

F-415(10)

FED. RD. DIVISION	STATE	PROJECT	TY. E. FUNDS
2	OHIO	F-415(10)	Postwar
HAS-36-(0.43-2.92) (11.92-14.12)			
PARTS 1 & 2			

166

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

HAS-36-(0.43-2.92) (11.92-14.12)

HARRISON COUNTY

MONROE, FRANKLIN, STOCK & CADIZ TOWNSHIPS

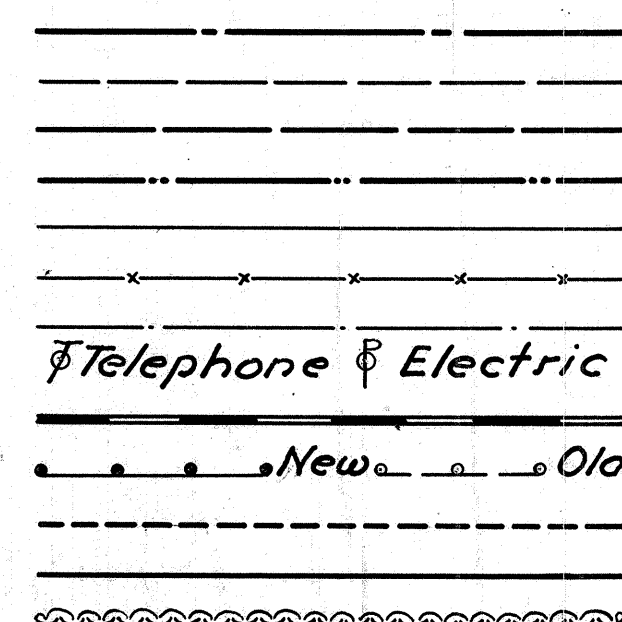
LIMITED ACCESS

Limited access as recorded in Vol. 36,
Page 529 of the Director's Journal.

12/4/51 H.V.

CONVENTIONAL SIGNS

COUNTY LINE
TOWNSHIP LINE
SECTION LINE
CORPORATION LINE
PROPERTY LINE
FENCE LINE
CENTER LINE
POLE LINE
RAILROAD
GUARD RAIL
DRAIN PIPE (OLD)
DRAIN PIPE (NEW)
HEDGE



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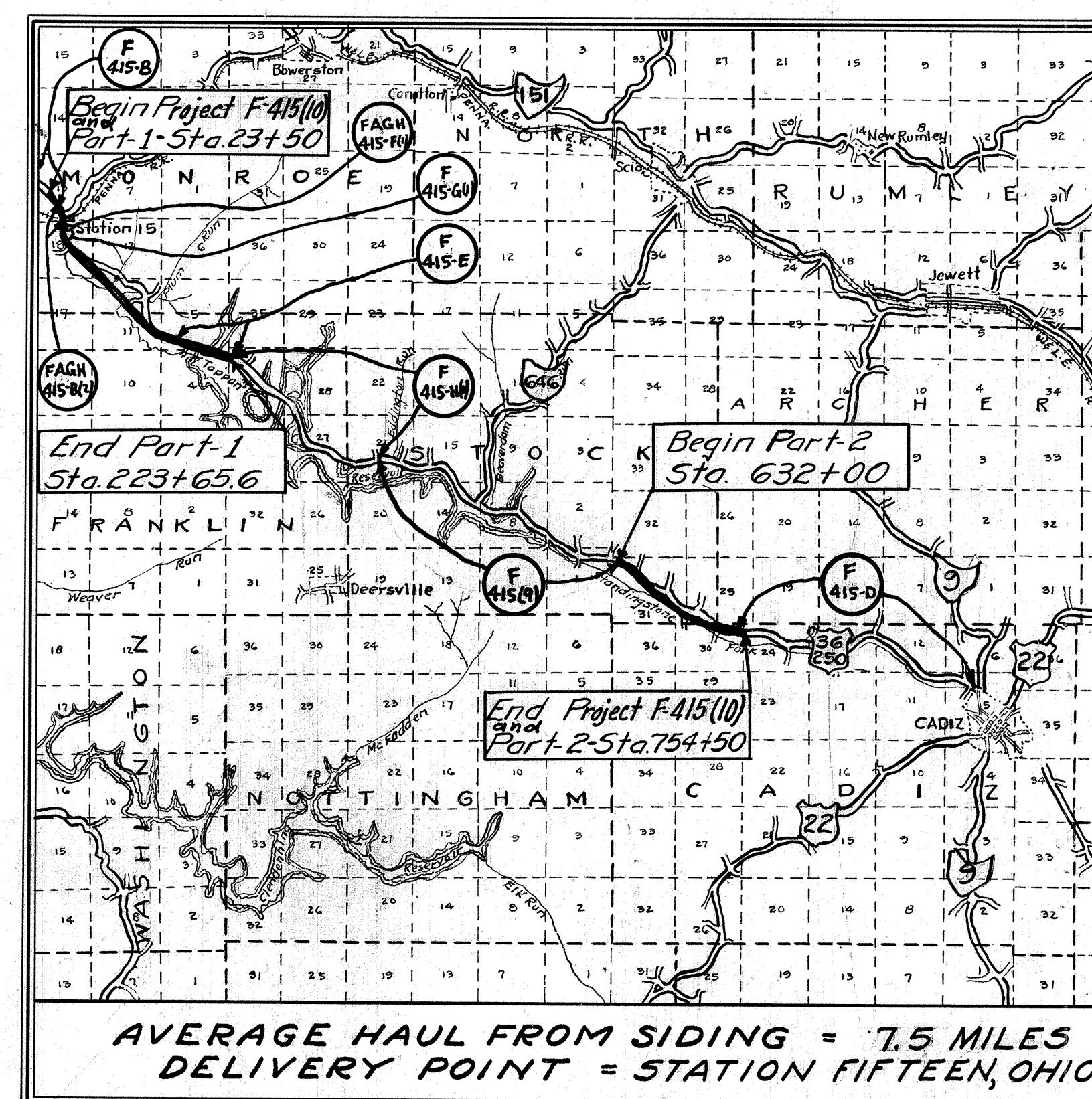
LINE DATA

BEGIN PROJECT & PART 1 STA. 23+50
END PART 1 STA. 223+65.6
NET LENGTH PART 1 = 20,015.6 LIN. FT. OR 3.790 MILES
BEGIN PART 2 STA. 632+00
END PROJECT & PART 2 STA. 754+50
NET LENGTH PART 2 = 12,250 LIN. FT. OR 2.320 MILES
NO ADDITIONS OR DEDUCTIONS
NET LENGTH OF PROJECT = 32,265.6 LIN. FT. OR 6.110 MILES
Add for Road Approach Sta. 154+50 788 Lin. Ft.
Net Length of Work = 33,053.6 Lin. Ft. or 6.260 Miles.

*Submitted to B.P.R. for approval.

STANDARD DRAWINGS

G-8.07	5-1-51	T. J. No. 1	8-1-51	I-1,2,3,4 & 5	2-20-45	I-15 No. 2	6-17-49	CS-1-47	1-20-48
L-1	4-1-50	T. J. No. 2	8-1-51	I-8 C.B. 1-2-A & B	1-2-51	SBC-45 Sh. 1 & 2	9-18-47		
L-3	4-1-50	T. J. No. 3	8-1-51	I-8 C.B. 2-2-A & B	1-2-51	STC-47	9-18-47		
L-3-A	4-1-50	B-7-50-70-71 & 72	10-1-47	I-8 C.B. 1-3 & 1-4	1-2-51	AS-9-41, AS-4-41	7-27-49		
B-T-71 R.	1-2-51	S-27 R.C. 2	3-15-48	I-14 G.	2-1-47	A-1-49	7-27-49		
L. J. No. 1	8-1-51	S-27 R.C. 3	2-20-45	I-15 No. 1	3-1-47	P-1-49	7-27-49		



LOCATION PLAN

Scale 1"=2 Miles

PORTION TO BE IMPROVED
STATE HIGHWAYS
FEDERAL HIGHWAYS
OTHER ROADS



SCALES

PLAN 1"=100'
PROFILE-HORIZONTAL 1"=100'
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 James W. Smith
Date 6-15-51 Division Deputy Director

Approved _____
Date _____ Chief Engineer, Bureau of Maintenance

Approved John D. Smith
Date 8-6-51 Chief Engineer, Bureau of Bridges & R.R. Crossings

Approved W. B. Johnson
Date 8-15-51 Chief Engineer, Bureau of Location & Design

Approved V. E. Schaubert
Date 8-15-51 First Assistant Director & Chief Engineer

Approved W. B. Johnson
Date 8-16-51 Director of Highways

CONSTRUCTION
BUREAU
NOV 23 1956
GROUND PHOTOLAB

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL:

DISTRICT ENGINEER DATE

APPROVED

DIVISION ENGINEER DATE

FILE NO. HAS-36-(0.43-2.92) (11.92-14.12)
DATE OF LETTING _____
CONTRACT NO. _____

TYPICAL SECTIONS

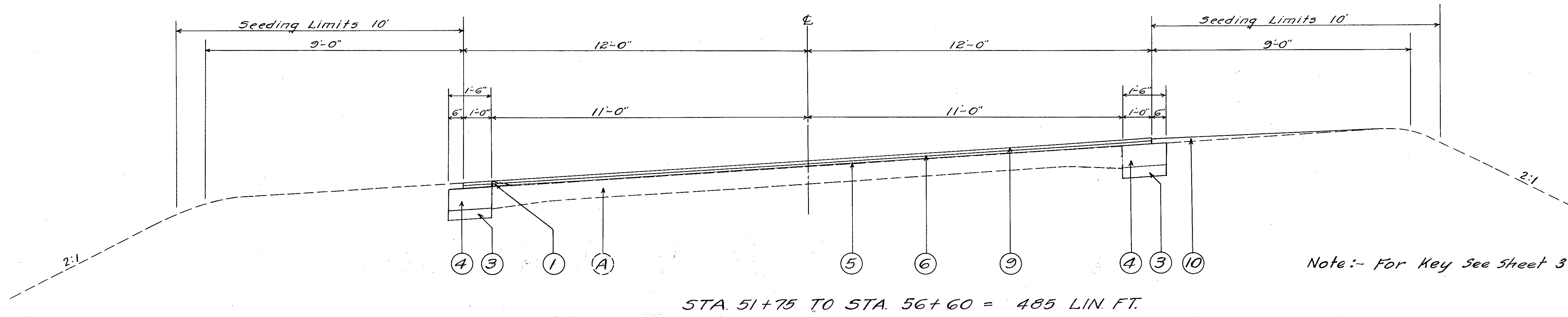
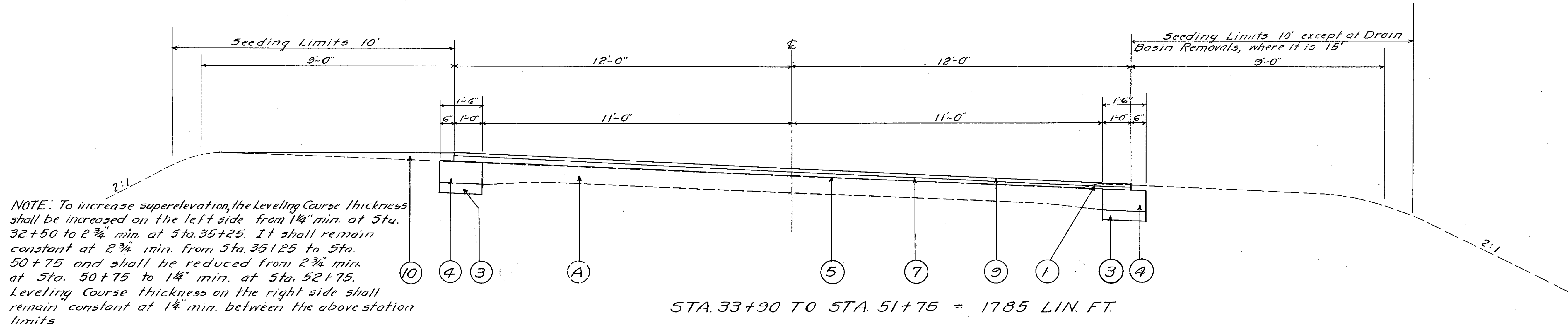
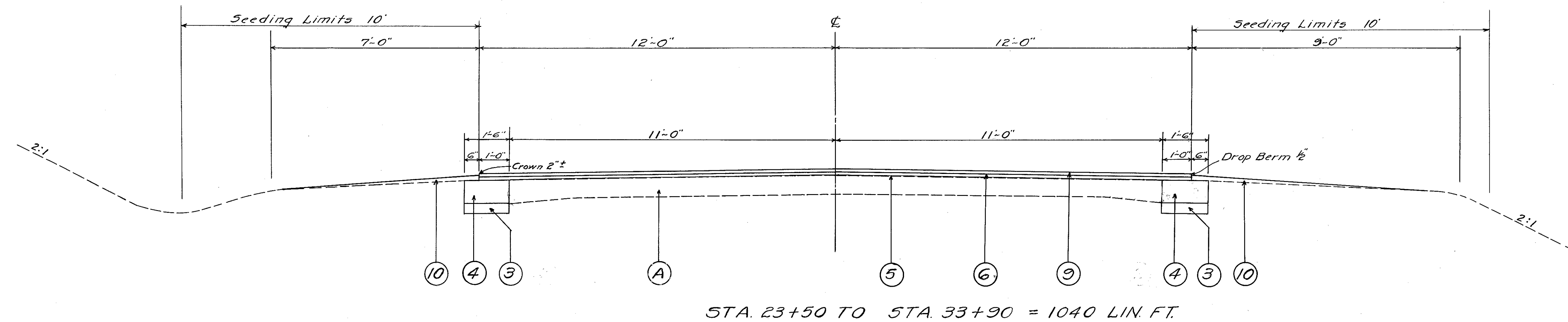
TYPE T-35

SCALE $\frac{1}{2}"=1'-0"$

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Note:- For Key See Sheet 3

TYPICAL SECTIONS

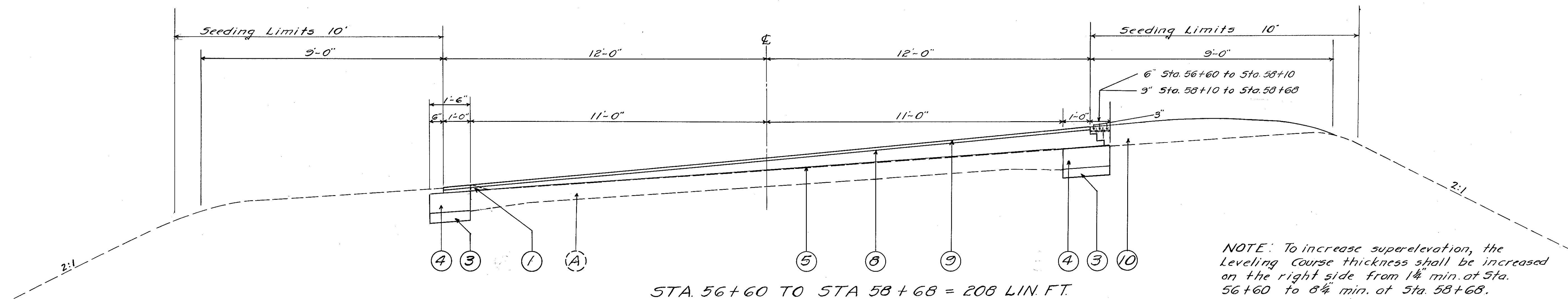
TYPE T-35

SCALE $\frac{1}{2}"=1'-0"$

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2	OHIO	F-415(10)	18.51.10

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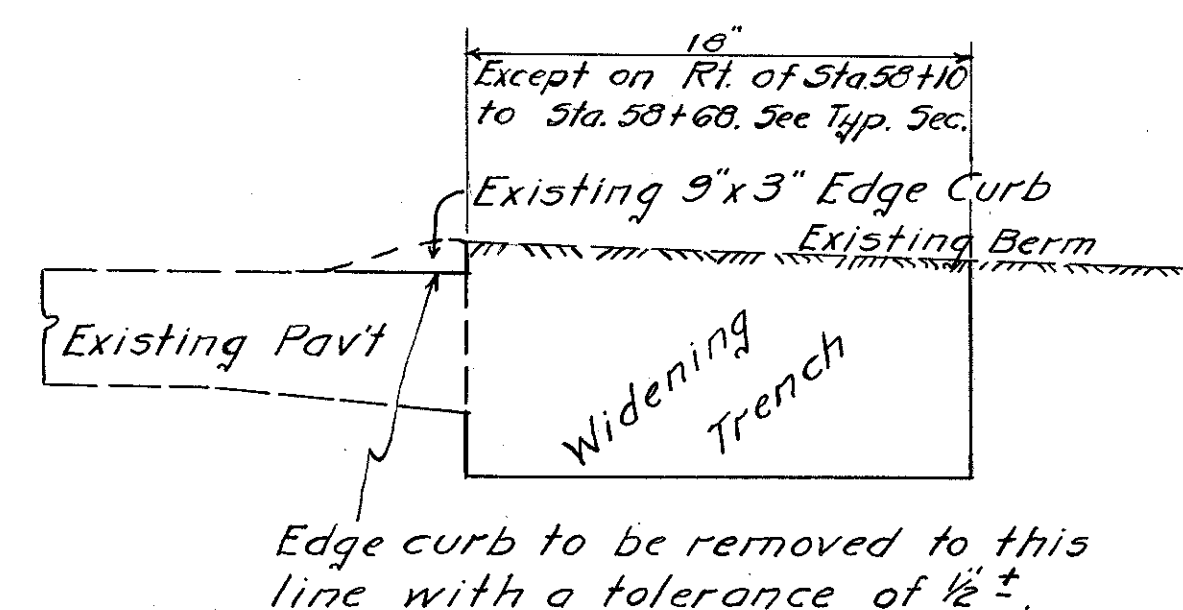
PARTS 1 & 2



NOTE: To increase superelevation, the Leveling Course thickness shall be increased on the right side from $1\frac{1}{4}"$ min. at Sta. 56+60 to $8\frac{1}{4}"$ min. at Sta. 58+68. Leveling Course thickness on left side shall remain constant at $1\frac{1}{4}"$ min. between these Stations. Wedge courses shall be placed in layers not to exceed 3" in depth when compacted.

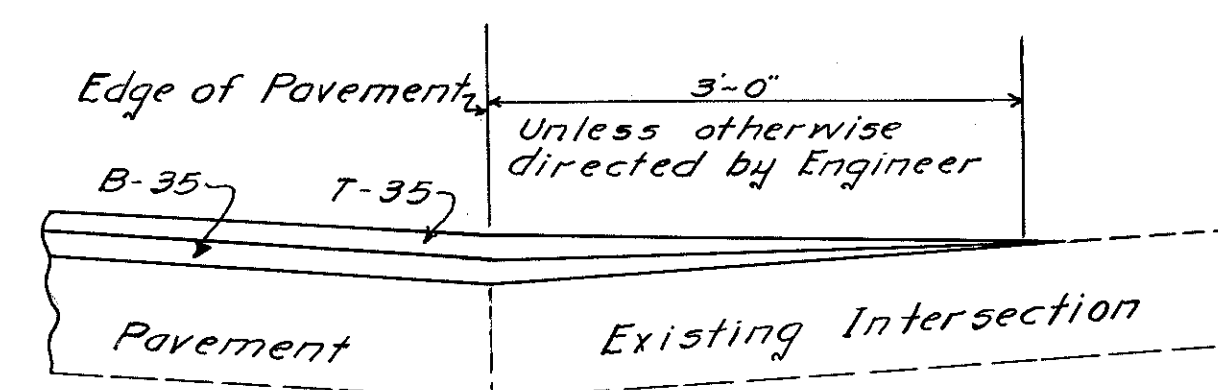
KEY

- ① Existing 9'-7'-7'-9" Reinforced Concrete Pavement.
- ② E-8-Existing Edge Curb (To be removed). See Plan Sheets for Station Limits.
- ③ 55-5 - 4" 55-5, Grading Cor D. See Note on Sheet 7
- ④ B-70 - 9" Portland Cement Concrete Base Course.
- ⑤ T-30 - Bituminous Tack Coat using 0.10 gal. per sq. yd.
- ⑥ B-35 - $1\frac{1}{4}"$ Min. Asphaltic Concrete Leveling Course.
- ⑦ B-35 - 2" Average Asphaltic Concrete Leveling Course.
- ⑧ B-35 - 3" Average Asphaltic Concrete Leveling Course.
- ⑨ T-35 - $1\frac{1}{4}"$ Asphaltic Concrete Surface Course (Type A)
- ⑩ Embankment. To be made from Trench Excavation, as directed by Engineer.

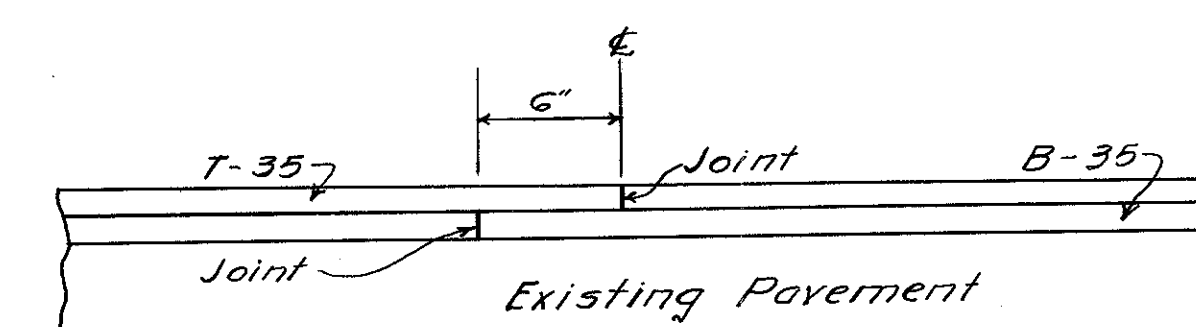


EDGE CURB REMOVAL DETAIL AND WIDENING TRENCH DETAIL

Forms will not be permitted for the concrete base widening. The widening trench shall be excavated with a vertical face as shown above.



FEATHERING DETAIL AT INTERSECTIONS



METHOD OF LAPPING LONGITUDINAL JOINTS

PARTS 1 & 2

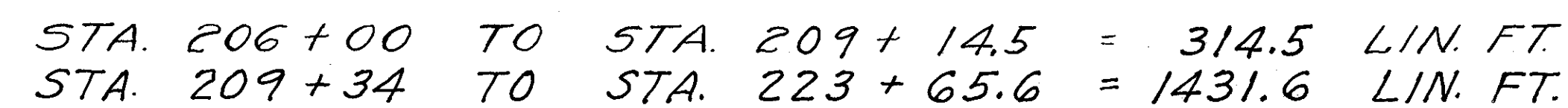
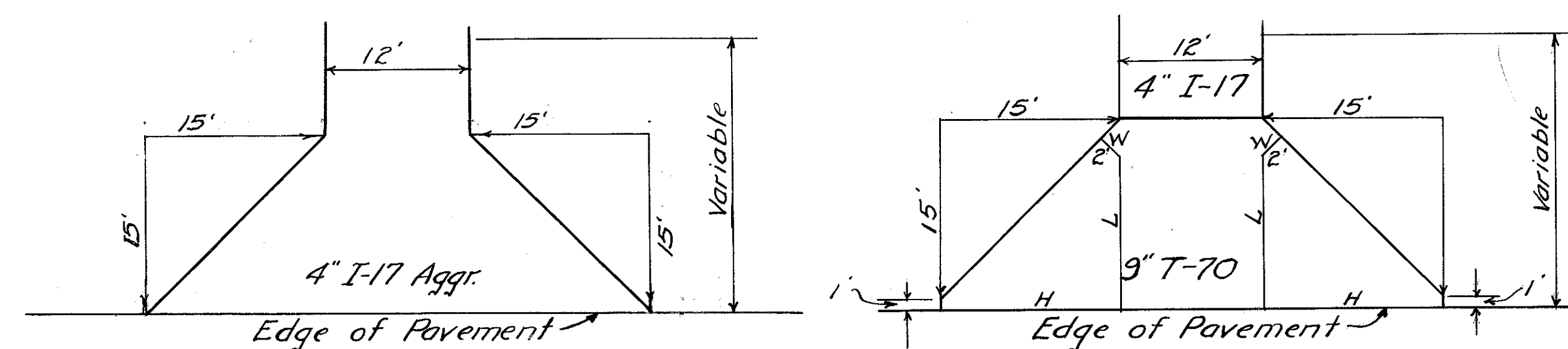


Diagram illustrating the cross-section of a road shoulder and base. The diagram shows a 55-5-8'55-5 Grading Cor D at the bottom, followed by a 3'-3' Base Course, a 3'-3' Leveling Course, and a 6' top layer. A 3'-3' section is also indicated at the top right. Labels include B-35, T-35, and 3'-3'.

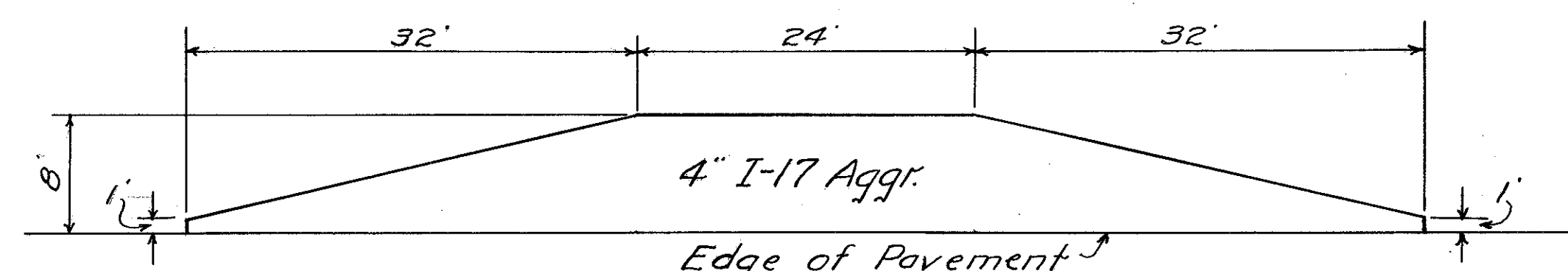
NOTE: Where the 3" leveling course in the widened area would finish more than $\frac{1}{4}$ inch above the edge of the existing pavement, that portion below the dashed line shall be placed and compacted in a separate operation. The hatched portion above the dashed line shall be placed simultaneously with the full width leveling course.

TYPICAL DETAILS



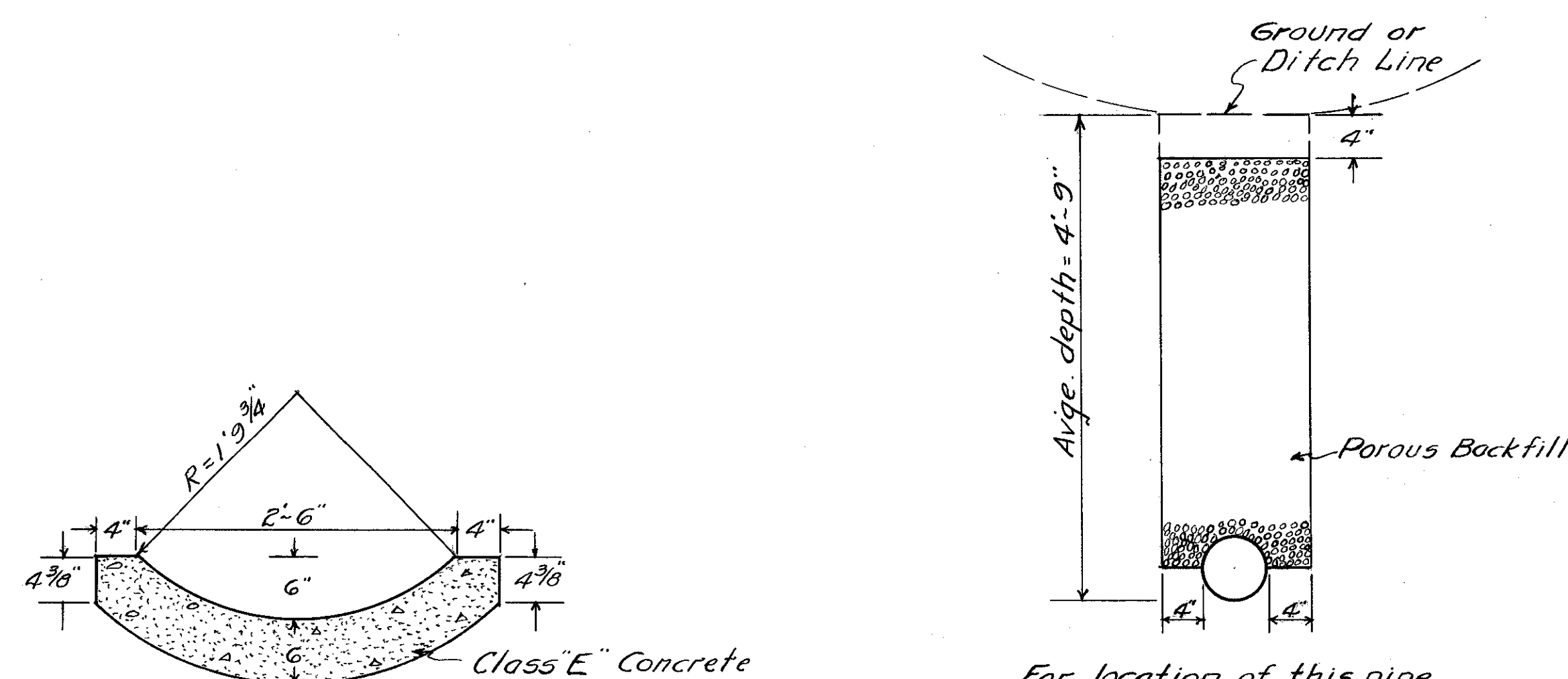
JOINT SYMBOLS
H- Longitudinal key joint without tie bars.
L- Longitudinal key joint with tie bars @ 5'-0" c/c.
W- Expansion joint without dowels.

DRIVE DETAILS



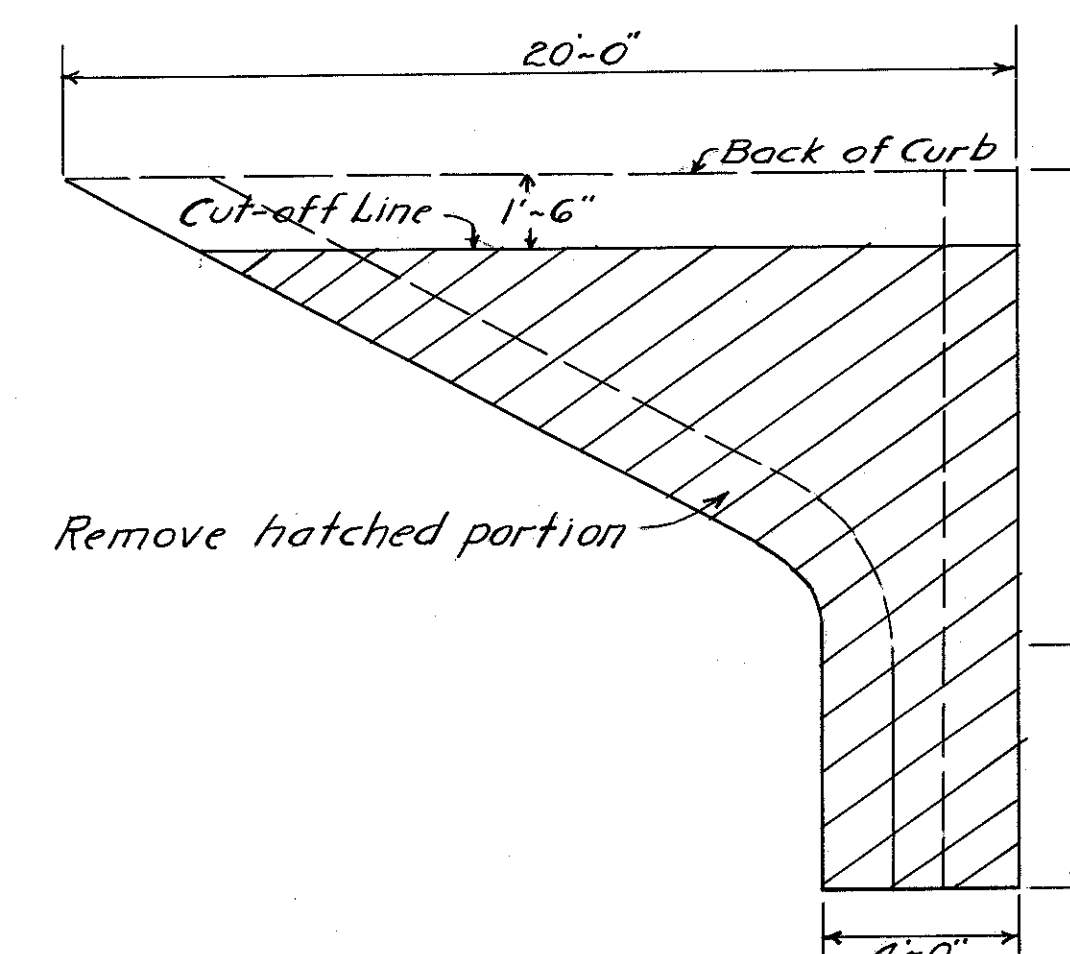
MAIL BOX APPROACH DETAIL

Note: Mail box approaches shall be combined with drives where possible.

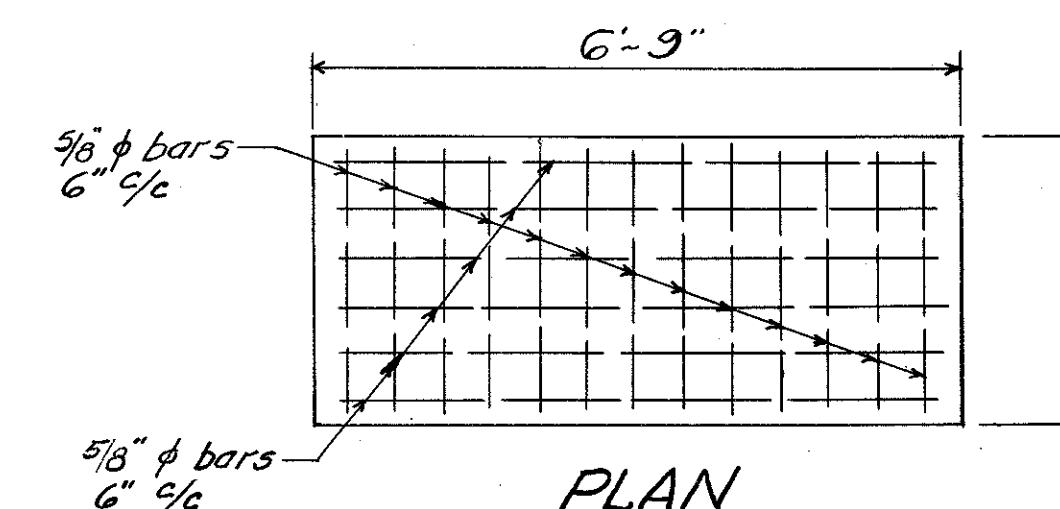
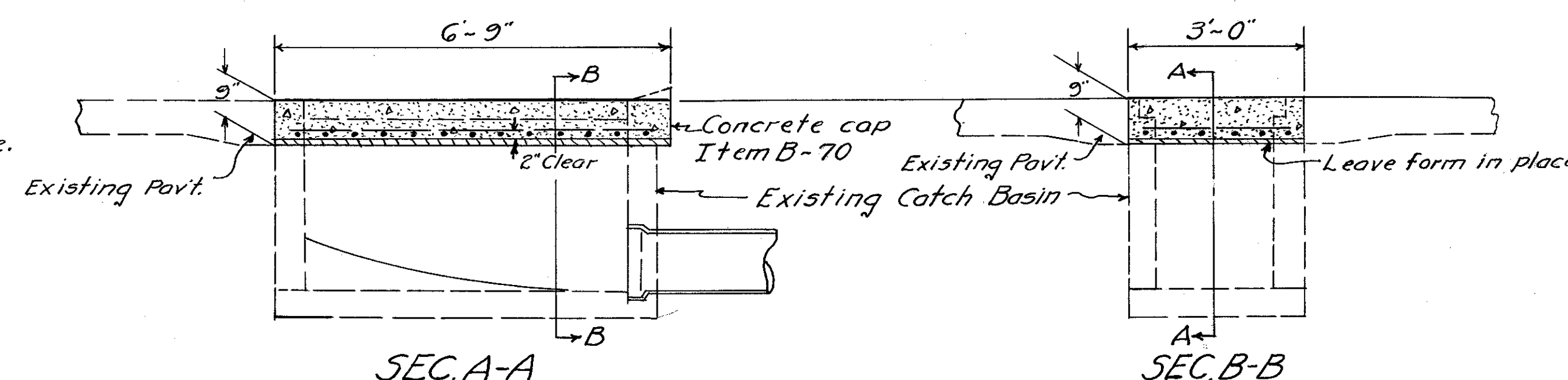


For location of this pipe underdrain see tables on plan sheets.

PIPE UNDERDRAIN DETAIL



DETAIL OF EXISTING DRAIN BASIN



PLAN
Note - Existing catch basin frame and grate shall be removed and disposed of. Care shall be taken to prevent damage to adjacent pavement. Concrete base course, Item B-70, shall be placed over catch basin as shown. The unit price bid per sq. yd. for Item B-70 shall include all the labor, equipment, reinforcing steel and other materials necessary to complete the item.

DETAIL OF PAVING OVER EXISTING No. 13A CATCH BASINS

Note - Cut-off walls shall be placed at each end of each run of gutter, to a depth of 1'-2" below bottom of gutter. Cost shall be included in price bid per lin. ft. of paved gutter.

No. 1 PAVED GUTTER

GENERAL NOTES

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CURVES: ~ Super-elevated 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 super-elevation equals twice the crown.

BERMS AND SLOPES: ~ Berms and slopes shall be finished in accordance with the typical sections except where otherwise shown on the cross sections. While the cross sections, as drawn, show straight lines and angles, in construction all corners shall be rounded as shown on the typical sections.

TREES: ~ Payment for the removal of stumps and trees shall be included in the bid item E-1, Excavation, in accordance with Sec. E-1.02. Approximately one hundred eleven (111) trees and stumps, 12 inches or more in diameter, are to be removed.

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

UTILITY ADJUSTMENT: ~ Any and all work required for Public or Private Utilities will be done by the respective owners, and the Contractor shall co-operate with the utility companies by arranging his work in such a manner that needless conflicts will be avoided.

FIELD HOUSE: ~ The Contractor shall provide a suitable "Field Office" in accordance with Section 5-0.01(b) having a minimum of 120 sq. ft. of floor space. The Contractor shall have a telephone installed and maintained during construction of this project.

I-17 GRADING REQUIREMENTS: ~ The grading requirements for material passing the No. 200 mesh sieve, as specified in Sec. I-17.02 may be modified as follows: ~

Passing 200 mesh - 0% to 20% provided compaction is obtained in accordance with Sec. I-17.02.

RIPRAP: ~ Riprap on outlet end of all structures and drain pipes shall be roughened by placing stones so that they protrude 3" above flow line at one (1) foot centers each direction, random position, to retard discharge velocity.

FINAL CROSS SECTIONS: ~ The cross sections for roadway and channel excavation have been prepared with sufficient coverage and accuracy to establish the yardage for payment.

Final cross sections of roadway and channel excavation therefore will not be required for this project except at locations where the construction has deviated from the design as shown on the plan, or where errors are found.

Final payment for roadway and channel excavation shall be based on the quantities as shown on this plan except as modified by changes in design covered by approved change orders or to correct errors found in plans, staking out or construction operations.

DESIGN SPEED: ~ Estimated design speed for this project is seventy (70) miles per hour, except between Sta. 32+50 and Sta. 63+50 and between Sta. 190+00 and Sta. 208+00 where the estimated design speed is sixty (60) miles per hour.

BITUMINOUS CONCRETE BASE COURSE: ~ Bituminous concrete base course may be constructed of Type "A" surface course composition.

PROFILE: ~ The profile of the proposed surface course from Sta. 23+50 to Sta. 58+68 and from Sta. 191+50 to Sta. 223+65.6 shall be approximately 2½ inches above that of the existing pavement except where shown otherwise on the plans.

FILLING MAJOR DEPRESSIONS: ~ Major depressions in existing pavement between Sta. 23+50 and Sta. 58+68 and between Sta. 191+50 and Sta. 223+65.6 shall be filled and compacted with bituminous concrete leveling material in advance of placing the regular leveling course. These depressions shall be filled in layers not to exceed 3 inches in depth when compacted.

EXTRA LEVELING MATERIAL: ~ The asphaltic concrete leveling course thickness shall be maintained by the use of extra leveling material where necessary.

LIMITATION OF 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 Sec. 1178-21, General Code of Ohio. All private drives and public approaches on this project have been determined and negotiations entered into with the property owners on the basis of the locations shown on these plans. No change in location of these drives or approaches shall be made during construction or thereafter, nor shall any additional drives or approaches to the proposed project be permitted during construction or thereafter.

GUARD RAIL REBUILT: ~ The price bid per linear foot for Guard Rail Removed and Rebuilt shall include all new posts and any fittings necessary.

GUARD RAIL REMOVED: ~ Existing guard rail listed for removal shall become the property of the contractor and shall be disposed of by him. Cost of the removal and disposal shall be included in the price bid per cubic yard for Roadway Excavation.

DRAIN BASIN REMOVAL: ~ Care shall be exercised by the Contractor in removing the drain basins to prevent damage to the adjoining pavement. Removal of the basins shall include the removal of concrete to the lines indicated on the plan. All of the material obtained from the removal of the basins shall be disposed of in accordance with Sec. E-1.06. Payment for all of the above shall be included in the unit price bid for Item Special "Removal and Disposal of Existing Drain Basins."

CONCRETE BASE WIDENING: ~ Concrete base widening may be hand-finished as directed by the Engineer. No expansion or contraction joints will be required in the concrete base widening.

SANDSTONE IN SUBGRADE: ~ In the event that sandstone is encountered in the subgrade between Sta. 197 and Sta. 206, or between Sta. 218 and Sta. 223+65.6, it will not be necessary to remove the rock to insure placement of the full depth of the 55-5 material.

TRAFFIC: ~ The Contractor shall maintain traffic at all times in accordance with the requirements of Sec. G-8.07. The item of "Maintaining Traffic" shall include furnishing all lights, signs, barricades and watchmen necessary to secure the flow of traffic twenty four (24) hours daily.

CLASSIFIED EMBANKMENT MATERIAL: ~ Classified embankment material used on this project, except between the stations listed below, shall meet the requirements of grading Cor. D, except the percent passing the No. 200 sieve shall be between 5 and 15 for grading C or between 5 and 20 for grading D. The material need not meet the requirements of 55-5 as to percent passing the No. 50 sieve. In addition to meeting the above grading requirements the coefficient of permeability, as determined by the State Highway Testing Laboratory method of test, shall be not greater than 5 feet per day. If it is necessary to add soil fines to the granular material to meet the above requirements, the materials used shall be carefully proportioned and thoroughly mixed by an approved power driven rotary type mixing machine or by a portable or plant mixer to assure a dense graded sub-base of uniform composition. Initial compaction of the blanket course shall be obtained by the use of tamping rollers.

Classified embankment material used between Sta. 62+00 and Sta. 74+50; Sta. 635+00 and Sta. 639+00; Sta. 655+00 and Sta. 657+00; and Sta. 665+00 and Sta. 668+70 shall meet the requirements of any of the regular gradings of 55-5 and the coefficient of permeability shall not be less than 2 feet per day.

SEEDING: ~ The area of seeding is estimated to extend 10 feet beyond the slope limits or to the right of way line if it is less than 10 feet beyond the limits of work, except where otherwise shown on the plans. Areas unnecessarily disturbed by the Contractor, in the opinion of the Engineer, beyond the limits estimated, shall be seeded according to the requirements of Item L-9 at the Contractor's expense. The existing roadway left of Sta. 155+25 to Sta. 157+25, Sta. 644+00 to Sta. 650+00, and Sta. 669+00 to Sta. 671+00, and Sta. 692+00 to Sta. 696+00, and Sta. 702+50 to Sta. 709+50, and Sta. 729+00 to Sta. 730+00, and Sta. 740+00 to Sta. 745+00 shall be plowed, harrowed and dragged to a smooth grade and the entire area left in a neat condition ready for seeding. Cost of this work shall be included in the price bid per square yard for Seeding.

CONSTRUCTION PROCEDURE STA. 132 TO STA. 142: ~ Between Sta. 132 and Sta. 142, and in any other similar area designated by the Engineer, the following procedure shall apply:

(1) ~ The ditch to be placed on the north edge of the fill shall be constructed and functioning before work is begun on the fill itself.

(2) ~ In lieu of the requirements of E-1.02, E-1.03 and E-1.05, all trees shall be cut off not more than 8 inches above the ground surface and the roots and stumps left in place. All trees and brush more than 8 inches from the ground surface shall be disposed of in the usual manner. Scalping, there-moval of sod and compaction of foundation prior to placing the embankment will not be required.

(3) ~ If necessary to support construction equipment, the fill up to 18 inches above the ground surface may be placed in a single lift by the method of end dumping. Material used in the lower 18 inches of fill so constructed shall be shale or rock obtained from excavation or borrow.

EXISTING SODDED BERMS: ~ From Sta. 23+50 to Sta. 58+68 the Contractor shall exercise care in the widening operations so as to disturb as little as possible of the existing sodded berms. The seeding of the berms shall be confined to the areas actually needed to complete the work on the shoulder areas.

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*These items have been included to take care of any additional field drains which may be encountered during construction. These quantities shall not be ordered or used until directed

by the Engineer. If any part or all of these items are not needed, they shall be non-performed.

SUMMARY OF QUANTITIES

APPROACHES - A

CODE TYPE	Total of Sheet N ^o	Removals			Pipe Lin. Ft.				Feathering Sq. Yds.		I-17 Pav't. Sq. Yds.	9" T-70 Pav't. Sq. Yds.	6" 55-5 Cu. Yds.	Riprap Sq. Yds.
		Dispose of Pipe 15" & Under Lin. Ft.	Dispose of Pipe Over 15" Lin. Ft.	Portions of Existing Structures Cu. Yds.	12"	15"	18"	36"	B-35	T-35				
6706 FOR PART 1	12										17			
	13								220	220	6			
	14								20	20	4			
Total to Recap														
Total to Summary									*240	*240	*31			
7221 FOR PART 1	14				30				46	989	165			
	15		15		36				79	660	122			
	16								41					
	17		21	9	46			64	54	656	112	24		
	18				24				36	1978	350			
	19				54				61	50				
Total to Recap			36	9									24	
Total to Summary					90	100		64	*365	4333	*749			
6201 FOR PART 1	20								25	25	6			
	21								55	55				
Total to Recap														
Total to Summary									*80	*80	*7			
7221 FOR PART 2	22								23	100				
	23				96				25	521	93	5		
	24				100				65	1320	235	10		
	25								4	1207	216			
	26				96				14	826	141	10		
	27	16							48					
Total to Recap		16											25	
Total to Summary					96	196			*206	3974	*685			

* Carried to pavement calculations (See sheet N^o 10)
• Includes 15% for compaction.

GUARD RAIL - R

CODE TYPE	Total of Sheet N ^o	Remove Lin. Ft.	New Lin. Ft.	Reset Lin. Ft.
6706 FOR PART 1	14		69	
Total to Summary			69	
7221 FOR PART 1	14	370	556	
	16		42	
	19	700		482
	20			100
Total to Summary	*	398	582	
6201 FOR PART 1	20			1088
Total to Summary				1088
7221 FOR PART 2	25	670		
	26	710		
	27	95		
Total to Summary	*			

* Included with Excavation for Payment
See note on sheet No. 7

REMOVALS

CODE TYPE	Total of Sheet N ^o	Drain Basins Each	Edge Curb Lin. Ft.	Existing Pavement Sq. Yds.
6706 FOR PART 1	13	2	1897	
	14		500	
Total to Summary		2	2397	
7221 FOR PART 1	14			1300
Total to Summary				1300
6201 FOR PART 1	20			95
Total to Summary				95
7221 FOR PART 2	27			2219
Total to Summary				2219

PAVING OVER CATCH BASINS

CODE TYPE	Total of Sheet N ^o	Concrete Base Sq. Yds.
6706 FOR PART 1	13	13.8
	14	4.6
Total to Summary	*	18.4

APPROACH SLABS

CODE TYPE	Total of Sheet N ^o	Slab Sq. Yds.	T-35 Surface Sq. Yds.
7221 FOR PART 1	16	80	80
Total to Summary		80	*80

* Carried to pavement calculations (See sheet N^o 10)

EARTHWORK AND SEEDING - E

Station		Excavation - Cu. Yds.			Total Roadway Excav. Cu. Yds.	Embankment Cu. Yds.	Emb. + 15% Cu. Yds.	Seeding Sq. Yds.	Fertilizer Lbs.	Lime Lbs.	Riprap Sq. Yds.
From	To	Roadway	Channel	Waste							
PART 1 - CODE TYPE 6706											
23+50	58+68	463			463			7760	1397	6984	
Total to Summary		463			463			7760	1397	6984	
PART 1 - CODE TYPE 7221											
58+68	182+45	133,048		571	133,619	115,687	133,040	162,873	29,315	146,576	
182+45	191+50	1179			1179	10,282	11,824	10,529	1895	9,476	
115+50	123+50		3725								300
Total to Recap			3725								300
Total to Summary		134,227		571	134,798	125,969	144,864	173,402	31,210	156,052	
PART 1 - CODE TYPE 6201											
191+50	223+65.6	769			769	409	470	6940	1249	6246	
Total to Summary		769			769	409	470	6940	1249	6246	
PART 2 - CODE TYPE 7221											
632+00	638+92.66	1070	209		1070	930	1070	5443	980	4899	
638+92.66	738+48.77	156,159	260		156,159	135,945	156,337	175,596	31,607	158,036	
738+48.77	754+50	9,475			9,475	11,407	13,118	18,011	3,242	16,210	
668+32	673+00		2018								190
688+50	695+00		3097								250
702+50	709+50		2159								160
720+00	730+00		3929								285
Total to Recap			11,672								885
Total to Summary		166,704			166,704	148,282	170,525	199,050	35,829	179,145	

PART 1 - Code Type 7221 - Borrow = 144,864 - 134,227 = 10,637 Cu. Yds. Water = 125,969 x 5 ÷ 1000 = 630 M Gals.
PART 2 - Code Type 7221 - Borrow = 170,525 - 166,704 = 3,821 Cu. Yds. Water = 148,282 x 5 ÷ 1000 = 742 M Gals.

RECAP TABLE

CODE TYPE	FROM TABLE	Dispose of Pipe 15" & Under Lin. Ft.	Dispose of Pipe Over 15" Lin. Ft.	Removal Portions of Existing Structures Cu. Yds.	Channel Excavation Cu. Yds.	Riprap Sq. Yds.
7221 FOR PART 1	D	94	94	14.2	2140	727
	A	36	36	9		24
	E				3725	300
Total to Summary			130	23.2	5865	1051
7221 FOR PART 2	D	998			2235	593
	A	16				25
	E				11,672	885
Total to Summary		1014			13,907	1503

SUMMARY OF QUANTITIES

PAVEMENT CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	10
2	OHIO	F-415 (10)	Postwar	166

HAS-36 - (0.43-2.92) - (11.92-14.12)
PARTS 1 & 2

PART 1		CODE TYPE		G706	
Sta. 23+50 to Sta. 56+31.25	=	3281.25	Lin. Ft.		
Sta. 56+58.75 to Sta. 58+68	=	209.25	Lin. Ft.		
Total Length of Pavement	=	3490.5	Lin. Ft.		
Area of Pavement = $3490.5 \times 24 \div 9$	=	9308	Sq. Yds.		
Extra Pavement (240-20)	=	220	Sq. Yds.		
Total Area of Pavement	=			9528	Sq. Yds.

Item SS-5 Grading Cor D	=	3281.25	Lin. Ft.		
Sta. 23+50 to Sta. 56+31.25 on Lt.	=	209.25	Lin. Ft.		
Sta. 56+58.75 to Sta. 58+68 on Lt.	=	1921.5	Lin. Ft.		
Sta. 23+50 to Sta. 42+71.5 on Rt.	=	158	Lin. Ft.		
Sta. 42+90 to Sta. 44+48 on Rt.	=	1164.75	Lin. Ft.		
Sta. 56+58.75 to Sta. 58+10	=	151.25	Lin. Ft.		
Total Length of 1.5' Widening	=	6886	Lin. Ft.		
Sta. 58+10 to Sta. 58+68 on Rt.	=	58	Lin. Ft.		
Total Length of 1.75' Widening	=	58	Lin. Ft.		
$6886 \times 1.5 \times 0.3333 \div 27$	=	127.5	Cu. Yds.		
$58 \times 1.75 \times 0.3333 \div 27$	=	1.3	Cu. Yds.		
Total SS-5	=			129	Cu. Yds.

Item B-70	=	1147.7	Sq. Yds.		
$6886 \times 1.5 \div 9$	=	11.3	Sq. Yds.		
$58 \times 1.75 \div 9$	=	18.4	Sq. Yds.		
Paving over Catch Basins	=				
Total B-70	=			1178	Sq. Yds.

Item T-30 Tack Coat	=	8533	Sq. Yds.		
$3490.5 \times 22 \div 9$	=	1159	Sq. Yds.		
Widening (1148+11)	=	6	Sq. Yds.		
At Drain Basins $2(18.5 \times 1.5 \div 9)$	=	220	Sq. Yds.		
Extra Pavement	=	9918	Sq. Yds.		
Total Area of Tack Coat	=			992	Gals.
Total Tack Coat = 9918×0.1	=				

Item B-35 Leveling	=	1040	Lin. Ft.		
$1\frac{1}{4}$ " Sta. 23+50 to Sta. 33+90	=	456.25	Lin. Ft.		
$1\frac{1}{4}$ " Sta. 51+75 to Sta. 56+31.25	=	1.25	Lin. Ft.		
$1\frac{1}{4}$ " Sta. 56+58.75 to Sta. 56+60	=	1497.5	Lin. Ft.		
Total $1\frac{1}{4}$ " Leveling	=	1785	Lin. Ft.		
2" Av. Sta. 33+90 to Sta. 51+75	=	208	Lin. Ft.		
3" Av. Sta. 56+60 to Sta. 58+68	=	1387	Cu. Yds.		
$1497.5 \times 24 \times 0.1042 \div 27$	=	264.5	Cu. Yds.		
$1785 \times 24 \times 0.1667 \div 27$	=	46.2	Cu. Yds.		
$208 \times 24 \times 0.25 \div 27$	=	0.1	Cu. Yds.		
Sta. 58+10 to Sta. 58+68 = $58 \times 0.25 \times 0.25 \div 27$	=	12.2	Cu. Yds.		
Extra Pavement = $220 \times 2 \div 36$	=	132.2	Cu. Yds.		
Extra Leveling = $0.661 \text{ mile} \times 200$	=			594	Cu. Yds.
Total Leveling	=				

Item T-35 Surface	=	9528	$\times 1\frac{1}{4} \div 36$	331	Cu. Yds.
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Item E-1 Excavation	=	459	Cu. Yds.		
$6886 \times 1.5 \times 1.2 \text{ Av.} \div 27$	=	4	Cu. Yds.		
$58 \times 1.75 \times 1.1 \div 27$	=			463	Cu. Yds.
Total Excavation	=				

Item L-9 Seeding	=	3490.5	$\times 20 \div 9 = 7757$	Use	7760	Sq. Yds.
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CODE TYPE		X020	
Sta. 56+31.25 to Sta. 56+58.75	=	27.5	Lin. Ft.
Area of Pavement = $27.5 \times 24 \div 9$	=	74	Sq. Yds.
Extra Pavement for Feathering	=	20	Sq. Yds.
Total Area of Pavement	=		

Item S-3 Waterproofing, Type C	=	94	Sq. Yds.
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Item B-35 Leveling	=	3	Cu. Yds.
$94 \times 1\frac{1}{4} \div 36$	=	1	Cu. Yds.
Extra Leveling $0.005 \text{ mile} \times 200$	=		
Total Leveling	=	4	Cu. Yds.

Item T-35 Surface	=	94	$\times 1\frac{1}{4} \div 36$	3	Cu. Yds.
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CODE TYPE		7221	
Sta. 58+68 to Sta. 113+77.7	=	5509.7	Lin. Ft.
Sta. 114+74.3 to Sta. 191+50	=	7675.7	Lin. Ft.
Total Length of Pavement	=	13185.4	Lin. Ft.
Total Area of Pavement = $13185.4 \times 24 \div 9$	=		

Item T-71	=	35,161	Sq. Yds.
Item T-30 Tack Coat for Appr. Slabs (See Sh. 16)	=	80	$\times 0.1 = 8$ Gals.

Item SS-5 Grading Cor D			
Sta. 58+68 to Sta. 62+00 = $332 \times 26 \times 0.5 \div 27$	=	160	Cu. Yds.
Sta. 74+50 to Sta. 113+92.7 = $3942.7 \times 26 \times 0.5 \div 27$	=	1898	Cu. Yds.
Sta. 114+59.3 to Sta. 191+50 = $7690.7 \times 26 \times 0.5 \div 27$	=	3703	Cu. Yds.
From Approach Table (749-81)	=	668	Cu. Yds.
Total SS-5 Grading Cor D	=		6429 Cu. Yds.

Item SS-5 Grading A, B, Cor D			
Sta. 62+00 to Sta. 74+50 = $1250 \times 42 \times 1.145 \text{ Av. Depth} \div 27 =$	2226	Cu. Yds.	
From Approach Table (749-668) =	81	Cu. Yds.	
Total SS-5 Grading A, B, Cor D =			2307 Cu. Yds.
Item T-35 for Appr. Slabs (See Sp. 16) =	$80 \times 2\frac{1}{2} \div 36 =$	6	Cu. Yds.

CODE TYPE		G201	
Sta. 191+50 to Sta. 209+14.5	=	1764.5	Lin. Ft.
Sta. 209+34 to Sta. 223+65.6	=	1431.6	Lin. Ft.
Total Length of Pavement	=	3196.1	Lin. Ft.
Area of Pavement = $3196.1 \times 24 \div 9$	=	8523	Sq. Yds.
Extra Pavement from Approach Table	=	80	Sq. Yds.
Total Area of Pavement	=		8603 Sq. Yds.

Item E-8 Sealing Only			
Sta. 191+50 to Sta. 209+14.5 on Rt.	=	1764.5	Lin. Ft.
Sta. 209+34 to Sta. 223+65.6 on Rt.	=	1431.6	Lin. Ft.
Sta. 197+00 to Sta. 204+00 on Lt.	=	700	Lin. Ft.
Sta. 206+00 to Sta. 209+14.5 on Lt.	=	314.5	Lin. Ft.
Sta. 209+34 to Sta. 223+65.6 on Lt.	=	1431.6	Lin. Ft.
Total Sealing	=		5642 Lin. Ft.

Item SS-5 Grading Cor D			
Sta. 191+50 to Sta. 206+00 = $1450 \times 6 \times 0.6667 \div 27$	=	215	Cu. Yds.
Sta. 206+00 to Sta. 208+65 = $265 \times 3 \times 0.6667 \times 2 \div 27$	=	39	Cu. Yds.
Sta. 208+65 to Sta. 209+14.5 = $49.5 \times 3.25 \times 0.6667 \times 2 \div 27$	=	8	Cu. Yds.
Sta. 209+34 to Sta. 209+84 = $50 \times 3.25 \times 0.6667 \times 2 \div 27$	=	8	Cu. Yds.
Sta. 209+84 to Sta. 223+65.6 = $1381.6 \times 3 \times 0.6667 \times 2 \div 27$	=	205	Cu. Yds.
Total SS-5 Grading Cor D	=		475 - Cu. Yds.

Item B-35 Base			
$1450 \times 5.5 \times 0.25 \div 27$	=	73.8	Cu. Yds.
$265 \times 2.5 \times 0.25 \times 2 \div 27$	=	12.3	Cu. Yds.
$49.5 \times 2.75 \times 0.25 \times 2 \div 27$	=	2.5	Cu. Yds.
$50 \times 2.75 \times 0.25 \times 2 \div 27$	=	2.5	Cu. Yds.
$1381.6 \times 2.5 \times 0.25 \times 2 \div 27$	=	64.0	Cu. Yds.
Total B-35 Base	=		155 Cu. Yds.

Item T-30 Tack Coat			
Sta. 191+50 to Sta. 206+00 = $1450 \times 19.5 \div 9$	=	3142	Sq. Yds.
Sta. 206+00 to Sta. 209+14.5 = $314.5 \times 20 \div 9$	=	699	Sq. Yds.
Sta. 209+34 to Sta. 223+65.6 = $1431.6 \times 20 \div 9$	=	3181	Sq. Yds.
Extra Pavement from Approach Table	=	80	Sq. Yds.
Total Area of Tack Coat	=	7102	Sq. Yds.
Total Tack Coat = 7102×0.1	=		710 Gals.

Item B-35 Leveling			
Widening: $1450 \times 5.25 \times 0.25 \div 27$	=	70.5	Cu. Yds.
" $265 \times 2.25 \times 0.25 \times 2 \div 27$	=	11.0	Cu. Yds.
" $49.5 \times 2.5 \times 0.25 \times 2 \div 27$	=	2.3	Cu. Yds.
" $50 \times 2.5 \times 0.25 \times 2 \div 27$	=	2.3	Cu. Yds.
" $1381.6 \times 2.25 \times 0.25 \times 2 \div 27$	=	57.6	Cu. Yds.
Sta. 208+15 to Sta. 209+14.5 (See Sh. 20)= 99.5'			
Sta. 209+34 to Sta. 210+34 (See Sh. 20)= 100'			
$99.5+100 = 199.5 \times 24 \times 0.17 \text{ Av. Depth} \div 27$	=	30.1	Cu. Yds.
$1\frac{1}{4}" \text{ Course: } 8603 \times 1\frac{1}{4} \div 36$	=	298.7	Cu. Yds.
Extra Leveling: $0.605 \text{ mile} \times 200$	=	121.0	Cu. Yds.
Total B-35 Leveling	=		
		594	Cu. Yds.

Item T-35 Surface				
8603 x 1 1/4 ÷ 36	=	299	Cu. Yds.	
From Sheet 150	=	5	Cu. Yds.	
Total T-35				304 Cu. Yds.

PART 2		CODE TYPE		7221	
Sta. 632+00 to Sta. 754+50	=	12,250	Lin. Ft.		
Total Area of Pavement = $12250 \times 24 \div 9$	=			32,667	Sq. Yds.
Item T-71	=			32,667	Sq. Yds.

Item SS-5 Grading Cor D			
Sta. 632+00 to Sta. 635+00	=	300	Lin. Ft.
Sta. 639+00 to Sta. 655+00	=	1600	Lin. Ft.
Sta. 657+00 to Sta. 665+00	=	800	Lin. Ft.
Sta. 668+70 to Sta. 754+50	=	8580	Lin. Ft.
Total Length	=	11,280	Lin. Ft.
$11280 \times 26 \times 0.5 \div 27$	=	5431	Cu. Yds.
From Approach Table	=	685	Cu. Yds.
Total SS-5 Grading Cor D	=		
			6116 Cu. Yds.

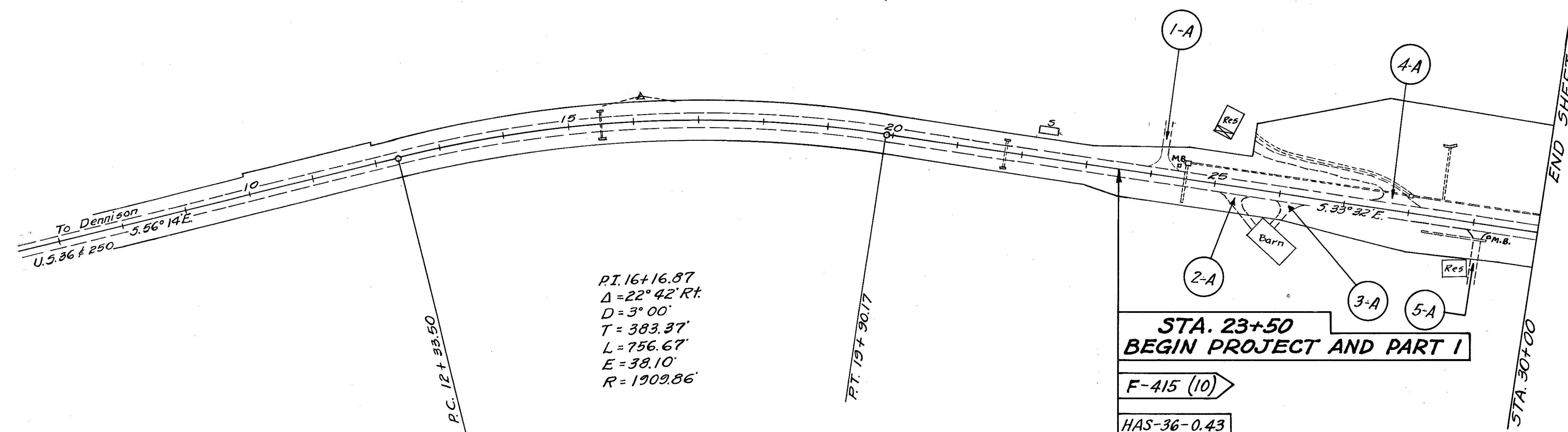
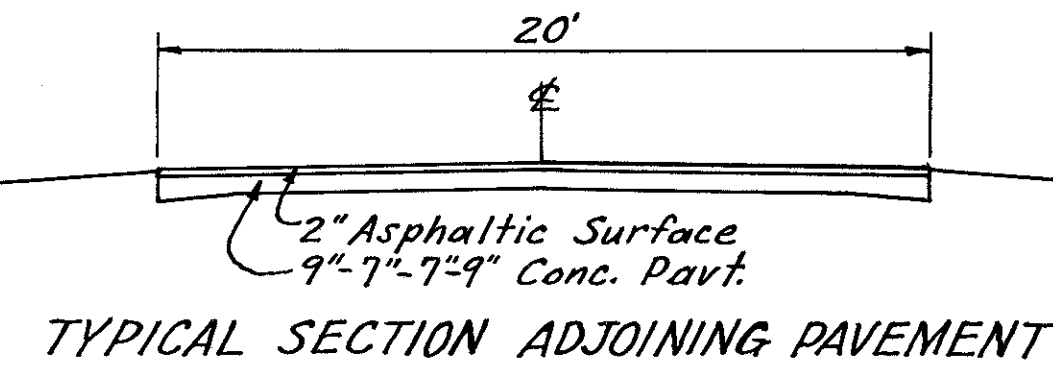
Item SS-5 Grading A, B, Cor D			
Sta. 635+00 to Sta. 639+00 = 400'			
$400 \times 43 \text{ Av. Width} \times 1.0 \div 27$	=	637	Cu. Yds.
Sta. 655+00 to Sta. 657+00 = 200'			
$200 \times 42 \times 1.25 \text{ Av. Depth} \div 27$	=	389	Cu. Yds.
Sta. 665+00 to Sta. 668+70 = 370'			
$370 \times 42 \times 1.25 \text{ Av. Depth} \div 27$	=	720	Cu. Yds.
Total SS-5 Grading A, B, Cor D	=		1746 Cu. Yds.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-415 (10)	POSTWAR

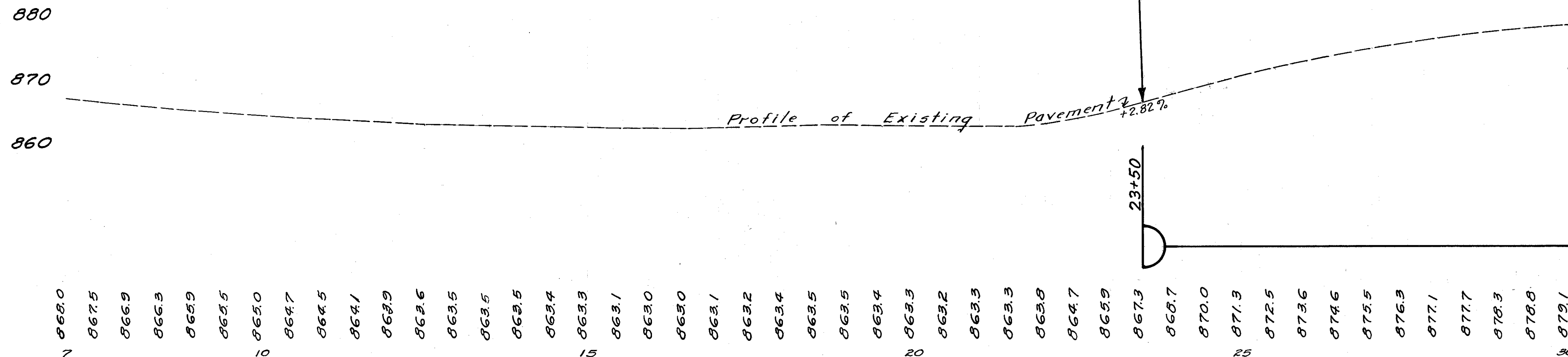
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

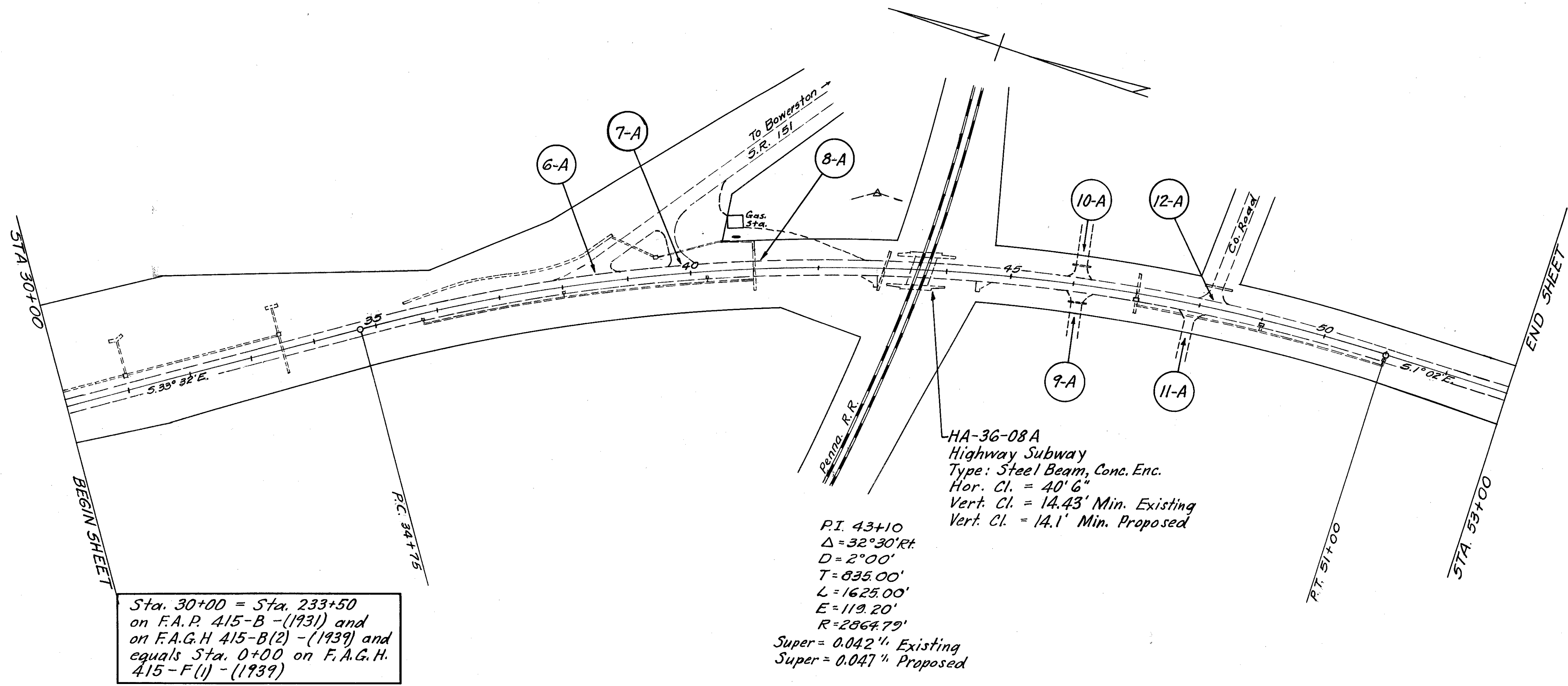
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-415 (10)	POSTWAR

HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2



APPROACHES				
Ref. No.	Station	Side	I-17 Cu. Yds.	
1-A	24+15	Lt.	5	
2-A	25+30	Rt.	2	
3-A	26+18	Rt.	2	
4-A	27+80	Lt.	3	
5-A	29+10	Rt.	5	
Total			17	

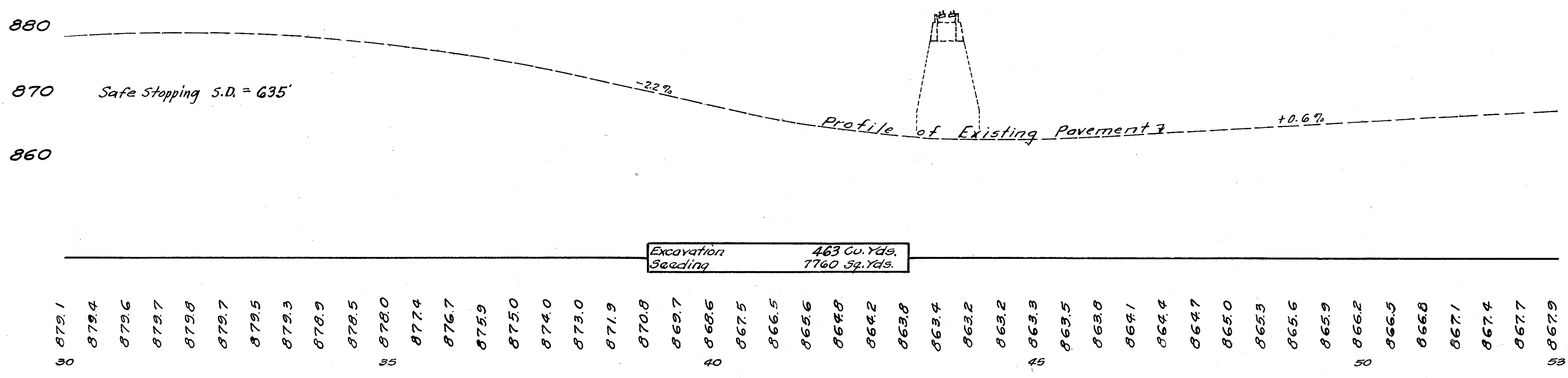


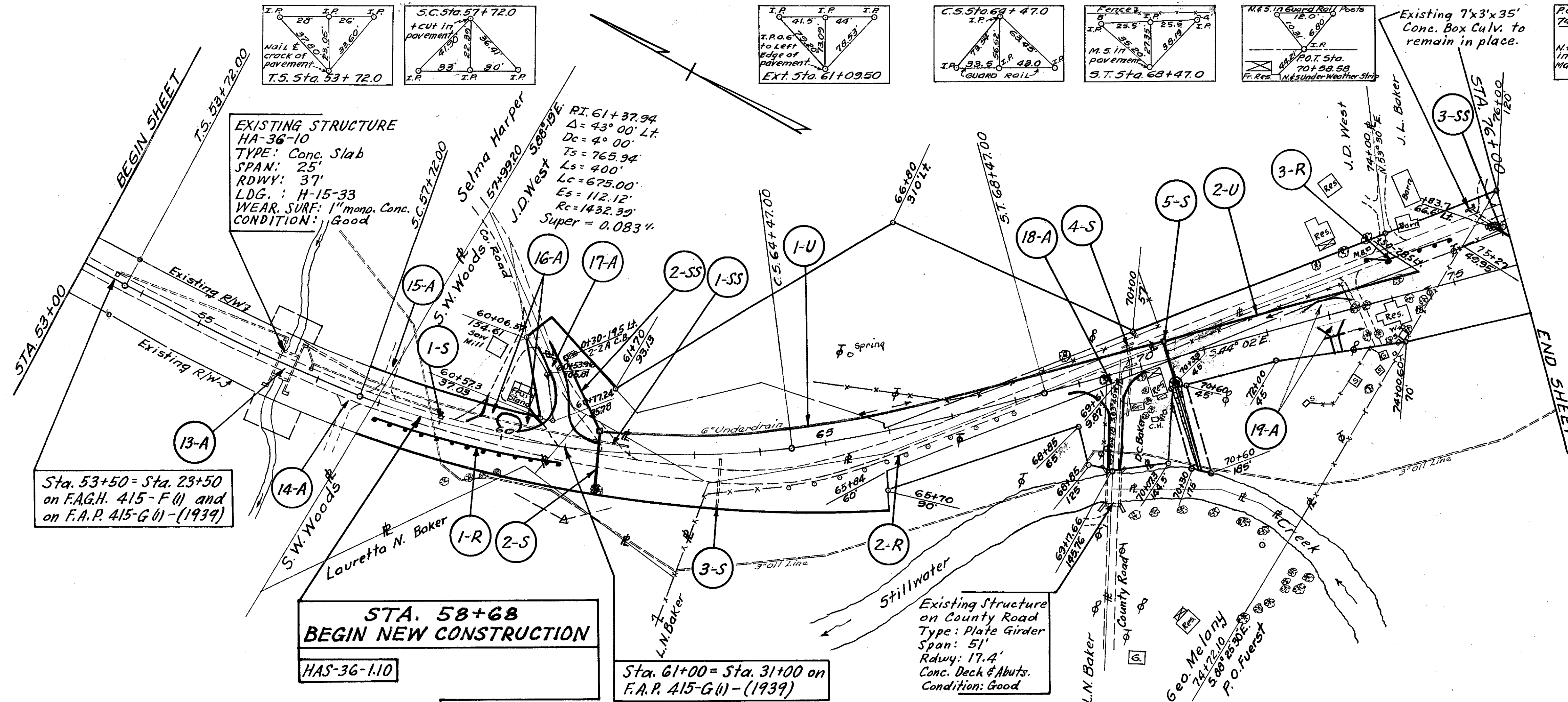


APPROACHES					
Ref. No.	Station	Side	I-17 Cu. Yds.	Feathering Sq. Yds.	
				B-35	T-35
6-A	38+00	Lt.		60	60
7-A	40+00	Lt.		40	40
8-A	41+00	Lt.		85	85
9-A	46+10	Rt.	2		
10-A	46+10	Lt.	2		
11-A	47+90	Rt.	2		
12-A	48+15	Lt.		35	35
Totals			6	220	220

PAVING OVER CATCH BASINS				
Station	Side	See Sheet	Conc. Base Sq. Yds.	
35+75	Rt.	6	2.3	
38+00	Rt.	6	2.3	
40+25	Rt.	6	2.3	
47+00	Rt.	6	2.3	
49+00	Rt.	6	2.3	
51+00	Rt.	6	2.3	
Total			13.8	

REMOVALS					
Station From	To	Side	See Sheet	Drain Basins Each	Edge Curb Lin. Ft.
42+88		Rt.	6	1	
44+50		Rt.	6	1	
33+25	42+15	Rt.	3		950
42+89	44+37	Rt.	3		148
44+51	52+50	Rt.	3		799
Totals				2	1897





APPROACHES									
Ref. No.	Station	Side	See Sheet	I-17 Cu. Yds.	Feathering Sq. Yds.	9" T-70 Pavt. Sq. Yds.	SS-5 Cu. Yds.	12" Pipe Lin. Ft.	
13-A	56+45	Rt.	14						
14-A	57+55	Rt.	14						
15-A	58+00	Lt.	14						
Totals for Code Type G706				4	*20	*20			
16-A	60+00	Lt.	33						
17-A	60+85.16	Lt.	111						
18-A	69+64.18	Rt.	112						
19-A	73+00	Rt.	38						
Totals for Code Type G706				46					

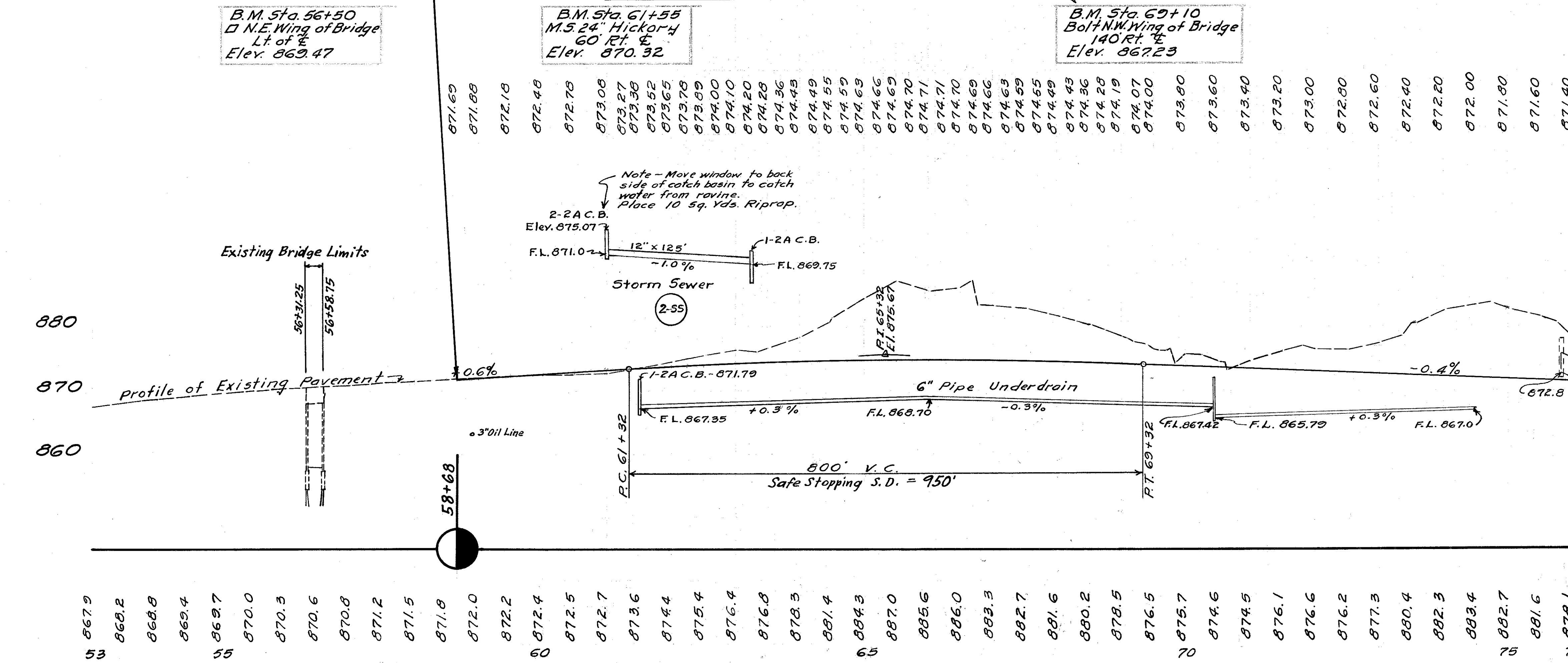
CULVERTS									
Ref. No.	Station	See Sheet	Type	Size	Length	Type	Size	Length	
1-S	59+00	14	Abandon C.B.						
2-S	61+50	131							
3-S	63+40	14	Pipe	12"	82'	Pipe	21"	87'	
4-S	69+85	14	Conc. Box	4'x2'	29'				
5-S	70+44	132	Pipe	24"	74'	Pipe	24"	67'	

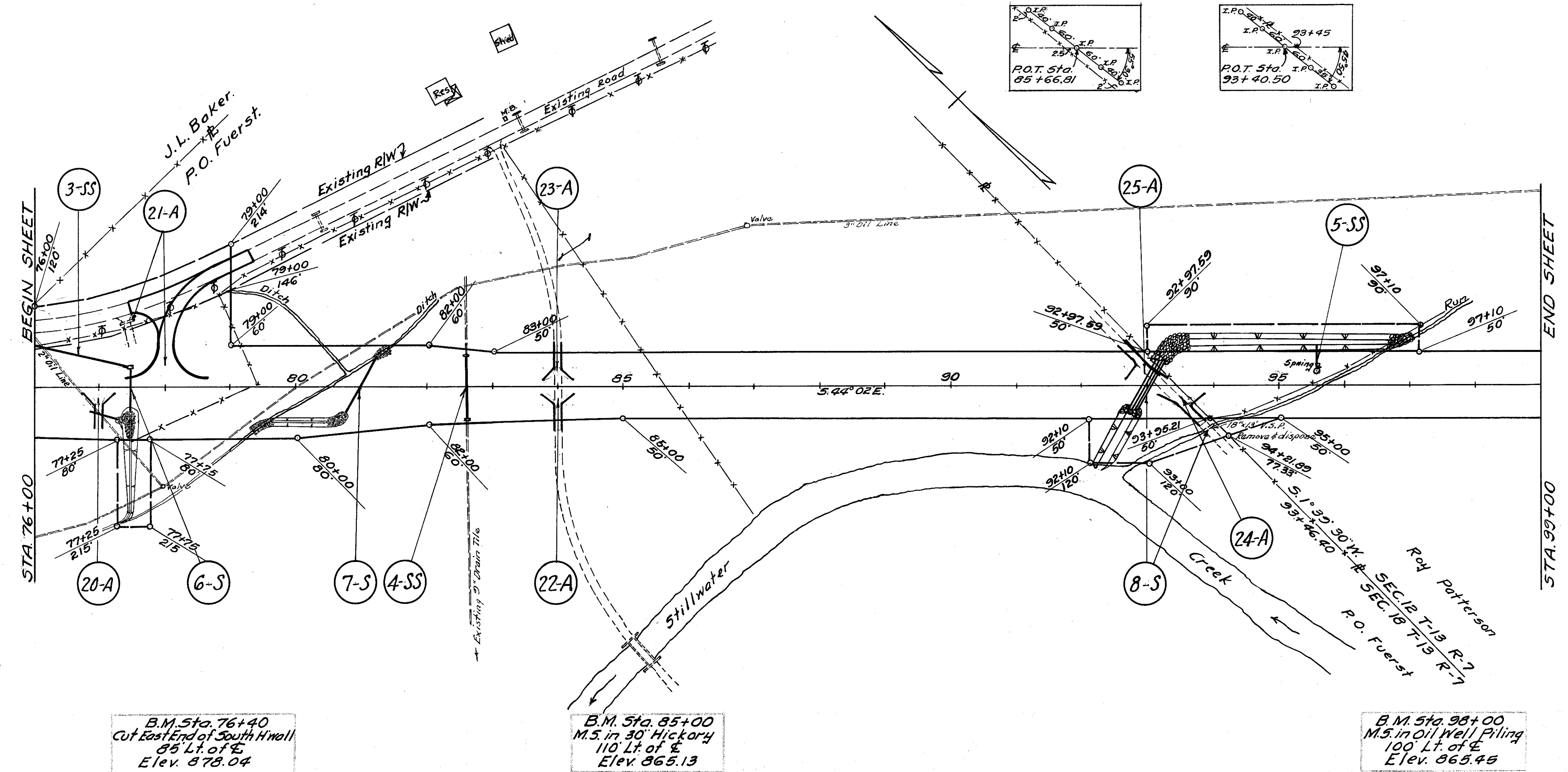
DRAINAGE									
Ref. No.	Station	Side	Storm Lin. Ft.	Underdrain Lin. Ft.	Catch Basins Each	Riprap 15" Pipe Sq. Yds.	Remove 15" Pipe Lin. Ft.		
1-SS	60+00	Lt.							
2-SS	61+50	Lt.	125						
3-SS	75+83.1	Lt.	20						
1-U	61+51	Lt.							
2-U	70+45.5	Lt.							
Totals				125	20	1287	1	20	200

REMOVALS									
Station	Side	See Sheet	Edge Lin. Ft.	Conc. Pavt. Sq. Yds.					
53+40	Lt.	3	291						
56+58.75	Lt.	3	209						
Total for Code Type G706				500					
58+68	Rt.	14		1300					
Total for Code Type G706				1300					

36"x20" S.S. 672.8 F.L. 36" Storm Sewer 10 Sq. Yds. Riprap
Note - Place riprap about end of pipe to create a basin for water.

GUARD RAIL									
Ref. No.	Station	Side	Remove Lin. Ft.	New Lin. Ft.					
1-R	58+00	Rt.		69					
Total for Code Type G706				69					
1-R	58+68	Rt.		231					
2-R	64+40	Rt.		370					
3-R	73+90	Lt.		125					
Totals for Code Type G706				370					

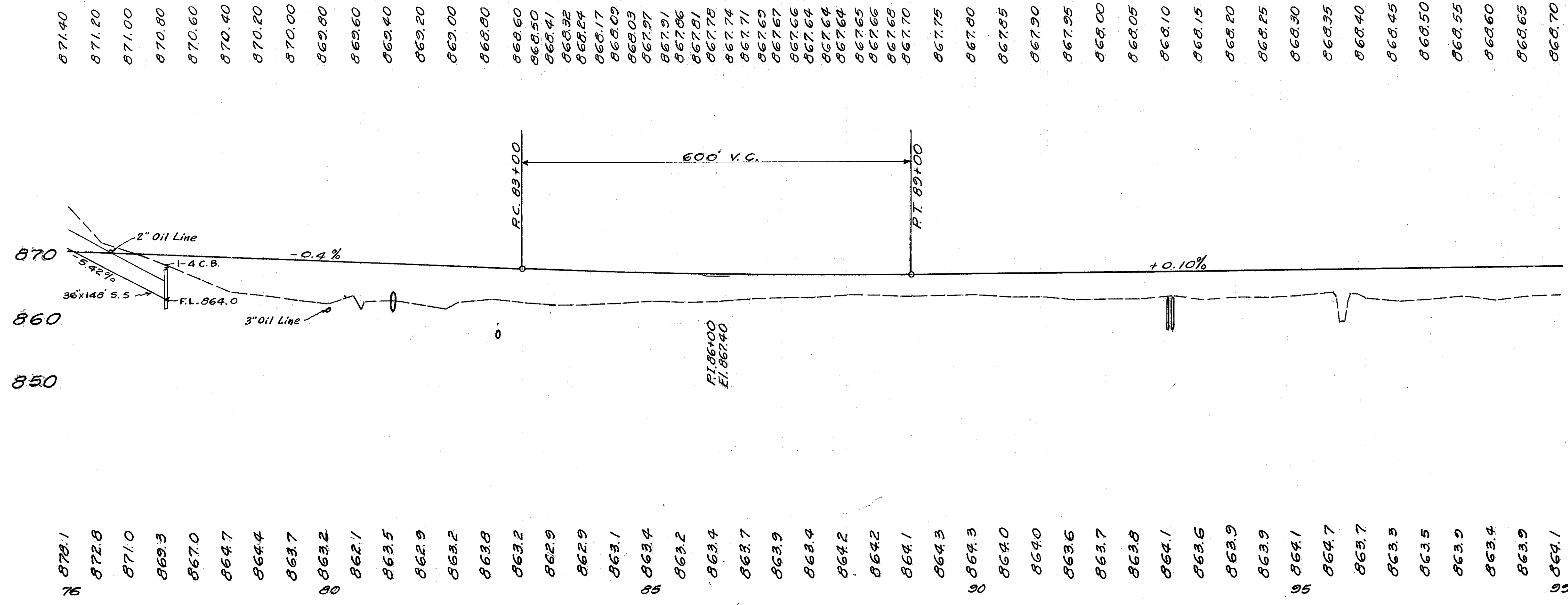


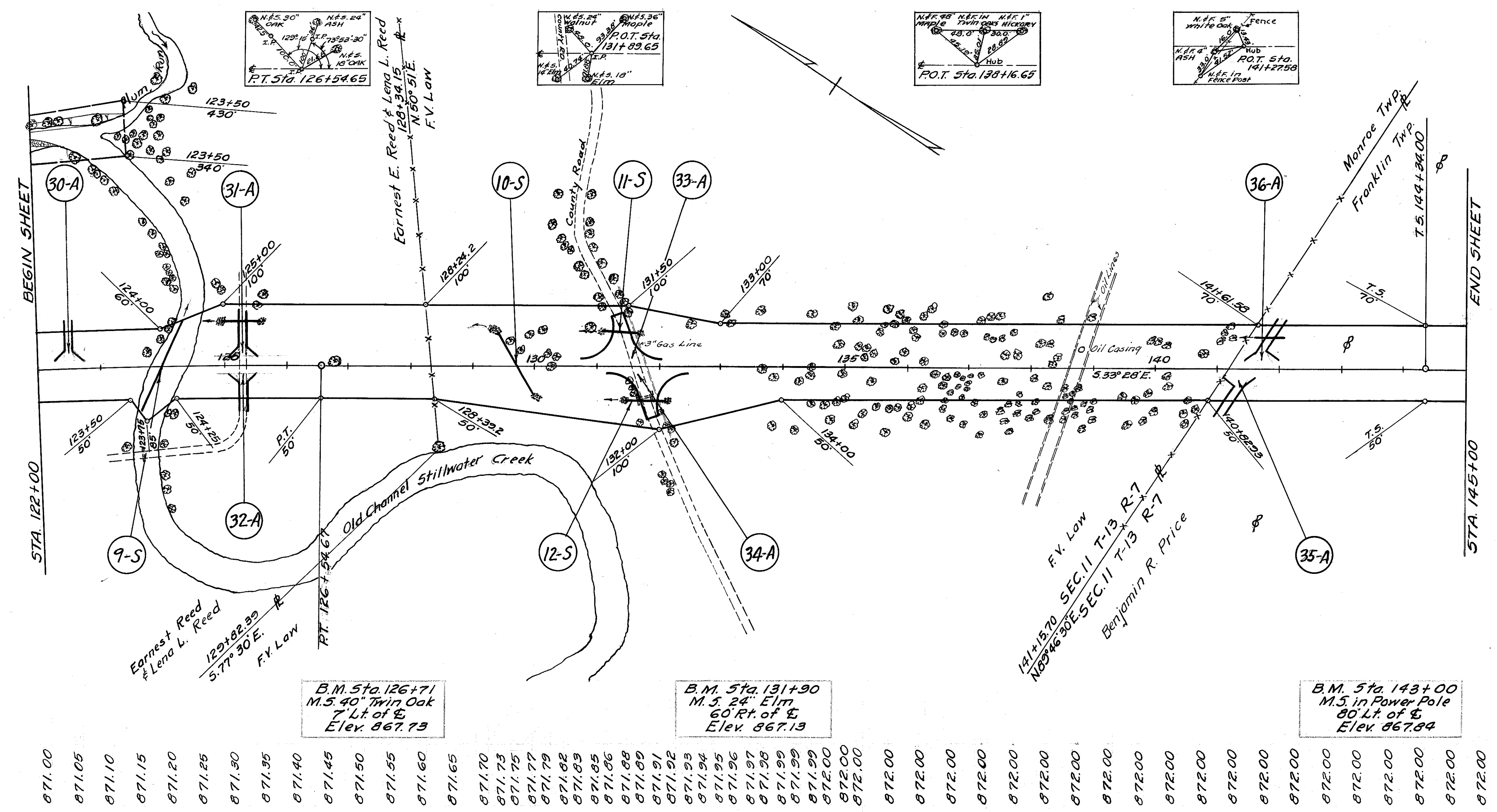


APPROACHES									
Ref. No.	Station	Side	See Sheet	I-17 Cu. Yds.	9\" T-70 Pavt. Sq. Yds.	SS-5 Cu. Yds.	12\" Pipe Lin. Ft.	21\" Pipe Removed Lin. Ft.	
20-A	77+00	Rt.	30	9					
21-A	78+00	Lt.	113#114	33	660	122	36	15	
22-A	84+00	Rt.	40	9					
23-A	84+00	Lt.	40	8					
24-A	93+20	Rt.	41	10					
25-A	93+20	Lt.	41	10					
Totals				79	660	122	36	15	

CULVERTS									
Ref. No.	Station	Sheet	Removals			New Work			
			Type	Size	Length	Type	Size	Length	
6-S	77+50	133				Pipe	36"	69'	
7-S	81+00	134				Pipe	36"	98'	
8-S	93+00	135#136	Pipe	18"	13'	Pipe	2@ 60"	86'	

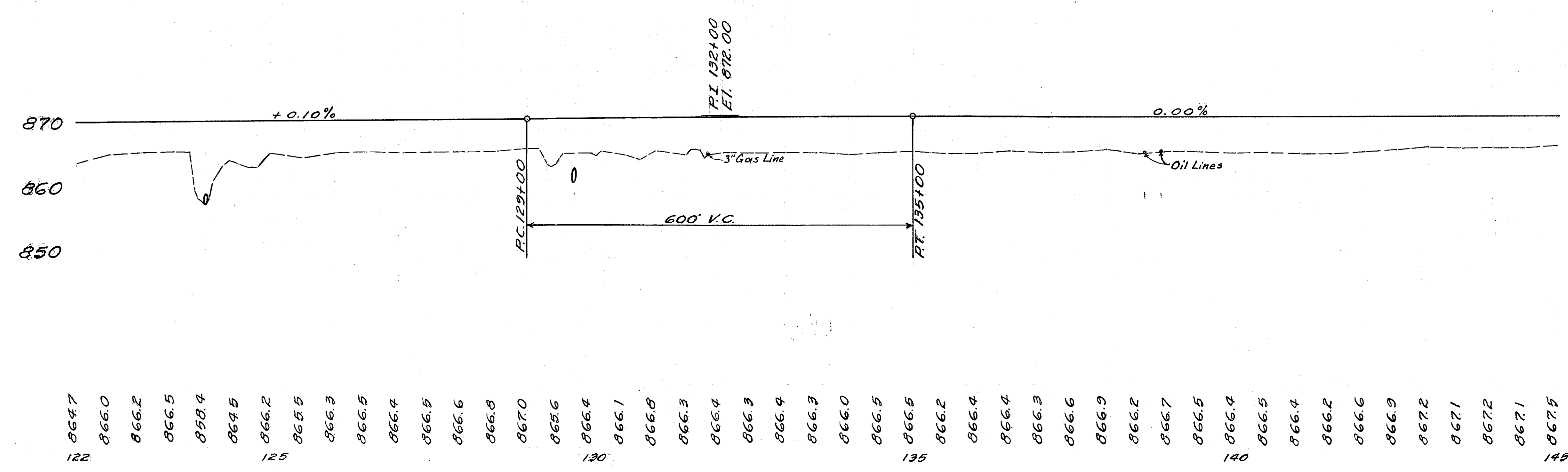
DRAINAGE														
Ref. No.	Station		Side	See Sheet	36\" Storm Sewer Lin. Ft.	12\" Storm Sewer Under 9\" Pipe "C" Lin. Ft.	Class "E" Conc. Cu. Yds.	Class Storm Conc. Cu. Yds.	12\" Storm Sewer Lin. Ft.	Reinf. Steel Lbs.	Structure Exeq. Cu. Yds.			
	From	To												
3-SS	76+00	77+48	Lt.	15	148									
4-SS	82+61.1		Rt.	107		101	101	1.3						
5-SS	95+57		Lt.	107				1.2	33	16	1			
Totals					148	101	101	1.2	1.3	33	16	1		

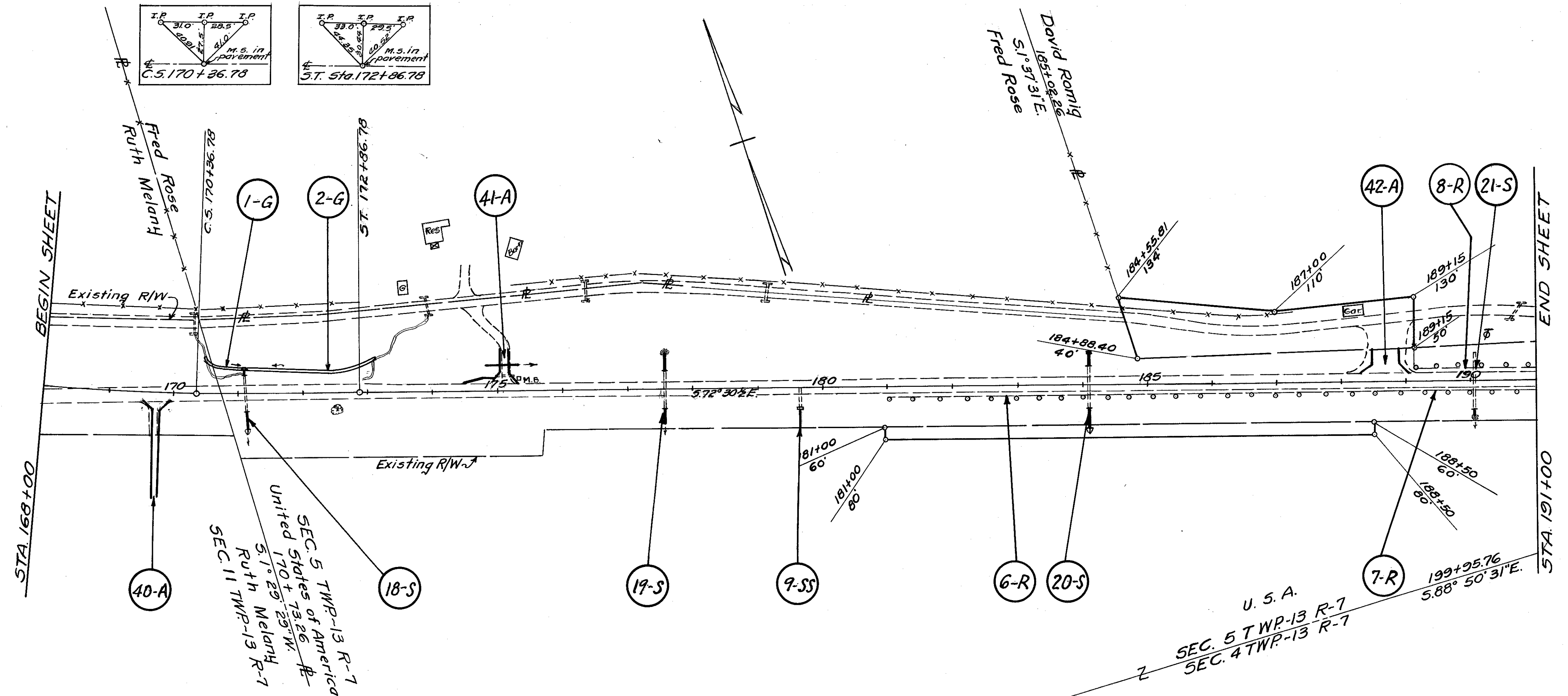




APPROACHES											
Ref. No.	Station	Side	See Sheet	I-17 Cu. Yds.	Drive Pipe Lin. Ft.		Riprap Sq. Yds.	9\"/>		48\"/>	
					15\"/>	36\"/>		Part. S.Y.	SS-S C.Y.	Removed L.F.	Removal C.Y.
30-A	122+50	Lt.	47	11							
31-A	125+30	Lt.	48	12		64	24				
32-A	125+30	Rt.	48	10							
33-A	131+61	Lt.	115								
34-A	131+61	Rt.	115								
35-A	141+50	Rt.	51	10					328	56	
36-A	141+50	Lt.	51	11	46				328	56	21 9
Totals				54	46	64	24	656	112	21	9

CULVERTS					
Ref. No.	Station	See Sheet	New Work		
			Type	Size	Length
9-S	124+00	137	Pipe	18"	158'
10-S	129+71.5	138	Pipe	24"	119'
11-S	3+43	139	Pipe	36"	64'
12-S	4+58	140	Pipe	24"	64'



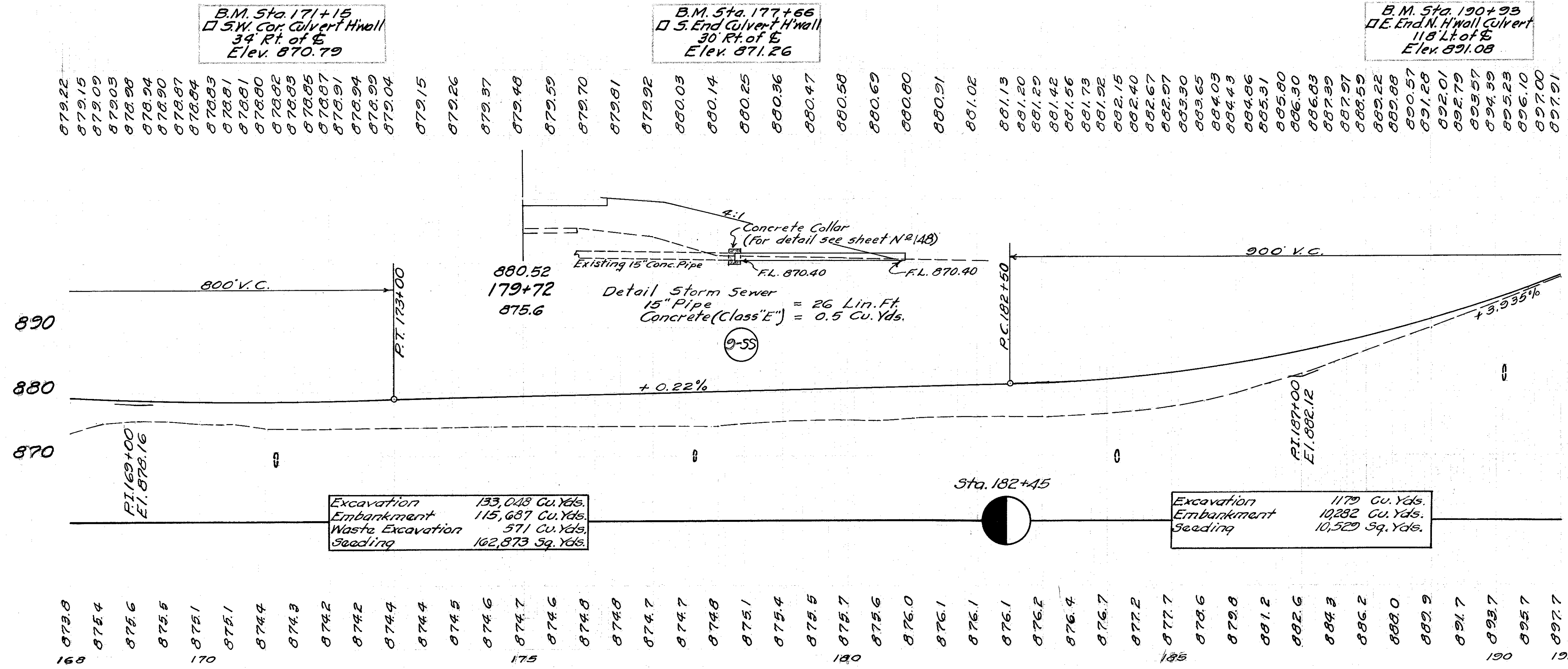


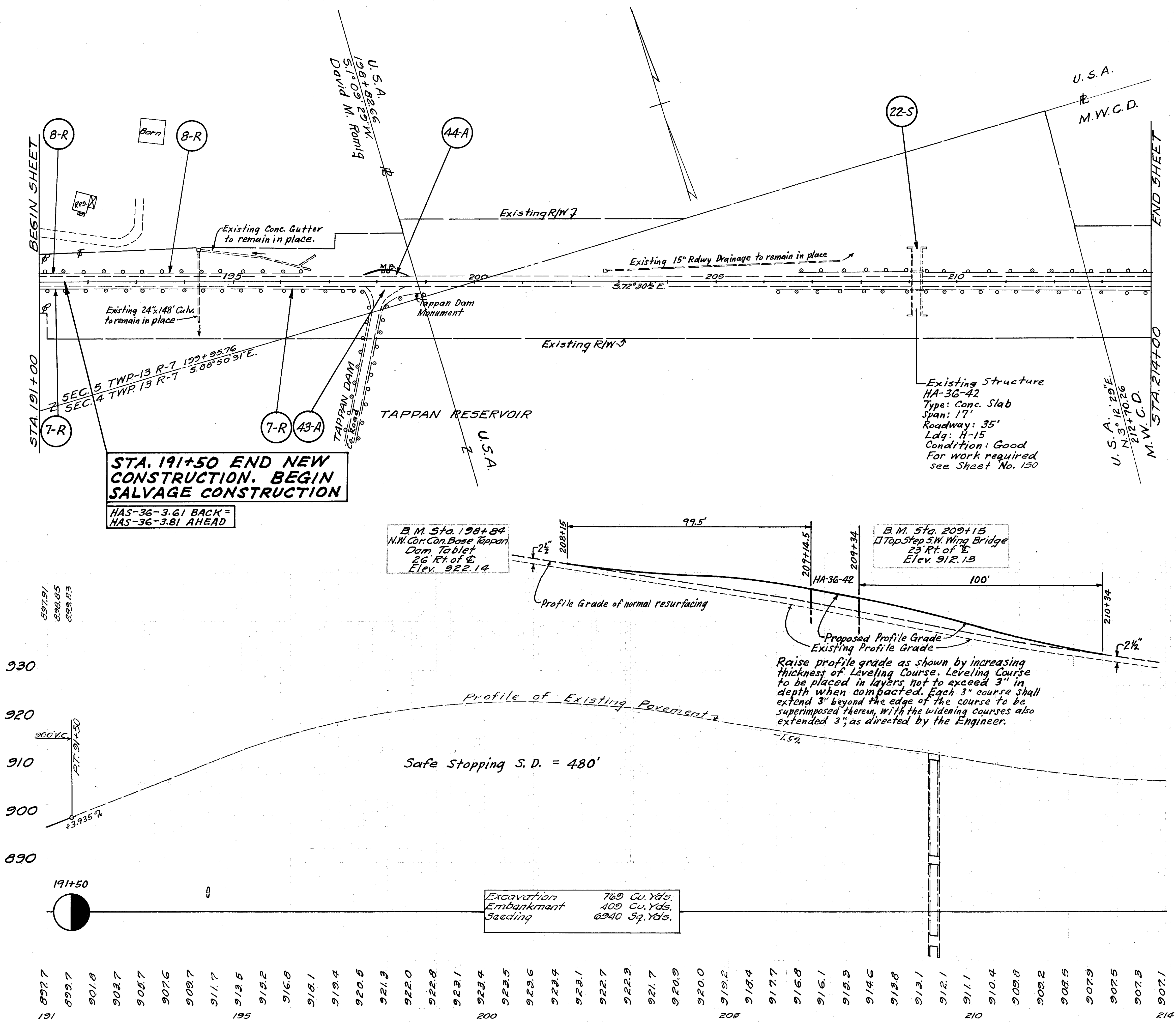
APPROACHES					
Ref. No.	Station	Side	See Sheet	I-17 Cu. Yds.	9" T-70 Pavt. Sq. Yds.
40-A	169+72	Rt.	57	23	
41-A	175+07	Lt.	59	8	50
42-A	188+70	Lt.	62	30	54
Totals				61	54

CULVERTS						
Ref. No.	Station	Sheet	Removals			New Work
			Type	Size	Length	Type
18-S	171+53.33	146				Pipe Exts. 24"
19-S	171+65.08	147				Pipe Exts. 18"
20-S	184+14.91	148				Pipe Exts. 18"
21-S	190+11.90	149	Pipe	24"	7'	Pipe Exts. 30"

DRAINAGE						
Ref. No.	Station	Side	See Sheet	Storm Sewer		Class "E" Conc.
				Lin. Ft.	Type I Gutter Lin. Ft.	
1-G	170+50	Lt.	6#19		66	
2-G	171+17	Lt.	6#19		204	
9-SS	179+72	Rt.	19	26		0.5
Totals				26	270	0.5

GUARD RAIL				
Ref. No.	Station	Side	Remove Lin. Ft.	Reset Lin. Ft.
6-R	181+00	Rt.	700	
7-R	188+00	Rt.		300
8-R	189+18	Lt.		182
Totals			700	482





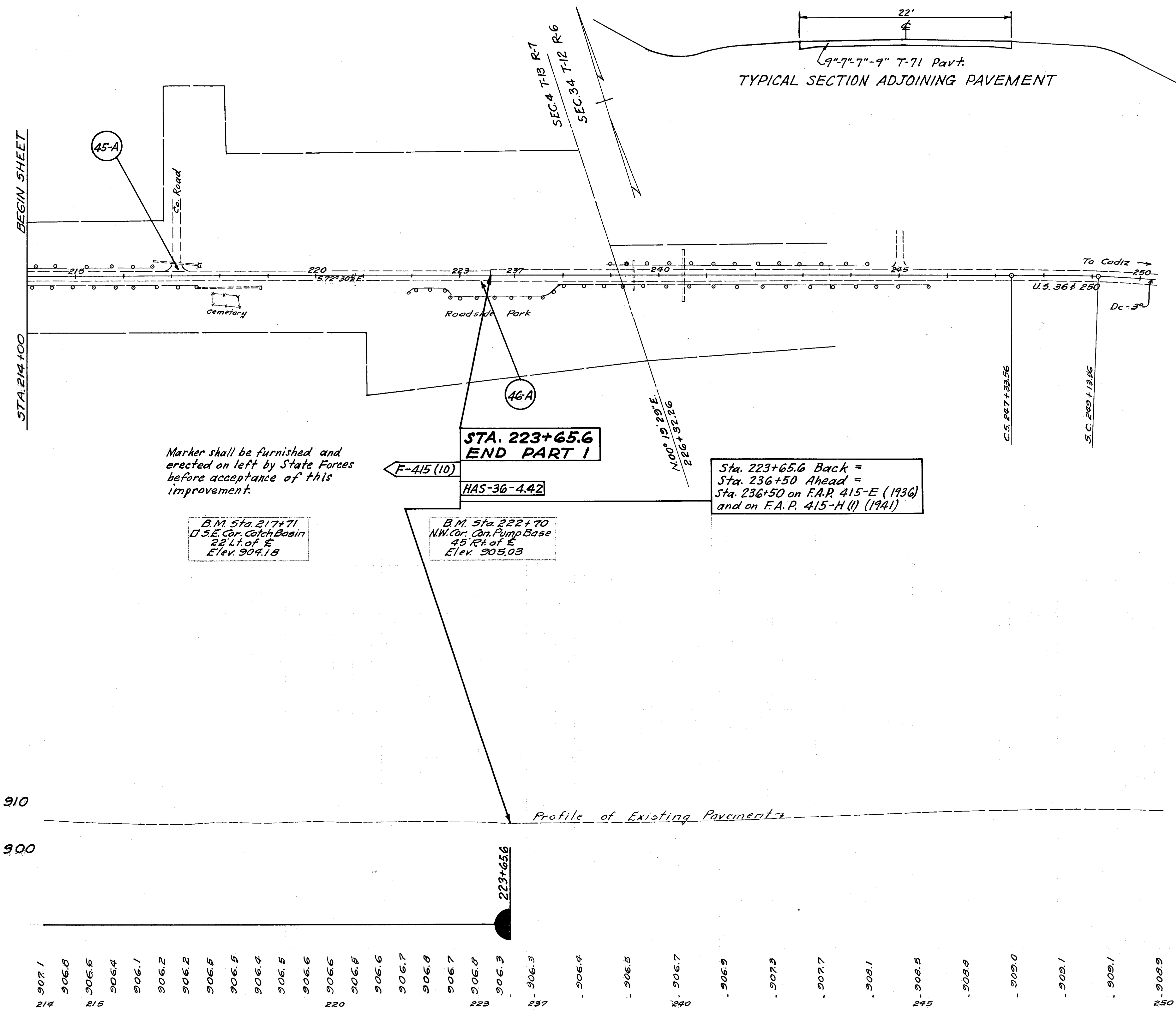
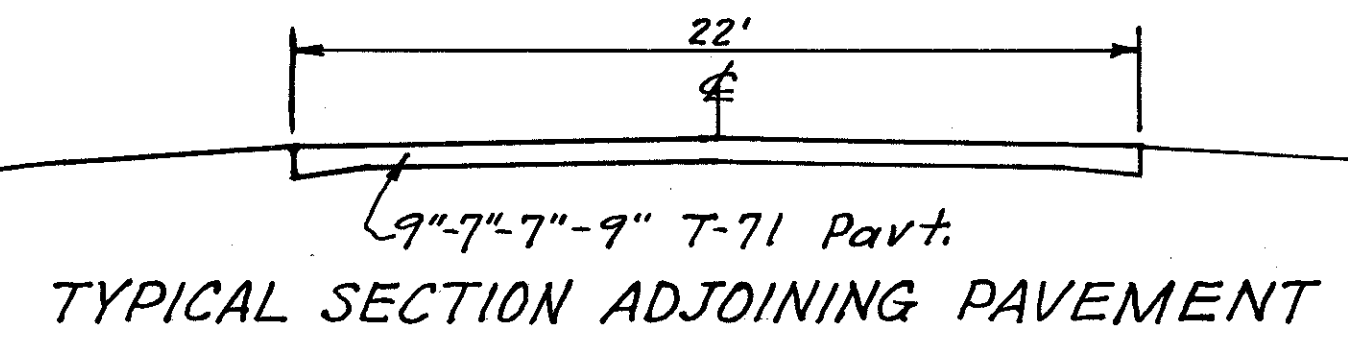
APPROACHES						
Ref. No.	Station	Side &	See Sheet	I-17 Cu. Yds.	Feathering B-35 T-35 Sq. Yds.	
CODE TYPE 6201						
43-A	198+15	Rt.	G4		25	25
44-A	198+15	Lt.	G4	6		
Totals for Code Type 6201				6	25	25

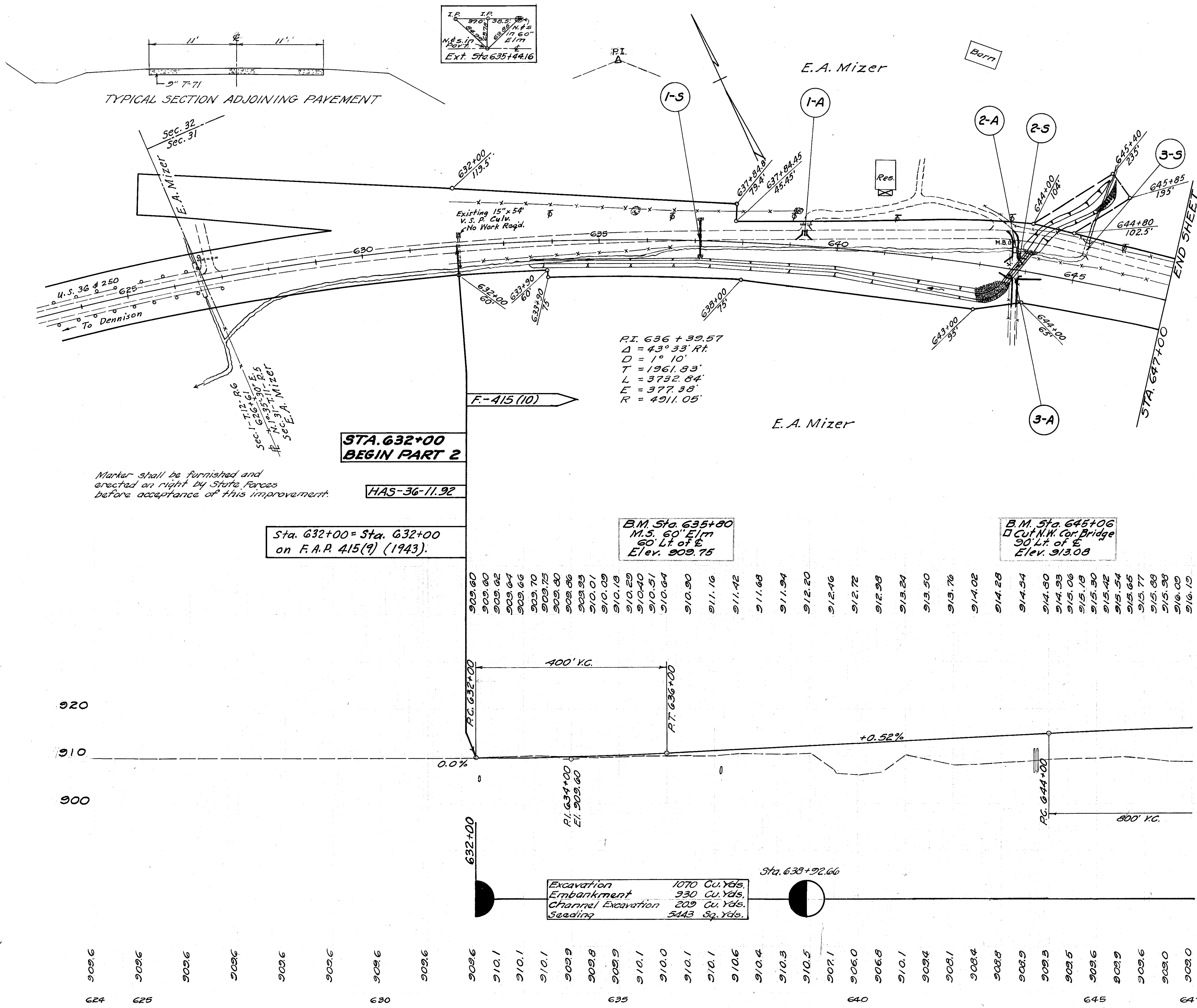
CULVERTS				
Ref. No.	Station	See Sheet	Removals	New Work
CODE TYPE 6201				
22-S	209+24	150	Portions of Exist. Structure	Raise Deck & Build Railing.

