

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
ATB-45-17.07
ASHTABULA COUNTY
AUSTINBURG TOWNSHIP

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	S-470(5)	
ATB-45-17.07			1 34

S-470 (5)

CONVENTIONAL SIGNS

State Line	-----
County Line	-----
Township Line	-----
Section Line	-----
Center Line	-----
Corporation Line	-----
Fence Line	-----
Guard Rail (existing)	-----
Guard Rail (proposed)	-----
Steam Railroad	-----
Power Poles	-----
Telephone Poles	-----
Trees (existing)	-----
Trees (to be removed)	-----

INDEX OF SHEETS

Title Sheet	1
Typical Sections	2
General Notes	3
Details & Recapitulation	4
Calculations	5
General Summary	6
Plan & Profile	7-12
Cross Sections	13-26
Intersection Details	27-28
Structures 20' Span & Under	29
Structures Over 20' Span	30-32
Right of Way	33-34

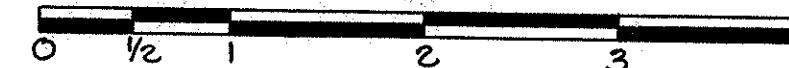
LINE DATA

Begin Project	Sta	894+00
End Project	Sta	937+00
Net Length of Project		4300 L.F.
	or	0.814 Mile
Begin Work	Sta	893+50
End Work	Sta	939+50
Net Length of Work		4600 L.F.
	or	0.871 Mile



LOCATION MAP

SCALE OF MILES



Portion to be improved
State Roads
Other Roads
Detour

SCALE

Plan	1" = 50'
Profile, Horizontal	1" = 50'
Profile, Vertical	1" = 5'
Cross Sections	1" = 5'

STANDARD DRAWINGS					
L-1	4-1-50	I-12,3,4&5	4-22-58	DR-1	1-3-55
L-3	4-1-50	I-8CB22A&B	3-2-59	AS-1-54	12-1-54
L-3-A	4-1-50	I-14 G	1-22-52		
RI-1	7-15-58	I-15 N°1	8-1-55	CJ-1-54 (2 Sh.)	7-16-56
T-35	1-2-56			A-1-54	12-1-54
S-27 PC.3	2-20-45	I-15 N°2-A	6-1-57	P-1-54	2-2-59
S-27 PC.4	1-4-54	G-7.07	6-1-56		

SUPPLEMENTAL SPECIFICATIONS

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

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

I hereby approve these plans and declare that the making of this improvement will require the closing of the highway to traffic, except as noted on sheet 3, and that detours will be provided as indicated on the plans.

Approved Paul Kostyshak
Date 1-22-59 Division Deputy Director

Approved Angie Yeager
Date 5-8-59 Deputy Director of Planning & Programming

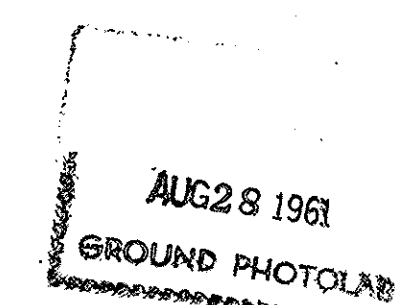
Approved W. H. Overman
Date 5-5-59 Engineer of Bridges

Approved W. H. Overman
Date 5-5-59 Engineer of Location & Design

Approved C. W. McLaughlin
Date 5-5-59 Deputy Director of Design & Construction

Approved G. A. Berry
Date 5-8-59 First Assistant Director

Approved E. S. Ruster
Date 5-9-59 Director of Highways



DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

DIVISION ENGINEER

DATE

File No.	ATB-45-17.07
Date of Letting	19__
Contract No.	

UTILITIES AFFECTED

Geneva Telephone Company; Geneva, Ohio
Cleveland Electric Illuminating Company; Ashtabula, Ohio

Field Book No. 162

TYPICAL SECTIONS TYPE T-35 ON B-19

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

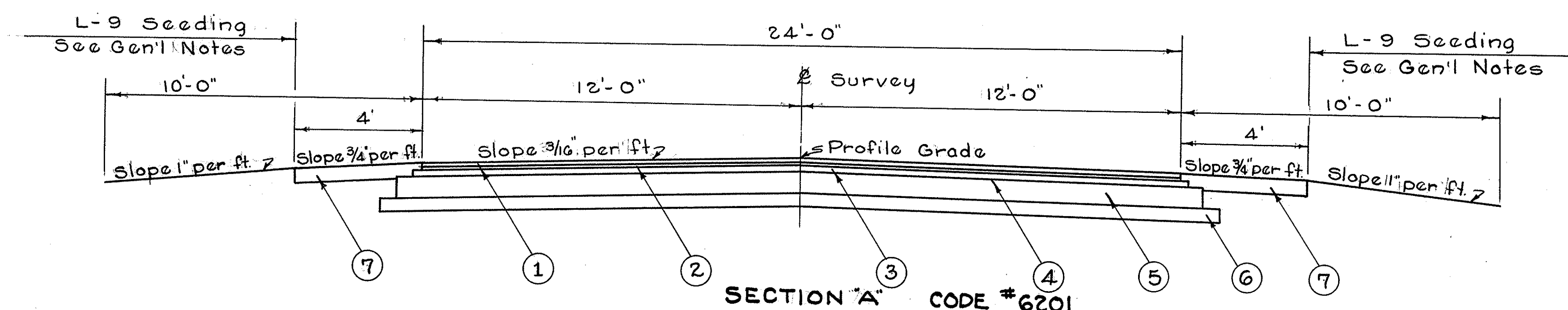
DESIGN SPEED 60 M.P.H.

NOTE: For details of berms & ditches, see Std. Dwg. RI-1

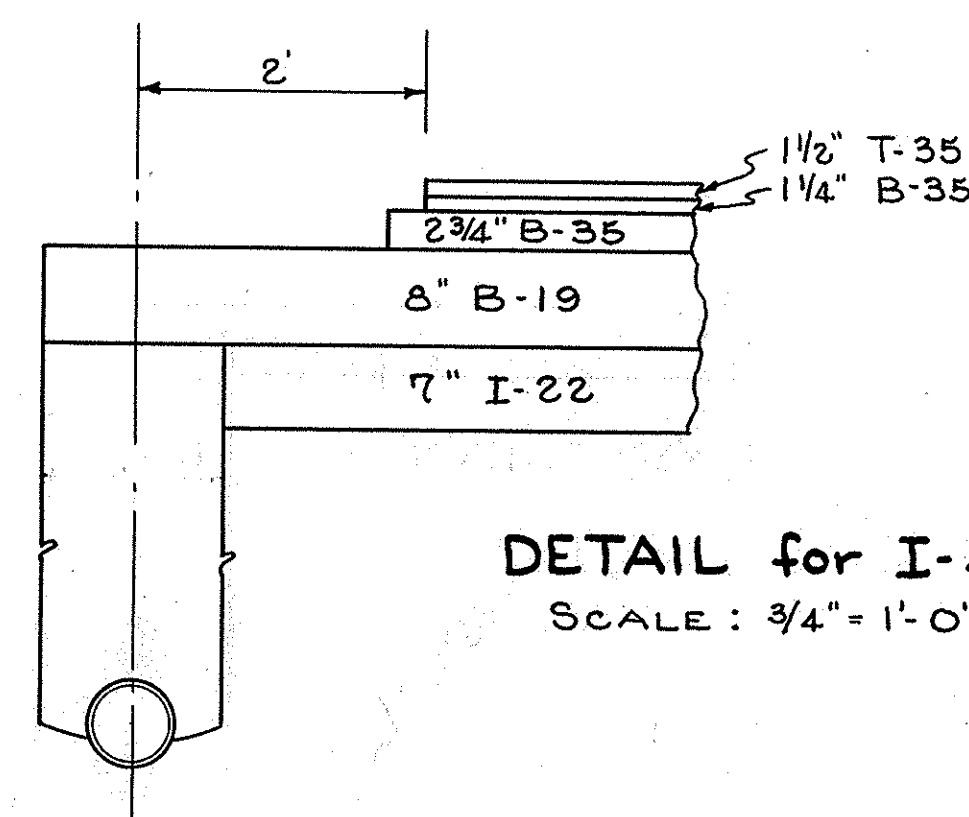
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

2
34

ATB-45-17.07



From	To	L.F.	L.F.	Description
894+00	909+76		1576	
909+76	911+12	136		Bridge & Apprs.
911+12	936+00		2488	
936+00	937+00	100		Vertical Transition
TOTALS		236	4064	

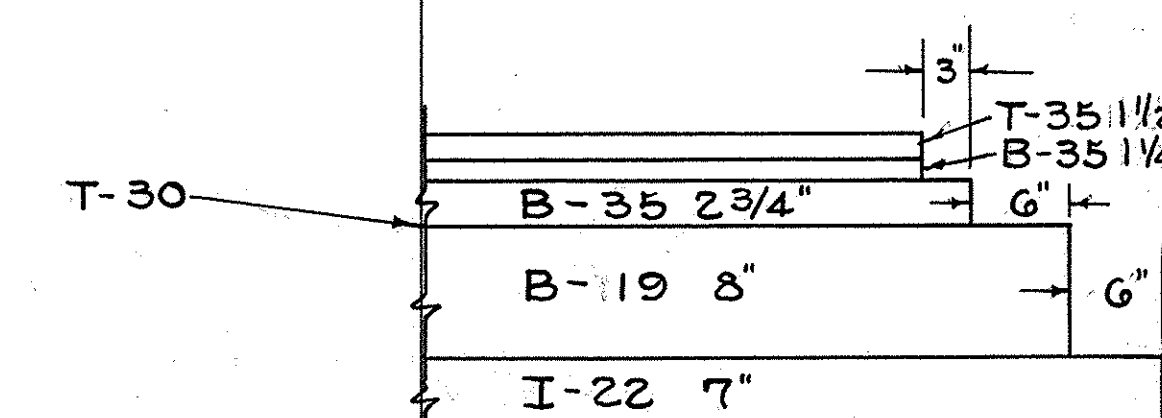


DETAIL for I-4
SCALE: $\frac{3}{4}" = 1'-0"$

* Note: Aggregate surfaced shoulders shall be stabilized by a mixture of $\frac{1}{2}$ lbs. per sq. yard of Calcium Chloride to the upper 3 inches of the compacted aggregate. The Calcium Chloride shall be thoroughly mixed with the stabilized aggregate as described in Item B-11.12 of the General Specifications. After final shaping and compaction of the shoulders the surface shall be given an additional application of Calcium Chloride at the rate of 0.6 lbs. per square yard as described in Item B-11.14 of the General Specifications. See note in Proposal.

LEGEND

- ① T-35 $\frac{1}{2}"$ Asphaltic Concrete Surface Course, Type "A" (70-85)
- ② B-35 $\frac{1}{4}"$ Asphaltic Concrete Leveling Course (70-85)
- ③ B-35 $\frac{3}{4}"$ Asphaltic Concrete Base Course (70-85)
- ④ T-30 Bituminous Prime Coat Sec. M-5.3, MC-0 or MC-1 or Sec. M-5.7, RT-2 or RT-3 at 0.35 gal. per sq. yd.
- ⑤ B-19 8" Aggregate Base Course
- ⑥ I-22 7" Subbase (Granulated Slag, Sec. M-3.13 may be used for this Item)
- * ⑦ I-18 6" Stabilized Crushed Aggregate Shoulders and Approaches



EDGE COURSE DETAIL
Scale: $1" = 1'-0"$

GENERAL NOTES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

3
34

ATB 45-17.07

FIELD OFFICE:

The contractor shall provide a suitable "field office" in accordance with Section 5-0.01 having a minimum floor area of 200 sq. ft. The contractor shall have a telephone installed and maintained during the construction of this project.

UTILITY ADJUSTMENT:

Any and all work required for Public Utilities will be done by and at the expense of their respective owners unless otherwise noted in these plans.

PROPERTY MARKERS:

All iron pins or markers within the limits of the project shall be saved and adjusted to the new grade by the Contractor as directed by the Engineer. Cost of adjusting or resetting markers shall be included in the unit price bid for E-1 Roadway Excavation.

SCALPING:

Topsoil from scalping operation shall be salvaged and placed on all areas to be seeded and sodded as per Item E-1.03(a) and E-1.05(d). Minimum thickness loose measurement shall be 2 inches.

TREE AND STUMP REMOVAL:

All trees and stumps within the construction limits which are 12" or more as measured per Sec. E-9.01 shall be removed and paid for under Item E-9 Lump Sum, if marked for removal by the Engineer. This number may vary from those marked on the plans.

SMALL DRAINS:

Where drains from downspouts, field drains, etc. are encountered and not shown on the plans, they shall be given an unobstructed outlet as directed by the Engineer. No drains carrying domestic waste shall be connected to any proposed drainage facility. Estimated Quantity included in note entitled "Additional Quantities" shown on this sheet.

REMOVAL OF EXISTING PAVEMENT:

The removal of existing pavement has been set up as follows on this plan: Rigid pavement as E-8 Removal and Disposal of Existing Pavement; Flexible pavement as E-1 Roadway Excavation as per plan.

There will be some areas where the pavement will be removed outside of the normal work area. These areas shall be plowed, harrowed and dragged to a smooth grade, the old ditches filled and the entire area left in a neat condition which will drain into new roadway ditches.

Cost of this work shall be included in above items for removal of existing pavement. Areas then shall be seeded and mulched under Item L-9

ITEM L-10 SODDING:

Areas to be sodded shall be loosened to a depth of 2 inches just prior to laying the sod. This work shall be included for payment in the price bid per Sq. Yd. of sodding.

SUBGRADE COMPACTION:

The subgrade for drives and mailbox turnouts using B-19 Aggregate Base Course material shall be compacted for a depth of six (6) inches to the density requirements shown in Table III Item E-1.

Payment for the subgrade compaction as specified above shall be included in the unit price bid for Item E-1, Roadway Excavation.

STONE UNDERDRAINS, No. 2:

In the final finishing of slopes and ditches, care shall be exercised to assure that the outlet ends of stone underdrains be left free of earth cover which would impede drainage. These areas shall not be seeded.

ITEMS L-9 SEEDING & PROTECTING, L-9 (12-12-12) COMMERCIAL FERTILIZER AND L-9 AGRICULTURAL LIMING MATERIAL:

Quantities for these items are calculated for the soil areas between lines ten feet (10') outside the work limits as shown on the cross sections or to the R/W line if such line is less than ten feet from the work limits.

REMOVAL OF EXISTING CULVERTS:

Removal of existing pipe culverts shall be paid for as Item E-12 Pipe Removed (15" and under or over 15", whichever applies) as per plan. The cost of removing any headwalls encountered shall be included in the price bid for Item E-12.

ACCESS:

Access to all properties abutting this Project shall be provided and maintained at all times by the Contractor.

ADDITIONAL QUANTITIES:

Additional quantities have been provided to be used as directed by the Engineer. They are as follows and have been carried to the Recap. on Sheet #4.

I-1	12" Drive Pipe	60	L.F.
I-4	6" Underdrains	500	L.F.
I-4	8" Pipe Outlets for Underdrains	40	L.F.
I-5	6" Pipe Specials for Underdrains	4	Each
B-19		40	C.Y.
T-30		60	Gal.
T-35		10	C.Y.
I-2	6" Class "A" Storm Sewers	200	L.F.

TRAFFIC:

The period of use of the detour shown on Sheet No. 1 shall not exceed 120 consecutive calendar days. Two-way traffic shall be maintained at all times the detour is not in effect except that one-way traffic will be permitted consistent with the requirements of Sections T-35.23 and B-35.25.

The existing bridge is to be used to maintain local traffic for as long as it does not seriously interfere with the performance of the contract. Then the bridge shall be removed by the contractor.

The following quantities are provided to maintain local traffic:

T-10 - Traffic Compacted Surface Course for maintaining traffic	
To General Summary	1500 C.Y.
M-10 - Calcium Chloride furnished and applied for maintaining traffic	
To Calculations	30 Tons

SEED MIXTURE:

The seed mixture for this project shall be as follows:

65%	Kentucky 31 Fescue or Alta Fescue
25%	Kentucky Bluegrass
5%	Red Top
5%	Alsike Clover

BERMS AND SLOPES:

Berms, slopes and rounding shall be finished in accordance with Standard Drawing RI-1 except where otherwise shown on the cross sections. All slopes in transitions from cut to fill shall be made in a manner to blend with the surrounding terrain as directed by the Engineer.

The grading tolerance as noted in Section E-1.10 of the Specifications shall be modified as follows. The finished graded and seeded section in the areas of lawns or residences shall not deviate more than one inch vertically below the grade and lines as shown on these plans. These areas are to be in smooth contour and free from sticks, stones and other debris. Care shall be exercised, as directed by the Engineer, to assure that proper surface drainage is obtained in the areas involved as well as adjacent to or across any driveways that may be located in the areas. Payment for any additional tools, labor including handraking if necessary, incidentals and operations necessary to accomplish this shall be included in the price bid for Item E-1 "Roadway Excavation".

CROSS SECTIONS:

The depth of trench for the pavement as shown on the cross sections is not deep enough and does not correspond with the typical section. Calculations have been made on Sheet #5 to adjust the earthwork to cover this difference.

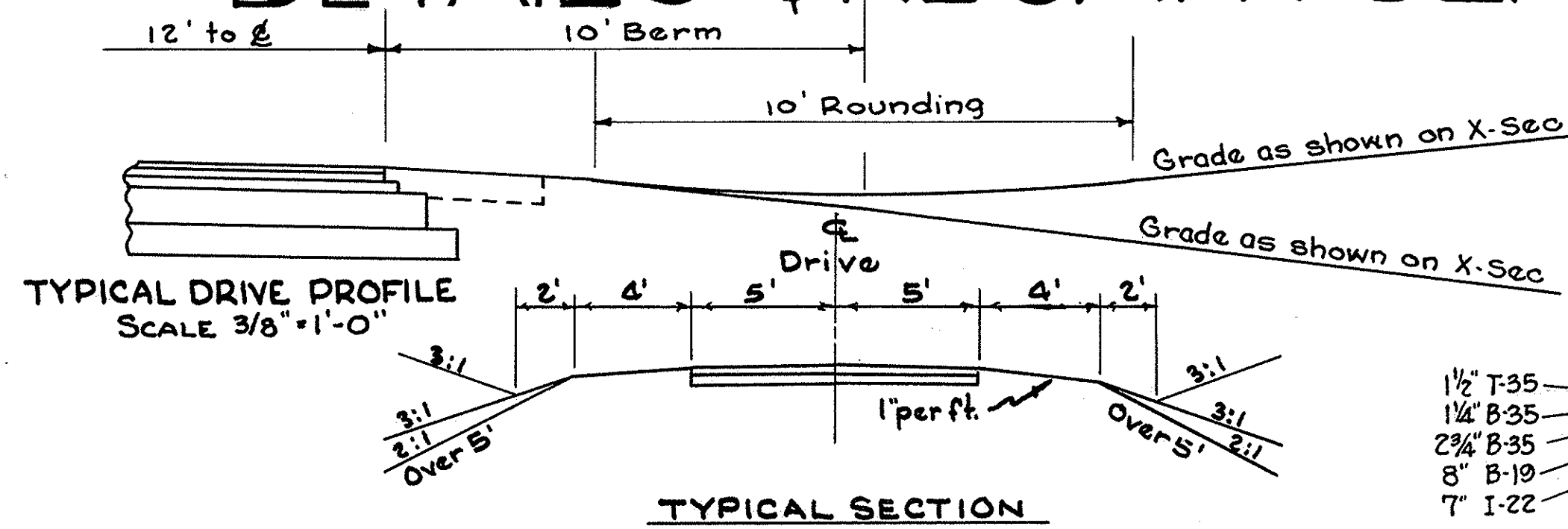
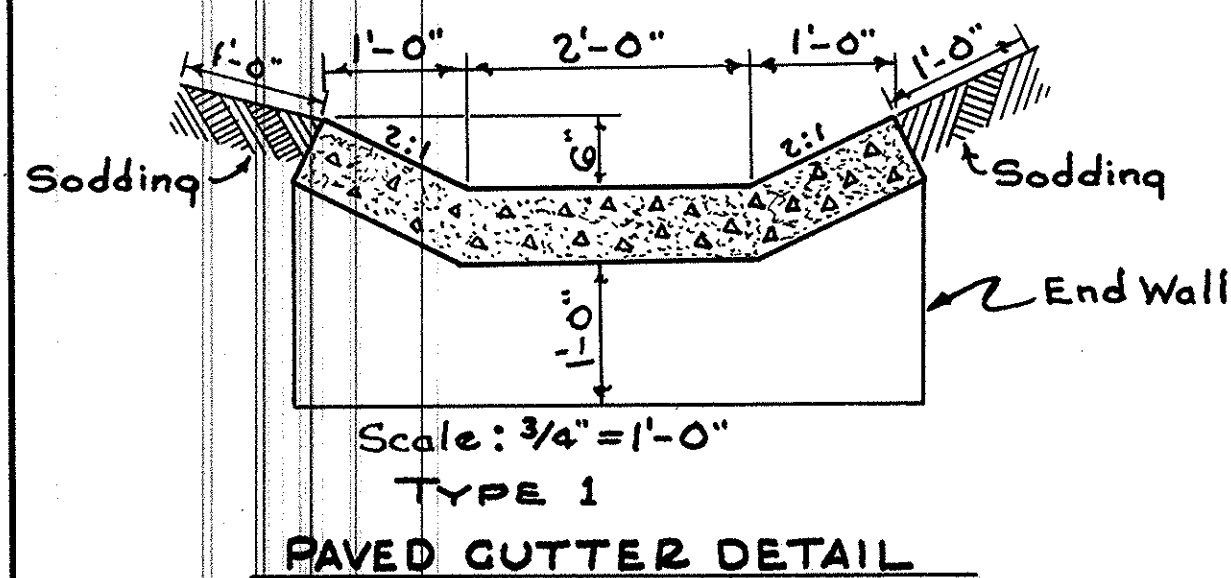
ESTIMATED QUANTITIES:

Specific locations and usage of estimated quantities set up on this plan to be used "as directed by the Engineer" shall be made a matter of record by incorporation into the final change order governing completion of this project.

