Holmes-SR, 76-13.75

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

Supplemental Specification T-110
For
Traffic Compacted Surface Course

Revised 8-3-36

T-110.01 Description. This item shall consist of a wearing course of "Bank or Crusher Run Aggregate" placed on the completed and accepted subgrade in accordance with these specifications and in conformity with the lines, grades, and typical cross-section shown on the Plans.

T-110.02 Materials. The material shall be "Bank or Crusher Run Aggregate." The quality of the aggregate shall meet the requirements of M-3.3, M-3.7 or M-3.10 of the "Material Details" of the General Specifications, except under M-3.10 the per cent of wear shall be not over 30% and the soundness test will be waived.

The grading of the aggregate shall meet the following requirements:

Passing	1½"	Sieve	100%
"	1"	"	90-100%
"	3/4"	"	60-85%
"	3/8"	"	40-75%
"	No. 4	"	30-60%

Clay (material passing No. 200 sieve)
Not to exceed 10%

T-110.03 Conditioning of the Subgrade. Wavy and irregular surfaces shall be eliminated and the subgrade maintained in this condition until the application of material under this item. The completed subgrade shall conform to the profile and typical cross-section shown on the Plans. When the subgrade is soft, due to rains, frost or snow, the Contractor will be permitted to place material only as directed by the Engineer.

T-110.04 Spreading and Shaping. The material shall be uniformly spread in layers as shown on the Plans, by means of an approved spreader box, or any other method approved by the Engineer. The amount of material spread per lin. ft. shall be the amount shown on the Plans. The material shall then be bladed and shaped to the cross-section as shown on the Plans. The material shall be hauled to its place on the road over the previously spread material. The hauling shall be conducted in such a manner that a uniform compaction over the entire width of the surfacing material is obtained. Rolling will not be required unless otherwise specified.

T-110.05 Dragging or Blading. After the material has been shaped it shall be bladed and (or) dragged each day as directed by the Engineer, throughout the life of the contract, and in no case for less than ten days after the final spreading of the material. The road shall be opened to traffic immediately after all the material has been spread and shaped unless otherwise directed by the Engineer.

T-110.06 Protection. All holes, ruts, defects or soft places which occur in the subgrade, or surface by reason of any traffic or hauling over the same, or from any other cause, shall be corrected by adding material and dragging. The surface, slopes, shoulders, ditches and drainage structures shall be maintained until the work embraced in this item has been completed and accepted.

T-110.07 Method of Measurement. The amount to be paid for shall be the cubic yards (measured loose in the vehicle at the point of delivery) or the tons of accepted material placed, shaped, bladed and dragged as shown on the Plans and as provided above.

The cubic yards of aggregate used shall be calculated by converting weights to cubic yards in accordance with the following table:

Weight of Aggregates

One Cu. Yd. of aggregate, Sec. M-3.7
shall be considered to weigh 2400 lbs.
One Cu. Yd. of aggregate, Sec. M-3.3
shall be considered to weigh 2600 lbs.
One Cu. Yd. of aggregate, Sec. M-3.10
shall be considered to weigh 2800 lbs.

T-110.08 Freight Bills and Weights. If the work is specified on a tonnage basis, the contractor shall, before final estimate is allowed, file with the Department of Highways, receipted freight bills where railroad shipments are made, and certified weigh-bills when materials are received by any other method, showing the actual tonnage of aggregate that has been used. If the work is specified on a yardage basis, the contractor must furnish itemized evidence of the yardage of aggregate that has been used. Freight bills, weigh bills, and yardage certificates shall be furnished to the inspector as requested during the progress of the work.

T-110.09 Basis of Payment. The tonnage or yardage measured as provided above shall be paid for at the contract unit price per ton bid or per cubic yard bid for "Item T-110 Traffic Compacted Surface Course" which price shall constitute full compensation for furnishing all material, hauling, placing, blading, and dragging and for all labor, equipment, tools, and incidentals necessary to complete this item.

FG-532-(12)

Fed Ad Division	STATE	PROJECT	TYPE FUNDS
2	OHIO	FG-532(12)	POST WAR

1/33

HOLMES COUNTY
S.H. 342 SEC. B-2 (PT)
HOL-76-13.75

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
MILLERSBURG-WOOSTER ROAD
S.H. 342 SEC. B-2 (PT)
RECONSTRUCTION OF EXISTING SEPARATED CROSSING WITH PENNSYLVANIA RAILROAD
HOLMES COUNTY
PRAIRIE TOWNSHIP

CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CORPORATION LINE
PROPERTY LINE
FENCE LINE
CENTER LINE
STEAM RAILROAD
POLE LINE — ℄ Telephone ℄ Electric
HEDGE
DRAIN PIPE (NEW)
DRAIN PIPE (OLD)
GUARD RAIL (NEW)
GUARD RAIL (OLD)

INDEX OF SHEETS

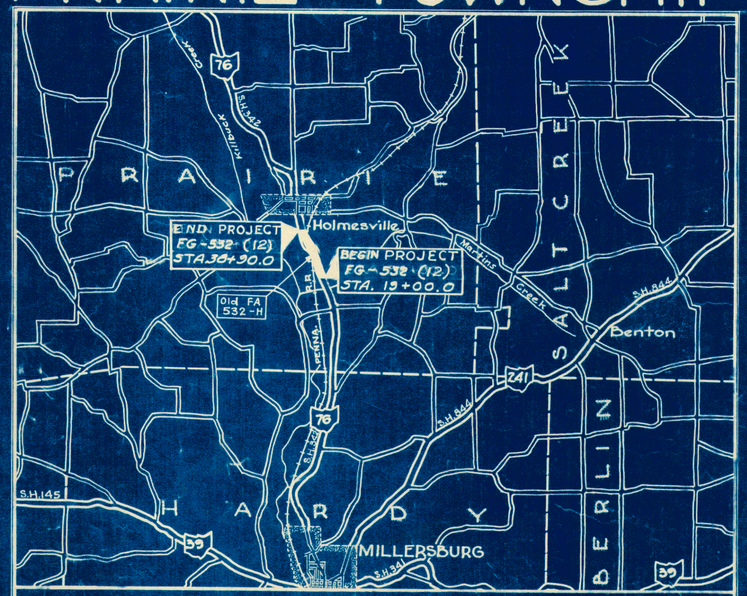
TITLE SHEET	1
TYPICAL SECTIONS	2
TYPICAL DETAILS & GENERAL NOTES	3
RAILROAD FORCE ACCOUNT WORK	4
LAYOUT PLAN	4
SUMMARY	5-6
PLAN & PROFILE	7-10
CURVE TABLES	11
CROSS SECTIONS 20' SPAN & UNDER	12-16
STRUCTURES 20' SPAN & UNDER	17-18
EXCAVATION UNDER STRUCTURE	19-20
APPROACH SLABS	21
APPROACHES	22-23
BRIDGE DETAILS	24-33

LINE DATA

BEGIN PROJECT STA. 19+00.0
END PROJECT STA. 38+90.0
GROSS LENGTH OF PROJECT 1990.0 LIN. FT.
NO ADDITIONS OR DEDUCTIONS
NET LENGTH OF PROJECT 1990.0 LIN. FT. OR 0.376 MI.
BEGIN WORK STA. 17+57.5
END WORK STA. 39+50.0
GROSS LENGTH OF WORK 2192.5 LIN. FT.
DEDUCTION :-(EQUATION-STA. 18+78.73 BACK = STA. 18+81.57 AHEAD) = 2.84 LIN. FT.
NET LENGTH OF WORK 2189.66 LIN. FT. OR 0.414 MI.

EQUATION WITH FORMER FEDERAL PROJECT :-
STA. 19+00 OF FG-532(12) EQUALS
STA. 199+17 OF FA PROJ. 532-H

FILE No.	
	HOLMES COUNTY S.H. 342
	SEC. B-2 (PT) PENNA. OVERHEAD
	DATE OF LETTING ____ 194
	CONTRACT No. ____



AVERAGE HAUL FROM SIDING 0.9 MILE
DELIVERY POINT-HOLMESVILLE

LOCATION PLAN
Scale 1" = 1 MILE

PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER ROADS

SCALES

PLAN	1" - 50'
PROFILE (HORIZONTAL)	1" - 50'
PROFILE (VERTICAL)	1" - 5'
CROSS SECTIONS	1" - 10'

STANDARD DRAWINGS			
G-8.07	2-1-47	C.S.B-1-46 Sheets 1 & 2	9-4-46
L.B.C. 45	6-14-45	I-14-G	2-1-47
AS-44-F	1-18-46	B-T-71 R	2-1-47
I-1, 2, 3, 4 & 5	2-20-45		
I-8 C.B. 1-2 A & B	12-15-41		
L-3	2-1-47		

SUPPLEMENTAL SPECIFICATIONS		
T-110	Rev. 8-3-36	

The standard specifications of the State of Ohio Department of Highways, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the highw and that provision for the maintenance an safety of traffic will be as set forth on the p and estimates.

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

Approved Dawson W. Smith
Date 2/21/49 Acting Resident Deputy Dire

Approved
Date ____ Division Deputy Director

Approved
Date ____ Chief Engineer, Bureau of Maintenance

Approved Fred Ost
Date 2-23-49 Chief Engineer, Bureau of Bridges & R.R. Crossings

Approved Geo. J. Sherman
Date 2/28/49 Acting Chief Engineer, Bureau of Location & Design

Approved S. Lingell
Date 2/8/49 Ass't. Director & Chief Engineer

Approved A. H. Bauder
Date 2/2/49 Director of Highways

Print
Approved The Pennsylvania Railroad Co.
Date 10-14-48 by D.L. Sommerville, Chief Engineer

RECOMMENDED FOR APPROVAL DATE

DISTRICT ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

APPROVED DATE

DIVISION ENGINEER
PUBLIC ROADS ADMINISTRATION
FEDERAL WORKS AGENCY

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532-(12)	1948

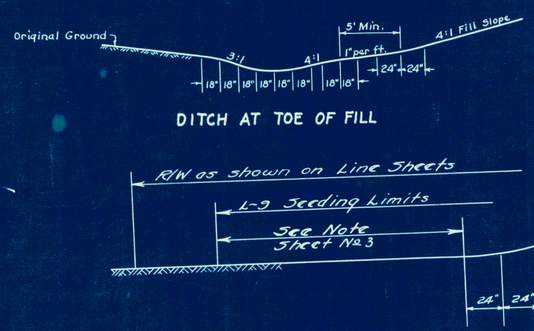
2 / 33

HOLMES COUNTY
S.H. 342 SEC. B-2 (PT.)

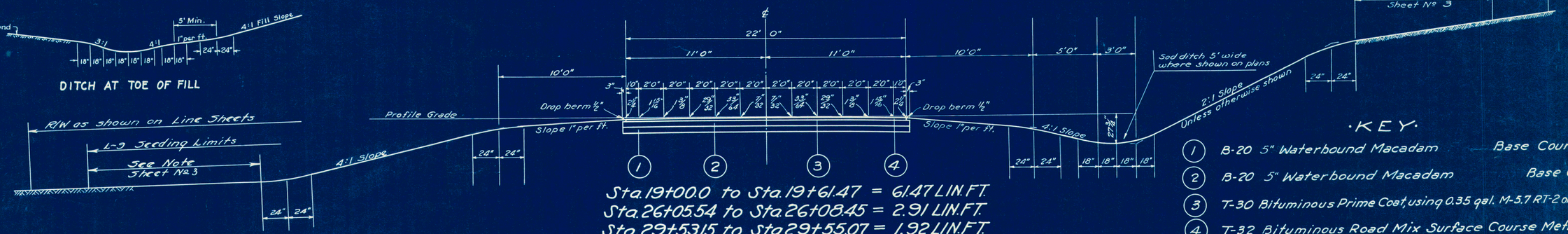
TYPICAL SECTIONS

TYPE B-20 & T-32

SCALE 1/4" = 1'0"



DITCH AT TOE OF FILL

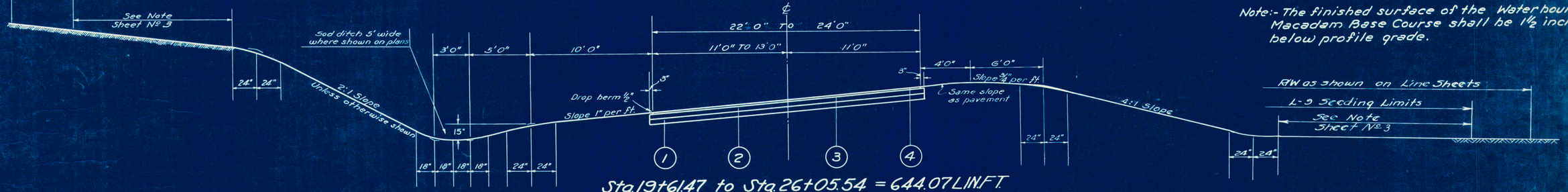


Sta. 19+00.0 to Sta. 19+61.47 = 61.47 LIN.FT.
Sta. 26+05.54 to Sta. 26+08.45 = 2.91 LIN.FT.
Sta. 29+53.15 to Sta. 29+55.07 = 1.92 LIN.FT.
Sta. 36+51.55 to Sta. 38+90.0 = 238.45 LIN.FT.

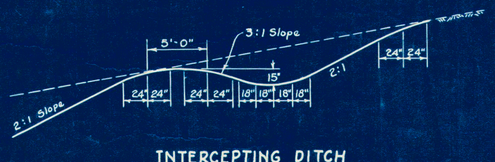
·KEY·

1. B-20 5" Waterbound Macadam — Base Course
2. B-20 5" Waterbound Macadam — Base Course
3. T-30 Bituminous Prime Coat, using 0.35 gal. M-5.7 RT-2 or 3, per sq. yd.
4. T-32 Bituminous Road Mix Surface Course Method A or C using 0.056 Cu. Yds. No 46 aggregate and 0.80 gal. Sec. M-5.7 Rt-7 per sq. yd. Bituminous Seal Coat using 0.00375 Cu. Yds. No 9 choke aggregate, 0.25 gal. Sec. M-5.7 Rt-8 and 0.0075 Cu. Yds. No 6 cover aggregate per sq. yd.

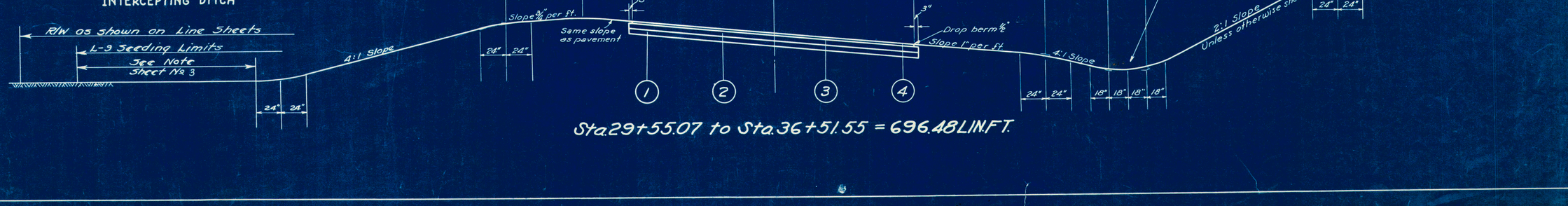
Note:- The finished surface of the Waterbound Macadam Base Course shall be 1½ inches below profile grade.



Sta. 19+61.47 to Sta. 26+05.54 = 644.07 LIN.FT.

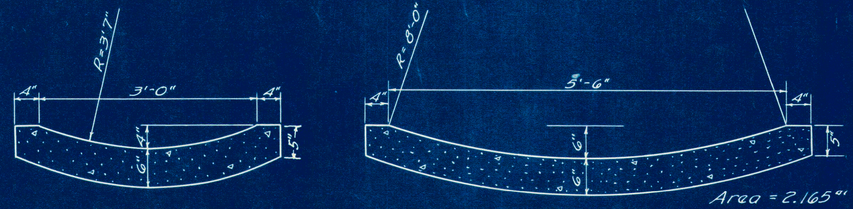


INTERCEPTING DITCH



Sta. 29+55.07 to Sta. 36+51.55 = 696.48 LIN.FT.

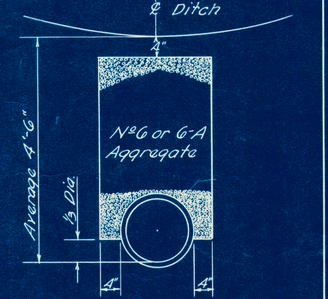
-TYPICAL DETAILS-



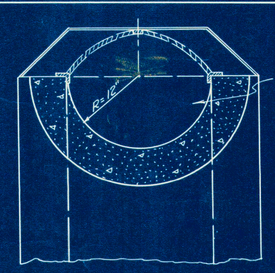
TYPE 2 TYPE 1

Note :- Paved gutters shall be constructed of stone, broken concrete, or brick to a minimum thickness of 8" or of new concrete to a minimum thickness of 6". When constructed of material other than new concrete, the material shall be grouted in place. The new concrete shall be Class "E".

DETAIL OF PAVED GUTTER

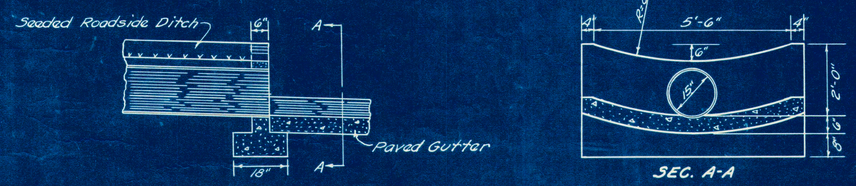


ROADWAY DRAINAGE UNDER DITCH

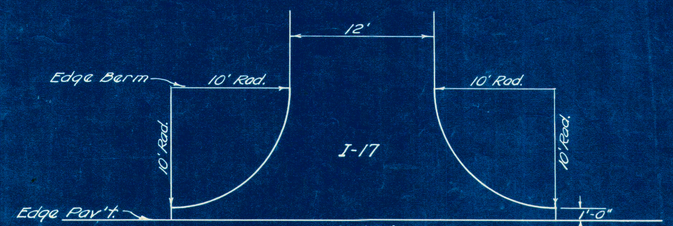


DETAIL SHOWING MODIFIED I-2A CATCH BASIN

Note :- This construction will be used where paved gutter is constructed beyond the outlet of the pipe. This construction applies at Sta. 18+22.5 on the Rt. This headwall shall be used in lieu of the I-A shown on Std. construction drawing №s I-1, 23, 4 & 5. The cost shall be included in price bid per lin. ft. for "Item I-3 Roadway Drainage.



DETAIL OF OUTLET HEADWALL FOR DRAINAGE



NORMAL

PRIVATE DRIVES

-GENERAL NOTES-

L-9 SEEDING AND PROTECTING ROADWAY AREAS :- The area of seeding is estimated to extend 10 feet beyond the slope limits in the cut and fill sections, or to the right of way line if it is less than 10 feet beyond the limits of work, except on areas which call for sodding or paving. Additional areas have been estimated for seeding where the old pavement outside the limits of construction is specified for removal, also where construction limits extend beyond R.R. R/W line. Areas unnecessarily disturbed by the contractor in the opinion of the Engineer beyond the limits estimated shall be seeded according to the requirements of Item L-9 at the contractors expense.

SODDING :- Areas to be sodded shall be loosened to a depth of two (2) inches just prior to laying the sod. This work to be included for payment in the price bid per sq. yd. for sodding. Time limitations as set up in the Specifications for Sodding, may be waived at the direction of the director. Sod in ditches shall be laid transversely to the centerline of the ditches and in unbroken lengths. In the event time limitations are waived, the contractor shall place 2" mulch over all sodded areas. The cost to be included in unit price bid per sq. yd. of sodding.

LIME :- Agricultural Ground Limestone shall be used at the rate of 100 lbs. per 1000 sq. ft. The fertilizer and lime shall be incorporated in the soil to a minimum depth of 2 inches and both items may be incorporated in the some operation.

The Agricultural Ground Limestone shall be of a fineness that 99% will pass a 10 mesh sieve, with 40% passing a 100 mesh sieve; and with a minimum total neutralizing power of 95%.

SCALPING :- Material removed by scalping operations shall be used in the finishing of berms, slopes and ditches. Depth of this material shall be approximately two (2) inches. The actual area to be covered will depend on the amount of material obtained. Payment for this work shall be included in Item E-1.

FERTILIZER :- Fertilizer of 10-6-4 formula shall be used on all seeded and sodded areas, at the rate of 20 lbs. per 1000 sq. ft.

SUPERELEVATION :- Superelevated curves shall be built without crown. The crown shall be worked out of the pavement in that portion between the beginning of the transition and the point where the superelevation equals twice the crown.

DISPOSAL OF WASTE MATERIAL :- Any excavation which is unfit for incorporation in the improvement and which would appear unsightly, shall be covered with earth to a minimum of 18" and made to conform to the contour of the adjacent land and seeded in accordance with L-9, if wasted within 300' of the right-of-way, without expense to the State, not withstanding the written permission of the property owner to do otherwise.

FIELD HOUSE :- The contractor shall provide a suitable "Field Office" for the exclusive use of the engineer and inspectors assigned to this project. This office shall have a minimum of 120 sq. ft. of floor space and so arranged, equipped and lighted that the State employees will have a convenient place for making the necessary records, etc., and have a safe place for storage of equipment, plans and necessary supplies. The contractor shall have a telephone installed and maintained during construction of this project. When the work is in progress during cold weather, the office shall be heated to a temperature of at least seventy (70°) degrees fahrenheit (See Section 3-0.01(b) of the Construction and Material Specifications.)

PIPE :- All existing pipe marked "Remove and Store" shall be neatly stored within the right-of-way and left at the disposal of the States forces.

SUBGRADE COMPACTION :- The thickness of subgrade, in cuts, to be compacted on this project shall be eight (8) inches loose measurement and the width of subgrade compaction shall be the width of the pavement plus eighteen (18) inches each side of the pavement.

