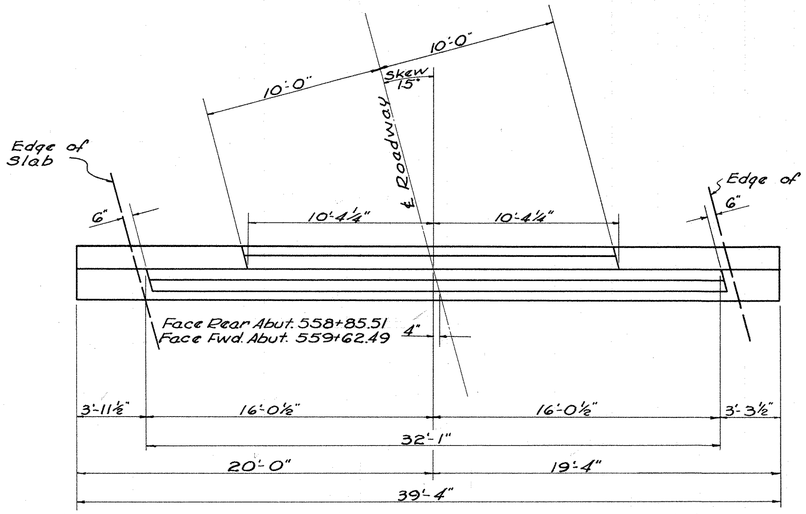
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED BY	REVISED
B.C.P.	B.C.P.	B.C.P.	R.P.K.		

[10] Revised As-Built CAM-2-13-64

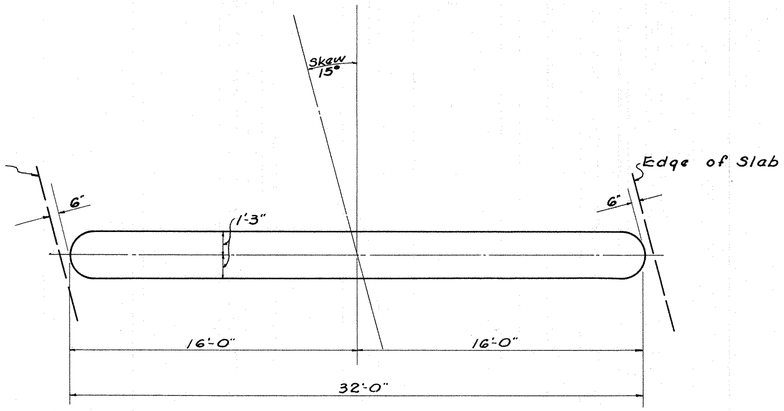
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

44
48

LOGAN COUNTY
LOG-287-(0.66)(4.48)(8.82)(10.52)
BR.No-LOG-287-1059
Part 4 of 4



PLAN



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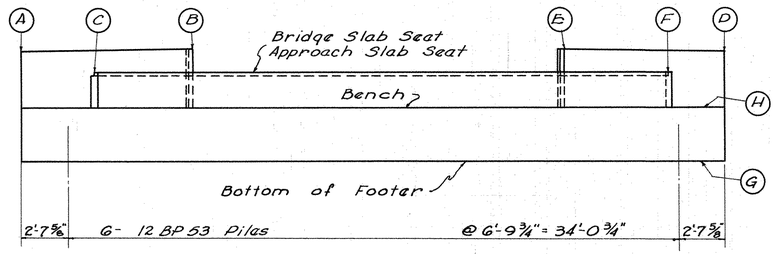
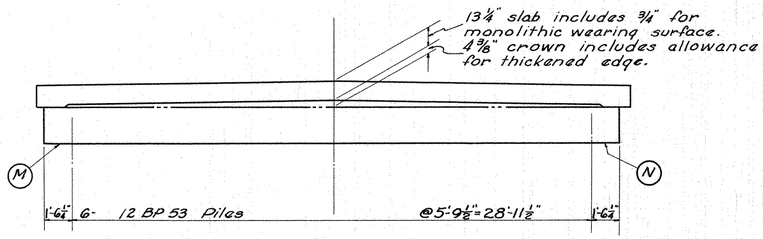


ELEVATION

ELEVATIONS		
POINT ON ABUTMENT	REAR ABUTMENT	FORWARD ABUTMENT
A	1088.30	1087.90
B	1088.44	1088.06
C	1087.12	1086.74
D	1088.27	1087.96
E	1088.41	1088.06
F	1087.09	1086.78
G	1082.09	1081.74
H	1085.09	1084.74



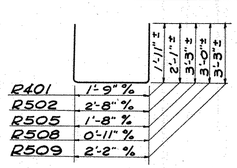
ELEVATION

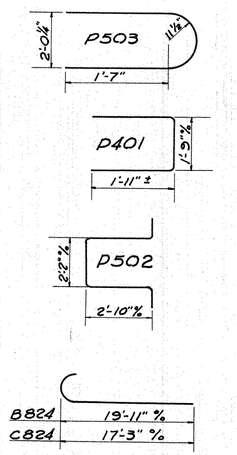
ELEVATIONS		
POINT ON PIER	REAR PIER	FWD. PIER
M	1084.98	1084.85
N	1085.02	1084.88

REINFORCING STEEL LIST

MARK	NO.	LENGTH	WT.	SHP
ABUTMENTS				
R401	48	5'-5"	174	B
R501	16	20'-3"	338	S
R502	16	6'-7"	796	B
R503	8	16'-8"	139	S
R504	24	5'-4"	133	S
R505	28	7'-11"	231	B
R506	8	9'-0"	75	S
R507	16	5'-1"	85	S
R508	16	6'-8"	111	B
R509	16	8'-5"	140	B
R801	16	20'-9"	886	S
R1001	16	17'-6"	1205	S
PIERS				
P401	48	5'-5"	174	B
P501	4	29'-6"	123	S
P502	48	9'-0"	451	B
P503	8	6'-4"	53	B
P901	8	29'-6"	802	S
P1001	8	32'-8"	1125	S
SUPERSTRUCTURE				
A824	87	28'-1"	6523	S
B824	28	21'-0"	1570	B
C824	28	18'-4"	1371	B
D824	14	19'-6"	729	S
E824	14	15'-10"	592	S
F924	58	22'-11"	4519	S
G924	28	12'-2"	1158	S
H924	28	9'-10"	936	S
J601	30	15'-3"	687	S
K601	15	12'-2"	274	S
M601	80	32'-7"	3915	S
N601	54	32'-7"	2643	S
REPLACEMENT BARS				
RE401	1	5'-3"		S
RE501	1	5'-7"		S
RE601	1	5'-11"		S
RE701	1	6'-3"		S
RE801	1	6'-6"		S
RE901	1	6'-10"		S
RE1001	1	7'-2"		S

BENDING DIAGRAM





KOHLI & KALIHER
ENGINEERS LIMA, OHIO

PIER AND ABUTMENT DETAILS, AND REINFORCING STEEL LIST
BR.NO. LOG-287-1059 OVER BIG DARBY CREEK
LOGAN COUNTY

STA. 558+84.22
559+63.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED BY	REVISED
B.C.P.	B.C.P.	B.C.P.	R.R.K.		