4360
571.5
1348

DETAILS & RECAPITULATIONS

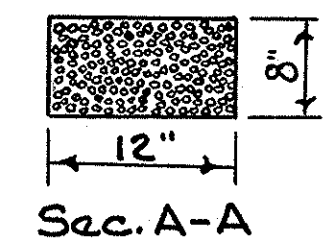
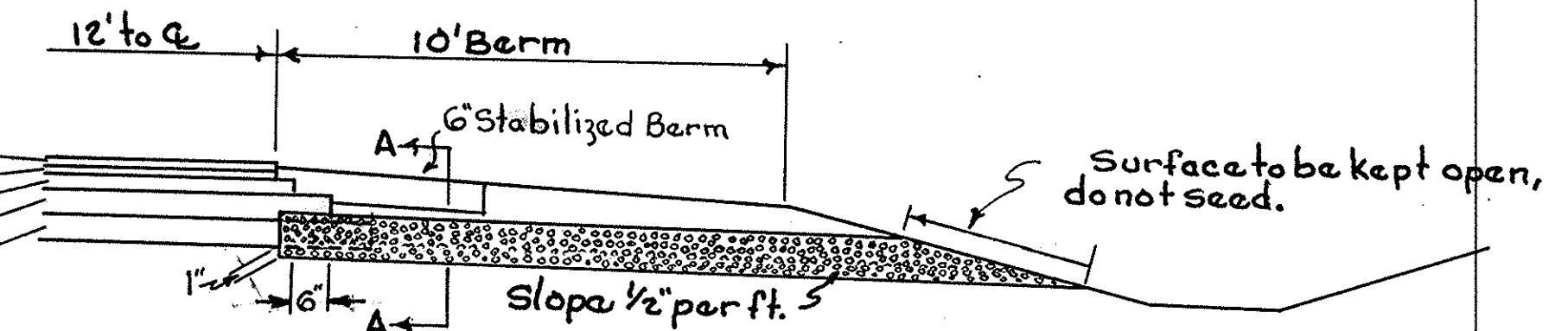
ATB-45-17.07



NOTE:
Residential Drives shall be constructed of 5" B-19 Base T-30 Prime & 2" T-35 Surface Course with crown of 3/16" per ft. slope.
Field Drives shall be constructed of 6" B-19 with crown of 3/8" per ft. slope.
Business Drives shall be constructed of 7" B-19 Base T-30 Prime & 2" T-35 Surface Course with crown of 3/16" per ft. slope.

DRIVEWAY DETAIL

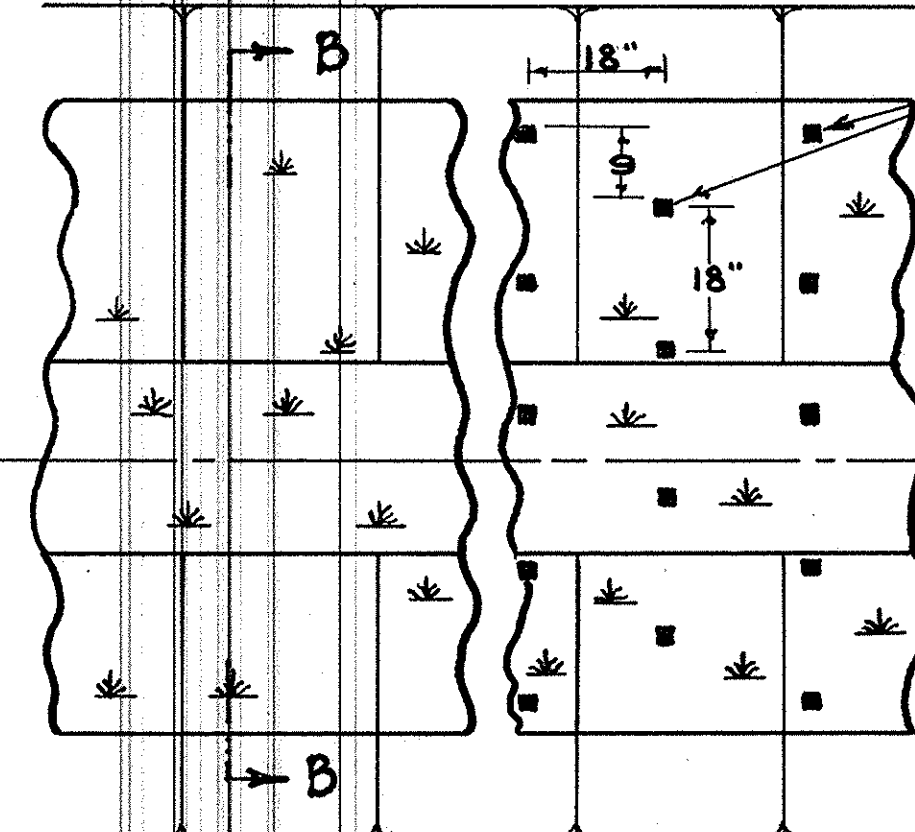
Notes on participation in driveway construction:
1. Federal participation in Items T-30 and T-35 used on proposed drive construction where the existing drive is not of a high type shall be limited to those portions of these items used within the proposed R/W line.
2. Estimated quantities of these items not Federal participating have been separated out and are shown in the General Summary as 100% State participation.



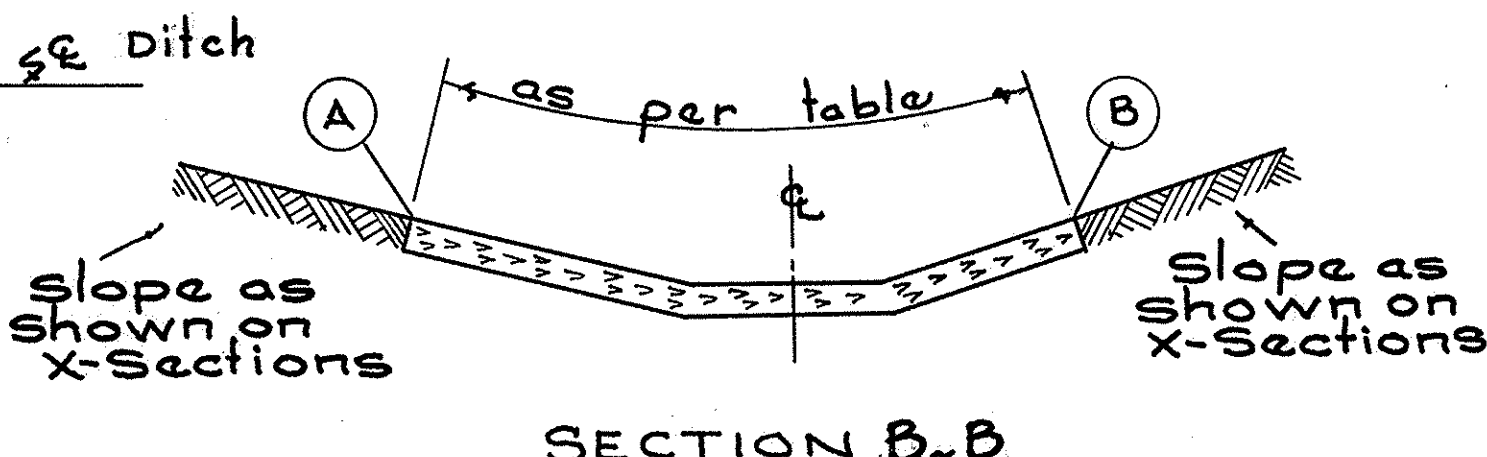
ESTIMATED QUANTITIES

I-9 Stone Underdrains 2000 L.F. to General Summary Est. @ 50' Intervals where I-4 Underdrains have not been provided.

TYPE 1 SODDING



Stakes are to be staggered and placed on 18" ctrs. and in rows 18" apart. They shall be of the size described Under Item L-10.07 of the Construction & Material Specifications.



NOTE: Points A & B as shown in Section B-B shall be the same elevation. Type 2 Sodding is used in areas of high velocity, as called for on plan & profile sheets.

DRAINAGE

SHEET NO.	E-2 Exc. For Struct.	E-3 Chan'l Exc.	S-1 Conc. For Struct. Class E	S-24 Rem'l Exist. Struct.	S-27 15" M-6.4(d)	S-27 36"	S-27 42"	I-1 12" M-6.4(a)	I-3 With Poreous Backfill 12" U.A.	I-3 With Poreous Backfill 15" U.A.	I-3 With Poreous Backfill 18" U.A.	I-4 6" Pipe Underdrains	I-4 8" Pipe Outlet	I-2 6" Class A Storm Sewers	I-5 for I-4 6" 45° Bend	I-8 Catch Basin Each	I-10 Dump Rock	I-14 Raved Gutter Type 1	SHEET NO.
	C.Y.	C.Y.	C.Y.	Lump	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	Ea.	22A 22B	C.Y.	L.F.	
3								60											3
8			0.2					34											8
9												360	10		1		6	107	9
10								64			105	30					6		10
11									65	195	30					1	17		11
29	215	4	3.5	Lump	92	118	150									1			29
30		123																	
To Calc.																			
To Sum	215	127	3.7	Lump	92	118	150	158	65	195	30	105	30	860	50	200	5	11	107

EARTHWORK				ROADWAY										PAVEMENT										SHEET NO.
SHEET NO.	E-1 EXC.	E-1 EMB.	L-9 Seeding	I-8 Mon. Adjust to Grade	I-15 I-15.13 Deep Beam	G.R. Rem'l	G.R. Remove & Store	E-8 Rem. Exist. Pav't	E-12 Pipe Rem. 15" & Under	E-12 Pipe Removed Over 15"	E-12 Comp'd Sub-Grade	L-10 SODDING 7' Wide Type 1	L-10 SODDING 7' Wide Type 2	L-10 SODDING 9' Wide Type 1	L-10 SODDING For I-14 1' Wide Type 1	T-30 Prime Coat	T-35 1 1/2" Asph. Conc.	T-35 2" Asph. Conc. Surf.	B-35 Asphaltic Conc. 1 1/4" Level	B-19 Crushed Aggregate 5"	B-19 Crushed Aggregate 6"	B-19 Crushed Aggregate 8"	I-7 Reinf. Conc. Appr. Slab T=13"	
	C.Y.	C.Y.	S.Y.	E.A.	L.F.	L.F.	L.F.	S.Y.	L.F.	L.F.	S.Y.	S.Y.	S.Y.	S.Y.	S.Y.	Gal.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	S.Y.	
3																60	10			25	15			
8	4735	255	5,573		162.5	145		890	50			58				38	1.2	6.1	1.0	15.1	27.3			
9	14,752	10,836	12,709		328.0	692	26	1065		200	134	131		125	24								134	
10	10,468	2,818	10,586		200.0			1222	192	105		210	90	250		172		27.3		68.1	48.7			
11	1,454	17,336	10,054	1	825				245			351				61	1.2	9.6	1.0	23.9				
27											1050					368		58.5				242		
29									64															
To Calc.	31,409	31,245	38,922								1184		1239			699	113.9		2.0		476.8			To Calc.
To Sum				4	1515.5	837	26	3177	551	305		750	90	375	24								134	To Sum

CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

ATB-45-17.07

5
34

T-35 Asphaltic Concrete Surface Course Type "A" 70-85

1/2" T-35
FROM: TYPICAL SECTION A 4064 L.F.
TYPICAL SECTION A 100 L.F. Vertical Transition Sta. 936+00 to 937+00
4164 L.F. x 24 ÷ 9 = 11,104.0 S.Y. x 1.5 ÷ 36 = 462.67 C.Y.
Recap: 1/2" & 2" T-35 113.9 C.Y.
Total T-35 to General Summary 577 C.Y.

B-35 Asphaltic Concrete Leveling Course 70-85

1/4" B-35 (Leveling)
FROM: T-35 Calculation above 4164 L.F.
4164 L.F. x 24 ÷ 9 = 11,104.0 S.Y. x 1.25 ÷ 36 = 385.56 C.Y.
Recap: 2.0 C.Y.
Total B-35 (Leveling) to General Summary 388 C.Y.

B-35 Asphaltic Concrete Base Course 70-85

2 3/4" B-35
FROM: T-35 Calculation above 4164 L.F.
4164 L.F. x 24.5 ÷ 9 = 11,335.33 S.Y. x 2.75 ÷ 36 = 865.89 C.Y.
Total B-35 (Base) to General Summary 866 C.Y.

T-30 Bituminous Prime Coat

T-30 at 0.35 Gal./s.y.
FROM: T-35 Calculation above 4164 L.F.
4164 L.F. x 24.5 ÷ 9 = 11,335.33 S.Y. x 0.35 Gal./s.y. = 3967.4 Gal.
Recap: 699 Gal.
Total T-30 to General Summary 4666 Gal.

B-19 Aggregate Base Course

FROM: TYPICAL SECTION A 4064 L.F.
4064 L.F. x 25.5 ÷ 9 = 11,514.67 S.Y. x 8 ÷ 36 = 2,558.82 C.Y.
TYPICAL SECTION "A" 100 L.F. Vertical Transition Sta. 936+00 to 937+00 38 C.Y.
Recap: 476.8 C.Y.
Total B-19 to General Summary 3,074 C.Y.

I-22 SUBBASE:

7" I-22
FROM: TYPICAL SECTION A 4064 L.F.
4064 L.F. x 26.5 ÷ 9 = 11,966.22 S.Y. x 7" ÷ 36 = 2326.77 C.Y.
TYPICAL SECTION A 100 L.F. Vertical Transition —
Sta. 936+00 to Sta. 937+00 (Est.) 11 C.Y.
Total I-22 to General Summary 2338 C.Y.

I-18 Stabilized Crushed Aggregate Shoulders

6" I-18
FROM: TYPICAL SECTION A 4064 L.F.
TYPICAL SECTION A 100 L.F. Vertical Transition
4164 L.F. x 2 = 8328 L.F.
Deduct for Drives & Intersections: 830 L.F.
7498 L.F. x 4 ÷ 9 = 3332.44 S.Y.
3332.44 S.Y. x 6 ÷ 36 = 555 C.Y.
Total I-18 to General Summary 555 C.Y.

E-1 Compacted Subgrade

FROM: TYPICAL SECTION A 4064 L.F.
4064 L.F. x 24 ÷ 9 = 10837.33 S.Y.
Recap: 1184 S.Y.
Total E-1 Compacted Subgrade to Gen'l Summary 12021 S.Y.

E-II WATER

Embankment 30200 C.Y. x 5 Gal./C.Y. ÷ 1000 = 150.60 M. Gal.
B-19 3074 C.Y.
I-22 2338 C.Y.
5412 C.Y. x 10 Gal./C.Y. ÷ 1000 = 54.12 M. Gal.
I-18 555 C.Y. x 20 Gal./C.Y. ÷ 1000 = 11.10 M. Gal.
Total E-II to General Summary 215.82 M. Gal. use 216 M. Gal.

ITEM Special Mixing Calcium Chloride & Stabilized Crushed Aggregate Shoulders=

Total I-18 (From Calculations above) to Gen'l Summary 3332 S.Y.

ITEM M-10 CALCIUM CHLORIDE

Total I-18 Area from Calculations above = 3332.44 S.Y.
3332.44 S.Y. x 2.1 lbs./sy. ÷ 2000 lbs. = 3.50 Tons
From General Notes Sheet N° 3 30.00 Tons
Total M-10 to General Summary 33.50 Tons

L-9 SEEDING

From Recap 38,922 S.Y.
Deduct sodding from Recap: 1,239 S.Y.
Deduct paved gutter from Recap: 51 S.Y.
Total L-9 Seeding to General Summary 37,632 S.Y.

L-9 COMMERCIAL FERTILIZER (12-12-12)

Fertilizer at 20 lbs per 1000 S.F.
L-9 & L-10 (37,632 + 1239) x 9 = 349,839 S.F.
(349,839) x 20 ÷ 1000 ÷ 2000 = 3.50 Tons
Total Fertilizer to General Summary 3.50 Tons

L-9 AGRICULTURAL LIMING MATERIAL

Lime at 100 lbs per 1000 S.F.
L-9 & L-10 = 349,839 S.F.
349,839 x 100 ÷ 1000 ÷ 2000 = 17.49 Tons
Total L-9 Liming Material to General Summary 17.49 Tons

E-1 EARTHWORK

Embankment from below 30,200 C.Y.
30,200 x 1.30 = 39,260 C.Y.
Less Excavation from below 32,592 C.Y.
Less E-2 from Sheet #4 215 C.Y.
Less E-3 from Sheet #4 127 C.Y.
Less E-3 for Channel at Bridge from Sheet N° 30 443 C.Y.
Total E-4 Borrow to General Summary 5883 C.Y.

EARTHWORK CORRECTIONS

E-1 from Sheet N° 4 31,409 C.Y. + 1183 C.Y. = 32,592 C.Y.
Embankment from Sheet N° 4 31,245 C.Y. - 1045 C.Y. = 30,200 C.Y.

