

F-415(10)

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

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

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

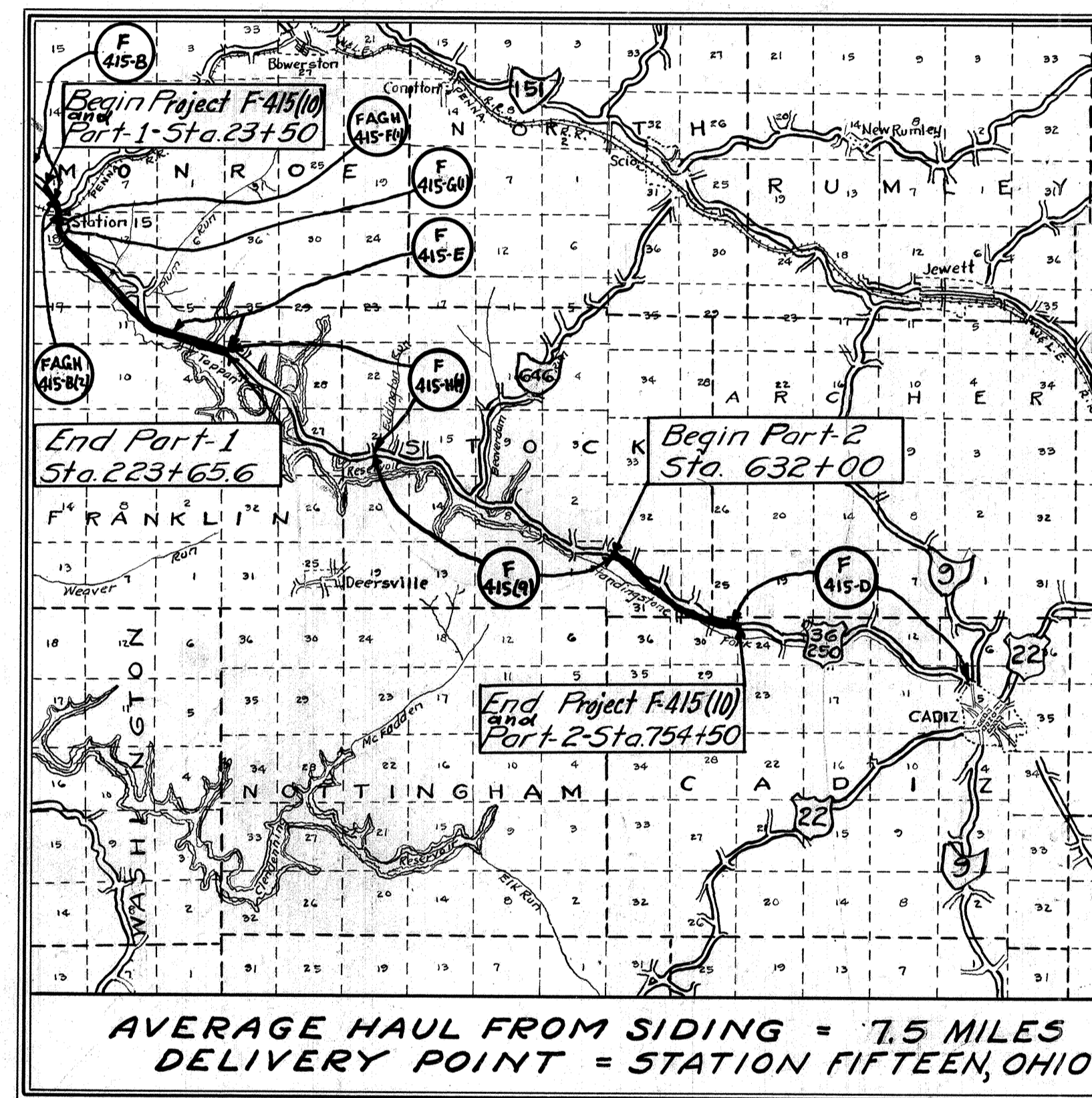
COUNTY LINE	-----
TOWNSHIP LINE	-----
SECTION LINE	-----
CORPORATION LINE	-----
PROPERTY LINE	-----
FENCE LINE	-----
CENTER LINE	-----
POLE LINE	-----
RAILROAD	-----
GUARD RAIL	-----
DRAIN PIPE (OLD)	-----
DRAIN PIPE (NEW)	-----
HEDGE	-----

INDEX OF SHEETS

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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.



AVERAGE HAUL FROM SIDING = 7.5 MILES  
DELIVERY POINT = STATION FIFTEEN, OHIO

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'

\*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 Sta. 142	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	8-7-50-70-71 & 72	10-1-47	I-8 C.B. 1-3 & 1-4	1-2-51	AS-9-47, AS-4-47	7-27-49		
B-7-71 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		

SUPPLEMENTAL SPECIFICATIONS

5	5-28-48
7-171.19	Rev. 7-31-50
31	6-13-49
M-110.25	Rev. 7-25-51

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

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 Richard Ort  
Date 8-6-51 Chief Engineer, Bureau of Bridges & R.R. Crossings

Approved H. B. Robinson  
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. Miller  
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

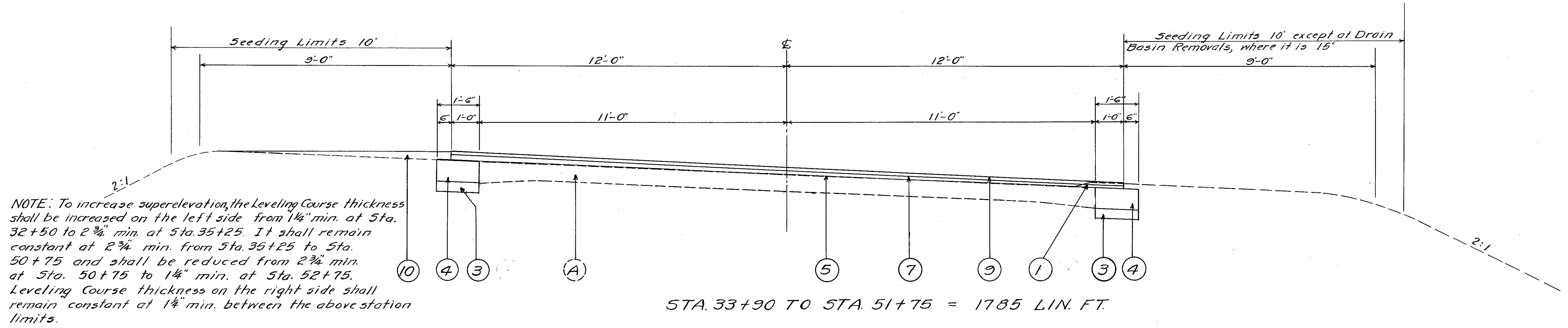
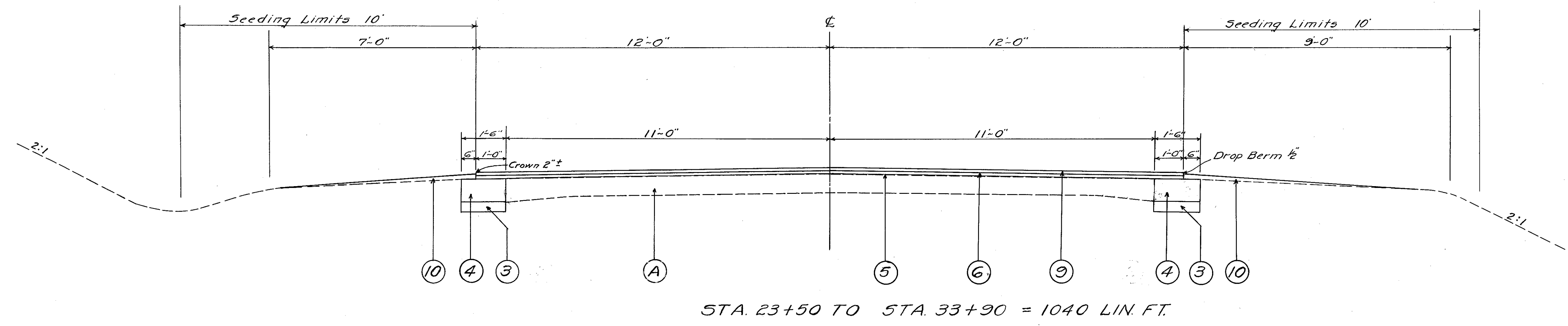
# TYPICAL SECTIONS

## TYPE T-35

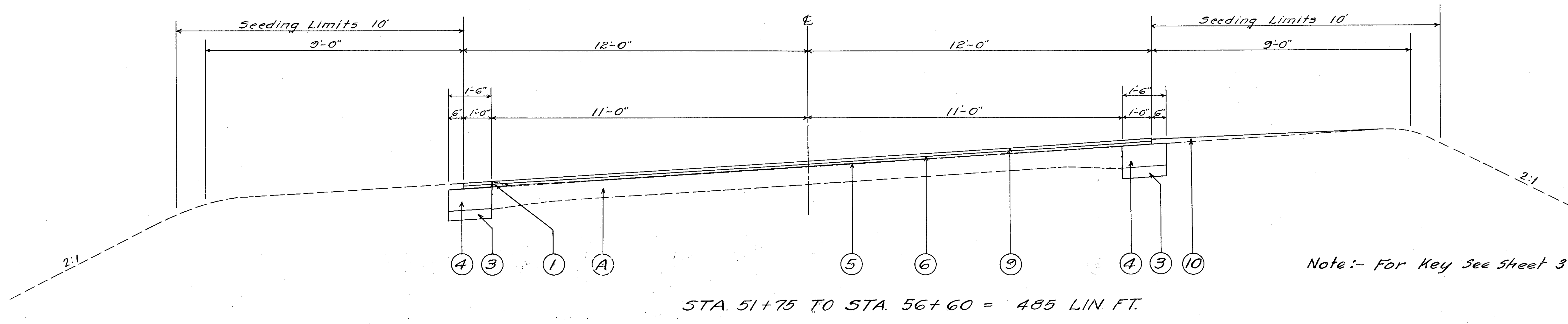
### SCALE 1/2"=1'-0"

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

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



NOTE: To increase superelevation, the Leveling Course thickness shall be increased on the left side from 1 1/4" min. at Sta. 32+50 to 2 3/4" min. at Sta. 35+25. It shall remain constant at 2 3/4" min. from Sta. 35+25 to Sta. 50+75 and shall be reduced from 2 3/4" min. at Sta. 50+75 to 1 1/4" min. at Sta. 52+75. Leveling Course thickness on the right side shall remain constant at 1 1/4" min. between the above station limits.



Note:- For Key See Sheet 3

# TYPICAL SECTIONS

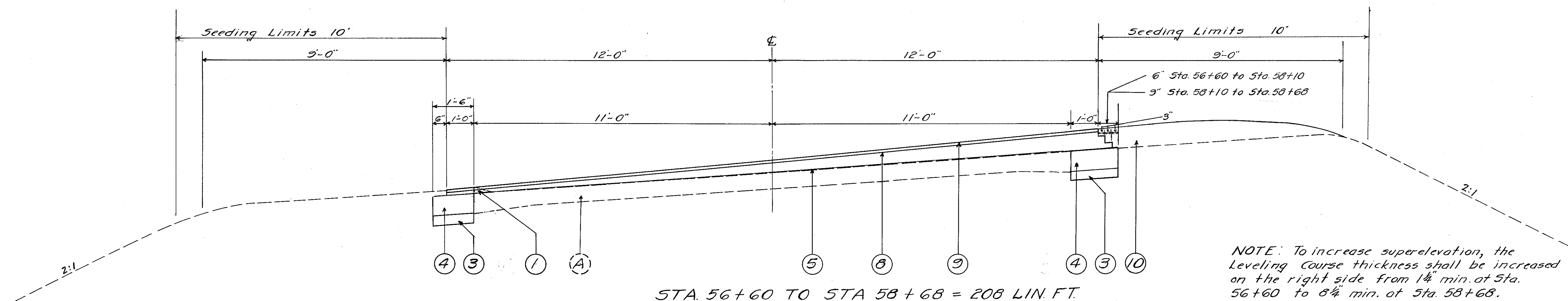
## TYPE T-35

### SCALE 1/2"=1'-0"

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-415(10)	185mar

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

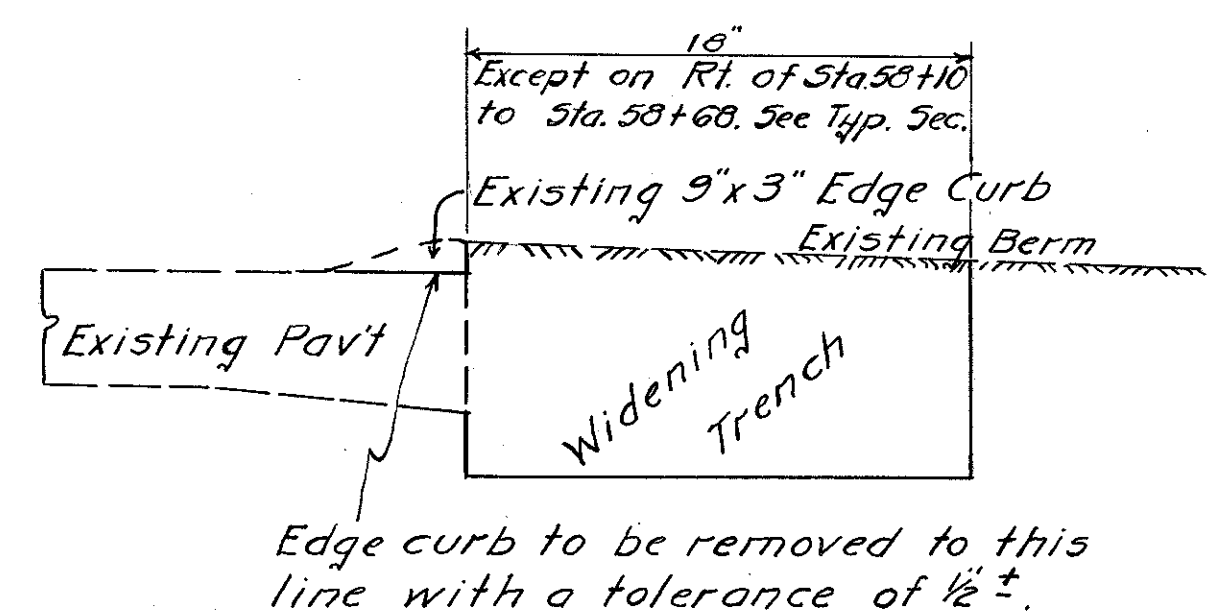
PARTS 1 + 2



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

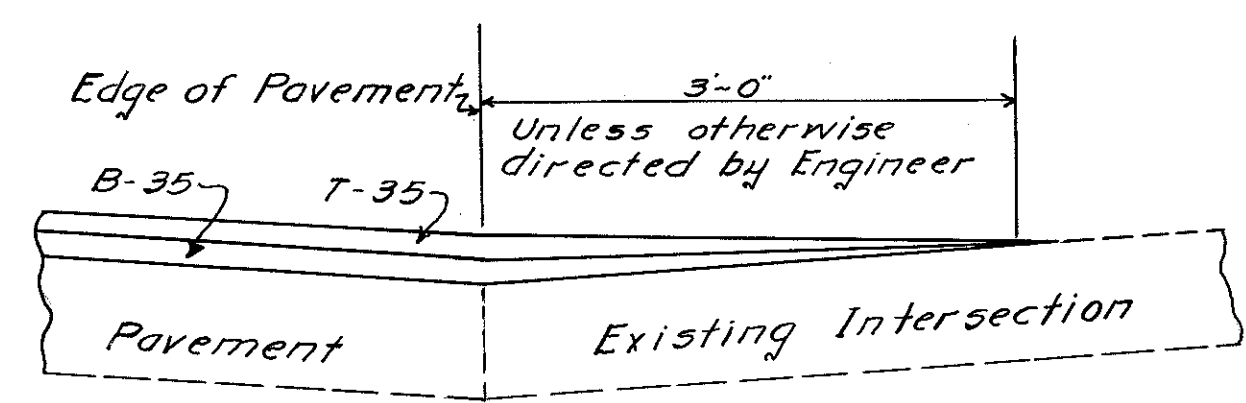
#### KEY

- Ⓐ Existing 9'-7'-7'-9" Reinforced Concrete Pavement.
- ① E-8 - Existing Edge Curb (To be removed). See Plan Sheets for Station Limits.
- ③ 55-5 - 4" 55-5, Grading C or 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 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 1/4" Asphaltic Concrete Surface Course (Type A)
- ⑩ Embankment. To be made from Trench Excavation, as directed by Engineer.

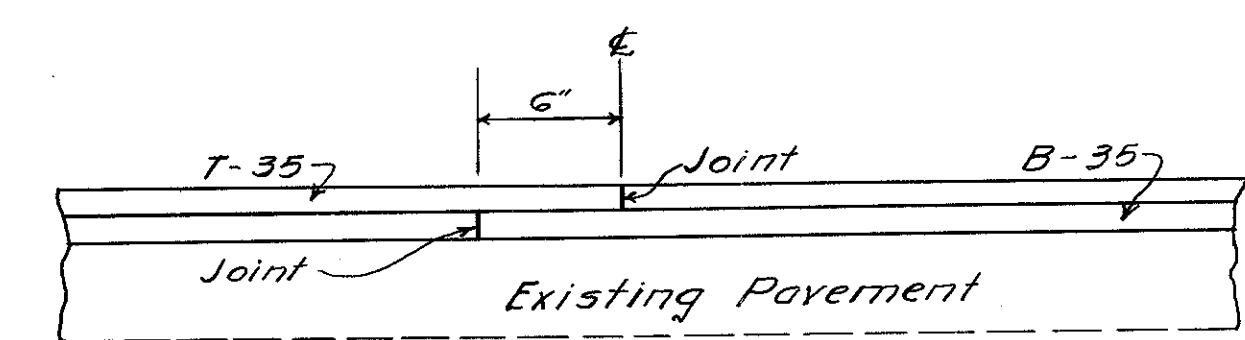


EDGE CURB REMOVAL DETAIL AND WIDENING TRENCH DETAIL

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

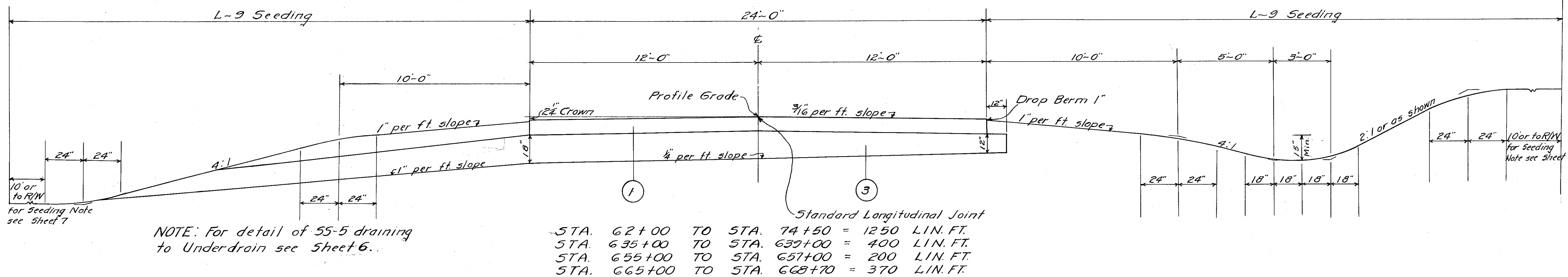
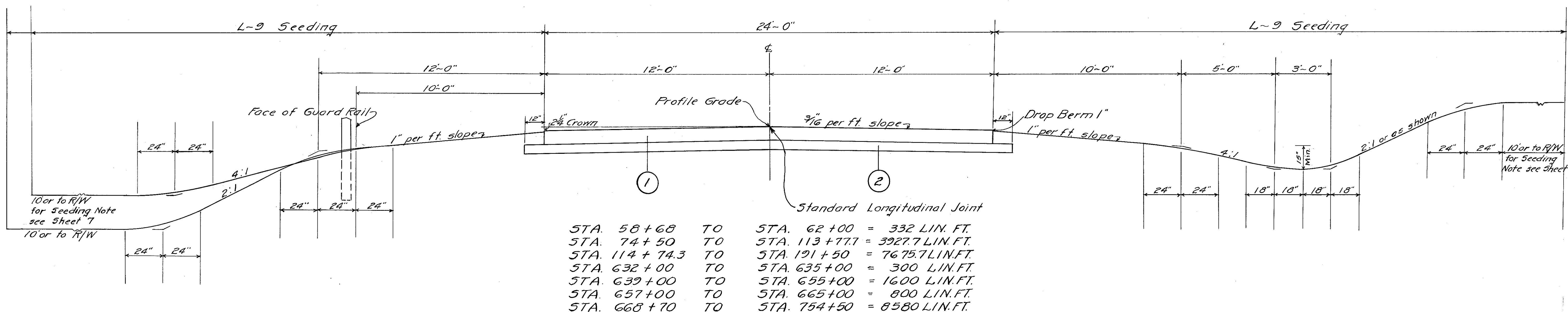


METHOD OF LAPPING LONGITUDINAL JOINTS

# TYPICAL SECTIONS

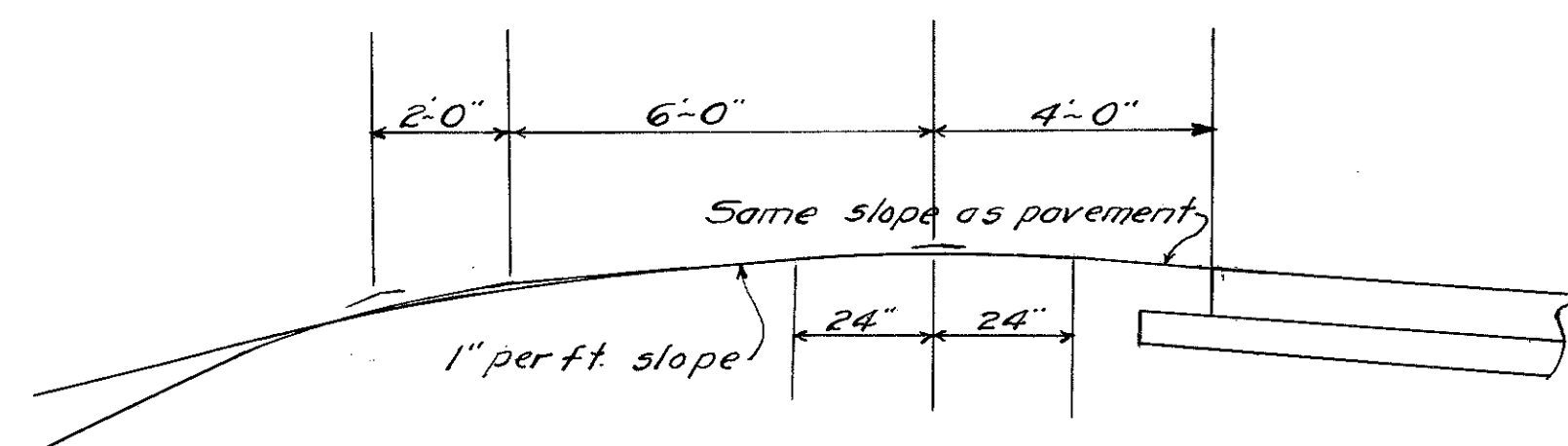
## TYPE T-71

### SCALE $\frac{3}{8}''=1'-0''$

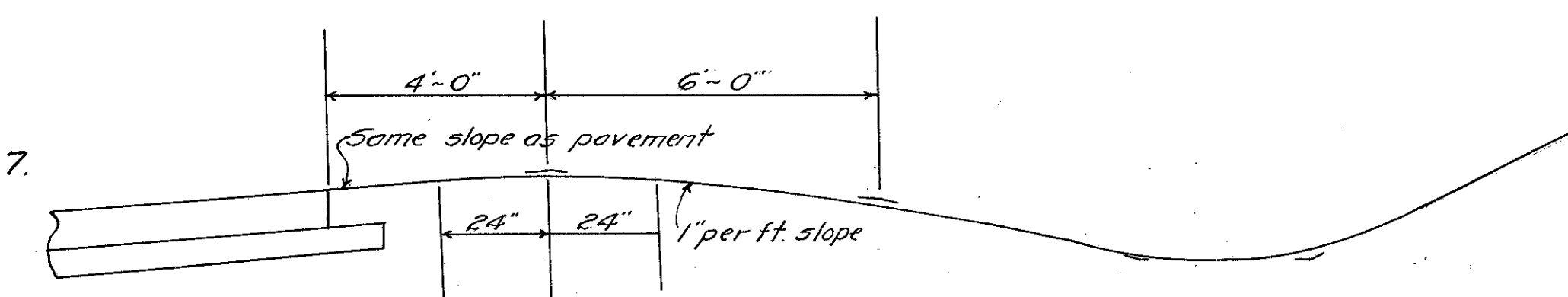


### KEY

- ① Item T-71 - 9" Reinforced Portland Cement Concrete Pavement.
- ② Item 55-5 - 6" 55-5, Grading C or D. See Note on Sheet 7.
- ③ Item 55-5 - Variable depth 55-5, Grading A, B, C or D. See Note on Sheet 7. For depths and widths see Cross Sections.



IN FILL  
SUPERELEVATION DETAIL



IN CUT  
SUPERELEVATION DETAIL

# TYPICAL SECTIONS

## TYPE T-35

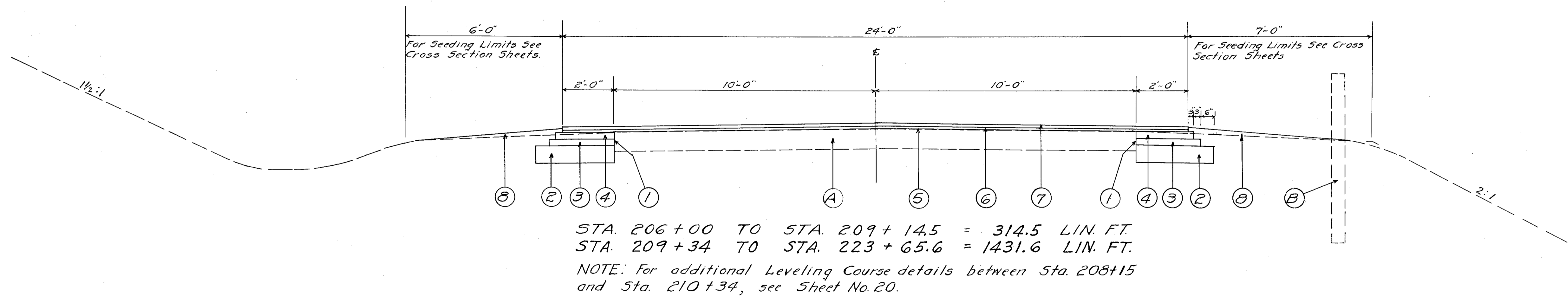
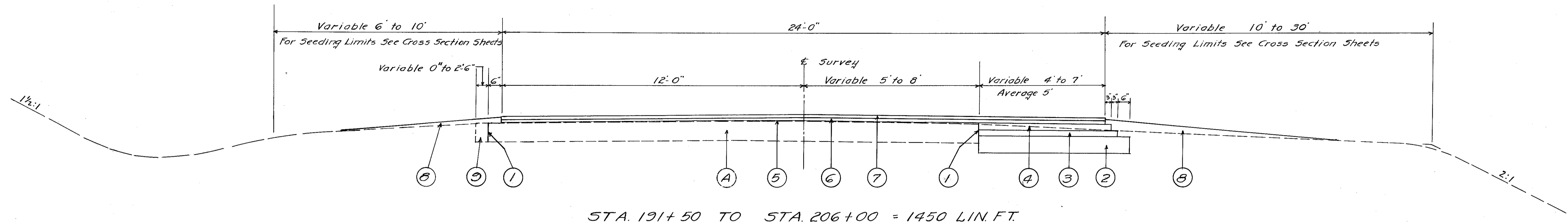
### SCALE 1/2"=1'-0"

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

5  
166

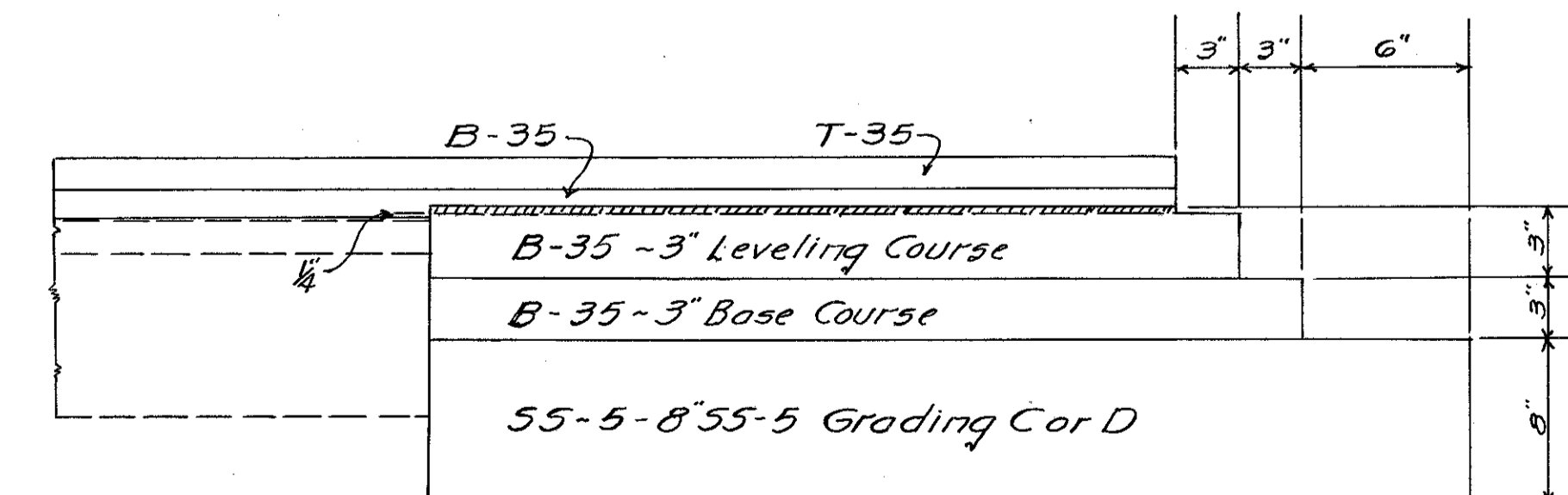
HAS-36-(0.43-2.92)-(11.92-14.12)

PARTS 1 & 2



#### ~ KEY ~

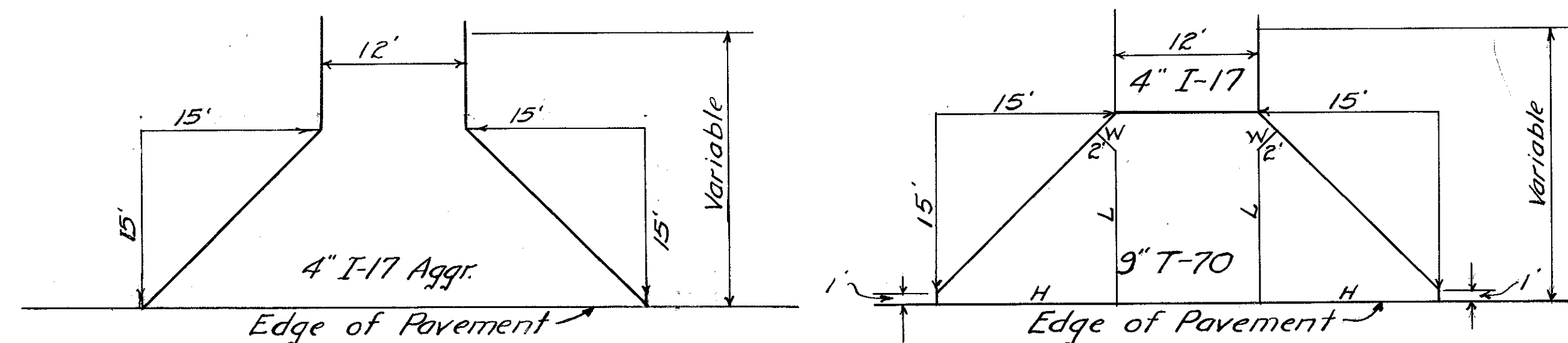
- (A) Existing Bituminous Macadam Pavement (10" average depth).
- (B) Existing Guard Rail (to remain in place).
- (1) E-8 - Sealing Only.
- (2) 55-5-8" 55-5, Grading Cor D. See Note on Sheet 7
- (3) B-35 - 3" Asphaltic Concrete Base Course.
- (4) B-35 - 3" Asphaltic Concrete Leveling Course.
- (5) T-30 - Bituminous Tack Coat, using 0.10 gal. per sq. yd.
- (6) B-35 - 1 1/2" Min. Asphaltic Concrete Leveling Course.
- (7) T-35 - 1 1/2" Asphaltic Concrete Surface Course (Type A).  
Embankment (See Cross Section Sheets).
- (8) E-8 - Pavement Removal (For limits see Plan Sheet)



#### WIDENING DETAIL

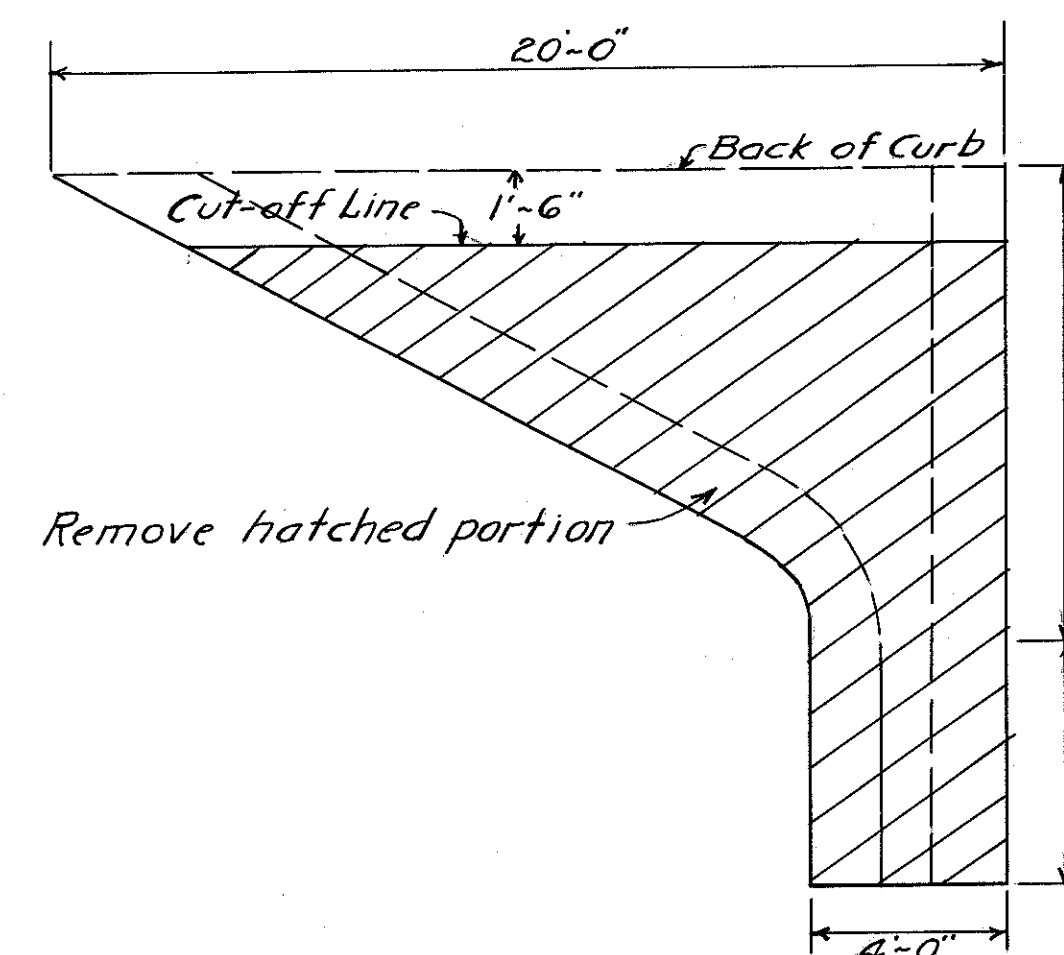
NOTE: Where the 3" leveling course in the widened area would finish more than 1/4" inch above the edge of the existing pavement, that portion below the dashed line shall be placed and compacted in a separate operation. The hatched portion above the dashed line shall be placed simultaneously with the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

# TYPICAL DETAILS

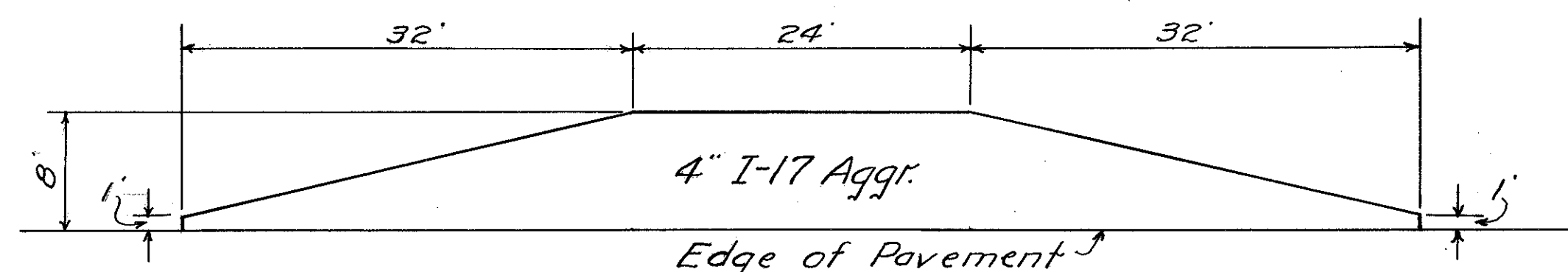


**JOINT SYMBOLS**  
H- Longitudinal key joint without tie bars.  
L- Longitudinal key joint with tie bars @ 5'-0" %.  
W- Expansion joint without dowels.

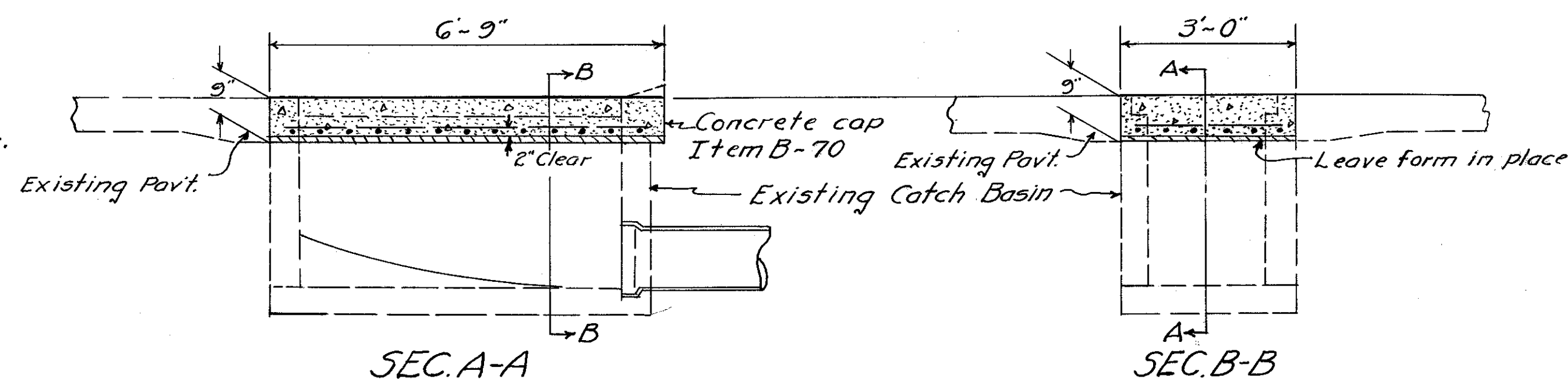
**DRIVE DETAILS**



**DETAIL OF EXISTING DRAIN BASIN**

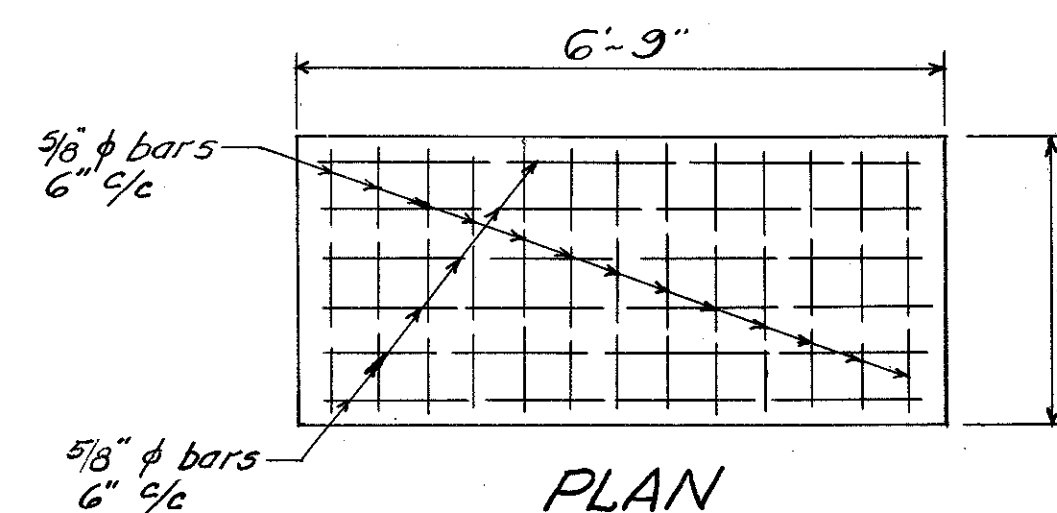


**MAIL BOX APPROACH DETAIL**  
Note: Mail box approaches shall be combined with drives where possible.



SEC. A-A

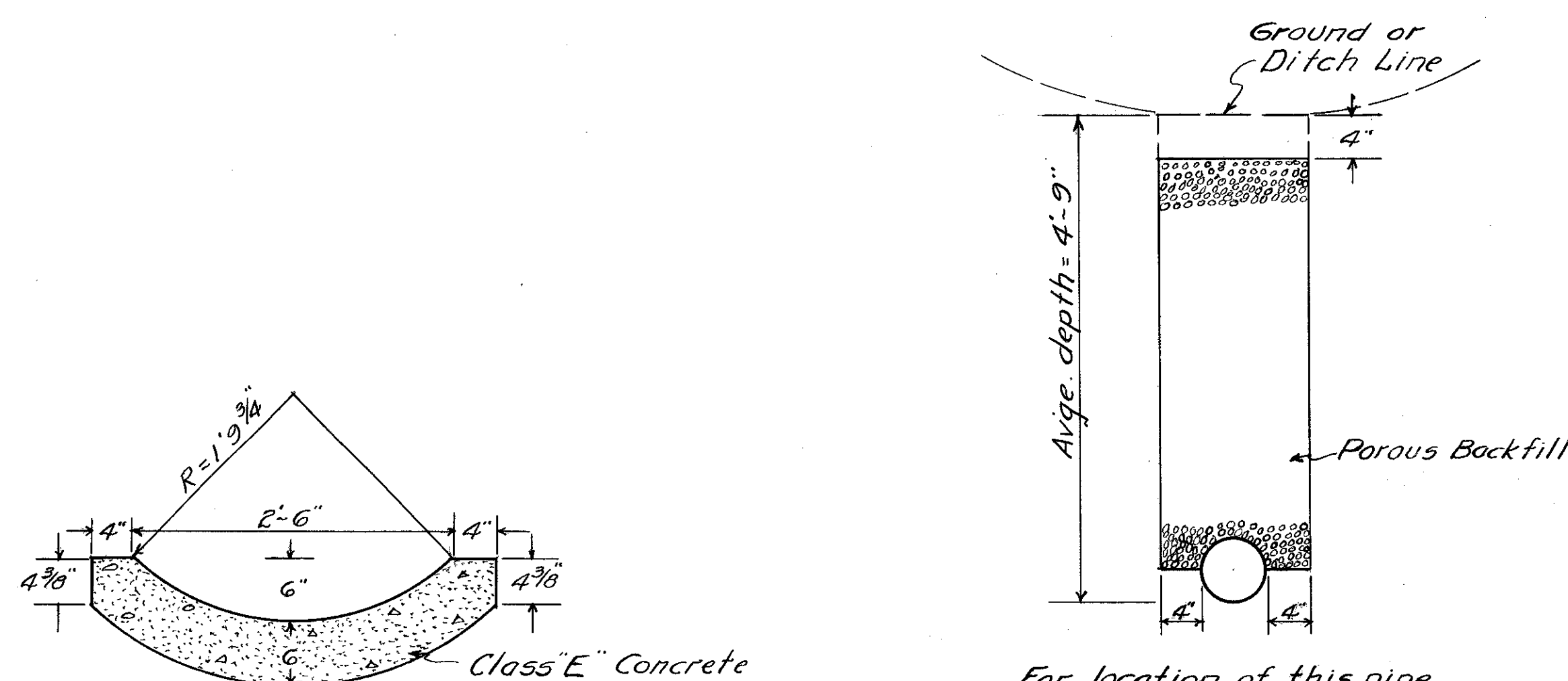
SEC. B-B



**PLAN**

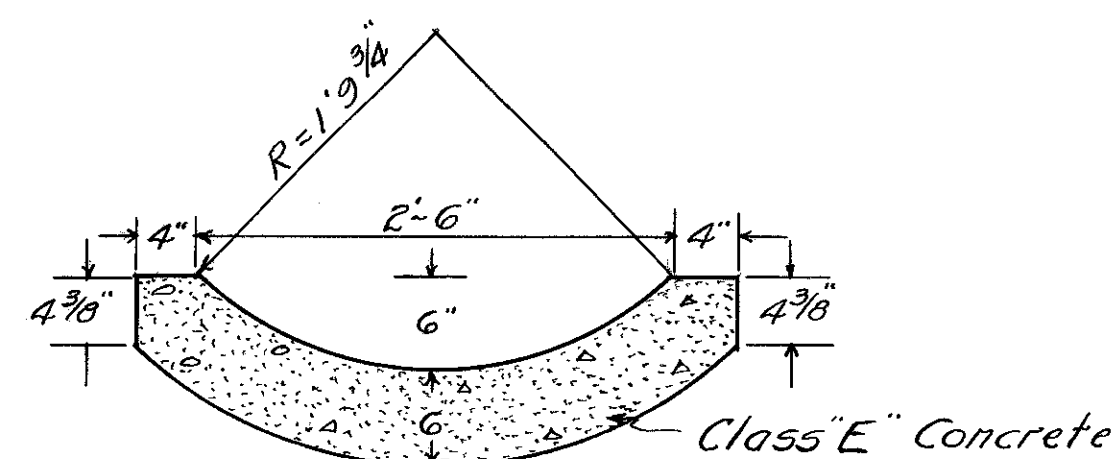
Note - Existing catch basin frame and grate shall be removed and disposed of. Care shall be taken to prevent damage to adjacent pavement. Concrete base course, Item B-70, shall be placed over catch basin as shown. The unit price bid per sq. yd. for Item B-70 shall include all the labor, equipment, reinforcing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

**DETAIL OF PAVING OVER EXISTING No. 13A CATCH BASINS**



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

**PIPE UNDERDRAIN DETAIL**



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

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	7
2	OHIO	F-415 (10)	Postwar	166

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

PARTS 1 + 2

**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 2 1/2 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. 703+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- removal 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.





# SUMMARY OF QUANTITIES

## APPROACHES - A

CODE TYPE	Total of Sheet N <sup>o</sup>	Removals			Pipe Lin. Ft.				Feathering Sq. Yds.		I-17 Cu. Yds.	9" T-70 Pavt. 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 I	12										17			
	13								220	220	6			
	14								20	20	4			
Total to Recap														
Total to Summary									*240	*240	*31			
7221 FOR PART I	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 I	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<sup>o</sup> 10)  
• Includes 15% for compaction.

### GUARD RAIL - R

CODE TYPE	Total of Sheet N <sup>o</sup>	Remove Lin. Ft.	New Lin. Ft.	Reset Lin. Ft.
6706 FOR PART I	14		69	
Total to Summary			69	
7221 FOR PART I	14	370	556	
	16		42	
	19	700		482
	20			100
Total to Summary	*	398	582	
6201 FOR PART I	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 <sup>o</sup>	Drain Basins Each	Edge Curb Lin. Ft.	Existing Pavement Sq. Yds.
6706 FOR PART I	13	2	1897	
	14		500	
Total to Summary		2	2397	
7221 FOR PART I	14			1300
Total to Summary				1300
6201 FOR PART I	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 <sup>o</sup>	Concrete Base Sq. Yds.
6706 FOR PART I	13	13.8
	14	4.6
Total to Summary		*18.4

### APPROACH SLABS

CODE TYPE	Total of Sheet N <sup>o</sup>	Slab Sq. Yds.	T-35 Surface Sq. Yds.
7221 FOR PART I	16	80	80
Total to Summary		80	*80

\* Carried to pavement calculations (See sheet N<sup>o</sup> 10)

## EARTHWORK AND SEEDING - E

Station From	Station To	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.
		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 of Existing Structures Cu. Yds.	Channel Excavation Cu. Yds.	Riprap Sq. Yds.
7221 FOR PART I	D		94	14.2	2140	727
	A		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
2	OHIO	F-415 (10)	Postwar

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

10  
166

**PART 1**  
**CODE TYPE 6706**

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**

Sta. 23+50 to Sta. 56+31.25 on Lt.	=	3281.25	Lin. Ft.
Sta. 56+58.75 to Sta. 58+68 on Lt.	=	209.25	Lin. Ft.
Sta. 23+50 to Sta. 42+71.5 on Rt.	=	1921.5	Lin. Ft.
Sta. 42+90 to Sta. 44+48 on Rt.	=	158	Lin. Ft.
Sta. 44+66.5 to Sta. 56+31.25 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**

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

**Item T-30 Tack Coat**

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

**Item B-35 Leveling**

$1\frac{1}{4}"$ Sta. 23+50 to Sta. 33+90	=	1040	Lin. Ft.
$1\frac{1}{4}"$ Sta. 51+75 to Sta. 56+31.25	=	456.25	Lin. Ft.
$1\frac{1}{4}"$ Sta. 56+58.75 to Sta. 56+60	=	1.25	Lin. Ft.
Total $1\frac{1}{4}"$ Leveling	=	1497.5	Lin. Ft.
$2"$ Av. Sta. 33+90 to Sta. 51+75	=	1785	Lin. Ft.
$3"$ Av. Sta. 56+60 to Sta. 58+68	=	208	Lin. Ft.
$1497.5 \times 24 \times 0.1042 \div 27$	=	138.7	Cu. Yds.
$1785 \times 24 \times 0.1667 \div 27$	=	264.5	Cu. Yds.
$208 \times 24 \times 0.25 \div 27$	=	46.2	Cu. Yds.
Sta. 58+10 to Sta. 58+68 = $58 \times 0.25 \times 0.25 \div 27$	=	0.1	Cu. Yds.
Extra Pavement = $220 \times 2 \div 36$	=	12.2	Cu. Yds.
Extra Leveling = $0.661$ mile $\times 200$	=	132.2	Cu. Yds.
Total Leveling	=	594	Cu. Yds.

**Item T-35 Surface**

$9528 \times 1\frac{1}{4} \div 36$	=	331	Cu. Yds.
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**Item E-1 Excavation**

$6886 \times 1.5 \times 1.2$ Av. $\div 27$	=	459	Cu. Yds.
$58 \times 1.75 \times 1.1 \div 27$	=	4	Cu. Yds.
Total Excavation	=	463	Cu. Yds.

**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	=	94	Sq. Yds.

**Item S-3 Waterproofing, Type C**

		94	Sq. Yds.
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**Item B-35 Leveling**

$94 \times 1\frac{1}{4} \div 36$	=	3	Cu. Yds.
Extra Leveling $0.005$ mile $\times 200$	=	1	Cu. Yds.
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 = $13185.4 \times 24 \div 9$	=	35,161	Sq. Yds.

**Item T-71**

		35,161	Sq. Yds.
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**Item T-30 Tack Coat for Appr. Slabs (See Sh. 16)**

$80 \times 0.1$	=	8	Gals.
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**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 = $394.27 \times 26 \times 0.5 \div 27$	=	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, C or D**

Sta. 62+00 to Sta. 74+50 = $1250 \times 42 \times 1.145$ Av. Depth $\div 27$	=	2226	Cu. Yds.
From Approach Table (749-668)	=	81	Cu. Yds.
Total SS-5 Grading A, B, C or D	=	2307	Cu. Yds.

**Item T-35 for Appr. Slabs (See Sh. 16)**

$80 \times 2\frac{1}{2} \div 36 =$	=	6	Cu. Yds.
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**CODE TYPE 6201**

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 = $7102 \times 0.1$	=	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) = $100'$			
$99.5+100 = 199.5 \times 24 \times 0.17$ Av. Depth $\div 27$	=	30.1	Cu. Yds.
$1\frac{1}{4}"$ Course: $8603 \times 1\frac{1}{4} \div 36$	=	298.7	Cu. Yds.
Extra Leveling: $0.605$ mile $\times 200$	=	121.0	Cu. Yds.
Total B-35 Leveling	=	594	Cu. Yds.

**Item T-35 Surface**

$8603 \times 1\frac{1}{4} \div 36$	=	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.
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**Item SS-5 Grading Cor D**

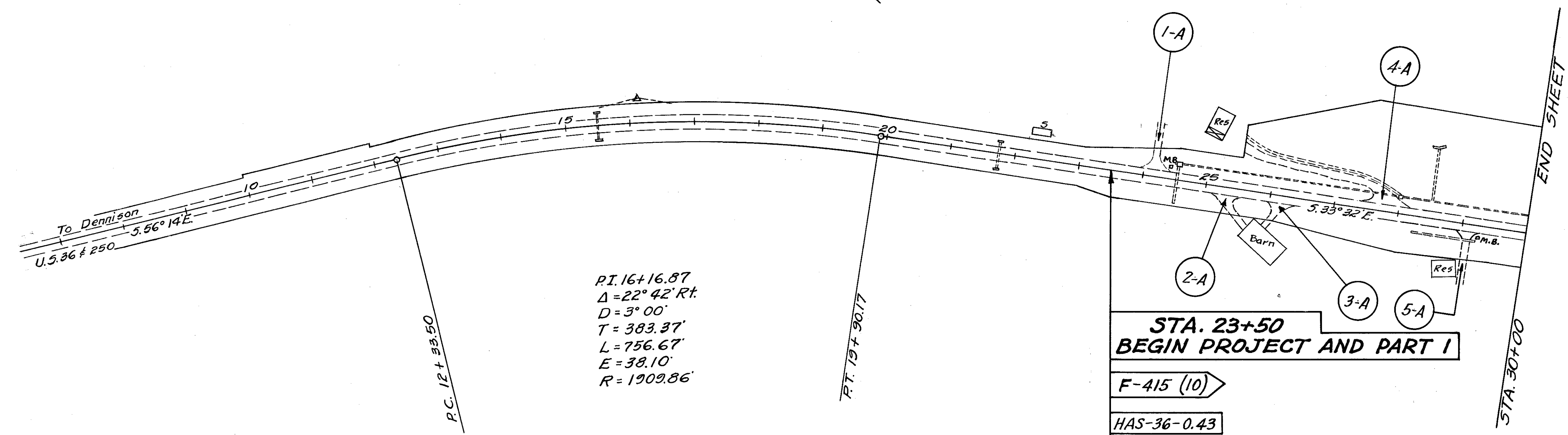
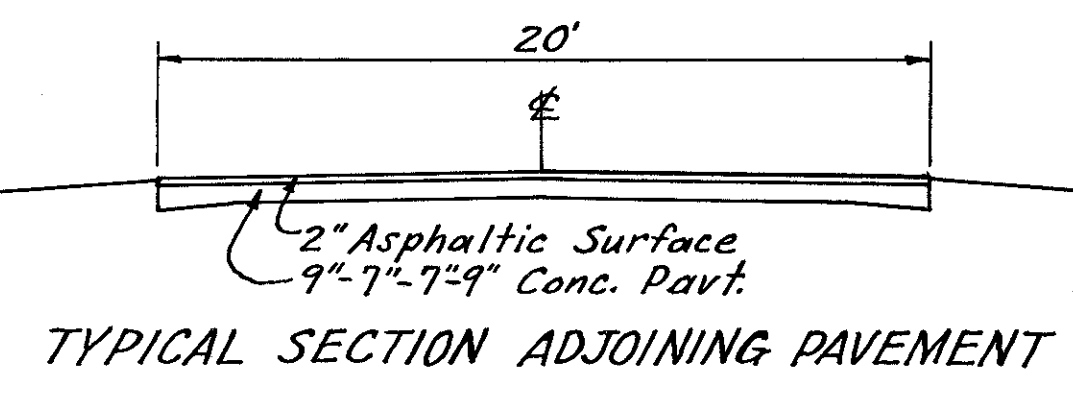
Sta. 632+00 to Sta. 635+00	=	300	Lin. Ft.
Sta. 639+00 to Sta. 655+00	=	1600	Lin. Ft.
Sta. 657+00 to Sta. 665+00	=	800	Lin. Ft.
Sta. 668+70 to Sta. 754+50	=	8580	Lin. Ft.
Total Length	=	11,280	Lin. Ft.
$11280 \times 26 \times 0.5 \div 27$	=	5431	Cu. Yds.
From Approach Table	=	685	Cu. Yds.
Total SS-5 Grading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

**Item SS-5 Grading A, B, C or D**

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

# SUMMARY OF QUANTITIES

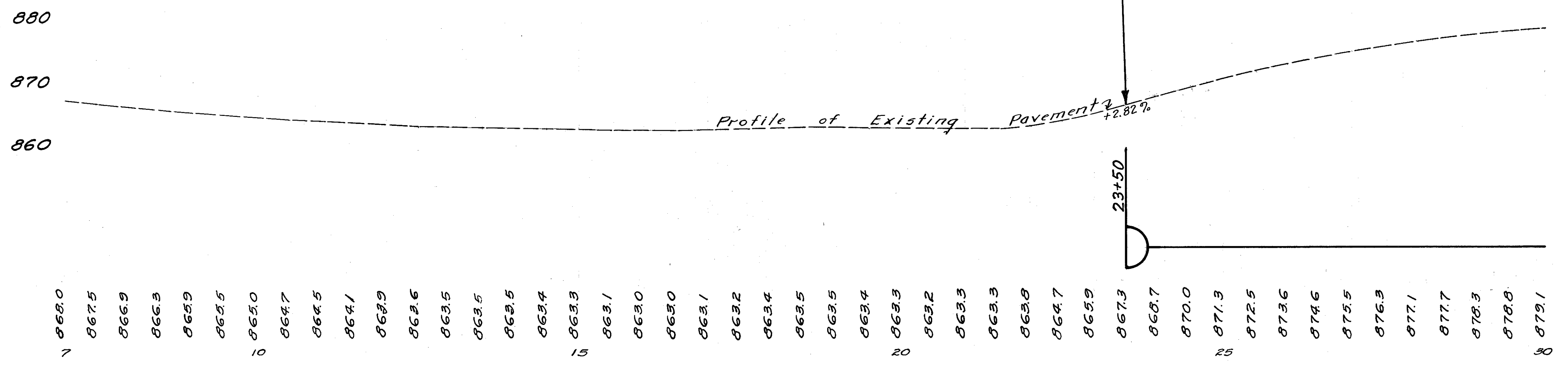
ITEM No.	PART 1				PART 2				GRAND TOTAL	UNIT	DESCRIPTION
	CODE TYPE				CODE TYPE						
	6700	X 020	7221	6201	Total	7221	Total	Total			
<b>ROADWAY</b>											
E-1	403		134,799	769	136,030	166,704	166,704	302,734	Cu. Yds.	Roadway Excavation, as per Plan.	
E-4			10,637		10,637	3,821	3,821	14,458	Cu. Yds.	Borrow.	
E-8			1,305	95	1,395	2,219	2,219	3,014	Sq. Yds.	Removal and Disposal of Existing Pavement.	
E-8	2397				2,397			2,397	Lin. Ft.	Removal and Disposal of Existing Curb.	
E-11			630		630	742	742	1,372	M-Gals	Water.	
E-12			940		940	1,014	1,014	1,960	Lin. Ft.	Pipe Removed and Disposed of (15" and Under)	
E-12			130		130	88	88	218	Lin. Ft.	Pipe Removed and Disposed of (Over 15")	
I-15	69		398		467			467	Lin. Ft.	Guard Rail, Steel Beam Type (Deep).	
I-15			582	1088	1670			1670	Lin. Ft.	Guard Rail, Removed and Rebuilt, as per Plan.	
I-17	31		365	7	403	206	206	609	Cu. Yds.	Side Approaches, Mail Box Terraces and Berm Material.	
I-9	7760		173,402	6340	183,102	199,050	199,050	387,152	Sq. Yds.	Seeding and Protecting, Type "A", as per Plan.	
I-9	0.70		15,160	0.62	16,92	17,91	17,91	34,83	Tons	Commercial Fertilizer (10-6-4)	
I-9	3.49		78,02	3.12	84,63	89,57	89,57	174,20	Tons	Agricultural Ground Limestone.	
M-10			160		160	240	240	400	Tons	Calcium Chloride for Maintaining Traffic.	
T-10			8,000		8,000	12,000	12,000	20,000	Cu. Yds.	Traffic Compacted Surface Course for Maintaining Traffic.	
Spec.	2				2			2	Each	Removal and Disposal of Drain Basins, as per Plan.	
<b>DRAINAGE</b>											
E-2			826		826	1150	1150	1976	Cu. Yds.	Excavation for Structures.	
E-3			5865		5865	13,907	13,907	19,772	Cu. Yds.	Channel Excavation.	
I-1			90		90			90	Lin. Ft.	12" Pipe for Driveways.	
I-1			100		100	96	96	196	Lin. Ft.	15" Pipe for Driveways.	
I-1			30		30	196	196	30	Lin. Ft.	18" Pipe for Driveways.	
I-1			64		64			64	Lin. Ft.	21" Pipe for Driveways.	
I-2			158		158			158	Lin. Ft.	24" Storm Sewers.	
I-2			26		26			26	Lin. Ft.	15" Storm Sewers.	
I-2			168		168	560	560	168	Lin. Ft.	24" Storm Sewers.	
I-2			517		517	640	640	1157	Lin. Ft.	12" Storm Sewers under Pavement.	
I-2			98		98			98	Lin. Ft.	21" Storm Sewers under Pavement.	
I-4			1685		1685	107	107	1792	Lin. Ft.	6" Pipe Underdrains, as per plan.	
I-8			6		6	2	2	8	Each	Standard No. 1-2-A Catch Basins.	
I-8			2		2	5	5	7	Each	Standard No. 1-3 Catch Basins, as per Plan.	
I-8			1		1			1	Each	Standard No. 1-4 Catch Basins.	
I-8			1		1			1	Each	Standard No. 2-2-A Catch Basins, as per Plan.	
I-10			1051	40	1091	1503	1503	2594	Sq. Yds.	Riprap, Type "A", Grout Filled, as per Plan.	
I-14			270		270	76	76	346	Lin. Ft.	Type 1 Paved Gutter, as per plan.	
I-16			1		1			1	Each	Catch Basin Abandoned.	
S-1			20		20	91	91	291	Cu. Yds.	Class "E" Concrete, for Structures.	
S-1			392	16	55.2	33	33	88.2	Cu. Yds.	Class "C" Concrete, for Structures, as per Plan.	
S-3				76	170			170	Sq. Yds.	Type "C" Waterproofing.	
S-4			2899	107	3006	4137	4137	7143	Lbs.	Reinforcing Steel.	
S-9				10	10			10	Sq. Ft.	1/4" Premade Expansion Joint Filler.	
S-14				43	43			43	Lin. Ft.	Rolling, Type F-15.13 with steel posts.	
S-22			232	8	31.2	91.9	91.9	123.1	Cu. Yds.	Removal of Partitions of Existing Structure.	
S-23			37	56	93	24	24	117	Lin. Ft.	Dowel Holes.	
S-27			168		168	160	160	328	Lin. Ft.	15" Pipe for Roadway Culverts.	
S-27			261		261	76	76	337	Lin. Ft.	18" Pipe for Roadway Culverts.	
S-27			199		199	106	106	305	Lin. Ft.	21" Pipe for Roadway Culverts.	
S-27			286		286	206	206	492	Lin. Ft.	24" Pipe for Roadway Culverts.	
S-27			10		10	79	79	89	Lin. Ft.	30" Pipe for Roadway Culverts.	
S-27			231		231			231	Lin. Ft.	36" Pipe for Roadway Culverts.	
S-27						230	230	230	Lin. Ft.	42" Pipe for Roadway Culverts.	
S-27						222	222	222	Lin. Ft.	54" Pipe for Roadway Culverts.	
S-27			172		172	404	404	576	Lin. Ft.	60" Pipe for Roadway Culverts.	
S-29				39	39			39	Lin. Ft.	Drainage of Structures, as per plan.	
<b>PAVEMENT</b>											
S5-5	129		6429	475	7033	6116	6116	13,142	Cu. Yds.	Classified Embankment Material, Grading Con'd. as per Plan.	
S5-5			2307		2307	1746	1746	4,053	Cu. Yds.	Classified Embankment Material, Grading A, B, C, as per Plan.	
E-8				5642	5642			5642	Lin. Ft.	Sealing Only.	
B-35	534	4		534	1192			1192	Cu. Yds.	Asphaltic Concrete Leveling Course (70-80).	
B-35				155	155			155	Cu. Yds.	Asphaltic Concrete Base Course (70-80).	
B-70	1178				1178			1178	Sq. Yds.	9" Portland Cement Concrete Base Course, as per Plan.	
T-30	992			8	1710			1710	Gals.	Bituminous Tack Coat, Sec. M-5.5 M-5-2 or 55-1.	
T-35	331	3		304	644			644	Cu. Yds.	Asphaltic Concrete Surface Course, Type "A" (70-80).	
T-70			4333		4333	3974	3974	8307	Sq. Yds.	9" Portland Cement Concrete Pavement	
T-71			35,161		35,161	32,667	32,667	67,828	Sq. Yds.	9" Reinforced Portland Cement Concrete Pavement	
I-7			80		80			80	Sq. Yds.	Reinforced Concrete Approach Slabs.	
<b>STRUCTURES OVER 20' SPAN</b>											
See sheet 165 for quantities.											

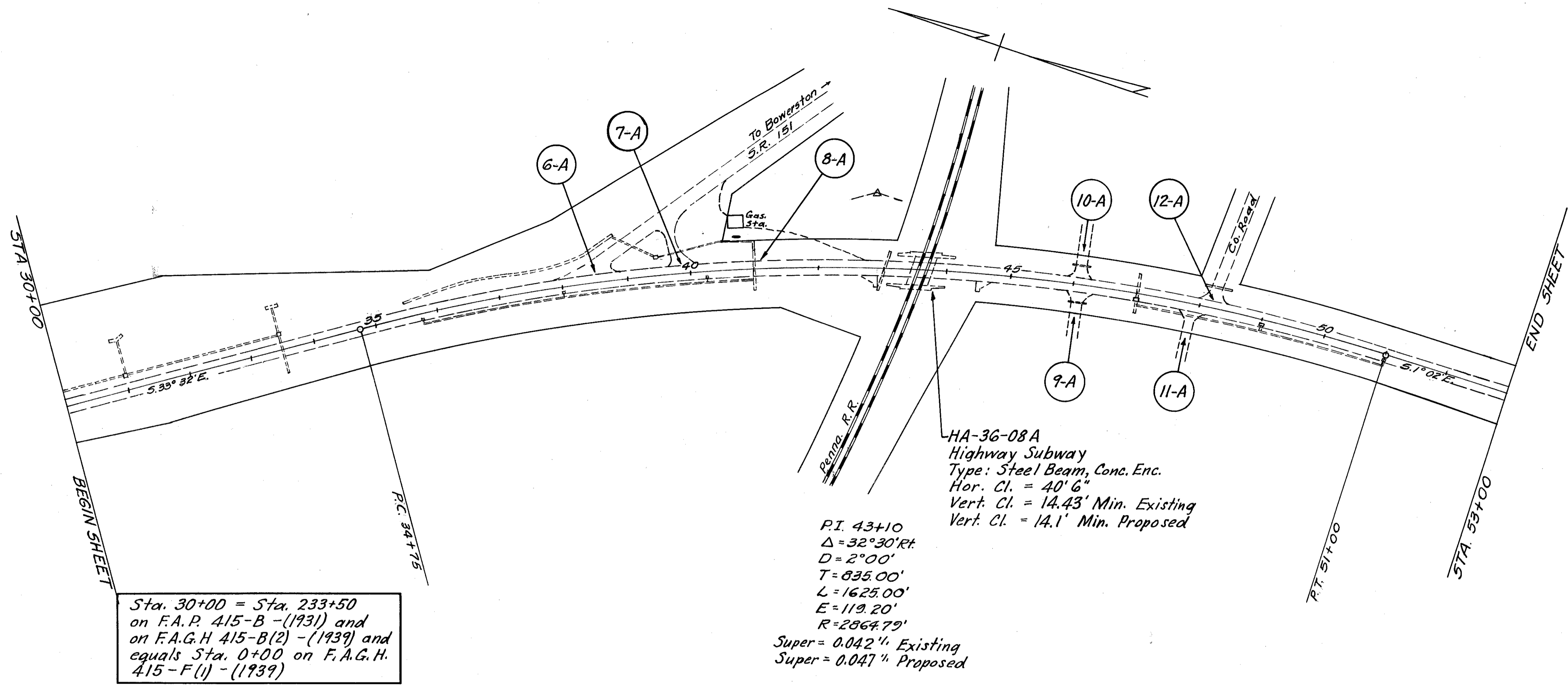


APPROACHES				
Ref. No.	Station	Side	I-17	Cu. Yds.
1-A	24+15	Lt.		5
2-A	25+30	Rt.		2
3-A	26+18	Rt.		2
4-A	27+80	Lt.		3
5-A	29+10	Rt.		5
Total				17

Marker shall be furnished and erected on right by State Forces before acceptance of this improvement.

Sta. 23+50 = Sta. 227+00 on F.A.P. 415-B-(1931) and on F.A.G.H. 415-B(2)-(1939)

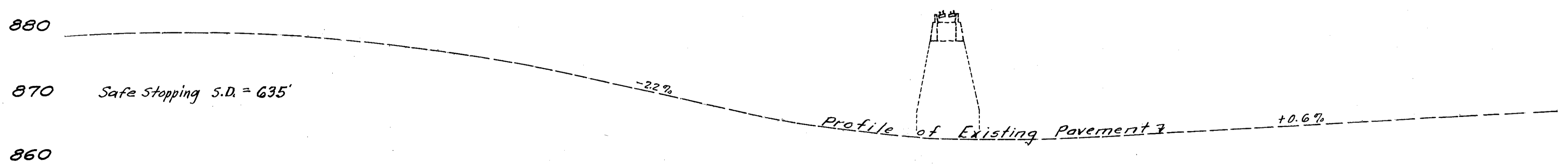




APPROACHES					
Ref. No.	Station	Side	I-17 Cu. Yds.	Feathering Sq. Yds.	
				B-35	T-35
6-A	38+00	Lt.		60	60
7-A	40+00	Lt.		40	40
8-A	41+00	Lt.		85	85
9-A	46+10	Rt.	2		
10-A	46+10	Lt.	2		
11-A	47+90	Rt.	2		
12-A	48+15	Lt.		35	35
Totals			6	220	220

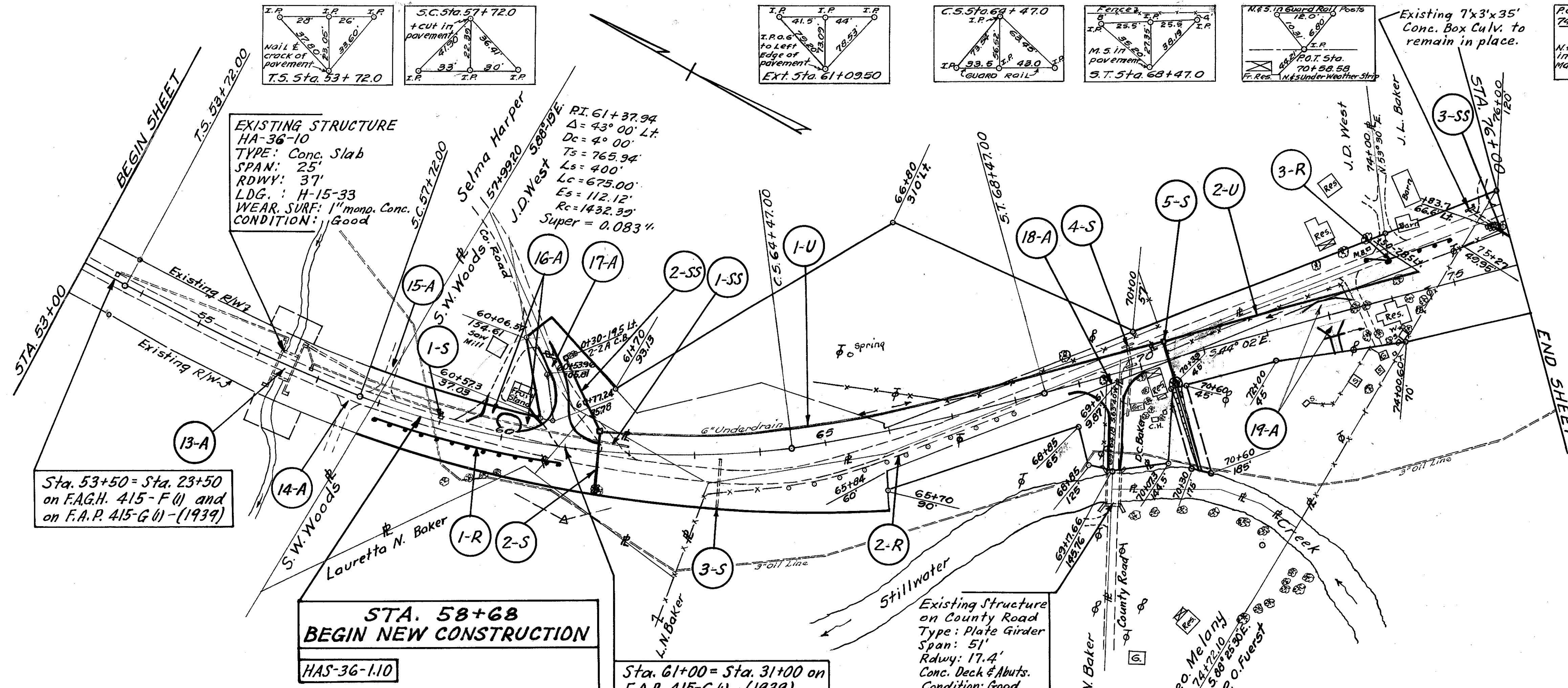
PAVING OVER CATCH BASINS				
Station	Side	See Sheet	Conc. Base	Sq. Yds.
35+75	Rt.	6		2.3
38+00	Rt.	6		2.3
40+25	Rt.	6		2.3
47+00	Rt.	6		2.3
49+00	Rt.	6		2.3
51+00	Rt.	6		2.3
Total				13.8

REMOVALS					
Station From	Station 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



Excavation 463 Cu. Yds.  
 Seeding 7760 Sq. Yds.

- 879.1
- 879.4
- 879.6
- 879.7
- 879.8
- 879.7
- 879.5
- 879.3
- 878.9
- 878.5
- 878.0
- 877.4
- 876.7
- 875.9
- 875.0
- 874.0
- 873.0
- 871.9
- 870.8
- 869.7
- 868.5
- 867.5
- 866.5
- 865.6
- 864.8
- 864.2
- 863.8
- 863.4
- 863.2
- 863.2
- 863.3
- 863.5
- 863.8
- 864.1
- 864.4
- 864.7
- 865.0
- 865.3
- 865.6
- 865.9
- 866.2
- 866.5
- 866.8
- 867.1
- 867.4
- 867.7
- 867.9



### APPROACHES

Ref. No.	Station	Side	See Sheet	I-17 Cu. Yds.	Feathering B-35 T-35 CODE TYPE	9" T-70 Pavt. Sq. Yds.	12" SS-5 Cu. Yds.	12" Pipe Lin. Ft.
13-A	56+45	Rt.	14		* 20 * 20			
14-A	57+55	Rt.	14					
15-A	58+00	Lt.	14					
Totals for Code Type G706				4	* 20 * 20			
Totals for Code Type G7221				46		465	84	30

\*Note: Code Type is X020

### CULVERTS

Ref. No.	Station	See Sheet	Type	Removals Size Length CODE TYPE	New Work Type Size Length
1-S	59+00	14	Abandon C.B.		
2-S	61+50	13/1	Pipe	12" 82'	Pipe 21" 87'
3-S	63+40	14	Conc. Box Pipe	4'x2' 24'	
4-S	69+85	14			
5-S	70+44	13/2			Pipe 24" 67'

### DRAINAGE

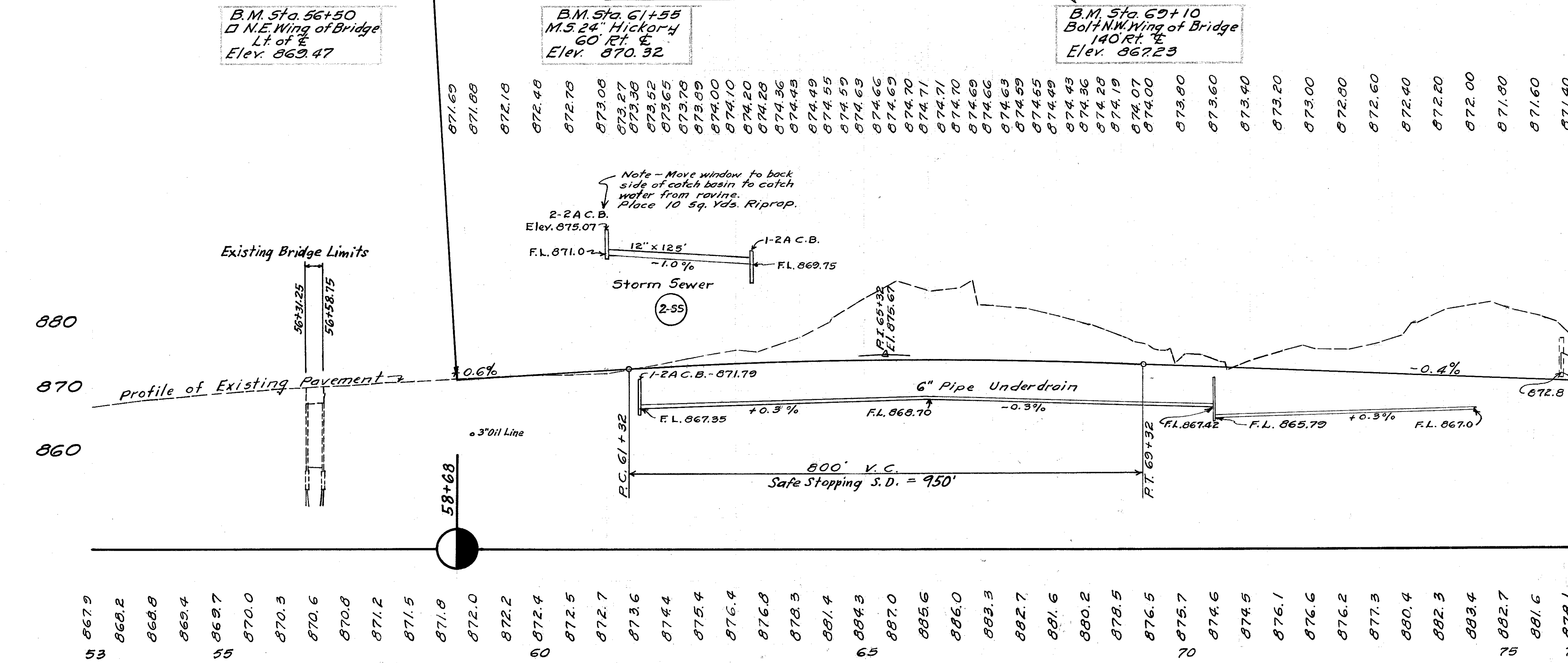
Ref. No.	Station From	Station To	Side	Storm Sewer Lin. Ft. 12" 36"	Underdrain Lin. Ft. 6"	Catch Basins Each 2-2A	Remove Riprap 15" Pipe Sq. Yds. Lin. Ft.
1-SS	60+00	62+00	Lt.				200
2-SS	0+30 on app.	1+33	Lt.	125		1	10
3-SS	75+83.4	76+00	Lt.	20			10
Totals				125	20	1	20 200

### REMOVALS

Station	Side	See Sheet	Edge Curb 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.	Lt. 14		1300
Total for Code Type G7221				1300

### PAVING OVER C.B.'S

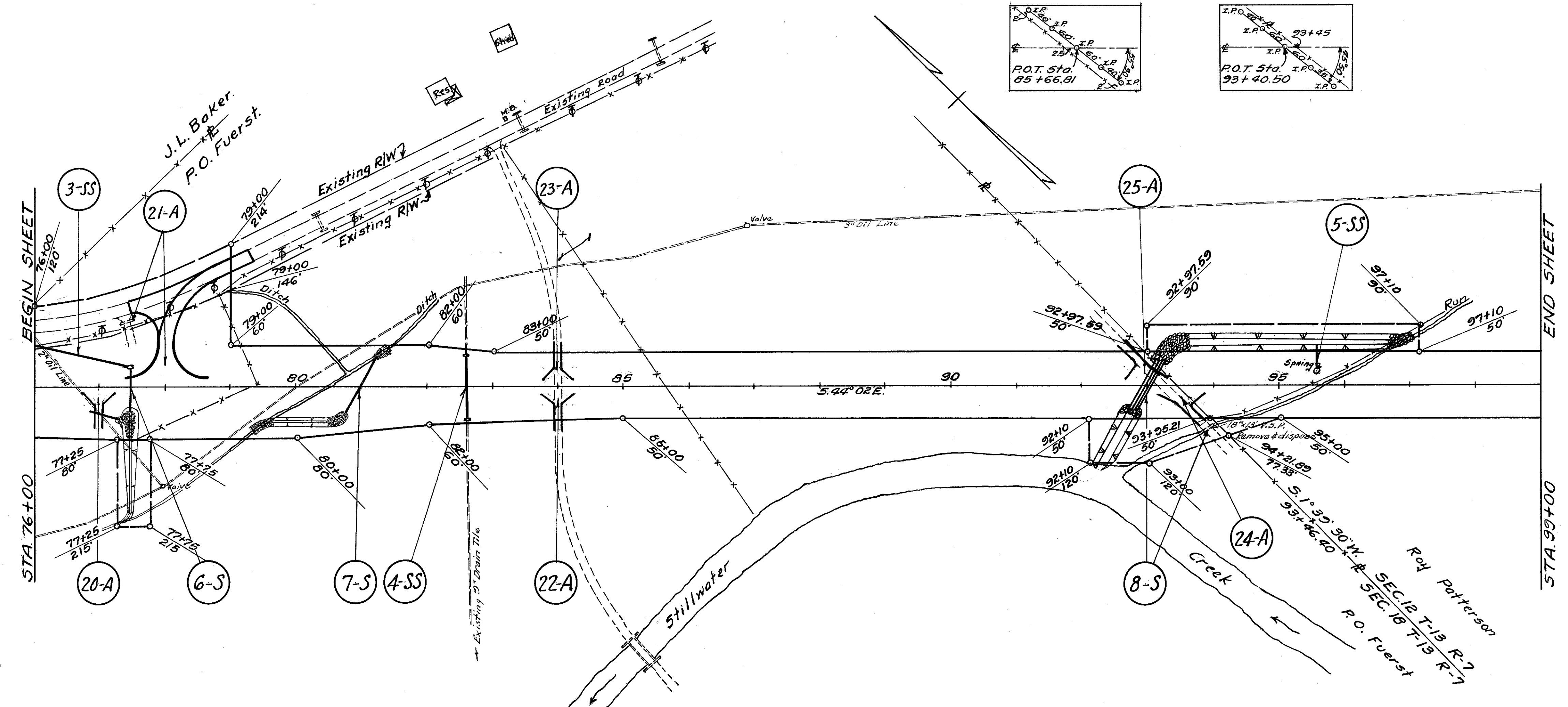
Station	Side	See Sheet	Conc. Base Sq. Yds.
53+50	Lt.	6	2.3
56+85	Lt.	6	2.3
Total			4.6



### GUARD RAIL

Ref. No.	Station From	Station To	Side	Remove Lin. Ft.	New Lin. Ft.
1-R	58+00	58+68	Rt.		69
Total for Code Type G706					69
Total for Code Type G7221				370	231
1-R	58+68	60+95.5	Rt.		
2-R	64+40	67+84	Rt.	370	
3-R	73+90	75+15	Lt.		125
Totals for Code Type G7221				370	356

Place G.R. back of top of cut to protect drive.



**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.	39	33	660	122	36	15
21-A	78+00	Lt.	113#114	9				
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				
<b>Totals</b>				<b>79</b>	<b>660</b>	<b>122</b>	<b>36</b>	<b>15</b>

**CULVERTS**

Ref. No.	Station	See 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**

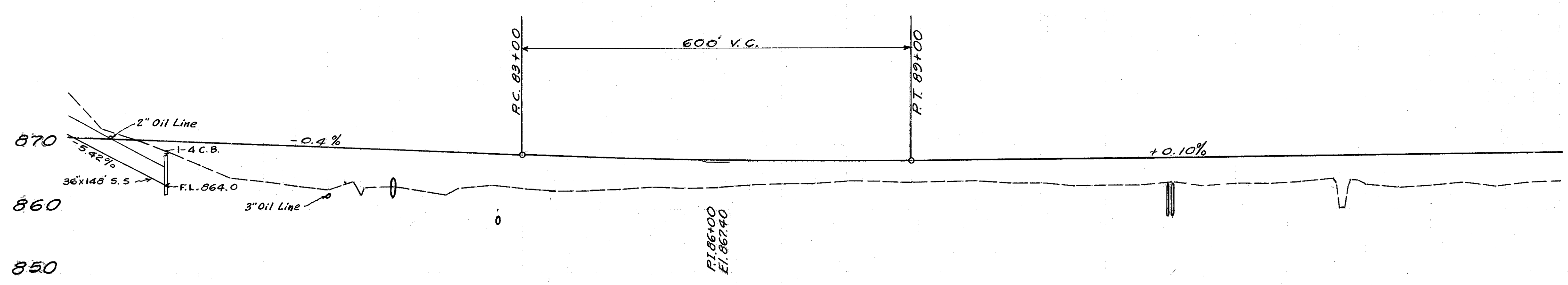
Ref. No.	Station	Side	See Sheet	36" Storm Sewer		12" Storm Sewer		Class "C" Conc.	Class "E" Conc.	12" Storm Sewer	Reinf. Steel	Structure Exca. Cu. Yds.
				Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.					
3-SS	76+00	Lt.	15	148								
4-SS	82+61.1	Rt.	107		101	101	1.3					
5-SS	95+57	Lt.	107				1.2	33	16	1		
<b>Totals</b>				<b>148</b>	<b>101</b>	<b>101</b>	<b>1.2</b>	<b>1.3</b>	<b>33</b>	<b>16</b>	<b>1</b>	

B.M. Sta. 76+40  
 Cut East End of South Hiwall  
 85' Lt. of E  
 Elev. 878.04

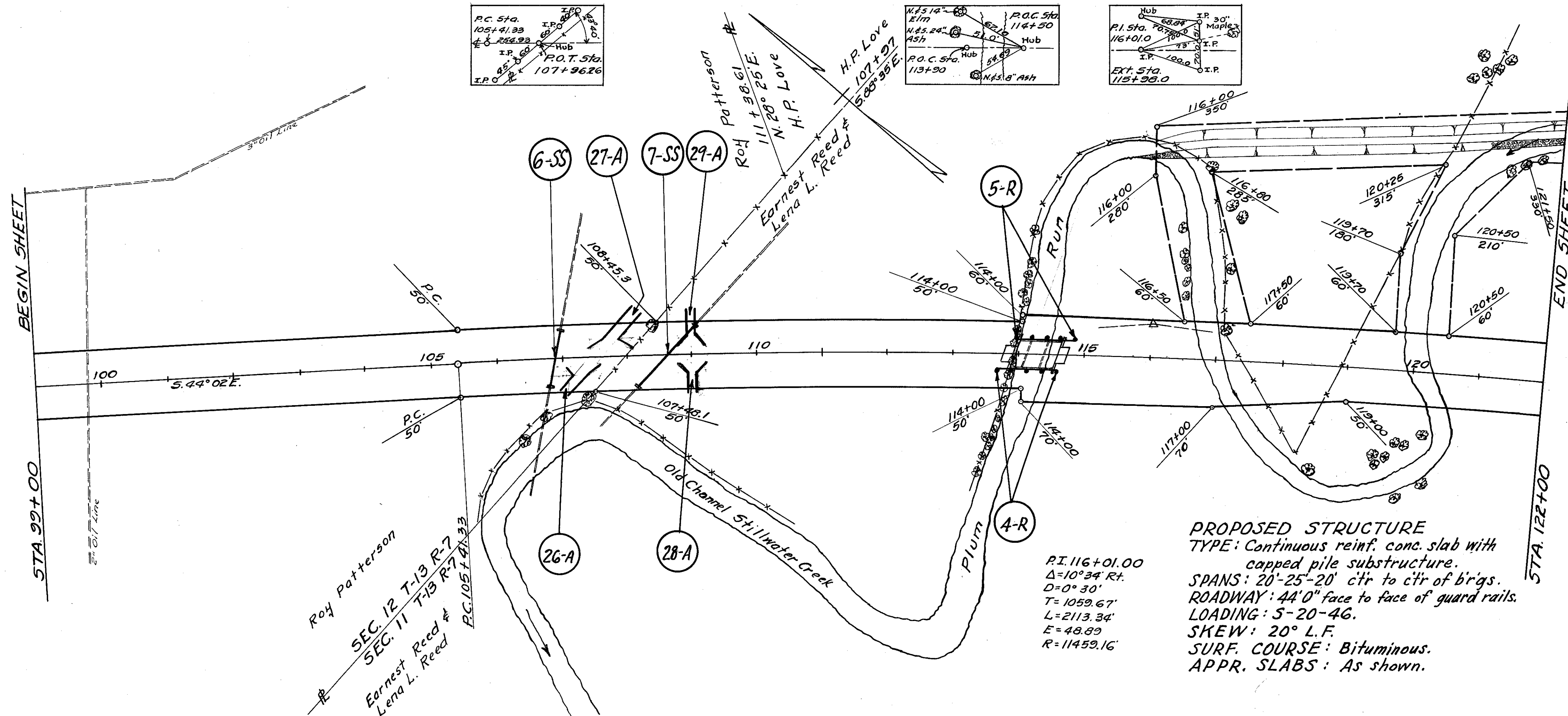
B.M. Sta. 85+00  
 M.S. in 30' Hickory  
 110' Lt. of E  
 Elev. 865.13

B.M. Sta. 98+00  
 M.S. in Oil Well Piling  
 100' Lt. of E  
 Elev. 865.45

- 871.40
- 871.20
- 871.00
- 870.80
- 870.60
- 870.40
- 870.20
- 870.00
- 869.80
- 869.60
- 869.40
- 869.20
- 869.00
- 868.80
- 868.60
- 868.50
- 868.41
- 868.32
- 868.24
- 868.17
- 868.09
- 868.03
- 867.97
- 867.91
- 867.86
- 867.81
- 867.78
- 867.74
- 867.71
- 867.69
- 867.67
- 867.66
- 867.64
- 867.64
- 867.64
- 867.65
- 867.66
- 867.68
- 867.70
- 867.75
- 867.80
- 867.85
- 867.90
- 867.95
- 868.00
- 868.05
- 868.10
- 868.15
- 868.20
- 868.25
- 868.30
- 868.35
- 868.40
- 868.45
- 868.50
- 868.55
- 868.60
- 868.65
- 868.70



- 878.1
- 872.8
- 871.0
- 869.3
- 867.0
- 864.7
- 864.4
- 863.7
- 863.2
- 863.8
- 863.2
- 862.9
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- 863.1
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- 864.3
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- 863.6
- 863.7
- 863.6
- 863.9
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- 863.4
- 863.9
- 864.1



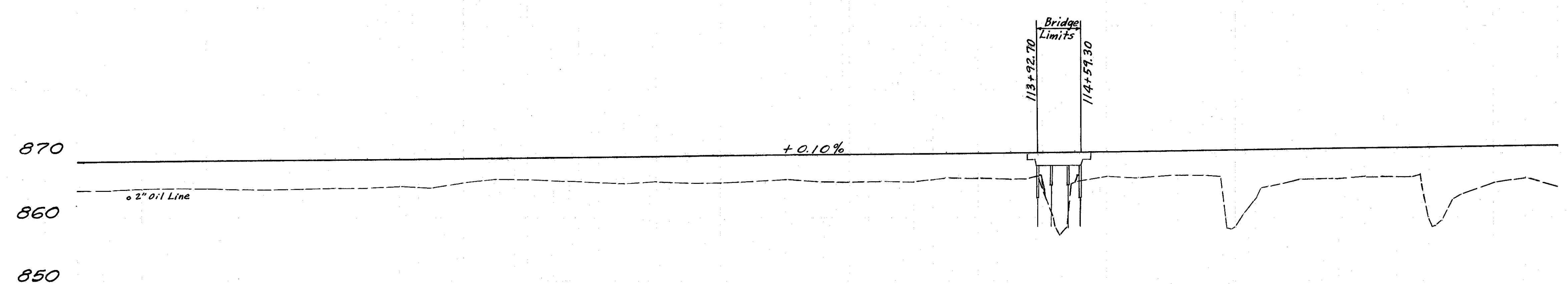
APPROACHES				
Ref. No.	Station	Side	See Sheet	I-17 Cu. Yds.
26-A	107+50	Rt.	44	10
27-A	107+50	Lt.	44	13
28-A	109+00	Rt.	44	8
29-A	109+00	Lt.	44	10
Total				41

DRAINAGE					
Ref. No.	Station	Side	See Sheet	12" Storm Sewer Under Pavt. Lin. Ft.	Removed 6" 8" Conc. Cu. Yds.
6-SS	106+87.85	R.&L.	108	88	88 1.3
7-SS	108+61.55	R.&L.	102	128	128 1.3
Totals				216	128 88 2.6

GUARD RAIL				
Ref. No.	From Sta.	To Sta.	Side	Lin. Ft. Remarks
4-R	113+67.75	114+55.25	Rt.	21 66.5' is Bridge Railing.
5-R	113+96.75	114+84.25	Lt.	21 66.5' is Bridge Railing.
Total				42

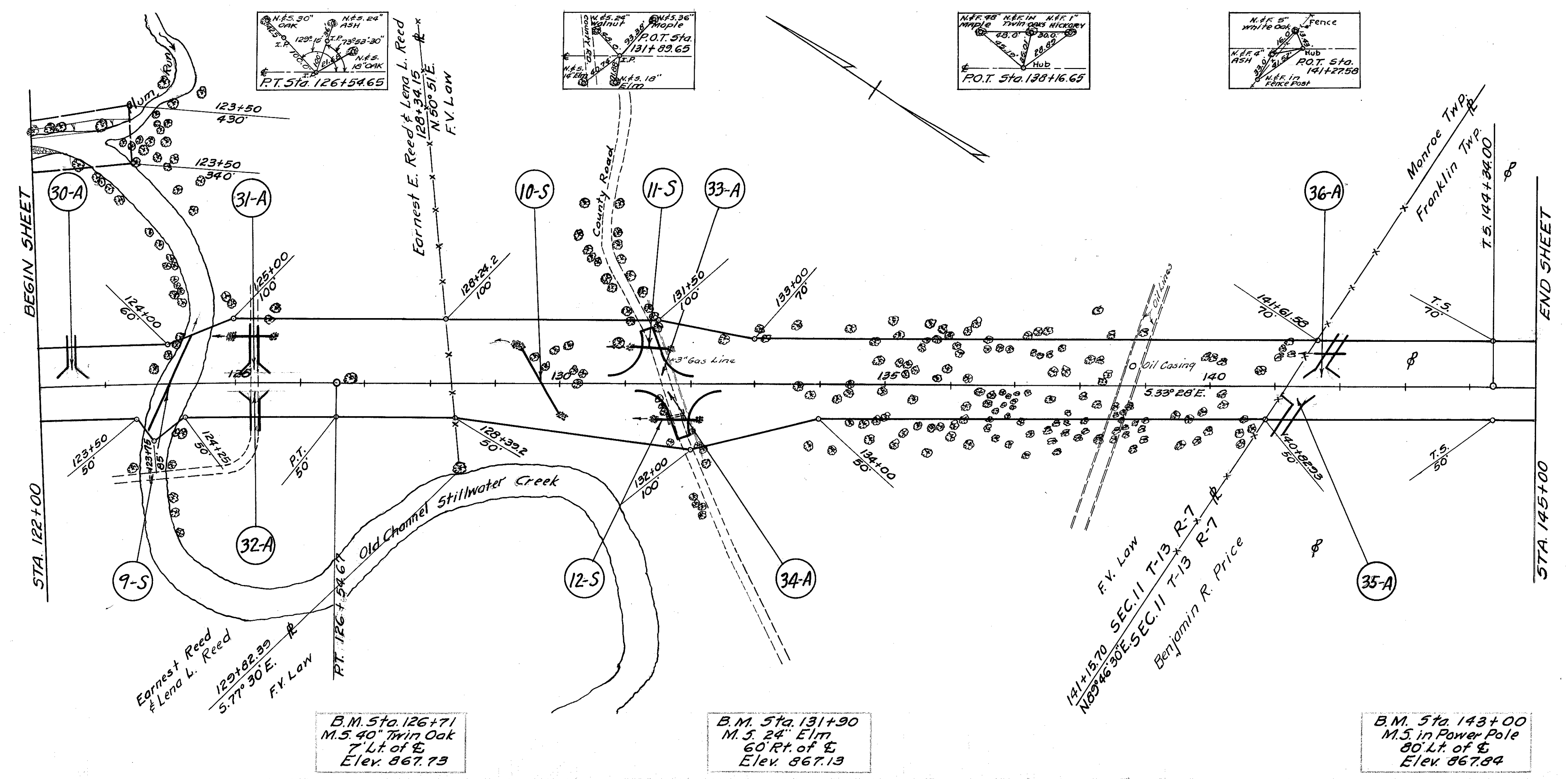
APPROACH SLABS				
From Sta.	To Sta.	See Sheet	Slab Sq. Yds.	T-35 Surf. Sq. Yds. Remarks
113+77.70	113+92.70	164 & 165	40	40 AS-4-47
114+59.30	114+74.30	164 & 165	40	40 AS-4-47
Totals			80	80

- 868.70
- 868.75
- 868.80
- 868.85
- 868.90
- 868.95
- 869.00
- 869.05
- 869.10
- 869.15
- 869.20
- 869.25
- 869.30
- 869.35
- 869.40
- 869.45
- 869.50
- 869.55
- 869.60
- 869.65
- 869.70
- 869.75
- 869.80
- 869.85
- 869.90
- 869.95
- 870.00
- 870.05
- 870.10
- 870.15
- 870.20
- 870.25
- 870.30
- 870.35
- 870.40
- 870.45
- 870.50
- 870.55
- 870.60
- 870.65
- 870.70
- 870.75
- 870.80
- 870.85
- 870.90
- 870.95
- 871.00



- 864.1
- 864.2
- 864.3
- 864.6
- 864.6
- 864.3
- 864.4
- 864.5
- 864.7
- 864.8
- 864.9
- 864.7
- 865.3
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- 865.5
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- 865.8
- 865.7
- 866.1
- 866.1
- 865.9
- 864.5
- 865.6
- 866.4
- 866.1
- 866.6
- 866.6
- 866.6
- 864.8
- 865.9
- 865.9
- 866.3
- 866.2
- 860.0
- 863.5
- 865.2
- 866.1
- 864.7



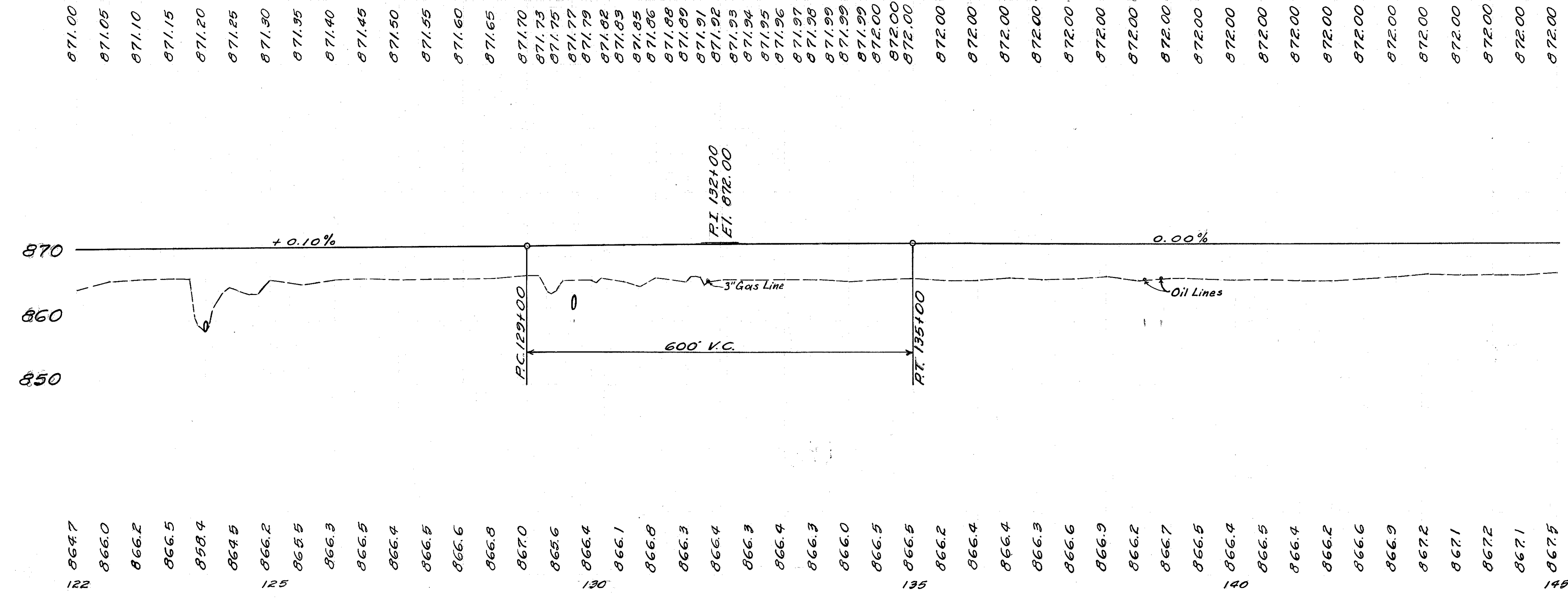


**APPROACHES**

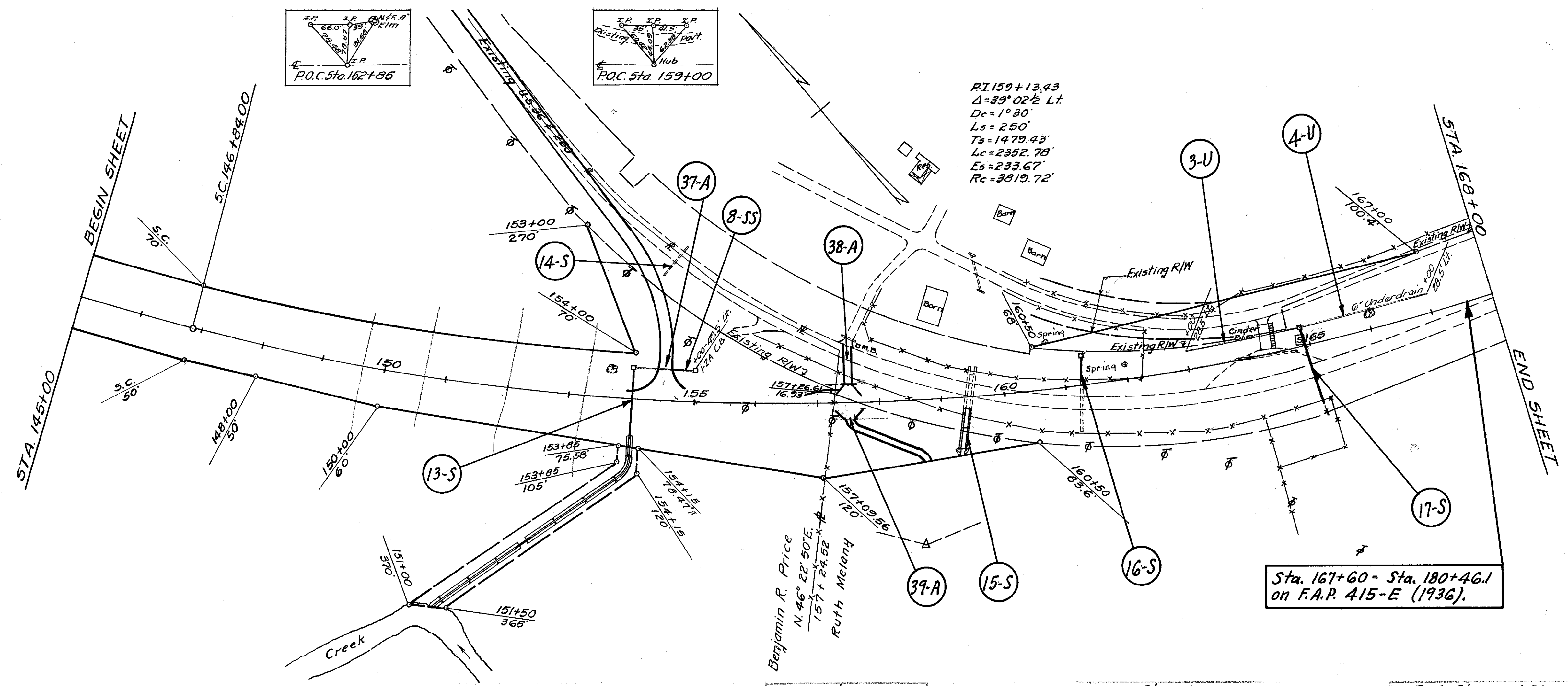
Ref. No.	Station	Side	See Sheet	I-17 Cu. Yds.	Drive Pipe Lin. Ft.		Riprap Sq. Yds.	4" Pipe Structure		48" Pipe Structure	
					15"	36"		Pavt. S.Y.	SS-S	Removed	Removal C.Y.
30-A	122+50	Lt.	47	11							
31-A	125+30	Lt.	48	12		64	24				
32-A	125+30	Rt.	48	10							
33-A	131+61	Lt.	115					328	56		
34-A	131+61	Rt.	115					328	56	21	9
35-A	141+50	Rt.	51	10							
36-A	141+50	Lt.	51	11		46					
<b>Totals</b>				<b>54</b>	<b>46</b>	<b>64</b>	<b>24</b>	<b>656</b>	<b>112</b>	<b>21</b>	<b>9</b>

**CULVERTS**

Ref. No.	Station	See Sheet	New Work		
			Type	Size	Length
9-S	124+00	137	Pipe	18"	158'
10-S	127+71.5	138	Pipe	24"	119'
11-S	3+43	139	Pipe	36"	64'
12-S	4+58	140	Pipe	24"	64'



864.7	122
866.0	
866.2	
866.5	
868.4	125
864.5	
866.2	
866.5	
866.3	
866.5	
866.4	
866.5	
866.6	
866.8	
867.0	
865.6	130
866.4	
866.1	
866.8	
866.3	
866.4	
866.3	
866.4	
866.3	
866.0	
866.5	
866.5	
866.2	135
866.4	
866.4	
866.3	
866.6	
866.9	
866.2	
866.7	
866.5	
866.4	
866.2	
866.6	
866.9	
867.2	
867.1	
867.2	
867.1	
867.5	145



### APPROACHES

Ref. No.	Station	Side	See Sheet	I-17 Cu. Yds.	9' T-70 Pavt. Sq. Yds.	SS-5 Cu. Yds.	Drive Pipe Lin. Ft.	
37-A	154+50	Lt.	116&117		1928	350	12"	
38-A	157+50	Lt.	53	12	50		24	
39-A	157+50	Rt.	53	24				
<b>Totals</b>					<b>36</b>	<b>1978</b>	<b>350</b>	<b>24</b>

### CULVERTS

Ref. No.	Station	See Sheet	Removals		New Work		
			Type	Size	Length	Type	Size
13-S	154+00	141				21"	112'
14-S	154+60	18	V.S.P. enc.	15"	65'		
15-S	157+47.75	142 & 143				S.T.C. Ext. 5' x 7' 7"	57.5'
16-S	161+31.8	144				Pipe Ext. 15"	45'
17-S	164+93.1	145	V.S.P. enc.	15"	82'	Pipe 15"	123'
<b>Totals</b>							

### DRAINAGE

Ref. No.	Station	Side	See Sheet	21" Storm Sewer		Pipe Underdrain Lin. Ft.	
				Under Pavt. Lin. Ft.	Stal I-2 A C.B. Each		
8-SS	154+01	155+00	Lt.	18	98	1	
3-U	163+00	164+90	Lt.	18		190	
4-U	164+92	167+00	Lt.	18		208	
<b>Totals</b>					<b>98</b>	<b>1</b>	<b>398</b>

PI 159+13.43  
 $\Delta = 39^\circ 02' \frac{1}{2}$  Lt.  
 $D_c = 1^\circ 30'$   
 $L_s = 250'$   
 $T_s = 1479.43'$   
 $L_c = 2352.78'$   
 $E_s = 233.67'$   
 $R_c = 3819.72'$

Benjamin R. Price  
 $N. 46^\circ 22' 50" E.$   
 $157 + 24.82$   
 Ruth Melany

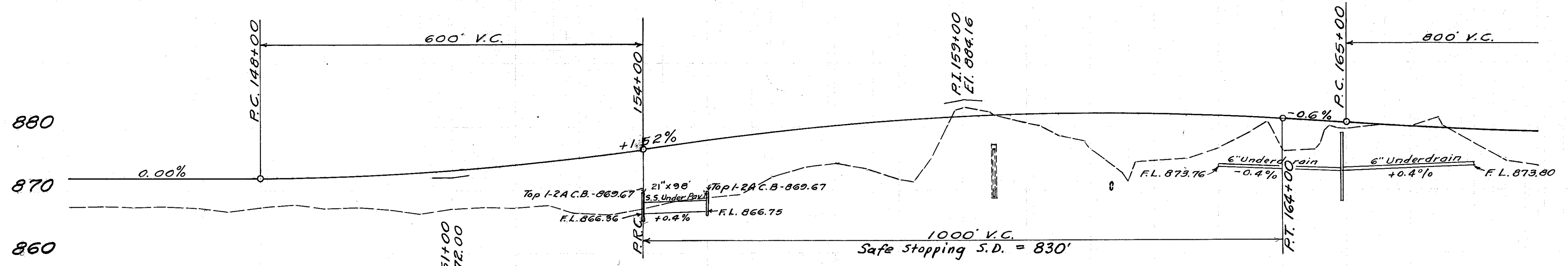
Sta. 167+60 = Sta. 180+46.1  
 on F.A.P. 415-E (1936).

B.M. Sta. 157+21  
 M.S. in Tel. Pole  
 28' Rt. of  $\phi$   
 Elev. 874.36

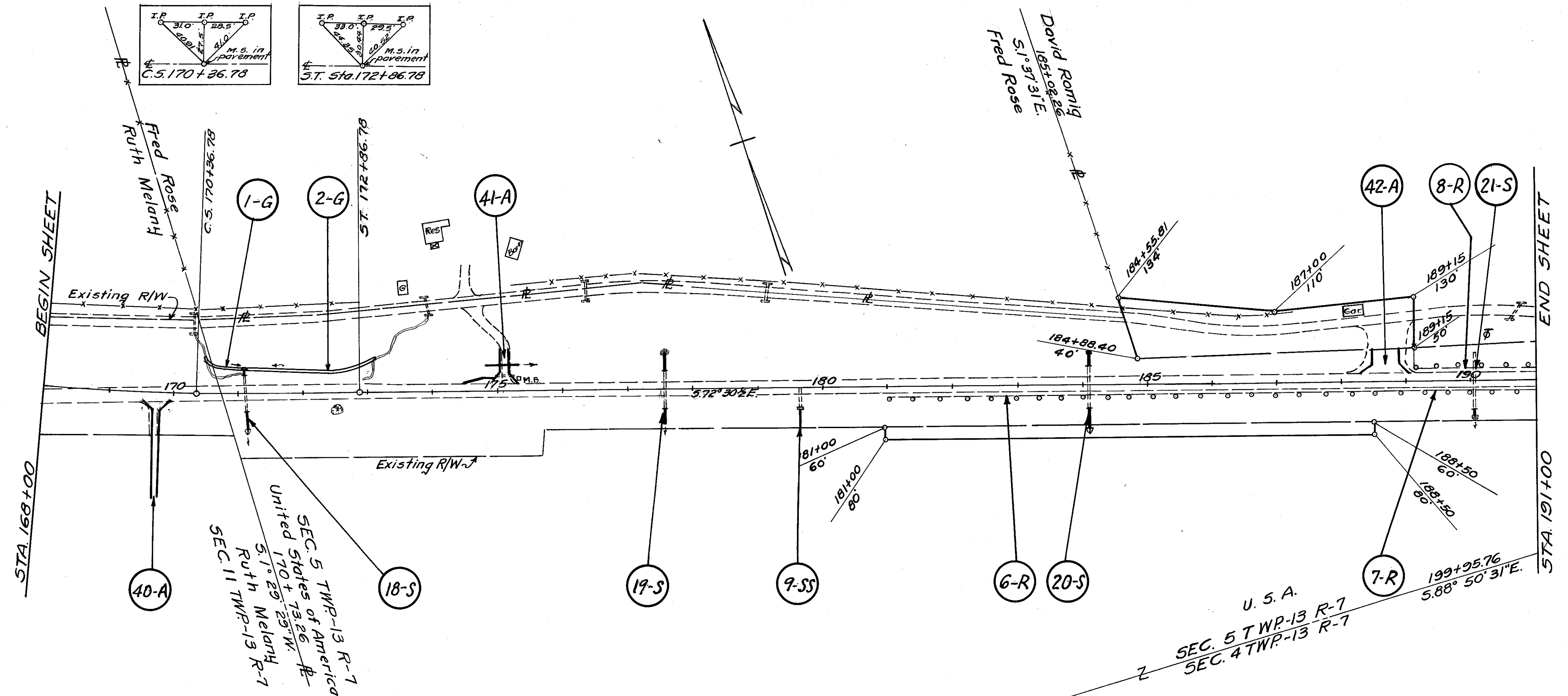
B.M. Sta. 159+60  
 Cut N.E. Corner E. Wing  
 of Cattle Pass  
 37' Lt. of  $\phi$   
 Elev. 877.57

B.M. Sta. 164+90  
 N.W. Cor. Culvert Hwall  
 20' Rt. of  $\phi$   
 Elev. 875.11

- 872.00
- 872.00
- 872.00
- 872.00
- 872.00
- 872.00
- 872.00
- 872.01
- 872.03
- 872.07
- 872.13
- 872.20
- 872.29
- 872.39
- 872.51
- 872.64
- 872.79
- 872.96
- 873.14
- 873.34
- 873.55
- 873.78
- 874.03
- 874.29
- 874.56
- 874.86
- 875.17
- 875.49
- 875.83
- 876.56
- 876.93
- 877.29
- 877.64
- 877.97
- 878.29
- 878.60
- 878.90
- 879.18
- 879.44
- 879.70
- 879.94
- 880.17
- 880.38
- 880.58
- 880.76
- 880.94
- 881.11
- 881.25
- 881.39
- 881.51
- 881.62
- 881.71
- 881.80
- 881.86
- 881.91
- 881.96
- 881.99
- 882.01
- 882.01
- 882.00
- 881.97
- 881.94
- 881.89
- 881.82
- 881.74
- 881.65
- 881.55
- 881.43
- 881.30
- 881.16
- 880.86
- 880.56
- 880.41
- 880.27
- 880.14
- 880.01
- 879.89
- 879.78
- 879.67
- 879.56
- 879.47
- 879.38
- 879.30
- 879.22



- 867.5
- 867.5
- 867.3
- 867.5
- 867.4
- 866.7
- 867.2
- 867.7
- 867.1
- 867.2
- 866.9
- 866.3
- 867.0
- 867.2
- 867.4
- 867.4
- 866.4
- 866.1
- 867.1
- 868.3
- 868.9
- 869.3
- 872.1
- 873.3
- 874.1
- 873.0
- 871.7
- 874.9
- 882.9
- 881.7
- 880.3
- 878.7
- 876.4
- 872.7
- 874.5
- 874.9
- 876.7
- 879.3
- 876.1
- 876.4
- 879.7
- 880.1
- 879.9
- 880.0
- 877.3
- 874.5
- 873.8



### APPROACHES

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

### CULVERTS

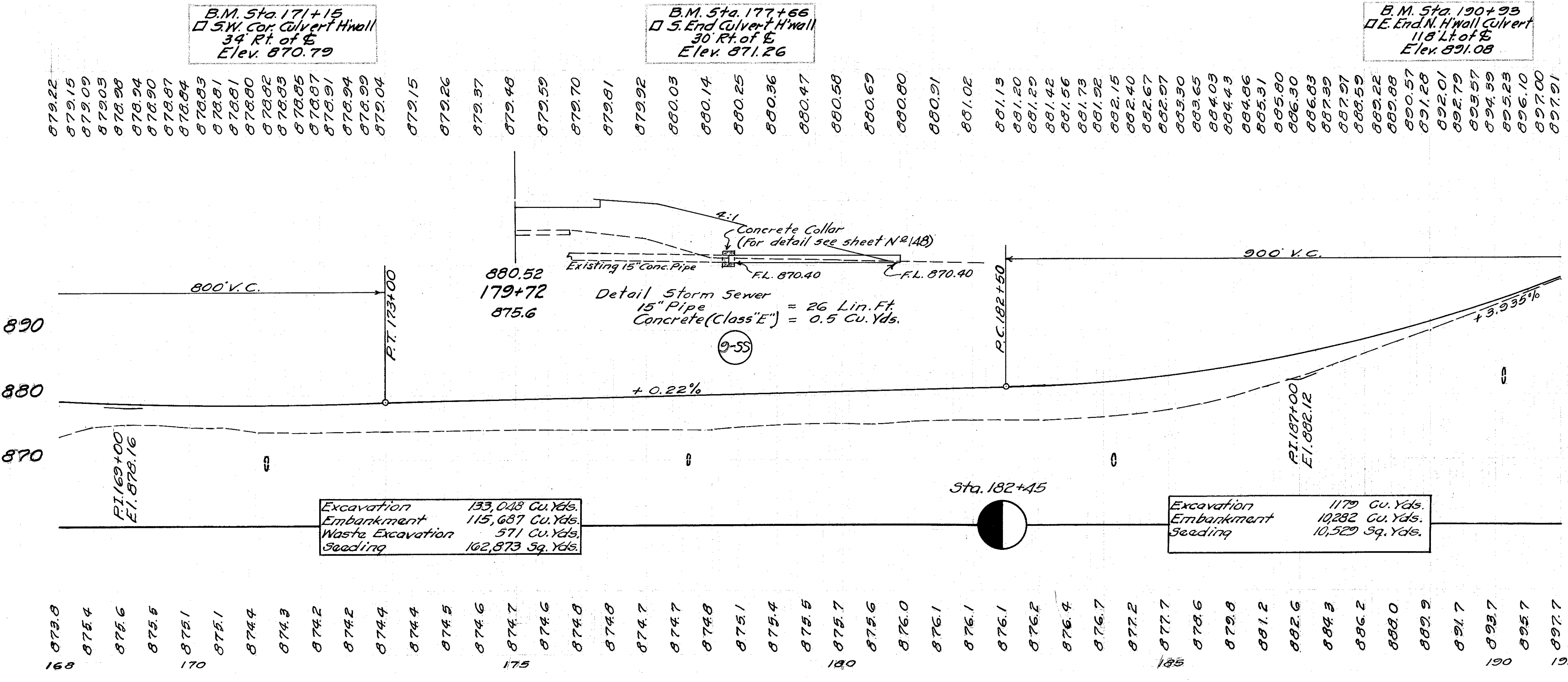
Ref. No.	Station	Sheet	Removals			New Work		
			Type	Size	Length	Type	Size	Length
18-S	171+15.33	146				Pipe Exts.	24"	36'
19-S	171+65.08	147				Pipe Exts.	18"	51'
20-S	184+14.91	148				Pipe Exts.	18"	52'
21-S	190+11.90	149	Pipe	24"	7'	Pipe Ext.	30"	10'
<b>Totals</b>								

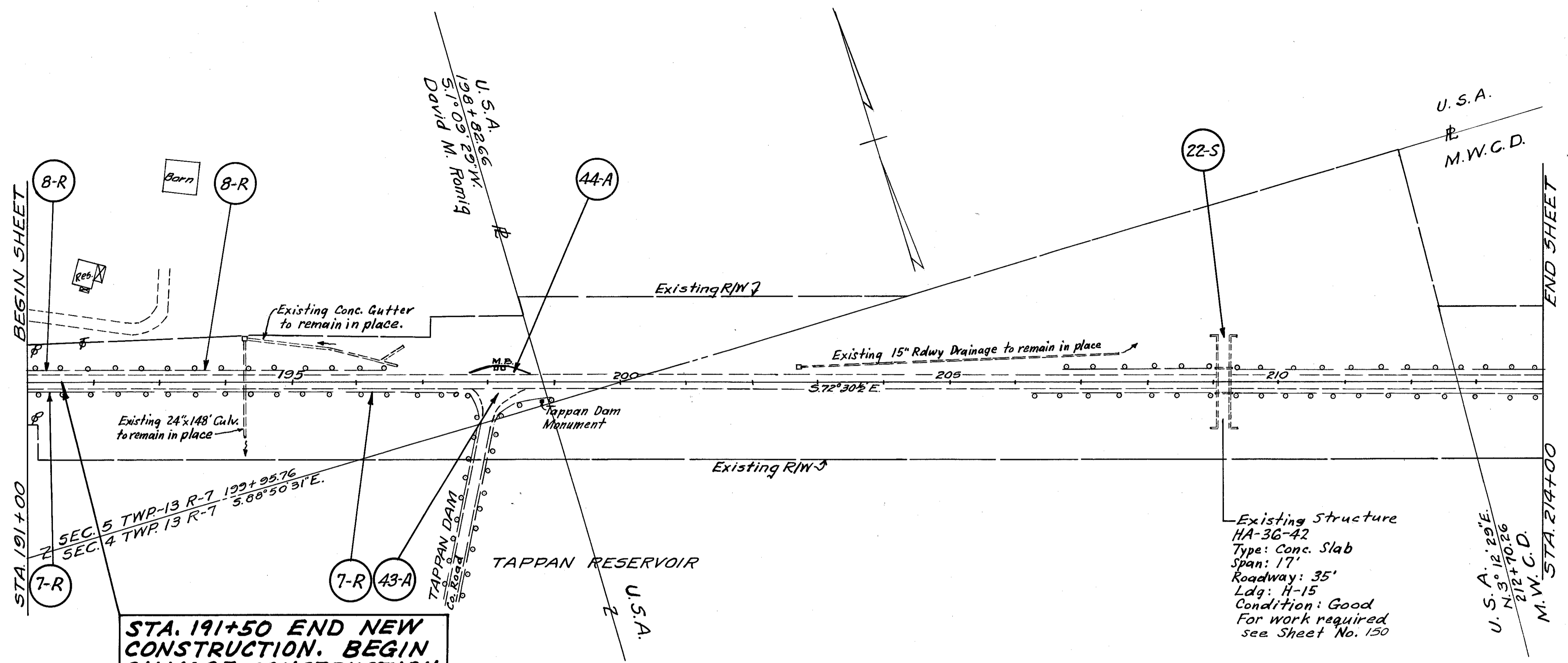
### DRAINAGE

Ref. No.	Station From To	Side	See Sheet	Storm Sewer		Type I Gutter	Class "E" Conc.
				15"	Lin. Ft.		
1-G	170+50 171+13	Lt.	64	19	66		
2-G	171+17 173+12	Lt.	64	19	204		
9-SS	179+72	Rt.	19	26			0.5
<b>Totals</b>					<b>26</b>	<b>270</b>	<b>0.5</b>

### GUARD RAIL

Ref. No.	Station From To	Side	Remove Lin. Ft.	Reset Lin. Ft.
6-R	181+00 188+00	Rt.	700	
7-R	188+00 191+00	Rt.		300
8-R	189+18 191+00	Lt.		182
<b>Totals</b>			<b>700</b>	<b>482</b>



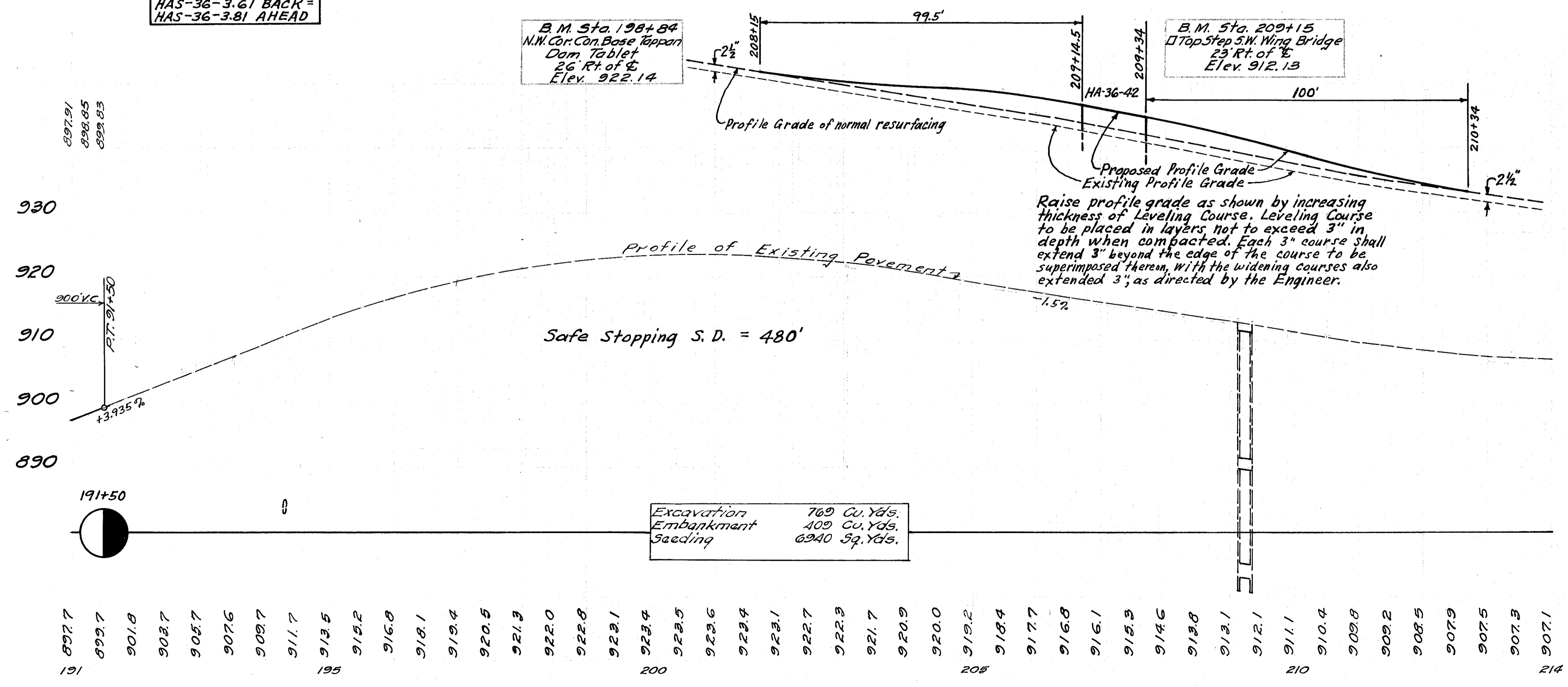


APPROACHES					
Ref. No.	Station	Side &	See Sheet	I-17 Cu. Yds.	Feathering Sq. Yds. B-35 T-35
CODE TYPE 6201					
43-A	198+15	Rt.	G4	6	25 25
44-A	198+15	Lt.	G4	6	
Totals for Code Type 6201				6	25 25

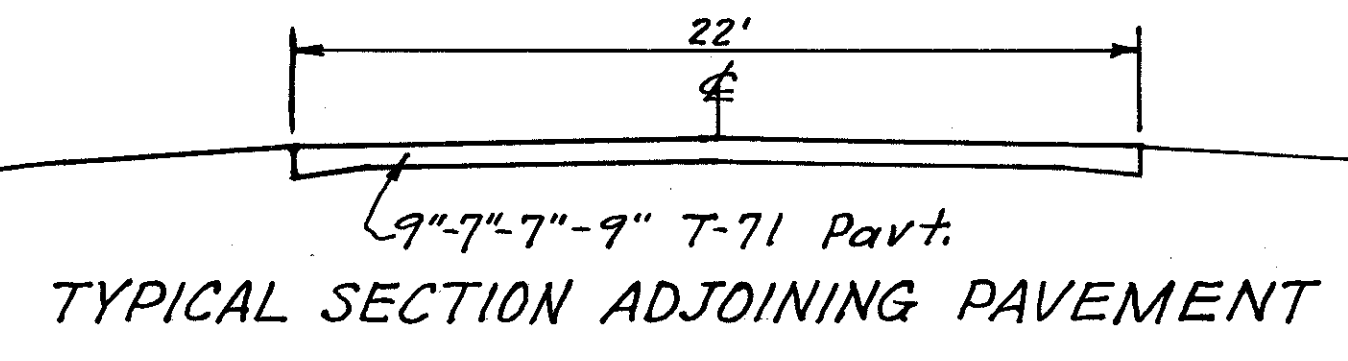
CULVERTS				
Ref. No.	Station	See Sheet	Removals	New Work
CODE TYPE 6201				
22-S	209+24	150	Portions of Exist. Structure	Raise Deck & Build Railing.