GUARD RAIL					
Ref. No.	Station	Side	Reset &	Lin. Ft.	
CODE TYPE 7221					
7-R	191+00	191+50	Rt.	50	
8-R	191+00	191+50	Lt.	50	
Total for Code Type 7221				100	
CODE TYPE 6201					
7-R	191+50	197+50	Rt.	600	
8-R	191+50	196+38	Lt.	488	
Total for Code Type 6201				1088	

PAVEMENT REMOVAL						
Station From	Station To	Side &	See Sheet	Length	Av. Width	Sq. Yds.
CODE TYPE 6201						
197+00	204+00	Lt.	5	700'	1.22'	95
Total for Code Type 6201						95

APPROACHES						
Ref. No.	Station	Side	See	Feathering Sq. Yds.		
				B-35	T-35	
45-A	217+10	Lt.	67	20	20	
46-A	223+15	Rt.	68	35	35	
Totals				55	55	

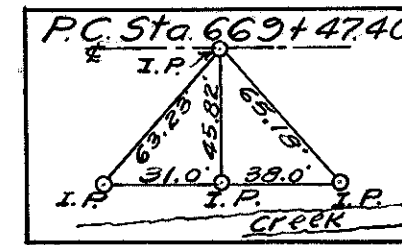
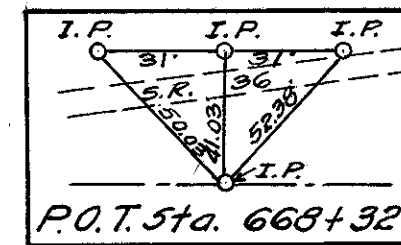
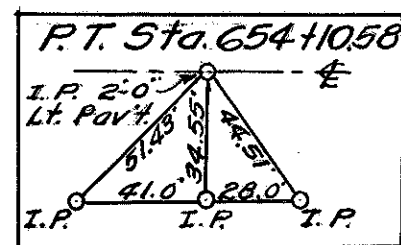




22
166
2 F-415(10) Postwar
HAS-36-(0.45-2.92)-(11.92-14.12)
PARTS 1 & 2

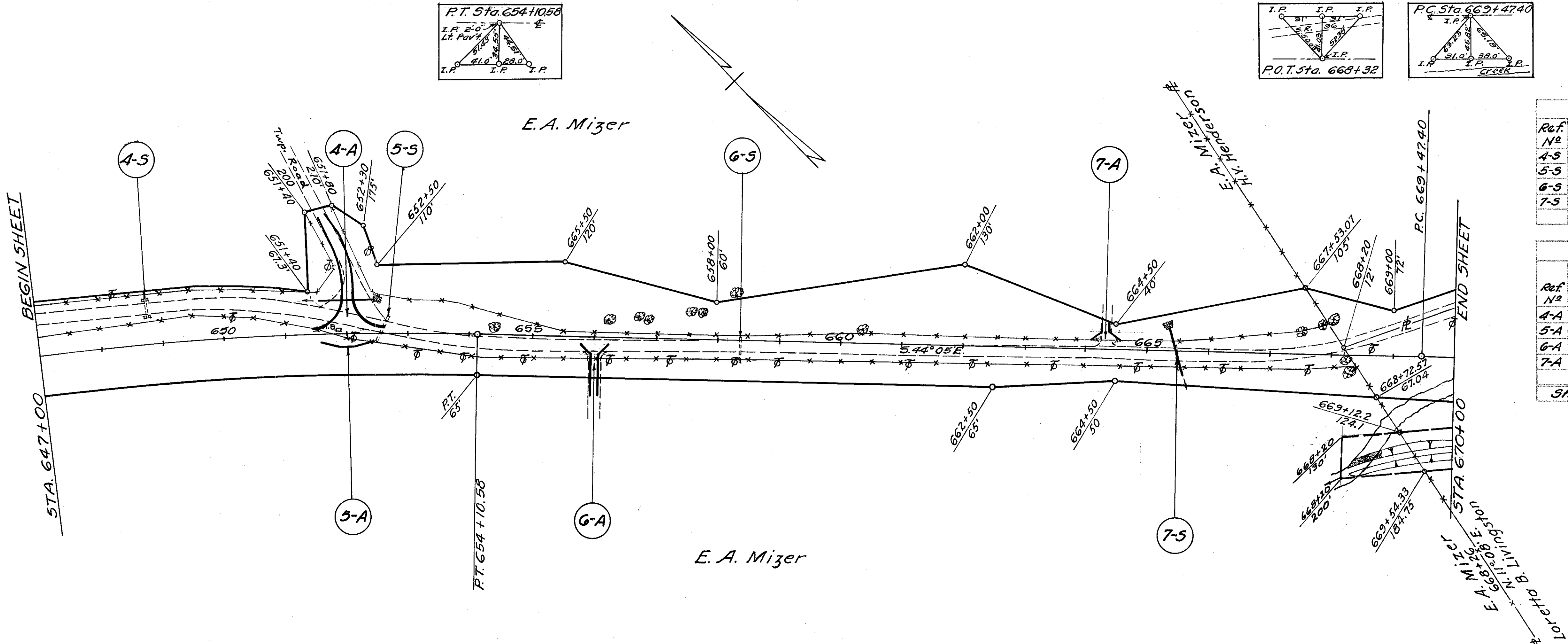
Ref. No.	Station	Sheet	Removals			New Work		
			Type	Size	Length	Type	Size	Length
1-S	637+12.65	151	Corr. M.P.	18"	40'	Pipe	18"	76'
2-S	643+75	152				Pipe	2@60"	84'
3-S	645+15	22	Conc. Slab	9'x4'	33.65'			

Ref. No.	Station	Side Sheet	See	I-17	
				Appr.	7-70
				Cu. Yds.	Sq. Yds.
1-A	639+30	Lt.	70	2	50
2-A	643+75	Lt.	71	8	50
3-A	643+75	Rt.	71	13	
Sheet Totals				23	100



STRUCTURES-20' SPAN & UNDER									
Ref. No.	Station	See Sheet	Type	Size	Length	Type	Size	Length	
4-S	648+75	23	G.I.P.	15"	25'				
5-S	652+58	23	V.S.P.	8"	30'				
6-S	658+36	23	V.S.P.	12"	38'				
7-S	665+47	153	V.S.P. Stone Box	1.4' x 1.0'	25'	Pipe	24"	70'	

APPROACHES									
Ref. No.	Station	Side	See Sheet	I-17 Aggr. Cu. Yds.	7-10 9" Sq. Yds.	Pipe Lin. Ft. 18"	6" 55-5 Cu. Yds.	Riprap Sq. Yds.	
4-A	652+00	Lt.	119		521	96	93	5	
5-A	652+00	Rt.	23	6					
6-A	656+00	Rt.	73	14					
7-A	664+35	Lt.	75	5					
Sheet Totals				25	521	96	93	5	



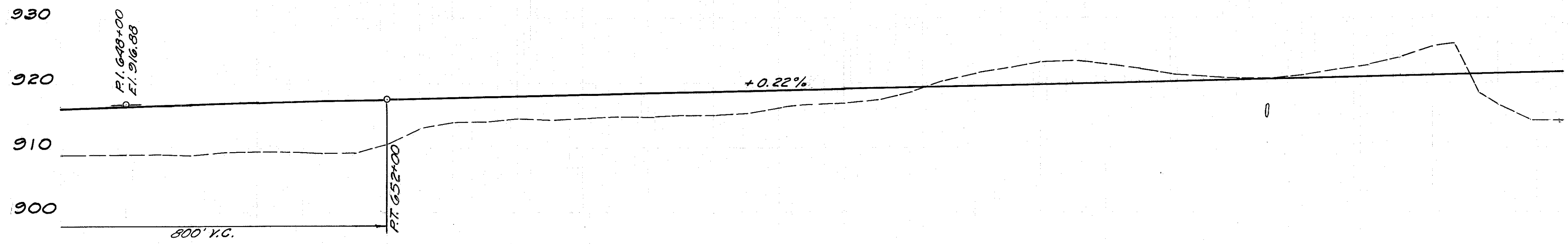
B.M. Sta. 652+10
M.S. Tel. Pole
4' Rt. of C
Elev. 912.78

B.M. Sta. 654+00
M.S. Tel. Pole
30' Rt. of C
Elev. 913.69

B.M. Sta. 658+12
M.S. 14" Walnut
100' Lt. of C
Elev. 919.97

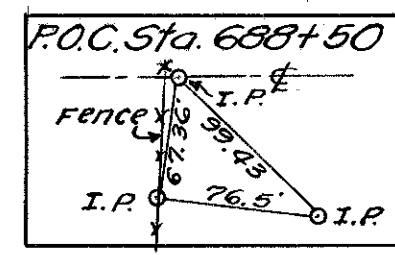
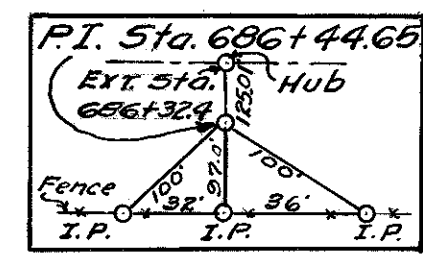
B.M. Sta. 664+85
M.S. Tel. Pole
25' Rt. of C
Elev. 920.26

916.19
916.29
916.39
916.49
916.58
916.67
916.76
916.84
916.93
917.01
917.09
917.17
917.25
917.31
917.39
917.45
917.52
917.58
917.65
917.70
917.76
917.87
917.98
918.09
918.20
918.31
918.42
918.53
918.64
918.75
918.86
918.97
919.08
919.19
919.30
919.41
919.52
919.63
919.74
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920.73
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921.50
921.61
921.72



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917.4
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922.2
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925.7
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914.4
914.2

H. V. Henderson

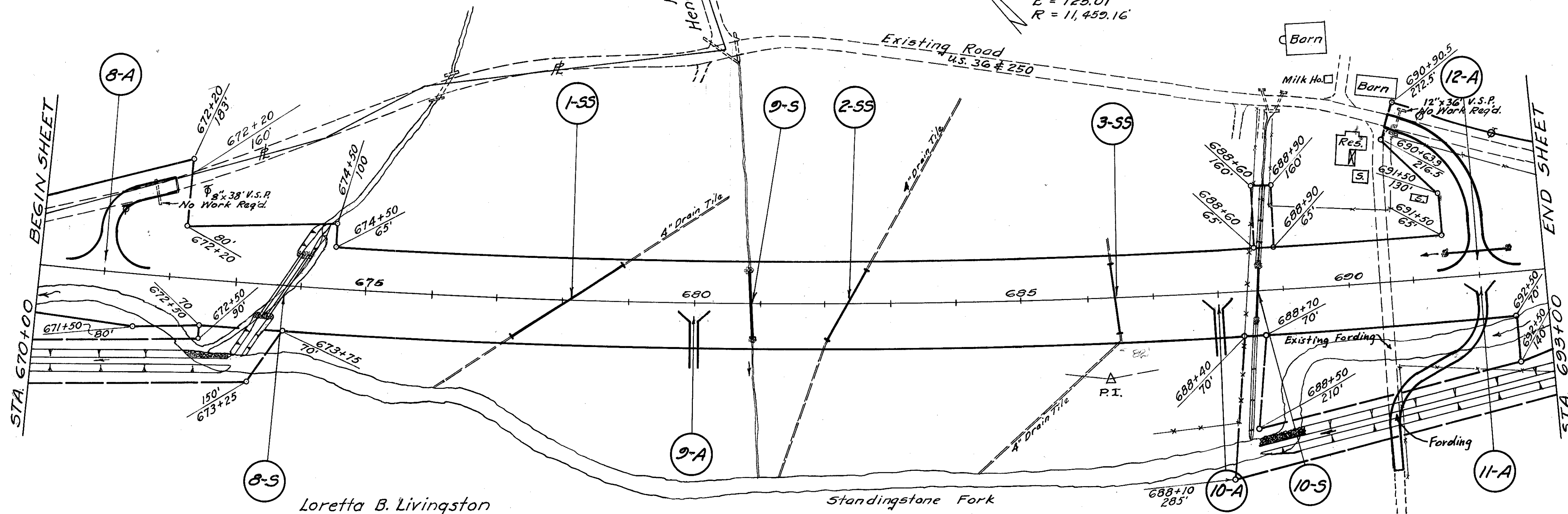


2 F-415(10) Postwar 2.4 166
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

STRUCTURES- 20' SPAN & UNDER								
Ref. No	Station	See Sheet	Removals			New Work		
			Type	Size	Length	Type	Size	Length
8-S	673+75	154				Pipe	24" 54'	111'
9-S	680+80	155				Pipe	21"	106'
10-S	688+60	156				Pipe	30"	79'

APPROACHES								
Ref. No.	Station	Side	See Sheet	I-17 App'r. Cu. Yds.	5" T-70 Sq. Yds.	Pipe Lin. Ft.	6" 55-5 Cu. Yds.	Riprap Sq. Yds.
8-A	671+00	Lt.	120		550	18"	98	
9-A	680+00	Rt.	78	14				
10-A	688+00	Rt.	80	14				
11-A	692+00	Rt.	121 & 122	37				
12-A	692+00	Lt.	123 & 124		770	100	137	10
Sheet Totals				65	1320	100	235	10

STORM SEWERS						
Ref. No.	Station	See Sheet	Pipe - Lin. Ft.		Class "E" Concrete	Cu. Yds.
			Under Pav't	Removal		
1-S5	678+08	110	202	202	1.4	
2-S5	682+34	110	126	126	1.4	
3-S5	686+42	110	112	112	1.4	
Sheet Totals			440	440	4.2	



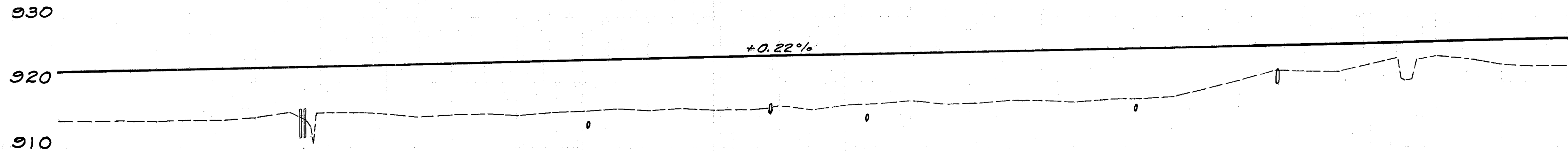
B.M. Sta. 671+25
M.S. Tel. Pole
100' Lt. of E
Elev. 926.61

B.M. Sta. 676+00
+ Cut S.W. Cor. South H.W.
Culvert 235' Lt. E
Elev. 923.36

B.M. Sta. 680+85
M.S. Tel. Pole
300' Lt. of E
Elev. 920.03

B.M. Sta. 690+10
U.S.G.S. - Bronze cap set
in front door sill 235' Lt. E
Elev. 938.00

921.72 921.83 921.94 922.05 922.16 922.27 922.38 922.49 922.60 922.71 922.82 922.93 923.04 923.15 923.26 923.37 923.48 923.59 923.70 923.81 923.92 924.03 924.14 924.25 924.36 924.47 924.58 924.69 924.80 924.91 925.02 925.13 925.24 925.35 925.46 925.57 925.68 925.79 925.90 926.01 926.12 926.23 926.34 926.45 926.56 926.67 926.78



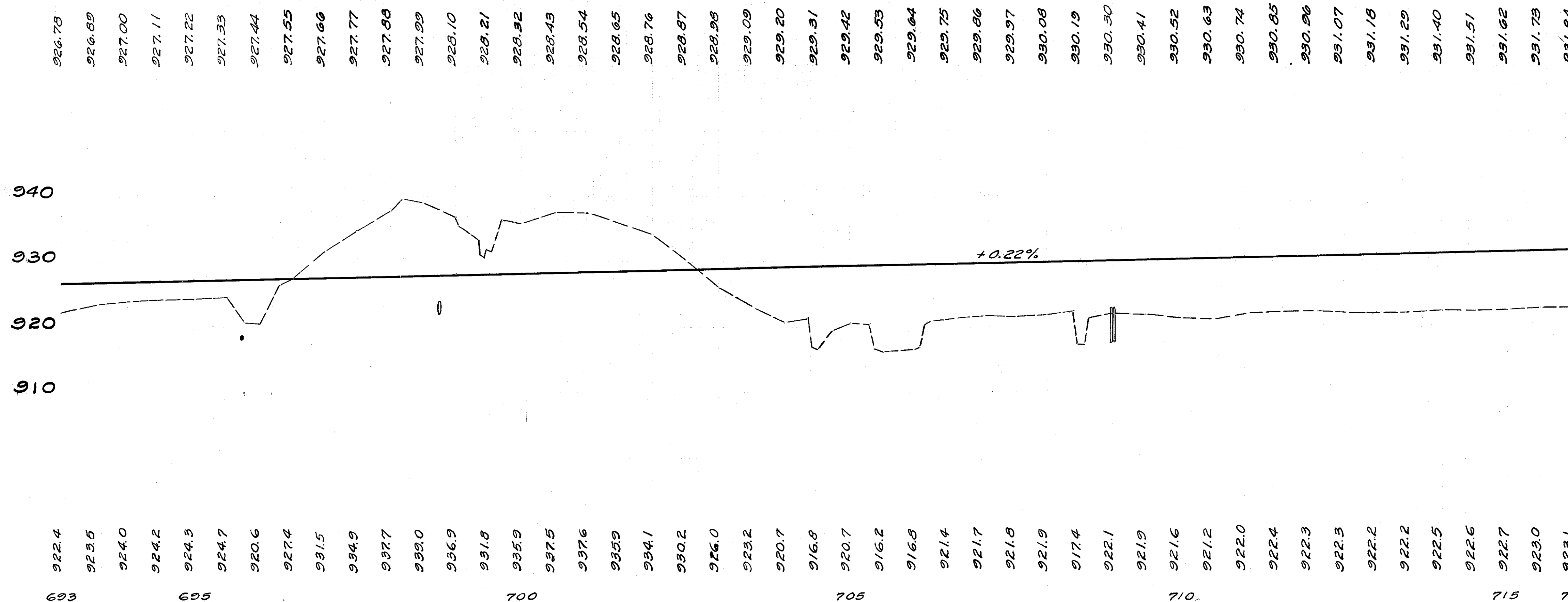
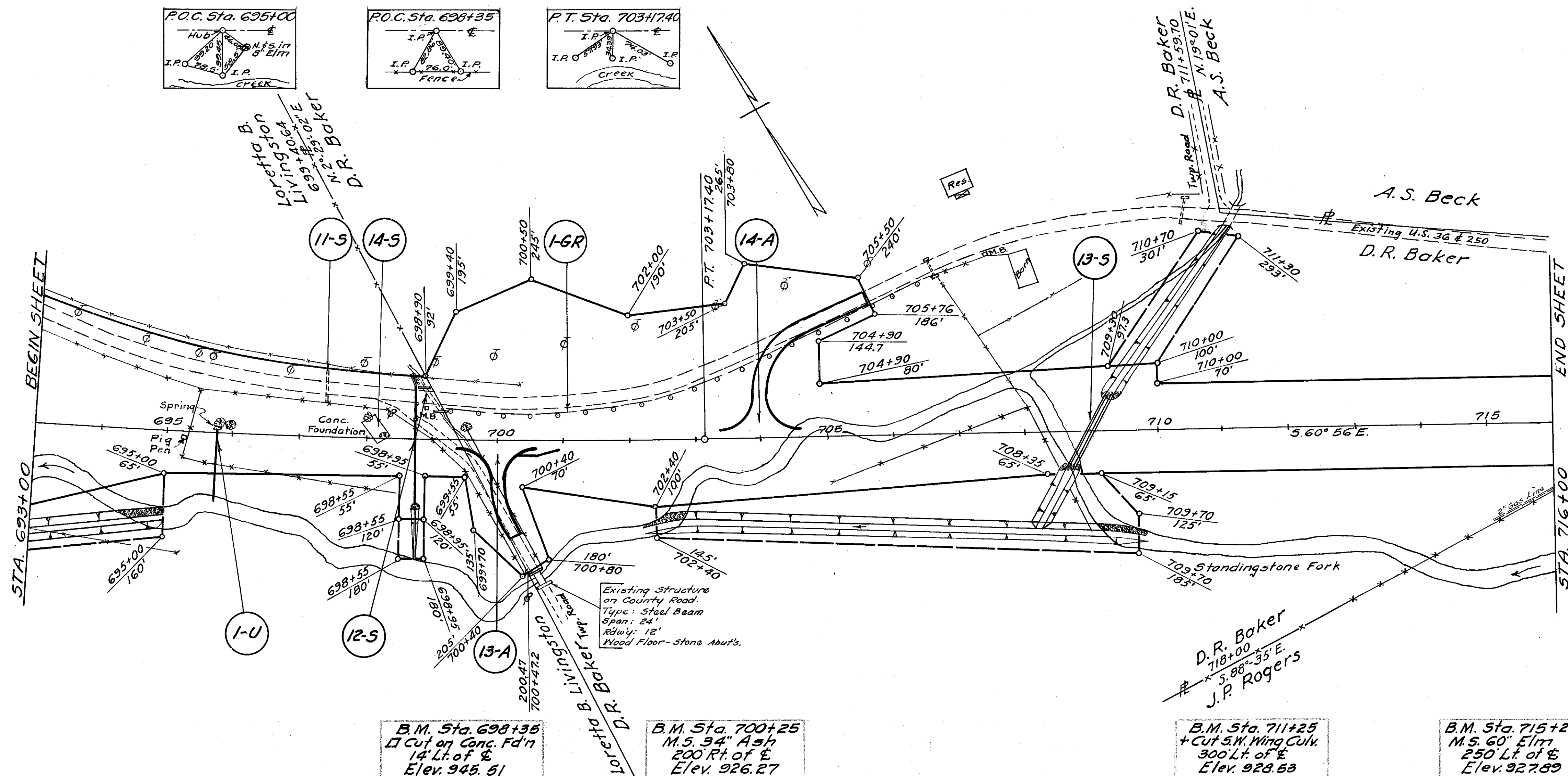
914.2 914.0 914.1 914.0 914.2 914.2 914.5 915.4 915.3 915.2 915.1 914.8 915.0 915.1 914.9 915.3 915.6 915.9 915.7 915.9 915.8 915.8 916.2 915.7 916.2 916.6 917.0 916.6 916.8 917.1 917.1 916.9 917.1 917.4 917.8 918.9 920.1 921.7 921.6 921.6 922.7 920.1 923.9 923.6 922.8 922.4 922.4

STRUCTURES - 20' SPAN & UNDER								
Ref. No.	Station	See Sheet	Type	Size	Length	Type	Size	Length
11-S	697+40	25	V.S.P.	8"	48'			
12-S	698+75	157	V.S.P.	30"	48'	Pipe	24"	127'
13-S	709+00	158				Pipe	2@ 60"	118'
14-S	698+10	25	Concrete Foundation					

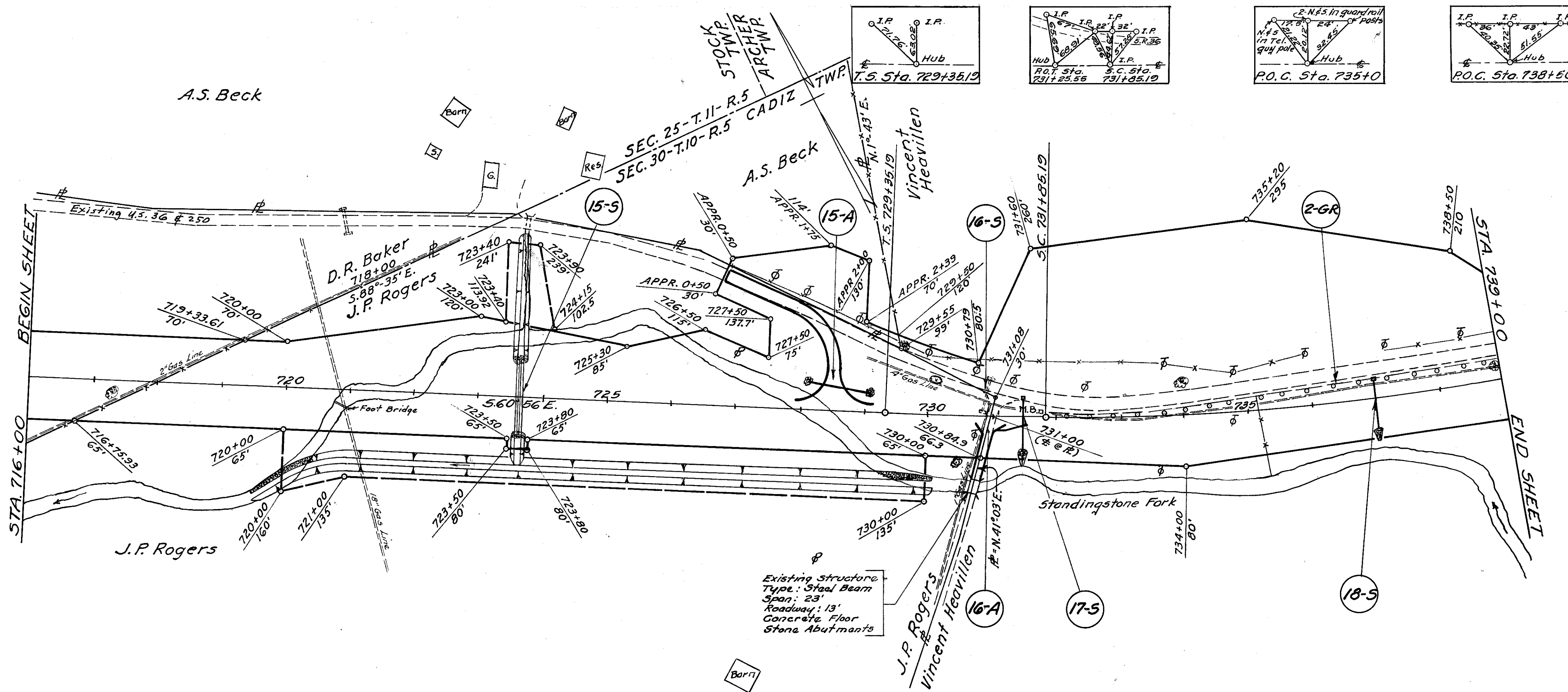
APPROACHES					
Ref. No.	Station	Side	See Sheet	I-17 Appr. Cu. Yds.	9" T-70 Sq. Yds.
13-A	700+00	Rt.	125	4	436
14-A	704+00	Lt.	126		771
Sheet Totals				4	1207

UNDERDRAINS		
Ref. No.	Station	See Sheet
1-U	695+78	110
Sheet Totals		

GUARD RAILS			
Ref. No.	Station	Remove	
1-GR	699+25	705+70	670
Sheet Totals			670



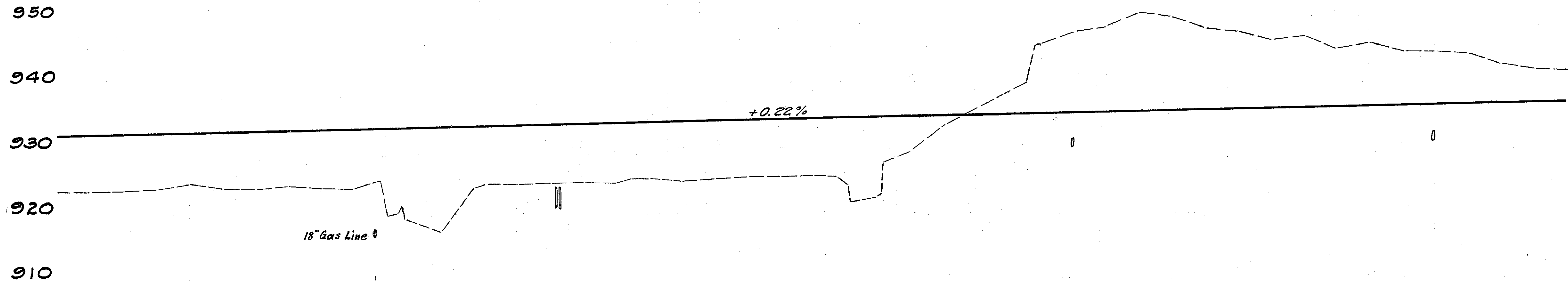
A.S. Beck



B.M. Sta. 717+35
M.S. 24" Hickory
30' Rt. of E
Elev. 925.13

B.M. Sta. 730+50
M.S. in root 28" Maple
70' Rt. of E
Elev. 927.00

931.84 931.95 932.06 932.17 932.28 932.39 932.50 932.61 932.72 932.83 932.94 933.05 933.16 933.27 933.38 933.49 933.60 933.71 933.82 933.93 934.04 934.15 934.26 934.37 934.48 934.59 934.70 934.81 934.92 935.03 935.14 935.25 935.36 935.47 935.58 935.69 935.80 935.91 936.02 936.13 936.24 936.35 936.46 936.57 936.68 936.79 936.90



Excavation 156,159 Cu.Yds.
Channel Excavation 260 Cu.Yds.
Embankment 135,945 Cu.Yds.
Seeding 175,596 Sq.Yds.

Sta. 738+48.77

923.1 923.1 923.3 923.5 923.8 923.6 924.0 923.8 923.9 920.5 918.9 919.2 924.2 924.3 924.5 924.8 924.5 925.1 924.9 925.3 925.6 925.5 925.8 924.5 922.2 929.4 933.0 933.8 938.3 945.9 947.6 948.3 950.5 949.9 948.1 947.9 946.5 947.0 945.0 945.9 944.8 944.5 944.4 942.8 941.9 941.8

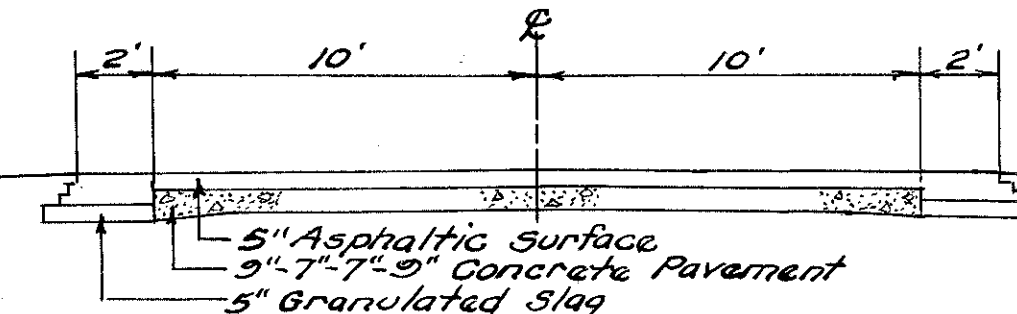
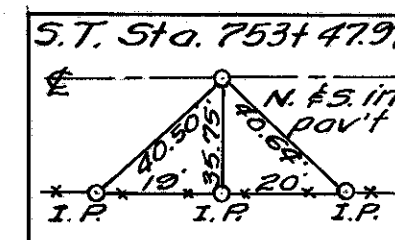
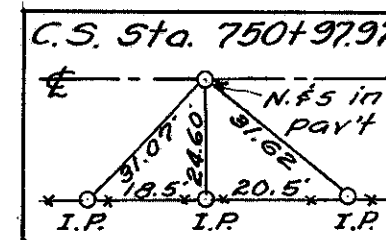
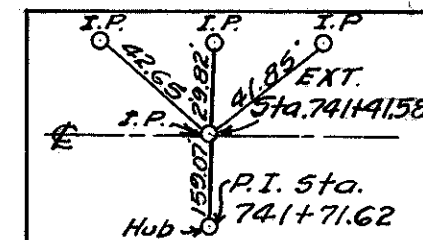
716 720 725 730 735 739

STRUCTURES-20' SPAN & UNDER								
Ref. No.	Station	See Sheet	Type	Size	Length	Type	Size	Length
15-S	723+65	159	Pipe	2@42"	115'			
16-S	730+90	26	C.M.P.	12"	56'			
17-S	731+50	160	Pipe	15"	82'			
18-S	737+00	161	Pipe	15"	78'			

APPROACHES								
Ref. No.	Station	Side	See Sheet	I-17 Appr. Cu.Yds.	9" T-70 Sp.Yds.	Pipe Lin. Ft. 15"	6" SS-5 Cu.Yds.	Riprap Sq.Yds.
15-A	728+50	Lt.	128+129	771	771	96	138	10
16-A	731+00	Rt.	130	14	55		3	
Sheet Totals				14	826	96	141	10

GUARD RAILS					
Ref. No.	Station	Side	Remove Lin. Ft.		
2-GR	731+85	739+00	Lt.	710	
Sheet Totals				710	

P.I. 741+71.62
 $\Delta = 32^\circ 26' 30''$ L.T.
D.C. = $1^\circ 30'$
T.S. = 1236.43'
E.S. = 159.07'
R.C. = 3812.72'
L.S. = 250'
L.C. = 1912.78'



TYPICAL SECTION ADJOINING PAVEMENT

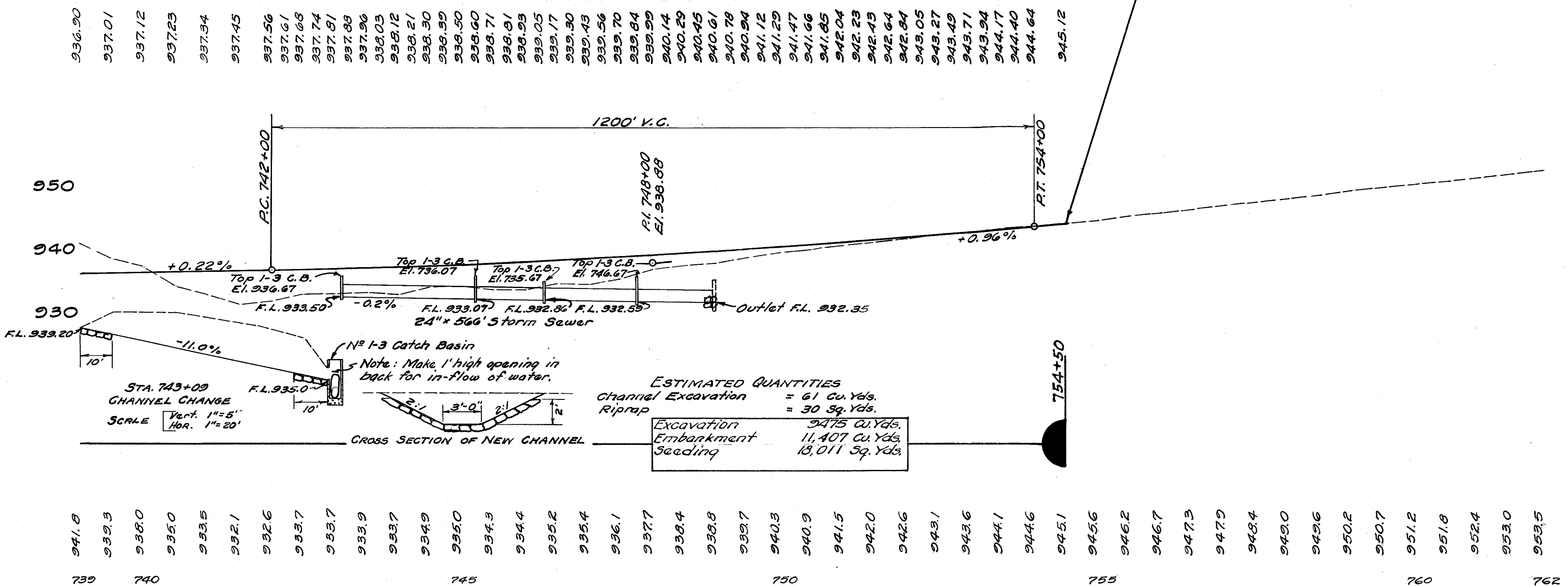
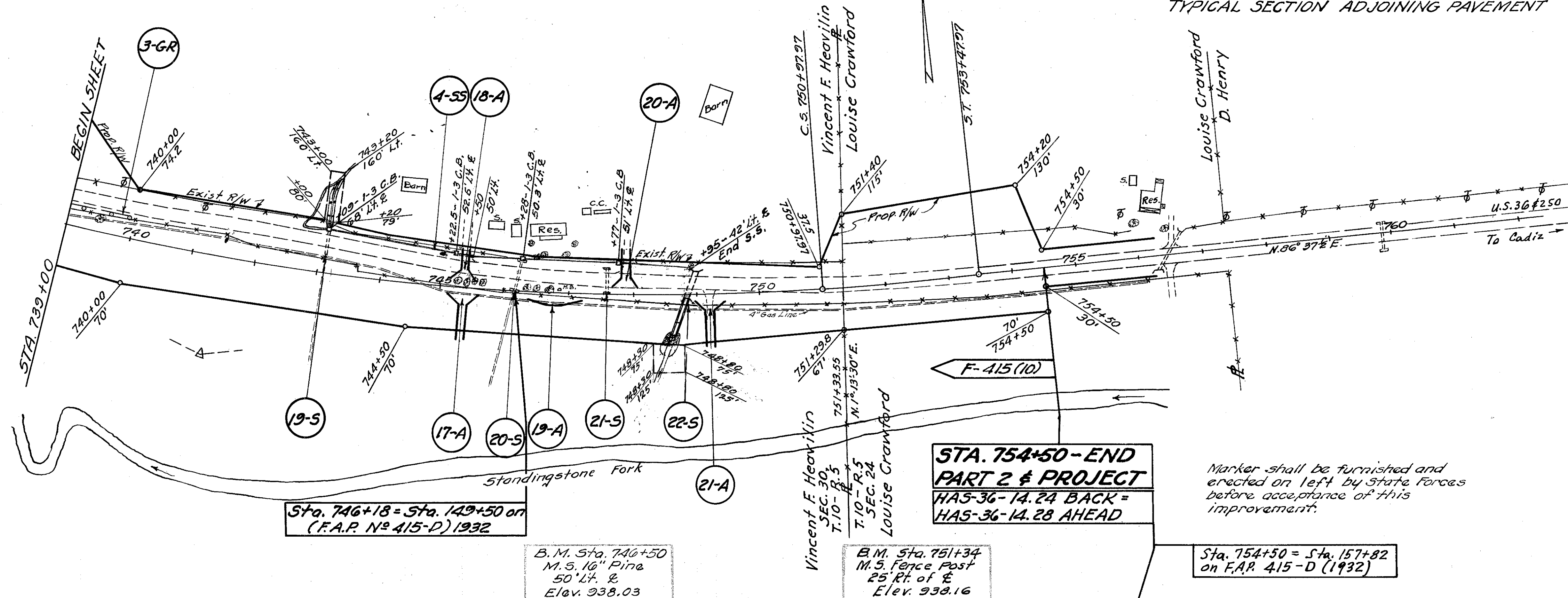
STRUCTURES-20' SPAN & UNDER								
Ref. No.	Station	See Street	Type	Size	Length	Type	Size	Length
19-S	743+10	27	V.S.P.	12"	36'			
20-S	746+17	27	Conc. Pipe	15"	50'			
21-S	747+60	27	Conc. Pipe	15"	50'			
22-S	748+85.05	162 & 163				S.B.C. (ext.)	6' x 4'	62.5'

APPROACHES					
Ref. No.	Station	Side Street	See	I-17 Appr. Cu. Yds.	Pipe Removal Lin. Ft.
17-A	745+33	Rt.	97	12	
18-A	745+33	Lt.	97	9	10
19-A	746+75	Rt.	27	6	
20-A	747+87	Lt.	97	9	
21-A	749+20	Rt.	97	12	
Street Totals				48	10

GUARD RAILS				
Ref. No.	Station	From	To	Remove Side Lin. Ft.
3-GR	739+00	739+95	Lt.	95
Street Totals				95

PAVEMENT REMOVAL		
Station	From	To
746+18	754+50	
Sq. Yds.		2219
Street Totals		2219

STORM SEWERS						
Ref. No.	Station	From	To	Pipe Lin. Ft.	Catch Basins Each	Channel Excav. Sq. Yds.
4-SS	743+09	748+95	Lt.	566	1-3	30
Street Totals				566	4	61



CURVE TABLES

D = 4°00'LT.				S.T. 68+47.00			
LEFT				RIGHT			
Edge of Pav't.	Deduct Crown	Width	STATION	Profile Grade	Width	Add Super	Edge of Pav't.
871.50	0.19	12.00	58+68	871.63	12.00	1.99	873.49
871.54			+75	871.73			873.53
871.69			59	871.88			873.68
871.84			+25	872.03			873.83
871.99			+50	872.18			873.98
872.14			+75	872.33			874.13
872.29			60	872.48			874.28
872.44			+25	872.63			874.43
872.59			+50	872.78			874.58
872.74			+75	872.93			874.73
872.89			61	873.08			874.88
873.04			+25	873.23			875.03
873.19			+50	873.38			875.18
873.33			+75	873.52			875.32
873.46			62	873.65			875.45
873.59			+25	873.78			875.58
873.70			+50	873.89			875.69
873.81			+75	874.00			875.80
873.91			63	874.10			875.90
874.01			+25	874.20			876.00
874.09			+50	874.28			876.08
874.17			+75	874.36			876.16
874.24			64	874.43		1.99	876.23
874.30			+25	874.49			876.28
874.35			C.S.+47	874.54			876.28
874.36			+50	874.55			876.27
874.40			+75	874.59			876.24
874.44			65	874.63		1.73	876.17
874.47			+25	874.66		1.60	876.07
874.50			+50	874.69		1.43	875.98
874.51			+75	874.70		1.35	875.86
874.52			66	874.71		1.23	875.75
874.52			+25	874.71		1.10	875.62
874.51			+50	874.70		0.98	875.49
874.50			+75	874.69		0.86	875.36
874.47			67	874.66		0.73	875.20
874.44			+25	874.63		0.61	875.05
874.40			+50	874.59		0.48	874.88
874.36			+75	874.55		0.36	874.72
874.30			68	874.49		0.23	874.53
874.24			+25	874.43			874.37
874.17			S.T.+47	874.36			874.25
874.17			+50	874.36			874.23
874.09			+75	874.28			874.12
874.00			69	874.19			874.01
873.90			+25	874.10			873.90
873.81	0.19	12.00	+50	874.00	12.00		873.81

NOTE: The design speed is 60 m.p.h.

P.C. 105+41.33				D = 0°30'RT.				P.T. 126+54.67			
LEFT								RIGHT			
Edge of Pav't.	Add Super	Width	STATION	Profile Grade	Width	Deduct Crown	Edge of Pav't.	Edge of Pav't.	Add Super	Width	STATION
869.05		12.00	104+41.33	869.24	12.00	0.19	869.05	869.05			
869.07			+50	869.25			869.06	869.06			
869.12			+75	869.28			869.09	869.09			
869.18			105	869.30			869.11	869.11			
869.27			+25	869.33			869.14	869.14			
869.34	0.19		P.C.+41.33	869.34			869.15	869.15			
869.37	0.21		+50	869.35			869.16	869.16			
869.50			+75	869.38			869.19	869.19			
869.58			106	869.40			869.21	869.21			
869.62	0.38		+25	869.43			869.24	869.24			
869.64			+50	869.45			869.26	869.26			
869.67			+75	869.48			869.29	869.29			
869.69			107	869.50			869.31	869.31			
869.72			+25	869.53			869.34	869.34			
869.74			+50	869.55			869.36	869.36			
869.77			+75	869.58			869.39	869.39			
869.79			108	869.60			869.41	869.41			
869.82			+25	869.63			869.44	869.44			
869.84			+50	869.65			869.46	869.46			
869.87			+75	869.68			869.49	869.49			
869.89			109	869.70			869.51	869.51			
869.92			+25	869.73			869.54	869.54			
869.94			+50	869.75			869.56	869.56			
869.97			+75	869.78			869.59	869.59			
869.99			110	869.80			869.61	869.61			
870.02			+25	869.83			869.64	869.64			
870.04			+50	869.85			869.66	869.66			
870.07			+75	869.88			869.69	869.69			
870.09			111	869.90			869.71	869.71			
870.12			+25	869.93			869.74	869.74			
870.14			+50	869.95			869.76	869.76			
870.17			+75	869.98			869.79	869.79			
870.19			112	870.00			869.81	869.81			
870.22			+25	870.03			869.84	869.84			
870.24			+50	870.05			869.86	869.86			
870.27			+75	870.08			869.89	869.89			
870.29			113	870.10			869.91	869.91			
870.32			+25	870.13			869.94	869.94			
870.34			+50	870.15			869.96	869.96			
870.37			+75	870.18			869.99	869.99			
870.39			114	870.20			870.01	870.01			
870.42			+25	870.23			870.04	870.04			
870.44			+50	870.25			870.06	870.06			
870.47			+75	870.28			870.09	870.09			
870.49			115	870.30			870.11	870.11			
870.52			+25	870.33			870.14	870.14			
870.54			+50	870.35			870.16	870.16			
870.57			+75	870.38			870.19	870.19			
870.59	0.38	12.00	116	870.40	12.00	0.19	870.21	870.21			

CONTINUED IN COLUMN ON RIGHT

Note: The design speed is 70 m.p.h.

LEFT				RIGHT			
Edge of Pav't.	Add Super	Width	STATION	Profile Grade	Width	Deduct Crown	Edge of Pav't.
870.62	0.38	12.00	116+25	870.43	12.00	0.19	870.24
870.64			+50	870.45			870.26
870.67			+75	870.48			870.29
870.69			117	870.50			870.31
870.72			+25	870.53			870.34
870.74			+50	870.55			870.36
870.77			+75	870.58			870.39
870.79			118	870.60			870.41
870.82			+25	870.63			870.44
870.84			+50	870.65			870.46
870.87			+75	870.68			870.49
870.89			119	870.70			870.51
870.92			+25	870.73			870.54
870.94			+50	870.75			870.56
870.97			+75	870.78			870.59
870.99			120	870.80			870.61
871.02			+25	870.83			870.64
871.04			+50	870.85			870.66
871.07			+75	870.88			870.69
871.09			121	870.90			870.71
871.12			+25	870.93			870.74
871.14			+50	870.95			870.76
871.17			+75	870.98			870.79
871.19			122	871.00			870.81
871.22			+25	871.03			870.84
871.24			+50	871.05			870.86
871.27			+75	871.08			870.89
871.29			123	871.10			870.91
871.32			+25	871.13			870.94
871.34			+50	871.15			870.96
871.37			+75	871.18			870.99
871.39			124	871.20			871.01
871.42			+25	871.23			871.04
871.44			+50	871.25			871.06
871.47			+75	871.28			871.09
871.49			125	871.30			871.11
871.52			+25	871.33			871.14
871.54			+50	871.35			871.16
871.57	0.38		+75	871.38			871.19
871.55			126	871.40			871.21
871.51			+25	871.43			871.24
871.46			+50	871.45			871.26
871.45	0.19		P.T.+54.67	871.45			871.26
871.42			+75	871.48			871.29
871.39			127	871.50			871.31
871.36			+25	871.53			871.34
871.36			+50	871.55			871.36
871.36		12.00	+54.67	871.55	12.00	0.19	871.36

NOTE: The design speed is 70 m.p.h.

CURVE TABLES

T.S. 144+34.00 D = 1°30' LT ST. 172+86.78							
LEFT				RIGHT			
Edge of Pav't	Deduct Crown	Width	STATION	Profile Grade	Width	Add Super	Edge of Pav't
871.81	0.19	12.00	143+52	872.00	12.00		871.81
			+75				871.82
			144			Obtain Graph	871.89
			+25				872.97
			T.S. + 34			0.19	872.00
			+50			0.25	872.06
			+75			0.35	872.16
			145			0.44	872.25
			+25			0.54	872.35
			+50			0.63	872.44
			+75			0.73	872.54
			146			0.83	872.64
			+25			0.92	872.73
			+50			1.02	872.83
			+75				872.91
			S.C. + 84			Obtain Graph	872.93
			147				872.95
			+25			1.15	872.96
			+50				872.96
			+75				872.96
871.81			148	872.00			872.96
871.81			+25	872.01			872.97
871.82			+50	872.03			872.99
871.84			+75	872.07			873.03
871.88			149	872.13			873.09
871.94			+25	872.20			873.16
872.01			+50	872.28			873.24
872.09			+75	872.39			873.35
872.20			150	872.51			873.47
872.32			+25	872.64			873.60
872.45			+50	872.79			873.75
872.60			+75	872.96			873.92
872.77			151	873.14			874.10
872.95			+25	873.34			874.30
873.15			+50	873.55			874.51
873.36			+75	873.78			874.74
873.59			152	874.03			874.99
873.84			+25	874.29			875.25
874.10			+50	874.56			875.52
874.37			+75	874.86			875.82
874.67			153	875.17			876.13
874.98			+25	875.49			876.45
875.30			+50	875.83			876.79
875.64			+75	876.19			877.15
876.00			154	876.56			877.52
876.37			+25	876.93			877.89
876.74			+50	877.29			878.25
877.10			+75	877.64			878.60
877.45			155	877.97			878.93
877.78			+25	878.29			879.25
878.10			+50	878.60			879.56
878.41			+75	878.90			879.86
878.71			156	879.18			880.14
878.99			+25	879.44			880.40
879.25			+50	879.70			880.66
879.51			+75	879.94			880.90
879.75			157	880.17			881.13
879.98			+25	880.38			881.34
880.19			+50	880.58			881.54
880.39			+75	880.76			881.72
880.57			158	880.94			881.90
880.75			+25	881.11			882.07
880.92	0.19	12.00	+25	881.11	12.00	1.15	882.07

CONTINUED IN COLUMN ON RIGHT

LEFT				RIGHT			
Edge of Pav't	Deduct Crown	Width	STATION	Profile Grade	Width	Add Super	Edge of Pav't
881.06	0.19	12.00	158+50	881.25	12.00	1.15	882.21
881.20			+75	881.39			882.35
881.32			159	881.51			882.47
881.43			+25	881.62			882.58
881.52			+50	881.71			882.67
881.61			+75	881.80			882.76
881.67			160	881.86			882.82
881.72			+25	881.91			882.87
881.77			+50	881.96			882.92
881.80			+75	881.99			882.95
881.82			161	882.01			882.97
881.82			+25	882.01			882.97
881.81			+50	882.00			882.96
881.78			+75	881.97			882.93
881.75			162	881.94			882.90
881.70			+25	881.89			882.85
881.63			+50	881.82			882.78
881.55			+75	881.74			882.70
881.46			163	881.65			882.61
881.36			+25	881.55			882.51
881.24			+50	881.43			882.39
881.11			+75	881.30			882.26
880.97			164	881.16			882.12
880.82			+25	881.01			881.97
880.67			+50	880.86			881.82
880.52			+75	880.71			881.67
880.37			165	880.56			881.52
880.22			+25	880.41			881.37
880.08			+50	880.27			881.23
879.95			+75	880.14			881.10
879.82			166	880.01			880.97
879.70			+25	879.89			880.85
879.59			+50	879.78			880.74
879.48			+75	879.67			880.63
879.37			167	879.56			880.52
879.28			+25	879.47			880.43
879.19			+50	879.38			880.34
879.11			+75	879.30			880.26
879.03			168	879.22			880.18
878.96			+25	879.15			880.11
878.90			+50	879.09			880.05
878.84			+75	879.03			879.99
878.79			169	878.98			879.94
878.75			+25	878.94			879.90
878.71			+50	878.90			879.86
878.68			+75	878.87			879.83
878.65			170	878.84			879.80
878.64			+25	878.83			879.79
878.62			C.S. + 86.78	878.81		1.15	879.77
878.62			+50	878.81		1.10	879.72
878.62			+75	878.81		1.00	879.62
878.61			171	878.80		0.91	879.52
878.63			+25	878.82		0.81	879.44
878.64			+50	878.83		0.72	879.36
878.66			+75	878.85		0.62	879.28
878.68			172	878.87		0.52	879.20
878.72			+25	878.91		0.43	879.15
878.75			+50	878.94		0.33	879.08
878.80			+75	878.99		0.24	879.04
878.83			S.T. + 86.78	879.02		0.19	879.02
878.85			173	879.04		0.16	879.01
878.91			+25	879.10		0.09	878.99
878.96			+50	879.15		0.03	878.99
878.99	0.19	12.00	+61.78	879.18	12.00	0.00	878.99

NOTE: The design speed is 70 m.p.h.

CURVE TABLES

LEFT			D = 1° 10' RT.		P.T. 654+10.58		
Edge of Pav't	Add Super	Width	STATION	Profile Grade	Width	Deduct Crown	Edge of Pav't
909.99	0.58	12.00	632+00	909.60	12.00	0.19	909.41
910.00			+25	909.60			909.41
910.04			+50	909.62			909.43
910.10			+75	909.64			909.45
910.22			633	909.66			909.47
910.33			+25	909.70			909.51
910.46			+50	909.75			909.56
910.51	0.90		+75	909.80			909.61
910.57			634	909.86			909.67
910.64			+25	909.93			909.74
910.72			+50	910.01			909.82
910.80			+75	910.09			909.90
910.89			635	910.18			909.99
911.00			+25	910.29			910.10
911.11			+50	910.40			910.21
911.22			+75	910.51			910.32
911.35			636	910.64			910.45
911.48			+25	910.77			910.58
911.61			+50	910.90			910.71
911.74			+75	911.03			910.84
911.87			637	911.16			910.97
912.00			+25	911.29			911.10
912.13			+50	911.42			911.23
912.26			+75	911.55			911.36
912.39			638	911.68			911.49
912.52			+25	911.81			911.62
912.65			+50	911.94			911.75
912.78			+75	912.07			911.88
912.91			639	912.20			912.01
913.04			+25	912.33			912.14
913.17			+50	912.46			912.27
913.30			+75	912.59			912.40
913.43			640	912.72			912.53
913.56			+25	912.85			912.66
913.69			+50	912.98			912.79
913.82			+75	913.11			912.92
913.95			641	913.24			913.05
914.08			+25	913.37			913.18
914.21			+50	913.50			913.31
914.34			+75	913.63			913.44
914.47			642	913.76			913.57
914.60			+25	913.89			913.70
914.73			+50	914.02			913.83
914.86			+75	914.15			913.96
914.99			643	914.28			914.09
915.12			+25	914.41			914.22
915.25			+50	914.54			914.35
915.38			+75	914.67			914.48
915.51	0.90	12.00	644	914.80	12.00	0.19	914.61

CONTINUED IN COLUMN ON RIGHT

LEFT			STATION		RIGHT		
Edge of Pav't	Add Super	Width	STATION	Profile Grade	Width	Deduct Crown	Edge of Pav't
915.64	0.90	12.00	644+25	914.93	12.00	0.19	914.74
915.77			+50	915.06			914.87
915.89			+75	915.18			914.99
916.01			645	915.30			915.11
916.13			+25	915.42			915.23
916.25			+50	915.54			915.35
916.36			+75	915.65			915.46
916.48			646	915.77			915.58
916.59			+25	915.88			915.69
916.69			+50	915.98			915.79
916.80			+75	916.09			915.90
916.90			647	916.19			916.00
917.00			+25	916.29			916.10
917.10			+50	916.39			916.20
917.20			+75	916.49			916.30
917.29			648	916.58			916.39
917.38			+25	916.67			916.48
917.47			+50	916.76			916.57
917.55			+75	916.84			916.65
917.64			649	916.93			916.74
917.72			+25	917.01			916.82
917.80			+50	917.09			916.90
917.88			+75	917.17			916.98
917.96			650	917.25			917.06
918.02			+25	917.31			917.12
918.10			+50	917.39			917.20
918.16			+75	917.45			917.26
918.23			651	917.52			917.33
918.29			+25	917.58			917.39
918.36			+50	917.65			917.46
918.41			+75	917.70			917.51
918.47			652	917.76			917.57
918.52			+25	917.81			917.62
918.58			+50	917.87			917.68
918.63			+75	917.92			917.73
918.69			653	917.98			917.79
918.74			+25	918.03			917.84
918.79			+50	918.09			917.90
918.85	0.90		+75	918.14			917.95
918.86			654	918.20			918.01
918.85			P.T.+10.58	918.22			918.03
918.82			+25	918.25			918.06
918.75			+50	918.31			918.12
918.65			+75	918.36			918.17
918.55			655	918.42			918.23
918.45			+25	918.47			918.28
918.40			+50	918.53			918.34
918.41			+75	918.58			918.39
918.45		12.00	656	918.64	12.00	0.19	918.45

NOTE: The design speed is 70 m. p. h.

LEFT			D = 0° 30' LT.		P.T. 703+17.40		
Edge of Pav't	Deduct Crown	Width	STATION	Profile Grade	Width	Add Super	Edge of Pav't
921.09	0.19	12.00	668	921.28	12.00		921.09
921.14			+25	921.33			921.15
921.20			+50	921.39			921.23
921.25			+75	921.44			921.35
921.31			669	921.50			921.51
921.36			+25	921.55			921.66
921.41			P.C.+47.40	921.60			921.77
921.42			+50	921.61		0.38	921.80
921.47			+75	921.66			921.85
921.53			670	921.72			921.91
921.58			+25	921.77			921.96
921.64			+50	921.83			922.02
921.69			+75	921.88			922.07
921.75			671	921.94			922.13
921.80			+25	921.99			922.18
921.86			+50	922.05			922.24
921.91			+75	922.10			922.29
921.97			672	922.16			922.35
922.02			+25	922.21			922.40
922.08			+50	922.27			922.46
922.13			+75	922.32			922.51
922.19			673	922.38			922.57
922.24			+25	922.43			922.62
922.30			+50	922.49			922.68
922.35			+75	922.54			922.73
922.41			674	922.60			922.79
922.46			+25	922.65			922.84
922.52			+50	922.71			922.90
922.57			+75	922.76			922.95
922.63			675	922.82			923.01
922.68			+25	922.87			923.06
922.74			+50	922.93			923.12
922.79			+75	922.98			923.17
922.85			676	923.04			923.23
922.90			+25	923.09			923.28
922.96			+50	923.15			923.34
923.01			+75	923.20			923.39
923.07			677	923.26			923.45
923.12			+25	923.31			923.50
923.18			+50	923.37			923.56
923.23			+75	923.42			923.61
923.29			678	923.48			923.67
923.34			+25	923.53			923.72
923.40			+50	923.59			923.78
923.45			+75	923.64			923.83
923.51			679	923.70			923.89
923.56			+25	923.75			923.94
923.62			+50	923.81			924.00
923.67			+75	923.86			924.05
923.73			680	923.92			924.11
923.78			+25	923.97			924.16
923.84			+50	924.03			924.22
923.89			+75	924.08			924.27
923.95			681	924.14			924.33
924.00			+25	924.19			924.38
924.06			+50	924.25			924.44
924.11			+75	924.30			924.49
924.17			682	924.36			924.55
924.22			+25	924.41			924.60
924.28			+50	924.47			924.66
924.33			+75	924.52			924.71
924.39			683	924.58			924.77
924.44			+25	924.63			924.82
924.50			+50	924.69			924.88
924.55			+75	924.74			924.93
924.61	0.19	12.00	684	924.80	12.00	0.38	924.99

CONTINUED IN COLUMN ON NEXT SHEET

CURVE TABLES

LEFT			STATION	Profile Grade	RIGHT		
Edge of Pav't.	Deduct Crown	Width			Width	Add Super	Edge of Pav't.
924.66	0.19	12.00	684+25	924.85	12.00	0.38	925.04
924.72			+50	924.91			925.10
924.77			+75	924.96			925.15
924.83			685	925.02			925.21
924.88			+25	925.07			925.26
924.94			+50	925.13			925.32
924.99			+75	925.18			925.37
925.05			686	925.24			925.43
925.10			+25	925.29			925.48
925.16			+50	925.35			925.54
925.21			+75	925.40			925.59
925.27			687	925.46			925.65
925.32			+25	925.51			925.70
925.38			+50	925.57			925.76
925.43			+75	925.62			925.81
925.49			688	925.68			925.87
925.54			+25	925.73			925.92
925.60			+50	925.79			925.98
925.65			+75	925.84			926.03
925.71			689	925.90			926.09
925.76			+25	925.95			926.14
925.82			+50	926.01			926.20
925.87			+75	926.06			926.25
925.93			690	926.12			926.31
925.98			+25	926.17			926.36
926.04			+50	926.23			926.42
926.09			+75	926.28			926.47
926.15			691	926.34			926.53
926.20			+25	926.39			926.58
926.26			+50	926.45			926.64
926.31			+75	926.50			926.69
926.37			692	926.56			926.75
926.42			+25	926.61			926.80
926.48			+50	926.67			926.86
926.53			+75	926.72			926.91
926.59			693	926.78			926.97
926.64			+25	926.83			927.02
926.70			+50	926.89			927.08
926.75			+75	926.94			927.13
926.81			694	927.00			927.19
926.86			+25	927.05			927.24
926.92			+50	927.11			927.30
926.97			+75	927.16			927.35
927.03			695	927.22			927.41
927.08			+25	927.27			927.46
927.14			+50	927.33			927.52
927.19			+75	927.38			927.57
927.25			696	927.44			927.63
927.30			+25	927.49			927.68
927.36			+50	927.55			927.74
927.41			+75	927.60			927.79
927.47			697	927.66			927.85
927.52			+25	927.71			927.90
927.58			+50	927.77			927.96
927.63			+75	927.82			928.01
927.69			698	927.88			928.07
927.74			+25	927.93			928.12
927.80			+50	927.99			928.18
927.85			+75	928.04			928.23
927.91			699	928.10			928.29
927.96			+25	928.15			928.34
928.02			+50	928.21			928.40
928.07			+75	928.26			928.45
928.13			700	928.32			928.51
928.18			+25	928.37			928.56
928.24	0.19	12.00	+50	928.43	12.00	0.38	928.62

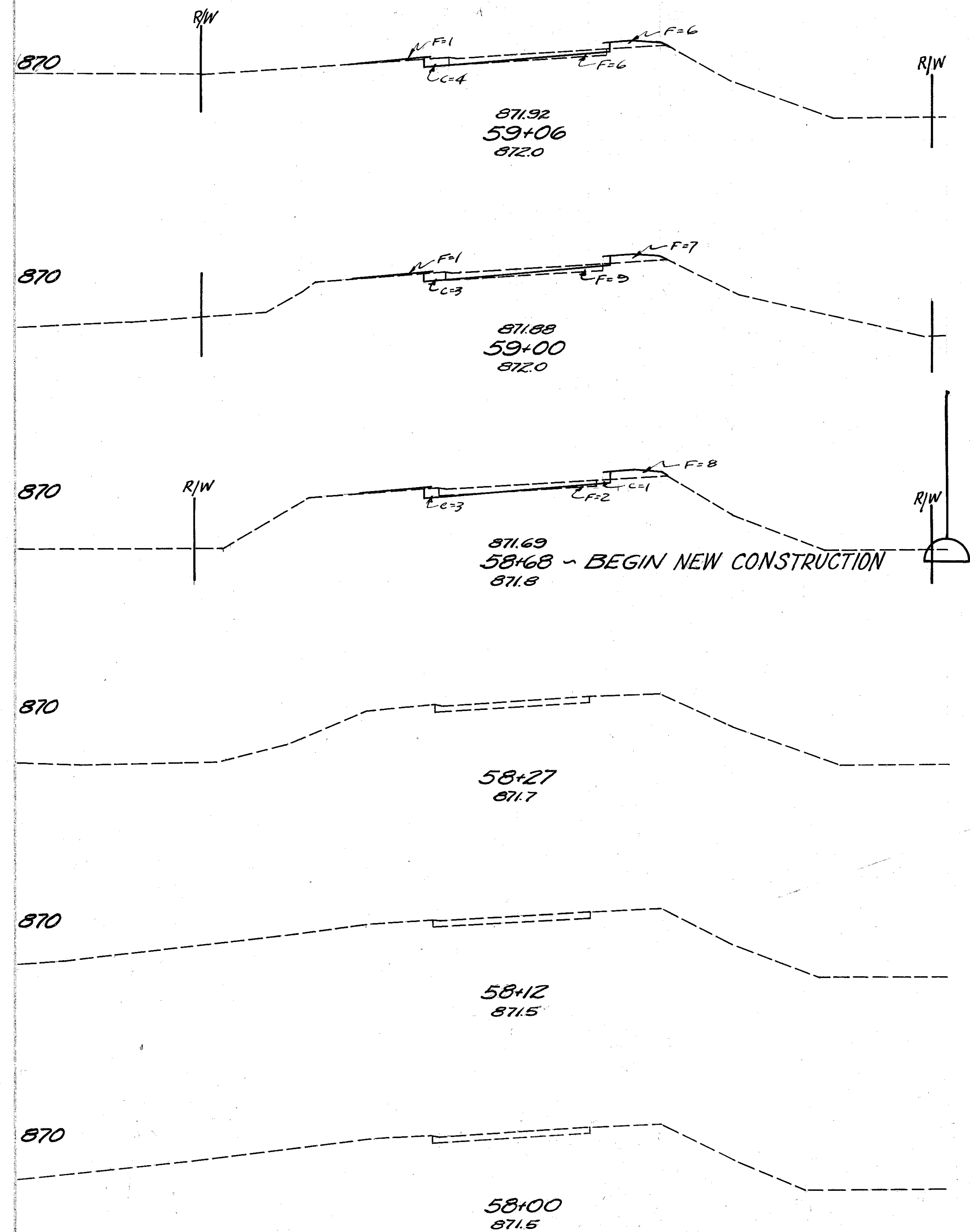
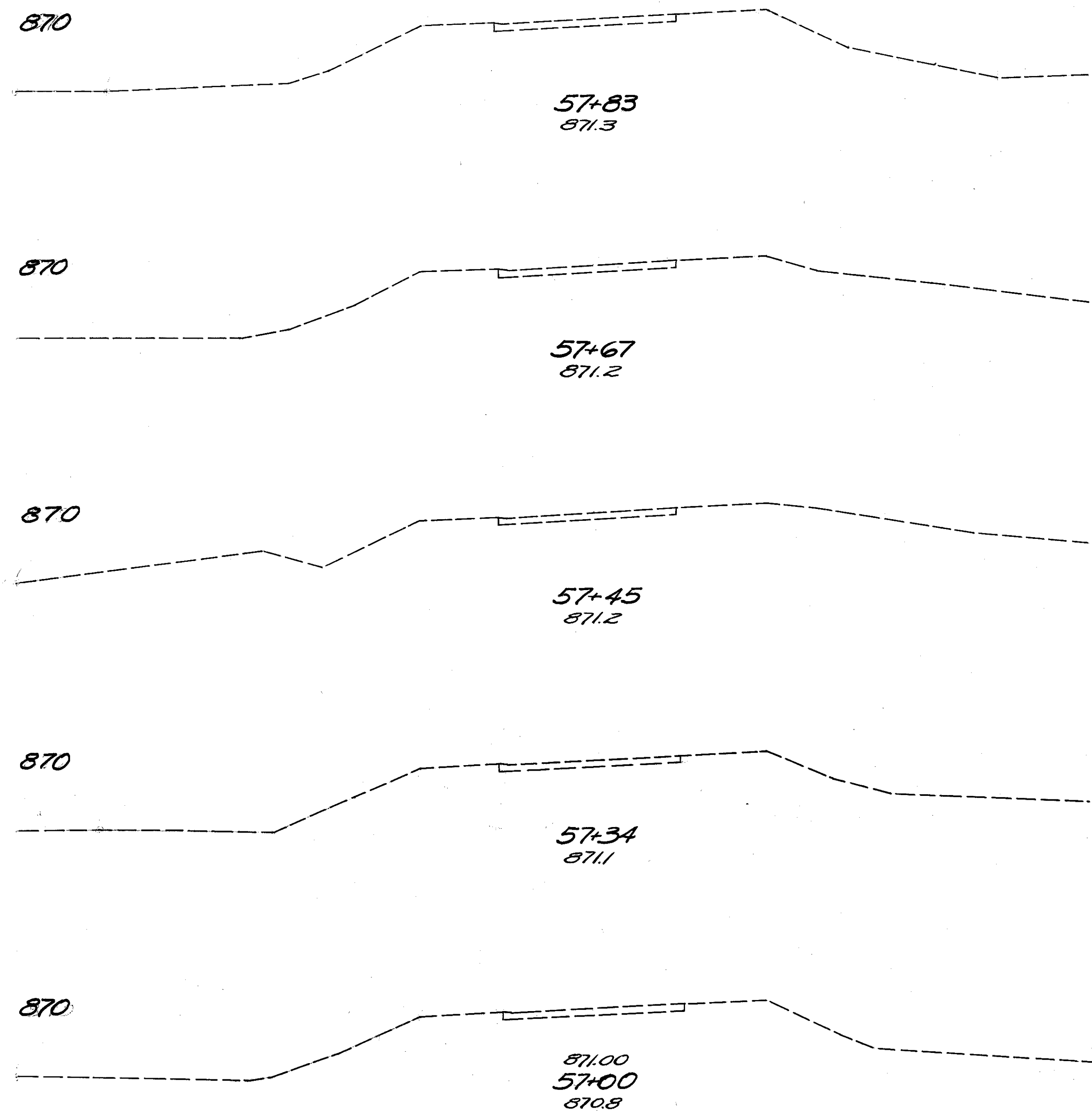
CONTINUED IN COLUMN ON RIGHT

LEFT			STATION	Profile Grade	RIGHT		
Edge of Pav't.	Deduct Crown	Width			Width	Add Super	Edge of Pav't.
928.29	0.19	12.00	700+75	928.48	12.00	0.38	928.67
928.35			701	928.54			928.73
928.40			+25	928.59			928.78
928.46			+50	928.65			928.84
928.51			+75	928.70			928.89
928.57			702	928.76			928.95
928.62			+25	928.81			929.00
928.68			+50	928.87			929.06
928.73			+75	928.92		0.38	929.11
928.79			703	928.98			929.16
928.83			PT+1740	929.02			929.17
928.84			+25	929.03			929.17
928.90			+50	929.09			929.15
928.95			+75	929.14			929.11
929.01			704	929.20			929.08
929.06			+25	929.25			929.03
929.12	0.19	12.00	+50	929.31	12.00		929.12

Obtain Graphically

T. 5 729+35.19			D = 1°30' LT.		ST. 753+47.97		
LEFT							RIGHT
Edge of Pav't.	Deduct Crown	Width	STATION	Profile Grade	Width	Add Super	Edge of Pav't.
934.40	0.19	12.00	728+50	934.59	12.00		934.40
934.45			+ 75	934.64			934.47
934.51			729	934.70			934.53
934.56			+ 25	934.75			934.72
934.58			T. 5 +35.19	934.77		0.19	934.77
934.62			+ 50	934.81		0.25	934.87
934.67			+ 75	934.86		0.34	935.01
934.73			730	934.92		0.44	935.17
934.78			+ 25	934.97		0.54	935.32
934.84			+ 50	935.03		0.63	935.47
934.89			+ 75	935.08		0.73	935.62
934.95			731	935.14		0.82	935.77
935.00			+ 25	935.19		0.92	935.92
935.06			+ 50	935.25		1.02	936.08
935.11			+ 75	935.30			936.20
935.13			S.C.+85.19	935.32			936.25
935.17			732	935.36			936.30
935.22			+ 25	935.41		1.15	936.37
935.28			+ 50	935.47			936.43
935.33			+ 75	935.52			936.48
935.39			733	935.58			936.54
935.44			+ 25	935.63			936.59
935.50			+ 50	935.69			936.65
935.56			+ 75	935.75			936.71
935.61			734	935.80			936.76
935.66			+ 25	935.85			936.81
935.72			+ 50	935.91			936.87
935.77			+ 75	935.96			936.92
935.83			735	936.02			936.98
935.88			+ 25	936.07			937.03
935.94			+ 50	936.13			937.09
935.99			+ 75	936.18			937.14
936.05			736	936.24			937.20
936.10			+ 25	936.29			937.25
936.16			+ 50	936.35			937.31
936.21			+ 75	936.40			937.36
936.27			737	936.46			937.42
936.32			+ 25	936.51			937.47
936.38			+ 50	936.57			937.53
936.43			+ 75	936.62			937.58
936.49	0.19	12.00	738	936.68	12.00	1.15	937.64
CONTINUED IN COLUMN ON RIGHT							

LEFT			STATION	Profile Grade	RIGHT		
Edge of Pav't.	Deduct Crown	Width			Width	Add Super	Edge of Pav't.
936.54	0.19	12.00	738+25	936.73	12.00	1.15	937.69
936.60			+50	936.79			937.75
936.65			+75	936.84			937.80
936.71			739	936.90			937.86
936.76			+25	936.95			937.91
936.82			+50	937.01			937.97
936.87			+75	937.06			938.02
936.93			740	937.12			938.08
936.98			+25	937.17			938.13
937.04			+50	937.23			938.19
937.09			+75	937.28			938.24
937.15			741	937.34			938.30
937.20			+25	937.39			938.35
937.26			+50	937.45			938.41
937.31			+75	937.50			938.46
937.37			742	937.56			938.52
937.42			+25	937.61			938.57
937.49			+50	937.68			938.64
937.55			+75	937.74			938.70
937.62			743	937.81			938.77
937.67			+25	937.88			938.84
937.77			+50	937.96			938.92
937.84			+75	938.03			938.99
937.93			744	938.12			939.08
938.02			+25	938.21			939.17
938.11			+50	938.30			939.26
938.20			+75	938.39			939.35
938.31			745	938.50			939.46
938.41			+25	938.60			939.56
938.52			+50	938.71			939.67
938.62			+75	938.81			939.77
938.74			746	938.93			939.89
938.86			+25	939.05			940.01
938.98			+50	939.17			940.13
939.11			+75	939.30			940.26
939.24			747	939.43			940.39
939.37			+25	939.56			940.52
939.51			+50	939.70			940.66
939.65			+75	939.84			940.80
939.80			748	939.99			940.95
939.95			+25	940.14			941.10
940.10			+50	940.29			941.25
940.26			+75	940.45			941.41
940.42			749	940.61			941.57
940.59			+25	940.78			941.74
940.75			+50	940.94			941.90
940.93			+75	941.12			942.08
941.10			750	941.29			942.25
941.28			+25	941.47			942.43
941.47			+50	941.66			942.62
941.66			+75	941.85		1.15	942.81
941.83			C.S.+97.97	942.02		Obtain Graph	942.93
941.85			751	942.04			942.95
942.04			+25	942.23			943.07
942.24			+50	942.43		0.95	943.19
942.45			+75	942.64		0.85	943.30
942.65			752	942.84		0.76	943.41
942.86			+25	943.05		0.66	943.52
943.08			+50	943.27		0.57	943.65
943.30			+75	943.49		0.47	943.77
943.52			753	943.71		0.37	943.89
943.75			+25	943.92			944.00
943.96			S.T.+47.97	944.15		Obtain Graph.	944.13
943.98			+50	944.17			944.15
944.21			+75	944.40			944.30
944.45			754	944.64			944.48
944.69			+25	944.88			944.69
944.93	0.19	12.00	+50	945.12	12.00		944.93



F-415(10) Postwar 32
HAS-36-(043-2.92)-(11.92-14.12) 166
PARTS 1 & 2

Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
	205			7	26
42		4	13		
	29			1	3
41		3	17		
	442			4	16
39		4	10		

190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

F-415(10) Postwar 33
HAS-36-(043-2.92)-(11.92-14.12) 166
PARTS 1 & 2

870

870

870

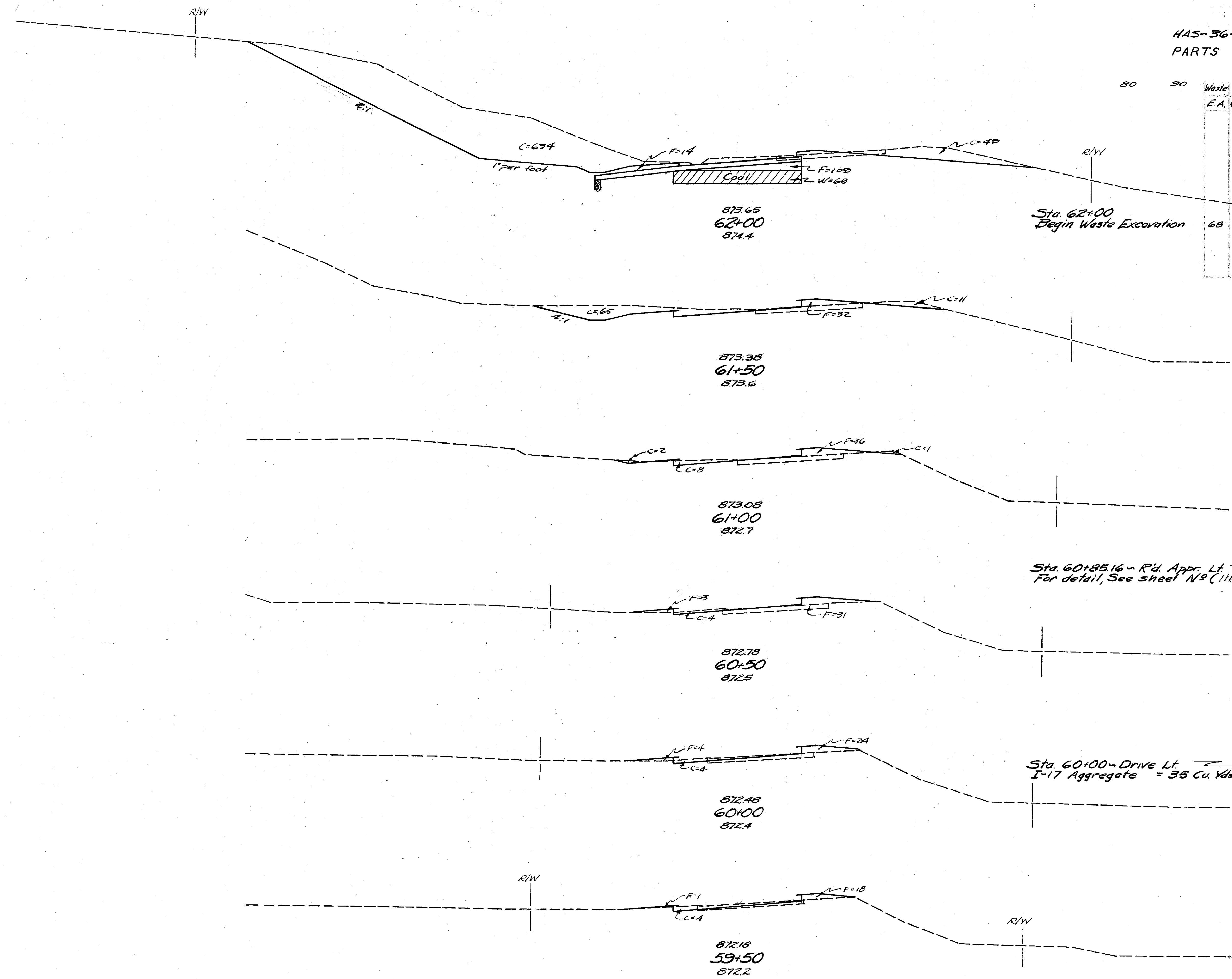
870

870

870

80 90

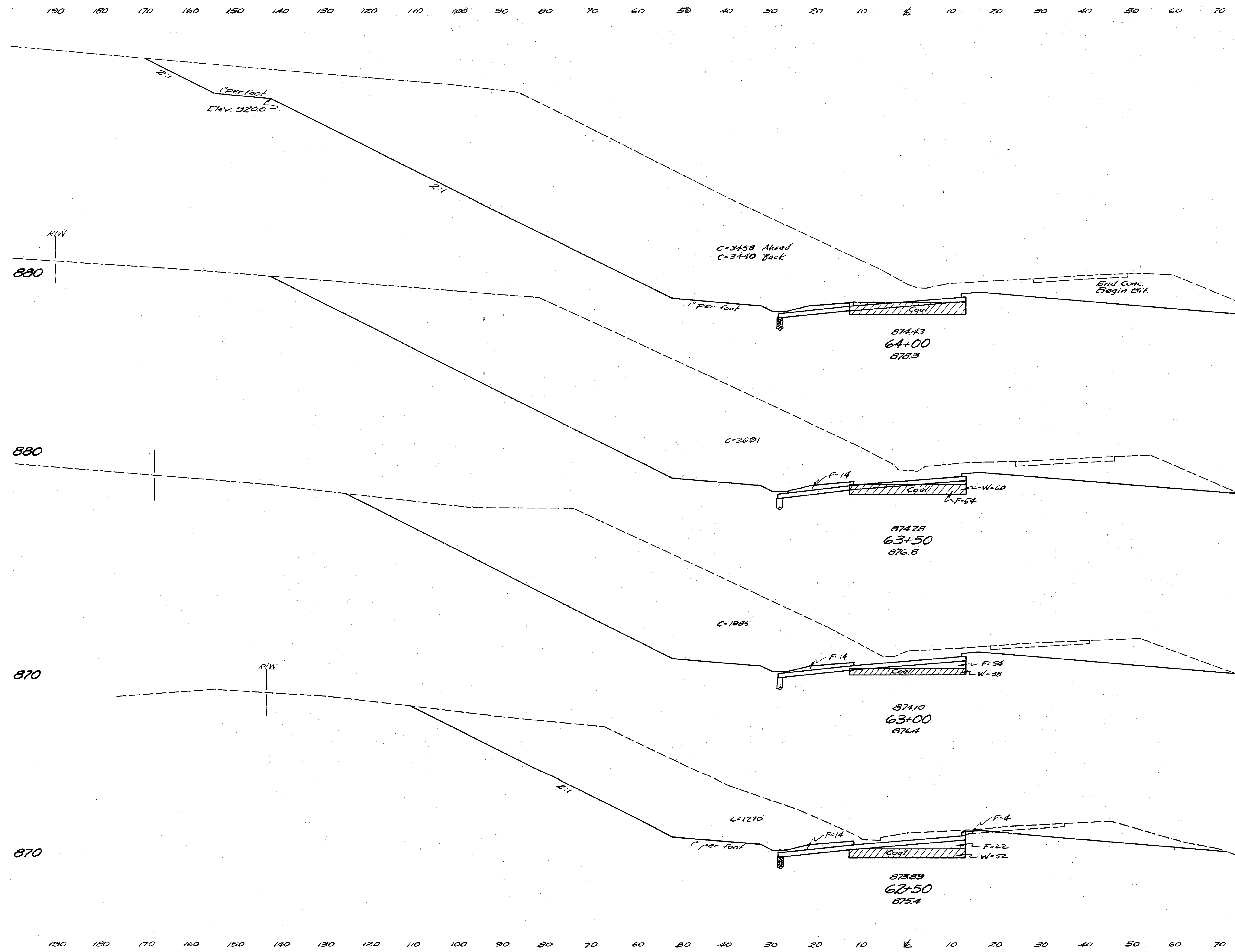
Waste Exc.	Seeding	E. A.	Cu. Yds.
E.A. C.Y.	W. S.Y.	Cut	Fill
111	850		1808 151
68	142	683 123	
	620		703 144
81	76 32		
378			81 63
55	11 36		
278			14 65
45	4 34		
245			7 57
43	4 28		
236			7 44
42	4 19		



190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100

STA. 59+50 TO STA. 62+00

F-415(10) Postwar 34
 HAS-36-(0.43-2.92)-(11.92-14.12) 166
 PARTS 1 & 2

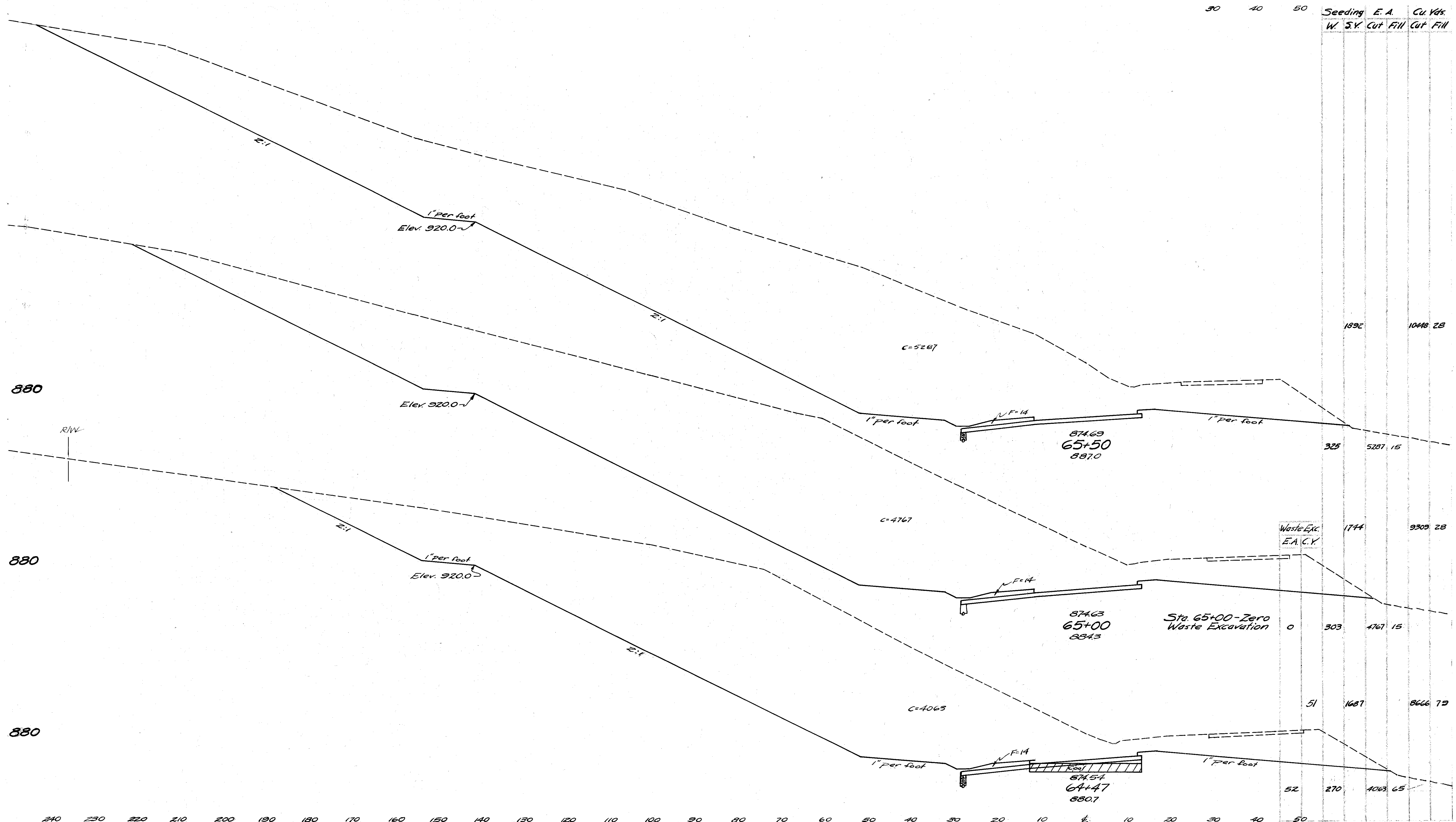


Waste Exc.	Seeding	E. A.	Cu. Vols.		
E.A. C.Y.	W. S.Y.	Cut	Fill	Cut	Fill
110	1389			6546	111
75	262	3458 3440	63		
125	1353			5677	121
60	225	2691	68		
91	1192			4330	126
38	204	1985	68		
83	1022			3014	100
52	164	1270	40		
100					

STA. 62+50 TO STA. 64+00

240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

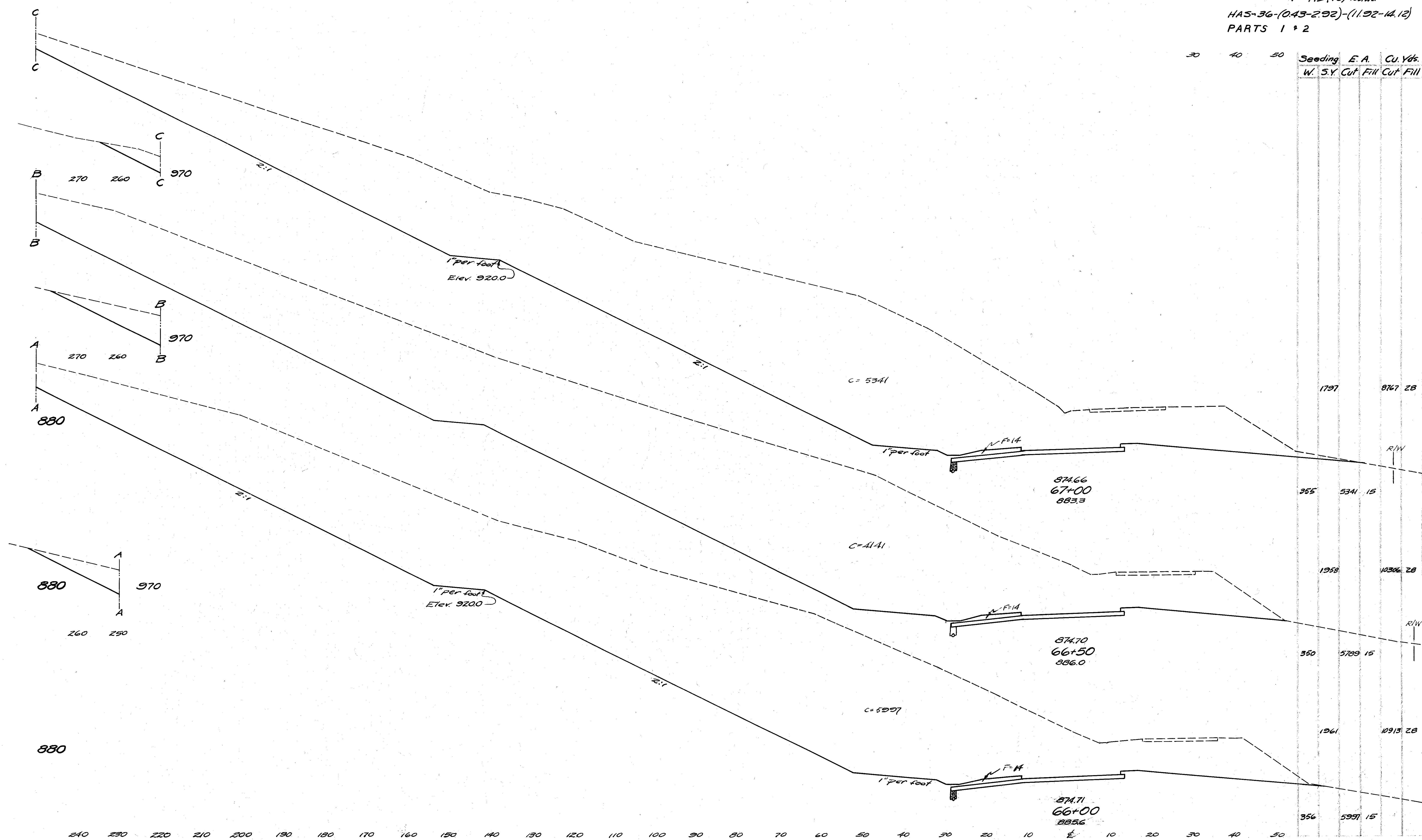
F-415(10) Postwar 35
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2



STA. 64+47 TO STA. 65+50

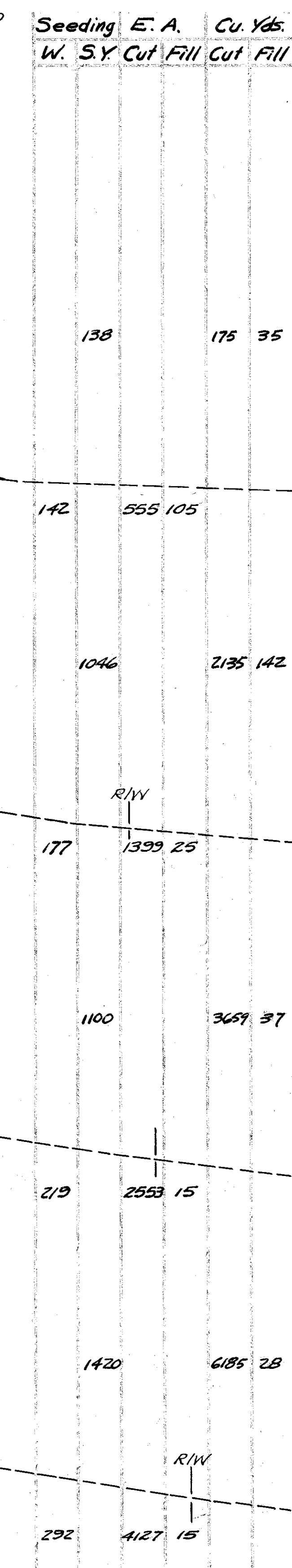
240 230 220 210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20

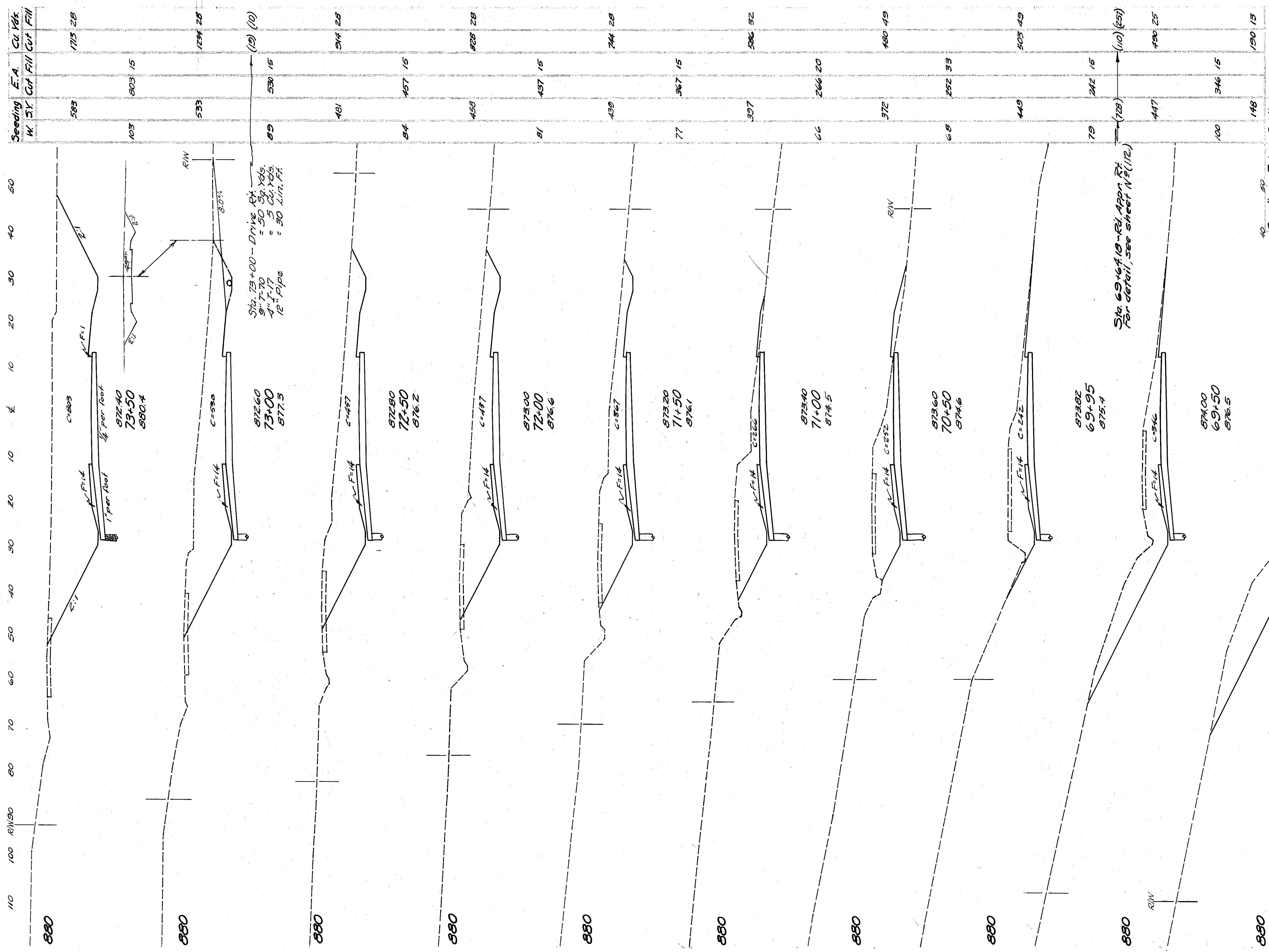
F-415(10) Postwar 36
HAS-36-(043-292)-(11.92-14.12) 166
PARTS 1 & 2



Seeding			E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill	
1797						8767 28
355	534	15				
1958						10306 28
350	5789	15				
1261						10913 28
356	5991	15				

STA. 66+00 TO STA. 67+00



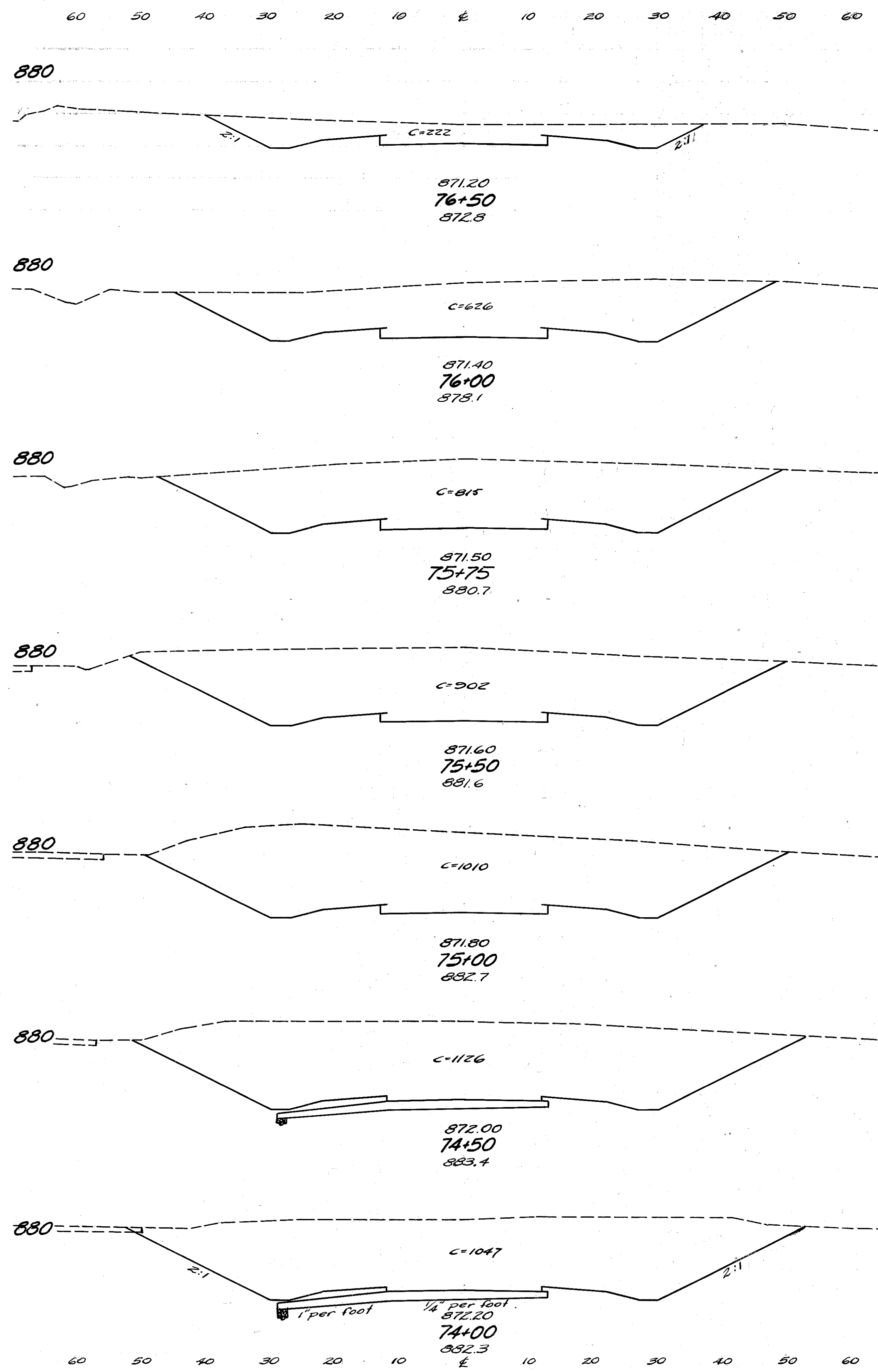


Seeding	E.A.	Cu Yds
W 5Y	Cut	Fill
583	1715	28
103	803	15
533	1234	28
89	530	15
481	914	28
84	457	15
458	828	28
81	437	15
439	744	28
77	367	15
327	584	32
66	266	20
372	480	49
68	252	33
449	505	49
79	242	15
447	430	25
100	346	15
148	190	13

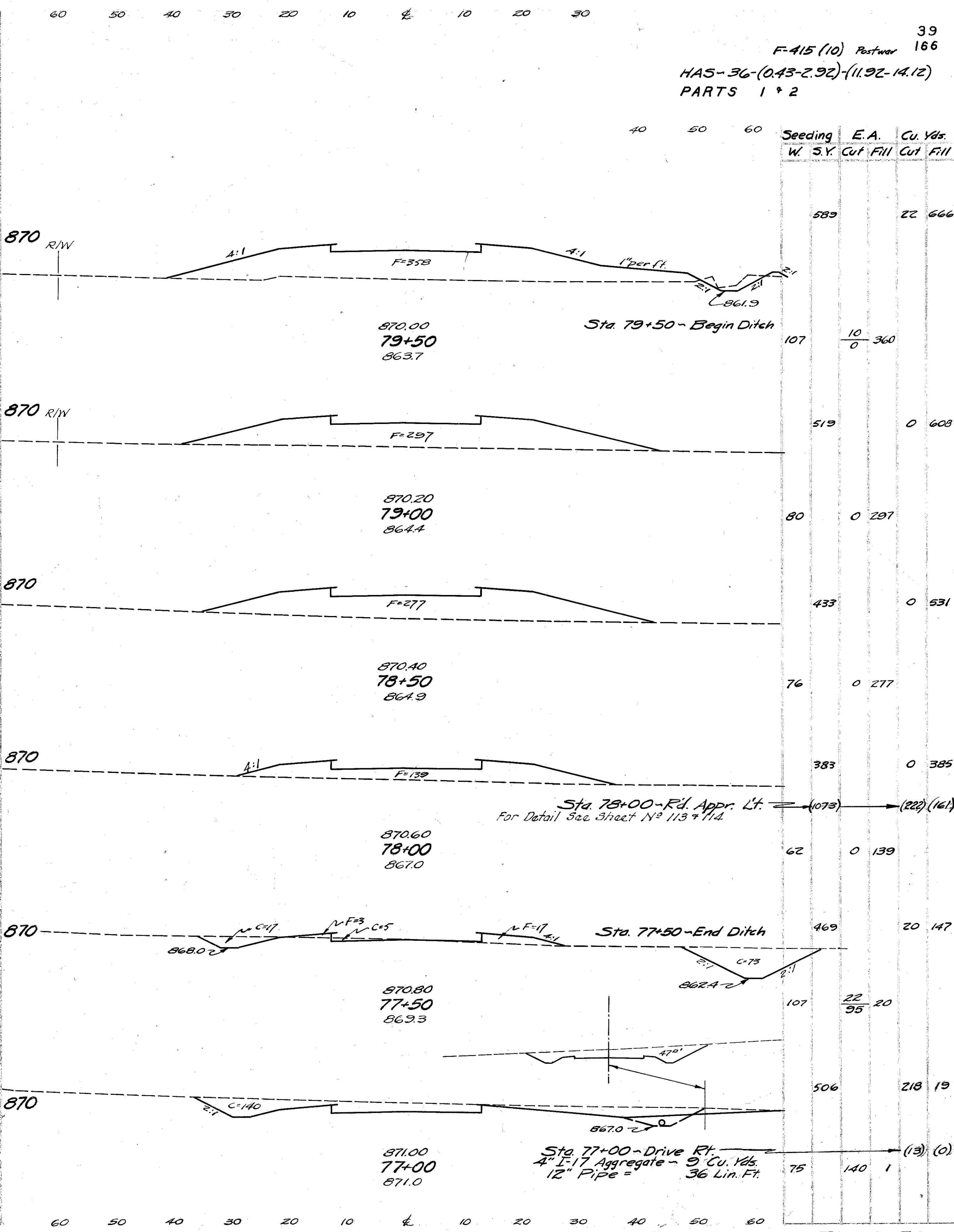
Seeding	E.A.	Cu Yds
W 5Y	Cut	Fill
105	442	37
252	329	49
134	438	103

F-415 (10) Postwar
 HAS-36-(0.43-2.92)-(11.92-14.12)
 PARTS 1 & 2

STA. 69+18 TO STA. 73+50



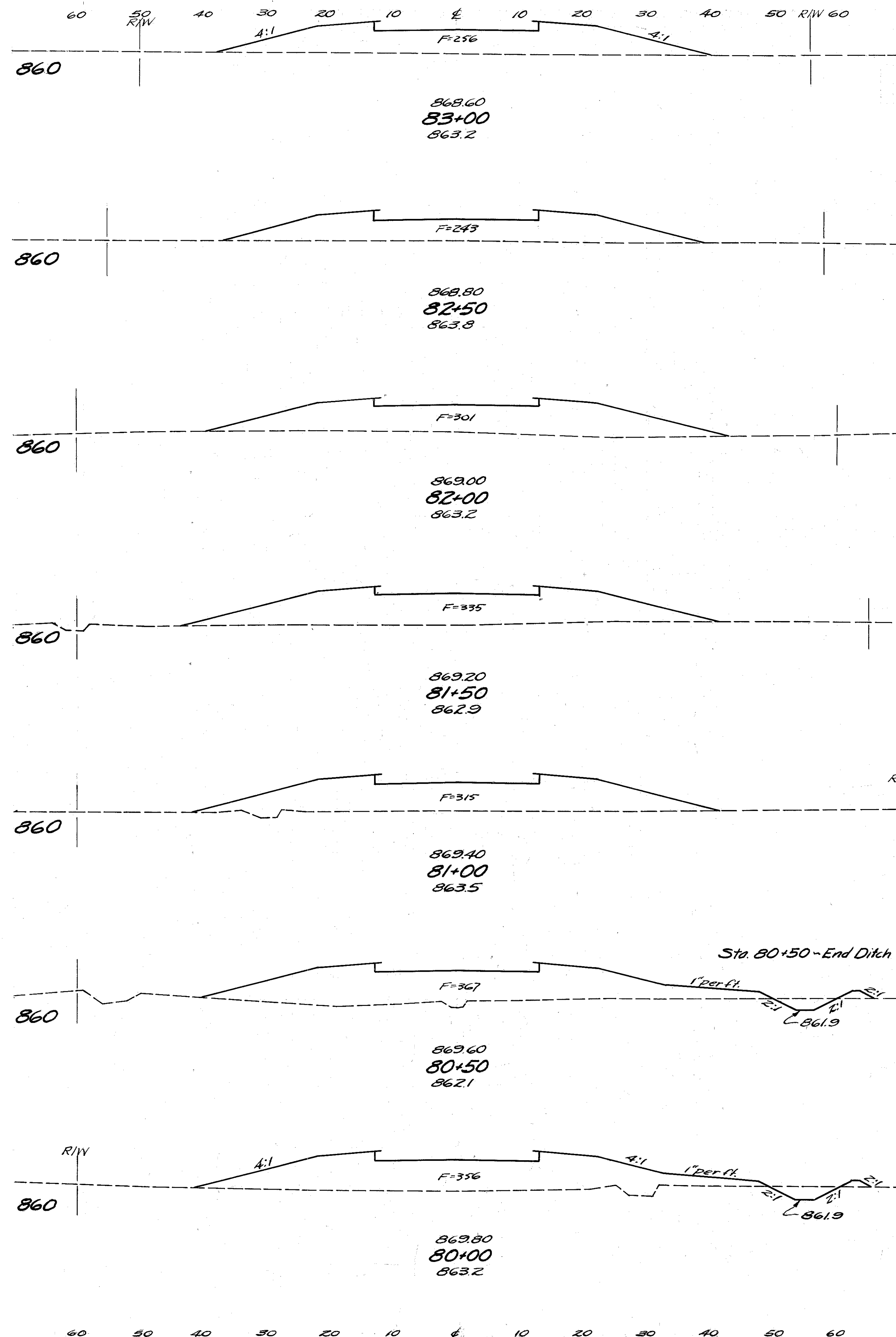
Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
417				335	3
75		222	2		
469				785	3
94		626	1		
267				667	1
98		815	2		
278				795	1
102		902	1		
564				1770	3
101		1010	2		
575				1978	16
106		1126	15		
592				2012	28
107		1047	15		



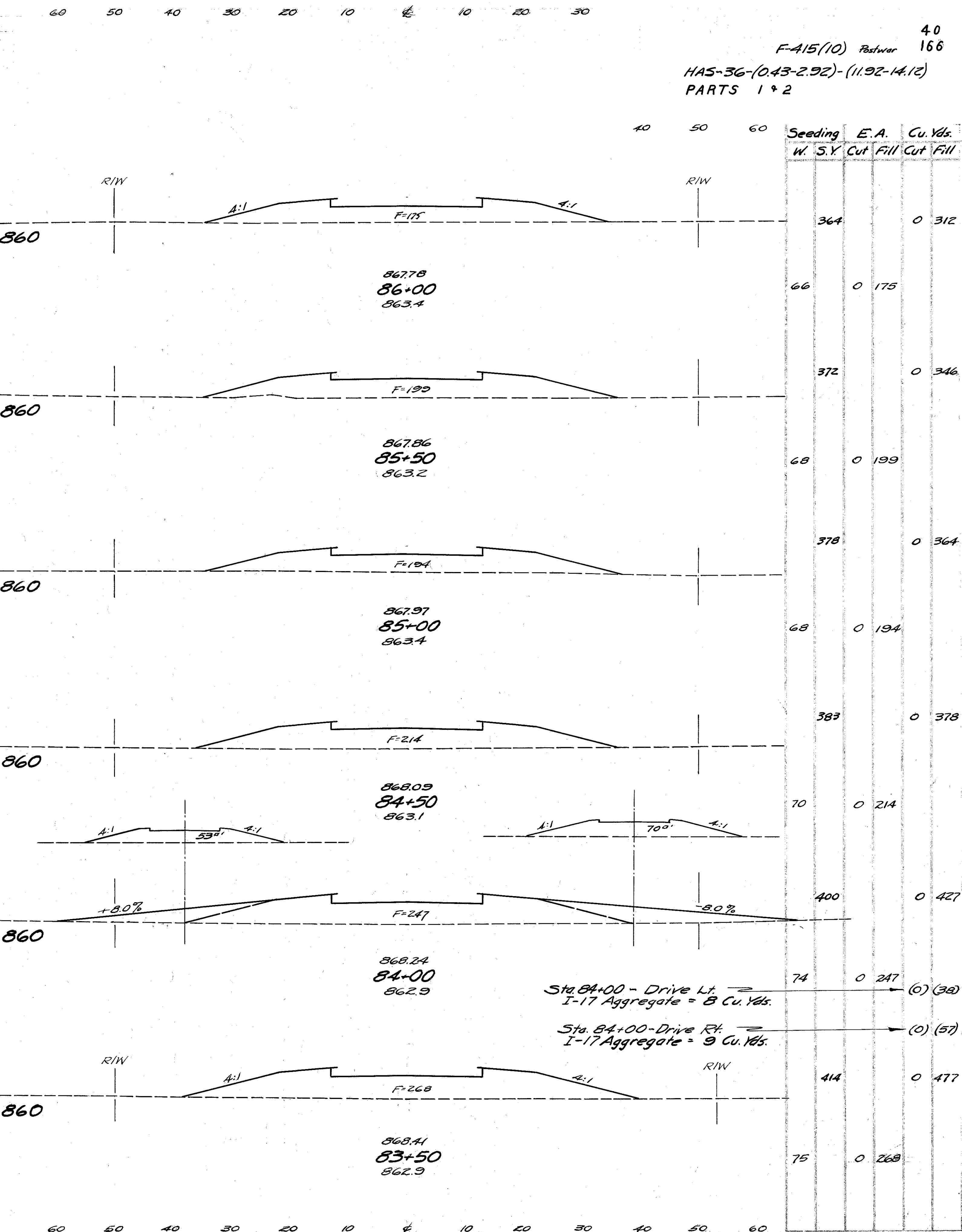
F-415 (10) Postwar 39 166
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
589				22	666
107		10	0	360	
519				0	608
80		0	297		
433				0	531
76		0	277		
383				0	385
62		0	139		
469				20	147
107		22	95	20	
506				218	19
75		140	1	(13)	(0)

STA. 74+00 TO STA. 79+50



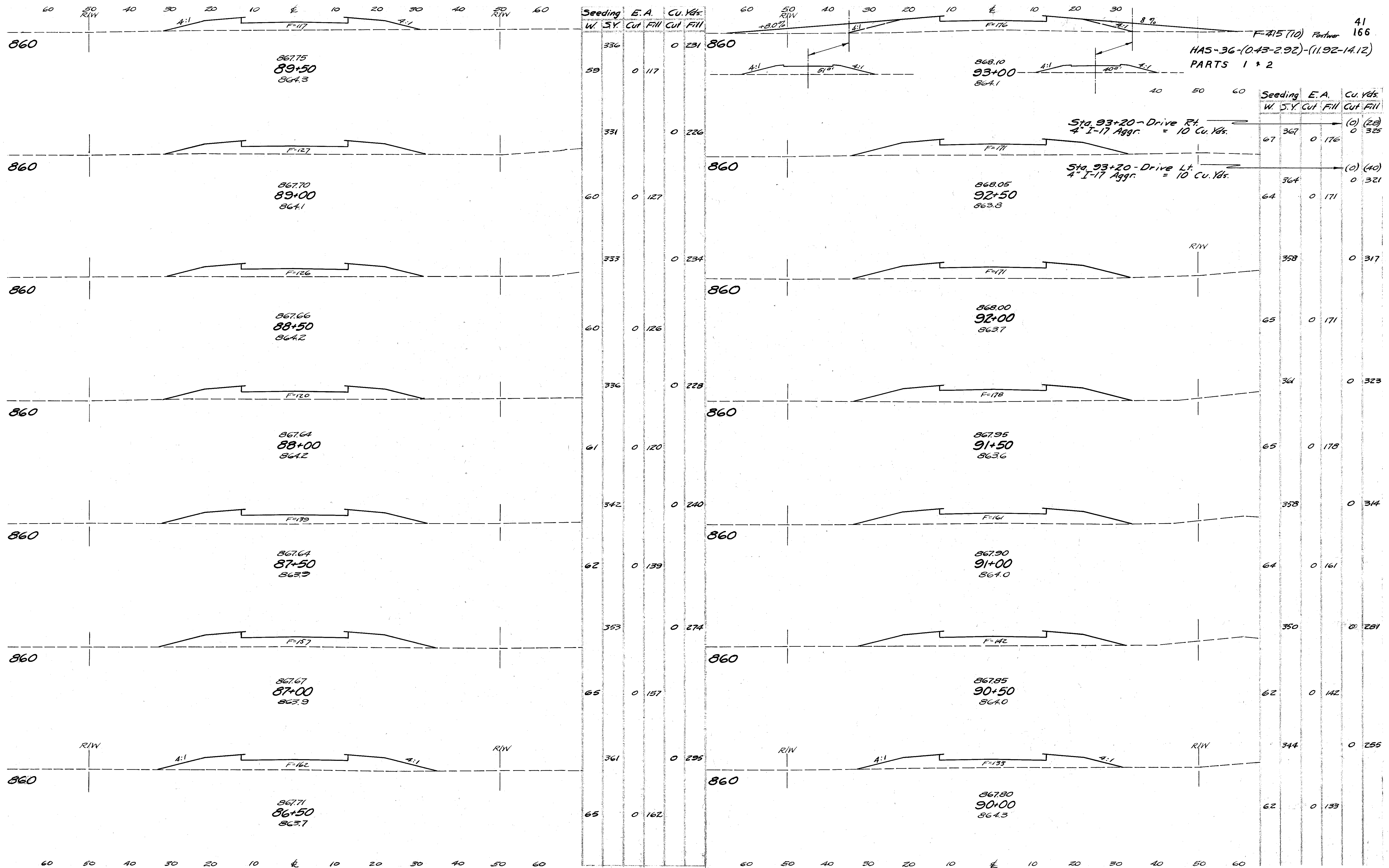
Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
417				0	485
75		0	256		
411				0	462
73		0	243		
425				0	504
80		0	301		
450				0	589
82		0	335		
450				0	602
80		0	315		
517				0	635
106		0	371		
586				24	676
105		14	353		



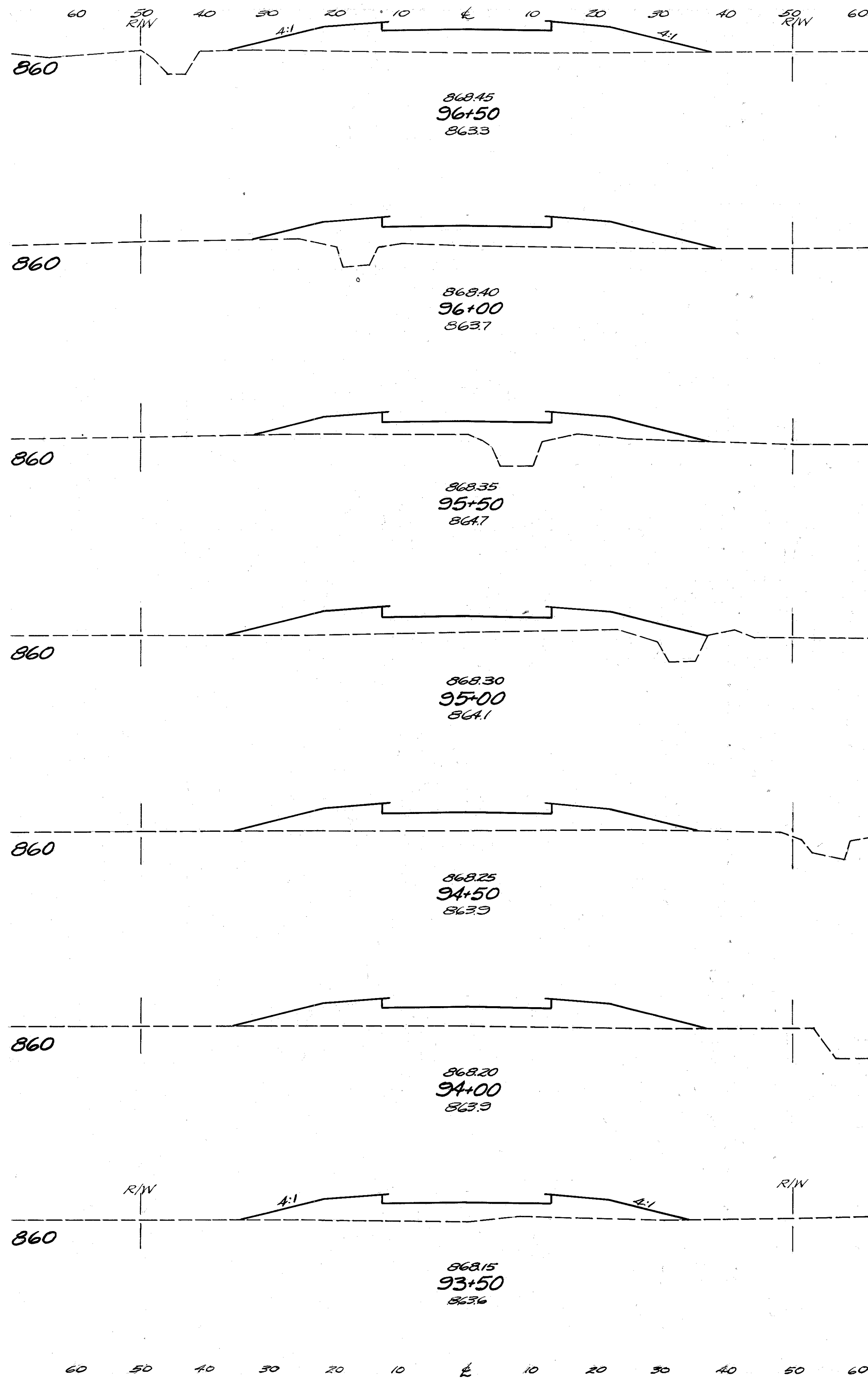
F-415(10) Pastwar 4.0
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2

Sta. 84+00 - Drive Lt. = 8 Cu. Yds.
Sta. 84+00 - Drive Rt. = 9 Cu. Yds.