SEEDING :- Seeding on this project shall be performed in accordance with Item L-9, on berms, fill slopes, cut slopes and ditches, except where sodding is specified. Seeding shall be at the rate of 4 lbs. per 1000 sq. ft. All legumes shall be inoculated.

COMPACTION :- Compaction will not be required on the top four (4) inches of the area to be seeded.

REMOVAL OF EXISTING PAVEMENT :- Where specified on plans, the existing pavement shall be removed and disposed of. The entire area of the existing roadway outside of the construction limits shall be scarified and leveled over to present a uniform surface for seeding. Payment for this work shall be included in price bid per sq. yd. for "Removal of existing pavement".

TREES :- Payment for removal of trees and stumps shall be included in bid item "E-1 Excavation" in accordance with Sec. E-1.02. Approximately five trees and stumps 12" or more in diameter are to be removed.

CHOKE :- After the initial and before the final rolling of the road mix surface course, choke aggregate shall be evenly spread over the entire surface through an approved spreader. If uniform distribution has not been obtained, the aggregate shall be broomed to obtain same.

TRAFFIC NOTE :- Two-way traffic shall be maintained between Sta. 19+00 and Sta. 27+00 and from Sta. 33+30 to Sta. 38+90.

The contractor shall arrange his operations so that traffic inconvenience will be held to a minimum. Methods of work procedure and traffic maintenance between the above stations shall be submitted to the Engineer for approval. Traffic lanes shall be maintained daily in a manner satisfactory to the Engineer. The roadway for all two-way traffic lanes shall be 20 foot width of aggregate. The estimated quantities of T-110 aggregate and M-10 Calcium chloride, for maintaining traffic, are to be placed at the direction of the Engineer.

EMBANKMENT :- In lieu of the requirements for full width construction under E-1.05 the embankment, where traffic is maintained, may be placed in part width construction.

GRANULAR MATERIAL :- Granular material as defined under Sec. E-1.05 of the Specifications shall be placed full cross section width to a depth of two feet immediately below the pavement slab in all embankments on this project and in the areas indicated on the cross sections between Sta. 23+00 and Sta. 25+50. The granular material shall be reserved from the excavation or borrow. Payment for this work shall be included in the price bid for Items E-1 and E-4.

ROAD MIX QUANTITIES :- The quantity of bituminous material estimated for the bituminous road mix has been calculated for use with stone or gravel aggregate. If the contractor elects to use slag aggregate, bituminous material for the road mix surface course shall be applied at the rate of 1.00 gallon per sq. yd. which will require a total of approximately 4199 gallons. Payment will be made on final measurements.

UTILITY ADJUSTMENT :- Any and all work required for Public or Private utilities will be done by and at the expense of their respective owners unless otherwise noted in these plans.

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532-(12)	1948

3/33

HOLMES COUNTY
S.H. 3A2 SEC. B-2 (Pt.)

~~SEPARATION OF QUANTITIES FOR APPROACH SLABS~~

DESCRIPTION	
-Roadway-	
E-1 Roadway Excavation (Unclassified)	13. Cu. Yds.
E-4 Borrow (Contractor to Furnish)	229. Cu. Yds.
E-11 Water	1.1 M. Gals.
I-7 Approach Slab Concrete (Class "E")	98.2 Sq. Yds.
T-30 Bituminous Tack Coat	10. Gals.
T-35 2½" Asphaltic Concrete Surface Course (Type "A")	6.5 Cu. Yds.
L-9 Seeding and Protecting Roadway Areas	180. Sq. Yds.
L-9 Agricultural Ground Limestone	102. Lbs.
L-9 Commercial Fertilizer	33. Lbs.
~~E-8 Removal of Existing 6" Bituminous Pavement~~	~~67. Sq. Yds.~~

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

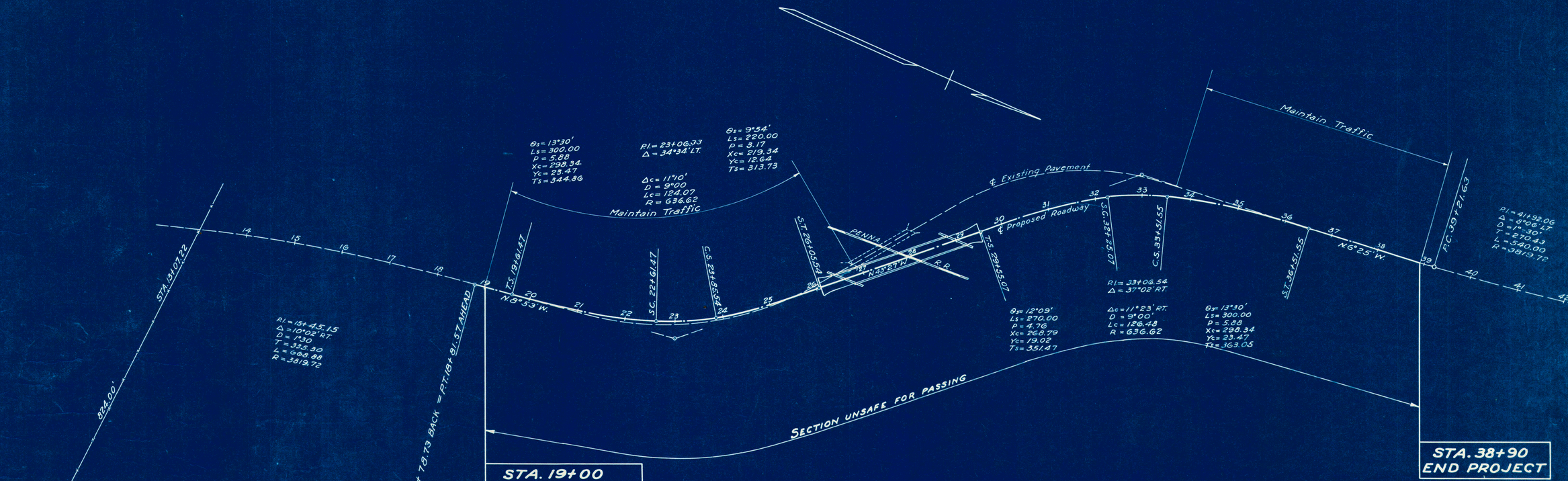
4/33

HOLMES COUNTY
S.H. 342 SEC. B-2(PT.)

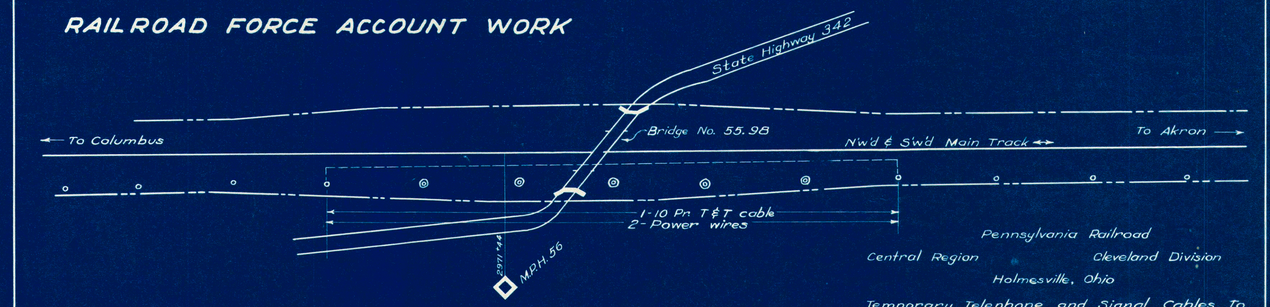
LAYOUT PLAN SHOWING NEW ALIGNMENT IN RELATION TO EXISTING PAVEMENT

SCALE 1" = 100'

ASSUMED DESIGN SPEED 50 M.P.H.



RAILROAD FORCE ACCOUNT WORK



LEGEND

ooo Pole line - Open wire.
@@@ Pole line to be removed & Replaced.
— — — Cables replacing open wires during construction.

Pennsylvania Railroad
Central Region — Cleveland Division
Holmesville, Ohio

Temporary Telephone and Signal Cables To Replace Open Wires During Construction Of Overhead Bridge, State Highway 342

Scale 1" = 100'

Office Div. Eng'n — December 18, 1948
Cleveland, Ohio — Plan No. 19491

Revised 1-4-49

LAYOUT PLAN

SUMMARY OF QUANTITIES

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

5/33

HOLMES COUNTY
S.H. 342 SEC. B-2(PT)

STRUCTURES - 20' SPAN & UNDER - S

REF. Nº	STATION	DETAILED ON SHEET Nº	36" PIPE REMOVE & STORE LIN. FT.	REMOVE EXISTING STRUCTURES LUMP	EXCAVATION STRUCTURE CU. YDS.	EXCAVATION CHANNEL CU. YDS.	CONCRETE FOR STRUCTURES CLASS "C" CU. YDS.	REINFORC'G. STEEL LBS.	
1-S	38+07.7	17 & 18	57	LUMP	232	159	79	11,134	
TOTAL TO SUMMARY			57	LUMP	232	159	79	11,134	

DRAINAGE - D

TOTAL OF SHEET Nº	ROADWAY DRAINAGE PIPE INCLUDING POROUS BACKFILL LIN. FT. 4"	12"	15"	STORM SEWER UNDER PAVEMENT LIN. FT. 12"	STORM SEWER REMOVE & DISPOSE LIN. FT. 12"	ST'D. 1-2A CATCH BASINS EACH	1-2A CATCH BASINS (MOD.) EACH	
8	239	631	164	58	450	3	2	
TOTAL TO SUMMARY	239	631	164	58	450	3	2	

PAVED GUTTER - G

TOTAL OF SHEET Nº	TYPE 1 LIN. FT.	TYPE 2 LIN. FT.	REMOVE & DISPOSE 4½" x 4' CONC. - LIN. FT.	
8	274	40	326	
TOTAL TO SUMMARY	274	40	326	

GUARD RAIL - GR

TOTAL OF SHEET Nº	REMOVE & STORE LIN. FT.	
8	144	
TOTAL TO SUMMARY	144	

PAVEMENT REMOVAL

TOTAL OF SHEET Nº	6" BIT. PAVEMENT SQ. YDS.	8" CONCRETE PAVEMENT SQ. YDS.
8	376	70
9	589	
TOTAL TO SUMMARY	965	70

DRIVES & ROAD APPROACHES - A

TOTAL OF SHEET Nº	I-17 AGGREGATE CU. YDS.	PIPE LIN. FT. 12"
8	57	44
9	21	
TOTAL TO SUMMARY	*90	44

*Includes 15% for compaction.

EROSION CONTROL - EC

TOTAL OF SHEET Nº	SODDING SQ. YDS. SLOPE	SODDING SQ. YDS. DITCH	L-9 TYPE "A" SEEDING SQ. YDS.	FERTILIZER LBS.	AGRICULTURAL GROUND LIMESTONE LBS.	
8			27,205	4897	24,485	
9		670		121	603	
TOTAL TO SUMMARY		670	27,205	5018	25,088	

REINF. CONCRETE APPROACH SLABS - AS

TOTAL OF SHEET Nº	CLASS "C" CONCRETE SQ. YDS.	BITUMINOUS TACK COAT GAL'S.	2½" T-35 ASPH. CONC. SURFACE COURSE TYPE "A" CU. YDS.		
21	98.2	10	6.5		
TOTAL TO RECAP		10	6.5		
TOTAL TO SUMMARY	98.2				

EXCAVATION & EMBANKMENT - E

STATION FROM	STATION TO	ROADWAY EXCAVATION CU. YDS.	WASTE EXCAVATION CU. YDS.	EMBANKMENT CU. YDS.	EMBANKMENT +20% CU. YDS.	
18+22.5	39+50	12,276	.761	16,586	19,903	
TOTAL TO SUMMARY		12,276	* 761	16,586	19,903	

BORROW = 19,903 - (12,276 + 761.) = 6,866 Cu. Yds.

* Waste excavation shall be used in alternate layers and not nearer than 3 feet from subgrade.

RECAP TABLE

FROM TABLE	BITUMINOUS TACK COAT GAL'S.	2½" T-35 ASPHALTIC CONC. SURF. COURSE-TYPE"A" CU. YDS.		
A5	10	6.5		
AP	24	16.6		
TOTAL	34	23.1		

PAVEMENT CALCULATIONS

Begin Project — Sta. 19+00
End Project — Sta. 38+90
Gross length of Project — 1990.0 Lin. Ft.
Deductions :-
Bridge & Approach Pavement. (Sta. 26+08.45 to Sta. 29+53.15) — - 344.7 Lin. Ft.
Net length of Pavement — 1645.3 Lin. Ft.

10" Waterbound Macadam, Item B-20

(1645.3 x 22.5) ÷ 9 = 4113.3 Sq. Yds.
Curve Widening (See Sheet 11) 85.4 + 91.4 = 176.8 Sq. Yds.
Total B-20 = 4290.1 Sq. Yds.
Use 4290 Sq. Yds. 2037.75 Tons

Bituminous Prime Coat, Item T-30

4290.1 x 0.35 = 1502 Gal's.

Road Mix Surface Course, Item T-32

(1645.3 x 22) ÷ 9 = 4021.8 Sq. Yds.
Curve Widening (85.4 + 91.4) = 176.8 Sq. Yds.
Total Area = 4198.6 Sq. Yds.
No. 46 Aggregate 4198.6 x 0.056 = 236 Cu. Yds. 306.8 Tons
Bituminous Material 4198.6 x 0.80 = 3359 Gal's.

Seal Coat, Item T-32

No. 9 Choke Aggregate = 4198.6 x .00375 = 16 Cu. Yds. 16 Tons
No. 6 Cover Aggregate = 4198.6 x .0075 = 32 Cu. Yds. 41.6 Tons
Bituminous Material = 4198.6 x 0.25 = 1050 Gal's.

T-32
19 — 26± = 1817 Sq Yds — 133 Tons — 1905 Gal
29 — 38+90 = 2381.6 — 174 Tons 1454 Gal

- WATER CALCULATIONS -

Total Embankment = 16,302 Cu. Yds.
(16,586 x 5) ÷ 1000 = 83 M. Gal's.

APPROACH PAVEMENT - AP

TOTAL OF SHEET Nº	BITUMINOUS TACK COAT GAL'S.	2½" T-35 ASPH. CONC. SURFACE COURSE TYPE "A" CU. YDS.	B-71 BASE COURSE SQ. YDS.	CONCRETE CURB AS PER PLAN LIN. FT.
21	24	16.6	249.2	131
TOTAL TO RECAP	24	16.6		
TOTAL TO SUMMARY			249.2	131

SUMMARY OF QUANTITIES

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

6
33

HOLMES COUNTY
S.H. 342 SEC. B-2 (Pt.)

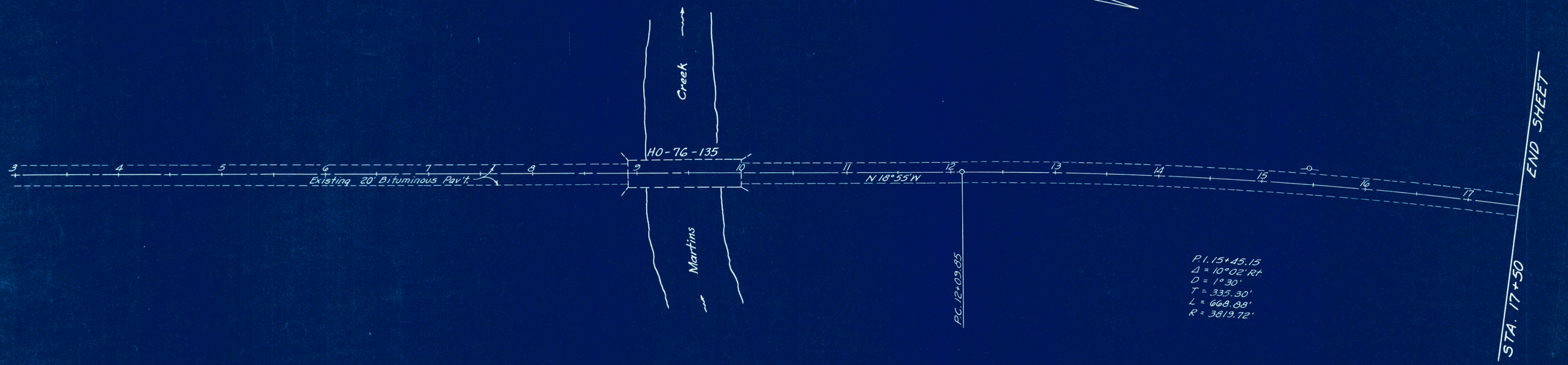
GENERAL SUMMARY

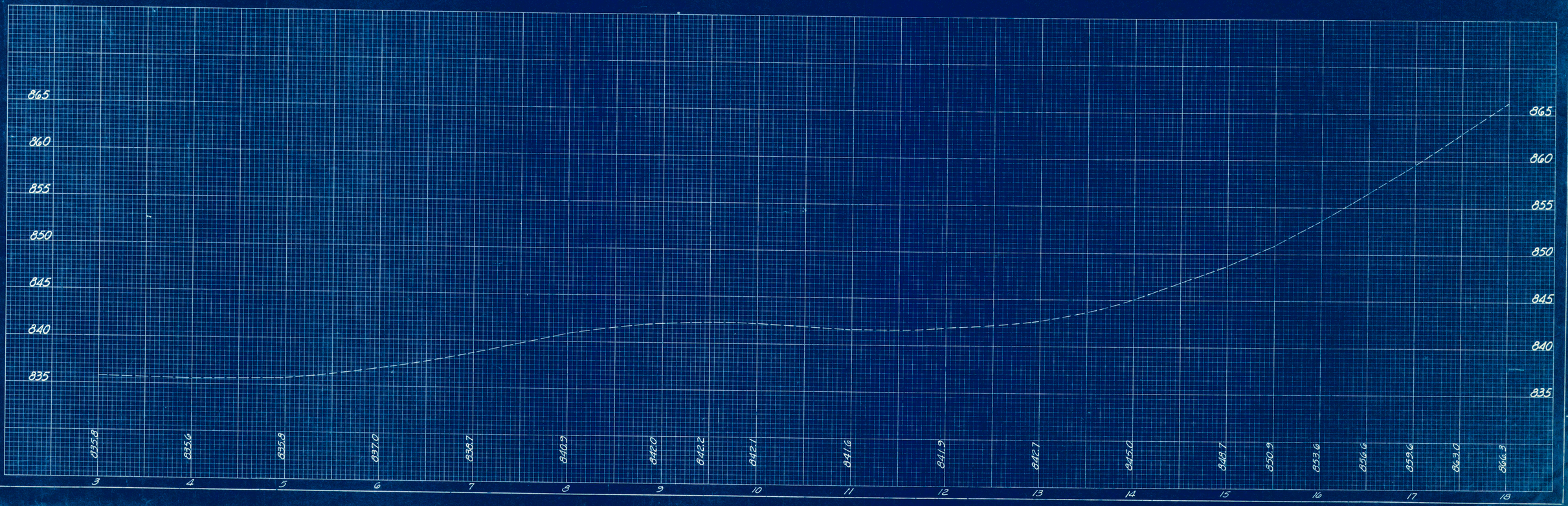
ITEM Nº	CODE No. 423 / QUAN.	UNIT	DESCRIPTION
			-ROADWAY-
E-1	13,037	Cu. Yds.	Roadway Excavation, As Per Plan
E-4	6,866	Cu. Yds.	Borrow, As Per Plan
E-8	965	Sq. Yds.	Removal and Disposal of Existing Bituminous Pavement, As Per Plan
E-8	70	Sq. Yds.	Removal and Disposal of Existing Concrete Pavement
E-8	326	Lin. Ft.	Removal and Disposal of Existing Concrete Gutter
E-11	83	M. Gals.	Water
E-12	450	Lin. Ft.	Pipe Removed and Disposed of, 15" and Under.
E-12	57	Lin. Ft.	Pipe Removed and Stored, Over 15"
I-1	44	Lin. Ft.	12" Pipe for Driveways.
I-2	58	Lin. Ft.	12" Pipe for Storm Sewer Under Pavement
I-3	239	Lin. Ft.	4" Pipe for Roadway Drainage - Including Porous Backfill
I-3	631	Lin. Ft.	12" Pipe for Roadway Drainage - Including Porous Backfill
I-3	164	Lin. Ft.	15" Pipe for Roadway Drainage - Including Porous Backfill
I-8	3	Each	Standard Nº. I-24 Catch Basins
I-8	2	Each	Standard Nº. I-24 Catch Basins, Modified as per plan
I-14	274	Lin. Ft.	Type 1 Paved Gutter, As per plan
I-14	40	Lin. Ft.	Type 2 Paved Gutter, As per plan
I-15	144	Lin. Ft.	Guard Rail Removed and Stored
I-17	90	Cu. Yds.	Sicle Approaches, Mail Box Turnouts and Berm Material
L-9	27,205	Sq. Yds.	Seading and Protecting, Type "A"
L-9	2.51	Tons	Commercial Fertilizer, 10-6-4
L-9	12.54	Tons	Agricultural Ground Limestone
L-10	670	Sq. Yds.	Sodding
M-10	10	Tons	Calcium Chloride for Maintaining Traffic
T-110	500	Cu. Yds.	Traffic Compacted Surface For Temporary Traffic Lanes
			-PAVEMENT-
E-7	38.2	Sq. Yds.	9" Reinforced Concrete Approach Slabs
B-71	250	Sq. Yds.	9" Reinforced Portland Cement Concrete Base Course
T-12	131	Lin. Ft.	Concrete Curb, As Per Plan
T-35	23	Cu. Yds.	Asphaltic Concrete Surface Course, Type "A" or "C" (70-80 or 85-100)
T-30	34	Gal's.	Bituminous Tack Coat, Sec. M-5.5 MS-2
B-20	4290	Sq. Yds.	10" Waterbound Macadam Base Course (Two 5" Courses)
T-30	1502	Gal's.	Bituminous Prime Coat, Sec. M-5.7 RT-2 or RT-3
T-32	236	Cu. Yds.	Nº 46 Aggregate for Road Mix
T-32	3359	Gal's.	Road Mix Bituminous Material, Sec. M-5.7 RT-7
T-32	16	Cu. Yds.	Nº 9 Aggregate for Choke
T-32	32	Cu. Yds.	Nº 6 Aggregate for Seal Coat
T-32	1050	Gal's.	Seal Coat Bituminous Material, Sec. M-5.7 RT-8
			- STRUCTURES 20 FT. SPAN AND UNDER -
E-2	232	Cu. Yds.	Excavation for Structures
S-1	79	Cu. Yds.	Concrete for Structures, Class "C"
E-3	159	Cu. Yds.	Channel Excavation
S-4	11,134	Lb's.	Reinforcing Steel
S-24	Lump	Lump	Removal of Existing Structures
			- STRUCTURES OVER 20 FT. SPAN -
			Quantities for Bridge Nº 40-76-139 (See Structure Plans)
			RAILROAD FORCE ACCOUNT WORK
			Telegraph and Telephone Lines:
			Temporary Work
			Permanent Work
			Construction Engineering

