Fed. Rd. Division	State	Project	Fiscal Year	
2	OHIO	F-330(4)		1 / 105

POR-224-9.58

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
POR-224 - 9.58
PORTAGE COUNTY
RANDOLPH & ATWATER TOWNSHIPS
GRADE SEPARATION WITH THE PENNSYLVANIA RAILROAD COMPANY

F-330 (4)

LIMITED ACCESS

This improvement is especially designed for through traffic and has been declared a Limited Access Highway or Freeway by action of the Director of Highways in accordance with provisions of Section 5511.02 of the revised Code of Ohio.

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

Approved W. R. Moulton
Date 5-3-57 Division Deputy Director

Approved C. H. Maheuer
Date 5-9-57 Deputy Director of Planning and Programming

Approved D. H. Overman
Date 5-7-57 Engineer of Bridges

Approved P. E. Shultz
Date 5-8-57 Engineer of Location and Design

Approved P. E. Mashetes
Date 5-8-57 Deputy Director of Design and Construction

Approved
Date ________ First Assistant Director

Approved George J. Thompson
Date 5/10/57 Acting Director of Highways.

Approved D. L. SOMMERVILLE
Date 5/16/57 Pennsylvania Railroad Company

Revised As-Built

PREPARED AND RECOMMENDED BY
AURILIO, PACE AND BALLARD
CONSULTING ENGINEERS
Wilson T. Ballard
WILSON T. BALLARD
HIGHWAY PLANS

DATE: FEBRUARY 7, 1957

AUG 29 1961
GROUND PHOTOLA

CONVENTIONAL SIGNS

Sign	Symbol
Survey Center Line and Base Line	℄
Property Lines	
Existing Roads, etc.	
Fence Lines (regular)	
Guard Fence (Existing)	
Guard Fence (Proposed)	
Woods Line	
Brush Line	
Streams and Water Course	
Railroads	
Field Division Line	
Existing Drainage Pipes	
Proposed Drainage Pipes	
Existing Catch Basins & Manholes	CB MH
Bench Mark	
Survey Monument	
Reference Points	
Ohio Hwy. Dept. Iron	
Property Pipes Found	
Property Plotted from Plats	
Power Poles	
Telephone Poles	
Guy Poles	GP
Light Poles	
Mail Boxes	M
Swamp Area	
Road Signs	RS
Billboard Type Signs	S

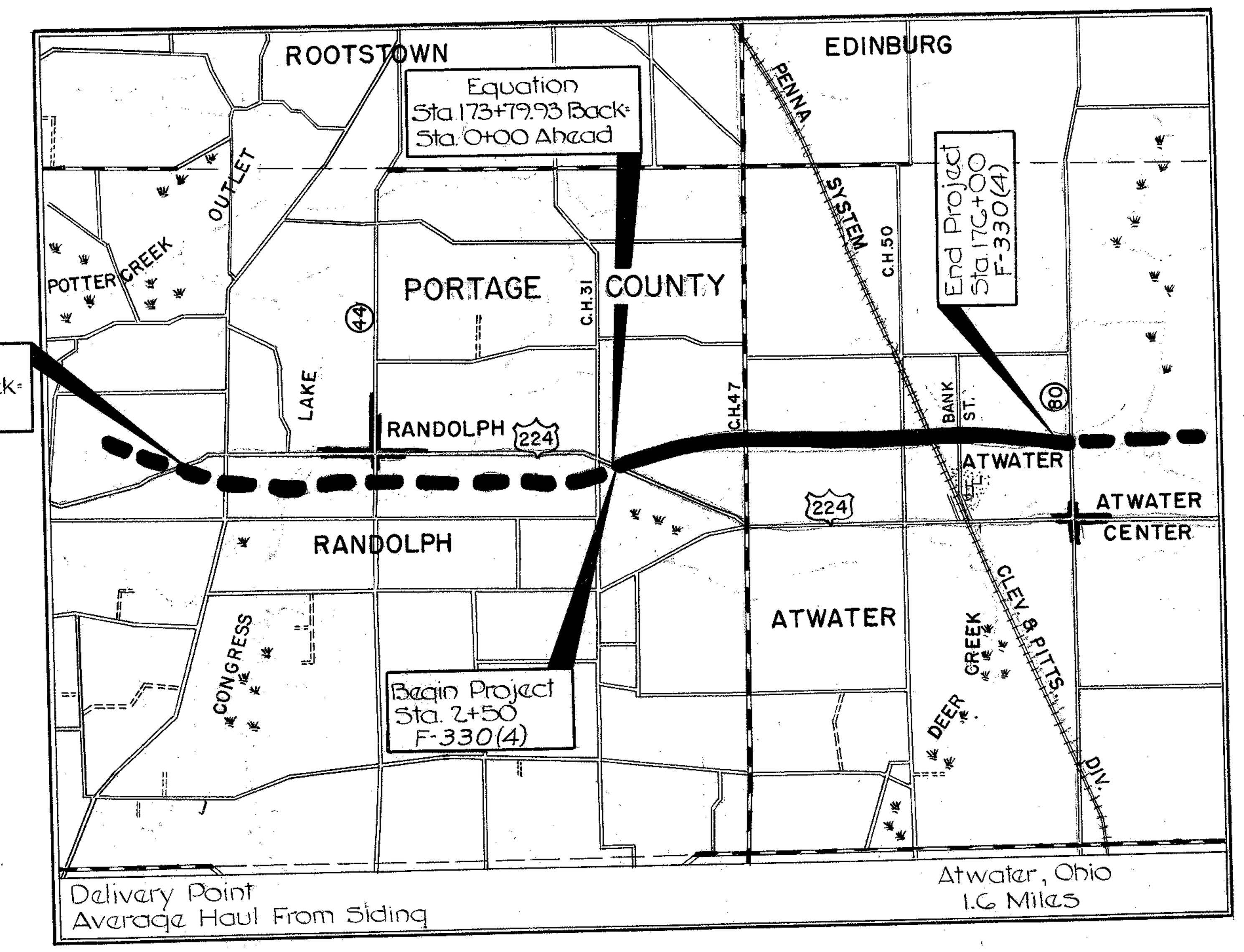
Trees	
Tree Symbol	
Maples	Mp
Cherry	Ch
Plum	Pl
Peach	Pe
Apple	A
Walnut	W
Hickory	H
Oak	Oak
Locust	L
Poplar	P
Pear	Pr
Pine	Pi
Elm	Elm
Willow	Wl
Cottonwood	Cw
Ash	Ash
Beech	B
Butternut	Bn
Trees to be removed	X

INDEX OF SHEETS

LINE DATA

Begin Project Sta. 2+50
End Project Sta. 176+00
TOTAL LENGTH OF PROJECT = 17,350.00 L.F. or 3.285 MILES

Add For Approaches:
County Highway #47
Sta. 0+54 N To 5+15 N = 461.00 L.F.
Sta. 0+10 N To 3+15 S = 325.00 "
Township Highway TH-43A (Bank St.)
Sta. 0+23 N To 4+50 N = 427.00 "
Sta. 0+21 S To 5+25 S = 504.00 "
Relocated U.S. 224
Sta. 176+00 To 182+45.32 = 645.32 L.F.
2,362.32 L.F. or 0.447 MILES
TOTAL LENGTH OF WORK = 19,712.32 L.F. or 3.733 MILES



LOCATION MAP

SCALE OF MILES
0 1 2 3 4

Portion to be improved
Federal Routes 224
State Routes 00
Other Routes

SCALE

Plan 1" = 50'
Profile: Horizontal 1" = 50'
Profile: Vertical 1" = 5'

Supplemental Prints of St'd. Const. Drawings			
L-3	4-1-50	I-15 No. 1	8-1-55
L-3-A	4-1-50	I-15 No. 2	12-1-54
RI-1	1-3-55	I-15 No. 2A	7-2-56
DR-1	1-3-55	I-21-23	8-1-56
T-35	1-2-56	B.T.-50-70-71E No. 1	10-1-47
B-T-71R	3-2-53	G-7.07	6-1-56
OS-1	12-17-56	I-8 M.H. No 1	5-1-52
TJ	5-1-56	SP 53	7-21-53
LJ-No. 1	7-1-55	AS-1-54	12-1-54
S-27 PC 3	2-20-45		
S-27 PC-4	1-4-54		
I-1,2,3,4 & 5	2-20-45		
I-8 CB 2-2-A & B	8-1-56	I-8 CB No. 3-A	5-1-52
I-12	7-1-54	I-8 CB No. 2-3 & 2-4	5-1-52
I-14G	1-22-52	F-1 4-1-57	L-1 4-1-50

Supplemental Specification	
18	Rev. 2-6-57
5	6-8-55
E-101	1-1-57
S-114	8-30-55

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED

DISTRICT ENGINEER ________ DATE ________

PROJECT MANAGER - R. N. BOND

File No. POR-224-9.58 F-330(4)
Date of Letting ________ 19____
Contract No. ________

TITLE SHEET

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330(4)		2 / 105

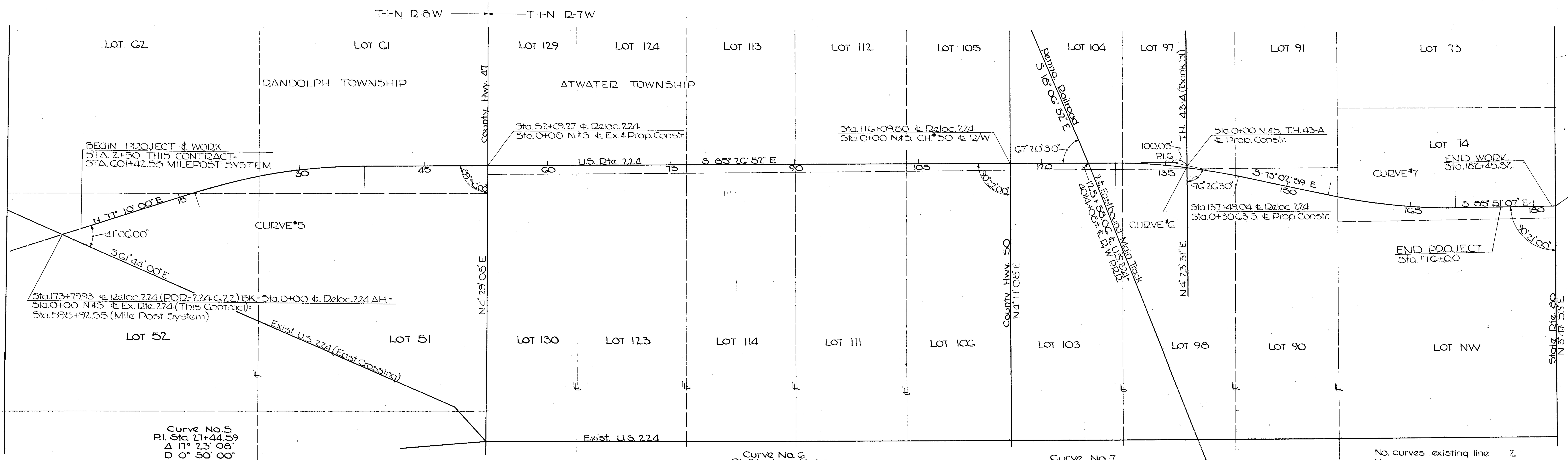
POR-224-9.58

RELOCATION PLAN

POR. - 224 - 9.58

PORTAGE COUNTY-RANDOLPH TOWNSHIP & ATWATER TOWNSHIP

Scale 1" = 600'



Curve No. 5
P.I. Sta. 27+44.59
Δ 17° 23' 08"
D 0° 50' 00"
R 6875.49'
T 1051.20'
L 2086.25'
E 79.82'
PC 16+93.39'
PT 37+79.64'

Note: The Ohio planning survey mile post system stationing is shown at the beginning and end of this project. However the stationing for this project is based on 0+00 at the intersection with Existing U.S. Rte. 224 (East Crossing)

Curve No. 6
P.I. Sta. 136+48.66
Δ 12° 23' 53"
D 0° 50' 00"
R 6875.49'
T 746.75'
L 1487.76'
E 39.98'
P.C. 129+01.91
P.T. 143+89.67

Curve No. 7
P.I. Sta. 162+83.01
Δ 12° 48' 08"
D 0° 50' 00"
R 6875.49'
T 771.36'
L 1536.26'
E 42.52'
P.C. 155+11.65
P.T. 170+47.91

No. curves existing line 2
No. curves proposed line 3
Max. curve existing line
Max. curve proposed line 0°50'
Length existing line 3.56 Miles
Length proposed line 3.46 Miles
Max. grade existing line
Max. grade proposed line 3.00%

Scale 1" = 600' Hor. 1" = 25' Vert.

RELOCATION PLAN

RELOC. U.S. ROUTE 224 TYPICAL SECTIONS
TYPE T-71

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330(4)		3/105

POR-224-9.58

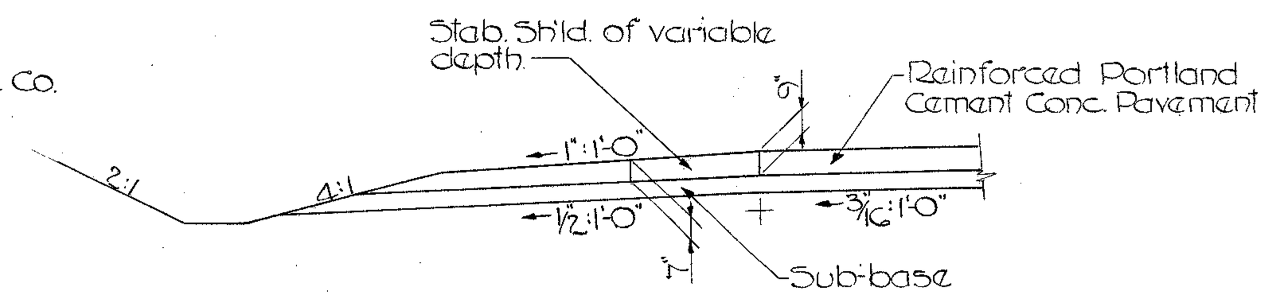
UTILITY COMPANIES

The Ohio Edison Co.
47 N. Main St.
Akron 8 Ohio

The Ohio Bell Telephone Co.
Room 504
820 W. Superior Ave
Cleveland, 13 Ohio

Sinclair Pipe Line Co.
235 St. Clair St.
Toledo 5, Ohio

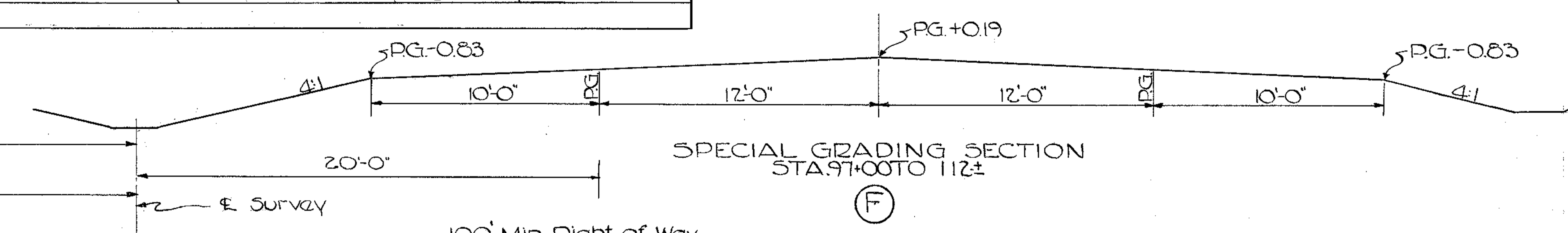
Pittsburg Coal Co.



TYPICAL SHOULDER SUB-BASE TREATMENT
(STA. 93+50 TO 108+50)
Scale 1"=5'

TYPICAL SECTION KEY		
Stations		Proposed Construction
From	To	
2+50	4+00	Grade & Pave Dual Highway Section A & B
4+00	13+50	Transition Grading & Paving to W.B. Lane Const. only A & E
13+50	97+00	Grade & Pave W.B. Lanes only A or C
97+00	112±-	Grade for Dual Highway Section-Pave W.B. Lanes only (See Special Grading Section) A or C & F
112±	176+00	Grade & Pave W.B. Lanes only A or C
176+00	S.R. 80	S.R. 80 Intersection (See Sheet No. 27 for Details)

Design Speed 70 M.P.H.

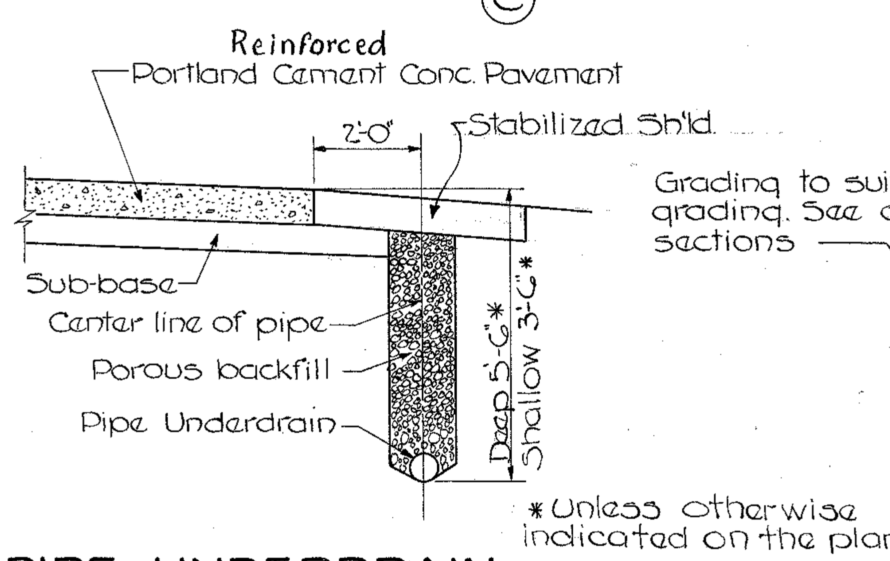


TANGENT SECTION
Scale 1"=5'

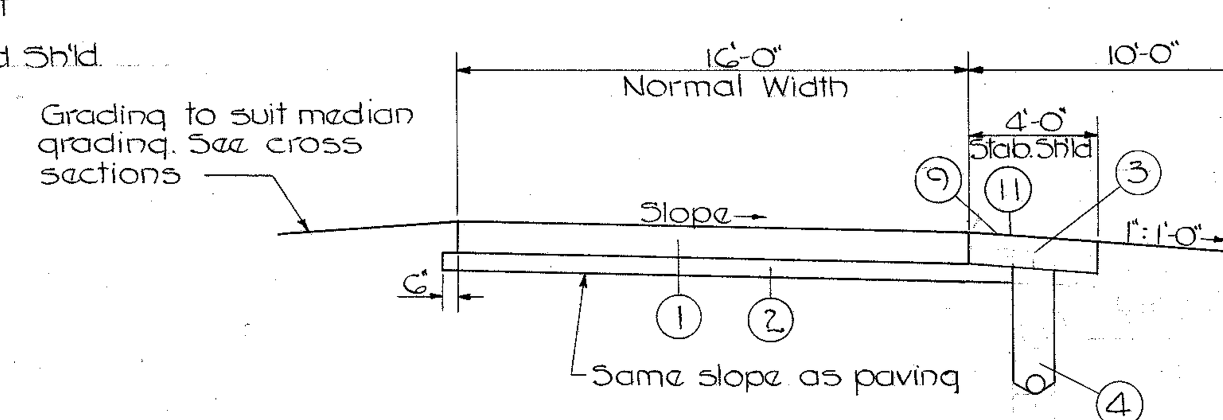
SUPER-ELEVATED SECTION
Scale 1"=5'

LEGEND

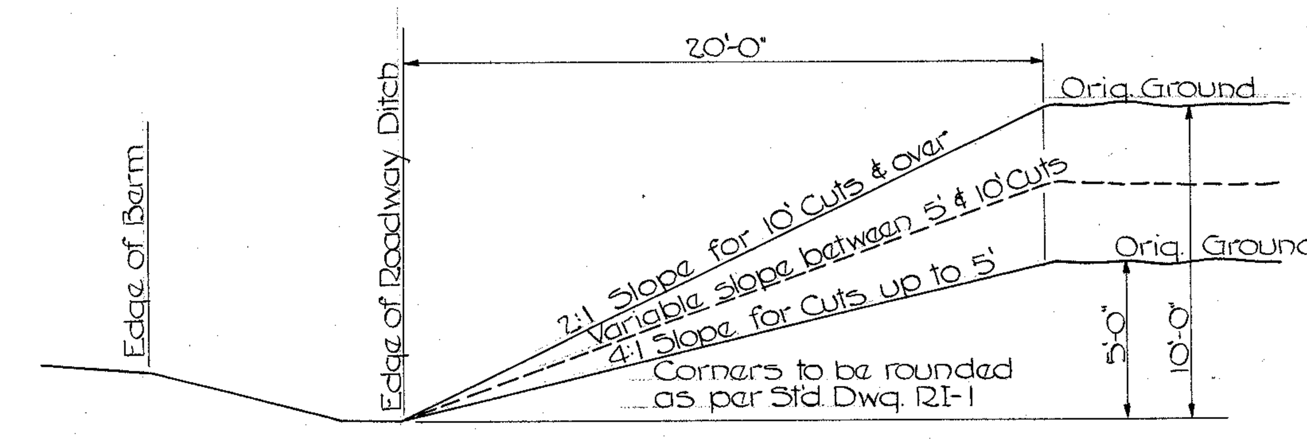
1. T-71, 9" Reinforced Portland Cement Concrete Pavement
2. I-22, 6" Sub-base
3. I-18, 9" Stabilized Crushed Aggregate Shoulders (Variable Depth between Sta. 93+50 & 108+50)
10. Std. Longitudinal Joint
4. I-4, 6" Pipe Underdrain (Shallow or deep as indicated on plans)
9. T-30 Bituminous Prime Coat — See General Note Sht. No. 2 for details
11. T-31 Bituminous Surface Treatment — See General Note Sht. No. 2 for details



PIPE UNDERDRAIN
Scale 1"=3'



TYPICAL TRANSITION SECTION
Scale 1"=5'
E

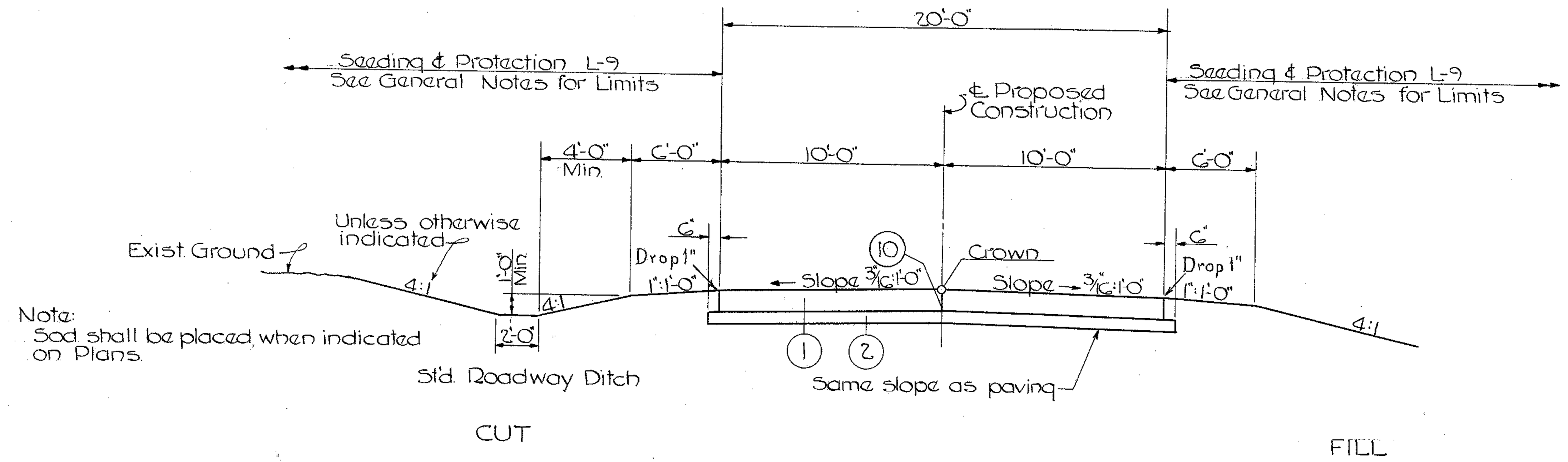


VARIABLE CUT SLOPE DESIGN
Scale 1"=5'-0"

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330(4)		4 / 105

POR-224-9.58

TYPICAL SECTIONS INTERSECTING ROADS

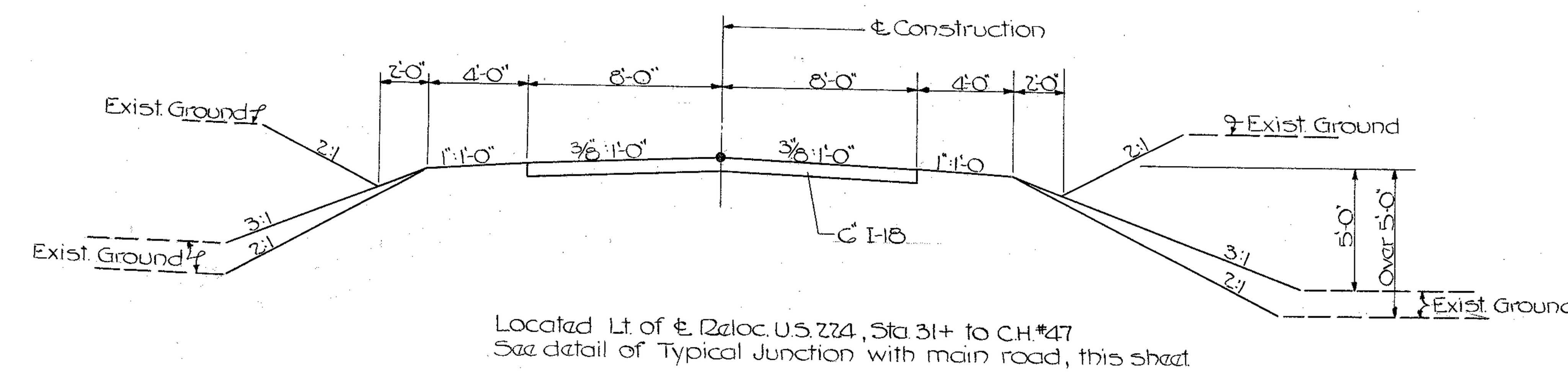


TYPICAL SECTION

CH.#47 — STA.0+10 N TO 0+95 S; STA.0+54 N TO 1+05 N

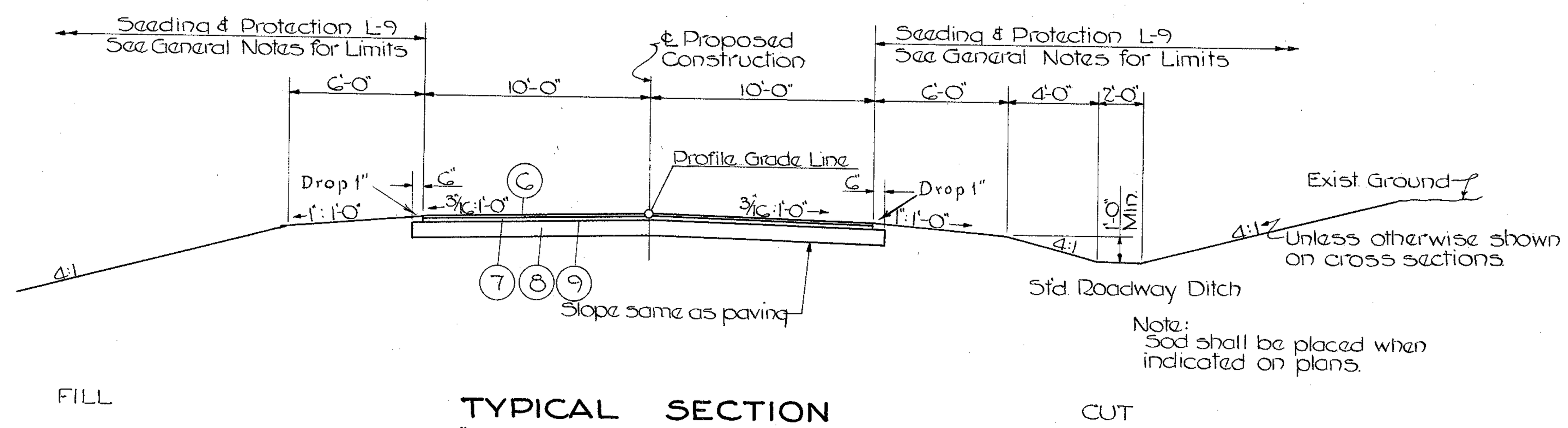
BANK ST. — STA.0+20.6 S TO 1+23.05 S; STA.0+23.4 N TO 0+71.24 N

Scale 1"=5'



TYPICAL SERVICE DRIVE

Scale 1"=5'



TYPICAL SECTION

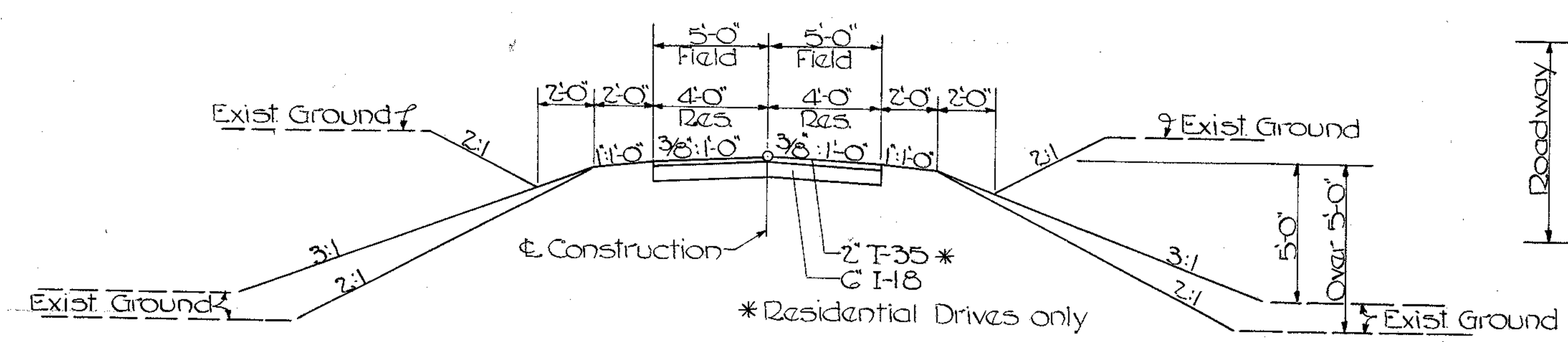
CH.#47 — STA.0+95 S TO 3+15 S; STA.1+05 N TO 3+15 N