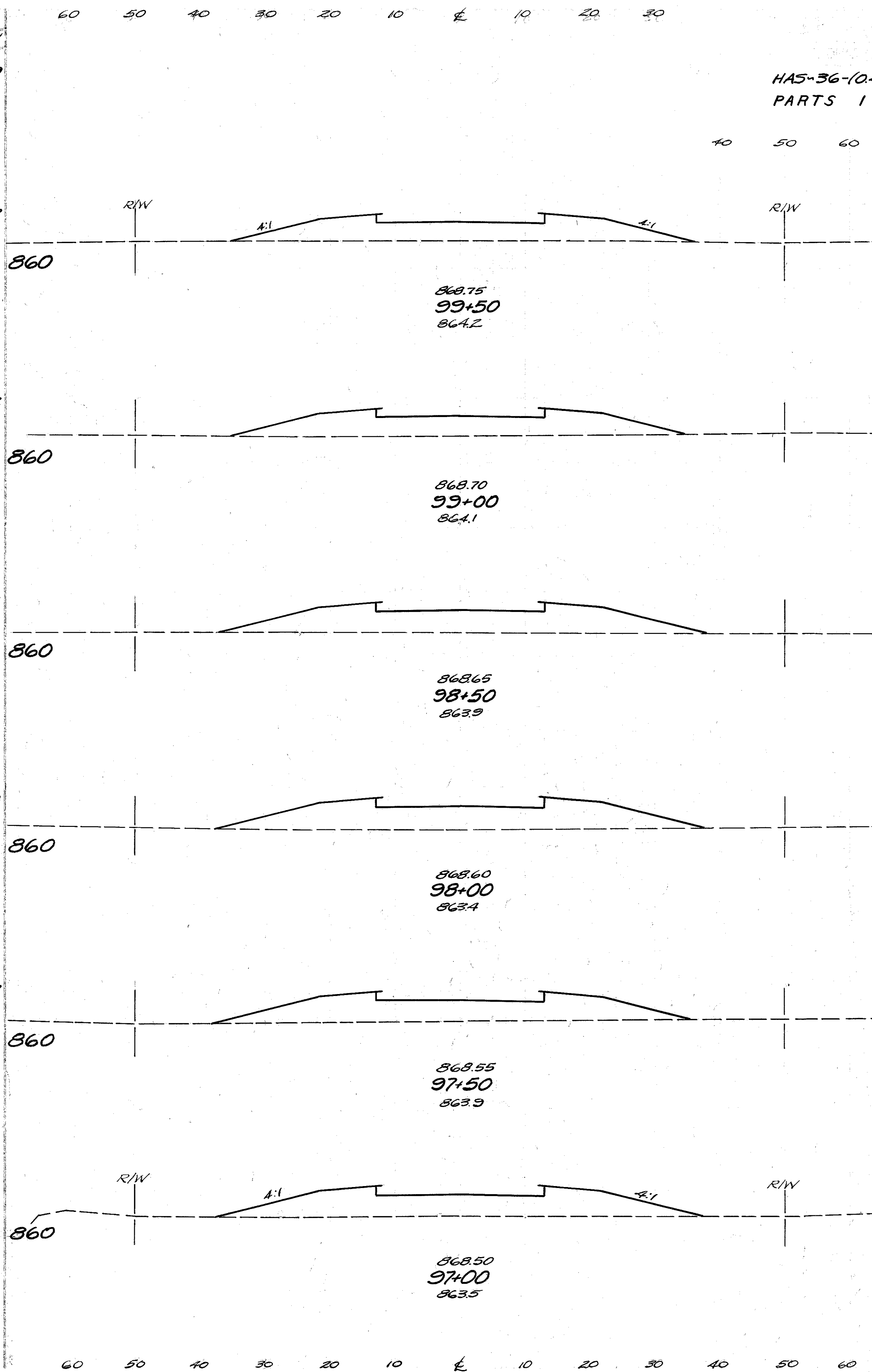
STA. 80+00 TO STA. 86+00



STA. 86+50 TO STA. 93+00



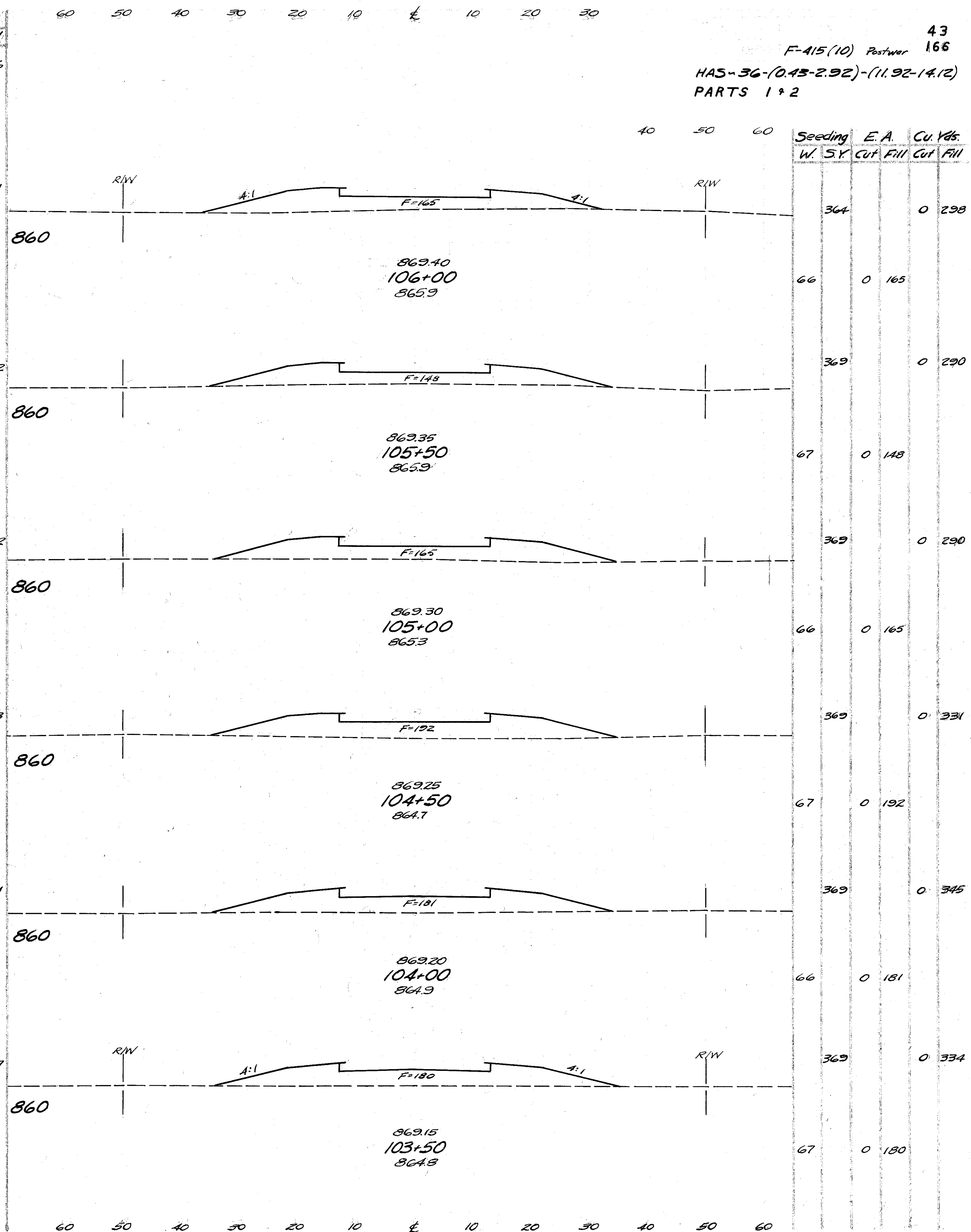
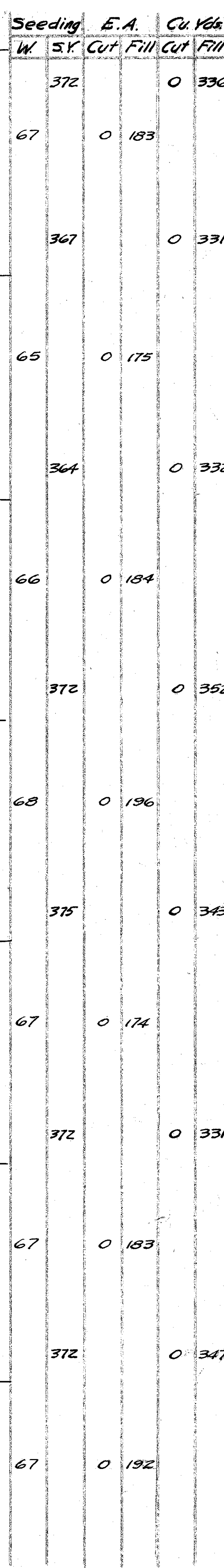
Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
400				0	429
71		0	237		
386				0	428
68		0	225		
375				0	382
67		0	188		
381				0	372
70		0	214		
386				0	376
69		0	192		
386				0	367
70		0	204		
375				0	351
65		0	175		



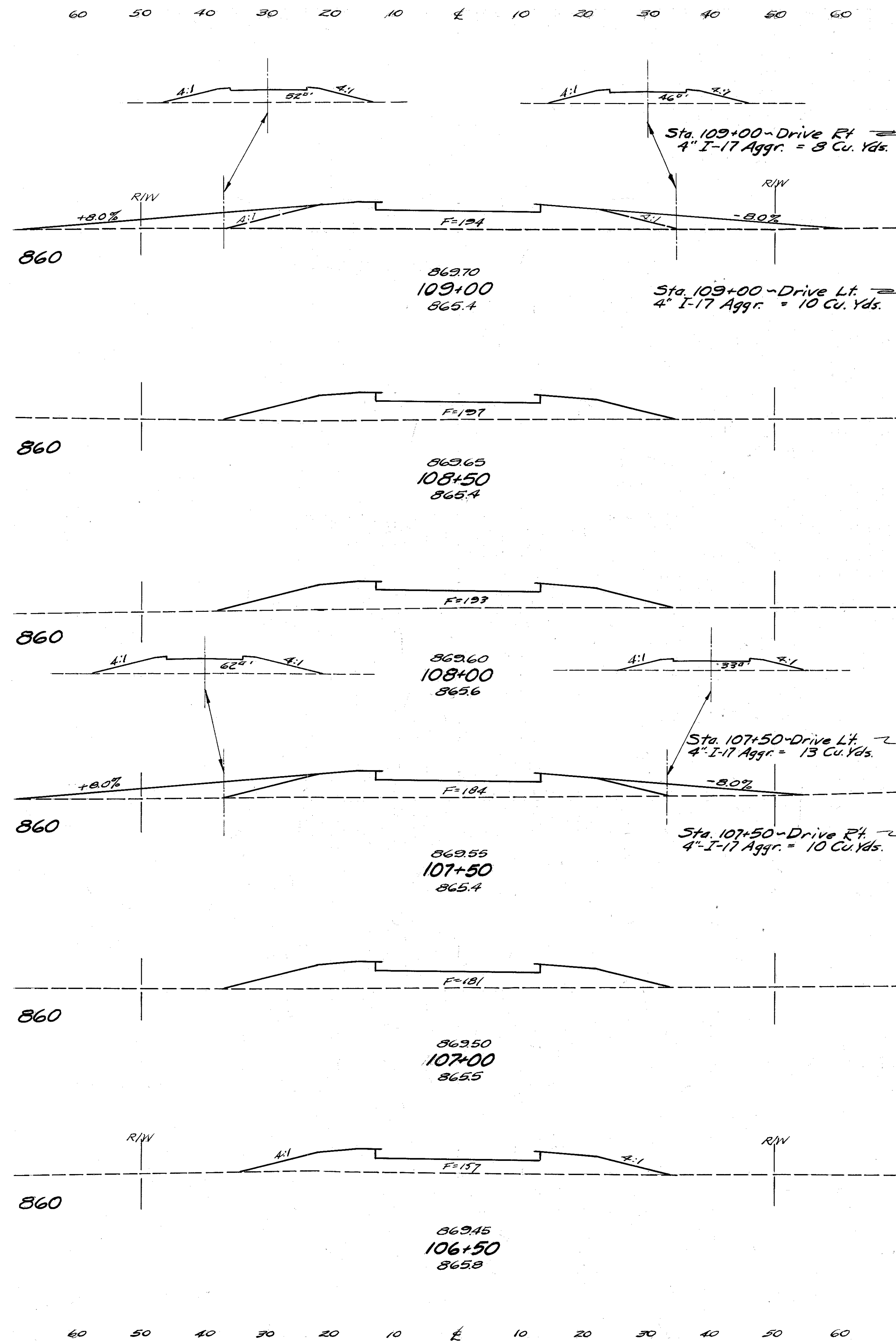
Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
378				0	361
69		0	198		
378				0	359
67		0	190		
386				0	385
72		0	226		
400				0	435
72		0	244		
397				0	427
71		0	217		
400				0	410
73		0	226		

F-415(10) Part 1
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

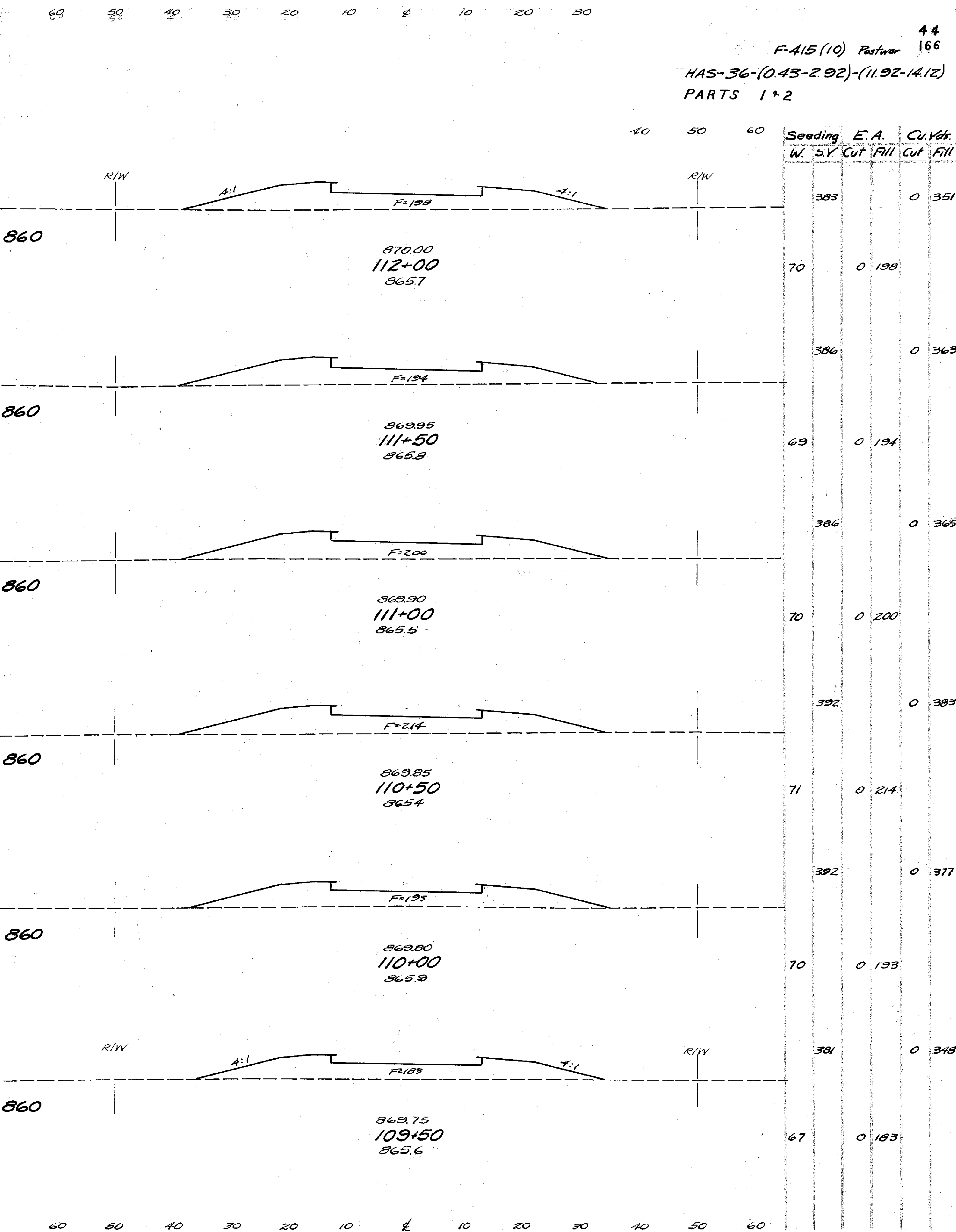
STA. 93+50 TO STA. 99+50



STA. 100+00 TO STA. 106+00



Seeding		E.A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
372				0	349
				(0)	(46)
				0	194
				(0)	(32)
378				0	362
				0	197
386				0	361
				0	193
383				0	349
				(0)	(59)
				0	184
				(0)	(20)
376				0	338
				0	181
361				0	313
				0	157



F-415(10) Postwar 4.4 166
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

Seeding		E.A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
383				0	351
				0	198
386				0	363
				0	194
386				0	365
				0	200
392				0	383
				0	214
392				0	377
				0	193
381				0	348
				0	183

STA. 106+50 TO STA. 112+00

60 50 40 30 20 10 E 10 20 30 40 50 60

Seeding E.A. Cu. Yds.
W. S.Y. Cut Fill Cut Fill

60 50 40 30 20 10 E 10 20 30

F-415(10) Postwar 45
166

HAS-(0.43-2.92)-(11.92-14.12)
PARTS 1 + 2

Sta. 114+05
End Roadway Earthwork

65 0 0

53 0 13

86 0 144

61 0 30

96 0 127
72 224

187 0 184

68 0 130

138 0 130

70 0 201

381 0 342

67 0 168

375 0 323

68 0 181

40 50 60

Seeding E.A. Cu. Yds.
W. S.Y. Cut Fill Cut Fill

156 16 111

94 30 203

250 25 190

86 24 203
110 75

73 6 17

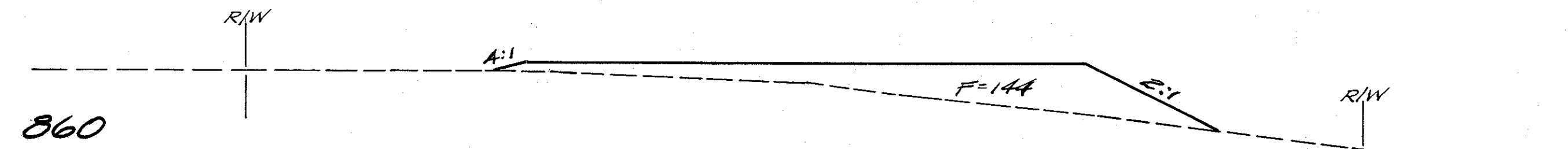
110 28 78

70 15 3

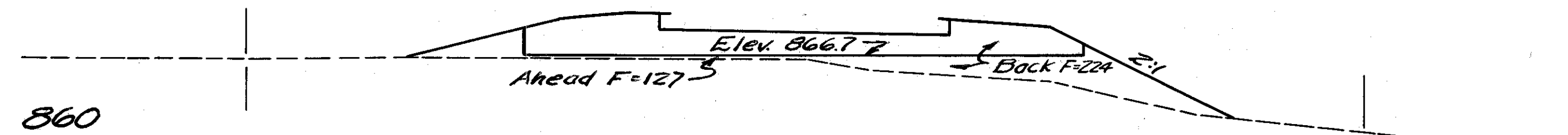
99 0

103

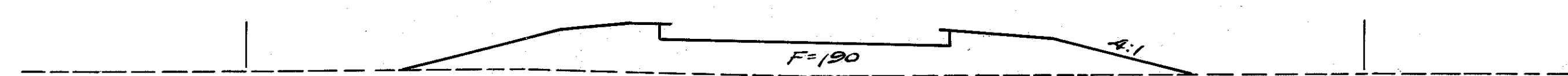
33 12



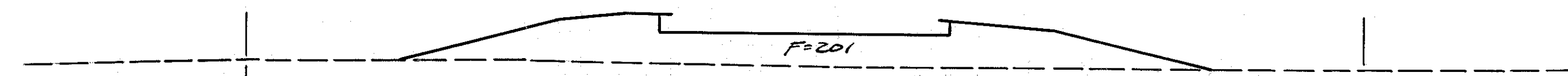
113+98
865.0



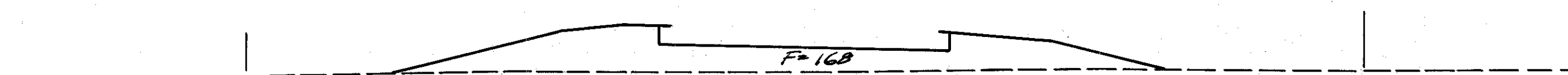
870.19
113+92
866.3



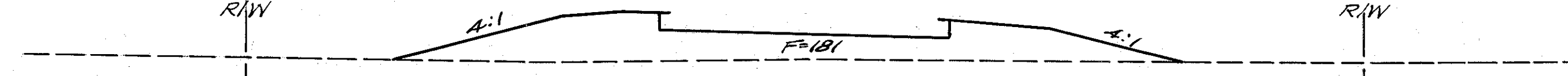
870.17
113+68
865.9



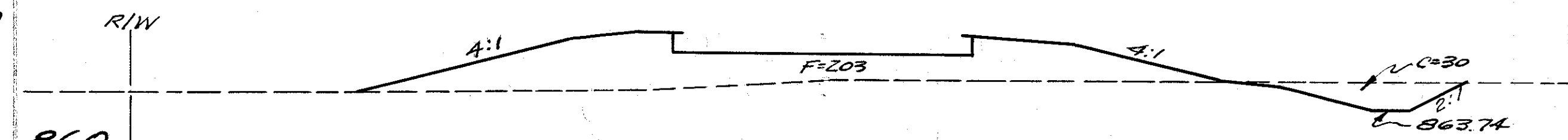
870.15
113+50
865.9



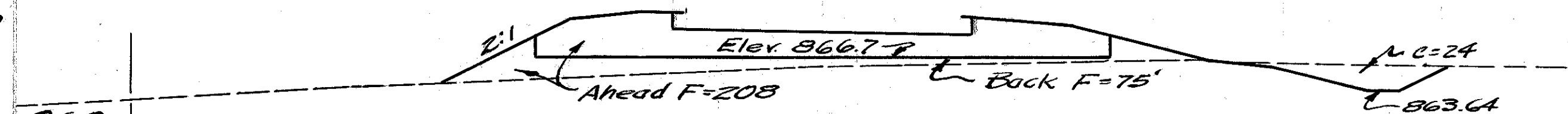
870.10
113+00
866.1



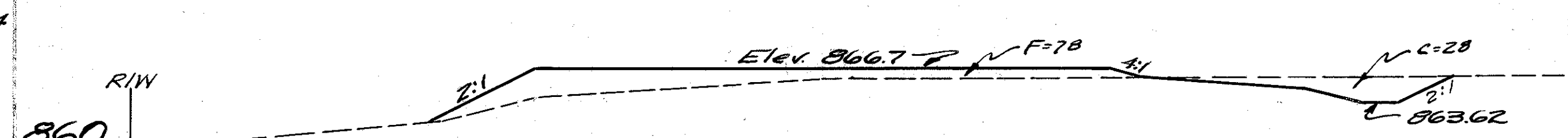
870.05
112+50
866.1



870.29
114+85
866.2



870.26
114+60
865.8



114+54
866.7

Sta. 114+48
Begin Embankment

Sta. 114+34
Begin Ditch

Bridge

60 50 40 30 20 10 E 10 20 30 40 50 60

60 50 40 30 20 10 E 10 20 30

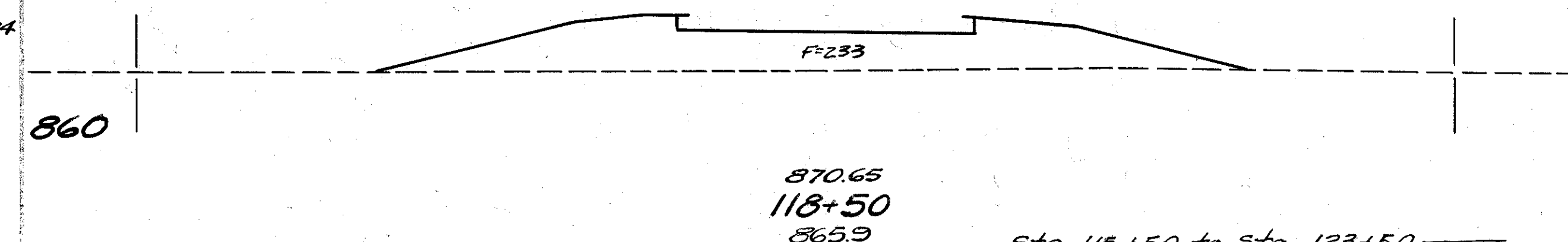
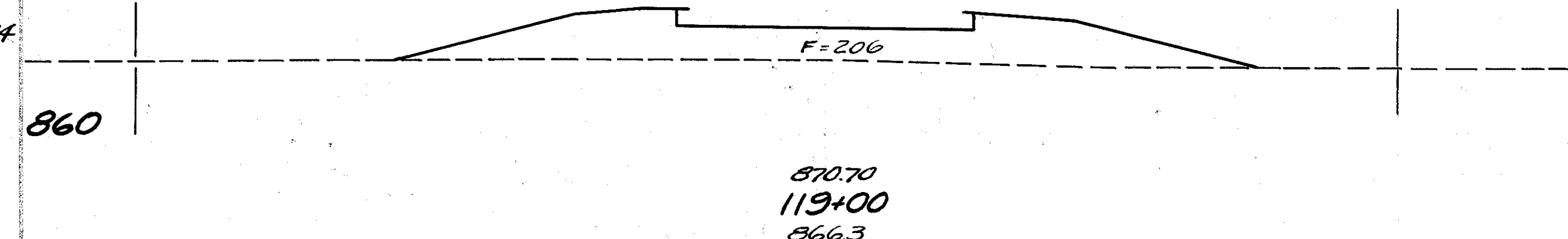
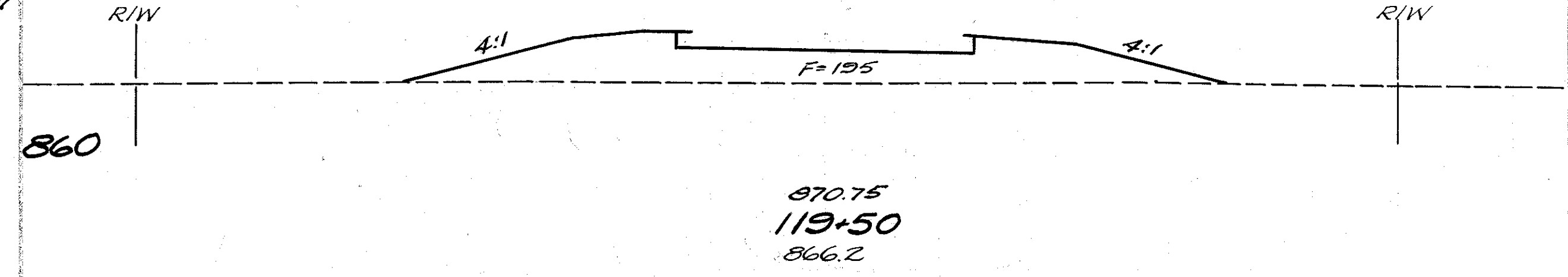
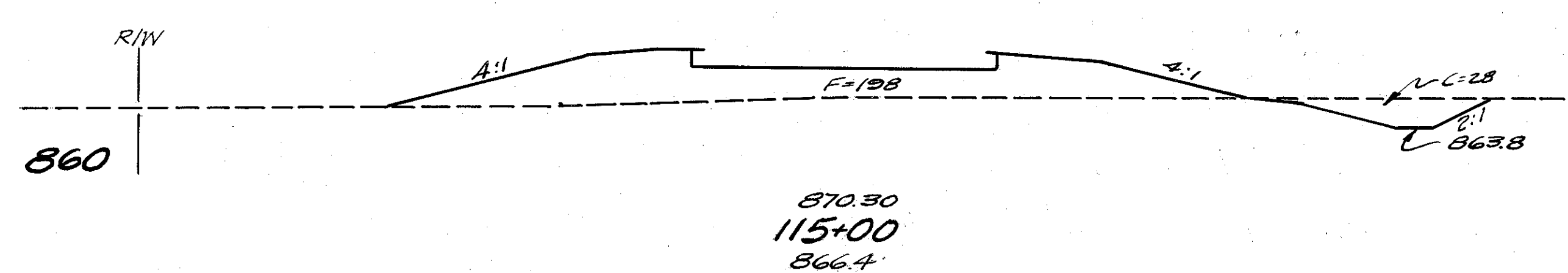
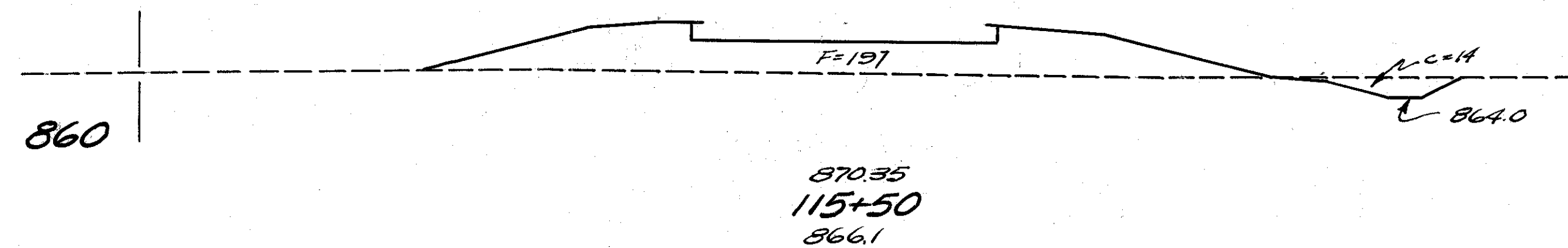
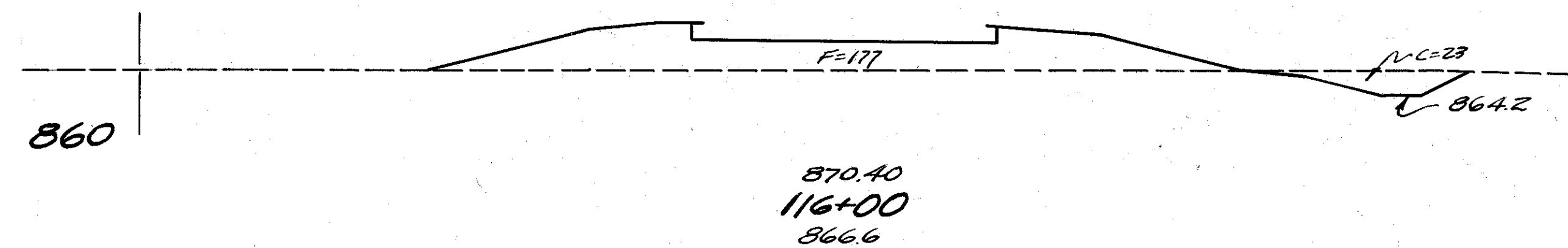
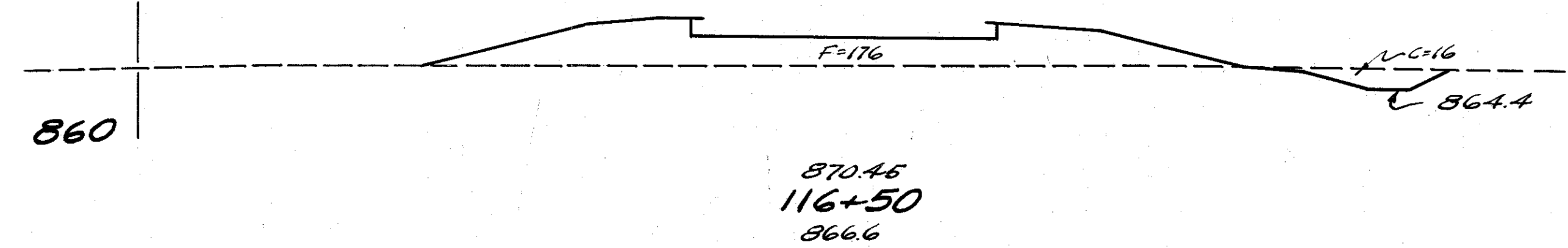
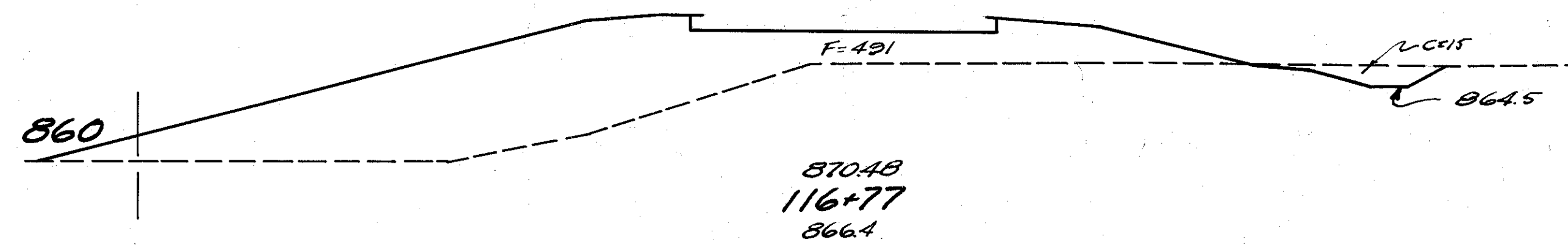
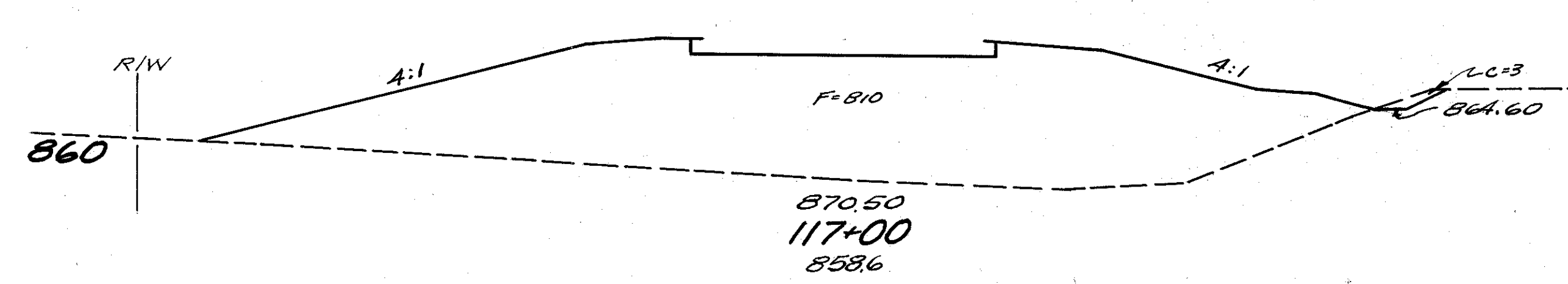
STA. 112+50 TO STA. 114+85



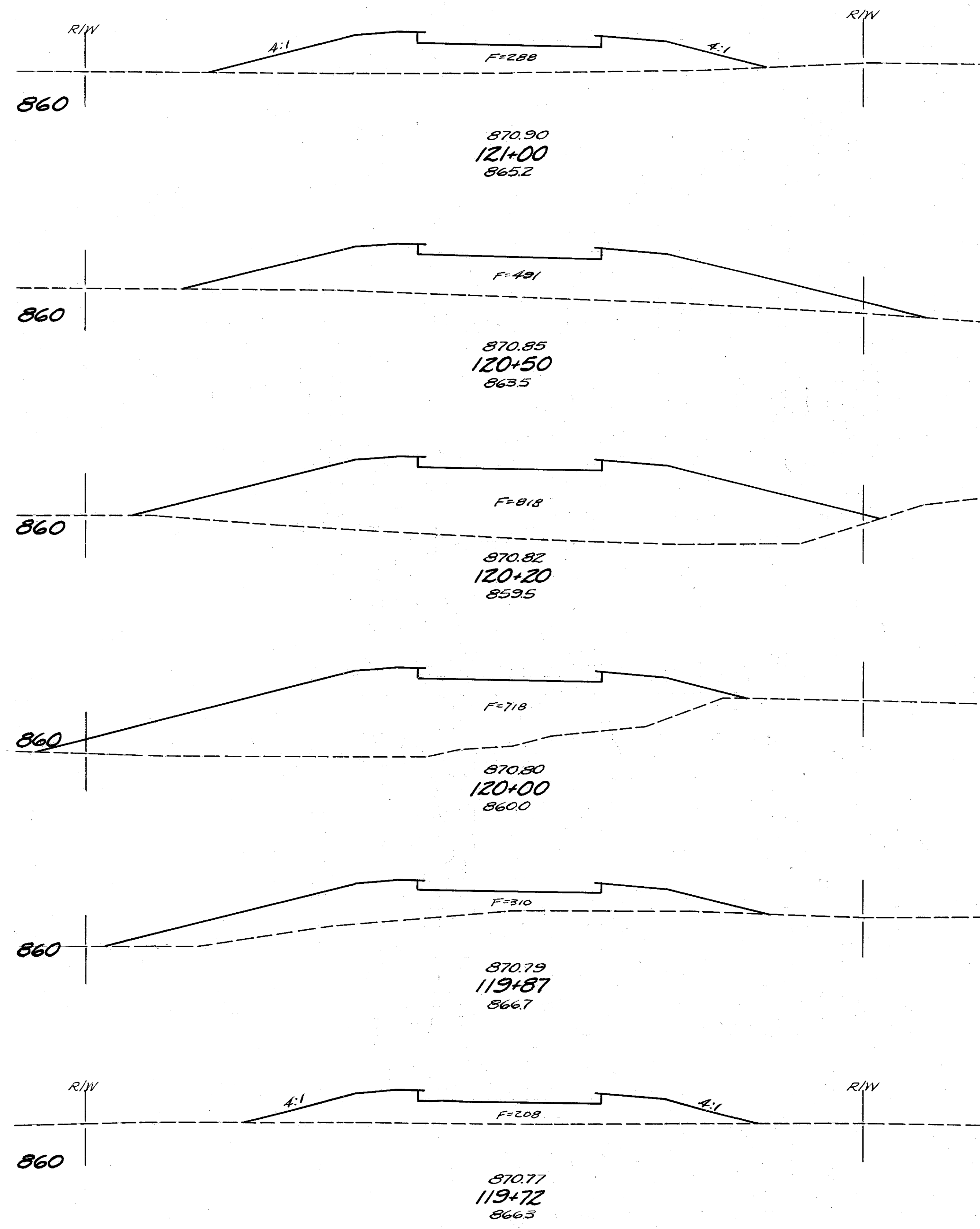
Seeding	E. A.	Cu. Yds.
W. S.Y.	Cut	Fill



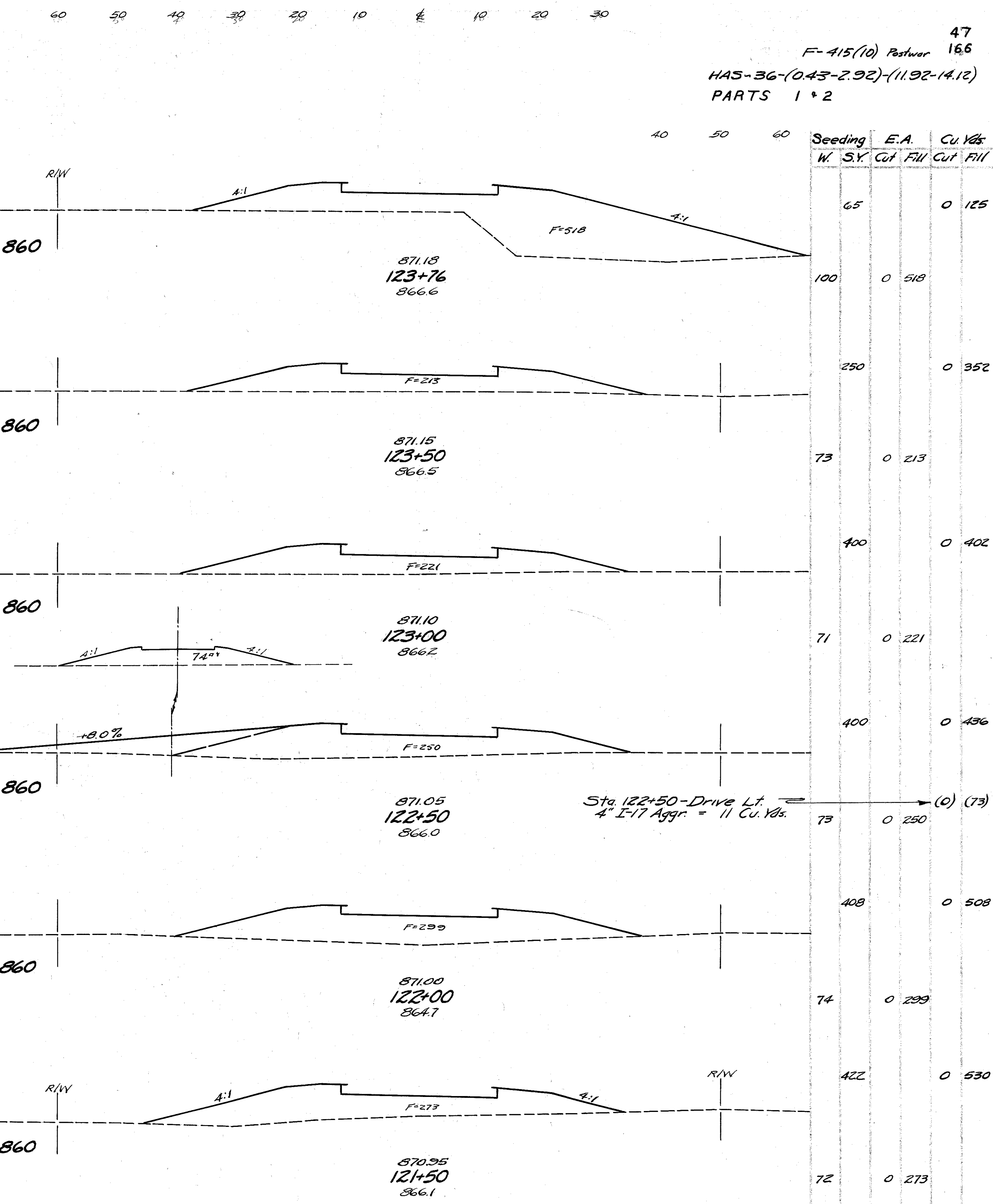
F-415(10) Postwar 46
166
HAS-36-(043-292)-(11.92-14.12)
PARTS 1 & 2



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

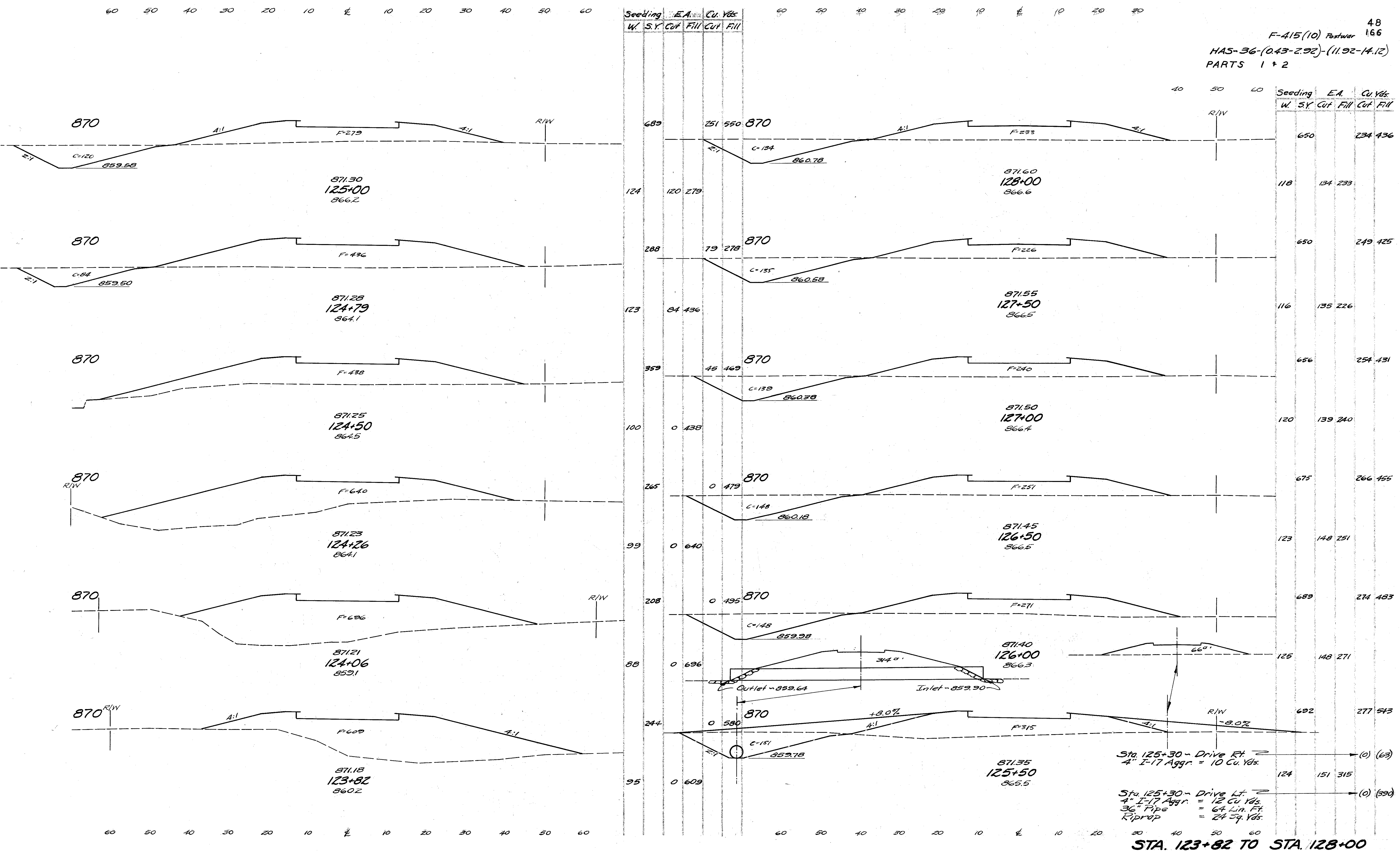


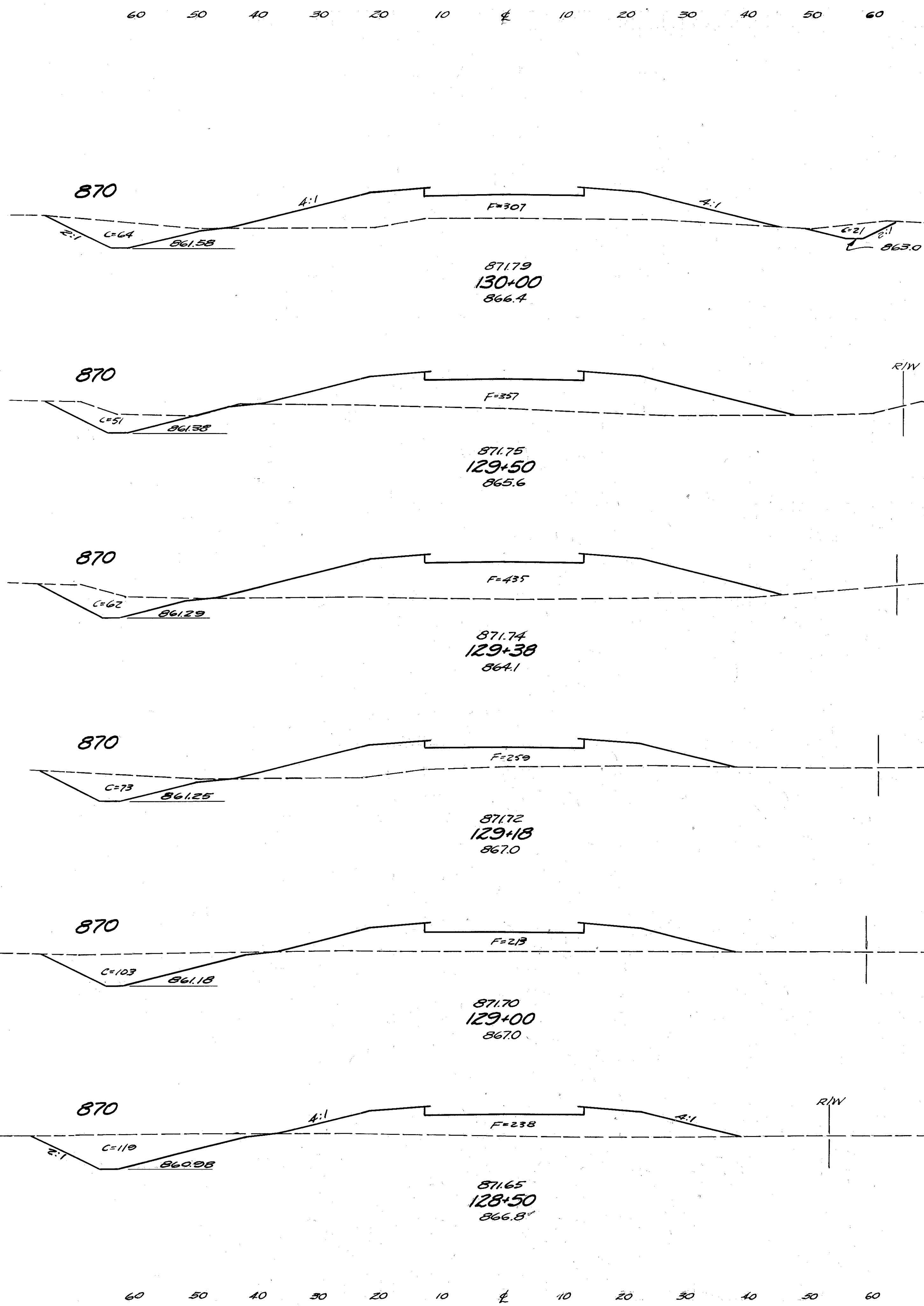
Seeding		E.A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
428	0	519			
76	0	288			
444	0	721			
84	0	491			
287	0	727			
88	0	818			
188	0	569			
81	0	718			
120	0	247			
85	0	310			
128	0	144			
69	0	208			



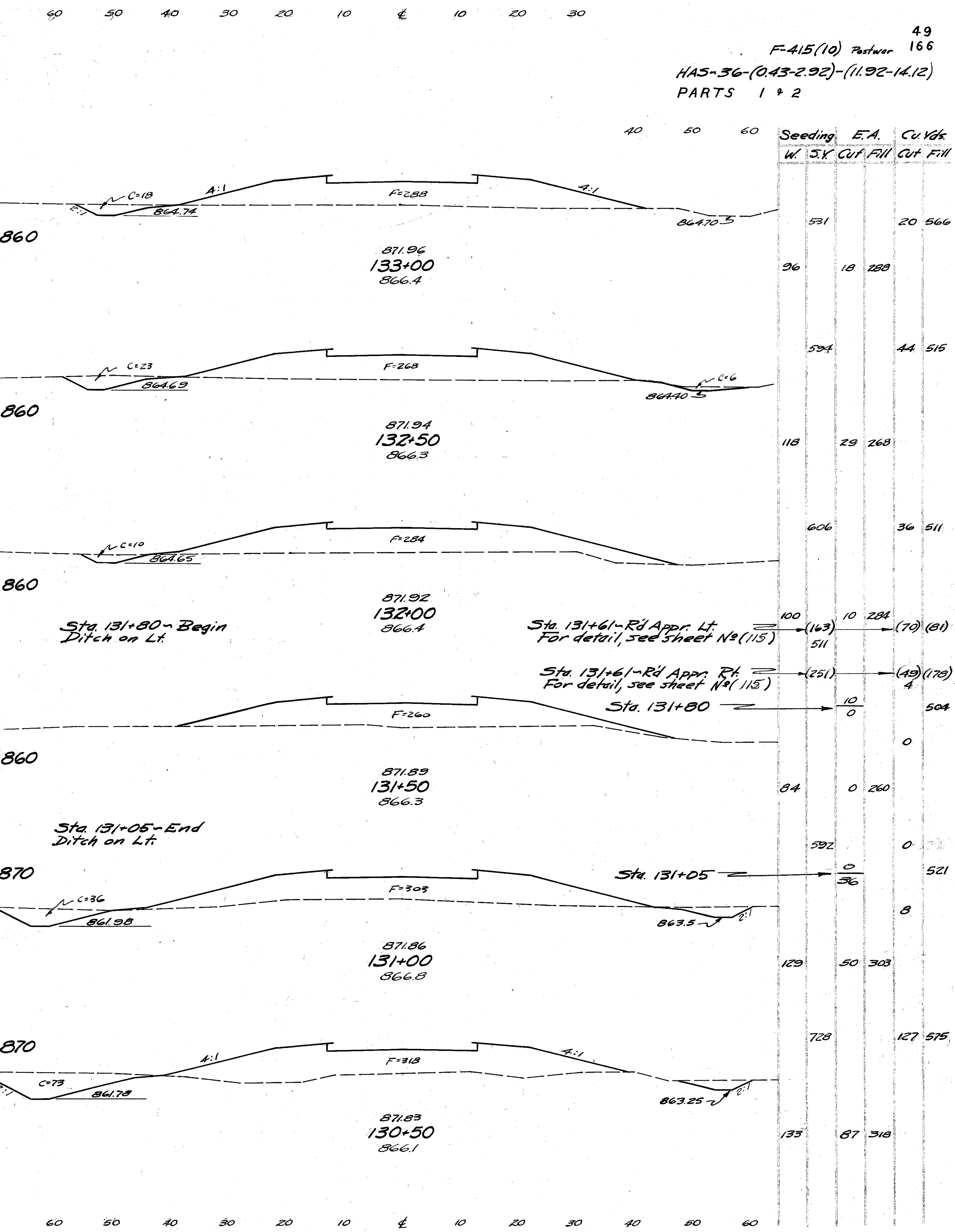
Seeding		E.A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
65			0	125	
100	0	518			
250			0	352	
73	0	213			
400			0	402	
71	0	221			
400			0	436	
73	0	250			
408			0	508	
74	0	299			
422			0	530	
72	0	273			

F-415(10) Postwar 47
HAS-36-(0.43-2.92)-(11.92-14.12) 16.6
PARTS 1 + 2



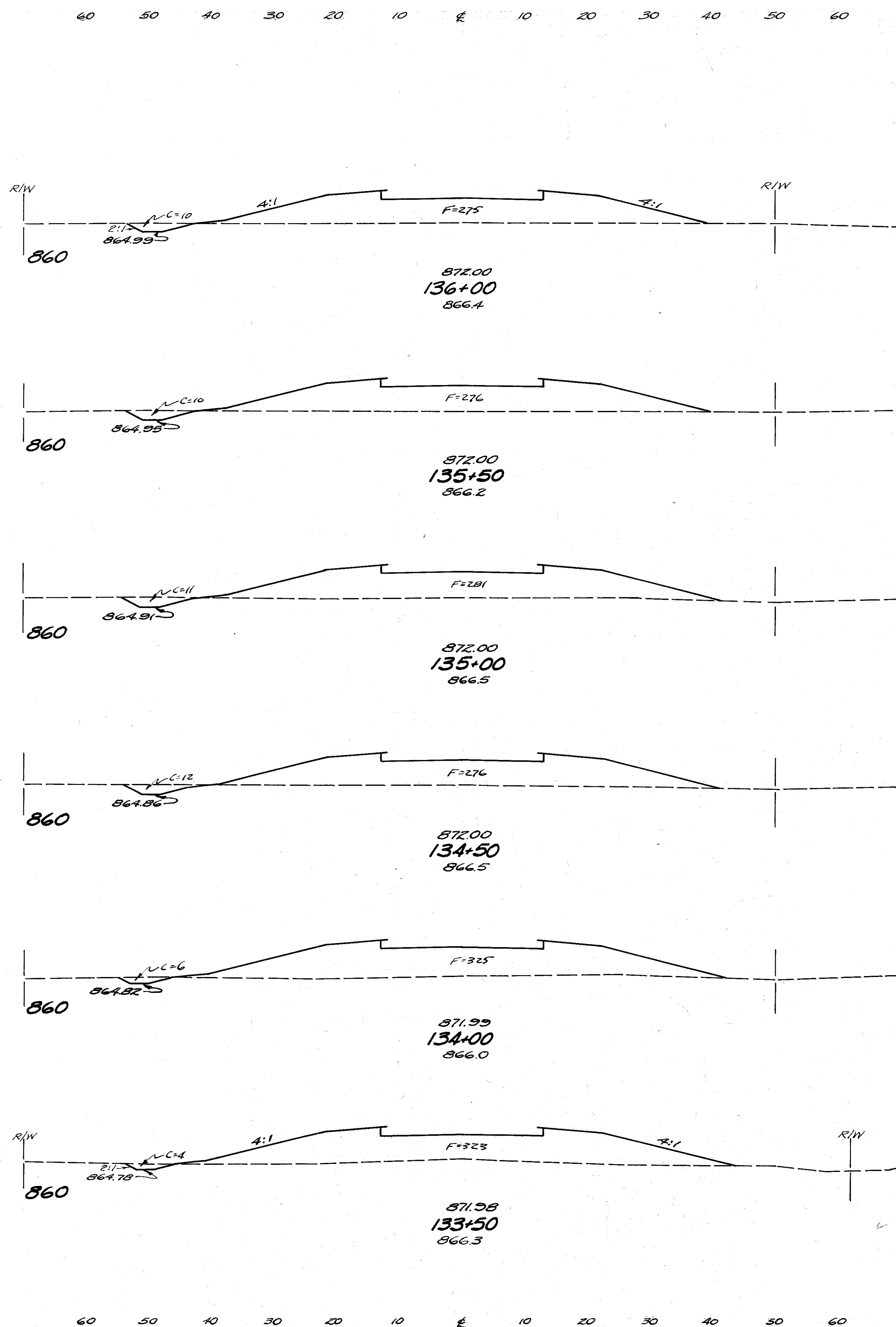


Seeding		E.A.		Cu Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
750				159	579
137		85	307		
719				126	615
122		51	357		
162				25	176
121		62	435		
259				50	257
112		73	259		
223				59	157
111		103	213		
631				206	418
116		119	238		

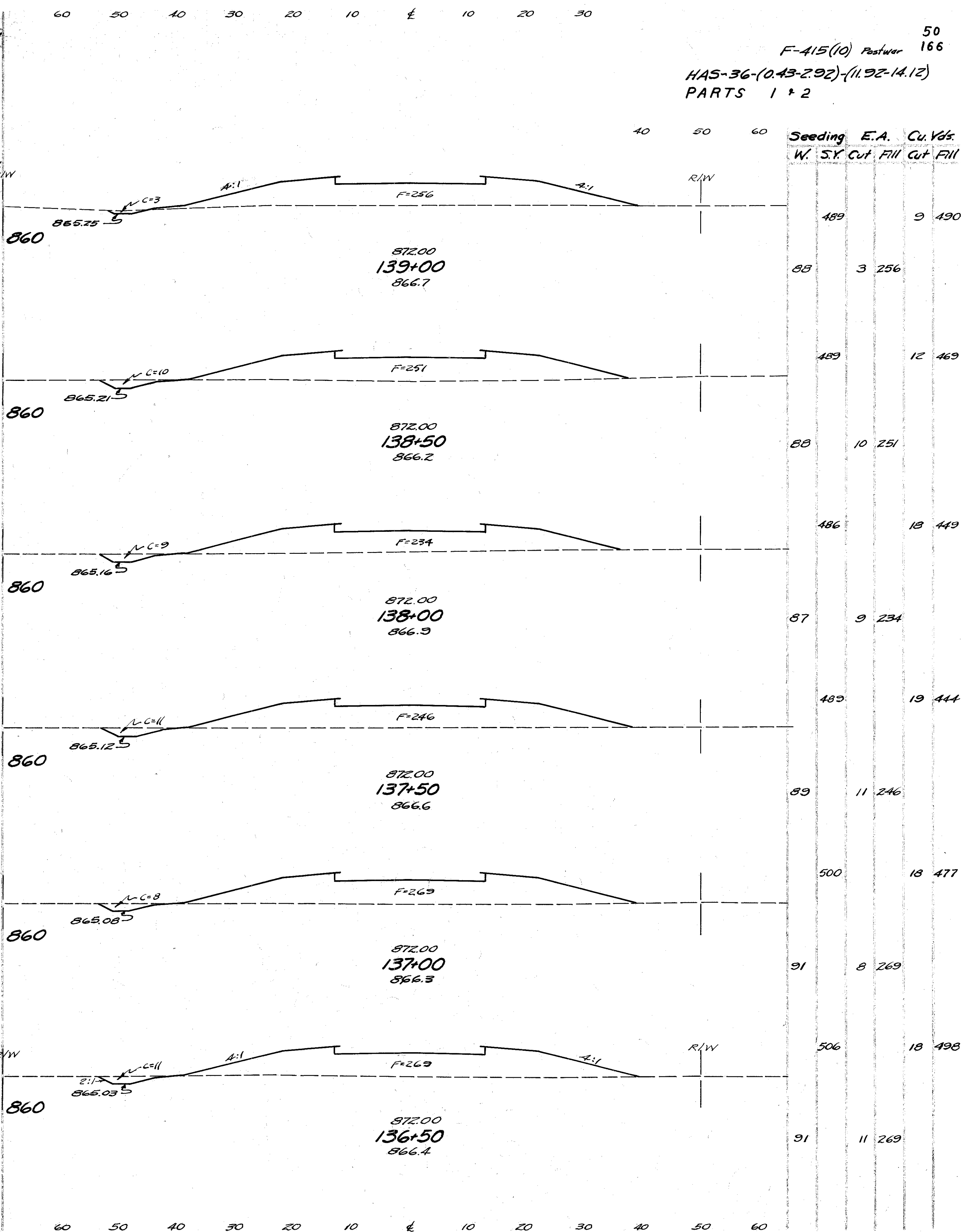


F-4.15(10) Pastwer 49
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2

STA. 128+50 TO STA. 133+00



Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
		506		19	504 R
91		10	275		
		506		19	510
91		10	276		
		506		19	516
91		11	281		
		508		21	516
92		12	276		
		517		17	556
94		6	325		
		525		9	600 R
95		4	323		



F-415(10) Postwar 50
166
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 + 2

Seeding	E.A.	Cu. Yds.			
W.	S.Y.	Cut	Fill	Cut	Fill
489				9	490
88	3	256			
489				12	469
88	10	251			
486				13	449
87	9	234			
489				19	444
89	11	246			
500				13	477
91	8	269			
506				13	498
91	11	269			

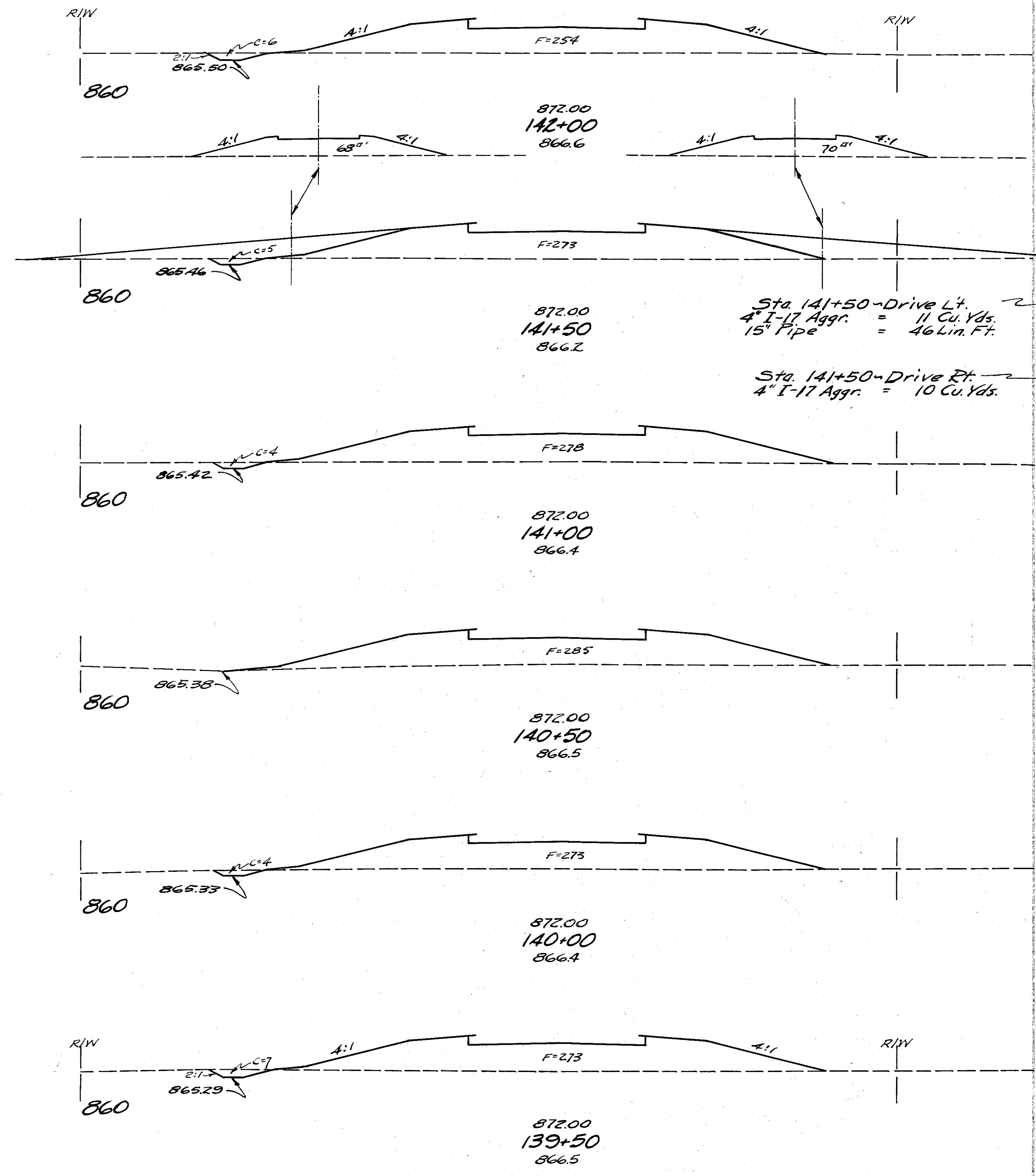
STA. 133+50 TO STA. 139+00

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

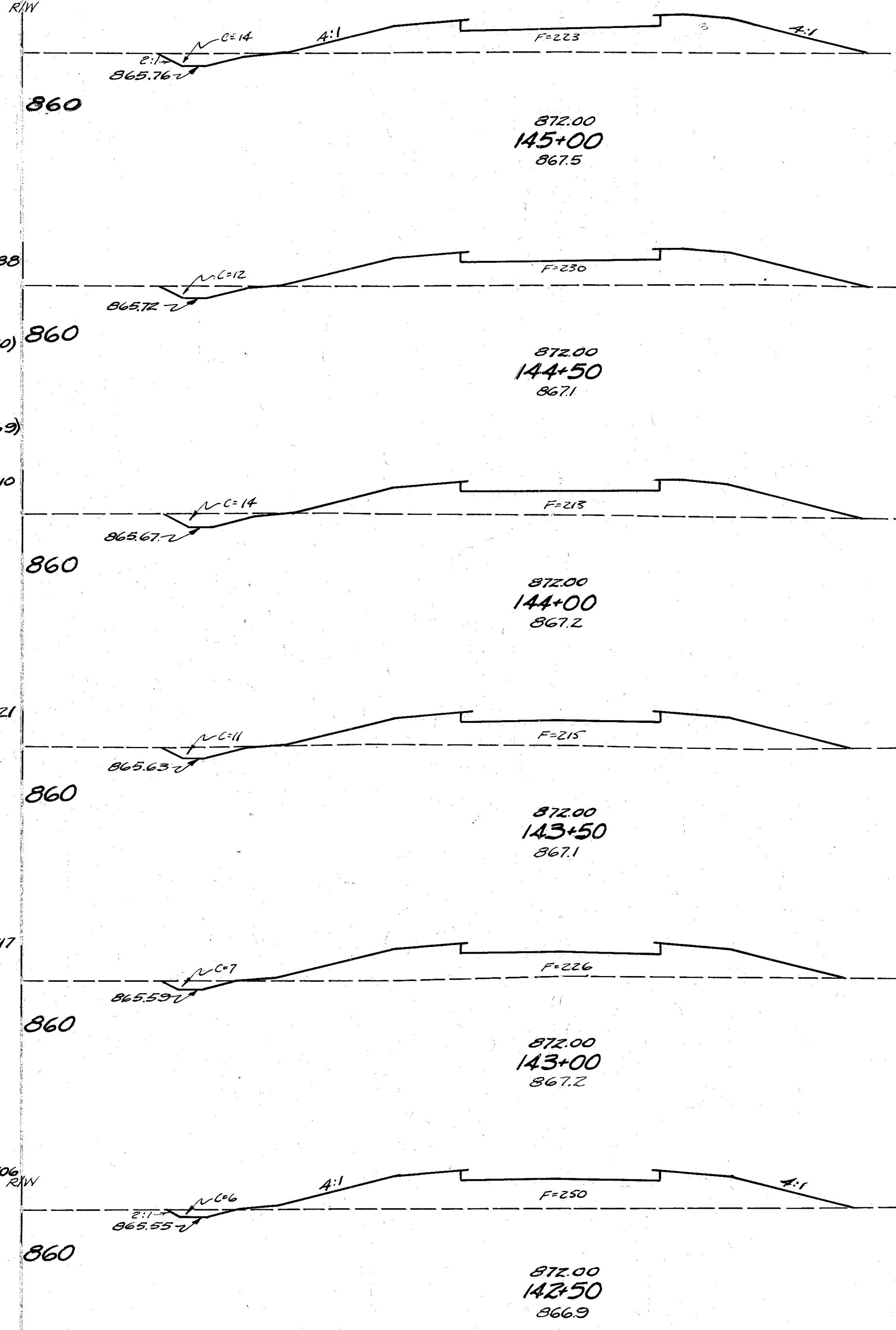
Seeding E.A. Cu. Yds.
W. S.Y. Cut Fill Cut Fill

60 50 40 30 20 10 0 10 20 30

F-4.15(10) Postwar 51
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2



Seeding	E.A.	Cu. Yds.
W. S.Y.	Cut	Fill
489	11	467
89	6	254
494	10	488
89	5	273
494	8	510
89	4	278
483	4	521
87	0	285
486	4	517
88	4	273
489	10	506
88	7	273

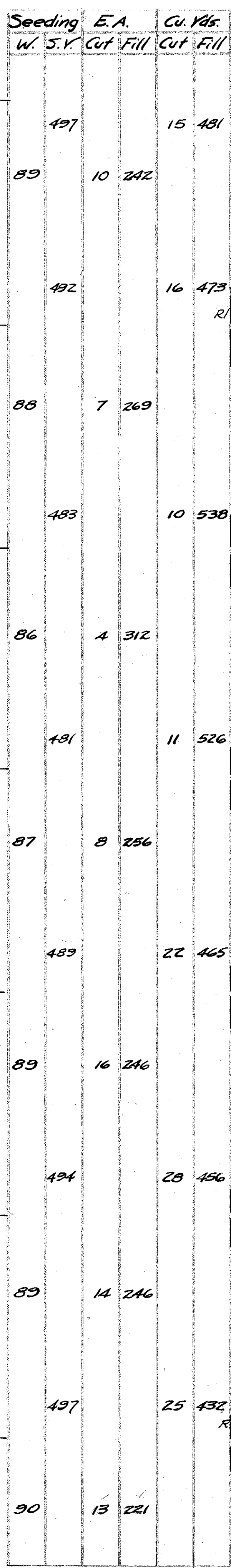
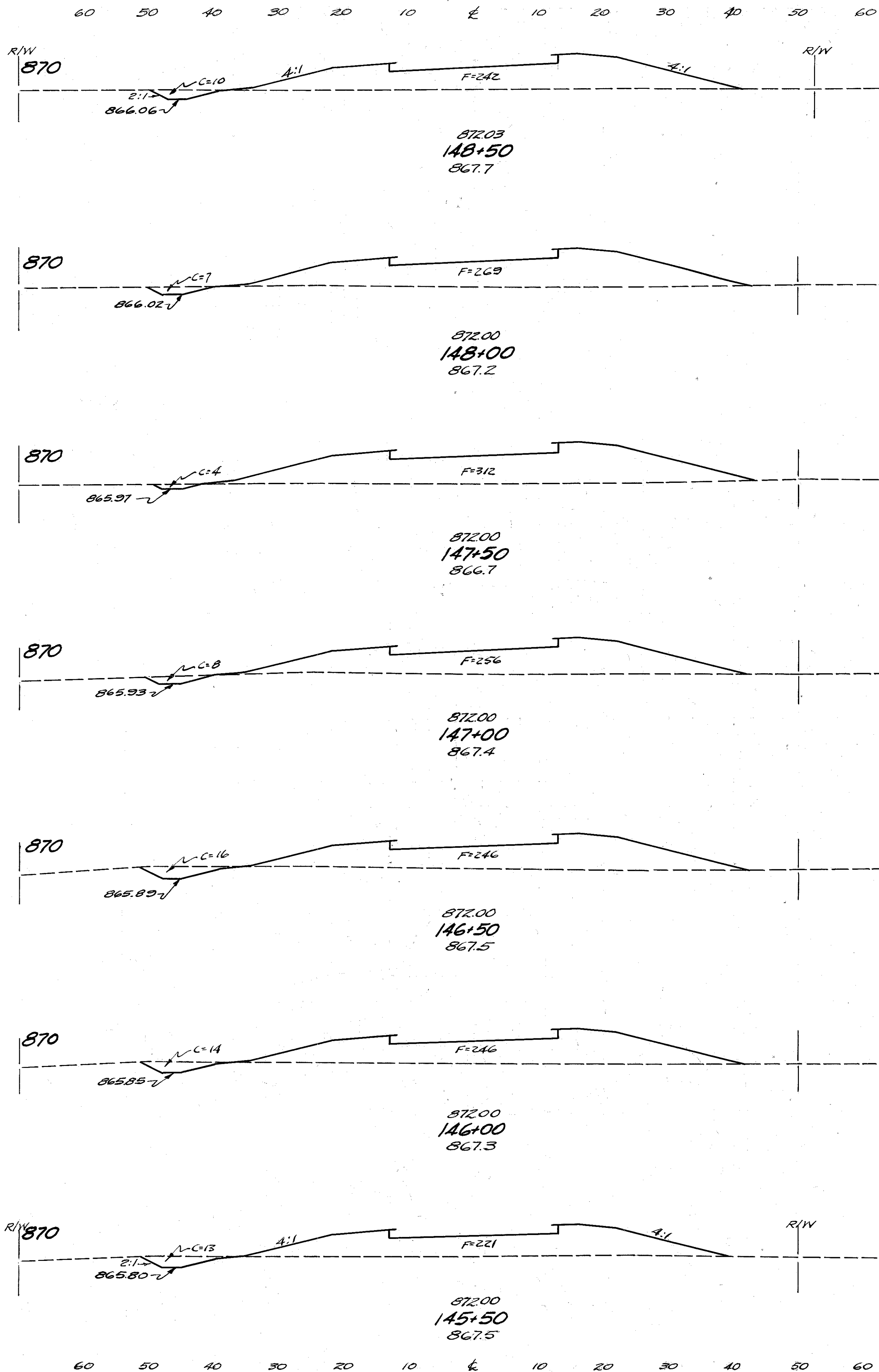


Seeding	E.A.	Cu. Yds.
W. S.Y.	Cut	Fill
503	25	411
91	14	223
506	24	419
91	12	230
500	24	410
89	14	213
483	23	396
87	11	215
481	17	408
86	7	226
481	12	441
87	6	250

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

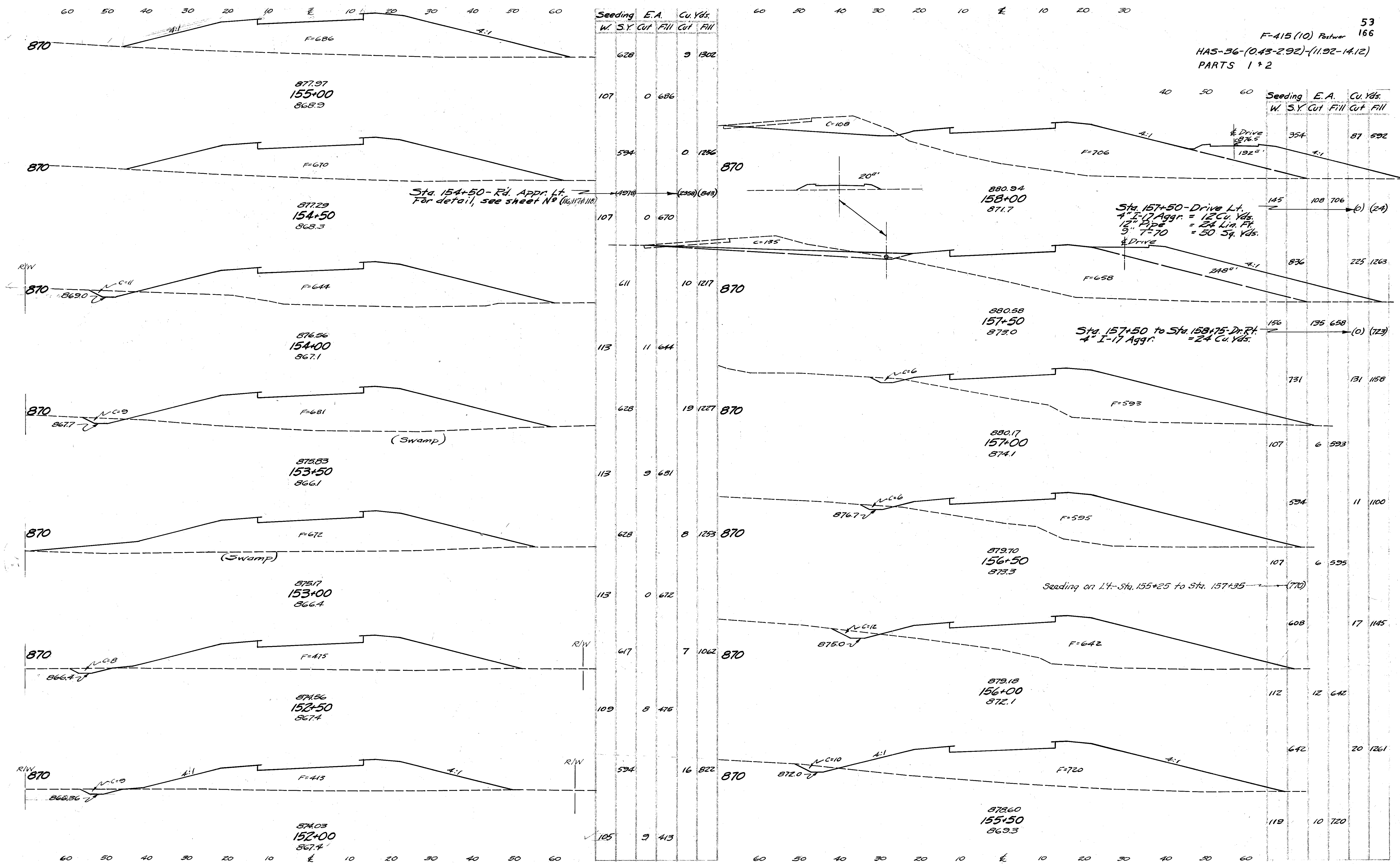
60 50 40 30 20 10 0 10 20 30

STA. 139+50 TO STA. 145+00



F-415(10) Postwar
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

STA. 145+50 TO STA. 151+50



53
166
F-415 (10) Pasture
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

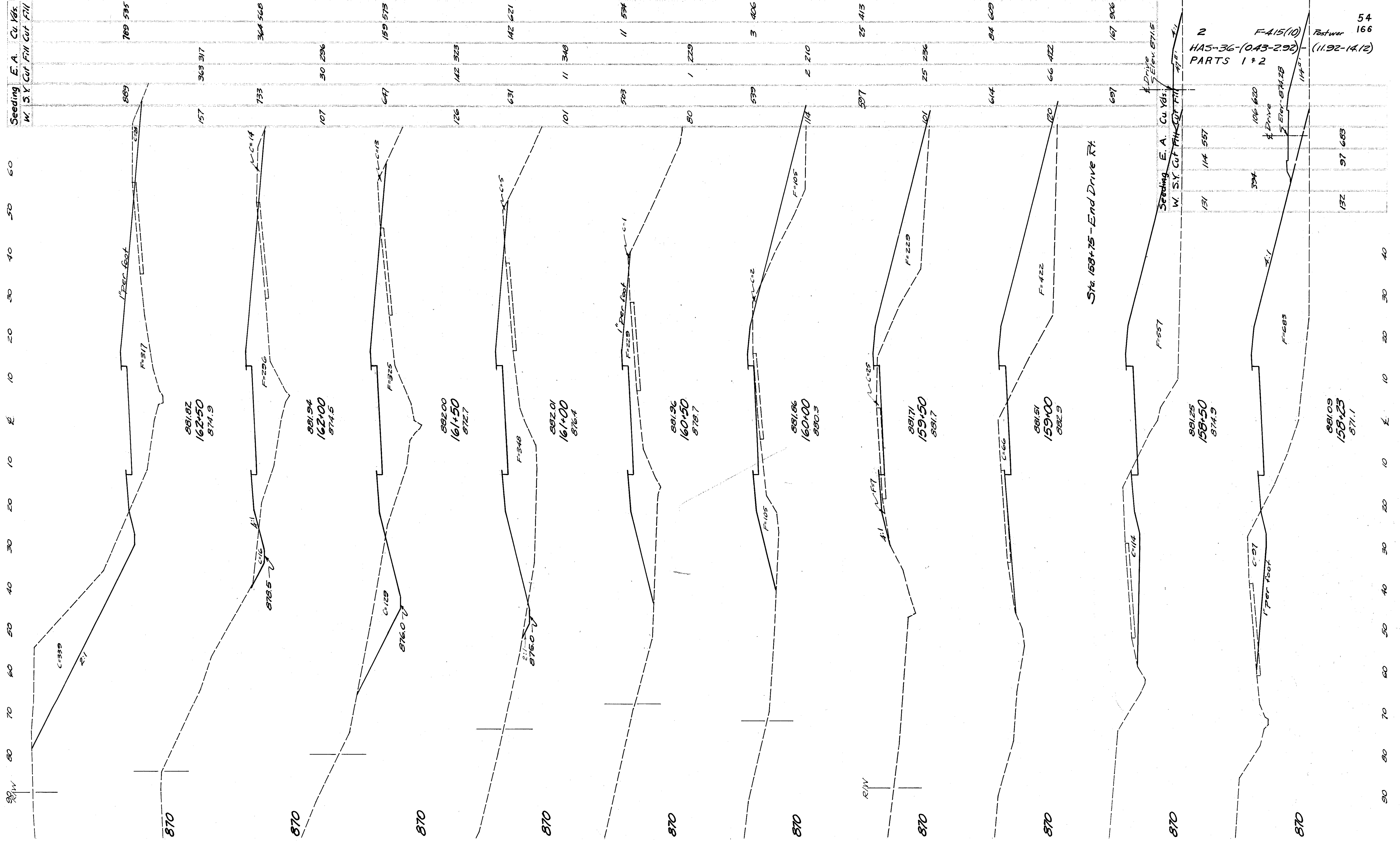
Seeding E.A. Cu. Yds.

W.	S.Y.	Cut	Fill	Cut	Fill
354			87	592	
145	108	706			
836		225	1263		
156	135	658			
731		131	1158		
594		11	1100		
107	6	593			
608		17	1145		
112	12	642			
642		20	1261		
119	10	720			

Sta. 157+50-Drive Lt.
4" I-17 Aggr. = 12 Cu. Yds.
12" Pipe = 24 Lin. Ft.
3" T-70 = 50 Sq. Yds.
4" Drive

Sta. 157+50 to Sta. 158+75-Dr. Rt.
4" I-17 Aggr. = 24 Cu. Yds.

STA. 152+00 TO STA. 158+00

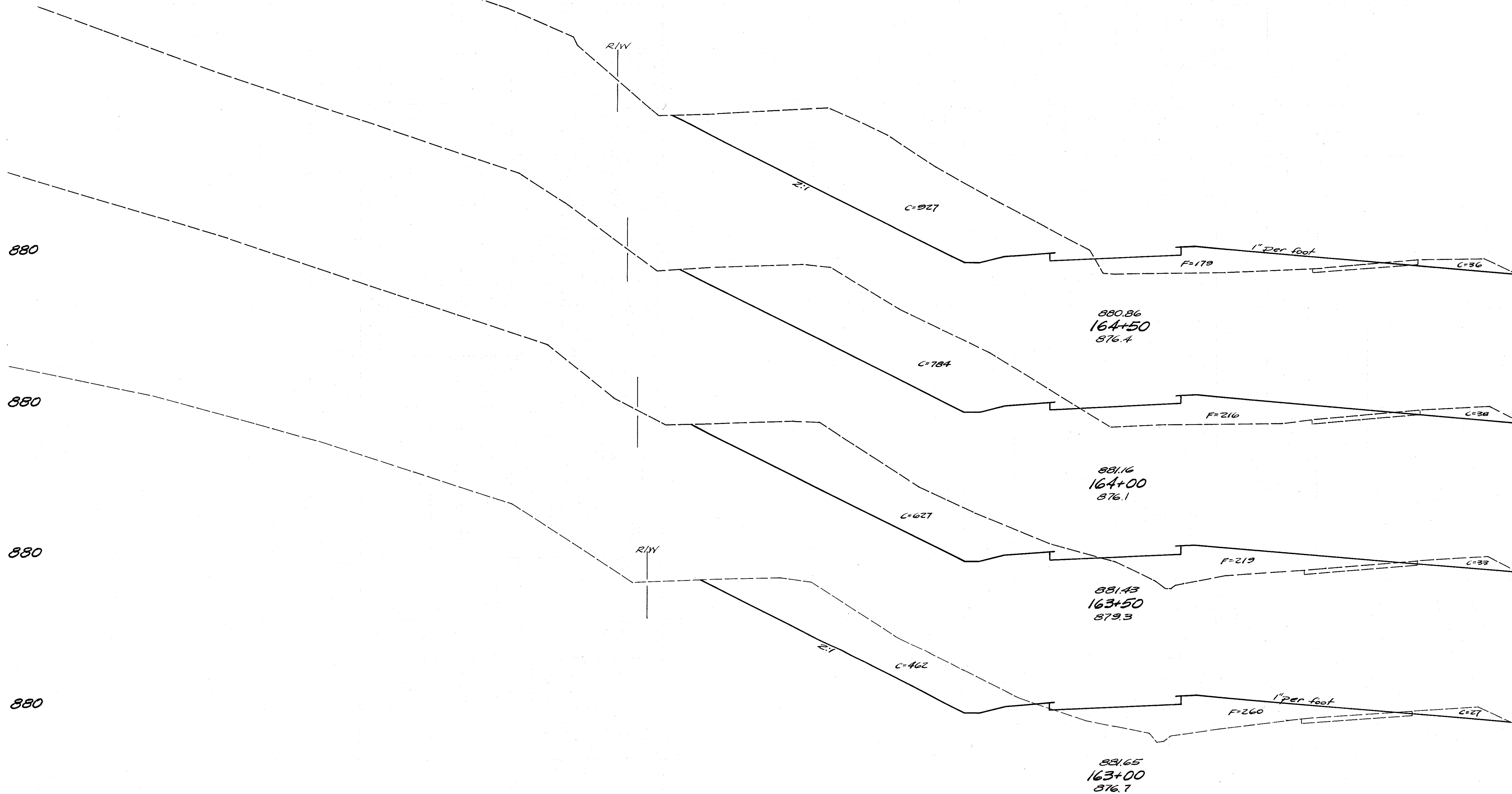


210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50

2 F-415(10) Postwar 55
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2

60 70

Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill



950	1681	319
171	963	179
947	1653	366
170	822	216
936	1372	403
167	660	219
917	1064	444
163	489	261

210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

STA. 163+00 TO STA. 164+50

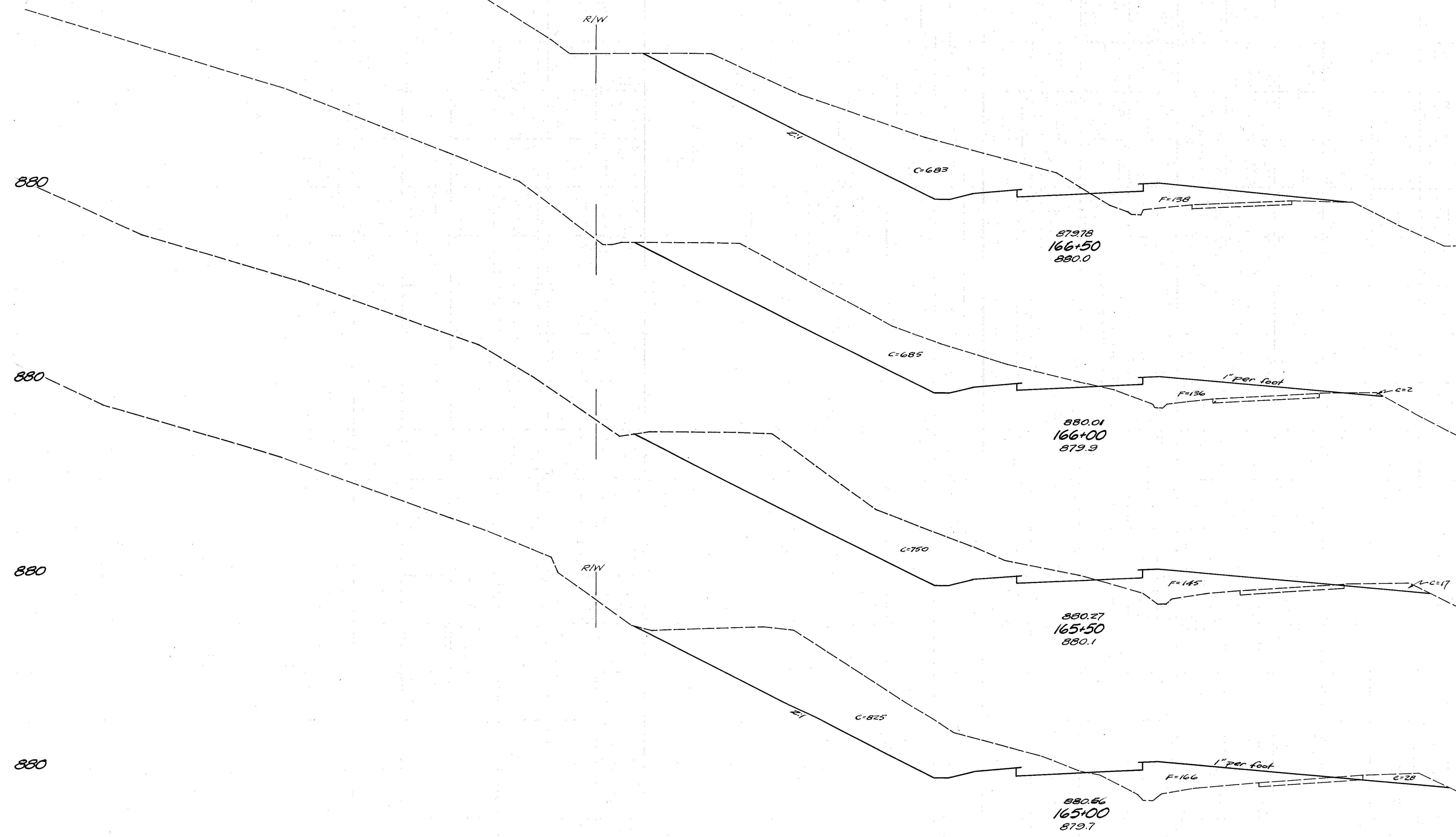
7

210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50

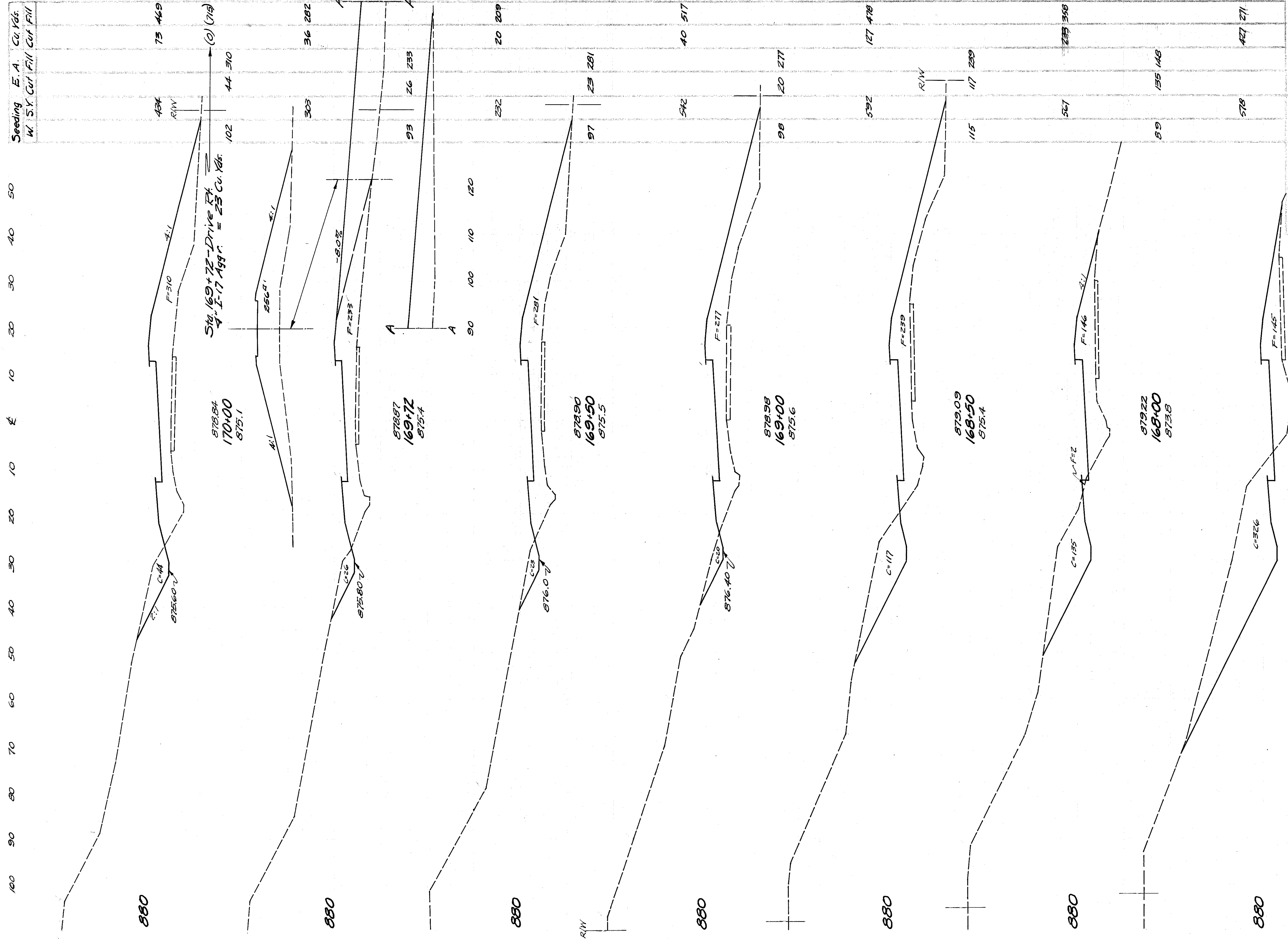
2 F-415(10) Postwar 56
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2

60 70

Seeding	E. A.	Cu. Yds.	
W. S.Y. Cut	Fill	Cut	Fill
808		1133	265
148	683	138	
842		1269	254
155	687	136	
892		1346	260
166	767	145	
936		1500	288
171	853	166	



STA. 165+00 TO STA. 166+50



2 F-415(10) Postwar 57
 HAS-36-(0.43-2.92)-(11.92-14.12) 166
 PARTS 1 & 2

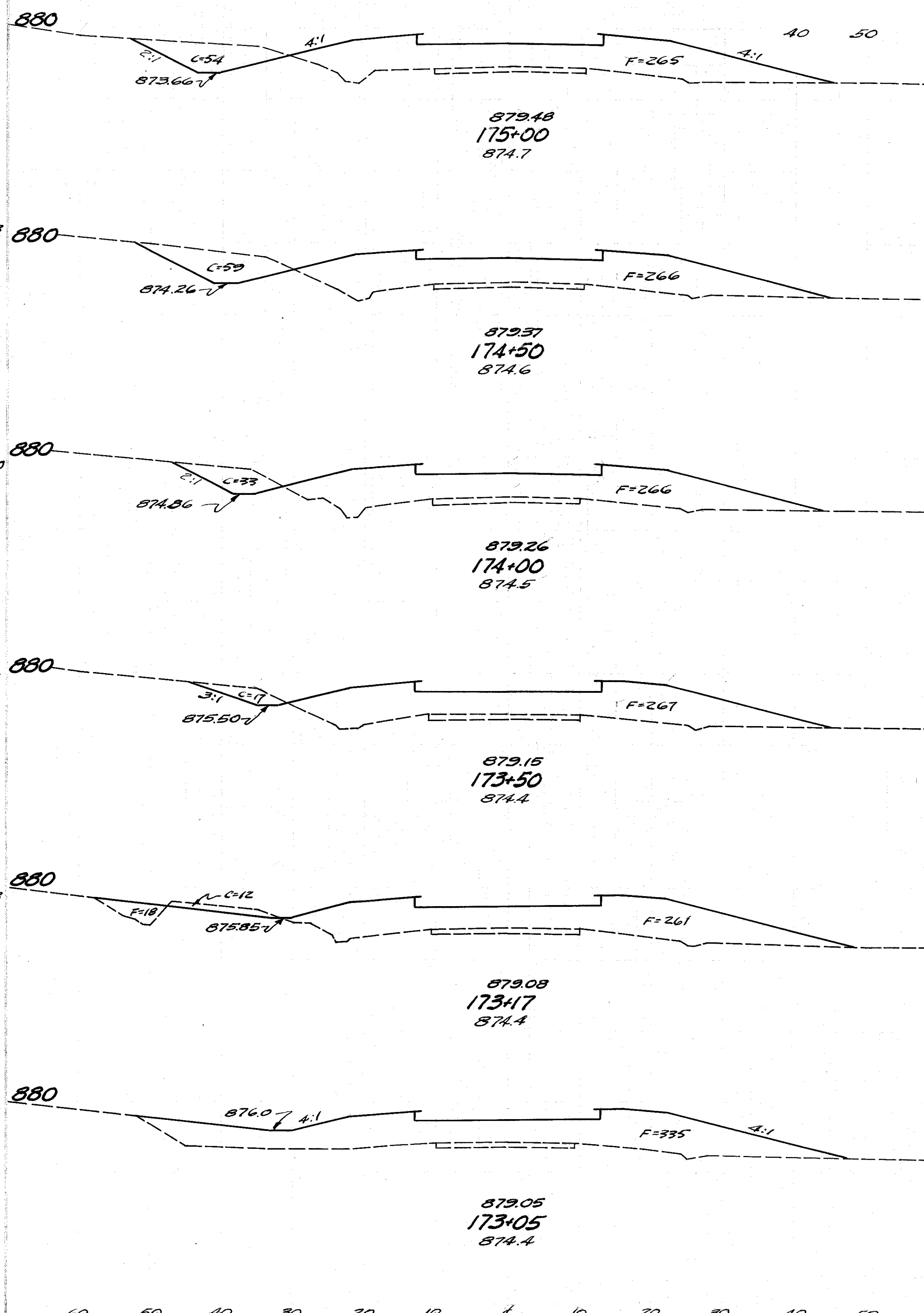
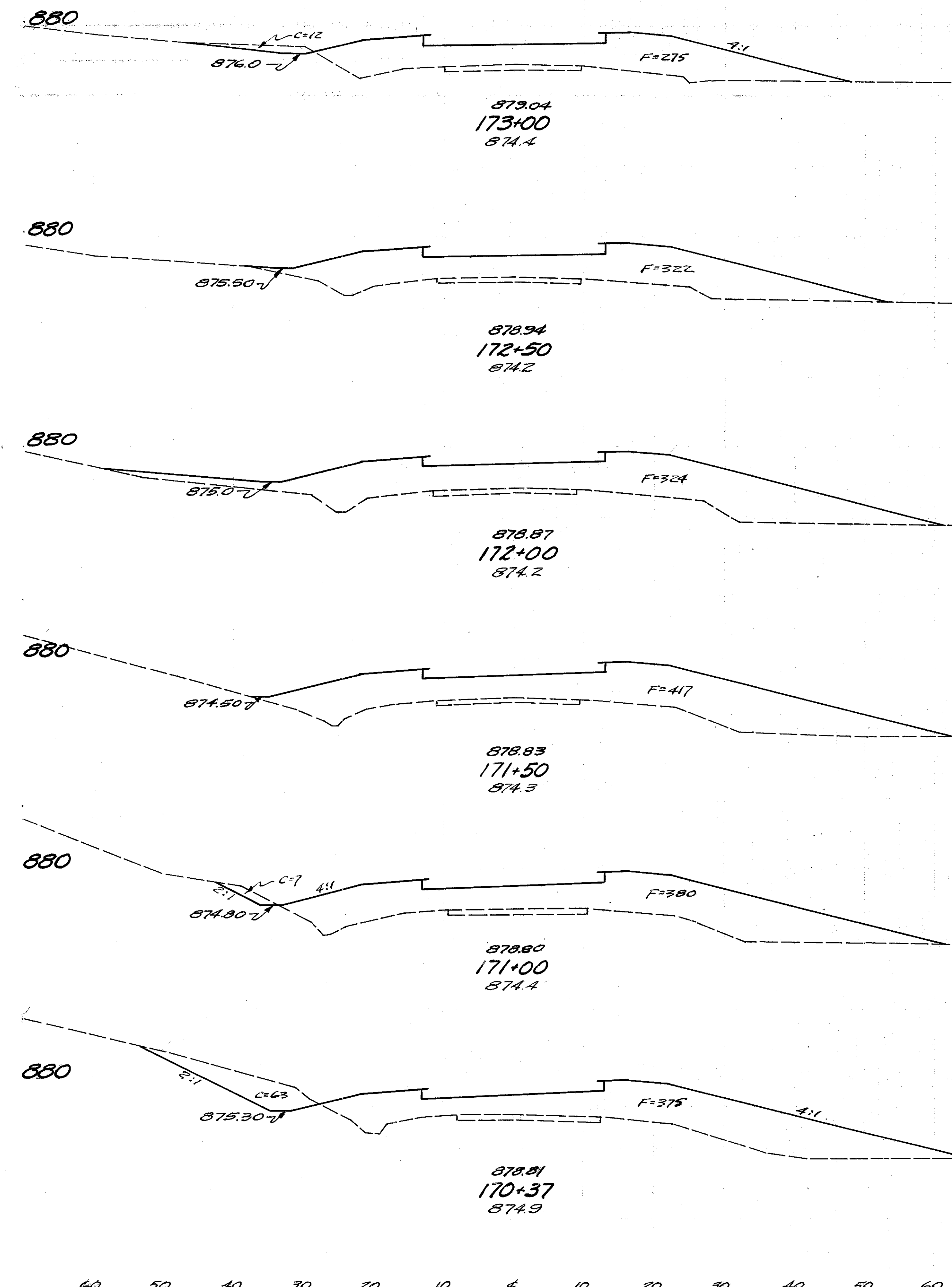
STA. 167+00 TO STA. 170+00

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

Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
52				1	56
92		12	275		
503				11	553
89		0	322		
578				0	690
119		0	423		
600				0	718
97		0	417		
556				6	738
103		7	380		
742				82	881
109		63	375		

60 50 40 30 20 10 0 10 20 30

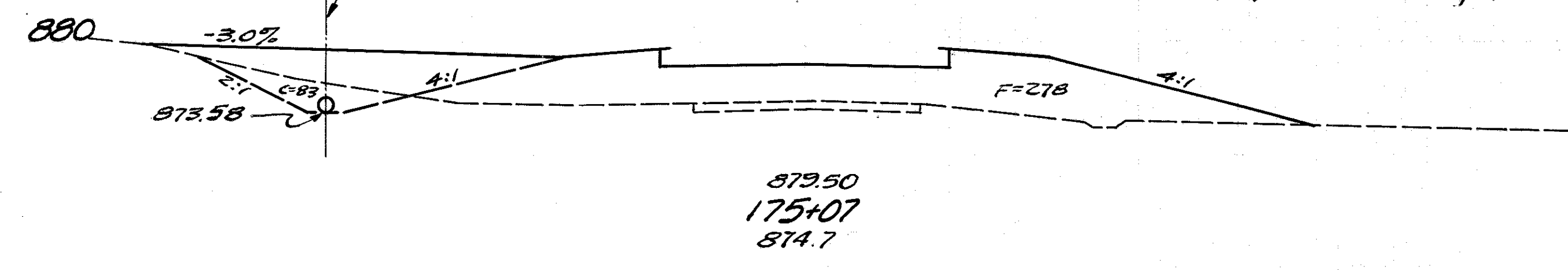
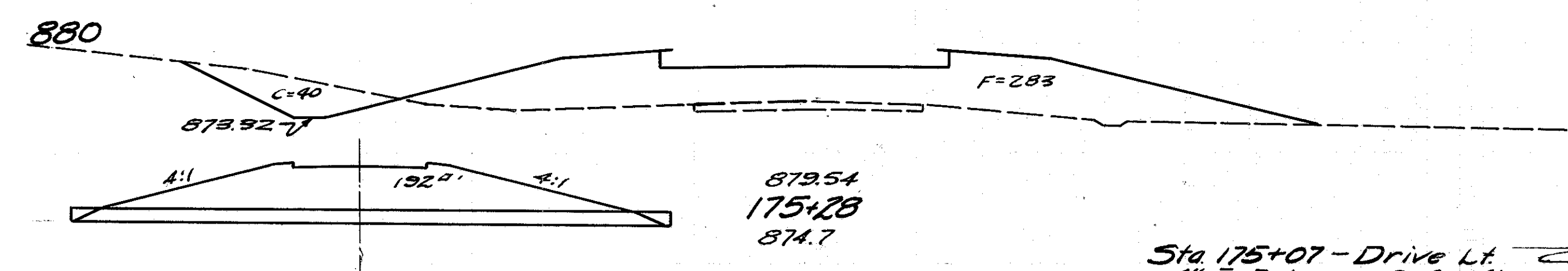
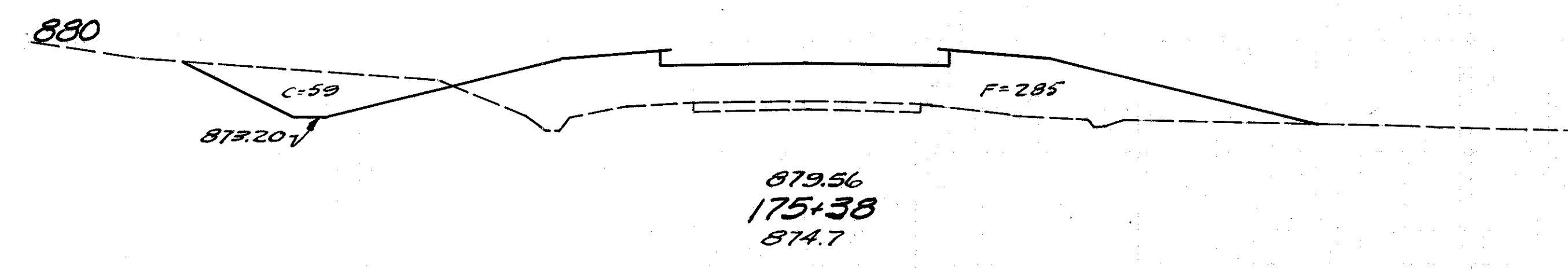
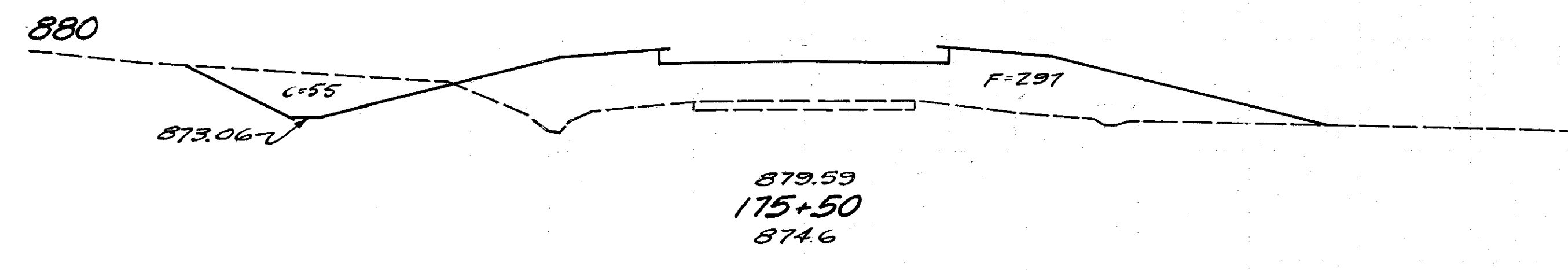
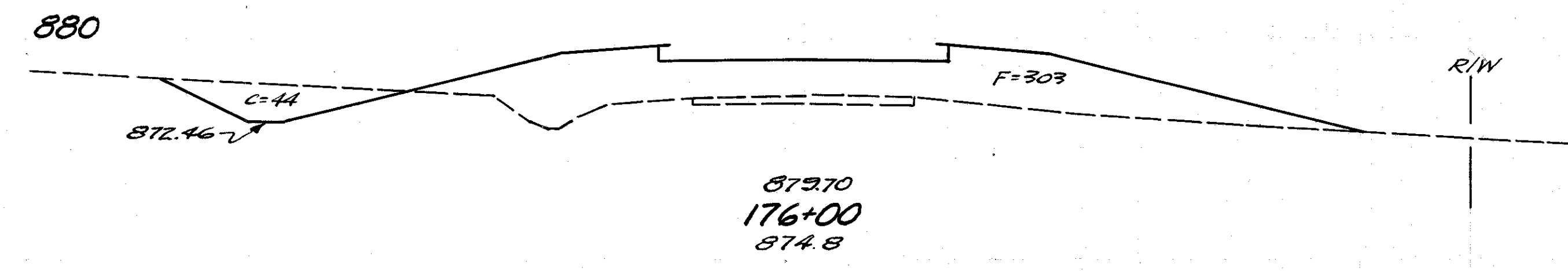
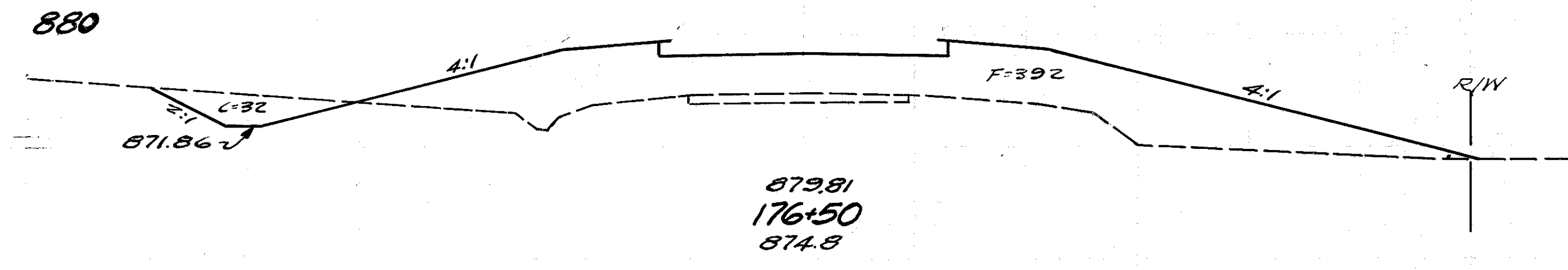
2 F-415(10) Pasture 58
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2



Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
76				11	70
97		54	265		
533				105	492
95		59	266		
511				85	483
89		33	266		
489				46	494
87		17	267		
350				18	334
104		12	279		
133				3	136
96		0	335		

STA 170+37 TO STA 175+00

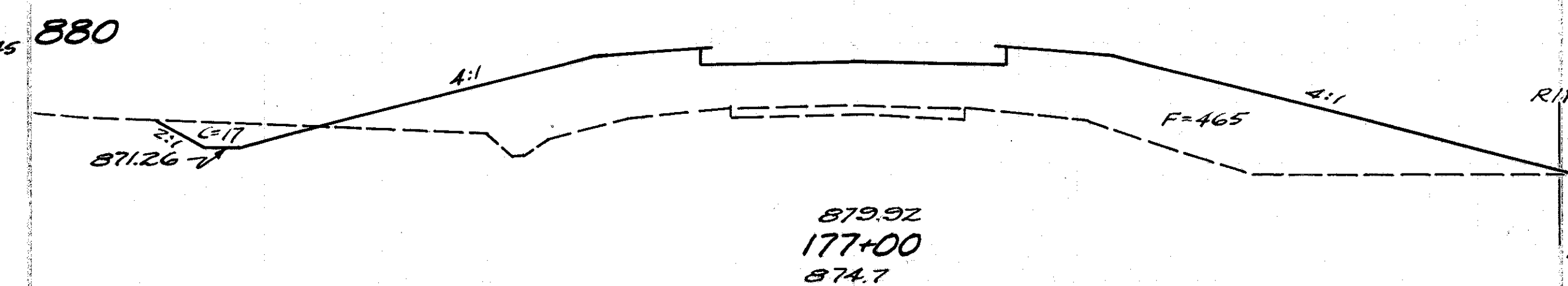
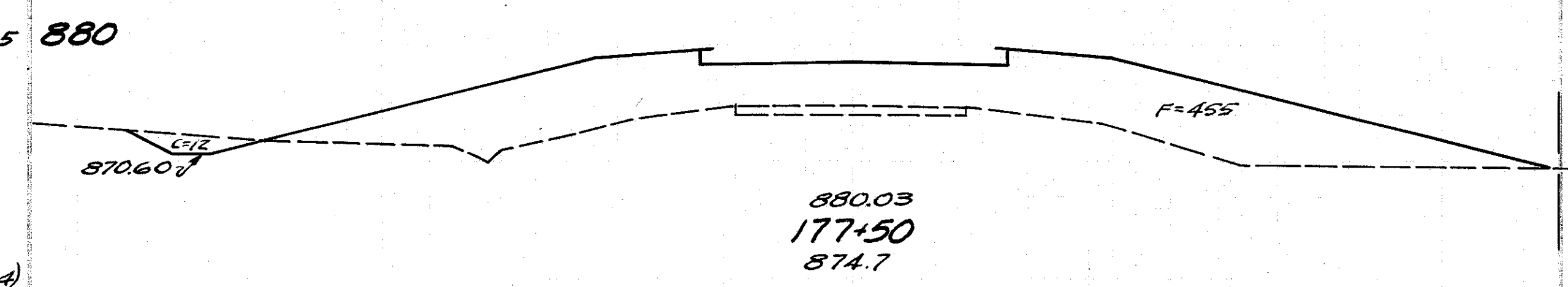
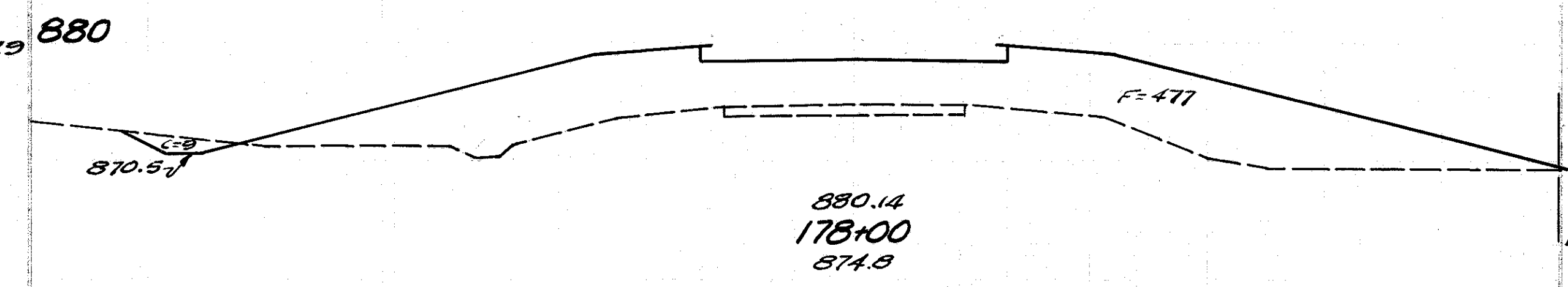
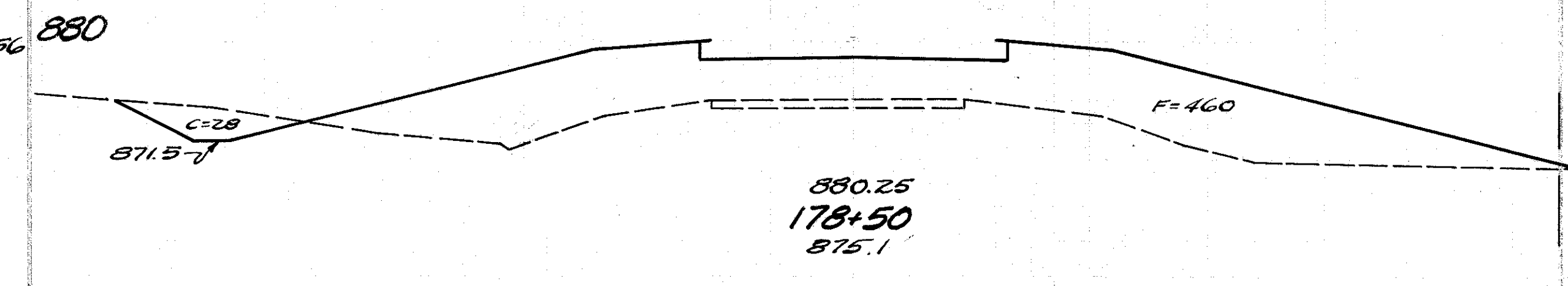
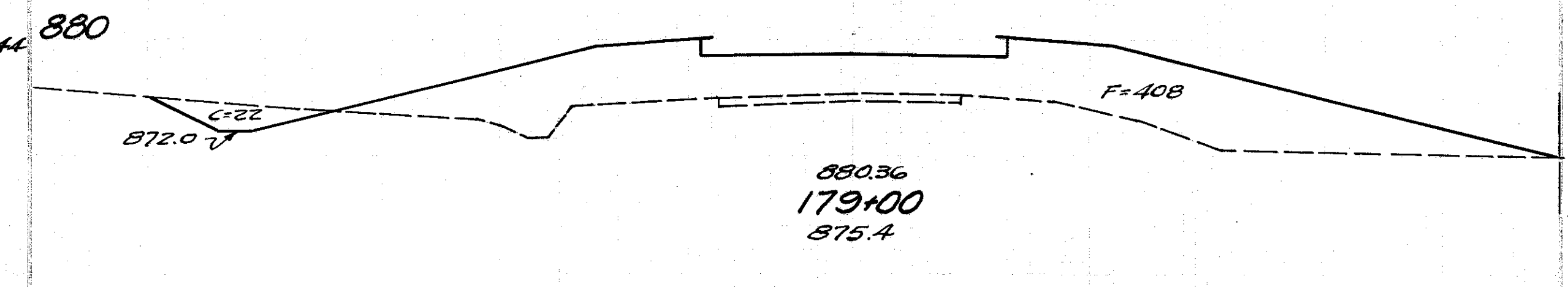
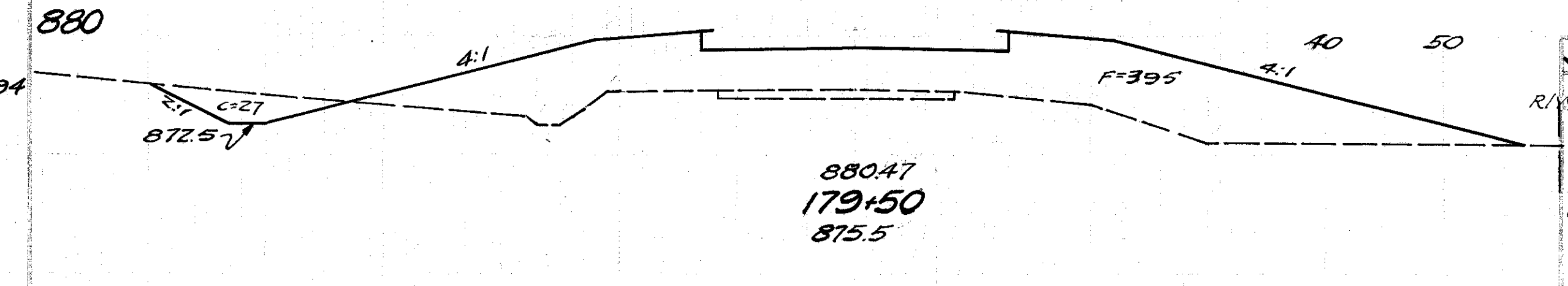
60 50 40 30 20 10 0 10 20 30 40 50 60



Seeding	E. A.	Cu. Yds.
W. S.Y.	Cut	Fill
600		45 794
108	32 392	
583		70 644
102	44 303	
564		92 556
101	55 297	
135		25 129
101	59 285	
112		18 105
101	40 283	
		(2) (114)
233		18 145
99	30 278	

Sta 175+07 - Drive Lt.
4" I-17 Aggr. = 8 Cu. Yds.
15" Pipe = 54 Lin Ft.
3" T-70 = 50 Sq. Yds.