* See Note on Sheet N° 3 "Cross Sections"

CALCULATIONS

GENERAL SUMMARY

[illegible]

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

ATB-45-17.07



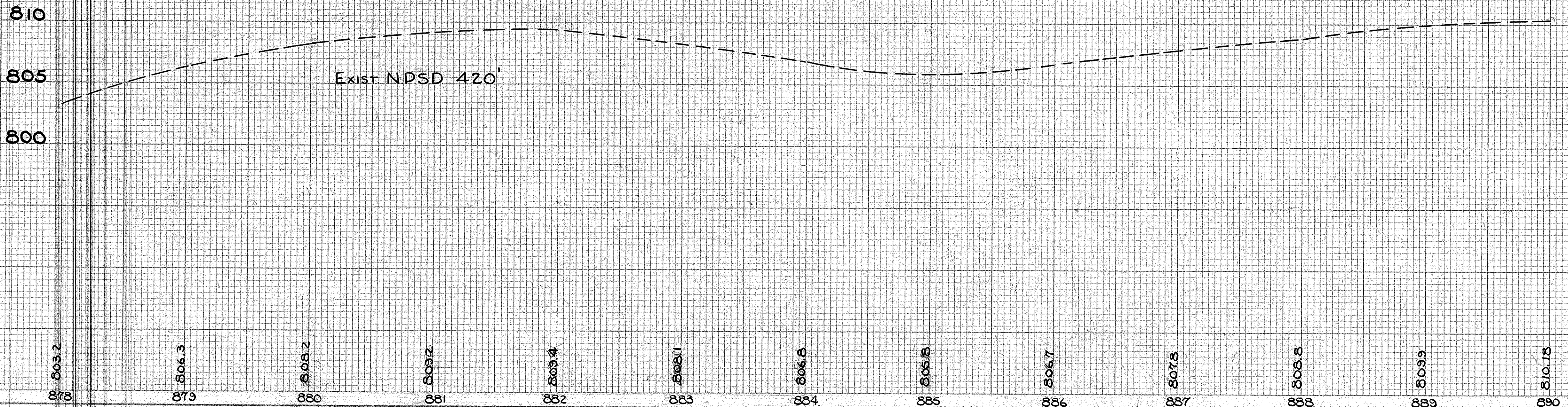
STA. 878+00

BEGIN SHEET

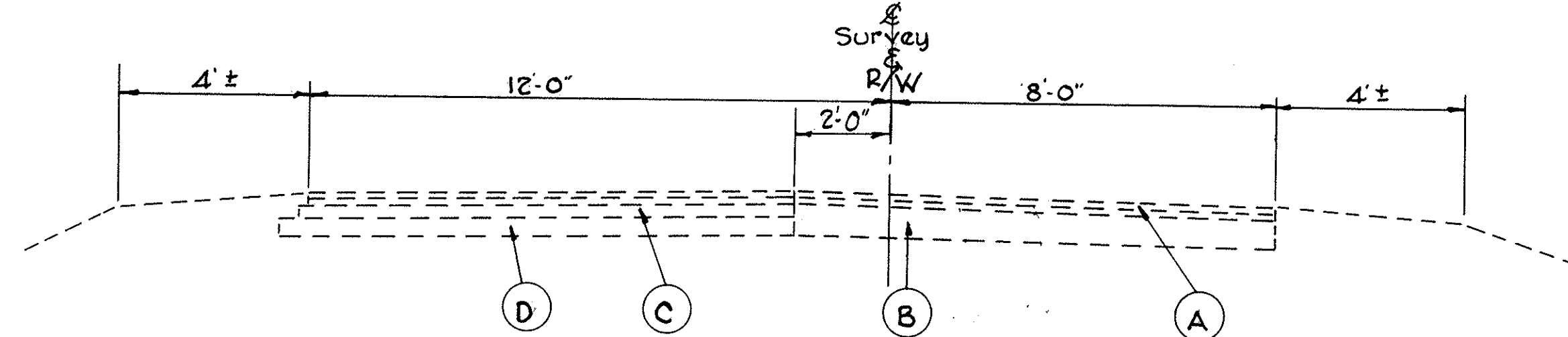
STA. 890+00

END SHEET

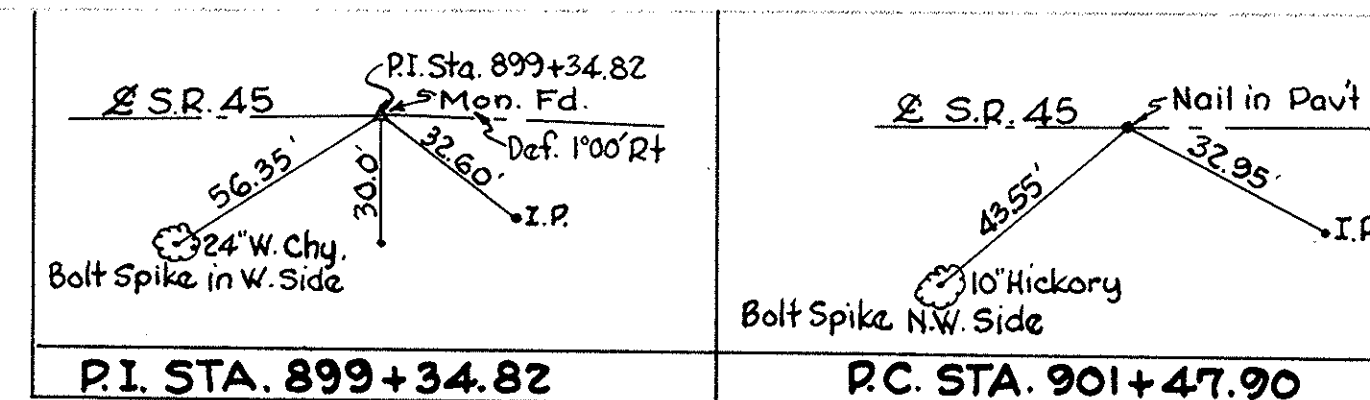
879 880 881 882 883 884 885 N-1° 00'-W 886 887 888 889



TYPICAL SECTION - ADJOINING PAVT.



- A - 2 1/2" Asphaltic Concrete Pavement
- B - 8" Reinforced Concrete Pavement
- C - 3" Leveling Course
- D - 5" Granulated Slag Base Course



ATB-45-17.07

DRIVES						
Station	Type	Side	B-19 5" C.Y.	T-35 2" 12" L.F.	E-12 Pipe Rem. 15' Under L.F.	T-30 Gal
895+90	Fld	Lt.	12.9		34	
897+39	Comb	Rt.	15.1	6.1		
900+65	Fld	Lt.	14.4		16	38
TOTAL			15.1	27.3	50	38

GUARD RAIL				
Station	Side	I-15.13 Deep Beam L.F.	G.R. Rem'l L.F.	
From To				
898+69 900+14	Lt.		145	
898+75 900+37.5		162.5		
TOTAL		162.5	145	

E-8 REMOVAL			
Station	Side	Pav't Rem'l S.Y.	
From To			
894+00 902+00		890	
TOTAL		890	

SODDING			
Station	Side	L-10 Type 1 S.Y.	
From To			
898+00 898+75		58	
TOTAL		58	

FEATHERING			
STATION	FROM	TO	
	893+75	894+00	
			1.2 1.0
TOTAL			1.2 1.0

BEGIN SHEET

END SHEET

STA 890+00

STA 902+00

BEGIN WORK
STA. 893+50

BEGIN PROJECT
STA. 894+00
S.L.M. = 17.07

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

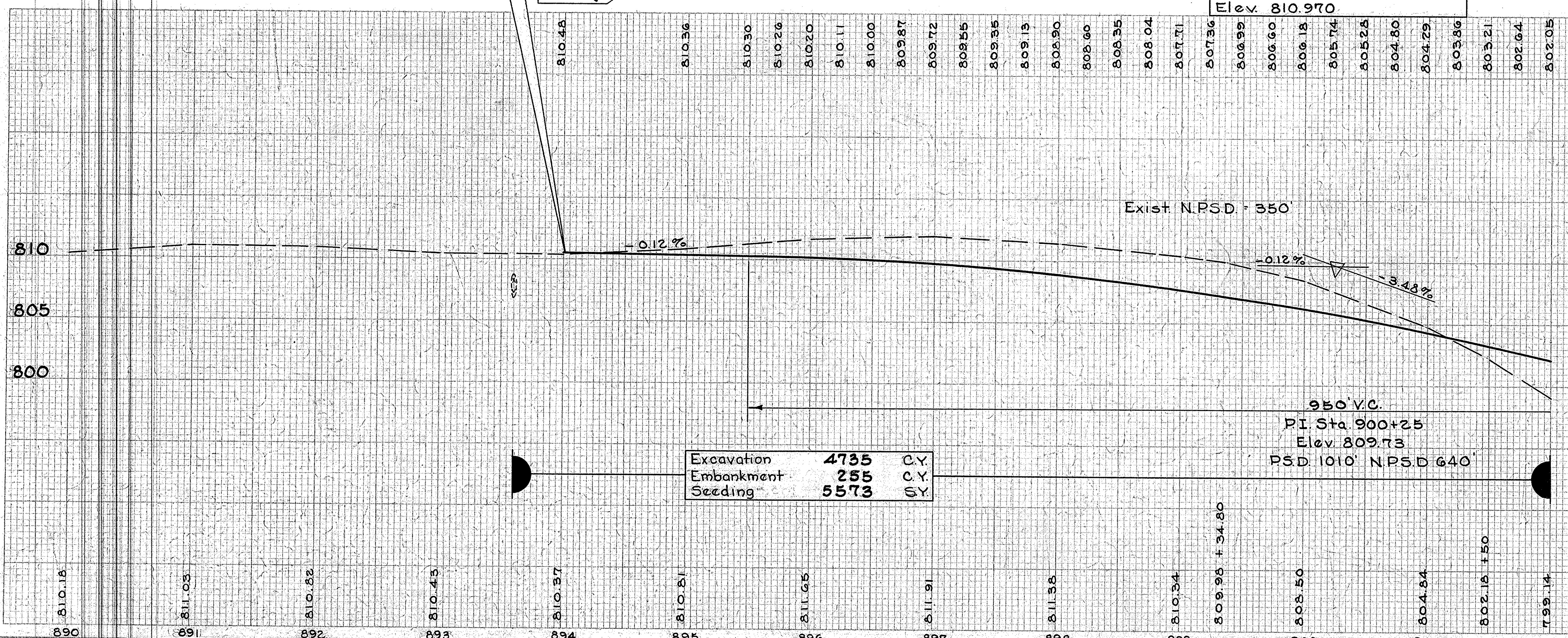
Abandon Culvert. Remove Headwalls
Cost of removing headwalls to be included in unit price bid for E-1. Plug ends of remaining pipe.

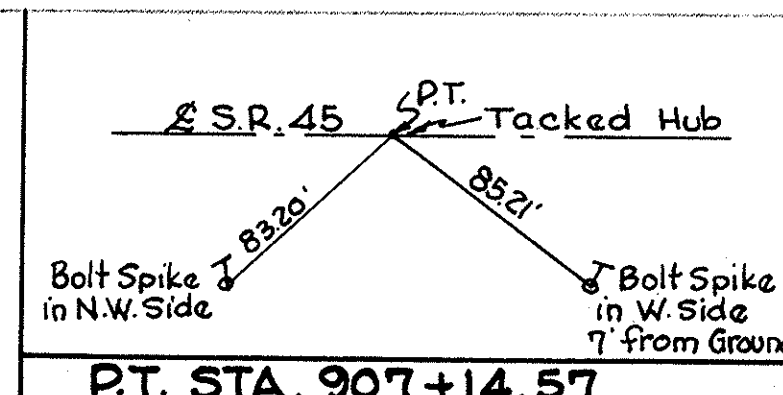
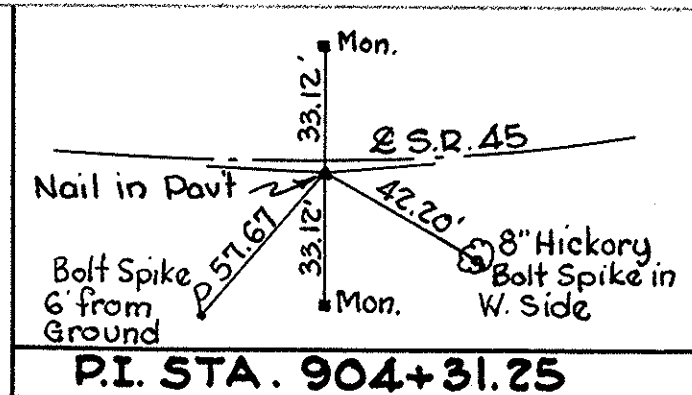
Est. Quant. S-1 0.2 C.Y. carried to Recap Sheet #4

CURVE DATA
P.I. Sta. 899+34.82
Δ = 1° 00' R.
D = 0° 16'
R = 21,440.92
T = 187.50
E = 0.82
L = 375.00

B.M. #1 Top of R/W Marker
33' Rt. of Sta. 899+34.82
Elev. 810.970

S-470(5)





PROPOSED STRUCTURE
 TYPE: Continuous reinforced concrete slab with capped pile substructure.
 SPANS: 26'-32.5'-26' 1/2 brgs.
 ROADWAY: 44'-0" 1/4 of Guard Rails.
 LOAD FREQUENCY: CF=400 (57)
 SKEW: None
 WEARING SURFACE: 1" Mono. conc.
 APPROACH SLABS: As-1-54 (25' Long)
 ALIGNMENT: Tangent.

STRUCTURES 20' SPAN & UNDER				
Mark	Station	Type	Size	Detail Sheet No.
C-1	904+10	Standard Pipe Culvert	48"x150"	29

DRIVES				
Station	Type	Side	B-19	T-35 I-1
905+50	F'd	Lt	11.7	
TOTAL			11.7	

GUARD RAIL				
Station	Side	I-15.3 Deep Beam L.F.	G.R. Rem'l L.F.	G.E. Store L.F.
903+26	Rt		113	
903+65	Lt		111	
907+50	Rt		270	
909+077	Lt	337.5		
909+660	Rt	162.5		
910+12	Rt		12	
910+64	Rt		14	
910+66	Rt		198	
DEDUCT FOR BRIDGE			172	
TOTAL			328.0	2.6

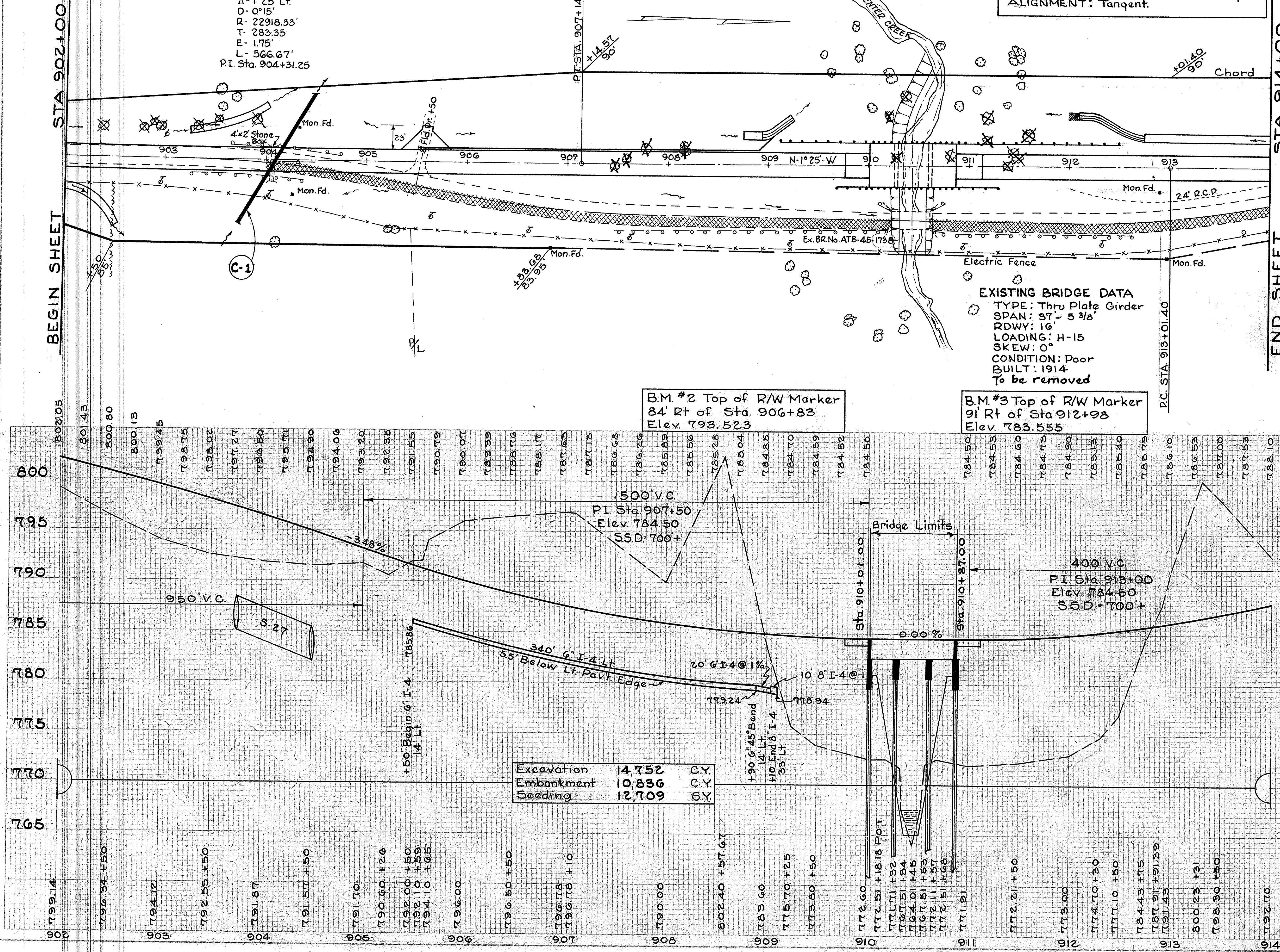
E-8 REMOVAL		
Station	Pav't Rem'l S.Y.	
904+00	910+20	695
910+60	914+00	370
TOTAL		1065

APPROACH SLABS			
STATION	FROM	TO	E-1 Reinf. Conc. Appr. Slab S.Y.
	909+76	910+01.0	67
	910+87	911+12	67
TOTAL			134

PIPE UNDERDRAINS				
Station	Side	I-4 6" L.F.	I-5 for I-4 8" 6.45" Outlet Bend L.F.	I-4 6" 45" Ea
905+50	Lt	360	10	1
TOTAL		360	10	1

SODDING & PAVED GUTTER						
STATION	FROM	TO	SIDE	L-10 7' Wide Typel S.Y.	I-14 9' Wide Typel S.Y.	I-10 for I-14 1' Wide Typel S.Y.
	902+00	902+50	Lt	50		
	903+25	904+00	Rt	65		
	908+75	908+95	Lt	16		
	908+95	909+25	Lt		37	8
	912+00	912+10	Lt			6
	912+10	912+75	Lt		70	16
	912+75	914+00	Lt	125		
TOTAL				131	125	24

DRAINAGE			
Station	Side	E-12 Pipe Rem'l Over 15' L.F.	
912+00	Rt	200	
TOTAL		200	



Excavation	14,752	C.Y.
Embankment	10,836	C.Y.
Seeding	12,709	S.Y.