BANK ST. — STA.1+23.05 S TO 5+25 S; STA.0+71.24 N TO 4+50 N

Scale 1"=5'

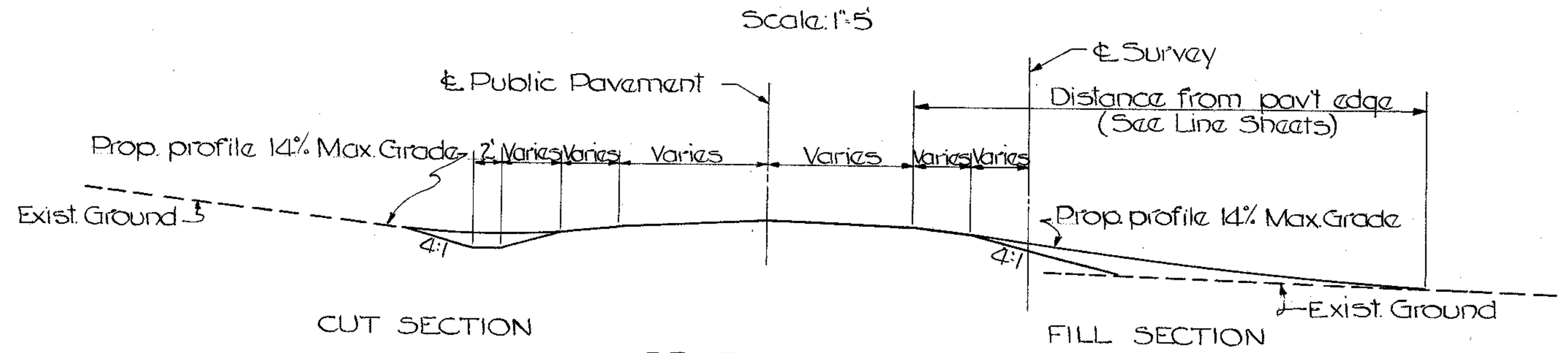
LEGEND

1. T-71, 9" Reinforced Portland Cement Concrete Pavement
2. I-22, 6" Sub-base
3. I-18, 6" Stabilized Crushed Aggregate Shoulders
4. I-4, Typical 6" Pipe Underdrain (Deep) (See Std. Construction Drawing RI-1)
5. I-4, Typical 6" Pipe Underdrain (Shallow)
6. T-35, 1½" Asphaltic Concrete Surface Course, Type "A" (70-85)
7. B-35, 2" Asphaltic Concrete Leveling Course (70-85)
8. I-18, 8" Sub-base (Stabilized Crushed Aggregate Shoulders and Approaches)
9. T-30, Bituminous Prime Coat (0.35 gal. per S.Y.) Sec. M-5.2, RC-1 or RC-2; or Sec. M-5.7, RT-2 or RT-3.
10. Std. Longitudinal Joint



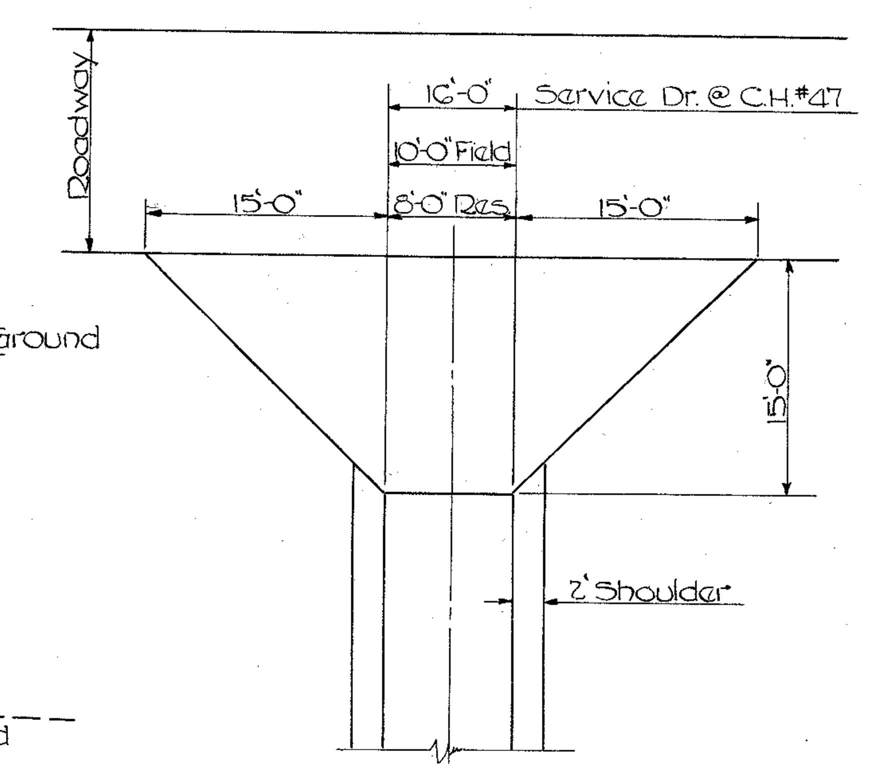
TYPICAL SECTION

Scale 1"=5'



DRIVE PROFILE

Scale 1"=10'



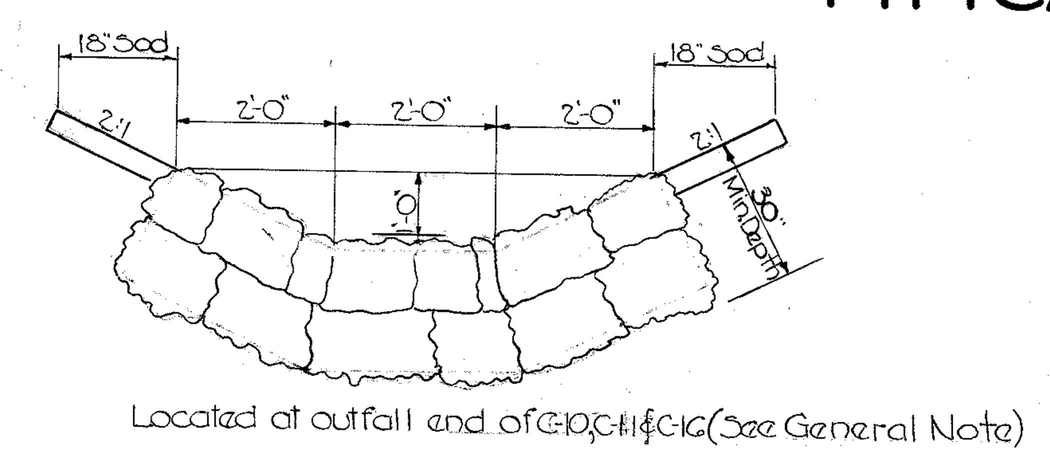
TYPICAL JUNCTION WITH MAIN RDS.

Scale 1"=10'

DRIVES					
Location	Station	Side	% Grade Lt.	% Grade Rt.	Type
CH.#47	1+15 S	Lt.	12.0%		Res.
"	1+65 S	Rt.		14.0%	Field
"	3+85 N	Lt.	0.3%		Res.
"	4+93 N	Rt.		Use Ex. Grade	Res.
Bank St.	1+70 N	Rt.		8.0%	Field

TYPICAL DRIVE DETAILS

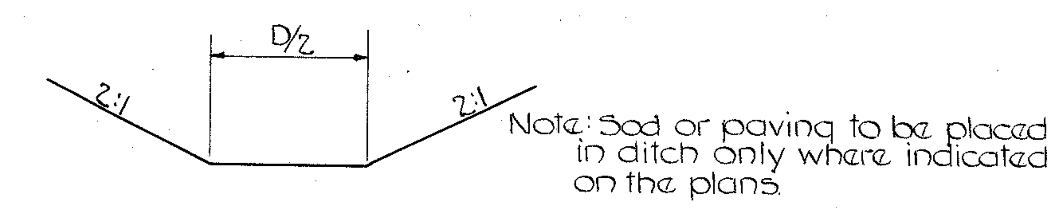
TYPICAL DETAILS



Located at outfall end of C-10, C-11 & C-16 (See General Note)

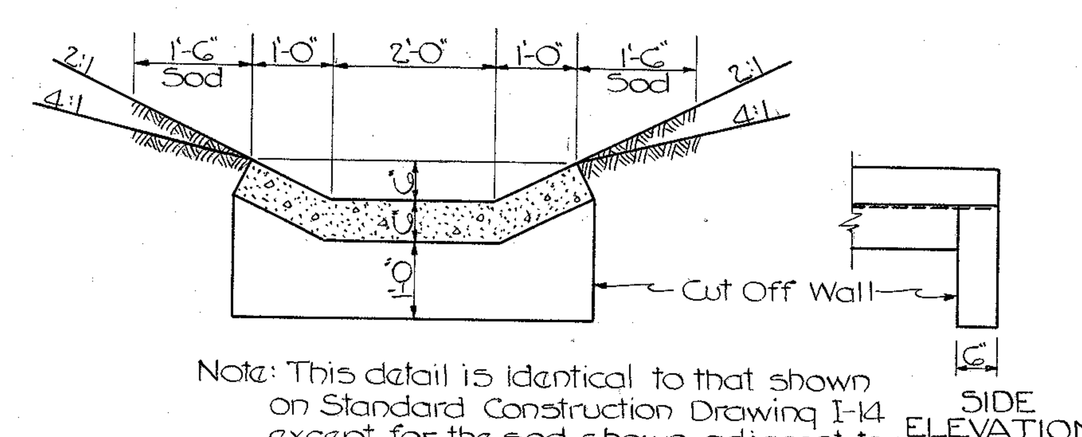
TYPICAL DUMPED ROCK CHANNEL PROTECTION

Scale 1"=2'



TYPICAL OUTLET DITCH

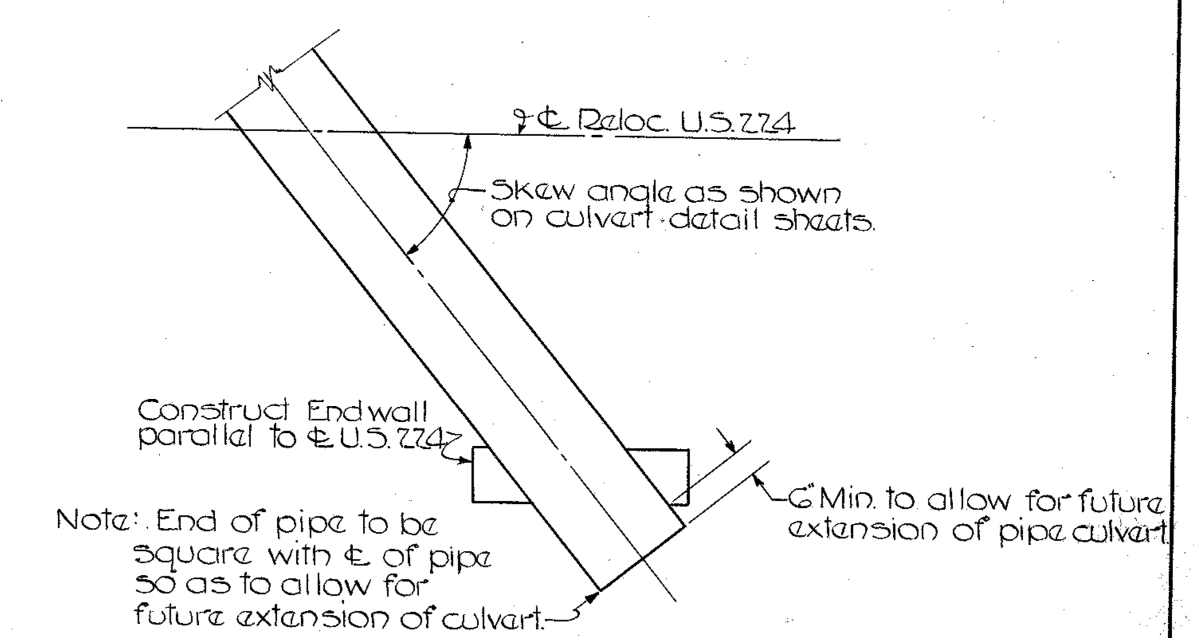
Not to Scale



Note: This detail is identical to that shown on Standard Construction Drawing I-14 except for the sod shown adjacent to the paving.

ST'D. TYPE I PAVED GUTTER

Scale 1"=2'



SPECIAL DETAIL FOR ENDWALL CONSTRUCTION AT SOUTH ENDS OF CULVERTS C-2, C-4, C-6, C-7, C-8, C-9 & C-13

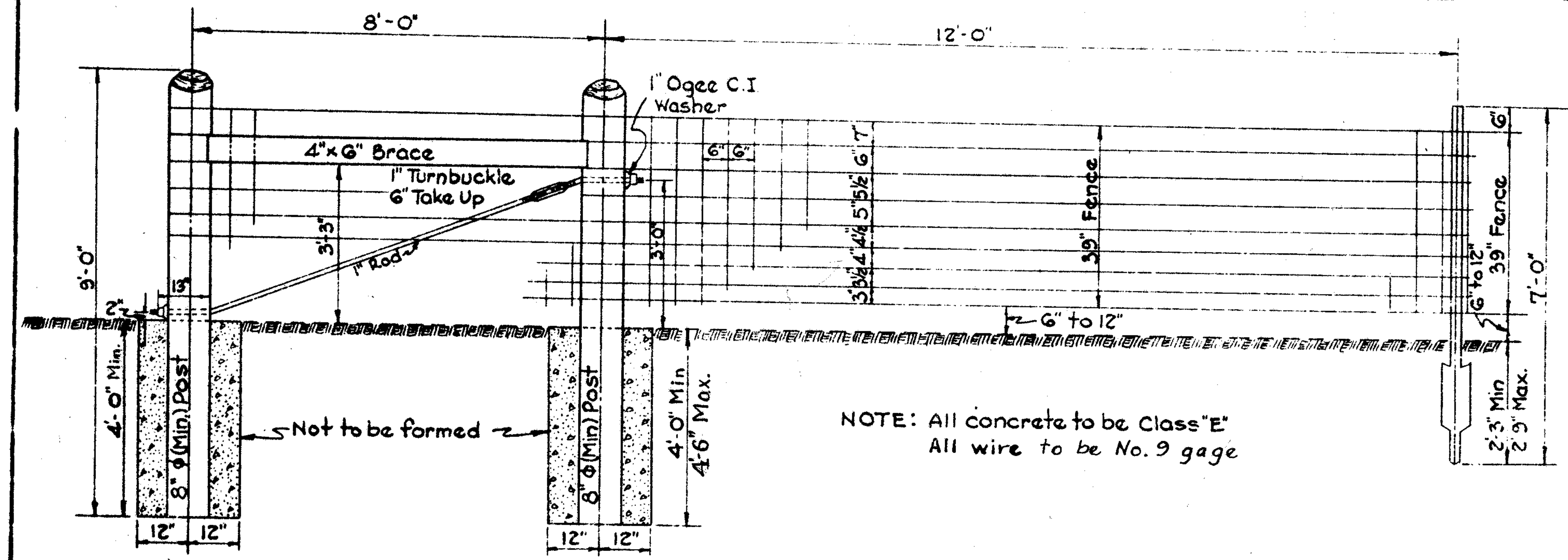
Not to Scale

TYPE "A" FENCE DETAIL

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-330(4)	

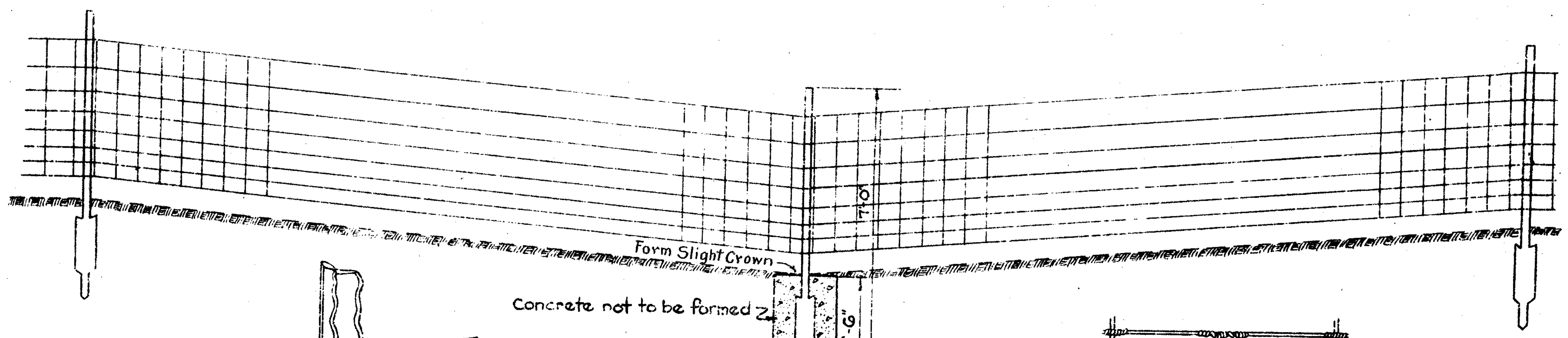
5/105

POR-224-9.58

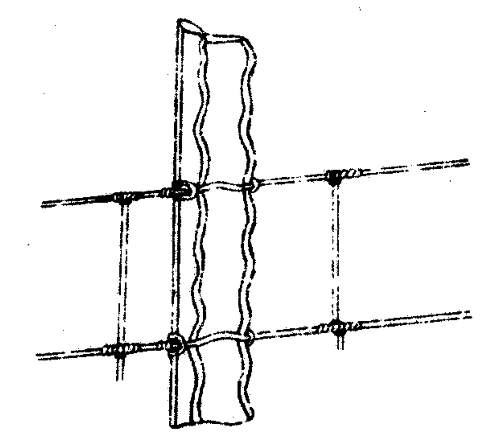


NOTE: All concrete to be Class "E"
All wire to be No. 9 gage

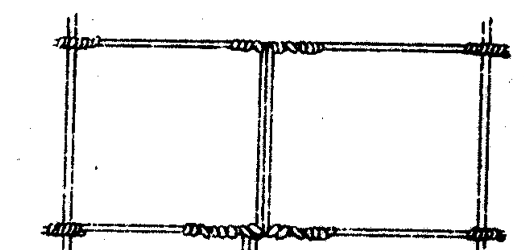
CORNER OR END POST ASSEMBLY



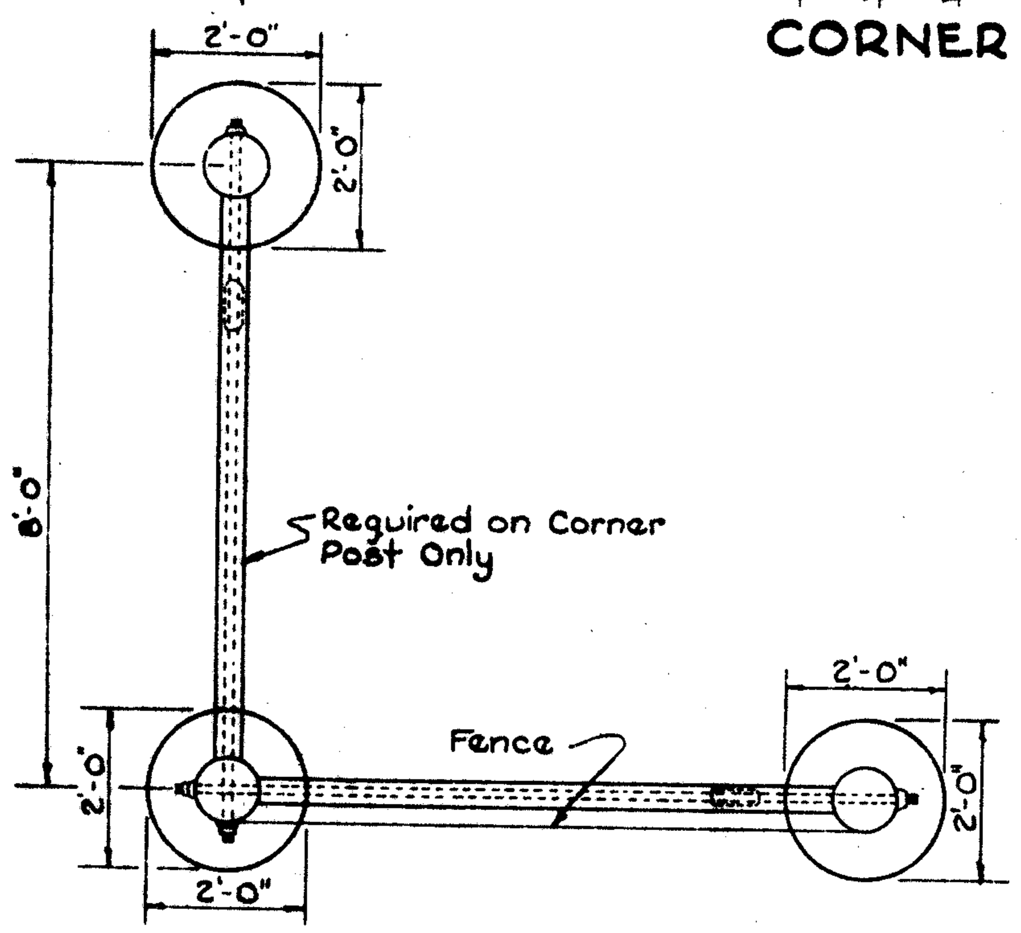
LINE POST IN DIP SECTION



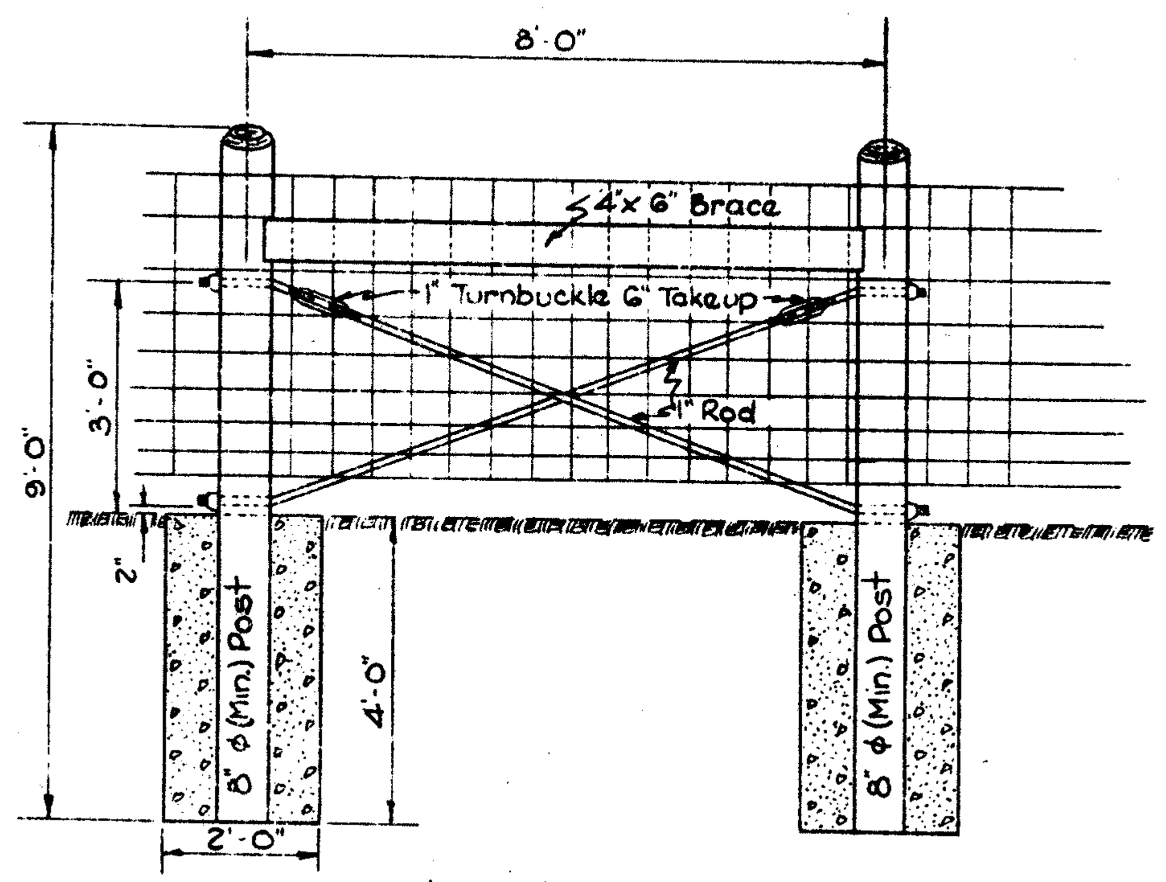
METHOD OF FASTENING FENCE AT LINE POST



SPLICE DETAIL

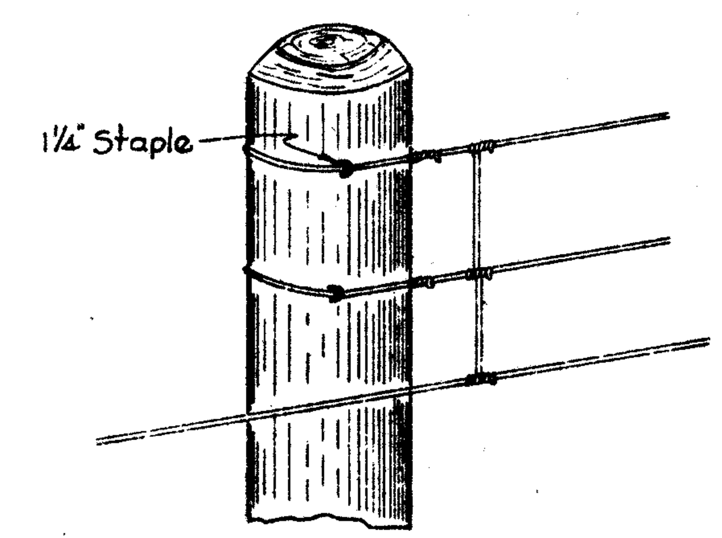


PLAN OF CORNER OR END POST ASSEMBLY

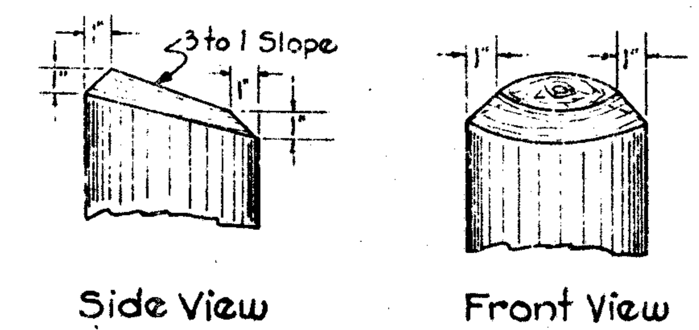


To be placed at locations shown on Plan or shifted if directed by the Engineer.

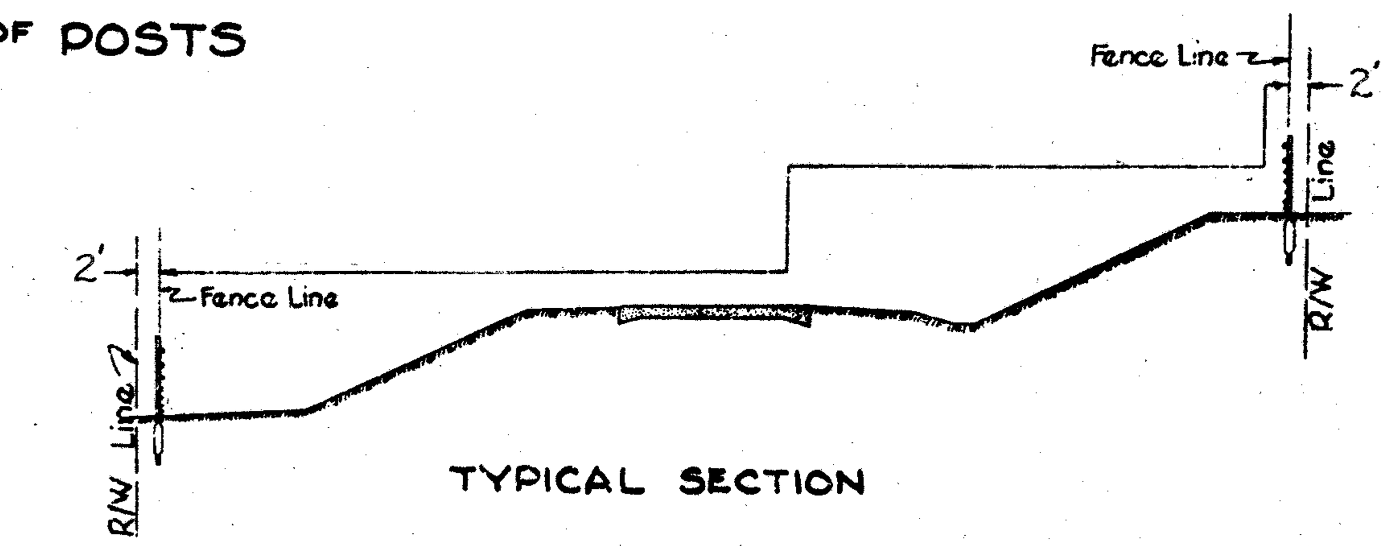
INTERMEDIATE ANCHOR POST ASSEMBLY



METHOD OF FASTENING FENCE AT END, CORNER POST AND ONE POST OF INTERMEDIATE ANCHOR POST ASSEMBLY

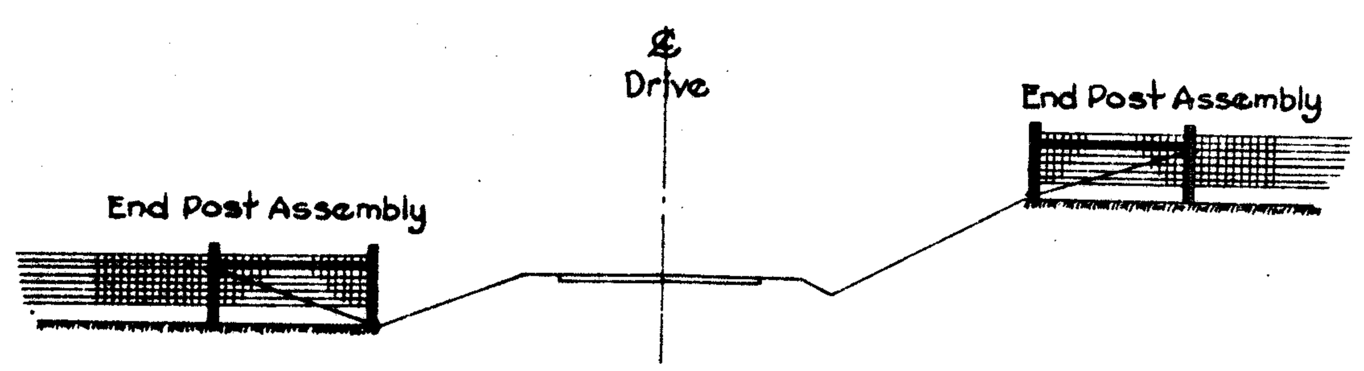


TOP OF POSTS



TYPICAL SECTION

Notes:
Maximum spacing between intermediate anchor post assemblies or between end post assemblies and intermediate post assemblies shall be 660 Lin. Ft.
At points where individual spans of fence change alignment in excess of 4 degrees and less than 30 degrees, an intermediate anchor post assembly shall be built. If the change in alignment is 30 degrees or more a corner post assembly shall be built at the point of change.