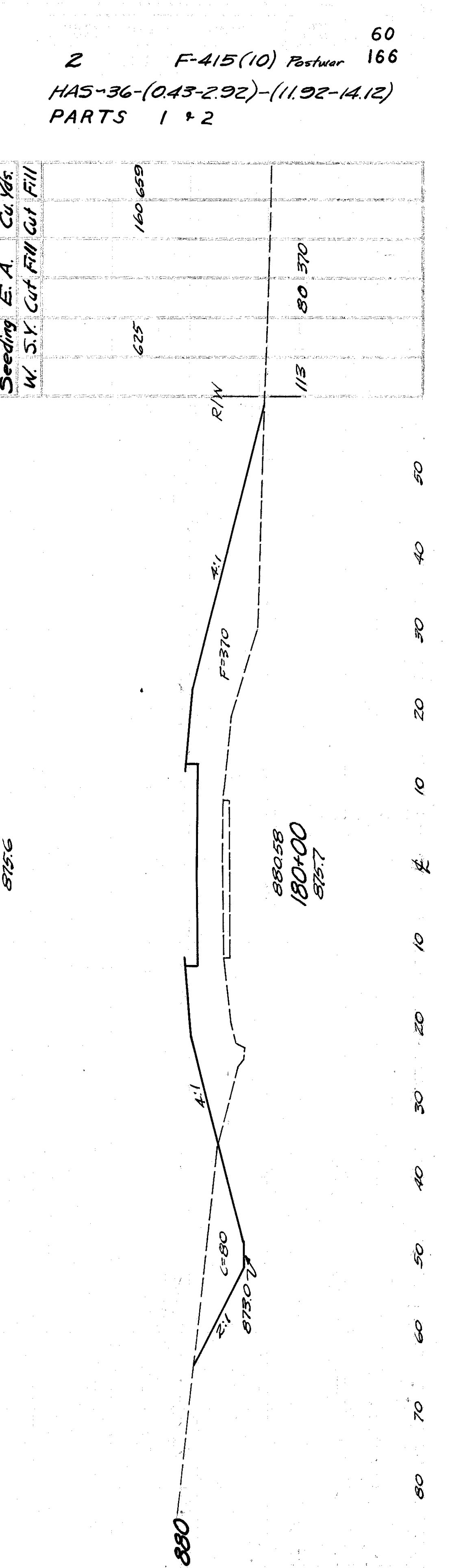
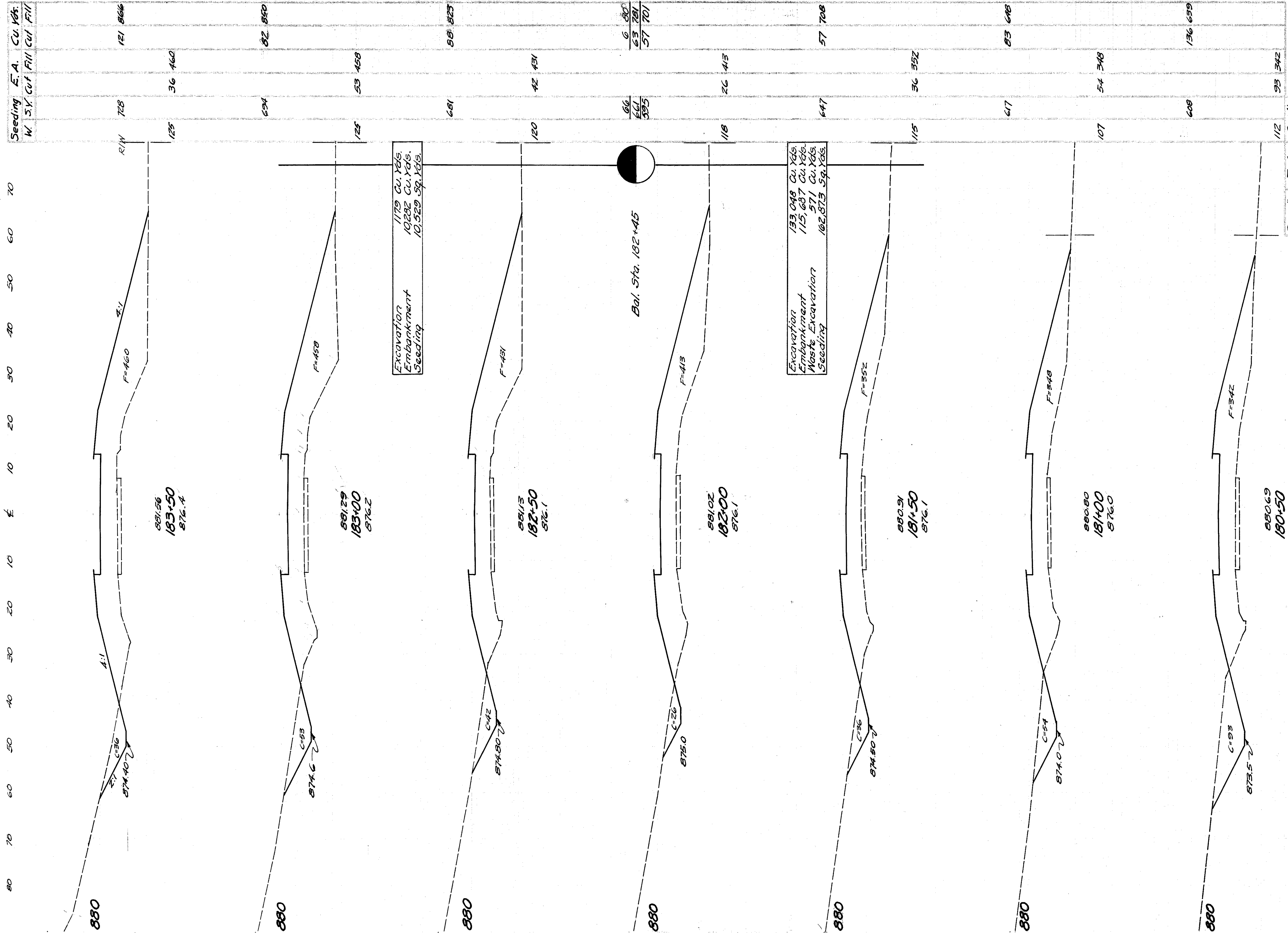
60 50 40 30 20 10 0 10 20 30 40 50 60



2 F-415(10) Postwar 166
HAS-36-(043-2.92)-(11.92-14.12)
PARTS 1 & 2

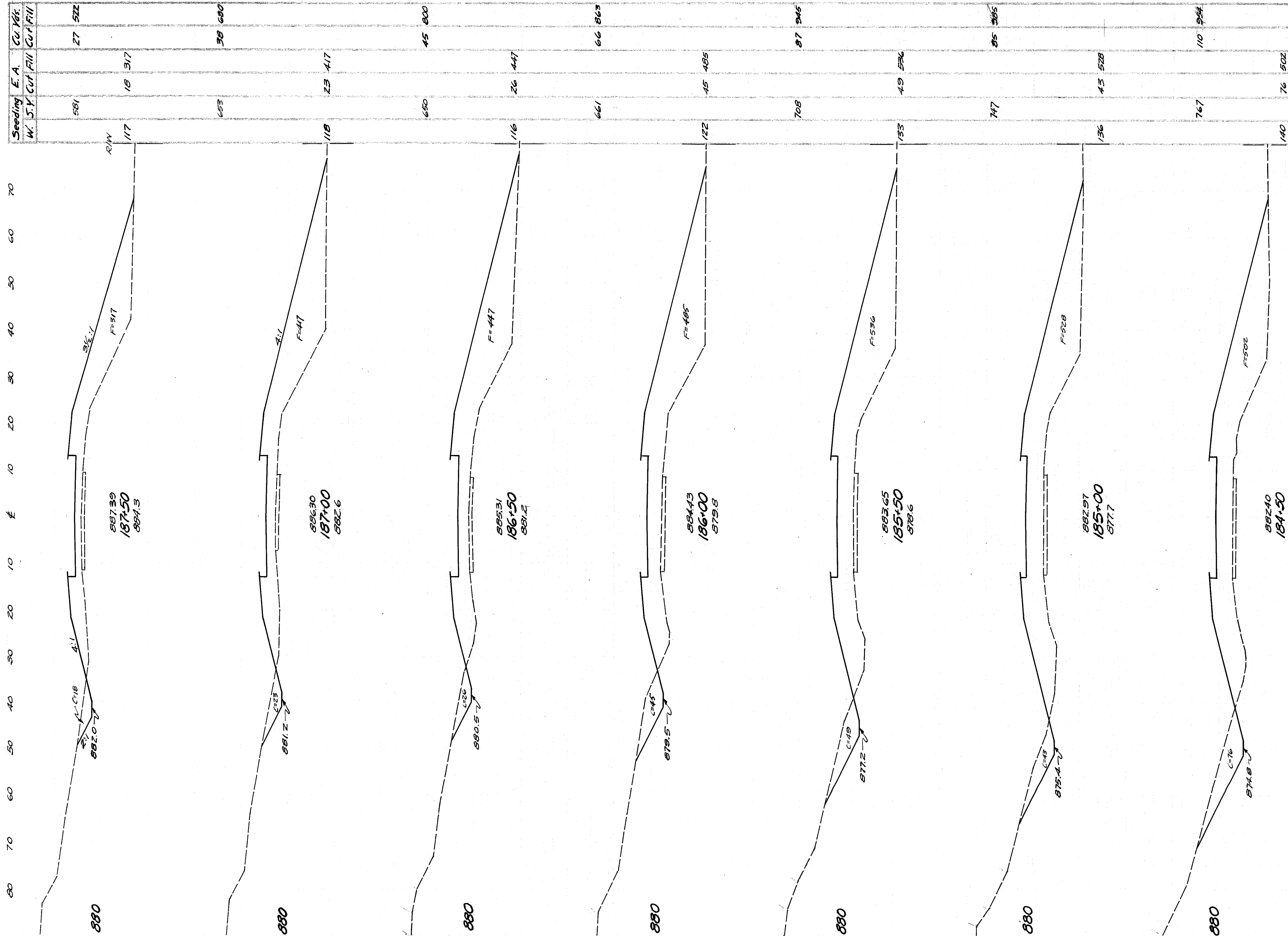
Seeding		E. A.		Cu. Yds.	
W. S.Y.	Cut	Fill	Cut	Fill	
617			99	708	
109	27	395			
603			45	744	
108	22	408			
608			46	804	
111	28	460			
614			34	868	
110	9	477			
614			19	863	
111	12	455			
608			27	852	
108	17	465			

STA. 175+07 TO STA. 179+50



2 F-415(10) Postwar 60
 HAS-36-(0.43-2.92)-(11.92-14.12) 166
 PARTS 1 & 2

STA. 180+00 TO STA. 183+50

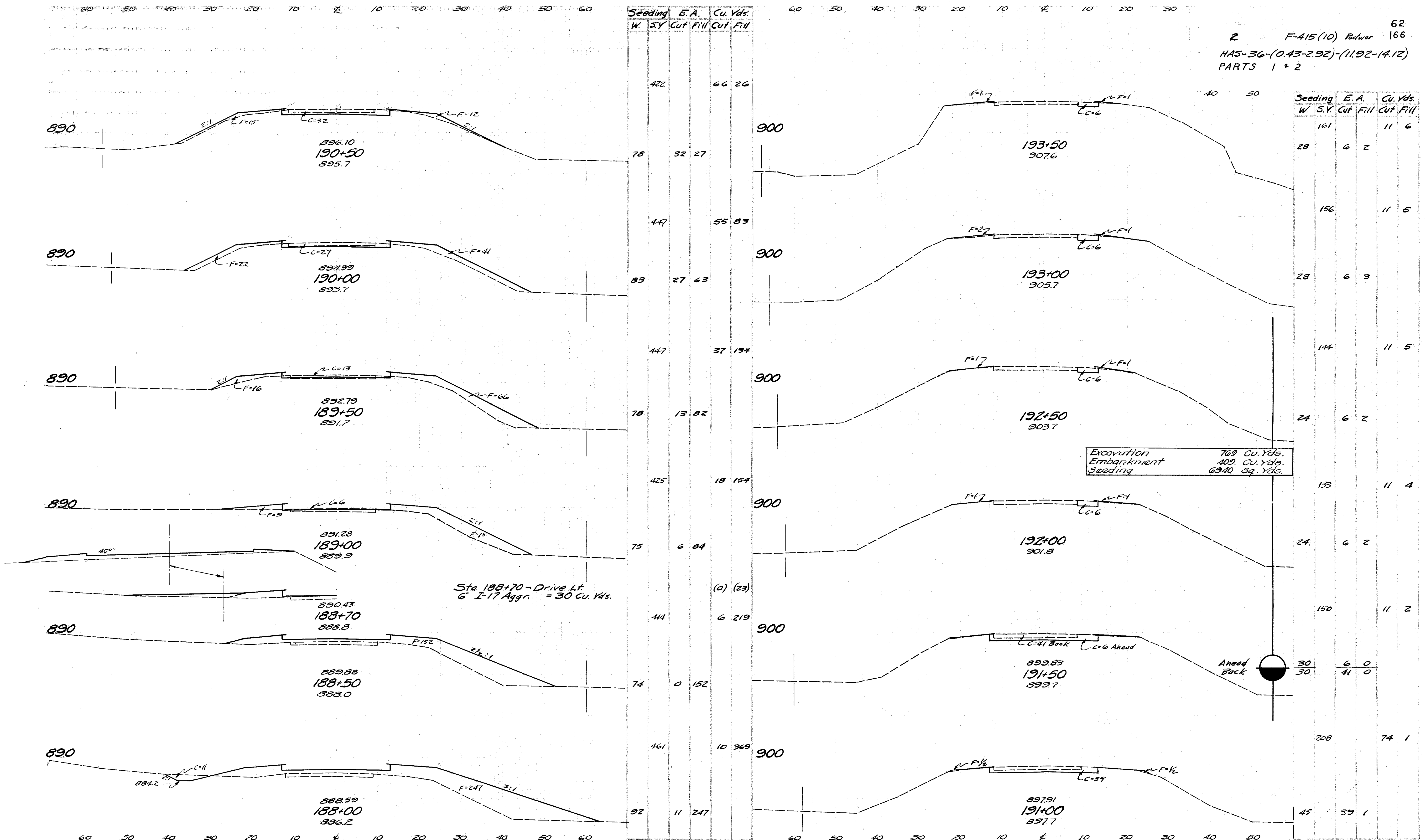


Seeding	E.A.	Cu Yds.
W	S	C/F
769	158	905
157	95	475

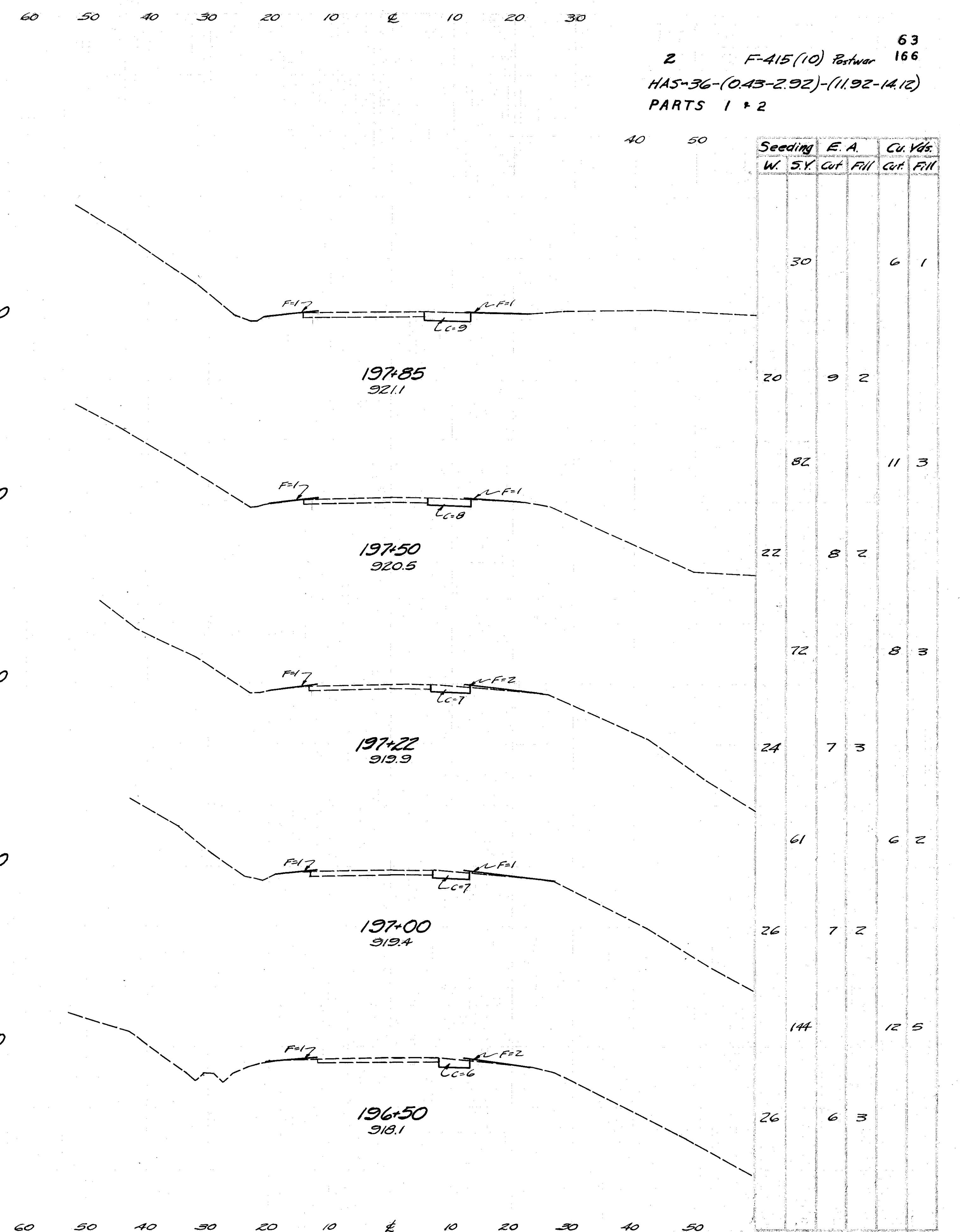
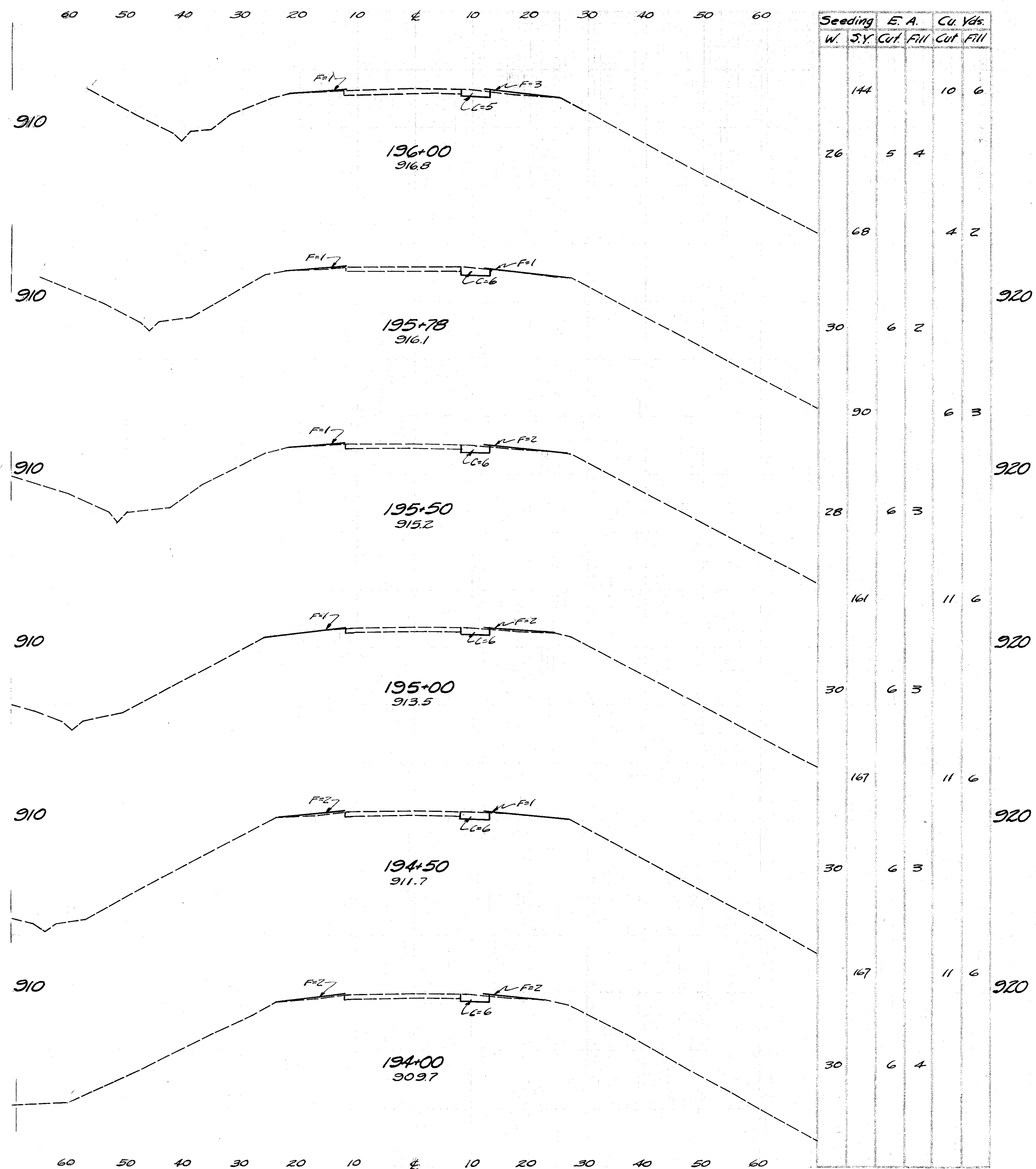
2 F-415(10) Postwar 61
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

STA. 184+00 TO STA. 187+50

2 F-415(10) Partwar 62
 HAS-36-(0.43-2.92)-(11.92-14.12) 166
 PARTS 1 & 2

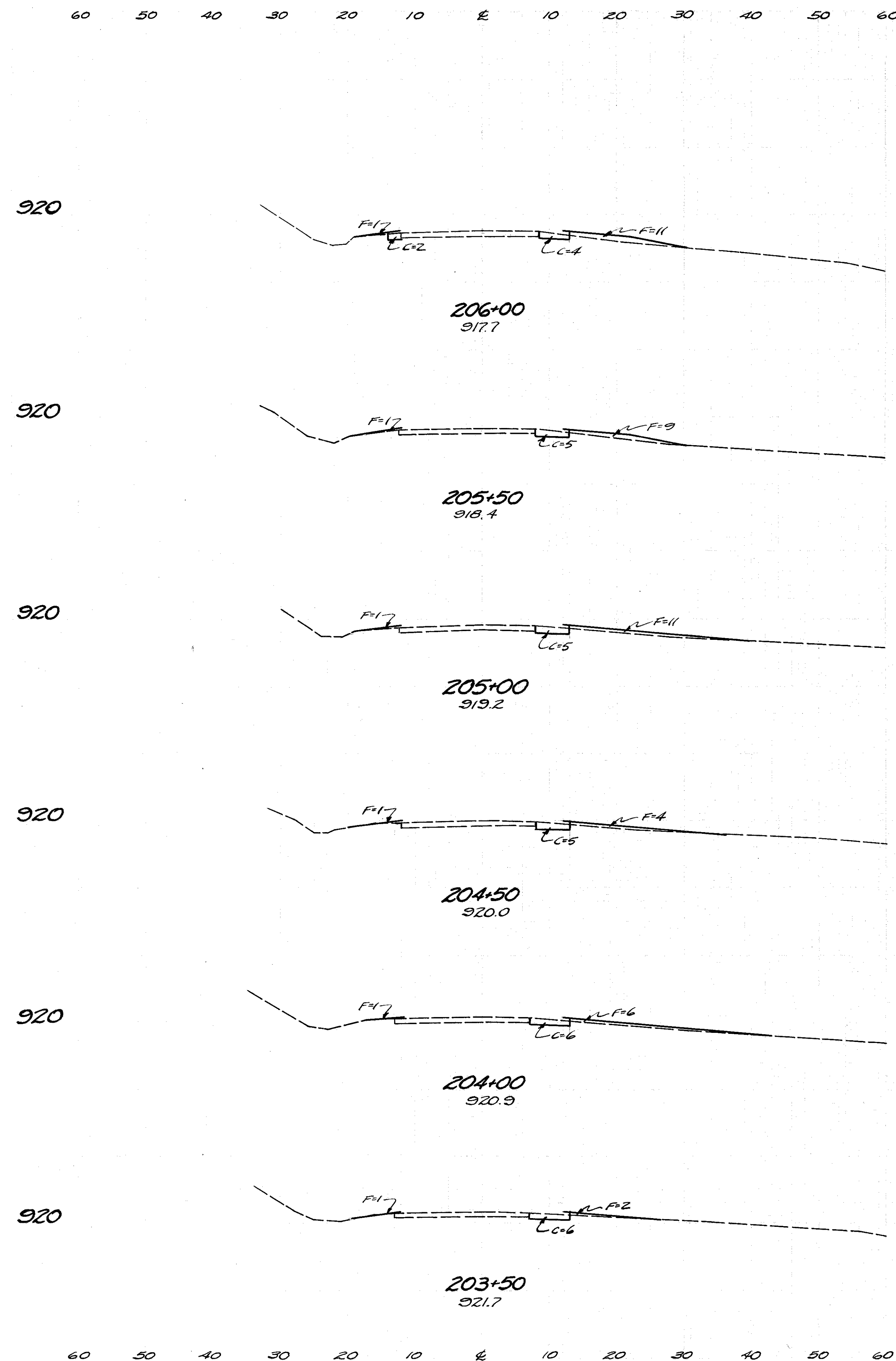


STA. 188+00 TO STA. 193+50

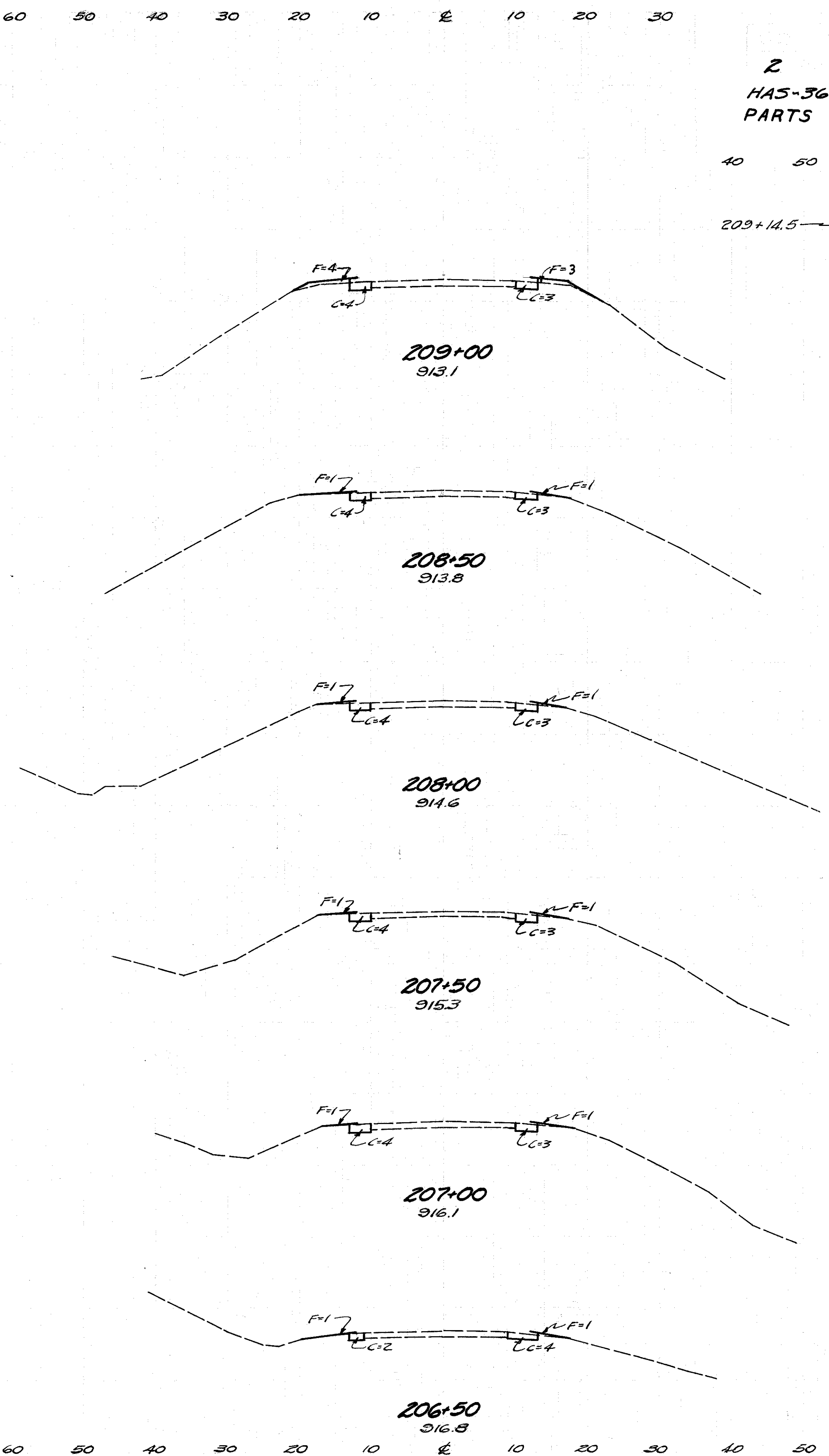


2 F-415(10) Postwar 63
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2

STA. 194+00 TO STA. 197+85



Seeding	E. A.		Cu. Yds.	
	W. S.Y.	Cut	Fill	Fill
122			11	13
30		6	12	
167			10	20
30		5	10	
183			9	20
36		5	12	
183			9	16
30		5	5	
194			10	11
40		6	7	
172			11	9
22		6	3	



2 F-415(10) Postwar 166
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

Seeding	E. A.		Cu. Yds.	
	W. S.Y.	Cut	Fill	Fill
12		6	9	
19			3	4
12		7	7	
67			13	8
12		7	2	
67			13	4
12		7	2	
67			13	4
12		7	2	
67			13	4
12		7	2	
72			12	4
14		6	2	

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

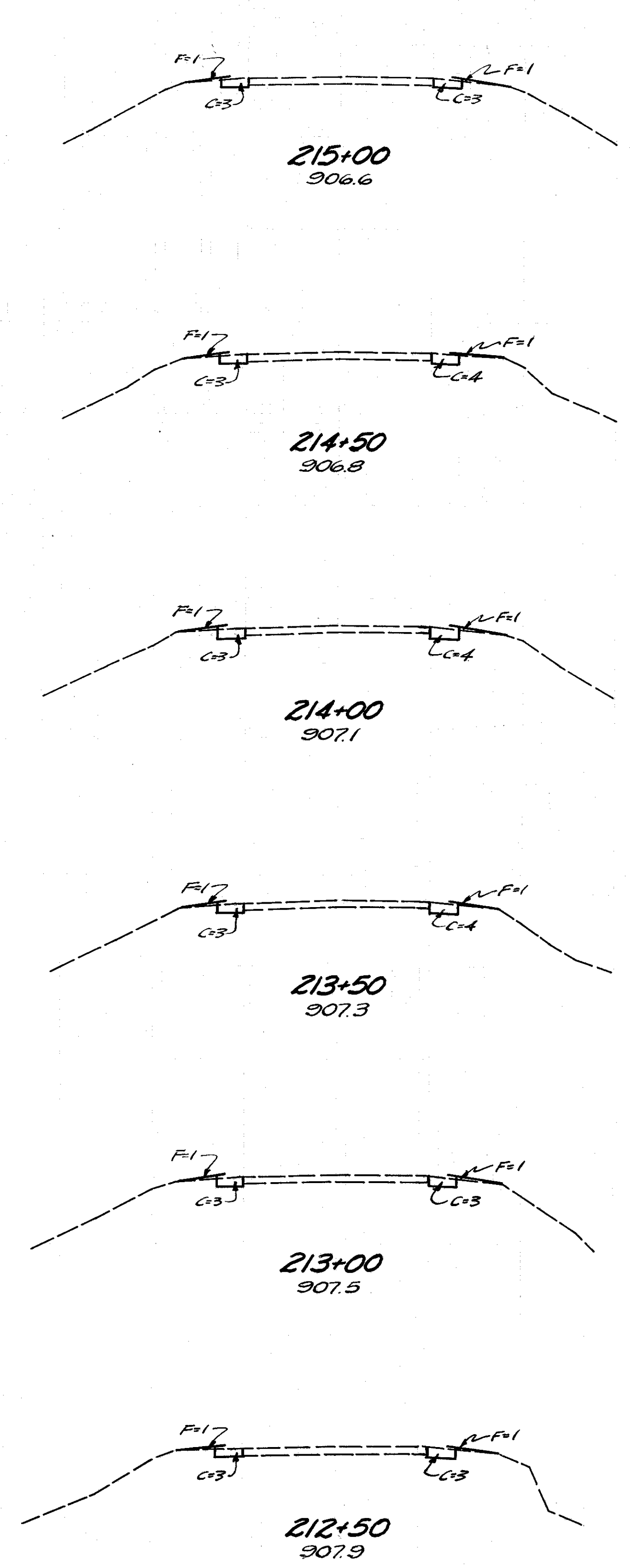
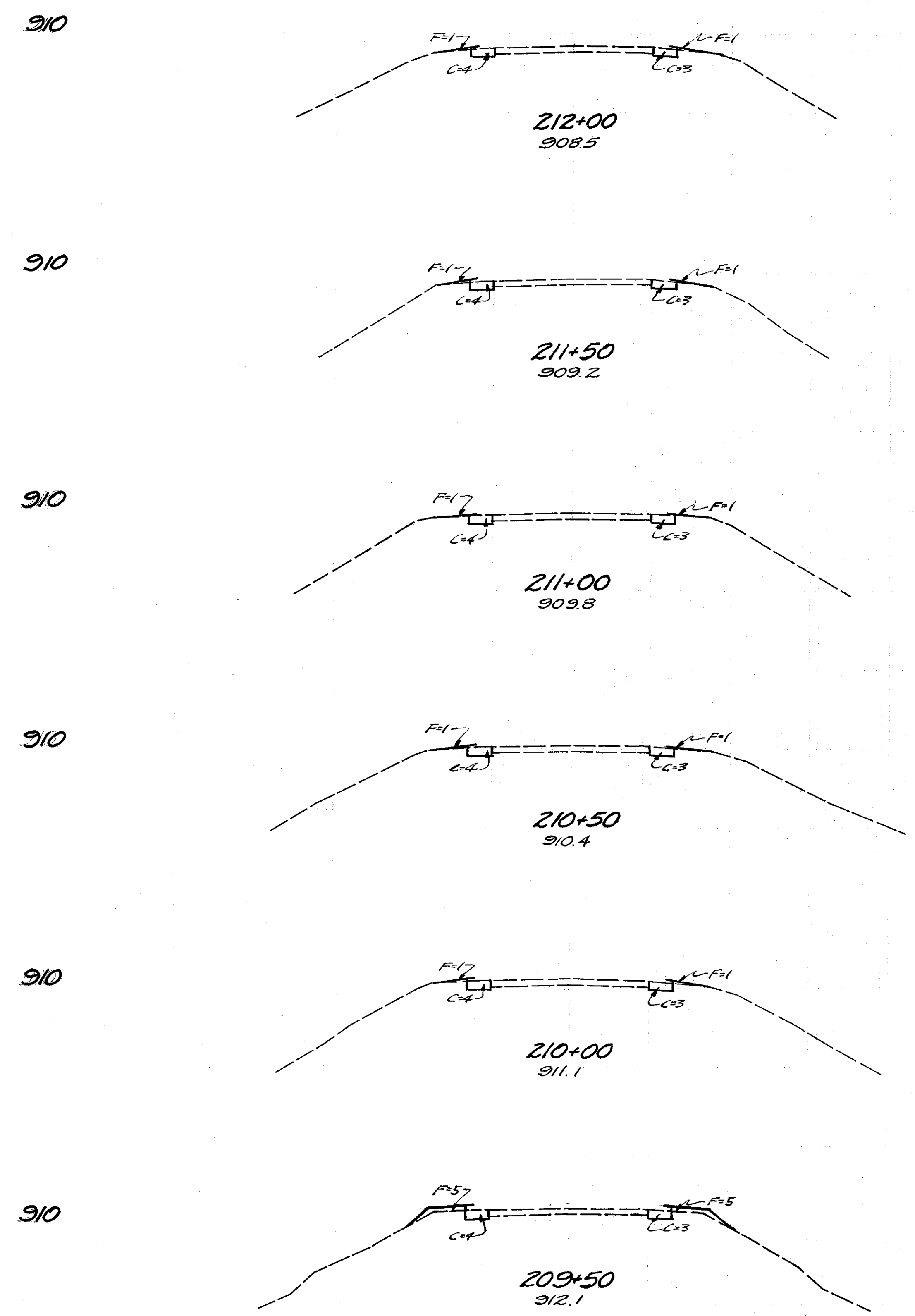
Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
67				12	4
12		7	2		
67				13	4
12		7	2		
67				13	4
12		7	2		
67				13	4
12		7	2		
67				13	4
12		7	2		
67				13	4
12		7	2		
67				13	11
12	21	7	10	4	6
12		6	9	4	6

60 50 40 30 20 10 0 10 20 30

66
2 F-415(10) Postwar 166
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

40 50

Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
133				24	7
12		6	2		
67				12	4
12		7	2		
67				13	4
12		7	2		
67				13	4
12		7	2		
67				13	4
12		7	2		
67				12	4
12		6	2		
67				11	4
12		6	2		



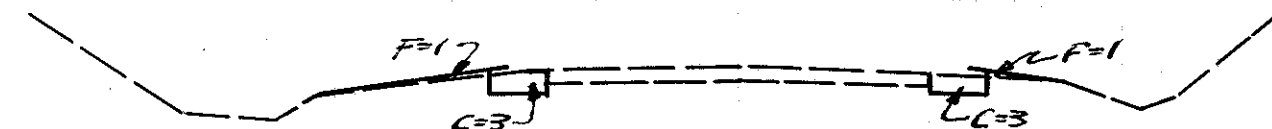
60 50 40 30 20 10 0 10 20 30 40 50 60

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

STA 209+50 TO STA 215+00

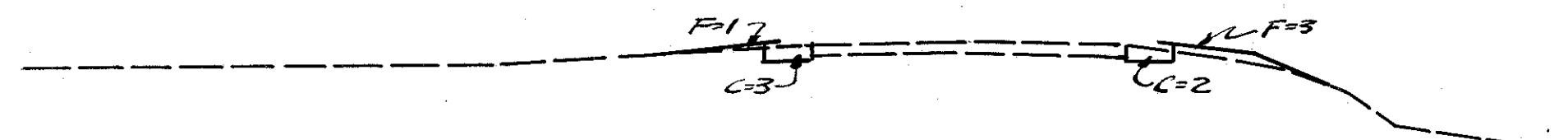
60 50 40 30 20 10 0 10 20 30 40 50 60

910



218+00
906.5

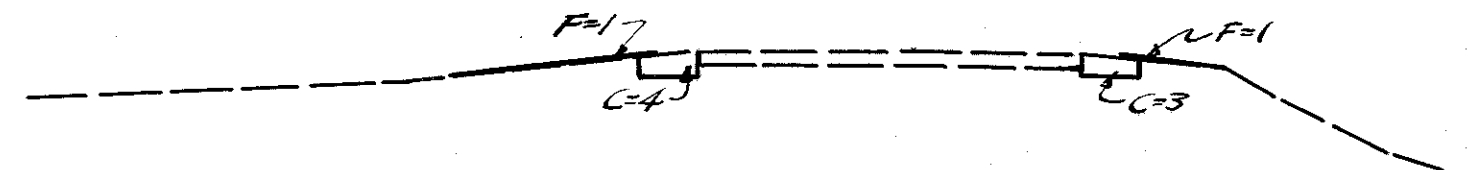
910



217+50
906.5

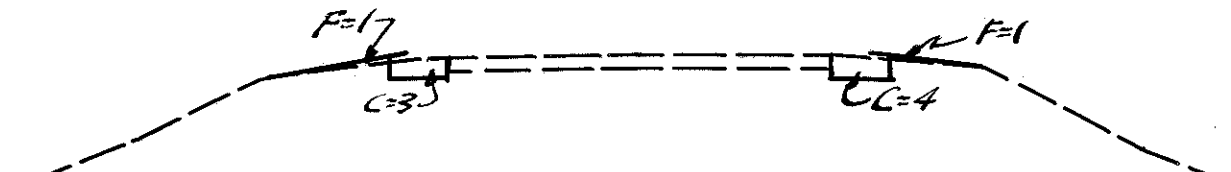
Sta. 217+10 Road Appr. Lt.
Feathering = 20 sq. yds.

910



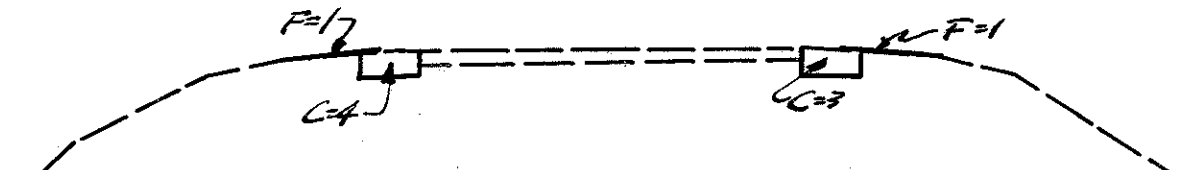
217+00
906.2

910



216+50
906.2

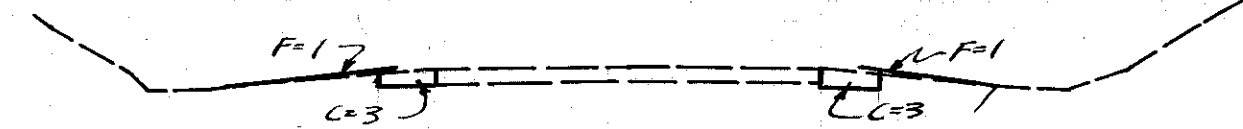
910



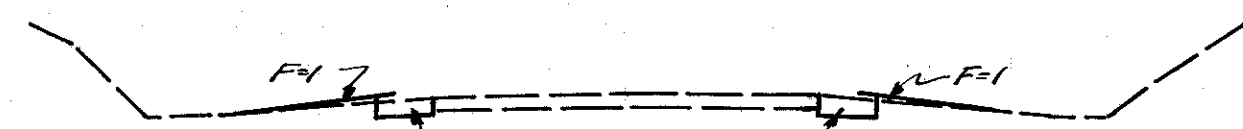
216+00
906.1

Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
89				11	6
16		6	2		
94				10	6
18		5	4		
89				11	6
14		7	2		
72				13	4
12		7	2		
67				13	4
12		7	2		

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



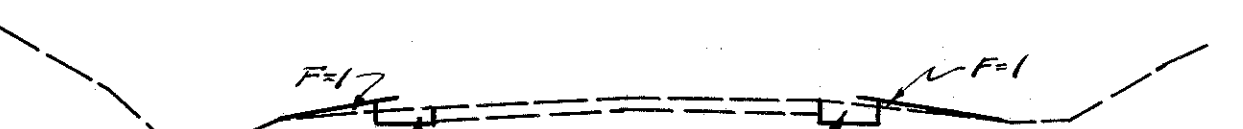
221+00
906.6



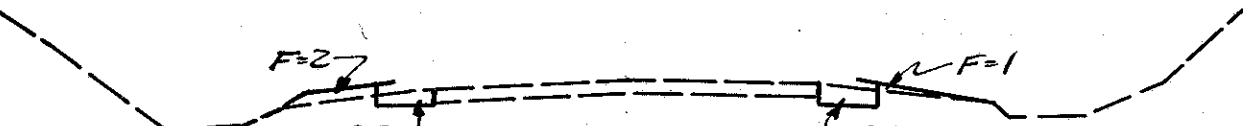
220+50
906.5



220+00
906.6



219+50
906.6



219+00
906.5



218+50
906.4

40 50

2 F-415(10) Postwar 165
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
89				11	4
16		6	2		
89				11	4
16		6	2		
89				11	4
16		6	2		
89				11	4
16		6	2		
89				11	5
16		6	3		
89				11	7
16		6	5		

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

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

STA. 216+00 TO STA. 221+00

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

STA. 223+65.6 to STA. 632+00
No WORK REQUIRED

Seeding	E. A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill
10			6	2
17				3 1
10			6	2
56				11 4
10			6	2
72				11 4
16			6	2
89				11 4
16			6	2
89				11 4
16			6	2

223+65.6
906.3

END PART 1

223+50
906.3

Sta. 223+15 Park Appr. Rt.
Feathering = 35 sq. yds.

223+00
906.8

222+50
906.7

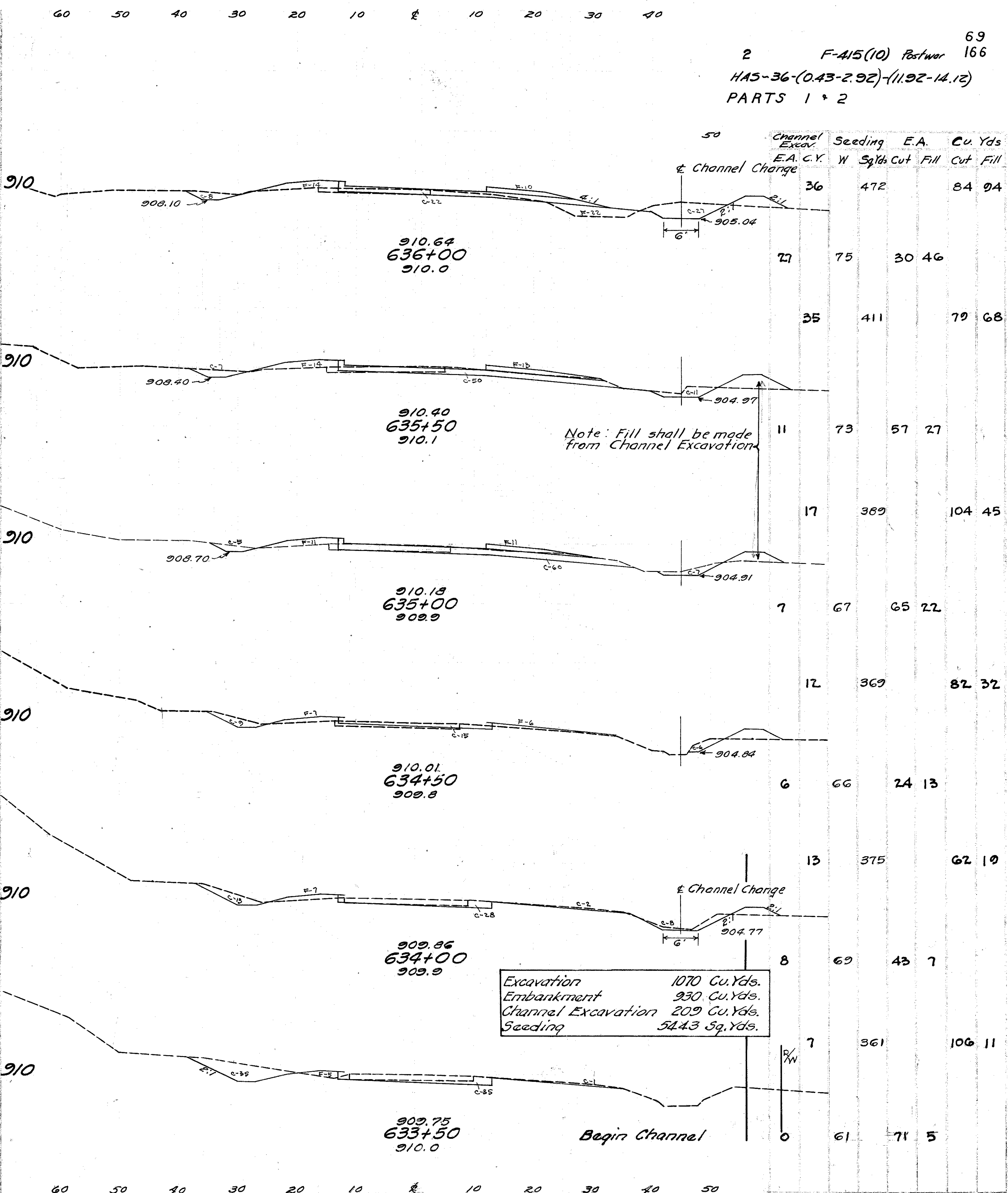
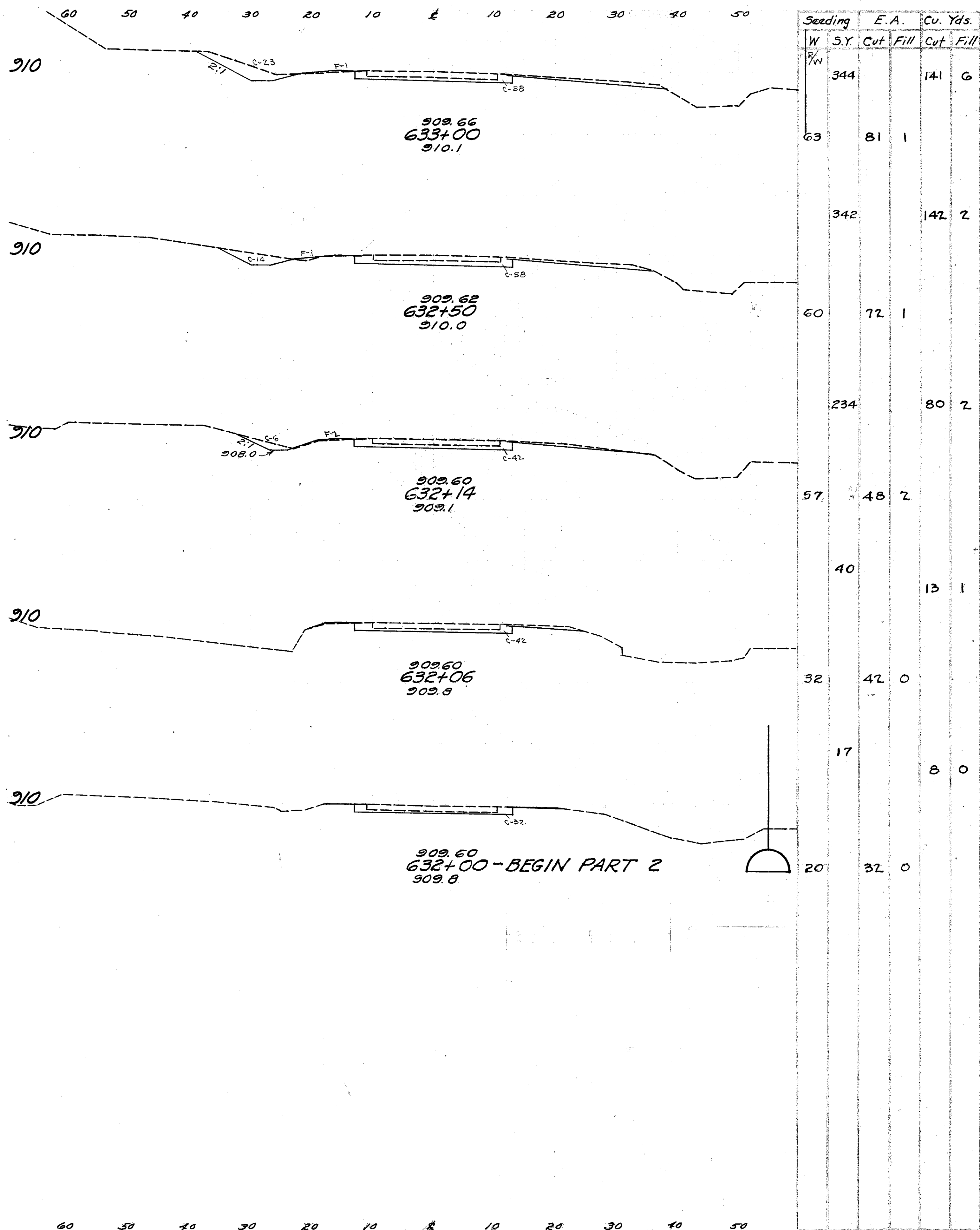
222+00
906.8

221+50
906.8

2 F-415(10) Postwar 68
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2

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

STA. 221+50 TO STA. 223+65.6



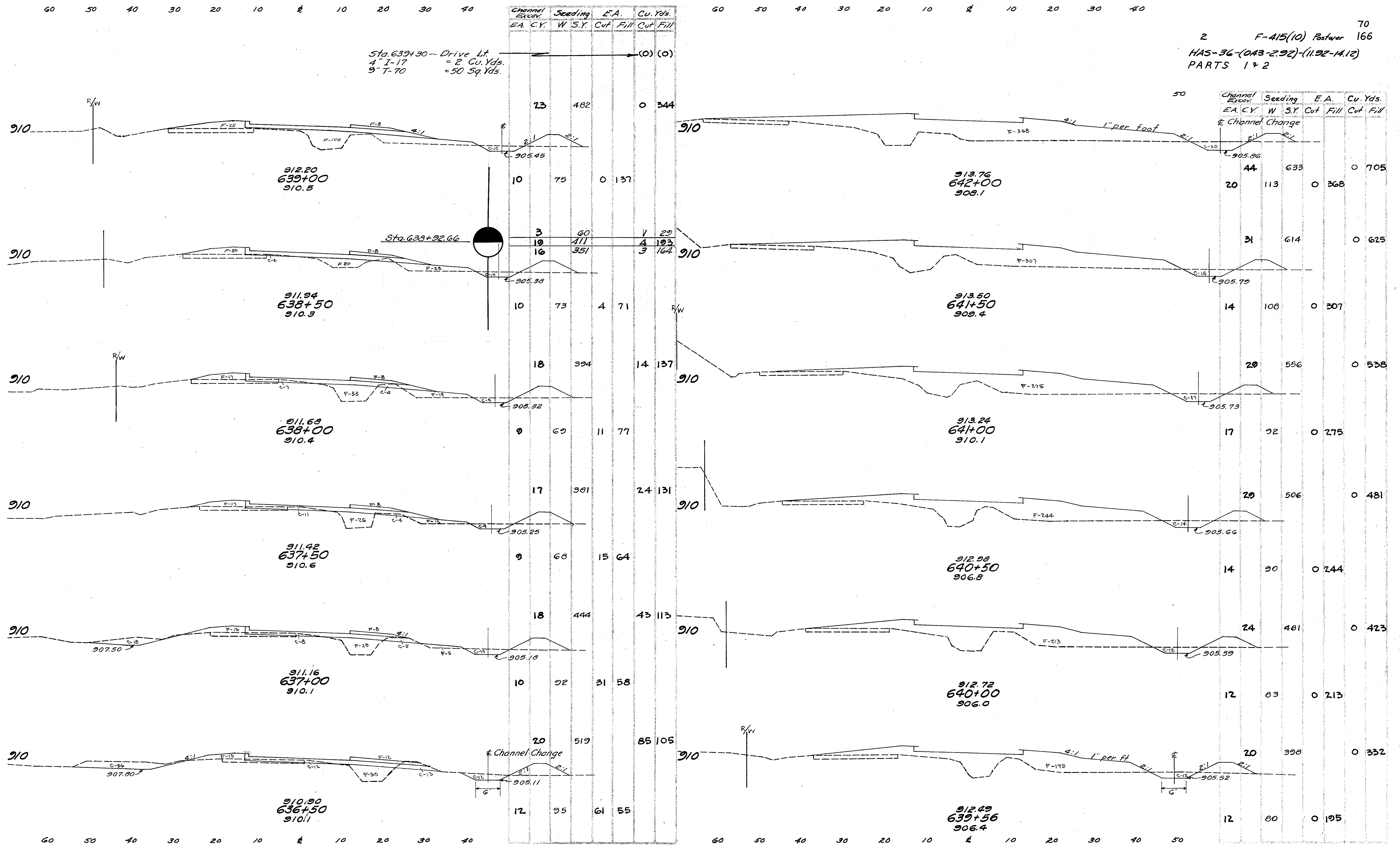
2 F-415(10) Postwar 69
 HAS-36-(0.43-2.92)-(11.92-14.12) 166
 PARTS 1 & 2

Note: Fill shall be made from Channel Excavation

Excavation 1070 Cu.Yds.
 Embankment 930 Cu.Yds.
 Channel Excavation 209 Cu.Yds.
 Seeding 5443 Sq.Yds.

Begin Channel

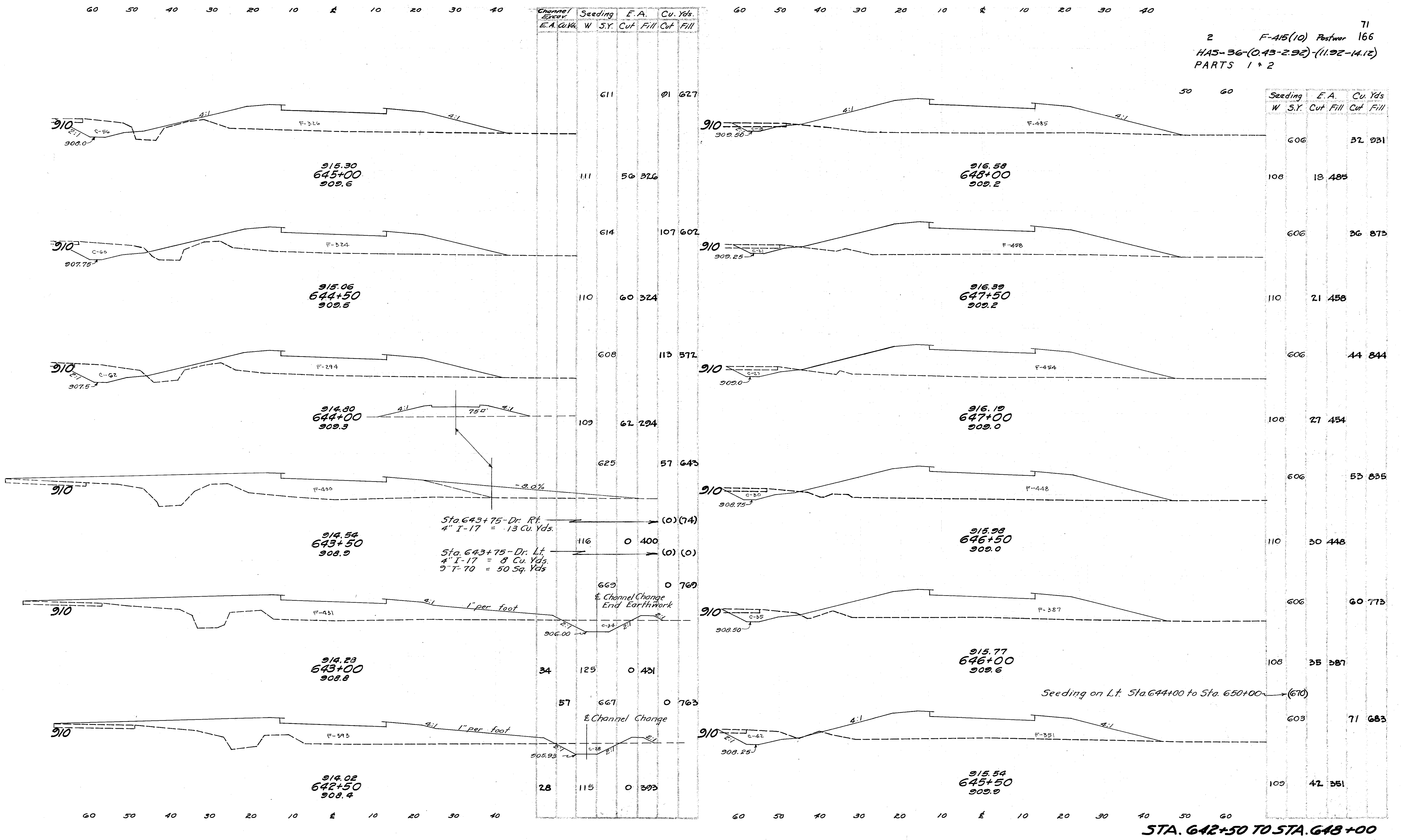
STA. 632+00 TO STA. 636+00

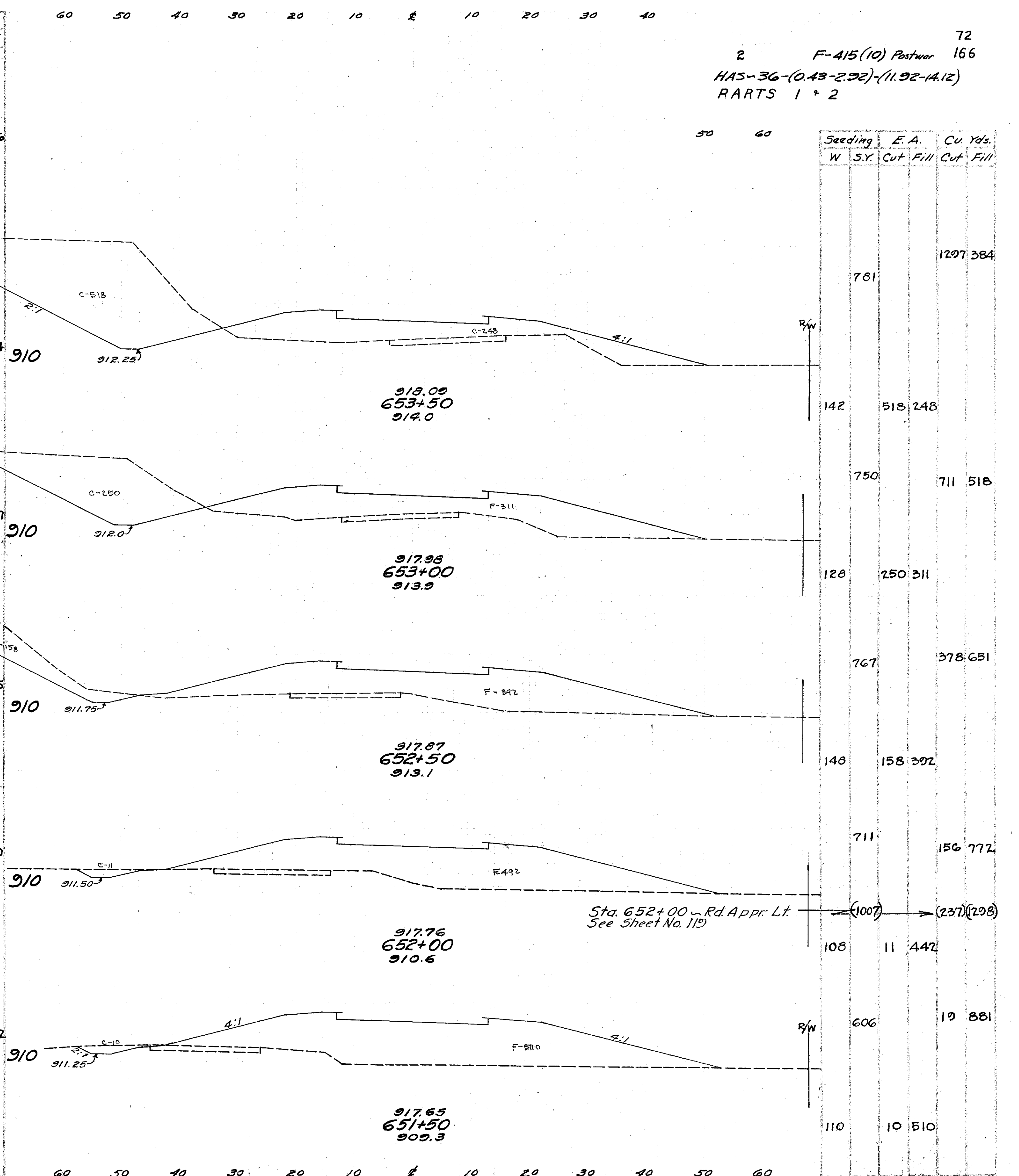


2 F-415(10) Postwar 166
HAS-36-(043-2.92)-(11.92-14.12)
PARTS 1 & 2

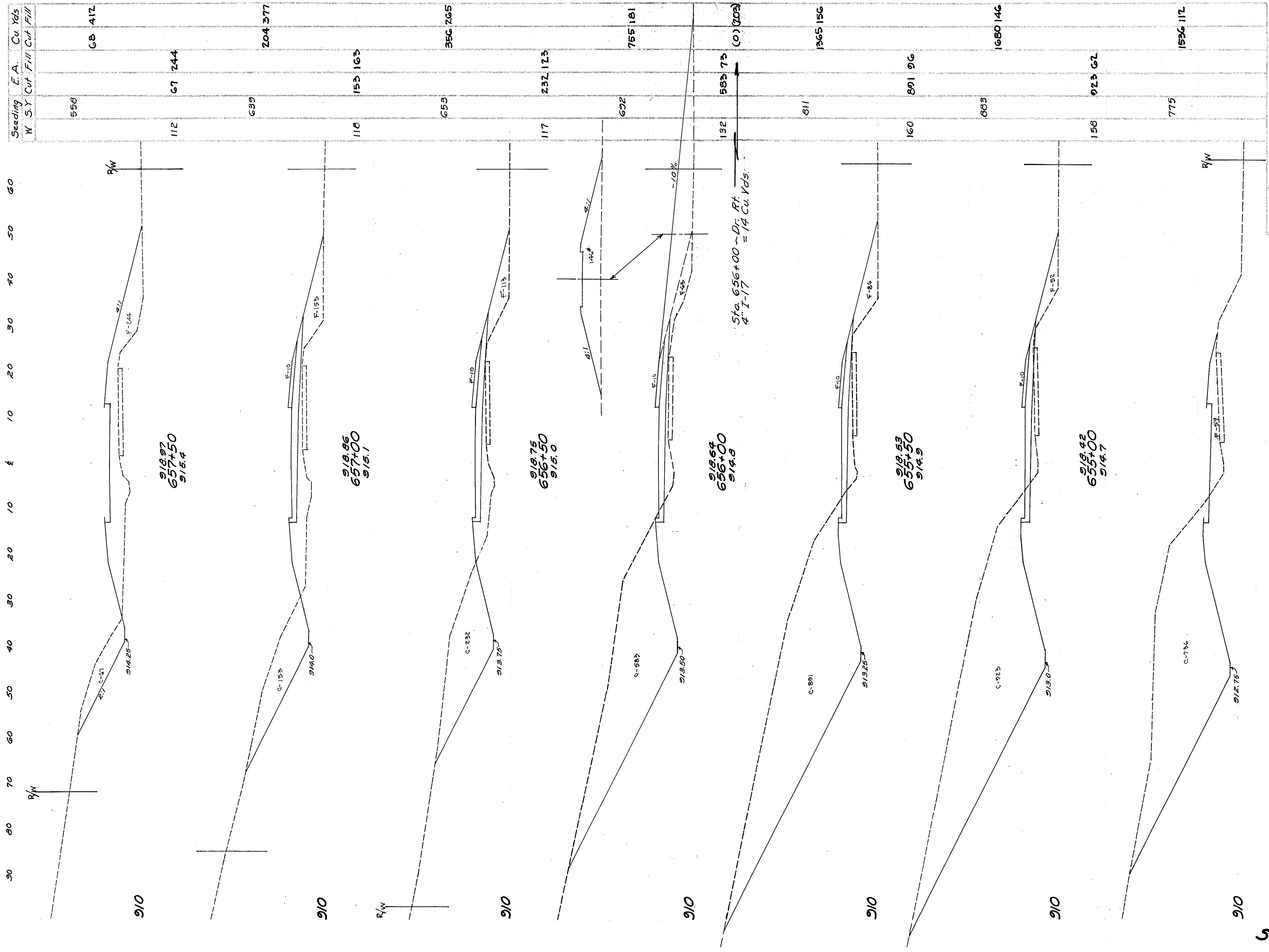
STA. 636+50 TO STA. 642+00

2 F-415(10) Postwar 166
 HAS-36(0.43-2.92)-(11.92-14.12)
 PARTS 1 & 2





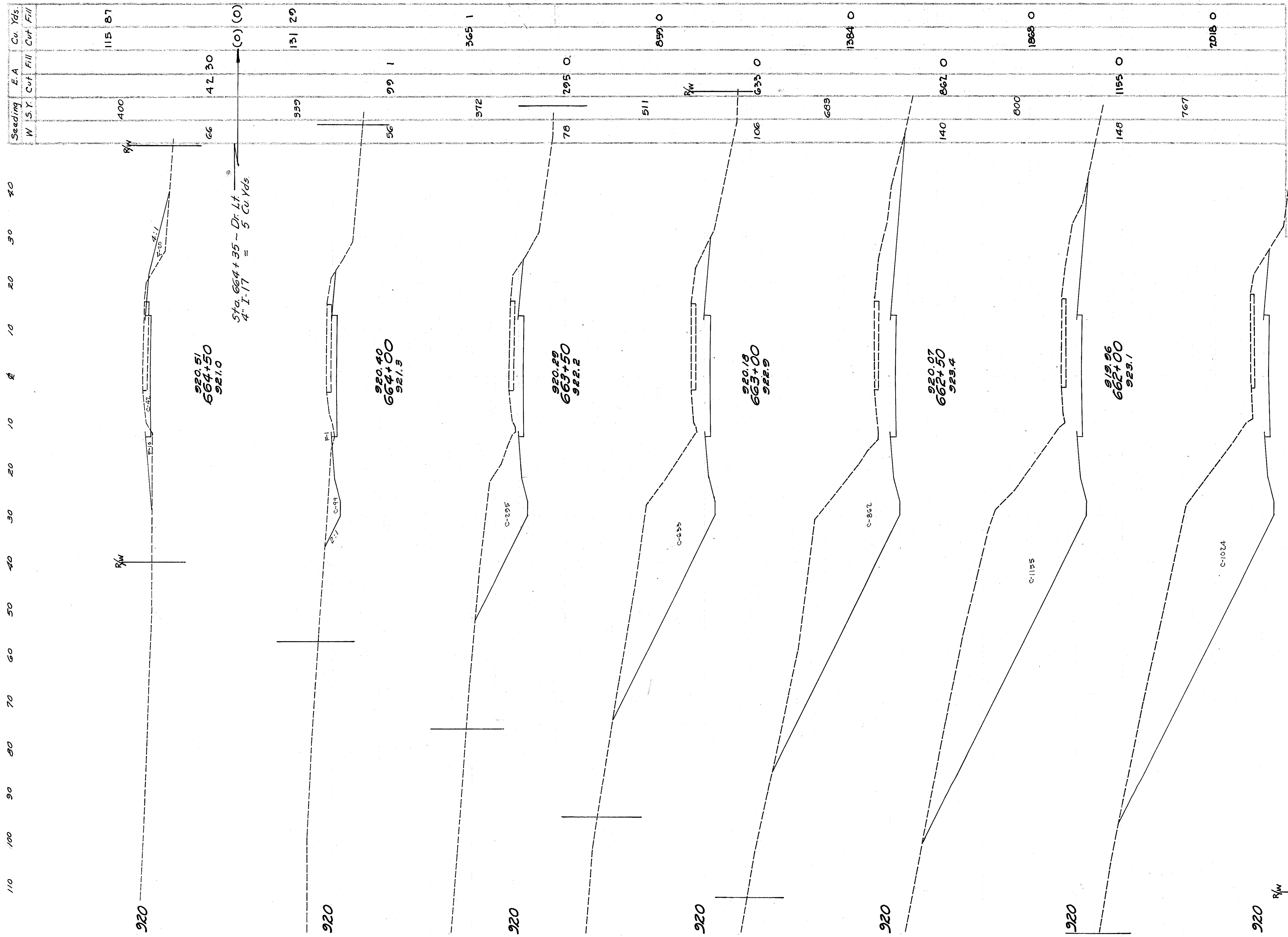
STA. 648+50 TO STA. 653+50



Seeding	E.A.	Cu Yds
W	S.Y.	Cut Fill
121	736 59	1499 209
139	883 167	

2 F-415(10) Postner 166
 HAS-36-(0.43-2.92)-(11.92-14.12)
 PARTS 1 + 2

STA. 654+00 TO STA. 657+50

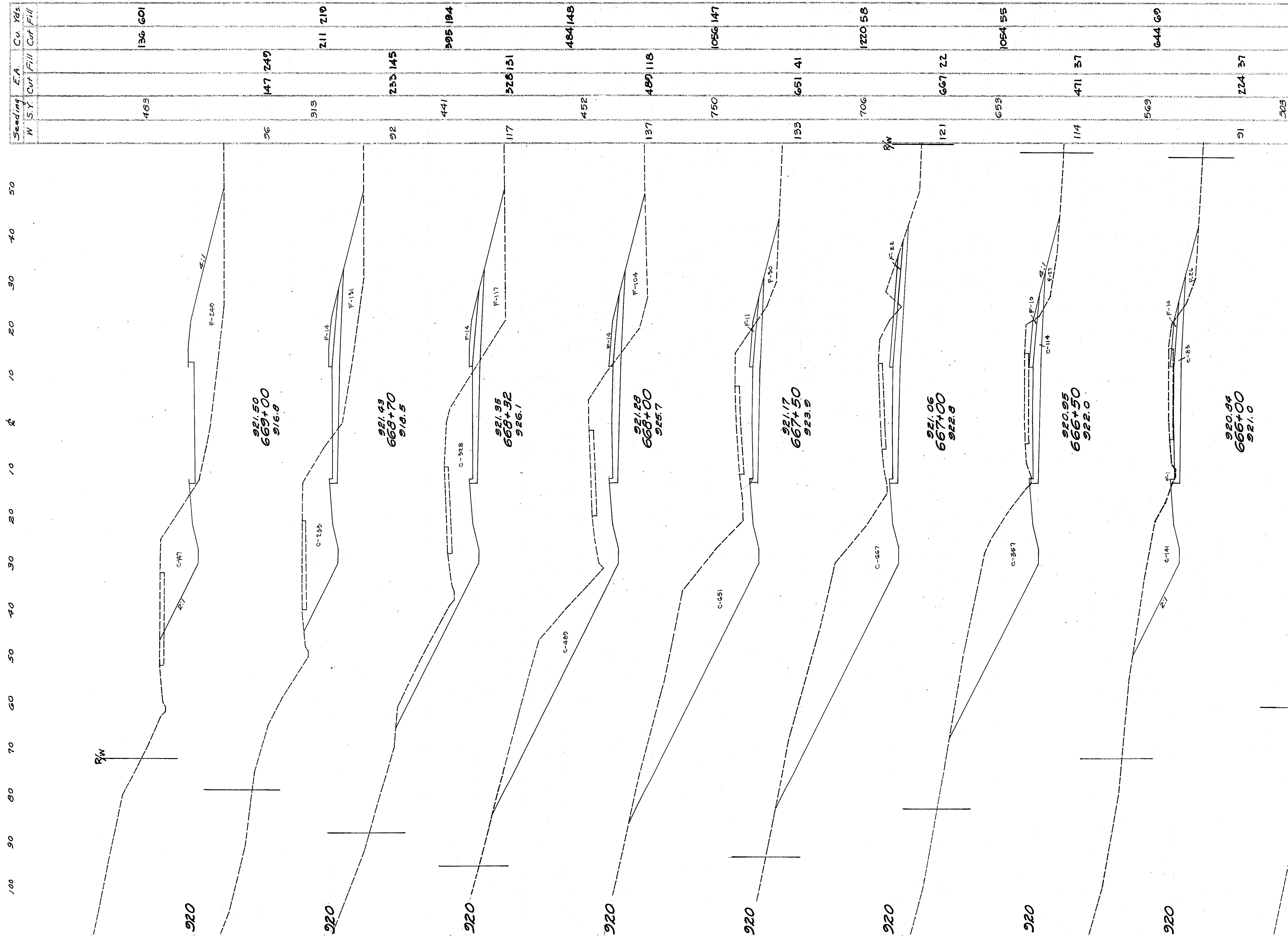


Seeding	E.A.	Cu Yds
W S.Y.	Cut	Fill
	400	115 87
	66	42 30
	339	131 29
	56	99 1
	372	365 1
	78	295 0
	511	859 0
	106	633 0
	663	1384 0
	140	862 0
	600	1868 0
	148	1155 0
	767	2018 0

Seeding	E.A.	Cu Yds
W S.Y.	Cut	Fill
128	1074	0
	653	1565 0
		676 0
		107

2 F-4.15(10) Postwar 166
 HAS-36-(0.43-2.92)-(11.92-14.12)
 PARTS 1 & 2

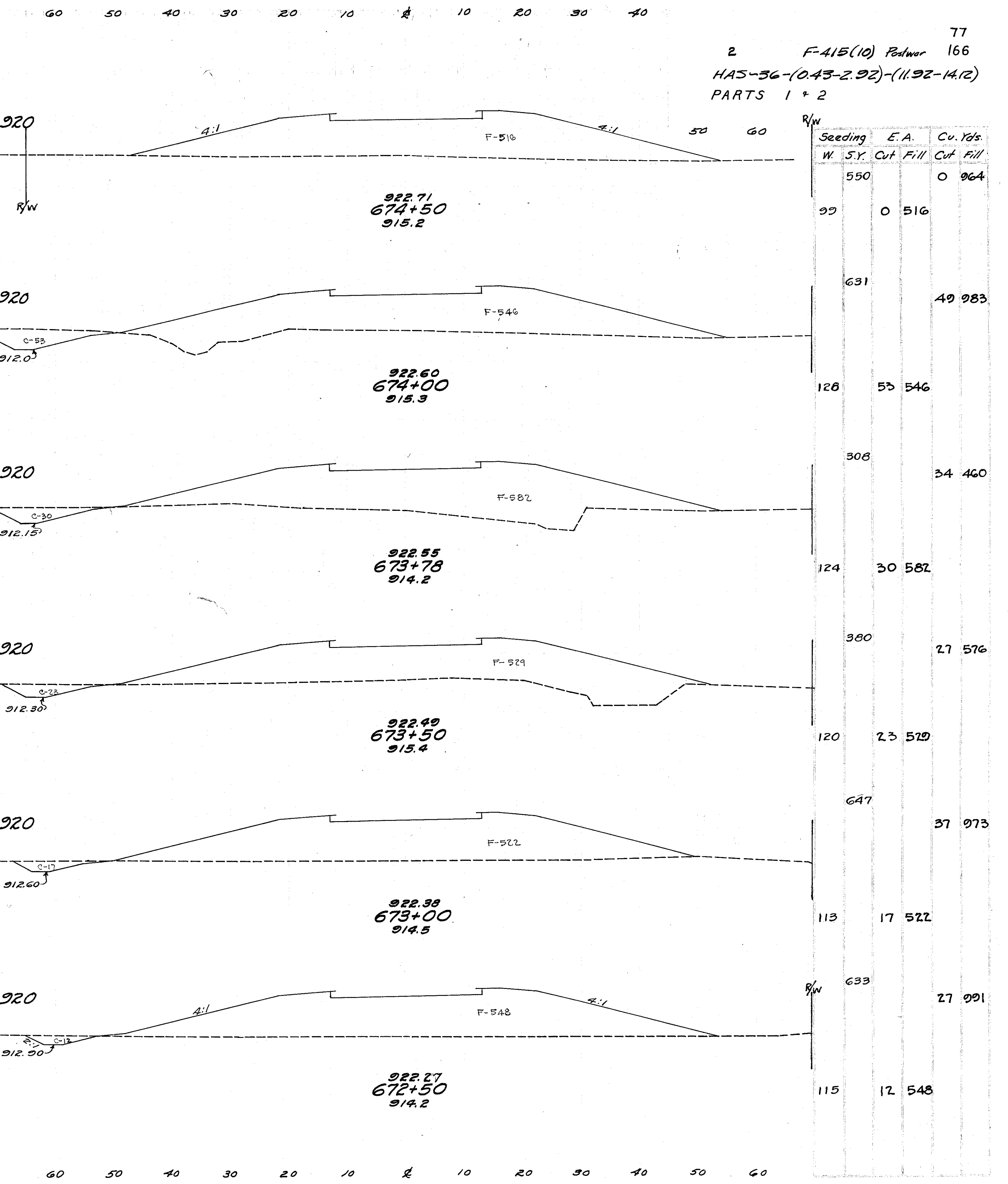
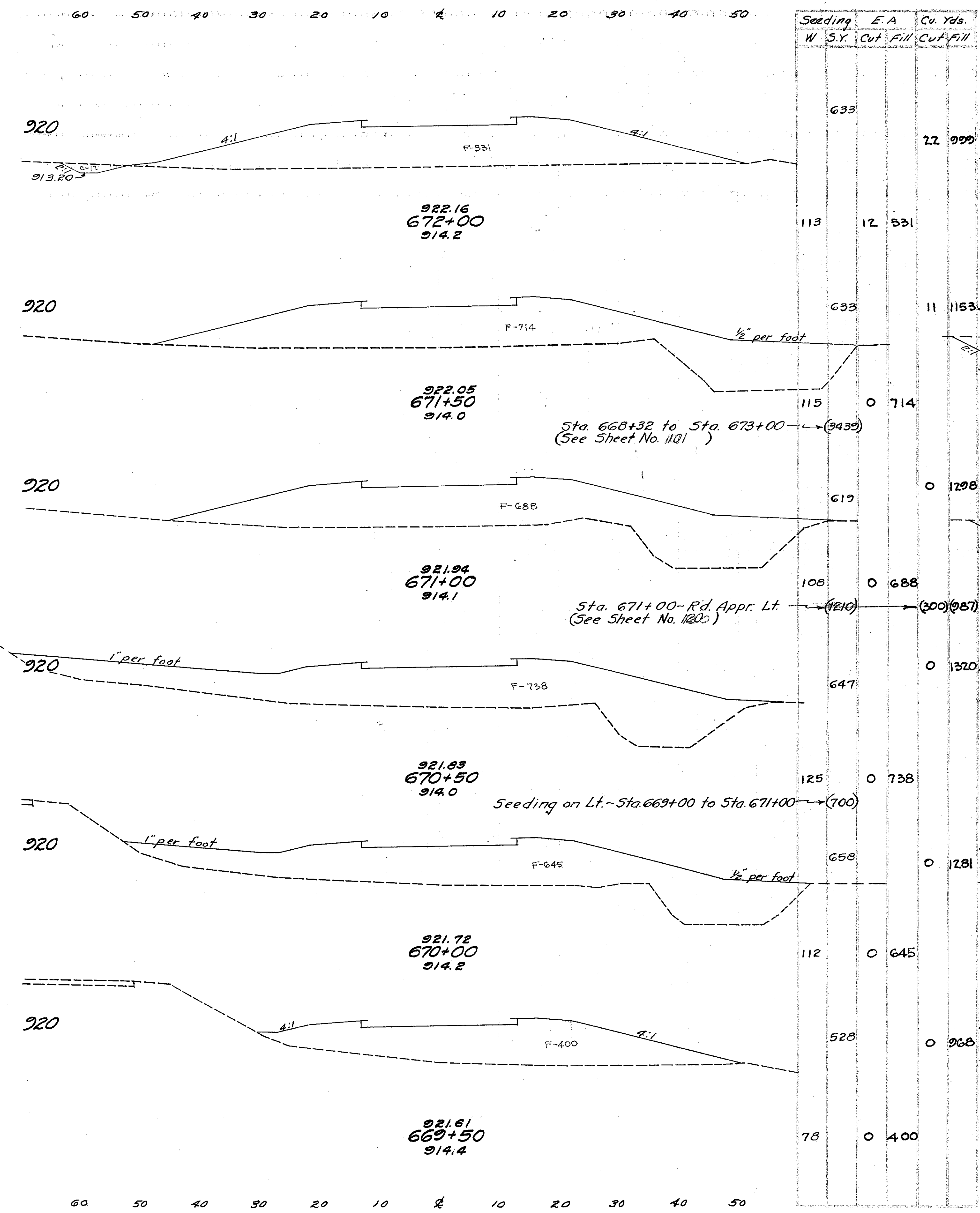
STA. 661+00 TO STA. 664+50



Seeding	E. A.	Cu. Yds.
W	S.Y.	Cut Fill
303	101	101
90	103	72
467	171	126
18	82	64

2 F-415(10) Postwar 166
 HAS-36-(0.43-292)-(11.92-14.12)
 PARTS 1 + 2

STA. 665+00 TO STA. 669+00



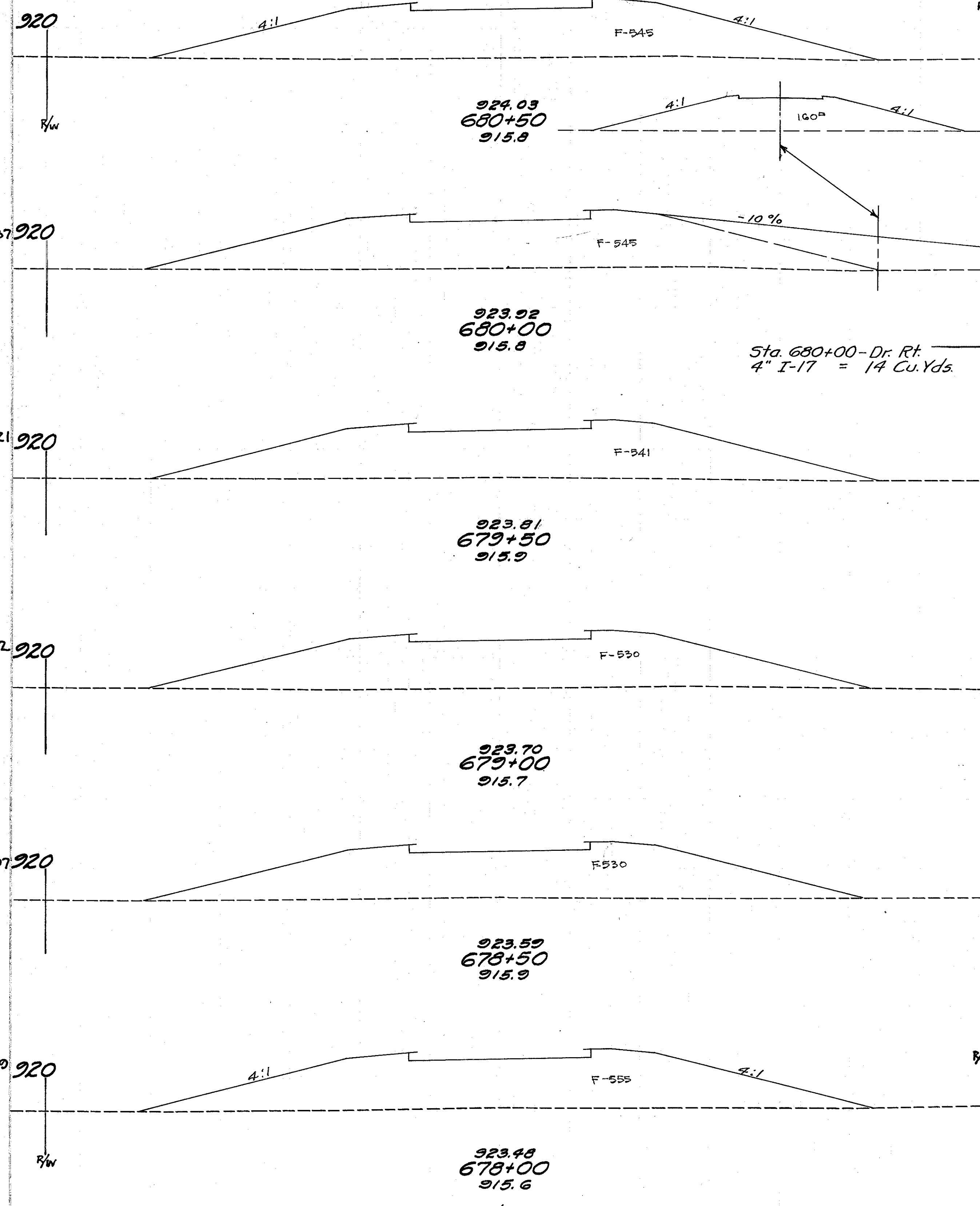
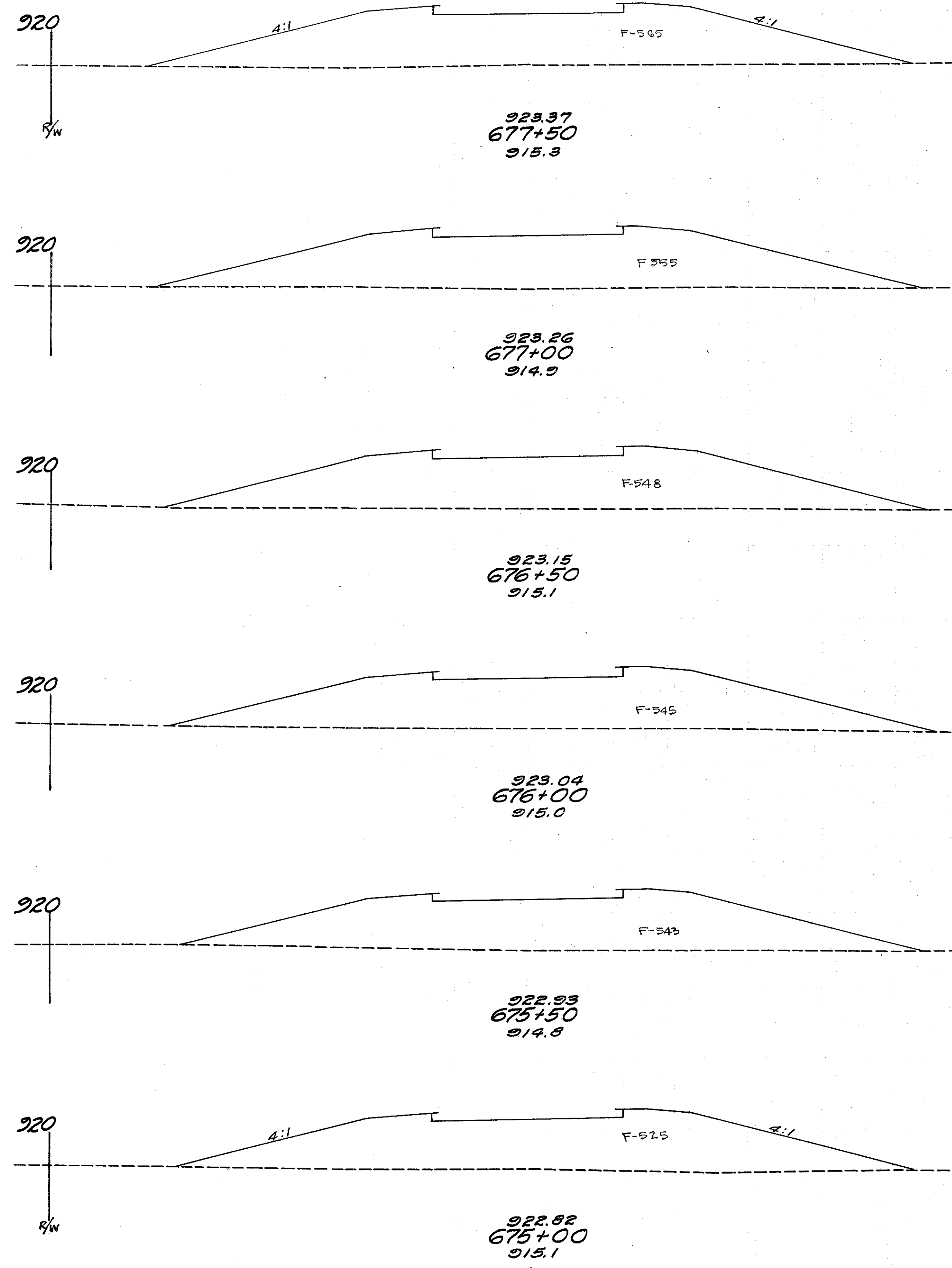
2 F-415(10) Polwar 77
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 + 2

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

60 50 40 30 20 10 0 10 20 30 40

2 F-415(10) Postwar 78
HAS-36(0.43-2.92)-(11.92-14.12) 166
PARTS 1 + 2

Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
569				0	1037
102		0	565		
569				0	1037
103		0	555		
564				0	1021
100		0	548		
561				0	1012
102		0	545		
558				0	1007
99		0	543		
550				0	989
99		0	525		



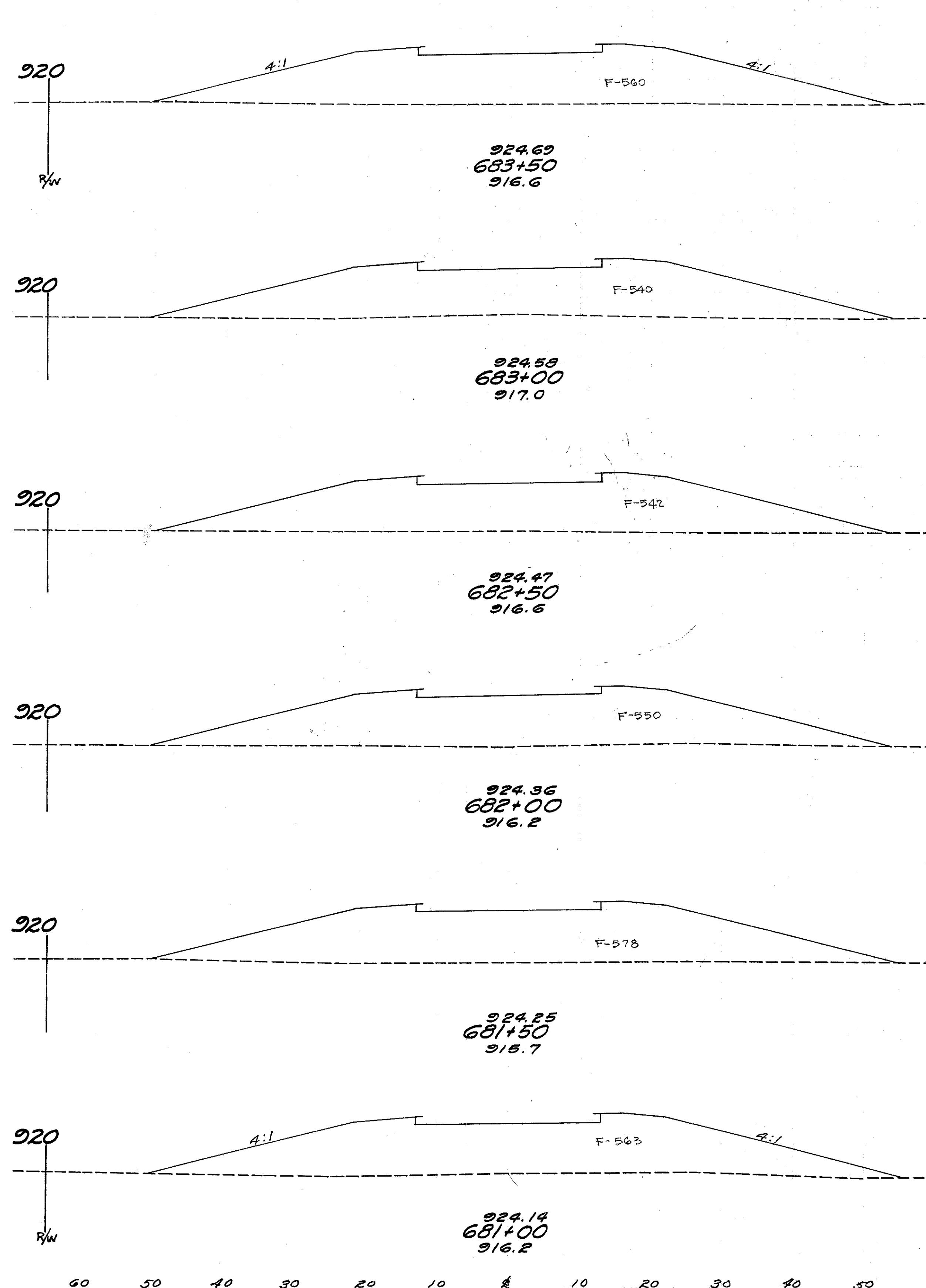
Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
572				0	1026
102		0	545		
542				0	1009
93		0	545		
542				0	1006
102		0	541		
567				0	992
102		0	530		
564				0	981
101		0	530		
567				0	1005
103		0	555		

STA. 675+00 TO STA. 680+50

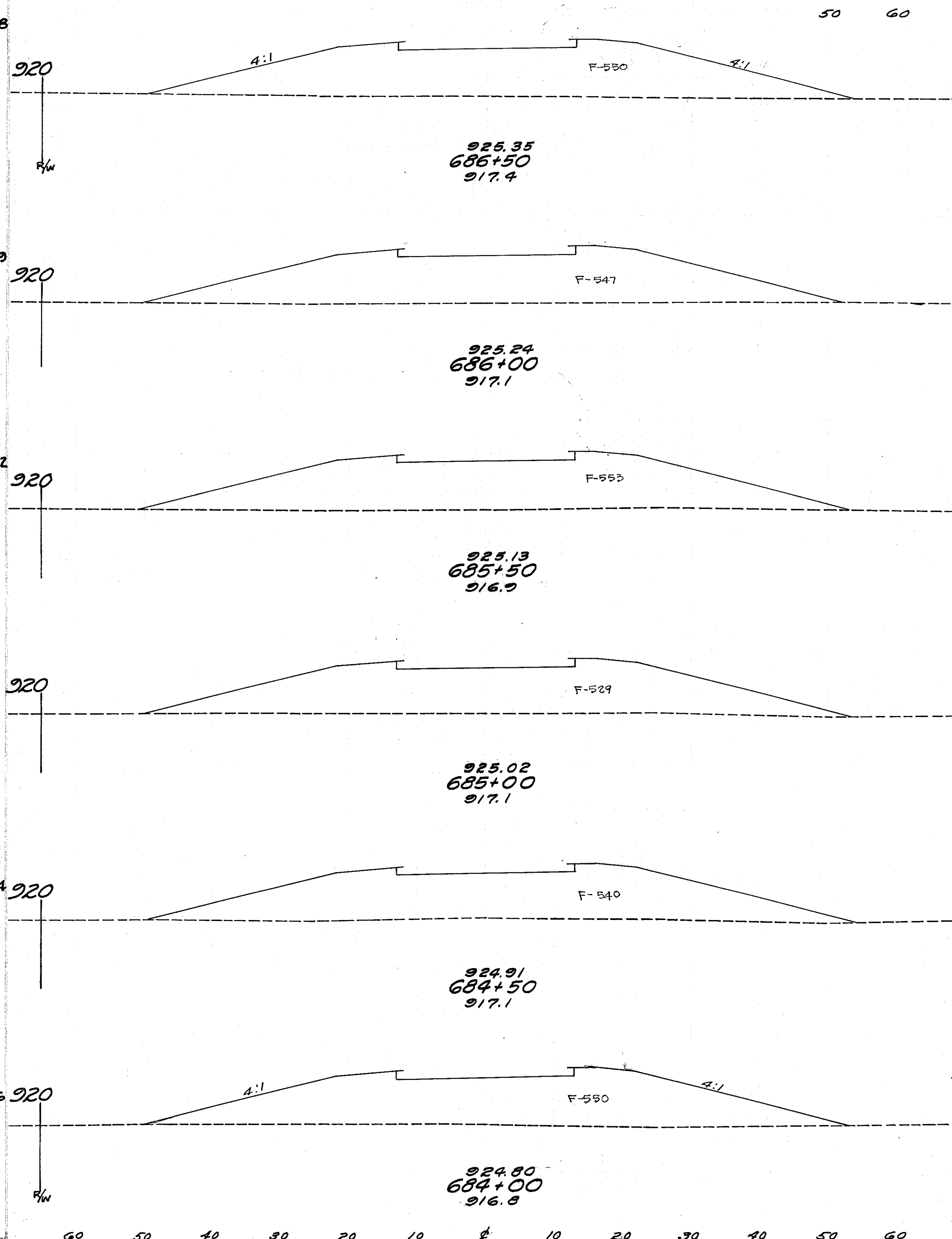
60 50 40 30 20 10 0 10 20 30 40 50

60 50 40 30 20 10 0 10 20 30 40

2 F-415(10) Postwar 166
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

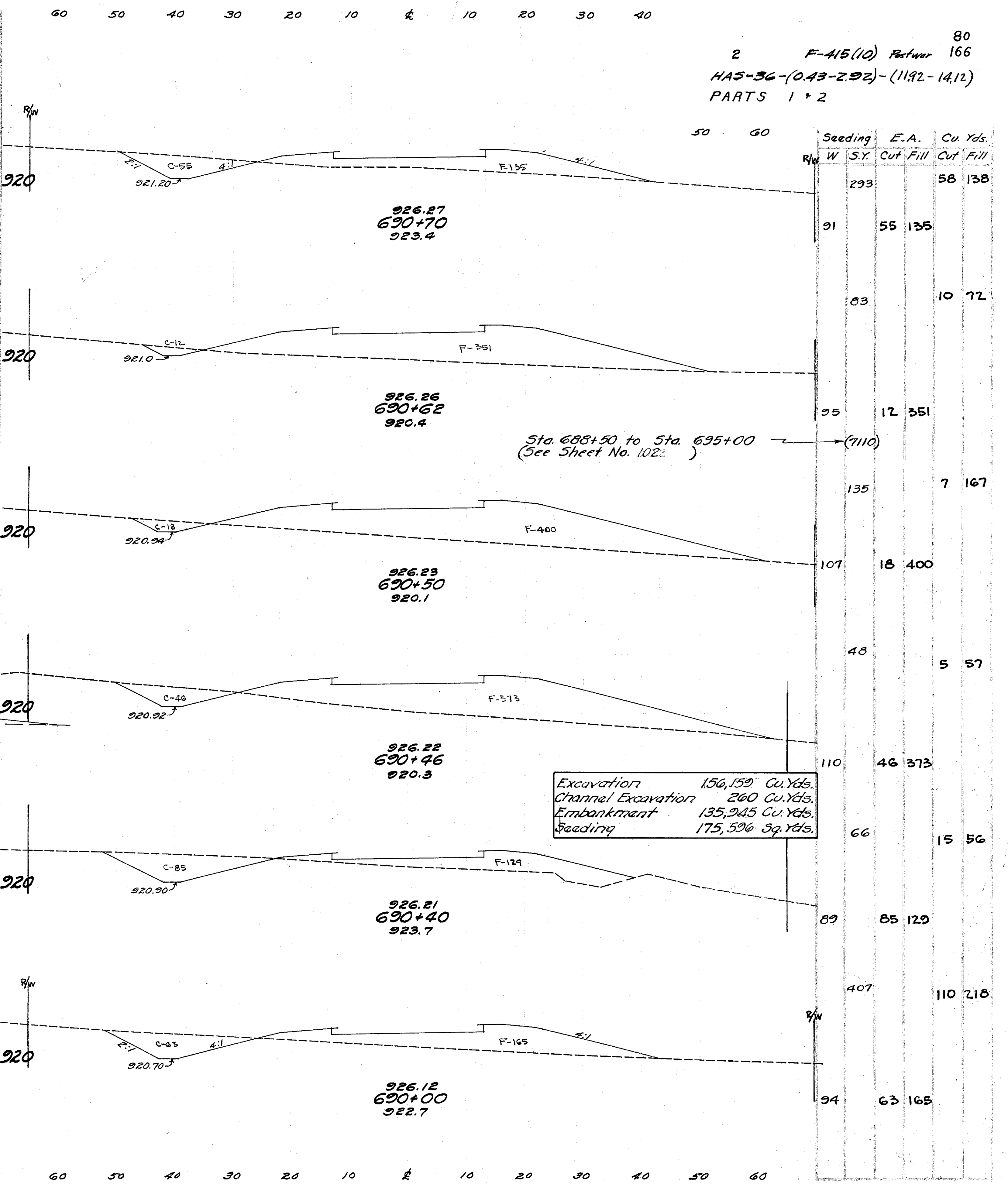
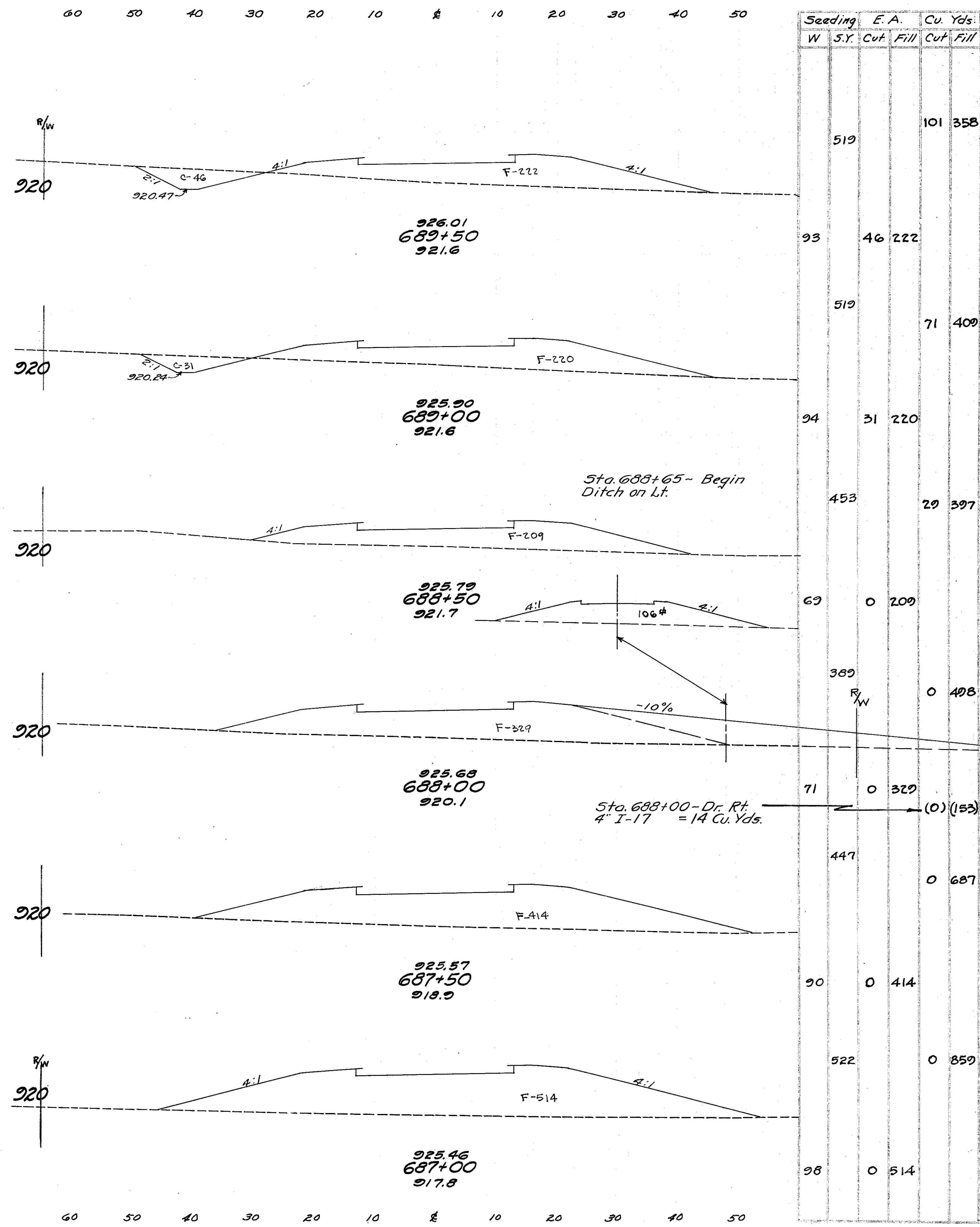


Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
561				0	1028
101		0	560		
564				0	1019
102		0	540		
567				0	1002
102		0	542		
569				0	1011
103		0	550		
575				0	1044
104		0	578		
578				0	1056
104		0	563		



Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
556				0	985
102		0	550		
564				0	1016
101		0	547		
564				0	1019
102		0	553		
564				0	1002
101		0	529		
561				0	990
101		0	540		
561				0	1009
101		0	550		

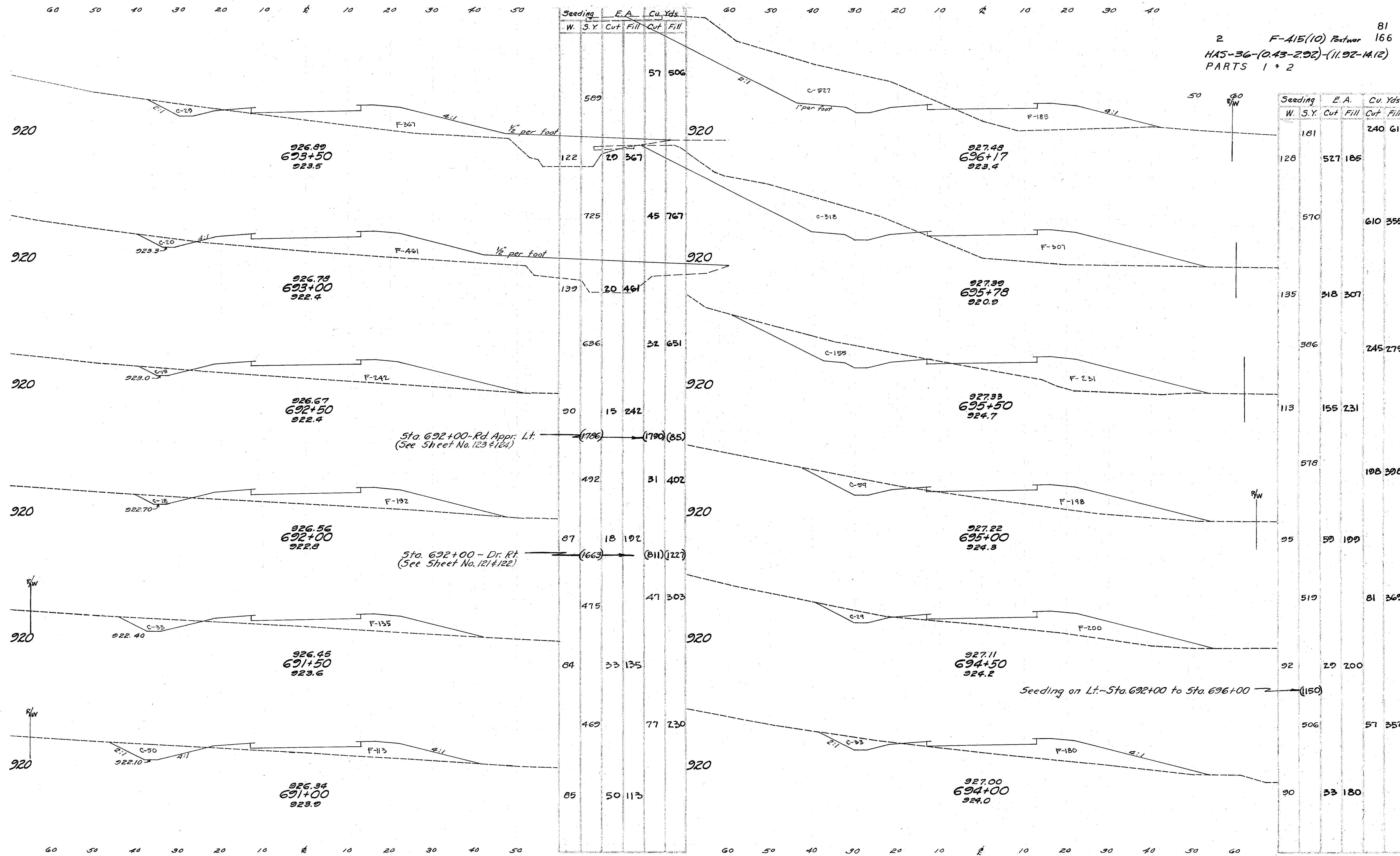
STA. 681+00 TO STA. 686+50



2 F-415(10) Partwar 166
 HAS-36-(0.43-2.92)-(11.92-14.12)
 PARTS 1 + 2

Sta. 688+50 to Sta. 695+00
 (See Sheet No. 1022)

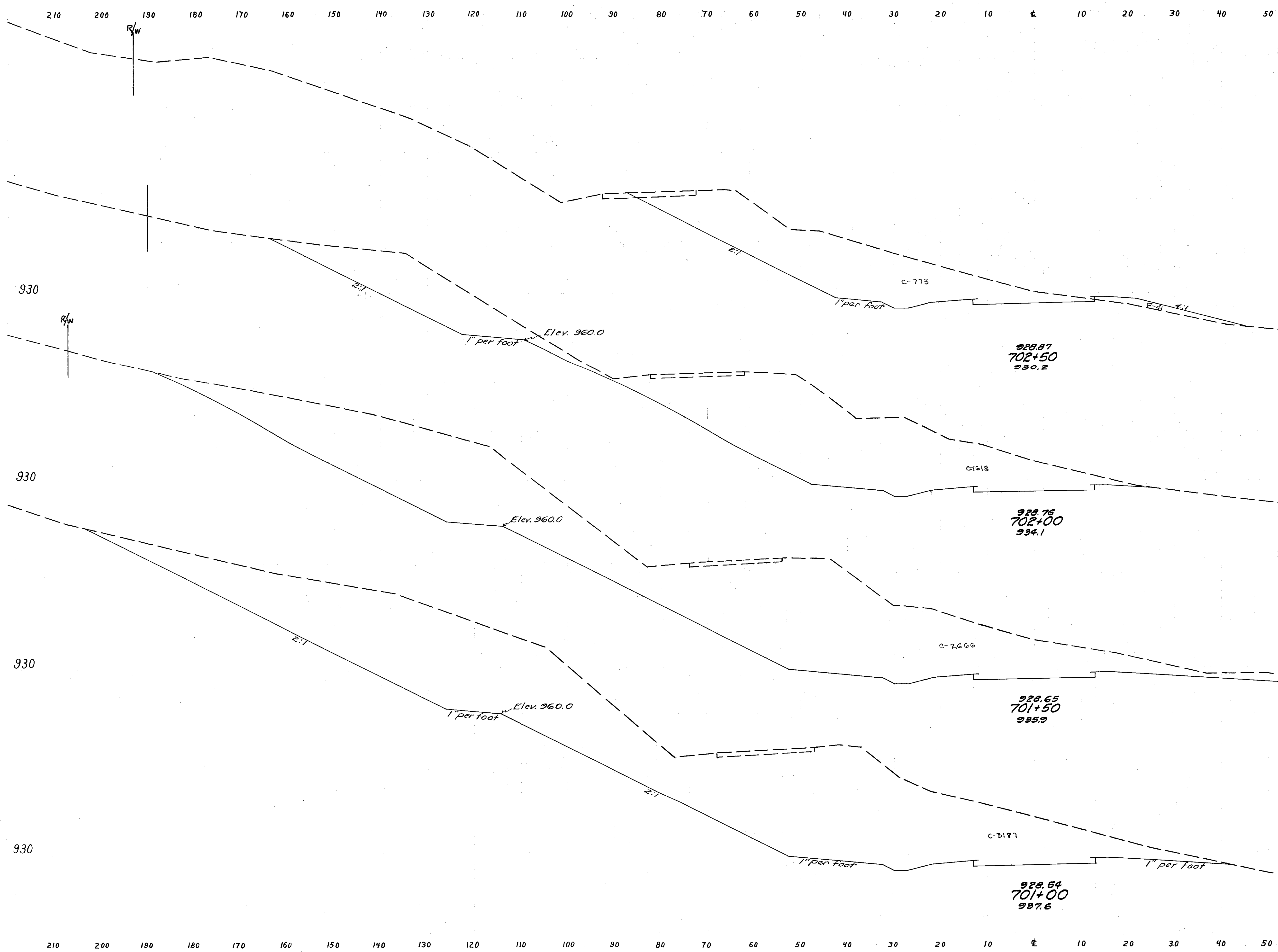
Excavation 156,159 Cu. Yds.
 Channel Excavation 260 Cu. Yds.
 Embankment 135,945 Cu. Yds.
 Seeding 175,596 Sq. Yds.