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	

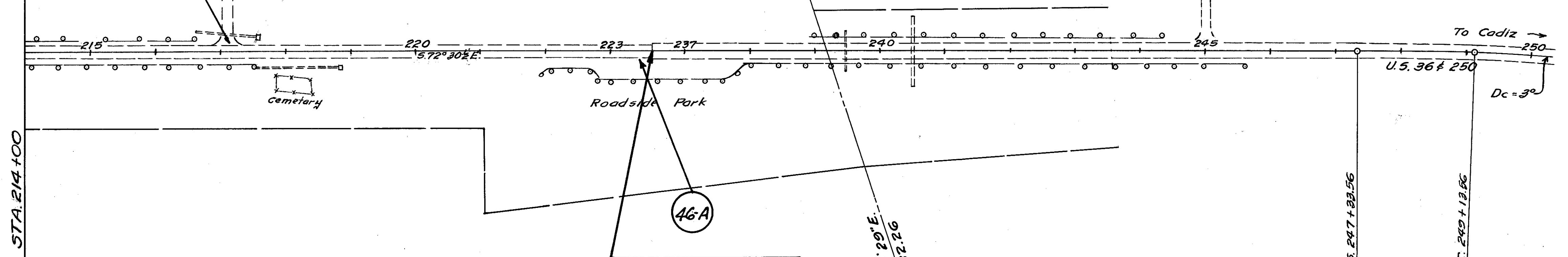
PAVEMENT REMOVAL					
Station	Side &	See Sheet	Av. Length	Width	Sq. Yds.
CODE TYPE 6201					
197+00	204+00	Lt.	5	700'	122' 95
Total for Code Type 6201					95



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



BEGIN SHEET  
 STA. 214+00



Marker shall be furnished and erected on left by State Forces before acceptance of this improvement.

B.M. Sta. 217+71  
 I.S.E. Cor. Catch Basin  
 22 Lt. of E  
 Elev. 904.18

STA. 223+65.6  
 END PART I

HAS-36-4.42

B.M. Sta. 222+70  
 NW. Cor. Con. Pump Base  
 45 Rt. of E  
 Elev. 905.03

Sta. 223+65.6 Back =  
 Sta. 236+50 Ahead =  
 Sta. 236+50 on F.A.P. 415-E (1936)  
 and on F.A.P. 415-H (1) (1941)

N 00° 19' 29" E  
 226+32.26

C.S. 247+23.56

S.C. 249+12.66

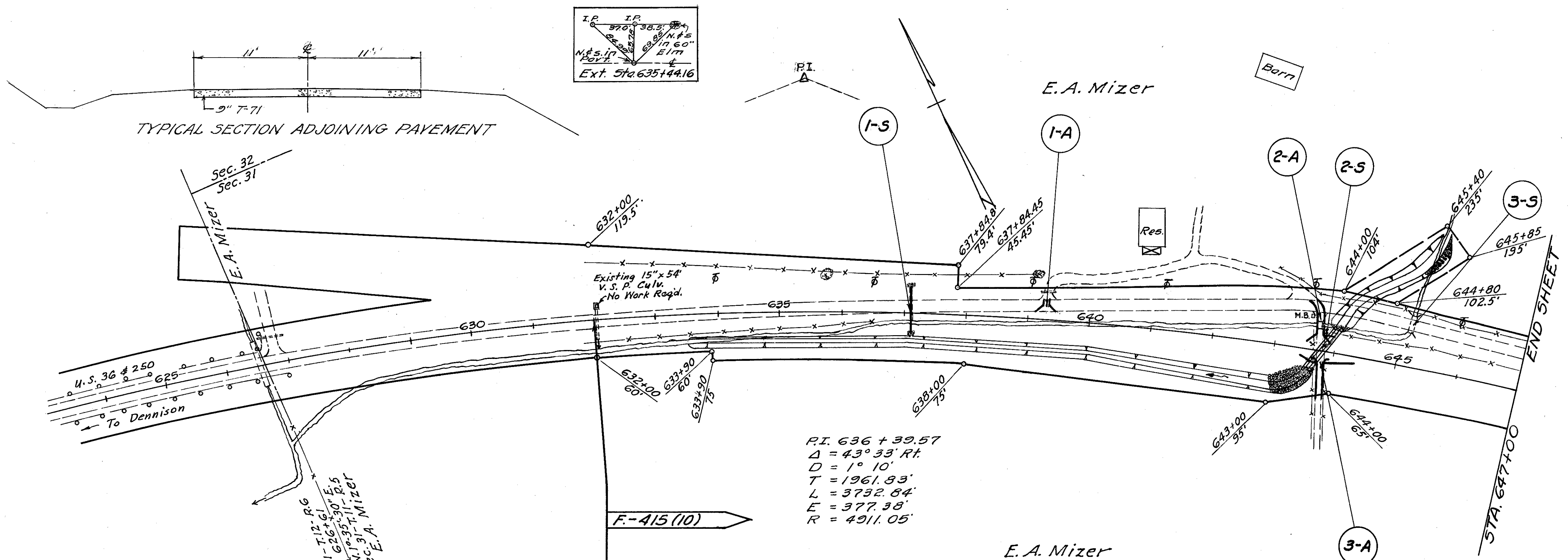
910  
 900

Profile of Existing Pavement

223+65.6

- 907.1
- 906.8
- 906.6
- 906.4
- 906.1
- 906.2
- 906.2
- 906.5
- 906.5
- 906.4
- 906.5
- 906.6
- 906.6
- 906.5
- 906.6
- 906.7
- 906.8
- 906.7
- 906.8
- 906.3
- 906.3
- 906.4
- 906.5
- 906.7
- 906.9
- 907.3
- 907.7
- 908.1
- 908.5
- 908.9
- 909.0
- 909.1
- 909.1
- 908.9

214 215 220 223 237 240 245 250



**STRUCTURES - 20' SPAN & UNDER**

Ref. No.	Station	Side Sheet	Type	Removals		New Work		
				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"	34'
3-S	645+15	22	Conc. Slab	9'x4'	33.65'			

**APPROACHES**

Ref. No.	Station	Side Sheet	Sec.	I-17		7-70	
				Appr.	Cu. Yds.	Appr.	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			
<b>Street Totals</b>				<b>23</b>	<b>100</b>		

RI. 636 + 39.57  
 $\Delta = 43^\circ 33' \text{ Rt.}$   
 $D = 1^\circ 10'$   
 $T = 1961.83'$   
 $L = 3732.64'$   
 $E = 377.38'$   
 $R = 4911.05'$

**STA. 632+00  
 BEGIN PART 2**

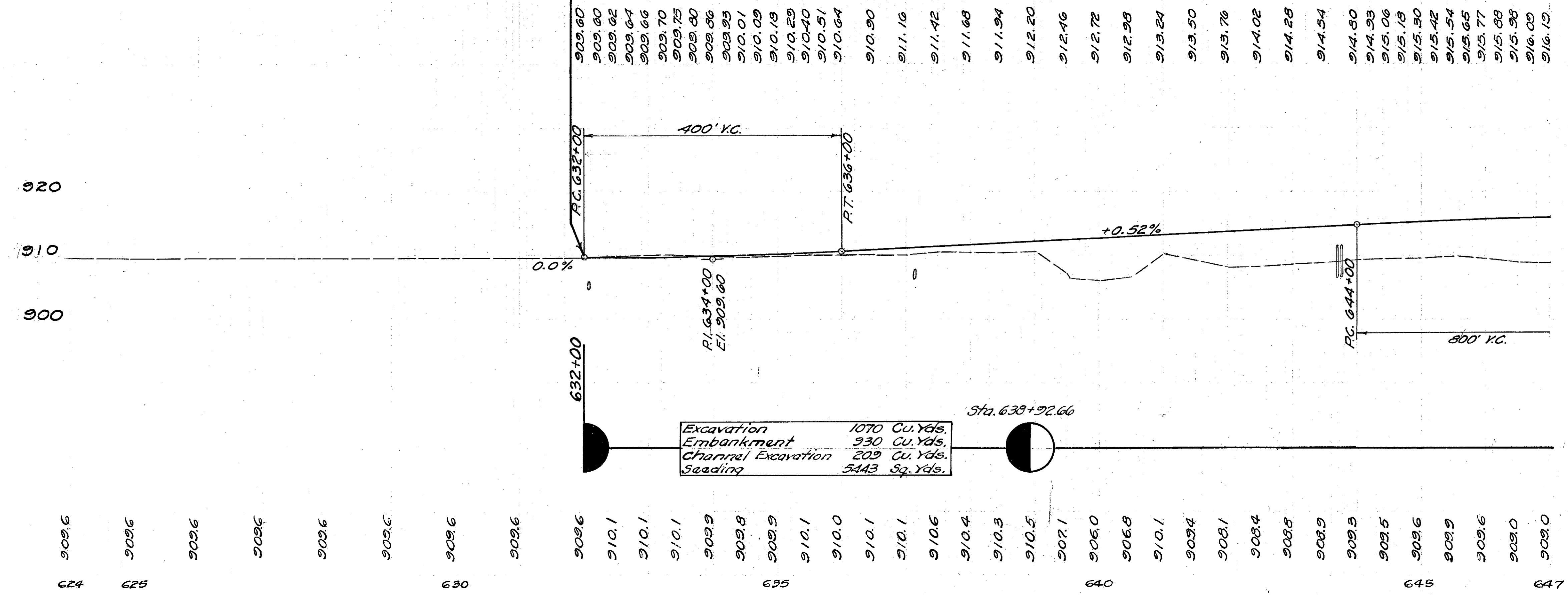
HAS-36-11.92

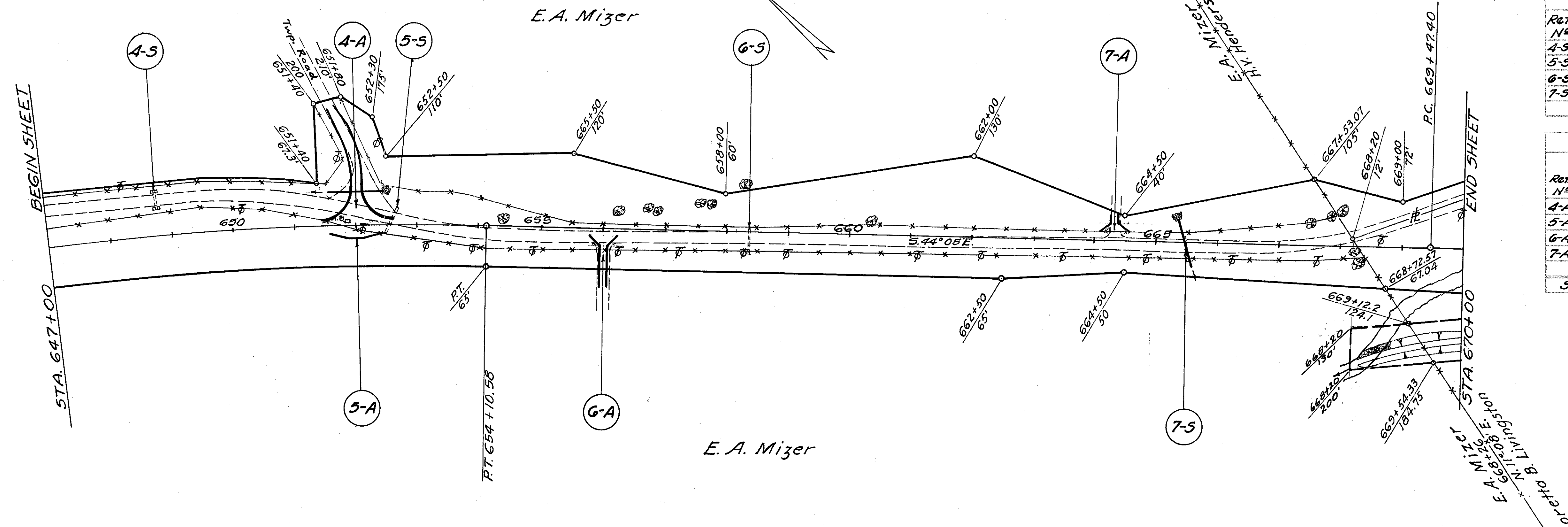
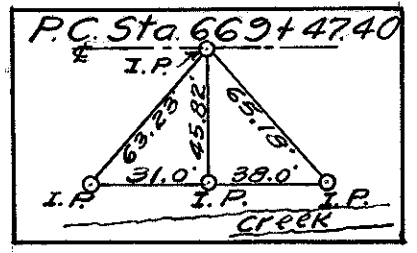
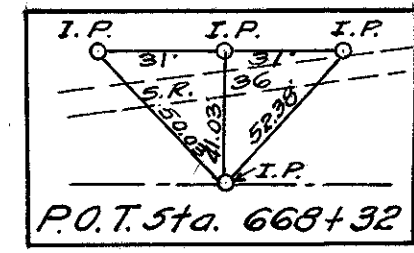
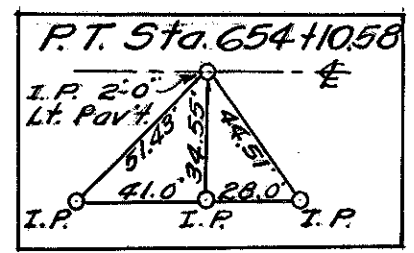
Sta. 632+00 = Sta. 632+00  
 on F.A.P. 415(9) (1943).

B.M. Sta. 635+90  
 M.S. 60" Elm  
 60' Lt. of E.  
 Elev. 909.75

B.M. Sta. 645+06  
 Cut N.W. Cor. Bridge  
 90' Lt. of E.  
 Elev. 913.08

Marker shall be furnished and erected on right by State Forces before acceptance of this improvement.



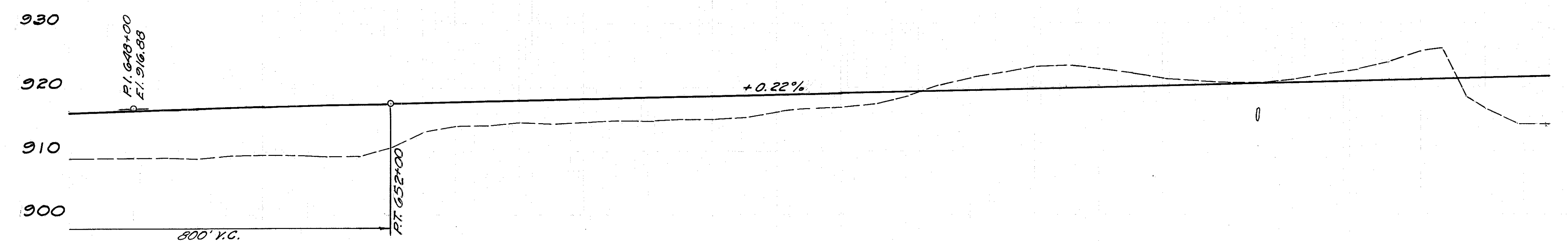


STRUCTURES - 20' SPAN & UNDER							
Ref. No.	Station	Sheet	Removals		New Work		
			Type	Size	Type	Size	Length
4-5	648+75	23	C.I.P.	15"	25'		
5-5	652+58	23	V.S.P.	8"	30'		
6-5	658+36	23	V.S.P.	12"	38'		
7-5	665+47	153	V.S.P. Stone Box	1.4' x 1.0'	25'	Pipe	24"

APPROACHES							
Ref. No.	Station	Side	Sheet	I-17		6"	
				Aggr.	Pipe	5-5	Riprap
				Cu. Yds.	Lin. Ft.	Cu. Yds.	Sq. Yds.
4-A	652+00	Lt.	119	6	18"	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	5

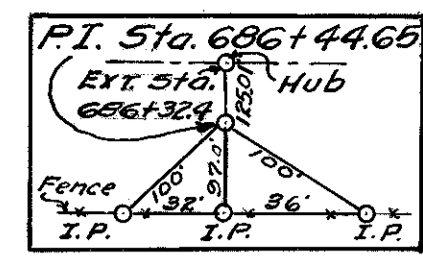
- B.M. Sta. 652+10  
M.S. Tel. Pole  
4' Rt. of  $\xi$   
Elev. 912.78
- B.M. Sta. 654+00  
M.S. Tel. Pole  
30' Rt. of  $\xi$   
Elev. 913.69
- B.M. Sta. 658+12  
M.S. 14" Walnut  
100' Lt. of  $\xi$   
Elev. 919.97
- B.M. Sta. 664+85  
M.S. Tel. Pole  
25' Rt. of  $\xi$   
Elev. 920.26

- 916.19
- 916.29
- 916.39
- 916.40
- 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
- 919.85
- 919.96
- 920.07
- 920.18
- 920.29
- 920.40
- 920.51
- 920.62
- 920.73
- 920.84
- 920.95
- 921.06
- 921.17
- 921.28
- 921.39
- 921.50
- 921.61
- 921.72

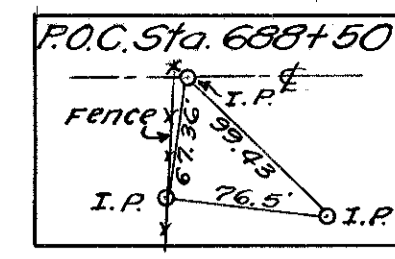


- 909.0
- 909.2
- 909.2
- 909.1
- 908.9
- 909.4
- 909.5
- 909.5
- 909.2
- 909.3
- 910.6
- 913.1
- 914.0
- 914.0
- 914.5
- 914.4
- 914.7
- 914.9
- 914.8
- 915.0
- 915.1
- 915.4
- 916.2
- 916.7
- 916.9
- 917.4
- 918.6
- 920.2
- 921.4
- 922.4
- 923.2
- 923.4
- 922.9
- 922.2
- 921.3
- 921.0
- 920.7
- 920.7
- 921.0
- 922.0
- 922.8
- 923.9
- 925.7
- 922.7
- 916.8
- 914.4
- 914.2

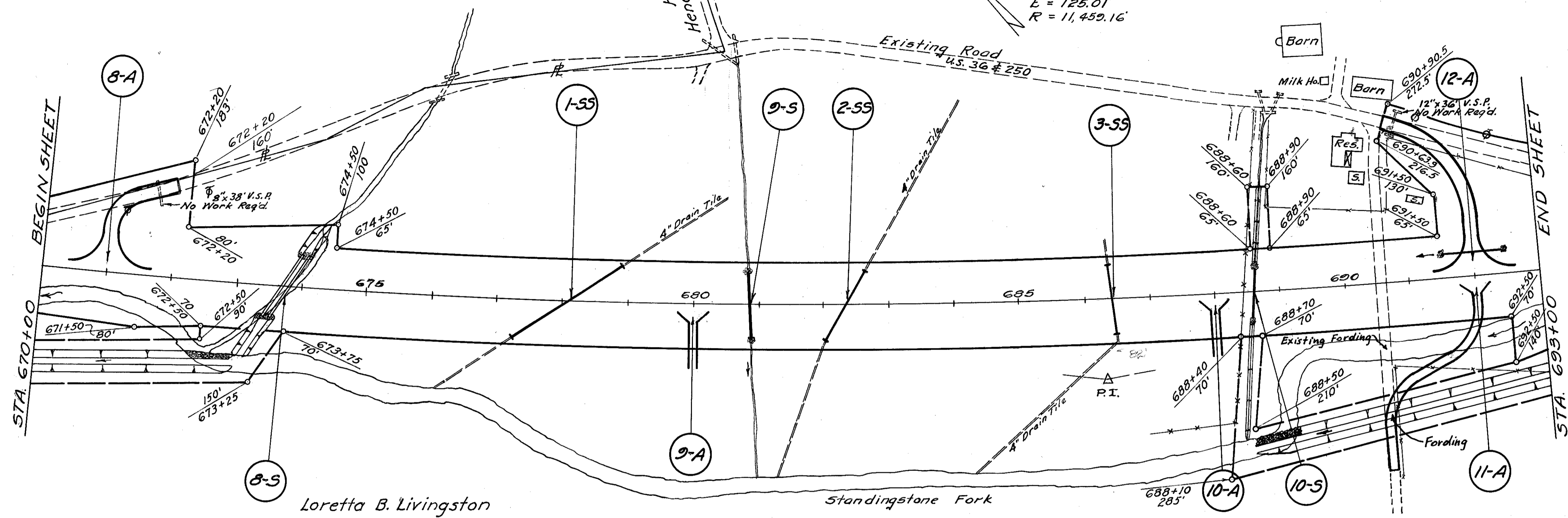
H. V. Henderson



P.I. 686+44.65  
 $\Delta = 16^\circ 51' Lt.$   
 $D = 0^\circ 30'$   
 $T = 1697.25'$   
 $L = 3370.00'$   
 $E = 125.01'$   
 $R = 11,459.16'$



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



Loretta B. Livingston

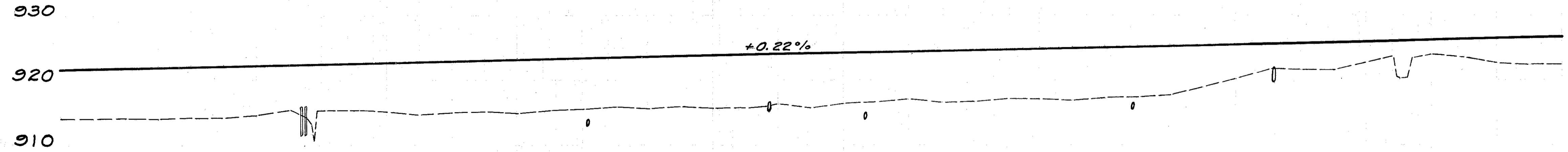
B.M. Sta. 671+25  
 M.S. Tel. Pole  
 100' Lt. of  $\pm$   
 Elev. 926.61

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

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

B.M. Sta. 690+10  
 U.S.G.S. - Bronze cap set  
 in front door sill 235' Lt.  $\pm$   
 El. 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

670 675 680 685 690 695

**STRUCTURES - 20' SPAN & UNDER**

Ref. No	Station	See Sheet	Removals			New Work		
			Type	Size	Length	Type	Size	Length
8-S	673+75	154				Pipe	2 @ 54"	111'
9-S	680+86	155				Pipe	21"	106'
10-S	688+60	156				Pipe	30"	79'

**APPROACHES**

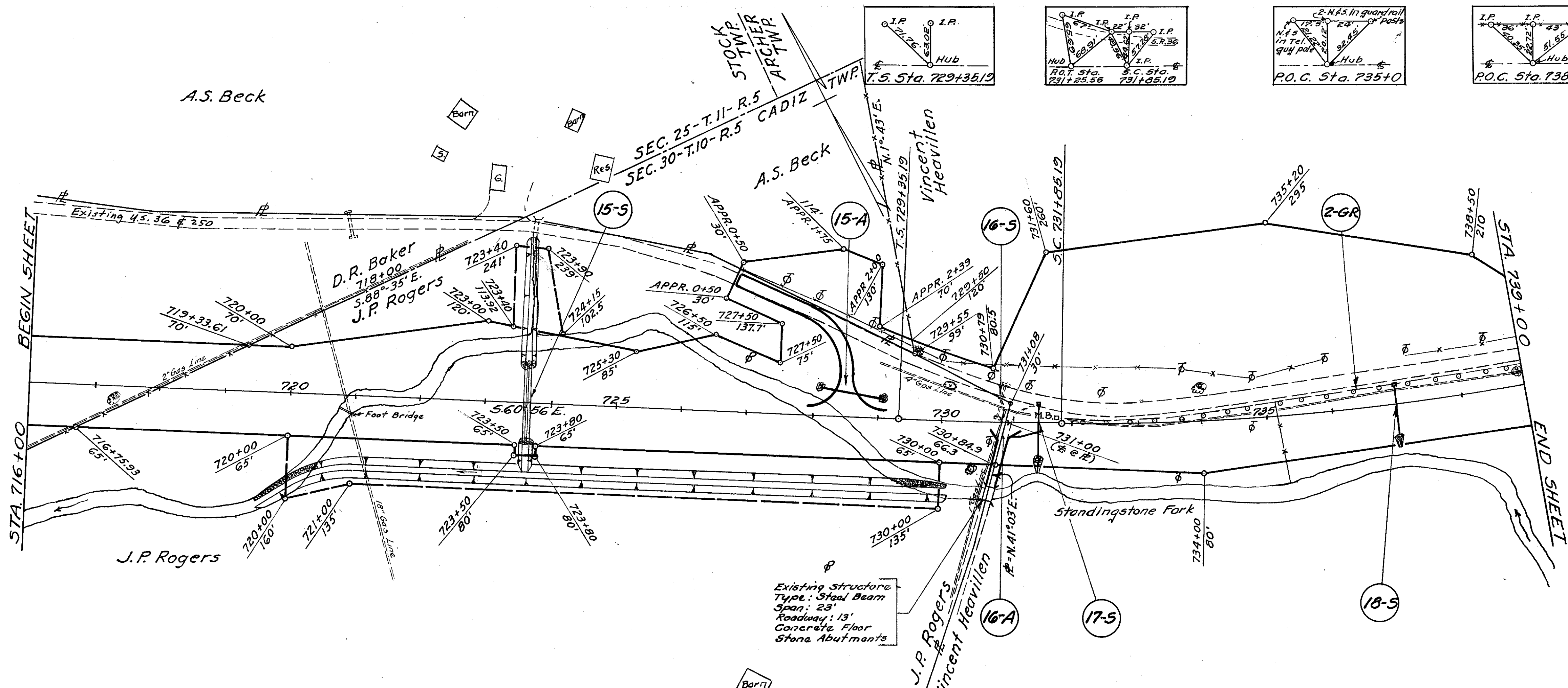
Ref. No	Station	Side Sheet	See	I-17		Pipe Lin. Ft.	6"		Riprap
				Appr.	T-70		Cu. Yds.	Sq. Yds.	
8-A	671+00	Lt.	120			18"	98		
9-A	680+00	Rt.	78	14					
10-A	688+00	Rt.	80	14					
11-A	692+00	Rt.	121 & 122	37					
12-A	692+00	Lt.	123 & 124		770	100	137	10	
<b>Sheet Totals</b>				<b>65</b>	<b>1320</b>	<b>100</b>	<b>235</b>	<b>10</b>	

**STORM SEWERS**

Ref. No	Station	See Sheet	Pipe - Lin. Ft.		Class "E" Concrete Cu. Yds.
			Under Pavt.	Removal	
1-55	678+08	110	202	202	1.4
2-55	682+34	110	126	126	1.4
3-55	686+42	110	112	112	1.4
<b>Sheet Totals</b>			<b>440</b>	<b>440</b>	<b>4.2</b>



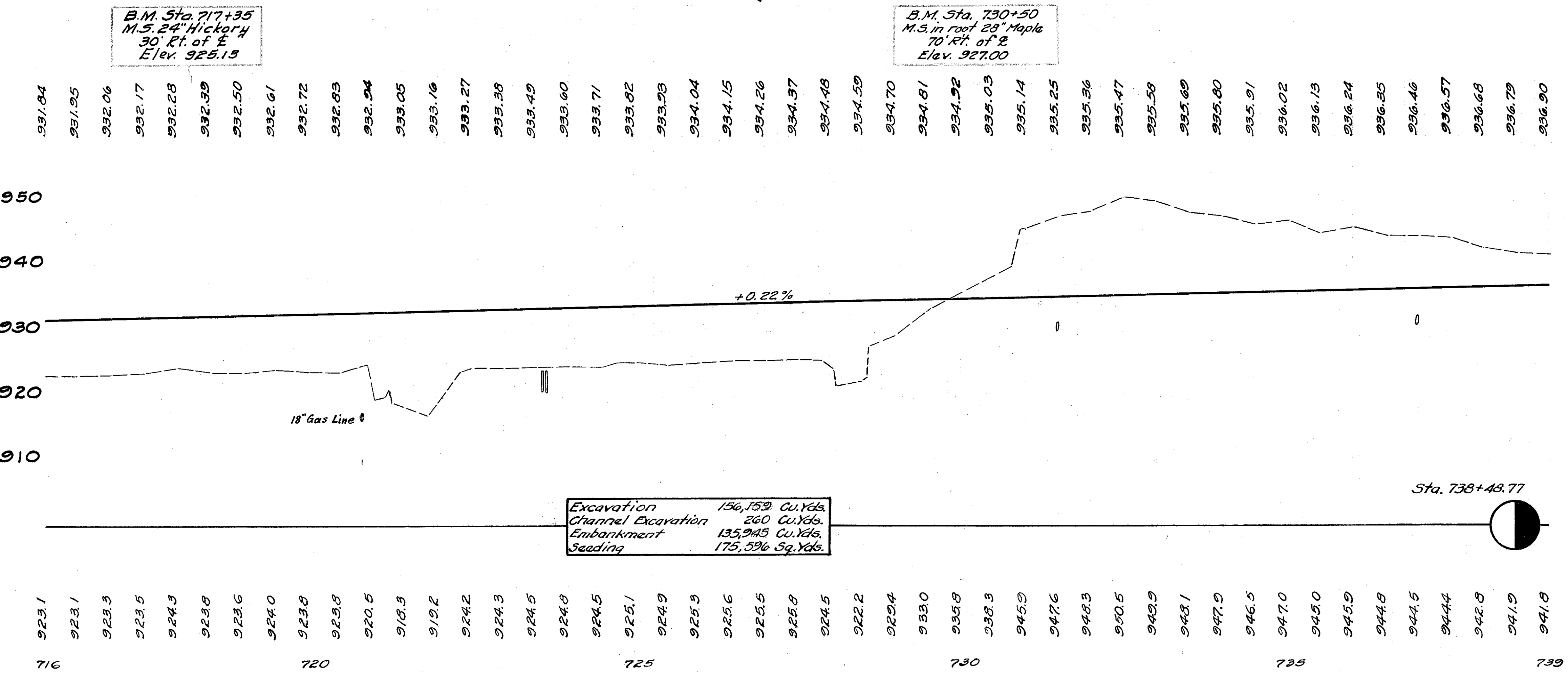




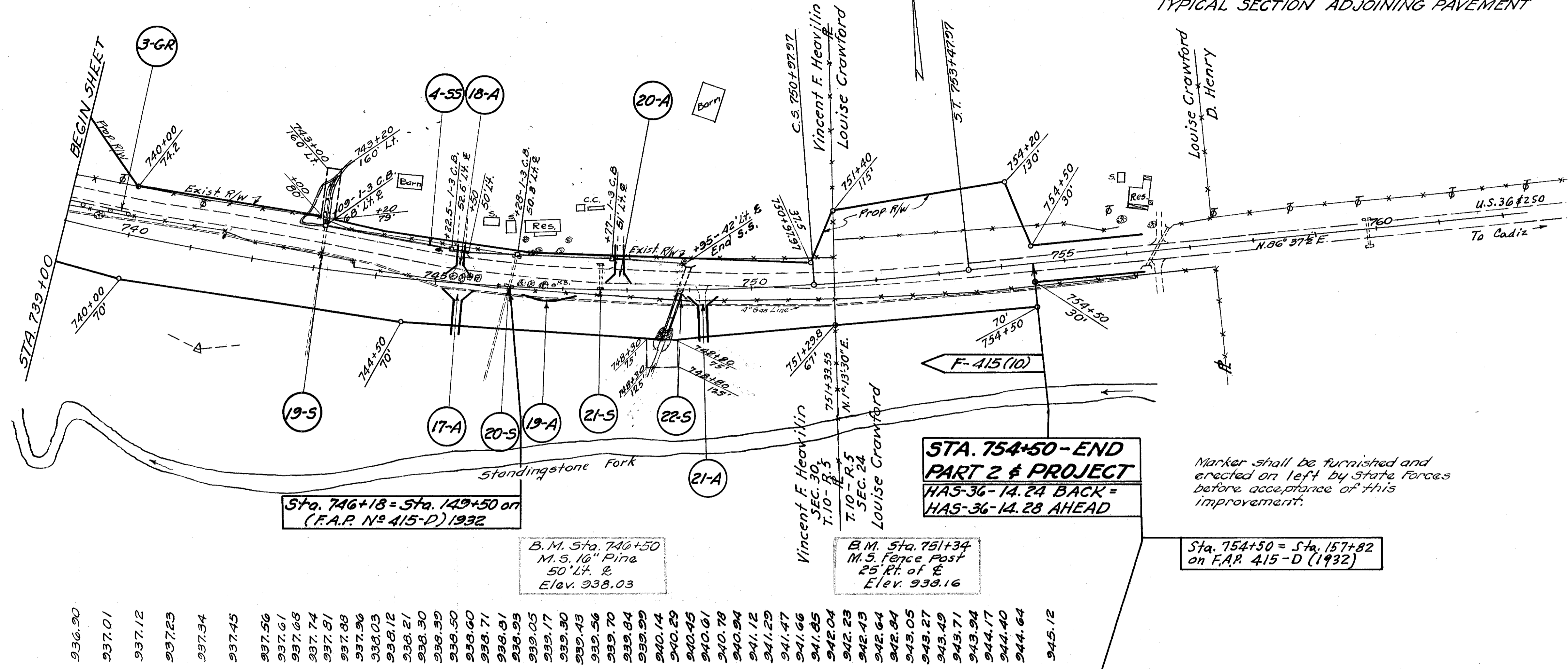
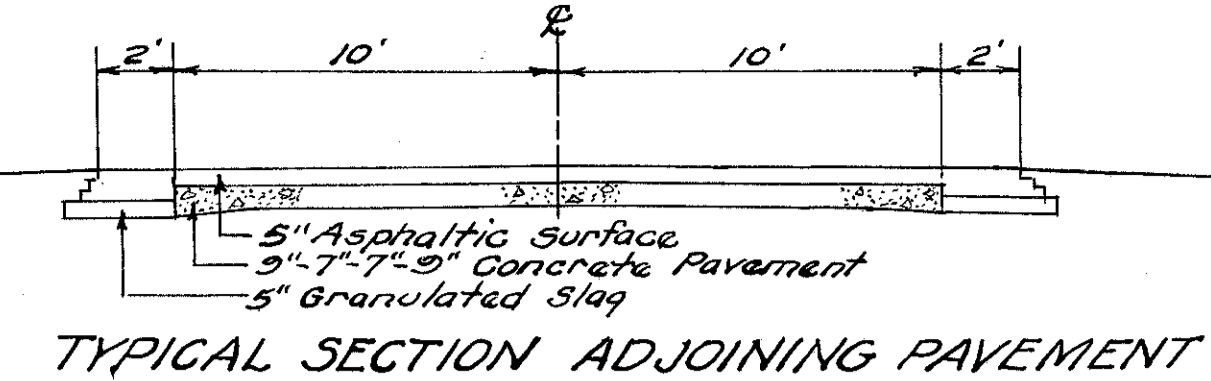
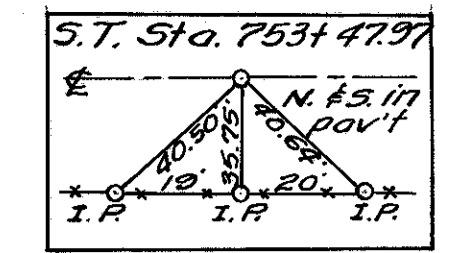
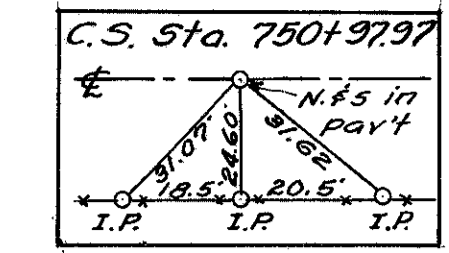
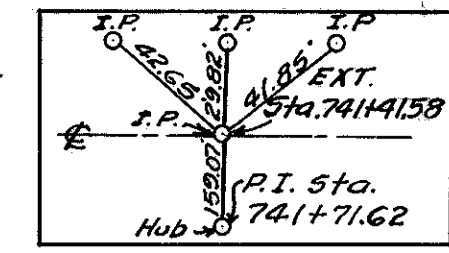
STRUCTURES - 20' SPAN & UNDER								
Ref. No.	Station	See Sheet	Removals		New Work			
			Type	Size	Type	Size	Length	
15-S	723+65	159	Pipe	12"	56'	Pipe	2 @ 42"	115'
16-S	730+90	26	C.M.P.	12"	56'	Pipe	15"	82'
17-S	731+50	160				Pipe	15"	78'
18-S	737+00	161				Pipe	15"	78'

APPROACHES							
Ref. No.	Station	Side	See Sheet	I-17		New Work	
				Appr.	7-70	55-5	Riprap
				Cu. Yds.	Sq. Yds.	Cu. Yds.	Sq. Yds.
15-A	728+50	Lt.	128+129	771	96	138	10
16-A	731+00	Rt.	130	14	55	3	
Sheet Totals				14	826	96	141

GUARD RAILS					
Ref. No.	Station		Remove		
	From	To	Side	Lin. Ft.	
2-6P	731+85	739+00	Lt.	710	
Sheet Totals					710



P.I. 741+71.62  
 $\Delta = 32^\circ 26' 30''$  Lt.  
 $Dc = 1^\circ 30'$   
 $Ts = 1236.43'$   
 $Es = 159.07'$   
 $Rc = 3819.72'$   
 $Ls = 250'$   
 $Lc = 1912.78'$



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'x4' 62.5'

APPROACHES					
Ref. No.	Station	Side Street	See	I-17 Appl. 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	16

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

PAYEMENT REMOVAL			
Station	Station	Sq. Yds.	
746+18	754+50	2219	
Street Totals			2219

STORM SEWERS						
Ref. No.	Station	Side	Pipe Lin. Ft.	Catch Basins Each	Riprap Sq. Yds.	Channel Excav. Cu. Yds.
4-55	743+09 to 748+95	Lt.	566	4	30	61
Street Totals				566	4	61

**STA. 754+50 - END**  
**PART 2 & PROJECT**  
**HAS-36-14.24 BACK =**  
**HAS-36-14.28 AHEAD**

Marker shall be furnished and erected on left by State forces before acceptance of this improvement.

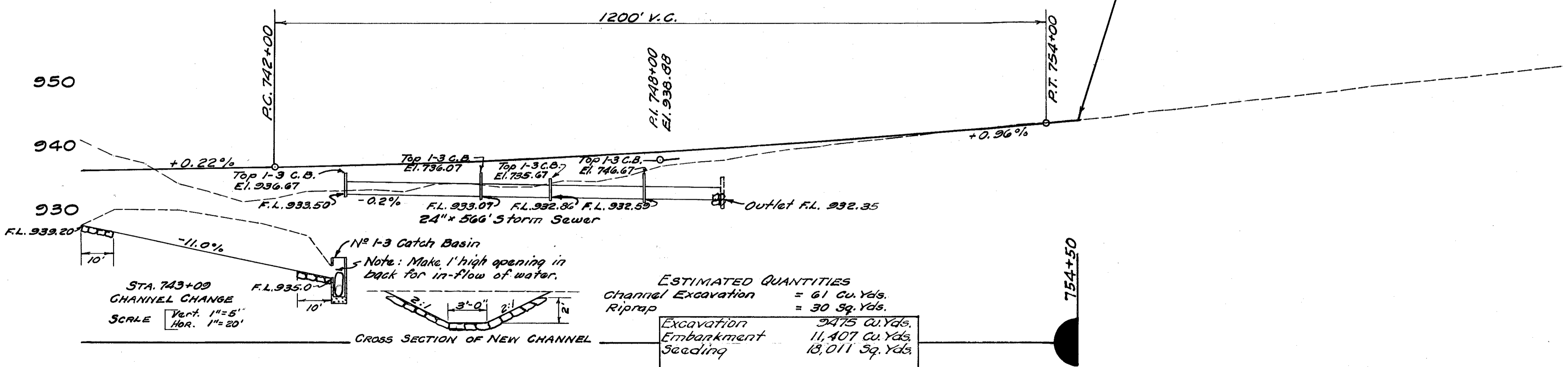
Sta. 746+18 = Sta. 149+50 on (F.A.P. No. 415-D) 1932

B.M. Sta. 746+50  
 M.S. 16" Pine  
 50' Lt. &  
 Elev. 938.03

B.M. Sta. 751+34  
 M.S. Fence Post  
 25' Rt. of &  
 Elev. 938.16

Sta. 754+50 = Sta. 157+82 on F.A.P. 415-D (1932)

- 936.90
- 937.01
- 937.12
- 937.23
- 937.34
- 937.45
- 937.56
- 937.61
- 937.68
- 937.74
- 937.81
- 937.88
- 937.96
- 938.03
- 938.12
- 938.21
- 938.30
- 938.39
- 938.50
- 938.60
- 938.71
- 938.81
- 938.93
- 939.05
- 939.17
- 939.30
- 939.43
- 939.56
- 939.70
- 939.84
- 939.99
- 940.14
- 940.29
- 940.45
- 940.61
- 940.78
- 940.94
- 941.12
- 941.29
- 941.47
- 941.66
- 941.85
- 942.04
- 942.23
- 942.43
- 942.64
- 942.84
- 943.05
- 943.27
- 943.71
- 943.94
- 944.17
- 944.40
- 944.64
- 945.12



ESTIMATED QUANTITIES

Channel Excavation	= 61 Cu. Yds.
Riprap	= 30 Sq. Yds.
Excavation	9475 Cu. Yds.
Embarkment	11,407 Cu. Yds.
Seeding	13,011 Sq. Yds.

- 941.8
- 941.9
- 942.0
- 942.1
- 942.2
- 942.3
- 942.4
- 942.5
- 942.6
- 942.7
- 942.8
- 942.9
- 943.0
- 943.1
- 943.2
- 943.3
- 943.4
- 943.5
- 943.6
- 943.7
- 943.8
- 943.9
- 944.0
- 944.1
- 944.2
- 944.3
- 944.4
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# CURVE TABLES

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

PARTS 1 & 2

LEFT			D = 4°00'LT. S.T. 68+47.00					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.

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

CONTINUED IN COLUMN ON RIGHT

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

LEFT			P.T. 126+54.67					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.				S.T. 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+59	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
			5.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
871.84			+50	872.03			872.99
871.88			+75	872.07			873.03
871.94			149	872.13			873.09
872.01			+25	872.20			873.16
872.09			+50	872.28			873.24
872.20			+75	872.39			873.35
872.32			150	872.51			873.47
872.45			+25	872.64			873.60
872.60			+50	872.79			873.75
872.77			+75	872.96			873.92
872.95			151	873.14			874.10
873.15			+25	873.34			874.30
873.36			+50	873.55			874.51
873.59			+75	873.78			874.74
873.84			152	874.03			874.99
874.10			+25	874.29			875.25
874.37			+50	874.56			875.52
874.67			+75	874.86			875.82
874.98			153	875.17			876.13
875.30			+25	875.49			876.45
875.64			+50	875.83			876.79
876.00			+75	876.19			877.15
876.37			154	876.56			877.52
876.74			+25	876.93			877.89
877.10			+50	877.29			878.25
877.45			+75	877.64			878.60
877.78			155	877.97			878.93
878.10			+25	878.29			879.25
878.41			+50	878.60			879.56
878.71			+75	878.90			879.86
878.99			156	879.18			880.14
879.25			+25	879.44			880.40
879.51			+50	879.70			880.66
879.75			+75	879.94			880.90
879.98			157	880.17			881.13
880.19			+25	880.38			881.34
880.39			+50	880.58			881.54
880.57			+75	880.76			881.72
880.75			158	880.94			881.90
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.+36.78	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	878.90
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

HA5-36-(0.43-2.92)-(11.92-14.12)

PARTS 1 & 2

LEFT			D = 1° 10' RT. P.T. 654+10.58				RIGHT		
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	Obtained Graphically		633	909.66			909.47		
910.33		+25	909.70				909.51		
910.46		+50	909.75				909.56		
910.51		+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			D = 1° 10' RT. P.T. 654+10.58				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		
918.80			+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				RIGHT		
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					

# CURVE TABLES

HAS-36-(0.43-2.92)-(11.92-4.12)  
PARTS 1 & 2

LEFT				RIGHT			
Edge of Pav't.	Deduct Crown	Width	STATION	Profile Grade	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				RIGHT			
Edge of Pav't.	Deduct Crown	Width	STATION	Profile Grade	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			RT+17.40	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

T.S. 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.S.+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

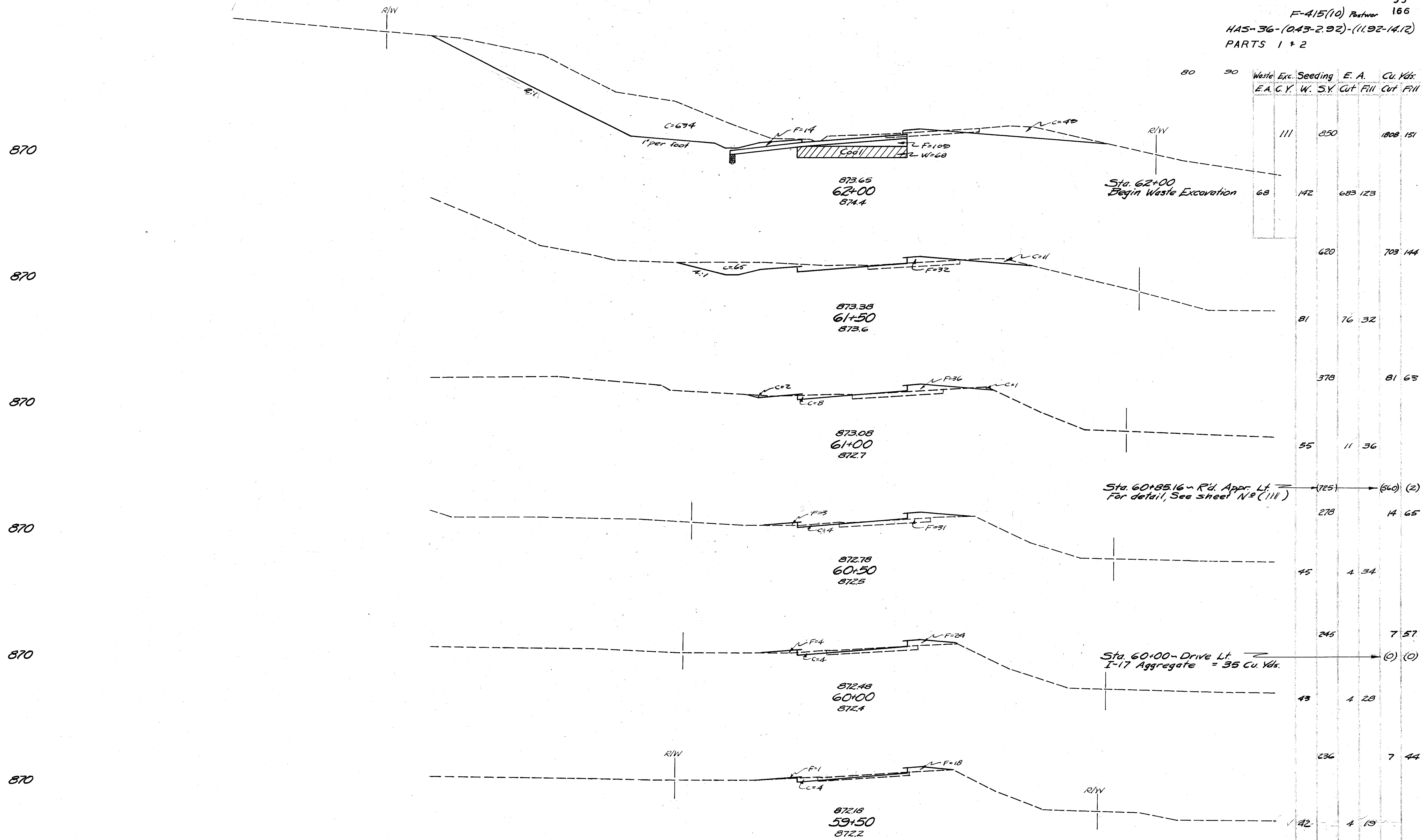
LEFT				RIGHT			
Edge of Pav't.	Deduct Crown	Width	STATION	Profile Grade	Width	Add Super	Edge of Pav't.
936.54	0.19	12.00	738+25	936.73	12.00	1.15	937.69
936.60			+50	936.79			937.75
936.65			+75	936.84			937.80
936.71			739	936.90			937.86
936.76			+25	936.95			937.91
936.82			+50	937.01			937.97
936.87			+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
937.69			+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			942.81
941.83			C.S.+97.97	942.02		1.15	942.93
941.85			751	942.04			942.95
942.04			+25	942.23			943.07
942.24			+50	942.43		0.25	943.19
942.45			+75	942.64		0.85	943.30
942.65			752	942.84		0.76	943.41





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-(0.43-2.92)-(11.92-14.12) 166  
 PARTS 1 & 2



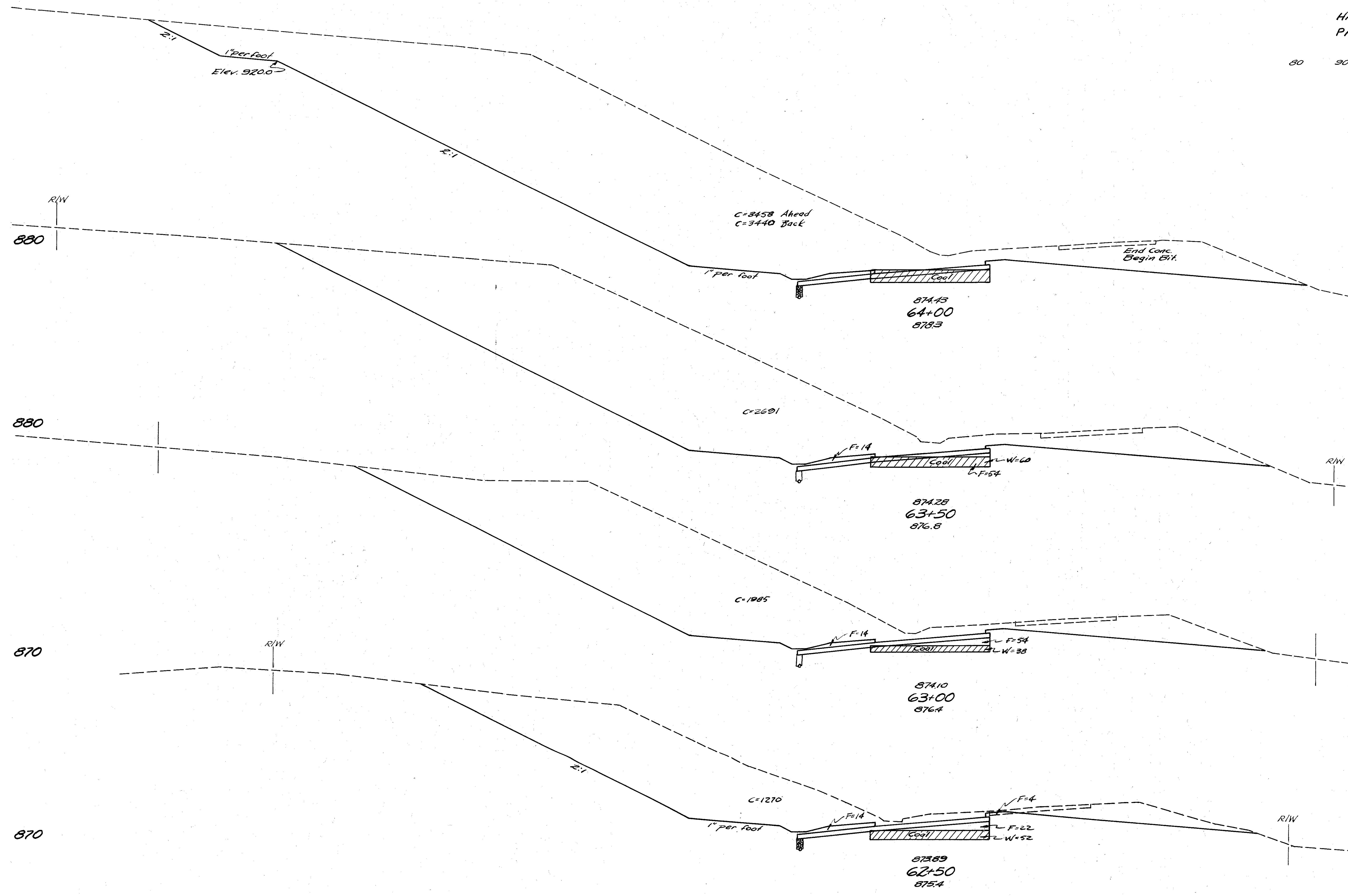
Waste Exc. E.A. C.Y.	Seeding W. S.Y.	E. A. Cut	E. A. Fill	Cu. Yds. Cut	Cu. Yds. Fill
111	850			1808	151
68	142	683	123		
		620		703	144
		81	76	32	
		378		81	63
		55	11	36	
		725		560	(2)
		278		14	65
		45	4	34	
		245		7	57
		43	4	28	
		236		7	44
		42	4	19	

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

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 34  
 166  
 HAS-36-(0.43-2.92)-(11.92-14.12)  
 PARTS 1 + 2



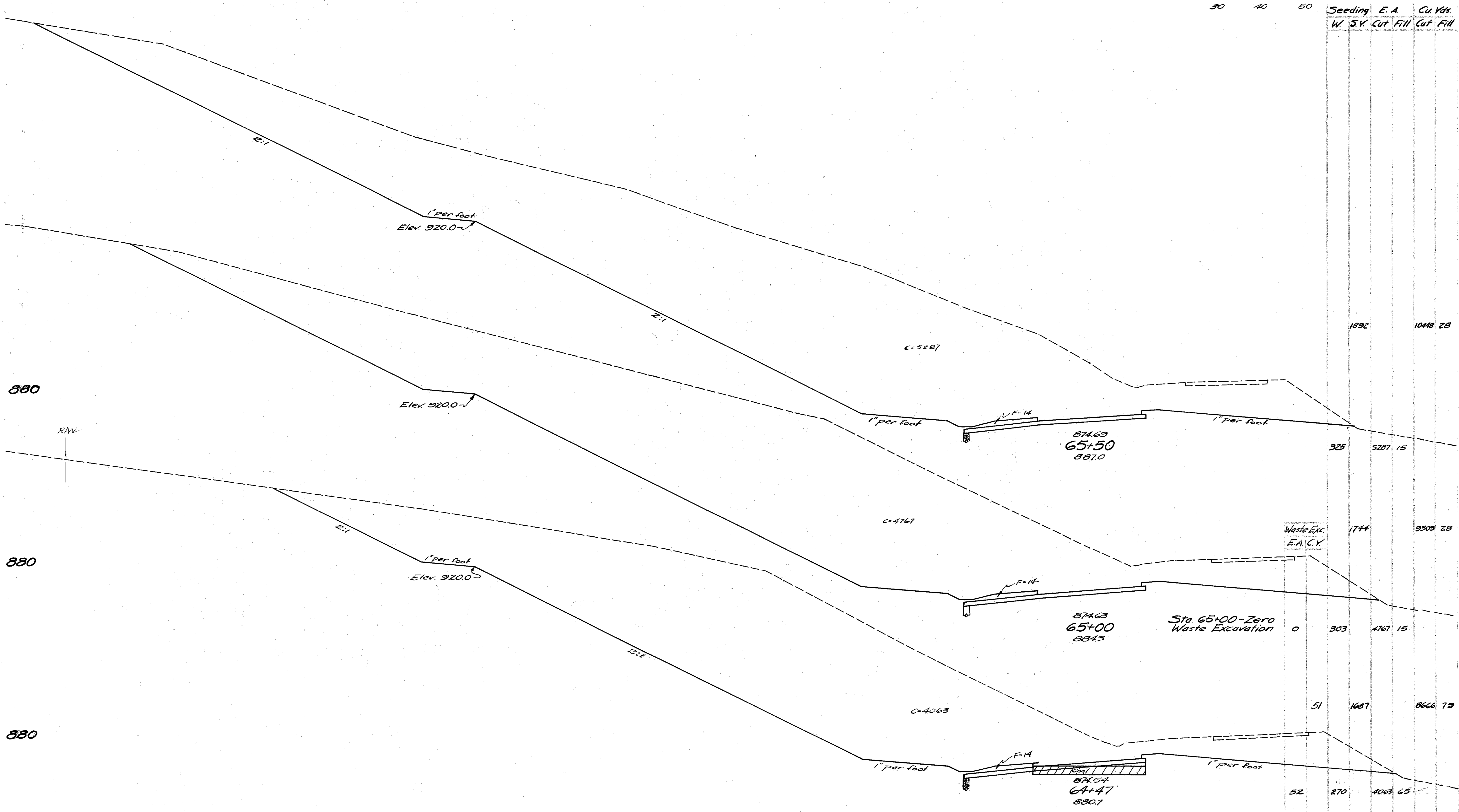
Station	Waste Exc. E.A. C.Y.	Seeding W. S.Y.	E. A. Cut	Cu. Vols. Fill
80				
85	110	1389	3458 3440	63 63
90	125	1353	2691	68
95	91	1192	1985	68
100	83	1022	1270	40
105	52	164		

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. 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) Partwar 35  
 HAS-36-(0.43-2.92)-(11.92-14.12) 166  
 PARTS 1 & 2



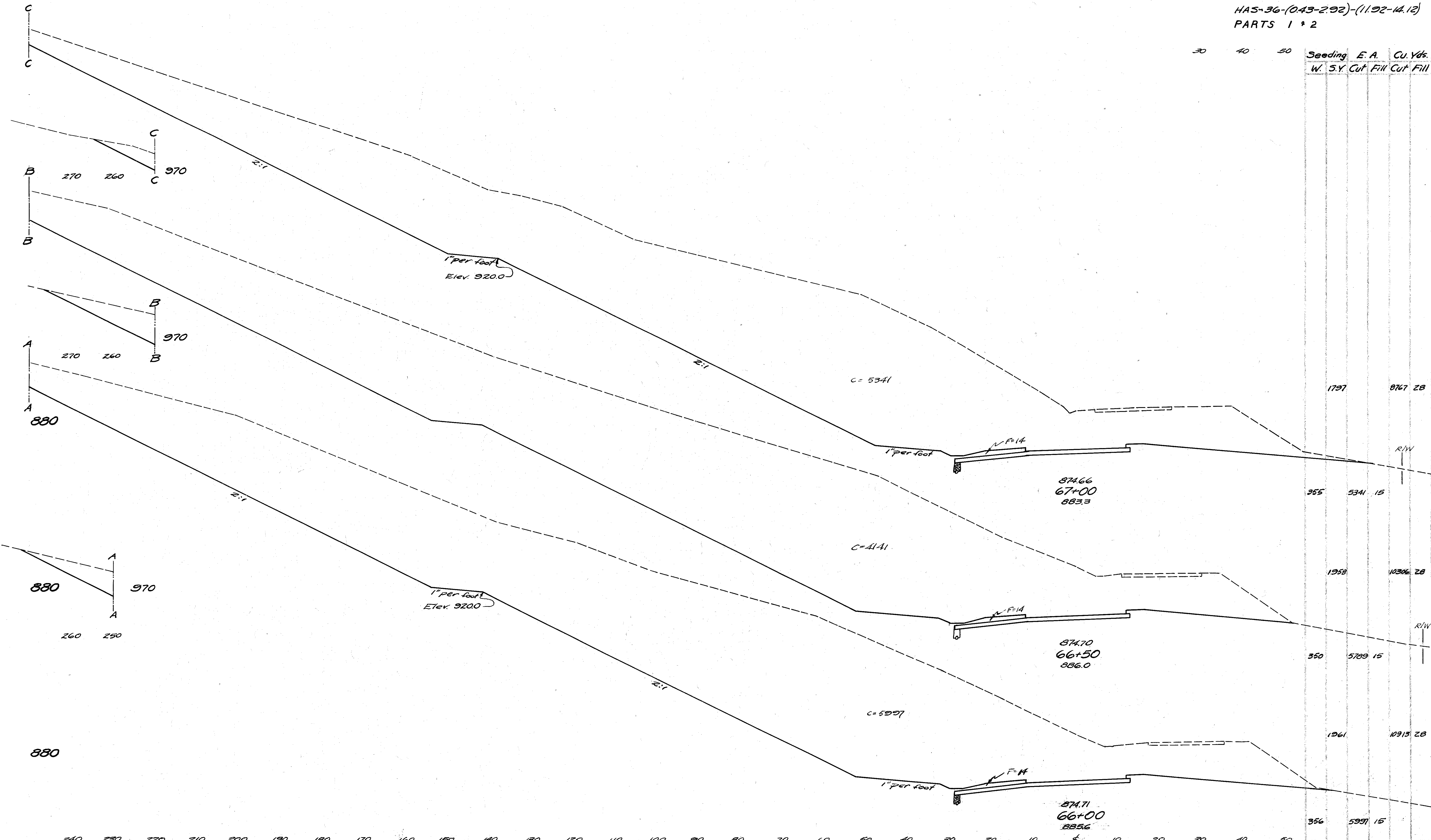
Sta.	Seeding W. S.Y.	E. A.		Cu Yds.	
		Cut	Fill	Cut	Fill
64+47	52	270	4063	65	
65+00	0	303	4767	15	
65+50	325	5287	15		
Total		1744	9309	28	

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

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)-(11.92-12.12) 166  
 PARTS 1 & 2

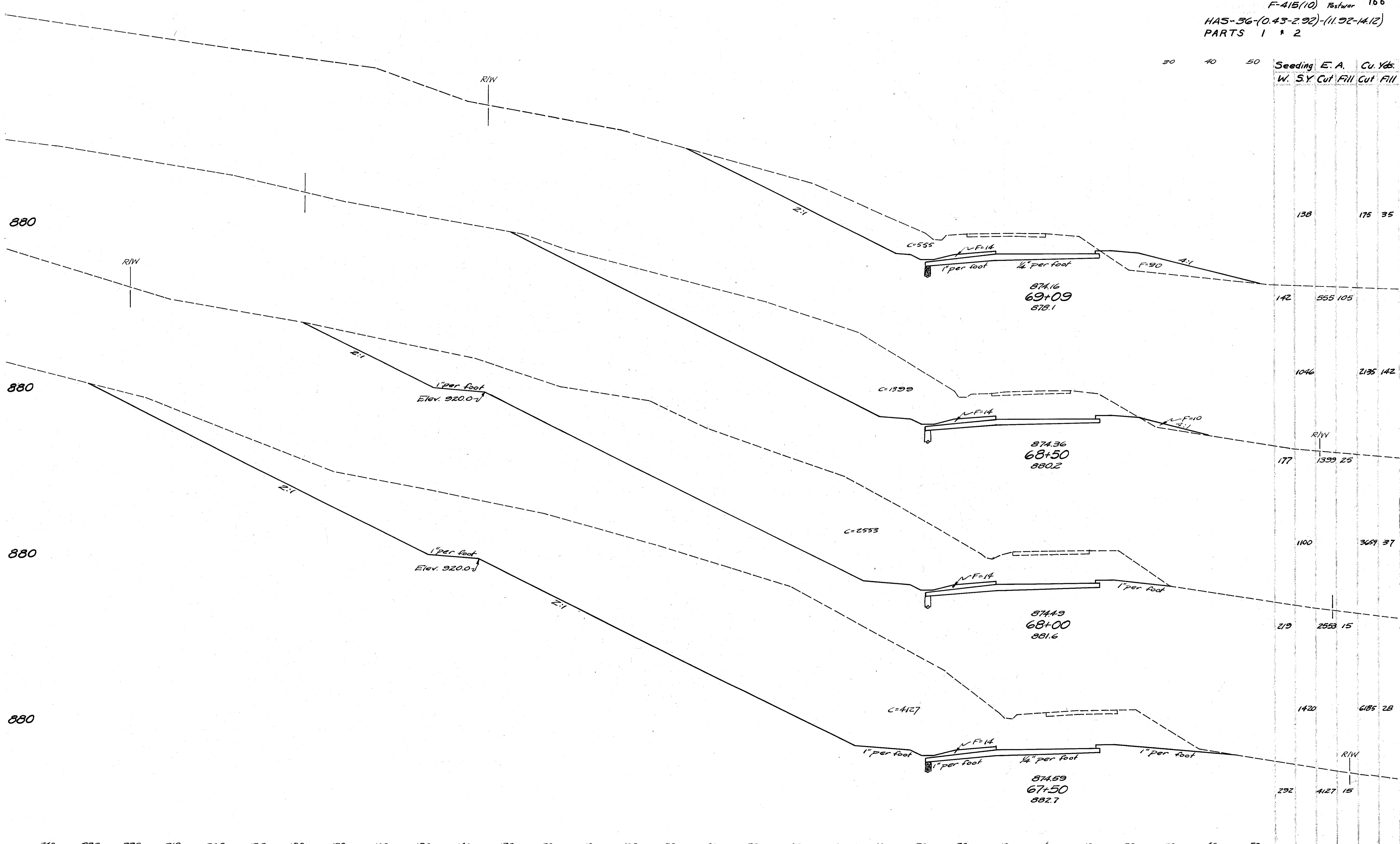


Seeding	E. A.		Cu. Yds.	
	W. S.Y.	Cut	Fill	Cut
1797			8767	28
355	534	15		
1958			10306	28
350	5789	15		
1261			10913	28
356	5991	15		

STA. 66+00 TO STA. 67+00

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 37  
 HAS-36-(0.43-2.92)-(11.92-14.12) 166  
 PARTS 1 & 2



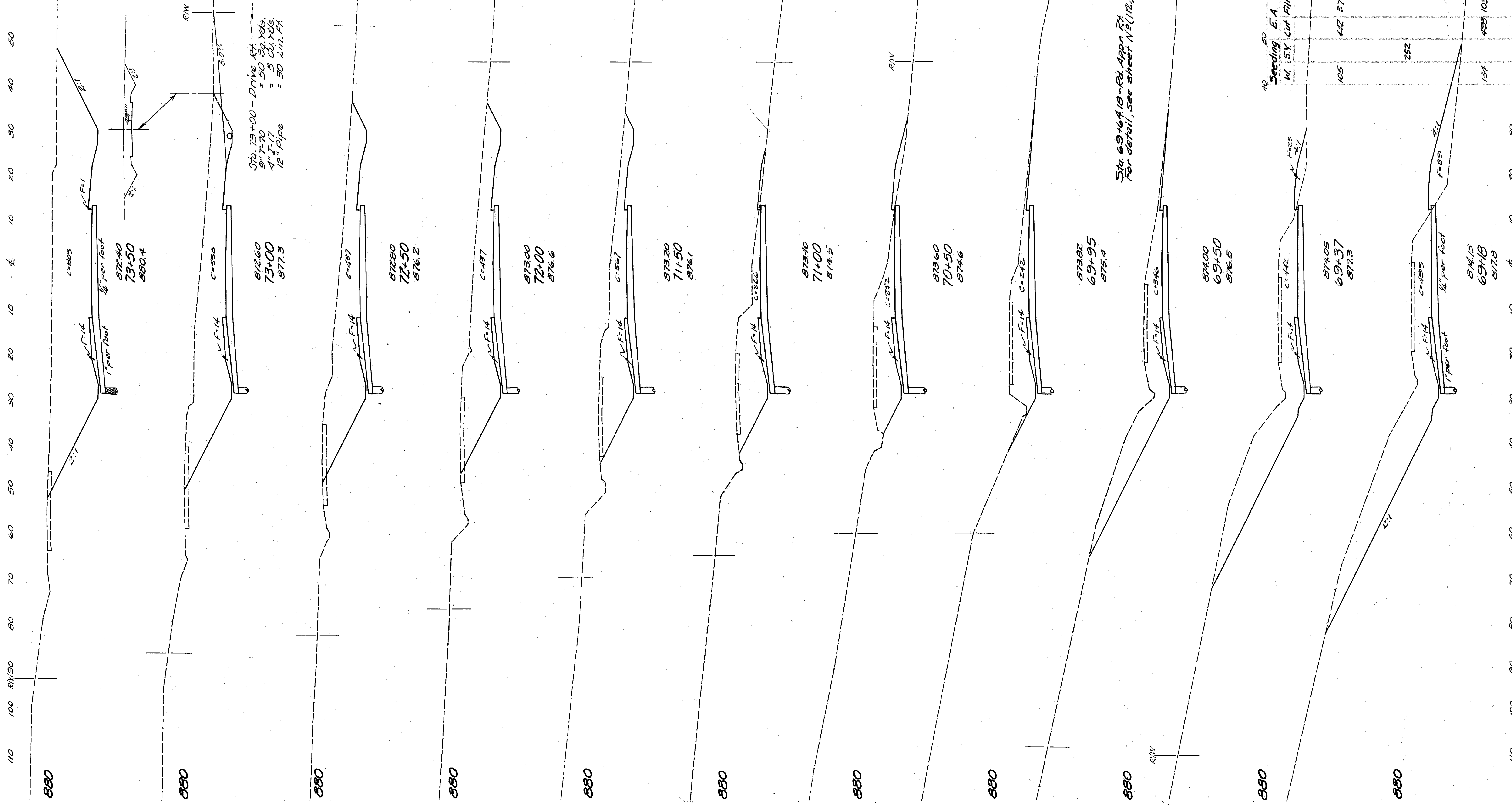
Sta.	Seeding		E. A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill	Cut	Fill
69+09			138		175	35
68+50			142	555	105	
68+00			1046		2135	142
67+50			177	1399	25	
			1100		3659	37
			219	2553	15	
			1420		6185	28
			292	4127	15	

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 30 40 50

STA. 67+50 TO STA. 69+09

Seeding	E.A.	Cu Yds	Cut	Fill	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				
397		584	32			
66	266	20				
68	252	33				
449		505	49			
79	242	15				
128	(110)	(237)				
447		420	25			
100	346	15				
148		190	13			

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



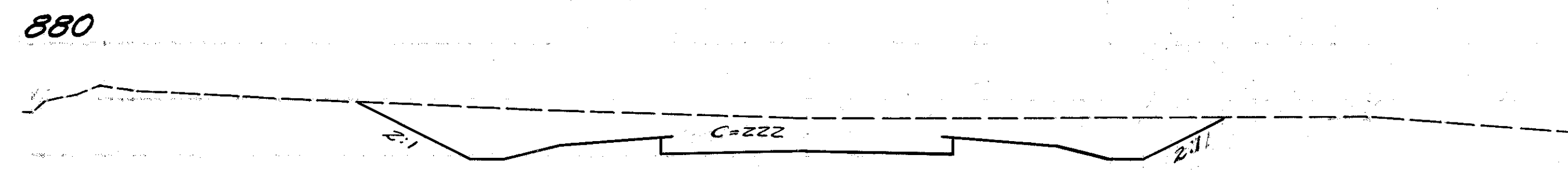
STA. 69+18 TO STA. 73+50

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

Seeding E. A. Cu. Yds.

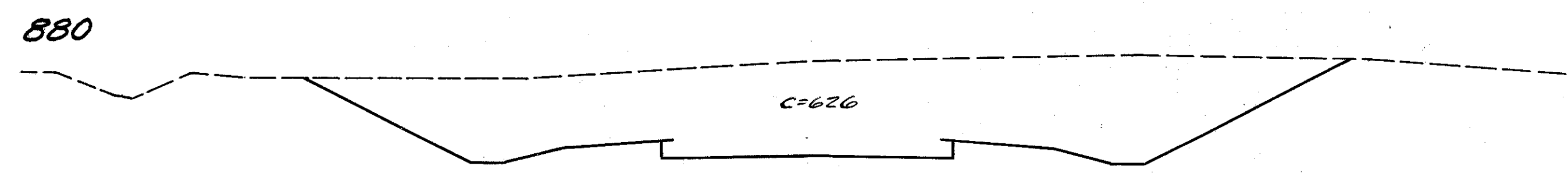
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F-415 (10) Postwar 39  
HAS-36-(0.43-2.92)-(11.92-14.12) 166  
PARTS 1 & 2



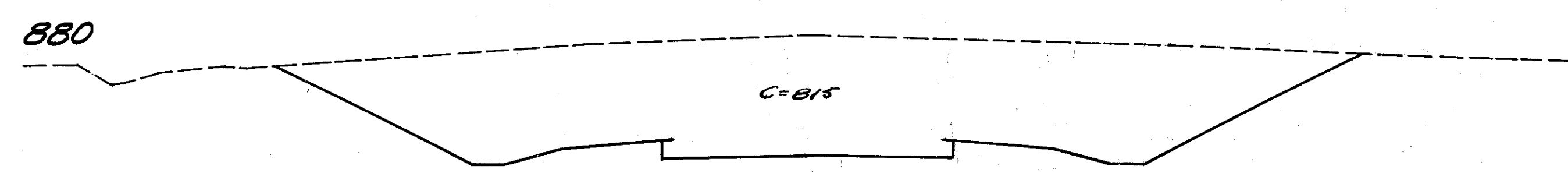
871.20  
76+50  
872.8

417  
75  
222 2  
335 3



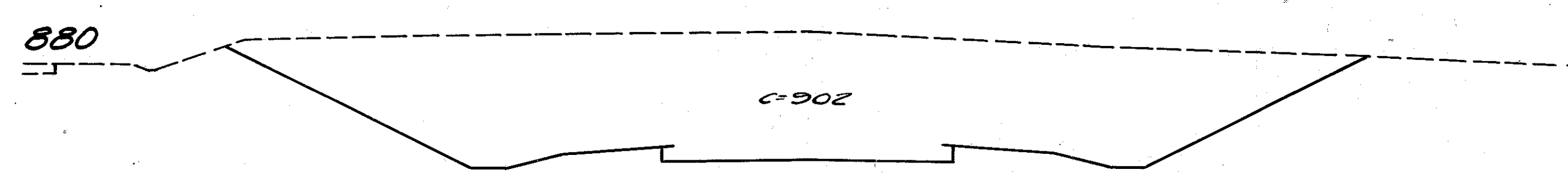
871.40  
76+00  
878.1

469  
84  
626 1  
785 3



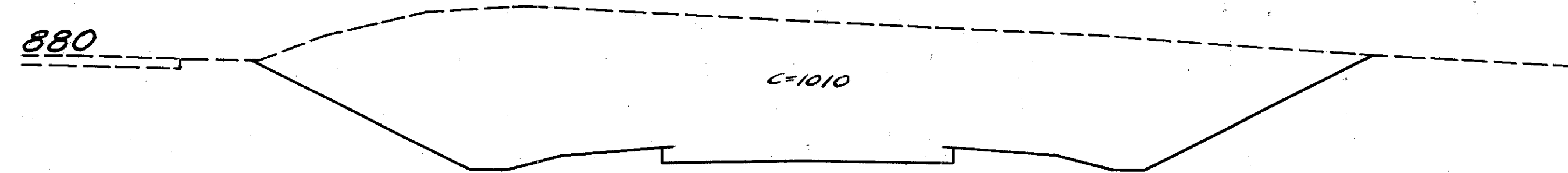
871.50  
75+75  
880.7

267  
98  
815 2  
667 1



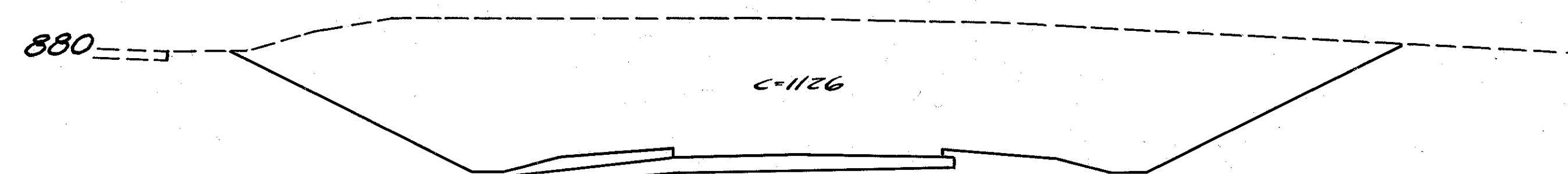
871.60  
75+50  
881.6

278  
102  
902 1  
795 1



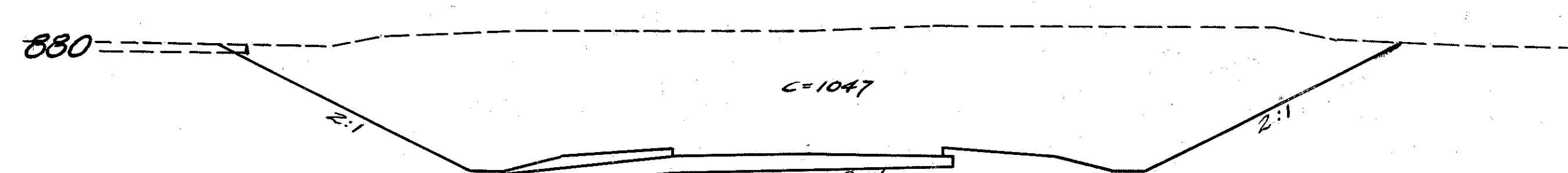
871.80  
75+00  
882.7

564  
101  
1010 2  
1770 3



872.00  
74+50  
883.4

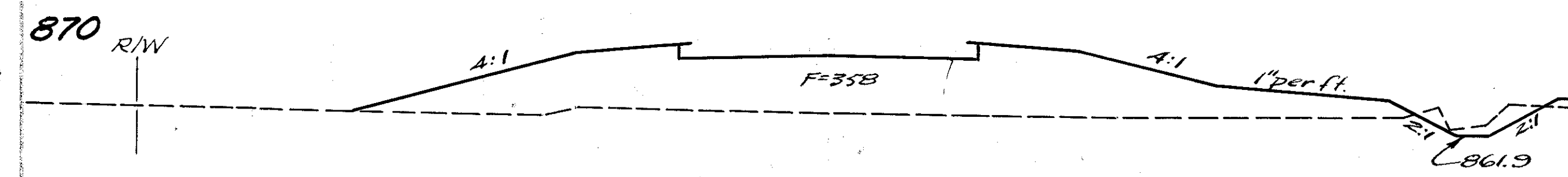
575  
106  
1126 15  
1978 16



872.20  
74+00  
882.3

592  
107  
1047 15  
2012 28

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

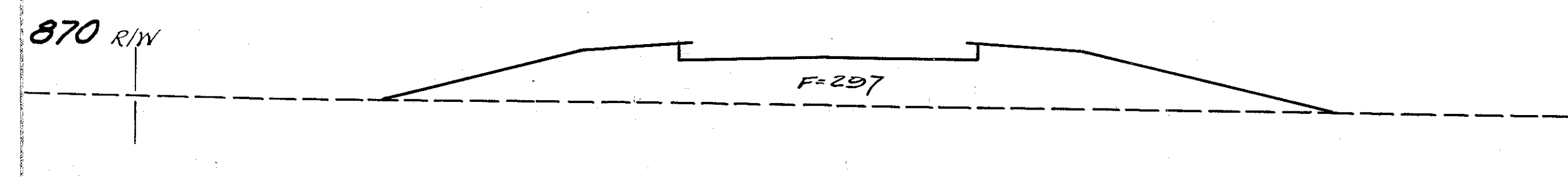


870.00  
79+50  
863.7

870 R/W

Seeding E. A. Cu. Yds.

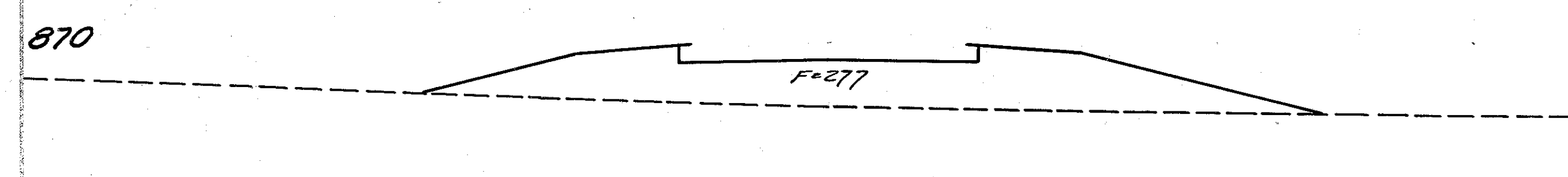
589  
22 666



870.20  
79+00  
864.4

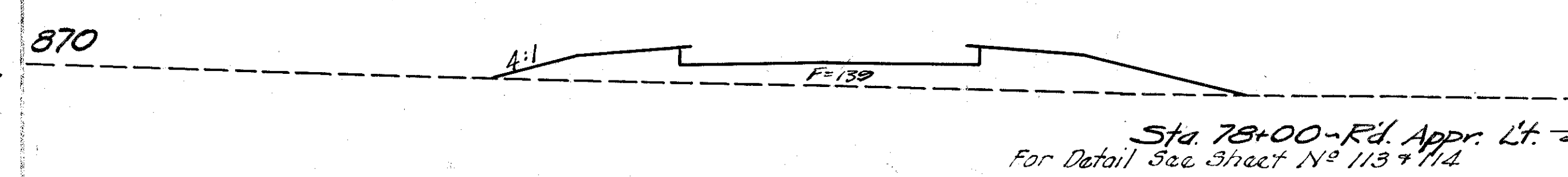
870 R/W

107  
10 360



870.40  
78+50  
864.9

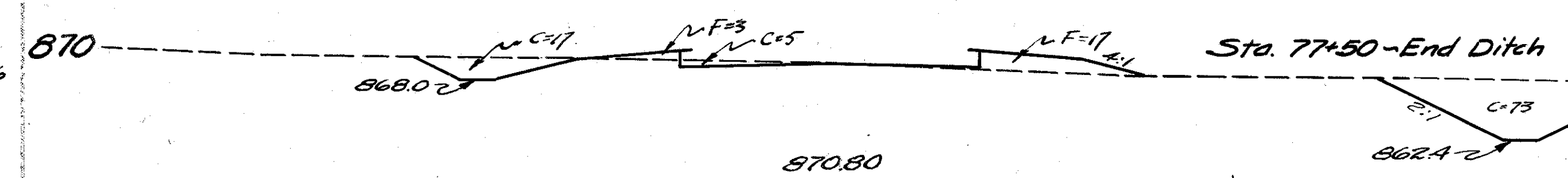
519  
0 608



870.60  
78+00  
867.0

433  
0 531

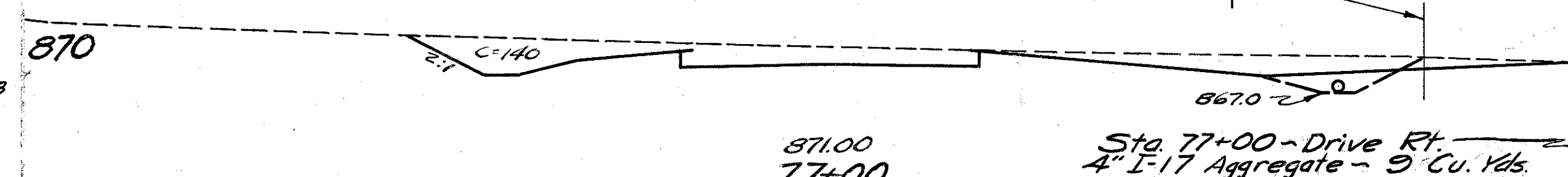
Sta. 78+00 - Rd. Appr. Lt. (1079) (222) (161)  
For Detail See Sheet N<sup>o</sup> 113 & 114.



870.80  
77+50  
869.3

383  
0 385

Sta. 77+50 - End Ditch



871.00  
77+00  
871.0

469  
20 147

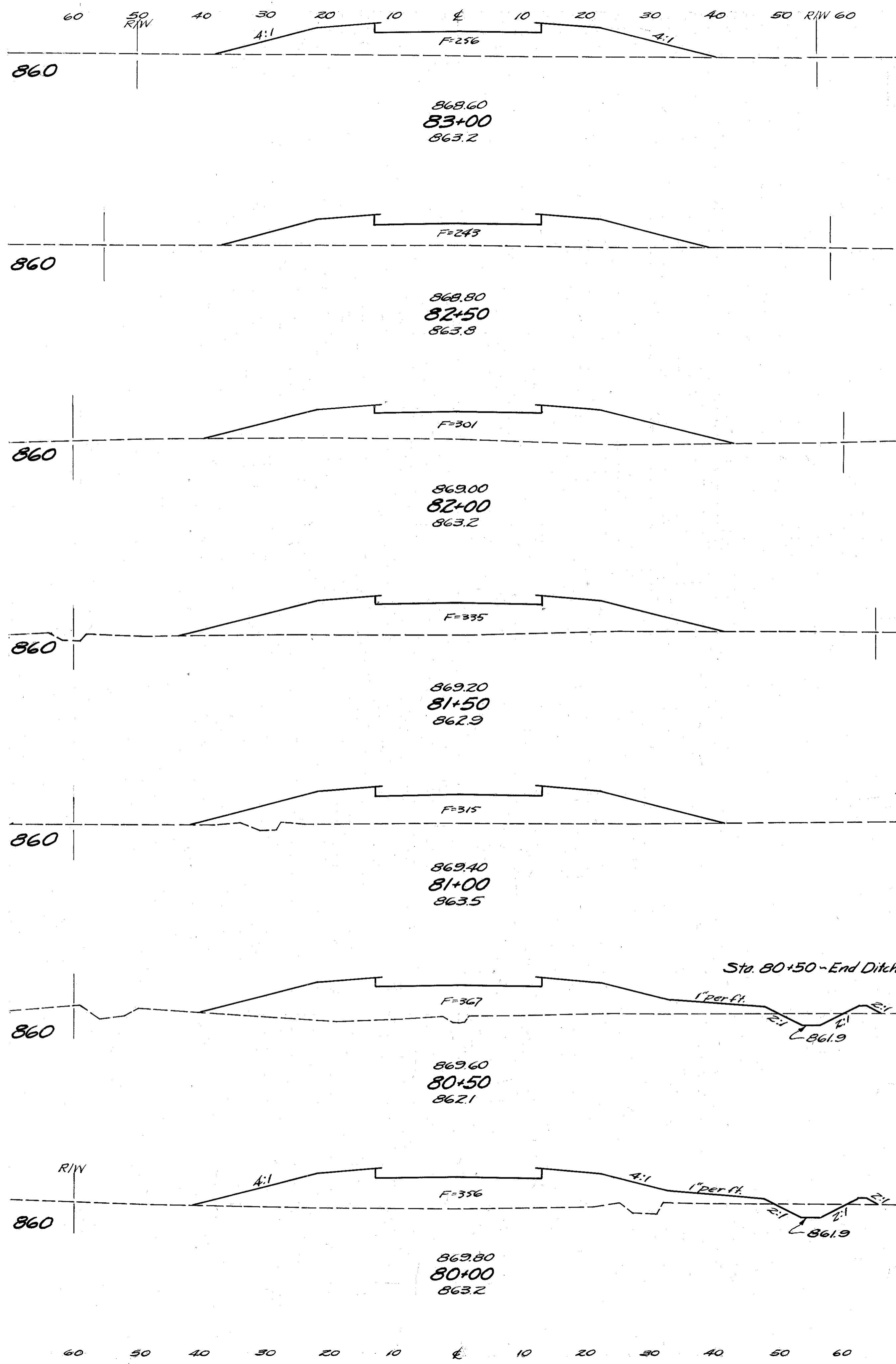
Sta. 77+00 - Drive Ft.  
4" I-17 Aggregate - 9 Cu. Yds.  
12" Pipe = 36 Lin. Ft.

506  
218 19

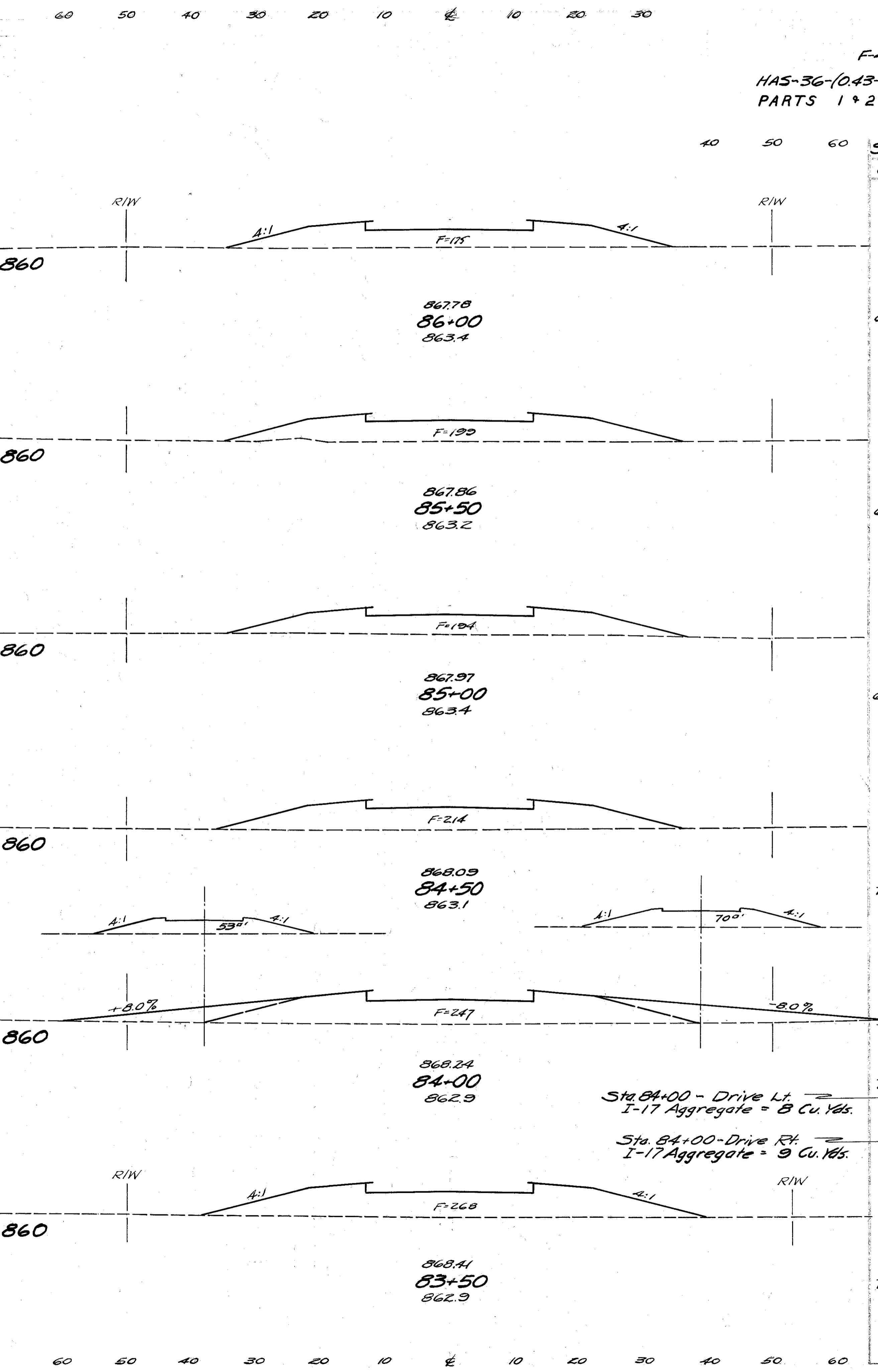
75  
140 1 (13) (0)

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

STA. 74+00 TO STA. 79+50



Seeding	E. A.		Cu. Yds.	
	W.	S.Y.	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	359



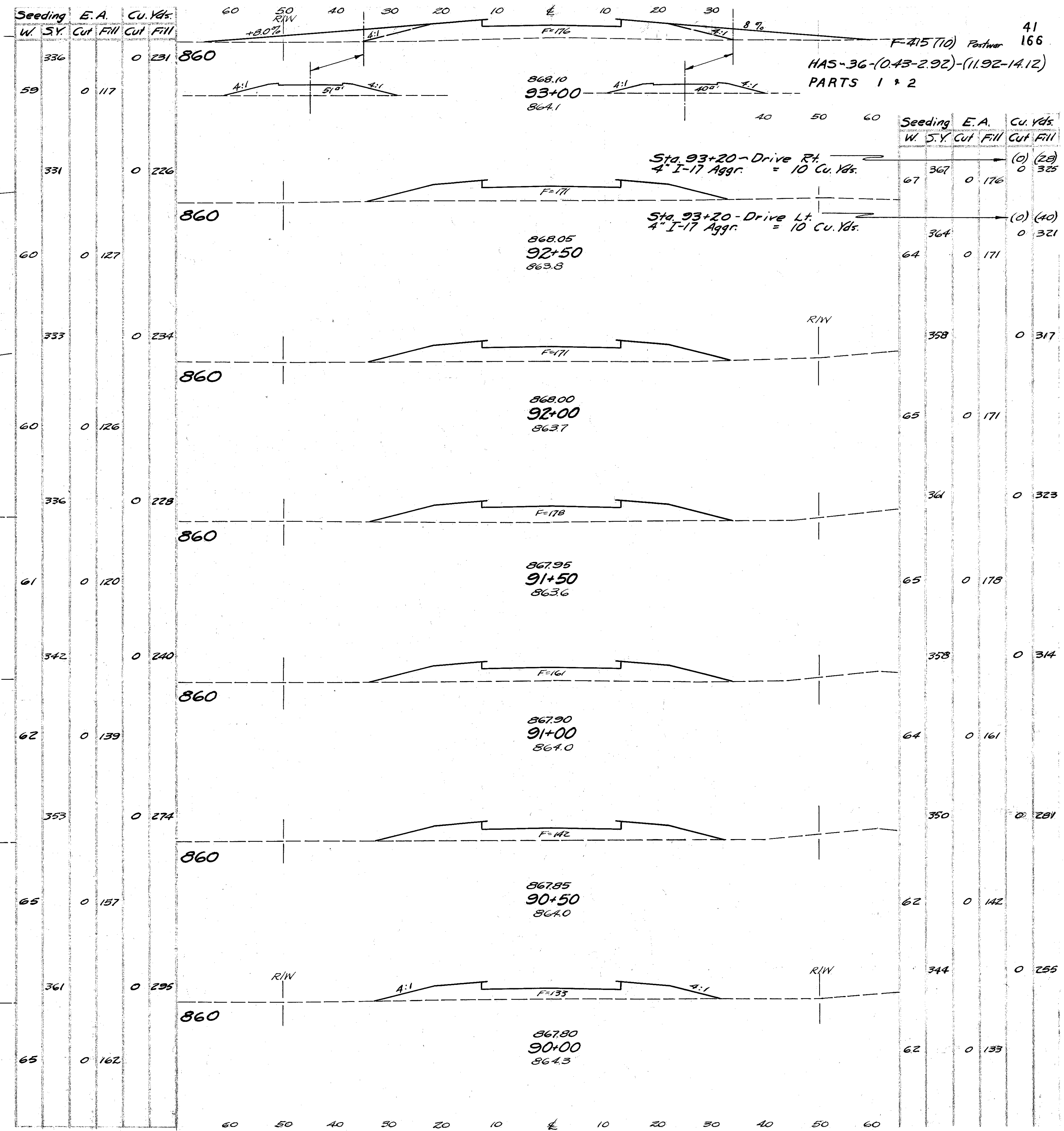
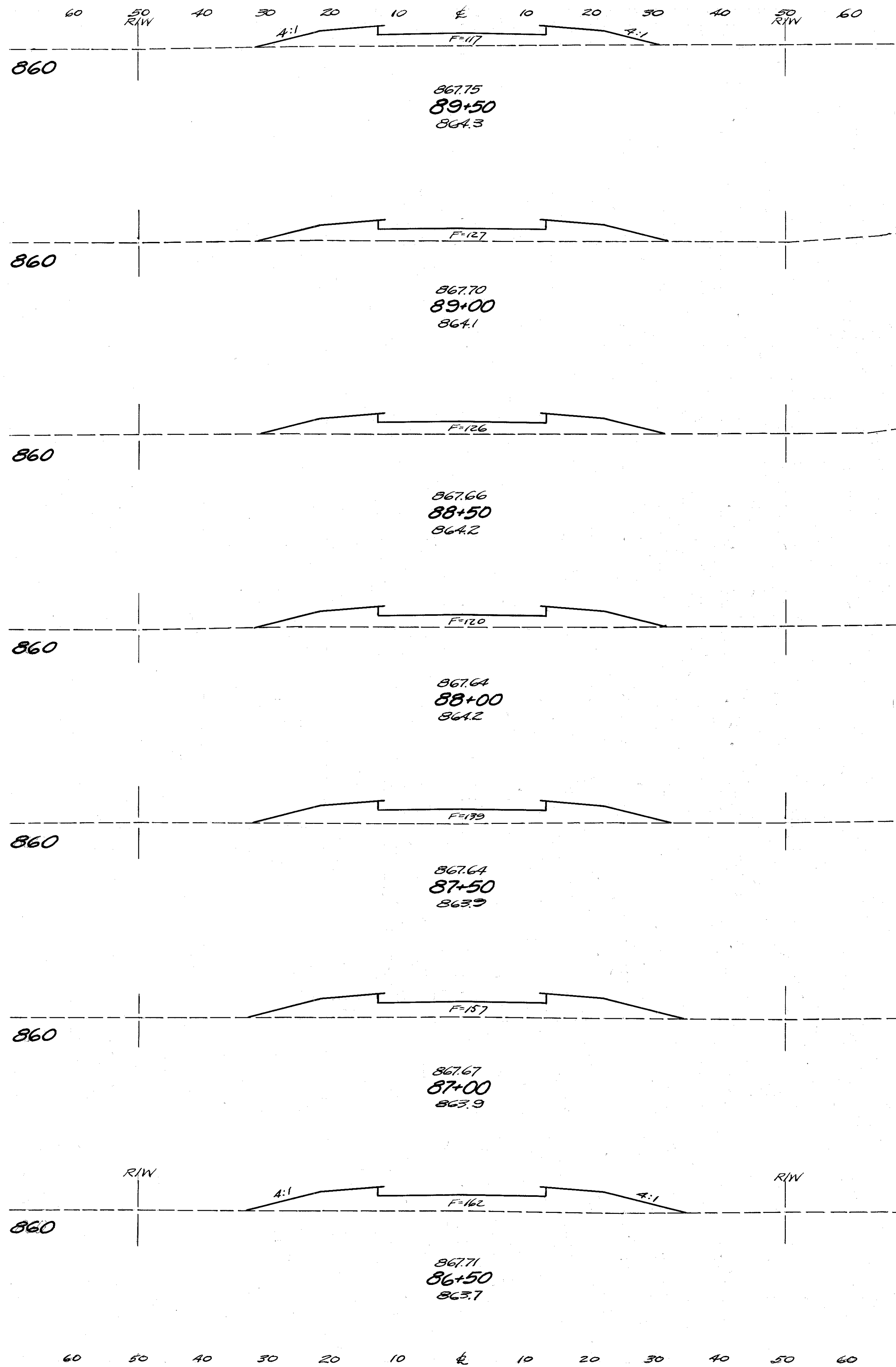
Seeding	E. A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill
364			0	312
66			0	175
372			0	346
68			0	199
378			0	364
68			0	194
383			0	378
70			0	214
400			0	427
74			0	247
414			0	477
75			0	268

F-A15(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.  
 I-17 Aggregate = 8 Cu. Yds.  
 Sta. 84+00 - Drive Rt. = 9 Cu. Yds.  
 I-17 Aggregate = 9 Cu. Yds.

STA. 80+00 TO STA. 86+00





Seeding	E. A.	Cu. Yds.
W. S.Y. Cut Fill	Cut Fill	Cut Fill
336	0 117	0 231
331	0 127	0 226
333	0 126	0 234
336	0 120	0 228
342	0 139	0 240
353	0 157	0 274
361	0 162	0 295

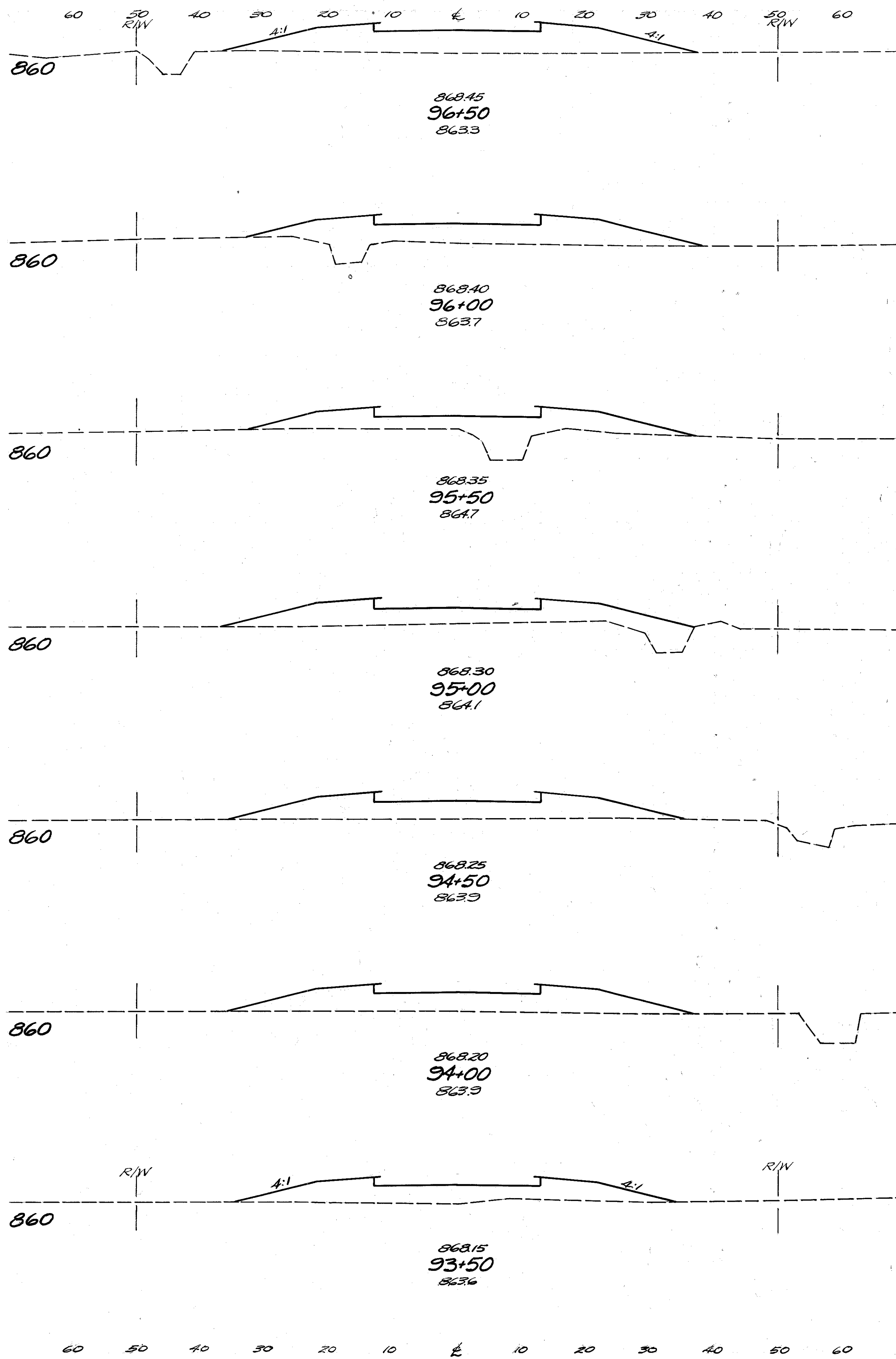
Seeding	E. A.	Cu. Yds.
W. S.Y. Cut Fill	Cut Fill	Cut Fill
67	0 176	0 325
64	0 171	0 321
65	0 171	0 317
64	0 178	0 323
65	0 178	0 314
64	0 161	0 281
62	0 142	0 255
62	0 133	0 255

F-415(10) Postwar 41 166  
HAS-36-(0.43-2.92)-(11.92-14.12)  
PARTS 1 & 2

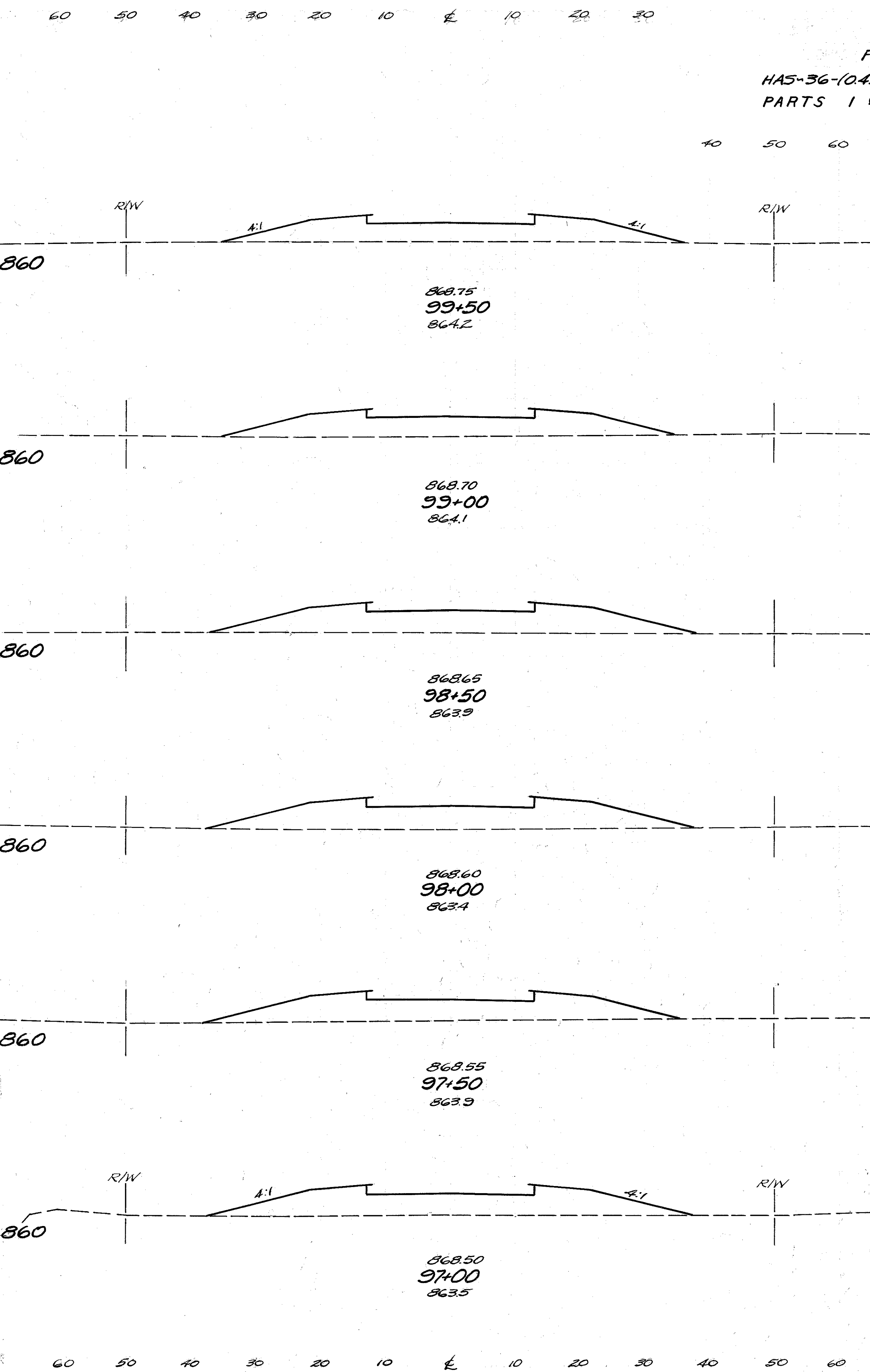
Sta. 93+20 - Drive Rt.  
4" I-17 Aggr. = 10 Cu. Yds.

Sta. 93+20 - Drive Lt.  
4" I-17 Aggr. = 10 Cu. Yds.