R/W FENCE TREATMENT AT DRIVES

R/W FENCE TREATMENT AT CULVERTS

REV. 7-26-56

TYPE "A" FENCE DETAIL

GENERAL NOTES

BERMS & SLOPES
Berms and slopes shall be finished in accordance with the typical sections except where otherwise shown or noted on the cross sections. Although the cross sections as drawn show straight lines and angles, in construction all corners shall be rounded as shown on Std. Dwg. RI-1. All transitions from Cut to Fill slopes shall be blended with the surrounding terrain as directed by the engineer.

FIELD OFFICE
The contractor shall provide a suitable field office in accordance with section S-0.01 having a minimum floor area of 300 sq. ft. The contractor shall have a telephone installed and maintained during the construction of this project.

TREE & STUMP REMOVAL
All trees and stumps within the construction limits, which are 12" or more as measured per item 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 trees shown on the plan. Payment for the removal of these additional trees or stumps is included in the Lump Sum bid for the removal of trees & stumps.

MAIL BOXES
The protecting moving and adjusting etc. of all mail boxes to secure satisfactory delivery of U.S. Mail shall be considered a part of item G-7.09 "Preservation & Restoration of Property."

ITEM 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 work limits. Seeding shall be omitted on areas to be sodded.

ITEM L-10 SODDING
Areas to be sodded shall be loosened to a depth of 2" just prior to laying the sod. This work shall be included for payment in the price bid per sq. yd. of sodding.

ITEM L-9 AGRICULTURAL LIMING MATERIAL
The location and need for agricultural ground limestone will be determined by laboratory tests after rough grading operations have been performed. On the areas where tests indicate the material is not needed, it will not be performed

SCALPING
Topsoil from the scalping operating shall be salvaged and placed on all areas to be seeded and sodded as per **E-101**.03(a) and **E-101**.05(d). The thickness of replaced topsoil shall be a minimum of 2 inches (loose measurement).

I-22 SUBBASE
In the finishing of slopes and ditches care shall be exercised so that the exposed edge of the subbase (where it extends through the shoulder) be left free of earth cover that would impede free drainage.

DRIVEWAYS
The distance shown on driveways refers to the length of cut or fill from edge of pavement to the origional ground. On old drives the surface course shall extend to the point where the new work meets the existing drive. The maximum allowable grade is 14%. For proposed grades of new drives, see sht. # 4

CONTRACTION JOINTS
In addition to the pavement joints detailed for approaches and intersections, the maximum distance between contraction joints shall in all cases be accordance with Std. Dwg. T.J.

DUST CONTROL
Five (5) tons of calcium chloride has been provided for reduction of dust near all residences. The calcium chloride will be applied at the direction of the project engineer. This quantity is provided for in the General Summary.

ITEM T-30 BITUMINOUS PRIME COAT
Bituminous prime coat; Sec. M-5.7, RT-2 or RT-3; or Sec. M-5.3, MC-0 or MC-1 applied at the rate of 0.45 gal. per sq. yd. This item is to be applied in two applications, 0.30 gal. per sq. yd. and 0.15 gal. per sq. yd.; unless in the opinion of the Engineer the material can all be applied in one application without draining off.

ITEM T-31 BITUMINOUS SURFACE TREATMENT
Bituminous surface treatment, using 0.01 cu. yd. No. 6 aggregate per sq. yd., and 0.25 gal. bituminous material Sec. M-5.7 RT-8 or RT-9, or Sec. M-5.3 MC-4 or MC-5 per sq. yd.

UTILITY NOTE
Any and all work required for removing, relocating and construction of new facilities for private or public utilities will be done by and at the expense of the respective owners unless otherwise noted on the plans.

RIGHT OF WAY
All details shown for the Right of Way Lines on the plans are referenced to the ℄ of the Right of Way which is not in all cases the ℄ of proposed construction.

UNDERGROUND UTILITIES
The locations of the underground utilities shown on the plans have been obtained by diligent field checks and searches of available records. It is believed they are essentially correct, but the State of Ohio makes no guarantees as to their accuracy or completeness.

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 the adjusting and resetting of markers shall be included in the unit price bid for item **E-101** Roadway Excavation.

REMOVAL OF EXISTING HOUSE DRAINS
The removal of all existing house connections which includes sanitary, yard, roof-basement or other similar pipe drains within the roadway construction limits shall be classified and paid for as Item **E-101** Roadway Excavation, unless otherwise itemized for payment in the plans.

MEDIAN
Stations given for the beginning and end of the median are to the radius points.

TILE FOR SUBGRADE DRAINAGE
6" Drain tile shall be furnished and placed by the contractor in manholes, catch basins, and inlets for subgrade drainage, where & as directed by the engineer. Payment for same shall be included in the price bid per "Each" for manholes, catch basins, and inlets.

SPECIAL DITCHES
For special ditch grades, see cross sections.

SPECIAL SEEDING
Recently cultivated areas located within the right of way but beyond the limits prescribed for item L-9, Seeding and Protecting, where directed by the Engineer, shall be seeded in accordance with the following.
The area shall be cleared of all weeds and other objectionable material and the surface shall be loosened to a depth of two (2") inches. Red top seed shall be evenly sown in an approved manner at the rate of two pounds to each one thousand square feet. The area shall then be raked or dragged with a light drag to cover the seed. Fertilizing, *liming and mulching will not be required.*
Seed shall meet the requirements of section L-9.04 of the specifications.
Special seeding shall be performed only between April 1 and May 31 or between September 1 and October 15.
Measurement and payment for item, "Special Seeding as per plan", shall be made in accordance with the applicable provisions of Sections L-9.12 and L-9.13 of the specifications.

ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION
Access to all properties abutting this improvement exclusive of those within the L.A. portion, shall be provided and maintained at all times by the Contractor.

OVERHEAD SIGN ASSEMBLY
Overhead Sign Assembly is to be placed at approximate location shown on detail plans. The final location shall be at the direction of the project engineer.

UNDERGROUND PIPE FOR TRAFFIC SIGNAL INSTALLATIONS
Underground pipe for traffic signal installations will be installed at the S.R. 80 intersection as shown on the plan. The pipe will be placed radial to the ramp baseline (Curve "C") at a depth of not less than 18" or more than 30" from the surface of the pavement and extend 2' beyond the edge of the pavement and be capped so as to keep the earth out of the pipe. Quantities are carried on the line sheet. *Galvanizing of Pipe shall be in accordance with the provisions of Sec. M-7.4 (d).*

TRAFFIC
Two way traffic shall be maintained at all times on existing S.R. 80. The contractor shall so arrange this work, that a minimum of inconvenience and a maximum of safety shall be assured traffic on this route.
The contractor shall notify the County Engineer and/or Township Authorities prior to the beginning of work on C.H. #47, C.H. #50 and T.H. 43A (Bank St.)
The contractor shall maintain the existing roadways and pavements within the limits of the proposed construction by making the necessary repairs including patching the pavement with bituminous material when requested by the engineer. A quantity of asphaltic concrete has been set up as a pay item for maintaining traffic the same as for aggregate and calcium chloride.
200 Cu. Yds. of T-10, 4 Tons of M-10 and 10 Cu. Yds. of T-35 have been included in the General Summary to be used as directed by the engineer for maintaining traffic on all roads.
Two way traffic shall be maintained at all times on County Highways No. 47 and 50, except that one-way traffic will be permitted on C.H. 50 during the period that falsework is required for placement of superstructure concrete. A minimum lateral clearance of 16 ft. and a minimum vertical clearance of 12 ft. shall be provided for one way traffic. Township Highway 43-A (Bank Street) may be closed to traffic for a period not to exceed four (4) weeks. Two way traffic shall be maintained on T.H. No. 43-A at all other times. The contractor shall safe-guard the traveling public on C.H. No. 50 by providing platforms, nets or other suitable protection above the traveled lanes.
Payment for construction, maintenance and subsequent removal, where required, of temporary roadways, except for furnishing and placing of Items T-10 and M-10, shall be included in the Lump Sum bid for "Maintaining Traffic."
See Note in Proposal concerning Item T-35 for "Maintaining Traffic".

ITEM T-10
Slacker Aggregate (Sec. M-3.14) may be furnished for this item.

ITEM I-15 TEMPORARY GUARD RAIL - SHEET NO. 11
See Note in Proposal

CONSTRUCTION LAYOUT STAKES
See note in Proposal describing work included in this Lump Sum pay item.

DESIGN REVISION TO E-101, I-22, & I-4
The typical section originally designed for this project drained the sub-base through the shoulder area. Since that time the typical section has been revised to provide underdrain pipe I-4 along each edge of pavement and thereby eliminating the extension of the I-22 sub-base material through the shoulder area except between Sta. 93+50 & 108+50.
The typical section and the quantities have been revised to reflect this change but the cross section templates have not been adjusted.
The following quantity changes have been carried to the Calculation Sheet as a result of this design revision.

E-101 Excavation	2058 C.Y. Less
E-101 Embankment	2063 C.Y. Additional
I-22 Sub-base Material	4463 C.Y. Less

The contractor is hereby advised that the project shall be constructed in accordance with the typical section.

RECAPITULATION

ROADWAY

SHEET NO.	E-101 EARTHWORK EXCAV. C.Y.	E-101 EARTHWORK EMB. C.Y.	E-101 EARTHWORK EMB. + 25% SHR. C.Y.	L-9 SEEDING & PROTECT. S.Y.	E-12 PIPE REMOVED (15" & Under) L.F.	I-8 MON. BOX ASSEMBLY EA.	I-15 DEEP BEAM L.F.	I-15 BARRICADE TEMP. GUARD RAIL L.F.	SS-18 RIGHT OF WAY FENCE L.F.	S-25 3" M-69 STEEL PIPE L.F.	BRIDGE TYPE OVERHEAD SIGN ASSEMBLY TYPE A OS-1-A EA.		E-12 PIPE REMOVED (Over 15") L.F.	I-9 Stone Underdrains No1 L.F.
10	10			645										
11	8477	147		10688				200	2200					
12	13108	48		11000		2			2400					
13	3821	4605		13817		1			2400					
14	5577	3415		15798					2400					
15	10437	2989	See Calculation Sheet	10364		1			2262					
16	1951	871		5000	35								80	
17	6721	2922		11585					2400					
18	14516	4349		12311		1			2400					
19	136896			22834					2400					
20	108049	72		24367		1			2400					
21	2111	178260		30373		1	1812		2333					
22	1723	160853		27869	40	1	2042.75		2223					
23	7671	2730		11749		1	135		2339					
24	460	2472		5039	94									
25	19574	3020		12628		1			2400					
26	567	14379		12175		1			2400					
27 & 28	7647	53	(U.S.224)	10057		1			2093	20	1			
	1458	225	(S.R.#80)	2208										
FROM SH'T. 6&8														5
FROM SH'T. 33					35									
TOTALS	350774	381410		250467	204	12	3989.75	200	35,050	20	1		80	5
TO CALCULATION	350774	381410		250467										
TO GEN. SUMMARY					204	12	3989.75	200	35,050	20	1		80	5

DRAINAGE

SHEET NO.	I-8 No1 Man hole for Control of Springs EA.	I-3 6" M-64(h) with POROUS BACKFILL RDWY. DR. L.F.	I-1 12" L.F.	I-4 UNDERDRAINS 6" SHALLOW L.F.	I-4 UNDERDRAINS 6" DEEP L.F.	I-4 UNDERDRAINS 8" OUTLET L.F.	I-5 6"x45° Bend EA.	I-5 6"x8" Tee EA.	I-14 ST'D. TYPE I PAVED GUTTER L.F.	I-14 SPEC. TYPE 'A' PAVED GUTTER L.F.	I-14 SPEC. TYPE 'B' PAVED GUTTER L.F.	I-14 SPEC. TYPE 'C' PAVED GUTTER L.F.	I-14 SPEC. TYPE 'D' PAVED GUTTER L.F.	I-14 SPEC. TYPE 'E' PAVED GUTTER L.F.	L-10 SODDING S.Y.	I-2 CLASS A 12" L.F.	I-2 CLASS A 12" UNDER PAV'T. L.F.	I-8 ST'D. 3-A CATCH BASIN EA.	I-8 ST'D. 2-2-A CATCH BASIN EA.
10				688		40			135						45				
11				1121	2118	20	4		225						860				
12					2400														
13				803	1068	20	2								440				
14				1048	1150	20	2												
15				521	1845	20	2								105				
16			98																
17				1296	1140	20	2								900				
18				1300	1100				35		430				327				
19					1120	20	2								1912				
20				350	700				200						2366				
21		84		1106	50	77	2	2	800			260		240	1236				
22				1348		10	1		490						1281				
23				1610		95	1	1							399				
24			24																
25				1910															
26				1275											150				
27 & 28				2439		94	4		330						520	82	64	2	1
FROM SH'T. 6&8	2	80																	
FROM SH'T. 33									106	40			40		76				
TOTALS	2	164	122	16815	12691	436	22	3	2321	40	430	260	40	240	10617	82	64	2	1
TO CALCULATION																			
TO GEN. SUMMARY	2	164	122	16815	12691	436	22	3	2321	40	430	260	40	240	10617	82	64	2	1

PAVEMENT

SHEET NO.	I-12 TYPE 2-A CURB L.F.	I-18 6" STAB. CRUSHED AGG. C.Y.	I-23 PRECAST CONC. TRAFFIC DIVIDERS EA.	T-35 2" C.Y.	T-35 for Maint'n'g. Traffic. C.Y.
10					
11			12		
12					
13		310.0			
14		356.0			
15					
16		64.0		10.5	
17					
18					
19					
20					
21					
22					
23					
24		9.4			
25					
26					
27 & 28	929		8		
FROM SH'T. 6&8					10.0
FROM SH'T. 33					
TOTALS	929	739.4	20	10.5	10.0
TO CALCULATION		739.4		10.5	
TO GEN. SUMMARY	929		20		10.0

CALCULATIONS

I-18 STABILIZED CRUSHED AGGREGATE SHOULDERS & APPROACHES

Reloc. U.S. Rte. 224

2+50	To	4+00	150×2	300.00 Lin.Ft.
4+00	To	13+50		950.00 Lin.Ft.
4000+00	To	4009+52.32	(Transition)	952.32 Lin.Ft.
13+50	To	52+09.22	3859.22 x2	7718.44 Lin.Ft.
52+09.22	To	53+29.39	(Includes Inter. Returns)	324.00 Lin.Ft.
53+29.39	To	136+86.04	8356.65 x 2	16713.30 Lin.Ft.
136+86.04	To	138+04.16	(Includes Inter. Returns)	309.80 Lin.Ft.
138+04.16	To	176+00	3795.84 x 2	7591.68 Lin.Ft.
176+00	To	182+45.32		671.30 Lin.Ft.
200+00	To	208+42.71	(Curve A)	842.71 Lin.Ft.
			Total	36373.55 Lin.Ft.

Deduct for Bridge Area @ C.H. 50 125.00×2 — 250.00 Lin.Ft.
Deduct for Bridge Area @ Penna. R.R. 173.88×2 — 347.76 Lin.Ft.
Total length of I-18 on Shoulders 35775.79 Lin.Ft.

I-18 on Shoulders (Other than Sta. 93+50 to 108+50)
35775.79 L.F. — 3000 L.F. (93+50 to 108+50)
=32775.79 ×4×0.75×1/27 = 3641.8 Cu.Yds.
I-18 on Shoulders (93+50 to 108+50) = 3000 L.F.×4×0.67*×1/27 = 297.8 Cu.Yds.
Total for Drives from Recap. Sheet = 739.4 Cu.Yds.
Under C.H. 47 Pavement (1470 S.Y. x 8/36 Yd.) = 326.6 Cu.Yds. *Average Depth
Under Bank St. Pavement (1810.5 S.Y. x 8/36 Yd.) = 402.3 Cu.Yds.
Total 5407.9 Cu.Yds.
Use 5408 Cu.Yds.

I-22 SUB-BASE MATERIAL

Reloc. U.S. Rte. 224

2+50	To	4+00		150×96 =14400	Sq.Ft.
4+00	To	5+50	*(Average Width Incl. Taper)	150×*97.8 = 14650	Sq.Ft.
5+50	To	8+00	*(" " " ")	250×*87 = 21750	Sq.Ft.
8+00	To	13+50	*(" " " ")	550×*42 = 23100	Sq.Ft.
13+50	To	16+25		275×29.3 = 8058	Sq.Ft.
16+25	To	33+45		1720×27.7 = 47644	Sq.Ft.
33+45	To	38+50		505×37 = 18685	Sq.Ft.
38+50	To	44+00		550×48 = 26400	Sq.Ft.
44+00	To	46+50		250×29.3 = 7325	Sq.Ft.
46+50	To	49+00		250×48 = 12000	Sq.Ft.
49+00	To	50+09		109×29.3 = 3194	Sq.Ft.
50+09	To	55+19	*(Average Width for Taper)	510×*35.6 = 18156	Sq.Ft.
55+19	To	57+00		181×29.3 = 5303	Sq.Ft.
57+00	To	57+75		75×38.7 = 2903	Sq.Ft.
57+75	To	60+00		225×48 = 10800	Sq.Ft.
60+00	To	69+50		950×29.3 = 27835	Sq.Ft.
69+50	To	82+50		1300×48 = 62400	Sq.Ft.
82+50	To	93+50		1100×29.3 = 32230	Sq.Ft.
93+50	To	108+50		1500×48 = 72000	Sq.Ft.
108+50	To	112+25		375×38.7 = 14513	Sq.Ft.
112+25	To	115+47		322×48 = 15456	Sq.Ft.
116+72	To	124+65		793×48 = 38064	Sq.Ft.
126+38	To	128+25		187×48 = 8976	Sq.Ft.
128+25	To	134+86		661×37 = 24457	Sq.Ft.
134+86	To	139+94	*(Average Width for Taper)	508×*47.3 = 24028	Sq.Ft.
139+94	To	144+50		456×37 = 16872	Sq.Ft.
144+50	To	154+25		975×48 = 46800	Sq.Ft.
154+25	To	171+25		1700×37 = 62900	Sq.Ft.
171+25	To	176+00		475×48 = 22800	Sq.Ft.
176+00	To	178+58	*(Average Width for Taper)	258×*53 = 13674	Sq.Ft.
178+58	To	182+45.32	*(Includes Entire Intersection)	* 38850	Sq.Ft.
			Sub-Total	756223	Sq.Ft.

County Hwy 47

0+57(N)	To	1+05(N)	*(Average Width of Returns)	48×*39 = 1872	Sq.Ft.
0+08(N)	To	0+95(S)	*(" " " ")	107×*29 = 3103	Sq.Ft.
			Sub-Total	4975	Sq.Ft.

Bank St.

0+24.37(N)	To	0+71.24(N)	*(Average Width of Returns)	46.87×*39.8 = 1865	Sq.Ft.
0+32.63(S)	To	1+23.05(S)	*(" " " ")	90.42×*24 = 2170	Sq.Ft.
			Sub-Total	4035	Sq.Ft.

Recapitulation
756223 + 4975 + 4035 = 765233 Sq.Ft. x.5 ÷27 = 14171 Cu.Yds.
Add for under I-18 601 Cu.Yds.
Total 14772 Cu.Yds.
Adjustment for Design Revision (See General Note Sheet #6)
14772 C.Y. — 4363 C.Y. = 10410 Cu.Yds.
Use 10410 Cu.Yds.

E-101 ROADWAY EXCAVATION

Total from Recapitulation Sheet 350,774 Cu.Yds.
Adjustment for Design Revision (See General Note Sheet #6) — 2,058 Cu.Yds.
Total 348,716 Cu.Yds.
Use 348,716 Cu.Yds.

E-101 ROADWAY EMBANKMENT & E-4 BORROW

Total from Recapitulation Sheet 381,410 Cu.Yds.
Adjustment for placement of material above Sub-base in Shoulder Areas 3,033 " "
Adjustment for Design Revision (See General Note Sheet #6) 2,063 " "
Total Embankment 386,506 Cu.Yds.
Embankment + 25% Shrinkage 483,133 " "
Deduct E-101 Roadway Excavation 348,716 " "
Borrow 134,417 Cu.Yds.
Use 134,417 Cu.Yds.

E-101 COMPACTED SUB-GRADE

Area for T-71 Paving (Main Line & Side Roads) 53,329 Sq.Yds.
Area for County Hwy. 47 Paving 1400 Sq.Yds.
Area for Bank St. Paving 1724 Sq.Yds.
Area for I-7 Bridge Approach Slabs 267 Sq.Yds.
Total 56,720 Sq.Yds.
Use 56,720 Sq.Yds.

E-11 WATER

Embankment	386,506 Cu.Yds. x 5 Gals.		1,932,530 Gals.
I-18	5408 Cu.Yds. x 20 Gals.		108,160 Gals.
I-22	10,410 Cu.Yds. x 10 Gals.		104,100 Gals.
		Total	2,144,790 Gals.

Use 2145 M.Gals.

L-9 12-12-12 FERTILIZER 20 lbs./1000 sq.ft.

From Recapitulation Sheet 250,467 Sq.Yds.
Deduct for Paved Gutter — 1,815 Sq.Yds.
248,652 Sq.Yds.

$$\frac{9\times 248{,}652\times 20}{2000\times 1000} = 22.38 \text{ Tons}$$

Use 22.38 Tons

L-9 AGRICULTURAL GROUND LIMESTONE 100 lbs./1000 Sq.Ft.

From L-9 above 248,652 Sq.Yds.

$$\frac{9\times 248{,}652\times 100}{2000\times 1000} = 111.89 \text{ Tons}$$

Use 111.89 Tons

L-9 SEEDING & PROTECTING

Sub-Total from Recapitulation Sheet 250,467 Sq.Yds.
Deduct Following:
L-10 Sodding 10,617 Sq.Yds.
Paved Gutter 1,815 Sq.Yds.
12,432 Sq.Yds. — 12,432 Sq.Yds.
Total 238,035 Sq.Yds.
Use 238,035 Sq.Yds.

T-10 TRAFFIC COMPACTED SURFACE COURSE FOR MAINTAINING TRAFFIC

From General Notes 200 Cu.Yds.
Use 200 Cu.Yds.

M-10 CALCIUM CHLORIDE

From General Notes:
Maintenance of Traffic 4 Tons
Dust Control 5 Tons
Total 9 Tons
Use 9 Tons

T-35 ASPHALTIC CONCRETE SURFACE COURSE – FOR MAINTAINING TRAFFIC (SEE NOTE IN PROPOSAL).

OR APPROVED BITUMINOUS PREMIXED SURFACE COURSE

From Recapitulation Sheet № 7 10.0 Cu.Yds.
Use 10 Cu.Yds.

T-31 BITUMINOUS SURFACE TREATMENT – BITUMINOUS MATERIAL (M-5.7 RT-8 or RT-9 or M-5.3 MC-4 or MC-5)

$$0.25 \text{ Gal/S.Y.} \times \frac{(35775.79)(4)}{9} = 3975.1 \text{ Gals.}$$

Use 3976 Gals.

T-31 BITUMINOUS SURFACE TREATMENT (NO. 6 AGGREGATE)

$$0.01 \text{ C.Y./S.Y.} \times \frac{(35775.79)(4)}{9} \text{ S.Y. (Shoulders)} = 159.0 \text{ Cu.Yds.}$$

Use 159 Cu.Yds.

T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

Reloc. U.S. 224

2+50	To	8+00	Dual Construction =	26,400.00 Sq.Ft.
4+00	To	13+50	Transition Area =	7,125.00 Sq.Ft.
8+00	To	50+09.22	4209.22 × 24 =	101,021.28 Sq.Ft.
50+09.22	To	55+29.39	Taper & Inters. Area =	23,679.21 Sq.Ft.
55+29.39	To	134+86	7956.61 × 24 =	190,958.64 Sq.Ft.
134+86	To	140+04	Taper & Inters. Area =	23,200.00 Sq.Ft.
140+04	To	176+00	3596 × 24 =	86,304.00 Sq.Ft.
176+00	To	182+45.32	Includes Entire Intersection =	30,844.00 Sq.Ft.
			Sub-Total	489,532.13 Sq.Ft. ÷ 9 = 54,392.45 S.Y.

Deduct for Bridge Areas
C.H. 50 - 115+47.30 to 116+72.30 - 24×125.00 3000.00 Sq.Ft.
Penna. R.R. - 124+78.26 to 126+52.14 - 24×173.88 4173.00 Sq.Ft.
Bridge approach slabs 4×25×24 = 2400.00 Sq.Ft.
9573.00 Sq.Ft. ÷ 9 = —1063.66 Sq.Yds.
Total 53,328.79 Sq.Yds.
Use 53,329 Sq.Yds.

T-35 ASPHALTIC CONCRETE SURFACE COURSE

2" From Recapitulation Sheet 10.5 Cu.Yds.
1½" (County Hwy #47 1400 Sq.Yds. x 1.5/36 Yd. 58.3 Cu.Yds.
1½" (Bank St 1723.8 Sq.Yds. x 1.5/36 Yd. 71.8 Cu.Yds.
Total 140.6 Cu.Yds.
Use 141 Cu.Yds.

B-35 ASPHALTIC CONCRETE LEVELING COURSE

2" (County Hwy #47) 1400 Sq.Yds. x 2/36 Yd. 77.8 Cu.Yds.
2" (Bank St.) 1723.8 Sq.Yds. x 2/36 Yd. 95.7 Cu.Yds.
Total 173.5 Cu.Yds.
Use 174 Cu.Yds.

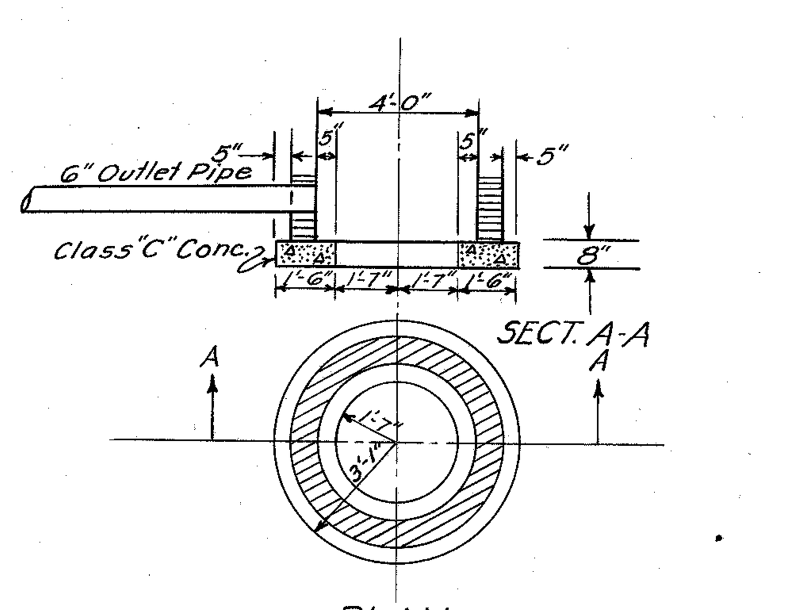
T-30 BITUMINOUS PRIME COAT (M-5.7 RT-2 or RT-3 or M-5.3 MC-0 or MC-1

0.45 Gal. × 1470 Sq.Yds. (County Hwy #47) 661.5 Gals.
0.45 Gal. × 1810.5 Sq.Yds. (Bank St) 814.7 Gals.

$$0.45 \text{ Gal.} \times \frac{(35775.79)(4)}{9} \text{ Sq.Yds. (Shoulders)} \quad 7155.2 \text{ Gals.}$$

Total 8631.4 Gals.
Use 8632 Gals.

MODIFIED FOUNDATION FOR NO. 1 MANHOLES USED FOR SPRINGS

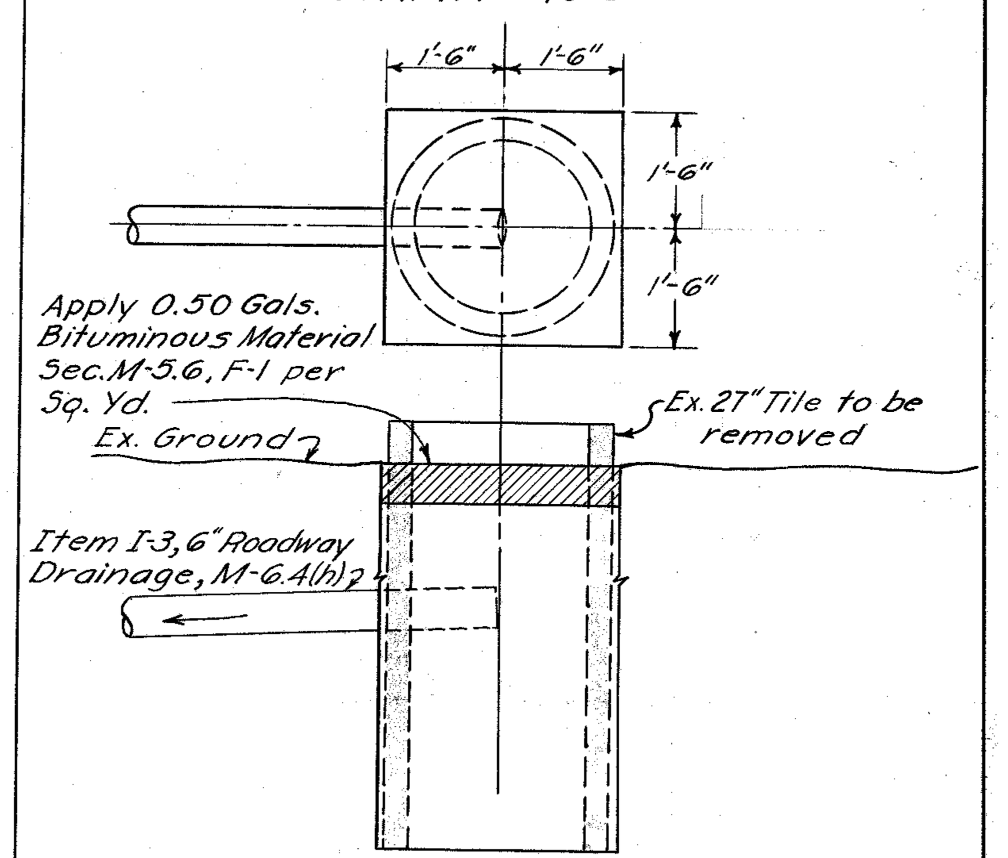


PLAN

Note:
Foundation to be placed on solid material and mortar in the vertical joint will be omitted through the water bearing strata.
Manhole wall to be built using brick or precast concrete block.