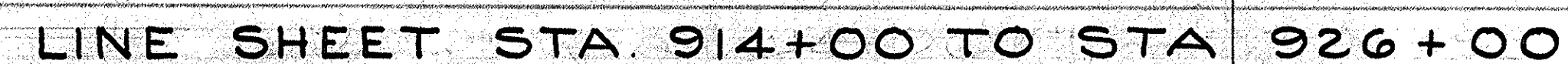
/ES

* Note: Stationing on Lampson Road. * Note: Not included in Totals

E - 8 REMOVAL		
Station		Pav't Rem'l
From	To	S.Y.
914+00	925+00	1222
TOTAL		1222

DRAINAGE						
Station		Side	1-3 w/ 5 Porous Backfill		12 Pipe Rem.	
			18" L.F.	18" U.A. L.F.	15" Under L.F.	Over 15" L.F.
From	To					
914+00	915+05	Rt				105
917+75	919+10	Lt	105	30	24	
923+36	925+04	Lt			168	
TOTAL			105	30	192	105

GUARD RAIL			
Station		Side	E-15.13 Deep Beam L.F.
From	To		
915+25	917+25	Rt	200
Total			200



ATB-45 - 17.07

STRUCTURES 20' SPAN & UNDER				
Mark	Station	Type	Size	Detail Sheet No.
C-4	929+10	Standard Pipe Culvert	36"x116'	29

DRIVES				
Station	Type	Side	B-19	
			5"	6"
			C.Y.	C.Y.
			C.Y.	Gal.
932+55	Res	Rt.	13.0	52
935+76	Comb	Rt.	10.9	4.4
TOTAL			23.9	9.6

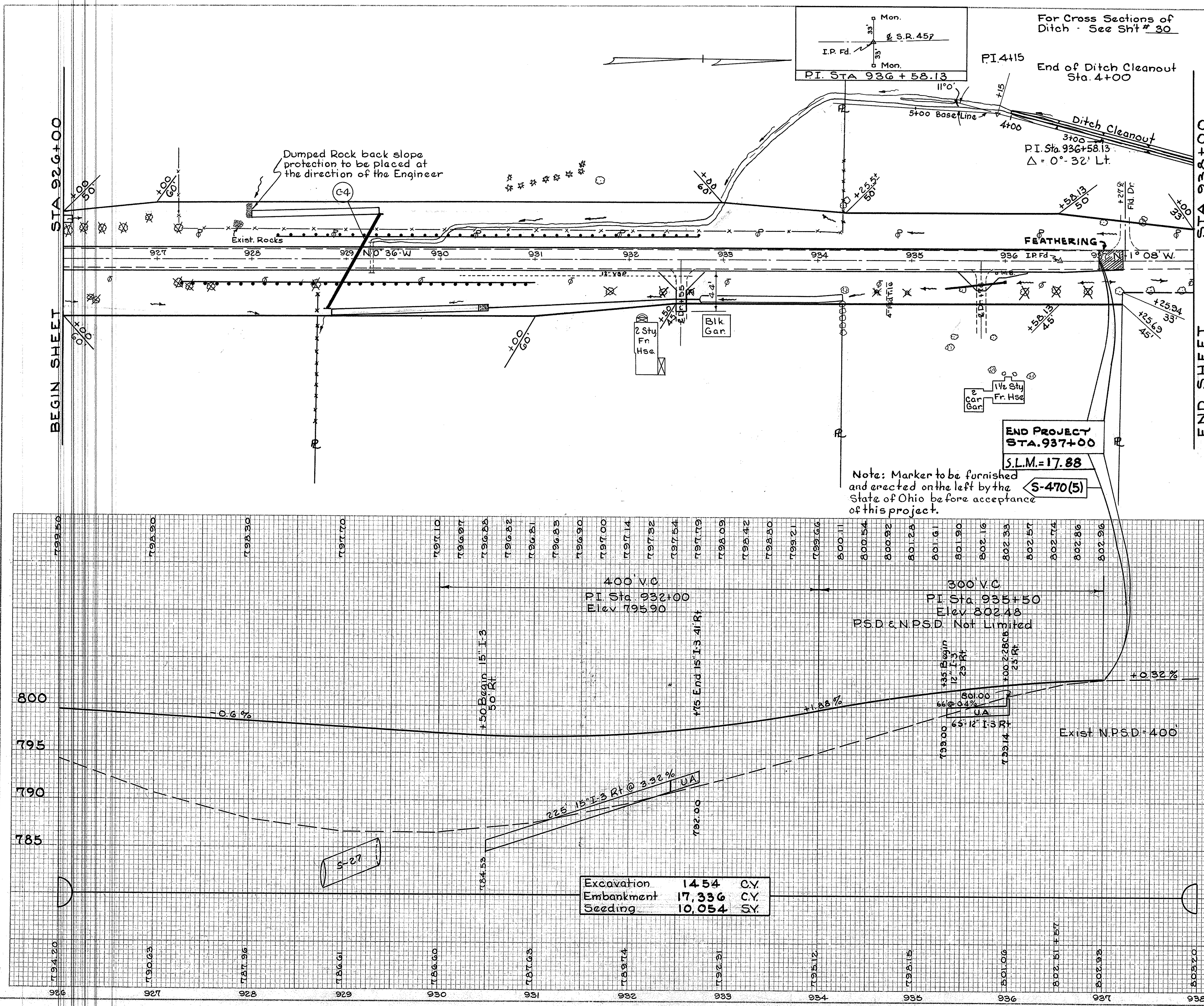
GUARD RAIL			
Station		Side	I-15
			L.F.
From	To		
927+25	931+00	Rt.	375
928+25	932+75	Lt.	450
TOTAL			825

MONUMENTS			
Station	Side	I-8 Mon. Adj. to Grade	
936+58.13	PI	1	
TOTAL			1

FEATHERING			
STATION		T-35 B-35	
		1 1/2"	1 1/4"
		C.Y.	C.Y.
From	To		
937+00	937+25	1.2	1.0
TOTAL		1.2	1.0

SODDING				
Station		Side	L-10	I-10
			Wide Type S.Y.	Dump Rock C.Y.
From	To			
926+00	926+10		8	
928+85	930+40	Rt.	121	
932+75	934+25	Rt.	117	
930+40	930+50	Rt.		7
928+00	929+35	Lt.	105	10
TOTAL			351	17

DRAINAGE						
Station		Side	12" U.A.	15" U.A.	15" U.A. Rem 15" U.A.	I-8 C.B.
			L.F.	L.F.	L.F.	Ea.
From	To					
930+20	932+65	Rt.				
930+50	932+75	Rt.		195	30	
935+35	936+00	Rt.	65			1
TOTAL			65	195	30	245



NOTE: Typical Section of Adjoining Pavement
same as Typical Section Adjoining Pavement
on Sheet # 8 of this Plan.

FED. DIVISION	STATE	PROJECT
2	OHIO	

12
34

ATB - 45 - 17.07

STA 938+00

BEGIN SHEET

STA 950+00

END SHEET

PI 0+56

END WORK
STA. 939+50

1 1/2 Sty
Fr. Hse

1 1/2 Sty
Fr. Hse

N-1°08'-W

EXIST. N.P.S.D. = 550

810

805

800

803.20

803.52

803.84

804.05

805.42

806.42

808.03

809.19 #40

809.58

809.94

810.17

810.50

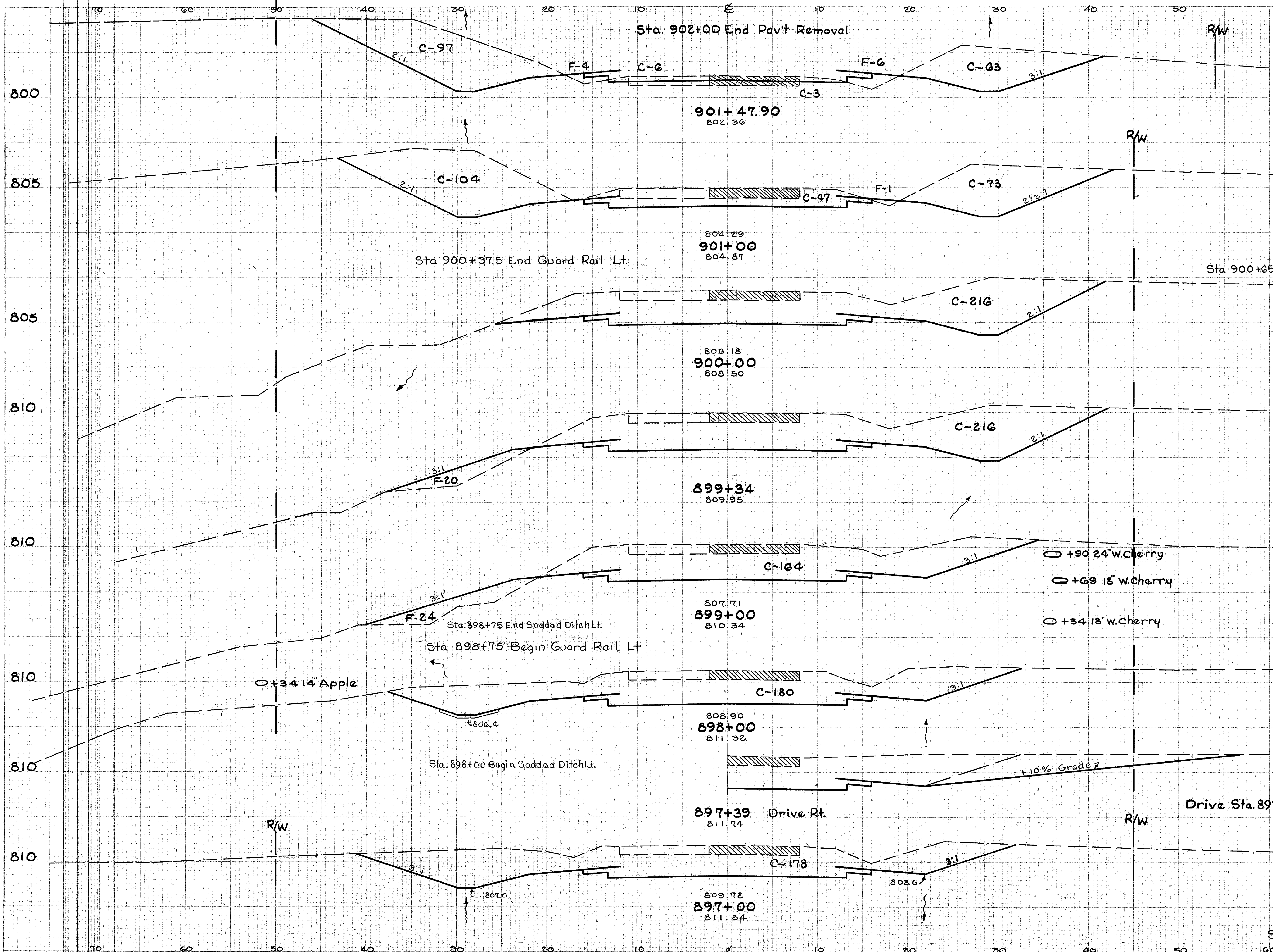
943

949

950

LINE SHEET STA 938+00 TO STA 950+00

ATB-45-17.07



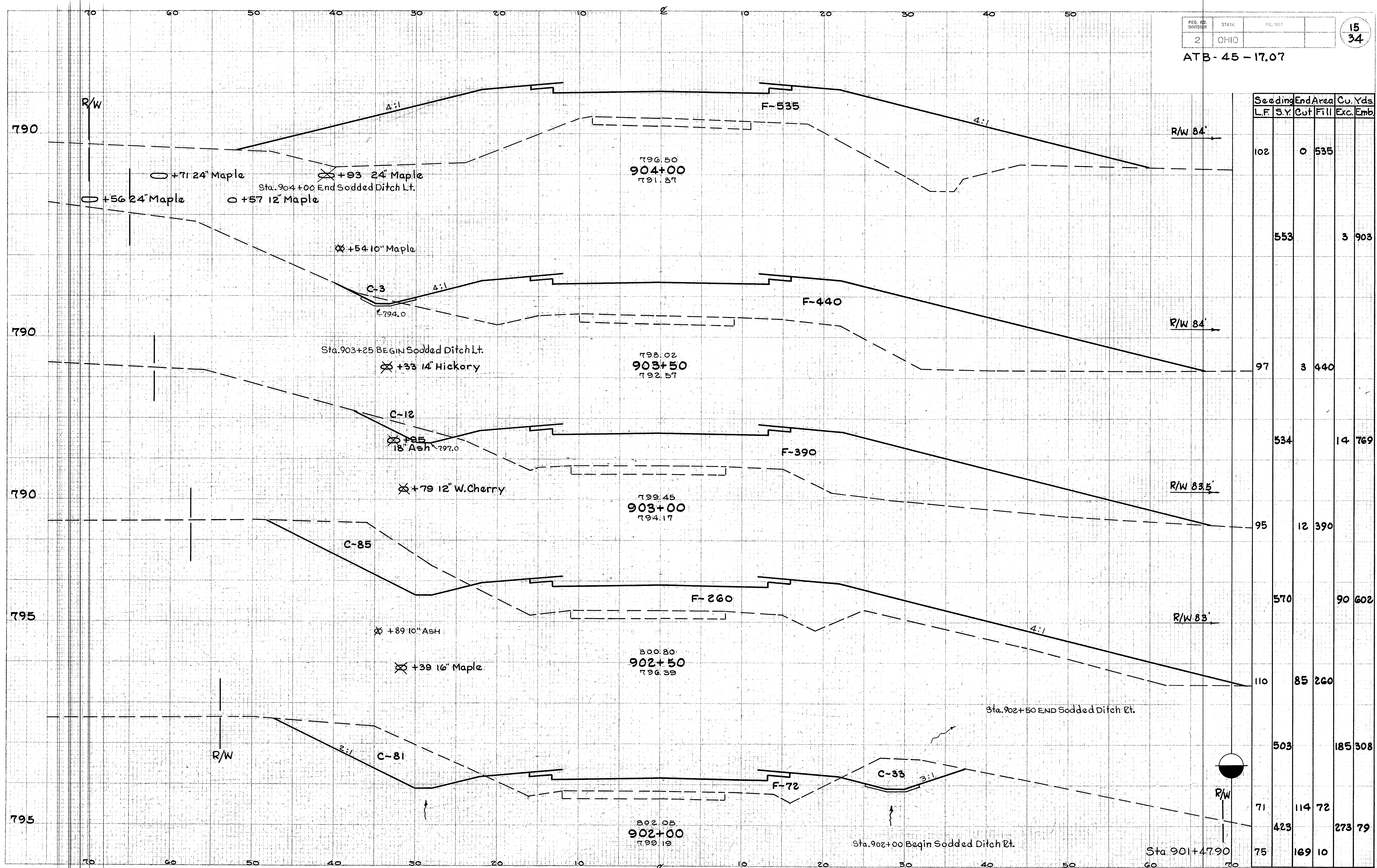
Seeding	End Area	Cu. Yds.	
		Exc.	Emb.
L.F.	S.Y.	Cut	Fill
75	169	10	
	375		349
66	224	1	
	644		815
			(15) (3)
50	216	0	
	403		523
60	216	20	
	236		239
65	164	24	
	694		637
60	180	0	
	678		663
			(42) (0)
62	178	0	
	678		561
60	125	0	

Excavation
Embankment
Seeding

+62 30" Maple
+66 14" Apple

CROSS SECTIONS STA. 897+00 TO STA. 901+47.90

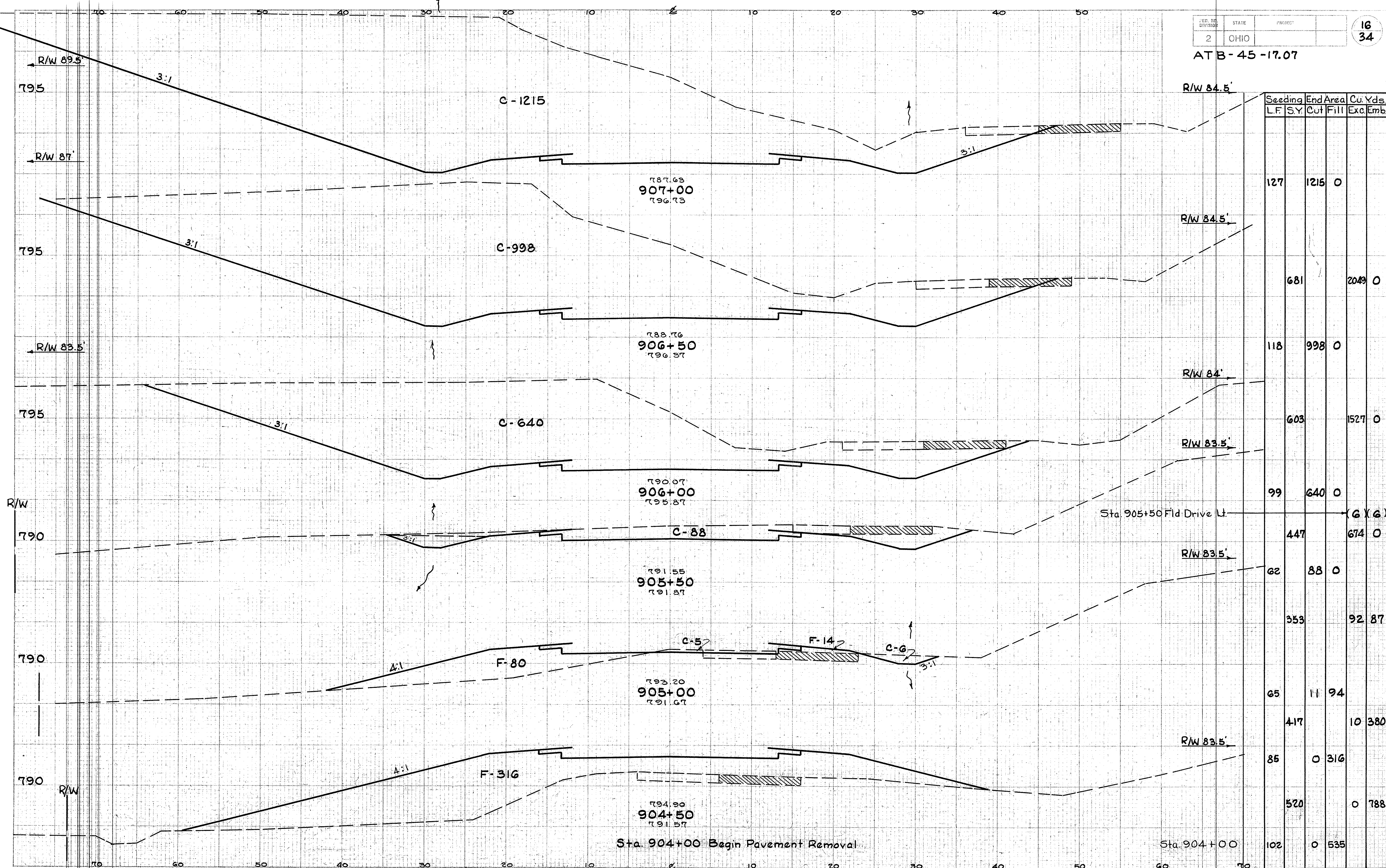
ATB-45-17.07



Seeding L.F.	End S.Y.	Area		Cu. Yds.	
		Cut	Fill	Exc.	Emb.
102	0	535			
	553			3	903
97	3	440			
	534			14	769
95	12	390			
	570			90	602
110	85	260			
	503			185	308
71	114	72			
	423			273	79
75	169	10			

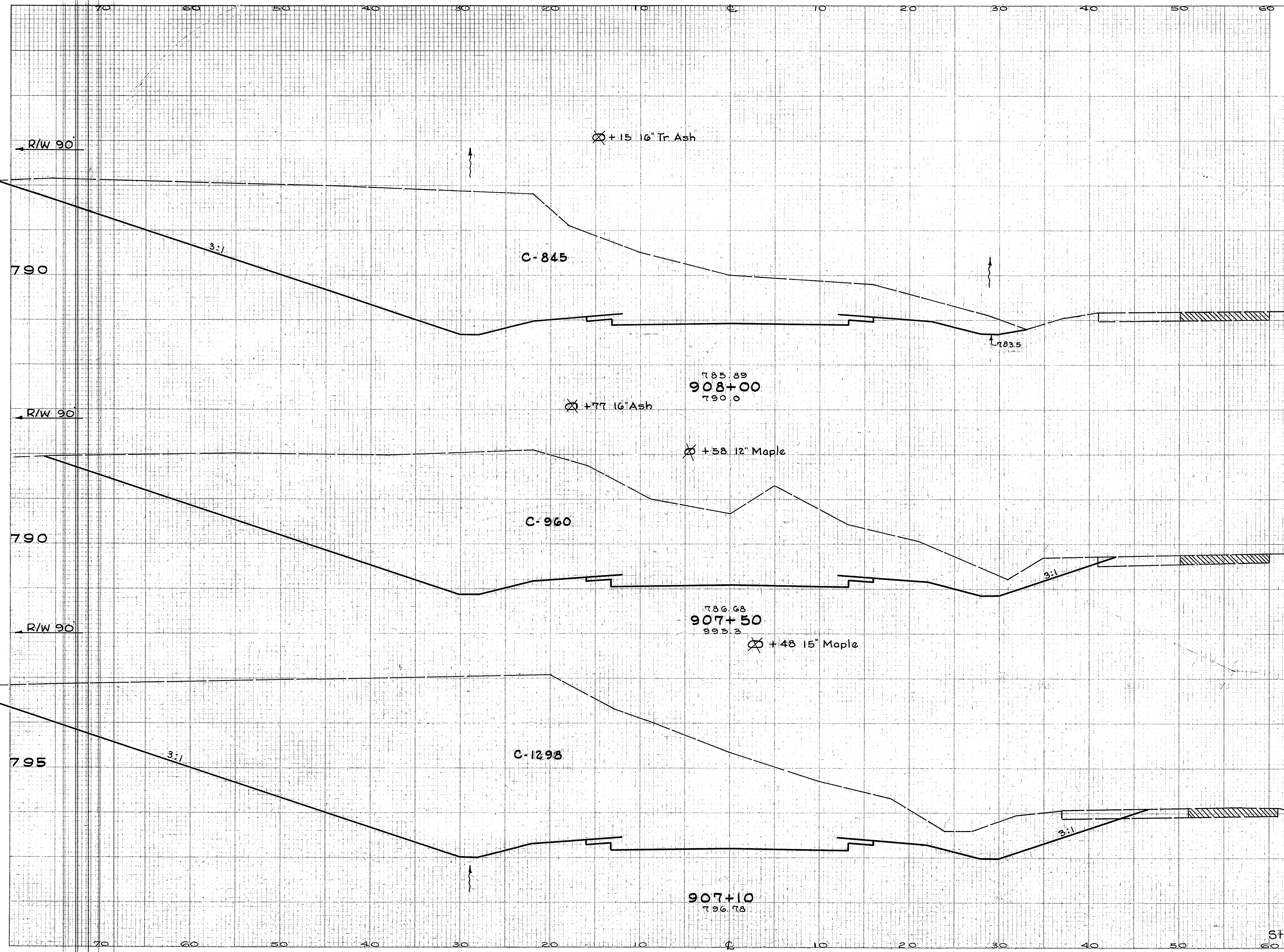
CROSS SECTIONS STA. 902+00 TO STA. 904+00