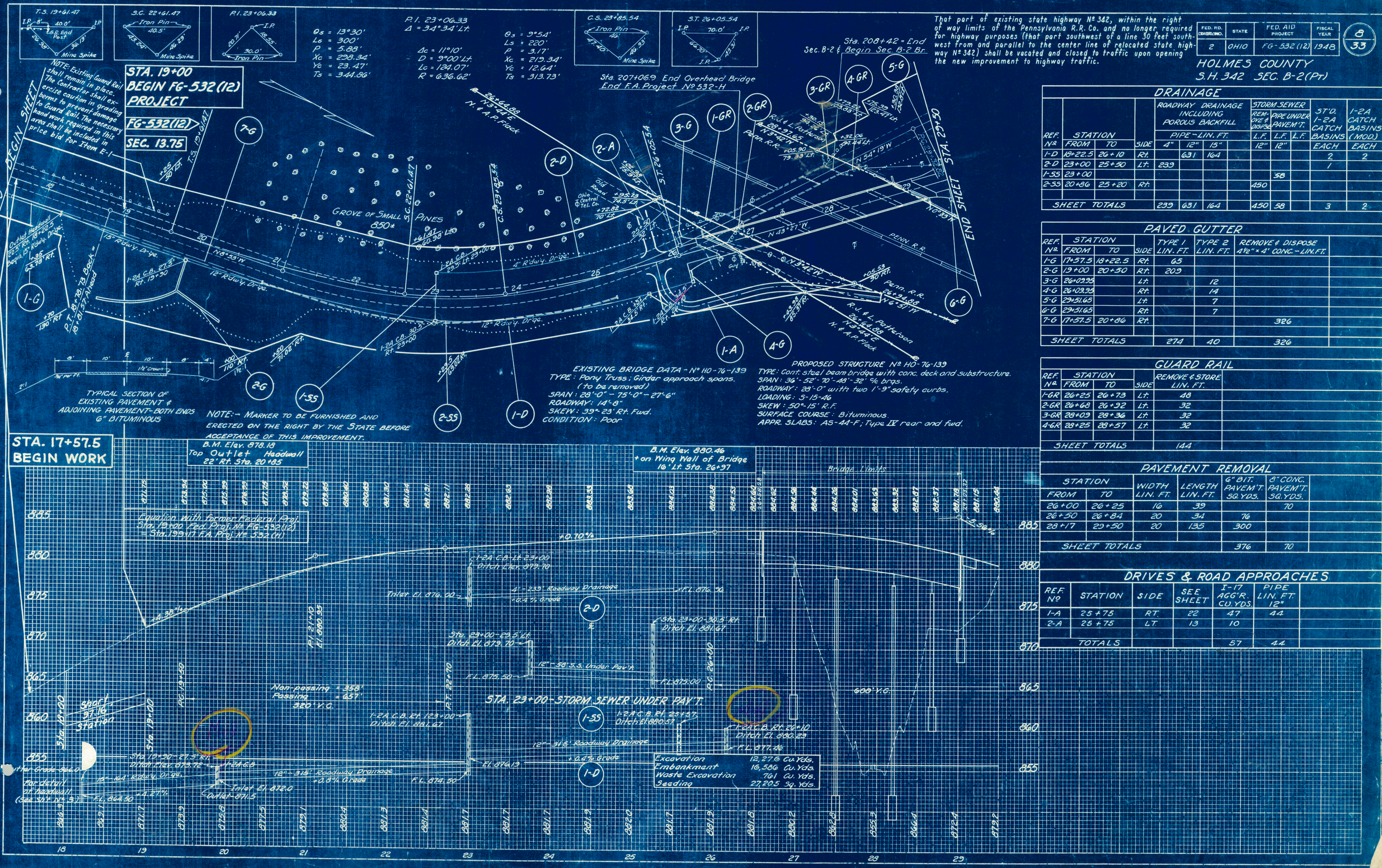
FED. RD DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

7
33

HOLMES COUNTY
S.H. 342 SEC. B-2 (PT)







FED. RD. DESIGNATION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

8
33

DRAINAGE

REF. N°	STATION FROM	STATION TO	SIDE	ROADWAY DRAINAGE INCLUDING POROUS BACKFILL PIPE - LIN. FT. 4"	12"	15"	STORM SEWER REMOVE & DISPOSE PIPE UNDER PAVEM'T. L.F. 12"	18"	L.F.	ST'D. I-2A CATCH BASINS EACH	I-2A CATCH BASINS (MOD.) EACH
1-D	18+22.5	26+10	Rt.		631	164				2	2
2-D	23+00	25+50	Lt.	239						1	
1-55	23+00							58			
2-55	20+86	25+20	Rt.				450				
SHEET TOTALS				239	631	164	450	58		3	2

PAVED GUTTER

REF. N°	STATION FROM	STATION TO	SIDE	TYPE 1 LIN. FT.	TYPE 2 LIN. FT.	REMOVE & DISPOSE 4½" x 4' CONC. - LIN. FT.
1-G	17+57.5	18+22.5	Rt.	65		
2-G	19+00	20+50	Rt.	209		
3-G	26+02.95		Lt.		12	
4-G	26+02.95		Rt.		14	
5-G	29+51.65		Lt.		7	
6-G	29+51.65		Rt.		7	
7-G	17+57.5	20+86	Rt.			326
SHEET TOTALS				274	40	326

GUARD RAIL

REF. N°	STATION FROM	STATION TO	SIDE	REMOVE & STORE LIN. FT.
1-GR	26+25	26+73	Lt.	48
2-GR	26+68	26+92	Lt.	32
3-GR	28+09	28+36	Lt.	32
4-GR	28+25	28+57	Lt.	32
SHEET TOTALS				144

PAVEMENT REMOVAL

STATION FROM	STATION TO	WIDTH LIN. FT.	LENGTH LIN. FT.	6" BIT. PAVEM'T. SQ. YDS.	8" CONC. PAVEM'T. SQ. YDS.
26+00	26+25	16	39		70
26+50	26+84	20	34	76	
28+17	29+50	20	135	300	
SHEET TOTALS				376	70

DRIVES & ROAD APPROACHES

REF. N°	STATION	SIDE	SEE SHEET	I-17 AGG'R. CU. YDS.	PIPE LIN. FT. 12"
1-A	25+75	RT.	22	47	44
2-A	25+75	LT	13	10	
TOTALS				57	44

FED. RD. DISTRICT NO.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
2	OHIO	FG-532(12)	1948	5	33

HOLMES COUNTY
S.H. 342 SEC. B-2 (PT)

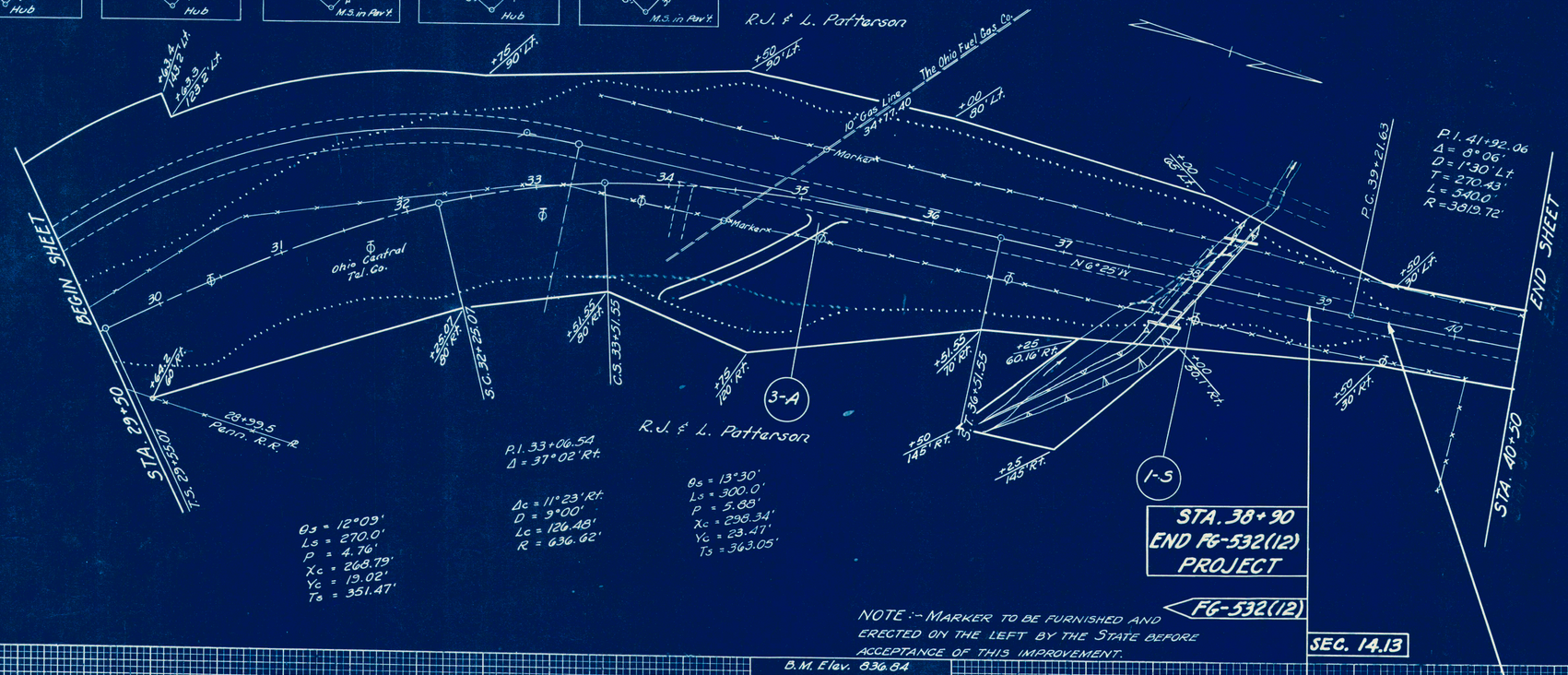
T.S. 29+55.07 — I.P. 26° I.P. 27.10 22.52 Hub

S.C. 32+25.07 — I.P. 24.5° I.P. 15.37 16.36 Hub

P.I. 33+06.54 — I.P. 55.6° I.P. 41.50 M.S. in Pav't.

C.S. 33+51.55 — I.P. 74.8° I.P. 71.38 74.32 Hub

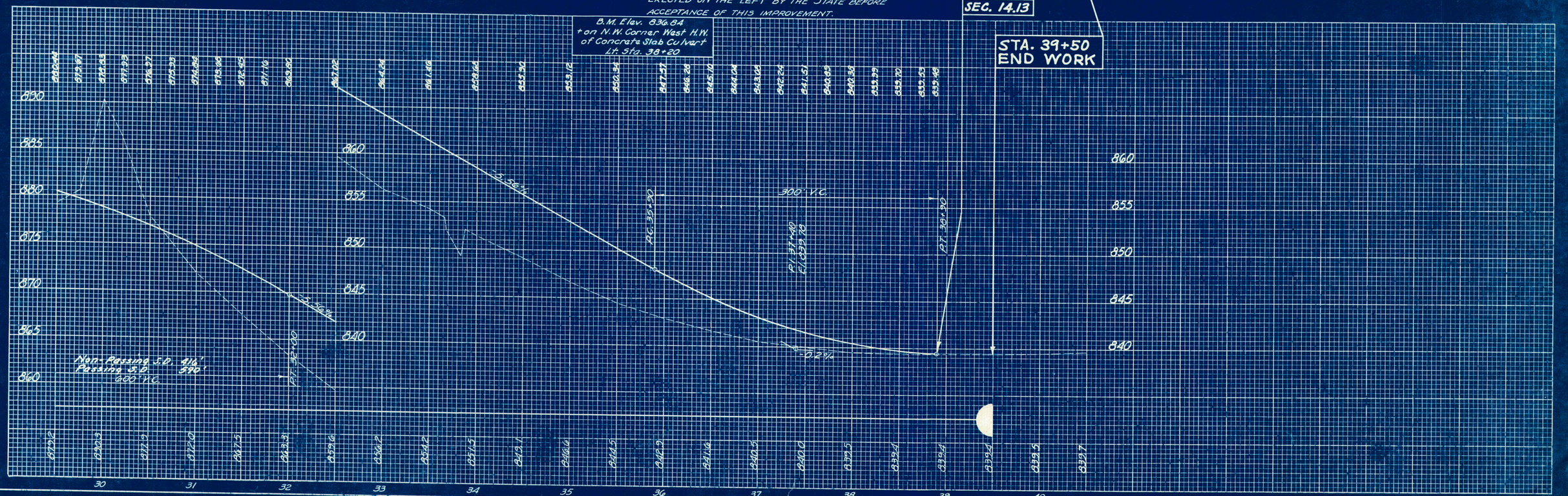
S.T. 36+51.55 — I.P. 39.0° I.P. 40.25 33.56 M.S. in Pav't.



NOTE :- MARKER TO BE FURNISHED AND ERECTED ON THE LEFT BY THE STATE BEFORE ACCEPTANCE OF THIS IMPROVEMENT.

B.M. Elev. 836.84
+ on N.W. Corner West H.W. of Concrete Slab Culvert Lt. Sta. 38+20

STA. 39+50
END WORK



STRUCTURES - 20 FT. SPAN & UNDER

REF. Nº	STATION	SEE SHEET	REMOVALS TYPE	REMOVALS SIZE	REMOVALS LENGTH	NEW WORK TYPE	NEW WORK SIZE	NEW WORK LENGTH
1-S	38+07.7	17 & 18	C.I.P. SLAB TOP	36" 5'×4'	57' 63'	L.B.C.	8'×4'	93'

DRIVES & ROAD APPROACHES

REF. Nº	STATION	SIDE	SEE SHEET	1-17 AGG'R. CU. YDS.
3-A	35+25	Rt.	16	21
SHEET TOTALS				21

PAVEMENT REMOVAL

STATION FROM	STATION TO	WIDTH LIN. FT.	LENGTH LIN. FT.	6" BIT. PAVEM'T. SQ. YDS.
29+50	32+00	20	265	589
SHEET TOTALS				589

EROSION CONTROL

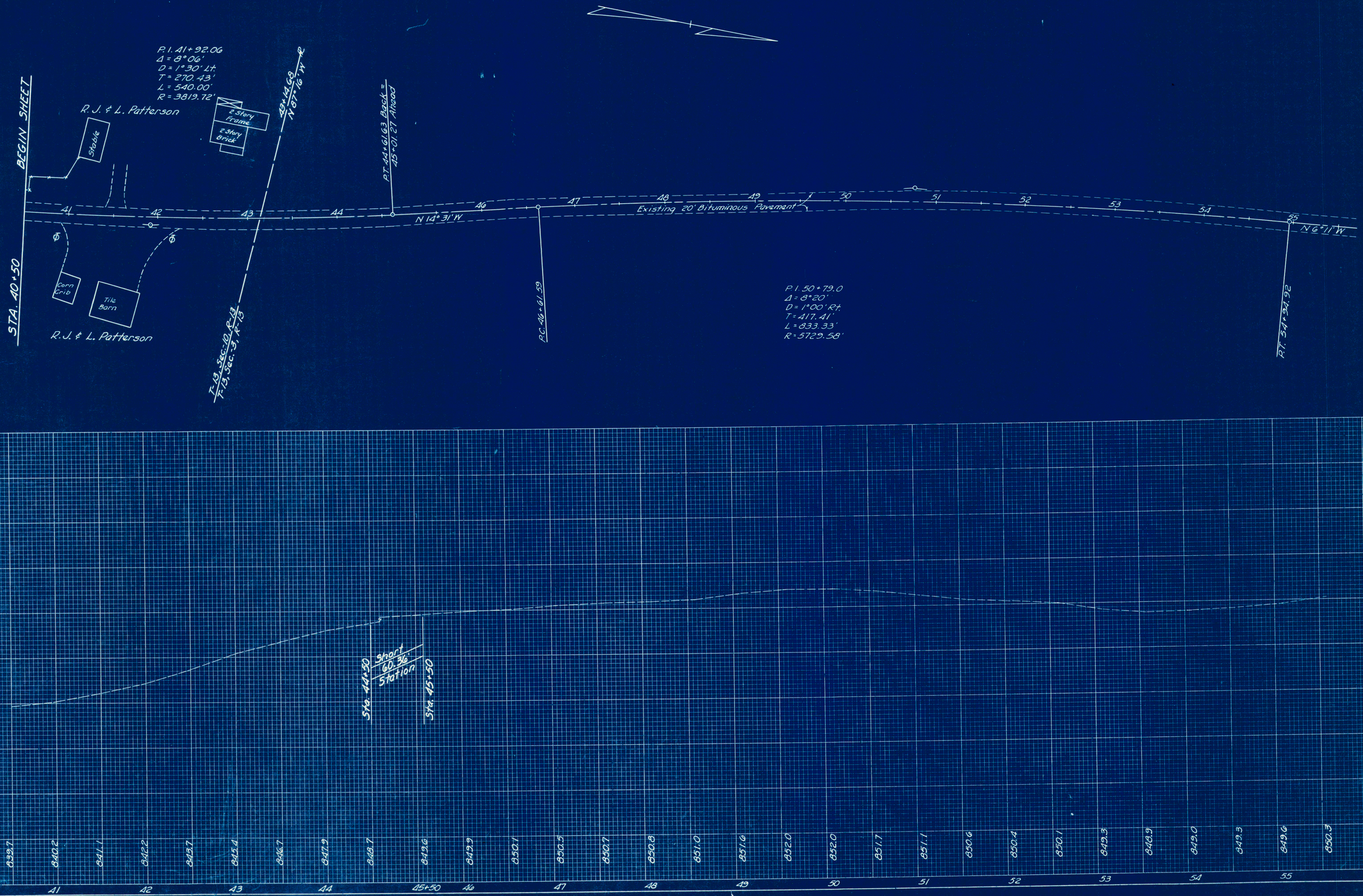
STATION FROM	STATION TO	SIDE	SODDING - SQ. YDS. SLOPE	SODDING - SQ. YDS. DITCH
29+50	38+25	Lt.		670
SHEET TOTALS				670

THE FREDERICK FOOT CO., Chicago

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

10
33

HOLMES COUNTY
S. H. 342 SEC. B-2(PT)



FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

11
33

HOLMES COUNTY
S.H. 342 SEC. B-2(PT.)

CURVE TABLES

T.S. 19+61.47 S.C. 22+61.47			D = 9°00' LT.		C.S. 23+85.54 S.T. 26+05.54		
LEFT					RIGHT		
EDGE OF PAVEMENT	DEDUCT CROWN	WIDTH	STATION	PROFILE GRADE	WIDTH	ADD SUPER	EDGE OF PAVEMENT
874.23	0.19	11.00	T.S. 19+61.47	874.42	11.00	0.00	874.23
874.81		11.09	+75	875.00			874.84
875.80		11.26	20+00	875.99			875.96
876.72		11.43	+25	876.91			877.06
877.56		11.59	+50	877.75			878.10
878.33		11.76	+75	878.52			879.07
879.03		11.93	21+00	879.22			879.95
879.66		12.09	+25	879.85			880.75
880.21		12.26	+50	880.40			881.46
880.70		12.43	+75	880.89			882.08
881.11		12.59	22+00	881.30			882.68
881.45		12.76	+25	881.64			883.18
881.72		12.93	+50	881.91			883.61
881.82		13.00	S.C. +61.47	882.01			883.76
881.92			+75	882.11			883.90
882.09			23+00	882.28		2.00	884.09
882.27			+25	882.46			884.27
882.44			+50	882.63		2.00	884.44
882.62			+75	882.81			884.58
882.69		13.00	C.S. +85.54	882.88			884.61
882.79		12.87	24+00	882.98			884.63
882.97		12.64	+25	883.16			884.61
883.14		12.41	+50	883.33			884.56
883.32		12.18	+75	883.51			884.51
883.49		11.96	25+00	883.68			884.47
883.67		11.73	+25	883.86			884.43
883.84		11.50	+50	884.03			884.41
884.02		11.28	+75	884.21			884.41
884.19		11.05	26+00	884.38			884.41
884.23	0.19	11.00	S.T. +05.54	884.42	11.00		884.41
884.34	0.19	11.00	+25	884.53	11.00		884.41
884.41	0.19	11.00	+50	884.60	11.00	0.00	884.41

Obtained Graphically

85.4 SQ. YDS. EXTRA AREA

T.S. 29+55.07 S.C. 32+25.07			D = 9°00' RT.		C.S. 33+51.55 S.T. 36+51.55		
LEFT					RIGHT		
EDGE OF PAVEMENT	ADD SUPER	WIDTH	STATION	PROFILE GRADE	WIDTH	DEDUCT CROWN	EDGE OF PAVEMENT
880.10	0.00	11.00	T.S. 29+55.07	880.29	11.00	0.19	880.10
879.49			+75	879.67	11.15		879.48
878.74			30+00	878.83	11.33		878.64
877.93			+25	877.93	11.52		877.74
877.13			+50	876.97	11.70		876.78
876.32			+75	875.93	11.89		875.74
875.47			31+00	874.84	12.07		874.65
874.55			+25	873.68	12.26		873.49
873.65			+50	872.45	12.44		872.26
872.64			+75	871.16	12.63		870.97
871.52			32+00	869.80	12.81		869.61
870.23			+25	868.41	13.00		868.22
870.22	2.00		S.C. +25.07	868.41			868.22
868.83			+50	867.02			866.83
867.44			+75	865.63			865.44
866.05			33+00	864.24			864.05
864.66			+25	862.85			862.66
863.27			+50	861.46			861.27
863.18	2.00		C.S. +51.55	861.37	13.00		861.18
861.85			+75	860.07	12.84		859.88
860.32			34+00	858.68	12.68		858.49
858.73			+25	857.29	12.51		857.10
857.15			+50	855.90	12.34		855.71
855.57			+75	854.51	12.18		854.32
853.99			35+00	853.12	12.01		852.93
852.41			+25	851.73	11.84		851.54
850.82			+50	850.34	11.69		850.15
849.26			+75	848.95	11.51		848.76
847.75			36+00	847.57	11.34		847.38
846.28			+25	846.28	11.18		846.09
845.00			+50	845.10	11.01		844.91
844.89			S.T. +51.55	845.03	11.00		844.84
843.85	0.00	11.00	+75	844.04	11.00	0.19	843.85

Obtained Graphically

91.4 SQ. YDS. EXTRA AREA

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

12
33

HOLMES COUNTY
S.H. 342 SEC. B-2 (PT)

STA. 19+00 TO STA. 22+00

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR	13 / 33
2	OHIO	FG-532(12)	1948	

HOLMES COUNTY
S.H. 342 SEC. B-2 (PT)

STA. 22+50 TO STA. 26+00

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

14
33

HOLMES COUNTY
S.H. 342 SEC. B-2 (PT)

Excavation	12,276 Cu. Yds.
Embankment	16,586 Cu. Yds.
Waste Excavation	761 Cu. Yds.
Seeding	27,205 Sq. Yds.

