FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	FU-431 (10)	

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

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LIMITED ACCESS
This improvement has been declared a limited access highway or freeway by action of the Director of Highways in accordance with the provisions of Section 5511.02, Revised Code of Ohio, and is especially designed for through traffic.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

JEF-7-(33.83-34.10) AND COL-7-(0.00-0.50)
JEFFERSON AND COLUMBIANA COUNTY
SALINE AND YELLOW CREEK TOWNSHIPS & CITY OF WELLSVILLE
FU-431 (10)
GRADE SEPARATIONS WITH THE PENNA. RAILROAD CO.

~ CONVENTIONAL SIGNS ~

COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CORPORATION LINE
STATE LINE
CENTER LINE
PROPERTY LINE
FENCE LINE
POLE LINE — Telephone / Power
RAILROADS
GUARD RAIL — Old / New
DRAIN PIPE — Old / New

~ INDEX OF SHEETS ~

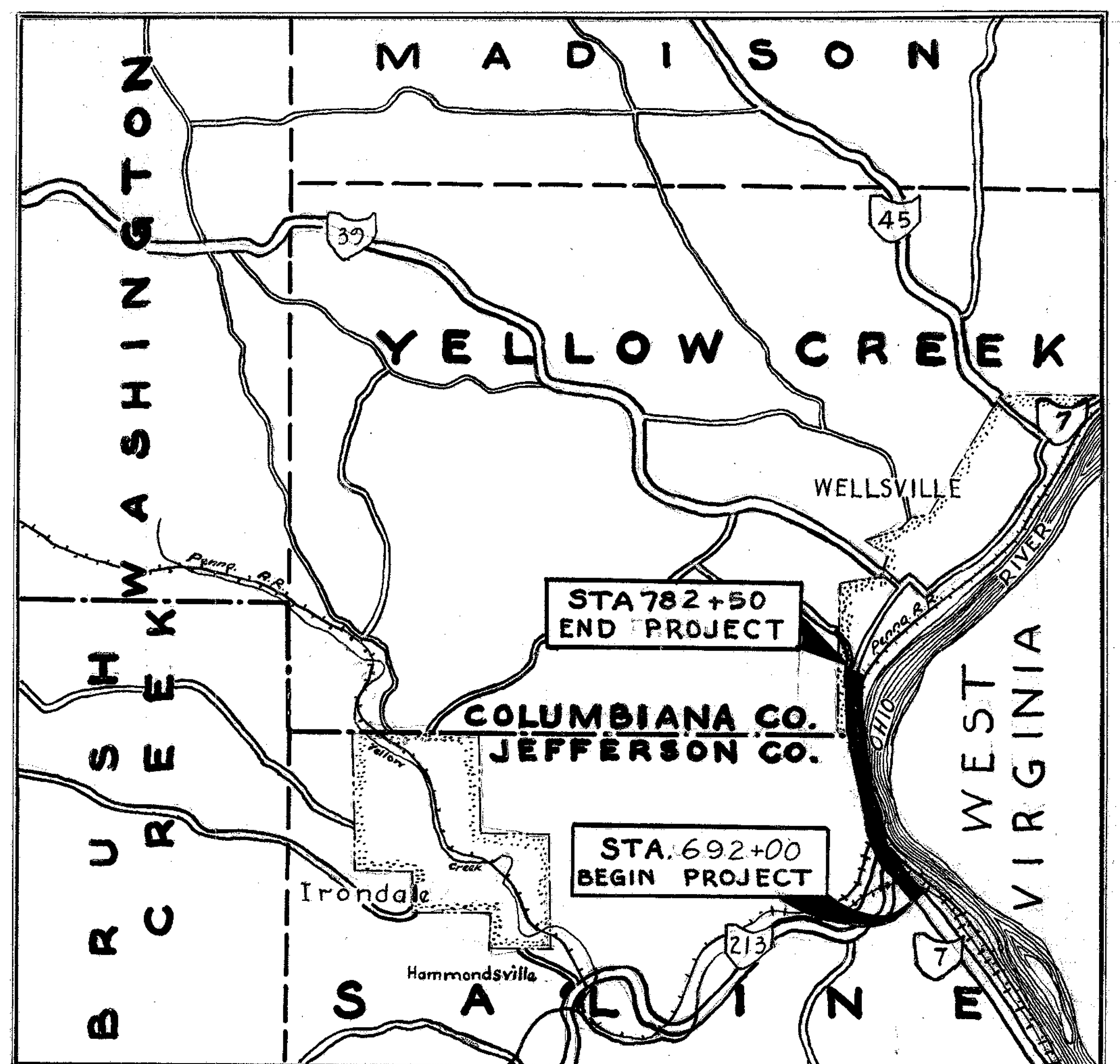
~ LINE DATA ~

BEGIN PROJECT AND RURAL STA. 692+00 - F-431(10)
END RURAL STA 758+23.61 - F-431 (10)
GROSS LENGTH RURAL = 6623.61 LIN. FT.
STA 730+55.65 BACK = STA 730+49.52 AHEAD
ADD FOR EQUATION = 6.13 LIN. FT.
NET LENGTH RURAL - F-431(10) = 6629.74 LIN. FT. or 1.255 MILES

BEGIN MUNICIPAL STA 758+23.61 - U-431(10)
END MUNICIPAL AND PROJECT STA 782+50 - U-431 (10)
NET LENGTH MUNICIPAL - U-431(10) = 2426.39 LIN. FT or 0.459 MILES

NET LENGTH OF PROJECT FU-431(10) = 9056.13 LIN. FT or 1.715 MILES

BEGIN WORK STA 686+00
END WORK STA 786+50
NET LENGTH OF WORK - S.R.-7 = 10,056.13 LIN. FT.
NET LENGTH OF WORK - S.R. 213 APPROACH 806.76 LIN. FT.
NET LENGTH OF WORK - SEWER RT STA. 782+45 = 327.00 LIN. FT.
TOTAL LENGTH OF WORK - FU-431 (10) 11,189.89 LIN. FT. or 2.119 MILES



AVERAGE HAUL FROM SIDING 2.0 MILES
DELIVERY POINT ~ WELLSVILLE

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" = 10'*
CROSS SECTIONS	1" = 10'

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 not require the closing to traffic of the highway and that provisions for maintenance and safety of traffic will be as set forth in these plans and estimates.

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

Approved ______
Date April 26-57 Division Deputy Director

Approved ______
Date 5-27-57 Deputy Director of Planning and Programing

Approved ______
Date 5-20-57 Engineer of Bridges

Approved ______
Date 5-20-57 Engineer of Location and Design

Approved ______
Date 5/20/57 Deputy Director of Design and Construction

Approved ______
Date ______ First Assistant Director

Approved ______
Date 5/27/57 Acting Director of Highways

STANDARD					DRAWINGS				
B-T-50-70-71E	10-1-47	I-8 C.B. 2-5 & 2-6	5-1-52	I-15 № 2	12-1-54	R I-1	1-3-55		
B-T-71R	3-2-53	I-8 C.B. № 3A	5-1-52	I-15 № 2-A	7-2-56	S-27 P.C. 3	2-20-45		
DR-1	1-3-55	I-8 I № 2	12-1-54	I-21-23	8-1-56	S-27 P.C. 4	1-4-54		
G-7.07	6-1-56	I-8 M.H. № 1	5-1-52	L-1	4-1-50	T-35	1-2-56		
I-1,2,3,4 & 5	2-20-45	I-12	7-1-54	L-3	4-1-50	T. J.	5-1-56		
I-8 C.B. 2-2-A & B	8-1-56	I-14 G	1-22-52	L-3-A	4-1-50	AS-1-54	12-1-54		
I-8 C.B. 2-3 & 2-4	5-1-52	I-15 № 1	8-1-55	L.J. № 1	7-1-55	I-8 MH No 1-A	1-3-55		

SUPPLEMENTAL SPECIFICATIONS	
E-101	1-1-57
S-114	8-30-55
5	6-8-55

*Except as otherwise shown.

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED:

DISTRICT ENGINEER DATE

File №	JEF-7-(33.83-34.10)
	COL-7 (0.00-0.50)
	Date of Letting ______ 19__
	Contract № ______

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

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LOCATION MAP

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

3

JEF-7-(33.83~34.10)
COL-7-(0.00~0.50)

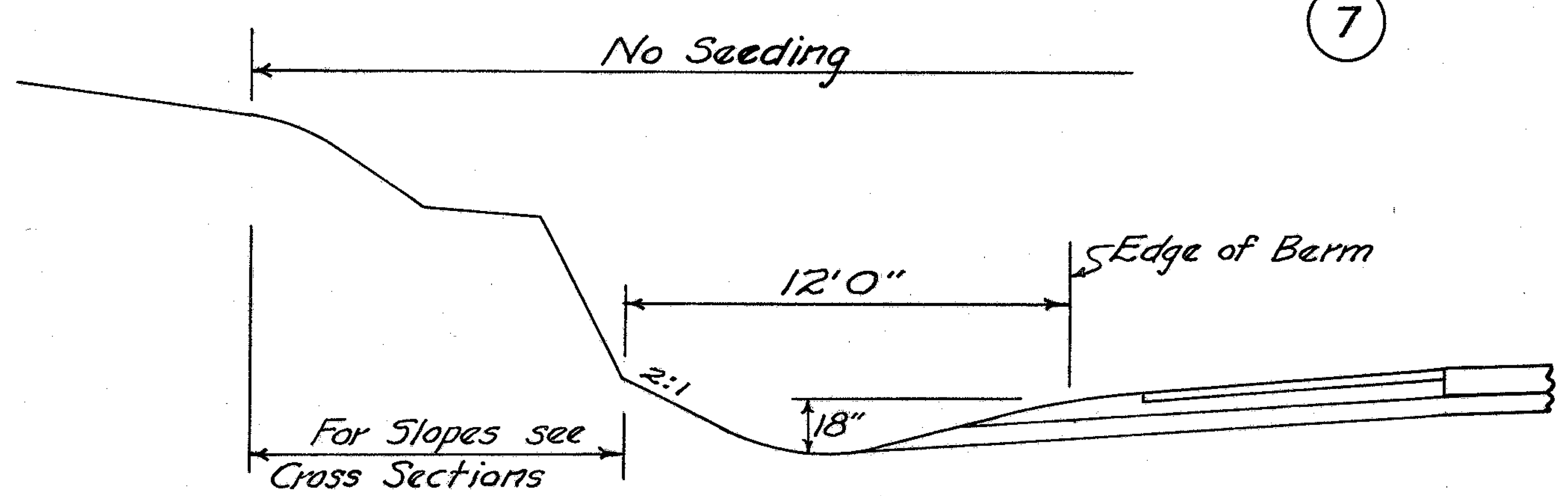
TYPICAL SECTIONS
TYPE-T-71

Scale: 1/4"=1'-0"

STA. 694+00 TO STA. 700+68.96
STA. 702+04.52 TO STA. 707+00
STA. 725+35.48 TO STA. 733+00
STA. 744+00 TO STA. 754+50
STA. 764+00 TO STA. 777+50

*STA. 687+25 TO STA. 694+00
STA. 707+00 TO STA. 718+62.96
STA. 733+00 TO STA. 744+00
STA. 754+50 TO STA. 764+00
*STA. 777+50 TO STA. 786+50

*NOTE: For pavement widths within transition portions of these limiting stations, see pavement transition details, Sheets 100 to 103.



DITCH AND SLOPE DETAIL IN ROCK CUTS

~ KEY ~

(1) Item T-71 - 9" Reinforced Portland Cement Concrete Pavement
(2) Item I-22 - Subbase
(3) Item I-18 - Stabilized Shoulders
(4) Item I-12 - Type 2-A Concrete Curb
(5) Item I-21 - Type 1 Concrete Median (see Std. Dwg. I-21-23)
(6) Item B-33 - 3" Bituminous Macadam Base Course
(7) Item T-31 - Bituminous Surface Treatment
(8) Item I-4 - 6" Underdrains

NOTE: Shoulder, slope and ditch details shall be in accordance with Std. Dwg. RI-1 unless otherwise shown.

For pavement transition from Sta. 687+25 to Sta. 692+00 see Sheet No. 100

For pavement transition from Sta. 706+87.83 to Sta. 719+23.50 see Sheets No. 101 & 102

For pavement transition from Sta. 782+50 to Sta. 786+50 see Sheet No. 103

From Sta. 782+50 to Sta. 786+50 the subbase shall be Grading D.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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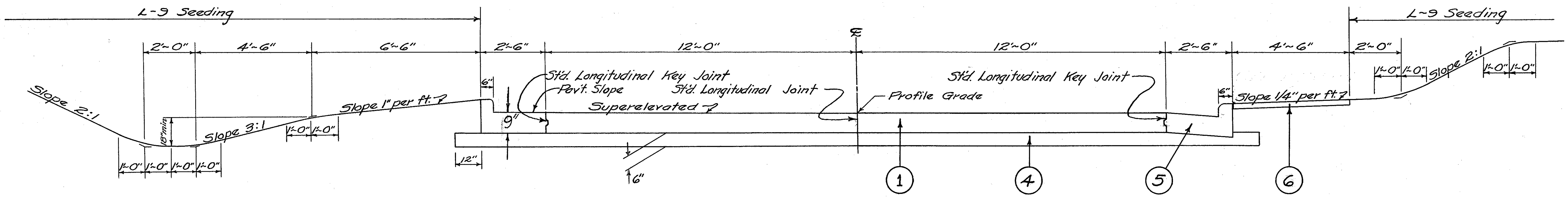
JEF-7-(33.83~34.10)
COL-7-(0.00~0.50)

TYPICAL SECTIONS
TYPE-T-71

Scale: 1/2"=1'-0"

STA. 5+00 TO STA. 11+93.27 (S.R. 213 APPR.)
STA. 0+83.5 TO STA. 1+33 (APPR. RT. STA. 784+12.35)



STA. 11+93.27 TO STA. 13+06.76 (S.R. 213 APPR.)
STA. 0+14.5 TO STA. 2+38 (APPR. LT. STA. 784+12.35)
STA. 0+26.5 TO STA. 0+83.5 (APPR. RT. STA. 784+12.35)

NOTE: Shoulders, slope and ditch details shall be in accordance with Std. Dwg. RI-1 unless otherwise shown.

For transition details from Sta. 5+00 to Sta. 6+00 on S.R. 213 Appr. see Sheet No. 104, and for details from Sta. 11+93.27 to Sta. 13+06.76 see Sheets No. 101 & 104

For exact details of approaches right and left of Sta. 784+12.35, including limits of sidewalk, curb and gutter, shoulder details, etc., see Sheets No. 107 & 109

~ KEY ~

1. Item T-71 ~ 9" Reinforced Portland Cement Concrete Pavement
2. Item I-22 ~ Subbase
3. Item I-18 ~ 6" Stabilized Shoulders
4. Item I-22 ~ Subbase, Grading D, except on S.R. 213 Appr.
5. Item I-12 ~ Std. Type 2 Combined Concrete Curb and Gutter
6. Item I-13 ~ 4" Concrete Sidewalk

GENERAL NOTES

DESIGN SPEED: The geometrics for this project have been planned for a design speed of 60 miles per hour.

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.

SUBBASE COURSE: In the final finishing of slopes and ditches, care shall be exercised to assure that the exposed edge of the subbase course and stone underdrains will be left free of earth cover which would impede free drainage.

FIELD OFFICE: The contractor shall provide a suitable field office in accordance with section S-0.01(b) having a minimum floor area of 500 square feet.
The contractor shall have a telephone installed and maintained during the construction of this project.

UTILITIES: Any and all work required for removing, relocating and constructing new facilities for private or public utilities will be done by and at the expense of their respective owners unless otherwise noted on Plans.

LOCATION OF WATER AND GAS LINES: The State of Ohio will not be responsible for the accuracy of the locations shown of the existing water and gas Lines. They are shown as near correct as the available information permits. The exact depth and location of the water and gas lines where proposed structures and storm sewers are to be placed shall be determined by the contractor prior to the installation of such items. Adjustments of flow lines of proposed catch basins and proposed storm sewers may be made at the direction of the engineer to meet existing conditions.

SEEDING AND PROTECTING: Quantities for seeding, Item L-9, are calculated for the soil areas between lines ten feet outside the work limits, as shown on the cross sections, or to the right-of-way line, if such line is less than ten (10) feet from the work limits. Seeding shall not be used on areas where rock or hard shale is encountered in cut slopes or where fill slopes are composed of rock.

REMOVAL OF TREES AND STUMPS: The number and size of trees and stumps shown below for removal under the construction as detailed on these plans are as nearly correct as available information permits. The State of Ohio will not be responsible for any variations found during construction. The lump sum bid for Item E-9, removal of trees and stumps, shall constitute full payment for this item and no additional compensation will be allowed.

The number and size of trees and stumps are estimated below.

12" to 18"	300
18" to 24"	63
24" to 30"	28
30" to 36"	5
36" to 42"	2
42" to 48"	2

SPECIFICATION BENCHING: Except in areas of special benching, as shown on the plans, Specification benching as required in Sec. E-1.04 shall be performed.

EXISTING PAVEMENT REMOVAL: Where the existing pavement is removed outside of the proposed construction limits, the old roadway shall be plowed, harrowed and dragged to a smooth grade and the entire area left in a neat condition. Cost of this work shall be included in the unit price bid for Pavement Removal, Item E-8. Areas shall then be seeded in accordance with Item L-9.

PAVED GUTTERS: Paved gutters shall be constructed of stone or broken concrete to a minimum thickness of twelve inches or Class "E" concrete to a minimum thickness of six inches. Solid precast concrete blocks may be used in lieu of stone with a minimum thickness of twelve inches. Thickness of paved gutter shall be measured perpendicular to the surface of the ditch.
Concrete gutters shall have an impressed joint at intervals of ten (10) feet.
When constructed of material other than concrete the material shall be grouted in place.

T-31 BIT. SURF. TREATMENT: Upon completion of the B-33 construction, a seal coat shall be applied to the surface of the penetration macadam in accordance with Item T-31, consisting of 0.25 gal. bituminous material per sq. yd. and 0.008 cu. yd. № 6 aggregate per sq. yd.
The variety and grade of bituminous material used in the seal coat shall depend upon the type of bituminous material used in the B-33, Bituminous Macadam Base Course, as indicated in the following table.

Bituminous material used in Item B-33 Bituminous Macadam Base Course.	Bituminous material to be used for Item T-31 Bituminous Surface Treatment
Sec. M-5.7 RT-11 or RT-12	Sec. M-5.7 RT-8 or RT-9
Sec. M-5.1 85-100 or Sec. M-5.5 RS-1	Sec. M-5.2 RC-3; Sec. M-5.3 MC-5; Sec. M-5.5 RS-1 or RS-2; Sec. M-5.12 CBAE-3

Shields shall be used on the distributor to prevent bituminous material being spread onto the adjacent pavement. The cover aggregate shall be laid with an approved spreader box and care shall be taken to spread the material to the neat lines shown on the plans.

ROCK FILL: Areas indicated on the plans as rock fill shall be constructed in accordance with Sec. E-101.08

T-10 MODIFIED: This item shall consist of furnishing No. 3 or No. 34 aggregate, as directed by the Engineer, in lieu of the grading specified under Item T-10. All other provisions of Item T-10 shall apply.

HAULING ON EXISTING PAVEMENT: The Contractor shall not haul embankment or other materials on existing State Routes, or on any street or alley in the City of Wellsville, except when using legal size vehicles, carrying a legal weight load. The Contractor shall obtain permission from City Officials, prior to beginning operations, to haul over City streets or alleys, even with legal loads.

LIMITATION OF ACCESS: All private drives and public approaches on the project have been determined and negotiations entered into with the property owners on the basis of locations shown on the plans. No change in location of these drives or approaches shall be made during construction or there after, nor shall any additional drives or approaches to the project be permitted during construction or thereafter.

SPECIAL DRAINAGE: Due to the presence of abandoned mine entries in the hillside along this project, water is seeping out at several locations. No attempt has been made to intercept this water, since the location of the source is not known. During construction these drainage situations shall be remedied as they develop. Additional items have been added to the General Summary for this purpose, to be used where directed by the Engineer.

REMOVAL OF EXISTING CURB: Where existing pavement is listed for removal the item shall include the removal and disposal of any integral or adjacent curbs. Payment for all of this work shall be included in the price bid per square yard for Item E-8, Pavement Removal.

CONSTRUCTION LAYOUT STAKES: See note in Proposal describing the work included in this lump sum pay item.

SEEDING: On shoulders, roadway ditches and areas immediately in front of residences the seed mixture shall be sown at the rate and as specified under Sec. L-9.11. On slopes and on all other areas except those previously mentioned, the following mixture shall be sown at the rate of 3 pounds per 1000 Sq. Ft.:
20% Kentucky Blue grass (Poa pratensis).
45% Kentucky 31 Fescue (Festuca elatior, var. ky. 31).
10% Red Top (Argrostis alba).
20% Alfalfa (Medicago sativa, Ranger).
5% Birdsfoot Trefoil (Lotus corniculatus).

For continuation of notes see Sheet 6.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

6

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

GENERAL NOTES

CO-OPERATION WITH RAILROAD: The Contractor shall cooperate with local officials of the Pennsylvania Railroad Company in all work adjacent to the tracks, in order to avoid delay to, or interference with railroad traffic. When blasting operations are necessary the Contractor shall notify the Company 48 hours in advance, so that watchmen can be provided to protect railroad traffic. During periods of continuous blasting the Contractor shall consult with railroad personnel as to scheduled train movements and shall control the size and timing of blasting charges in such a manner that railroad traffic delays and damage to Company property is confined to the absolute minimum.

The Contractor shall execute a bond in favor of the Company, as well as in favor of the State, as required by Sec. 5525.16 of the Revised Code of Ohio, and shall carry insurance of the kinds and amounts prescribed in the Special Clauses in the proposal covering work affecting railroad property and operation.

The Contractor shall pay to the Company all costs for watchmen and flagmen, deemed necessary by the Company, or occasioned by the operations or negligence of the Contractor or any Sub-Contractor in carrying forward work on railroad property, or any work affecting or railroad operations. The Contractor shall first secure State and Railroad approval of any methods of operation on railroad property or affecting the safety of railroad traffic, before starting such operations. The railroad will perform its engineering review of methods of operation and supervisions of construction without cost to the Contractor. Billing against the Contractor by the Company will include customary percentage for vacation pay, wage taxes, insurance and overhead expenses.

The Railroad Company shall furnish all material and labor required to extend any drainage structure that passes beneath the tracks from the point indicated on the plans to the end of the structure. The Contractor shall notify the Company ten days prior to beginning work on any drainage structure that is to be completed by the Company.

USE OF EXPLOSIVES: Extreme care shall be exercised in the use of explosives so that the rock and/or shale remaining back of the construction lines will be sound, free of all loose particles and not cracked. Any rock and/or shale back of the construction lines, and lying within the limits of the Right of Way, that has been loosened or cracked by the Contractor's operations shall be removed to neat lines, as set by the Engineer, by the Contractor at no cost to the State.

Rock and/or shale, outside of the Right of Way lines, that has been loosened and/or cracked by the Contractor's operations shall be removed to neat lines, as directed by the Engineer, at the Contractor's own expense. The Contractor shall pay the necessary damages to the property owners for this removal of material.

Before acceptance of this project all loose rock and/or shale lying on or above the back slopes shall be removed by the Contractor.

The Engineer shall determine whether such material was loosened by the Contractor's operation. If the cause of such rock and/or shale being loosened was not by the Contractor's operations, the Contractor shall be paid for removal of the same at the unit price bid per cu.yd. for Item E-101 Roadway Excavation.

Explosives must be carefully selected with reference to the character of the work. It is strongly recommended that the Contractor utilize the consulting service which Explosive Manufacturers extend to their patrons. Sec G-7.08 of the specifications shall be strictly adhered to.

MAINTAINING TRAFFIC: The Contractor shall maintain traffic at all times in accordance with the requirements of Sec. G-7.07. The length of one way traffic zones shall be kept to a minimum consistent with the requirements of the work. The Contractor shall maintain the existing pavement, roadway and bridges, while traffic is being maintained thereon, by making the necessary repairs, including patching the pavement and bridge surfaces with bituminous material when requested by the Engineer. A quantity of asphaltic concrete has been included in the General Summary for this purpose.

Temporary traffic lanes shall be surfaced with T-10 material, treated with calcium chloride and the surface maintained daily in a manner satisfactory to the Engineer. Two-way traffic lanes shall be surfaced with aggregate at least 20 feet wide and one-way traffic lanes shall have the surfacing aggregate not less than 12 feet wide.

Payment for constructing, maintaining, patching and removing temporary traffic lanes and for all other items required for the maintenance of traffic, except furnishing and placing T-10, T-35 and M-10 items, shall be included in the lump sum bid for "Maintaining Traffic."

EXTRA QUANTITIES: Specific locations of use of extra quantities shown on sheets 10 and 11 to be used where directed by the Engineer shall be made a matter of record by incorporation into the final change order governing the construction of this project.

CONTRACTION JOINTS: The maximun distance between contraction joints, including the contraction joints shown on pavement details, shall in all cases be in accordance with Standard Drawing T.J.

For additional notes see Sheet No. 120.

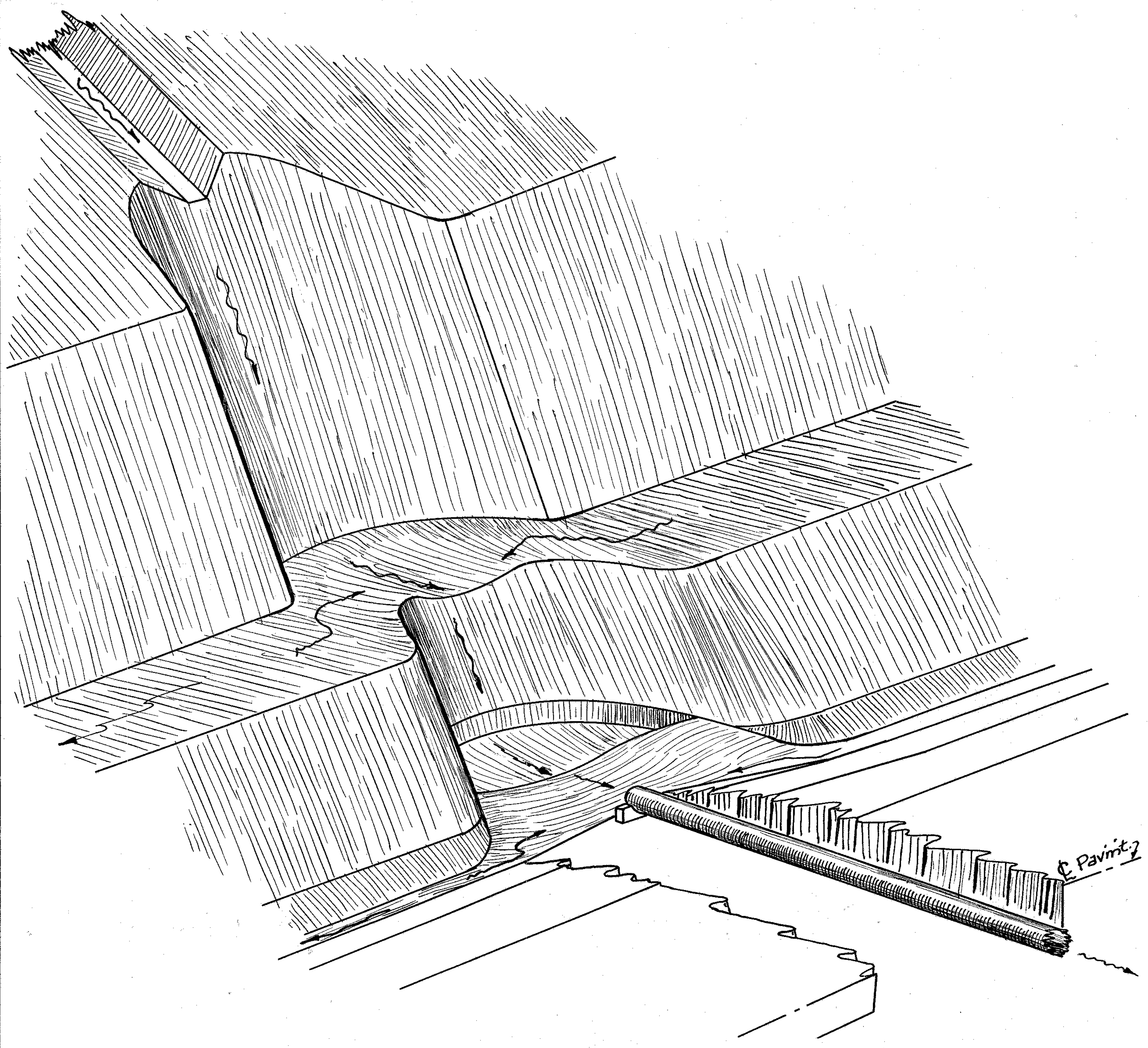
ITEM I-4 6" UNDERDRAINS: Cross section templates as drawn show extensions of I-22 subbase through shoulders. In lieu of the above, subbase drainage shall be provided by I-4 Underdrains, as shown on the Typical Sections, for all embankment areas and for all cut areas not in rock or shale. Estimated Quantities of 6" I-4 underdrains, 6" I-5 pipe specials (45° Bends) for underdrains and 8" I-4 Outlets for underdrains have been provided in the general Summary. Specific locations and grades of underdrains and outlets shall be determined by the Engineer at the time of construction. Necessary adjustments in plan quantities for I-22 Subbase and earthwork to reflect this design change have also been made.

SCHEDULE OF OPERATIONS: All proposed pavement and structures shall be opened to full use of traffic not later than December 15, 1958.

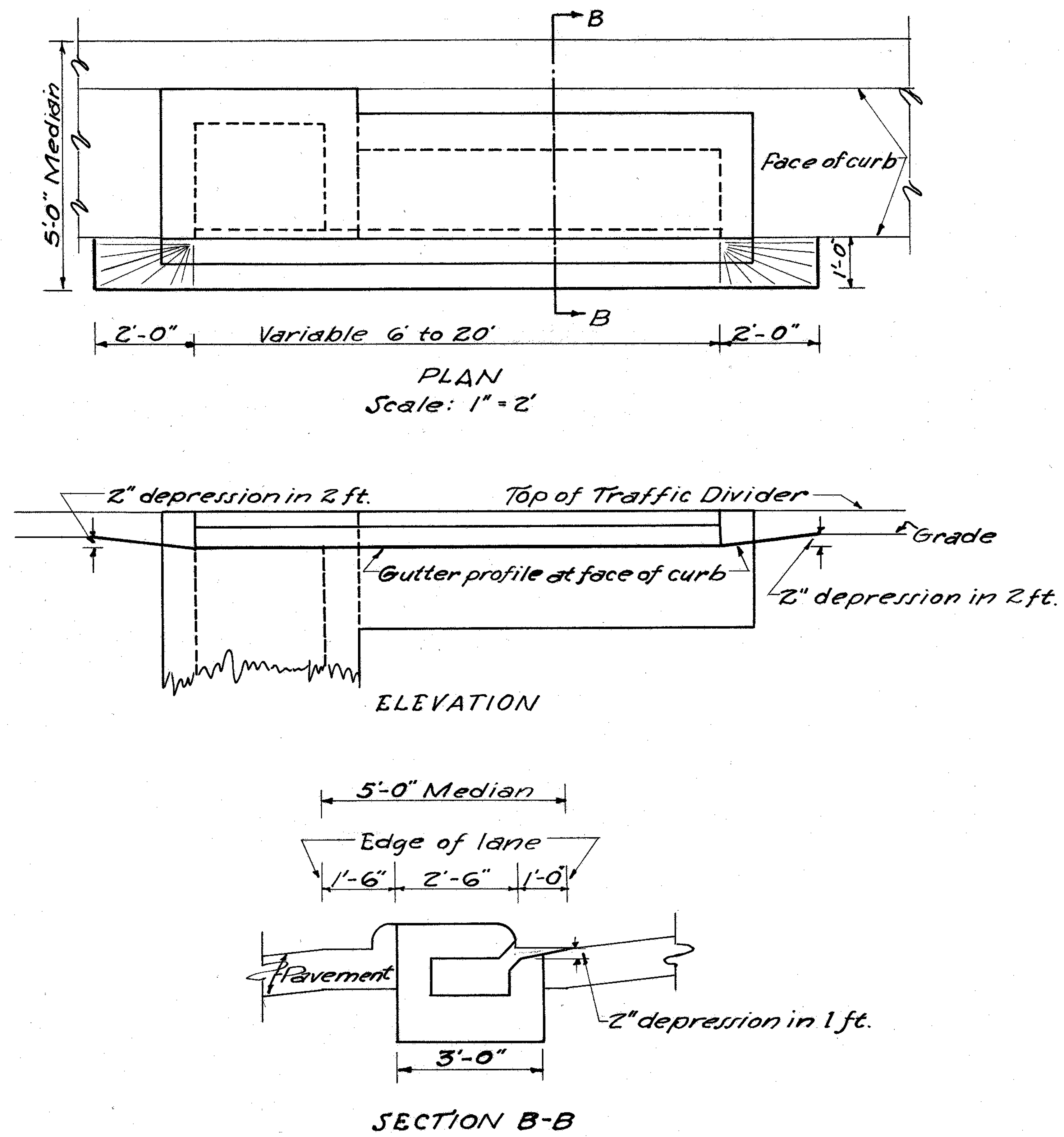
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

TYPICAL DETAILS



SKETCH OF INLET RECESS
For additional data see Culvert details



DEPRESSION OF GUTTER PAN FOR STD. Nº 2-6 TO 2-20 INLETS

SUMMARY OF QUANTITIES

PAVEMENT CALCULATIONS

T-71 PAVEMENT

Sta. 687+25 to 692+0 (See Sheet № 100)	=	1,925 Sq.Yds		
Sta. 692+00 to 700+68.96 - 868.96 × 51.0 ÷ 9	=	4,924 Sq.Yds.		
Sta 702+04.52 to 706+87.83 - 483.31 × 51.0 ÷ 9	=	2,739 Sq.Yds.		
Sta. 706+87.83 to 718+62.96 (See Sheet № 101)	=	7,722 Sq.Yds.		
Sta. 725+35.48 to 758+23.61 - 3294.26 × 51.0 ÷ 9	=	18,668 Sq.Yds.		
			Total T-71 JEF. CO.	= 35,978 Sq.Yds.
Sta. 758+23.61 to 782+50 - 2426.39 × 51.0 ÷ 9	=	13,750 Sq.Yds.		
Sta. 782+50 to 786+50 (See Sheet № 103)	=	1,782 Sq.Yds.		
			Total T-71 COL. CO.	= 15,532 Sq.Yds.

E-1 COMPACTED SUBGRADE

Sta. 687+25 to 692+00 (See Sheet № 100)	=	1,925 Sq.Yds.		
Sta. 699+00 to 700+93.96 - 193.96 × 51.0 ÷ 9	=	1,100 Sq.Yds.		
Sta. 701+79.52 to 706+87.83 - 508.31 × 51.0 ÷ 9	=	2,881 Sq Yds.		
Sta. 706+87.83 to 718+87.96 (See Sheet № 101)	=	7,864 Sq.Yds.		
Sta. 725+10.48 to 725+50 - 39.52 × 51.0 ÷ 9	=	224 Sq.Yds.		
Sta. 732+50 to 733+50 - 100 × 51.0 ÷ 9	=	567 Sq.Yds.		
Sta. 755+00 to 756+50 - 150 × 51.0 ÷ 9	=	850 Sq.Yds.		
			Total E-1 JEF. CO.	= 15,411 Sq. Yds
Sta. 779+00 to 782+50 - 350 × 51.0 ÷ 9	=	1,984 Sq.Yds.		
Sta. 782+50 to 786+50 (See Sheet № 103)	=	1,880 Sq.Yds.		
			Total E-1 COL. CO.	= 3,864 Sq.Yds.

I-22 SUBBASE

Sta. 687+25 to 692+00 (See Sheet № 100)	=	463 Cu.Yds.		
Sta 692+00 to 694+00 - 200 × 35.83 ÷ 27	=	266 Cu.Yds.		
Sta. 694+00 to 700+93.96 - 693.96 × 42.33# ÷ 27	=	1,088 Cu.Yds.		
Sta 701+79.52 to 706+87.83 - 508.31 × 42.33# ÷ 27	=	797 Cu.Yds.		
Sta 706+87.83 to 718+87.96 (See Sheet № 101)	=	1,845 Cu.Yds.		
Sta. 725+10.48 to 733+00 - 795.65 × 42.33# ÷ 27	=	1,248 Cu.Yds.		
Sta. 733+00 to 744+00 - 1100 × 35.83# ÷ 27	=	1,460 Cu.Yds.		
Sta. 744+00 to 754+50 - 1050 × 42.33# ÷ 27	=	1,647 Cu.Yds.		
Sta. 754+50 to 758+23.61 - 373.61 × 35.83# ÷ 27	=	496 Cu.Yds.		
Deduct (See I-4 note, Sheet 6)	=	- 1,167 Cu.Yds		
			Total I-22 JEF. CO.	= 8,143 Cu.Yds.
Sta. 758+23.61 to 764+00 - 576.39 × 35.83# ÷ 27	=	765 Cu.Yds.		
Sta. 764+00 to 777+50 - 1350 × 42.33# ÷ 27	=	2,117 Cu.Yds.		
Sta. 777+50 to 782+50 - 500 × 35.83# ÷ 27	=	644 Cu.Yds.		
			Total I-22 COL. CO.	= 3,546 Cu.Yds.

I-22 SUBBASE - Grading "D"

Sta. 782+50 to 786+50 (See Sheet № 103) COL. CO.				= 329 Cu.Yds.

I-18 AGGREGATE

Sta. 687+25 to 692+00 (See Sheet № 100)	=	171 Cu.Yds.		
Sta. 692+00 to 694+00 - 200 × (3.63# + 5.75#) ÷ 27	=	70 Cu Yds.		
Sta. 694+00 to 700+93.96 - 693.96 × (5.19# + 5.75#) ÷ 27	=	281 Cu.Yds.		
Sta. 701+79.52 to 706+87.83 - 508.31 × (2 × 5.19#) ÷ 27	=	196 Cu.Yds.		
Sta. 706+87.83 to 718+87.96 - (See Sheet № 101)	=	1,845 Cu.Yds.		
Sta. 725+10.48 to 733+00 - 795.65 × (2 × 5.19#) ÷ 27	=	306 Cu.Yds.		

I-18 AGGREGATE (Cont.)

Sta. 733+00 to 744+00 - 1100 × (3.47# + 5.19#) ÷ 27	=	353 Cu.Yds.		
Sta. 744+00 to 754+50 - 1050 × (2 × 5.19#) ÷ 27	=	404 Cu.Yds.		
Sta. 754+50 to 758+23.61 - 373.61 × (3.73# + 5.19#) ÷ 27	=	124 Cu Yds		
			Total I-18 JEF. CO.	= 3750 Cu.Yds.
Sta. 758+23.61 to 764+00 - 576.39 × (3.73# + 5.19#) ÷ 27	=	191 Cu.Yds.		
Sta 764+00 to 777+50 - 1350 × (2 × 5.19#) ÷ 27	=	519 Cu.Yds.		
Sta. 777+50 to 782+50 - 500 × (4.25# + 5.19#) ÷ 27	=	175 Cu.Yds.		
Sta. 782+50 to 783+45 (See Sheet № 103)	=	27 Cu.Yds.		
			Total I-18 COL. CO.	= 912 Cu.Yds.

B-33 STABILIZED SHOULDER

Sta. 687+25 to 692+00 (See Sheet № 100)	=	845 Sq.Yds.		
Sta. 692+00 to 700+93.96 - 893.96 × (2 × 8) ÷ 9	=	1,590 Sq.Yds.		
Sta. 701+79.52 to 706+87.83 - 508.31 × (2 × 8) ÷ 9	=	904 Sq.Yds.		
Sta. 706+87.83 to 718+87.96 (See Sheet № 101)	=	2018 Sq.Yds.		
Sta. 725+10.48 to 758+23.61 - 3319.26 × (2 × 8) ÷ 9	=	5901 Sq.Yds.		
Extra Area at Bridge Lump	=	21 Sq.Yds.		
			Total B-33 JEF CO.	= 11,279 Sq.Yds.
Sta. 758+23.61 to 782+50 - 2426.39 × (2 × 8) ÷ 9	=	4314 Sq.Yds		
Sta. 782+50 to 783+45 (See Sheet № 103)		169 Sq.Yds.		
			Total B-33 COL. CO	= 4,483 Sq.Yds.

T-31 BIT. SURF. TREATMENT

	11279 × 0.25	JEF. CO.	= 2,820 Gals.
	4483 × 0.25	COL. CO.	= 1,121 Gals.
№ 6 Aggr.	11279 × 0.008	JEF. CO.	= 91 Cu.Yds.
	4483 × 0.008	COL. CO.	= 36 Cu.Yds.

I-12 CONC. CURB-Type 2-A

Sta. 692+00 to 700+68.96 - 868.96 × 2	=	1,741 Lin.Ft.		
Sta. 702+04.52 to 706+87.83 - 483.31 × 2	=	967 Lin.Ft.		
Sta. 706+87.83 to 718+62.96 (See Sheet № 101)	=	2,181 Lin.Ft.		
Sta. 725+35.48 to 758+23.61 - 3294.62 × 2	=	6589 Lin.Ft.		
Total I-12	=	11478 Lin.Ft.		
Deduct for Median Inlets		- 103 Lin.Ft.		
			Total I-12 JEF. CO.	= 11,375 Lin.Ft.
Sta. 758+23.61 782+50 2426.39 × 2	=	4856 Lin.Ft.		
Deduct for Median Inlets		-50 Lin.Ft.		
			Total I-12 COL. CO.	= 4806 Lin.Ft.

SUMMARY OF QUANTITIES

PAVEMENT CALCULATIONS CON'T.

I-21 MEDIAN PAVEMENT
Sta.692+0 to 700+93.96 - 893.96X2÷9 = 199 Sq.Yds.
Sta.701+79.52 to 706+87.83 - 508.31X2÷9 = 113 Sq.Yds.
Sta.706+87.83 to 718+87.96 (See Sheet № 101) = 365 Sq.Yds.
Sta. 725+10.48 to 758+23.61 - 3319.26X2÷9 = 738 Sq.Yds.

Total I-21 = 1415 Sq.Yds.
Deduct for Median Inlets - 17 Sq.Yds

Total I-21 JEF. CO. = 1398 Sq.Yds.

Sta. 758+23.61 to Sta.782+50 - 2426.39X2÷9 = 539 Sq.Yds.
Deduct for Median Inlets - 9 Sq.Yds.

Total I-21 COL. CO. = 530 Sq.Yds.

I-12 COMB. CURB & GUTTER
Sta. 784+75 to 786+50 (See Sheet No. 103) COL. CO. = 351 Lin.Ft.

I-13 SIDEWALK
Sta.784+75 to 786+50 (See Sheet No. 103) COL. CO. = 2016 Sq.Ft.

I-23 PRE CAST DIVIDERS
Sta. 688+88 to 692+0 (See Sheet No. 100) JEF. CO. = 26 Each

Sta.782+50 to 783+58 (See Sheet No. 103) = 9 Each
Sta. 784+70 to 785+90 (See Sheet No. 103) = 11 Each

Total I-23 COL. CO. = 20 Each

T-10 MAINTAINING TRAFFIC JEF. CO.
Sta.687+25 to 706+25 = 1900 Lin.Ft.
Add for S.R. 213 Intersection = 200 Lin.Ft.
2100 X 238 ÷ 100 = 5000 Cu.Yds.

M-10
5000 ÷ 50 = 100 Tons

T-10 COL. CO.
Sta.779+00 to 786+50 = 750 Lin.Ft.
Add for Buckeye Avenue = 150 Lin.Ft.
900 X 222 ÷ 100 = 2000 Cu.Yds.

M-10
2000 ÷ 50 = 40 Tons

EARTHWORK AND SEEDING

Station From	Station To	Excavation Cu.Yds.	Embankment Cu.Yds.			Seeding Sq.Yds.	Fertilizer Lbs.	Lime Lbs.	
686+00	758+23.61	1,317,887	107,076			52,398	9432	47,158	
(See I-4	Note, Sh.6)	- 583	+ 447						
758+22.61	786+50	716,649	3,905			10,951	3,051	15,256	

Water - JEF. CO.
Embankment 107,076X5÷1000 = 535 M-Gals.
For I-18 3,950X5÷1000 = 20 M-Gals.
For I-22 10,156X5÷1000 = 51 M-Gals.
Total = 606 M-Gals.

Water - COL. CO.
Embankment 3,905X5÷1000 = 20 M-Gals.
For I-18 1,050X5÷1000 = 5 M-Gals.
For I-22 4,097X5÷1000 = 20 M-Gals.
Total = 45 M-Gals.

★ Extra quantities to be placed where directed by the Engineer. Any of these items may be non-performed and payment will be made on the basis of final measurement.

GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF - 7 - (33.83 - 34.10)
COL - 7 - (0.00 - 0.50)

CODE TYPE 7221

FROM SHEET NO.																																				QUANTITY				DESCRIPTION
8	9	13	14	15	16	17	18	19	21	22	31	39	40	50	82	99	104	106	107	109	111	112	113	114	115	116	117	118	119	120	121	122	123	★	ITEM	F-431(10) JEF. CO.	U-431(10) COL. CO.	GR. TOTAL	UNIT	ROADWAY
	2033953																																		E-101	1317304	716649	2033953	Cu. Yds.	Roadway Excavation.
19275																	2445		469	776															E-101	17856	5109	22965	Sq. Yds.	Compacted Subgrade.
		2390	5260	2765	440				3440	195																									E-8	10855	3635	14490	Sq. Yds.	Removal and Disposal of Existing Pavement, as per Plan.
									3400																										E-8		3400	3400	Sq. Ft.	Removal and Disposal of Existing Sidewalk.
																																			E-9	Lump	Lump	Lump	Lump	Removal of Trees and Stumps.
	651																																		E-11	606	45	651	M-Gals.	Water.
	2016																			967														17	I-13		3000	3000	Sq. Ft.	4" Concrete Sidewalks.
		1080	1110		170																														I-15	2360		2360	Lin. Ft.	Guard Rail Removed and Disposed of.
		1511	426.5	975		125	187.5	312.5	175																									187.5	I-15	3525	375	3900	Lin. Ft.	Guard Rail, Steel Beam Type (Deep)
4662																	103		103	8														124	I-18	3950	1050	5000	Cu. Yds.	Stabilized Crushed Aggregate Shoulders and Approaches.
	69349																																		L-9	52398	16951	69349	Sq. Yds.	Seeding and Protecting, as per Plan.
	6.24																																		L-9	4.72	1.52	6.24	Tons	Commercial Fertilizer, (12-12-12).
	31.21																																		L-9	23.58	7.63	31.21	Tons	Agricultural Liming Materials.
	140																																		M-10	100	40	140	Tons	Furnishing and Applying Calcium Chloride for Maintaining Traffic.
	3500																																		T-10	2500	1000	3500	Cu. Yds.	Traffic Compacted Surface Course for Maintaining Traffic.
	3500																																		T-10	2500	1000	3500	Cu. Yds.	Modified Traffic Compacted Surface Course for Maintaining Traffic.
																																		300	T-35	200	100	300	Cu. Yds.	Asphaltic Concrete Surface Course or an approved Bituminous Premixed Surface Course for Maintaining Traffic
																																								DRAINAGE
																					58	93	106		205	126	140	87	108	117	138	315	273		E-2	923	843	1766	Cu. Yds.	Excavation for Structures.
																			6						85	278						192	106		E-3	363	304	667	Cu. Yds.	Channel Excavation.
																					37	41	37										30		E-12	115	30	145	Lin. Ft.	Pipe Removed, 15" and Under.
																					84	50	52												E-12	186		186	Lin. Ft.	Pipe Removed, Over 15".
																																		500	I-2	300	200	500	Lin. Ft.	12" Class A Storm Sewers.
																			198																I-2		198	198	Lin. Ft.	21" Class A Storm Sewers.
																								71											I-2	71		71	Lin. Ft.	30" Class A Storm Sewers.
																								75											I-2	75		75	Lin. Ft.	36" Class A Storm Sewers.
															22																			178	I-2	100	100	200	Lin. Ft.	12" Class B Storm Sewers.
																				57															I-2		57	57	Lin. Ft.	18" Class B Storm Sewers.
																																	12		I-2		12	12	Lin. Ft.	12" Class A Storm Sewers under Pavement or Approaches, Sec. M-6.5(b) or Sec. M-6.8 (b)
																								88									16		I-2	88	16	104	Lin. Ft.	15" Class A Storm Sewers under Pavement or Approaches, Sec. M-6.5(b) or Sec. M-6.8 (b)
											29		113	98	42	39			210	63					29	10				12					I-2	279	366	645	Lin. Ft.	12" Class B Storm Sewers under Pavement or Approaches,
												70																							I-2	70		70	Lin. Ft.	15" Class B Storm Sewers under Pavement or Approaches.
																		118		90															I-2	118	90	208	Lin. Ft.	18" Class B Storm Sewers under Pavement or Approaches.
																			82																I-2		82	82	Lin. Ft.	21" Class B Storm Sewers under Pavement or Approaches.
											67		38																						I-2	105		105	Lin. Ft.	12" Bituminous coated Corrugated Metal Pipe, Sec. M-6.4(c), for Storm Sewers.
																																		7000	I-4	7000		7000	Lin. Ft.	6" Underdrains
																																		1000	I-4	500	500	1000	Lin. Ft.	6" Helical Corrugated Metal Pipe, Sec. M-6.4(h)(c) without Perforations, for Outlets for Underdrains.
																																		15	I-5	15		15	Each	6" Pipe Specials for Underdrains.
											2		2																						I-5	4		4	Each	12" Pipe Specials, Sec. M-6.4(c) for Storm Sewers.
																								2											I-5	2		2	Each	36" Pipe Specials, for Class A Storm Sewers.
																																		150	I-4	150		150	Lin. Ft	8" Outlets for Underdrains, Sec. M-6.4(a)
																							1												I-5	1		1	Each	18" Pipe Special for Roadway Culverts.
																									1										I-5	1		1	Each	48" Pipe Specials, Sec. M-6.4(d) or Sec. M-6.6(c) for Roadway Culverts.
																			1		1	1												1	I-8	2	2	4	Each	Std. No. 1 Manholes.
															1			1	1	1														4	I-8	4	4	8	Each	Std. No. 2-2 A Catch Basins.
																2			1	1															I-8		4	4	Each	Std. No. 3-A Catch Basins.
																					1	1	1	3		1					2			1	I-8	8	2	10	Each	Std. No. 2-4 Catch Basins, as per Plan.
																									1										I-8	1		1	Each	Std. No. 2-5 Catch Basins, as per Plan.

★ Extra quantities to be placed where directed by the Engineer. Any of these items may be non-performed and payment will be made on the basis of final measurement.

GENERAL SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF - 7 - (33.83 - 34.10)
COL - 7 - (0.00 - 0.50)

CODE TYPE 7221

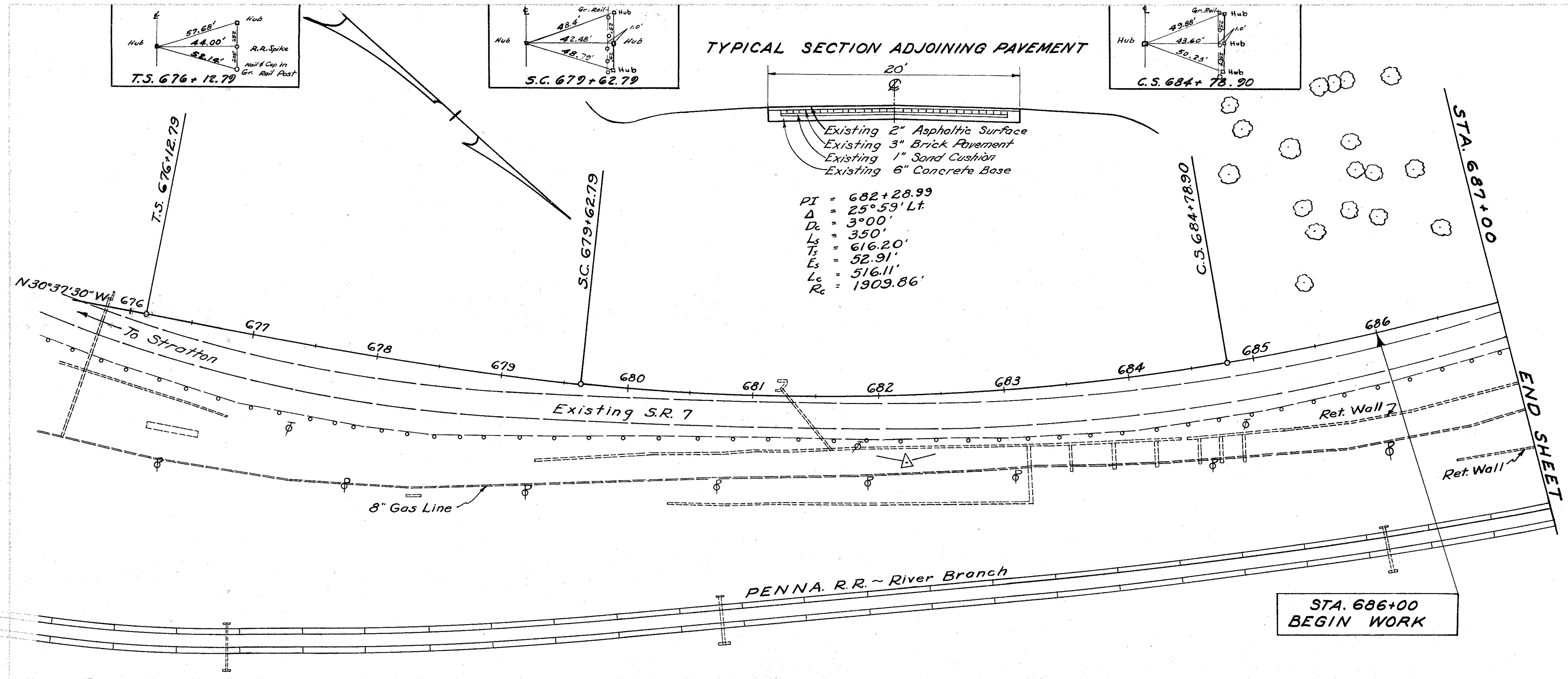
FROM SHEET NO.

8	9	13	14	15	16	17	18	19	21	22	31	39	40	50	82	99	104	106	107	109	111	112	113	114	115	116	117	118	119	120	121	122	123	★	ITEM	QUANTITY F-431(18) JEF.CO.	U-431(10) COL.CO.	GR.TOTAL	UNIT	DESCRIPTION
																																								DRAINAGE (Continued)
																							1												I-8	1		1	Each	Special 4'x 8' Catch Basins, as per Plan.
											1	1	2																						I-8	4		4	Each	Std. No. 2-8 Inlets, modified as per plan
																			1						1										I-8	1	1	2	Each	Std. No. 2-10 Inlets, " " "
														1	1											1				1					I-8	2	2	4	Each	Std. No. 2-12 Inlets, " " "
																			80															220	I-9	150	150	300	Lin.Ft.	Stone Underdrains, No. 2.
													2		2			10	10	7	9	9	9	25	25	32			14		18	10	50	18	I-10	145	105	250	Sq.Yds.	Riprap, Type A, Grout Filled,
																					8	8						11	13	15		23	24	8	I-10	40	70	110	Cu.Yds.	Dumped Rock Channel Protection,
				555	80				400												20	20	20	60		20	60		30	40	40	150	40	365	I-14	1100	800	1900	Lin.Ft.	Std. Type 1 Paved Gutter, as per Plan.
																		0.3			1.2	1.2	0.6	0.6	2.5	0.5	2.3	0.8	1.2	3.3	0.6	2.5	1.9	5.5	S-1	15	10	25	Cu.Yds.	Concrete for Structures, Class "E".
									130												5.4	3	6									51	25	4.6	S-22	15	210	225	Cu.Yds.	Removal of Portions of Existing Structures.
																							82												S-27	82		82	Lin.Ft.	18" Pipe for Roadway Culverts.
																							105												S-27	105		105	Lin.Ft.	18" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b).
																					56	67													S-27	123		123	Lin.Ft.	24" Pipe for Roadway Culverts.
																					82	86						120							S-27	288		288	Lin.Ft.	24" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b).
																										101					81				S-27	101	81	182	Lin.Ft.	30" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b).
																											102				26				S-27	102	26	128	Lin.Ft.	36" Pipe for Roadway Culverts.
																													162						S-27	162		162	Lin.Ft.	36" Pipe for Roadway Culverts, Sec. M-6.4(d) or Sec. M-6.6(d).
																														124					S-27		124	124	Lin.Ft.	42" Pipe for Roadway Culverts.
																									167										S-27	167		167	Lin.Ft.	48" Pipe for Roadway Culverts, Sec. M-6.4(d) 10gage or Sec. M-6.6(c)
																																	148		S-27		148	148	Lin.Ft.	54" Pipe for Roadway Culverts.
																																177			S-27		177	177	Lin.Ft.	54" Pipe for Roadway Culverts, Sec. M-6.4(d), 10 Gage.
																									14										S-27	14		14	Lin.Ft.	30" Pipe for Roadway Culverts.
																																								PAVEMENT
15762																																			B-33	11279	4483	15762	Sq.Yds.	3" Bituminous Macadam Base Course.
3941																			66																T-31	2820	1187	4007	Gals.	Bituminous Surface Treatment, Bituminous Material, as per Plan.
127																			3																T-31	91	39	130	Cu.Yds.	Bituminous Surface Treatment, No. 6 Aggregate.
51510																	2370		423	678															T-71	38348	16633	54981	Sq.Yds.	9" Reinforced Portland Cement Concrete Pavement.
			284	142	142																														I-7	568		568	Sq.Yds.	Reinforced Concrete Approach Slabs (T = 13").
16181																																			I-12	11375	4806	16181	Lin.Ft.	Std. Type 2A Concrete Curb.
	351																267		165	353															I-12	267	869	1136	Lin.Ft.	Std. Type 2 Combination Curb and Gutter.
	1928																																		I-21	1398	530	1928	Sq.Yds.	Std. Type 1 Portland Cement Concrete Median Pavement.
11689																	846																		I-22	8989	3546	12535	Cu.Yds.	Subbase.
329																			83	139															I-22		551	551	Cu.Yds.	Subbase, Grading D.
	46																																		I-23	26	20	46	Each	Precast White Portland Cement Concrete Traffic Dividers.
																																				Lump	Lump	Lump	Lump	Construction Layout Stakes.

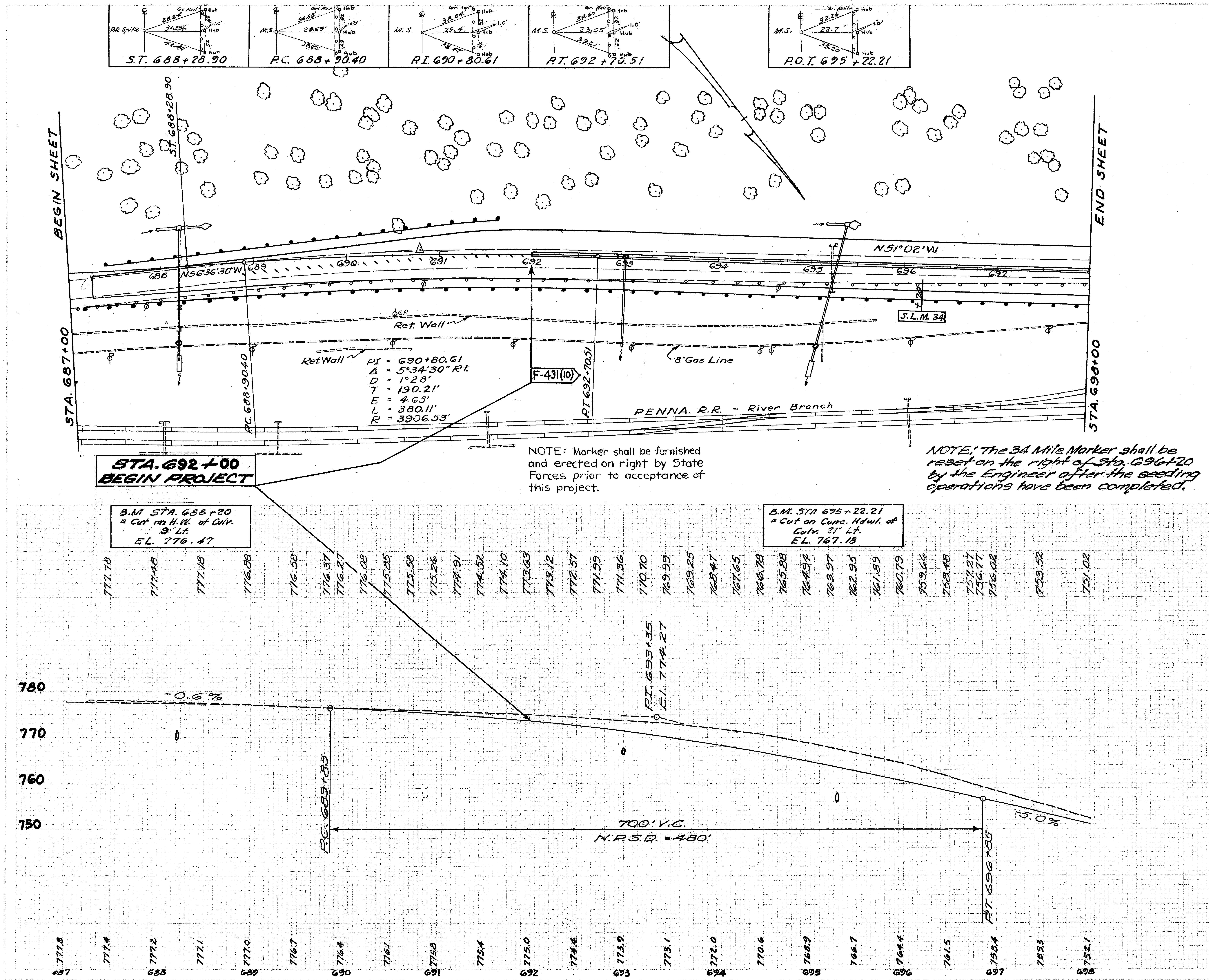
RETAINING WALL
For Quantities see Sheet No. 124.

STRUCTURES OVER 20' SPAN
For Bridge No. JEF-213-1864 see Sheet No. 134.
For Bridge No. JEF - 7 - 3406 see Sheet No. 136
For Bridge No. JEF-7-3447 see Sheet No. 136

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



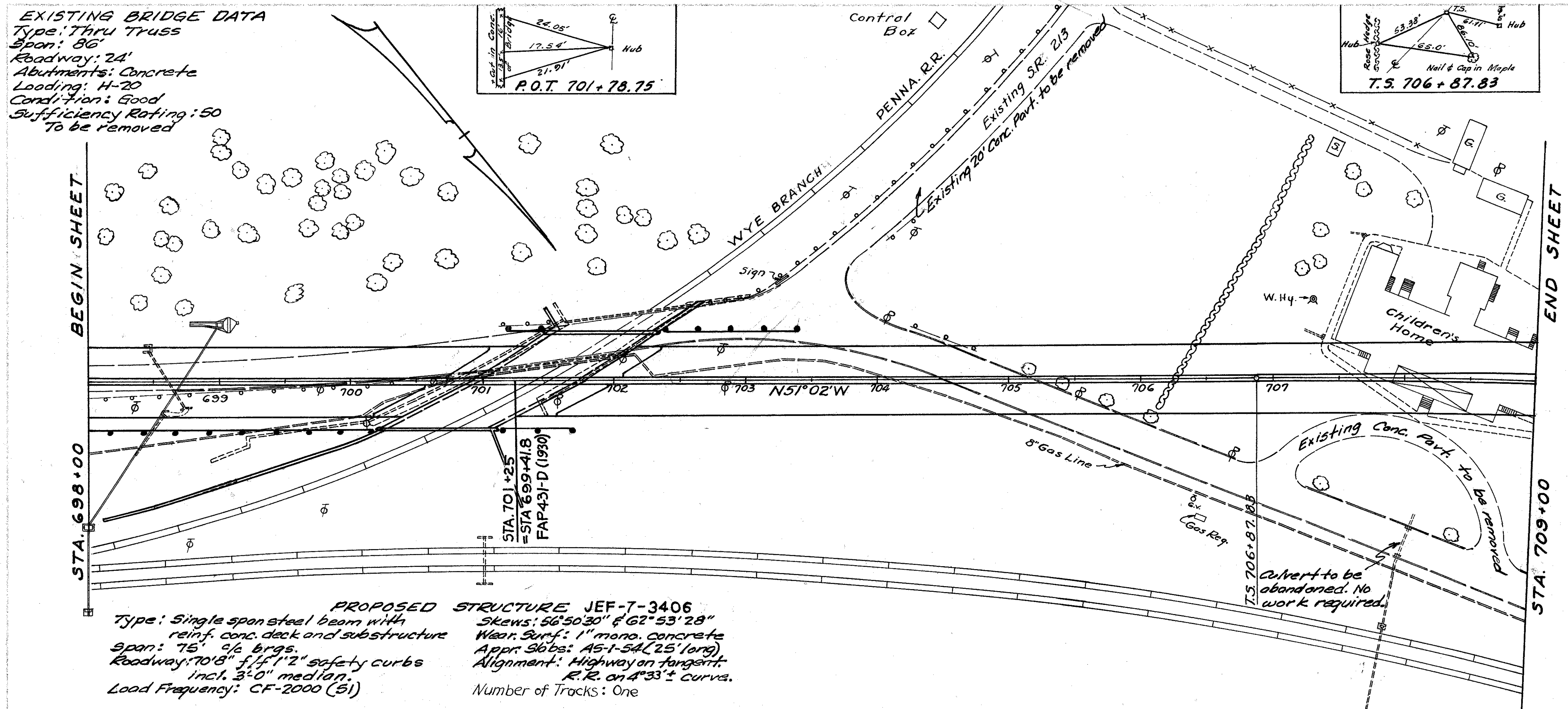
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

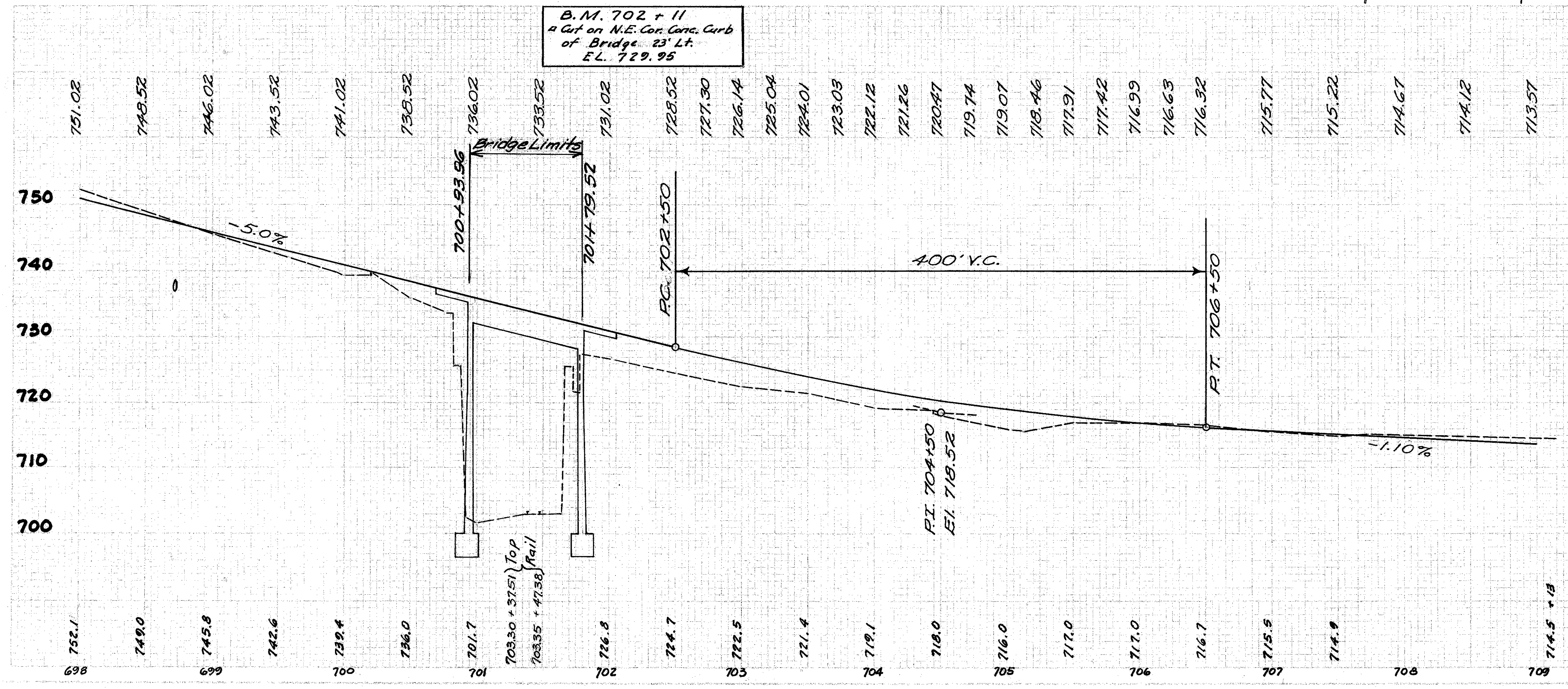


DRAINAGE				
Station	See Sh.	Type	Size	Length
688+21	111	Pipe Culv.	24"	138'
693+00	31	Storm Sewer	12"	96'
695+28	112	Pipe Culv.	24"	153'

GUARD RAIL				
Station		Side	Lin. Ft.	
From	To	℄	New	Remove
687+10	698+00	Rt.	1086	1080
687+40	691+62	Lt.	425	
Totals			1511	1080

REMOVALS		
Station		Pavement
From	To	Sq. Yds.
687+25	698+00	2390
Total		2390





DRAINAGE

Station	See Sh.	Type	Size	Length
698+72	113	Pipe Culv.	18"	187'

GUARD RAIL

Station From	Station To	Side ℄	Lin. Ft. New	Lin. Ft. Remove
698+00	700+14	Rt.	214	290
701+18	701+68	Rt.	50	
701+18	701+43	Lt.	25	30
702+45	703+45	Lt.	100	
702+55	707+00	Lt.		*740
704+25	704+75	Lt.		50
5+00	5+22	R.&L.	**37.5	
Totals			426.5	1110

* Includes all guard rail along existing S.R. 213 west to Br. No. JEF-213-1864
** At Br. No. JEF-213-1864. See Sheet No. 134

REMOVALS

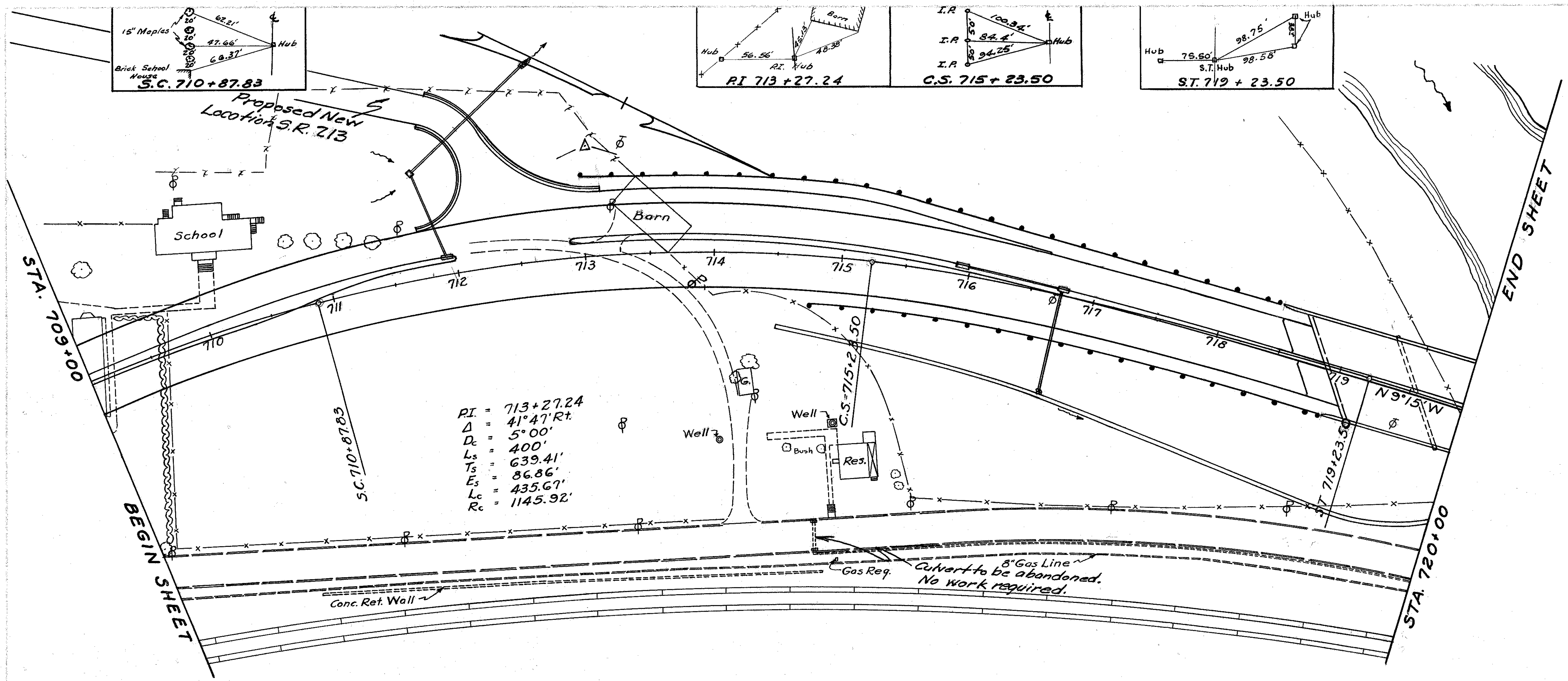
Station From	Station To	Pavement Sq. Yds.
698+00	701+20	800
702+35	709+00	1990
703+00	707+00	*1425
706+70	708+95	**505
707+30	709+50	***540
Total		5260

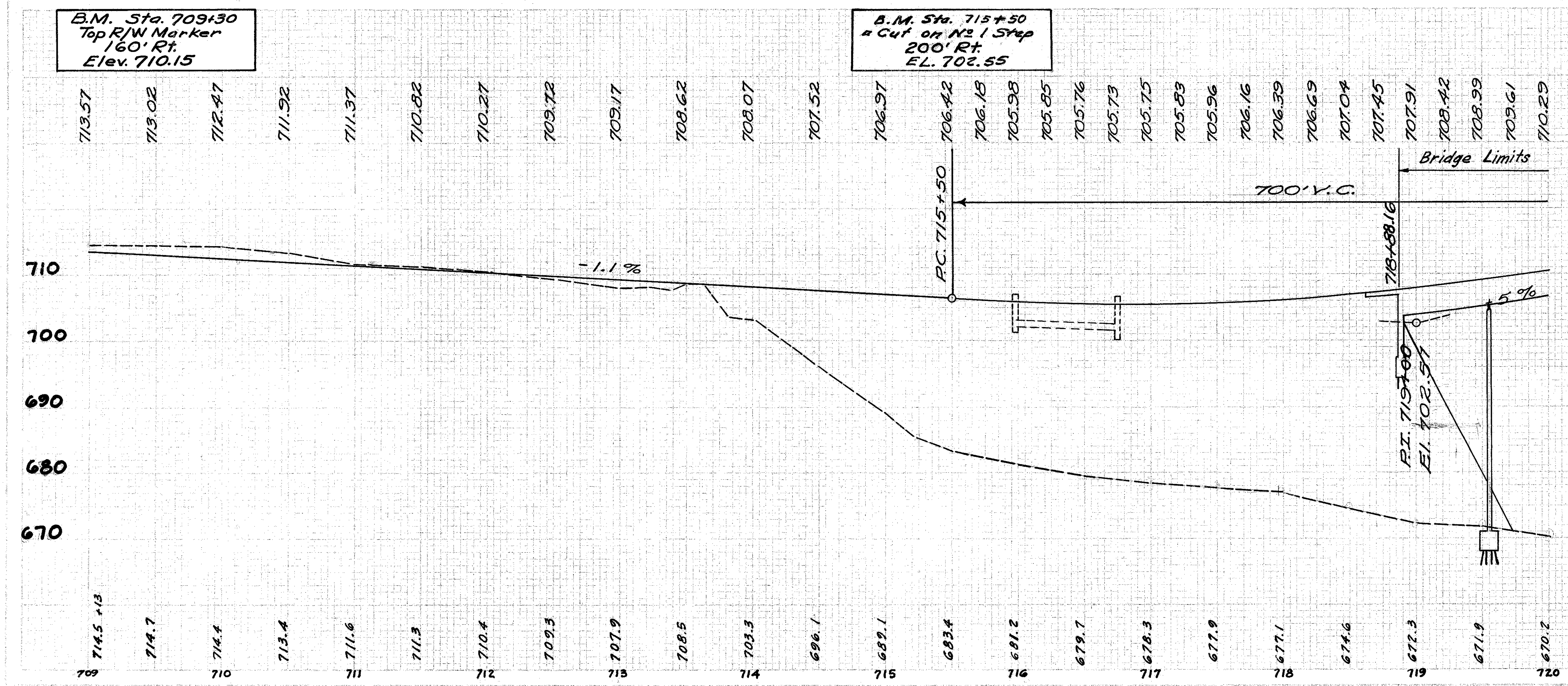
* S.R. 213 west to Br. No. JEF-213-1864
** Childrens Home Approach
*** Paving at rear of Childrens Home

APPROACH SLABS

Station From	Station To	Sq. Yds.
700+68.96	700+93.96	141.66
701+79.52	702+04.52	141.66
Total		284

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)





APPROACH

Station	Side ℄	See Sheet	
712+73.98	Lt.	104	

DRAINAGE

From Sta.	To Sta.	See Sh.	Type	Size	Length	P.Gut. L.F.
711+95A	711+80	39	St. Sewer	15"	70'	
12+25		106	St. Sewer	18"	118'	
716+00A	716+80A	40	St. Sewer	12"	76'	
716+80A		40	St. Sewer	12"	75'	
714+50	720+00	15				555

GUARD RAIL

Station		Side	Lin. Ft.		
From	To	℄	New		
712+98	718+41	Lt.	562.5		
714+75	718+93	Rt.	412.5		
Total			975		

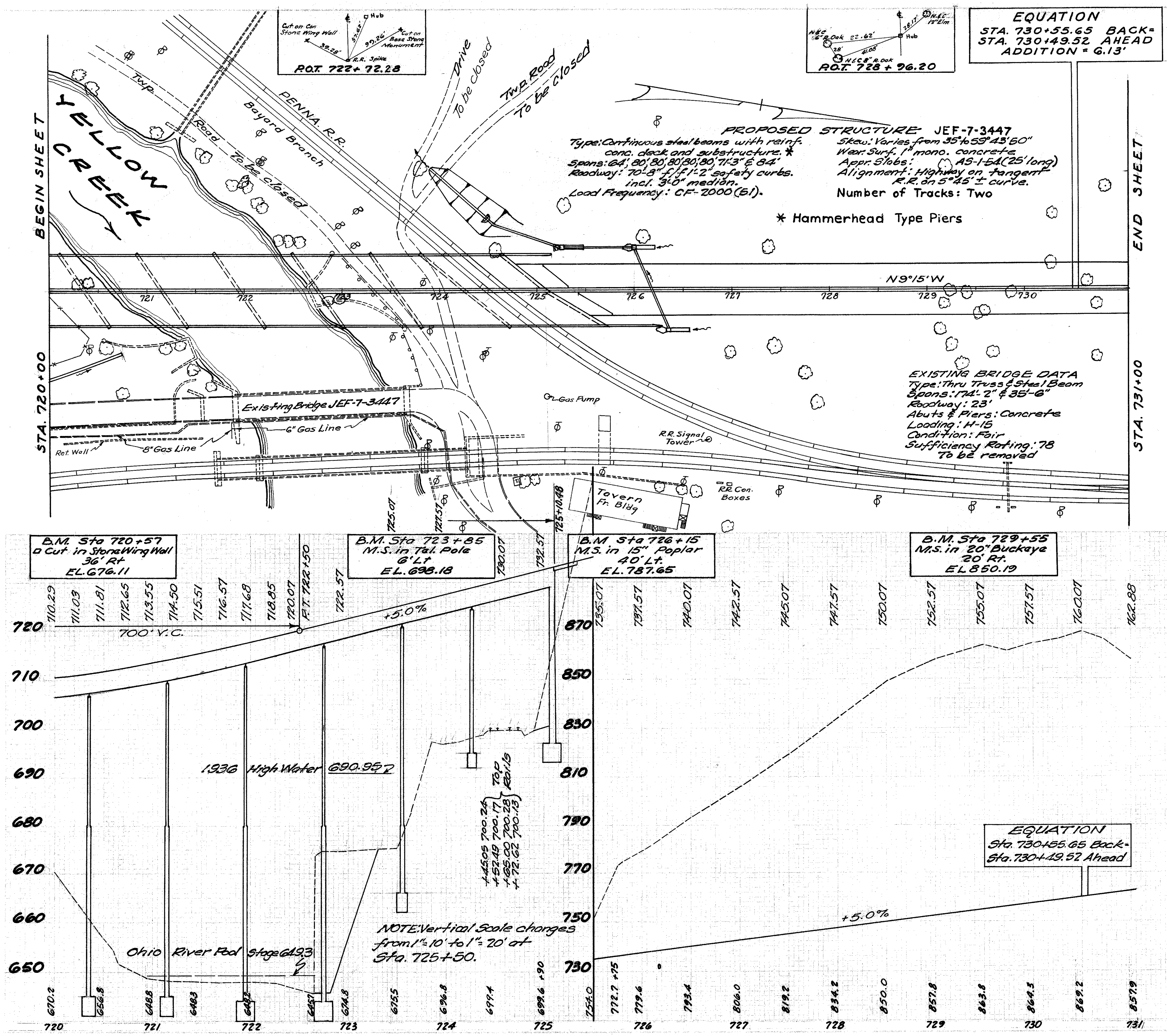
REMOVALS

Station			Pavement		
From	To		Sq. Yds.		
709+00	720+00		2765		
Total			2765		

APPROACH SLABS

Station			Sq. Yds.	
From	To			
718+63.16	718+88.16		141.66	
Total			142	

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



DRAINAGE						
From Sta.	To Sta.	See Sh.	Type	Size	Length	P.Cut. L.F.
720+00	720+75	16				80
724+50	726+00	114	St. Sewer	30" & 36"	71' & 75'	
726+00	726+35	114	St. Sewer	15"	88'	

GUARD RAIL				
Station		Side	Lin. Ft.	
From	To	℄		Remove
723+00	723+80	R & L.		170
Total				170

REMOVALS			
Station			Pavement
From	To		Sq. Yds.
720+00	721+55		440
Total			440

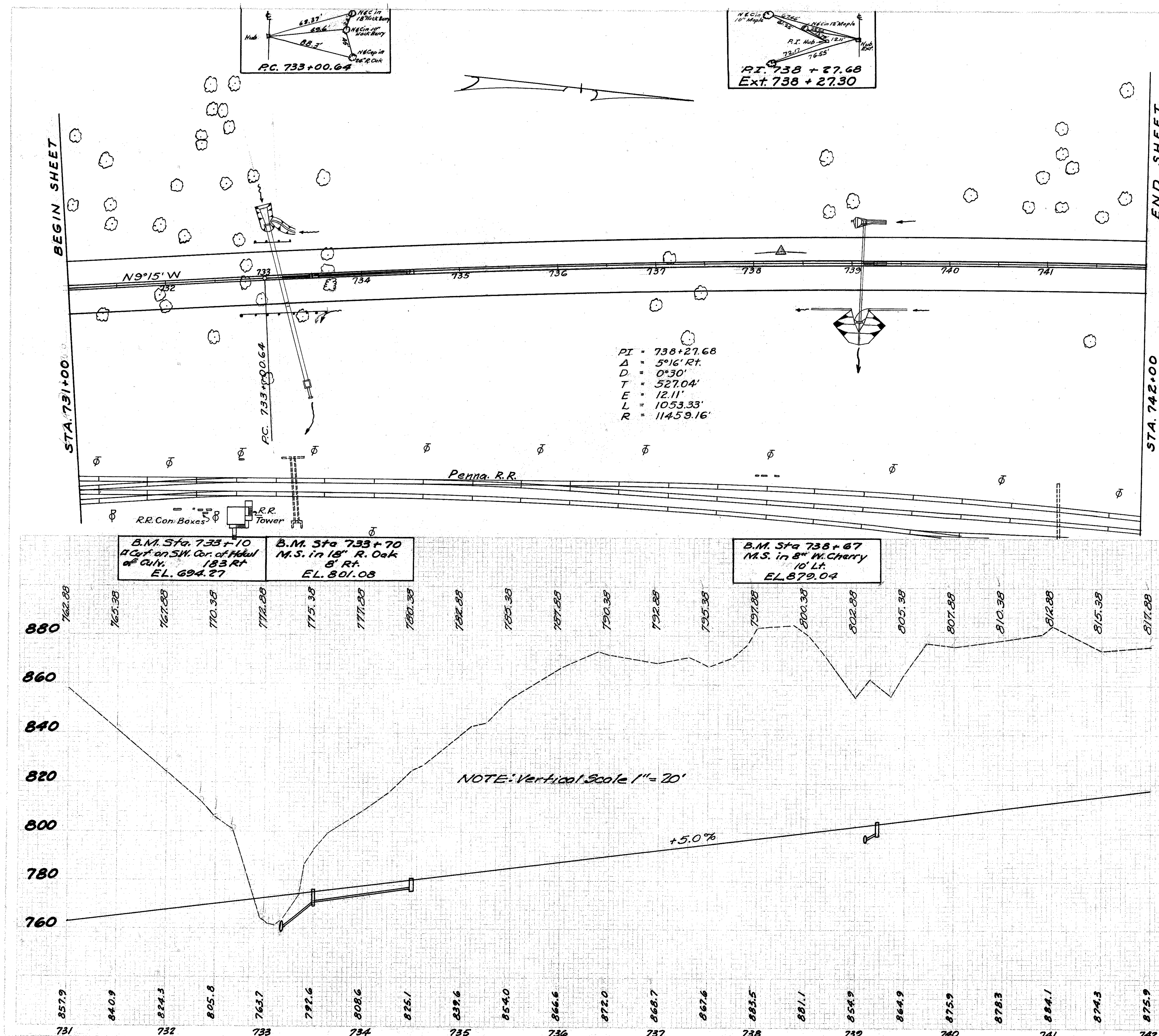
APPROACH SLABS			
Station			Sq. Yds.
From	To		
725+10.48	725+35.48		141.66
Total			142

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

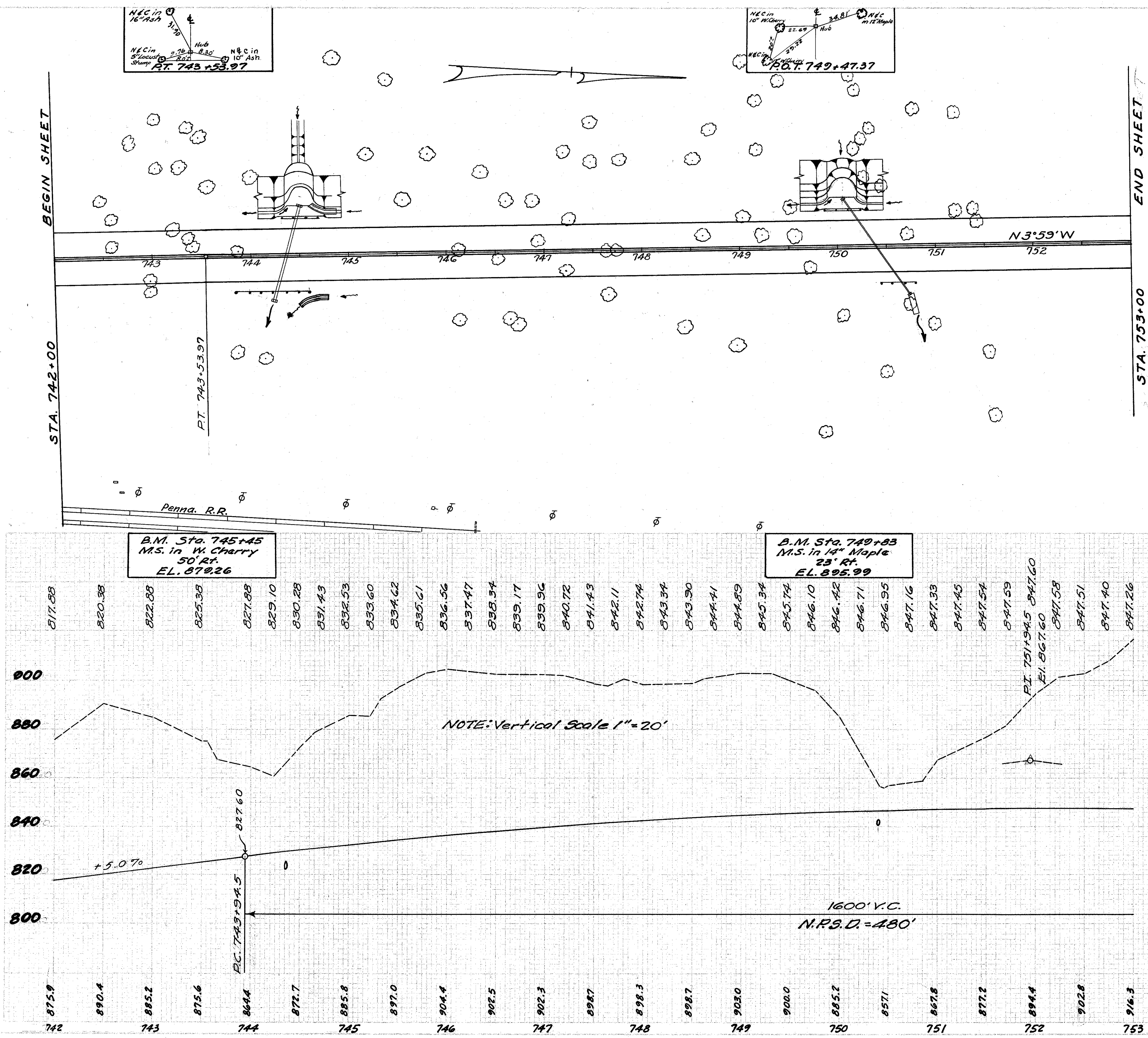
DRAINAGE					
From Sta.	To Sta.	See Sh.	Type	Size	Length
733+17	733+50	115	Culv. & Sewer	12"-30"-48"	29'-14'-167'
733+50	734+50	50	St. Sewer	12"	98'
739+10		116	Pipe Culv.	30"	101'

GUARD RAIL			
Station		Side	Lin. Ft.
From	To	℄	New
732+90	733+27.5	Lt.	37.5
732+75	733+62.5	Rt.	87.5
Total			125



FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		

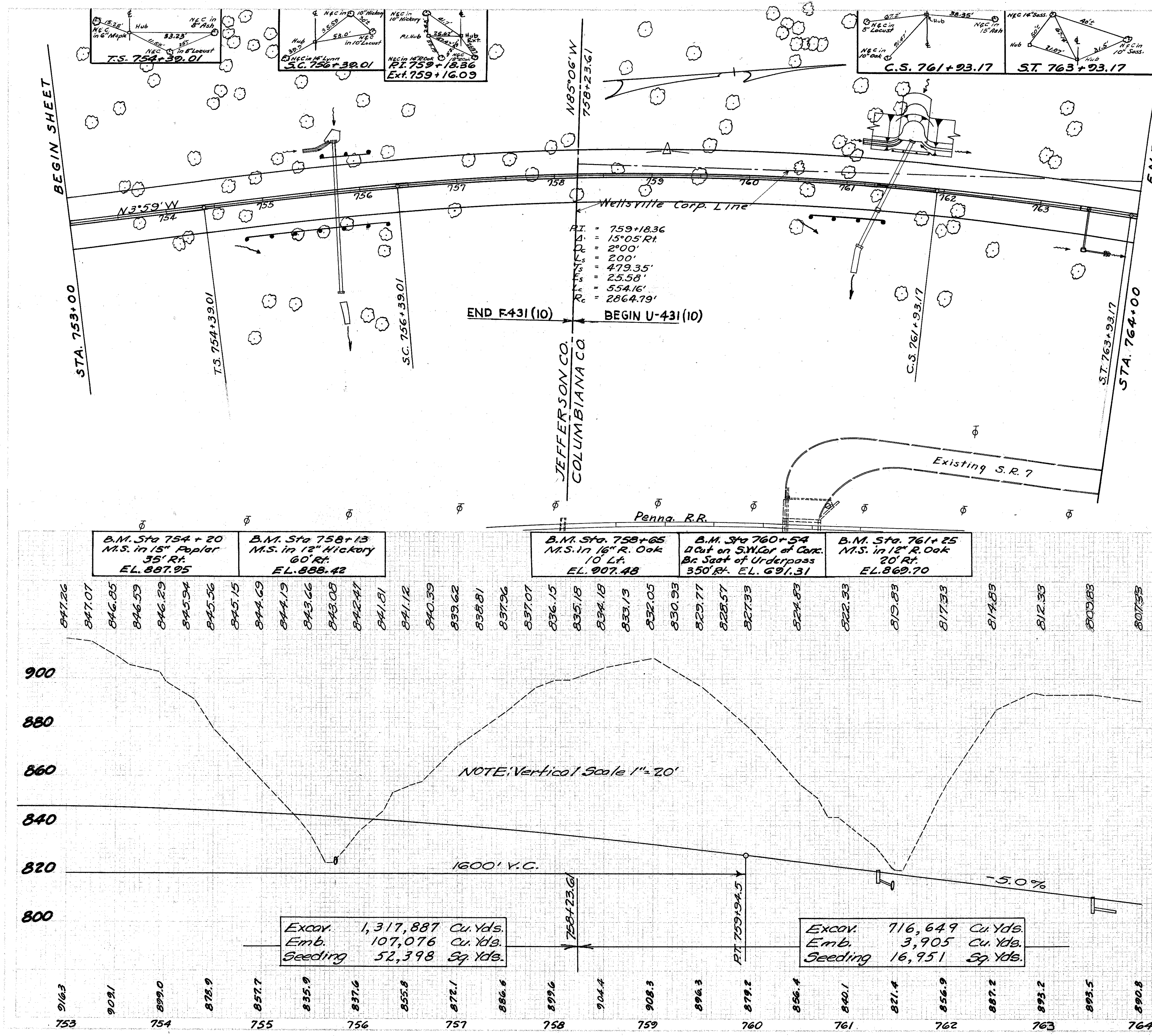
JEF-7-(33.83-34.10)
COL-7-(0.00 - 0.50)



DRAINAGE					
From Sta.	To Sta.	See Sh.	Type	Size	Length
744+36		117	Pipe Culv.	36"	102'
750+40		118	Pipe Culv.	24"	120'

GUARD RAIL			
Station		Side	Lin. Ft.
From	To	℄	New
743+85	744+60	Rt.	75
744+31	744+68.5	Lt.	37.5
749+88	750+25.5	Lt.	37.5
750+42	750+79.5	Rt.	37.5
Total			187.5

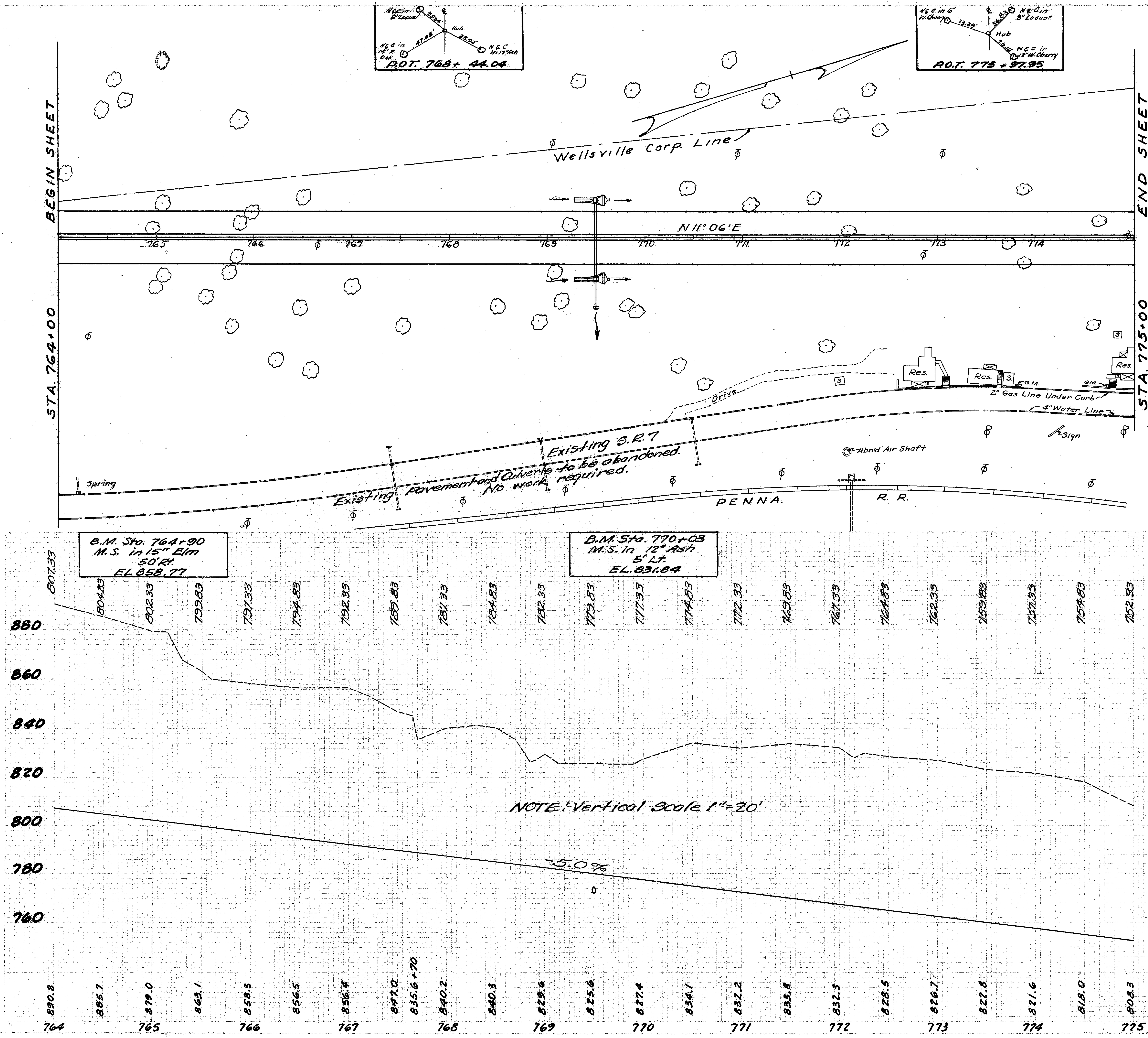
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



DRAINAGE					
From Sta.	To Sta.	See Sh.	Type	Size	Length
755+76		119	Pipe Culv.	36"	162'
761+44		120	Pipe Culv.	42"	124'
763+50	763+73	82	St. Sewer	12"	64'

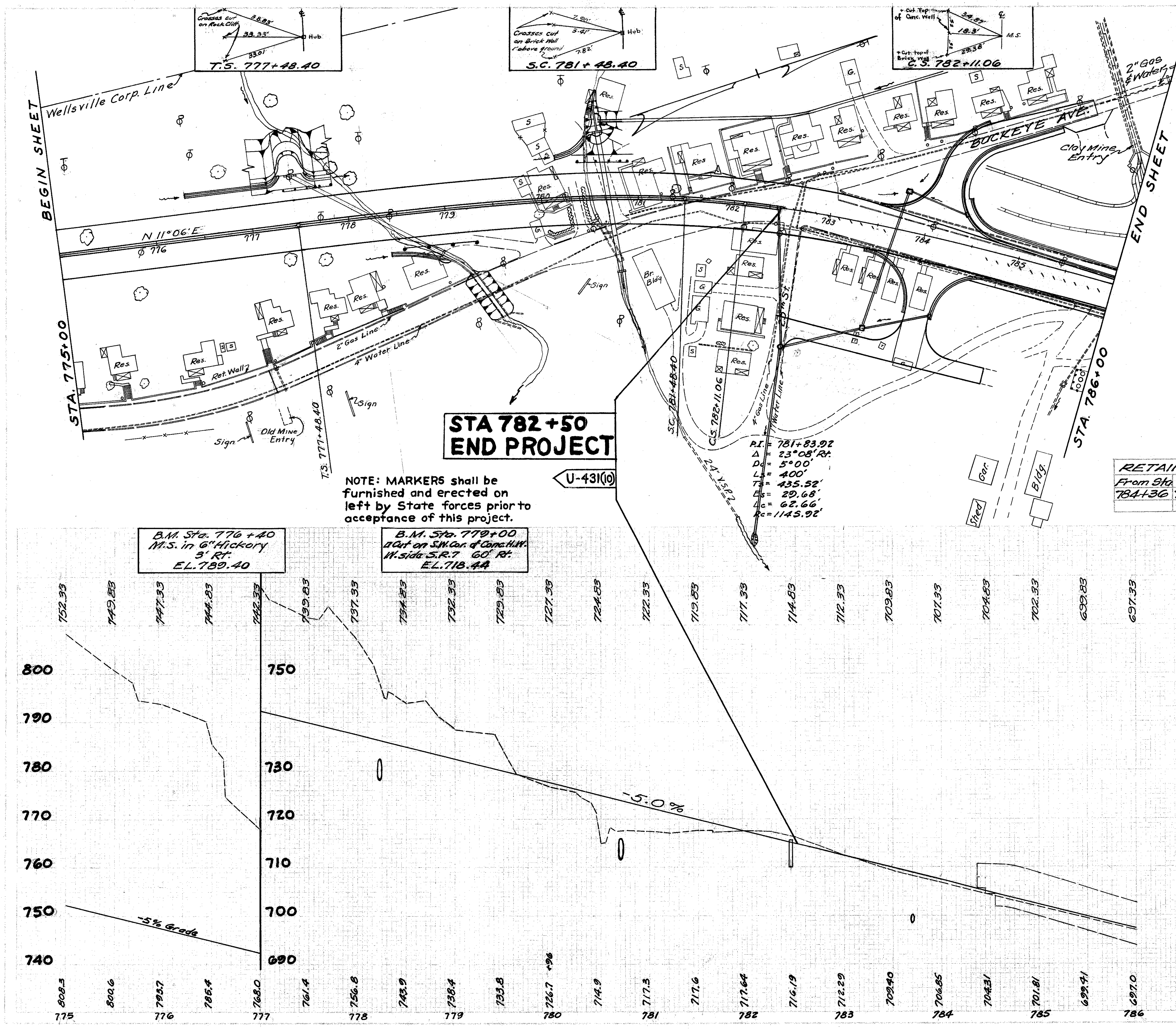
GUARD RAIL			
Station		Side	Lin. Ft.
From	To	℄	New
754+75	756+25	Rt.	150
755+65	756+15	Lt.	50
760+65	761+40	Rt.	75
761+42.5	761+80	Lt.	37.5
Total			312.5

JEF-7-(33.83-34.10)
COL-7-(0.00 - 0.50)



DRAINAGE						
From Sta.	To Sta.	See Sh.	Type	Size	Length	
769+50		121	Pipe Culv.	30" & 36"	81' & 26'	

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



RETAINING WALL		
From Sta.	To Sta.	See Sh.
784+36	786+36.44	124 & 125

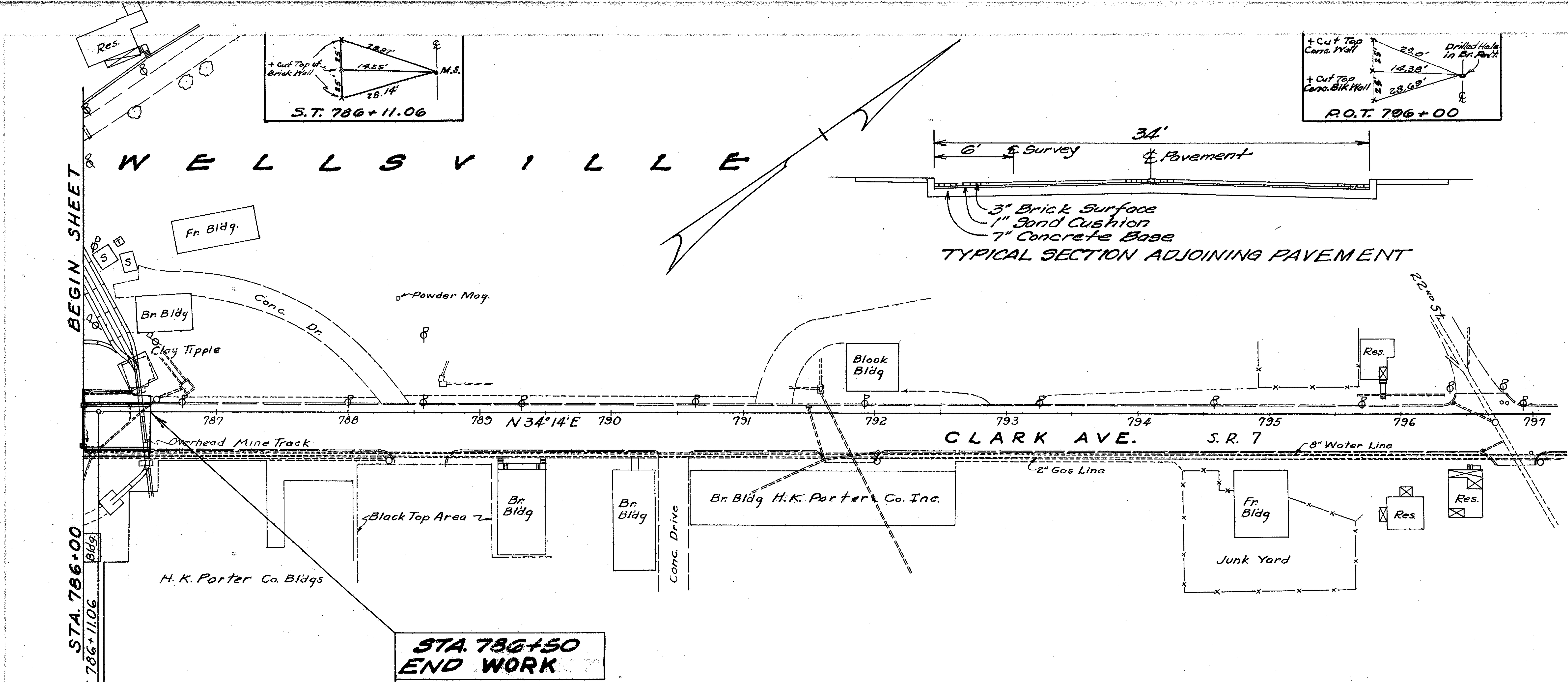
APPROACHES		
Station	Side ℄	See Sheet
784+12.35	Lt.	109 & 110
784+12.35	Rt.	107 & 108

DRAINAGE							
From Sta.	To Sta.	Side ℄	Type	Size	Length	P.Gut. L.F.	See Sh.
778+23			Pipe Culv.	54"	177'		122
780+68			Pipe Culv.	54"	148'		123
780+60	(Buckeye) 1+30	Lt.				400	21
782+45		Rt.	St. Sewer	12"	142'		99 & 107
783+70	(Buckeye) 0+40	L.&R.	St. Sewer	12" & 18"	63' & 147'		109
0+80	2+48.3	L.&R.	St. Sewer	12" & 21"	68' & 280'		107

GUARD RAIL			
Station		Side	Lin. Ft.
From	To	℄	New
777+35	777+85	Lt.	50
778+55	779+30	Rt.	75
780+38	780+88	Lt.	50
Total			175

REMOVALS					
Station		Side	Pavement	Walk	Walls
From	To	℄	Sq. Yds.	Sq. Ft.	Cu. Yds.
777+00	786+00	R.&L.	3440		
782+00	783+00	Lt.		400	
782+72	784+70	Rt.		1300	
783+05	785+45	Lt.		1700	
780+90	785+07	R.&L.			130
Totals			3440	3400	130

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



DRAINGE

From Sta.	To Sta.	See Sh.	Type	Size	Length
786+00	786+07	99	St. Sewer	12"	39'

REMOVALS

Station From	Station To		Pavement Sq. Yds.
786+00	786+50		195
Total			195

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83 - 34.10)
COL-7-(0.00-0.50)

CURVE TABLES

P.C. 688+90.40		D=1°28' Rt. Max. Super=0.84'		P.T. 692+70.51	
Left Pair Lanes		STATION	Profile Grade	Right Pair Lanes	
Left Edge	℄			℄	Right Edge
777.31		S.T. 688+28.9	777.31	777.31	777.31
777.20		+50	777.18	777.13	777.08
777.08		+75	777.03	776.92	776.81
777.02		P.C. +90.4	776.94	776.79	776.64
776.98		689 +00	776.88	776.71	776.54
776.89		+25	776.73	776.50	776.27
776.81		+50	776.58	776.29	776.01
776.76		+75	776.43	776.09	775.75
776.71		690+00	776.27	775.88	775.50
776.62		+25	776.08	775.67	775.26
776.48		+50	775.85	775.43	775.01
776.30		+75	775.58	775.16	774.74
776.07		691 +00	775.26	774.84	774.42
775.75		+25	774.91	774.49	774.08
775.36		+50	774.52	774.11	773.70
774.93		+75	774.10	773.70	773.30
774.36	773.99	692 +00	773.63	773.26	772.89
773.75	773.43	+25	773.12	772.80	772.48
773.10	772.83	+50	772.57	772.29	772.02
772.53	772.31	P.T. +70.51	772.10	771.85	771.60
772.39	772.19	+75	771.99	771.75	771.51
771.64	771.50	693 +00	771.36	771.14	770.92
770.84	770.77	+25	770.70	770.49	770.28
770.02	770.00	+50	769.99	769.79	769.59
769.19	769.22	+75	769.25	769.05	768.86
768.33	768.40	694 +00	768.47	768.28	768.09
767.44	767.54	+25	767.65	767.46	767.27
766.53	766.65	+50	766.78	766.59	766.40
765.57	765.72	+75	765.88	765.69	765.50
764.60	764.77	695 +00	764.94	764.75	764.56
763.59	763.78	+25	763.97	763.78	763.59
762.57	762.76	+50	762.95	762.76	762.57

Left Edge Elevations for Part. Transition, See Sheet No. 100

"A" Line Dc = 6°00' Rt. LEFT PAIR LANES			STATION	℄ Dc = 5°00' Rt. RIGHT PAIR LANES		
T.S. 707+60.38 C.S. 714+56.77 S.C. 711+60.38 S.T. 718+56.77				T.S. 706+87.83 C.S. 715+23.50 S.C. 710+87.83 S.T. 719+23.50		
LEFT PAIR LANES		6° PROFILE		℄ PROFILE	RIGHT PAIR LANES	
LEFT EDGE	℄	GRADE		GRADE	℄	RIGHT EDGE
718.69	718.88	719.07	705+00	719.07	718.88	718.69
718.08	718.27	718.46	+25	718.46	718.27	718.08
717.56	717.74	717.91	+50	717.91	717.72	717.53
717.13	717.27	717.42	+75	717.42	717.23	717.04
716.78	716.88	716.99	706+00	716.99	716.80	716.61
716.48	716.55	716.63	+25	716.63	716.44	716.25
716.24	716.28	716.32	+50	716.32	716.13	715.94
716.04	716.06	716.09	+75	716.05	715.86	715.67
			T.S. +87.83	715.90	715.71	715.52
715.90	715.86	715.83	707+00	715.77	715.58	715.39
715.75	715.65	715.56	+25	715.50	715.31	715.12
715.61	715.45	715.30	+50	715.22	715.03	714.84
715.55	715.37	715.19	T.S. +60.38			
715.47	715.25	715.03	+75	714.95	714.72	714.50
715.33	715.04	714.76	708+00	714.67	714.39	714.11
715.18	714.84	714.50	+25	714.40	714.05	713.71
715.07	714.65	714.24	+50	714.12	713.71	713.31
714.90	714.43	713.97	+75	713.85	713.38	712.91
714.75	714.23	713.71	709+00	713.57	713.04	712.51
714.61	714.01	713.42	+25	713.30	712.70	712.11
714.47	713.81	713.16	+50	713.02	712.36	711.71
714.32	713.61	712.90	+75	712.75	712.03	711.31
714.18	713.41	712.64	710+00	712.47	711.69	710.91
714.03	713.20	712.37	+25	712.20	711.35	710.51
713.90	713.00	712.11	+50	711.92	711.01	710.11
713.74	712.79	711.85	+75	711.65	710.68	709.72
			S.C. +87.83	711.50	710.51	709.53
713.58	712.57	711.57	711+00	711.37	710.37	709.38
713.35	712.33	711.31	+25	711.10	710.10	709.10
713.09	712.07	711.05	+50	710.82	709.82	708.82
712.98	711.96	710.94	S.C. +60.38			
712.82	711.80	710.78	+75	710.55	709.55	708.55
712.55	711.53	710.51	712+00	710.27	709.27	708.27
712.28	711.26	710.25	+25	710.00	709.00	708.00
712.01	711.00	709.99	+50	709.72	708.72	707.72
711.74	710.73	709.72	+75	709.45	708.45	707.45
711.47	710.46	709.45	713+00	709.17	708.17	707.17
711.20	710.19	709.19	+25	708.90	707.90	706.90
710.94	709.93	708.93	+50	708.62	707.62	706.62
710.64	709.64	708.65	+75	708.35	707.35	706.35
710.31	709.33	708.36	714+00	708.07	707.07	706.07
709.96	709.02	708.08	+25	707.80	706.81	705.82
709.57	708.68	707.80	+50	707.52	706.55	705.59
709.47	708.59	707.72	C.S. +56.77			
709.17	708.34	707.52	+75	707.25	706.31	705.37
708.78	708.00	707.23	715+00	706.97	706.07	705.18
			C.S. +23.50	706.71	705.87	705.03
708.37	707.66	706.96	+25	706.70	705.86	705.02
707.98	707.33	706.68	+50	706.42	705.65	704.88
707.60	707.00	706.40	+75	706.18	705.48	704.79
707.24	706.71	706.18	716+00	705.98	705.36	704.74
706.94	706.47	706.00	+25	705.85	705.29	704.73
706.70	706.30	705.90	+50	705.76	705.25	704.75
706.50	706.17	705.85	+75	705.73	705.29	704.85
706.41	706.13	705.86	717+00	705.75	705.37	705.00
706.34	706.12	705.91	+25	705.83	705.51	705.20
706.30	706.16	706.02	+50	705.96	705.70	705.45
706.32	706.25	706.19	+75	706.16	705.93	705.71
706.36	706.39	706.42	718+00	706.39	706.19	706.00
706.48	706.57	706.67	+25	706.69	706.50	706.31
706.67	706.82	706.98	+50	707.04	706.85	706.66
706.75	706.91	707.07	S.T. +56.77			
706.96	707.15	707.34	+75	707.45	707.26	707.07
707.40	707.59	707.78	719+00	707.91	707.72	707.53
			S.T. +23.50	708.39	708.20	708.01
708.01	708.20	708.39	719+29.32 (6°) = ST 719+23.50 (5°)			
708.61	708.80	708.99	+50	708.99	708.80	708.61

NOTE: The Design Speed Is 60 M.P.H.