ATB-45-17.07



CROSS SECTIONS STA. 904+50 TO STA. 907+00

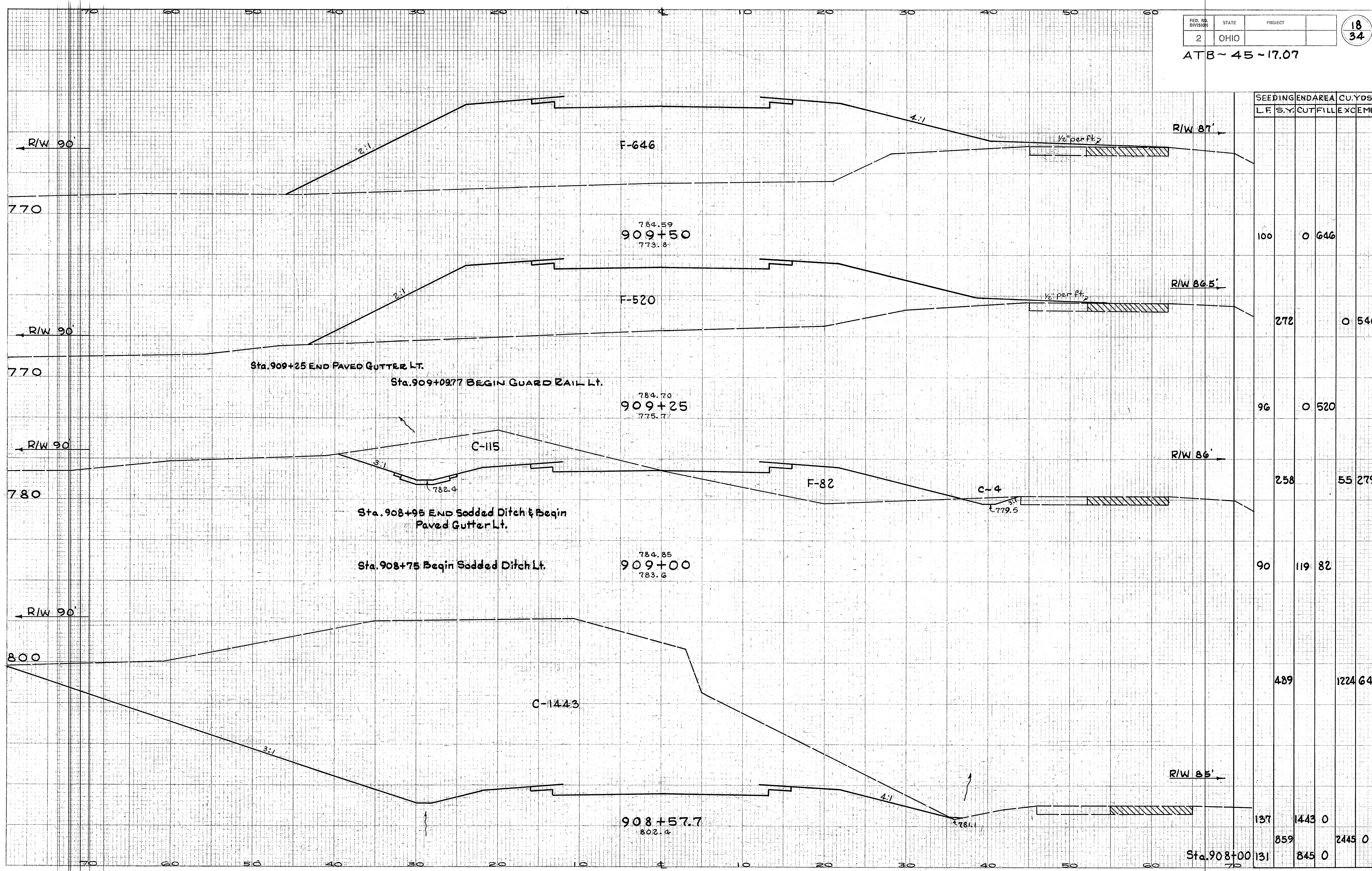
ATB-45-17.07



SEEDING L.F.	END S.Y.	AREA CUT	AREA FILL	CU. YDS.	
				Exc.	Emb.
131	845	0			
720				1672	0
128	960	0			
580				1673	0
133	1298	0			
144				465	0
127	1215	0			

CROSS SECTIONS STA. 907+10 TO STA. 908+00

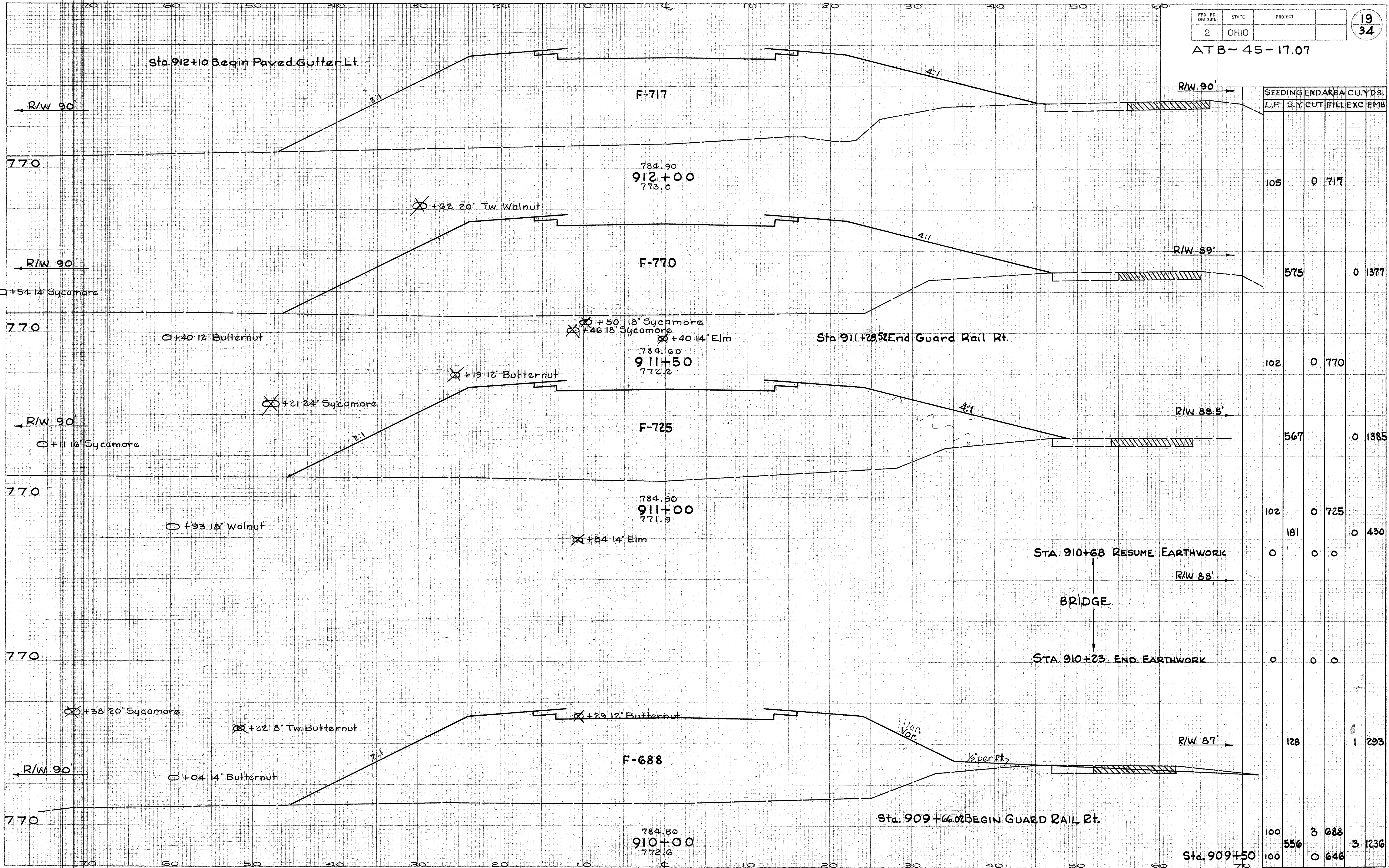
ATB ~ 45 ~ 17.07



L.F.	S.Y.	SEEDING		END AREA		CU. YDS.	
		CUT	FILL	EXC	EMB		
100		0	646				
272			0	540			
96		0	520				
258			55	279			
90		119	82				
489			1224	64			
137		1443	0				
859			2445	0			
131		845	0				

CROSS SECTIONS STA. 908+57.7 TO 909+50

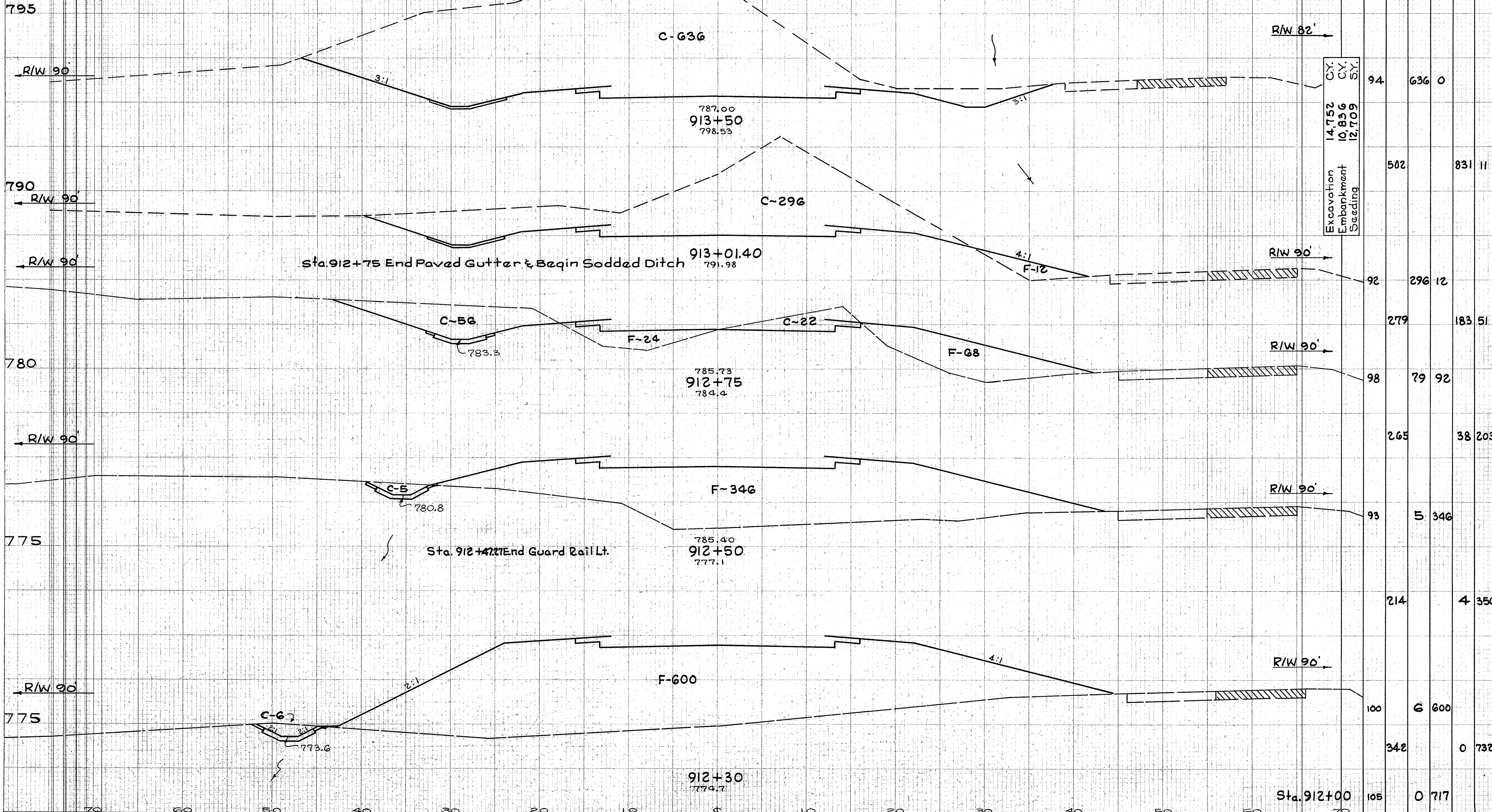
ATB-45-17.07



L.F.	SEEDING		END AREA		C.U.YDS.	
	S.Y.	CUT	FILL	EXC.	EMB.	
105		0	717			
575				0	1377	
102		0	770			
567				0	1385	
102		0	725			
181				0	430	
0		0	0			
0		0	0			
128				1	293	
100		3	688			
556				3	1236	
100		0	646			

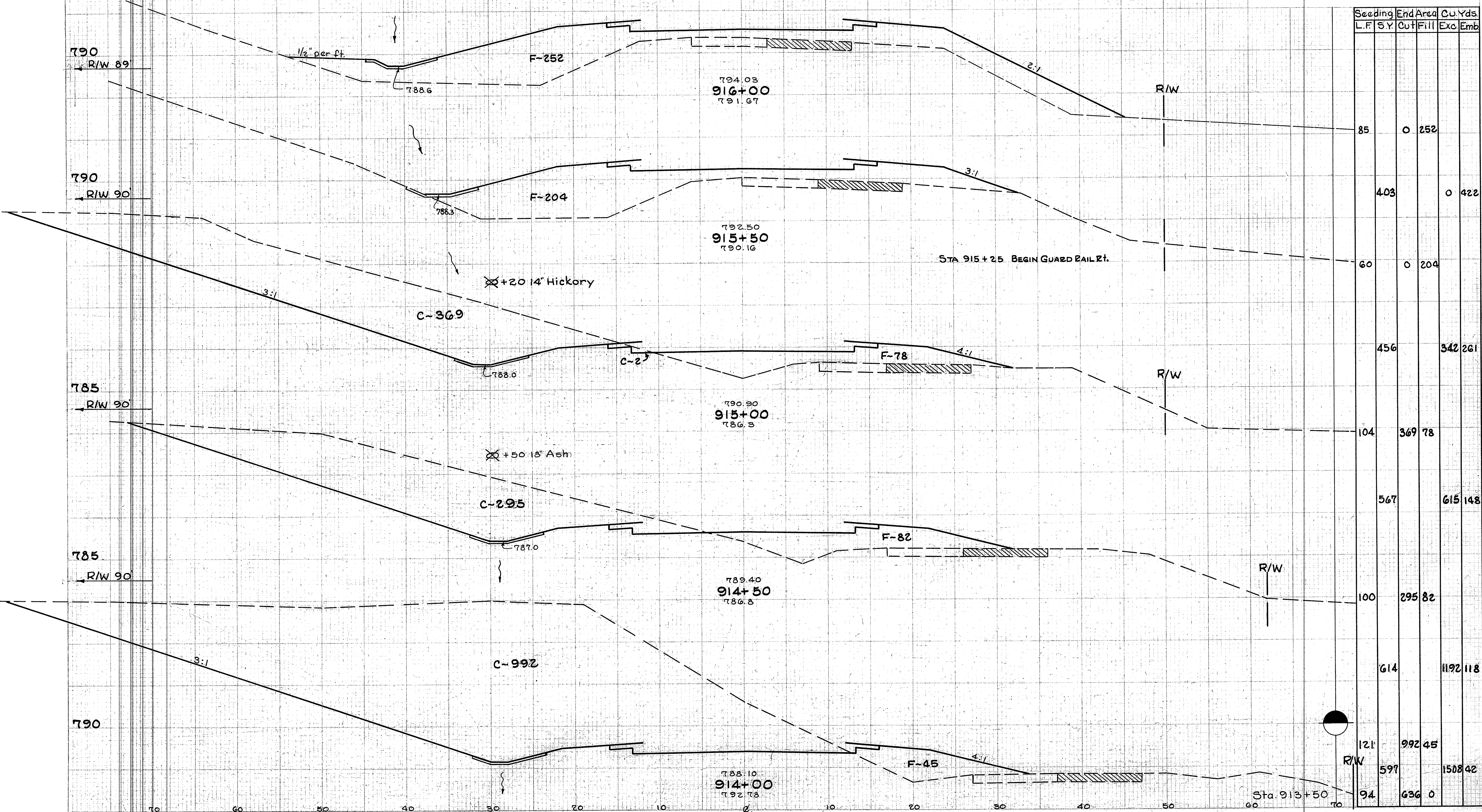
CROSS SECTIONS STA. 910+00 TO STA. 912+00

ATB-45-17.07



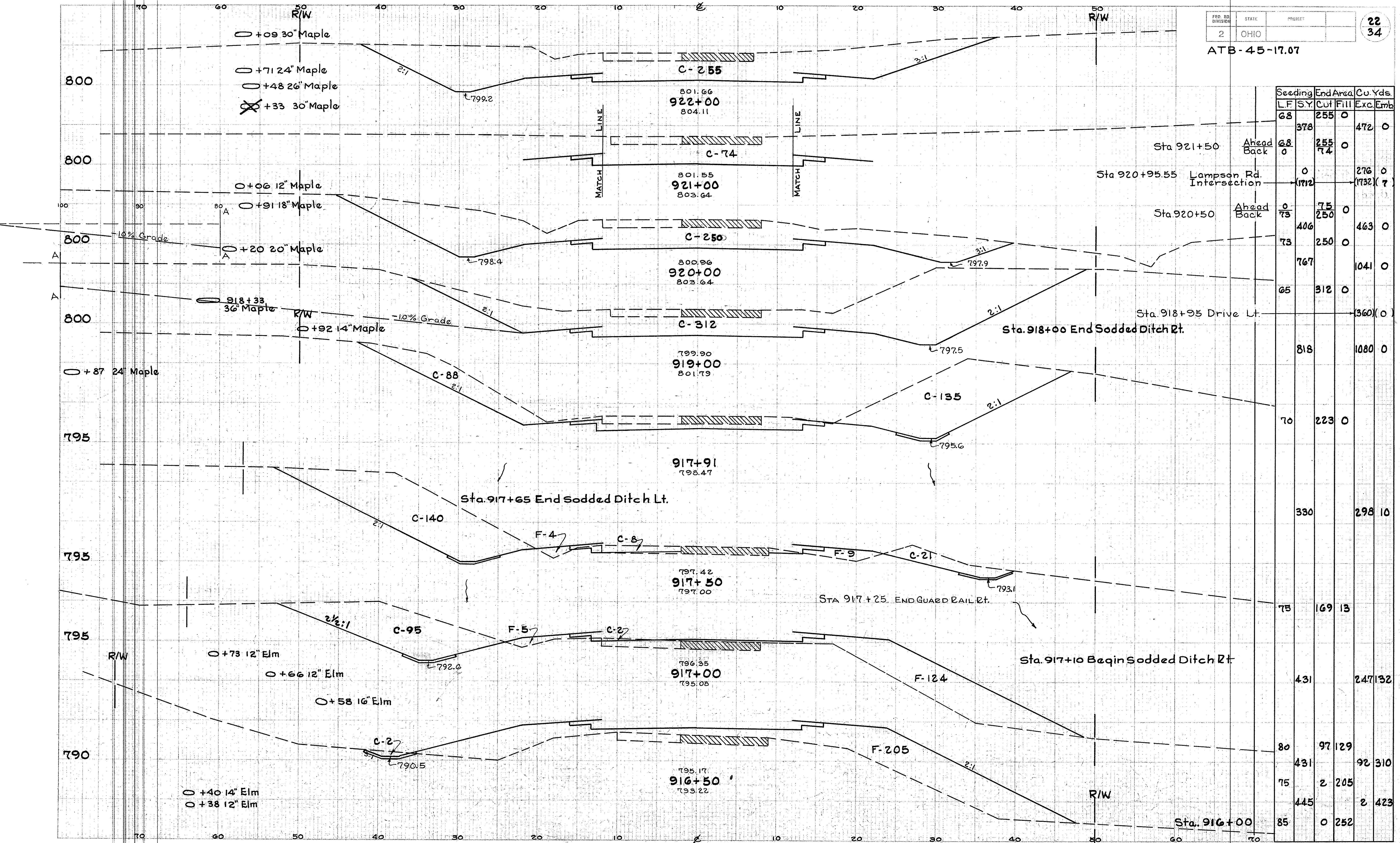
CROSS SECTIONS STA. 912+30 TO STA. 913+50