STA. 86+50 TO STA. 93+00



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

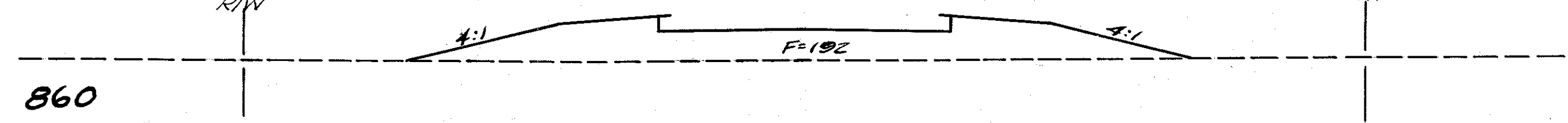
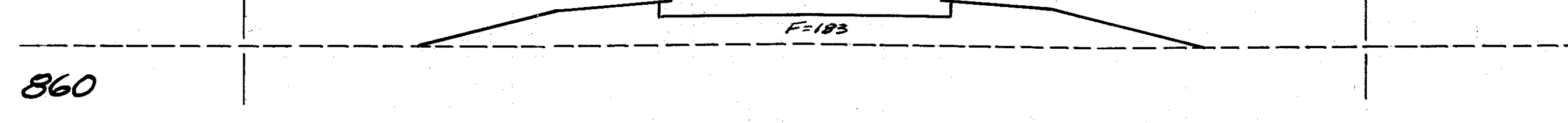
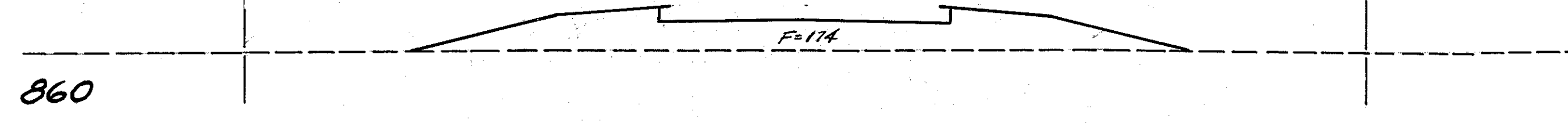
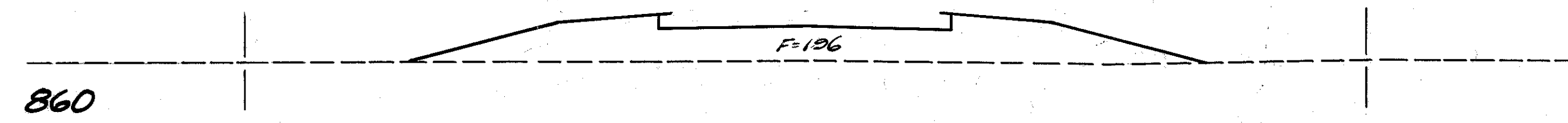
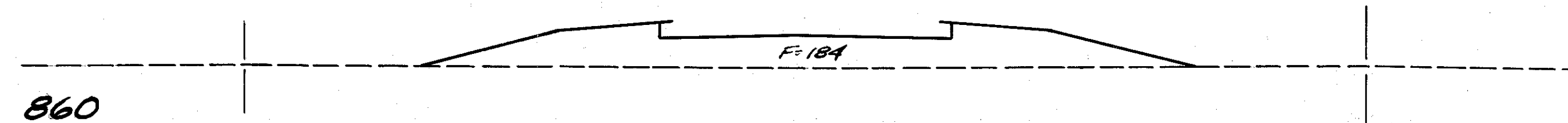
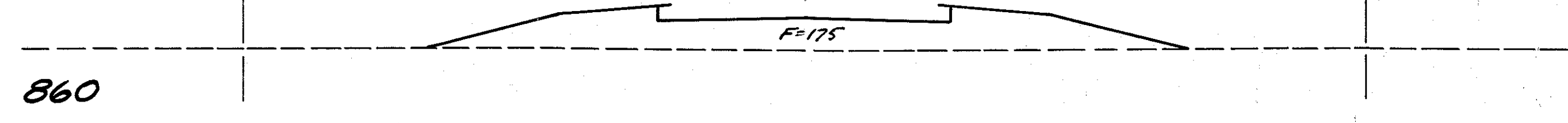
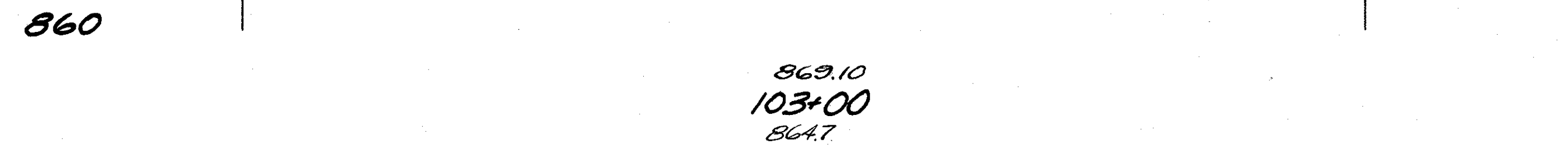


F-415 (10) Part 1  
HAS-36-(0.43-2.92)-(11.92-14.12)  
PARTS 1 & 2

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

STA. 93+50 TO STA. 99+50

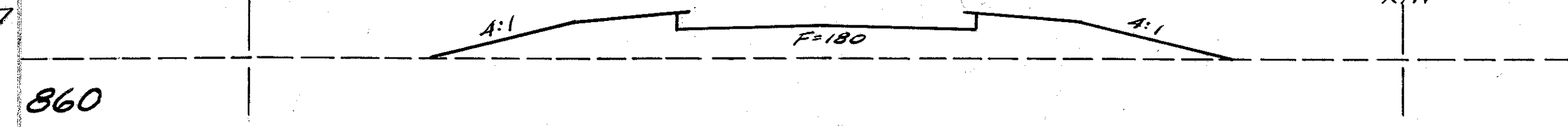
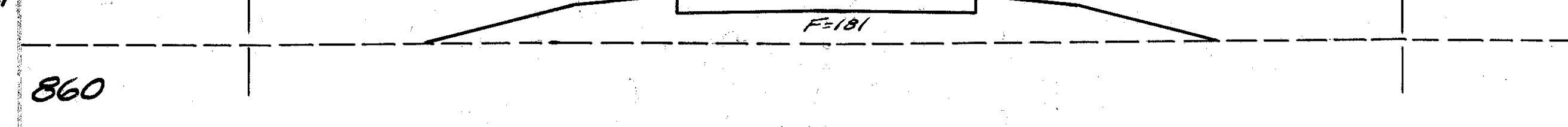
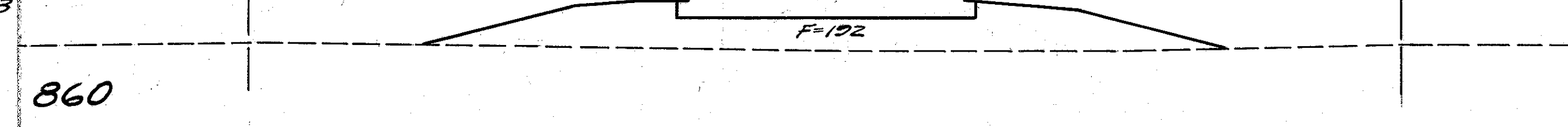
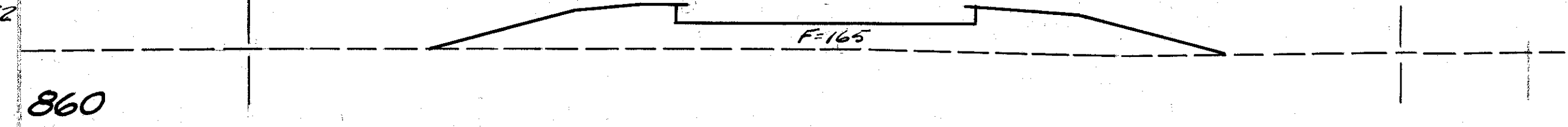
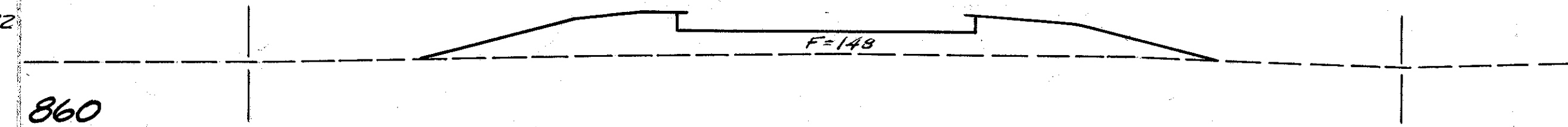
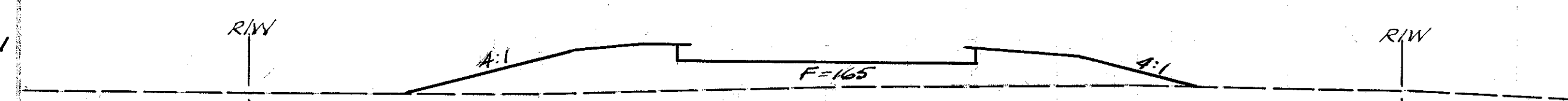
60 50 40 30 20 10 0 10 20 30 40 50 60  
 R/W A:1 F=183 A:1



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

Seeding	E.A.		Cu. Yds.	
	W	S.Y.	Cut	Fill
372			0	336
67	0	183		
367			0	331
65	0	175		
364			0	332
66	0	184		
372			0	352
68	0	196		
375			0	343
67	0	174		
372			0	331
67	0	183		
372			0	347
67	0	192		

60 50 40 30 20 10 0 10 20 30



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

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

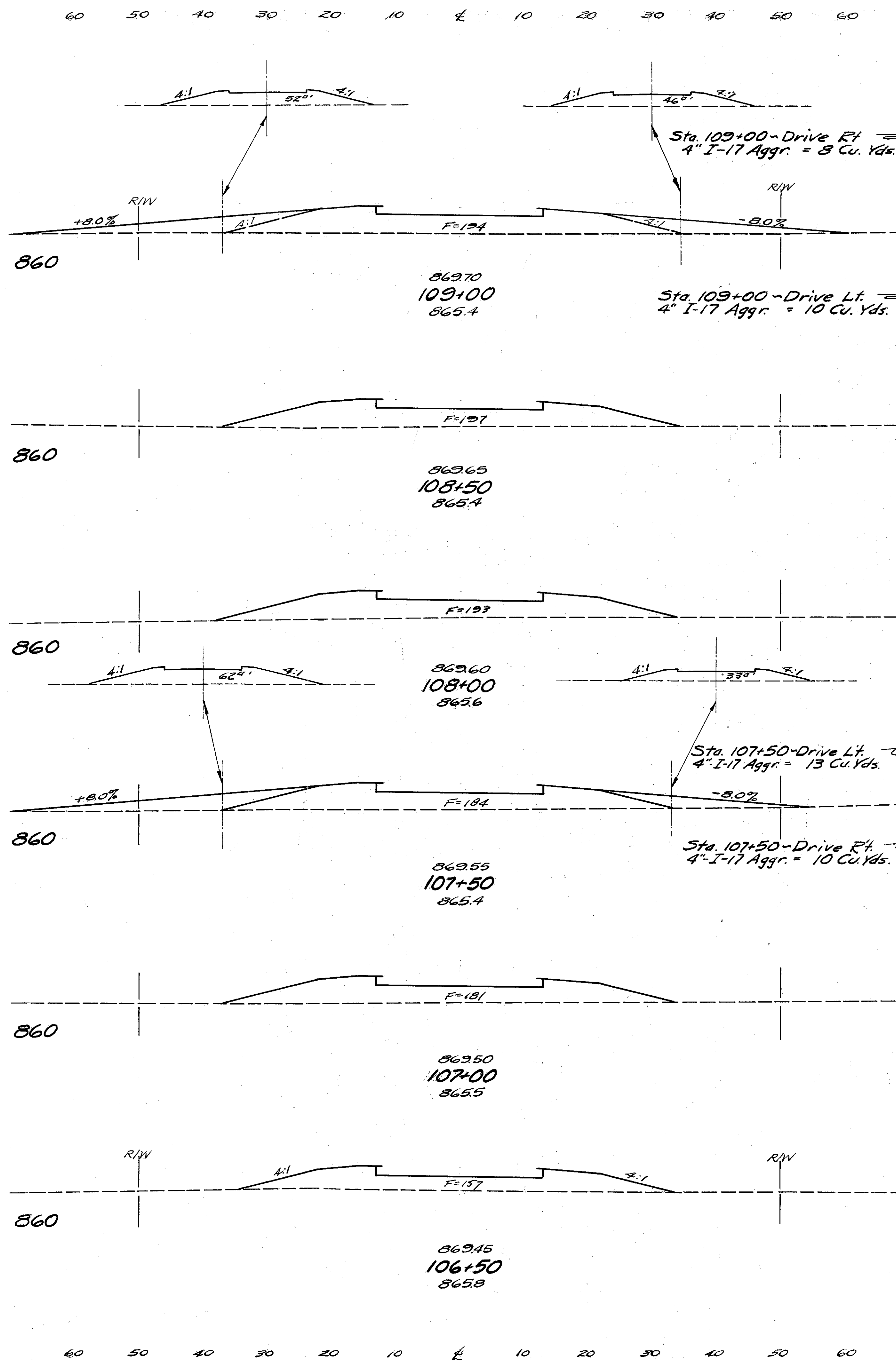
43  
166

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

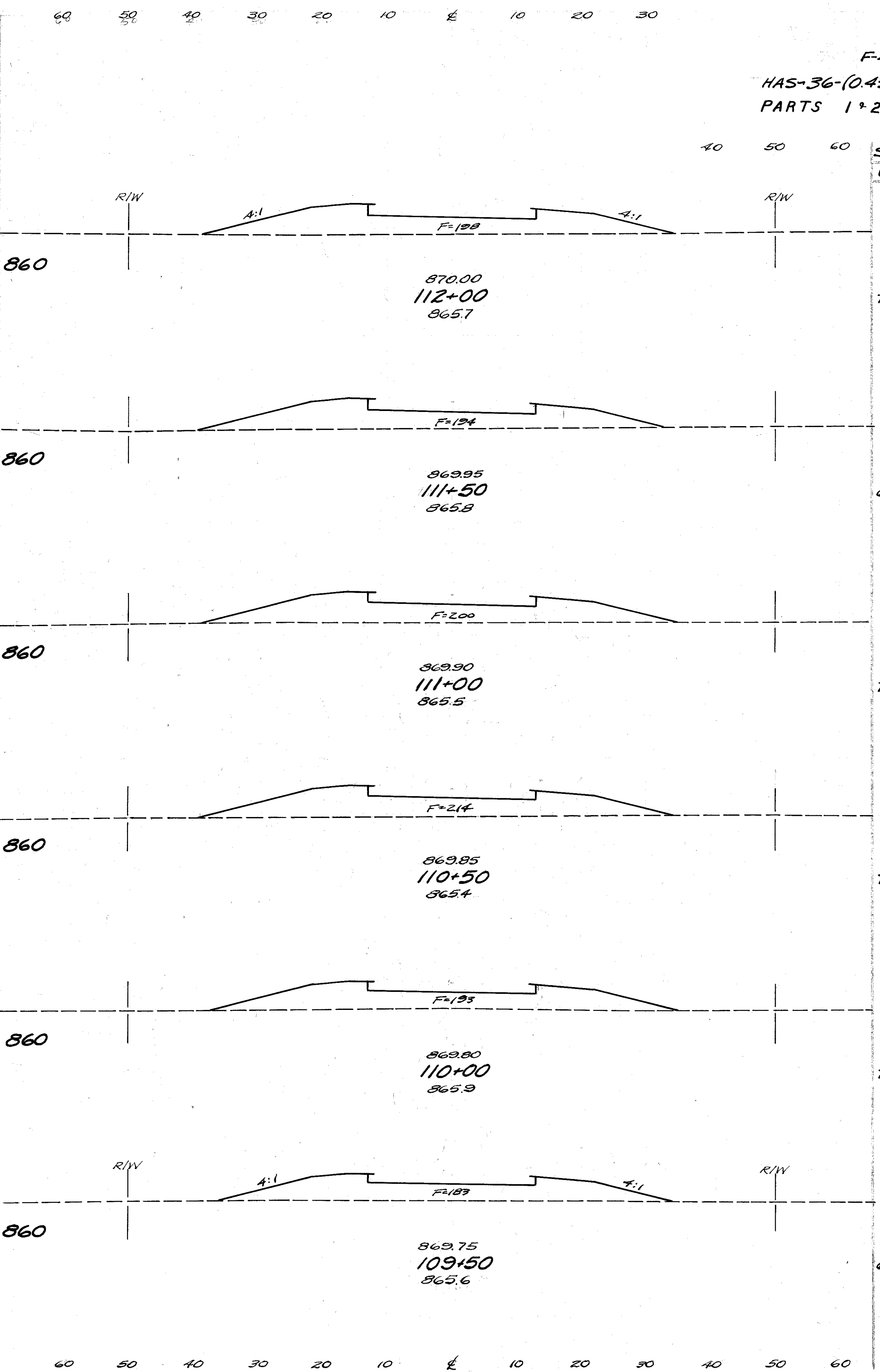
364			0	298
66	0	165		
369			0	290
67	0	148		
369			0	290
66	0	165		
369			0	331
67	0	192		
369			0	345
66	0	181		
369			0	334
67	0	180		

STA. 100+00 TO STA. 106+00

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



Seeding	E.A.		Cu Yds.	
	W.	S.Y.	Cut	Fill
372			0	349
			(0)	(46)
67			0	194
			(0)	(32)
378			0	362
			69	0
			0	197
386			0	361
			70	0
			0	193
383			0	349
			(0)	(55)
68			0	184
			(0)	(20)
376			0	338
			67	0
			0	181
361			0	313
			65	0
			0	157



Seeding	E.A.		Cu Yds.	
	W.	S.Y.	Cut	Fill
383			0	351
			70	0
			0	198
386			0	363
			69	0
			0	194
386			0	365
			70	0
			0	200
392			0	383
			71	0
			0	214
392			0	377
			70	0
			0	193
381			0	348
			67	0
			0	183

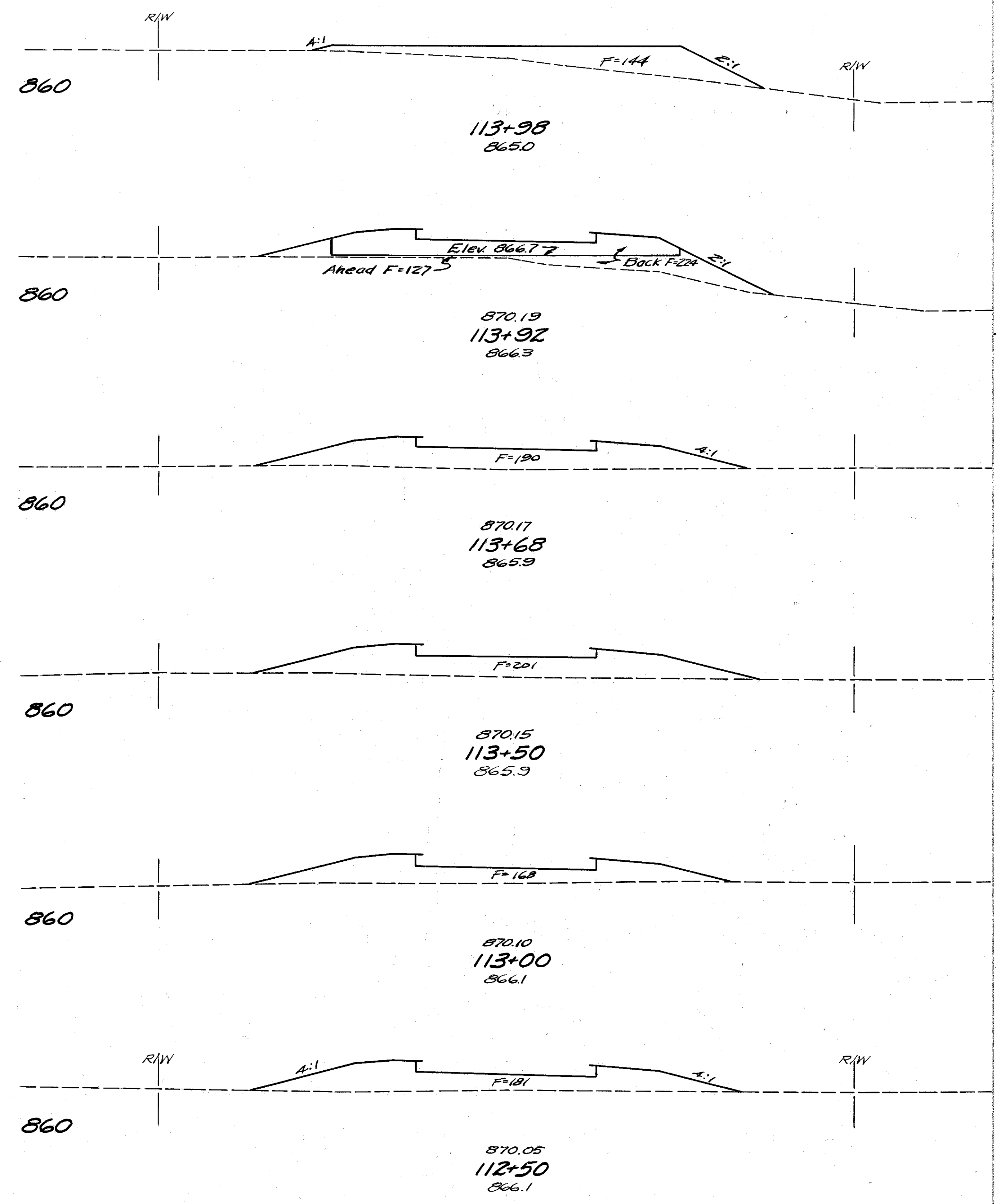
60 50 40 30 20 10 E 10 20 30 40 50 60

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

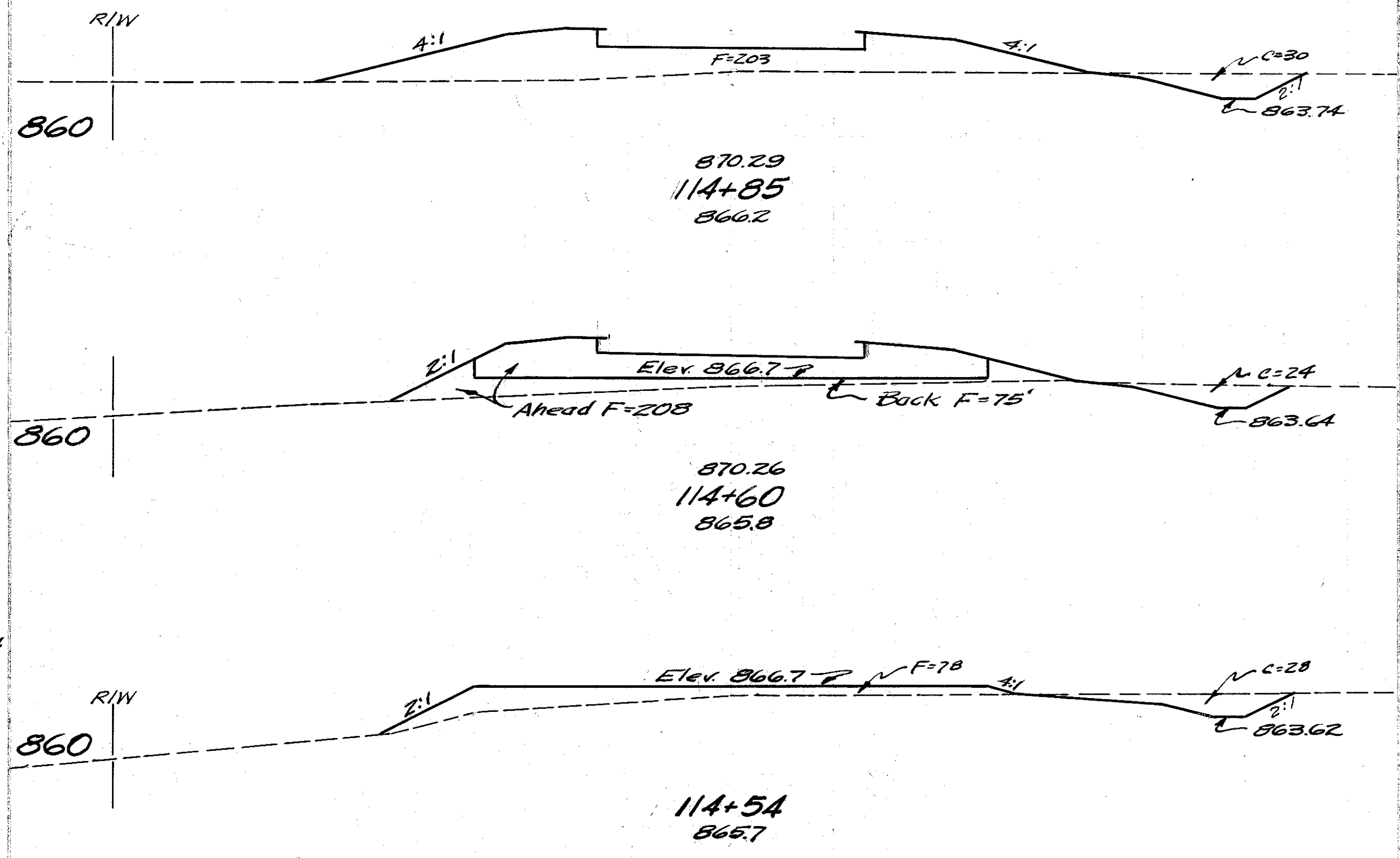
60 50 40 30 20 10 E 10 20 30

F-415(10) Pastwar 45  
HAS-(0.43-2.92)-(11.92-14.12) 166  
PARTS 1 + 2

Sta. 114+05  
End Roadway Earthwork



65	0	0
59	0	13
86	0	144
61	0	30
96	0	127
72	0	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



156		16	111
94	30	203	
250		25	190
86	24	208	110
73		6	17
110	28	78	70
99	0		15
103			3
33	12		

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

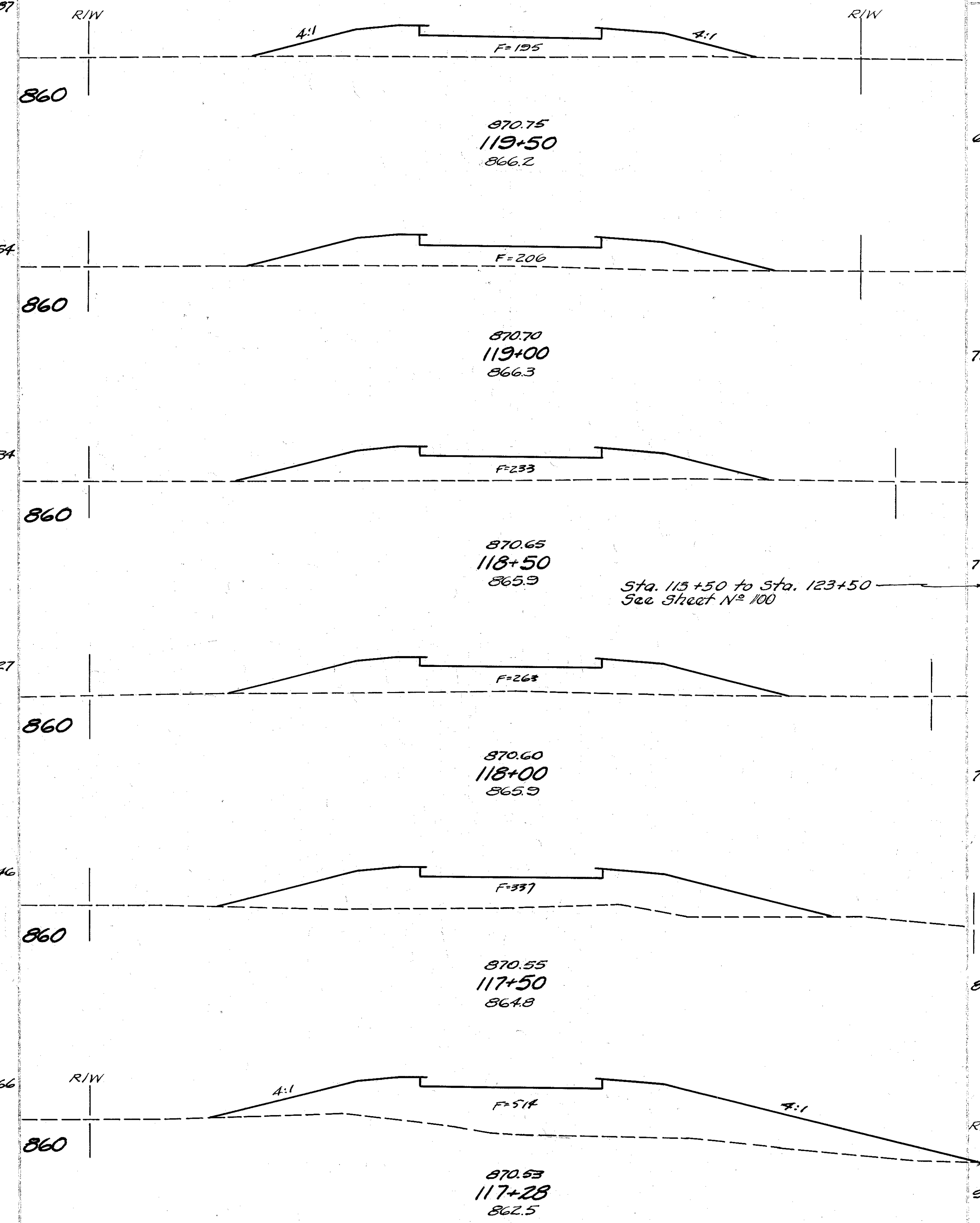
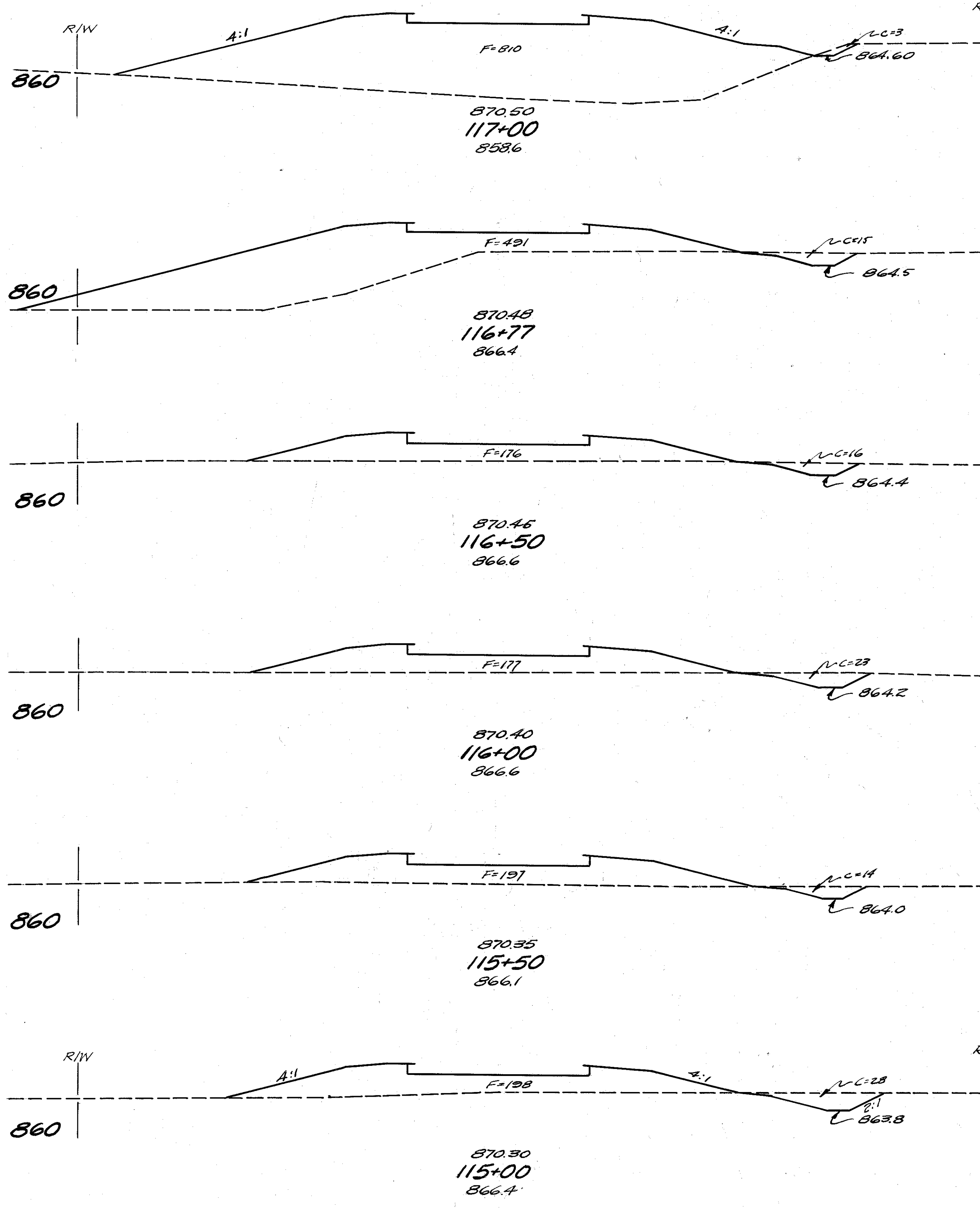
STA. 112+50 TO STA. 114+85

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

60 50 40 30 20 10 0 10 20 30

F-415(10) Pastwar 46  
HAS-36-(Q43-2.92)-(11.92-14.12) 166  
PARTS 1 & 2

Seeding	E. A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill
			310	2 687
			100	3 810
			254	8 554
			99	15 491
			276	16 334
			85	16 176
			475	36 327
			86	23 177
			478	34 346
			86	14 197
			497	39 366
			93	28 198



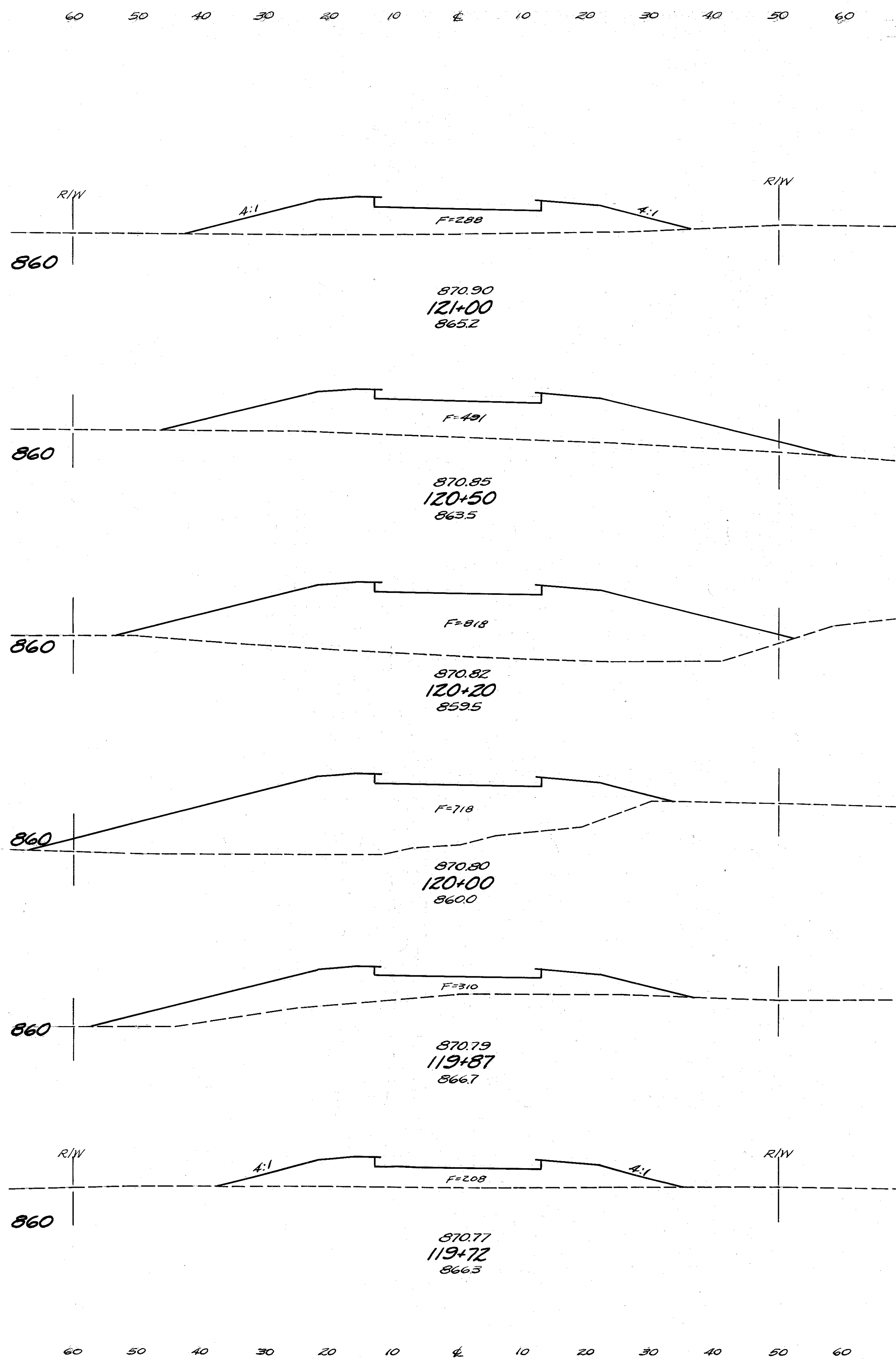
Seeding	E. A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill
			169	0 164
			69	0 195
			392	0 371
			72	0 206
			403	0 397
			73	0 223
			419	0 450
			78	0 263
			456	0 556
			86	0 337
			226	0 347
			93	0 514

Sta. 115+50 to Sta. 123+50  
See Sheet N<sup>o</sup> 100

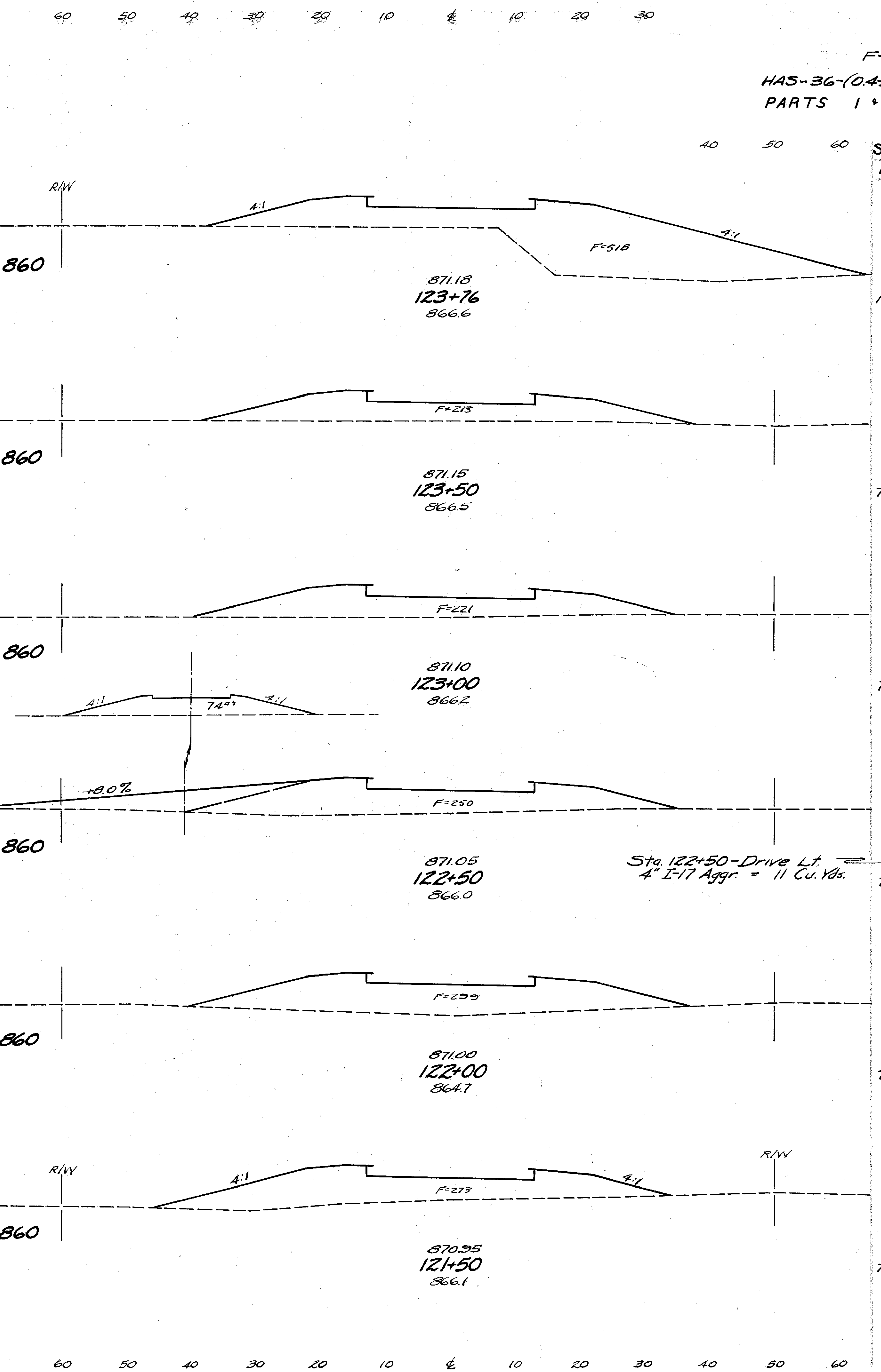
60 50 40 30 20 10 0 10 20 30 40 50 60

60 50 40 30 20 10 0 10 20 30

STA. 115+00 TO STA. 119+50



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

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

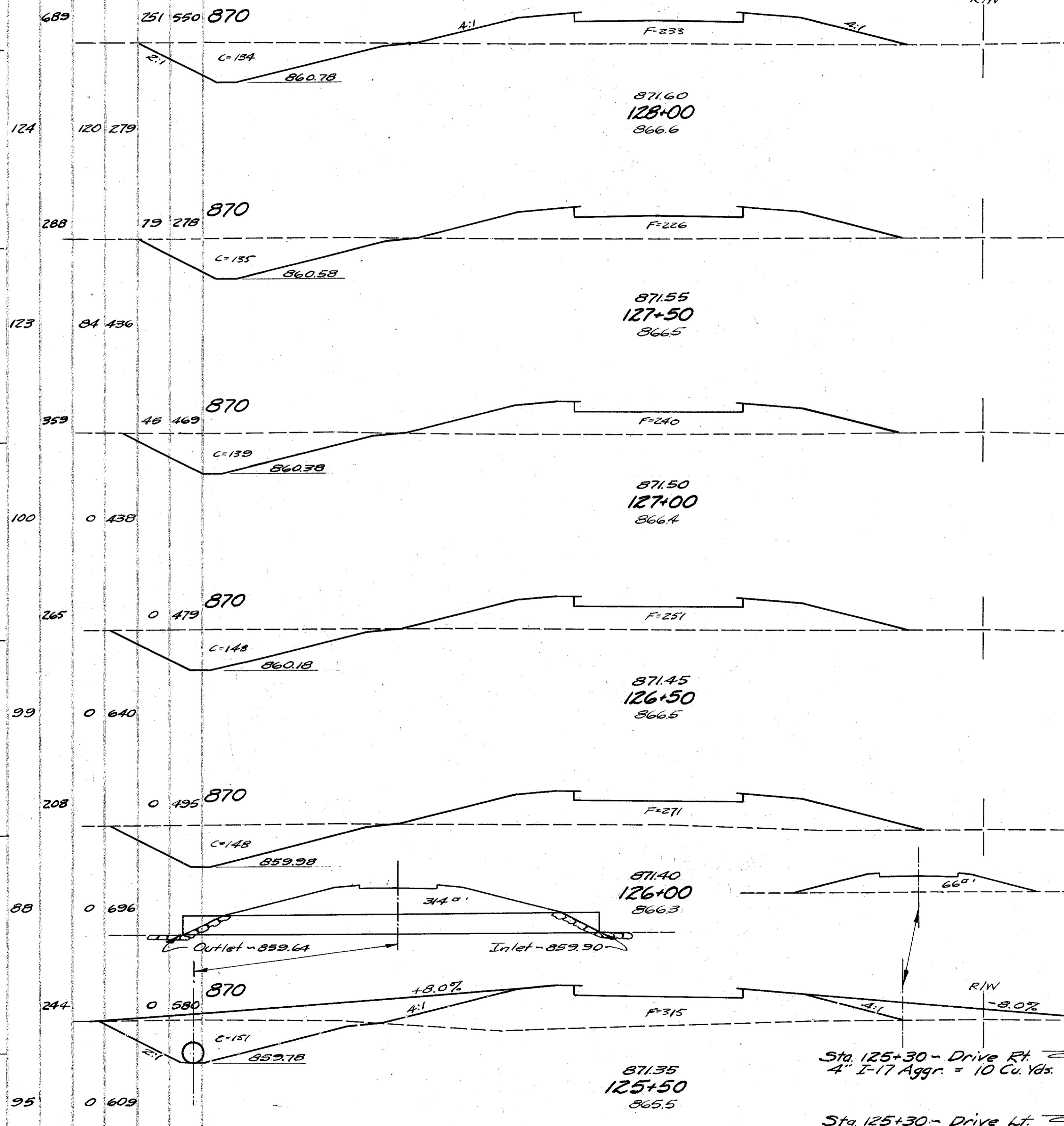
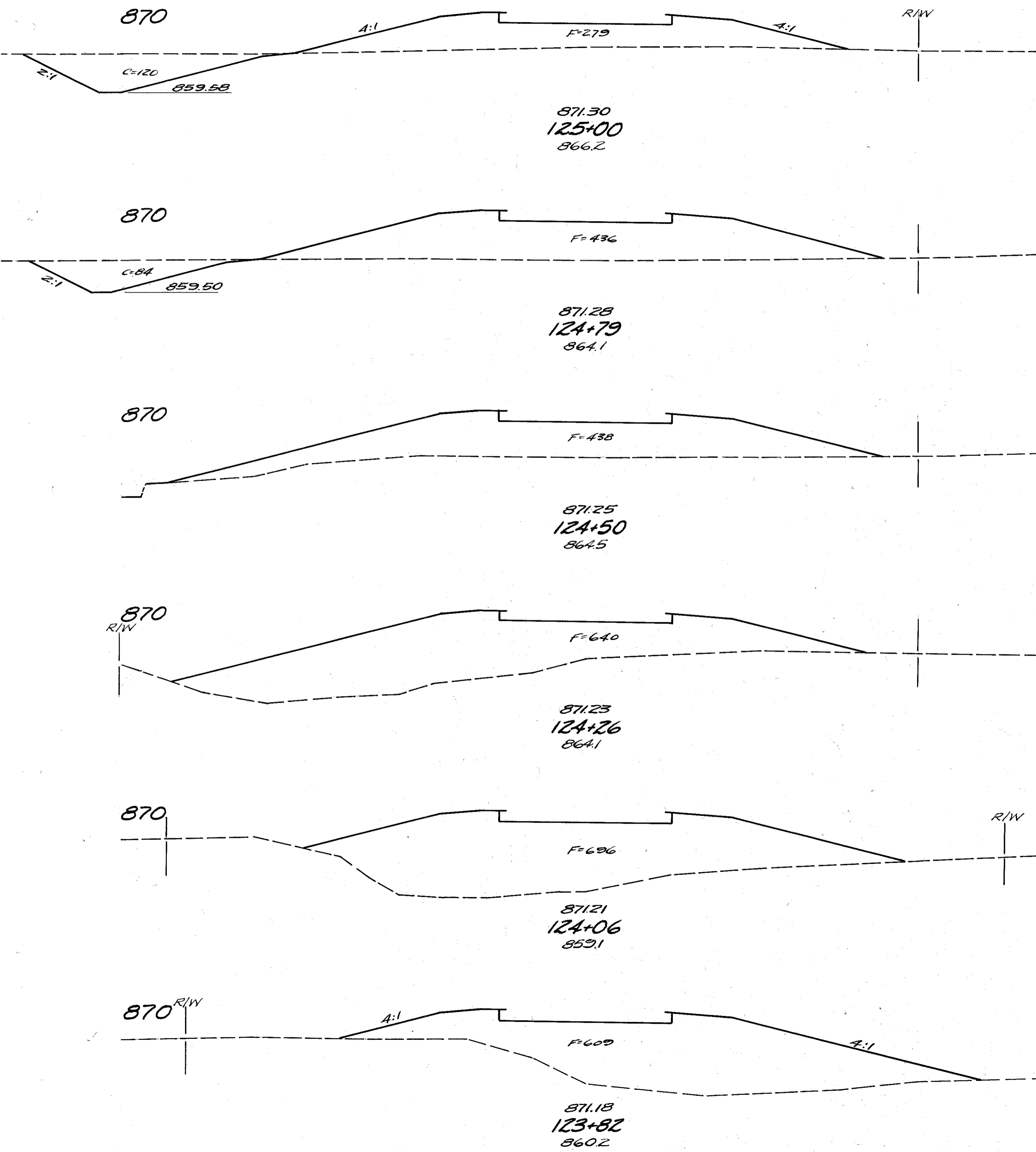
Seeding E.A. Cu Yds  
W. S.Y. CUT FILL CUT FILL

60 50 40 30 20 10 0 10 20 30

F-415(10) Postwar 48  
HAS-36-(0.43-2.92)-(11.92-14.12) 166  
PARTS 1 + 2

40 50 60

Seeding E.A. Cu Yds  
W. S.Y. CUT FILL CUT FILL



Station	Seeding W.	Seeding S.Y.	E.A. CUT	E.A. FILL	Cu Yds CUT	Cu Yds FILL
128+00	650		134	233	234	436
127+50	650		135	226	249	425
127+00	656		139	240	254	431
126+50	675		148	251	266	455
126+00	689		148	271	274	483
125+50	692		151	315	277	543

Sta. 125+30 - Drive Rt. = (0) (63)  
4" I-17 Aggr. = 10 Cu. Yds.

Sta. 125+30 - Drive Lt. = (0) (89)  
4" I-17 Aggr. = 12 Cu. Yds.  
36" Pipe = 64 Lin. Ft.  
Riprap = 24 Sq. Yds.

STA. 123+82 TO STA. 128+00

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

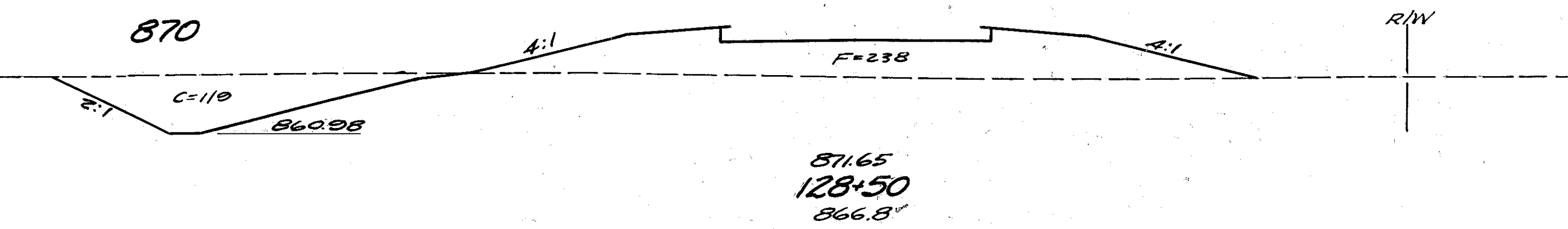
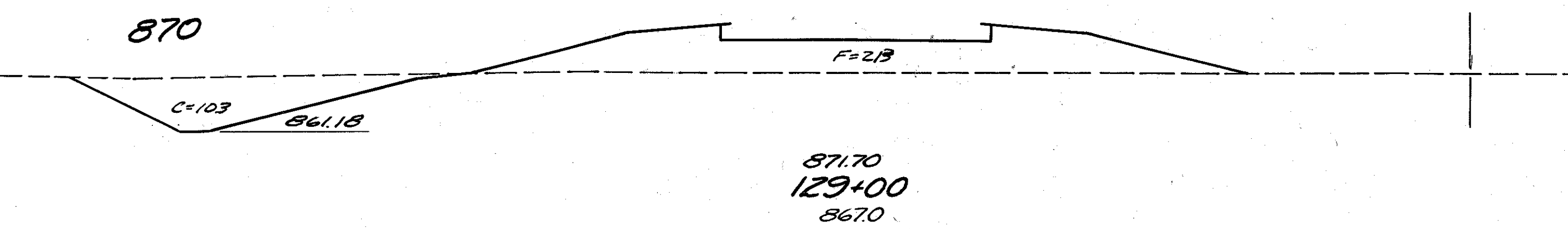
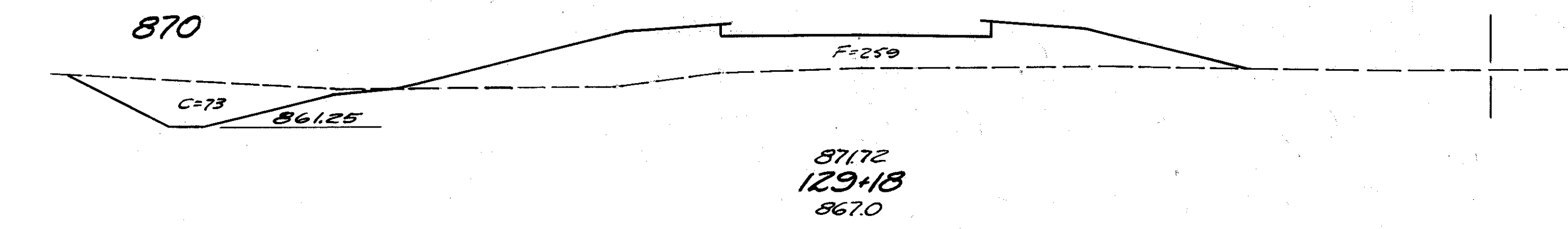
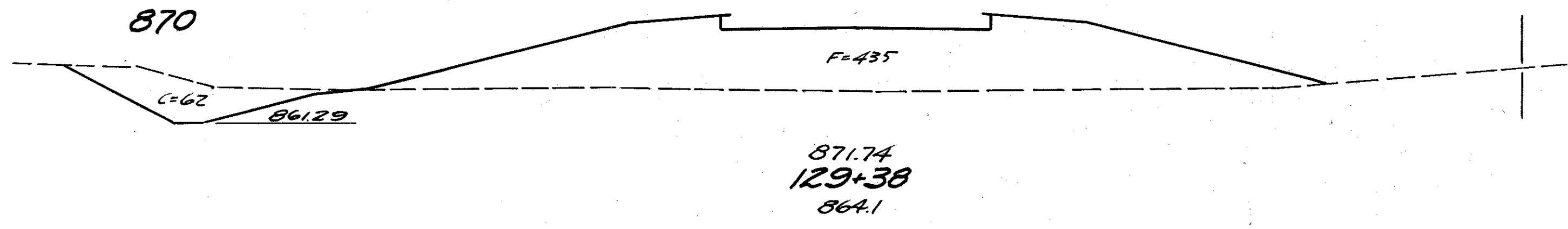
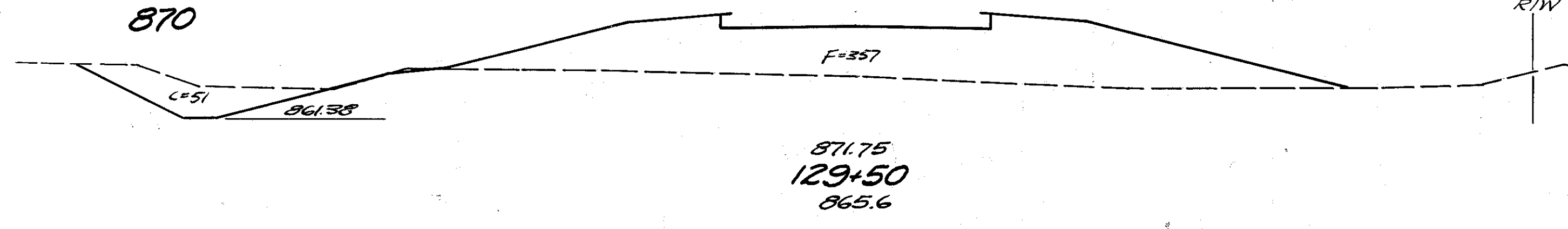
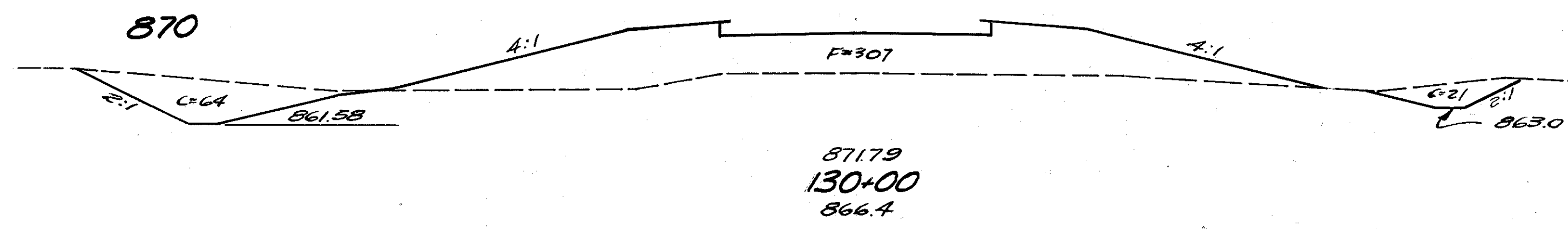
60 50 40 30 20 10 0 10 20 30



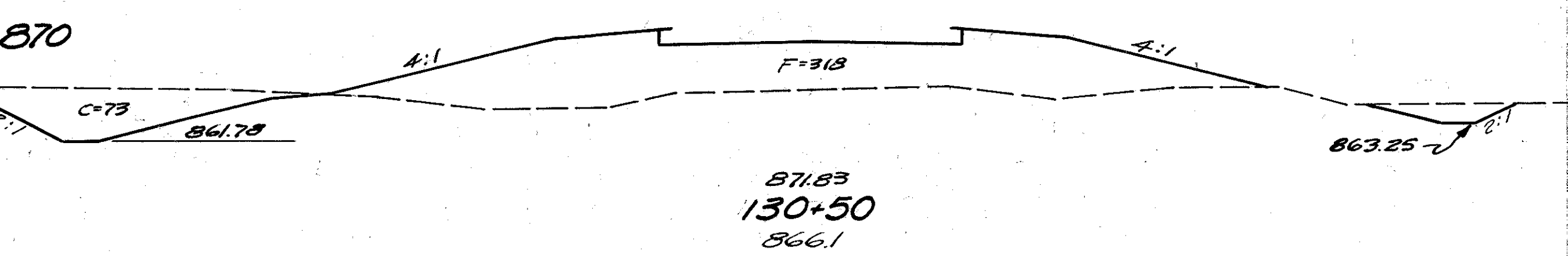
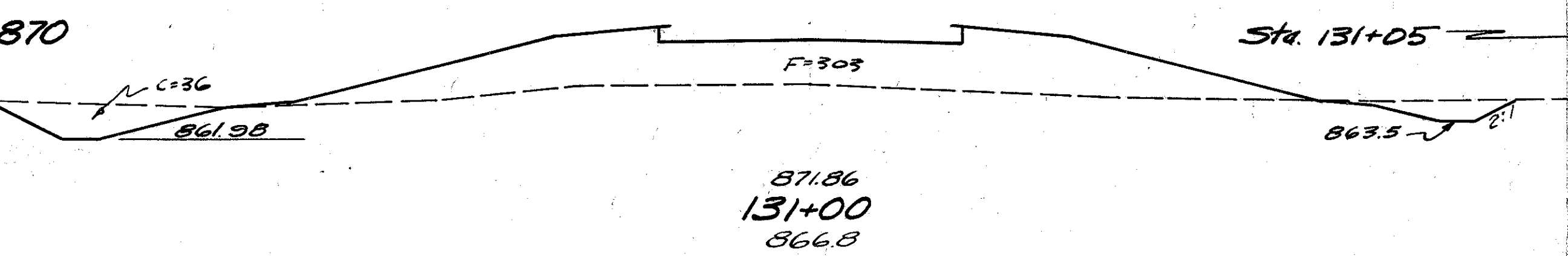
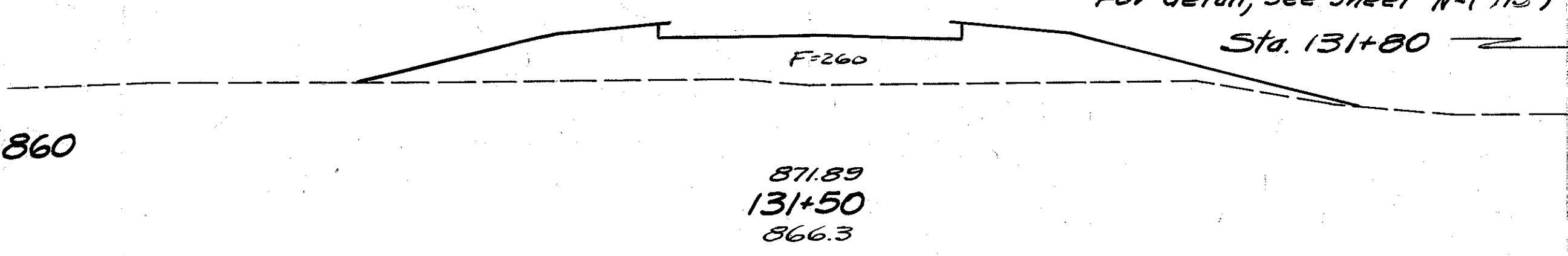
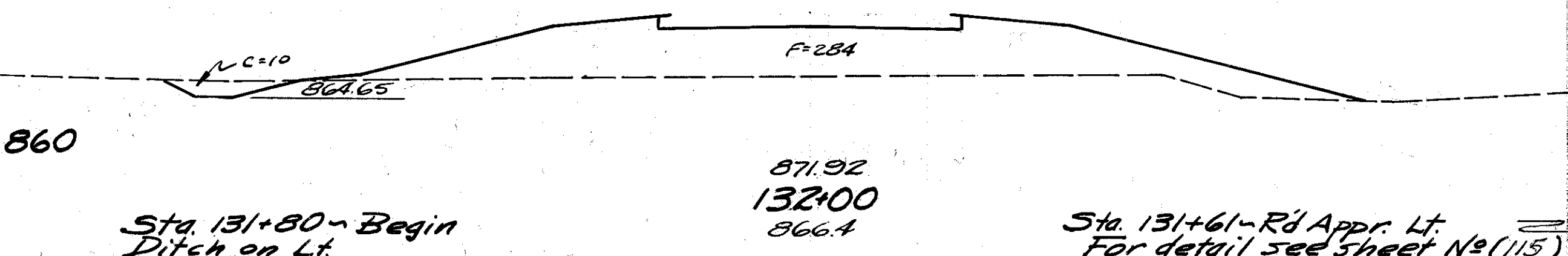
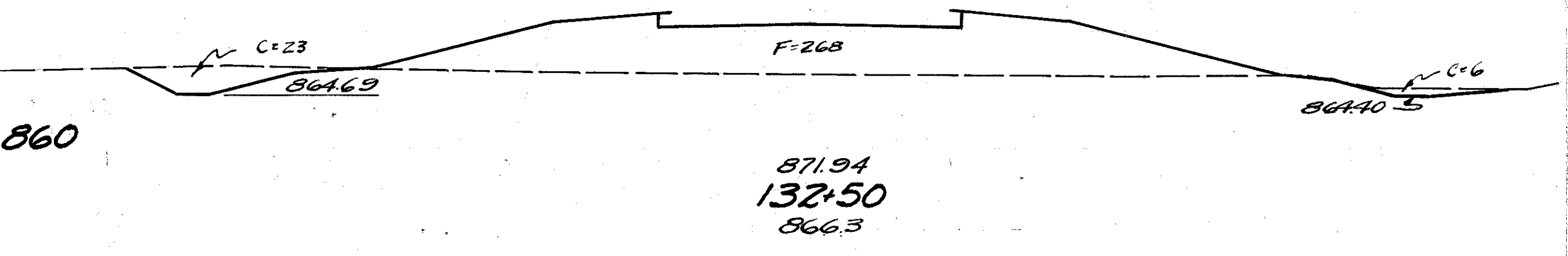
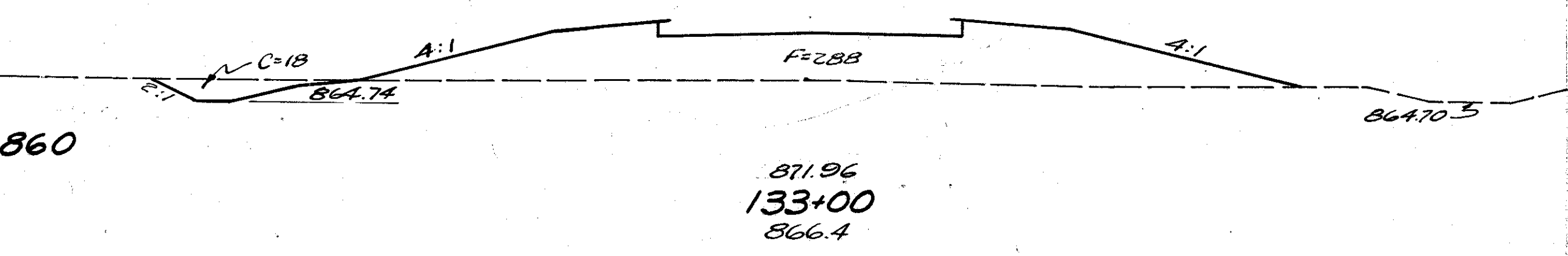
60 50 40 30 20 10 0 10 20 30 40 50 60

60 50 40 30 20 10 0 10 20 30

F-415(10) Pastwar 49  
HAS-36-(0.43-2.92)-(11.92-14.12) 166  
PARTS 1 & 2



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



Seeding	E.A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill
531			20	566
96	18	288		
594			44	516
118	29	268		
606			36	511
121	62	435		
259			50	257
112	73	259		
223			59	157
111	103	213		
631			206	418
116	119	238		

Sta. 131+80 - Begin Ditch on Lt.

Sta. 131+61 - Rd Appr. Lt. For detail, see sheet No (115)

Sta. 131+61 - Rd Appr. Rt. For detail, see sheet No (115)

Sta. 131+05 - End Ditch on Lt.

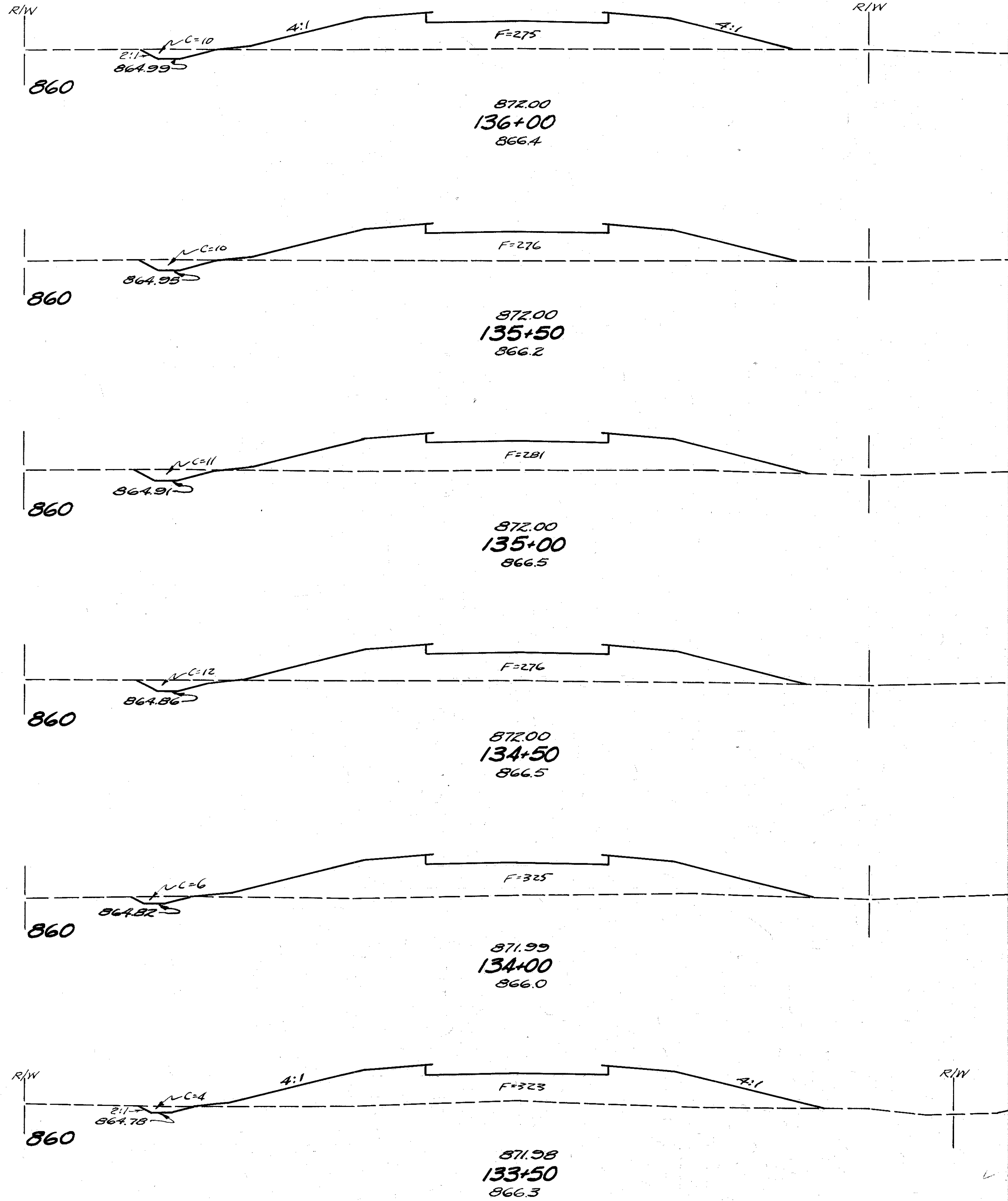
Sta. 131+05

STA. 128+50 TO STA. 133+00

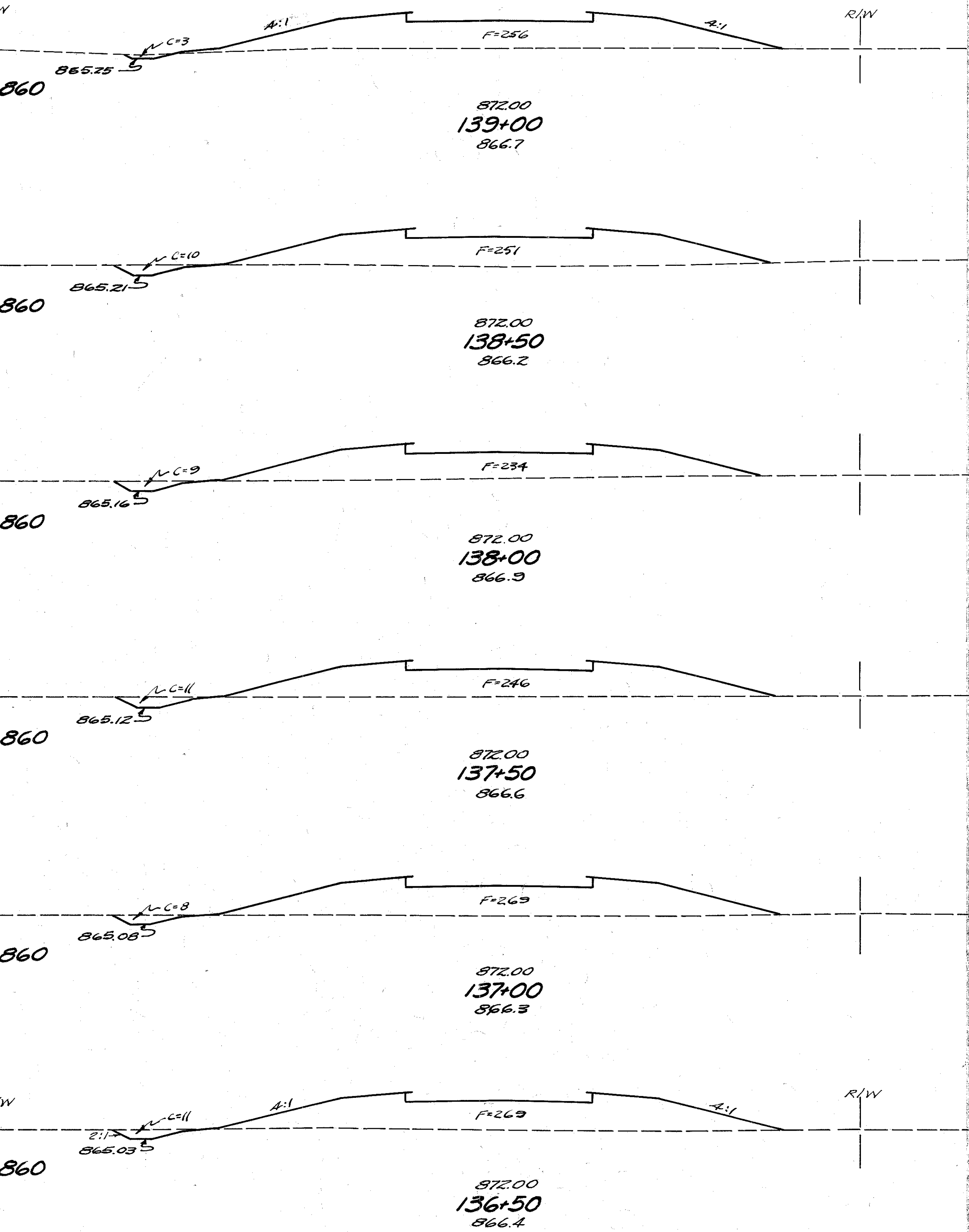
60 50 40 30 20 10 0 10 20 30 40 50 60

60 50 40 30 20 10 0 10 20 30

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



Seeding	E.A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill
91	10	275		
91	10	276		
91	11	281		
92	12	276		
94	6	325		
95	4	323		



Seeding	E.A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill
88	3	256	9	490
88	10	251		
87	9	234		
89	11	246		
91	8	269		
91	11	269		

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

60 50 40 30 20 10 0 10 20 30

STA. 133+50 TO STA. 139+00

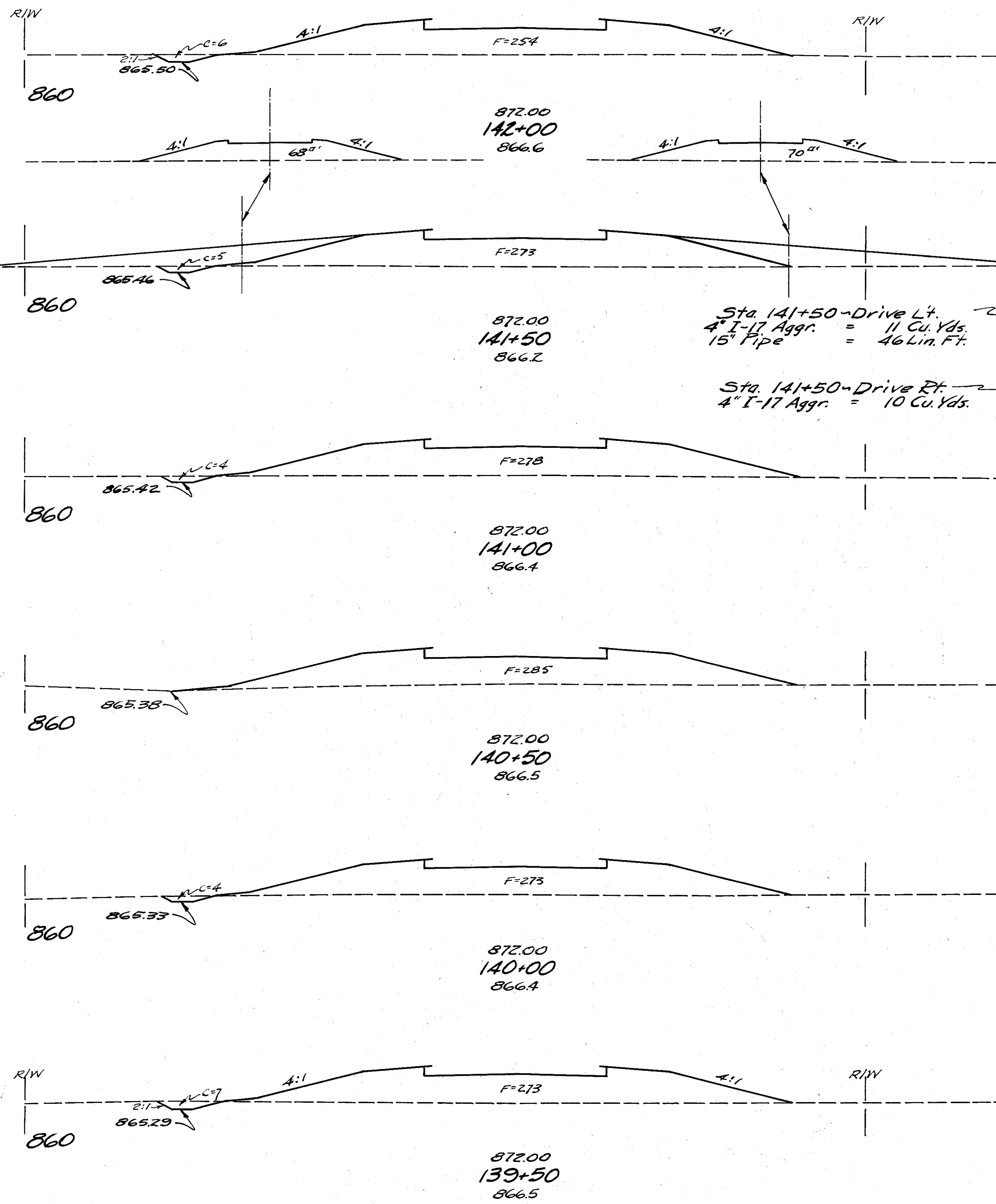
60 50 40 30 20 10 0 10 20 30 40 50 60

60 50 40 30 20 10 0 10 20 30

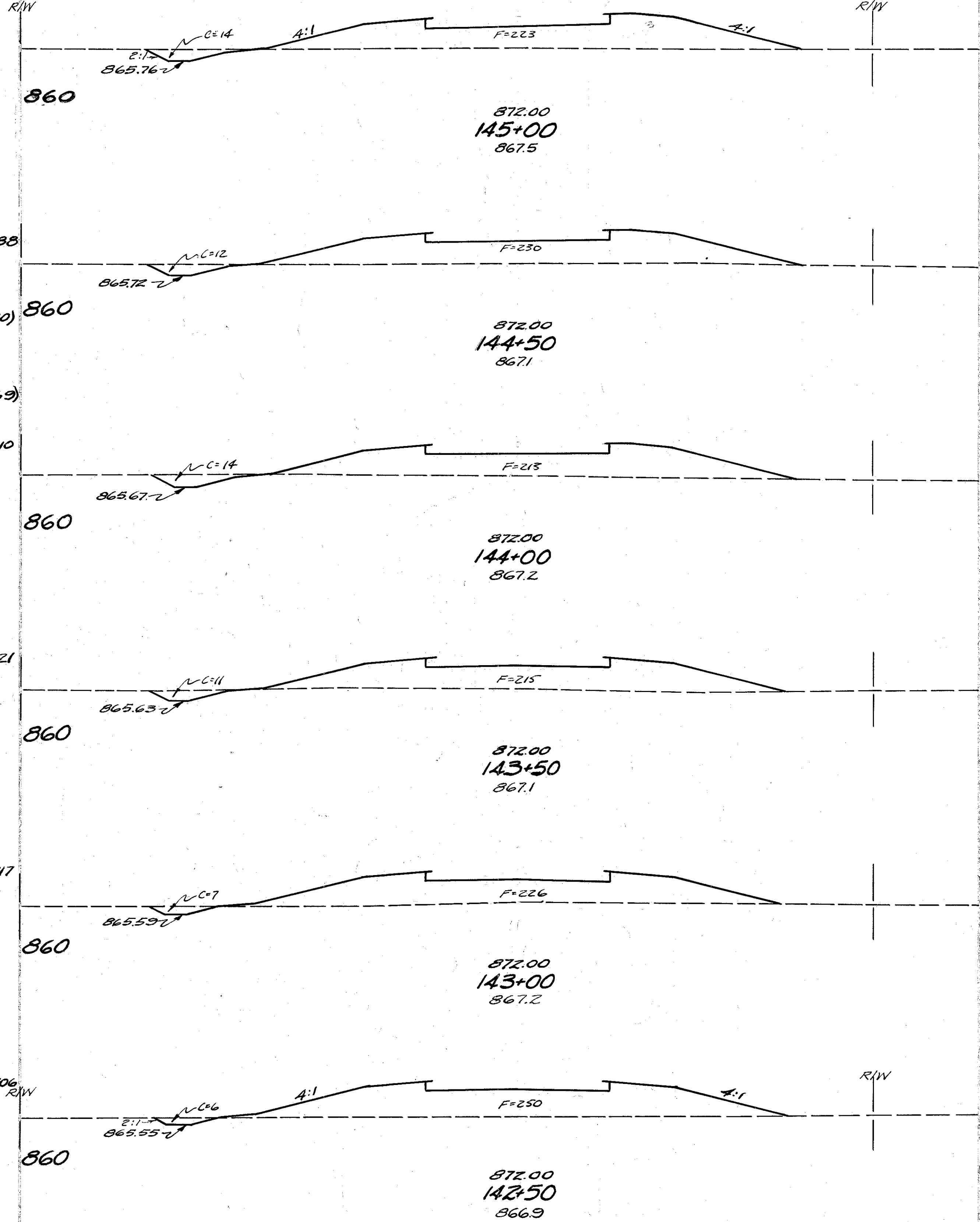
F-4.15(10) Postwar 51  
HAS-36-(0.43-2.92)-(11.92-14.12) 166  
PARTS 1 & 2

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

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



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



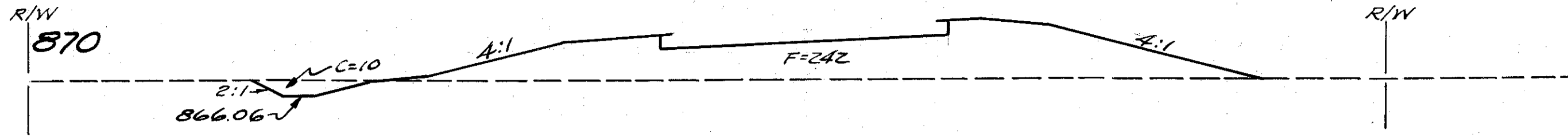
Seeding	E.A.	Cu. Yds.
W. S.Y.	Cut	Fill
503	25	411
91	14	223
506	24	419
91	12	230
500	24	410
89	14	213
489	23	396
87	11	215
481	17	408
86	7	226
481	12	441
87	6	250

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

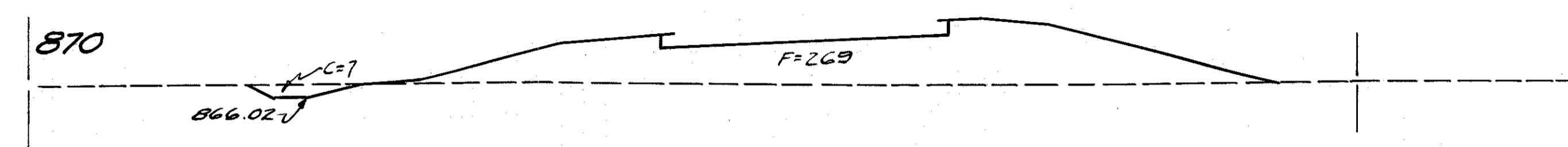
60 50 40 30 20 10 0 10 20 30

STA. 139+50 TO STA. 145+00

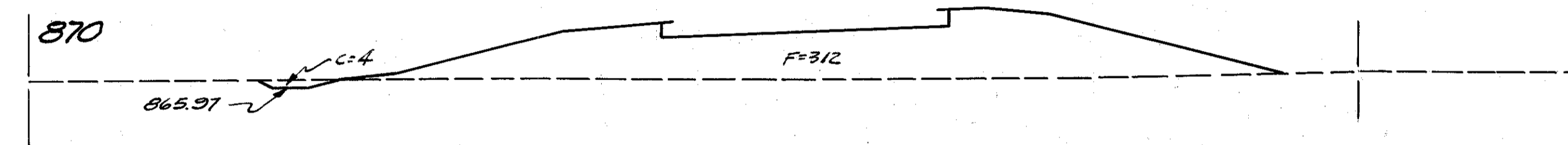
60 50 40 30 20 10 0 10 20 30 40 50 60



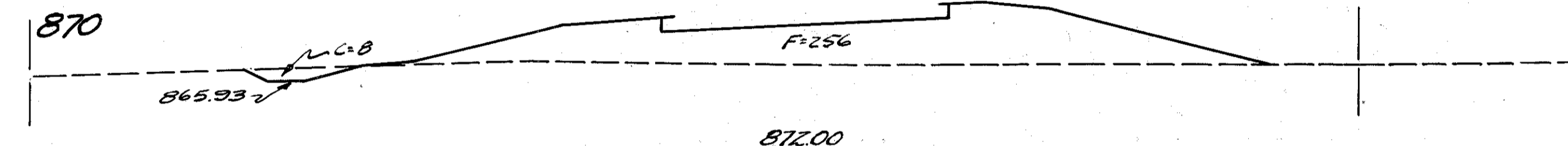
872.03  
148+50  
867.7



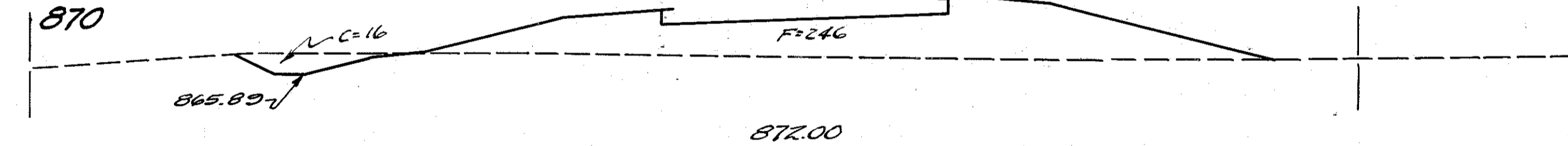
872.00  
148+00  
867.2



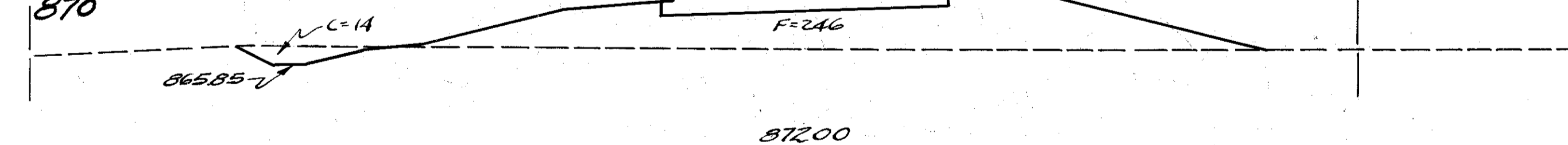
872.00  
147+50  
866.7



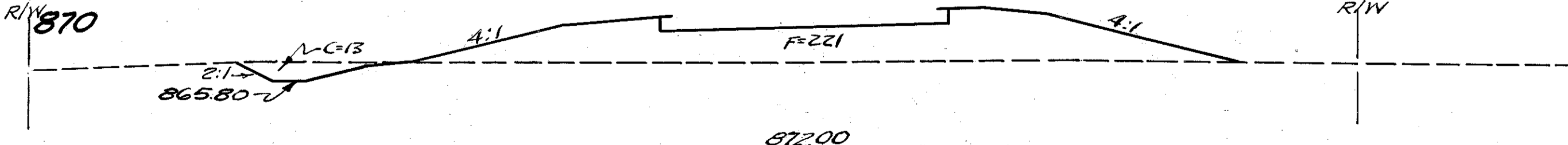
872.00  
147+00  
867.4



872.00  
146+50  
867.5



872.00  
146+00  
867.3

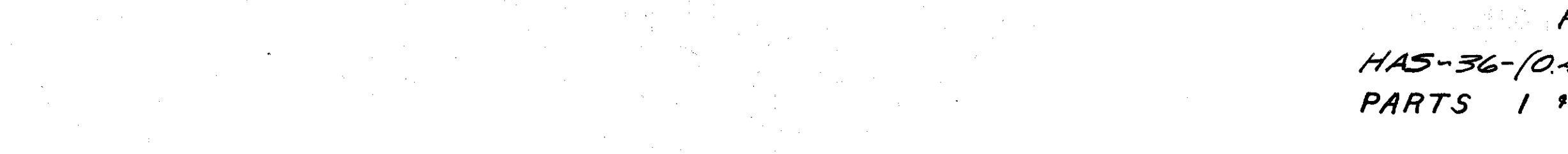


872.00  
145+50  
867.5

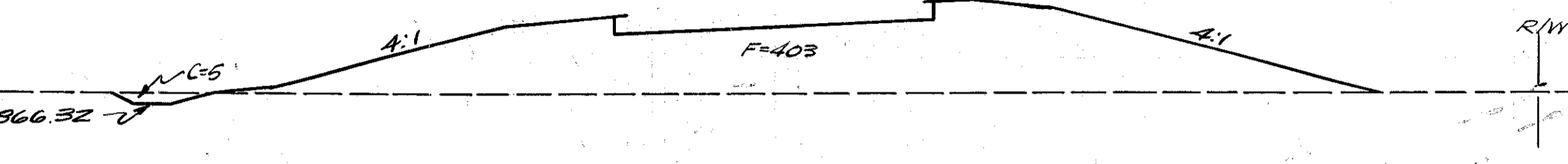
60 50 40 30 20 10 0 10 20 30 40 50 60

Seeding	E.A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill
497			15	481
89	10	242		
492			16	473
88	7	269		
483			10	538
86	4	312		
481			11	526
87	8	256		
489			22	465
89	16	246		
494			28	456
89	14	246		
497			25	432
90	13	221		

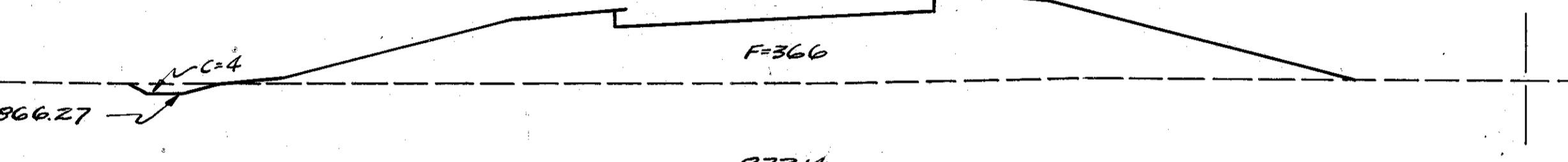
60 50 40 30 20 10 0 10 20 30



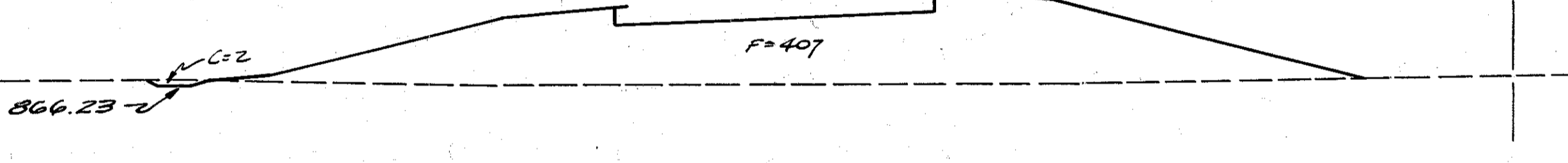
873.55  
151+50  
867.2



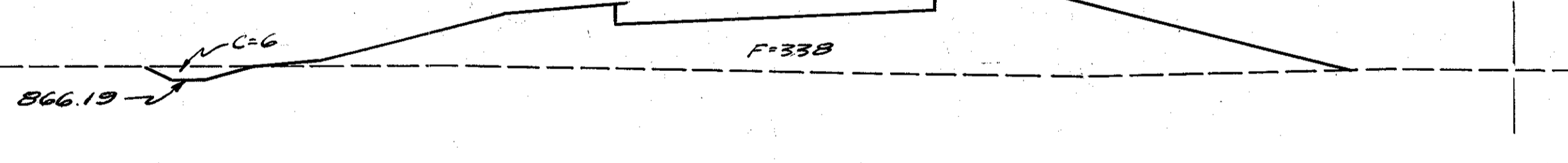
873.14  
151+00  
867.0



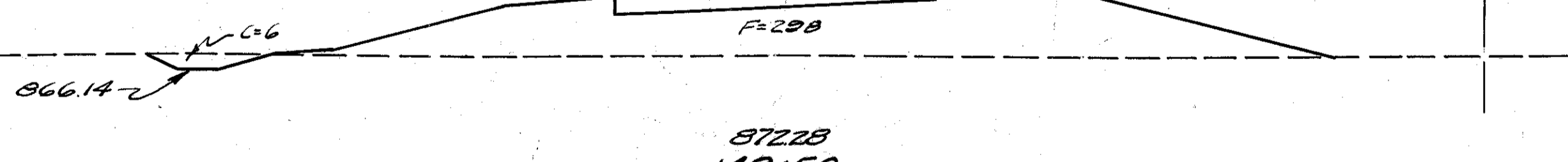
872.79  
150+50  
866.3



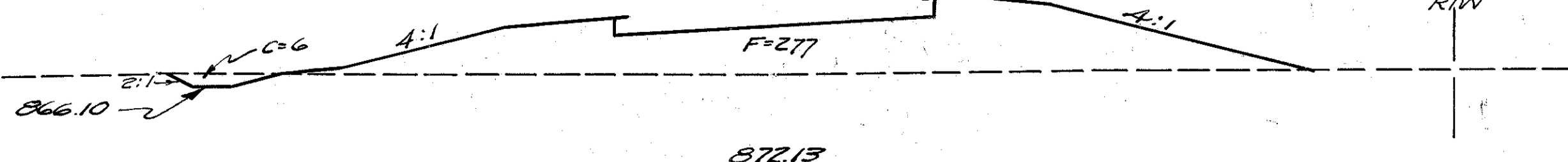
872.51  
150+00  
866.9



872.28  
149+50  
867.2



872.13  
149+00  
867.1



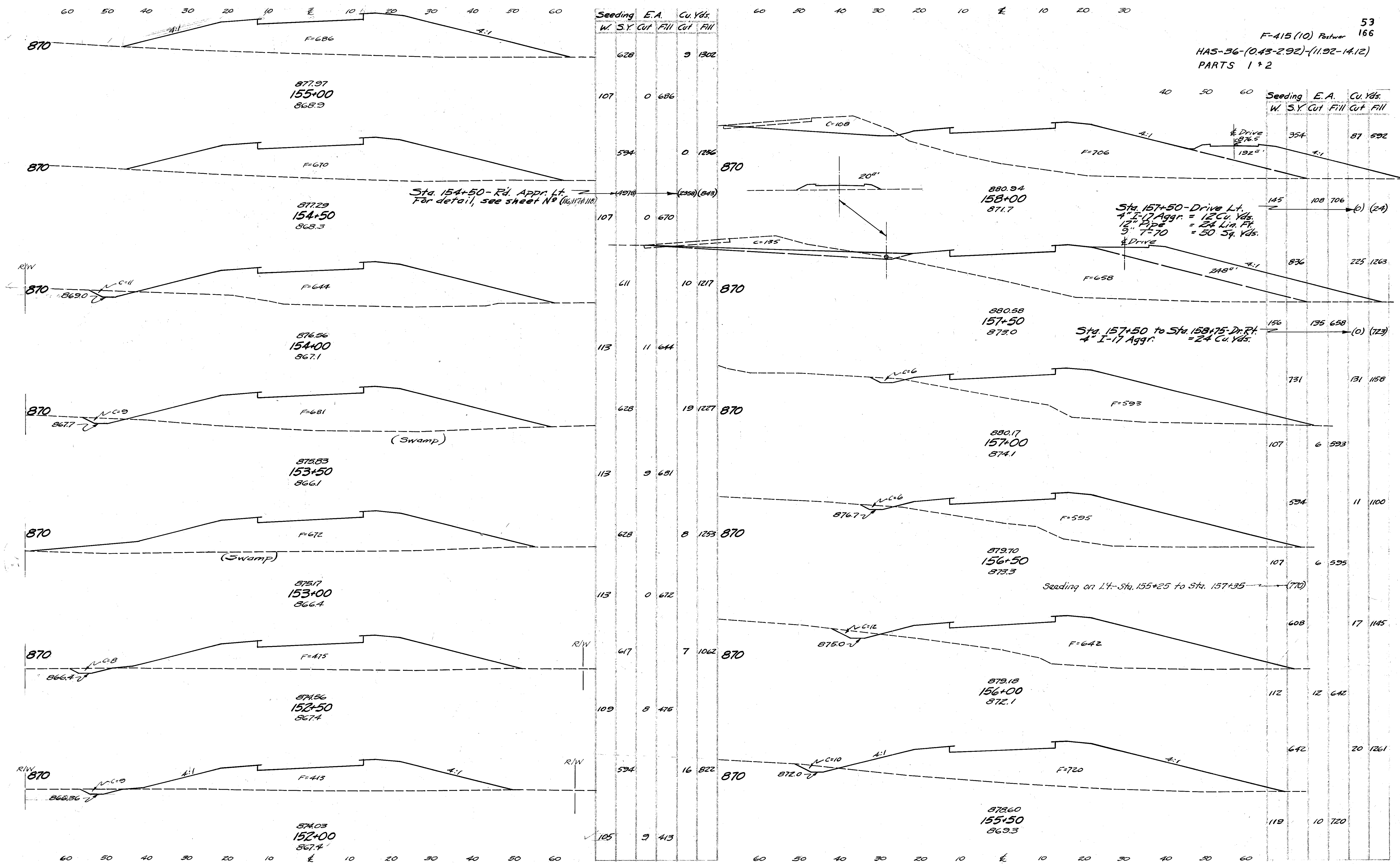
872.13  
149+00  
867.1

60 50 40 30 20 10 0 10 20 30

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

Seeding	E.A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill
572			13	756
101	5	403		
553			8	712
98	4	366		
539			6	716
96	2	407		
533			7	690
96	6	338		
528			11	589
94	6	298		
511			11	532
90	6	277		

STA. 145+50 TO STA. 151+50



Station	Seeding		E.A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill	Cut	Fill
152+00	105	9	413			
153+00	113	9	681			
154+00	113	11	644			
155+00	113	0	672			
156+00	107	6	595			
157+00	107	6	593			
158+00	119	10	720			

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

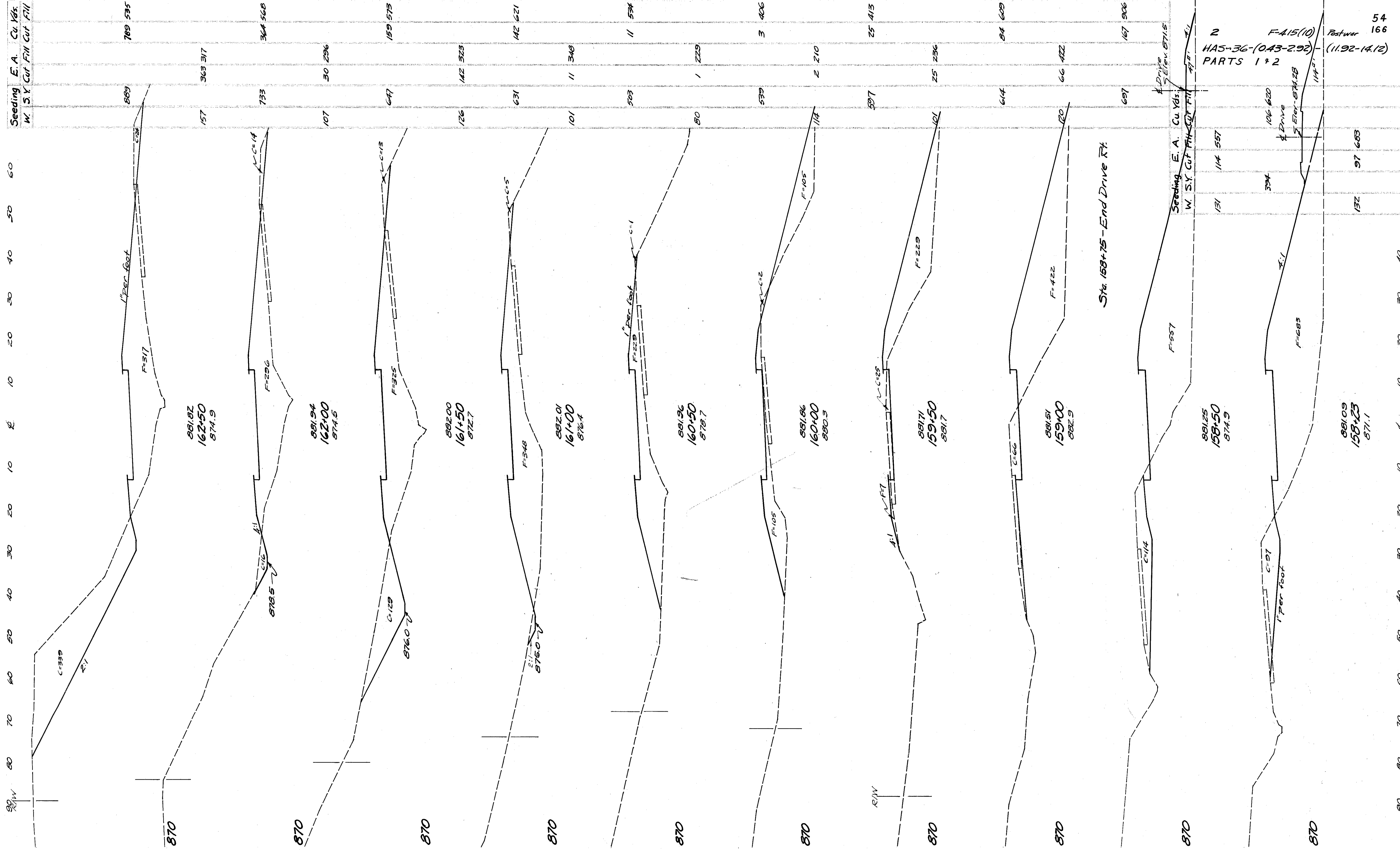
Sta. 154+50-Rd. Appr. Lt.  
 For detail, see sheet No. (116, 117 & 118)

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

(Swamp)

(Swamp)

Seeding on L4-Sta. 155+25 to Sta. 157+35 (770)



STA. 158+23 TO STA. 162+50

54  
166

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

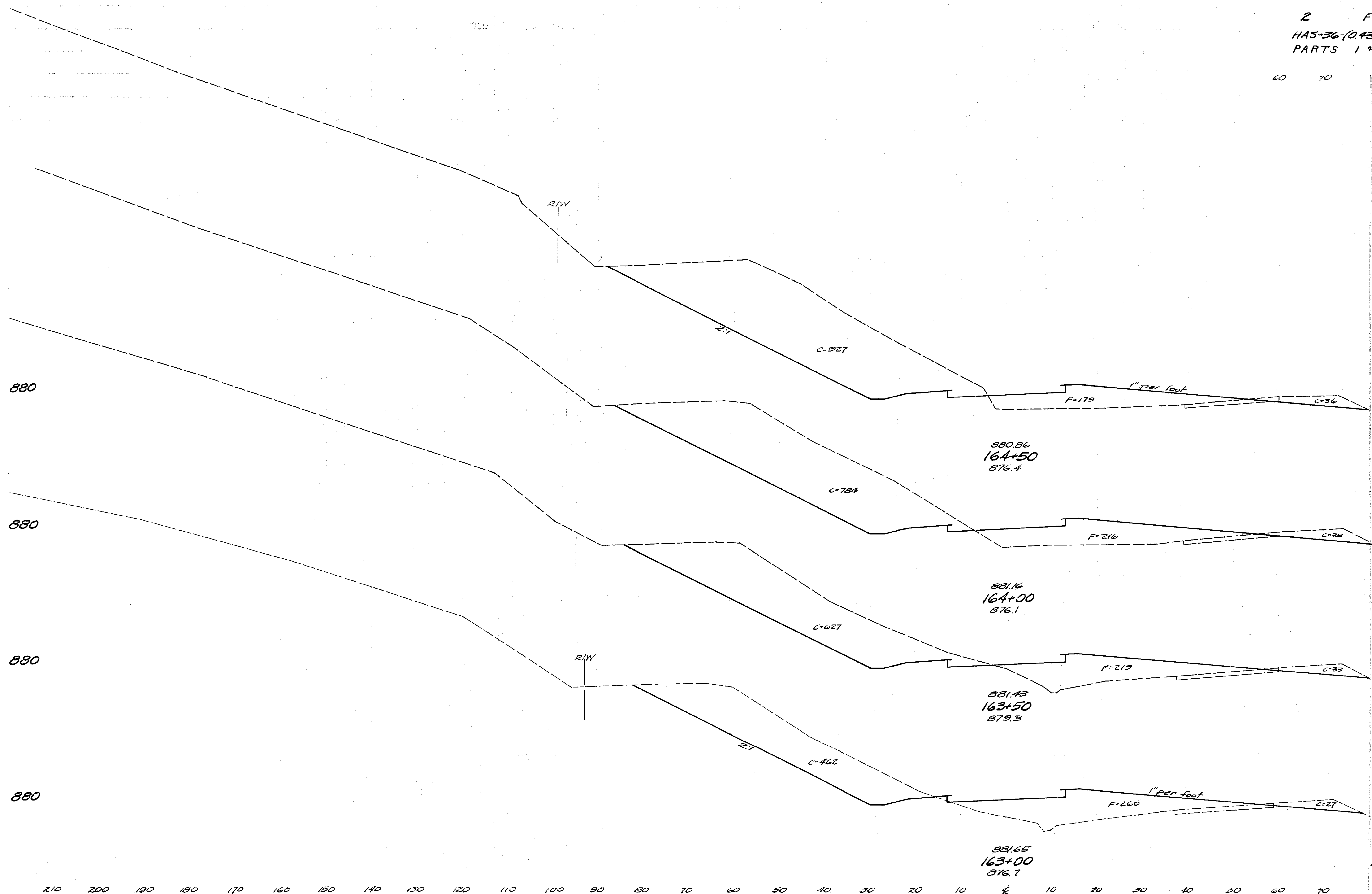
Sta. 158+75 - End Drive RT.

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

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

60 70

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

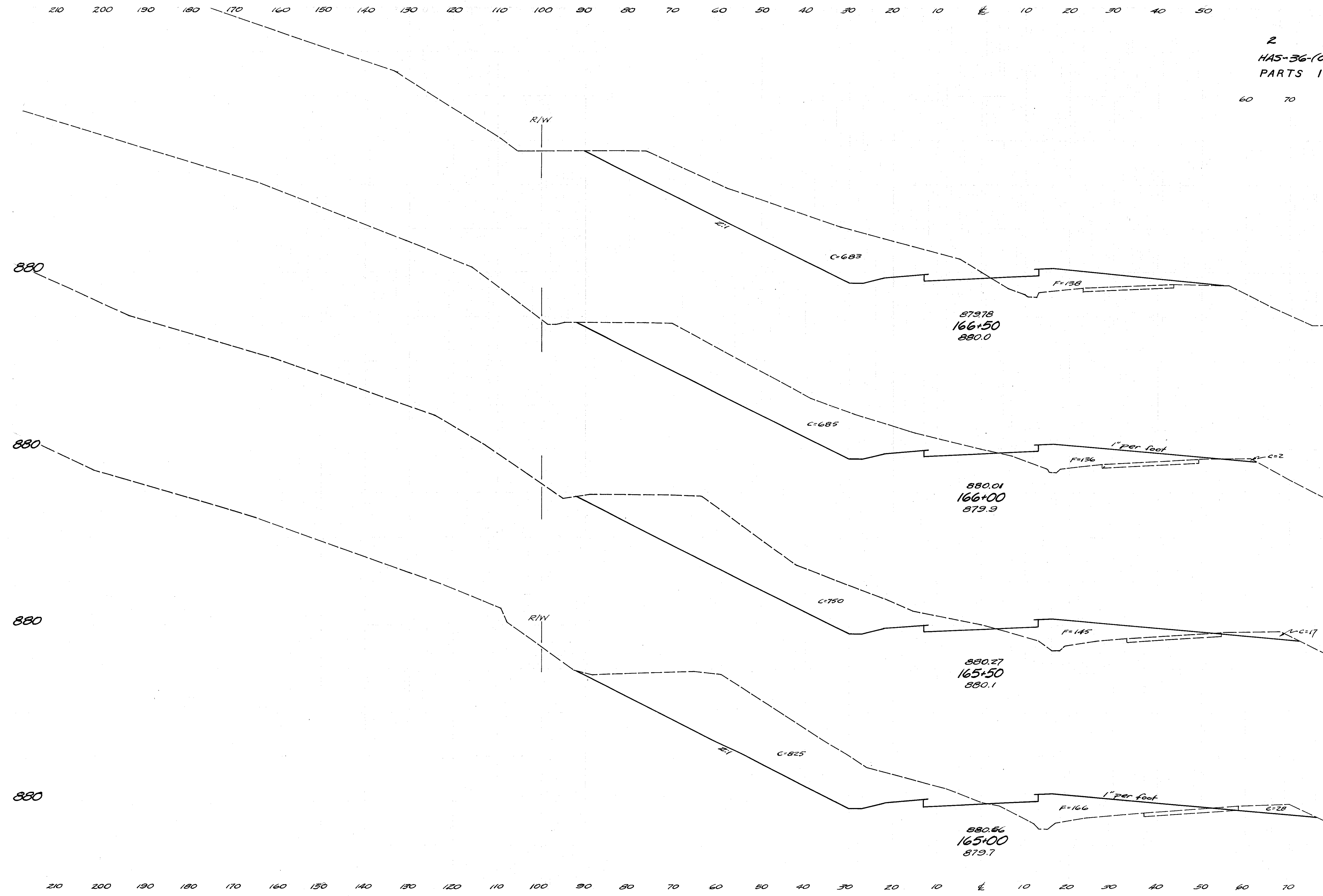


Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
		950		1681	319
		171	963	179	
		947		1653	366
		170	822	216	
		936		1372	403
		167	660	219	
		917		1064	444
		163	489	261	

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

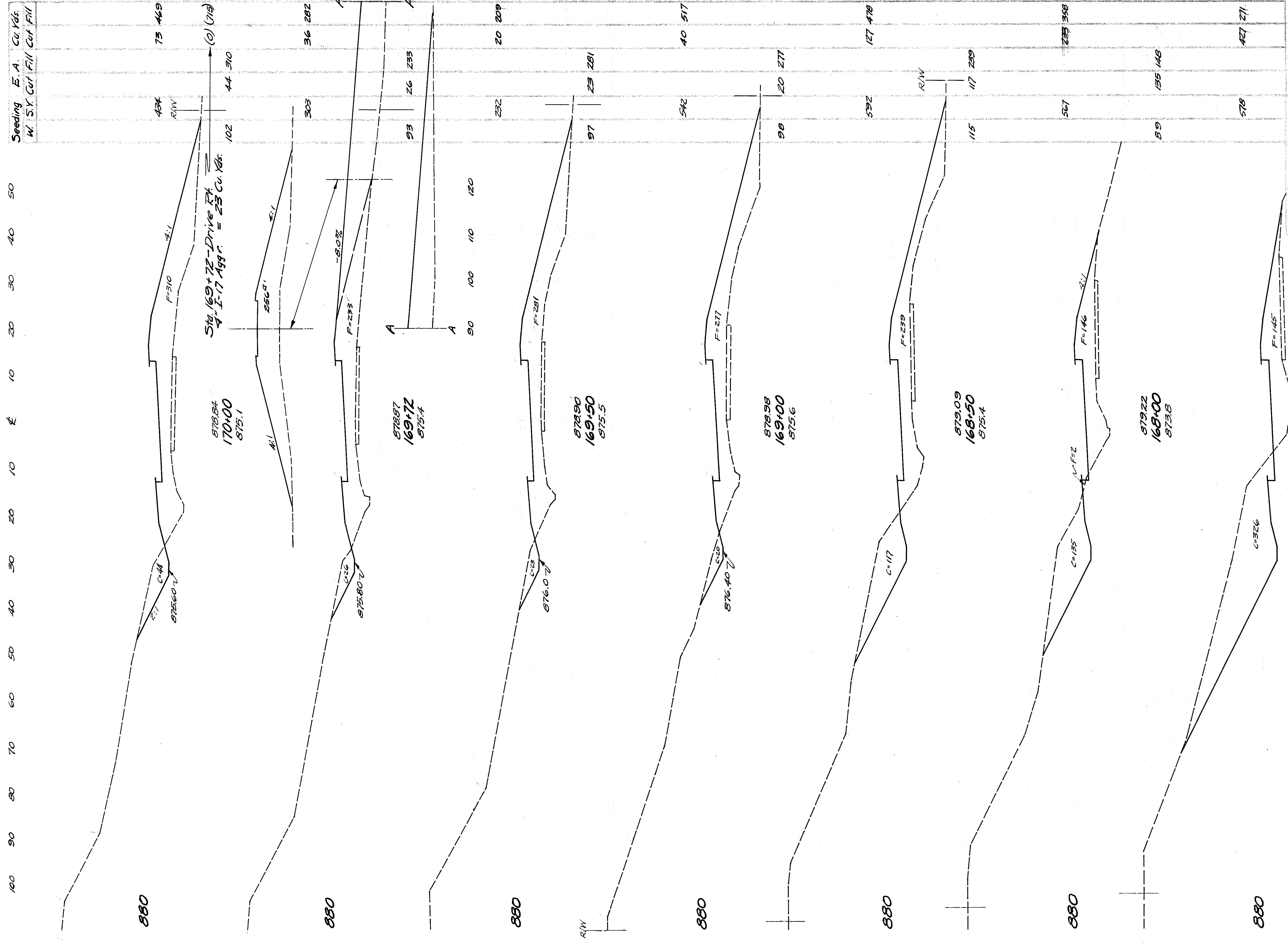
2 F-415(10) Postwar 56  
 HAS-36-(0.43-2.92)-(11.92-14.12) 166  
 PARTS 1 + 2



Seeding W	E. A.		Cu. Yds.	
	S. Y. Cut	Fill	Cut	Fill
808			1193	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



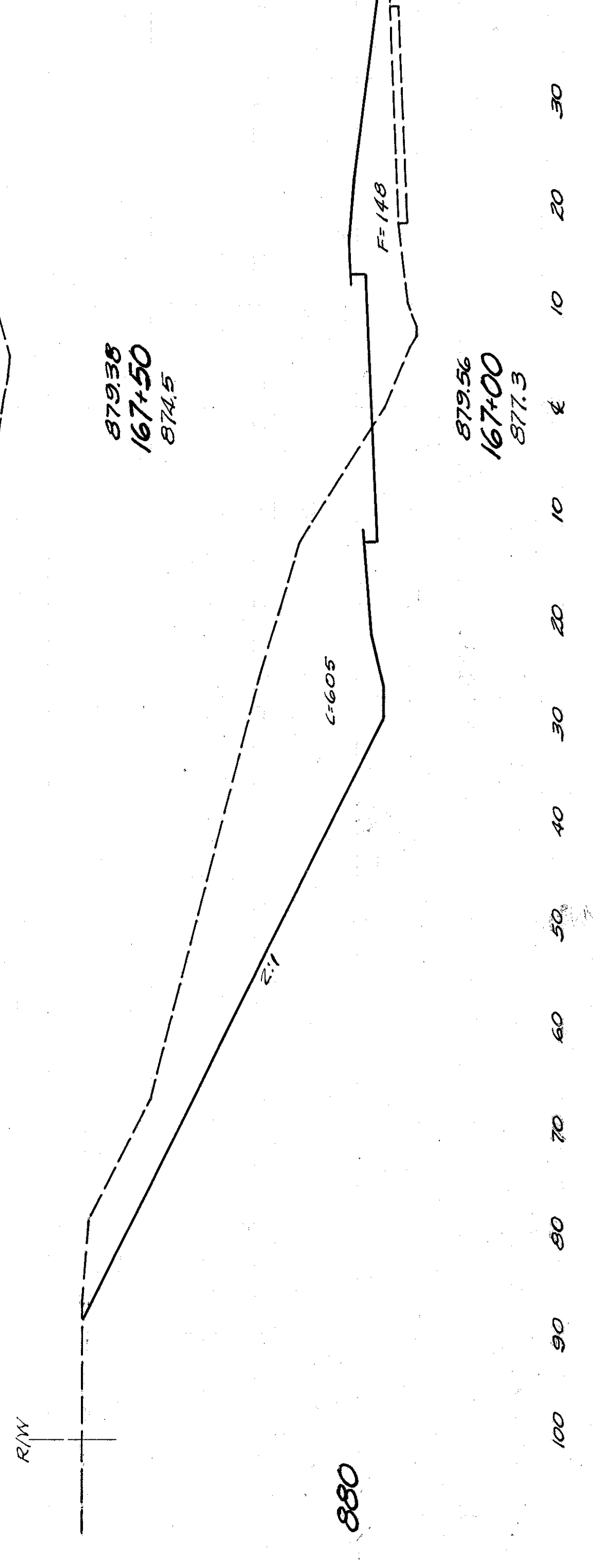


Seeding	E. A.	Cu. Yds.
W. SY	Cut	Fill
	Fill	Cut
	Fill	Fill

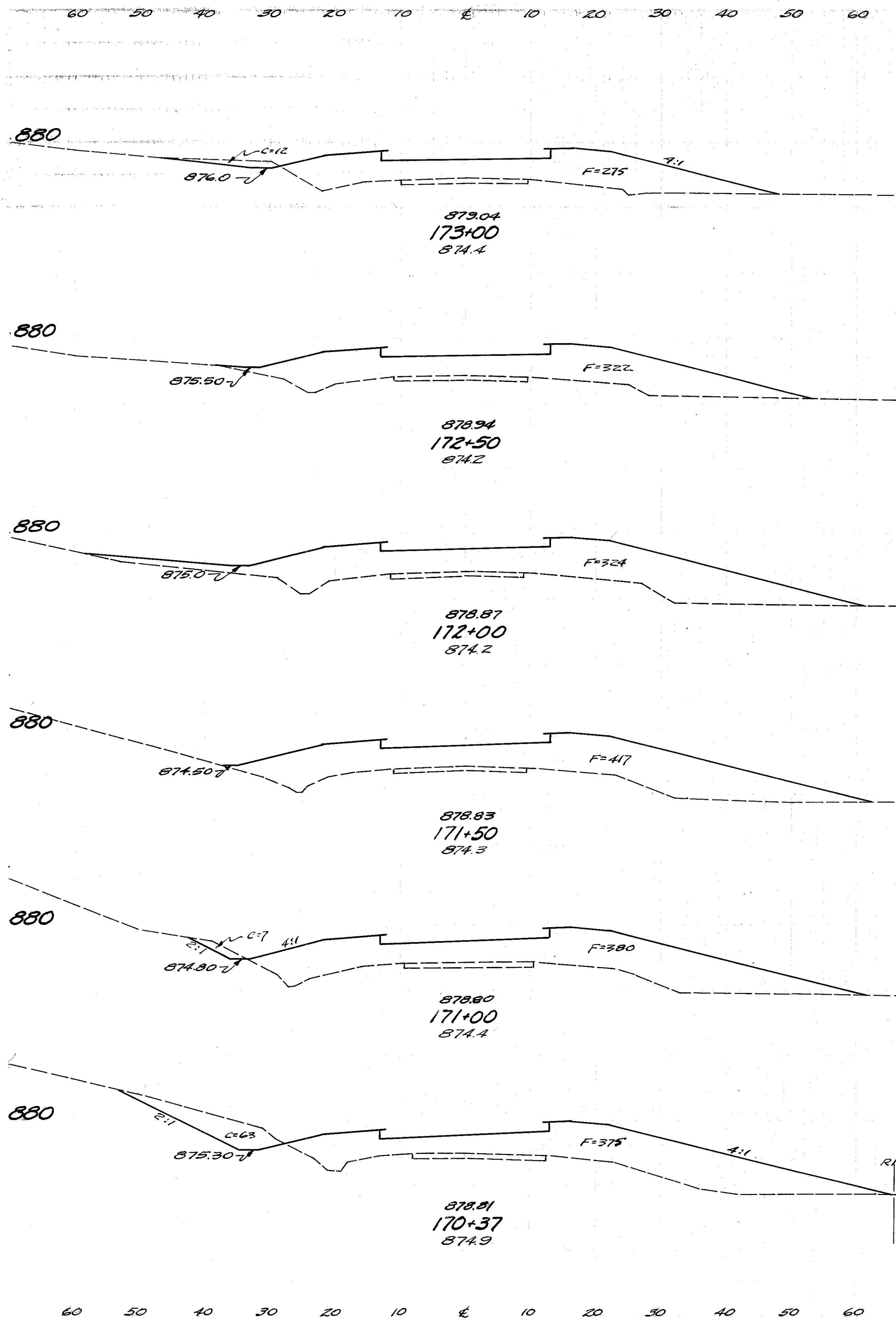
Seeding	E. A.	Cu. Yds.
W. SY	Cut	Fill
	Fill	Cut
	Fill	Fill

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

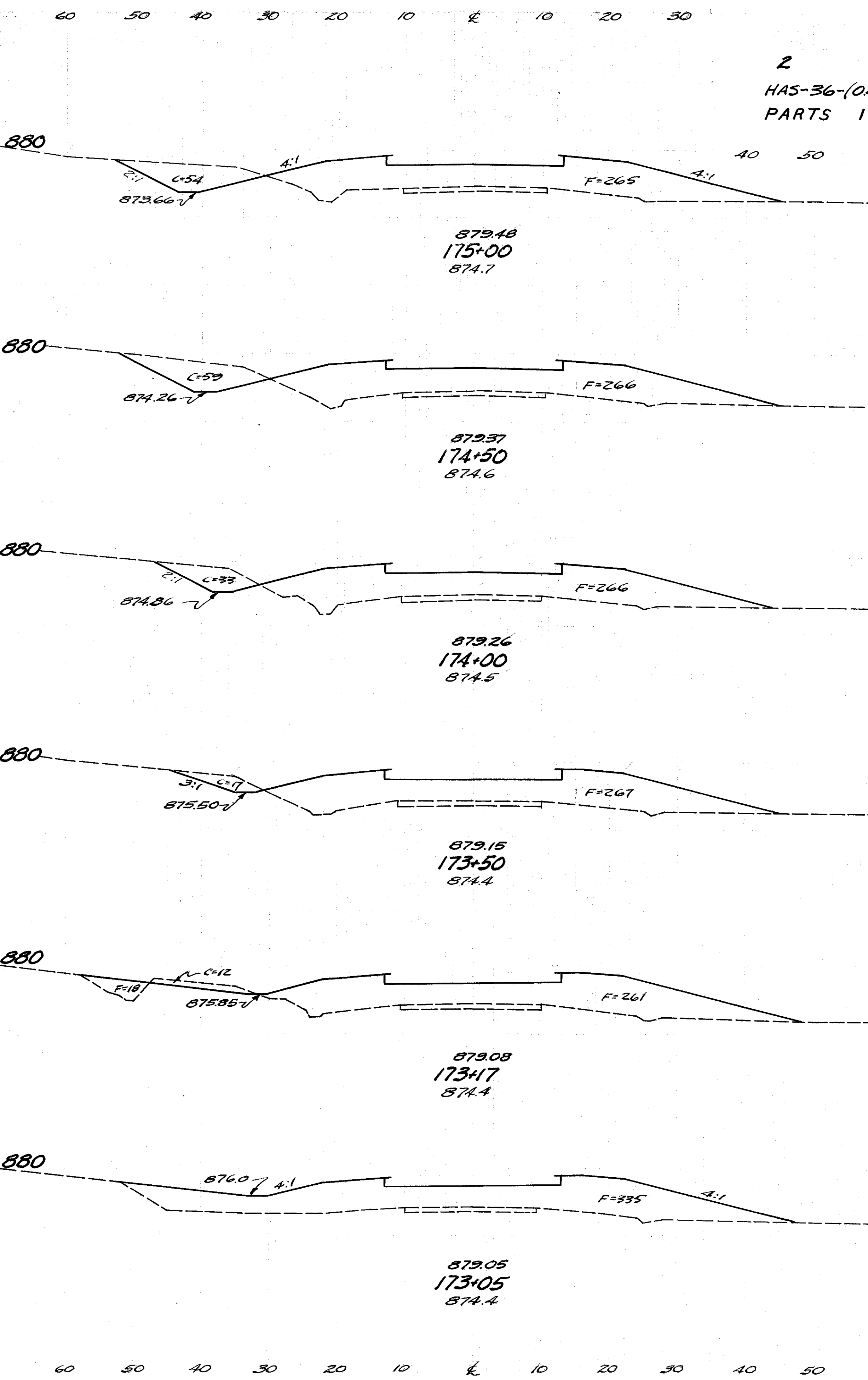


STA. 167+00 TO STA. 170+00

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

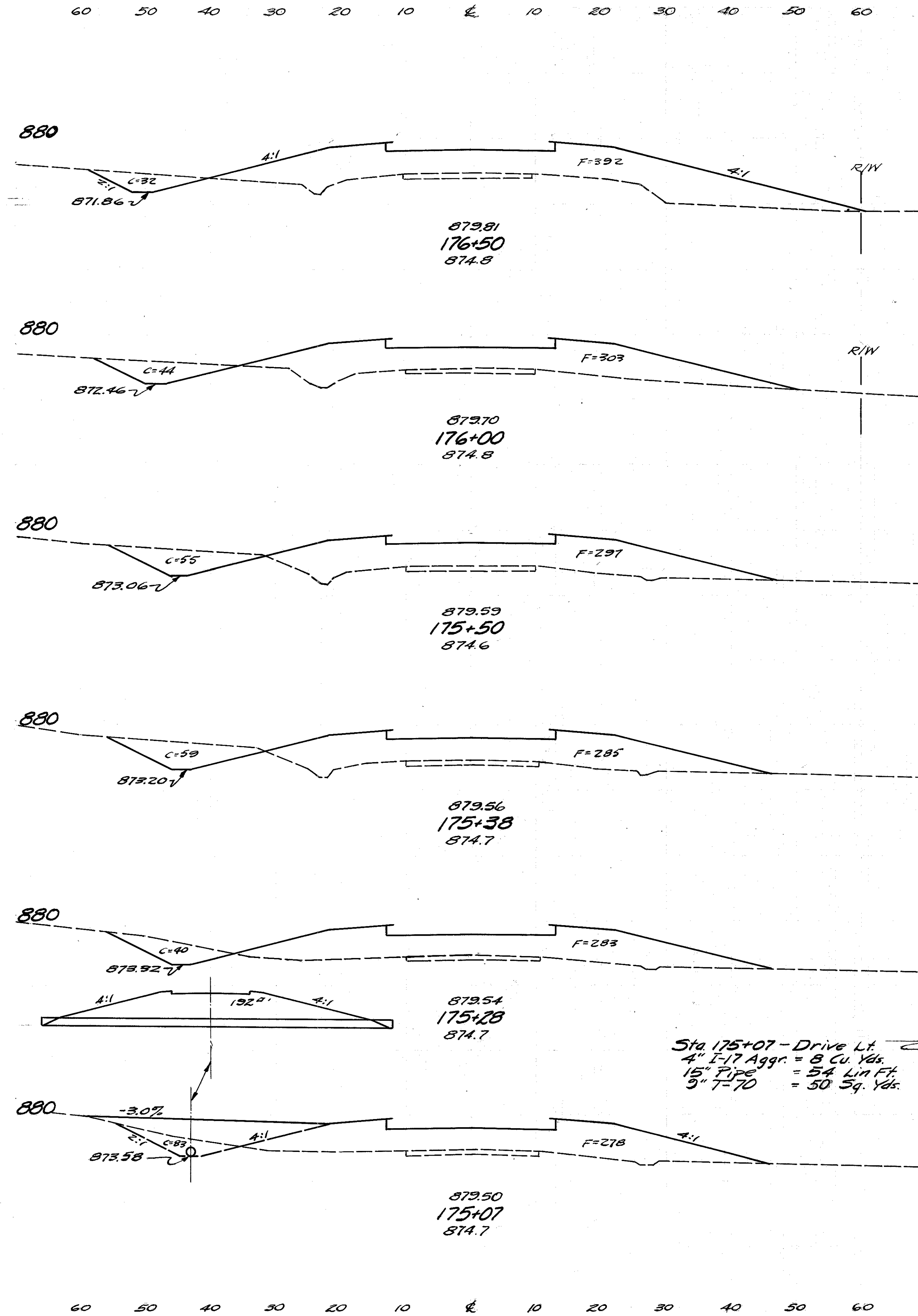


Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
52				1	56
92		12	275		
503				11	553
89		0	322		
578				0	690
119		0	423		
600				0	718
97		0	417		
556				6	738
103		7	380		
742				82	881
109		63	375		

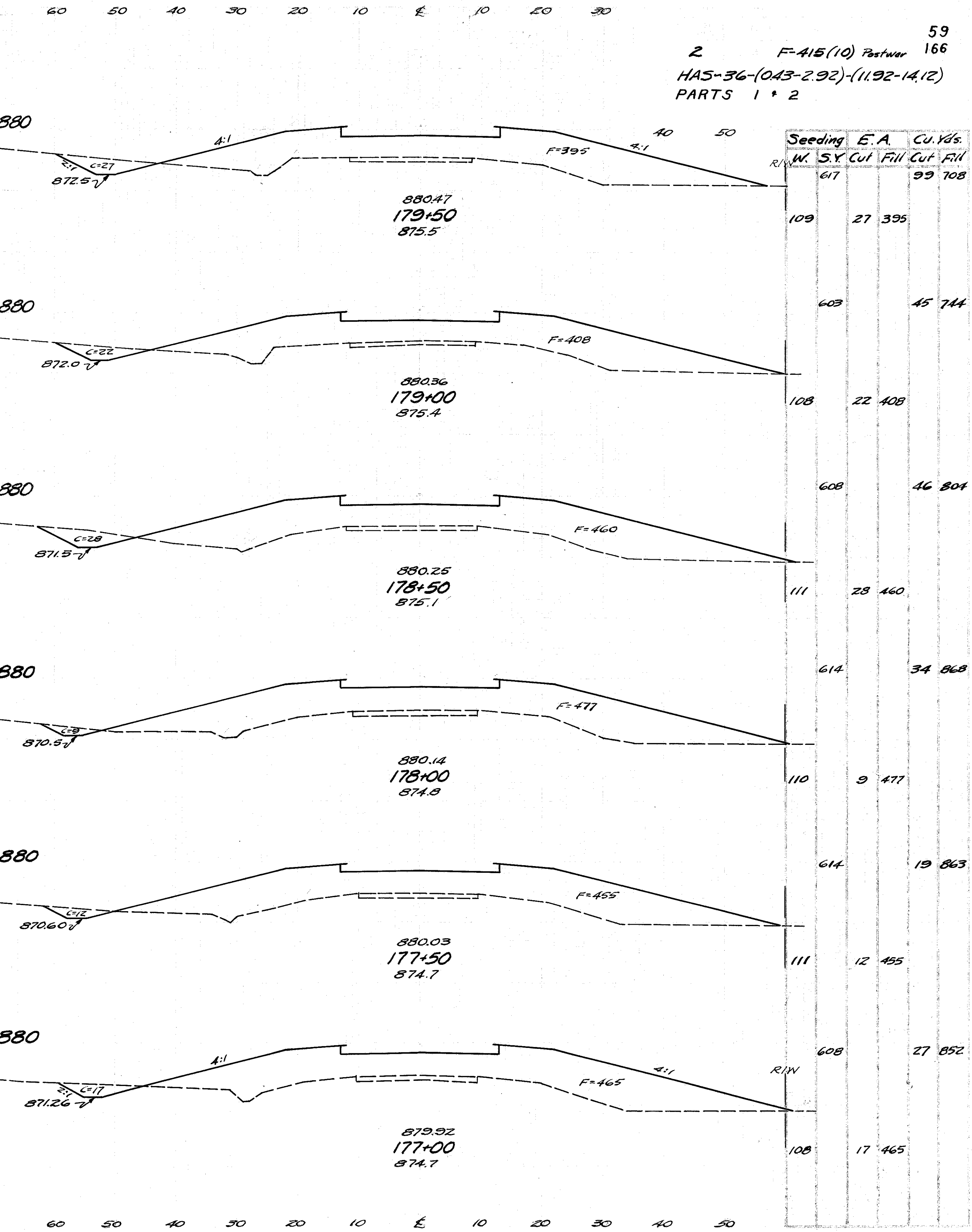


Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
76				11	70
97		54	265		
533					105 492
95		59	266		
511					85 483
89		33	266		
489					46 494
87		17	267		
350					18 334
104		12	279		
133					3 136
96		0	335		

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
600			45	794
108	32	392		
583			70	644
102	44	303		
564			92	556
101	56	297		
135			25	129
101	59	285		
112			18	105
101	40	283		
233			18	145
99	30	278		

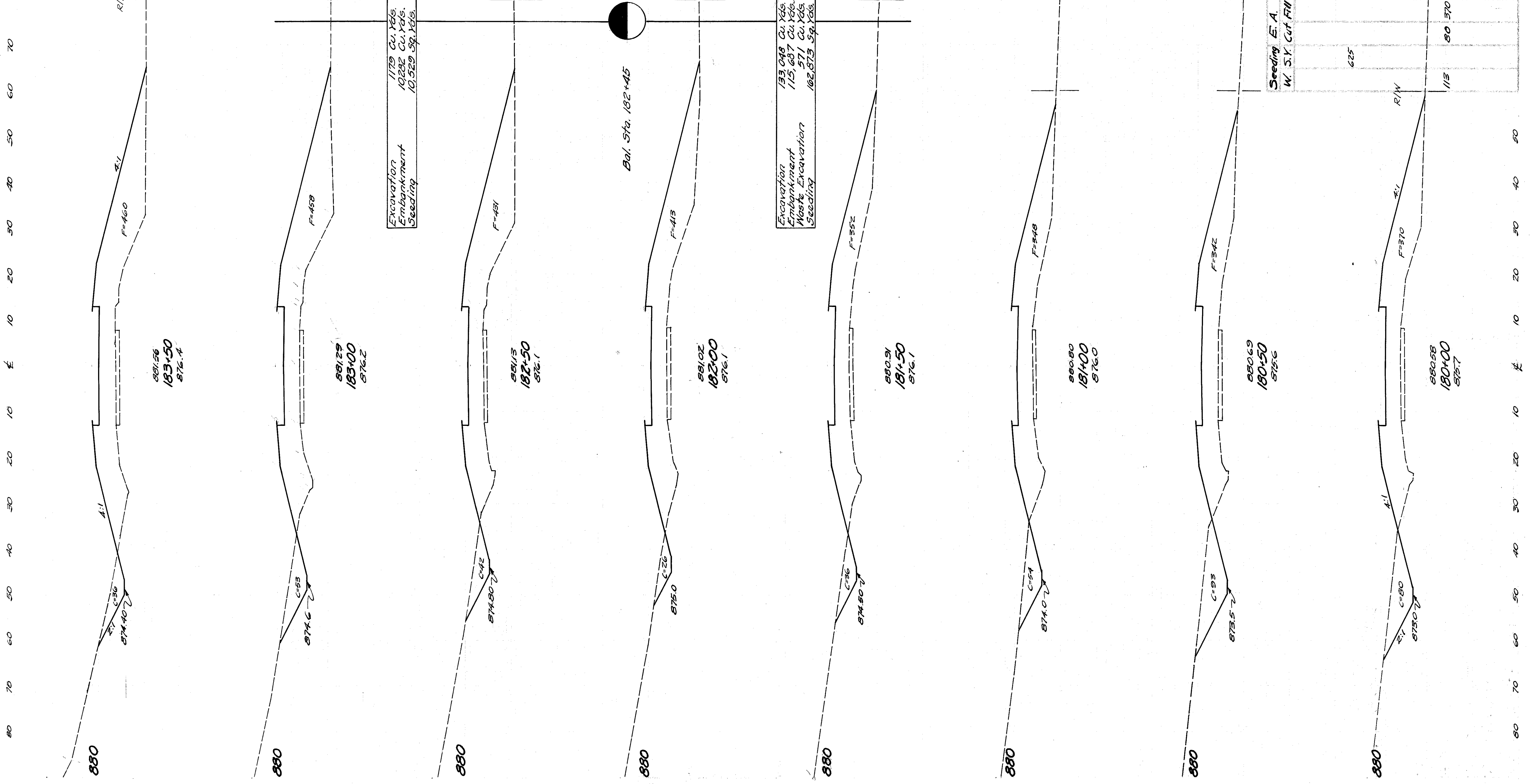


Seeding	E. A.		Cu. Yds.	
	W.	S.Y.	Cut	Fill
617			99	708
109	27	395		
603			45	744
108	22	408		
608			46	804
111	28	460		
614			34	868
110	9	477		
614			19	863
111	12	455		
608			27	852
108	17	465		

Sta 175+07 - Drive Lt.  
 4" I-17 Aggr. = 8 Cu. Yds.  
 15" Pipe = 54 Lin Ft.  
 3" T-70 = 30 Sq. Yds.