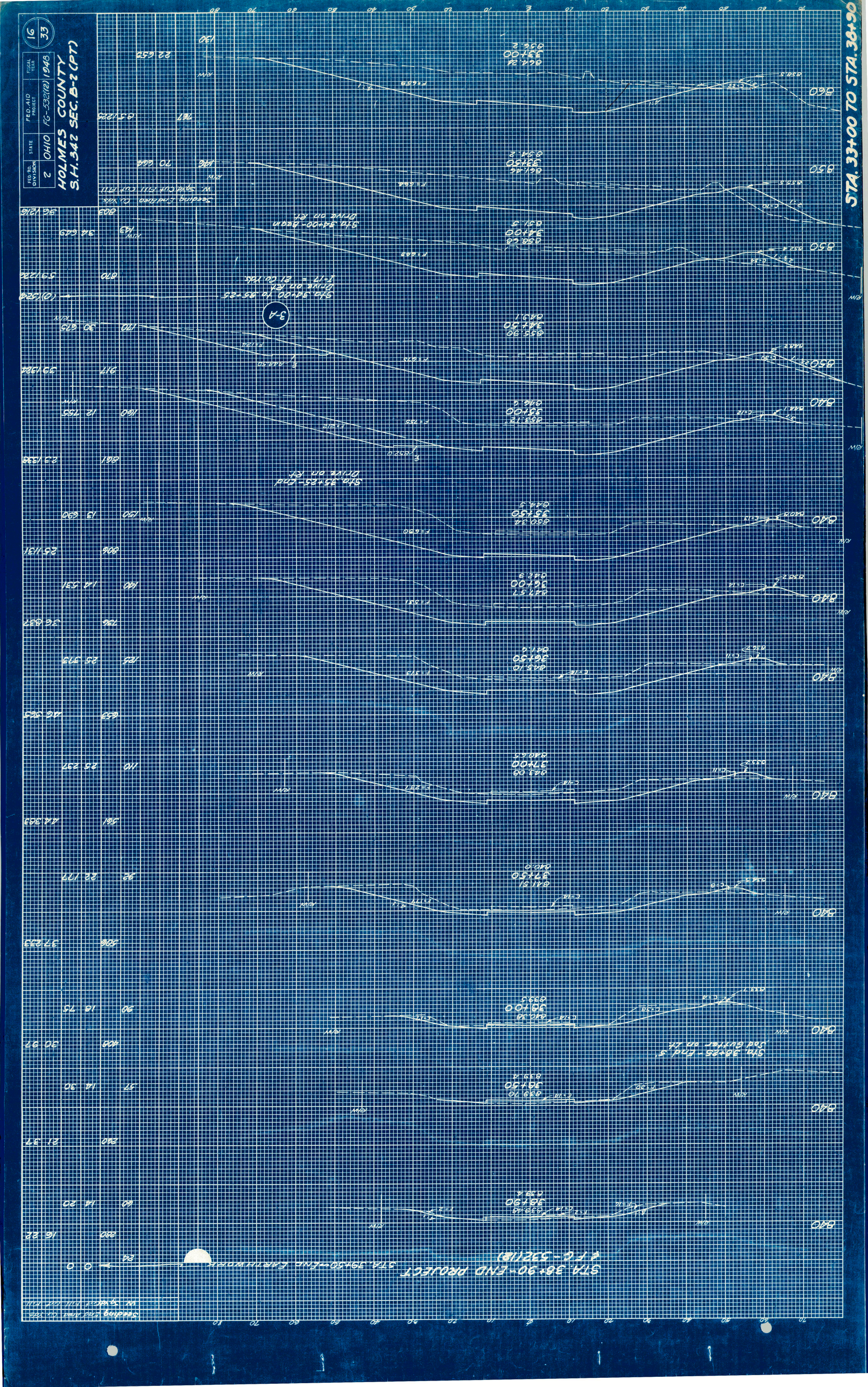
STA. 26+39 TO STA. 29+23

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

15
33

HOLMES COUNTY
S.H. 342 SEC. B-2 (PT)

STA. 29+50 TO STA. 32+50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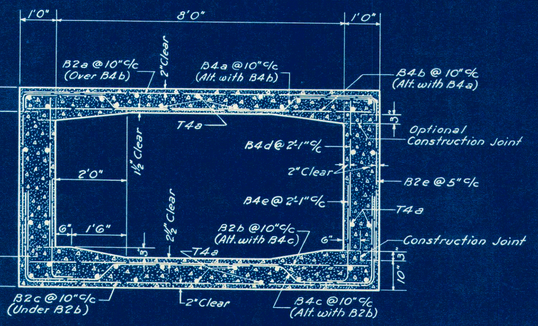
33
FED. RD. DIVISION 2
STATE OHIO
FED. AID PROJECT FG-532(12)
FISCAL YEAR 1946
HOLMES COUNTY
S.H.342 SEC. B-2 (PT)
STA. 33+00 TO STA. 39+00
STA. 38+30-END PROJECT
F.A.P. G-532(12)
3-A

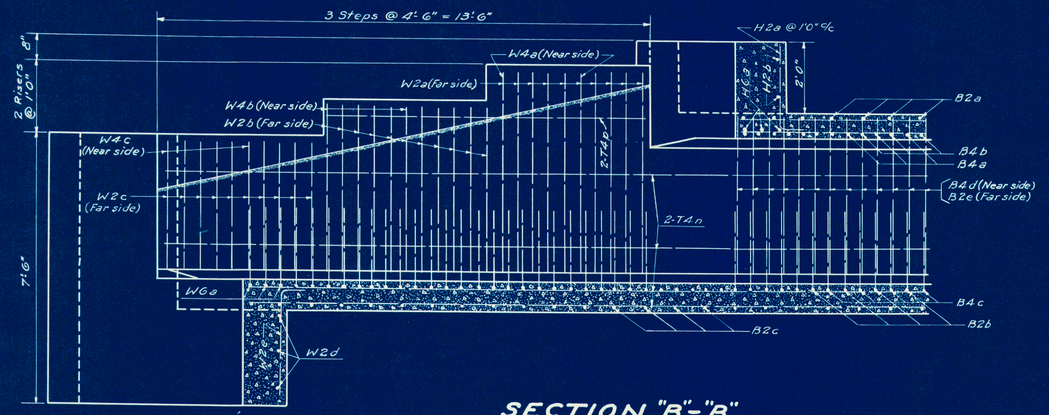
FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

17
33

HOLMES COUNTY
S.H. 342 SEC. B-2(PT)



SECTION "A"-"A"
Scale 1" = 2'0"



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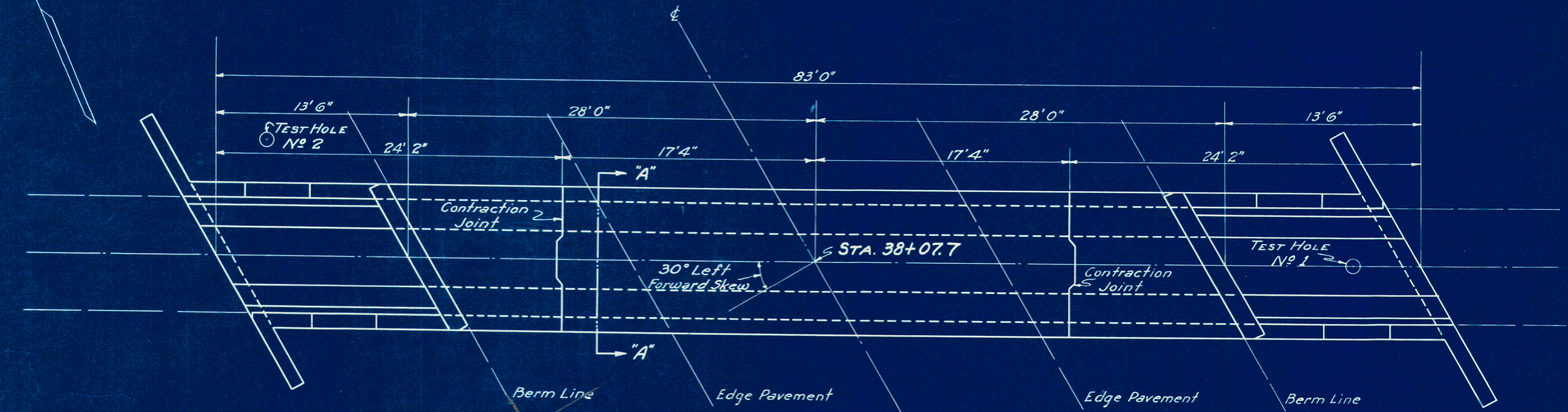
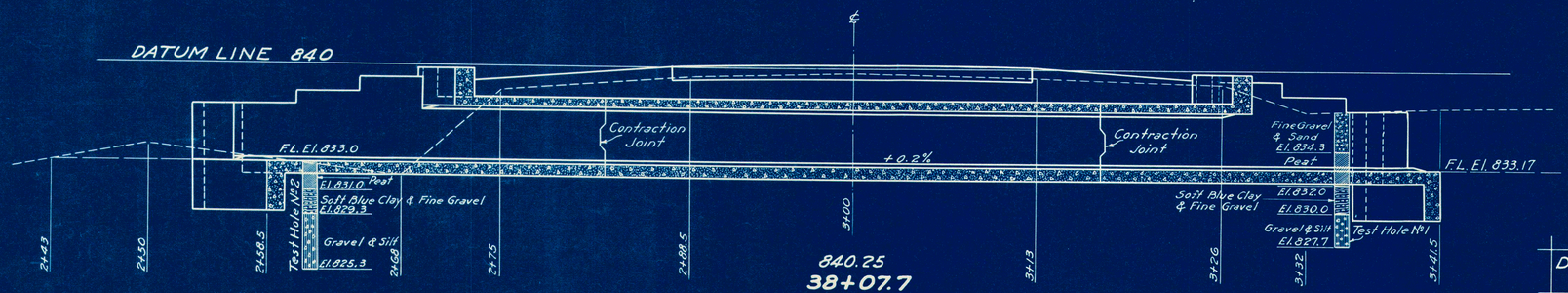
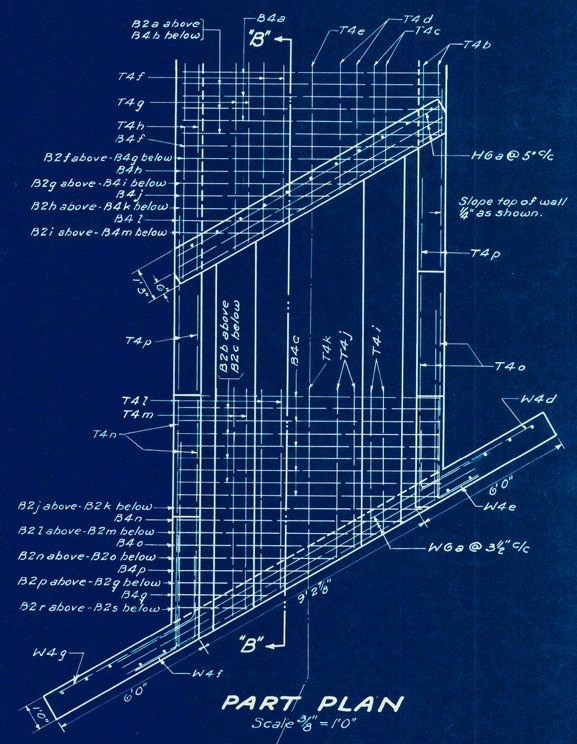
Scale 1" = 2'0"



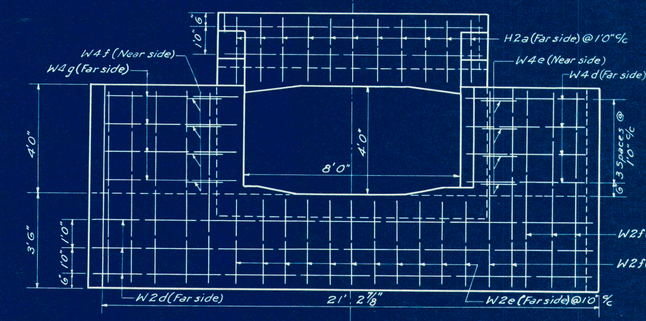
PLAN
Scale 1" = 5'0"



Scale 1" = 5'0"



PART PLAN
Scale 3/8" = 1'0"



END VIEW
Scale 3/8" = 1'0"

DRAINAGE AREA 400 AC.
RUN OFF 200 C.F.S.

(1-S)

Reviewed 11/18/47 J.W.B.

STA. 38+07.7
8'x4'x83' L.B.C.

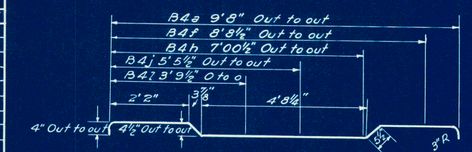
FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

18
33

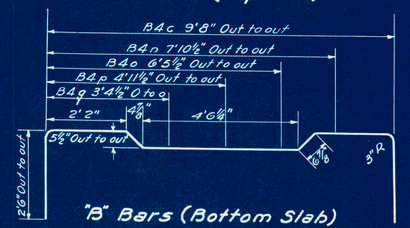
HOLMES COUNTY
S.H. 342 SEC. B-2 (Pt.)

STEEL LIST

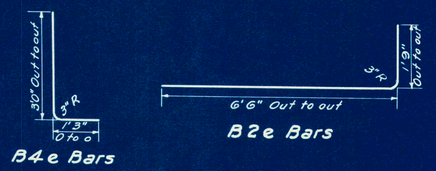
MARK	SHAPE	SIZE	No.	LENGTH	WEIGHT
B4a	Bent	⅝" ø	61	10' 3"	653
B4b	Straight	"	61	9' 6"	605
B4c	Bent	"	93	14' 9"	1432
B4d	Straight	"	54	4' 0"	226
B4e	Bent	"	82	4' 3"	364
B4f	"	"	2	9' 0"	19
B4g	Straight	"	2	7' 9"	16
B4h	Bent	"	2	7' 4"	15
B4i	Straight	"	2	6' 3"	13
B4j	Bent	"	2	5' 9"	12
B4k	Straight	"	2	4' 8"	10
B4l	Bent	"	2	4' 1"	9
B4m	Straight	"	2	3' 0"	6
B4n	Bent	"	2	10' 9"	22
B4o	"	"	2	9' 0"	19
B4p	"	"	2	7' 6"	16
B4q	"	"	2	5' 11"	12
B2a	Straight	½" ø	61	9' 6"	387
B2b	"	"	93	9' 6"	590
B2c	Bent	"	93	14' 3"	885
B2e	"	"	272	8' 3"	1499
B2f	Straight	"	2	7' 9"	10
B2g	"	"	2	6' 3"	8
B2h	"	"	2	4' 8"	6
B2i	"	"	2	3' 0"	4
B2j	"	"	2	9' 0"	12
B2k	Bent	"	2	11' 4"	15
B2l	Straight	"	2	7' 4"	10
B2m	Bent	"	2	9' 9"	13
B2n	Straight	"	2	5' 9"	8
B2o	Bent	"	2	8' 0"	11
B2p	Straight	"	2	4' 2"	6
B2q	Bent	"	2	6' 6"	9
B2r	Straight	"	2	2' 6"	3
B2s	Bent	"	2	4' 9"	6
H6a	Straight	⅝" ø	6	12' 7"	154
H2a	Bent	½" ø	22	3' 4"	49
H2b	Straight	"	4	11' 0"	29
W4a	"	⅝" ø	8	5' 6"	46
W4b	"	"	8	4' 6"	38
W4c	"	"	8	3' 6"	29
W4d	Bent	"	8	6' 6"	54
W4e	"	"	8	5' 0"	42
W4f	"	"	8	4' 9"	40
W4g	"	"	8	7' 6"	63
W2a	Straight	½" ø	40	5' 9"	154
W2b	"	"	44	4' 9"	140
W2c	"	"	40	3' 9"	100
W2d	"	"	6	20' 9"	83
W2e	Bent	"	22	4' 2"	61
W2f	Straight	"	20	7' 3"	97
T4a	"	⅝" ø	34	34' 4"	1219
T4b	"	"	4	7' 10"	33
T4c	"	"	4	8' 10"	37
T4d	"	"	4	9' 6"	40
T4e	"	"	2	10' 4"	22
T4f	"	"	4	11' 2"	47
T4g	"	"	4	11' 6"	48
T4h	"	"	4	12' 8"	53
T4i	"	"	4	22' 3"	93
T4j	"	"	4	23' 0"	96
T4k	"	"	2	23' 8"	49
T4l	"	"	4	24' 6"	102
T4m	"	"	4	25' 2"	105
T4n	"	"	12	26' 3"	329
T4o	"	"	12	21' 3"	266
T4p	"	"	8	7' 0"	58
WG8	"	⅛" ø	6	15' 0"	184
M4a	Bent	⅜" ø	8	4' 2"	35
M4b	"	"	8	5' 6"	46
N4a	"	"	16	3' 0"	50
N4b	"	"	16	4' 6"	75
RE2		½" ø	2	4' 0"	5
RE4		⅝" ø	2	4' 6"	9
RE6		¾" ø	2	5' 6"	23
TOTAL LBS.					11,134



"B" Bars (Top Slab)

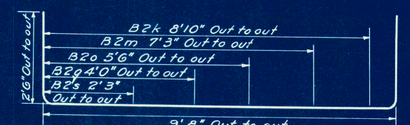


"B" Bars (Bottom Slab)

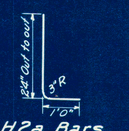


B4e Bars

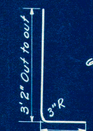
B2e Bars



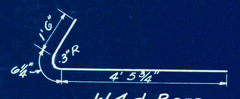
B2c Bars



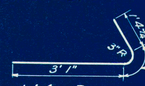
H2a Bars



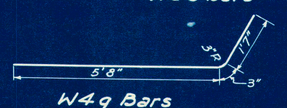
W2e Bars



W4d Bars

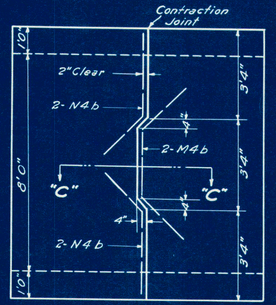


W4e Bars

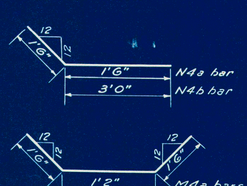


W4g Bars

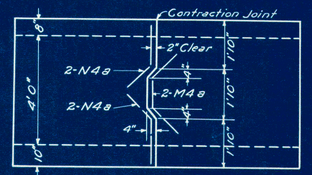
W4f Bars



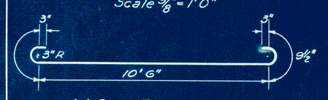
CONTRACTION JOINT DETAIL
PLAN VIEW
Scale ⅜" = 1'0"