CURVE TABLES

P.C. 733+00.64		Dc = 0°30' Rt. Max. Super = 0.38'		P.T. 743+53.97	
Left Pair Lanes		Station	Profile Grade	Right Pair Lanes	
Left Edge	℄			℄	Right Edge
765.00	765.19	731+50	765.38	765.19	765.00
766.27	766.45	731+75	766.63	766.44	766.25
767.57	767.72	732+00	767.88	767.69	767.50
768.90	769.01	732+25	769.13	768.94	768.75
770.23	770.31	732+50	770.38	770.19	770.00
771.55	771.59	732+75	771.63	771.44	771.25
772.89	772.89	733+00	772.88	772.69	772.50
772.92	772.92	P.C.+00.64	772.91	772.72	772.53
774.21	774.17	+25	774.13	773.94	773.75
775.53	775.46	+50	775.38	775.19	775.00
776.84	776.74	+75	776.63	776.44	776.25
778.18	778.03	734+00	777.88	777.69	777.50
779.50	779.32	+25	779.13	778.94	778.75
780.76	780.57	+50	780.38	780.19	780.00
782.01	781.82	+75	781.63	781.44	781.25
783.26	783.07	735+00	782.88	782.69	782.50
784.51	784.32	+25	784.13	783.94	783.75
785.76	785.57	+50	785.38	785.19	785.00
787.01	786.82	+75	786.63	786.44	786.25
788.26	788.07	736+00	787.88	787.69	787.50
789.51	789.32	+25	789.13	788.94	788.75
790.76	790.57	+50	790.38	790.19	790.00
792.01	791.82	+75	791.63	791.44	791.25
793.26	793.07	737+00	792.88	792.69	792.50
794.51	794.32	+25	794.13	793.94	793.75
795.76	795.57	+50	795.38	795.19	795.00
797.01	796.82	+75	796.63	796.44	796.25
798.26	798.07	738+00	797.88	797.69	797.50
799.51	799.32	+25	799.13	798.94	798.75
800.76	800.57	+50	800.38	800.19	800.00
802.01	801.82	+75	801.63	801.44	801.25
803.26	803.07	739+00	802.88	802.69	802.50
804.51	804.32	+25	804.13	803.94	803.75
805.76	805.57	+50	805.38	805.19	805.00
807.01	806.82	+75	806.63	806.44	806.25
808.26	808.07	740+00	807.88	807.69	807.50
809.51	809.32	+25	809.13	808.94	808.75
810.76	810.57	+50	810.38	810.19	810.00
812.01	811.82	+75	811.63	811.44	811.25
813.26	813.07	741+00	812.88	812.69	812.50
814.51	814.32	+25	814.13	813.94	813.75
815.76	815.57	+50	815.38	815.19	815.00
817.01	816.82	+75	816.63	816.44	816.25
818.26	818.07	742+00	817.88	817.69	817.50
819.50	819.32	+25	819.13	818.94	818.75
820.73	820.56	+50	820.38	820.19	820.00
821.93	821.78	+75	821.63	821.44	821.25
823.12	823.00	743+00	822.88	822.69	822.50
824.31	824.22	+25	824.13	823.94	823.75
825.47	825.43	+50	825.38	825.19	825.00
825.64	825.61	P.T.+53.97	825.58	825.39	825.20
826.61	826.62	+75	826.63	826.44	826.25
827.73	827.80	744+00	827.88	827.69	827.50
828.86	828.98	+25	829.10	828.91	828.72
829.97	830.12	+50	830.28	830.09	829.90
831.08	831.25	+75	831.43	831.24	831.05
832.15	832.34	745+00	832.53	832.34	832.15
833.22	833.41	+25	833.60	833.41	833.22
834.24	834.43	+50	834.62	834.43	834.24

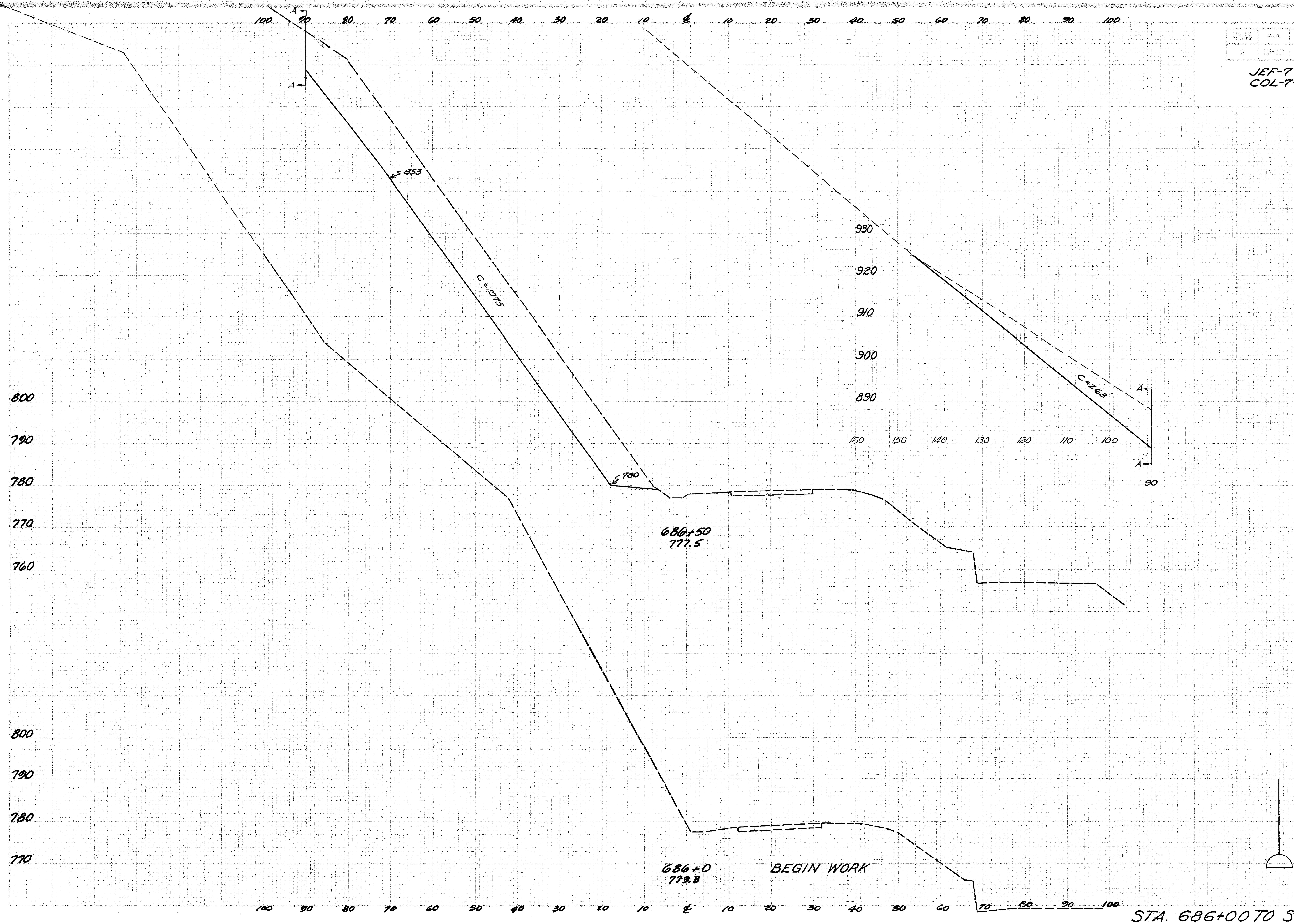
T.S. 754+39.01 S.C. 756+39.01		D.C. = 2°00' Rt. Max. Super 1.13		C.S. 761+93.17 S.T. 763+93.17	
Left Pair Lanes		Station	Profile Grade	Right Pair Lanes	
Left Edge	℄			℄	Right Edge
847.22	847.41	752+00	847.60	847.41	847.22
847.20	847.39	+25	847.58	847.39	847.20
847.13	847.32	+50	847.51	847.32	847.13
847.03	847.21	+75	847.40	847.21	847.02
846.92	847.09	753+00	847.26	847.07	846.88
846.78	846.92	+25	847.07	846.88	846.69
846.62	846.73	+50	846.85	846.66	846.47
846.41	846.50	+75	846.59	846.40	846.21
846.18	846.23	754+00	846.29	846.10	845.91
845.91	845.92	+25	845.94	845.75	845.56
845.75	845.74	T.S. +39.01	845.73	845.54	845.35
845.62	845.59	+50	845.56	845.36	845.17
845.32	845.23	+75	845.15	844.94	844.73
845.00	844.85	755+00	844.69	844.46	844.24
844.64	844.42	+25	844.19	843.93	843.68
844.22	843.94	+50	843.66	843.36	843.07
843.76	843.42	+75	843.08	842.73	842.39
843.26	842.87	756+00	842.47	842.07	841.67
842.73	842.27	+25	841.81	841.36	840.91
842.42	841.92	S.C. +39.01	841.42	840.95	840.48
842.14	841.63	+50	841.12	840.62	840.13
841.48	840.94	+75	840.39	839.86	839.33
840.75	840.18	757+00	839.62	839.06	838.50
839.94	839.38	+25	838.81	838.24	837.68
839.09	838.53	+50	837.96	837.39	836.83
838.20	837.64	+75	837.07	836.50	835.94
837.28	836.72	758+00	836.15	835.58	835.02
836.31	835.75	+25	835.18	834.61	834.05
835.31	834.75	+50	834.18	833.61	833.05
834.26	833.70	+75	833.13	832.56	832.00
833.18	832.62	759+00	832.05	831.48	830.92
832.06	831.50	+25	830.93	830.36	829.80
830.90	830.34	+50	829.77	829.20	828.64
829.70	829.14	+75	828.57	828.00	827.44
828.46	827.90	760+00	827.33	826.76	826.20
827.21	826.65	+25	826.08	825.51	824.95
825.96	825.40	+50	824.83	824.26	823.70
824.71	824.15	+75	823.58	823.01	822.45
823.46	822.90	761+00	822.33	821.76	821.20
822.21	821.65	+25	821.08	820.51	819.95
820.94	820.39	+50	819.83	819.27	818.71
819.64	819.11	+75	818.58	818.04	817.51
818.65	818.16	C.S. +93.17	817.67	817.15	816.64
818.50	817.82	762+00	817.33	816.83	816.34
816.95	816.52	+25	816.08	815.64	815.20
815.56	815.20	+50	814.83	814.44	814.06
814.22	813.91	+75	813.58	813.27	812.96
812.82	812.58	763+00	812.33	812.06	811.80
811.46	811.27	+25	811.08	810.86	810.64
810.07	809.95	+50	809.83	809.62	809.42
808.70	808.64	+75	808.58	808.38	808.19
807.69	807.68	S.T. +93.17	807.67	807.48	807.29
807.34	807.34	764+00	807.33	807.14	806.95
806.01	806.04	+25	806.08	805.89	805.70
804.70	804.76	+50	804.83	804.64	804.45
803.41	803.49	+75	803.58	803.39	803.20
802.09	802.21	765+00	802.33	802.14	801.95
800.77	800.93	+25	801.08	800.89	800.70
799.48	799.65	+50	799.83	799.64	799.45
798.20	798.39	+75	798.58	798.39	798.20
796.95	797.14	766+00	797.33	797.14	796.95

Elevations for Pavement Transition - See Sheet No 103

T.S. 777+48.40 S.C. 781+48.40		Dc = 5°00' Rt. Max Super 2.00'		C.S. 782+11.06 S.T. 786+11.06	
Left Pair Lanes		Station	Profile Grade	Right Pair Lanes	
Left Edge	℄			℄	Right Edge
749.45	749.64	775+50	749.83	749.64	749.45
748.20	748.39	+75	748.58	748.39	748.20
746.98	747.15	776+00	747.33	747.14	746.95
745.77	745.93	+25	746.08	745.89	745.70
744.57	744.70	+50	744.83	744.64	744.45
743.40	743.49	+75	743.58	743.39	743.20
742.20	742.26	777+00	742.33	742.14	741.95
741.02	741.05	+25	741.08	740.89	740.70
739.93	739.92	T.S. +48.40	739.91	739.72	739.53
739.86	739.84	+50	739.83	739.64	739.45
738.71	738.64	+75	738.58	738.38	738.19
737.58	737.45	778+00	737.33	737.13	736.93
736.46	736.27	+25	736.08	735.86	735.65
735.33	735.08	+50	734.83	734.57	734.31
734.21	733.89	+75	733.58	733.26	732.95
733.08	732.70	779+00	732.33	731.95	731.58
731.96	731.52	+25	731.08	730.64	730.20
730.83	730.33	+50	729.83	729.33	728.83
729.71	729.14	+75	728.58	728.01	727.45
728.58	727.95	780+00	727.33	726.70	726.08
727.46	726.77	+25	726.08	725.39	724.70
726.33	725.58	+50	724.83	724.08	723.33
725.21	724.39	+75	723.58	722.77	721.95
724.07	723.20	781+00	722.33	721.45	720.58
722.94	722.01	+25	721.08	720.15	719.22
721.86	720.88	S.C. +48.40	719.91	718.96	718.01
721.76	720.79	+50	719.83	718.86	717.90
720.53	719.55	+75	718.58	717.61	716.65
719.21	718.27	782+00	717.33	716.40	715.47
718.62	717.69	C.S. +11.06	716.77	715.87	714.97
717.84	716.96	+25	716.08	715.20	714.33
716.46	715.64	+50	714.83	714.02	713.22
715.15		+75	713.58		712.03
713.76		783+00	712.33		710.90
712.38		+25	711.08		709.78
710.93		+50	709.83		708.73
709.50		+75	708.58		707.66
708.09		784+00	707.33		706.53
706.72		+25	706.08		705.44
705.33		+50	704.83		704.31
703.97		+75	703.58		703.19
702.60		785+00	702.33		702.01
701.25		+25	701.08		700.80
699.91		+50	699.83		699.56
698.58		+75	698.58		698.32
697.24		786+00	697.33		697.08
		S.T. +11.06	696.77		
		+25	696.08		
		+50	694.83		

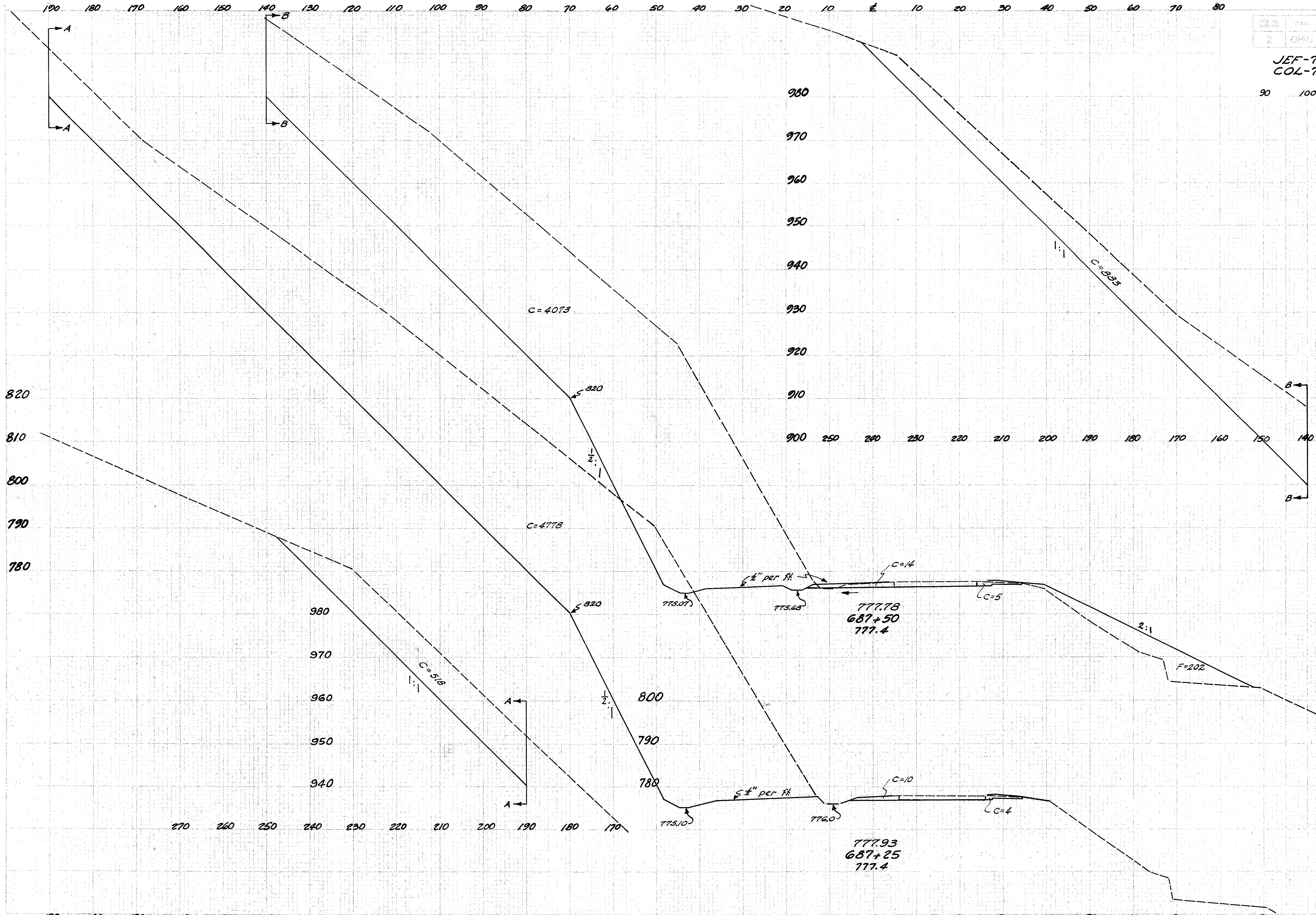
NOTE: The Design Speed Is 60 M.P.H.

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	367			9233	0
20		1338	0		
	56.			1239	0
0		0	0		

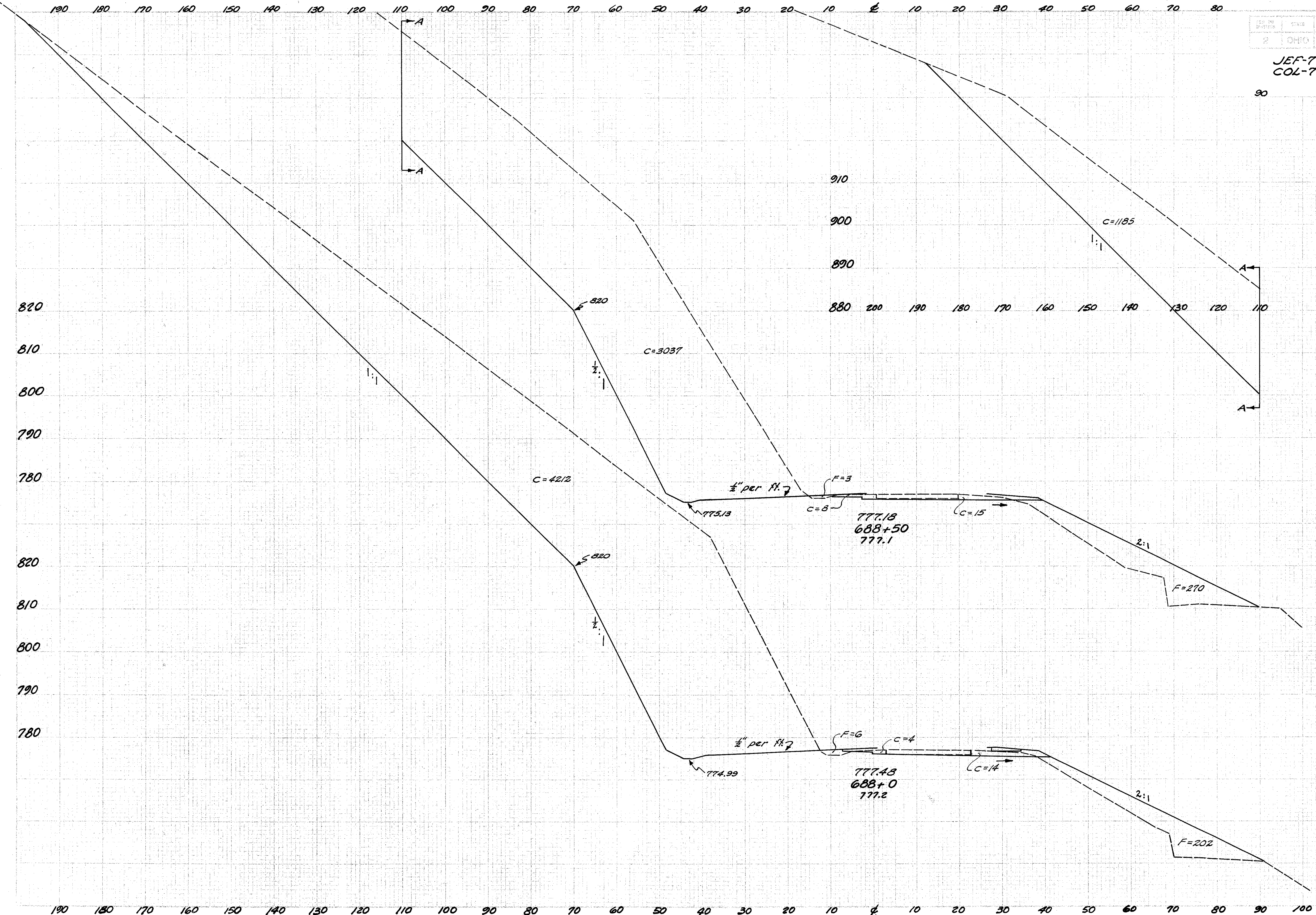
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cu.Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	644			8523	380
114		4975	202		
	253			4762	94
68		5310	0		

STA. 687+25 TO STA. 687+50

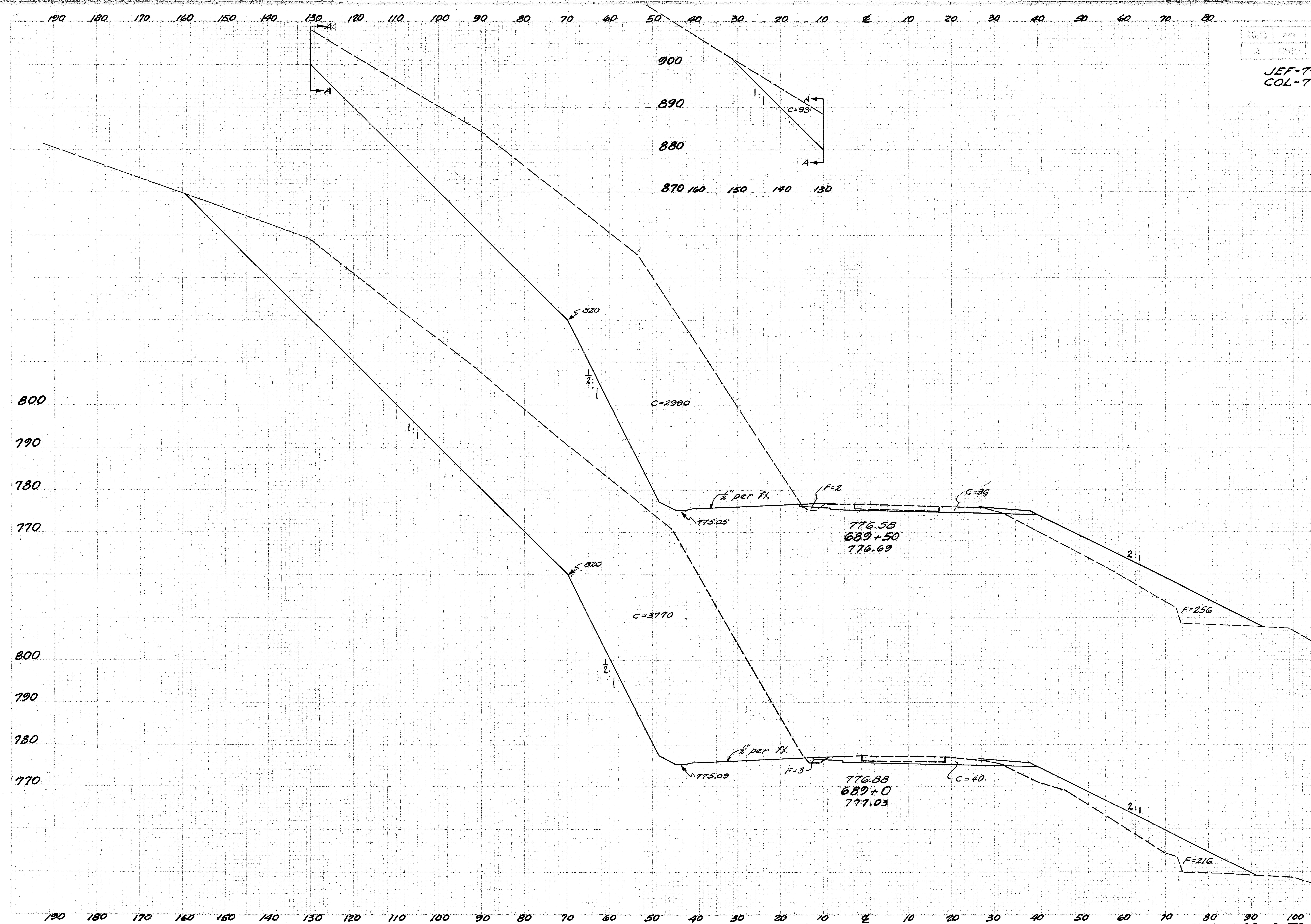
JEF-7-(33.83 - 34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cu.Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	642			7458	456
117		4245	273		
	653			7847	445
118		4230	208		

STA. 688+0 TO STA. 688+50

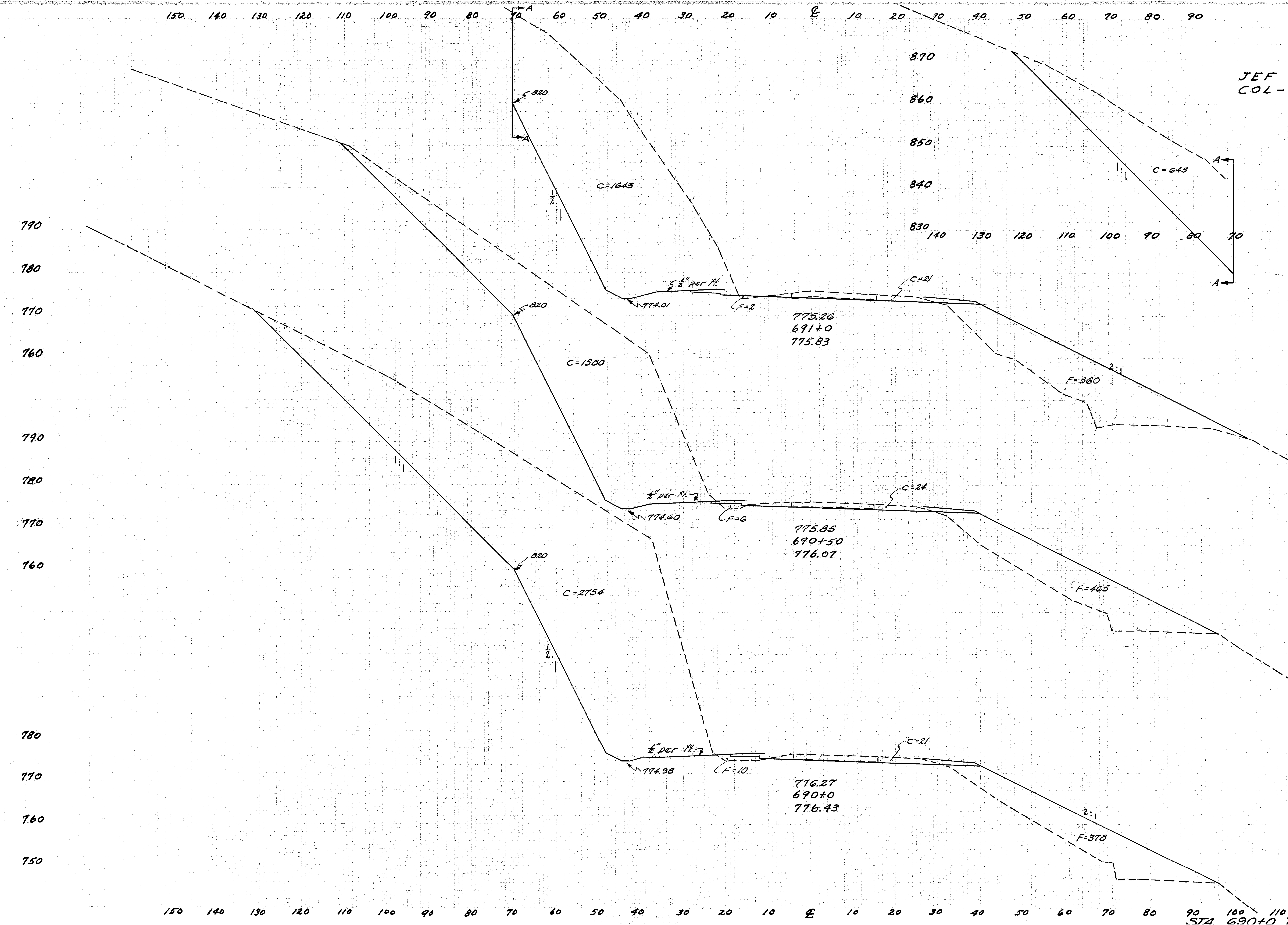
JEF-7-(33.83 -34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	625			5457	598
113		3119	258		
	631			6416	442
114		3810	219		

STA. 689+0 TO STA. 689+50

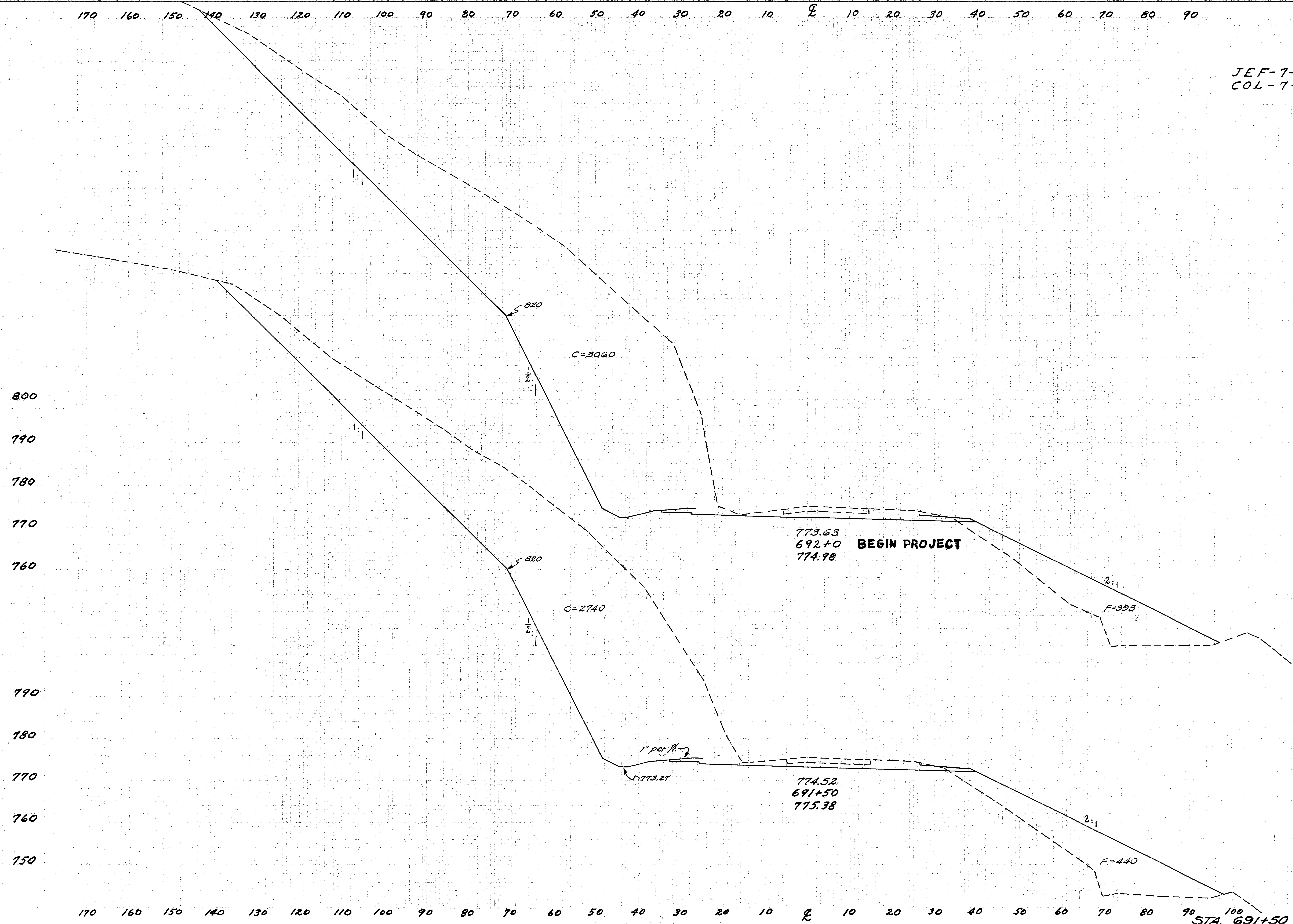
JEF 7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
	606			4675	928
114		2309	562		
	622			3623	956
110		1604	471		
	617			4055	795
112		2775	388		

STA. 690+0 TO STA. 691+0

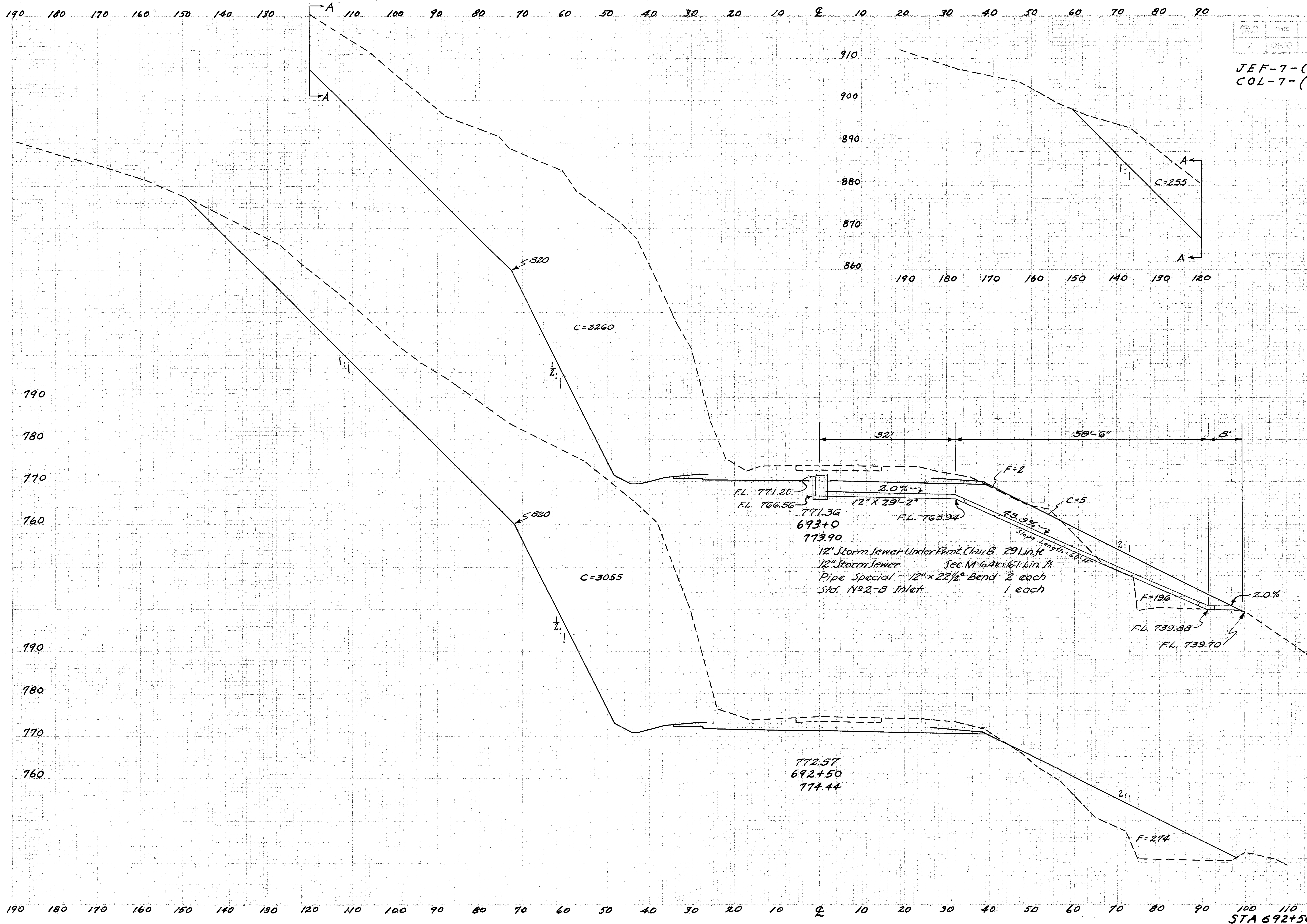
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	561			5662	619
100		3060	395		
	567			5370	773
104		2740	440		

STA. 691+50 TO STA. 692+0

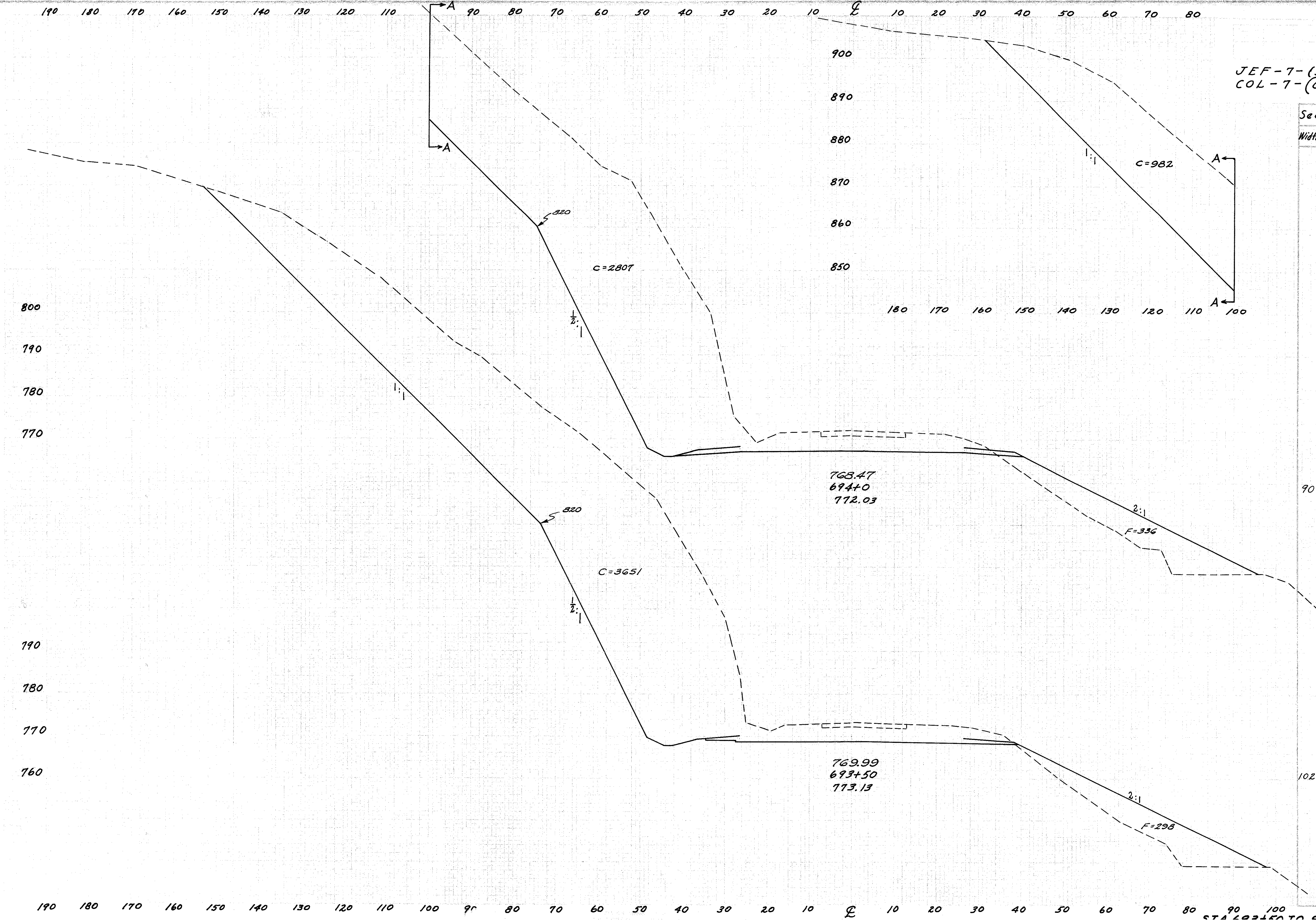
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	567			6640	459
102		3520	198		
	567			6088	437
102		3055	274		

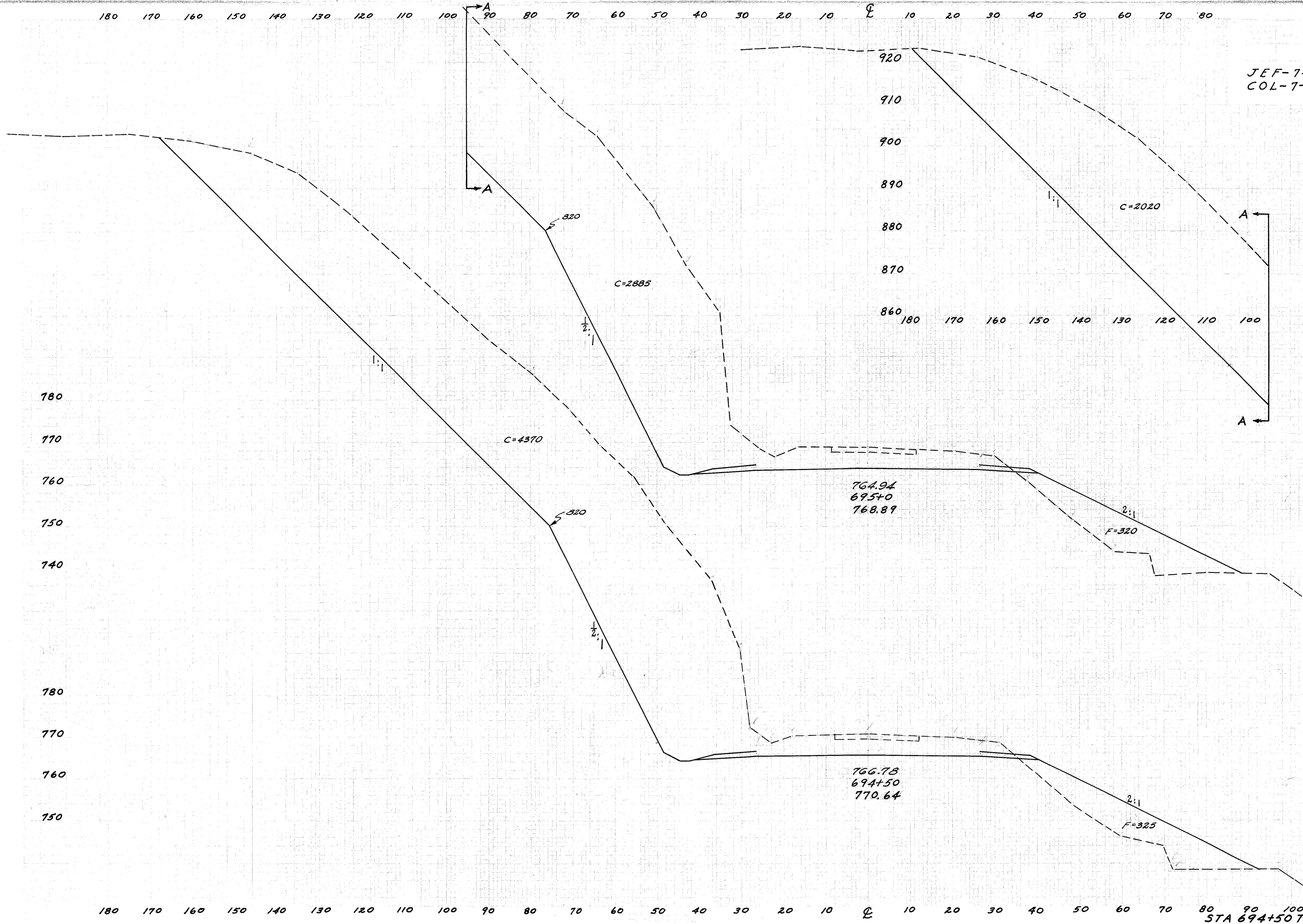
STA 692+50 TO STA 693+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	486			7555	612
90		3789	336		
	533			6889	587
102		3651	298		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding Width	S.Y.	End Area Cut	Fill	Cu. Yds. Exc.	Emb.
	442			9347	583
81		4905	320		
	461			8588	597
85		4370	325		

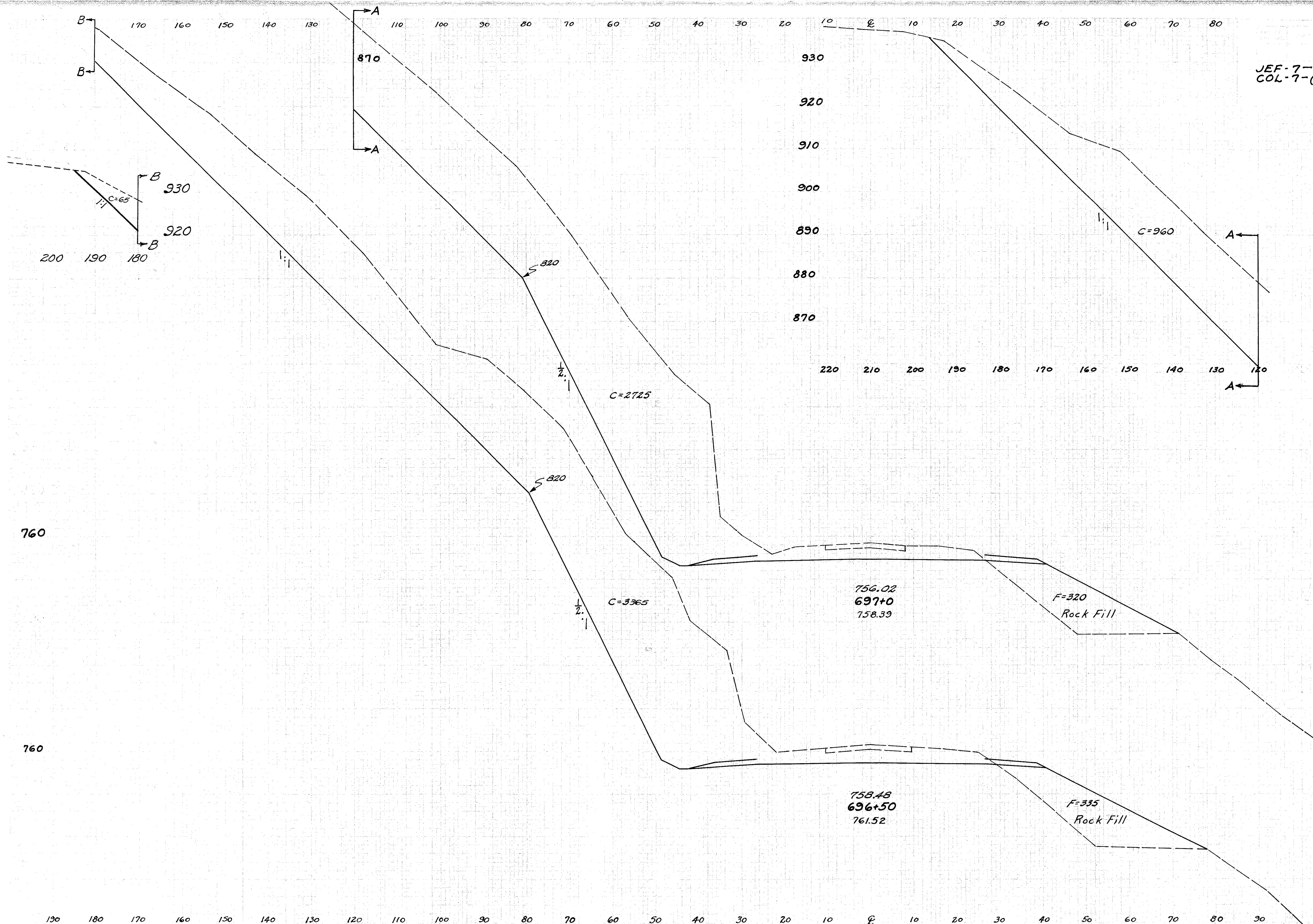
STA 694+50 TO STA 695+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	258			6856	579
73		3975	290		
	419			8486	556
78		5190	310		

STA 695+50 TO STA 696+0

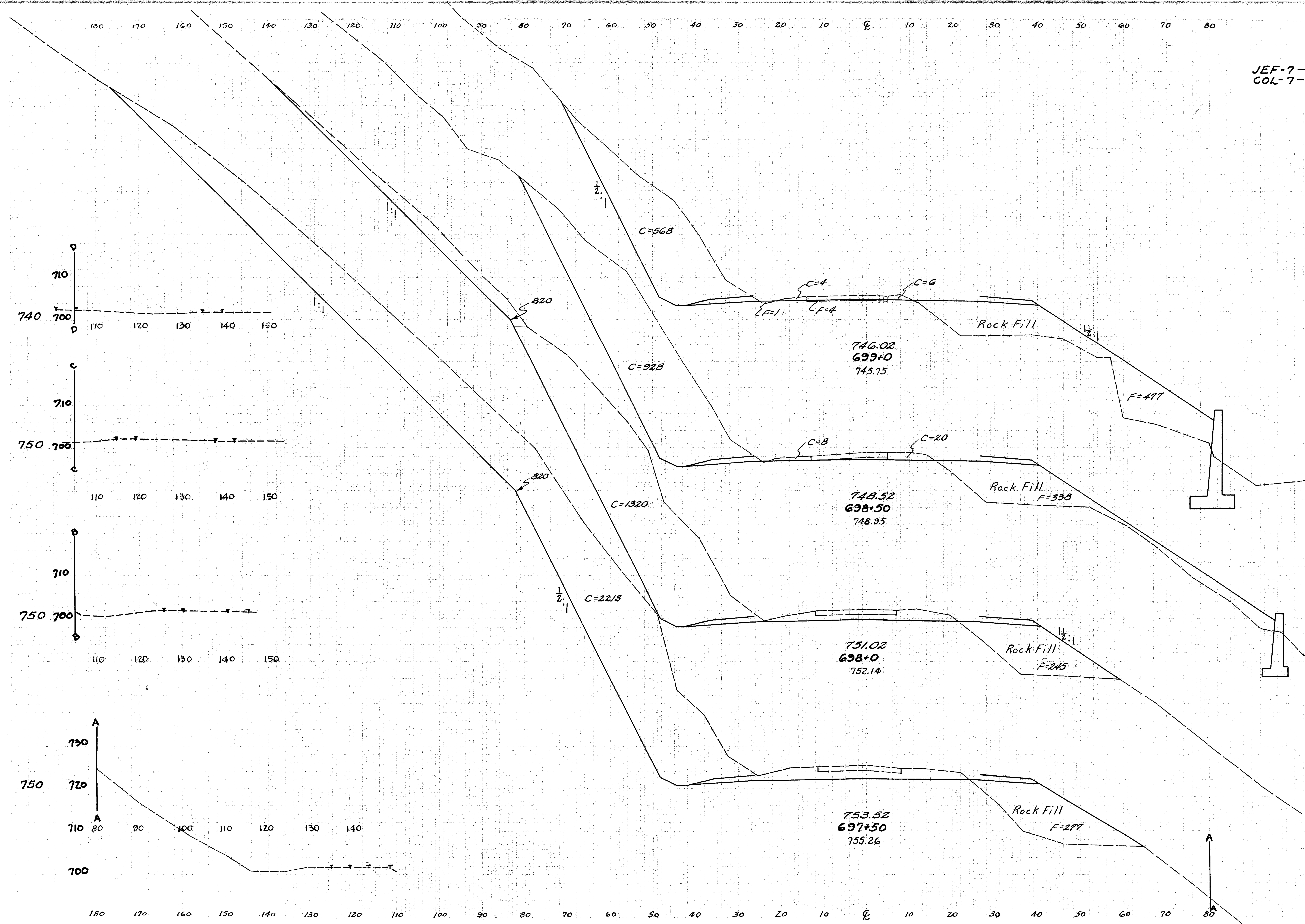
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cy. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	111			5461	553
20		3685	320		
	111			6588	606
20		3430	335		

STA 696+50 TO STA. 697+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cy. Yds. Exc.	Cy. Yds. Emb.
	56			1571	983
10		578	482		
	56			1420	759
10		956	338		
	83			2107	540
20		1320	245		
	111			3271	483
20		2213	277		

STA 697+50 TO STA 699+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	264			381	218
47		110	235		
	347			199	706
78		105	527		
	367			206	806
54		118	343		
	256			195	381
38		93	68		
	600				
	217			211	63
40		135	0		
	600				
	206			282	0
34		170	0		
	206			298	54
40		152	58		
	217			228	143
38		94	96		
	194			123	198
32		39	118		
	167			63	192
28		29	89		
	1400				
	161			55	149

30		30	72		
	169			47	141
31		21	80		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

STA. 703+50 TO STA. 709+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

STA 709+50 TO STA 715+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
			0		
	742			51	7406
176		22	4761		
	707			26	6158
168		16	4226		
	889			28	7386
152		14	3751		
	850			27	6806
154		15	3600		
	850			29	6523
152		16	3445		
	844			43	6288
152		30	3346		
	800			53	5890
136		27	3017		
	733			53	5442
128		30	2860		

JEF-7 - (33.83-34.10)
COL-7 - (0.00-0.50)

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	431			19035	0
61		9283	0		
	325			15266	0
56		7204	0		
	292			10830	0
49		4495	0		
	256			5986	0
43		1970	0		
	115			1852	32
10		595	45		
		1041			
0		0	0		
	50	15	0		
36		32	0		
	200	51	0		
36		23	0		
	200	42	0		
36		22	0		

2 OHIO

JEF-7-(33.83 - 34.10)
COL-7-(0.00 0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	428			28366	0
95		14,356	0		
	525			28132	0
94		11,275	0		

STA 727+50 TO STA 728+0

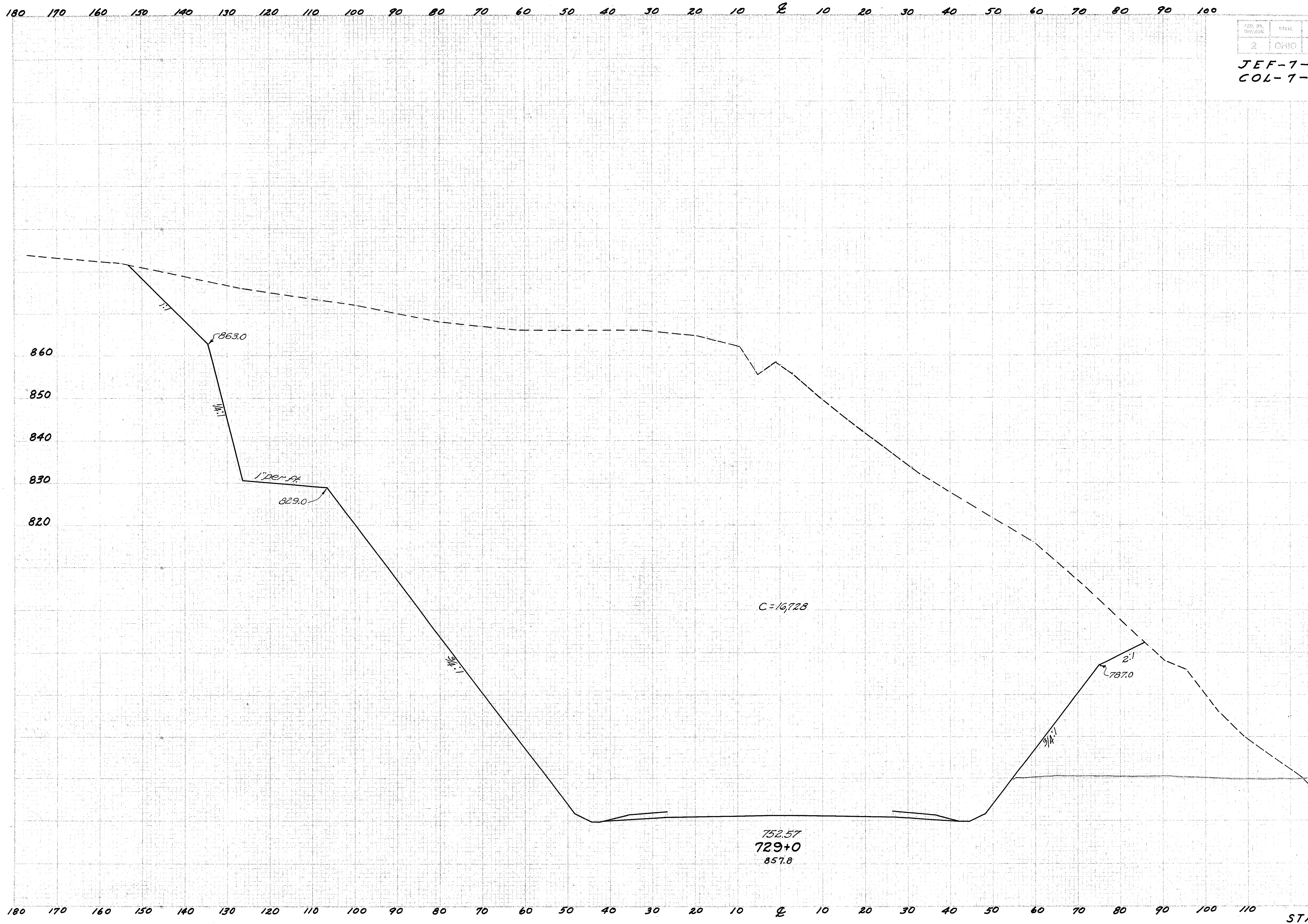
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7 - (33.83 - 34.10)
COL-7 - (0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	225			30562	0
59		16,279	0		

STA. 728+50

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	89			32804	0
22		16,728	0		

STA 729+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			34053	0
10		18,700	0		

STA 729+50

FED. RD. DIVISION	STATE	PROJECT	TOTAL PAGES
2	OHIO		

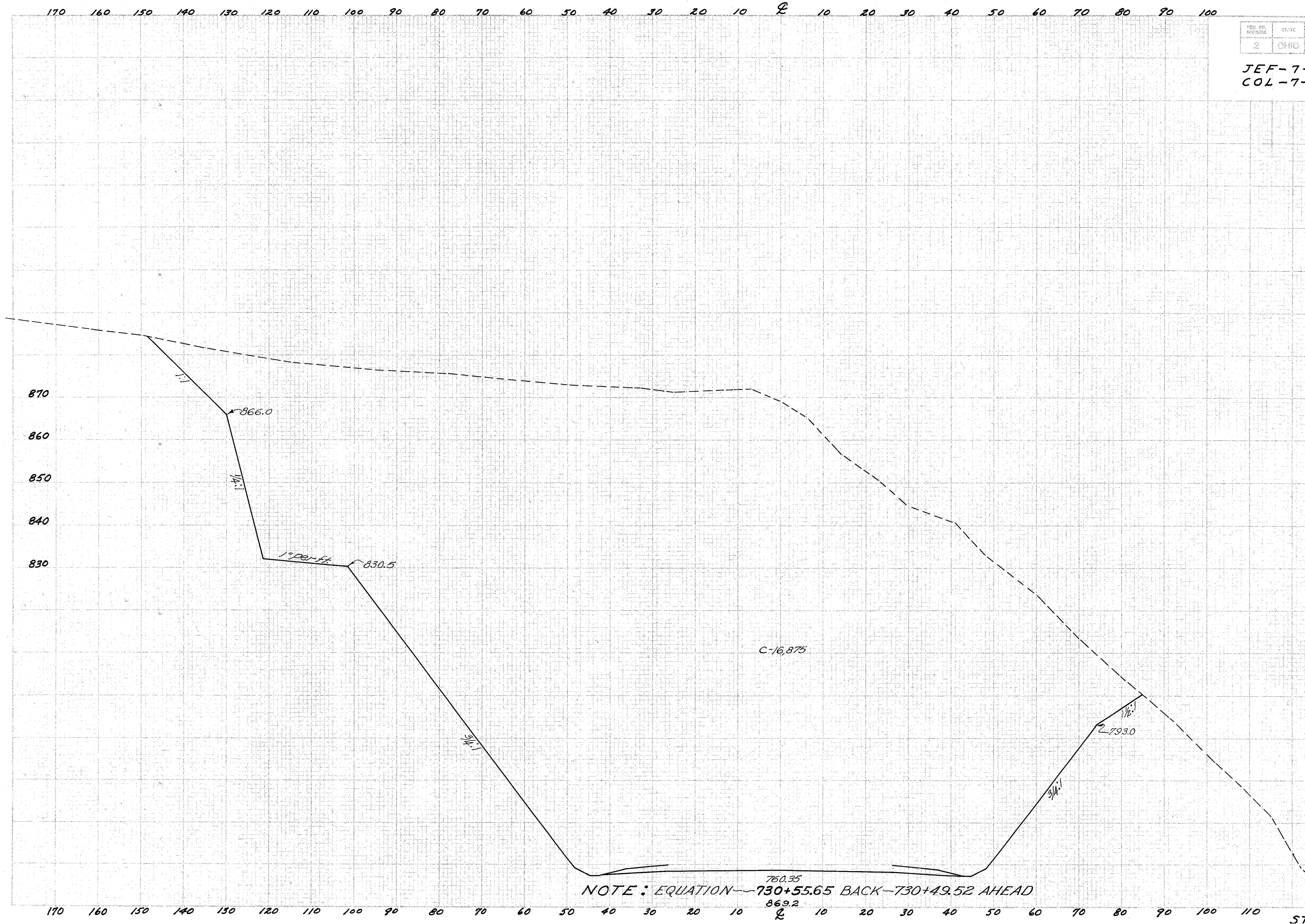
46

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu.Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	62			36020	0
10		18077	0		

STA 730+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



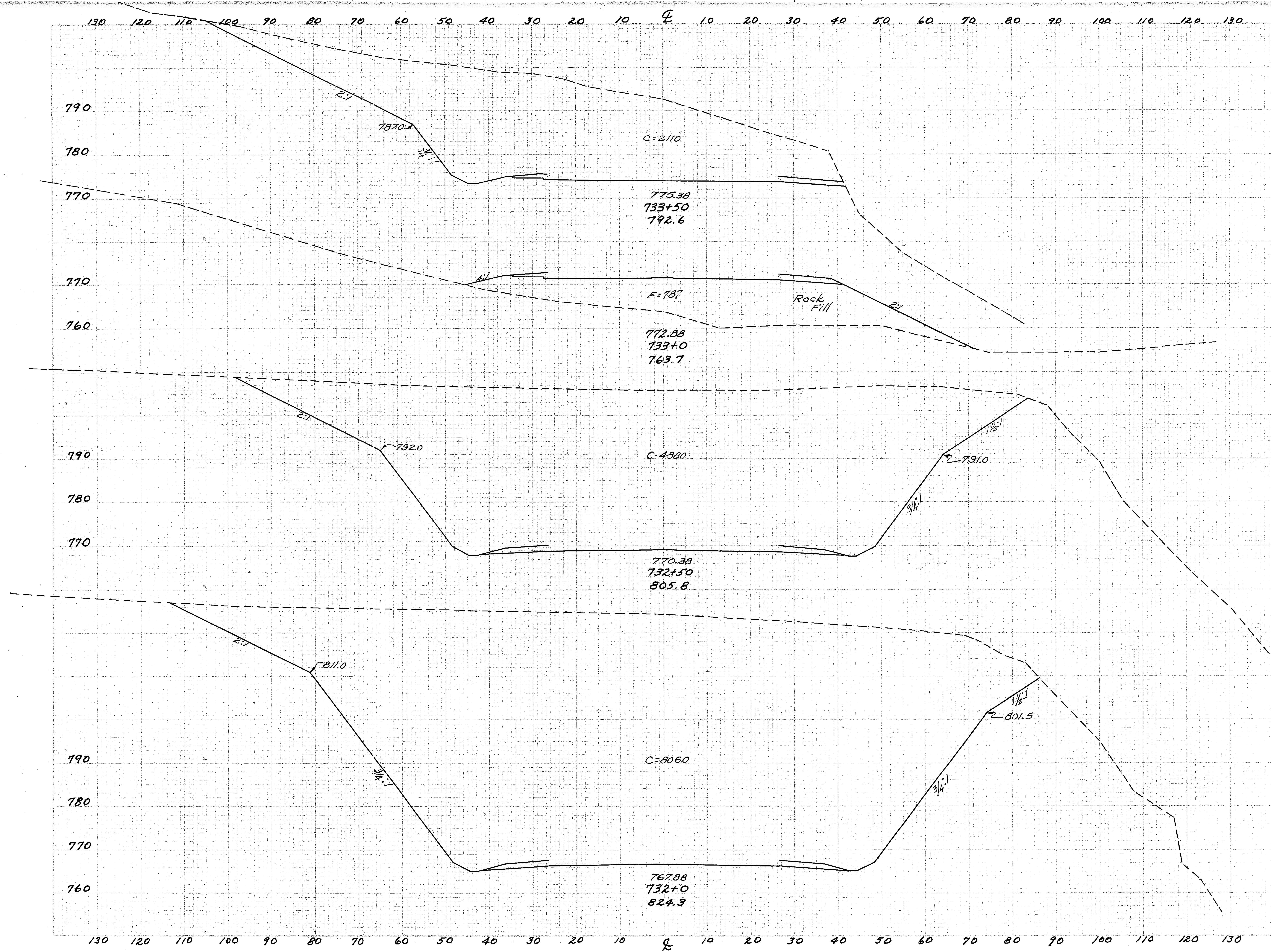
Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			29781	0
10		16,875	0		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	250			18352	0
45		11,760	0		
	153			24762	0
40		14,983	0		

STA 731+0 TO STA 731+50

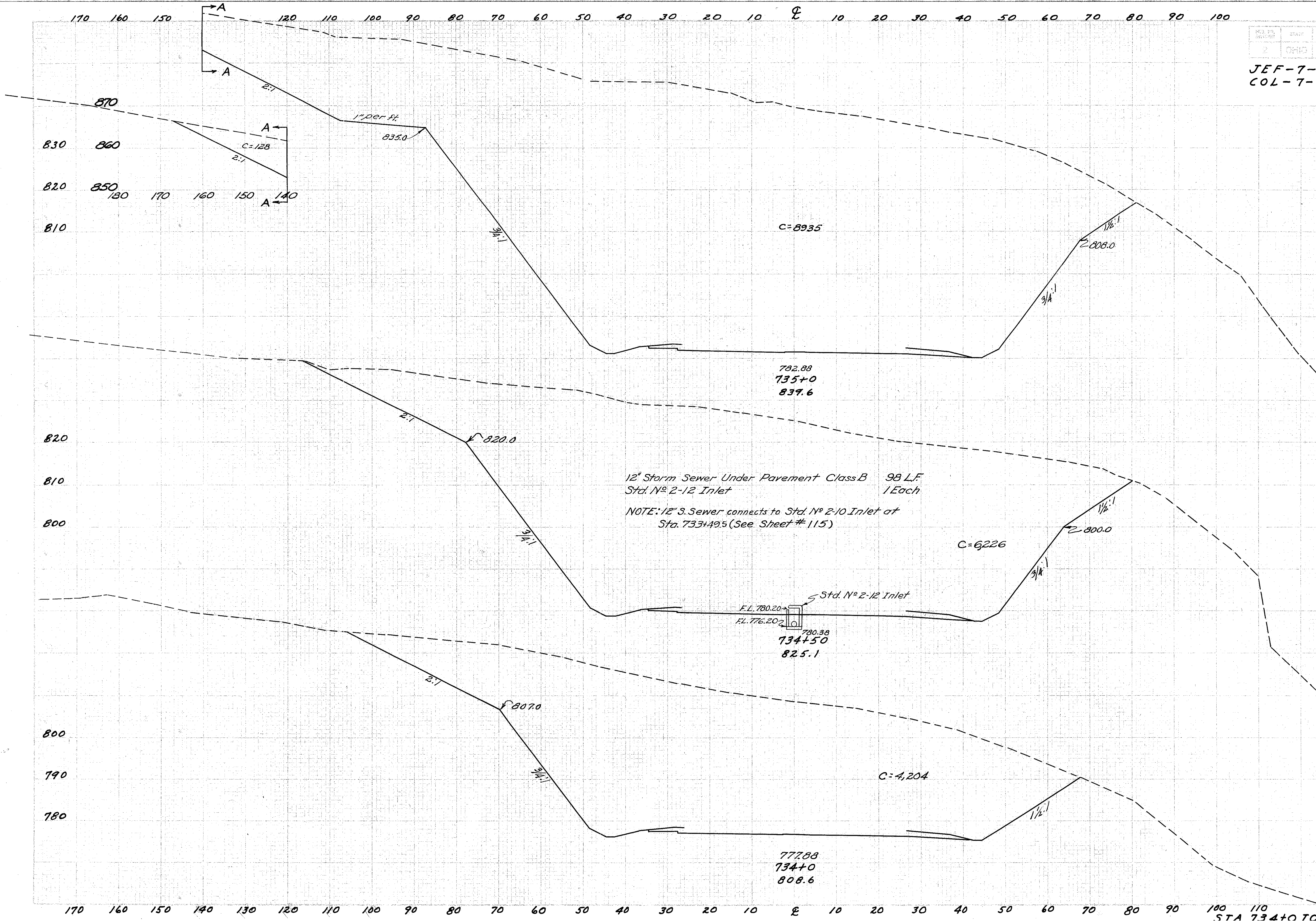
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	314			5846	0
63		2110	0		
	231			1954	729
20		0	787		
	186			4519	729
47		4,880	0		
	256			11981	0
45		8,060	0		

STA 732+0 TO STA 733+50

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	242			18291	0
77		9063	0		
	361			14156	0
53		6226	0		
	286			9657	0
50		4204	0		

STA. 734+0 TO STA. 735+0

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		

51

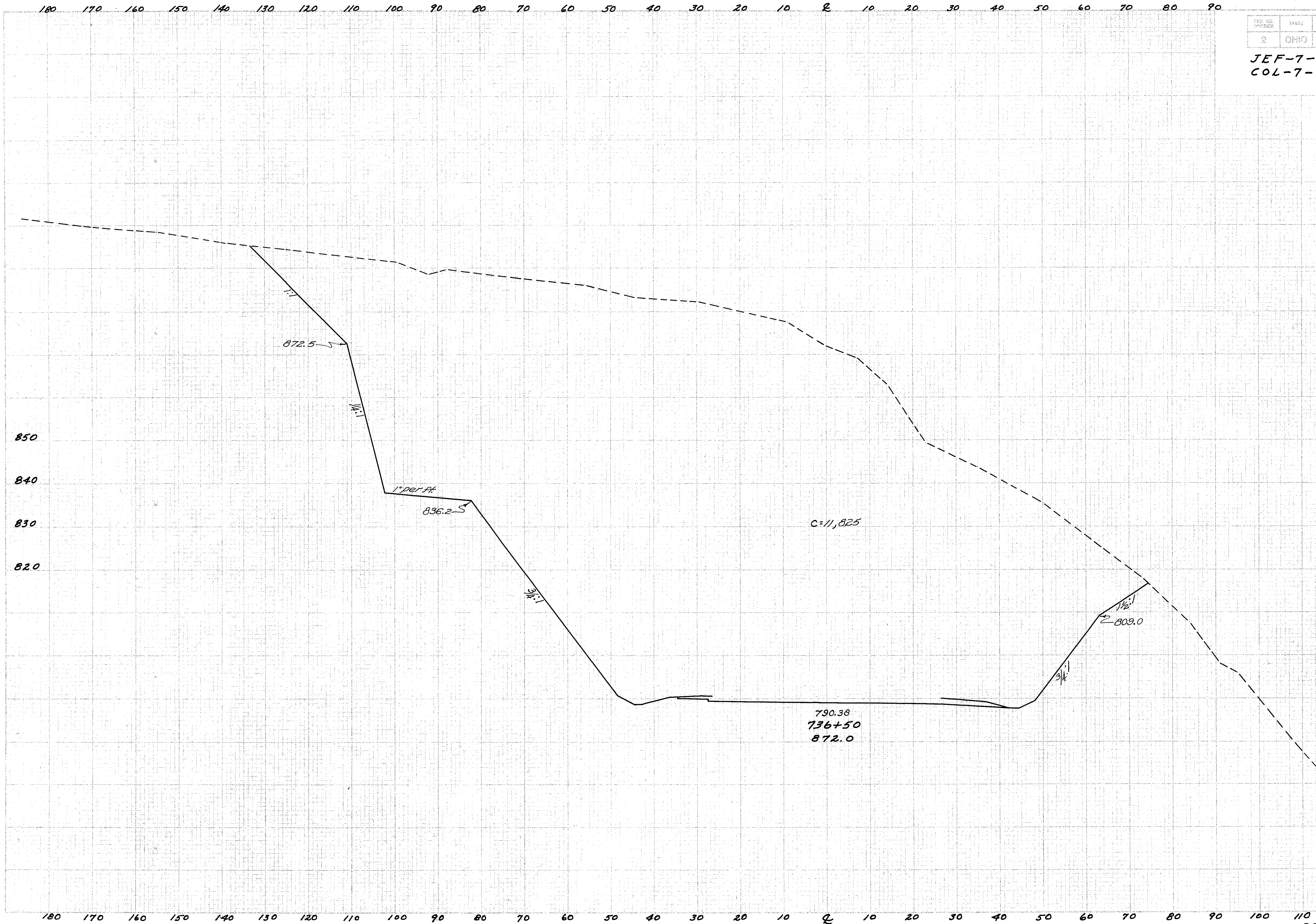
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			21996	0
10		11,931	0		
	56			20946	0
10		10,691	0		

STA. 735+50 TO STA. 736+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			22446	0
10		11,825	0		



STA 736+50

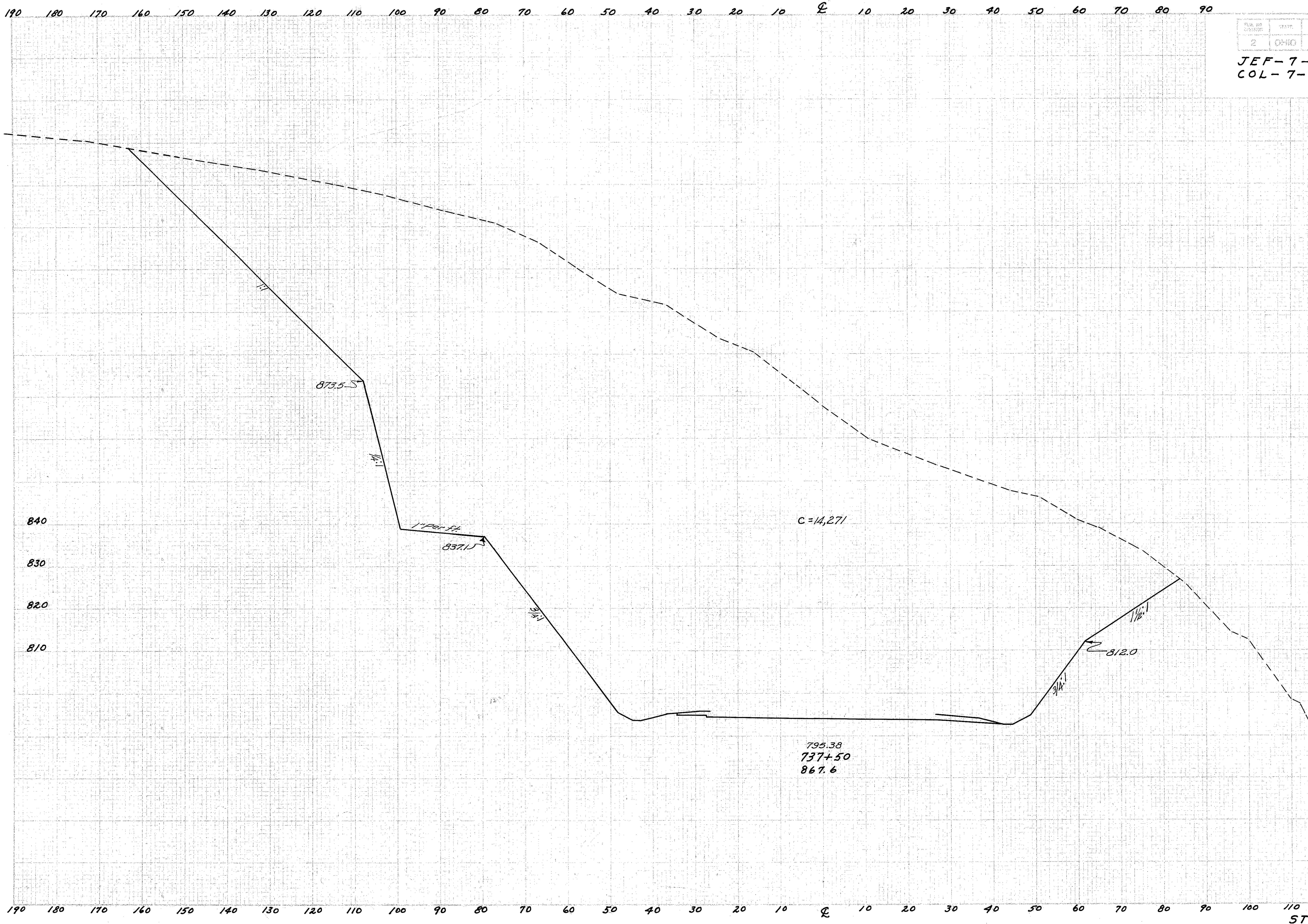
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			24711	0
10		12,417	0		

STA 737+0

2 OHIO

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			27808	0
				27808	0
10		14271	0		

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

55

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			29012	0
10		15762	0		

STA 738+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			25149	0
10		15571	0		

STA 738+50

	OHIO

JEF – 7 – (33.83 – 34.10)
COL – 7 – (0.00 – 0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			22180	0
10		11,590	0		

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		

JEF- 7-(33.83 -34.10)
COL- 7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			21560	0
10		12,364	0		

STA. 739+50

JEF - 7 - (33.83-34.10)
COL - 7 - (0.00-0.50)

Seeding		End Area		Cu.Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			19580	0
10		10,436	0		
	56			19775	0
10		10921	0		

STA 740+0 TO STA 740+50

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	133			17872	0
10		9037	0		
	56			19025	0
10		10710	0		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	261			19698	0
47		11378	0		
	236			19299	0
38		9465	0		

STA 742+0 TO STA 742+50

JEF- 7-(33.83-34.10)
COL- 7-(0.00-0.50)

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	139			13962	0
40		8020	0		
	242			16589	0
47		9896	0		

STA 743+0 TO STA 743+50

JEF - 7 - (33.83-34.10)
COL - 7 - (0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			15184	0
				878	
10		7262	0		
	56			13260	0
10		7059	0		

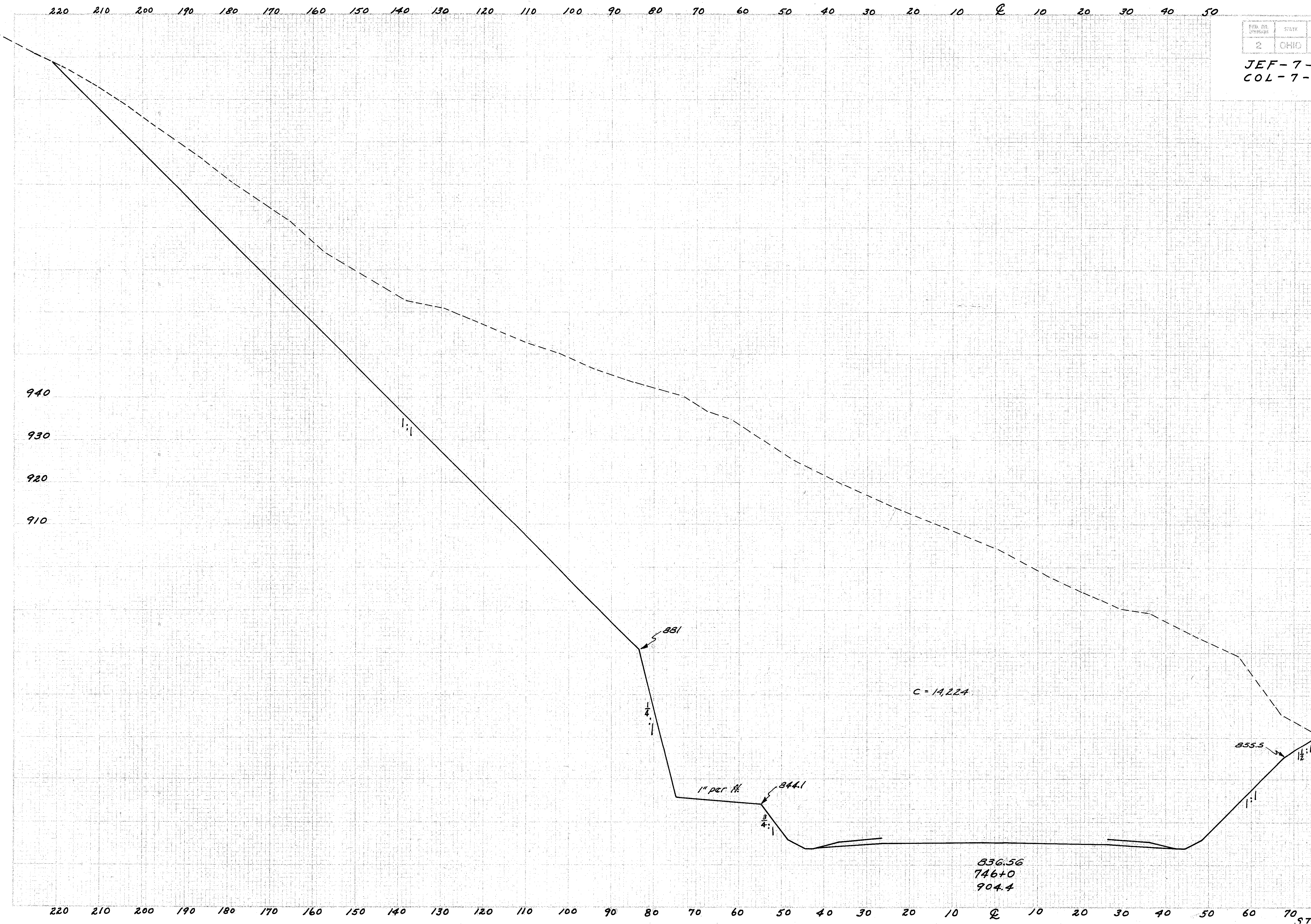
STA 744+0 TO STA 744+50

JEF - 7 - (33.83-34.10)
COL - 7 - (0.00-0.50)

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	56			24146	0
10		11,854	0		
	56			19436	0
10		9137	0		

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		65

JEF-7-(33.83-34.10)
COL-7-(0.00 0.50)



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			24863	0
10		14224	0		

STA. 746+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			23317	0
10		12,628	0		

STA 746+50

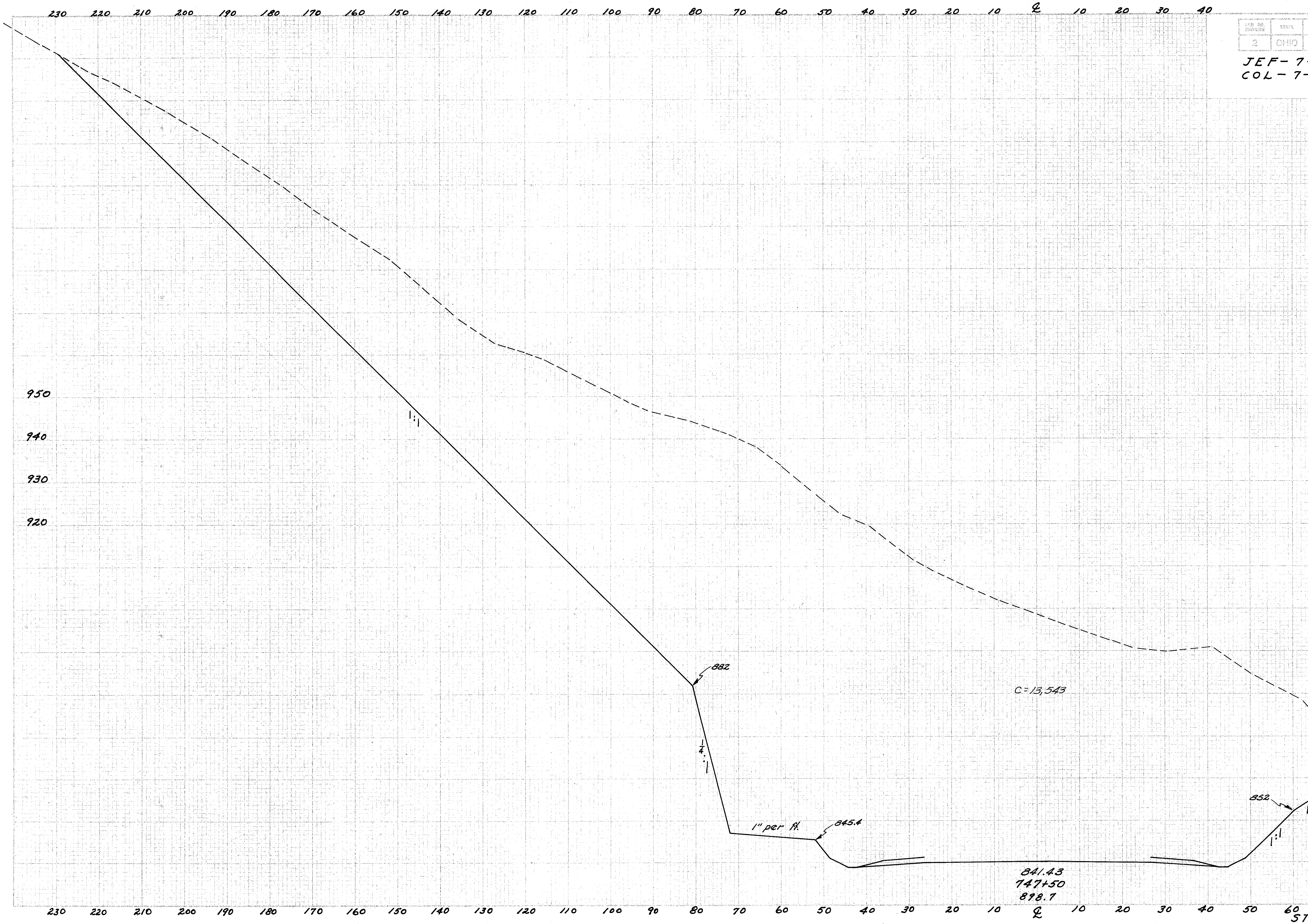
JEF-7-(33.83-34.10)
COL-7-(0.00 0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			24164	0
10		12,554	0		

STA 747+0

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		68

JEF- 7-(33.83-34.10)
COL- 7-(0.00-0.50)



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			25190	0
10		13543	0		

JEF- 7 -(33.85 - 34.10)
COL- 7 -(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			24465	0
10		13662	0		

STA 748+0

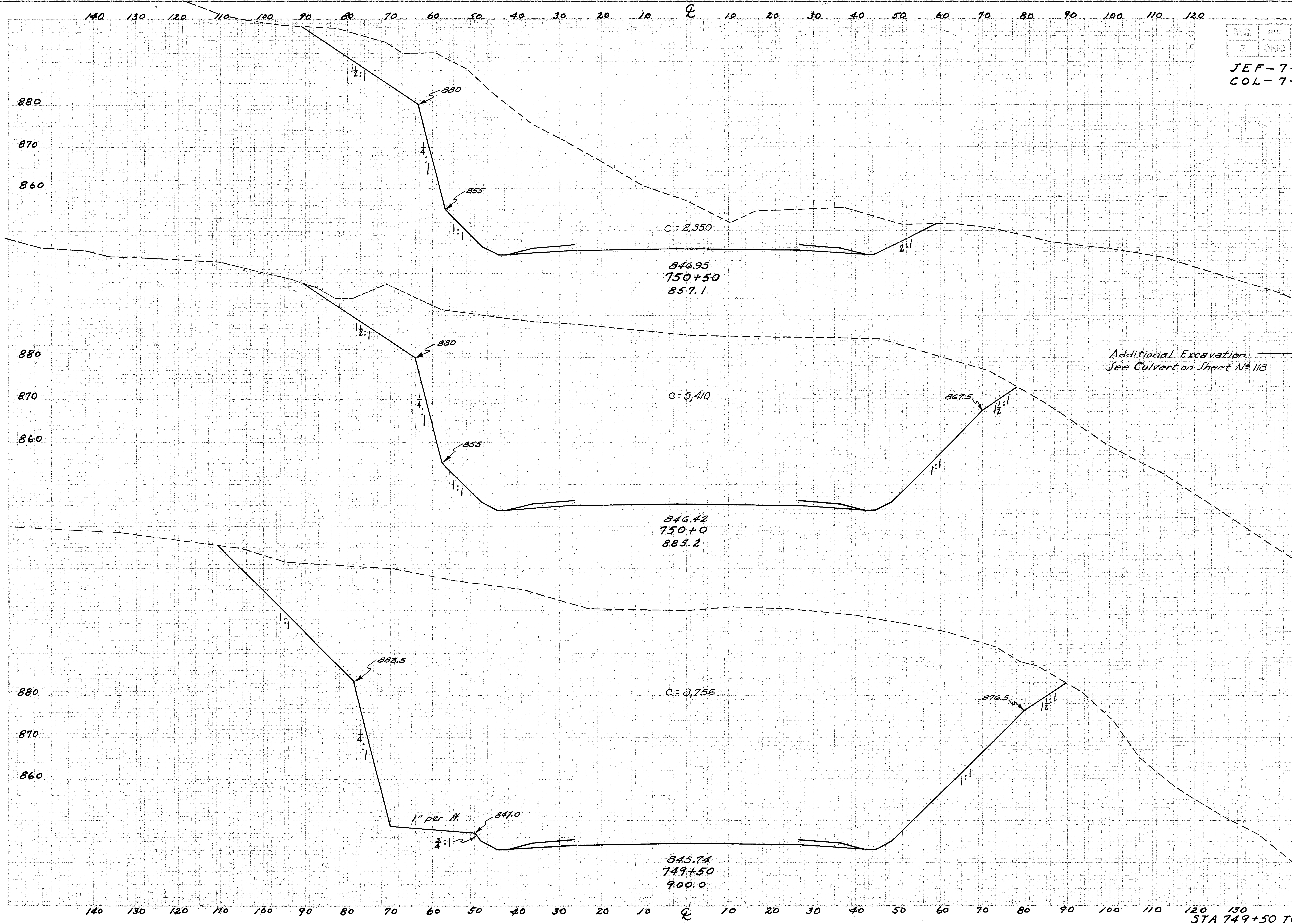
FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		70