Seeding	E. A.	Cu. Yds.	Cut	Fill
W. S.Y.	Cut	Fill	Cut	Fill
	125	36	460	
	125	624		82
	125	53	458	
	120	681		88
	120	42	431	
	118	66	441	63
	118	26	413	281
	115	36	352	57
	107	617		701
	107	54	348	83
	102	608		648
	102	93	342	

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

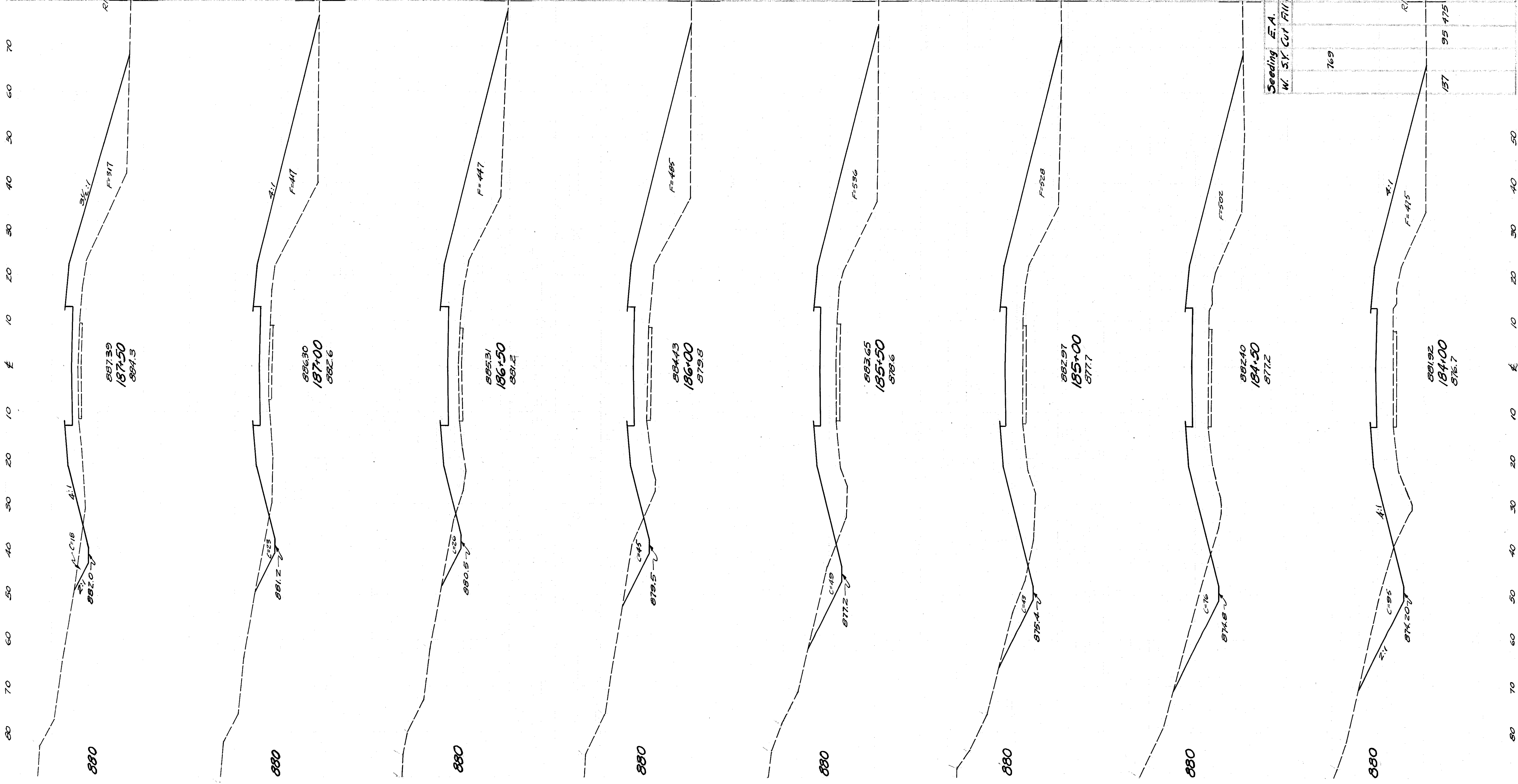


STA. 180+00 TO STA. 183+50

Seeding	E. A.	Cu Yds.
W. S.Y. Cut Fill		Cut Fill
581	18 317	27 522
653		38 680
650	23 417	45 800
661	26 447	66 863
708	45 485	87 945
747	49 526	85 985
767	43 528	110 984
769	76 502	

Seeding	E. A.	Cu Yds.
W. S.Y. Cut Fill		Cut Fill
158 905		
157	95 475	

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

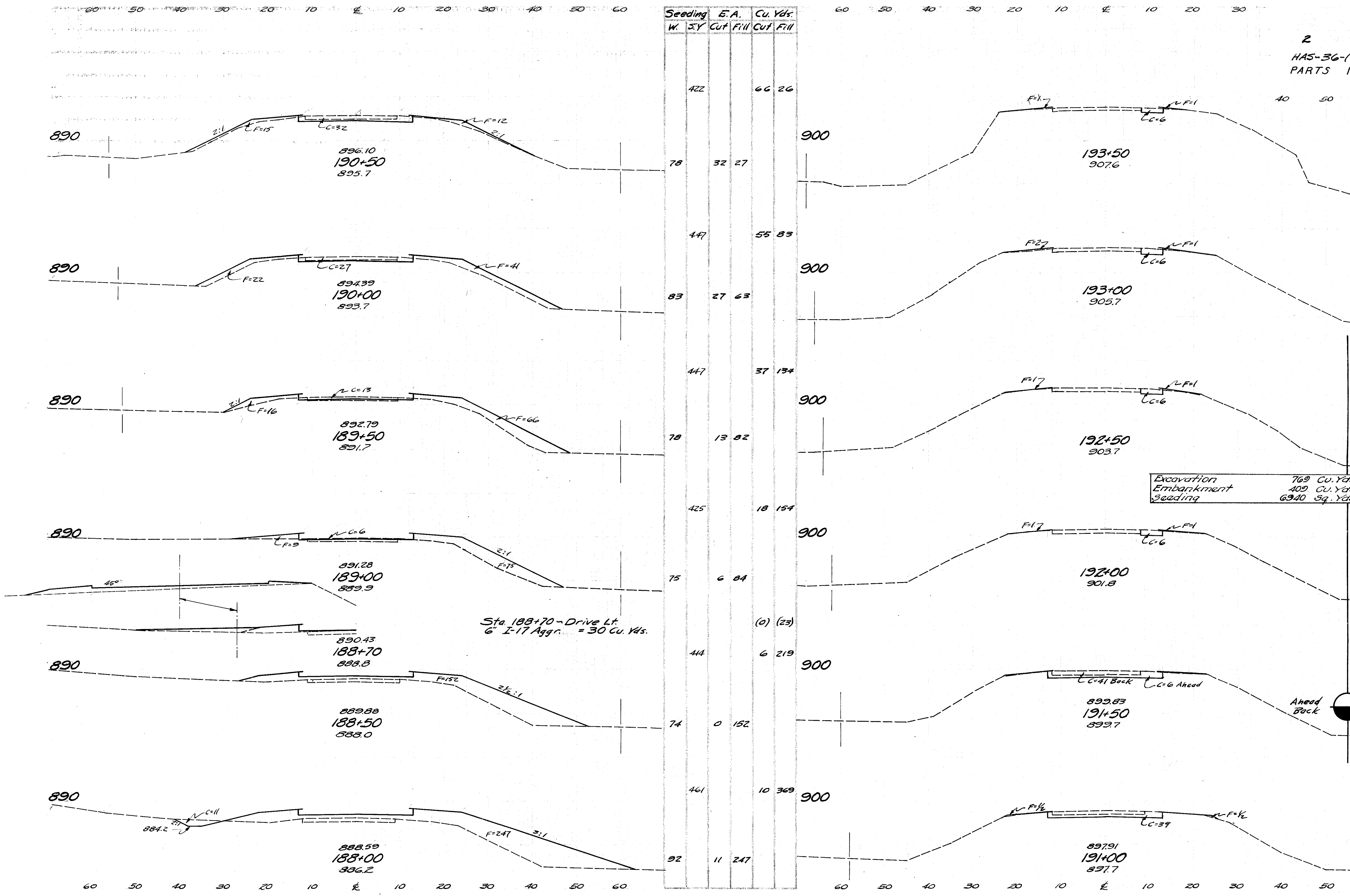


STA. 184+00 TO STA. 187+50

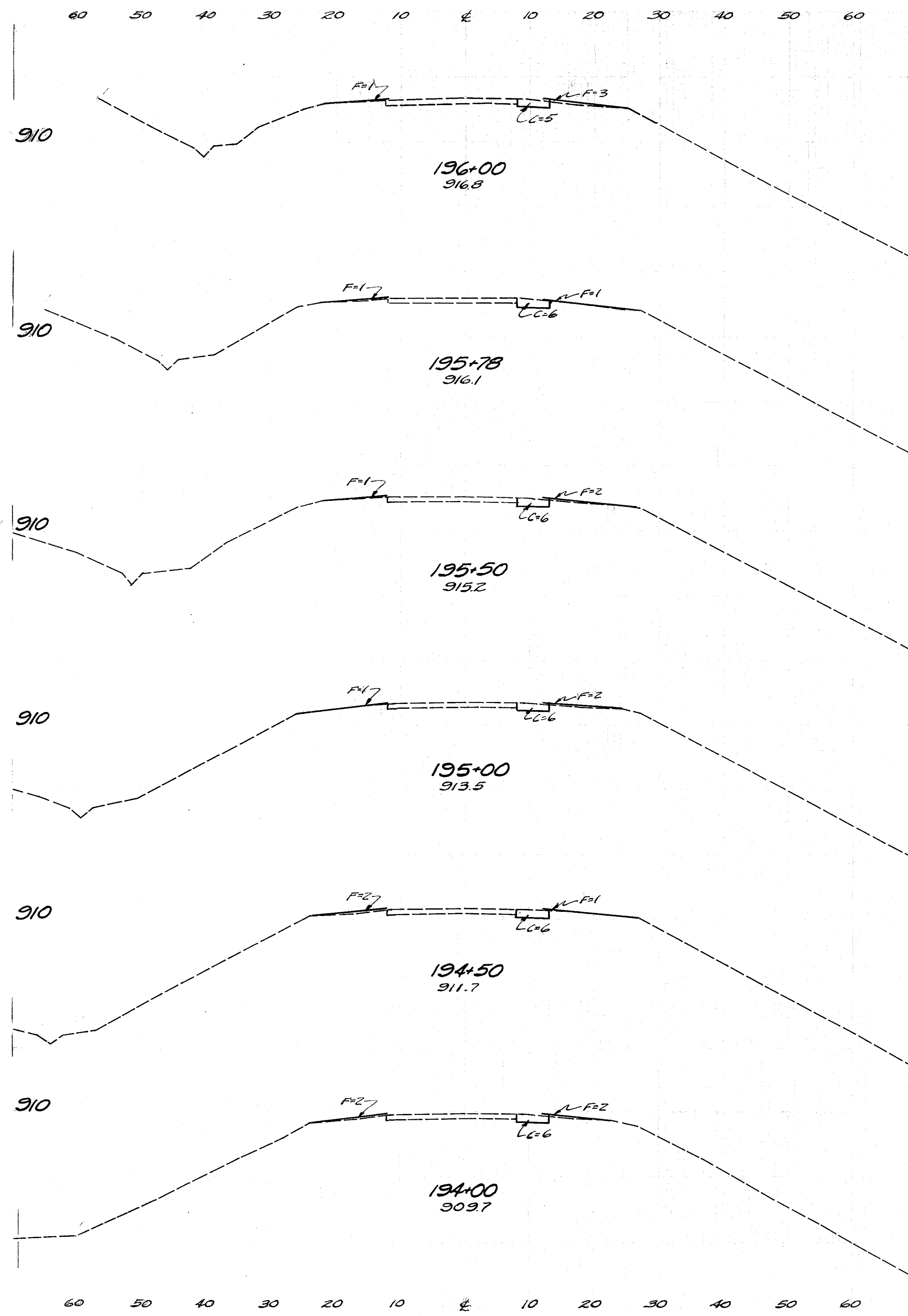
2 F-415(10) Postwar 62  
 HAS-36-(0.43-2.92)-(11.92-14.12) 166  
 PARTS 1 & 2

Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
422				66	26
78		32	27		
447				55	83
83		27	63		
447				37	134
78		13	82		
425				18	154
75		6	84		
444				6	219
74		0	152		
461				10	369
92		11	247		

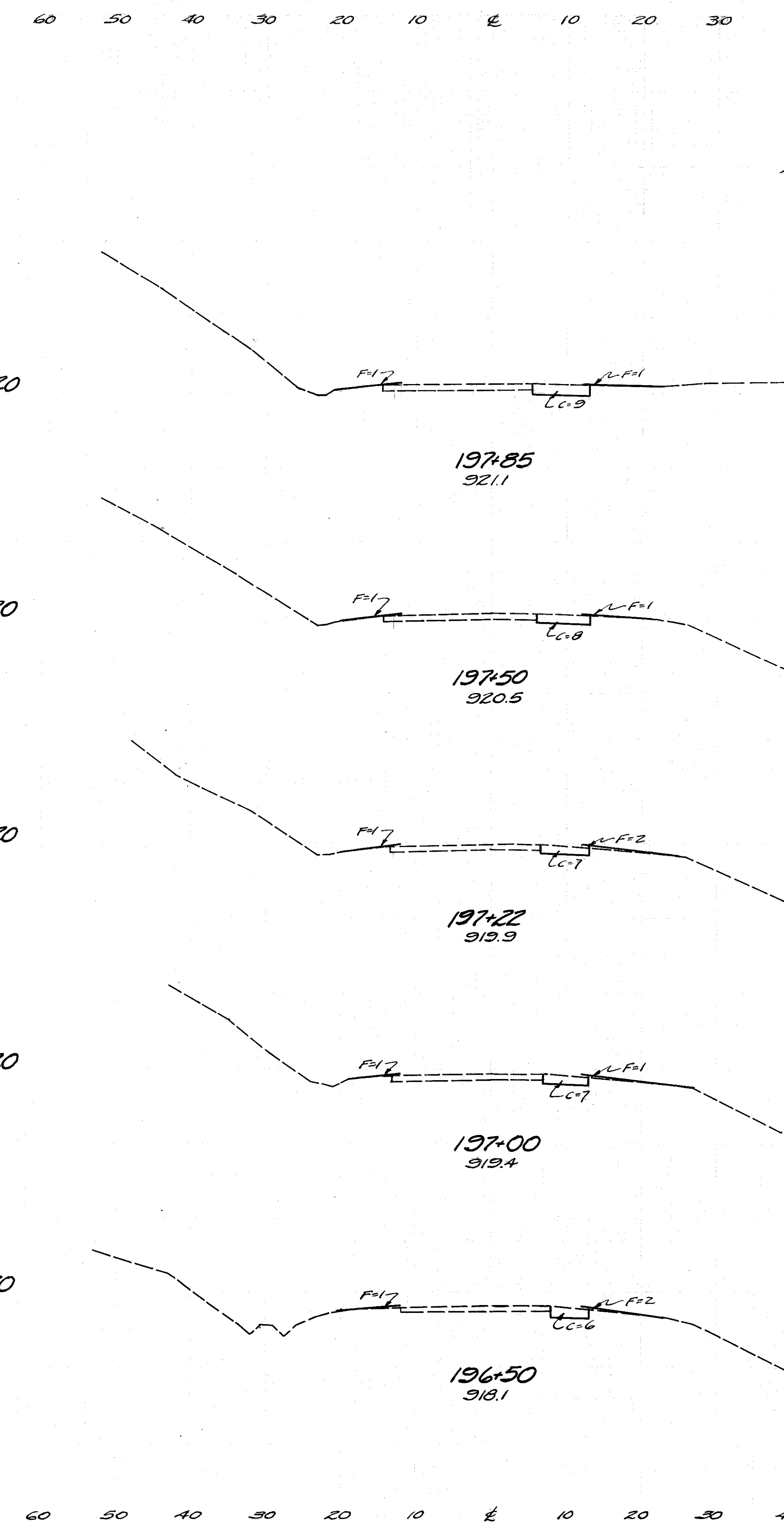
Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
161				11	6
28		6	2		
156				11	5
28		6	3		
144				11	5
24		6	2		
133				11	4
24		6	2		
150				11	2
30		6	0		
30		41	0		
208				74	1
45		39	1		



STA. 188+00 TO STA. 193+50



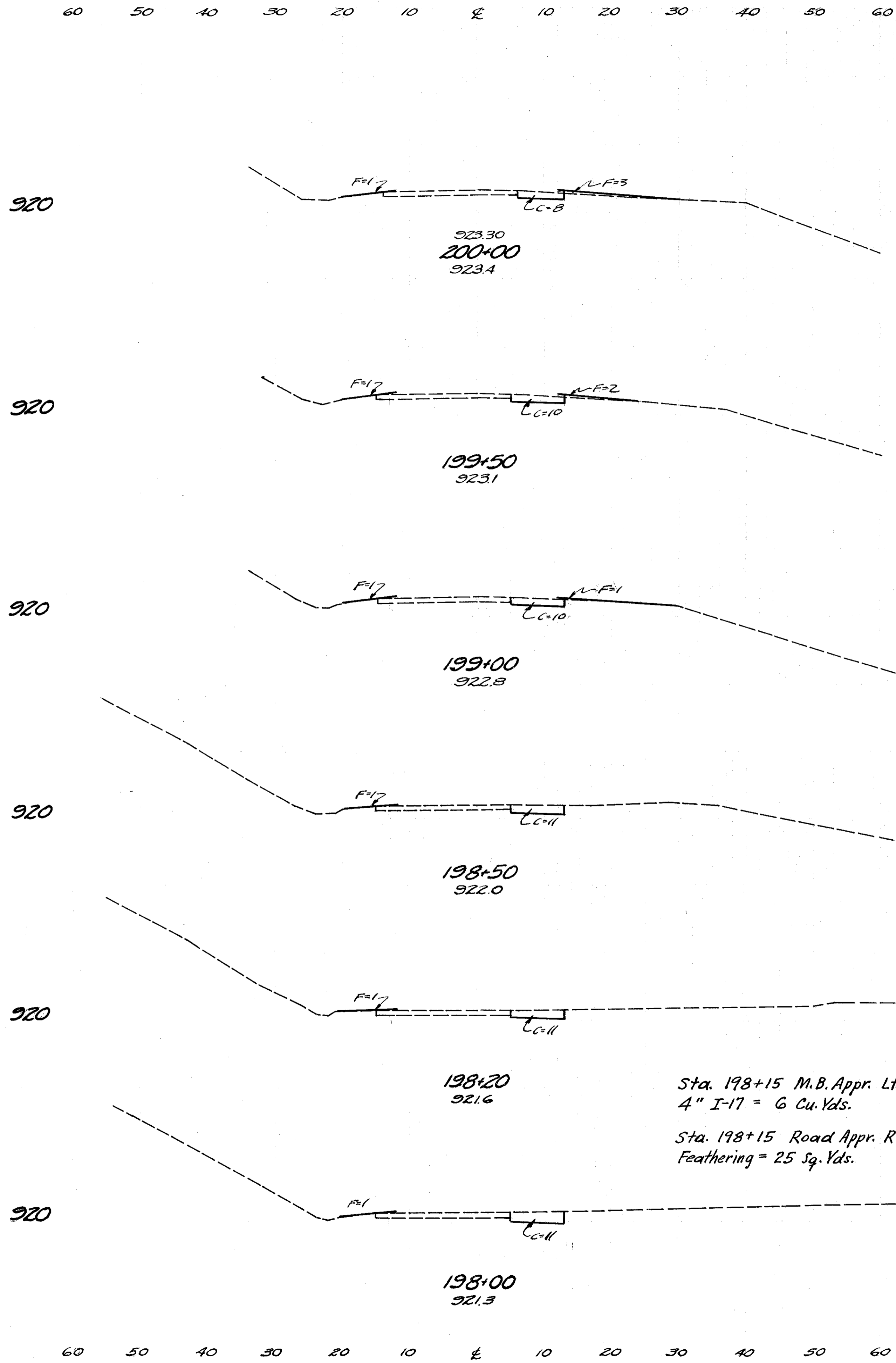
Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
	144			10	6
26		5	4		
68				4	2
30		6	2		
90				6	3
28		6	3		
161				11	6
30		6	3		
167				11	6
30		6	3		
167				11	6
30		6	4		



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

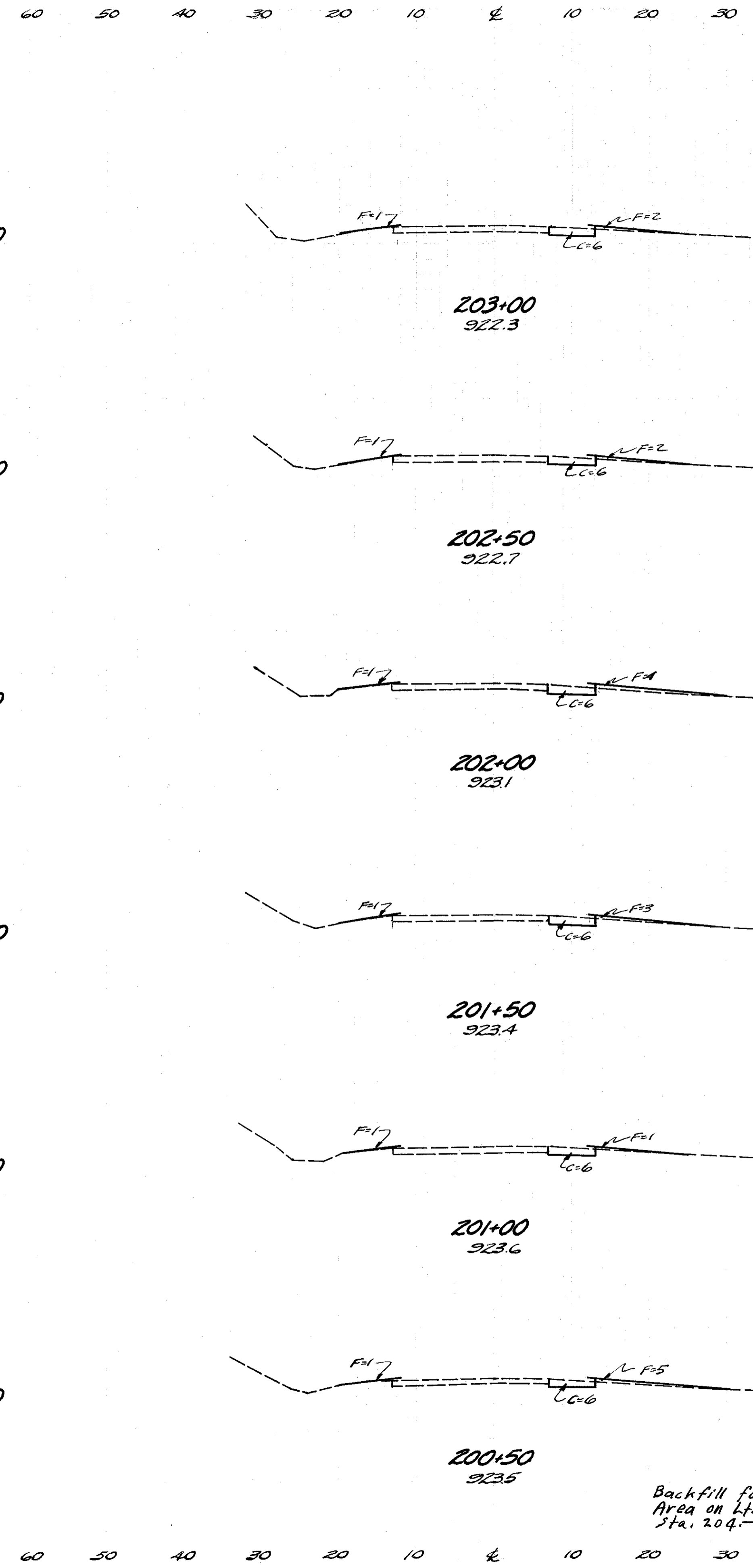
Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
	30			6	1
20		9	2		
82				11	3
22		8	2		
72				8	3
24		7	3		
61				6	2
26		7	2		
144				12	5
26		6	3		

2 F-415 (10) Postwar 64  
 HAS-36-(043-2.92)-(11.92-14.12) 166  
 PARTS 1 & 2



Sta. 198+15 M.B. Appr. Lt.  
 4" I-17 = 6 Cu. Yds.  
 Sta. 198+15 Road Appr. Rt.  
 Feathering = 25 Sq. Yds.

Seeding		E.A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
144				13	9
26		8	4		
144				17	6
26		10	3		
144				19	5
26		10	2		
117				13	3
16		11	1		
53				12	1
16		11	1		
36				8	1
16		11	1		



Backfill for Pavement Removal  
 Area on Lt. from Sta. 197 to  
 Sta. 204.

Seeding		E.A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
128				11	6
24		6	3		
133				11	6
24		6	3		
144				11	7
28		6	5		
150				11	8
26		6	4		
139				11	6
24		6	2		
139				11	7
26		6	6		



60 50 40 30 20 10 £ 10 20 30 40 50 60

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		

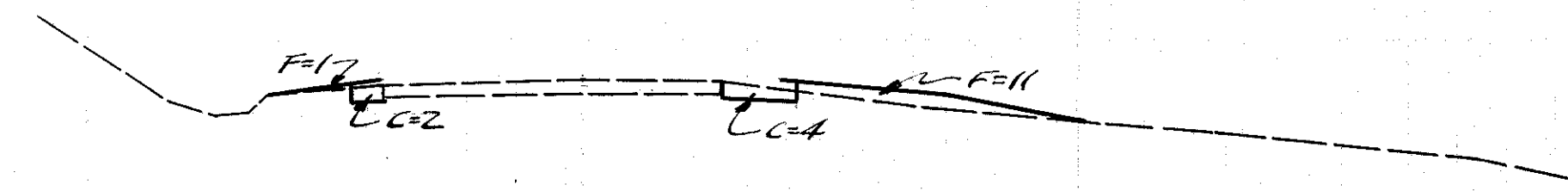
60 50 40 30 20 10 £ 10 20 30

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

40 50

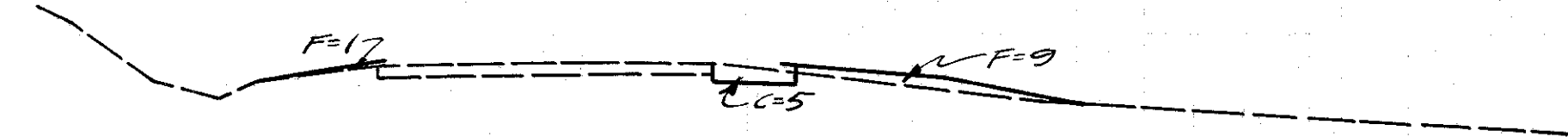
Seeding	E. A.		Cu. Yds.	
	W. S.Y.	Cut	Fill	Fill
12	6	9		
19			3	4
12	7	7		
67			13	8
12	7	2		
67			13	4
12	7	2		
67			13	4
12	7	2		
67			13	4
12	7	2		
72			12	4
14	6	2		

920



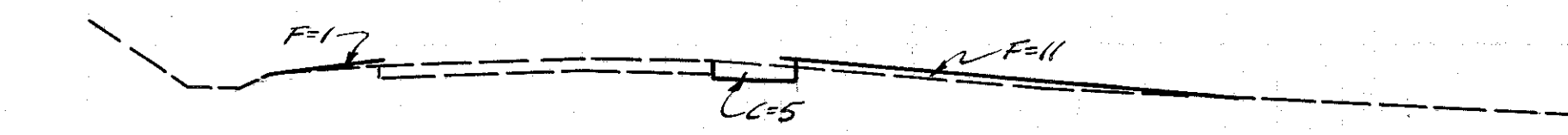
206+00  
917.7

920



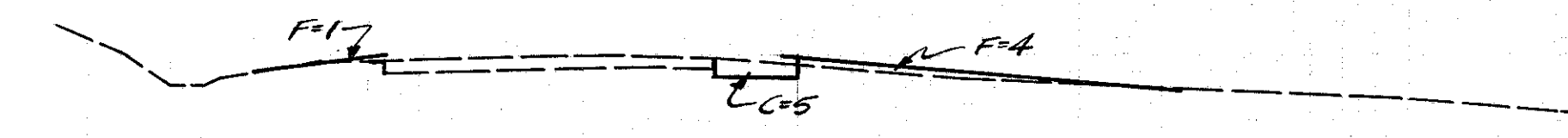
205+50  
918.4

920



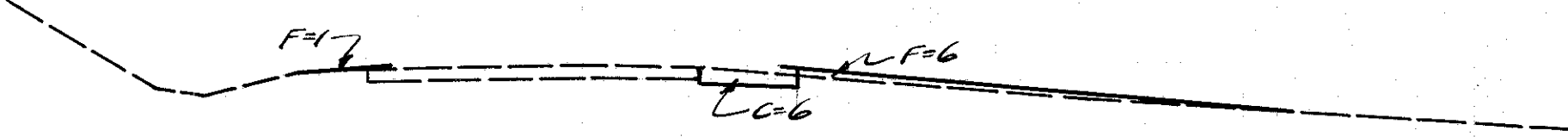
205+00  
919.2

920



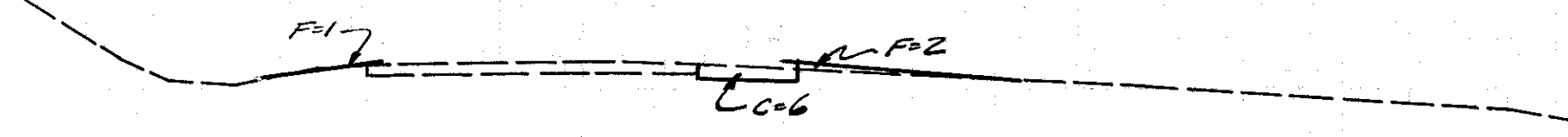
204+50  
920.0

920



204+00  
920.9

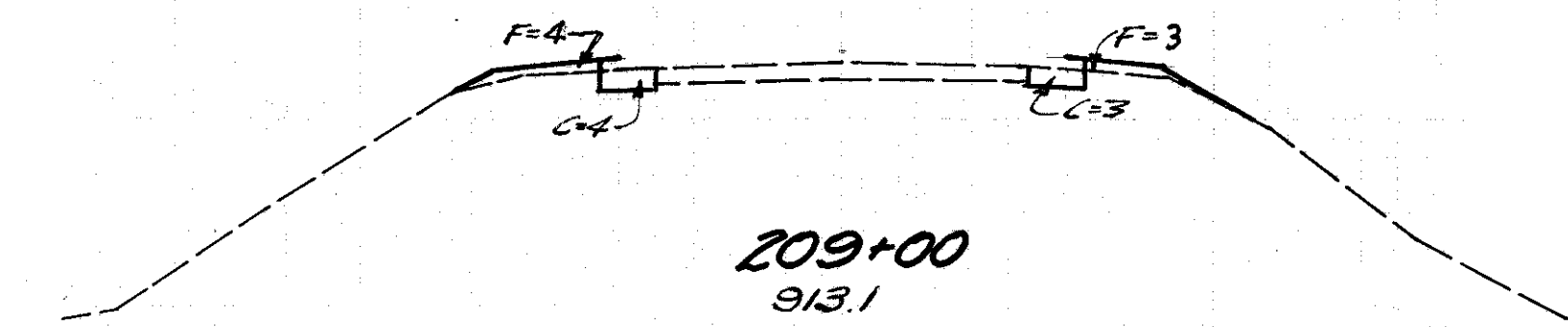
920



203+50  
921.7

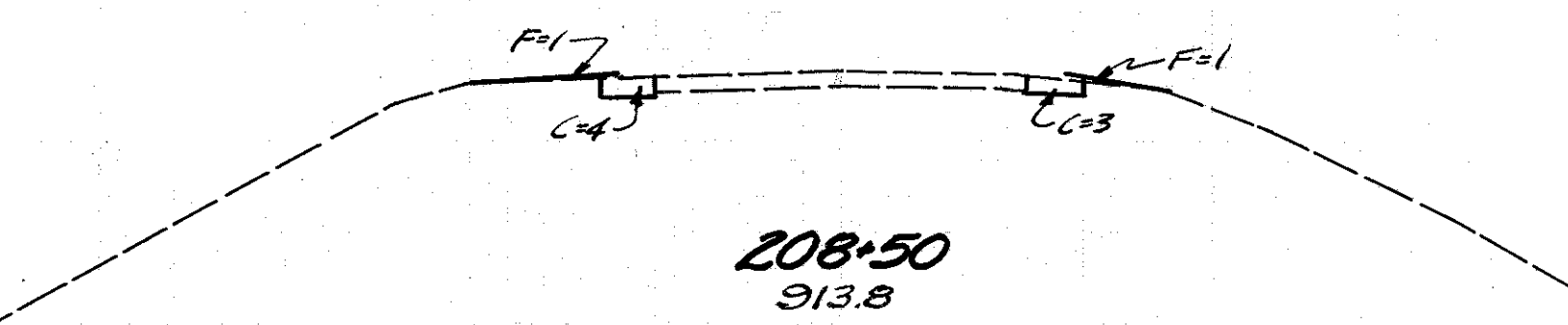
60 50 40 30 20 10 £ 10 20 30 40 50 60

920



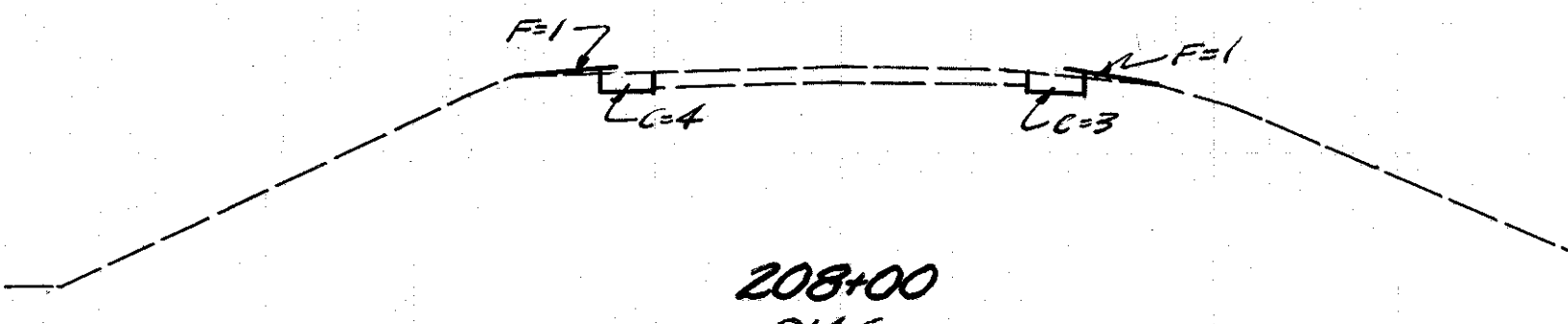
209+00  
913.1

920



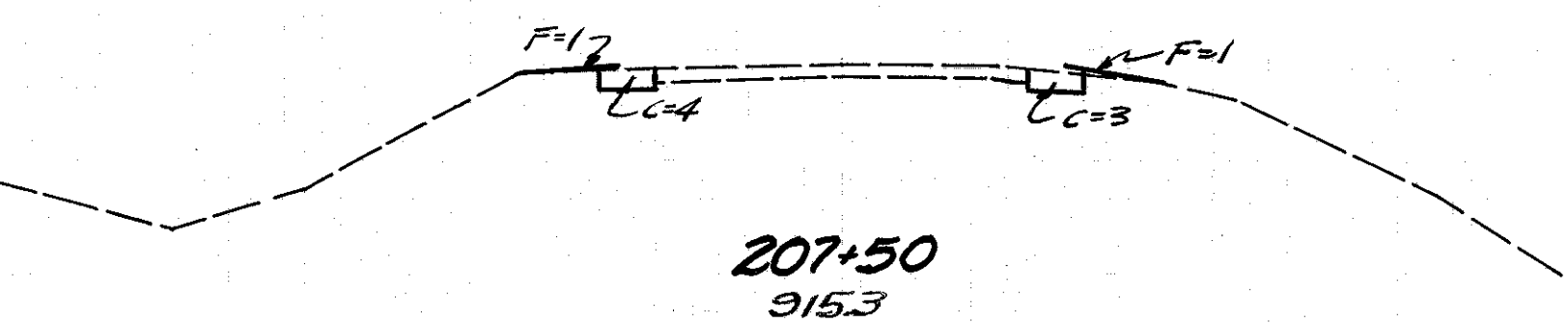
208+50  
913.8

920



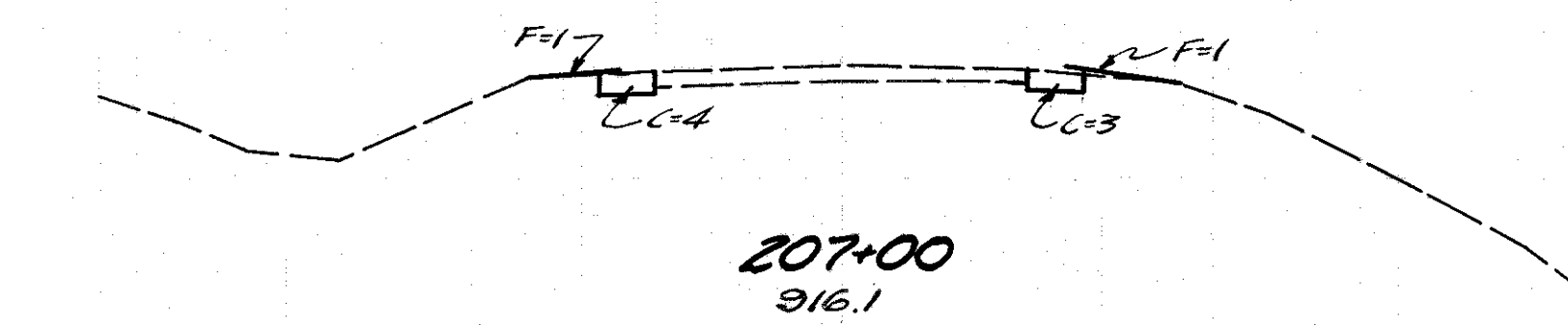
208+00  
914.6

920



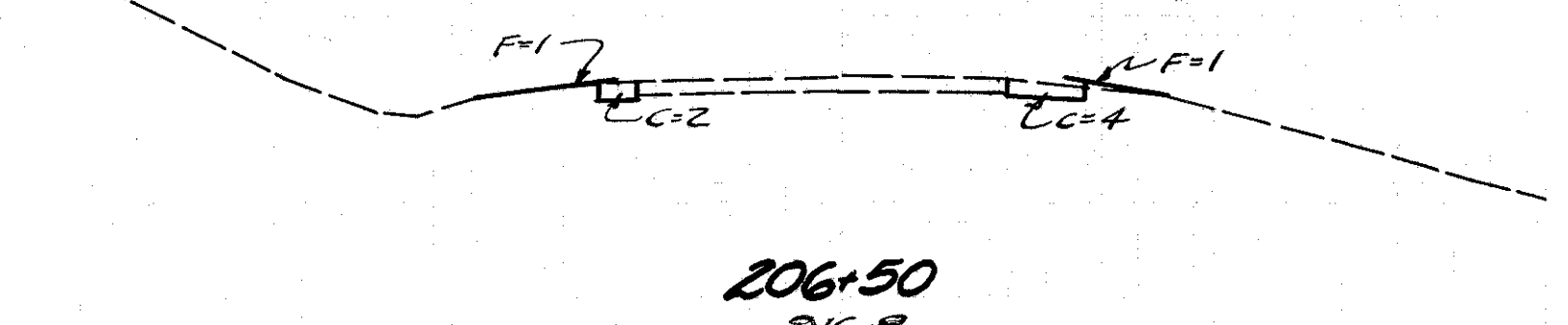
207+50  
915.3

920



207+00  
916.1

920



206+50  
916.8

60 50 40 30 20 10 £ 10 20 30 40 50

STA. 203+50 TO STA. 209+00

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

60 50 40 30 20 10 0 10 20 30

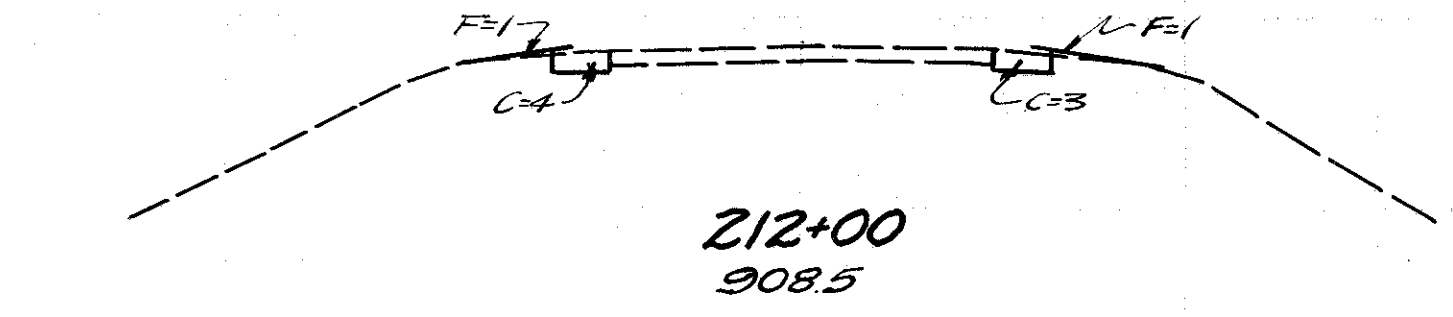
66  
 2 F-415(10) Postwar 166  
 HAS-36-(0.43-2.92)-(11.92-14.12)  
 PARTS 1 & 2

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		

40 50

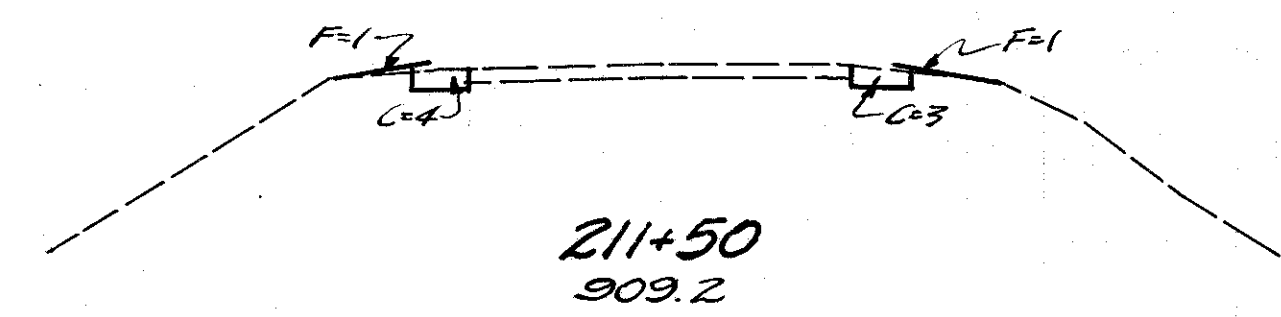
Seeding		E. A.		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
	133			24	7
12		6	2		
67				12	4
12		7	2		
67				13	4
12		7	2		
67				13	4
12		7	2		
67				13	4
12		7	2		
67				12	4
12		6	2		
67				11	4
12		6	2		

910



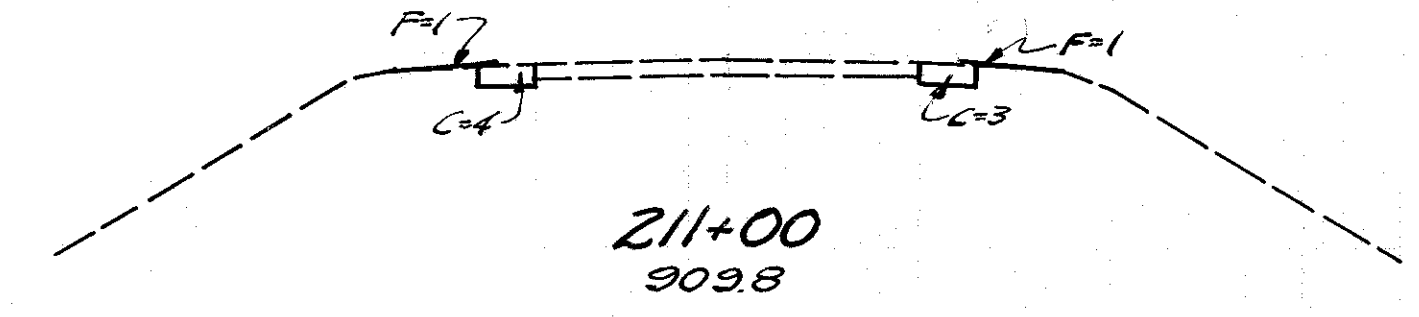
212+00  
908.5

910



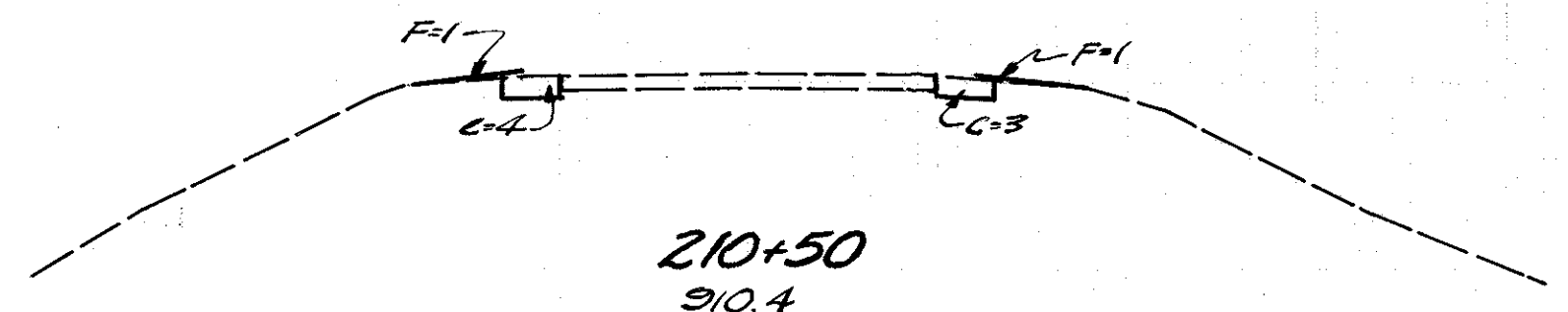
211+50  
909.2

910



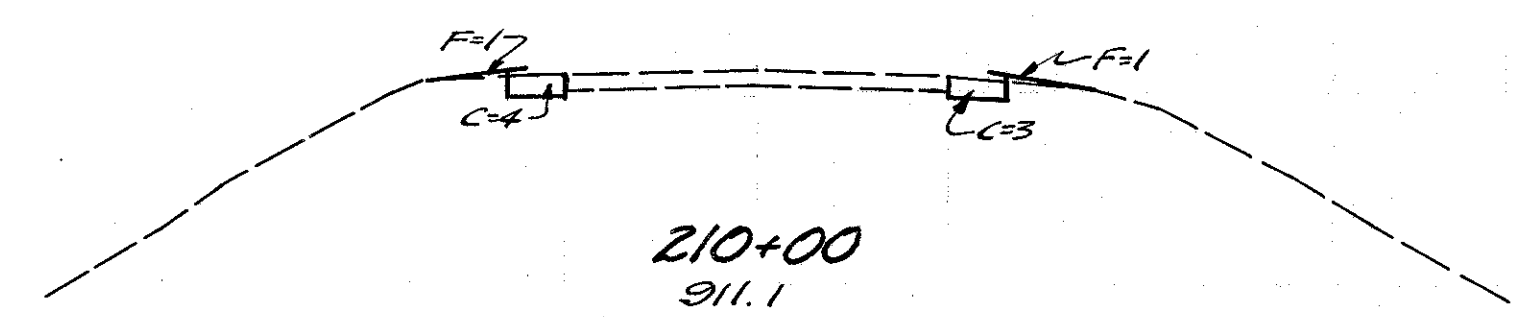
211+00  
909.8

910



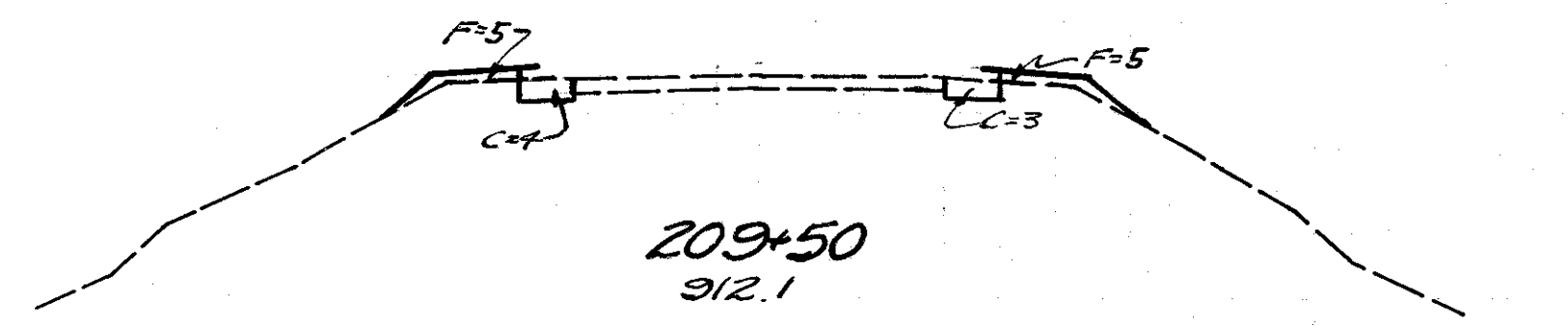
210+50  
910.4

910



210+00  
911.1

910



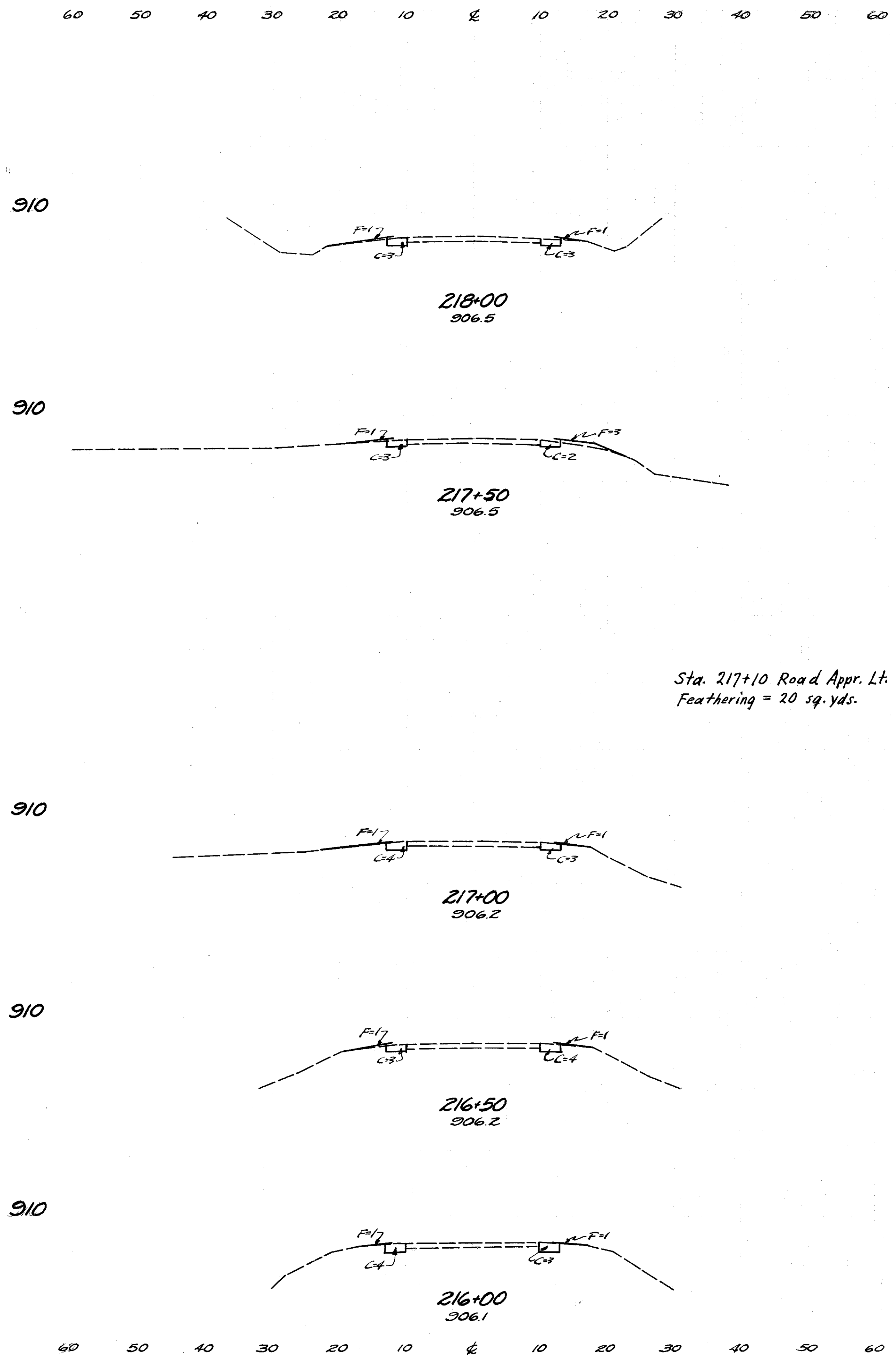
209+50  
912.1

Sta. 209+14.5 to Sta. 209+34  
Structure - No Earthwork

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

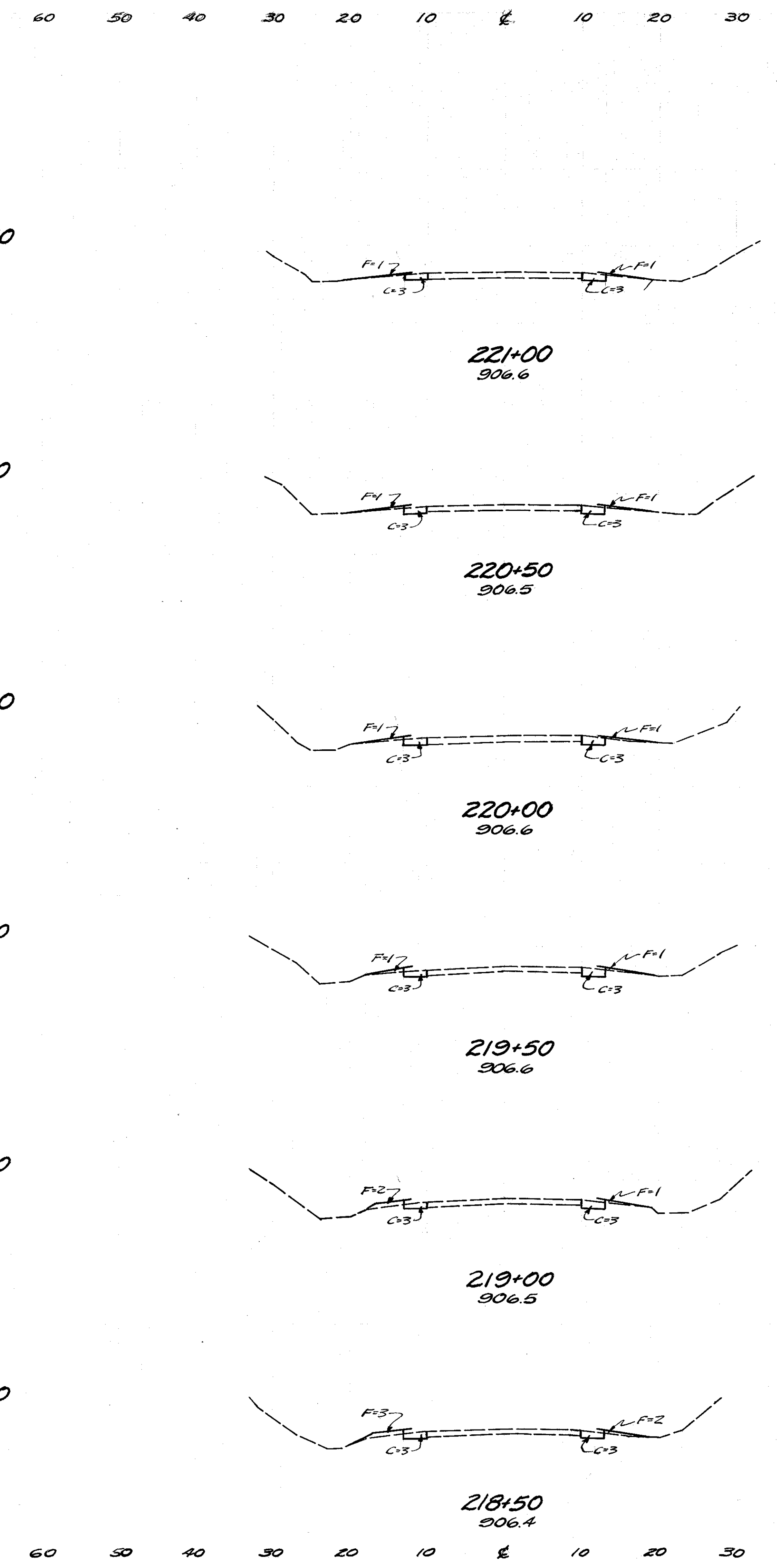
60 50 40 30 20 10 0 10 20 30 40 50

2 F-415(10) Postwar 67  
 HAS-36-(0.43-2.92)-(11.92-14.12) 165  
 PARTS 1 + 2



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

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		



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		

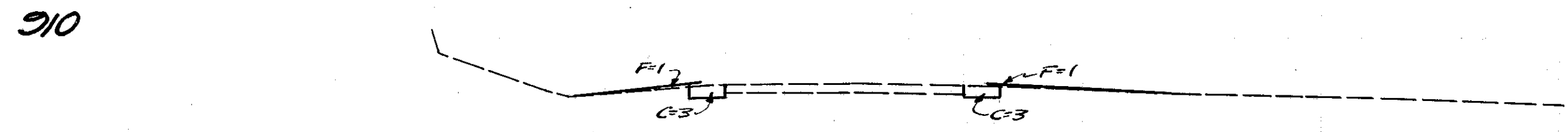
STA. 216+00 TO STA. 221+00

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

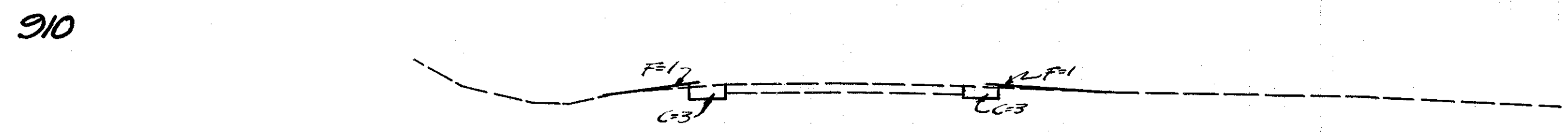
STA. 223+65.6 to STA. 632+00  
No WORK REQUIRED

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

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

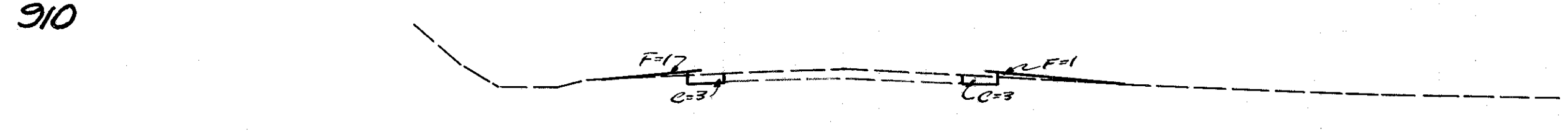


223+65.6  
906.3 END PART I

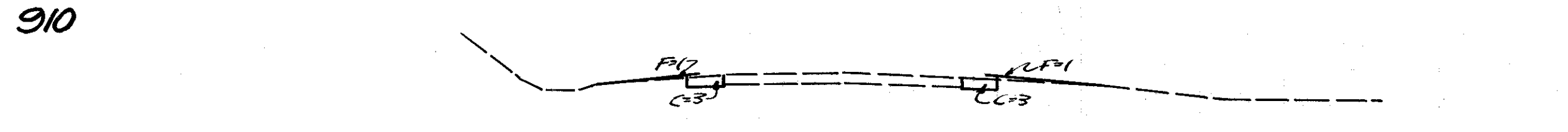


223+50  
906.3

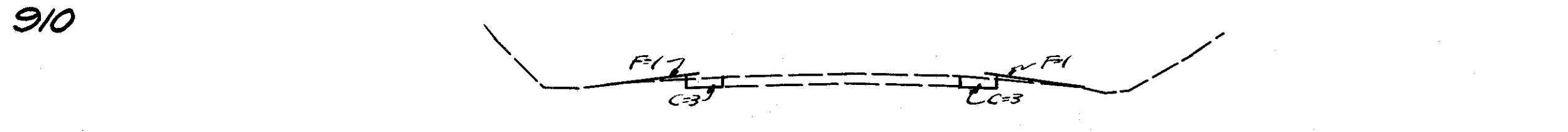
Sta. 223+15 Park Appr. Rt.  
Feathering = 35 sq. yds.



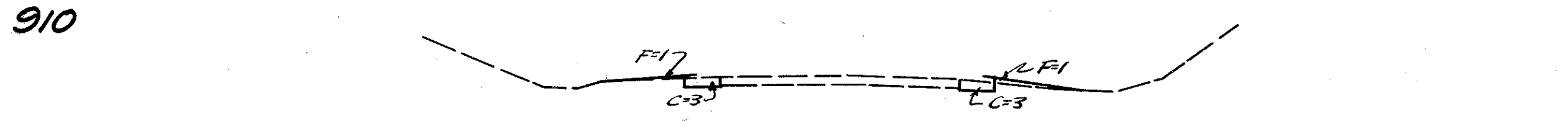
223+00  
906.8



222+50  
906.7



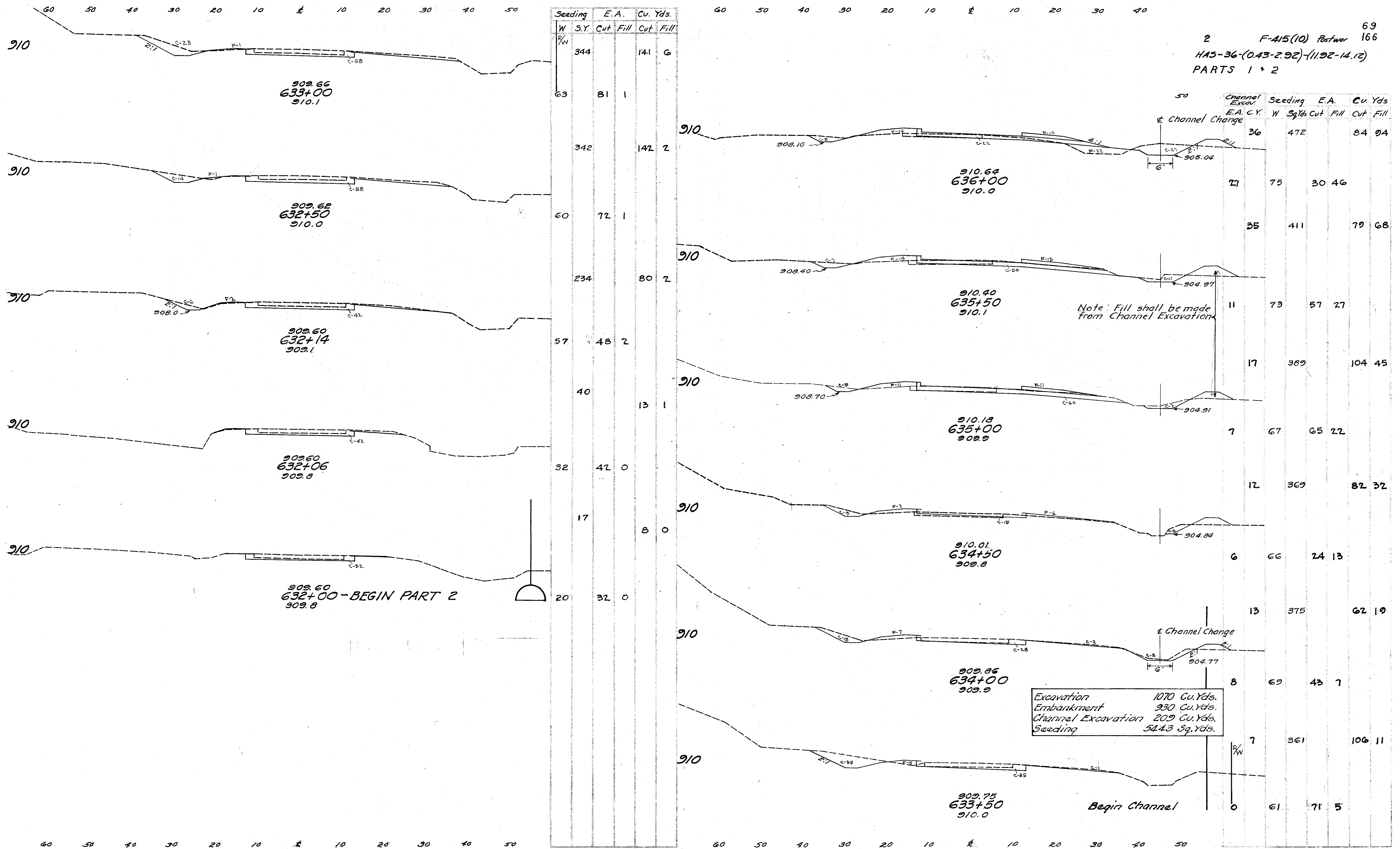
222+00  
906.8



221+50  
906.8

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

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



STA. 632+00 TO STA. 636+00

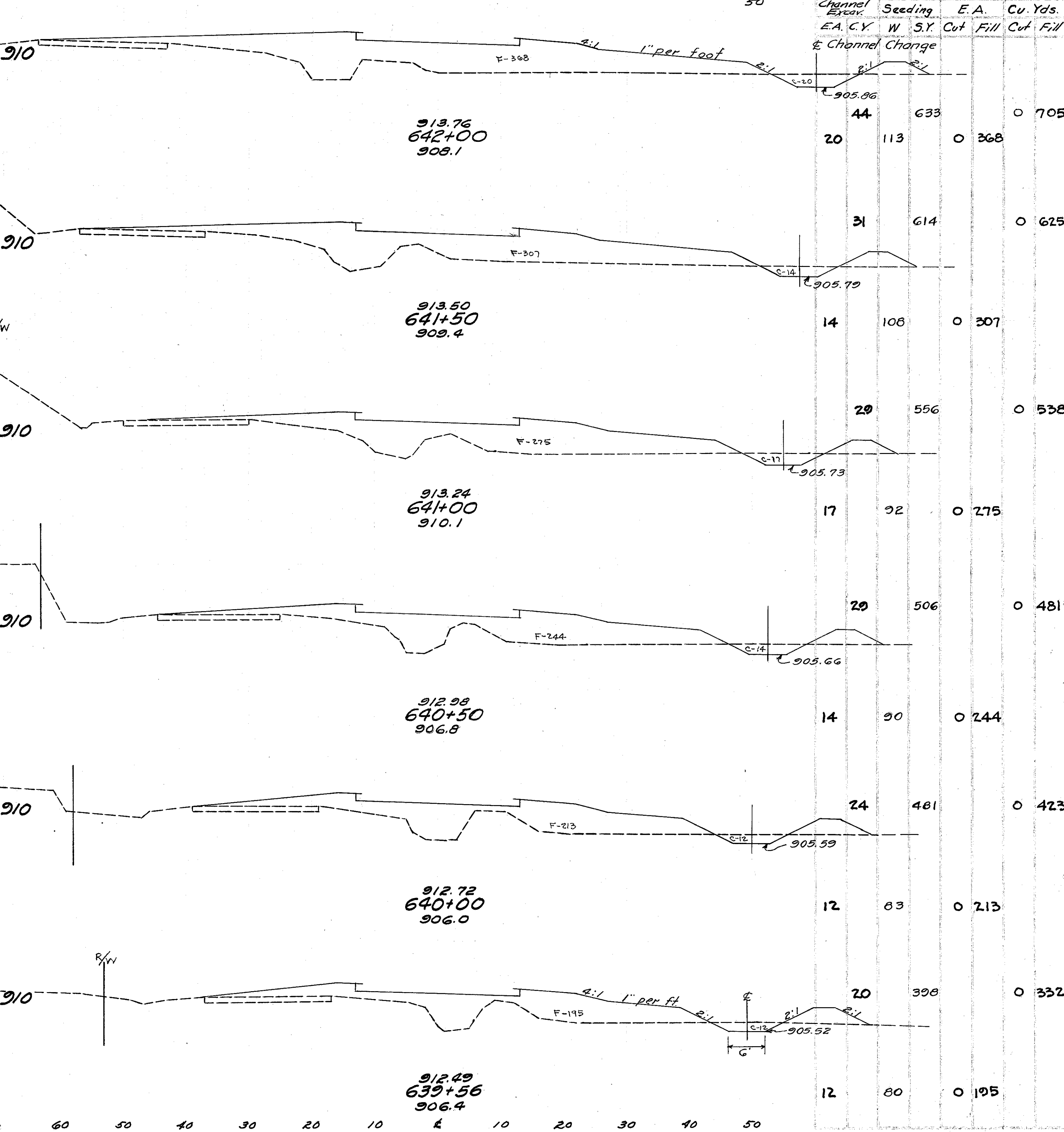
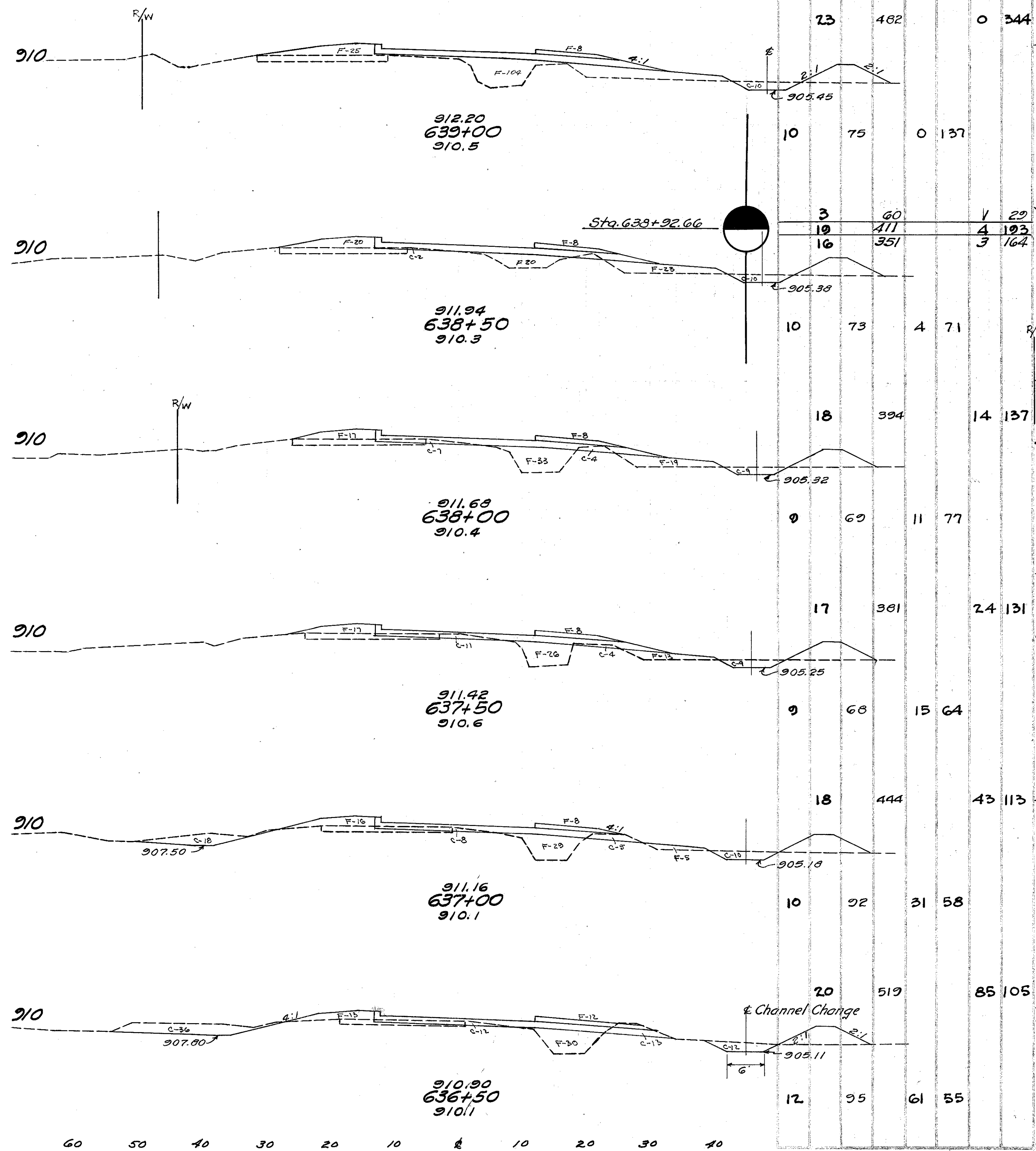
60 50 40 30 20 10 0 10 20 30 40

60 50 40 30 20 10 0 10 20 30 40

Channel Excav. E.A. C.Y.	Seeding		E.A.		Cu. Yds.	
	W	S.Y.	Cut	Fill	Cut	Fill
					(0)	(0)
13	462		0	344		
10	75		0	137		
3	60		1	29		
19	411		4	193		
16	351		3	162		
10	73		4	71		
18	394		14	137		
9	60		11	77		
17	381		24	131		
9	68		15	64		
18	444		43	113		
10	92		31	58		
20	519		85	105		
12	95		61	55		

Sta. 639+30 - Drive Lt.  
 4" I-17 = 2 Cu. Yds.  
 9" T-70 = 50 Sq. Yds.

70  
 2 F-415(10) Pasture 166  
 HAS-36-(043-2.92)-(11.92-14.12)  
 PARTS 1 & 2



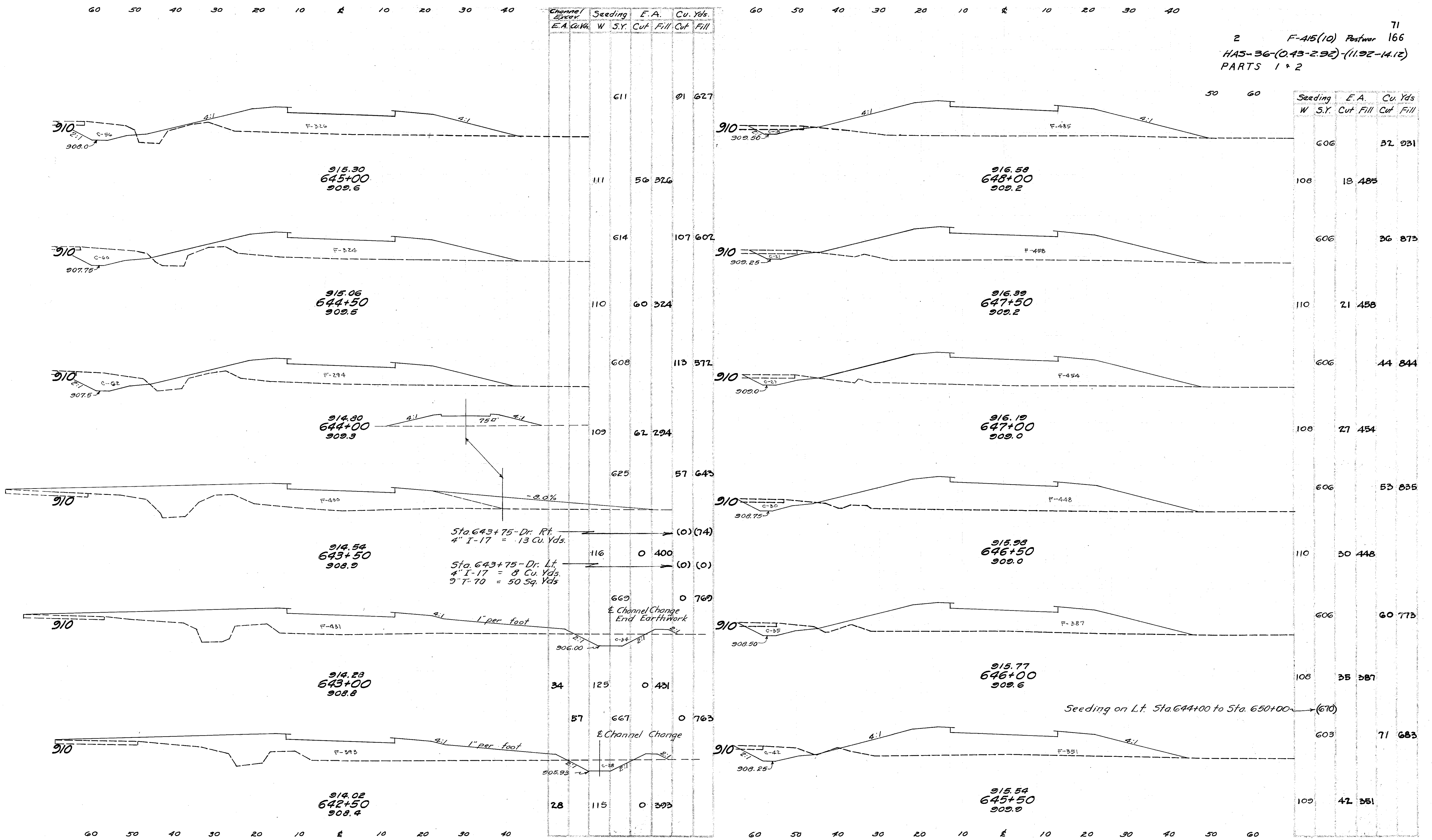
Channel Excav. E.A. C.Y.	Seeding		E.A.		Cu. Yds.	
	W	S.Y.	Cut	Fill	Cut	Fill
44	633		0	705		
20	113		0	368		
31	614		0	625		
14	108		0	307		
29	556		0	538		
17	92		0	275		
29	506		0	481		
14	90		0	244		
24	481		0	423		
12	83		0	213		
20	398		0	332		
12	80		0	195		

60 50 40 30 20 10 0 10 20 30 40

60 50 40 30 20 10 0 10 20 30 40

STA. 636+50 TO STA. 642+00

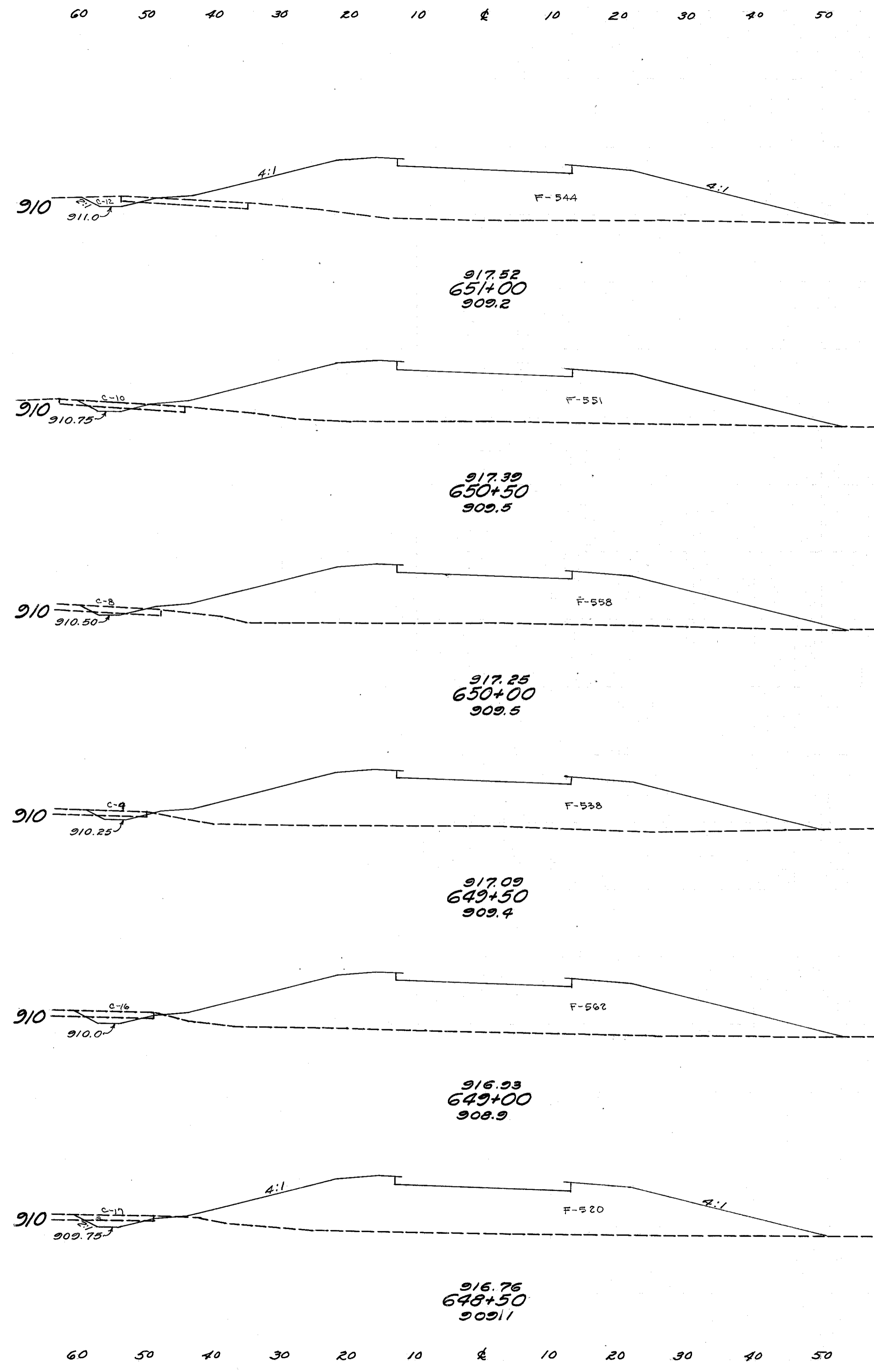
71  
 2 F-415(10) Postwar 166  
 HAS-36-(0.43-2.92)-(11.92-14.12)  
 PARTS 1 & 2



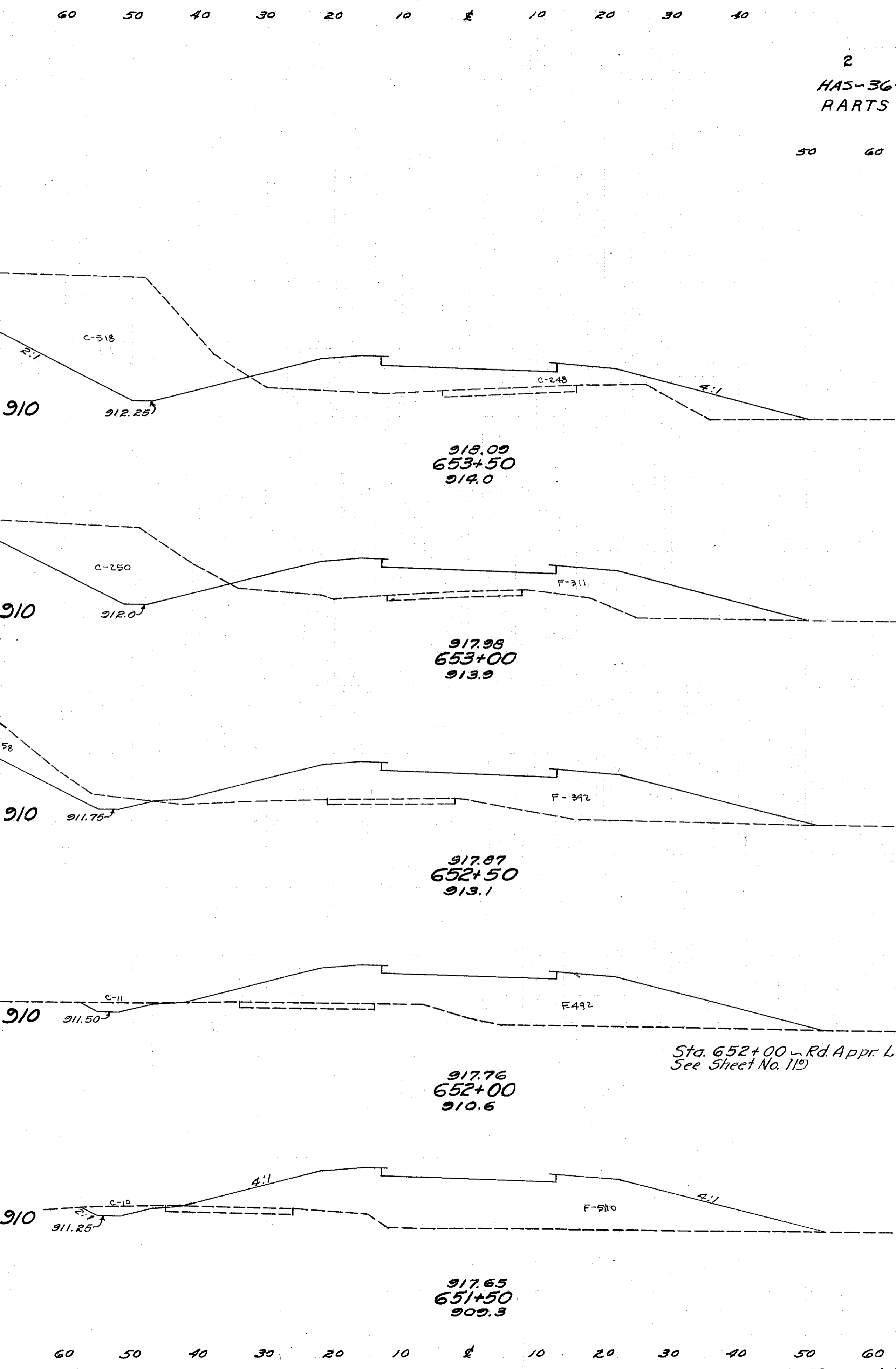
Channel Elev.	Seeding		E. A.		Cu. Yds.	
	W	S.Y.	Cut	Fill	Cut	Fill
611			01		627	
111	50		326			
614			107		602	
110	60		324			
608			113		572	
109	62		294			
625			57		643	
116	0		400		(0)	(74)
669			0		769	
34	125		0		431	
57			667		0	763
28	115		0		393	

Seeding	E. A.		Cu. Yds.	
	W	S.Y.	Cut	Fill
606			32	931
108	18		485	
606			36	873
110	21		458	
606			44	844
108	27		454	
606			53	835
110	30		448	
606			60	773
108	35		387	
603			71	683
109	42		351	

STA. 642+50 TO STA. 648+00



Seeding	E. A.		Cu. Yds.	
	W	S.Y.	Cut	Fill
611			20	976
110	12	544		
614			20	1014
111	10	551		
619			17	1027
112	8	558		
608			16	1015
107	0	538		
608			23	1019
112	16	562		
617			21	1002
110	17	520		

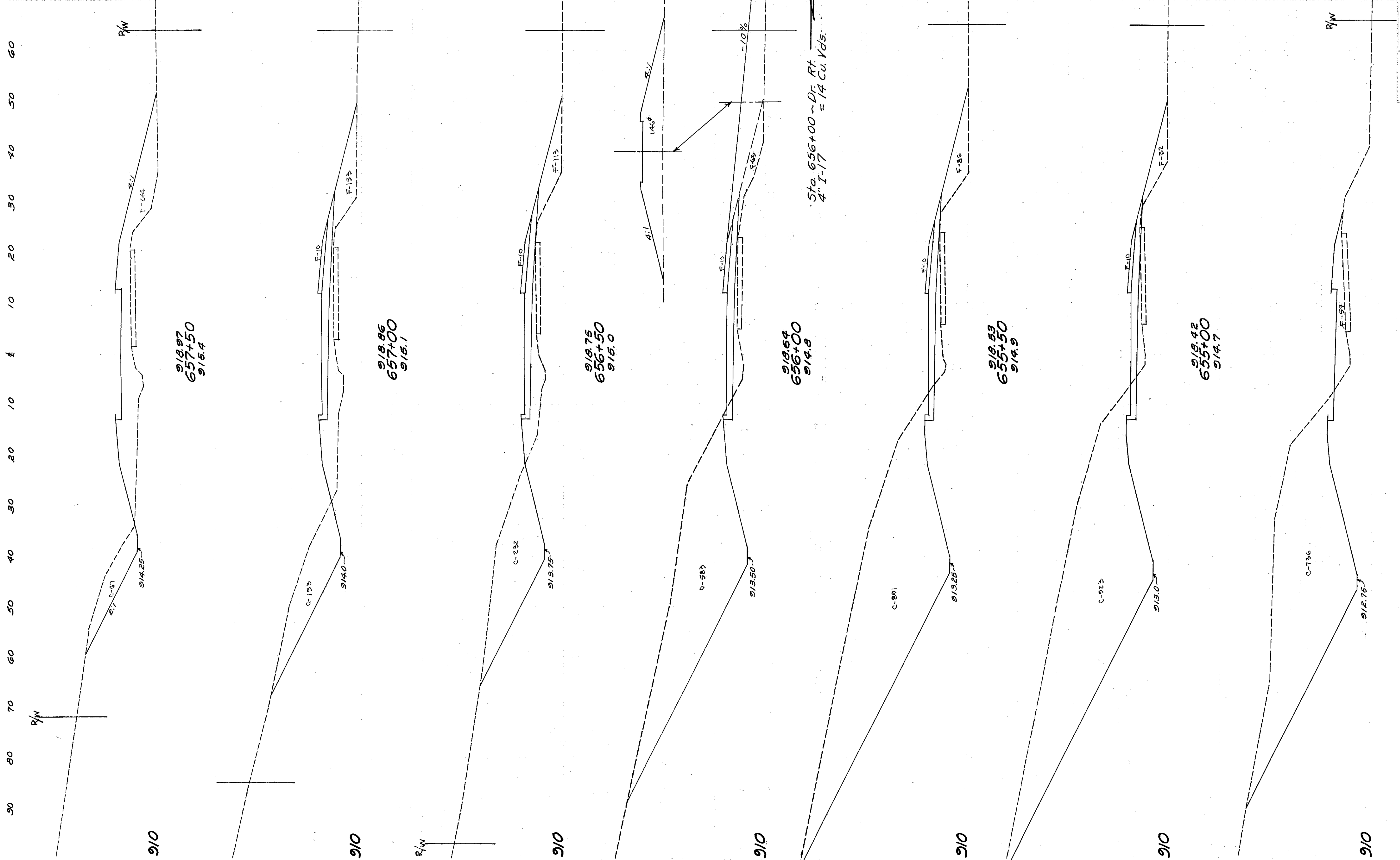


Seeding	E. A.		Cu. Yds.	
	W	S.Y.	Cut	Fill
				1297
781				384
142	518	248		
750				711
				518
128	250	311		
767				378
				651
148	158	392		
711				156
				772
(1007)			(237)	(298)
108	11	442		
606				19
				881
110	10	510		



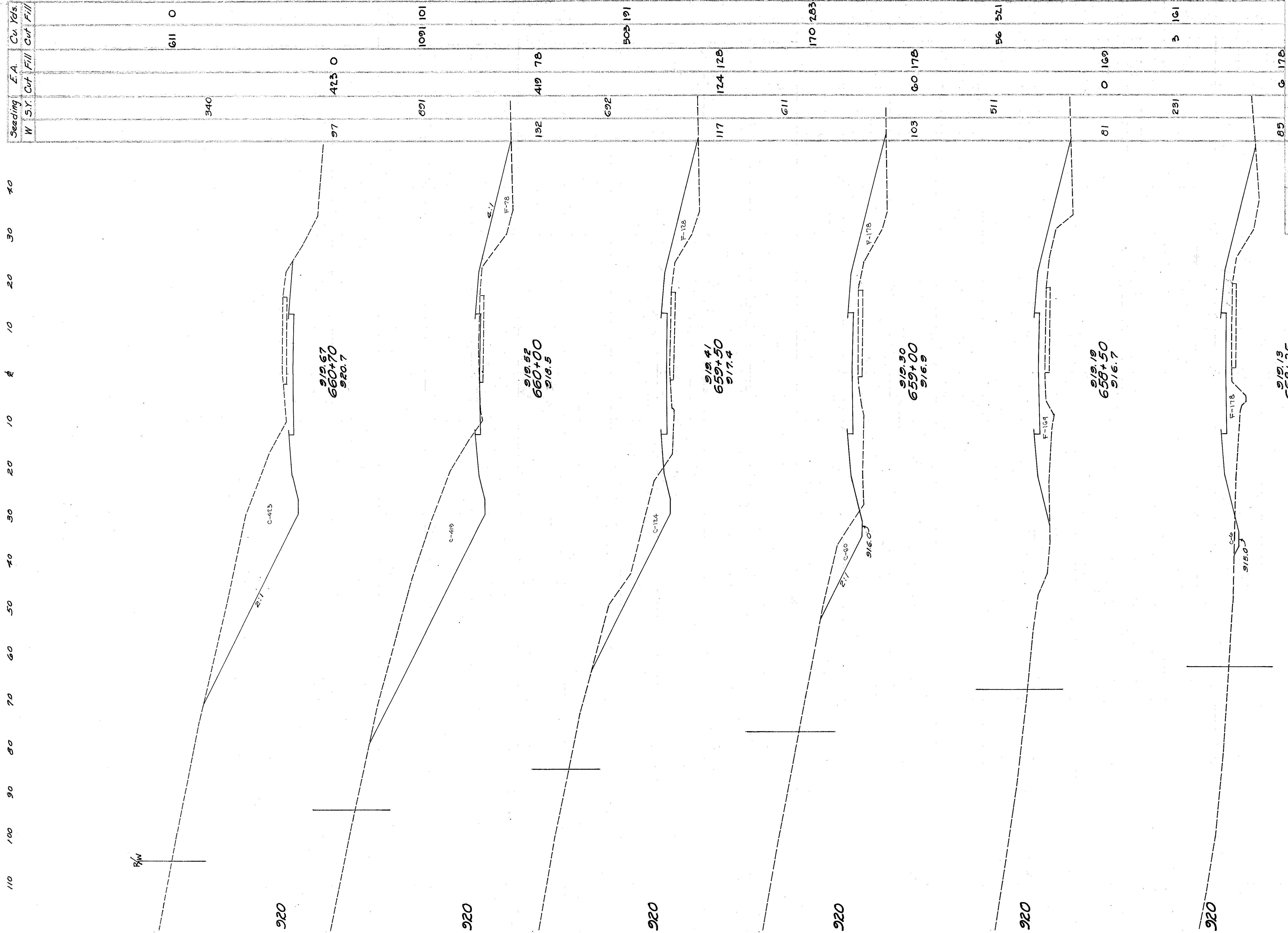
Seeding	E.A.	Cu Yds
W	S.Y	Cut Fill
558		68 412
112	67	244
639		204 377
118	153	163
653		356 265
117	232	123
672		755 181
132	583	73 (0) (203)
811		1365 156
160	891	96
883		1680 146
158	923	62
775		1596 112

2 F-415(10) Postwar 73  
 HAS-36-(0.43-2.92)-(11.92-14.12) 166  
 PARTS 1 + 2



Seeding	E.A.	Cu Yds
W	S.Y	Cut Fill
121	756	59
722		1499 209
130	883	167

STA. 654+00 TO STA. 657+50

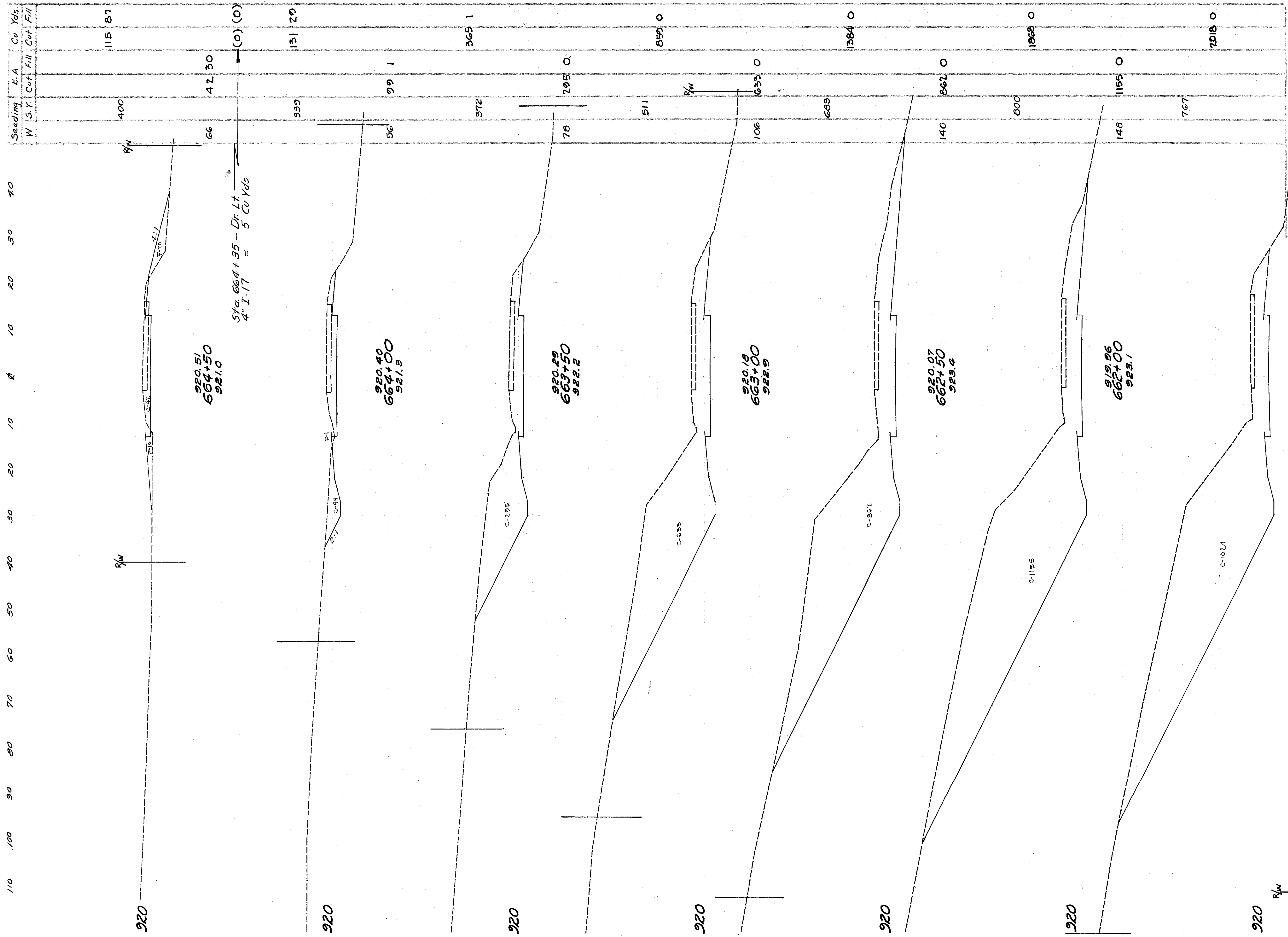


Seeding	E. A.	Cu. Yds.	Cut	Fill
W	5.7	611	0	0
		340		
		423	0	
		691		1091
		419	78	
		692		503
		117	128	
		611		170
		103	178	
		511		56
		61	169	
		231		3
		6	178	

Seeding	E. A.	Cu. Yds.	Cut	Fill
		6	175	
		242		
		6	201	
		6	201	

2 F-415(10) Postwar 74  
 HAS-36-(0.43-2.92)-(1.92-14.12) 166  
 PARTS 1 + 2

STA. 658+00 TO STA. 660+70



Seeding		E.A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
125	1074	0	0	1565	0
653					
107				616	0

2 F-415(10) Postwar 75  
 HAS-36-(0.43-2.92)-(11.92-14.12) 166  
 PARTS 1 & 2

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

Seeding	E.A.	Cu. Yds.			
W	S.Y.	Cut	Fill	Cut	Fill
	463	136	601		
96	147	249			
913		211	219		
92	233	145			
441		395	194		
117	328	151			
452		484	148		
137	480	118			
750		1056	147		
706		1220	58		
121	667	22			
653		1084	55		
114	471	37			
569		644	69		
91	224	37			

2 F-415(10) Postwar 76  
 HAS-36-(0.43-292)-(11.92-14.12) 166  
 PARTS 1 + 2

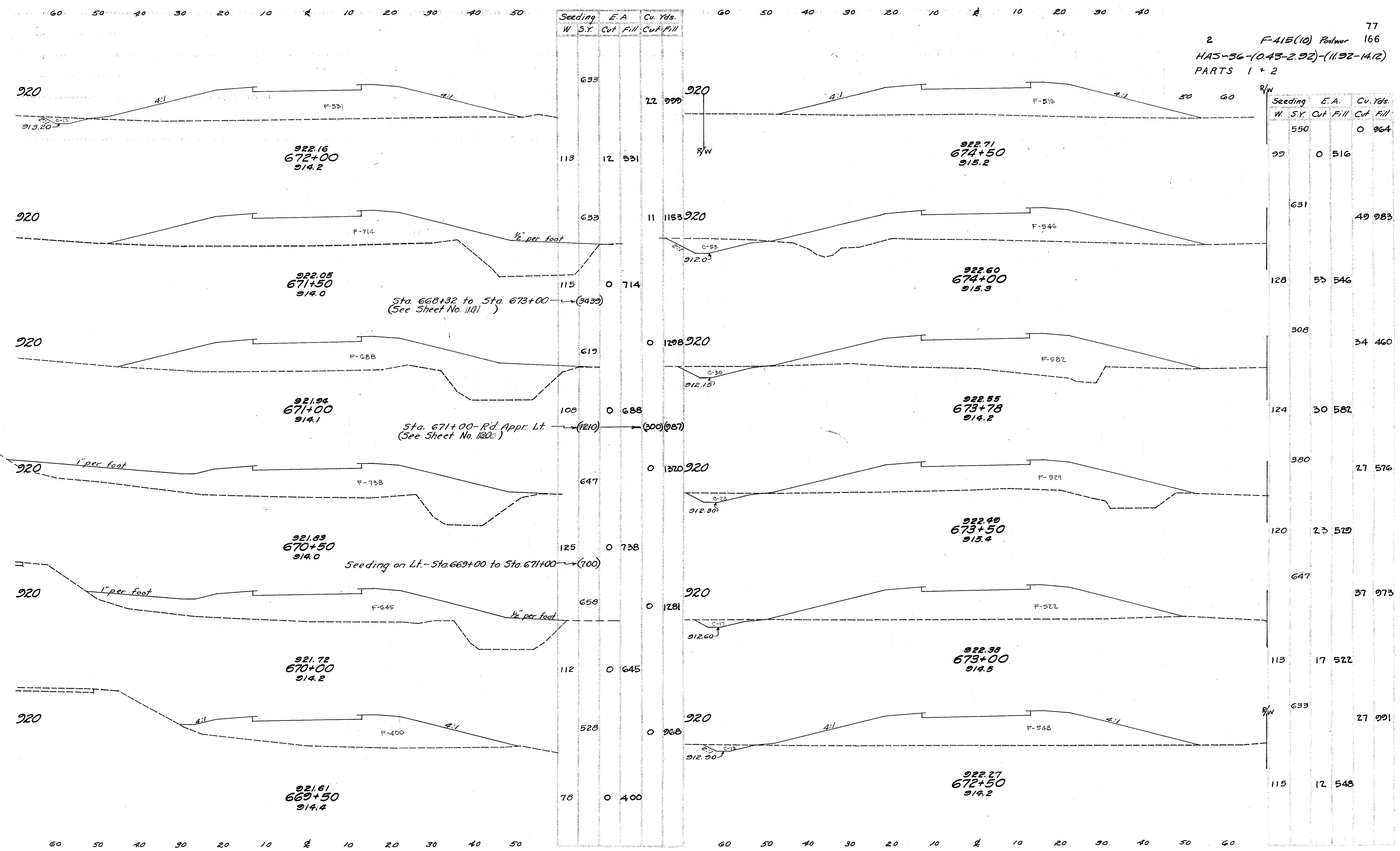
100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50



Seeding	E.A.	Cu. Yds.			
W	S.Y.	Cut	Fill	Cut	Fill
	467	171	126		
90	103	72			
		82	64		
		78			
		303	101		

STA. 665+00 TO STA. 669+00

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

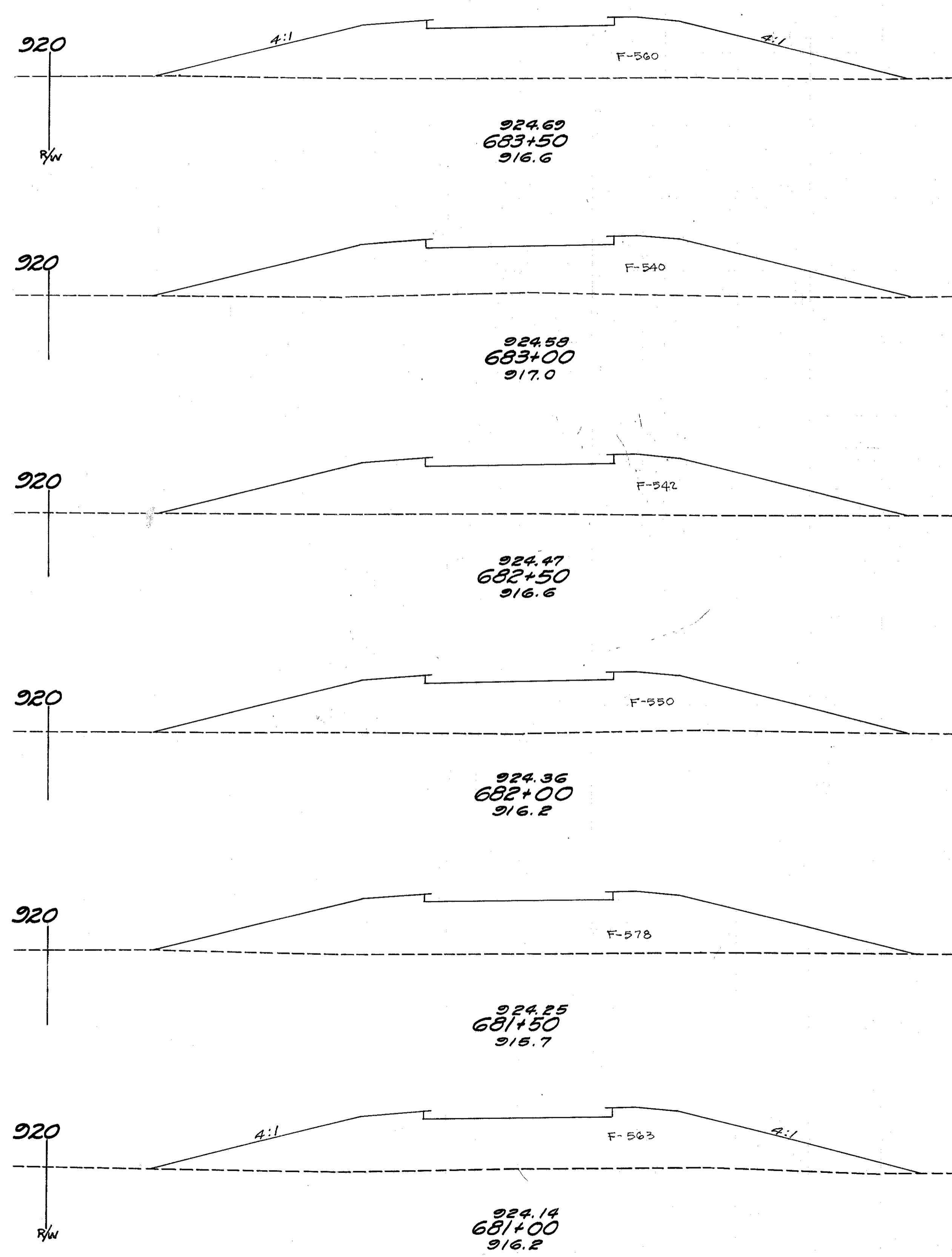




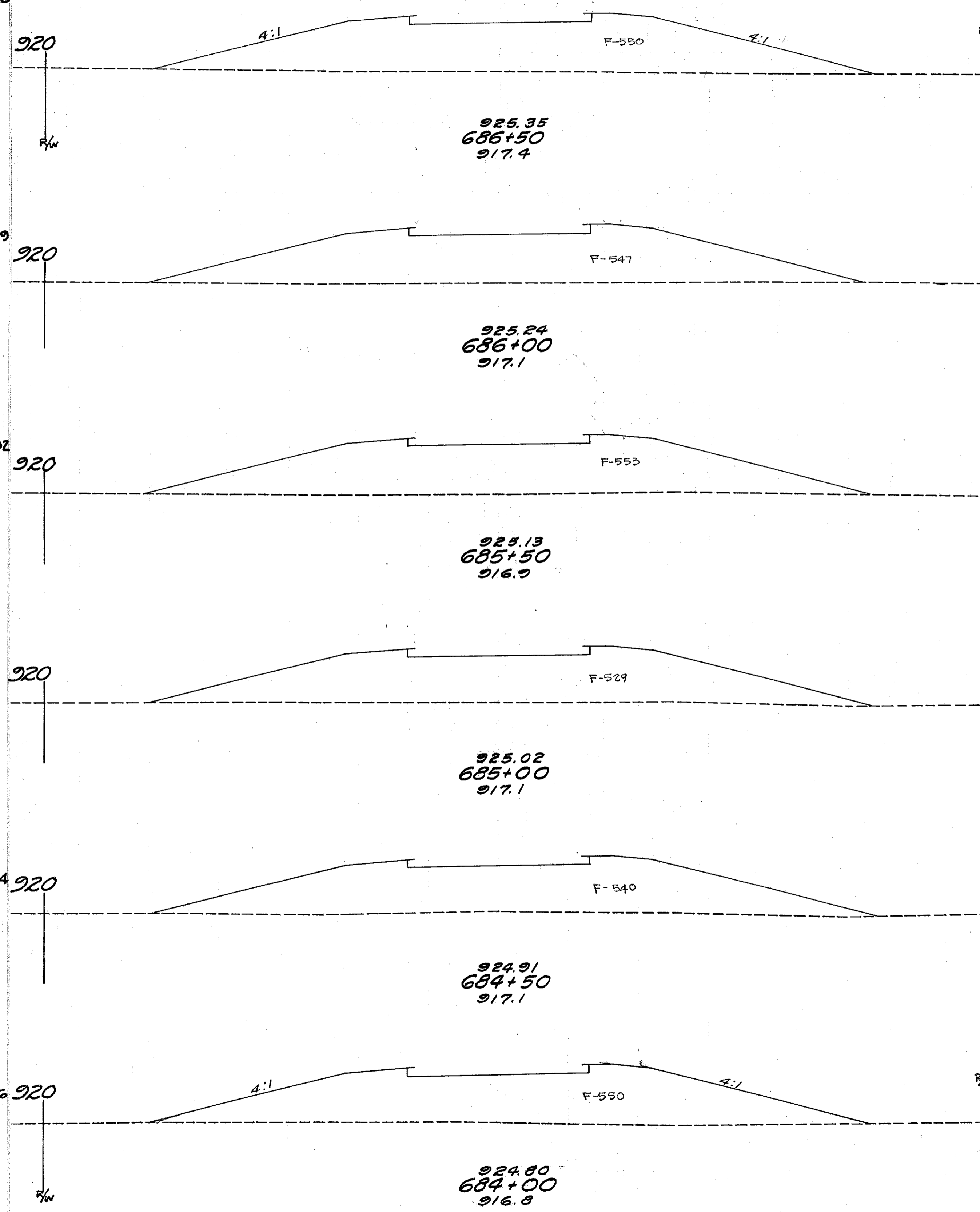
60 50 40 30 20 10 0 10 20 30 40 50

60 50 40 30 20 10 0 10 20 30 40

79  
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	

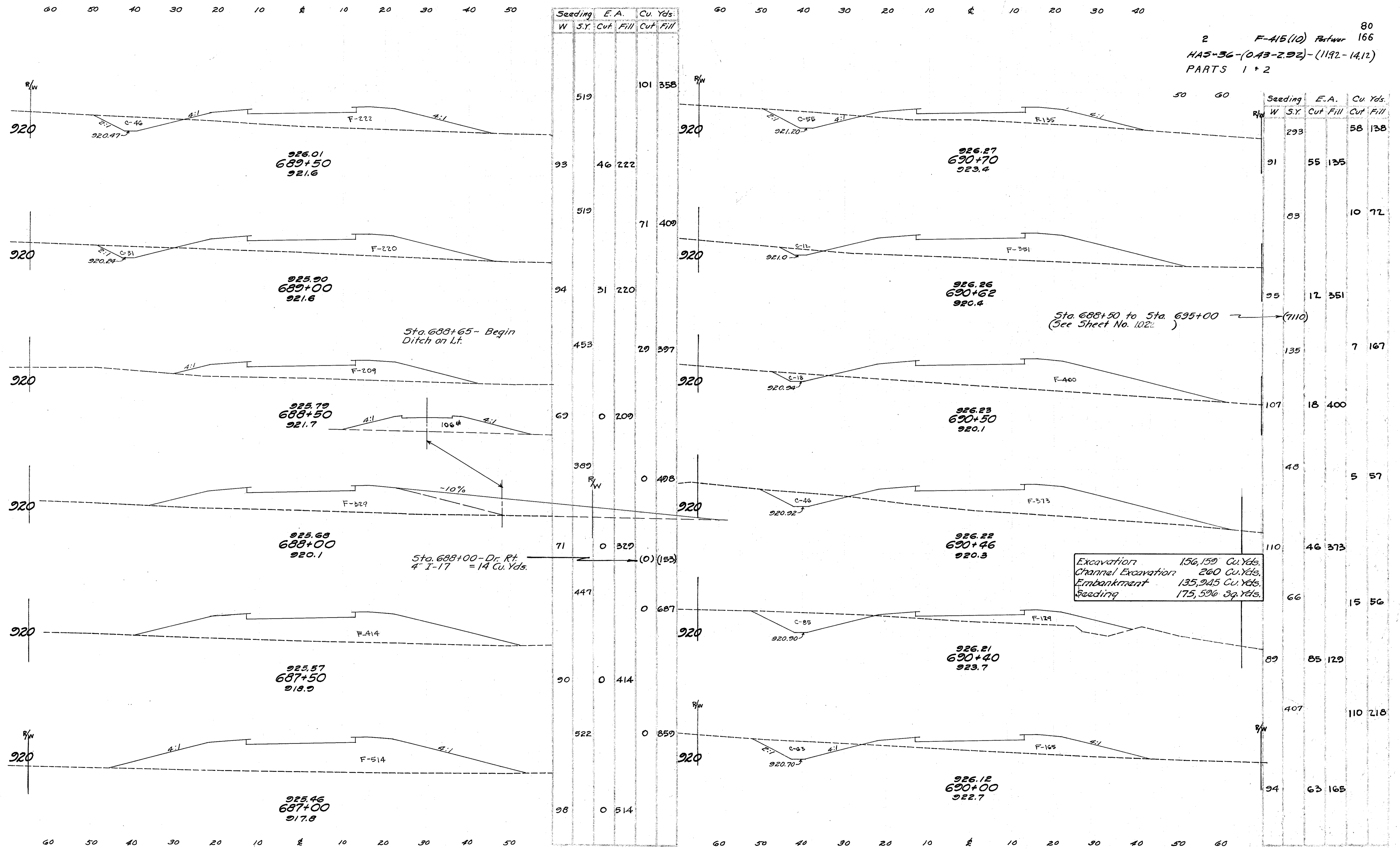


Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
		556		0	985
		102	0	550	
		564		0	1016
		101	0	547	
		564		0	1019
		102	0	553	
		564		0	1002
		101	0	529	
		561		0	990
		101	0	540	
		561		0	1009
		101	0	550	

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

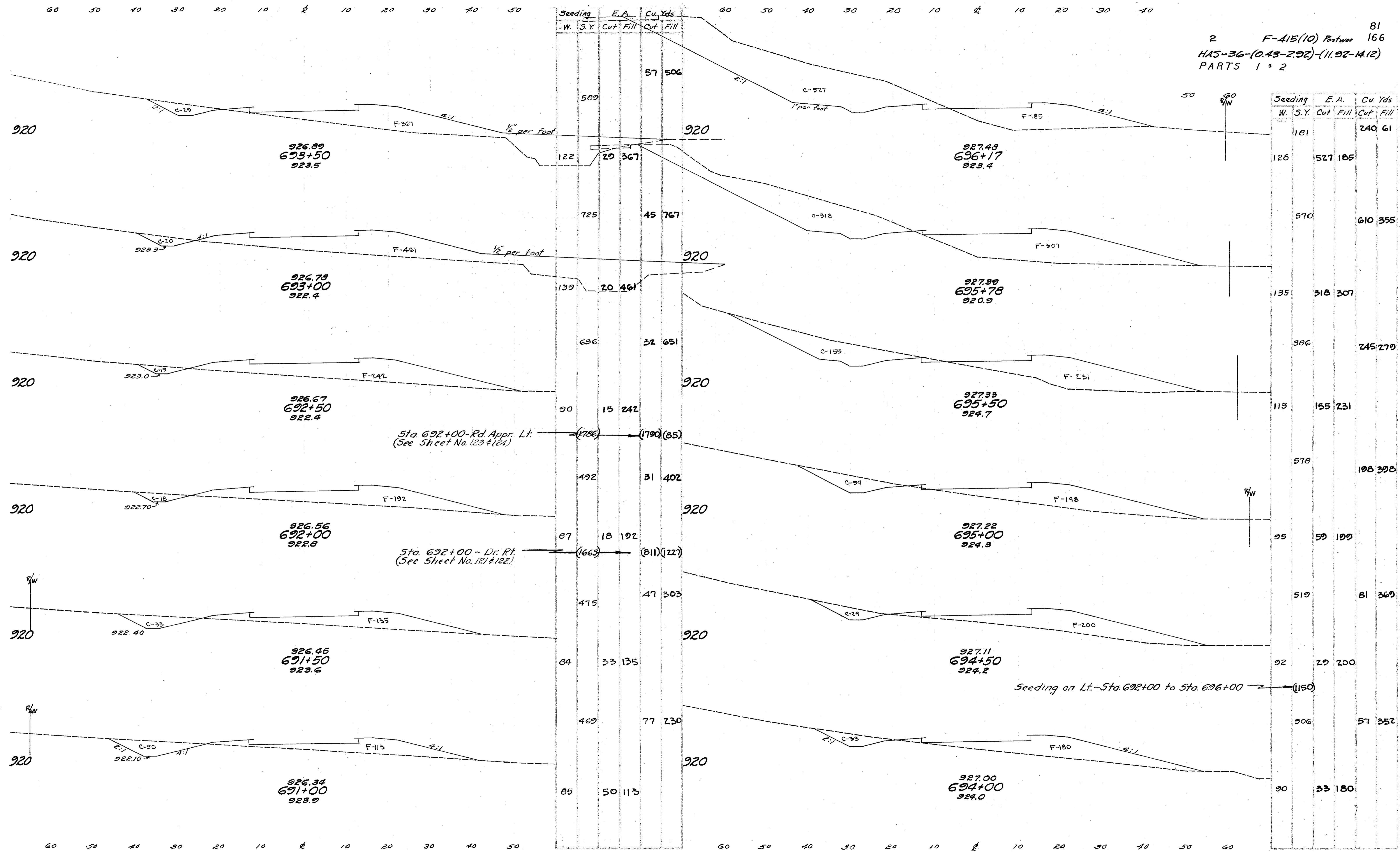
60 50 40 30 20 10 0 10 20 30 40 50 60

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

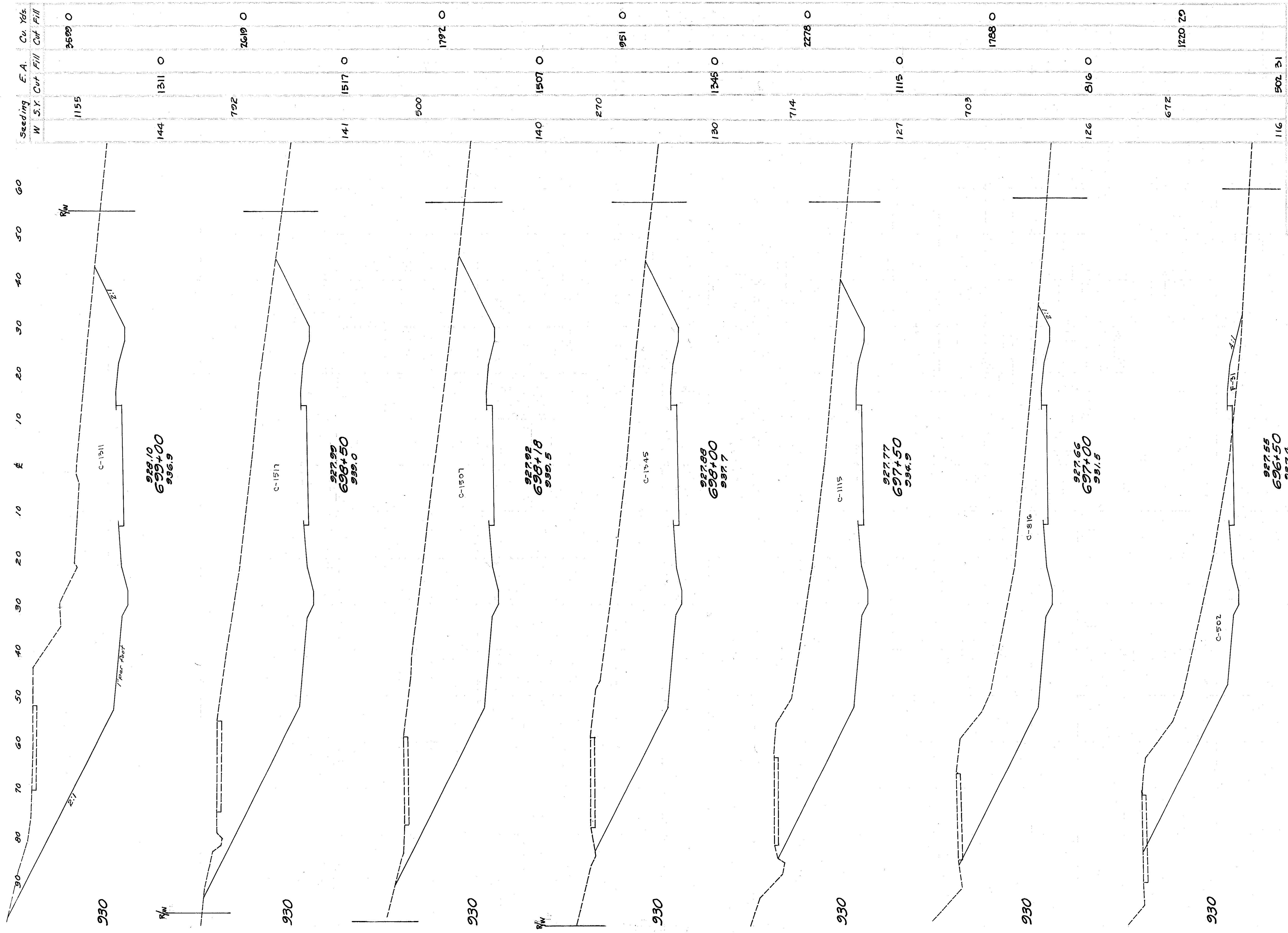




2 F-415(10) Pastwar 81  
 HAS-36-(0.43-2.92)-(11.92-14.12) 166  
 PARTS 1 & 2



STA. 691+00 TO STA. 696+17



Seeding	E. A.	Cu. Yds.
1155		3509 0
144	1311 0	
792		2619 0
141	1517 0	
500		1792 0
140	1507 0	
270		951 0
130	1345 0	
714		2278 0
127	1115 0	
709		1788 0
126	816 0	
672		1220 29
116	502 31	

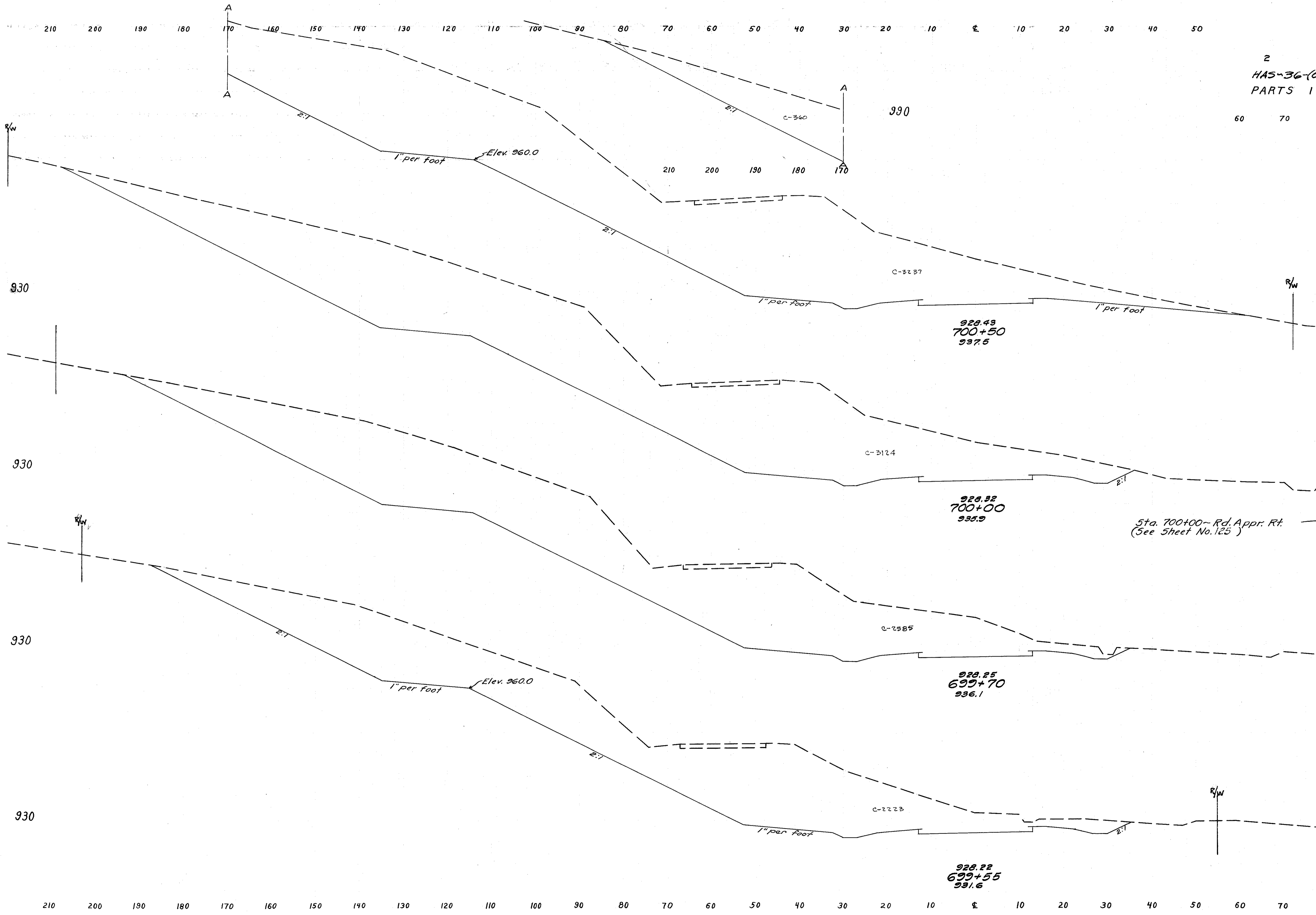
  

Seeding	E. A.	Cu. Yds.
266		360 37
123	470 68	

2 F-415(10) Postwar 166  
 HAS-36-(0.43-2.92)-(1.92-14.12)  
 PARTS 1 & 2

STA. 696+30 TO STA. 699+00

83  
 2 F-415(10) Postwar 166  
 HAS-36-(0.43-2.92)-(11.92-14.12)  
 PARTS 1 & 2

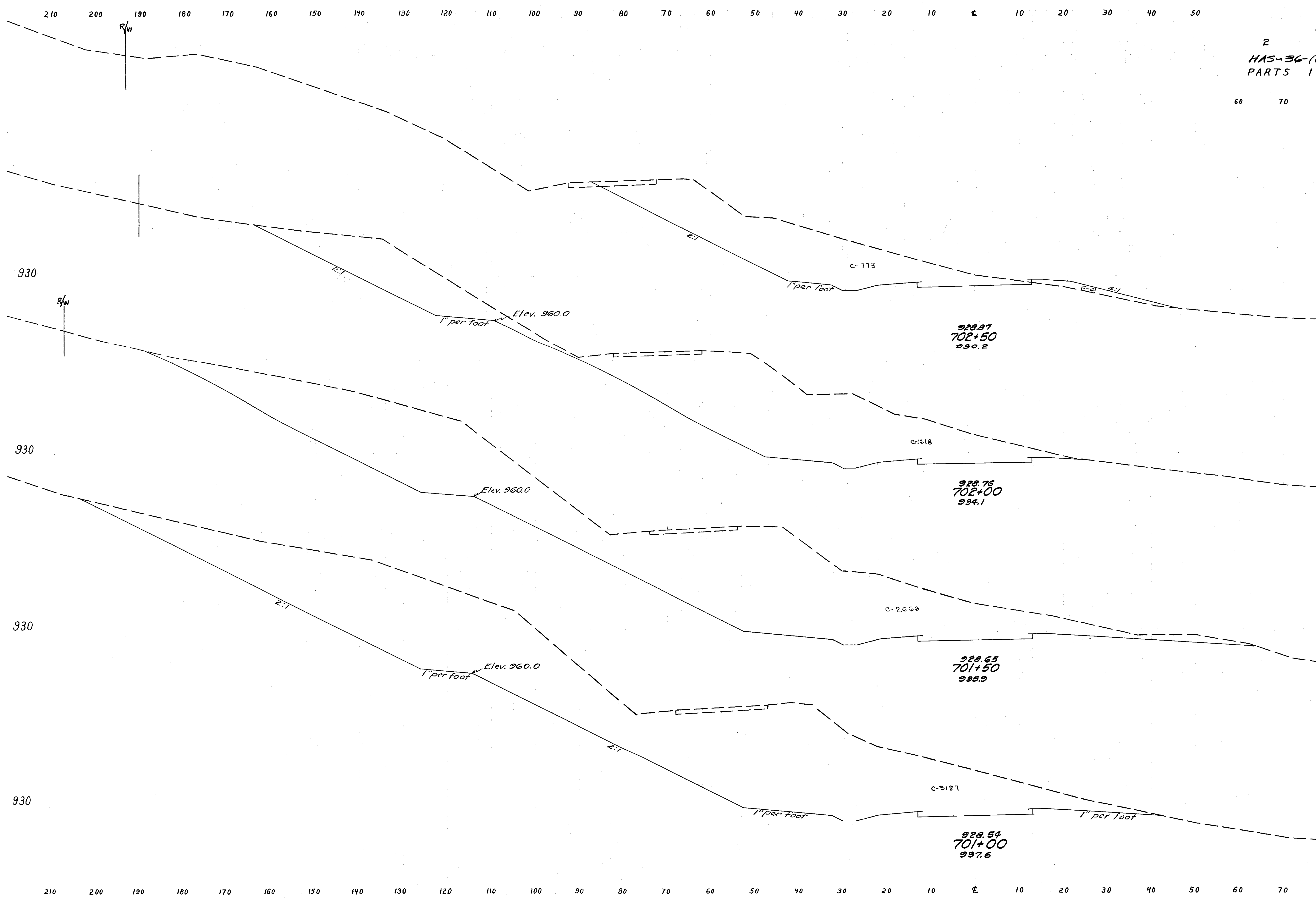


Seeding		E. A.		Cu. Yds.	
W	S.K.	Cut	Fill	Cut	Fill
				1550	6281 0
				300	3597 0
				1547	6223 0
				257	3124 0
		(652)	(37)	(92)	
				827	3172 0
				239	2585 0
				394	1336 0
				234	2223 0

Sta. 700+00 ~ Rd. Appr. Rt.  
 (See Sheet No. 125)

STA. 699+55 TO STA. 700+50

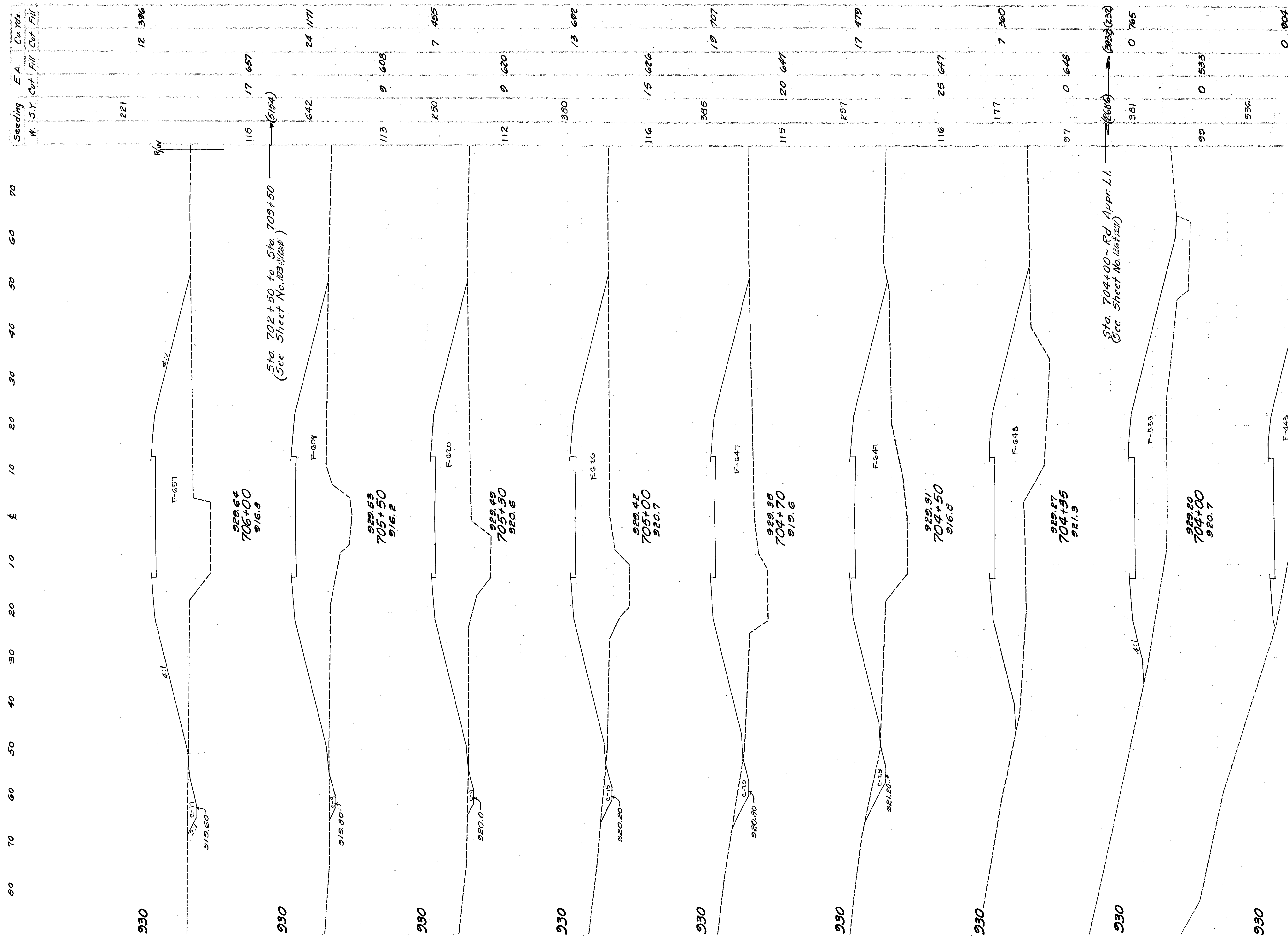
84  
 2 F-415(10) Postwar 166  
 HAS-36-(0.43-2.92)-(11.92-14.12)  
 PARTS 1 & 2