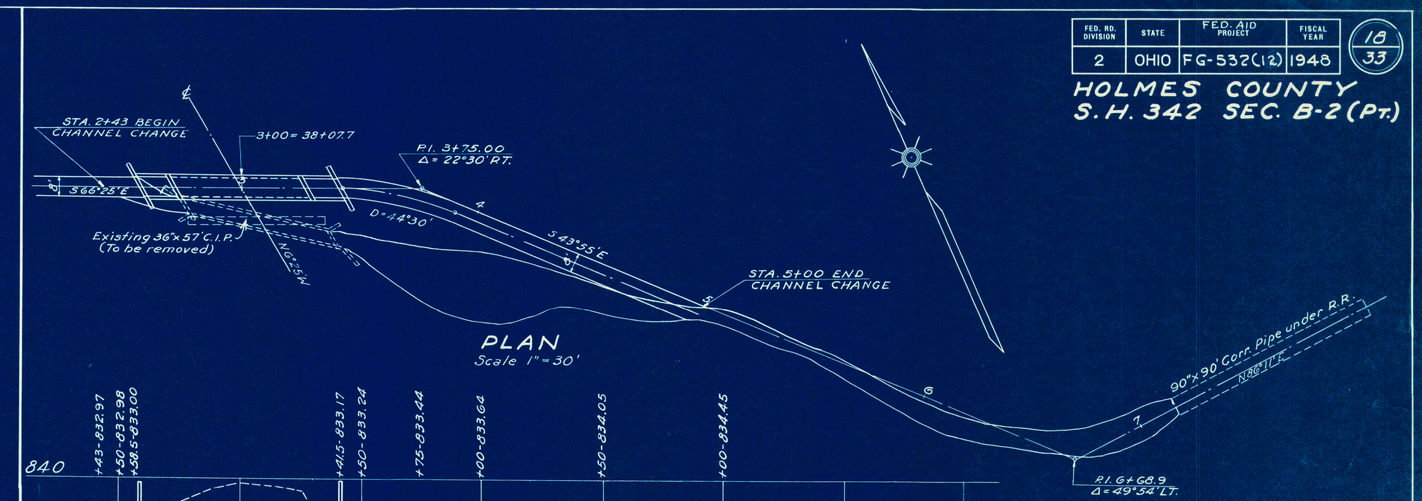
SECTION "C"-"C"

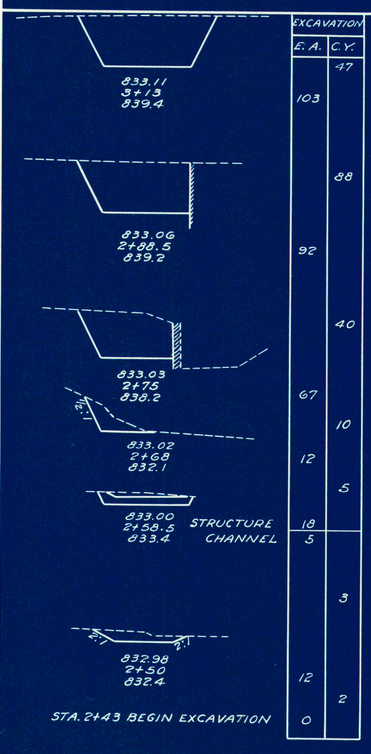


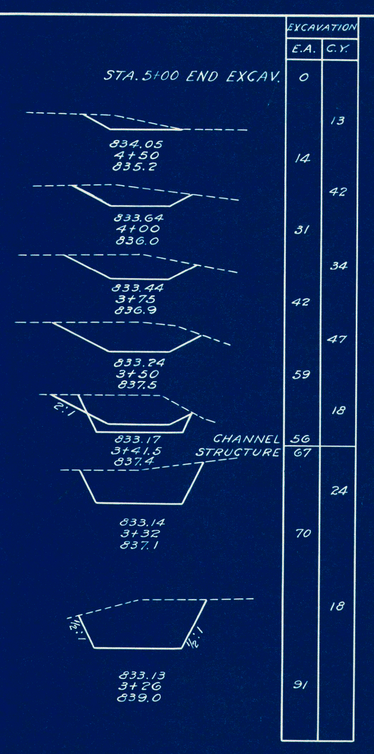
CONTRACTION JOINT DETAIL
ELEVATION VIEW
Scale ⅜" = 1'0"



H6a Bars







STRUCTURE DATA

TYPE :- Large Box Culvert
SIZE :- 8'x4'x83'-0"
WORK REQUIRED :- Remove existing 36"x57' C.I.P.
Remove existing 5'x4'x63'-0" Slab Top Culvert.
Build new 8'x4'x83'-0" Large Box Culvert.
Excavate in-let and out-let channels.

REFERENCE DRAWINGS

Large Box Culverts — L.B.C.-45 Sheets 1 & 2

ESTIMATED QUANTITIES

E-2 Structure Excavation	232 Cu. Yds.
E-3 Channel Excavation	159 Cu. Yds.
S-1 Concrete for Structures (Class "C")	79 Cu. Yds.
S-4 Reinforcing Steel	11,134 Lbs.
S-24 Removal of Existing Structures	Lump
E-12 36" Pipe Removed and Stored	57 Lin. Ft.

Note :- The Structure and Channel Excavation to be used to fill existing channel. Test Holes indicate unsuitable material will be encountered under proposed structure. The limits to which this material shall be removed and replaced by suitable material will be determined at the time of construction by the Engineer.

A. Lloyd G. Kirk 11/2/47
Reviewed 11/18/47 L. H.B.

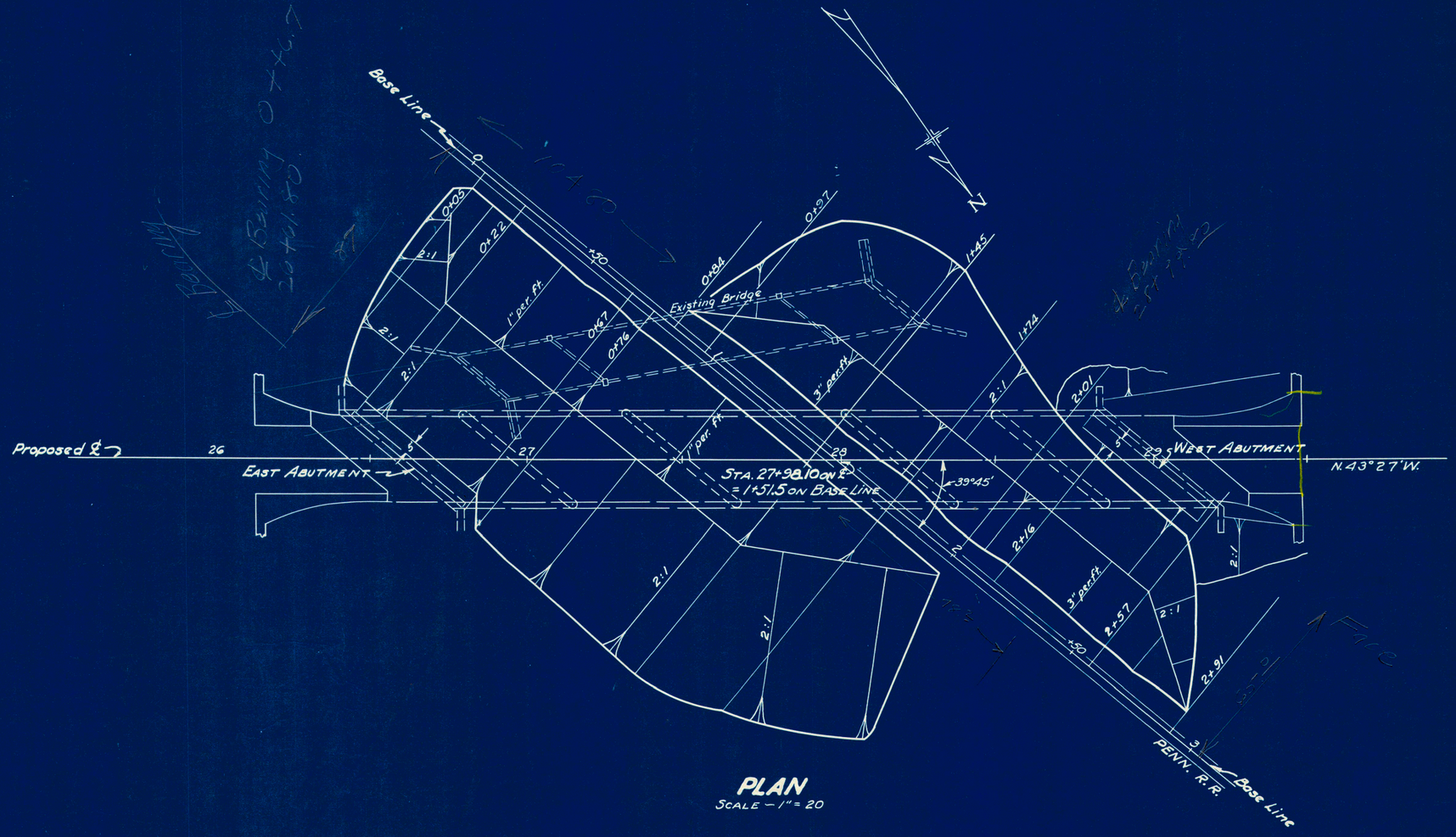
(15) STA. 38+07.7
8'x4'x83' L.B.C.

Sheet 2 of 2

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

19
33

HOLMES COUNTY
S.H. 342 SEC. B-2(PT)



PLAN
SCALE — 1" = 20

SHEET 1 OF 2 SHEETS
EARTHWORK AT BRIDGE

FED. R.D. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

20
33

HOLMES COUNTY
S.H. 342 SEC. B-2 (Pt.)

Excavation = 5095 Cu. Yds.
Embankment = 0.0 Cu. Yds.
Seeding = 3.03 Sq. Yds.
(From Cross Sections Scaled to Accompany Plans)

Sta. 2+16 End Earthwork on Rt.

Sta. 2+49 – End Earthwork on Lt.

Sta. 0+84 – Begin Seeding on Rt.

Sta. 0+84 – Begin Earthwork on Lt.

Sta. 0+00 – Begin Earthwork on Rt.

Proposed New Road

Sheet 2 of 2 Sheets

PLATE 4—CROSS SECTION
THE H. COLE CO., COLUMBUS, OHIO

EARTHWORK AT BRIDGE

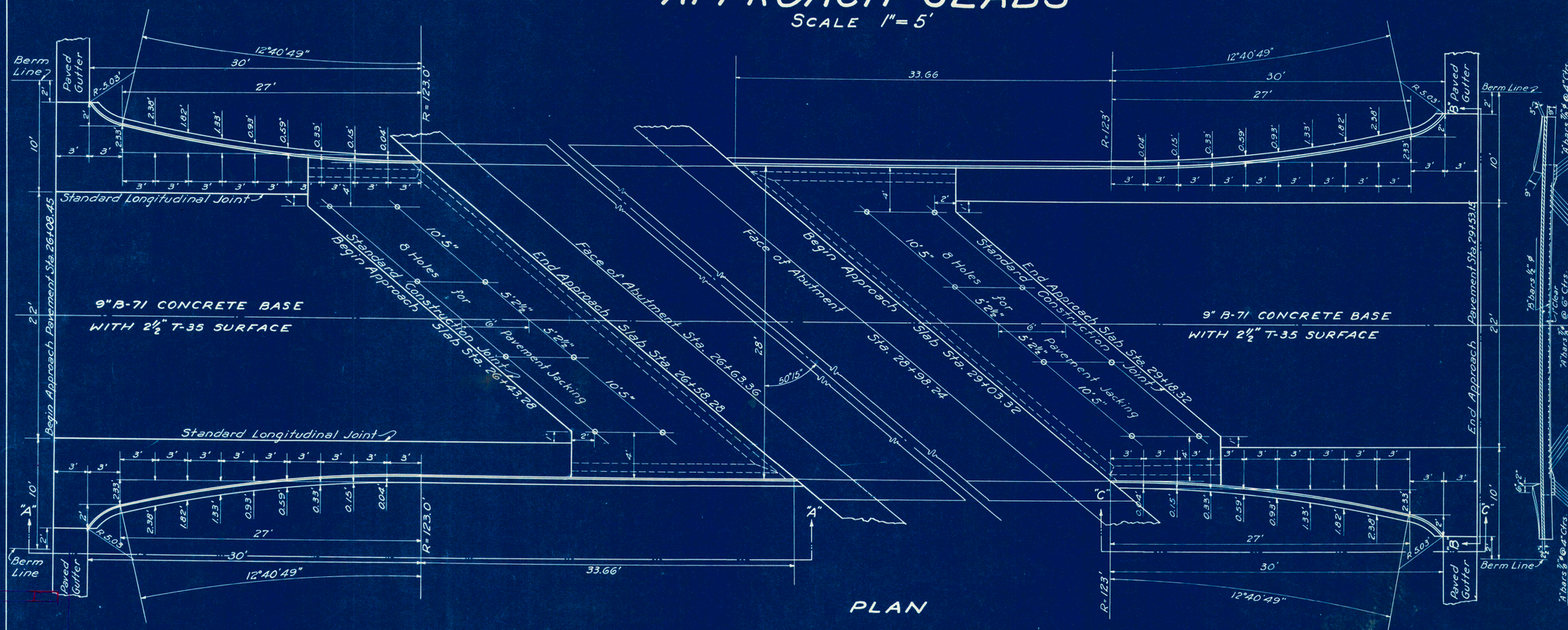
APPROACH SLABS

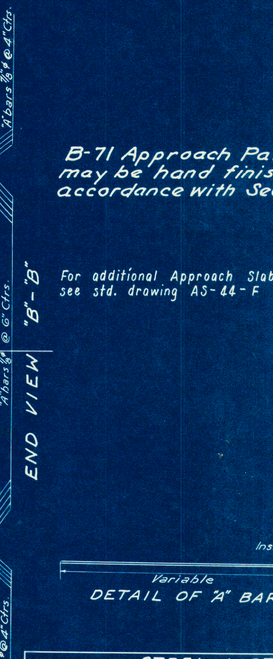
SCALE 1"=5'

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532-(12)	1948

21/33

HOLMES COUNTY
S.H. 342 SEC. B-2(Pt.)

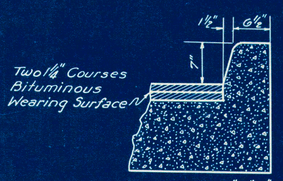




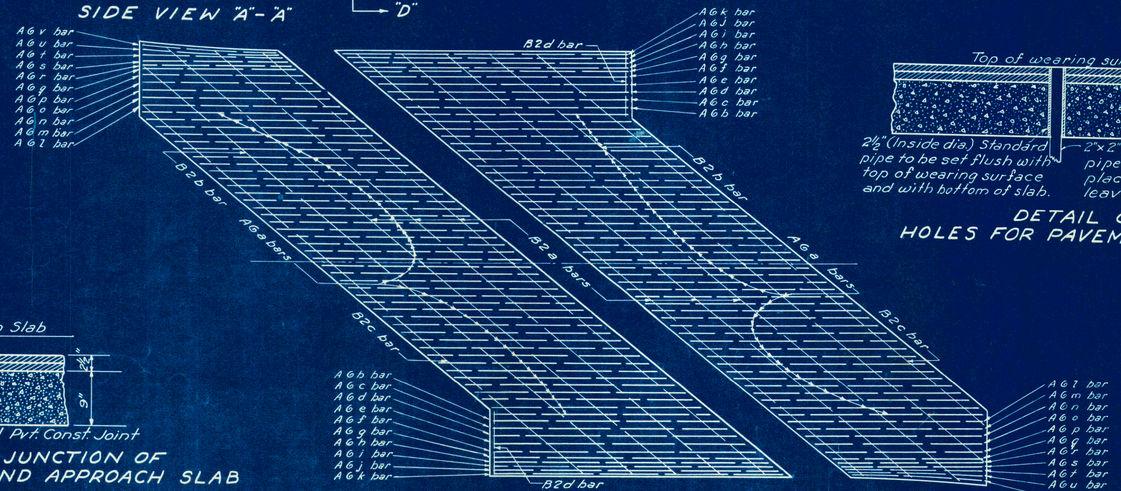
B-71 Approach Pavement may be hand finished in accordance with Sec. B-70.191

For additional Approach Slab details see std. drawing AS-44-F

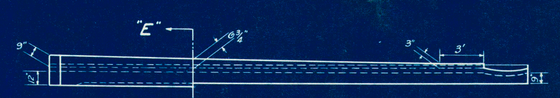
SIDE VIEW "A"-"A"



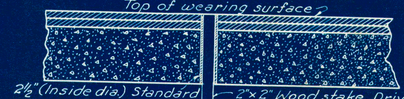
SECTION "D"-"D"



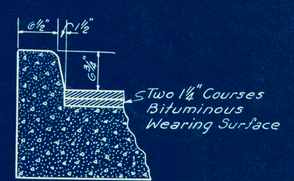
APPROACH SLAB PLAN
SHOWING REINFORCING STEEL PLACEMENT



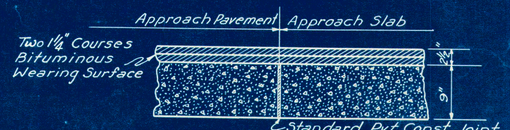
SIDE VIEW "C"-"C"



DETAIL OF
HOLES FOR PAVEMENT JACKING



SECTION "E"-"E"



DETAIL SHOWING JUNCTION OF
APPROACH PAVEMENT AND APPROACH SLAB

STEEL LIST

No	SIZE	LENGTH	MARK	SPACING	SHAPE	WEIGHT
84	⅞"ø	15' 6"	A6a	6"	Bent	2664
2	"	16' 4"	A6b	"	"	7
2	"	17' 1"	A6c	"	"	7
2	"	17' 8"	A6d	"	"	7
2	"	18' 3"	A6e	"	"	7
2	"	18' 10"	A6f	"	"	8
2	"	19' 5"	A6g	"	"	8
2	"	20' 0"	A6h	4"	"	8
2	"	20' 5"	A6i	"	"	8
2	"	20' 10"	A6j	"	"	9
2	"	21' 3"	A6k	"	"	9
2	"	14' 8"	A6l	6"	"	6
2	"	14' 1"	A6m	"	"	6
2	"	13' 6"	A6n	"	"	6
2	"	12' 11"	A6o	"	"	5
2	"	12' 4"	A6p	"	"	5
2	"	11' 9"	A6q	"	"	5
2	"	11' 2"	A6r	4"	"	5
2	"	10' 10"	A6s	"	"	4
2	"	10' 6"	A6t	"	"	4
2	"	10' 2"	A6u	"	"	4
2	"	9' 10"	A6v	"	"	4
6	½"ø	45' 8"	B2a	2'0"	Straight	183
2	"	44' 3"	B2b	"	"	59
2	"	40' 0"	B2c	"	"	53
2	"	4' 5"	B2d	"	"	6
			TOTAL LBS.			3097

Note:- Quantities listed above are for two approach slabs. Cost to be included in price bid per sq.yd. for Reinforced Concrete Approach Slabs.

ESTIMATED QUANTITIES

ITEM	QUAN.	UNIT	DESCRIPTION
I-7	98.2	SQ.YDS.	Reinforced Concrete Approach Slabs
B-71	249.2	SQ.YDS.	Reinforced Portland Cement Concrete Base Course (Appr. Pvt.)
I-12	131.0	LIN.FT.	Concrete Curb, As Per Plan.
T-30	10.0	GALS.	Bituminous Tack Coat, Sec. M-5.5 MS-2 (For approach slabs)
T-30	24.0	GALS.	Bituminous Tack Coat, Sec. M-5.5 MS-2 (For approach pavement)
T-35	6.5	CUYDS.	Asphaltic Concrete Surface Course, Type "A" (For approach slabs)
T-35	16.6	CUYDS.	Asphaltic Concrete Surface Course, Type "A" (For approach pavement)

Note:- Asphaltic Concrete Surface Course shall be placed in two 1¼" courses.
Bituminous Tack Coat shall be placed at the rate of 0.10 gallon per sq.yd.

APPROACH SLABS

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532-(12)	1948

22
33

HOLMES COUNTY
S.H. 342 SEC. B-2 (PT)

P.I. Sta. 1+56.59
Nail & Cap 8" Elm
Nail & Cap 6" Elm
27'
S 30°
E
N 48° W

P.I. Sta. 0+64
I.P.
I.P.
46.21
47.90
43'

TYPICAL SECTION
Scale - 1" = 5'
4' | 6' | 6' | 2' to 4' Variable
2" Crown
4" I-17
1 per Ft. 2:1
2:1
Variable

S.T. 2+55
N. 43° 27' W.
90°
92.6'
N. 3° 42' W.
Existing Drive
Existing Drive
Penn. R.R.
26+34.88
N. 6° 51' W.
R.J. & I. Patterson
Sta. 0+11
Begin Approach
25+75
0.00 Appr.
90°
10'R.
10'R.
P.C. 0+28
36' Rad.
Tan. to Spiral
Proposed New 12" R'd'w'g Drge.
P.I. 0+64
P.C. 1+26.70
Δ = 22°-15' Rt.
T = 29.89'
L = 59.03'
R = 152.0'
P.T. = 1+85.73
N. & A.R. Flack
26+64.88
N. 3° 44' E.
End Approach
Sta. 2+85
25
27
28
26

ESTIMATED QUANTITIES

* I-17 = 47 Cu. Yds.
* 12" Pipe = 44 Lin. Ft.

* Carried to Sheet No 8

APPROACH DETAIL
STA. 25+75
Scale 1" = 20'

B.M. + on Wing of Bridge
16' Lt. of Sta. 26+97
Elev. 892.70

+11 894.17
+15 894.20
893.50
892.54
893.02
894.02
895.01
896.01
897.00
897.54
896.71
895.41
894.11
+85 893.59

Pt. 898.00
890
885
880
40' V.C.
Pvc. 0+30
P.T. 0+70
-6.2%
+3.98%
-5.18%
End Approach
Sta. 2+85
890
885
880
FL. El. 883.3
+30 Pt. 882.03
P.C. 1+90
40' V.C.
P.T. 2+20
NOTE - Earthwork shall be included in general earthwork quantities. (See Sheet No. 13.)

891.9
892.1
892.2
890.3
891.1
891.5
891.7
892.0
892.3
893.1
893.6
893.7
893.9
895.1
894.4
894.0
893.0

Excavation	=	515 Cu. Yds.
Embankment	=	155 Cu. Yds.
Seeding	=	995 Sq. Yds.

0+04
+17
+20
+25
+28
+32.27
+40.55
1
+26.7
+32.22
+38.73
2
+45
+69
+75
3

1-A

SHEET 1 OF 2 SHEETS

APPROACH Rt. STA. 25+75

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	F-532-(12)	1948

23
33

HOLMES COUNTY
S.H. 342 SEC. B-2(PT)

Excavation	= 515 Cu. Yds.
Embankment	= 135 Cu. Yds.
Seeding	= 925 Sq. Yds.