JEF - 7 - (33.83 - 34.10)
COL - 7 - (0.00 - 0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			18816	0
10		11,565	0		
	56			22523	0
10		12,760	0		

STA 748+50 TO STA 749+0

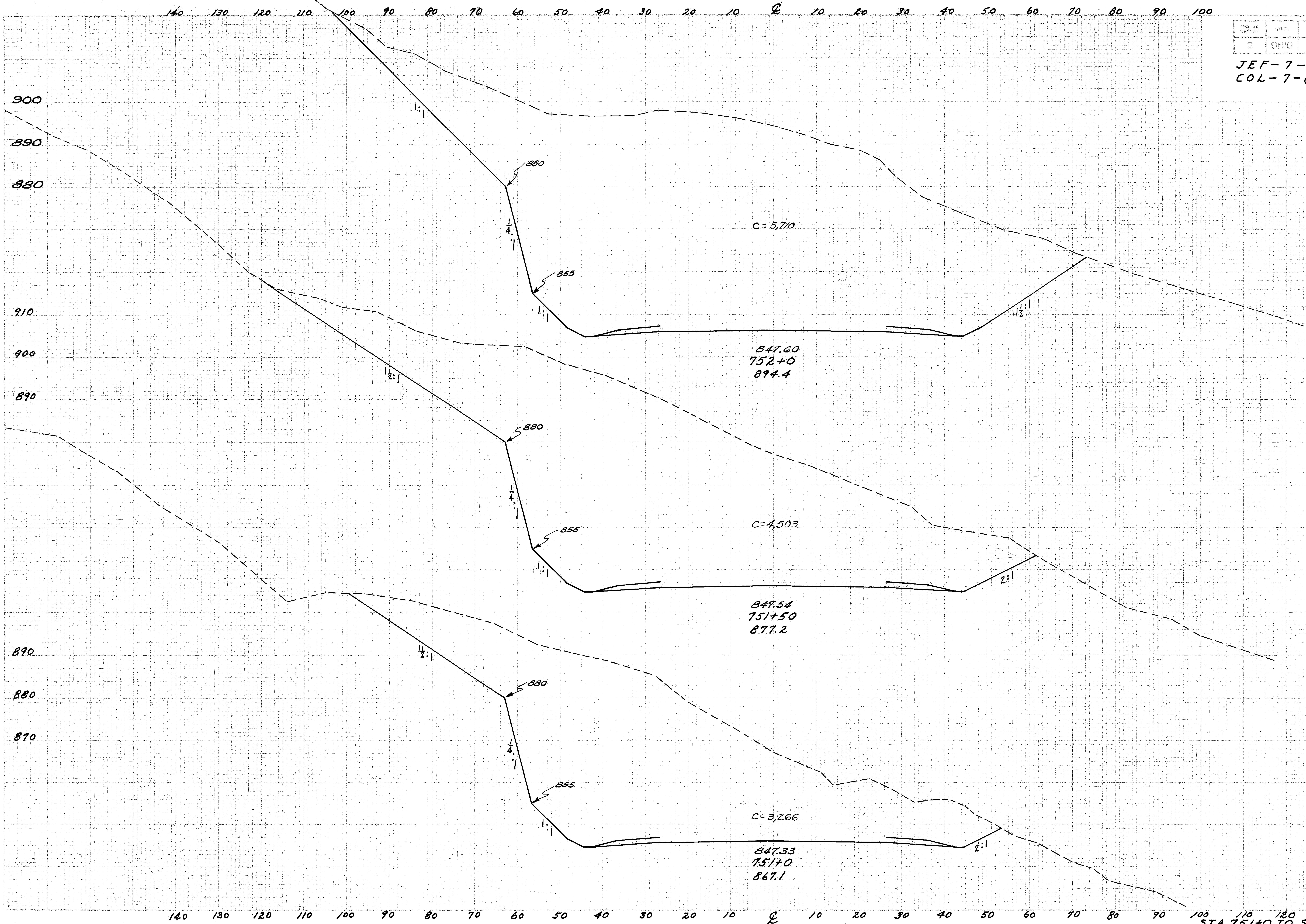
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	186			5200	0
37		2,350	0		
				848	
	131			7185	0
10		5,410	0		
	56			13117	0
10		8,756	0		

STA 749+50 TO STA 750+50

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	122			13423	0
10		5710	0		
	136			9456	0
3.9		4,503	0		
	192			7194	0
3 0		3266	0		

STA 751+0 TO STA 752+0

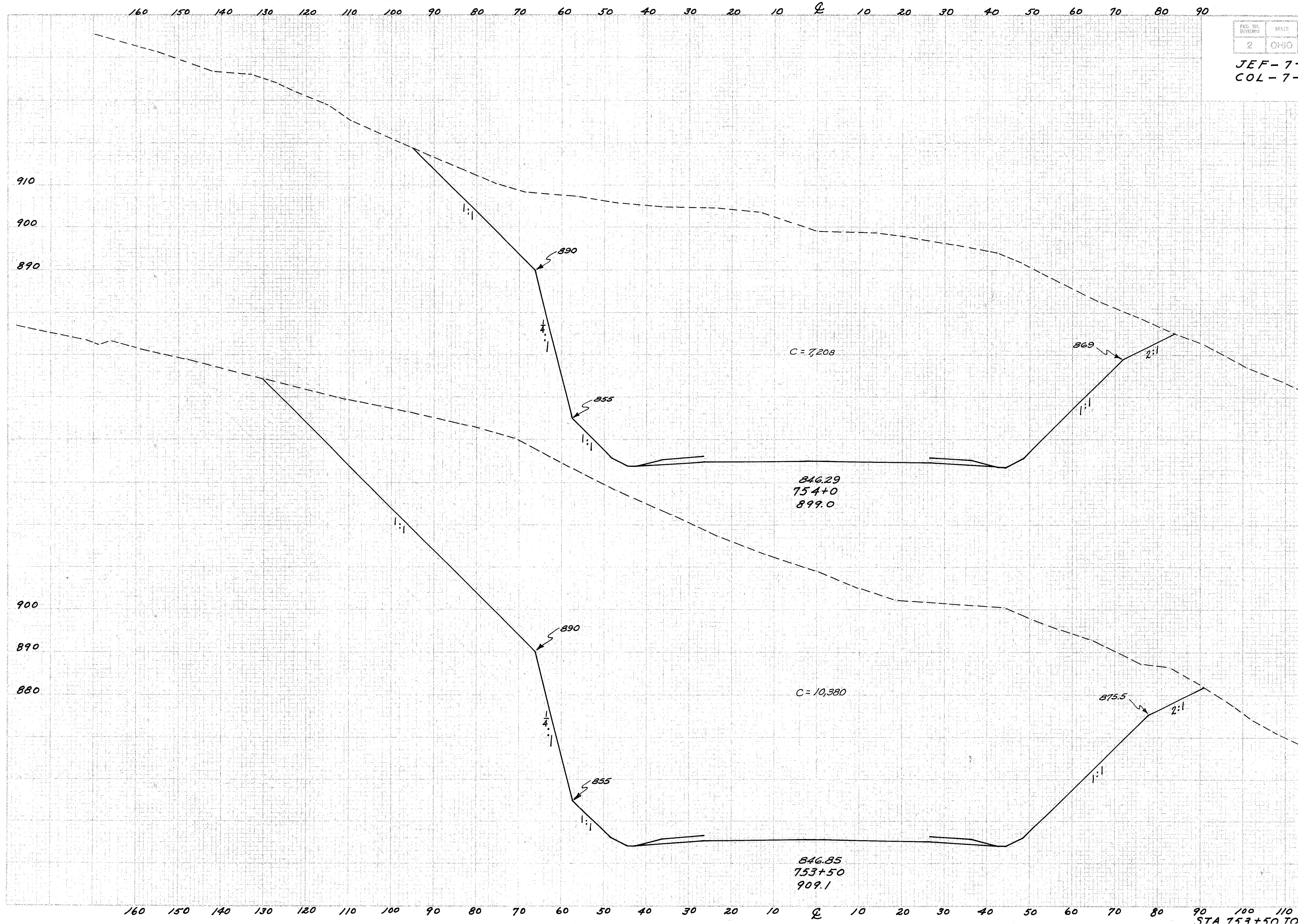
2 OHIO

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
	189			20214	0
33		11451	0		
	186			18739	0
34		8787	0		

STA 752+50 TO STA 753+0

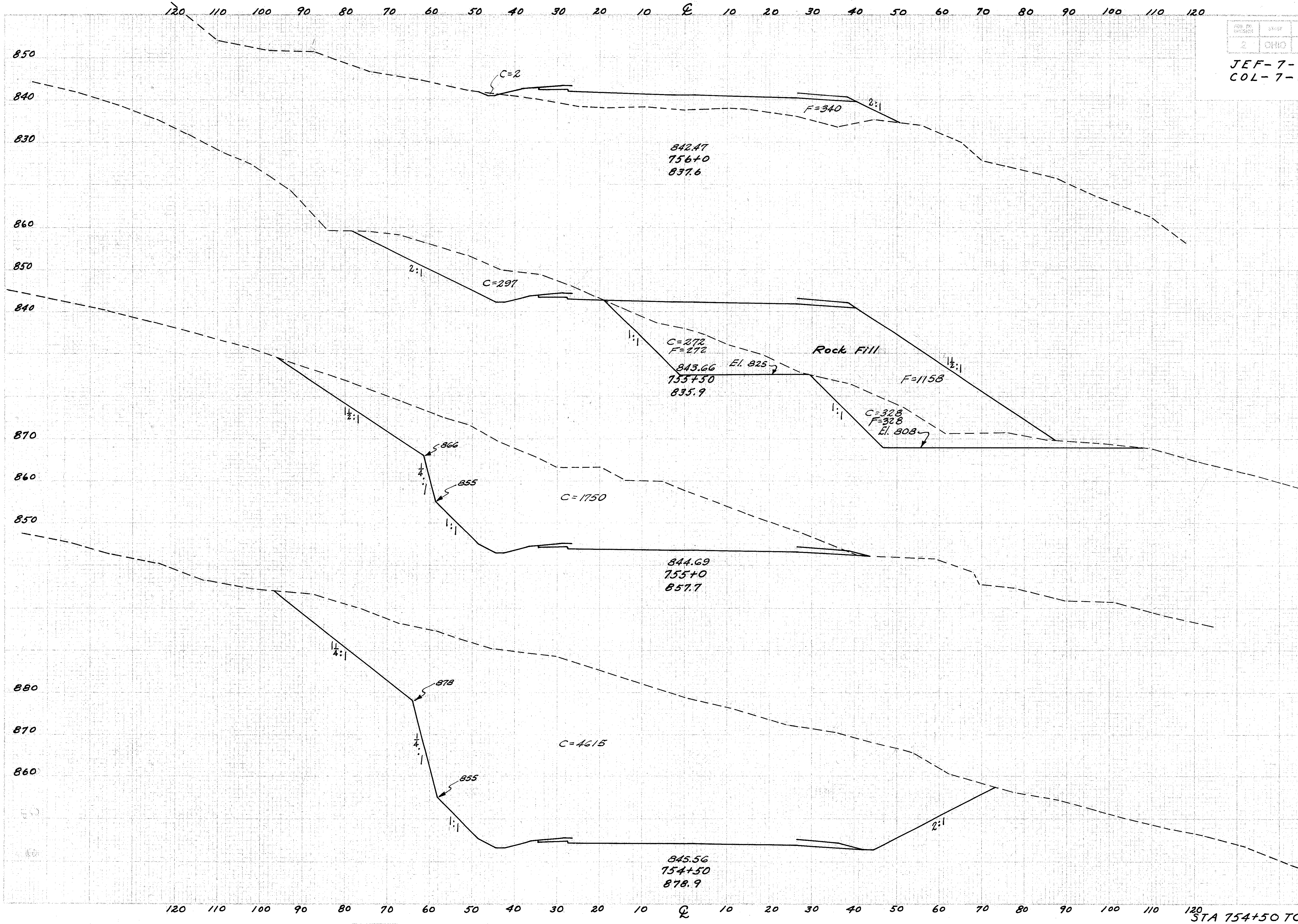
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	239			10947	0
34		7208	0		
	192			16285	0
35		10,380	0		

STA 753+50 TO STA 754+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



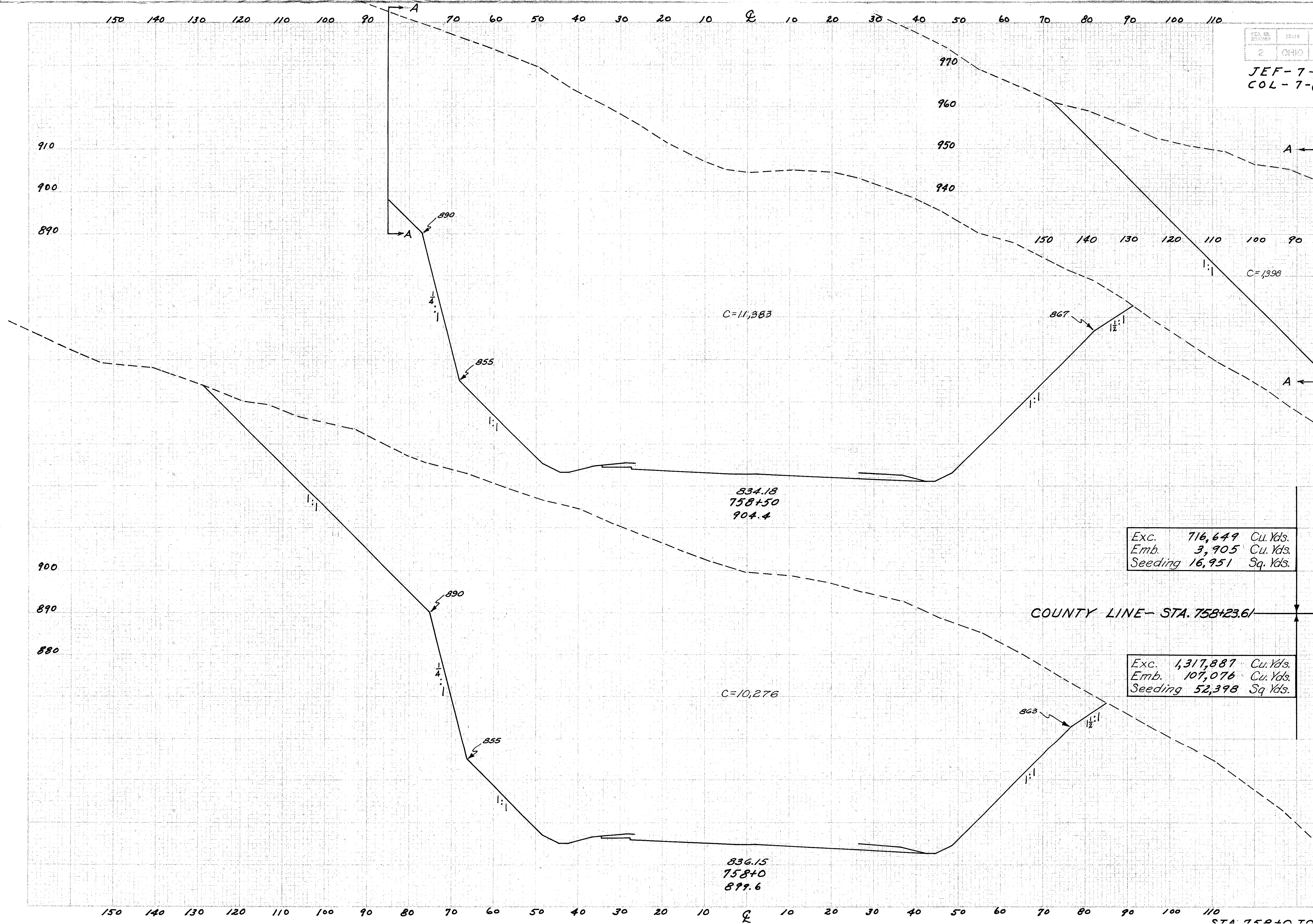
Seeding Width	S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	217			2207	315
46		2	340		
	314			832	1943
67		897	1758		
	242			2451	1628
20		1750	0		
	200			5894	0
52		4615	0		

STA 754+50 TO STA 756+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

STA 756+50 TO STA 757+50

JEF - 7 - (33.83 - 34.10)
COL - 7 - (0.00 - 0.50)



Exc. 716,649 Cu. Yds.
Emb. 3,905 Cu. Yds.
Seeding 16,951 Sq. Yds.

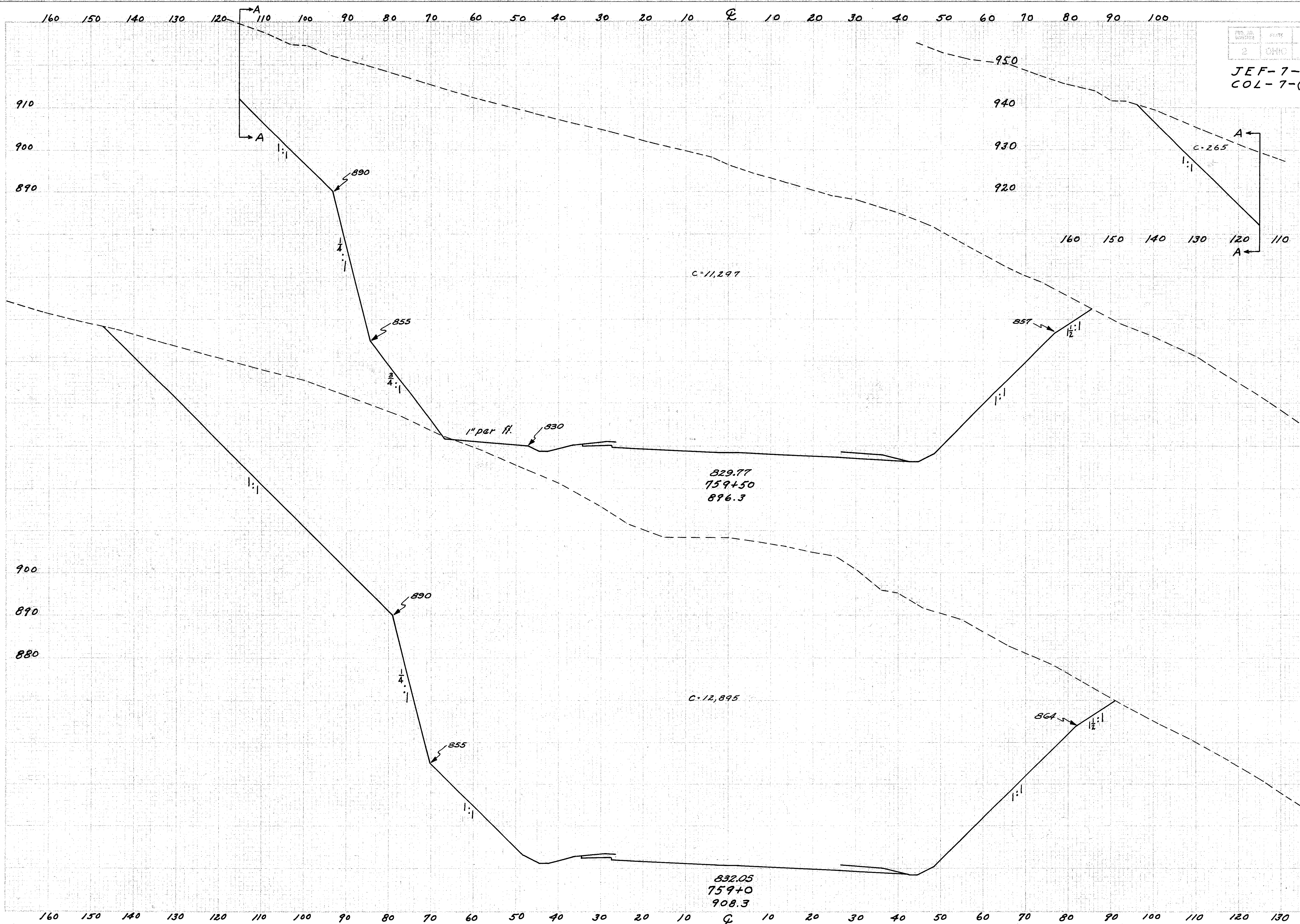
COUNTY LINE – STA. 758+23.61

Exc. 1,317,887 Cu. Yds.
Emb. 107,076 Cu. Yds.
Seeding 52,398 Sq. Yds.

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			23774	0
10		12,781	0		
	30			11268	0
	56			21349	0
	26			10081	0
10		10,276	0		

STA. 758+0 TO STA. 758+50

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

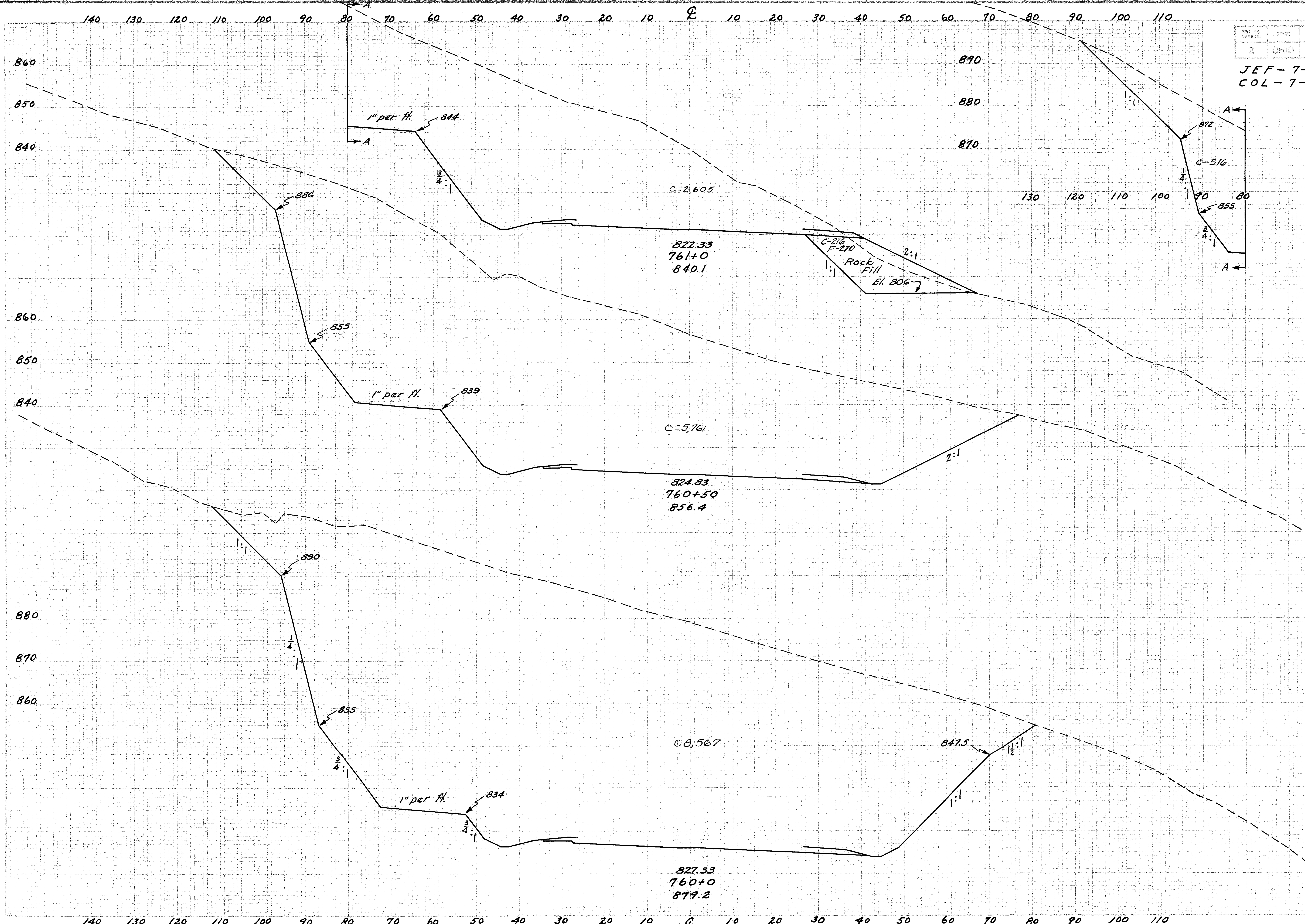


Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			18638	0
10		11562	0		
	56			22645	0
10		12895	0		

STA 759+0 TO STA 759+50

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		79

JEF - 7-(33.83 - 34.10)
COL - 7-(0.00-0.50)

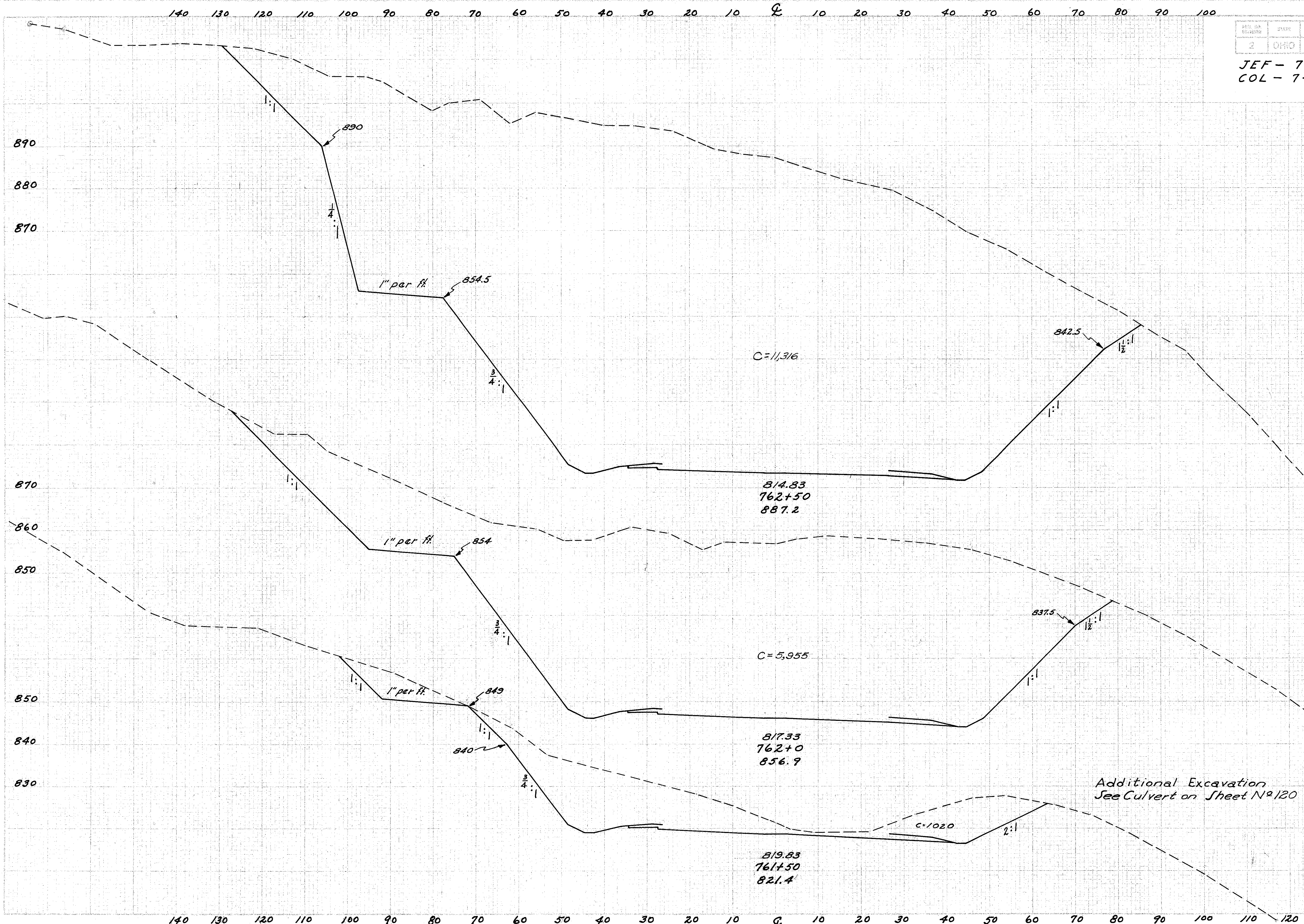


Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	172			4034	250
20		3331	270		
	214			8424	250
57		5761	0		
	186			13267	0
10		8567	0		

STA 760+0 TO STA 761+0

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		

JEF - 7-(33.83-34.10)
COL - 7-(0.00-0.50)

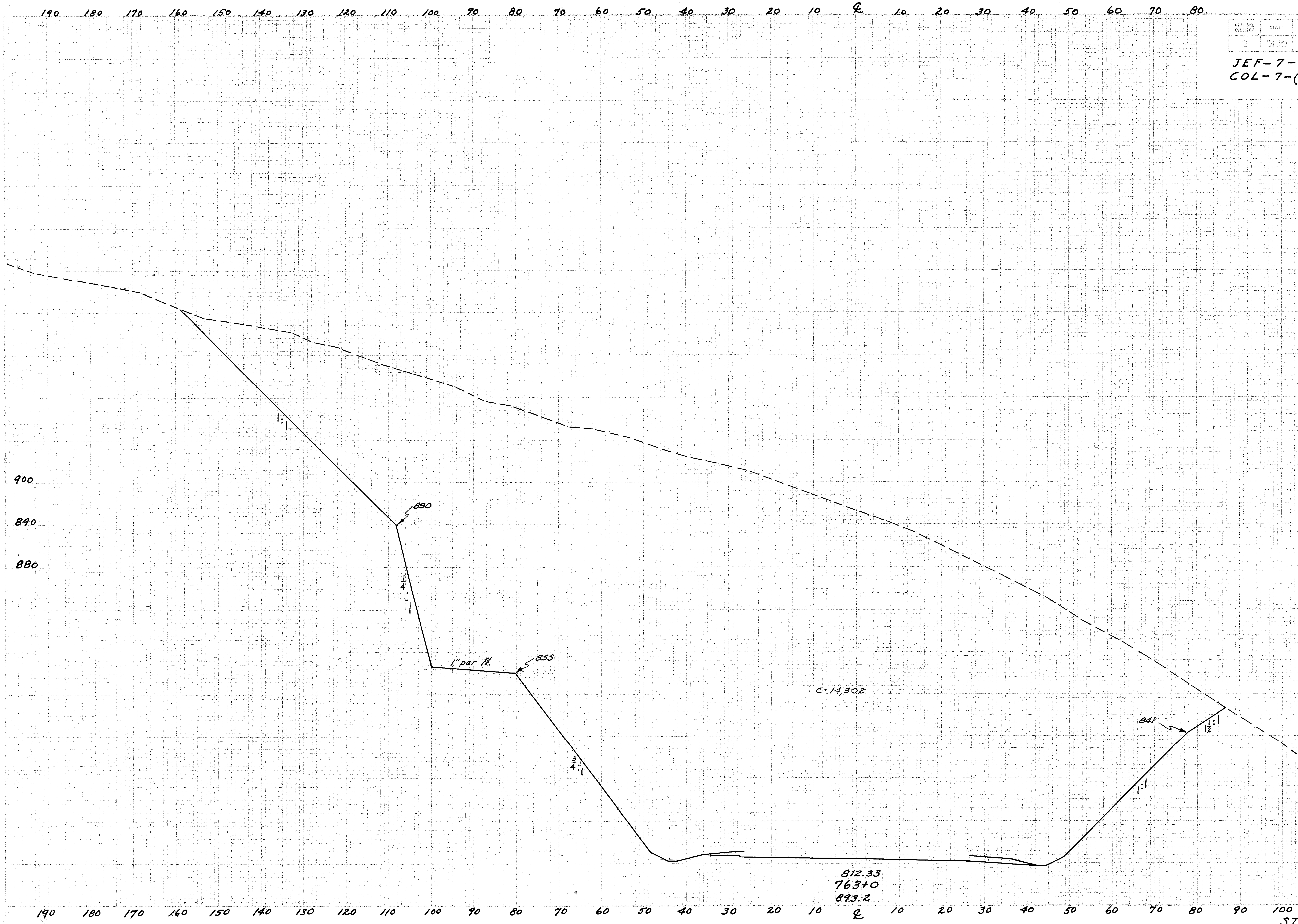


Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	56			23720	0
10		11,316	0		
	56			15992	0
10		5,955	0		
				563	
	144			6458	0
42		1020	0		

STA. 761+50 TO STA. 762+50

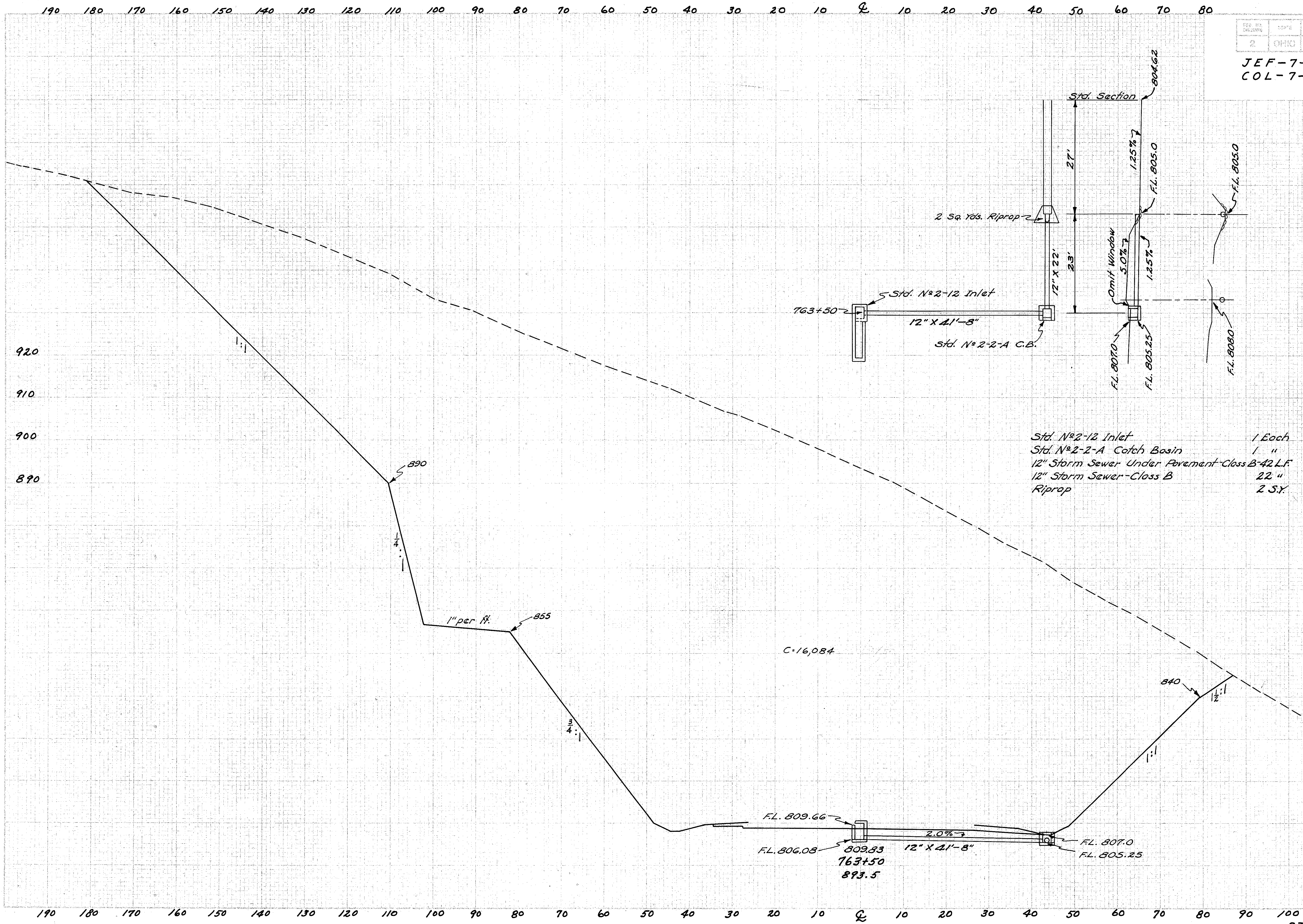
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			28135	0
10		14302	0		



STA. 763+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Std. Nº 2-12 Inlet 1 Each
Std. Nº 2-2-A Catch Basin 1 "
12" Storm Sewer Under Pavement-Class B 42 L.F.
12" Storm Sewer-Class B 22 "
Riprap 2 S.Y.

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			29934	0
10		16084	0		

PRO. NO. DIVISION	STATE	PROJECT
2	OHIO	

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	56			29236	0
10		16245	0		

STA 764+0

JEF- 7-(33.83 -34.10)
COL- 7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			26175	0
10		15330	0		

STA 764+50

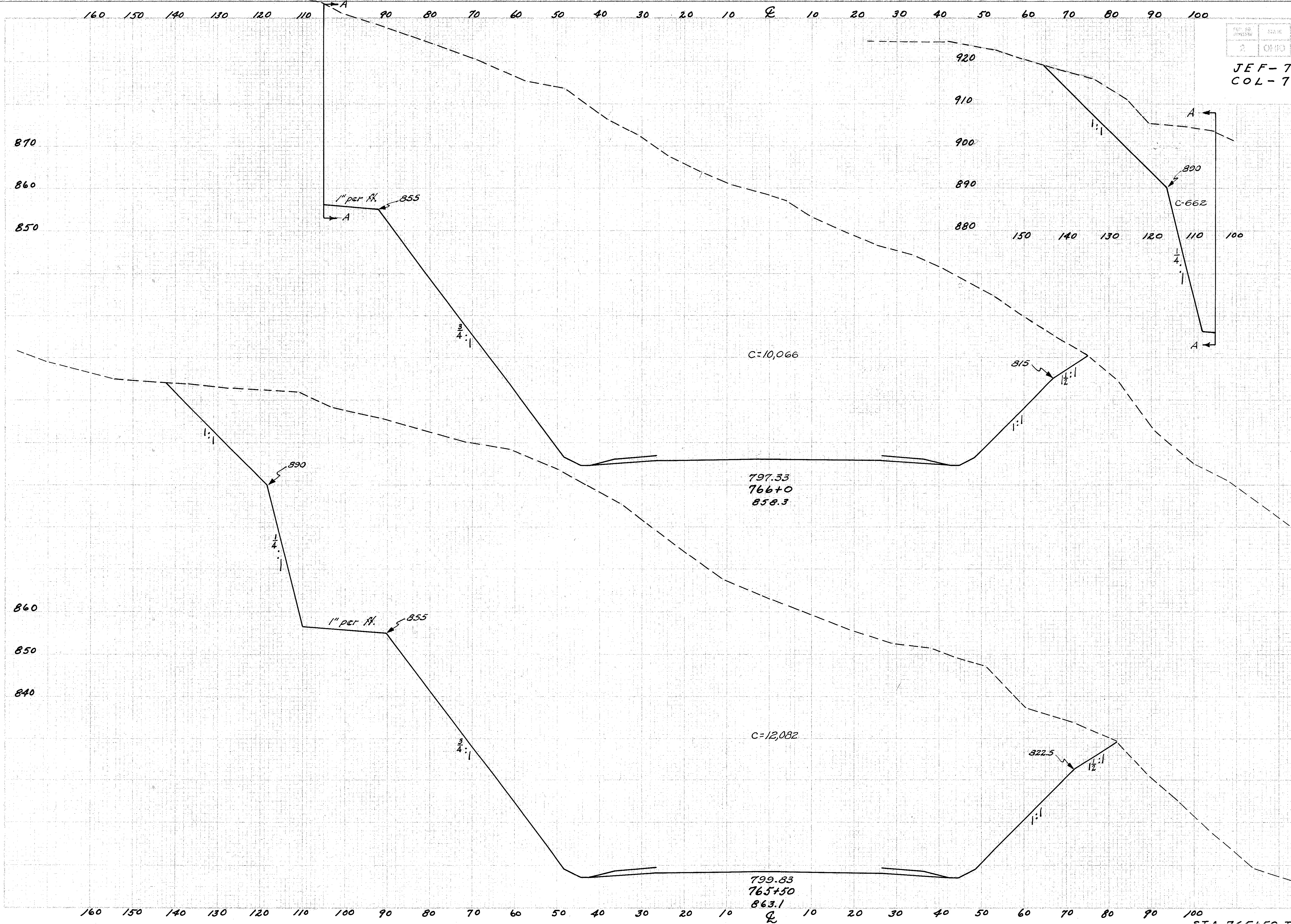
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			23168	0
10		12939	0		

STA. 765+0

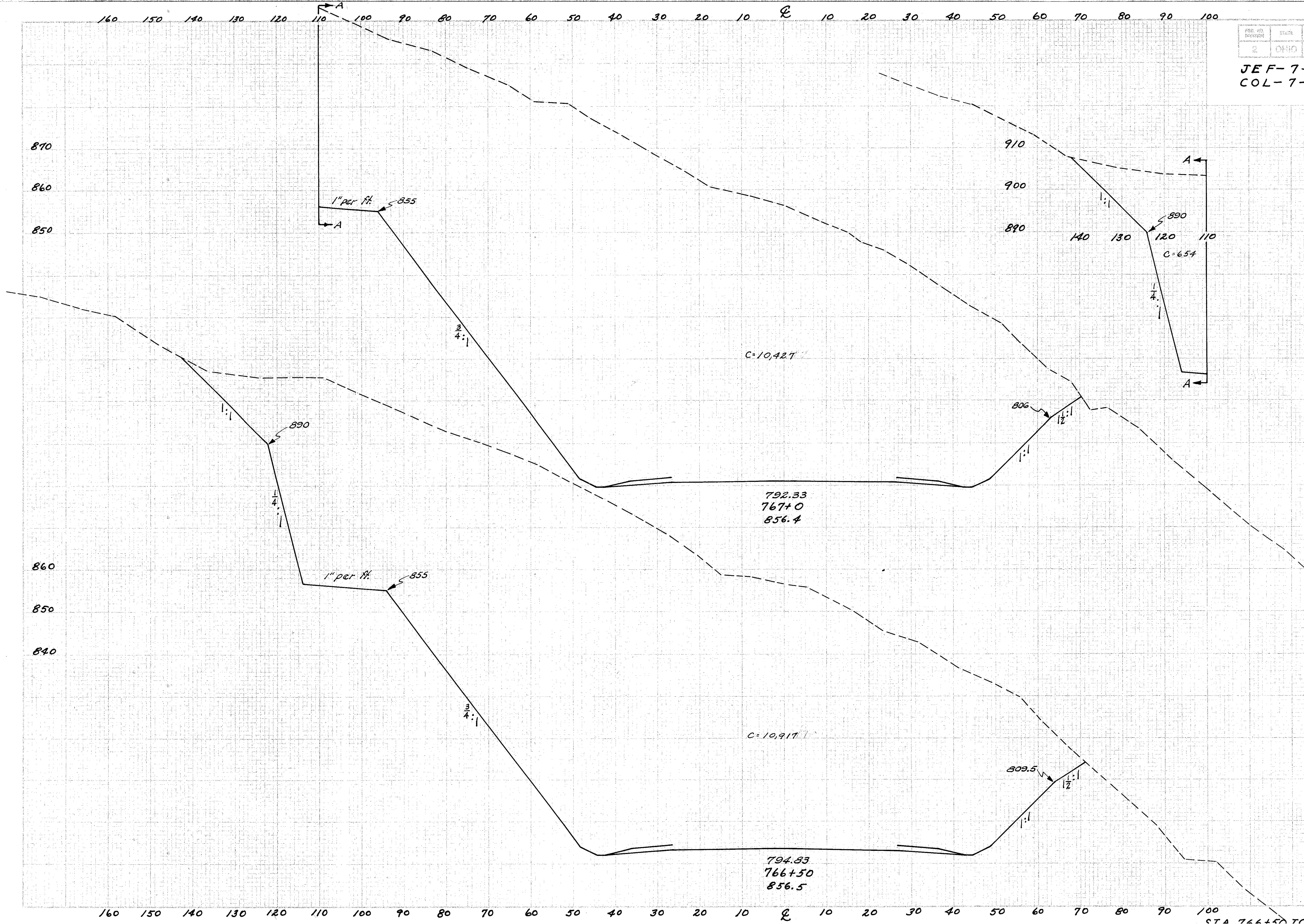
FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	56			20042	0
10		10,728	0		
	56			21120	0
10		12,082	0		

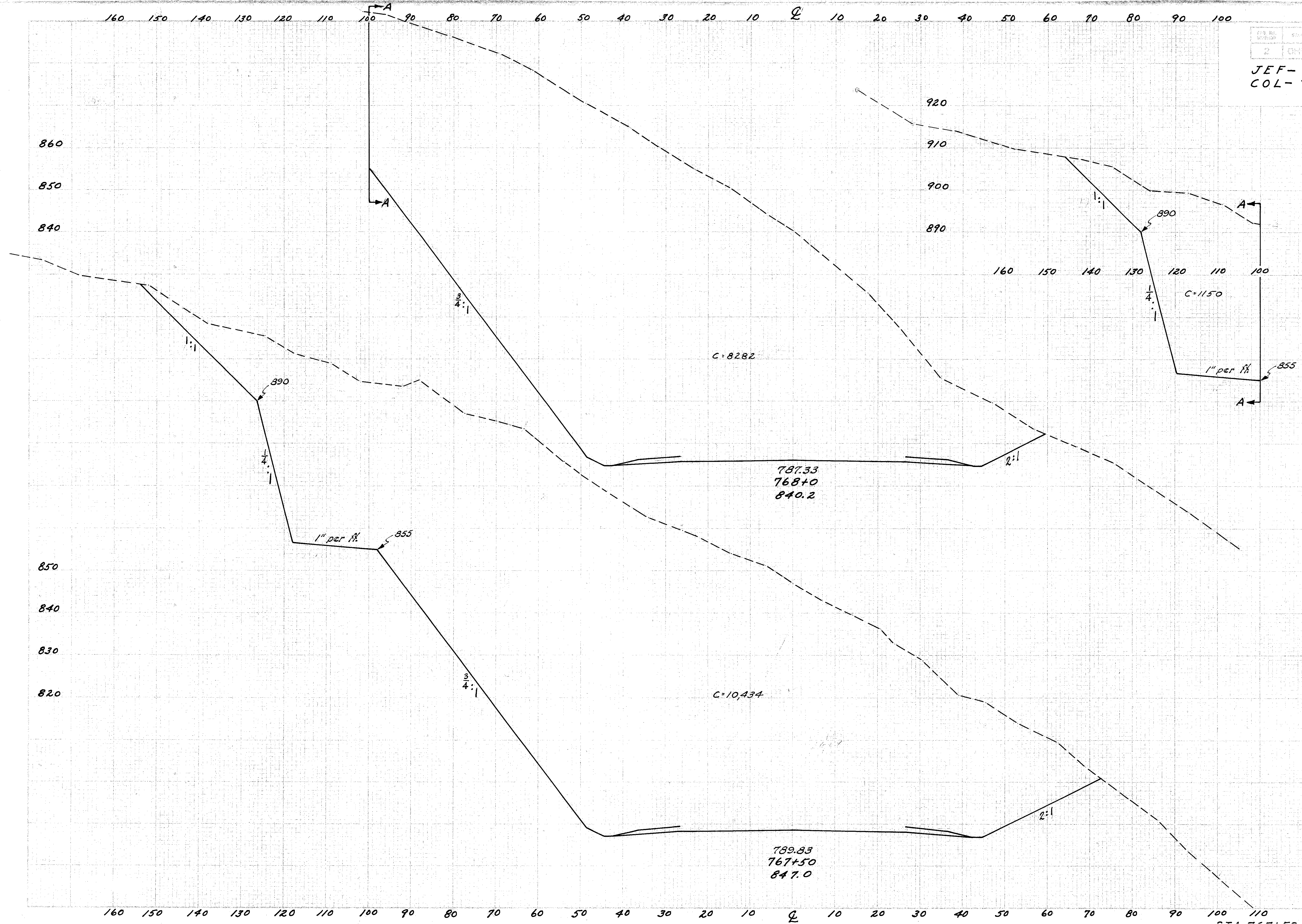
JE F- 7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding		End Area		Cu.Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	172			19921	0
10		11081	0		
	56			20369	0
10		10917	0		

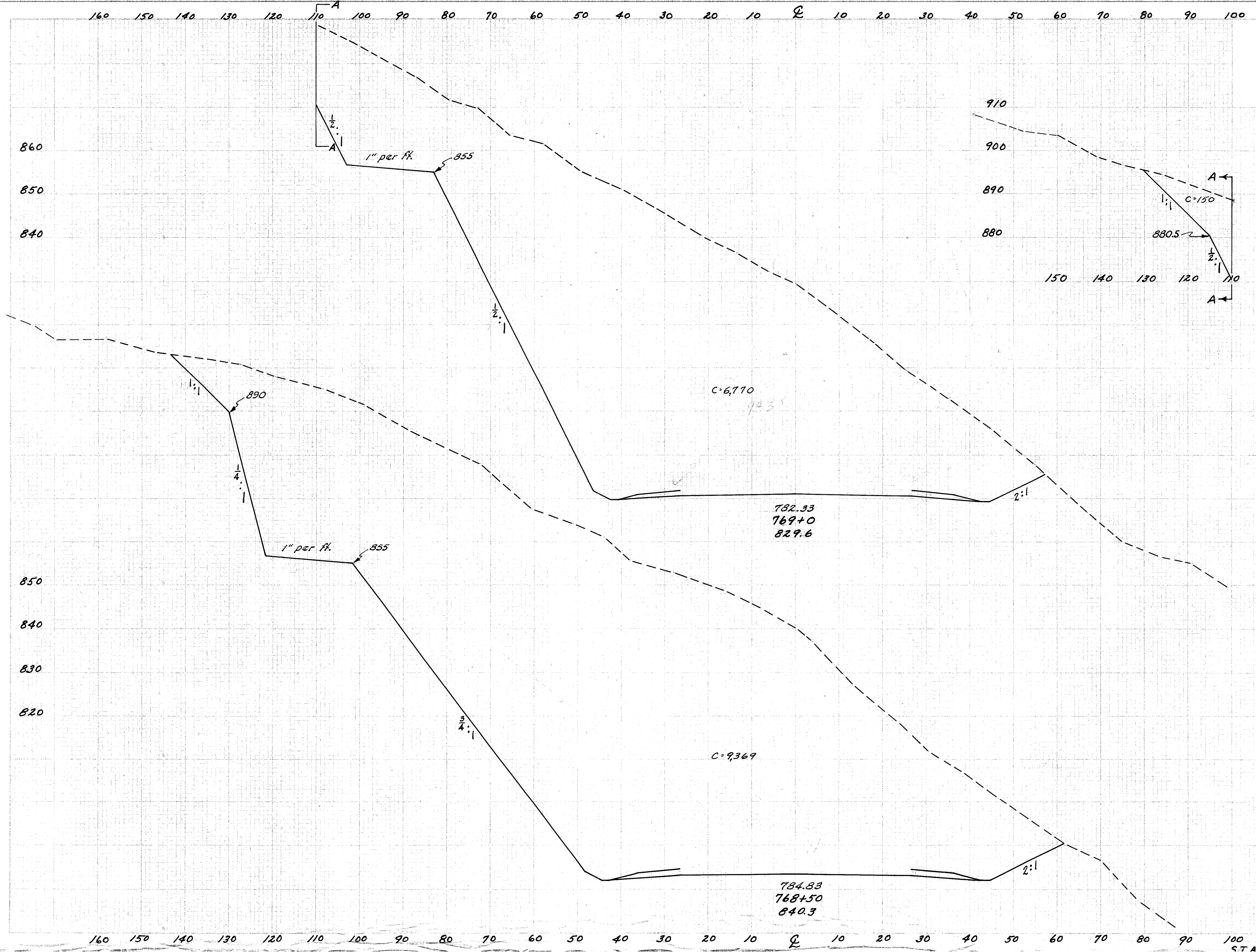
STA 766+50 TO STA 767+0

JEF- 7-(33.83-34.10)
COL- 7-(0.00-0.50)



Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	211			17408	0
37		9432	0		
	247			18394	0
52		10434	0		

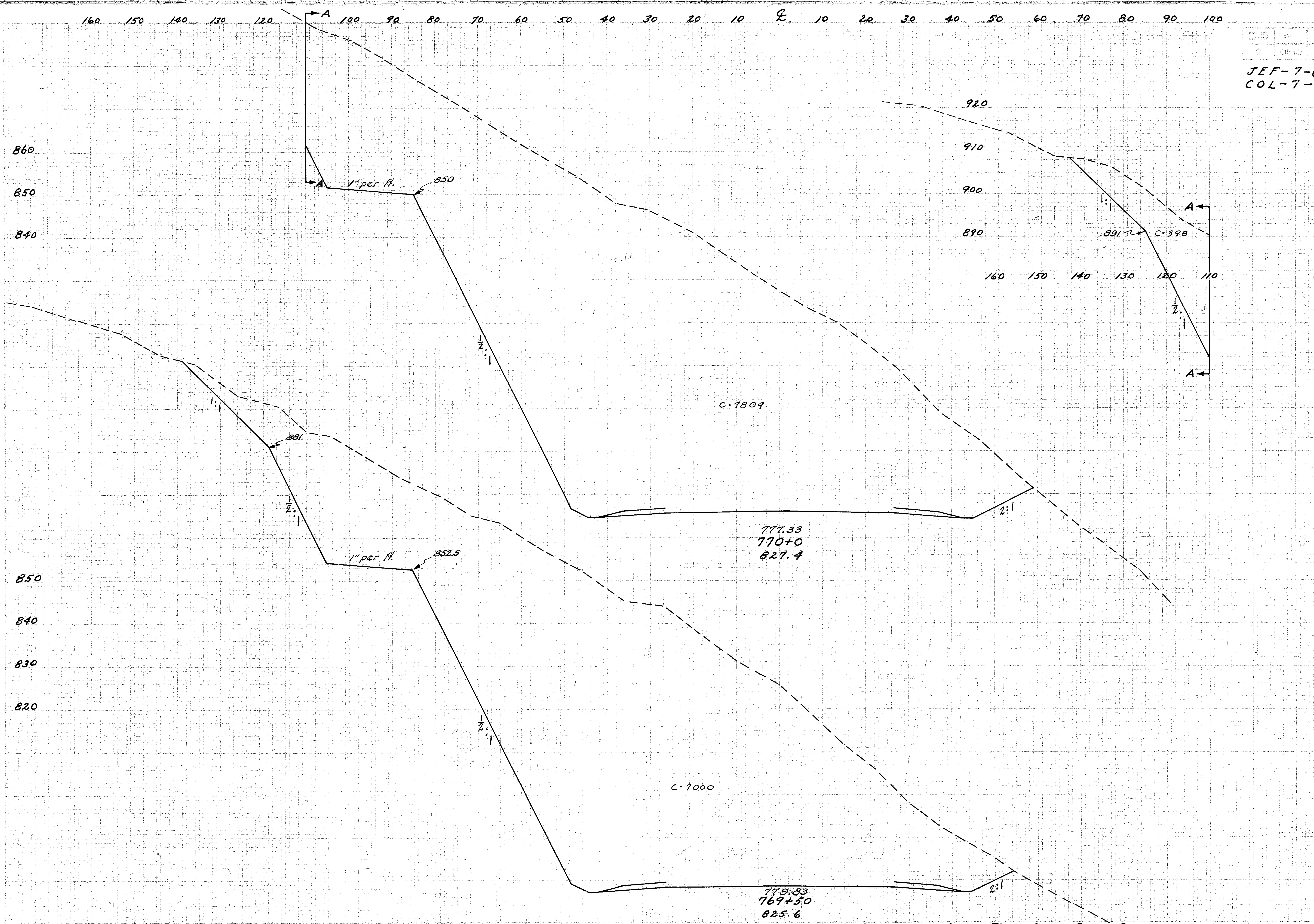
JEF - 7-(33.83 - 34.10)
COL - 7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	186			12889	0
36		6920	0		
	208			15082	0
39		9369	0		

STA 768+50 TO STA 769+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

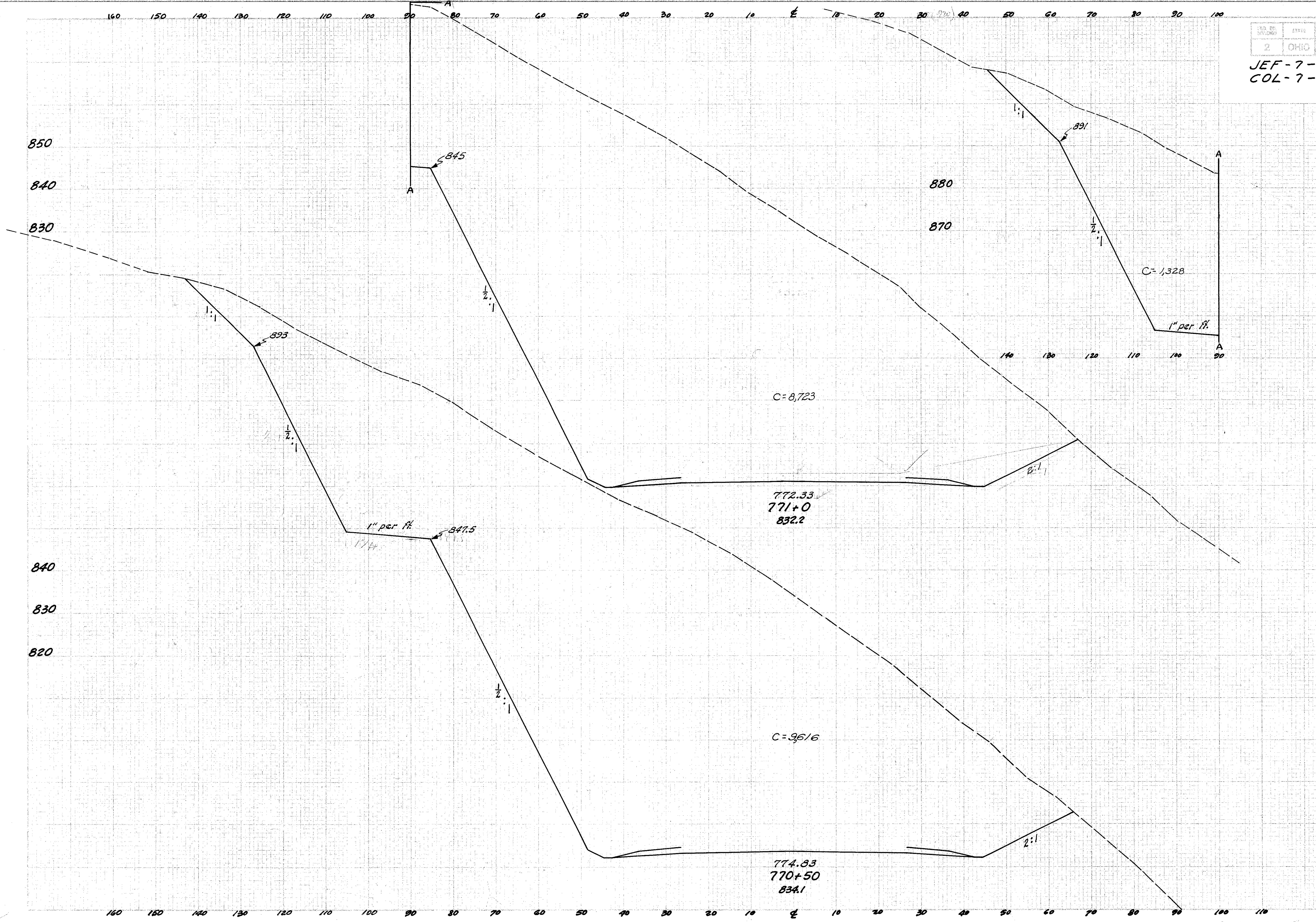


Seeding		End Area		Cu. Yds.	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	225			16503	0
36		8207	0		
	186			14081	0
31		7000	0		

STA 769+50 TO STA 770+0

2 OHIO

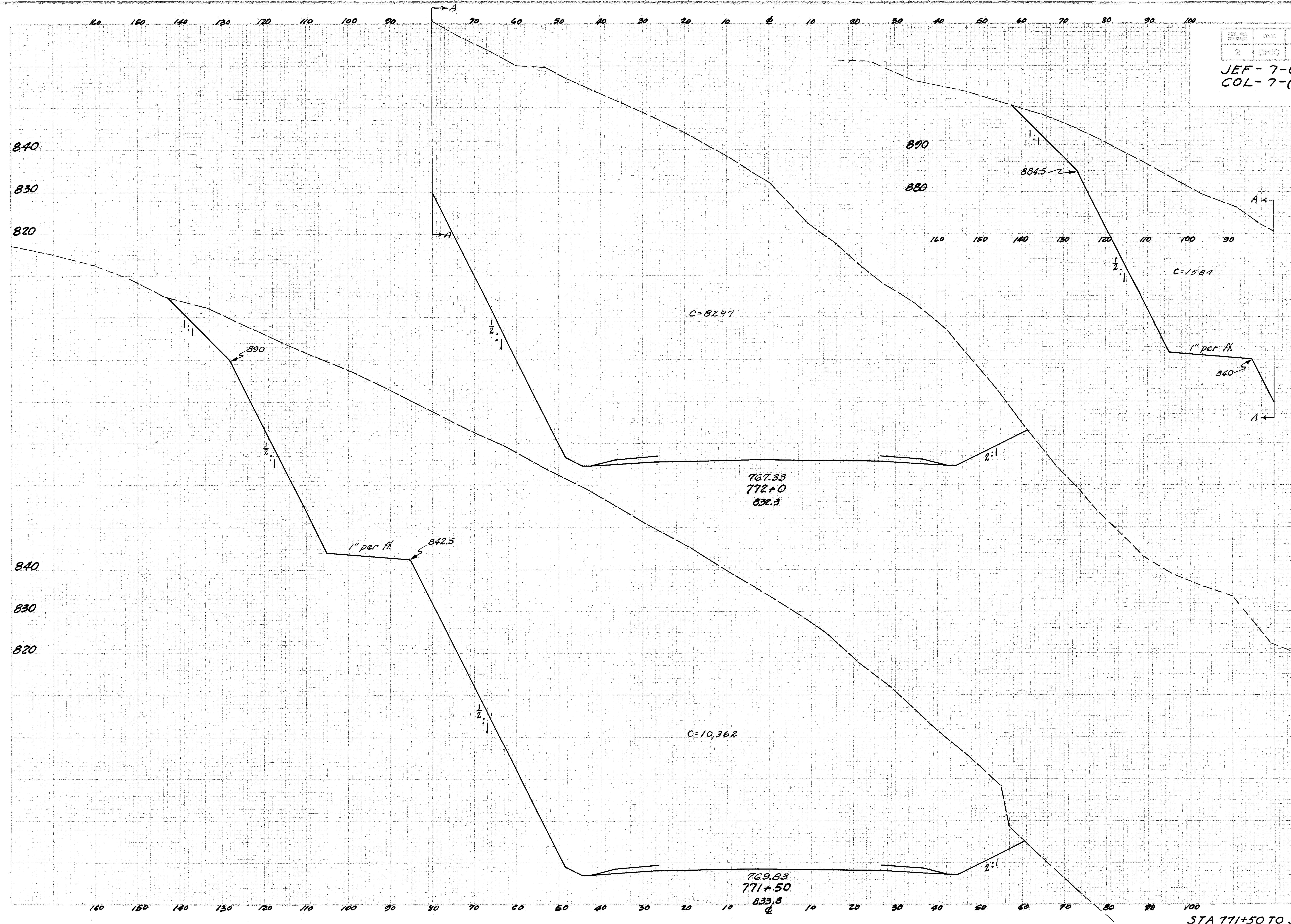
JEF - 7 - (33.83 - 34.10)
COL - 7 - (0.00 - 0.50)



Seeding		End Area		Cu. Yds	
Width	S.Y.	Cut	Fill	Exc.	Emb.
	231			18901	0
45		10,051	0		
	250			18210	0
45		9,616	0		

STA 770+50 TO STA 771+0

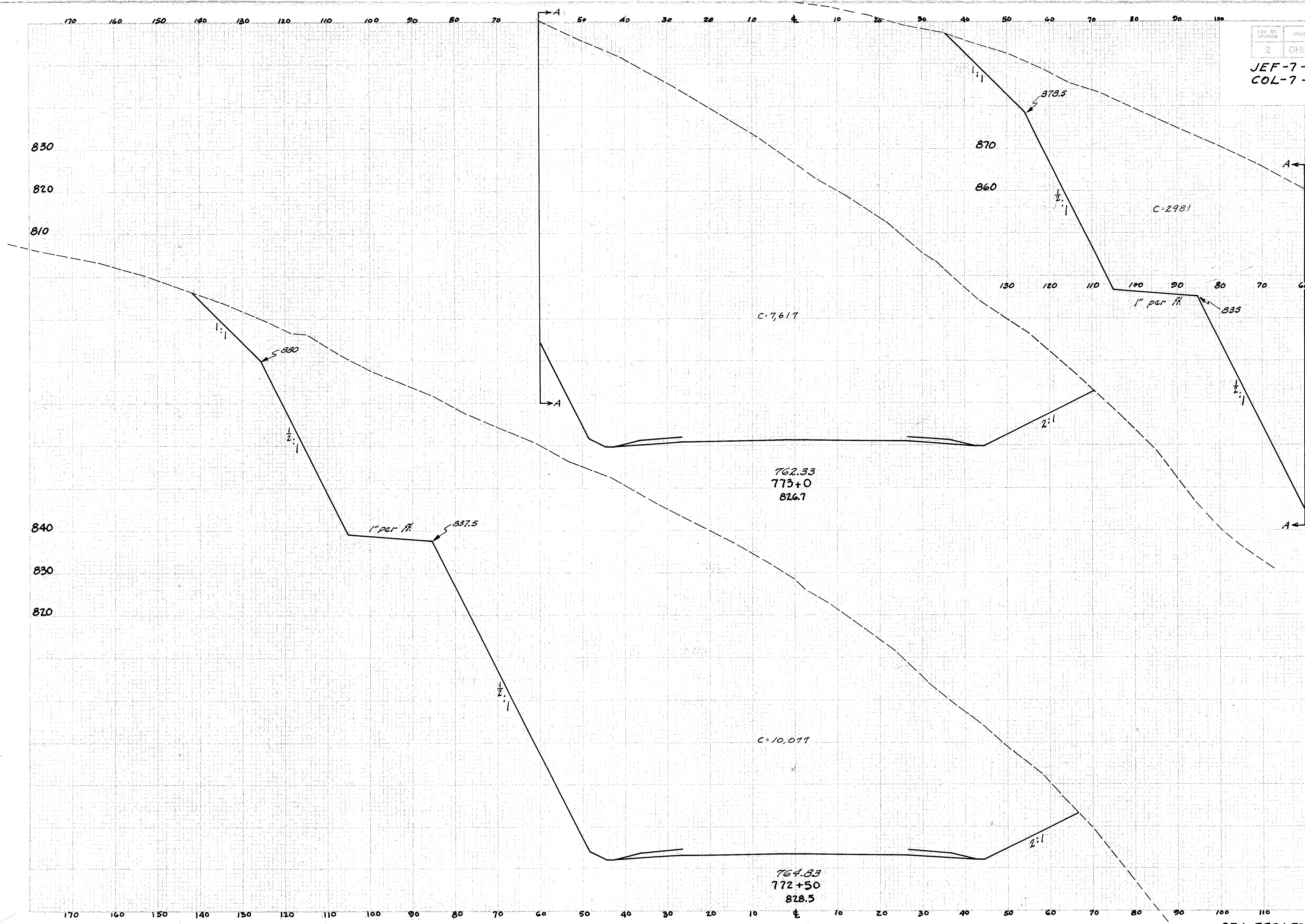
JEF - 7-(33.83 - 34.10)
COL - 7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
	233			18480	0
39		9881	0		
	214			18744	0
38		10362	0		

STA 771+50 TO STA 772+0

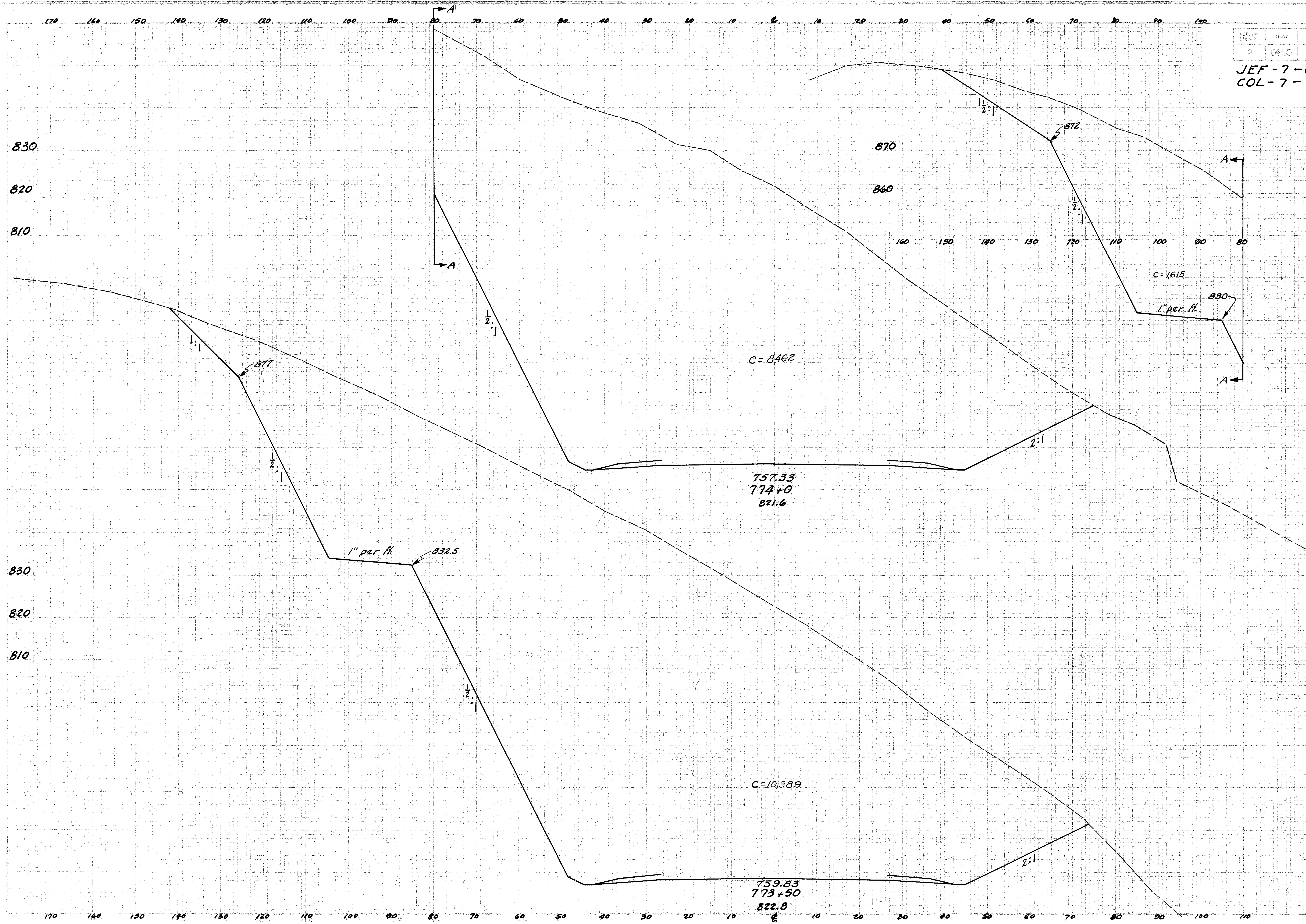
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
	283			19432	0
49		10598	0		
	261			19144	0
45		10077	0		

STA 772+50 TO STA 773+0

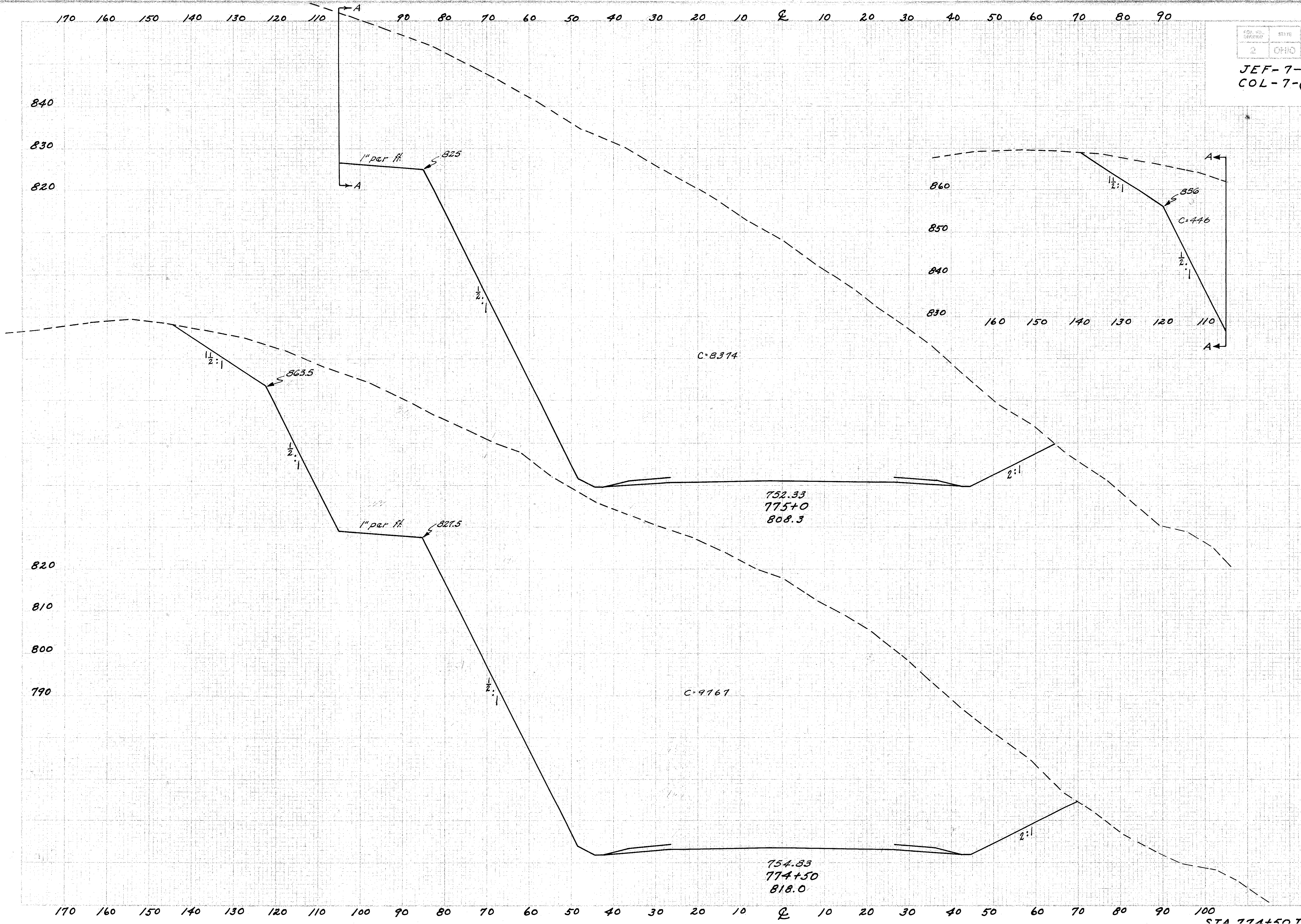
JEF - 7 - (33.83 - 34.10)
COL - 7 - (0.00 - 0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	286			18374	0
54		10077	0		
	297			18950	0
53		10,389	0		

STA 773+50 TO STA 774+0

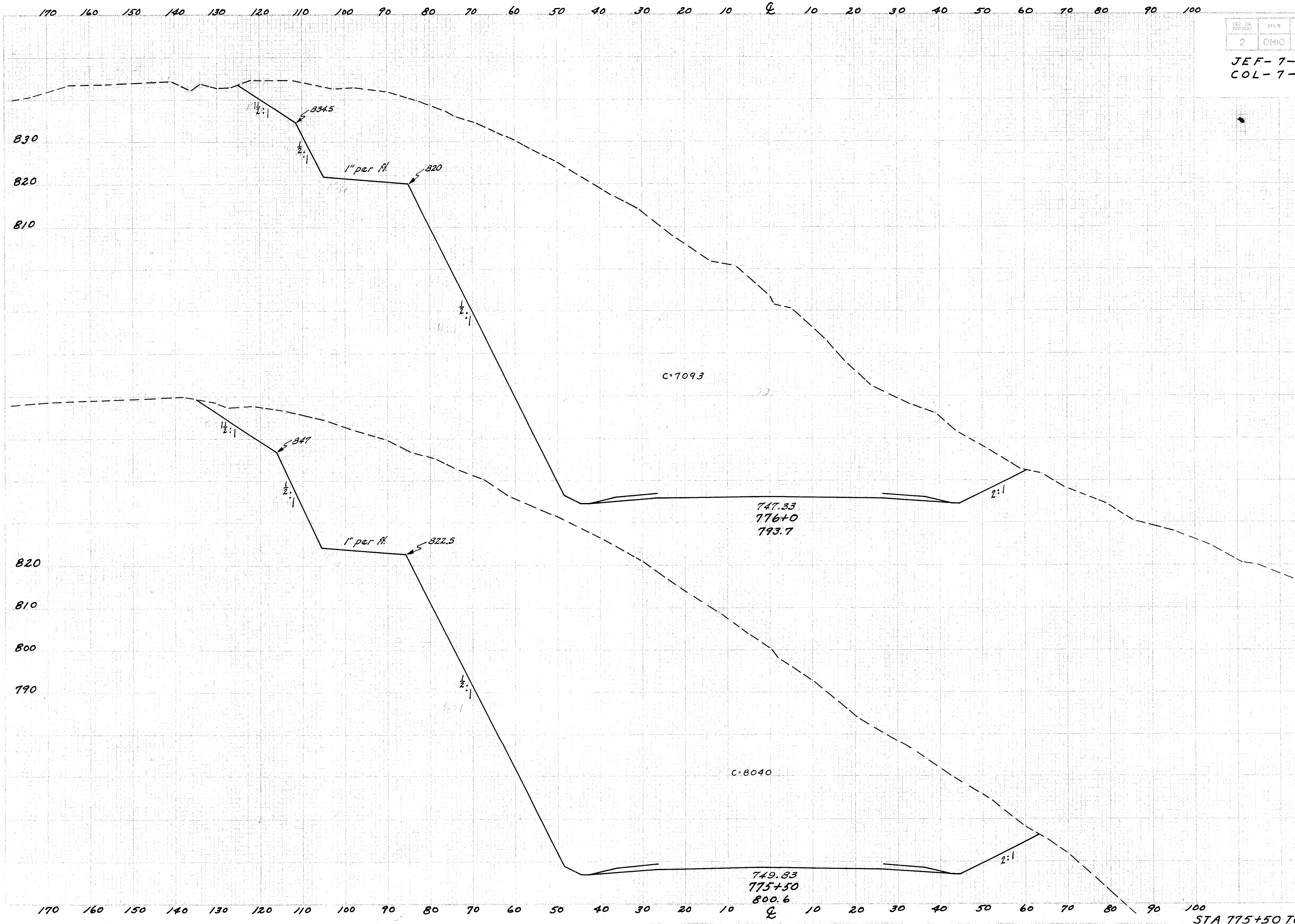
JEF-7-(33.83-34.10)
COL-7-(0 00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	233			15611	0
43		8820	0		
	256			17210	0
49		9767	0		

FED. RD. DIVISION	STATE	PROJECT	SHEET NO.
2	OHIO		96

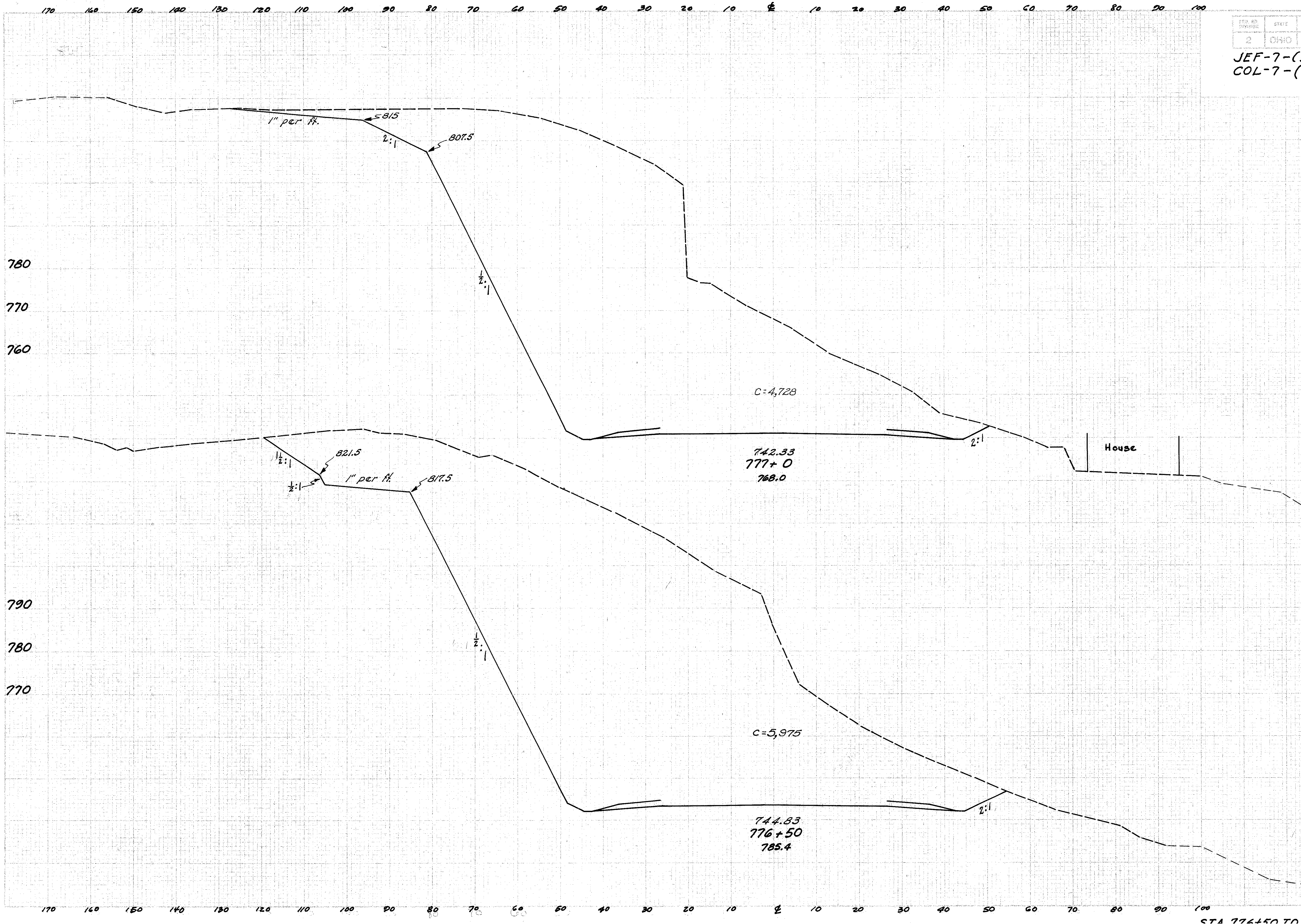
JEF- 7-(33.83 - 34.10)
COL- 7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	192			12100	0
38		7093	0		
	219			14012	0
41		8040	0		

STA 775+50 TO STA 776+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb
	289			7734	0
76		4,728	0		
	297			9910	0
31		5975	0		

STA. 776+50 TO STA. 777+0

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Station	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
		550			645	381
781+0	72		45	380		
		381			42	1075
780+50	65		0	781		
		419			256	977
780+0	86		276	274		
		647			831	415
779+50	147		621	174		
		464			1691	161
779+0	20		1205	0		
		131			2808	0
778+50	27		1828	0		
		161			1923	
					4052	0
778+0	31		2548	0		
		800				
		164			5716	0
777+50	28		3625	0		

Additional Excavation
See Culvert on Sheet № 122

Seeding pavement removal area
at Rt. Sta. 777+00 to Sta. 779+50

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
3		14	0		
	17			15	2
3		2	2		
	17			12	7
3		11	6		
	17			33	13
3		25	8		
	58			129	28
18		114	22		
	2194			5311	0
	993			951	42
	194			366	28
52		281	8		
	408			622	27
95		391	21		
	700			700	19
157		365	0		
	742			626	0
110		311	0		
	700			776	100

784+12.35 Appr. Lt. See Sheet Nº 110

784+12.35 Appr. Rt. See Sheet Nº 108

Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu Yds Exc.	Cu Yds Emb.
142		527	108		
	744			1092	130
126		652	32		

STA. 781+50 TO STA. 787+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83~34.10)
COL-7-(0.00~0.50)

PAVEMENT TRANSITION STA 687+25 — STA 692+00

JOINT KEY

1. Standard Longitudinal Joint
2. Std. Longitudinal Key Joint Without Tie Bars
3. Contraction Joint
4. Expansion Joint Without Dowels
5. Standard Expansion Joint

NOTE: Approach Pavement may be hand finished in accordance with Sec. T-71.211

ESTIMATED QUANTITIES

T-71 Pavement - Sta. 687+25 to 692+00	
36.475 Av. x 475 ÷ 9 =	1,925 Sq. Yds.
I-22 Subbase	
Sta. 687+25 to 687+75	
36.65 Av. x .5 x 50 ÷ 27 =	34 Cu. Yds.
Sta. 687+75 to 688+50	
39.55 Av. x .6447 Av. x 75 ÷ 27 =	71 Cu. Yds.
Sta. 688+50 to 692+0	
55.15 Av. x .5 x 350 ÷ 27 =	358 Cu. Yds.
Total I-22 =	463 Cu. Yds.
I-18 Aggr.	
Sta. 687+25 to 687+75	
(5.81" Av. + 4.25") x 50 ÷ 27 =	19 Cu. Yds.
Sta. 687+75 to 688+50	
(3.0" + 7.74" Av.) x 75 ÷ 27 =	30 Cu. Yds.
Sta. 688+50 to 692+0	
(3.63" + 5.75") x 350 ÷ 27 =	122 Cu. Yds.
Total I-18 =	171 Cu. Yds.

B-33 Stabilized Shoulder	
(2x8) x 475 ÷ 9	= 845 Sq. Yds.
T-31 Bit. Surf. Treatment	
845 x 0.25	= 212 Gals.
No6 Aggr.	
845 x 0.008	= 7 Cu. Yds.
I-23 Pre Cast Traffic Divider	
Sta. 688+88 to 692+0 =	26 Each

GRAND TOTAL

T-71 Pavement	1925 Sq. Yds.
I-22 Subbase	463 Cu. Yds.
I-18 Aggr.	171 Cu. Yds.
B-33 Stabilized Shoulder	845 Sq. Yds.
T-31 Bit. Surf. Treatment	212 Gals.
No6 Aggr.	7 Cu. Yds.
I-23 Pre Cast Traffic Dividers	26 Each
E-1 Compacted Subgrade	1925 Sq. Yds.

PAVEMENT TRANSITION DETAILS
FROM ℄ STA. 706+87.83 TO ℄ STA. 719+23.50

SCALE 1" = 20'

ESTIMATED QUANTITIES

T-71 Pavement
℄ Sta. 706+87.83 to 718+62.96
25.5×1175.13÷9 = 3,330 Sq. Yds.
"A" Sta. 706+87.83 to 713+14.05
25.5×626.22÷9 = 1,775 Sq. Yds.
"A" Sta. 713+14.05 to 718+68.78
31.62 Av.×554.73÷9 = 1,949 Sq. Yds.
Sta. 710+36 to 717+50
8.42 Av.×714.0÷9 = 668 Sq. Yds.
Total T-71 = 7,722 Sq. Yds.

I-22 Subbase
℄ Sta. 706+87.83 to 718+87.96
39.5×.5×1200.13÷27 = 878 Cu. Yds.
"A" Sta. 706+87.83 to 707+0
39.5×.5×12.17÷27 = 9 Cu. Yds.
"A" Sta. 707+0 to 713+14.05
26.5×.5×614.05÷27 = 302 Cu. Yds.
"A" Sta. 713+14.05 to 716+65
36.18 Av.×.5×350.95÷27 = 236 Cu. Yds.
"A" Sta. 716+65 to 718+0
26.5×.5×135÷27 = 67 Cu. Yds.
"A" Sta. 718+0 to 718+93.78
39.5×.5×93.78÷27 = 69 Cu. Yds.
Sta. 710+36 to 717+50
8.42 Av.×.5×714.0÷27 = 112 Cu. Yds.
Sta. 706+87.83 to 712+0
4.05 Av.×1.42×512.17÷27 = 109 Cu. Yds.
Sta. 712+94 to 718+93.78
2.0×1.42×599.78÷27 = 63 Cu. Yds.
Total I-22 = 1,845 Cu. Yds.

I-18 Aggr.
℄ Sta. 706+87.83 to 715+0
5.19 Av.×812.17÷27 = 157 Cu. Yds.
℄ Sta. 715+0 to 718+87.96
5.75 Av.×387.96÷27 = 83 Cu. Yds.
"A" Sta. 706+87.83 to 707+0
5.19 Av.×12.17÷27 = 3 Cu. Yds.
"A" Sta. 707+0 to 711+76.76
4.25 Av.×476.76÷27 = 75 Cu. Yds.
"A" Sta. 713+14.05 to 718+0
4.25×485.95÷27 = 77 Cu. Yds.
"A" Sta. 718+0 to 718+93.78
5.75 Av.×93.78÷27 = 20 Cu. Yds.
Total I-18 = 415 Cu. Yds.

B-33 Stabilized Shoulder
℄ Sta. 706+87.83 to 718+87.96
8×1200.13÷9 = 1,067 Sq. Yds.
"A" Sta. 706+87.83 to 711+76.76
8×488.93÷9 = 435 Sq. Yds.
"A" Sta. 713+14.05 to 718+93.78
8×579.73÷9 = 516 Sq. Yds.
Total B-33 = 2,018 Sq. Yds.

T-31 Bit. Surf. Treatment
2018×0.25 = 505 Gals.
Nº 6 Aggr.
2018×0.008 = 17 Cu. Yds.

I-12 Conc. Curb, Type 2-A
Sta. 706+87.83 to 712+0 = 1028 Lin. Ft.
Sta. 712+94 to 718+68.78 = 1153 Lin. Ft.
Total I-12 = 2,181 Lin. Ft.

I-21 Median Pav't.
Sta. 706+87.83 to 712+0
4.05 Av.×512.17÷9 = 231 Sq. Yds.
Sta. 712+94 to 718+93.78
2.0×599.78÷9 = 134 Sq. Yds.
Total I-21 = 365 Sq. Yds.

E-1 Compacted Subgrade
Sta 706+87.83 to 718+62.96 = 7722 Sq. Yds.
Sta 718+62.96 to 718+87.96
25×51÷9 = 142 Sq. Yds.
Total E-1 = 7864 Sq. Yds.

℄ CURVE DATA
P.I. 713+27.24
Δ = 41°47' Rt.
Dc = 5°00'
Ls = 400'
Ts = 639.41'
Es = 86.86'
Lc = 435.67'
Rc = 1145.92'

"A" LINE CURVE DATA
P.I. 713+27.24
Δ = 41°47' Rt.
Dc = 6°00'
Ls = 400'
Ts = 566.86'
Es = 74.66'
Lc = 296.39'
Rc = 954.93'

JOINT KEY
1. Standard Longitudinal Joint
2. Std. Longitudinal Key Joint Without Tie Bars
3. Contraction Joint
4. Expansion Joint Without Dowels
5. Standard Expansion Joint
6. Standard Longitudinal Key Joint

NOTE: Transition height of Approach Curb from 6" to 2" in the last 10' of Curb.

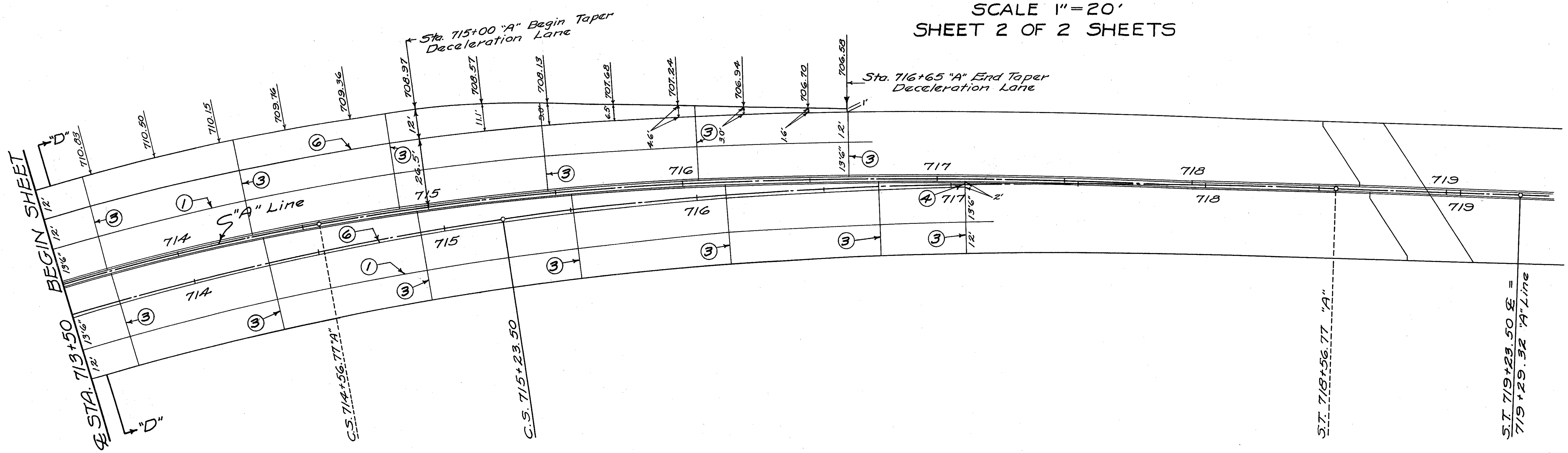
NOTE: Approach Pavement may be hand finished in accordance with Sec. T-71.211.

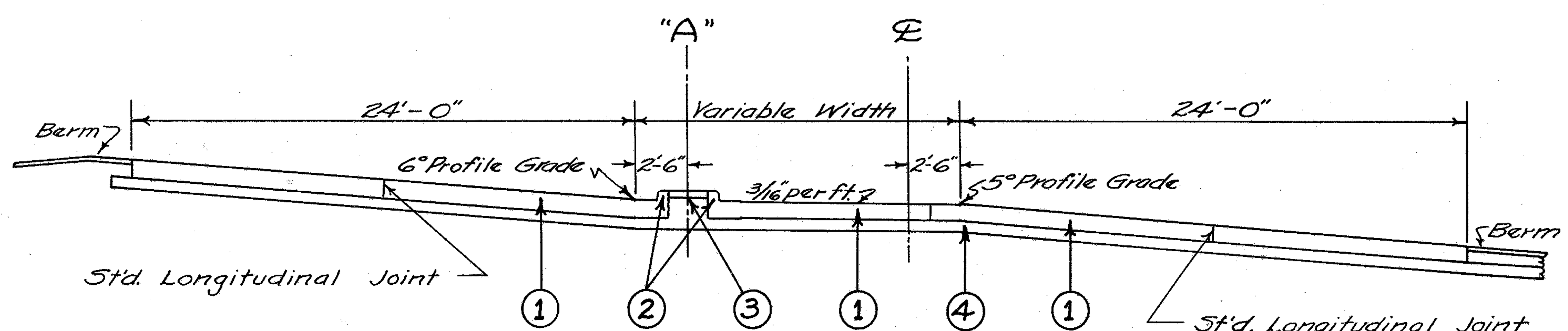
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

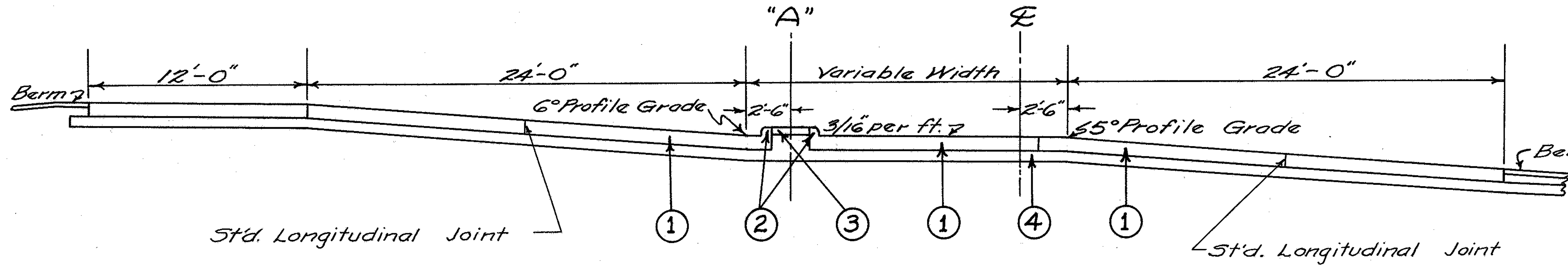
PAVEMENT TRANSITION DETAILS
FROM ℄ STA. 706+87.83 TO ℄ STA. 719+23.50

SCALE 1"=20'

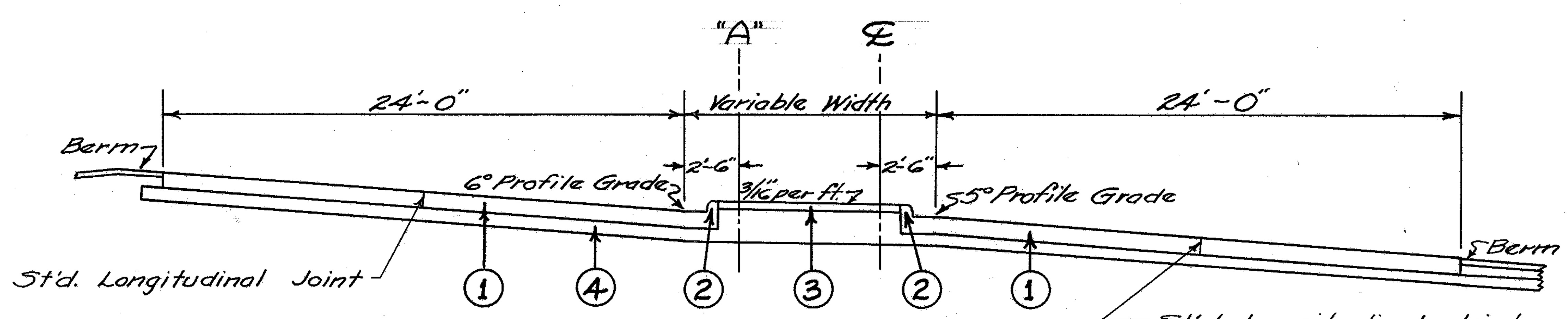




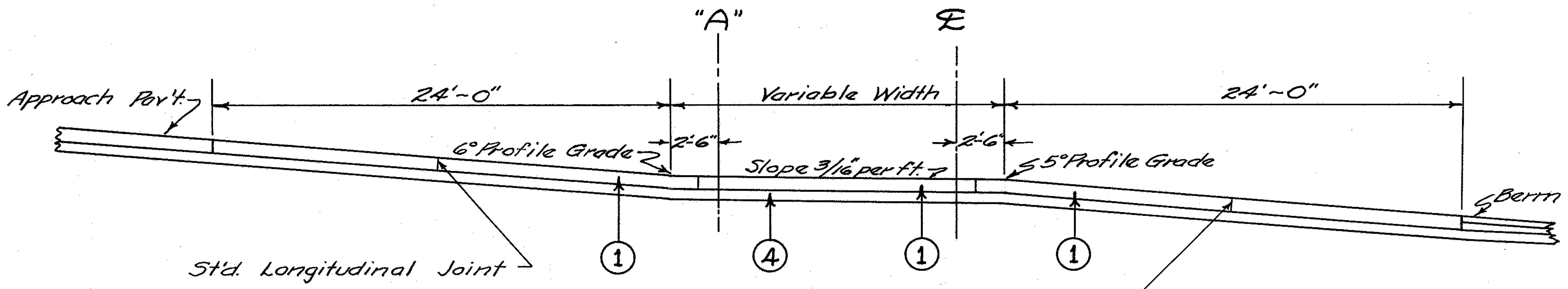
SECTION B-B
Scale 1"=5'-0"



SECTION D-D
Scale 1"=5'-0"



SECTION A-A
Scale 1"=5'-0"



St'd. Longitudinal Joint

SECTION C-C
Scale 1"=5'-0"

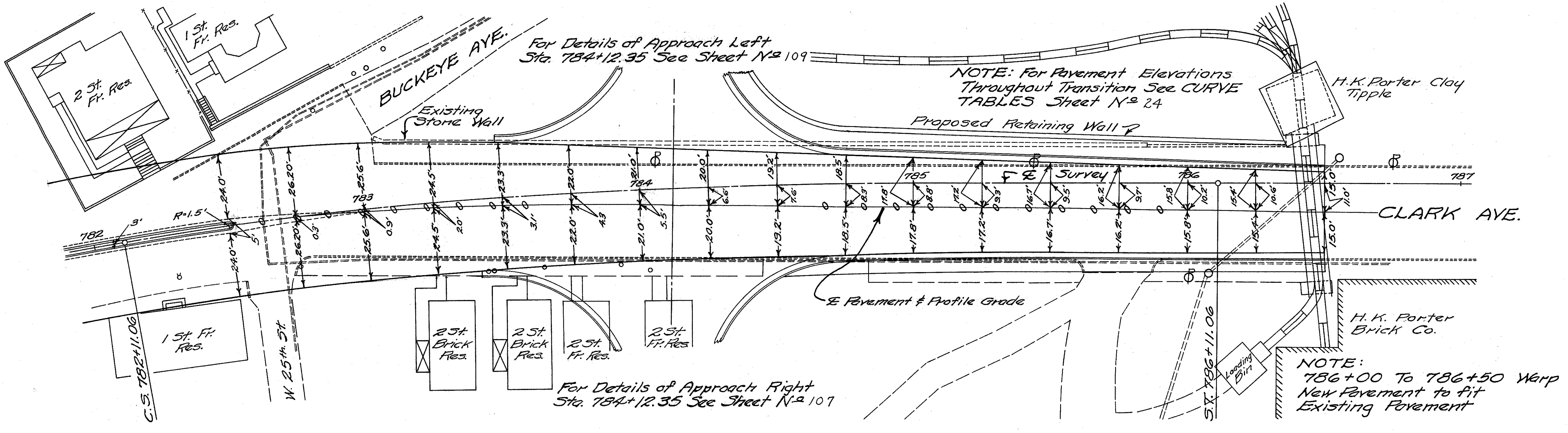
~KEY~

1. T-71- 9" Reinforced Concrete Pavement
2. I-12- Concrete Curb, Type 2A
3. I-21- 4" Concrete Median Pavement
4. I-22- 6" Subbase

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

PAVEMENT TRANSITION DETAILS
FROM STA. 782+50 TO STA. 786+50
SCALE: 1"=20'

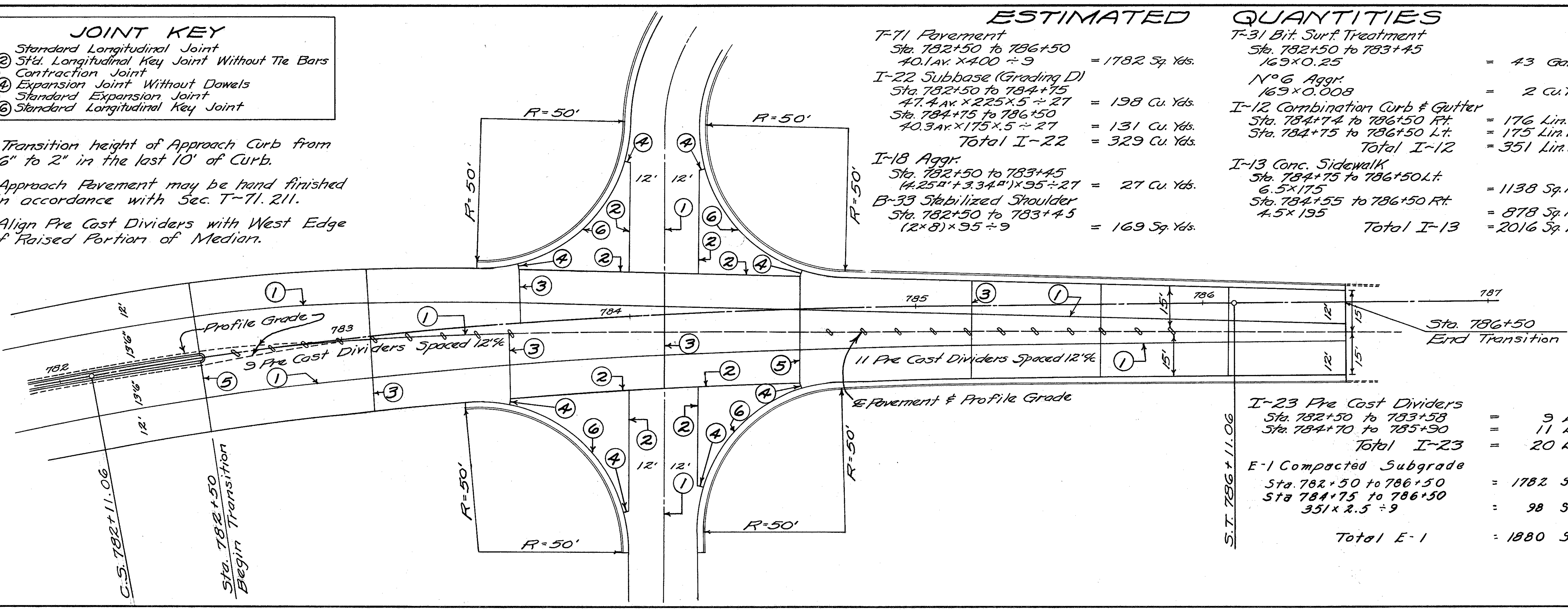


JOINT KEY
1. Standard Longitudinal Joint
2. Std. Longitudinal Key Joint Without Tie Bars
3. Contraction Joint
4. Expansion Joint Without Dowels
5. Standard Expansion Joint
6. Standard Longitudinal Key Joint

NOTE: Transition height of Approach Curb from 6" to 2" in the last 10' of Curb.