2 F-415(10) Postwar 81
 HAS-36-(0.43-2.92)-(11.92-14.12) 166
 PARTS 1 + 2

60 7

STA. 699+55 TO STA. 700+50

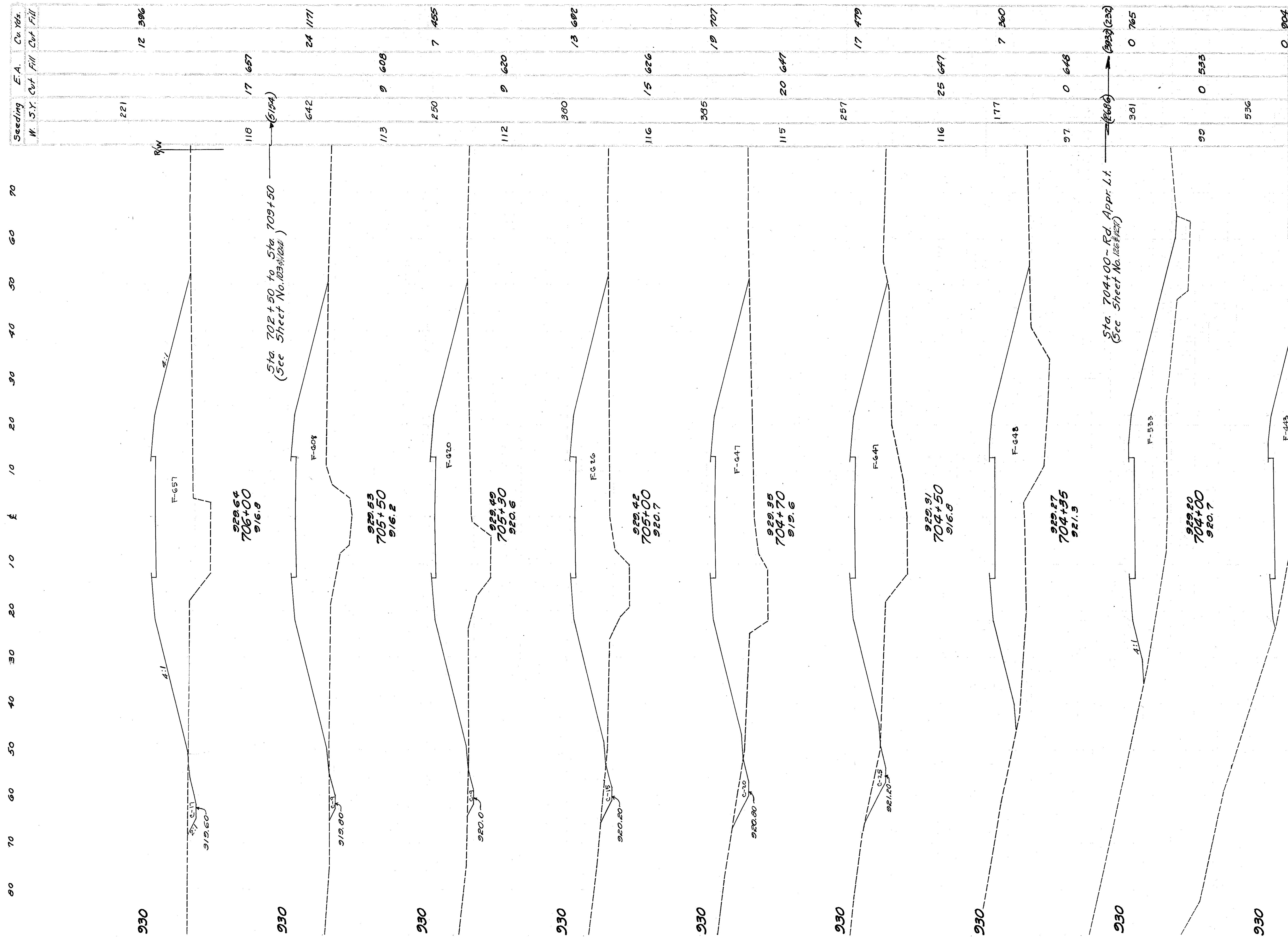


2 F-415(10) Postwar 84
 HAS-36-(0.43-2.92)-(11.92-14.12) 166
 PARTS 1 & 2

60 70

Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
				940	325
				836	
				136	773 41
				928	2214 38
				198	1618 0
				1283	3967 0
				264	2666 0
				1450	5419 0
				258	3187 0

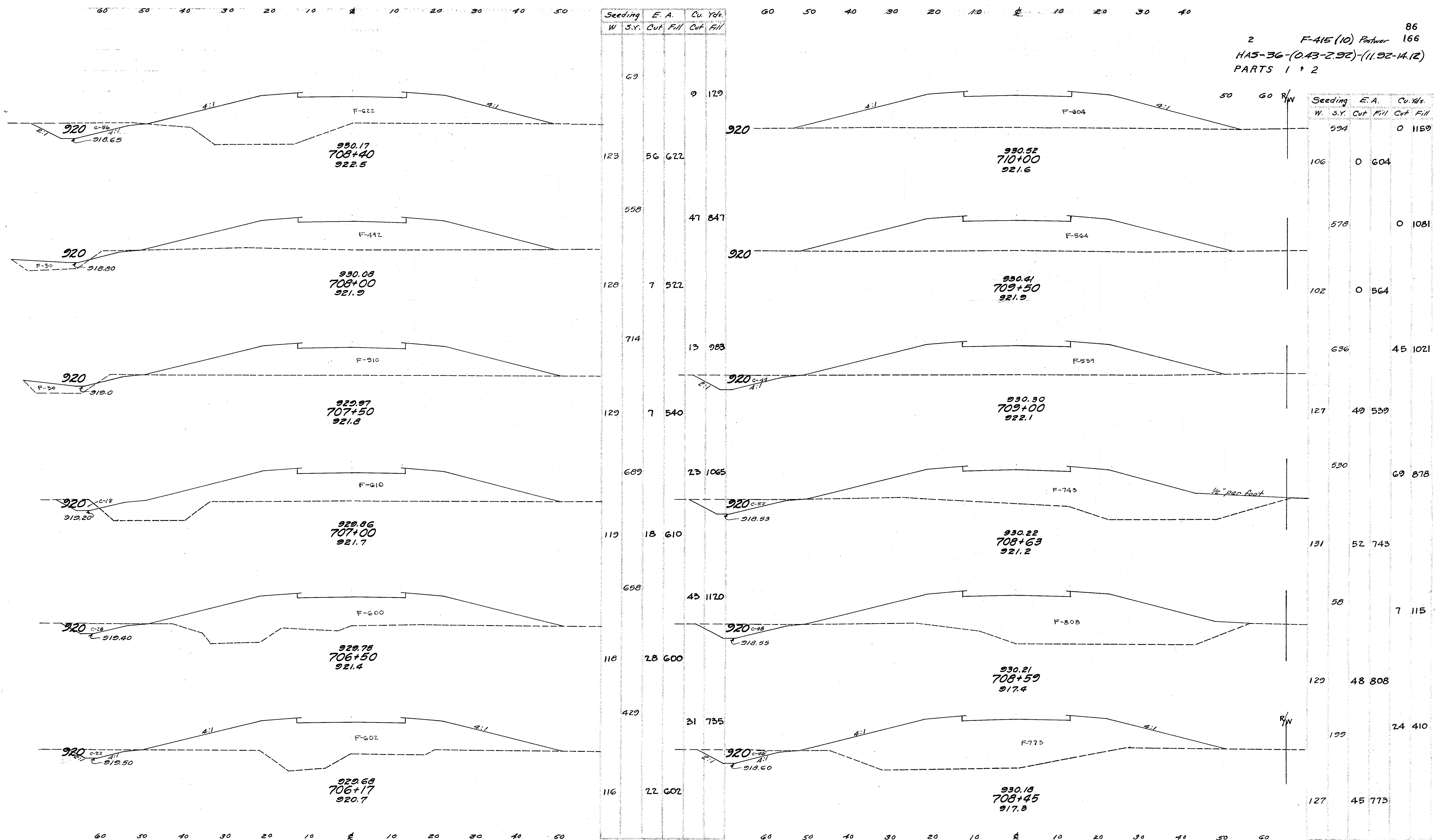
STA. 701+00 TO STA. 702+50



Stationing	E.A.	Cu	Yds.	W	S.Y.	Cut	Fill	Cut	Fill
700									
710									
720									
730									
740									
750									
760									
770									
780									
790									
800									
810									
820									
830									
840									
850									
860									
870									
880									
890									
900									
910									
920									
930									
940									
950									
960									
970									
980									
990									
1000									

2 F-415(10) Postwar 85
 HAS-36-(0.43-2.92)-(11.92-14.12) 166
 PARTS 1 + 2

STA. 703+00 TO STA. 706+00

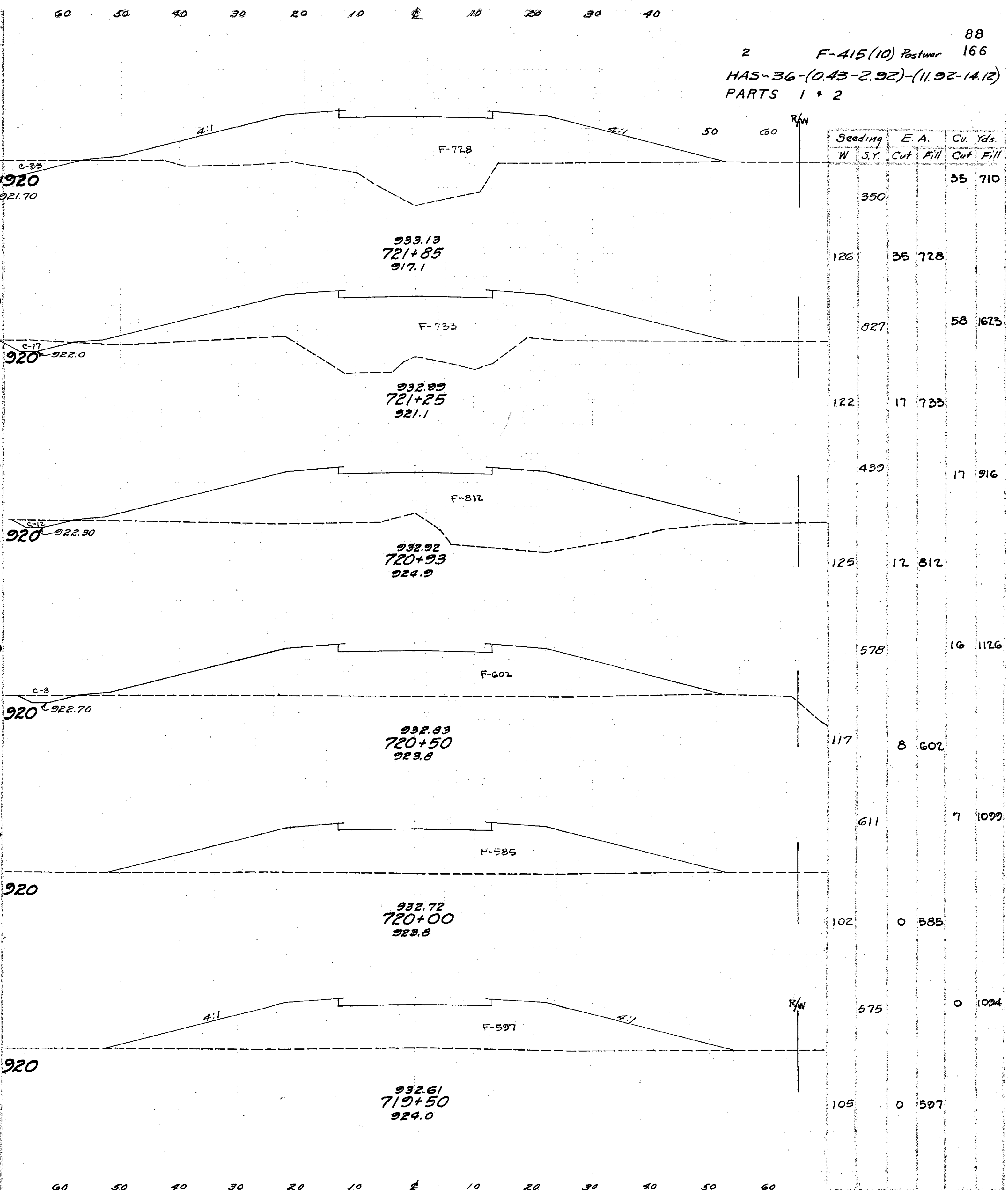
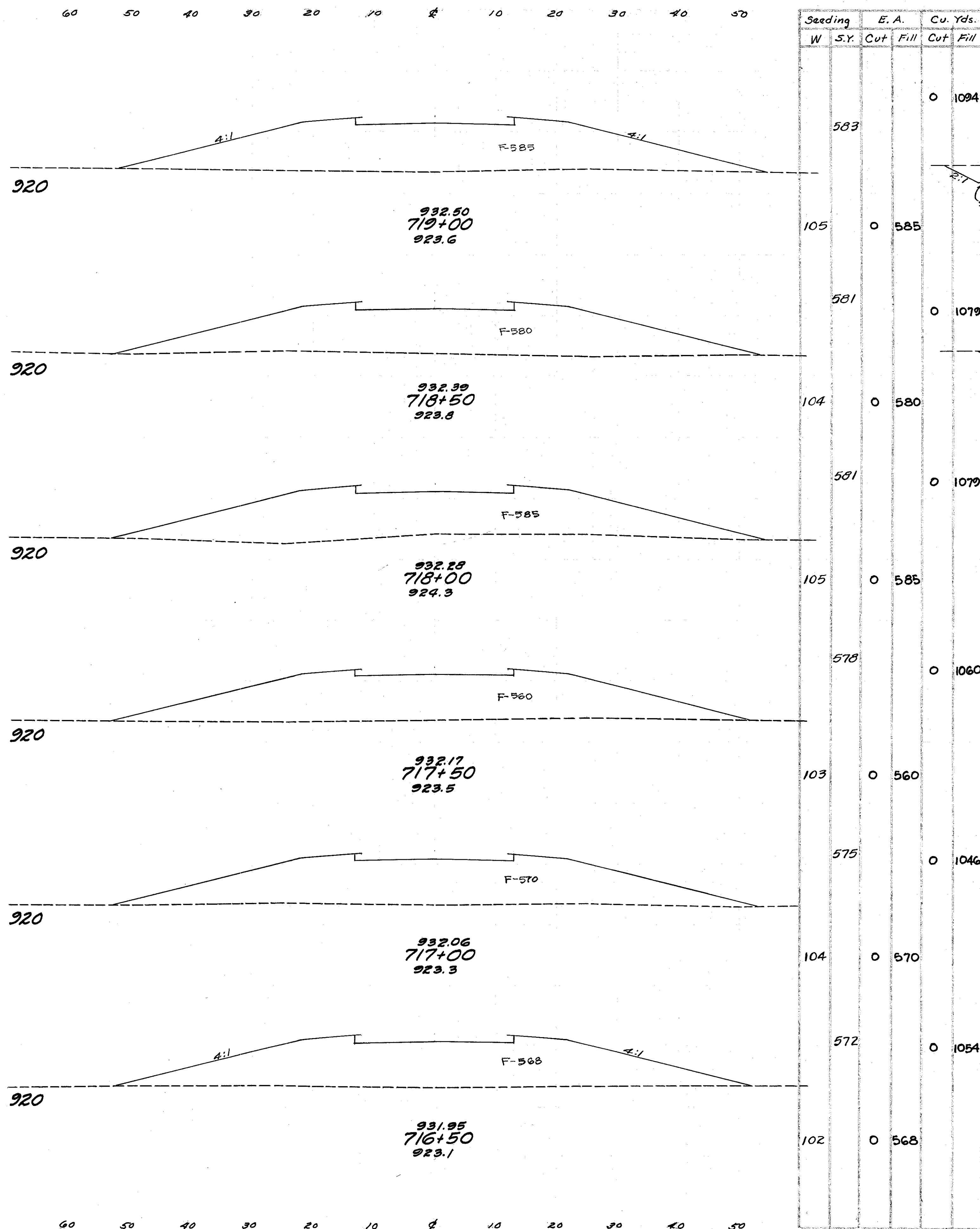


2 F-415 (10) Pastwar 86
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 + 2

Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
69				0	129
123	56	622			
558				47	847
128	7	522			
714				13	983
129	7	540			
689				23	1065
119	18	610			
658				43	1120
118	28	600			
429				31	735
116	22	602			

Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
594				0	1159
106	0	604			
578				0	1081
102	0	564			
636				45	1021
127	49	539			
530				69	878
131	52	743			
58				7	115
129	48	808			
199				24	410
127	45	773			

STA. 706+17 TO STA. 710+00

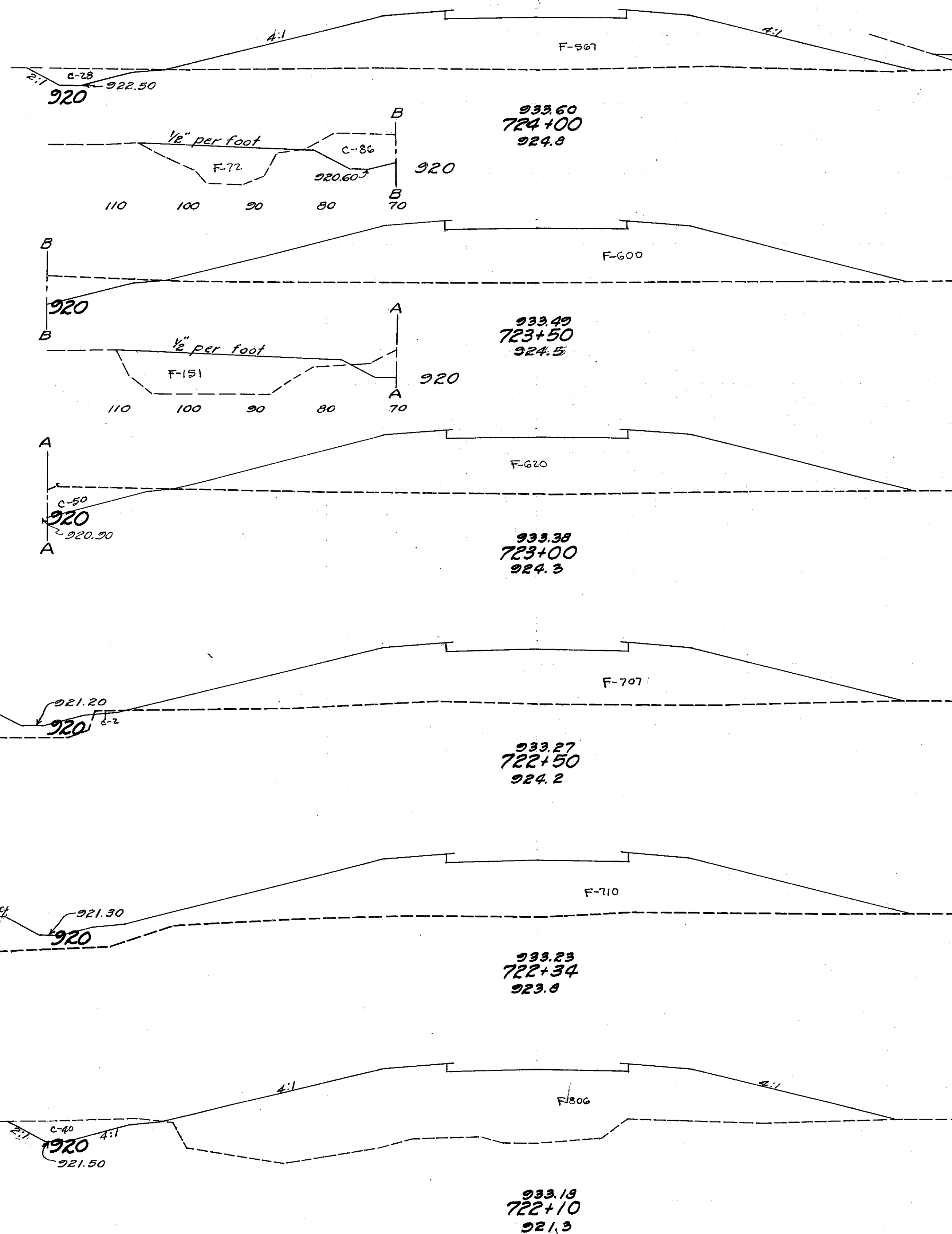


2 F-415(10) Postwar 88
 HAS-36-(0.43-2.92)-(11.92-14.12) 166
 PARTS 1 + 2

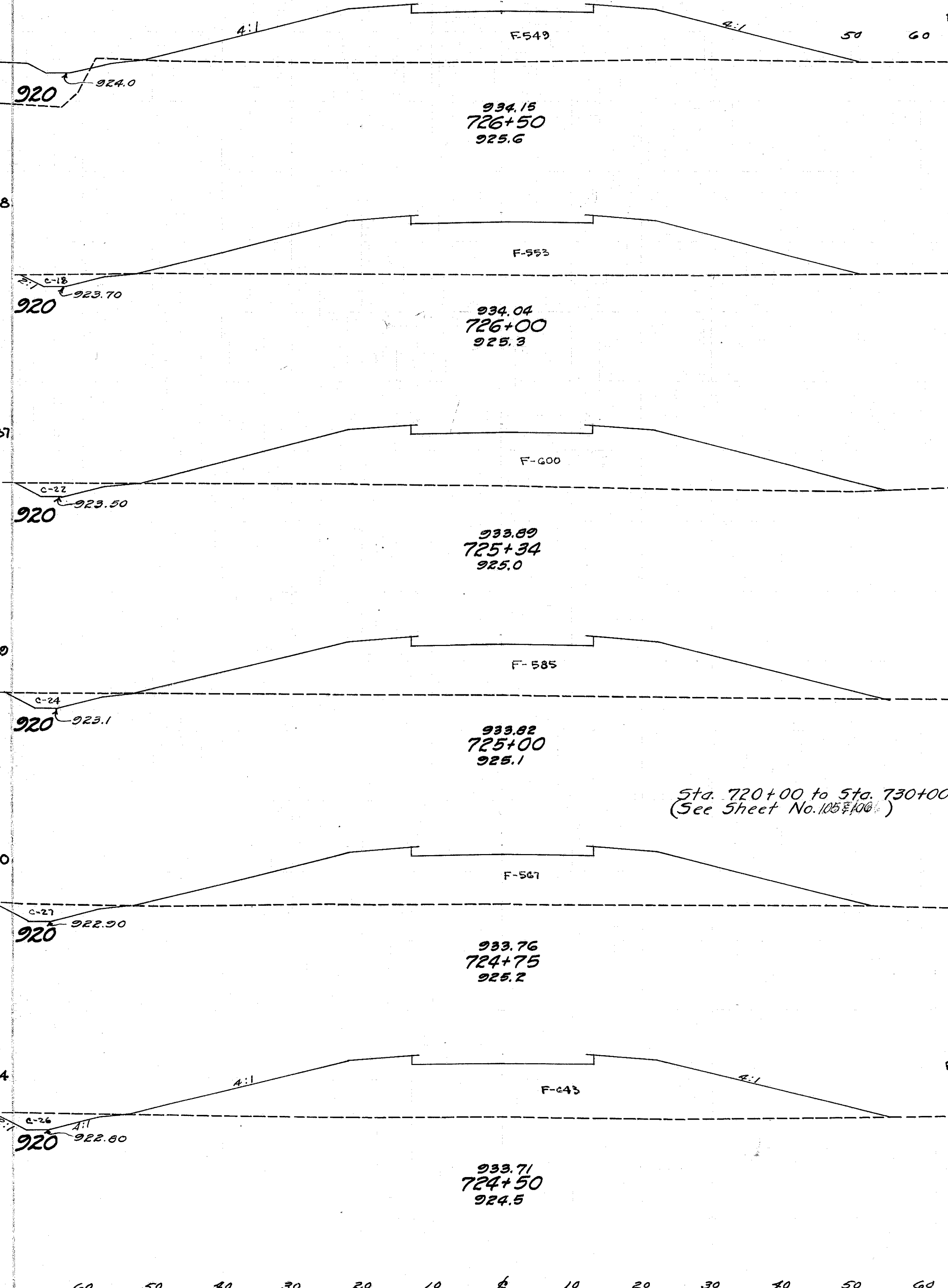
60 50 40 30 20 10 0 10 20 30 40 50

60 50 40 30 20 10 0 10 20 30 40

2 F-415(10) Pastwar 166
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 + 2



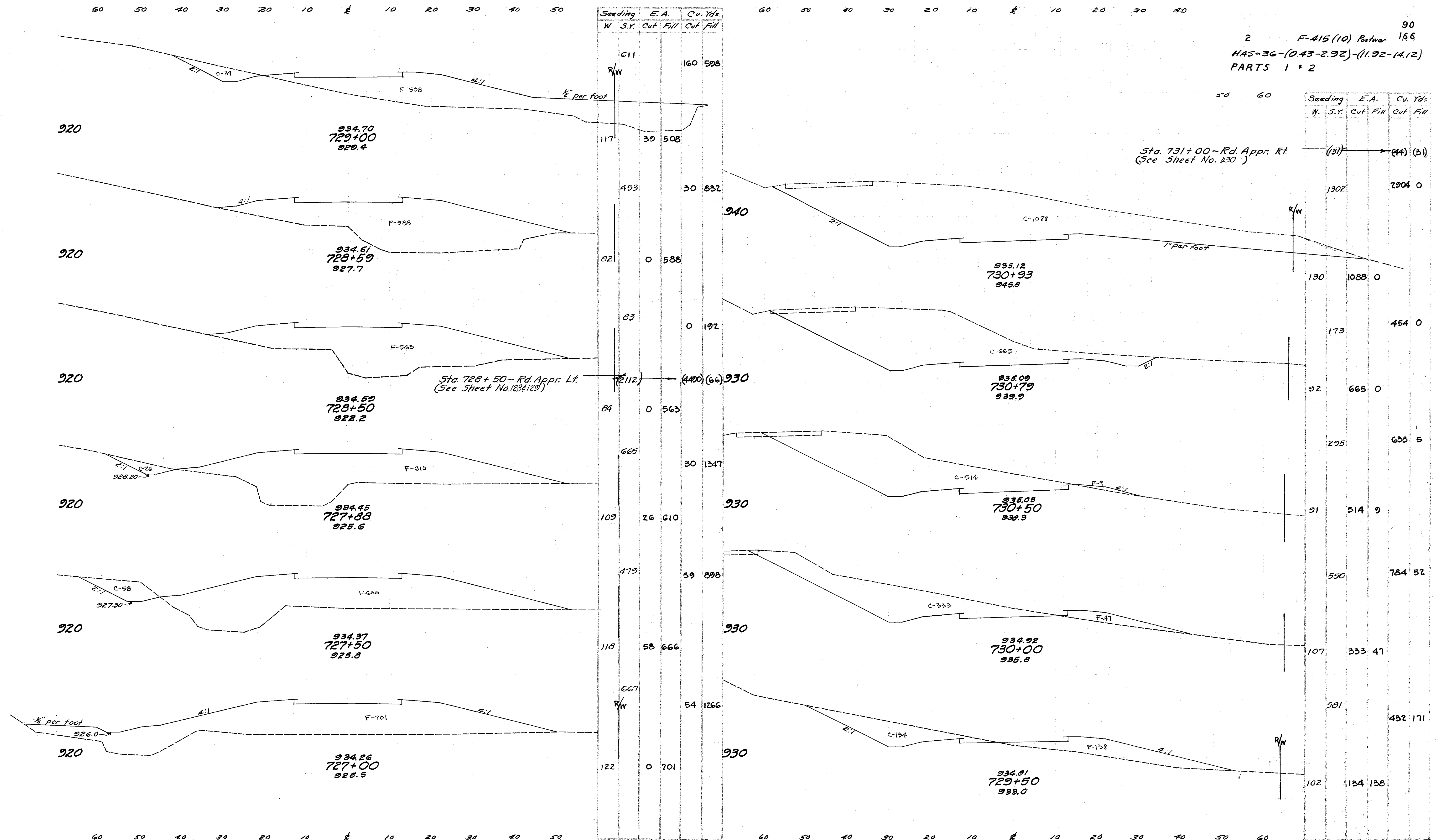
Seeding		E.A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
697				50	1120
125		2.8	567		
778				106	1148
155		86	673		
883				126	1357
163		50	771		
844				48	1369
141		2	707		
246				1	420
136		0	710		
349				18	674
126		40	806		



Seeding		E.A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
761				5	1313
152		5	717		
753				21	1176
119		18	553		
887				49	1409
123		22	600		
463				29	746
122		24	585		
342				24	533
124		27	567		
347				25	560
126		26	643		

Sta. 720+00 to Sta. 730+00 (See Sheet No. 105 & 106)

2 F-415(10) Postwar 16.6
 HAS-36-(0.43-2.92)-(11.92-14.12)
 PARTS 1 & 2



50 : 60

STA. 731+50 TO STA. 732+50

50 60

Seedling		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
	1981			7231	0
364		4620	0		
	2008			7519	0
359		3500	0		
	1892			5658	0
322		7611	0		

STA. 733+00 TO STA. 734+00

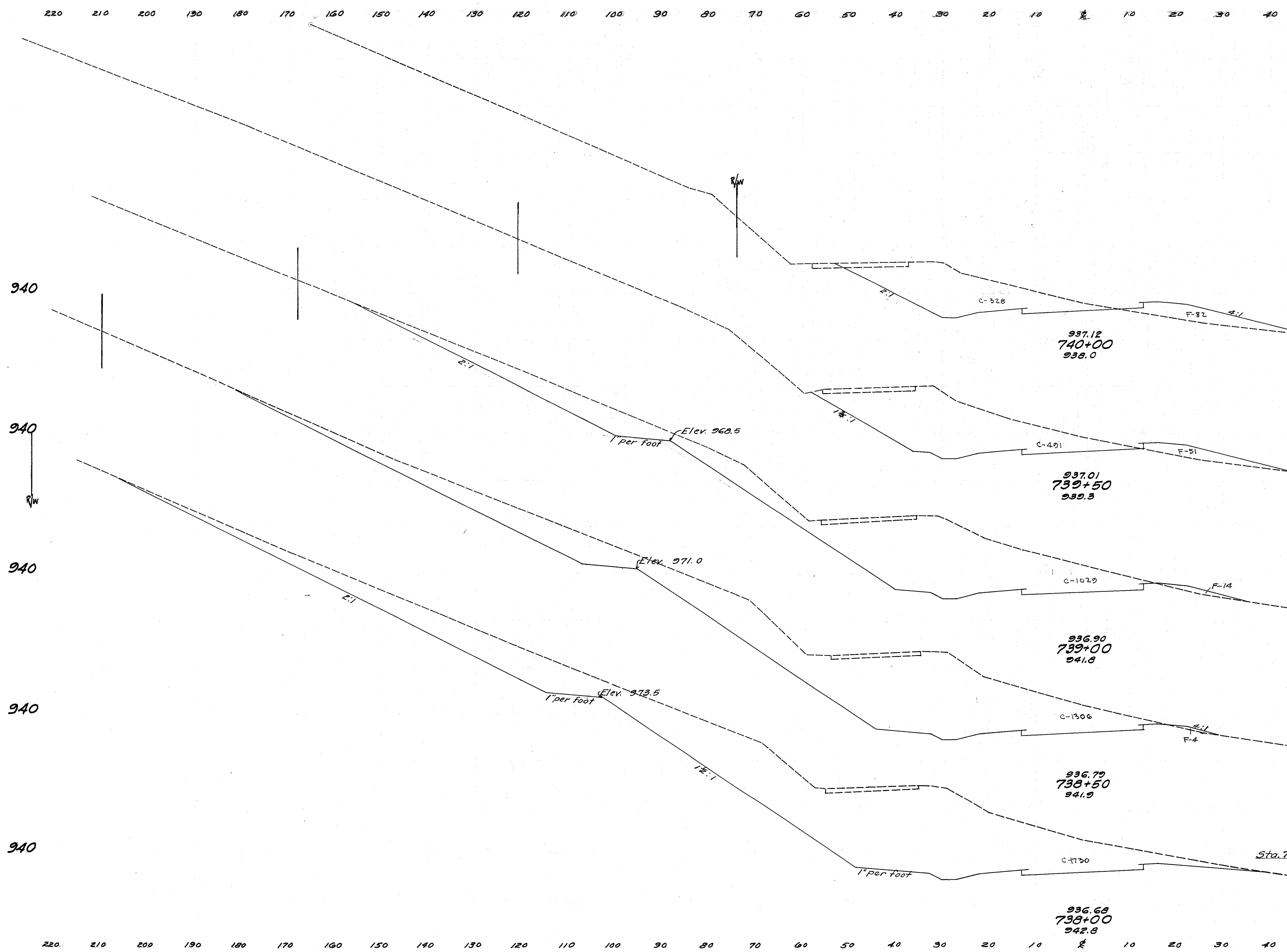
50 60

STA. 734+50 TO STA. 735+50

50 60

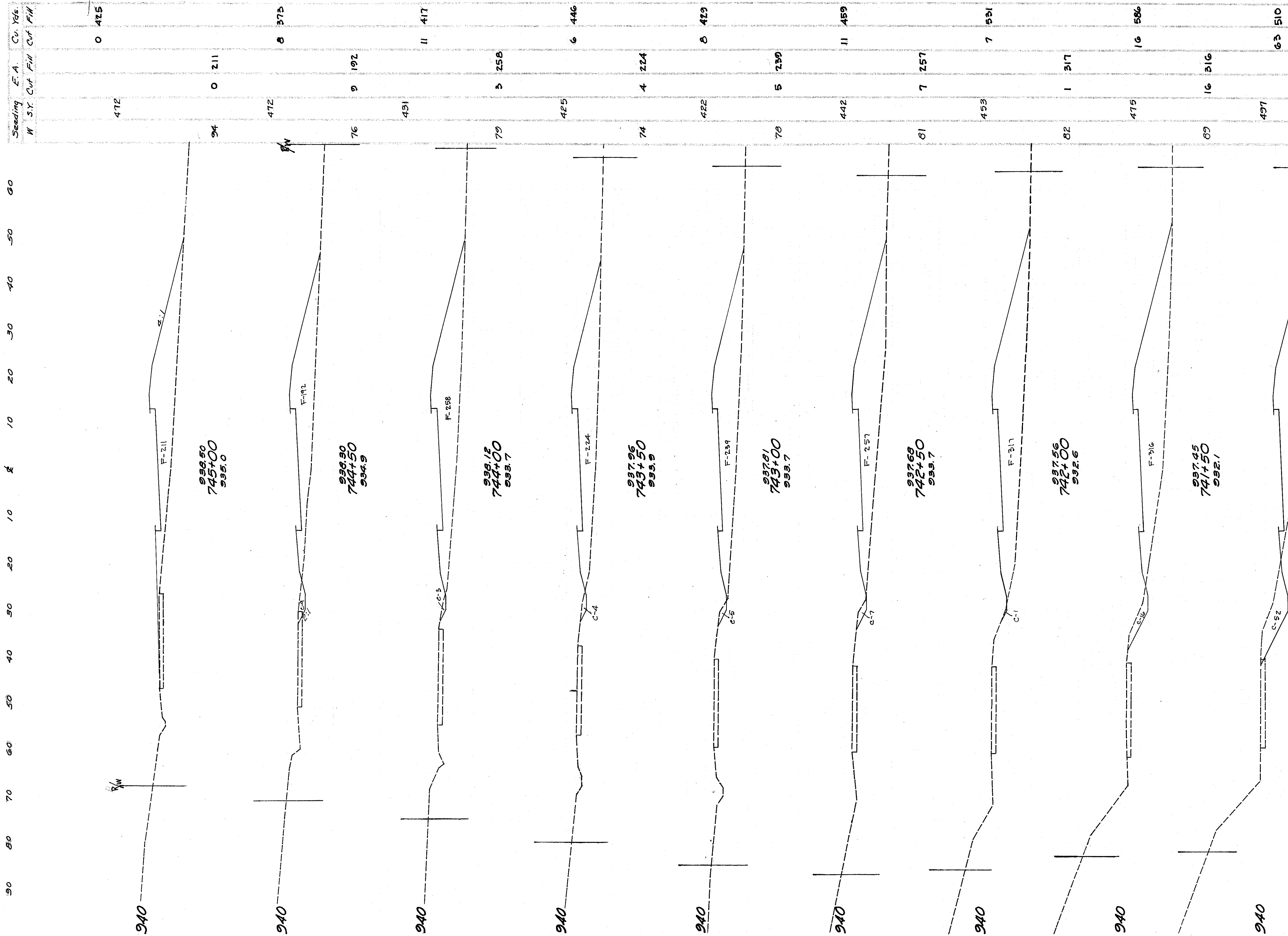
STA. 736+00 TO STA. 737+50

2 F-415(10) Postwar 95
 HA5-36-(0.43-2.92)-(11.92-14.12) 166
 PARTS 1 & 2



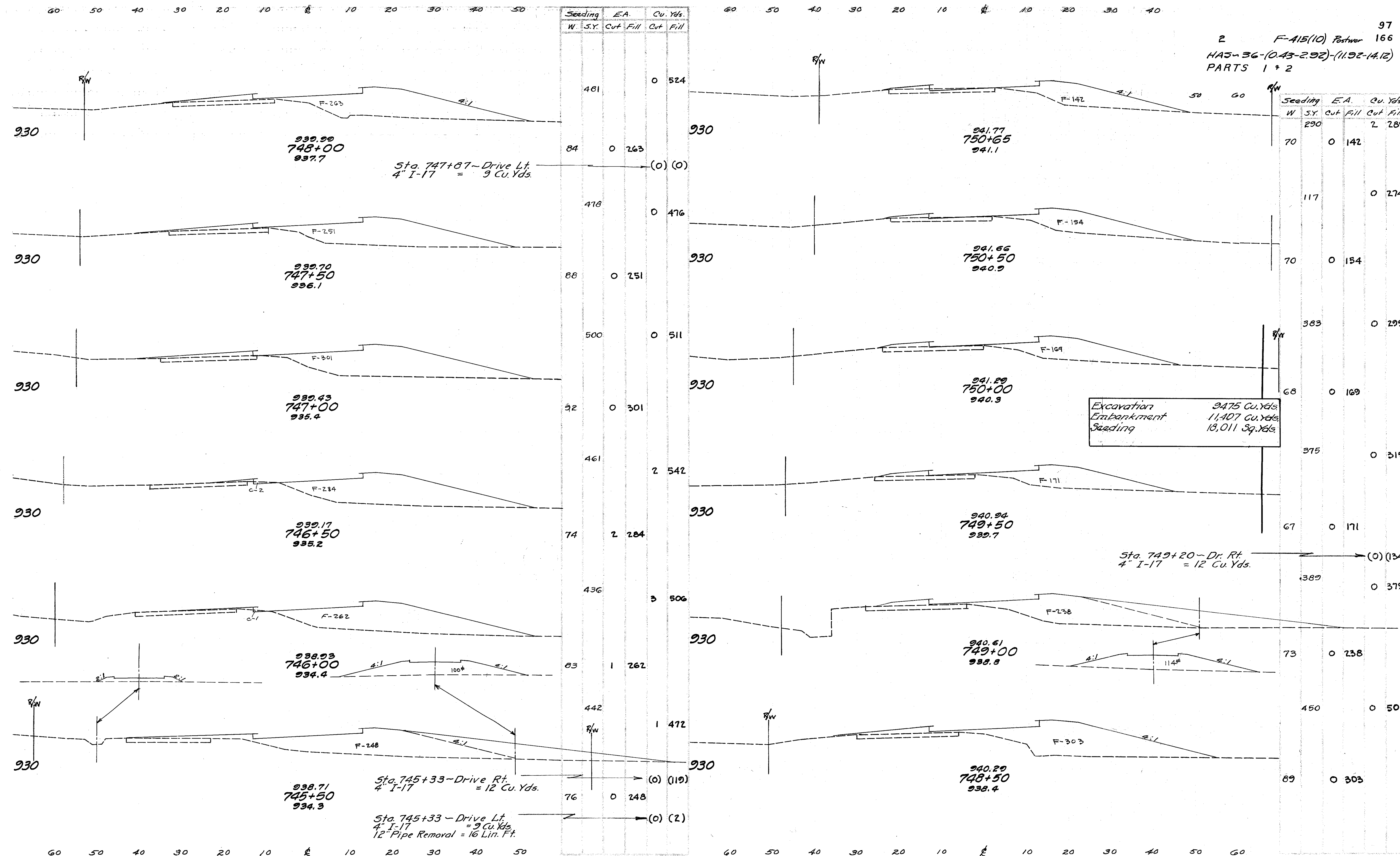
Seeding		E. A.		Cu. Yds	
W	S.Y.	Cut	Fill	Cut	Fill
				391	218
547					
101		324	82		
569				755	123
104		491	51		
861				1407	60
206		1029	14		
1206				2162	17
228		1306	4		
34				69	0
1364				2811	4
1330				2742	4
263		1730	0		

STA. 738+00 TO STA. 740+00



Seeding	E. A.	Cu. Yds.
W. S.Y.	Cut	Fill
4712	0	425
4712	8	373
4331	11	417
425	3	258
422	4	224
442	5	239
453	7	257
475	1	317
475	16	316
497	63	510

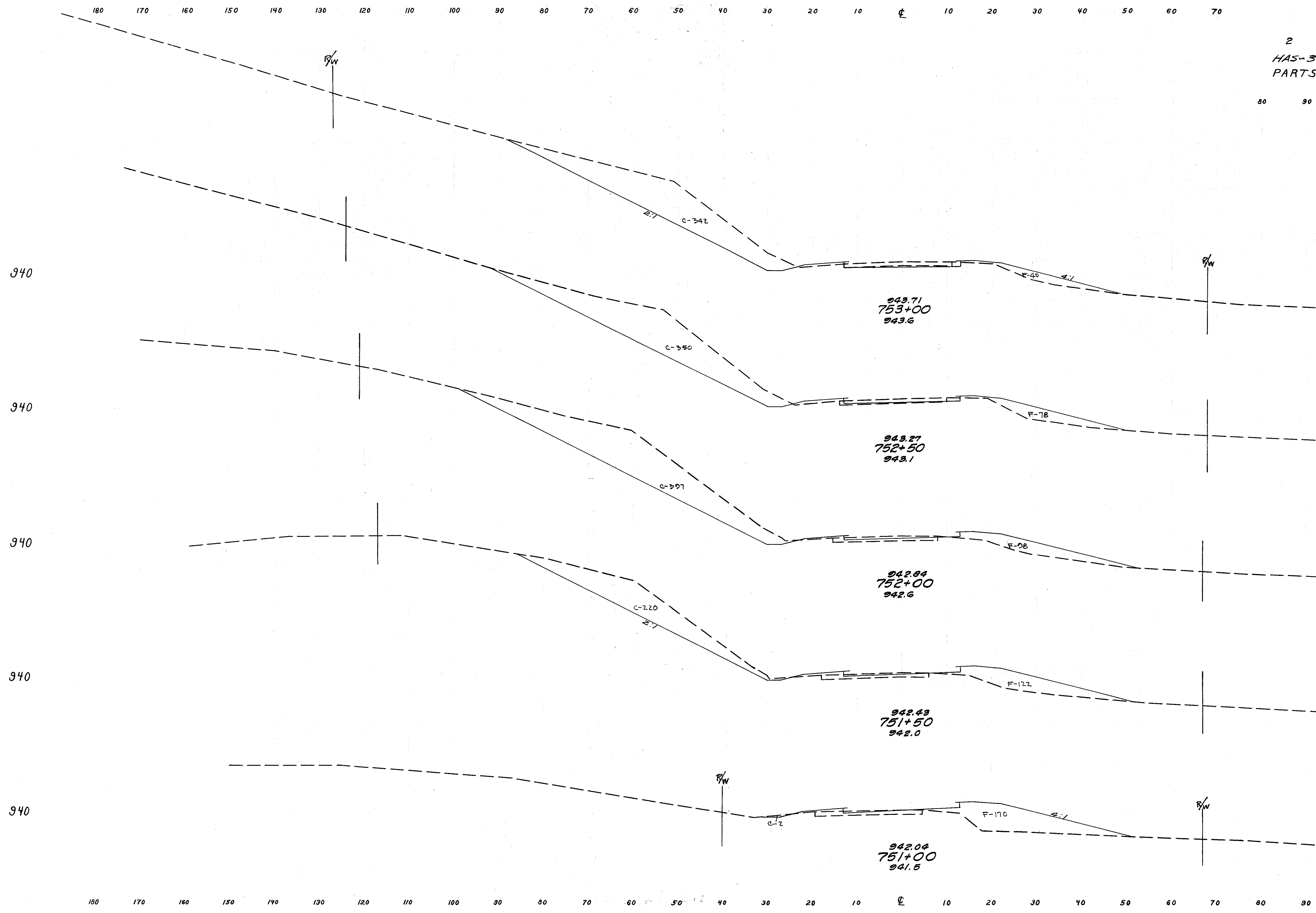
2 F-415(10) Postwar 96
HAS-36-(043-2.92)-(11.92-14.12)
PARTS 1 & 2



2 F-415(10) Postwar 166
 HAS-36-(0.43-2.92)-(11.92-14.12)
 PARTS 1 & 2

Excavation 9475 Cu. Yds.
 Embankment 11,407 Cu. Yds.
 Seeding 18,011 Sq. Yds.

2 F-415(10) Postwar 98
 HAS-36-(0.43-2.92)-(11.92-14.12) 166
 PARTS 1 & 2

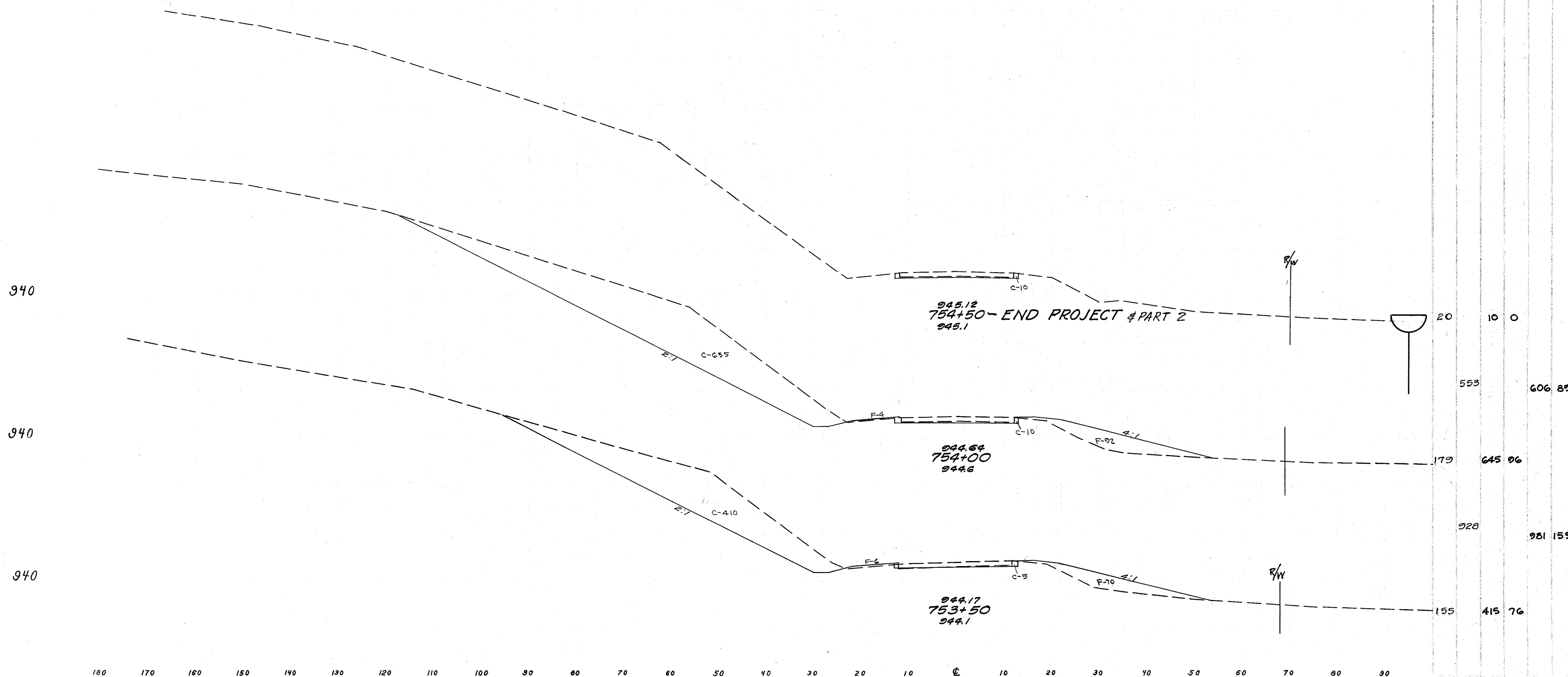


Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
		822		707	112
141		349	45		
	800			649	114
147		352	78		
	844			694	163
157		307	98		
	828			571	204
141		220	122		
	611			206	270
79		2	170		

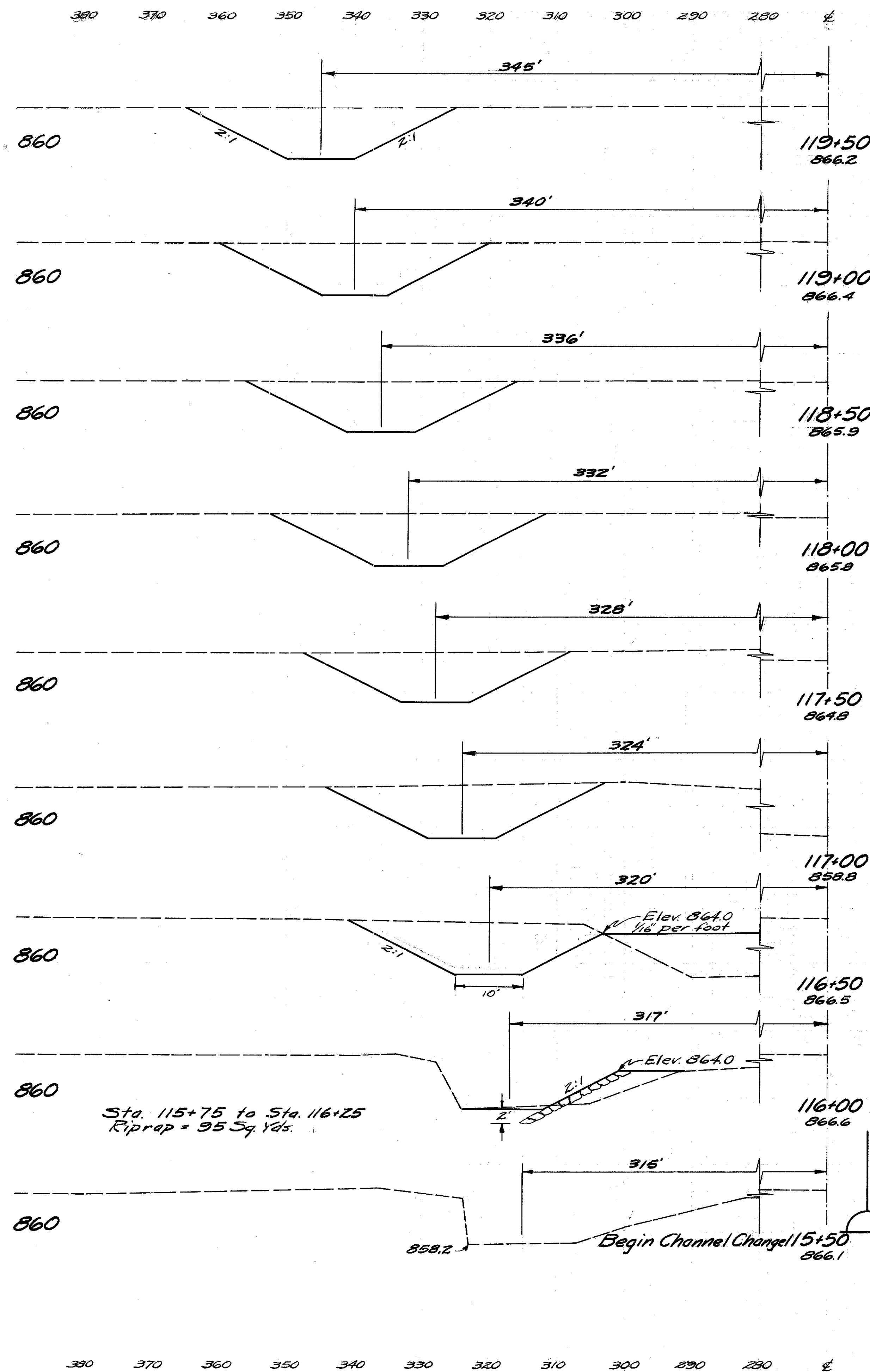
STA. 751+00 TO STA. 753+00

2 F-415(10) Postwar 166
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

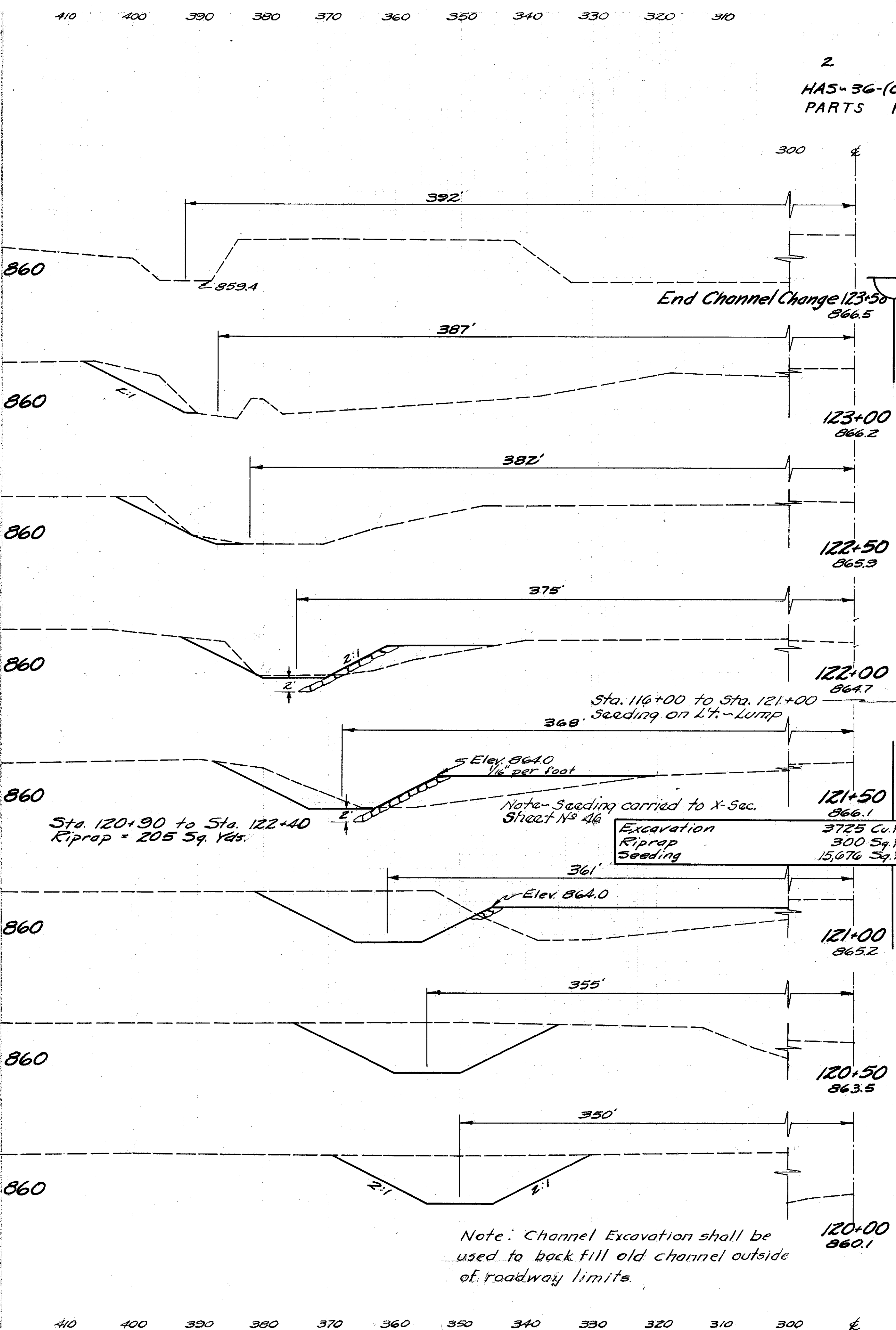
Seeding	E. A.	Cu. Yds.
W	S.Y.	Cut Fill Cut Fill



STA. 753+50 TO STA. 754+50



Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
III				347	
20		186	0		
III				344	
20		185	0		
III				347	
20		130	0		
III				363	
20		202	0		
III				357	
20		184	0		
III				357	
20		202	0		
III				357	
20		184	-		
III				174	
20		4	-		
III				4	
20		0	0		

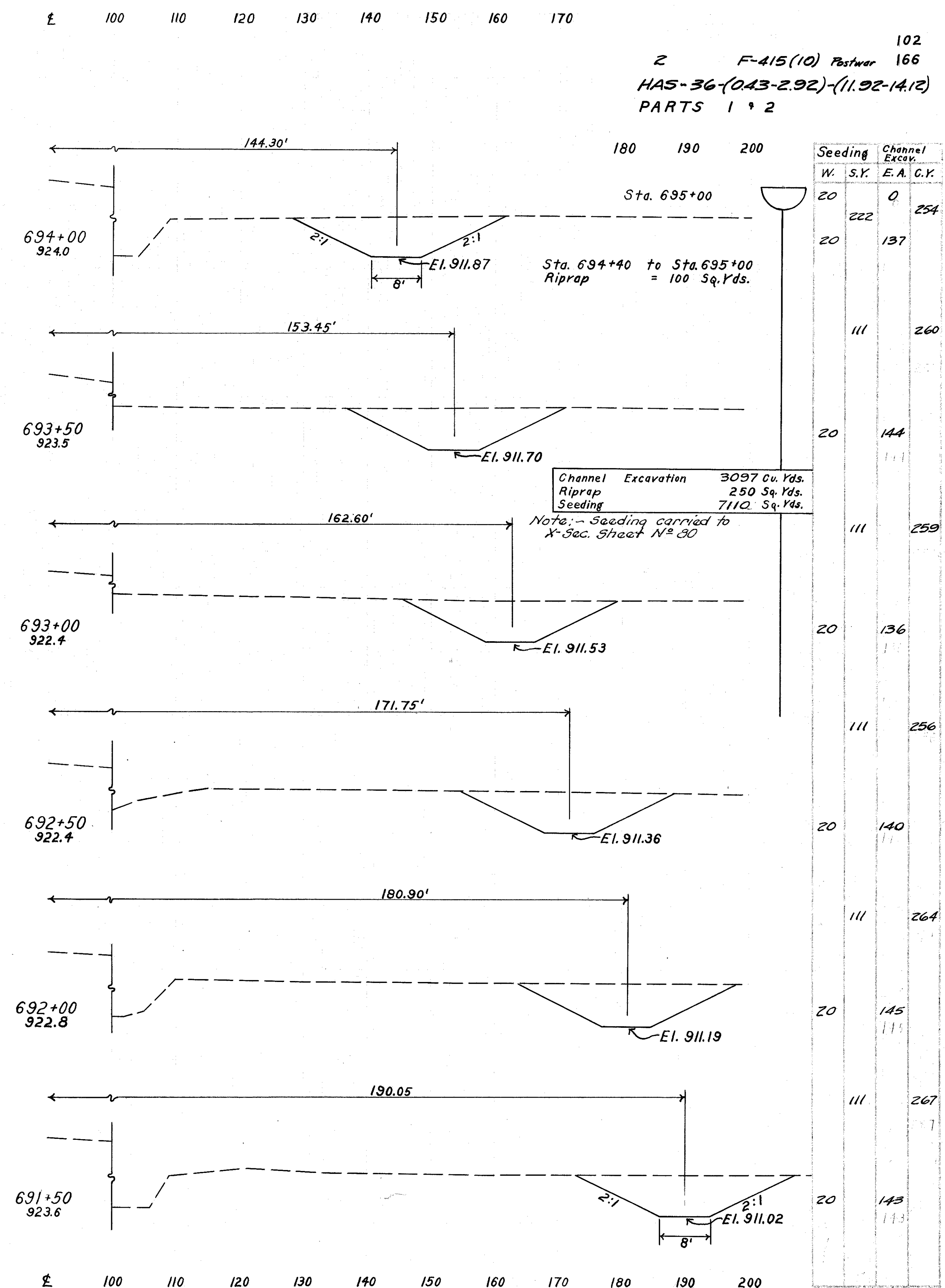
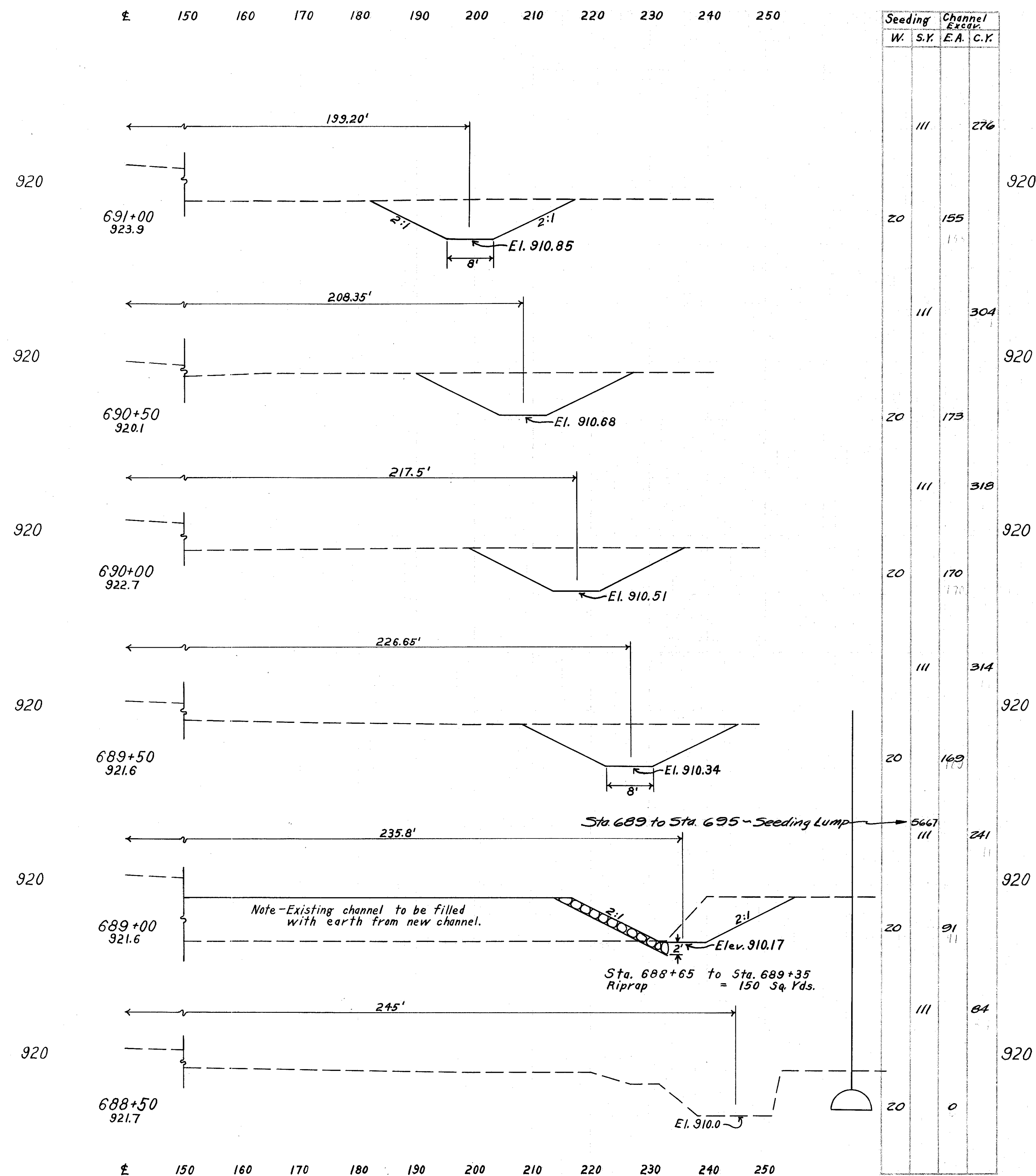


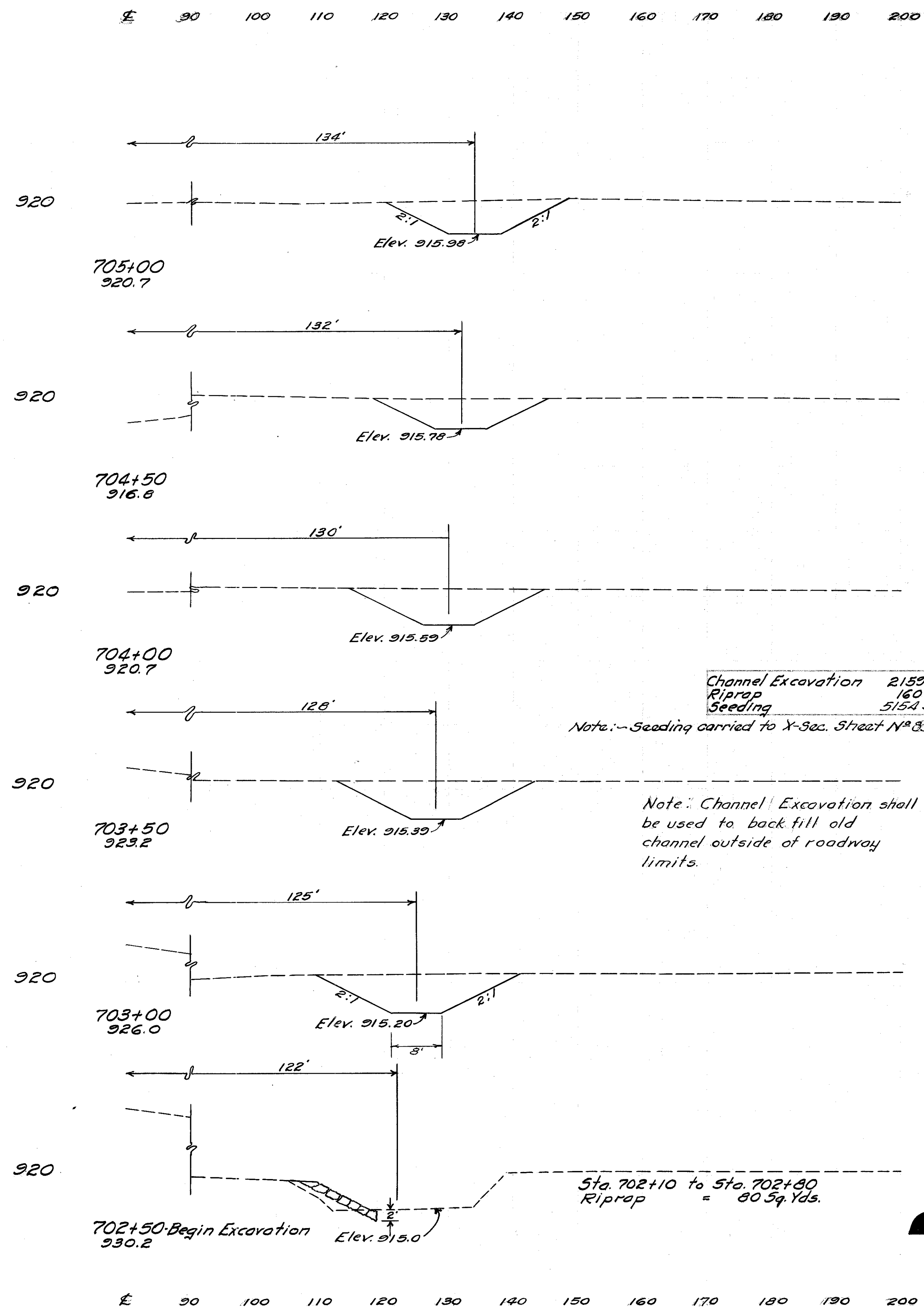
2 F-415(10) Postwar 100
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2

Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
20		0	0		
III				32	
20		35	0		
III				47	
20		16	0		
III				28	
20		14	-		
III				55	
20		45	-		
III				205	
20		176	-		
III				348	
20		200	0		
III				360	
20		189	0		

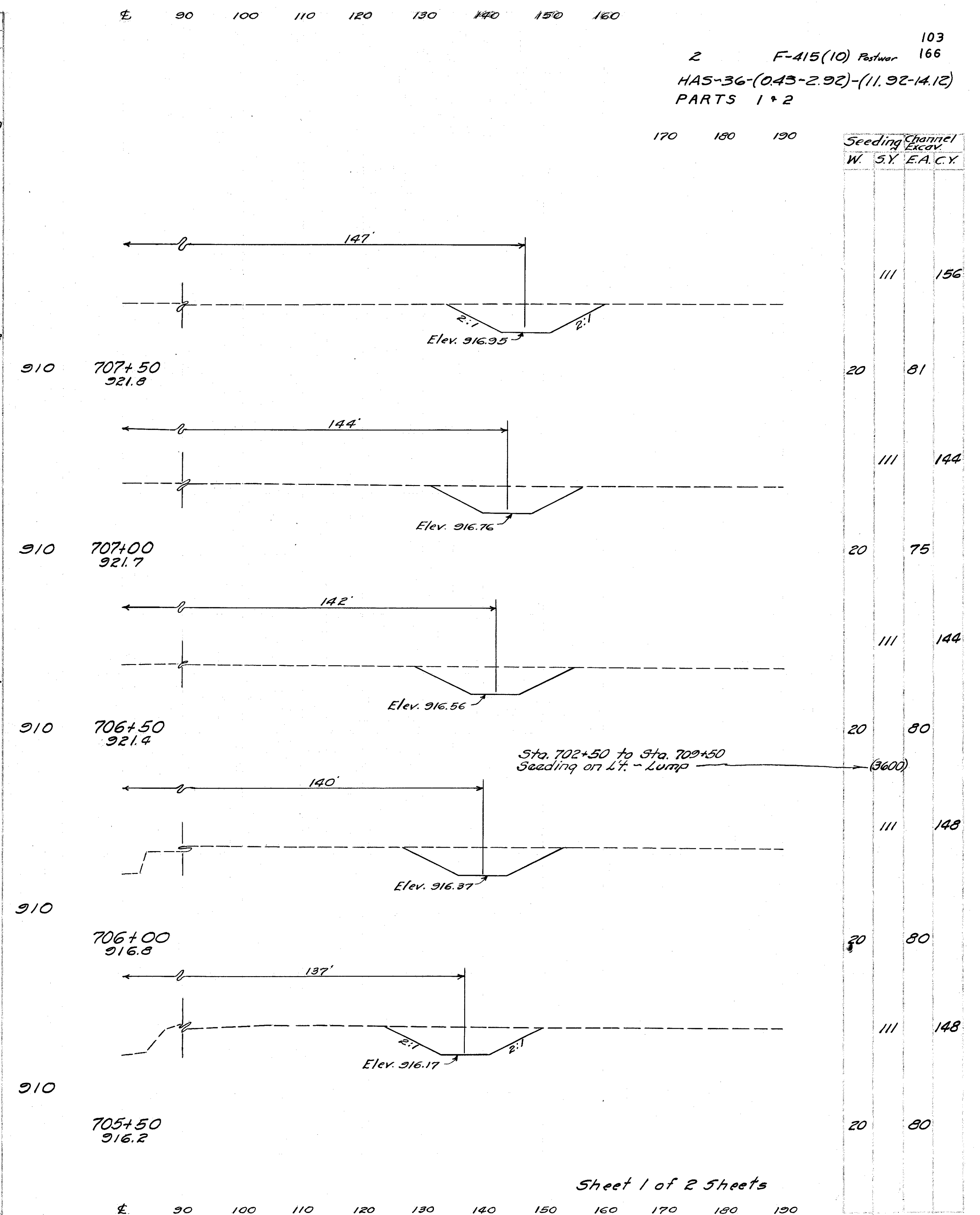
Note: Channel Excavation shall be used to back fill old channel outside of roadway limits.

CHANNEL CHANGE LT. STA. 115+50 TO STA. 123+50





Seeding	Channel Excav.
W. SY.	E.A.C.Y.
III	139
20	92
III	163
20	84
III	181
20	111
III	205
20	110
III	211
20	118
III	109
20	0



Seeding	Channel Excav.
W. SY.	E.A.C.Y.
III	156
20	81
III	144
20	75
III	144
20	80
III	148
20	80
III	148
20	80

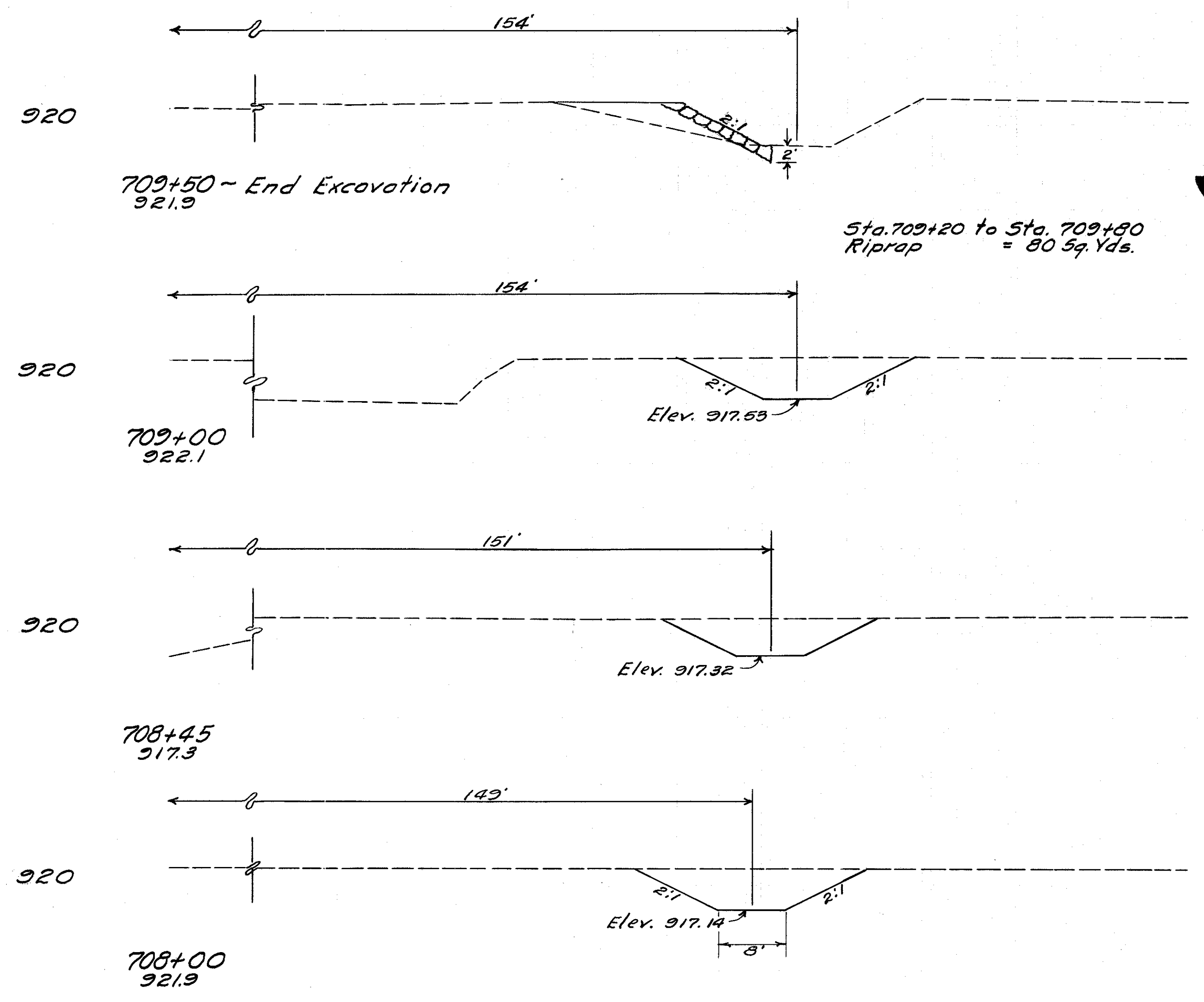
Sheet 1 of 2 Sheets

STA. 702+50 TO STA. 709+50~CHANNEL CHANGE

± 90 100 110 120 130 140 150 160 170 180 190 200

Seeding	Channel
W. S.Y.	E.A.C.Y.
20	0
111	83
20	90
122	171
20	78
100	137
20	87

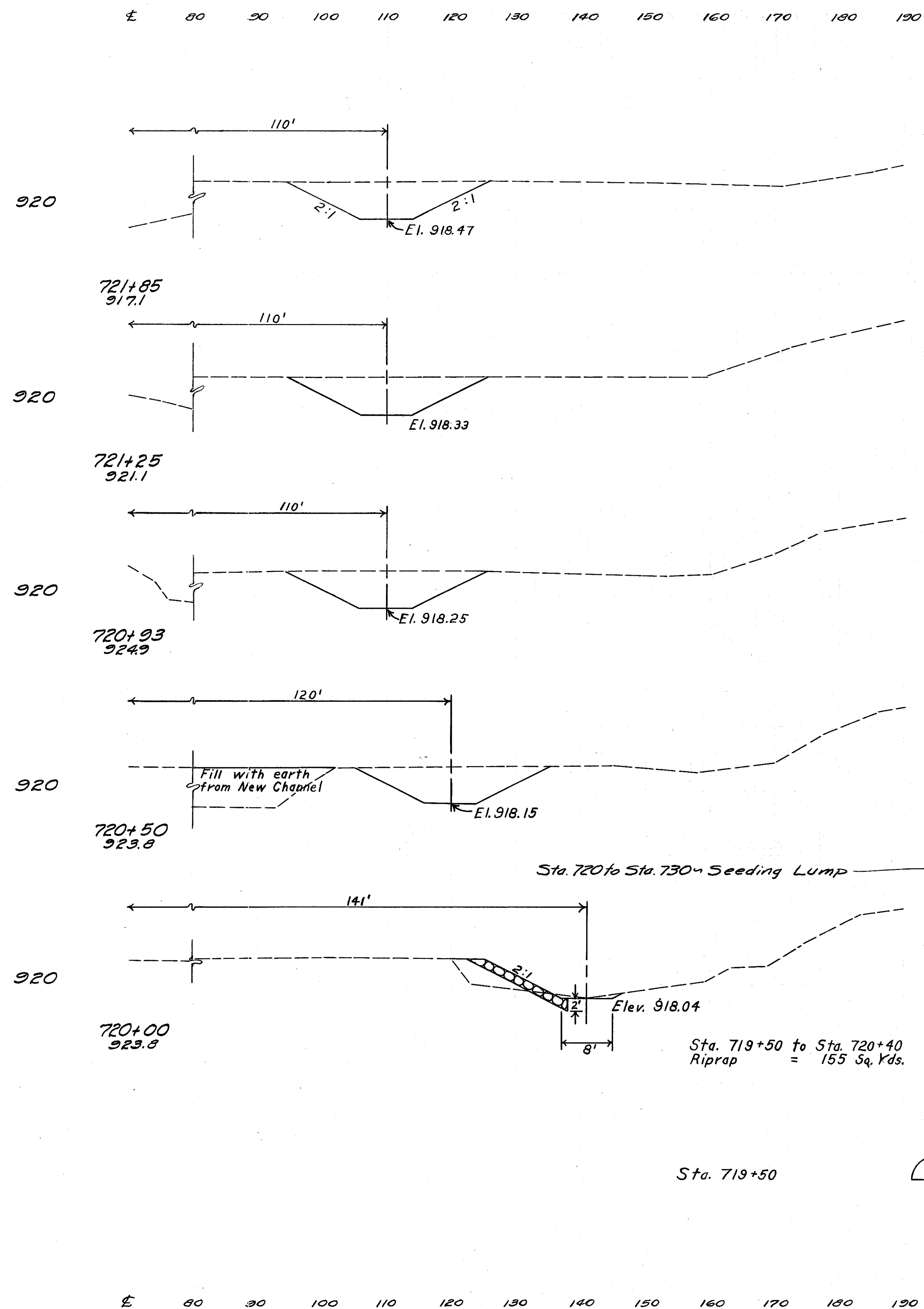
2 F-415(10) Postwar 104
 HAS-36-(043-2.92)-(11.92-14.12) 166
 PARTS 1 & 2



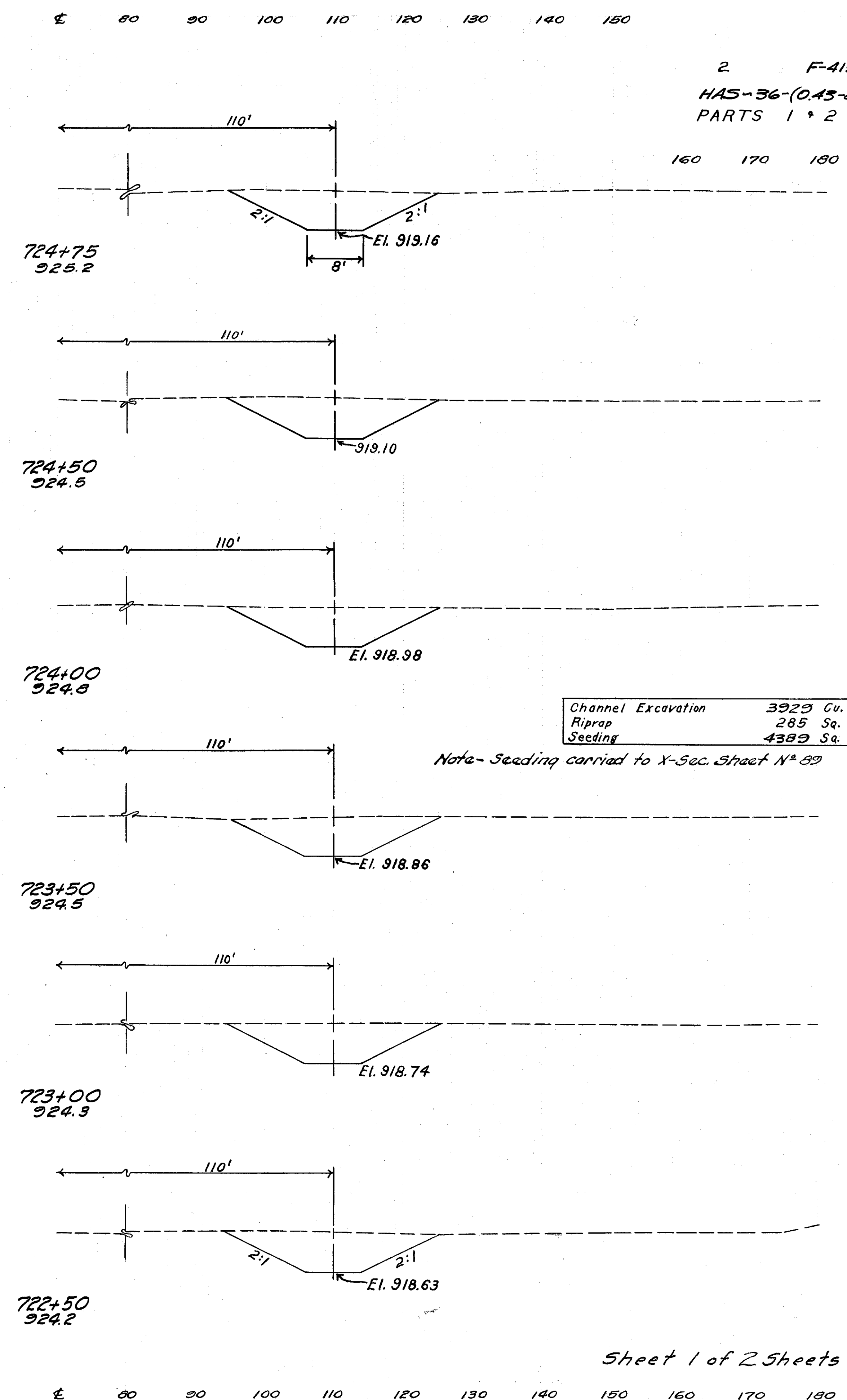
± 90 100 110 120 130 140 150 160 170 180 190 200

Sheet 2 of 2 Sheets

STA. 702+50 TO STA. 709+50 - CHANNEL CHANGE

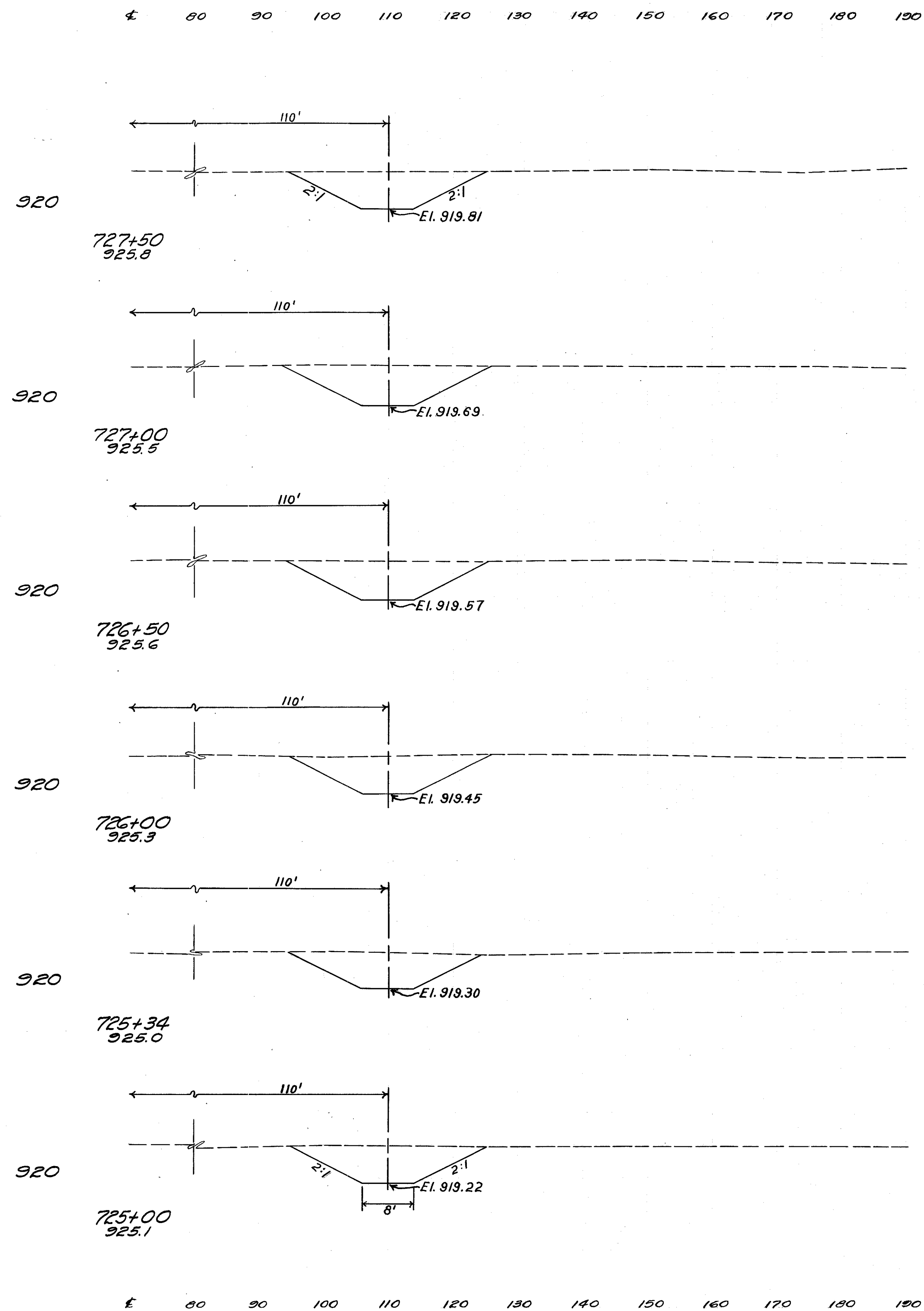


Seeding	Channel
W. S.Y.	Excav.
E.A.C.Y.	E.A.C.Y.
144	279
20	117
133	261
20	118
71	140
20	119
96	185
20	113
111	106
20	2
111	2
20	0

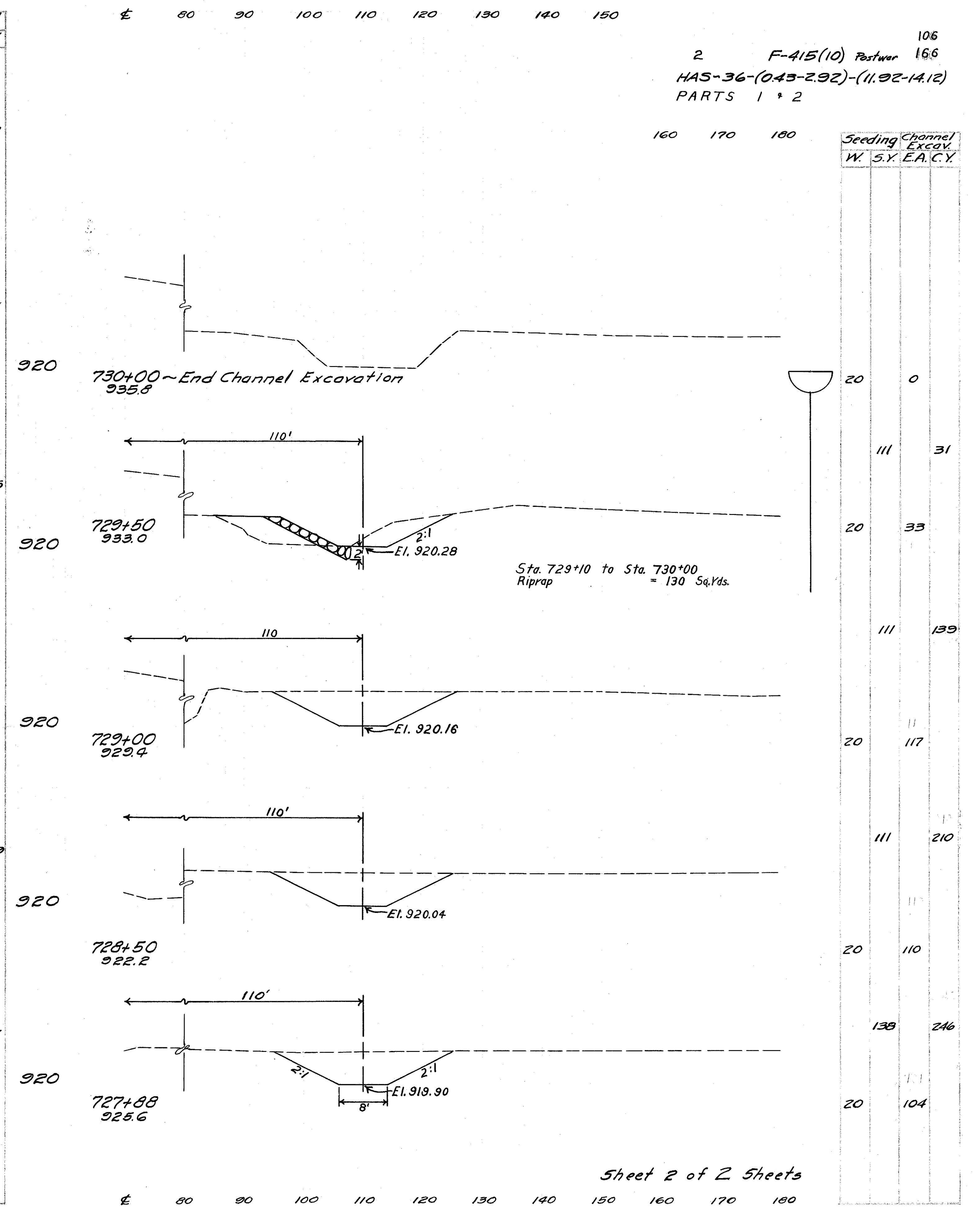


2 F-415(10) Postwar 105
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2

Seeding	Channel
W. S.Y.	Excav.
E.A.C.Y.	E.A.C.Y.
56	107
20	116
56	109
20	119
111	216
20	114
111	208
20	111
111	211
20	117
111	215
20	115



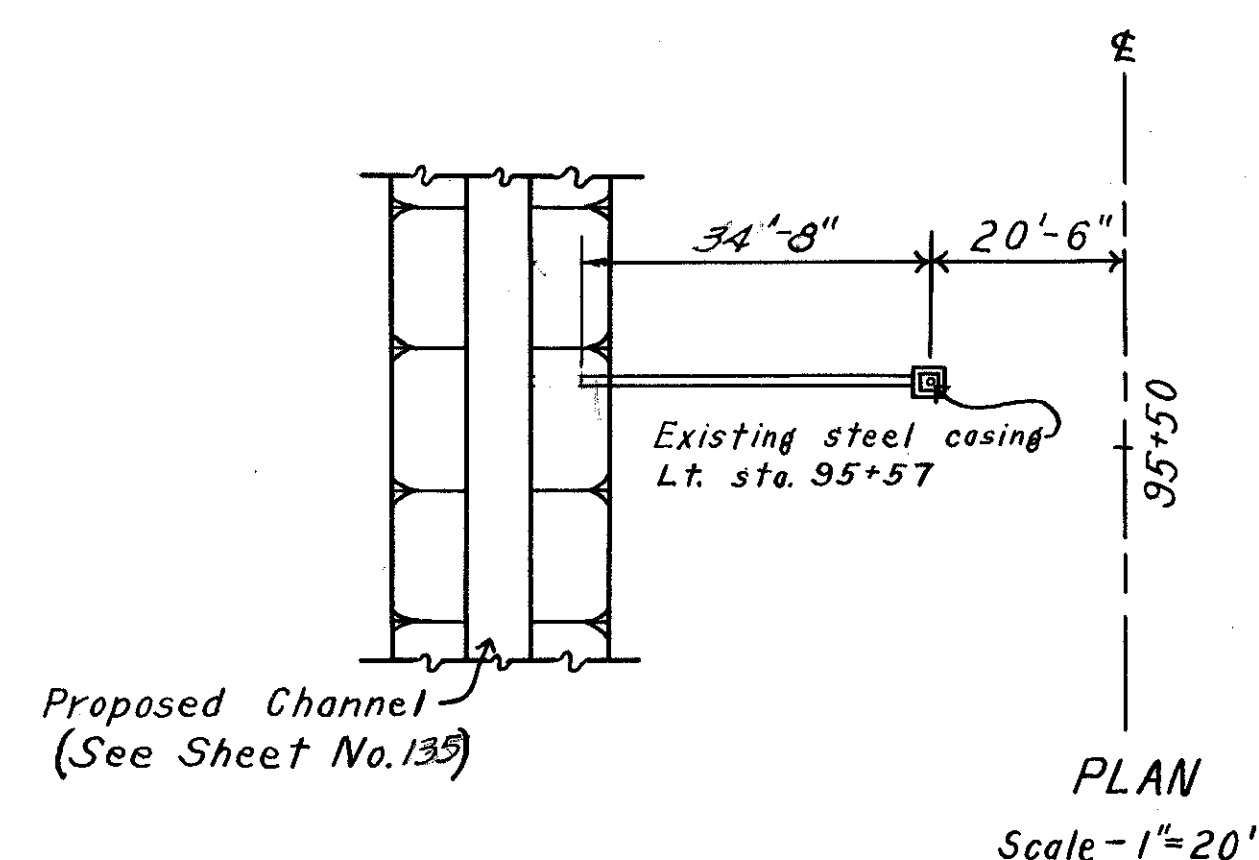
Seeding W. S.Y.	Channel Excav. E.A.C.Y.
84	156
20	117
111	231
20	132
111	235
20	122
111	221
20	117
147	279
20	111
76	142
20	115



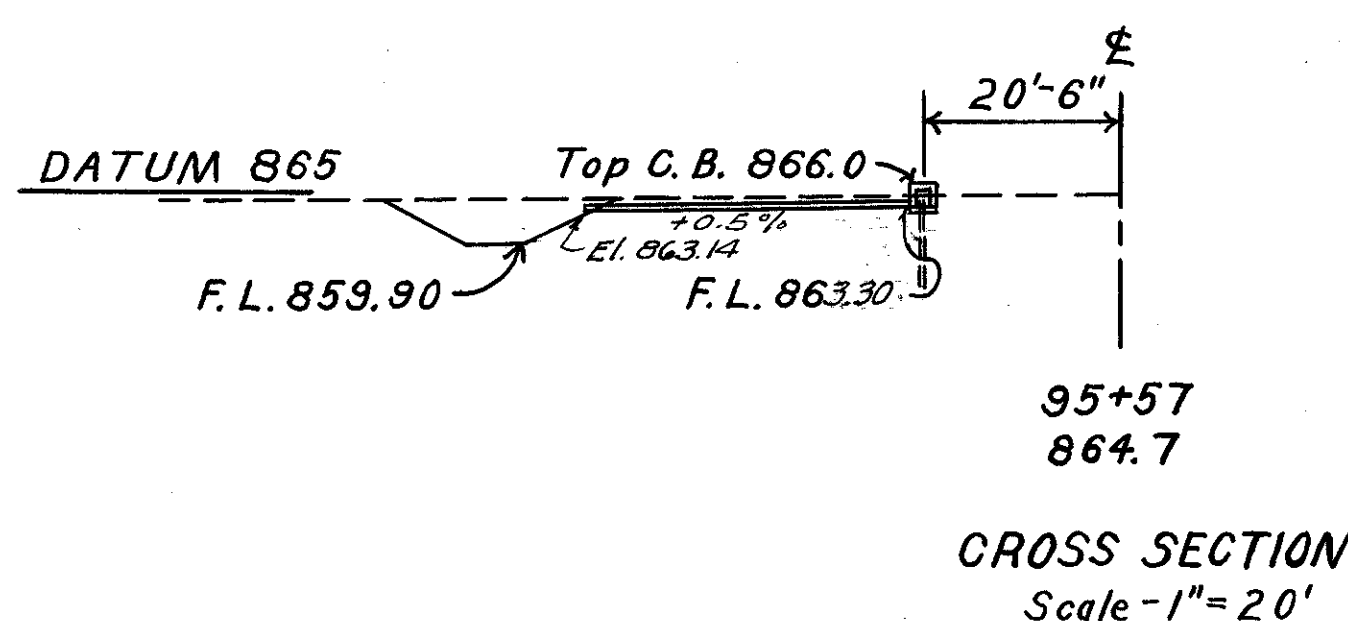
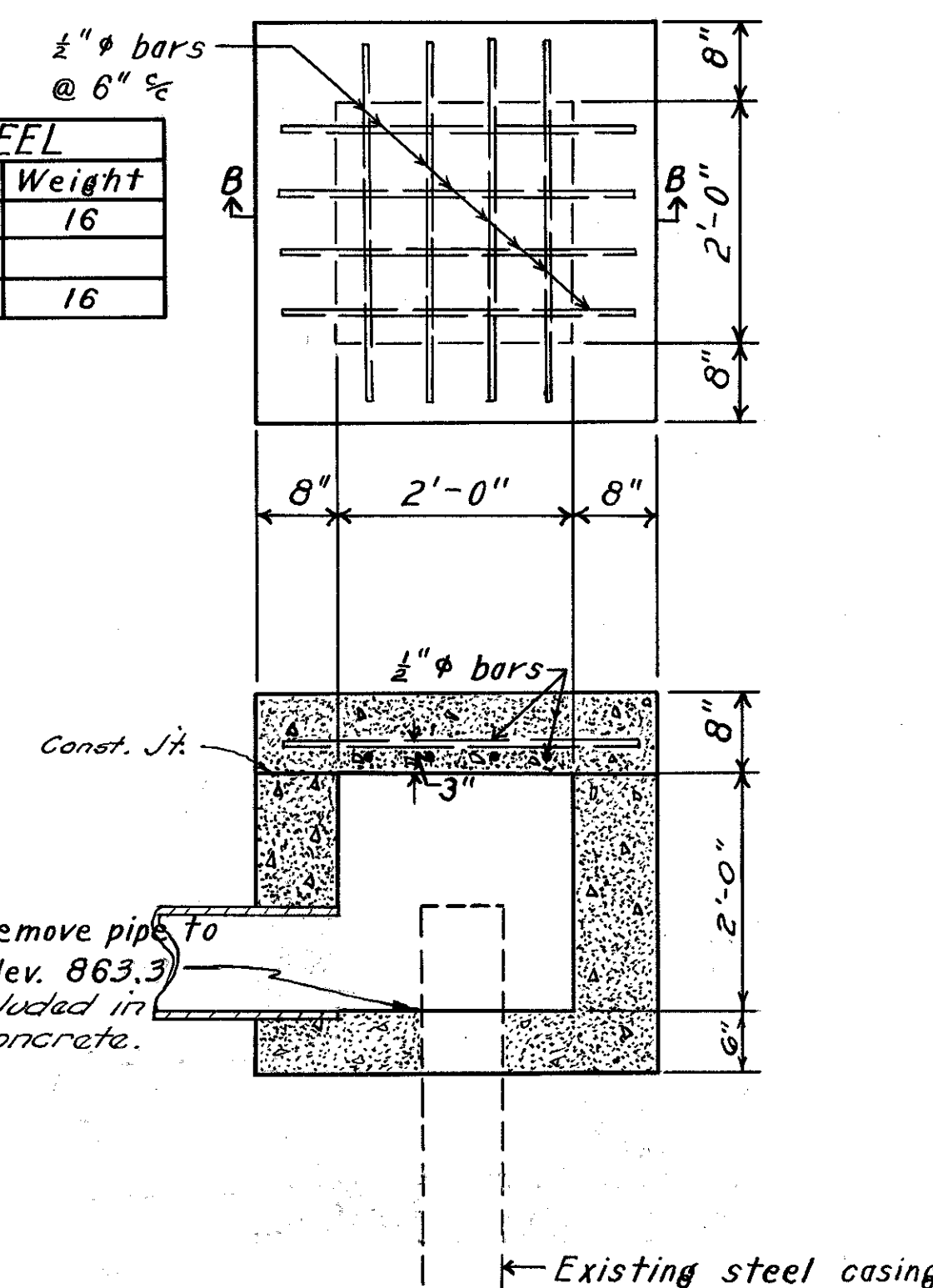
Seeding W. S.Y.	Channel Excav. E.A.C.Y.
20	0
111	31
20	33
111	139
20	117
111	210
20	110
138	246
20	104

Sheet 2 of 2 Sheets

STA. 725+00 TO STA. 730+00-CHANNEL CHANGE



REINFORCING STEEL				
No.	Size	Shape	Length	Weight
8	1/2"	Straight	3'-0"	16
Total lbs.				16

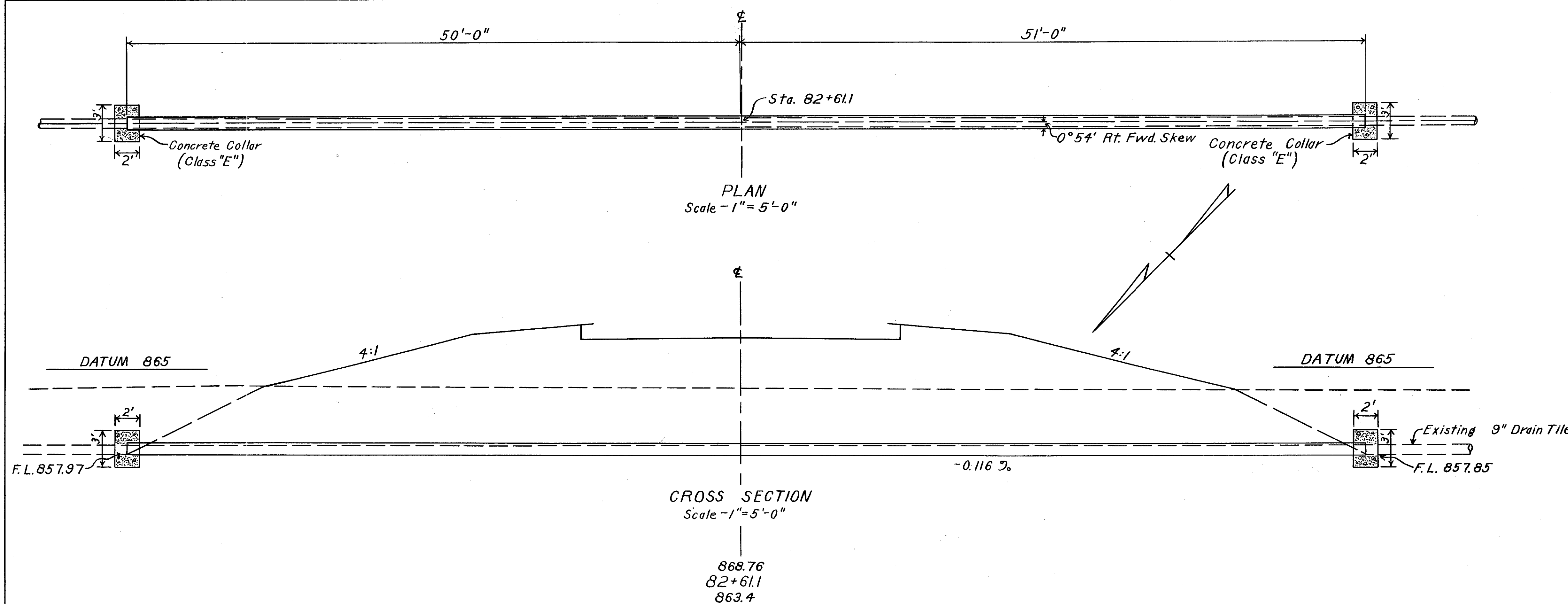


WORK REQUIRED
Build 12" x 33'-0" storm sewer and connect to concrete catch basin as shown.

ESTIMATED QUANTITIES	
12" pipe for storm sewers	33 Lin. Ft.
Concrete (Class "C")	1.2 Cu. Yds.
Reinforcing Steel	16 lbs.
Excavation for structures	1 Cu. Yds.

5-SS

STA. 95+57
STORM SEWER DETAIL

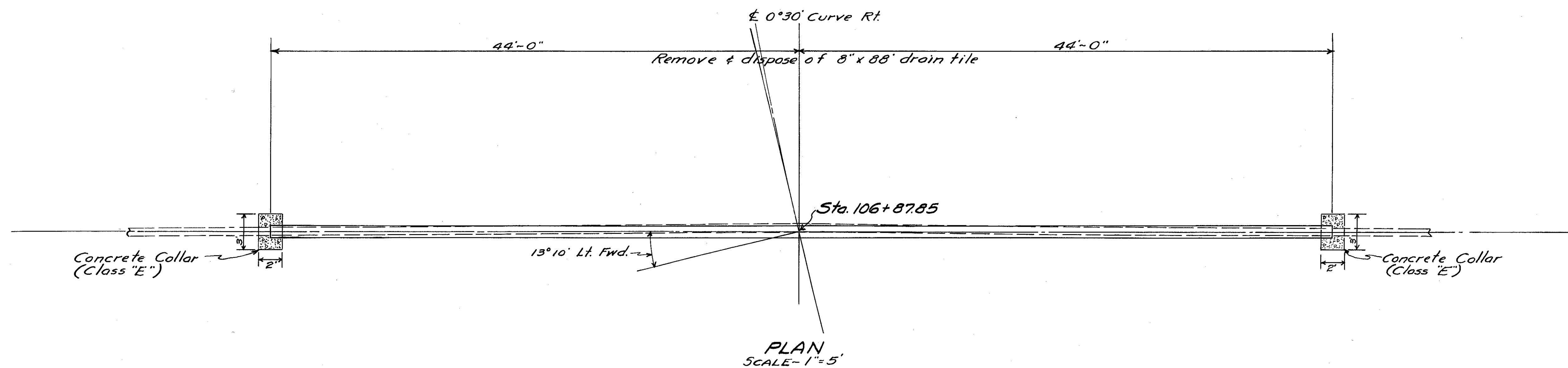


WORK REQUIRED
Remove existing 9" x 101' of drain tile as shown. Build 12" x 101' storm sewer under pavement and connect to existing 9" drain tile as shown. Build concrete collars as shown.

ESTIMATED QUANTITIES	
12" pipe for storm sewers under pavement	101 Lin. Ft.
9" pipe removed and disposed of	101 Lin. Ft.
Concrete (Class "E")	1.3 Cu. Yds.

4-SS

STA. 82+61.1
STORM SEWER DETAIL

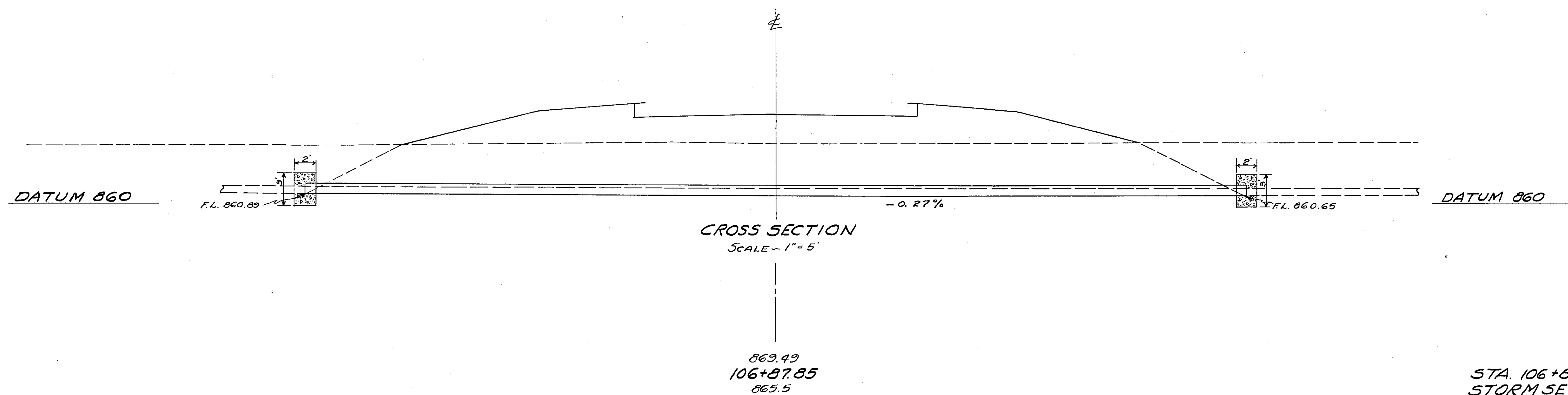


WORK REQUIRED

Remove 8" x 88' of drain tile as shown.
Build 12" x 88' Storm Sewer Under Pavement and connect to existing 8" drain tile as shown. Build concrete collars as shown.

ESTIMATED QUANTITIES

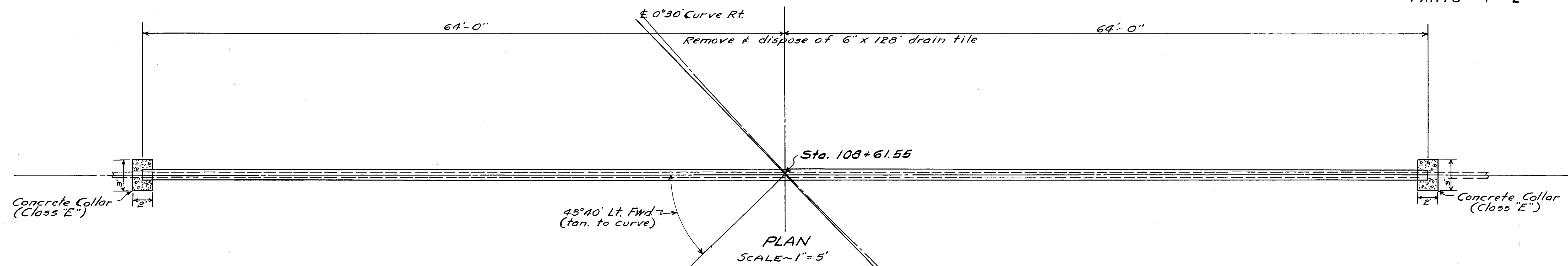
12" Pipe for Storm Sewers Under Pavement	88 Lin. Ft.
8" Pipe Removed and Disposed of	88 Lin. Ft.
Concrete (Class "E")	1.3 Cu. Yds.



FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-415(10)	Partwar

109
166

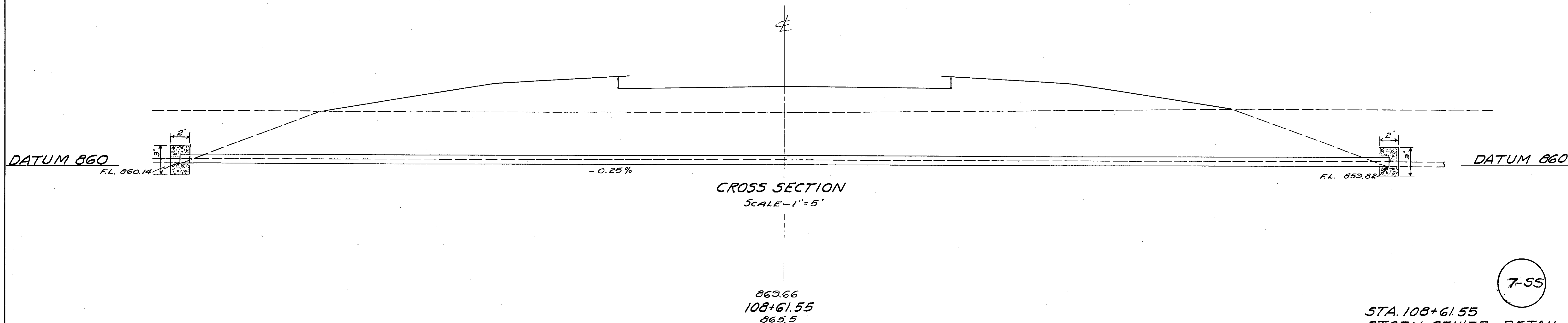
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2



WORK REQUIRED
Remove 6" x 128' of drain tile as shown.
Build 12" x 128' Storm Sewer Under Pavement and connect to existing 6" drain tile as shown. Build concrete collars as shown.

ESTIMATED QUANTITIES

12" Pipe for Storm Sewers Under Pavement	128 Lin.Ft.
6" Pipe Removed and Disposed of	128 Lin.Ft.
Concrete (Class "E")	1.3 Cu.Yds.



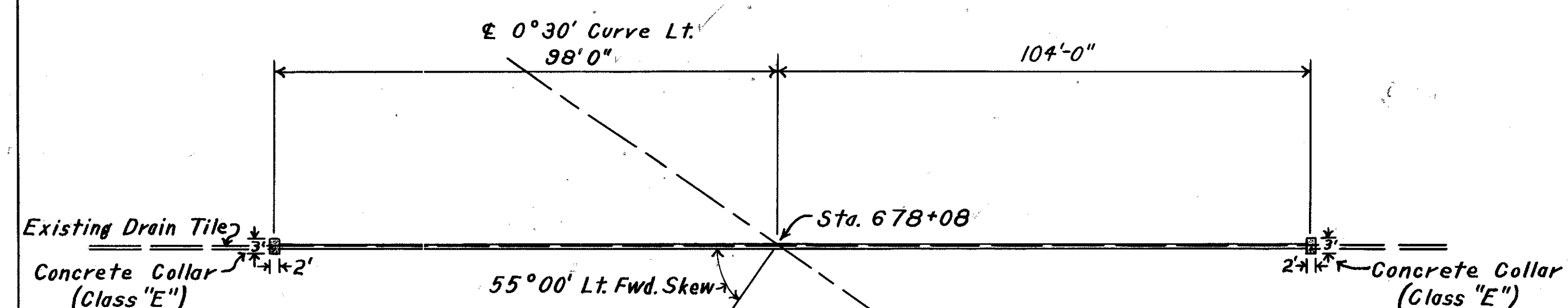
7-55

STA. 108+61.55
STORM SEWER DETAIL

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	110
2	OHIO	F-415 (10)	Postwar	166

HAS-36-(043-2.92)-(11.92-14.12)

PARTS 1 & 2



PLAN
Scale-1"=20'

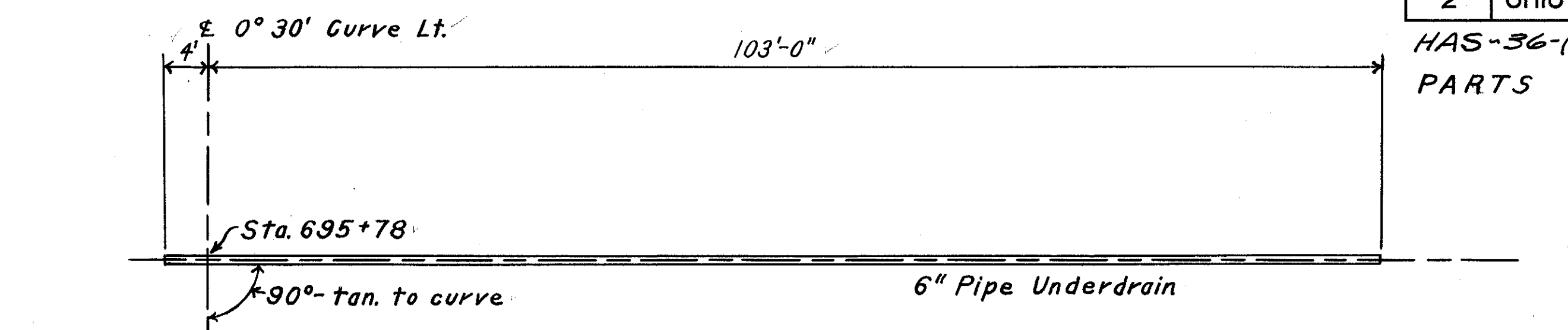
WORK REQUIRED
Remove existing 4" x 202' of drain tile as shown.
Build 12" x 202' storm sewer under pavement and connect to existing 4" drain tile as shown.
Build concrete collars as shown.

ESTIMATED QUANTITIES
12" pipe for storm sewers under pavement-202 Lin.Ft.
4" pipe removed and disposed of 202 Lin.Ft.
Concrete (Class "E") 1.4 Cu.Yds.



CROSS SECTION
Scale-1"=20'

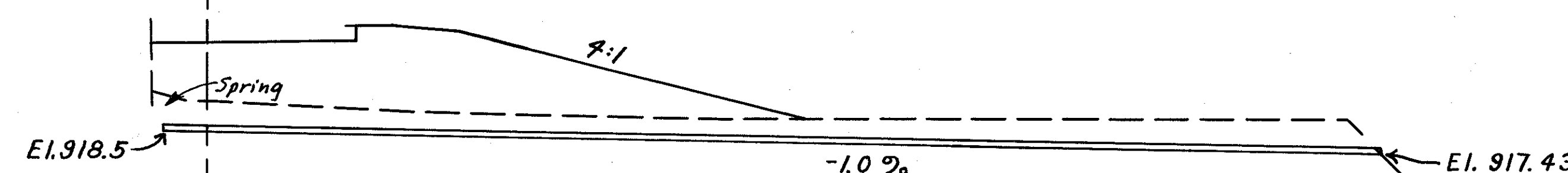
STA. 678+08
STORM SEWER DETAIL



PLAN
Scale-1"=10'

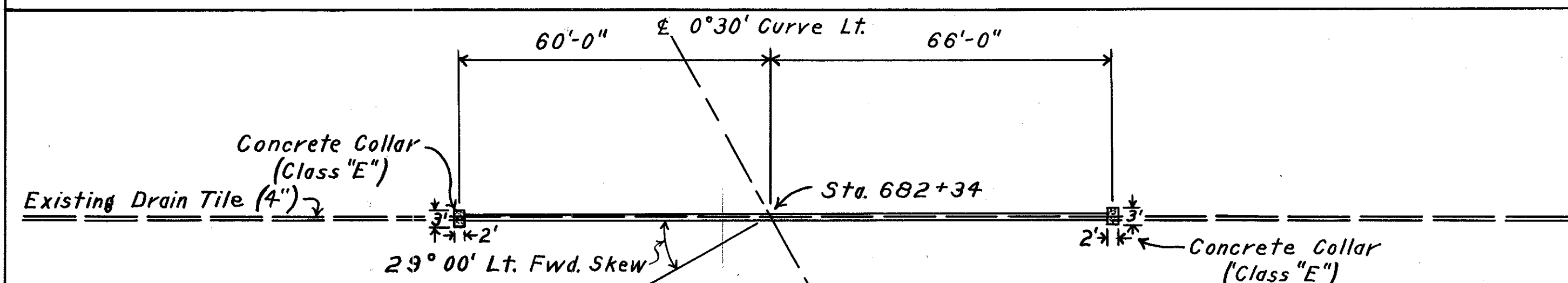
WORK REQUIRED
Build 6" x 107' pipe underdrain as shown.

ESTIMATED QUANTITIES
6" pipe for underdrains (including porous backfill) 107 Lin.Ft.



PROFILE
Scale-1"=10'

STA. 695+78
6" x 107'-0" PIPE UNDERDRAIN



PLAN
Scale-1"=20'

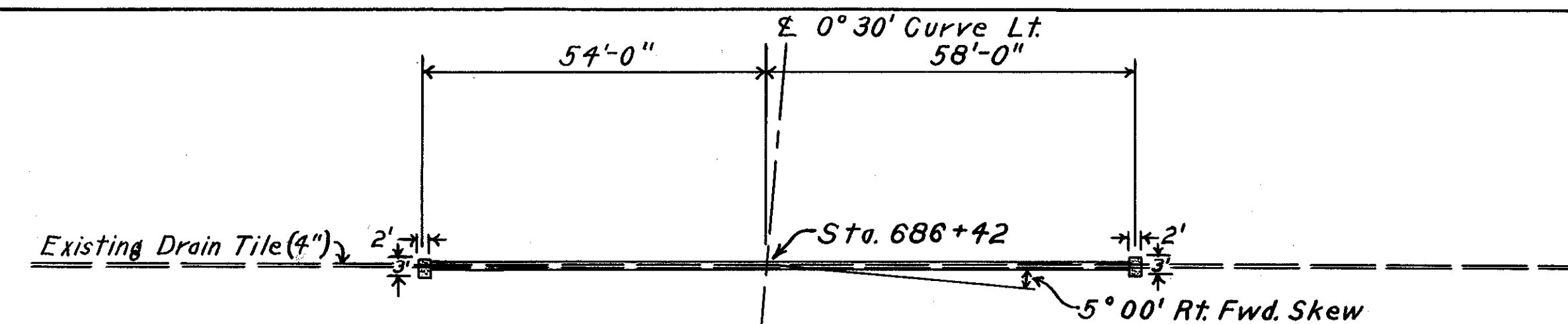
WORK REQUIRED
Remove existing 4" x 126' of drain tile as shown.
Build 12" x 126' storm sewer under pavement and connect to existing 4" drain tile as shown.
Build concrete collars as shown.

ESTIMATED QUANTITIES
12" pipe for storm sewers under pavement 126 Lin.Ft.
4" pipe removed and disposed of 126 Lin.Ft.
Concrete (Class "E") 1.4 Cu.Yds.



CROSS SECTION
Scale-1"=20'

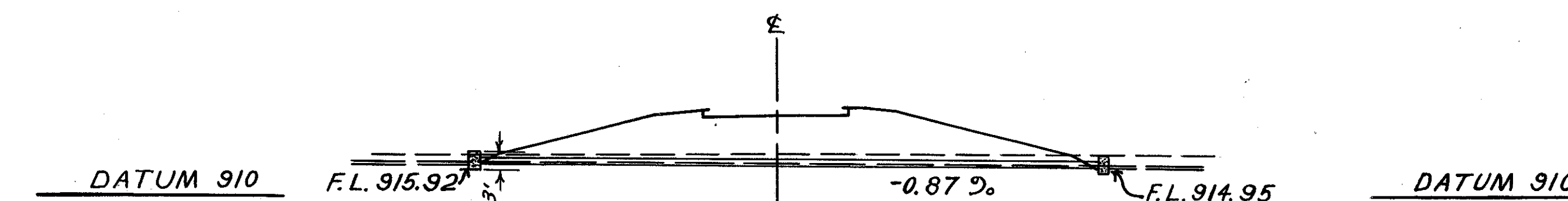
STA. 682+34
STORM SEWER DETAIL



PLAN
Scale-1"=20'

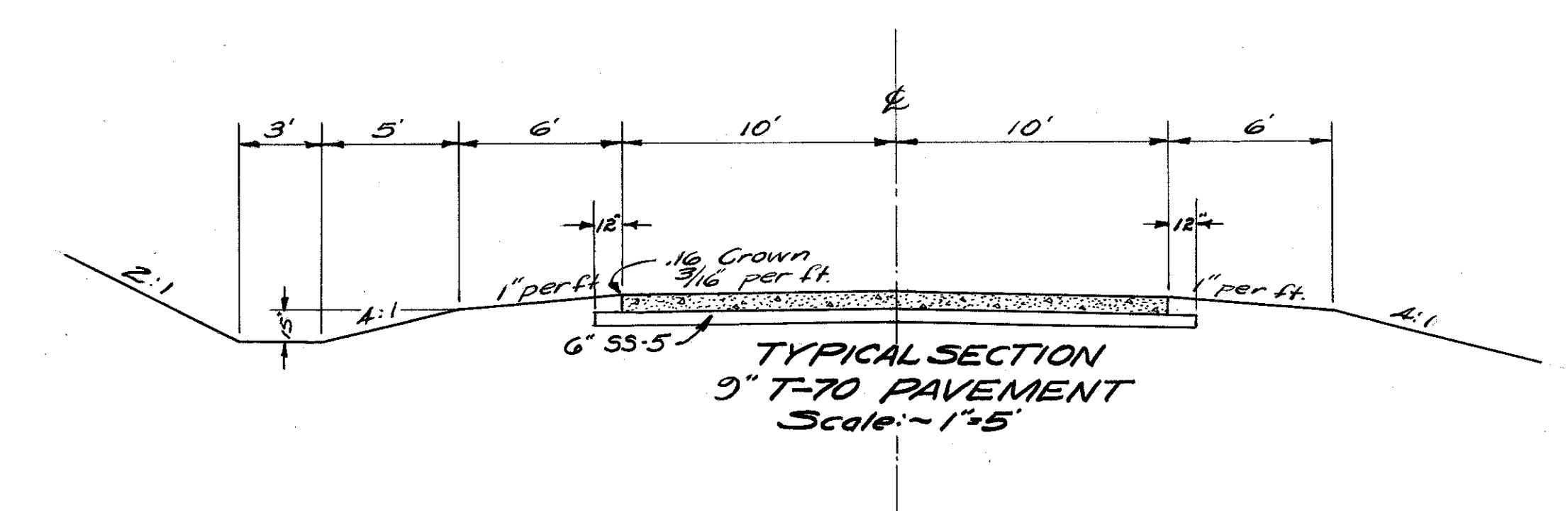
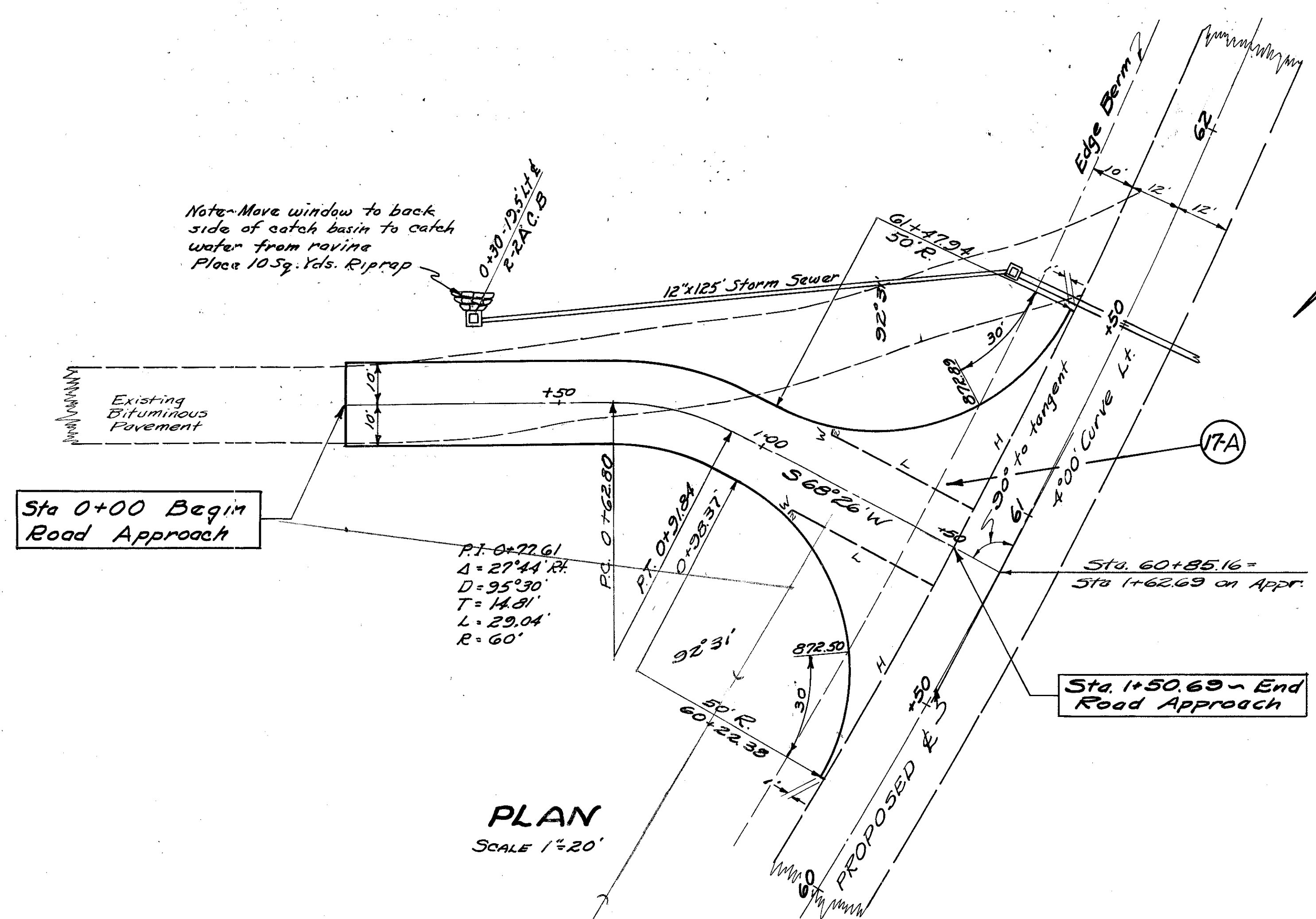
WORK REQUIRED
Remove existing 4" x 112' of drain tile as shown.
Build 12" x 112' storm sewer under pavement and connect to existing 4" drain tile as shown.
Build concrete collars as shown.

ESTIMATED QUANTITIES
12" pipe for storm sewers under pavement 112 Lin.Ft.
4" pipe removed and disposed of 112 Lin.Ft.
Concrete (Class "E") 1.4 Cu.Yds.