ATB-45-17.07



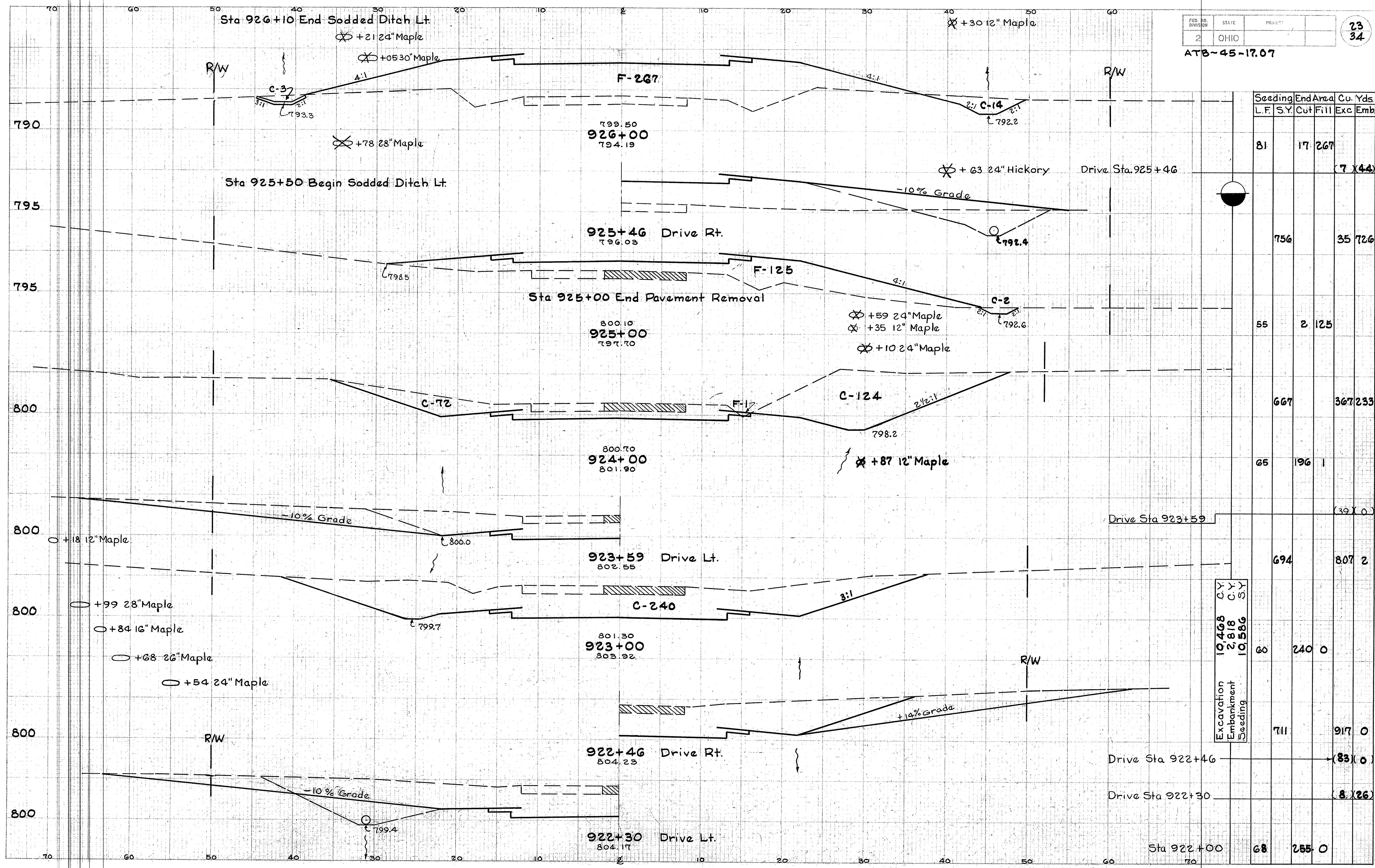
CROSS SECTIONS STA. 914+00 TO STA. 916+00

ATB-45-17.07



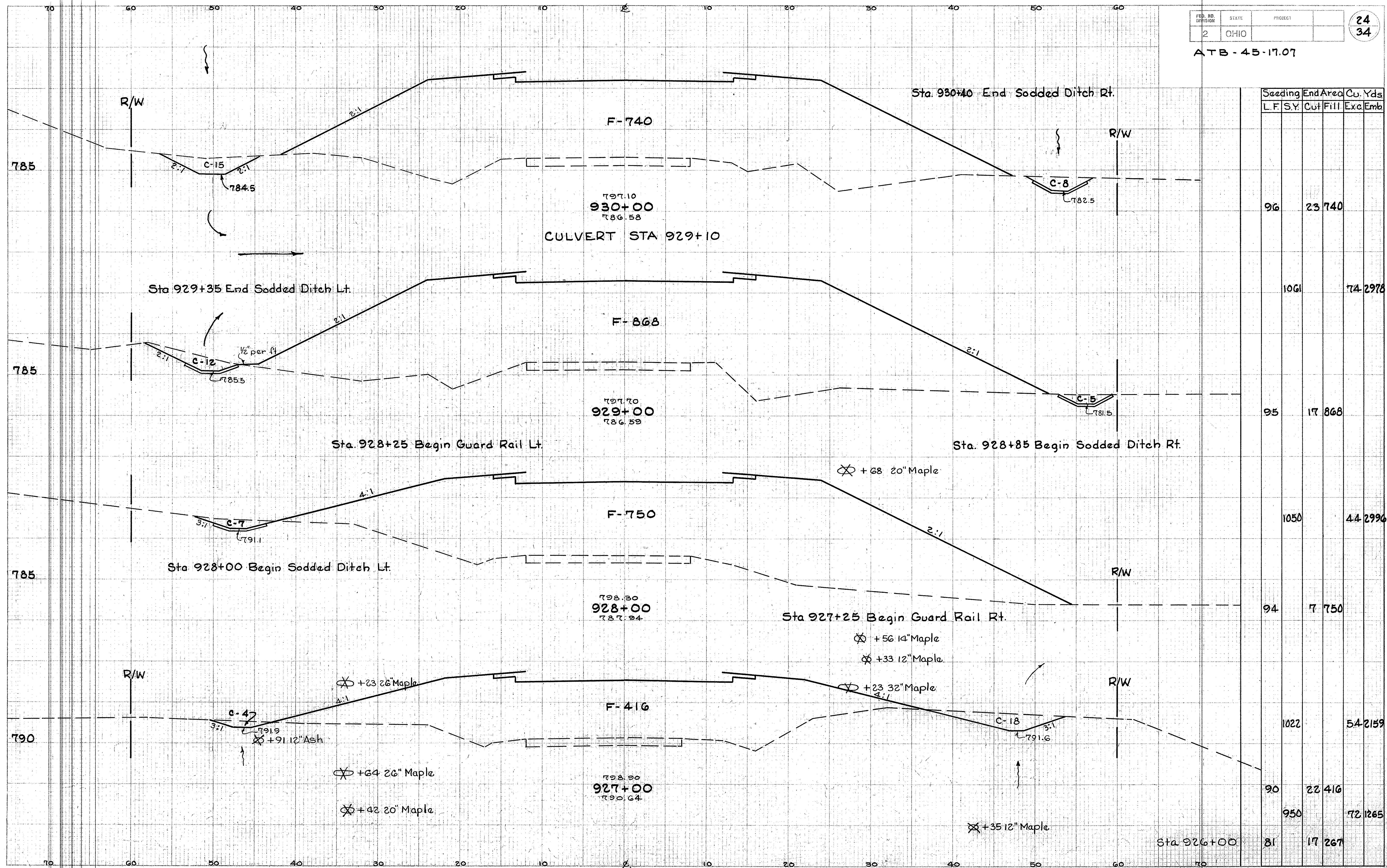
Seeding L.F.	S.Y.	End Area		Cu. Yds.	
		Cut	Fill	Exc.	Emb.
68	378	255	0	472	0
68	0	255	74	0	0
0	(1712)	0	0	276	0
0	73	75	250	(1732)	7
406	73	250	0	463	0
767	65	312	0	1041	0
818	70	223	0	1080	0
330	78	169	13	298	10
431	80	97	129	247	132
431	75	2	205	92	310
445	85	0	252	2	423

CROSS SECTIONS STA. 916+50 TO STA. 922+00



CROSS SECTIONS STA. 922+30 TO STA. 926+00

ATB-45-17.07

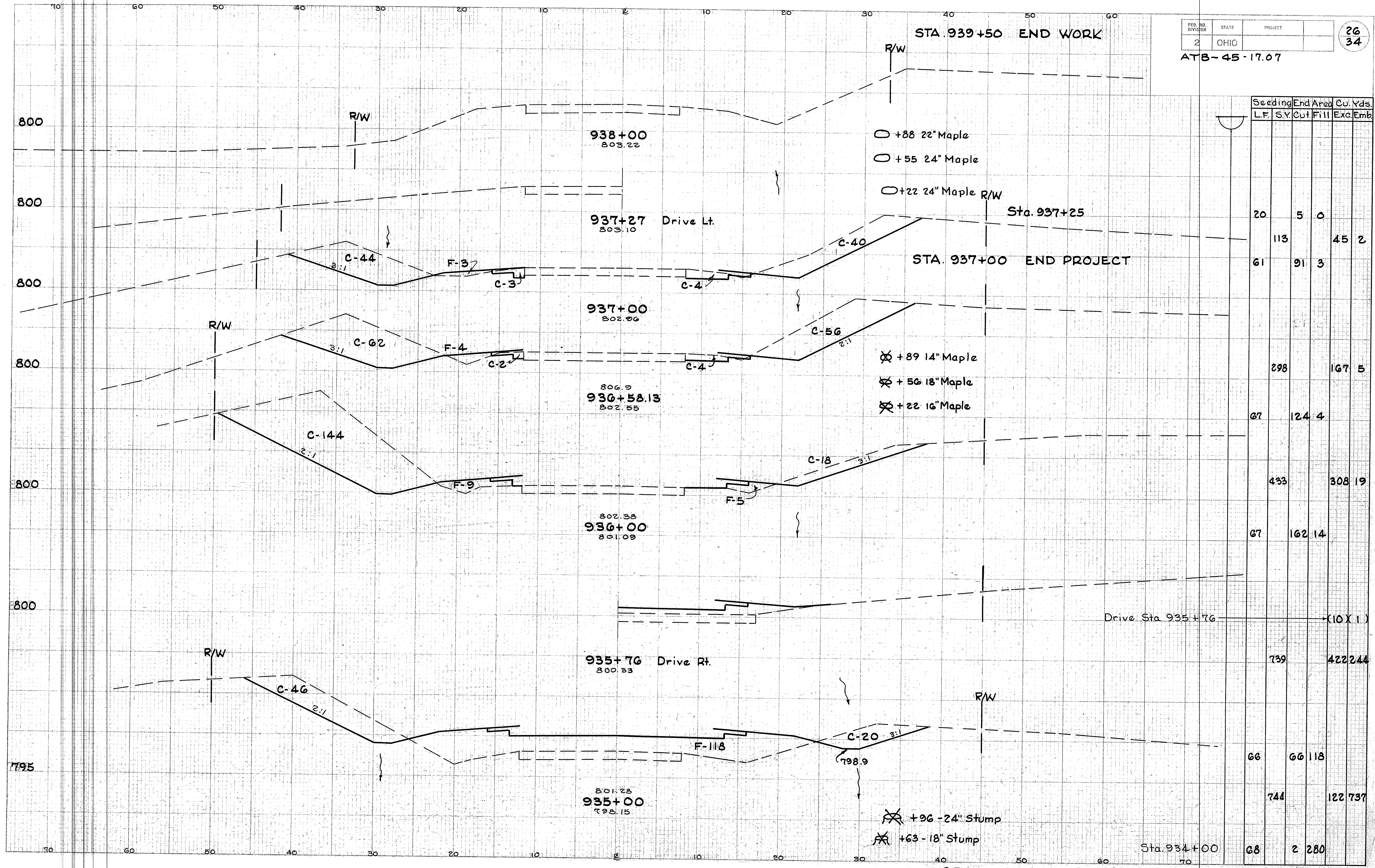


Seeding L.F.	S.Y.	End Area		Cu. Yds	
		Cut	Fill	Exc.	Emb.
96			23	740	
	1061			74	2978
95			17	868	
	1050			44	2996
94			7	750	
	1022			54	2159
90			22	416	
950				72	1265
81			17	267	

CROSS SECTIONS STA 927+00 TO STA 930+00

Seeding		End Area		Cu. Yds.	
L.F.	S.Y.	Cut	Fill	Exc.	Emb.
68	2	280			
75	3	360			
79	13	413			
92	5	567			
96	23	740			

ATB-45-17.07



Seeding	End Area	Cu. Yds.	
		Exc.	Emb.
L.F.	S.Y.	Cut	Fill
20	5	0	
113		45	2
61	91	3	
	298		167
67	124	4	
433		308	19
67	162	14	
739		422	244
66	66	118	
744		122	737
68	2	280	

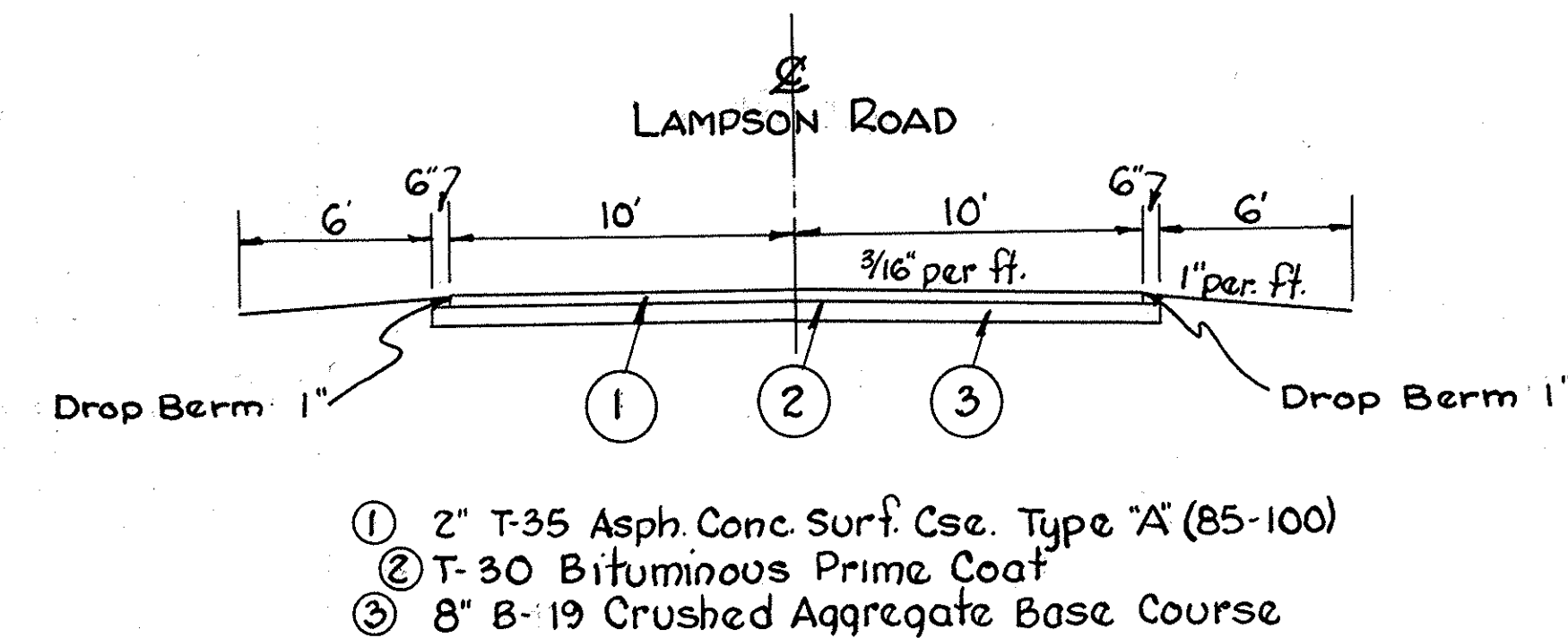
CROSS SECTIONS STA 935+00 TO STA 939+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

ATB-45-17.07

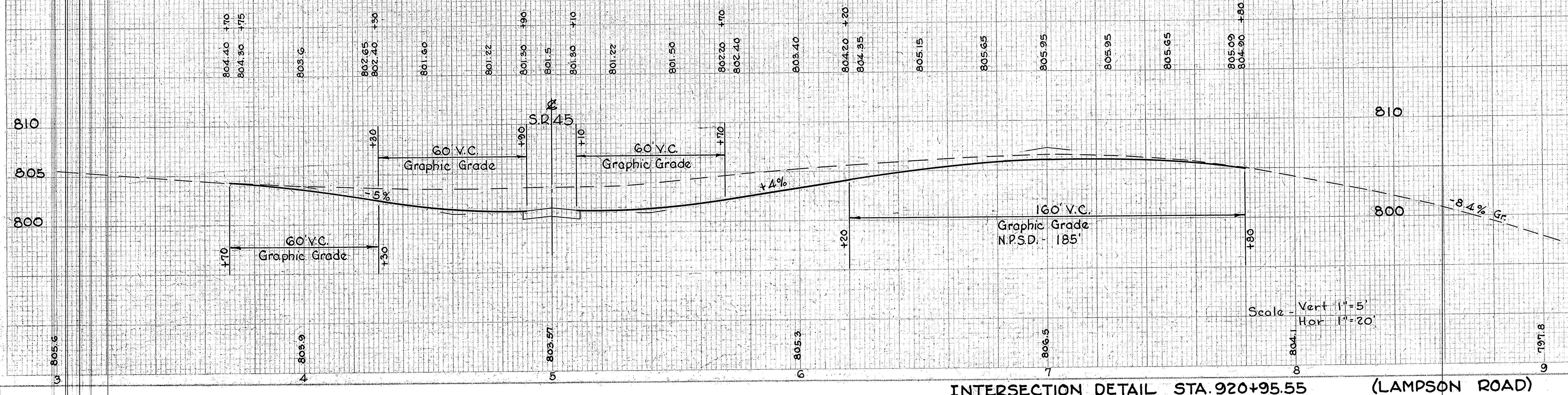
27

34

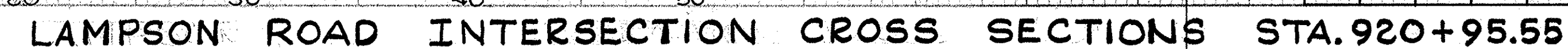


ESTIMATED QUANTITIES			
T-35	2"	Asphaltic Concrete Surf. Cse. Type "A" (70-85)	58.5 C.Y.
T-30		Bituminous Prime Coat @ 0.35 Gal./S.Y.	3.68 Gal.
B-19	8"	Crushed Aggregate Base Course	242 C.Y.
E-1		Roadway Excavation Method "B"	* 1732 C.Y.
E-1		Compacted Subgrade	1050 S.Y.
		Embankment	* 7 C.Y.
L-9		Seeding	* 1712 S.Y.