NOTE: Approach Pavement may be hand finished in accordance with Sec. T-71.211.

NOTE: Align Pre Cast Dividers with West Edge of Raised Portion of Median.



ESTIMATED QUANTITIES

T-71 Pavement
Sta. 782+50 to 786+50
40.1 Av. × 400 ÷ 9 = 1782 Sq. Yds.

I-22 Subbase (Grading D)
Sta. 782+50 to 784+75
47.4 Av. × 225 × .5 ÷ 27 = 198 Cu. Yds.
Sta. 784+75 to 786+50
40.3 Av. × 175 × .5 ÷ 27 = 131 Cu. Yds.
Total I-22 = 329 Cu. Yds.

I-18 Aggr.
Sta. 782+50 to 783+45
(4.25□' + 3.34□') × 95 ÷ 27 = 27 Cu. Yds.

B-33 Stabilized Shoulder
Sta. 782+50 to 783+45
(2×8) × 95 ÷ 9 = 169 Sq. Yds.

T-31 Bit. Surf. Treatment
Sta. 782+50 to 783+45
169 × 0.25 = 43 Gals.

No 6 Aggr.
169 × 0.008 = 2 Cu. Yds.

I-12 Combination Curb & Gutter
Sta. 784+74 to 786+50 Rt. = 176 Lin. Ft.
Sta. 784+75 to 786+50 Lt. = 175 Lin. Ft.
Total I-12 = 351 Lin. Ft.

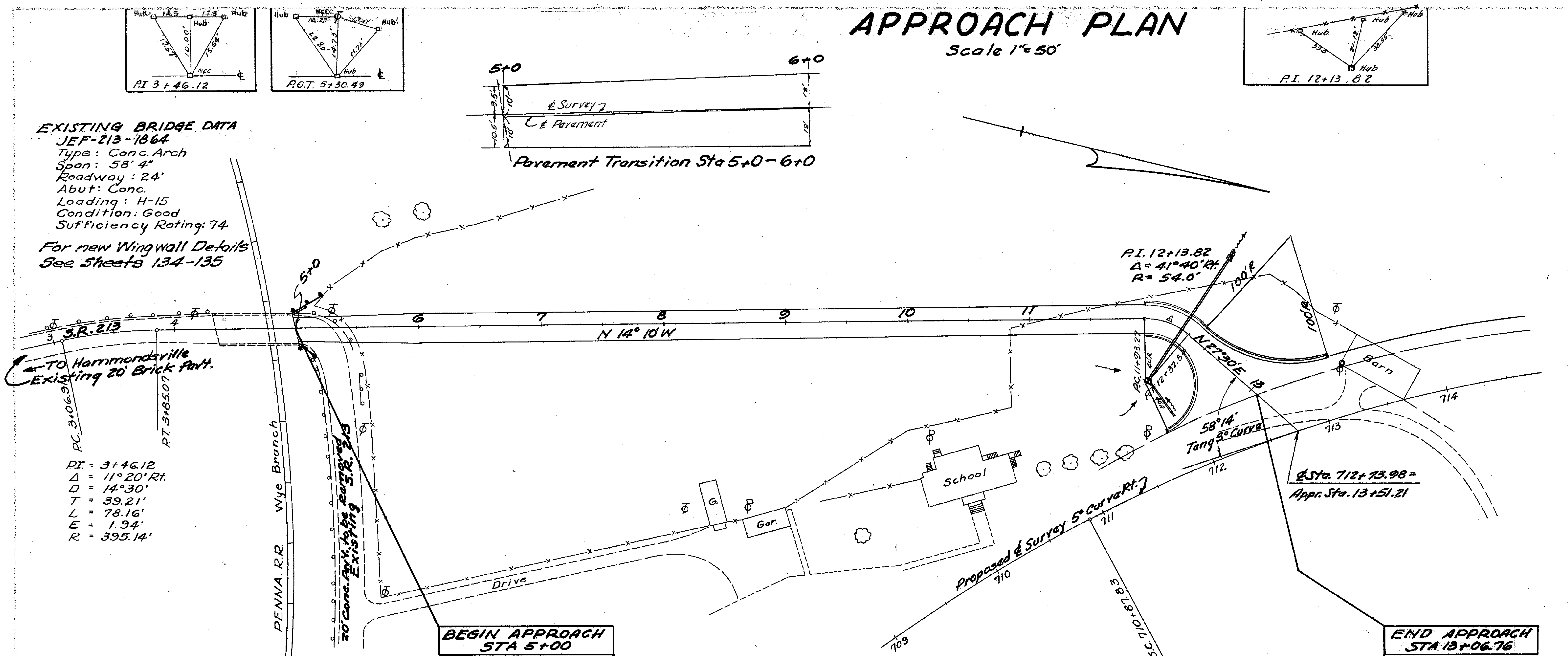
I-13 Conc. Sidewalk
Sta. 784+75 to 786+50 Lt.
6.5 × 175 = 1138 Sq. Ft.
Sta. 784+55 to 786+50 Rt.
4.5 × 195 = 878 Sq. Ft.
Total I-13 = 2016 Sq. Ft.

I-23 Pre Cast Dividers
Sta. 782+50 to 783+58 = 9 Each
Sta. 784+70 to 785+90 = 11 Each
Total I-23 = 20 Each

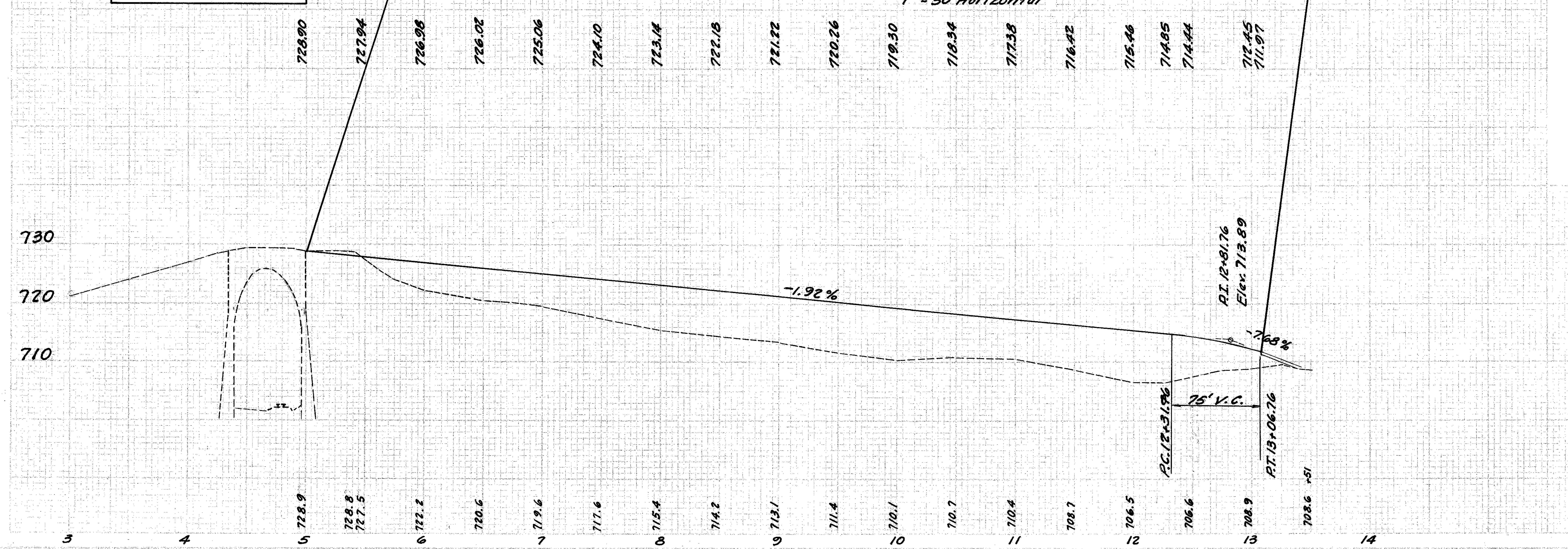
E-1 Compacted Subgrade
Sta. 782+50 to 786+50 = 1782 Sq. Yds.
Sta 784+75 to 786+50
351 × 2.5 ÷ 9 = 98 Sq. Yds.
Total E-1 = 1880 Sq. Yds.

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

APPROACH PLAN
Scale 1" = 50'



APPROACH PROFILE
Scale 1" = 10' Vertical
1" = 50' Horizontal



ESTIMATED QUANTITIES

T-71 Pavement
Sta. 5+0 to 6+0
22av. X 100 ÷ 9 = 245 Sq. Yds.
Sta. 6+0 to 12+32.54
24 X 632.54 ÷ 9 = 1,687 Sq. Yds.
Sta. 12+32.54 to 13+06.76
24 X 74.22 ÷ 9 = 198 Sq. Yds.
Ex. Area Rt. 1030.6□' ÷ 9 = 115 Sq. Yds.
Ex. Area Lt. 1125.2□' ÷ 9 = 125 Sq. Yds.

Total T-71 = 2,370 Sq. Yds.

I-22 Subbase
Sta. 5+0 to 5+40
25.7□' av. X 40 ÷ 27 = 38 Cu. Yds.
Sta. 5+40 to 6+0
27.7□' av. X 60 ÷ 27 = 62 Cu. Yds.
Sta. 6+0 to 11+93.27
28□' X 593.27 ÷ 27 = 616 Cu. Yds.
Sta. 11+93.27 to 12+32.54
43.5 X .5 X 39.27 ÷ 27 = 32 Cu. Yds.
Sta. 12+32.54 to 13+05.76
24 X .5 X 73.22 ÷ 27 = 33 Cu. Yds.
Ex. Area Rt. 2052.2□' X .5 ÷ 27 = 38 Cu. Yds.
Ex. Area Lt. 1461.9□' X .5 ÷ 27 = 27 Cu. Yds.

Total I-22 = 846 Cu. Yds.

I-18 Aggr.
Sta. 5+0 to 5+17
(2 X 3 av.) X .5 X 17 ÷ 27 = 2 Cu. Yds.
Sta. 5+17 to 11+93.27
(2 X 4) X .5 X 676.27 ÷ 27 = 101 Cu. Yds.

Total I-18 = 103 Cu. Yds.

I 12 Combination Curb & Gutter
Sta. 11+93.27 to 13+06.76
Rt. Side = 108 Lin. Ft.
Lt. Side = 159 Lin. Ft.

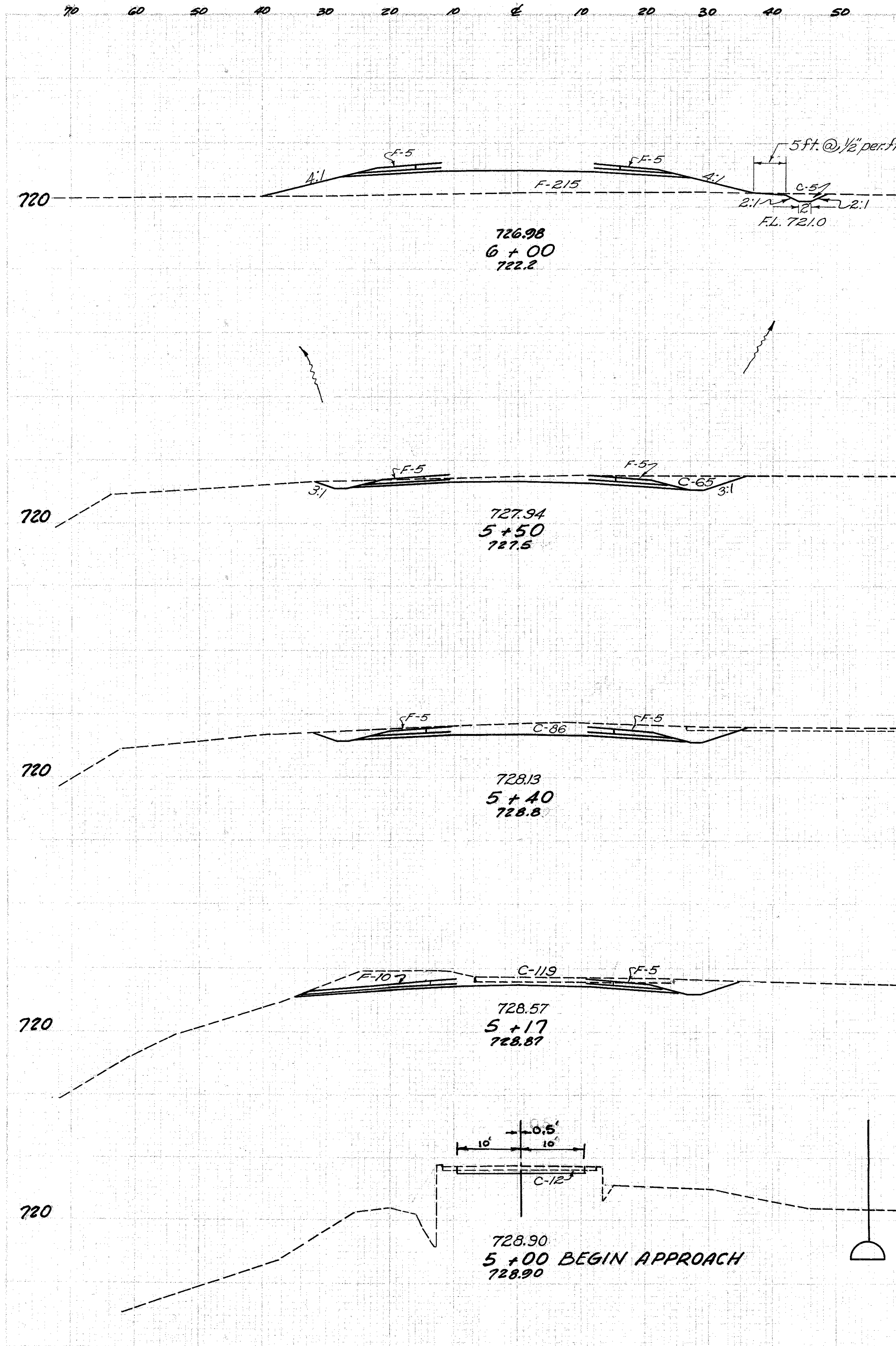
Total I-12 = 267 Lin. Ft.

E-1 Compacted Subgrade
Sta. 5+0 to 13+06.76 = 2370 Sq. Yds.
Sta. 11+93.27 to 13+06.76
267 X 2.5 ÷ 9 = 75 Sq. Yds.

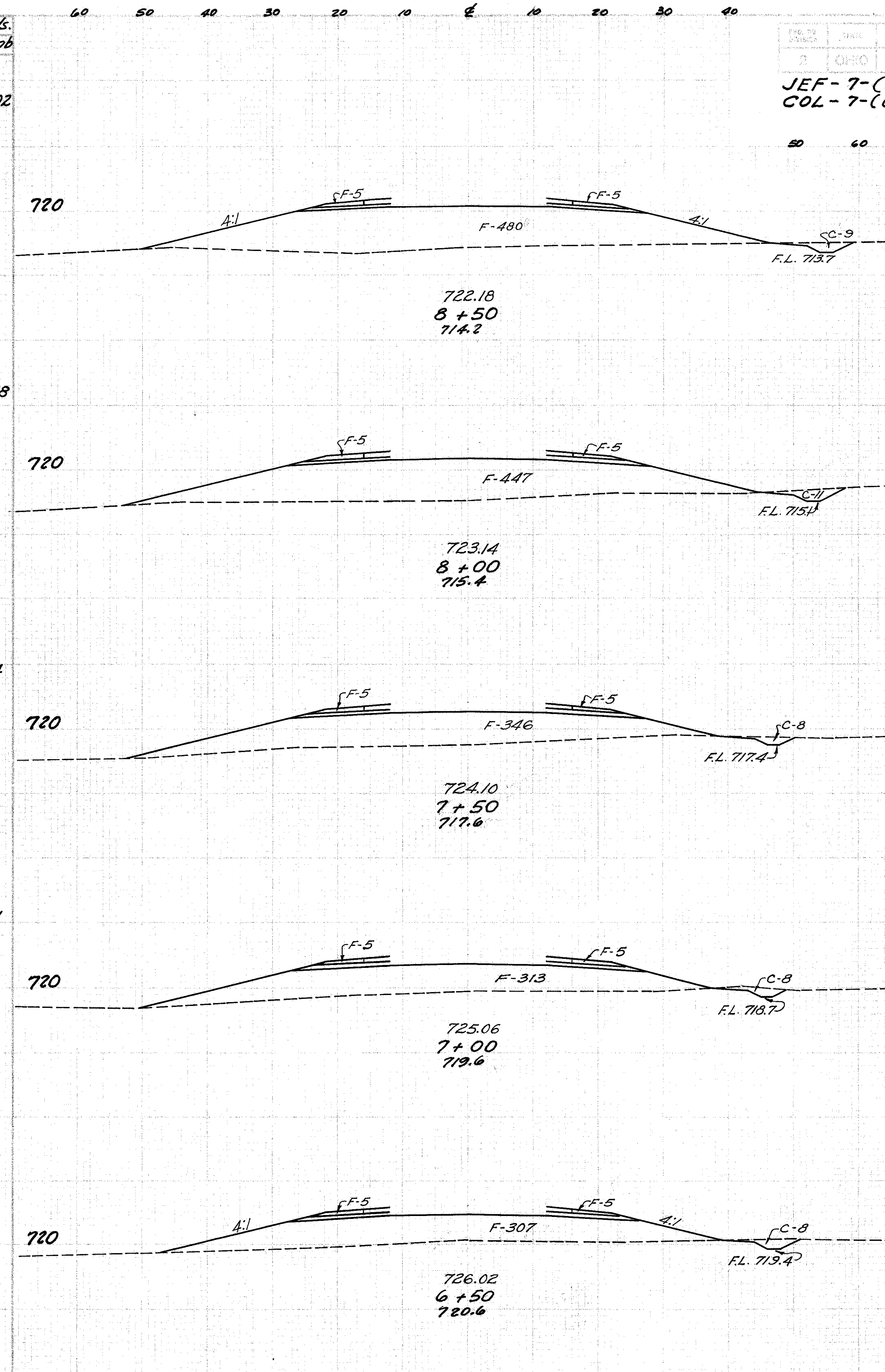
Total E-1 = 2445 Sq. Yds.

APPROACH LT. STA. 712+73.98

JEF- 7-(33.83-34.10)
COL- 7-(0.00-0.50)



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
	472			12	502
80		5	225		
	389			65	218
60		65	10		
	67			28	4
60		86	10		
	150			87	11
57		119	15		
	54			41	5
0		12	0		



Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
101		9	490		
	569			19	877
104		11	457		
	550			18	753
94		8	356		
	511			15	629
90		8	323		
	500			15	593
90		8	317		

S.R. 213 APPR. STA. 5+00 TO STA. 8+50

NOTE: See Roadway Cross Sections for remainder of Earthwork

Excavation	519	Cu. Yds.
Embankment	12,282	Cu. Yds.
Seeding	8,426	Sq. Yds.

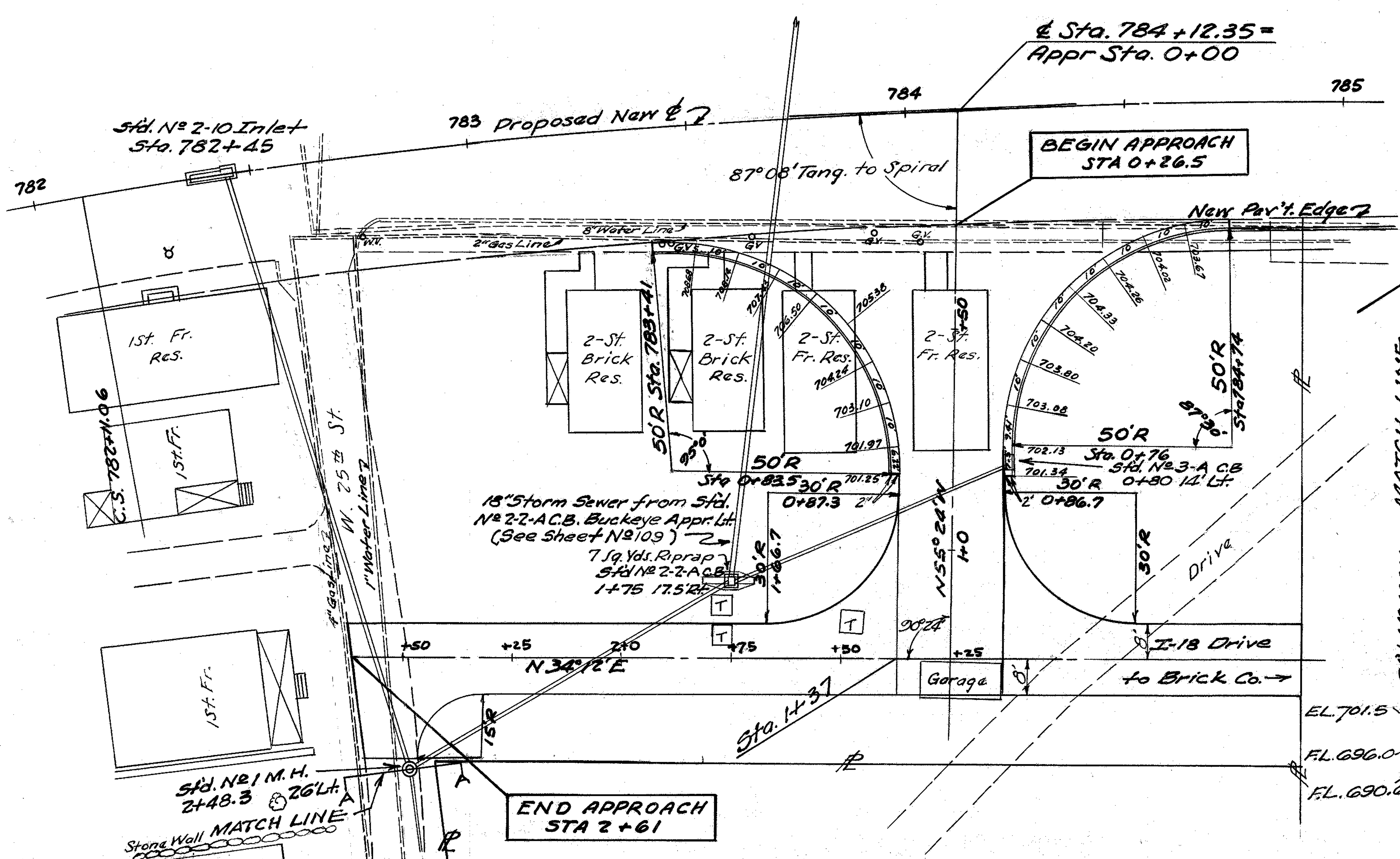
Quantities carried to Sheet 39

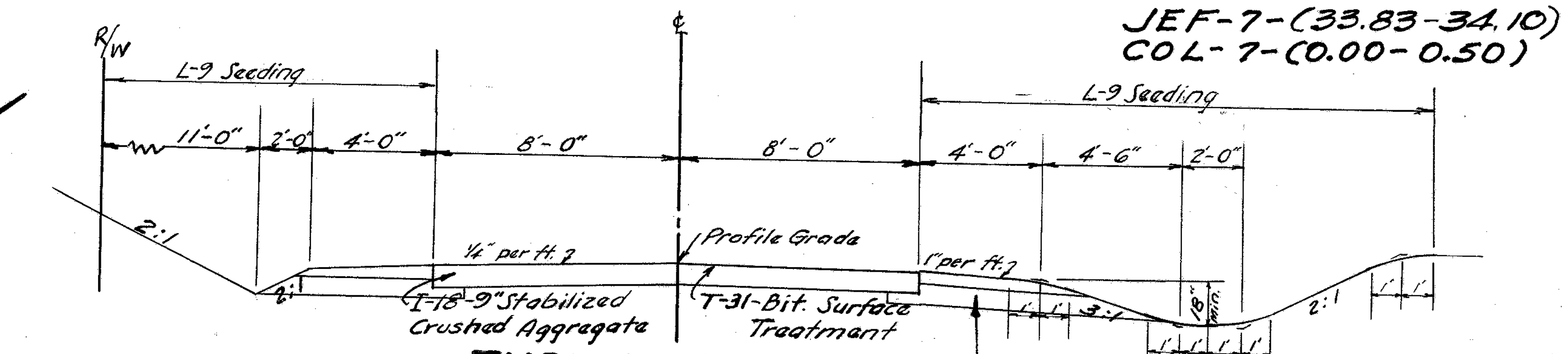
Station	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
		633			40	897
11+00	114		25	450		
		633			43	885
10+50	114		21	506		
		644			27	1069
10+00	118		8	648		
		644			17	1204
9+50	114		10	652		
		622			17	1129
9+00	110		8	567		
		586			16	979

Station	Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu. Yds. Exc.	Cu. Yds. Emb.
12+56	80		0	579		
		63			0	133
12+50	110		0	620		
		325			10	610
12+25	124		22	697		
		347			18	650
12+00	126		16	706		
		667			31	1134
11+50	114		18	519		

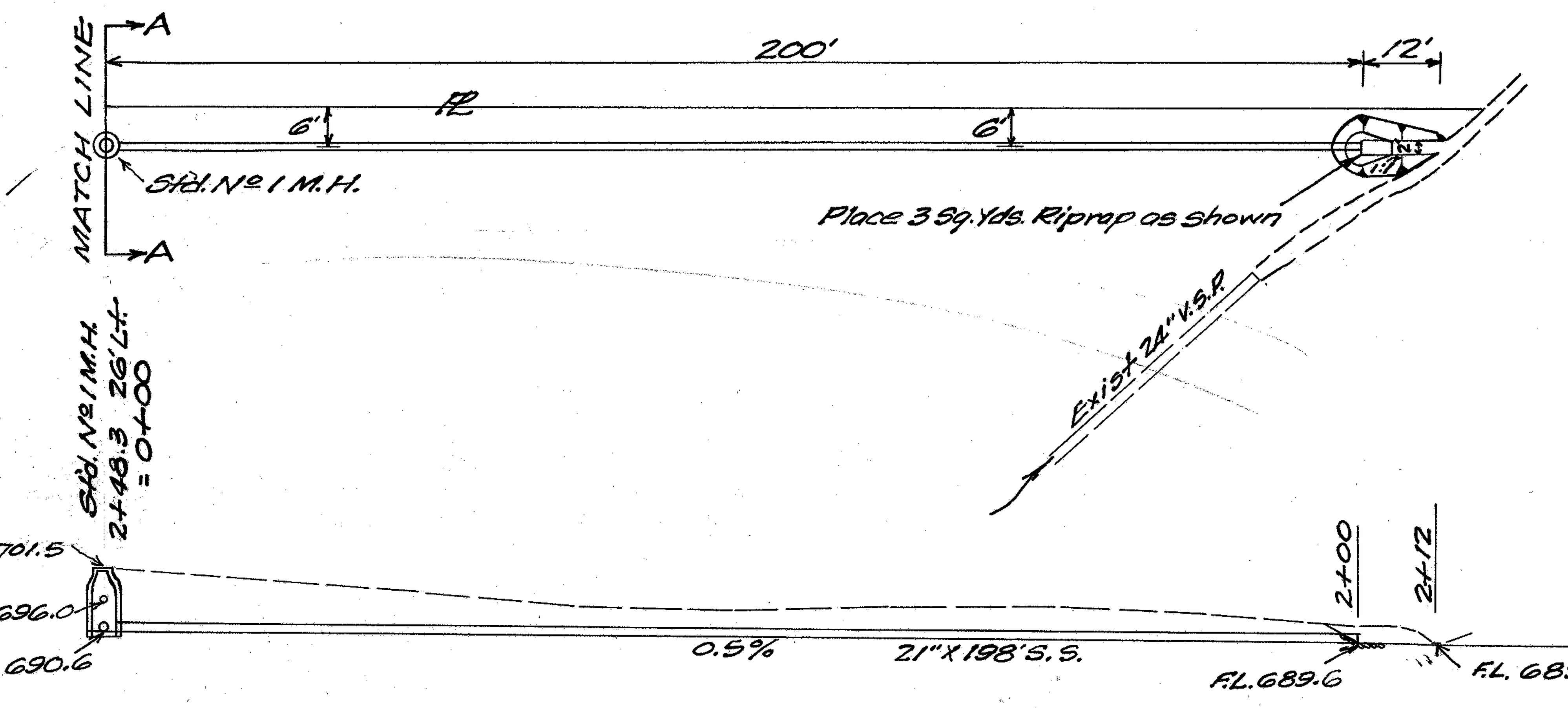
APPROACH PLAN

Scale 1" = 20'





TYPICAL SECTION
STA. 1+37 - STA 2+61



Scale 1" = 20'

ESTIMATED QUANTITIES

21" Storm Sewer Under Pavement Class B 82 Lin. Ft.
21" Storm Sewer Class A 198 Lin. Ft.
12" Storm Sewer Under Pavement Class B 210 Lin. Ft.
Std № 2-10 Inlet 1 Each
Std № 2-2-A Catch Basin 1 Each
Std № 3-A Catch Basin 1 Each
Std № 1 Manhole 1 Each
Channel Excavation 6 Cu. Yds.
Riprap 10 Sq. Yds.
Stone Underdrains № 2 80 Lin. Ft.

E-1 Compacted Subgrade
Sta. 0+26.5 to 1+33 East = 423 Sq. Yds.
Sta. 0+26.5 to 0+83.5
165 X 2.5' ÷ 9 = 46 Sq. Yds.
Total E-1 = 469 Sq. Yds.

T-71 Pavement
Sta. 0+26.5 to 0+83.5
24 X 57 ÷ 9 = 152 Sq. Yds.
Ex. Area Rt. 711.47□' ÷ 9 = 79 Sq. Yds.
Ex. Area Lt. 535.62□' ÷ 9 = 60 Sq. Yds.
Sta. 0+83.5 to 1+33 East
24 X 49.5 ÷ 9 = 132 Sq. Yds.
Total T-71 = 423 Sq. Yds.

I-22 Subbase, Grading D.
Sta. 0+27.5 to 0+83.5
24 X .5 X 56 ÷ 27 = 25 Cu. Yds.
Ex. Area Rt. 944.62□' X .5 ÷ 27 = 18 Cu. Yds.
Ex. Area Lt. 779.1□' X .5 ÷ 27 = 15 Cu. Yds.
Sta. 0+83.5 to 1+34 East
26 X .5 X 50.5 ÷ 27 = 25 Cu. Yds.
Total I-22 = 83 Cu. Yds.

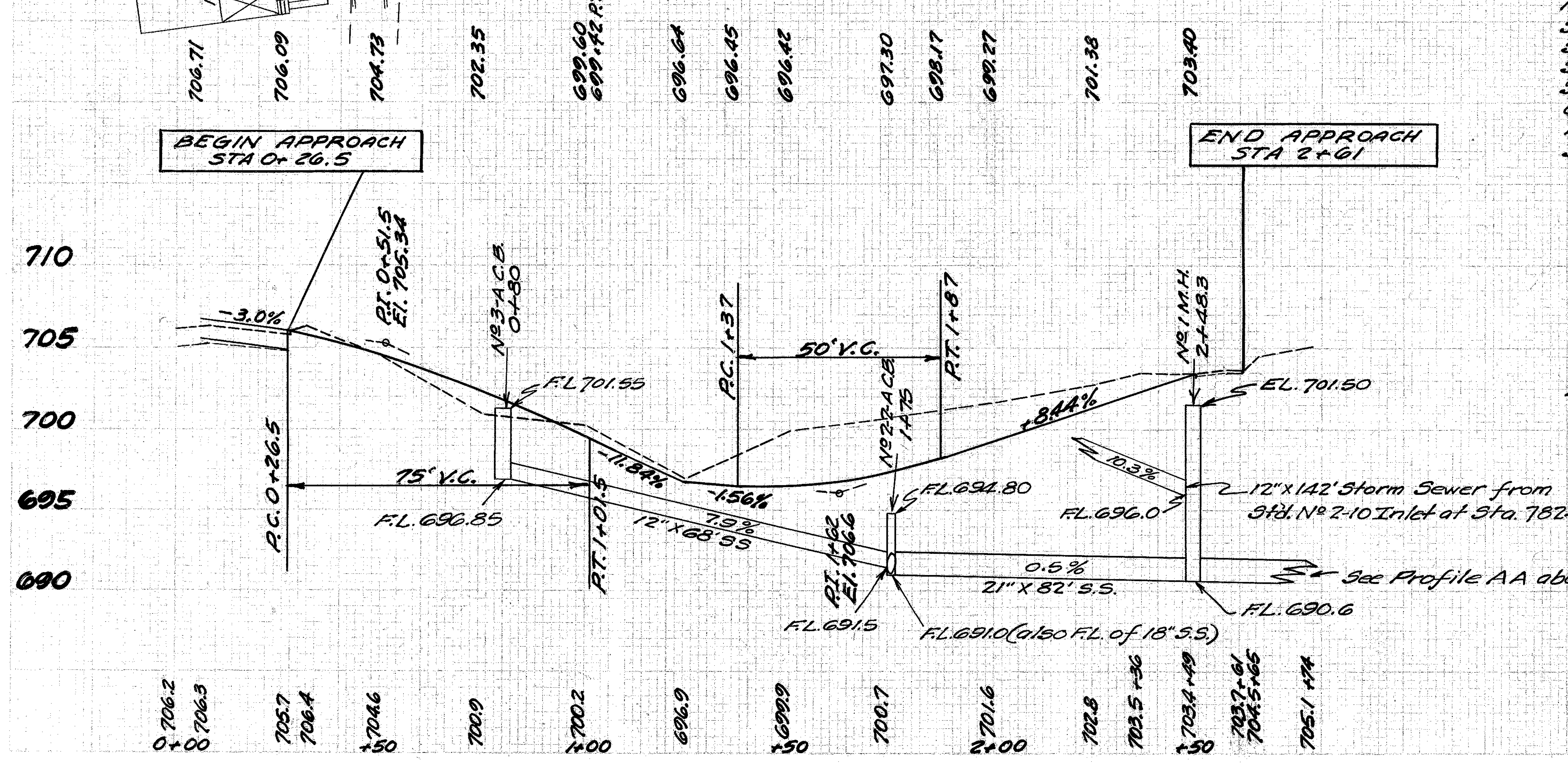
I-18 Aggr.
Sta. 1+37 to 1+66.7
671.55□' X .75 ÷ 27 = 19 Cu. Yds.
Sta. 1+66.7 to 2+32
16 X .75 X 65.3 ÷ 27 = 29 Cu. Yds
Sta. 2+32 to 2+61
656.1□' X .75 ÷ 27 = 19 Cu. Yds.
Sta. 1+25 Drive North
1279.4□' X .75 ÷ 27 = 36 Cu. Yds.
Total I-18 = 103 Cu. Yds.

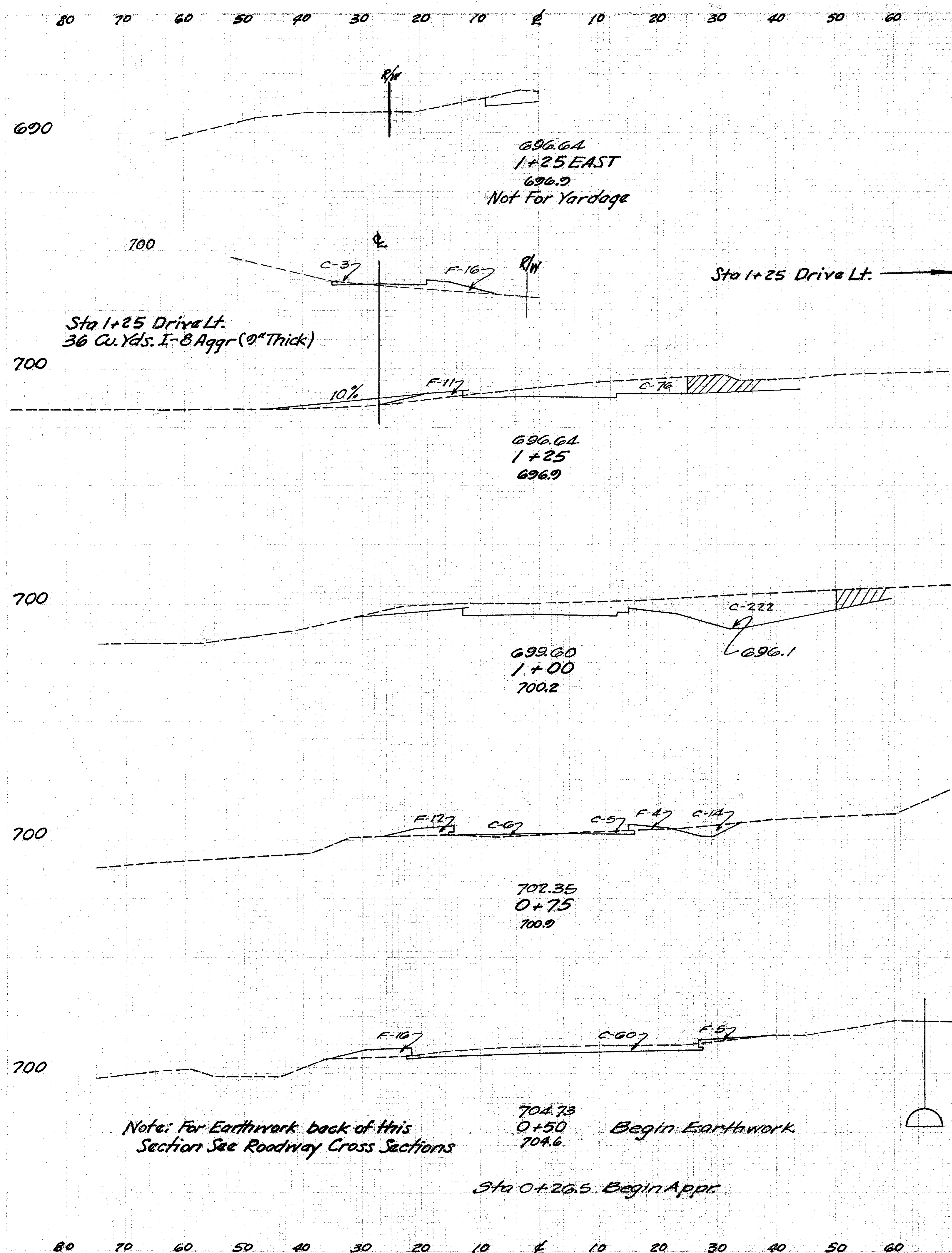
T-31 Bit. Surf. Treatment
Sta. 1+37 to 2+61
2372.45□' ÷ 9 X 0.25 = 66 Gals.
№ 6 Aggr.
2372.45□' ÷ 9 X 0.008 = 3 Cu. Yds.

I-12 Combination Curb & Gutter
Sta. 0+26.5 to 0+83.5
Rt. Side = 82 Lin. Ft.
Lt. Side = 83 Lin. Ft.
Total I-12 = 165 Lin. Ft.

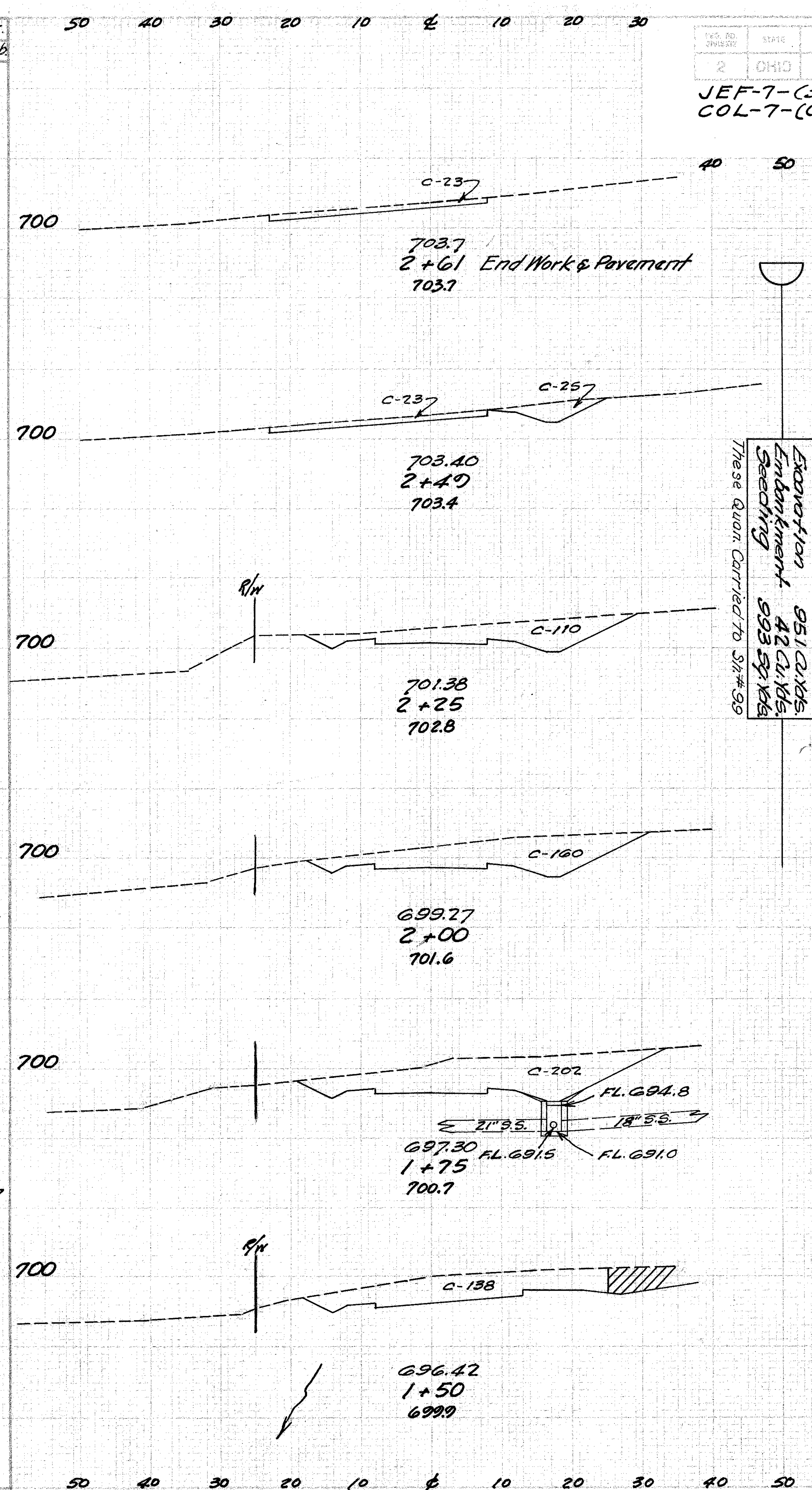
APPROACH PROFILE

Scale 1" = 5' Vertical
1" = 20' Horizontal





Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc.	Cu.Yds. Emb.
				25	8
	96			99	5
38		76	11		
	143			138	5
65		222	0		
	161			114	7
51		25	16		
	132			39	17
44		60	21		



Excavation 951 Cu.Yds.
Embankment 42 Cu.Yds.
Seeding 993 Sq.Yds.
These Quan. Carried To Sht #99

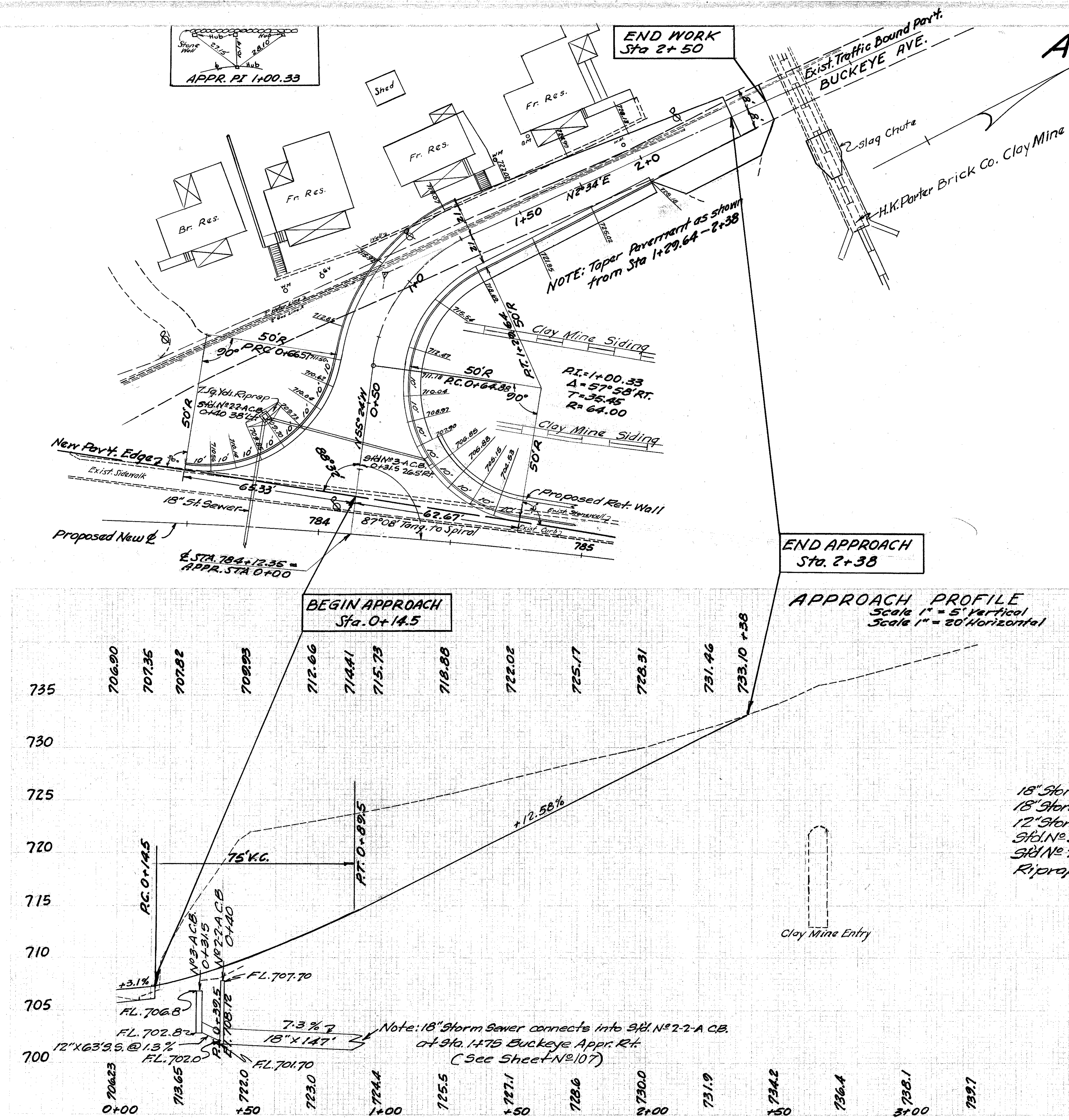
Seeding Width	Seeding S.Y.	End Area Cut	End Area Fill	Cu.Yds. Exc	Cu.Yds. Emb.
0		23	0		
	15			16	0
23		48	0		
	88			70	0
43		110	0		
	122			125	0
45		160	0		
	128			168	0
47		202	0		
	108			157	0
31		138	0		

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

APPROACH PLAN

Scale 1" = 20'



ESTIMATED QUANTITIES

T-71 Pavement

Sta. 0+14.5 to 0+66.57		
24 X 52.07 ÷ 9	=	139 Sq. Yds.
Ex. Area Rt. & Lt. (2 X 580.1□') ÷ 9	=	129 Sq. Yds.
Sta. 0+66.57 to 1+29.64		
24 X 63.07 ÷ 9	=	169 Sq. Yds.
Sta. 1+29.64 to Sta. 2+38		
20 av. X 108.36 ÷ 9	=	241 Sq. Yds.
Total T-71	=	678 Sq. Yds.

I-22 Subbase (Grading "D")

Sta. 0+15.5 to 0+66.57		
24 X 51.07 X .5 ÷ 27	=	23 Cu. Yds.
Ex. Area Rt. & Lt. (2 X 791.0□') X .5 ÷ 27	=	30 Cu. Yds.
Sta. 0+66.57 to 1+29.64		
31 X 63.07 X .5 ÷ 27	=	37 Cu. Yds.
Sta. 1+29.64 to 2+38		
24 X 108.36 X .5 ÷ 27	=	49 Cu. Yds.
Total I-22	=	139 Cu. Yds.

I-18 Aggr.

Sta. 2+26 Drive Lt.		
420□' X .5 ÷ 27	=	8 Cu. Yds.

I-12 Combination Curb & Gutter

Sta. 0+14.5 to 1+29.64		
Rt. Side	=	127 Lin. Ft.
Lt. Side	=	155 Lin. Ft.
Sta. 1+29.64 to 2+00		
Rt. Side	=	71 Lin. Ft.
Total I-12	=	353 Lin. Ft.

I-13 Conc. Sidewalk

Sta. 0+14.5 to 0+48 Rt.		
6.5 X 54.06	=	352 Sq. Ft.
Sta. 0+48 to 2+00 Rt.		
4.5 X 136.59	=	615 Sq. Ft.
Total I-13	=	967 Sq. Ft.

E-1 Compacted Subgrade

Sta. 0+14.5 to 2+38	=	678 Sq. Yds.
Sta. 0+14.5 to 2+00		
353 X 2.5 ÷ 9	=	98 Sq. Yds.
Total E-1	=	776 Sq. Yds.

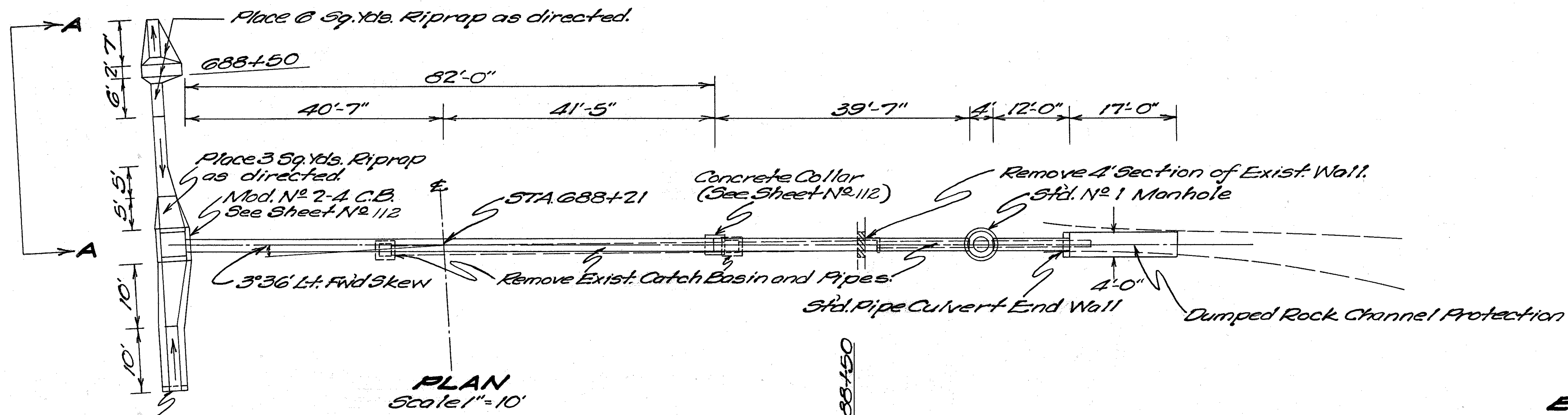
18" Storm Sewer Class B	57 L.F.
18" Storm Sewer Under Pavement Class B	90 L.F.
12" Storm Sewer Under Pavement Class B	63 L.F.
Std. No 3-A Catch Basin	1 Each
Std. No 2-2-A Catch Basin	1 Each
Riprap	7 S.Y.

APPROACH LT. STA. 784+12.35

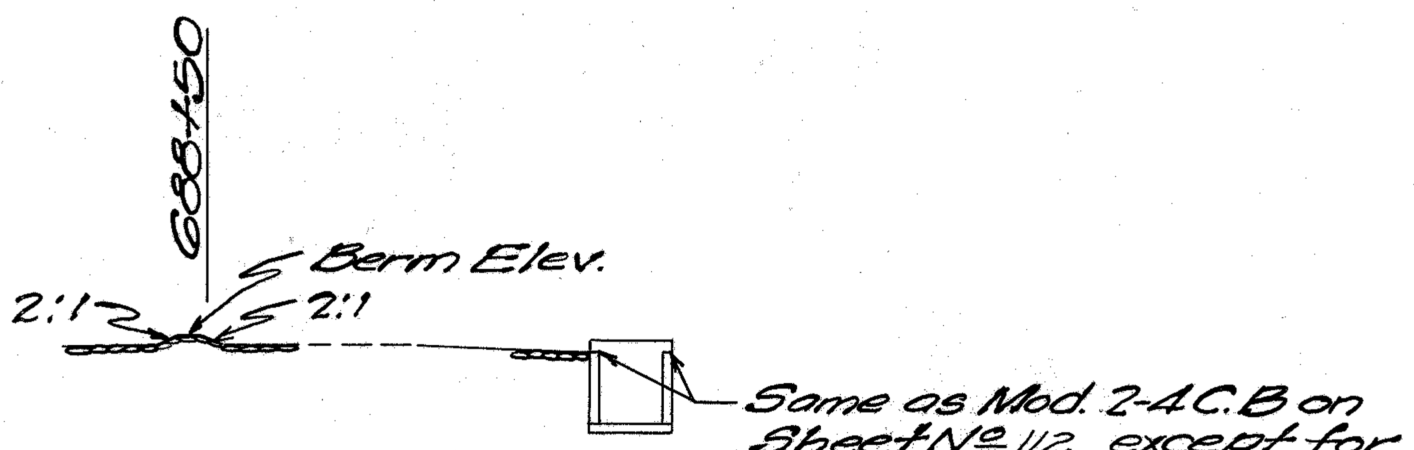
110
JEF - 7-(33.83-34.10)
COL - 7-(0.00-0.50)
2 OHIO
Seeding Width | S.Y. | End Area Cut | Fill | Cu.Yds. Exc. | Emb.
2+65 Clay Mine Entry
Clay Mine Entry
2+50 End Work
734.2
Excavation 5,311 Cu.Yds.
Embankment 0 Cu.Yds.
Seeding 2,194 Sq.Yds.
Quantities Carried To Sheet 99
733.10
2+38 End Appr. Par't.
733.1
Sta 2+26 Drive Rt.
8 Cu.Yds. I-18 Aggr (6" Thick)
731.46
2+25
731.9
728.31
2+00
730.0
725.17
1+75
728.6
722.02
1+50
727.1
718.88
1+25
725.5
715.73
1+00
724.4
712.66
0+75
723.0
709.93
0+50
722.0
708.25
0+31.5
716.1
NOTE: For Continuation of Ditch See Sheet No 99
Note: Earthwork back of this Section, See Roadway Cross Sections.
Begin Appr. Sta. 0+14.5
Begin Earthwork
F.L. 706.8
F.L. 702.8
1.3%
12" S.S.
See Sheet No 109
C-100
C-405
C-304
C-435
C-748
C-884
C-864
C-738
C-1,030
C-882
C-7
C-78
C-90
745.0
743.0
724.0
741.0
740.25
722.0
738.25
720.0
70'
75'
80'
2:1
1/2:1
730
720
710
0 0 0
41 22 0
61 100 0
8
106 123 0
86 412 0
238 368 0
85 382 0
260 420 0
102 525 0
303 589 0
116 748 0
328 756 0
120 884 0
299 809 0
95 864 0
240 742 0
78 738 0
243 819 0
97 1,030 0
136 655 0
35 882 0
APPROACH LT. STA. 784+12.35

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



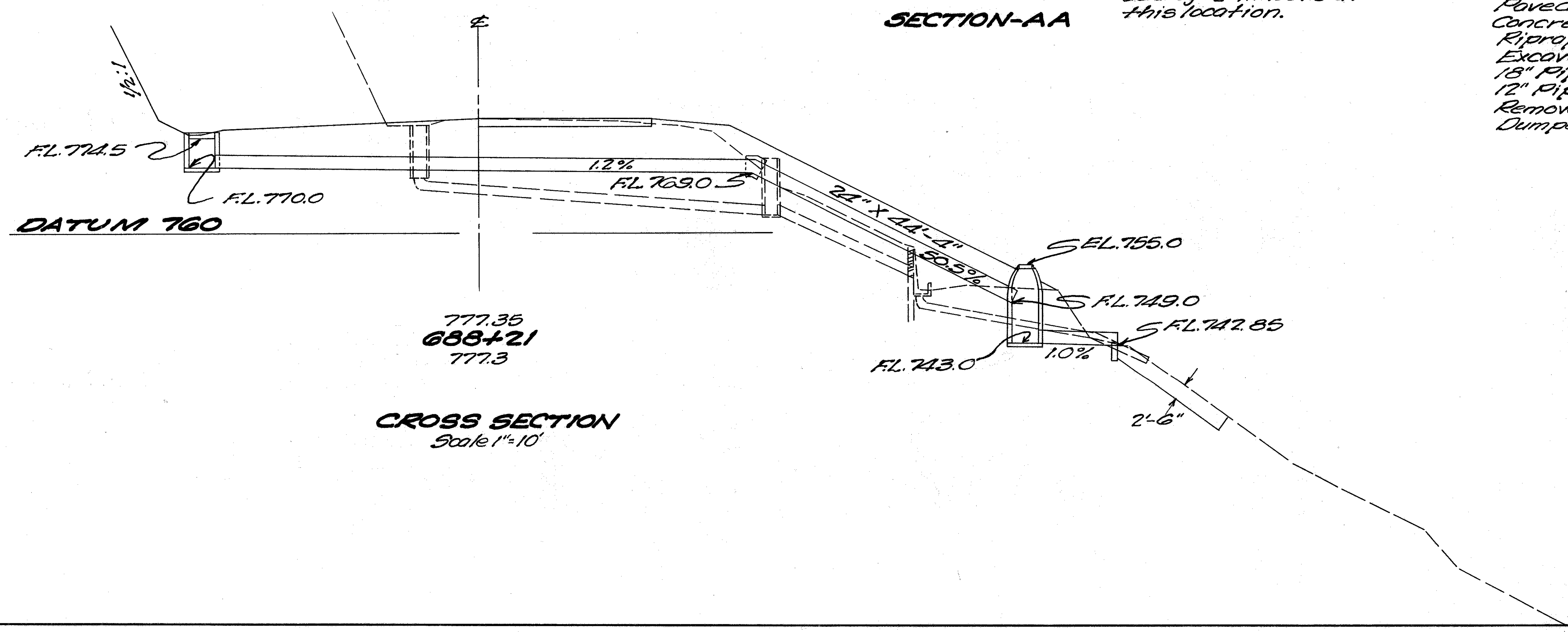
PLAN
Scale 1"=10'



SECTION-AA

ESTIMATED QUANTITIES

24" Standard Strength Reinforced Concrete Culvert Pipe Sec. M-6.6(b) or Extra Strength Vit. Sewer Pipe Sec. M-6.8(b).	82 Lin. Ft.
24" Pipe for Roadway Culverts	56 Lin. Ft.
Std. Nº 1 Manhole	1 Each
Nº 2-4 Catch Basin (Mod.)	1 Each
Paved Gutter Type 1	20 Lin. Ft.
Concrete for Structures "Class E"	1.2 Cu.Yds.
Riprap	9 Sq.Yds.
Excavation for Structures	58 Cu.Yds.
18" Pipe Removed V.S.P.	84 Lin. Ft.
12" Pipe Removed V.S.P.	37 Lin. Ft.
Removal of Portions of Exist. Structure	5.4 Cu.Yds.
Dumped Rock Channel Protection	8 Cu.Yds.



CROSS SECTION
Scale 1"=10'

Area: 9 acres
Q25: 24 c.f.s.

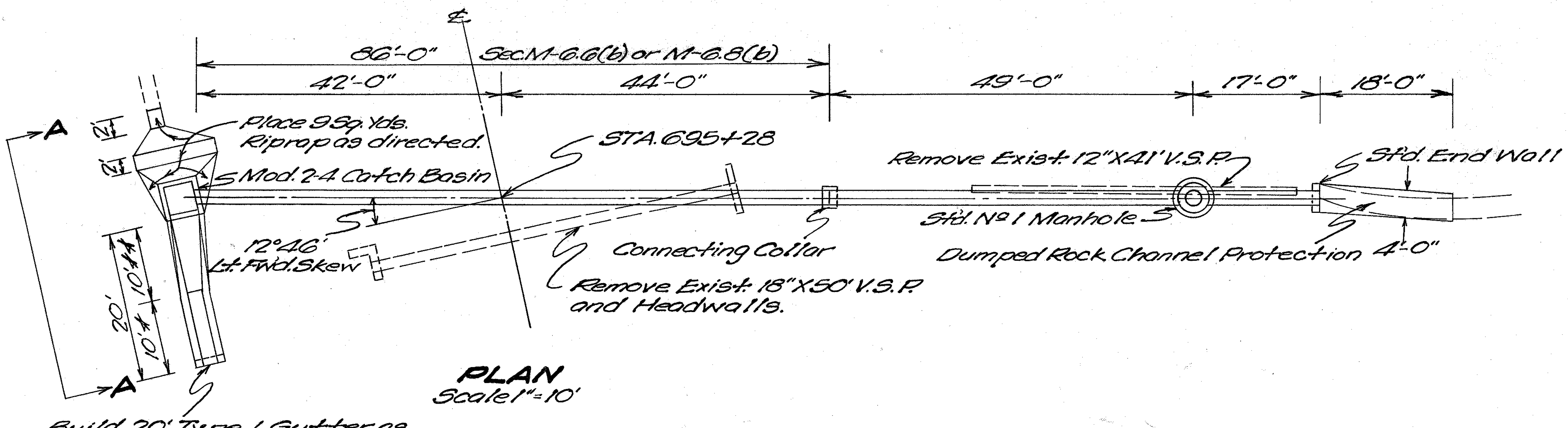
STA 688+21
24" X 138' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

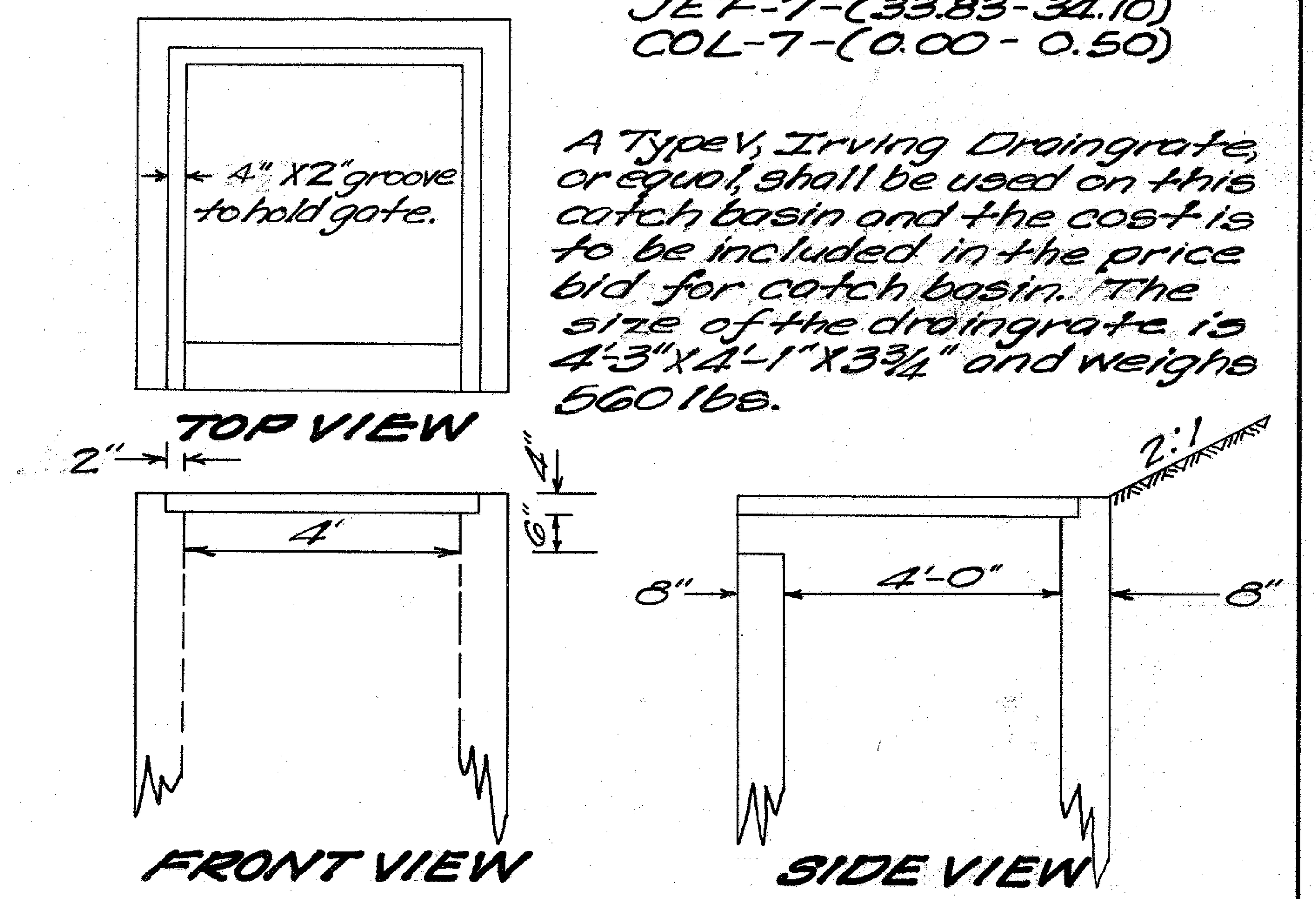
112

JEF-7-(33.83-34.10)
COL-7-(0.00 - 0.50)

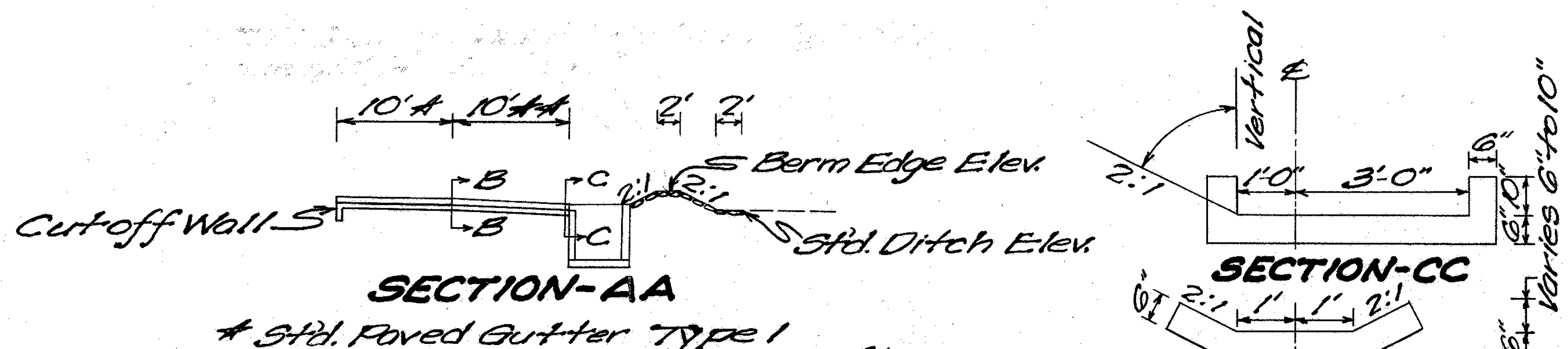
A Type V, Irving Draingrate, or equal, shall be used on this catch basin and the cost is to be included in the price bid for catch basin. The size of the draingrate is 4'-3"X4'-1"X3¾" and weighs 560 lbs.



PLAN
Scale 1"=10'

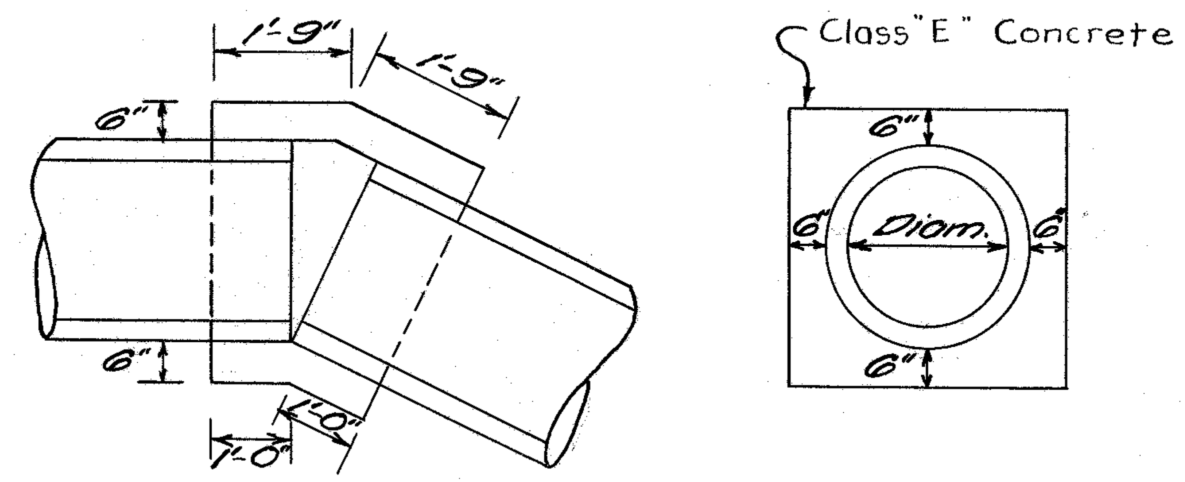


MOD. Nº 2-4 CATCH BASIN
Scale 1"=2'

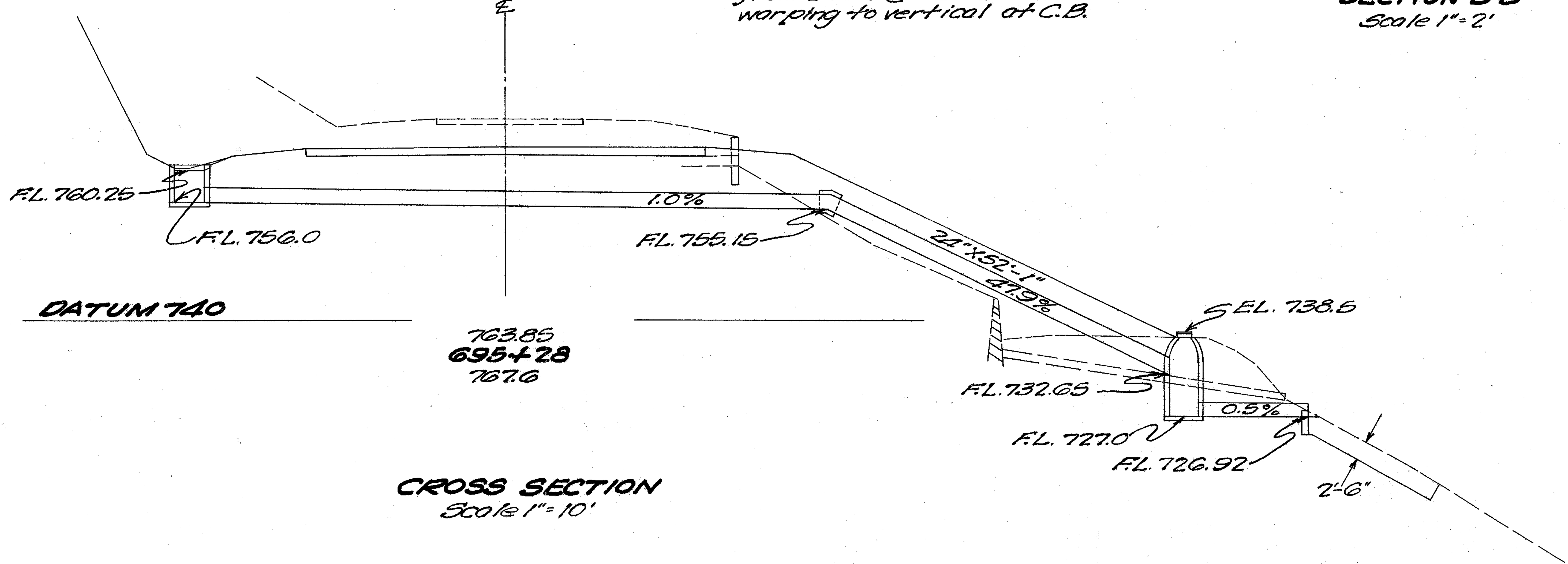


* Std. Paved Gutter Type 1
** Paved Gutter Bottom width flaring from 2' to 4' @ C.B. and 2:1 sides warping to vertical at C.B.

SECTION-B-B
Scale 1"=2'



DETAIL OF COLLAR
Scale 1"=2'



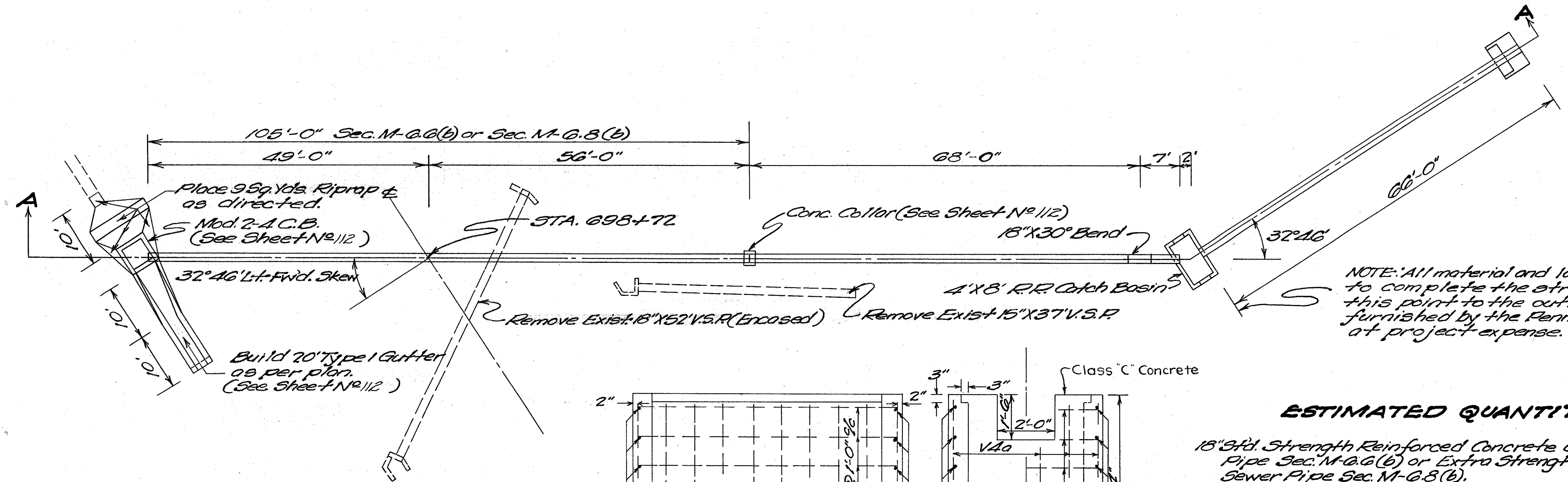
CROSS SECTION
Scale 1"=10'

ESTIMATED QUANTITIES

24" Standard Strength Reinforced Concrete Culvert Pipe Sec. M-6.6(b) or Extra Strength Vit. Sewer Pipe Sec. M-6.8(b)	86 Lin. Ft.
24" Pipe for Roadway Culverts	67 Lin. Ft.
Std. Nº 1 Manhole	1 Each
Nº 2-4 Catch Basin (Mod)	1 Each
Paved Gutter Type 1	20 Lin. Ft.
Concrete for Structures "Class E"	1.2 Cu. Yds.
Riprap	9 Sq. Yds.
Dumped Rock Channel Protection	8 Cu. Yds.
Excavation for Structures	93 Cu. Yds.
12" Pipe Removed V.S.P.	41 Lin. Ft.
18" Pipe Removed V.S.P.	50 Lin. Ft.
Removal of Portions of Exist. Structure	3 Cu. Yds.

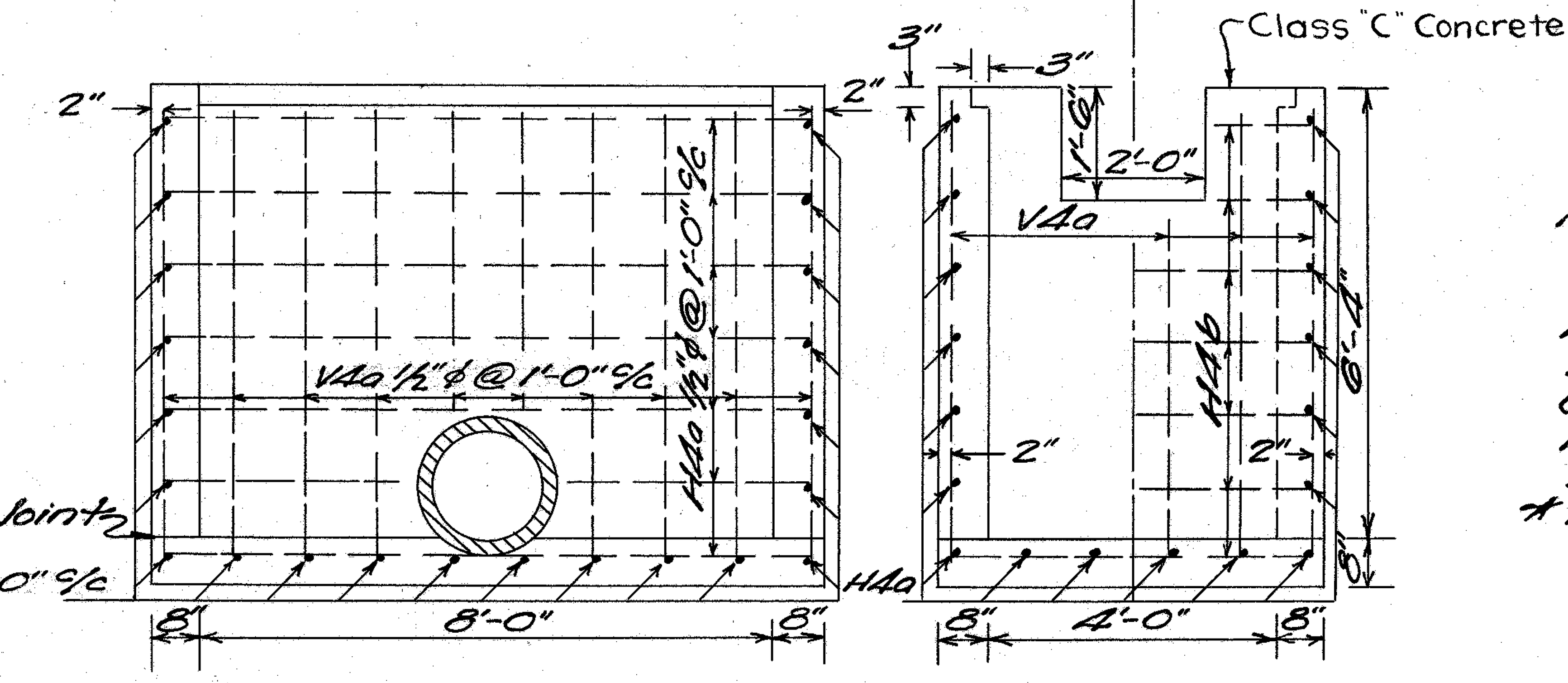
Area: 9 acres
Q25: 24 c.f.s.

STA. 695+28
24"X153' PIPE CULVERT



NOTE: All material and labor required to complete the structure from this point to the outlet shall be furnished by the Pennsylvania R.R. at project expense.

PLAN
Scale 1"=10'



DETAILS OF 4'X8' R.R. CATCH BASIN *
Scale 1"=2'-0"

ESTIMATED QUANTITIES

18" Std. Strength Reinforced Concrete Culvert Pipe Sec. M-6.6(b) or Extra Strength Vitrified Sewer Pipe Sec. M-6.8(b).	105 Lin. Ft.
18" Pipe for Roadway Culverts	82 Lin. Ft.
Excavation for Structures	106 Cu. Yds.
Concrete for Structures "Class E"	0.6 Cu. Yds.
Pipe Special 18"X30° Bend	1 Each
Mod. 2-4 Catch Basin	1 Each
* No 4'X8' R.R. Catch Basin (as per plan)	1 Each
Riprap	9 Sq. Yds.
Paved Gutter Type 1	20 Lin. Ft.
15" Pipe Removed V.S.P.	37 Lin. Ft.
18" Pipe Removed Encased V.S.P.	52 Lin. Ft.
Removal of Portions of Exist. Structure	6 Cu. Yds.

Area: 4 acres
Q25: 14 c.f.s.

*NOTE: Casting for Catch Basin to be furnished by Pennsylvania R.R. All bars bent and cut as shown in field.

SECTION - AA
Scale 1"=10'

STA. 698+72
18" X 187' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83 -34.10)
COL-7-(0.00-0.50)

ESTIMATED QUANTITIES

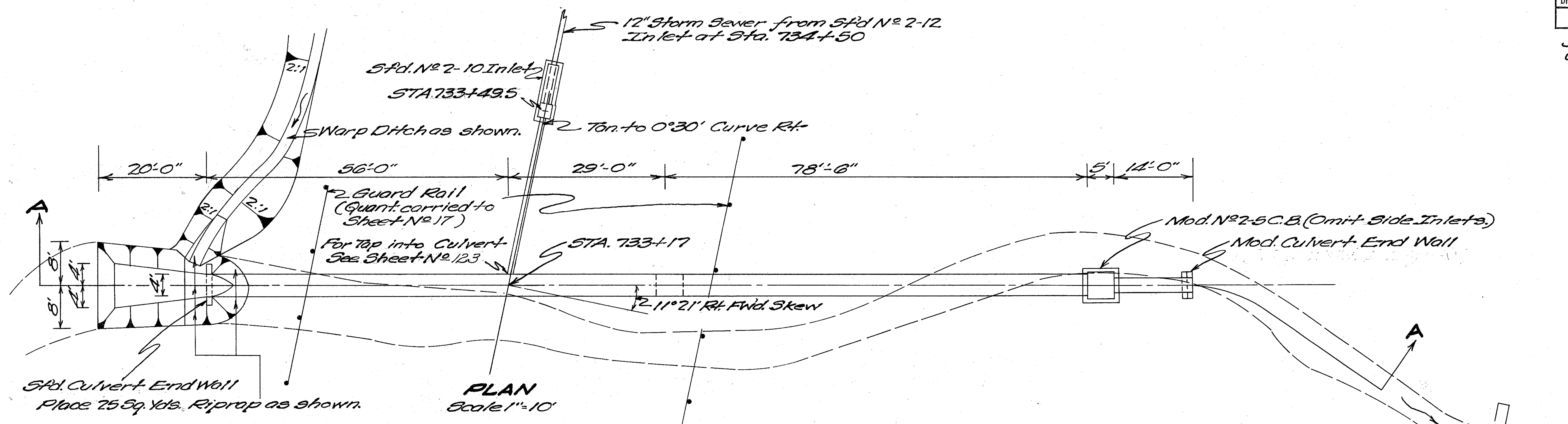
15" Storm Sewer under Pavement (Class A)	88 Lin. Ft.
30" Storm Sewer Class A	71 Lin. Ft.
36" Storm Sewer Class A	75 Lin. Ft.
Mod. No 2-4 Catch Basins	3 Each
Pipe Specials 36"x 22½° Bend	2 Each
Paved Gutter Type 1	60 Lin Ft.
Concrete for Structures (Class E)	0.6 Cu. Yds.
Riprap	25 Sq. Yds.

DRAINAGE AT NORTH END YELLOW CREEK BRIDGE

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

115

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



PLAN
Scale 1"=10'

SECTION-AA
Scale 1"=10'

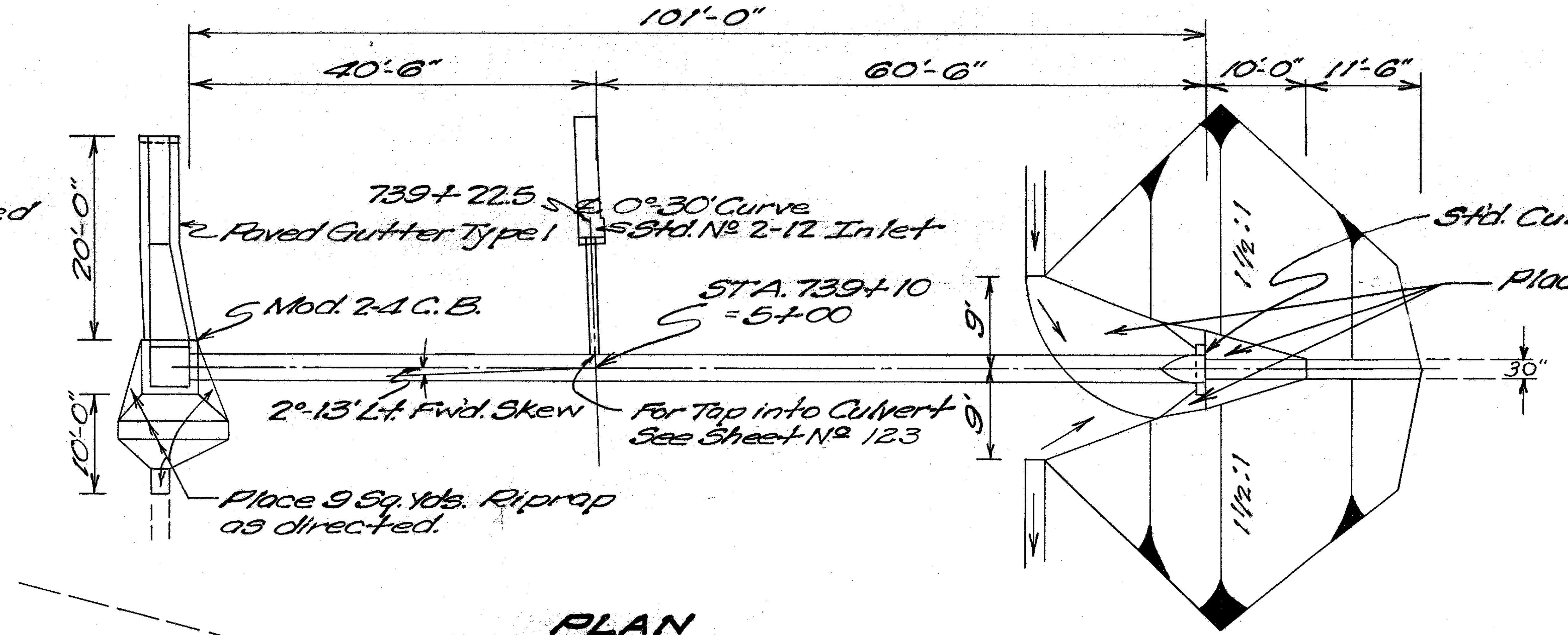
ESTIMATED QUANTITIES

48" Paved Bituminous Coated Corrugated Metal Pipe Sec. M-6.4(d) Gage 10 or Extra Strength Reinforced Concrete Culvert Pipe Sec. M-6.6(c)	167 Lin. Ft.
30" Pipe for Roadway Culverts	14 Lin. Ft.
Excavation for Structures	205 Cu. Yds.
Channel Excavation	85 Cu. Yds.
Concrete for Structures "Class E"	2.5 Cu. Yds.
48" Pipe Special 16°30' Bend	1 Each
Mod. Nº 2-5 Catch Basin	1 Each
Riprap	25 Sq. Yds.
12" Storm Sewer Under Pavement Class B	29 Lin. Ft.
Std. Nº 2-10 Inlet	1 Each

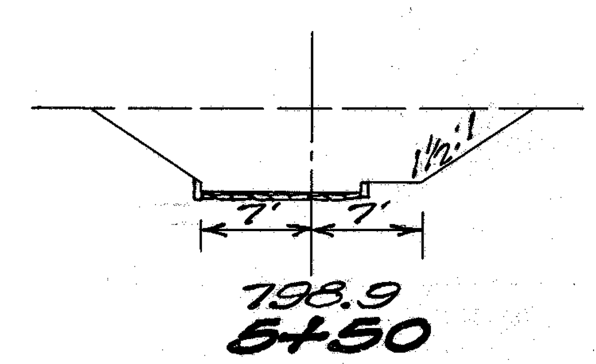
Area: 44 acres
Q25: 75 c.f.s.

STA. 733+17
48"X167' & 30"X14' PIPE CULVERT

NOTE: For Details of Paved Gutter Type 1 and Mod. 2-4 Catch Basin. (See Sheet Nº 112)



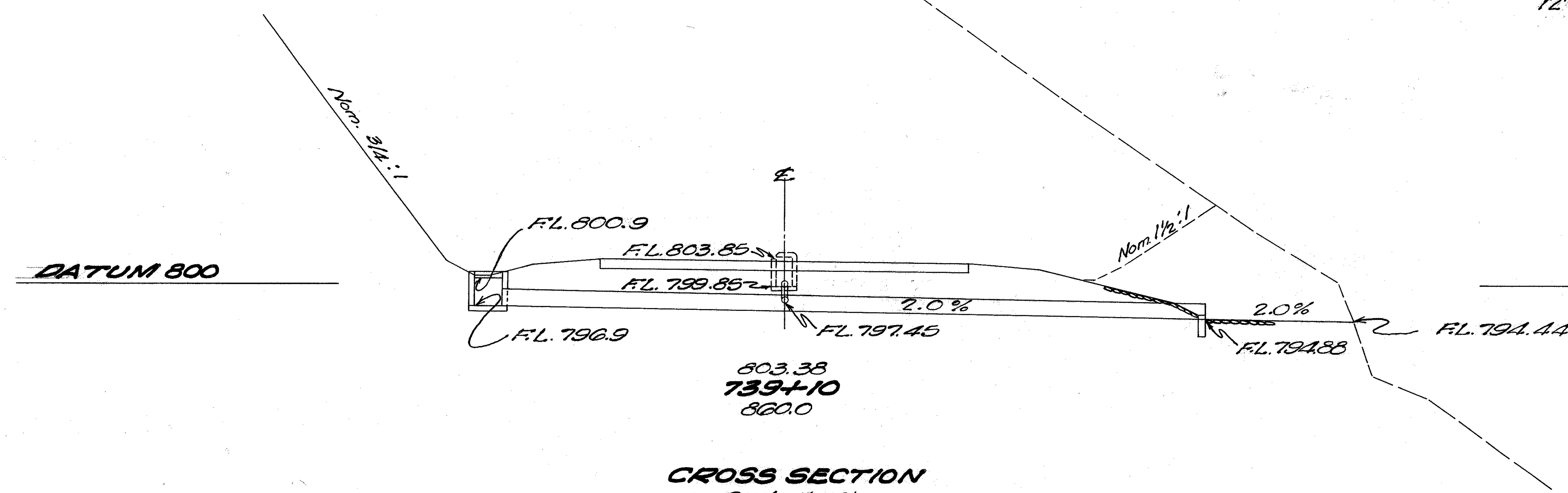
PLAN
Scale 1"=10'



ESTIMATED QUANTITIES

30" Std. Strength Reinforced Concrete Pipe Sec. M-6.6(b) or Extra Strength Vit. Sewer Pipe Sec. M-6.8(b).	101 Lin. Ft.
Excavation for Structures	126 Cu. Yds.
Channel Excavation	278 Cu. Yds.
Concrete for Structures "Class E"	0.5 Cu. Yds.
Riprap	32 Sq. Yds.
Mod. 2-4 Catch Basin	1 Each
Paved Gutter Type 1	20 Lin. Ft.
Std. Nº 2-12 Inlet	1 Each
12" Storm Sewer Under Pavement; Class B	10 Lin. Ft.

Area : 11 acres
Q25 : 28 c.f.s.



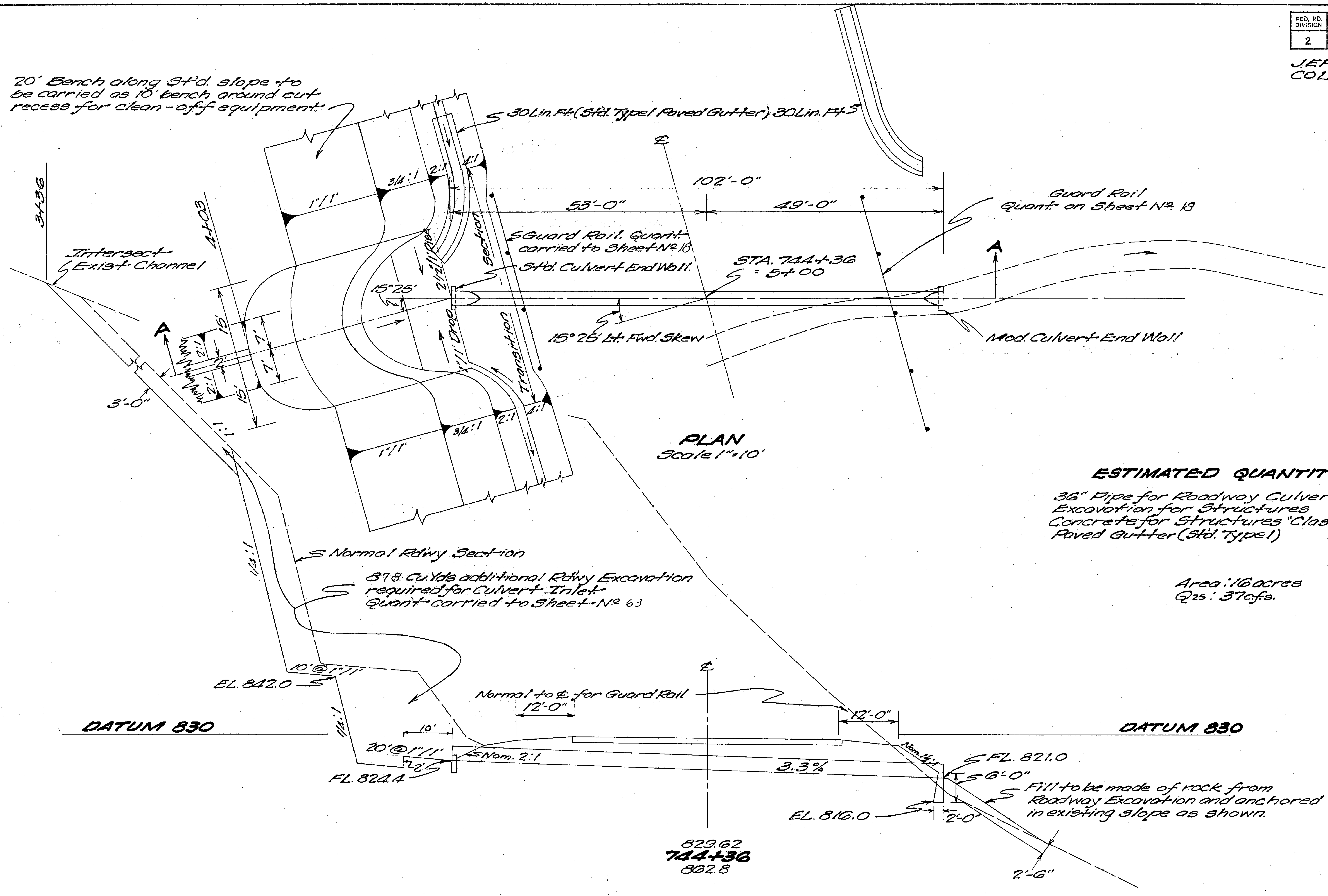
CROSS SECTION
Scale 1"=10'

STA. 739+10
30"X101' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

117

JEF-7-(33.83-34.10)
COL-7 (0.00 - 0.60)



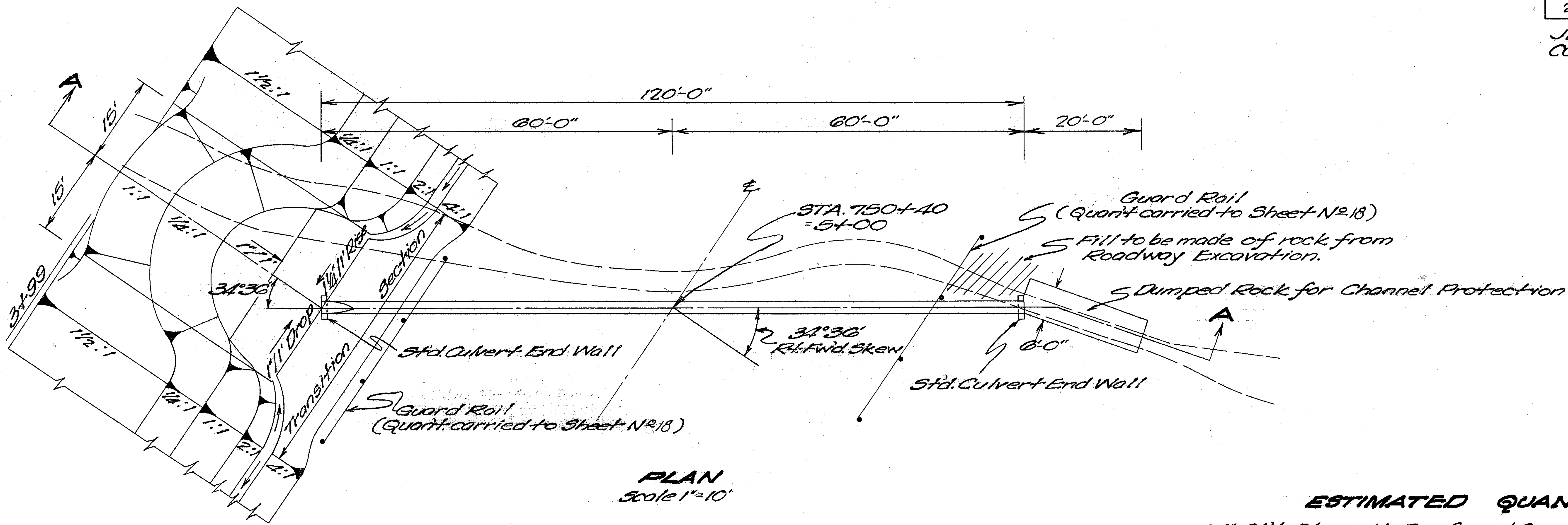
SECTION-AA
Scale 1"=10'

ESTIMATED QUANTITIES

36" Pipe for Roadway Culverts	102 Lin. Ft.
Excavation for Structures	140 Cu. Yds.
Concrete for Structures "Class E"	2.3 Cu. Yds.
Paved Gutter (Std. Type 1)	60 Lin. Ft.

Area: 16 acres
Q_{25}: 37 c.f.s.

STA. 744+36
36" X 102' PIPE CULVERT

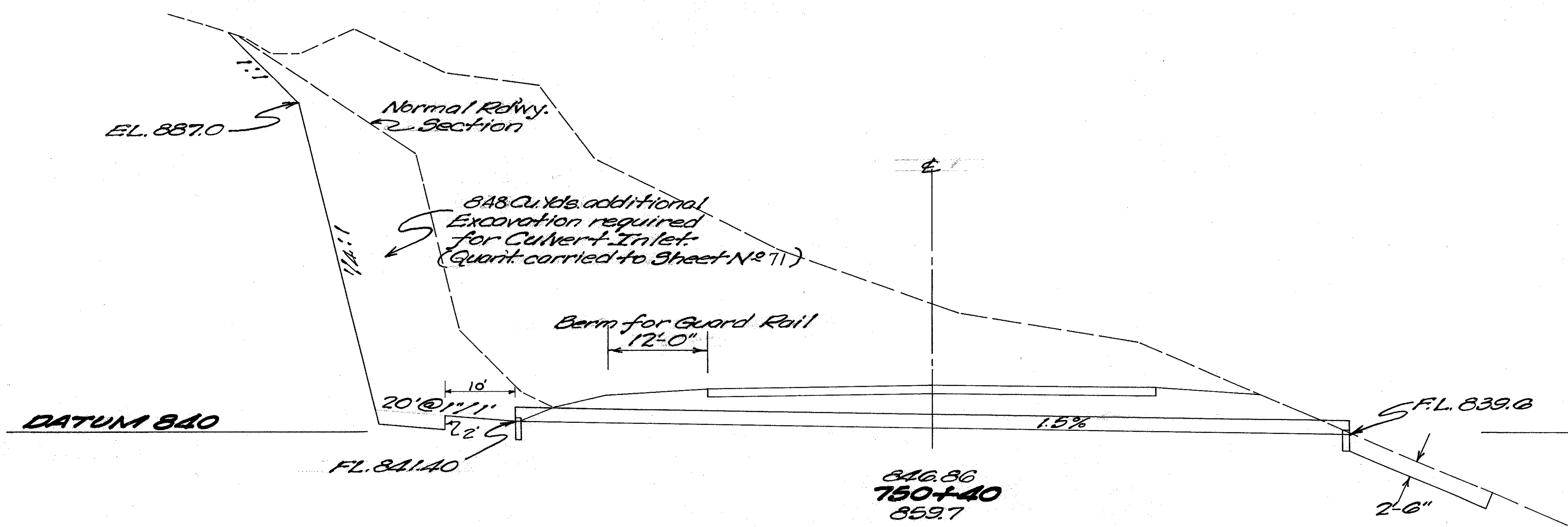


PLAN
Scale 1"=10'

ESTIMATED QUANTITIES

24" Std. Strength Reinforced Concrete Culvert Pipe Sec. M-6.6(b) or Extra Strength V.S.P. Sec. M-6.8(b).	120 Lin. Ft.
Excavation for Structures	87 Cu. Yds.
Concrete for Structures "Class E"	0.8 Cu. Yds.
Dumped Rock for Channel Protection	11 Cu. Yds.