CROSS SECTION
Scale-1"=20'
924.43
682+34
916.5

STA. 686+42
STORM SEWER DETAIL

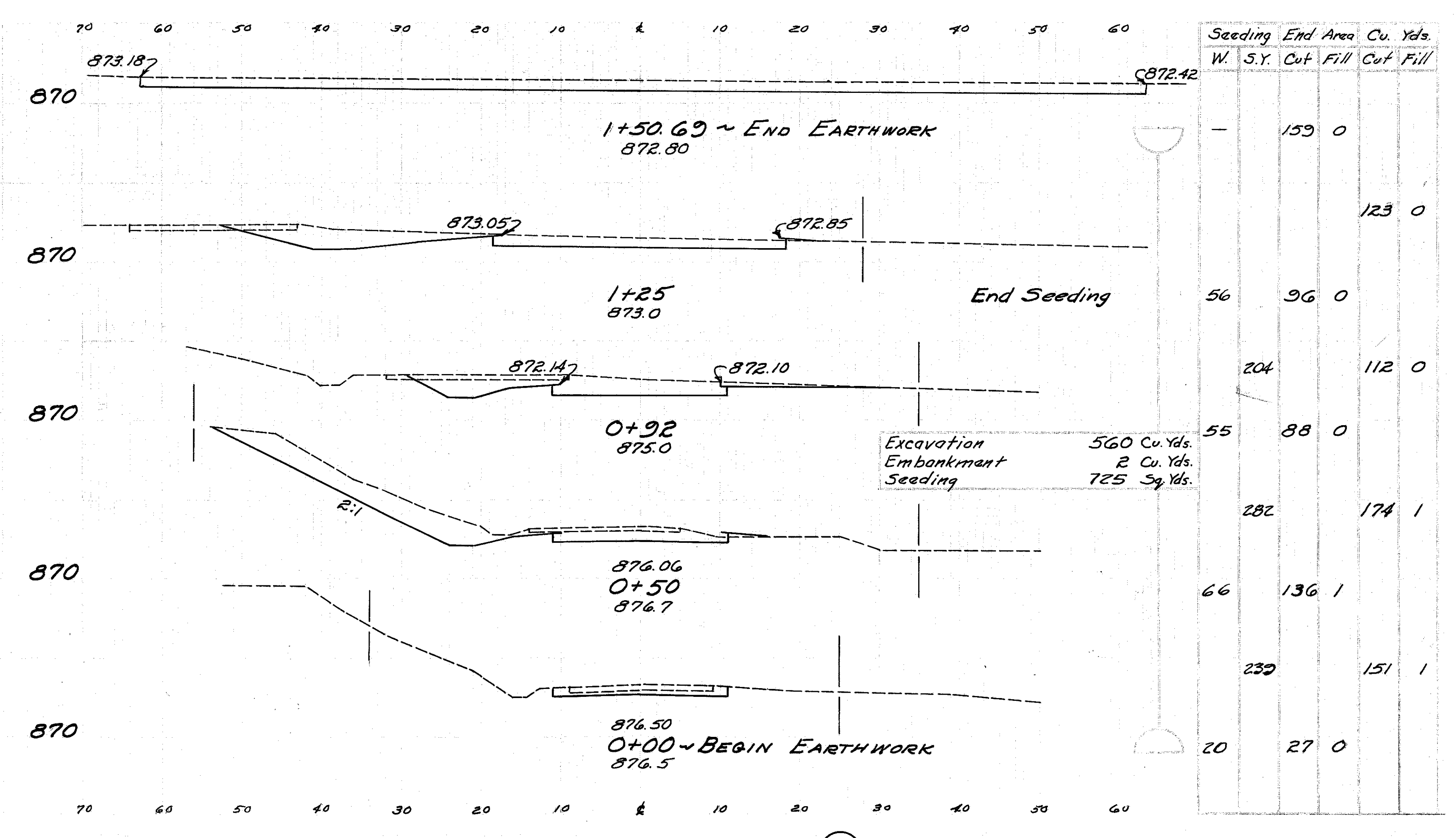
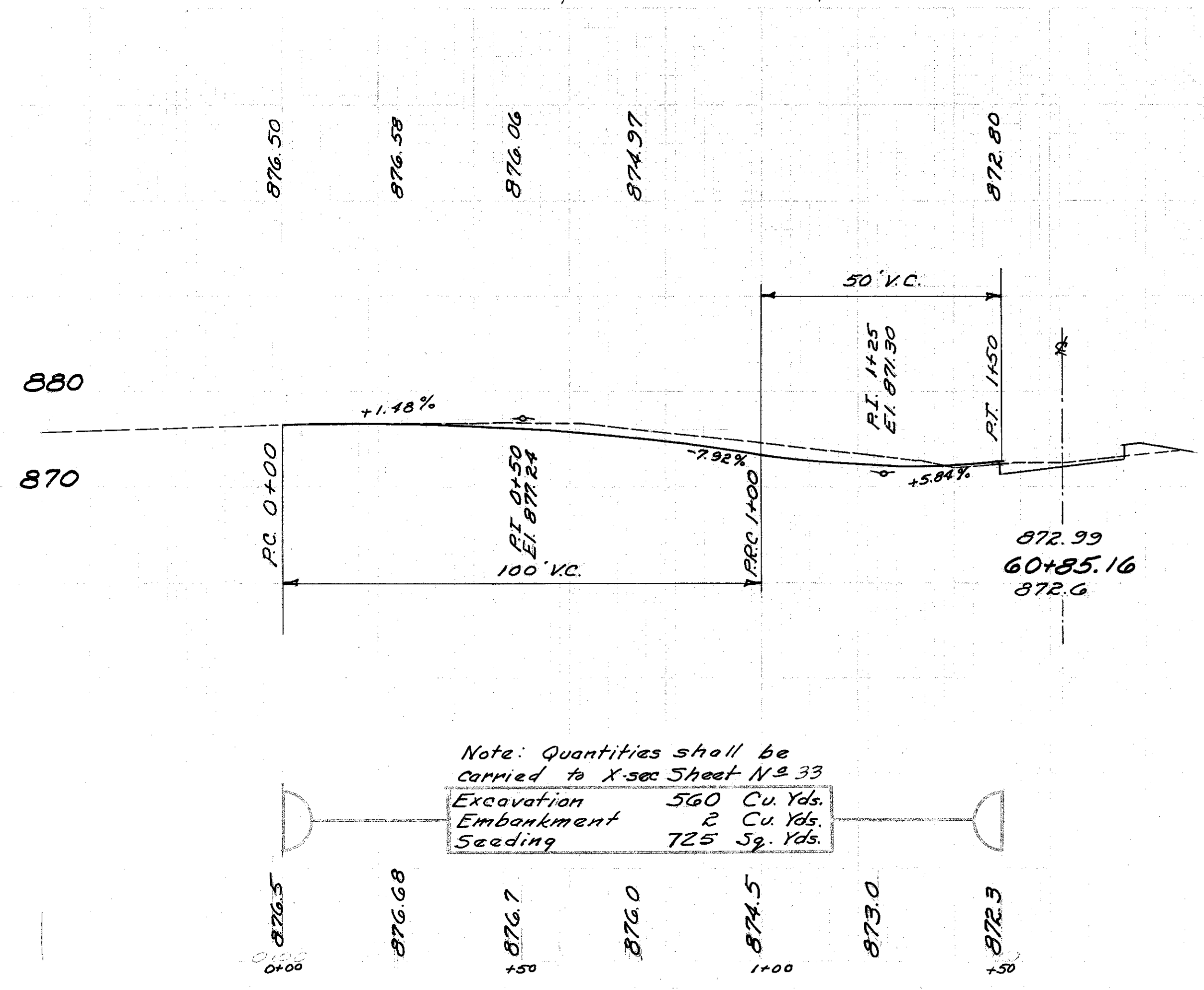


JOINT SYMBOLS
 H Longitudinal key joint without tie bars.
 L Longitudinal key joint with tie bars @ 5'-0" @.
 W Expansion joint without dowels.

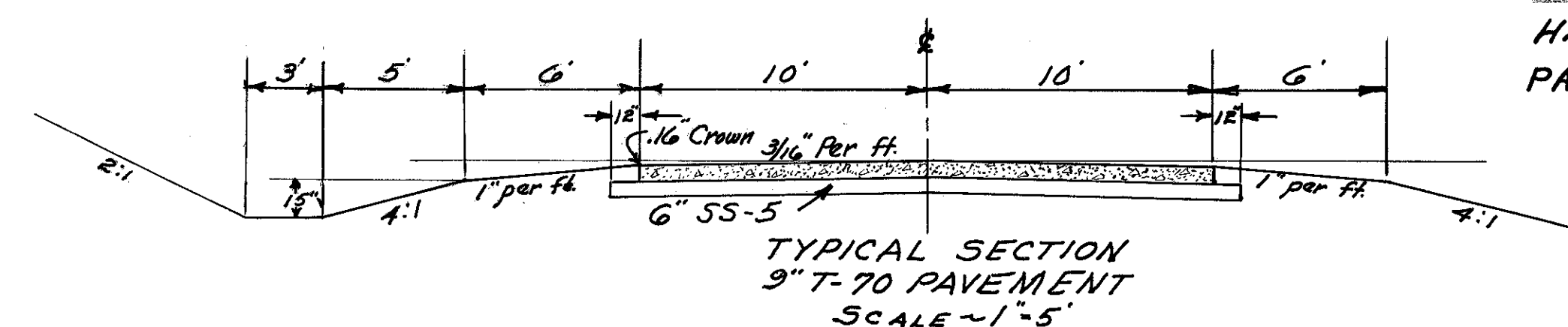
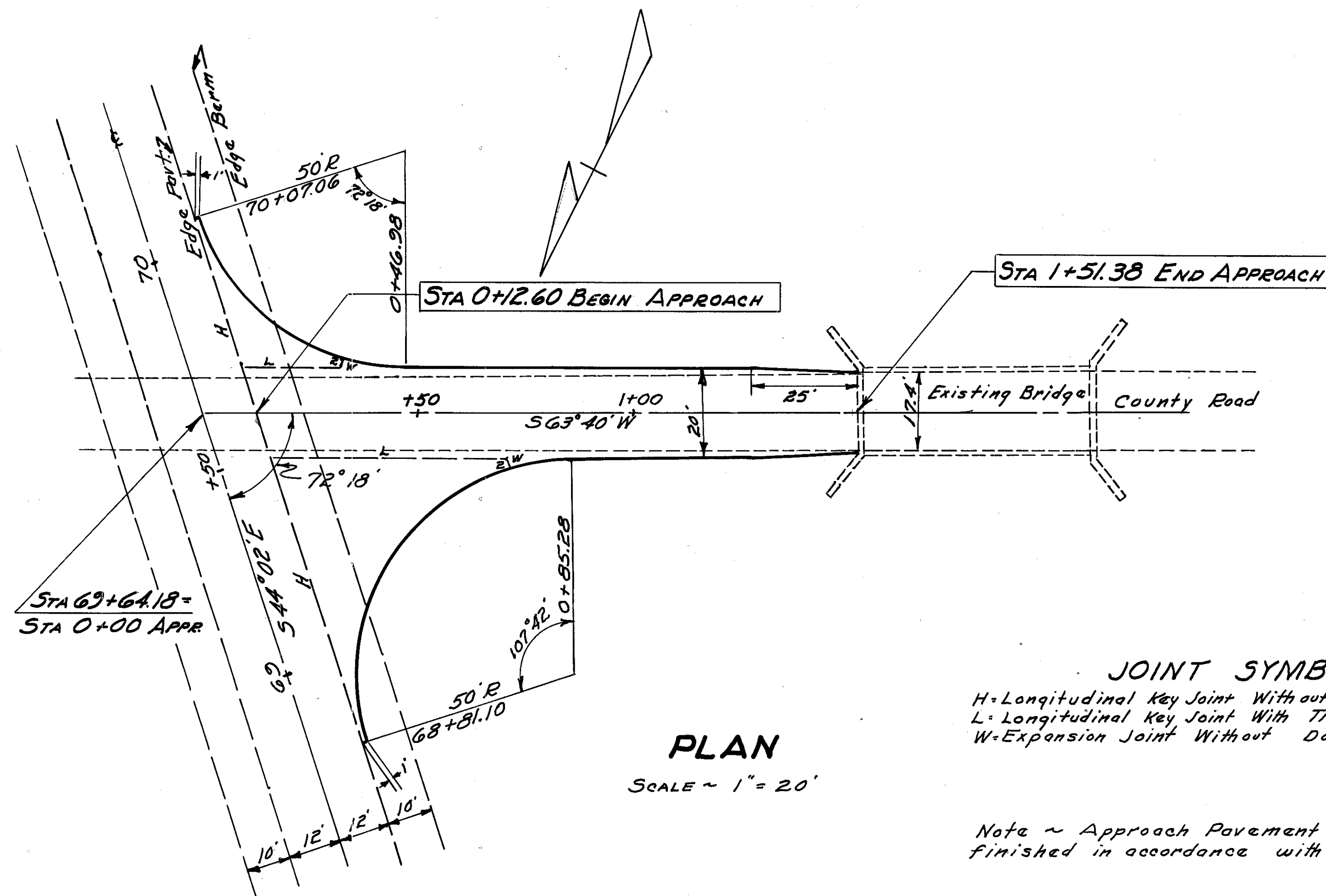
NOTE: ~ Approach pavement may be hand finished in accordance with Sec. T-71.211

ESTIMATED QUANTITIES

	465 Sq. Yds.
T-70 PAVEMENT	
SS-5	84 Cu. Yds.

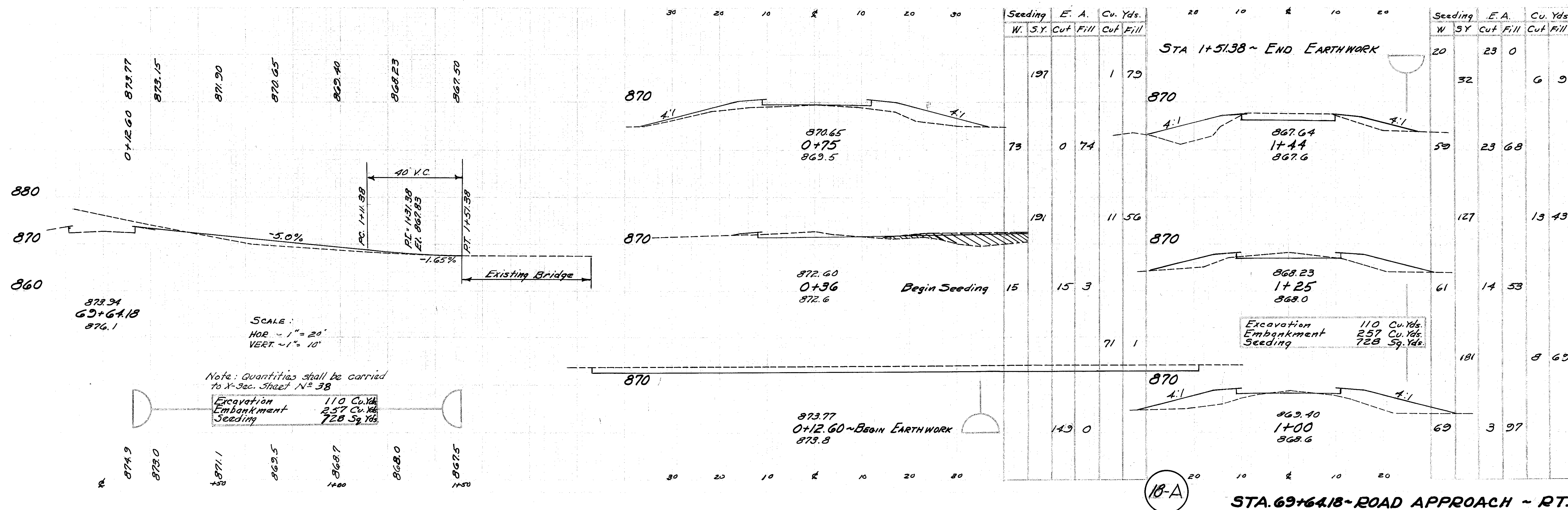


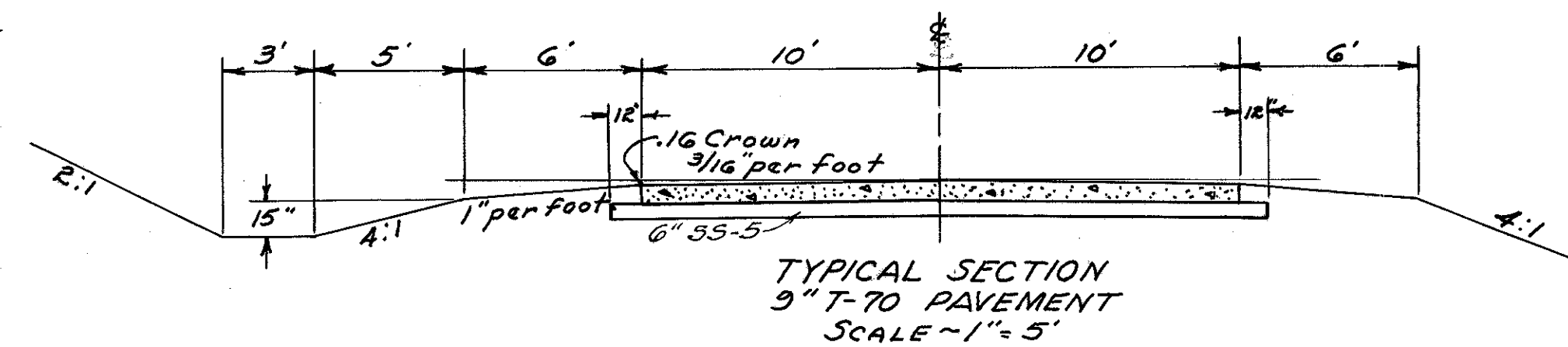
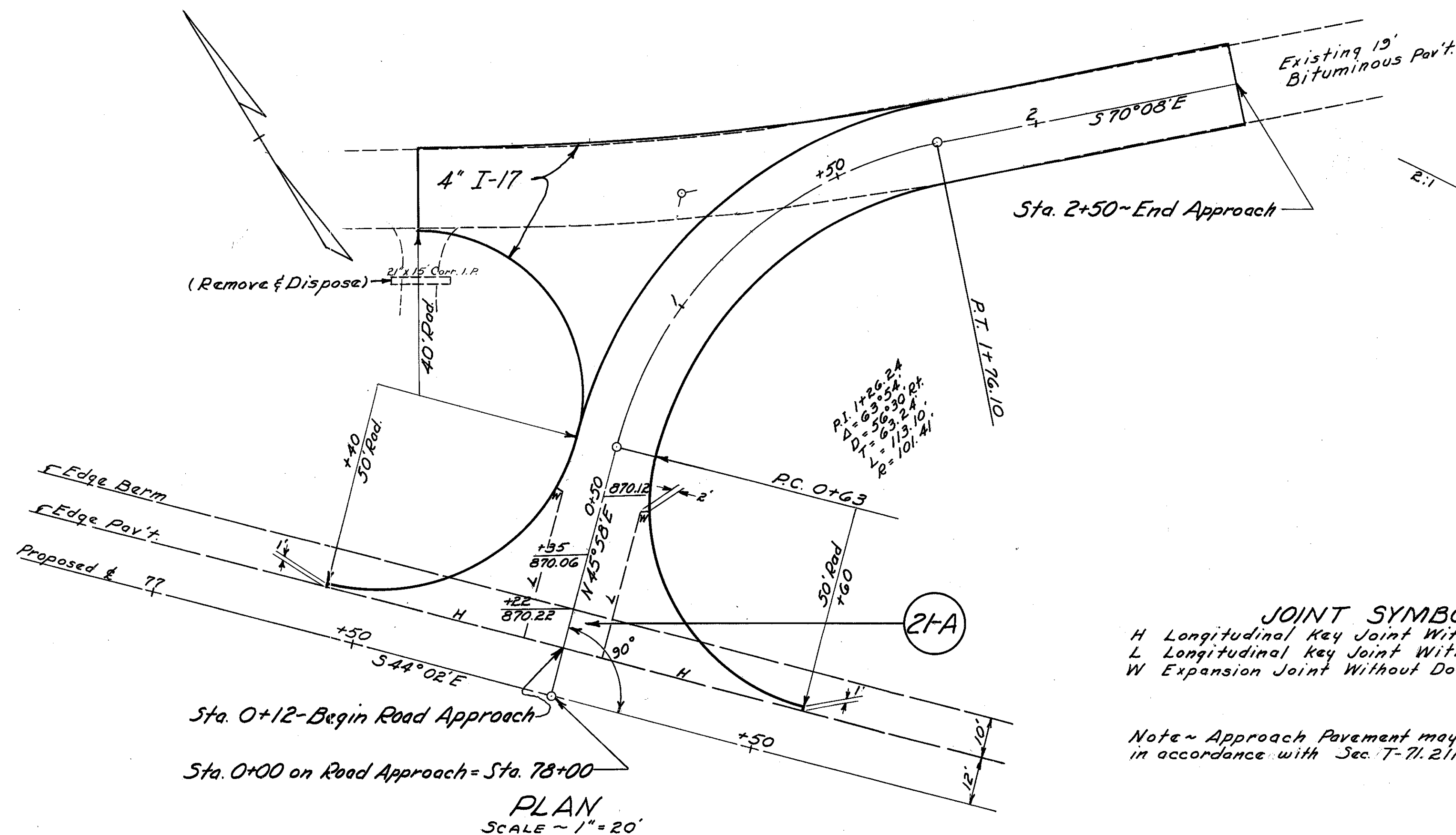
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2



ESTIMATED QUANTITIES

9" T-70 Pavement 474 Sq. Yds.
SS-5 81 Cu. Yds.



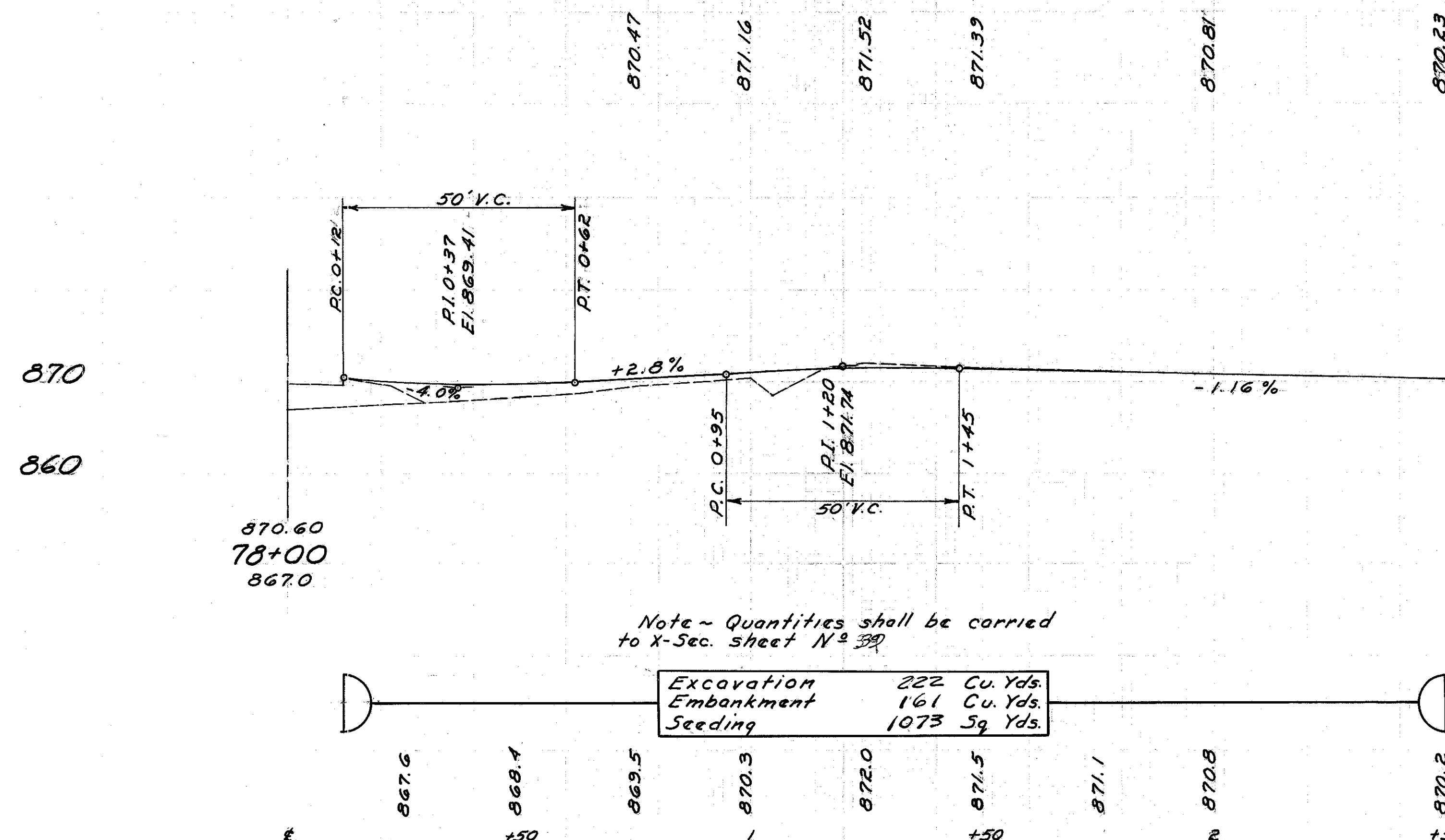


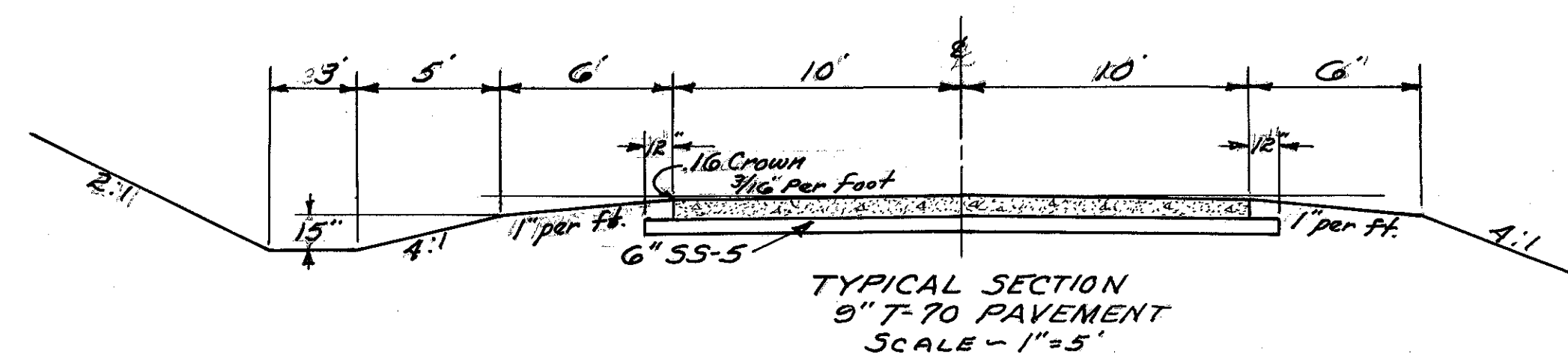
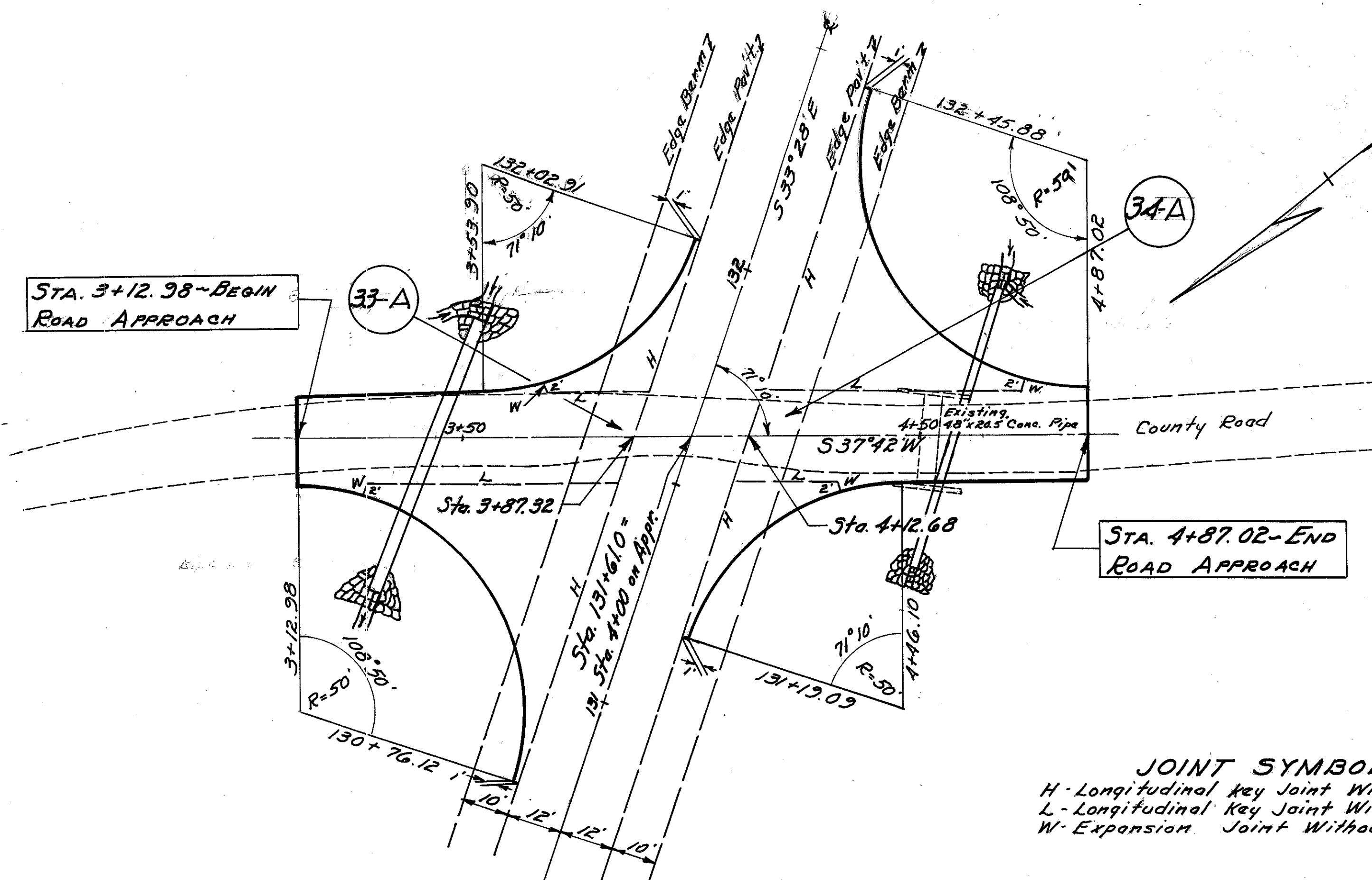
ESTIMATED QUANTITIES

T-70 Pavement	660. Sq. Yds.
21" Pipe Removed & Disposed of	15. Lin. Ft.
4" I-17 Aggregate	33. Cu. Yds.
SS-5	122. Cu. Yds.

JOINT SYMBOLS
 H Longitudinal Key Joint Without Tie Bars
 L Longitudinal Key Joint With Tie Bars @ 5'0" %
 W Expansion Joint Without Dowels.

Note ~ Approach Pavement may be hand finished in accordance with Sec. T-71.211





ESTIMATED QUANTITIES

33-A	T-70 Pavement	328. Sq. Yds.
	55-5	56. Cu. Yds.
34-A	T-70 Pavement	328. Sq. Yds.
	55-5	56. Cu. Yds.
	48" Pipe Removed & disposed of	21. Lin. Ft.
	Removal of Portions of Existing Structure	9. Cu. Yds.

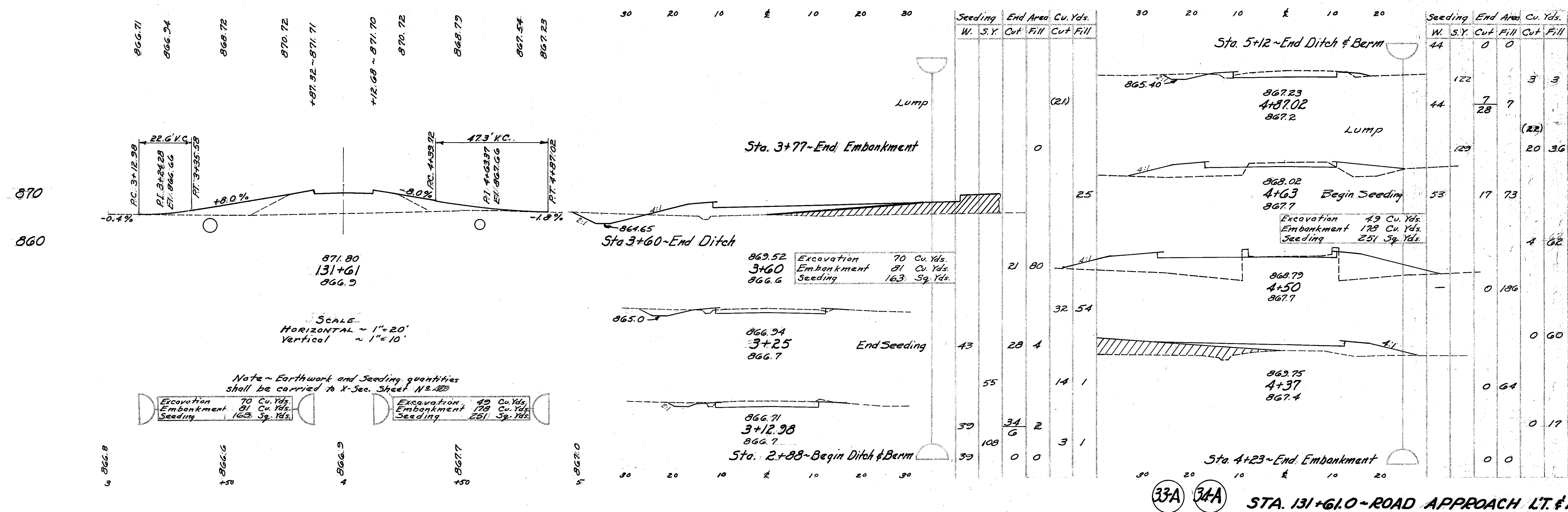
JOINT SYMBOLS

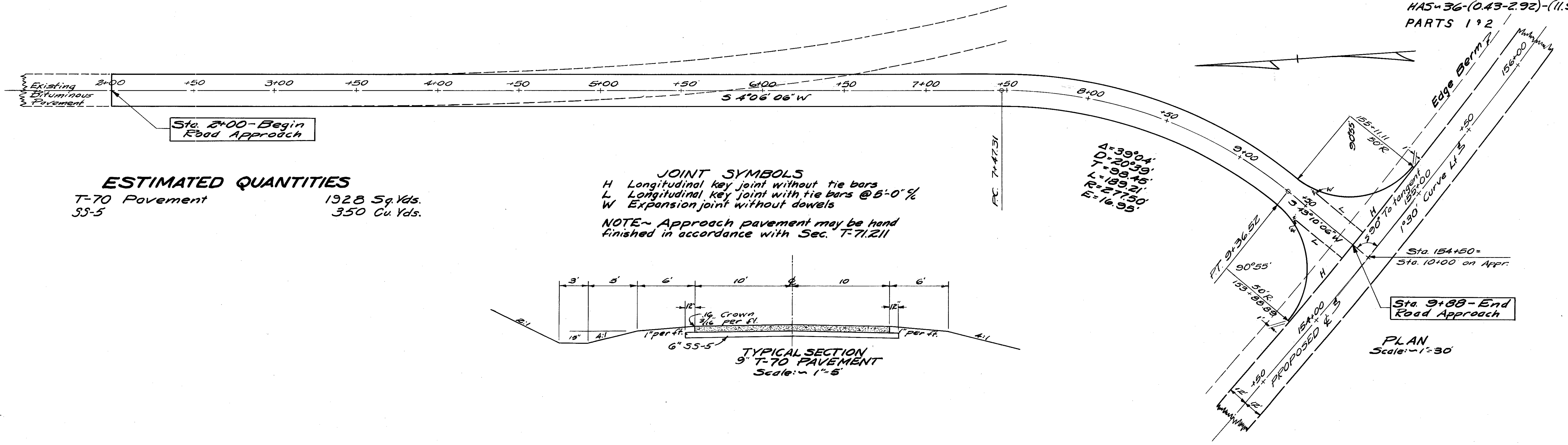
*H - Longitudinal Key Joint Without Tie Bars
L - Longitudinal Key Joint With Tie Bars @ 5'-0" %
W - Expansion Joint Without Dowels*

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

PLAN

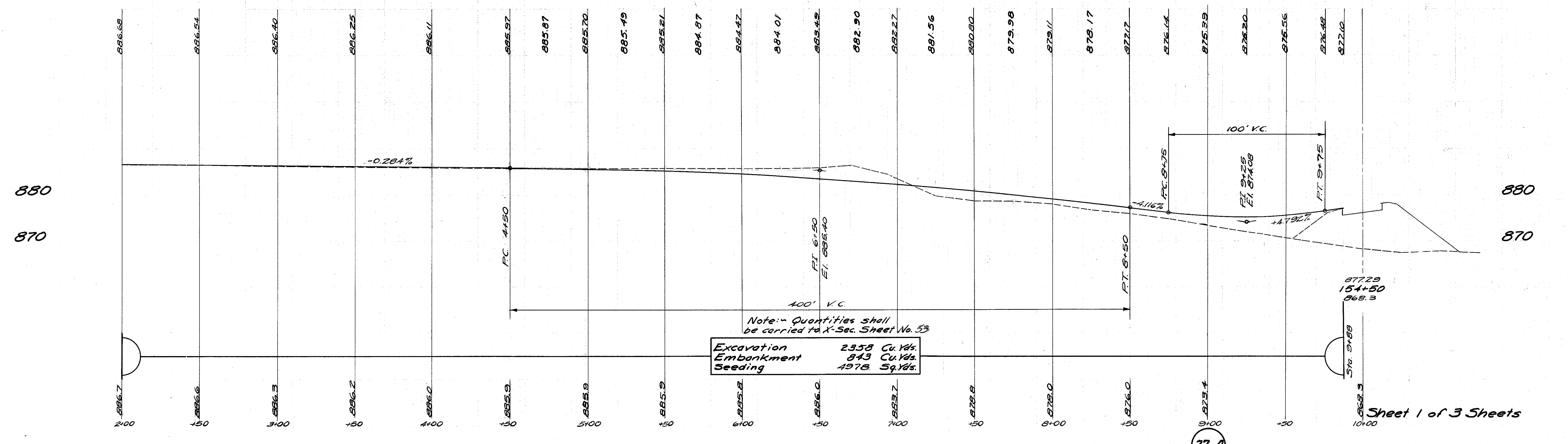
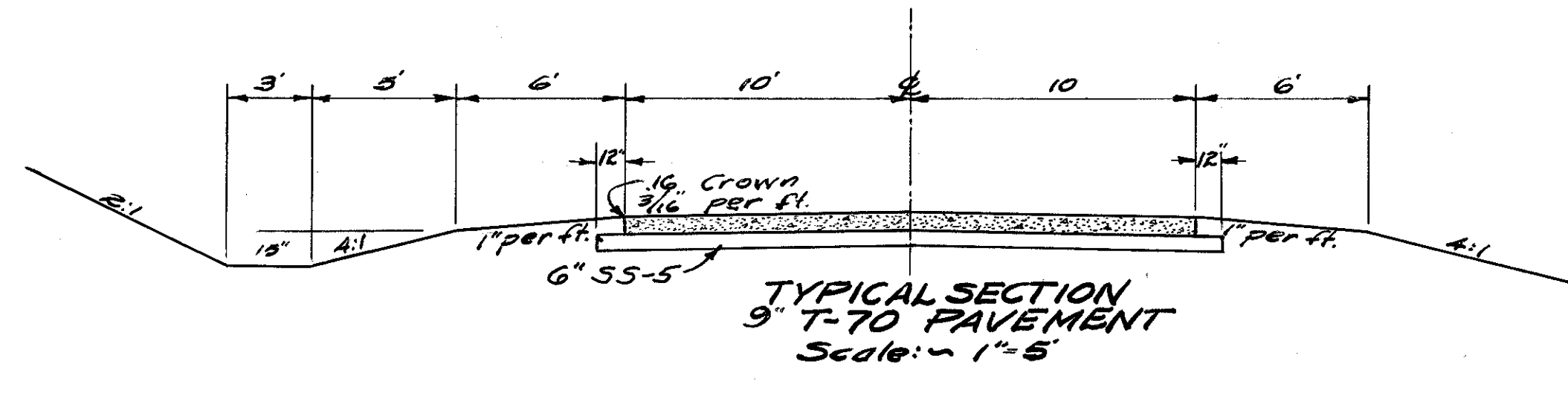
SCALE $\sim 1'' = 20$

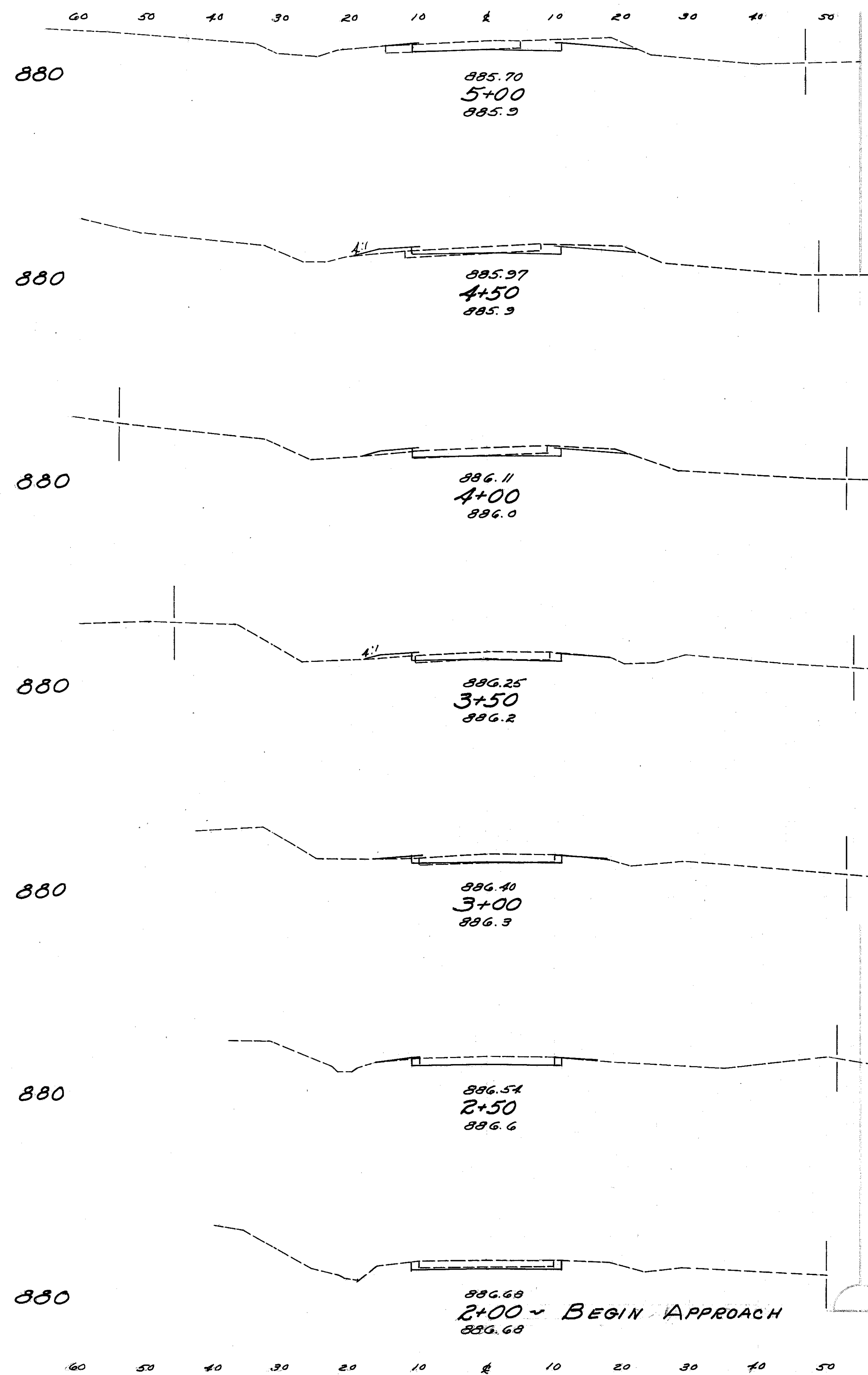




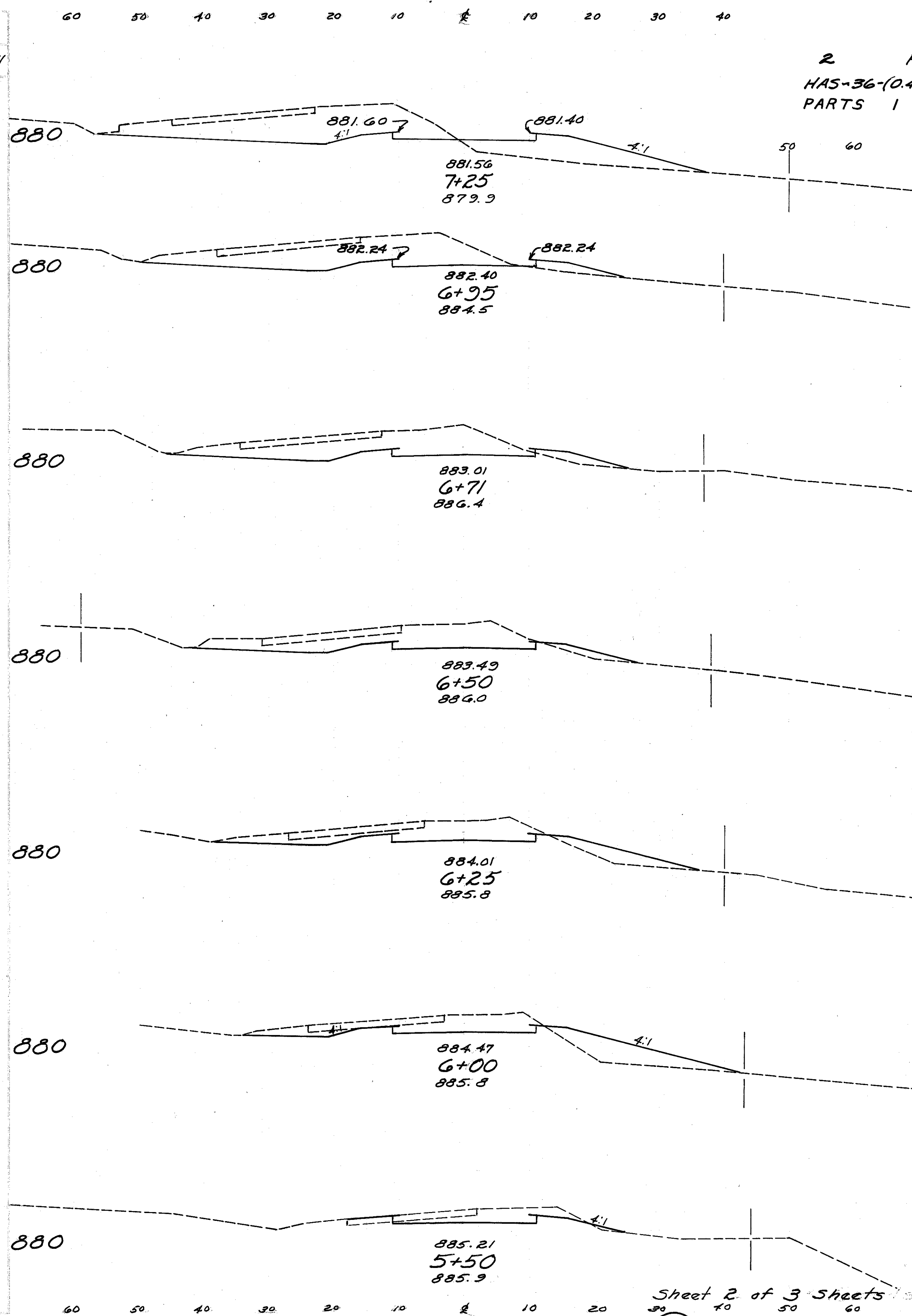
ESTIMATED QUANTITIES
T-70 Pavement 1928 Sq. Yds.
SS-5 350 Cu. Yds.

JOINT SYMBOLS
H Longitudinal key joint without tie bars
L Longitudinal key joint with tie bars @ 5'-0" %
W Expansion joint without dowels
NOTE - Approach pavement may be hand finished in accordance with Sec. T-71.211



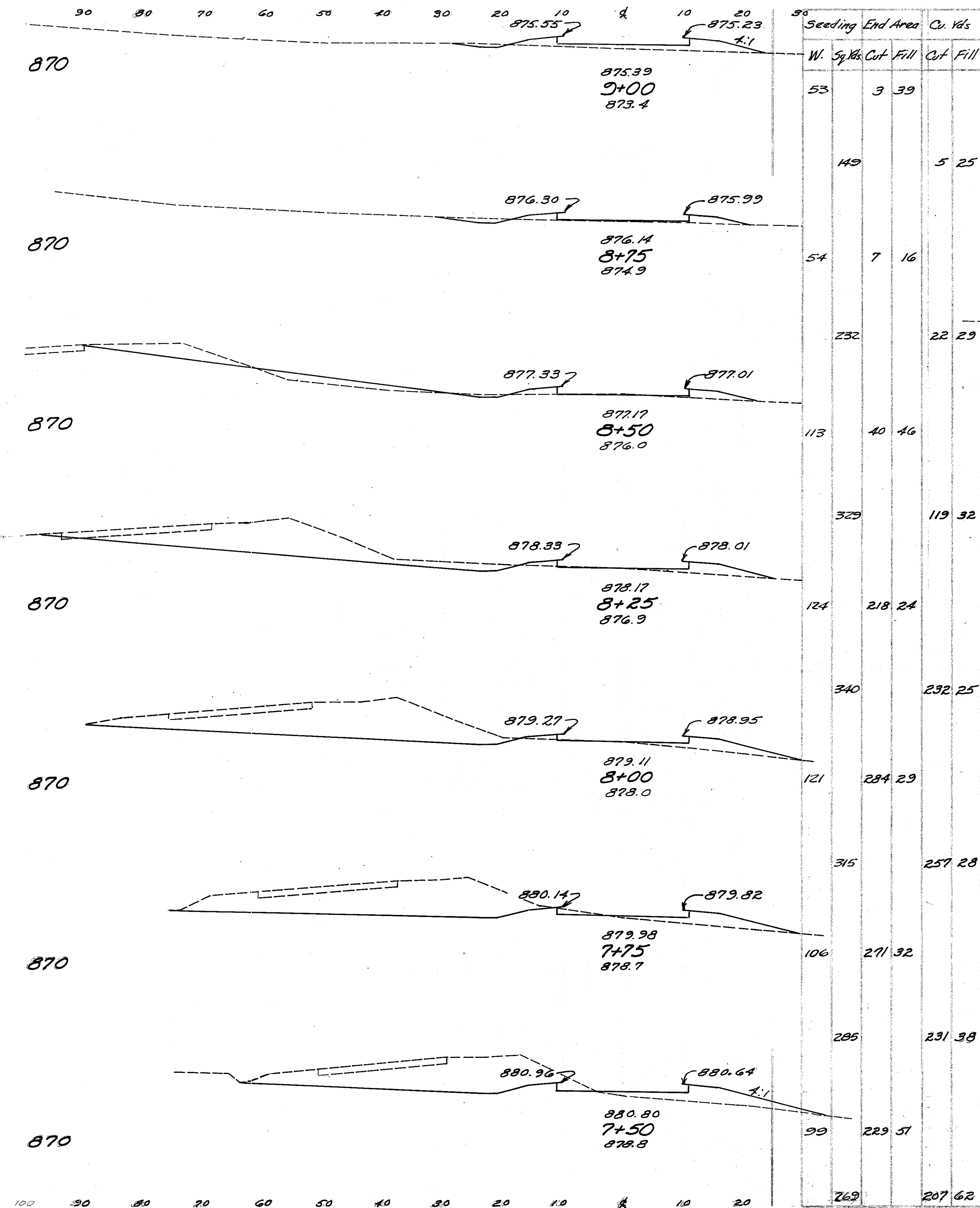


Seeding End Area Cu. Yds.					
W.	Sq. Yds.	Cut	Fill	Cut	Fill
37	37	0			
219		62	4		
42		30	4		
228		56	7		
40		30	4		
211		47	6		
36		21	3		
197		39	4		
35		21	1		
189		40	2		
33		22	1		
147		44	1		
20		26	0		

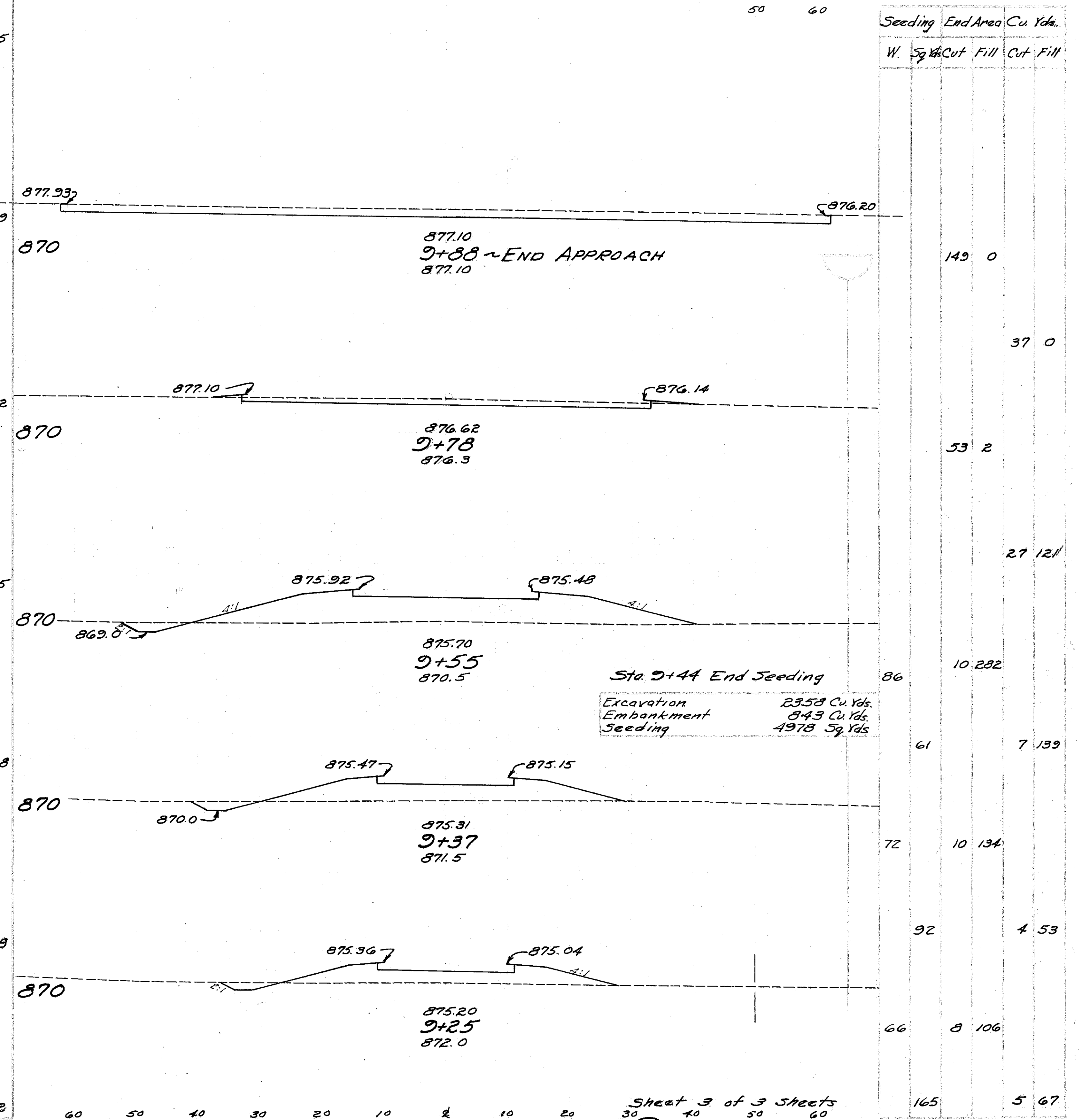


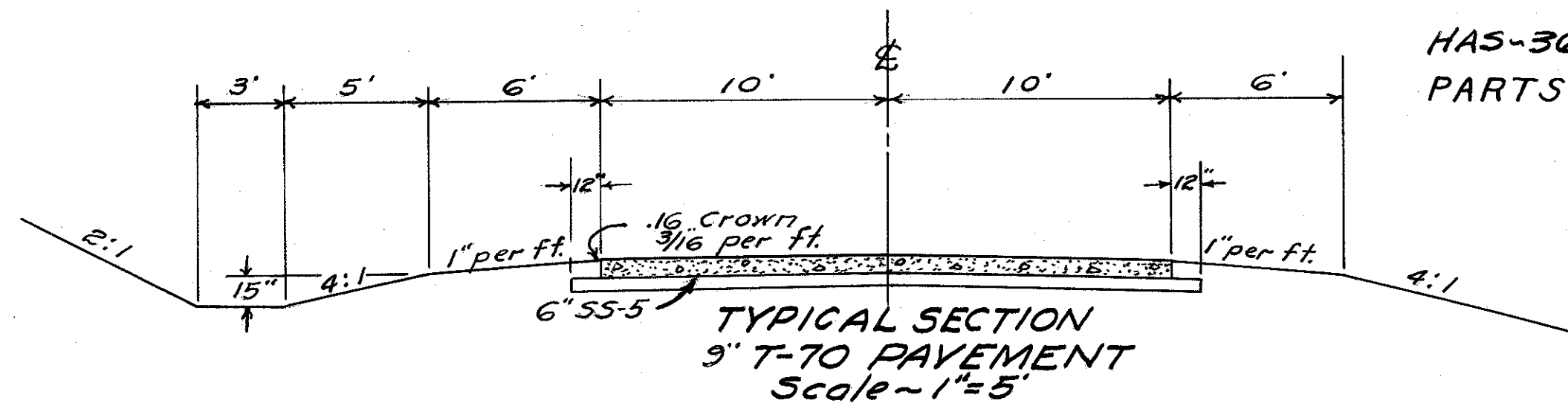
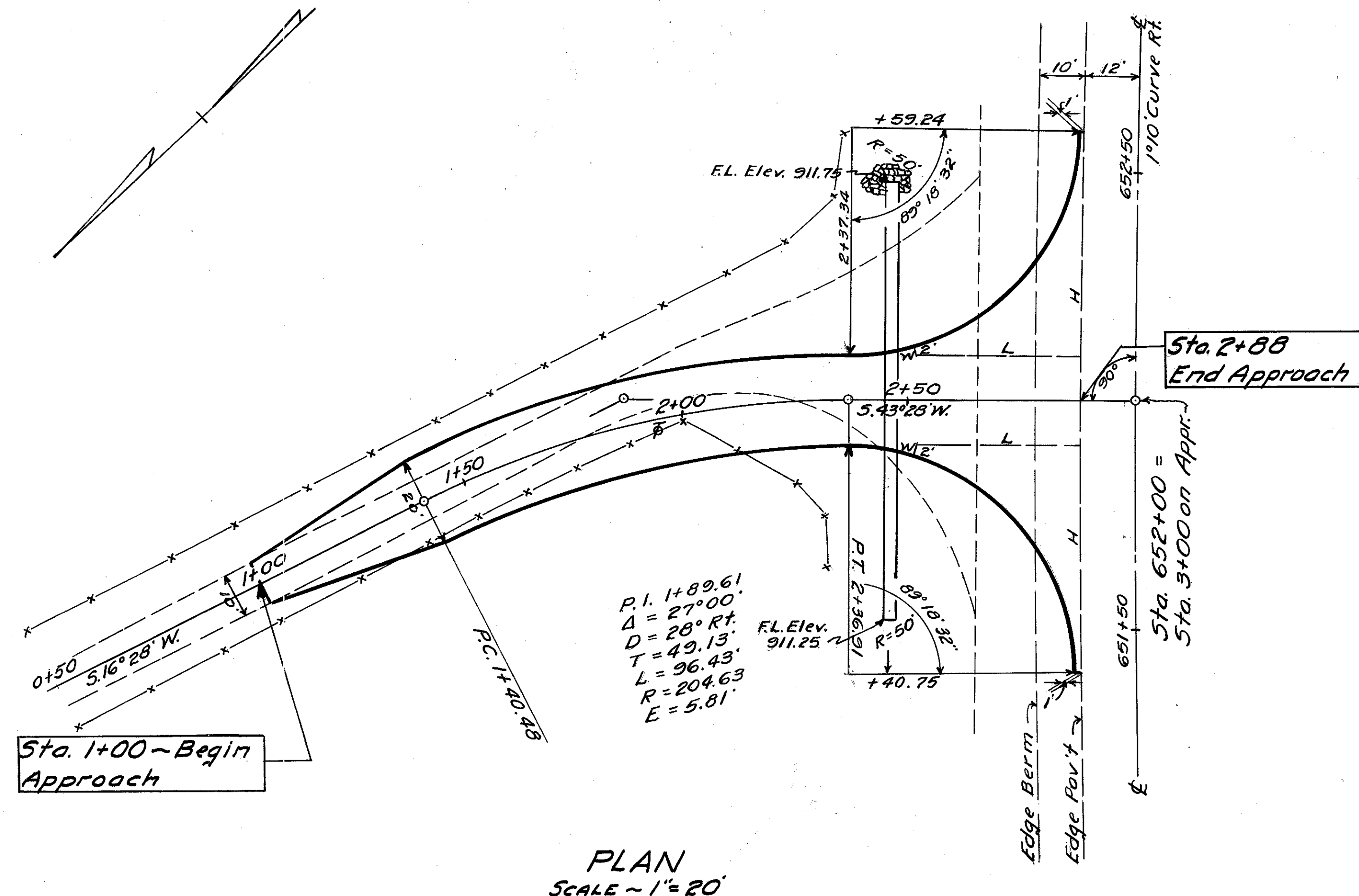
117
2 F-415(10) Postwar 166
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2

Seeding End Area Cu. Yds.					
W.	Sq. Yds.	Cut	Fill	Cut	Fill
95		218	82		
282				232	54
74		200	15		
125				158	12
72		155	13		
163				115	10
68		142	12		
190				115	20
69		106	32		
190				89	44
68		87	63		
308				127	59
43		50	1		
222				81	1



2 F-415(10) Postwar 118
HAS-36-(0.43-2.92)-(11.92-14.12) 166
PARTS 1 & 2

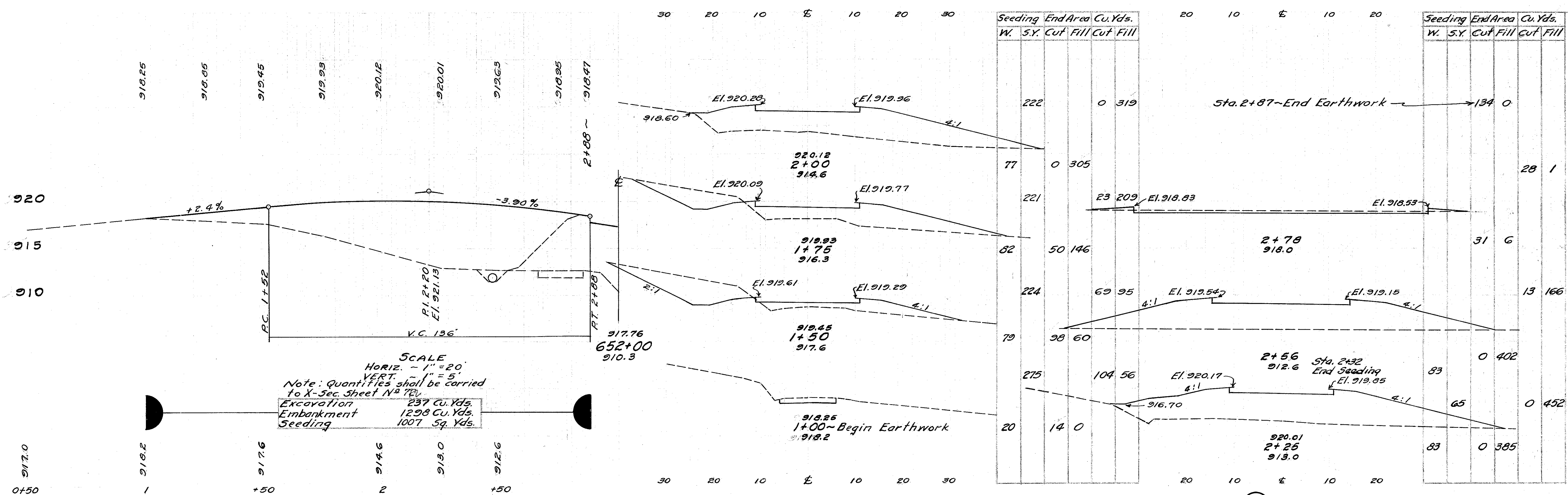




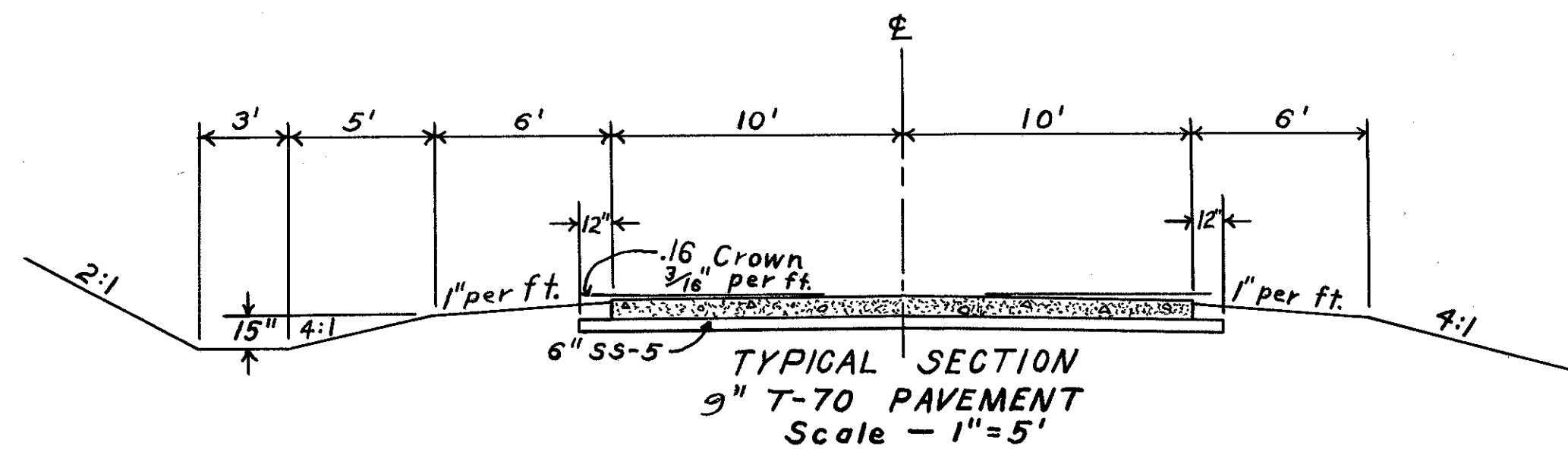
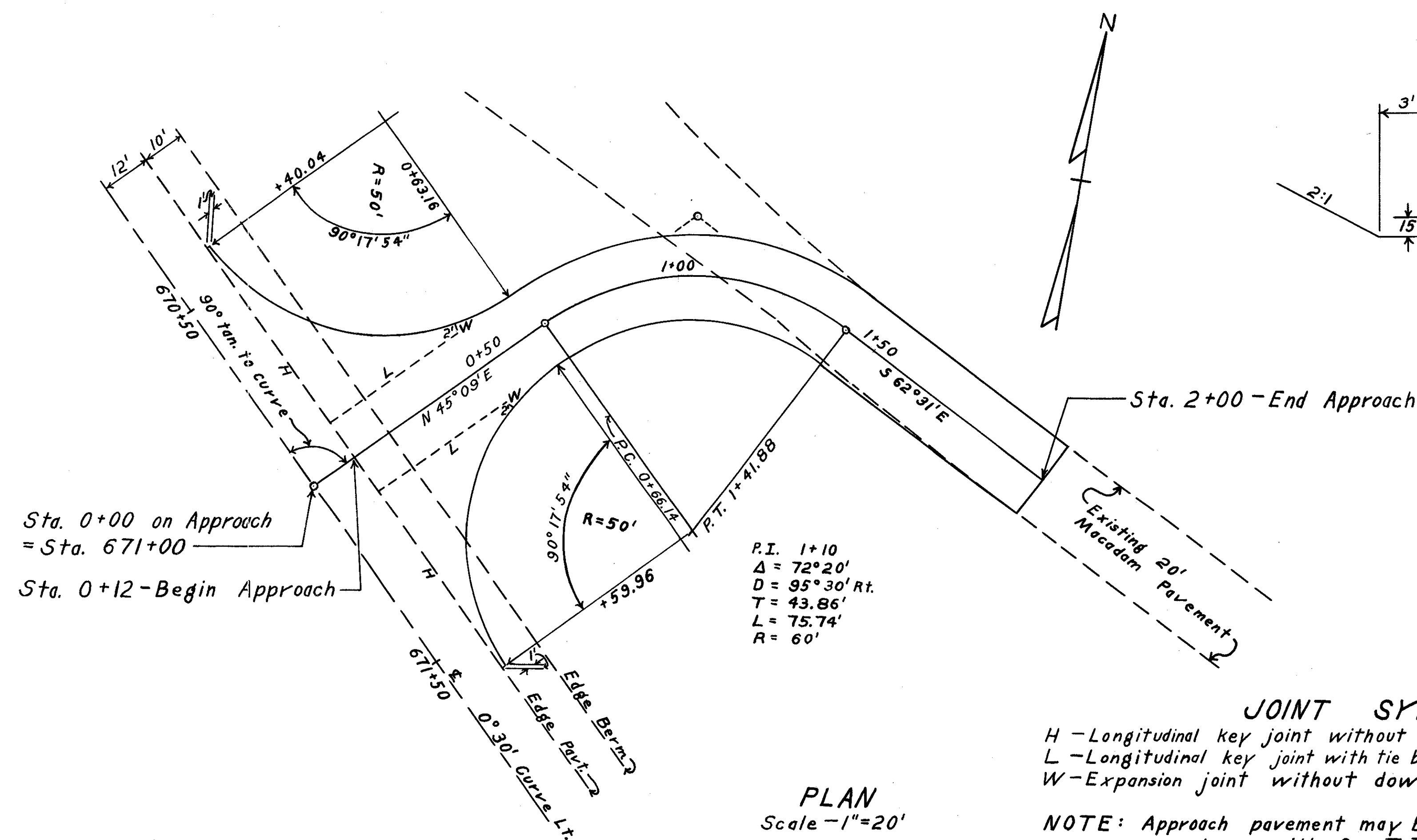
JOINT SYMBOLS
 H Longitudinal key joint without tie bars.
 L Longitudinal key joint with tie bars @ 5'-0" c.
 W Expansion joint without dowels.
 NOTE: ~ Approach pavement may be hand finished in accordance with Sec. 7-71.211

ESTIMATED QUANTITIES

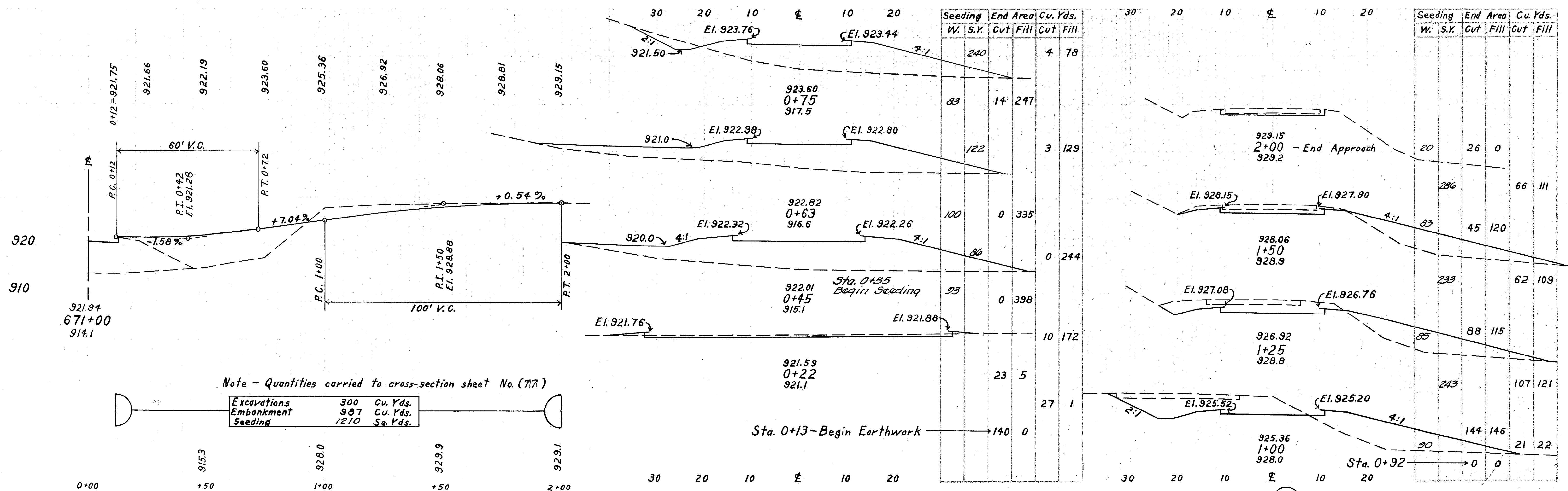
Item	Quantity	Unit
T-70 PAVEMENT	521	Sq. Yds.
SS-5	93	Cu. Yds.
18" Pipe for Driveway	96	Lin. Ft.
Riprap	5	Sq. Yds.

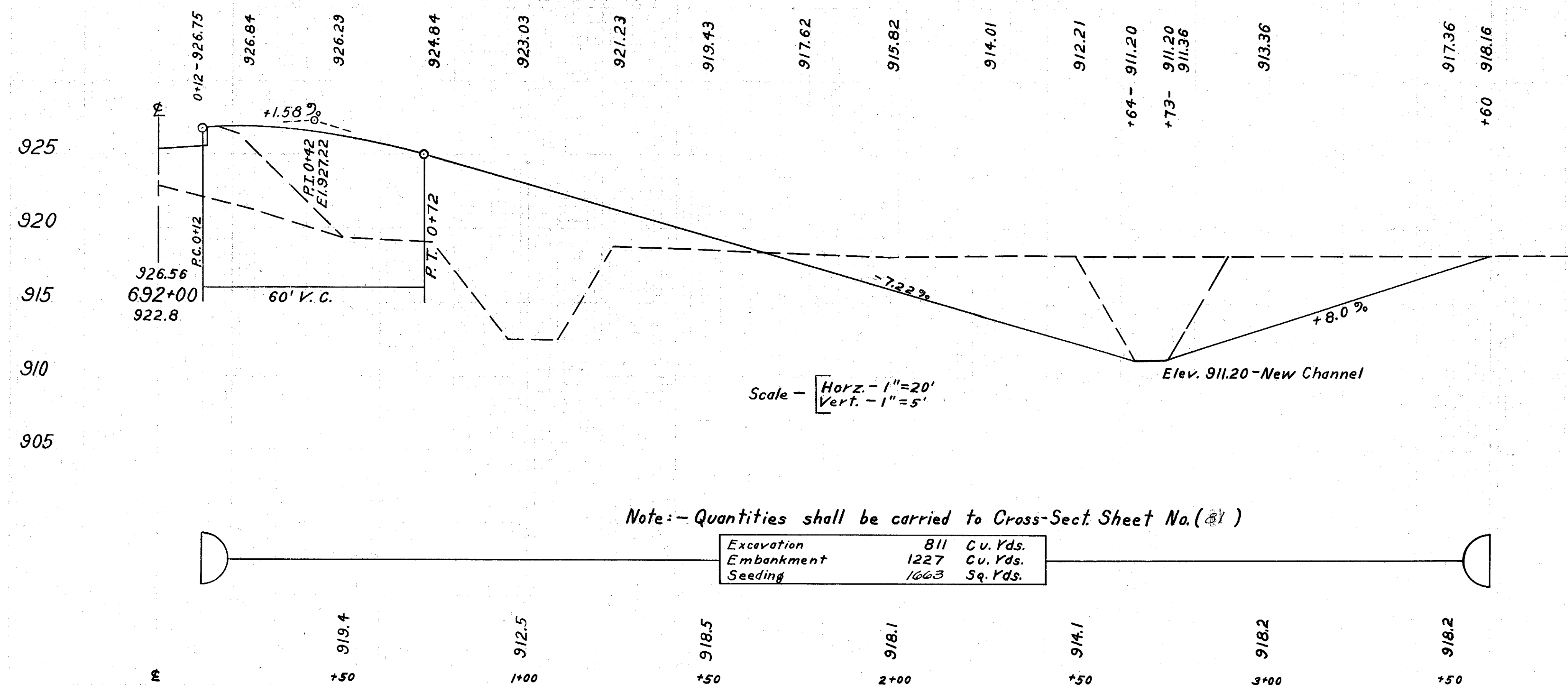
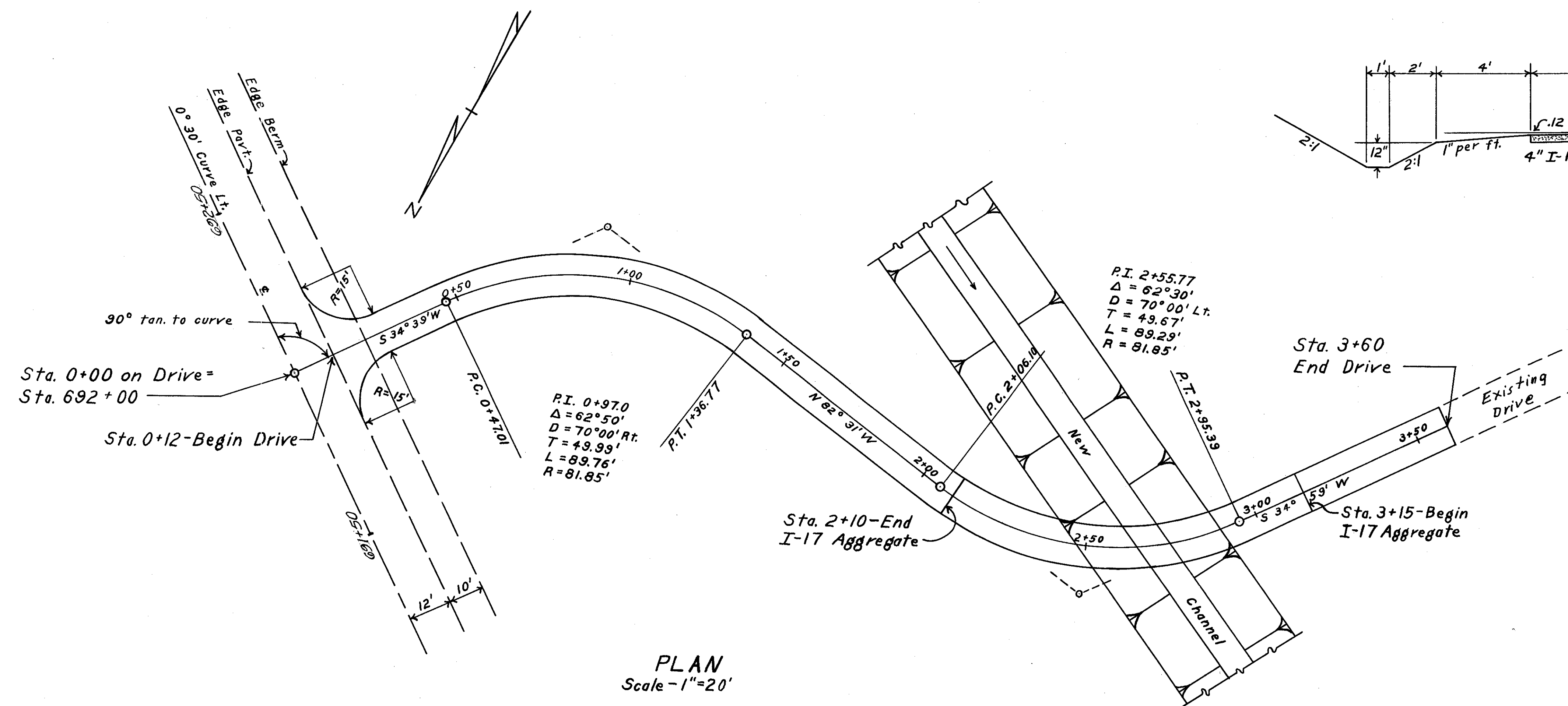


A-A STA. 652+00 ~ ROAD APPROACH LT.



ESTIMATED QUANTITIES		
T-70 Pavement	550	Sq. Yds.
SS-5	98	Cu. Yds.

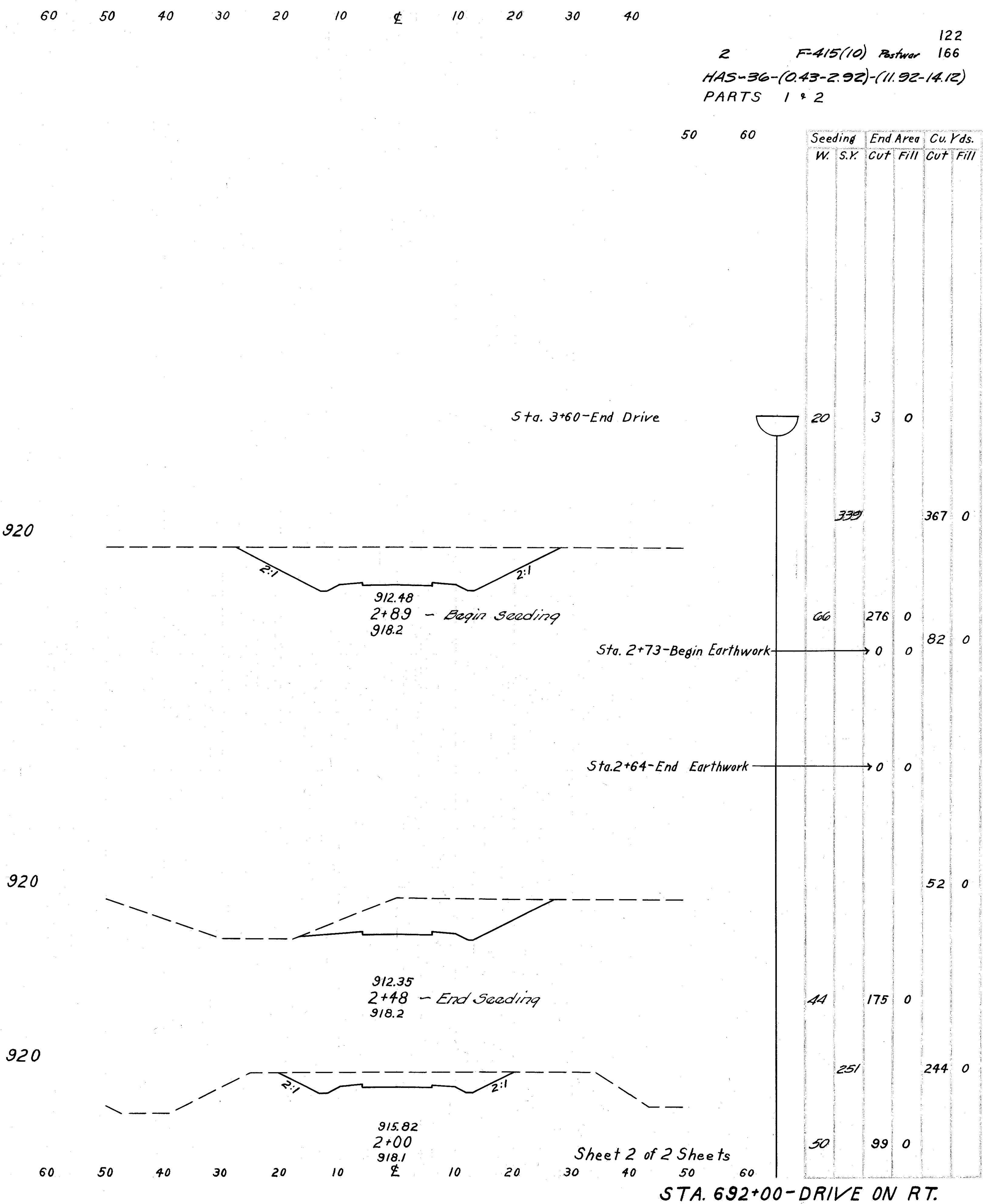
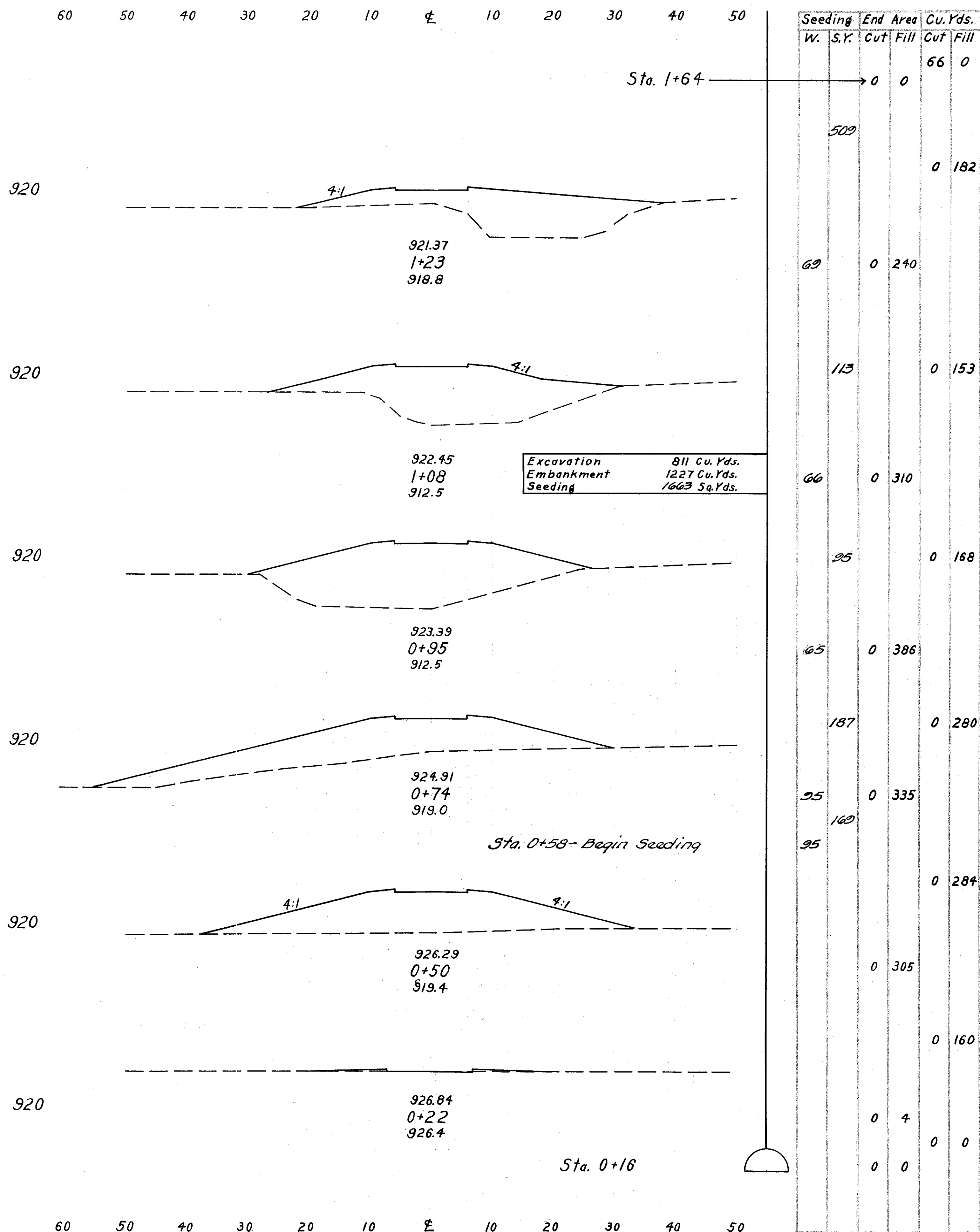




ESTIMATED QUANTITIES
4" I-17 Aggregate 37 Cu.Yds.

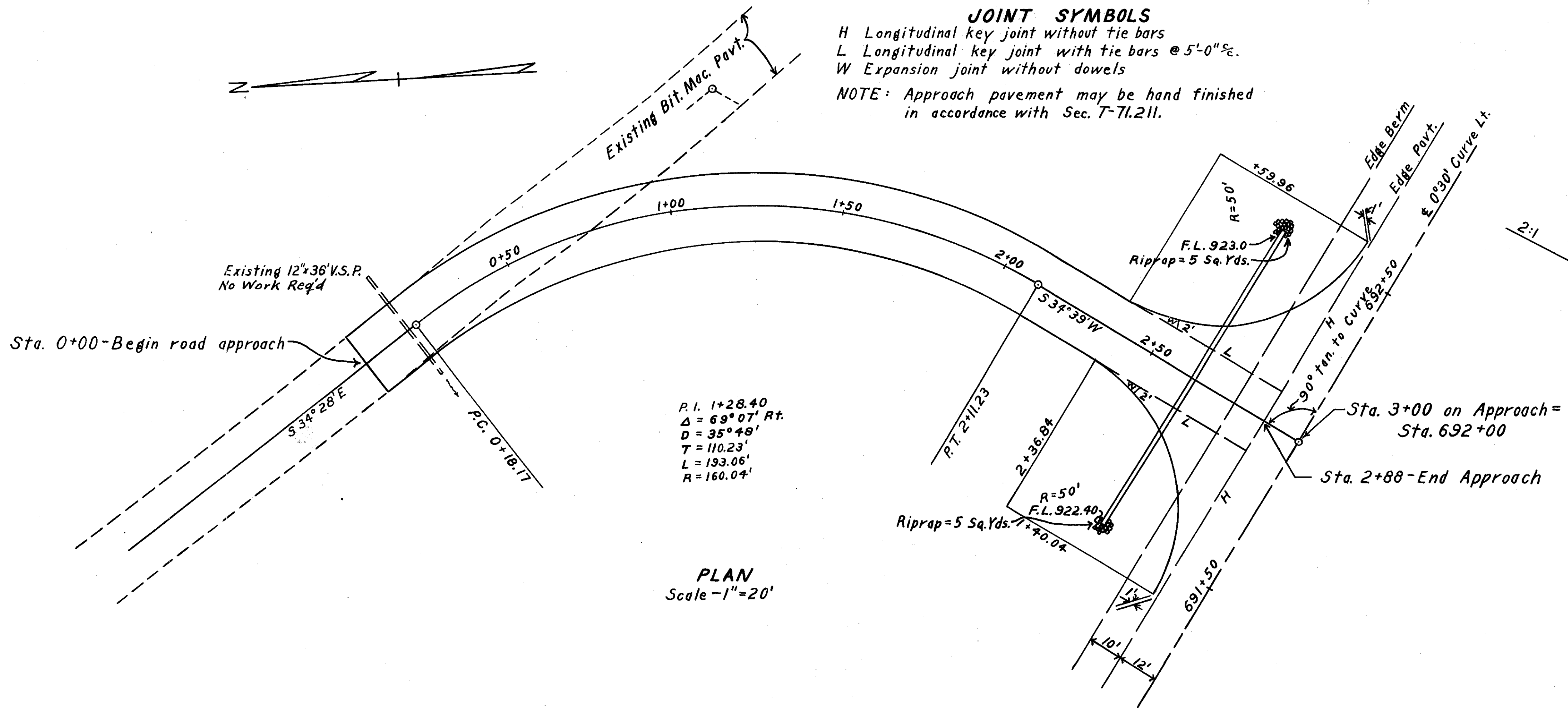
11-A
Sheet 1 of 2 Sheets

STA 6.92+00 - DRIVE RT.

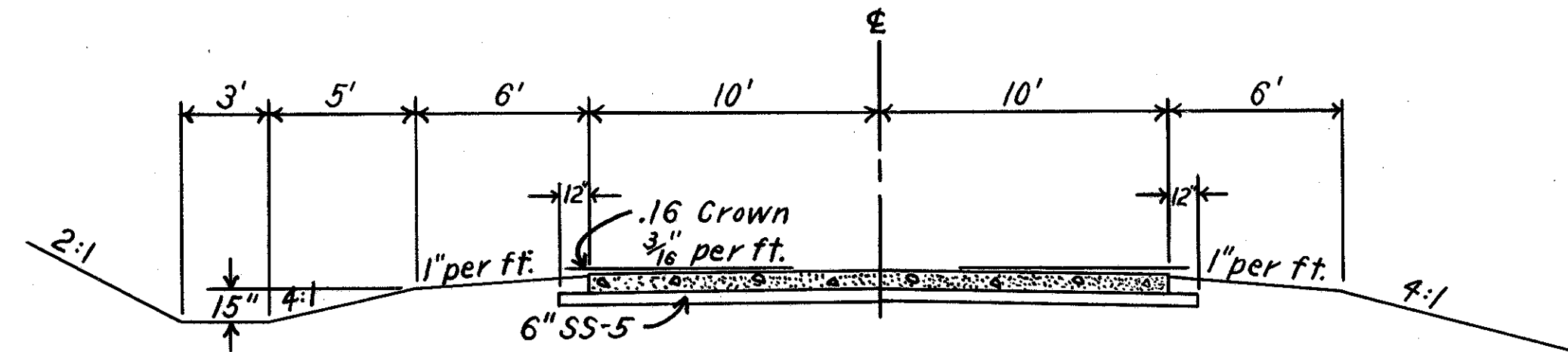


JOINT SYMBOLS

- H Longitudinal key joint without tie bars
 - L Longitudinal key joint with tie bars @ 5'-0" c.
 - W Expansion joint without dowels
- NOTE: Approach pavement may be hand finished in accordance with Sec. T-71.211.



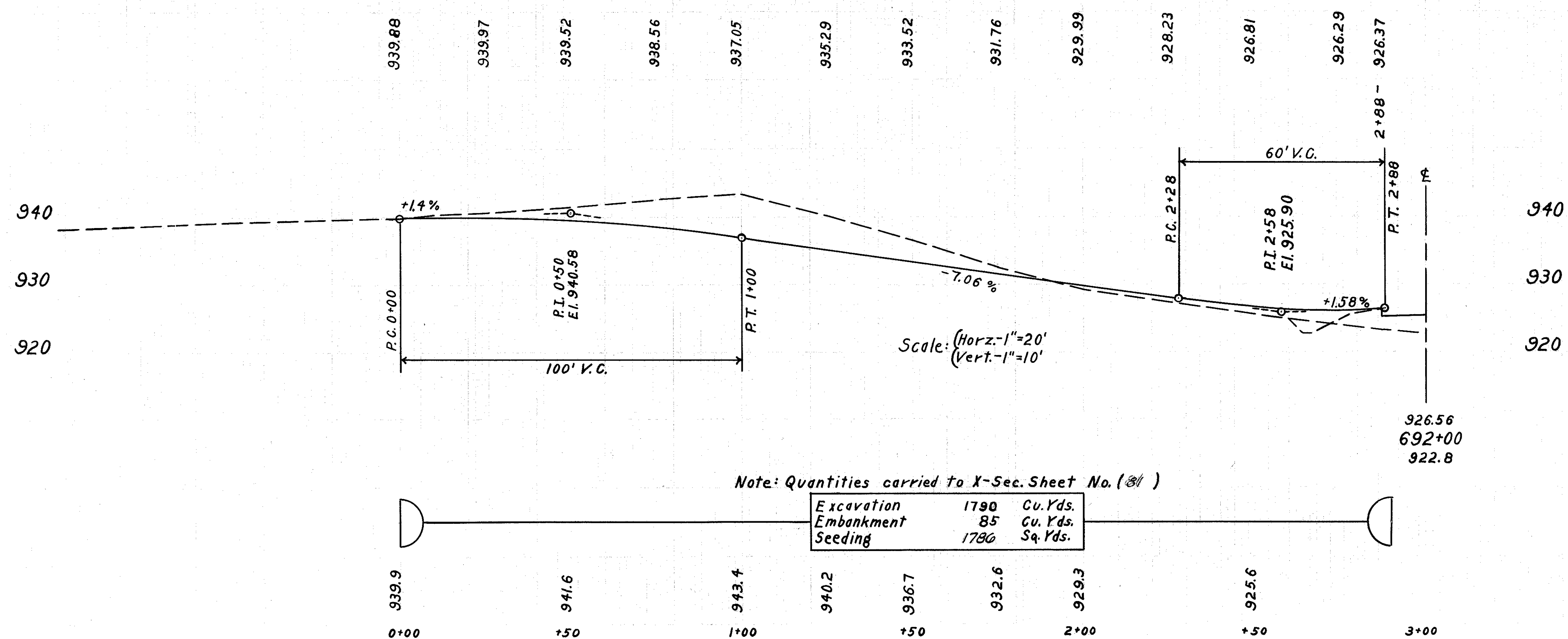
PLAN
Scale - 1" = 20'



TYPICAL SECTION
9" T-70 PAVEMENT
Scale - 1" = 5'

ESTIMATED QUANTITIES

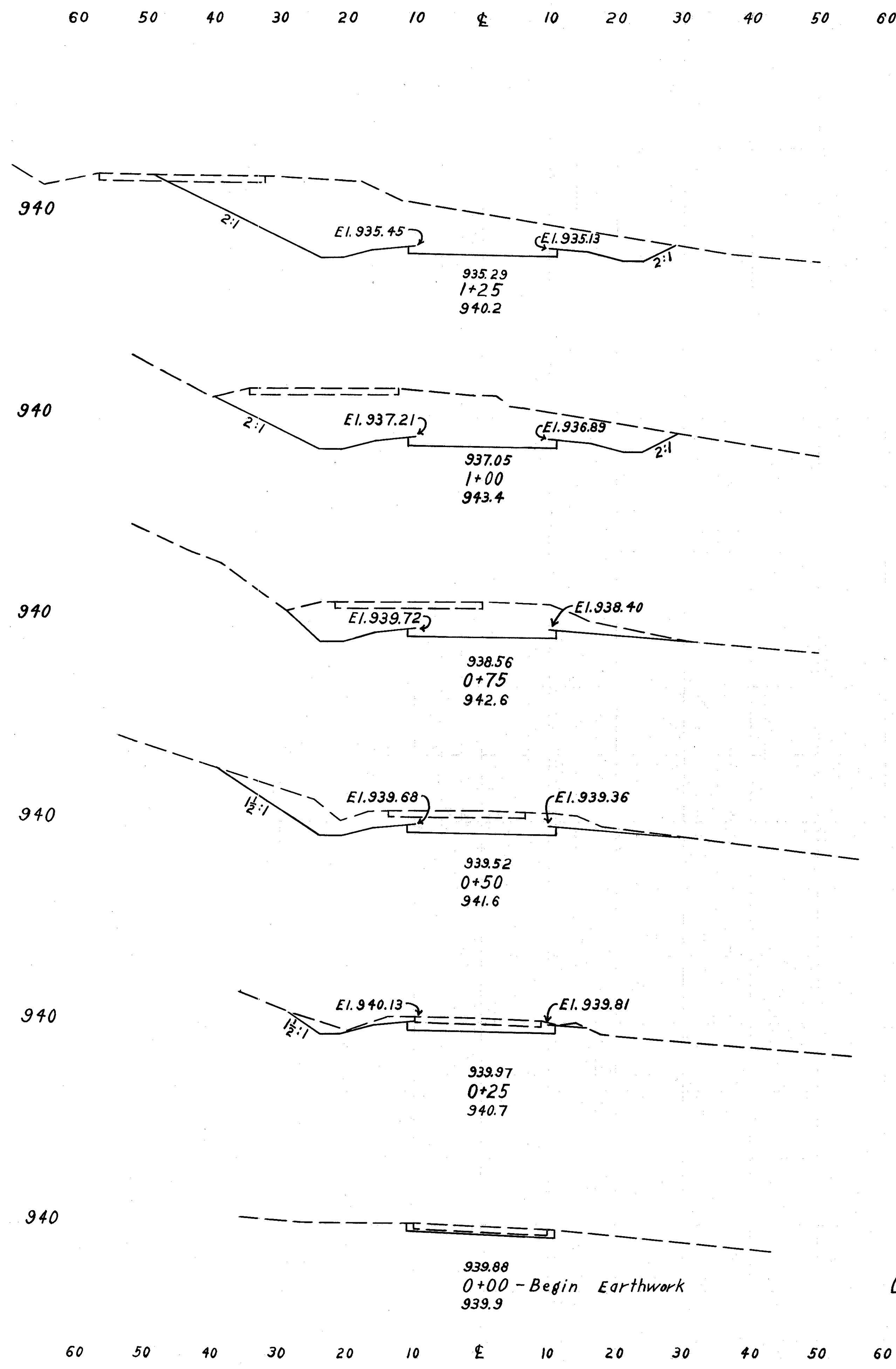
T-70 Pavement	770	Sq. Yds.
SS-5	137	Cu. Yds.
18" Pipe for Driveways	100	Lin. Ft.
Riprap	10	Sq. Yds.



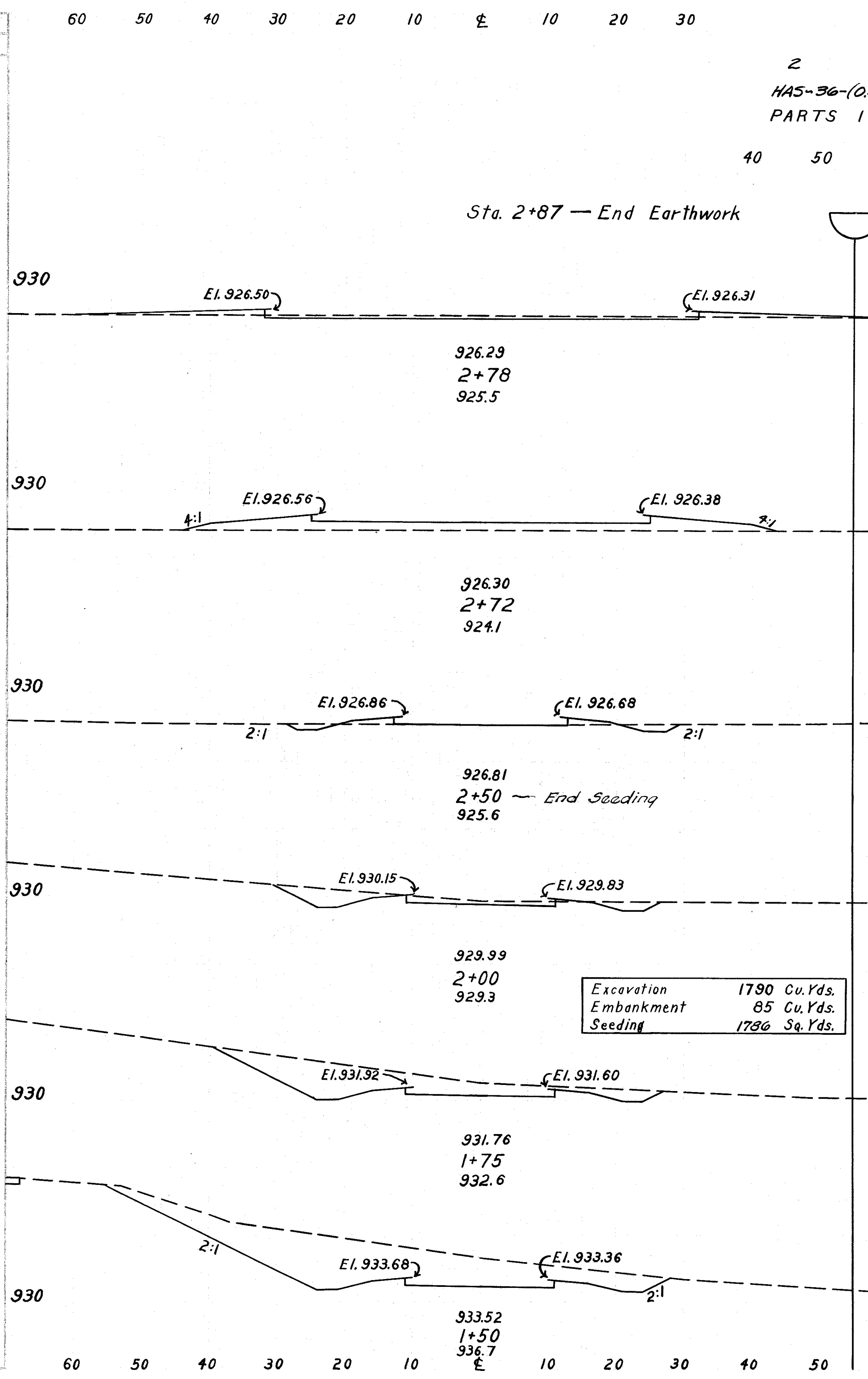
Scale: (Horz. - 1" = 20')
(Vert. - 1" = 10')

Note: Quantities carried to X-Sec. Sheet No. (31)

Excavation	1790	Cu. Yds.
Embankment	85	Cu. Yds.
Seeding	1786	Sq. Yds.

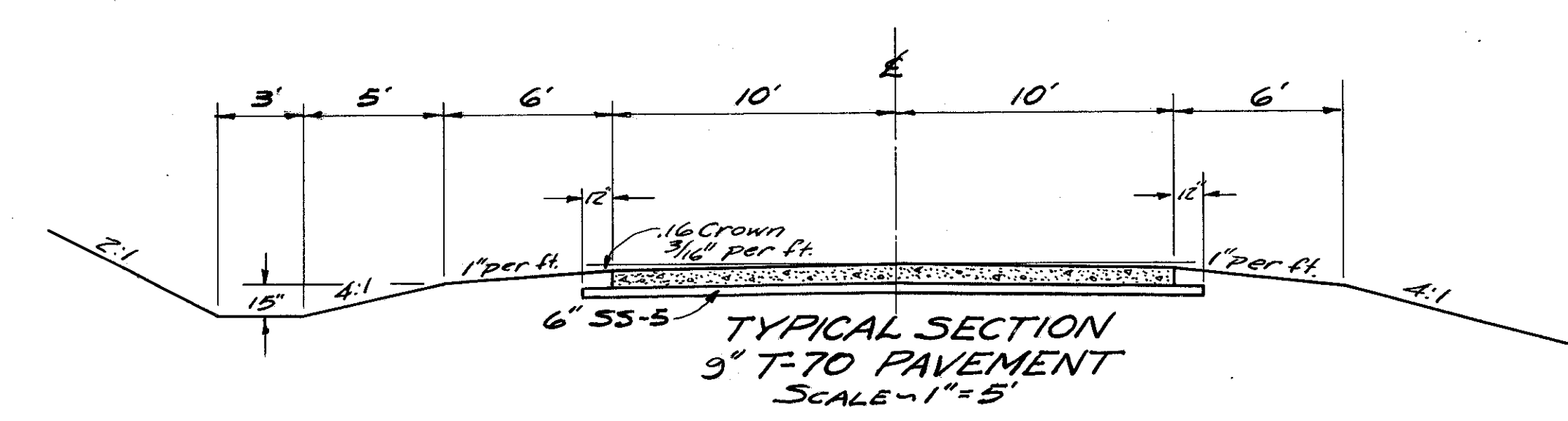
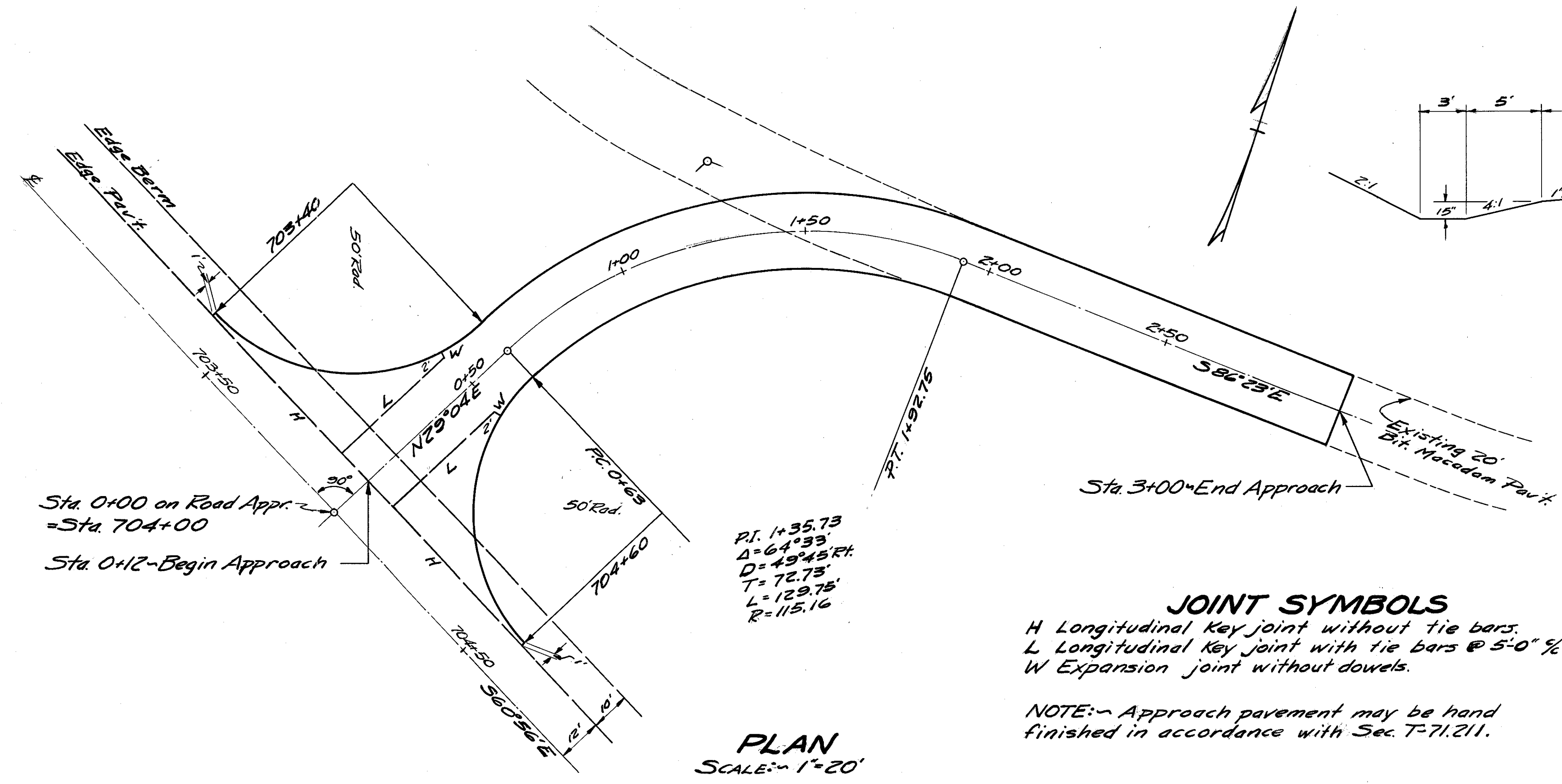


Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
		233		369	0
80		465	0		
	211		400	0	
72		398	0		
	185		286	0	
61		220	0		
	185		178	0	
72		165	0		
	162		103	0	
45		57	0		
	20		39	0	
20		28	0		



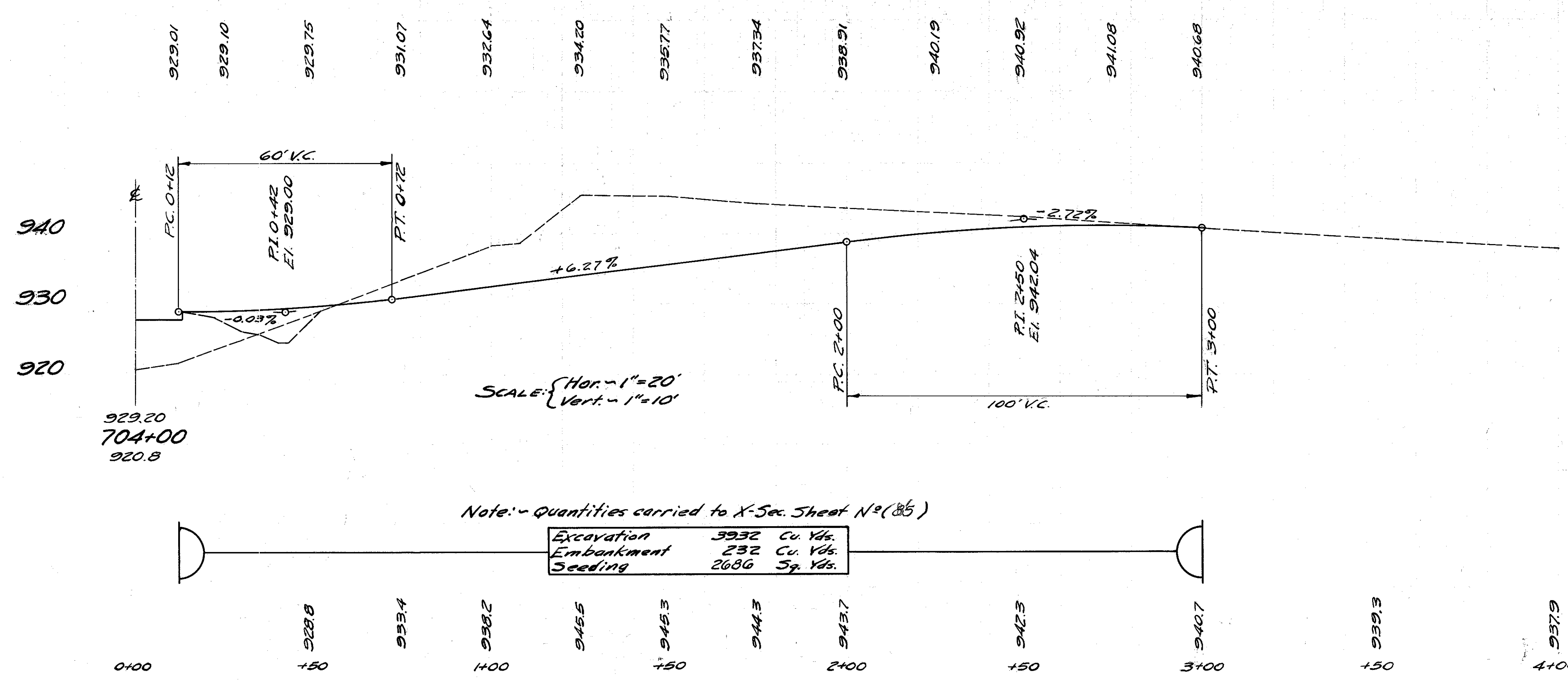
2 F-415(10) Postwar 124
 HAS-36-(0.43-2.92)-(11.92-14.12) 116.6
 PARTS 1 + 2

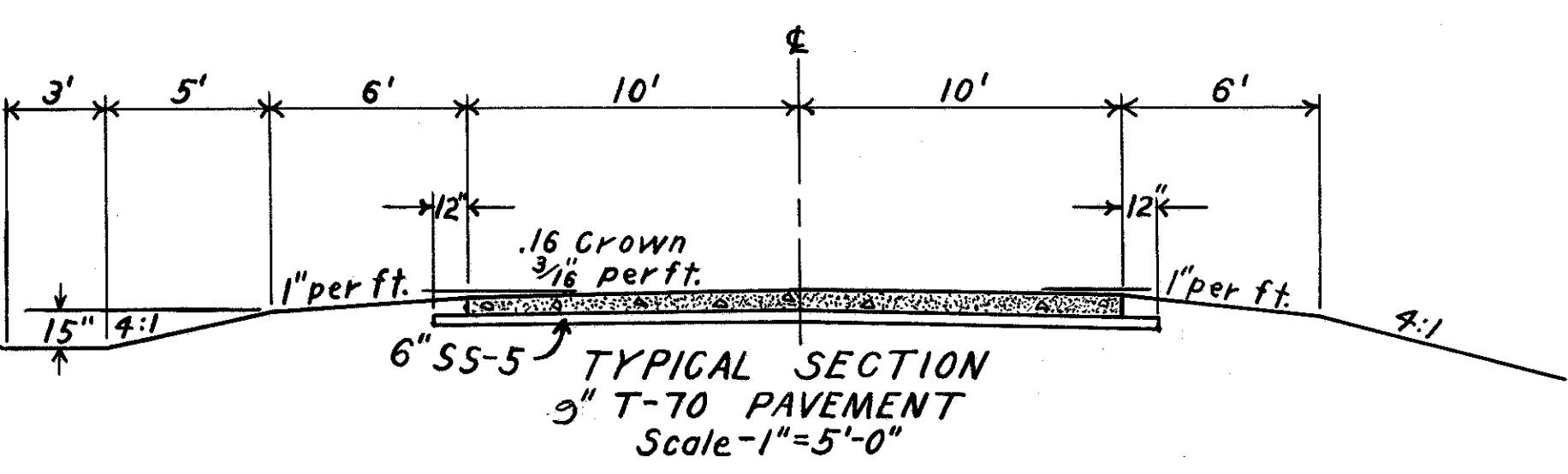
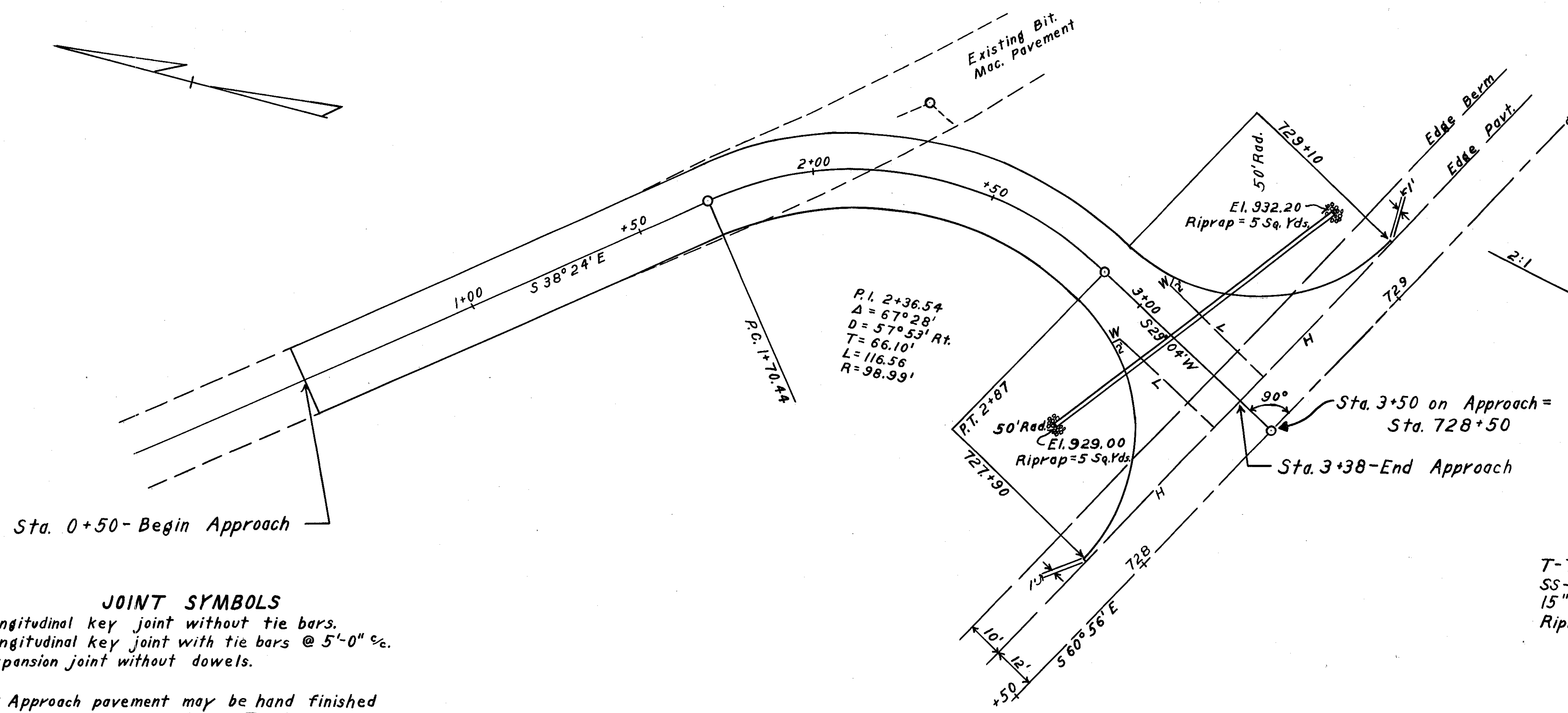
Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
		140	0		
				27	4
		24	22		
				3	16
		0	125		
				4	55
60		11	10		
	328			57	10
58		51	1		
	175			97	0
68		158	0		
	217			227	0
88		333	0		



ESTIMATED QUANTITIES

T-70 Pavement	771. Sq. Yds.
SS-5	138. Cu. Yds.