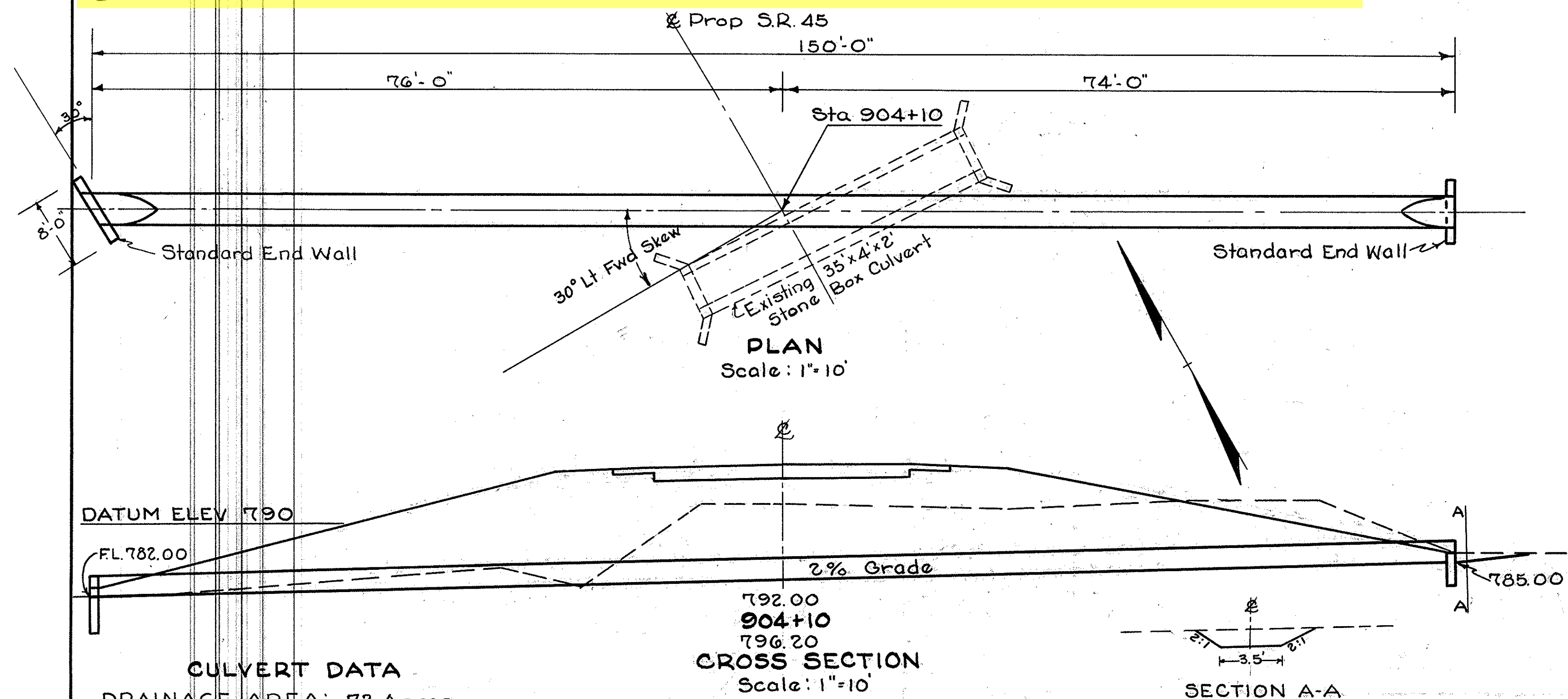
* Carried to X-section Sht # 22.



TOTALS



STRUCTURE No. ATB-45-1726 STA. 904+10 C-1



CULVERT DATA

DRAINAGE AREA: 72 Acres
 TYPE: Standard Pipe Culvert
 SIZE: 42"x150'-0"
 SKEW: 30° Left Forward
 STD DRWGS: S-27 PC.3; S-27 PC.4
 WORK REQ'D: Remove and dispose existing structure. Build 42"x150'-0" Standard Pipe Culvert as shown. Excavate inlet and outlet channels as directed by the Engineer.

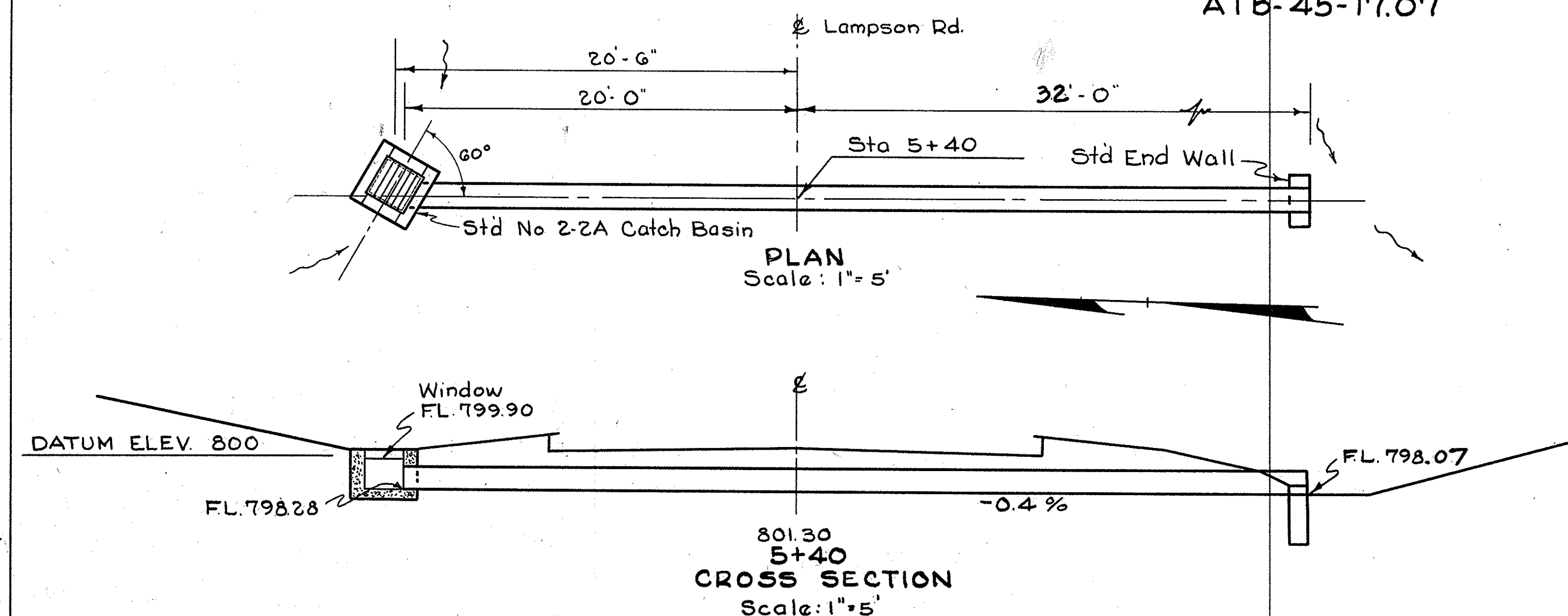
ESTIMATED QUANTITIES

E-2	Excavation for Structures	145 C.Y.
E-3	Channel Excavation	1 C.Y.
S-1	Concrete for Structures (Class "E")	1.7 C.Y.
S-24	Removal of Existing Structure	Lump
S-27	42" Pipe for Roadway Culverts	150 L.F.

STRUCTURE No. ATB-45-1758 S.R.R. STA. 5+40 ON APPROACH C-3

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

ATB-45-17.07



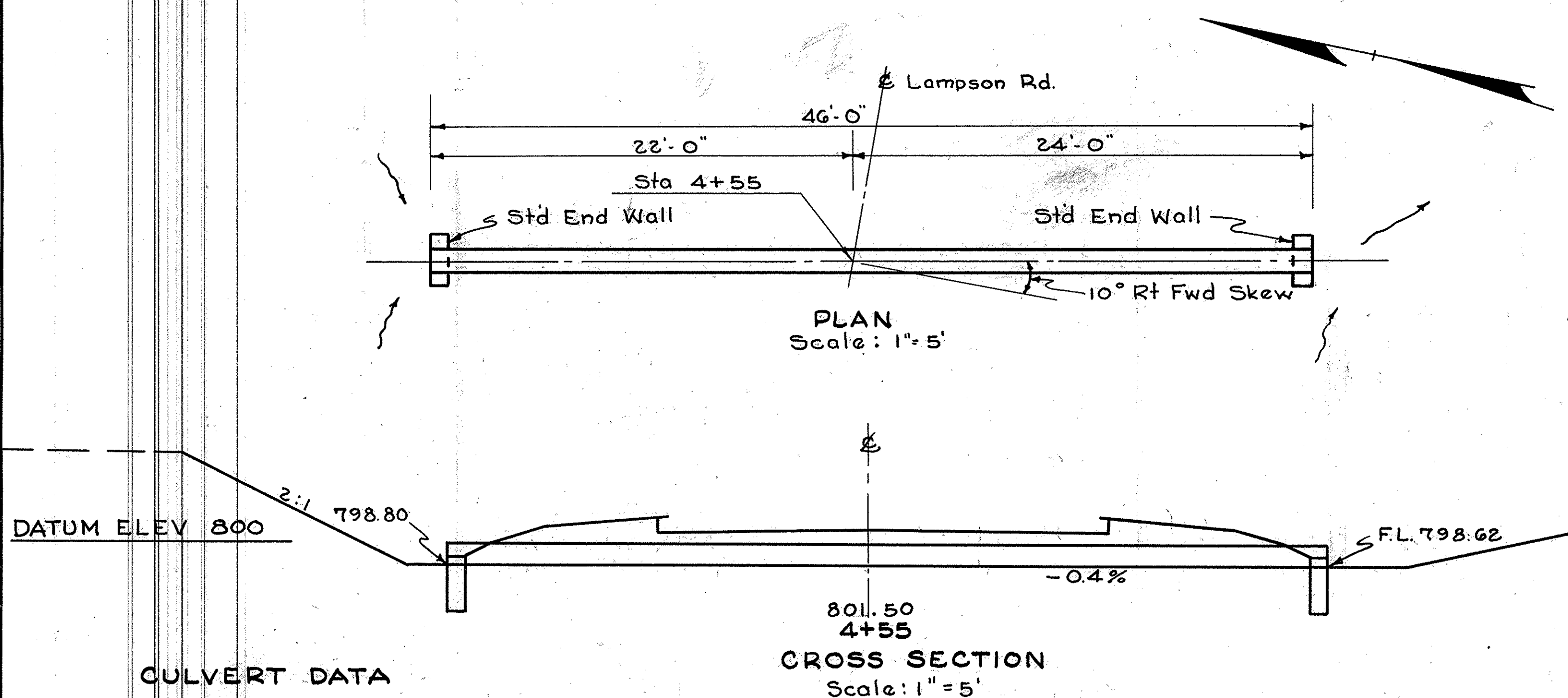
CULVERT DATA

DRAINAGE AREA: 0.5 Acre
 TYPE: Standard Pipe Culvert
 SIZE: 15"x52'-0"
 SKEW: None
 STD DRWGS: S-27 PC.3; S-27 PC.4
 WORK REQ'D: Remove existing structure. Build new 15"x52'-0" Standard Pipe Culvert and connect into a Standard 2-2A Catch Basin as shown.

ESTIMATED QUANTITIES

E-2	Excavation for Structures	9 C.Y.
S-1	Concrete for Structures (Class "E")	0.3 C.Y.
S-27	15" Pipe for Roadway Culverts M-G.4(d)	52 L.F.
I-8	Standard 2-2A Catch Basin	1 Each
E-12	Pipe Removed, 15" and Under	32 L.F.

STRUCTURE No. ATB-45-1758 S.R.L. STA. 4+55 ON APPR. C-2



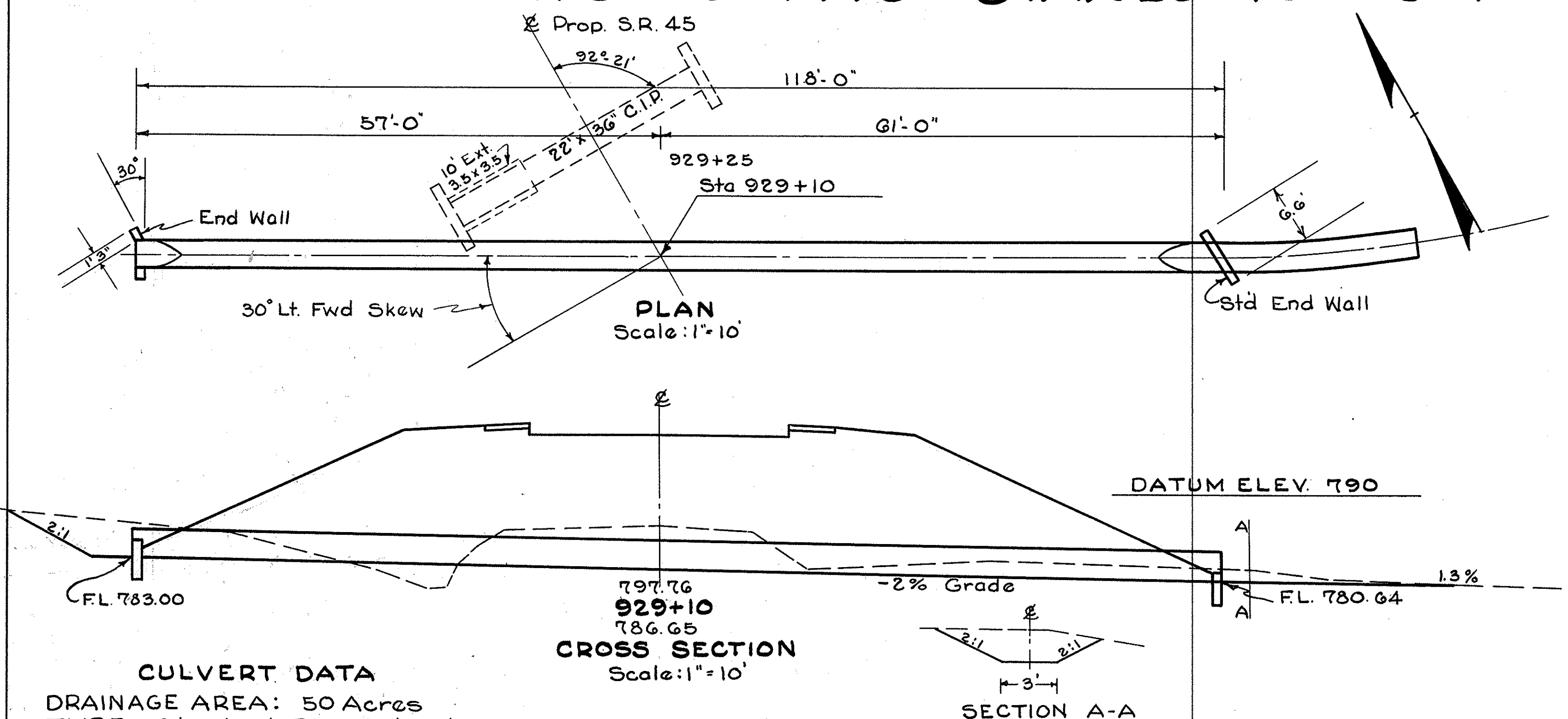
CULVERT DATA

DRAINAGE AREA: 1.4 Acres
 TYPE: Standard Pipe Culvert
 SIZE: 15"x46'-0"
 SKEW: 10° Right Forward
 STD DRWGS: S-27 PC.3; S-27 PC.4
 WORK REQ'D: Remove and dispose existing structure as directed by the Engineer. Build new 15"x46'-0" Standard Pipe Culvert as shown.

ESTIMATED QUANTITIES

E-2	Excavation for Structures	8 C.Y.
S-1	Concrete for Structures (Class "E")	0.5 C.Y.
S-27	15" Pipe for Roadway Culverts M-G.4(d)	46 L.F.
E-12	Pipe Removed, 15" and Under	32 L.F.

STRUCTURE No. ATB-45-1773 STA. 929+10 C-4



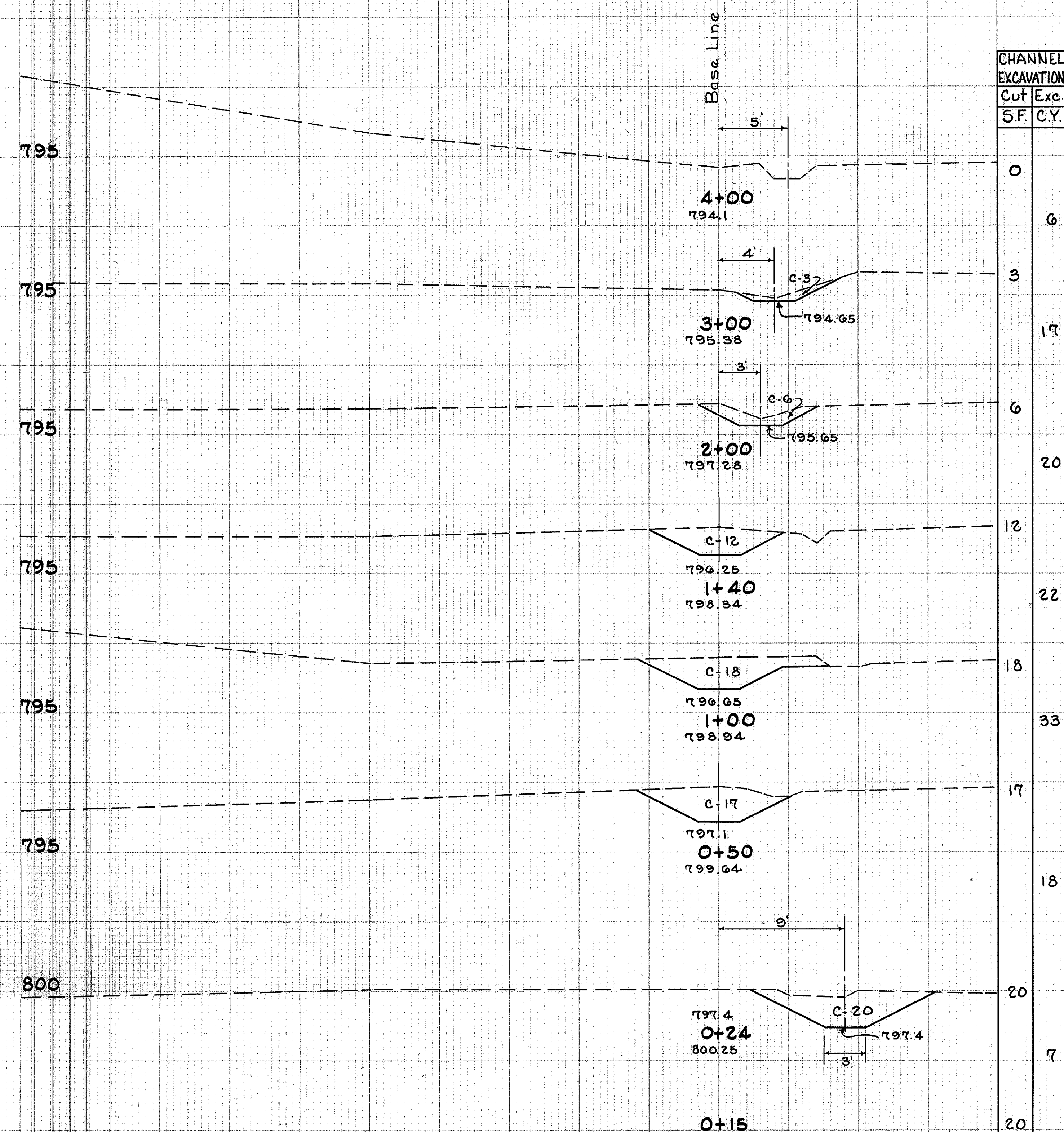
CULVERT DATA

DRAINAGE AREA: 50 Acres
 TYPE: Standard Pipe Culvert
 SIZE: 36"x118'-0"
 SKEW: 30° Left Forward
 STD DRWGS: S-27 PC.3; S-27 PC.4
 WORK REQ'D: Remove and dispose existing 36"x32' structure. Build new 36"x118' Standard Pipe Culvert as shown. Excavate outlet channel as directed by the Engineer.