ESTIMATED QUANTITY
ITEM I-8 No. 1 Manhole Mod. 2 Each.
ITEM I-3 6" Rdwy Drain, Sec. M-6.4(h) 80 Lin.Ft.

SPRING DRAIN TREATMENT STA. 117+40 ±



The existing 27" tile shall be removed in it's entirety and the No. 1 Stone Underdrain extended to the bottom of the pipe removal No. 34 aggregate shall be used for the underdrain. A 6" layer of № 6 aggregate shall be placed over the top and sealed with bituminous material. The location and grade of 6" I-3 pipe may be adjusted as directed by the Engineer to meet conditions encounted during construction.

In lieu of Sec. I-9.04 the depth of stone underdrain to be paid for will be the actual number of of linear feet of hole, filled, completed and accepted.

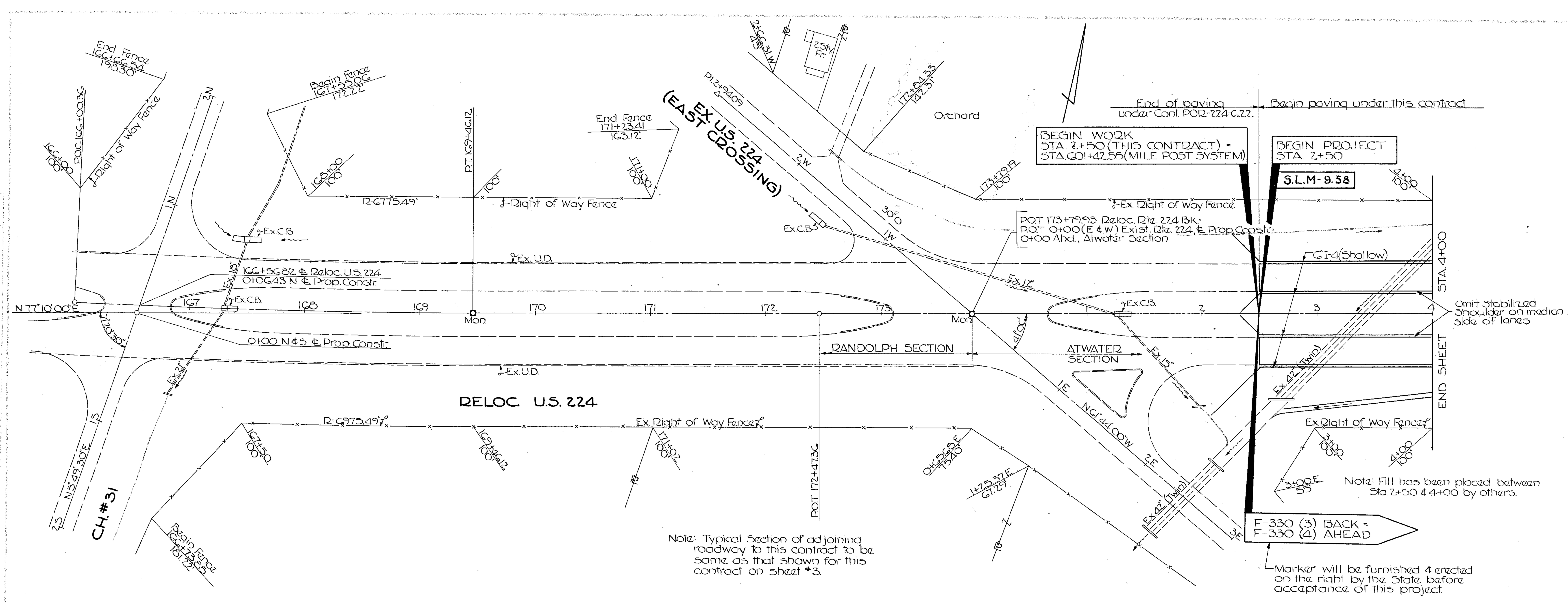
Aggregates, bituminous material, removal of the existing 27" pipe and necessary excavation for the spring drain shall be paid for at the unit price bid per linear foot for Item I-9 Stone Underdrain No. 1.
EST. QUANT. I-9 - 5 Lin.Ft.; 6" I-3 - 84 Lin.Ft.

GENERAL SUMMARY

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
Type	Code 7221		
			ROADWAY
E-101	348,716	C.Y.	Roadway Excavation, as per plan.
E-101	56,720	S.Y.	Compacted Subgrade
E-9	Lump Sum	L.S.	Removal of Trees & Stumps
E-11	2,145	M-Gal.	Water
E-12	204	L.F.	Pipe Removed, 15" and Under
I-8	12	Ea.	Monument Assembly, Standard
I-15	200	L.F.	Temporary Guard Rail as per plan
I-15	3989.75	L.F.	Guard Rail, Steel Beam Type (Deep)
I-18	5408	C.Y.	Stabilized Crushed Aggregate Shoulders & Approaches
L-9	238,035	S.Y.	Seeding & Protecting
L-9	22.38	Tons	Commercial Fertilizer (12-12-12)
L-9	111.89	Tons	Agricultural Liming Material
Spec.	87,000	S.Y.	Special Seeding as per plan
Spec.	1	Ea.	Single Pole Overhead Sign Assembly, Type 'A'.
L-10	10,617	S.Y.	Sodding
M-10	9	Tons	Calcium Chloride Furnished & Applied For Maintaining Traffic
T-10	200	C.Y.	Traffic Compacted Surface Course for Maintaining Traffic, as per plan.
S-25	20	L.F.	3" Welded or Seamless Steel Pipe Sec. M-C9 Galvanized as per plan
SS-18	35,050	L.F.	Fence, Type 'A' as per plan
T-35	10	C.Y.	Asphaltic Concrete Surface Course or An Approved Bituminous Premixed Surface Course for Maintaining Traffic.
E-12	80	L.F.	Pipe Removed, Over 15"
E-4	134,417	C.Y.	Borrow
			DRAINAGE
E-2	4,151	C.Y.	Excavation for Structures
E-3	187	C.Y.	Channel Excavation
I-1	122	L.F.	12" Pipe for Driveways Sec. M-C4(a)
I-2	82	L.F.	12" Class 'A' Storm Sewers
I-2	64	L.F.	12" Class 'A' Storm Sewers under Pavement or Approaches Sec. M-C5(b) or Sec. M-C8(b)
I-3	164	L.F.	6" Helical Perforated Corrugated Metal Pipe (Sec. M-C4(h)) with porous Backfill for Roadway Drainage
I-4	16,815	L.F.	6" Underdrain Shallow
I-4	12,691	L.F.	6" Underdrain Deep
I-4	436	L.F.	8" Outlets for Underdrain Sec. M-C4(a)
I-5	25	Ea.	6" Pipe Specials for Underdrains
I-8	2	Ea.	Standard 2-4 Catch Basins.
I-8	1	Ea.	Standard 2-2-A Catch Basin
I-8	1	Ea.	Standard 2-2-B Catch Basin
I-8	2	Ea.	Standard 3-A Catch Basins
I-14	2321	L.F.	Standard Type 1 Paved Gutter
I-14	40	L.F.	Special Type 'A' Paved Gutter
I-14	430	L.F.	Special Type 'B' Paved Gutter
I-14	260	L.F.	Special Type 'C' Paved Gutter
I-14	40	L.F.	Special Type 'D' Paved Gutter
I-14	240	L.F.	Special Type 'E' Paved Gutter
I-10	25	C.Y.	Dumped Rock Channel Protection.
S-1	34.2	C.Y.	Concrete for Structures - Class 'E'
S-27	56	L.F.	15" Pvd. Bit. Ctd. Corr. Metal Pipe (Sec. M-C4(d)) for Roadway Culverts
S-27	94	L.F.	24" Std. Strength Reinforced Concrete Culvert Pipe (Sec. M-C6(b)) or Extra Strength Vitrified Sewer Pipe (Sec. M-C8(b)) for Roadway Culverts
S-27	318	L.F.	30" Std. Strength Reinforced Concrete Culvert Pipe (Sec. M-C6(b)) or Extra Strength Vitrified Sewer Pipe (Sec. M-C8(b)) for Roadway Culverts
S-27	72	L.F.	36" Pipe for Roadway Culverts
S-27	254	L.F.	36" Std. Strength Reinforced Concrete Culvert Pipe (Sec. M-C6(b)) or Extra Strength Vitrified Sewer Pipe (Sec. M-C8(b)) for Roadway Culverts
S-27	384	L.F.	42" Pvd. Bit. Ctd. Corr. Metal Pipe (Sec. M-C4(d)) for Roadway Culverts, 8 Ga., Shop Elongated, as per plan.
S-27	108	L.F.	42" Std. Strength Reinforced Concrete Culvert Pipe (Sec. M-C6(b)) for Roadway Culverts
S-27	244	L.F.	48" Std. Strength Reinforced Concrete Culvert Pipe (Sec. M-C6(b)) for Roadway Culverts
S-27	98	L.F.	60" Std. Strength Reinforced Concrete Culvert Pipe (Sec. M-C6(b)) for Roadway Culverts
S-28	284	L.F.	108" Sectional Corrugated Metal Structures (Sec. M-C4(a)) 5 & 3 Gage
I-8	2	Ea.	Modified No. 1 Manholes, as per plan.
I-9	5	Lin. Ft.	Stone Underdrains No. 1, as per plan
			PAVEMENT
I-7	267	S.Y.	Reinforced Concrete Approach Slabs (T=13")
I-12	929	L.F.	Standard Concrete Curb Type 2-A
I-22	10,410	C.Y.	Sub-base.
I-23	20	Ea.	Precast White Portland Cement Concrete Traffic Dividers
T-30	8632	Gal.	Bituminous Prime Coat Sec. M-5.7 RT-2 or RT-3 or Sec. M-5.3 MC-0 or MC-1.
T-35	141	C.Y.	Asphaltic Concrete Surface Course Type 'A' (70-85)
T-11	53,329	S.Y.	9" Reinforced Portland Cement Concrete Pavement
B-35	174	C.Y.	Asphaltic Concrete Leveling Course (70-85)
T-31	3976	Gal.	Bituminous Surface Treatment - Bituminous Material Sec. 5.7 RT-8 or RT-9 or M-5.3 MC-4 or MC-5
T-31	159	C.Y.	Bituminous Surface Treatment No. 6 Aggregate.
	Lump Sum		Construction Layout Stakes
			See Sheet No. 84 & 89 for Quantities of Structures over 20' Span

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

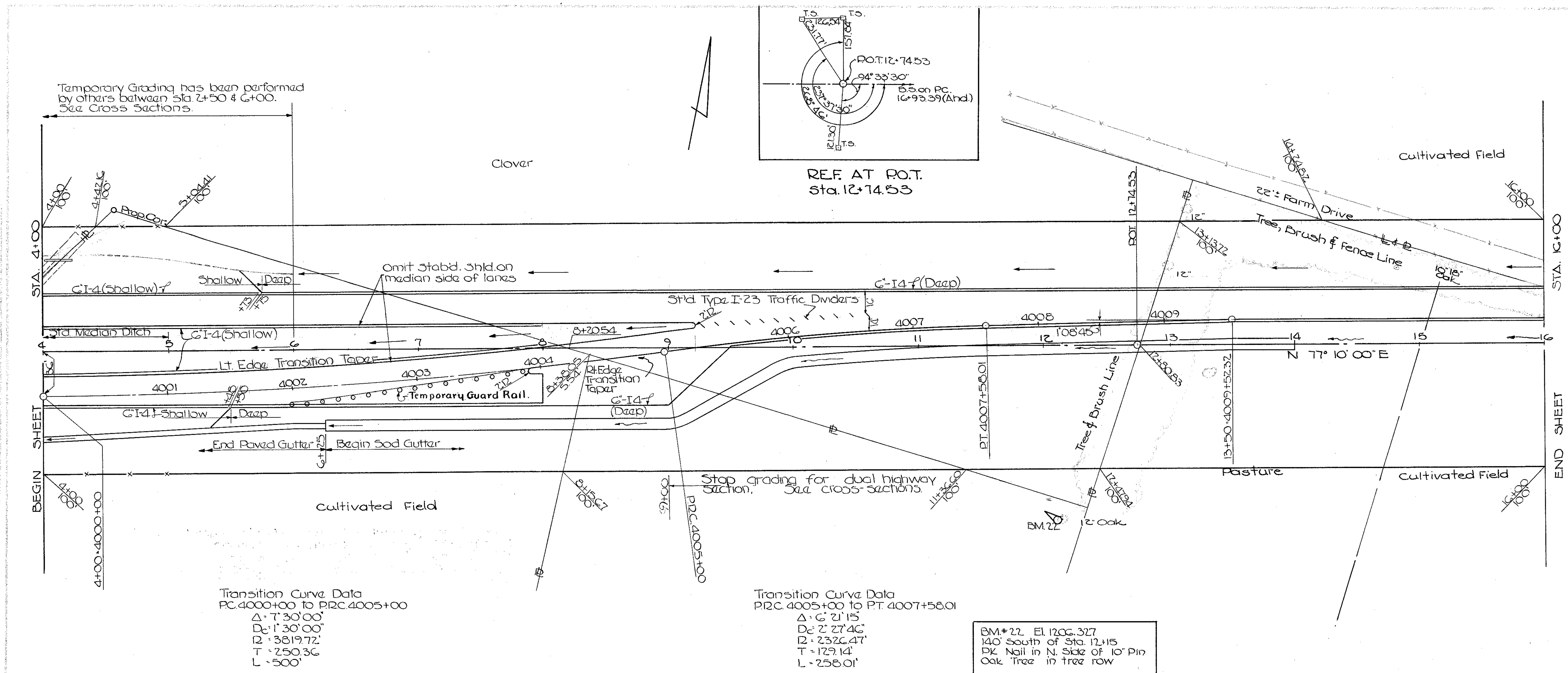
POR-224-9.58

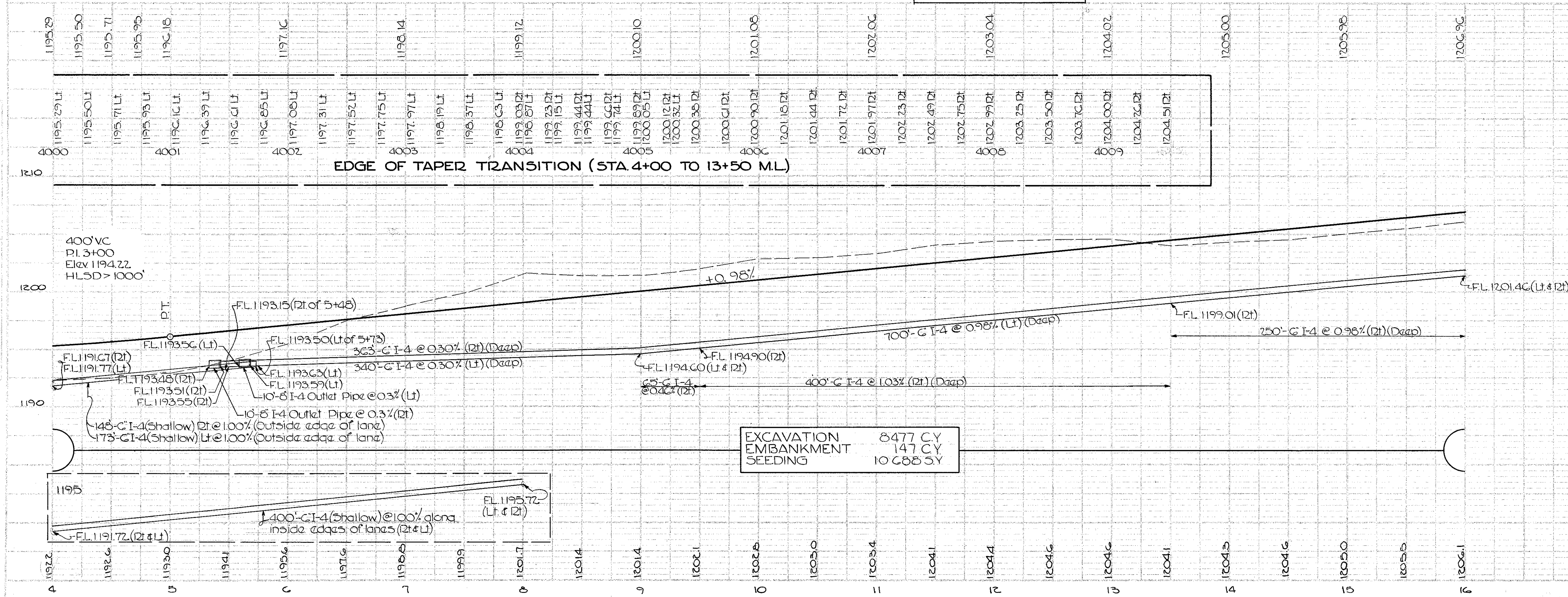


SODDING			
Station		Side	L-10
From	To		S.Y.
2+65	4+00	Rt.	45
TOTAL			45

DRAINAGE						
Station		Side	I-14 Paved Gutter St'd. Type I L.F.	I-4 6" Shallow L.F.	I-4 8" Outlet L.F.	I-5 for I-4 6"×45° Ea.
From	To					
2+65	4+00	Rt.	135			
2+25±	4+00	Lt.		160	10	1
2+06±	4+00	Rt.		200	10	1
2+33	4+00	Lt.&Rt.		328	20	2
TOTAL			135	688	40	4

LINE SHEET - STA. 166+00 TO STA. 4+00





SODDING				
Station From	Station To	Side	L-10 S.Y.	
4+00	6+25	Rt.	75	Along Paved Gut.
6+25	14+00	Rt.	785	9' Wide
TOTAL			860	

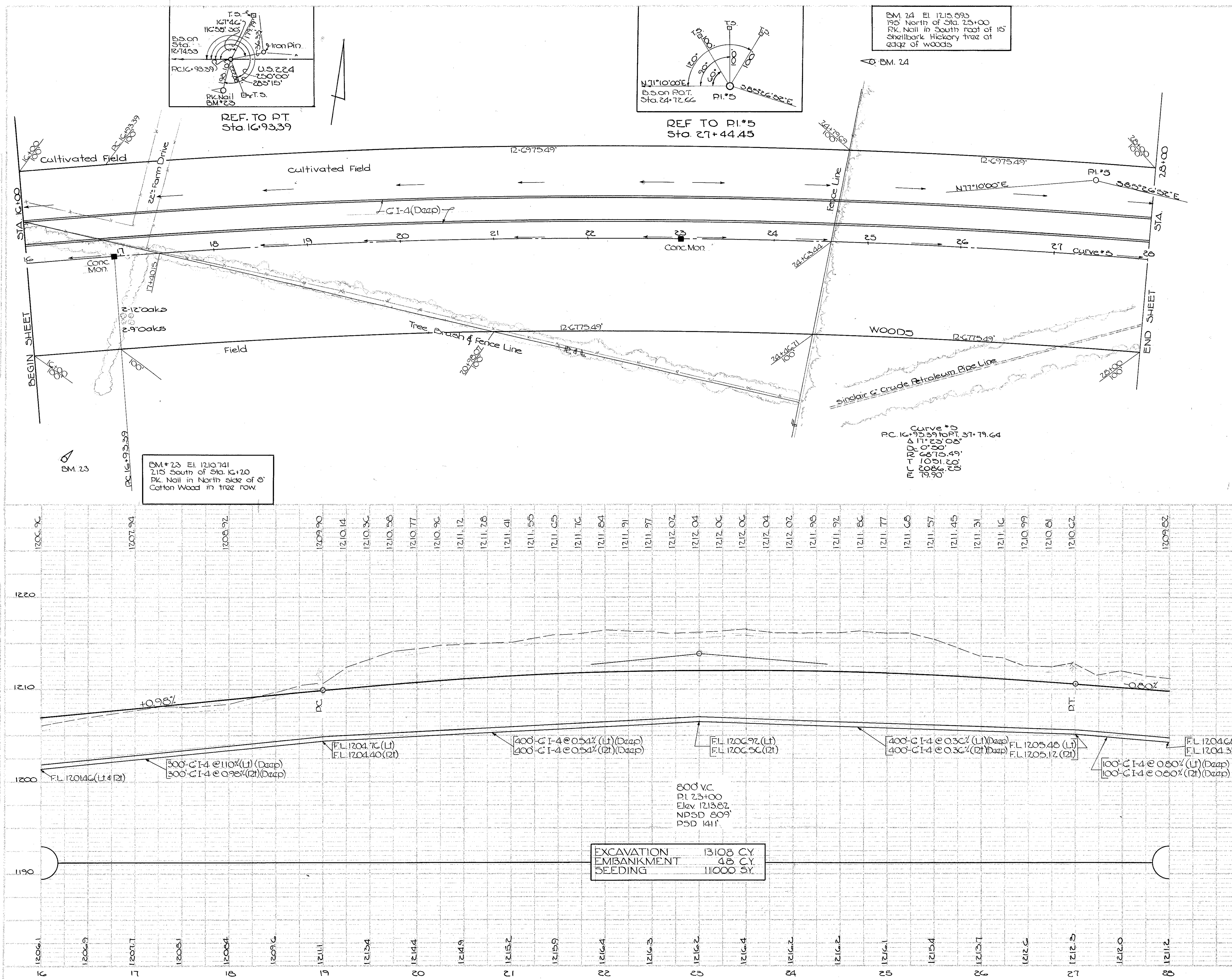
FENCE				
Station From	Station To	Side	Dist. From ℄	55-18 L.F.
5+00	16+00	Lt.	99	1100
5+00	16+00	Rt.	99	1100
TOTAL				2200

DRAINAGE							
Station		Side	I-4		I-5 for I-4 6"×45° Ea.	I-14 Paved Gutter Std. Type-I L.F.	I-4
From	To		6" Deep L.F.	8" Outlet L.F.			6" Shallow L.F.
5+58	16+00	Lt.	1040	10	1		
5+33	16+00	Rt.	1078	10	3		
4+00	6+25	Rt.				225	
4+00	5+73	Lt.					173
4+00	5+48	Rt.					148
4+00	8+00	Lt. & Rt.					800
TOTAL			2118	20	4	225	1121

I-23 PRECAST CONC. TRAFFIC DIVIDERS		
Station From	Station To	Dividers Ea.
9+25	10+75	12
TOTAL		12

I-15 Temporary Guard Rail			
Station From	Station To	Side	Temp. Guard Rail Lt.
6+00	7+85	Rt.	200
TOTAL			200

LINE SHEET - STA. 4+00 TO STA. 16+00

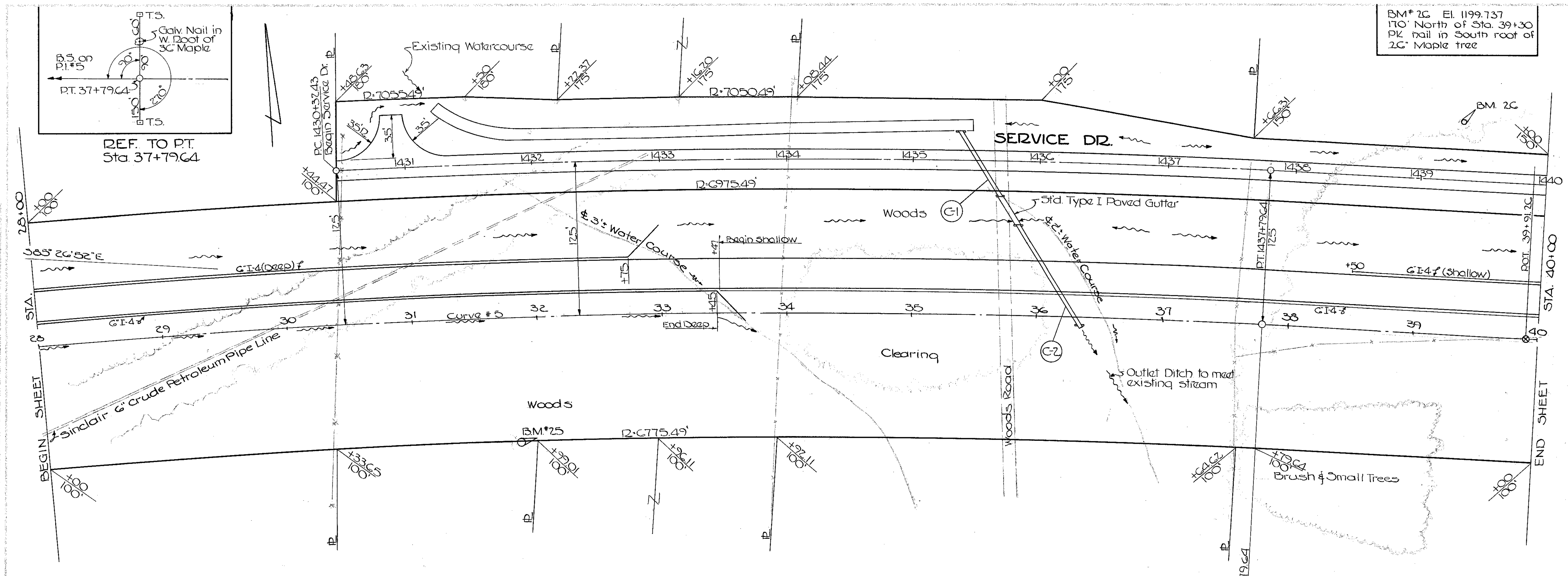


DRAINAGE			
Station		Side	I-4 6" Deep L.F.
From	To		
16+00	28+00	Lt.	1200
16+00	28+00	Rt.	1200
TOTAL			2400

MON. BOXES		
Station	Side	I-8 Each
P.C. 16+93.39	℄	1
23+00	℄	1
TOTAL		2

FENCE				
Station		Side	Dist. from ℄	SS-18 L.F.
From	To			
16+00	28+00	Lt.	99'	1200
16+00	28+00	Rt.	99'	1200
TOTAL				2400

BM# 26 El. 1199.737
170' North of Sta. 39+30
PK nail in South root of
26" Maple tree



SODDING				
Station		Side	L-10 9' Wide S.Y.	
From	To			
1431+20	1435+45	Lt.	440	Ser. Rd.
TOTAL			440	

STRUCTURES UNDER 20' SPAN				
Mark	Station	Type	Size	Detail Sheet
C-1	1435+50	St'd. Pipe Culvert	30"	31
C-2	36+30	St'd. Pipe Culvert	30"	31

FENCE				
Station		Side	Dist. from ℄	55-18 L.F.
From	To			
28+00	40+00	Lt.	99	1200
28+00	40+00	Rt.	99	1200
TOTAL				2400

MONUMENT BOXES		
Station	Side	I-8 Each
P.T. 37+79.64	Lt.	1
TOTAL		1

DRIVES					
Stations		Side	Dist. from ℄ U.S. 224	I-18" 6" C.Y.	Type
From	To				
*30+47±	40+00	Lt.	125'	310	Service Dr.
TOTAL				310	

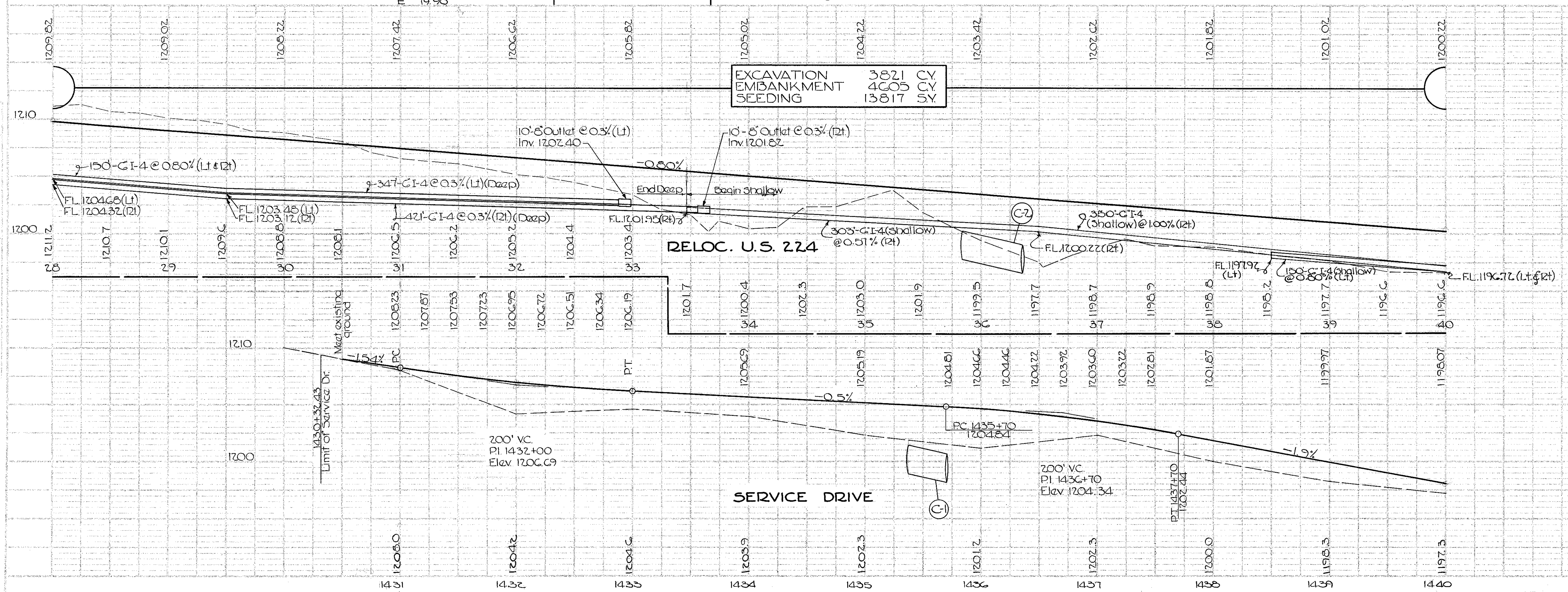
*Earthwork for Service Dr. is included with that for Main Line.