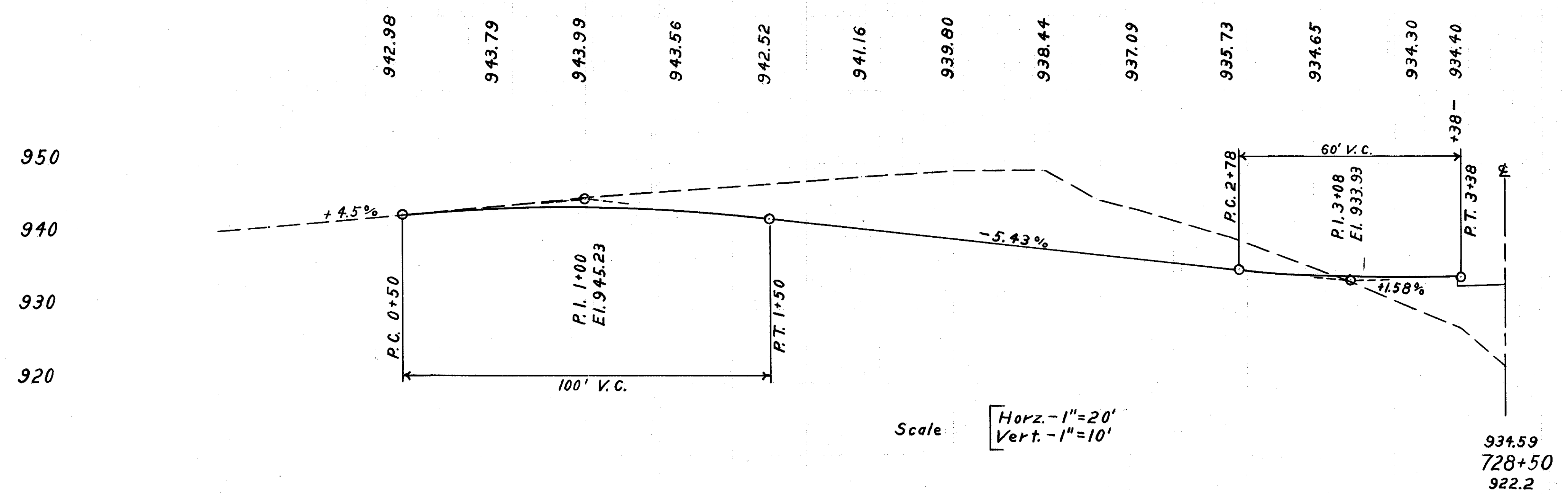
ESTIMATED QUANTITIES

T-70 Pavement	771 Sq. Yds.
SS-5	138 Cu. Yds.
15" Pipe for driveways	96 Lin. Ft.
Riprap	10 Sq. Yds.

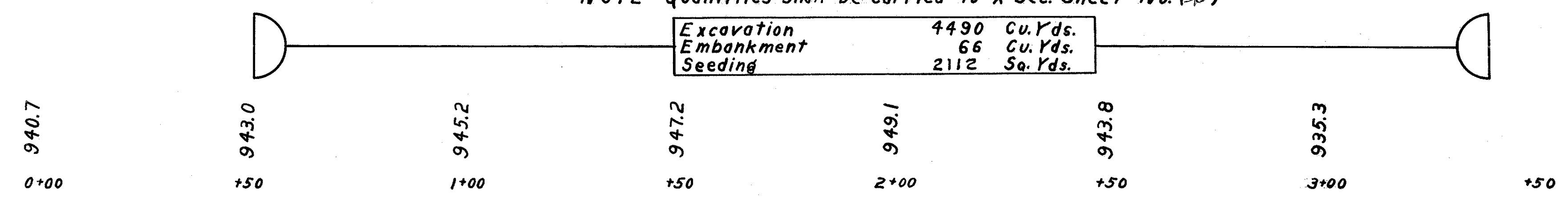
JOINT SYMBOLS
 H Longitudinal key joint without tie bars.
 L Longitudinal key joint with tie bars @ 5'-0" c/c.
 W Expansion joint without dowels.

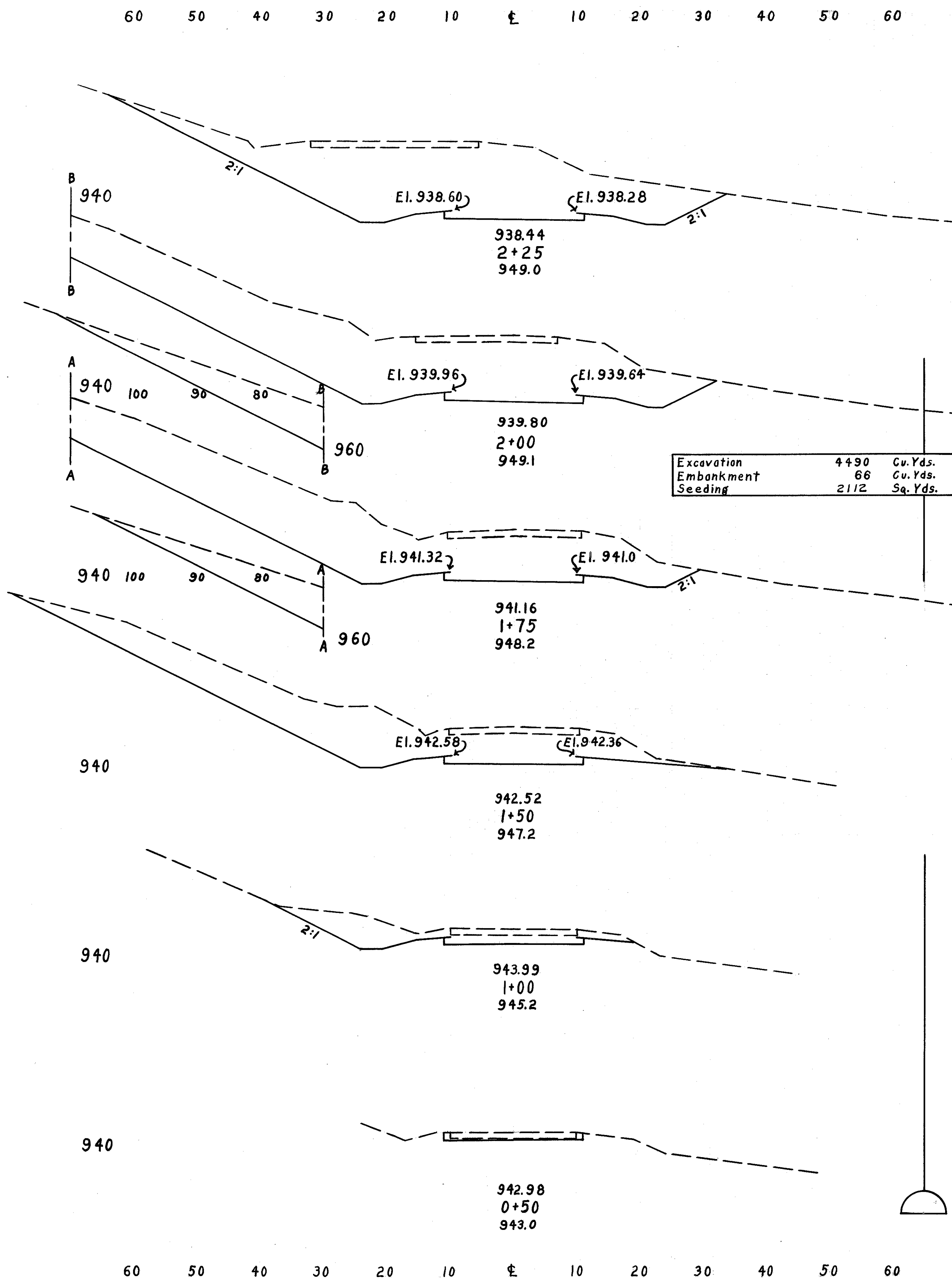
NOTE: Approach pavement may be hand finished in accordance with Sec. T-71.211.

PLAN
 Scale - 1" = 20'

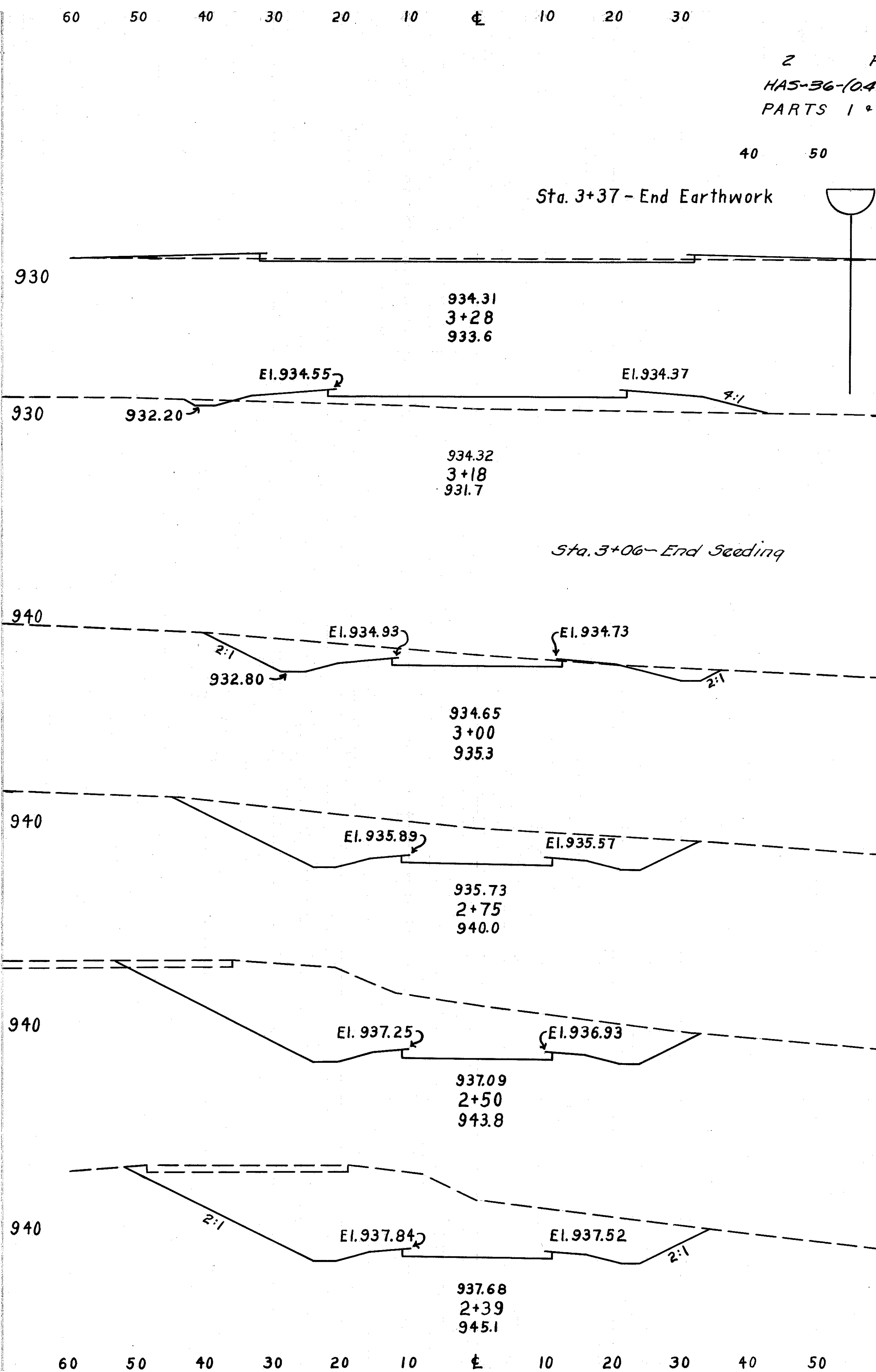


NOTE - Quantities shall be carried to X-Sec. Sheet No. (20)



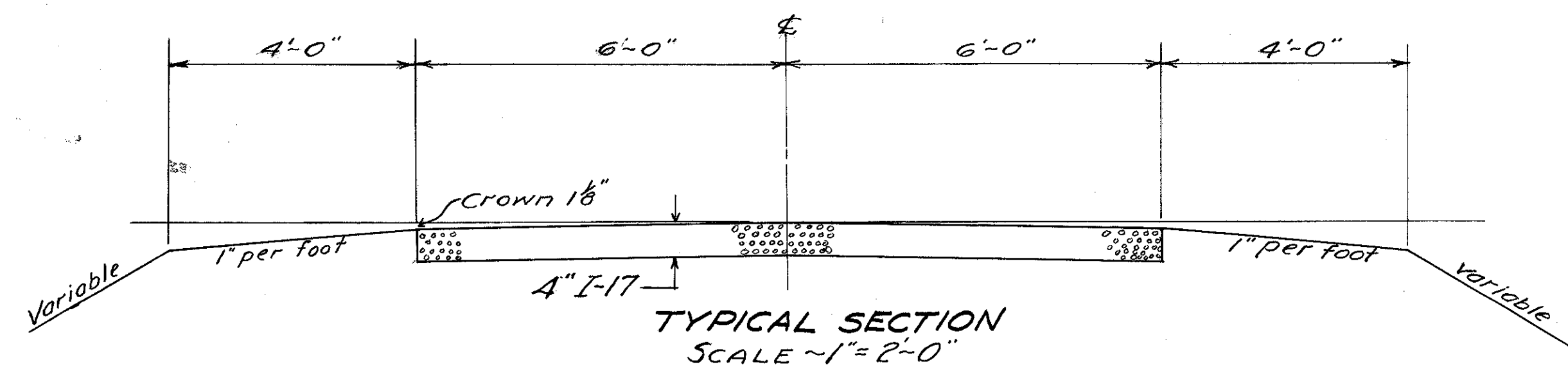
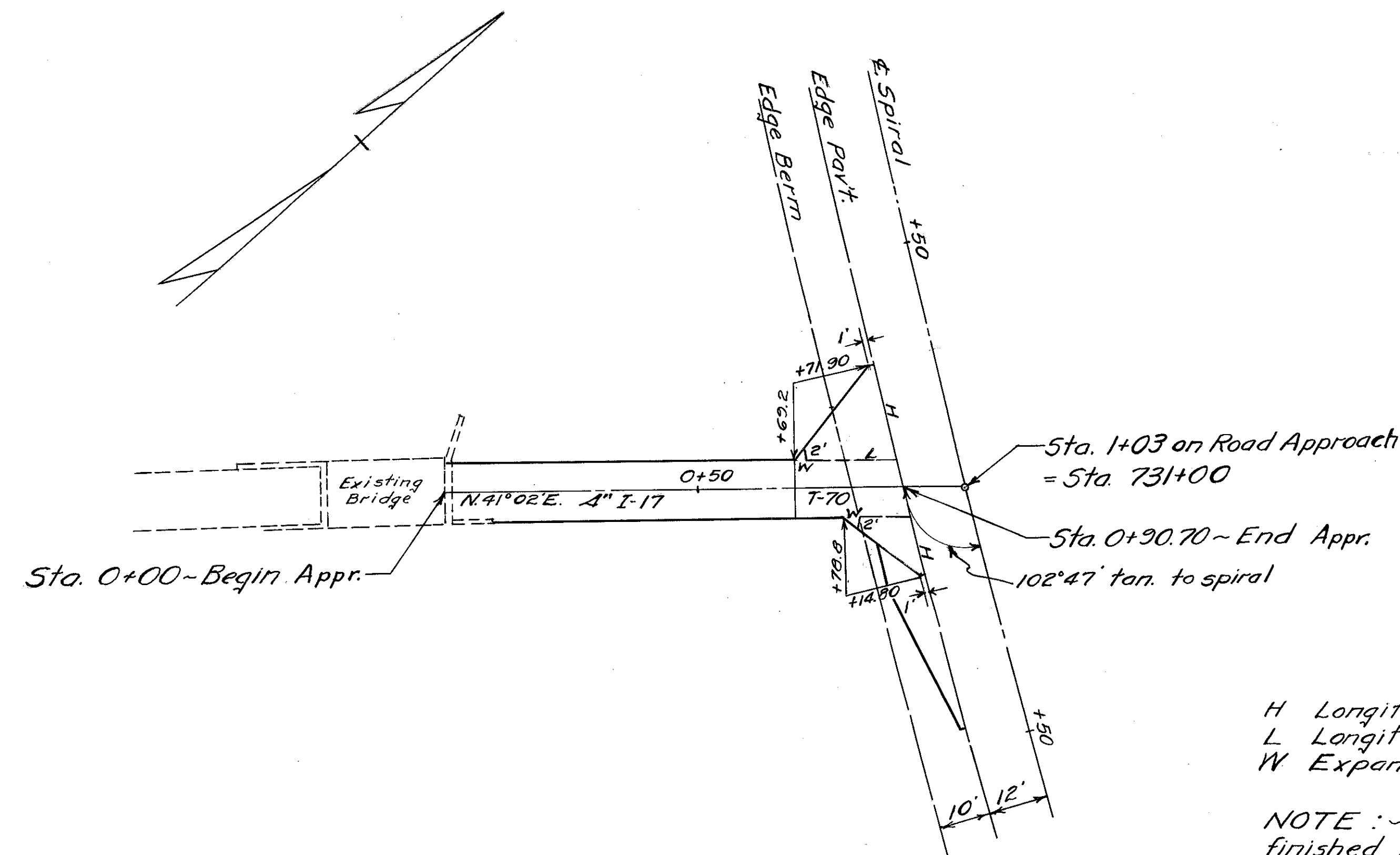


Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
151				361	0
104		700	0		
360				792	0
155		1012	0		
417				886	0
145		902	0		
368				658	0
120		520	0		
217				606	0
58		134	0		
				148	0
20		26	0		



Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
142				0	
				27	2
22		11			
				5	24
4		120			
75				50	40
75		145	1		
218				234	0
82		361	0		
226				455	0
81		622	0		
105				268	0
20		692	0		

2 F-415 (10) Redwar 129
HAS-36-(0.43-2.92)-(11.92-14.12) 16.6
PARTS 1 & 2

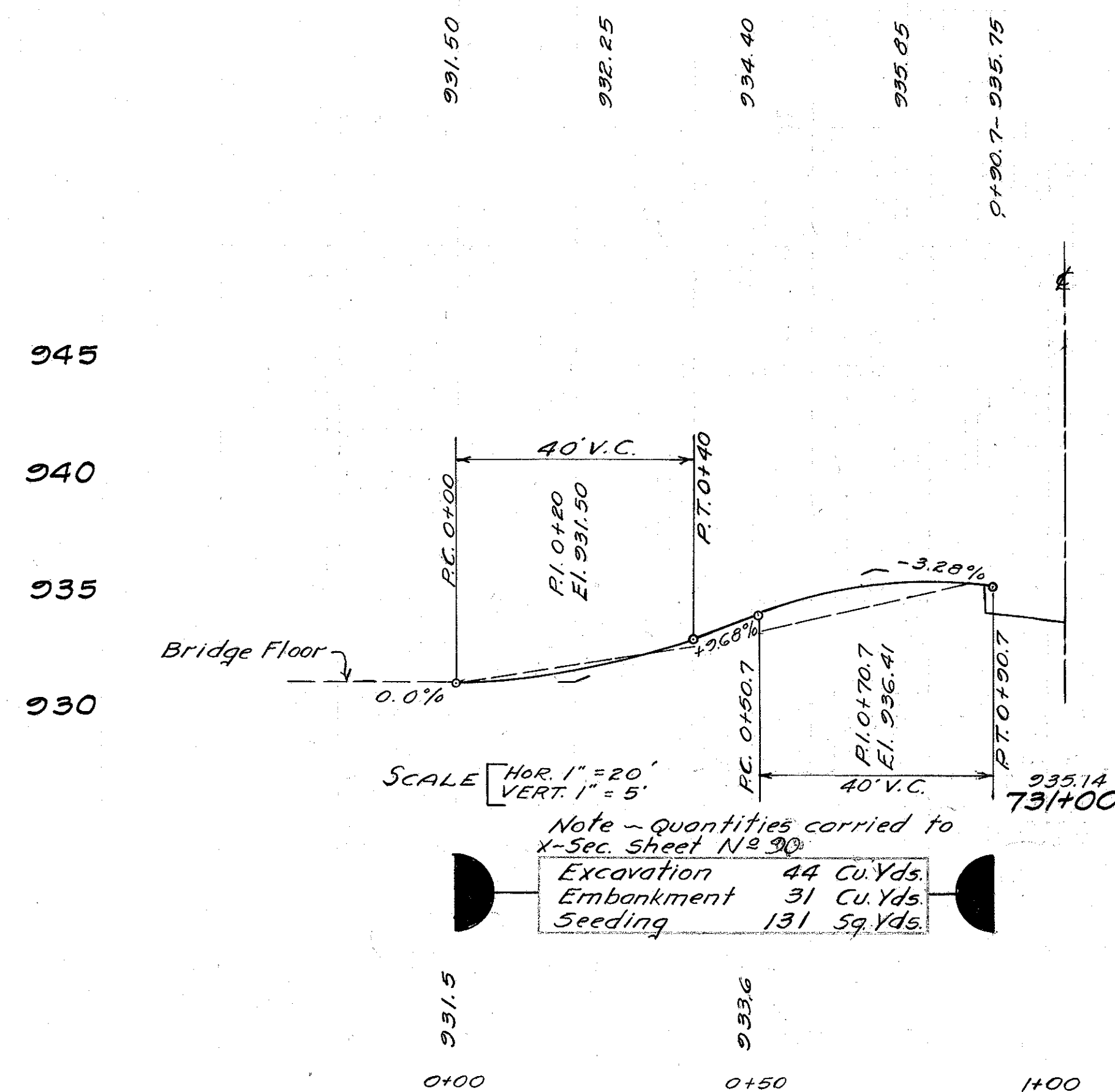


JOINT SYMBOLS
 H Longitudinal Key joint without tie bars.
 L Longitudinal Key joint with tie bars @ 5'-0" %
 W Expansion joint without dowels.

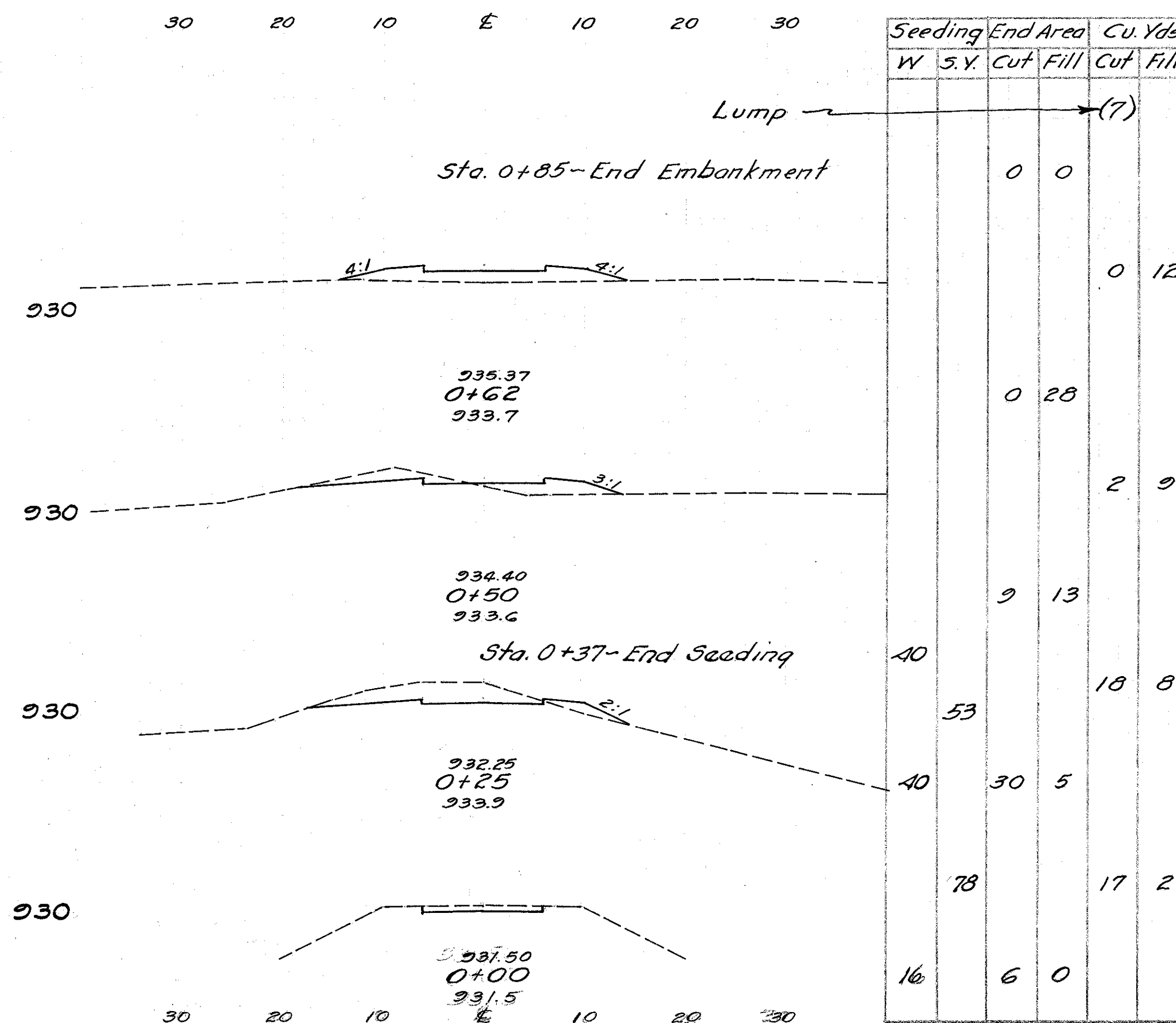
NOTE: ~ Approach pavement may be hand finished in accordance with Sec. T-71.211

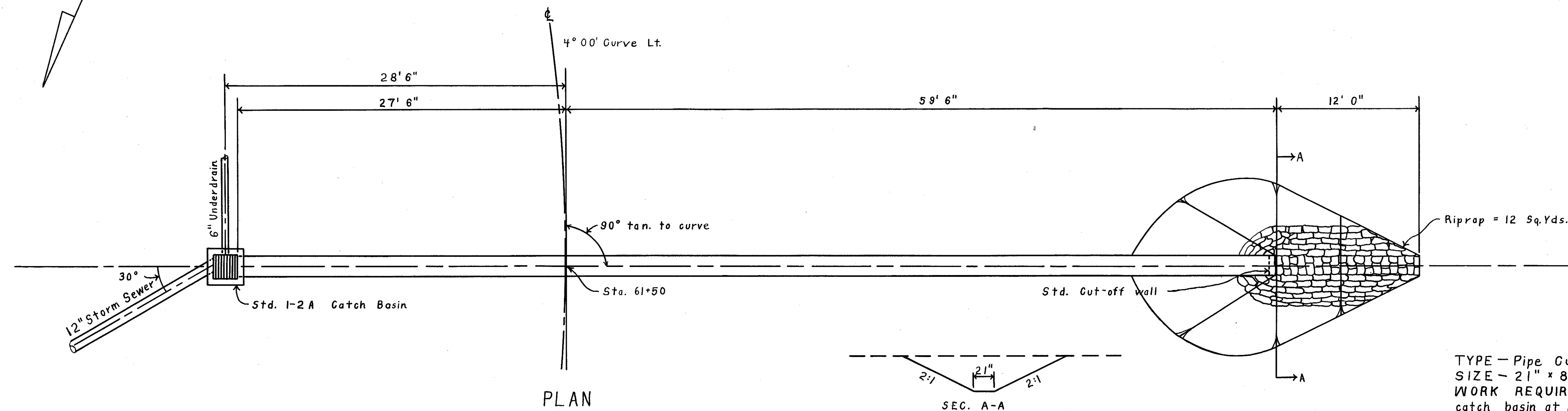
ESTIMATED QUANTITIES
 9" T-70 Pavement 55 Sq. Yds.
 I-17 14 Cu. Yds.
 SS-5 3 Cu. Yds.

PLAN
 SCALE ~ 1" = 20'



Note ~ Quantities carried to
 x-Sec. Sheet N-890
 Excavation 44 Cu. Yds.
 Embankment 31 Cu. Yds.
 Seeding 131 Sq. Yds.





PLAN
Scale - 1" = 5'-0"

STRUCTURE DATA

TYPE - Pipe Culvert
 SIZE - 21" x 87'-0"
 WORK REQUIRED - Build 21" x 87' pipe culvert with Std. 1-2A catch basin at inlet and Std. cut-off wall at outlet. Excavate and riprap outlet channel as shown. Connect 6" underdrain and 12" storm sewer to catch basin as shown.

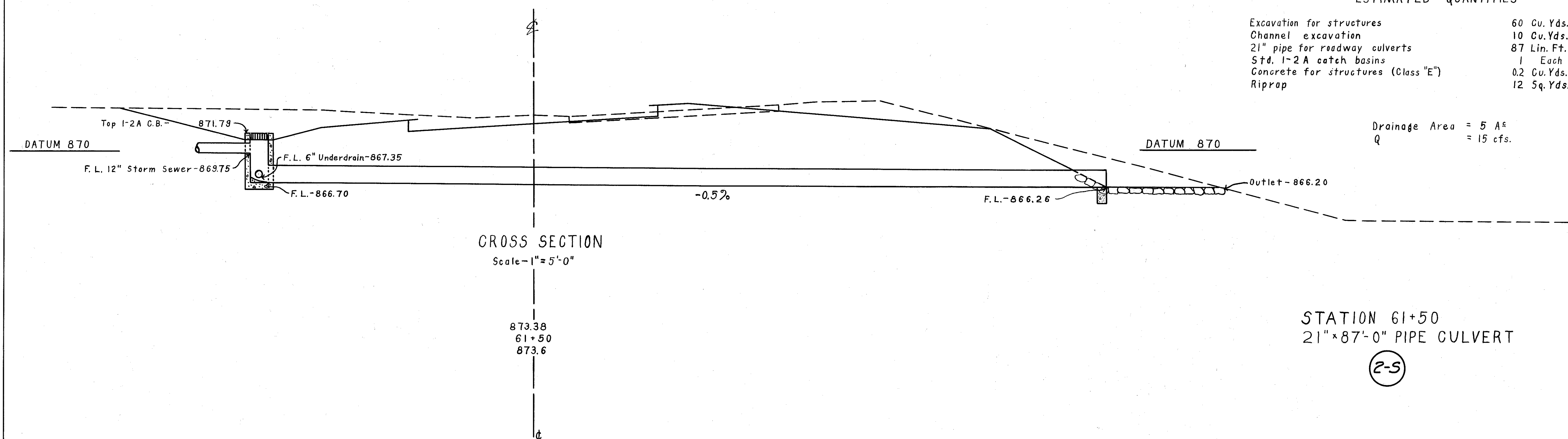
REFERENCE DRAWINGS

Catch Basins I-8 C.B. 1-2A
 Pipe Culverts S-27 P.C. 2+3

ESTIMATED QUANTITIES

Excavation for structures	60 Cu. Yds.
Channel excavation	10 Cu. Yds.
21" pipe for roadway culverts	87 Lin. Ft.
Std. 1-2A catch basins	1 Each
Concrete for structures (Class "E")	0.2 Cu. Yds.
Riprap	12 Sq. Yds.

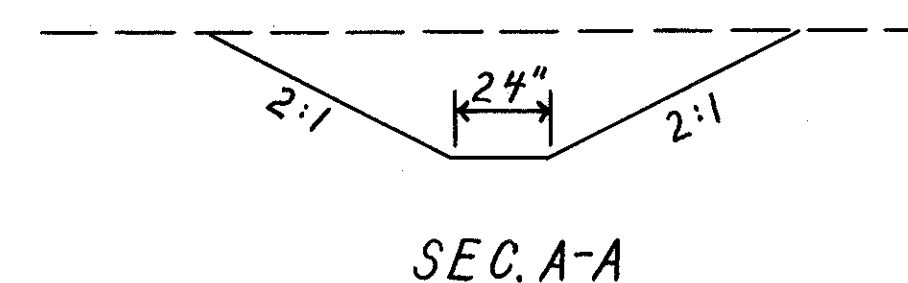
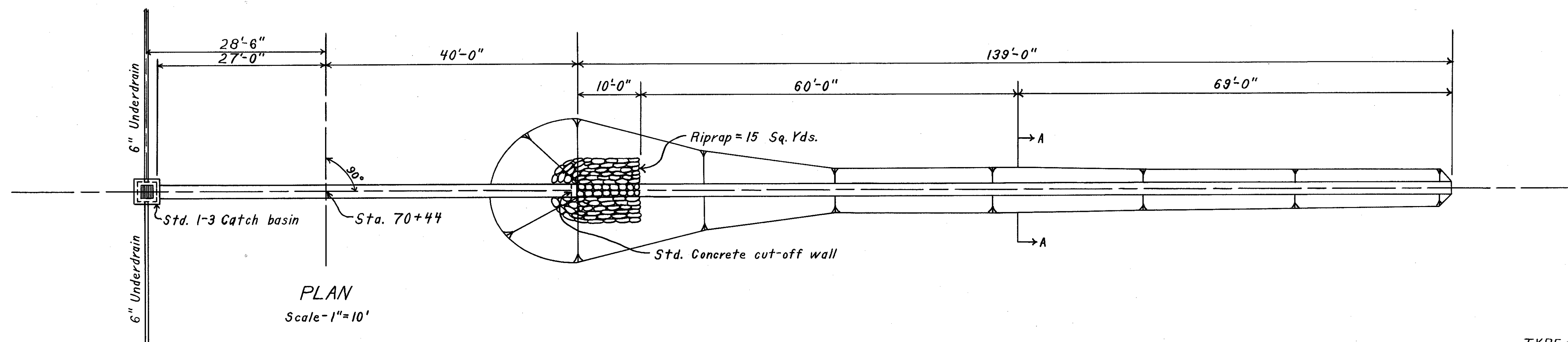
Drainage Area = 5 A^s
 Q = 15 cfs.



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

STATION 61+50
 21" x 87'-0" PIPE CULVERT

2-5



STRUCTURE DATA

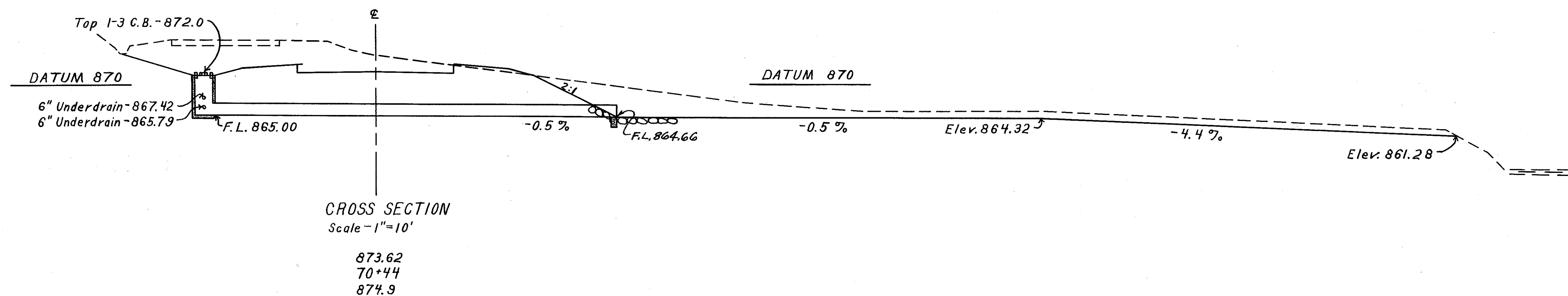
TYPE - Pipe Culvert
 SIZE - 24" x 67'-0"
 WORK REQUIRED - Build 24" x 67' pipe culvert with standard 1-3 catch basin at inlet and standard cut-off wall at outlet. Excavate and riprap outlet channel as shown. Connect 6" underdrains to catch basin as shown.

REFERENCE DRAWINGS

Catch basins I-8 C.B. 1-3
 Pipe culverts S-27 P.C. 2+3

ESTIMATED QUANTITIES

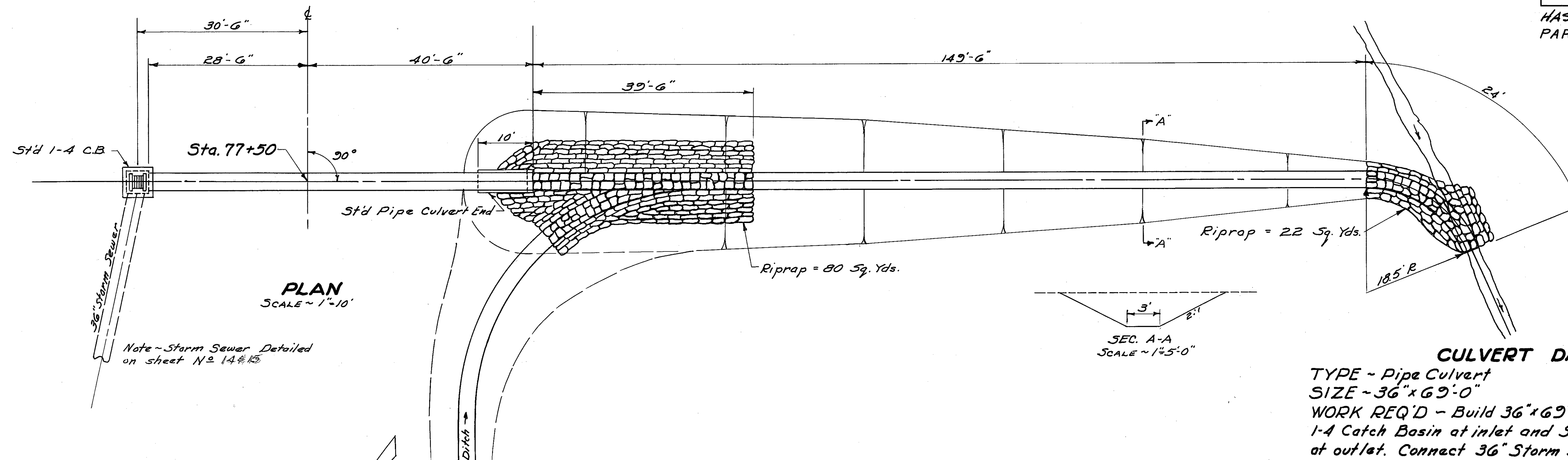
Excavation for structures 58 Cu. Yds.
 Channel Excavation 48 Cu. Yds.
 24" pipe for roadway culverts 67 Lin. Ft.
 Concrete for structures (Class "E") 0.2 Cu. Yds.
 1-3 catch basins 1 Each
 Riprap 15 Sq. Yds.



Drainage Area = 10 A²
 Q = 19 Cfs.

STA. 70+44
 24" x 67'-0" PIPE CULVERT

5-5



PLAN
SCALE ~ 1"=10'

SEC. A-A
SCALE ~ 1"=5'-0"

CULVERT DATA

TYPE ~ Pipe Culvert
SIZE ~ 36"x69'-0"
WORK REQ'D ~ Build 36"x69' pipe culvert with Std 1-4 Catch Basin at inlet and Std Pipe Culvert End at outlet. Connect 36" Storm Sewer to Catch Basin at inlet end. Excavate and riprap outlet channel as shown.

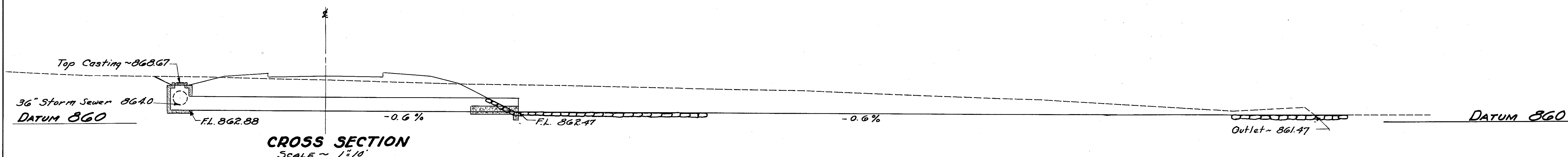
REFERENCE DRAWINGS

Pipe Culverts S-27 P.C. 2&3
Catch Basins I-8 C.B. 1-4

ESTIMATED QUANTITIES

Excavation for Structures	82. Cu. Yds.
Channel Excavation	255. Cu. Yds.
36" Pipe for Roadway Culverts	69. Lin. Ft.
1-4 Catch Basins	1 Each
Concrete for Structures (Class "E")	1.7 Cu. Yds.
Riprap	102. Sq. Yds.

Drainage Area 33A²
Q 36 cfs.

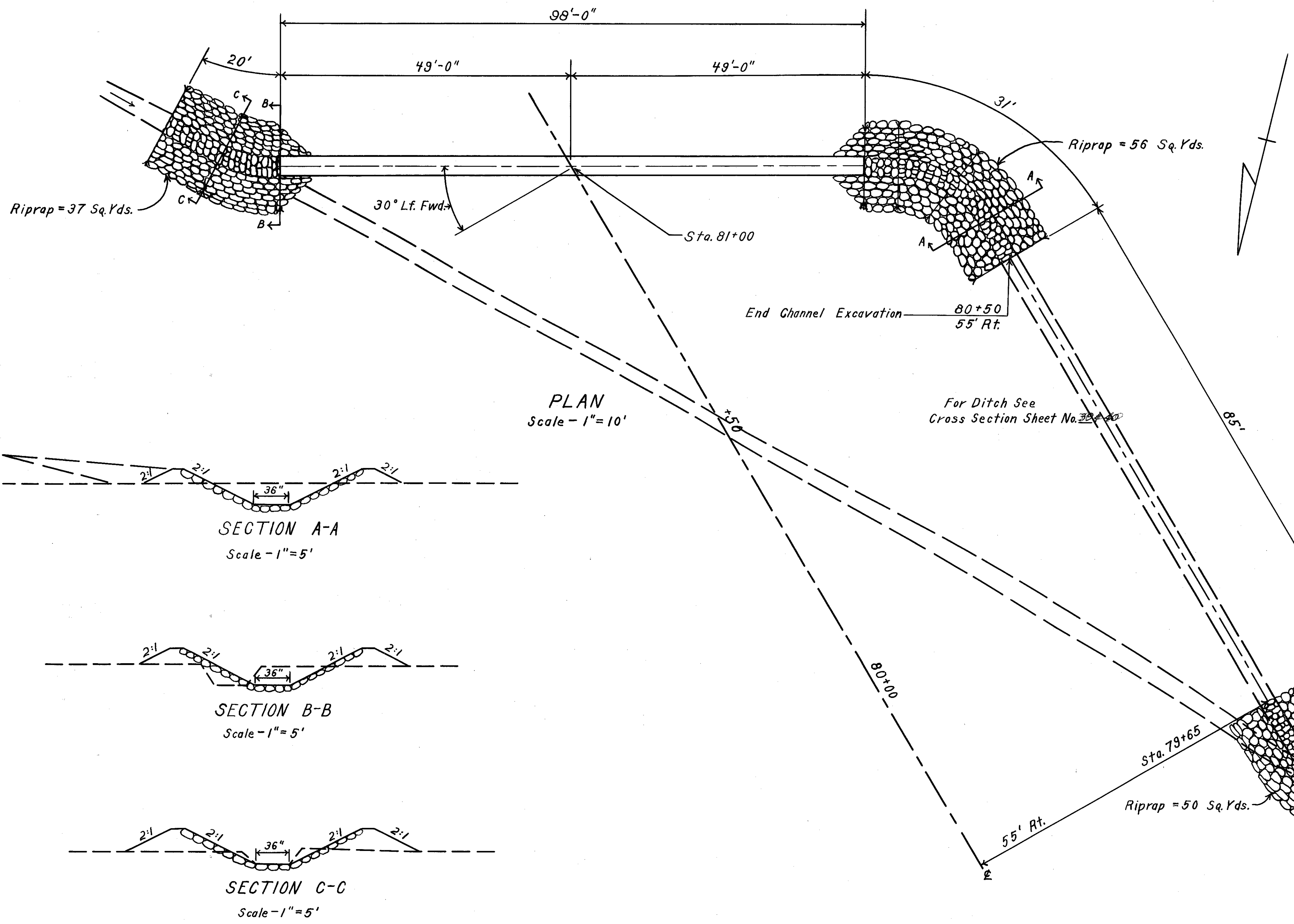


CROSS SECTION
SCALE ~ 1"=10'

870.80
77+50
869.3

6-5

STA. 77+50
36"x69'-0" PIPE CULVERT



STRUCTURE DATA

TYPE - Pipe Culvert
 SIZE - 36"x98'-0"
 WORK REQUIRED - Build new 36"x98' pipe culvert.
 Excavate and riprap channels as shown.

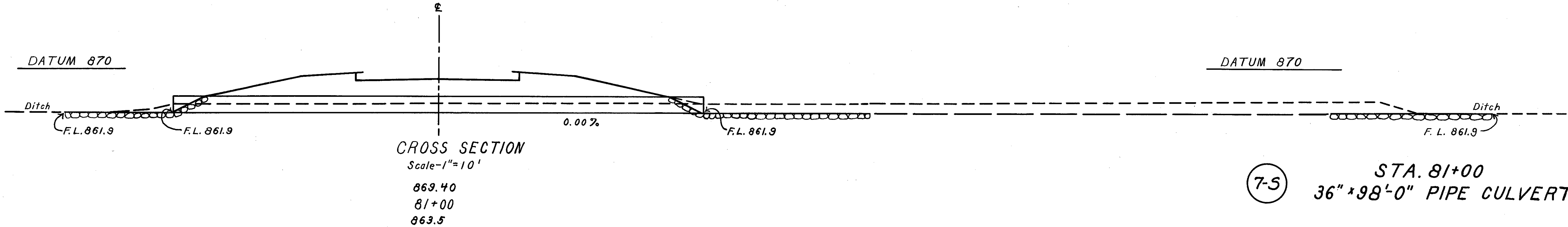
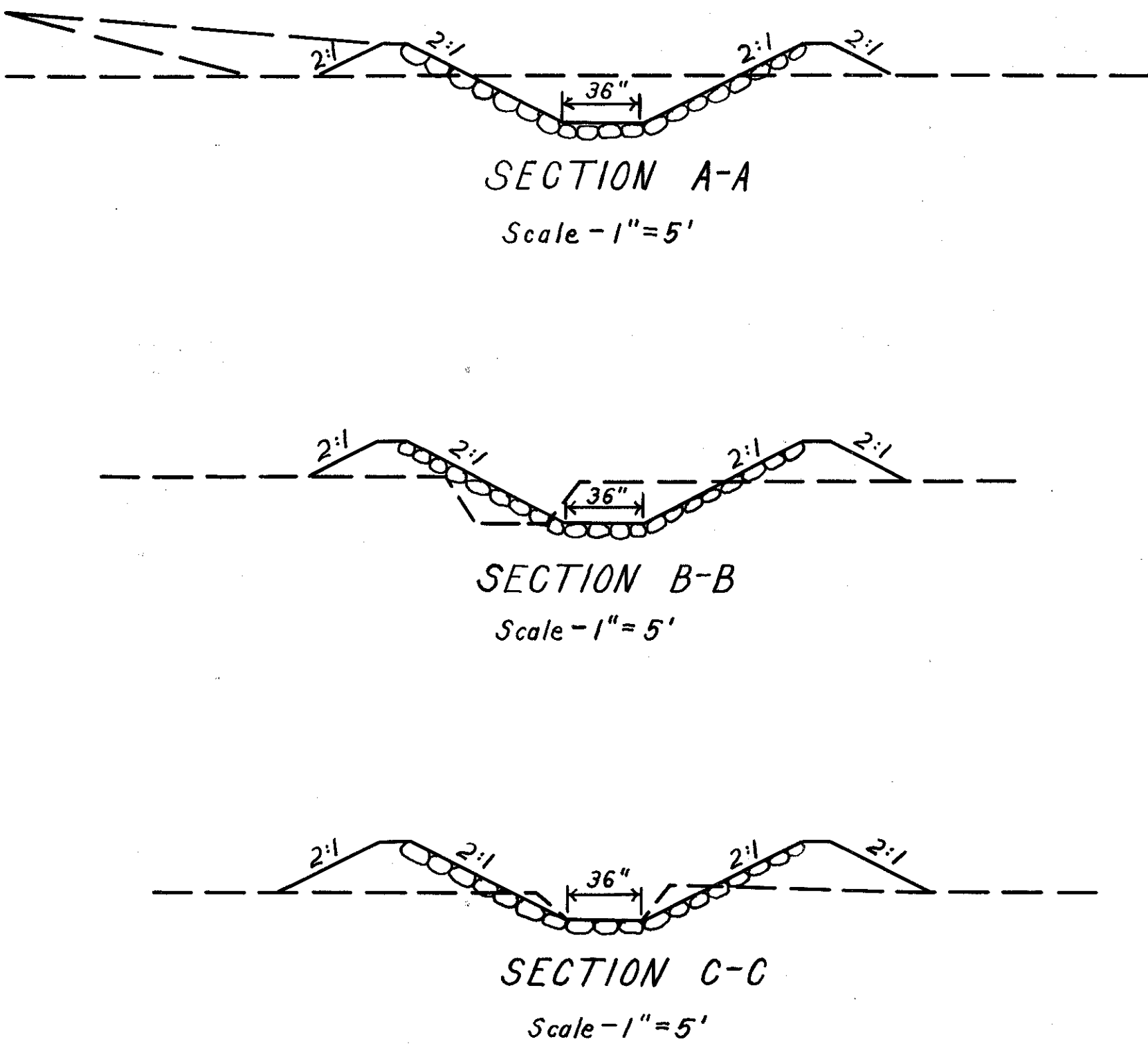
REFERENCE DRAWINGS

Pipe Culverts S-27 P.C. 3

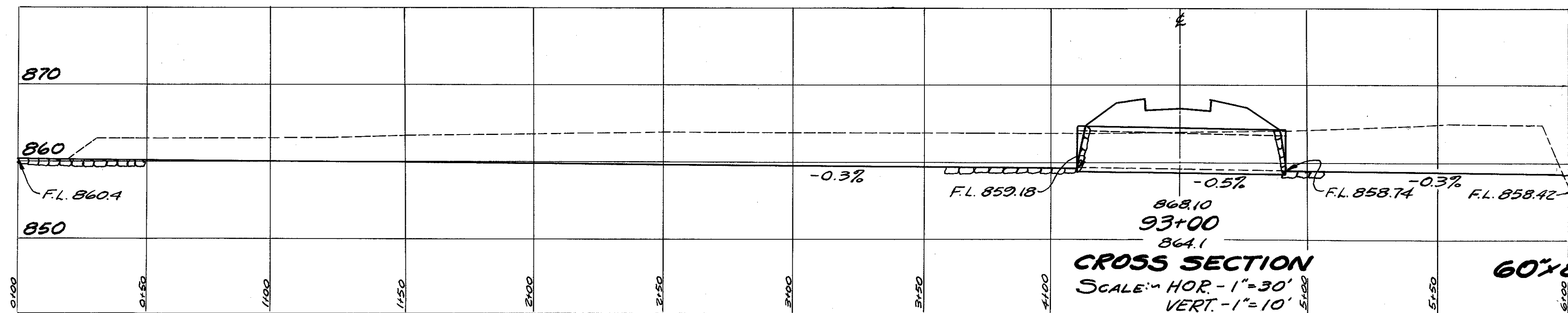
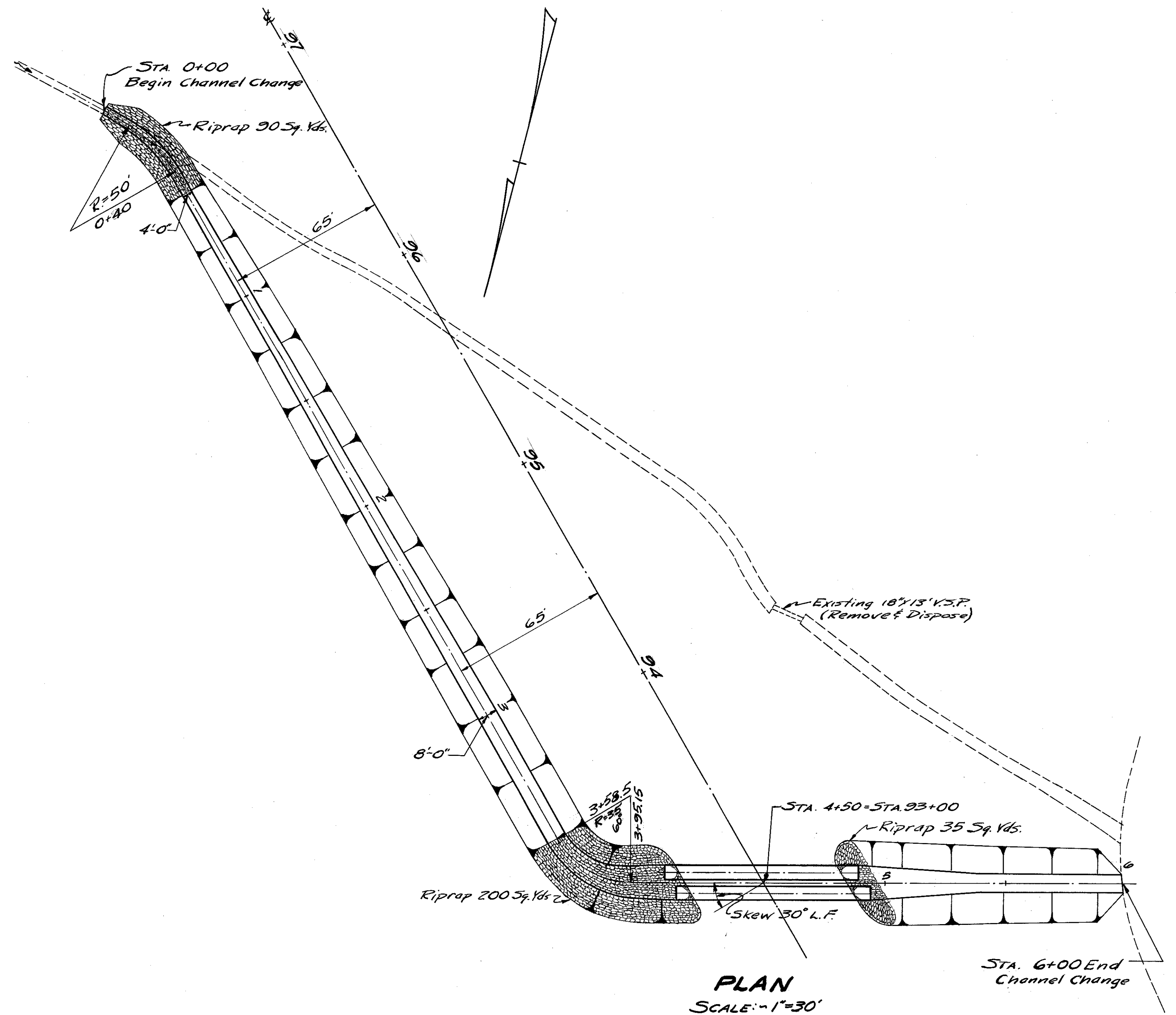
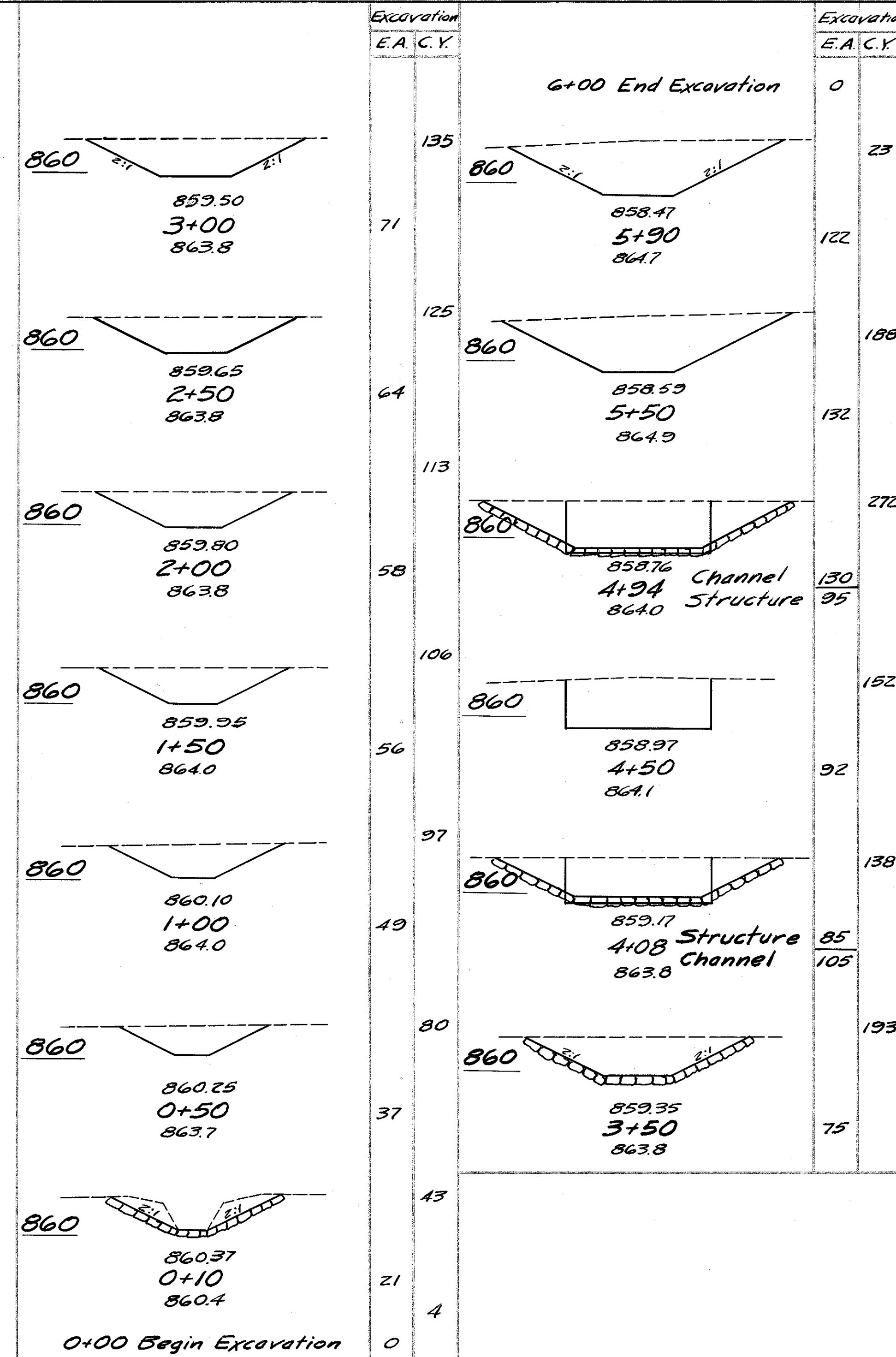
ESTIMATED QUANTITIES

Excavation for structures	33 Cu. Yds.
Channel Excavation	20 Cu. Yds.
36" Pipe for roadway culverts	98 Lin. Ft.
Riprap	143 Sq. Yds.

Drainage Area = 40 A²
 Q = 41 cfs.



7-5 STA. 81+00
 36"x98'-0" PIPE CULVERT



Drainage Area = 400 A²
Q = 320 cfs.

STA. 93+00
60x86' PIPE CULVERT (2 Lines)
Sheet 1 of 2

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	136
2	OHIO	F-415(10)	Postwar	166

HAS-36-(0.43-2.92)-(11.92-14.12)

PARTS 1 & 2

STRUCTURE DATA

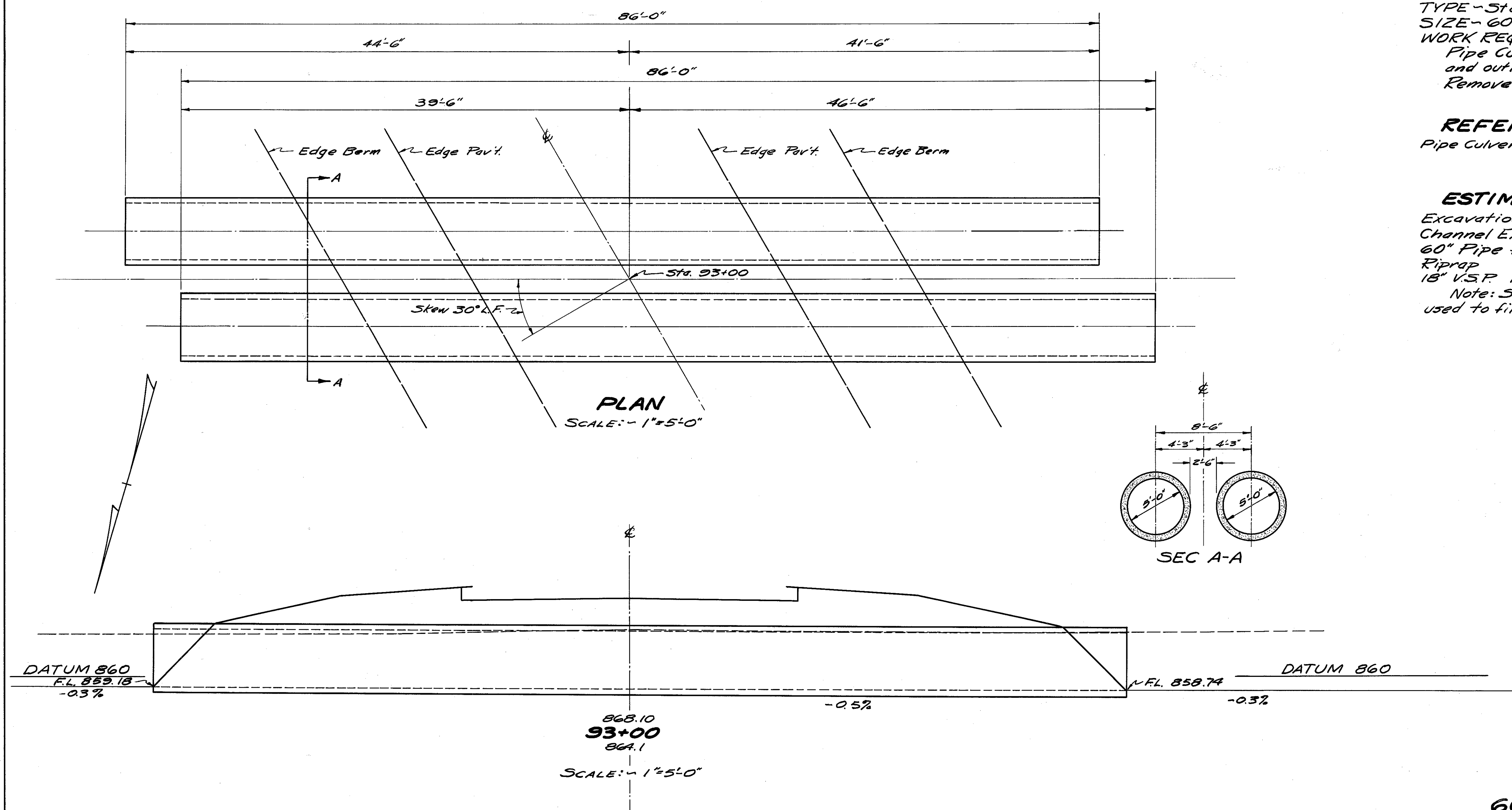
TYPE - Std. Pipe Culvert
 SIZE - 60" x 86" (2 Lines)
 WORK REQ'D - Build two lines 60" x 86"
 Pipe Culvert as shown. Excavate inlet
 and outlet channels. Riprap as shown.
 Remove and dispose 18" x 13" V.S.P.

REFERENCE DRAWINGS

Pipe Culverts S-27 P.C.-3

ESTIMATED QUANTITIES

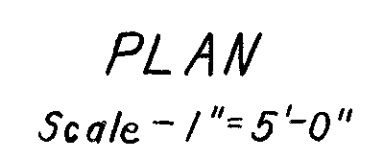
Excavation for Structure 290 Cu. Yds.
 Channel Excavation 1379 Cu. Yds.
 60" Pipe for Roadway Culverts 172 Lin. Ft.
 Riprap 325 Sq. Yds.
 18" V.S.P. Remove and Dispose 13 Lin. Ft.
 Note: Structure and Channel Excavation to be
 used to fill existing channel.



STA. 93+00
60"x86" PIPE CULVERT (2 Lines)
 SHEET 2 of 2

8-5

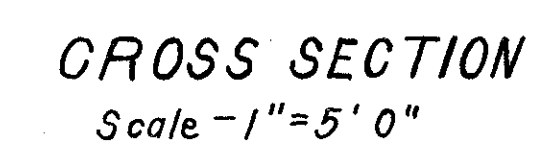
HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2



TYPE - Pipe Culvert
SIZE - 18" x 158'-0"
WORK REQ'D - Build 18" x 158' pipe culvert

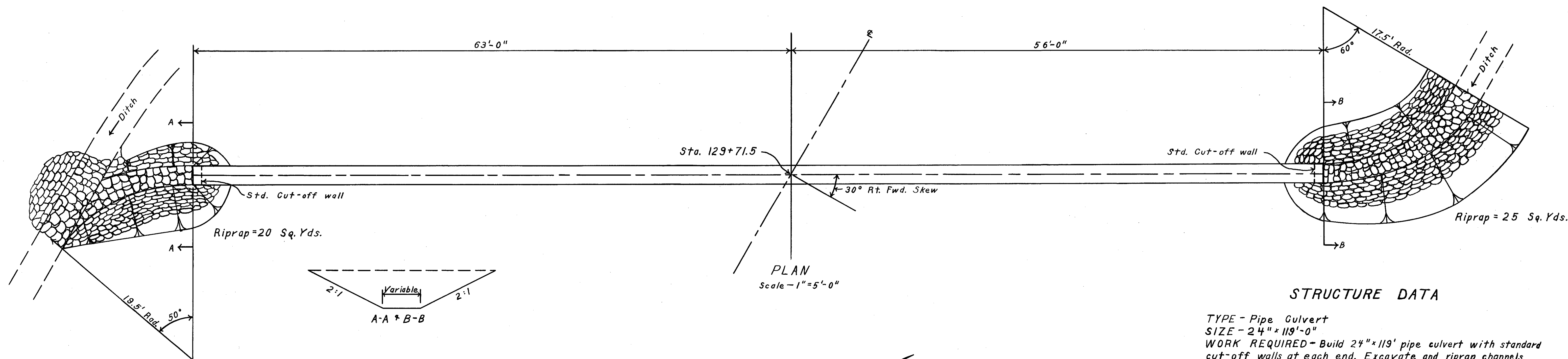
Pipe Culverts S-27 P.C. 3

18" Pipe for roadway culverts	158 Lin. Ft.
-------------------------------	--------------



STA. 124+00
18" x 158' PIPE CULVERT

9-



STRUCTURE DATA

TYPE - Pipe Culvert
SIZE - 24" x 119'-0"
WORK REQUIRED - Build 24" x 119' pipe culvert with standard cut-off walls at each end. Excavate and riprap channels at each end.

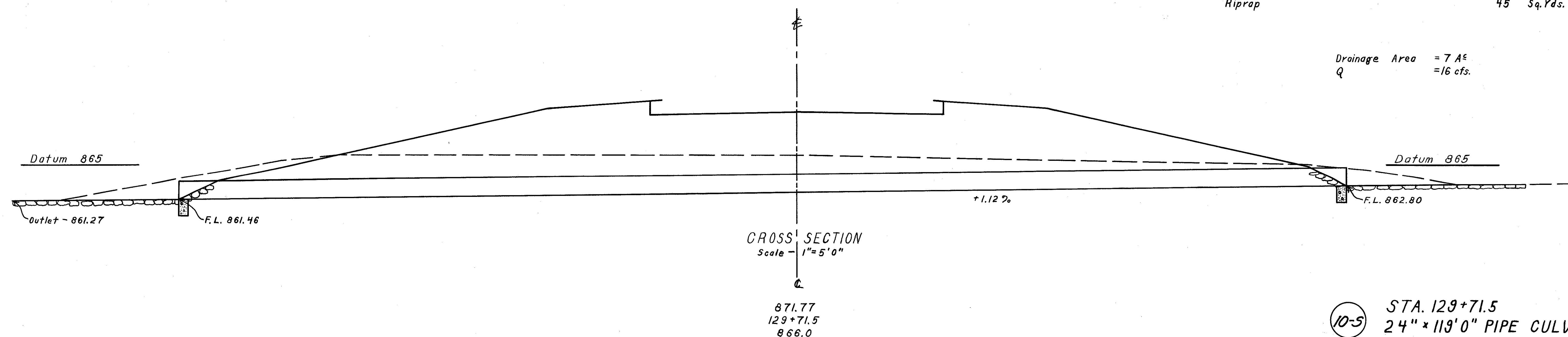
REFERENCE DRAWINGS

PIPE CULVERT S-27 P.C. 2+3

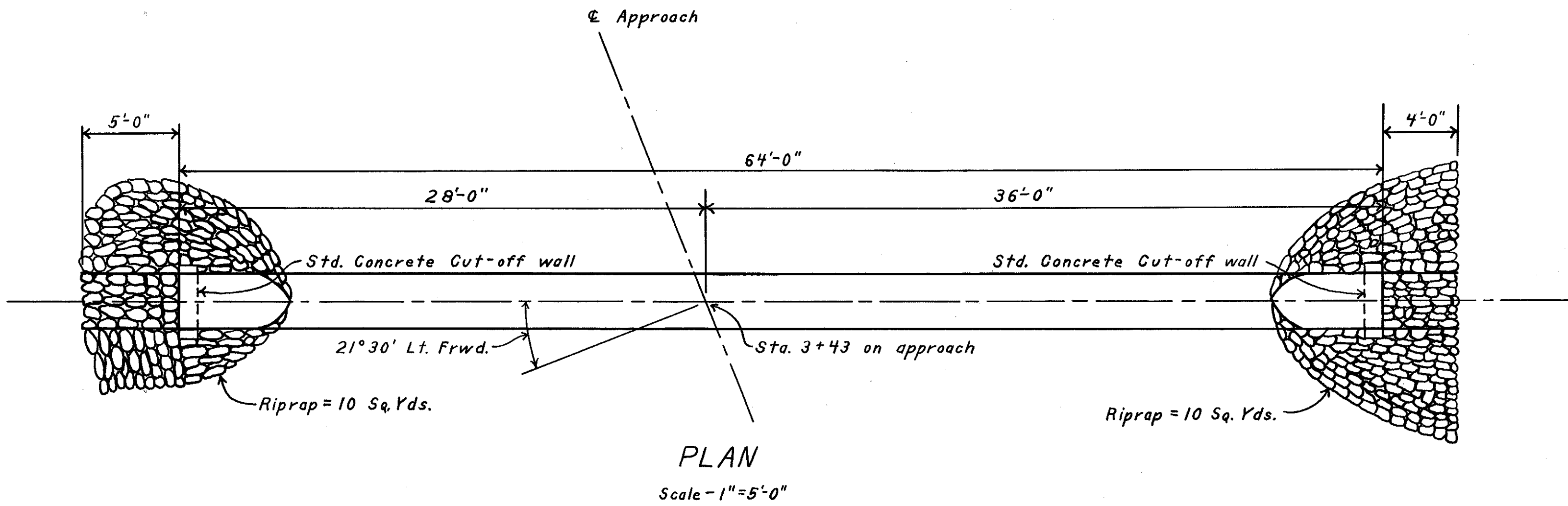
ESTIMATED QUANTITIES

Excavation for structures	52 Cu. Yds.
Channel excavation	6 Cu. Yds.
24" pipe for culvert	119 Lin. Ft.
Concrete for structures (Class "E")	0.5 Cu. Yds.
Riprap	45 Sq. Yds.

Drainage Area = 7 A^c
Q = 16 cfs.



10-5 STA. 129+71.5
24" x 119'-0" PIPE CULVERT



STRUCTURE DATA

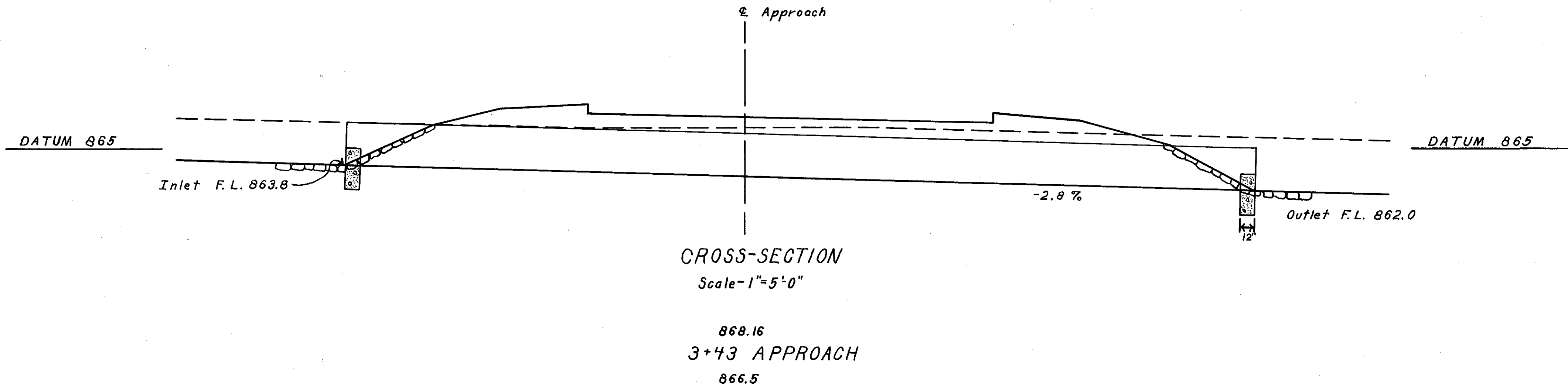
TYPE - Pipe Culvert
 SIZE - 36" x 64'-0"
 WORK REQUIRED - Build 36" x 64' pipe culvert with standard cut-off walls at inlet & outlet. Riprap inlet and outlet as shown.

REFERENCE DRAWINGS

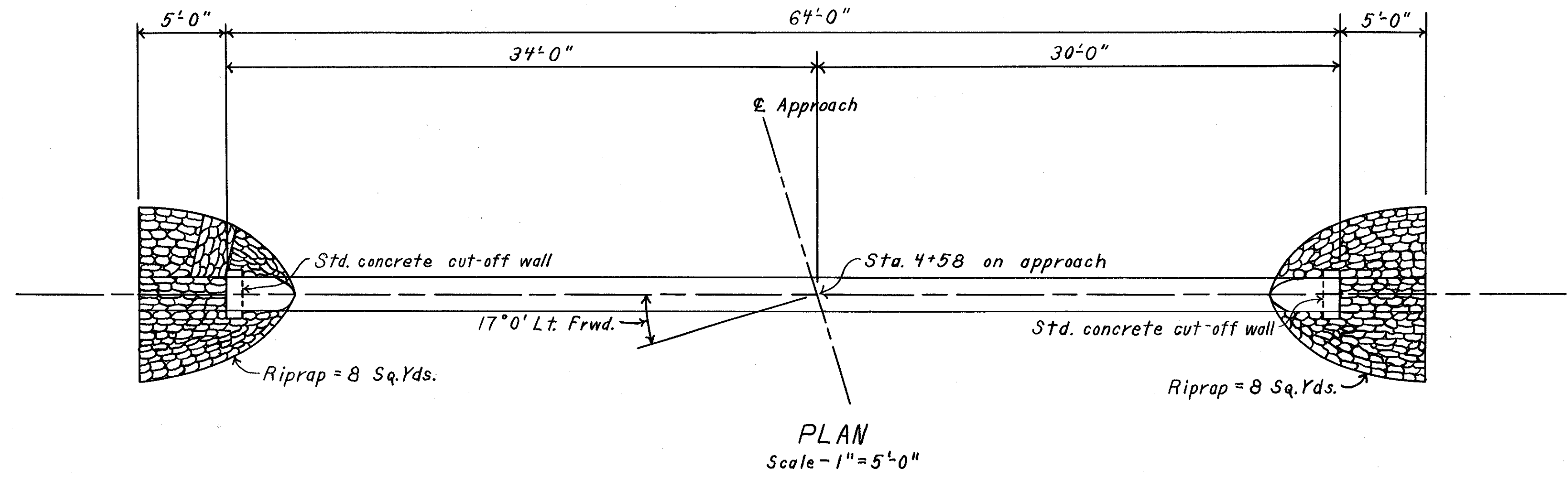
PIPE CULVERTS S-27 P.G.2+3

ESTIMATED QUANTITIES

EXCAVATION FOR STRUCTURE	41 Cu.Yds.
36" PIPE FOR ROADWAY CULVERTS	64 Lin.Ft.
CONCRETE FOR STRUCTURES (CLASS "E")	0.7 Cu.Yds.
RIPRAP	20 Sq. Yds.



STA. 3+43 ON APPROACH AT STA. 131+61
 36" x 64' PIPE CULVERT



STRUCTURE DATA

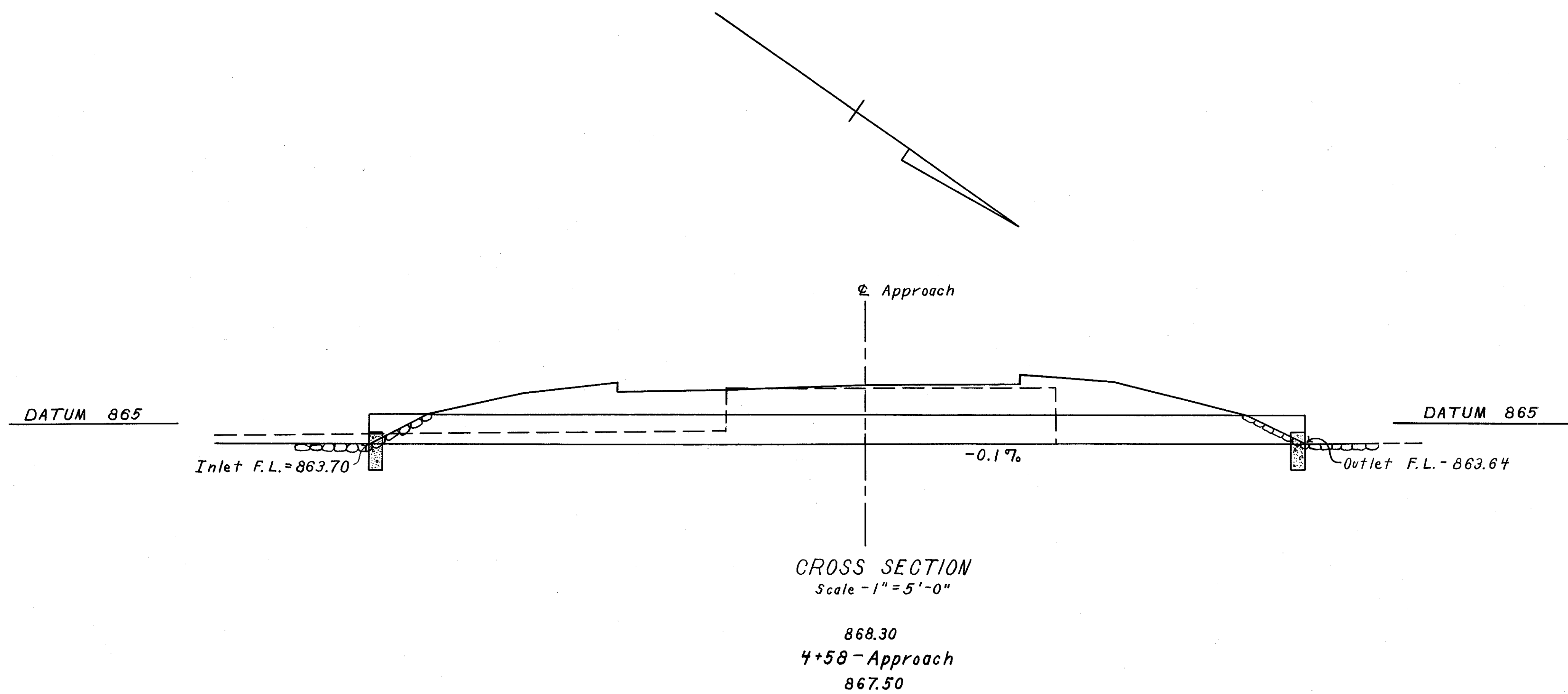
TYPE - Pipe Culvert
 SIZE - 24" x 64'-0"
 WORK REQ'D. - Build 24" x 64' pipe culvert with St'd cut-off walls at inlet and outlet. Riprap ends as shown.

REFERENCE DRAWINGS

Pipe Culverts S-27 P.C. 2 * 3

ESTIMATED QUANTITIES

Excavation for structure	14 Cu.Yds.
24" Pipe for roadway culverts	64 Lin.Ft.
Concrete for structures (Class "E")	0.5 Cu.Yds.
Riprap	16 Sq.Yds.



STA. 4+58 ON APPROACH AT STA. 131+61
 24" x 64' PIPE CULVERT

STRUCTURE DATA

TYPE ~ Pipe Culvert
SIZE ~ 21" x 112'-0"
WORK REQ'D ~ Build 21" x 112' pipe culvert with Std 1-2A Catch Basin at inlet and Std Cut-off wall at outlet. Connect 21" Storm Sewer to Catch Basin on Left. Excavate and Riprap channel on Rt, as shown. Place 21" pipe for Drive as shown.

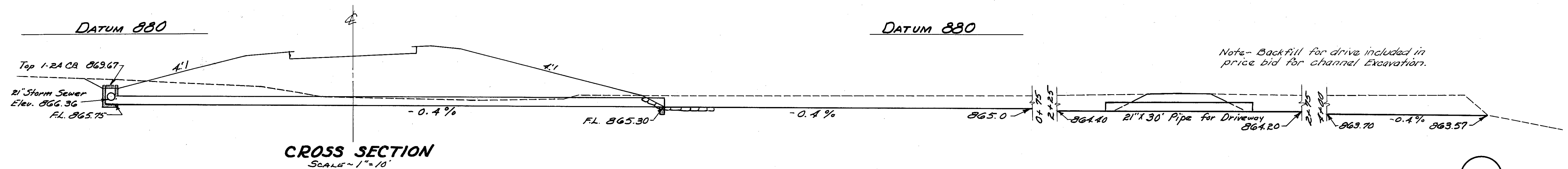
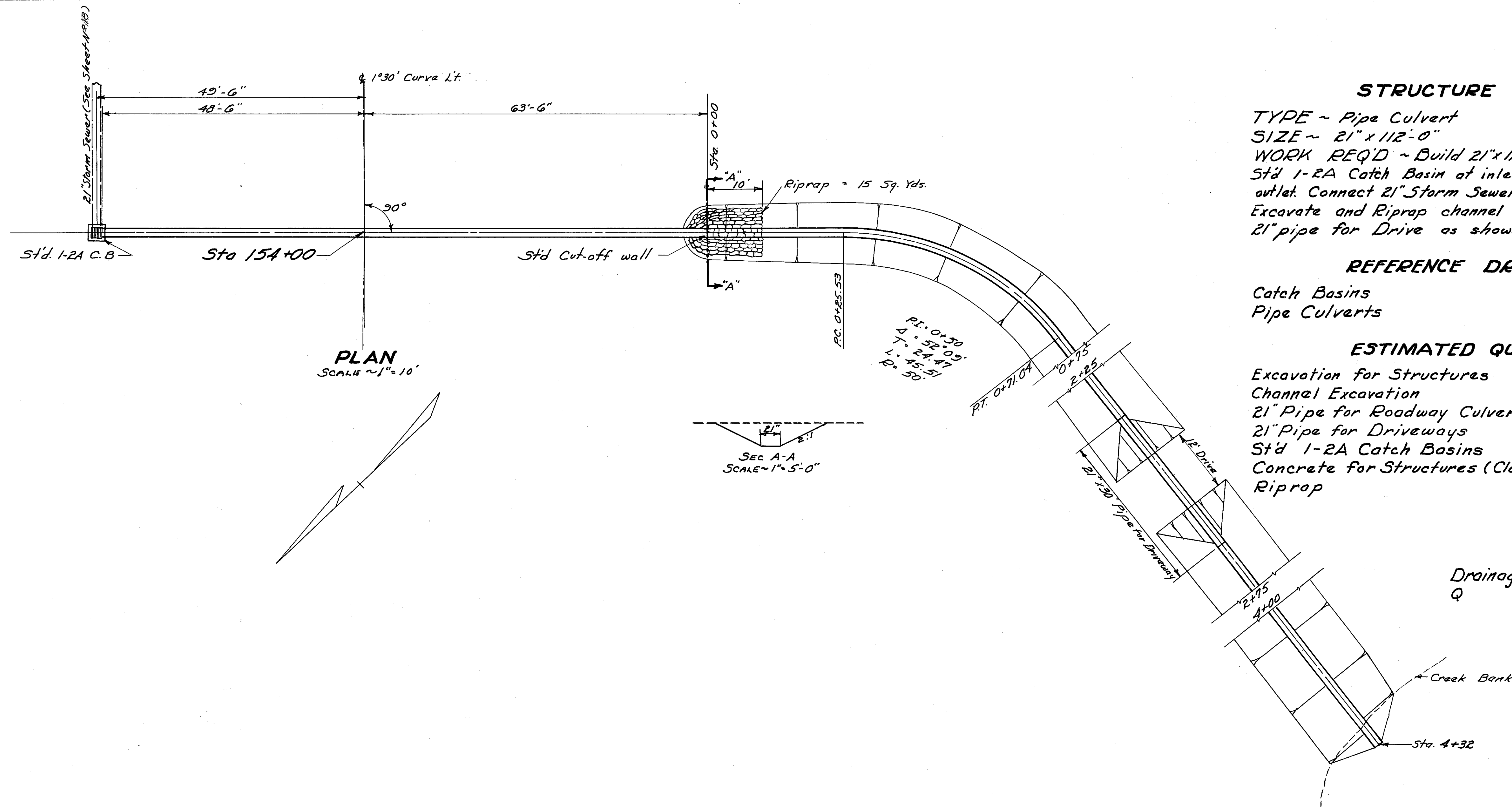
REFERENCE DRAWINGS

Catch Basins I-8 C.B. 1-2-A
Pipe Culverts S-27 P.C. 2 & 3

ESTIMATED QUANTITIES

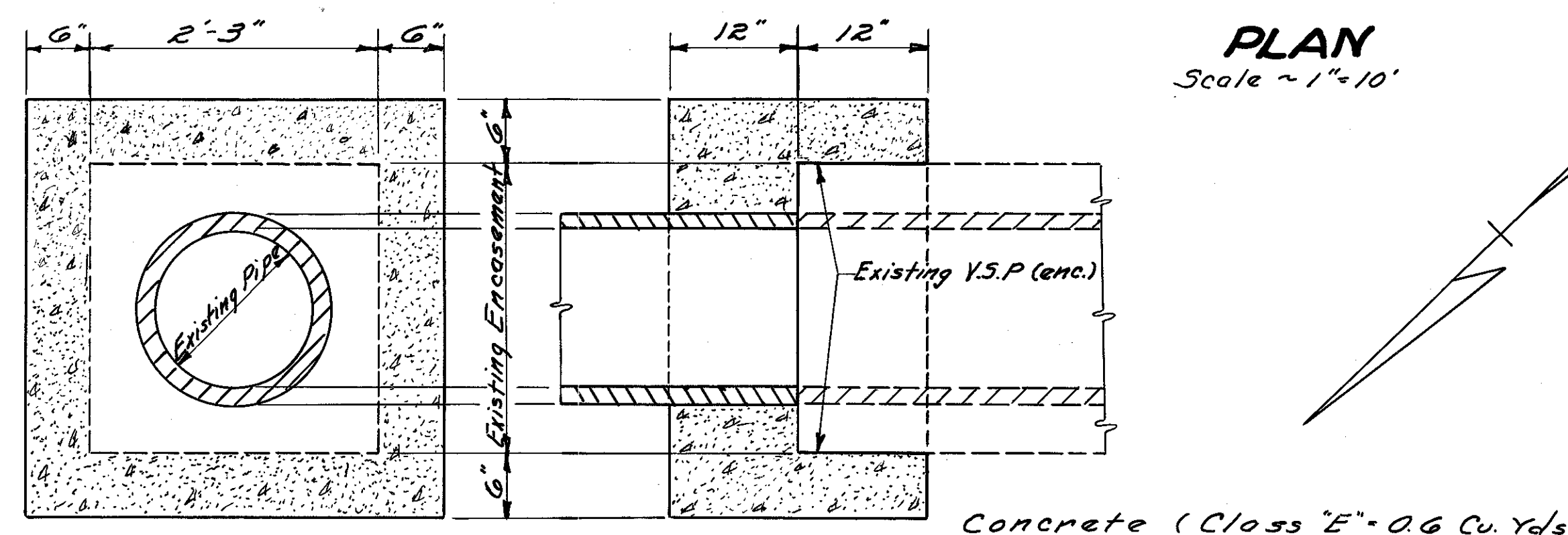
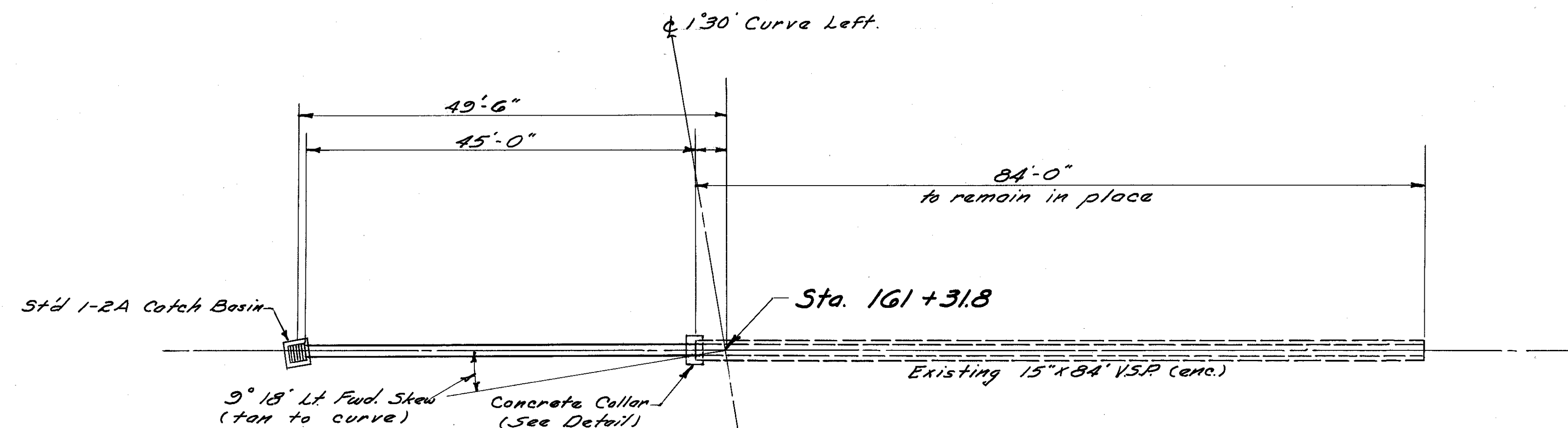
Excavation for Structures	35. Cu. Yds.
Channel Excavation	420. Cu. Yds.
21" Pipe for Roadway Culverts	112. Lin. Ft.
21" Pipe for Driveways	30. Lin. Ft.
Std 1-2A Catch Basins	1. Each
Concrete for Structures (Class "E")	0.2 Cu. Yds.
Riprap	15. Sq. Yds.

Drainage Area = 4 A^s
Q = 11 C.f.s.



13-S

STA. 154+00
21" x 112'-0" PIPE CULVERT



DETAIL OF CONCRETE COLLAR

PLAN
Scale ~ 1"=10'

STRUCTURE DATA

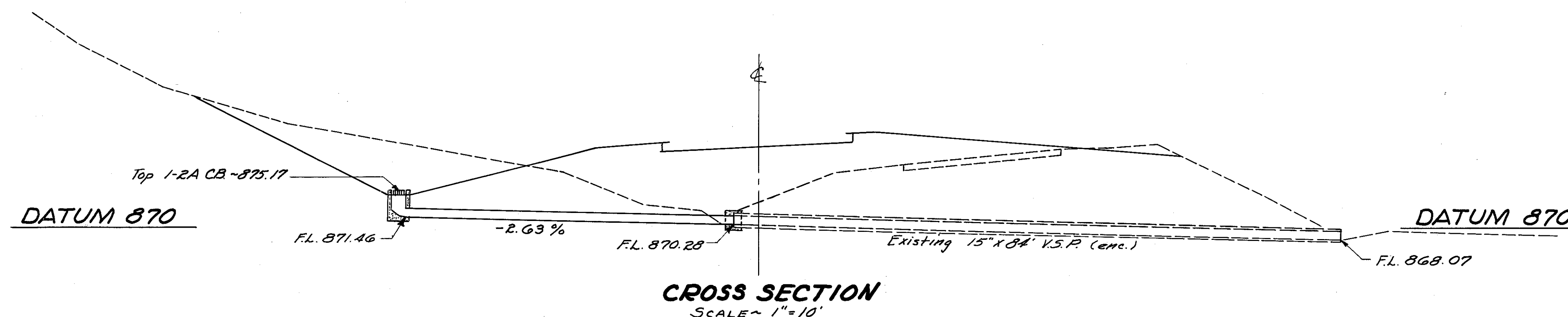
TYPE ~ Pipe Culvert Extension
SIZE ~ 15" x 45'-0"
WORK REQ'D ~ Build 15" x 45' pipe culvert and connect to existing 15" V.S.P. (enc.). Build concrete collar about connection as shown. Build Std 1-2A catch basin at inlet as shown.

REFERENCE DRAWINGS

Catch Basins I-8 CB 1-2A
Pipe Culverts S-27 P.C. 3

ESTIMATED QUANTITIES

Excavation for Structures 18. Cu Yds
15" Pipe for Roadway Culverts 45. Lin. Ft.
Std. 1-2A Catch Basins 1. Each
Concrete for Structures (Class "E") 0.6 Cu. Yds.



CROSS SECTION
Scale ~ 1"=10'

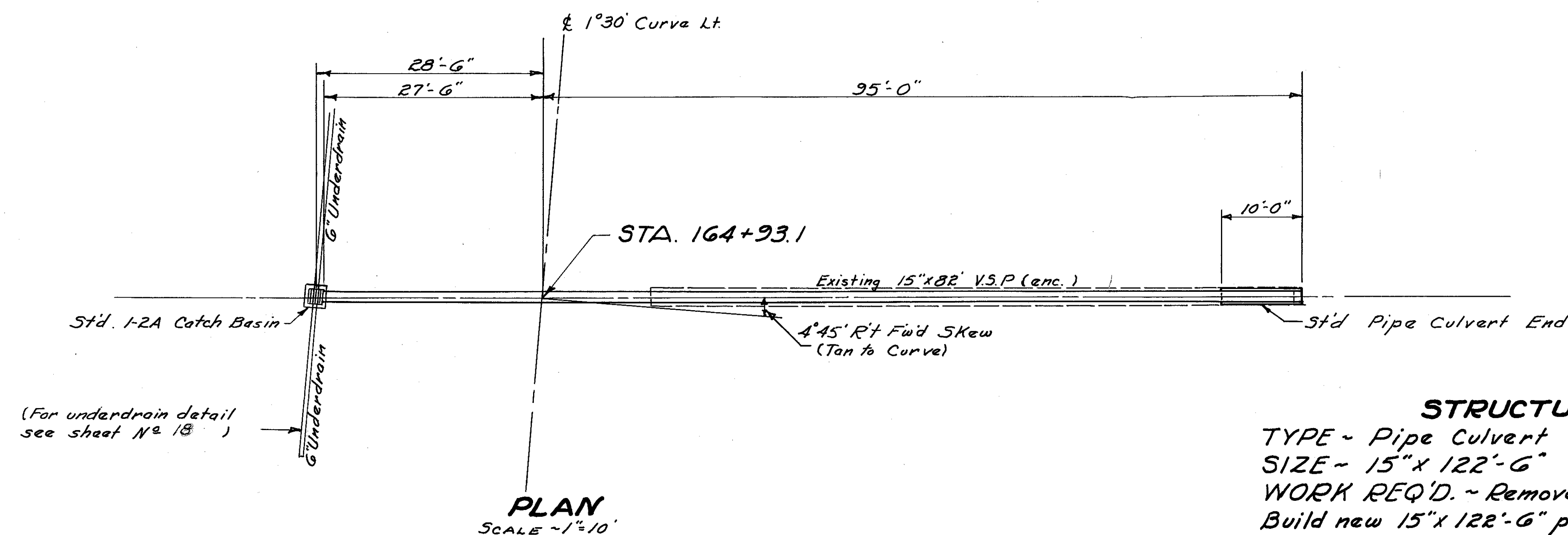
16-5

STA. 161+31.8
15" x 45'-0" PIPE CULVERT EXTENSION

882.01
161+31.8
873.4

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-415(10)	Postwar

HAS-36-(0.43-2.92)-(1.92-14.12)
PARTS 1 + 2



STRUCTURE DATA

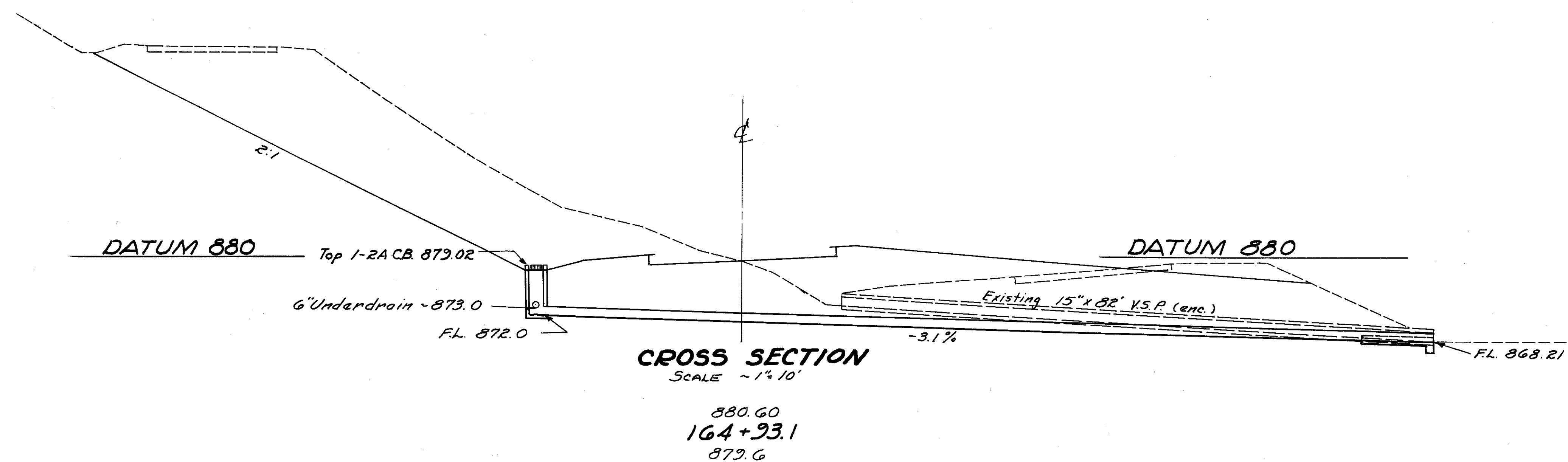
TYPE ~ Pipe Culvert
SIZE ~ 15" x 122'-6"
WORK REQ'D. ~ Remove existing 15" x 82' V.S.P. (enc.).
Build new 15" x 122'-6" pipe culvert with Std 1-2A
Catch Basin at inlet and Std Pipe Culvert End at outlet
Connect 6" Underdrains to Catch Basin on Left as shown.

REFERENCE DRAWINGS

Catch Basins I-8 C.B. 1-2A
Pipe Culverts S-27 P.C. 2 & 3

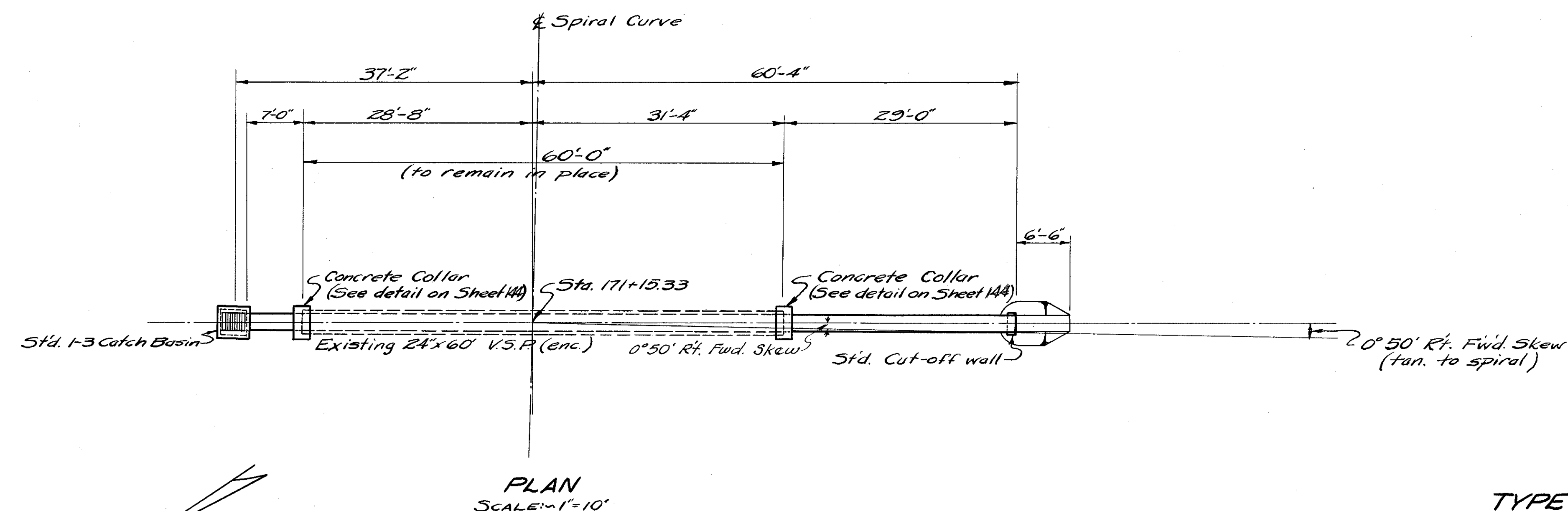
ESTIMATED QUANTITIES

Excavation for Structures 35. Cu. Yds.
15" Pipe for Roadway Culverts 123. Lin. Ft.
Std 1-2A Catch Basins 1. Each
Concrete for Structures (Class "E") 0.7 Cu. Yds.
15" V.S.P. (enc.) Removed and Disposed of 82. Lin. Ft.



17-S

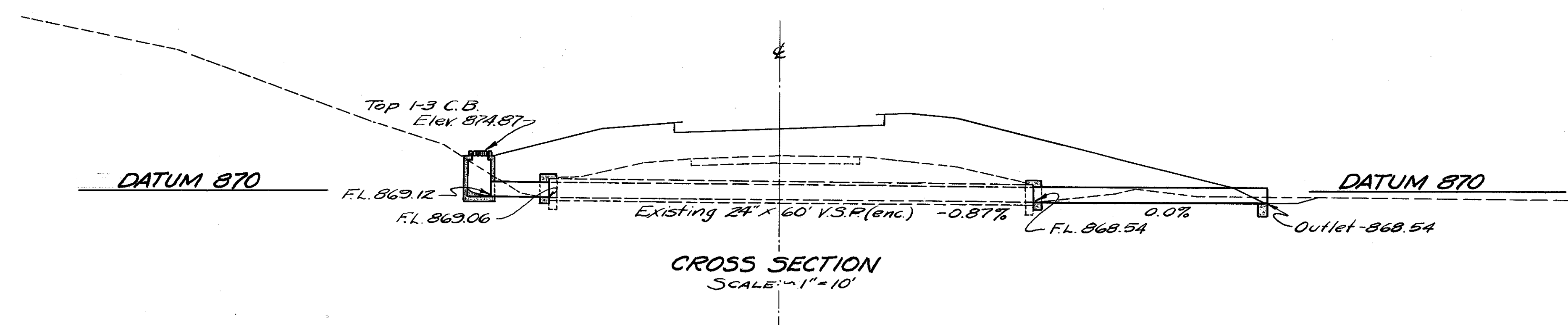
STA. 164+93.1
15" x 123'-0" PIPE CULVERT



STRUCTURE DATA
 TYPE ~ Pipe Culvert Extension
 SIZE ~ 24"x36'-0"
 WORK REQ'D. ~ Build 24"x7' pipe culvert extension at inlet end and 24"x29' pipe culvert extension at outlet end. Connect to existing 24" V.S.P. (enc.) with concrete collars as shown. Build 1-3 catch basin at inlet end and Std. Cut-off wall at outlet as shown. Excavate outlet channel as shown.

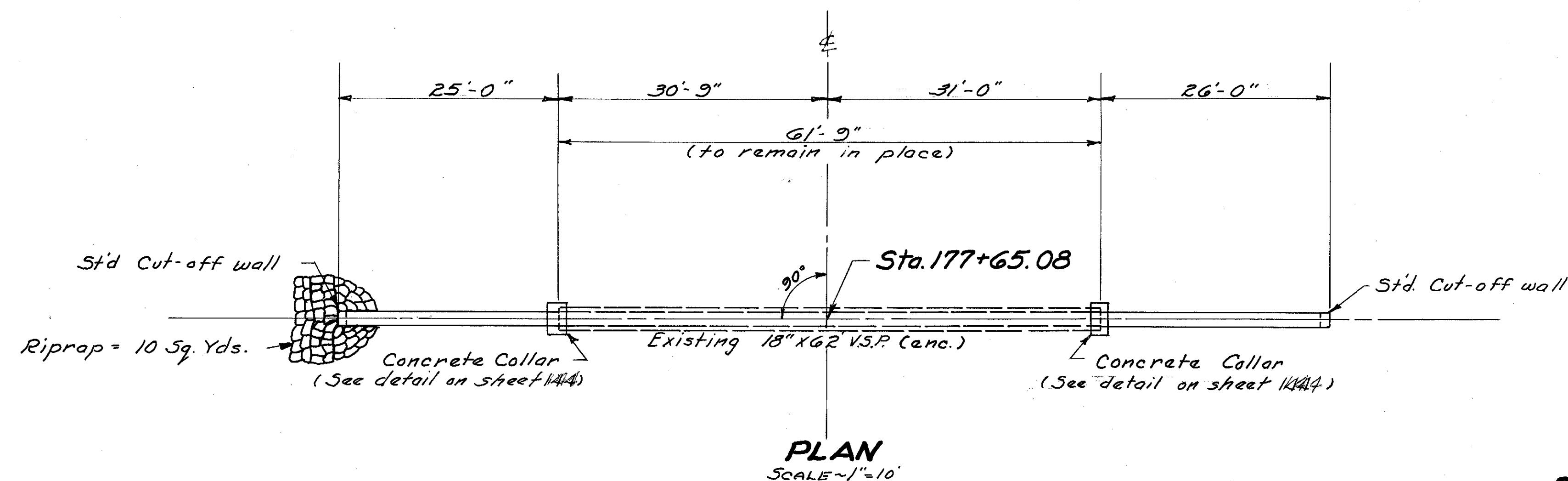
REFERENCE DRAWINGS
 Catch Basins I-8 C.B. 1-3
 Pipe Culverts S-27 P.C. 2 & 3

ESTIMATED QUANTITIES
 Excavation for Structures 6 Cu. Yds.
 24" Pipe for Roadway Culverts 36 Lin. Ft.
 Std. 1-3 Catch Basins 1 Each
 Concrete for Structures (Class "E") 1.2 Cu. Yds.
 Channel Excavation 1 Cu. Yds.



18-S

STA. 171+15.33
24"x7'-0" & 24"x29'-0" PIPE CULVERT EXTENSION



STRUCTURE DATA

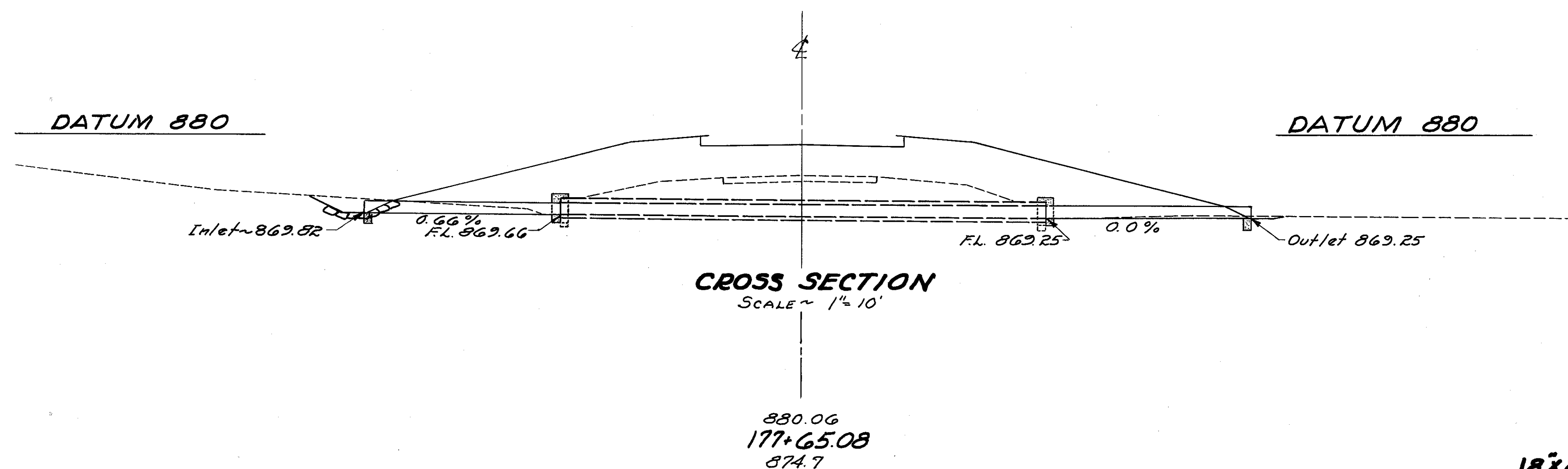
TYPE ~ Pipe Culvert Extension
 SIZE ~ 18" x 51'-0"
 WORK REQ'D ~ Build 18" x 25' pipe culvert extension at inlet end and 18" x 26' pipe culvert extension at outlet end. Connect to existing 18" V.S.P. (enc.) with concrete collars as shown. Build St'd Cut-off wall at each end. Riprap Inlet.

REFERENCE DRAWINGS

Pipe Culverts S-27 P.C. 2 & 3

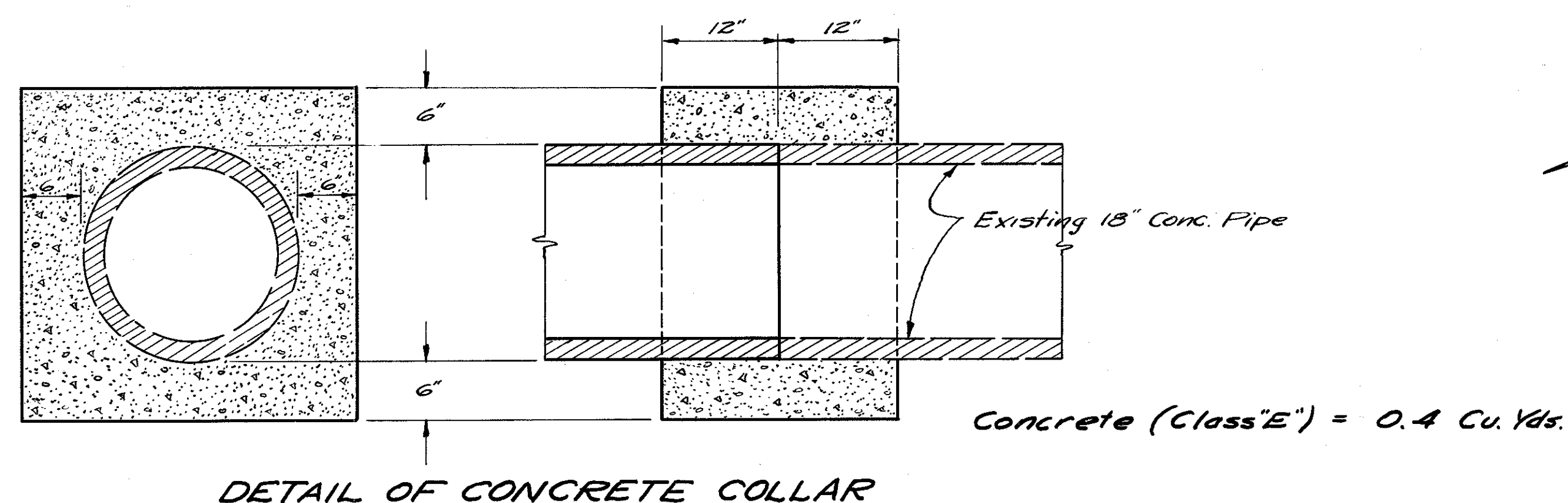
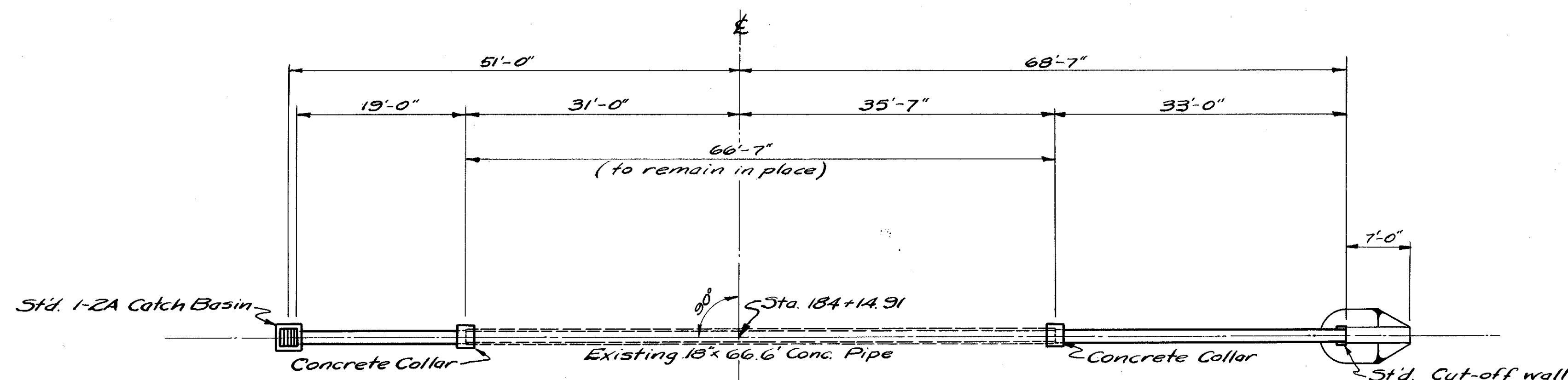
ESTIMATED QUANTITIES

Excavation for Structures	3. Cu. Yds.
18" Pipe for Roadway Culverts	51. Lin. Ft.
Concrete for Structures (Class "E")	0.7 Cu. Yds.
Riprap	10. Sq. Yds.



19-5

STA. 177+65.08
 18" x 25'-0" & 18" x 26'-0" PIPE CULVERT EXTENSION



STRUCTURE DATA

TYPE- Pipe Culvert Extension

SIZE- 18" x 52'-0"

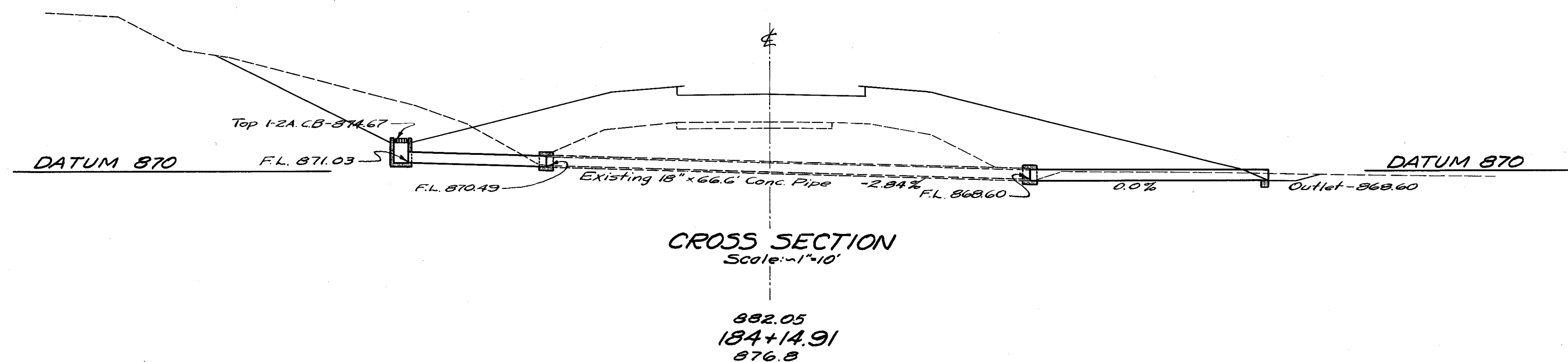
WORK REQD- Build 18" x 19' pipe culvert extension at inlet end and 18" x 33' pipe culvert extension at outlet end. Connect to 18" concrete pipe with concrete collars as shown. Build Std. 1-2A catch basin at inlet. Build Std. cut-off wall and excavate outlet channel as shown.

REFERENCE DRAWINGS

Catch Basins I-8 C.B. 1-2-A
Pipe Culverts S-27 P.C. 2 & 3

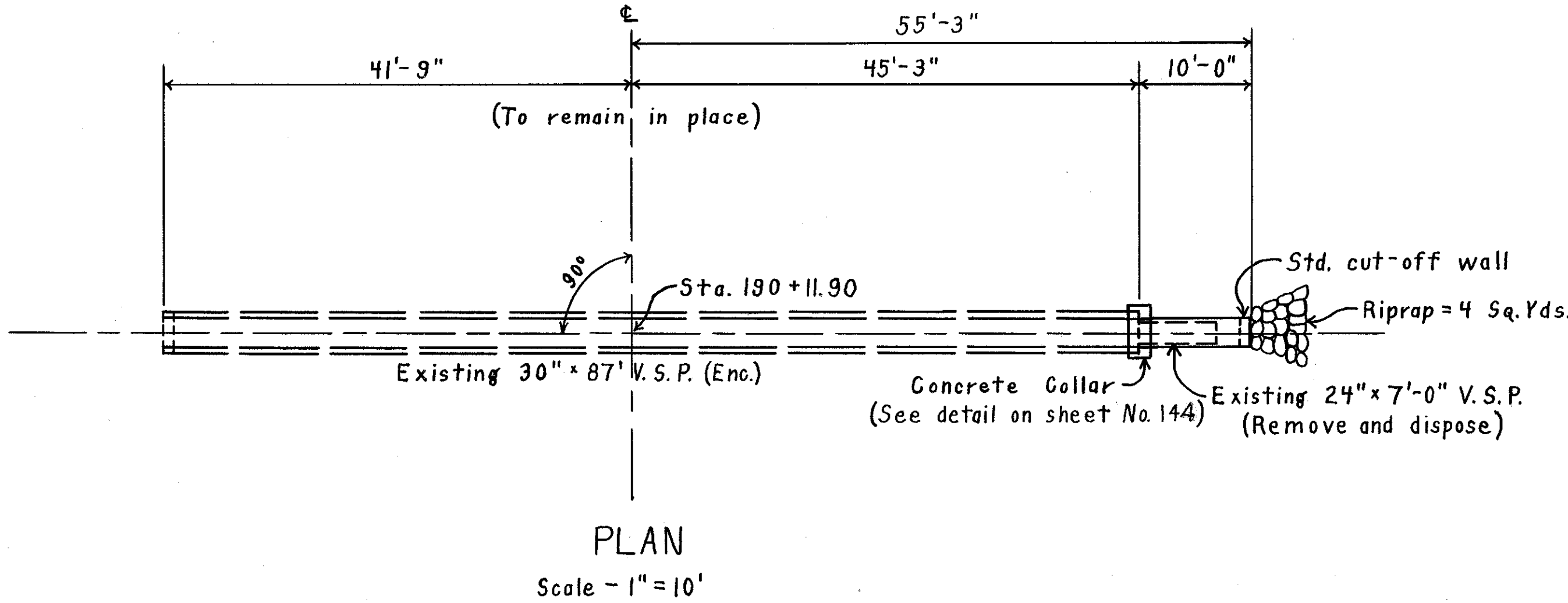
ESTIMATED QUANTITIES

Excavation for Structures 10 Cu. Yds.
Channel Excavation 1 Cu. Yds.
18" Pipe for Roadway Culverts 52 Lin Ft.
Std. 1-2A Catch Basins 1 Each
Concrete for Structures (Class "E") 0.9 Cu. Yds.



20-5

STA. 184+14.91
18" x 19'-0" & 18" x 33'-0" PIPE CULVERT EXTENSION



STRUCTURE DATA

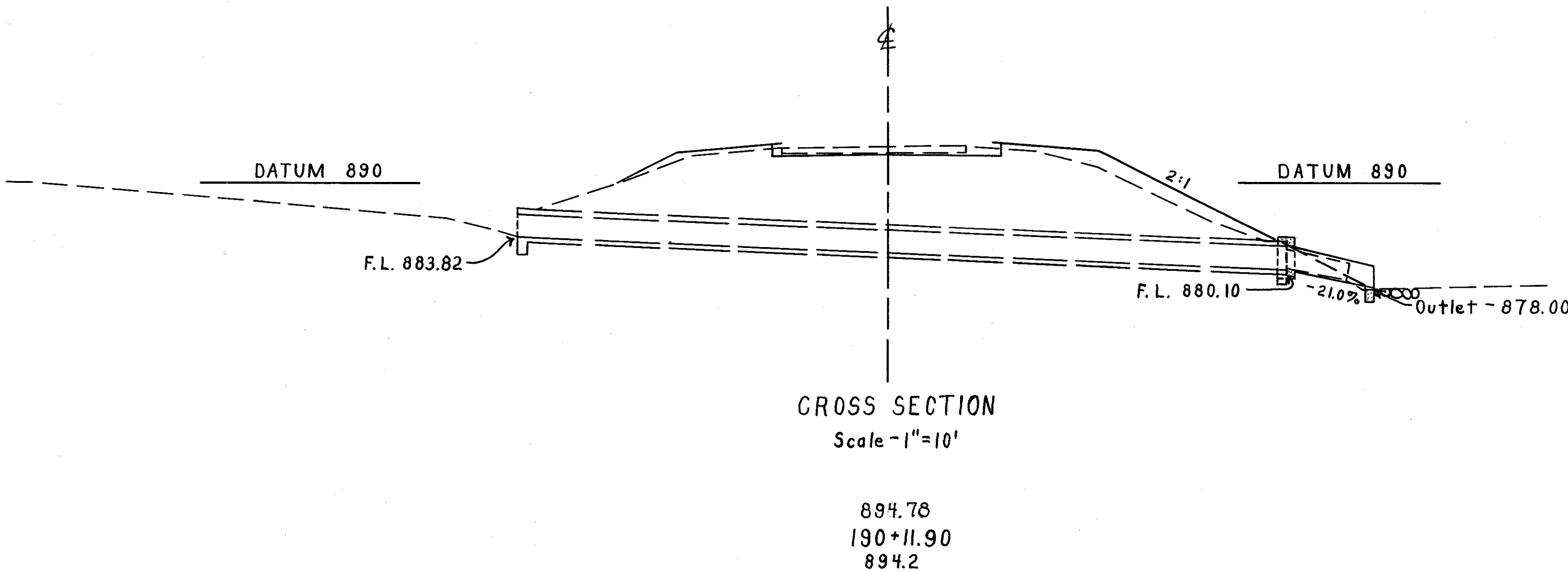
TYPE-Pipe Culvert Extension
 SIZE-30" x 10'-0"
 WORK REQUIRED-Remove and dispose of existing 24" x 7' v.s. pipe.
 Build 30" x 10' pipe culvert extension at outlet end. Build concrete collar and cut-off wall as shown. Riprap outlet as shown.