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

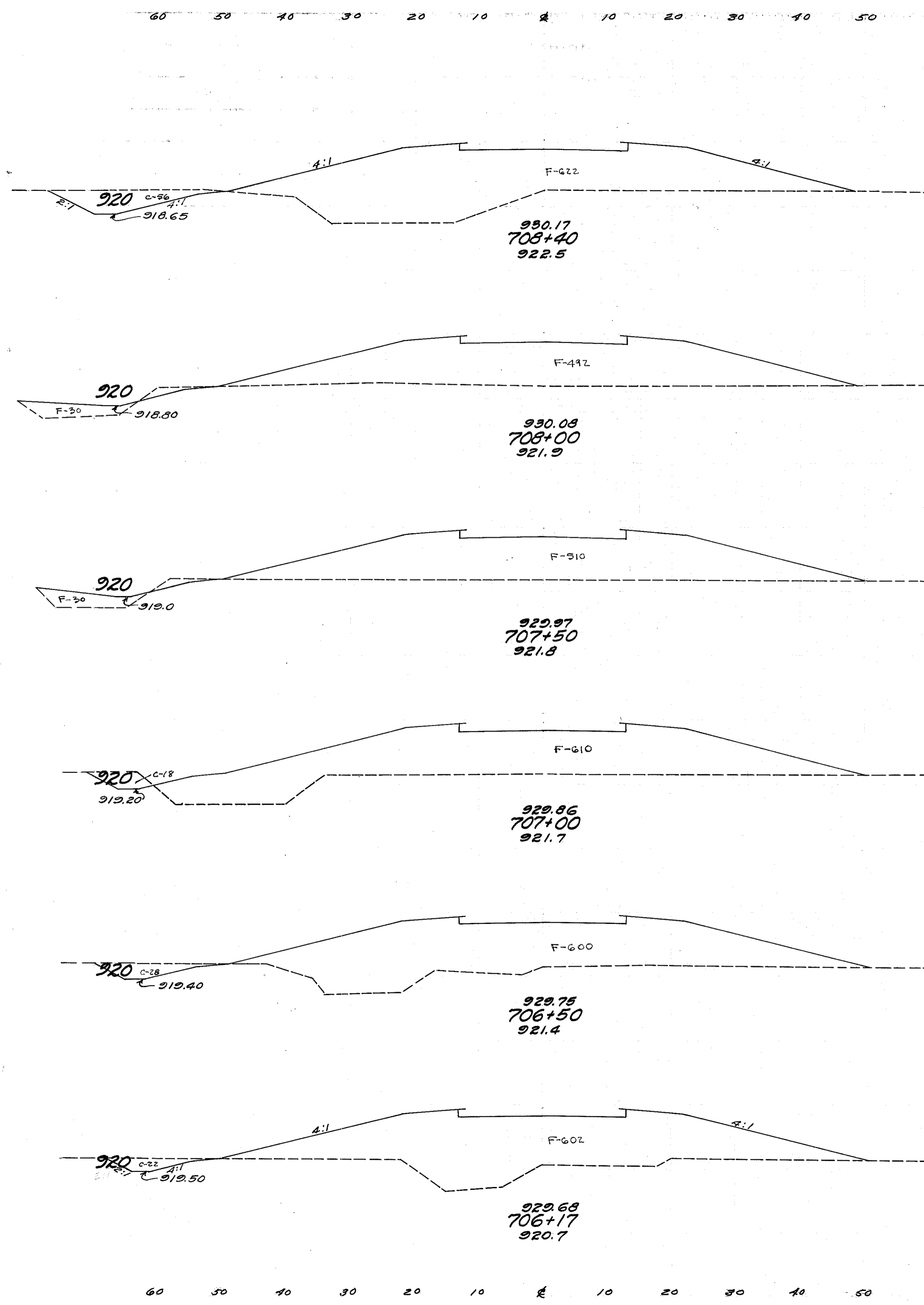


Seeding	E. A.	Cu Yds.
W	S.Y.	Cut
Fill	Cut	Fill
221	17	657
118	17	657
642	24	1171
113	9	608
250	7	455
112	9	620
380	13	692
116	15	626
385	19	707
115	20	647
257	17	479
116	25	647
177	7	360
97	0	648
361	0	765
99	0	533
536		
94	0	443
719		
224		697
165		310
242		310

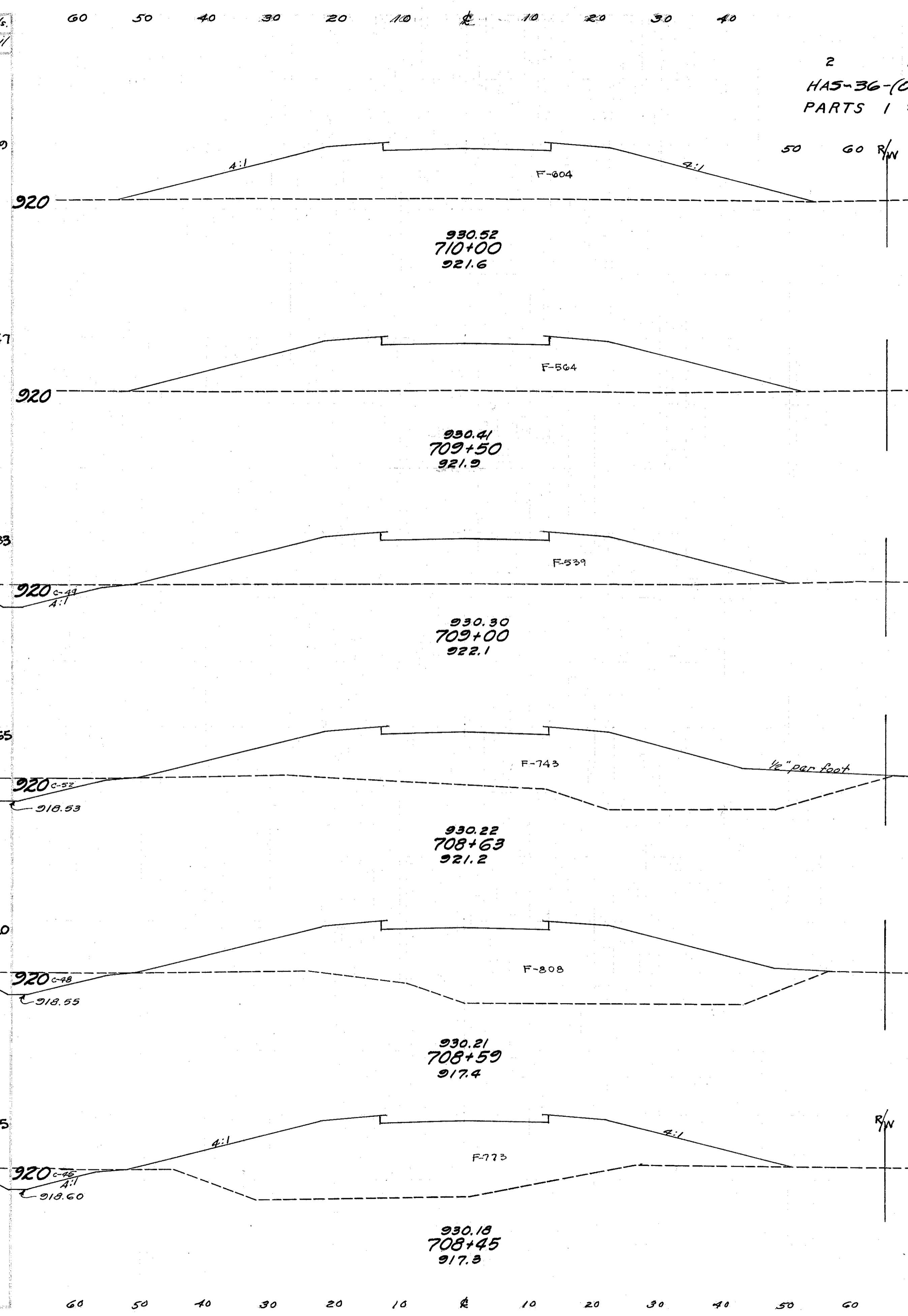
2 F-415(10) Postwar 166  
 HAS-36-(043-292)-(11.92-14.12)  
 PARTS 1 + 2

STA. 703+00 TO STA. 706+00

2 F-415 (10) Postwar 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
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
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		

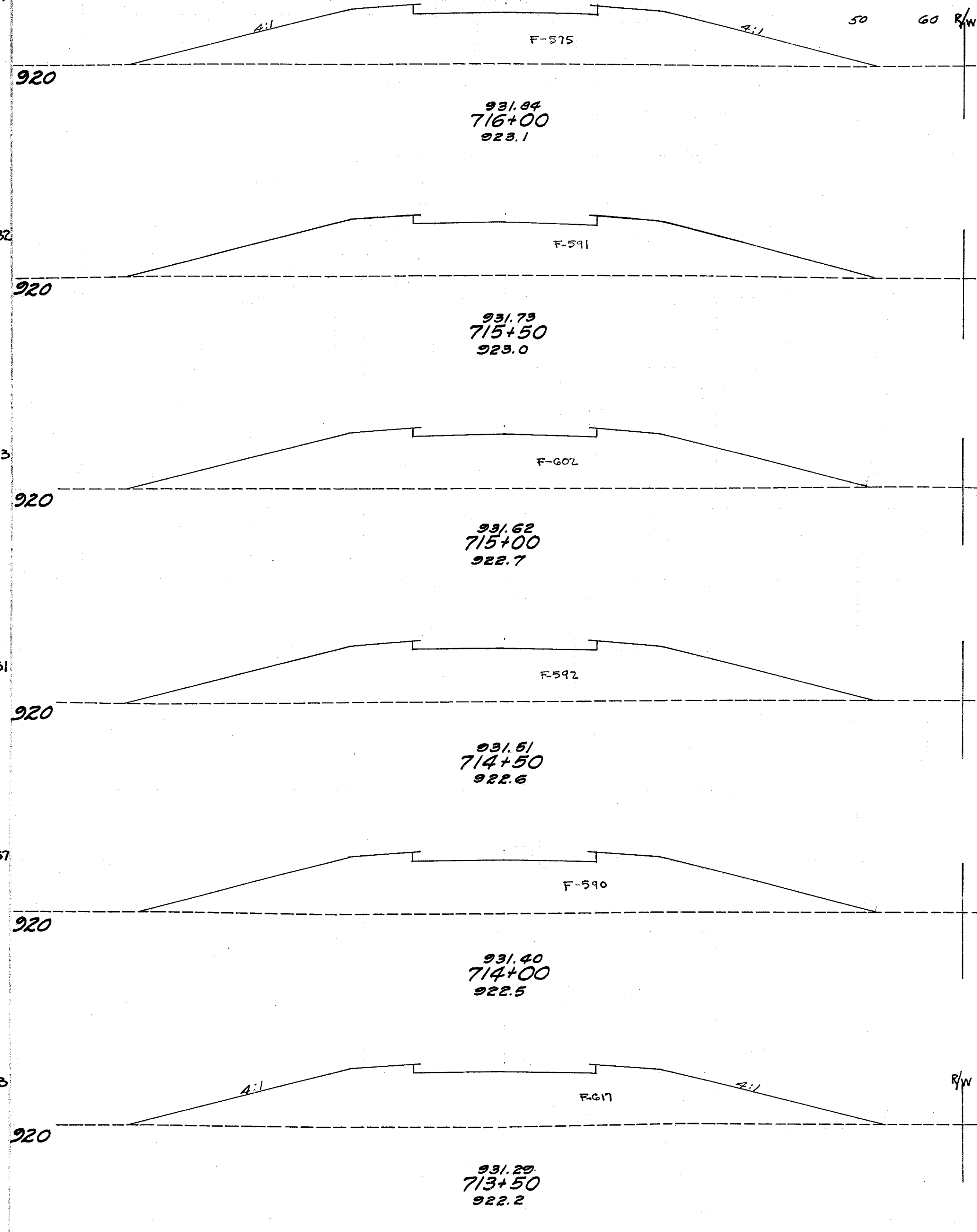
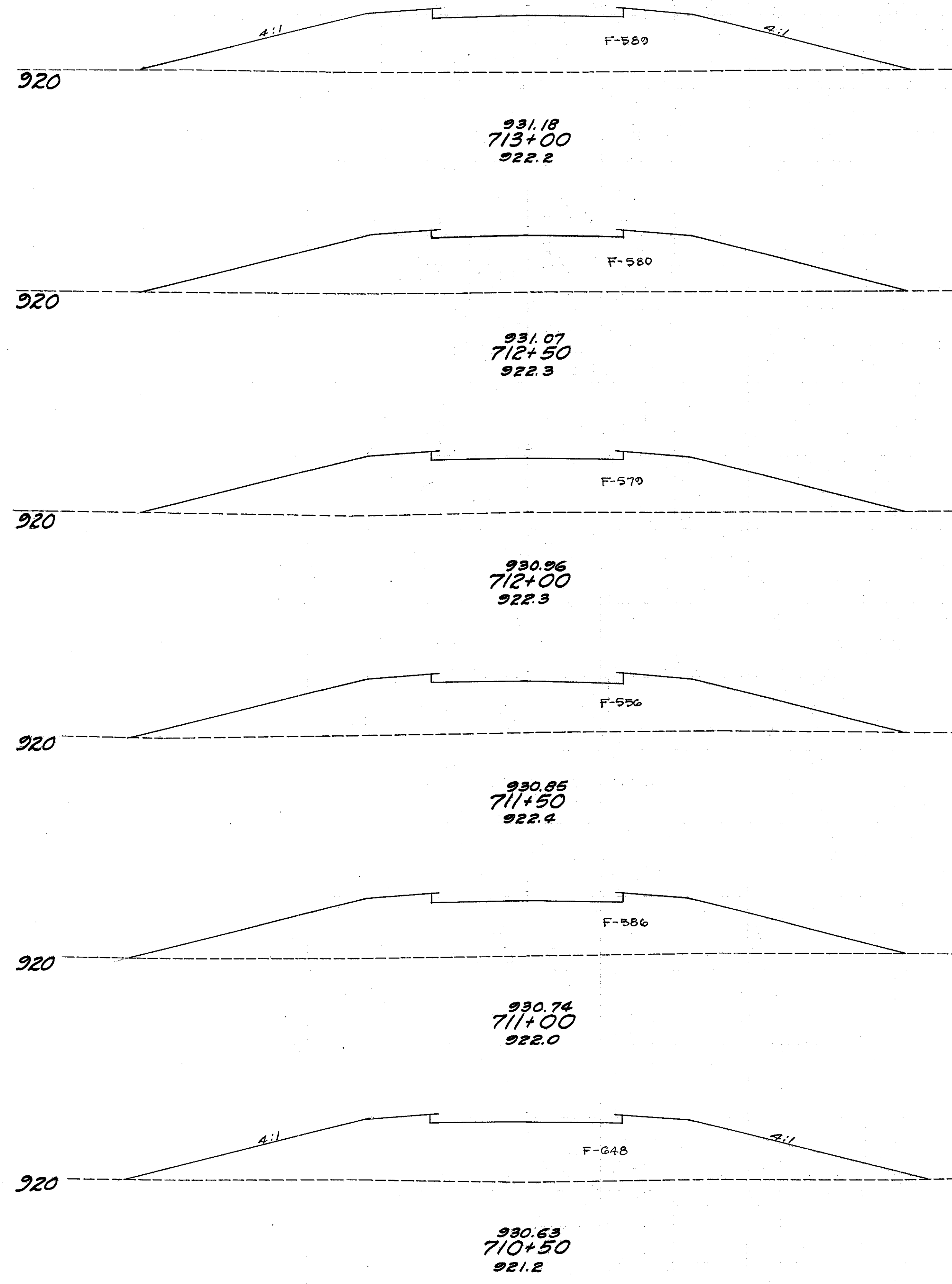
STA. 706+17 TO STA. 710+00

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

60 50 40 30 20 10 0 10 20 30 40

87  
2 F-415(10) Postwar 166  
HAS-36-(0.43-2.92)-(1.92-14.12)  
PARTS 1 & 2

Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
				0	1117
	578				
	103	0	589		
				0	1082
	572				
	103	0	580		
				0	1073
	569				
	102	0	579		
				0	1051
	569				
	103	0	556		
				0	1057
	575				
	104	0	586		
				0	1143
	589				
	108	0	648		



Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
				0	1058
	575				
	105	0	575		
				0	1080
	583				
	105	0	591		
				0	1105
	578				
	103	0	602		
				0	1106
	575				
	104	0	592		
				0	1094
	575				
	103	0	590		
				0	1118
	578				
	105	0	617		

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

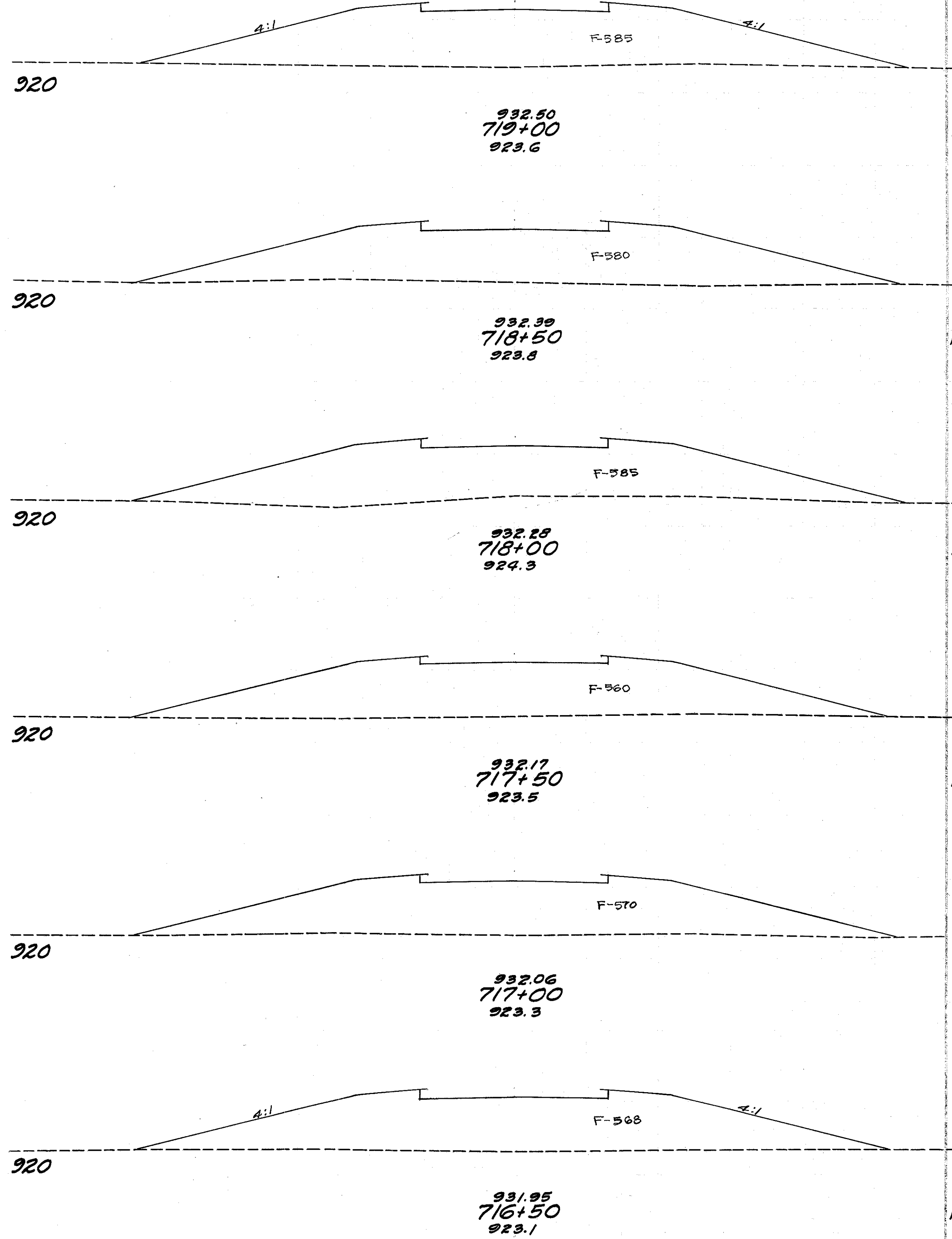
60 50 40 30 20 10 0 10 20 30 40 50 60

STA. 710+50 TO STA. 716+00

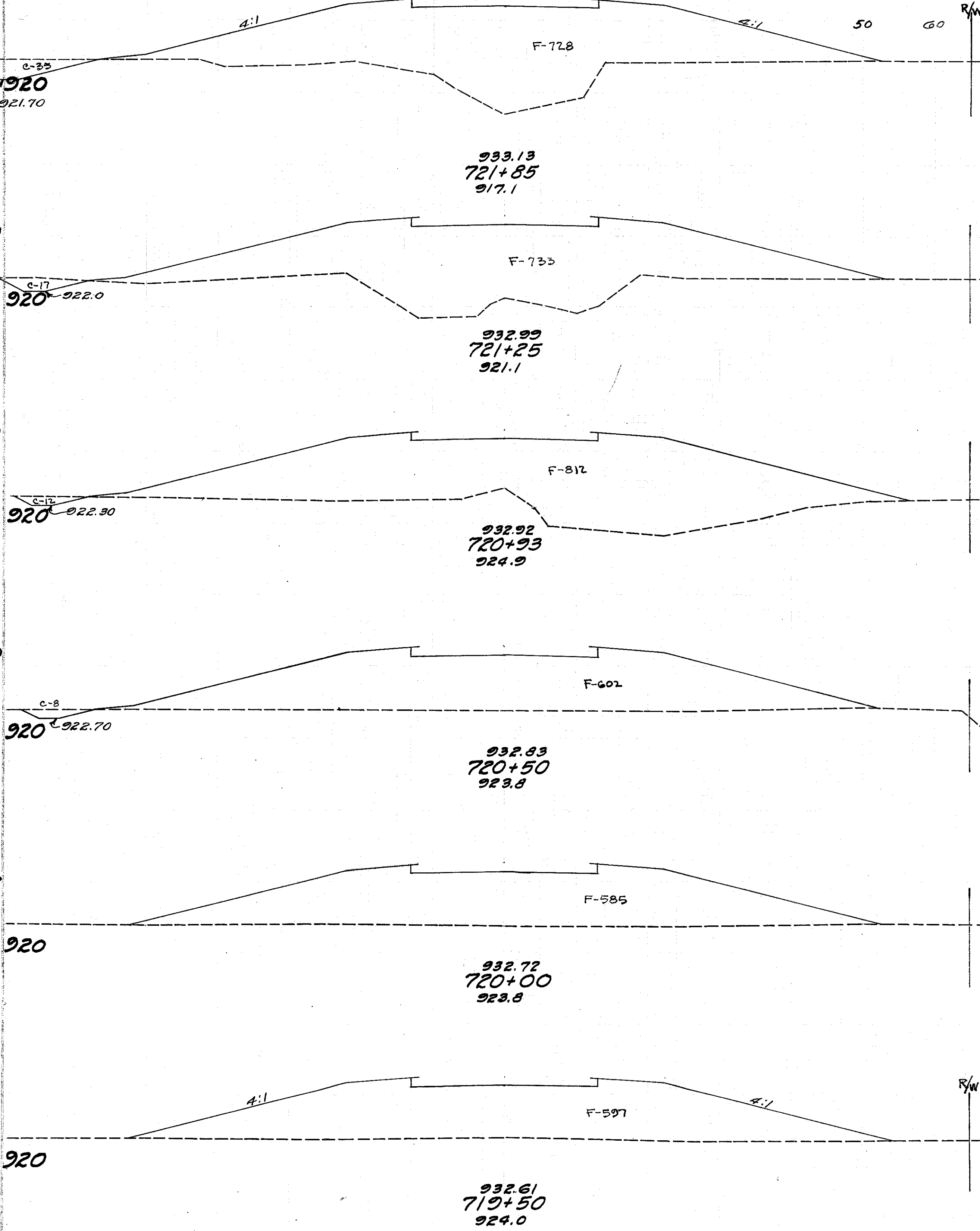
60 50 40 30 20 10 0 10 20 30 40 50

60 50 40 30 20 10 0 10 20 30 40

2 F-415(10) Postwar 88  
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
				0	1094
		583			
		105	0	585	
		581		0	1079
		104	0	580	
		581		0	1079
		105	0	585	
		578		0	1060
		103	0	560	
		575		0	1046
		104	0	570	
		572		0	1054
		102	0	568	



Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
				35	710
		350			
		126	35	728	
		827		58	1623
		122	17	733	
		439		17	916
		125	12	812	
		578		16	1126
		117	8	602	
		611		7	1099
		102	0	585	
		575		0	1094
		105	0	597	

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

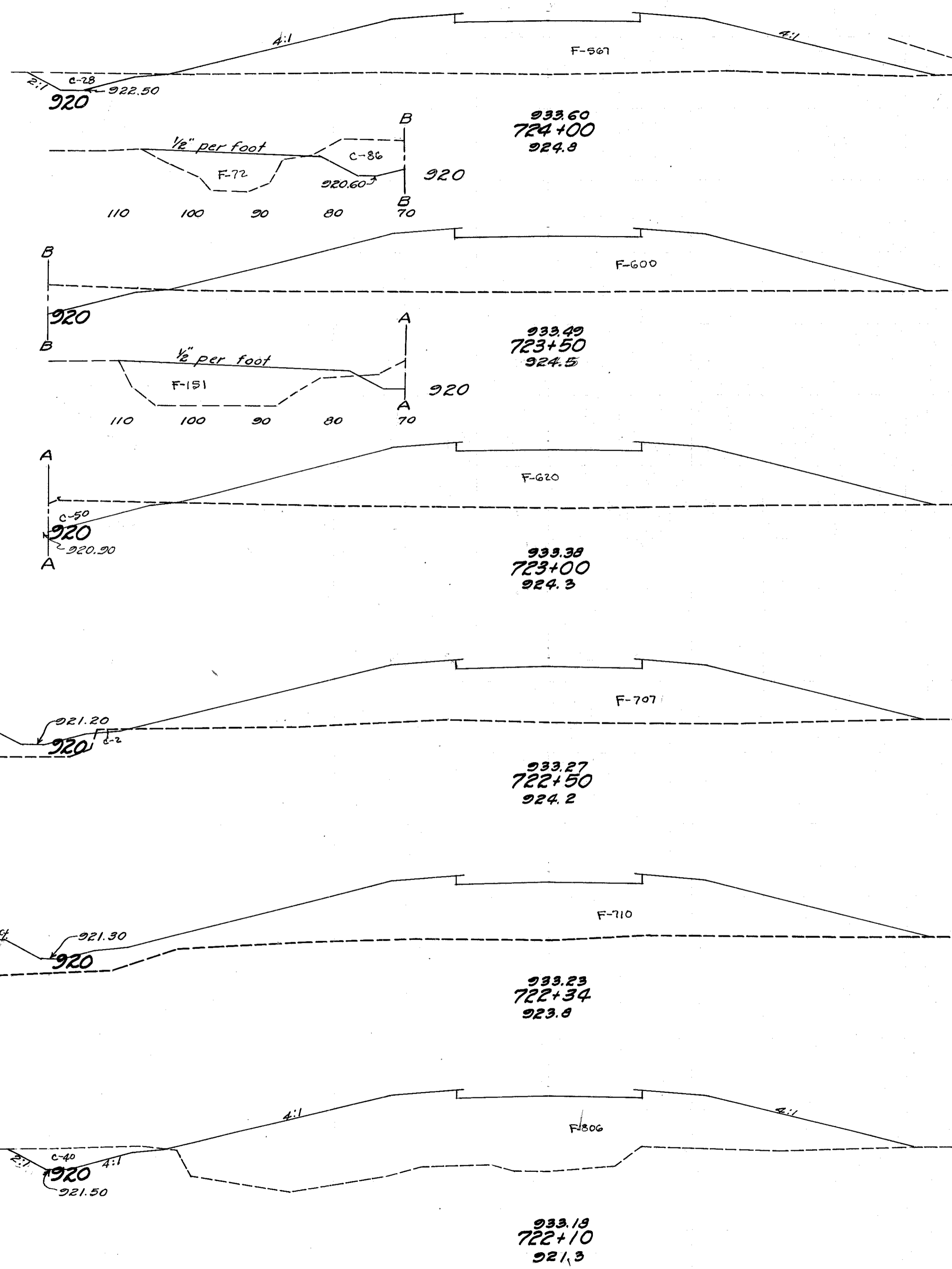
60 50 40 30 20 10 0 10 20 30 40 50 60



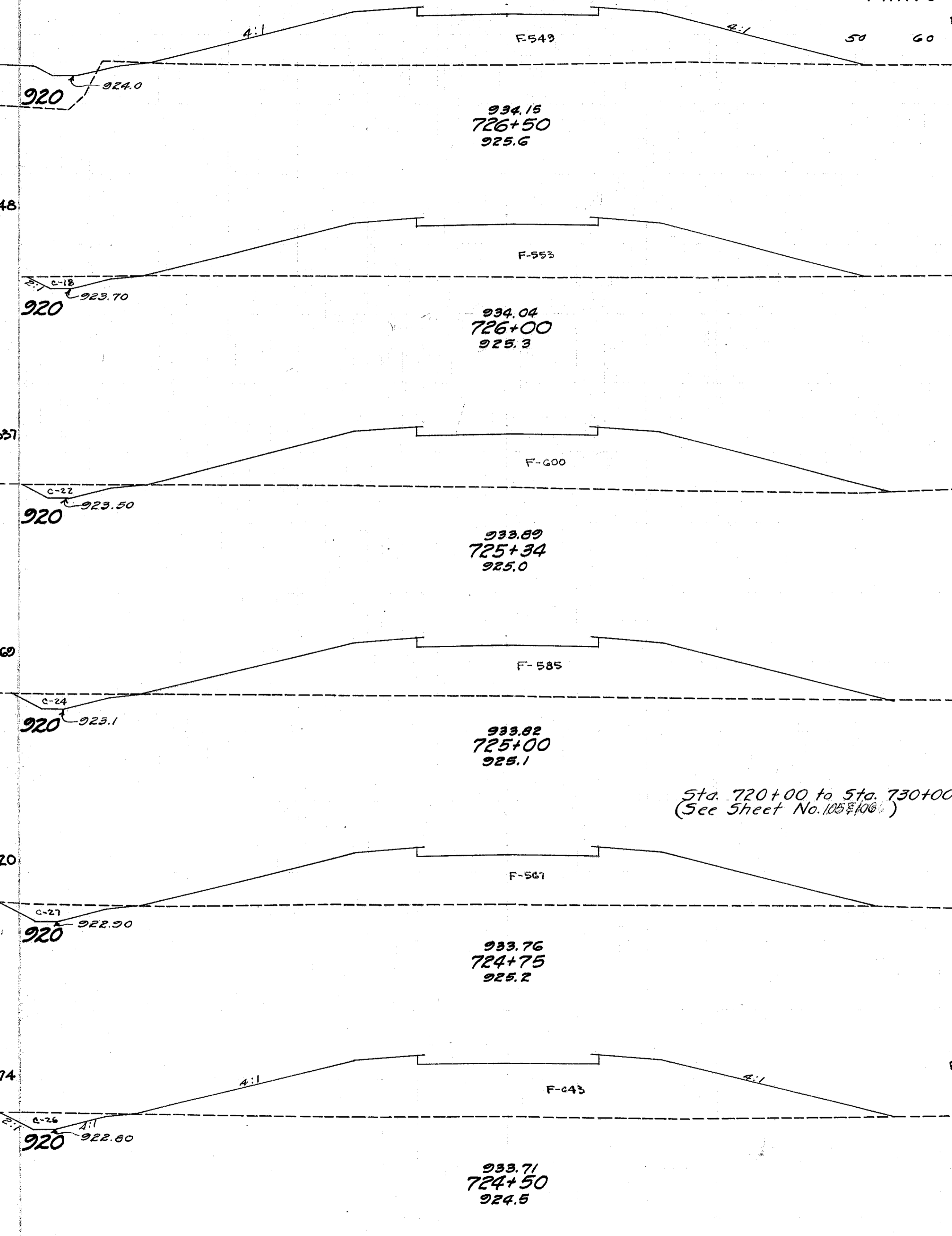
60 50 40 30 20 10 0 10 20 30 40 50

60 50 40 30 20 10 0 10 20 30 40

89  
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
697			50	1120
125	28	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		



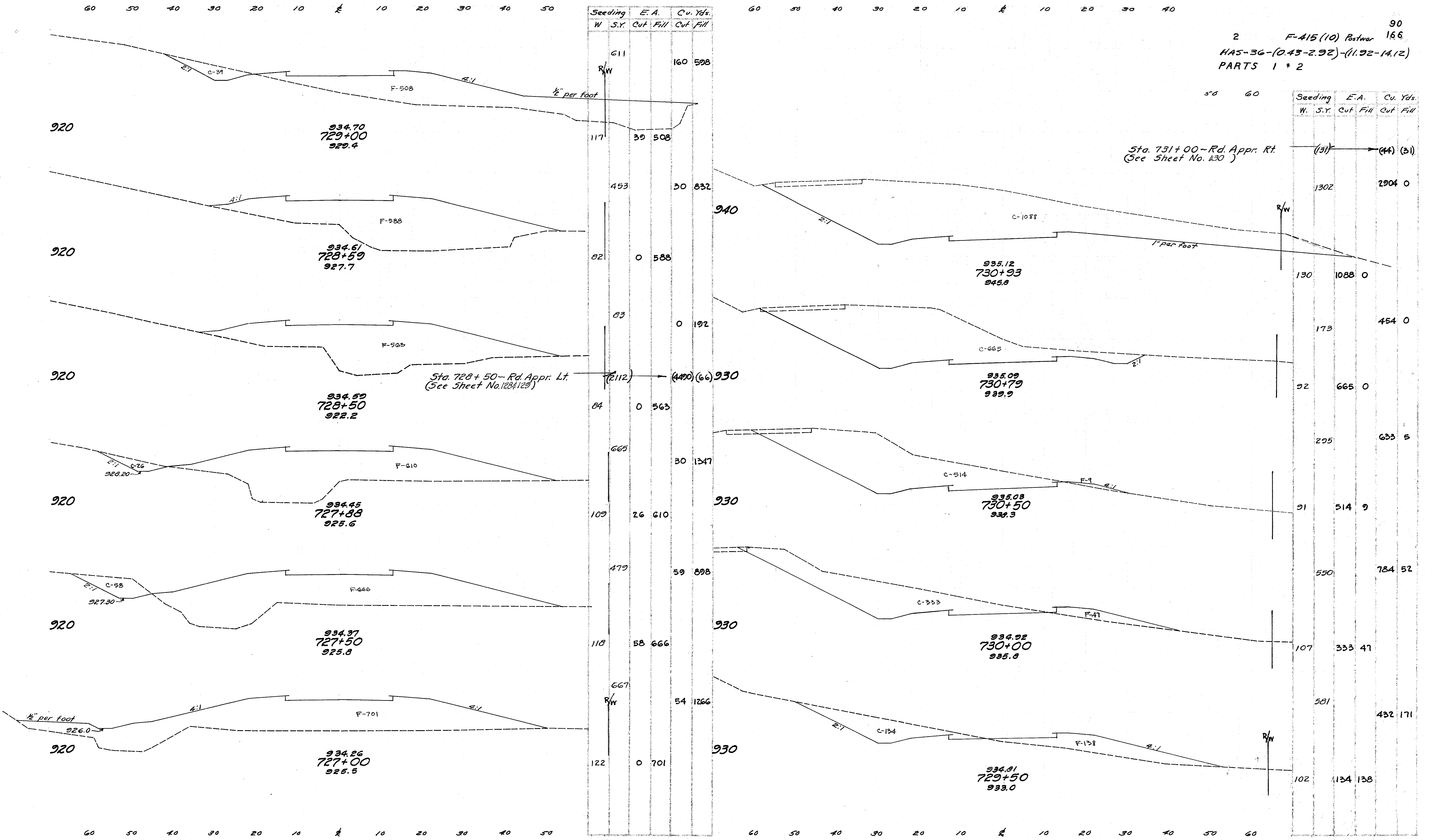
Seeding	E.A.		Cu. Yds.	
	W	S.Y.	Cut	Fill
761			5	1313
152	5	717		
753			21	1176
119	18	553		
887			49	1409
123	22	600		
463			29	746
122	24	585		
342			24	533
124	27	567		
347			25	560
126	26	643		

Sta. 720+00 to Sta. 730+00 (4389)  
(See Sheet No. 105 & 106)

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

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

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



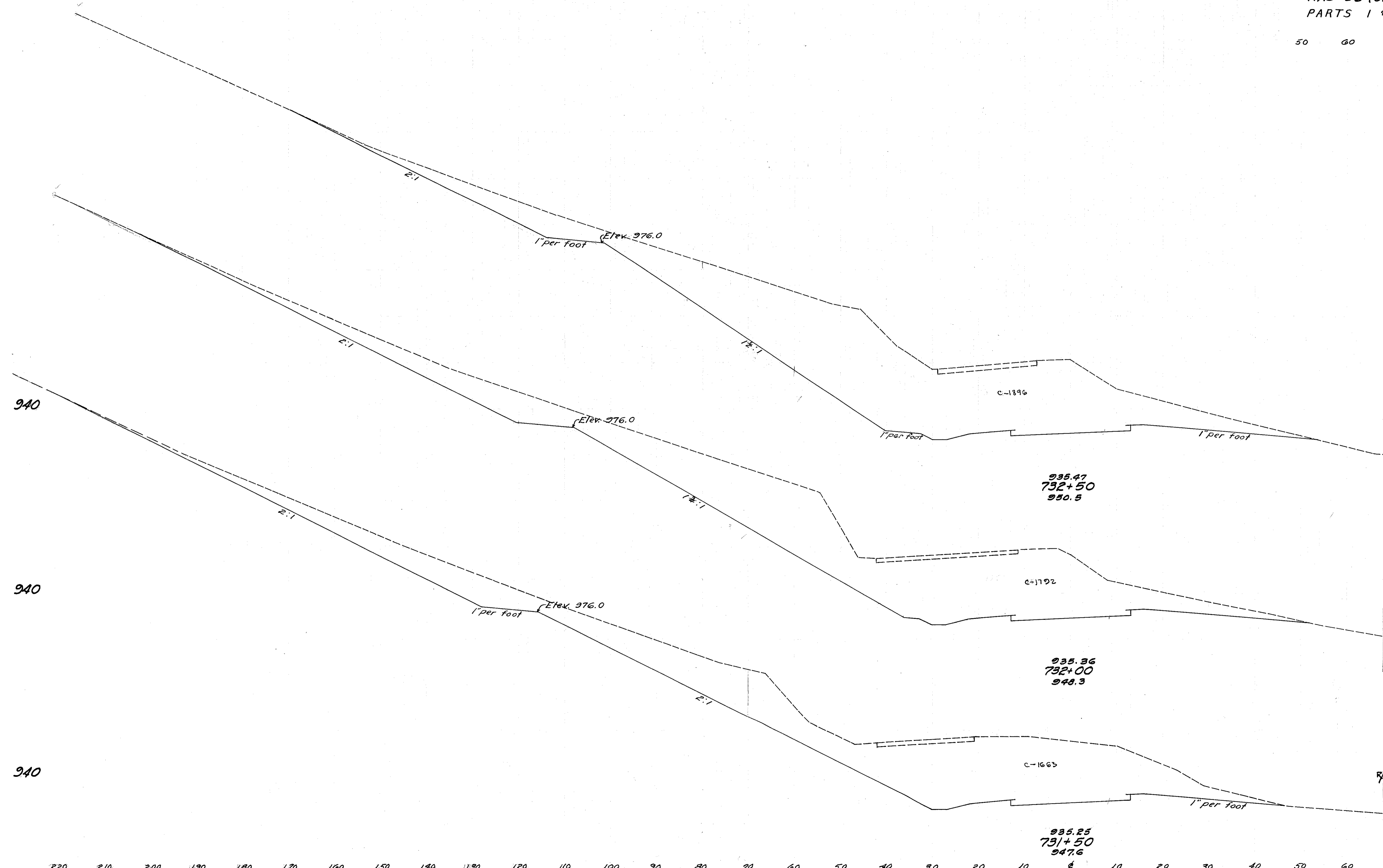
Seeding	E. A.		Cu. Yds.		
	W. S.Y.	Cut	Fill	Cut	Fill
G11				160	598
117		39	508		
453		30	832		
82		0	588		
83		0	192		
84		0	563		
665		30	1347		
109		26	610		
479		59	898		
118		58	666		
667		54	1266		
122		0	701		

Seeding	E. A.		Cu. Yds.		
	W. S.Y.	Cut	Fill	Cut	Fill
(31)		(44)	(31)		
1302				2904	0
130		1088	0		
173				454	0
92		665	0		
295				633	5
91		514	9		
550				784	52
107		333	47		
581				432	171
102		134	138		

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 30 40

91  
 2 F-415(10) Postwar 166  
 HAS-36-(0.43-2.92)-(11.92-14.12)  
 PARTS 1 & 2

50 60



Seeding		E.A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
					4173.0
		1548			
		235	1896.0		
		1394			3415.0
		267	1792.0		
		1522			3199.0
		281	1663.0		

935.47  
 732+50  
 950.5

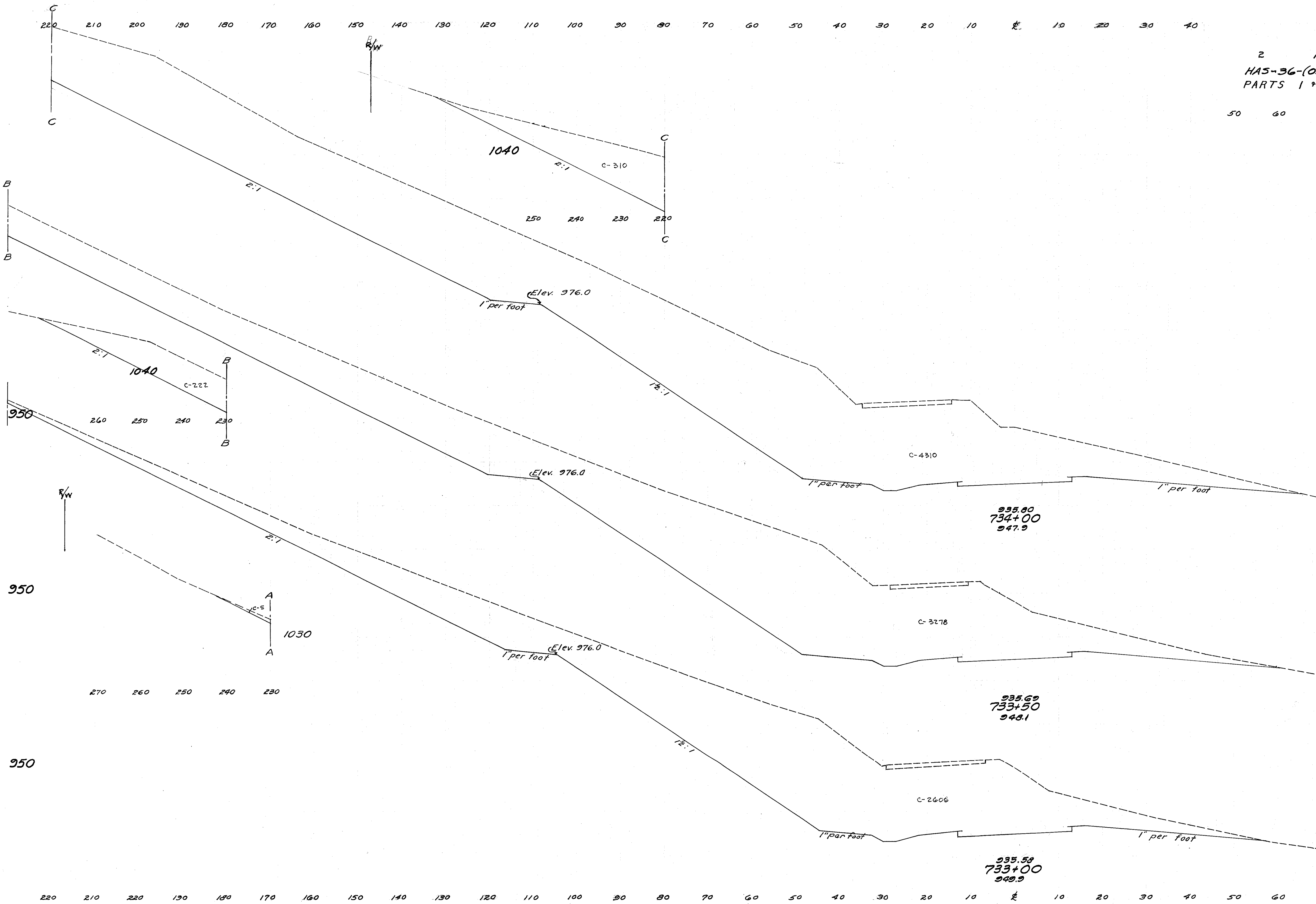
935.36  
 732+00  
 948.3

935.25  
 731+50  
 947.6

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 30 40 50 60

STA. 731+50 TO STA. 732+50

2 F-415(10) Postwar 166  
 HAS-36-(0.43-2.92)-(1.92-14.12)  
 PARTS 1 & 2



50 60

Seeding		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	

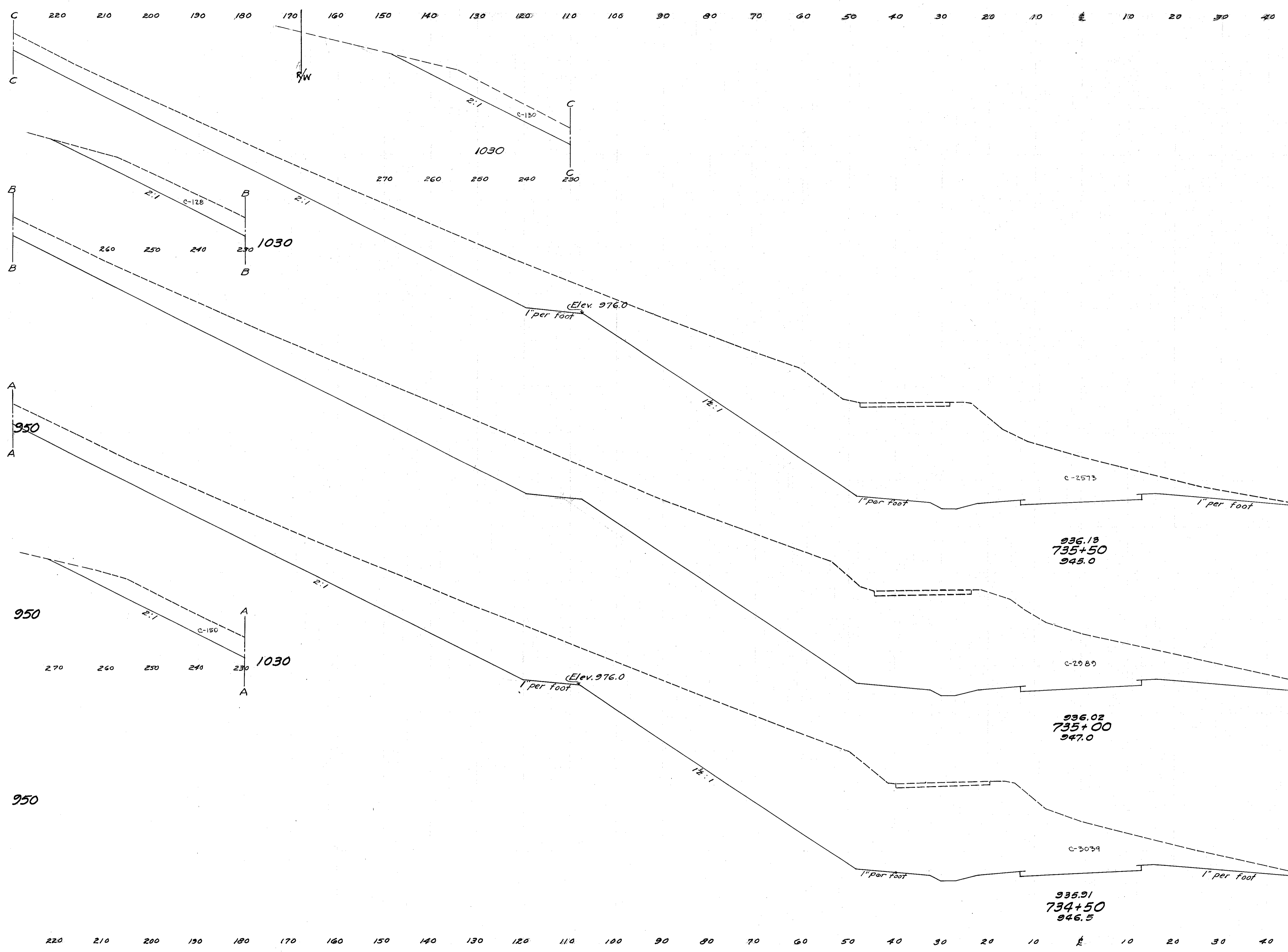
935.80  
 734+00  
 947.9

935.69  
 733+50  
 948.1

935.59  
 733+00  
 949.9

STA. 733+00 TO STA. 734+00

93  
 2 F-415(10) Postwar 16.6  
 HAS-36-(0.43-2.92)-(11.92-14.12)  
 PARTS 1 & 2



50 60

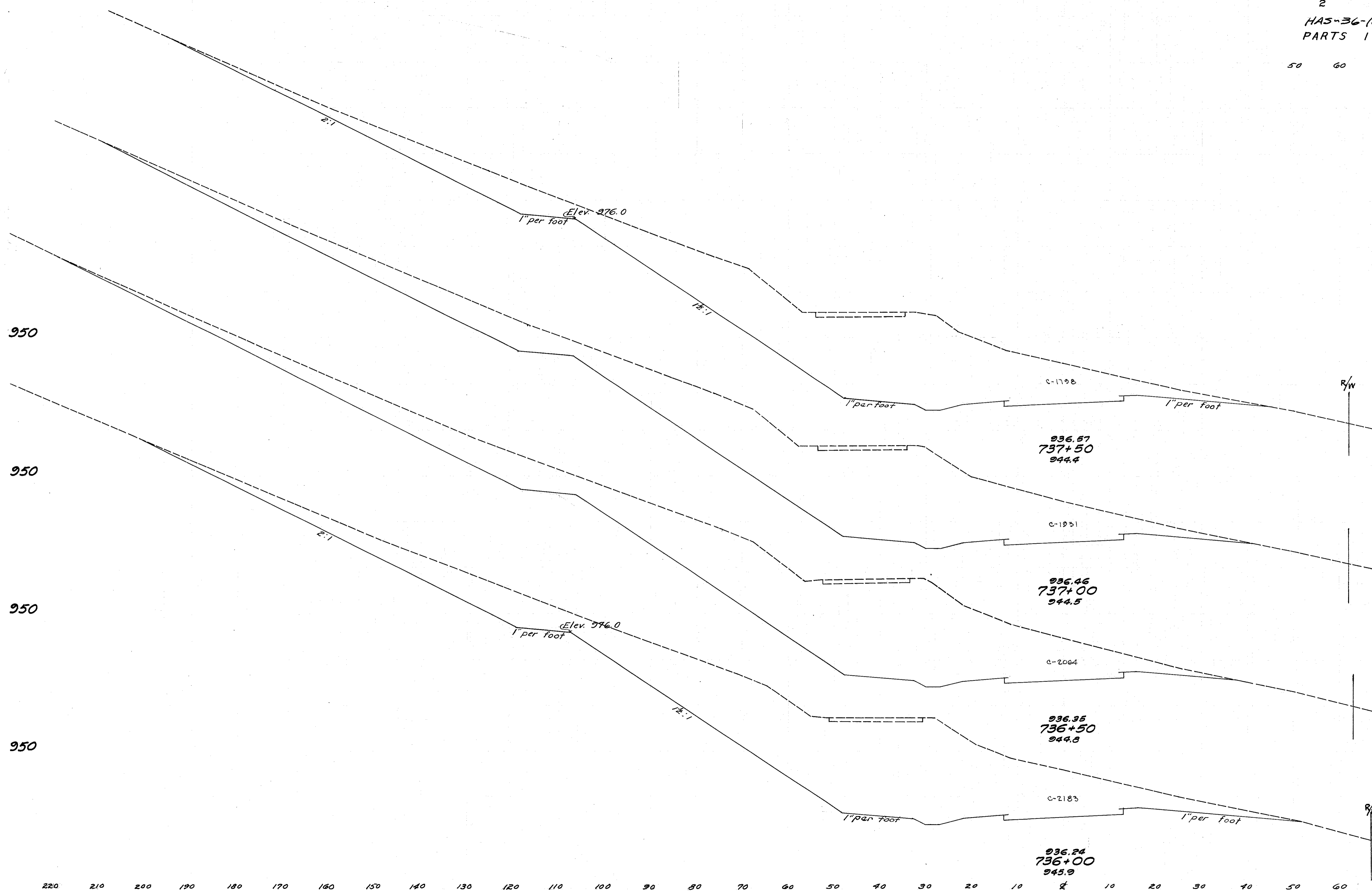
Seeding		E.A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
					4524.0
		1706			
		345	2703.0		
		1961			5389.0
		361	3117.0		
		1972			5839.0
		349	3189.0		

STA. 734+50 TO STA. 735+50

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 30 40

94  
 2 F-415(10) Postwar 166  
 HAS-36-(0.43-2.92)-(11.92-14.12)  
 PARTS 1 & 2

50 60

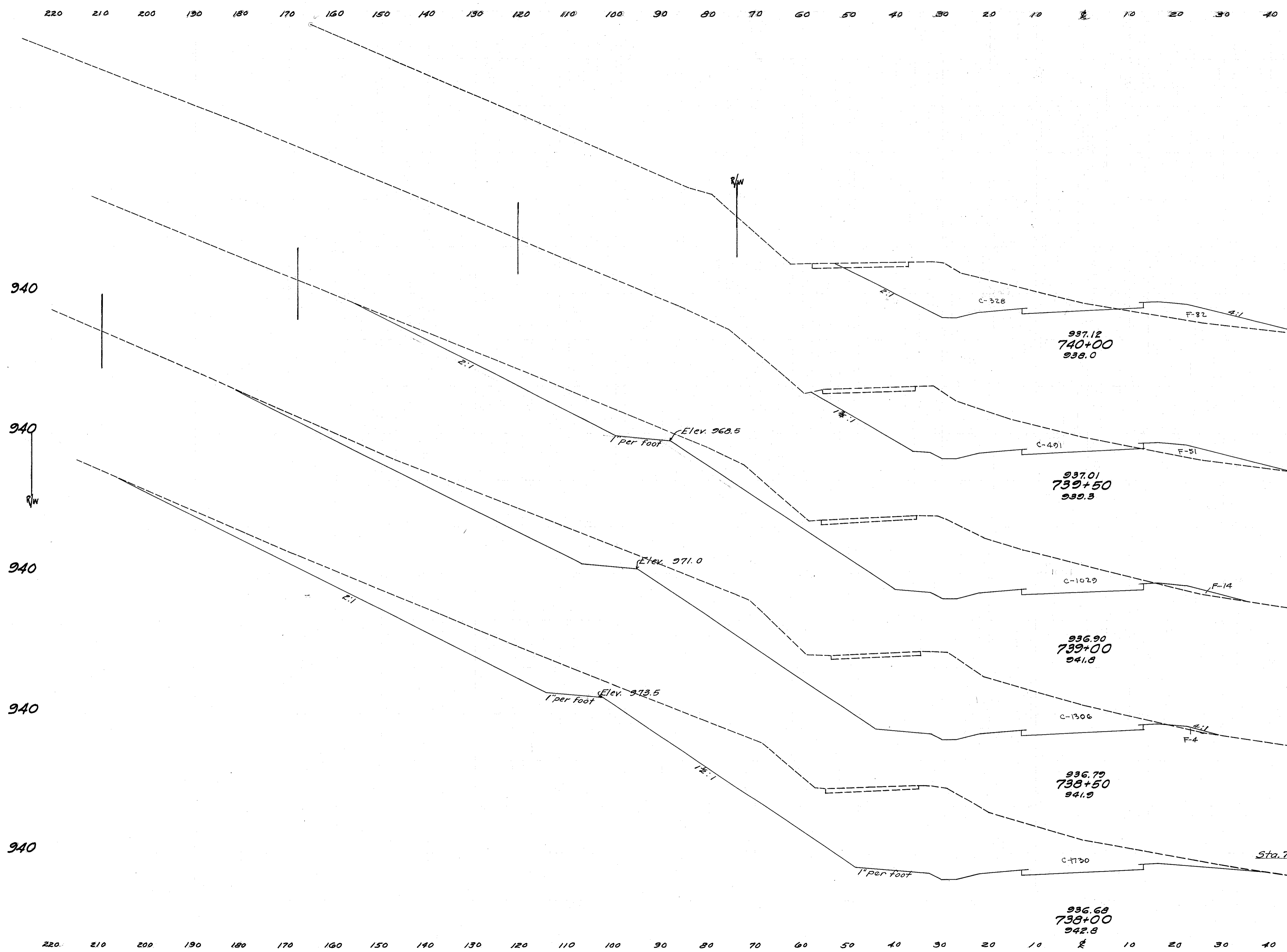


Seeding	E. A.		Cu. Yds.	
	W. S.Y.	Cut	Fill	Cut
				3267 0
1442				
	256	1798	0	
1464				3453 0
	271	1931	0	
1528				3699 0
	279	2064	0	
1522				5932 0
	269	2183	0	

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 30 40 50 60

STA. 736+00 TO STA. 737+50

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

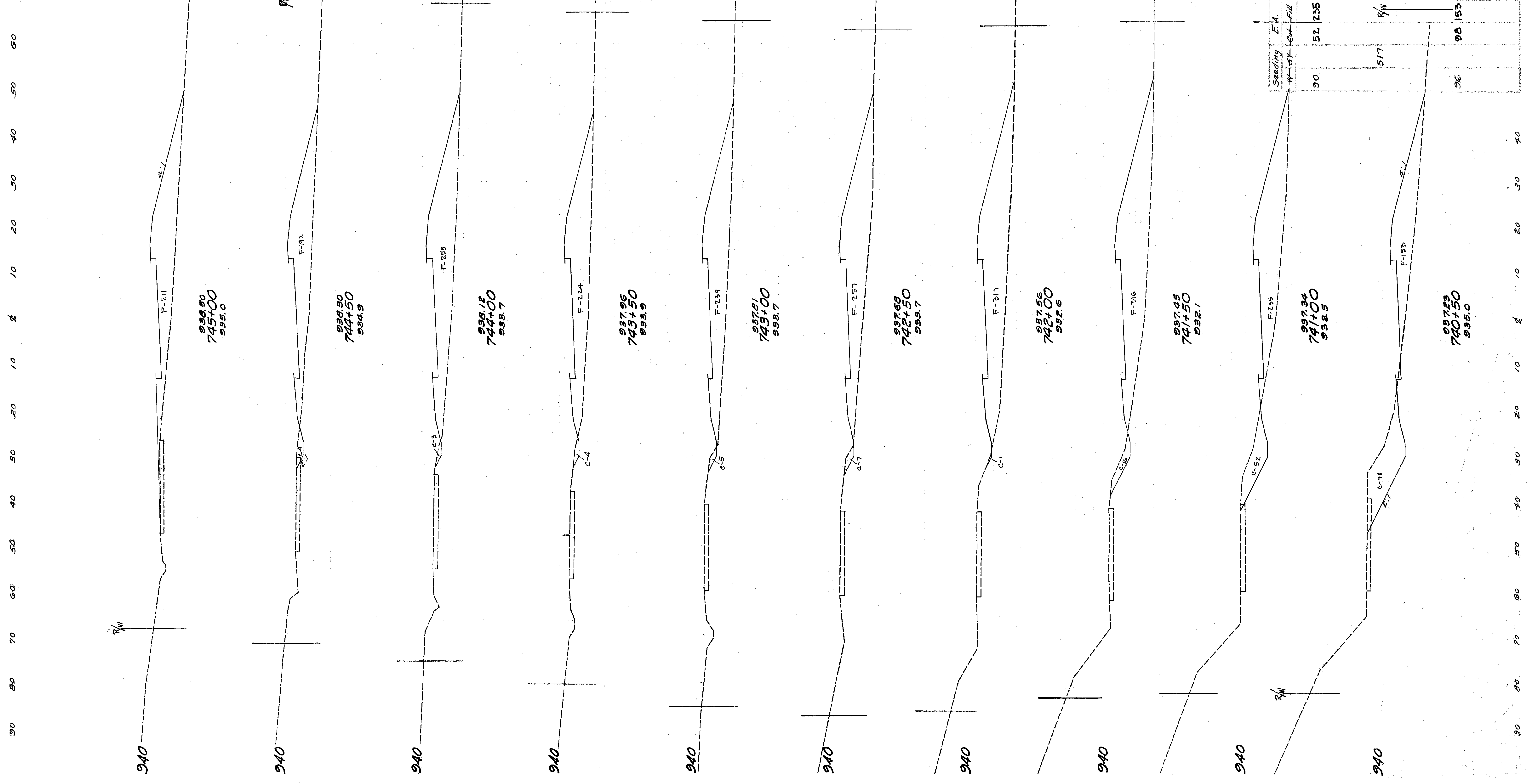


Seeding	E. A.		Cu. Yds	
	W	S.Y. Cut	Fill	Fill
				391 218
547				
101	324	82		
569				755 123
104	491	51		
861				1407 60
206	1079	14		
1206				2162 17
228	1306	4		
34			69	0
1364			2811	4
1330			2742	4
263	1730	0		

STA. 738+00 TO STA. 740+00

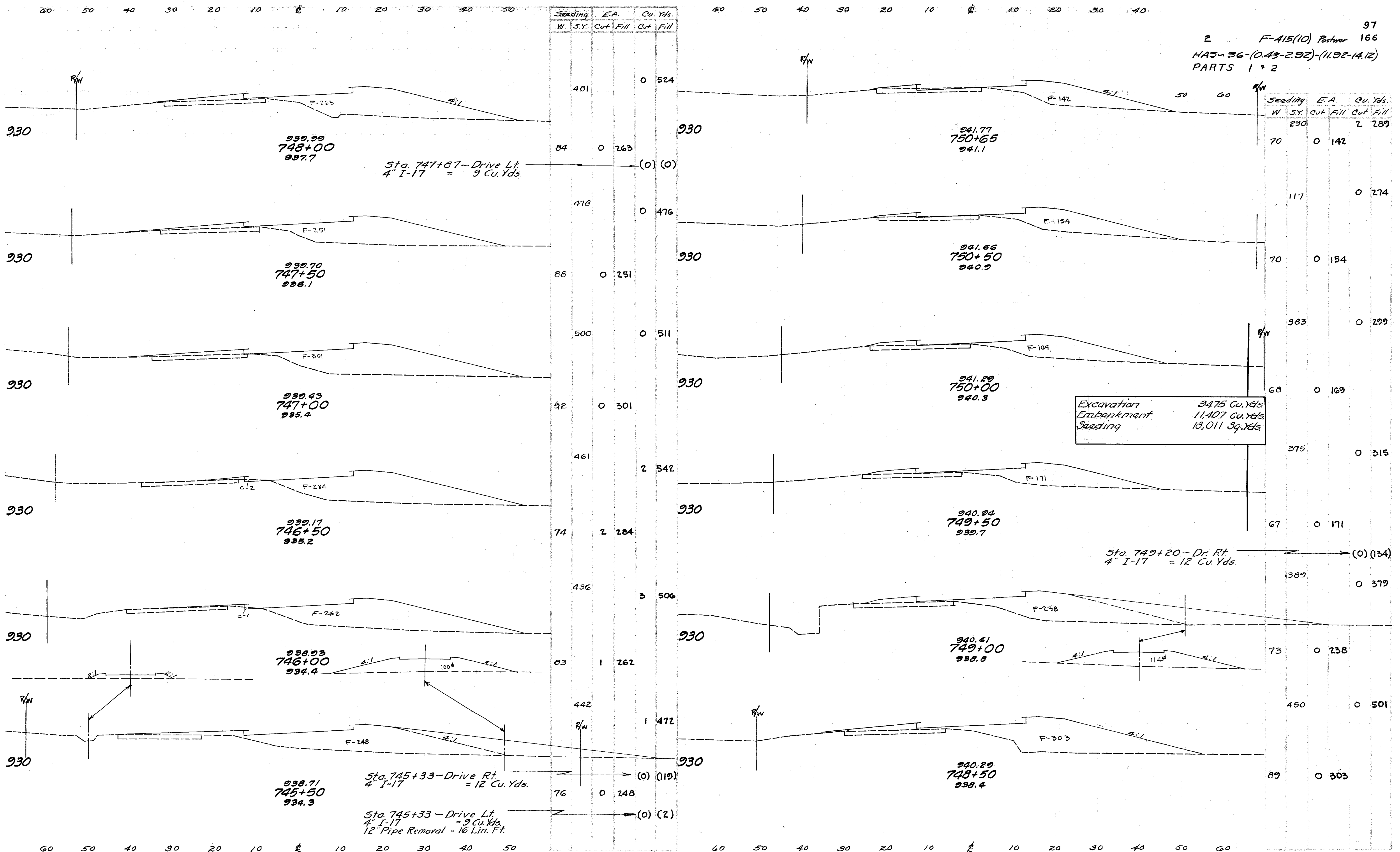
Seeding	E. A.	Cu. Yds.
W. S.Y.	Cut	Fill
472	0	425
94	0	211
472	8	373
76	9	192
431	11	417
79	3	258
425	6	446
74	4	224
422	8	423
70	5	239
442	11	459
61	7	257
453	7	531
62	1	317
475	16	586
69	16	316
497	63	510

2 F-415(10) Postwar 96  
 HAS-36-(043-292)-(11.92-14.12) 166  
 PARTS 1 & 2



STA 740 +50 TO STA. 745+00





Excavation 2475 Cu. Yds.  
 Embankment 11,407 Cu. Yds.  
 Seeding 13,011 Sq. Yds.

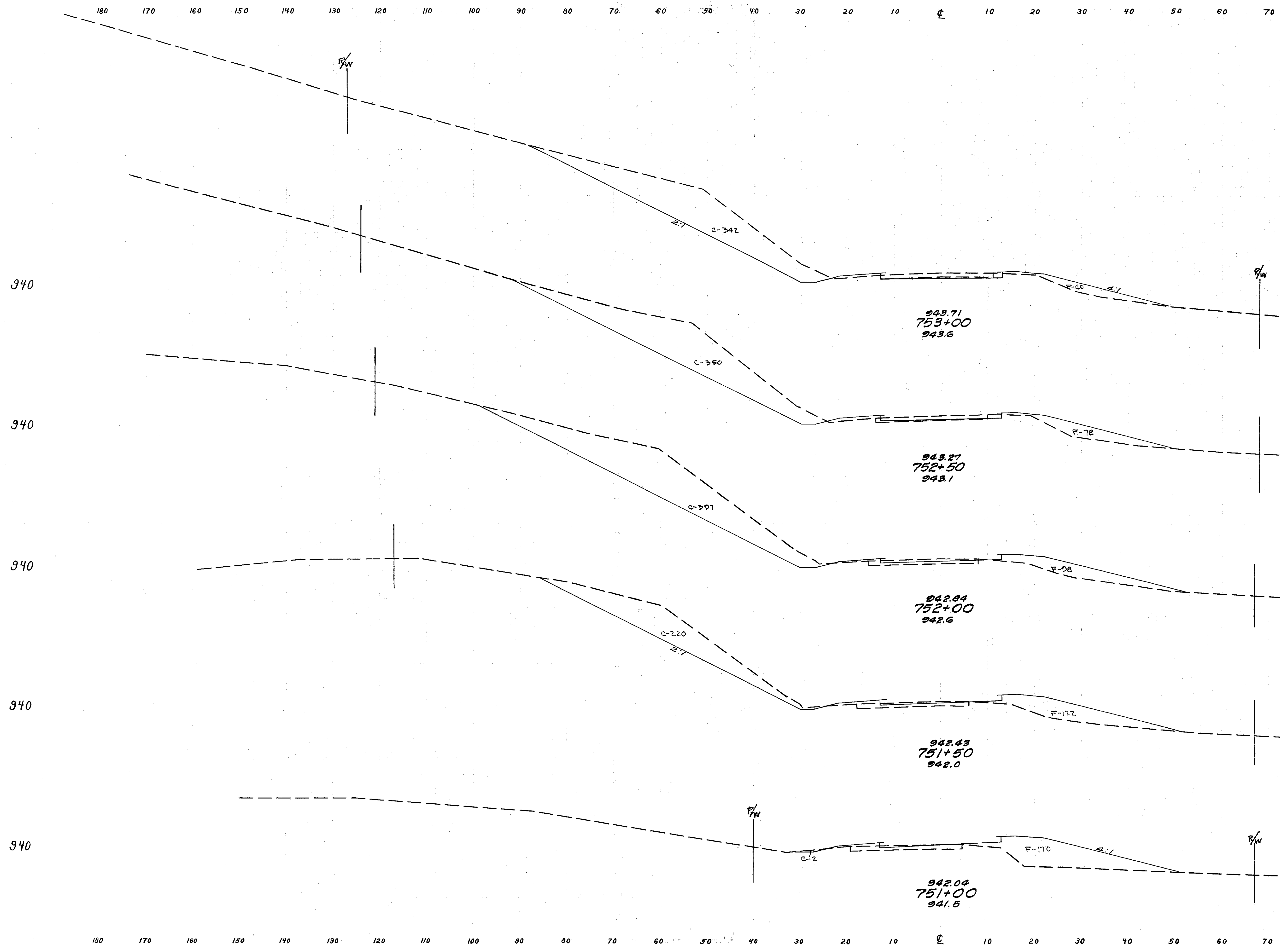
Sta. 747+87 - Drive Lt.  
 4" I-17 = 9 Cu. Yds.

Sta. 749+20 - Dr. Rt.  
 4" I-17 = 12 Cu. Yds.

Sta. 745+33 - Drive Rt.  
 4" I-17 = 12 Cu. Yds.

Sta. 745+33 - Drive Lt.  
 4" I-17 = 9 Cu. Yds.  
 12" Pipe Removal = 16 Lin. Ft.

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.K. Cut	Fill	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	

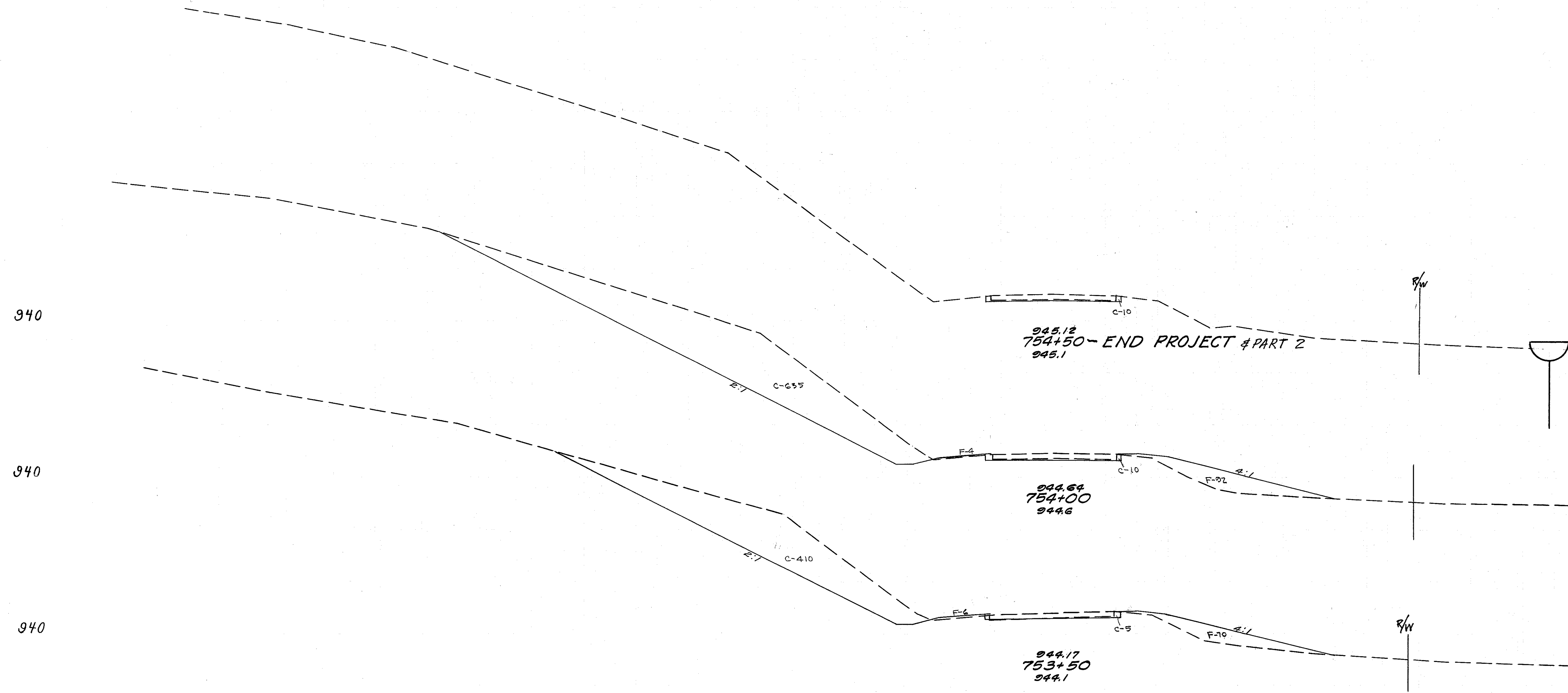
STA. 751+00 TO STA. 753+00

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

2 F-415(10) Postwar 99  
 HAS-36-(0.43-2.92)-(11.92-14.12) 166  
 PARTS 1 & 2

80 90

Seeding		E. A.		Cu. Yds.	
W	S.Y.	Cut	Fill	Cut	Fill
		20	10	0	
		553		606	89
		179		645	96
		928		981	159
		155		415	76



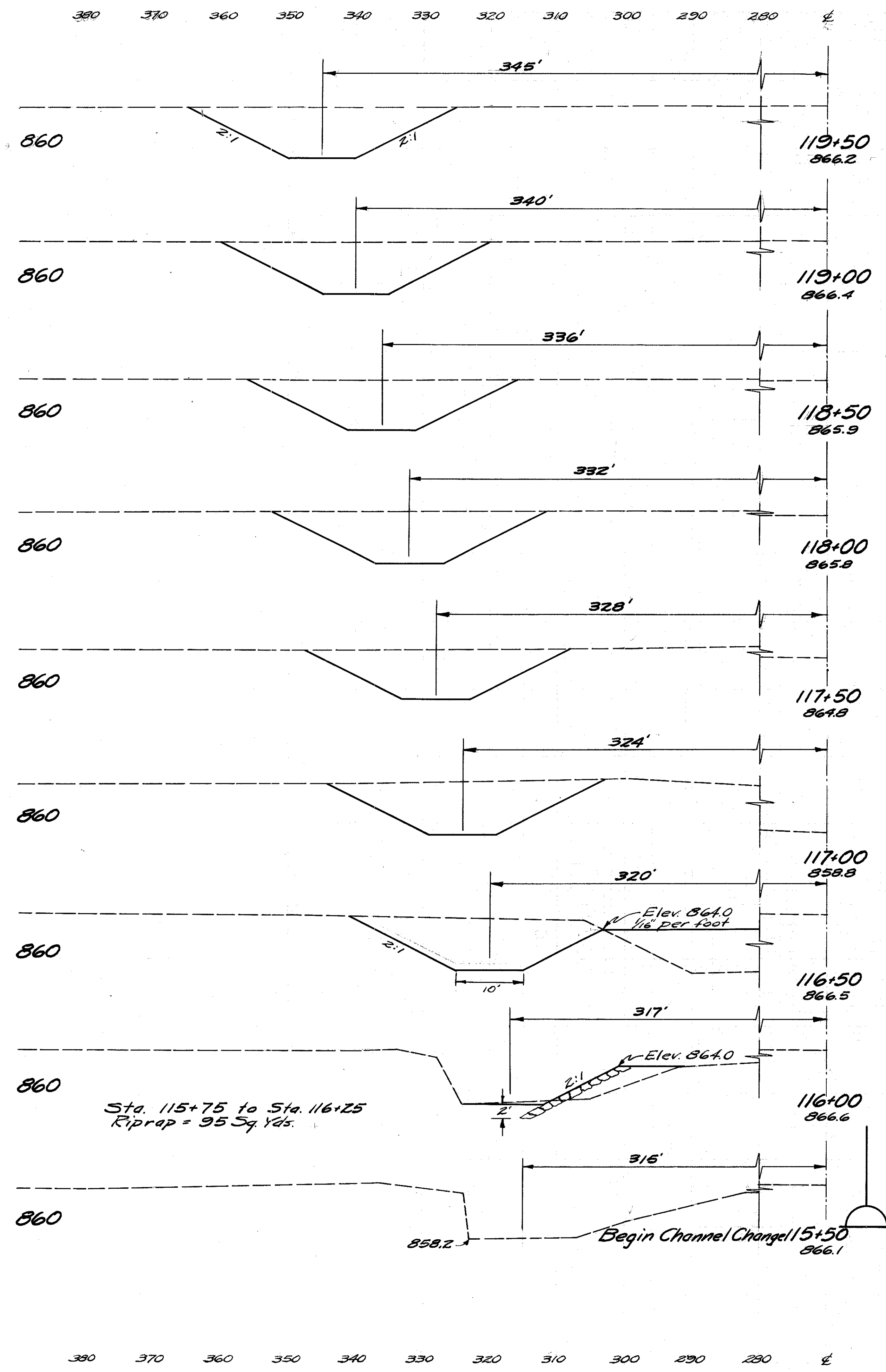
940

940

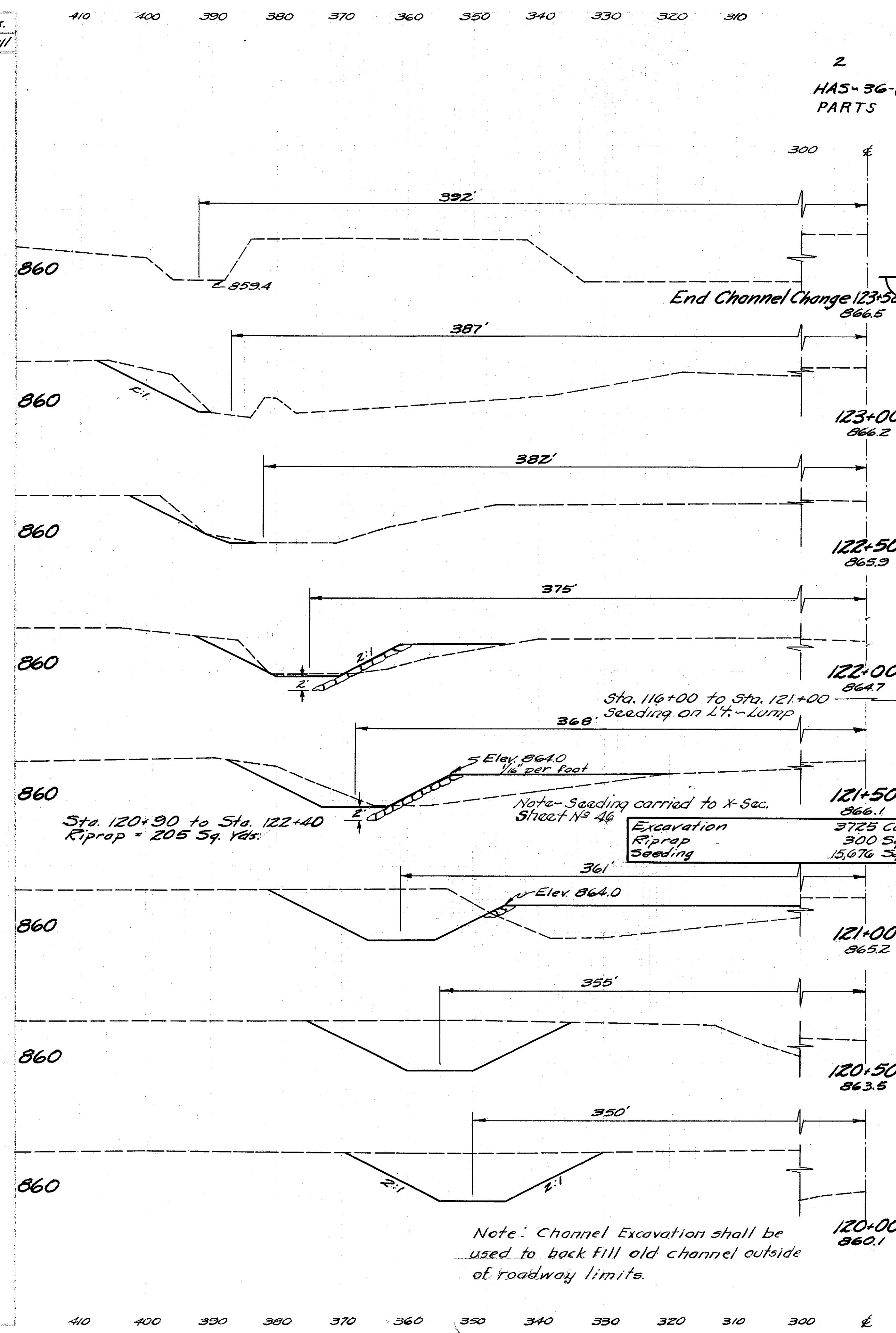
940

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

STA. 753+50 TO STA. 754+50



Seeding	W. S.Y.	End Area		Cu. Yds.	
		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		

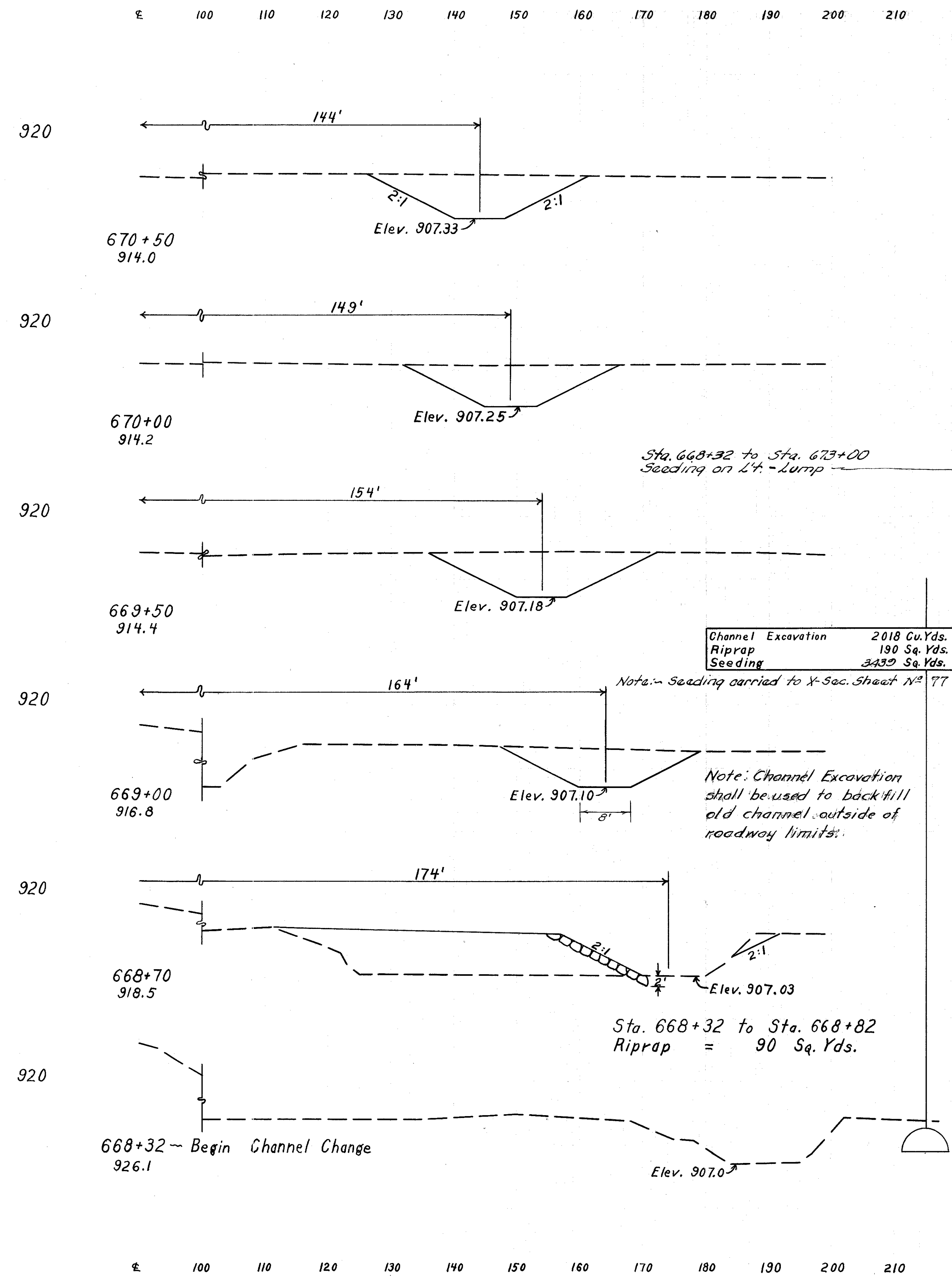


Seeding	W. S.Y.	End Area		Cu. Yds.	
		Cut	Fill	Cut	Fill
20		0	0		
III				32	
20		35	0		
III				47	
20		16	0		
III				28	
20		14	-		
III				55	
20		45	-		
III				205	
20		176	-		
III				348	
20		200	0		
III				360	
20		189	0		

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

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

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



Sta. 668+32 to Sta. 673+00  
 Seeding on L't. - Lump

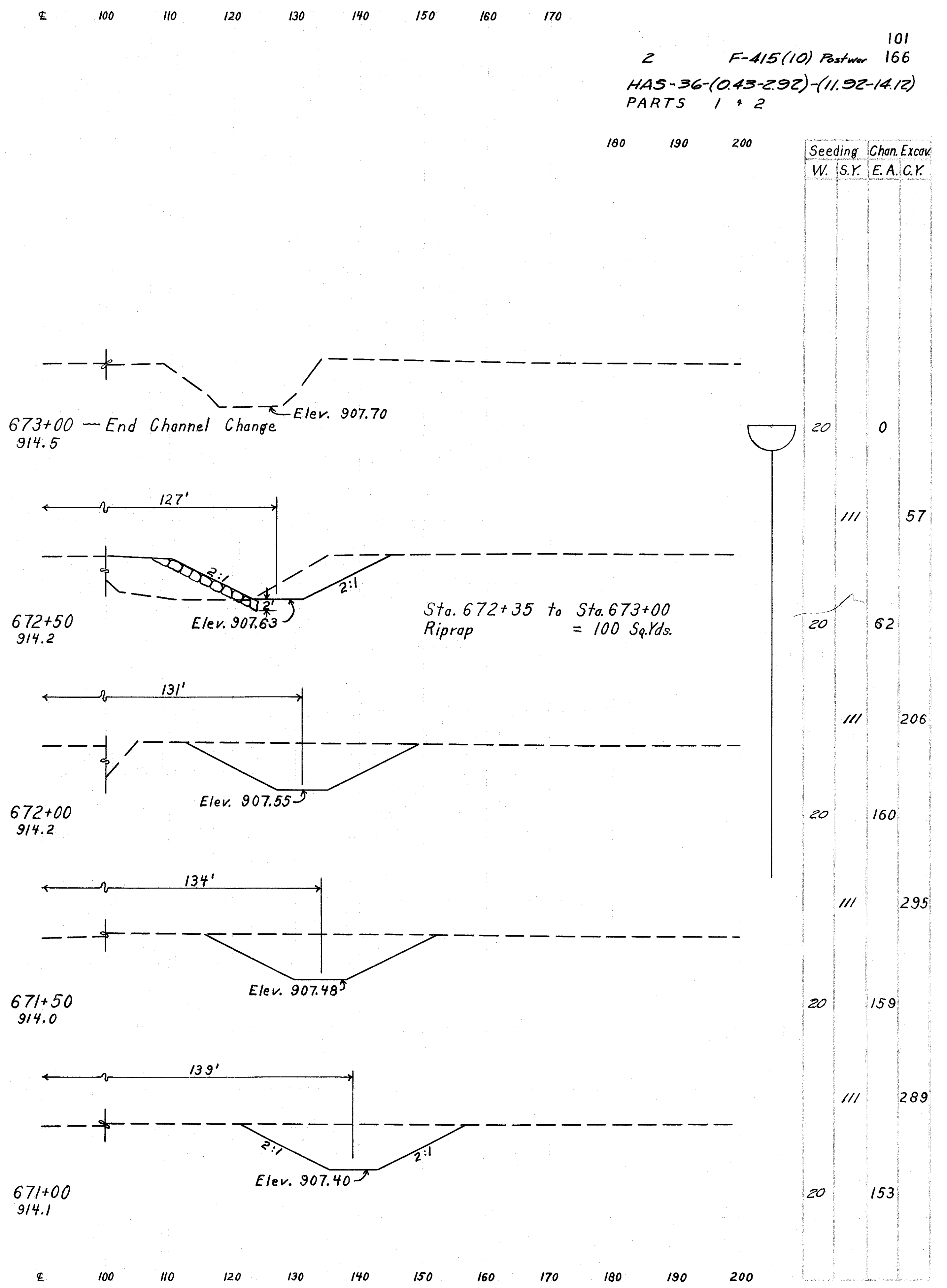
Channel Excavation	2018 Cu.Yds.
Riprap	190 Sq. Yds.
Seeding	3430 Sq. Yds.

Note: Seeding carried to X-Sec. Sheet N<sup>o</sup> 77

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

Sta. 668+32 to Sta. 668+82  
 Riprap = 90 Sq. Yds.

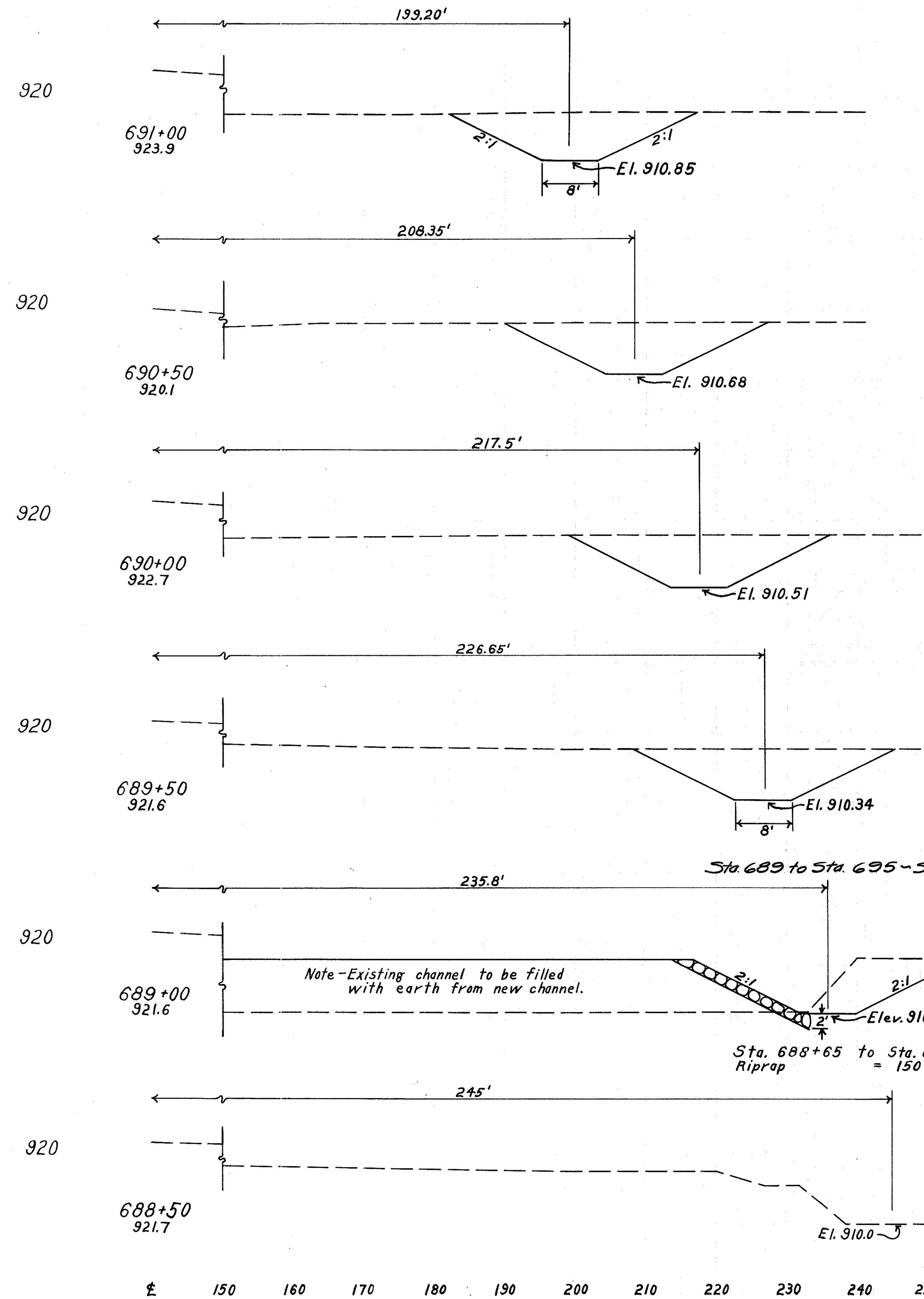
Seeding	Chan. Excav.	
	W. S.Y.	E. A. C.Y.
///		284
20	154	
///		272
20	140	
(2400)		
///		280
20	162	
///		260
20	119	
67	70	
20	7	
84	5	
20	0	



Sta. 672+35 to Sta. 673+00  
 Riprap = 100 Sq. Yds.

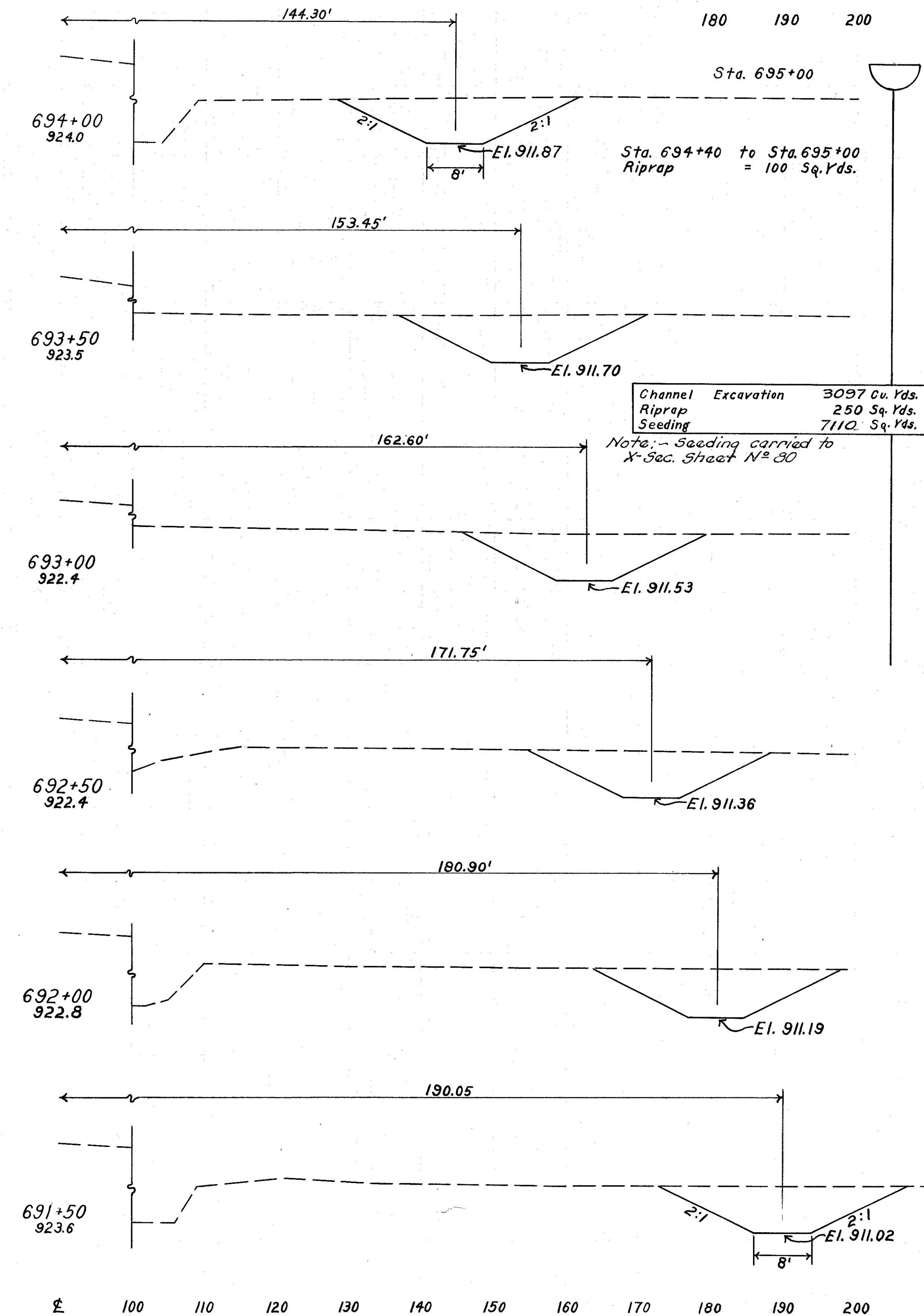
Seeding	Chan. Excav.	
	W. S.Y.	E. A. C.Y.
///		101
20	0	
///		57
20	62	
///		206
20	160	
///		295
20	159	
///		289
20	153	

± 150 160 170 180 190 200 210 220 230 240 250



Seeding	Channel Excav.	
	W. S.Y.	E.A. C.Y.
III	276	
20	155	
III	304	
20	173	
III	318	
20	170	
III	314	
20	169	
III	241	
20	91	
III	84	
20	0	

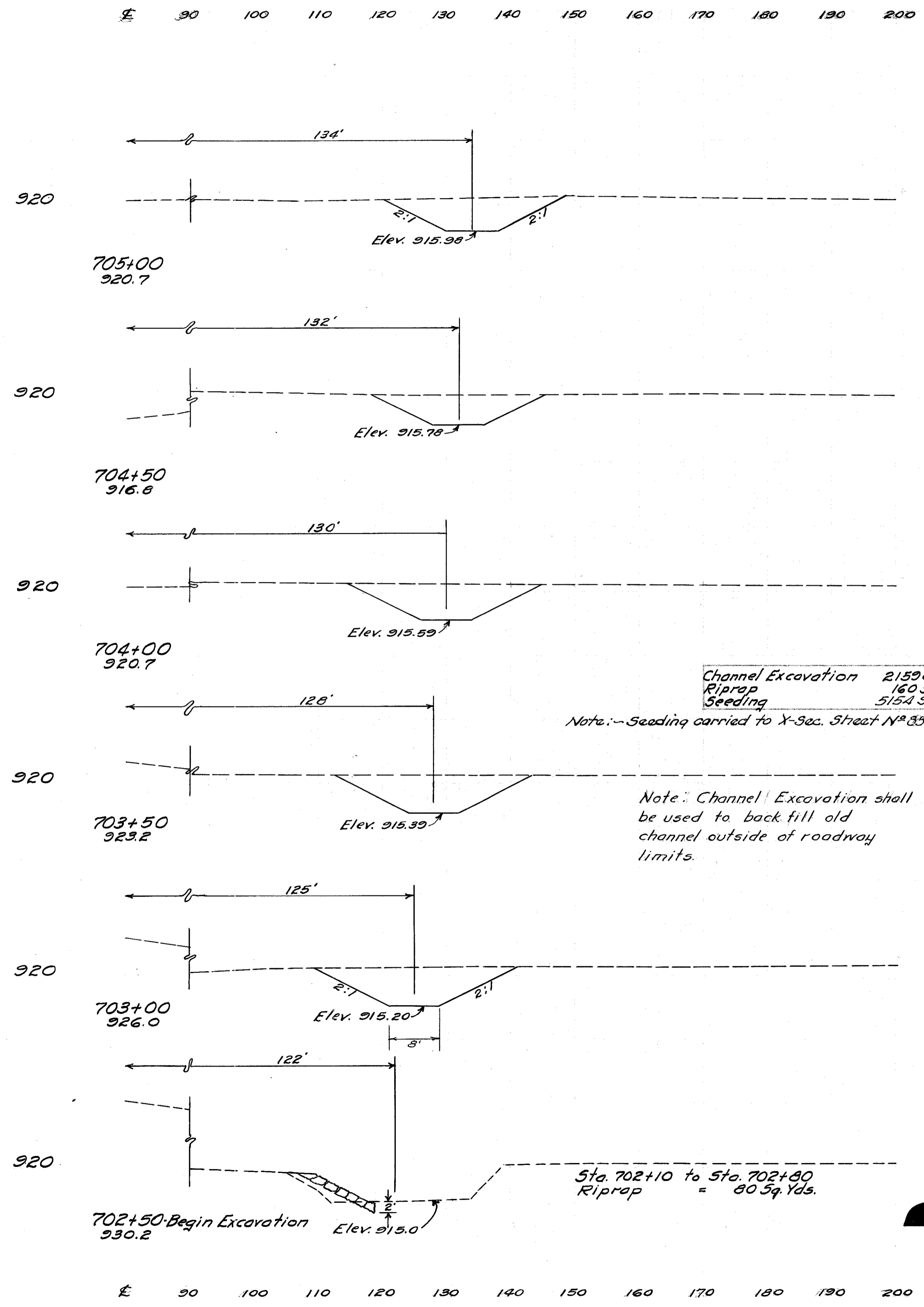
± 100 110 120 130 140 150 160 170



Seeding	Channel Excav.	
	W. S.Y.	E.A. C.Y.
20	0	254
20	137	
III	260	
20	144	
III	259	
20	136	
III	256	
20	140	
III	264	
20	145	
III	267	
20	143	

102  
 2 F-415(10) Postwar 166  
 HAS-36-(043-2.92)-(11.92-14.12)  
 PARTS 1 & 2

2 F-415(10) Postwar 103  
 HAS-36-(043-2.92)-(11.92-14.12) 166  
 PARTS 1+2



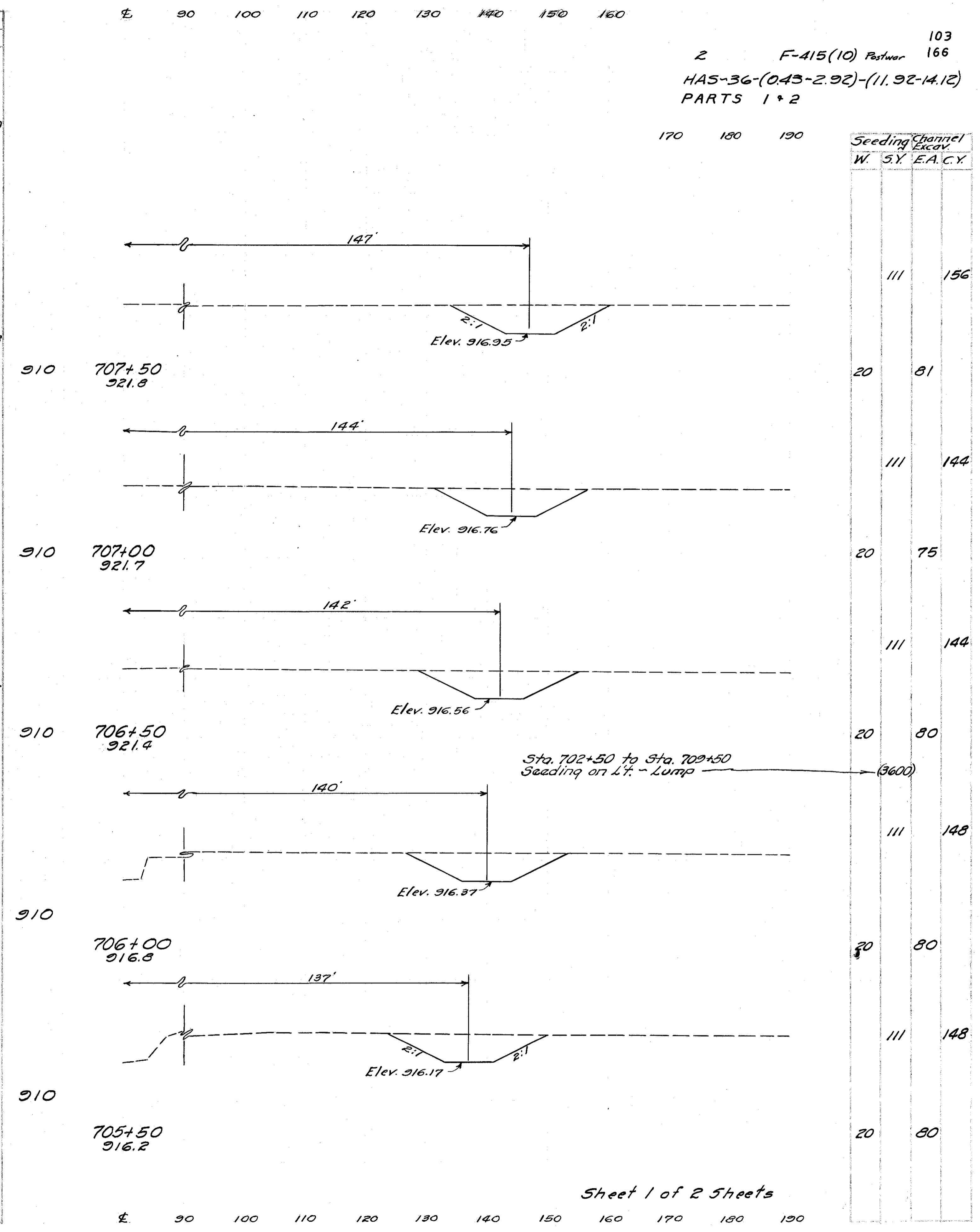
Channel Excavation 2159 Cu. Yds.  
 Riprap 160 Sq. Yds.  
 Seeding 5154 Sq. Yds.

Note: Seeding carried to X-sec. Street N<sup>o</sup> 85

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

Sta. 702+10 to Sta. 702+80  
 Riprap = 80 Sq. Yds.

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



Sta. 702+50 to Sta. 709+50  
 Seeding on Lt. - Lump (3600)

Seeding W. SY.	Channel Excav. E.A.C.Y.	
	W. SY.	E.A.C.Y.
111	156	
20	81	
111	144	
20	75	
111	144	
20	80	
111	148	
20	80	
111	148	
20	80	

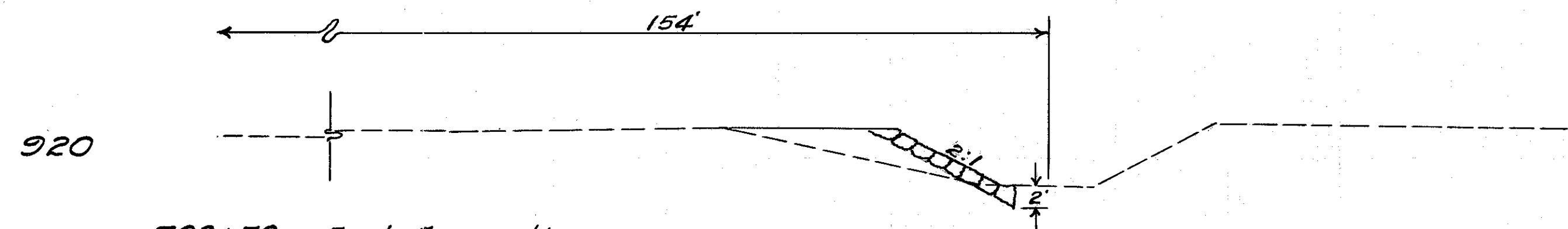
Sheet 1 of 2 Sheets

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

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

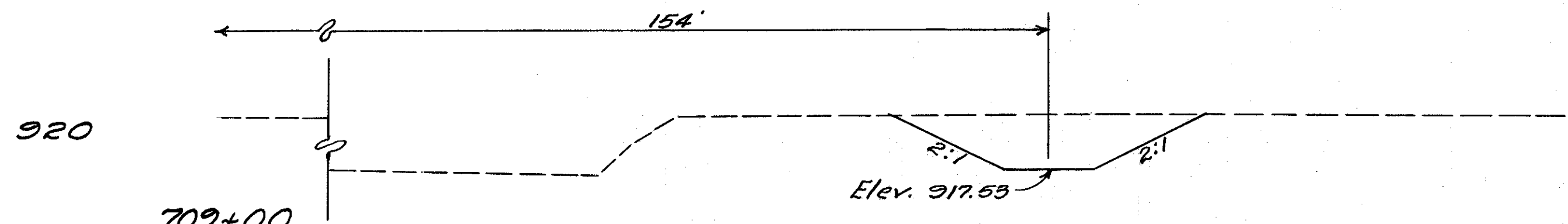
Seeding	Channel
W. S.Y.	E.A.C.Y.
20	0
111	83
20	90
122	171
20	78
100	137
20	87

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

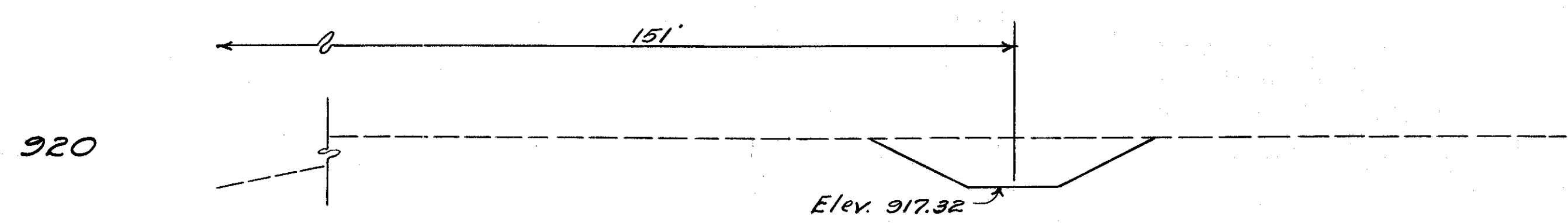


709+50 ~ End Excavation  
921.9

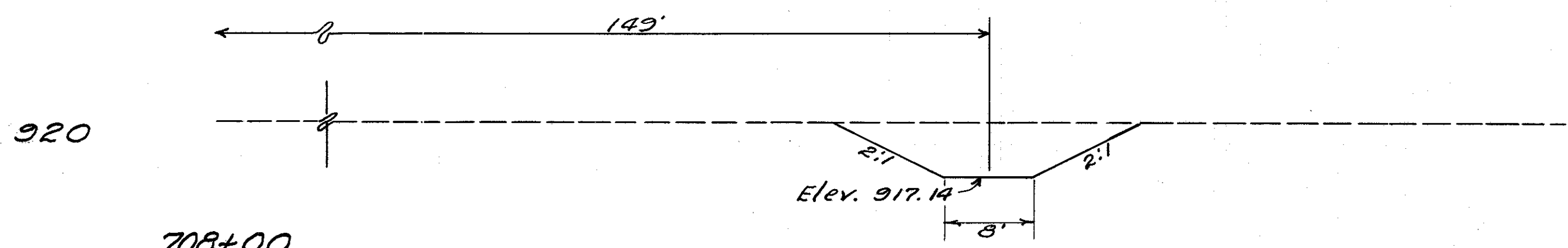
Sta. 709+20 to Sta. 709+80  
Riprap = 80 Sq. Yds.



709+00  
922.1



708+45  
917.3



708+00  
921.9

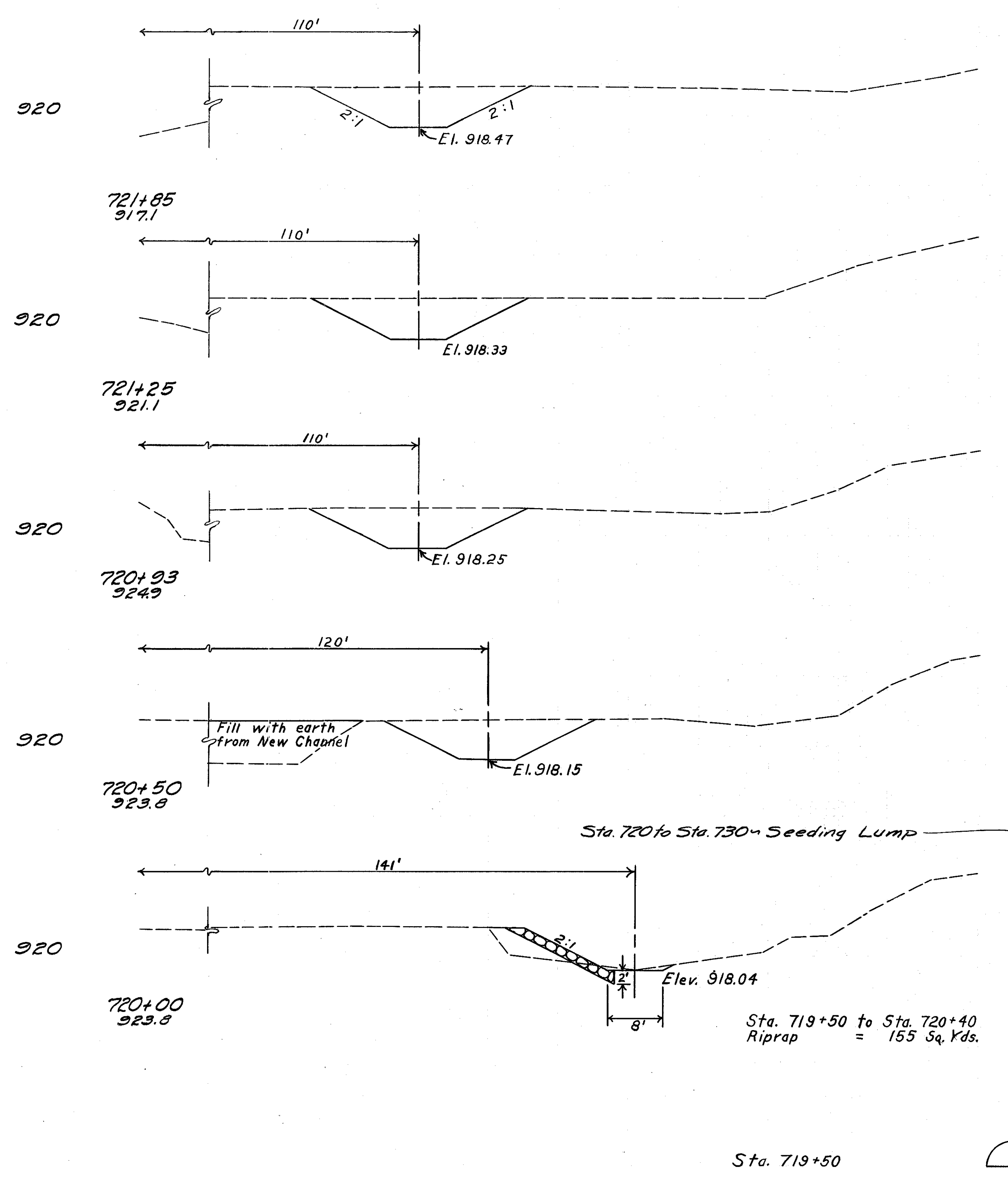
± 90 100 110 120 130 140 150 160 170 180 190 200

Sheet 2 of 2 Sheets

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



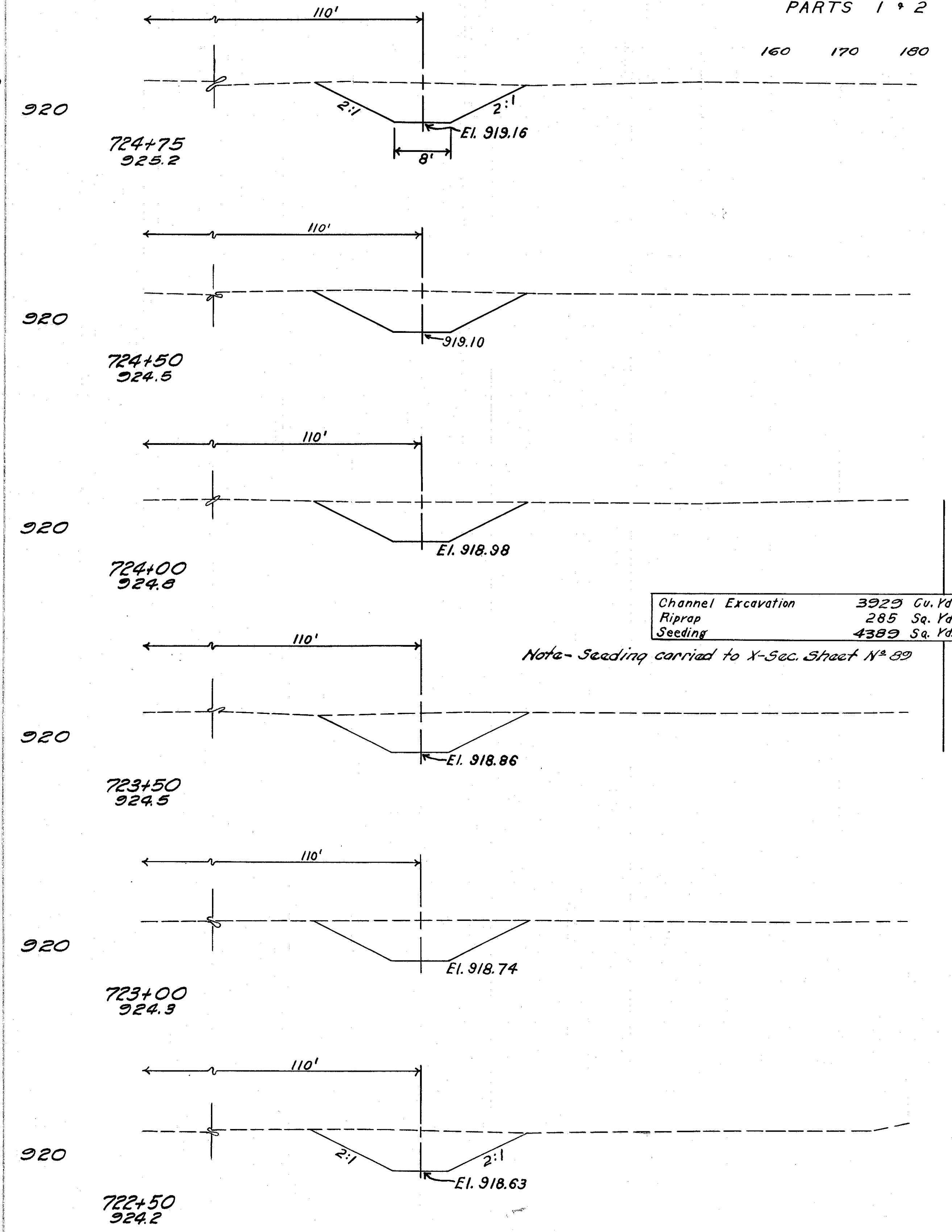
£ 80 90 100 110 120 130 140 150 160 170 180 190



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

£ 80 90 100 110 120 130 140 150 160 170 180 190

£ 80 90 100 110 120 130 140 150



Seeding	Channel Excav.	
	W. S.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	

£ 80 90 100 110 120 130 140 150 160 170 180

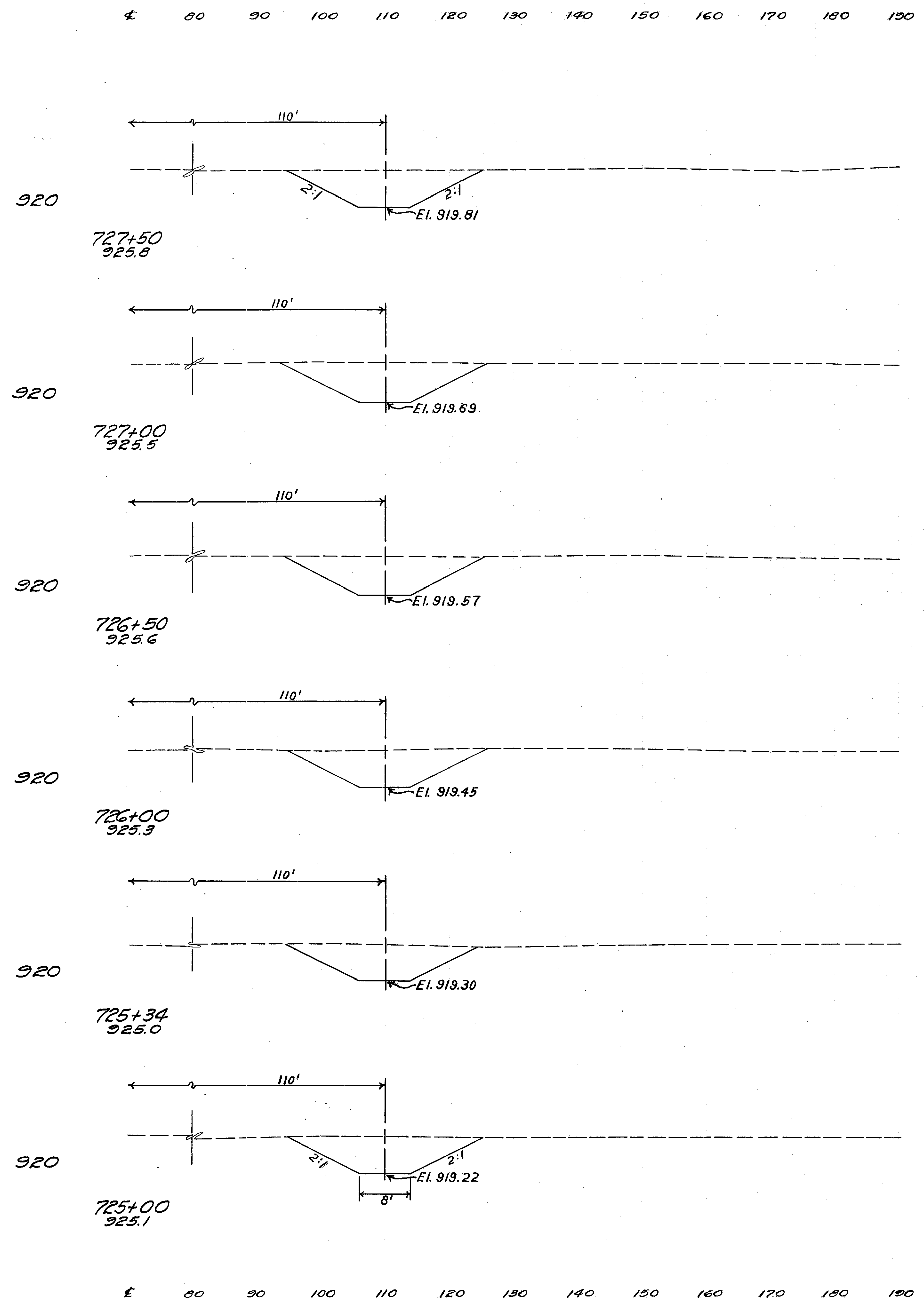
105  
2 F-415(10) Postwar 166  
HAS-36-(0.43-2.92)-(11.92-14.12)  
PARTS 1 & 2

Channel Excavation 3929 Cu. Yds.  
Riprap 285 Sq. Yds.  
Seeding 4389 Sq. Yds.