Area: 4 acres
Q25: 14 c.f.s.



SECTION-AA
Scale 1"=10'

STA. 750+40
24"X120' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

119

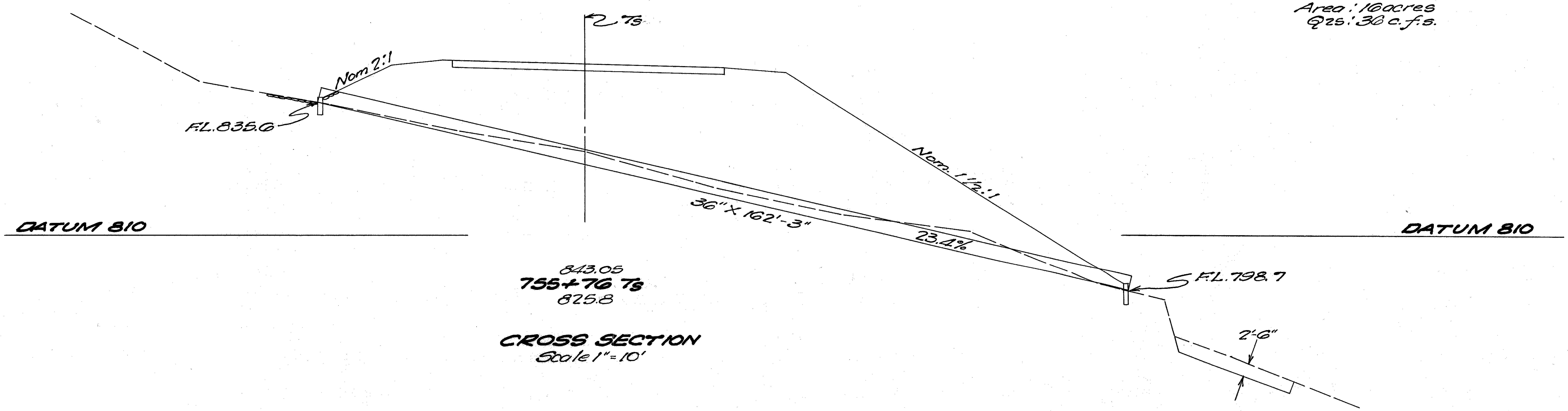
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

PLAN
Scale 1"=10'

ESTIMATED QUANTITIES

36" Paved Bit. Coated Corr. Metal Pipe Sec. M-6.4(d) or Heavy Duty Reinforced Concrete Culvert Pipe Sec. M-6.6(d)	162 Lin. Ft.
Excavation for Structures	108 Cu. Yds.
Riprap	14 Sq. Yds.
Concrete for Structures "Class E"	1.2 Cu. Yds.
Dumped Rock Channel Protection	13 Cu. Yds.
Paved Gutter (Std. Type 1)	30 Lin. Ft.

Area: 16 acres
Q25: 36 c.f.s.



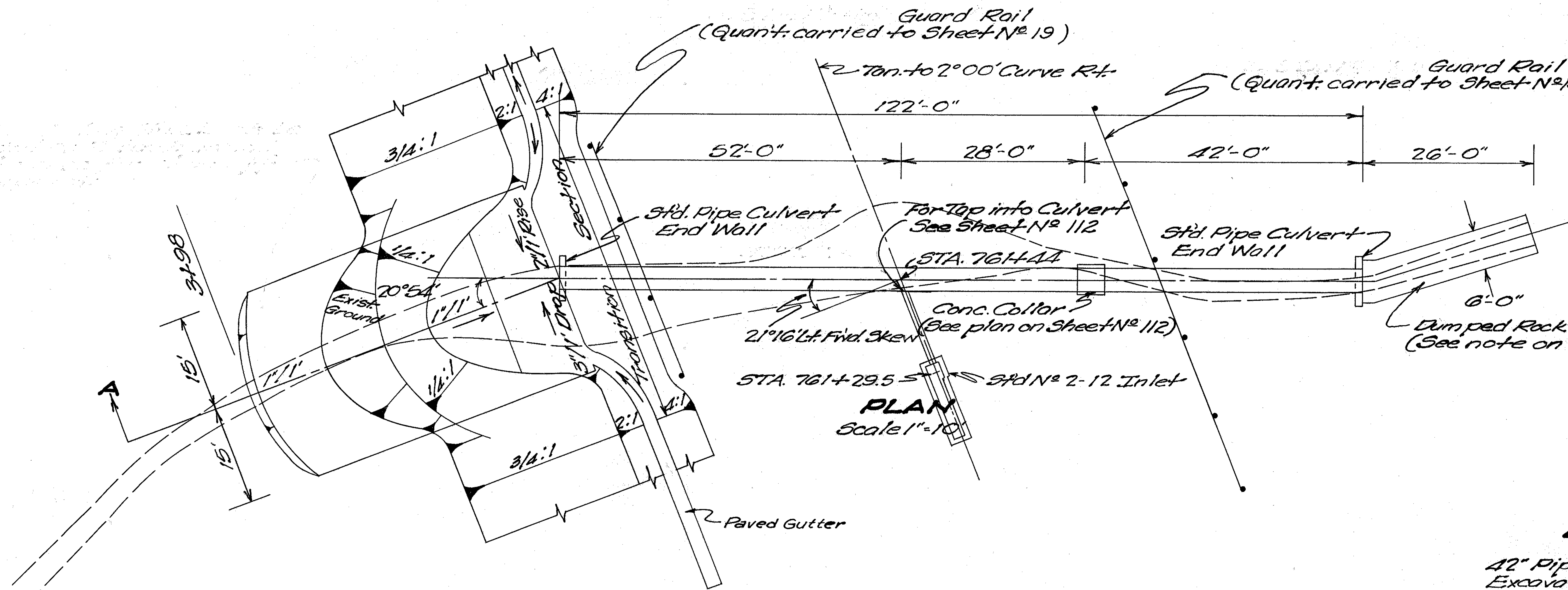
CROSS SECTION
Scale 1"=10'

STA. 755+76 Ts
36" X 162' PIPE CULVERT

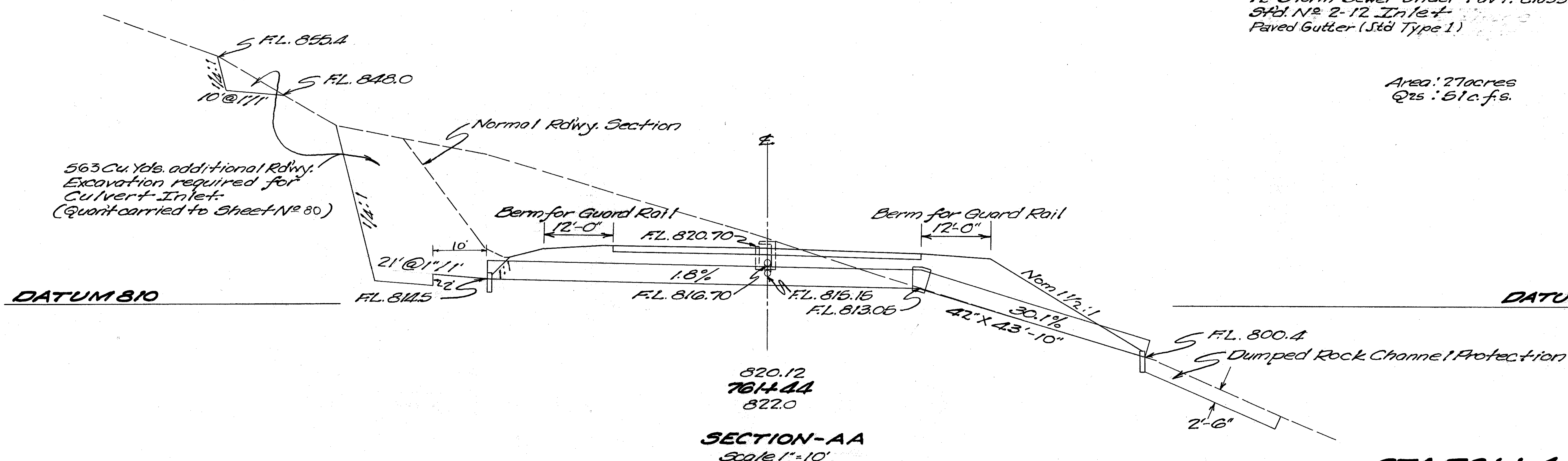
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

NOTE: Earthwork at cut recess to be paid for as E-1.



PLAN
Scale 1"=10'



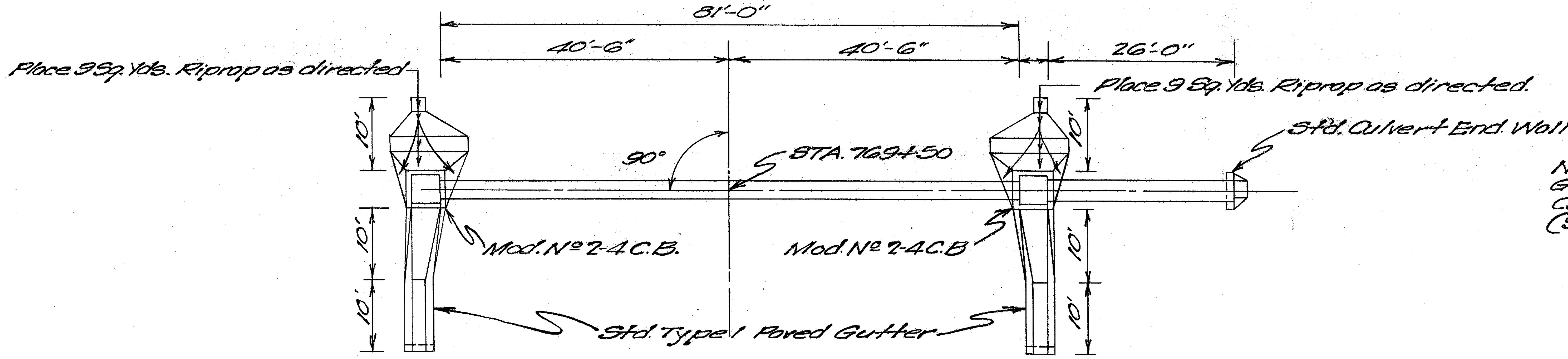
SECTION-AA
Scale 1"=10'

ESTIMATED QUANTITIES

42" Pipe for Roadway Culverts	124 Lin. Ft.
Excavation for Structures	117 Cu. Yds.
Concrete for Structures "Class E"	3.3 Cu. Yds.
Dumped Rock Channel Protection	15 Cu. Yds.
12" Storm Sewer Under Pav't. Class B	12 Lin. Ft.
Std. Nº 2-12 Inlet	1 Each
Paved Gutter (Std Type 1)	40 Lin. Ft.

Area: 27 acres
Q25 : 51 c.f.s.

STA. 761+44
42"X124' PIPE CULVERT



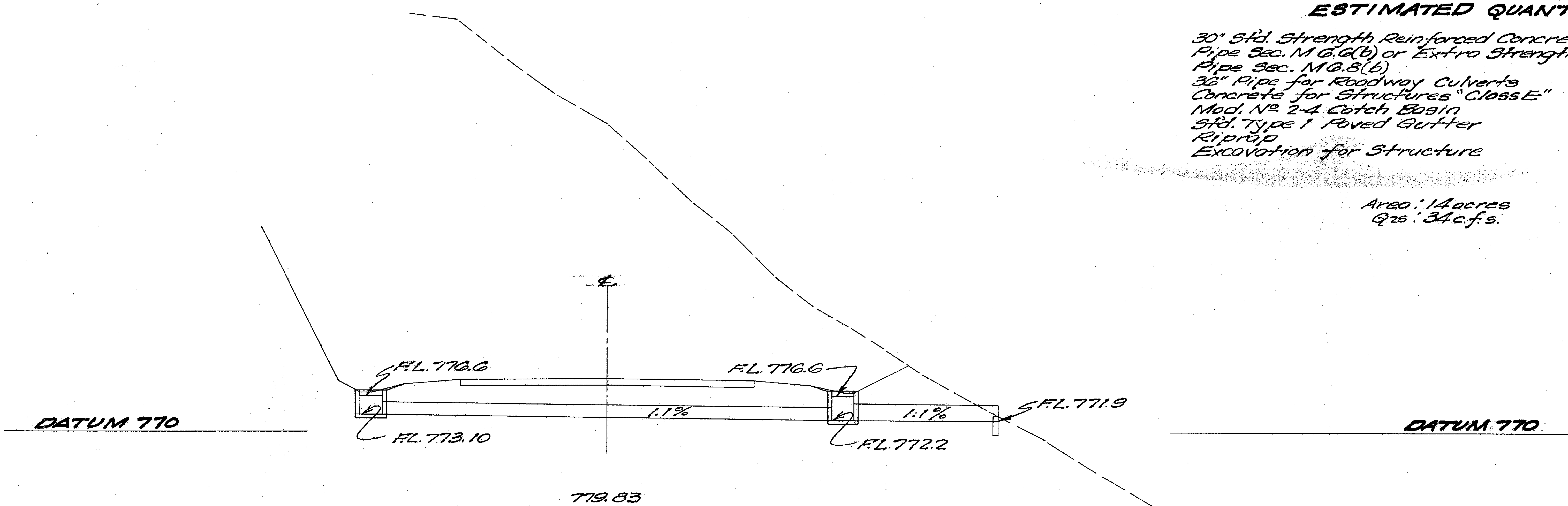
NOTE: For Details of Paved Gutter Type 1 and Mod. 2-4 Catch Basin. (See Sheet Nº 112)

PLAN
Scale 1" = 10'

ESTIMATED QUANTITIES

30" Std. Strength Reinforced Concrete Culvert Pipe Sec. M 6.6(b) or Extra Strength Vit. Sewer Pipe Sec. M 6.8(b)	81 Lin. Ft.
36" Pipe for Roadway Culverts	26 Lin. Ft.
Concrete for Structures "Class E"	0.6 Cu. Yds.
Mod. Nº 2-4 Catch Basin	2 Each
Std. Type 1 Paved Gutter	40 Lin. Ft.
Riprap	18 Sq. Yds.
Excavation for Structure	138 Cu. Yds.

Area: 14 acres
Q_{25}: 34 c.f.s.



779.83
769+50
825.6

CROSS SECTION
Scale 1" = 10'

STA. 769+50
30" X 81' & 36" X 26' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83-34.10)
COL-7-(0.00- 0.50)

PLAN
Scale 1"=10'

SECTION-AA
Scale 1"=10'

ESTIMATED QUANTITIES

Paved Gutter (Std. Type 1)	150 Lin. Ft.
54" Paved Bit. Coated Corr. Metal Pipe Sec. M-6.4(d) Gage 10	177 Lin. Ft.
Excavation for Structures	315 Cu. Yds.
Concrete for Structures "Class E"	2.5 Cu. Yds.
Dumped Rock Channel Protection	23 Cu. Yds.
Removal of Portions of Exist. Structure	51 Cu. Yds.
Channel Excavation	192 Cu. Yds.
Riprap	10 Sq. Yds.

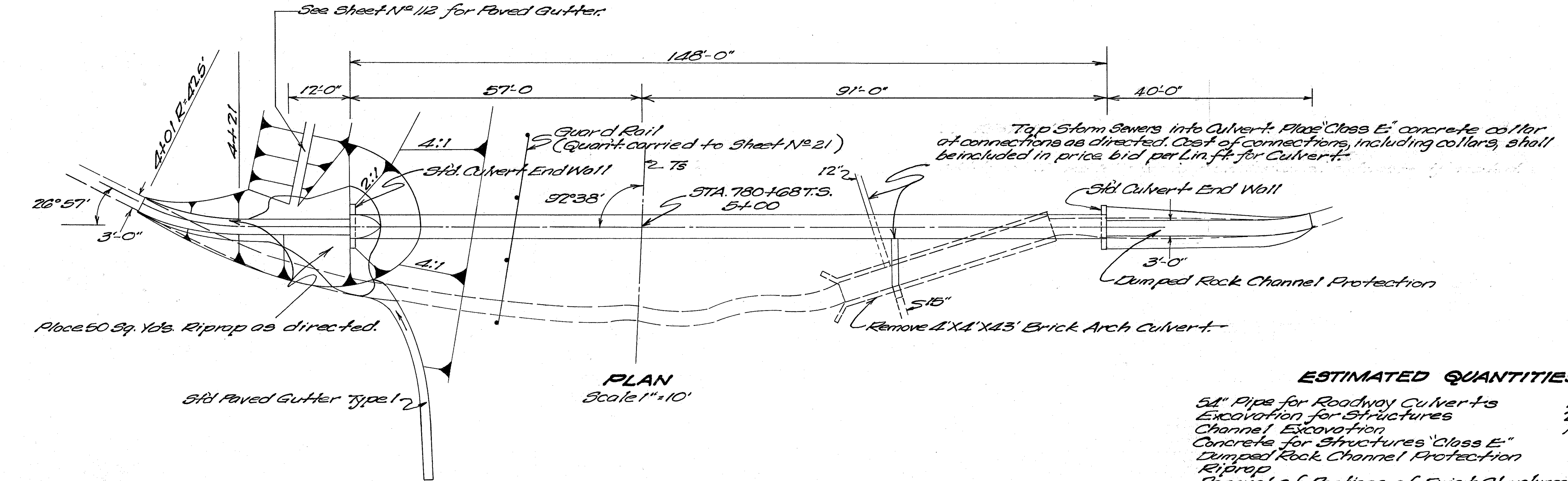
Area: 52 acres
Q25 : 80 c.f.s.

DATUM 730

STA. 778+23 Ts
54"X 177' PIPE CULVERT

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

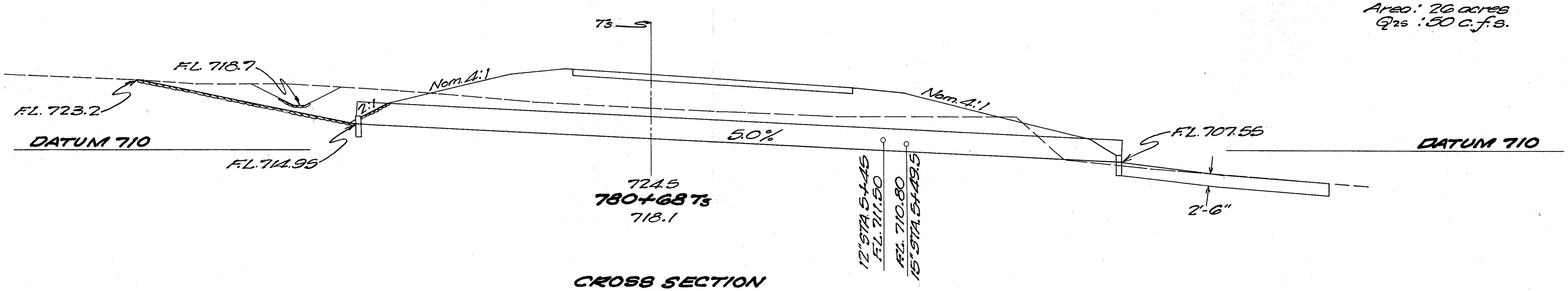


PLAN
Scale 1"=10'

ESTIMATED QUANTITIES

54" Pipe for Roadway Culverts	148 Lin. Ft.
Excavation for Structures	273 Cu. Yds.
Channel Excavation	106 Cu. Yds.
Concrete for Structures "Class E"	1.9 Cu. Yds.
Dumped Rock Channel Protection	24 Cu. Yds.
Riprap	50 Sq. Yds.
Removal of Portions of Exist. Structures	25 Cu. Yds.
12" Pipe for Storm Sewers Class A under Pavt.	12 Lin. Ft.
15" Pipe for Storm Sewers Class A under Pavt.	16 Lin. Ft.
Pipe Removal (15" and Under)	30 Lin. Ft.
Paved Gutter (Std. Type 1)	40 Lin. Ft.

Area: 26 acres
Q_{25} : 50 c.f.s.

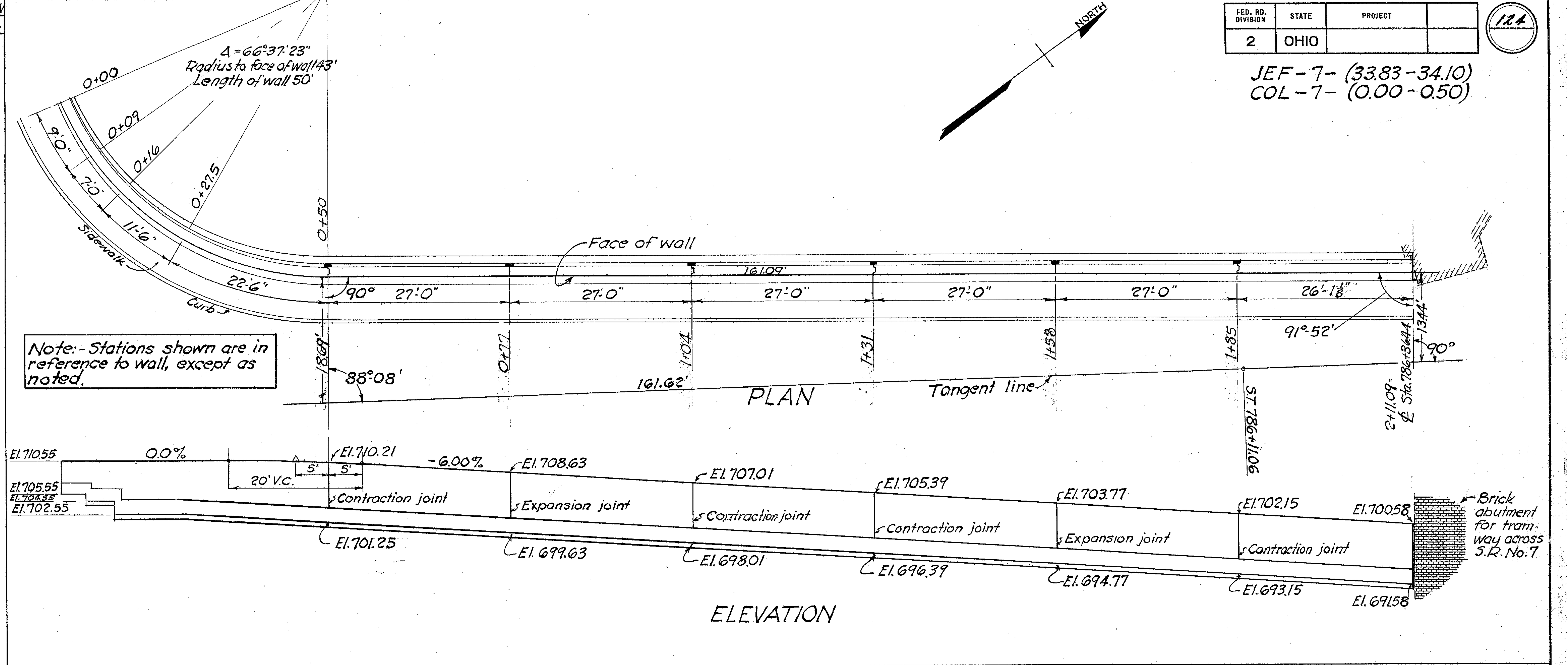


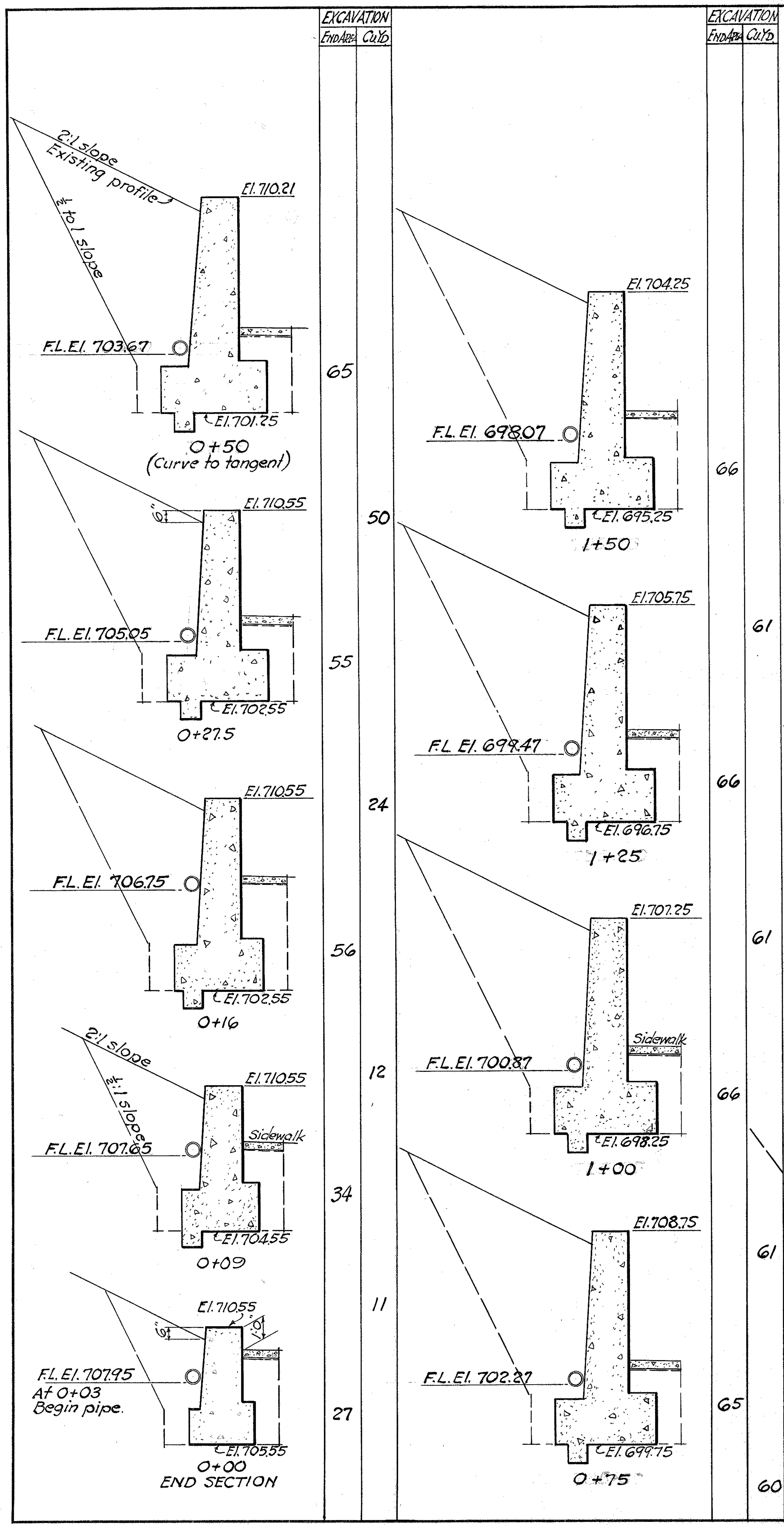
CROSS SECTION
Scale 1"=10'

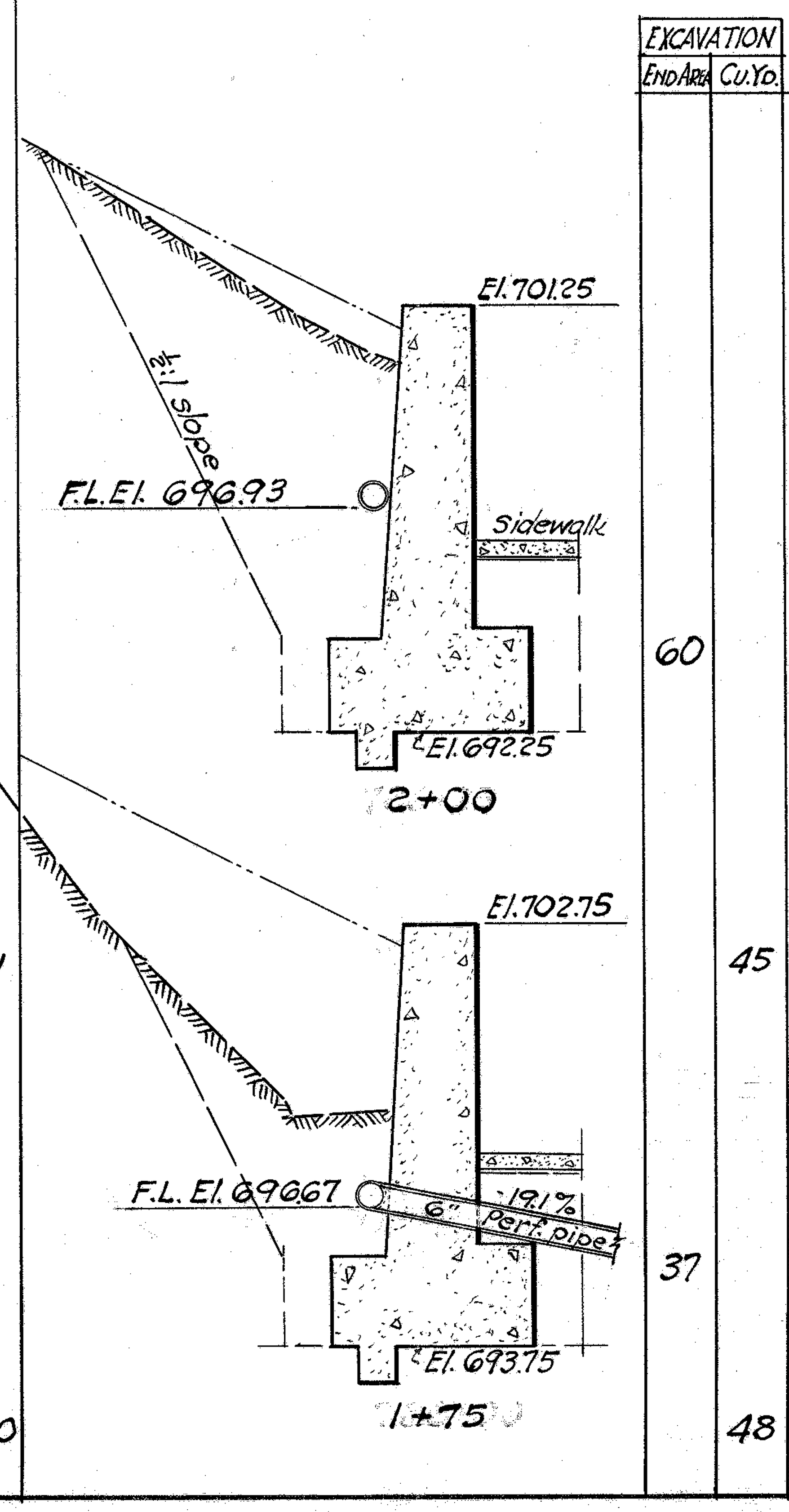
STA. 780+68 Ts
54" X 148' PIPE CULVERT

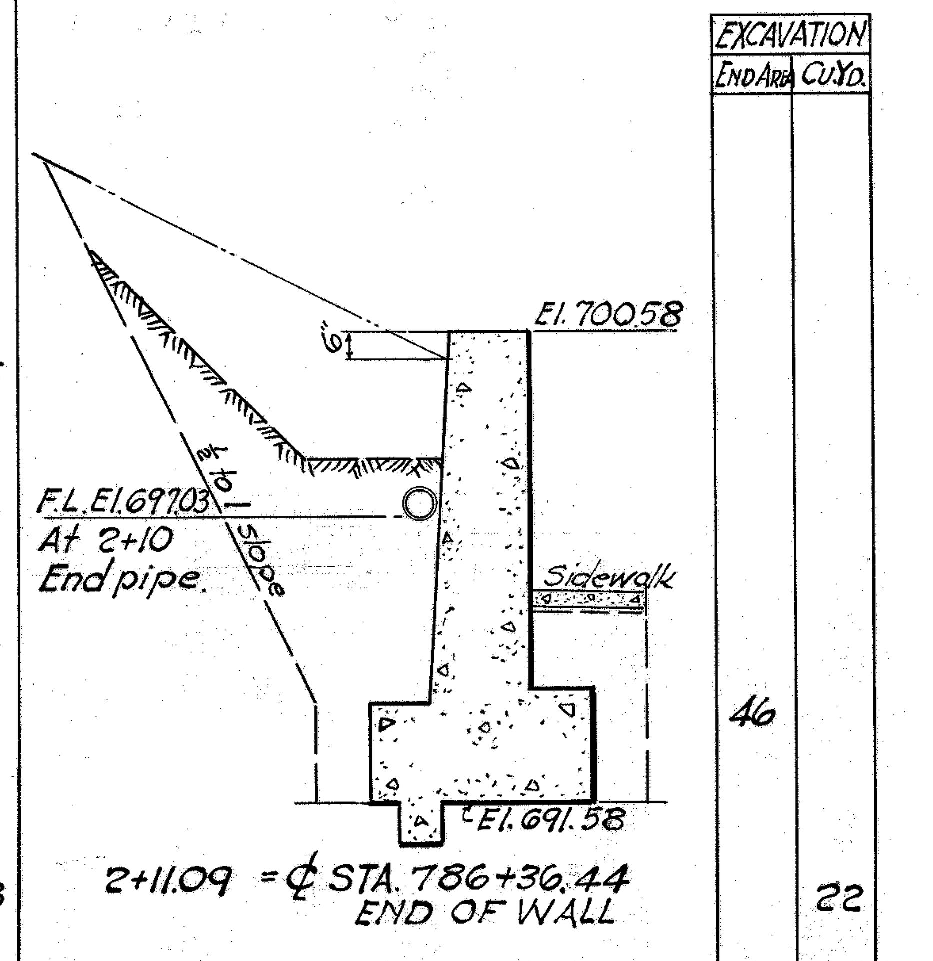
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

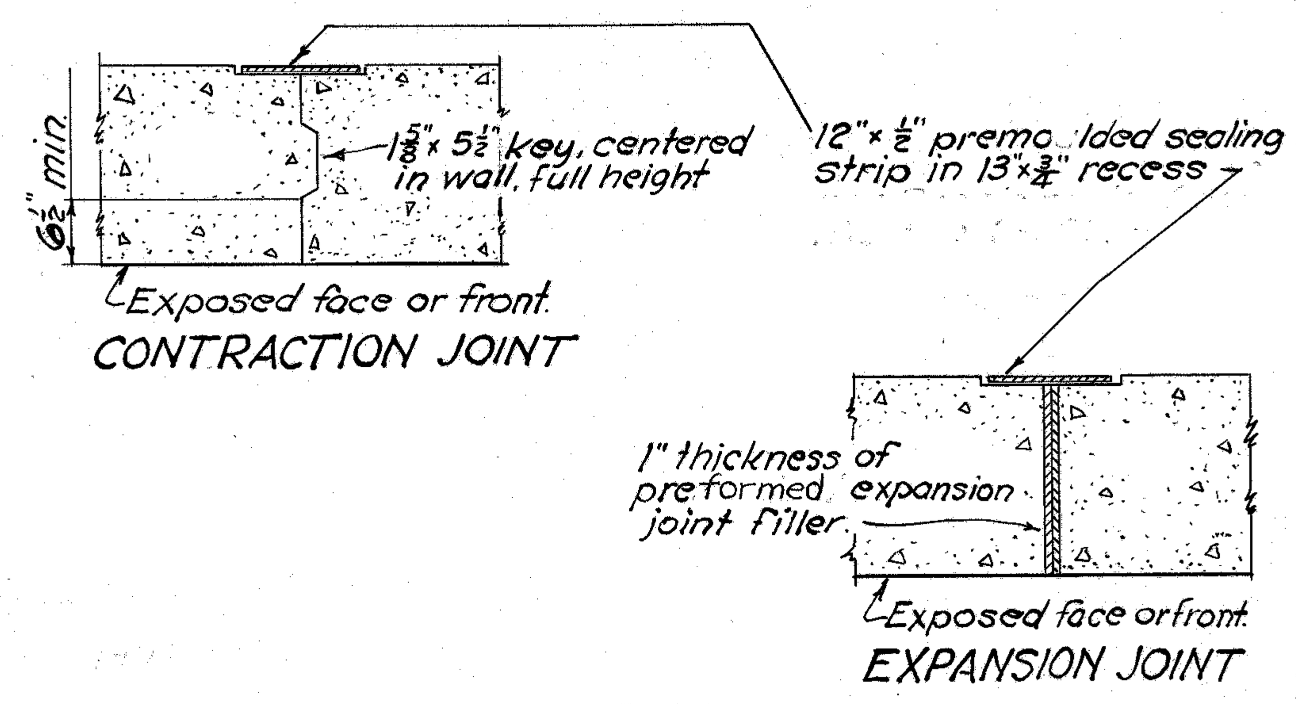
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)





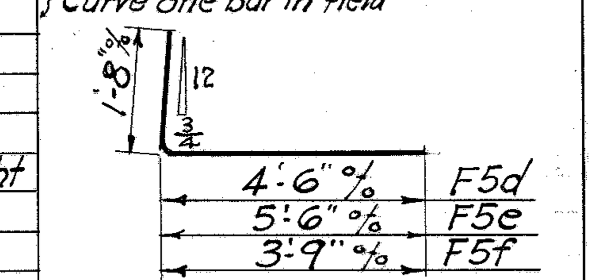






REINFORCING STEEL LIST

BAR	NO.	LENGTH	WEIGHT	SHAPE	BAR BENDING DIAGRAM
F5a	2	7'-0"	15	Straight	Curve bars in field.
F5b	1	12'-0"	13	"	" " " "
F5c	6	32'-4"	202	"	Curve one bar in field
F5d	3	6'-0"	19	Bent	
F5e	2	7'-0"	15	"	
F5f	66	5'-3"	361	"	
F5g	4	3'-0"	13	Straight	
F5h	4	3'-6"	15	"	
F5j	4	2'-3"	9	"	
F5k	4	3'-3"	14	"	
N5x	54	10'-0"	563	"	Curve 9 bars in field.
R5l	8	5'-11"	49	"	
R5m	3	6'-4"	20	"	
R5n	55	6'-10"	392	"	
U5o	3	2'-11"	9	"	
U5p	2	3'-9"	8	"	
U5q	8	5'-8"	47	"	
U5r	3	6'-0"	19	"	
U5s	55	6'-7"	378	"	Bar size; all bars 5/8" ϕ
Y5t	40	26'-6"	1106	"	
Y5u	2	10'-0"	21	"	
Y5v	6	25'-9"	161	"	
		TOTAL-3449 LB			



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-402 need not be furnished and replacement bars will not be furnished.

ESTIMATED QUANTITIES

S-22-Removal of Portions of Existing Structures (Stone and Brick Wall)	115	cu. yd.
E-2-Excavation for Structures	455	cu. yd
S-1-Concrete, (Class "E"), for Structures	159	cu. yd.
S-4-Reinforcing Steel	3,449	lb.
S-3-12" x 1/2" Premolded Sealing Strip	43	lin. ft
S-3-1" Preformed Expansion Joint Filler, Sec. M-10.02	47	sq. ft.
S-29-Porous Backfill, (No. 6a Aggregate)	59	cu. yd.
I-4-6" Helical Perforated Corrugated Metal Pipe, Sec. M-6.4(h), for underdrain, as per plan	208	lin. ft
I-5-Pipe Special, 6" T, Sec. M 6.4(h), for Underdrains, as per plan	1	Each

RETAINING WALL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

RETAINING WALL

LIMITED ACCESS

JEFFERSON CO., SALINE TWP.
SEC. 7 - T 9 - R 2

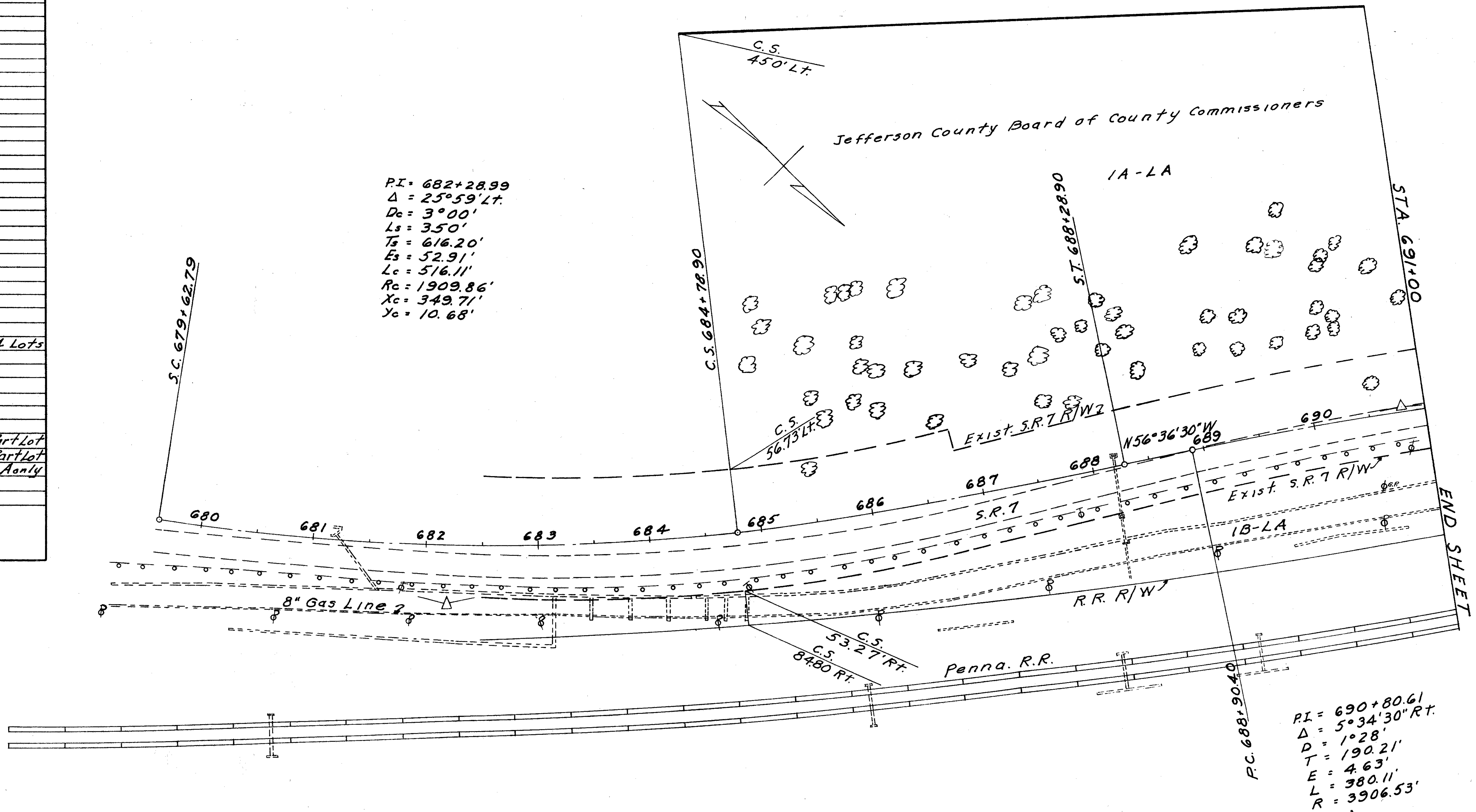
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50
RIGHT OF WAY PLAN

Summary of Additional R/W Required

Parcel Nº	Owner	Area Aº	Exist Bldgs	Sheet Nº's	Remarks
1A-LA	JEF. CO. Board of Co. Comm.	11.6	—		
1B-LA	" " " " " "	1.6	—		
1-LA	" " " " " "	20.5	Yes		
2-LA	Frank Harris	—	Yes		L.A. only
3-LA	Robert Johnston	0.6	—		
4-LA	W.R. Myers & E.M. Goucher	0.4	—		
5-LA	Helen E. Hutson	0.3	—		
6-LA	" " "	4.1	—		
x 7-LA	Robert Johnston	35.8	—		
9-LA	Frank Wooster	15.7	—		
10-LA	Chester E. Davis	4.3	—		
11-LA	C & P. R.R. Co.				
12-LA	Frank Wooster	0.276	—		
13-LA	Homer C. & Hazel R. Grodhaus	0.276	Yes		
14-LA	Richard C. Haugh	0.276	Yes		
15-LA	John C. Calhoun	0.287	—		
16-LA	Cloyd H. & Erma Thomas	0.36	Yes		
17-LA	Earl L. & Nellie Smith	0.236	Yes		
18-LA	Lloyd W. & Almetta Fieldings	0.347	Yes		
* 20-LA	Chester F. & Marie Board	0.138	Yes		
21-LA	Leroy B. & Elva V. Board	0.109	Yes		
22-LA	Angelo Inverso	0.152	Yes		
23-LA	Mildred E. Howell	0.082	Yes		
24-LA	James A. Halfhill	0.289	Yes		
25-LA	Howard L. & Anna Westlake	0.52	Yes		
26-LA	Audrey Halfhill	0.34	Yes		
27-LA	Robert K. & Martha V. Reed	0.31	Yes		
28-LA	Clarence & Edna Wickham	0.28	Yes		
29-LA	Anna Moore	0.28	Yes		
30-LA	Hazel Grodhaus	0.10	Yes		
31-LA	Alvin R. Jarvis	0.058	Yes		
32-LA	Catherine Williams	0.088	Yes		
33-LA	I. H. Aronson	—	Yes		4 Lots
34-LA	Ollie I. & Paul S. Wirth	0.28	Yes		
35-LA	Joseph & Blanche McCarty	0.28	Yes		
36-LA	Silas R. McKenzie	0.28	Yes		
37-LA	Lawrence McKenzie	0.28	Yes		
* 19-LA	Frank Wooster	0.4	—		
38-LA	H.K. Porter Co. Inc.	0.28	—		
39-LA	" " " " "		—		Part Lot
40-LA	Frank Wooster				Part Lot
41-LA	H.K. Porter Co. Inc.	—	Yes		L.A. only
42-LA	" " " " "	0.3	—		
43-WA	" " " " "	0.1	—		

x NOTE: Parcel Nº 8-LA Not Needed



JEFFERSON CO., SALINE TWP.
SEC. 7 & 8 - T9 - R2

LIMITED ACCESS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF.-7-(33.83 - 34.10)
COL.-7-(0.00 - 0.50)

P.I. = 690+80.61
Δ = 5°34'30" Rt.
D = 1°28'
T = 190.21'
E = 4.63'
L = 380.11'
R = 3906.53

JEFFERSON COUNTY BOARD OF COUNTY COMMISSIONERS
Parcel № 1A-LA
To be Acquired 11.6 A°

JEFFERSON COUNTY BOARD OF COUNTY COMMISSIONERS
Parcel № 1B-LA
To be Acquired 1.6 A°

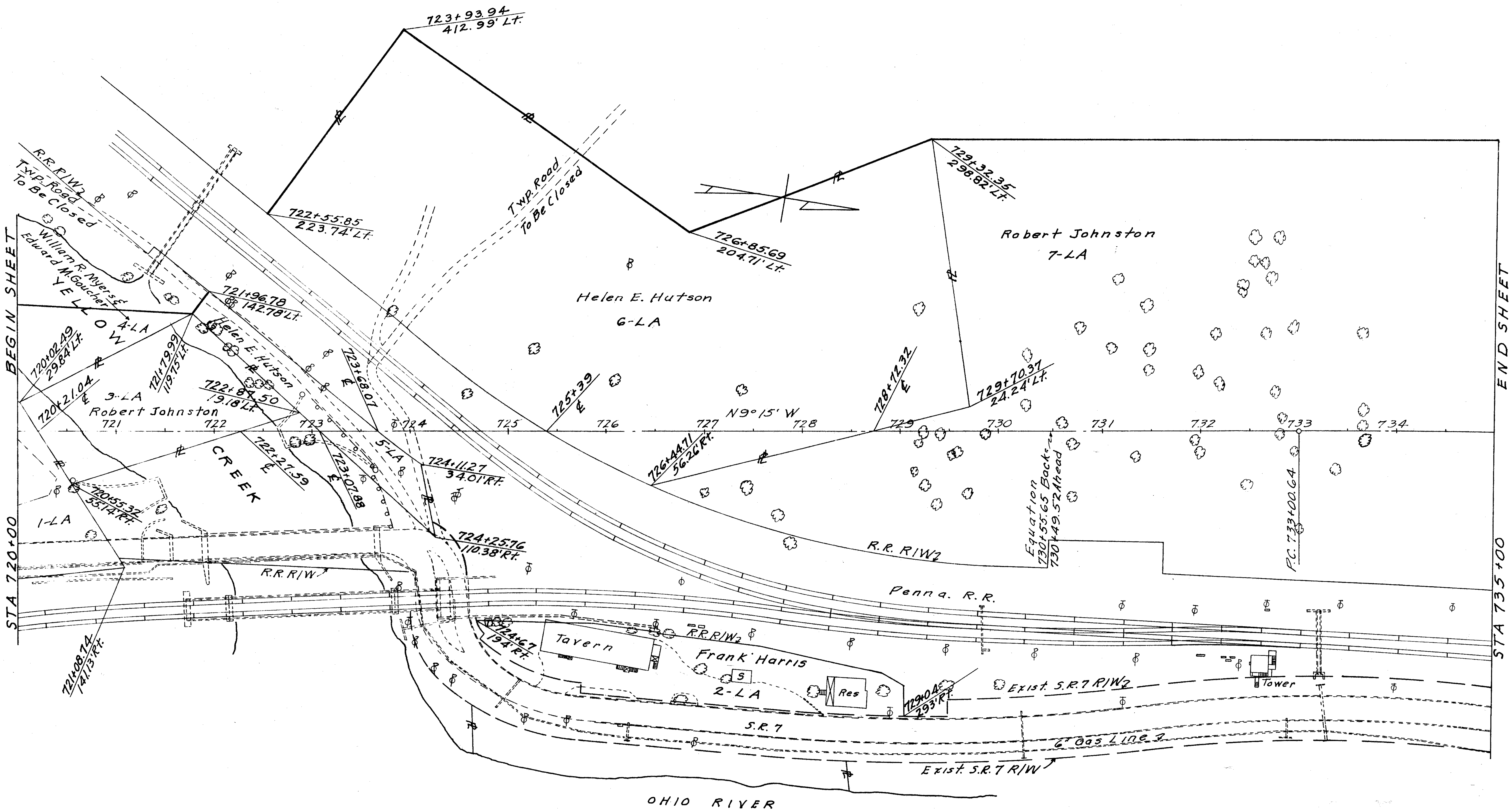

JEFFERSON CO., SALINE TWP.
SEC. 7 & 8 - T9 - R2
LIMITED ACCESS
FED. RD. DIVISION 2
STATE OHIO
PROJECT
128
JEF.-7- (33.83 - 34.10)
COL.-7- (0.00 - 0.50)
Jefferson County Board of County Commissioners
Proposed ℄ S.R. 213
I-LA
SEC. LINE
SEC. 7
SEC. 8
R.R. R/W
S.R. 213
Exist. S.R. 213 R/W
707+37 629.3' Lt.
708+45 570' Lt.
711+21.86 487.88' Lt.
714+60.30 353.84' Lt.
716+33 310' Lt.
718+44 140' Lt.
Yellow Creek
William R. Myers & Edward M. Goucher
4-LA
END SHEET
STA 720+00
STA 706+00
BEGIN SHEET
Gar.
School
Barn
Children's Home
Res.
P.I. = 713+27.24
Δ = 41°47' Rt.
Dc = 5°00'
Ls = 400'
Ts = 639.41'
Es = 86.86'
Lc = 435.67'
Rc = 1145.92'
S.C. 710+87.83
C.S. 715+23.50
S.T. 719+23.50
T.S. 706+87.83
N51°02'W
N9°15'W
Exist. S.R. 7 R/W
S.R. 7
Exist. S.R. 7 R/W
R.R. R/W
Penna. R.R.
707+05 154.2' Rt.
709+14 194' Rt.
711+49.60 236.79' Rt.
714+03.72 244.79' Rt.
719+66.58 155.49' Rt.
JEFFERSON COUNTY BOARD COUNTY COMMISSIONERS
PARCEL № I-LA
Total Area 22.9 Ac.
Present Road Occupies 2.4 Ac.
To be Acquired 20.5 Ac.

JEFFERSON CO., SALINE TWP.
SEC. 8 -T9- R2

LIMITED ACCESS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF.-7- (33.83 - 34.10)
COL.-7- (0.00 - 0.50)



Frank Harris
Parcel № 2-LA
Limited Access Only

Robert Johnston
Parcel № 3-LA
To Be Acquired 0.6 Ac

William R. Myers & Edward M. Goucher
Parcel № 4-LA
To Be Acquired 0.4 Ac

Helen E. Hutson
Parcel № 5-LA
To Be Acquired 0.3 Ac

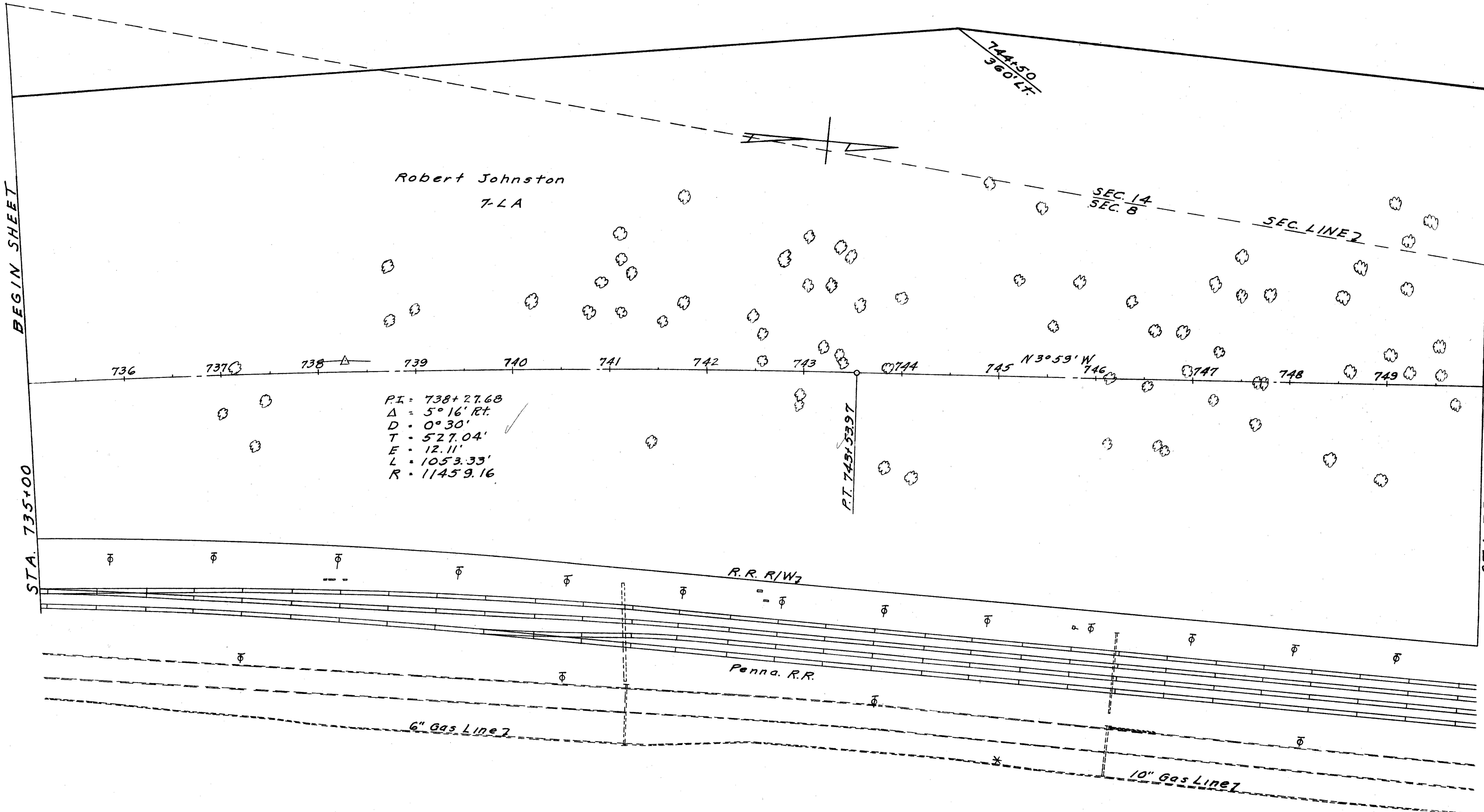
Helen E. Hutson
Parcel № 6-LA
To Be Acquired 4.1 Ac

JEFFERSON CO., SALINE TWP.
SEC. 8 & 14 - T9 - R2

LIMITED ACCESS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

JEF-7-(33.83 - 34.10)
COL.-7-(0.00 - 0.50)



Robert Johnston
Parcel No 7-LA
To Be Acquired 35.8 Ac

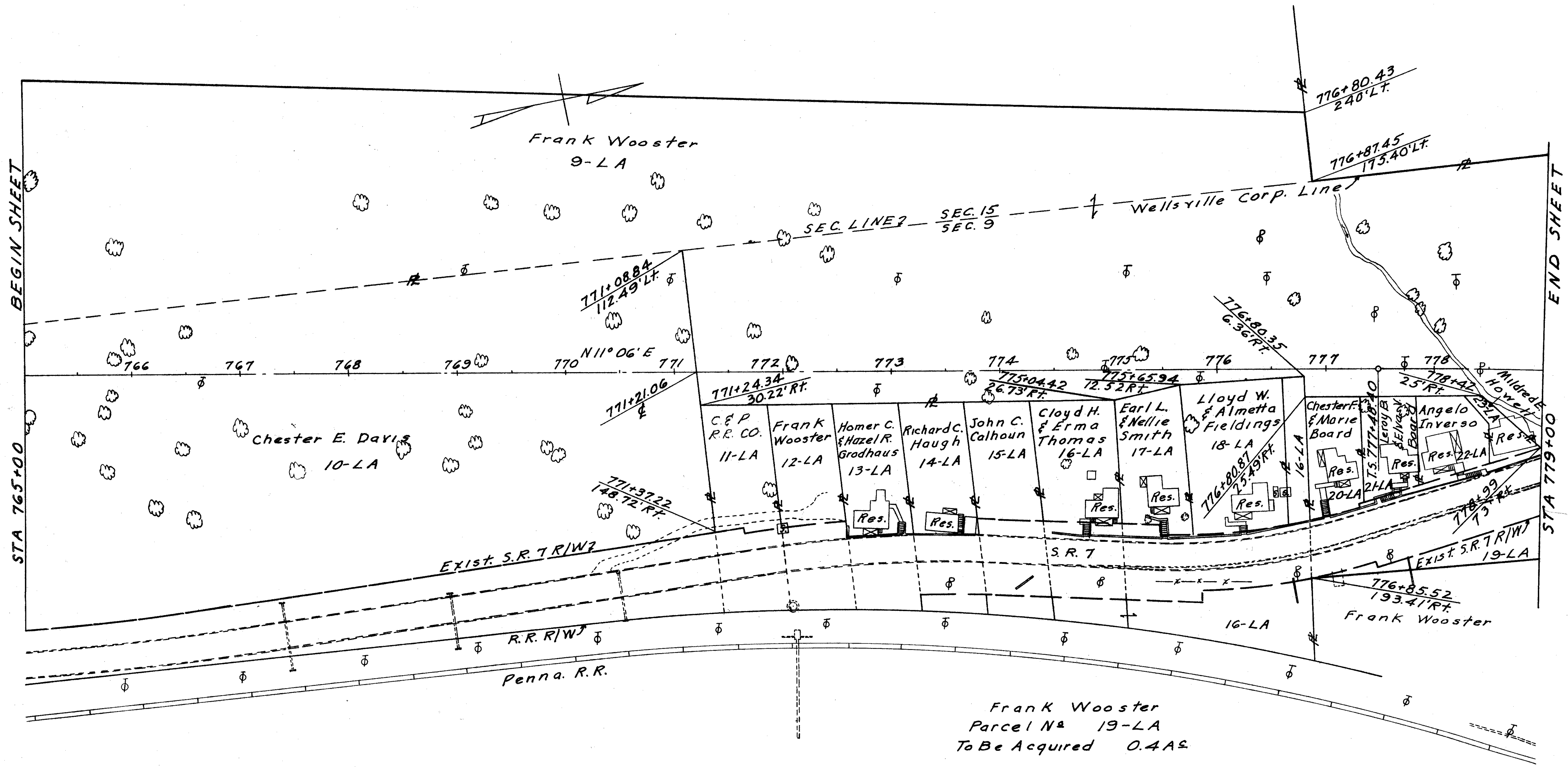

JEFFERSON CO., SALINE TWP.
SEC. 8 & 14 - T9 - R2
COLUMBIANA CO., YELLOWCREEK TWP.
SEC. 9 & 15 - T9 - R2
& CITY OF WELLSVILLE
LIMITED ACCESS
FED. RD. DIVISION
STATE
PROJECT
2
OHIO
131
JEF-7-(33.83 - 34.10)
COL-7-(0.00 - 0.50)
N85°06'W
758+23.61
758+36.42
249.64' Lt.
762+25
285' Lt.
Robert Johnston
7-LA
Frank Wooster
9-LA
Jefferson Co.
Columbiana Co.
BEGIN SHEET
END SHEET
SEC. 14
SEC. 8
SEC. LINE
SEC. 15
SEC. 9
N3°59'W
751
752
753
754
755
756
757
758
759
760
761
762
763
764
N11°06'E
764+40.89
39.93' Lt.
Wellsville Corp. Line
758+23.61
P.I. = 759+18.36
Δ = 15°05' Rt.
D = 2°00'
Ls = 200'
Ts = 479.35'
Es = 25.58'
Lc = 554.16'
Rc = 2864.79'
T.S. 754+39.01
S.C. 756+39.01
C.S. 761+93.17
S.T. 763+93.17
764+45.23
Chester E. Davis
10-LA
STA. 750+00
STA. 765+00
County Line
Wellsville Corp. Line
758+03.30
323.15' Rt.
760+10.60
326.18' Rt.
Exist. S.R.7 R/W
764+71.34
240.36' Rt.
S.R. 7
R.R. R/W
Penna. R.R.
10" Gas Line
Frank Wooster
Parcel No 9-LA
To Be Acquired 15.7 Ac.
Chester E. Davis
Parcel No 10-LA
To Be Acquired 4.3 Ac.

COLUMBIANA CO., YELLOWCREEK TWP.
SEC. 9 & 15 - T9 - R2
& CITY OF WELLSVILLE

LIMITED ACCESS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



C & P RR. CO.
Parcel № 11-LA
To Be Acquired

Homer C. & Hazel R. Grodhaus
Parcel № 13-LA
To Be Acquired 0.276 Ac.

John C. Calhoun
Parcel № 15-LA
To Be Acquired 0.287 Ac.

Earl L. & Nellie Smith
Parcel № 17-LA
To Be Acquired 0.236 Ac.

Chester F. & Marie Board
Parcel № 20-LA
To Be Acquired 0.138 Ac.

Angelo Inverso
Parcel № 22-LA
To Be Acquired 0.152 Ac.

Frank Wooster
Parcel № 12-LA
To Be Acquired 0.276 Ac.

Richard C. Haugh
Parcel № 14-LA
To Be Acquired 0.276 Ac.

Cloyd H. & Erma Thomas
Parcel № 16-LA
To Be Acquired 0.36 Ac.

Lloyd W. & Almetta Fieldings
Parcel № 18-LA
To Be Acquired 0.347 Ac.

Leroy B. & Elva V. Board
Parcel № 21-LA
To Be Acquired 0.109 Ac.

Mildred E. Howell
Parcel № 23-LA
To Be Acquired 0.082 Ac.

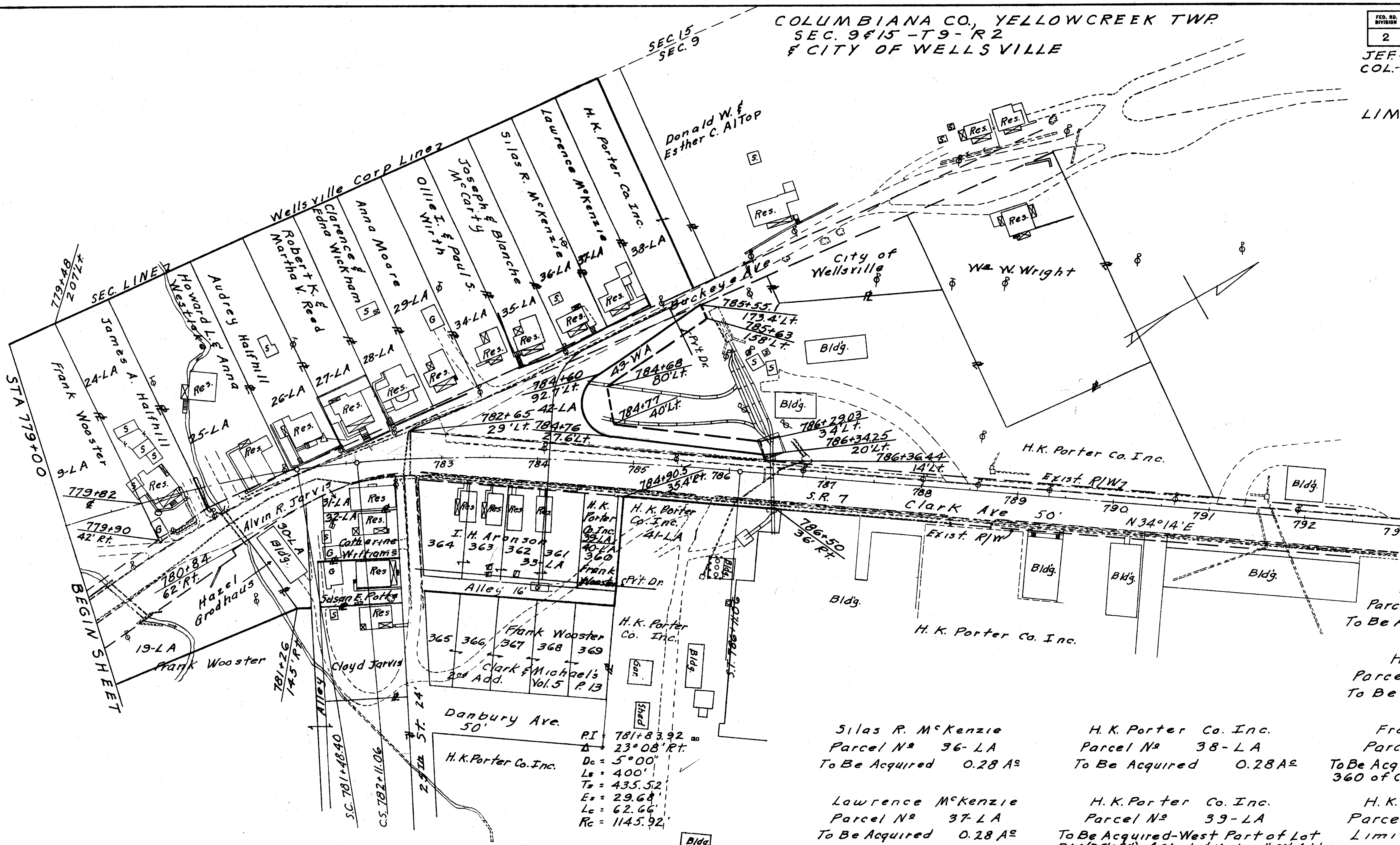
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

133

JEF-7-(33.83-34.10)
COL.-7-(0.00-0.50)

COLUMBIANA CO., YELLOWCREEK TWP.
SEC. 9 & 15 - T9 - R2
& CITY OF WELLSVILLE

LIMITED ACCESS



H. K. Porter Co. Inc.
Parcel № 42-LA
To Be Acquired 0.3 Ac.

H. K. Porter Co. Inc.
Parcel № 43-WA
To Be Acquired 0.1 Ac.

Silas R. McKenzie Parcel № 36-LA To Be Acquired 0.28 Ac.	H. K. Porter Co. Inc. Parcel № 38-LA To Be Acquired 0.28 Ac.	Frank Wooster Parcel № 40-LA To Be Acquired - East Part of Lot 360 of Clark & Michael's 2nd Add.
Lawrence McKenzie Parcel № 37-LA To Be Acquired 0.28 Ac.	H. K. Porter Co. Inc. Parcel № 39-LA To Be Acquired - West Part of Lot 360 (35' x 50') of Clark & Michael's 2nd Add.	H. K. Porter Co. Inc. Parcel № 41-LA Limited Access Only

James A. Halfhill Parcel № 24-LA To Be Acquired 0.289 Ac.	Audrey Halfhill Parcel № 26-LA To Be Acquired 0.34 Ac.	Clarence & Edna Wickham Parcel № 28-LA To Be Acquired 0.28 Ac.	Hazel Grodhaus Parcel № 30-LA To Be Acquired 0.10 Ac.	Catherine Williams Parcel № 32-LA To Be Acquired 0.088 Ac.	Ollie I. & Paul S. Wirth Parcel № 34-LA To Be Acquired 0.28 Ac.
Howard L. & Anna Westlake Parcel № 25-LA To Be Acquired 0.52 Ac.	Robert K. & Martha V. Reed Parcel № 27-LA To Be Acquired 0.31 Ac.	Anna Moore Parcel № 29-LA To Be Acquired 0.28 Ac.	Alvin R. Jarvis Parcel № 31-LA To Be Acquired 0.058 Ac.	I. H. Aronson Parcel № 33-LA To Be Acquired - Lots 361, 362, 363 & 364 of Clark & Michael's 2nd Add.	Joseph & Blanche McCarty Parcel № 35-LA To Be Acquired 0.28 Ac.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

134

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

ITEM	ESTIMATED QUANTITIES	
S-22	Removal of portions of existing structure	4 cu. yd.
E-2	Excavation (Structures)	21 cu. yd.
S-1	Concrete, Class "E"	14 cu. yd.
S-29	Porous backfill (6a aggregate)	7 cu. yd.
S-4	Reinforcing Steel	440 lb.
S-9	1" Premoulded Exp. Joint Filler	33 sq. ft.

NORTH ABUTMENT- WING WALLS
PLAN, ELEVATION AND QUANTITIES
BRIDGE No. JEF-213-1864
OVER PENNSYLVANIA RAILROAD

JEFFERSON COUNTY

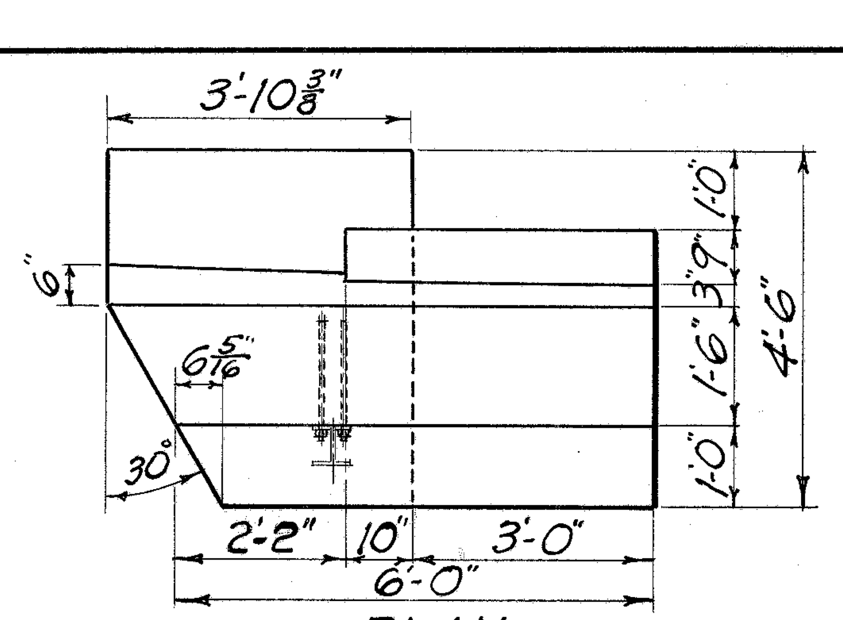
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HGM	HGM	HGM	C.S.			

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

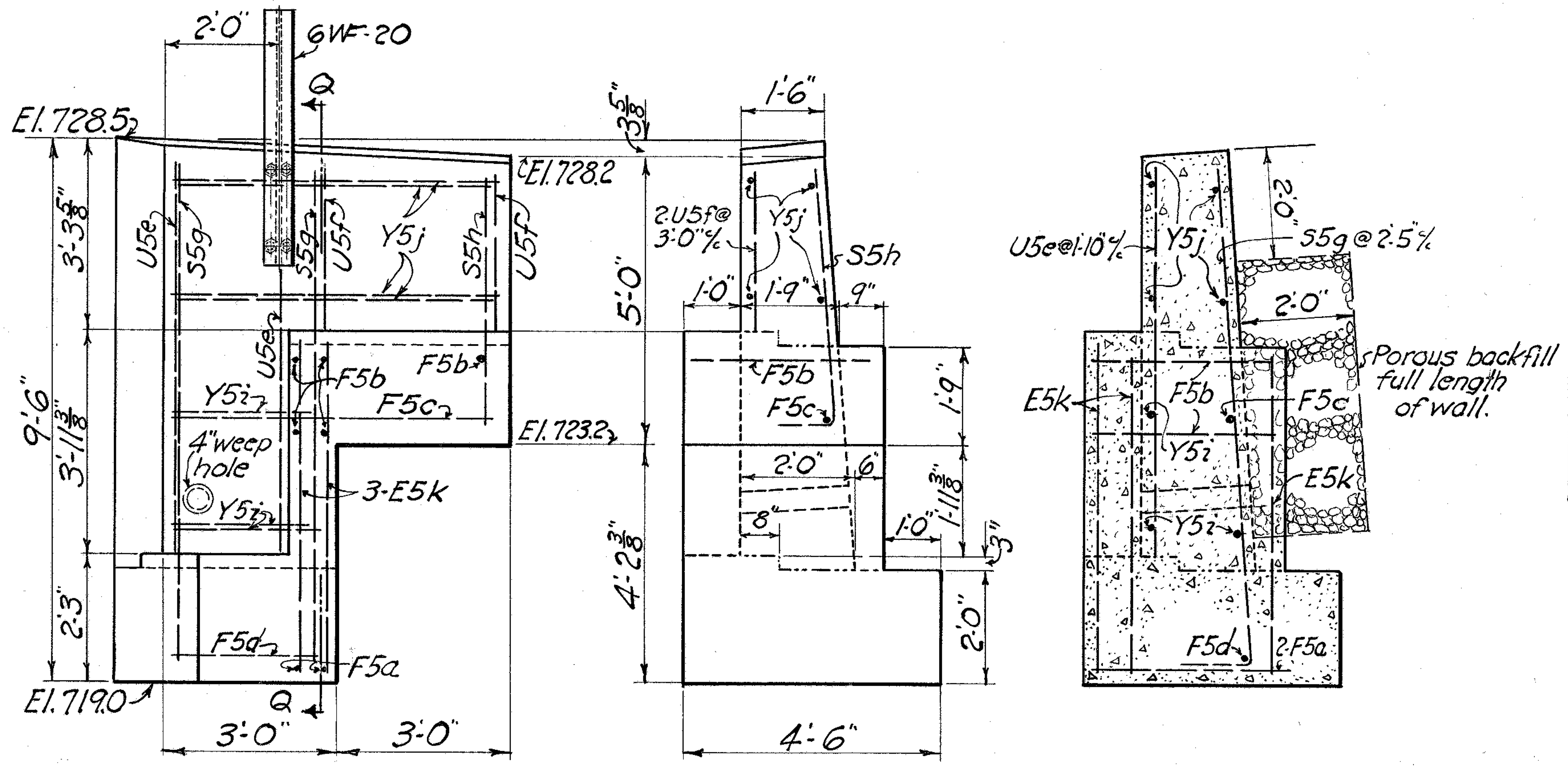
135

JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Note:- Cost of railing post assembly including 6WF-20 and anchor bolts shall be included in price bid per Lin. Ft. for Item I-15.

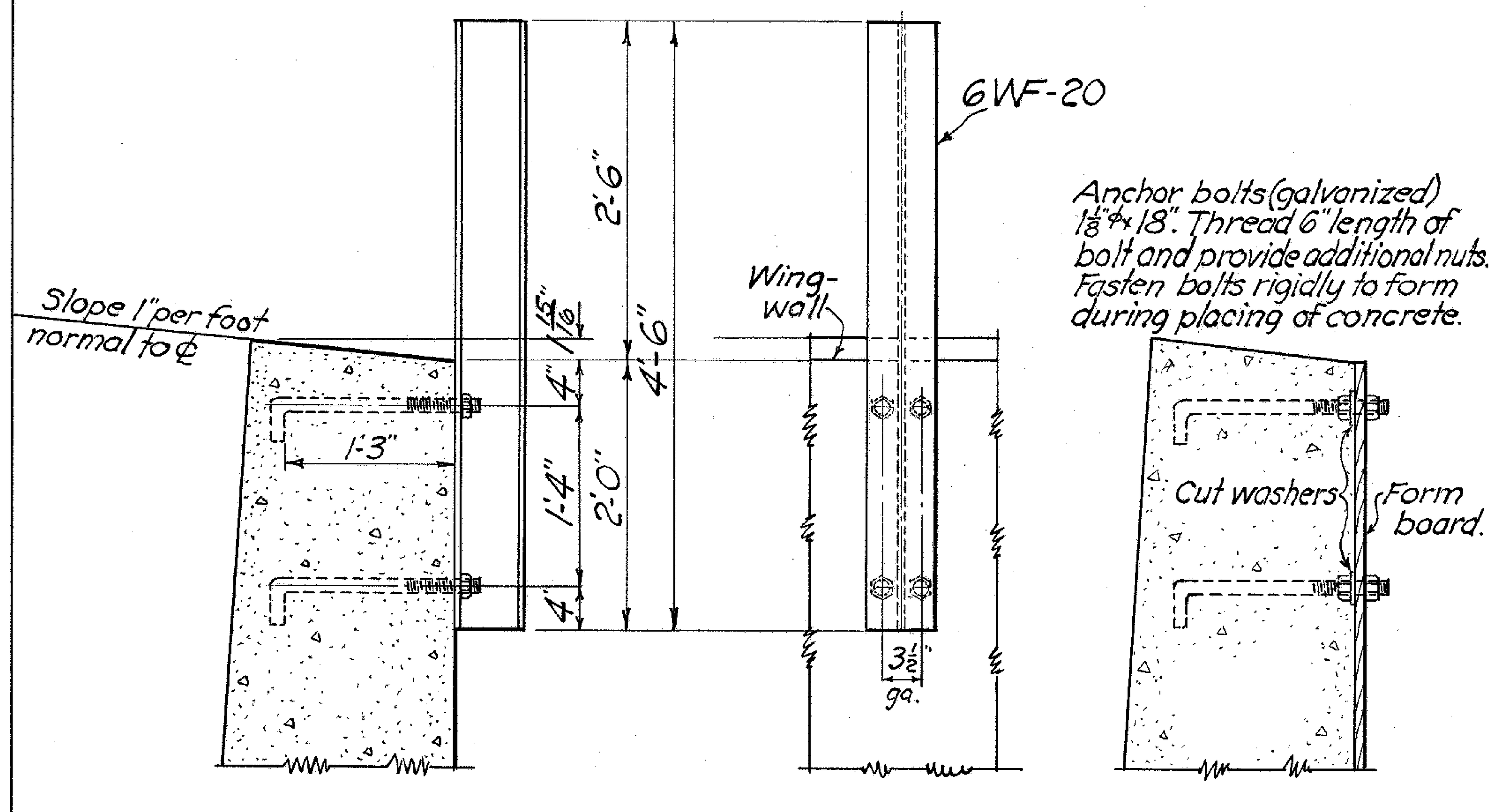


PLAN



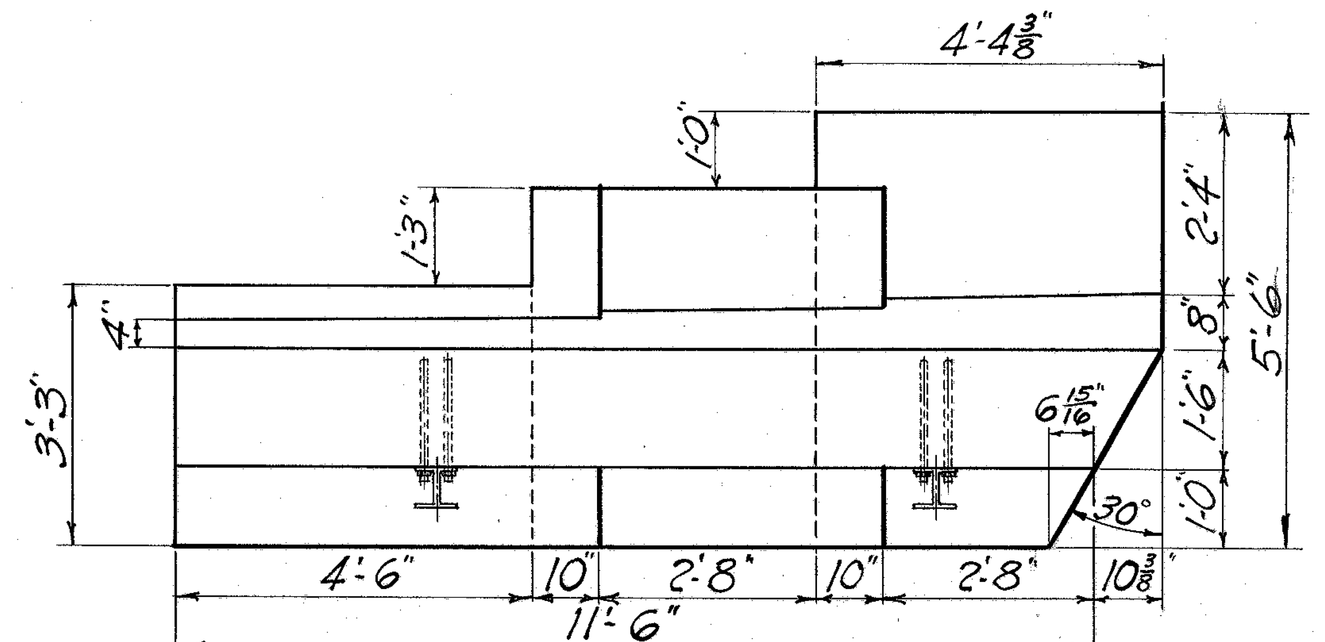
ELEVATION　　END VIEW　　SECTION Q-Q

WALL "B"

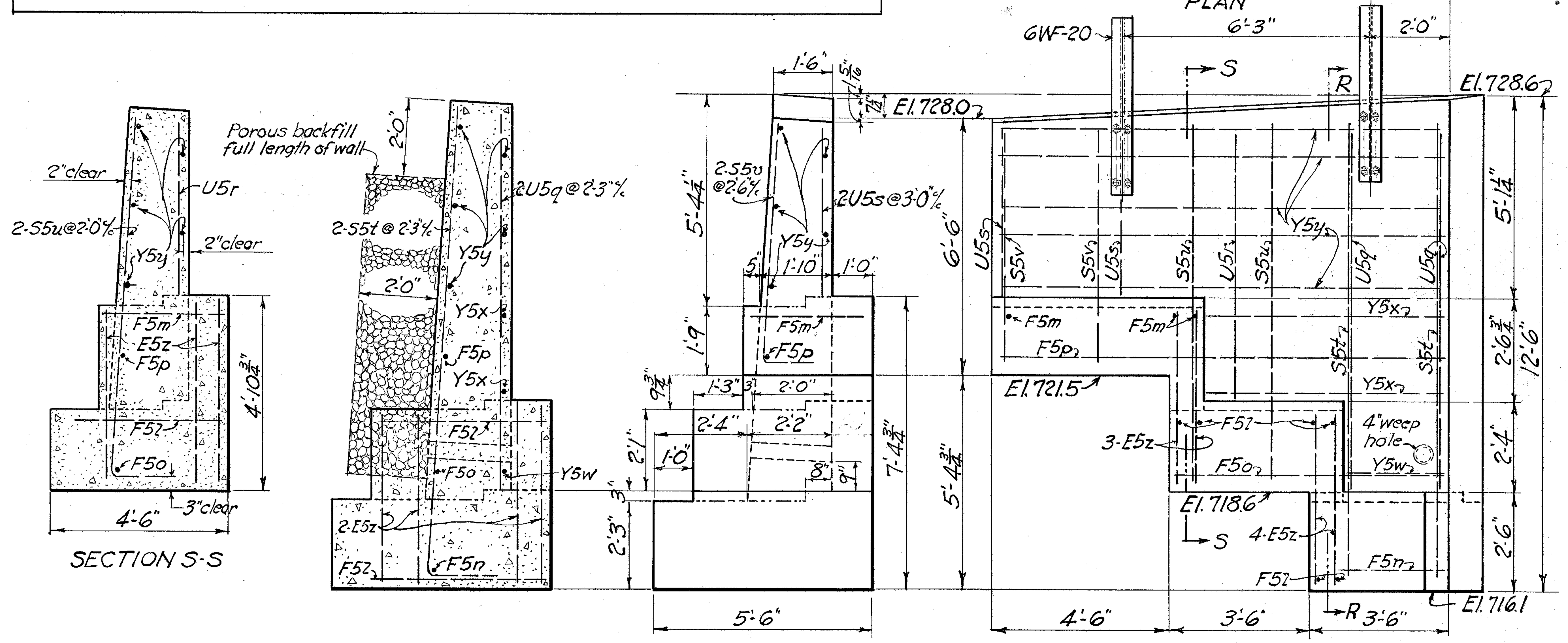


SEC.　　ELEV.　　FORMING SEC.

RAILING POST FASTENING DETAIL



PLAN



SECTION S-S　　SECTION R-R　　END VIEW　　ELEVATION

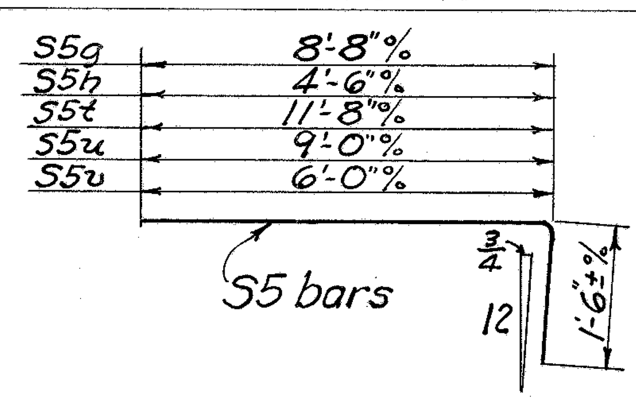
WALL "A"

REINFORCING STEEL LIST

Bar	No.	Length	Weight	Shape
WALL "B"				
F5a	2	3'-6"	7	Straight
F5b	5	3'-2"	17	"
F5c	1	5'-8"	6	"
F5d	1	2'-8"	3	"
U5e	2	6'-10"	14	"
U5f	2	2'-9"	6	"
S5g	2	10'-0"	21	Bent
S5h	1	5'-10"	6	"
Y5i	3	2'-6"	8	Straight
Y5j	4	5'-8"	24	"
E5k	6	5'-8"	35	"
			147	TOTAL
WALL "A"				
F5l	6	4'-2"	26	Straight
F5m	3	3'-0"	9	"
F5n	1	2'-6"	3	"
F5o	1	6'-9"	7	"
F5p	1	11'-3"	12	"
U5q	2	9'-4"	19	"
U5r	1	7'-0"	7	"
U5s	2	4'-3"	9	"
S5t	2	13'-0"	27	Bent
S5u	2	10'-4"	22	"
S5v	2	7'-4"	15	"
Y5w	1	2'-6"	3	Straight
Y5x	2	6'-0"	12	"
Y5y	5	11'-3"	59	"
E5z	14	4'-4"	63	"
			293	TOTAL
GRAND TOTAL			440 POUNDS	

BAR BENDING DIAGRAM

Bar size is 5/8"ø
All bars are No. 5



NORTH ABUTMENT - WINGWALLS
DETAILS AND STEEL LIST
BRIDGE No. JEF-213-1864
OVER PENNSYLVANIA RAILROAD

JEFFERSON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HPM	HPM	HPM	C.S.			

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

JEFFERSON COUNTY
SEC. NO. JEF-7-(33.83 - 34.10)
COL-7-(0.00 - 0.50)

GENERAL NOTES
(JEF-7-3406 and JEF-7-3447)

1. Design Specifications for these structures conform to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 10/1/51, together with the revisions thereof, dated 7/15/52, 4/1/54 and 2/1/55.

2. Uninterrupted and unrestricted two-way traffic shall be maintained at all times on State Route 7.

3. Before construction is started, eight (8) sets of prints showing details of the sheeting and bracing to be used for excavation adjacent to the railroad tracks shall be submitted to Director for approval by the Department of Highways and by the railroad company.

4. Construction clearances of 20'-0" vertically above the top of the railroad tracks and 8' horizontally from the centerline of tracks shall be maintained at all times.

5. After the contractor has completed all excavation and backfill to the railroad tracks in compliance with Sections E-2.04 and E-2.08 of the Construction and Material Specifications, subject to the supervision of the railroad company, nothing in Section E-2.04, E-2.08 or G-8.07 of the specifications shall be construed to hold the contractor liable for aligning and resurfacing the railroad tracks.

6. All abutment and wall footings, except abutment pile footings, are assumed to be on rock with a maximum design toe pressure of 6 tons per sq. ft. These footing elevations were established by minimum cover requirements above top of footing but at no time shall the penetration into rock be less than 3".

7. At the abutments, concrete above the bridge seat construction joint shall not be placed until after steelwork is erected. Steel end finish shall be used as a template for top of backwall.

8. Concrete for the abutments, piers, and walls shall be Class "E" and payment will be made on this basis; but Class "C" concrete may be used for any or all parts of the abutments, piers and walls. Concrete for the superstructure shall be Class "C".

9. Clearance from face of concrete to reinforcing steel shall be 2" unless otherwise shown.

10. The bridge seat reinforcement bars shall be carefully spaced to clear the holes to be drilled for the anchor bolts.

11. Welding of structural steel shall be Class "A" unless shown otherwise. Class "B" welds are shown as follows: Any welds shown as field welds may, at the option of the Contractor, be made in the shop.

12. Paint, both Shop and Field, shall be applied by brushing. Spray applications will not be permitted. Structural steel in the spans over the railroad shall receive one additional field coat of paint of the same kind as the shop coat except those steel surfaces which are in contact with concrete. This coat shall be applied prior to the application of the aluminum paint.

13. Reference shall be made to Standard Drawing RB-1-55 dated March 1, 55 (Standard Rockers and Bolsters) and to "Supplemental Specifications No. S-114, Aluminum for Bridge Railing, dated August 30, 1955.

GENERAL NOTES
(JEF-7-3447)

1. Item S-24 "Removal of Existing Structures" of the Standard Construction and Material Specifications from January 1, 1957 shall consist of: a.) Removal of the old Stone abutments at Sta. 721+40 60 ft. right, at Sta. 722+80 on centerline and shall include the removal of their backfill to the same slopes as those existing to these abutments. b.) Removal of the superstructure of the existing bridge carrying existing Rt. 7 over Yellow Creek.

2. Borings at Piers 6E and 6W indicate a firm stratum of white or gray claypan at the bottom of footing elevation, which may be subject to disintegration by immersion or by weathering. As a protective measure this stratum, and any encountered at other footing locations, are to be covered by a layer of Class "C" concrete with a 2 inch slump, 6 inches in thickness, as indicated on the Plans or as otherwise directed by the Engineer. Great care shall be exercised in excavating the last six inches below the bottom of the footing which shall be done only in dry weather. The contractor shall place concrete immediately upon exposure of the bottom of excavation and no exposed area of excavation shall be left without protection by this concrete layer at the end of a working period. Excavation for the mortar bed will be measured and paid for under Item E-2 "Excavation for Structures".

The concrete layer shall be properly cured without the use of water and protected until the concrete footing is poured. Payment will be made at the unit price bid for the number of cubic yards of concrete in place within the neat dimensions of the footing and to the depth as specified above. Any excavated volume beyond the footing limits shall be filled with concrete at the contractor's expense. Backfill shall be placed around and to the top of the footing immediately after removal of the footing forms.

3. Piles shall be driven to firm contact with rock which shall be considered as attained when the capacity according to the formula in Section S-18.05 is at least 35 tons for the pier piles and 50 tons for the abutment piles if a hammer of 15,000 foot pounds or greater energy is used and if the length of penetration is approximately equal to the depth to rock according to the Bridge Foundation Investigation Report.

The Design Load is 35 tons per pile for the pier piles and 45 tons for the abutment piles. The length of penetration of every pile shall be at least 80% of the estimated average length of penetration of piles in the pertinent pier or abutment as indicated on the plans unless lesser penetration is approved by the Director.

4. Maximum design edge pressures for the piers are 2.5 tons per sq. ft. on earth (Pier 7W), 4.0 tons per sq. ft. on grey-white claypan (Piers 6E & 6W) and 5.0 tons per sq. ft. on rock. (Piers 2E & 2W, 3E & 3W, 4E & 4W, 5E & 5W and 7E). Footings on rock to penetrate a minimum of 3 inches into sound rock, and Piers 6E & 6W shall be founded a minimum of 6 inches into the grey-white claypan but none to be higher than elevation shown. N. Abutment max. design edge pressure is 5.0 tons per sq. ft.

5. Structural steel for 36 WF 182 and 36 WF 280 shall conform to A.S.T.M.-A-373. All other steel shall conform to either A.S.T.M.-A-7 (as per Section M-7.4 (a) of the Construction and Material Specifications or to A-373.

6. Backfill at the N. Abutment shall be placed to at least elevation 724.0 before placing the superstructure.

7. Porous backfill shall extend upward to the approach slab and to the surface of the earth shoulders or embankment slopes and horizontally to the limits of the walls as shown on the plans. Excavation therefor in excess of that required for construction of the footing, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

GENERAL NOTES
(JEF-7-3406)

1. During the construction of this crossing the Contractor will be required to provide and maintain a clear roadway of 22 feet minimum width at all times for uninterrupted two-way traffic on State Route 7. To accomplish this a sequence of construction is indicated on Sheet 14. Traffic is to be maintained over the existing bridge during the construction of substructure and superstructure of the easterly half of the double bridge in Construction Phase I and upon completion of this Phase, including the approaches, traffic is to be diverted over the new structure while the westerly half is under construction. Adequate sheeting and shoring shall be provided and maintained at all times to support the approach roadways during the construction operations. Plans and descriptions of location and type of sheeting, and shoring, shall be submitted to the Engineer for approval prior to construction.

2. Backfill at the abutments shall be placed to at least elevation 721.0 before placing the superstructure.

3. Item S-24 "Removal of Existing Structures" shall include a.) removal of the existing retaining wall at Sta. 698+80, 85' right, b.) removal of the south portion of northwest wingwall at Sta. 702+60, 58' left, c.) removal of southwest corner of abutment and wingwall at Sta. 701+50, 35' left to 6 inches below final slope grade, and d.) complete removal of the entire remaining existing steel bridge carrying State Route 7 over Wye Branch Penna. R.R.

4. Porous backfill shall extend upward to the approach slab and to the surface of the earth shoulders or embankment slopes and horizontally to the limits of the walls as shown on the plans. Excavation therefore, in excess of that required for construction of the wall, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

FORCE ACCOUNT WORK
by
THE PENNSYLVANIA R.R. CO.

Temporary and Permanent Signal and Communication Line Changes at Bridges No.: JEF-7-3406 and JEF-7-3447.

Install Culvert: See Sheet No. 113

ESTIMATED QUANTITIES (JEF-7-3406)

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR.	ABUTS	WALLS	GEN.	As Built
E-2	L.S.	L.S.	Cofferdams, Cribs and Sheeting		L.S.			
E-2	1360	C.Y.	Rock Excavation		620	740		
E-2	2400	C.Y.	Unclassified Excavation		1,640	760		
S-1	176	C.Y.	Class "C" Concrete, Superstructure	176				
S-1	2,581	C.Y.	Class "E" Concrete, Abutments & Walls		1,728	853		
S-1	1207	C.Y.	Class "E" Concrete, Footings		746	461		
S-4	273,679	Lb.	Reinforcing Steel	48,383	156,176	69,120		
S-7	~~317,150~~	Lb.	Structural Steel	314,500	2,650			C-5,10 +5,140 } 322,290
S-8	~~314,500~~	Lb.	Field Painting of Structural Steel	314,500				C-5,10 +5,140 } 319,640
S-3	641	L.F.	Waterproofing - Premolded Sealing Strip		439	202		
S-9	974	S.F.	1" Preformed Exp. Jt. Filler		758	216		
S-14	192	L.F.	Railing (Aluminum Rail & Supports, Concrete Parapet & End Posts	192				
S-24	L.S.	L.S.	Removal of Existing Structures				L.S.	
S-29	1180	C.Y.	Porous Backfill		710	470		
S-29	225	L.F.	6" φ Perforated B.C.C.M. Pipe Including Specials				225	
S-29	6	L.F.	6" φ B.C.C.M. Pipe Including Specials				6	
S-29	6	L.F.	8" φ B.C.C.M. Pipe Including Specials				6	
S-29	175	L.F	8" φ Perforated B.C.C.M. Pipe Including Specials				175	
S-29	72	L.F.	6" φ Std. Wrought Iron Pipe Including Specials				72	

~~765,347~~
785,789

ESTIMATED QUANTITIES (JEF-7-3447)

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR.	ABUTS.	PIERS	GEN.	As Built
E-2	L.S.	L.S.	Cofferdams, Cribs and Sheeting			L.S.		
E-2	3,230	C.Y.	Unclassified Excavation		260	2,970		
E-2	4,540	C.Y.	Rock Excavation		4,200	340		
S-1	1,440	C.Y.	Class "C" Concrete, Superstructure	1,440				
S-1	1,350	C.Y.	Class "E" Concrete, Abutments & Walls		1,350			
S-1	2,780	C.Y.	Class "E" Concrete, Pier Stems & Caps			2,780		
S-1	1,565	C.Y.	Class "E" Concrete, Footings		575	990		
S-1	18	C.Y.	Class "C" Concrete, Protective Covering for Bearing Surface, Pier 6 East and West			18		
S-3	236	L.F.	Waterproofing - Premolded Sealing Strip		236			
S-4	~~745,211~~	L.B.	Reinforcing Steel	392,208	98,728	~~254,275~~		274,411
S-7	~~1,732,500~~	L.B.	Structural Steel	1,732,500				C-5, +99,268 } 1,831,768
S-8	~~1,732,500~~	L.B.	Field Painting of Structural Steel	1,732,500				C-5,10 +99,356 } 1,831,856
S-9	503	S.F.	1" Preformed Exp. Jt. Filler		503			
S-14	1,403	L.F.	Railing (Aluminum Rail and Supports, Concrete Parapet & End Posts)	1,254	149			
S-16	L.S.	L.S.	First Test Pile			L.S.		
S-18	2,927	L.F.	Steel Piles, 12 BP 53		1,152	1,775		
S-24	L.S.	L.S.	Removal of Existing Structures				L.S.	
S-29	470	C.Y.	Porous Backfill		470			
S-29	37	C.Y.	Porous Drains on Embankment Slopes				37	
S-29	110	L.F.	6" φ Perforated B.C.C.M. Pipe Including Specials				110	
S-29	8	L.F.	6" φ B.C.C.M. Pipe Including Specials				8	

Bridge Sheet No. 1

GOODKIND & O'DEA
CONSULTING ENGINEERS

RAILROAD FORCE ACCOUNT WORK AND
GENERAL NOTES AND QUANTITIES
BRIDGE No. JEF-7-3447
AND BRIDGE No. JEF-7-3406

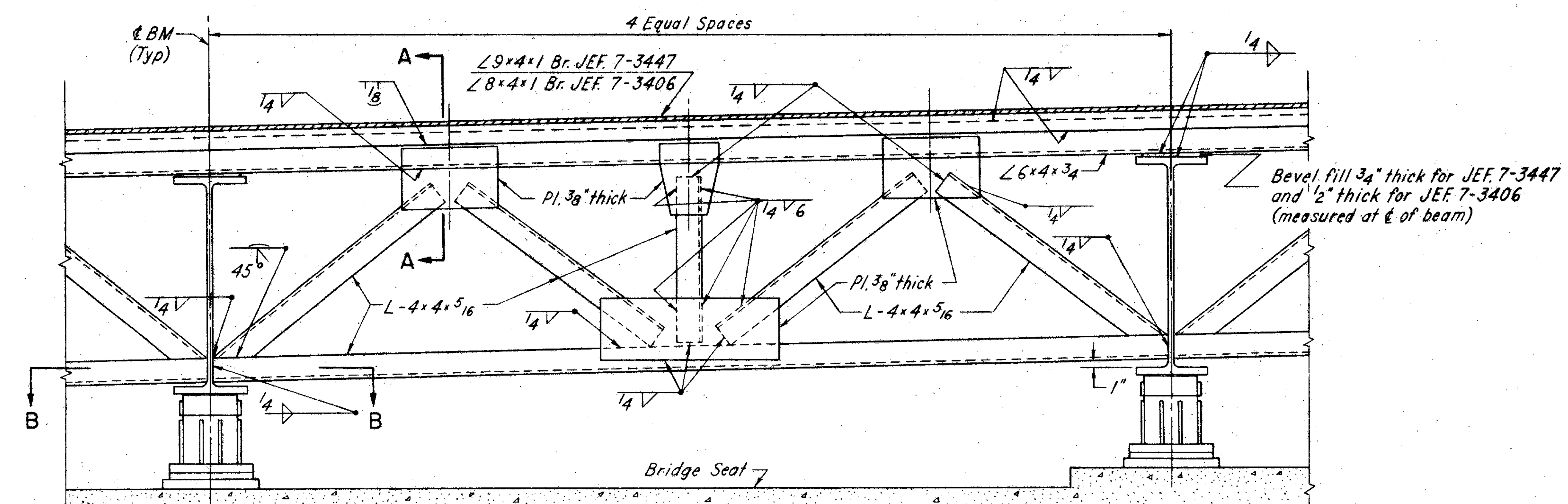
JEFFERSON CO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
G.K.	J.P	J.P.	R.B.	D.A.S. 5/13/57	

Revised 8-2-57

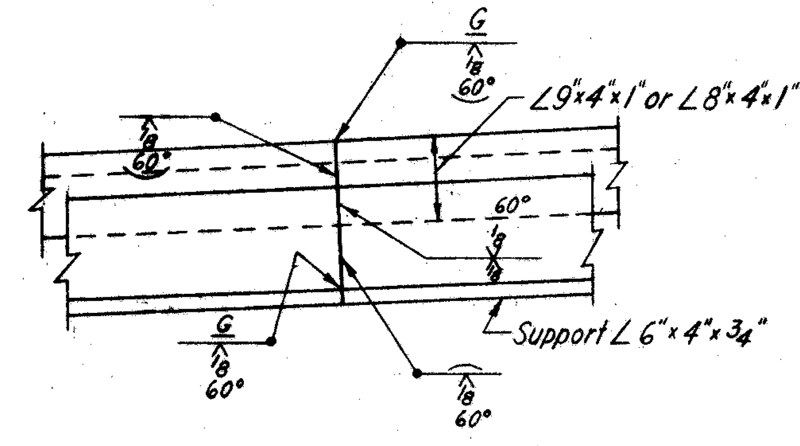
Revised As-Built J.D.P. 9-7-60

NOTES:
Gutters shall be accurately adjusted for alignment and grade, with allowance for dead-load deflection, before concrete is placed.
Milled joints will be permitted in bulb angles, but individual lengths shall be made as long as practicable.