REFERENCE DRAWINGS

Pipe Culverts S-27 P.C. 2+3

ESTIMATED QUANTITIES

Excavation for Structures	1 Cu.Yd.
30" Pipe for Roadway Culverts	10 Lin.Ft.
Concrete for Structures (Class "E")	0.9 Cu.Yds.
Riprap	4 Sq.Yds.
24" Pipe Removed and Disposed of	7 Lin.Ft.



STA. 190+11.90
 30" x 10'-0" PIPE CULVERT EXTENSION

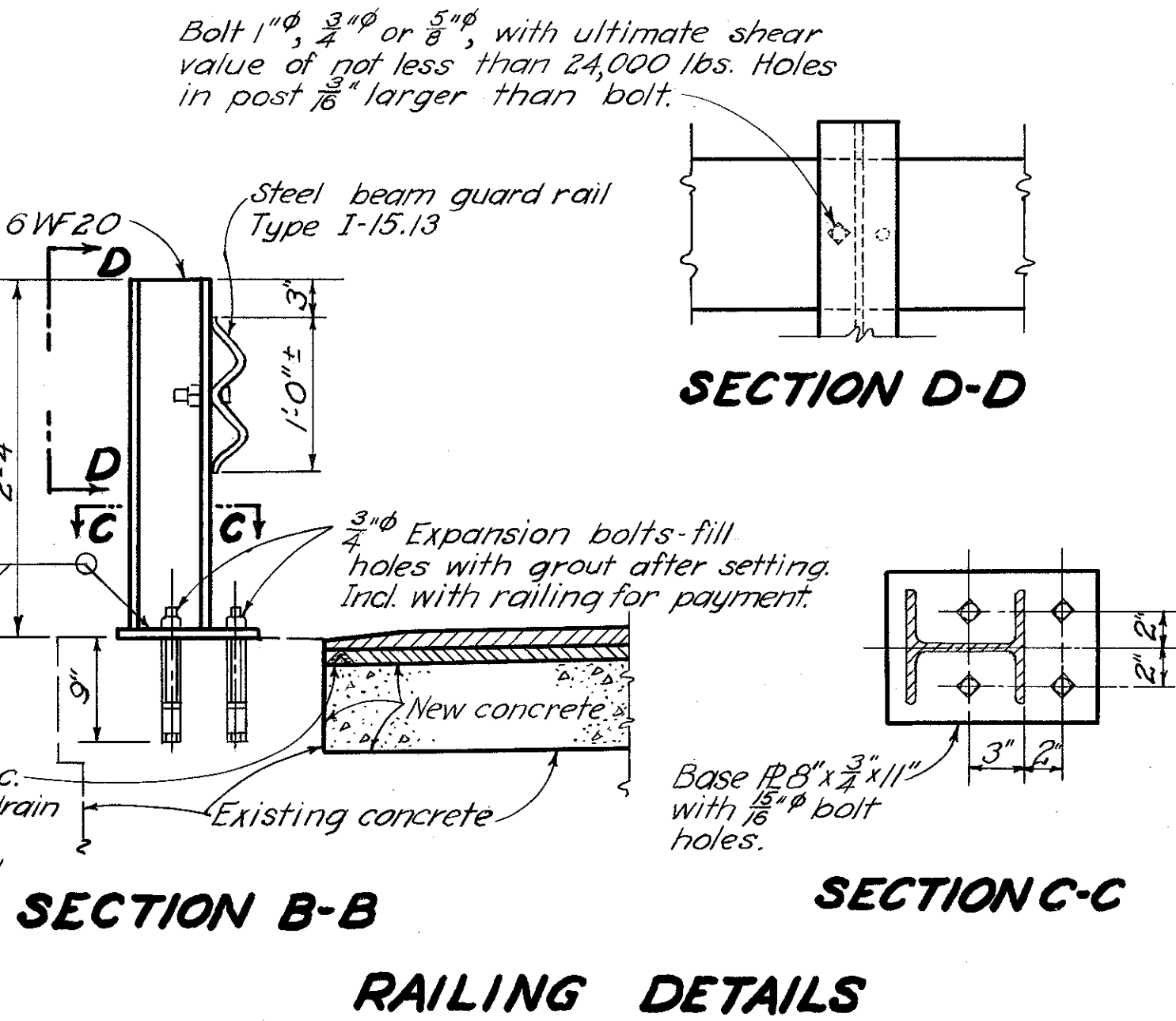
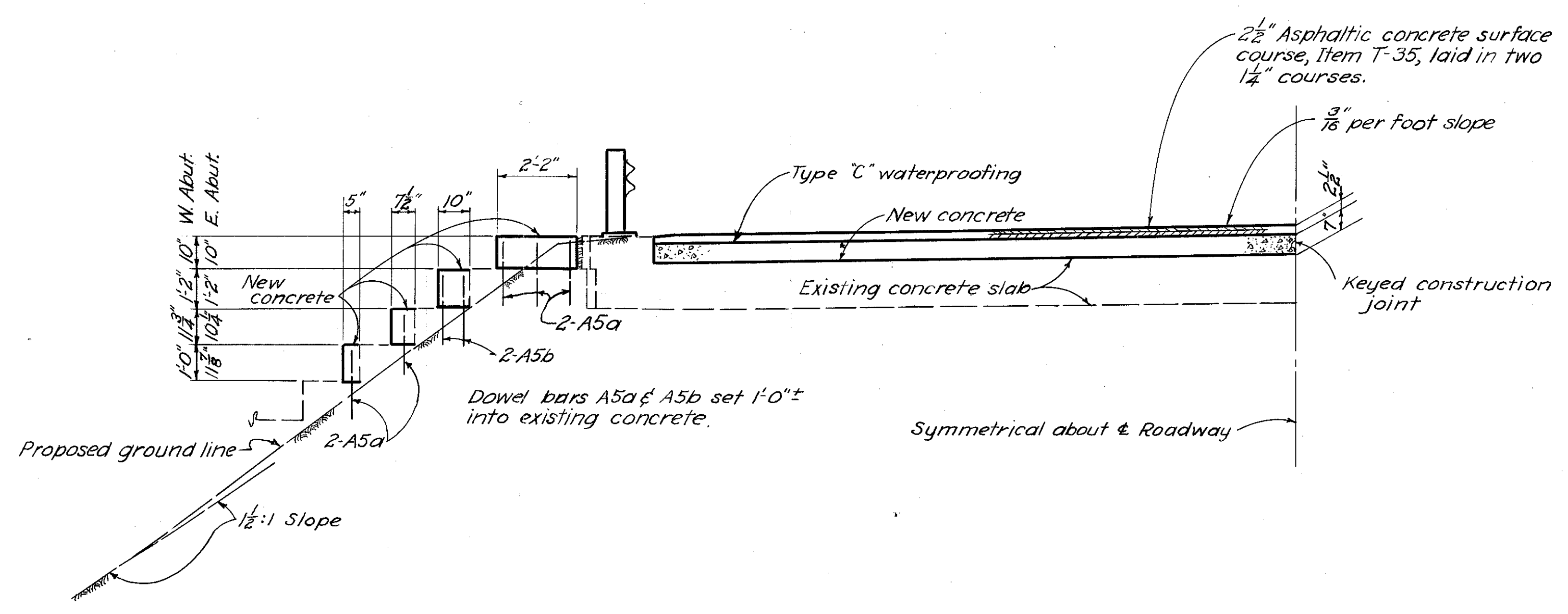
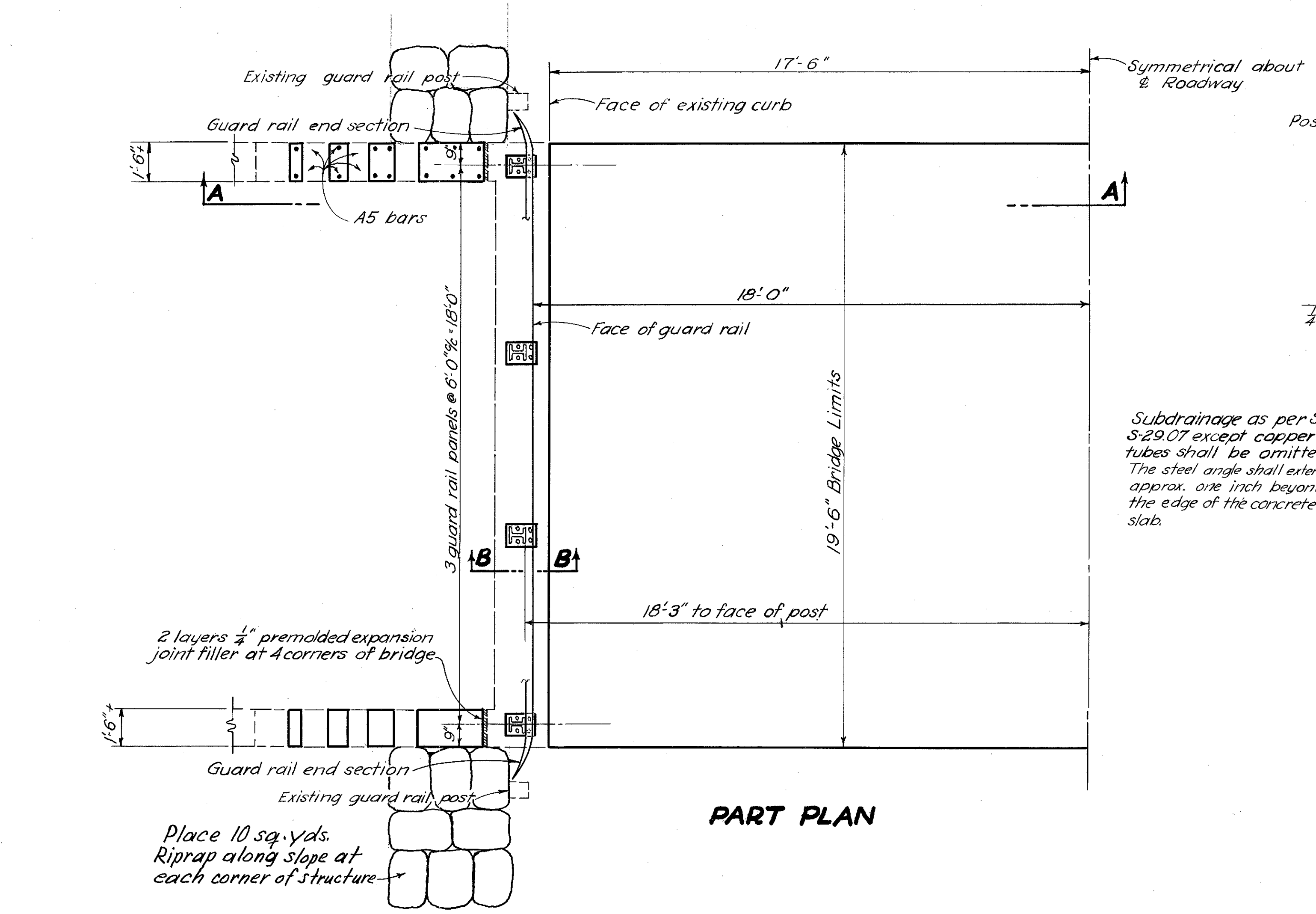
GENERAL NOTES

REMOVAL OF PORTIONS OF EXISTING STRUCTURE: Existing concrete railing shall be removed to the top of curb. Bituminous surface course shall be removed from the bridge slab.

PREPARATION OF EXISTING CONCRETE SLAB: All bituminous material, waterproofing, grease, oil, disintegrated or loose concrete shall be removed from the surface of the slab and face of the curb. These surfaces shall then be roughened to provide bond between the old and new concrete by cutting, with a concrete saw or other suitable tool, reasonably sharp transverse grooves 1" wide and $\frac{3}{4}$ " deep, spaced 6" over the middle one-half of the span and spaced 3" over the end quarters of the span. The surface of the slab and the face of the curb shall then be thoroughly cleaned of all dirt, dust or other foreign materials by the use of water and/or air under pressure and such other methods as are necessary to secure satisfactory results. The surface shall then be thoroughly drenched with clean water. The surface shall be thoroughly wetted and kept moist without free water for a period of at least one hour before coating the surface with cement grout which operation immediately precedes the placing of the new concrete. This grout shall be a mixture of cement and water of about the consistency of thick paint. The surface of the existing slab and the face of existing curb shall be thoroughly covered with a thin coat of this grout, broomed or brushed into the pores of the surface of the concrete. It shall be applied immediately before the new concrete is placed and not so far ahead as to permit drying. The preparation of the existing concrete slab shall be included with Item S-1, Class "C" concrete, for payment.

SLAB CONCRETE shall have a slump of not more than $1\frac{1}{2}$ " and shall be tamped or vibrated. The concrete shall be left in the mixer, without mixing, for a period of approximately 30 minutes after normally required mixing has been completed and then mixed for 5 minutes more, at agitation speed, in order to effect some retempering of the concrete. The necessary provisions shall be made to avoid interruptions of continuous placing of concrete because of 30 minute pause in mixing. The intention is to obtain good bond between new and existing concrete and to reduce the amount of subsequent shrinkage of the new concrete. The slab concrete shall be placed with a construction joint at the centerline of the roadway in order that one-way traffic may be maintained.

GUARD RAIL: Field paint for posts and rails shall be same color as railing on approaches.



REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.
A5a	40	1'-8"	70	Str.
A5b	16	2'-0"	33	Str.
REPLACEMENT STEEL				
RE5	2	2'-0"	4	Str.

NOTE: In the reinforcing steel bar marks, the numeral following the first letter is the Bar Number which indicates the size of the bar.

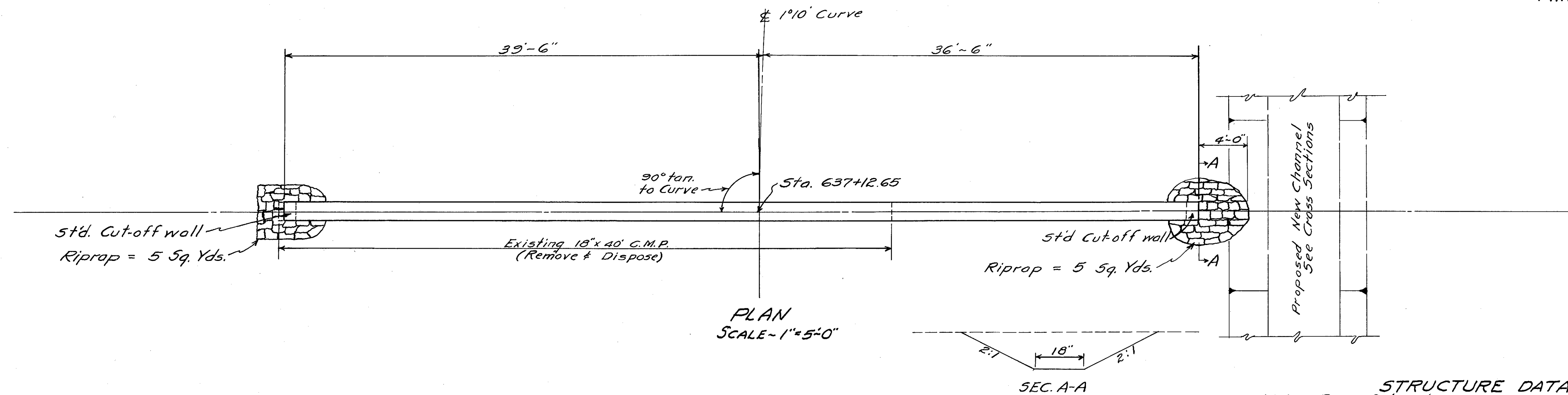
ESTIMATED QUANTITIES

Item	Total	Unit	Description
S-1	16	Cu. yds.	Class "C" concrete (As per plan)
S-3	76	Sq. yds.	Type "C" waterproofing
S-4	107	Lbs.	Reinforcing steel
S-9	10	Sq. ft.	1/4" Premolded expansion joint filler
S-14	43	Lin. ft.	Railing, Type I-15.13 with steel posts
S-22	8	Cu. yds.	Removal of portions of existing structure
S-23	56	Lin. ft.	Dowel holes
S-29	39	Lin. ft.	Subdrainage for wearing surface course
I-10	40	Sq. Yds.	Riprap
* T-35	5	Cu. yds.	Asphaltic concrete surface course, Type A or C

* This item carried to Pavement Calculations.

SECTION A-A

22-5



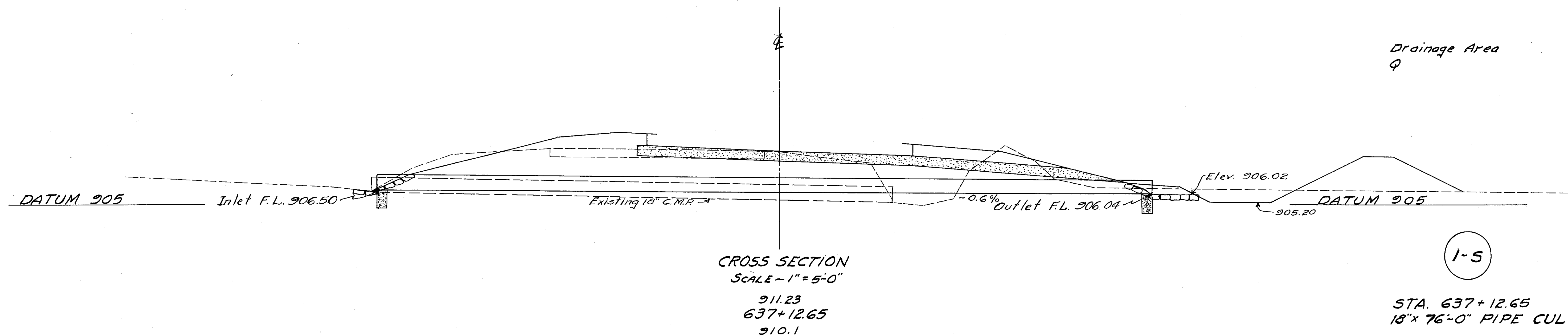
STRUCTURE DATA
 TYPE ~ Pipe Culvert
 SIZE ~ 18" x 76'-0"
 WORK REQ'D. ~ Remove existing 18" x 40' C.M. Pipe.
 Build 18" x 76' pipe culvert with cut-off wall at each end.
 Excavate and riprap inlet and outlet channels as shown.

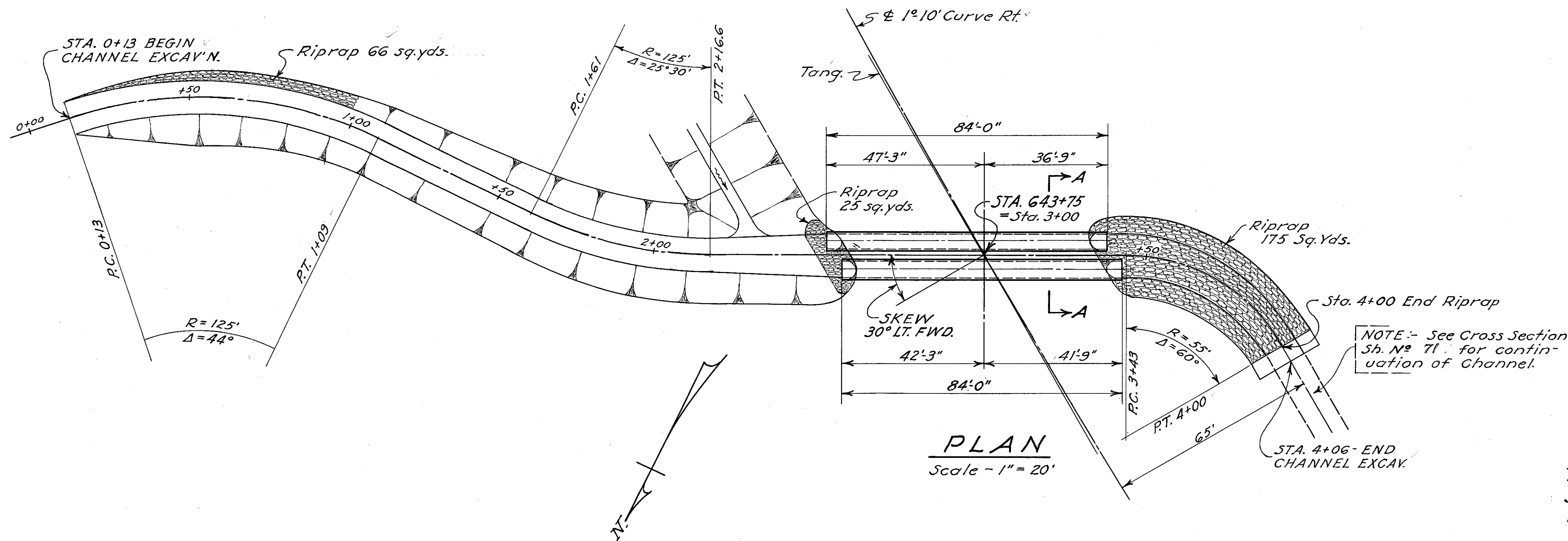
REFERENCE DRAWINGS
 Pipe Culverts S-27 RC. 2 & 3

ESTIMATED QUANTITIES

Excavation for Structures	5. Cu. Yds.
Channel Excavation	1. Cu. Yds.
18" Pipe for Roadway Culverts	76. Lin. Ft.
Concrete for Structures (Class "E")	0.4 Cu. Yds.
18" Pipe, Removed and Disposed of	40. Lin. Ft.
Riprap	10. Sq. Yds.

Drainage Area = 13 AS
 Q = 16 cfs.





STRUCTURE DATA

TYPE:- Std. Pipe Culvert.
SIZE:- 60" x 84'-0" (2 Lines)
WORK REQ'D:- Build new Two (2) lines of 60"x84'-0" Pipe Culvert as shown. Excavate inlet and outlet channels. Riprap as shown.

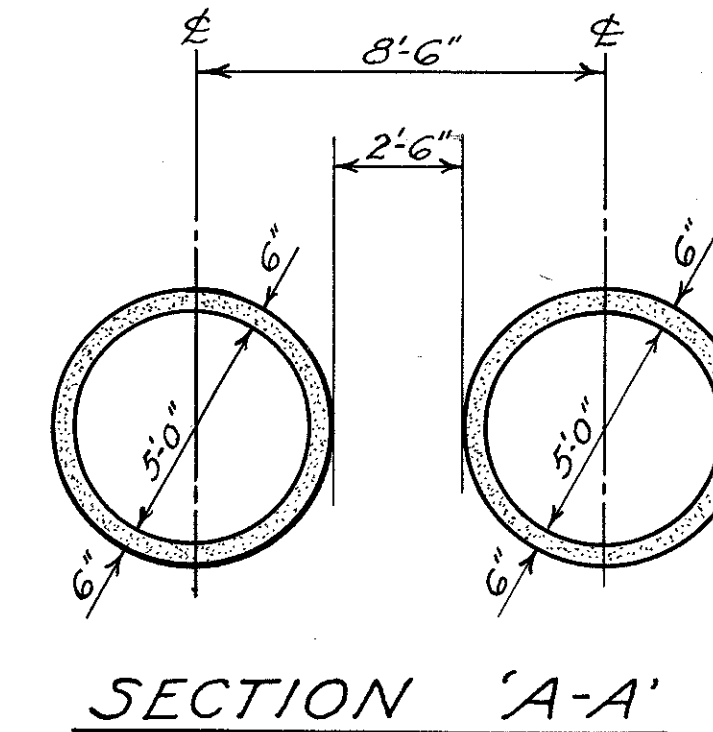
REFERENCE DRAWINGS

Pipe Culverts S-27, P.C. 3.

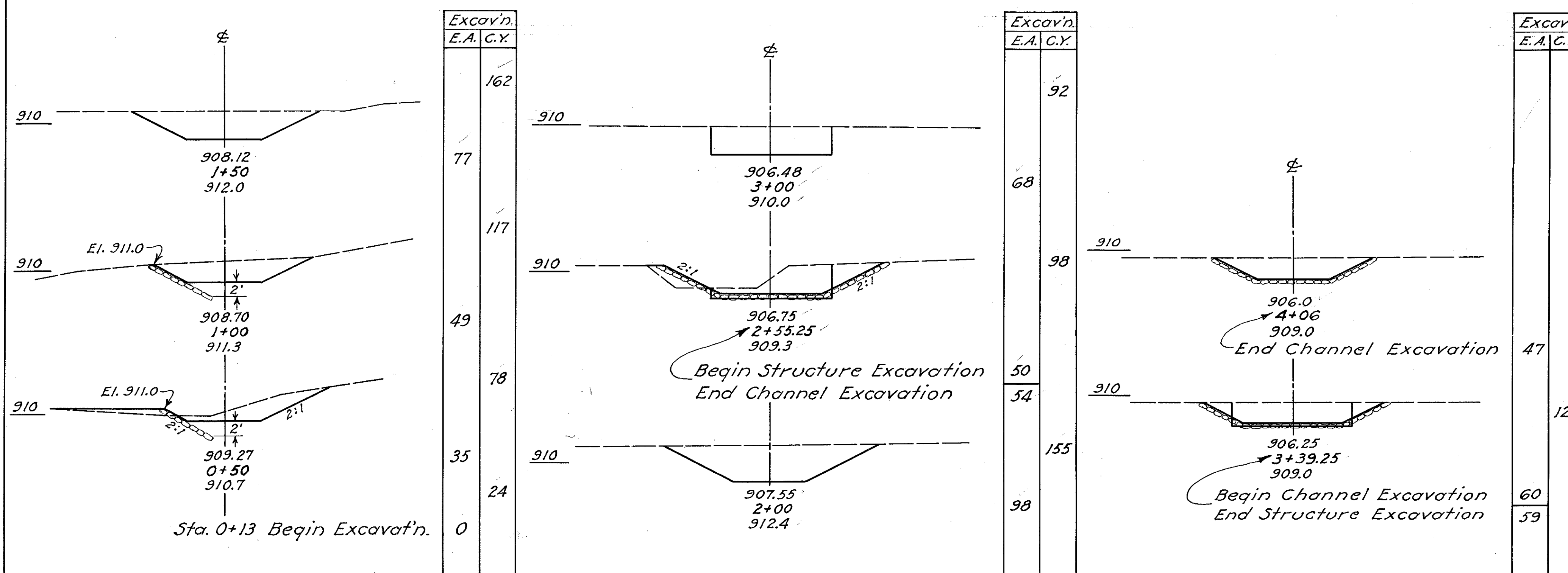
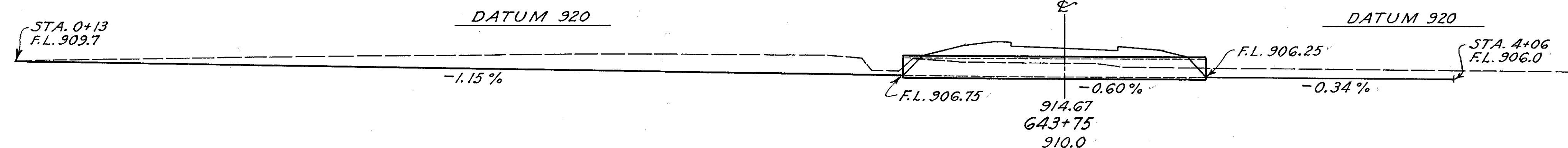
ESTIMATED QUANTITIES

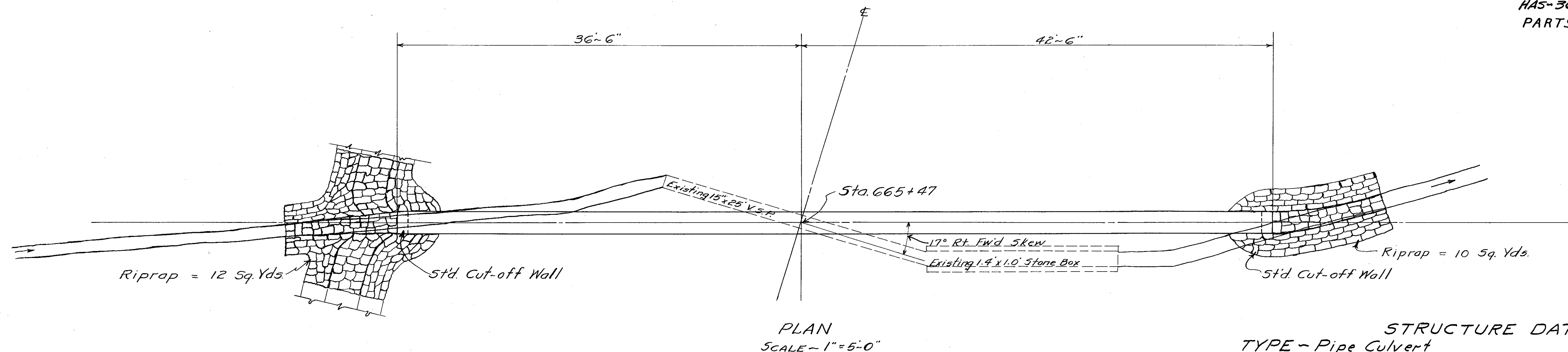
Excavation for Structure	190 Cu.Yds.
Channel Excavation	657 Cu.Yds.
60" Pipe for Roadway Culvert	168 Lin.Ft.
Riprap	266 Sq.Yds.

Drainage Area = 480 acres.
Q = 350 cfs



STA. 643+75.0
60"x84'-0" PIPE CULVERT,
(2 LINES)





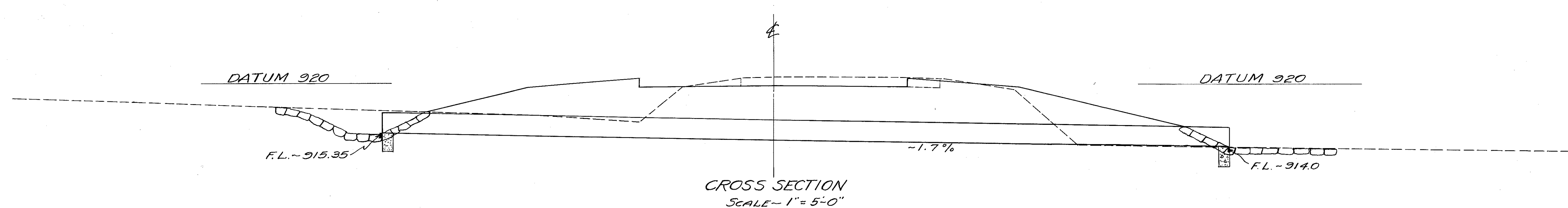
STRUCTURE DATA
 TYPE ~ Pipe Culvert
 SIZE ~ 24" x 79'-0"
 WORK REQ'D ~ Remove existing 15" x 25' V.S.P. and stone box. Build new 24" x 79' Pipe Culvert with Std. Cut-off wall at each end. Riprap inlet and outlet as shown.

REFERENCE DRAWINGS
 Pipe Culverts S-27 P.C. 2&3

ESTIMATED QUANTITIES

Excavation for Structures	30 Cu. Yds.
Channel Excavation	1 Cu. Yds.
24" Pipe for Roadway Culverts	79 Lin. Ft.
Concrete for Structures (Class "E")	0.5 Cu. Yds.
15" Pipe Removed and Disposed of	25 Lin. Ft.
Removal of Portions of Existing Structure	3 Cu. Yds.
Riprap	22 Sq. Yds.

Drainage Area = 15 A²
 Q = 18 cfs.



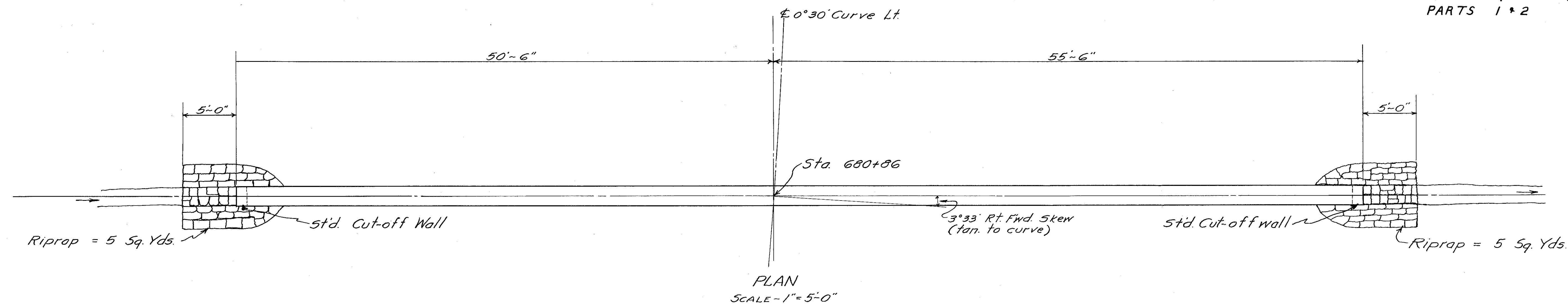
920.72
665+47
920.7

STA. 665+47
24" x 79'-0" PIPE CULVERT

7-S

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	155
2	OHIO	F-415(10)	Partway	166

HAS-36-(0.43-2.92)-(11.92-14.12)
PARTS 1 & 2



STRUCTURE DATA

TYPE - Pipe Culvert
SIZE - 21" x 106'-0"
WORK REQ'D. - Build 21" x 106' pipe culvert with 5' d. Cut-off wall at each end. Riprap inlet and outlet as shown.

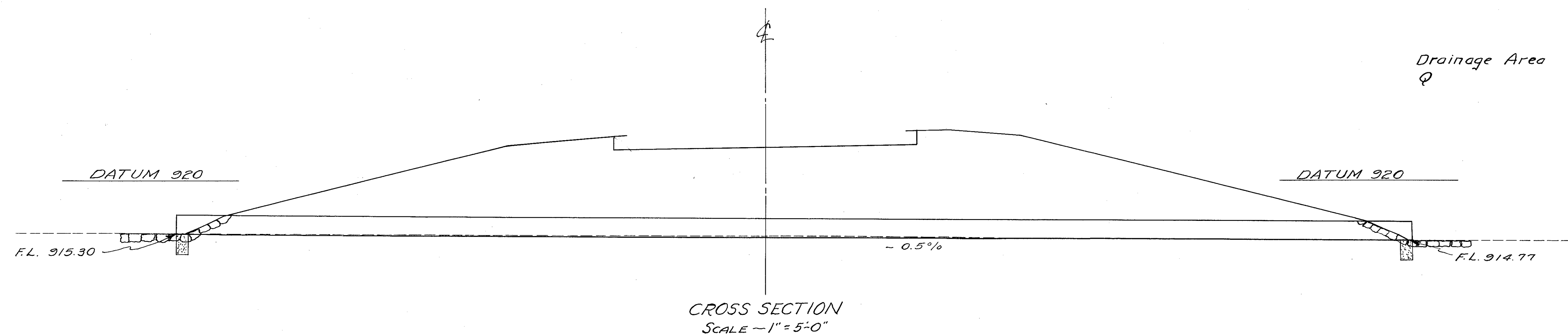
REFERENCE DRAWINGS

Pipe Culverts S-27 P.C. 2 & 3

ESTIMATED QUANTITIES

Excavation for Structures	2	Cu. Yds.
21" Pipe for Roadway Culverts	106	Lin. Ft.
Concrete for Structures, (Class "E")	0.3	Cu. Yds.
Riprap	10	Sq. Yds.

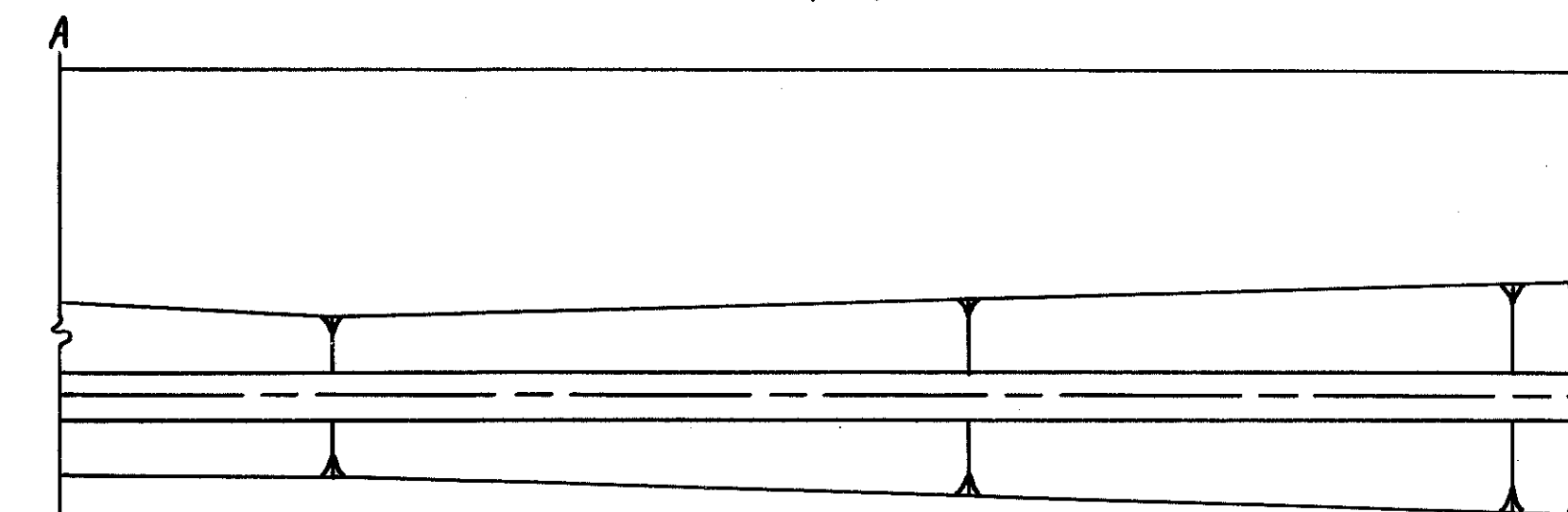
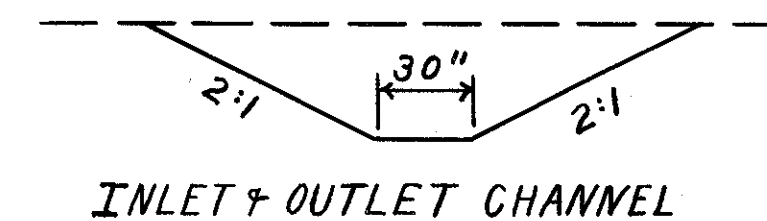
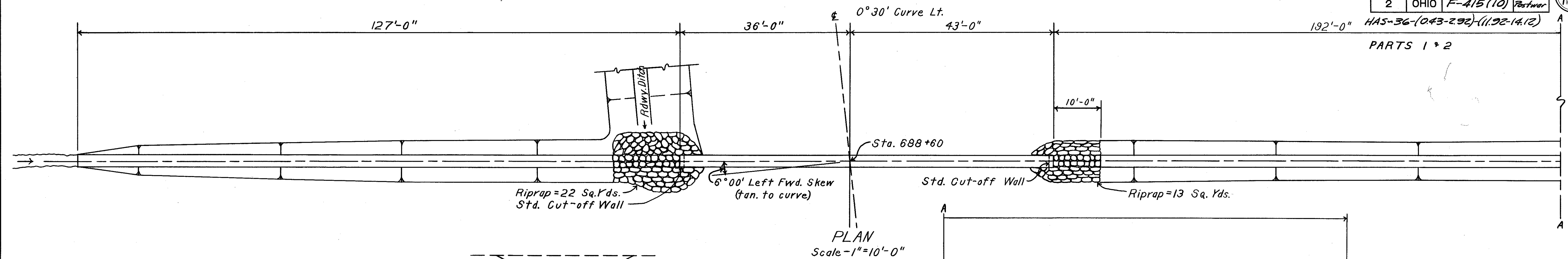
Drainage Area = 16 A_S
Q = 13 cfs.



9-S

924.11
680+86
915.1

STA. 680+86
21" x 106'-0" PIPE CULVERT



STRUCTURE DATA

TYPE - Pipe culvert
 SIZE - 30" x 79'-0"
 WORK REQUIRED - Build 30" x 79' pipe culvert with std. cut-off wall at each end. Excavate and riprap both inlet and outlet channel as shown.

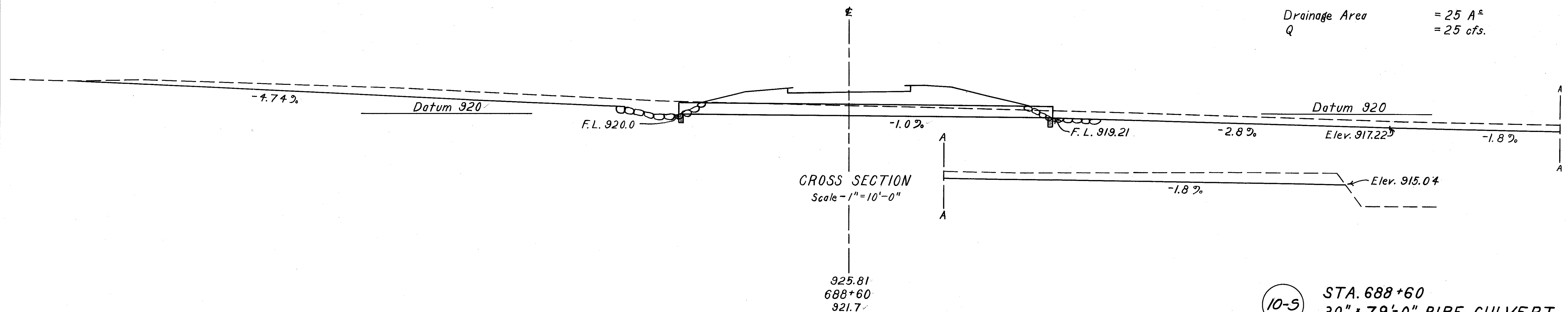
REFERENCE DRAWINGS

Pipe Culverts S-27 P.C. 2 & 3

ESTIMATED QUANTITIES

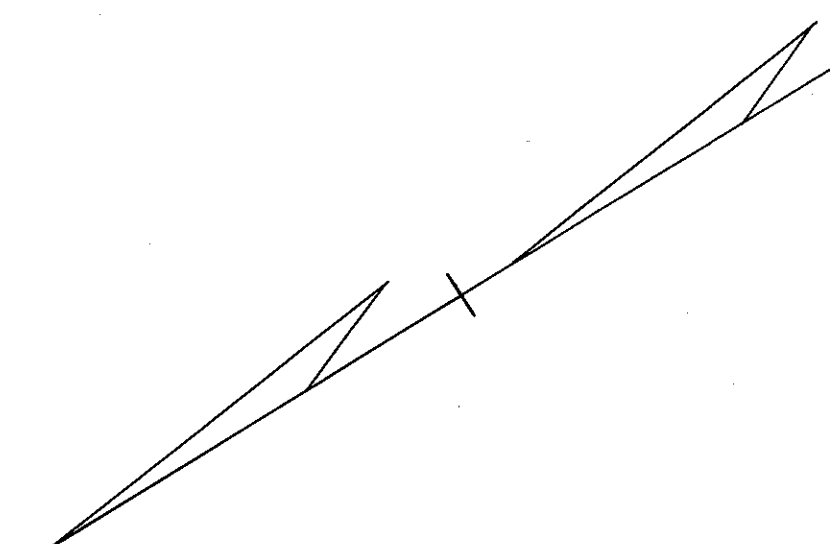
Excavation for Structures	32 Cu. Yds.
Channel Excavation	108 Cu. Yds.
30" Pipe for Roadway Culverts	79 Lin. Ft.
Concrete for Structures (Class "E")	0.5 Cu. Yds.
Riprap	35 Sq. Yds.

Drainage Area = 25 A^c
 Q = 25 cfs.



10-5 STA. 688+60
 30" x 79'-0" PIPE CULVERT

PARTS 1 & 2

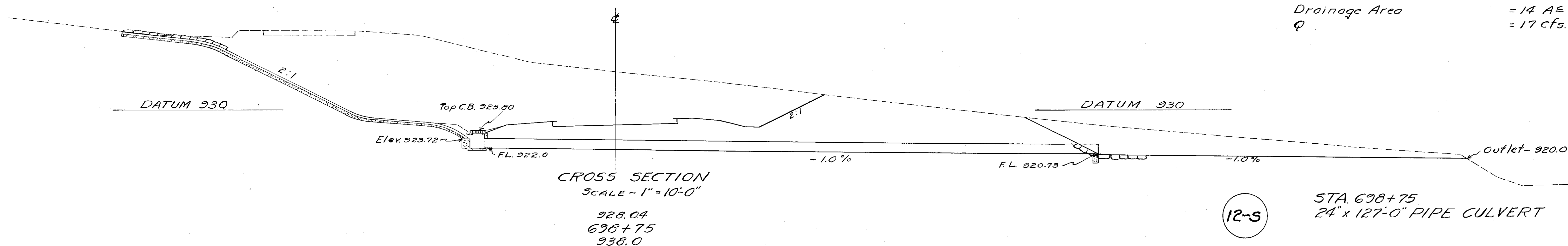
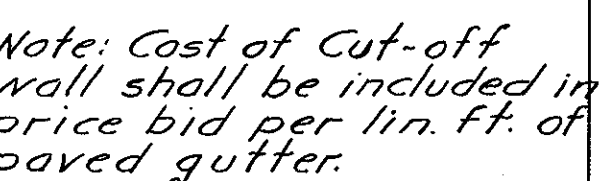


REFERENCE DRAWINGS

ESTIMATED QUANTITIES

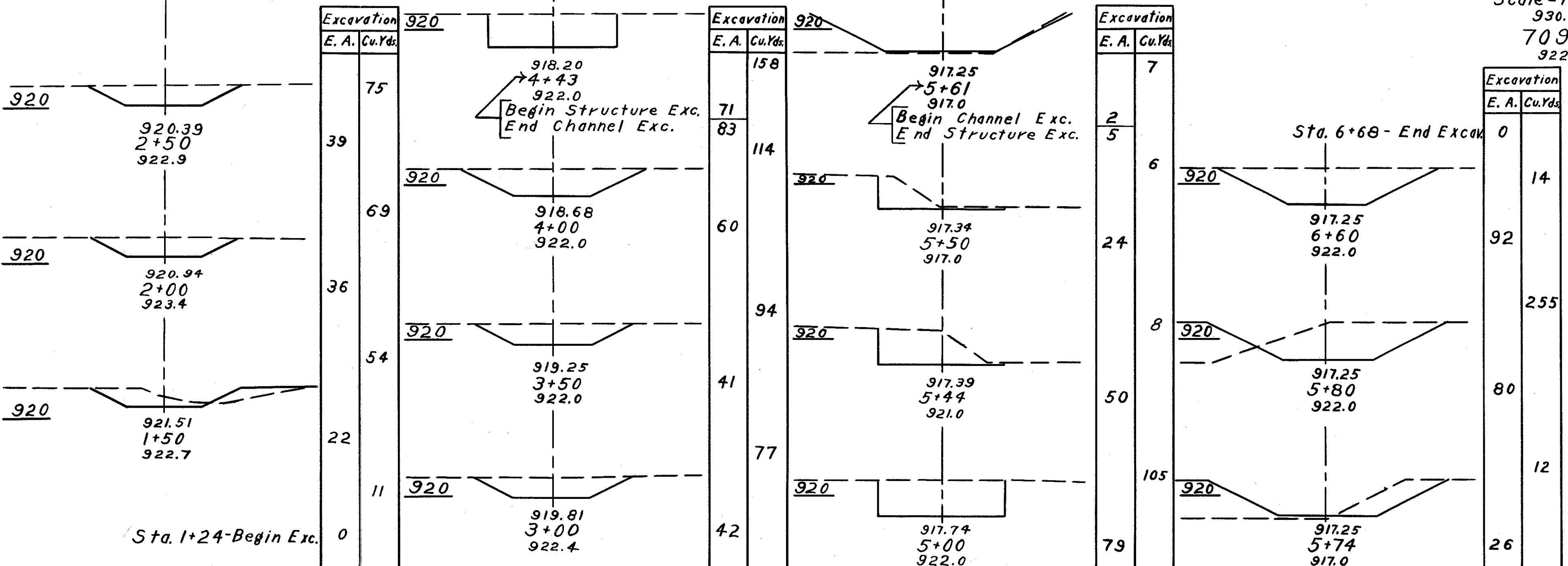
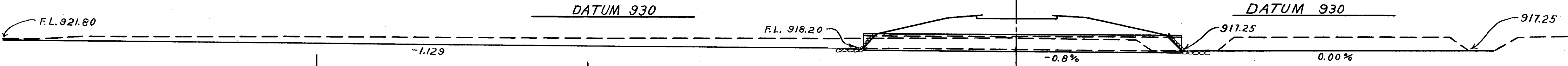
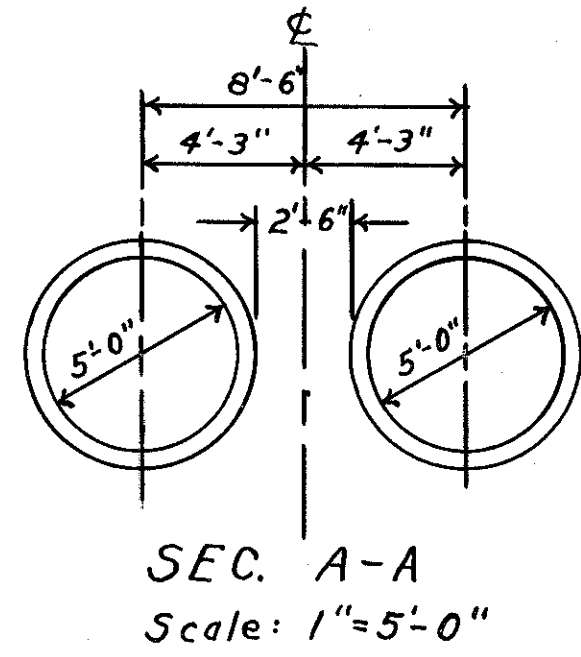
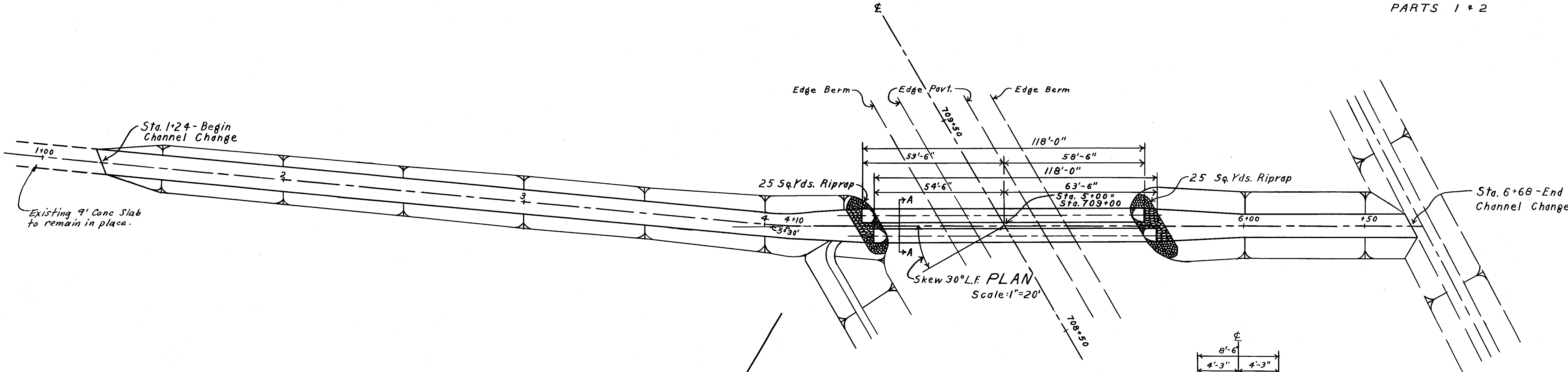
ESTIMATED QUANTITIES	
Excavation for Structures	115. Cu.Yds.
Channel Excavation	93. Cu.Yds.
24" Pipe for Roadway Culverts	127. Lin.Ft.
Concrete for Structures(Class"E")	0.2 Cu.Yds.
Paved Gutter (Type I)	76. Lin.Ft.
Riprap	18. Sq.Yds.
30" Pipe, Removed and Disposed of	48. Lin.Ft.
Std. 1-3 Catch Basins	1. Each

Drainage Area = 14 A $\pm$
Q = 17 cfs.



STA. 698+75
24" x 127'-0" PIPE CULVERT

12-S



STRUCTURE DATA
 TYPE - Std Pipe Culvert
 SIZE - 60" x 118' (2 lines)
 Work Required - Build two lines 60" x 118' pipe culvert as shown. Excavate inlet and outlet channels. Riprap as shown.

REFERENCE DRAWINGS
 Pipe Culverts S-27 P.C.3

ESTIMATED QUANTITIES
 Excavation for Structure 277 Cu. Yds.
 Channel Excavation 782 Cu. Yds.
 60" Pipe for Roadway Culverts 236 Lin. Ft.
 Riprap 50 Sq. Yds.

Drainage Area = 570 A^s
 Q. = 400 cfs.

STA. 709+00
60" x 118' PIPE CULVERT
(2 LINES)

13-5

STRUCTURE DATA

TYPE :- Std. Pipe Culvert.
 SIZE :- 42"x115'-0" - (2 Lines).
 WORK REQ'D. :- Build new Two (2) lines of 42"x115'-0" Pipe Culvert as shown. Excavate inlet and outlet channels. Riprap as shown.

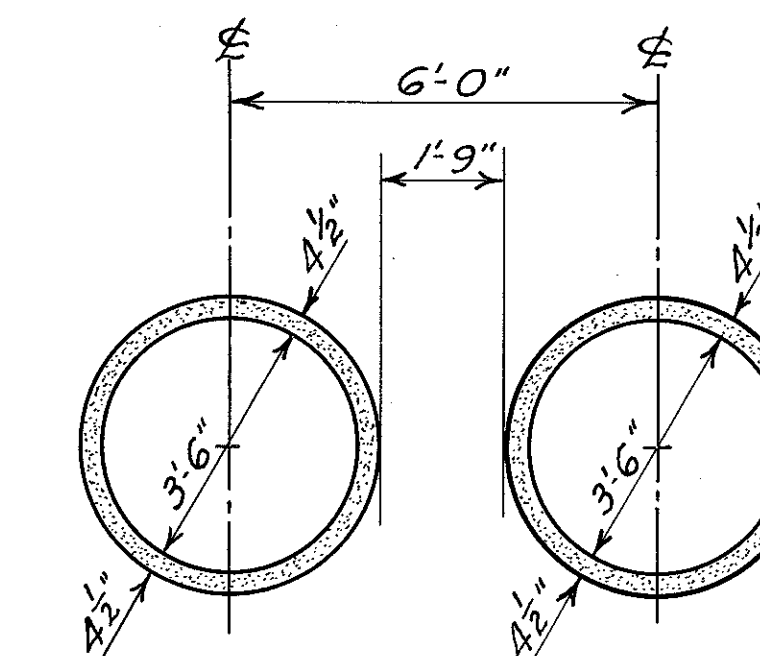
REFERENCE DRAWINGS

Pipe Culverts 5-27, P.C. 3.

ESTIMATED QUANTITIES

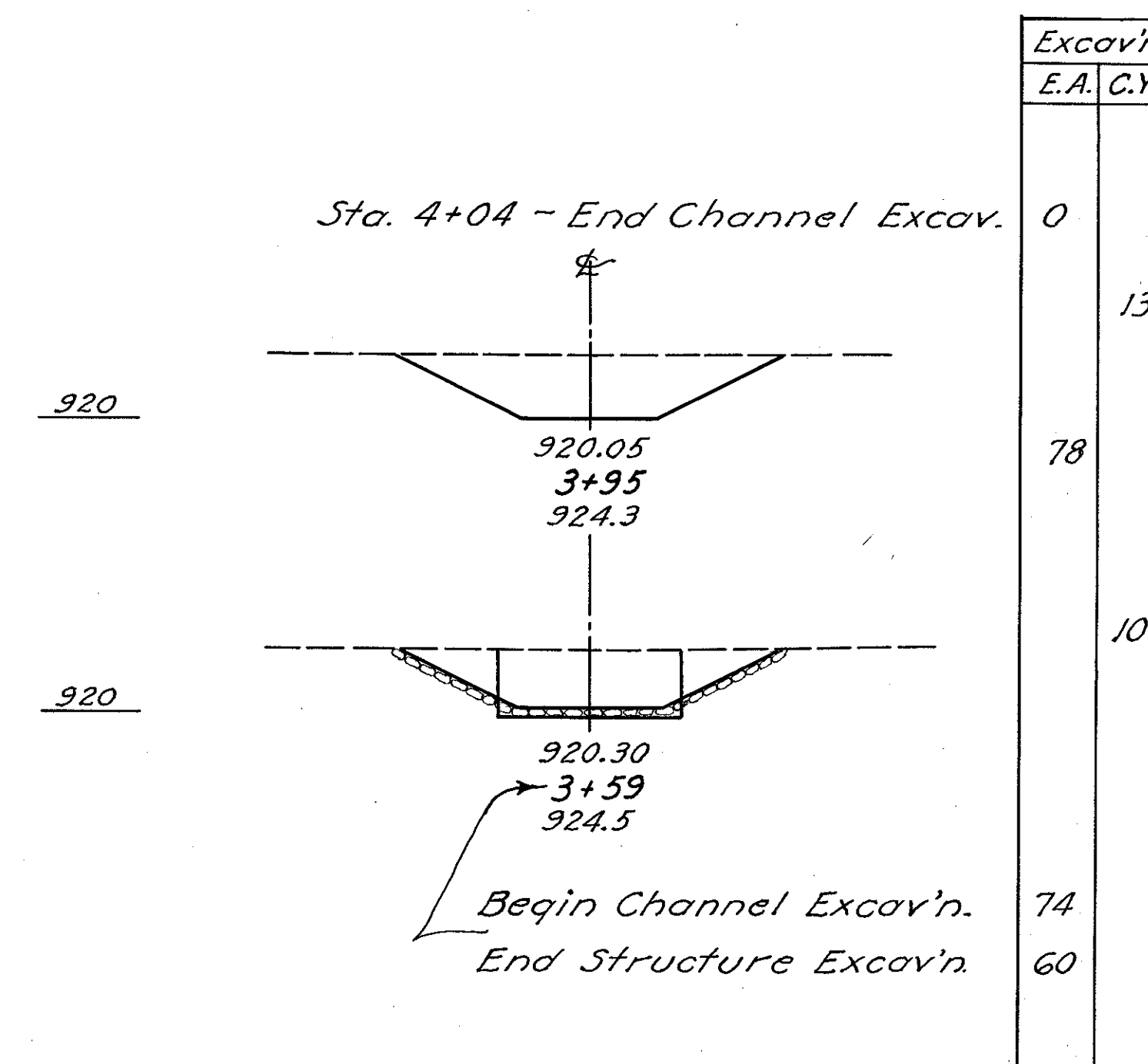
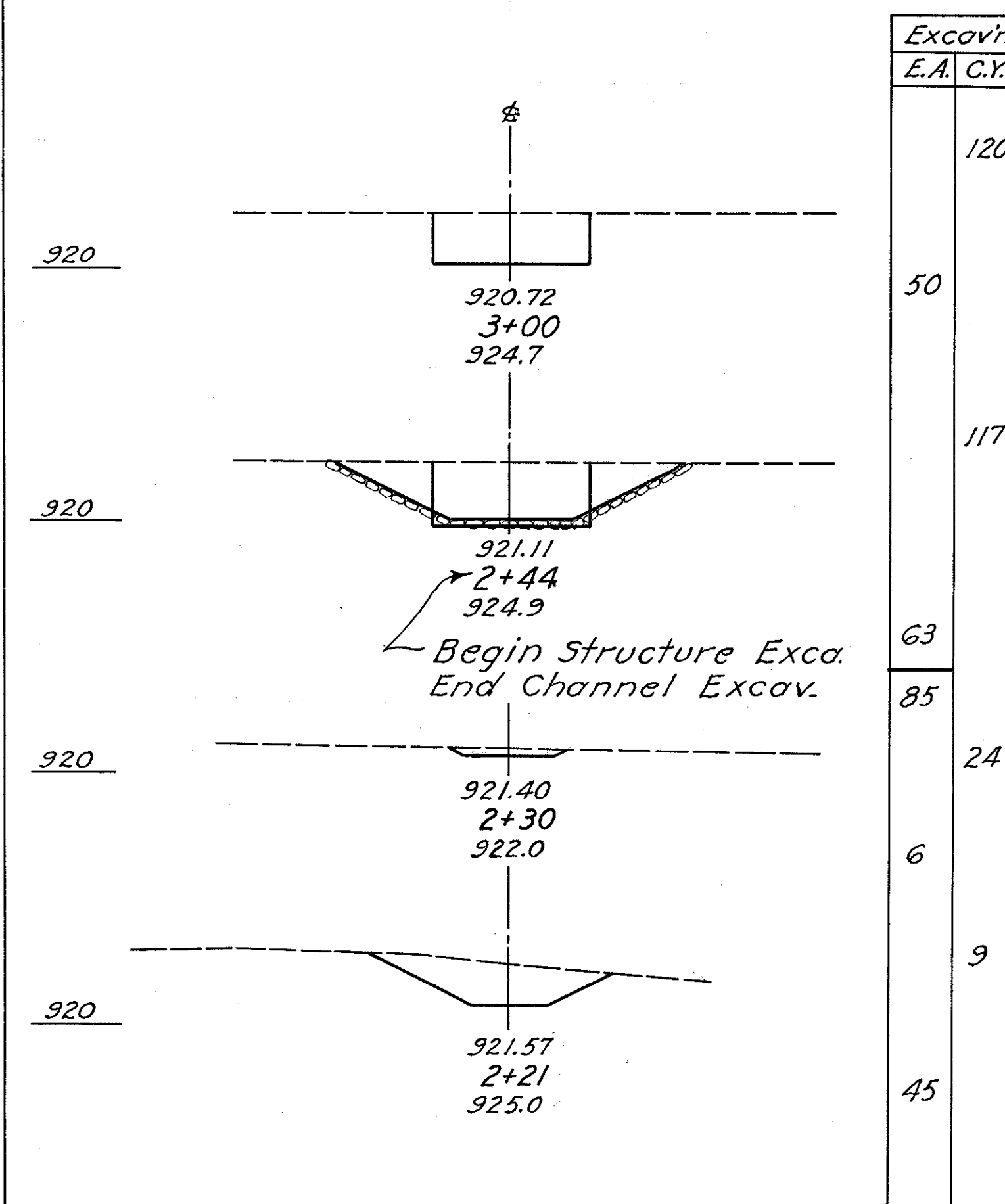
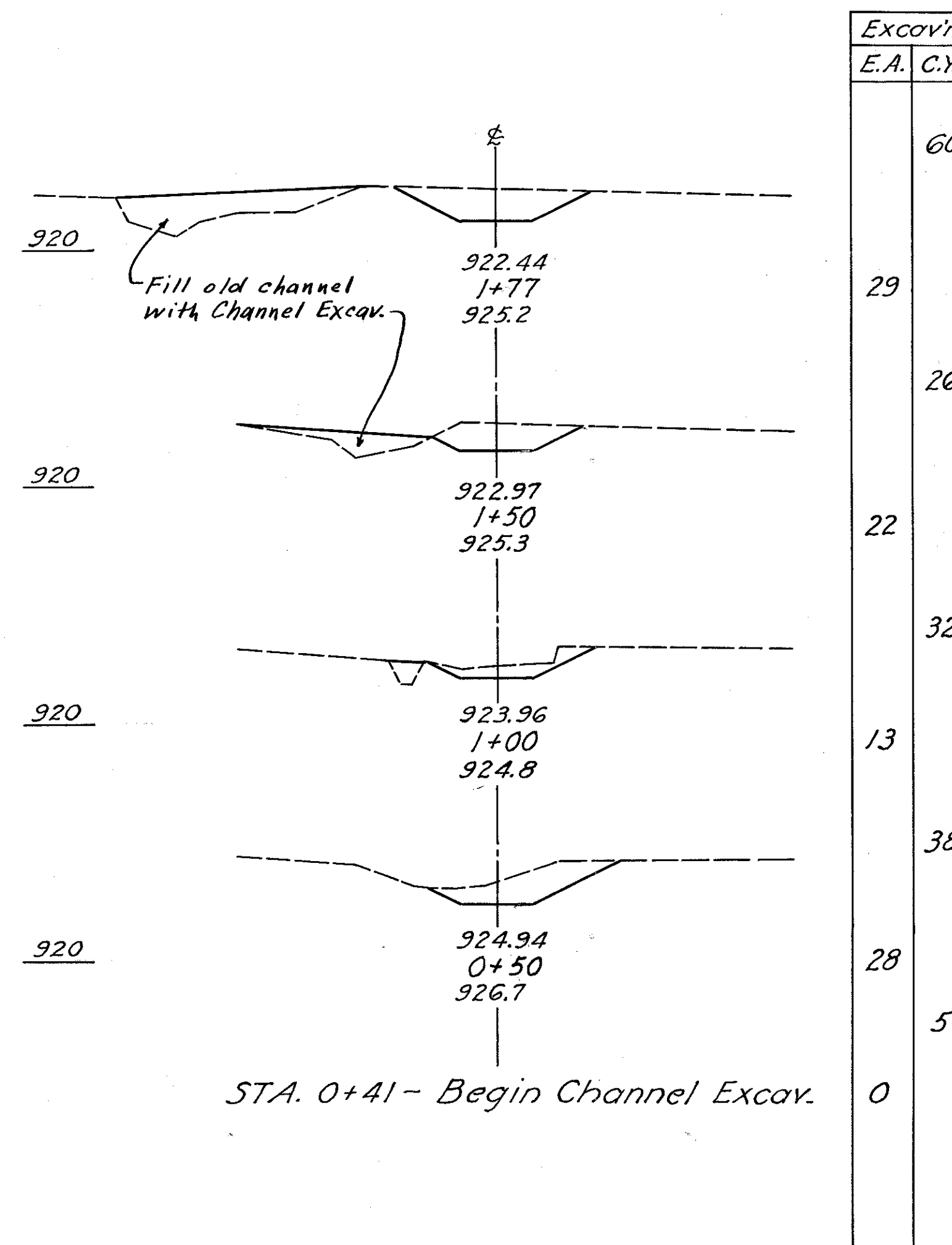
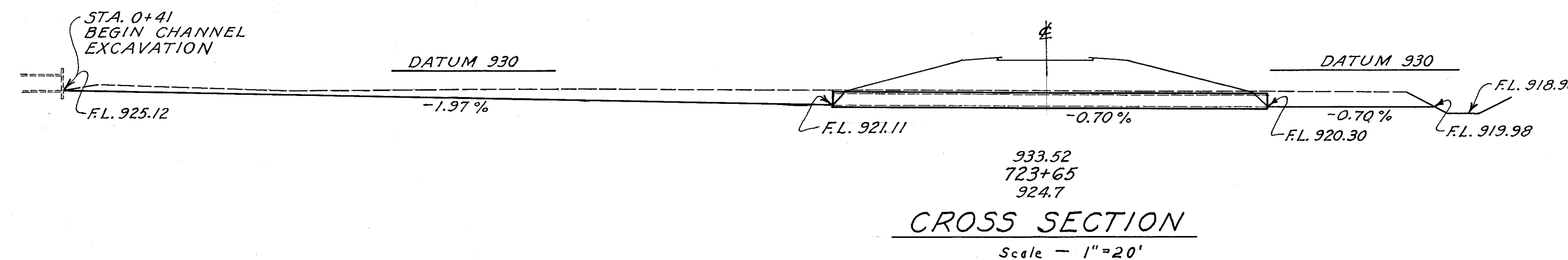
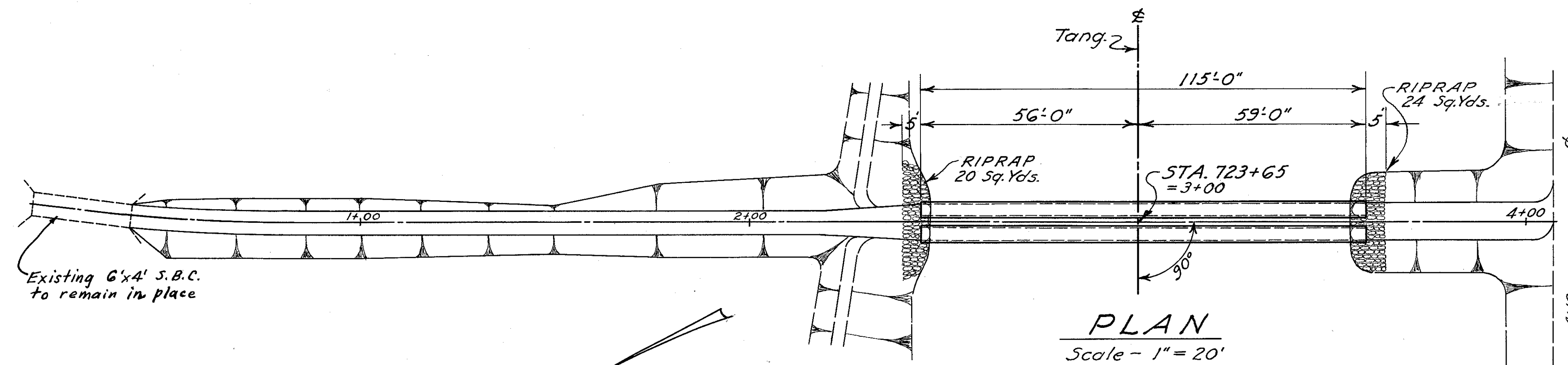
Excavation for Structure,	237 Cu. Yds.
Channel Excavation,	308 Cu. Yds.
42" Pipe for Roadway Culverts,	230 Lin. Ft.
Riprap,	44 Sq. Yds.

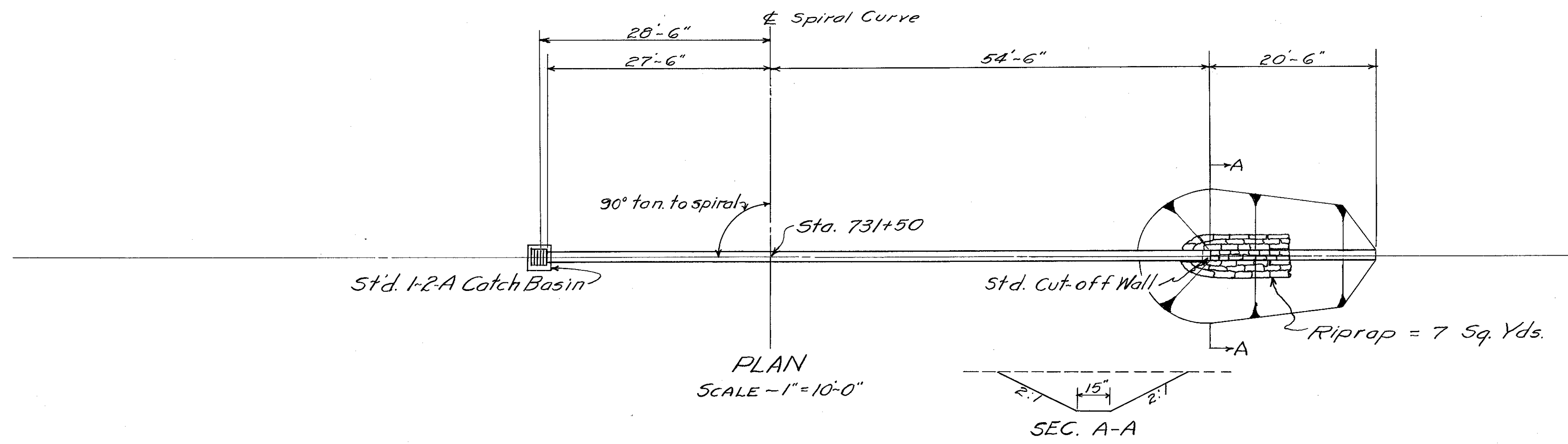
Drainage Area = 160 ac.
 Q = 150 cfs.



SECTION 'A-A'

STA. 723+65.0
 42"x115'-0" PIPE CULVERT
 (2 LINES)
 Sh. 1 of 1.

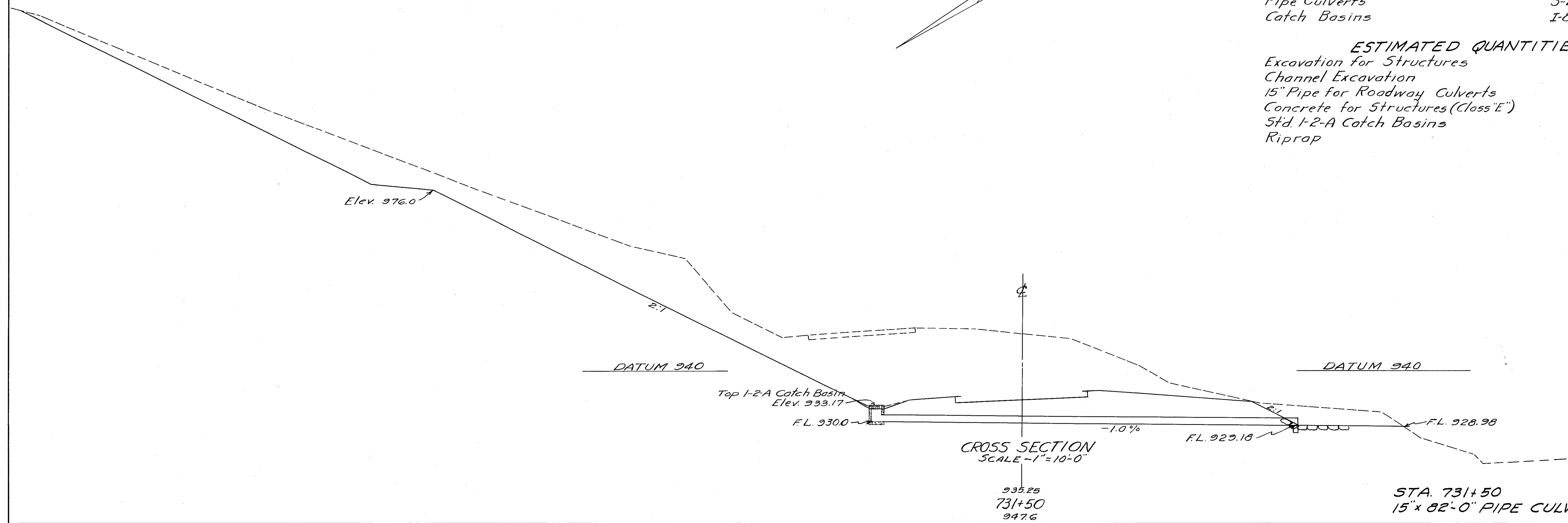




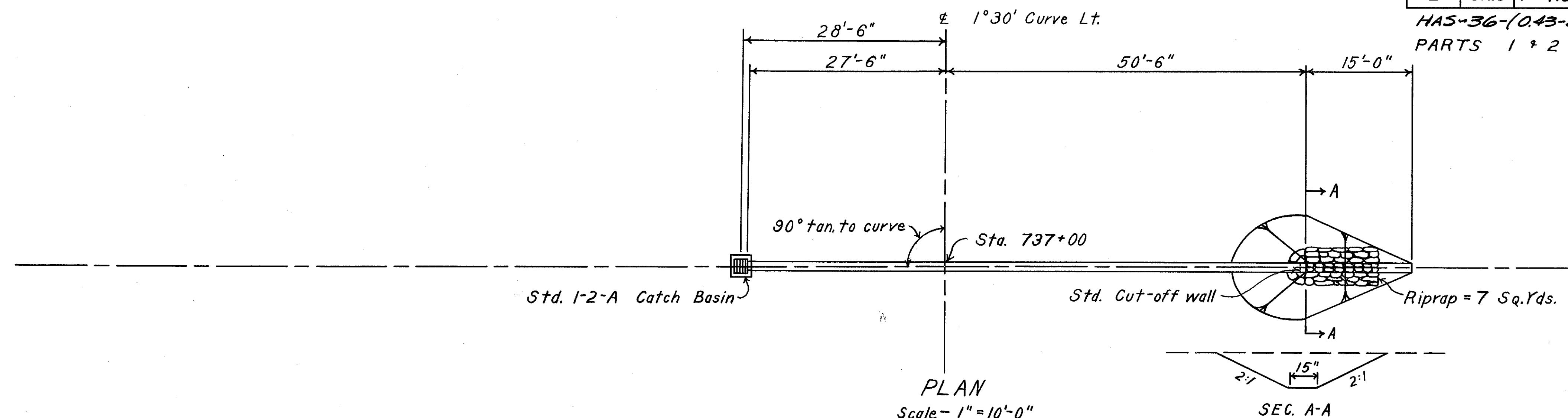
STRUCTURE DATA
 TYPE - Pipe Culvert
 SIZE - 15" x 82'-0"
 WORK REQ'D. - Build 15" x 82' Pipe Culvert with Std. 1-2-A Catch Basin at inlet and Std. Cut-off wall at outlet. Excavate and riprap outlet channel as shown.

REFERENCE DRAWINGS
 Pipe Culverts 5-27 P.C. 2#3
 Catch Basins I-8 C.B. 1-2-A

ESTIMATED QUANTITIES
 Excavation for Structures 37 Cu. Yds.
 Channel Excavation 10 Cu. Yds.
 15" Pipe for Roadway Culverts 82 Lin. Ft.
 Concrete for Structures (Class "E") 0.2 Cu. Yds.
 Std. 1-2-A Catch Basins 1 Each
 Riprap 7 Sq. Yds.



STA. 731+50
15" x 82'-0" PIPE CULVERT



STRUCTURE DATA

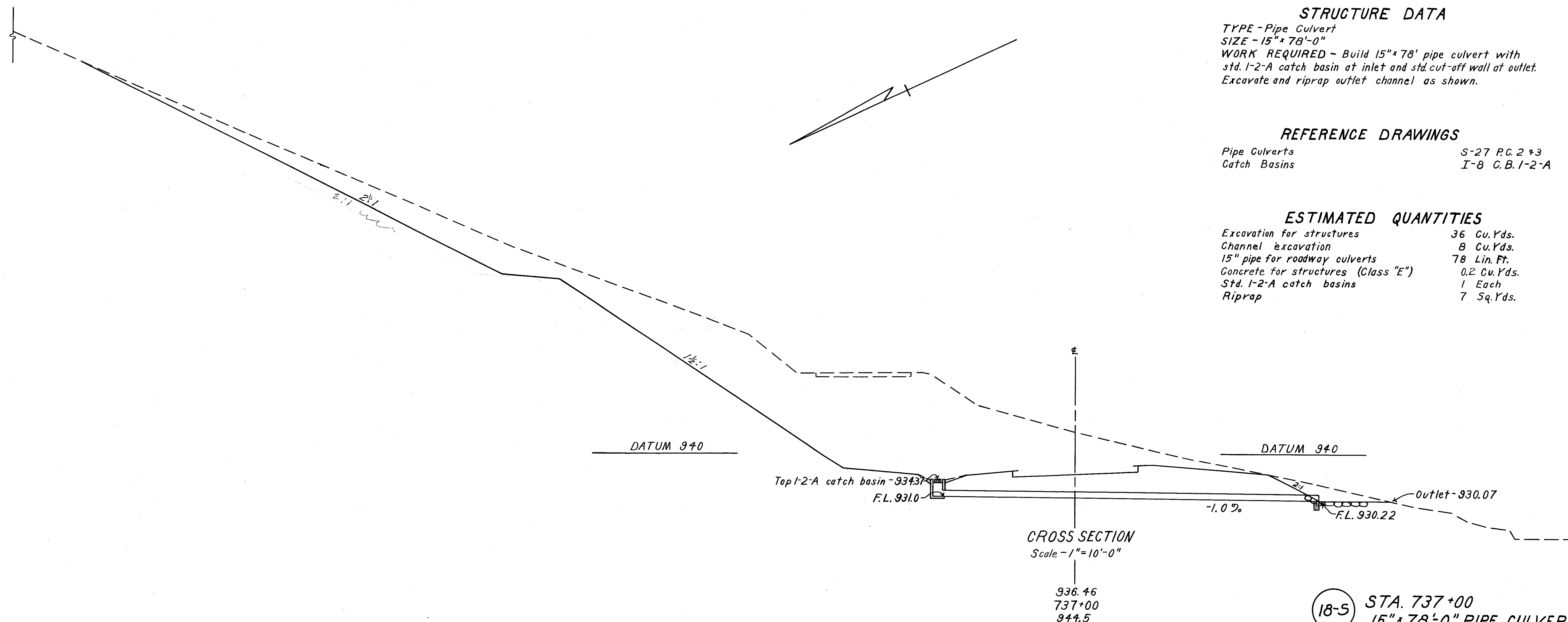
TYPE - Pipe Culvert
 SIZE - 15" x 78'-0"
 WORK REQUIRED - Build 15" x 78' pipe culvert with std. 1-2-A catch basin at inlet and std. cut-off wall at outlet. Excavate and riprap outlet channel as shown.

REFERENCE DRAWINGS

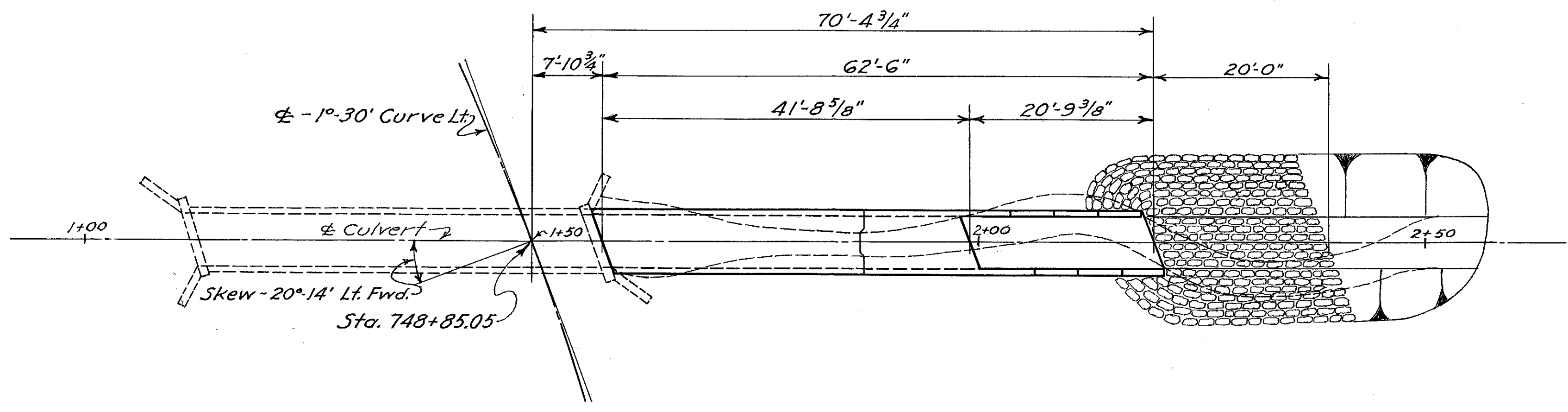
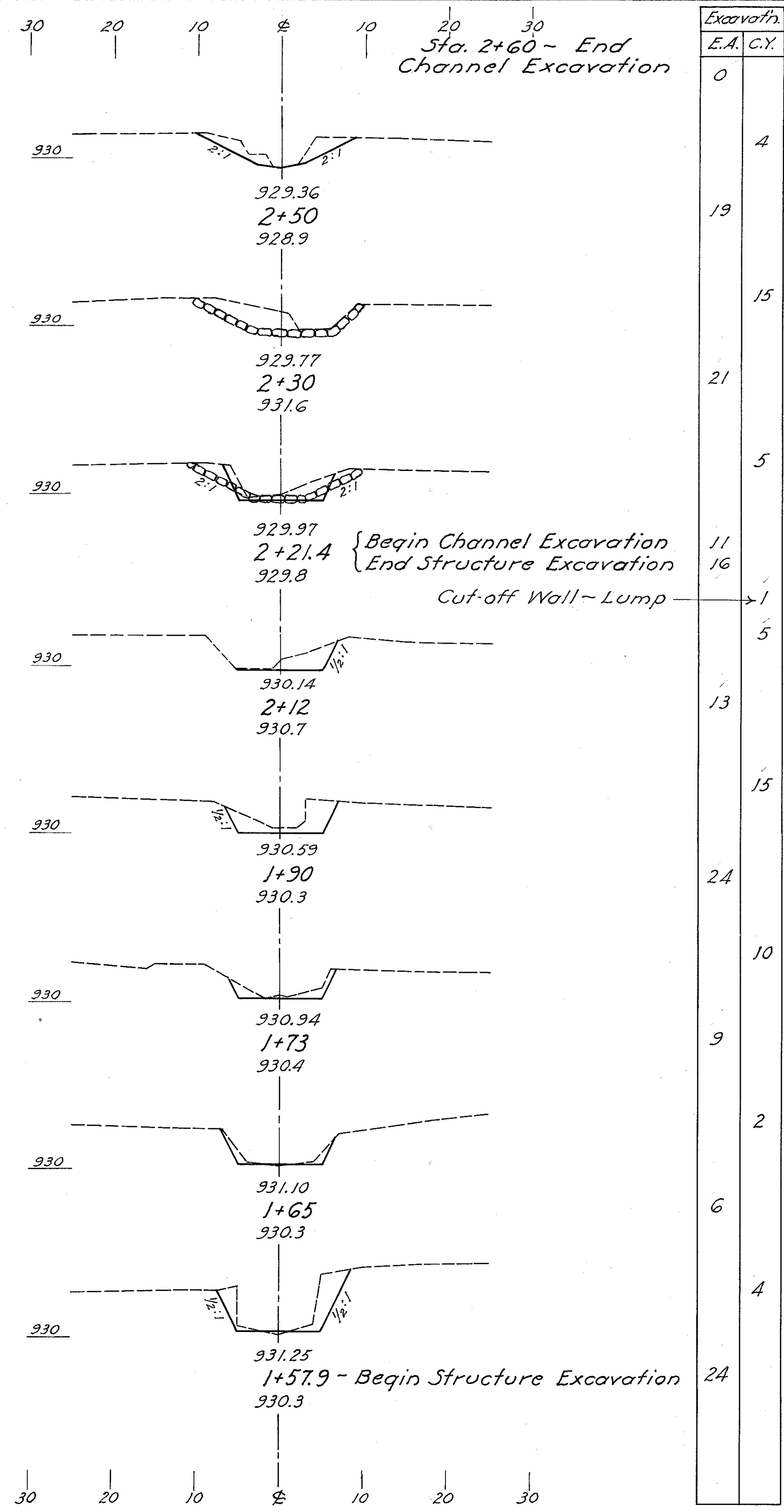
Pipe Culverts S-27 P.C. 2 & 3
 Catch Basins I-8 C.B. 1-2-A

ESTIMATED QUANTITIES

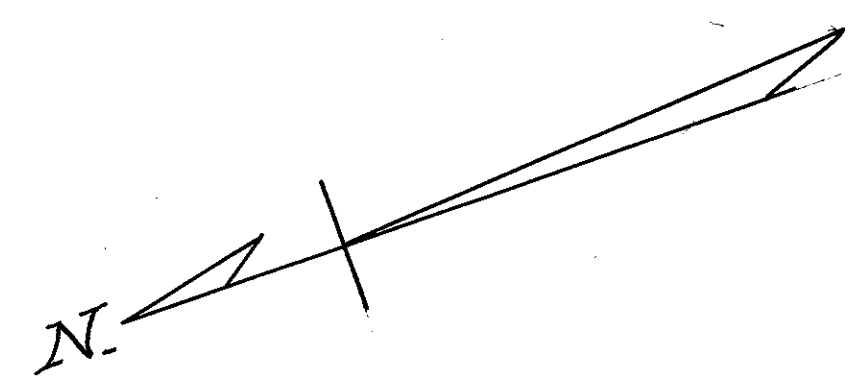
Excavation for structures	36 Cu. Yds.
Channel excavation	8 Cu. Yds.
15" pipe for roadway culverts	78 Lin. Ft.
Concrete for structures (Class "E")	0.2 Cu. Yds.
Std. 1-2-A catch basins	1 Each
Riprap	7 Sq. Yds.



18-5 STA. 737+00
 15" x 78'-0" PIPE CULVERT



PLAN
Scale 1"=10'



STRUCTURE DATA

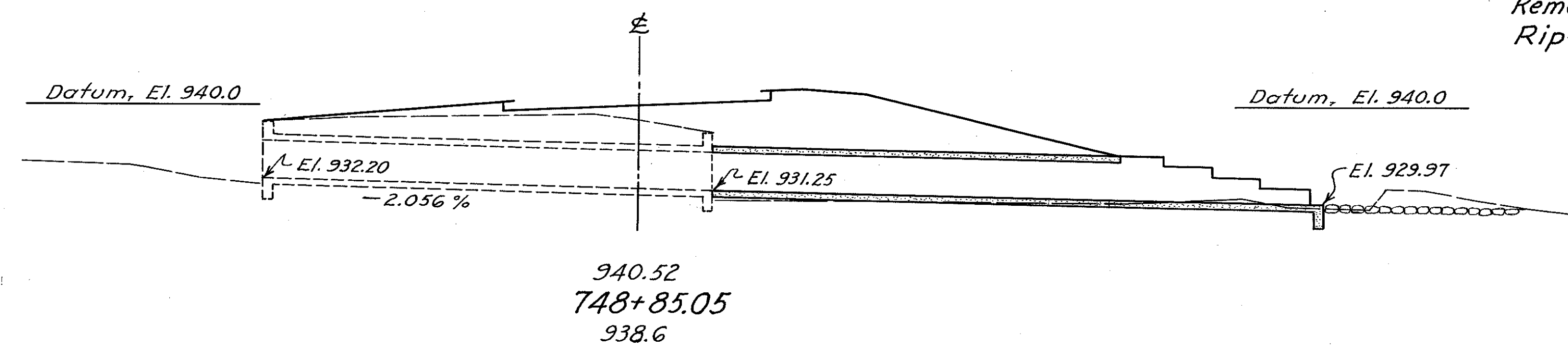
TYPE - Small Box Culvert Extension.
 SIZE - 6'-0" x 4'-0" x 62'-6"
 WORK REQ'D. - Build new 6'-0" x 4'-0" x 62'-6"
 Small Box Culvert Extension. Excavate
 outlet channel. Rip-rap as shown.

REFERENCE DRAWINGS

Small Box Culvert --- SBC-45, Sheets 1 & 2.

ESTIMATED QUANTITIES

Excavation for Structure,	37 Cu.Yds.
Channel Excavation,	24 Cu.Yds.
Concrete for Structure (Class 'C')	33 Cu.Yds.
Reinforcing Steel,	4137 Lbs.
Dowel Holes,	24 Lin. Ft.
Removal of portions of existing structures,	2.5 Cu.Yds.
Rip-rap,	56 Sq.Yds.



CROSS SECTION
Scale 1"=10'

PARTS 1 & 2

MARK	SIZE	N ^o	LENGTH	SHAPE	WEIGHT
S6α	3/4" φ	223	8'-2"	Bent	2736
L4α	1/2" φ	11	30'-0"	Straight	220
L4b	1/2" φ	7	5'-8"	"	27
L4c	1/2" φ	1	11'-3"	"	8
L4d	1/2" φ	1	11'-9"	"	8
L4e	1/2" φ	1	12'-1"	"	8
L4f	1/2" φ	1	12'-5"	"	8
L4g	1/2" φ	1	12'-9"	"	8
L4h	1/2" φ	2	29'-7"	"	40
L4i	1/2" φ	2	28'-11"	"	39
L4j	1/2" φ	2	28'-7"	"	38
L4k	1/2" φ	4	28'-4"	"	76
L4l	1/2" φ	1	12'-0"	"	8
L4m	1/2" φ	3	11'-2"	"	22
L4n	1/2" φ	1	29'-8"	"	20
L4o	1/2" φ	1	13'-0"	"	9
L4p	1/2" φ	3	13'-4"	"	27
L4q	1/2" φ	4	27'-10"	"	74
L4r	1/2" φ	1	29'-6"	"	20
L4s	1/2" φ	2	12'-9"	"	17
L4t	1/2" φ	2	17'-6"	"	23
L4u	1/2" φ	2	22'-4"	"	30
V4α	1/2" φ	83	6'-2"	Bent	342
E4α	1/2" φ	12	5'-5"	"	43
E4b	1/2" φ	10	4'-5"	"	30
E4c	1/2" φ	10	3'-5"	"	23
E4d	1/2" φ	10	2'-4"	"	16
E4e	1/2" φ	2	20'-6"	"	27
E4f	1/2" φ	2	22'-0"	"	29
G4α	1/2" φ	1	6'-10"	Straight	5
G4b	1/2" φ	8	3'-2"	Bent	17
K4α	1/2" φ	12	3'-3"	"	26
K4b	1/2" φ	12	2'-8"	"	21
D6α	3/4" φ	24	2'-0"	Straight	72
RE4	1/2" φ	2	3'-8"	"	5
REG	3/4" φ	2	4'-6"	"	14
TOTAL					4137

6'-10" % S6a bar

4'-10" % V4a bar

1'-9" % E4d bars

2'-10" % E4c bars

3'-10" % E4b bars

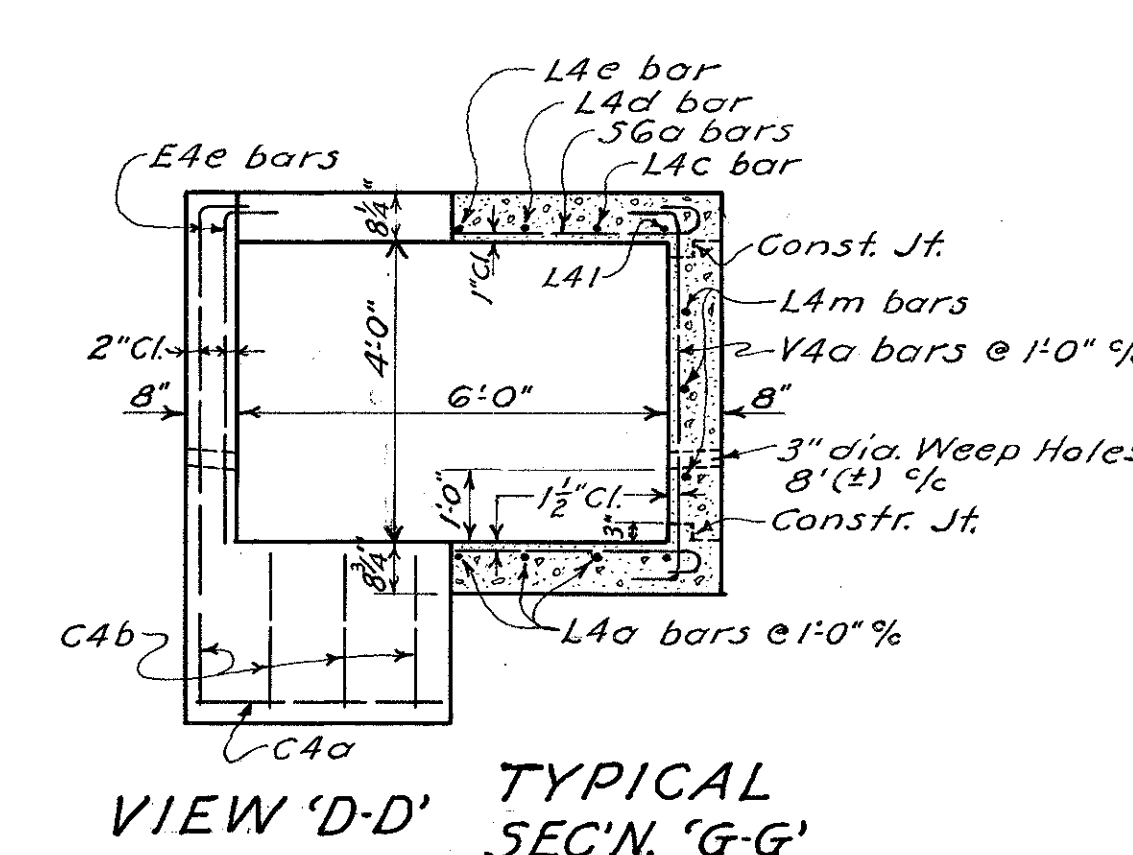
4'-10" % E4a bars

13/16" R K4b 1'-6" % 8"

13/16" R K4a 2'-1" % 8"

15" % C4b 2'-0" %

22-5



VIEW 'D-D' TYPICAL
SEC'N. 'G-G'

FED. RD. DIVISION	STATE	PROJECT	TYPE FUND
2	OHIO	F-415(0)	POST WAR

164
166

HAS-36-(043-292)-(11.92-14.12)
2 Mi. NW of Tappan

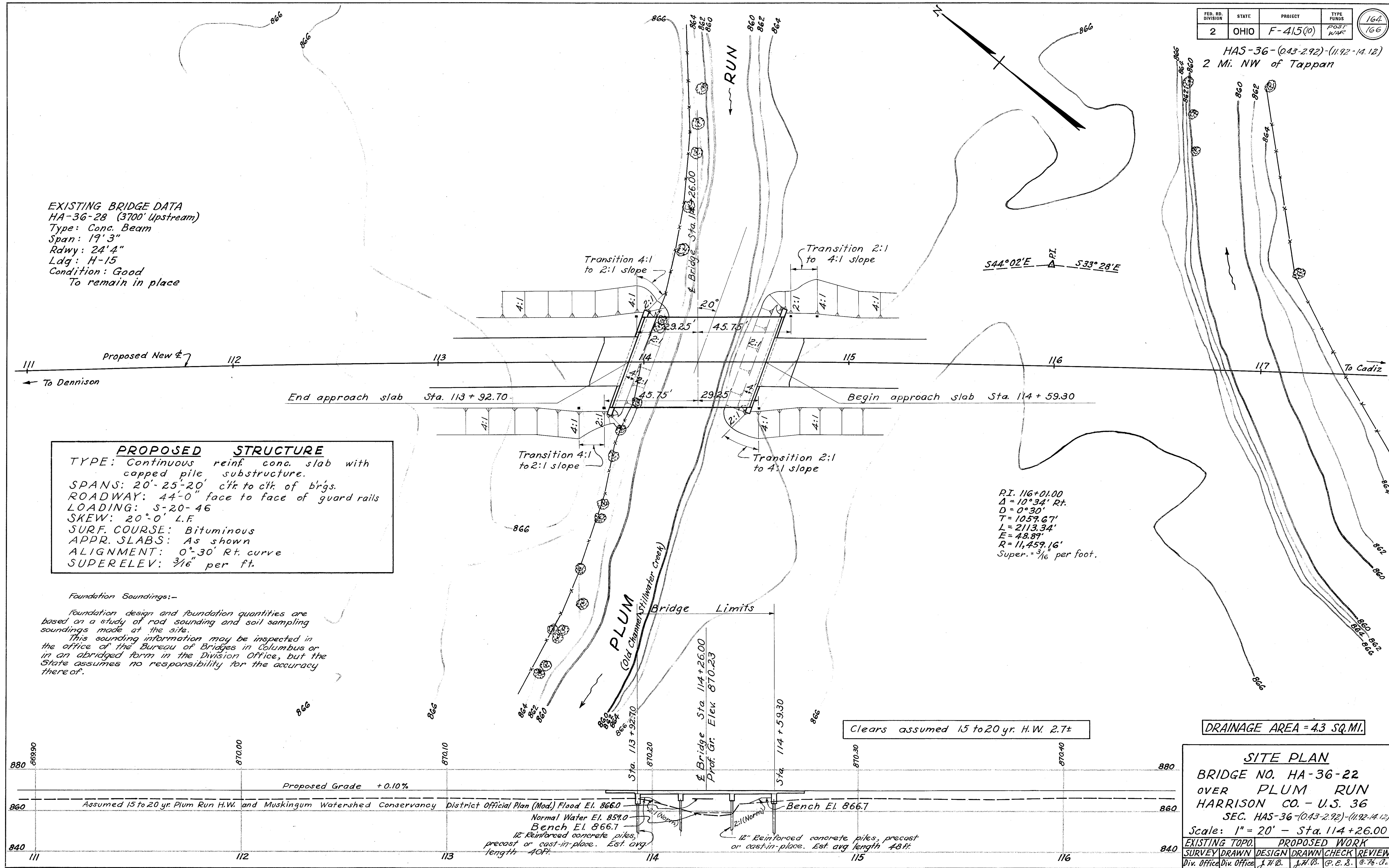
EXISTING BRIDGE DATA
HA-36-28 (3700' Upstream)
Type: Conc. Beam
Span: 19'3"
Rdwy: 24'4"
Ldg: H-15
Condition: Good
To remain in place

PROPOSED STRUCTURE
TYPE: Continuous reinf. conc. slab with capped pile substructure.
SPANS: 20'-25'-20' c'tk to c'tk of br'gs.
ROADWAY: 44'-0" face to face of guard rails
LOADING: S-20-46
SKEW: 20°-0' L.F.
SURF. COURSE: Bituminous
APPR. SLABS: As shown
ALIGNMENT: 0°-30' Rt. curve
SUPERELEV: $\frac{3}{16}$ " per ft.

Foundation Soundings:-

Foundation design and foundation quantities are based on a study of rod sounding and soil sampling soundings made at the site.

This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in an abridged form in the Division Office, but the State assumes no responsibility for the accuracy thereof.



DRAINAGE AREA = 4.3 SQ. MI.

SITE PLAN			
BRIDGE NO. HA-36-22			
OVER PLUM RUN			
HARRISON CO. - U.S. 36			
SEC. HAS-36-(043-292)-(11.92-14.12)			
Scale: 1" = 20' - Sta. 114+26.00			
EXISTING TOPO.	DESIGN	PROPOSED WORK	REVIEW
SURVEY DRAWN	DESIGN	DRAWN	CHECK
Div. Office	Div. Office	J. H. B.	P. E. S.
BFG W442 4-18-51			

GENERAL NOTES

REFERENCE shall be made to Standard Drawings CS-1-47 revised 1-20-48, A-1-49 and P-1-49 dated 7-27-49.

EXCAVATION quantity includes the removal of fill material between top of earth bench and bottom of abutment cap.

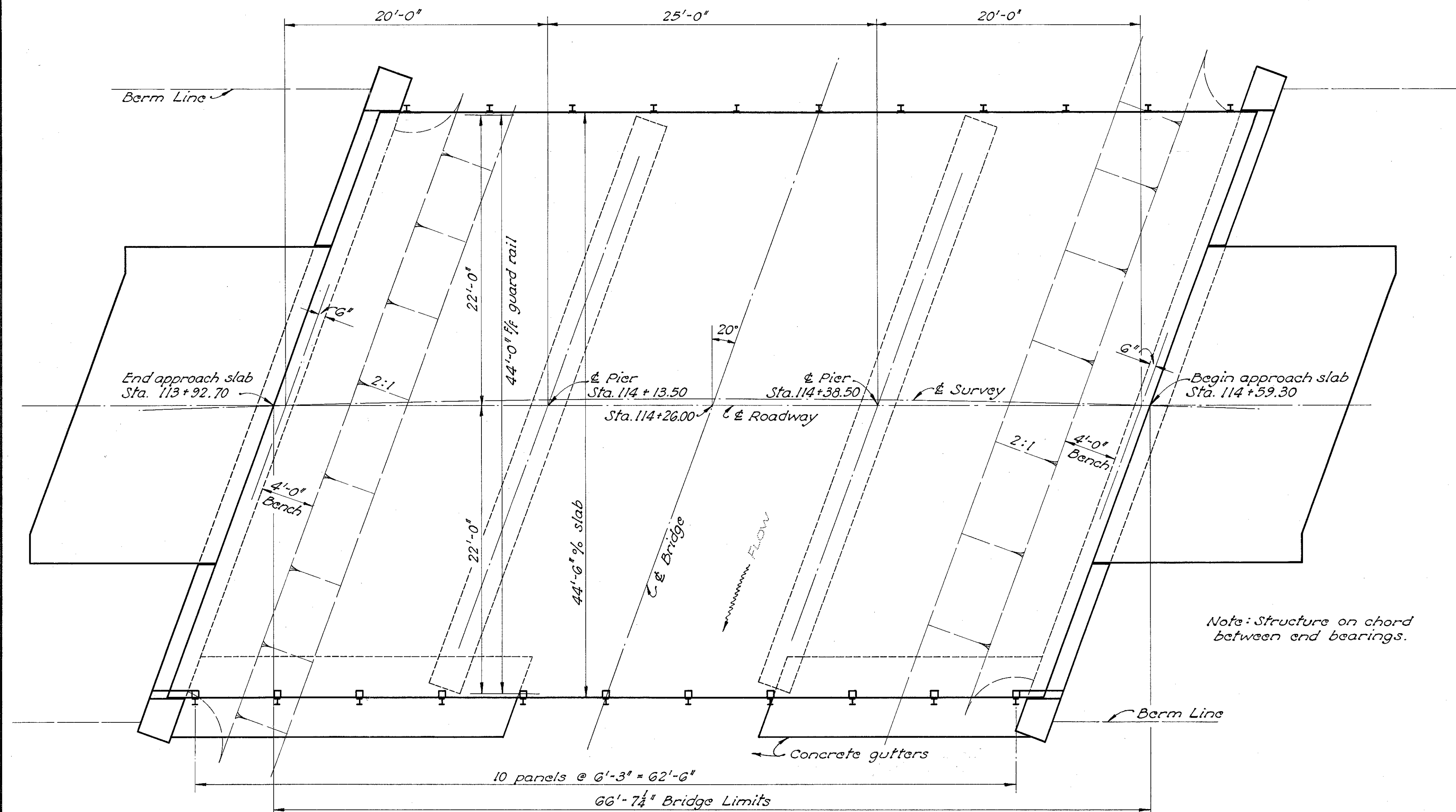
SURFACE FINISH OF CONCRETE: Fascia of deck slab shall receive a rubbed surface finish. All other exposed surfaces shall be governed by the provisions of Item S-1.

CONCRETE GUTTERS shall be 6 ft. wide and 6 in. thick, and shall be depressed 6 in. at the center. They shall extend from face of abutment down to Elev. 859.0 and shall be centered under the edge of the deck. Reinforcing bars $\frac{3}{4}$ " @ 1'-6" centers, both directions, included in price per lin. ft.

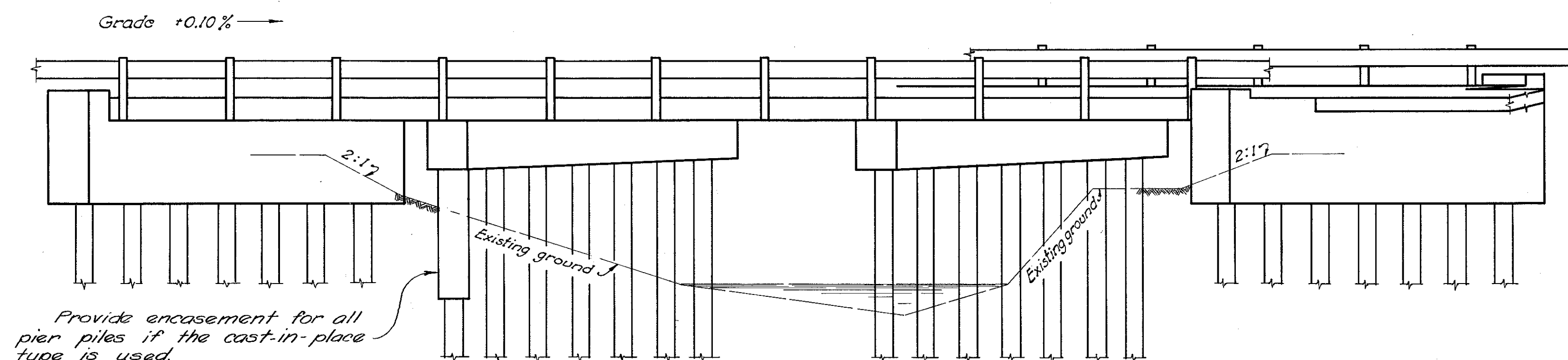
CAPPED PILE ABUTMENTS: All earth fill around abutments shall be made full height of earth bench. Excavation shall then be made for abutment cap, after which piling shall be driven. If bottom forms for abutment cap are used, they shall be left in place.

BITUMINOUS SURFACE COURSE shall be $2\frac{1}{2}$ " asphaltic concrete, Item T-35, laid in two $1\frac{1}{4}$ " courses.

PILING shall be driven to a minimum bearing capacity of 25 tons at the abutments and 35 tons at the piers.



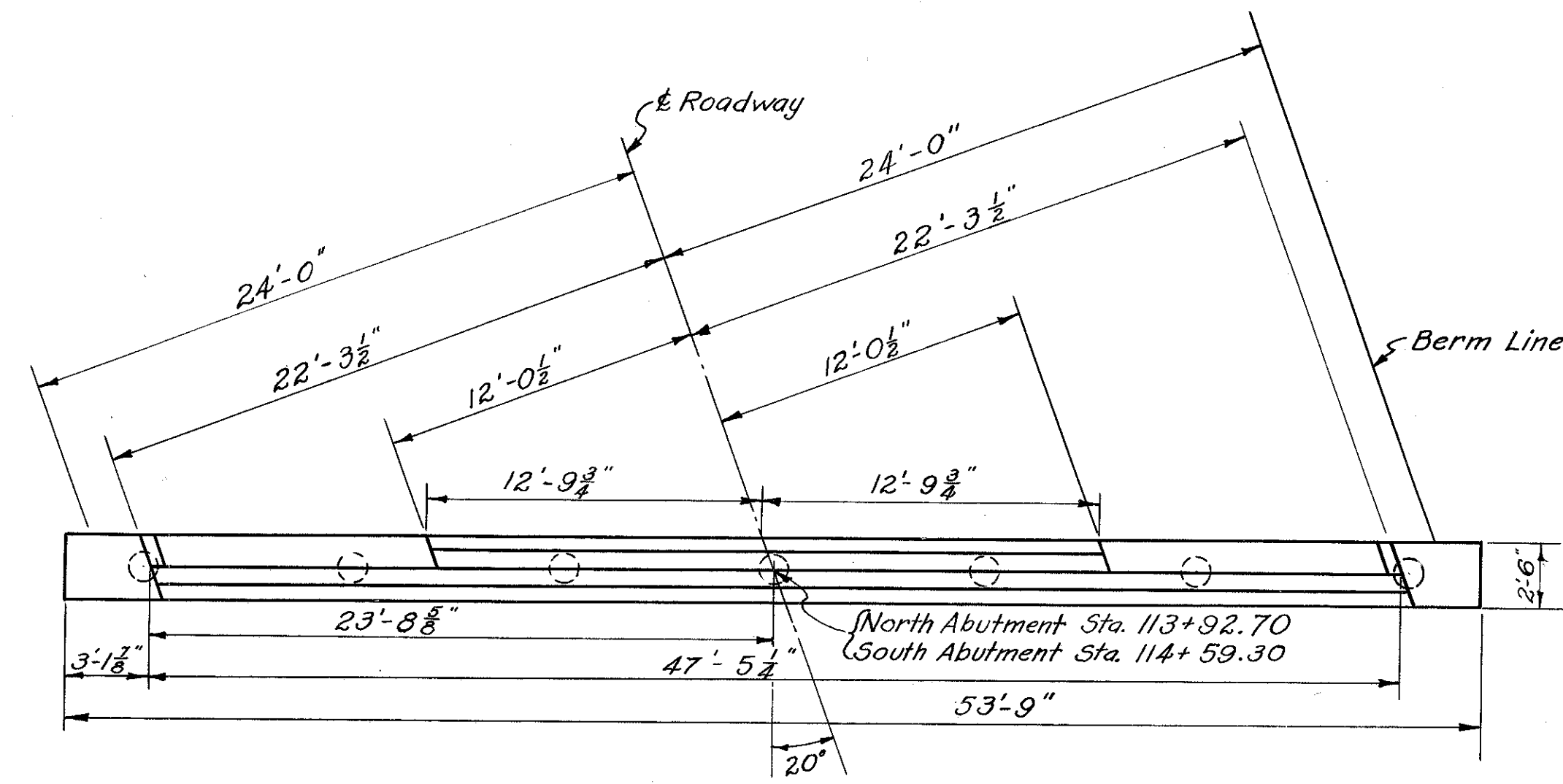
GENERAL PLAN



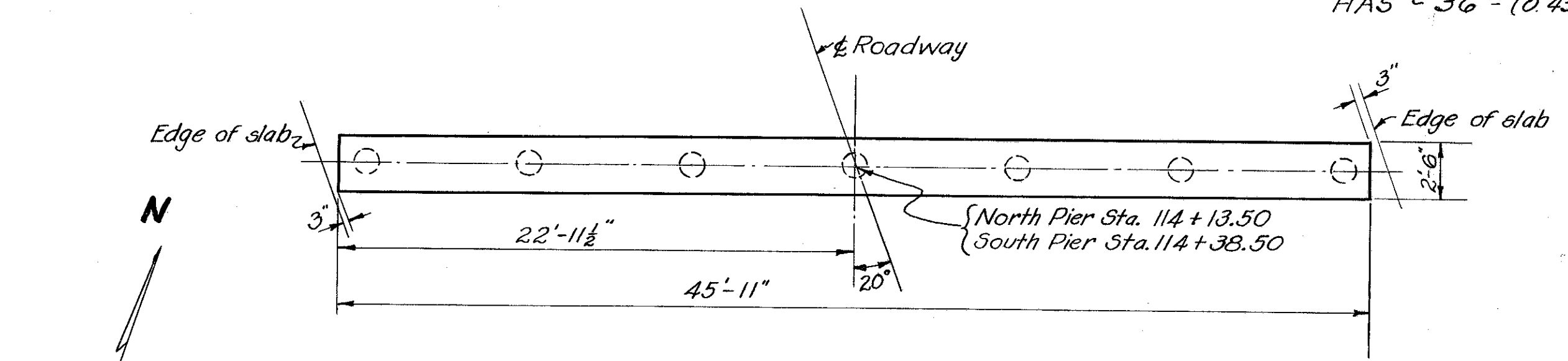
GENERAL ELEVATION

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Superst.	Abut.	Piers	General
E-2	56	Cu yd	Unclassified excavation		56		
S-1	140	Cu yd	Class 'C' concrete, superstructure & pier caps	114		26	
S-1	50	Cu yd	Class 'C' concrete, abutments		50		
S-3	329	Sq yd	Type 'C' waterproofing	329			
S-4	39325	Lbs.	Reinforcing steel	29904	5459	3854	108
S-9	13	Sq ft	$\frac{1}{4}$ " Premolded expansion joint filler	13			
S-14	133	Lin ft	Railing (Type I-15.13 guard rail with steel posts)	133			
S-16	Lump	Sum	First test pile				Lump
S-18	1230	Lin ft	12" Reinforced concrete piles, precast or cast-in-place		560	670	
I-14	42	Lin ft	Concrete gutter				42
T-35	23	Cu yd	Asphaltic concrete surface course, Type 'A' or 'C' (70-80)	23			

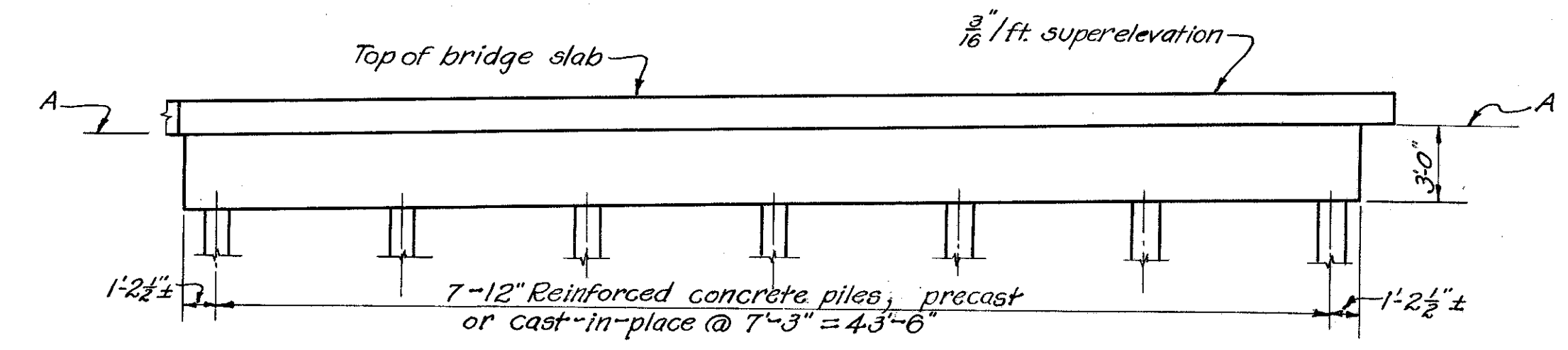


ABUTMENT PLAN



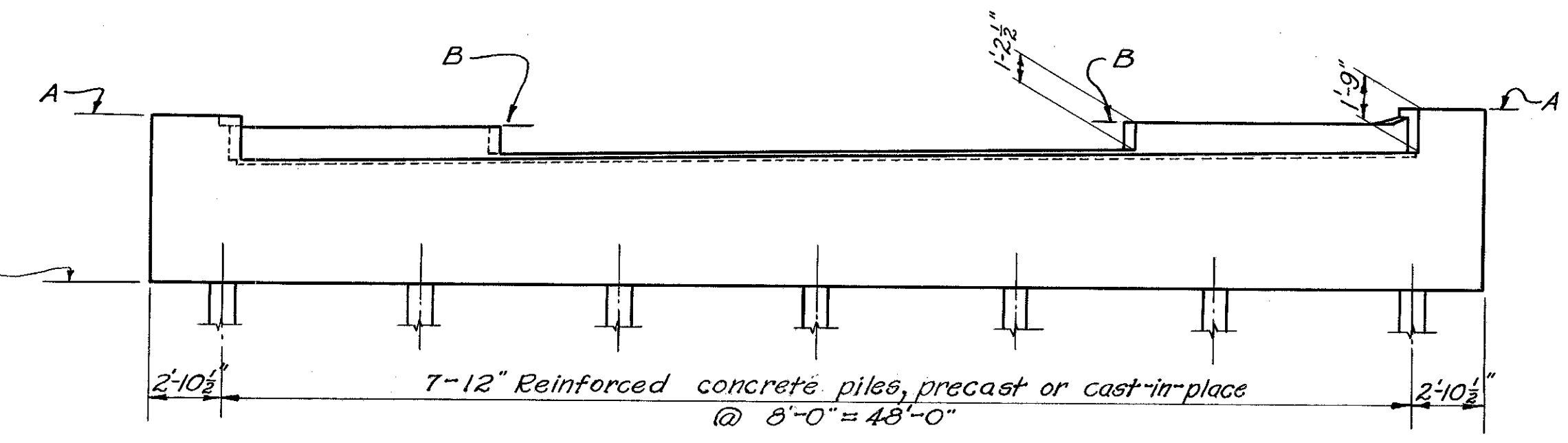
PIER PLAN

For details not shown see P-1-49



PIER ELEVATION

Elevation	North Abutment		South Abutment		North Pier		South Pier	
	East	West	East	West	East	West	East	West
"A"	871.06	870.34	871.13	870.41	869.31	868.63	869.33	868.65
"B"	870.39	870.01	870.46	870.08				



ABUTMENT ELEVATION

For details not shown see A-1-49

REINFORCING STEEL LIST									
Mark	Size	No.	Length	Weight	Shp	Bending Diagram			
Superstructure									
A	1"φ	114	24'-3"	7380	S				
B	1"φ	38	18'-4"	1860	B				
C	1"φ	38	16'-4"	1657	B				
D	1"φ	19	16'-6"	837	S				
E	1"φ	19	14'-0"	710	S				
F	1"φ	76	19'-0"	4910	S				
G	1"φ	38	11'-8"	1507	S				
H	1"φ	38	8'-8"	1120	S				
J	3/4"φ	38	14'-6"	827	S				
K	3/4"φ	19	15'-0"	428	S				
L	3/4"φ	140	24'-8"	5186	S				
M	3/4"φ	94	24'-8"	3482	S				
Abutments									
A7a	1"φ	48	28'-6"	3652	S				
A4a	3/4"φ	136	8'-5"	1193	B				
A4b	3/4"φ	30	3'-0"	94	S				
Piers									
P0a	1 1/4"φ	8	25'-5"	1080	S				
P7a	1"φ	32	25'-0"	2136	S				
P2a	1/2"φ	56	5'-3"	196	B				
P2b	1/2"φ	64	10'-4"	442	B				
Replacement Bars									
RE0	1 1/4"φ	1	8'-2"	43	S				
REB	1"φ	1	7'-4"	25	S				
RE7	1"φ	1	7'-4"	20	S				
RE5	3/4"φ	1	6'-6"	10	S				
RE4	3/4"φ	1	6'-1"	6	S				
RE2	1/2"φ	1	5'-8"	4	S				

NOTE: The bar size designations shown do not correspond with the size designations given in the January 1, 1951 edition of the Construction and Material Specifications.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

ABUTMENT & PIER DETAILS & REINFORCING STEEL LIST
BRIDGE NO. HA-36-22
OVER PLUM RUN

HARRISON COUNTY
SEC. HAR. -36-(043-292)-(11.92-14.12) STA. 114+26.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HVL	HVL	RLA	RJC	HVC	4-18-51	