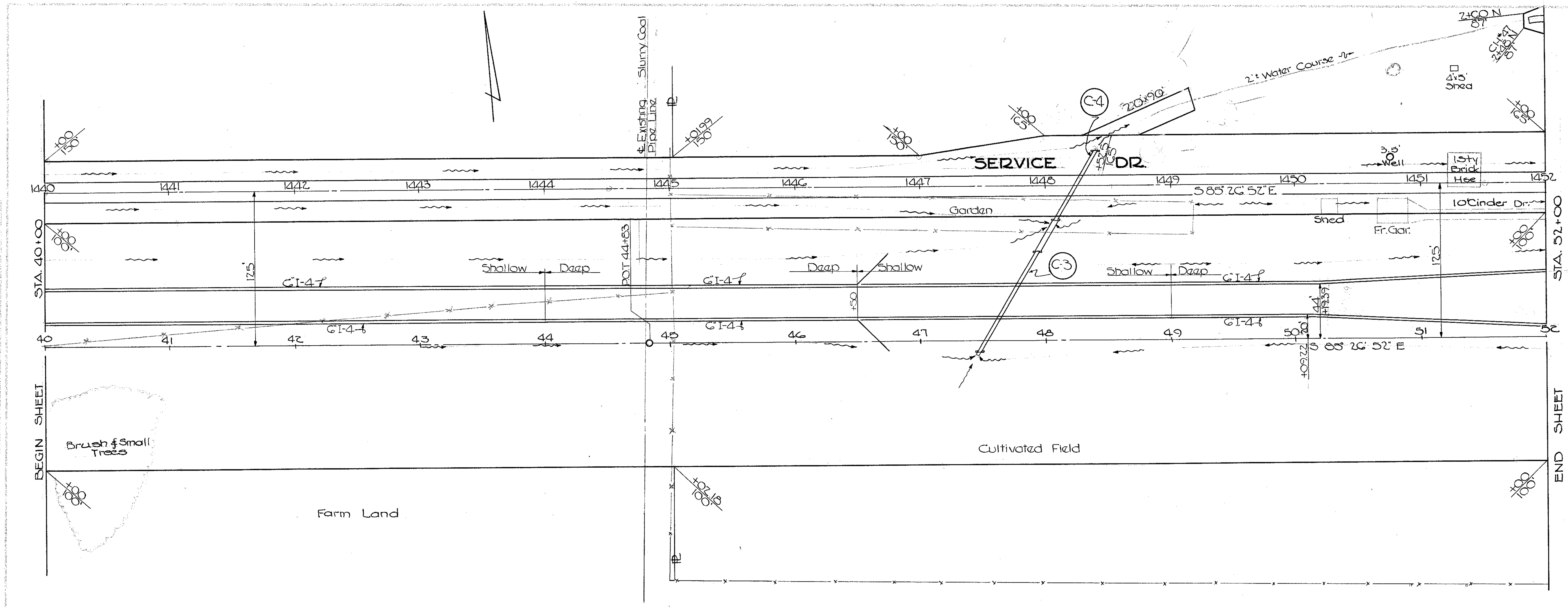
DRAINAGE						
Station		Side	I-4			I-5 for I-4 6"x45° Eq.
			6" Deep L.F.	8" Outlet L.F.	6" Shall. L.F.	
From	To					
28+00	32+98	Lt.	497	10		1
28+00	33+70	Rt.	571	10		1
33+47	40+00	Rt.			653	
38+50	40+00	Lt.			150	
TOTAL			1068	20	803	2

Curve Data #5
P.C. 16+93.39 to P.T. 37+79.64
Δ 17° 23' 08"
D 0° 50' 00"
R 6875.49'
T 1051.20'
L 2086.25'
E 79.90

BM. # 25 El. 1205.927
102' South of Sta. 31+80
P.K. Nail in North root of
24" Maple, crooked trunk

Curve Data (Service Dr.)
P.I. Sta. 1434+06.39
Δ: 6° 06' 56"
D: 0° 49' 06"
R: 7000.49'
T: 373.96'
Lc: 747.21'





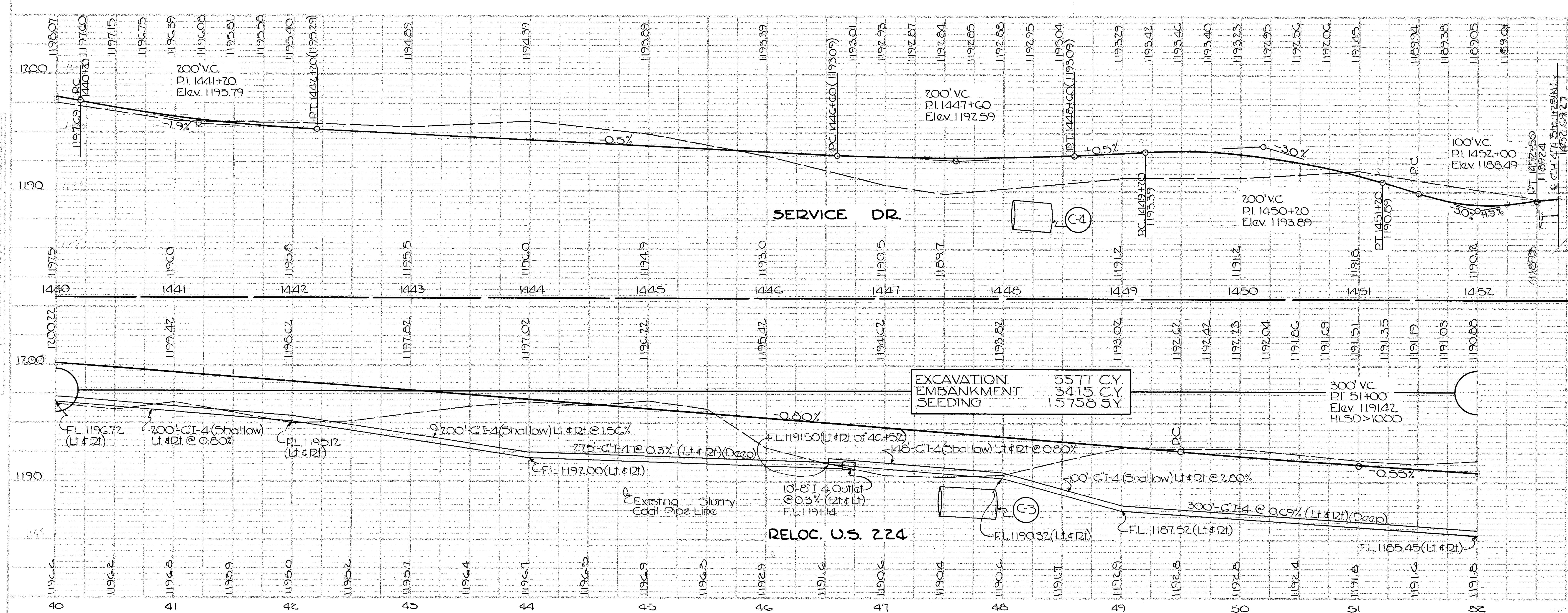
FENCE				
Station		Side	Dist. from ℄	55-18 L.F.
From	To			
40+00	52+00	Lt.	99	1200
40+00	52+00	Rt.	99	1200
TOTAL				2400

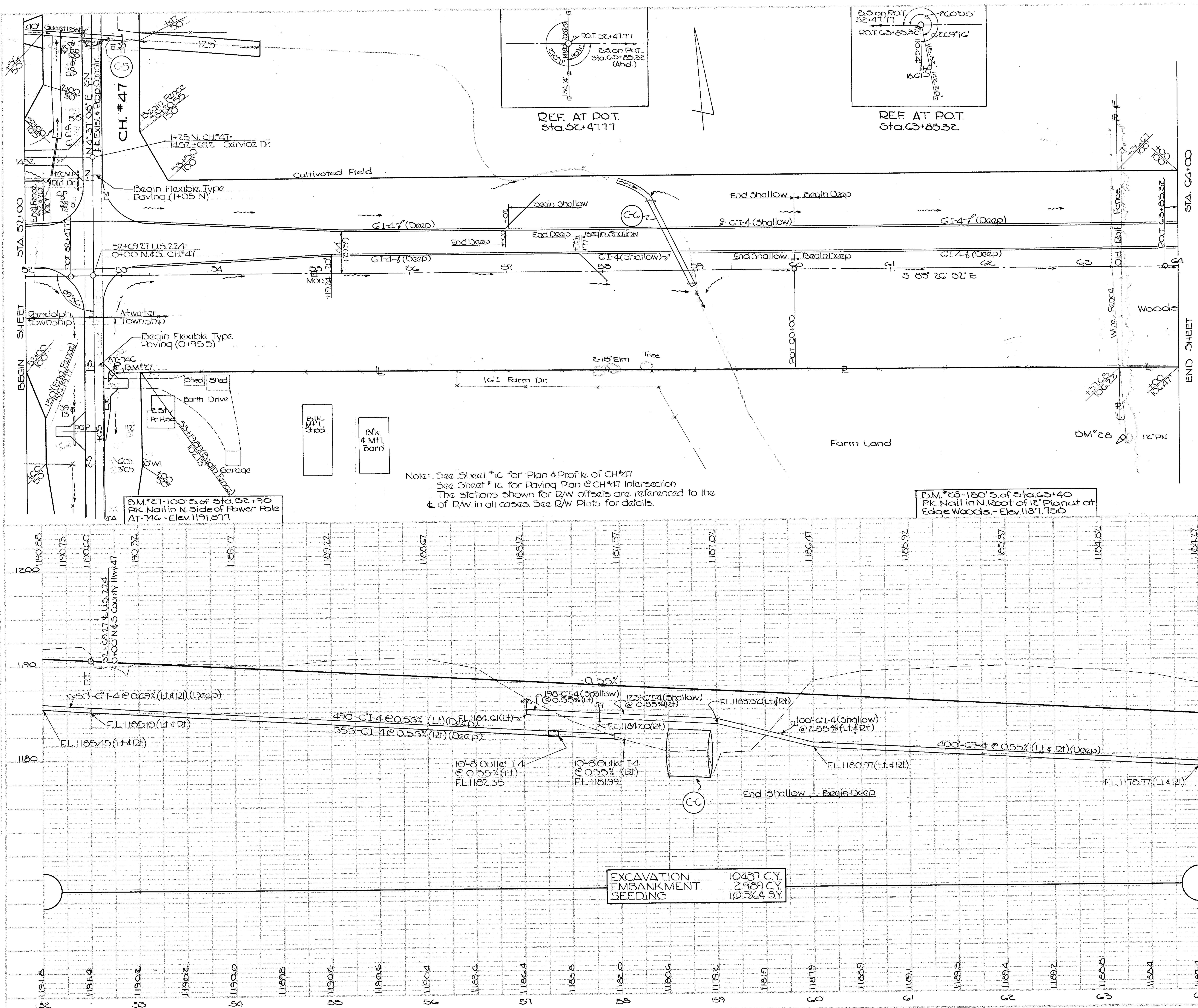
DRAINAGE						
Station		Side	I-4		I-5 For I-4 Each	I-4
			6" Deep L.F.	8" Outlet L.F.		6" Shallow L.F.
From	To					
44+00	46+75	Lt.	275	10	1	
44+00	46+75	Rt.	275	10	1	
49+00	52+00	Lt.	300			
49+00	52+00	Rt.	300			
40+00	44+00	Lt. & Rt.				800
46+52	49+00	Lt. & Rt.				248
TOTAL			1150	20	2	1048

STRUCTURES UNDER 20' SPAN				
Mark	Station	Type	Size	Detail Sheet
C-3	47+52	Std. Pipe Culvert	30"	31
C-4	1448+24	Std. Pipe Culvert	30"	31

DRIVES					
Station		Side	Dist. from ℄ U.S. 224	I-18 6" C.Y.	Type
From	To				
* 40+00	52+00	Lt.	125'	356	Service Dr.
TOTAL				356	

* Earthwork for Service Dr. included in Main Line





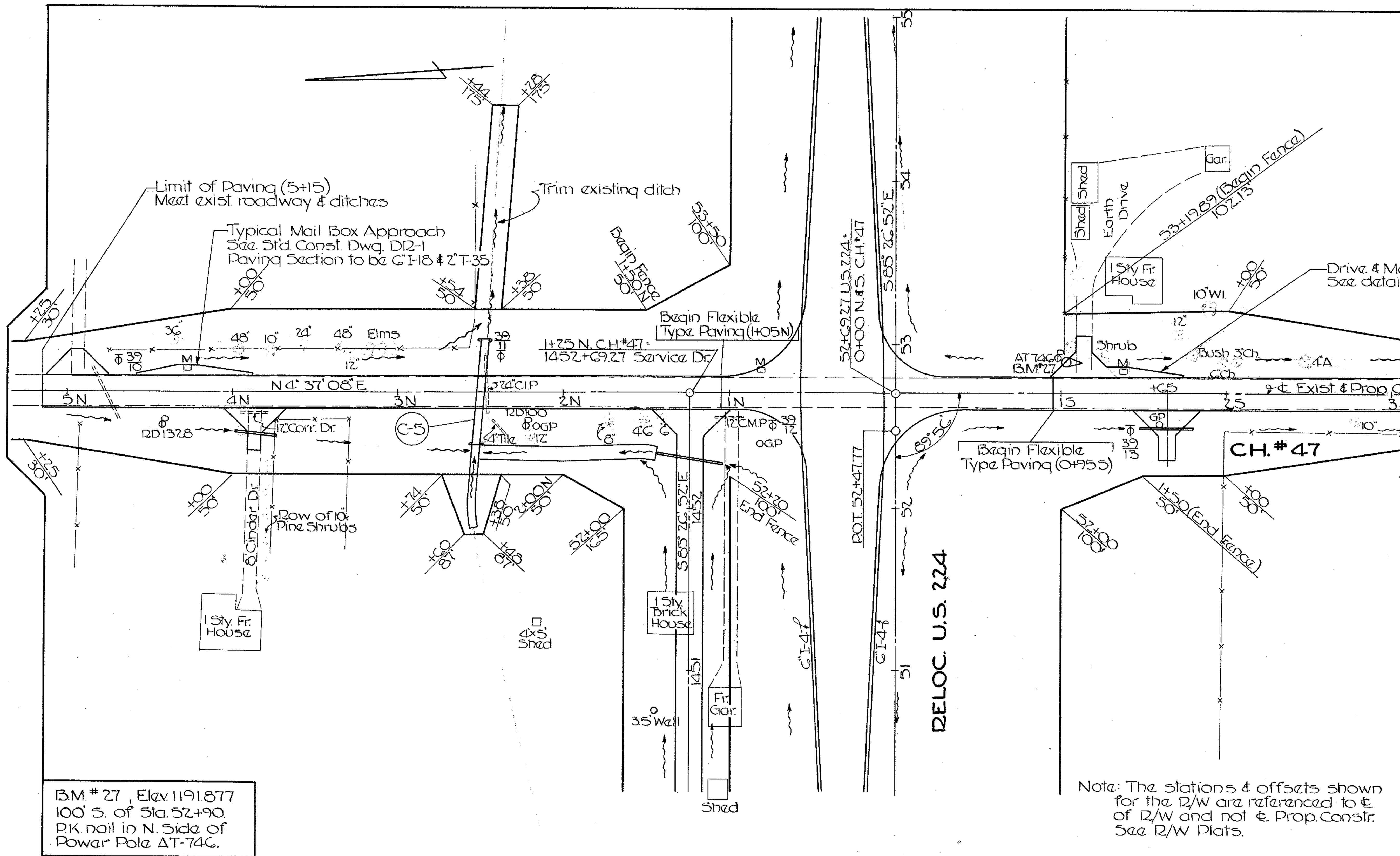
SODDING				
Station		Side	L-10 9' Wide S.Y.	
From	To			
1+45N	2+50N	Lt.	105	CH#47
TOTAL			105	

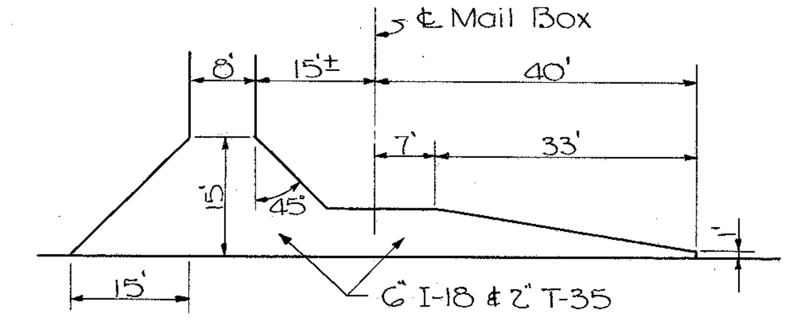
FENCE				
Station		Side	Dist. From ℄	55-18 L.F.
From	To			
52+00	52+20	Lt.	99	20
1+50N	53+50	Lt.	49-99	58
53+50	64+00	Lt.	99	1050
52+00	1+50S	Rt.	99-49	53
53+19	64+00	Rt.	101-105.5	1081
TOTAL				2262

DRAINAGE						
Station		Side	I-4			I-5 For I-4 Each
From	To		6" Deep L.F.	8" Outlet L.F.	6" Shallow L.F.	
52+00	58+03	Rt.	490	10		1
52+00	57+35	Lt.	555	10		1
60+00	64+00	Lt.	400			
60+00	64+00	Rt.	400			
57+02	60+00	Lt.			298	
57+77	60+00	Rt.			223	
Total			1845	20	521	2

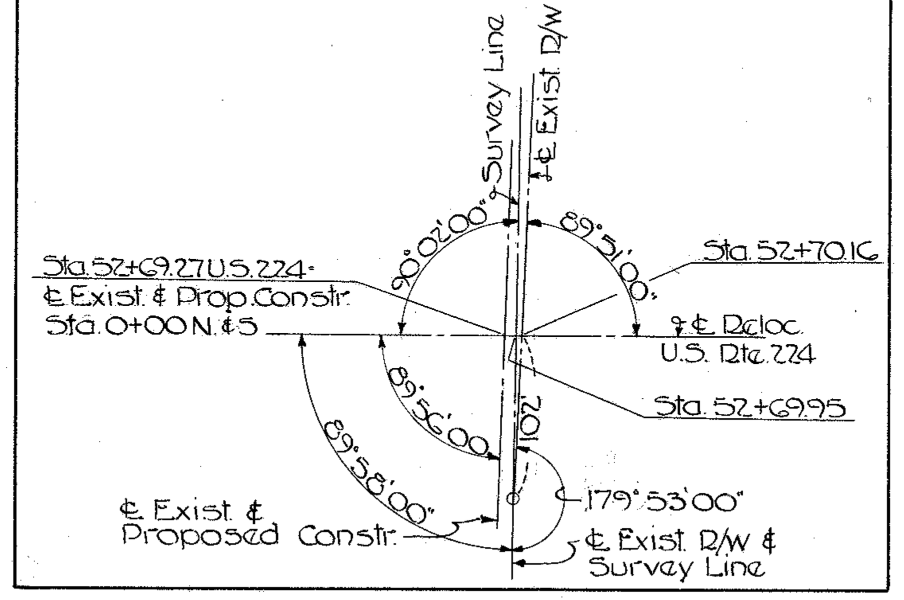
MONUMENT BOXES			
Station	Side	I-8 Each	
55+00	℄	1	
TOTAL		1	

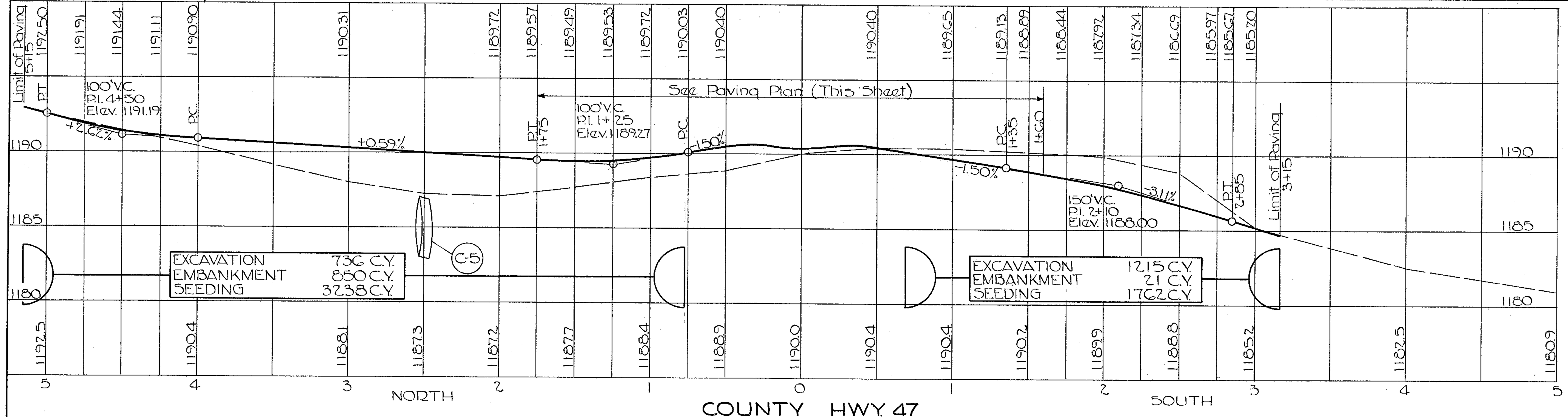
STRUCTURES UNDER 20' SPAN				
Mark	Station	Type	Size	Detail Sheet
C-5	2+50 N	St'd. Pipe Culvert	48"	31
C-6	58+87	" " "	60"	32





INTERSECTION DATA

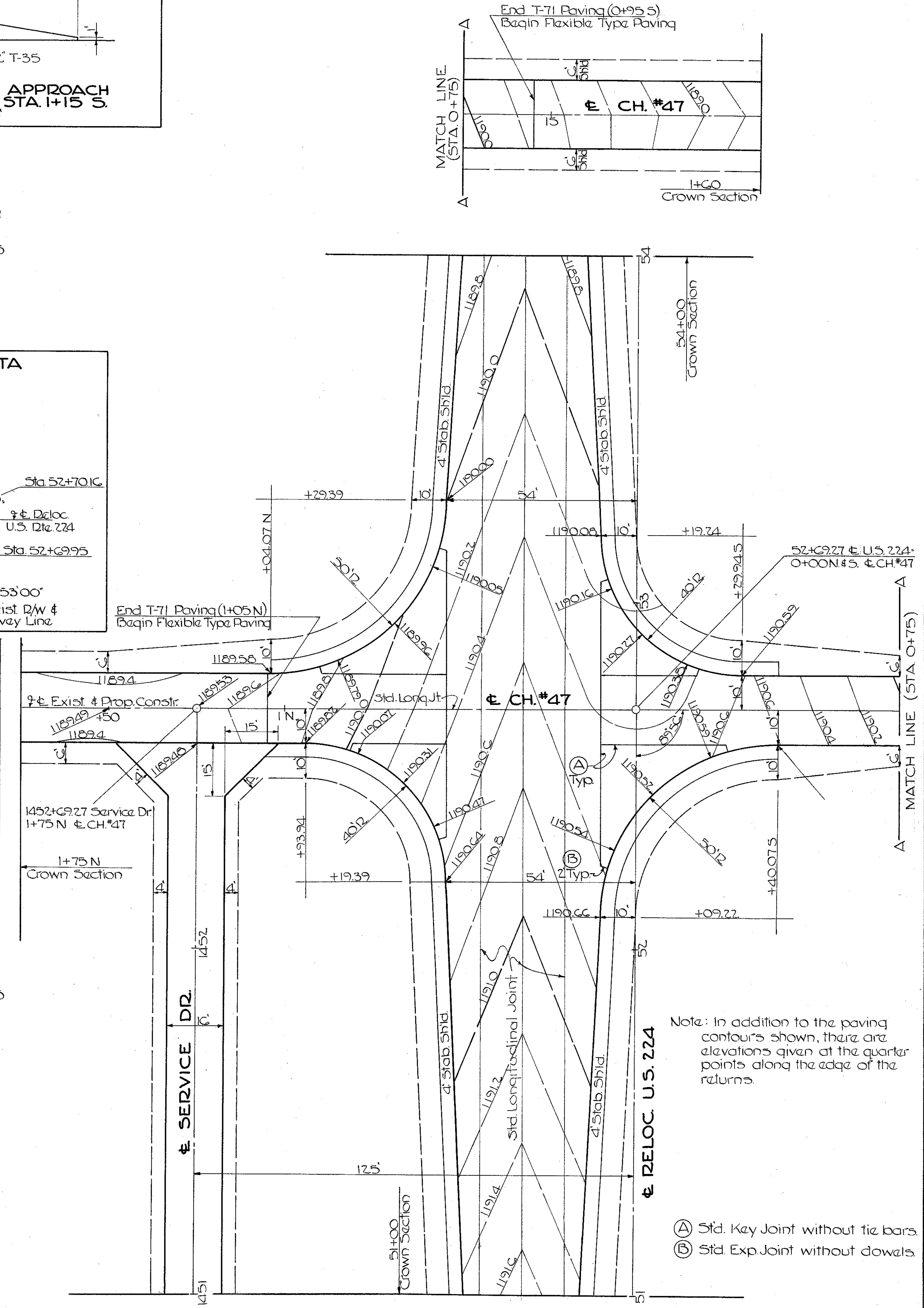




DRIVES & MAIL BOX APPROACHES									
Station		Side	Dist. From Edge Paving	I-18 6" C.Y.	T-35 2" C.Y.	I-1 12" L.F.	E-1		Type
From	To						Exc.	Emb.	
1+15 S		Lt.	25	11.1	3.8				Res.
1+65 S		Rt.	30	11.6		32			Field
3+85 N		Lt.	25	7.9	2.7	26			Res.
4+93 N		Rt.	15	6.4	2.2				Res.
1452+00	1452+59.28	Lt.		21.8		40	Included in M.L. E101		Service Dr.
4+27 N		Rt.		5.2	1.8				Mail Box App
TOTAL				64.0	10.5	98			

E-12 PIPE REMOVAL			
Station		Side	E-12 Pipe Removal L.F.
From	To		
0+90 N	1+10 N	Lt.	20
2+15 N	2+45 N	Lt.	45 (Over 15")
3+80 N	3+95 N	Lt.	15
4+70 N	4+85 N	Lt.&Rt.	35 (Over 15")
TOTAL			115

Note: All other quantities are shown on Main Line Sheet



Note: In addition to the paving contours shown, there are elevations given at the quarter points along the edge of the returns.

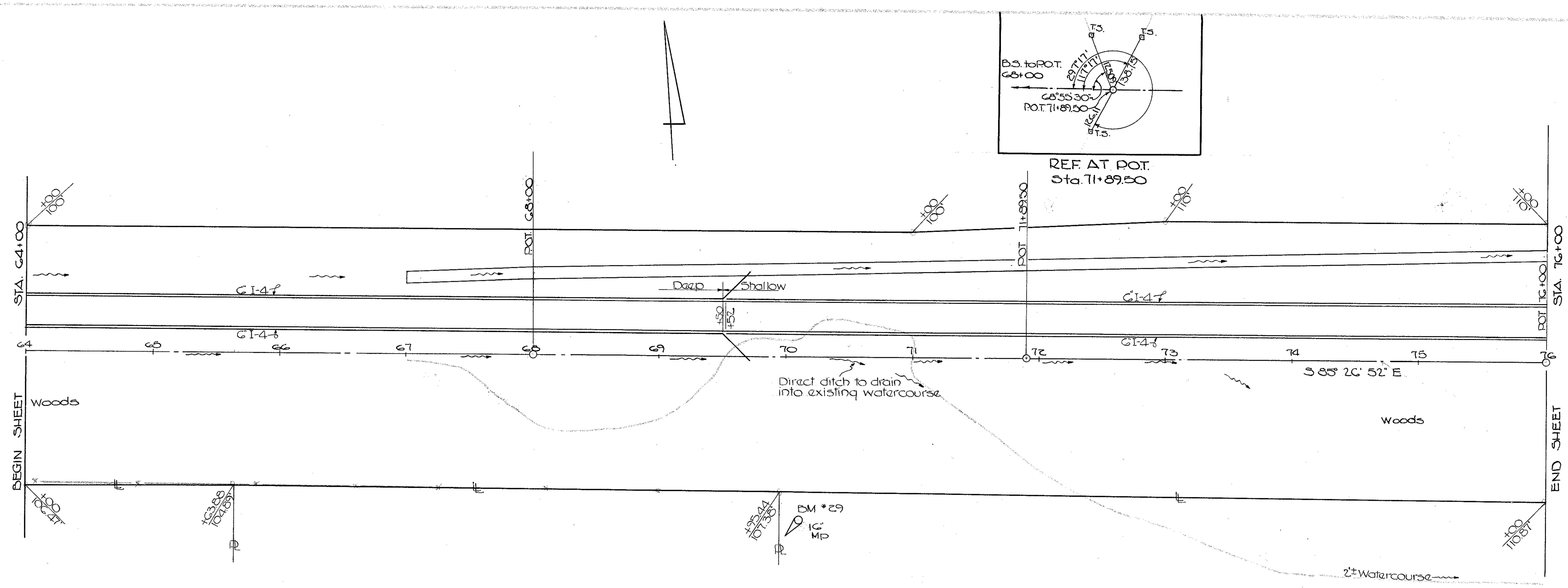
(A) Std. Key Joint without tie bars.
(B) Std. Exp. Joint without dowels.