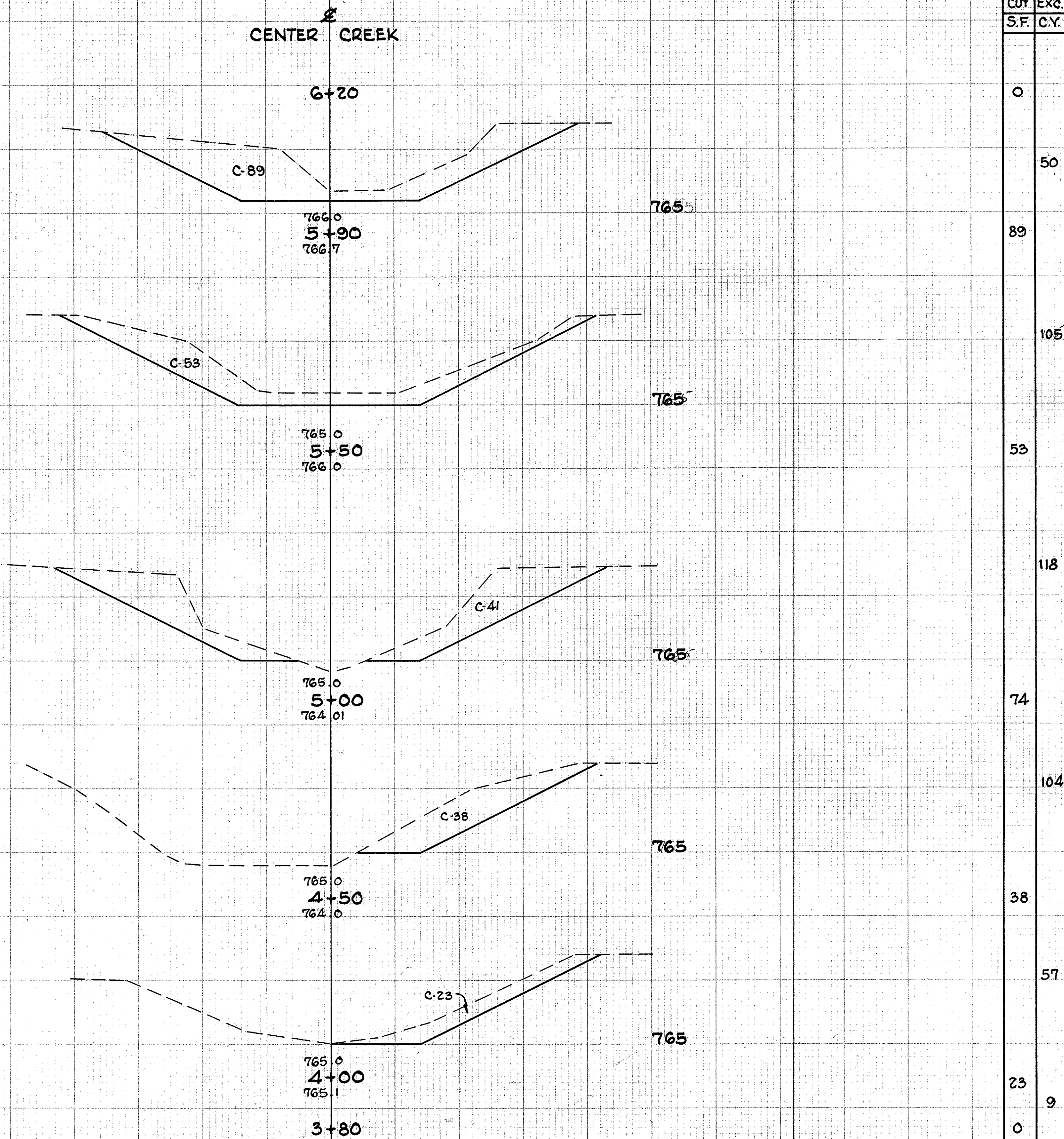
ESTIMATED QUANTITIES

E-2	Excavation for Structures	53 C.Y.
E-3	Channel Excavation	3 C.Y.
S-1	Concrete for Structures (Class "E")	1.0 C.Y.
S-24	Removal of Existing Structures	Lump
S-27	36" Pipe for Roadway Culverts	118 L.F.

ATB-45-17.07



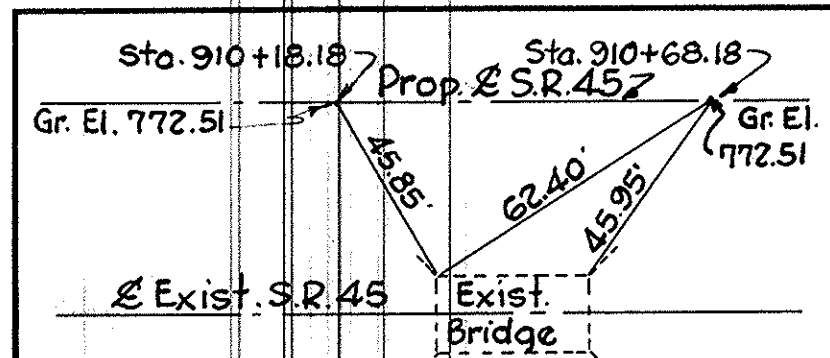
TOTAL EXCAVATION TO RECAP



TO BRIDGE SUMMARY TOTAL EXCAVATION (Sheet 32)

CROSS SECTIONS - CHANNEL CLEANOUT STA 936+00 TO STA 939+50 LT.

CROSS SECTIONS - CHANNEL EXCAVATION - CENTER CREEK



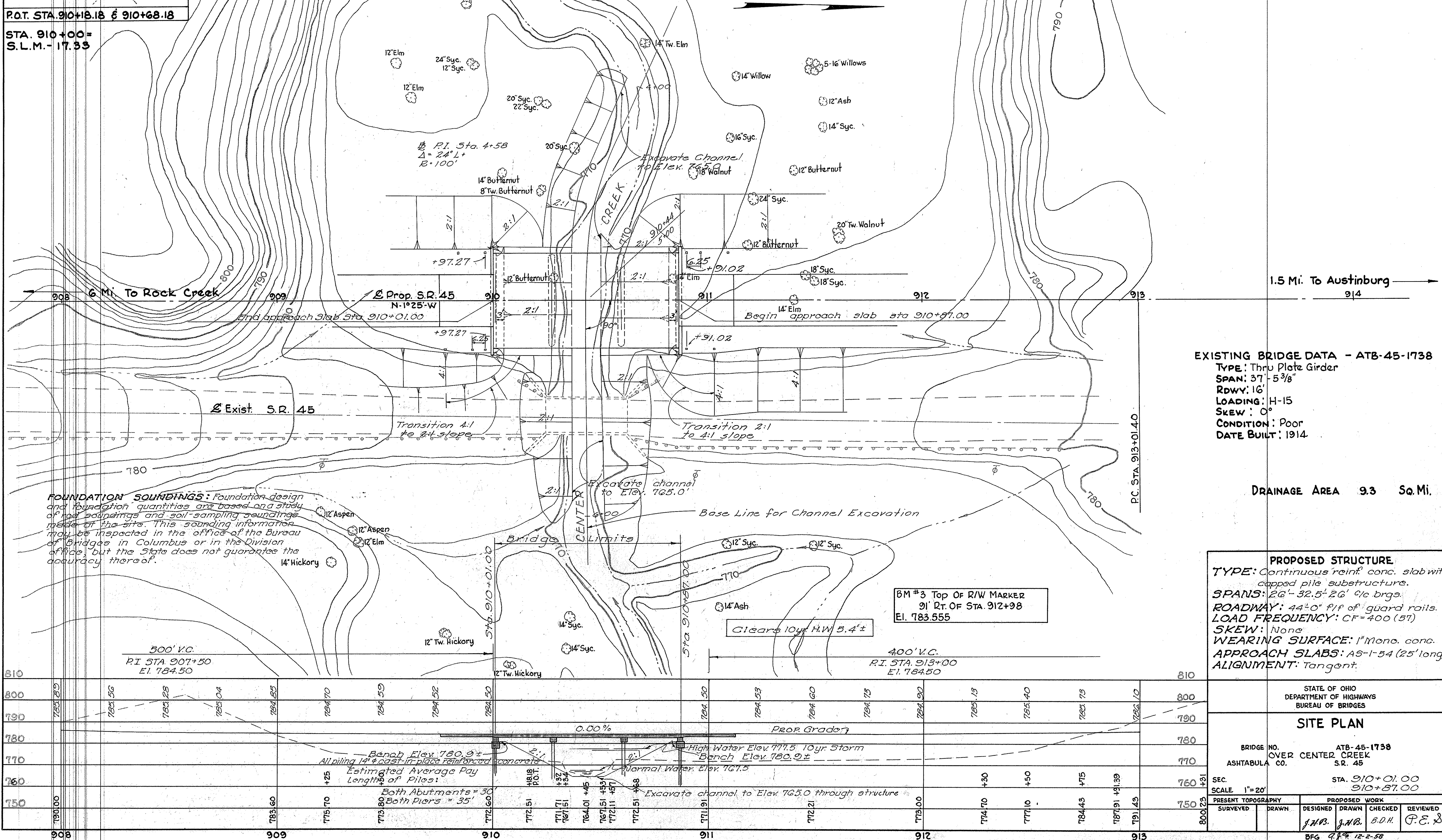
P.O.T. STA. 910+18.18 & 910+68.18

STA. 910+00=
S.L.M. - 17.33

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

31
34

ATB-45-17.07
1.5± Miles South of Austinburg



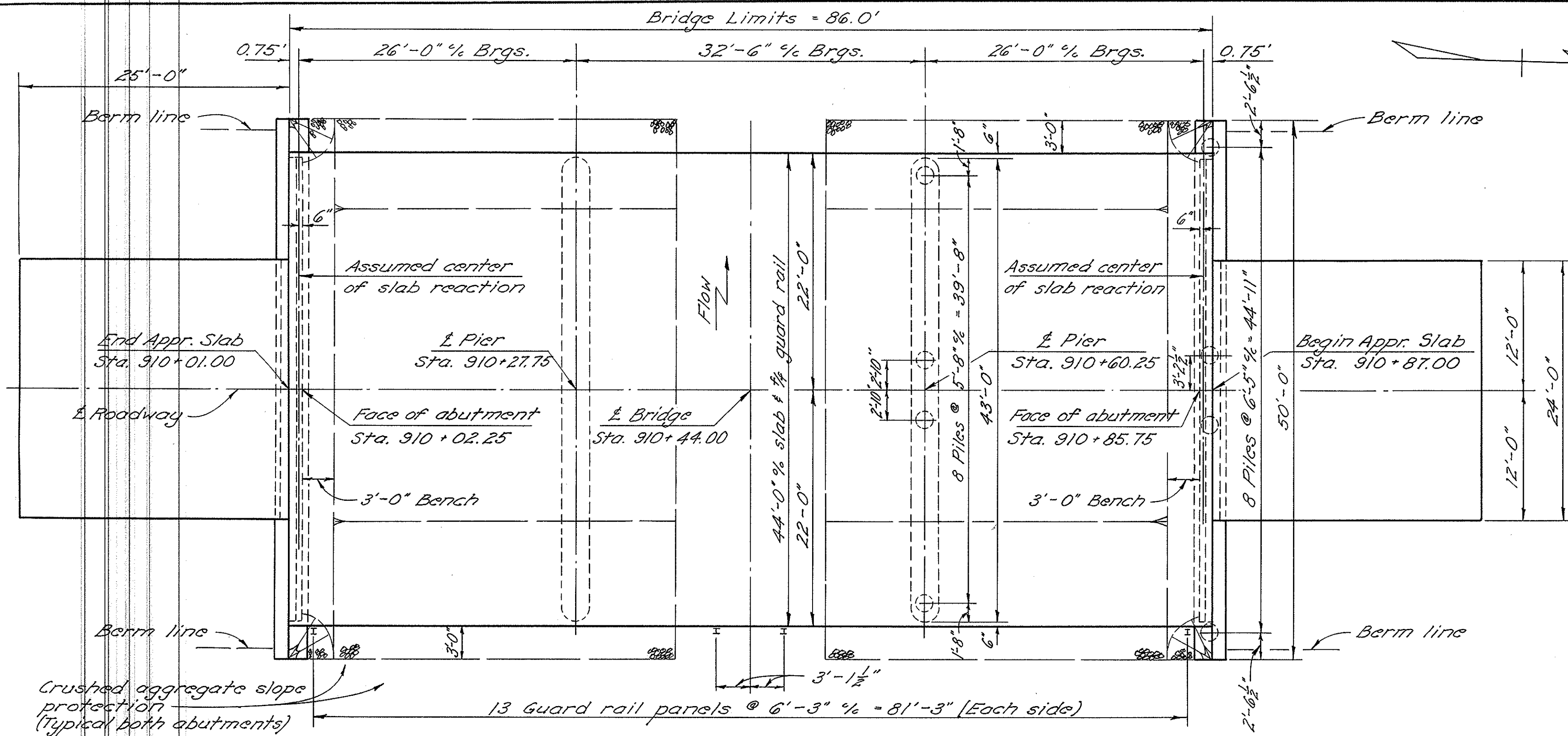
EXISTING BRIDGE DATA - ATB-45-1738
TYPE: Thru Plate Girder
SPAN: 37'-5 3/8"
RDWY: 16'
LOADING: H-15
SKEW: 0°
CONDITION: Poor
DATE BUILT: 1914

DRAINAGE AREA 9.3 Sq. Mi.

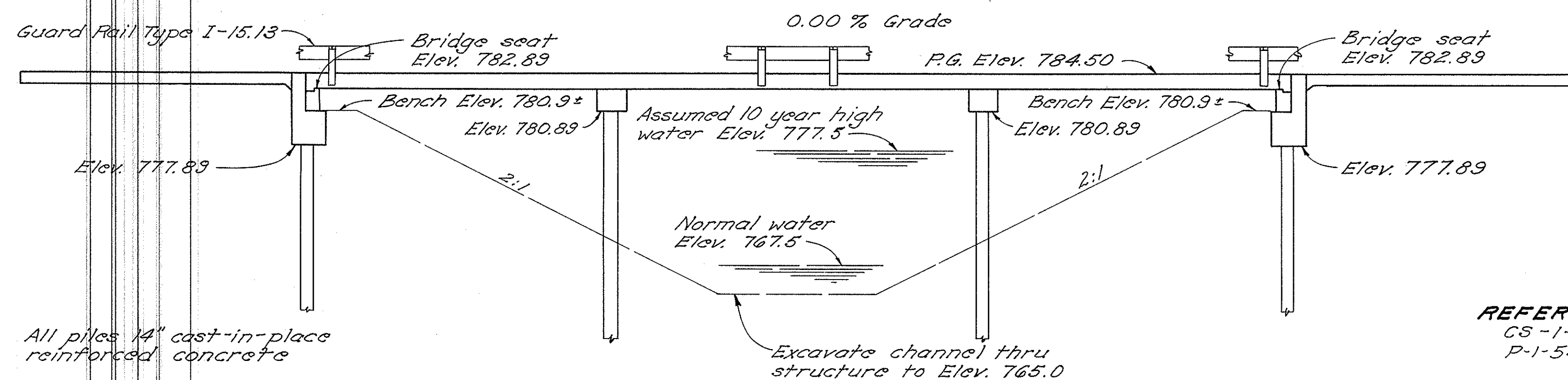
PROPOSED STRUCTURE
TYPE: Continuous reinf. conc. slab with capped pile substructure.
SPANS: 26'-32.5'-26' 9/16 brgs.
ROADWAY: 44'-0" F/P of guard rails.
LOAD FREQUENCY: CF=400 (57)
SKEW: None
WEARING SURFACE: 1" Mono. conc.
APPROACH SLABS: A5-1-54 (25' long)
ALIGNMENT: Tangent.

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES			
SITE PLAN			
BRIDGE NO. ASHTABULA CO.	ATB-45-1738 OVER CENTER CREEK S.R. 45		
SEC.	STA. 910+01.00 910+57.00		
SCALE 1"=20'			
PRESENT TOPOGRAPHY SURVEYED	DRAWN	DESIGNED	CHECKED
		J.H.B.	J.H.B.
		B.D.H.	P.E. &

ATB-45-17.07



GENERAL PLAN



ELEVATION

ESTIMATED QUANTITIES						
Item	Total	Unit	Description	Superstr.	Piers	Abuts. Gen.
E-2	58	cu.yd.	Unclassified excavation			58
E-3	443	cu.yd.	Channel excavation			443
S-1	136	cu.yd.	Class "C" concrete, superstructure and pier caps	180	16	
S-1	51	cu.yd.	Class "E" concrete, abutments			51
S-4	51,147	lb.	Reinforcing steel	41,092	4405	5650
S-14	172	ln.ft.	Railing (Type I-15.13 with galvanized steel posts and bolts)	172		
S-16	1ump	sum	First test pile			1ump
S-18	1040	ln.ft.	14" Cast-in-place reinforced concrete piles		560	480
S-24	1ump	sum	Removal of existing structure			1ump
S-29	16	cu.yd.	Porous backfill			16
I-10	366	sq.yd.	Crushed aggregate slope protection			366

REINFORCING STEEL LIST									
Mark	No.	Length	Weight	Shp.	Bending Diagrams				
Superstructure					Piers				
A945	114	30'-6"	11,822	S	P1001	8	43'-6"	1,497	S
B945	38	22'-5"	2,896	B	P901	8	40'-6"	1,102	S
C945	38	19'-10"	2,562	B	P701	96	4'-0"	785	S
D945	19	21'-4"	1,378	S	P501	4	40'-6"	169	S
E945	19	16'-10"	1,087	S	P502	68	8'-0"	567	B
F945	88	24'-0"	7,181	S	P503	8	6'-4"	53	B
G945	44	11'-0"	1,646	S	P401	64	5'-5"	232	B
H945	44	8'-2"	1,222	S	Replacement Bars				
J601	44	15'-10"	1,046	S	RE1001	1	7'-2"	-	S
K601	22	13'-8"	452	S	RE901	2	6'-10"	-	S
M601	93	43'-6"	6,076	S	RE801	1	6'-6"	-	S
N601	57	43'-6"	3,724	S	RE701	1	6'-2"	-	S
Abutments					RE601	1	5'-11"	-	S
R1001	16	22'-11"	1,578	S	RE501	1	5'-7"	-	S
R801	16	26'-1"	1,114	S	RE401	1	5'-3"	-	S
R501	16	25'-7"	427	S	REPLACEMENT BARS: If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. S-4.02 need not be furnished and replacement bars will not be required.				
R502	156	6'-7"	1,071	B					
R503	8	22'-1"	184	S					
R504	24	5'-4"	134	S					
R505	34	7'-11"	281	B					
R506	8	12'-8"	106	S					
R507	16	4'-11"	82	S					
R508	28	6'-8"	195	B					
R509	28	8'-5"	246	B					
R401	64	5'-5"	232	B					

GENERAL NOTES

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

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure shall be removed.

PILES shall be driven to a minimum bearing capacity of 25 tons per pile for the abutments and 35 tons per pile for the piers.

PIER PILE ENCASEMENT as shown on Std. Dwg. No. P-1-54 may be omitted provided that the tapered portion, if any, of all pier piles does not extend above the stream bed or the proposed surface of the ground. If the tapered portion of any pile extends above these limitations, the encasement will be required for all the pier piles. If the encasement is omitted the pile casings shall have a thickness of metal not less than No. 7 gauge, and the painting of the piles shall extend to low water elevation or, if the proposed surface of the ground is above low water, the painting shall extend to at least one foot below the proposed surface of the ground.

SLAB THICKNESS is 15 1/4" which includes 1" for monolithic wearing surface.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

GENERAL PLAN, ELEVATION,
NOTES, ESTIMATED QUANTITIES
AND REINFORCING STEEL LIST
BRIDGE NO. ATB-45-1738
OVER CENTER CREEK

STA. 910+01.00
STA. 910+87.00
ASHTABULA COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.L.	J.D.L.	J.D.L.	R.L.D.	B.F.G.	12-2-58	

TONY ZAHTILLA &
EMMA ZAHTILLA

NATALIE F. BAILEY

① 1.80 Ac.

ANTHONY KASPUTIS &
MARY KASPUTIS

② 0.60 Ac.

② WA Drive

CURVE DATA
 P.I. Sta. 899+34.82
 $\Delta = 1^\circ 00' R$
 $D = 0^\circ 16'$
 $R = 21485.92$
 $T = 187.50$
 $E = 0.82$
 $L = 375.00$

AUSTINBURG TOWNSHIP T-11N R-4W Lot #66

AUSTINBURG TOWNSHIP T-11N R-4W Lot #56
AUSTINBURG TOWNSHIP T-11N R-4W Lot #55

NATALIE F. BAILEY

CURVE DATA
 $\Delta = 1^\circ 25' L$
 $D = 0^\circ 15'$
 $R = 22918.33$
 $T = 283.35$
 $E = 1.75$
 $L = 566.67$
 P.I. Sta. 904+31.25

EXIST. CURVE DATA
 $\Delta = 10^\circ 26' \text{ (Old Plan) } 10^\circ 32' \text{ Field}$
 $D = 5^\circ 00'$
 $R = 1146.00$
 $T = 104.64$
 $E = 4.76$
 $L = 208.68$

③ Outlet
DitchHARRY R. JAEGER &
GERTRUDE M. JAEGER

③ EXIST. CURVE DATA
 $\Delta = 11^\circ 45'$
 $D = 6^\circ 00'$
 $R = 954.92$
 $T = 98.27$
 $E = 5.05$
 $L = 195.83$

ANTHONY KASPUTIS &
MARY KASPUTIS

EXIST. CURVE DATA
 $\Delta = 9^\circ 46' \text{ (Old Plan) } 9^\circ 51' \text{ Field}$
 $D = 4^\circ 30'$
 $R = 1273.24$
 $T = 108.80$
 $E = 4.64$
 $L = 217.04$

WILLIAM J. BURKE &
ANNASTASIA BURKE

④ 0.04 Ac.

AUSTINBURG TOWNSHIP T-11N R-4W Lot #56

T-OF-WAY

Coord's of Mans. Rt. & Lt. Sta. 9/6 Revised 4-8-59
Parcels 6, 10 Revised 4-7-59

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

3

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ATB- 45 17.07

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