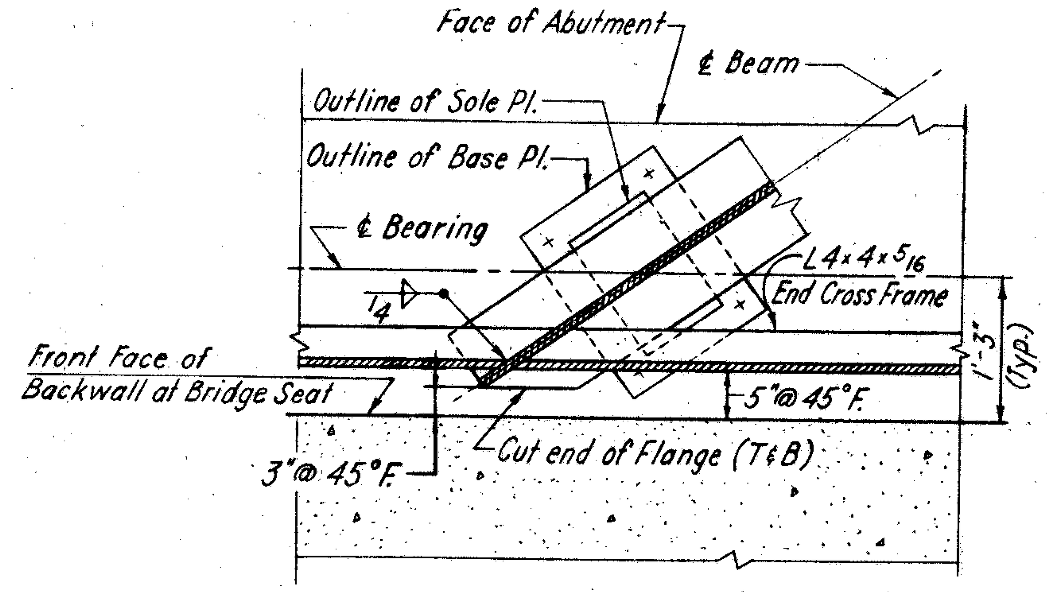


DETAIL OF END CROSSFRAME
TYPE II

Note:
1. For Section A-A and detail of end finish, see Sheet 3
2. For location of types of end cross frames, see Sheet 16 & 31

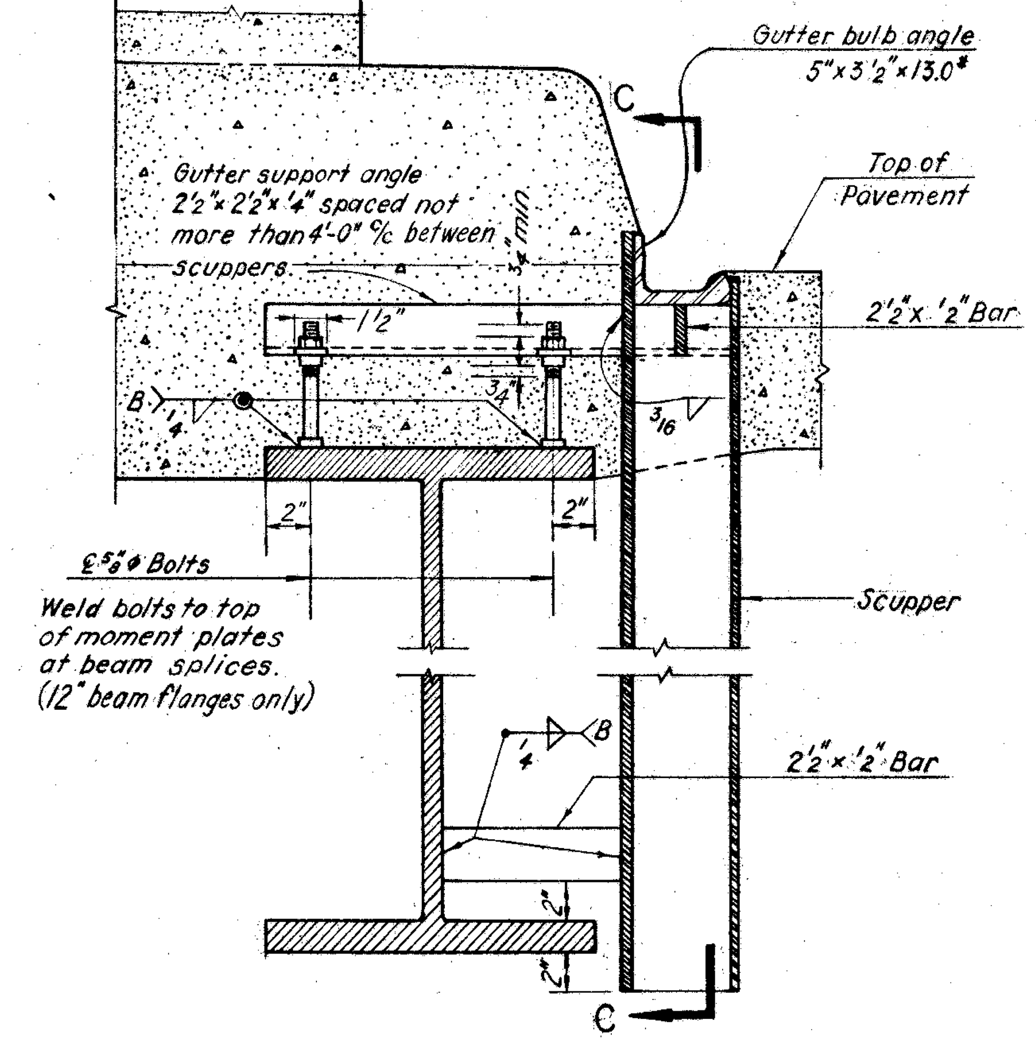


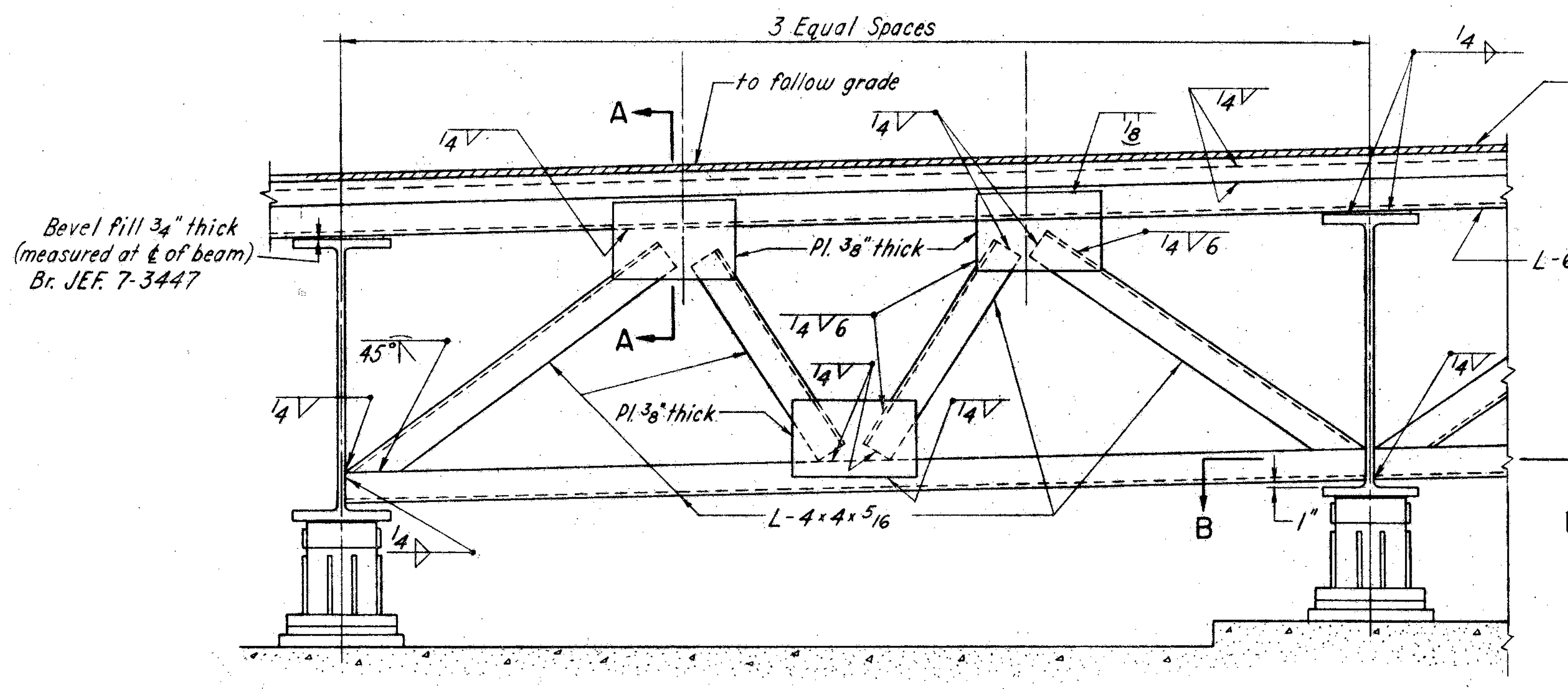
DETAIL OF BUTT JOINT
END FINISH ANGLES



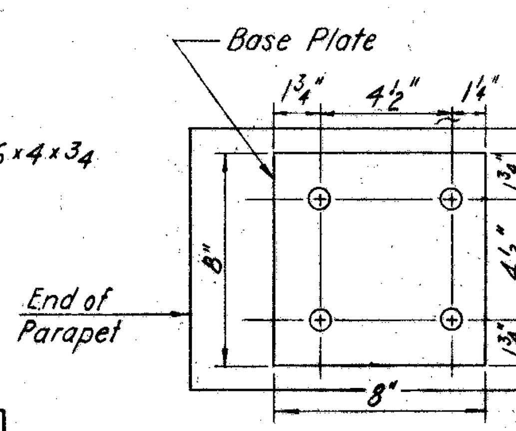
SECTION B-B

End Cross Frame to be erected after anchor bolts are in place.

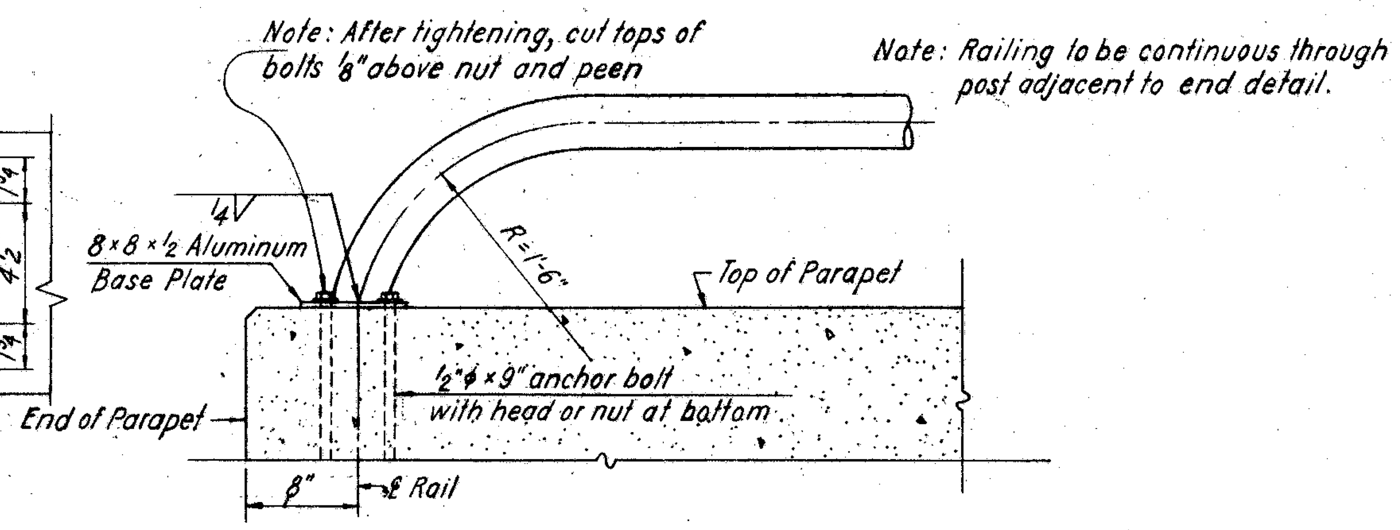




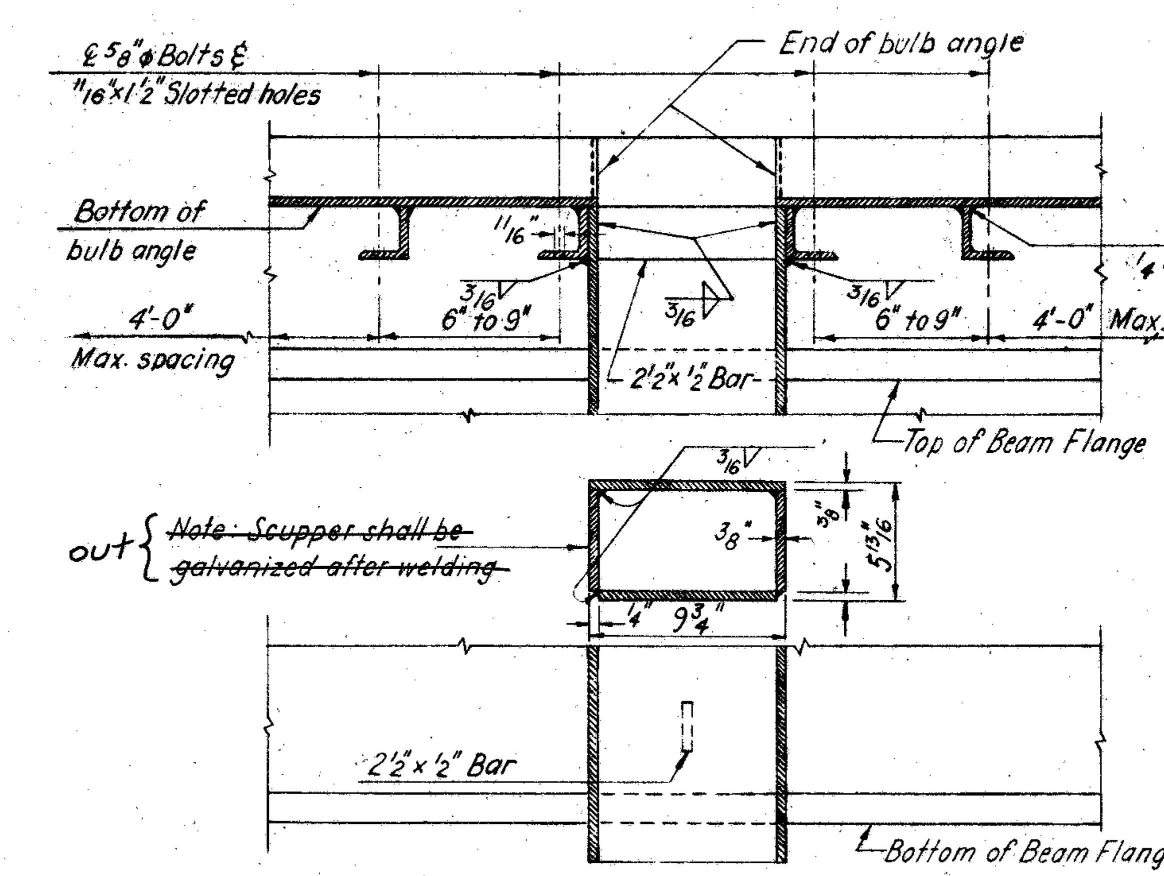
DETAIL OF END CROSSFRAME
TYPE I



PLAN



END DETAIL OF RAIL

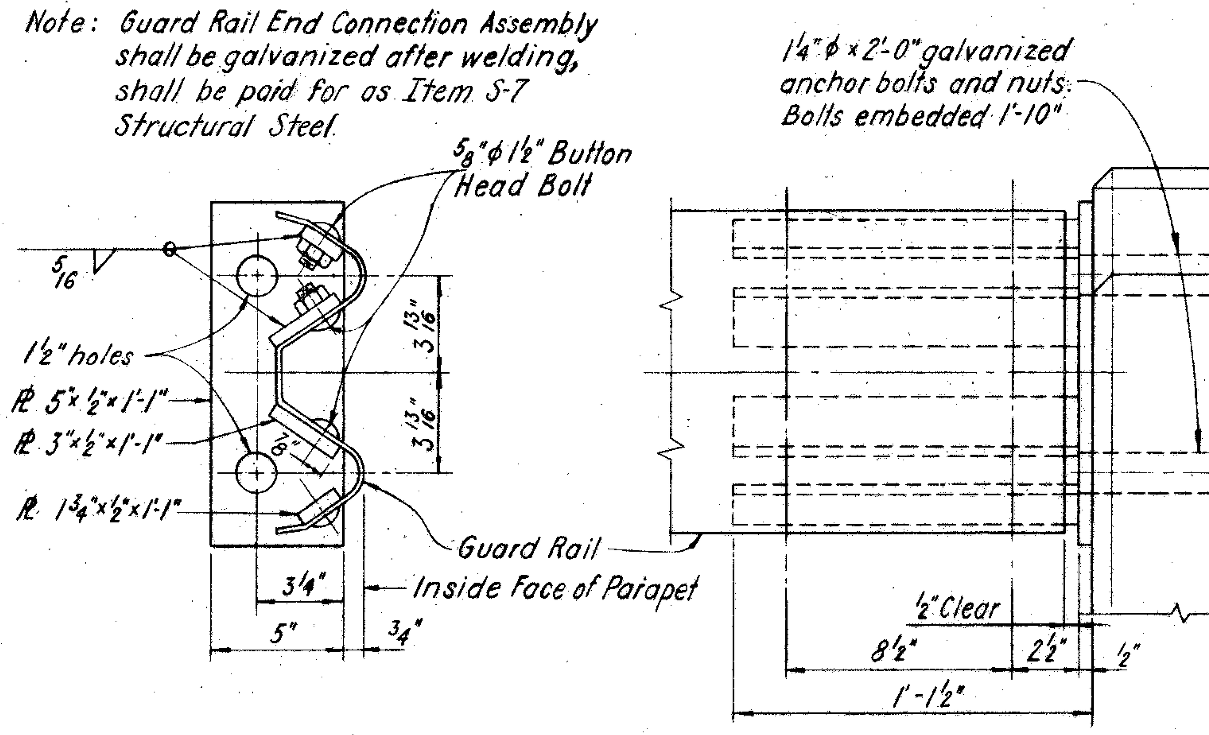


SECTION C-C.

GUTTER AND SCUPPER DETAILS

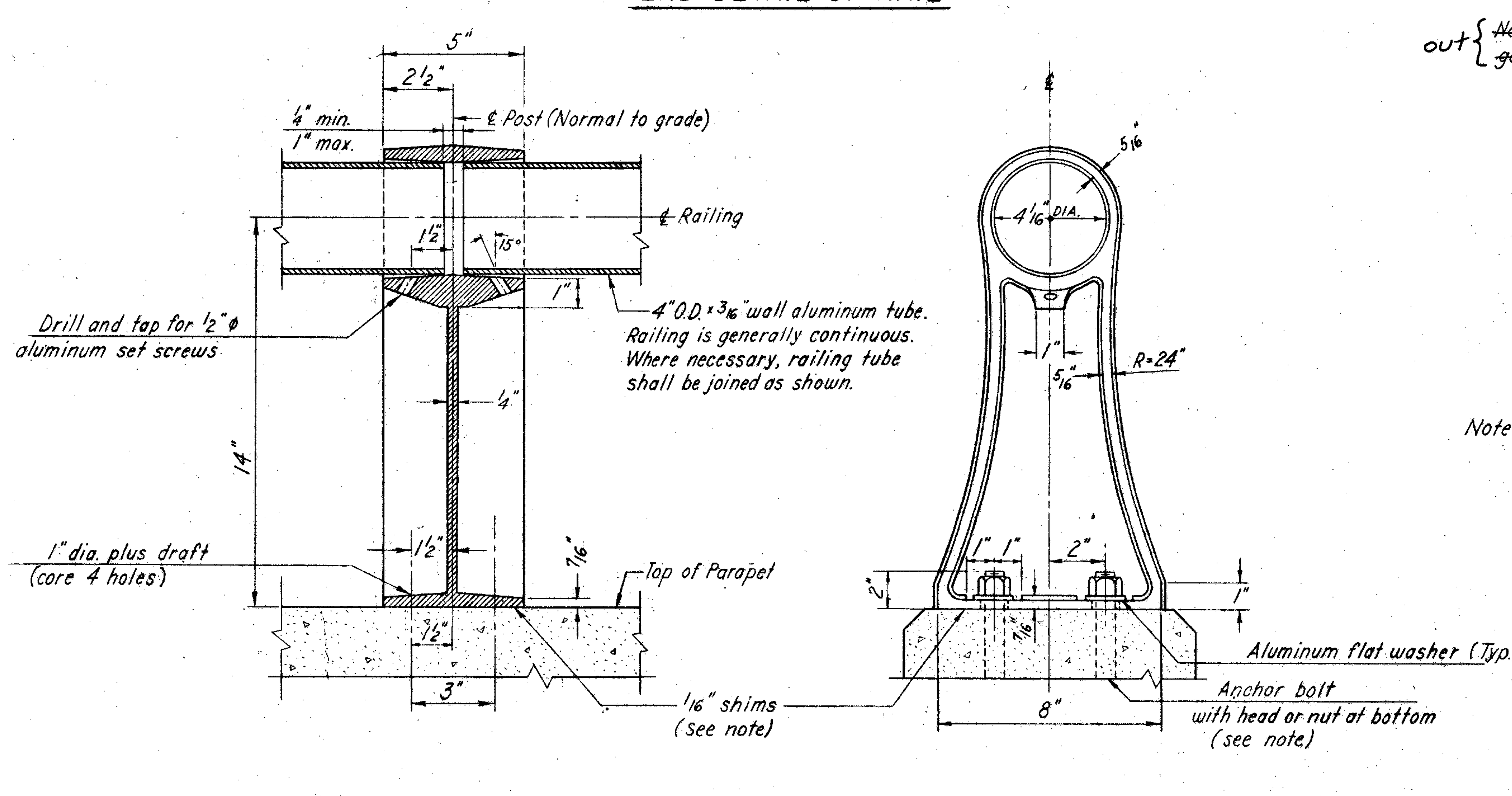
Note: For Scupper Spacing, see Sheet 31

Note: Guard Rail End Connection Assembly shall be galvanized after welding, shall be paid for as Item S-7 Structural Steel.



GUARD RAIL DETAIL

Railing Notes:
1. Reference shall be made to Suppl. Spec. No. 5114, dated August 30, 1955. Aluminum for Bridge Railing.
2. Shims shall be used where necessary for vertical alignment. They shall be of aluminum alloy, 2 3/8" × 1/16" × 8" and slotted for anchor bolts to permit insertion after posts are in place.
3. Set Screws shall be furnished with each casting and shall be included in the unit price bid per linear foot of railing.
4. Anchor bolts shall be aluminum with a head or nut at the lower end. They shall be 1'-0" long and shall have a minimum diameter of 0.62" at the root of the thread. Bolts and nuts shall be anodized.
5. For Railing Post spacing see sheets 17 and 33.



ALUMINUM RAILING POST DETAILS

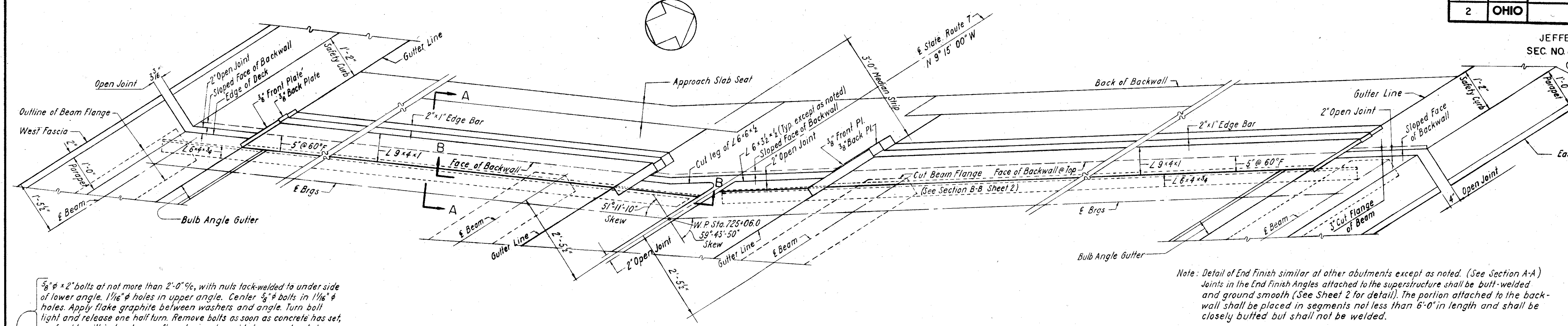
Bridge Sheet No. 2

GOODKIND & O'DEA
CONSULTING ENGINEERS

END CROSS FRAMES & STEEL DETAILS
BRIDGE No. JEF-7-3447
AND BRIDGE NO. JEF-7-3406
JEFFERSON CO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.M.	G.K.	J.K.	S.C.	D.R.G.	5/13/57	

JEFFERSON COUNTY
SEC. NO. JEF-7 (33.83-34.10)
COL-7-(0.00-0.50)



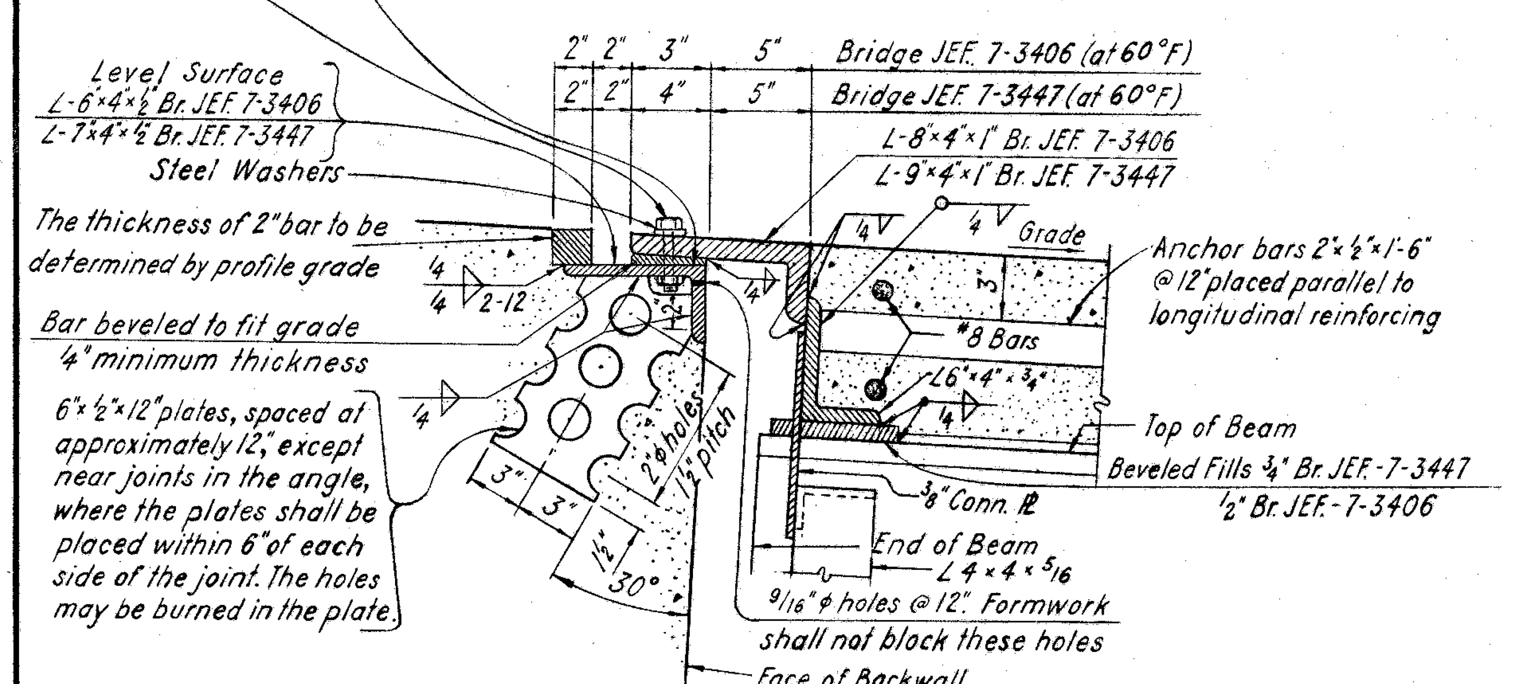
Note: Detail of End Finish similar at other abutments except as noted. (See Section A-A) Joints in the End Finish Angles attached to the superstructure shall be butt-welded and ground smooth (See Sheet 2 for detail). The portion attached to the backwall shall be placed in segments not less than 6'-0" in length and shall be closely butted but shall not be welded.

PLAN OF END FINISH

(NORTH ABUTMENT - BRIDGE JEF. 7-3447 SHOWN)

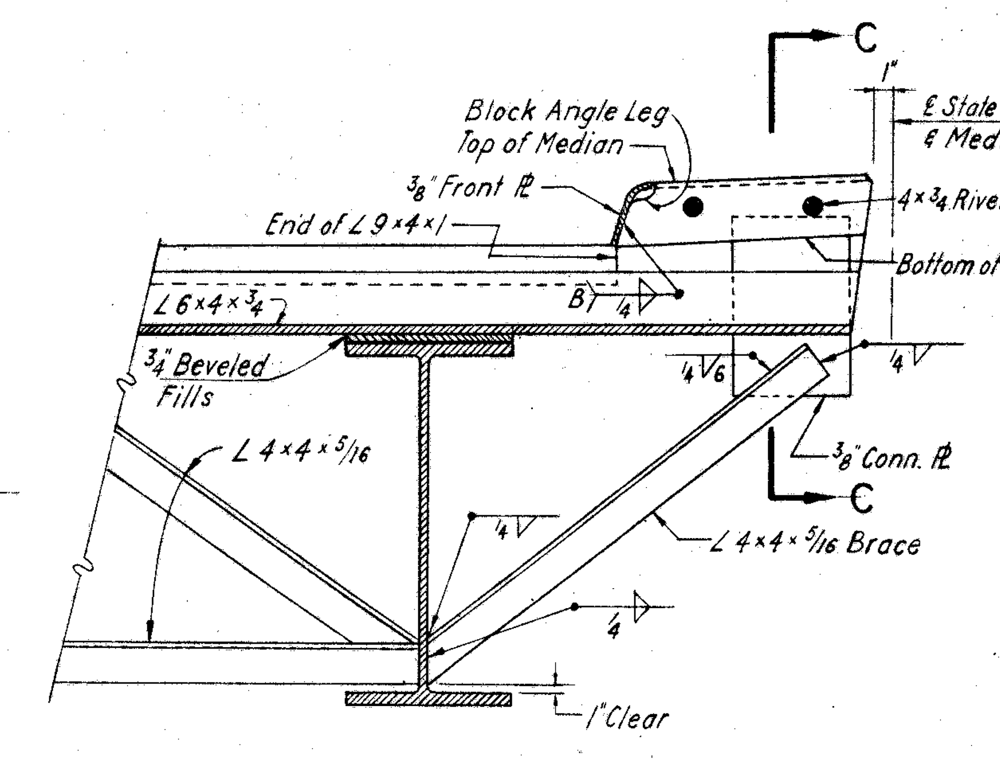
5/8" φ × 2" bolts at not more than 2'-0" c/c, with nuts tack-welded to under side of lower angle. 11/16" φ holes in upper angle. Center 5/8" φ bolts in 11/16" φ holes. Apply flake graphite between washers and angle. Turn bolt tight and release one half turn. Remove bolts as soon as concrete has set, preferably within two hours after placing, to avoid damage due to temperature expansion or contraction of superstructure. Fill holes with bituminous material.

This contact surface shall not be painted and shall be lubricated with flake graphite prior to placing of backwall concrete.

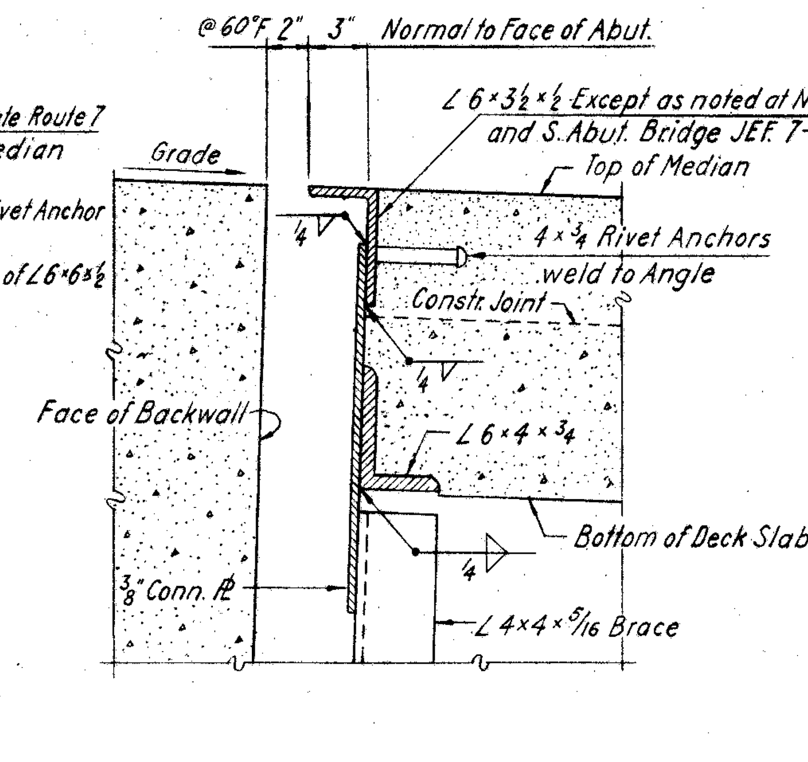


Omit shop coat on all portions of end finish. Portions in contact with steel or with concrete shall not be painted. All other portions shall be cleaned and given the shop coat in the field as well as the two field coats.

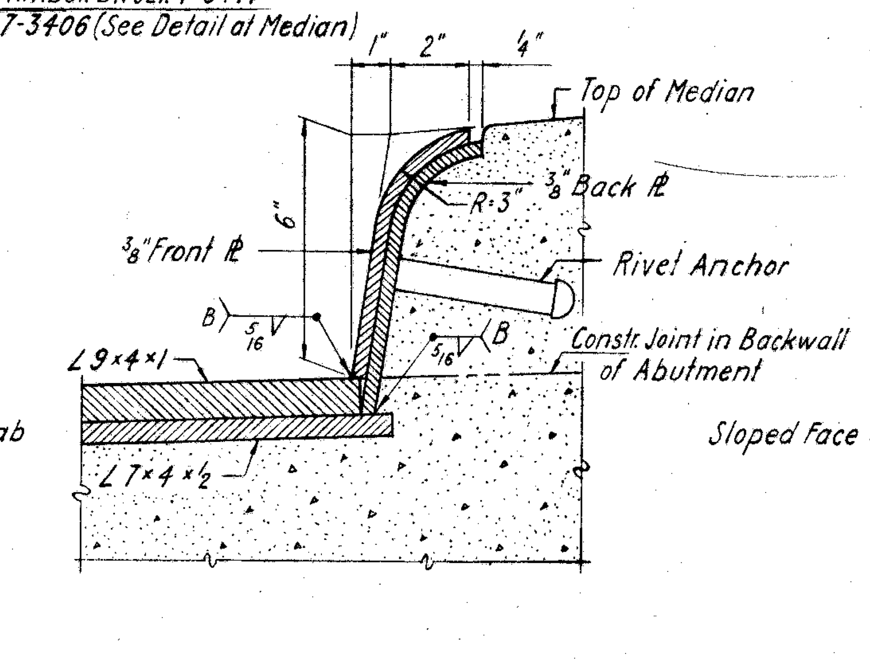
SECTION A-A



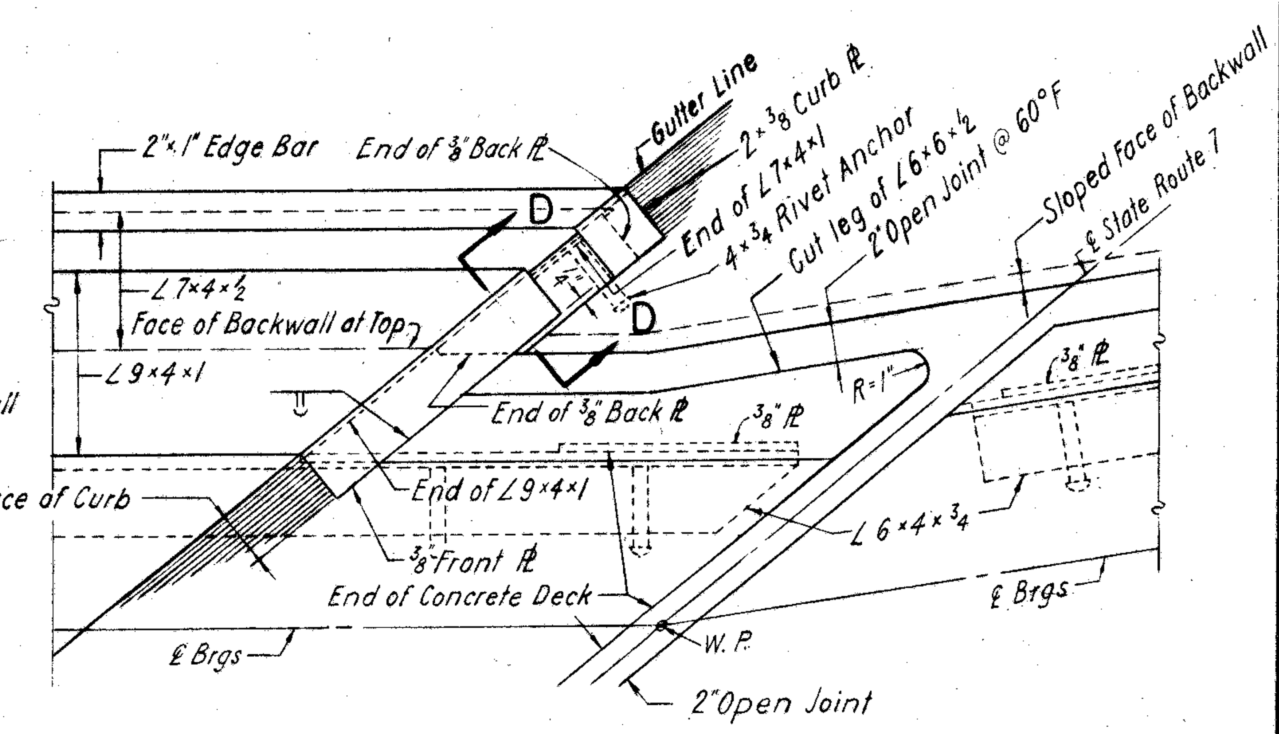
SECTION B-B



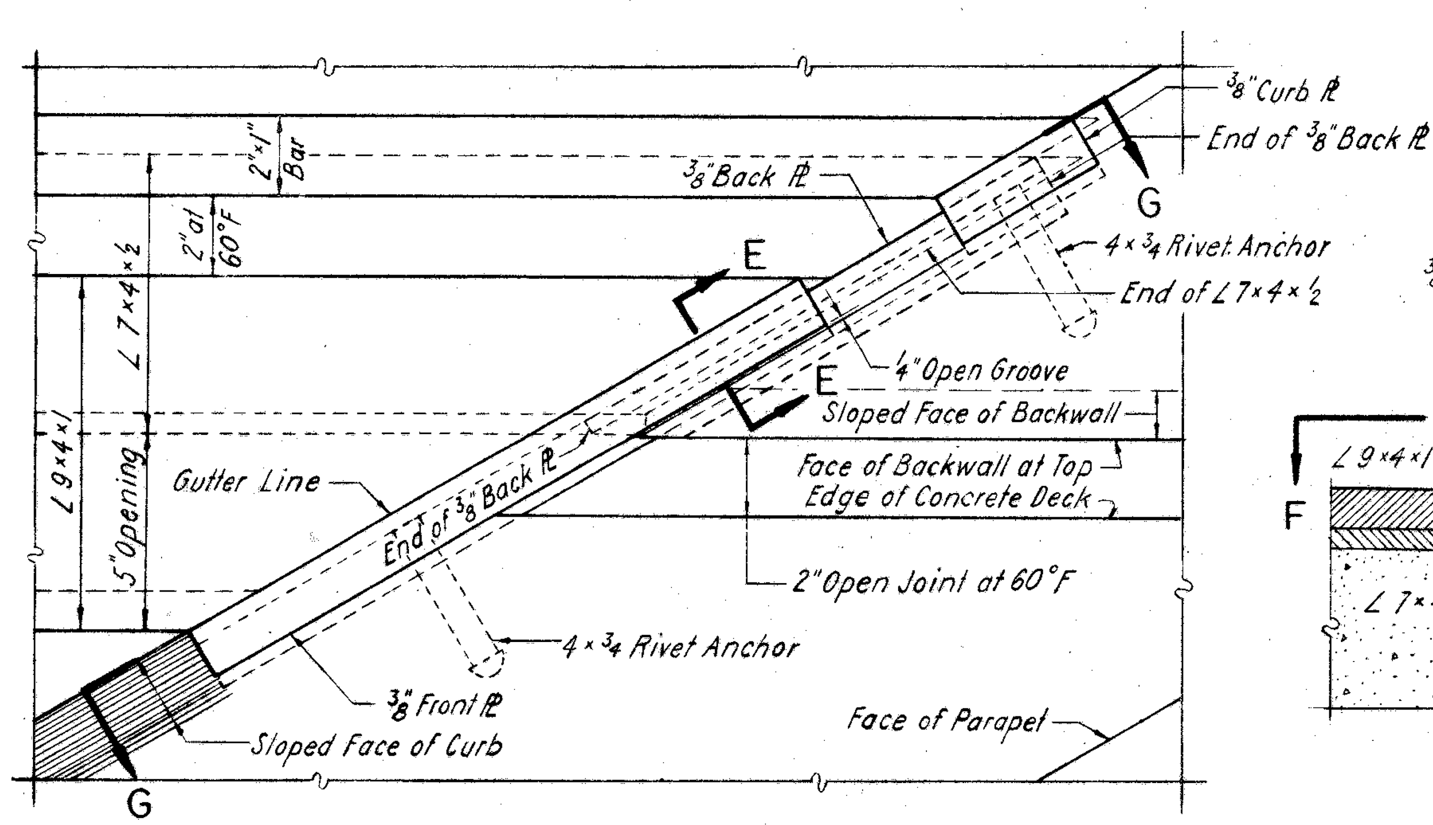
SECTION C-C



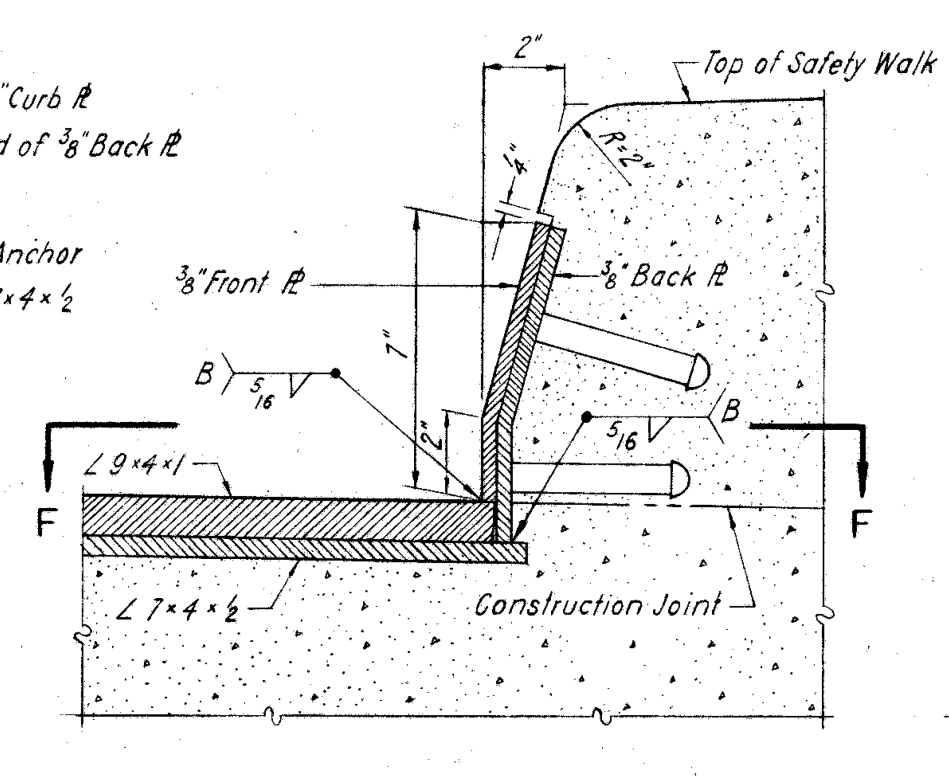
SECTION D-D



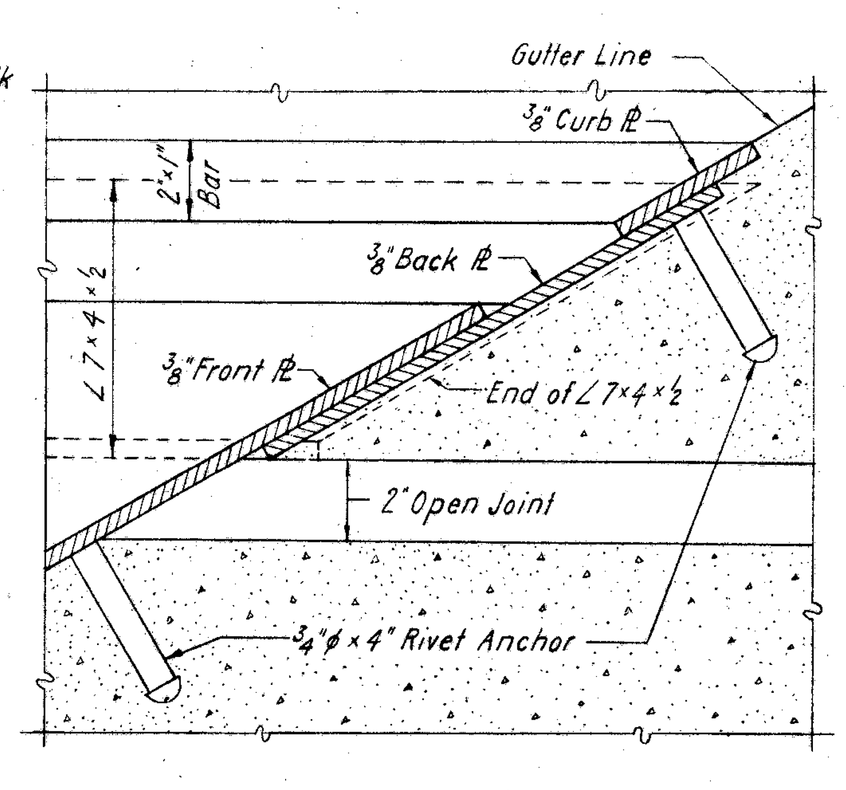
DETAIL AT MEDIAN



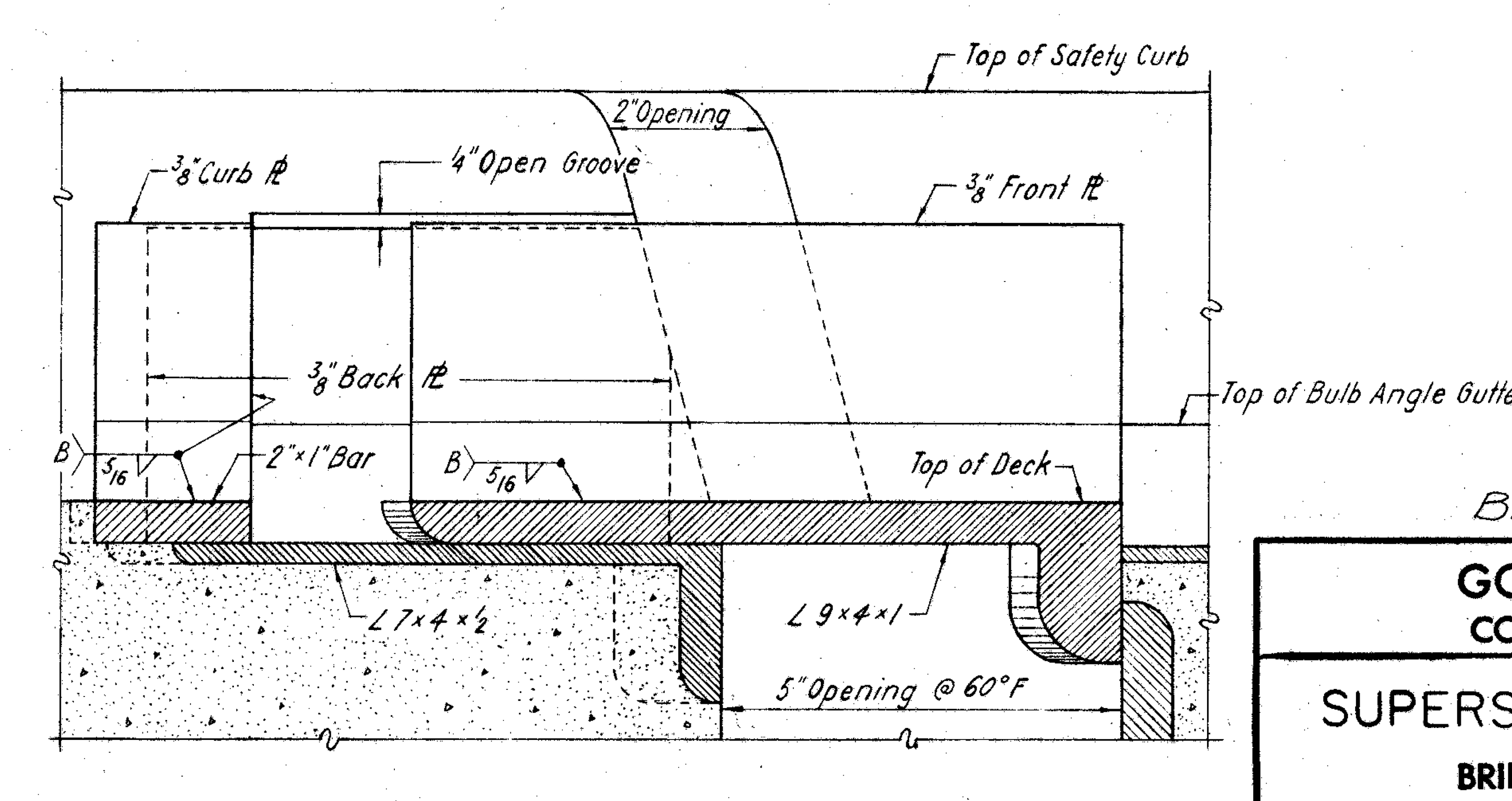
DETAIL AT SAFETY WALK



SECTION E-E



SECTION F-F



SECTION G-G

Add "Bar beveled to fit grade" as shown in Section A-A

Bridge Sheet No. 3

GOODKIND & O'DEA
CONSULTING ENGINEERS

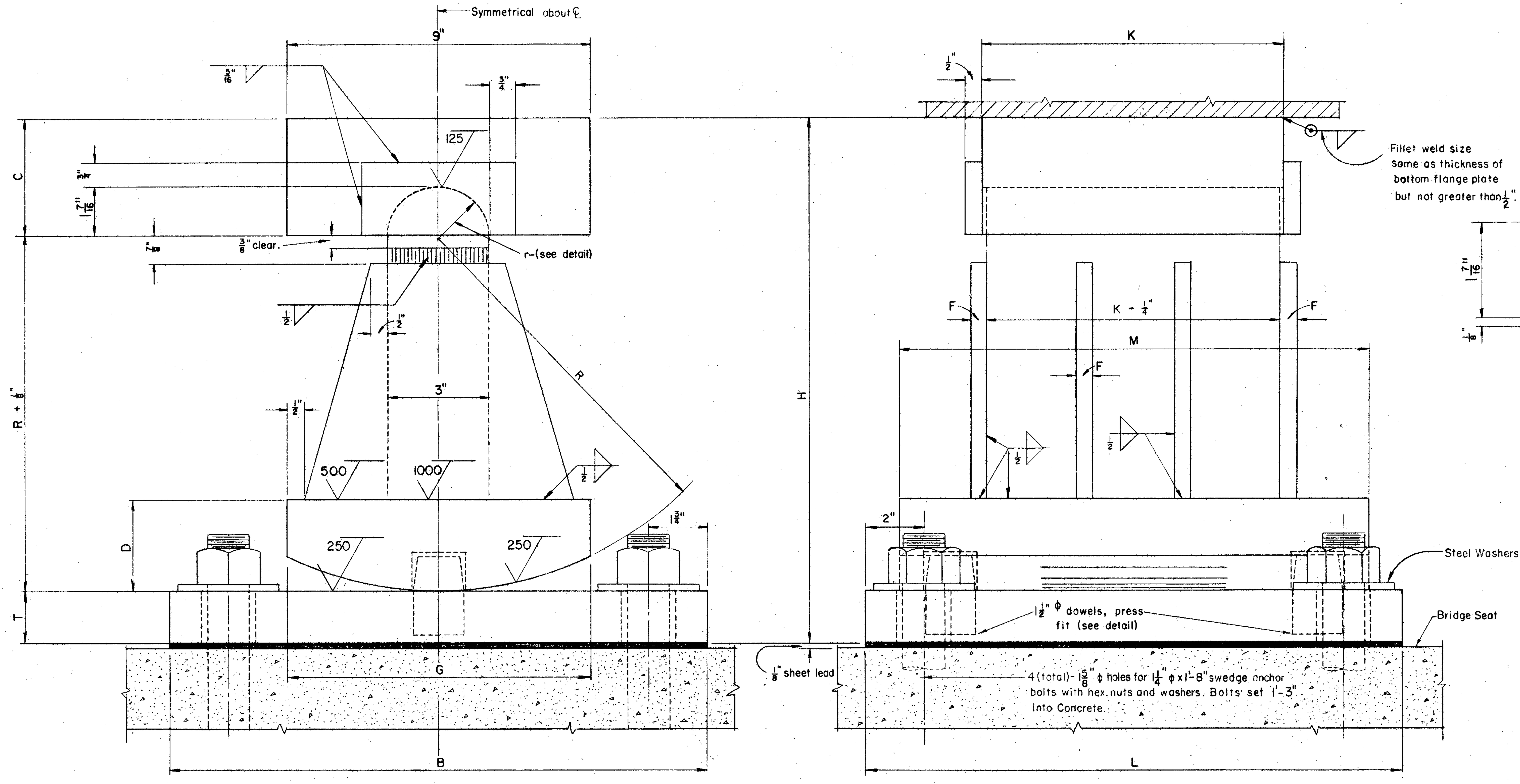
SUPERSTRUCTURE DETAILS

BRIDGE No. JEF. -7-3447
AND
BRIDGE No. JEF-7-3406

JEFFERSON CO

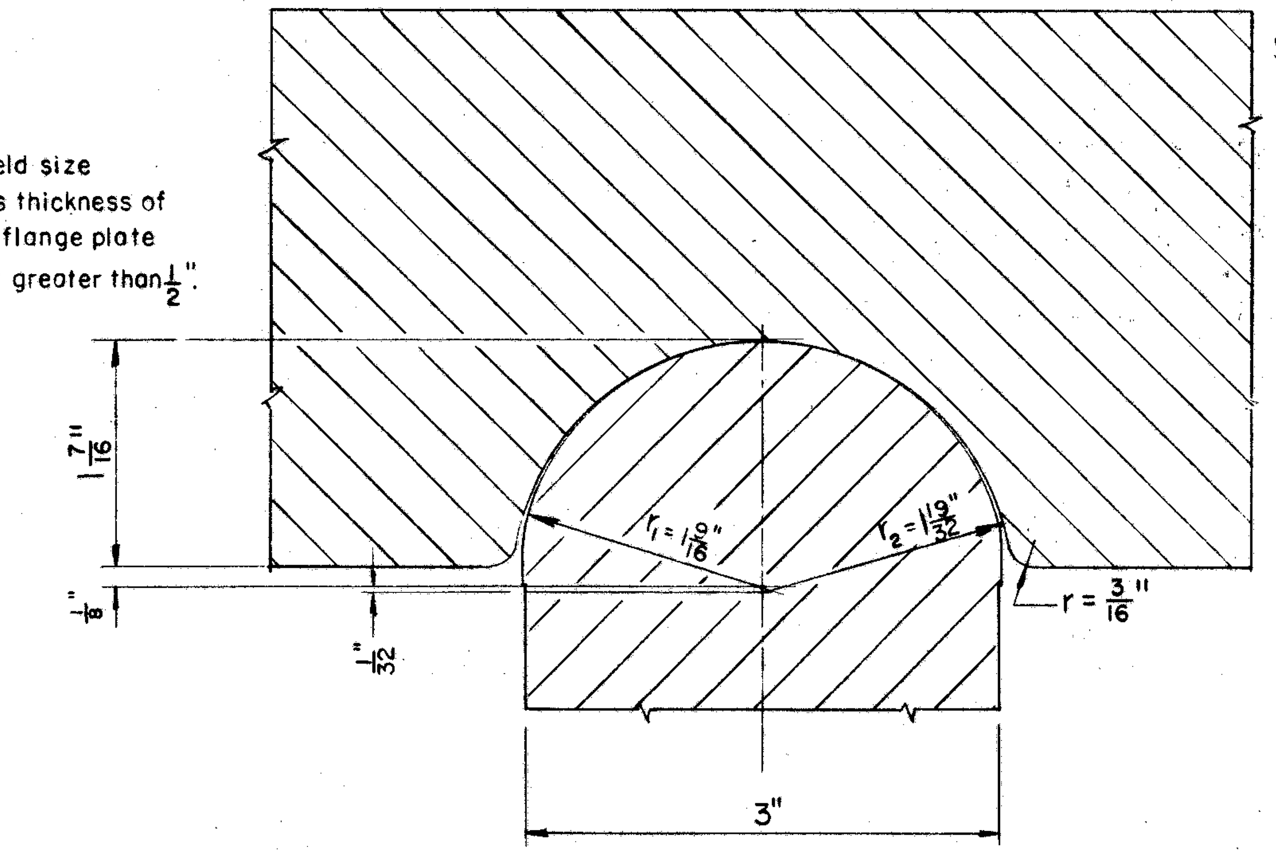
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.M.	J.K.		S.C.	D.R.L.	5/13/57	

JEFFERSON COUNTY
SEC. NO. JEF-7(33.83 - 34.10)
COL - 7 - (0.00 - 0.50)

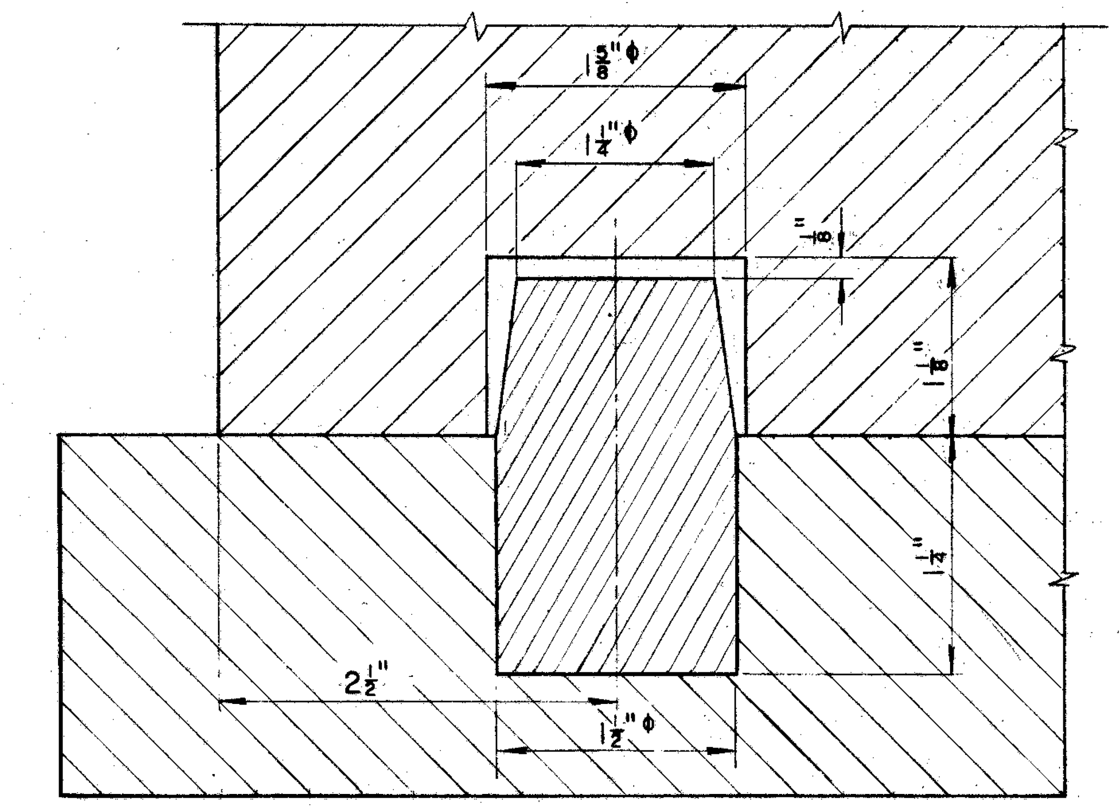


STRUCTURAL STEEL ROCKER

See table below for additional dimensions



TOP BEARING DETAIL



DOWEL DETAIL

ROCKERS ON BRIDGE OVER	Type	Dimensions (inches)													Total Number
			B	C	D	F	G	H	K	L	M	R	T		
YELLOW CREEK & BAYARD BRANCH P.R.R.															
Abutments	R 125-Y		16	3 1/2	2 3/4	1/2	9	15 5/8	14	22	20	10 1/2	1 1/2		24
Piers 1E,1W,2E,2W,3E,3W,6E,6W,7E,7W.	R 200-Y		16	3 1/2	2 3/4	5/8	9	16 3/8	12	24	21	10 1/2	2 1/4		60
WYE BRANCH P.R.R.															
South Abutment	R 125-W		15	3	2	1/2	8	12 1/8	10 1/2	22	20	7 1/2	1 1/2		12

NOTES:

1. *Rockers to be set vertical at 60° F.*
2. *Bolsters at piers 4E, 4W, 5E & 5W of Bridge Jef. - 7 - 3447 are B-200 (See standard sheet RB-1-55)*
3. *Bolsters at North abutment, of Bridge Jef. - 7 - 3406 are B-125 (See standard sheet RB-1-55) except change dimension L to 22"*
4. *Omit anchor bolts and holes on the rocker over steel column at South abutment, Bridge Jef. - 7 - 3406*

Bridge Sheet No. 4

GOODKIND & O'DEA
CONSULTING ENGINEERS

ROCKER DETAILS

BRIDGE No. JEF 7-3447
& BRIDGE No. JEF -7-3406
JEFFERSON CO

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.M.	E.M.		L.K.	D.R.G.	5/18/57	

JEFFERSON COUNTY
SEC. NO. JEF.-7-(33.83-34.10)
COL-7-(0.00 - 0.50)

EXISTING BRIDGE DATA

Type: Thru Truss
Span: 86'
Roadway: 24'
Abutments: Concrete
Loading: H-20
Condition: Good
Sufficiency Rating: 50
To Be Removed

Foundation design and foundation quantities are based on a study of test borings and soil sampling borings made at the site. This soils information may be inspected in the office of the Bureau of Bridges in Columbus or in the Division office, but the State assumes no responsibility for the accuracy thereof.

PROPOSED STRUCTURE

TYPE: Simple span rolled beams with reinforced concrete deck and substructure.

SPAN: 75'-0" c-c bearings.

ROADWAYS: 70'-8" f/f between 1'-2" safety curbs, incl. 3'-0" median.

LOAD FREQUENCY: CF-2000 (51)

SKEWS: 56°-50'-30" & 62°-53'-28"

WEARING SURFACE: 1" monol. concrete.

APPROACH SLAB: AS-1-54 (25' long)

ALIGNMENT: Highway on tangent. Railroad on 4°-33'± curve.

NUMBER OF TRACKS: One.

Bridge Sheet No. 5

GOODKIND & O'DEA
CONSULTING ENGINEERS

SITE PLAN

BRIDGE NO. JEF. - 7-3406
OVER
WYE BRANCH OF PENNA RAILROAD
JEFFERSON CO. STA. 700+93.96 701+79.52

SCALE: 1" = 20'

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Aerial Survey	G.K.	J.P.	R.E.B. S.V.C.	[illegible]

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

JEFFERSON COUNTY
SEC NO JEF-7-(33.83-34.10)
COL -7-(0.00-0.50)

Bridge Sheet No. 6

GOODKIND & O'DEA
CONSULTING ENGINEERS

GENERAL PLAN AND ELEVATION

BRIDGE No. JEF 7-3406

OVER WYE BRANCH OF PENNA RAILROAD

JEFFERSON CO **STA.** 700+93.96 / 701+79.52

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
G.K.	S.V.C.		REB	D.A.G. 5/13/57	

REINFORCING STEEL LIST

MARK	NO	LENGTH	WEIGHT	SHP
N.W. ABUT.-(CONSTR. PHASE II.)				
A501	31	28'-6"	921	S
A505	2	29'-4"	61	S
A512	40	5'-10"	243	B
A544	32	26'-10"	896	S
A545	8	15'-2"	127	B-V
A559	3	25'-6"	80	S
A560	5	24'-11"	130	S
A561	4	24'-4"	102	S
A562	5	23'-6"	123	S
A563	19	22'-11"	454	S
A564	12	17'-4"	217	S
A565	12	8'-0"	100	B
A566	24	3'-0"	75	S
A567	4	11'-2"	47	B-V
A568	4	10'-0"	42	B-V
A569	4	6'-10"	29	B-V
A571	6	5'-0"	31	B
A601	10	11'-10"	178	B
A602	16	11'-5"	274	B
A605	3	8'-6"	38	S
A606	4	7'-0"	42	B
A607	2	11'-6"	35	B
A701	53	17'-0"	1,841	S
A808	11	10'-2"	299	S
A809	16	11'-6"	491	B-H
A1001	53	15'-1"	3440	B-J
A1002	52	13'-8"	3058	B-G
A1003	26	16'-0"	1790	S
A1004	27	22'-6"	2614	S
A1005	105	13'-3"	5987	S
N.E. ABUT.-(CONSTR. PHASE I.)				
A401	6	2'-5"	10	B
A501	72	28'-6"	2140	S
A502	16	37'-6"	626	S
A503	36	15'-0"	563	S
A504	41	10'-0"	428	S
A505	5	29'-4"	153	S
A506	5	28'-4"	148	S
A507	5	27'-9"	145	S
A508	6	27'-3"	171	S
A509	1	29'-11"	31	S
A510	19	13'-6"	268	S
A511	15	17'-10"	279	B
A512	81	5'-10"	493	B
A513	3	15'-6"	48	B
A514	4	14'-0"	58	B-V
A515	4	4'-4"	18	B-V
A516	4	5'-4"	22	B-V
A517	8	17'-8"	147	B-V
A518	4	13'-4"	56	B-V
A519	8	6'-0"	50	B-V
A520	6	12'-8"	106	B-V
A521	2	35'-6"	74	S
A522	2	*	72	S
A523	36	8'-6"	319	S
A524	5	10'-0"	52	S
A525	2	5'-0"	10	S
A526	2	3'-9"	8	S
A533	16	39'-6"	659	S
A537	4	6'-6"	27	B-V
A542	5	28'-10"	150	S
A544	5	26'-10"	84	S
A545	4	15'-2	63	B-V
A557	49	22'-0"	1124	S
A558	4	26'-2"	109	S

MARK	NO	LENGTH	WEIGHT	SHP
A559	2	25'-6"	53	S
A566	12	3'-0"	38	S
A571	6	5'-0"	31	B
A601	15	11'-10"	267	B
A602	38	11'-5"	652	B
A604	6	3'-5"	31	B
A605	3	8'-6"	38	S
A606	4	7'-0"	42	B
A607	2	11'-6"	35	B
A701	95	17'-0"	3301	S
A702	6	10'-0"	123	S
A703	8	6'-0"	98	S
A801	23	14'-6"	890	B-H
A802	14	15'-9"	589	S
A810	8	12'-3"	262	B-H
A811	1	12'-9"	34	S
A812	7	13'-0"	243	B-H
A1001	103	15'-1"	6685	B-J
A1002	102	13'-8"	5998	B-G
A1003	51	16'-0"	3511	S
A1004	52	22'-6"	5035	S
A1005	185	13'-3"	10,548	S
A1006	9	11'-6"	445	S
A1101	8	15'-10"	673	B-G
A1102	9	18'-10"	901	B-J
A1103	5	28'-0"	744	S
A1104	4	18'-0"	383	S
S.W. ABUT.-(CONSTR. PHASE II)				
A401	6	2'-5"	10	B
A501	41	28'-6"	1219	S
A505	4	29'-4"	122	S
A508	5	27'-3"	142	S
A509	4	29'-11"	125	S
A512	62	5'-10"	377	B
A527	2	31'-0"	65	S
A531	5	33'-3"	173	S
A537	4	6'-6"	27	B-V
A538	4	28'-0"	117	S
A539	16	40'-0"	668	S
A540	92	11'-2"	1072	S
A541	16	29'-9"	496	S
A542	35	28'-10"	1053	S
A543	3	30'-9"	96	S
A545	12	15'-2"	190	B-V
A546	4	6'-0"	25	B-V
A547	4	10'-10"	45	B-V
A548	4	10'-4"	43	B-V
A549	4	8'-8"	36	B-V
A550	4	5'-6"	23	S
A551	3	*	100	S
A552	8	*	146	S
A553	4	*	66	S
A554	10	*	195	S
A555	5	24'-2"	126	S
A556	5	*	67	S
A566	12	3'-0"	38	S
A570	2	*	67	S
A571	6	5'-0"	31	B
A601	13	11'-10"	231	B
A602	25	11'-5"	429	B
A603	6	7'-2"	65	B-G
A604	6	3'-5"	31	B
A605	3	8'-6"	38	S

MARK	NO	LENGTH	WEIGHT	SHP
A606	4	7'-0"	42	B
A607	2	11'-6"	35	B
A701	79	17'-0"	2745	S
A805	11	14'-6"	426	S
A806	24	16'-4"	1047	B-H
A807	2	16'-9"	89	S
A813	1	16'-9"	45	B-H
A901	50	13'-5"	2281	B
A902	38	*	2067	S
A903	6	21'-8"	442	S
A904	17	*	747	S
A905	6	12'-9"	298	S
A1001	78	15'-1"	5062	B-J
A1002	77	13'-8"	4528	B-G
A1003	39	16'-0"	2686	S
A1004	39	22'-6"	3776	S
A1005	156	13'-3"	8894	S
S.E. ABUT. AND COLUMN FOOTING (CONSTR. PHASE I.)				
A501	78	28'-6"	2319	S
A510	17	13'-6"	239	S
A512	56	5'-10"	341	B
A514	4	14'-0"	58	B-V
A516	4	5'-4"	22	B-V
A517	8	17'-8"	147	B-V
A518	4	13'-4"	56	B-V
A519	4	6'-0"	25	B-V
A520	4	12'-8"	53	B-V
A525	17	5'-0"	89	S
A527	4	31'-0"	129	S
A528	5	31'-6	164	S
A529	5	32'-1"	167	S
A530	5	32'-8"	170	S
A531	4	33'-3"	139	S
A532	2	33'-9"	70	S
A533	3	39'-6"	124	S
A534	24	21'-9"	544	S
A535	17	9'-3"	164	B
A536	4	4'-8"	19	B-V
A538	48	28'-0"	1402	S
A566	12	3'-0"	38	S
A571	6	5'-0"	31	B
A572	8	6'-0"	50	S
A601	13	11'-10"	231	B
A602	28	11'-5"	480	B
A605	3	8'-6"	38	S
A606	4	7'-0"	42	B
A607	2	11'-6"	35	B
A701	81	17'-0"	2815	S
A702	6	10'-0"	123	S
A803	13	20'-0"	694	S
A804	28	19'-0"	1420	B-H
A1001	72	15'-1"	4673	B-J
A1002	71	13'-8"	4175	B-G
A1003	36	16'-0"	2479	S
A1004	36	22'-6"	3485	S
A1005	161	13'-3"	9179	S
A1007	8	10'-0"	344	S
A1105	9	15'-1"	721	B-J
A1106	9	13'-8"	654	B-G
A1107	4	16'-0"	340	S
A1108	5	22'-6"	598	S

MARK	NO	LENGTH	WEIGHT	SHP
SOUTHEAST WALL				
W501	24	7'-5"	193	B-J
W502	22	6'-4"	145	B-G
W503	14	4'-10"	71	B-G
W504	14	9'-8	141	B-J
W505	27	6'-10"	192	B-G
W506	232	27'-2"	6,574	S
W507	32	26'-0"	868	S
W508	30	13'-6"	436	S
W509	15	10'-0"	156	S
W510	28	5'-0"	146	S
W511	15	7'-6"	117	S
W512	30	4'-0"	125	S
W513	24	5'-6"	138	S
W514	16	15'-2"	253	S
W515	16	27'-3"	455	S
W516	10	*	395	S
W517	10	*	345	S
W518	10	*	302	S
W519	10	*	256	S
W520	10	*	209	S
W521	10	*	161	S
W522	10	*	112	S
W523	10	*	63	S
W524	14	13'-0"	190	S
W525	14	*	296	S
W526	14	8'-0"	117	S
W527	14	*	228	S
W528	12	*	136	S
W529	12	*	80	S
W601	34	7'-0"	357	S
W602	56	17'-0"	1430	S
W701	28	7'-7"	434	B-G
W702	27	10'-10"	598	B-J
W703	110	9'-0"	1,840	S
W704	27	10'-0"	552	S
W901	56	17'-6"	3,332	B-J
W902	54	12'-6"	2295	B-G
W903	110	11'-0"	4114	S
W904	28	17'-0"	1,618	S
W905	14	*	1,146	S
W906	14	*	1,162	S
W1101	56	14'-9"	4,389	B-J
W1102	54	17'-5"	4,997	B-G
W1103	28	20'-0"	2,975	S
W1104	14	*	2,820	S
W1105	14	*	2,473	S
NORTHEAST WALL				
W508	43	13'-6"	605	S
W511	12	7'-6"	94	S
W512	22	4'-0"	92	S
W514	2	15'-2"	32	S
W530	15	15'-6"	242	S
W531	11	12'-3"	141	S
W532	30	19'-6"	610	S
W533	16	20'-6"	342	S
W534	6	*	188	S
W535	6	*	42	S
W536	8	*	178	S
W537	8	*	86	S
W538	2	21'-11"	46	S
W539	8	*	91	S
W540	8	*	82	S
W541	2	23'-0"	48	S
W705	12	8'-5"	206	B-J

MARK	NO	LENGTH	WEIGHT	SHP
W706	11	8'-1"	182	B-G
W707	40	7'-0"	572	S
W708	12	*	263	S
W801	21	11'-7"	649	B-J
W802	20	13'-0"	694	B-G
W803	10	14'-0"	374	S
W804	11	*	629	S
W907	28	10'-0"	952	S
W1101	15	14'-9"	1176	B-J
W1107	14	13'-8"	1,017	B-G
W1108	7	15'-6"	576	S
W1109	8	*	1286	S
NORTHWEST WALL				
W508	31	13'-6"	436	S
W542	11	*	325	S
W543	41	29'-6"	1262	S
W544	2	15'-0"	33	S
W709	60	9'-6"	1165	S
W908	30	14'-10"	1513	B-J
W909	30	12'-5"	1267	B-G
W910	15	14'-6"	740	S
W911	15	*	1454	S
SUPERSTRUCTURE				
S401	318	1'-8"	354	B
S501	144	39'-8"	5958	S
S502	57	37'-0"	2200	S
S503	272	*	5532	S
S504	210	*	4271	S
S505	216	1'-9"	394	B
S506	108	2'-10"	319	B
S507	20	16'-0"	334	S
S508	28	5'-0"	146	S
S509	112	5'-0"	584	B
S601	57	37'-0"	3168	S
S602	272	*	7967	S
S603	210	*	6151	S
S604	156	40'-0"	9373	S
S801	12	28'-0"	898	S
S802	8	34'-4"	734	S
RAILING				
R501	136	1'-8"	R-Bars	B
R502	24	16'-7"	included	S
R503	8	14'-0"	with railing	S
R504	8	14'-4"	for payment	S
R505	16	8'-0"		S
REPLACEMENT BARS				
Re4	1	4'-0"		S
Re5	4	5'-7"		S
Re6	2	5'-11"		S
Re7	1	6'-2"		S
Re8	1	6'-6"		S
Re9	2	6'-10"		S
Re10	5	7'-2"		S
Re11	2	7'-6"		S

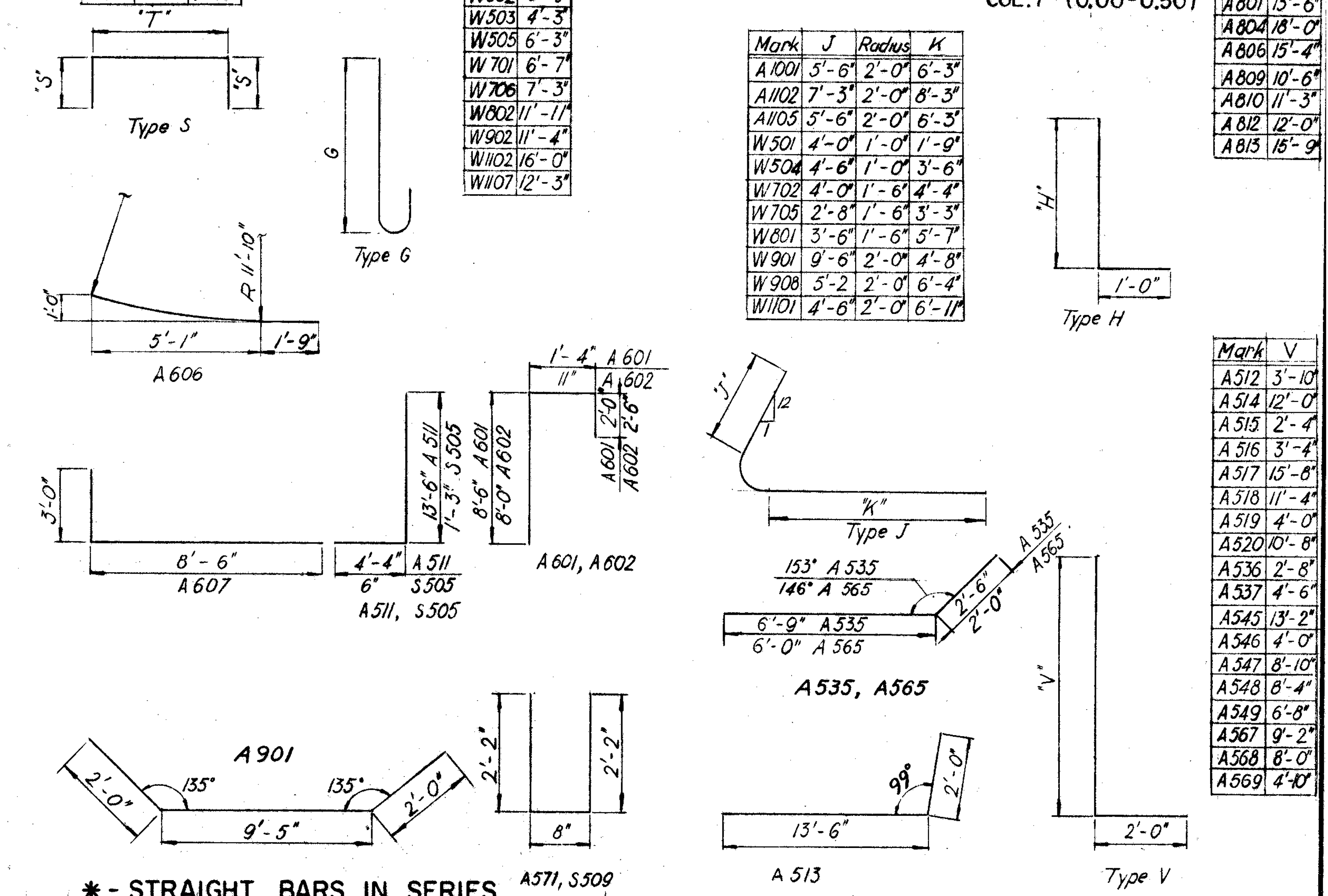
Mark	S	T
A401	4"	1'-9"
A604	1'-0"	1'-5"
R501	6"	8"
S401	4"	1'-0"
S506	6"	1'-10"

Mark	G
A603	6'-6"
A1002	12'-3"
A1101	14'-5"
A1106	12'-3"
W502	5'-9"
W503	4'-3"
W505	6'-3"
W701	6'-7"
W706	7'-3"
W802	11'-11"
W902	11'-4"
W1102	16'-0"
W1107	12'-3"

Mark	J	Radius	K
A1001	5'-6"	2'-0"	6'-3"
A1102	7'-3"	2'-0"	8'-3"
A1105	5'-6"	2'-0"	6'-3"
W501	4'-0"	1'-0"	1'-9"
W504	4'-6"	1'-0"	3'-6"
W702	4'-0"	1'-6"	4'-4"
W705	2'-8"	1'-6"	3'-3"
W801	3'-6"	1'-6"	5'-7"
W901	9'-6"	2'-0"	4'-8"
W908	5'-2	2'-0"	6'-4"
W1101	4'-6"	2'-0"	6'-11"

Mark	H
A801	13'-6"
A804	18'-0"
A806	15'-4"
A809	10'-6"
A810	11'-3"
A812	12'-0"
A815	15'-9"

Mark	V
A512	3'-10"
A514	12'-0"
A515	2'-4"
A516	3'-4"
A517	15'-8"
A518	11'-4"
A519	4'-0"
A520	10'-8"
A536	2'-8"
A537	4'-6"
A545	13'-2"
A546	4'-0"
A547	8'-10"
A548	8'-4"
A549	6'-8"
A567	9'-2"
A568	8'-0"
A569	4'-10"



Note: All bar dimensions are out to out.

* - STRAIGHT BARS IN SERIES

MARK	NO	GROUPS	PER GROUP	Δ	FROM	TO
A522	2	2	1	1'-6"	35'-2"	33'-8"
A551	3	3	1	10"	32'-10"	31'-2"
A552	8	8	1	3'-4"	29'-2"	5'-10"
A553	4	4	1	6'-8"	25'-10"	5'-10"
A554	10	10	1	1'-2"	23'-6"	13'-0"
A556	5	5	1	3'-9"	20'-4"	5'-4"
A570	2	2	1	1'-8"	32'-10"	31'-2"
A902	38	19	2	7"	21'-2"	10'-8"
A904	17	17	1	11"	20'-3"	5'-7"
W516	10	10	1	6"	39'-11"	35'-5"
W517	10	10	1	6"	35'-4"	30'-10"
W518	10	10	1	6"	31'-2"	26'-8"
W519	10	10	1	6"	26'-6"	22'-6"
W520	10	10	1	6"	22'-4"	17'-10"
W521	10	10	1	6"	17'-8"	13'-2"
W522	10	10	1	6"	13'-0"	8'-6"
W523	10	10	1	6"	8'-4"	3'-10"
W525	14	7	2	6"	22'-5"	18'-3"
W527	14	7	2	8"	17'-8"	13'-7"
W528	12	6	2	10"	12'-11"	8'-9"
W529	12	6	2	11"	8'-8"	4'-1"
W534	6	6	1	1'-5"	33'-7"	26'-6"
W535	6	3	2	3'-11"	10'-8"	2'-10"
W536	8	8	1	1'-5"	26'-4"	16'-5"
W537	8	4	2	3'-11"	16'-2"	4'-5"
W539	8	8	1	1'-6"	16'-2"	5'-8"
W540	8	8	1	3'-11"	15'-8"	3'-11"
W542	11	11	1	2½"	29'-4"	27'-3"
W708	12	6	2	1'-11"	15'-6"	5'-11"
W804	11	11	1	12"	26'-5"	16'-5"
W905	14	7	2	8"	31'-1"	27'-1"
W906	14	7	2	8"	26'-5"	22'-5"
W911	15	5	3	5"	29'-4"	27'-8"
W1104	14	7	2	8"	39'-11"	35'-11"
W1105	14	7	2	8"	35'-3"	31'-3"
W1109	8	8	1	12"	33'-9"	26'-9"
S503	272	136	2	3"	36'-3"	2'-6"
S504	210	105	2	4"	36'-8"	2'-0"
S602	272	136	2	3"	36'-3"	2'-6"
S603	210	105	2	4"	36'-8"	2'-0"

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, A 801 is a no. 8 size bar and A 1001 is a no. 10 size bar.

In the shape column of the bar list, S stands for straight bar, B stands for bent bar and a letter after the B designates the type of bent bar.

For "General Notes" see sheet 1.

For Construction Phases see sheet 14.

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

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

JEFFERSON COUNTY
SEC. NO. JEF.-7-(33.83-34.10)
COL.:7-(0.00-0.50)

Bridge Sheet No. 7

GOODKIND & O'DEA
CONSULTING ENGINEERS.

BAR LIST
BRIDGE No. JEF 7-3406
OVER WYE BRANCH OF PENNA. RAILROAD
JEFFERSON CO STA. 700 + 93.96 / 701 + 79.52

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.C.	P.K.		S.C.	R.C.S.	5/13/57	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

JEFFERSON COUNTY
SEC. NO. JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Bridge Sheet No. 8

GOODKIND & O'DEA
CONSULTING ENGINEERS

SOUTH ABUTMENT—WEST CORNER

BRIDGE No. JEF-7-3406

OVER WYE BRANCH OF PENNA RAILROAD

JEFFERSON CO **STA.** 700+93.96 / 701+79.52

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	BF		REB SVC	D.O.B.	5/13/57	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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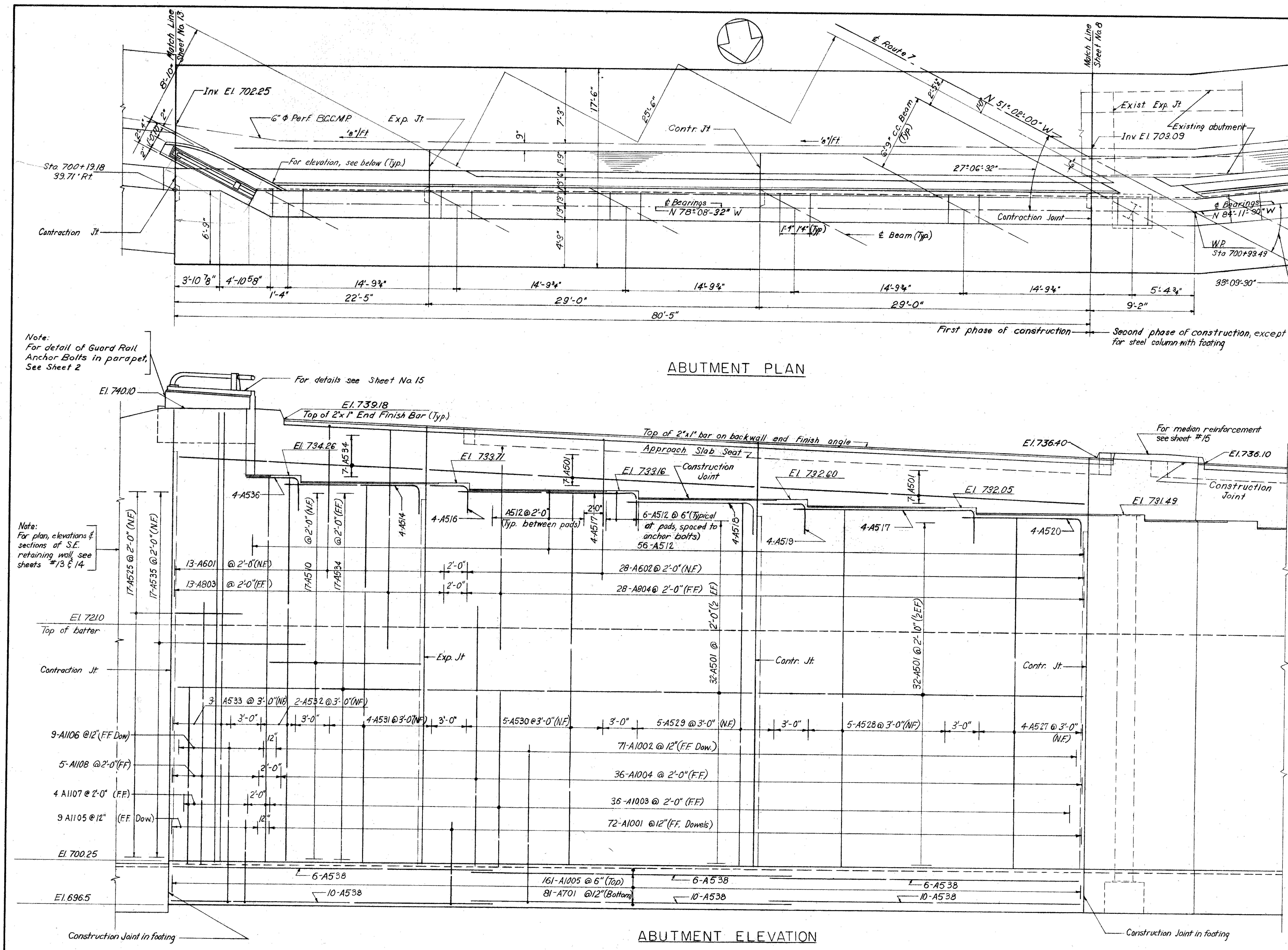
JEFFERSON COUNTY
SEC. NO. JEF.- 7 -(33.83-34.10)
COL.-7-(0.00-0.50)



Bridge Sheet No. 9

GOODKIND & O'DEA
CONSULTING ENGINEERS

SOUTH ABUTMENT — EAST CORNER

BRIDGE No. JEF 7-3406

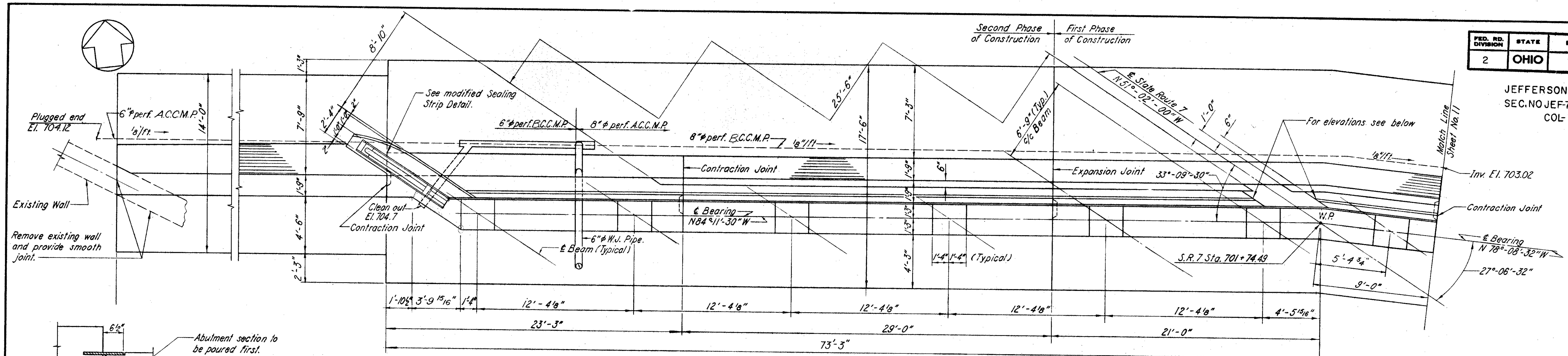
OVER WYE BRANCH OF PENNA RAILROAD

JEFFERSON CO **STA.** 700+93.96 701+79.52

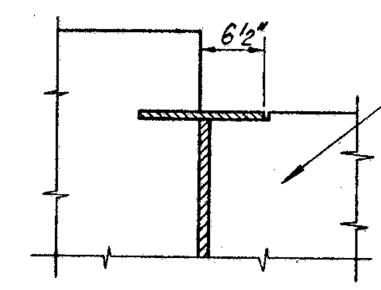
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.E.B.	C.H.G.		R.E.B. S.V.C.	D.R.G.	5/13/57	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

JEFFERSON COUNTY
SEC. NO JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

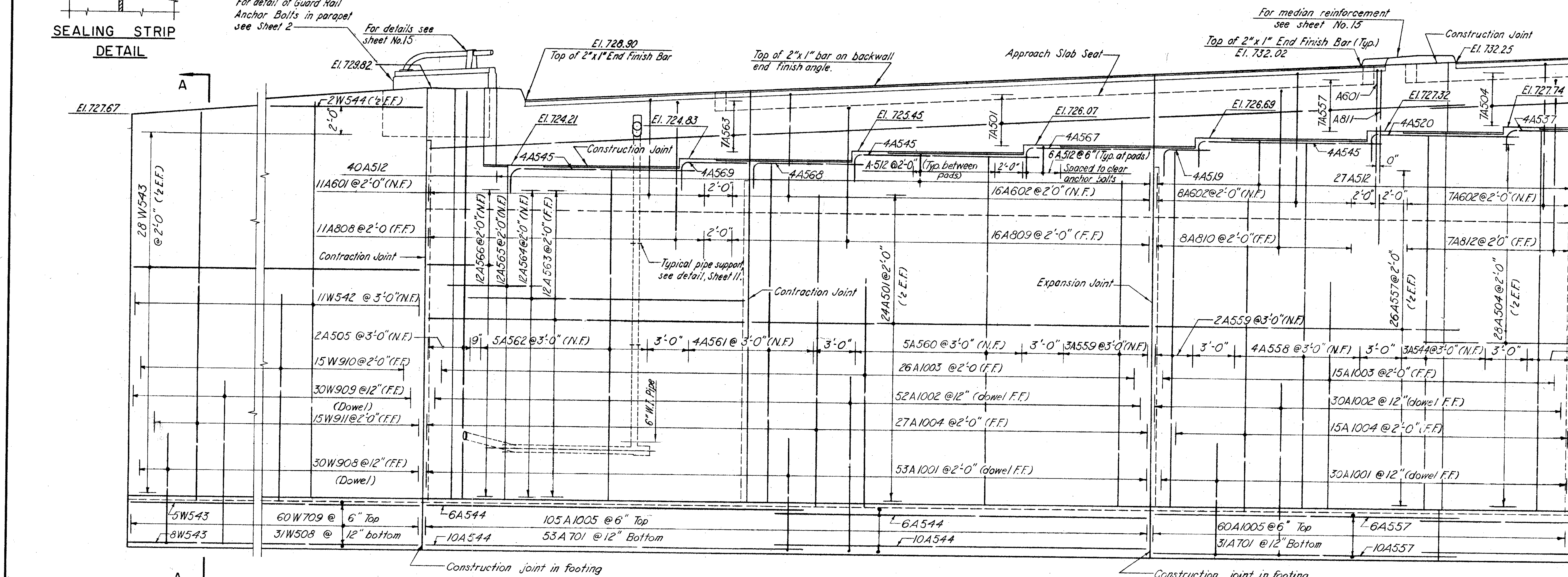


ABUTMENT PLAN

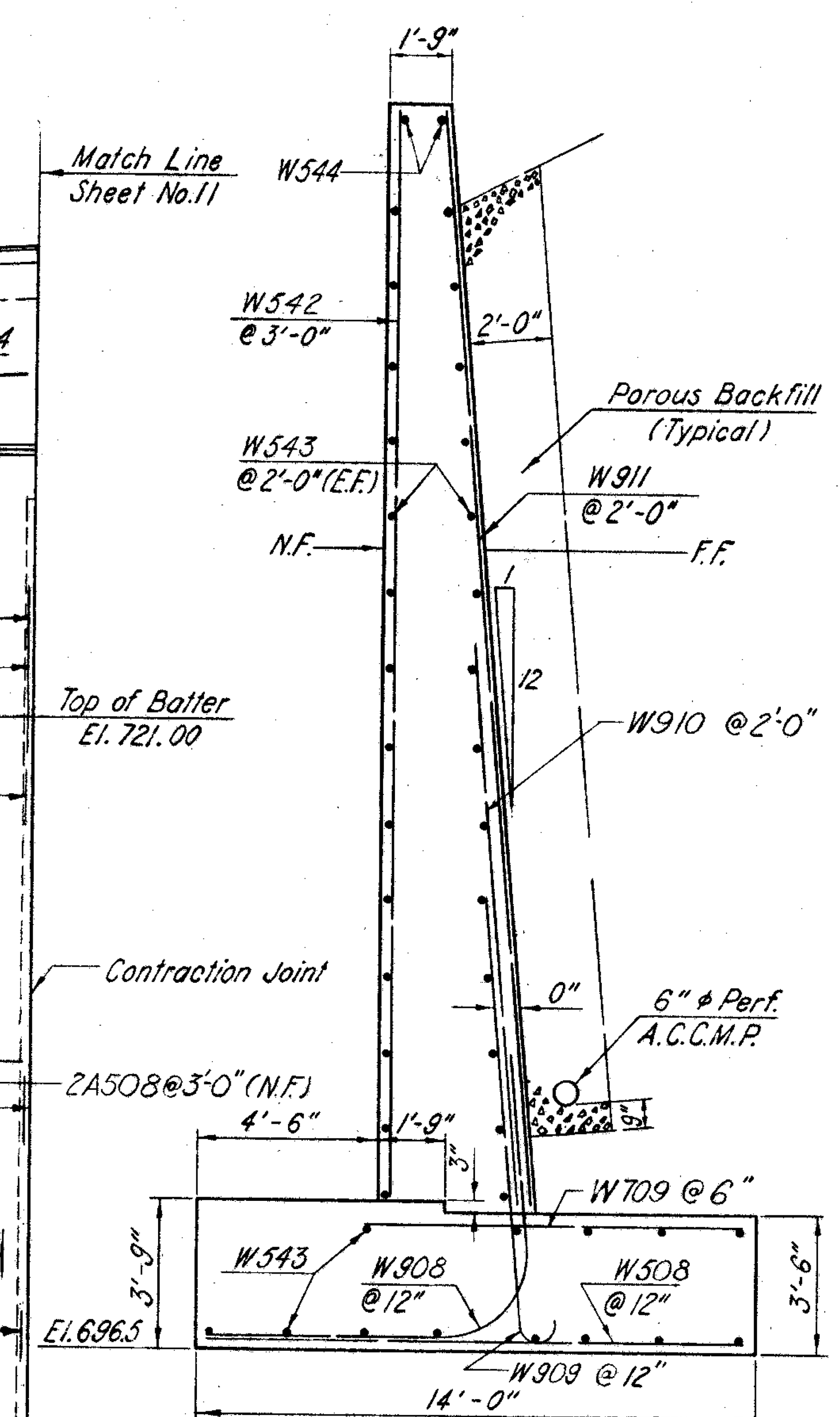


SEALING STRIP DETAIL

Note:
For detail of Guard Rail Anchor Bolts in parapet see Sheet 2



ABUTMENT ELEVATION



SECTION A-A

Bridge Sheet No. 10

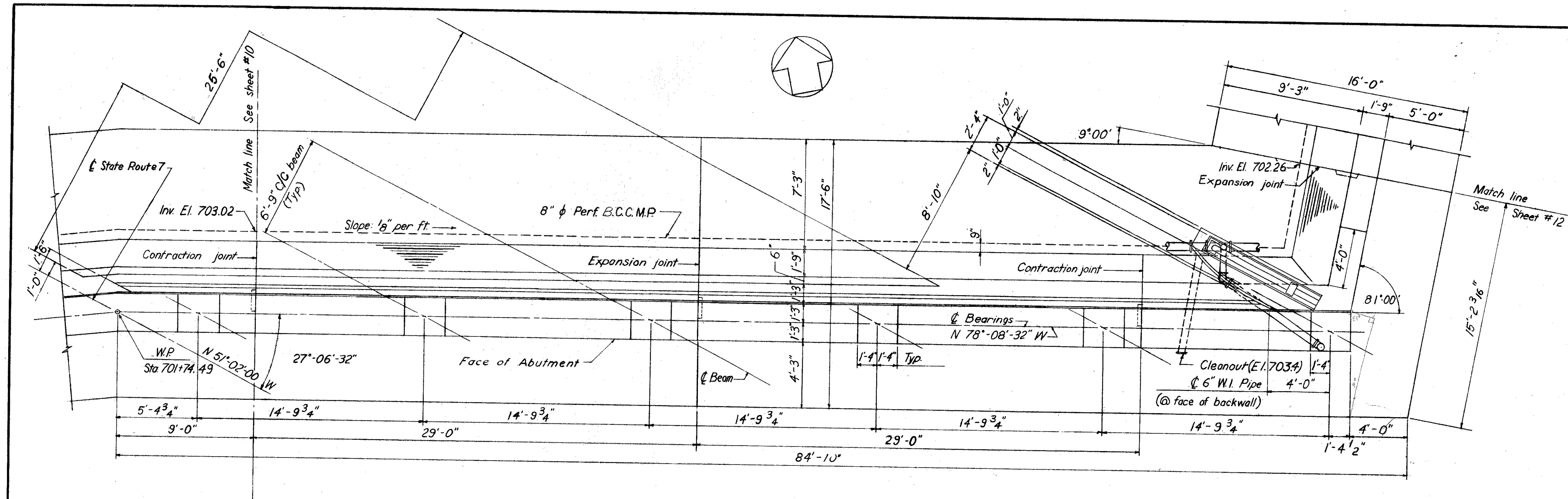
GOODKIND & O'DEA
CONSULTING ENGINEERS

NORTH ABUTMENT - WEST CORNER
BRIDGE No. JEF.-7-3406
OVER WYE BRANCH OF PENNA R.R.
JEFFERSON CO STA. 700+93.96 701+79.52

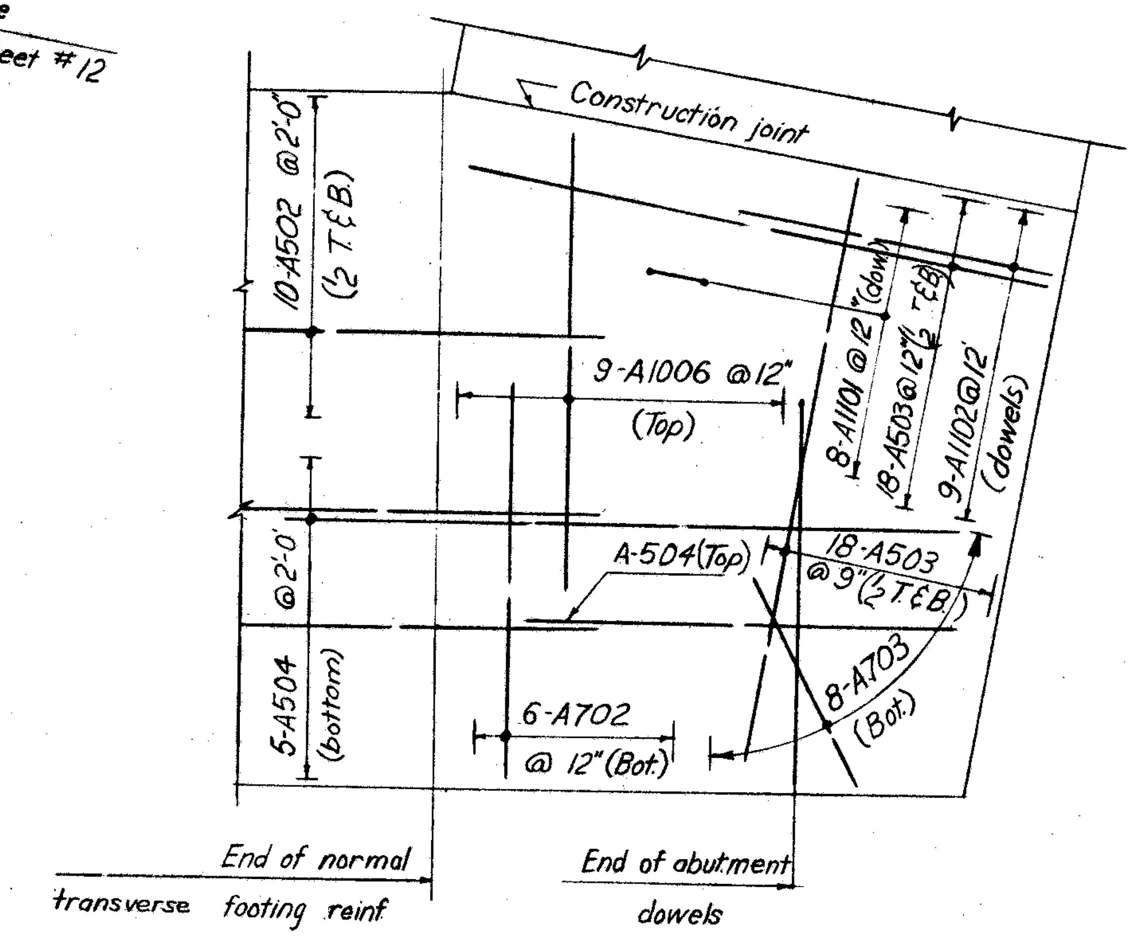
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.E.B.	J.P.		R.E.B. S.V.C.	D.A.B.	5/13/57	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

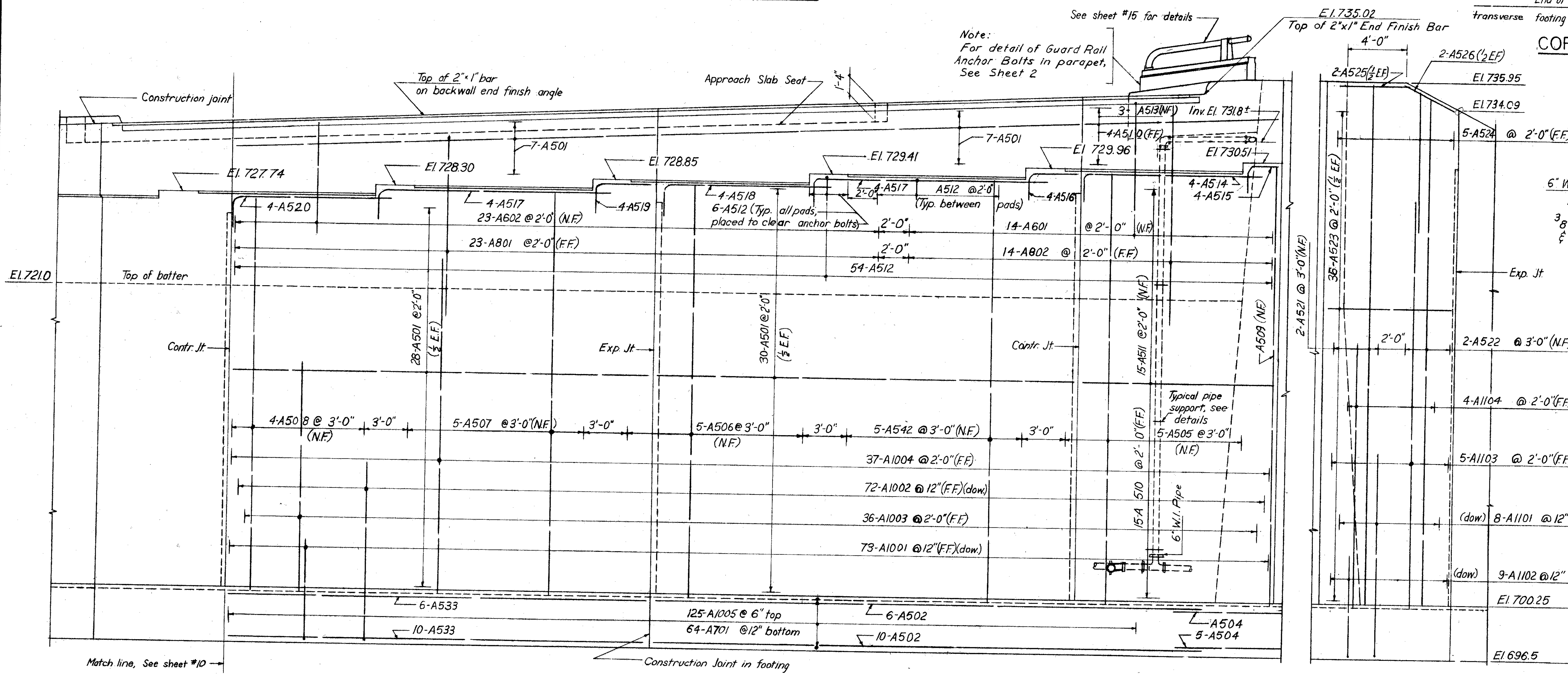
JEFFERSON COUNTY
SEC. NO. JEF-7-(33.83-34.10)
COL.-7-(0.00-0.50)



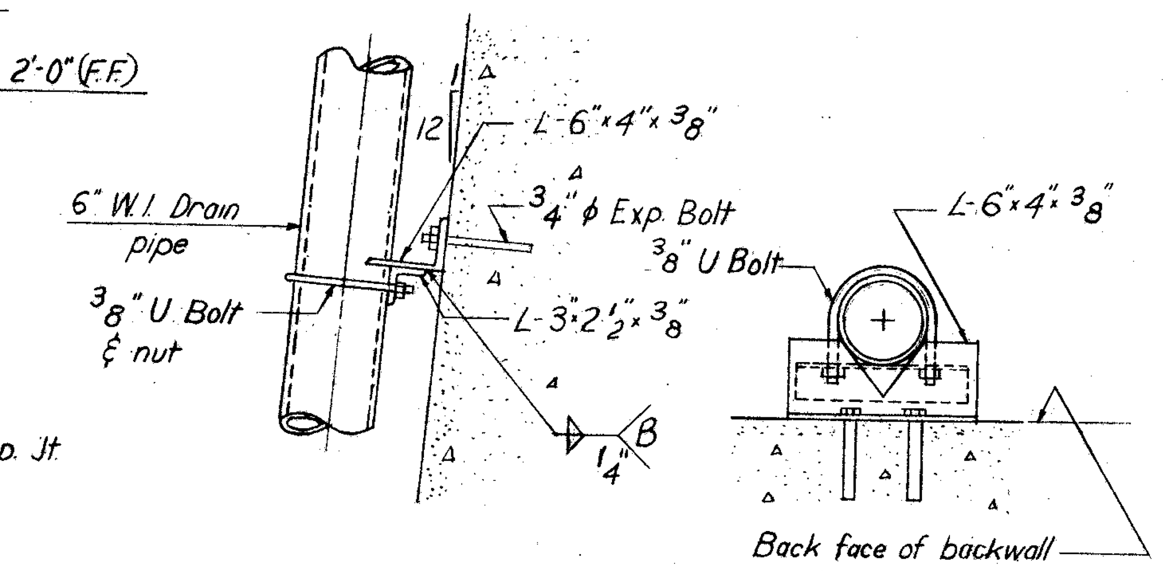
ABUTMENT PLAN



CORNER REINFORCEMENT DETAILS



ABUTMENT ELEVATION



PIPE SUPPORT DETAILS

Note: Cost of pipe supports to be included under payment for 6" ϕ W.I. pipe and specials.