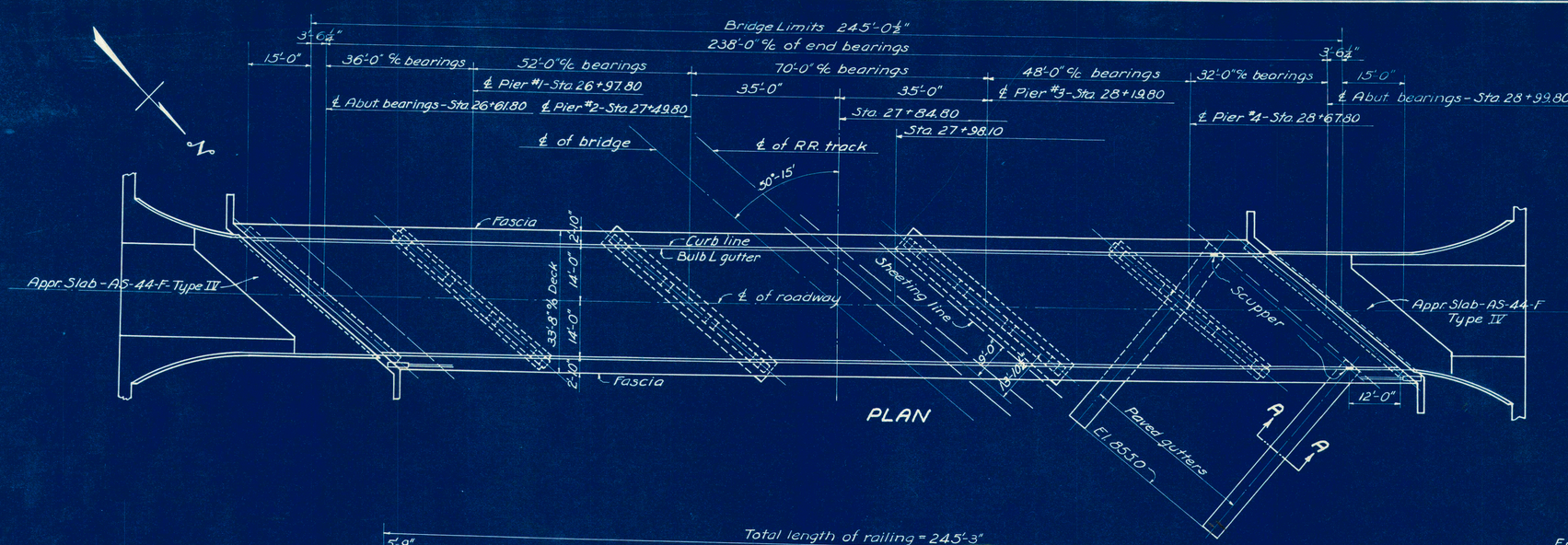
SHEET 2 OF 2 SHEETS

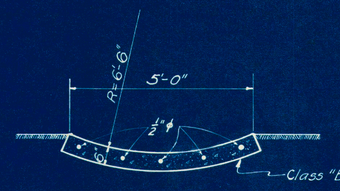
APPROACH RT. STA. 25+75

FED. RD. DIVISION | STATE | FED. AID PROJECT | FISCAL YEAR
2 | OHIO | FG-532(12) | 1946
24
33
HOLMES COUNTY
S.H. 342 - SEC. "B-2 (PT.)"
0.6 Mi. South of Holmesville
HOL-76-13.75
Grove Of Small Pines
Old Road (Abandon)
℄ Prop. Track
Present Road
(S.R. 76)
Relocate existing guard rail to provide for temporary runaround
Existing guard rail
℄ Temporary Runaround
Face of Abut. Sta. 26+63.36
End Appr. Slab Sta. 26+58.28
Begin Appr. Slab Sta. 26+43.28
Face of Abut. Sta. 28+98.24
Begin Appr. Slab Sta. 29+03.32
End Appr. Slab Sta. 29+18.32
Scupper
Paved Gutter
Field Drive
Critical Pt. Sta. 28+29.25
PENNA. R.R.
N.45°27'W
50°-15'
Clearance line
Prop. Tr.
Existing Tr.
12'-4½"
Top of rails
~ PROPOSED FUTURE TRACK & DITCH SECTION ~
EXISTING BRIDGE DATA
TYPE: Pony Truss; Girder Approach Spans. (To be Removed)
SPAN: 28'-0"-75'-0"-27'-6".
ROADWAY: 14'-8"
SKEW: 39°-23' Rt. Fwd.
CONDITION: Poor.
PROPOSED STRUCTURE
TYPE: Cont. steel beam bridge with conc. deck and substructure.
SPAN: 36'-52'-70'-48'-32' c/c brgs.
ROADWAY: 28'-0" with two 1'-9" safety curbs.
LOADING: S-15-46.
SKEW: 50°-15' R.F.
SURFACE COURSE: Bituminous
APPR. SLABS: AS-44-F Type IV rear and fwd.
No. of TRACKS: 1 Existing, 1 Future
Temporary Runaround, including earth fill and relocation of guard rail, is a part of this contract.
SOUNDING NOTE
Rod soundings indicate foundation material suitable for footings without piling.
Bridge Limits
Sta. 26+52.28
℄ Pier #1 Sta. 26+97.80
℄ Pier #2 Sta. 27+49.80
℄ Prop. Track (Future)
℄ Mid Span Sta. 27+84.80
El. 883.89
℄ Pier #3 Sta. 28+19.80
℄ Pier #4 Sta. 28+67.80
Sta. 29+03.32
P.I. Sta. 29+00 (600' V.C.)
El. 886.48
+0.70%
-5.56%
B.V.C.
2:1 (Norm)
Slope 1" per 1'±
Slope 3" per 1'±
El. 871.5±
El. 876.5±
El. 861.73
El. 849.43
(Prop. future excavation)
El. 848.57
El. 859.68
El. 873.5±
El. 868.5±
25+00
26+00
27+00
28+00
29+00
30+00
PROFILE OF PROPOSED ℄
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
SITE PLAN
S.H. 342 - SEC. "B-2 (PT.)"
BRIDGE No HO-76-139
OVER THE PENNA. R.R.
HOLMES COUNTY - PRAIRIE TWP.
STA. 27+84.80 - SCALE 1" = 20' - FEB. 1946
EXISTING TOPOGRAPHY | PROPOSED WORK
SURVEY | DRAWN | TRACED | DESIGN'D. | DRAWN | CHECK'D. | REV.
E.H.T. C.H.M. | H.E.M. | H.E.M. | C.F.B. | C.F.B.
BFG
Rev. 1-20-48

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	25
2	OHIO	FG-532(12)	1948	33

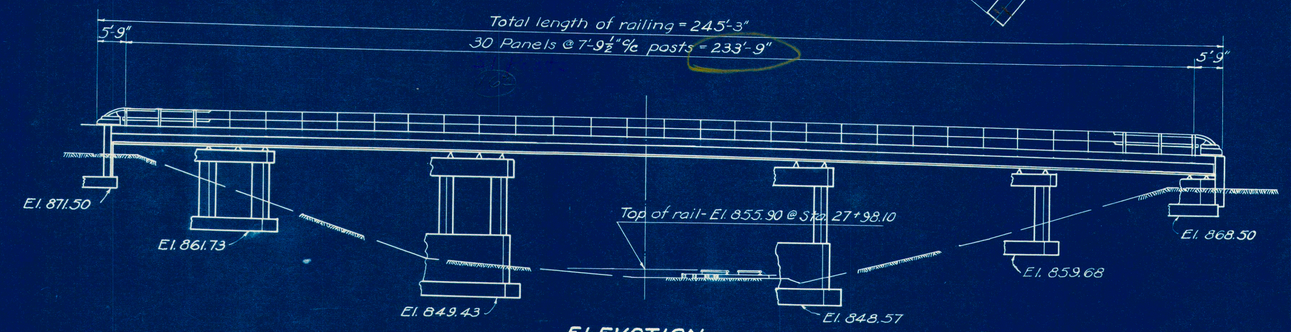
HOLMES COUNTY
S.H. 342 SEC. B-2 (PT.)





PAVED GUTTER-SECTION A-A

Provide baffles at bottom end of paved gutters.



ELEVATION

Appr. Slabs Not Shown.

ERECTION NOTE:-

1. At Pier #1, weld bottom flange splice plate to beam on end span side of joint only.
2. Raise end of beam at Pier #2 one-half inch.
3. Weld beam flanges and web at Pier #1.
4. Weld top flange splice plate at Pier #1 (both sides of joint), and complete the welding of bottom flange splice plate.
5. Lower the end of the beam at Pier #2.
6. Make the splice at Pier #2 and succeeding piers in the same manner, raising the end of the beams one inch at Pier #3, and one-half inch at Pier #4. No raise will be required at North abutment.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Abuts.	Piers #1 & #4	Piers #2 & #3	Superstr.	General	
E-2	Lump	Sum	Cofferdams, Cribs and Sheeting					Lump	
E-2	612	Cu.yd.	Excavation for Structures, unclassified.	176	164	272			
S-1	47	Cu.yd.	Concrete, Class "C" footings		47				
S-1	141	Cu.yd.	Concrete, Class "E" footings	59		82			
S-1	102	Cu.yd.	Concrete, Class "C", pier caps & columns		44	58			
S-1	244	Cu.yd.	Concrete, Class "E", abutment & pier walls	134		110			
S-1	207	Cu.yd.	Concrete, Class "C", superstructure				207		
S-3	735	Sq.yd.	Waterproofing, Type "C"				735		
S-4	83,496	Lb.	Reinforcing steel	4,678	11,239	16,610	50,887	82	
S-7	219,500	Lb.	Structural steel				219,500		
S-7	9,000	Lb.	Wrought iron blast plates				9,000		
S-8	228,500	Lb.	Field painting of structural steel and blast plates (3 coats)				228,500		
S-9	12	Sq.ft.	½" Premolded Expansion Joint Filler	12					
S-14	490	Lin.ft.	Railing (Steel with concrete end posts)				490		
S-15	Lump	Sum	Temporary Run Around Road (embankment & guard rail, only)					Lump	
S-24	Lump	Sum	Removal of existing structure					Lump	
I-14	118	Lin.ft.	Paved gutter (Concrete)					118	
T-35	52	Cu.yd.	Asphaltic Concrete surface course Type A or C (70-80) or (85-100)				52		

GENERAL NOTES

REFERENCE shall be made to Standard Drawings CSB-1-46, Sheets 1 & 2, revised 9-4-46, and AS-44-F, revised 1-18-46, and Supplemental Specification T-110, revised 8-3-36.

DRAINS shall be placed through the deck slab as per Sec. 5-29.07, and shall be included with "Class "C" Concrete, superstructure" for payment.

REMOVAL OF EXISTING BRIDGE: Existing superstructure and steel piers shall be removed when no longer needed to maintain traffic, and shall become the property of the Contractor and be removed from the site by him.

Existing masonry substructure shall be removed to one foot below the proposed ground line and disposed of as directed by the Engineer.

SOUTHEAST WING shall be built after traffic is diverted across the new structure, so that traffic may use existing roadway and bridge during construction.

REINFORCING STEEL:- Unless otherwise shown, all bars shall be fabricated with dimensions in accordance with the proposed Manual of Standard Practice, American Concrete Institute, 1946, except that a tolerance will be permitted in the diameter of bends equal to the diameter of the bar. No weight allowance will be made for tolerances.

SHEETING AND BRACING:- At least 15 days before construction is begun, plans of sheeting and bracing adjacent to track shall be submitted to the Director of Highways for highway and railroad approval.

CONSTRUCTION CLEARANCE:- The Contractor shall provide and maintain at all times (except as noted below) a minimum construction clearance of 19'-0" vertically above top of rail, and 8'-0" horizontally (normal) from centerline of track. The 8'-0" horizontal clearance will not apply during the driving and removal of sheeting between train movements.

PAINTING:- All structural steel shall receive three field coats of paint. First field coat shall be the same as specified for shop coat. Second and third field coats shall be aluminum paint.

SURFACE COURSE shall be 2½" Asphaltic Concrete, Item T-35, laid in two 1¼" courses.

TEMPORARY RUN-AROUND ROAD:- The embankment and guard rail shall be paid for as a lump sum as per item S-15. The surface course shall consist of T-110 aggregate, and of M-10 calcium chloride; these are included in and shall be paid for with the roadway quantities as shown on Sheet #6. The amount and the manner of placing shall be as directed by the Engineer.

Welding shall be Class "A" except field connections of bulb angles and scuppers and of safety-curb end-finish to roadway end-finish may be Class "B"

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

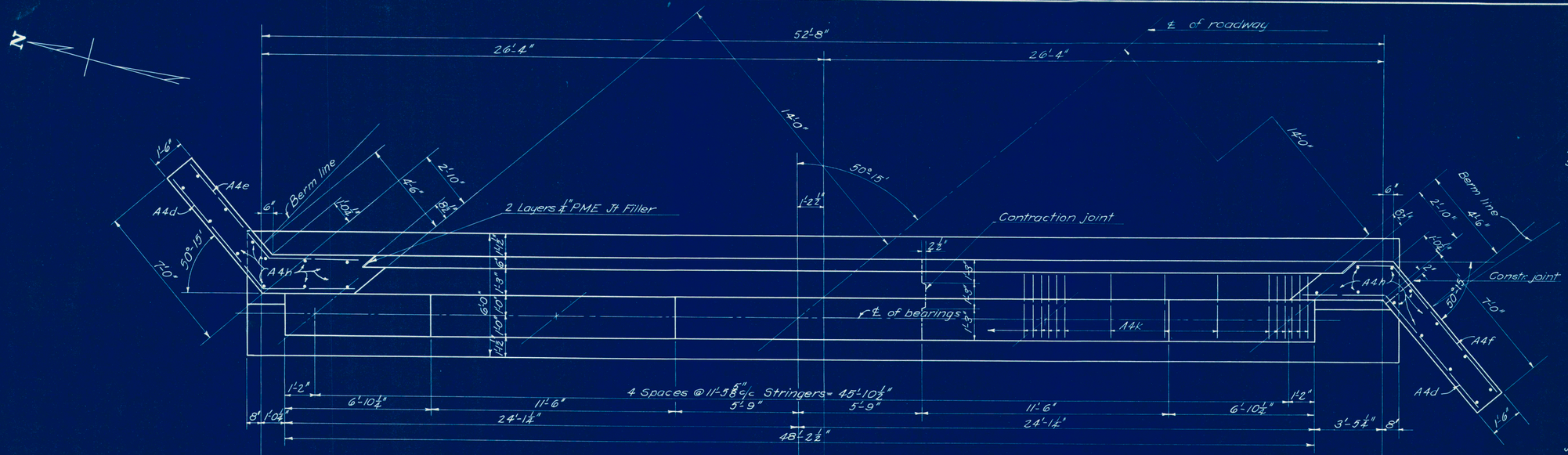
GENERAL PLAN AND ELEVATION
ESTIMATED QUANTITIES-NOTES
BRIDGE NO. HO-76-13.9
OVER THE PENNA. R.R.
HOLMES COUNTY S.H. 34
SEC. B-2 STA. 27+

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED
W.J.J. BFG	W.J.J.	A.W.B.	R.J.W.	BFG O.K.

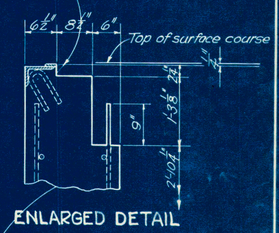
FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

26
33

HOLMES COUNTY
S.H. 342 SEC. B-2 (Pt.)

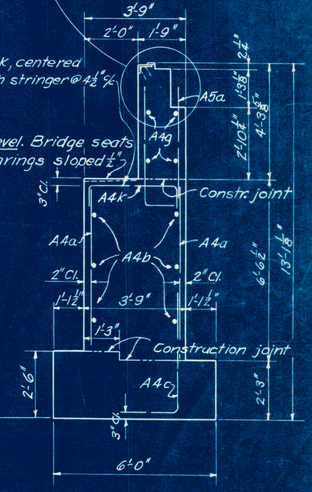


Contractor shall use special care in placing backwall concrete in order that the space under end finish angle shall be completely filled.



ENLARGED DETAIL

Concrete above bridge seat construction joint shall not be placed until after steel work is erected.



6 bars A4K, centered under each stringer @ 4½" c/c

Bearings level. Bridge seats between bearings sloped ½"/ft.

All abutment concrete shall be Class "E".

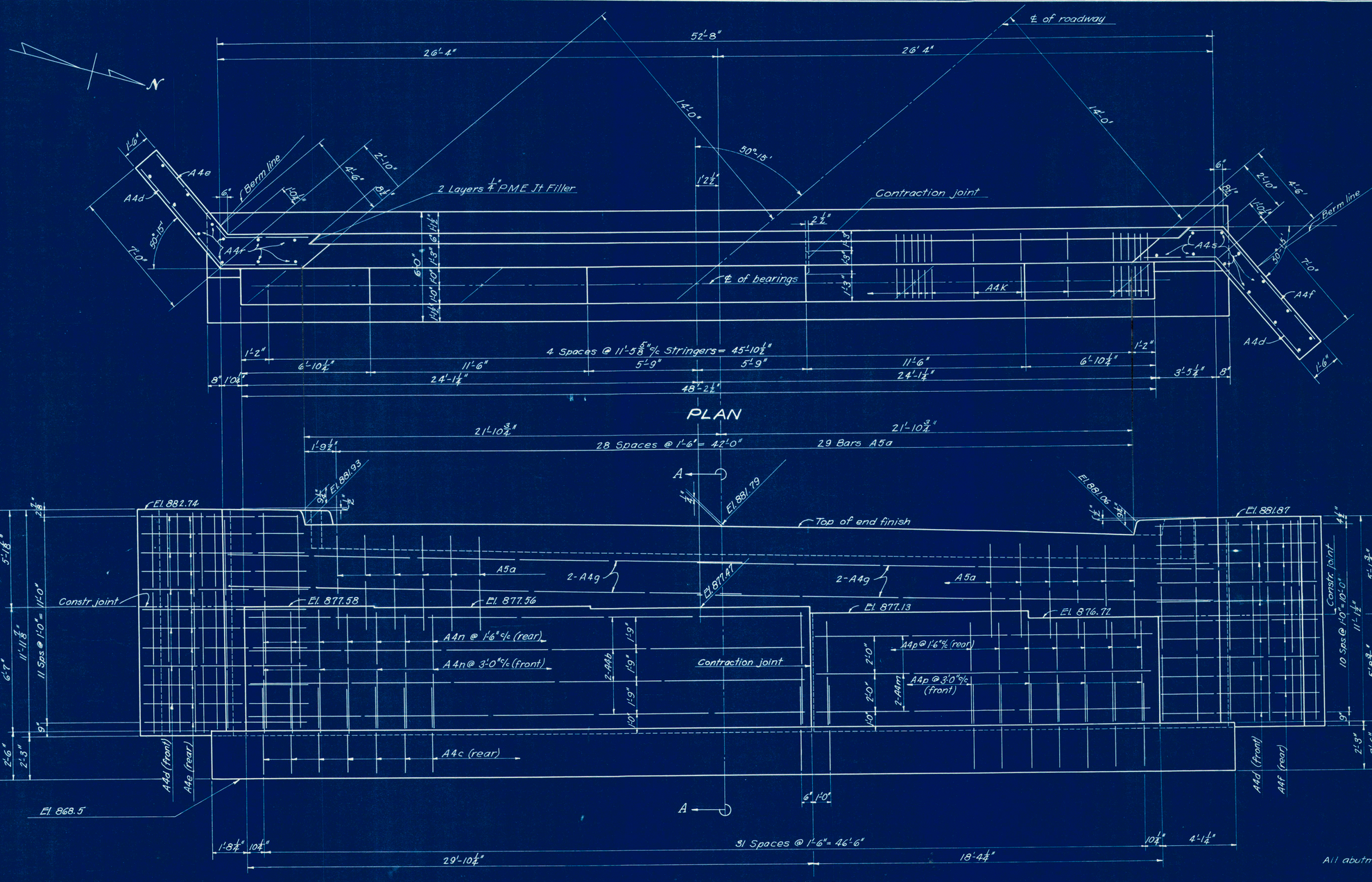
STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DETAILS OF SOUTH ABUTMENT
BRIDGE NO. HO-76-139
OVER THE PENNA R.R.
HOLMES COUNTY S.H. 342
SEC. B-2 STA. 27+84.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DPG	DATE	REVISED
M.J.J.	M.J.J.	T_{WP}	@W	DPG	9/13/47	1/22/48

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	27 / 33
2	OHIO	FG-532(12)	1948	

HOLMES COUNTY
S. H. 342 SEC. B-2 (PT.)



For enlarged detail and notes see details of South Abutment, Drawing No. 26

ELEVATION

SECTION A-A

All abutment concrete shall be Class "E".

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

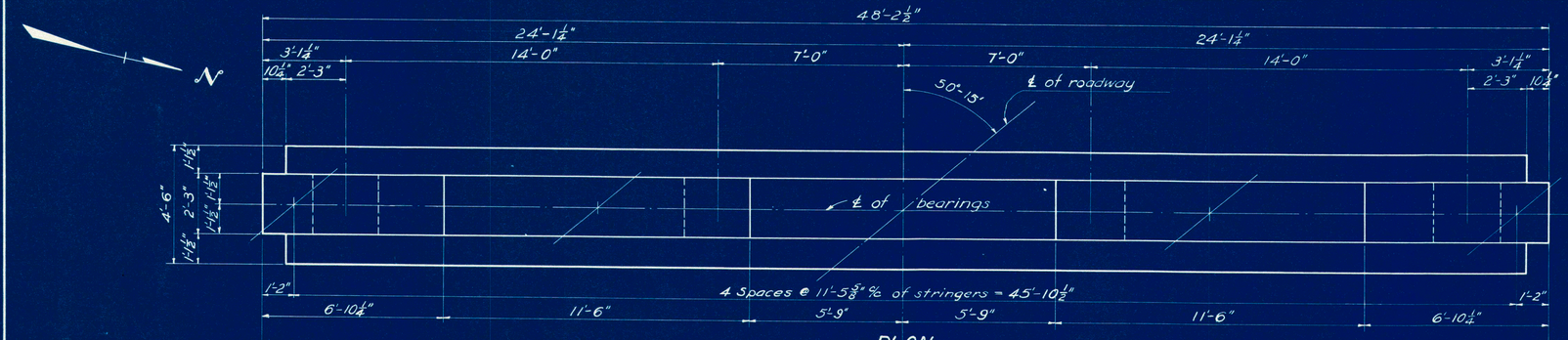
DETAILS OF NORTH ABUTMENT
BRIDGE NO. HO. 76-139
OVER THE PENNA. R.R.