PAVING PLAN AT INTERSECTION OF RELOC. U.S. 224 & CH.#47
Scale 1"=20'

CH.#47 LINE SHEET - STA 5+15N TO STA 3+25 S

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330(4)		17 / 105

FOR-224-9.58

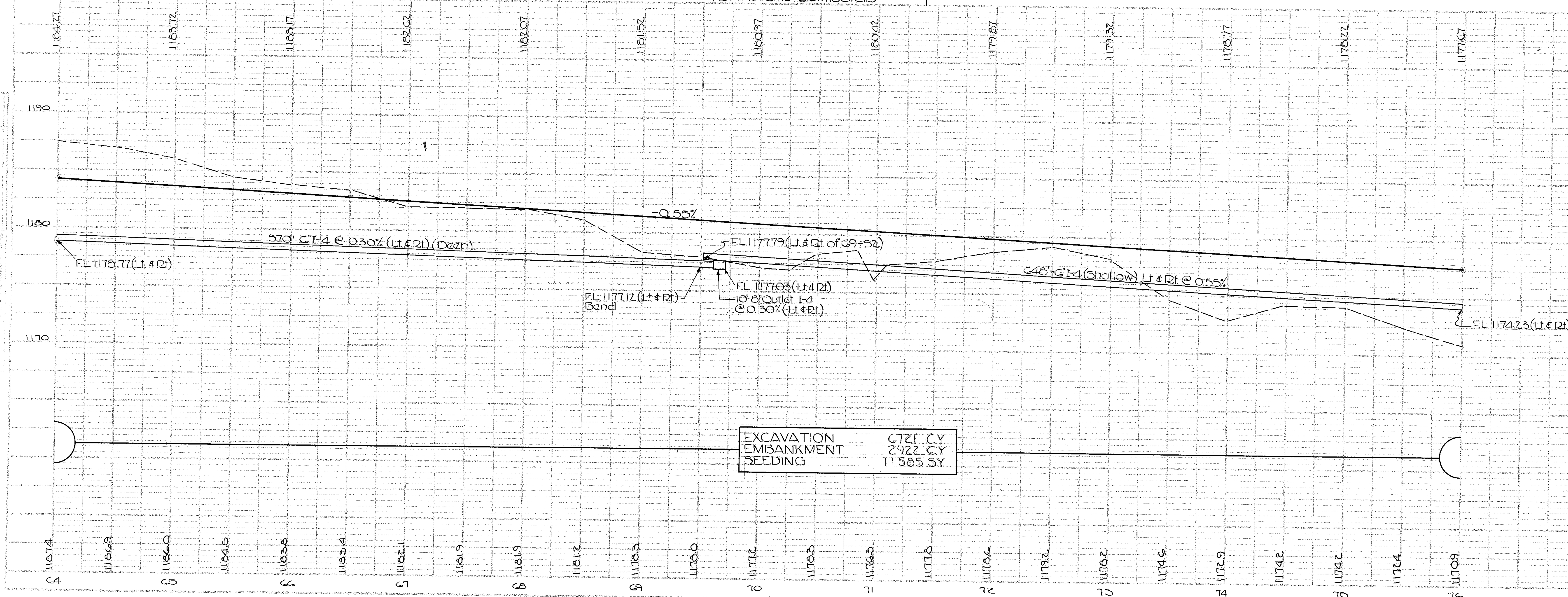


FENCE				
Station From	Station To	Side	Dist. from ℄	55-18 L.F.
64+00	71+00	Lt.	99'	700
71+00	73+00	Lt.	99'-109'	200
73+00	76+00	Lt.	109'	300
64+00	65+64	Rt.	105.5'-103.9'	164
65+64	69+95	Rt.	103.9'-106.4'	431
69+95	76+00	Rt.	106.4'-109.9'	605
TOTAL				2400

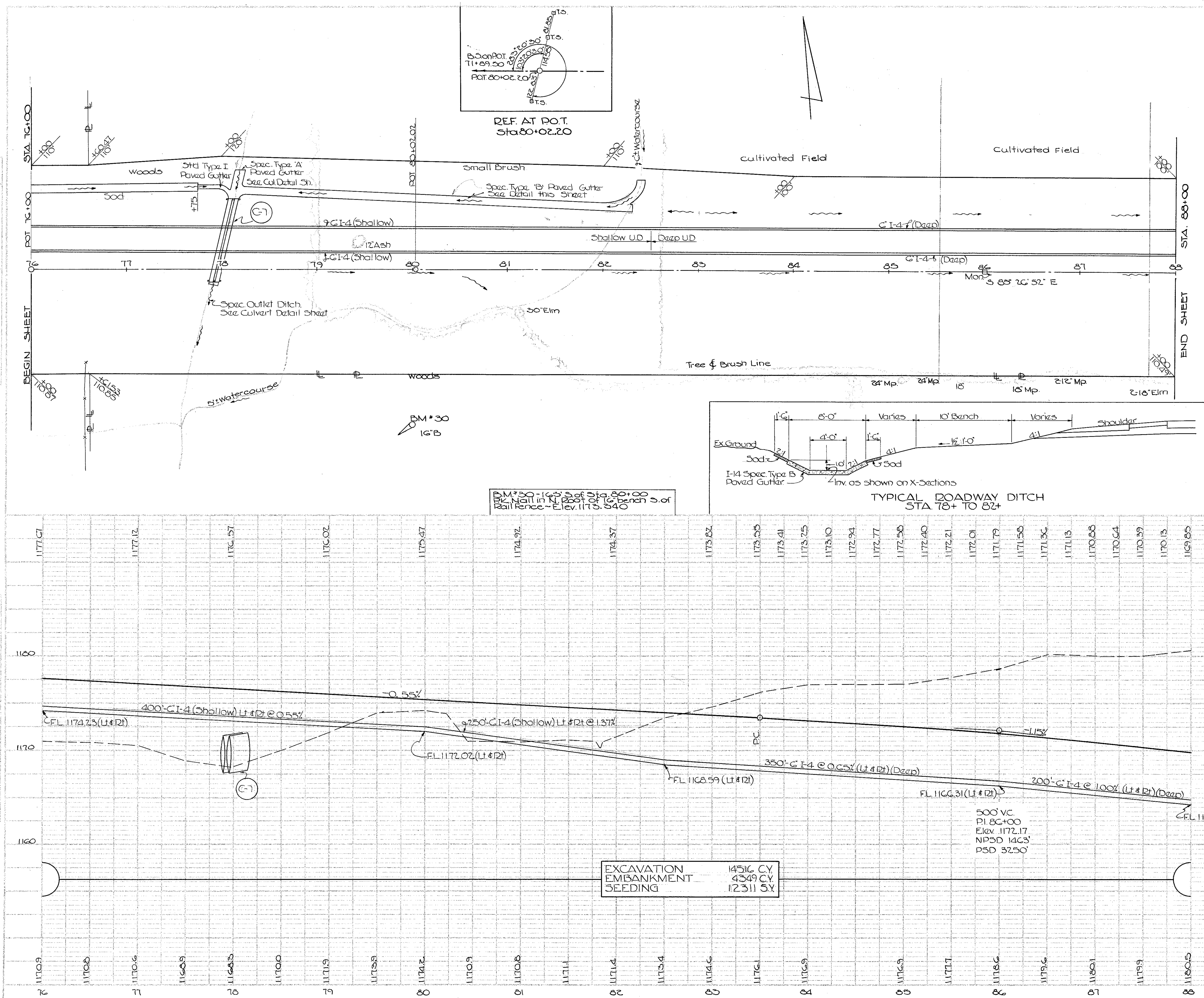
SODDING				
Station From	Station To	Side	L-10 9' Wide S.Y.	
67+00	76+00	Lt.	900	
TOTAL			900	

DRAINAGE						
Station		Side	I-4		I-5 For I-4 Each	I-4
From	To		6" Deep L.F.	8" Outlet L.F.		6" Shallow L.F.
64+00	69+70	Lt.	570	10	1	
64+00	69+70	Rt.	570	10	1	
69+52	76+00	Lt.				648
69+52	76+00	Rt.				648
TOTAL			1140	20	2	1296

BM #29 - 30' S. of Sta. 70+10
P.K. Nail in N. Root of 16" Maple on N-S Fence Line - Elev. 1180.215



EXCAVATION	6721 C.Y.
EMBANKMENT	2922 C.Y.
SEEDING	11585 S.Y.



FENCE				
Station From	Station To	Side	Dist. from ℄	SS-18 L.F.
76+00	76+61	Lt.	109	61
76+61	78+00	Lt.	109-119	139
78+00	82+00	Lt.	109	400
82+00	84+00	Lt.	109-99	200
84+00	88+00	Lt.	99	400
76+00	76+62	Rt.	109.9	62
76+62	88+00	Rt.	109.9-109.5	1138
TOTAL				2400

SODDING			
Station From	Station To	Side	L-10 9' Wide S.Y.
76+00	77+75	Lt.	175
77+75	78+10	Lt.	12
78+20	82+40	Lt.	140
TOTAL			327

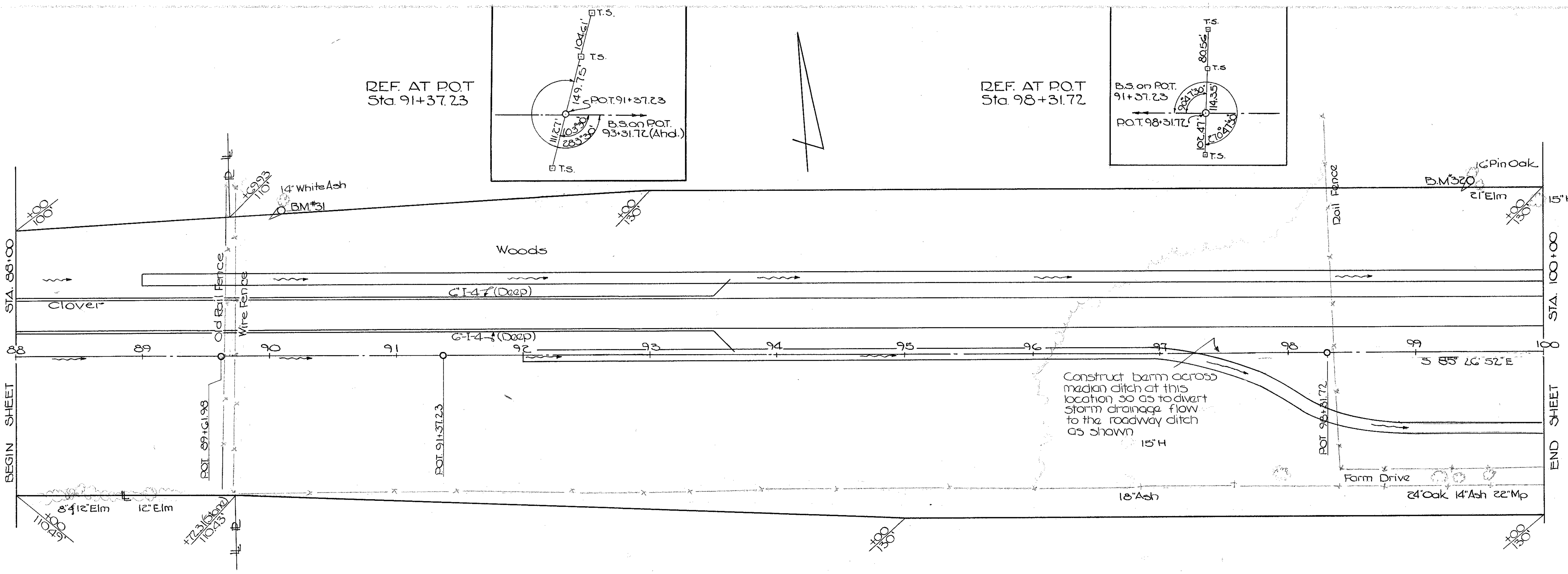
DRAINAGE						
Station From	Station To	Side	I-4 6" Deep L.F.	I-14 Std. Type I Paved Gutter L.F.	I-14 Spec. Type B Paved Gutter L.F.	I-4 6" Shallow L.F.
82+50	88+00	Lt.	550			
82+50	88+00	Rt.	550			
77+75	78+10	Lt.		35		
78+20	82+40	Lt.			430	
76+00	82+50	Lt. & Rt.				1300
TOTAL			1100	35	430	1300

MONUMENT BOXES		
Station	Side	I-8 Each
86+00	℄	1
TOTAL		1

STRUCTURES UNDER 20' SPAN				
Mark	Station	Type	Size	
C-7	77+95	Std. Twin Pipe Culvert	48"	32'

Co. No. Division	State	Project	Fiscal Year
3	Ohio	F-330(4)	

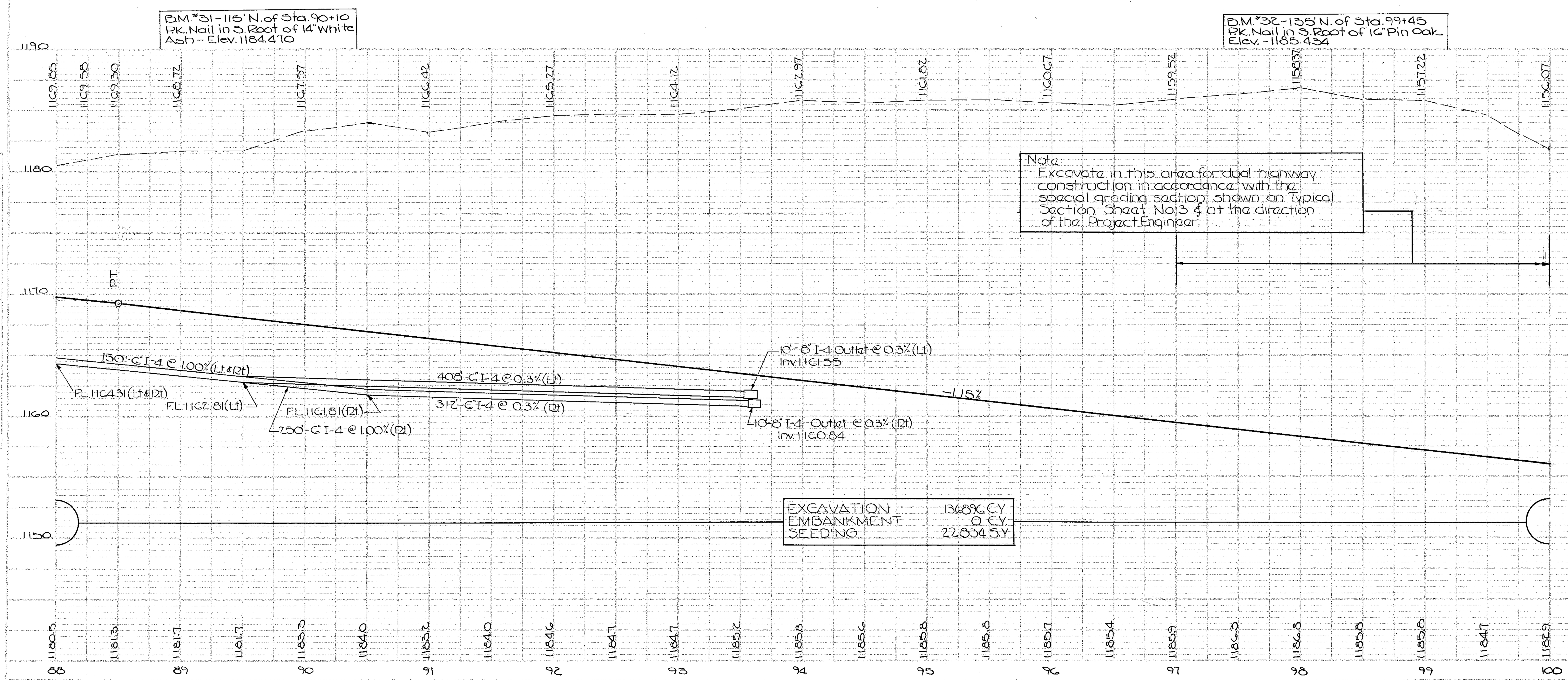
POR-224-9.58



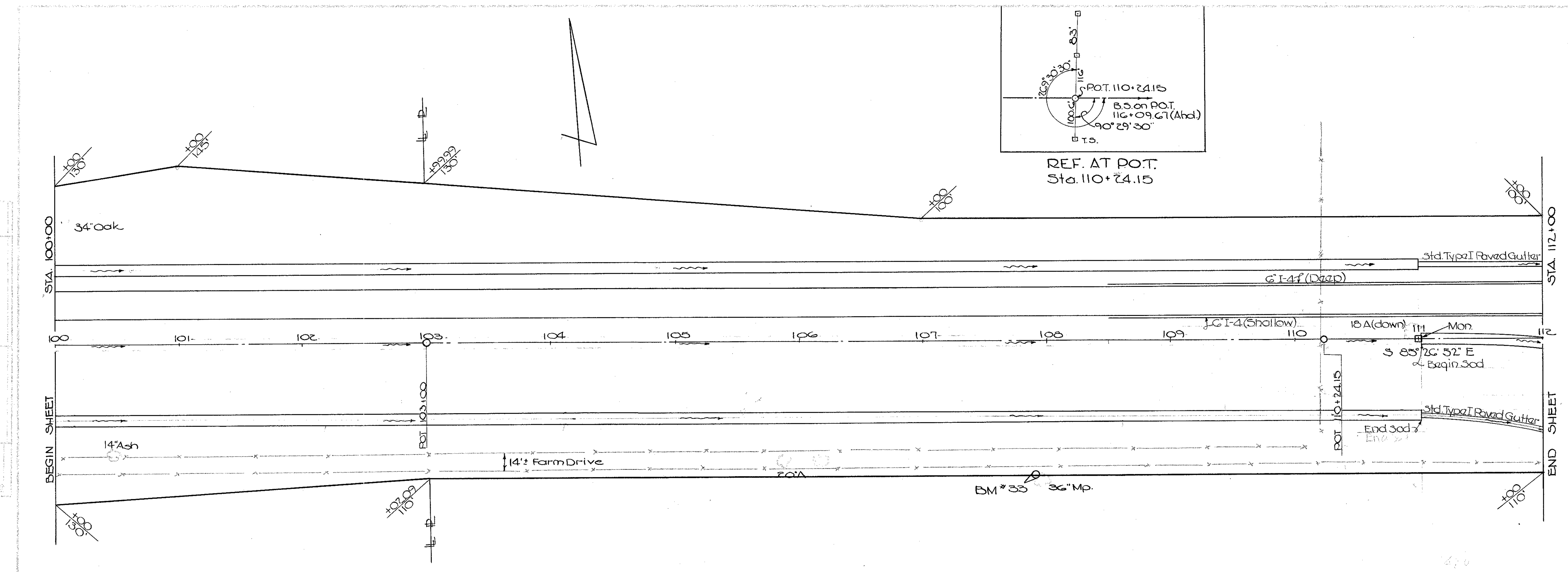
FENCE				
Station From	Station To	Side	Dist. from ℄	55-18 L.F.
88+00	89+70	Lt.	99-109	170
89+70	93+00	Lt.	109-129	330
93+00	100+00	Lt.	129	700
88+00	89+72	Rt.	109.5-109.4	172
89+72	95+00	Rt.	109.4-129	528
95+00	100+00	Rt.	129	500
TOTAL				2400

SODDING				
Station From	Station To	Side	L-10 9' Wide S.Y.	
89+00	100+00	Lt.	1100	
92+00	100+00	Rt.	812	
TOTAL			1912	

DRAINAGE					
Station		Side	I-4		I-5 for I-4
From	To		6" Deep L.F.	8" Outlet L.F.	Each
88+00	93+66	Rt.	562	10	1
88+00	93+63	Lt.	558	10	1
TOTAL			1120	20	2



LINE SHEET - STA. 88+00 TO STA. 100+00

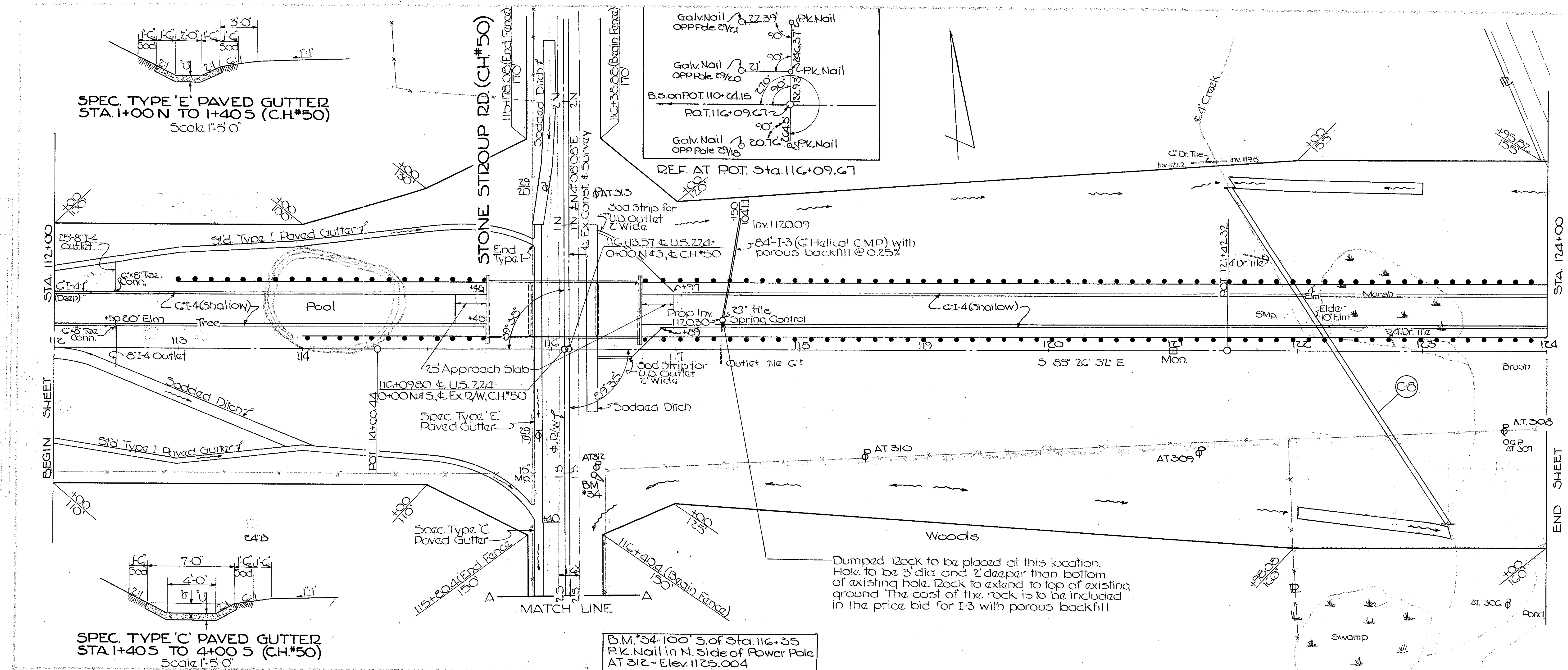


FENCE				
Station From	Station To	Side	Dist. from ℄	SS-18 L.F.
100+00	101+00	Lt.	129 - 144	100
101+00	103+00	Lt.	144 - 129	200
103+00	107+00	Lt.	129 - 99	400
107+00	112+00	Lt.	99	500
100+00	102+02	Rt.	129 - 109	202
102+02	112+00	Rt.	109	998
TOTAL				2400

SODDING				
Station From	Station To	Side	L-10 S.Y.	
100+00	111+00	Lt.	1100	9' Wide
100+00	111+00	Rt.	1100	9' Wide
111+00	112+00	Lt.	33	Along Pav. Gutter
111+00	112+00	Rt.	33	Along Pav. Gutter
111+00	112+00	℄	100	9' Wide
TOTAL			2366	

DRAINAGE					
Station From	Station To	Side	I-4 6" Deep L.F.	I-14 St'd. Type I Paved Gutter L.F.	I-4 6" Shallow L.F.
111+00	112+00	Lt.		100	
108+50	112+00	Lt.	350		
108+50	112+00	Rt.			350
111+00	112+00	Rt.		100	
TOTAL			700	200	350

MONUMENT BOXES			
Station	Side	I-8 Each	
111+00	℄	1	
TOTAL		1	



FENCE				
Station From	To	Side	Dist. from ℄	55-18 L.F.
112+00	114+00	Lt.	99'	200
114+00	115+00	Lt.	99'-129'	104
115+00	115+79	Lt.	129'-169'	90
116+38	117+00	Lt.	169'-119'	80
117+00	122+00	Lt.	119'-154'	500
122+00	124+00	Lt.	154'	200
112+00	115+00	Rt.	109'	300
115+00	115+81.4	Rt.	109'-149'	90
116+39.4	117+00	Rt.	149'-124'	67
117+00	121+98	Rt.	124'-159'	500
121+98	124+00	Rt.	159'	202
TOTAL				2333

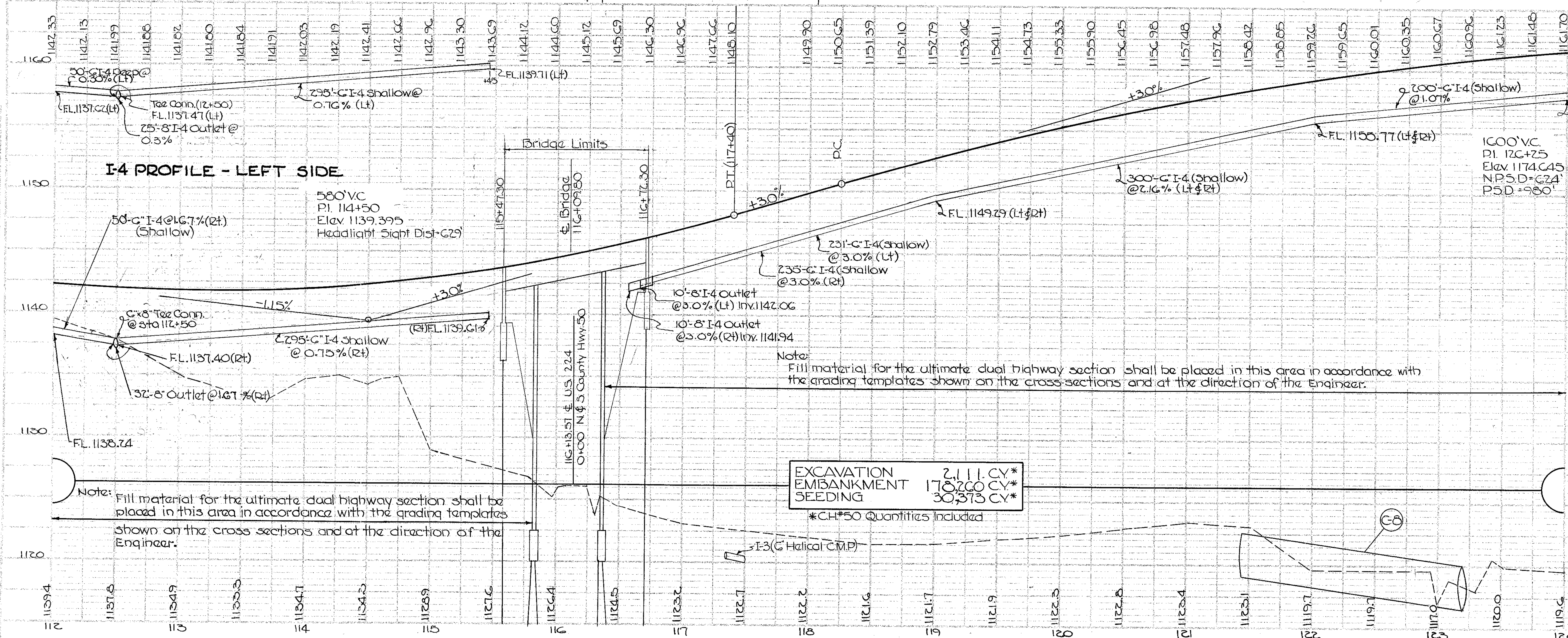
SODDING				
Station From	To	Side	L-10 S.Y.	
112+00	115+90	Lt.	130	Along Paved Gut.
112+00	115+90	Rt.	137	" " "
112+00	114+00	Rt.	210	9' Wide
1+00 N	2+50 N	West	150	9' Wide (C.H.#50)
121+46	123+00	Lt.	154	9' Wide
122+00	123+20	Rt.	120	9' Wide
1+00 N	0+50 S	East	150	9' Wide (C.H.#50)
1+00 N	1+40 S	West	80	Along Paved Gut.
1+40 S	4+00 S	West	87	" " "
116+40±	116+75±	Lt.	9	Down Slope
116+40±	116+75±	Rt.	9	for U.D. Outlet.
TOTAL			1236	

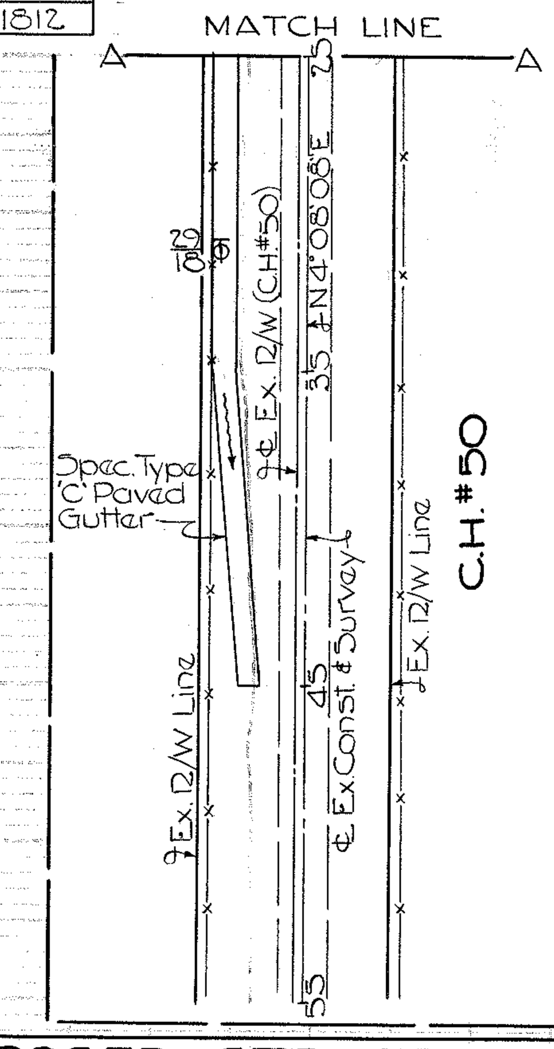
MONUMENT BOXES			
Station	Side	I-8 Each	
121+00	℄	1	
TOTAL		1	

DRAINAGE											
Side	Station From	To	I-4 6" Shallow L.F.	I-4 6" Deep L.F.	I-4 8" Outlet L.F.	I-5 6"x45° Bend Ea.	I-5 6"x8" Tee Con. Ea.	I-14 Std. Type I Paved Gutter L.F.	I-14 Spec. Type 'C' Paved Gutter L.F.	I-3 with Porous Backfill L.F.	I-14 Spec. Type 'E' Paved Gutter L.F.
Lt.	112+00	115+45	295	50	25		1				
Rt.	112+00	115+90						410			
Lt.	112+00	115+90						390			
Rt.	112+00	115+45	345		32		1				
	117+35	117+50								84	
West	1+00 N	1+40 S									240
Rt.	1+40 S	4+00 S							260		
Lt.	116+67	124+00	231		10	1					
Rt.	116+65	124+00	235		10	1					
	TOTAL		1106	50	77	2	2	800	260	84	240

I-15 GUARD RAIL			
Station From	To	Side	I-15 L.F.
113+00	Bridge	Lt.	238
114+00	Bridge	Rt.	138
Bridge	124+00	Lt.	718
Bridge	124+00	Rt.	718
TOTAL			1812

STRUCTURES UNDER 20' SPAN				
Mark	Station	Type	Size	Detail Sheet
C-8	122+30	Std. Pipe Culvert	42"	32