Bridge Sheet No. 11

GOODKIND & O'DEA
CONSULTING ENGINEERS

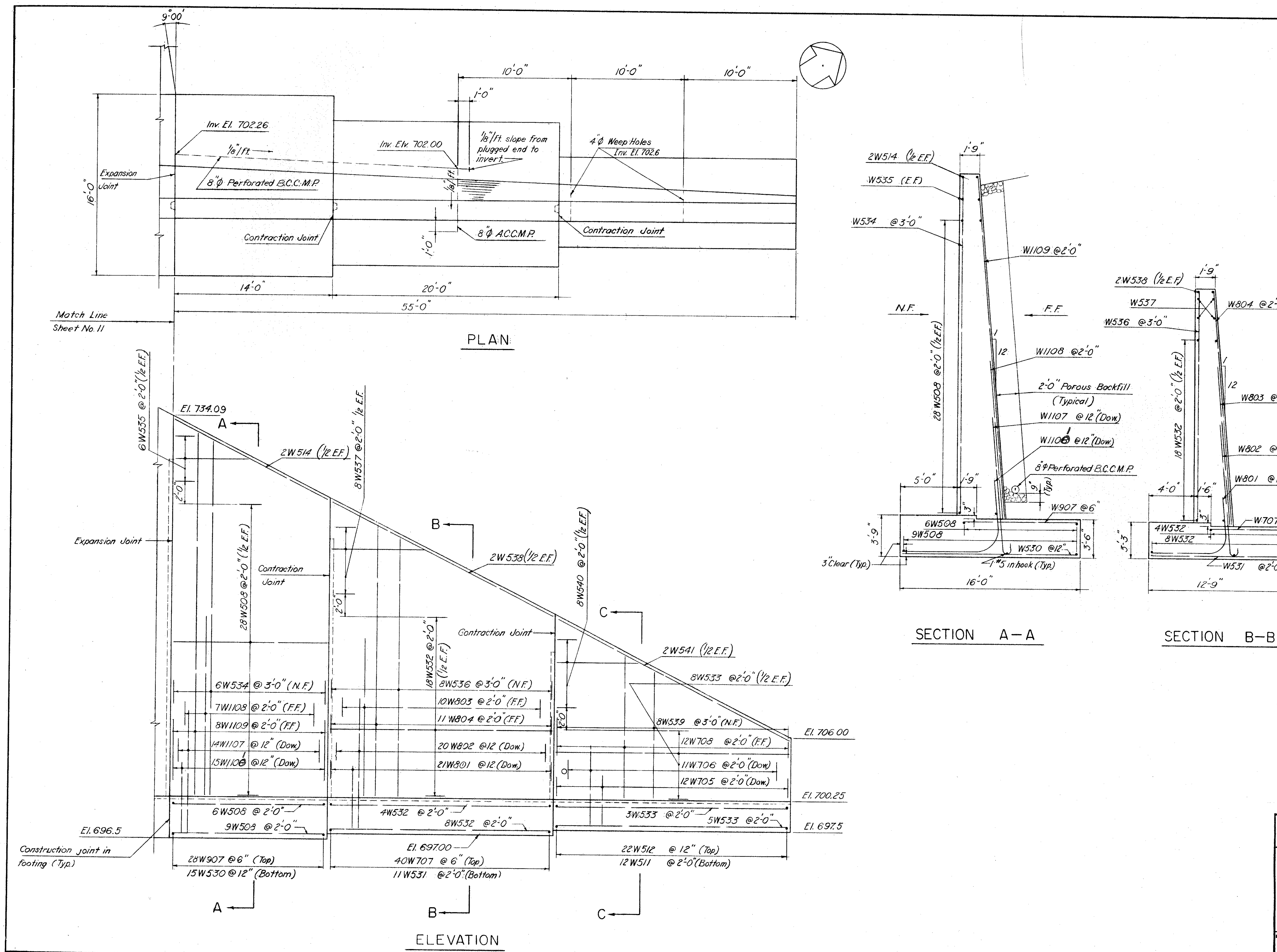
NORTH ABUTMENT — EAST CORNER
BRIDGE No. JEF-7-3406
OVER WYE BRANCH OF PENNA RAILROAD
JEFFERSON CO **STA.** 700+93.96 / 701+79.52

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.B.	S.G.		R.E.B. S.V.C.		5/13/57	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

147

JEFFERSON COUNTY
SEC NO JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



Bridge Sheet No. 12

GOODKIND & O'DEA
CONSULTING ENGINEERS

NORTHEAST WINGWALL

BRIDGE No. JEF-7-3406

OVER WYE BRANCH OF PENNA RAILROAD

JEFFERSON CO **STA.** 700+93.96 / 701+79.52

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RB	BF		RB SVC	D.R.S.	5/13/57	

Revised 9-6-57

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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JEFFERSON COUNTY
SEC. NO. JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

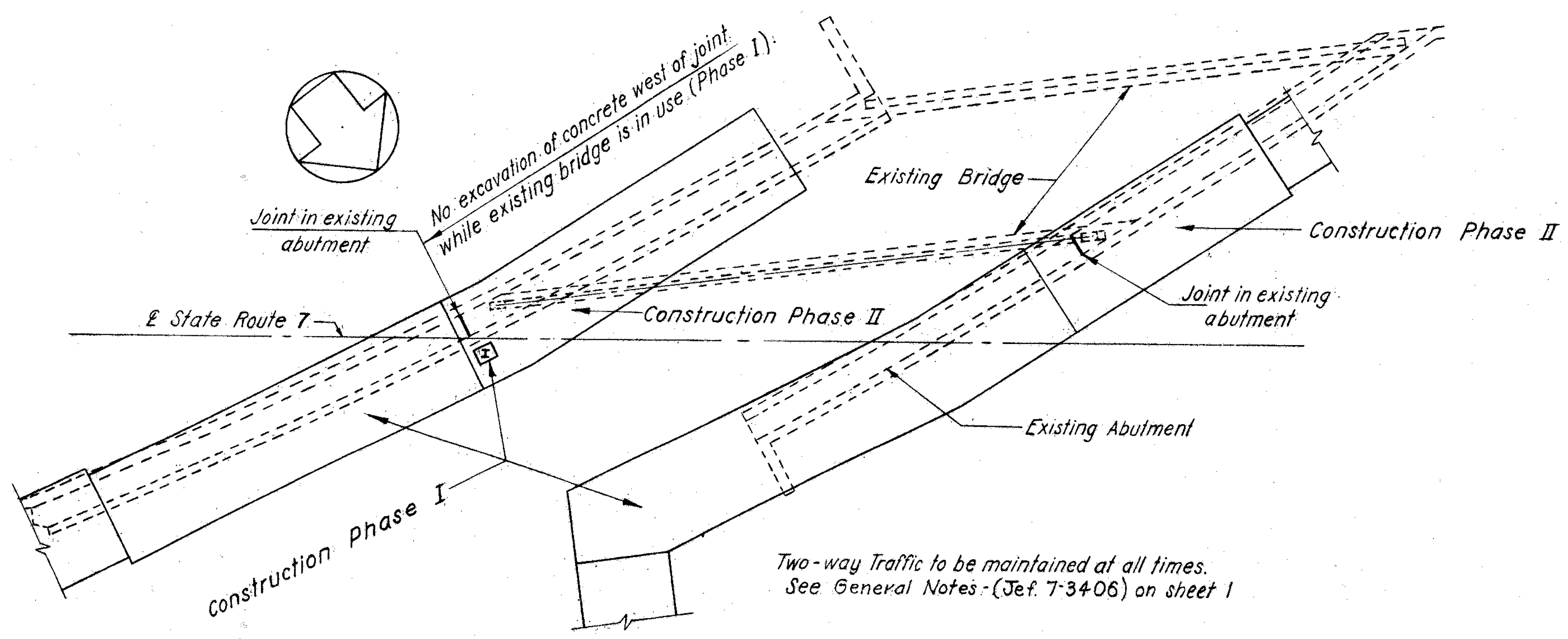
Bridge Sheet No. 13

GOODKIND & O'DEA
CONSULTING ENGINEERS

SOUTHEAST RETAINING WALL
BRIDGE No. JEF-7-3406
OVER WYE BRANCH OF PENNA RAILROAD
JEFFERSON CO STA. 700+93.96 / 701+79.52

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.V.C	S.V.C		R.E.B	D.A.G.	5/13/57	

JEFFERSON COUNTY
SEC.NO JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



CONSTRUCTION PHASES

Bridge Sheet No. 14

GOODKIND & O'DEA
CONSULTING ENGINEERS

SOUTHEAST RETAINING WALL
BRIDGE No. JEF 7-3406
OVER WYE BRANCH OF PENNA RAILROAD
JEFFERSON CO **STA.** 700+93.96 701+79.52

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
S.V.C.	H.D.S.		R.E.B.	D.R.B.	5/12/57	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

150

JEFFERSON COUNTY
SEC. NO JEF-7-(33.83-34.10)
COL.-7-(0.00-0.50)

GOODKIND & O'DEA
CONSULTING ENGINEERS

SUBSTRUCTURE DETAILS

BRIDGE No. JEF-7-3406

OVER WYE BRANCH OF PENNA R.R.

JEFFERSON CO **STA.** 700+93.96 / 701+79.52

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.E.B.	C.H.G		R.E.B. S.V.C.		5/13/57	

FED. RD. DIVISION		PROJECT	TYPE FUNDS
2	OHIO		

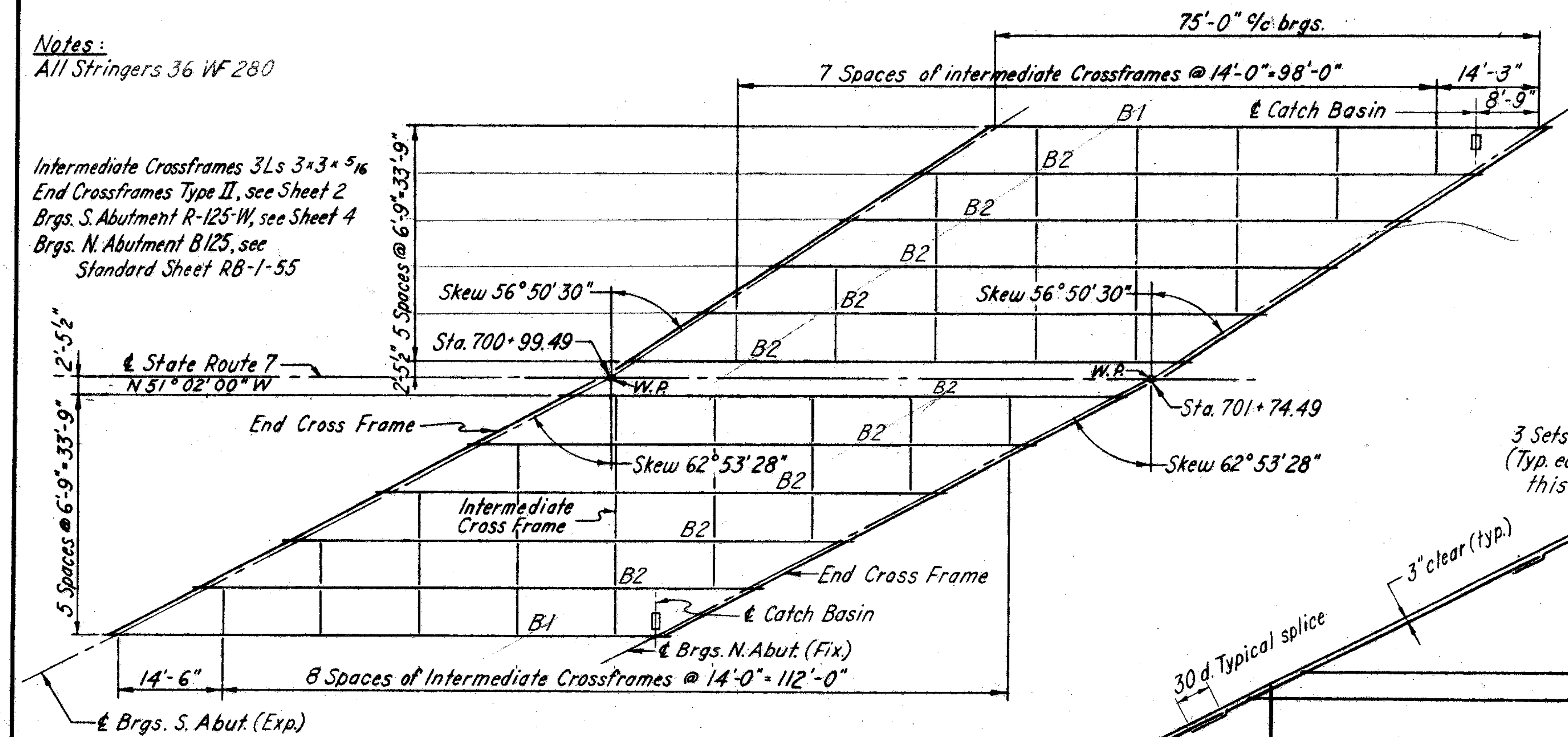
JEFFERSON COUNTY
SEC. NO JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

TRANSVERSE HALF SECTION

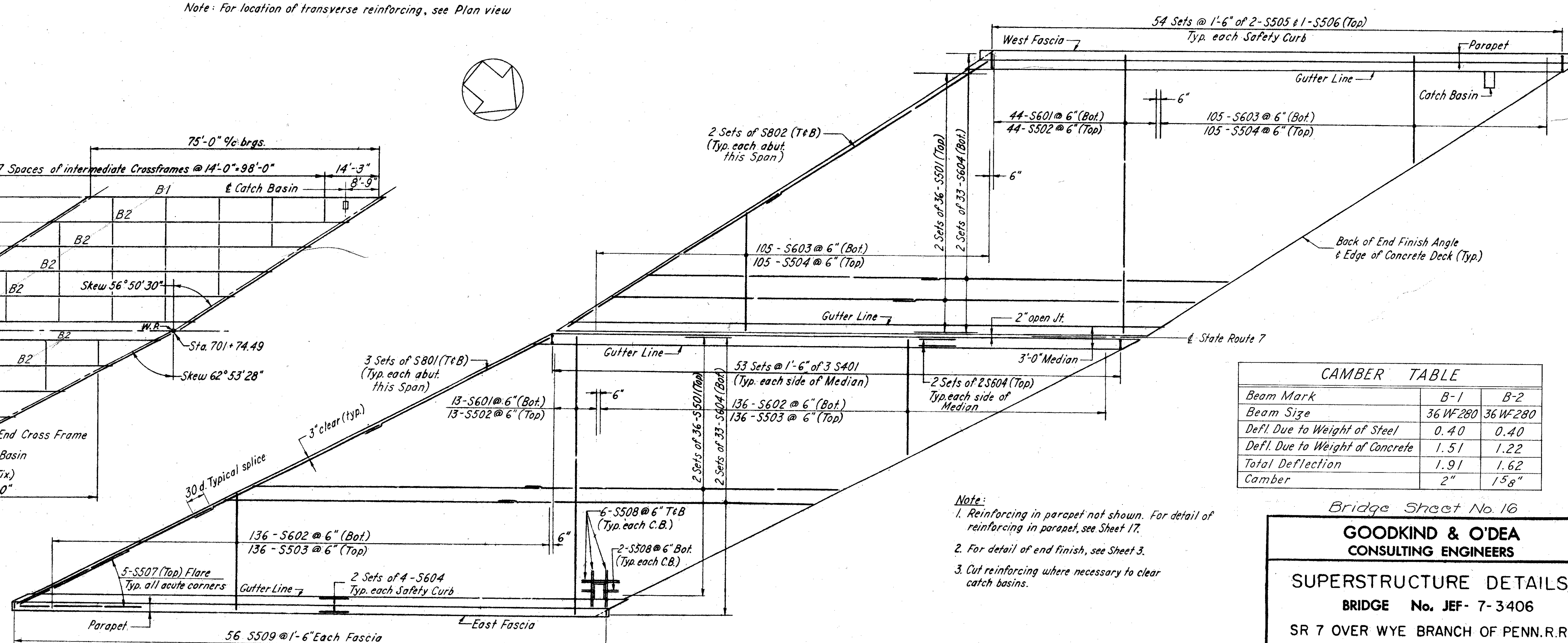
Note: For location of transverse reinforcing, see Plan view

Notes:
All Stringers 36 WF 280

Intermediate Crossframes 3Ls 3×3×5/16
End Crossframes Type II, see Sheet 2
Brgs. S. Abutment R-125-W, see Sheet 4
Brgs. N. Abutment B125, see Standard Sheet RB-1-55



STEEL FRAMING PLAN



DECK PLAN OF REINFORCING

CAMBER TABLE		
Beam Mark	B-1	B-2
Beam Size	36 WF 280	36 WF 280
Defl. Due to Weight of Steel	0.40	0.40
Defl. Due to Weight of Concrete	1.51	1.22
Total Deflection	1.91	1.62
Camber	2"	1 5/8"

Note:
1. Reinforcing in parapet not shown. For detail of reinforcing in parapet, see Sheet 17.
2. For detail of end finish, see Sheet 3.
3. Cut reinforcing where necessary to clear catch basins.

Bridge Sheet No. 16

GOODKIND & O'DEA
CONSULTING ENGINEERS

SUPERSTRUCTURE DETAILS
BRIDGE No. JEF- 7-3406
SR 7 OVER WYE BRANCH OF PENN. R.R
JEFFERSON CO **STA.** 700+93.96 / 701+79.52

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.K.K. E.P.	E.P.	J.K.	R.B.	D.Q.J.	5/13/57	

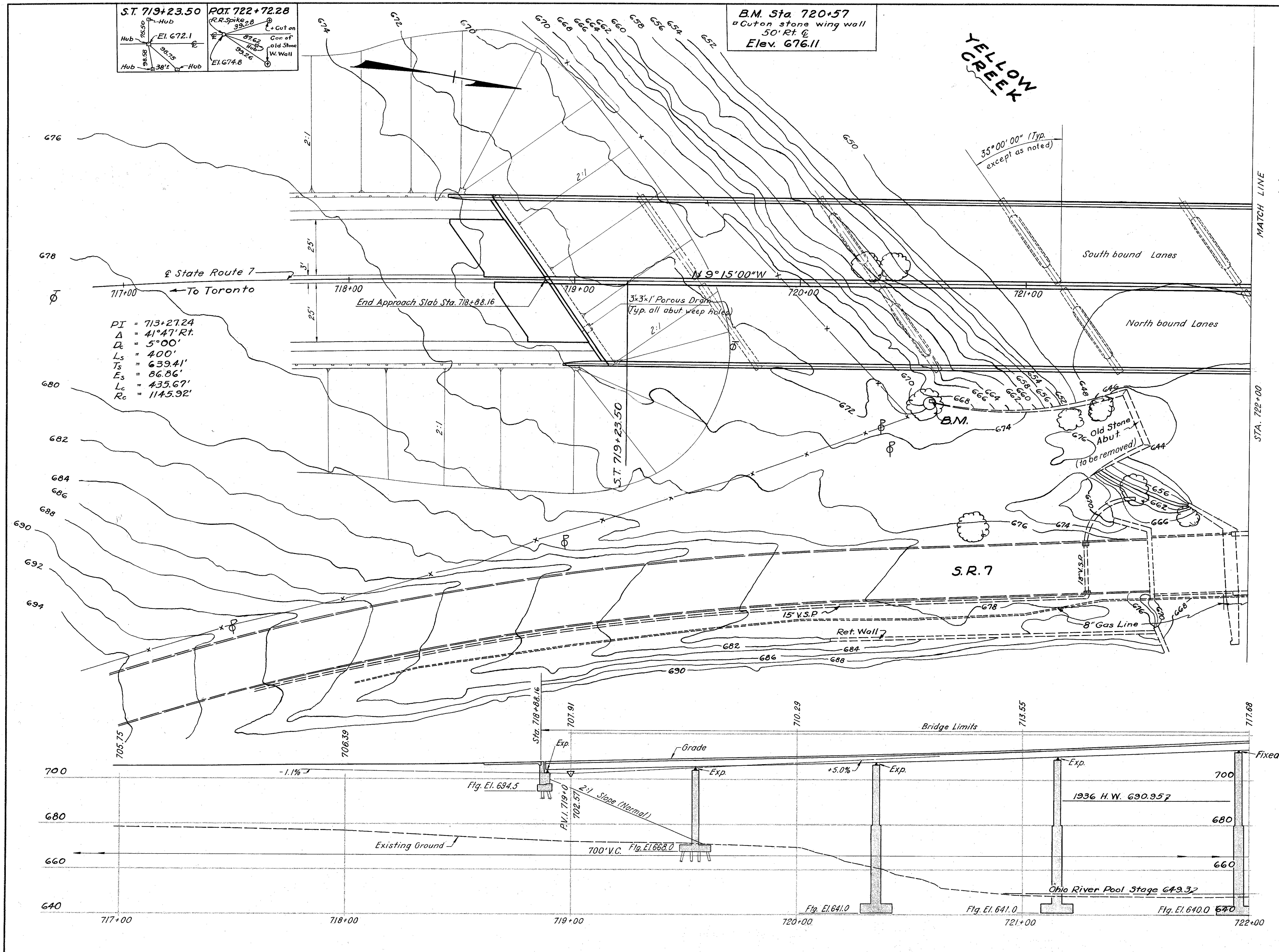
FED. RD. DIVISION 2
STATE OHIO
PROJECT
TYPE FUNDS
152
JEFFERSON COUNTY
SEC.NO.JEF.-7-(33.83-34.10)
COL-7-(0.00-0.50)
78'-11½"
9 Railing panels @ 8'-5" = 75'-9" (Typical - both Fascias)
¼" Grey sponge rubber preformed expansion joint filler meeting the requirements of Sec. M-10.02, Type I placed at midpoints of alternate Railing panels (Included with Item S14 for payment)
3⅝" Open Joint (Each end of Parapet - W. Fascia)
4" O.D. Aluminum Tube Railing
West Fascia
2" Open Joint
R501 & S509
2" Sloping curb face
Bulb angle gutter
Gutter Line
℄ Stringer
Sloping Face of Backwall
10-R501 & 10-S509 @ 1'-6"± (Typ. Each end Panel)
12-R501 & 12-S509 @ 1'-6" Each Panel 3 Panels - Each Fascia
Face of Abutment
W.I. Catch Basin
⅜"φ Hanger
℄ Bearings - S. Abutment
℄ Brgs. N. Abut.
2" End finish bar
2" Open Joint
L 8"x4"x1"
L 6"x4"x½"
PART PLAN OF SUPERSTRUCTURE
For detail of drainage behind N. Abutment see Sheets 10 & 11
NOTE:
Catch Basins shall be accurately adjusted for alignment and grade, with allowance for dead load deflection, before concrete is placed.
Catch Basins to be paid for at the unit price bit for Item S-7 - structural steel.
Cast aluminum railing post
56 Sets of 1-R501 & 1-S509 - Each Fascia
1" Open Joint
4-R503 (½E.F.) West fascia
4-R504 (½E.F.) East Fascia
4-R502 (½E.F.) 3 Panels each fascia
10" Curb
Bottom of Bulb angle gutter
Haunch
Intermediate Cross Frame 3½x3½x5/16"
4" O.D. Aluminum Tube Railing
R501
S509
⅜"φ Hanger
6" W.I. Pipe (to pass thru backwall)
2" Open Joint between Bridge Deck & Backwall (Curb Plates not shown)
SECTION A-A
Bulb L 5x3½x13.0#
6 Sp. @ 3" = 1'-6"
Top of Pavement
1½"x1" Bar
L 2½"x2½"x¼" with 11/16"x1½" slotted holes
⅝"φ Bolts
Adjustable Inserts in deck slab
½"x2" Grate bars
Turnbuckles
⅜"φ Hanger
2½"x½" Bar
Side Outlet Elbow
Removable Cap
6"φ Standard W.I. Pipe with Couplings (to pass thru Backwall)
NOTE:
All catch basin plates to be wrought iron ~~hot-dipped galvanized steel~~
All interior joints to be seal-welded.
SECTION B-B
Top of Safety Curb
End of Bulb Angle
1½"x1" bar
⅜" Plate (all sides & Bottom)
Top of Beam
4'-0" Max. Spacing
12"x6" W.I. Reducer
SECTION C-C
SECTION D-D
DETAIL OF CATCH BASIN
NOTES:
For detail of Railing, see Sheet 2.
All dimensions measured horizontally.
Face of Backwall
W.I. Catch Basin
⅜"φ Hanger
Bulb angle gutter
Gutter Line
Expansion joint in parapet
2" Open Joint
East Fascia
9 Railing panels @ 8'-5" = 75'-9"
14'-7½"
19'-9"
Face of wingwall
4⅜" Open Joint (Each end of Parapet - East Fascia)
NORTH-EAST CORNER
PLAN
Bridge Sheet No. 17
GOODKIND & O'DEA
CONSULTING ENGINEERS
SUPERSTRUCTURE DETAILS
BRIDGE No. JEF-7-3406
SR 7 OVER WYE BRANCH OF PENN. R.R.
JEFFERSON CO
STA. 700+93.96 701+79.52
DESIGNED G.K.K.
DRAWN A.P.
CHECKED R.B.
REVIEWED D.R.J.
DATE 5/3/57

FED. RD. DIVISION 2 | STATE OHIO | PROJECT | 153

JEFFERSON COUNTY
SEC. NO. JEF.-7-(33.83-34.10)
COL-7-(0.00 - 0.50)

Foundation design and foundation quantities are based on a study of test borings and soil sampling borings made at the site. This soils information may be inspected in the office of the Bureau of Bridges in Columbus or in Division office, but the State assumes no responsibility for the accuracy thereof.

All piling shall be 12 BP 53
Estimated average pay length:
South abutment 48'
Piers 1E & 1W 25'



Bridge Sheet No. 18

GOODKIND & O'DEA
CONSULTING ENGINEERS

SITE PLAN

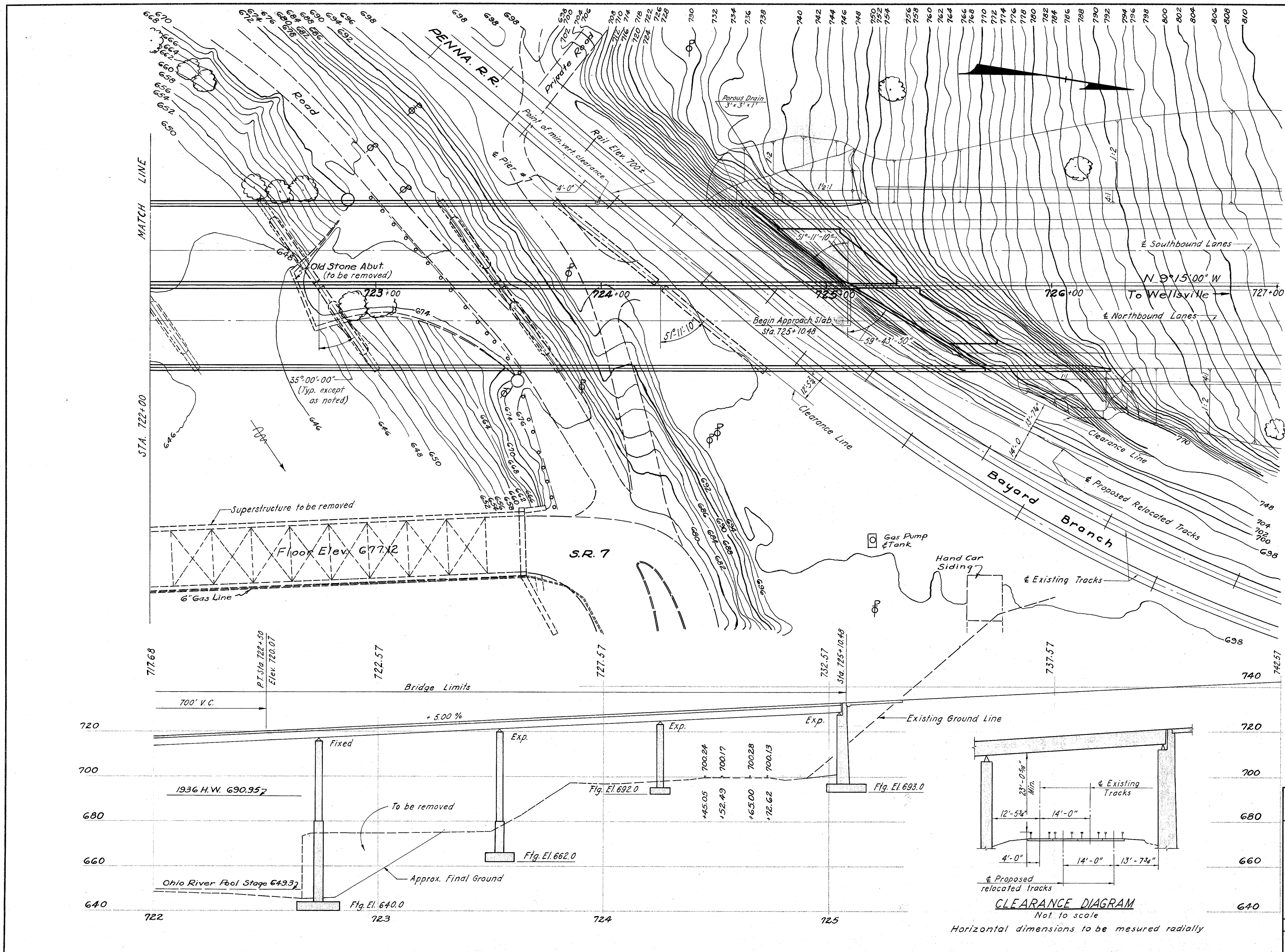
BRIDGE NO. JEF.-7.3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO. STA. 718+88.16 725+10.48
SCALE: 1" = 20'

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEY	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
[signature]	[signature]	G.K.	J.P.	R.B.	[signature]

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

154

JEFFERSON COUNTY
SEC. NO. JEF.-7-(33.83 - 34.10)
COL-7-(0.00 - 0.50)



CLEARANCE DIAGRAM
Not to scale
Horizontal dimensions to be mesured radially

JEF-7-3447
EXISTING BRIDGE DATA
Type: Thru Truss & Steel Beam
Spans: 174'-2" & 35'-6"
Roadway = 23'
Abutments & Piers: Concrete
Loading: H-15
Condition: Fair
Sufficiency Rating: 78

PROPOSED STRUCTURE

TYPE: Continuous rolled steel beams with reinforced concrete deck & substructure. Hammer-head type piers.
SPANS: 64', 80', 80', 80', 80', 80', 71'-3" & 84'-0" (continuous).
SKEW: Varies from 35° to 59°-43'-50"
ROADWAY: 70'-8" f/f between 1'-2" safety curbs, including 3'-0" median.
LOAD FREQUENCY: CF = 2000 (51)
WEARING SURFACE: 1" monolithic concrete.
APPROACH SLAB: AS-1-54 (25' long)
ALIGNMENT: Highway on tangent Railroad on 5°-45'± curve.
NUMBER OF TRACKS: TWO.

Drainage Area = 240 Sq. Mi.
Bridge Sheet No. 19

GOODKIND & O'DEA
CONSULTING ENGINEERS

SITE PLAN

BRIDGE NO. JEF.-7 3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO. STA. 718+88.16 725+10.48

SCALE: 1" = 20'

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEY	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Aerial Survey	G.K.	J.P.	R.B.	O.R.J. 5/13/57

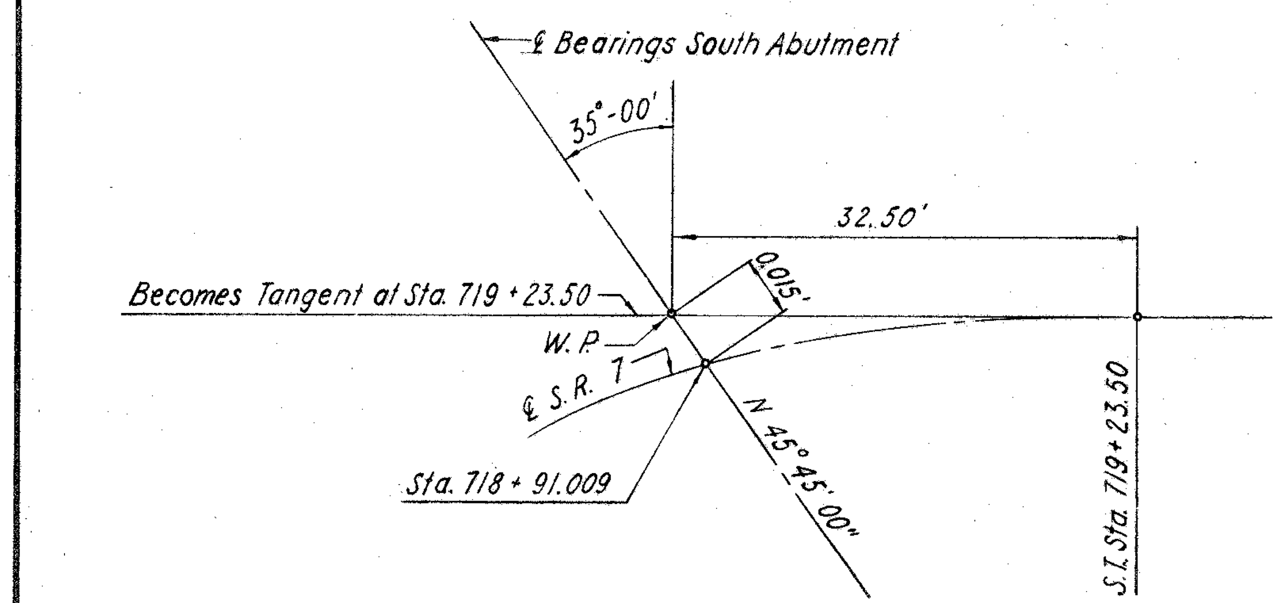
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

JEFFERSON COUNTY
SEC. NO. JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

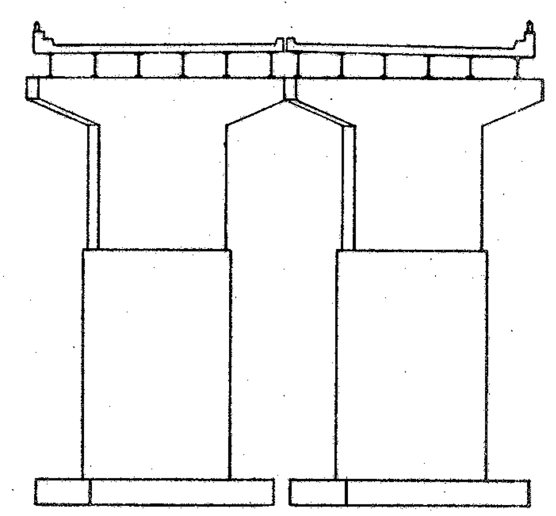
Note: For Bridge construction neglect effect of Spiral Alignment. See Detail A.
South Approach Slab to be built on Spiral.

GENERAL PLAN

ELEVATION
(East Half Shown)



DETAIL A



SECTION A-A

Bridge Sheet No. 20

GOODKIND & O'DEA
CONSULTING ENGINEERS

GENERAL PLAN AND ELEVATION
BRIDGE No. JEF-7-3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO **STA.** 718+88.16 725+10.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.K.	J.K.		R.B.	D.A.S.	5/13/57	

JEFFERSON COUNTY
SEC NO JEF-7-(33.83 34.10)
COL-7-(0.00 0.50)

REINFORCING STEEL LIST

PIERS

MARK	LENGTH	1E	1W	2E	2W	3E	3W	4E	4W	5E	5W	6E	6W	7E	7W	TOTAL NO.	TOTAL WGT.	SHP
P501	13'-6"	19	19			23	23								23	107	1507	S
P502	8'-6"			62	62	62	62							23		271	2403	S
P503	27'-0"	36	4								32					72	2028	S
P504	33'-6"	2	2	6	6	6	6	6	6	6	6	38	6	4	4	104	3634	S
P505	18'-6"							23	23	23	23					92	1775	S
P506	9'-6"			106	74	74	74	80	112	80	80	62	62	40	40	80	793	B-H
P507	22'-8"	36	36	~~102~~	~~40~~	~~40~~	~~40~~	~~46~~	~~108~~	~~46~~	~~46~~	~~58~~	~~58~~		876	~~836~~	~~19764~~ 20710	S
P508	29'-0"									32				30	30	92	2783	S
P509	6'-0"			30	30	30	30									120	751	S
P510	25'-10"		32			32										64	1724	S
P512	21'-8"				32										40	72	1627	S
P513	24'-3"						32	32						40		104	2630	S
P514	32'-2"												32			32	1074	S
P515	7'-2"			16	16	16	16									64	478	B-F
P516	9'-4"			38	38	38	38	38	38	38	38					336	3271	B
P517	5'-2"	32	32	28	28	28	28	34	34	34	34	38	38	26	26	440	2371	B-E
P518	5'-8"	4	4	6	6	6	6	6	6	6	6	6	6	4	4	76	449	B
P520	22'-6"													4	4	8	188	S
P521	16'-0"													4	4	8	133	B
P522	13'-2"	4	4	4	4	4	4	4	4	4	4	4	4			48	659	B
P523	9'-2"		20		16		16		16		16		16		40	140	1339	B-E
P524	10'-8"	20	16	16	16	16	16	16	16	16	16	16	16		36	232	2581	B-E
P525	12'-2"	16	16	16	20	16	20	16	20	16	20	16	20	40	24	276	3502	B-E
P526	13'-8"	16		20		20		20		20		20		36		152	2167	B-E
P527	15'-2"													24		24	380	B-E
P528	6'-8"	32	40	32	32	40	24	40	24	40	16	40	16	24	16	416	2893	B-E
P529	8'-2"				8		16		16		24		24	16	8	112	954	B-E
P530	9'-8"														16	16	161	B-E
P531	10'-6"	3	12	3	9	9	9	9	6	9	6	9	6			90	986	B-L
P532	11'-6"				3		3		6		6		6			24	288	B-L
P534	9'-7"		3			3		3		3		3				15	150	B-F
P535	11'-1"				3		3		3		3		3			15	173	B-F
P537	13'-0"													6	3	9	122	B-L
P538	14'-0"													6	9	15	219	B-L
P540	12'-4"													3		3	39	B-F
P541	13'-10"														3	3	43	B-F
P601	10'-11"	32	32									34	34			132	2164	B-H
P602	28'-6"			38	38	38	38									152	6507	S
P602a	5'-0"			38	38											76	571	S
P701	13'-6"											23	23			46	1269	S
P702	28'-8"	8	8													16	938	B-B
P703	35'-2"			10	10	10	10	10	10	10	10	10	10	5	10	115	8266	B-B
P704	10'-2"													46		46	956	B-B
P705	15'-2"											46	46			92	2852	B-B
P706	6'-6"	30	30											38	38	136	1807	B-H
P707	11'-6"	30	30											38	38	136	3197	S
P708	17'-6"											30	30			60	2146	S
P801	13'-6"			46	46							38	38			168	6056	S
P802	7'-6"					34	34					38	38			144	2884	B-H
P803	13'-11"					38	38									76	2824	B-H
P804	25'-6"					34	34									68	4630	S
P805	6'-6"											30	30			60	1041	S
P806	11'-6"											32	32			64	1965	S
P807	23'-0"							30	30	30	30					120	7369	S
P808	9'-2"							16	16	16	16	16	16			96	2350	B-F
P901	16'-0"	39	39	46	46	46	46								46	308	16755	B-B
P902	28'-3"							38	38	38	38					152	14600	S
P903	7'-0"							30	30	30	30					120	2856	S
P904	13'-0"							32	32							64	2829	S
P905	12'-6"									32	32					64	2720	S
P1001	28'-0"			34	34			34	34	34	34					204	24579	S
P1101	16'-4"							46	46	46	46					184	15967	B-B
P1102	9'-2"			34	34			34	34	34	34					204	9935	B-H
P1103	16'-2"			38	38			38	38	38	38					228	19584	B-H
P1104	34'-0"													6	6	~~12~~ 24	~~4168~~ 4336	S
P1105	27'-0"	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	6	6	~~12~~ 144	~~10328~~ 20656	S
P1106	21'-0"	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~	~~5~~		12	~~60~~ 120	~~6694~~ 13388	S
												10						

NORTH ABUTMENT

MARK	NO.	LENGTH	WEIGHT	SHP
A401	6	2'-5"	10	B-F
A516	11	15'-0"	172	S
A517	38	10'-3"	406	S
A518	16	10'-9"	179	S
A519	15	19'-5"	304	S
A520	23	10'-0"	240	S
A521	3	3'-9"	12	S
A522	2	3'-0"	6	S
A523	5	27'-11"	146	S
A524	4	28'-6"	119	S
A525	3	28'-11"	90	S
A526	4	29'-6"	123	S
A527	4	30'-0"	125	S
A528	3	30'-6"	95	S
A529	5	30'-11"	161	S
A530	4	31'-4"	131	S
A531	12	31'-10"	398	S
A532	5	32'-4"	169	S
A533	5	32'-9"	171	S
A534	76	29'-8"	2352	S
A535	17	20'-3"	359	S
A536	24	26'-6"	663	S
A537	78	21'-0"	1708	S
A538	13	14'-0"	190	S
A539	23	16'-3"	390	S
A540	1	11'-9"	12	S
A541	6	16'-3"	102	S
A542	15	18'-0"	282	S
A543	4	2'-6"	10	S
A544	15	5'-0"	78	S
A545	4	9'-6"	40	S
A546	4	6'-6"	27	S
A547	4	13'-7"	57	B-J
A548	4	10'-8"	45	B-J
A549	8	12'-8"	106	B-J
A550	4	8'-2"	34	B-J
A551	4	11'-9"	49	B-J
A552	12	16'-2"	202	B-J
A553	4	6'-4"	26	B-J
A554	4	9'-7"	40	B-J
A555	4	4'-9"	20	B-J
A556	102	5'-9"	612	B-J
A557	5	33'-0"	172	S
A558	15	16'-5"	257	B
A559	22	26'-6"	608	S
A560	80	4'-10"	403	B
A561	6	33'-9"	211	S
A562	3	22'-3"	70	S
A563	4	9'-9"	41	S
A564	2	15'-6"	32	B
A565	4	2'-6"	10	B
A566	5	21'-6"	112	S
A567	11	15'-9"	181	B-H
A568	11	10'-6"	120	B-H
A569	16	11'-6"	192	S
A570	35	6'-0"	219	S
A571	3	4'-0"	13	S
A572	17	8'-0"	142	B
A573	3	6'-0"	19	B-L
A574	10	39'-0"	407	S
A575	10	26'-8"	278	S
A576	14	12'-0"	175	S
A577	5	28'-4"	148	S
A578	2	6'-3"	13	S
A579	15	31'-0"	484	S
A580	13	15'-3"	207	B-H
A581	13	14'-6"	197	B-H
A582	16	13'-6"	225	S
A583	13	8'-6"	115	S
A584	26	25'-9"	698	S
A585	32	27'-6"	917	S
A586	16	22'-0"	367	S
A587	3	7'-0"	22	S
A588	13	14'-7"	198	S

NORTH ABUTMENT

MARK	NO.	LENGTH	WEIGHT	SHP
A604	75	9'-8"	1089	B
A605	21	10'-0"	315	B-L
A606	18	10'-8"	288	B-L
A607	8	11'-2"	134	B-A
A608	6	17'-2"	155	B-C
A609	4	13'-0"	78	S
A610	5	23'-0"	173	S
A611	10	8'-6"	128	S
A612	27	13'-6"	547	S
A613	3	26'-7"	120	S
A614	69	6'-2"	639	B
A615	2	4'-6"	14	S
A616	3	21'-0"	95	S
A617	2	31'-9"	95	S
A618	1	6'-3"	9	S
A619	2	6'-10"	21	B
A620	1	30'-0"	45	S
A621	1	13'-8"	21	S
A622	2	14'-8"	44	S
A623	6	3'-5"	31	B-F
A638	27	12'-2"	493	B-L
A639	14	13'-3"	279	B-L
A701	7	14'-11"	213	B-C
A702	7	9'-5"	135	B-B
A703	152	17'-9"	5515	S
A704	20	13'-5"	546	S
A807	9	13'-11"	334	B-C
A808	7	6'-3"	117	S
A809	12	11'-11"	382	B-A
A810	6	11'-6"	184	S
A811	7	18'-9"	350	S
A812	22	8'-6"	499	S
A1001	141	15'-8"	9505	B-A
A1002	62	18'-0"	4802	S
A1003	90	28'-8"	11102	S
A1004	22	22'-0"	2083	S
A1005	13	12'-7"	704	B-C
A1006	7	12'-0"	361	S
A1007	267	10'-6"	12063	S
A1008	7	10'-3"	309	S
A1101	172	16'-2"	14,774	B-C
A1102	25	15'-8"	2081	B-A

RAILING

MARK	NO.	LENGTH	WEIGHT	SHP
N. ABUT				
R501	80	1'-8"		B-F
R503	8	13'-0"	R-Bars	S
R504	4	13'-3"	Included	S
R505	4	4'-6"	with	S
R506	4	20'10"	railing	S
R507	8	15'0"	for	S
R509	4	12'-3"	Payment	S
S. ABUT				
R501	26	1'-8"		B-F
R510	8	18'-2"		S
SUPERSTR.				
R501	941	1'-8"		B-F
R502	276	17'-0"		S
R503	16	14'-4"		S

SOUTH ABUTMENT

MARK	NO.	LENGTH	WEIGHT	SHP
A402	6	1'-10"	7	B-F
A501	99	5'-9"	594	S
A502	1	17'-6"	18	S
A503	2	8'-0"	17	S
A504	90	5'-5"	508	B
A505	3	15'-4"	48	B
A506	3	11'-0"	34	S
A507	2	13'-0"	27	S
A508	4	13'-3"	55	B
A510	3	4'-8"	15	B
A511	36	4'-9"	178	S
A512	3	6'-6"	20	B
A513	4	16'-6"	69	S
A514	8	3'-10"	32	S
A515	4	7'-9"	32	S
A516	6	15'-0"	94	S
A517	7	9'-4"	68	S
A519	12	19'-5	243	S
A521	50	3'-9"	196	S
A544	3	5'-0"	16	S
A560	26	4'-10	131	B
A565	4	2'-6"	10	B
A579	44	25'-8"	1316	S
A590	6	13'-6"	84	S
A591	7	10'-3"	75	S
A592	8	4'-9"	40	S
A601	30	32'-9"	1476	S
A602	20	16'-6"	496	S
A603	87	8'-6"	1111	B-A
A630	65	16'-7"	1619	B
A631	22	17'-7"	581	B
A632	6	19'-5"	175	S
A633	9	13'-8"	185	B-A
A634	15	12'-8"	285	B-A
A635	27	3'-3"	132	B
A636	11	7'-9"	128	B-B
A637	6	2'-9"	25	B-F

REPLACEMENT BARS

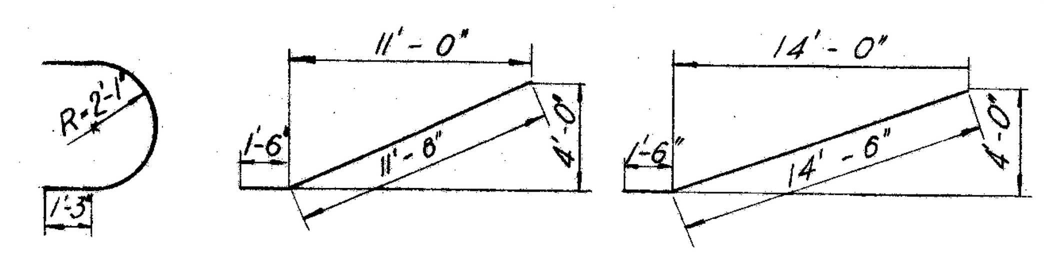
MARK	NO.	LENGTH	WEIGHT	SHP
RE 4	1	4'-0"		S
RE 5	14	5'-7"		S
RE 6	12	5'-11"		S
RE 7	2	6'-2"		S
RE 8	2	6'-6"		S
RE 9	2	6'-10"		S
RE 10	4	7'-2		S
RE 11	~~8~~ 6	7'-6"		S

DECK SLAB

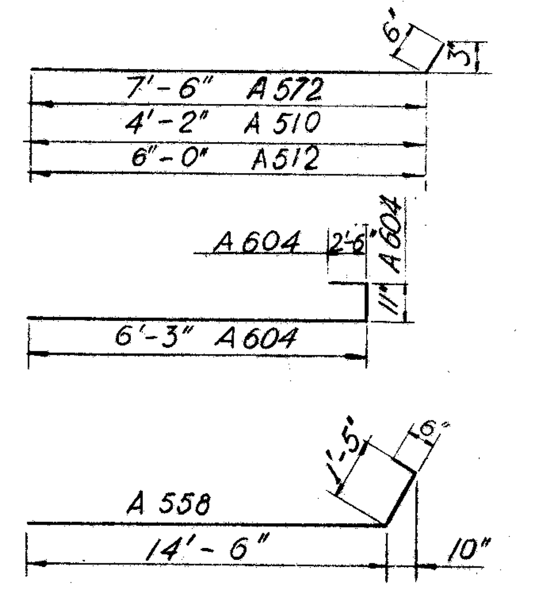
MARK	NO.	LENGTH	WEIGHT	SHP
S401	2472	1'-8"	2752	B-F
S501	2332	37'-0"	89994	S
S502	96	*	1938	S
S503	118	*	2413	S
S504	85	*	1723	S
S505	72	19'-8"	1477	S
S506	1080	39'-8"	44683	S
S507	72	*	1802	S
S508	36	*	722	S
S509	1676	1'-9"	3059	B-L
S510	838	2'-10"	2476	B-F
S511	941	4'-10"	4744	B
S512	20	16'-0"	334	S
S513	444	32'-0"	14819	S
S514	74	40'-0"	3087	S
S601	2332	37'-0"	129598	S
S602	96	*	2790	S
S603	118	*	3475	S
S604	85	*	2482	S
S605	78	20'-0"	2343	S
S606	1170	40'-0"	70294	S
S607	12	33'-6"	604	S
S608	10	*	477	S
S609	12	*	514	S
S610	12	*	451	S
S611	12	*	388	S
S612	6	*	306	S
S613	8	29'-0"	348	S
S614	6	*	228	S
S615	6	*	196	S
S616	6	*	160	S
S617	6	*	128	S
S618	5	*	83	S
S619	6	9'-3"	83	S
S801	8	23'-6"	502	S
S802	6	25'-6"	409	S
S803	4	30'-6"	326	S

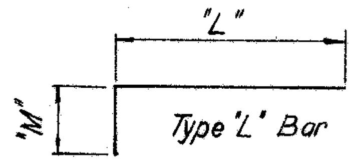
*VARIABLE LENGTH SLAB BARS

MARK	NO	GROUPS	NO PER GROUP	Δ	FROM	TO
S502	96	2	48	8½	2 - 8½	36 - 0
S503	118	1	118	3½	2 - 6½	36 - 8
S504	85	1	85	4⅞	2 - 4½	36 - 6
S507	72	2	36	6	15 - 3	32 - 9
S508	36	1	36	6¼	10 - 1¼	28 - 4
S602	96	2	48	8½	2 - 8½	36'-0
S603	118	1	118	3½	2 - 6½	36 - 8
S604	85	1	85	4⅞	2 - 4½	36 - 6
S608	10	2	5	6	30 - 9	32 - 9
S609	12	2	6	6	27 - 3	29 - 9
S610	12	2	6	6	23 - 9	26 - 3
S611	12	2	6	6	20 - 3	22 - 9
S612	6	1	6	12	31 - 6	36 - 6
S614	6	1	6	6	24 - 0	26 - 6
S615	6	1	6	6	20 - 6	23 - 0
S616	6	1	6	6	16 - 6	19 - 0
S617	6	1	6	6	13 - 0	15 - 6
S618	5	1	5	6	10 - 0	12 - 0

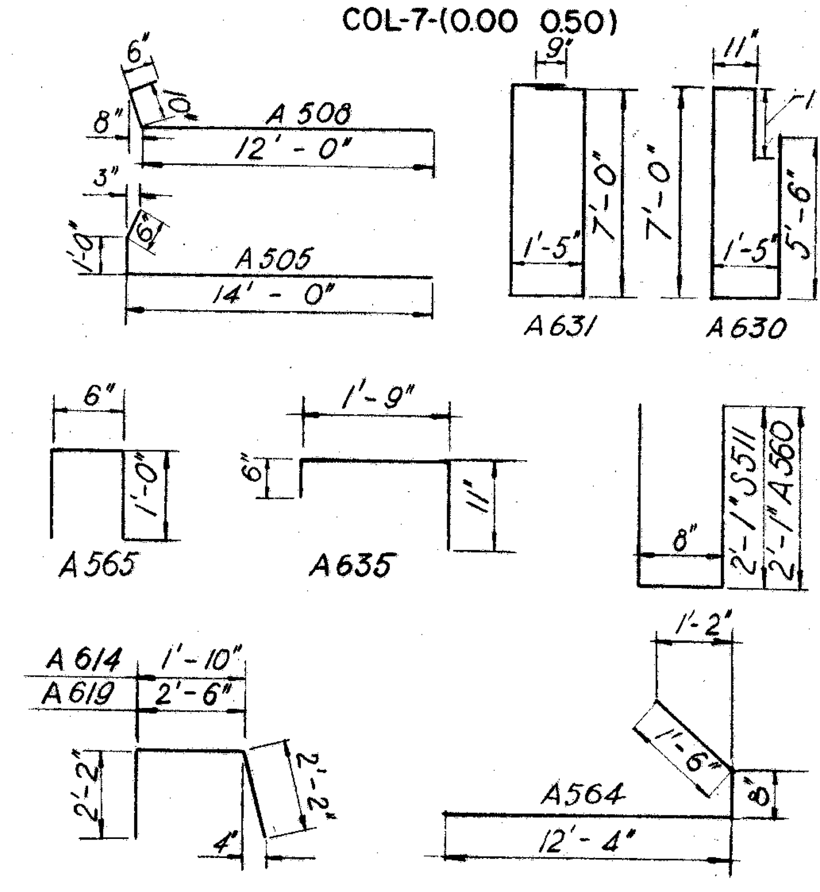


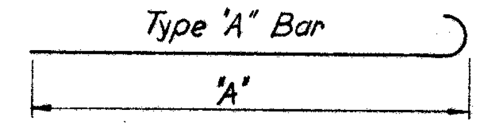
P516 P522 P521



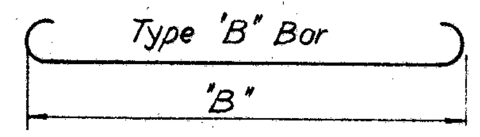


Mark	"L"	"M"
P531	9'-0"	1'-6"
P532	9'-0"	2'-6"
P537	11'-6"	1'-6"
P538	11'-6"	2'-6"
S509	1'-3"	6"
A504	3'-11"	1'-6"
A573	4'-9"	1'-3"
A605	8'-6"	1'-6"
A606	9'-8"	1'-0"
A638	10'-8	1'-6"
A639	12'-3	1'-0"

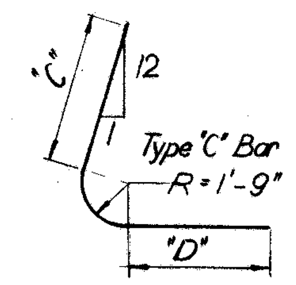




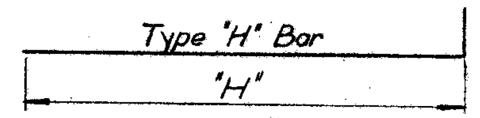
Mark	"A"	Mark	"A"
A603	7'-8"	A702	8'-0"
A607	10'-6"	A809	10'-6"
A633	13'-0"	A1001	14'-3"
A634	12'-0"	A1102	14'-3"



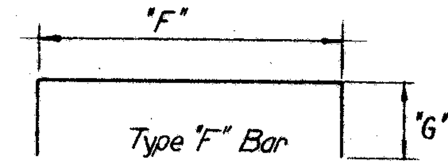
Mark	"B"	Mark	"B"
P702	27'-0"	P901	13'-6"
P703	33'-6"	P1101	13'-6"
P704	8'-6"	A636	6'-5"
P705	13'-6"		



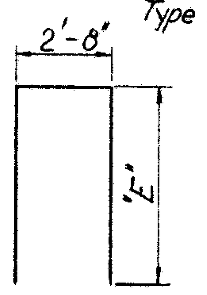
Mark	"C"	"D"
A701	7'-0"	4'-9"
A807	5'-8"	5'-1"
A1005	4'-1"	5'-4"
A1101	5'-0"	8'-0"
A608	3'-3"	10'-9"



Mark	"H"	Mark	"H"
P506	8'-9"	P1103	14'-9"
P601	10'-3"	A567	15'-3"
P706	5'-6"	A568	10'-0"
P802	6'-9"	A580	14'-7"
P803	12'-9"	A581	14'-0"
P1102	7'-9"		

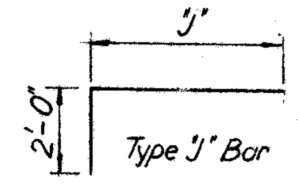


Mark	"F"	"G"	Mark	"F"	"G"
P515	4'-2"	1'-6"	A402	1'-2"	4"
P534	5'-7"	2'-0"	A623	1'-5"	1'-0"
P535	5'-7"	2'-9"	A637	1'-1"	10"
P540	6'-10"	2'-9"	S401	1'-0"	4"
P541	6'-10"	3'-6"	S510	1'-10"	6"
P808	4'-2"	2'-6"	R501	8"	6"
A401	1'-9"	4"			



Type "E" Bar

Mark	"E"	Mark	"E"
P517	1'-3"	P527	6'-3"
P523	3'-3"	P528	2'-0"
P524	4'-0"	P529	2'-9"
P525	4'-9"	P530	3'-6"
P526	5'-6"		



Mark	"J"
P518	3'-8"
A547	11'-7
A548	8'-8"
A549	10'-8"
A550	6'-2"
A551	9'-9"
A552	14'-2
A553	4'-4"
A554	7'-7"
A555	2'-9"
A556	3'-9"

Notes:

1. All bar dimensions are out to out.
2. For "General Notes" see Sheet 1.
3. 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, A801 is a no. 8 size bar and A1001 is a no. 10 size bar.
4. In the shape column of the bar list, S stands for straight bars, B stands for bent bar and a letter after the B designates the type of bent bar.
5. Replacement Bars: If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Testing Laboratory, test samples as provided in Sec. S-4.02 need not be furnished and replacement bars will not be required.

10-17-57
Revised 8-2-57

Bridge Sheet No. 21

GOODKIND & O'DEA
CONSULTING ENGINEERS

BAR LIST

BRIDGE No. JEF - 7-3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO **STA.** 718+88.16 725+10.48

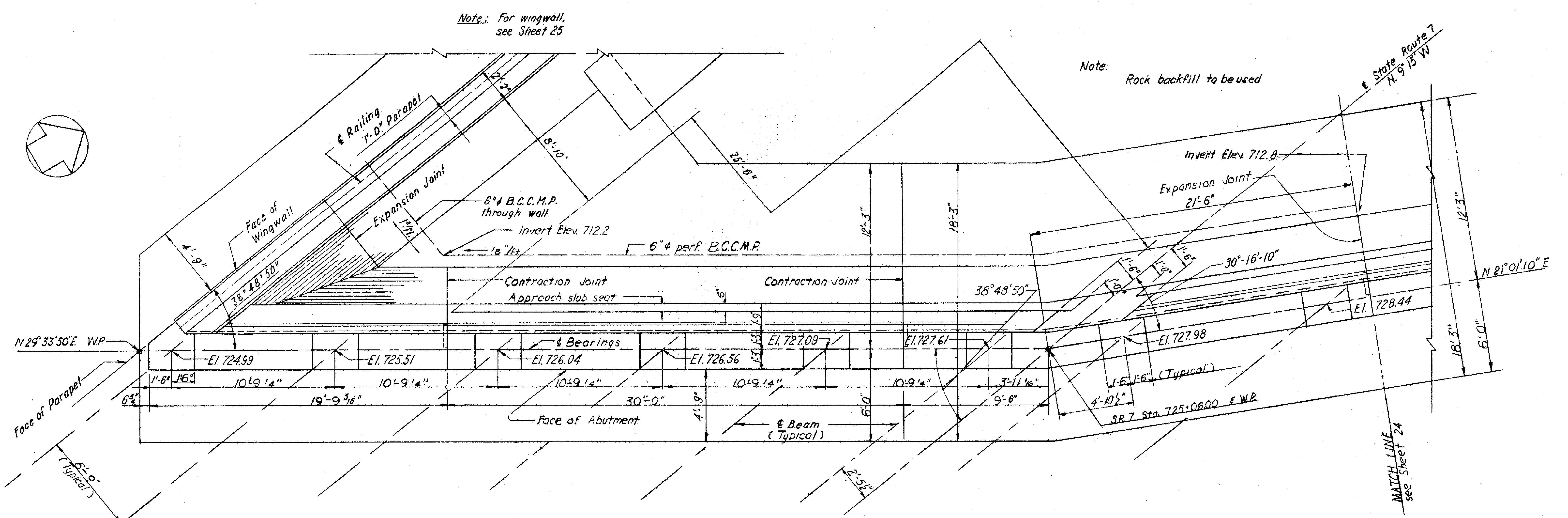
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	P. K.		S.V.C. R.E.B.	D.R.G.	5/13/57	


FED. RD. DIVISION 2 STATE OHIO PROJECT TYPE FUNDS
157
JEFFERSON COUNTY
SEC. NO. JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)
SECTION A-A
SECTION B-B
SECTION C-C
SECTION D-D
ABUTMENT PLAN
Note: 1. End Finish Angle not shown. See Detail, Sheet 3.
2. For construction procedure, see General Notes Sheet 1.
PLAN
ELEVATION
MEDIAN DETAIL
Note: End Finish Angles and bars not shown.
Note: Railing not shown.
ABUTMENT ELEVATION
Wingwall piles not shown.
SECTION E-E
SECTION H-H
SOUTHEAST WINGWALL ELEVATION
Note: For detail of Railing and Guard Rail End Connection, see Sheet 2.
SOUTHWEST WINGWALL ELEVATION
Note: Piles not shown.
SECTION F-F
SECTION G-G
Bridge Sheet No. 22
GOODKIND & O'DEA
CONSULTING ENGINEERS
SOUTH ABUTMENT
BRIDGE No. JEF-7-3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO STA. 718+88.16 725+10.48
DESIGNED G.K. R.E.S. DRAWN R.E.S. TRACED CHECKED R.B. REVIEWED DATE 5/13/57 REVISED

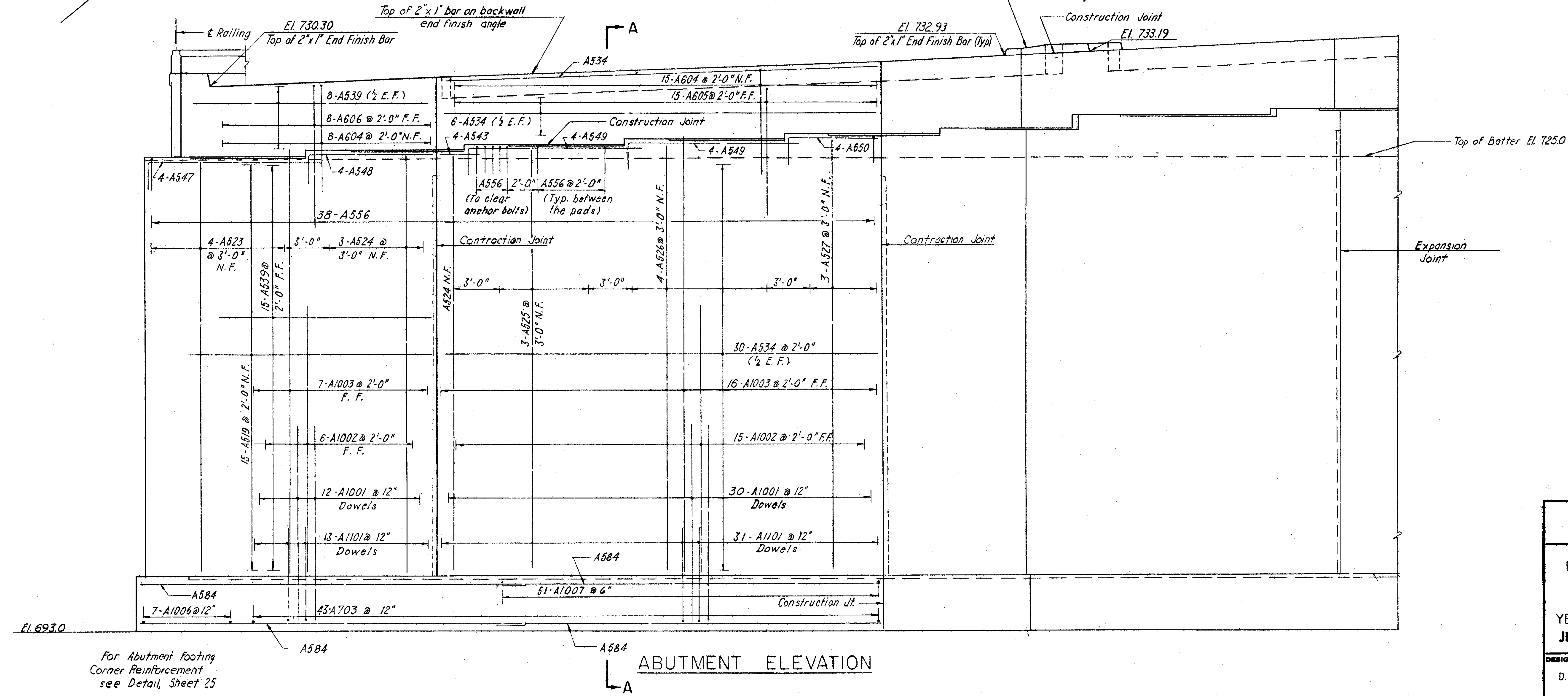
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

158

JEFFERSON COUNTY
SEC. NO JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



ABUTMENT PLAN



ABUTMENT ELEVATION

Bridge Sheet No. 23

GOODKIND & O'DEA
CONSULTING ENGINEERS

NORTH ABUTMENT (N.W. CORNER)

BRIDGE No. JEF-7-3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO STA. 718+88.16 725+10.48

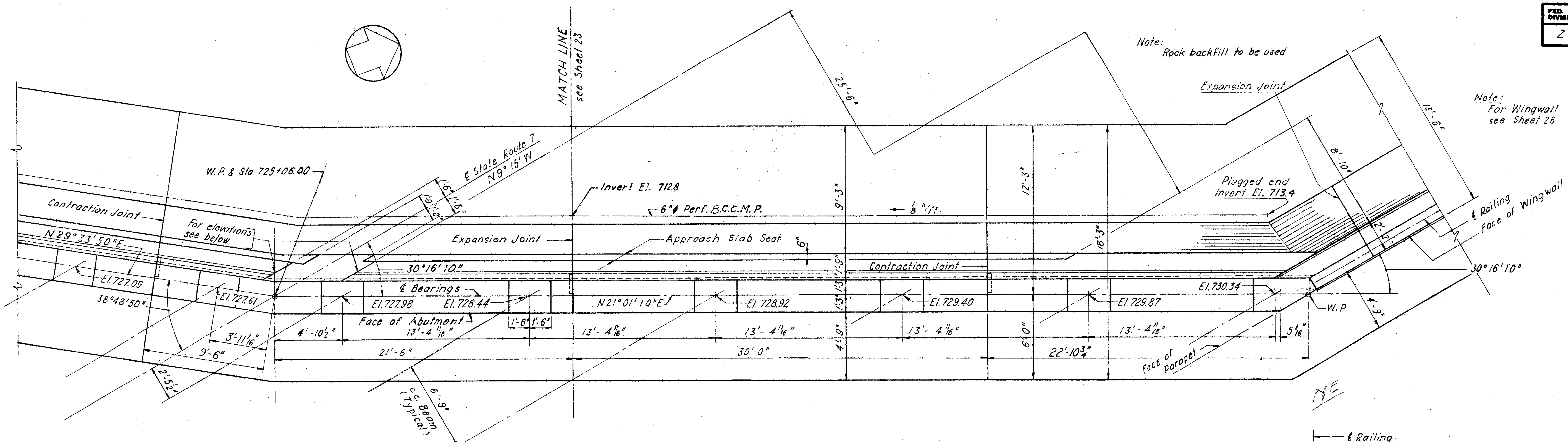
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.E.	J.P.		S.V.C	D.A.J.	5/13/57	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

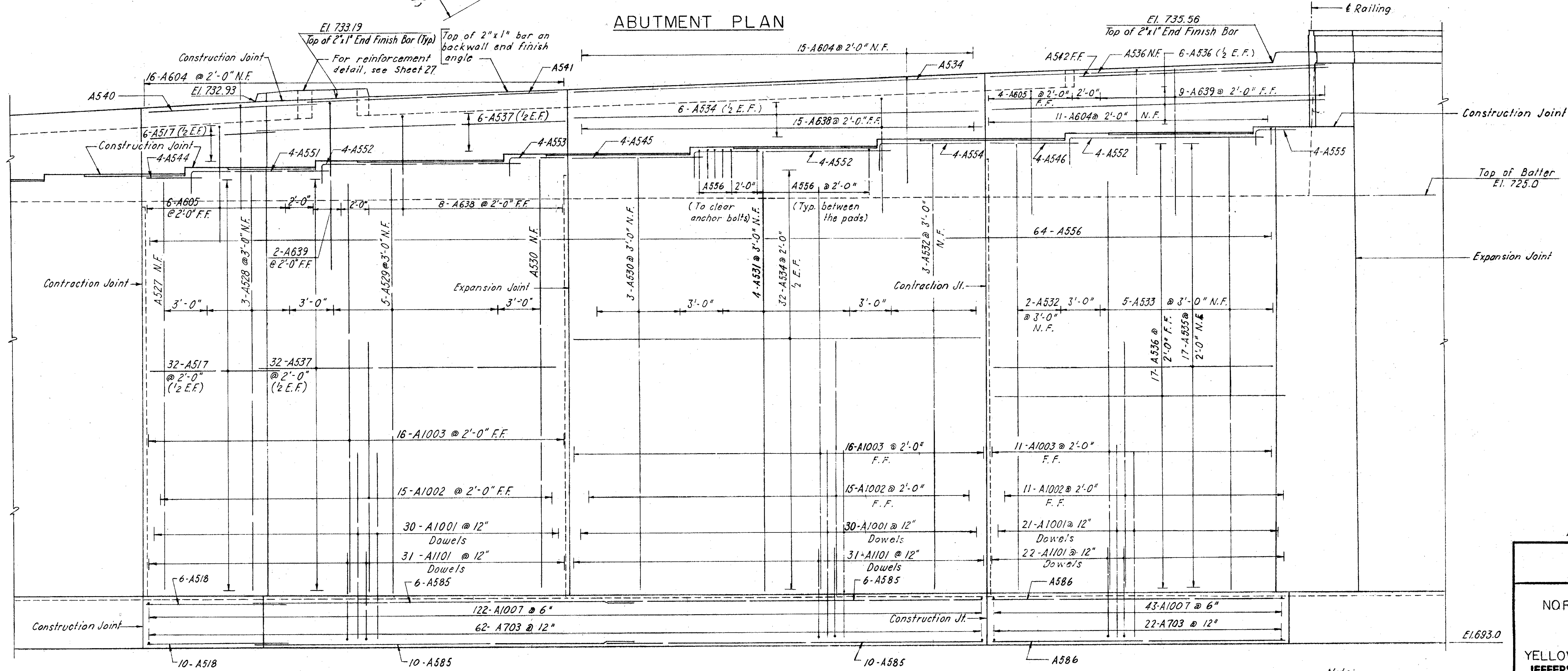
JEFFERSON COUNTY
SEC. NO. JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Note:
For Wingwall see Sheet 26

Note:
Rock backfill to be used



ABUTMENT PLAN



ABUTMENT ELEVATION

Note:
For Abutment footing corner reinforcement detail, see Sheet 26

Bridge Sheet No. 24

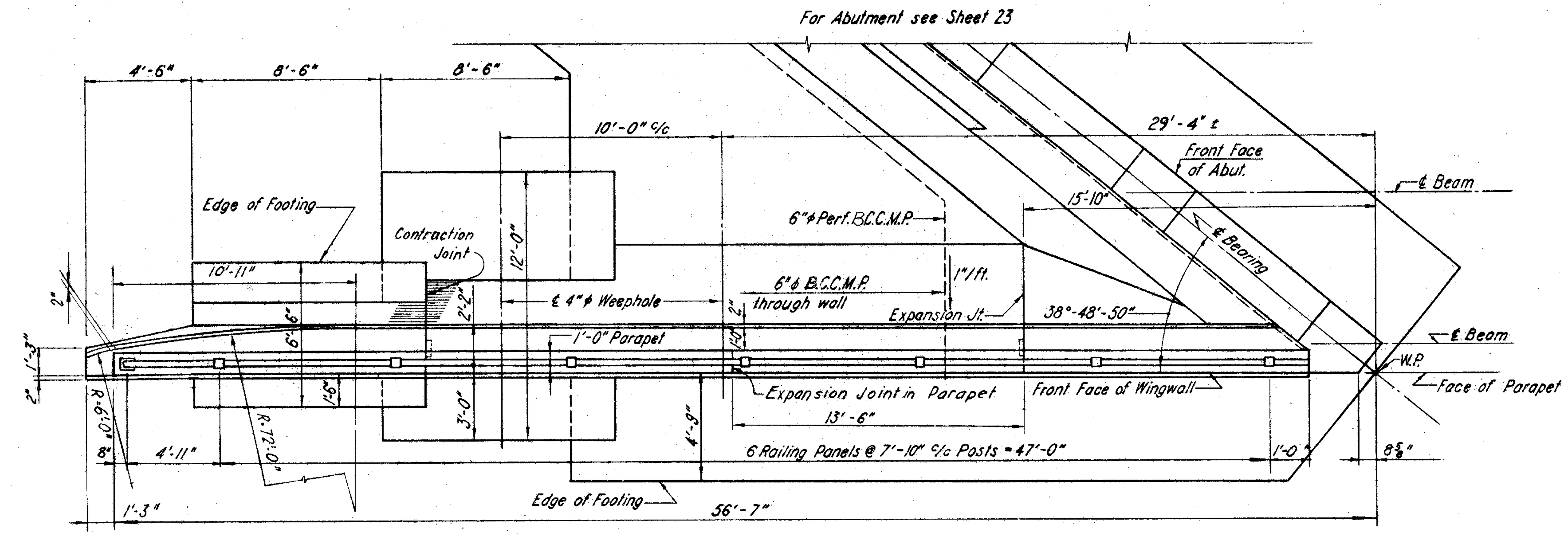
GOODKIND & O'DEA
CONSULTING ENGINEERS

NORTH ABUTMENT (N.E. CORNER)
BRIDGE No. JEF-7-3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO **STA.** 718+88.16 725+10.48

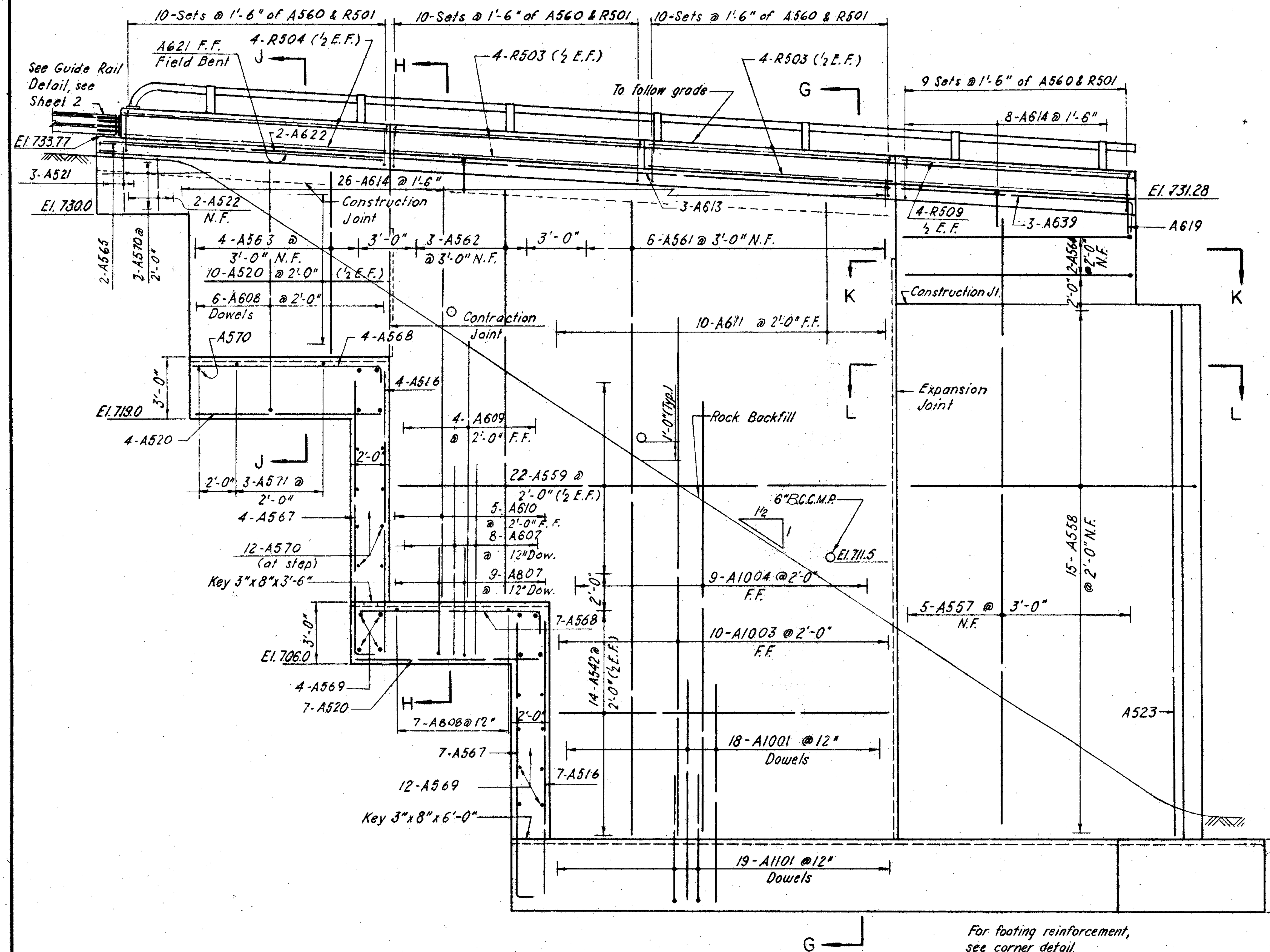
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D. E.	D.E.		S.V.C.	D.Q.G.	5/13/57	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

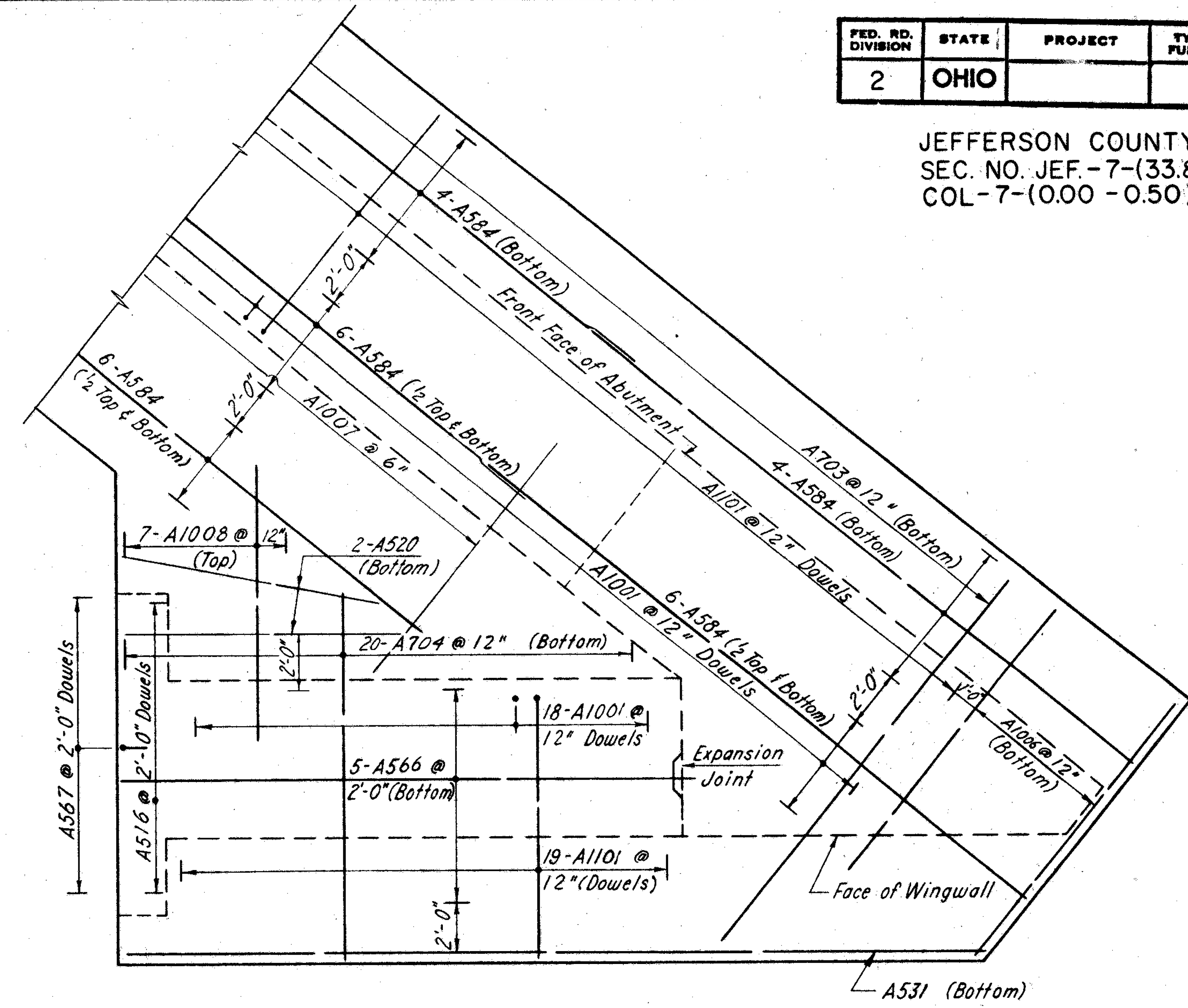
JEFFERSON COUNTY
SEC. NO. JEF.-7-(33.83-34.10)
COL-7-(0.00 - 0.50)



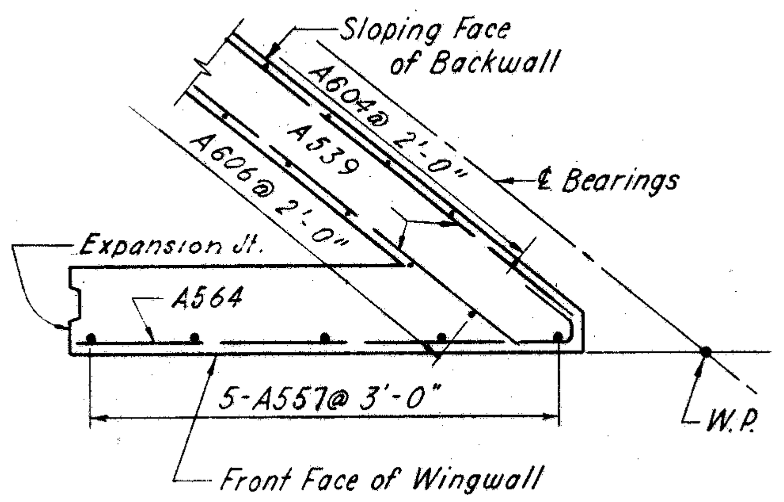
NORTHWEST WINGWALL PLAN



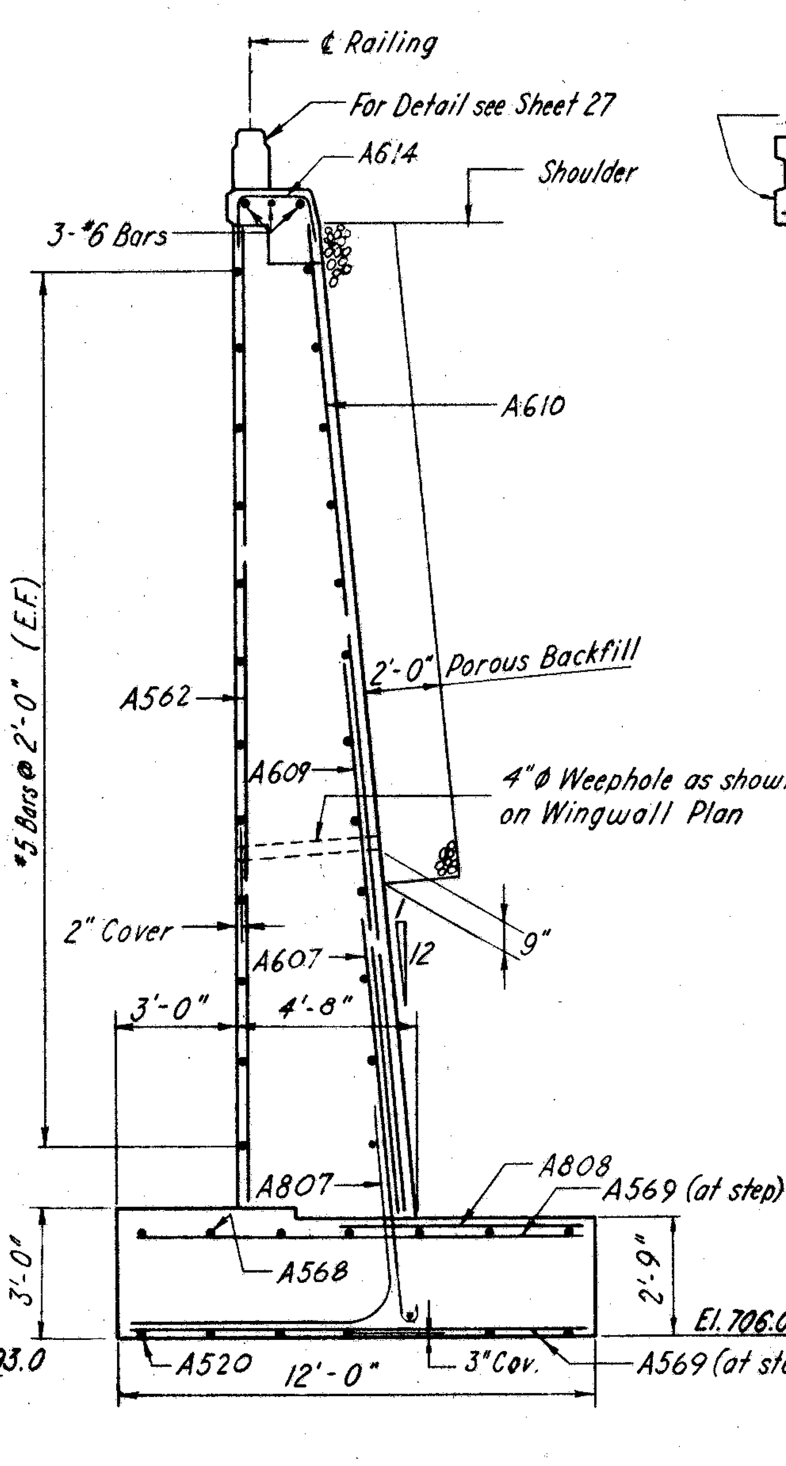
ELEVATION



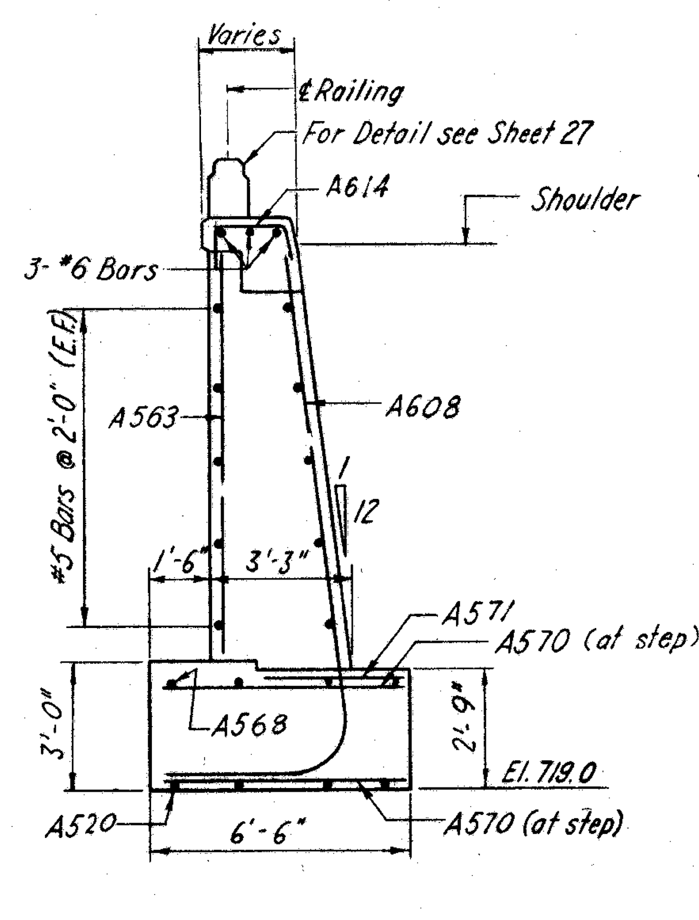
FOOTING REINFORCING



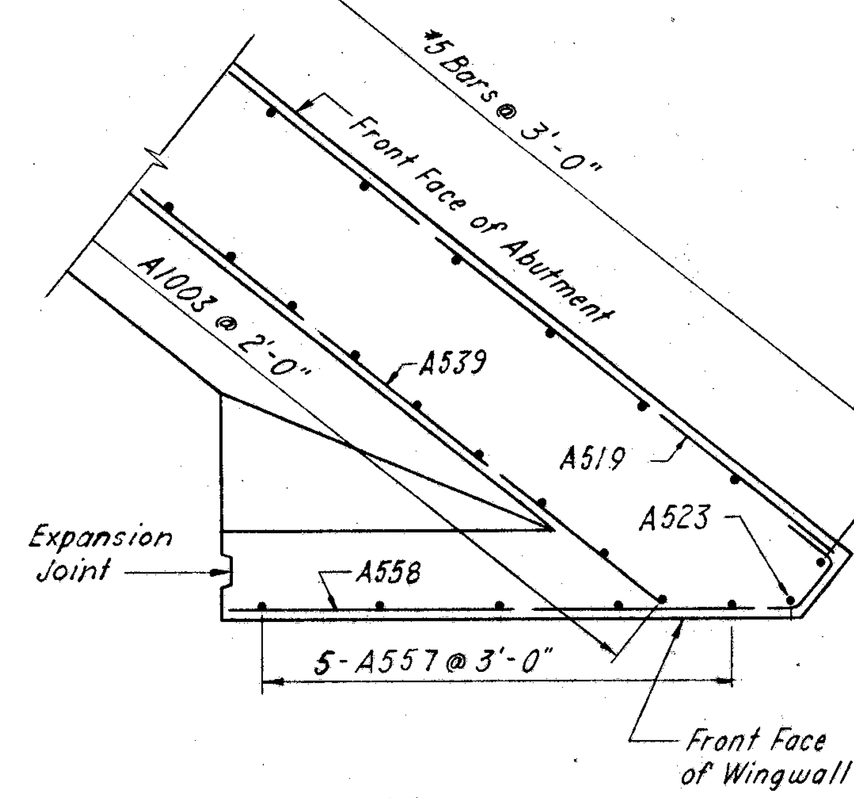
SECTION K-K



SECTION H-H



SECTION J-J



SECTION L-L

Bridge Sheet No. 25

GOODKIND & O'DEA
CONSULTING ENGINEERS

NORTHWEST WINGWALL

BRIDGE No. JEF-7-3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO STA. 718+88.16 725+10.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.E.	J.P.		S.V.C.	D.A.G.	5/13/57	


FED. RD. DIVISION 2 | STATE OHIO | PROJECT | TYPE FUNDS
161
JEFFERSON COUNTY
SEC.NO. JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)
NORTHEAST WINGWALL PLAN
For Abutment, see Sheet 24
57'-9"
6 Railing Panels @ 8'-6" = 51'-0"
¢ 4" ϕ Weephole
6" ϕ Perf. B.C.C.M.P.
Expansion Jt.
Contraction Jt.
1'-0" Parapet
Expansion Joint in Parapet
Edge of Footing
Face of Parapet
W.P.
30°16'10"
R = 72'-0"
FOOTING REINFORCING
26-A703 @ 12" (Bottom)
51-A1007 @ 6" (Top)
25 A1102 @ 12" (Dowels)
25-A1101 @ 12" (Dowels)
A531 (Bottom)
Front Face of Abutment
SECTION P-P
SECTION O-O
See Guard Rail Detail, Sheet 2
El. 739.41
El. 736.49
El. 732.0
El. 718.0
El. 705.5
El. 693.0
To follow grade
Construction Jt.
Contraction Joint
Expansion Joint
Rock backfill
Key 3"x8"x5'-0"
Key 3"x8"x8'-0"
For footing reinforcement, see corner detail.
ELEVATION
¢ Railing
For detail see Sheet 27
Shoulder
4" ϕ Weephole as shown on Wingwall Plan.
Porous Backfill
SECTION N-N
SECTION M-M
Bridge Sheet No. 26
GOODKIND & O'DEA
CONSULTING ENGINEERS
NORTHEAST WINGWALL
BRIDGE No. JEF-3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO STA. 718+88.16 725+10.48
DESIGNED D.E. | DRAWN D.E. | TRACED | CHECKED S.V.C. | REVIEWED | DATE 5/3/57 | REVISED

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

JEFFERSON COUNTY
SEC. NO. JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Notes:

1. For Section A-A, see sheet 23
2. For Section B-B, see sheet 26
3. For Section G-G, see sheet 25

Bridge Sheet No. 27

GOODKIND & O'DEA
CONSULTING ENGINEERS

ABUTMENT DETAILS
BRIDGE No. JEF-7-3447

YELLOW CREEK & BAYARD BRANCH P. R. R.
JEFFERSON CO **STA.** 718+88.16 725+10.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.E.	D.E.		S.V.C.	D.R.B.	5/13/57	

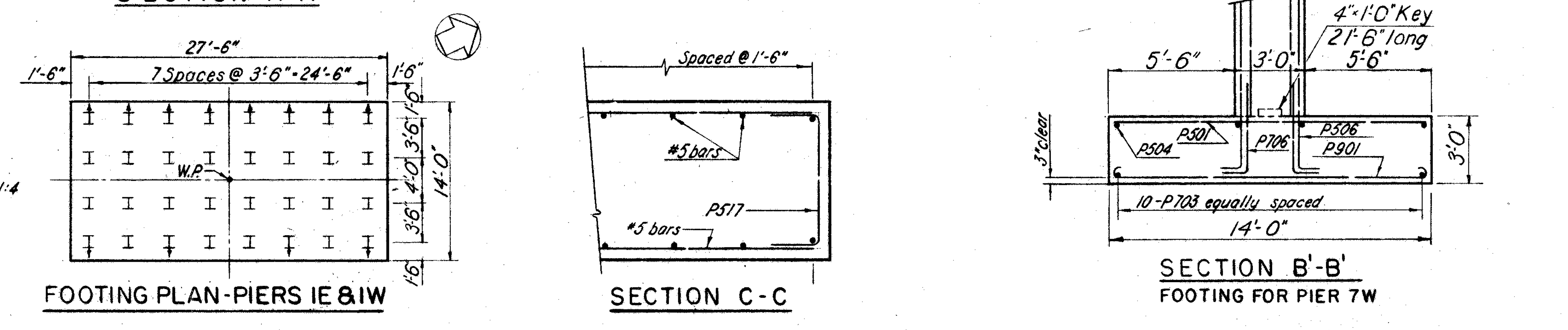
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

163

JEFFERSON COUNTY
SEC. NO JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

NOTES: - Piers 1E, 1W, 7E & 7W
P1104, P1105, P1106 and bridge seat bars shall be spaced to clear anchor bolts.
For location of anchor bolts see Rocker Details, Sheet No. 4.
Splices in #11 bars alternate.
For location of W.P. see General Plan, Sheet No. 20
Maximum design edge pressure:
on earth (Pier 7W) 2.5 Tons per sq. ft.
on rock (Pier 7E) 5.0 Tons per sq. ft.
For step reinforcement see "Step Detail" Sheet No 29.
For estimated pile lengths, see Sheet No. 18.