HOLMES COUNTY S.H. 342
SEC. B-2 STA. 27+84.80

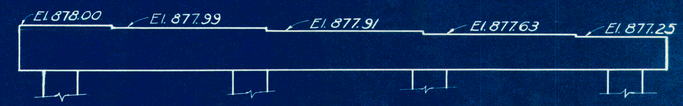
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED BPG	DATE	REVISED
W.J.J.	W.J.J.	T.W.P.	RJW	BPG	3/10/47	1/20/48

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	28 / 33
2	OHIO	FG-532(12)	1948	

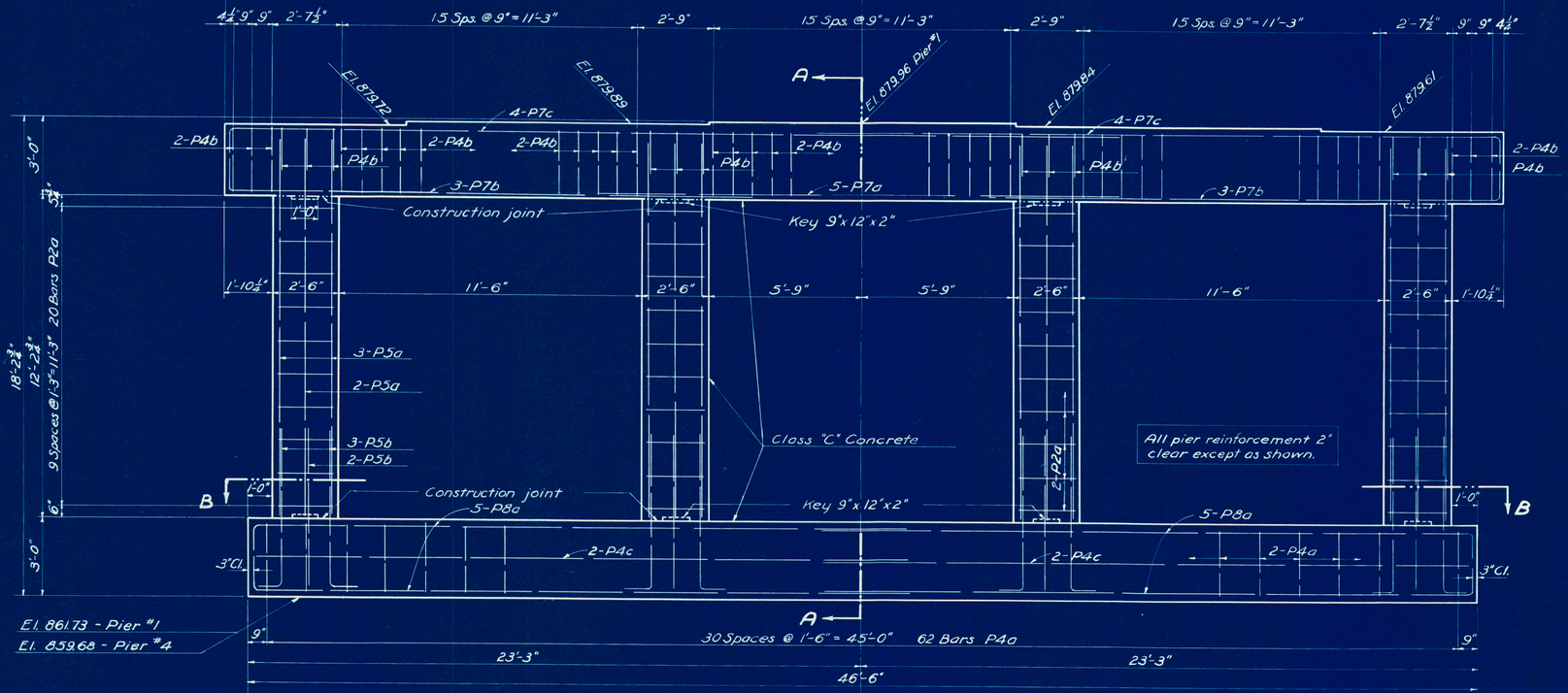
HOLMES COUNTY
S.H. 342 SEC. B-2 (Pt.)



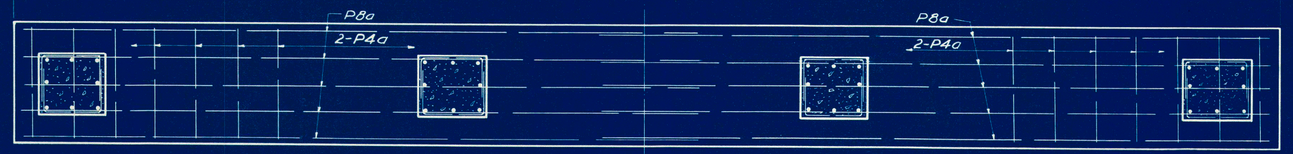
PLAN



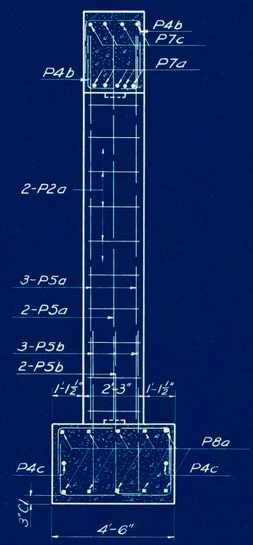
BRIDGE SEAT ELEVATIONS FOR PIER #4
Pier #4 like Pier #1 except as shown.



ELEVATION



SECTION B-B



SECTION A-A

NOTE:- Pier #1 shown

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

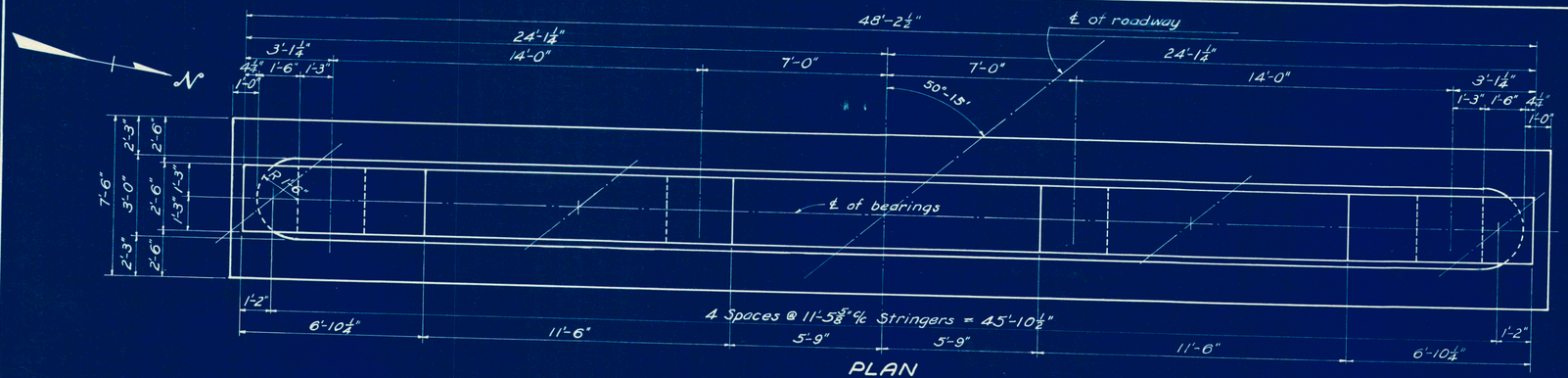
DETAILS OF PIERS #1 AND #4

BRIDGE NO. HO-76-139
OVER THE PENNA. R.R.
HOLMES COUNTY S.H. 342
SEC. B-2 STA. 27+84.80

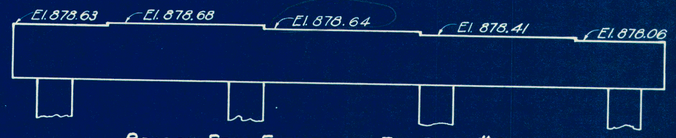
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.J.J.	M.J.J.	DLWP.	RJW	BFG CRJ	9/13/47	

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	29 / 33
2	OHIO	F6-332(12)	1948	

HOLMES COUNTY
S.H. 342 SEC. B-2 (Pt.)

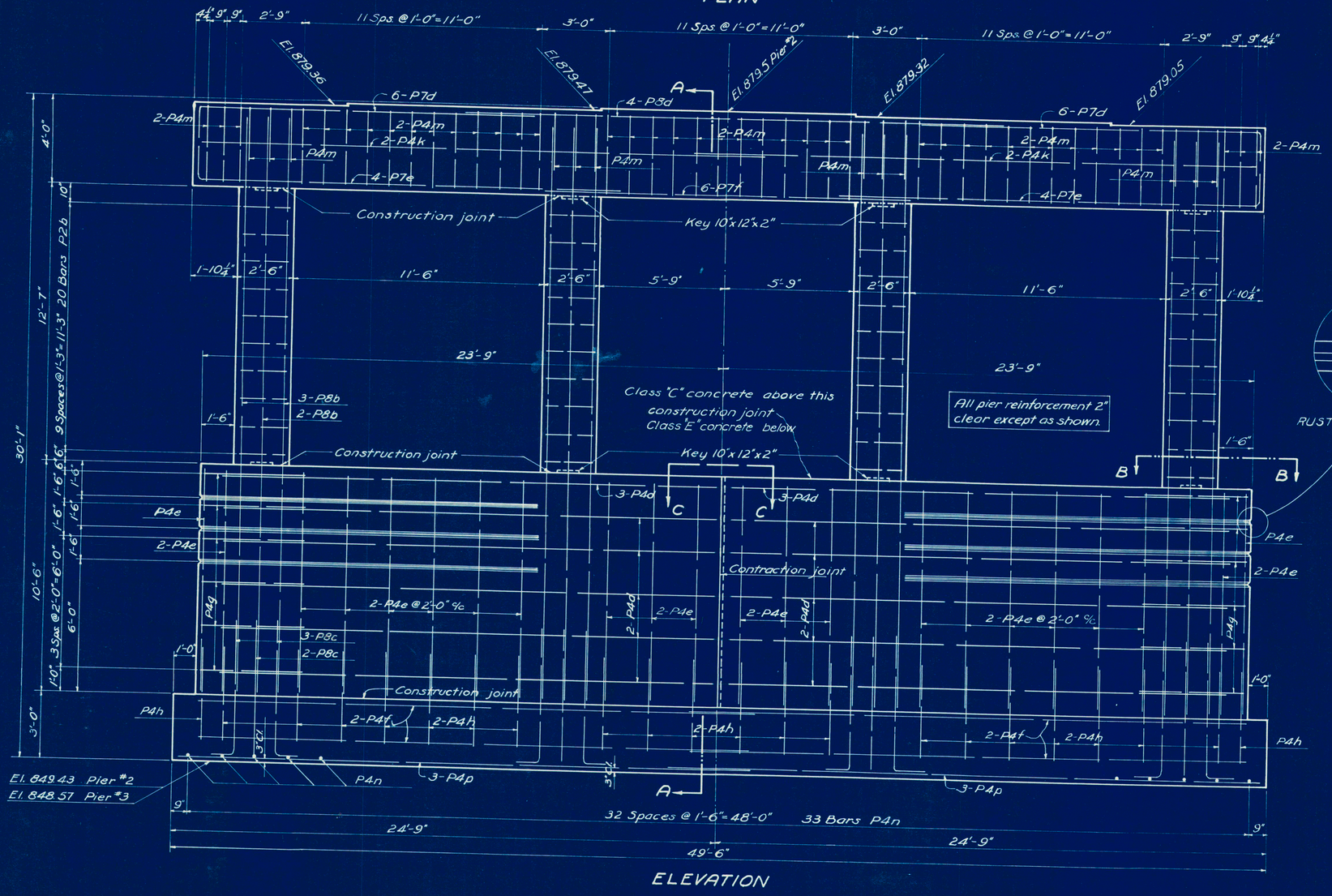


PLAN

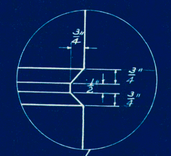


BRIDGE SEAT ELEVATIONS FOR PIER #3

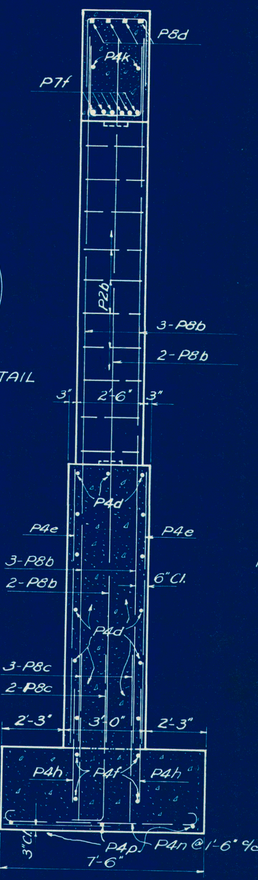
Pier #3 like Pier #2 except as shown.



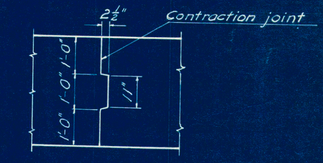
ELEVATION



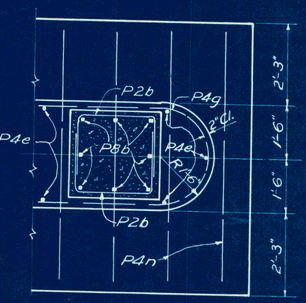
RUSTICATION DETAIL



SECTION A-A



VIEW C-C



SECTION B-B

NOTE:- Pier #2 shown

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

DETAILS OF PIERS #2 AND #3

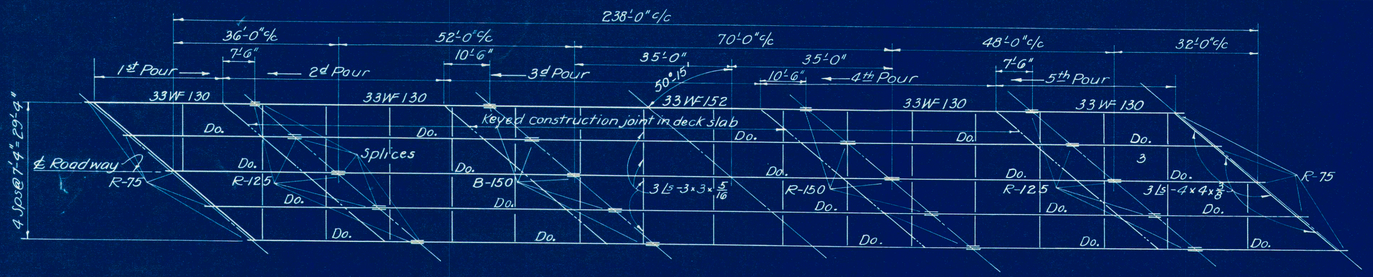
BRIDGE No. HO-76-139
OVER THE PENNA. R.R.
HOLMES COUNTY S.H. 342
SEC. B-2 STA. 27+84.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.J.J.	M.J.J.	D.W.S.	G.J.W.	BFG C.R.J.	9/12/47	1/20/48

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

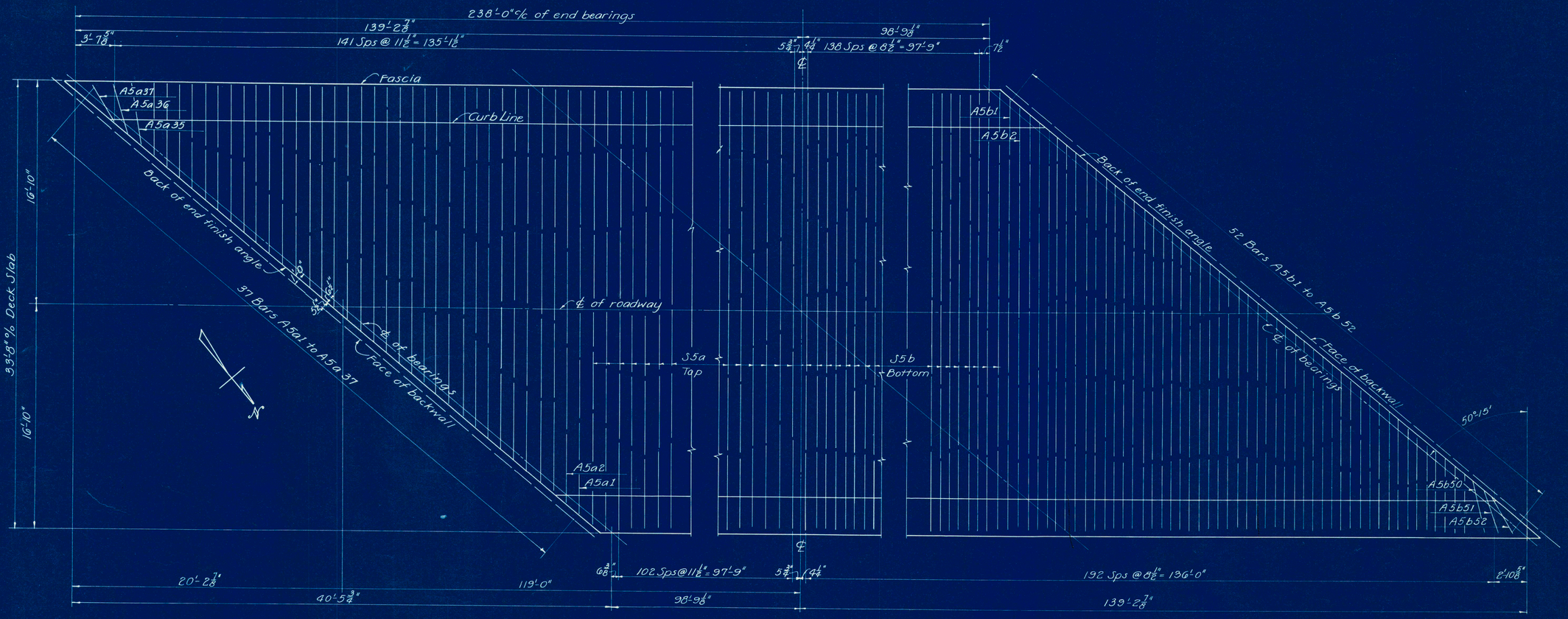
30
33

HOLMES COUNTY
S.H. 342 SEC. B-2 (PT.)



STEEL FRAMING PLAN

DEFLECTION AND CAMBER					
	36' Span	52' Span	70' Span	45' Span	32' Span
Deflection due to Dead Load	1/16"	1/4"	1/2"	3/16"	1/16"
Camber required for Vertical Curve	1/16"	1/2"	1/2"	1/2"	1/16"
Required Shop Camber	None	1/2"	3/4"	3/4"	1/2"



PART PLAN SHOWING TOP TRANSVERSE REINFORCEMENT

PART PLAN SHOWING BOTTOM TRANSVERSE REINFORCEMENT

SYMMETRICAL BY ROTATION

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SUPERSTRUCTURE DETAILS

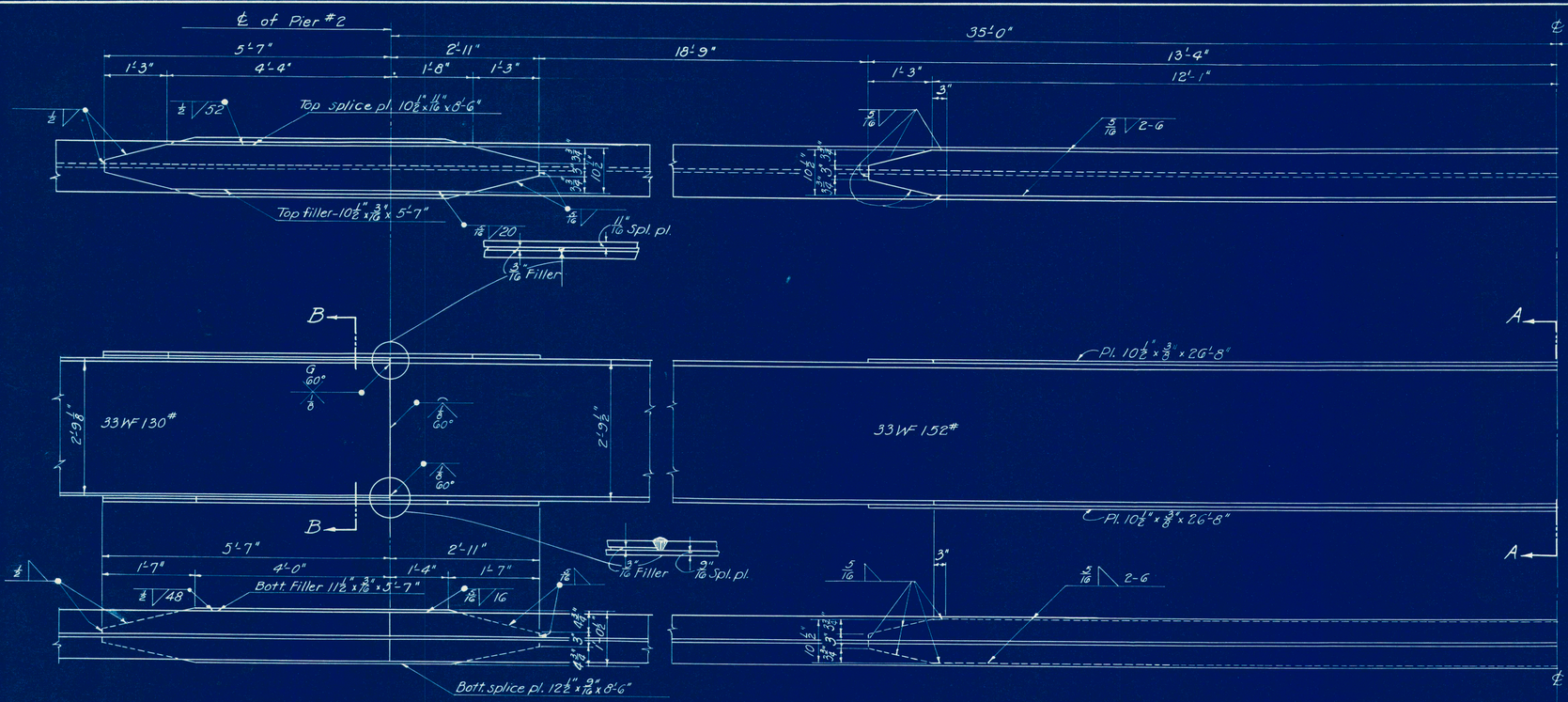
BRIDGE No. HO-76-139
OVER THE PENNA. R.R.
HOLMES COUNTY — S.H. 342
SEC. B-2 — STA. 27+84.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.S.J. BFG	M.S.J.	K.E.J.	RJW	BFG ERH	9/19/47	

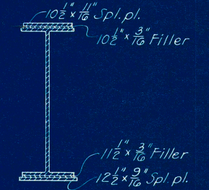
FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

31
33

HOLMES COUNTY
S.H. 342 SEC. B-2 (P.T.)