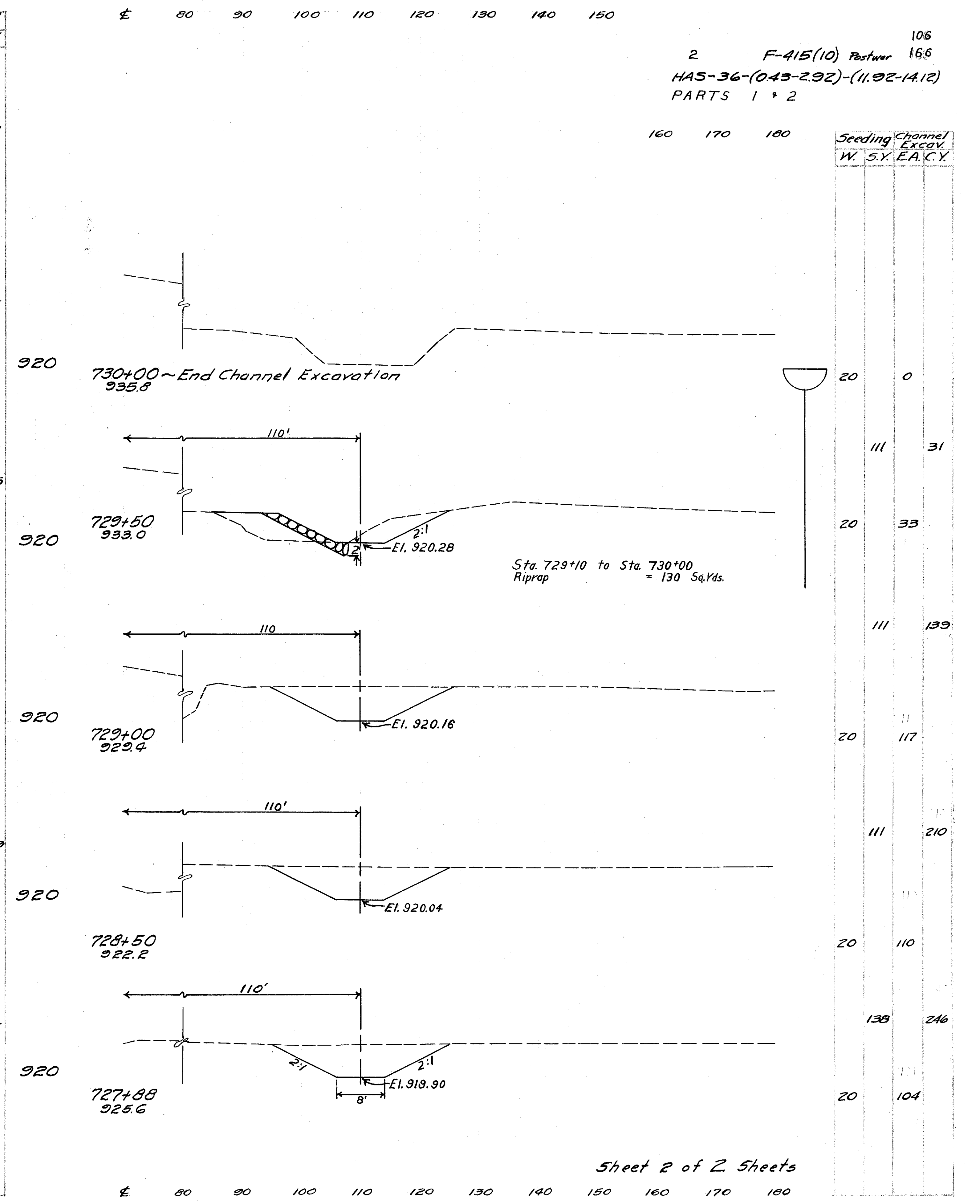
Sheet 1 of 2 Sheets

STA. 720+00 TO STA. 724+75-CHANNEL CHANGE

106  
 2 F-415(10) Postwar 166  
 HAS-36-(043-292)-(11.92-14.12)  
 PARTS 1 & 2



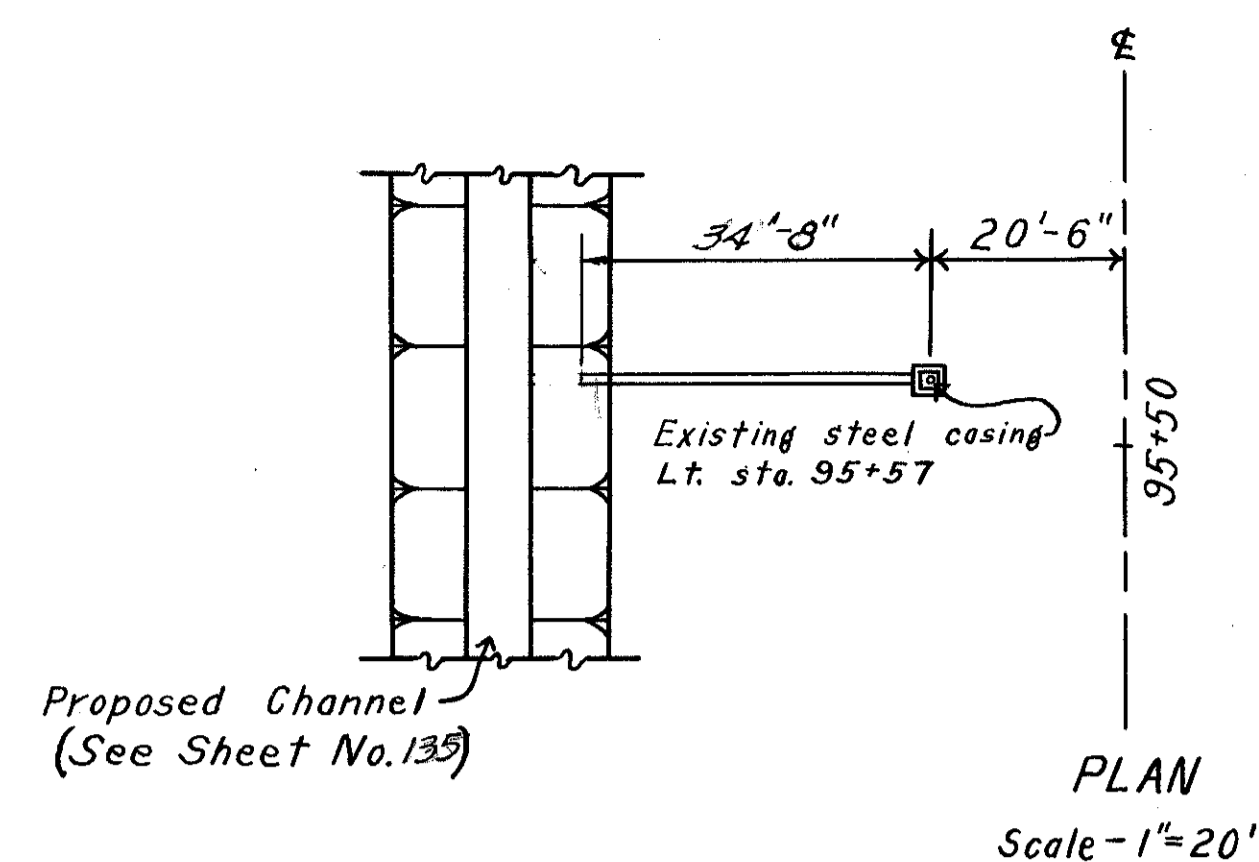
Seeding W. S.Y.	Channel Excav. E.A.C.Y.	
	W. S.Y.	E.A.C.Y.
84	156	
20	117	
111	231	
20	132	
111	235	
20	122	
111	221	
20	117	
147	279	
20	111	
76	142	
20	115	



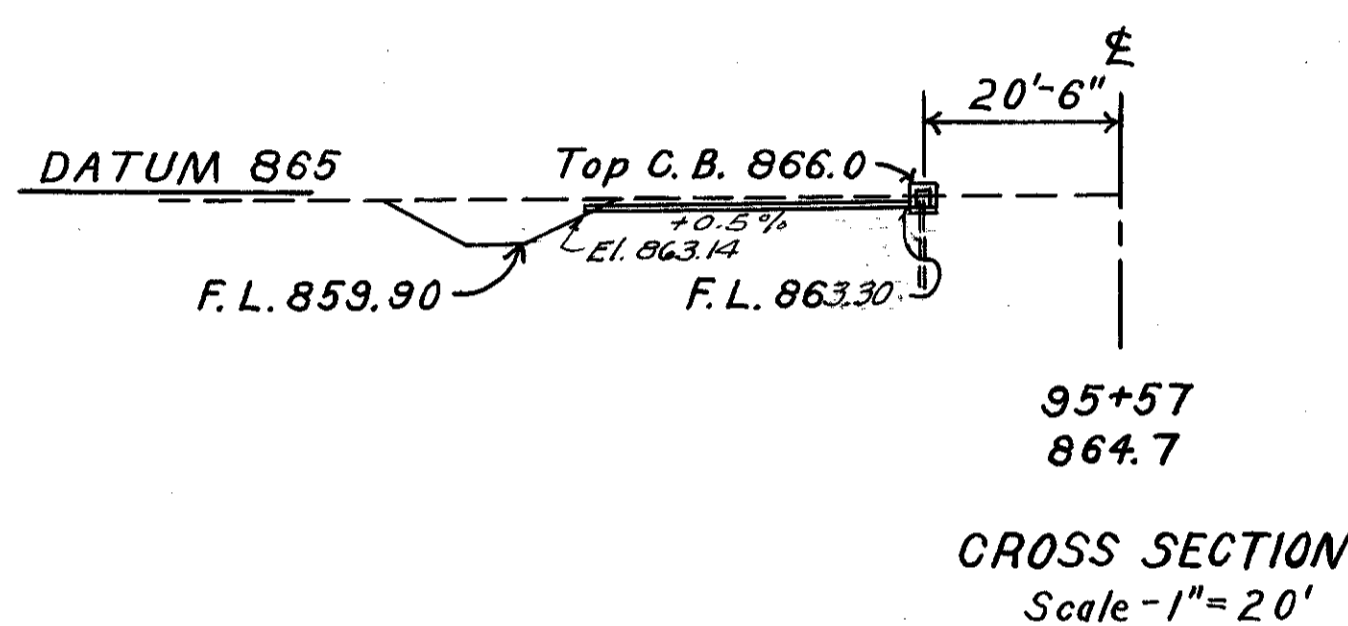
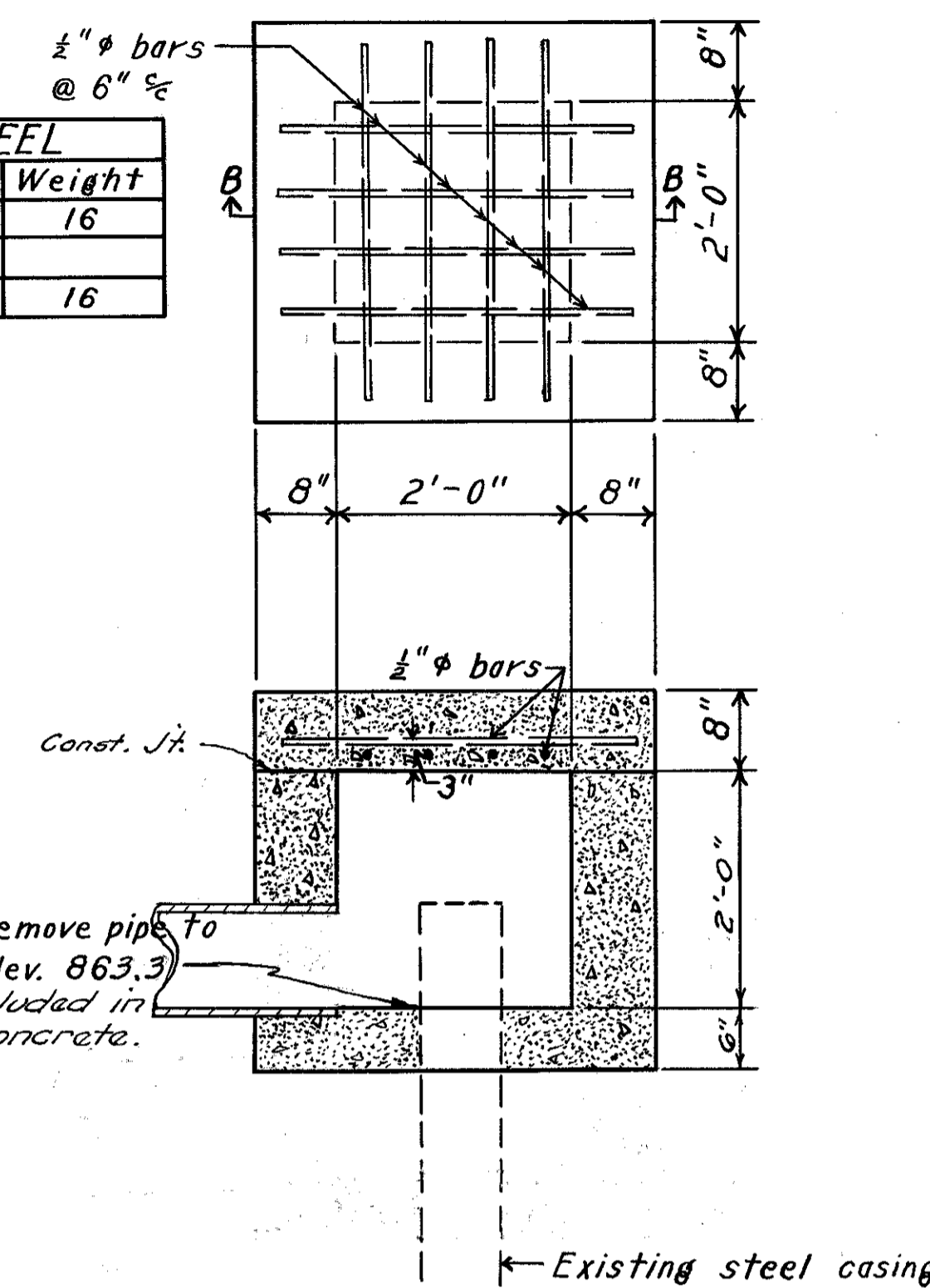
Seeding W. S.Y.	Channel Excav. E.A.C.Y.	
	W. S.Y.	E.A.C.Y.
20	0	
111	31	
20	33	
111	139	
20	117	
111	210	
20	110	
138	246	
20	104	

Sheet 2 of 2 Sheets

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



REINFORCING STEEL				
No.	Size	Shape	Length	Weight
8	½" φ	Straight	3'-0"	16
Total lbs.				16



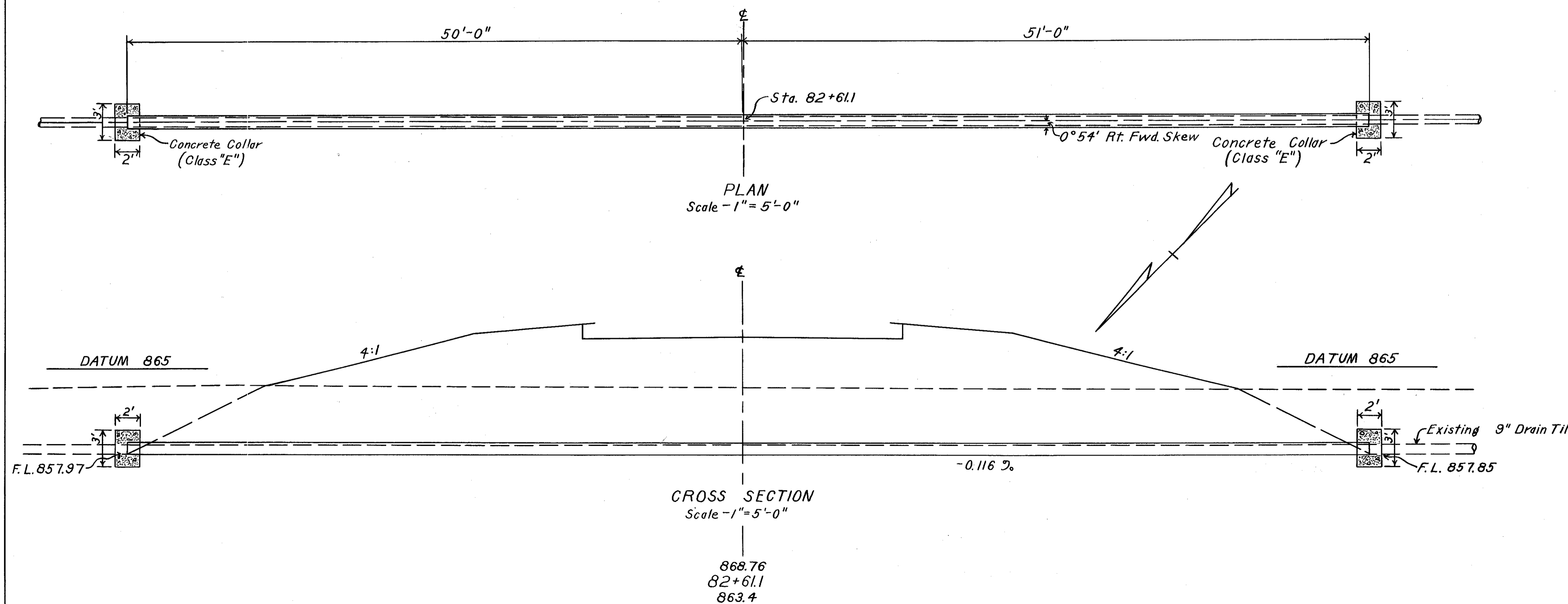
**WORK REQUIRED**  
Build 12" x 33'-0" storm sewer and connect to concrete catch basin as shown.

**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

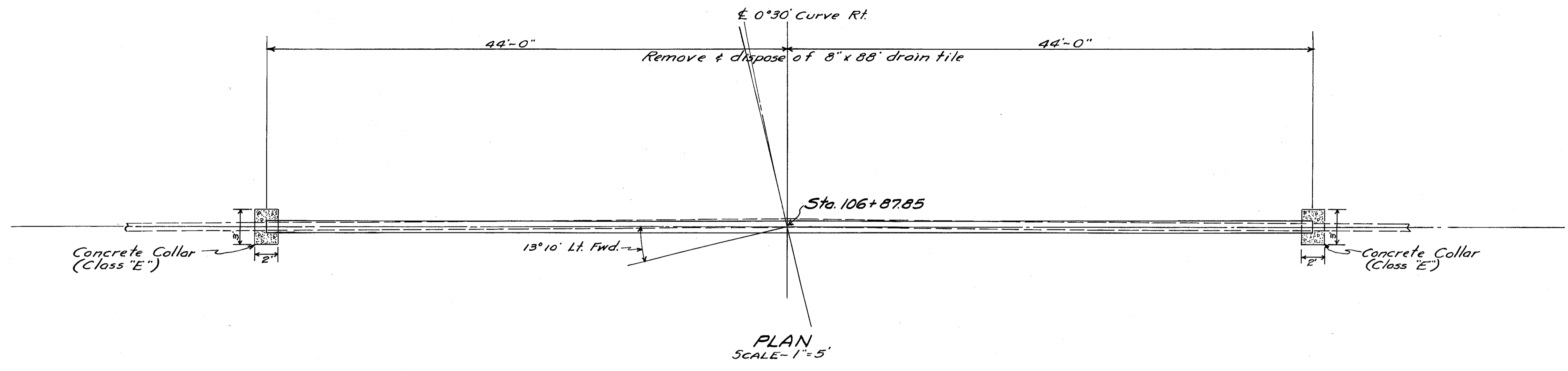
STA. 82+61.1  
STORM SEWER DETAIL

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

108  
166

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

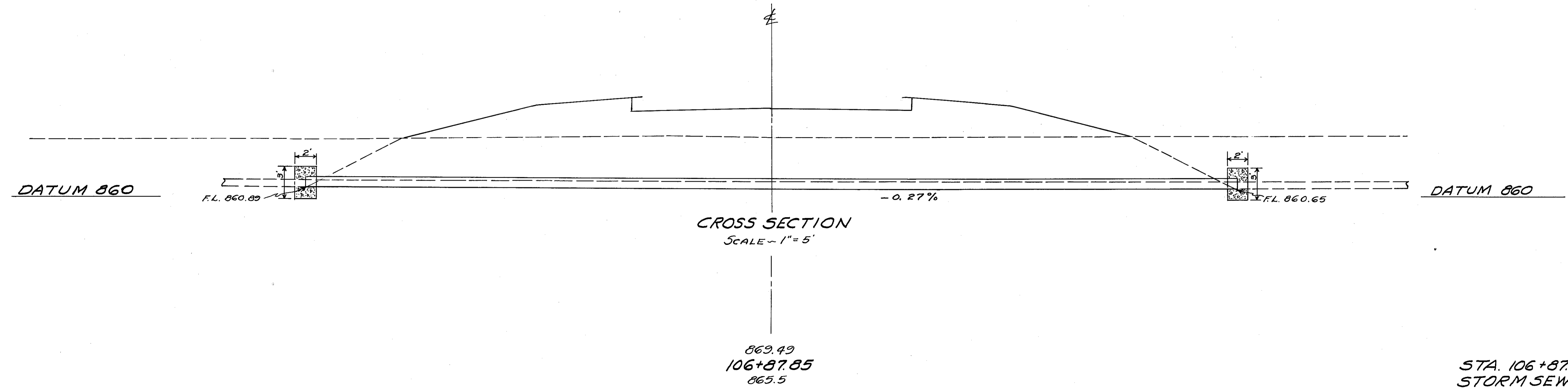
PARTS 1 & 2



**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.

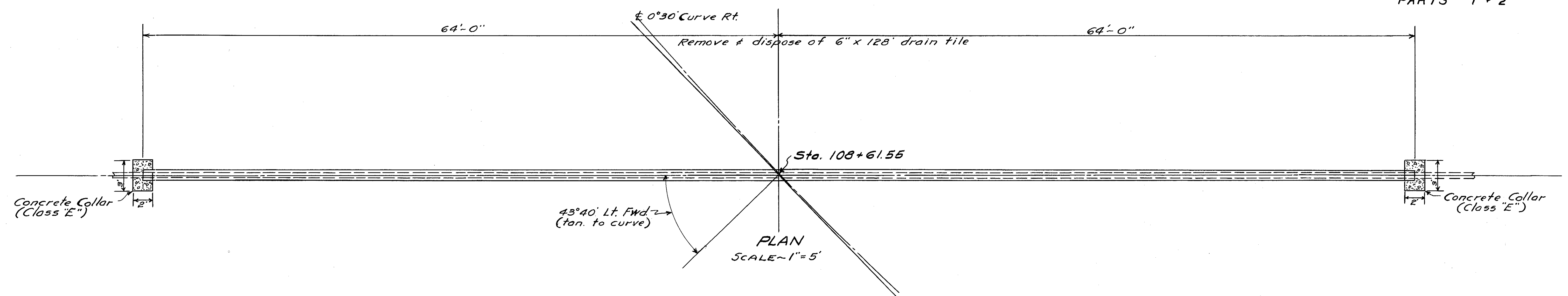
**ESTIMATED QUANTITIES**

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.



G-SS

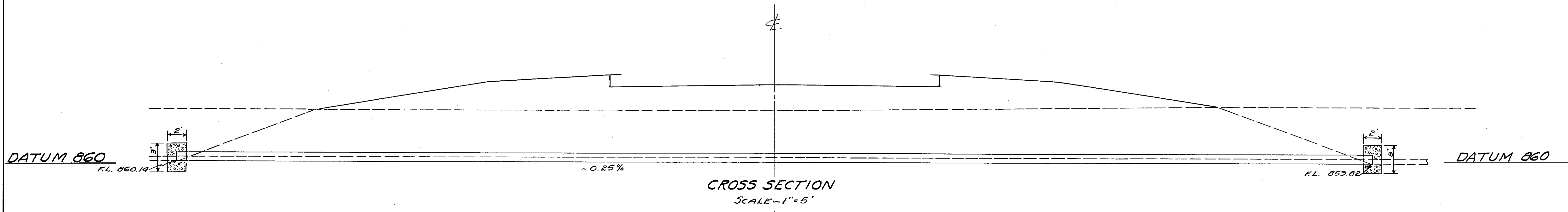
STA. 106+87.85  
STORM SEWER DETAIL



**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**

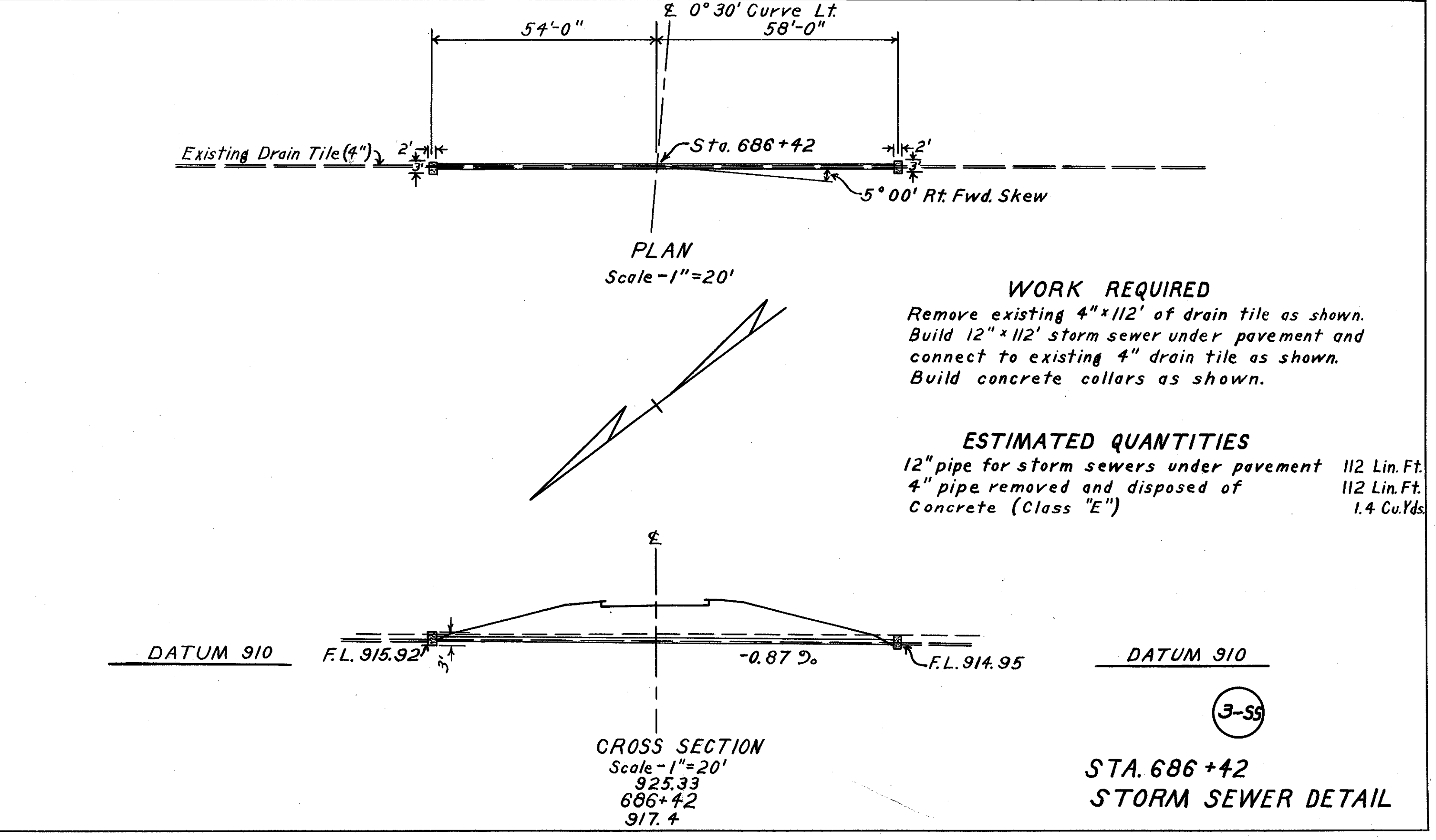
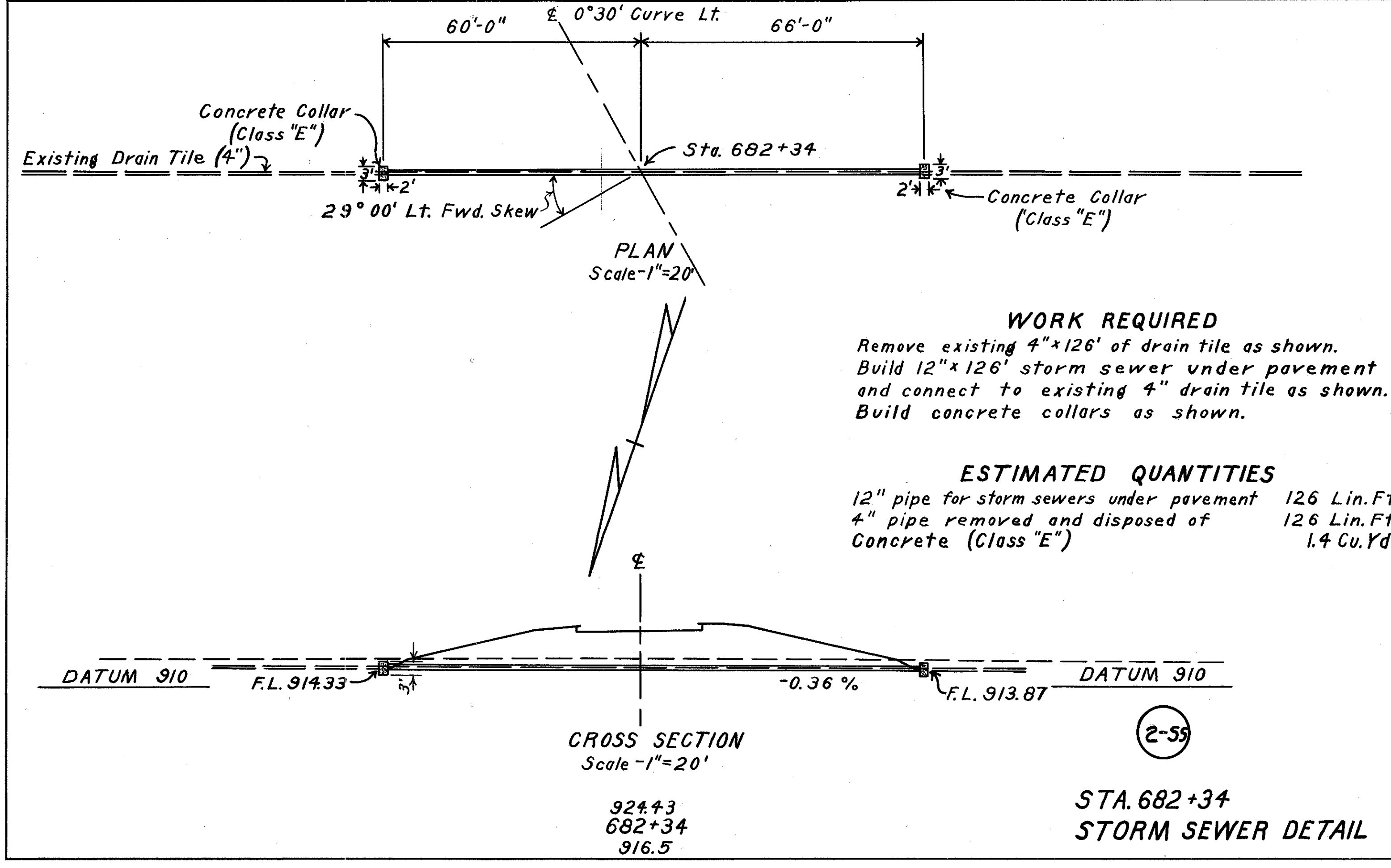
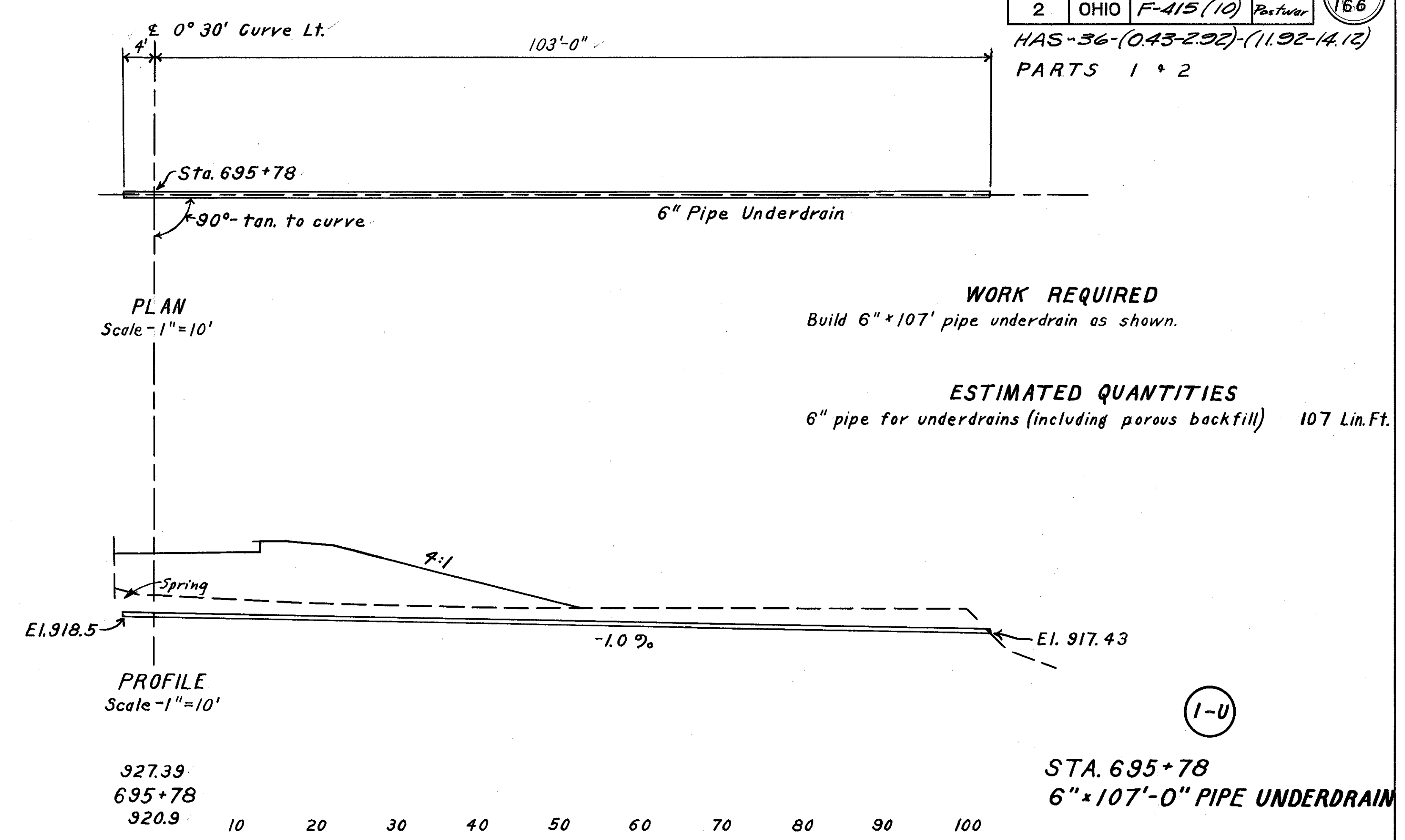
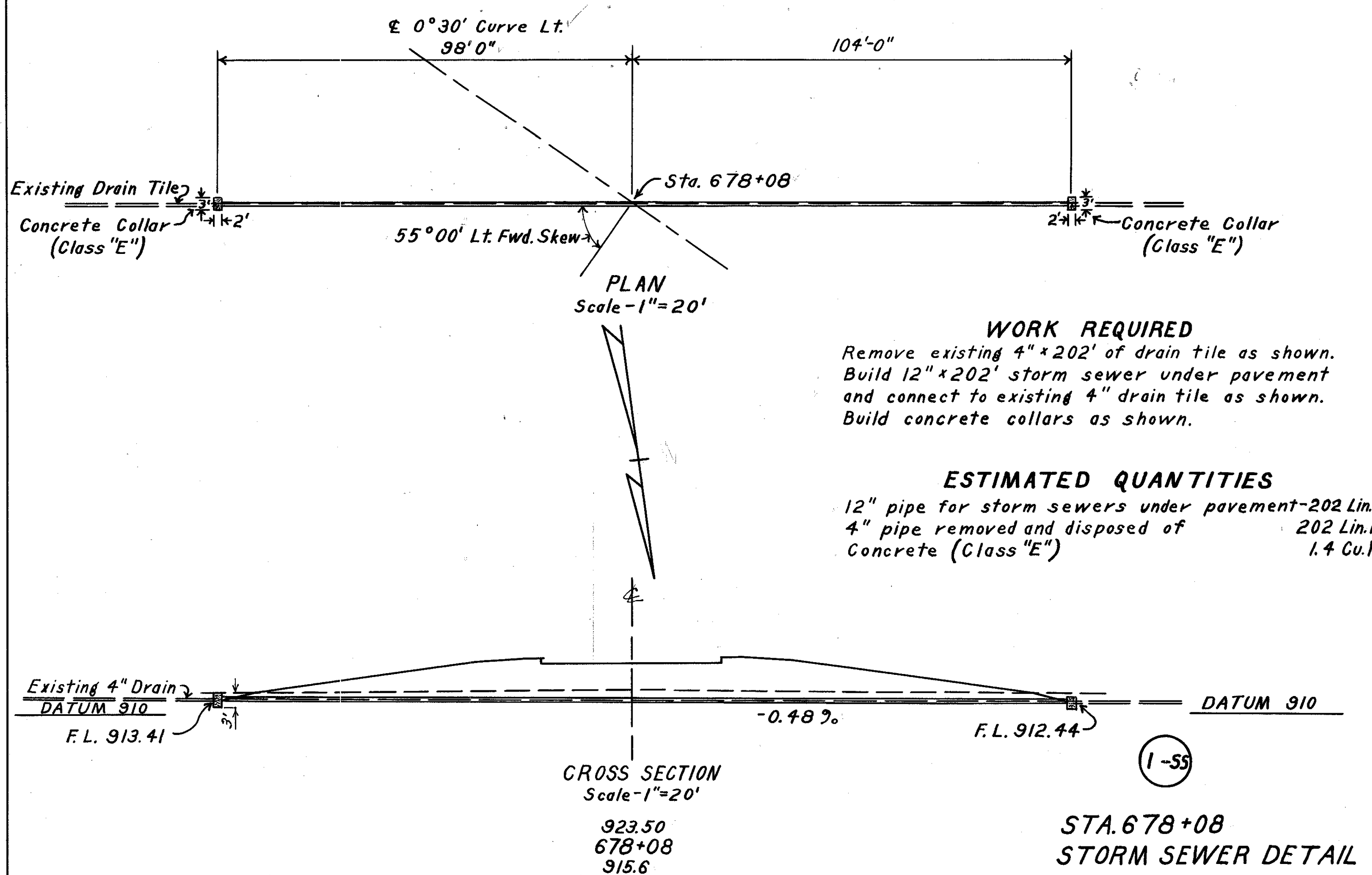
12" Pipe for Storm Sewers Under Pavement	128 Lin.Ft.
6" Pipe Removed and Disposed of	128 Lin.Ft.
Concrete (Class "E")	1.3 Cu.Yds.



863.66  
108+61.55  
865.5

(7-55)

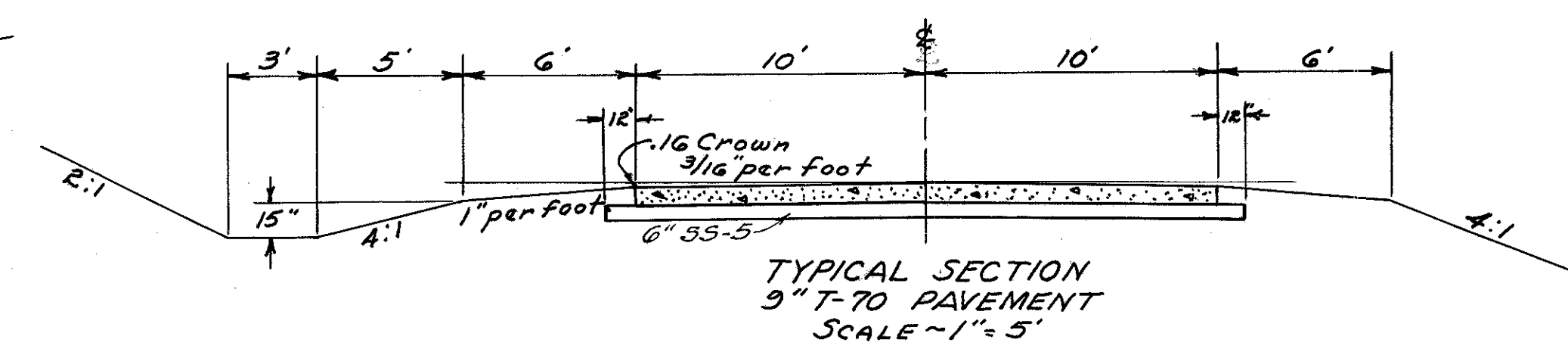
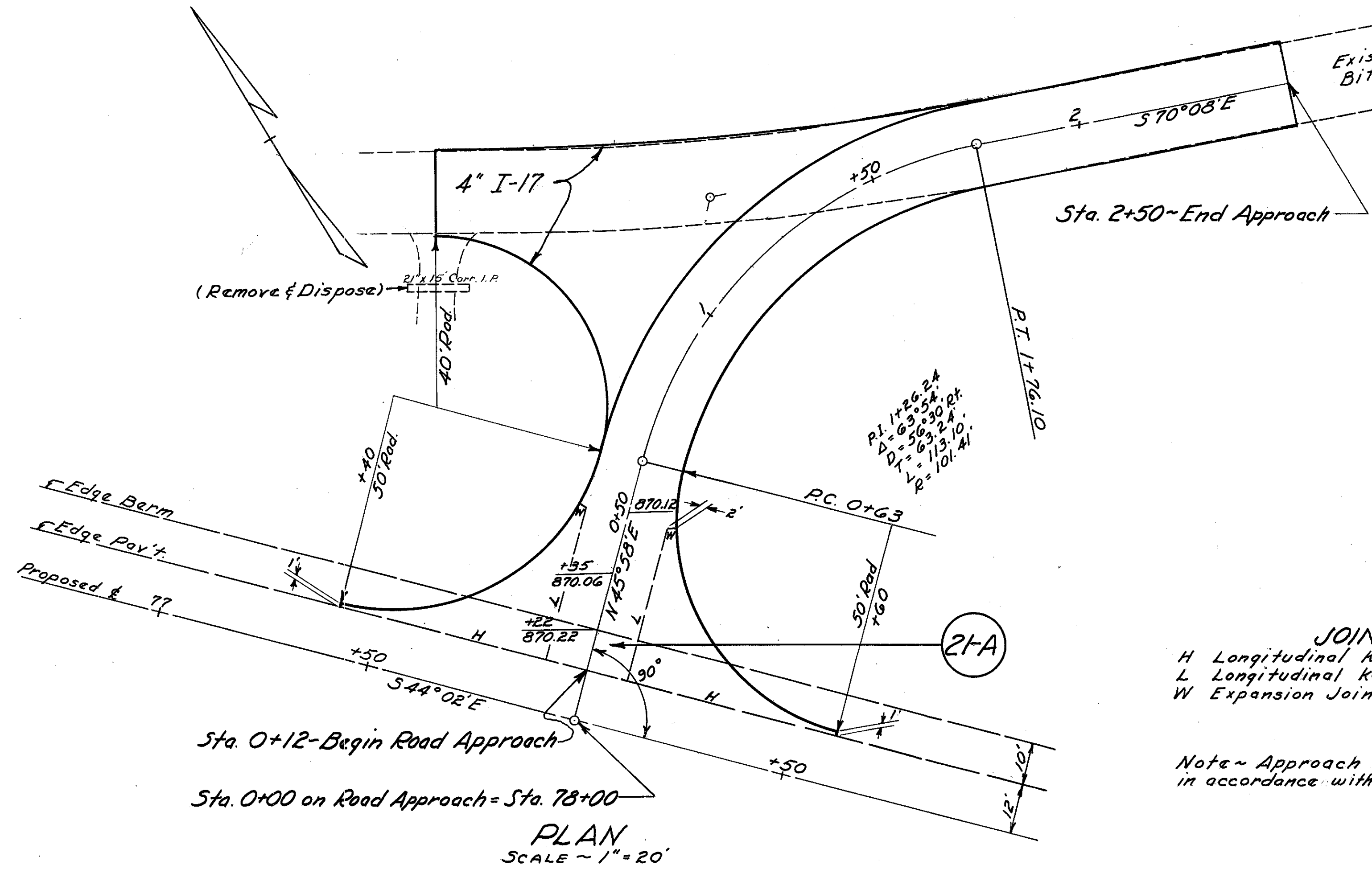
STA. 108+61.55  
STORM SEWER DETAIL









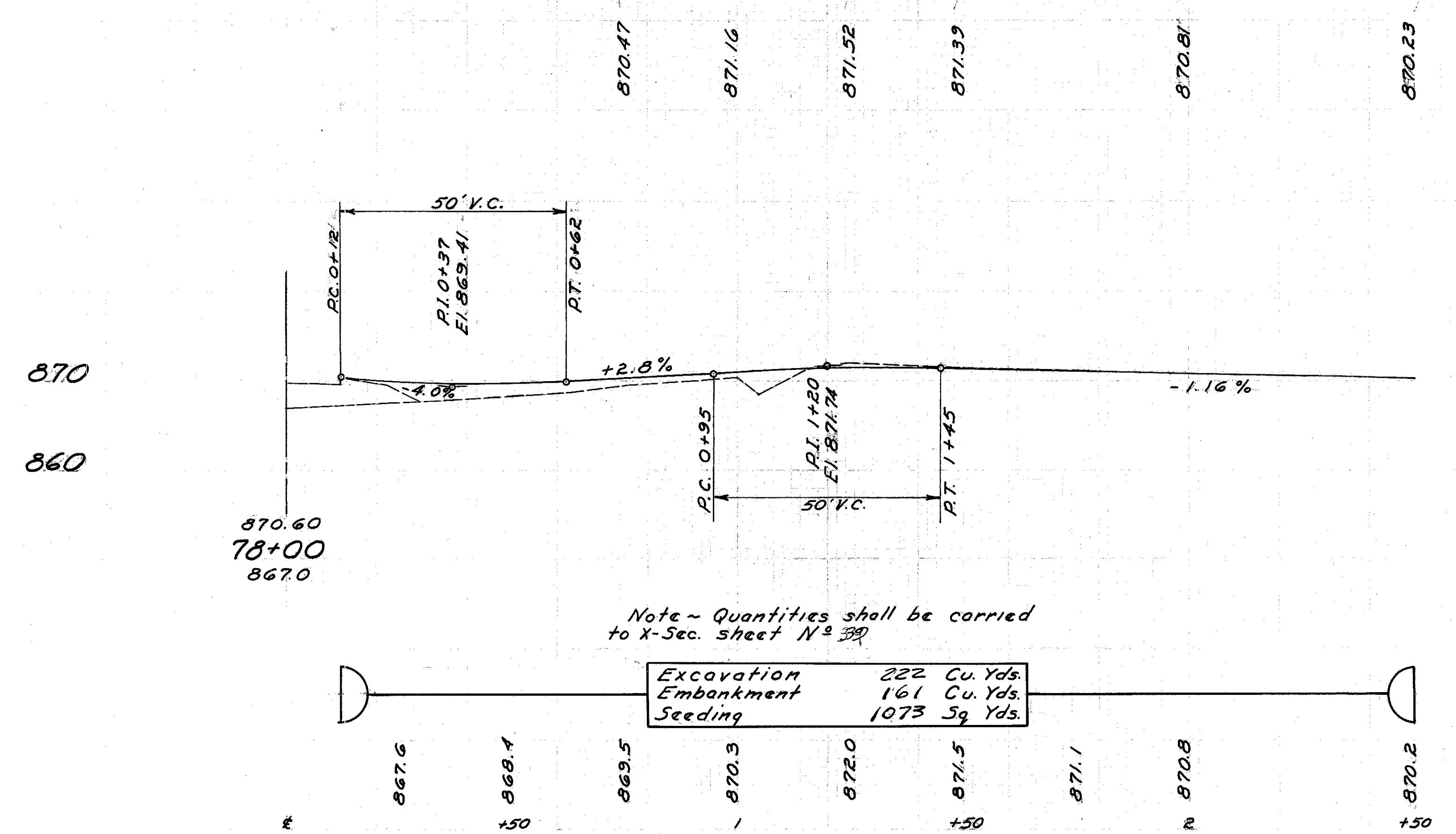


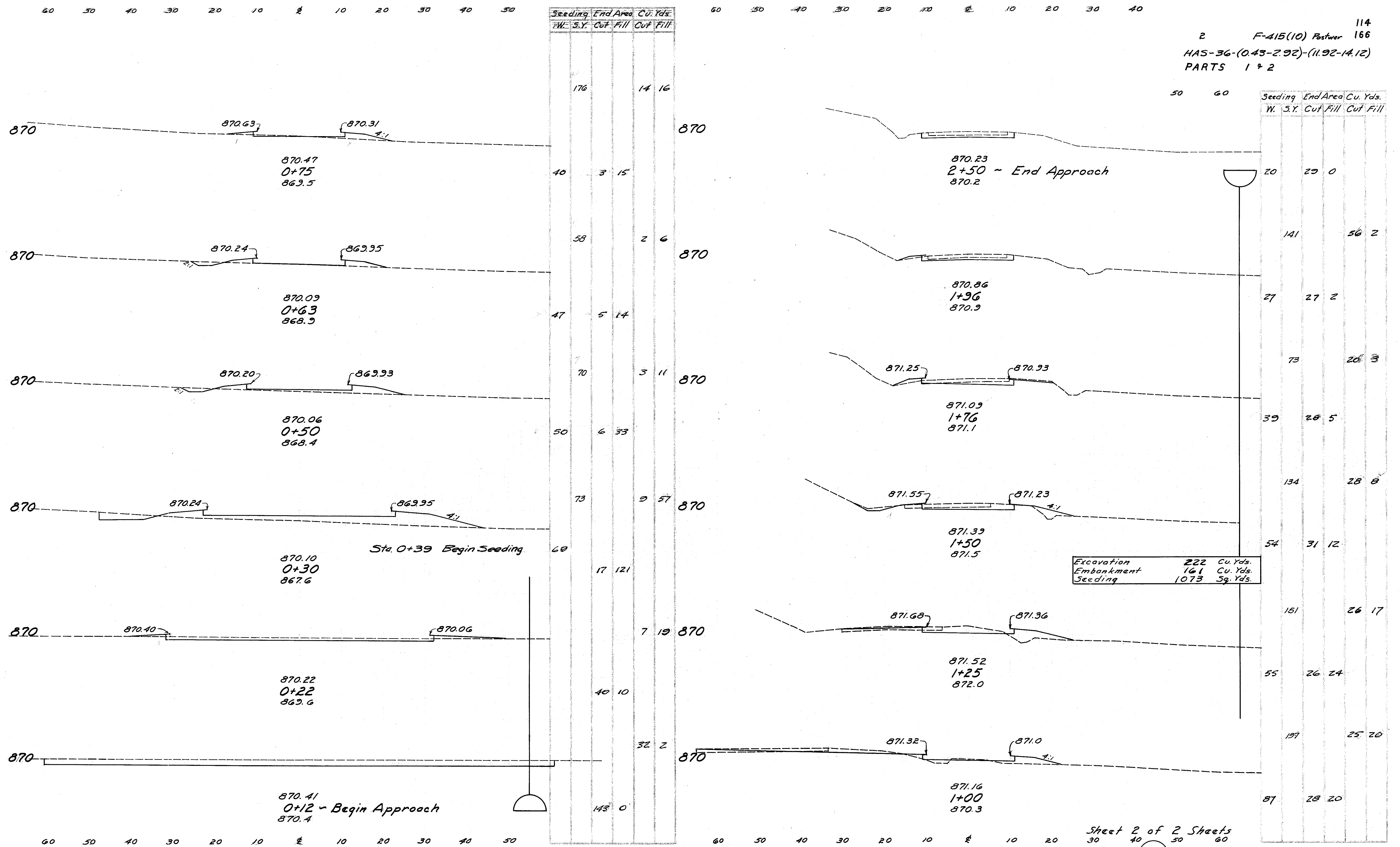
**ESTIMATED QUANTITIES**

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.

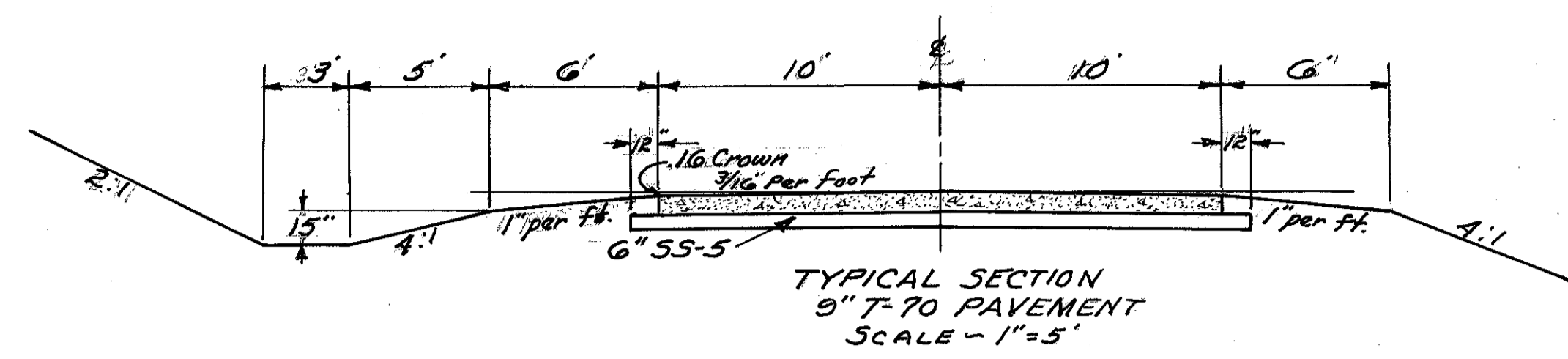
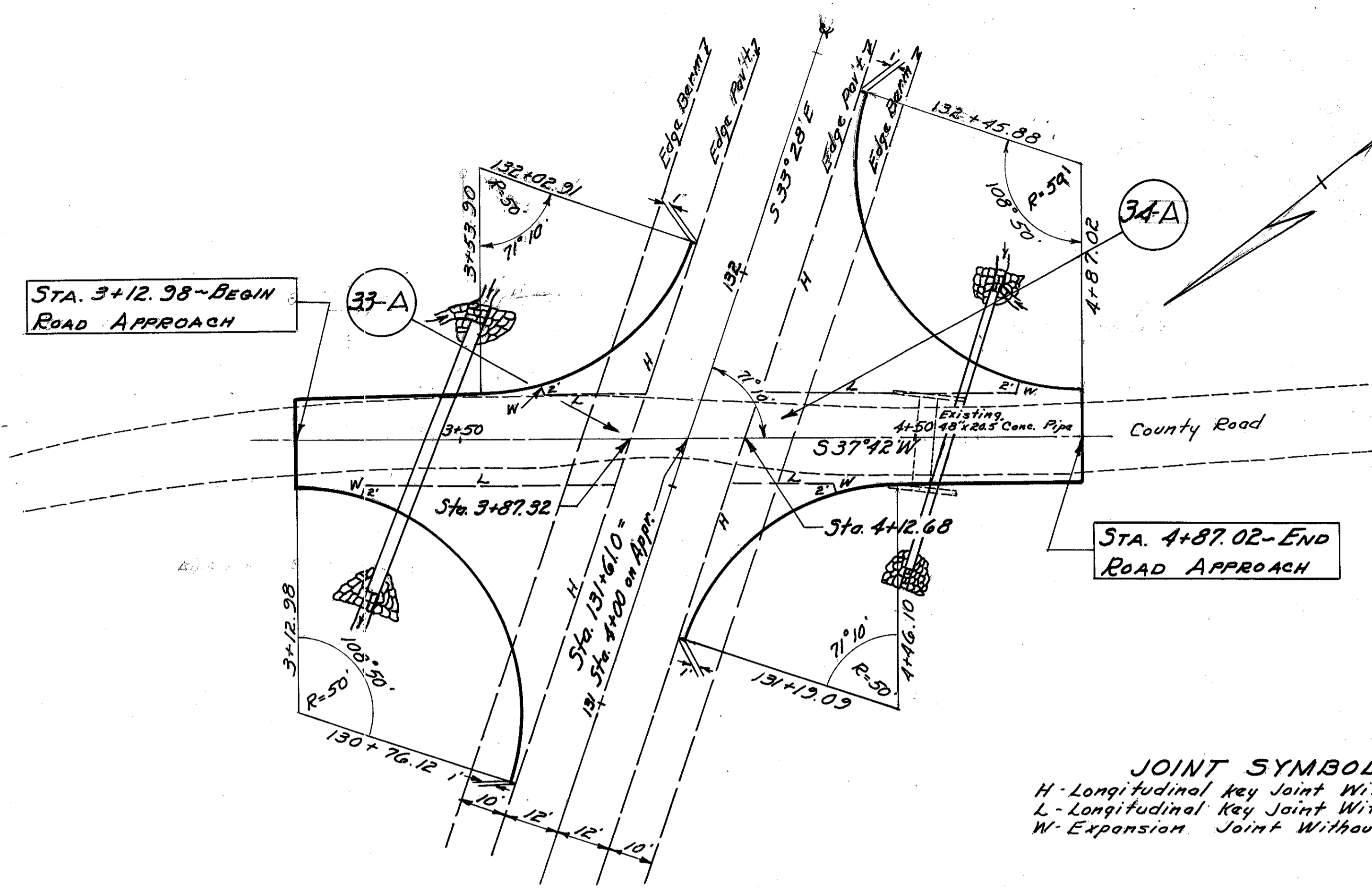
**JOINT SYMBOLS**  
 H Longitudinal Key Joint Without Tie Bars  
 L Longitudinal Key Joint With Tie Bars @ 5'-0" %  
 W Expansion Joint Without Dowels.

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





Excavation	222	Cu. Yds.
Embankment	161	Cu. Yds.
Seeding	1073	Sq. Yds.

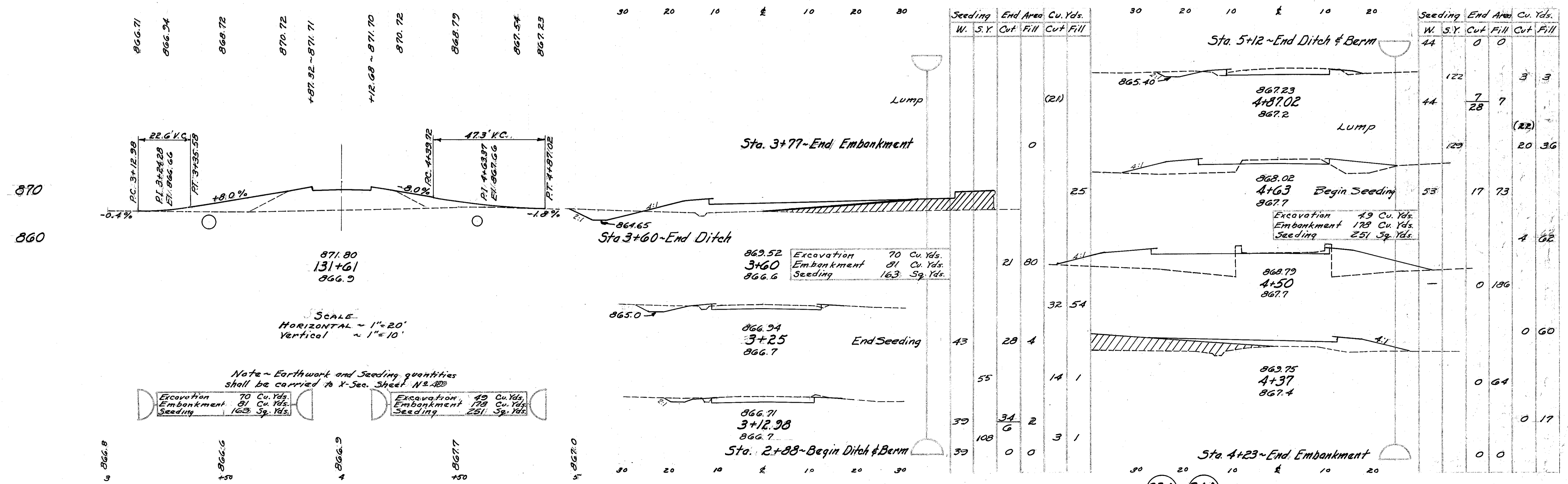


**ESTIMATED QUANTITIES**

33-A	T-70 Pavement	328. Sq. Yds.
	SS-5	56. Cu. Yds.
34-A	T-70 Pavement	328. Sq. Yds.
	SS-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

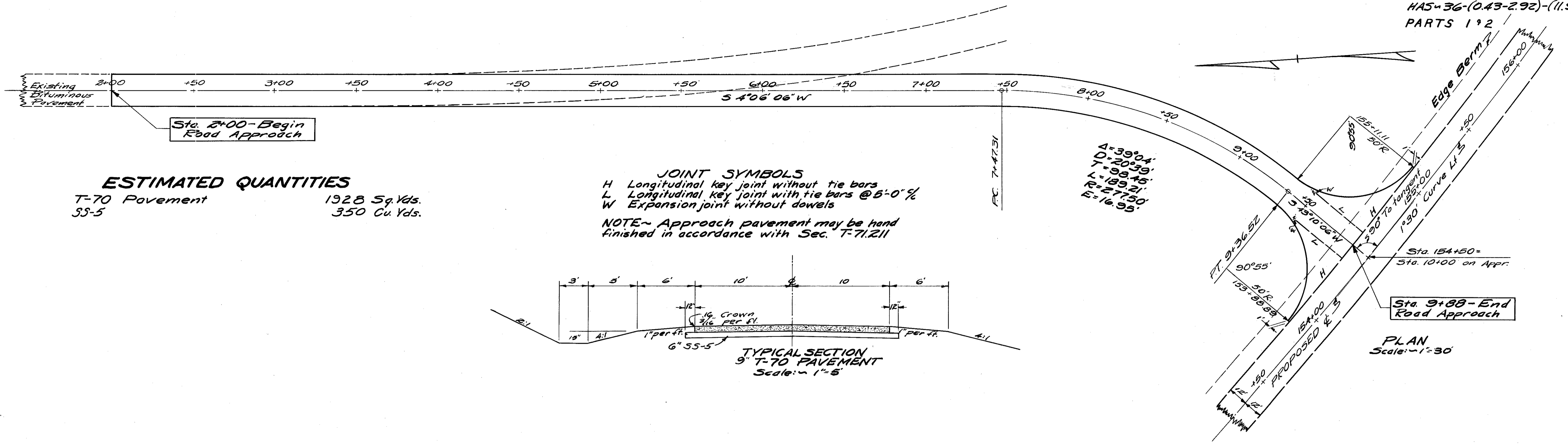
**PLAN**  
 SCALE - 1" = 20'



**SCALE**  
 HORIZONTAL - 1" = 20'  
 VERTICAL - 1" = 10'

Note - Earthwork and Seeding quantities shall be carried to X-Sec. Sheet N.S. 122

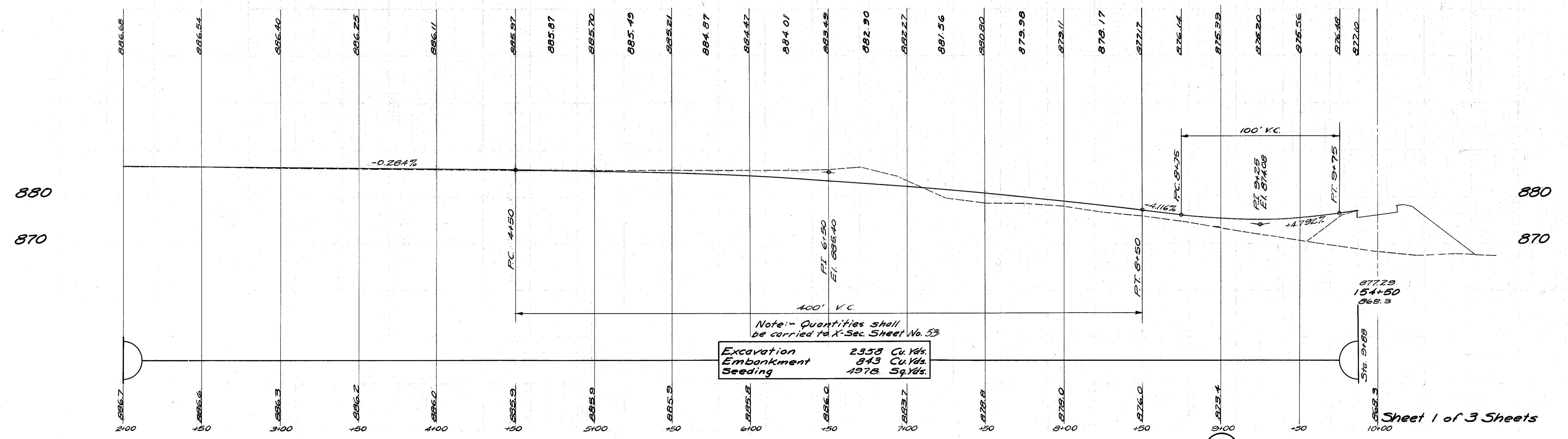
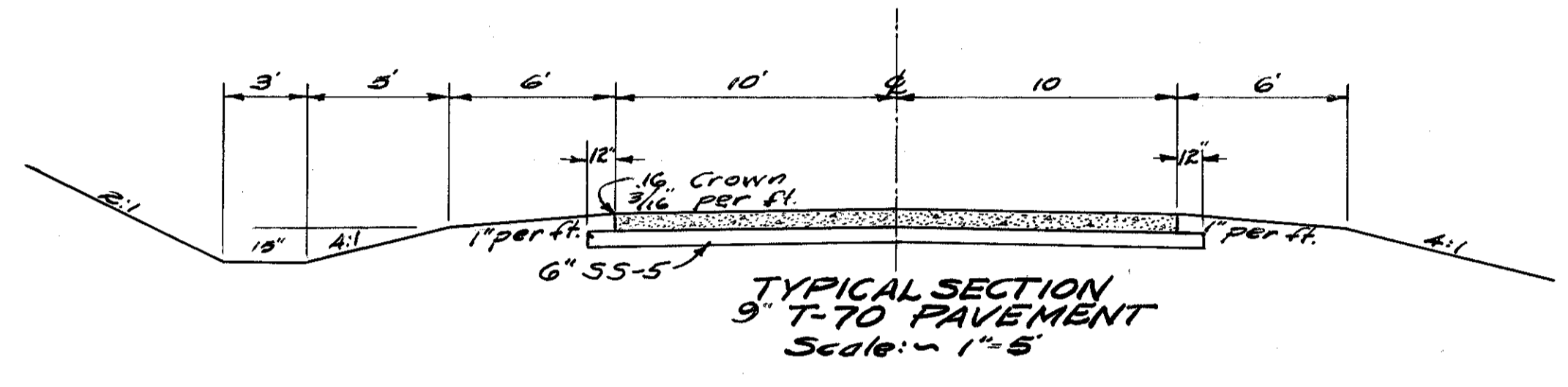
Excavation	70 Cu. Yds.	Excavation	49 Cu. Yds.
Embankment	81 Cu. Yds.	Embankment	178 Cu. Yds.
Seeding	163 Sq. Yds.	Seeding	251 Sq. Yds.

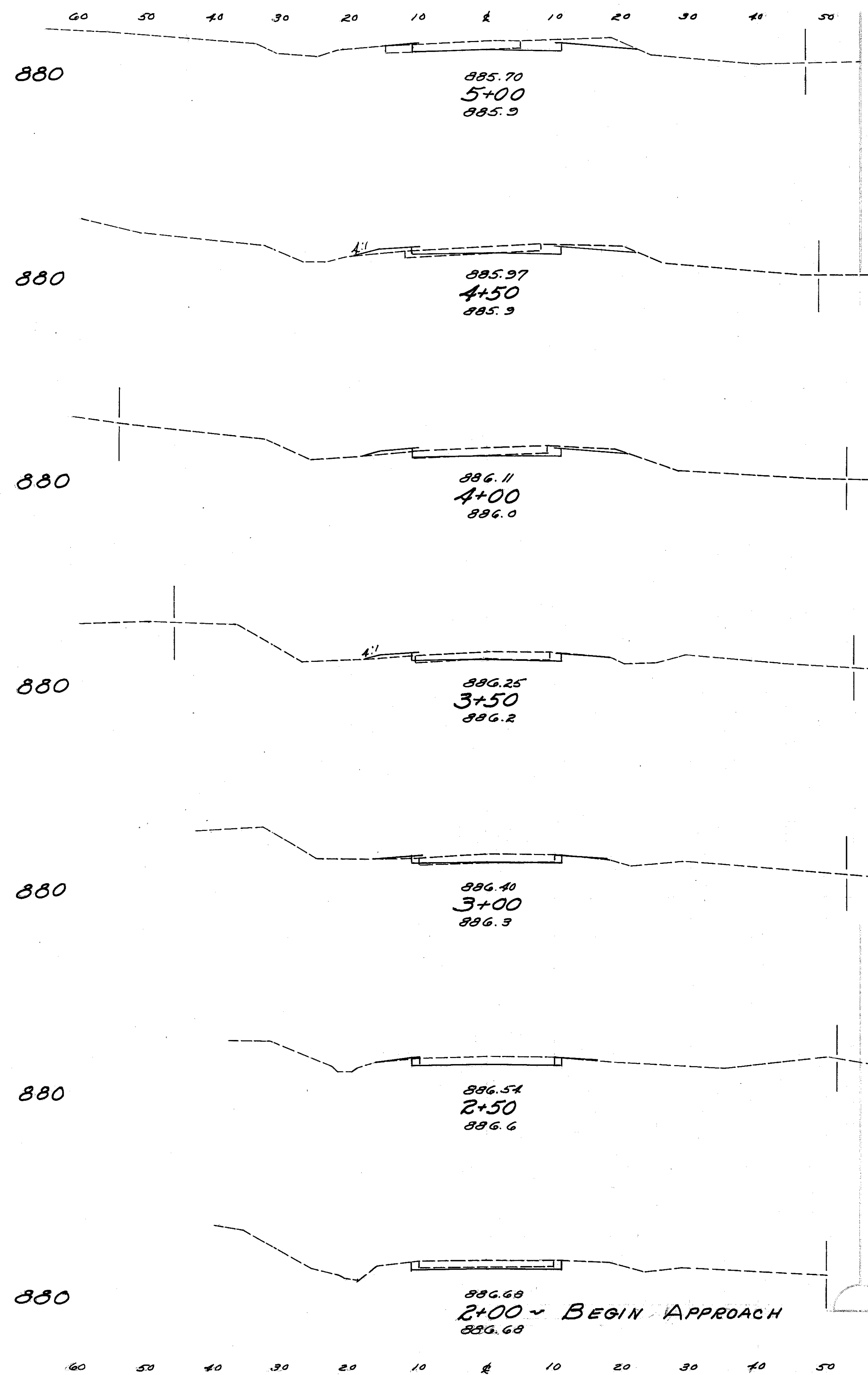


**ESTIMATED QUANTITIES**  
 T-70 Pavement 1928 Sq. Yds.  
 SS-5 350 Cu. Yds.

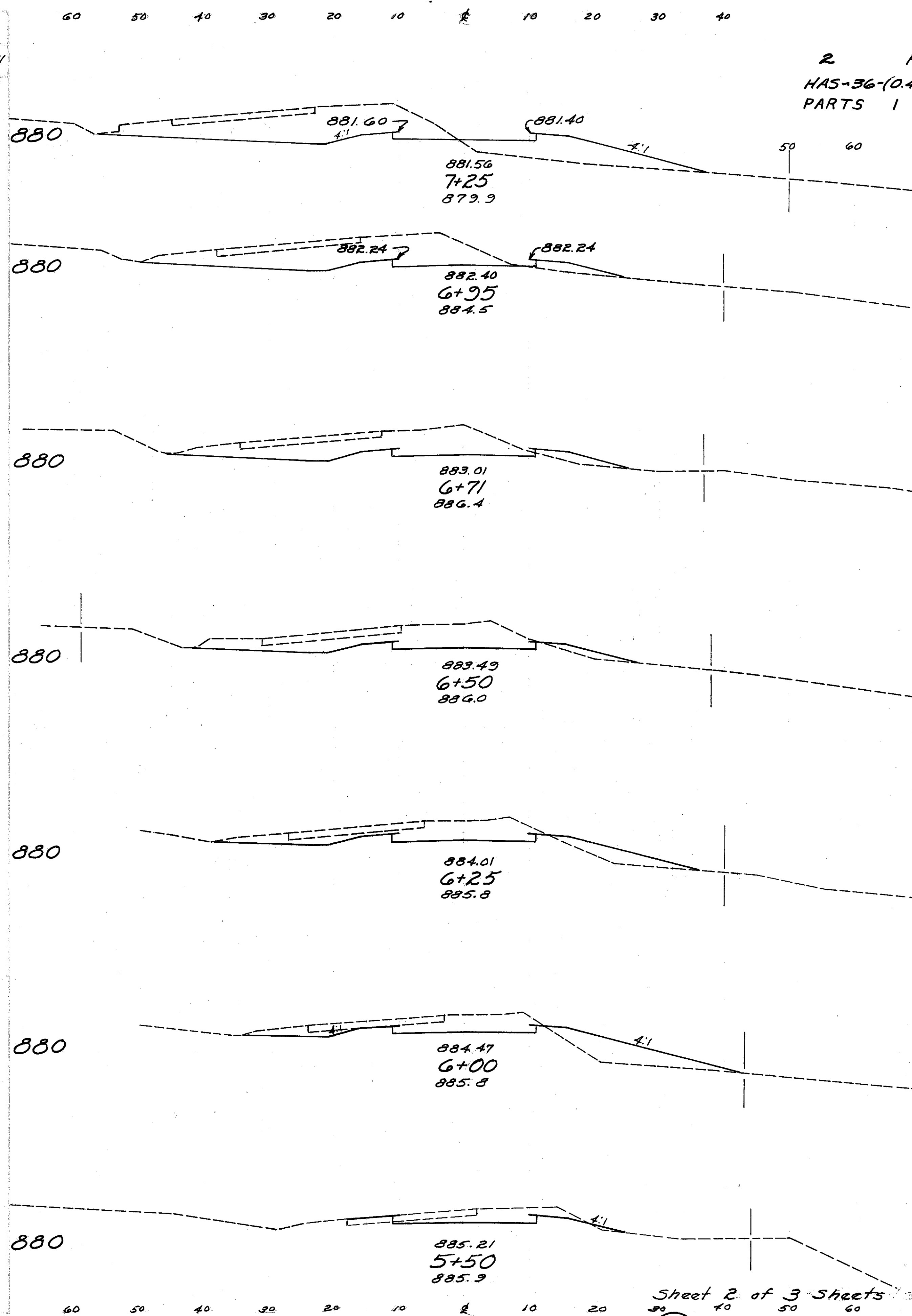
**JOINT SYMBOLS**  
 H Longitudinal key joint without tie bars  
 L Longitudinal key joint with tie bars @ 5'-0" %  
 W Expansion joint without dowels

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





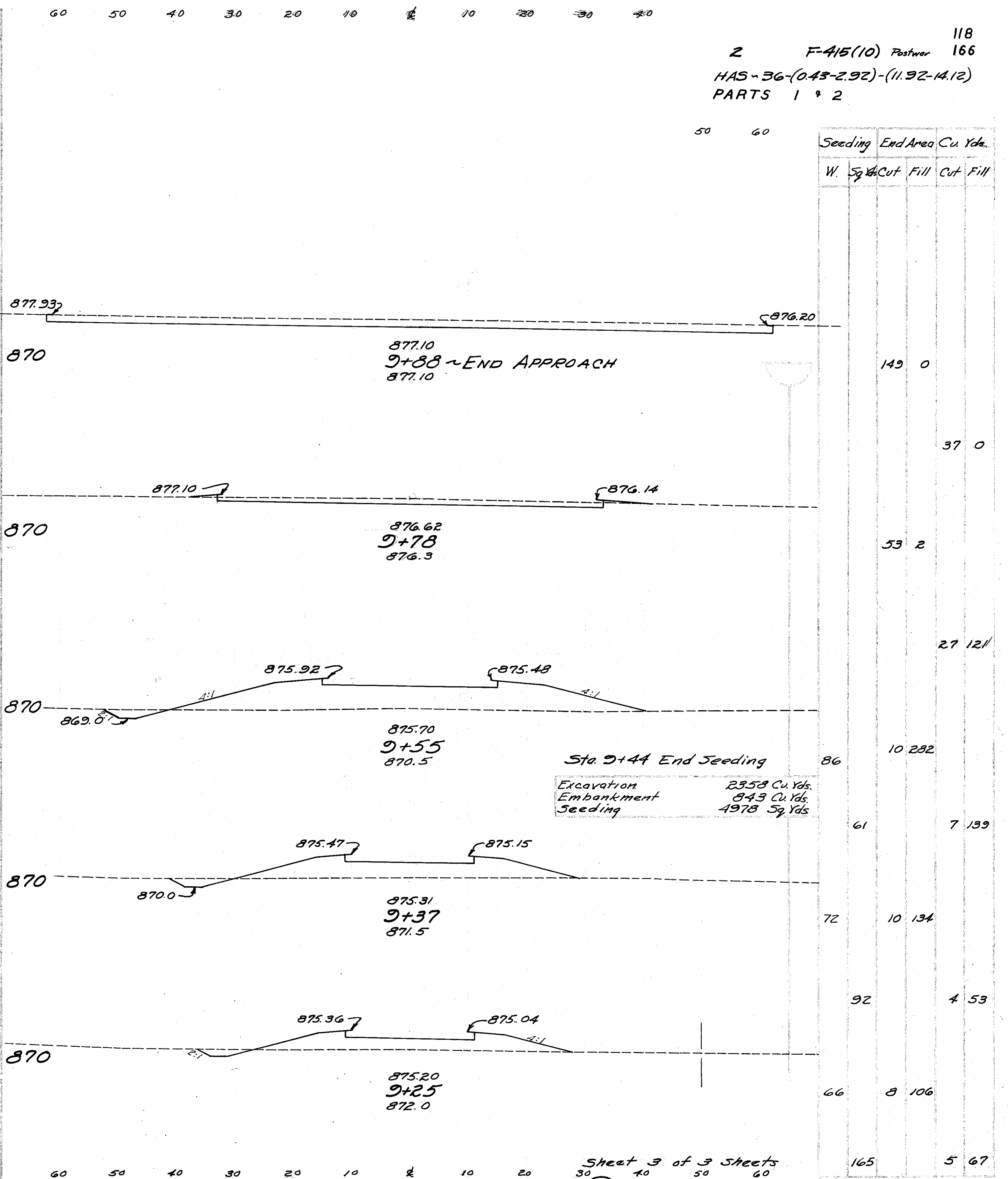
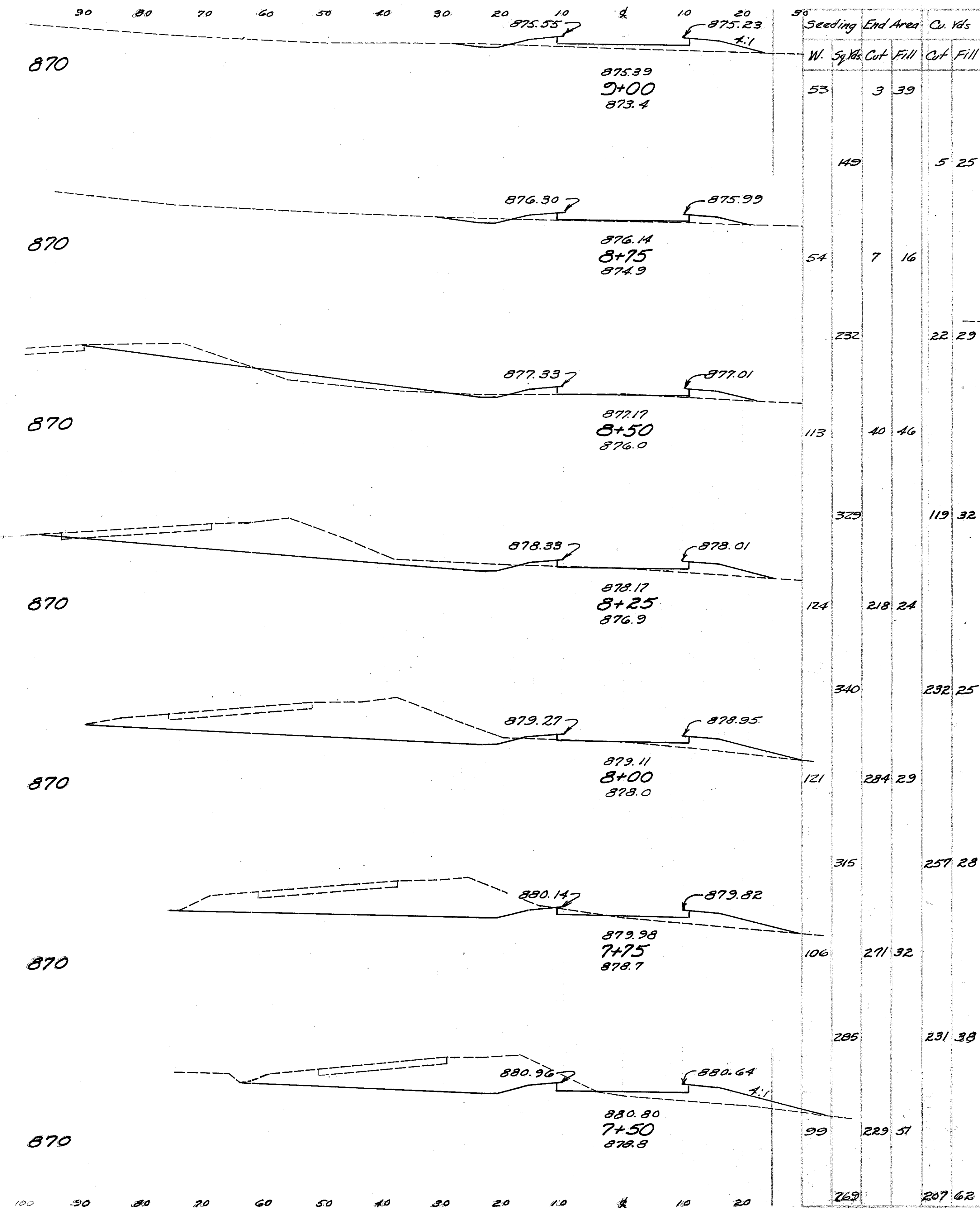
Seeding End Area Cu. Yds.					
W.	Sq. Yds.	Cut	Fill	Cut	Fill
37	37	0			
219		62	4		
42		30	4		
228		56	7		
40		30	4		
211		47	6		
36		21	3		
197		39	4		
35		21	1		
189		40	2		
33		22	1		
147		44	1		
20		26	0		

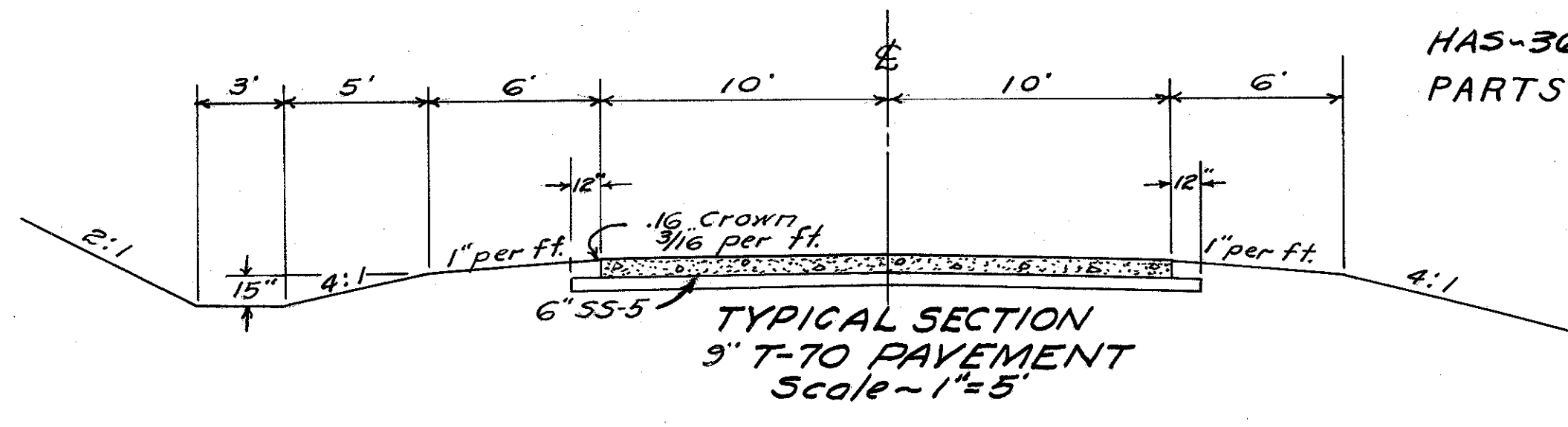
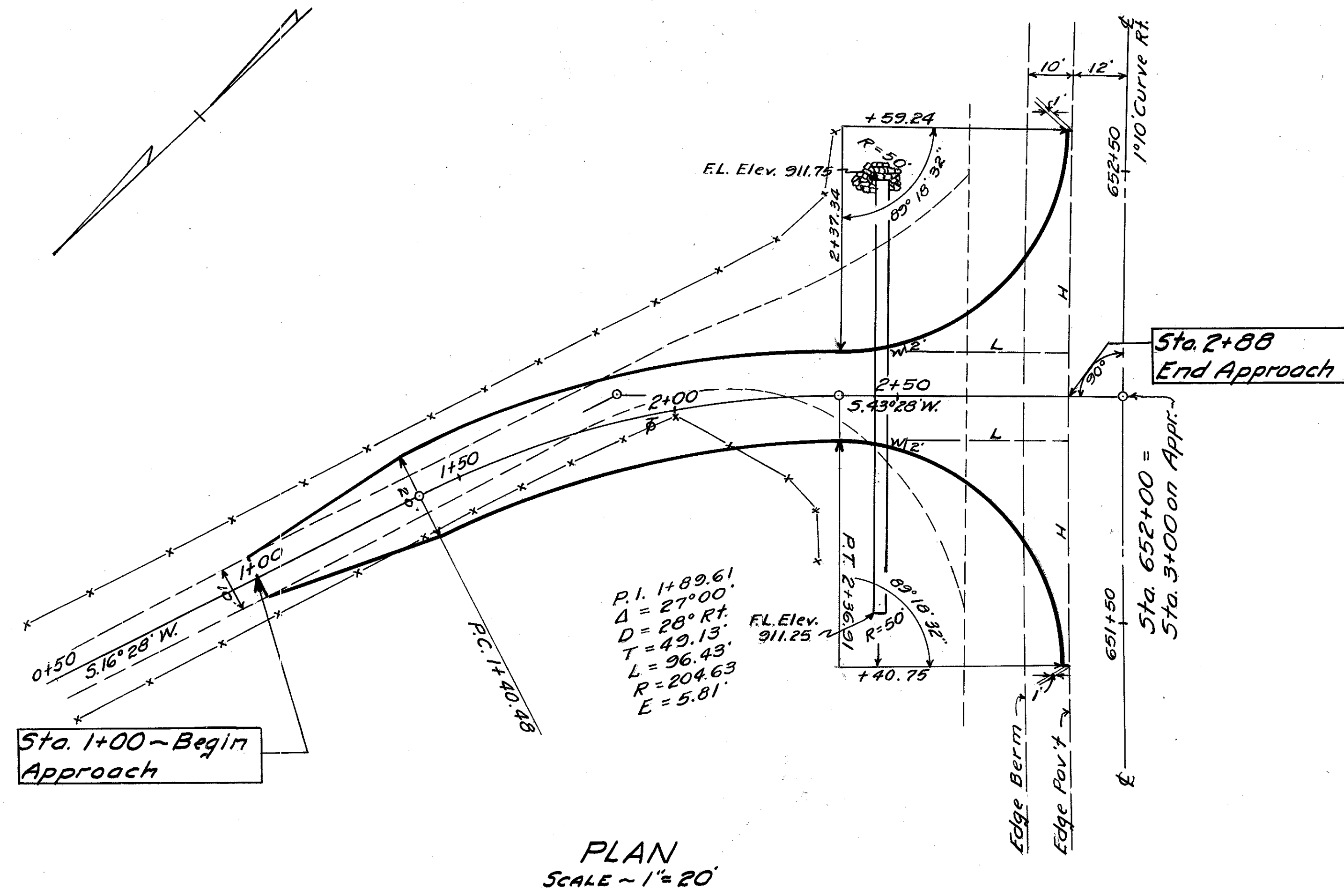


117  
2 F-415(10) Postwar 166  
HAS-36-(0.43-2.92)-(11.92-14.12)  
PARTS 1 & 2

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 166  
HAS-36-(0.43-2.92)-(11.92-14.12)  
PARTS 1 & 2

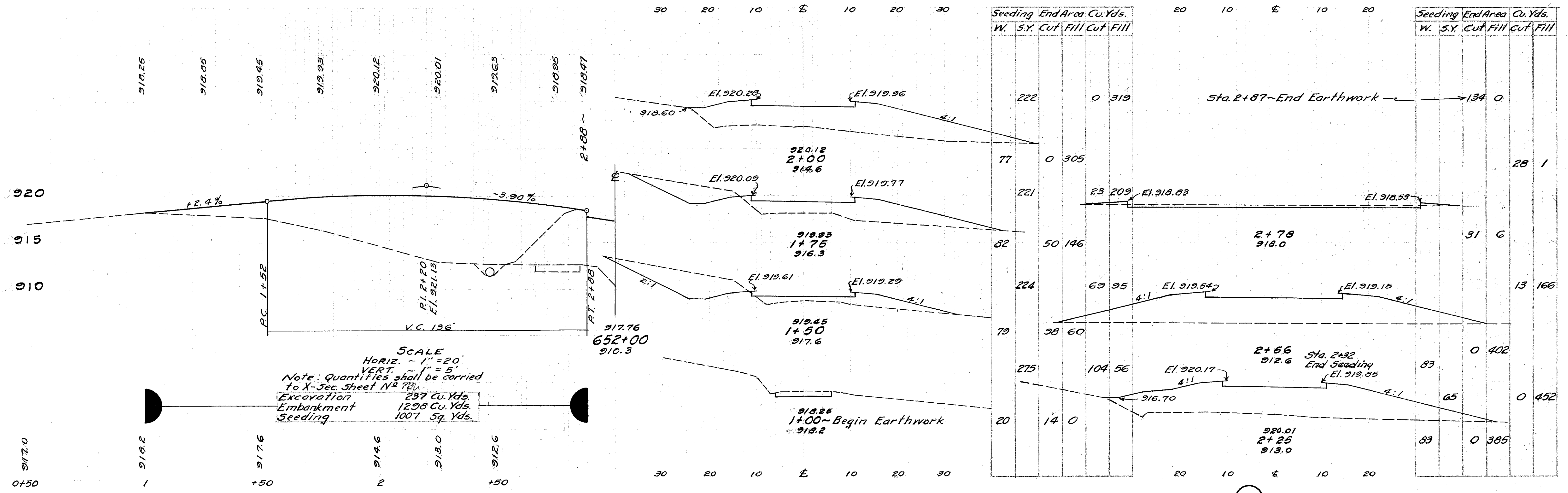




**JOINT SYMBOLS**  
 H Longitudinal key joint without tie bars.  
 L Longitudinal key joint with tie bars @ 5'-0" %.  
 W Expansion joint without dowels.  
 NOTE: ~ Approach pavement may be hand finished in accordance with Sec. 7-71.211

**ESTIMATED QUANTITIES**

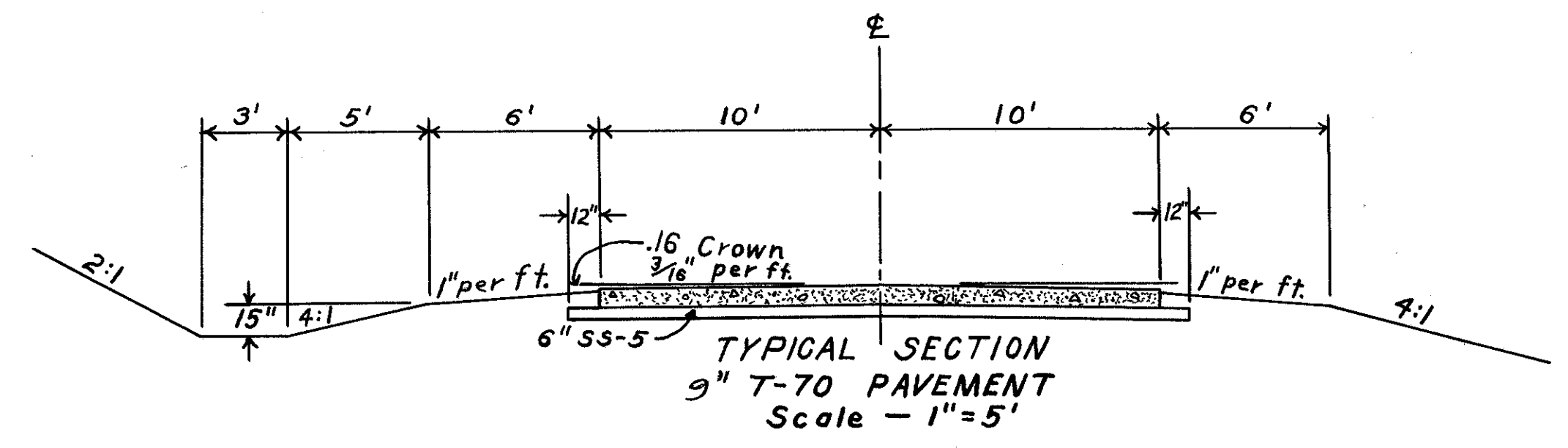
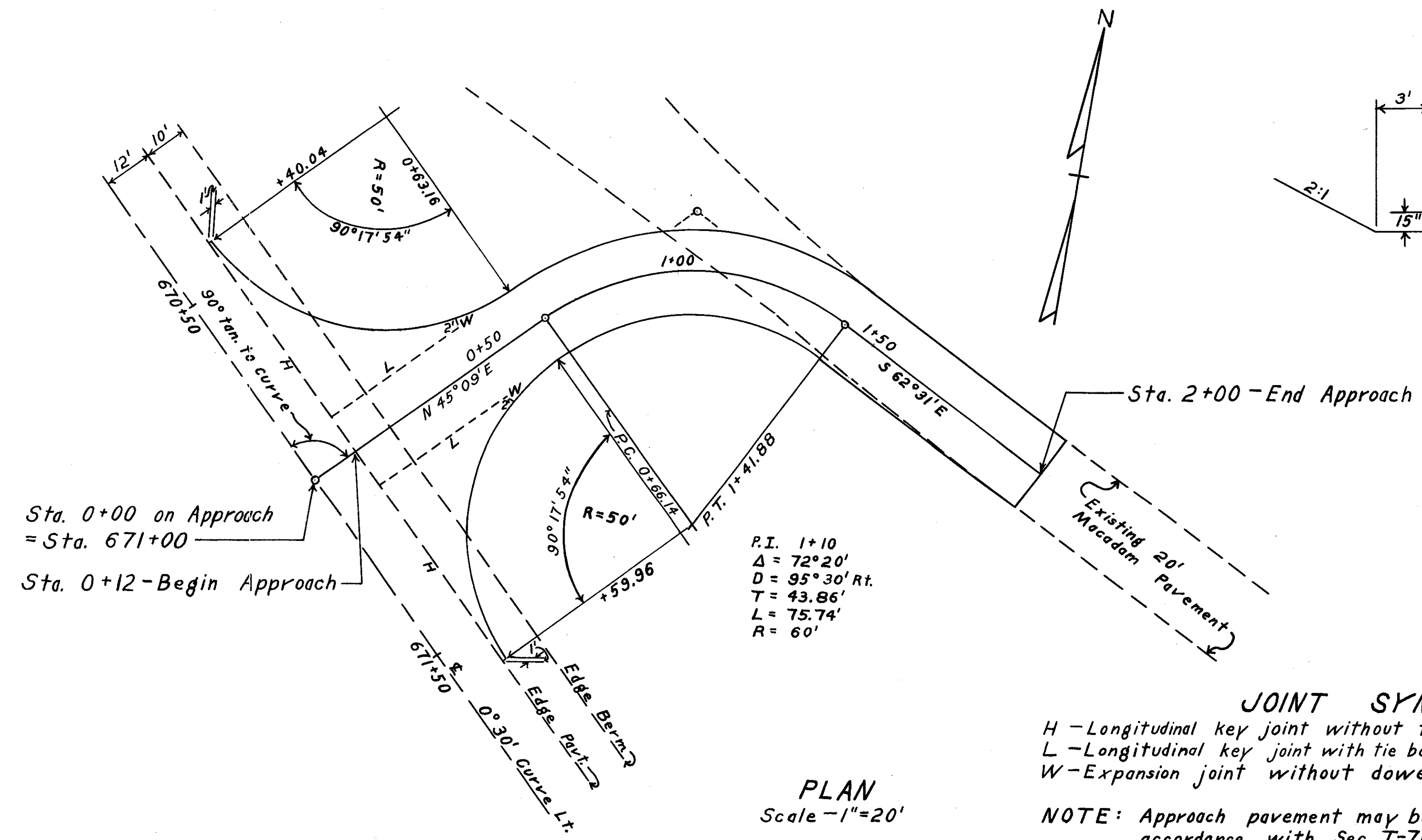
Item	Quantity	Unit
T-70 PAVEMENT	521	Sq. Yds.
SS-5	93	Cu. Yds.
18" Pipe for Driveway	96	Lin. Ft.
Riprap	5	Sq. Yds.



SCALE  
 HORIZ. - 1" = 20'  
 VERT. - 1" = 5'  
 Note: Quantities shall be carried to X-sec. Sheet No. 720

Excavation	237	Cu. Yds.
Embankment	1298	Cu. Yds.
Seeding	1007	Sq. Yds.

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



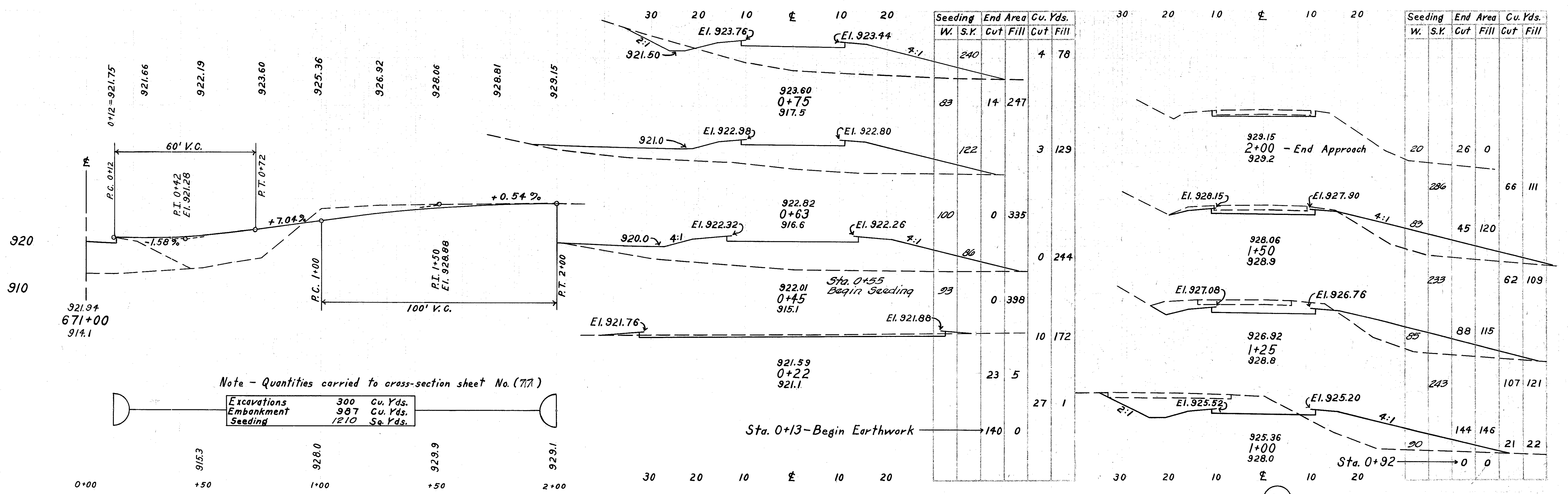
**ESTIMATED QUANTITIES**

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

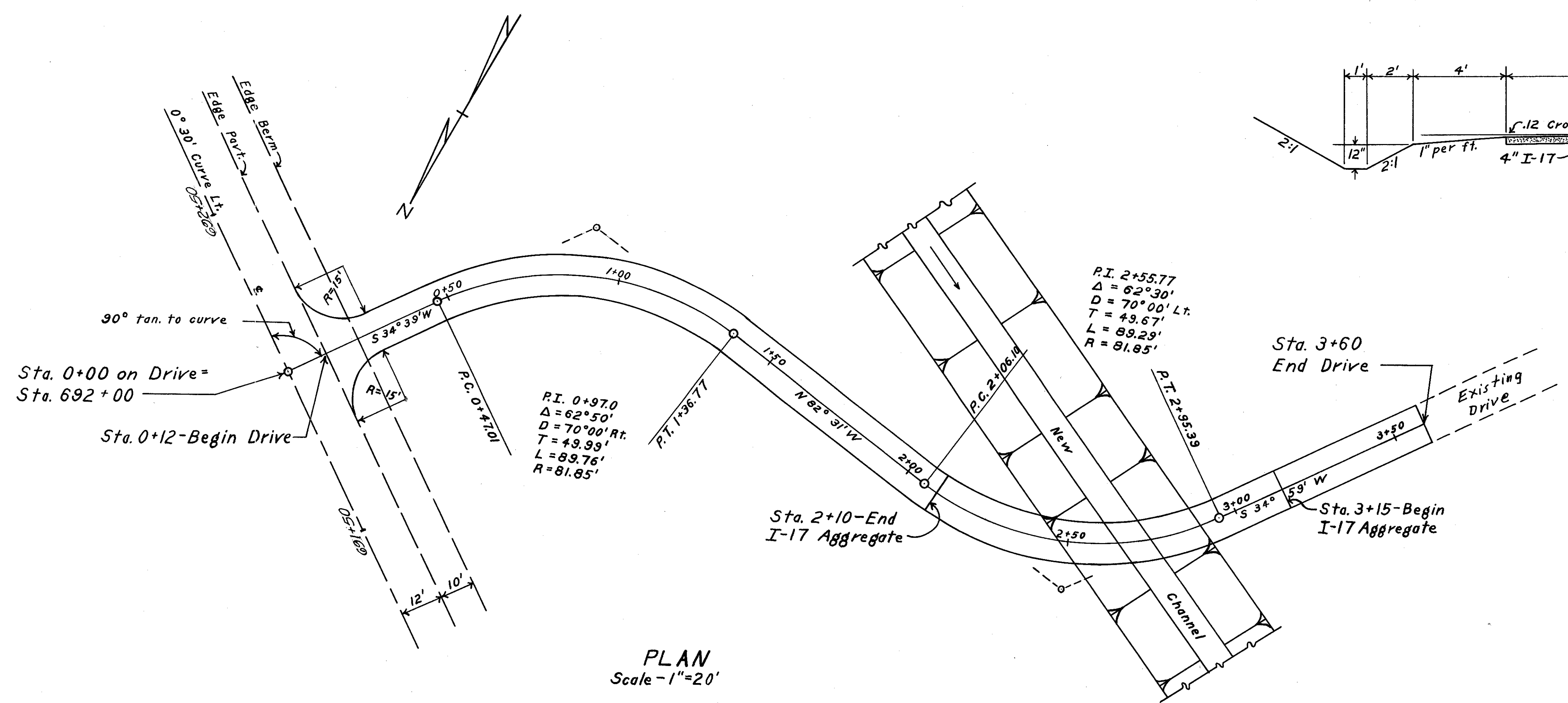
**PLAN**  
 Scale - 1" = 20'



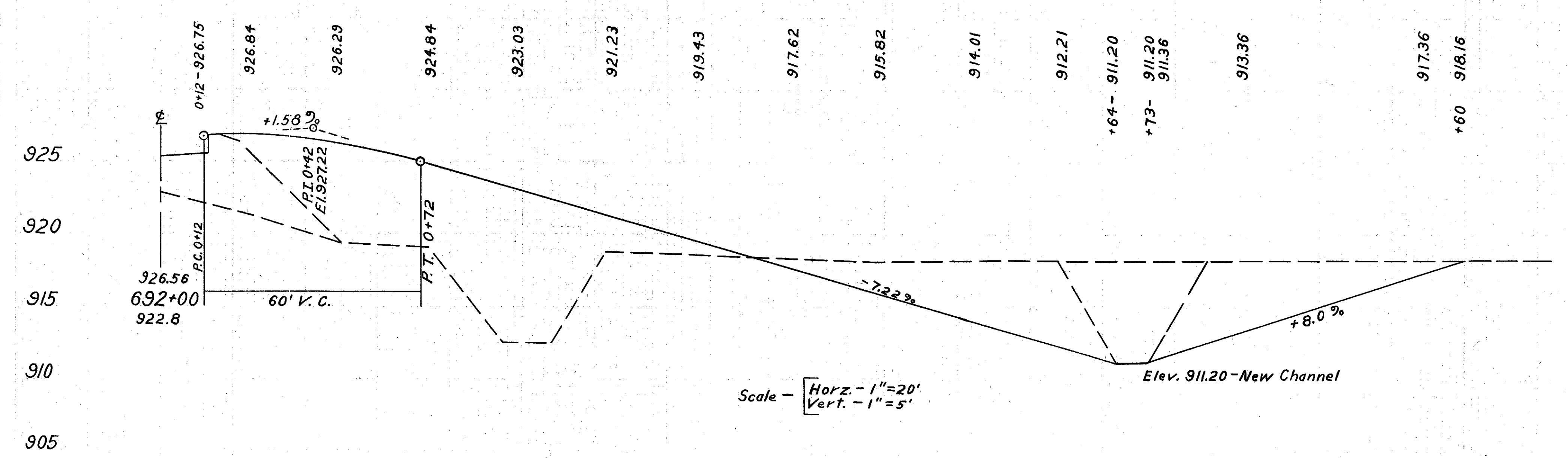
Note - Quantities carried to cross-section sheet No. (77)

Excavations	300	Cu. Yds.
Embankment	987	Cu. Yds.
Seeding	1210	Sq. Yds.





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



Scale - Horz. - 1"=20'  
 Vert. - 1"=5'

Note: - Quantities shall be carried to Cross-Sect. Sheet No. (21)

Excavation	811	Cu. Yds.
Embankment	1227	Cu. Yds.
Seeding	1663	Sq. Yds.



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

Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
		0	0	66	0
				500	
				0	182
				69	0
		0	240		
				113	0
				0	153
				66	0
		0	310		
				95	0
		0	168		920
				65	0
		0	386		
				187	0
				0	280
				95	0
		0	335		
				160	0
				95	0
				0	284
				0	305
				0	160
				0	4
				0	0
				0	0

Sta. 1+64

920

4:1

921.37  
1+23  
918.8

920

4:1

922.45  
1+08  
912.5

Excavation	811 Cu. Yds.
Embankment	1227 Cu. Yds.
Seeding	1663 Sq. Yds.

920

923.39  
0+95  
912.5

920

924.91  
0+74  
919.0

Sta. 0+58 - Begin Seeding

920

4:1

926.29  
0+50  
919.4

920

926.84  
0+22  
926.4

Sta. 0+16

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

60 50 40 30 20 10 0 10 20 30 40

122  
2 F-415(10) Postwar 166  
HAS-36-(0.43-2.92)-(11.92-14.12)  
PARTS 1 & 2

50 60

Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
		20	3	0	
				339	
				0	367
				66	0
		0	276		
				0	82
				0	0
					52
				44	0
		175	0		
				251	244
				50	99

Sta. 3+60 - End Drive

920

2:1

912.48  
2+89 - Begin Seeding  
918.2

Sta. 2+73 - Begin Earthwork

920

912.35  
2+48 - End Seeding  
918.2

Sta. 2+64 - End Earthwork

920

915.82  
2+00  
918.1

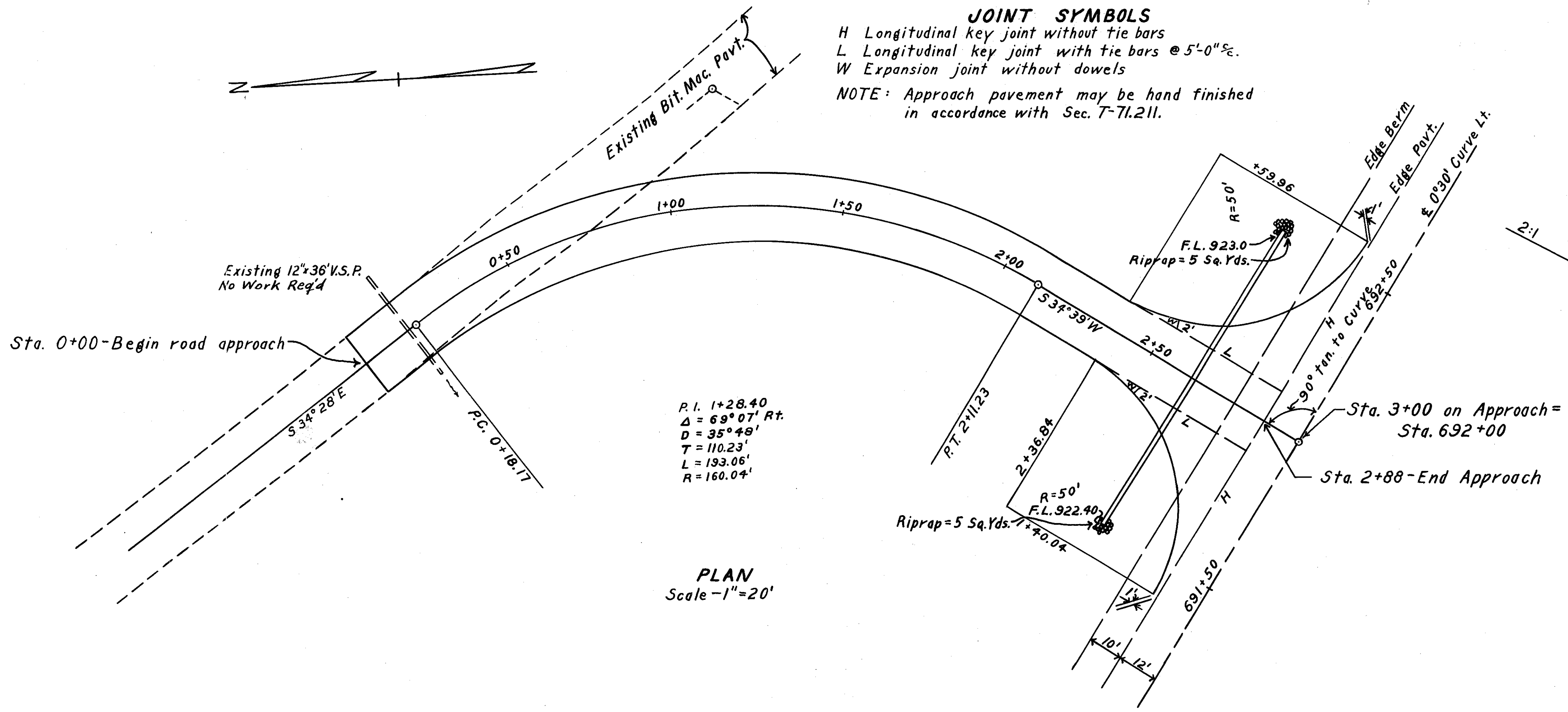
Sheet 2 of 2 Sheets

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

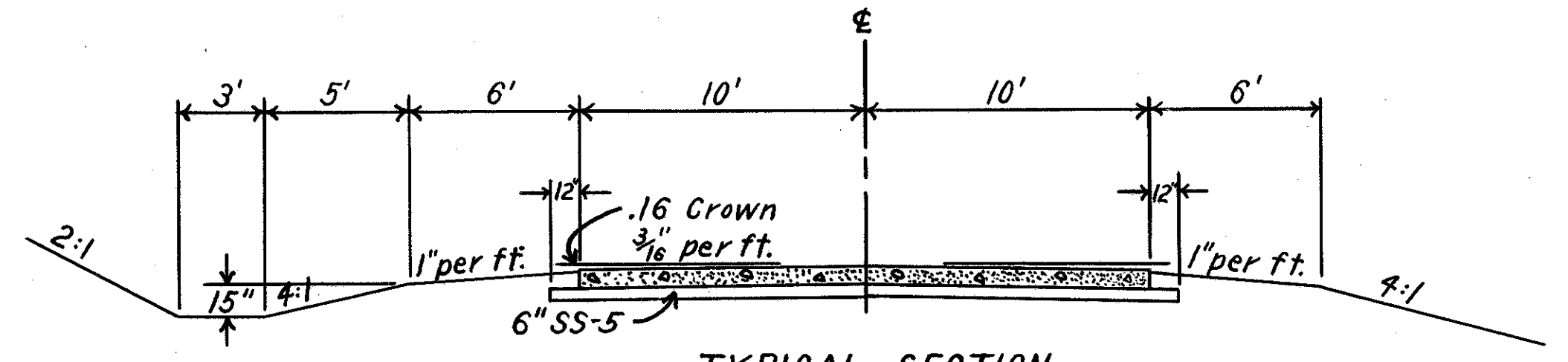
STA. 692+00 - DRIVE ON RT.

**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.



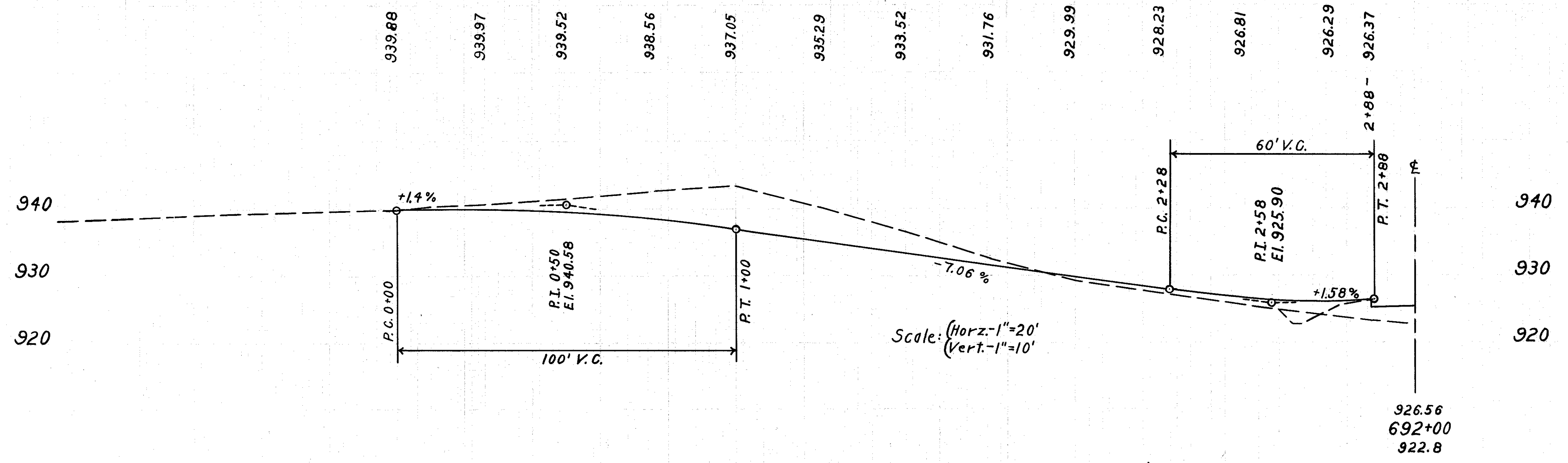
PLAN  
 Scale - 1" = 20'



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.

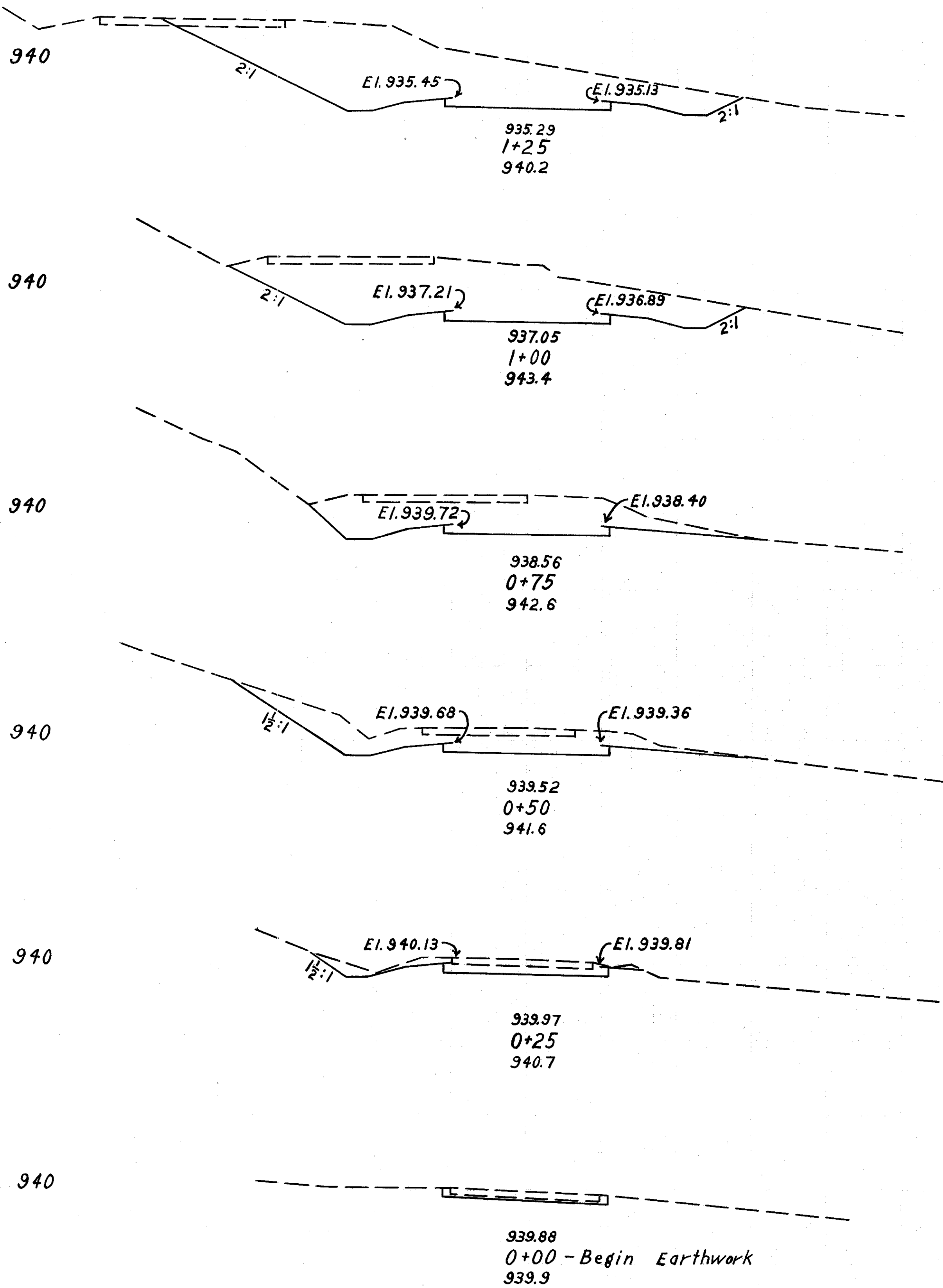


Scale: (Horz. - 1" = 20')  
 (Vert. - 1" = 10')

Note: Quantities carried to X-Sec. Sheet No. (81)

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

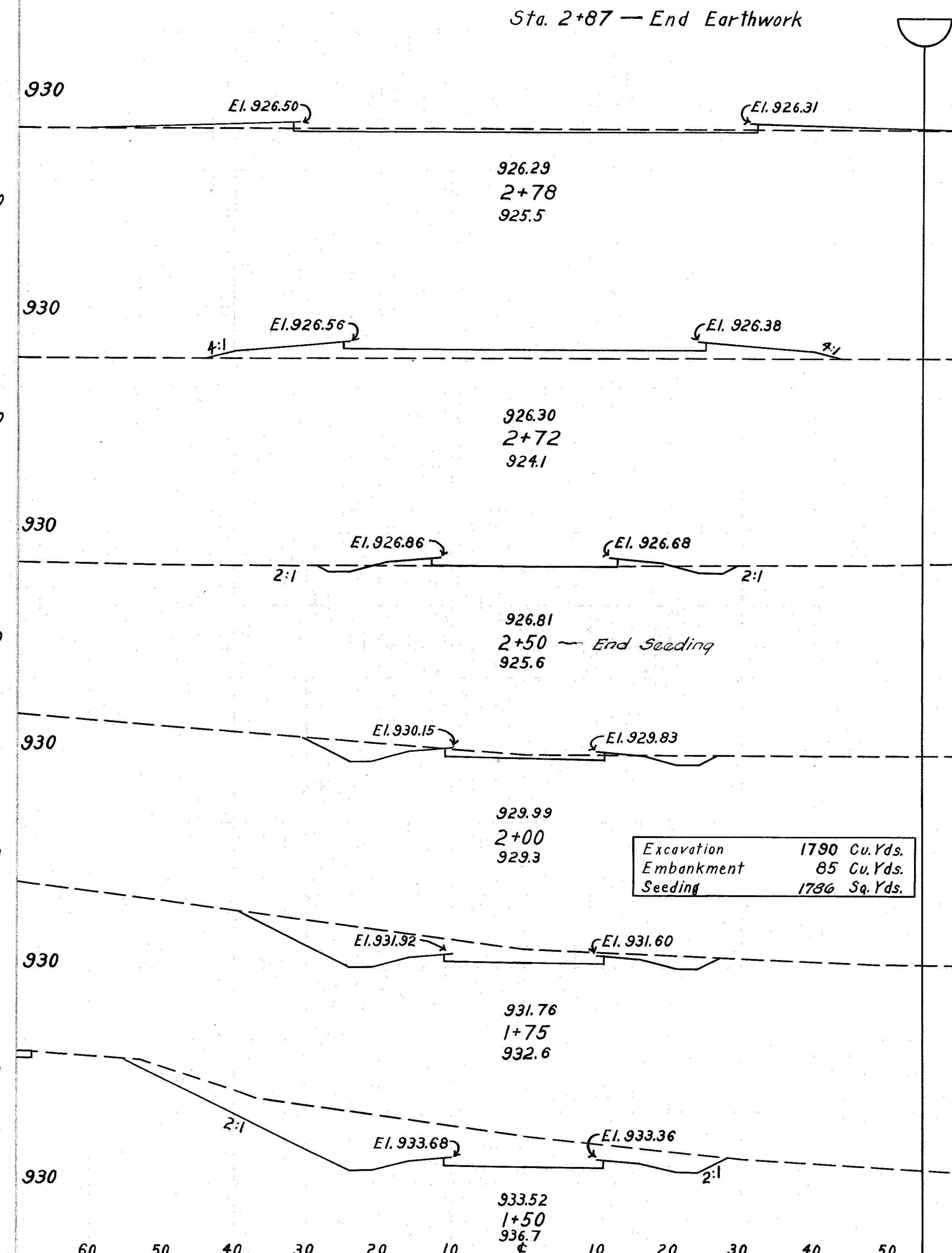
60 50 40 30 20 10 0 10 20 30 40 50 60



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

Seeding	W.	S.Y.	End Area		Cu. Yds.	
			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		
		90		39	0	
	20		28	0		

60 50 40 30 20 10 0 10 20 30

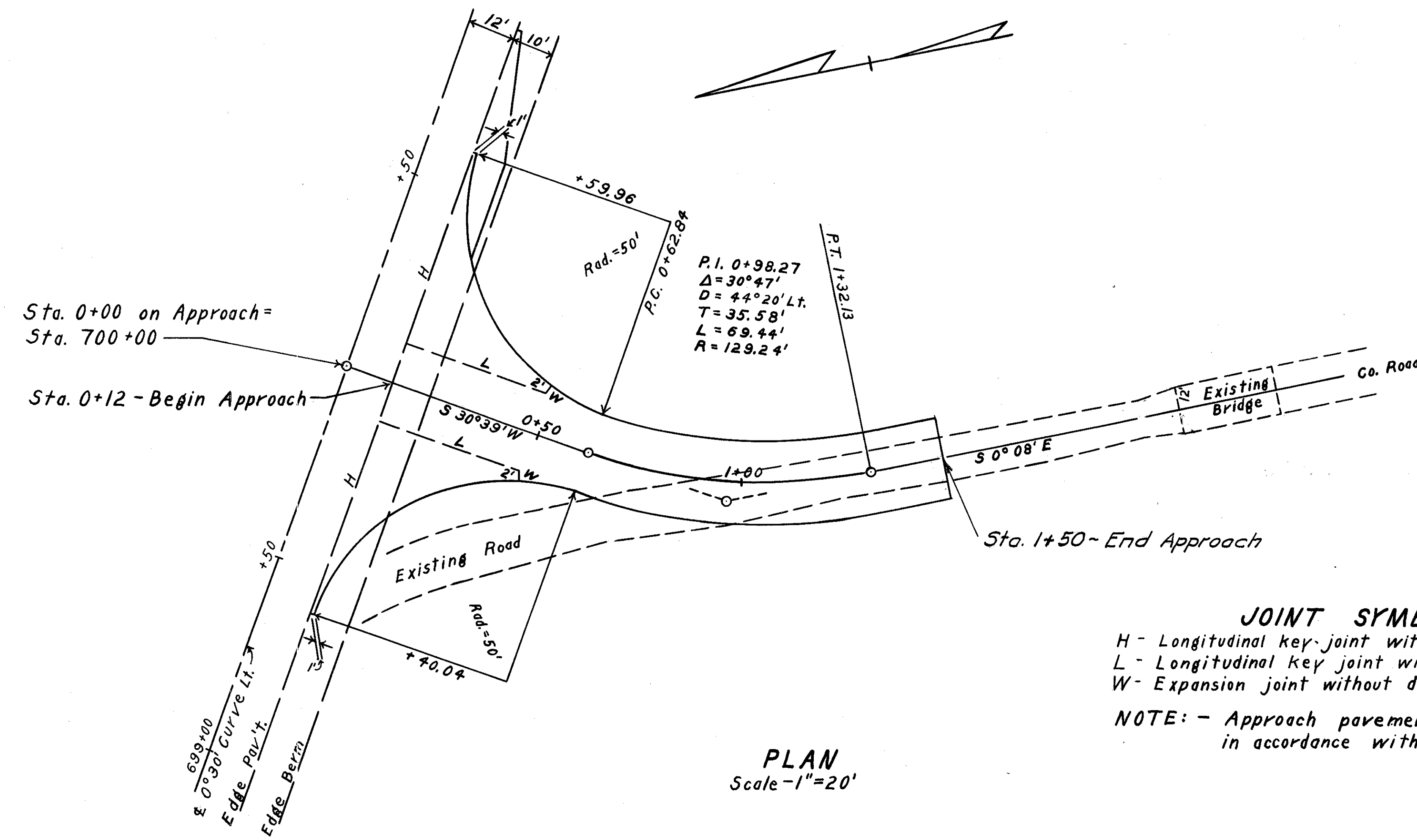
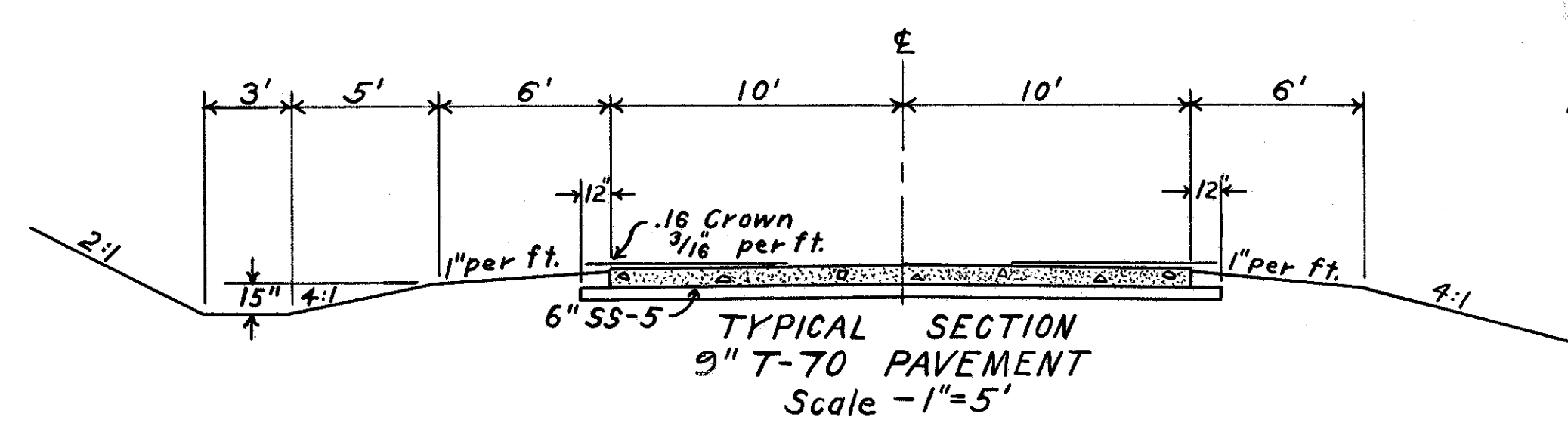


60 50 40 30 20 10 0 10 20 30

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

Seeding	W.	S.Y.	End Area		Cu. Yds.	
			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		

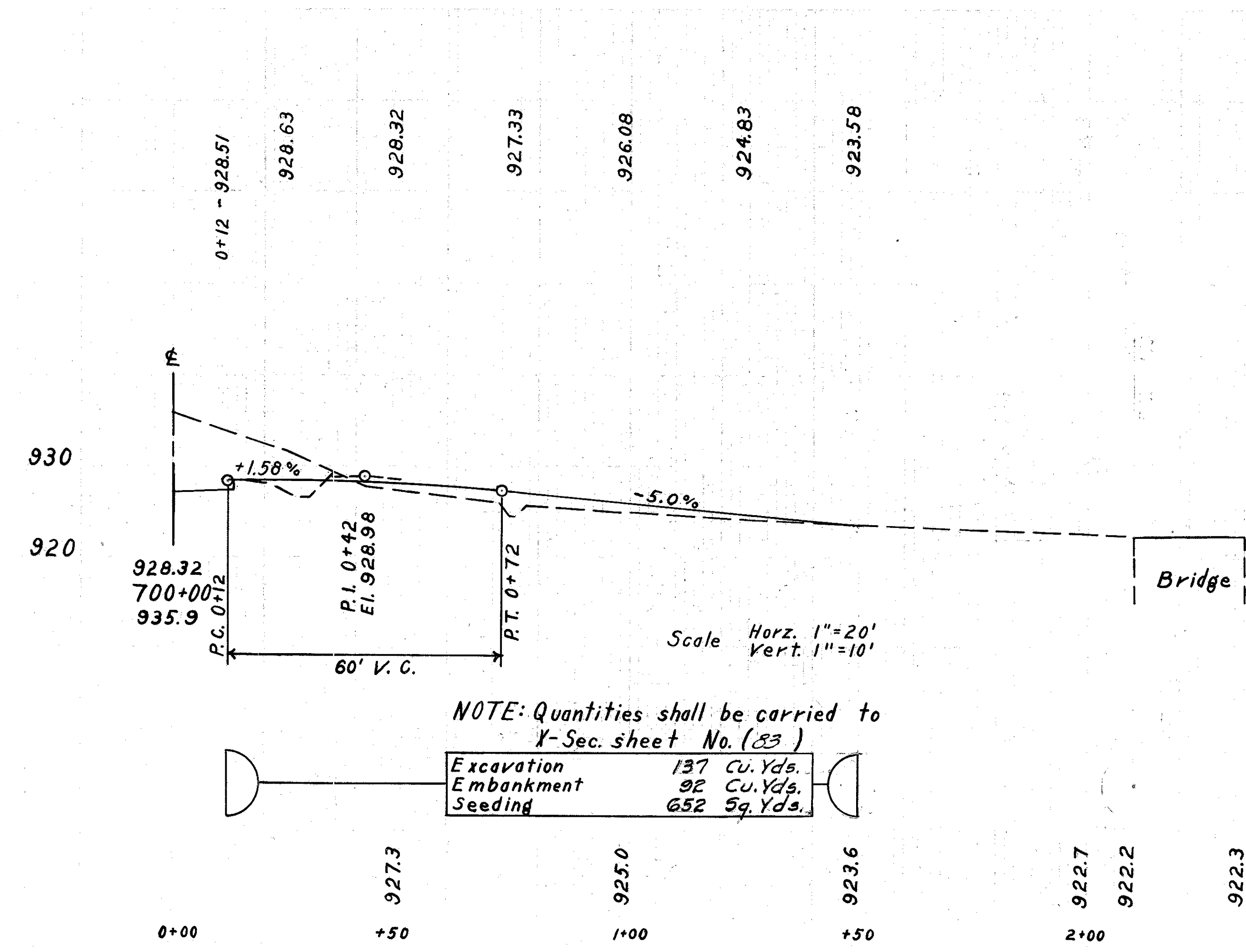
12-A



**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.

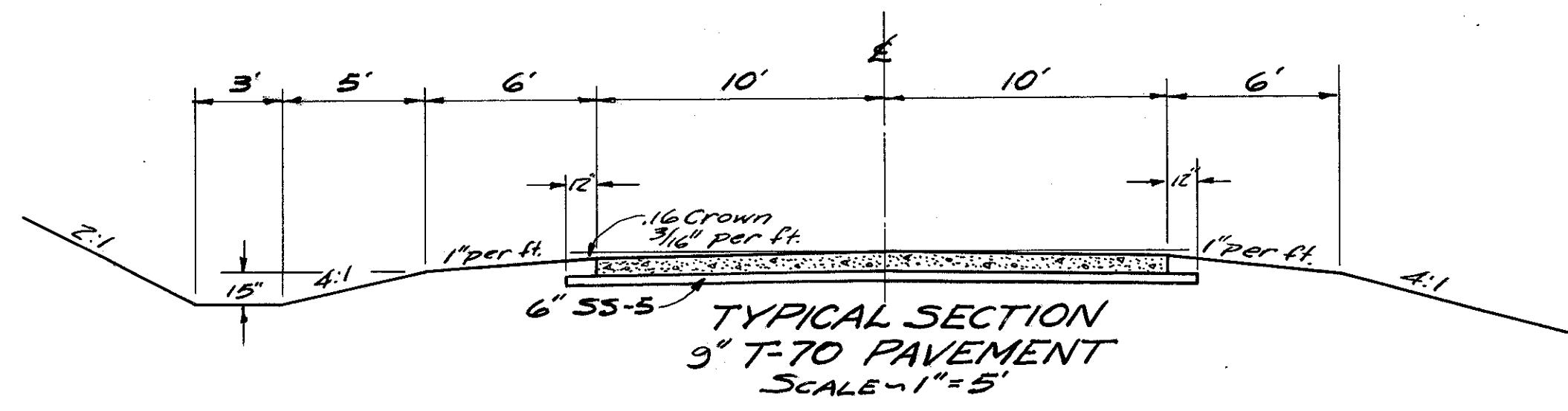
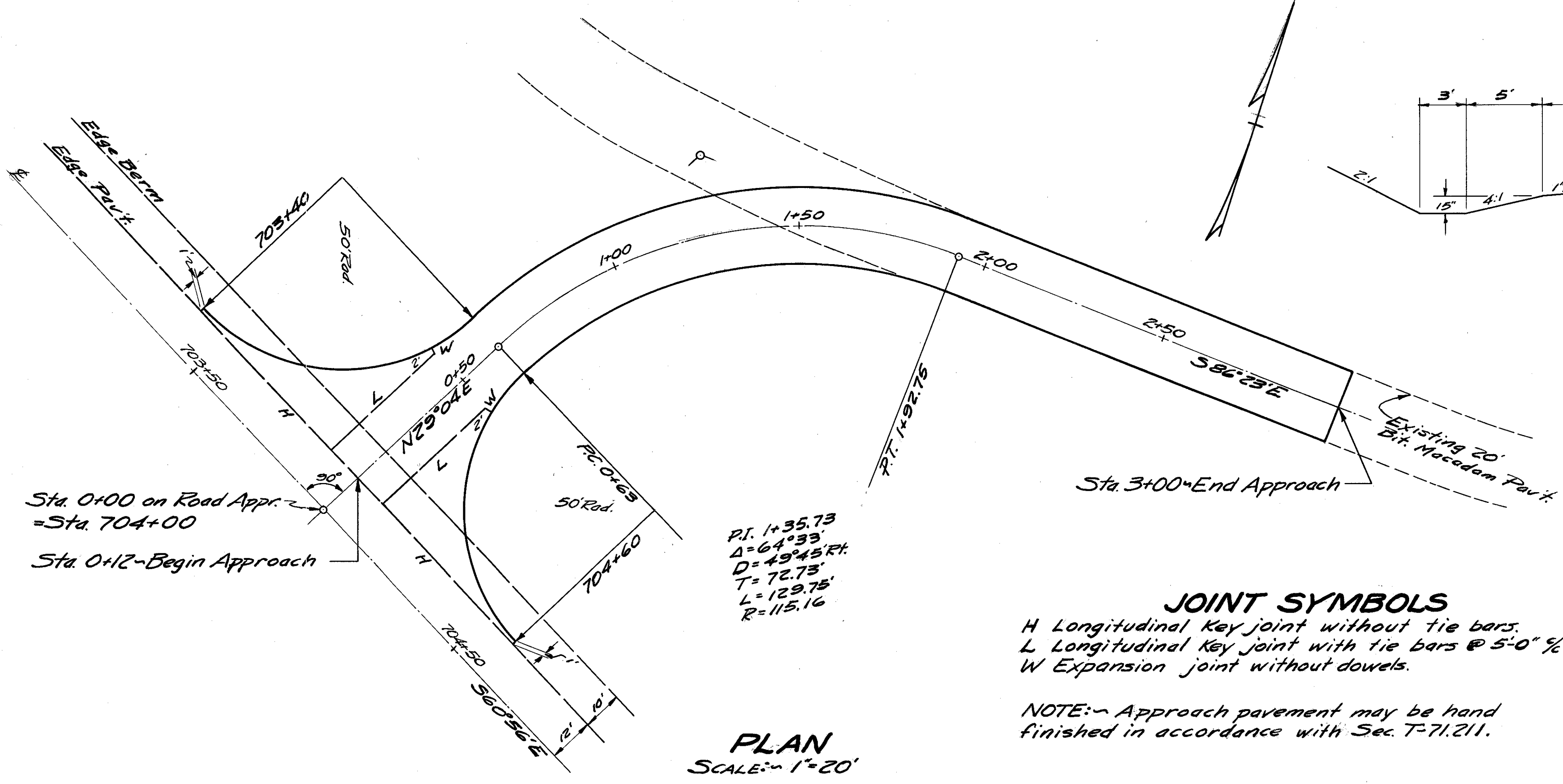
**ESTIMATED QUANTITIES**

T-70 Pavement	436	Sq. Yds.
SS-5	78	Cu. Yds.
I-17	4	Cu. Yds.