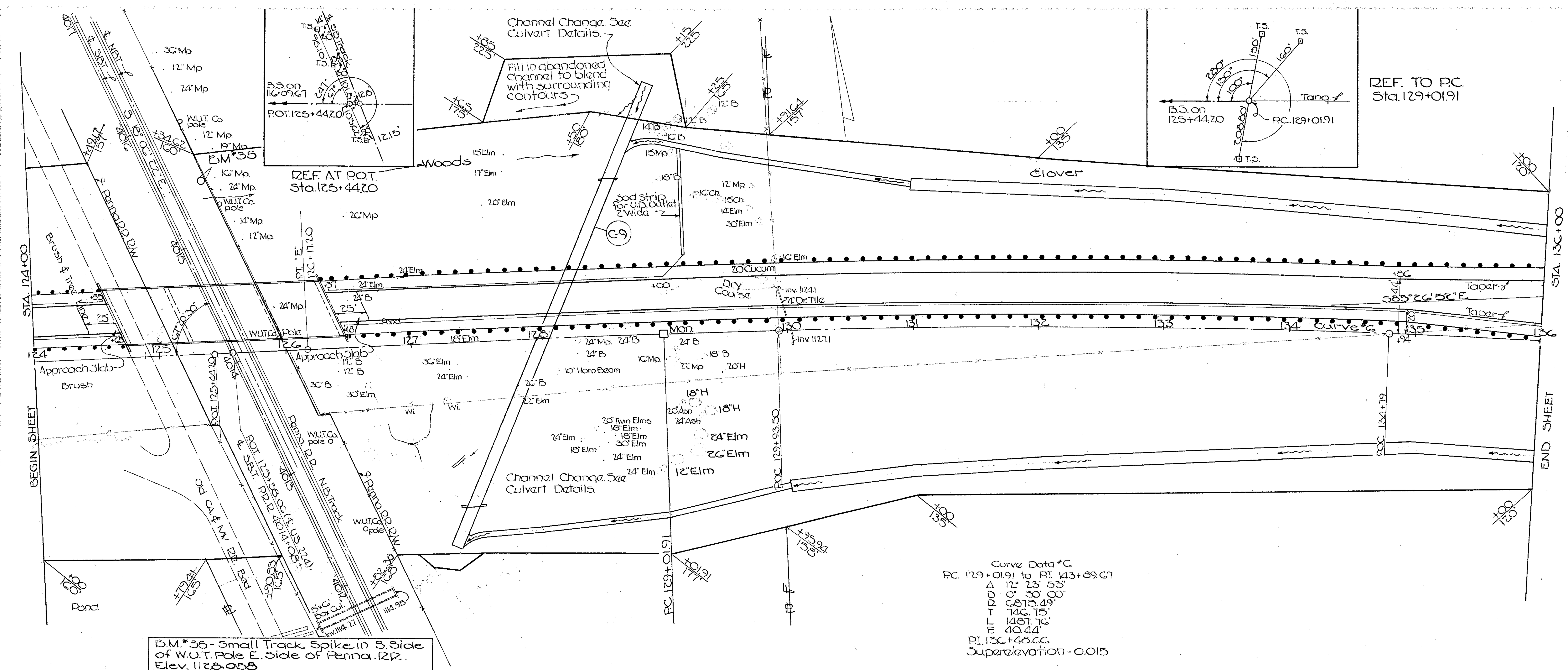


PROPOSED STRUCTURE

TYPE: Three Span Continuous Slab Bridge with Conc. Substructure
SPANS: 38'-47.5'-38' c/c Bearings
ROADWAY: 44'-0" f/f of Parapet Walls
LOAD FREQUENCY: CF=2000 (51)
SKEW: None
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-54 (25'-0" Lg.)
ALIGNMENT: Tangent

	F-330(4)		22		105

POR-224-9.58



FENCE				
Station		Side	Dist. from ℄	55-18 L.F.
From	To			
124+00	124+49	Lt.	154-156	49
125+35	127+65	Lt.	159-174	230
127+65	128+50	Lt.	174-179	85
128+50	129+25	Lt.	179-164	75
129+25	129+92	Lt.	164-156	67
129+92	132+00	Lt.	156-124	208
132+00	136+00	Lt.	124-119	400
124+00	125+29	Rt.	159-164	129
125+29	125+91	Rt.	164	62
126+82	127+00	Rt.	167-169	18
127+00	127+50	Rt.	169	50
127+50	129+02	Rt.	169-176	152
129+02	129+96	Rt.	176-157	94
129+96	131+00	Rt.	157-134	104
131+00	136+00	Rt.	134-119	500
TOTAL				2223

SODDING				
Station		Side	I-10 S.Y.	
From	To			
127+35	130+00	Rt.	88	Along Pav. Gutter
130+00	136+00	Rt.	600	9'Wide
128+75	131+00	Lt.	75	Along Pav. Gutter
131+00	136+00	Lt.	500	9'Wide
129+16±	129+16±	Lt.	18	Strip for Out. 2'Wide
TOTAL			1281	

MONUMENT BOXES			
Station	Side	I-8 Each	
129+01.91	℄	1	P.C.
TOTAL		1	

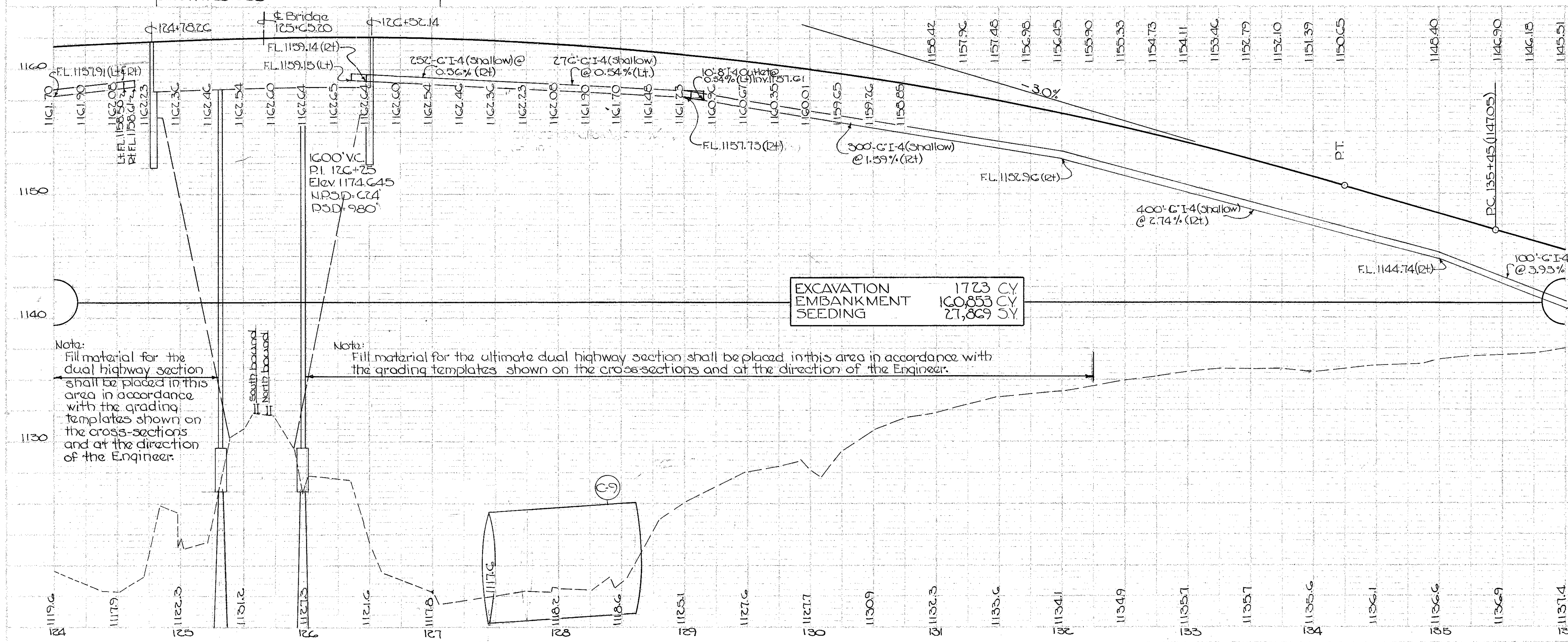
DRAINAGE						
*I-5 for I-4 Ea.	Station		Side	I-14 Std Type I Paved Gutter L.F.	I-4 6" Shallow L.F.	I-4 8" Outlet L.F.
	From	To				
	127+35	130+00	Rt.	265		
	128+75	131+00	Lt.	225		
	124+00	124+55	Lt.		55	
	124+00	124+65	Rt.		65	
1	126+37	129+16±	Lt.		276	10
	126+48	136+00	Rt.		952	
1	TOTAL			490'	1348	10

* 6"×45° Bend

I-15 GUARD RAIL			
Station		Side	I-15 L.F.
From	To		
124+00	Bridge	Lt.	52
124+00	Bridge	Rt.	72
Bridge	136+00	Lt.	969.75
Bridge	136+00	Rt.	949
TOTAL			2,042.75

STRUCTURES UNDER 20' SPAN				
Mark	Station	Type	Size	Detail Sheet
C-9	128+05	Std. Pipe Culvert	108'	34

REMOVAL		
STATION		E-12 Pipe Removal L.F.
From	To	
129+93	130+05	40
Total		40



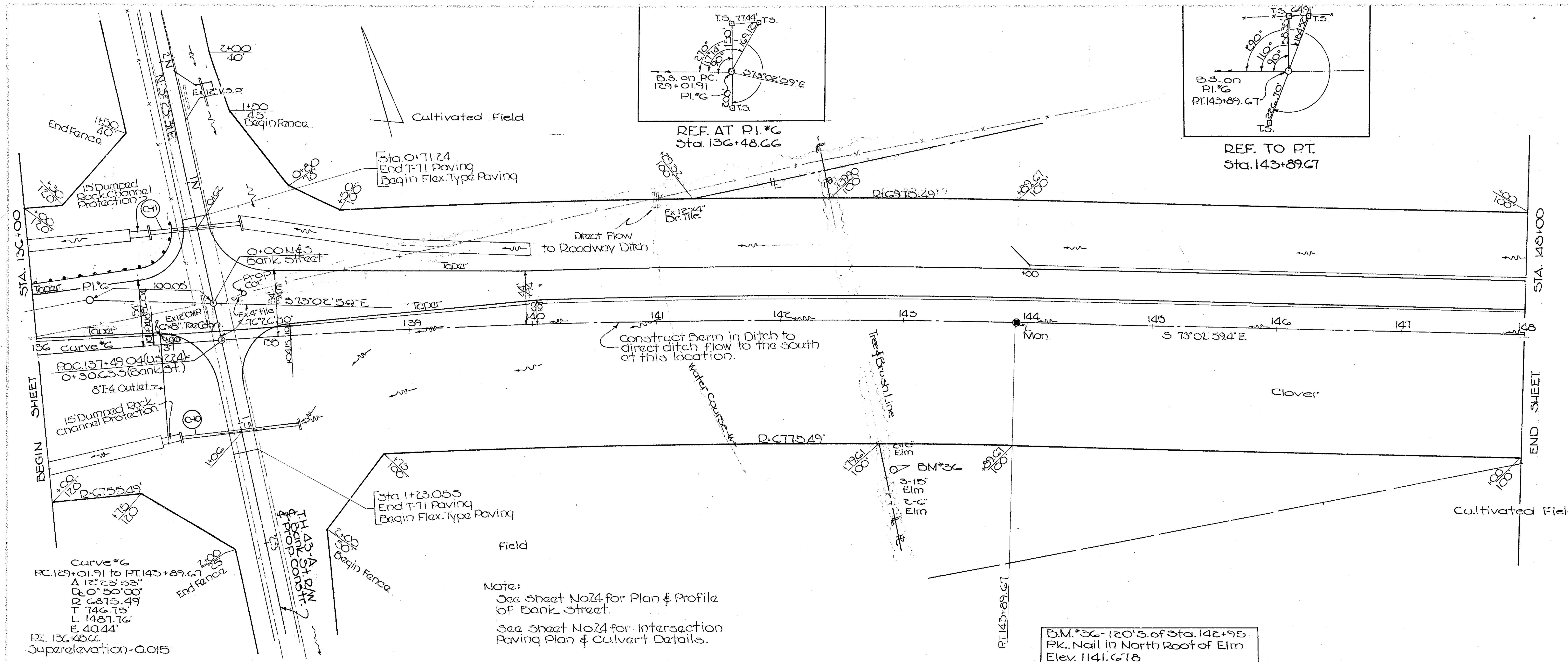
PROPOSED STRUCTURE

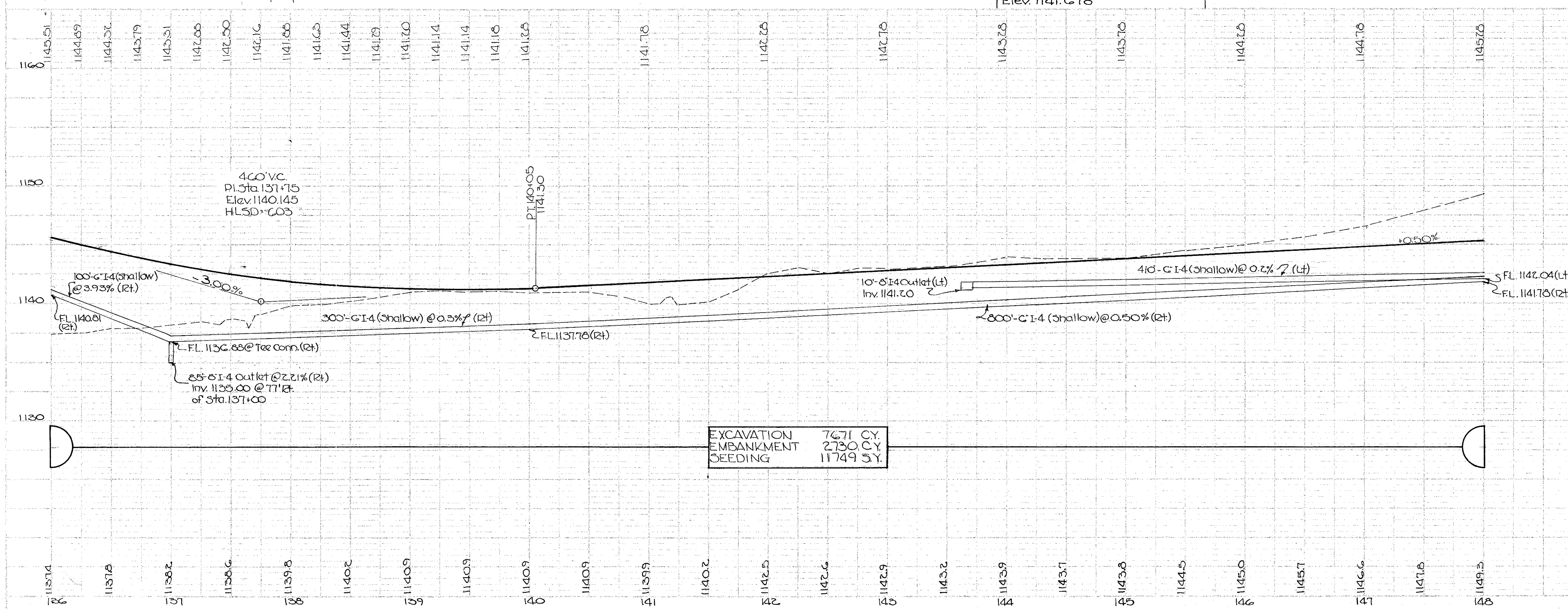
TYPE: Three Span Continuous Steel Beams with Conc. Deck & Substr. ("T" Type Piers)
SPANS: 52'-65'-52' c/c Bearings
ROADWAY: 44'-0" f/f of Parapet Walls
LOAD FREQUENCY: CF-2000 (51)
SKEW: 22° 39' 30" R.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-54 (25'-0" Lg.)
ALIGNMENT: Tangent

LINE SHEET - STA. 124+00 TO STA. 136+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

POR-224-9.58





SODDING			
STATION		Side	L-10 9' Wide S.Y.
From	To		
136+00	136+85	Lt.	85'
136+00	136+87	Rt.	87'
137+73	140+00	Lt.	227'
Total			399'

STRUCTURES UNDER 20' SPAN				
MARK	STATION	TYPE	SIZE	Detail Sheet
C-11	0+62N	Std. Pipe Culvert	36"	33
C-10	1+06S	Std. Pipe Culvert	24"	33

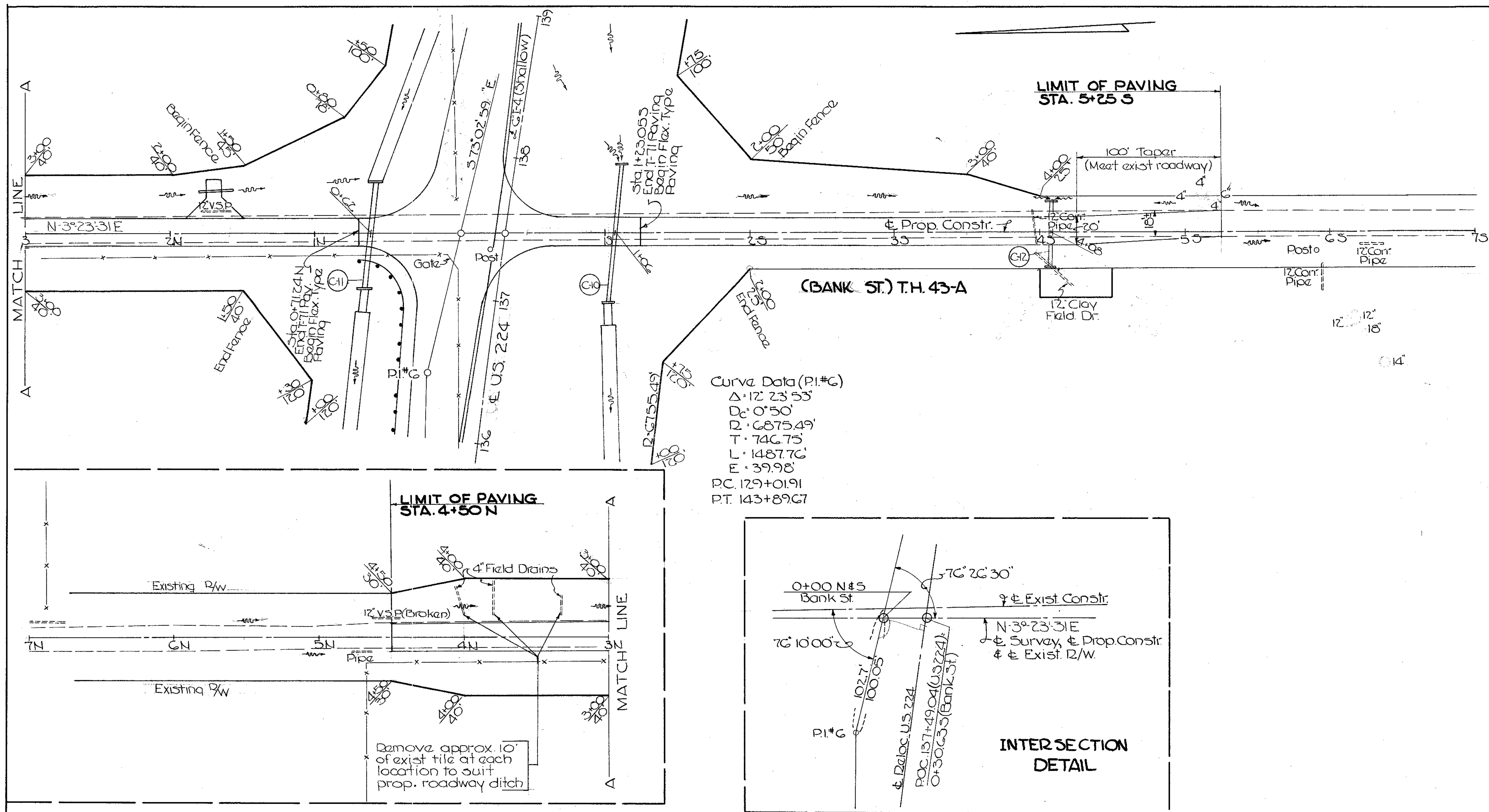
I-15 GUARD RAIL			
STATION		Side	I-15 L.F.
From	To		
136+00	0+70N	Lt.	135
Total			135

FENCE				
STATION		Side	Dist. from ℄	SS-18 L.F.
From	To			
136+00	136+30	Lt	119	30
136+30	1+50N	Lt.	119-39	75
1+50N	0+80N	Lt.	39-77	76
0+80N	138+50	Lt.	77-99	50
138+50	148+00	Lt.	99	950
136+00	136+75	Rt.	119	75
136+75	2+00S	Rt.	119-29	82
2+00S	138+75	Rt.	49-99	76
138+75	148+00	Rt.	99	925
Total				2339

MONUMENT BOXES			
STATION	Side	I-8 Each	
143+89.67	℄	1	P.T.
Total		1	

DRAINAGE						
STATION		Side	I-4		I-5 for I-4 45° (Ea.)	I-5 Tee Conn. 6"x8" (Ea.)
From	To		6" Shallow	8" Outlet		
136+00	137+00	Lt.	100'			
137+00	137+00	Rt.		85'		1
137+00	148+00	Rt.	1100'			
143+86	148+00	Lt.	410'	10'	1	
Totals			1610'	95'	1	1

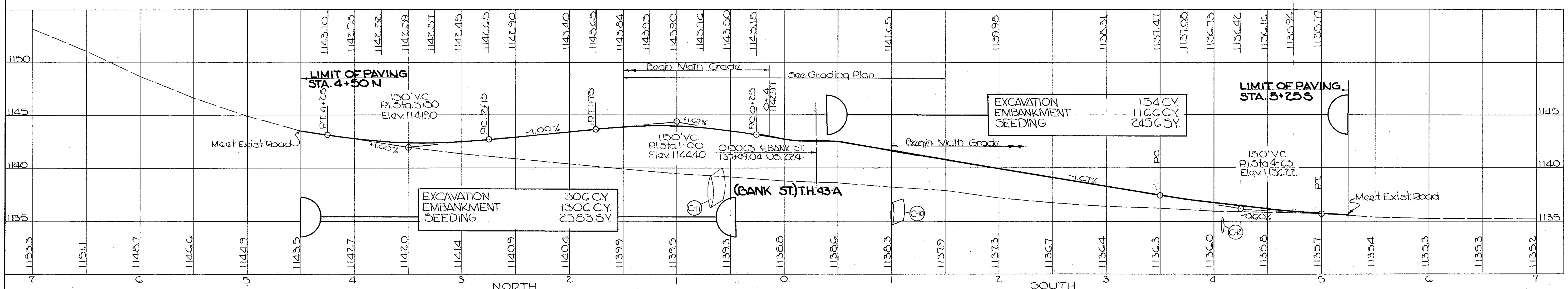
LINE SHEET - STA. 136+00 TO STA. 148+00



STRUCTURES UNDER 20' SPAN				
Mark	Station	Type	Size	Detail Sheet
C-12	4+08S	Std Pipe Culvert	15"	33

DRIVES						
STATION		Side	Dist. from Edge of Pav.	I-18 6" C.Y.	I-1 12" L.F.	Type
From	To					
1+70N	-	Rt.	28	9.4	24	Field
Total				9.4	24	

REMOVAL			
STATION		Side	E-12 Pipe Removal (L.F.)
From	To		
3+33N	-	Rt.	10
3+80N	-	Rt	10
4+00N	-	Rt	10
1+60N	1+80N	Rt	20
3+98S	-	℄	24
4+00S	4+15S	Rt	20
Total			94

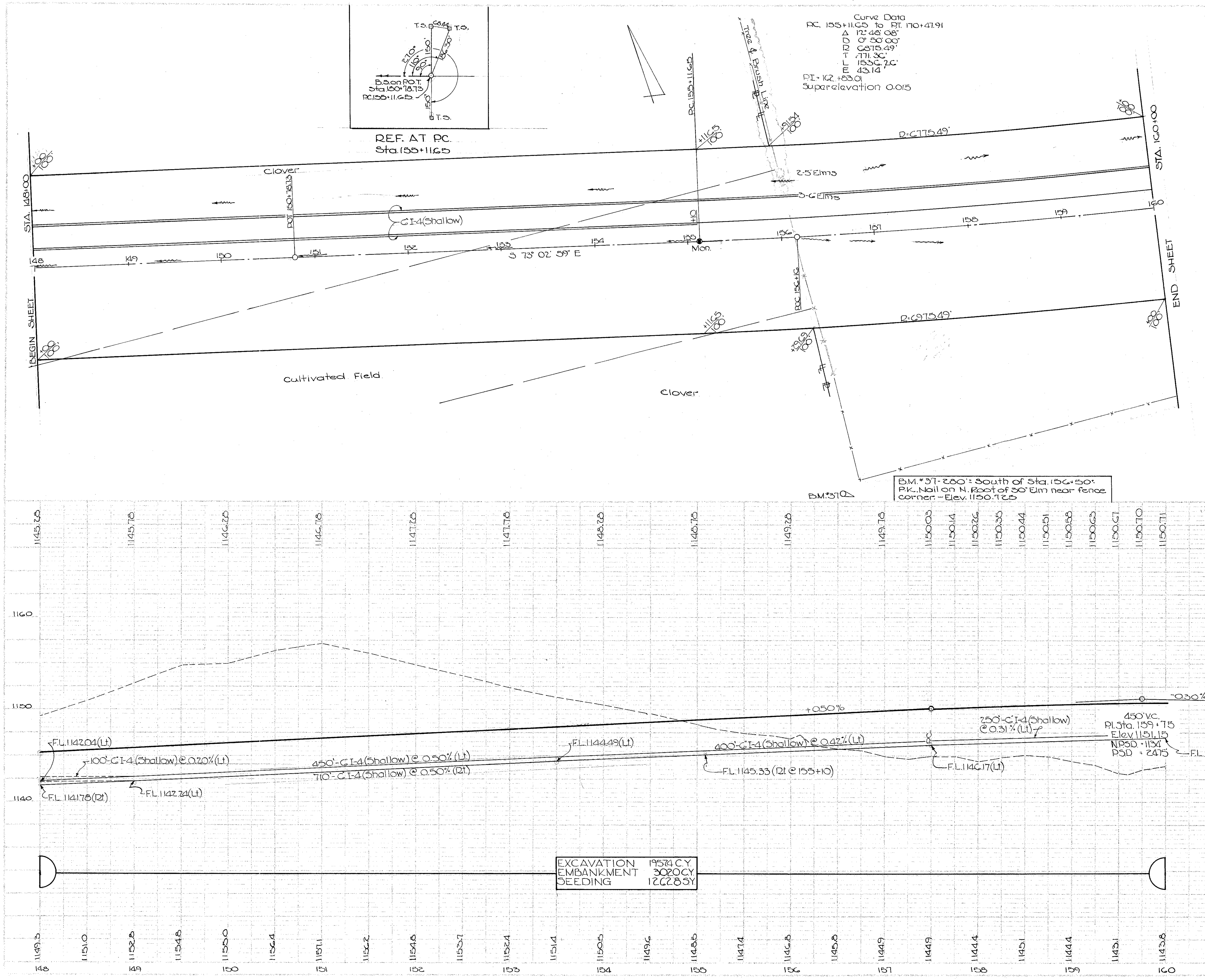


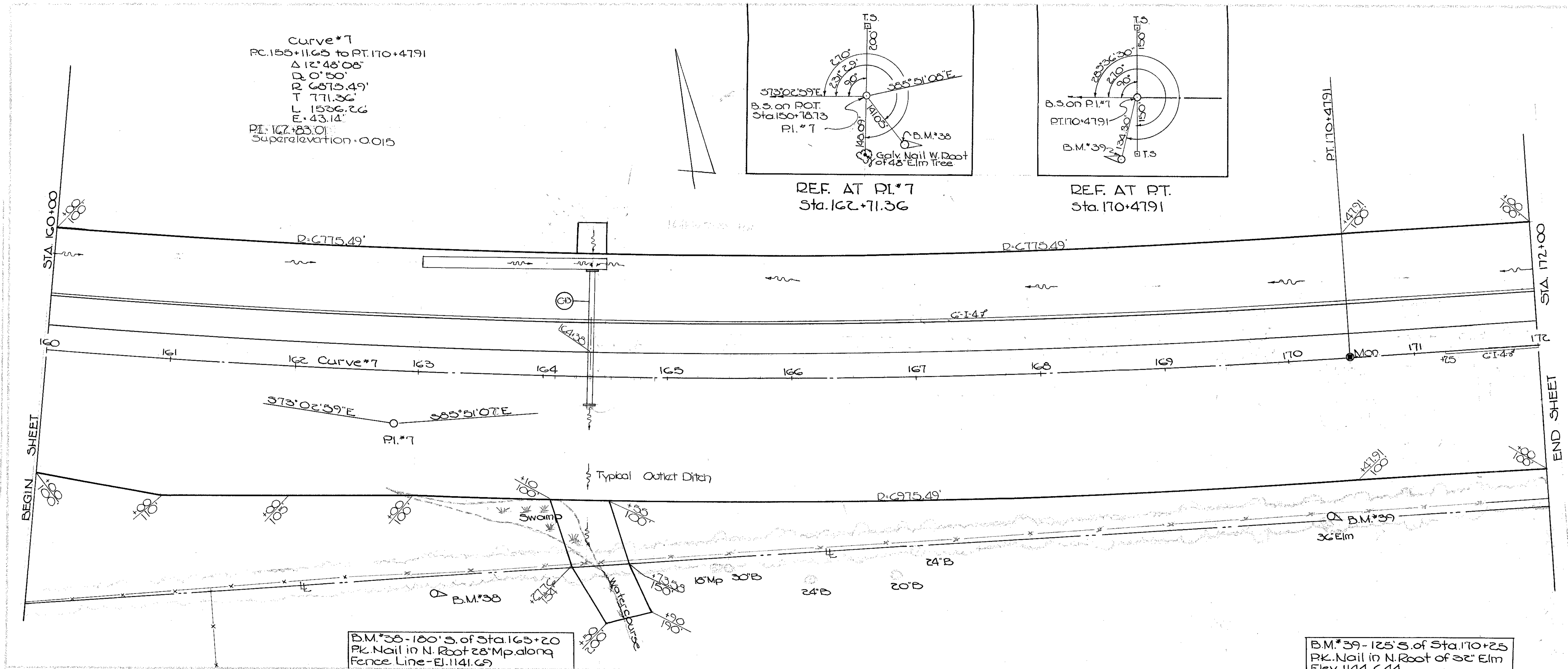
T.H. 43-A (BANK ST.) **LINE SHEET - STA. 4+50 N TO STA. 5+25 S**

FENCE				
STATION		Side	Dist. from ℄	SS-18 L.F.
From	To			
148+00	160+00	Lt.	99'	1200'
148+00	160+00	Rt.	99'	1200'
Total				2400'

MONUMENT BOXES			
STATION	Side	I-8 Each	
155+11.65	℄	1	P.C.
Total		1	

DRAINAGE			
Station		Side	I-4 6" Shallow L.F.
From	To		
148+00	155+10	Rt.	710
148+00	160+00	Lt.	1200
TOTALS			1910





SODDING				
STATION		Side	L-10 9' Wide S.Y.	
From	To			
163+00	164+50	Lt.	150'	
Total			150'	

STRUCTURES UNDER 20' SPAN				
MARK	STATION	TYPE	SIZE	Detail Sheet
C-13	164+38	Std. Pipe Culvert	42"	34

FENCE				
STATION		Side	Dist. from ℄	55-18 L.F.
From	To			
160+00	172+00	Lt.	99	1200
160+00	161+00	Rt.	99-109	100
161+00	162+00	Rt.	109-104	100
162+00	163+00	Rt.	104-99	100
163+00	172+00	Rt.	99	900
Total				2400

MONUMENT BOXES			
STATION	Side	I-8 Each	
170+47.91	℄	1	P.T.
Total		1	

DRAINAGE			
STATION		Side	I-4 6" Shallow (L.F.)
From	To		
160+00	172+00	Lt.	1200
171+25	172+00	Rt.	75
Total			1275

EXCAVATION	567	C.Y.
EMBANKMENT	14,379	C.Y.
SEEDING	12,175	S.Y.