NOTES:
I - Denotes vertical pile.
Ī - Denotes pile battered 1:4 in direction of arrow.
All piles are 12 BP53



Bridge Sheet No. 28

GOODKIND & O'DEA
CONSULTING ENGINEERS

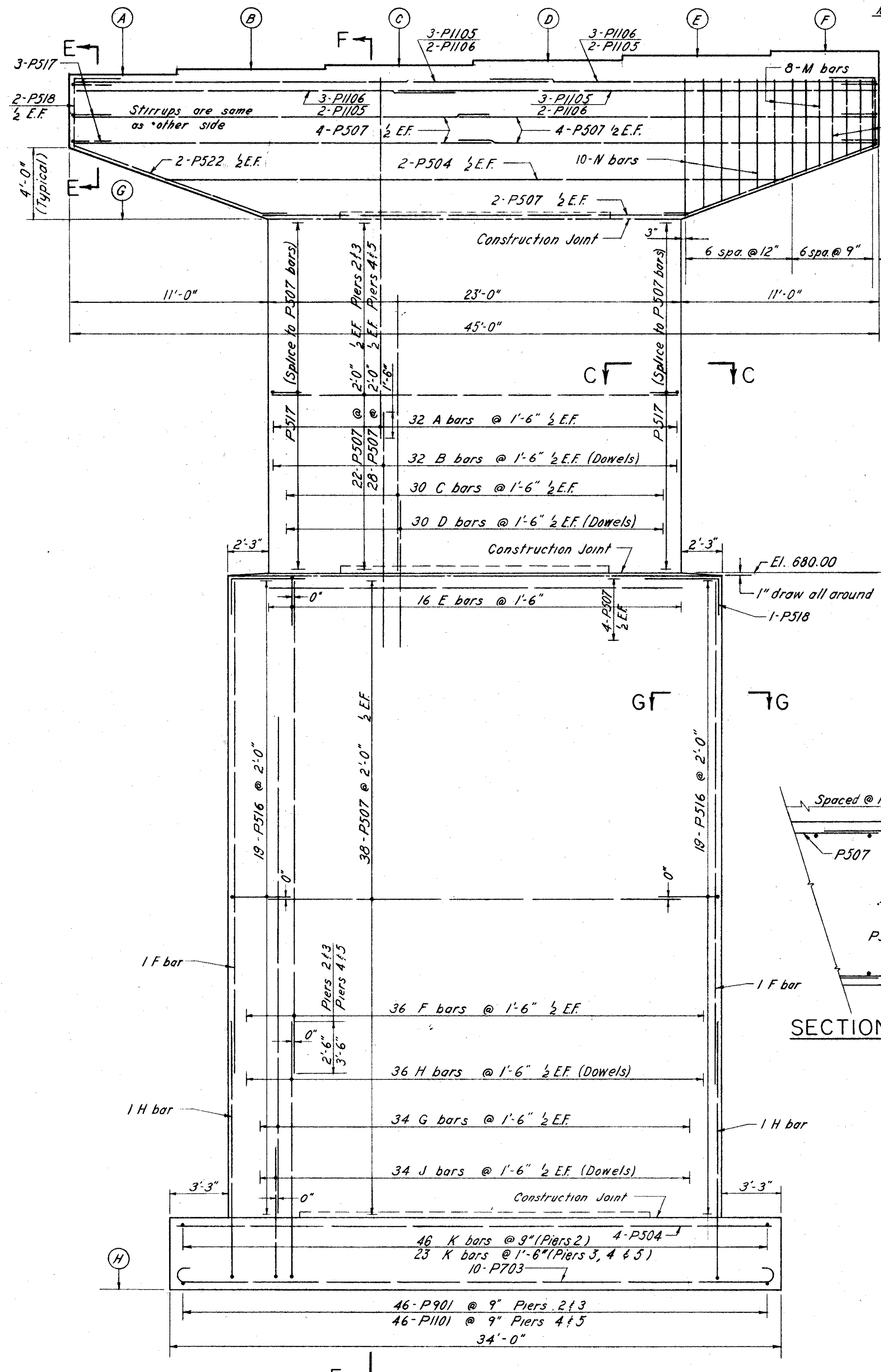
DETAILS OF PIERS 1E, 1W, 7E & 7W.

BRIDGE No. JEF-7-3447
OVER
YELLOW CREEK & BAYARD BRANCH P. R.R.
JEFFERSON CO STA. 718+86.16 725+10.48

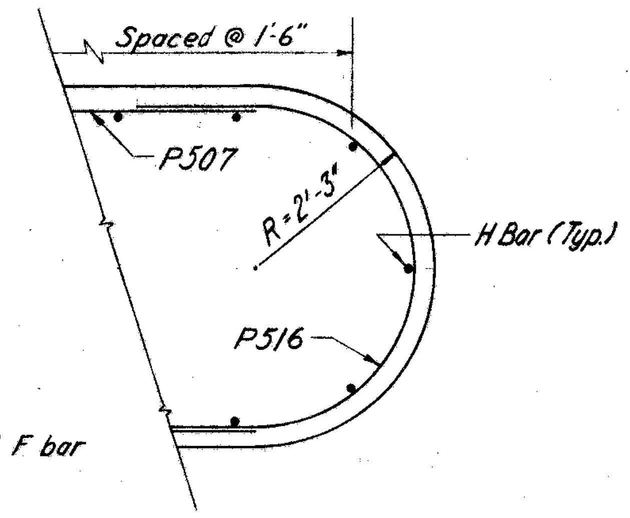
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.K. L.K.	J.P.		R.B.	D.C.B.	5/13/57	

JEFFERSON COUNTY
SEC. NO. JEF-7-(33.83-34.10)
COL.-7-(0.00-0.50)

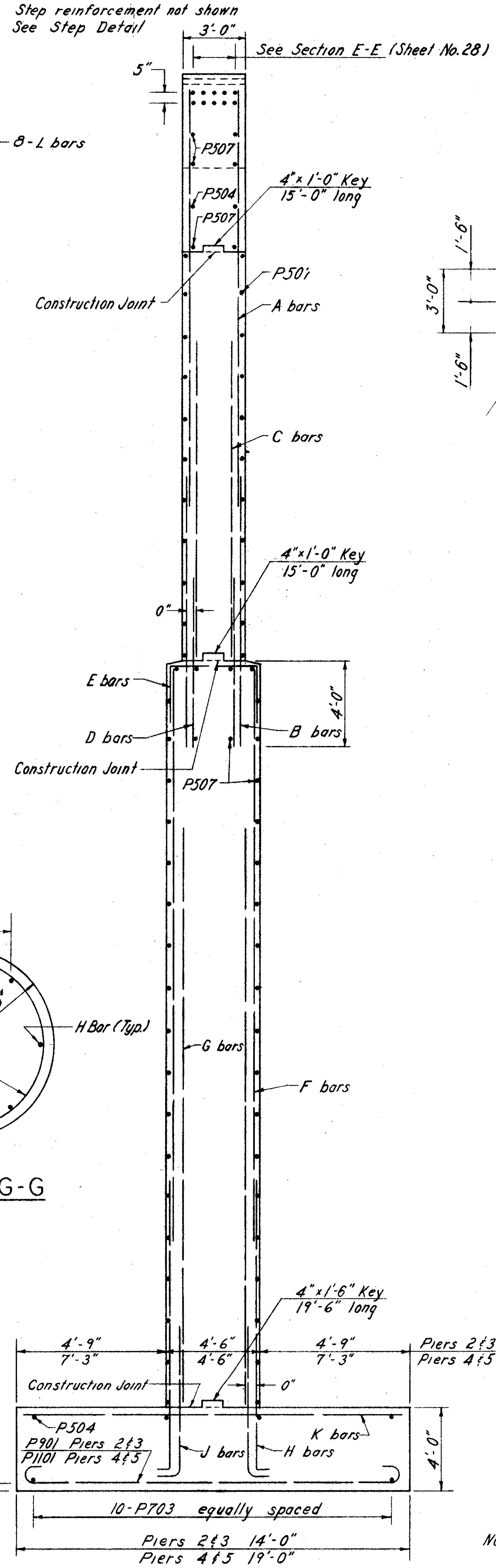
Note: Step reinforcement not shown
See Step Detail



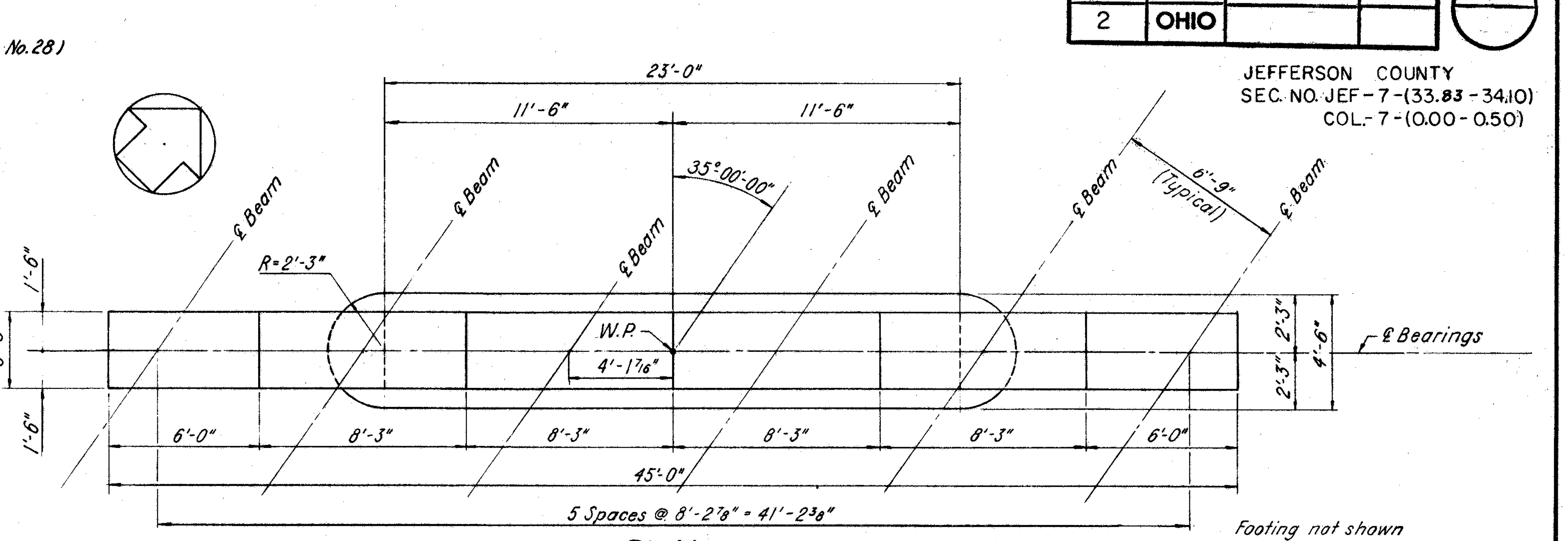
ELEVATION



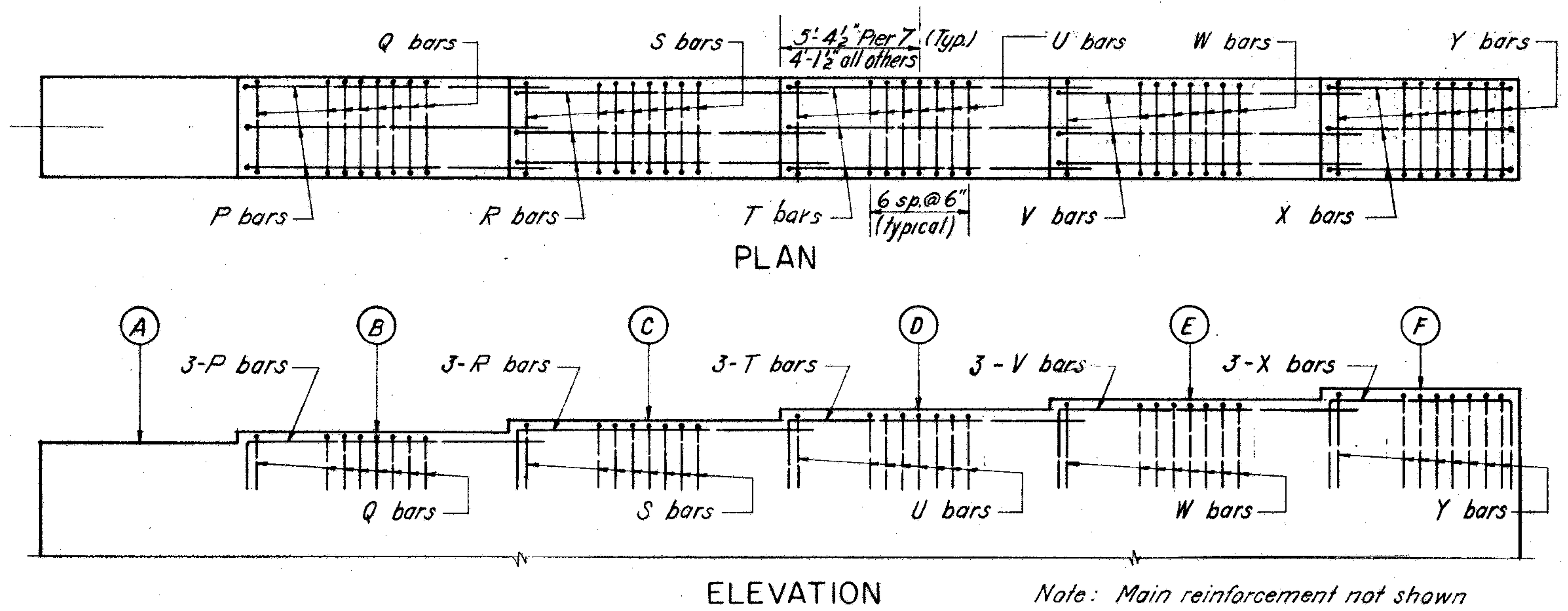
SECTION G-G



SECTION F-F



PLAN (PIERS 2, 3, 4, 5 & 6)



STEP DETAIL

KEY FOR PIER REINFORCEMENT

Pier	A	B	C	D	E	F	G	H	J	K	L	M	N
2E	P507	P502	P502	P509	P515	*P602	P1001	P1103	P1102	P801	P524	P525	P526
2W	P512	P502	P502	P509	P515	*P602	P1001	P1103	P1102	P801	P523	P524	P525
3E	P510	P502	P502	P509	P515	P602	P804	P803	P802	P501	P524	P525	P526
3W	P513	P502	P502	P509	P515	P602	P804	P803	P802	P501	P523	P524	P525
4E	P513	P904	P807	P903	P808	P902	P1001	P1103	P1102	P505	P524	P525	P526
4W	P507	P904	P807	P903	P808	P902	P1001	P1103	P1102	P505	P523	P524	P525
5E	P508	P905	P807	P903	P808	P902	P1001	P1103	P1102	P505	P524	P525	P526
5W	P503	P905	P807	P903	P808	P902	P1001	P1103	P1102	P505	P523	P524	P525

*Extend P602 bars with P602a bars. (Sheet 156)

TABLE OF ELEVATIONS

Pier	A	B	C	D	E	F	G	H
2E	706.17	706.21	706.26	706.31	706.36	706.41	696.82	641.00
2W	704.82	705.07	705.31	705.56	705.81	706.06	696.82	641.00
3E	708.96	709.04	709.12	709.20	709.28	709.37	699.43	641.00
3W	707.43	707.70	707.98	708.26	708.54	708.83	699.43	641.00
4E	712.31	712.42	712.53	712.65	712.76	712.88	702.59	640.00
4W	710.59	710.90	711.21	711.52	711.84	712.15	702.59	640.00
5E	716.19	716.32	716.45	716.58	716.71	716.84	706.31	640.00
5W	714.31	714.65	714.99	715.33	715.67	716.01	706.31	640.00

638.00

KEY FOR STEP REINFORCEMENT

Bar	1E	1W	2E	2W	3E	3W	4E	4W	5E	5W	6E	6W	7E	7W
P		P531		P531		P531		P531		P531		P531	P537	P537
Q	P528	P528	P528	P528	P528	P528	P528	P528	P528	P528	P528	P528	P528	P528
R	P531	P531	P531	P531	P531	P531	P531	P531	P531	P531	P531	P531	P537	P538
S	P528	P528	P528	P528	P528	P528	P528	P528	P528	P528	P528	P528	P528	P528
T		P531		P531	P531	P531	P531	P532	P531	P532	P531	P532	P538	P538
U	P528	P528	P528	P528	P528	P528	P528	P528	P528	P529	P528	P529	P528	P529
V		P531		P532	P531	P532	P531	P532	P531	P532	P531	P532	P538	P538
W	P528	P528	P528	P528	P528	P529	P528	P529	P528	P529	P528	P529	P529	P530
X		P534		P535	P534	P535	P534	P535	P534	P535	P534	P535	P540	P541
Y		P528		P529	P528	P529	P528	P529	P528	P529	P528	P529	P529	P530

NOTES: A blank space in the "Key For Step Reinforcement" indicates no reinforcement at that location. Step reinforcement shall be spaced to clear anchor bolts.

NOTES:
For sections "C-C" and "E-E" see sheet No. 28
For location of W.P. see "General Plan" sheet No. 20
P1105, P1106 and bridge seat bars shall be spaced to clear anchor bolts.
For location of anchor bolts see Rocker Details, sheet No. 4
Splices in #11 bars of the cantilever reinforcement alternate
Maximum design edge pressure:
on rock (Piers 2E & W, 3E & W, 4E & W, 5E & W) 5.0 Tons per sq. ft.

Revised 10/17/57.

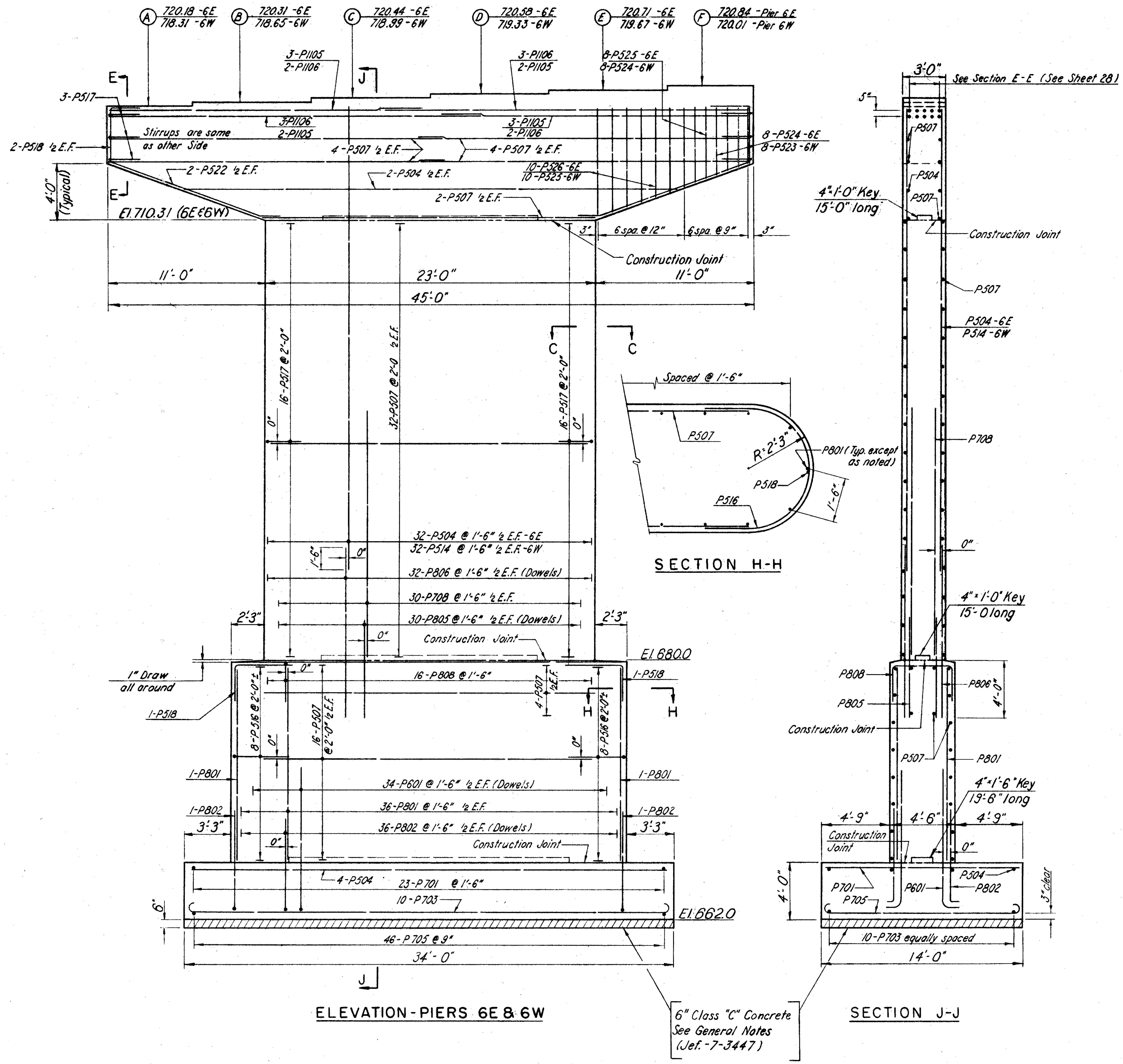
Bridge Sheet No. 29

GOODKIND & O'DEA
CONSULTING ENGINEERS

DETAILS OF PIERS
2E, 2W, 3E, 3W, 4E, 4W, 5E, & 5W
BRIDGE No. JEF-7-3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO **STA.** 718+88.16 725+10.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.K. & L.K.	M.K.		R.B.	D.P.J.	5/13/57	

JEFFERSON COUNTY
SEC.NO. JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



NOTES:

For sections "C-C" and "E-E" see Sheet No. 28.

For location of W.P. see "General Plan" Sheet No. 20.

For plan view see "Plan" Sheet No. 29.

For step reinforcement see "Step Detail" Sheet No. 29.

P1105, P1106 and bridge seat bars shall be spaced to clear anchor bolts.

For location of anchor bolts see Rocker Details, Sheet No. 4.

Splices in #11 bars alternate.

Maximum design edge presure:
On grey-white clay pan (Piers 6E & W)
4.0 Tons per sq. ft.

Bridge Sheet No. 30

GOODKIND & O'DEA
CONSULTING ENGINEERS

DETAILS OF PIERS 6E, & 6W.

BRIDGE No. JEF-7-3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO STA. 718+88.16 725+10.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
M.K. & L.K.	J.P.		R.B.	A.R.B.	5/13/57	

JEFFERSON COUNTY
SEC. NO. JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

Note: All dimensions measured horizontally.
For detail of end cross frames & scuppers, see Sheet 2.
For detail of end finish, see Sheet 3.
For detail of bearings, see Sheet 4.
For cross section and deck, see Sheet 32.

STEEL FRAMING PLAN

BEAM SPLICE AND COVER PLATE DETAILS

Beam Splice Welding Procedure

1. Raise ends of beams at South Abutment the distance (R) shown in table below
2. Butt-Weld the beam flanges and web at Pier 1E in the following sequence: (1) one pass on each flange, (2) one pass on the web, (3) repeat until welds are completed.
3. Weld top and bottom moment plates at Pier 1E.
4. Lower beams at South Abutment to final position.
5. Raise ends of beams at Pier 3E, the distance (R) shown in table.
6. Butt-Weld beams and plates at Pier 2E following the sequence used at Pier 1E.
7. Lower beams at Pier 3E.
8. Raise ends of beams at Pier 4E and weld splice at pier 3E similar to the previous procedure
9. Raise beams successively at Pier 5E, Pier 6E, Pier 7E, North Abutment, each time following the previous procedure.

The same procedure applies to the west roadway. For alternate construction procedure Contractor shall submit complete sequence and computations for approval by the Engineer.

Beam Mark	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22	B23
Beam Size		36WF182																					
R (See Welding Procedure)	2"	2"	—	—		2½"															2½"		7/8"
Defl. due to Weight of Steel	0.09	0.09	0.12	0.12	0.12	0.12	0.10	0.10	0.12	0.12	0.19	0.18	0.17	0.17	0.16	0.16	0.12	0.12	0.11	0.10	0.09	0.08	-0.08
Defl. due to Weight of Concrete	0.54	0.42	0.73	0.57	0.69	0.54	0.62	0.49	0.53	0.68	1.05	0.79	0.76	0.73	0.70	0.67	0.64	0.62	0.59	0.57	0.54	0.66	-0.28
Defl. due to Vertical Curve	-0.54	-0.54	-0.84	-0.84	-0.84	-0.84	-0.67	-0.67	-0.67	-0.67	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Deflection	0.09	-0.03	0.01	-0.15	-0.03	-0.18	0.05	-0.08	-0.02	0.13	1.24	0.97	0.93	0.90	0.86	0.83	0.76	0.74	0.70	0.67	0.63	0.74	-0.36
Camber	—	—	—	—	—	—	—	—	—	—	1¼"	1"	1"	1"	1"	1"	¾"	¾"	¾"	¾"	¾"	¾"	—

Beam Mark	B24	B25	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45	B46
Beam Size			36WF182					36WF280													36WF280		
R (See Welding Procedure)	1"	1¼"	1⅜"	1½"	1¾"	1⅞"	2⅛"	2½"	2¾"	3⅛"	3⅝"	1⅝"	1¾"	1¾"	1⅞"	2"	2⅛"	2⅛"	2⅝"	3⅛"	3⅝"	4¼"	4¾"
Defl. due to Weight of Steel	-0.08	-0.08	-0.07	-0.06	-0.04	0.05	0.06	0.07	0.09	0.12	0.15	0.33	0.32	0.32	0.32	0.32	0.32	0.25	0.29	0.33	0.37	0.42	0.48
Defl. due to Weight of Concrete	-0.21	-0.19	-0.15	-0.08	+0.01	0.06	0.10	0.14	0.19	0.26	0.45	1.31	1.00	0.98	0.96	0.94	0.91	0.73	0.83	0.94	1.07	1.22	1.76
Defl. due to Vertical Curve	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total Deflection	-0.29	-0.27	-0.22	-0.14	-0.03	0.11	0.16	0.21	0.28	0.38	0.60	1.64	1.32	1.30	1.28	1.26	1.23	0.98	1.12	1.27	1.44	1.64	2.24
Camber	—	—	—	—	—	—	—	—	—	—	¾"	1⅝"	1¼"	1¼"	1¼"	1¼"	1¼"	1"	1⅛"	1¼"	1½"	1⅝"	2¼"

Bridge Sheet No. 31

GOODKIND & O'DEA
CONSULTING ENGINEERS

SUPERSTRUCTURE DETAILS

BRIDGE No. JEF 7-3447

YELLOW CREEK & BAYARD BRANCH P. R. R.
JEFFERSON CO STA. 718+88.16 725+10.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
F. M.	J. K.		L. K.	D.R.G.	5/3/57	

JEFFERSON COUNTY
SEC. NO JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

DECK REINFORCING STEEL LAYOUT

Deck Construction Procedure

The deck slab shall be placed in sections between transverse construction joints, in the numerical order and the direction indicated on the "Steel Framing Plan" and the "Deck Reinforcing Steel Layout," in order that the major portion of the dead load deflection will occur prior to placing concrete over each pier and in order to prevent uplift of the acute corners.

TRANSVERSE HALF SECTION

Notes:
For detail of bulb angle, gutter, scuppers, & end crossframes, see Sheet 2.
For detail of bearings, see Sheet 4.
For beam splice welding procedure and Framing Plan, see Sheet 31.
For detail of end finish, see Sheet 3.

Bridge Sheet No. 32

GOODKIND & O'DEA
CONSULTING ENGINEERS

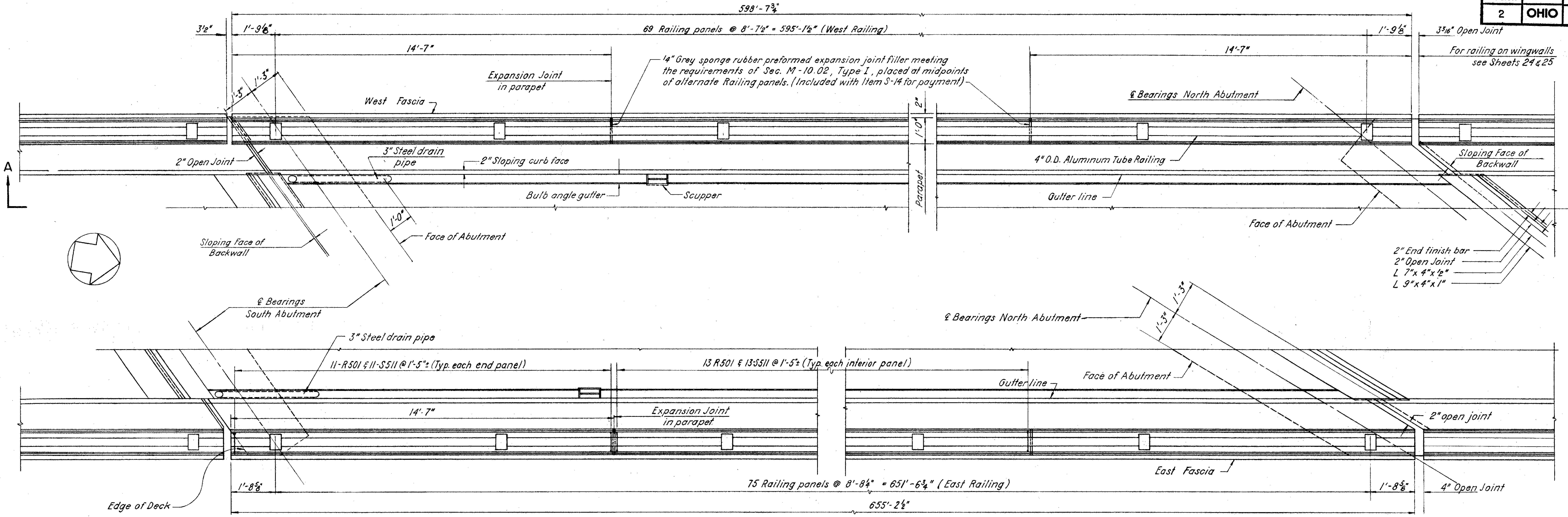
SUPERSTRUCTURE DETAILS

BRIDGE No. JEF 7-3447
OVER
YELLOW CREEK & BAYARD BRANCH P.R.R.
JEFFERSON CO **STA.** 718+88.16 / 725+10.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
F. M.	J. K.		L. K.	D.R.B. 5/8/57	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

JEFFERSON COUNTY
SEC. NO JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)



PART PLAN OF SUPERSTRUCTURE

SECTION A-A

NOTE:
For detail of Railing, & Scuppers see Sheet 2
For location of Scuppers, see Steel Framing Plan Sheet 31
All dimensions are measured horizontally.

Bridge Sheet No. 33

GOODKIND & O'DEA
CONSULTING ENGINEERS

SUPERSTRUCTURE DETAILS
BRIDGE No. JEF-7-3447
OVER
YELLOW CREEK & BAYARD BRANCH P. R.R.
JEFFERSON CO STA. 718+88.16 / 725+10.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.K.K.	A.P.		L.K.	D.R.B.	5/13/57	

SOIL PROFILE
JEFFERSON-COLUMBIANA COS
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)

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

NOTE: THE INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS SECURED FOR THE USE OF THE STATE OF OHIO AND IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING THE CONSTRUCTION OF THE PROJECT.

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 32 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL	A-1-a(0)	A-1-a	60	12	17	4	7	NP	NP	8	1
GRAVEL OR STONE FRAGMENTS WITH SAND	A-2-4(0)	A-2-4	61	7	10	10	12	27	7	12	2
SANDY SILT	A-4 (4)	A-4a	11	4	28	35	22	26	5	19	18
SILT	A-4(8)	A-4b	0	0	16	52	32	30	7	25	6
SILT AND CLAY	A-6(8)	A-6a	12	3	8	42	35	32	11	20	4
SILTY CLAY	A-6(11)	A-6b	4	1	9	49	37	37	17	22	1
OVERBURDEN	(VISUAL CLASSIFICATION)										
SANDSTONE	(VISUAL CLASSIFICATION)										
COAL	(VISUAL CLASSIFICATION)										
LIMESTONE	(VISUAL CLASSIFICATION)										
SHALE	(VISUAL CLASSIFICATION)										

AUGER BORING-PLOTTED TO VERTICAL SCALE ONLY

WATER CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT

—W FREE WATER

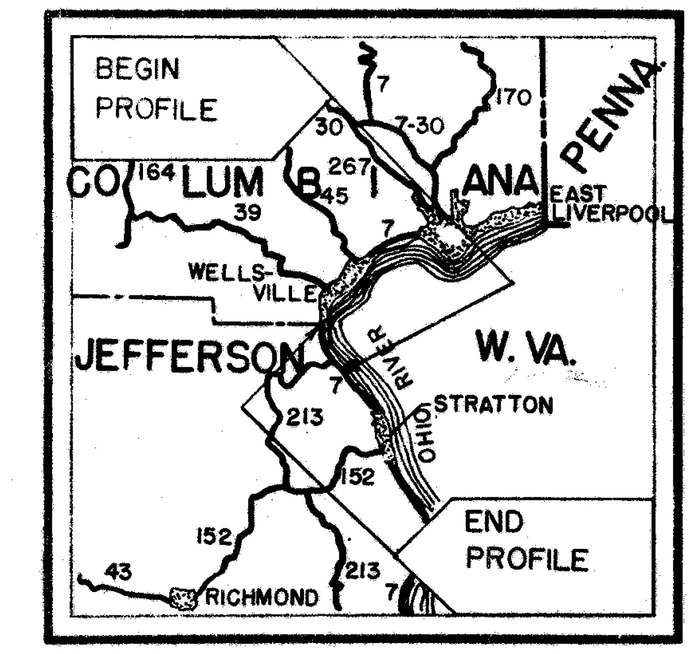
NOTE: FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT

SAMPLES TAKEN
LAB. NOS. SO 35626-35666 INCL.

THIS 4a SOIL WILL BE RUBBERY AND UNSTABLE AT WATER CONTENTS WHICH EXCEED THE OPTIMUM.

BERM MATERIAL

TOPSOIL - TS=X"= APPROX. DEPTH



LOCATION MAP

RECON. - P.A.H, L.O.T, W.G.T. - MARCH 23, 1956
DRILLING - E.M, C.W.D, C.A.C. - JUNE 7, 1956
DRAFTING - P.A.H, L.O.T, W.C.B, D.L.W. - JULY 19, 1956

NOTE: NO PLAN VIEW WAS AVAILABLE AT THE TIME OF DRAFTING.

SOIL PROFILE
JEFFERSON-COLUMBIANA COS.
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

2
11

GENERAL NOTES:

THERE IS A POSSIBILITY THAT PRACTICALLY ALL OF THE COVERED SLOPES ARE UNDERLAIN BY SHALES OR NON-RESISTANT SANDSTONES. NUMEROUS SHALE FRAGMENTS AND SANDSTONE BOULDERS ARE OFTEN FOUND IN THESE SLOPES.

IN THIS LOCALITY THERE ARE NUMEROUS ABANDONED COAL MINES, MANY OF WHICH ARE IN CLOSE PROXIMITY TO THE CENTER LINE. MANY OF THESE MINES HAVE STREAMS OF WATER ISSUING FROM THE ABANDONED ENTRIES, AND THIS WATER MAY HAVE CONTRIBUTED TO THE SLUMPING IN THIS AREA. THE REFUSE DUMPS OF THESE MINES MADE MEASUREMENT OF ROCK SECTIONS IMPOSSIBLE. THE PERSISTENT COAL OCCURS AT AN AVERAGE ELEVATION OF 903' IN THESE ABANDONED MINES AND IS PROBABLY THE UPPER FREEPORT.


SOIL PROFILE
JEFFERSON-COLUMBIANA COS.
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)
3
11
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O S U CAMPUS, COLUMBUS, OHIO
1020
1000
980
960
940
920
900
880
860
840
820
800
780
760
740
720
700
680
660
NOTE: SEE SHEET 2 FOR ROCK SECTION AT STA 730+00
COMBINED LOGS OF CORE BORINGS. 46' RT AND 180' LT
TOP OF HOLE (180' LT OF ℄)
YELLOWISH BROWN CLAY, SLIGHTLY SANDY, PLASTIC, WITH SHALE FRAGMENTS.
YELLOWISH BROWN TO BROWNISH GRAY SANDY CLAY, CRUMBLY, GRADING IN PART TO VERY SOFT DECOMPOSED SHALE.
TOP OF SOFT ROCK (180' LT. OF ℄)
SHALE, GRAY TO DARK GRAY, SLIGHTLY SILICEOUS, SOFT AND CRUMBLY.
SHALE, GRAY, SILICEOUS, MEDIUM FIRM TO FIRM.
SHALE, BROWNISH GRAY, SILICEOUS, FIRM, BROKEN IN TOP HALF, GRADING TO ARGILLACEOUS SANDSTONE AT BASE.
SANDSTONE, LIGHT GRAY, MEDIUM GRAINED, FIRM, MASSIVE, WITH MICACEOUS CLAY STRINGERS.
SANDSTONE, GRAY, FINE GRAINED, ARGILLACEOUS, MICACEOUS, FIRM, CROSS BEDDED.
SANDSTONE, LIGHT GRAY AND GRAY, MEDIUM GRAINED, FIRM, MASSIVE, WITH MICACEOUS CLAY STRINGERS.
SHALE, GRAY, SILICEOUS, HARD, FIRM, GRADING TO INDURATED CLAY AT TOP.
CLAY SHALE, DARK GRAY AND BLACK, CARBONACEOUS, HARD, FIRM, WITH COAL STRINGERS.
COAL, BITUMINOUS
INDURATED CLAY, GRAY AND DARK GRAY, FIRM, WITH SCATTERED ORGANIC MATTER AT TOP, CALCAREOUS IN PART.
TOP OF ROCK (46' RT. OF ℄) 6' OVERBURDEN
INTERBEDDED SHALE (GRAY, SILICEOUS, FIRM, GRADING INTERMITTENTLY TO ARGILLACEOUS SANDSTONE) AND SANDSTONE (GRAY, FINE TO MEDIUM GRAINED, FIRM).
BOTTOM OF HOLE (180' LT)
SHALE, (GRAY AND DARK GRAY, SILICEOUS, FIRM, WITH SCATTERED SANDY STRINGERS, CARBONIZED PLANT REMAINS IN MIDDLE THIRD) INTERBEDDED WITH SANDSTONE (GRAY AND BROWNISH GRAY, FINE TO MEDIUM GRAINED, FIRM, SHALY IN LOWER TWO LAYERS.)
SANDSTONE, GRAY, FINE TO MEDIUM GRAINED, FIRM, IN PART MICACEOUS, WITH SHALE STRINGERS.
SHALE, GRAY, SILICEOUS, HARD, FIRM.
SANDSTONE, BROWNISH GRAY, FINE TO MEDIUM GRAINED, MICACEOUS, FIRM, WITH SCATTERED CARBONACEOUS MATTER.
SANDSTONE, GRAY AND BROWNISH GRAY, MEDIUM GRAINED, IN PART MICACEOUS, FIRM, WITH THIN COAL PARTINGS IN LOWER HALF.
SHALE (GRAY, SILICEOUS, HARD, FIRM, GRADING INTERMITTENTLY TO SHALY SANDSTONE) INTERBEDDED WITH SANDSTONE (GRAY, FINE GRAINED, SHALY IN PART, FIRM TO MEDIUM FIRM).
ROCK SECTION
COVERED SLOPE
NOTE: STA. 733+10: GOOD-SIZED, ALL WEATHER, STREAM, COVERED SLOPE 200'+ LT. OF ℄ UP SLOPE
SHALE, LIGHT BROWN, SANDY, POOR CLEAVAGE, SANDSTONE INTERBEDS (ABOUT 9" THICK), FERRUGINOUS CONCRETIONS.
SANDSTONE, LIGHT BROWN, MEDIUM GRAINED, MASSIVE, WELL CEMENTED, FERRUGINOUS IN PART.
SHALE, BUFF TO LIGHT GREEN, SANDY, SLABBY OUTCROP, SANDSTONE INTERBEDS 1-2" THICK, BECOMES MORE MASSIVE TOWARD BOTTOM.
SANDSTONE, BROWN, MEDIUM TO COARSE GRAINED, WELL CEMENTED, SLABBY AT TOP, BECOMING MORE MASSIVE TOWARD BOTTOM. BOTTOM IS COVERED.
NOTE: STA. 734+00: STABLE SLOPE, COVERED 200'+ LT. OF ℄ UP SLOPE.
ROCK SECTION
COVERED SLOPE
SANDSTONE, LIGHT BROWN, MEDIUM TO FINE GRAINED, WELL CEMENTED, SLIGHTLY FERRUGINOUS, MASSIVE.
SHALE, BUFF TO LIGHT GREEN, SANDY, MICACEOUS, POOR CLEAVAGE, SLABBY AT TOP BECOMING MASSIVE TOWARD BOTTOM, SANDSTONE STRINGERS COMMON.
SANDSTONE, LIGHT BROWN, MEDIUM TO COARSE GRAINED, WELL CEMENTED, SHALY IN TOP PORTION, BECOMING MASSIVE TOWARD BOTTOM.
SHALE, BUFF TO LIGHT GREEN, CLAYEY, INCOMPETENT. THIS SHALE EXPOSED IN STREAM WHICH CROSSES ℄ AT STA. 733+10. BOTTOM IS COVERED.
NOTE: STA. 736+00: ℄ ON STEEP SLOPE AS CLIFF IS SCOURED OUT DOWN SLOPE.
730
731
732
733
734
735
736

SOIL PROFILE
JEFFERSON-COLUMBIANA COS.
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)
4 / 11
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO
CORE BORING 407' LT
NOTE: SEE CROSS SECTION SHEET 11 FOR DETAILED DESCRIPTION OF UPPER CORE BORING.
NOTE: STA 739+35 SCOUR TO RIGHT OF ℄, SLUMP BLOCK TO LEFT, MUCH REFUSE FROM ABANDONED COAL MINES IN THIS VICINITY. OPENINGS TO MINES ARE OBSCURED MAKING DEFINITE LOCATION DIFFICULT. SHALE IN PLACE 100' LEFT OF ℄. BENCH TO RIGHT OF ℄, POSSIBLY RESULTING FROM SANDSTONE WHICH OUTCROPS APPROXIMATELY 20' RIGHT.
NOTE: STA 741+50 ℄ ON SMALL SCOUR AREA, DOWNSLOPE STEEPENING TO RIGHT, SLUMP BLOCK ADJACENT TO ℄ ON LEFT.
NOTE: STA 738+27 SHALE IS EXPOSED APPROXIMATELY 100' LEFT UPSLOPE WITH EVIDENCE OF SLUMPING APPARENT. APPROX. ELEV. 930'
NOTE: STA 739+75 END OF SCOUR WITH SPUR CROSSING ℄ SHALE IN PLACE TO LEFT OF ℄
COMBINED LOGS OF CORE BORINGS. ℄ AND 85' LT.
LIGHT BROWN SANDY SILT WITH SMALL GRAVEL.
WEATHERED AND BROKEN GRAY CLAY SHALE AND BROWNISH GRAY SILICEOUS SHALE.
INDURATED CLAY, GRAY, SLIGHTLY SILICEOUS IN PART, FIRM, GRADING TO SHALE AT TOP.
SANDSTONE, BROWN AND BROWNISH GRAY TO GREENISH GRAY AT TOP, FINE TO MEDIUM GRAINED, IN PART MICACEOUS, ARGILLACEOUS MEDIUM FIRM, BROKEN.
SANDSTONE, GRAY FLECKED WITH YELLOWISH BROWN, MEDIUM GRAINED, WELL CEMENTED, DENSE, HARD, FIRM.
CLAY SHALE, BROWNISH GRAY TO GRAY AT BASE, IN PART SLIGHTLY SILICEOUS, FIRM, INTERMITTENTLY BROKEN.
SHALE, GRAY, SILICEOUS, FIRM.
SANDSTONE, BROWNISH GRAY FLECKED WITH DARK BROWN, MEDIUM GRAINED IN TOP TWO THIRDS, MEDIUM TO COARSE GRAINED IN LOWER THIRD, FIRM, MASSIVE, CROSS BEDDED IN PART.
BOTTOM OF HOLE (85' LT. OF ℄)
COAL, BITUMINOUS, WITH 0.5 SOFT CARBONACEOUS SHALE AT TOP, BONY IN TOP PORTION.
INDURATED CLAY, GRAY, MEDIUM FIRM, WITH CARBONIZED PLANT REMAINS.
INDURATED CLAY, LIGHT GRAY AND GRAY, CALCAREOUS, FIRM, WITH SOFT CLAY SEAMS.
SHALE, GRAY, SILICEOUS, FIRM, VIRTUALLY NON-FISSILE.
INDURATED CLAY, GRAY, SLIGHTLY SILICEOUS TO SILICEOUS, FIRM.
SHALE, GRAY, SILICEOUS, FIRM, VIRTUALLY NON-FISSILE, JOINTED IN PART.
SHALE (GRAY, SILICEOUS AND WITH CROSS BEDDED SANDSTONE STRINGERS, IN PART MICACEOUS, WITH SOME CARBONACEOUS MATTER IN PART OF LOWER HALF, FIRM) INTERBEDDED WITH SANDSTONE (GRAY, FINE GRAINED, IN PART MICACEOUS, HARD, FIRM).
TOP OF ROCK (85' LT. OF ℄)
TOP OF BROKEN ROCK (℄)
ROCK SECTION
COVERED SLOPE TO TOP OF HILL
SHALE- GREENISH BROWN TO GRAY, SANDY TO SILTY, GOOD CLEAVAGE.
COVERED SLOPE
SHALE- GREENISH GRAY TO BROWN, SANDY TO SILTY, INCOMPETENT, FAIR CLEAVAGE
COVERED SLOPE-SHALY
COVERED SLOPE
SANDSTONE- MEDIUM GRAINED, WELL CEMENTED, FAIRLY COMPETENT, SLIGHTLY MICACEOUS, FERRUGINOUS
SHALE-GREEN TO BLACK TO GRAY, SOFT, HIGHLY FISSILE, WELL CEMENTED, INCOMPETENT.
SANDSTONE-LIGHT BROWN, MASSIVE, FERRUGINOUS, SLIGHTLY MICACEOUS.
COVERED SLOPE - SHALY
SHALE- BUFF, HIGHLY WEATHERED, FERRUGINOUS, CONTAINS THIN SANDSTONE INTERBEDS
SANDSTONE-BROWNISH TO GRAY, FERRUGINOUS IN PART, MICACEOUS, COMPETENT, TENDS TO BE SLABBY.
SHALE- GREENISH GRAY TO BLACK, SOFT, FISSILE, INCOMPETENT, HIGHLY WEATHERED WHERE EXPOSED, CONTAINS THIN SANDSTONE INTERBEDS.
NOTE: STA 736+00 ℄ ON STEEP SLOPE AS CLIFF IS SCOURED OUT DOWNSLOPE.
NOTE: STA 738+00 END OF SCOUR, BEGIN SLUMP AREA, 50' LEFT UPSLOPE OF ℄.
NOTE: STA 738+50 BEGIN SCOURED AREA TO RIGHT OF ℄.
NOTE: STA 738+27 SMALL SLUMP BLOCK 50' LEFT OF ℄. SHALE IN PLACE 85' LEFT OF ℄. APPROX. ELEV. 920
ROCK SECTION
COVERED SLOPE - SHALY
BENCH FORMED BY THIN SANDSTONE INTERBEDS IN SHALE. SHALE BECOMES SILTY NEAR CONTACT.
SHALE- GRAY TO LIGHT GREEN TO SLATE GRAY, POOR CLEAVAGE, THIN BEDDED, INCOMPETENT, HIGHLY FRACTURED. CLAY SHALE, TENDS TO SLOUGH EASILY, SAME SHALE AS ABOVE. UPPER FREEPORT COAL ELSEWHERE.
COVERED SLOPE - SLUMP BLOCK
SHALE- GREEN TO GRAY, THIN BEDDED, FISSILE, SANDY, INCOMPETENT, DISTORTED BEDDING
SANDSTONE-BROWN TO GRAY, COARSE TO MEDIUM GRAINED, MICACEOUS, FRIABLE TO WELL CEMENTED, MASSIVE IN CENTER BECOMING SLABBY TOWARD TOP AND BOTTOM, CONTAINS IRONSTONE CONCRETIONS. SOME SLUMPING EVIDENT. FORMATION HIGHLY FRACTURED AT THIS STATION, CONTAINS SANDY SHALE INTERBEDS.
COVERED SLOPE - SHALY
SANDSTONE- LIGHT BROWN TO GRAY, MEDIUM TO FINE GRAINED, MASSIVE, SLIGHTLY FERRUGINOUS, HIGHLY QUARTZOSE, EXTREMELY HARD AND COMPETENT.
COVERED SLOPE - SHALY
COVERED SLOPE- CONTAINS SHALE AND SANDSTONE FRAGMENTS, STEEP SLOPE.
ROCK SECTION
SANDSTONE-REDDISH BROWN, MEDIUM TO FINE GRAINED, WELL CEMENTED, MASSIVE BEDDING FERRUGINOUS IN PART.
COVERED SLOPE
SANDSTONE-REDDISH TO BROWN TO YELLOW, MEDIUM TO FINE GRAINED, SLIGHTLY FRIABLE, SLIGHTLY MICACEOUS, FERRUGINOUS IN PART, MASSIVE BEDDING
COVERED SLOPE
SHALE-BUFF, SANDY, HIGHLY WEATHERED, SLIGHTLY MICACEOUS
SANDSTONE-REDDISH BROWN, MEDIUM TO FINE GRAINED, WELL CEMENTED, FERRUGINOUS IN PART.
SANDSTONE- BROWNISH GRAY, EXTREMELY MICACEOUS, CONTAINS CONCRETIONS, MEDIUM GRAINED, MASSIVE BEDDING.
SHALE- GRAY TO BLACK, FISSILE.
NOTE
STA 738+50 25' RIGHT OF ℄, CONTACT BETWEEN SHALE AND SANDSTONE, ELEV. 849.6
STA 739+50 10' LEFT OF ℄, CONTACT BETWEEN SHALE AND SANDSTONE, ELEV. 849.4
SANDSTONE- LIGHT BROWN, MEDIUM TO COARSE GRAINED, MASSIVE, CONTAINS TINY LIMONITIC INCLUSIONS, HIGHLY QUARTZOSE, RATHER LOOSELY CEMENTED.
SHALE- GREEN TO BROWN TO GRAY, SANDY AT TOP BECOMING SILTY TOWARD BOTTOM, BOTTOM NOT EXPOSED, POOR CLEAVAGE, JOINTS AND TENSION CRACKS MAY INDICATE SLUMPING OF THIS ENTIRE BLOCK, DIP OF THESE BEDS DO NOT CONFORM TO THE REGIONAL DIPS OF THIS AREA.
EVIDENCE OF COAL BLOSSOM AT ELEV. 843.5
NOTE: STA 741+00 APPROXIMATELY 150' LEFT OF ℄ AT BASE OF UPSLOPE THERE ARE STRONG INDICATIONS OF CREEP AND SLUMPING AS EVIDENCED BY INCLINATION OF TREES. NO BEDROCK IS EXPOSED AT THIS LOCATION. SOIL ON COVERED SLOPES CONTAINS MANY SHALE FRAGMENTS. APPROXIMATELY 200' LEFT SOIL BECOMES MORE SANDY TOWARD TOP OF SLOPE. FERRUGINOUS IN PART. APPROXIMATELY 350' LEFT.- SHALE IN PLACE.
NOTE: STA 740+50 SANDSTONE EXPOSED 10' RIGHT OF ℄, LOCAL BENCH 20' RIGHT OF ℄, HIGH BENCH TO LEFT OF ℄ ON SLUMP BLOCK, SHALE IN PLACE APPROXIMATELY 300' LEFT OF ℄.
NOTE: STA 742+00 MIDPOINT OF SCOUR, BEGIN RAVINE 20' RIGHT OF ℄, SLUMPED AREA TO LEFT, NUMEROUS SHALE FRAGMENTS IN SOIL.
1020
1000
980
960
940
920
900
880
860
840
820
800
780
760
740
720
736
737
738
739
740
741
742

SOIL PROFILE
JEFFERSON-COLUMBIANA COS.
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)
5
11
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
CORE BORING 475'LT
NOTE: SEE SHEET 11 FOR DETAILED DESCRIPTION OF CORE BORINGS AT ℄ AND 475' LT OF ℄.
1060
1040
1020
1000
980
960
940
920
900
880
860
840
820
800
780
760
740
720
742
743
744
745
746
747
748
NOTE: STA.742+00: MID-POINT OF SCOUR TO RT. OF ℄ DOWN SLOPE, SLUMP AREA TO LT. UP SLOPE, NUMEROUS SHALE FRAGMENTS.
NOTE: STA.742+50: END OF SCOUR, SPUR TO RT. OF ℄ DOWN SLOPE, SLUMP AREA LT. OF ℄ UP SLOPE, NUMEROUS SHALE FRAGMENTS.
NOTE: STA.743+00: SPUR TO RT. OF ℄ DOWN SLOPE, SLUMP AREA EXTENDS 200'+ LT. OF ℄ UP SLOPE.
NOTE: STA.743+50: BEGIN RAVINE ON ℄ DOWN SLOPE, SLUMP AREA EXTENDS 200'+ LT. OF ℄ UP SLOPE.
NOTE: STA.744+00: SIGNS OF INCREASED SLUMP ACTIVITY AND SCOURING BY STREAM ACTION. SMALL STREAM NOW OCCUPIES RAVINE. AN OLD COAL MINE AT EL. 902.4', APPROX. 200' LT. OF ℄ UP SLOPE.
ROCK SECTION
COVERED SLOPE
SHALE, BUFF TO BROWNISH GREEN, CARBONACEOUS IN BOTTOM PORTION, BRITTLE, SANDSTONE INTERBEDS AT TOP, POOR TO FAIR CLEAVAGE.
COVERED SLOPE
SANDSTONE, LIGHT BROWN TO GRAY, MEDIUM-GRAINED, THIN-BEDDED, FAIRLY WELL CEMENTED, MICACEOUS.
COVERED SLOPE
SHALE, BUFF TO GRAY TO BLACK, ARGILLACEOUS, POOR CLEAVAGE.
SANDSTONE, BROWN TO GRAY, COARSE-GRAINED, QUARTZOSE, LOOSELY CEMENTED, CONTAINS SMALL LIMONITIC INCLUSIONS.
COVERED SLOPE, WITH SHALE FRAGMENTS.
SANDSTONE, LIGHT BROWN TO GRAY, FINE-GRAINED, WELL CEMENTED, SHALY INTERBEDS.
NOTE: STA. 745+00: END OF RAVINE ON ℄ DOWN SLOPE, SLUMP BLOCKS TO LT. OF ℄ UP SLOPE.
NOTE: STA. 745+50: SPUR EXTENDS TO 75'± RT. OF ℄ DOWN SLOPE, SLUMP BLOCKS ON SPUR TO LT. OF ℄ UP SLOPE.
NOTE: STA. 746+00: NOSE OF SPUR CROSSES ℄, SLUMP BLOCKS ADJACENT TO ℄ ON LT. UP SLOPE.
NOTE: STA. 746+50: END OF SPUR ON ℄, BENCH TO APPROX. 75' RT., REFUSE FROM COAL MINES ADJACENT TO ℄.
NOTE: THIS INTERVAL BELIEVED TO CONSIST OF VARIABLE SHALES WITH CLAY SHALE PREDOMINANT. (ON BASIS OF ADJACENT BORINGS AND OUTCROPS OBSERVED)
WEATHERED SHALE FRAGMENTS (BROWN, SLIGHTLY SILICEOUS) IN BROWN AND GRAY SANDY SILT CLAY.
GRAY AND BROWNISH GRAY CLAY, CALCAREOUS, TOUGH.
BROWNISH GRAY SANDY SILT CLAY, CRUMBLY, WITH SHALE FRAGMENTS.
TOP OF SOFT ROCK
WEATHERED SHALE, GRAY, SLIGHTLY SILICEOUS, CALCAREOUS, VERY BROKEN.
WEATHERED SHALE, BROWNISH GRAY, SILICEOUS TO SLIGHTLY SILICEOUS, HARD TO SOFT, VERY BROKEN TO BROKEN IN TOP THIRD.
SANDSTONE, GRAY, FINE TO MEDIUM GRAINED, CALCAREOUS, MICACEOUS, FIRM, JOINTED.
GRAY SILT CLAY, CRUMBLY.
SHALE, VARIEGATED YELLOWISH BROWN AND PURPLE, SLIGHTLY SILICEOUS, MEDIUM FIRM.
SHALE, BROWNISH GRAY AND GRAY, SLIGHTLY SILICEOUS TO SILICEOUS, CALCAREOUS IN PART, FIRM.
CLAY SHALE, GRAY TO BLACK IN BOTTOM QUARTER, IN PART SLIGHTLY SILICEOUS, SILICEOUS AT BASE, HARD, FIRM, BROKEN IN PART.
COAL, BITUMINOUS.
SHALE, GRAY, SLIGHTLY SILICEOUS, SLIGHTLY CALCAREOUS IN PART, FIRM.
INDURATED CLAY, DARK GRAY TO BLACK, HARD, FIRM, SLICKENSIDE BREAKS.
SANDSTONE, GRAY, MEDIUM TO COARSE GRAINED GRADING TO MEDIUM TO FINE GRAINED IN TOP QUARTER, SLIGHTLY CALCAREOUS, WITH MICACEOUS STRINGERS, FIRM, SOME CROSS BEDDING.
SANDSTONE, GRAY, FINE TO MEDIUM GRAINED, ARGILLACEOUS, WITH STRINGERS AND THIN LAYERS OF MICACEOUS SHALE, CROSS BEDDED.
SANDSTONE, GRAY, MEDIUM TO COARSE GRAINED, FIRM, WITH MICACEOUS STRINGERS IN TOP THIRD.
SANDSTONE, GRAY, MEDIUM TO FINE GRAINED, IN PART MICACEOUS, SLIGHTLY CALCAREOUS IN TOP THIRD, FIRM, MASSIVE.
SANDSTONE, GRAY, MEDIUM TO COARSE GRAINED GRADING TO COARSE GRAINED IN LOWER HALF, FIRM, MASSIVE.
COAL, BITUMINOUS, WITH 0.3' CARBONACEOUS SHALE AT TOP.
INDURATED CLAY, GRAY, SLIGHTLY SILICEOUS, FIRM, WITH CARBONIZED PLANT REMAINS, SLICKENSIDE BREAKS.
SHALE, GRAY, SILICEOUS TO SLIGHTLY SILICEOUS, CALCAREOUS IN TOP 3.0' WITH CALCAREOUS NODULES THROUGHOUT REMAINDER, DENSE, FIRM, BROKEN AT BASE, GRADING INTERMITTENTLY TO INDURATED CLAY.
SHALE, GRAY TO DARK GRAY, SILICEOUS, HARD, FIRM, BROKEN AT TOP.
SANDSTONE, GRAY, FINE GRAINED, MICACEOUS AND WITH VERY THIN MICACEOUS STRINGERS, SHALY, HARD, FIRM, WITH SOME CROSS BEDDING.
SHALE, DARK GRAY TO BLACK, SILICEOUS, CARBONACEOUS AND WITH CARBONIZED PLANT REMAINS, HARD, FIRM, GRADING INTERMITTENTLY TO THIN LAYERS OF SANDSTONE.
LOG OF CORE BORING -140'LT
TOP OF ℄ BORING
TOP OF SOFT ROCK (℄ BORING)
NOTE: STA. 747+50: BENCH TO APPROX. 60' RT. OF ℄ DOWN SLOPE, SANDSTONE CLIFF APPROX. 80' RT. OF ℄ DOWN SLOPE, SLUMP BLOCKS TO LT. OF ℄ GIVING WAY TO SHALE IN PLACE. 50'± LT.
NOTE: STA 747+00: 200'± LT. OF ℄ UP SLOPE ARE NUMEROUS SLUMP BLOCKS, BENCH TO RT. OF ℄ EXTENDS APPROX. 70' RT. OF ℄ DOWN SLOPE.
NOTE: STA.748+00 BENCH TO RT. OF ℄ EXTENDS APPROX. 75' DOWN SLOPE, SLOPE TO LT. OF ℄ SHOWS SIGNS OF LOCAL STABILITY, SHALE IN PLACE APPROX. 40' LT. OF ℄ UP SLOPE.
ROCK SECTION
COVERED SLOPE
SANDSTONE, GRAY, MEDIUM-GRAINED, WELL CEMENTED.
SHALE, DARK GREENISH-GRAY, SANDY, POOR CLEAVAGE.
SANDSTONE, BUFF TO BROWN, MEDIUM TO COARSE-GRAINED, WELL-CEMENTED, MASSIVE.
SHALE, DARK GREENISH-GRAY, SLATY CLEAVAGE, BRITTLE.
SANDSTONE, GRAY, COARSE-GRAINED, LOOSELY CEMENTED.
SHALE, BUFF TO GRAY, SANDY, POOR CLEAVAGE.
SANDSTONE, GRAY-GREEN TO BUFF, MEDIUM-GRAINED, SHALY INTERBEDS, SLABBY.
SHALE, DARK GREEN TO GRAY, FISSILE.
SANDSTONE, BROWNISH, MEDIUM-GRAINED, LOOSELY, CEMENTED. WATER IS FLOWING AT THE CONTACT, EL. 813.8'.

SOIL PROFILE
JEFFERSON & COLUMBIANA COS.
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)
6 / 11
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
COLUMBUS, OHIO
NOTE: THE COAL MINES IN THIS AREA AT APPROXIMATELY 903.0' ARE PROBABLY IN THE UPPER FREEPORT COAL.
NOTE: STA 748+00: BENCH TO APPROXIMATELY 75' RIGHT OF ₵. UPSLOPE TO LEFT SHOWS SIGNS OF LOCAL STABILITY, SHALE IN PLACE APPROXIMATELY 40' LEFT.
NOTE: STA 748+35: SPUR TO APPROXIMATELY 50' RIGHT OF ₵ STEEP SLOPE STARTING APPROXIMATELY 75' RIGHT. RAVINE STARTING 15' RIGHT.
NOTE: STA 749+00: ABANDONED COAL MINE TO RIGHT OF ₵. STEEP UPSLOPE ON LEFT COMING CLOSE TO ₵ IN THE FORM OF A SPUR.
NOTE: STA 749+50: BEGIN RAVINE AT TOP OF SPUR TO LEFT OF ₵. SLATE DUMP TO RT. OF ₵
NOTE: STA 750+50: PERMANENT STREAM IN BOTTOM OF RAVINE, MUCH LIMONITE DEPOSITED IN STREAM BED, THIS STREAM DRAINS ABANDONED COAL MINES.
NOTE: STA 750+50: 160' LT OF ₵ AT ELEVATION 906.0'. ENTRANCE TO ABANDONED COAL MINE.
NOTE: STA 751+50: EDGE OF RAVINE, TOP OF SPUR
NOTE: STA 752+50: LEFT OF ₵ THE UPSLOPE BECOMES STABLE, SPUR FORMS EVEN SLOPE TO THE RIGHT
NOTE: STA 753+17: ON LARGE SLUMP BLOCK, SPUR BREAKS INTO A STEEP DOWNSLOPE APPROXIMATELY 150' RIGHT OF ₵.
ROCK SECTION
SHALE- GRAY TO GREEN, CLAY SHALE, CONTAINS IRONSTONE CONCRETIONS, COMPETENT, BECOMES SANDY IN PLACES, THICK BEDDED, CARBONACEOUS PARTINGS CONTAINING FOSSILS AT BASE, BREAKS INTO ANGULAR FRAGMENTS, BECOMES FISSILE TOWARD TOP, CONTAINS SANDSTONE STRINGERS UP TO 1" THICK NEAR TOP.
SHALE- BUFF TO GREEN, SANDY TO SILTY, THIN BEDDED, INCOMPETENT, CONTAINS THIN SANDSTONE INTERBEDS.
COVERED SLOPE- SHALY- THIN SANDSTONE SLABS APPEAR AT 957.3'
COVERED SLOPE (EXTREMELY SHALY)
COVERED SLOPE (POSSIBLE SHALE) ENTIRE AREA COVERED BY DUMPINGS FROM ABANDONED COAL MINES. INDICATIONS OF SLABBY SANDSTONE BELOW 801.0'
SANDSTONE- LIGHT BROWN TO GRAY, EXTREMELY MASSIVE, WELL CEMENTED, HIGHLY QUARTZOSE, FORMS CLIFF TO 755.2', BECOMES SLABBY WITH SOME SHALE INTERBEDS AT BOTTOM.
SHALE- GRAY TO BLACK TO BUFF, CARBONACEOUS, CONTAINS IRONSTONE CONCRETIONS, SANDY IN PART, BRITTLE, RATHER INCOMPETENT, FORMS MASSIVE FORMATION IN THIS RAILROAD CUT, FAIR CLEAVAGE.
COMBINED LOGS OF CORE BORINGS ₵ AND 150' LT
BROWN SILT AND BROKEN SHALE.
WEATHERED SHALE, BROWNISH GRAY AND BROWN, SLIGHTLY SILICEOUS TO SILICEOUS, SOFT, CRUMBLY, VERY BROKEN.
GRAY AND BROWNISH GRAY SILT CLAY WITH SOME SHALE (SLIGHTLY SILICEOUS, SOFT TO FIRM, VERY BROKEN AND WEATHERED.)
SHALE (BROWNISH GRAY AND GRAY, SILICEOUS, FIRM, BROKEN) INTERBEDDED WITH SANDSTONE (GRAY, FINE GRAINED, CALCAREOUS, ARGILLACEOUS, FIRM).
CLAY SHALE, BROWNISH GRAY, HARD, FIRM, BECOMING SLIGHTLY SILICEOUS AT TOP, IN PART BROKEN.
CLAY SHALE, BLACK TO GRAY, HARD, FIRM, IN PART BROKEN.
COAL, BITUMINOUS.
SANDSTONE, GRAY, FINE GRAINED, MICACEOUS, ARGILLACEOUS, SOFT, MEDIUM FIRM TO FIRM, WITH SCATTERED CARBONIZED PLANT REMAINS, CLAY SEAM AT BASE.
INDURATED CLAY, GRAY, FIRM.
SHALE, GRAY, SILICEOUS, MEDIUM FIRM TO CRUMBLY.
CLAY SHALE, GRAY, CRUMBLY, VERY BROKEN.
SANDSTONE, GRAY, MEDIUM TO COARSE GRAINED, FIRM, SHALY AT TOP.
SHALE, DARK GRAY, SILICEOUS, MICACEOUS, FIRM.
SANDSTONE, GRAY, MEDIUM TO COARSE GRAINED, GRADING TO MEDIUM TO FINE GRAINED IN TOP THIRD. MICACEOUS, FIRM, CROSS BEDDED.
(CONTINUATION OF ₵ BORING LOGS)
SANDSTONE, BROWNISH GRAY AND GRAY, MEDIUM TO FINE GRAINED, MICACEOUS, ARGILLACEOUS IN PART, FIRM, BROKEN IN LOWER THIRD.
SHALE, GRAY, SILICEOUS, IN PART MICACEOUS, FIRM, WITH 0.3' CLAY SHALE IN MIDDLE THIRD.
SANDSTONE, BROWNISH GRAY AND GRAY, MEDIUM GRAINED, MICACEOUS, FIRM.
CLAY SHALE, GRAY, HARD, FIRM, BROKEN.
CLAY SHALE, BLACK, CARBONACEOUS, HARD, FIRM.
COAL, BITUMINOUS, WITH SHALE PARTING.
SHALE, GRAY TO DARK GRAY, SLIGHTLY SILICEOUS TO SILICEOUS, HARD, FIRM, IN PART CALCAREOUS AND BROKEN, GRADING TO SILICEOUS SHALE WITH SANDY STRINGERS AT BASE.
ROCK SECTION
COVERED SLOPE (EXTREMELY SHALY)
TOP OF ROCK (150' LT. OF ₵)
COVERED SLOPE
LOG OF ₵ BORING
WEATHERED AND BROKEN CLAY SHALE, SOFT AND CRUMBLY TO HARD WITH COAL BLOSSOM OR BROKEN COAL AT APPROXIMATELY 10.0'.
GRAY SILT CLAY IN PLACE, SLIGHTLY SANDY, GRADING DOWNWARD TO VERY SOFT DECOMPOSED SHALE IN LOWER HALF.
TOP OF ROCK
SHALE (BROWNISH GRAY AND GRAY, SILICEOUS, MICACEOUS, FIRM, BROKEN, GRADING IN PART TO SANDSTONE) INTERBEDDED WITH SANDSTONE (BROWNISH GRAY, FINE TO MEDIUM GRAINED, MICACEOUS, ARGILLACEOUS, FIRM TO MEDIUM FIRM, IN PART BROKEN)
SANDSTONE, BROWNISH GRAY AND GRAY, MEDIUM TO FINE GRAINED, MICACEOUS IN LOWER THIRD, ARGILLACEOUS AT TOP AND IN LOWER THIRD, FIRM, BROKEN AT TOP WITH SOME CROSS BEDDING.
SHALE CONGLOMERATE (BRECCIATED CLAY SHALE IN MEDIUM GRAINED SANDSTONE MATRIX), MEDIUM FIRM.
SANDSTONE, BROWNISH GRAY AND GRAY, MEDIUM TO FINE GRAINED, MICACEOUS, ARGILLACEOUS IN PART, FIRM, BROKEN IN LOWER THIRD.
COVERED SLOPE, MANY SANDSTONE FRAGMENTS, SANDSTONE IS RED TO BROWN, FAIRLY WELL CEMENTED, FERRUGINOUS, MICACEOUS, MEDIUM GRAINED.
SANDSTONE- LIGHT BROWN, MEDIUM GRAINED, WELL CEMENTED, RATHER THICK BEDDED, SLABBY AT BOTTOM, MASSIVE ABOVE, FERRUGINOUS
TOP OF CLIFF (15') FORMED BY THIS SANDSTONE
1000
980
960
940
920
900
880
860
840
820
800
780
760
740
720
700
680
748
749
750
751
752
753
754

SOIL PROFILE
JEFFERSON-COLUMBIANA COS
JEF-7-(33.83-34.10)
COL-7-(0.00 - 0.50)
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO
7
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NOTE: STA. 755+70: SMALL STREAM CROSSES ℄, AREA ADJACENT TO STREAM NEAR ℄ IS A LARGE REFUSE DUMP FOR ABANDONED COAL MINES, ENTRANCE TO OLD COAL MINE APPROX. 100' LT OF ℄ AT EL. 903.1'.
NOTE: STA. 758+50: LARGE SLUMP BLOCKS TO LT. OF ℄ UP SLOPE, SPUR TO RT. OF ℄ DOWN SLOPE.
NOTE: STA. 758+15: SLUMP BLOCK TO LT. OF ℄ UP SLOPE, SMALL RAVINE TO RT. OF ℄ DOWN SLOPE, COAL MINE ON ℄ HAS A SIZEABLE STREAM OF WATER FLOWING FROM THE ENTRY DOWN A STEEP SCARRED SLOPE TO S.R. 7. ROCK IN THIS SLOPE IS DISPLACED AND BROKEN.
NOTE: STA. 756+39: EDGE OF RAVINE, UPSLOPE TO LT. OF ℄ IS UNSTABLE, SPUR TO RT. OF ℄ DOWN SLOPE.
NOTE: STA. 754+30: EDGE OF RAVINE, SLOPE TO LT. OF ℄ UP SLOPE IS UNSTABLE, SPUR TO RT. OF ℄ DOWN SLOPE.
NOTE: STA. 759+80: SPUR TO RT. OF ℄ ENDS IN SANDSTONE CLIFF AT APPROX. 60' RT. DOWN SLOPE, EDGE OF RAVINE.
COVERED SLOPE
ROCK SECTION
SHALE, GRAY TO BROWN, SANDY TO SILTY, FAIR CLEAVAGE, BOTTOM PORTION IS BLACK TO GRAY, FISSILE, WITH SOME COAL BLOSSOM.
SANDSTONE, BROWNISH GRAY, MEDIUM TO COARSE-GRAINED, SLABBY, POORLY CEMENTED, WITH SHALY INTERBEDS.
COVERED SLOPE (IN STREAM BED).
SANDSTONE, BROWN TO GRAY, MEDIUM GRAINED, FAIRLY WELL-CEMENTED, MASSIVE.
SANDSTONE, BROWN TO YELLOW, WELL CEMENTED, SHALY INTERBEDS.
LOG OF CORE BORING - 176' LT OF ℄
BROWN SILT CLAY WITH BROKEN SHALE
TOP OF BROKEN ROCK
CLAY SHALE, BROWN, FERRUGINOUS, HARD, VERY BROKEN
GRAY SILT CLAY, SOFT, CRUMBLY, IN PART CALCAREOUS, GRADING TO INDURATED CLAY IN LOWER THIRD
SHALE, BROWN TO GRAY AT BASE, SILICEOUS TO SLIGHTLY SILICEOUS, IN PART HARD, VERY BROKEN.
SILICIFIED SILTSTONE, GRAY, SLIGHTLY CALCAREOUS, HARD, FIRM.
INDURATED CLAY, GRAY, VERY BROKEN.
CLAY SHALE, GRAY AND REDDISH BROWN, DECOMPOSED, VERY SOFT AND CRUMBLY, GRADING TO CLAY OVER MUCH OF THE INTERVAL.
CLAY SHALE, GRAY TO REDDISH BROWN AND GRAY IN UPPER HALF, IN PART SLIGHTLY SILICEOUS, FIRM, BROKEN AT TOP
SHALE, BROWNISH GRAY, SILICEOUS TO SLIGHTLY SILICEOUS, WITH SANDY STRINGERS AND NODULES OF IMPURE LIMESTONE, BROKEN AND JOINTED AT BASE
SANDSTONE, GRAY, VERY FINE GRAINED, ARGILLACEOUS, CALCAREOUS, HARD, FIRM.
SHALE, BROWNISH GRAY, SLIGHTLY SILICEOUS, WITH SANDY STRINGERS, WITH NODULES OF IMPURE LIMESTONE IN LOWER HALF, FIRM, BROKEN IN LOWER HALF, GRADING INTERMITTENTLY TO CLAY SHALE.
CLAY SHALE, GRAY, HARD, FIRM, WITH 0.8' CLAY SEAM AT BASE.
CLAY SHALE, BLACK, CARBONACEOUS, HARD, FIRM.
COAL, BITUMINOUS.
SANDSTONE, GRAY FINE GRAINED, ARGILLACEOUS, MICACEOUS, SOFT, MEDIUM FIRM, GRADING TO SILICEOUS SHALE IN PART.
SANDSTONE, GRAY, FINE TO MEDIUM GRAINED, MICACEOUS, FIRM, WITH MICACEOUS STRINGERS, IN PART SHALY, CROSS BEDDED.
SHALE, GRAY, SLIGHTLY SILICEOUS, FIRM.
SANDSTONE, GRAY, MEDIUM GRAINED, FIRM, WITH MICACEOUS STRINGERS, IN PART CROSS BEDDED.
(CONTINUATION OF ℄ BORING LOGS)
CLAY SHALE, BLACK, CARBONACEOUS, HARD, FIRM.
COAL, BITUMINOUS, BONY IN TOP THIRD.
INDURATED CLAY, GRAY, SLIGHTLY SILICEOUS, FIRM, GRADING TO SHALE AT BASE.
SHALE, GRAY, SLIGHTLY SILICEOUS TO SILICEOUS IN LOWER THIRD, HARD, FIRM.
SHALE, DARK GRAY, SLIGHTLY SILICEOUS TO SILICEOUS, HARD, FIRM, WITH CARBONIZED PLANT REMAINS.
SILICIFIED SILTSTONE, GRAY, DENSE, VERY HARD, FIRM.
SHALE, GRAY TO DARK GRAY, SILICEOUS, IN PART CARBONACEOUS, HARD, FIRM, WITH CROSS BEDDED SANDY STRINGERS.
LOGS OF CORE BORINGS ℄ AND 176' LT.
℄
LOG OF ℄ CORE BORING
WEATHERED AND BROKEN GRAY CLAY SHALE WITH GRAY CLAY.
GRAY AND BROWN CLAY, MOIST WITH MICACEOUS MATTER, GRADING TO DECOMPOSED SHALE AT BASE.
COAL BLOSSOM, GRAY CLAY AND VERY BROKEN GRAY CLAY SHALE.
COAL, BITUMINOUS, WEATHERED, AND VERY SOFT, CRUMBLY, WITH CLAY AT BASE.
TOP OF ROCK
SHALE, YELLOWISH BROWN, SILICEOUS, MEDIUM FIRM, GRADING INTERMITTENTLY TO SOFT SANDSTONE.
SANDSTONE, GRAY AND BROWNISH GRAY, MEDIUM TO FINE GRAINED, IN PART MICACEOUS, FIRM TO MEDIUM FIRM AT TOP; BROKEN AND INTERMITTENTLY SOFT AND ARGILLACEOUS IN TOP 5.0'
COVERED SLOPE TO TOP OF RIDGE
SLUMP BLOCKS CONTAIN MANY SHALE FRAGMENTS
ROCK SECTION
SANDSTONE, LIGHT BROWN, FINE-GRAINED, WELL CEMENTED, SLABBY AT TOP AND BOTTOM, MASSIVE IN CENTER, SOME SHALE INTERBEDS AT BOTTOM.
1000
980
960
940
920
900
880
860
840
820
800
780
760
740
720
754
755
756
757
758
759
760


SOIL PROFILE
JEFFERSON-COLUMBIANA COS.
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)
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STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS COLUMBUS, OHIO
NOTE: STA. 763+50: UPSLOPES TO LT. OF ℄ BECOMING MORE STABLE, LONG SPURS EXTEND FROM ℄ TO RT. DOWN SLOPE. SOIL CREEP EVIDENT.
NOTE: STA. 764+00: APPROX. 150' RT. OF ℄ DOWN SLOPE A SANDSTONE AND UNDERLYING SHALE ARE EXPOSED THE ATTITUDE OF WHICH IS MARKEDLY DIFFERENT FROM THAT OF ADJACENT BEDS; THERE IS A SUGGESTION OF DELTAIC BEDDING ON A LARGE SCALE.
NOTE: STA. 761+50: SLOPE ON ℄ COVERED BY DUMP MATERIAL FROM ABANDONED COAL MINES. A WET WEATHER STREAM FLOWS IN THIS RAVINE; MUCH SLUMPING EVIDENT IN BANKS ON EITHER SIDE OF RAVINE.
NOTE: STA. 762+75: ENTRANCE TO ABANDONED SLOPE MINE APPROX. 85' LT. OF ℄ UP SLOPE AT EL. 903.8'. ENTRANCE TO SECOND ABANDONED MINE APPROX. 175' LT. OF ℄ AT EL. 903.5'.
NOTE: STA. 765+00: SLUMPING BECOMING LESS PREVALENT TO LT. OF ℄ UP SLOPE, SLOPE STEEPENING TO RT. OF ℄ DOWN HILL, AS SANDSTONE BECOMES MORE PERSISTENT.
NOTE: STA. 762+65: SLOPE COVERED AT ℄ ON EITHER BANK OF RAVINE, COVERED WITH REFUSE FROM ABANDONED COAL MINES, UNSTABLE SLOPES.
LOG OF BORING - 212' LT OF ℄
BROWN SILT CLAY AND BROKEN SHALE.
YELLOWISH BROWN SILT CLAY WITH SHALE FRAGMENTS AND WITH BROKEN SANDSTONE (BROWN, FINE GRAINED, ARGILLACEOUS, SOFT) AT BASE.
YELLOWISH BROWN SANDY SILT CLAY, WITH BROKEN SILICEOUS SHALE (GRADING TO SOFT ARGILLACEOUS SANDSTONE IN PART) AND WITH CLAY SHALE FRAGMENTS IN TOP THIRD.
GRAY SILT CLAY, CRUMBLY.
WEATHERED AND BROKEN SHALE, GREENISH GRAY AND GRAY, SILICEOUS TO SLIGHTLY SILICEOUS IN TOP HALF, SOFT TO HARD, VERY LITTLE FISSILITY, WITH BROWN SANDY CLAY AT BASE AND VERY BROKEN FERRUGINOUS CLAY SHALE AT TOP.
SHALE, BROWNISH GRAY, SILICEOUS TO SLIGHTLY SILICEOUS, WEATHERED AND VERY BROKEN.
LIMESTONE, GRAY, CHERTY, HARD, FIRM. (POSSIBLY NODULAR)
SHALE, BROWNISH GRAY, SLIGHTLY SILICEOUS, GRADING TO CLAY SHALE OVER MUCH OF THE INTERVAL, WITH SANDY STRINGERS, MEDIUM FIRM, BROKEN OVER MOST OF INTERVAL.
CLAY SHALE, GRAY, IN PART SLIGHTLY SILICEOUS IN PART HARD, MEDIUM FIRM, BROKEN.
CLAY SHALE, GRAY, HARD TO SOFT, VERY BROKEN AND MIXED WITH DERIVED CLAY; WITH LAYERS OF SILICIFIED SILTSTONE.
CLAY SHALE, BLACK TO DARK GRAY, HARD TO SOFT AT TOP, VERY BROKEN.
COAL, BITUMINOUS.
SANDSTONE, GRAY, FINE GRAINED TO FINE TO MEDIUM GRAINED IN LOWER HALF, MICACEOUS, ARGILLACEOUS, FIRM (SOFT IN PART), GRADING TO SILICEOUS SHALE IN BOTTOM 0.9'.
SANDSTONE, GRAY, MEDIUM GRAINED TO MEDIUM TO FINE GRAINED IN TOP THIRD, INTERMITTENTLY ARGILLACEOUS IN TOP THIRD - GRADING TO SILICEOUS SHALE.
LOG OF ℄ BORING
SANDSTONE, BROWNISH GRAY AND GRAY; MEDIUM GRAINED, BECOMING COARSE GRAINED IN PORTIONS OF TOP HALF; FIRM, BROKEN AND JOINTED, WITH 0.5' FINE GRAINED MICACEOUS SANDSTONE AT 870.4'.
SHALE, GREENISH GRAY, SILICEOUS, MICACEOUS, HARD, FIRM, BROKEN IN LOWER THIRD
SANDSTONE, BROWNISH GRAY AND GRAY, FINE GRAINED, MICACEOUS, FIRM, IN PART BROKEN, CROSS BEDDED.
COAL, BITUMINOUS, BROKEN.
CLAY, GRAY, CRUMBLY.
INDURATED CLAY, GRAY, SILICEOUS TO SLIGHTLY SILICEOUS IN TOP HALF, FIRM.
SANDSTONE, GRAY, FINE GRAINED, ARGILLACEOUS, FIRM, MASSIVE.
SHALE, GRAY, SILICEOUS, HARD, FIRM, VERY LITTLE FISSILITY, GRADING TO ARGILLACEOUS SANDSTONE OVER MUCH OF TOP HALF.
SHALE, (GRAY, SILICEOUS AND WITH CROSS BEDDED SANDY STRINGERS, FIRM) INTERBEDDED WITH SANDSTONE (GRAY, FINE GRAINED, VERY SHALY, FIRM, CROSS BEDDED).
SANDSTONE (GRAY AND BROWNISH GRAY, FINE GRAINED, WITH SCATTERED CROSS BEDDED MICACEOUS STRINGERS, FIRM) INTERBEDDED WITH SHALE (GRAY, SILICEOUS, FIRM)
CLAY SHALE, BLACK, CARBONACEOUS AND WITH CARBONIZED PLANT REMAINS, HARD, FIRM.
COAL, BITUMINOUS, BONY, WITH 0.2' SILICEOUS SHALE PARTING.
SHALE, DARK GRAY, SILICEOUS, CARBONACEOUS AND WITH CARBONIZED PLANT REMAINS, FIRM, VERY LITTLE FISSILITY.
SANDSTONE, GRAY, MEDIUM TO FINE GRAINED, FIRM, WITH CARBONIZED PLANT REMAINS AND LACED WITH VERY THIN COAL STRINGERS.
CLAY SHALE, GRAY, IN PART SLIGHTLY SILICEOUS, HARD, FIRM, WITH CARBONIZED PLANT REMAINS, WITH 0.1' COAL STRINGERS AT 802.3' AND AT BASE.
ROCK SECTION
SHALE, GREEN TO BROWNISH GRAY, SANDY TO SILTY, GOOD CLEAVAGE, FAIRLY COMPETENT.
TOP OF BROKEN ROCK (212' LT. OF ℄)
COVERED SLOPE
OVERBURDEN
TOP OF BROKEN ROCK (℄)
SANDSTONE, GRAY TO BROWN, MEDIUM TO FINE GRAINED, WELL CEMENTED, MASSIVE AT TOP, BECOMING SLABBY TOWARD BOTTOM.
SHALE, VARIABLE IN COLOR, CONTAINS LARGE FERRUGINOUS CONCRETIONS, POOR CLEAVAGE, SANDY TO SILTY TO CLAYEY IN COMPOSITION.
COVERED SLOPE
SHALE, GRAY TO BLACK, FISSILE, SCATTERED LAYERS OF FERRUGINOUS CONCRETIONS, SANDY TO SILTY. BOTTOM IS COVERED.
COVERED SLOPE
ROCK SECTION
SANDSTONE, GRAY TO BROWN, MEDIUM GRAINED, MASSIVE.
SHALE, GRAY TO BUFF, SANDY TO SILTY, INCOMPETENT.
SANDSTONE, BROWN, WELL CEMENTED, SLABBY, SHALY INTERBEDS, FERRUGINOUS IN PART.
COVERED SLOPE
SANDSTONE, GRAY TO BROWN, COARSE GRAINED, POORLY CEMENTED, MASSIVE, CARBONACEOUS WEDGES ALONG BEDDING PLANES.
SHALE, GRAY, SANDY TO SILTY, FAIR CLEAVAGE, INCOMPETENT.
COVERED SLOPE (SHALY)
ROCK SECTION
SHALE, GRAYISH GREEN, SANDY TO SILTY, FISSILE, CARBONACEOUS PARTINGS.
SANDSTONE, BROWN, WELL CEMENTED, COARSE-GRAINED, HIGHLY QUARTZOSE, SLABBY, SANDY SHALE INTERBEDS, FERRUGINOUS TOWARD BOTTOM.
SHALE, GRAY TO BLACK FISSILE, SANDY TO SILTY, BRITTLE.
COAL BLOSSOM
COVERED SLOPE
1000
980
960
940
920
900
880
860
840
820
800
780
760
740
720
700
760
761
762
763
764
765
766


SOIL PROFILE
JEFFERSON-COLUMBIANA COS
JEF-7-(33.83-34.10)
COL-7-(0.00-0.50)
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STATE HIGHWAY TESTING AND RESEARCH LABORATORY
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NOTE: STA 766+00: UPSLOPE STABILIZES INTO A BENCH TO LEFT OF ℄, POSSIBLY UNDERLAIN BY SANDSTONE HERE.
NOTE: STA 767+00: SLOPE STABLE ON BOTH SIDES OF ℄, STEEP UPSLOPE TO LEFT OF ℄.
NOTE: STA 768+38: SMALL RAVINE CROSSES ℄, NO STREAM.
NOTE: STA 767+75: SMALL RAVINE CROSSES ℄, WATER FLOWS HERE ONLY DURING THE WET SEASON.
NOTE: STA 768+78: SMALL RAVINE CROSSES ℄, WATER FLOWS HERE ONLY DURING THE WET SEASON, CONTAINS LARGE BROKEN BLOCKS OF SANDSTONE.
NOTE: STA 771+00: RELATIVELY STABLE SLOPES TO RIGHT AND LEFT OF ℄, SLIGHT EVIDENCE OF CREEP PRESENT.
NOTE: STA 772+00: ABANDONED COAL MINE 140' LEFT OF ℄ AT ELEVATION 902.7
1000
980
960
940
920
900
880
860
840
820
800
780
760
740
720
700
ROCK SECTION
COVERED SLOPE (SHALY)
SHALE-GREEN TO GRAY, SILTY GRADING INTO SANDY, FISSILE, CONTAINS MUCH CARBONACEOUS MATTER.
SANDSTONE-BROWN, WELL CEMENTED, HIGHLY QUARTZOSE, POSSIBLE SANDY SHALE INTERBEDS, THIS FORMATION CONTAINS LITTLE IRON TOWARD THE TOP BECOMING MORE FERRUGINOUS TOWARD THE BASE.
SHALE-GRAY TO BLACK, FISSILE, SANDY, IMPURE, INCOMPETENT, GRADATIONAL CONTACT WITH SANDSTONE.
COAL BLOSSOM; IMPURE
C
COVERED SLOPE
COVERED SLOPE INDICATIONS OF SANDSTONE AND SHALE INTERBEDS.
ROCK SECTION
SHALE-GREEN, SILTY WITH SOME SANDY PORTIONS, FISSILE, FAIRLY COMPETENT FORMING STEEP TO VERTICAL SLOPES.
COVERED SLOPE
SHALE-BUFF TO GREEN, HIGHLY SILICEOUS, SILTY, CONTAINS IRONSTONE CONCRETIONS, INCOMPETENT
SANDSTONE-BROWN TO GRAY, FINE GRAINED, DENSE, HARD, SLIGHTLY FERRUGINOUS, TOWARD THE TOP, BECOMES THIN BEDDED AND SLABBY, MORE FRIABLE AND MICACEOUS WITH SANDY SHALE STRINGERS. SHALY INTERBEDS APPEAR TOWARD BOTTOM ALSO.
SHALE-BUFF, SILTY, SILICEOUS, INCOMPETENT
COVERED SLOPE
ROCK SECTION
SANDSTONE-GRAY TO BROWN, MEDIUM TO COARSE GRAINED, FAIRLY WELL CEMENTED, SLIGHTLY FERRUGINOUS, SHOWS FORESET BEDDING, TOWARD THE TOP, TENDS TO BECOME SLABBY AND LESS DENSE WITH SOME SANDY SHALE INTERBEDS.
SHALE-BUFF TO GRAY, SANDY, THIN BEDDED, CONTAINS SMALL SANDSTONE INTERBEDS APPROXIMATELY 1" THICK.
SHALE-BUFF TO GRAY TO BLACK, HIGHLY FISSILE, IRONSTAINED SURFACE.
SANDSTONE-GRAY TO LIGHT BROWN, SHALY BEDDING, MEDIUM GRAINED, LOOSELY CEMENTED
SHALE-NONFISSILE, EXTREMELY SANDY, HIGHLY WEATHERED, INCOMPETENT.
SANDSTONE-GRAY TO LIGHT BROWN, MASSIVE, MEDIUM GRAINED, LOOSELY CEMENTED, SHOWS FORESET BEDDING
SHALE-BLACK, HIGHLY FISSILE, CARBONACEOUS WITH COAL BLOSSOM
SANDSTONE-BROWN, FINE GRAINED, EXTREMELY DENSE
BONE COAL
SANDSTONE-MASSIVE, LIGHT BROWN, MEDIUM TO COARSE GRAINED, WELL CEMENTED.
C
766
767
768
769
770
771
772

SOIL PROFILE
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NOTE: STA. 772+00: ABANDONED COAL MINE 140' LT. OF ℄ UP SLOPE AT EL. 902.7'.
NOTE: STA. 776+00: MANY SANDSTONE EXPOSURES NEAR ℄.
NOTE: STA. 777+00: VERTICAL SANDSTONE CLIFF APPROX. 30' LT. OF ℄ UP SLOPE.
NOTE: SANDSTONE IS EXPOSED DOWN TO AN EL. OF 744.0' IN A SIZEABLE STREAM WHICH CROSSES ℄ AT STA. 778+50.
1000
980
960
940
920
900
880
860
840
820
800
780
760
740
720
700
COVERED SLOPE
ROCK SECTION
SANDSTONE, GRAY TO BROWN, MEDIUM TO COARSE GRAINED, FAIRLY WELL CEMENTED, SLIGHTLY FERRUGINOUS, SHOWS FORESET BEDDING, TOWARD THE TOP, TENDS TO BECOME SLABBY AND LESS DENSE WITH SOME SANDY SHALE INTERBEDS.
SHALE, BUFF TO GRAY, THIN-BEDDED, SANDY, SMALL SANDSTONE INTERBEDS ABOUT 1" THICK.
SHALE, BUFF TO GRAY TO BLACK, HIGHLY FISSILE, IRONSTAINED SURFACE.
SANDSTONE, GRAY TO LIGHT BROWN, MEDIUM-GRAINED, LOOSELY CEMENTED, SHALY BEDDING.
SHALE, GRAY, POOR CLEAVAGE, SANDY, HIGHLY WEATHERED, INCOMPETENT.
SANDSTONE, GRAY TO LIGHT BROWN, MASSIVE, MEDIUM-GRAINED, LOOSELY CEMENTED, SHOWS FORESET BEDDING.
SHALE, BLACK, HIGHLY FISSILE, CARBONACEOUS WITH COAL BLOSSOM, EXTRMELY DENSE.
SANDSTONE, BROWN, FINE-GRAINED,
BONE COAL
SANDSTONE, MASSIVE, LIGHT BROWN, MEDIUM TO COARSE-GRAINED, WELL CEMENTED.
C
COVERED SLOPE WITH POSSIBLE UNDERLYING SANDSTONE.
ROCK SECTION
SANDSTONE, BROWN TO GRAY, MEDIUM TO COARSE-GRAINED, FERRUGINOUS, QUARTZOSE, LOOSELY CEMENTED, SLABBY AT TOP BECOMING MASSIVE TOWARD BOTTOM.
ROCK SECTION
COVERED SLOPE TO EXISTING S.R.7
COVERED SLOPE, POSSIBLE UNDERLYING SANDSTONE.
SANDSTONE, BROWN TO GRAY, MEDIUM TO COARSE-GRAINED, VERY QUARTZOSE, LOOSELY CEMENTED, SLABBY AT TOP, BECOMING MASSIVE TOWARD BOTTOM, THIS EXPOSURE IS A VERTICAL CLIFF TO LT. OF ℄.
COVERED SLOPE TO EXISTING S.R. 7
STA 783+10
SOD=0.3'
36' LT.
710
710
20
20
20
16
772
773
774
775
776
777
778


CROSS SECTION STA 741+00
VERY WEATHERED AND BROKEN SHALE.
TOP OF BROKEN ROCK
SHALE, BROWNISH GRAY, SILICEOUS TO SLIGHTLY SILICEOUS, FIRM TO MEDIUM FIRM, GENERALLY BROKEN THROUGHOUT.
INDURATED CLAY, BROWNISH GRAY, VERY BROKEN, GRADING TO SOFT CRUMBLY CLAY IN LOWER HALF.
INDURATED CLAY, REDDISH BROWN, FERRUGINOUS, FIRM, GRADING IN PART TO SOFT SHALE.
CLAY SHALE, GRAY WITH GREENISH GRAY ZONES, SLIGHTLY MICACEOUS AND SILICEOUS AT TOP, HARD, FIRM, BROKEN IN PART.
SHALE, GREENISH GRAY TO GRAY, SLIGHTLY SILICEOUS, WITH SANDY STRINGERS, FIRM.
SHALE, GRAY, SILICEOUS, WITH CROSS BEDDED SANDSTONE STRINGERS, FIRM.
SANDSTONE, GRAY, FINE GRAINED, MICACEOUS, THICKLY LACED WITH VERY THIN SHALE STRINGERS, MEDIUM FIRM, CROSS BEDDED.
SHALE, GREENISH GRAY TO GRAY, SLIGHTLY SILICEOUS, WITH SANDY STRINGERS IN PART, SLIGHTLY MICACEOUS, FIRM, JOINTED AND BROKEN IN MUCH OF THE LOWER HALF (VERY BROKEN IN BOTTOM 4.0'), GRADING TO SILICEOUS SHALE INTERMITTENTLY IN TOP 3.5'.
SHALE, DARK GRAY TO GRAY, SLIGHTLY SILICEOUS, WITH SCATTERED SANDY STRINGERS, FIRM.
CLAY SHALE, DARK GRAY TO GRAY, HARD, FIRM, BROKEN IN PART.
CLAY SHALE, BLACK, CARBONACEOUS, CALCAREOUS, FOSSILIFEROUS, HARD, FIRM, BROKEN IN PART.
COAL, BITUMINOUS.
INDURATED CLAY, GRAY TO DARK GRAY AT TOP, CALCAREOUS AND WITH CALCAREOUS NODULES IN LOWER HALF, FIRM.
THIS INTERVAL BELIEVED TO CONSIST OF VARIABLE SHALES WITH CLAY SHALES PREDOMINANT. (ON BASIS OF ADJACENT BORINGS AND OBSERVED OUTCROPS)
NOTE: SEE SHEET 4 FOR DETAILED DESCRIPTION OF THE TWO CORE BORINGS BELOW.
APPROXIMATE GROUND LINE
TOP OF ROCK
TOP OF BROKEN ROCK
PROPOSED GRADE
1080 1060 1040 1020 1000 980 960 940 920 900 880 860 840 820 800 780
420 400 380 360 340 320 300 280 260 160 140 120 100 80 60 40 20 ℄ 20
CROSS SECTION STA 747+00
VERY WEATHERED AND BROKEN SHALE
TOP OF BROKEN ROCK
SHALE, GREENISH GRAY, SLIGHTLY SILICEOUS (BECOMING SILICEOUS IN SOME THIN ZONES), FIRM, BROKEN TO VERY BROKEN THROUGHOUT, JOINTED OVER MUCH OF THE INTERVAL.
CLAY SHALE, GRAY, IN PART SLIGHTLY SILICEOUS, HARD, FIRM.
CLAY, MOTTLED BLUE, YELLOW, BROWN AND MAUVE, SOFT AND CRUMBLY.
SHALE, GREENISH GRAY TO GRAY IN LOWER THIRD, SILICEOUS, FIRM, BROKEN AT TOP.
INTERBEDDED SANDSTONE (GREENISH GRAY TO GRAY IN BOTTOM BED, FINE GRAINED, IN PART MICACEOUS, FIRM) AND SHALE (GRAY TO GREENISH GRAY IN TOP BED, SILICEOUS AND WITH SANDSTONE STRINGERS, MICACEOUS, FIRM).
CLAY SHALE, GRAY, IN PART SLIGHTLY SILICEOUS, FIRM, BROKEN AND JOINTED IN PART.
SANDSTONE, GRAY, FINE GRAINED, CALCAREOUS, ARGILLACEOUS, FIRM, JOINTED.
SHALE, GRAY, SLIGHTLY SILICEOUS TO SILICEOUS, FIRM.
SHALE, GRAY, SILICEOUS, FIRM, IN PART BROKEN, WITH THIN LAYERS OF FINE GRAINED SANDSTONE AT TOP AND IN MIDDLE.
INDURATED CLAY, GRAY AND REDDISH BROWN, CRUMBLY, GRADING IN PART TO SOFT CLAY.
SHALE, GREENISH GRAY IN TOP HALF TO GRAY IN REMAINDER, SLIGHTLY SILICEOUS AND IN PART SILICEOUS, FIRM, HIGHLY FISSILE.
CLAY SHALE, GRAY, HARD IN BOTTOM 5.0', FIRM, HIGHLY FISSILE, JOINTED AND BROKEN IN BOTTOM 3.0'.
SHALE, GRAY, SILICEOUS, HARD, FIRM, NON-FISSILE.
SHALE, GRAY, SLIGHTLY SILICEOUS, FIRM, NON-FISSILE.
SHALE, GRAY, SLIGHTLY SILICEOUS, WITH SCATTERED SANDY STRINGERS, FIRM.
SHALE, GRAY, SILICEOUS AND WITH CROSS BEDDED SANDY STRINGERS, FIRM, BROKEN AT BASE.
SHALE, GRAY, SILICEOUS TO SLIGHTLY SILICEOUS, WITH VERY THIN SANDY STRINGERS, HIGHLY FISSILE.
THIS INTERVAL BELIEVED TO CONSIST OF VARABLE SHALES WITH CLAY SHALES PREDOMINENT. (ON BASIS OF ADJACENT BORINGS AND OBSERVED OUTCROPS)
NOTE: SEE SHEET 5 FOR DETAILED DESCRIPTION OF CORE BORING BELOW.
TOP OF SOFT ROCK
BROWN SILT CLAY WITH WEATHERED SHALE FRAGMENTS (GREENISH AND BROWNISH GRAY, SILICEOUS AT BASE, HARD AND FIRM TO CRUMBLY AT BASE)
TOP OF SOFT ROCK
SHALE, BROWNISH GRAY, SILICEOUS, HARD TO CRUMBLY, VERY BROKEN AND WEATHERED, WITH BROWN CLAY.
CLAY SHALE, GRAY AND BROWNISH GRAY, IN PART SLIGHTLY SILICEOUS, SOFT AND CRUMBLY TO MEDIUM FIRM, VERY BROKEN AND WEATHERED, IN TOP 1.5'
SHALE, GRAY, SILICEOUS, IN PART MICACEOUS, HARD, FIRM, GRADING TO SANDSTONE.
SANDSTONE, BROWNISH GRAY, MEDIUM GRAINED, FIRM TO MEDIUM FIRM.
SHALE, GRAY, SILICEOUS, HARD, FIRM.
SANDSTONE, GRAY TO BROWNISH GRAY IN TOP QUARTER, MEDIUM GRAINED, MICACEOUS, CALCAREOUS, FIRM, MASSIVE, SHALY IN TOP 1.0'
PROPOSED GRADE
1120 1100 1080 1060 1040 1020 1000 980 960 940 920 900 880 860 840 820
480 460 440 420 400 390 180 160 140 120 100 40 20 ℄ 20 40
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