Station	Seeding		End Area		Cu. Yds.	
	W.	S.K.	Cut	Fill	Cut	Fill
920	30	20	10	10	20	20
920	48	122	6	30	11	19
920	139	139	5	27	5	27
920	52	52	5	28	5	28
920	146	146	6	24	6	24
920	53	53	7	23	7	23
920	65	65	7	23	7	23
920	46	46	4	16	4	16
920	68	68	3	22	3	22
920	22	22	0	0	0	0
920	68	68	3	22	3	22
920	128	128	0	0	0	0
920	0	0	0	0	0	0
920	40	40	18	12	18	12

Sta. 0+46 Begin Seeding  
 Sta. 0+33 Lump  
 Sta. 1+75 - End Earthwork & Seeding  
 Sta. 0+33  
 928.58  
 0+36  
 929.6  
 920  
 928.32  
 El. 928.32  
 El. 928.28  
 920  
 928.49  
 0+42  
 927.9  
 920  
 927.33  
 0+75  
 924.6  
 920  
 926.08  
 1+00  
 925.0  
 920  
 924.33  
 1+25  
 924.2  
 920  
 924.67  
 El. 924.67  
 El. 924.99  
 920  
 923.58  
 1+50  
 923.6  
 920

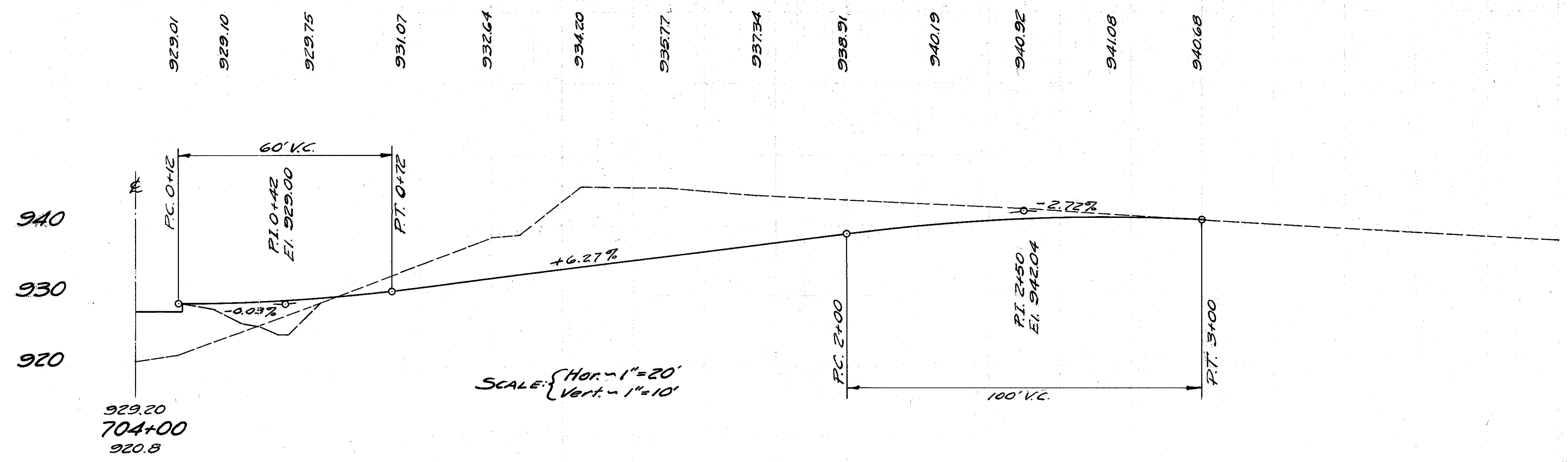


**ESTIMATED QUANTITIES**

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

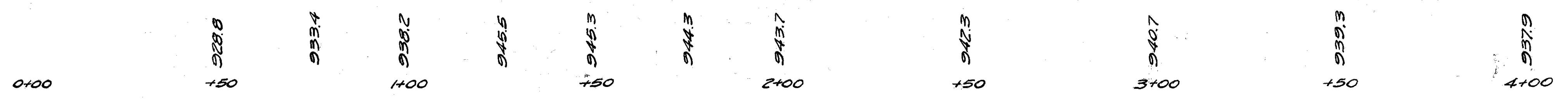
**JOINT SYMBOLS**  
 H Longitudinal Key joint without tie bars.  
 L Longitudinal Key joint with tie bars @ 5'-0" c/c.  
 W Expansion joint without dowels.

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

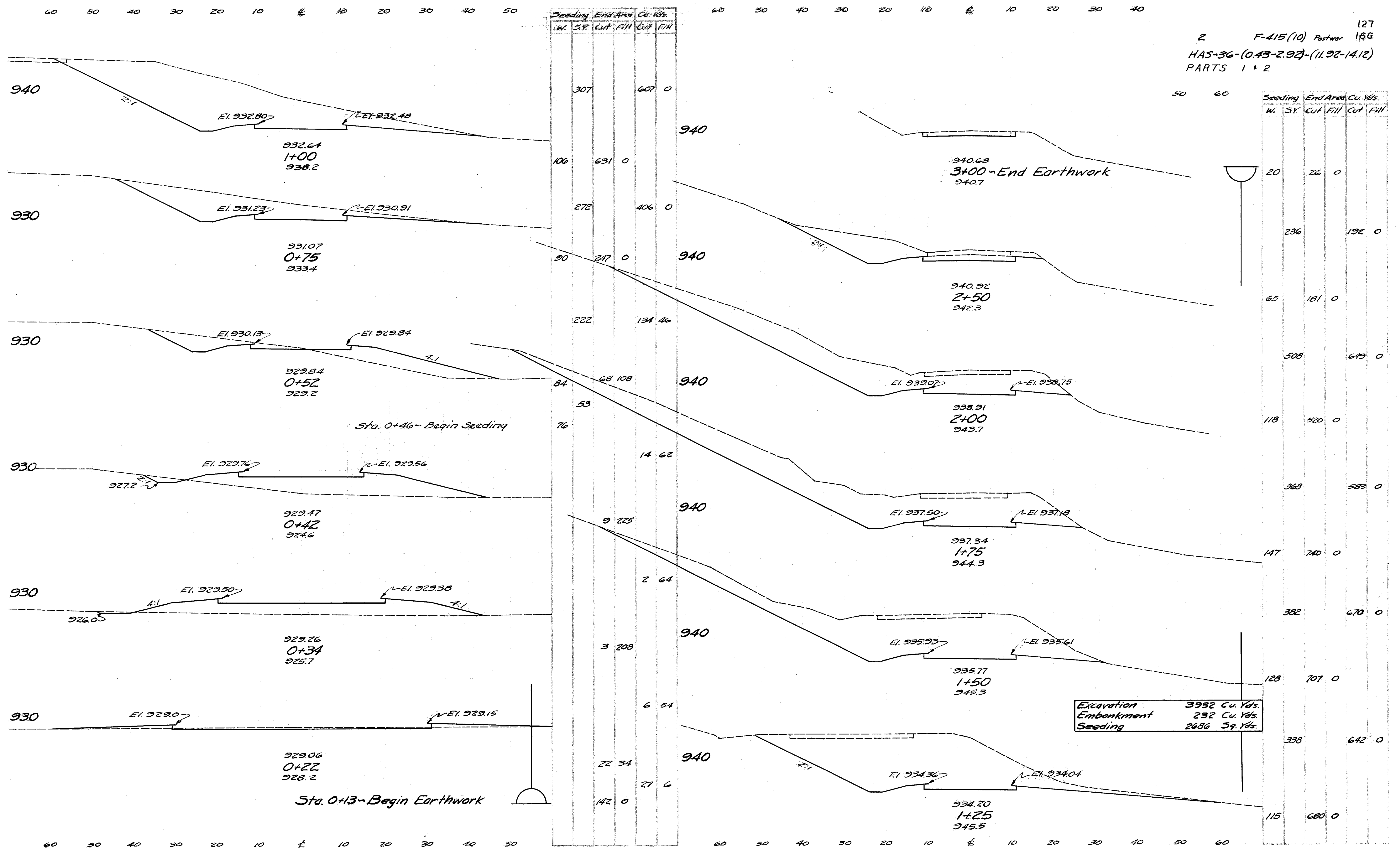


Note: Quantities carried to X-sec. Sheet N<sup>o</sup> (86)

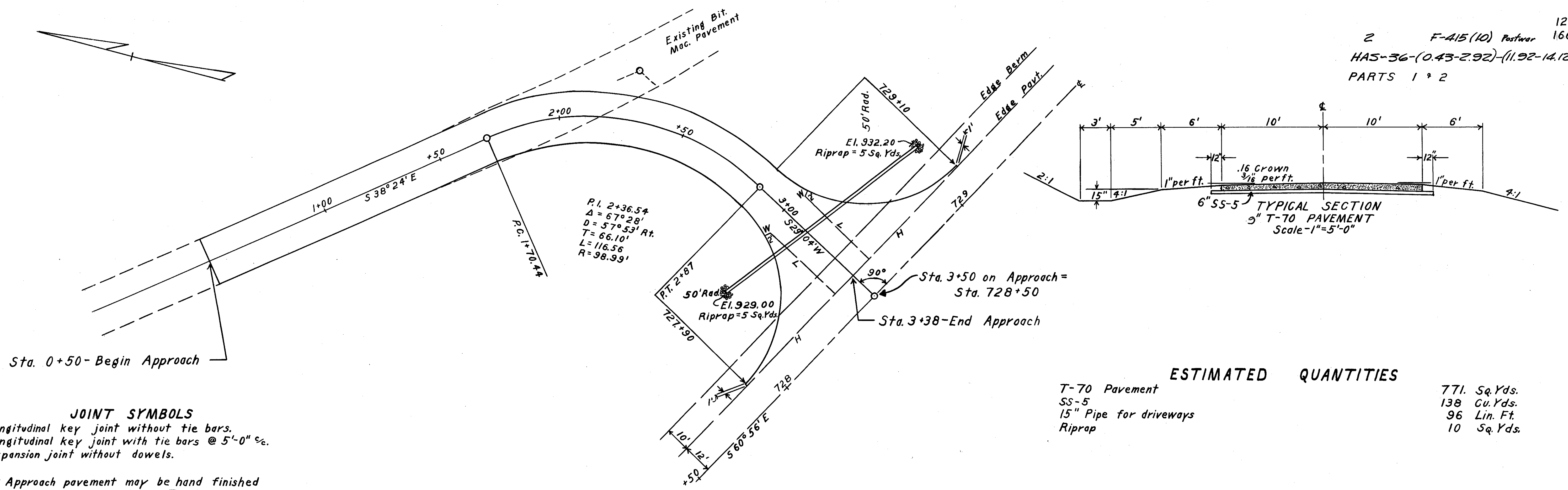
Excavation	5932 Cu. Yds.
Embankment	232 Cu. Yds.
Seeding	2686 Sq. Yds.



127  
 2 F-415(10) Postwar 166  
 HAS-36-(0.43-2.92)-(11.92-14.12)  
 PARTS 1 + 2



Excavation 3932 Cu. Yds.  
 Embankment 232 Cu. Yds.  
 Seeding 2686 Sq. Yds.



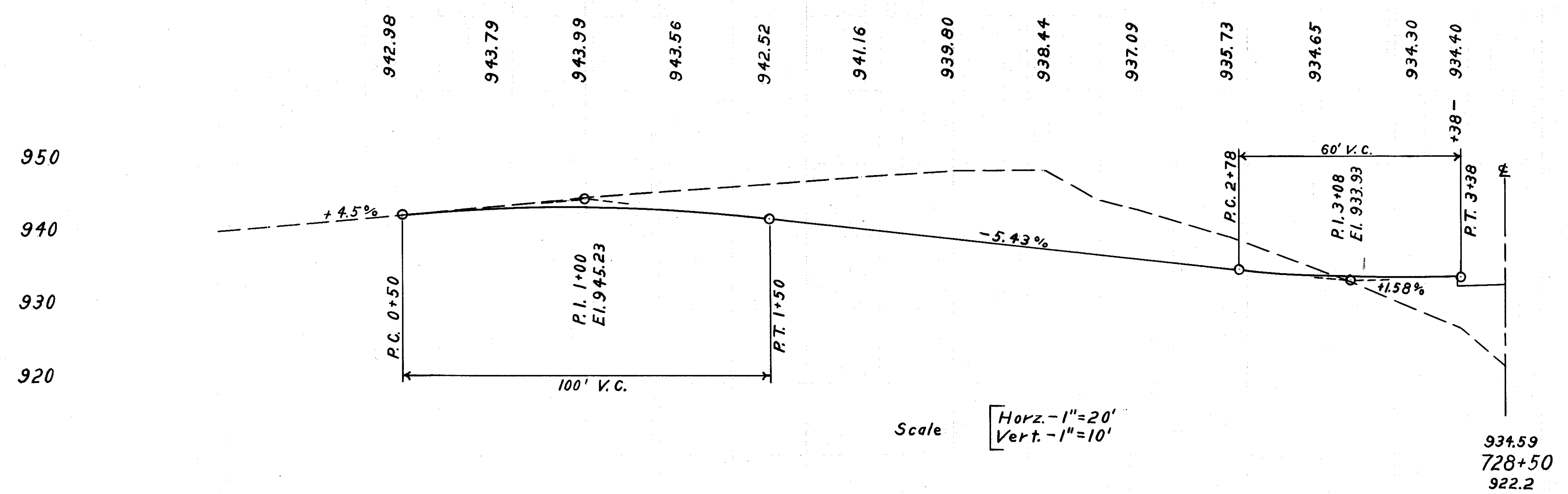
**JOINT SYMBOLS**  
 H Longitudinal key joint without tie bars.  
 L Longitudinal key joint with tie bars @ 5'-0" c.c.  
 W Expansion joint without dowels.

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

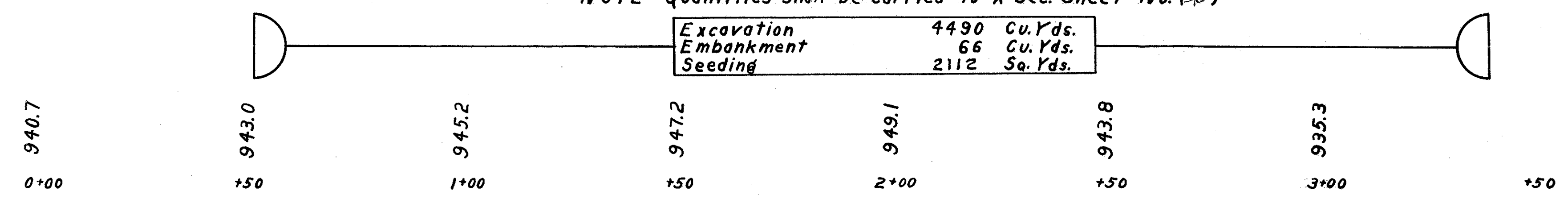
**ESTIMATED QUANTITIES**

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

PLAN  
 Scale - 1" = 20'



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





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

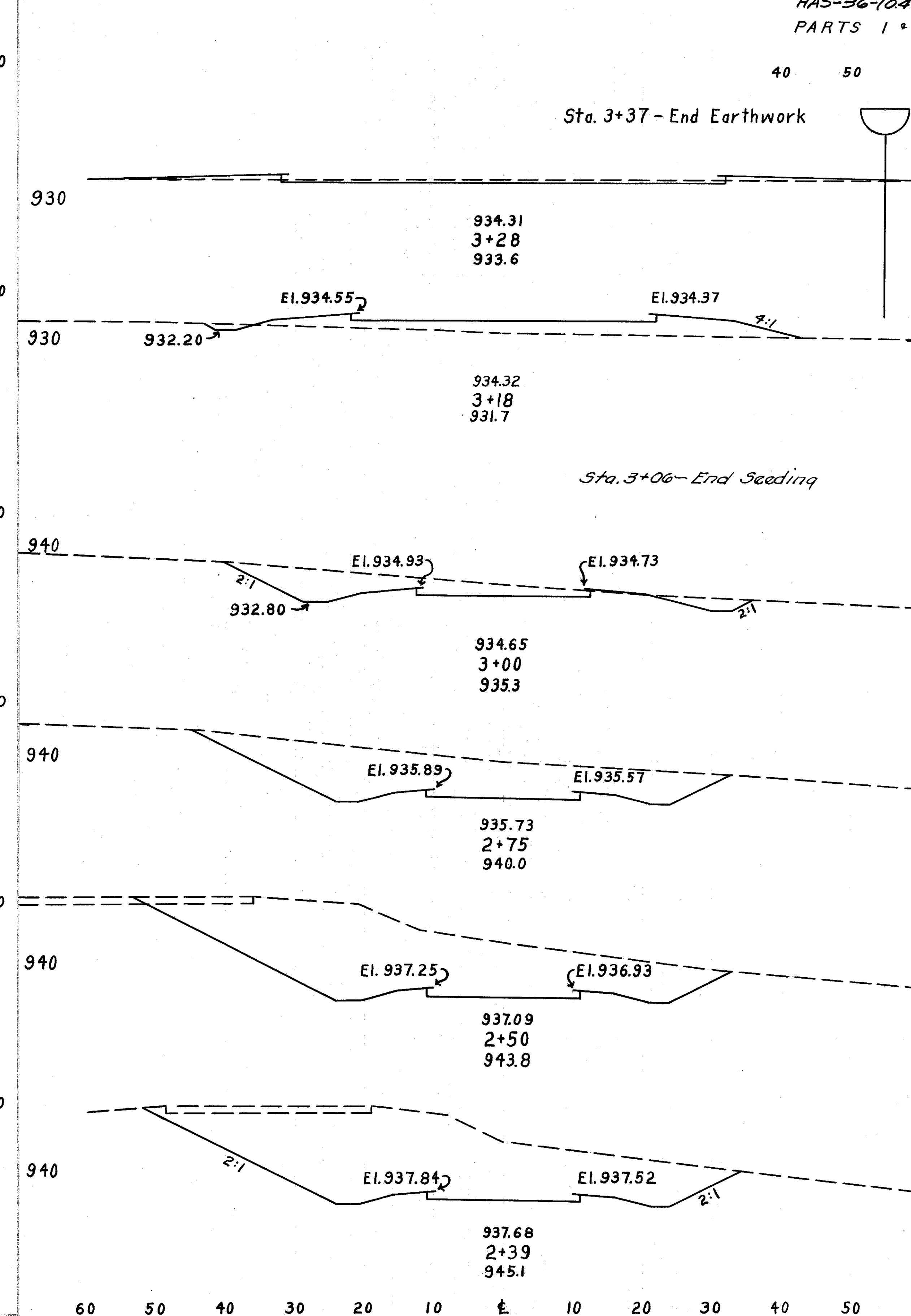
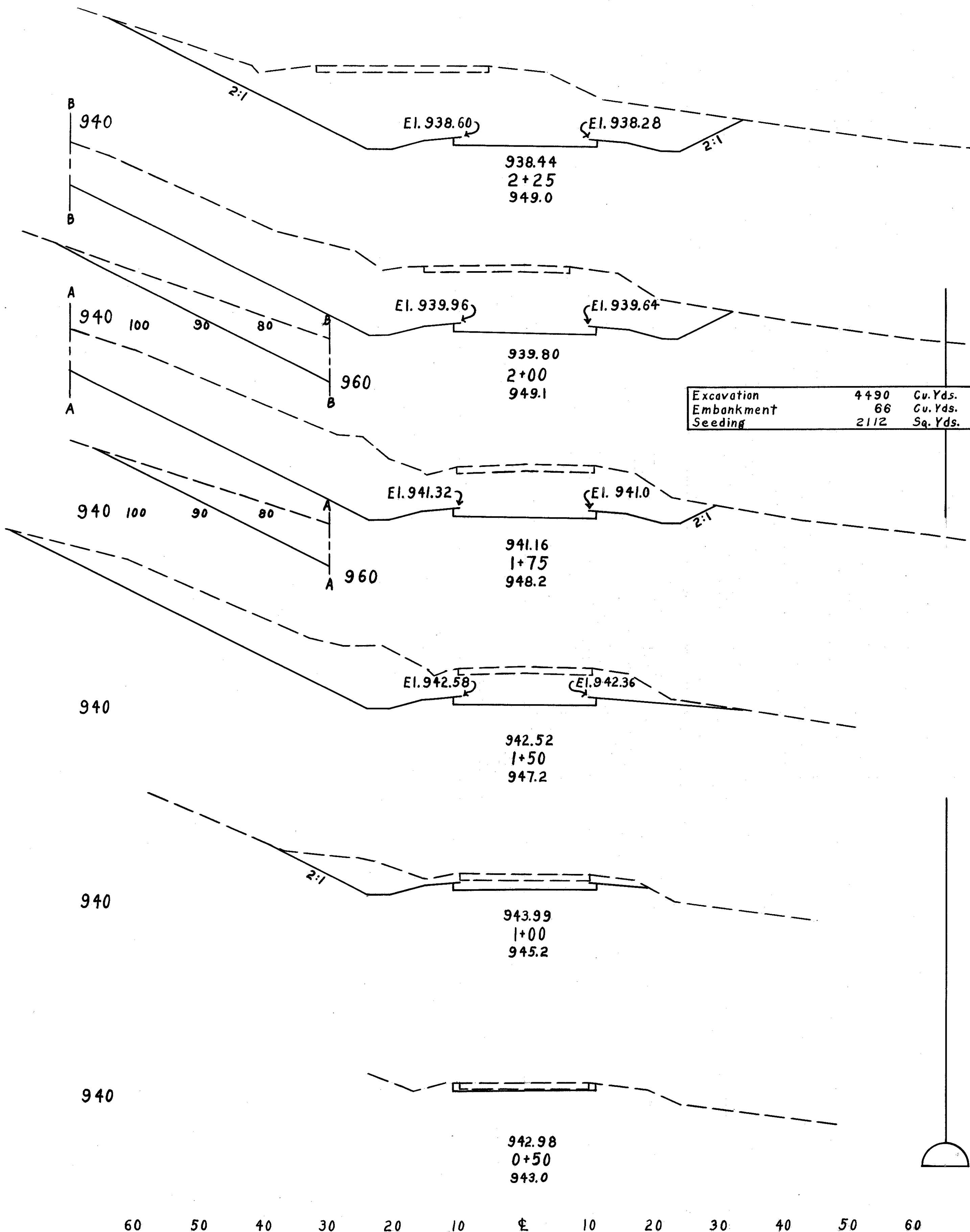
Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
151				361	0
104				700	0
360				792	0
155				1012	0
417				886	0
145				902	0
368				658	0
120				520	0
217				606	0
58				134	0
				148	0
20				26	0

Excavation	4490	Cu. Yds.
Embankment	66	Cu. Yds.
Seeding	2112	Sq. Yds.

60 50 40 30 20 10 0 10 20 30

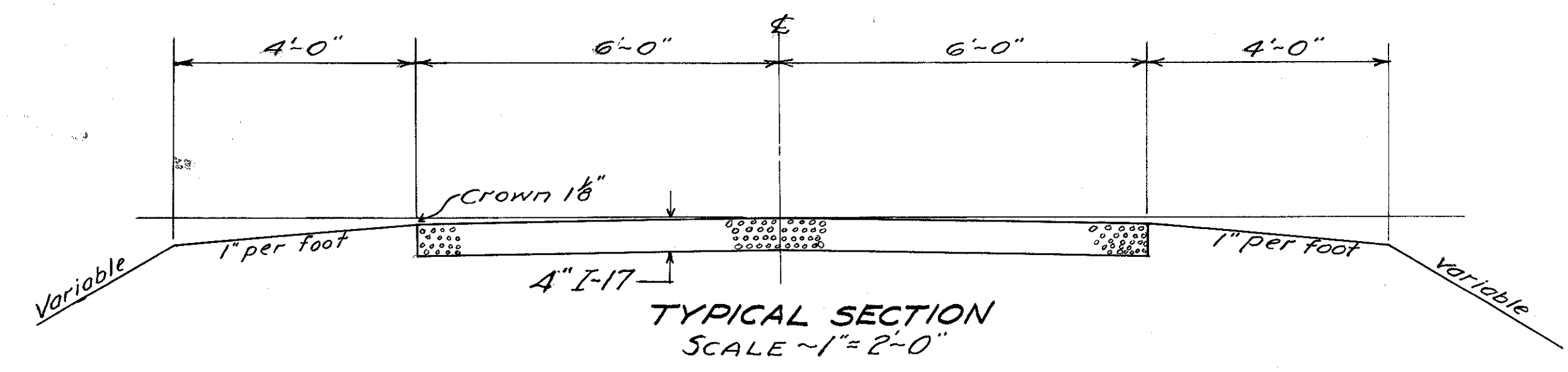
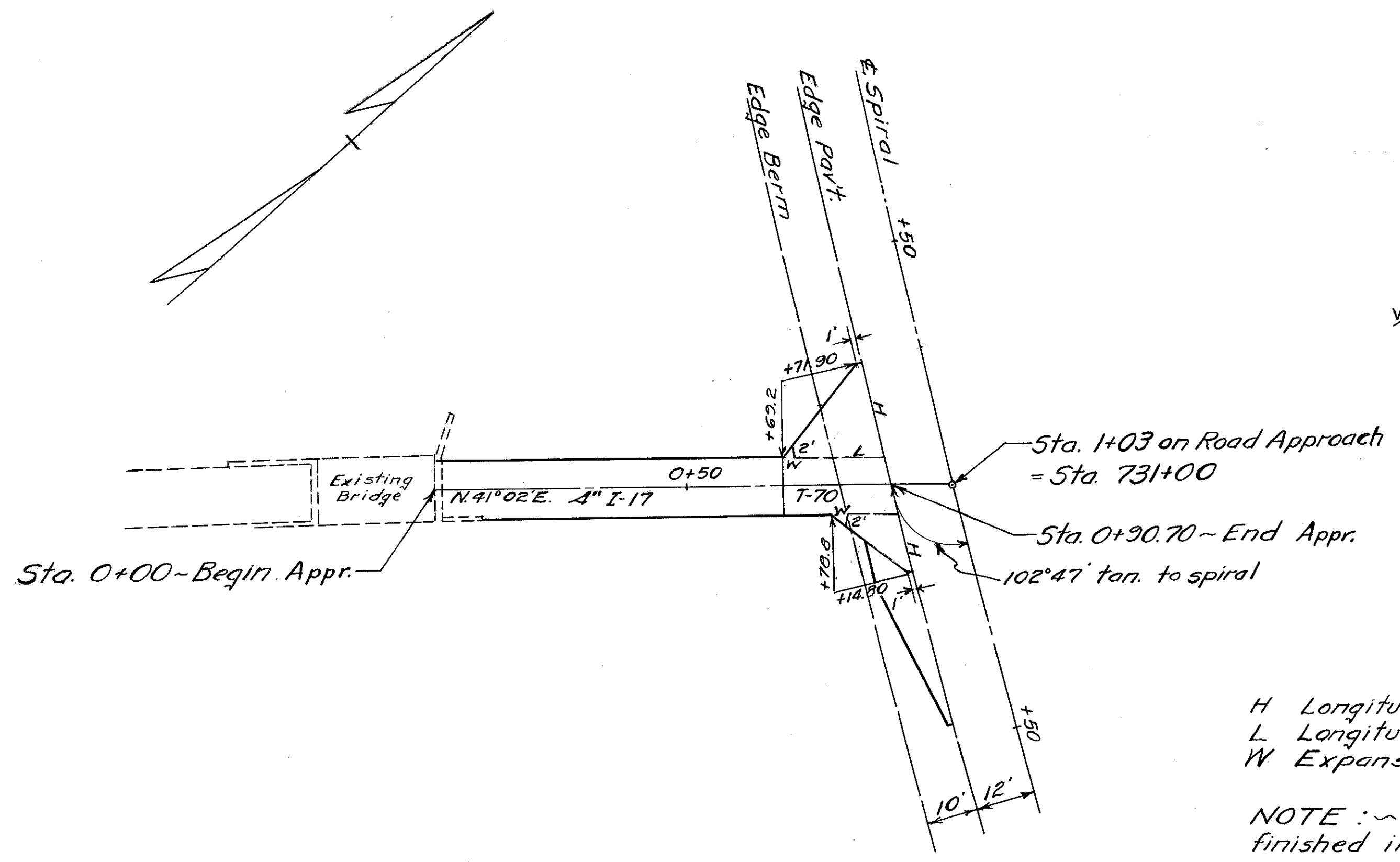
129  
 2 F-415(10) Roadway 16.6  
 HAS-36-(0.43-2.92)-(11.92-14.12)  
 PARTS 1 & 2

Seeding		End Area		Cu. Yds.	
W.	S.Y.	Cut	Fill	Cut	Fill
				142	0
					27 2
				22	11
					5 24
				4	120
				75	
				50	50 40
				75	145 1
				218	234 0
				82	361 0
				226	455 0
				81	622 0
				105	268 0
				90	692 0



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



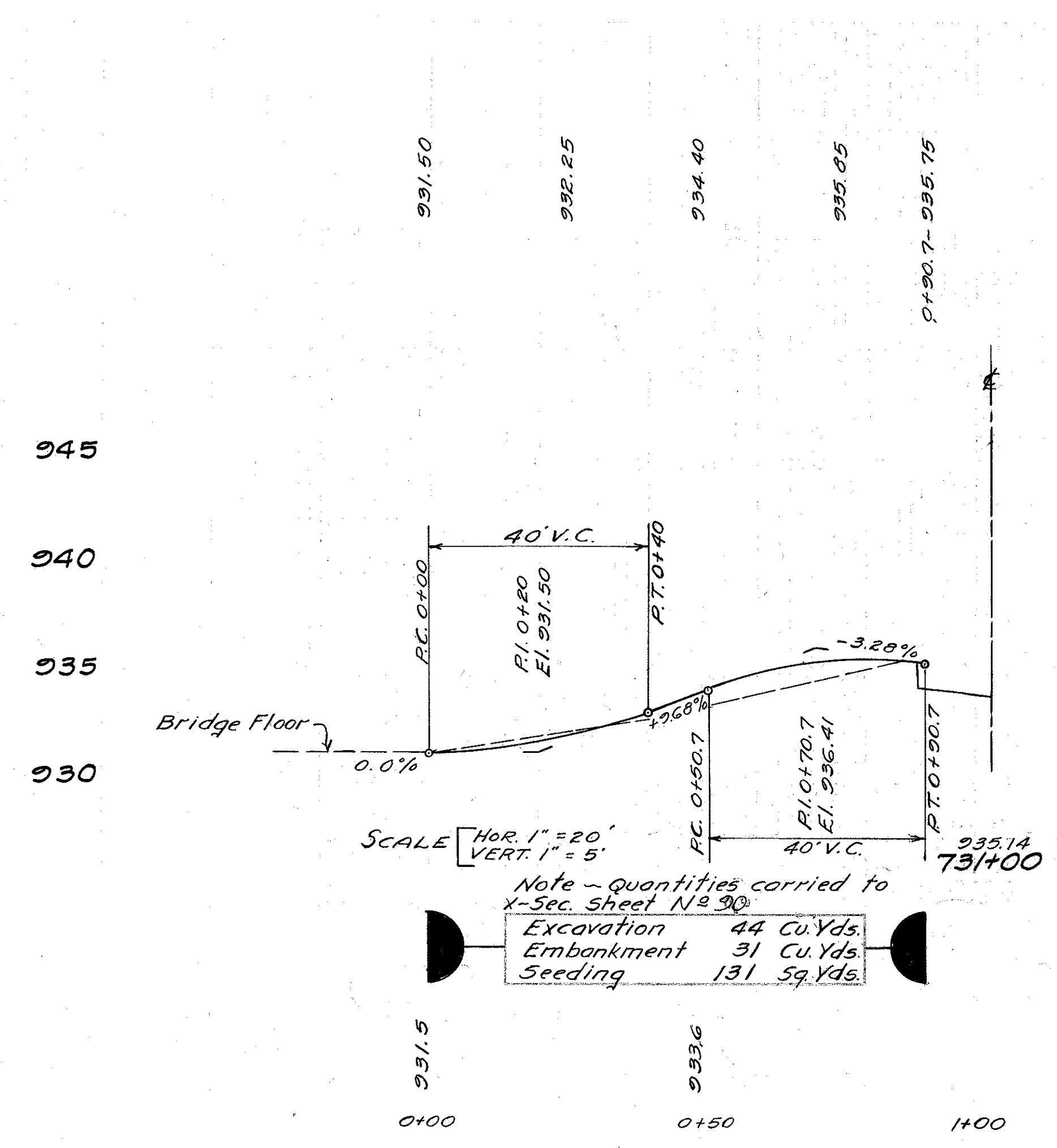
**JOINT SYMBOLS**  
 H Longitudinal Key joint without tie bars.  
 L Longitudinal Key joint with tie bars @ 5'-0" %  
 W Expansion joint without dowels.

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

**ESTIMATED QUANTITIES**

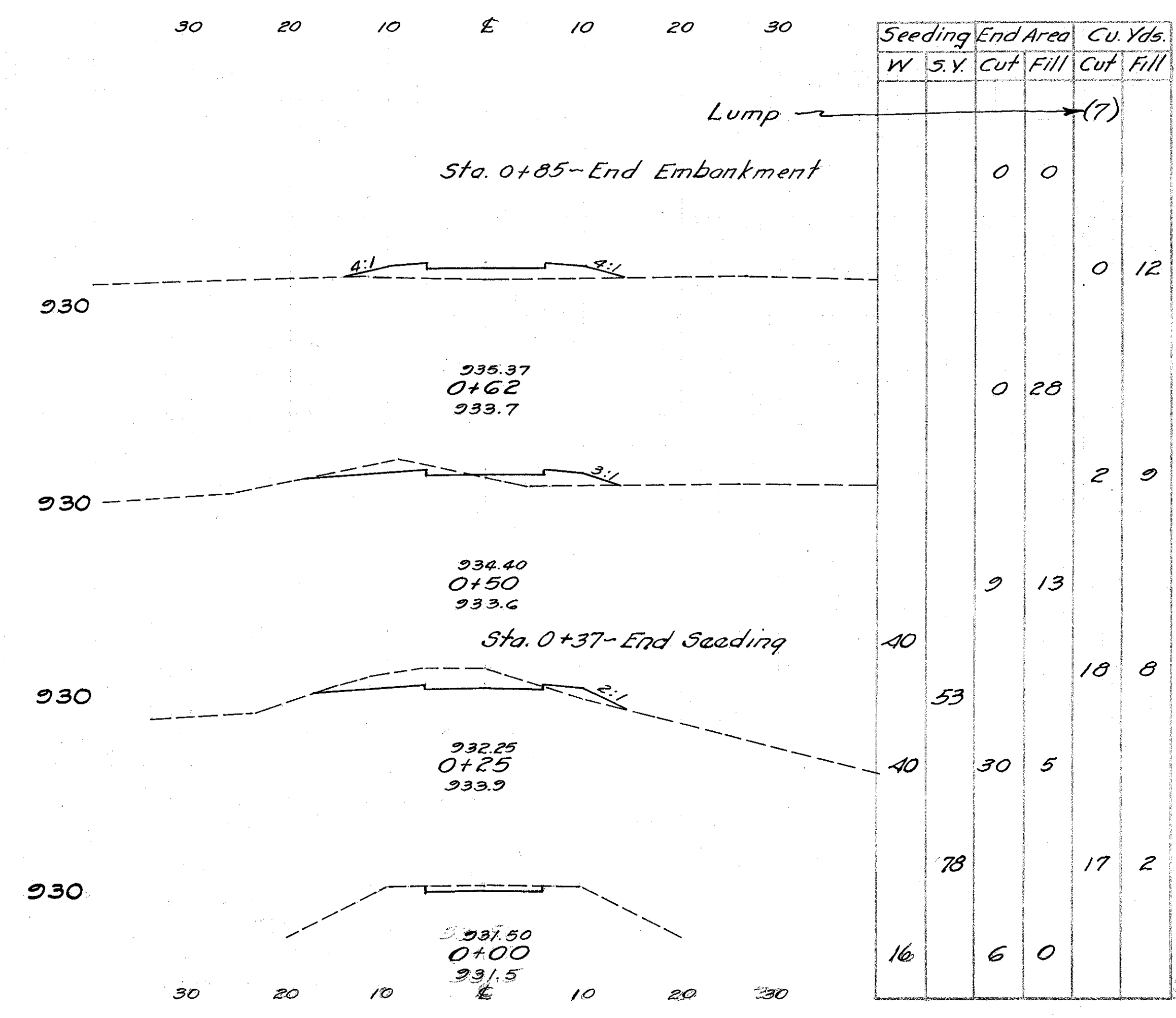
9" T-70 Pavement	55	Sq. Yds.
I-17	14	Cu. Yds.
SS-5	3	Cu. Yds.

PLAN  
 SCALE ~ 1" = 20'

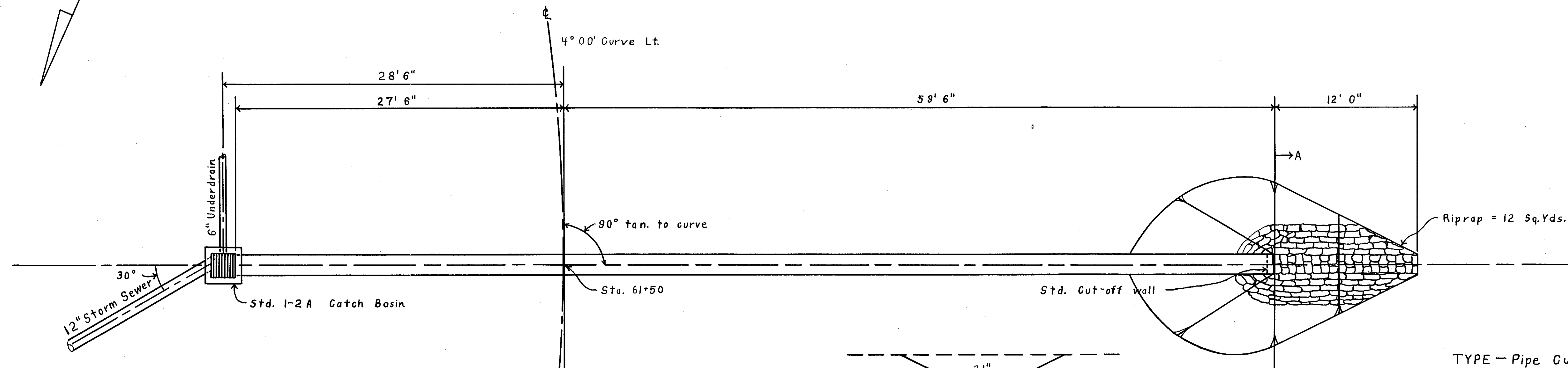


Note - Quantities carried to X-Sec sheet N 8 90

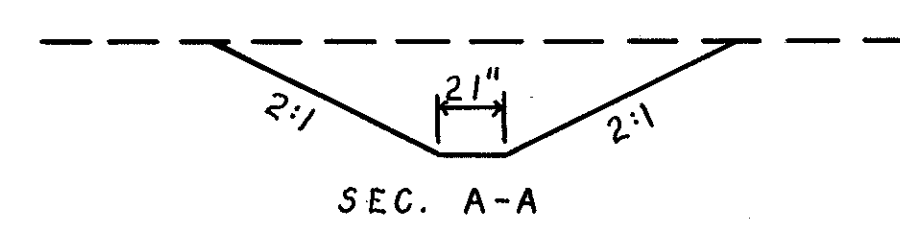
Excavation	44	Cu. Yds.
Embankment	31	Cu. Yds.
Seeding	131	Sq. Yds.



16-A



PLAN  
Scale - 1" = 5'-0"



SEC. A-A

STRUCTURE DATA

TYPE - Pipe Culvert  
 SIZE - 21" x 87'-0"  
 WORK REQUIRED - Build 21"x87' 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.

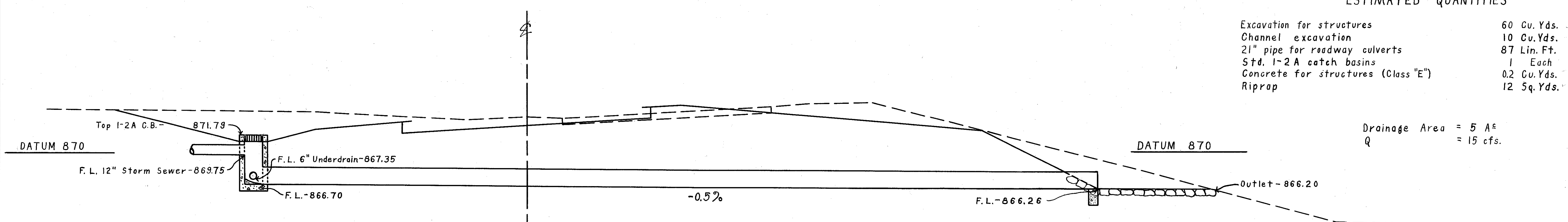
REFERENCE DRAWINGS

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<sup>s</sup>  
 Q = 15 cfs.



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

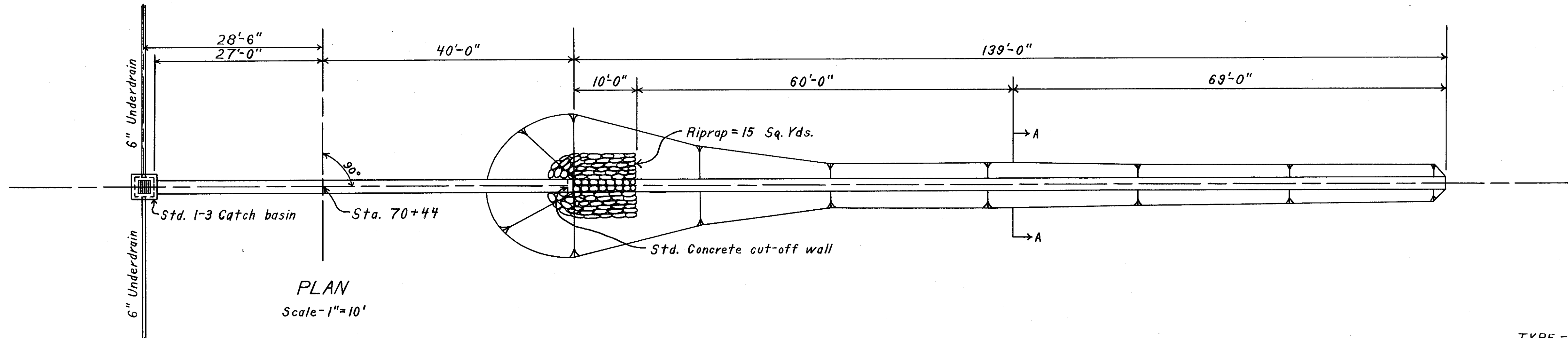
873.38  
 61+50  
 873.6

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

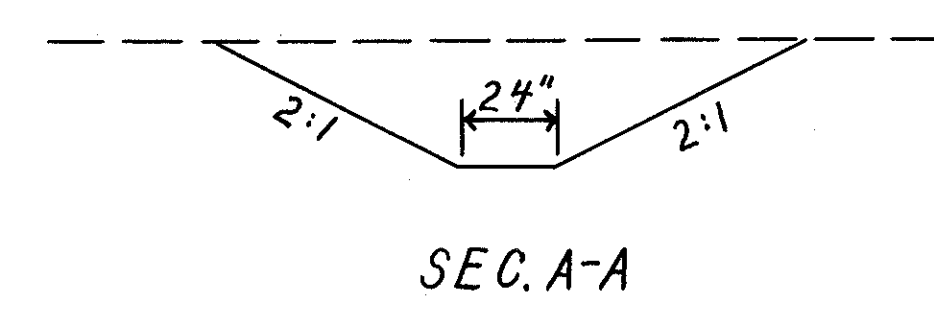
2-5

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	(132) 166
2	OHIO	F-415 (10)	Postwar	

HA5-36-(0.43-2.22)-(11.22-14.12)  
PARTS 1 & 2



PLAN  
Scale-1"=10'



**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.

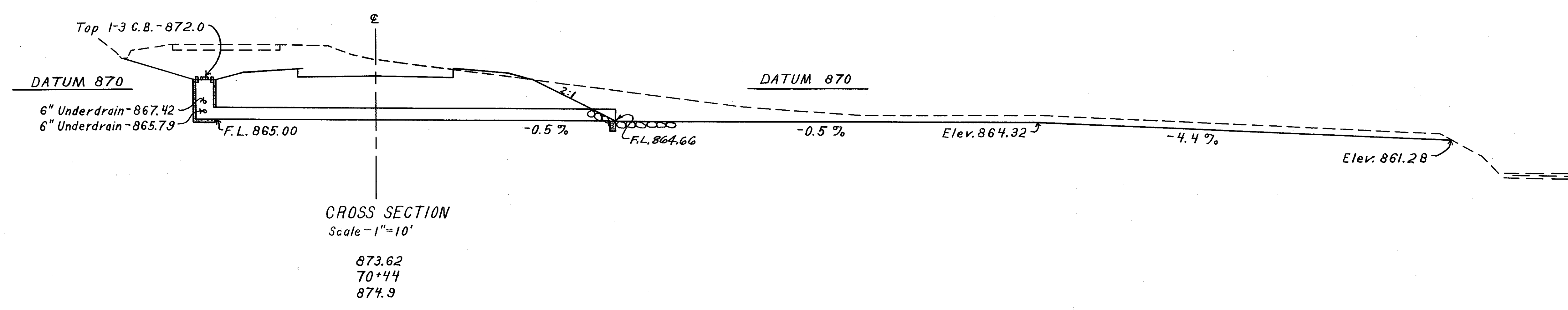
**REFERENCE DRAWINGS**

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.

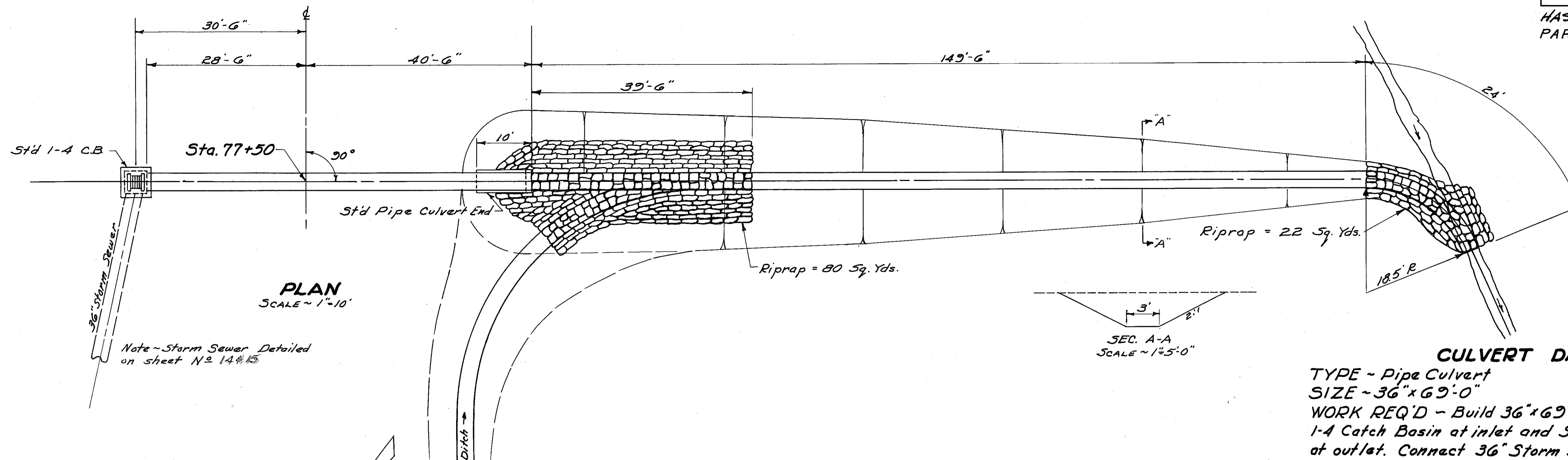
Drainage Area = 10 A<sup>2</sup>  
 Q = 19 Cfs.



CROSS SECTION  
Scale-1"=10'

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

(5-5)



**PLAN**  
SCALE ~ 1"=10'

Note - Storm Sewer Detailed on sheet No 14 & 15

**SEC. A-A**  
SCALE ~ 1 1/2"=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 at outlet. Connect 36" Storm Sewer to Catch Basin at inlet end. Excavate and riprap outlet channel as shown.

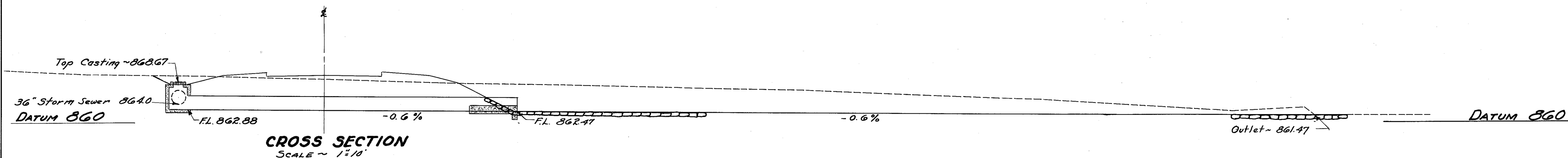
**REFERENCE DRAWINGS**

Pipe Culverts S-27 PC. 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 33A<sup>±</sup>  
 Q 36 cfs.

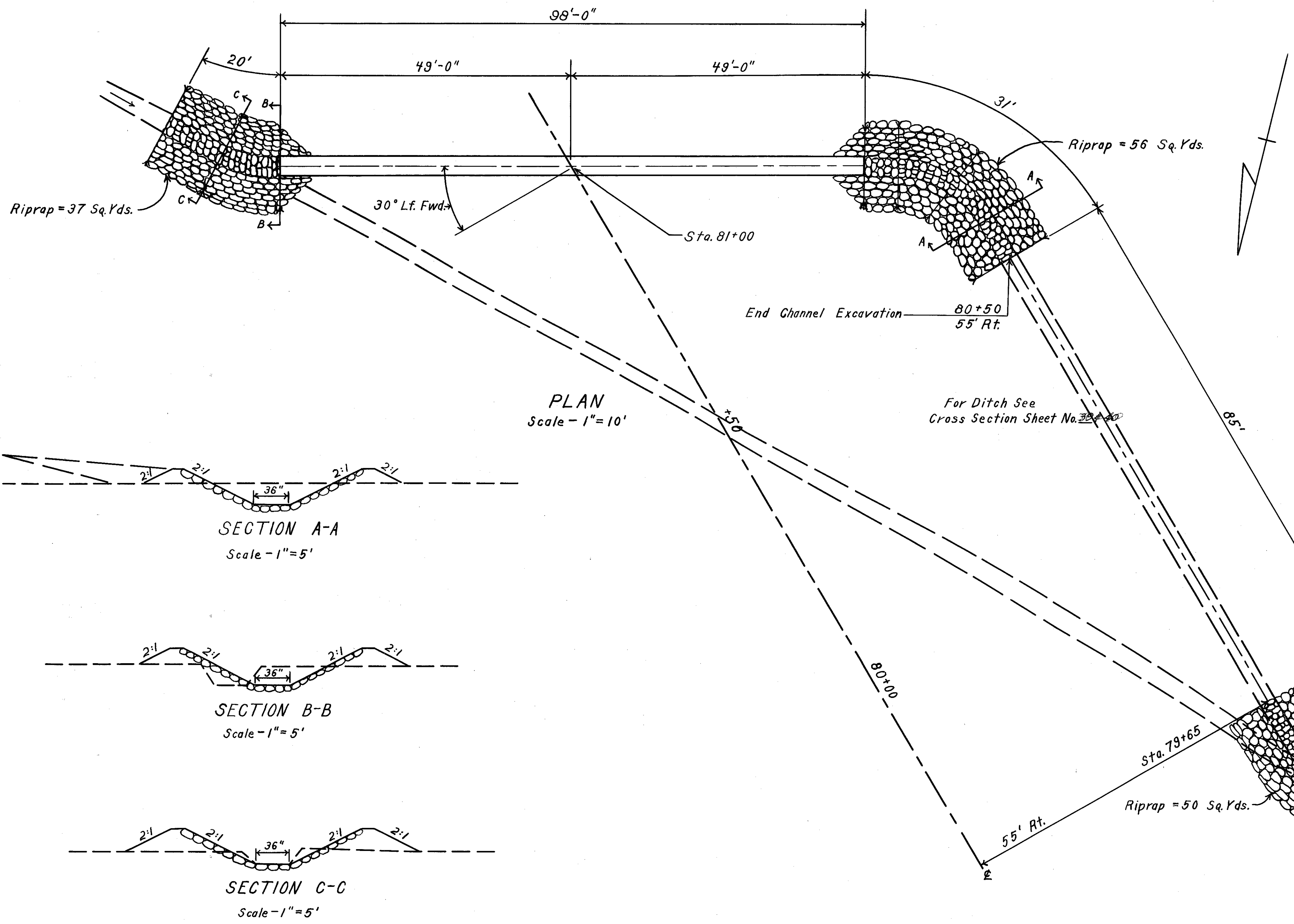


**CROSS SECTION**  
SCALE ~ 1 1/2"=10'

870.80  
 77+50  
 869.3

6-5

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



**STRUCTURE DATA**

TYPE - Pipe Culvert  
 SIZE - 36" x 98'-0"  
 WORK REQUIRED - Build new 36" x 98' pipe culvert.  
 Excavate and riprap channels as shown.

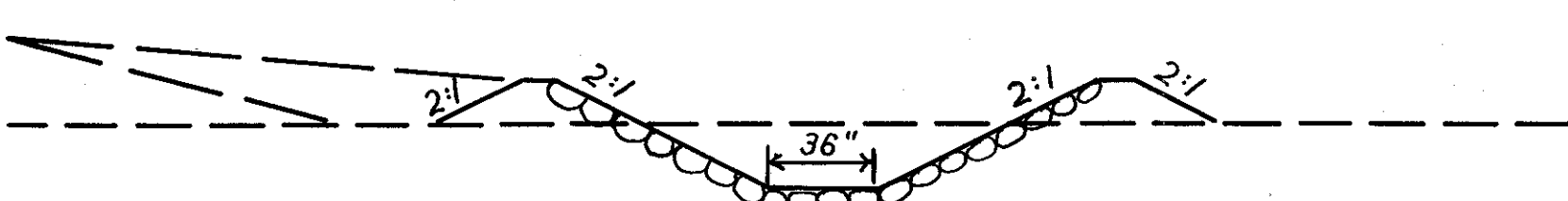
**REFERENCE DRAWINGS**

Pipe Culverts S-27 P.C.3

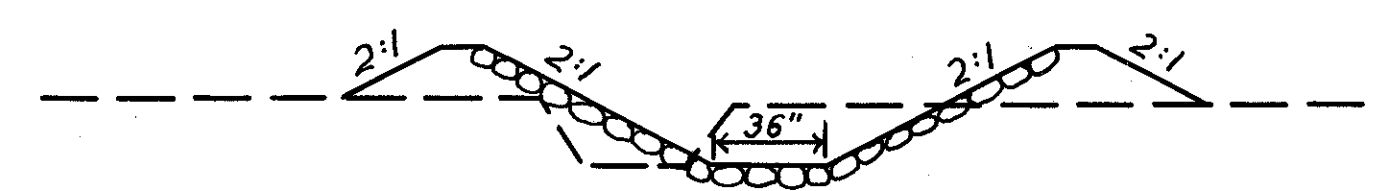
**ESTIMATED QUANTITIES**

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

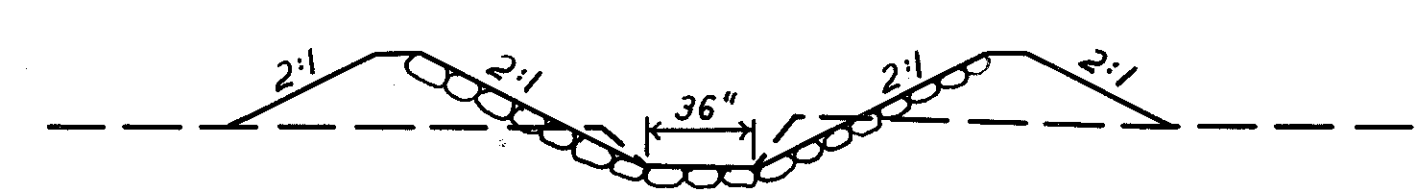
Drainage Area = 40 A<sup>2</sup>  
 Q = 41 cfs.



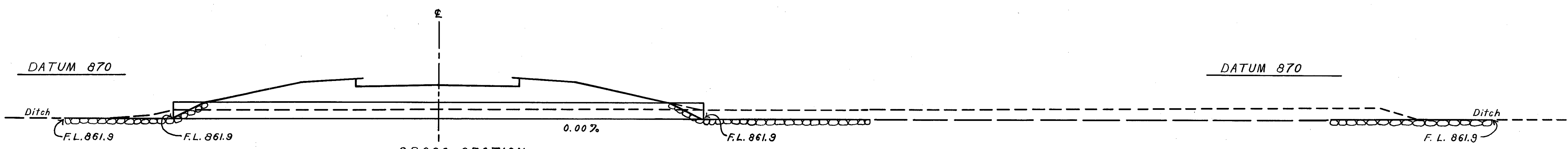
SECTION A-A  
Scale - 1" = 5'



SECTION B-B  
Scale - 1" = 5'

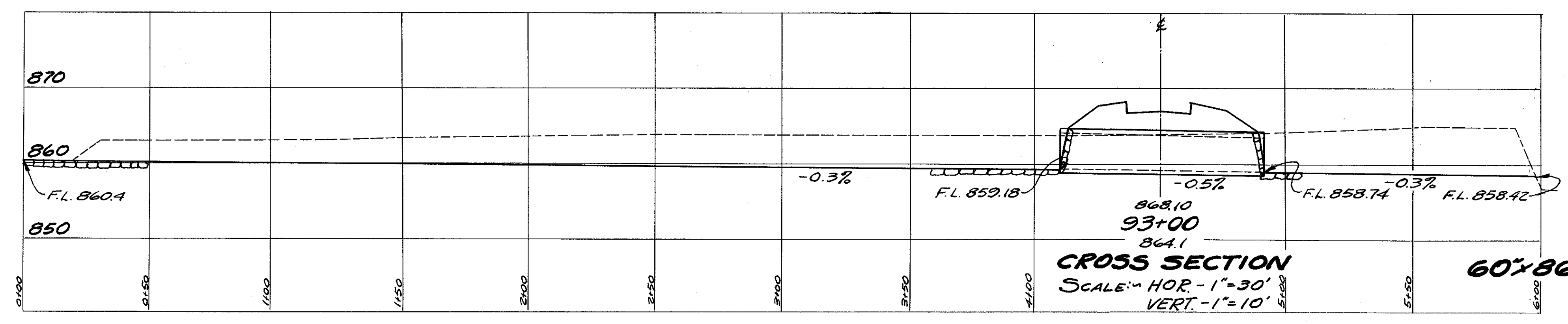
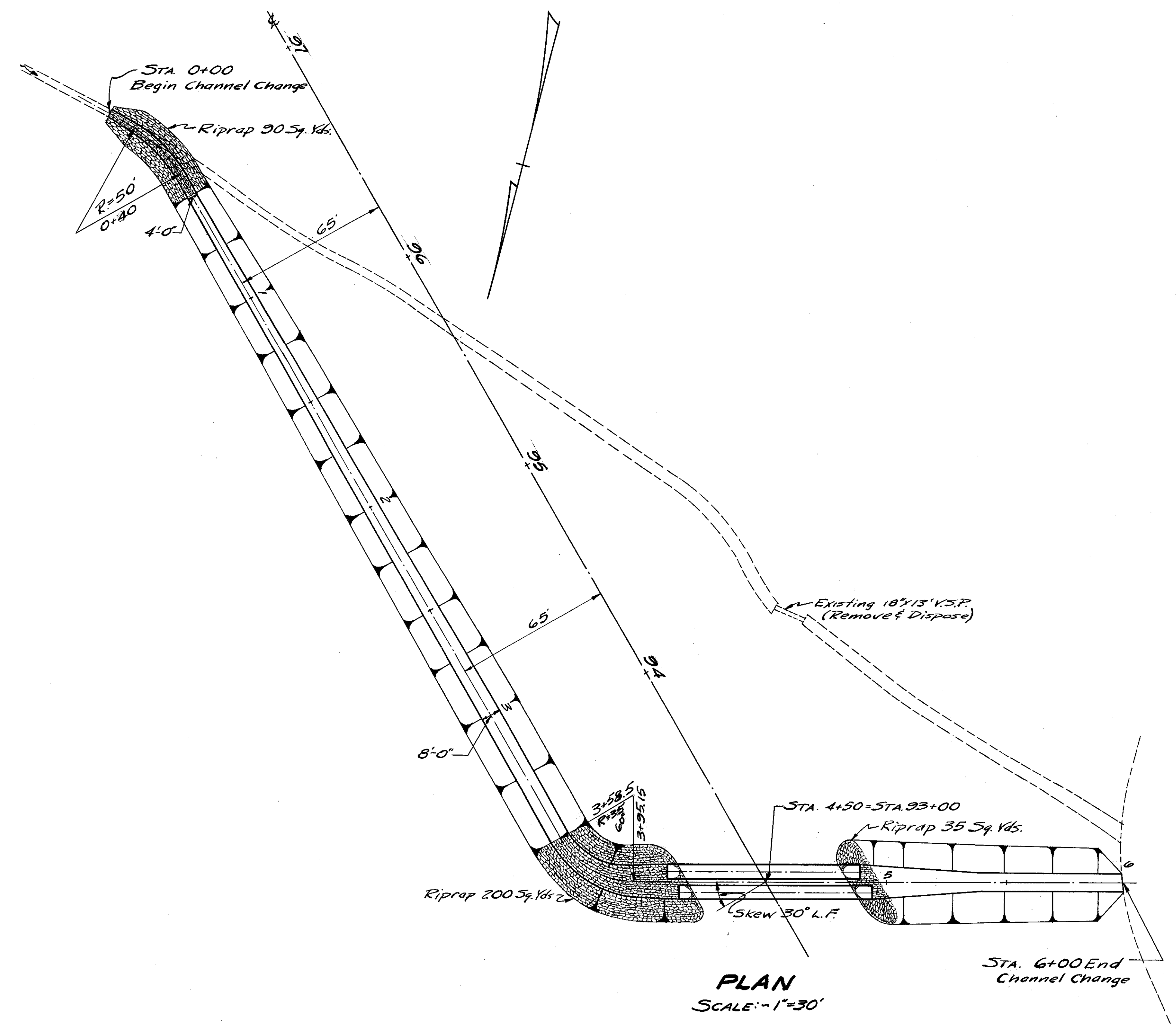
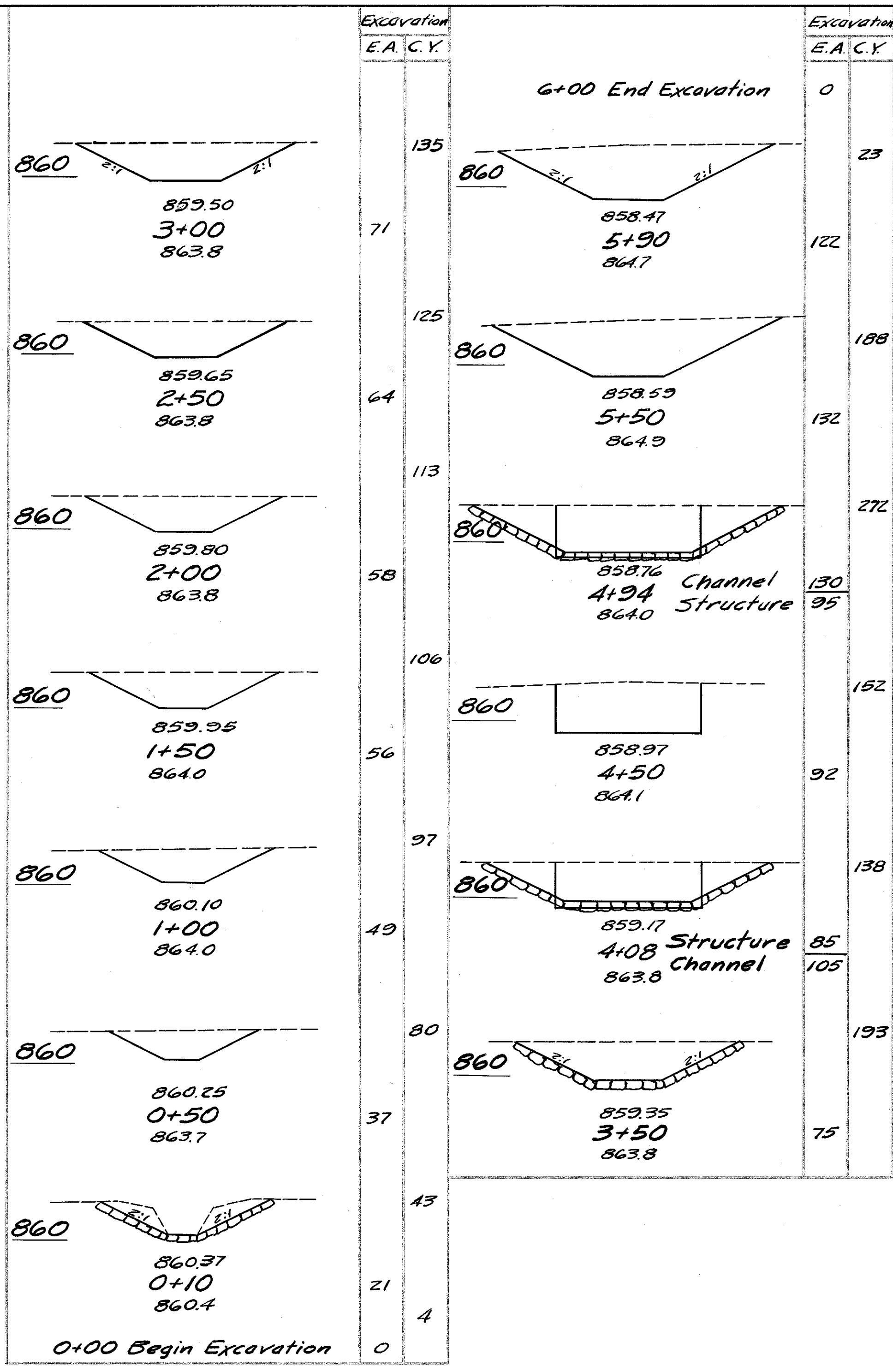


SECTION C-C  
Scale - 1" = 5'



CROSS SECTION  
Scale - 1" = 10'  
 863.40  
 81+00  
 863.5

7-5
 STA. 81+00  
 36" x 98'-0" PIPE CULVERT



Drainage Area = 400 A<sup>2</sup>  
Q = 320 cfs.

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



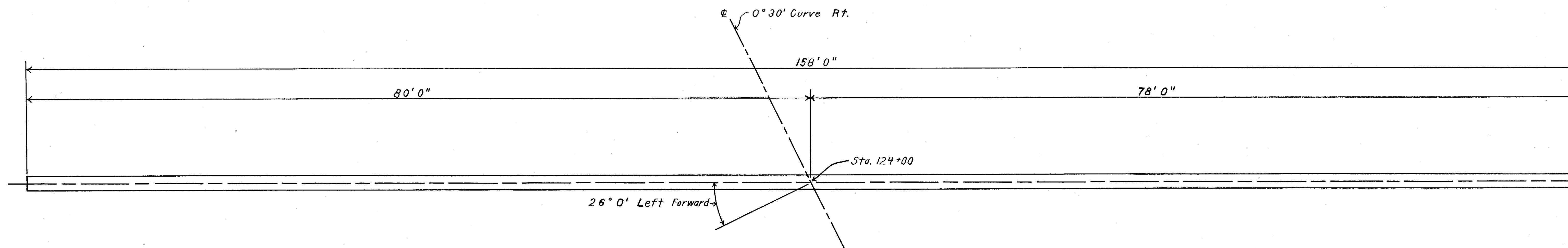


FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-415(10)	Postwar

137  
166

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

PARTS 1 & 2



PLAN  
Scale - 1" = 5' 0"

STRUCTURE DATA

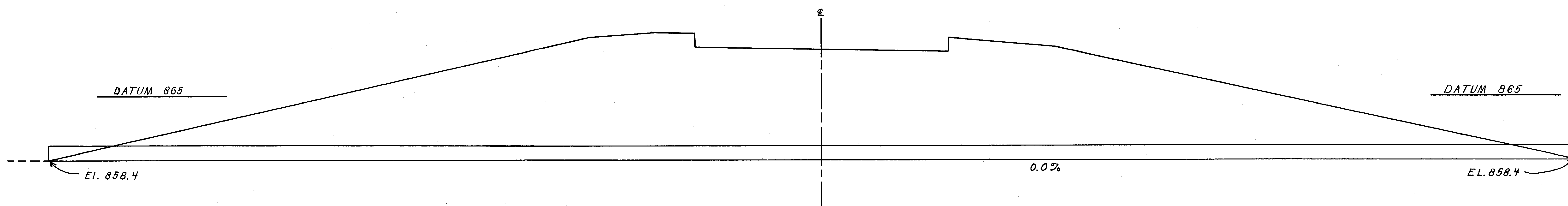
TYPE - Pipe Culvert  
 SIZE - 18" x 158' 0"  
 WORK REQ'D - Build 18" x 158' pipe culvert

REFERENCE DRAWINGS

Pipe Culverts S-27 P.C.3

ESTIMATED QUANTITIES

18" Pipe for roadway culverts 158 Lin. Ft.



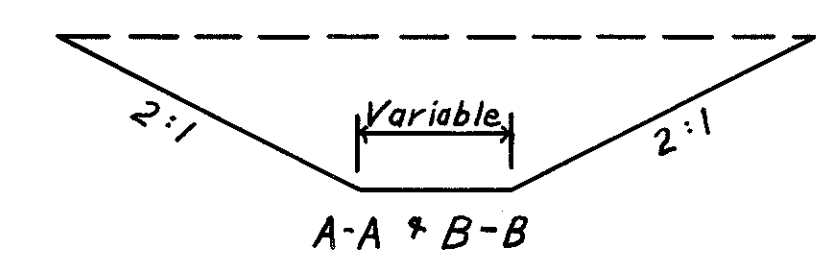
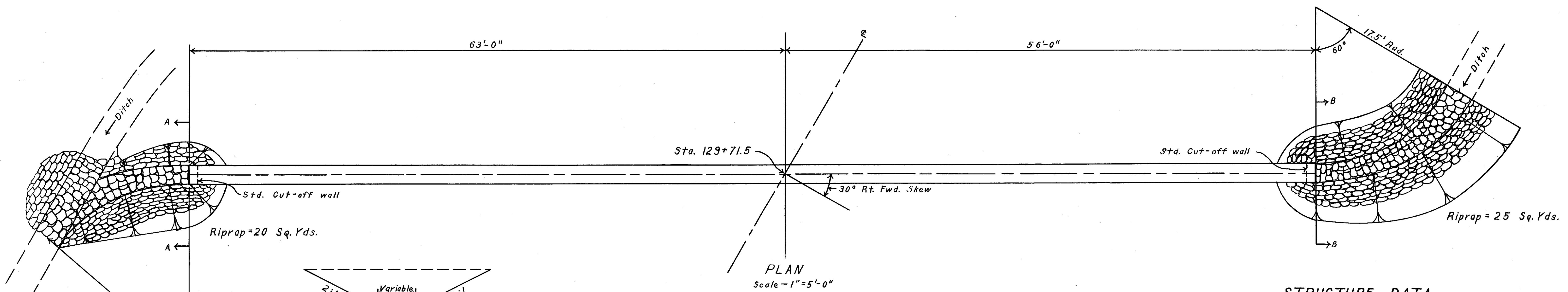
CROSS SECTION  
Scale - 1" = 5' 0"

871.20  
124+00  
858.4

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

9-5

HAS-36-(043-292)-(11.92-14.12)  
PARTS 1 & 2



**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.

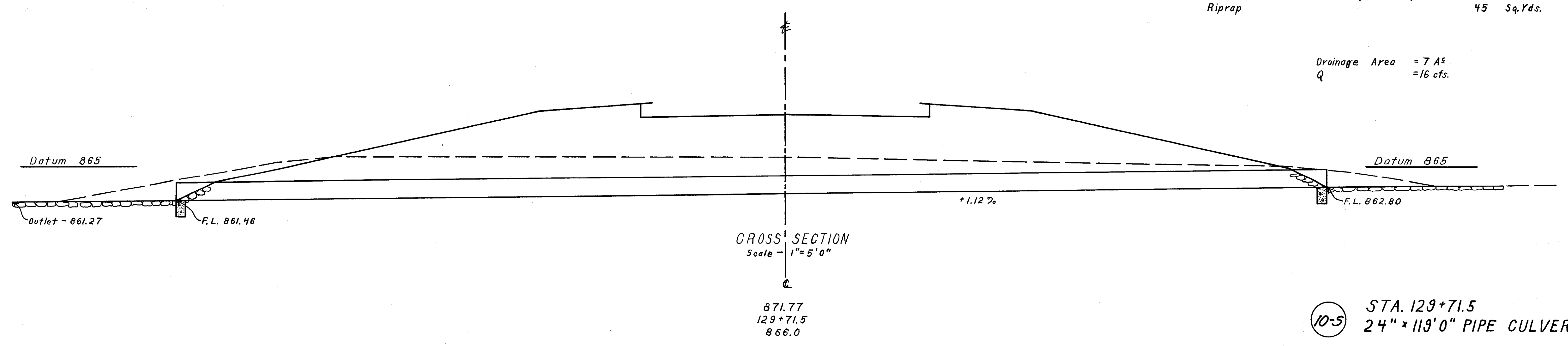
**REFERENCE DRAWINGS**

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<sup>c</sup>  
 Q = 16 cfs.



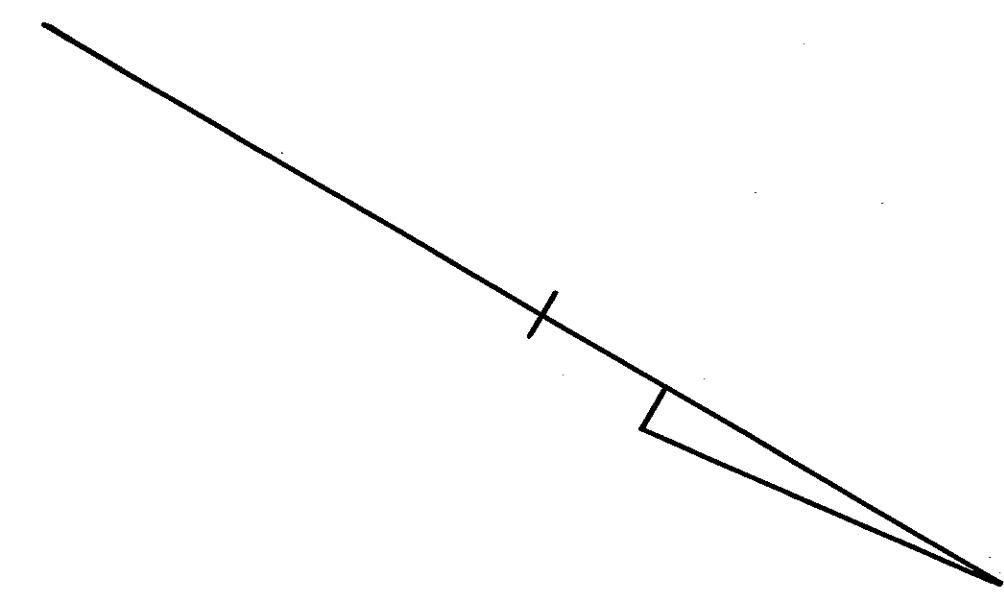
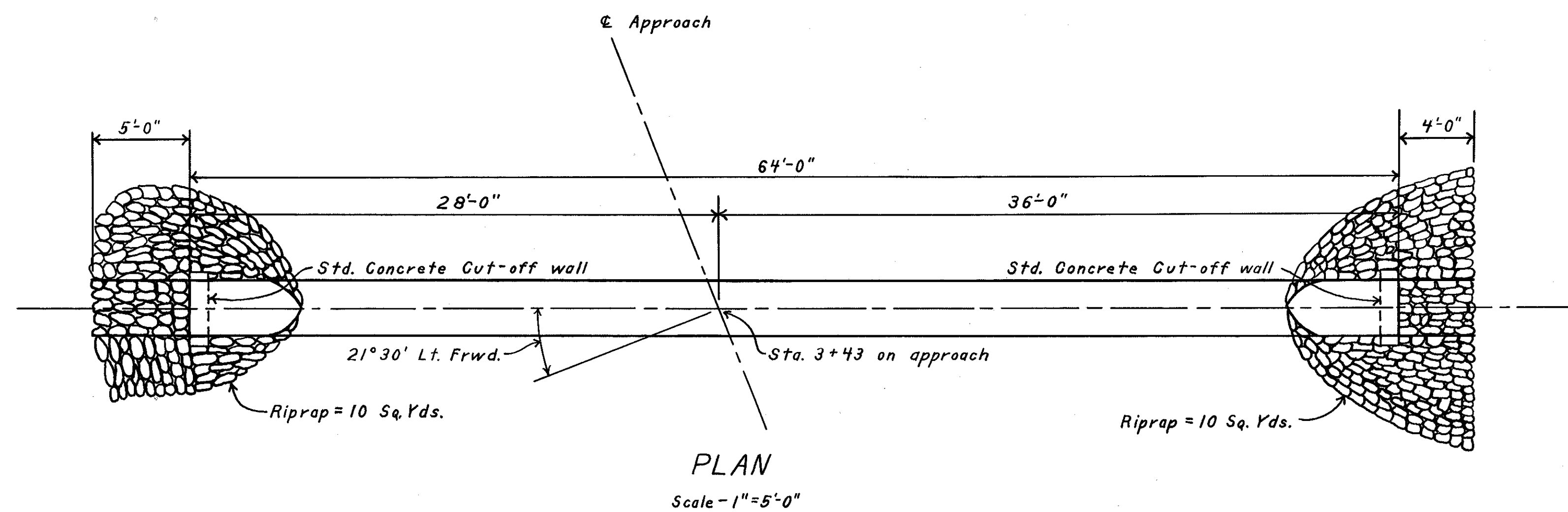
10-5 STA. 129+71.5  
 24" x 119' 0" PIPE CULVERT

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

139  
166

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

PARTS 1 + 2



**STRUCTURE DATA**

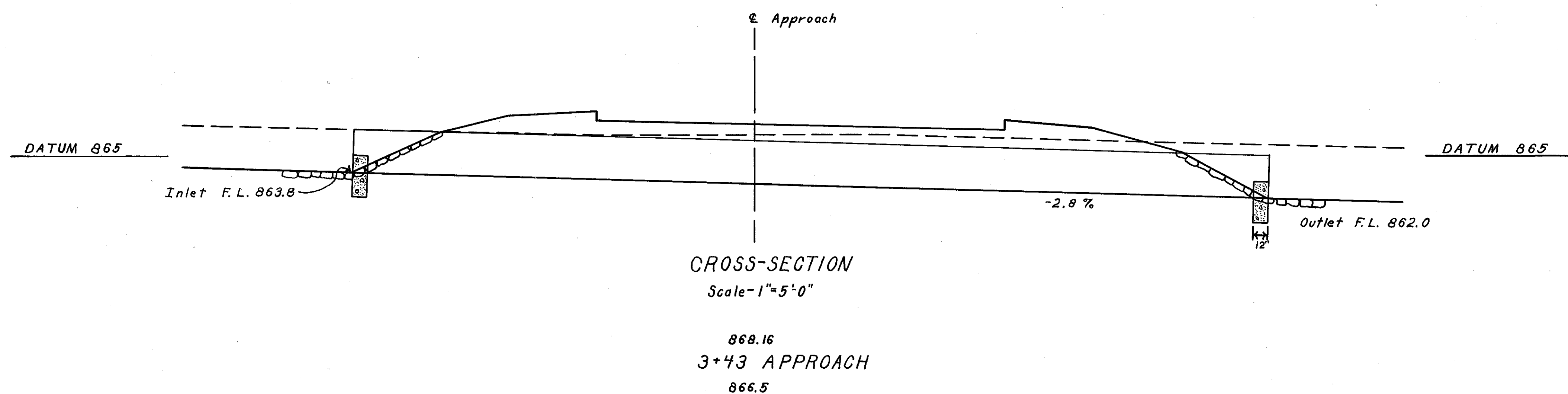
TYPE - Pipe Culvert  
 SIZE - 36" x 64'-0"  
 WORK REQUIRED - Build 36" x 64' pipe culvert with standard cut-off walls at inlet & outlet. Riprap inlet and outlet as shown.

**REFERENCE DRAWINGS**

PIPE CULVERTS S-27 P.G.2\*3

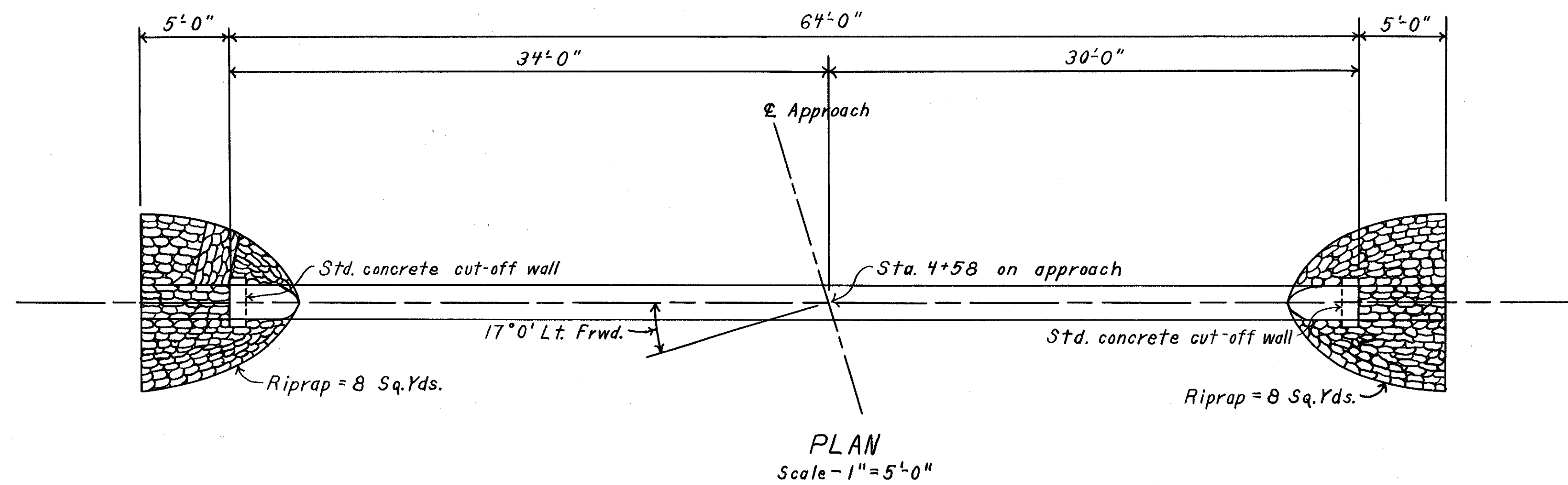
**ESTIMATED QUANTITIES**

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

11-5



### STRUCTURE DATA

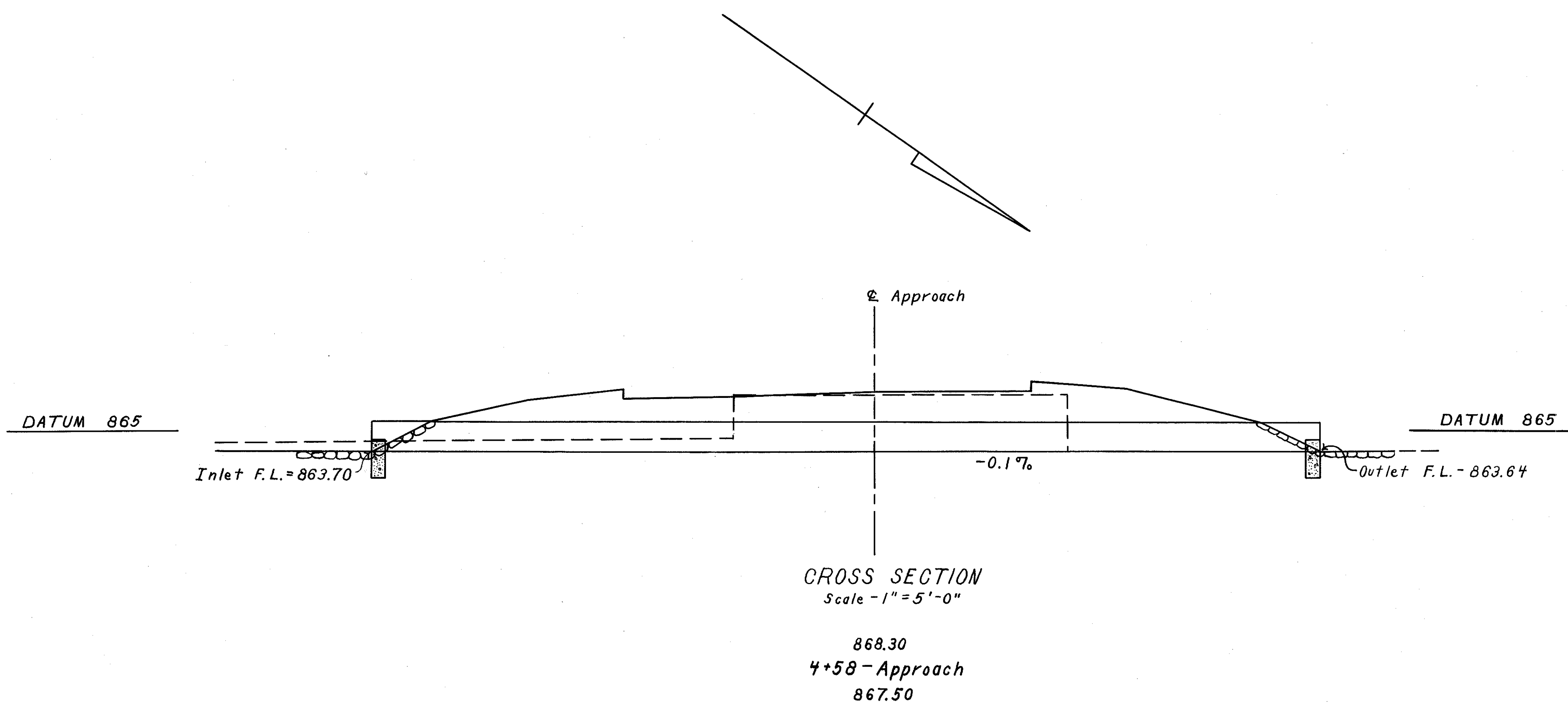
TYPE - Pipe Culvert  
 SIZE - 24" x 64'-0"  
 WORK REQ'D. - Build 24" x 64' pipe culvert with Std cut-off walls at inlet and outlet. Riprap ends as shown.

### 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

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

**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.

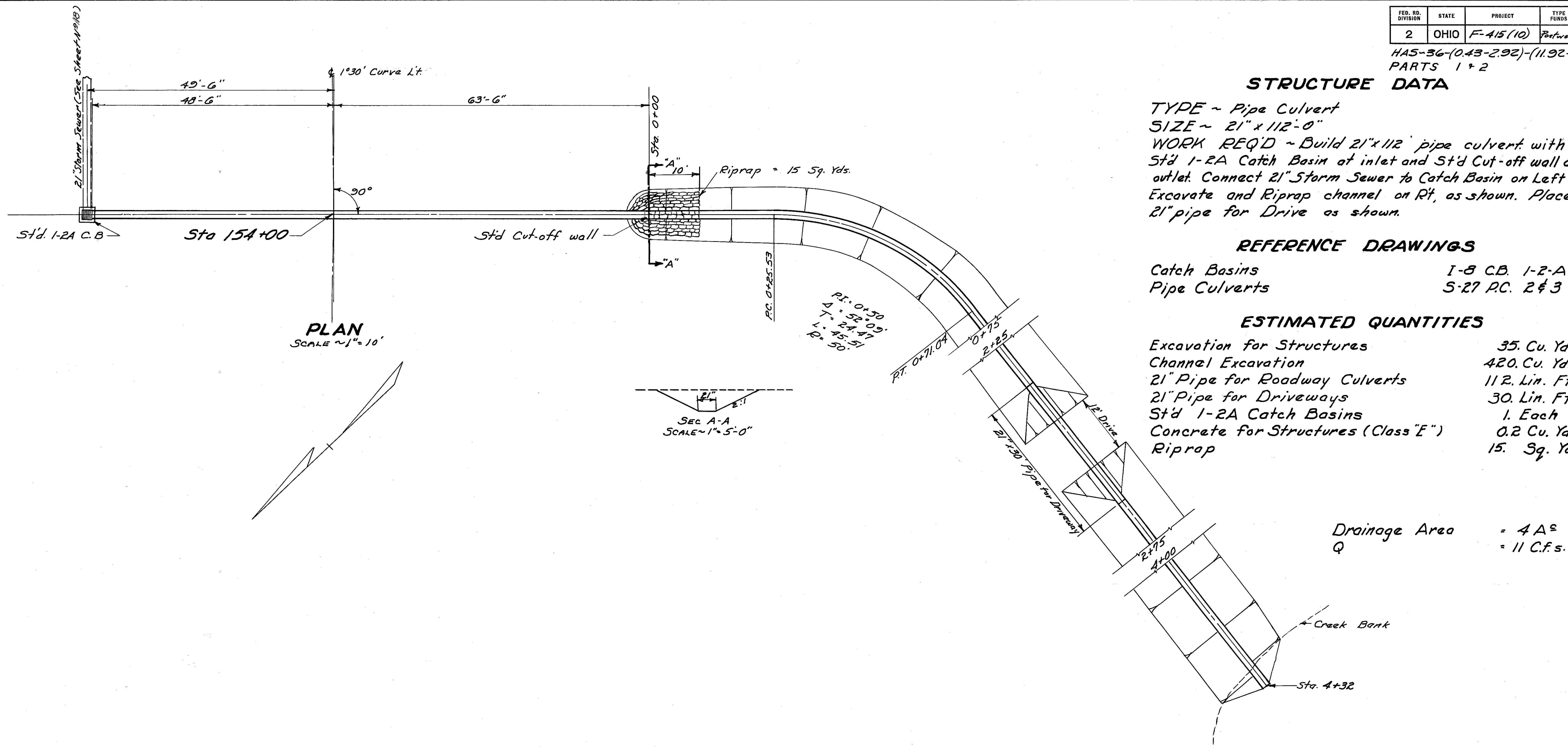
**REFERENCE DRAWINGS**

Catch Basins I-8 CB. 1-2-A  
 Pipe Culverts S-27 PC. 2 & 3

**ESTIMATED QUANTITIES**

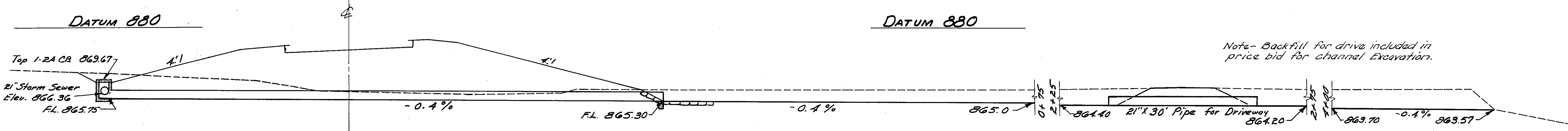
Excavation for Structures	35. Cu. Yds.
Channel Excavation	420. Cu. Yds.
21" Pipe for Roadway Culverts	112. Lin. Ft.
21" Pipe for Driveways	30. Lin. Ft.
Std 1-2A Catch Basins	1. Each
Concrete for Structures (Class "E")	0.2 Cu. Yds.
Riprap	15. Sq. Yds.

Drainage Area = 4 A<sup>s</sup>  
 Q = 11 C.f.s.



**PLAN**  
SCALE ~ 1" = 10'

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



**CROSS SECTION**  
SCALE ~ 1" = 10'

876.56  
 154+00  
 867.1

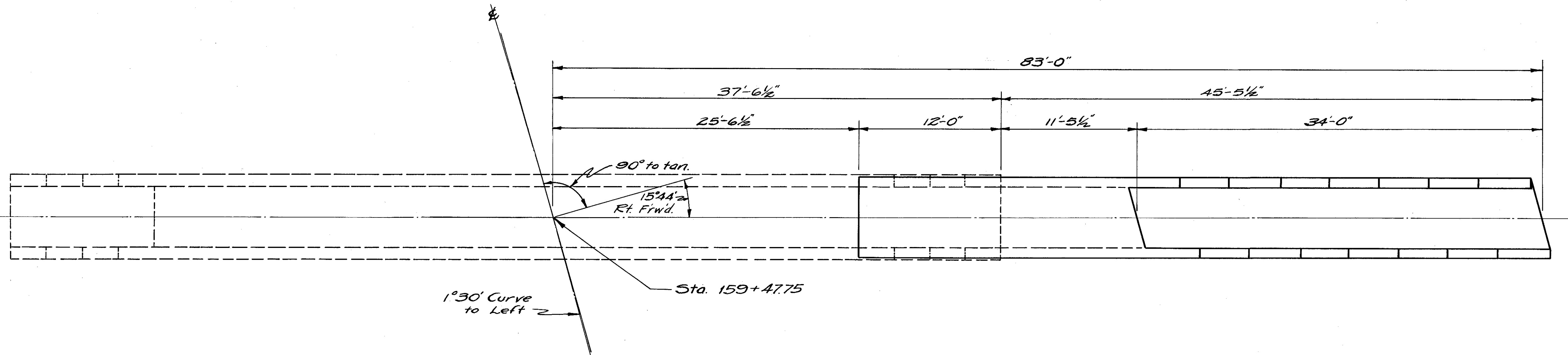
13-S

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

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

142  
166

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

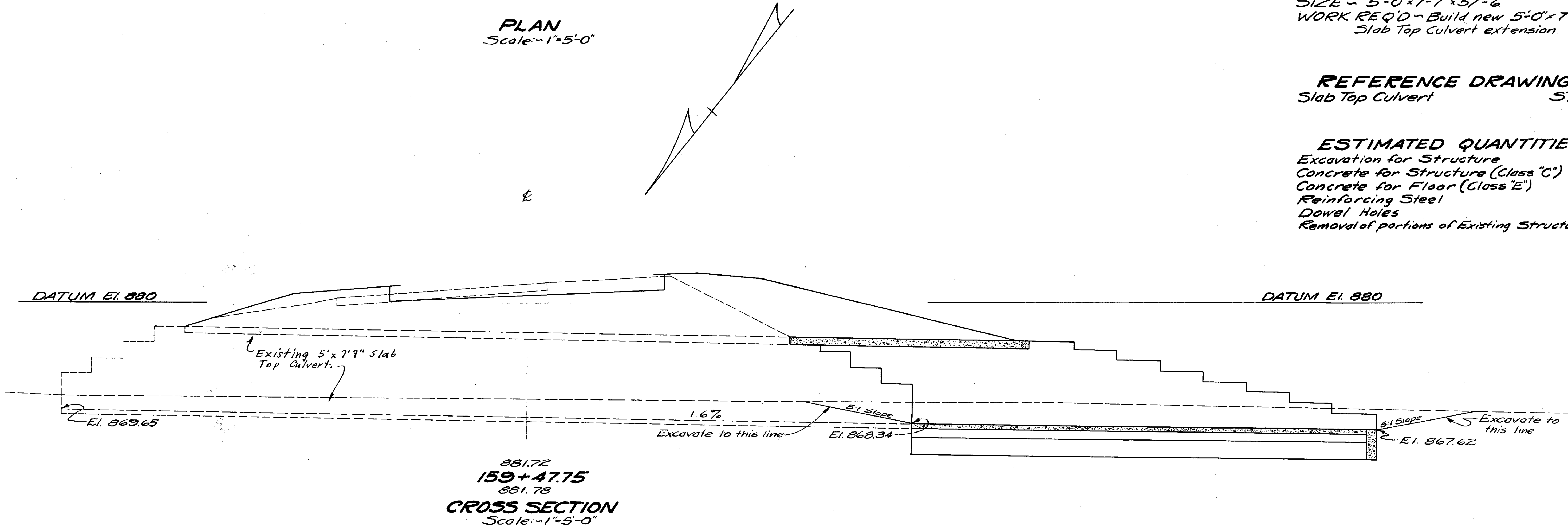


**PLAN**  
Scale: 1"=5'-0"

**STRUCTURE DATA**  
 TYPE - Slab Top Culvert extension  
 SIZE - 5'-0" x 7'-7" x 57'-6"  
 WORK REQ'D - Build new 5'-0" x 7'-7" x 57'-6" Slab Top Culvert extension.

**REFERENCE DRAWINGS**  
 Slab Top Culvert STC-47

**ESTIMATED QUANTITIES**  
 Excavation for Structure 87 Cu. Yds.  
 Concrete for Structure (Class "C") 38 Cu. Yds.  
 Concrete for Floor (Class "E") 4 Cu. Yds.  
 Reinforcing Steel 2883 Lbs.  
 Dowel Holes 37 Lin. Ft.  
 Removal of portions of Existing Structure 0.2 Cu. Yds.

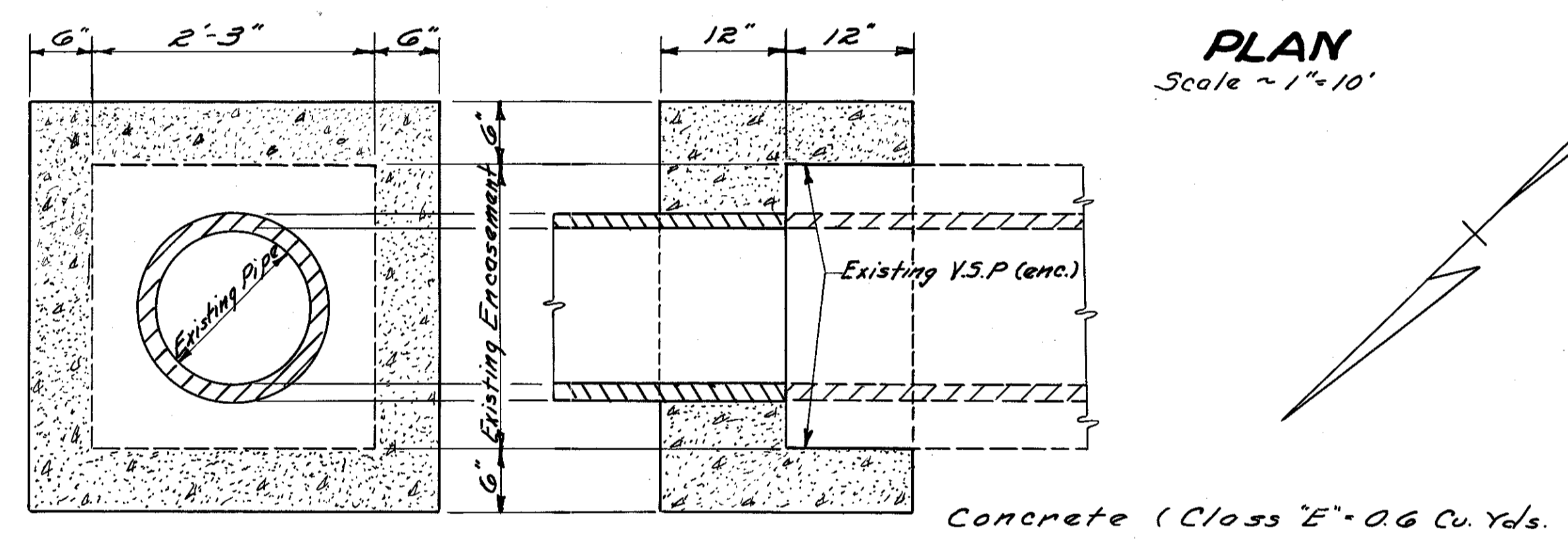
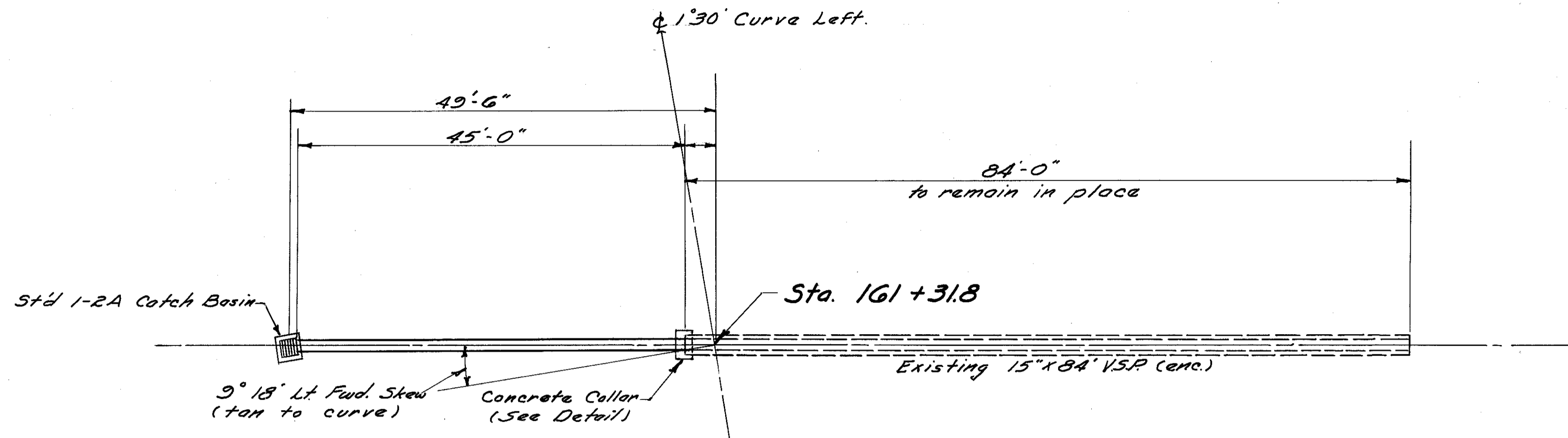


**CROSS SECTION**  
Scale: 1"=5'-0"

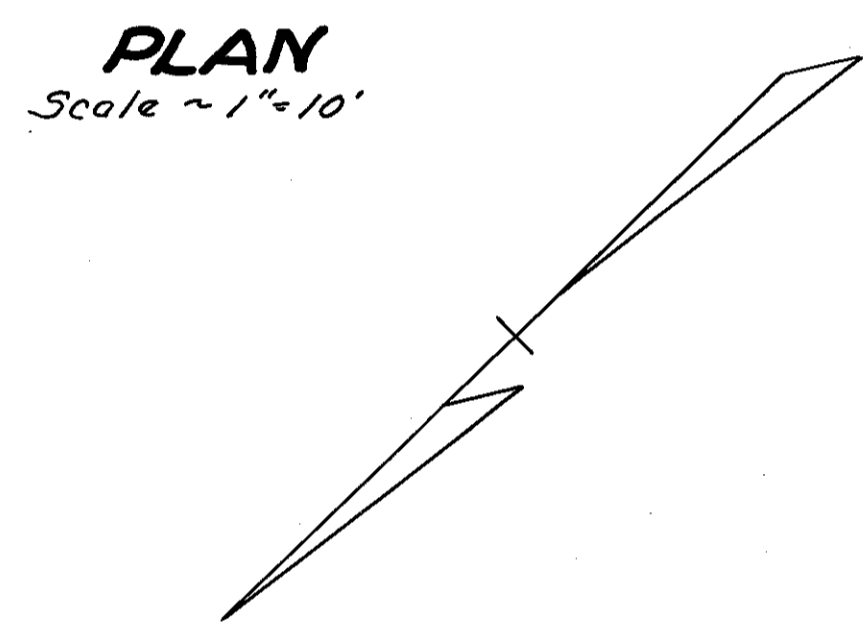
STA. 159+47.75  
 5'-0" x 7'-7" x 57'-6" S.T.C.  
 Sheet 1 of 2 Sheets

15-5





DETAIL OF CONCRETE COLLAR



**STRUCTURE DATA**

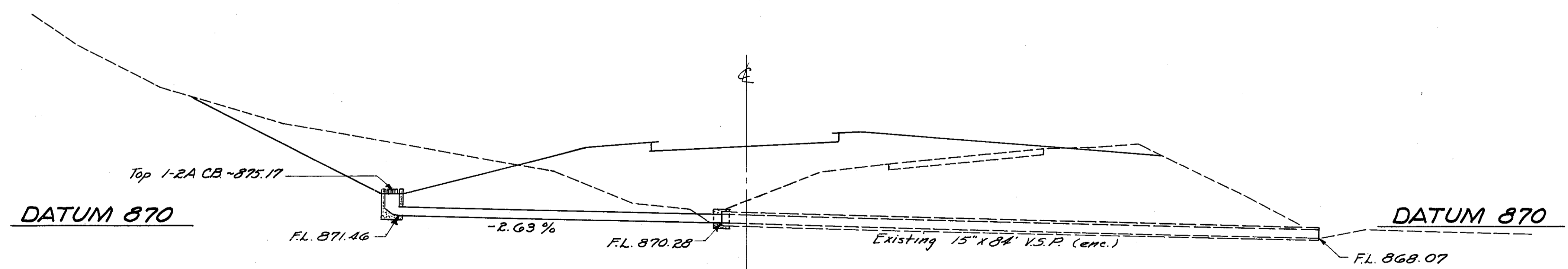
TYPE ~ Pipe Culvert Extension  
 SIZE ~ 15" x 45'-0"  
 WORK REQ'D ~ Build 15" x 45' pipe culvert and connect to existing 15" V.S.P. (enc.). Build concrete collar about connection as shown. Build Std 1-2A catch basin at inlet as shown.

**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.



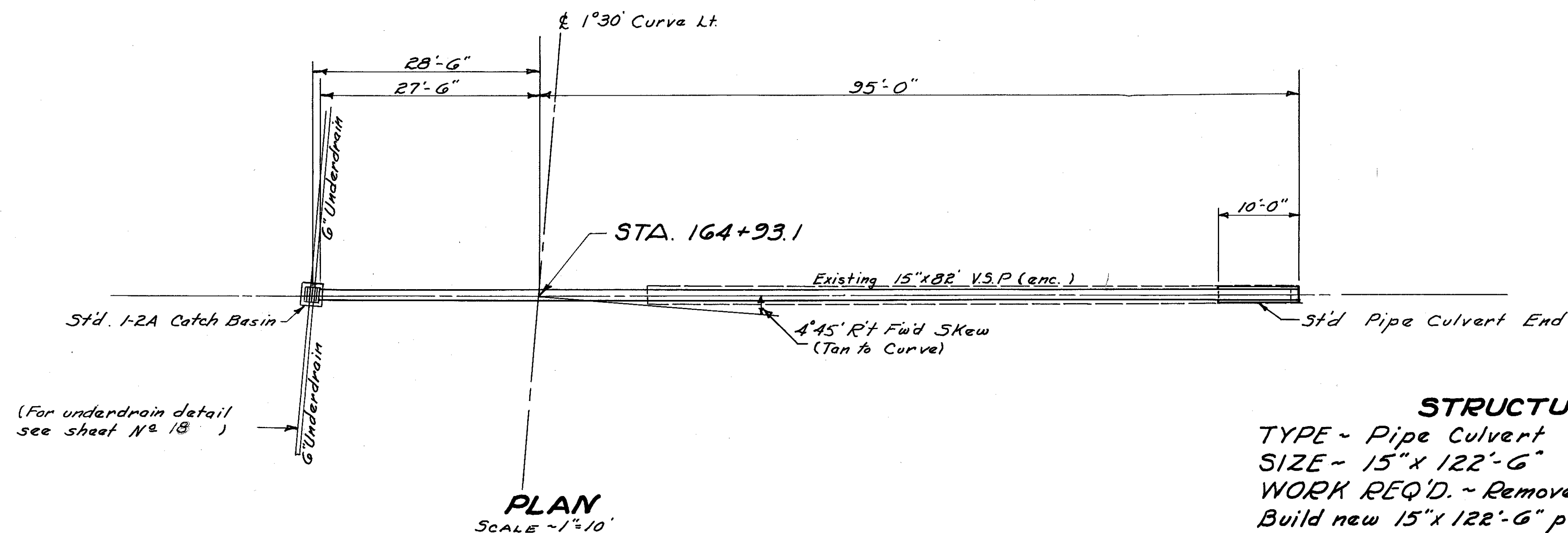
CROSS SECTION  
SCALE ~ 1"=10'

16-5

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

882.01  
161+31.8  
873.4





**STRUCTURE DATA**

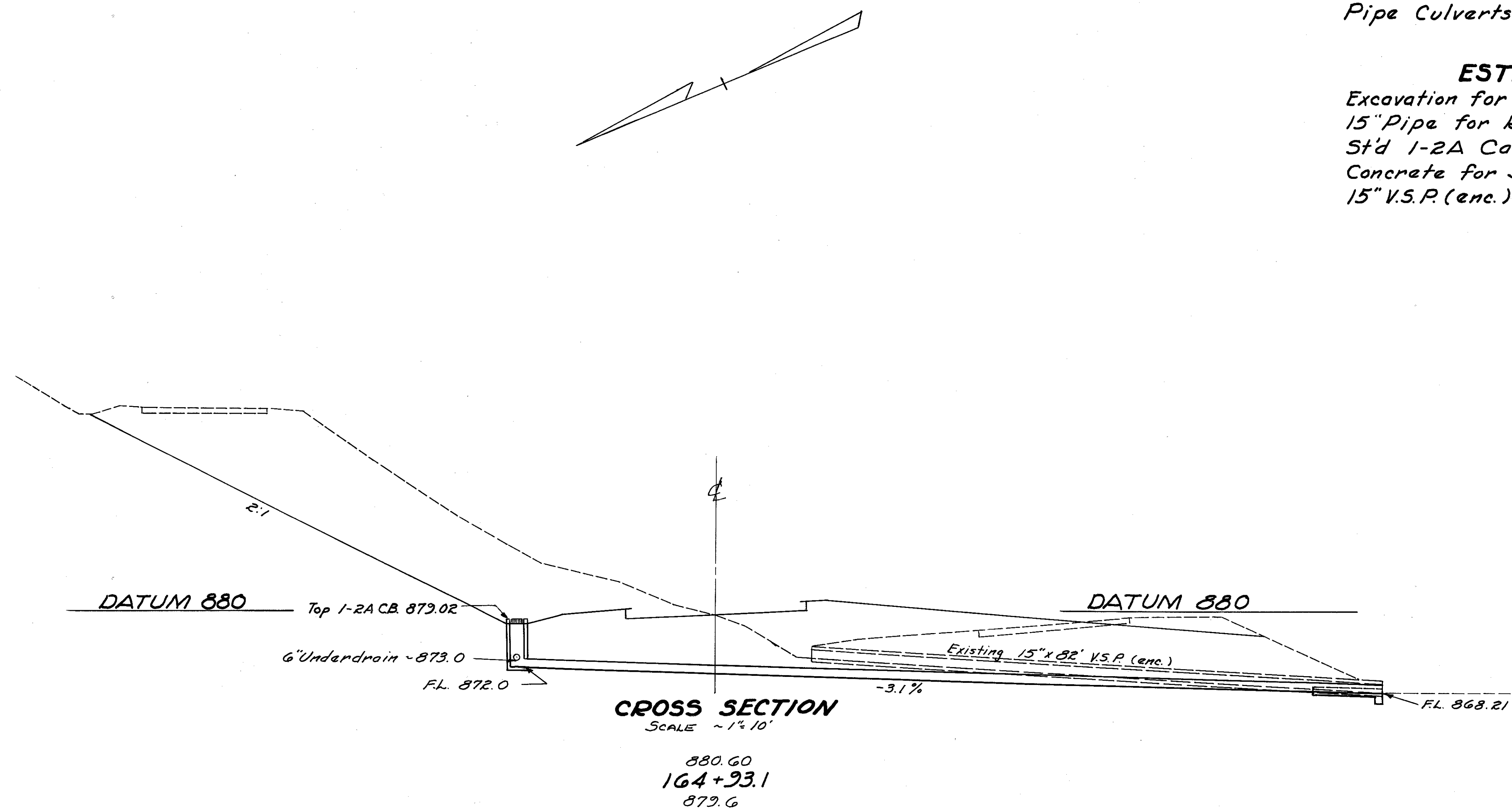
TYPE - Pipe Culvert  
 SIZE - 15" x 122'-6"  
 WORK REQ'D. - Remove existing 15" x 82' V.S.P. (enc.).  
 Build new 15" x 122'-6" pipe culvert with Std 1-2A  
 Catch Basin at inlet and Std Pipe Culvert End at outlet  
 Connect 6" Underdrains to Catch Basin on Left as shown.

**REFERENCE DRAWINGS**

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

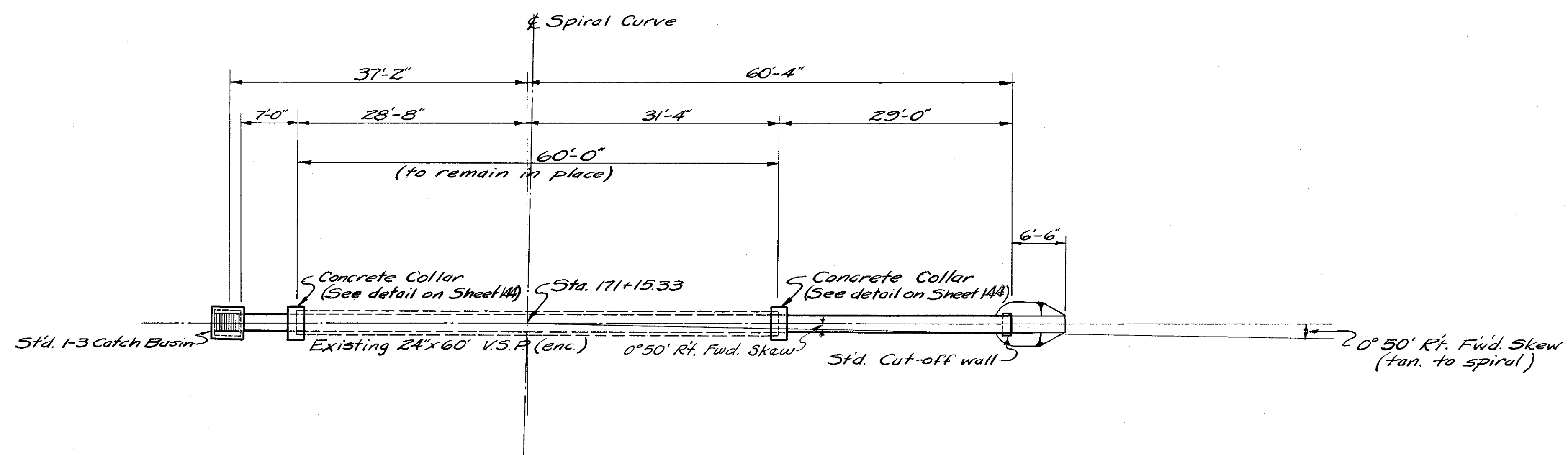
**ESTIMATED QUANTITIES**

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.



17-5

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



PLAN  
SCALE=1"=10'

**STRUCTURE DATA**

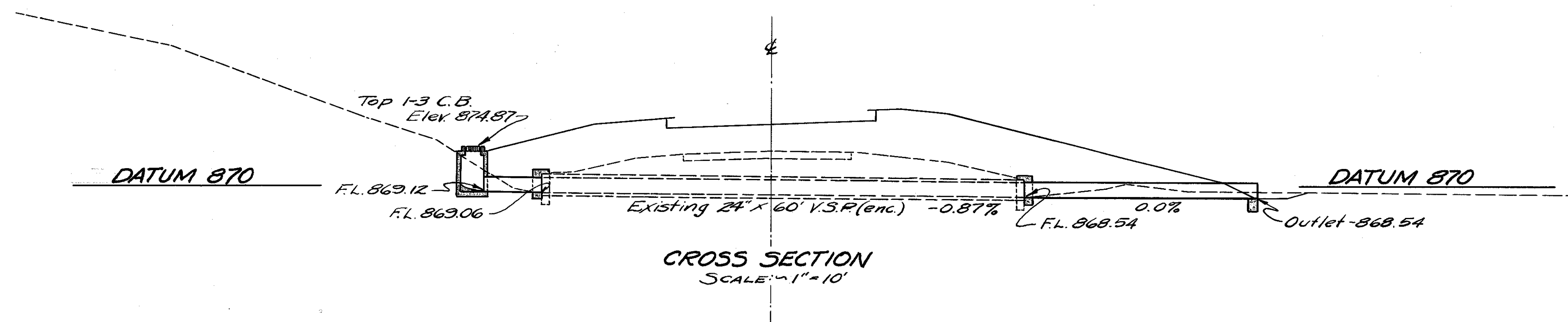
TYPE - Pipe Culvert Extension  
 SIZE - 24" x 36'-0"  
 WORK REQD. - Build 24" x 7' pipe culvert extension at inlet end and 24" x 29' pipe culvert extension at outlet end. Connect to existing 24" V.S.P. (enc.) with concrete collars as shown. Build 1-3 catch basin at inlet end and Std. Cut-off wall at 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.



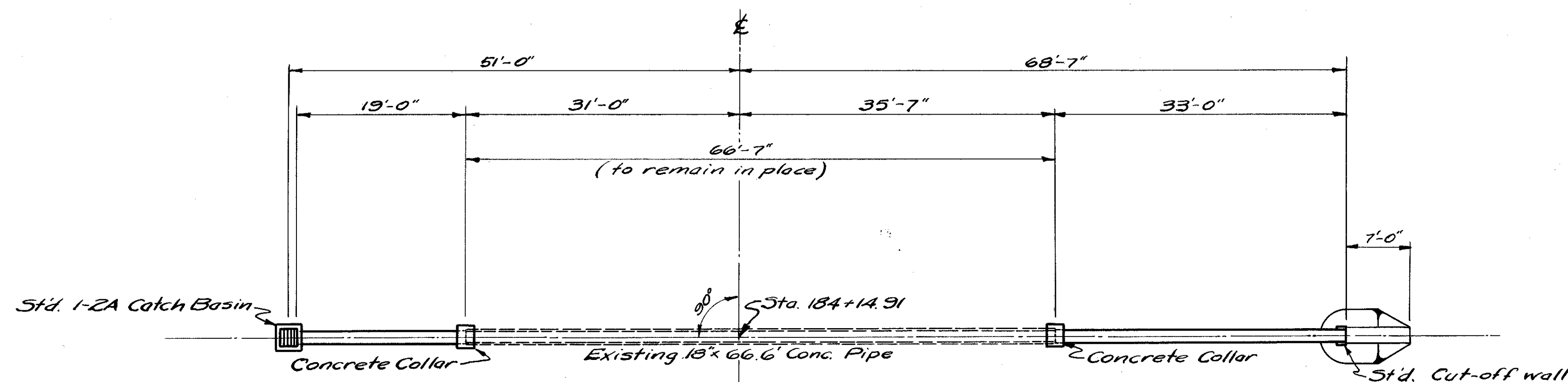
CROSS SECTION  
SCALE=1"=10'

18-S

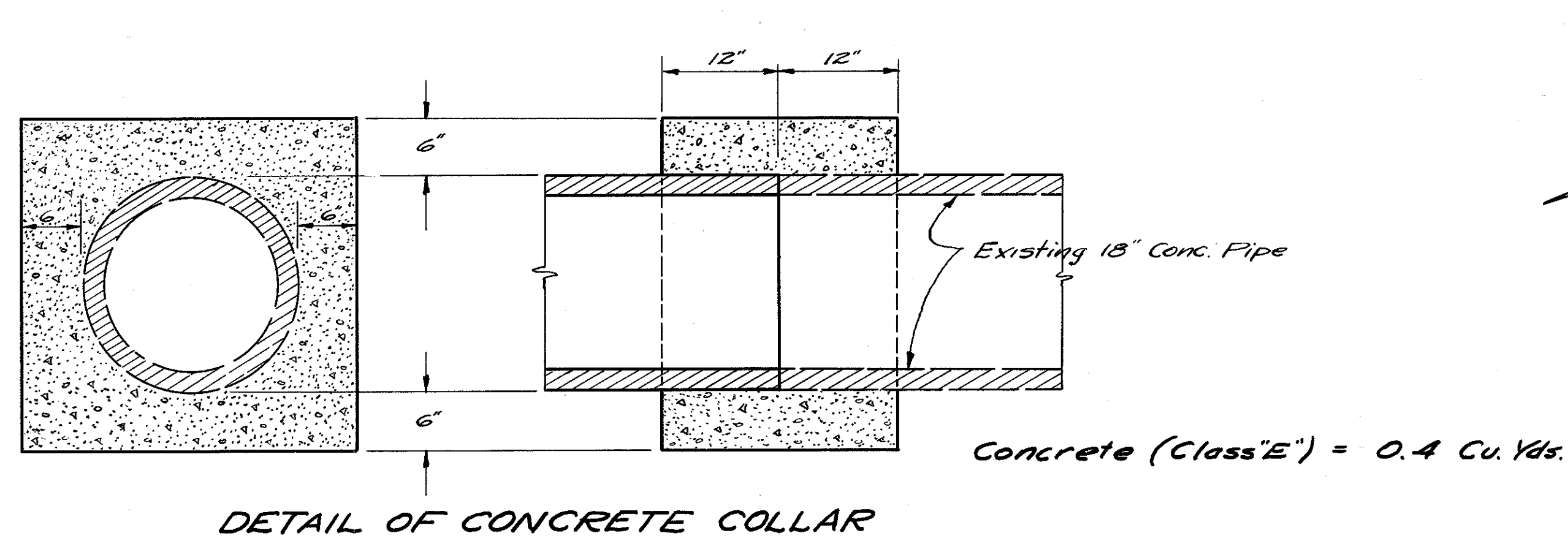
870.82  
 171+15.33  
 874.4

STA. 171+15.33  
 24" x 7'-0" & 24" x 29'-0" PIPE CULVERT EXTENSION





PLAN  
Scale: 1"=10'



DETAIL OF CONCRETE COLLAR

**STRUCTURE DATA**

TYPE - Pipe Culvert Extension

SIZE - 18" x 52'-0"

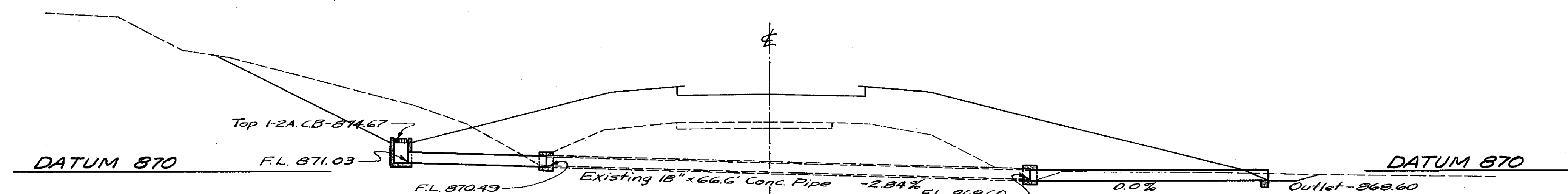
WORK REQD - Build 18" x 19' pipe culvert extension at inlet end and 18" x 33' pipe culvert extension at outlet end. Connect to 18" concrete pipe with concrete collars as shown. Build Std. 1-2A catch basin at inlet. Build Std. cut-off wall and excavate outlet channel as shown.