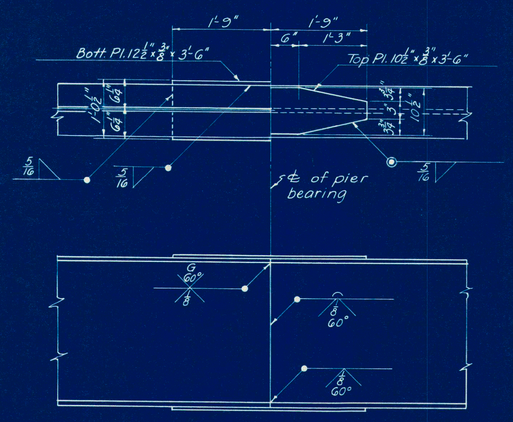


SECTION A-A

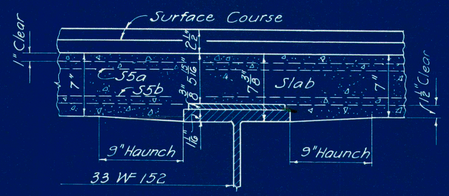


SECTION B-B

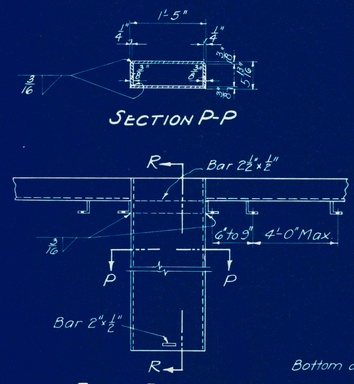
VIEW SHOWING STRINGER SPLICE AT PIER NO. 2 AND FLANGE PLATES ON 70' SPAN
SPLICE AT PIER NO. 3 OPPOSITE HAND



DETAIL OF STRINGER SPLICE AT PIERS NO. 1 & 4



SLAB DETAIL AT STRINGER FOR 70' SPAN ONLY



SCUPPER DETAILS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

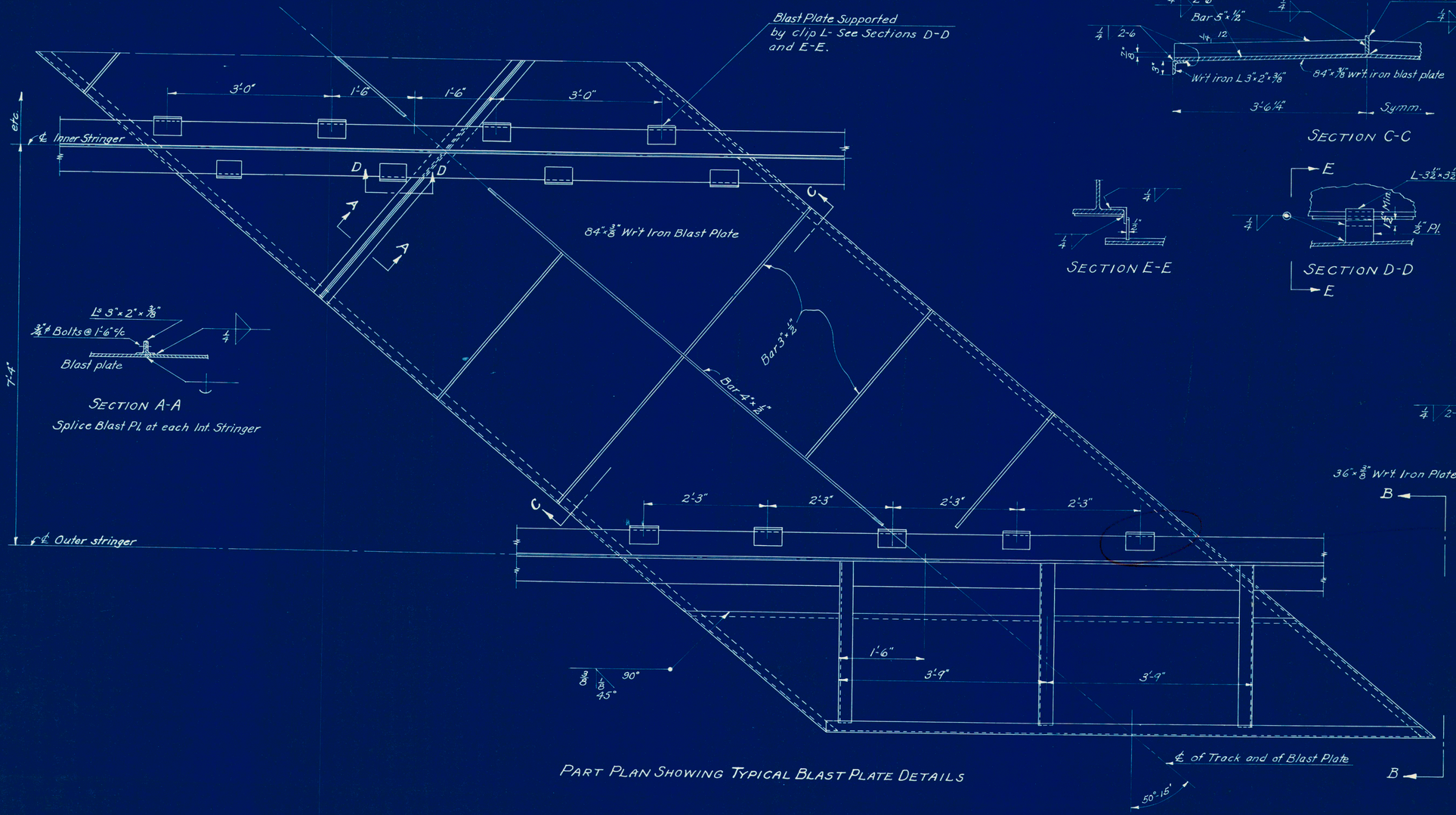
SUPERSTRUCTURE DETAILS

BRIDGE NO. HO-76-139
OVER THE PENNA R.R.
HOLMES COUNTY S.H. 342
SEC. B-2 STA. 27+84.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.S.J. BFG	W.S.J.	K.C.T.	W.V.	BFG CRJ	9/13/47	1/20/48

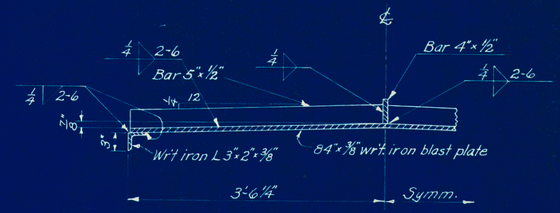
FED. RD DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	32 / 33
2	OHIO	FG-532(12)	1948	

HOLMES COUNTY
S. H. 342 SEC. B-2 (Pt.)



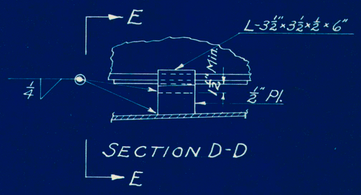
PART PLAN SHOWING TYPICAL BLAST PLATE DETAILS

SECTION A-A
Splice Blast Pl. at each Int. Stringer

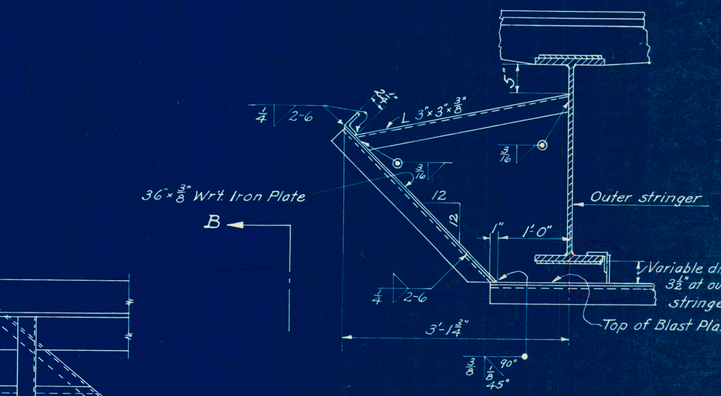


SECTION C-C

SECTION E-E



SECTION D-D



SECTION B-B

NOTE :-
Wrought iron for blast plates and for 3"×2"×⅜" stiffener angles shall be in accordance with Sec. M-7.6 of the Construction and Material Specifications.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

BLAST PLATE DETAILS

BRIDGE No. HO-76-13.9
OVER THE PENNA. R.R.
HOLMES COUNTY S.H. 342
SEC. B-2 STA. 27+24.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.J.J.	M.J.J.	JAW	AJW	PFG ERH	3/19/47	

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	FG-532(12)	1948

33
33

HOLMES COUNTY
S.H. 342 SEC. B-2 (PT.)

REINFORCING STEEL LIST

PIERS #1 & #4

Mark	Size	No.	Length	Weight	Shp.
P8a	1"ø	40	25'-10"	3513	B
P7a	1"ø	10	20'-8"	552	S
P7b	1"ø	12	21'-4"	684	B
P7c	1"ø	16	26'-6"	1132	B
P5a	⅝"ø	64	14'-4"	1378	S
P5b	⅝"ø	64	7'-0"	673	B
P4a	⅝"ø	124	8'-4"	1077	B
P4b	⅝"ø	240	5'-9"	1439	B
P4c	⅝"ø	8	24'-3"	203	S
P2a	½"ø	160	5'-6"	588	B

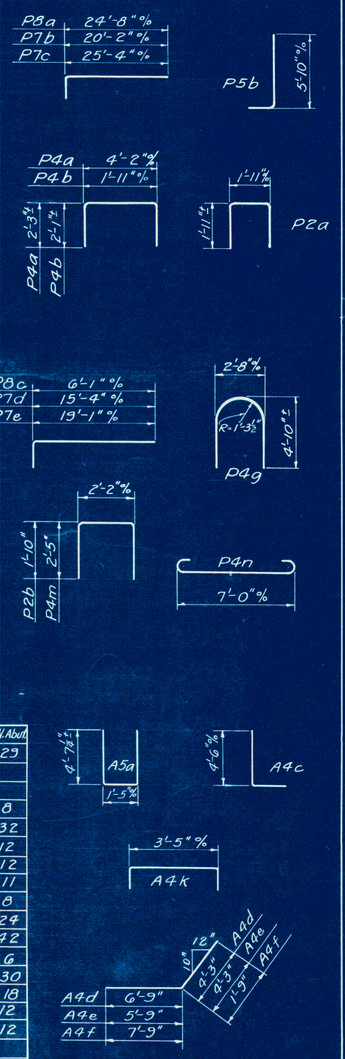
PIERS #2 & #3

Mark	Size	No.	Length	Weight	Shp.
P8b	1"ø	64	26'-3"	5712	S
P8c	1"ø	64	7'-3"	1578	B
P8d	1"ø	8	24'-0"	653	S
P7d	1"ø	24	16'-6"	1058	B
P7e	1"ø	16	20'-3"	865	B
P7f	1"ø	12	16'-6"	529	S
P4d	⅝"ø	52	22'-6"	1220	S
P4e	⅝"ø	84	10'-2"	891	S
P4f	⅝"ø	16	24'-6"	409	S
P4g	⅝"ø	24	11'-0"	275	B
P4h	⅝"ø	84	4'-3"	372	S
P4k	⅝"ø	8	25'-0"	209	S
P4m	⅝"ø	192	6'-9"	1352	B
P4n	⅝"ø	66	8'-2"	562	B
P4p	⅝"ø	12	25'-6"	319	S
P2b	½"ø	160	5'-8"	606	B

ABUTMENTS

Mark	Size	No.	Length	Weight	Shp.	S.Abut.	N.Abut.
A5a	⅝"ø	58	10'-3"	833	B	29	29
A4a	⅝"ø	98	6'-0"	301	S	98	
A4b	⅝"ø	14	9'-6"	431	S	6	8
A4c	⅝"ø	64	5'-3"	351	S	32	32
A4d	⅝"ø	24	11'-0"	276	B	12	12
A4e	⅝"ø	23	10'-0"	240	B	11	12
A4f	⅝"ø	22	9'-6"	218	B	11	11
A4g	⅝"ø	16	27'-3"	455	S	8	8
A4h	⅝"ø	24	11'-0"	275	S	24	24
A4k	⅝"ø	84	4'-11"	431	B	42	42
A4m	⅝"ø	12	18'-0"	225	S	6	6
A4n	⅝"ø	30	6'-6"	203	S		30
A4p	⅝"ø	18	5'-6"	104	S		18
A4r	⅝"ø	12	11'-6"	144	S		12
A4s	⅝"ø	12	10'-6"	131	S		12

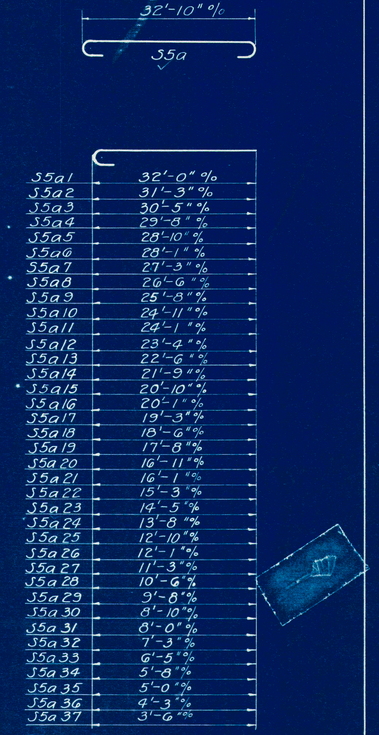
Bending Diagrams



SUPERSTRUCTURE

Mark	Size	No.	Length	Weight	Shp.
S5a	¾"ø	210	34'-3"	10803	B
S5a1	¾"ø	2	32'-8"	98	B
S5a2	¾"ø	2	31'-11"	96	B
S5a3	¾"ø	2	31'-1"	93	B
S5a4	¾"ø	2	30'-9"	91	B
S5a5	¾"ø	2	29'-6"	89	B
S5a6	¾"ø	2	28'-9"	86	B
S5a7	¾"ø	2	27'-11"	84	B
S5a8	¾"ø	2	27'-2"	82	B
S5a9	¾"ø	2	26'-4"	79	B
S5a10	¾"ø	2	25'-7"	77	B
S5a11	¾"ø	2	24'-9"	74	B
S5a12	¾"ø	2	24'-0"	72	B
S5a13	¾"ø	2	23'-2"	69	B
S5a14	¾"ø	2	22'-5"	67	B
S5a15	¾"ø	2	21'-6"	65	B
S5a16	¾"ø	2	20'-9"	62	B
S5a17	¾"ø	2	19'-11"	60	B
S5a18	¾"ø	2	19'-2"	58	B
S5a19	¾"ø	2	18'-4"	55	B
S5a20	¾"ø	2	17'-7"	53	B
S5a21	¾"ø	2	16'-9"	50	B
S5a22	¾"ø	2	15'-11"	48	B
S5a23	¾"ø	2	15'-1"	45	B
S5a24	¾"ø	2	14'-4"	43	B
S5a25	¾"ø	2	13'-6"	41	B
S5a26	¾"ø	2	12'-9"	38	B
S5a27	¾"ø	2	11'-11"	36	B
S5a28	¾"ø	2	11'-2"	34	B
S5a29	¾"ø	2	10'-4"	31	B
S5a30	¾"ø	2	9'-6"	29	B
S5a31	¾"ø	2	8'-8"	27	B
S5a32	¾"ø	2	7'-11"	24	B
S5a33	¾"ø	2	7'-1"	21	B
S5a34	¾"ø	2	6'-4"	19	B
S5a35	¾"ø	2	5'-8"	17	B
S5a36	¾"ø	2	4'-11"	15	B
S5a37	¾"ø	2	4'-2"	13	B
S5b	¾"ø	282	32'-9"	13872	S
S5b1	¾"ø	2	32'-7"	98	S
S5b2	¾"ø	2	32'-0"	96	S
S5b3	¾"ø	2	31'-5"	94	S
S5b4	¾"ø	2	30'-10"	93	S
S5b5	¾"ø	2	30'-3"	91	S
S5b6	¾"ø	2	29'-8"	89	S
S5b7	¾"ø	2	29'-1"	87	S
S5b8	¾"ø	2	28'-6"	86	S
S5b9	¾"ø	2	27'-11"	84	S
S5b10	¾"ø	2	27'-4"	82	S
S5b11	¾"ø	2	26'-9"	80	S
S5b12	¾"ø	2	26'-2"	79	S
S5b13	¾"ø	2	25'-7"	77	S
S5b14	¾"ø	2	25'-0"	75	S
S5b15	¾"ø	2	24'-5"	73	S
S5b16	¾"ø	2	23'-10"	72	S
S5b17	¾"ø	2	23'-3"	70	S
S5b18	¾"ø	2	22'-8"	68	S

Bending Diagrams

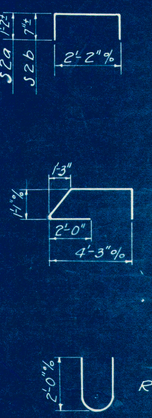


SUPERSTRUCTURE CONT'D

Mark	Size	No.	Length	Weight	Shp.
S5b19	¾"ø	2	22'-1"	66	S
S5b20	¾"ø	2	21'-6"	65	S
S5b21	¾"ø	2	20'-11"	63	S
S5b22	¾"ø	2	20'-4"	61	S
S5b23	¾"ø	2	19'-9"	59	S
S5b24	¾"ø	2	19'-2"	58	S
S5b25	¾"ø	2	18'-7"	56	S
S5b26	¾"ø	2	18'-0"	54	S
S5b27	¾"ø	2	17'-5"	52	S
S5b28	¾"ø	2	16'-10"	51	S
S5b29	¾"ø	2	16'-3"	49	S
S5b30	¾"ø	2	15'-8"	47	S
S5b31	¾"ø	2	15'-1"	45	S
S5b32	¾"ø	2	14'-6"	44	S
S5b33	¾"ø	2	13'-11"	42	S
S5b34	¾"ø	2	13'-4"	40	S
S5b35	¾"ø	2	12'-9"	38	S
S5b36	¾"ø	2	12'-2"	37	S
S5b37	¾"ø	2	11'-7"	35	S
S5b38	¾"ø	2	11'-0"	33	S
S5b39	¾"ø	2	10'-5"	31	S
S5b40	¾"ø	2	9'-9"	29	S
S5b41	¾"ø	2	9'-2"	27	S
S5b42	¾"ø	2	8'-7"	26	S
S5b43	¾"ø	2	8'-0"	24	S
S5b44	¾"ø	2	7'-5"	22	S
S5b45	¾"ø	2	6'-10"	21	S
S5b46	¾"ø	2	6'-3"	19	S
S5b47	¾"ø	2	5'-8"	17	S
S5b48	¾"ø	2	5'-1"	15	S
S5b49	¾"ø	2	4'-6"	14	S
S5b50	¾"ø	2	3'-11"	12	S
S5b51	¾"ø	2	3'-4"	10	S
S5b52	¾"ø	2	2'-9"	8	S
S5c	⅞"ø	56	36'-6"	3070	S
S4a	⅝"ø	371	36'-0"	13930	S
S4b	⅝"ø	96	28'-0"	2804	S
S2a	½"ø	320	4'-3"	908	B
S2b	½"ø	320	3'-3"	695	B
R5a	⅜"ø	12	4'-3"		B
R5b	⅜"ø	8	7'-6"		B

Incl. with railing for payment

Bending Diagrams



REPLACEMENT

Mark	Size	No.	Length	Weight	Shp.
RE8	1"ø	1	7'-4"	25	S
RE7	1"ø	1	7'-4"	20	S
RE5	⅝"ø	2	6'-6"	20	S
RE4	⅝"ø	2	6'-1"	13	S
RE2	⅛"ø	1	5'-8"	4	S

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

REINFORCING STEEL LIST
BRIDGE NO. HO-76-139
OVER PENNSYLVANIA R.R.

HOLMES CO. S.H. 342
SEC. B-2 (PT.) STA. 27+84.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.S.J.	M.S.J.	KET	RJW	DFG 2RJ	9/18/47	