**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.

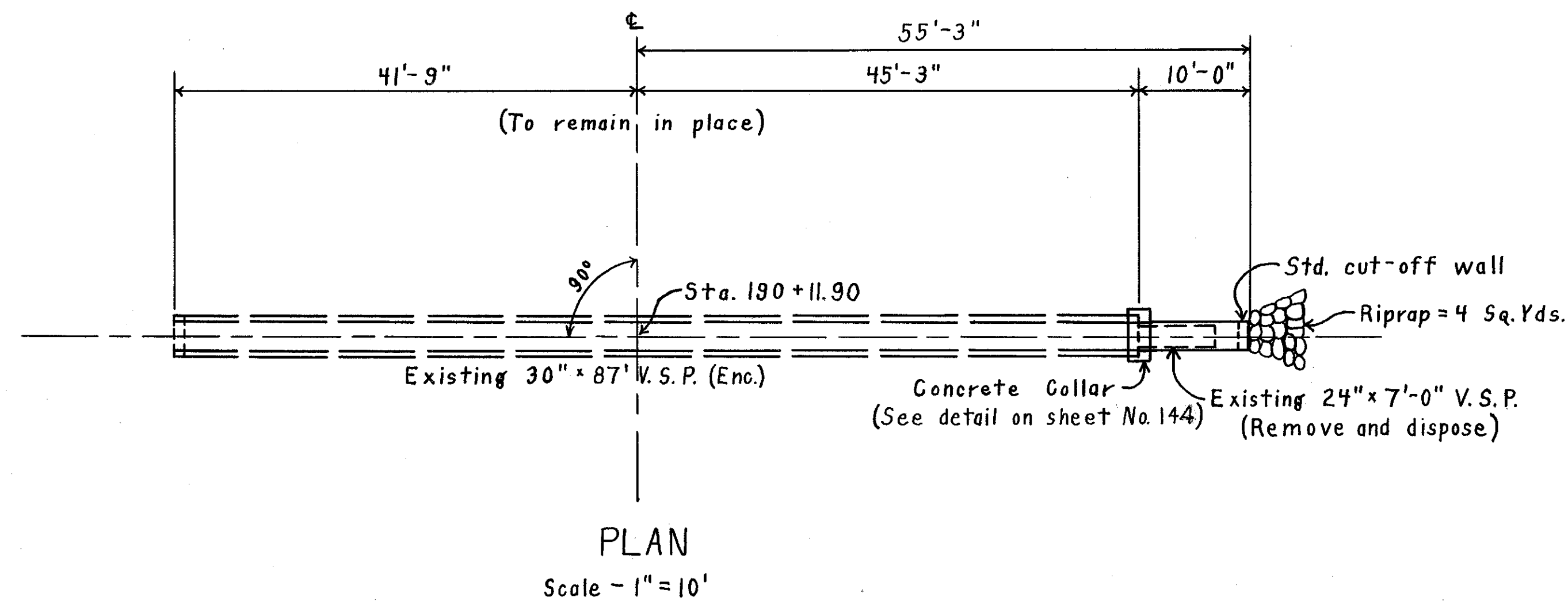


CROSS SECTION  
Scale: 1"=10'

882.05  
184+14.91  
876.8

20-5

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



### STRUCTURE DATA

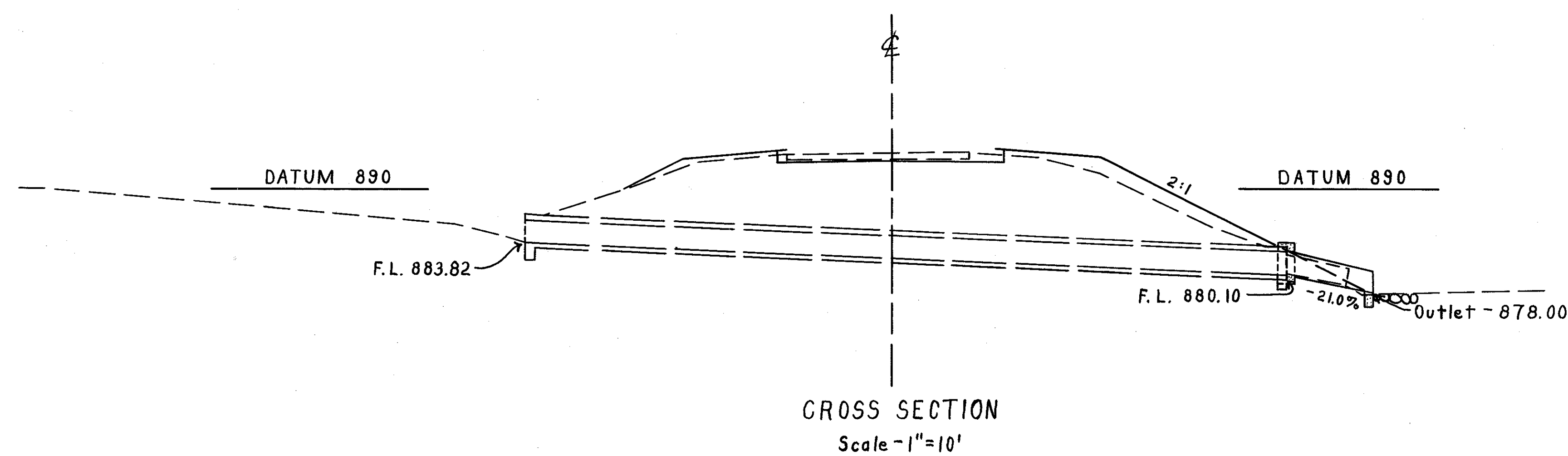
TYPE - Pipe Culvert Extension  
 SIZE - 30" x 10'-0"  
 WORK REQUIRED - Remove and dispose of existing 24" x 7' v.s. pipe. Build 30" x 10' pipe culvert extension at outlet end. Build concrete collar and cut-off wall as shown. Riprap outlet as shown.

### 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.



894.78  
190+11.90  
894.2

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

21-5

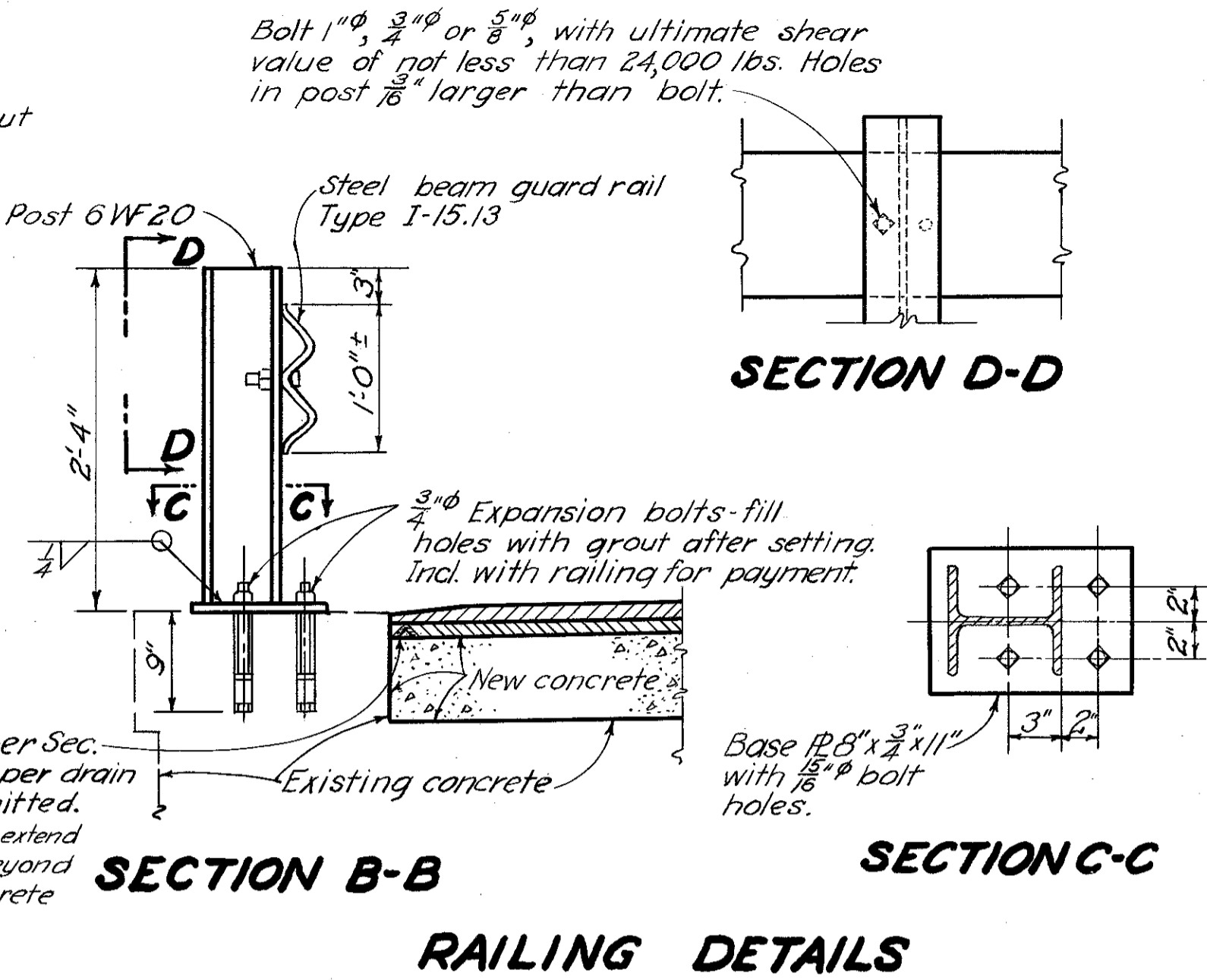
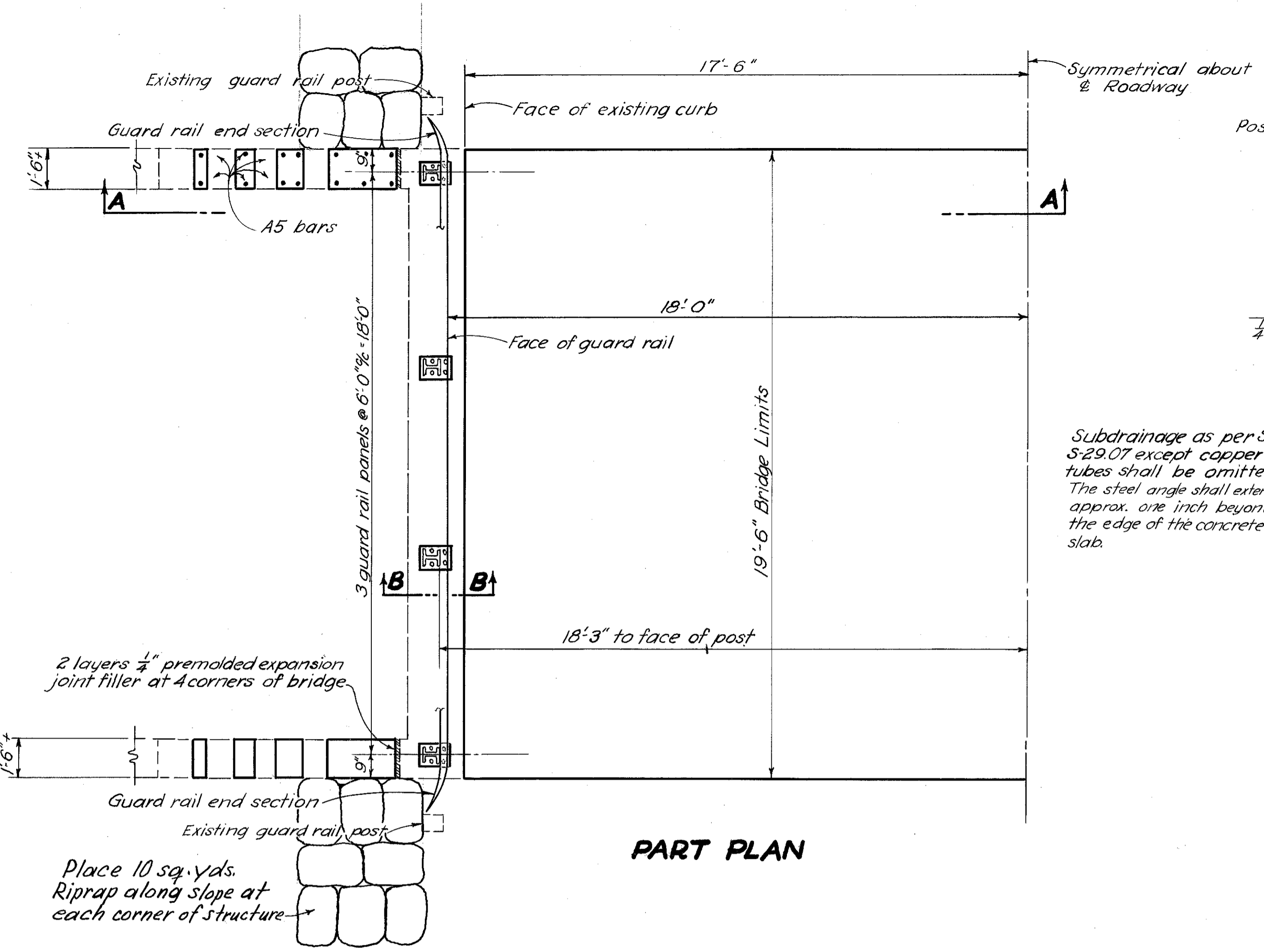
**GENERAL NOTES**

**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  $\frac{3}{8}$ " 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.



Subdrainage as per Sec. S-29.07 except copper drain tubes shall be omitted. The steel angle shall extend approx. one inch beyond the edge of the concrete slab.

**REINFORCING STEEL LIST**

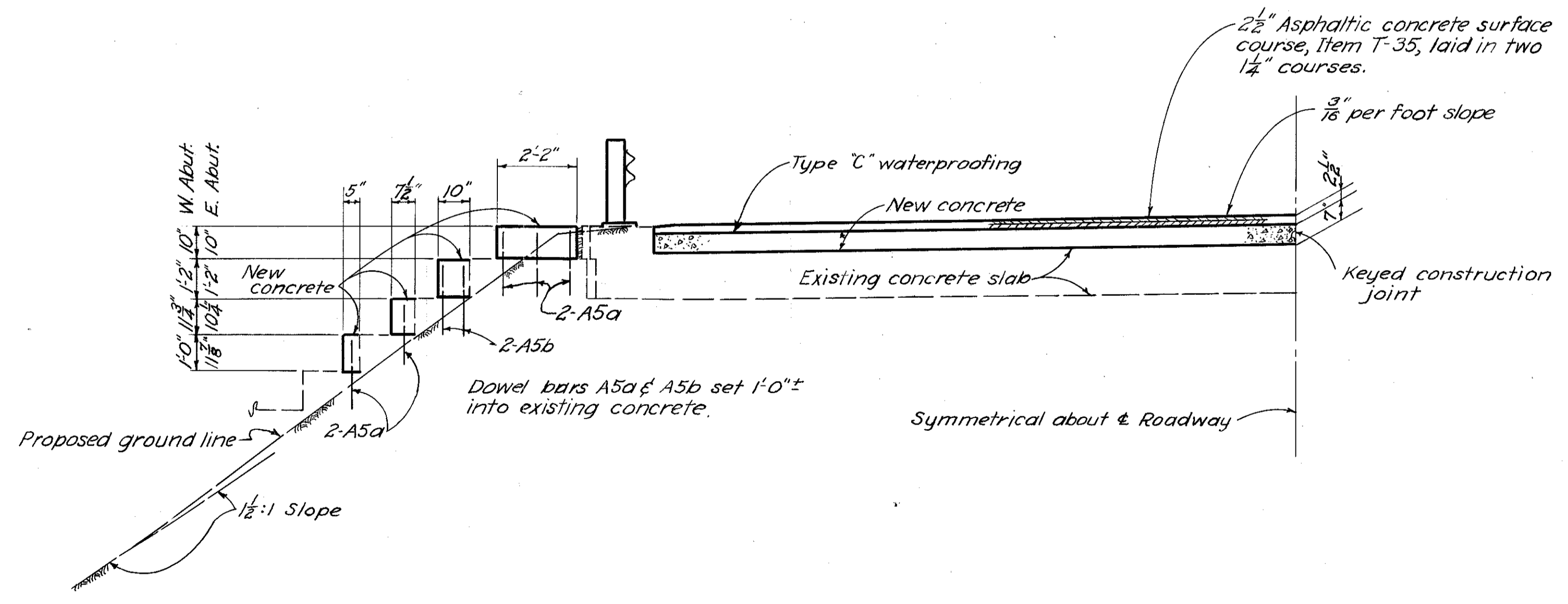
Mark No.	Length	Weight	Shp.
A5a	40	1'-8"	70 Str.
A5b	16	2'-0"	33 Str.
REPLACEMENT STEEL			
RE5	2	2'-0"	4 Str.

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.



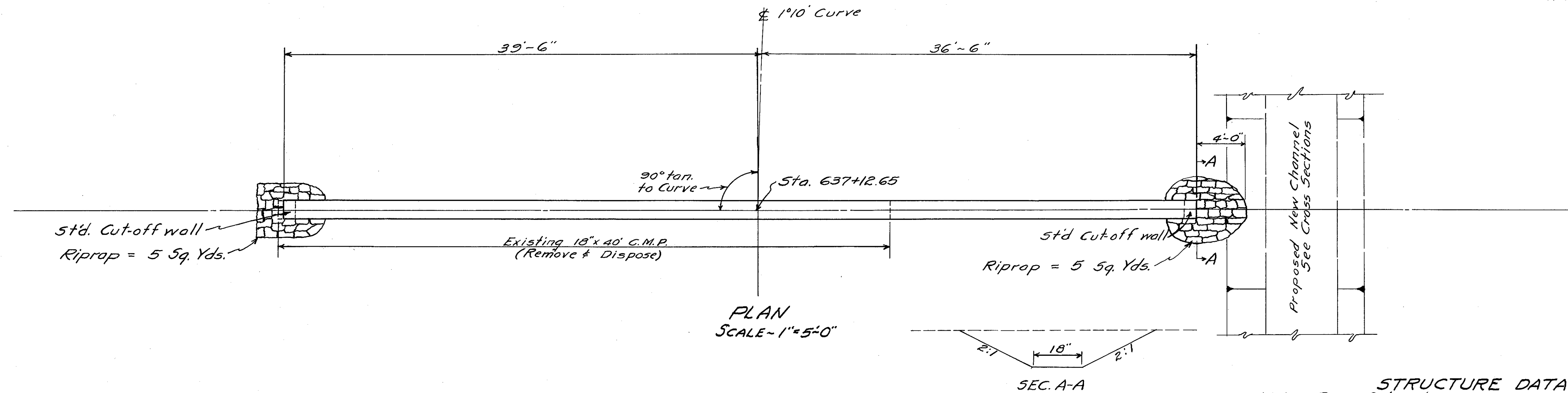
**SECTION A-A**

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

**BRIDGE ALTERATIONS**  
BRIDGE NO. HA-36-42  
OVER WILLIS RUN

HARRISON COUNTY  
SEC. HAS-36-(0.43-2.12)-(11.2-14.2) STA. 209+24

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
NEY	NEY	REJ.	D.J.M.	NEY	4-18-51	



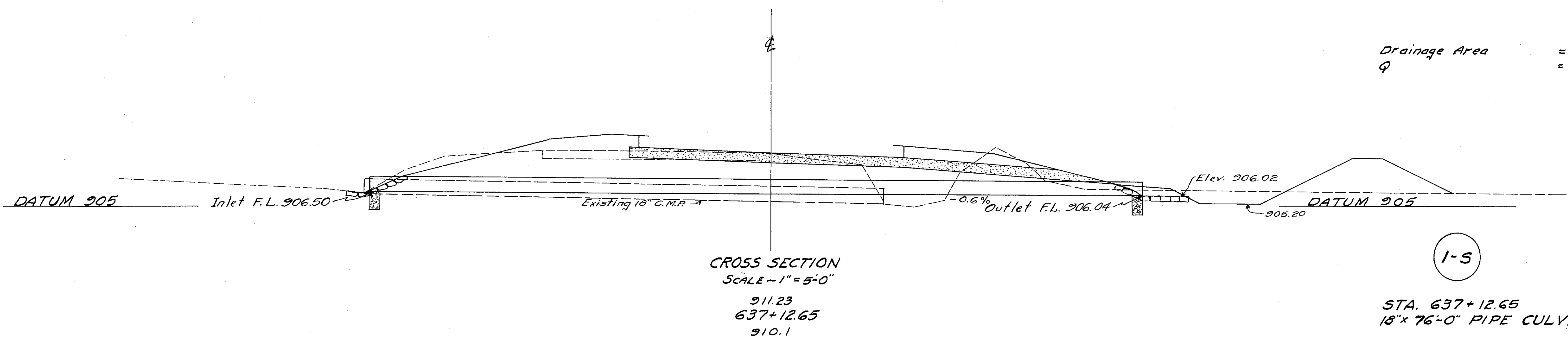
**STRUCTURE DATA**  
 TYPE - Pipe Culvert  
 SIZE - 18" x 76'-0"  
 WORK REQ'D. - Remove existing 18" x 40' C.M. Pipe.  
 Build 18" x 76' pipe culvert with cut-off wall at each end.  
 Excavate and riprap inlet and outlet channels as shown.

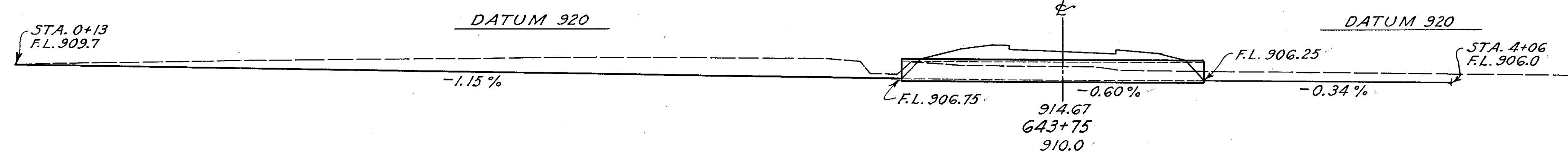
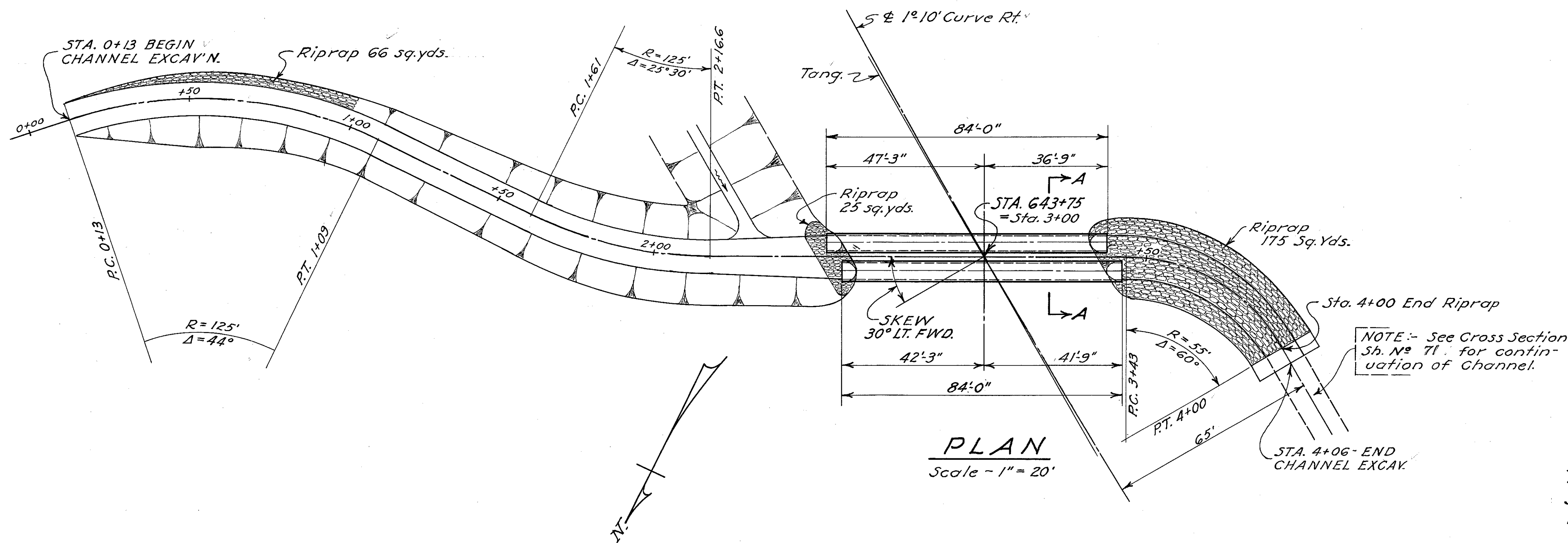
**REFERENCE DRAWINGS**  
 Pipe Culverts S-27 RC. 2 & 3

**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 A<sup>s</sup>  
 Q = 16 cfs.





**CROSS SECTION**  
Scale 1" = 20'

**STRUCTURE DATA**

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

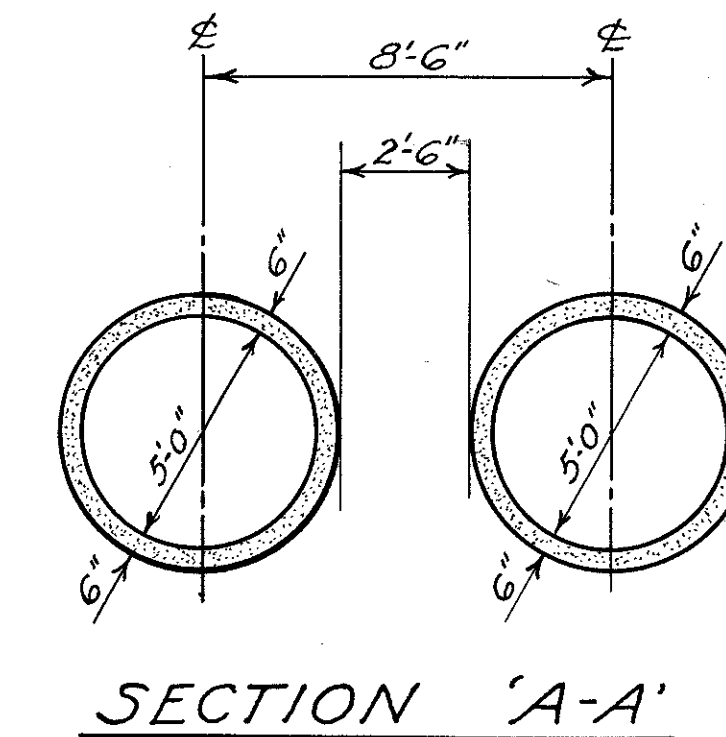
**REFERENCE DRAWINGS**

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

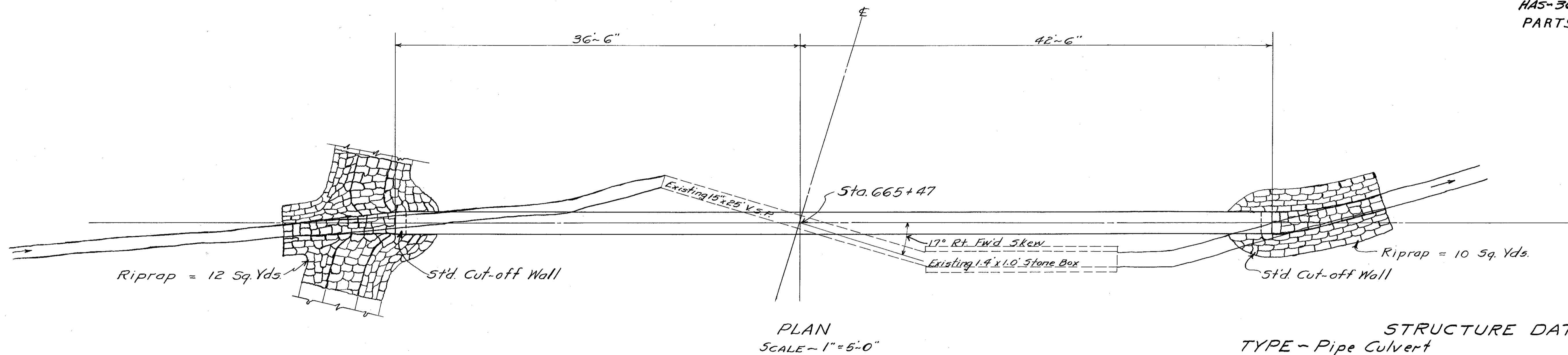


**SECTION 'A-A'**

Station	Excav'n. E.A. C.Y.	Excav'n. E.A. C.Y.	Excav'n. E.A. C.Y.	Excav'n. E.A. C.Y.
Sta. 0+13 Begin Excav'n.	0	24	35	78
Sta. 1+00	49	78	117	162
Sta. 2+00	98	155	243	243
Sta. 3+00	147	243	330	330
Sta. 4+00	196	330	417	417
Sta. 4+06	245	417	504	504

STA. 643+75.0  
 60" x 84'0" PIPE CULVERT,  
 (2 LINES) **2-5**





PLAN  
SCALE - 1" = 5'-0"

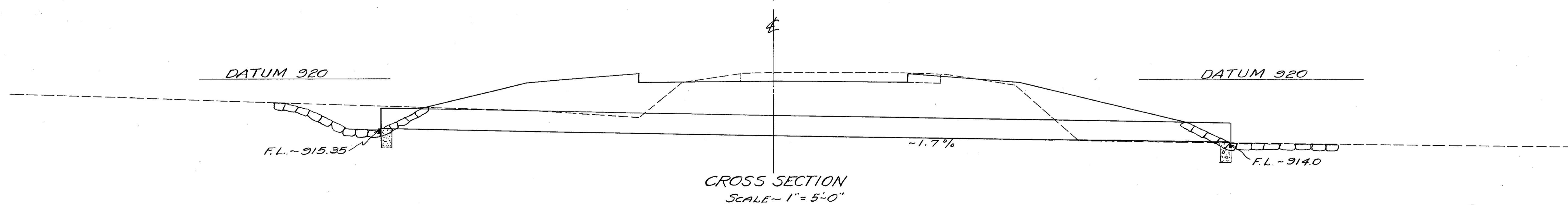
**STRUCTURE DATA**  
 TYPE - Pipe Culvert  
 SIZE - 24" x 79'-0"  
 WORK REQ'D - Remove existing 15" x 25' V&P and stone box. Build new 24" x 79' Pipe Culvert with std. cut-off wall at each end. Riprap inlet and outlet as shown.

**REFERENCE DRAWINGS**  
 Pipe Culverts 5-27 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 A<sup>2</sup>  
 Q = 18 cfs.



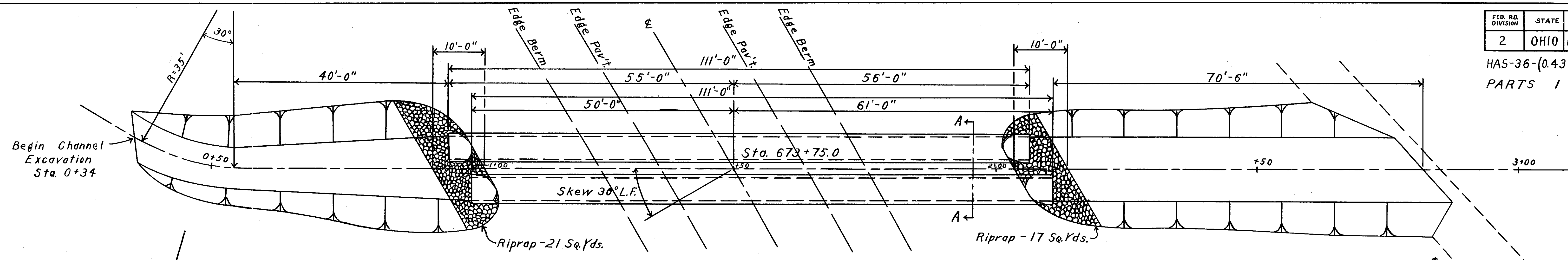
CROSS SECTION  
SCALE - 1" = 5'-0"

920.72  
665+47  
920.7

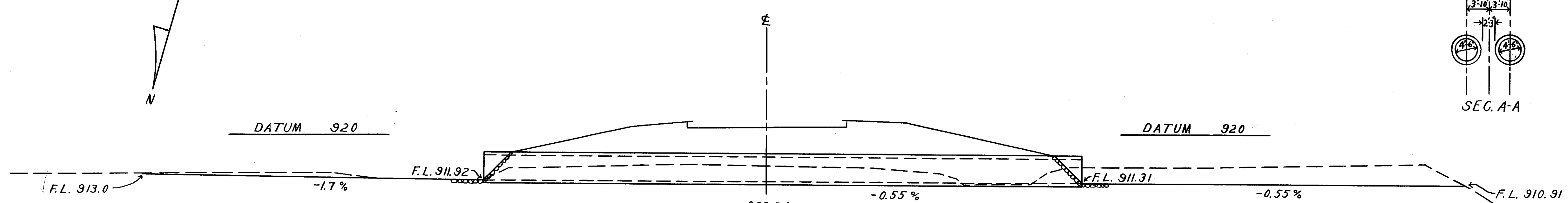
7-S

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

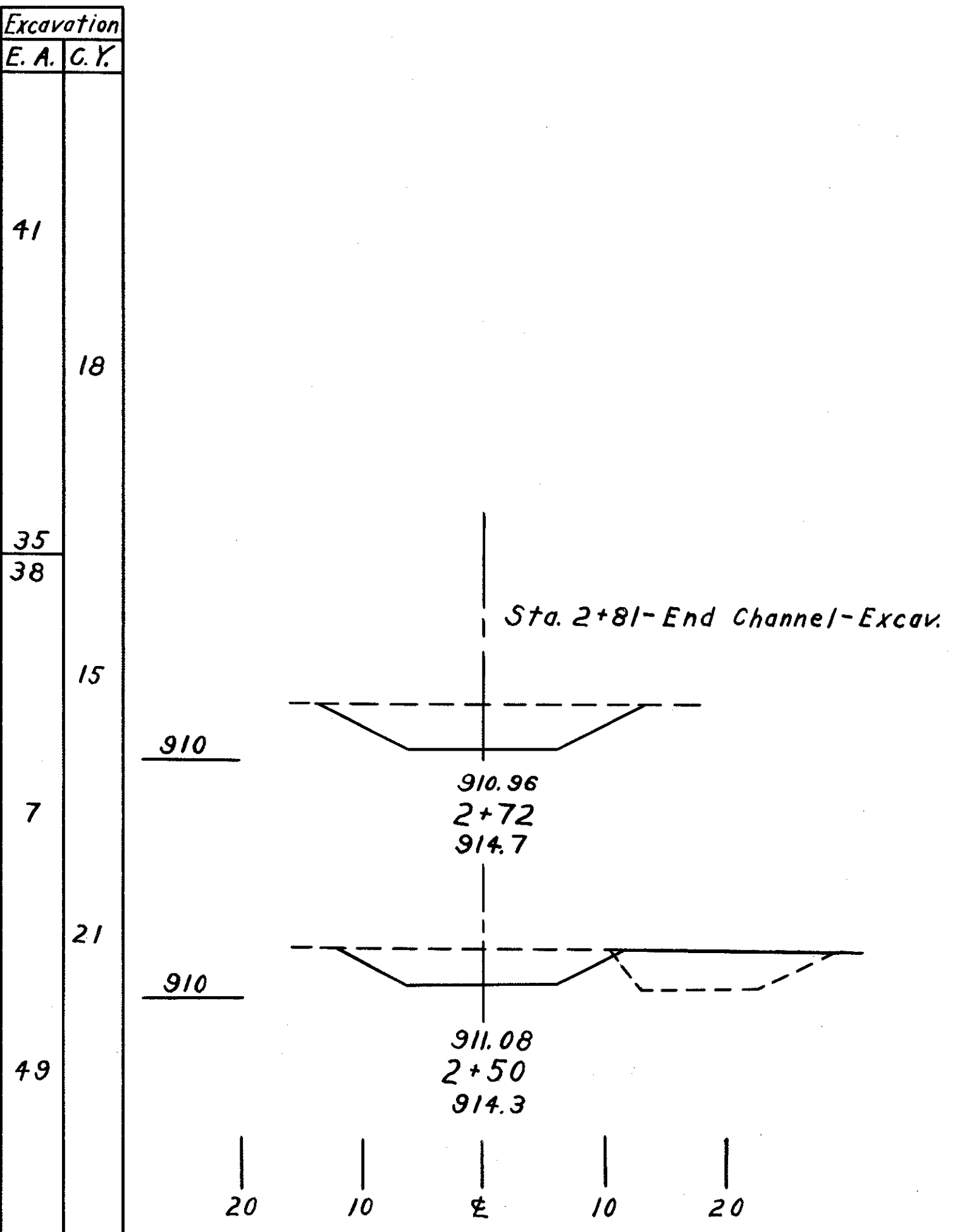
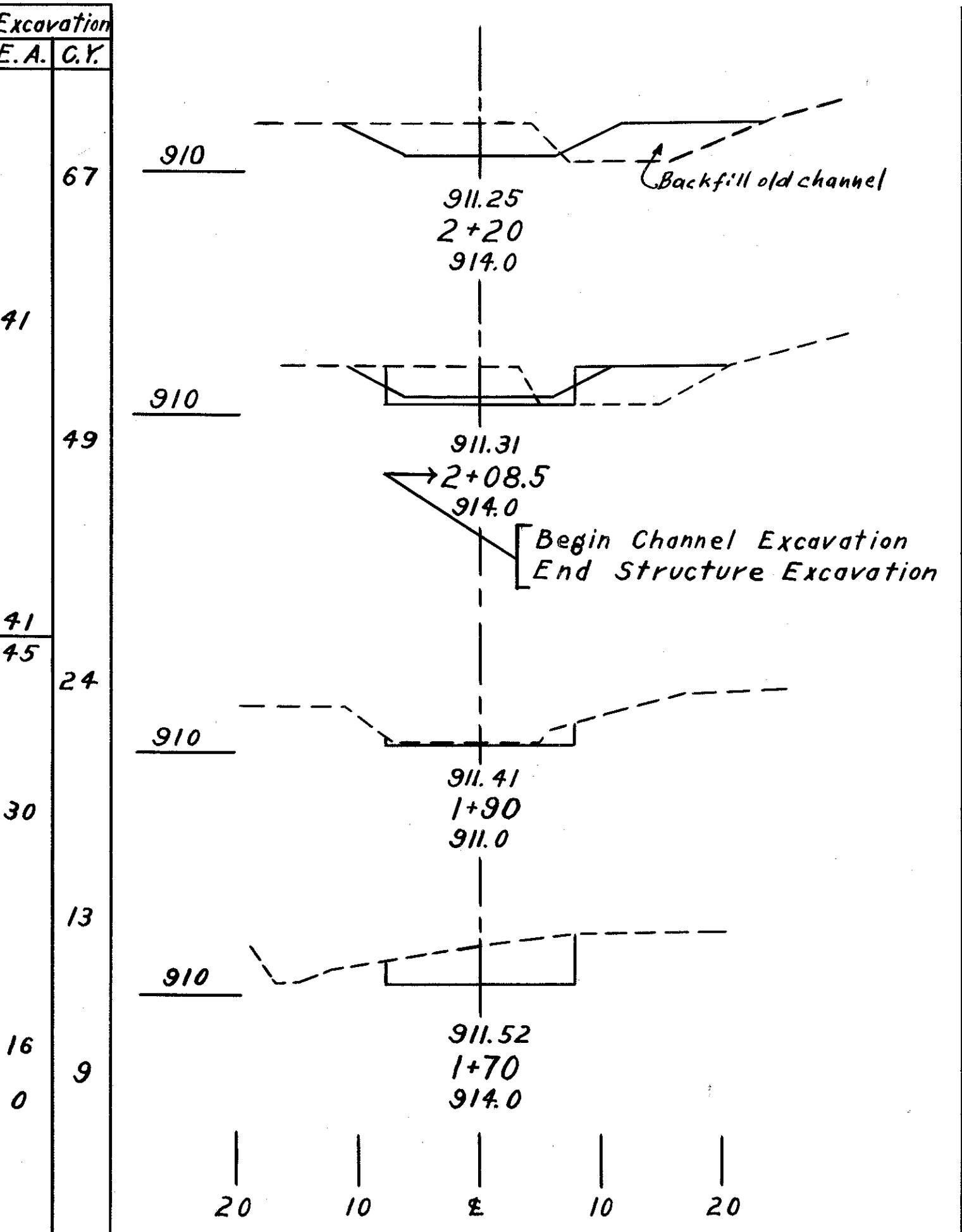
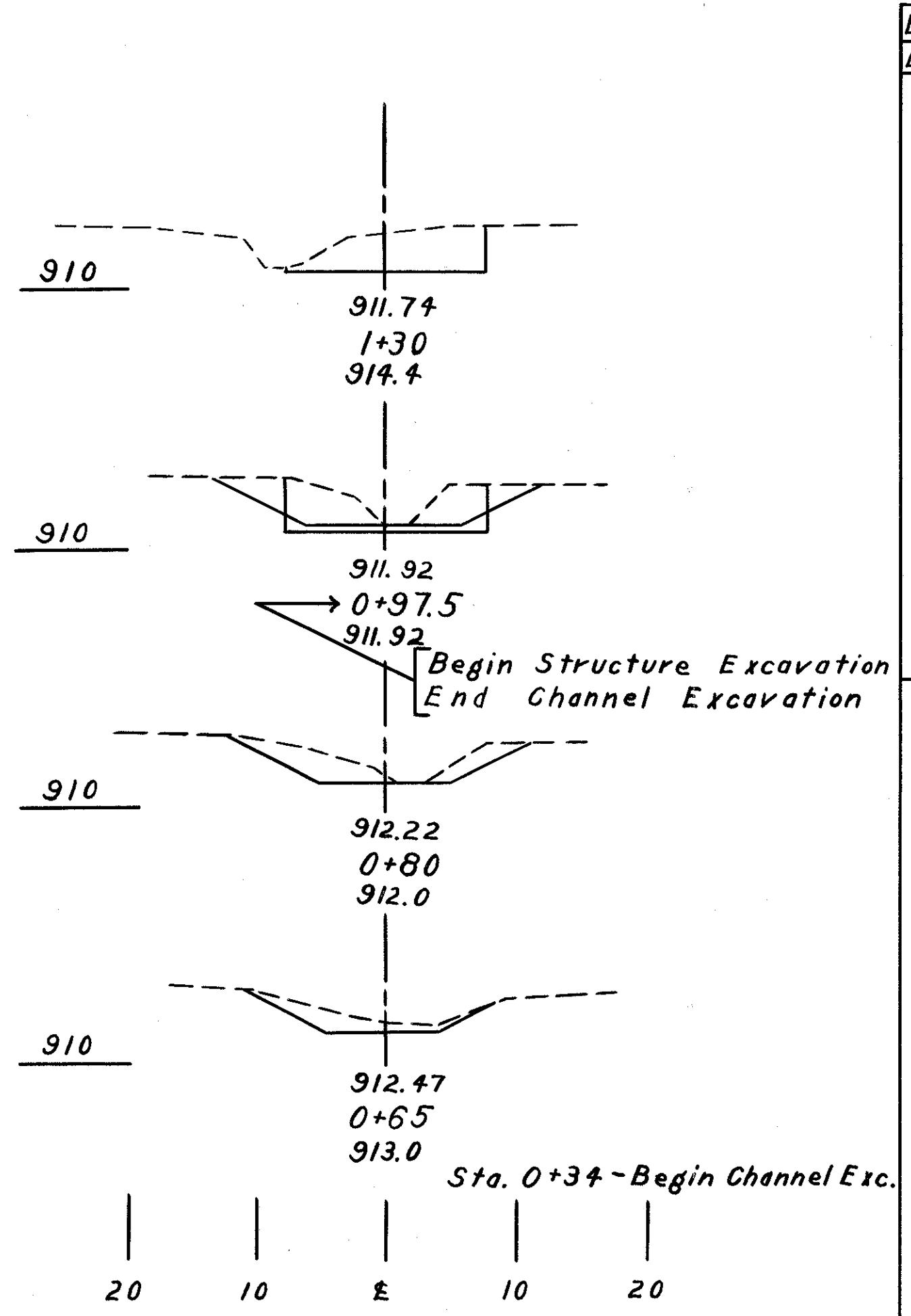
HAS-36-(0.43-2.92)-(11.92-14.12)  
PARTS 1 \* 2



PLAN  
Scale - 1" = 10'



CROSS SECTION  
Scale - 1" = 10'



STRUCTURE DATA

TYPE - Standard Pipe Culvert  
 SIZE - 54" x 111'-0" (2 lines)  
 WORK REQUIRED - Build two lines 54" x 111' pipe culvert as shown. Excavate inlet and outlet channels. Riprap as shown.

REFERENCE DRAWINGS

Pipe Culverts S-27 P.G.-3

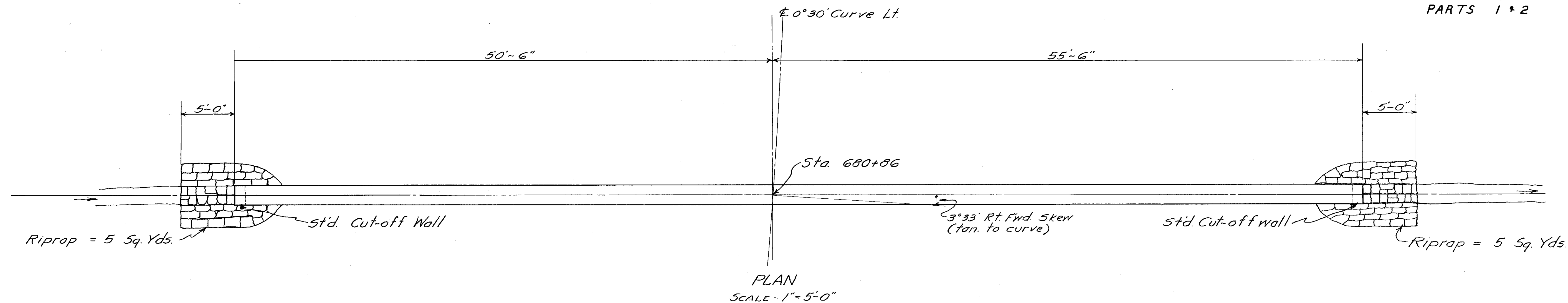
ESTIMATED QUANTITIES

Excavation for Structures	152 Cu. Yds.
Channel Excavation	182 Cu. Yds.
54" Pipe for Roadway Culverts	222 Lin. Ft.
Riprap	38 Sq. Yds.

Drainage Area = 380 A<sup>s</sup>  
 Q = 260 cfs.

8-5

STA. 673+75.0  
 54" x 111' PIPE CULVERT  
 (2 Lines)



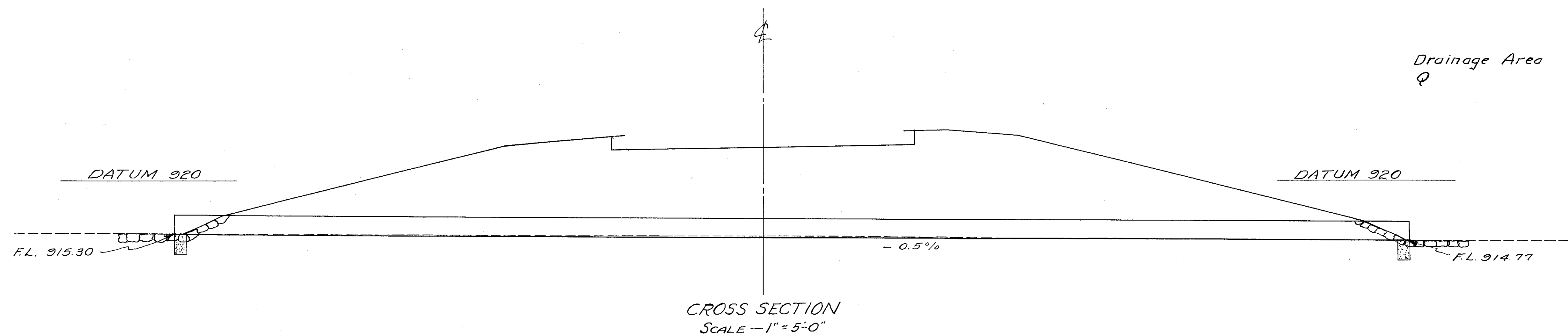
**STRUCTURE DATA**  
 TYPE - Pipe Culvert  
 SIZE - 21" x 106'-0"  
 WORK REQ'D. - Build 21" x 106' pipe culvert with 5' d. Cut-off wall at each end. Riprap inlet and outlet as shown.

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

**ESTIMATED QUANTITIES**

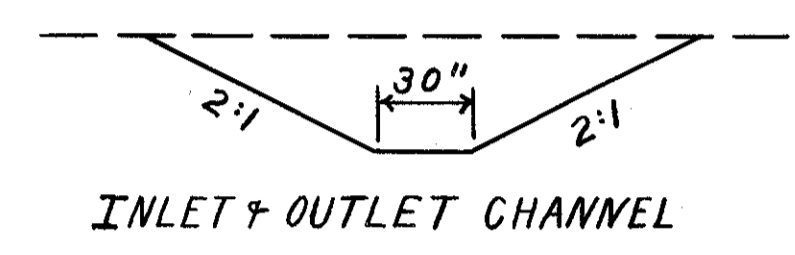
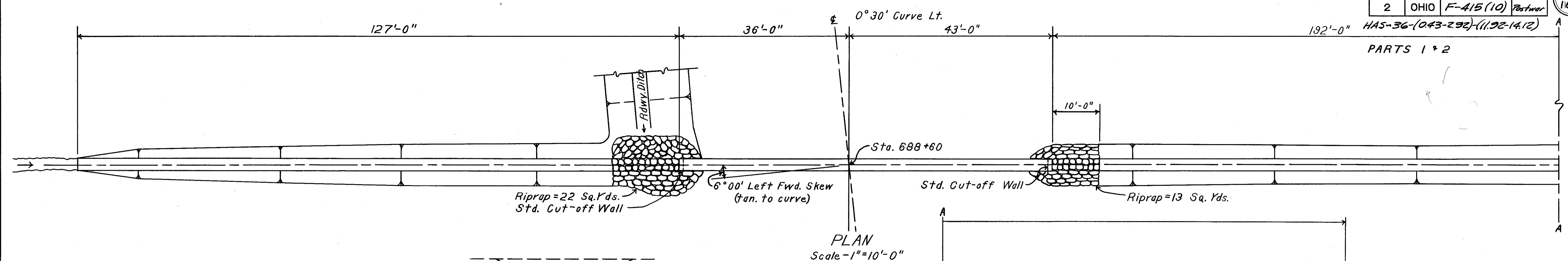
Excavation for Structures	2	Cu. Yds.
21" Pipe for Roadway Culverts	106	Lin. Ft.
Concrete for Structures, (Class 'E')	0.3	Cu. Yds.
Riprap	10	Sq. Yds.

Drainage Area = 16 AC  
 Q = 13 cfs.

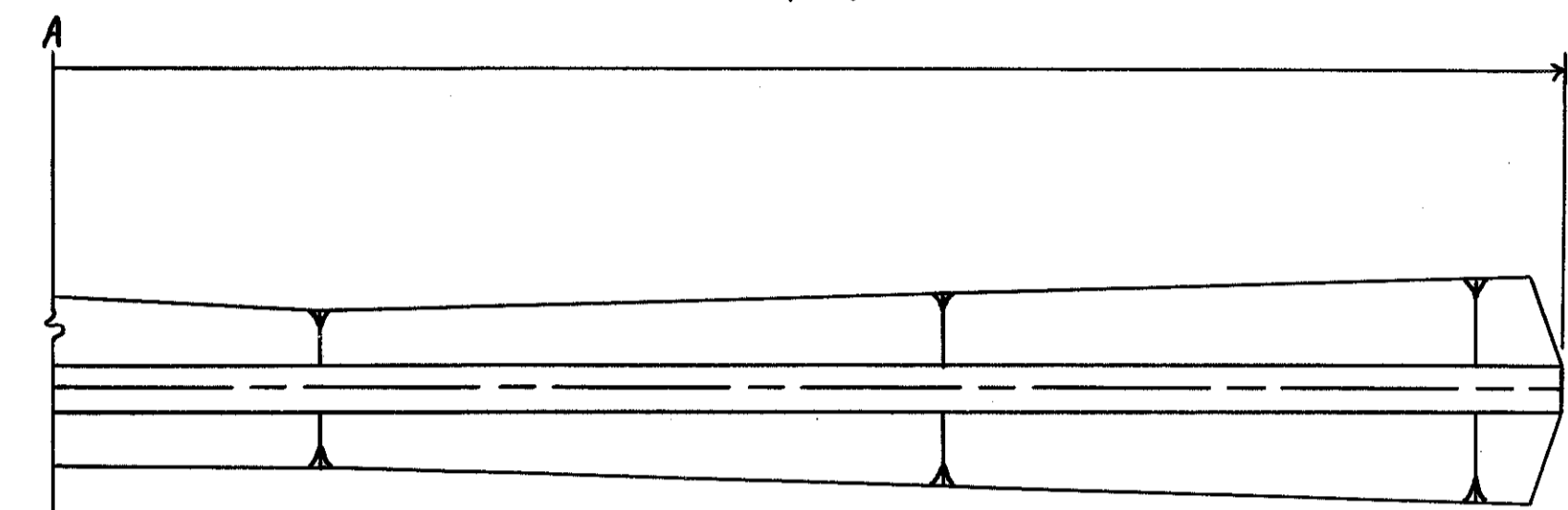


924.11  
680+86  
915.1

9-5  
 STA. 680+86  
 21" x 106'-0" PIPE CULVERT



PLAN  
Scale - 1" = 10'-0"



**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.

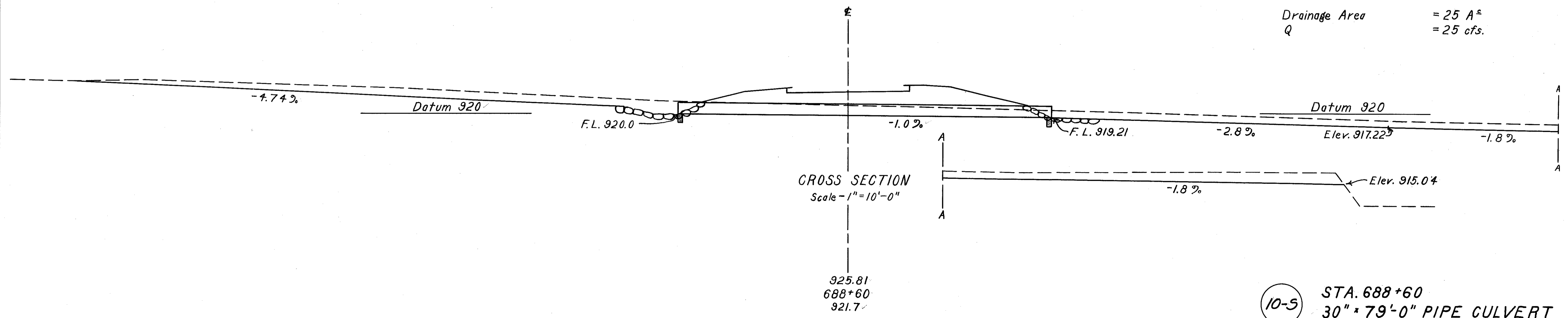
**REFERENCE DRAWINGS**

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.

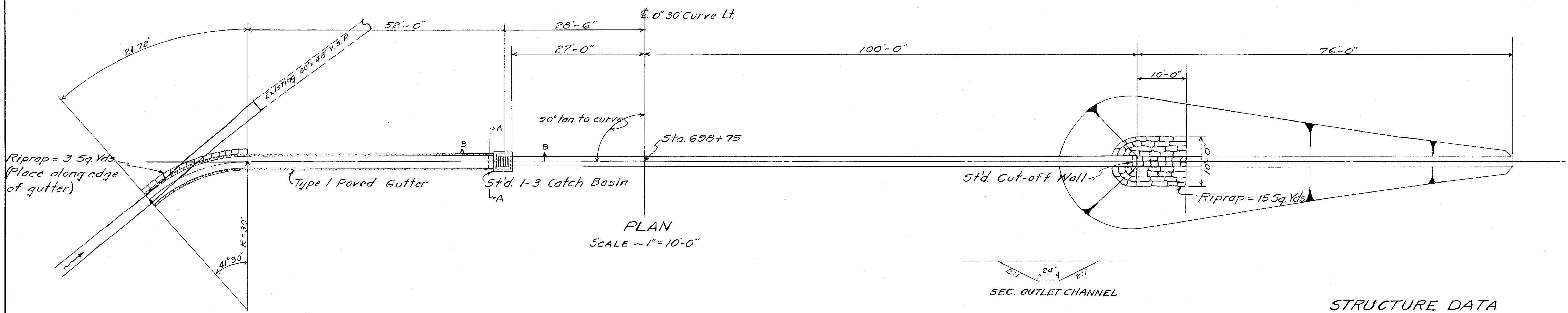
Drainage Area = 25 A<sup>c</sup>  
 Q = 25 cfs.



CROSS SECTION  
Scale - 1" = 10'-0"

925.81  
688+60  
921.7

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

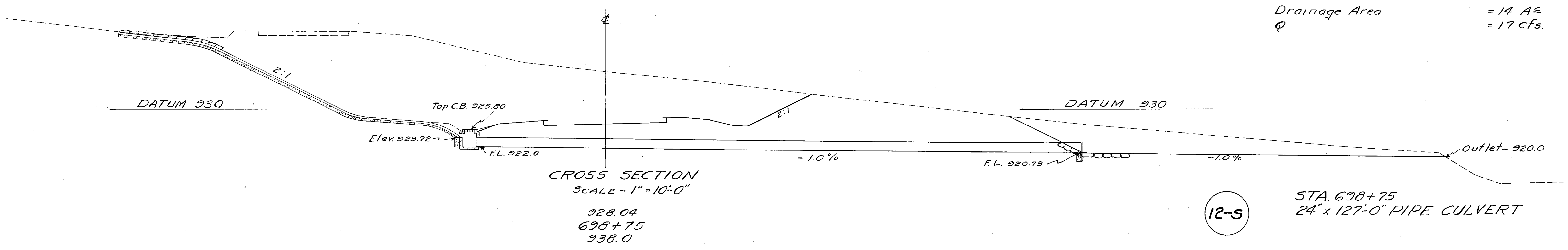
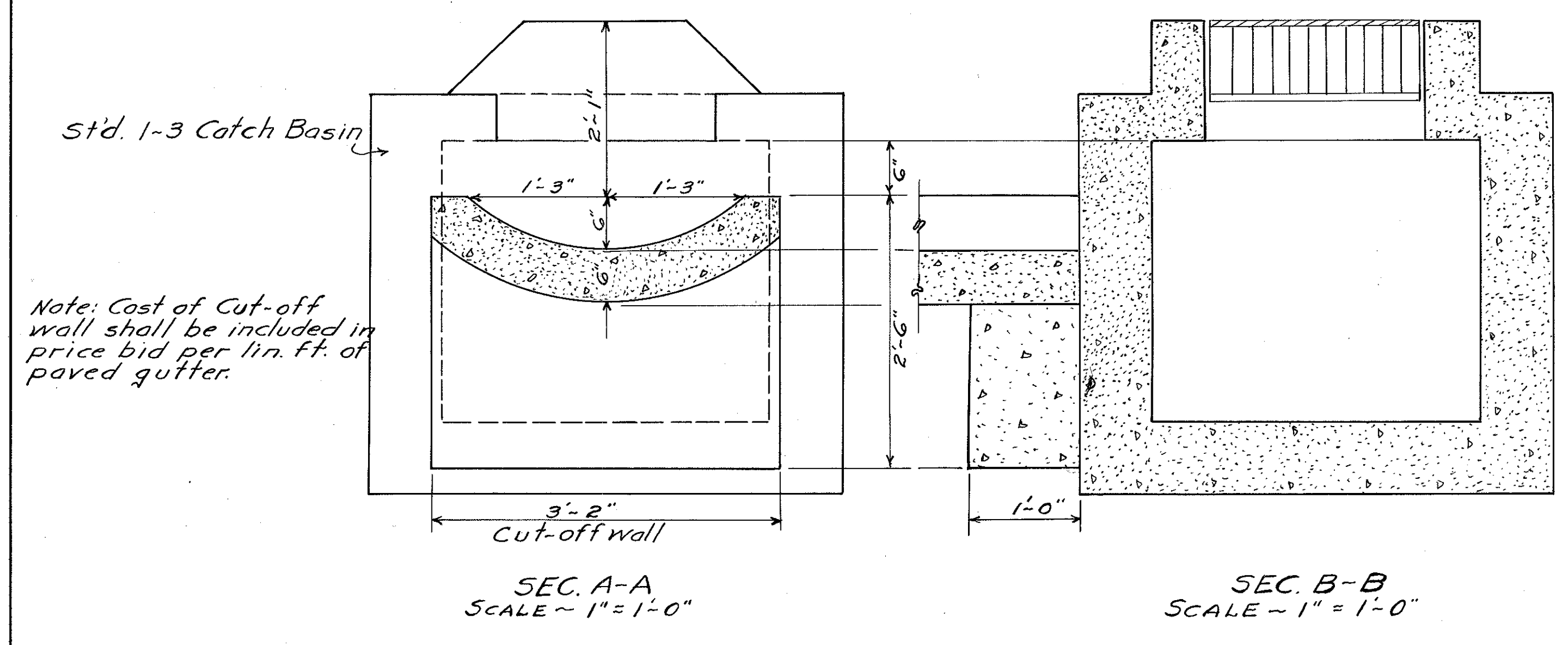


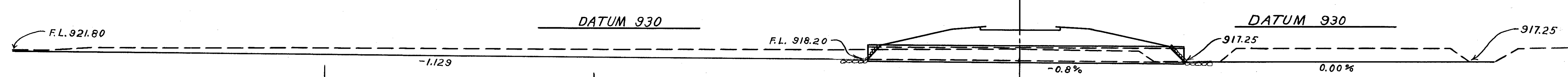
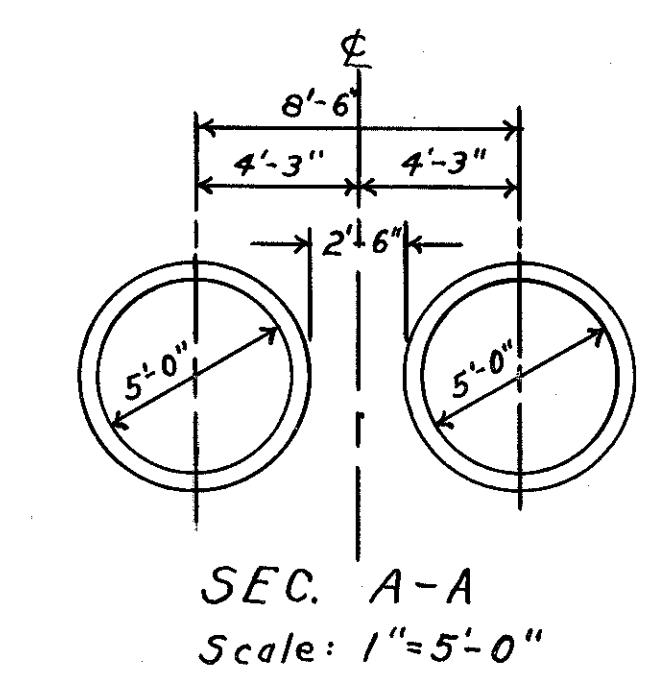
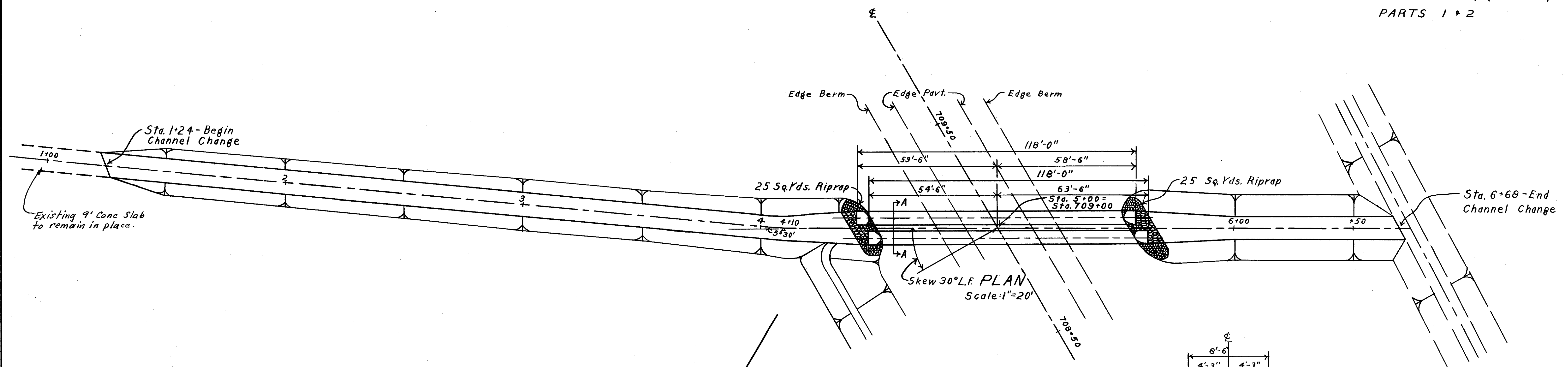
**STRUCTURE DATA**  
 TYPE - Pipe Culvert  
 SIZE - 24" x 127'-0"  
 WORK REQ'D. - Remove existing 30" x 48" Pipe Culvert. Build 24" x 127' Pipe Culvert with St'd. 1-3 Catch Basin at inlet and St'd. Cut-off wall at outlet. Excavate and riprap outlet channel as shown. Build paved gutter at inlet end as shown.

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

**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.
St'd. 1-3 Catch Basins	1. Each





Excavation E.A. Cu.Yds.	Excavation E.A. Cu.Yds.	Excavation E.A. Cu.Yds.	Excavation E.A. Cu.Yds.	Excavation E.A. Cu.Yds.	Excavation E.A. Cu.Yds.
75	71	158	7	0	14
39	83	114	5	6	92
69	60	94	24	8	255
36	41	77	50	105	80
54	42	79	105	12	26
22					
11					
0					

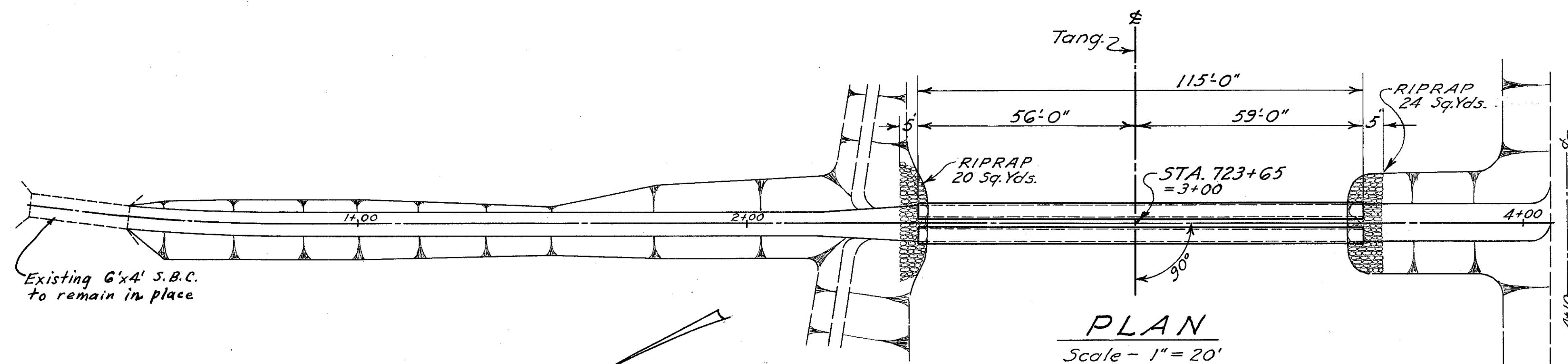
**STRUCTURE DATA**  
 TYPE - Std Pipe Culvert  
 SIZE - 60" x 118' (2 lines)  
 Work Required - Build two lines 60" x 118' pipe culvert as shown. Excavate inlet and outlet channels. Riprap as shown.

**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<sup>s</sup>  
 Q = 400 cfs.

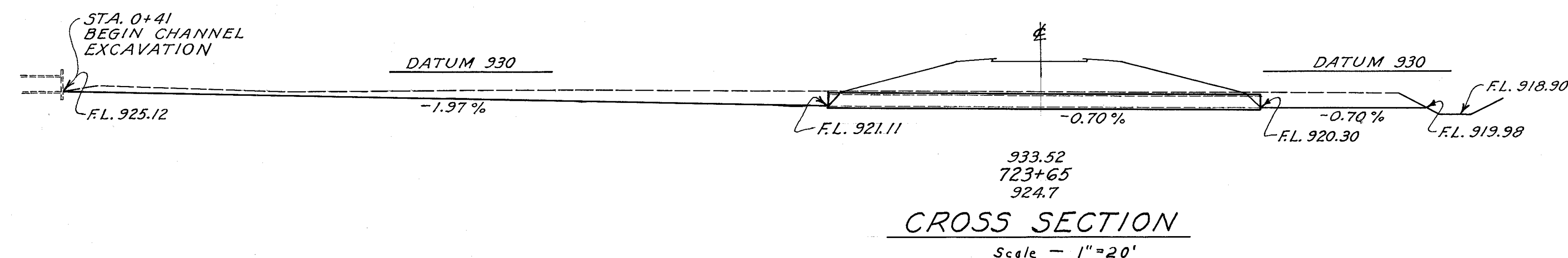
HAS-36-(0.43-2.92)-(11.92-14.12)  
PARTS 1 & 2



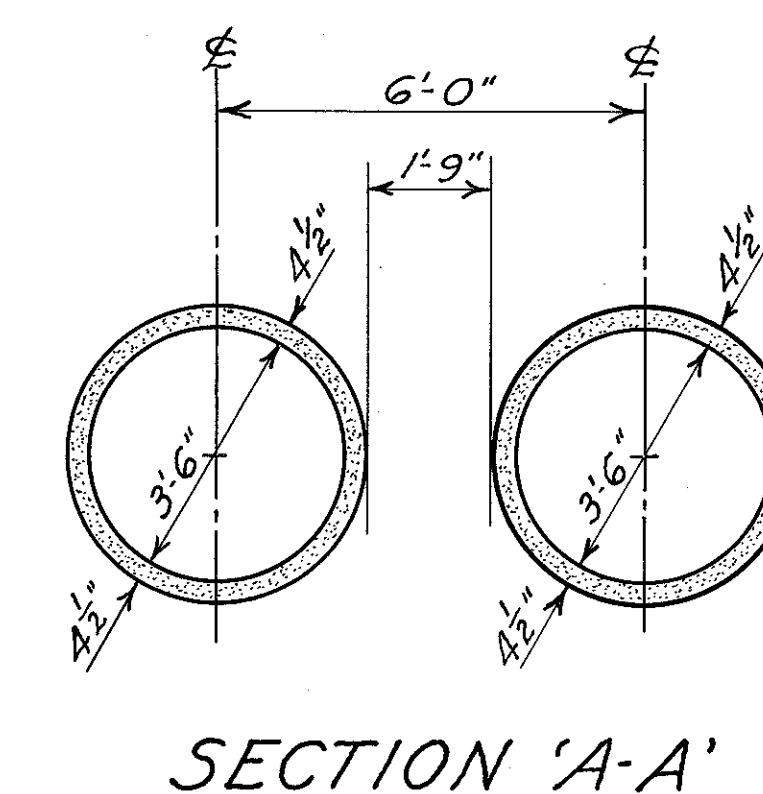
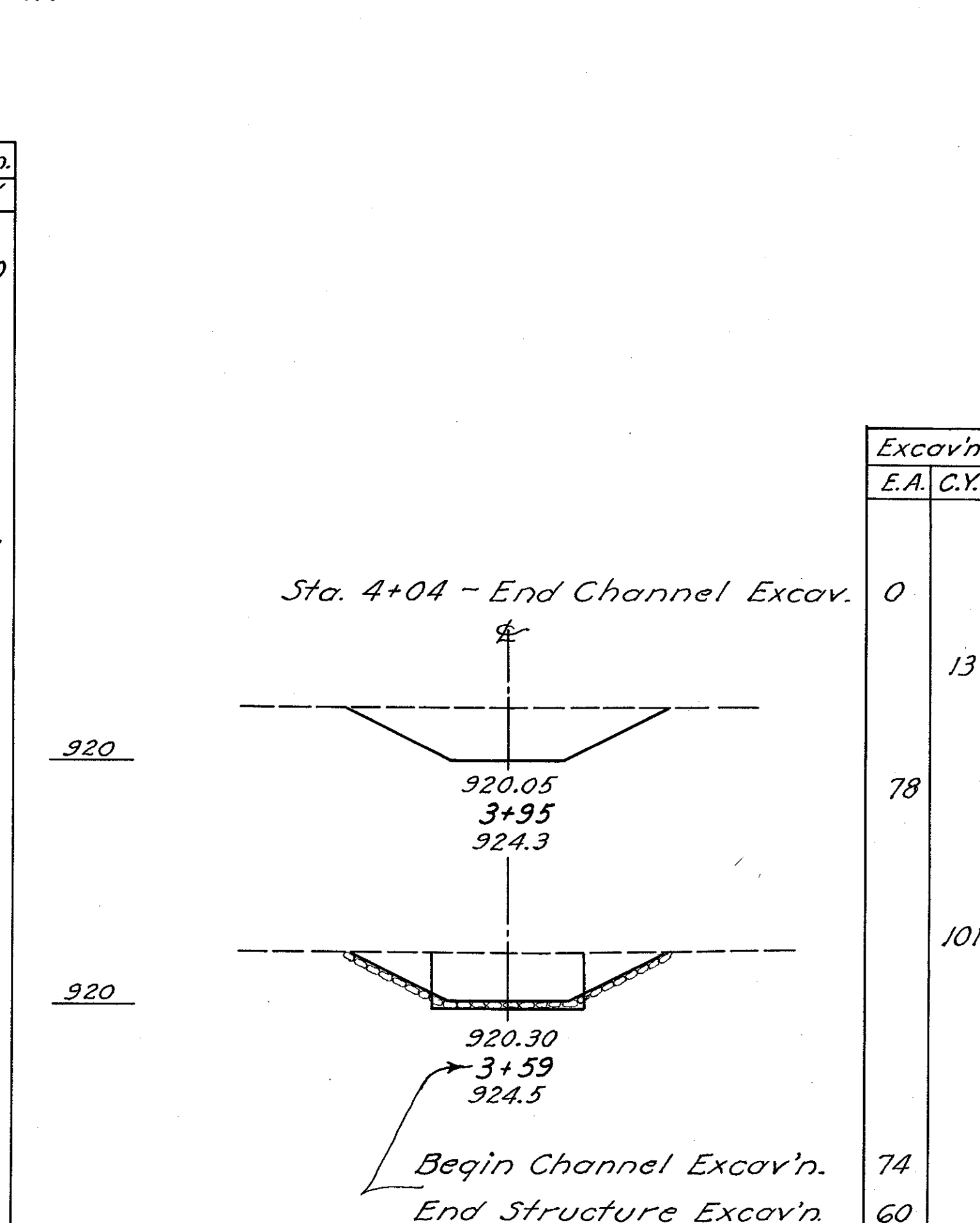
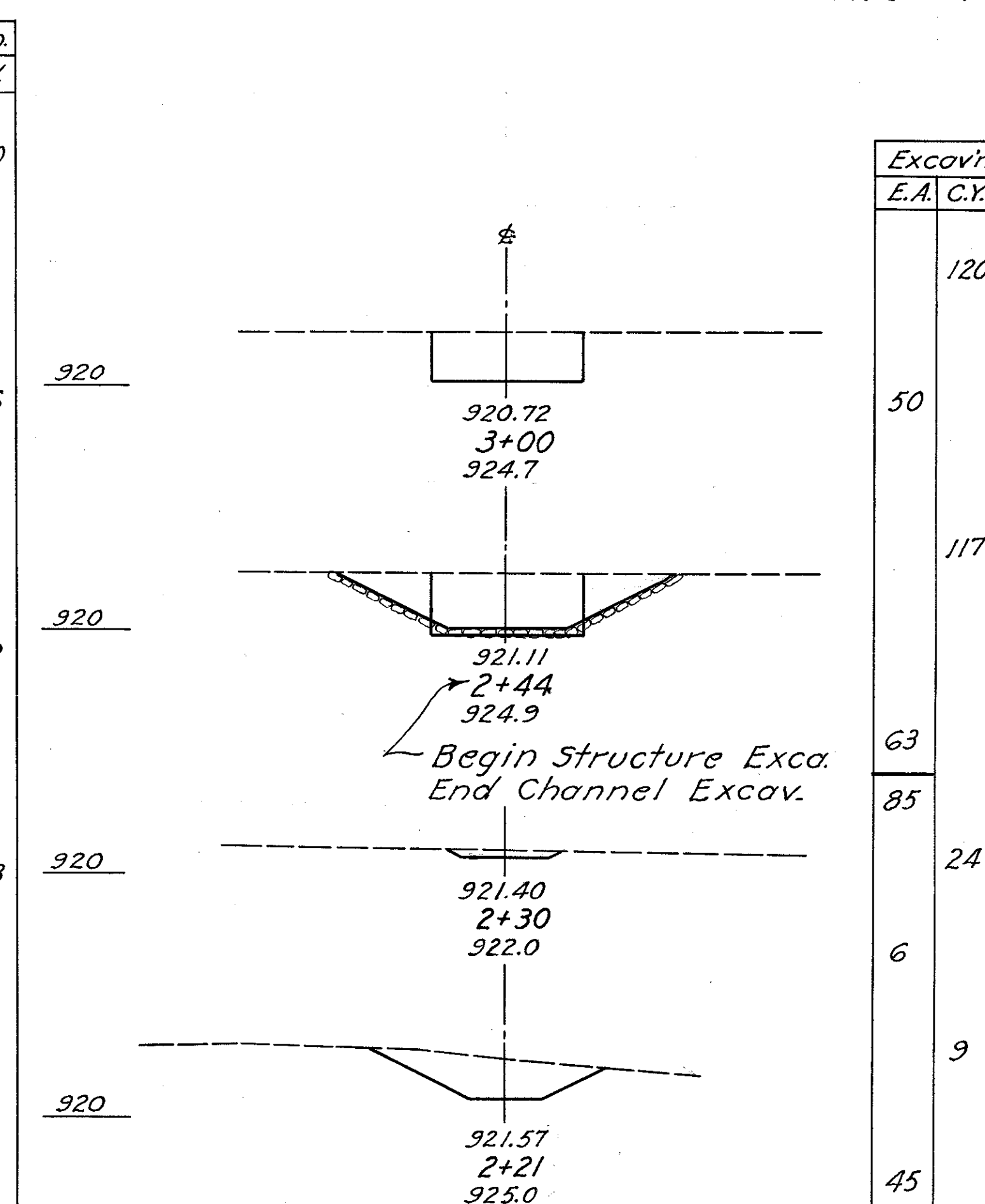
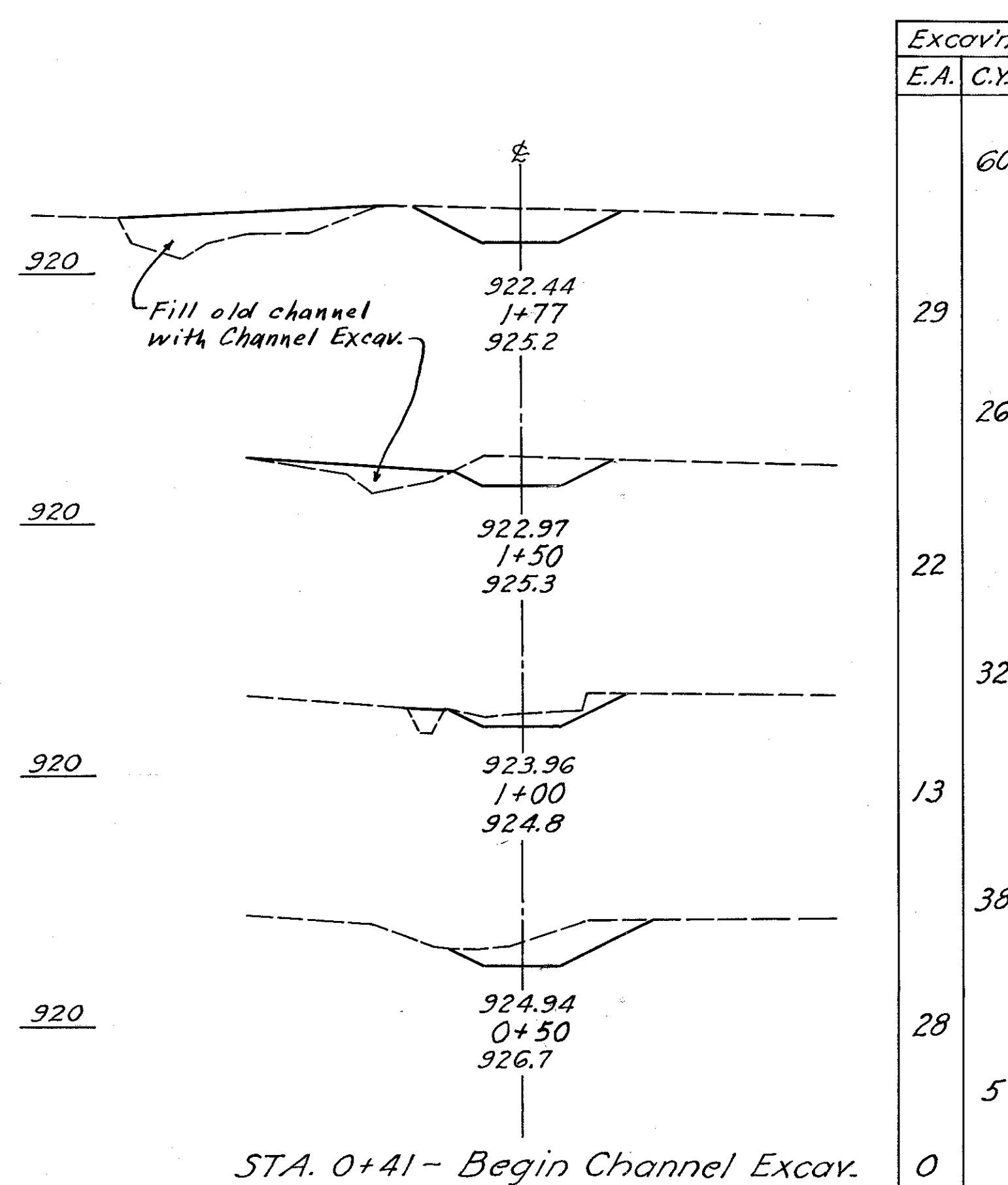
**STRUCTURE DATA**  
 TYPE :- Std. Pipe Culvert.  
 SIZE :- 42" x 115'-0" - (2 Lines).  
 WORK REQ'D. :- Build new Two (2) lines of 42" x 115'-0" Pipe Culvert as shown. Excavate inlet and outlet channels. Riprap as shown.

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

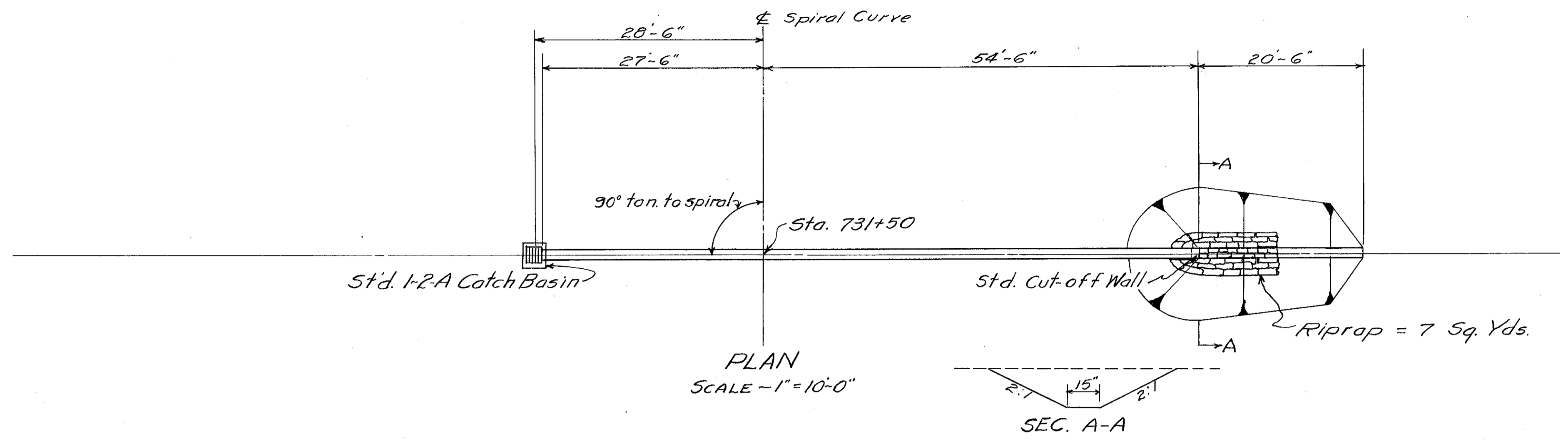
**ESTIMATED QUANTITIES**  
 Excavation for Structure,      237 Cu. Yds.  
 Channel Excavation,      308 Cu. Yds.  
 42" Pipe for Roadway Culverts,      230 Lin. Ft.  
 Riprap,      44 Sq. Yds.



Drainage Area = 160 ac.  
Q = 150 cfs.



STA. 723+65.0  
42" x 115'-0" PIPE CULVERT  
(2 LINES)      Sh. 1 of 1.

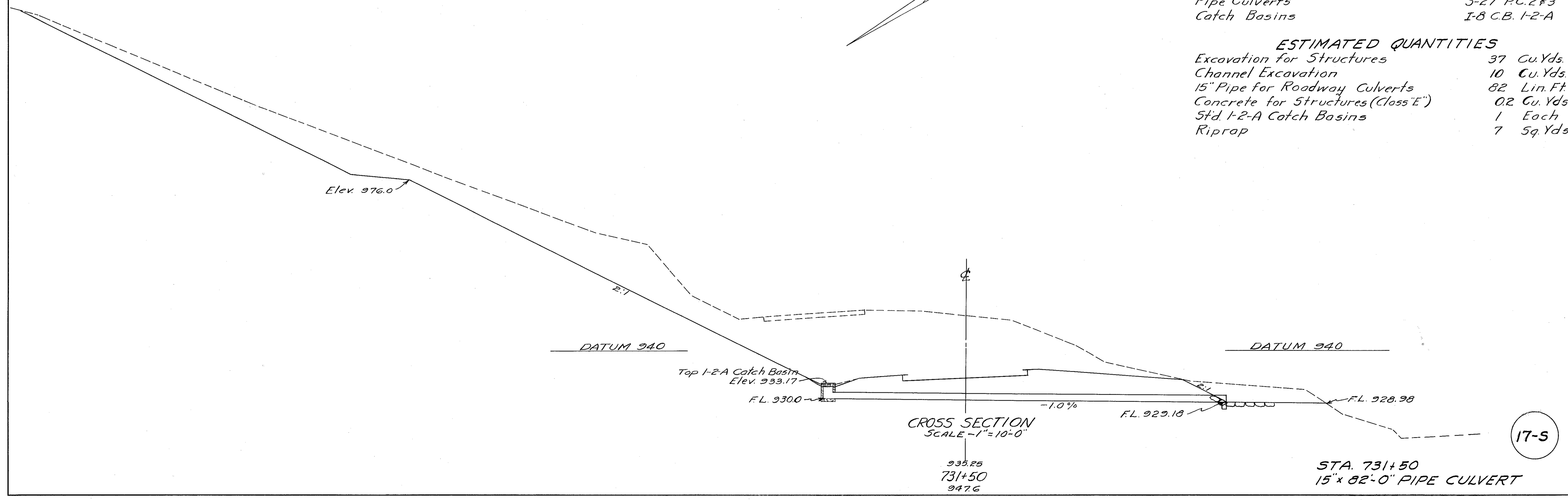


**STRUCTURE DATA**  
 TYPE - Pipe Culvert  
 SIZE - 15" x 82'-0"  
 WORK REQ'D - Build 15" x 82' Pipe Culvert with St'd. 1-2-A Catch Basin at inlet and St'd. Cut-off wall at outlet. Excavate and riprap outlet channel as shown.

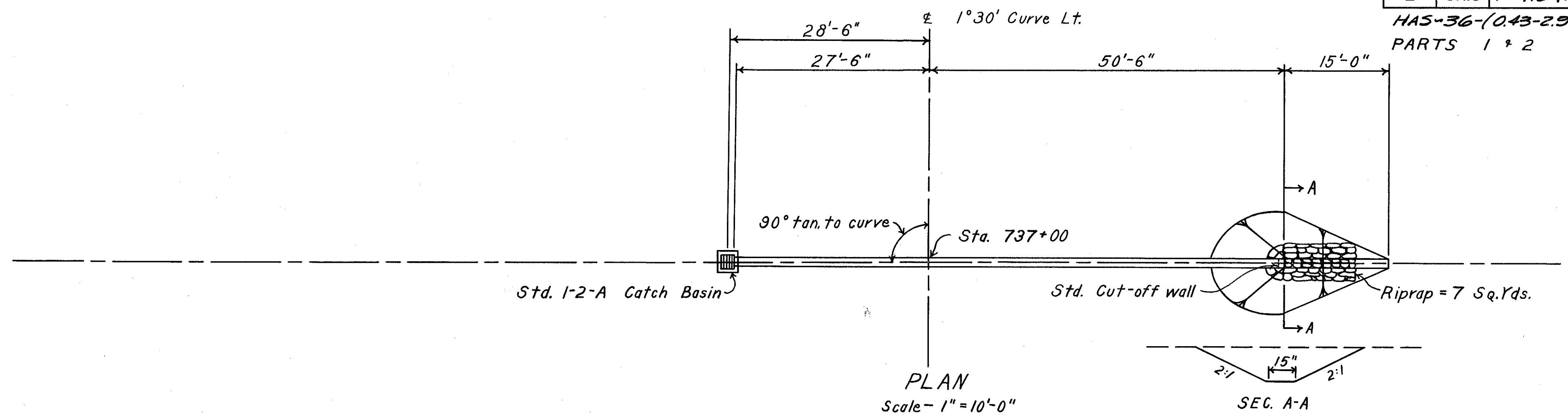
**REFERENCE DRAWINGS**  
 Pipe Culverts 5-27 P.C. 2#3  
 Catch Basins I-8 C.B. 1-2-A

**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.
St'd. 1-2-A Catch Basins	1 Each
Riprap	7 Sq. Yds.







PLAN  
Scale - 1" = 10'-0"

SEC. A-A

**STRUCTURE DATA**

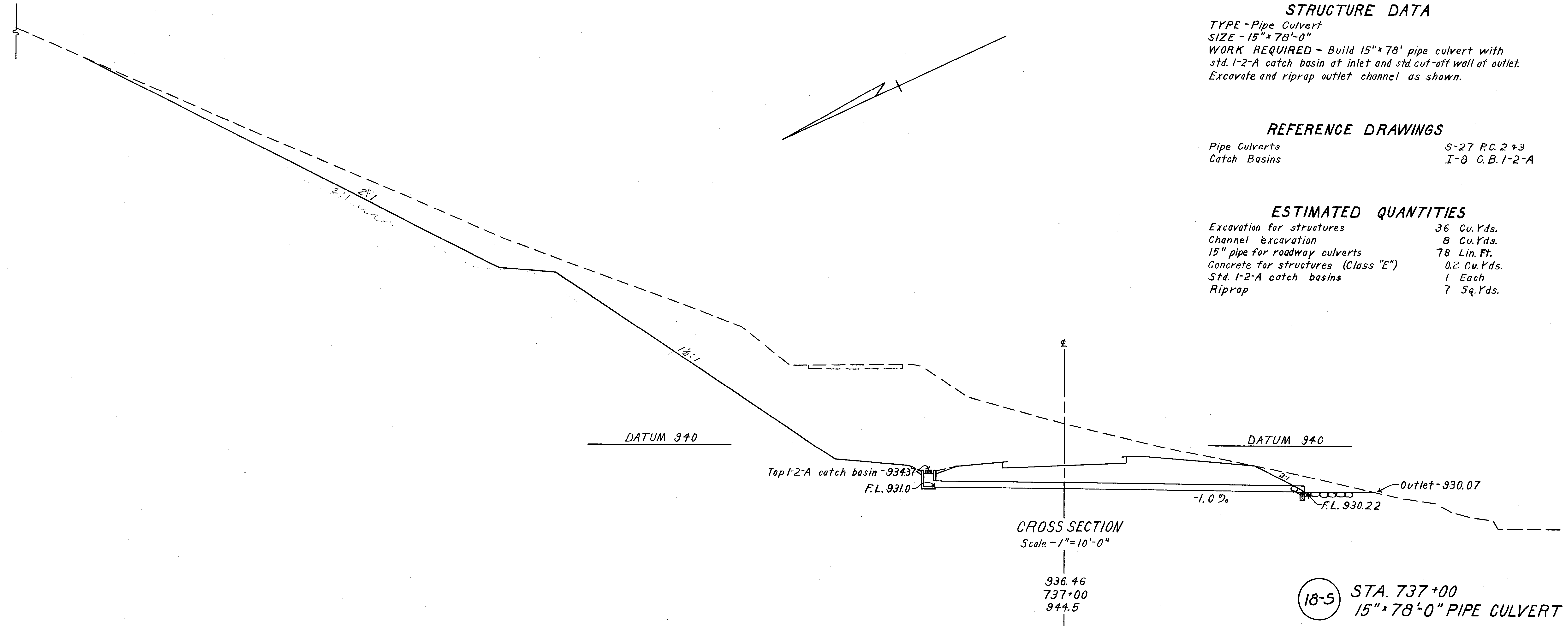
TYPE - Pipe Culvert  
 SIZE - 15" x 78'-0"  
 WORK REQUIRED - Build 15" x 78' pipe culvert with std. 1-2-A catch basin at inlet and std. cut-off wall at outlet. Excavate and riprap outlet channel as shown.

**REFERENCE DRAWINGS**

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

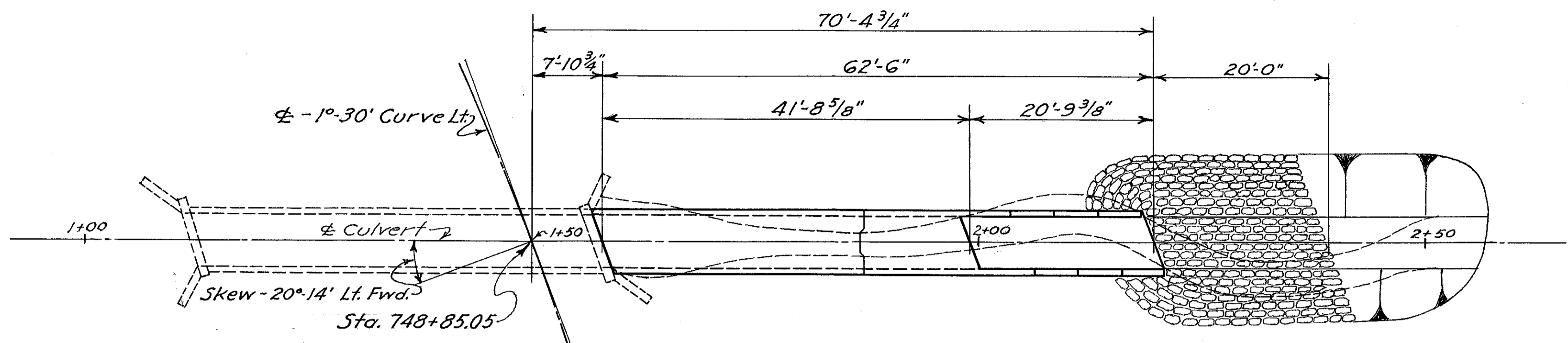
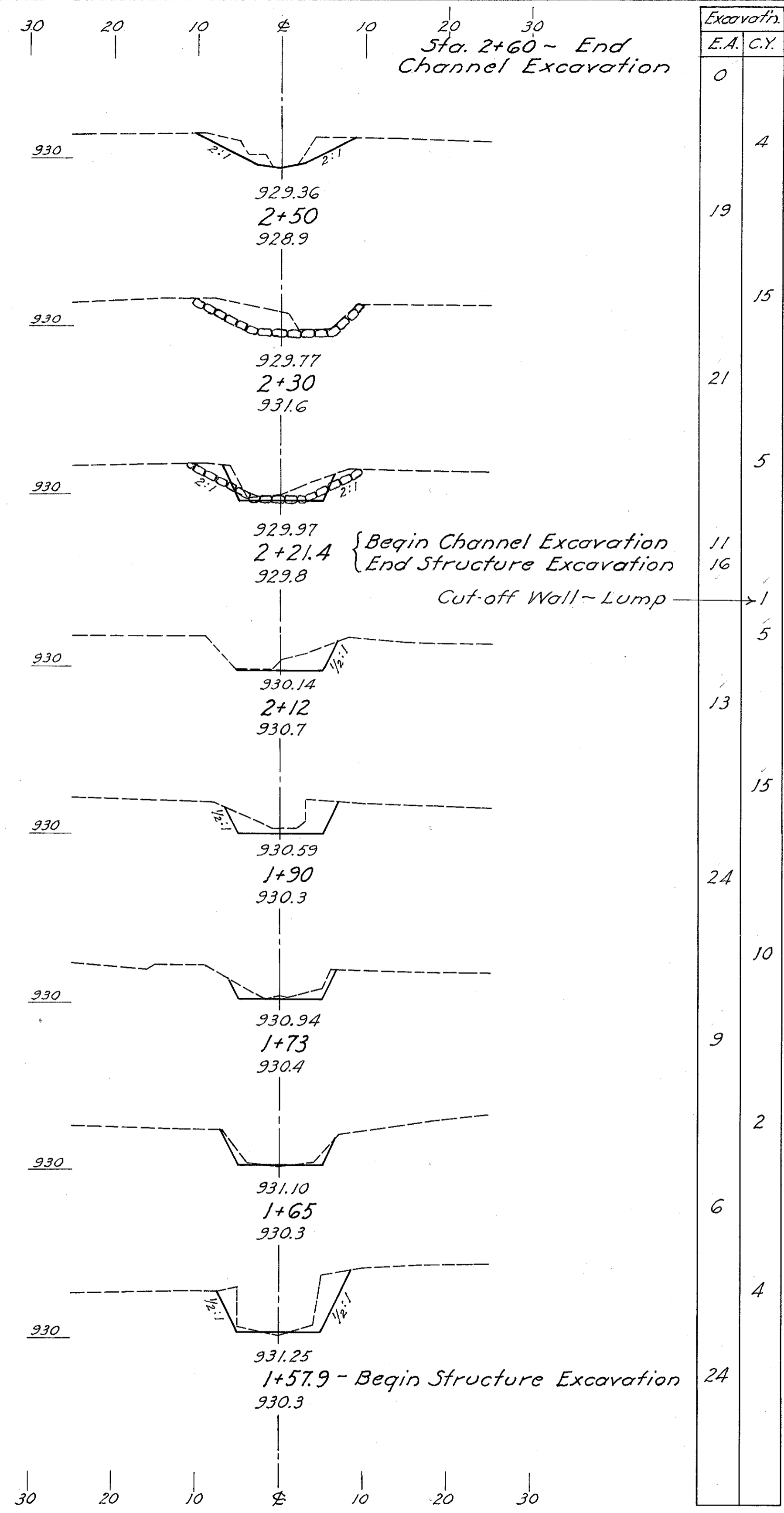
**ESTIMATED QUANTITIES**

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.



CROSS SECTION  
Scale - 1" = 10'-0"

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

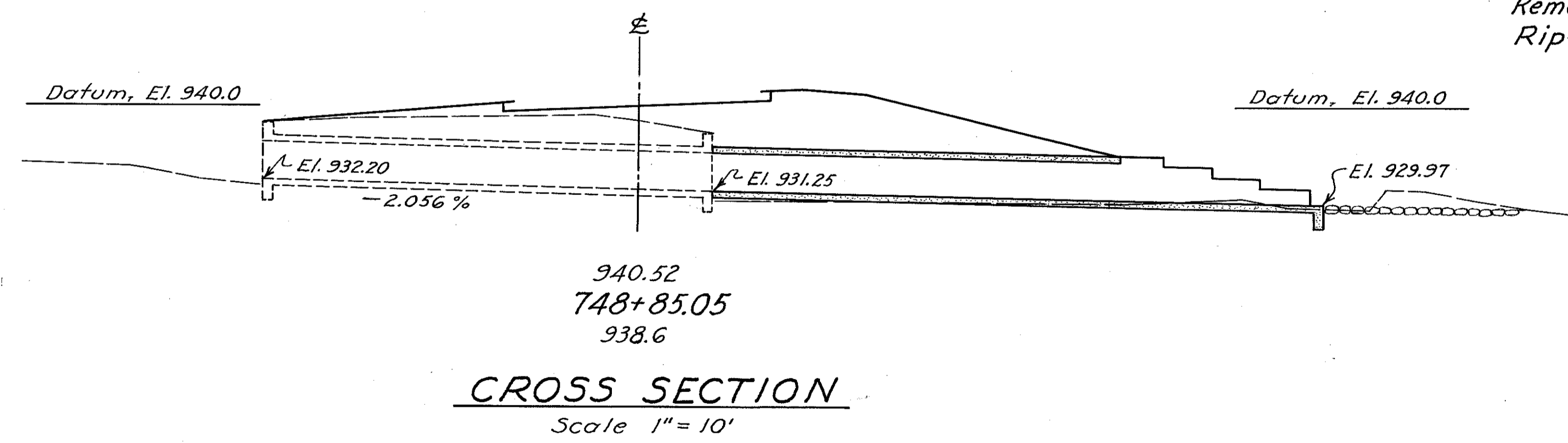


**STRUCTURE DATA**  
 TYPE - Small Box Culvert Extension.  
 SIZE - 6'-0" x 4'-0" x 62'-6"  
 WORK REQ'D. - Build new 6'-0" x 4'-0" x 62'-6" Small Box Culvert Extension. Excavate outlet channel. Rip-rap as shown.

**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.





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

164  
166

HAS-36-(043-292)-(1192-14.12)  
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'tr. to c'tr. of brgs.  
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: 3/16" per foot.

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.

Clears assumed 15 to 20 yr. H.W. 2.7±

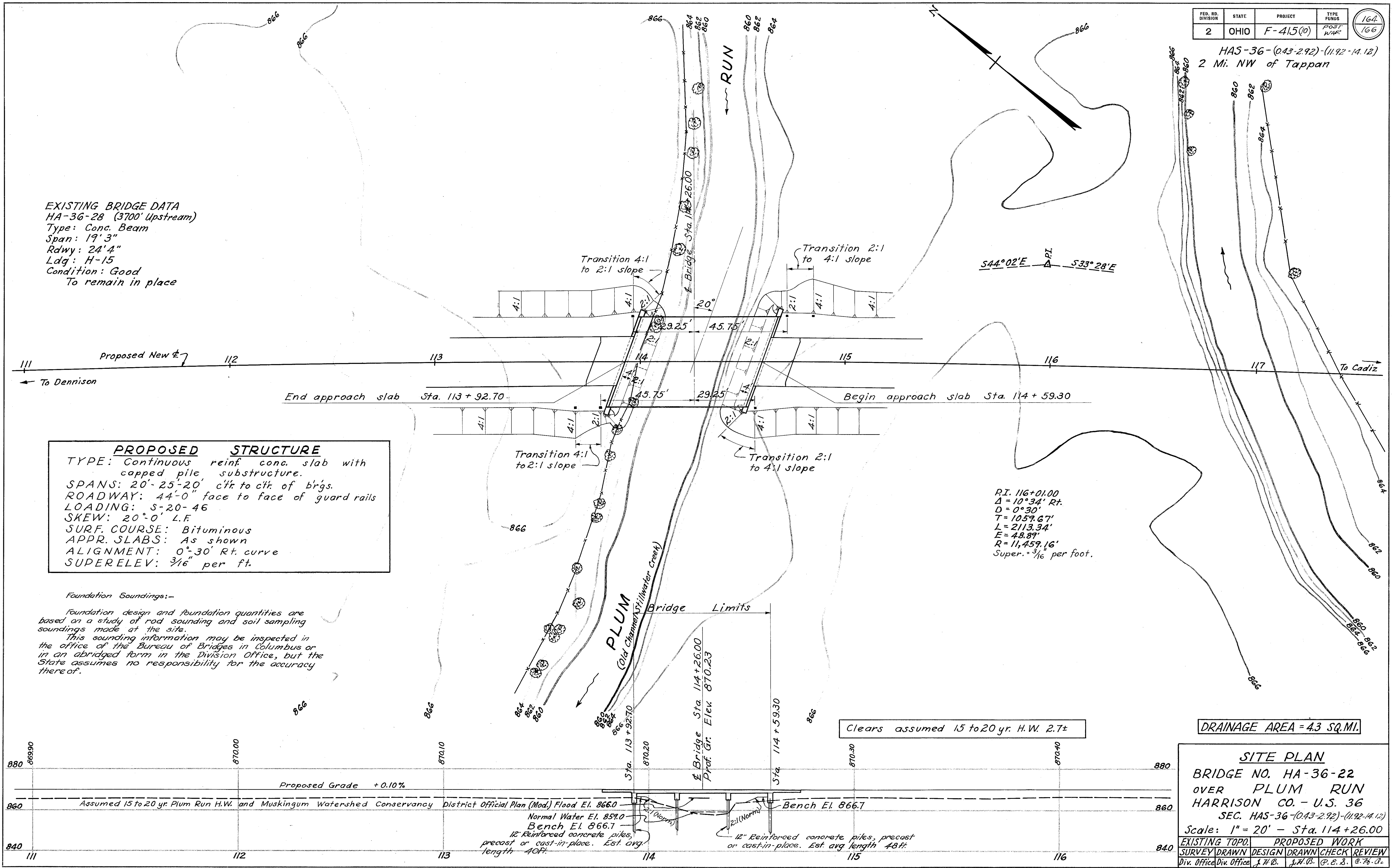
DRAINAGE AREA = 4.3 SQ. MI.

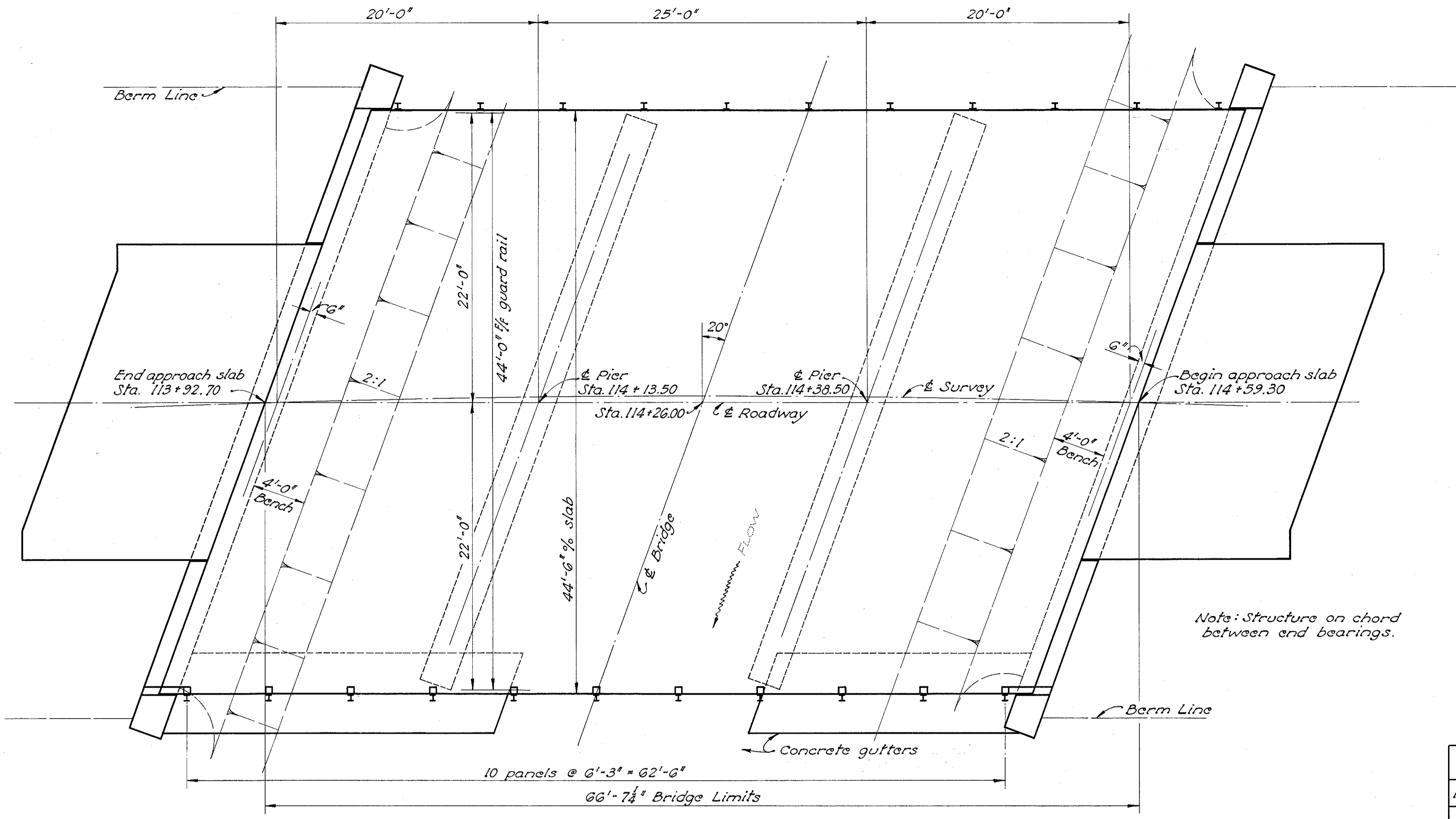
**SITE PLAN**  
BRIDGE NO. HA-36-22  
OVER PLUM RUN  
HARRISON CO. - U.S. 36  
SEC. HAS-36-(043-292)-(1192-14.12)  
Scale: 1" = 20' - Sta. 114+26.00

EXISTING TOPO.	PROPOSED WORK
SURVEY DRAWN	DESIGN DRAWN
CHECKED	CHECKED
REVIEWED	REVIEWED

Div. Office Div. Office J. H. B. J. H. B. P. E. S. E. F. A.

BFG W42 4-18-51





GENERAL PLAN

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 3/4" @ 1'-6" centers, both directions, included in price per lin. ft.

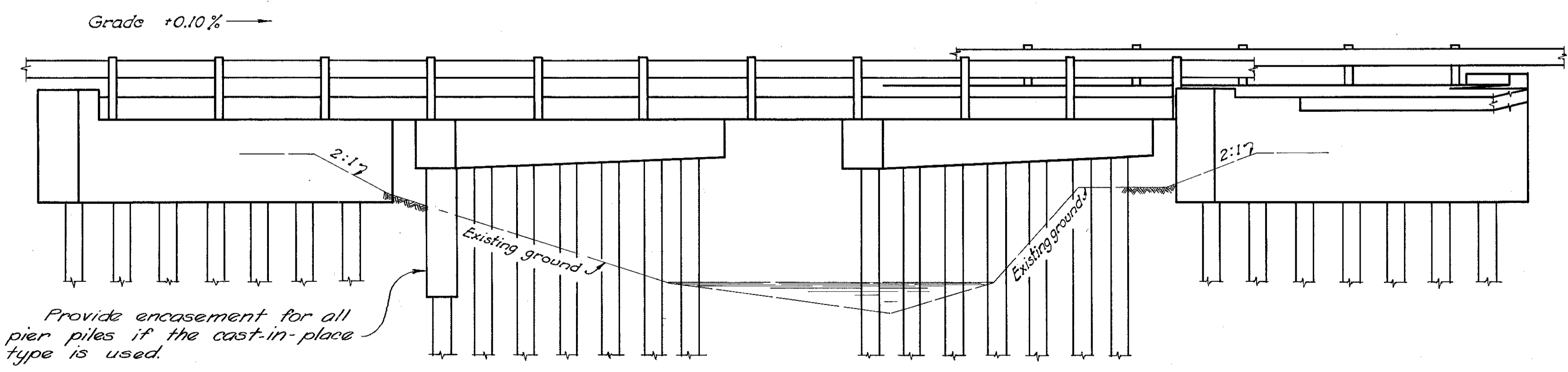
CAPPED PILE ABUTMENTS: All earth fill around abutments shall be made full height of earth bench. Excavation shall then be made for abutment cap, after which piling shall be driven. If bottom forms for abutment cap are used, they shall be left in place.

BITUMINOUS SURFACE COURSE shall be 2 1/2" asphaltic concrete, Item T-35, laid in two 1 1/4" courses.

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

Note: Structure on chord between end bearings.

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	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			



GENERAL ELEVATION

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

GENERAL PLAN & ELEVATION  
NOTES & ESTIMATED QUANTITIES  
BRIDGE No. HA-36-22  
OVER PLUM RUN

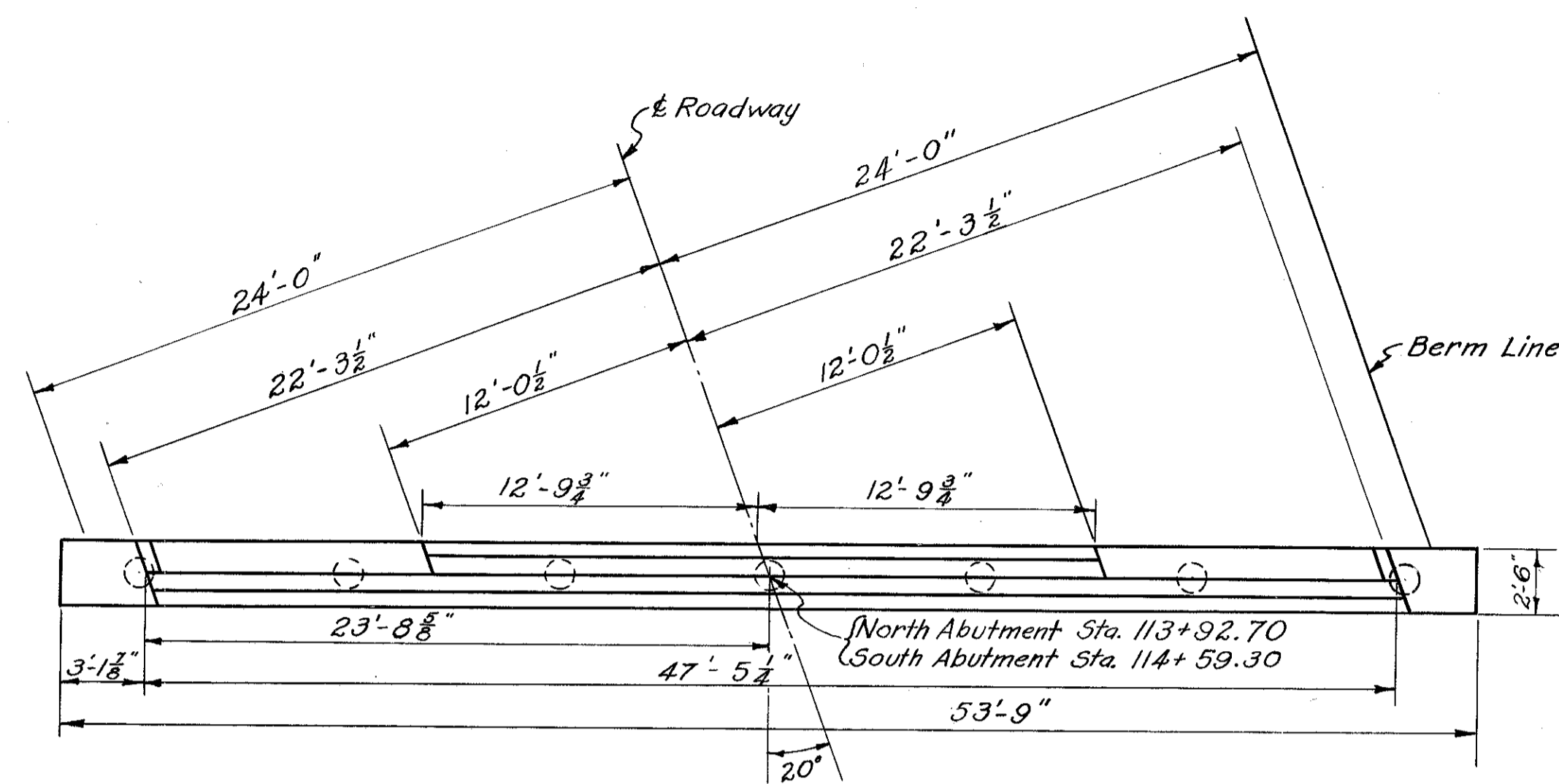
HARRISON COUNTY STA. 114+26.00  
Sec. HAS-36-(0.43-2.92)-(11.92-14.12)

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HVL	HVL	JAMES	RJC	BFG	4-18-51	5-8-51

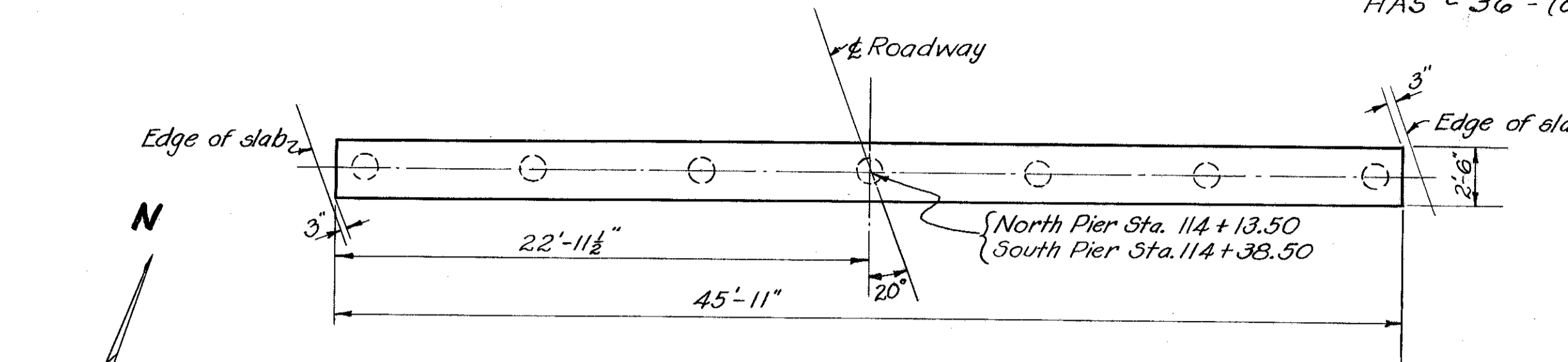
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-415 (10)	POST WAR

166  
166

HARRISON COUNTY  
HAS - 36 - (043-292) - (11.92-14.12)

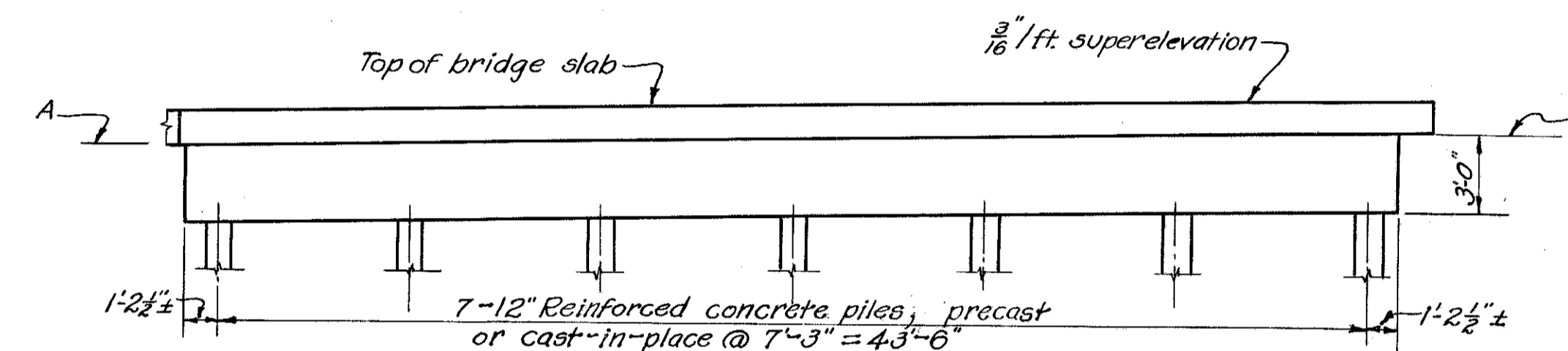


**ABUTMENT PLAN**



**PIER PLAN**

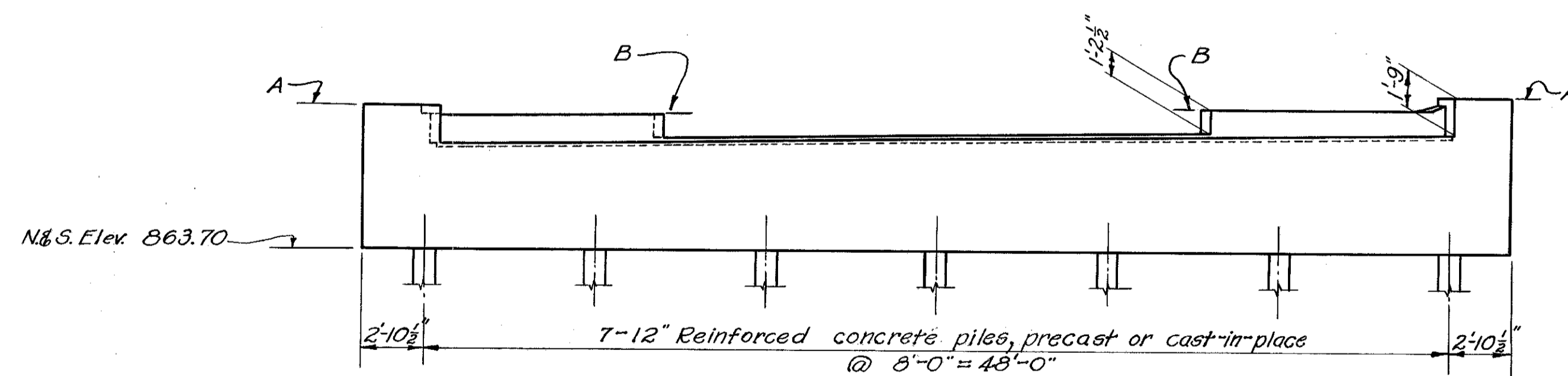
For details not shown see P-1-49



**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				

REINFORCING STEEL LIST																	
Mark	Size	No.	Length	Weight	Shp.	Bending Diagram					Mark	Size	No.	Length	Weight	Shp.	
Superstructure											Piers						
A	1"φ	114	24'-3"	7380	S						A2a	1/2"φ	56	5'-3"	196	B	
B	1"φ	38	18'-4"	1860	B						A2b	1/2"φ	8	6'-8"	36	B	
C	1"φ	38	16'-4"	1657	B						A2c	1/2"φ	8	6'-0"	32	B	
D	1"φ	19	16'-6"	837	S						A2d	1/2"φ	88	3'-6"	205	S	
E	1"φ	19	14'-0"	710	S						A2e	1/2"φ	8	9'-6"	51	S	
F	1"φ	76	19'-0"	4910	S	Abutments						P0a	1 1/2"φ	8	25'-5"	1080	S
G	1"φ	38	11'-8"	1507	S	A4a	3/8"φ	136	8'-5"	1193	B	P7a	1"φ	32	25'-0"	2136	S
H	1"φ	38	8'-8"	1120	S	A4b	3/8"φ	30	3'-0"	94	S	P2a	1/2"φ	56	5'-3"	196	B
J	3/4"φ	38	14'-6"	827	S	Replacement Bars						P2b	1/2"φ	64	10'-4"	442	B
K	3/4"φ	19	15'-0"	428	S	RE0	1 1/2"φ	1	8'-2"	43	S	REB	1"φ	1	7'-4"	25	S
L	3/4"φ	140	24'-8"	5186	S	RE7	1"φ	1	7'-4"	20	S	RE5	3/4"φ	1	6'-6"	10	S
M	3/4"φ	94	24'-8"	3482	S	RE4	3/8"φ	1	6'-1"	6	S	RE2	1/2"φ	1	5'-8"	4	S



**ABUTMENT ELEVATION**

For details not shown see A-1-49

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	REVISION
HVL	HVL	RLA	RJC	BFG	4-18-51	