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330 (4)	

27 / 105

POR-224-9.58

SODDING				
STATION		Side	L-10 S.Y.	
From	To			
178+50	181+00	Lt.	250	9'Wide
181+00	3+00N	Lt.	110	Along Pav. Gutter
207+	3+62.5	Rt.	160	9'Wide
TOTAL			520	

STRUCTURES UNDER 20' SPAN				
MARK	STATION	TYPE	SIZE	Detail Sht.
C-14	181+90	Std. Pipe Culvert	36"×60'	35
C-15	181+90	Std Pipe Culvert	36"×94'	35
C-16	206+47±	Std. Pipe Culvert	36"×100'	35

STD. CONC. CURB TYPE 2-A I-12		
STATION		L.F.
From	To	
178+43+	302+30±	566
180+81±	182+41±	363
TOTAL		929

OVERHEAD SIGN ASSEMBLY					
STATION	OS-1 Type A				
	Pole	B	H	Supports	Location
0+875	19'6"(3Ga)	16'	4'	6	18'Rt.SR80
TOTAL	1 Assembly			6 Signs	

PIPE FOR TRAFFIC SIGNALS	
STATION	*S-25(3')M-6.9(L.F.)
303+50	20'
TOTAL	20'

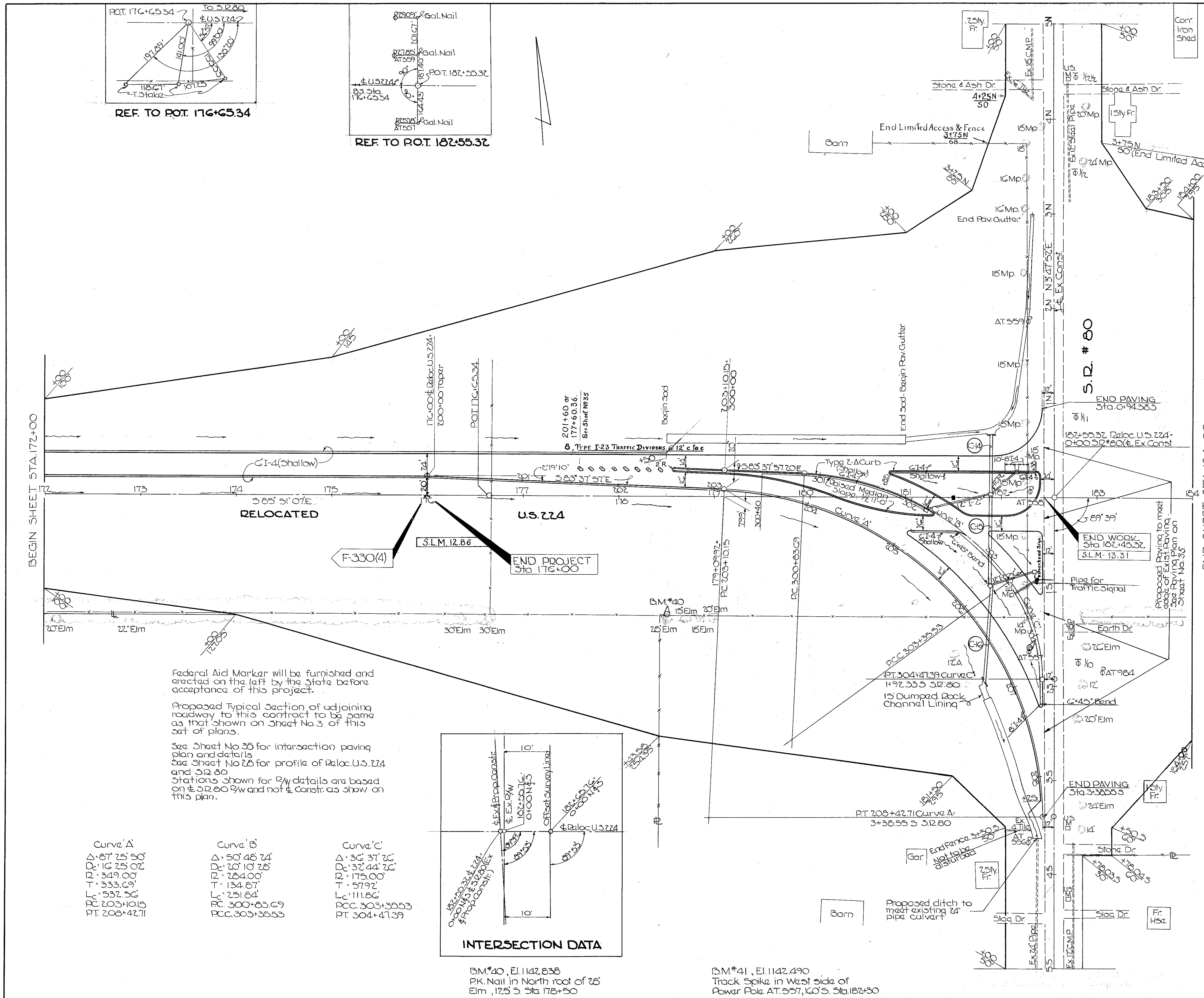
*Galvanizing shall meet the requirements of Sec. M-7.4(d)

MONUMENT BOX	
STATION	I-8
181+50	1
TOTAL	1

FENCE				
STATION		Side	Dist. From ℄	SS-18 L.F.
From	To			
172+00	175+00	Lt	99-144	304
175+00	179+00	Lt	144-259	405
179+00	181+00	Lt	259-279	200
181+00	3+25N	Lt	279-84	82
3+25N	3+75 N	Lt	84-67	52
172+00	174+00	Rt.	99-126	202
174+00	178+43.6	Rt.	126-253.4	460
178+43.6	181+50	Rt.	253.4-294	310
181+50	3+50S	Rt.	294-49	78
TOTAL				2093

DRAINAGE										
STATION		Side	Std. Type I Pav. Gutter L.F.	I-4		I-5	I-2-Class A		I-8	
From	To			6" Shallow L.F.	8" Outlet L.F.	6"×45° Bend Ea.	12" L.F.	12" U.P. L.F.	Std 3-A Cat. Basin Ea.	Std 2-2-A Cat. Basin Ea.
181+00	3+00N	Lt.	330							
181+90	182+16	Lt.					34		1	
180+85	182+38	Lt.		131	20					
300+40	302+24	Rt.		174	10					
206+00	303+41						24	24		1
302+24.88	181+90	Rt.					24	40	1	
181+05	207+48	Rt.		264	44	2				
172+00	178+65±	Lt.		660	10	1				
172+00	208+40±	Rt.		1210	10	1				
TOTALS			330	2439	94	4	82	64	2	1

Item I-23 @ 12' Centers		
From Sta.	To Stn.	No. of Units
177+60.36	178+56.36	8
Carried to Recap. Sh. 7		8



Federal Aid Marker will be furnished and erected on the left by the State before acceptance of this project.

Proposed Typical Section of adjoining roadway to this contract to be same as that shown on Sheet No. 3 of this set of plans.

See Sheet No. 35 for intersection paving plan and details.
See Sheet No. 28 for profile of Reloc. U.S. 224 and S.R. 80.
Stations shown for R/W details are based on ℄ S.R. 80 R/W and not ℄ Constr. as show on this plan.

Curve 'A'	Curve 'B'	Curve 'C'
Δ = 87°25'50"	Δ = 50°48'24"	Δ = 36°37'26"
Dc = 16°25'02"	Dc = 20°10'28"	Dc = 32°44'26"
R = 349.00'	R = 284.00'	R = 175.00'
T = 333.69'	T = 134.87'	T = 57.92'
Lc = 532.56'	Lc = 251.84'	Lc = 111.86'
P.C. 203+10.15	P.C. 300+83.69	P.C.C. 303+35.53
P.T. 208+42.71	P.C.C. 303+35.53	P.T. 304+47.39

B.M.#40, El. 1142.838
P.K. Nail in North root of 28" Elm, 12.5' S. Sta. 178+50

B.M.#41, El. 1142.490
Track Spike in West side of Power Pole AT. 557, 16.0' S. Sta. 182+30

(PLAN) LINE SHEET - STA 172+00 TO STA 184+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330(4)		28/105

POR-224-9.58

NOTE:
The Profile Grade Line for Reloc. U.S. 224 to the east of S.R. 80 will depend on the future design characteristics determined for the S.R. 80 intersection. The Right of Way limits shown have been based on S.R. 80 going over U.S. 224 with approximately 5' raise of grade on S.R. 80.

(PROFILES) LINE SHEET - STA. 172+00 TO STA. 184+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
2	OHIO	F-330(4)		29	105

POR-224-9.58

NOTE:
The Profile Grade Line for Reloc. U.S. 224 to the east of S.R. 80 will depend on the future design characteristics determined for the S.R. 80 intersection. The Right of Way limits shown have been based on S.R. 80 going over U.S. 224 with approximately 5' raise of grade on S.R. 80.

LINE SHEET - STA 184+00 TO STA 192+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330(4)		30/105

POR-224-9.58

SUPERELEVATION TABLES

CURVE #5 D_c=0°50'00" P.I. STA. 27+44.59

STATION	SUPER SLOPE	ULTIMATE WESTBOUND LANE PRESENT CONST.			ULTIMATE EASTBOUND LANE FUTURE CONST.		
		Lt. Edge Pave.	℄ Elev.	Rt. Edge Pave.(P.G.L.)	Lt. Edge Pave.(P.G.L.)	℄ Elev.	Rt. Edge Pave.
15+50	Crown	1206.47	1206.65	1206.47	1206.47	1206.65	1206.47
+75	-.01	1206.78	1206.90	1206.72	1206.72	1206.84	1206.66
16+00	-.005	1207.08	1207.14	1206.96	1206.96	1207.02	1206.84
+25	Level	1207.39	1207.39	1207.21	1207.21	1207.21	1207.03
+50	+.005	1207.69	1207.63	1207.45	1207.45	1207.39	1207.21
+75	+.01	1208.00	1207.88	1207.70	1207.70	1207.58	1207.40
P.C.16+93.39	+.0143	1208.23	1208.06	1207.88	1207.88	1207.71	1207.53
17+00	+.015	1208.30	1208.12	1207.94	1207.94	1207.76	1207.58
+25		1208.55	1208.37	1208.19	1208.19	1208.01	1207.83
+50		1208.79	1208.61	1208.43	1208.43	1208.25	1208.07
+75		1209.04	1208.86	1208.68	1208.68	1208.50	1208.32
18+00		1209.28	1209.10	1208.92	1208.92	1208.74	1208.56
+25		1209.53	1209.35	1209.17	1209.17	1208.99	1208.81
+50		1209.77	1209.59	1209.41	1209.41	1209.23	1209.05
+75		1210.02	1209.84	1209.66	1209.66	1209.48	1209.30
19+00		1210.26	1210.08	1209.90	1209.90	1209.72	1209.54
+25		1210.50	1210.32	1210.14	1210.14	1209.96	1209.78
+50		1210.72	1210.54	1210.36	1210.36	1210.18	1210.00
+75		1210.94	1210.76	1210.58	1210.58	1210.40	1210.22
20+00		1211.13	1210.95	1210.77	1210.77	1210.59	1210.41
+25		1211.32	1211.14	1210.96	1210.96	1210.78	1210.60
+50		1211.48	1211.30	1211.12	1211.12	1210.94	1210.76
+75		1211.64	1211.46	1211.28	1211.28	1211.10	1210.92
21+00		1211.77	1211.59	1211.41	1211.41	1211.23	1211.05
+25		1211.91	1211.73	1211.55	1211.55	1211.37	1211.19
+50		1212.01	1211.83	1211.65	1211.65	1211.47	1211.29
+75		1212.12	1211.94	1211.76	1211.76	1211.58	1211.40
22+00		1212.20	1212.02	1211.84	1211.84	1211.66	1211.48
+25		1212.27	1212.09	1211.91	1211.91	1211.73	1211.55
+50		1212.33	1212.15	1211.97	1211.97	1211.79	1211.61
+75		1212.38	1212.20	1212.02	1212.02	1211.84	1211.66
23+00		1212.40	1212.22	1212.04	1212.04	1211.86	1211.68
+25		1212.42	1212.24	1212.06	1212.06	1211.88	1211.70
+50		1212.42	1212.24	1212.06	1212.06	1211.88	1211.70
+75		1212.40	1212.22	1212.04	1212.04	1211.86	1211.68
24+00		1212.38	1212.20	1212.02	1212.02	1211.84	1211.66
+25		1212.34	1212.16	1211.98	1211.98	1211.80	1211.62
+50		1212.28	1212.10	1211.92	1211.92	1211.74	1211.56
+75		1212.22	1212.04	1211.86	1211.86	1211.68	1211.50
25+00		1212.13	1211.95	1211.77	1211.77	1211.59	1211.41
+25		1212.04	1211.86	1211.68	1211.68	1211.50	1211.32
+50		1211.93	1211.75	1211.57	1211.57	1211.39	1211.21
+75		1211.81	1211.63	1211.45	1211.45	1211.27	1211.09
26+00		1211.67	1211.49	1211.31	1211.31	1211.13	1210.95
+25		1211.52	1211.34	1211.16	1211.16	1210.98	1210.80
+50		1211.35	1211.17	1210.99	1210.99	1210.81	1210.63
+75		1211.17	1210.99	1210.81	1210.81	1210.63	1210.45
27+00		1210.98	1210.80	1210.62	1210.62	1210.44	1210.26
+25		1210.78	1210.60	1210.42	1210.42	1210.24	1210.06
+50		1210.58	1210.40	1210.22	1210.22	1210.04	1209.86
+75		1210.38	1210.20	1210.02	1210.02	1209.84	1209.66
28+00		1210.18	1210.00	1209.82	1209.82	1209.64	1209.46
+25		1209.98	1209.80	1209.62	1209.62	1209.44	1209.26
+50		1209.78	1209.60	1209.42	1209.42	1209.24	1209.06
+75		1209.58	1209.40	1209.22	1209.22	1209.04	1208.86
29+00		1209.38	1209.20	1209.02	1209.02	1208.84	1208.66
+25		1209.18	1209.00	1208.82	1208.82	1208.64	1208.46
+50		1208.98	1208.80	1208.62	1208.62	1208.44	1208.26
+75		1208.78	1208.60	1208.42	1208.42	1208.24	1208.06
30+00		1208.58	1208.40	1208.22	1208.22	1208.04	1207.86
+25		1208.38	1208.20	1208.02	1208.02	1207.84	1207.66
+50		1208.18	1208.00	1207.82	1207.82	1207.64	1207.46
+75		1207.98	1207.80	1207.62	1207.62	1207.44	1207.26
31+00		1207.78	1207.60	1207.42	1207.42	1207.24	1207.06
+25		1207.58	1207.40	1207.22	1207.22	1207.04	1206.86
+50		1207.38	1207.20	1207.02	1207.02	1206.84	1206.66
+75		1207.18	1207.00	1206.82	1206.82	1206.64	1206.46
32+00		1206.98	1206.80	1206.62	1206.62	1206.44	1206.26
+25		1206.78	1206.60	1206.42	1206.42	1206.24	1206.06
+50		1206.58	1206.40	1206.22	1206.22	1206.04	1205.86
+75		1206.38	1206.20	1206.02	1206.02	1205.84	1205.66

CURVE #5 (Continued)

STATION	SUPER SLOPE	ULTIMATE WESTBOUND LANE PRESENT CONST.			ULTIMATE EASTBOUND LANE FUTURE CONST.		
		Lt. Edge Pave.	℄ Elev.	Rt. Edge Pave.(P.G.L.)	Lt. Edge Pave.(P.G.L.)	℄ Elev.	Rt. Edge Pave.
33+00	+.015	1206.18	1206.00	1205.82	1205.82	1205.64	1205.46
+25		1205.98	1205.80	1205.62	1205.62	1205.44	1205.26
+50		1205.78	1205.60	1205.42	1205.42	1205.24	1205.06
+75		1205.58	1205.40	1205.22	1205.22	1205.04	1204.86
34+00		1205.38	1205.20	1205.02	1205.02	1204.84	1204.66
+25		1205.18	1205.00	1204.82	1204.82	1204.64	1204.46
+50		1204.98	1204.80	1204.62	1204.62	1204.44	1204.26
+75		1204.78	1204.60	1204.42	1204.42	1204.24	1204.06
35+00		1204.58	1204.40	1204.22	1204.22	1204.04	1203.86
+25		1204.38	1204.20	1204.02	1204.02	1203.84	1203.66
+50		1204.18	1204.00	1203.82	1203.82	1203.64	1203.46
+75		1203.98	1203.80	1203.62	1203.62	1203.44	1203.26
36+00		1203.78	1203.60	1203.42	1203.42	1203.24	1203.06
+25		1203.58	1203.40	1203.22	1203.22	1203.04	1202.86
+50		1203.38	1203.20	1203.02	1203.02	1202.84	1202.66
+75		1203.18	1203.00	1202.82	1202.82	1202.64	1202.46
37+00		1202.98	1202.80	1202.62	1202.62	1202.44	1202.26
+25		1202.78	1202.60	1202.42	1202.42	1202.24	1202.06
+50		1202.58	1202.40	1202.22	1202.22	1202.04	1201.86
+75	+.015	1202.38	1202.20	1202.02	1202.02	1201.84	1201.66
P.T.37+79.64	+.0145	1202.33	1202.16	1201.98	1201.98	1201.81	1201.63
38+00	+.01	1202.12	1202.00	1201.82	1201.82	1201.70	1201.52
+25	+.005	1201.86	1201.80	1201.62	1201.62	1201.56	1201.38
+50	Level	1201.60	1201.60	1201.42	1201.42	1201.42	1201.24
+75	-.005	1201.34	1201.40	1201.22	1201.22	1201.28	1201.10
39+00	-.01	1201.08	1201.20	1201.02	1201.02	1201.14	1200.96
+25	Crown	1200.82	1201.00	1200.82	1200.82	1201.00	1200.82

CURVE #6 D_c=0°50'00" P.I. STA. 136+48.66

STATION	SUPER SLOPE	ULTIMATE WESTBOUND LANE PRESENT CONST.			ULTIMATE EASTBOUND LANE FUTURE CONST.		
		Lt. Edge Pave.	℄ Elev.	Rt. Edge Pave.(P.G.L.)	Lt. Edge Pave.(P.G.L.)	℄ Elev.	Rt. Edge Pave.
127+50	Crown	1162.36	1162.54	1162.36	1162.36	1162.54	1162.36
+75	-.01	1162.29	1162.41	1162.23	1162.23	1162.35	1162.17
128+00	-.005	1162.20	1162.26	1162.08	1162.08	1162.14	1161.96
+25	Level	1162.08	1162.08	1161.90	1161.90	1161.90	1161.72
+50	+.005	1161.94	1161.88	1161.70	1161.70	1161.64	1161.46
+75	+.01	1161.78	1161.66	1161.48	1161.48	1161.36	1161.18
129+00	+.015	1161.59	1161.41	1161.23	1161.23	1161.05	1160.87
+25		1161.32	1161.14	1160.96	1160.96	1160.78	1160.60
+50		1161.03	1160.85	1160.67	1160.67	1160.49	1160.31
+75		1160.71	1160.53	1160.35	1160.35	1160.17	1159.99
130+00		1160.37	1160.19	1160.01	1160.01	1159.83	1159.65
+25		1160.01	1159.83	1159.65	1159.65	1159.47	1159.29
+50		1159.62	1159.44	1159.26	1159.26	1159.08	1158.90
+75		1159.21	1159.03	1158.85	1158.85	1158.67	1158.49
131+00		1158.78	1158.60	1158.42	1158.42	1158.24	1158.06
+25		1158.32	1158.14	1157.96	1157.96	1157.78	1157.60
+50		1157.84	1157.66	1157.48	1157.48	1157.30	1157.12
+75		1157.34	1157.16	1156.98	1156.98	1156.80	1156.62
132+00		1156.81	1156.63	1156.45	1156.45	1156.27	1156.09
+25		1156.26	1156.08	1155.90	1155.90	1155.72	1155.54
+50		1155.69	1155.51	1155.33	1155.33	1155.15	1154.97
+75		1155.09	1154.91	1154.73	1154.73	1154.55	1154.37
133+00		1154.47	1154.29	1154.11	1154.11	1153.93	1153.75
+25		1153.82	1153.64	1153.46	1153.46	1153.28	1153.10
+50		1153.15	1152.97	1152.79	1152.79	1152.61	1152.43
+75		1152.46	1152.28	1152.10	1152.10	1151.92	1151.74
134+00		1151.75	1151.57	1151.39	1151.39	1151.21	1151.03
+25		1151.01	1150.83	1150.65	1150.65	1150.47	1150.29
+50		1150.26	1150.08	1149.90	1149.90	1149.72	1149.54
+75		1149.51	1149.33	1149.15	1149.15	1148.97	1148.79
135+00		1148.76	1148.58	1148.40	1148.40	1148.22	1148.04
+25		1148.01	1147.83	1147.65	1147.65	1147.47	1147.29
+50		1147.26	1147.08	1146.90	1146.90	1146.72	1146.54
+75		1146.54	1146.36	1146.18	1146.18	1146.00	1145.82
136+00		1145.87	1145.69	1145.51	1145.51	1145.33	1145.15
+25		1145.25	1145.07	1144.89	1144.89	1144.71	1144.53
+50		1144.68	1144.50	1144.32	1144.32	1144.14	1143.96

CURVE #6 (Continued)

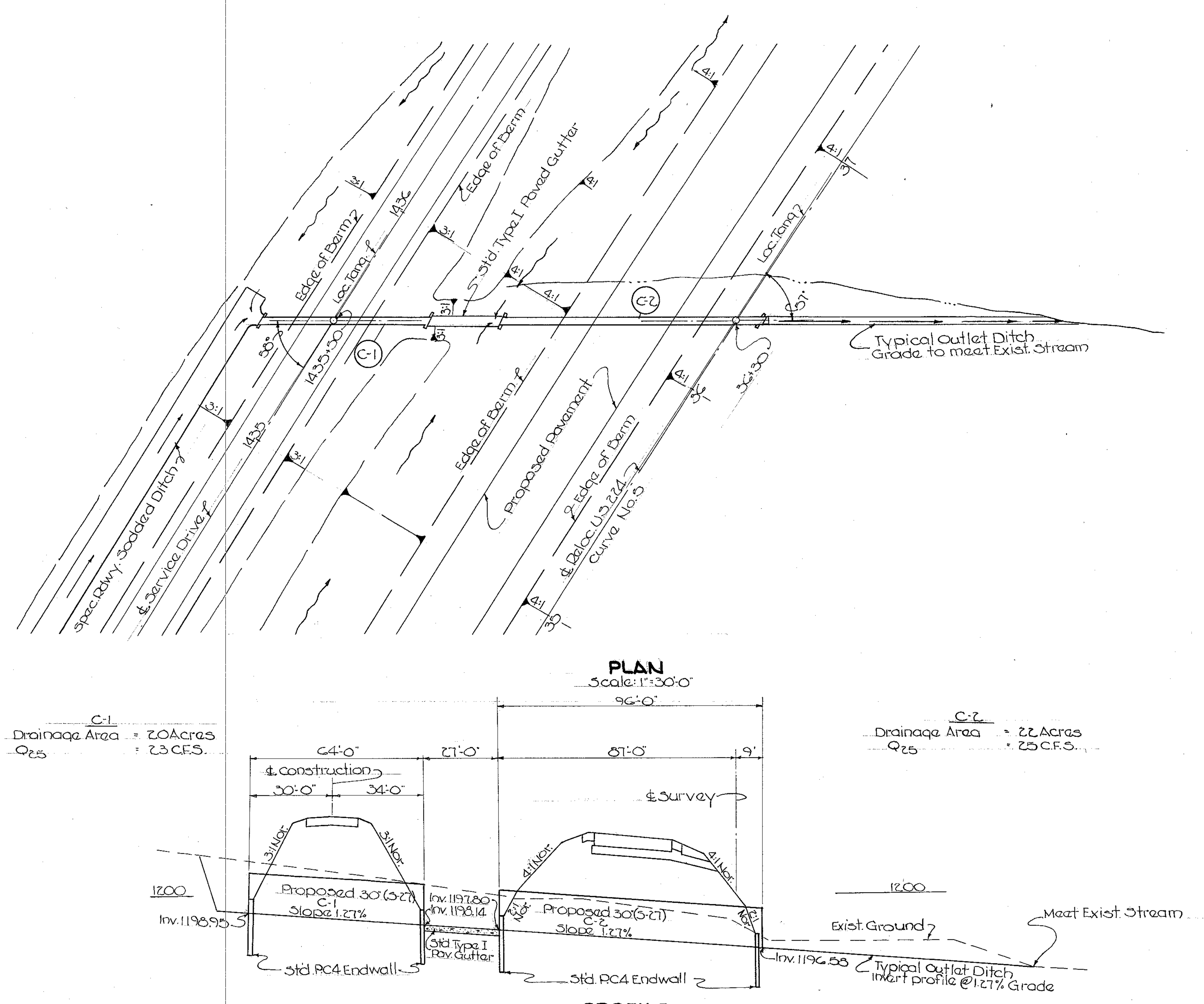
STATION	SUPER SLOPE	ULTIMATE WESTBOUND LANE PRESENT CONST.			ULTIMATE EASTBOUND LANE FUTURE CONST.		
		Lt. Edge Pave.	℄ Elev.	Rt. Edge Pave.(P.G.L.)	Lt. Edge Pave.(P.G.L.)	℄ Elev.	Rt. Edge Pave.
136+75	+.015	1144.15	1143.97	1143.79	1143.79	1143.61	1143.43
137+00		1143.67	1143.49	1143.31	1143.31	1143.13	1142.95
+25		1143.24	1143.06	1142.88	1142.88	1142.70	1142.52
+50		1142.86	1142.68	1142.50	1142.50	1142.32	1142.14
+75		1142.52	1142.34	1142.16	1142.16	1141.98	1141.80
138+00		1142.24	1142.06	1141.88	1141.88	1141.70	1141.52
+25		1141.99	1141.81	1141.63	1141.63	1141.45	1141.27
+50		1141.80	1141.62	1141.44	1141.44	1141.26	1141.08
+75		1141.65	1141.47	1141.29	1141.29	1141.11	1140.93
139+00		1141.56	1141.38	1141.20	1141.20	1141.02	1140.84
+25		1141.50	1141.32	1141.14	1141.14	1140.96	1140.78
+50		1141.50	1141.32	1141.14	1141.14	1140.96	1140.78
+75		1141.54	1141.36	1141.18	1141.18	1141.00	1140.82
140+00		1141.64	1141.46	1141.28	1141.28	1141.10	1140.92
+25		1141.76	1141.58	1141.40	1141.40	1141.22	1141.04
+50		1141.89	1141.71	1141.53	1141.53	1141.35	1141.17
+75		1142.01	1141.83	1141.65	1141.65	1141.47	1141.29
141+00		1142.14	1141.96	1141.78	1141.78	1141.60	1141.42
+25		1142.26	1142.08	1141.90	1141.90	1141.72	1141.54
+50		1142.39	1142.21	1142.03	1142.03	1141.85	1141.67
+75		1142.51	1142.33	1142.15	1142.15	1141.97	1141.79
142+00		1142.64	1142.46	1142.28	1142.28	1142.10	1141.92
+25		1142.76	1142.58	1142.40	1142.40	1142.22	1142.04
+50		1142.89	1142.71	1142.53	1142.53	1142.35	1142.17
+75		1143.01	1142.83	1142.65	1142.65	1142.47	1142.29
143+00		1143.14	1142.96	1142.78	1142.78	1142.60	1142.42
+25		1143.26	1143.08	1142.90	1142.90	1142.72	1142.54
+50		1143.39	1143.21	1143.03	1143.03	1142.85	1142.67
+75	+.015	1143.51	1143.33	1143.15	1143.15	1142.97	1142.79
144+00	+.01	1143.58	1143.46	1143.28	1143.28	1143.16	1142.98
+25	+.005	1143.64	1143.58	1143.40	1143.40	1143.34	1143.16
+50	Level	1143.71	1143.71	1143.53	1143.53	1143.53	1143.35
+75	-.005	1143.77	1143.83	1143.65	1143.65	1143.71	1143.53
145+00	-.01	1143.84	1143.96	1143.78	1143.78	1143.90	1143.72
+25	Crown	1143.90	1144.08	1143.90	1143.90	1144.08	1143.90

CURVE #7 D_c=0°50'00" P.I. STA. 162+83.01

STATION	SUPER SLOPE	ULTIMATE WESTBOUND LANE PRESENT CONST.			ULTIMATE EASTBOUND LANE FUTURE CONST.		
		Lt. Edge Pave.	℄ Elev.	Rt. Edge Pave.(P.G.L.)	Lt. Edge Pave.(P.G.L.)	℄ Elev.	Rt. Edge Pave.
153+50	Crown	1148.03	1148.21	1148.03	1148.03	1148.21	1148.03
+75	-.01	1148.10	1148.28	1148.16	1148.16	1148.34	1148.22
154+00	-.005	1148.16	1148.34	1148.28	1148.28	1148.46	1148.40
+25	Level	1148.23	1148.41	1148.41	1148.41	1148.59	1148.59
+50	+.005	1148.29	1148.47	1148.53	1148.53	1148.71	1148.77
+75	+.01	1148.36	1148.54	1148.66	114.866	1148.84	1148.96
155+00	+.015	1148.42	1148.60	1148.78	1148.78	1148.96	1149.14
PC +11.65		1148.48	1148.66	1148.84	1148.84	1149.02	1149.20
+25		1148.55	1148.73	1148.91	1148.91	1149.09	1149.27
+50		1148.67	1148.85	1149.03	1149.03	1149.21	1149.39
+75		1148.80	1148.98	1149.16	1149.16	1149.34	1149.52
156+00		1148.92	1149.10	1149.28	1149.28	1149.46	1149.64
+25		1149.05	1149.23	1149.41	1149.41	1149.59	1149.77
+50		1149.17	1149.35	1149.53	1149.53	1149.71	1149.89
+75		1149.30	1149.48	1149.66	1149.66	1149.84	1150.02
157+00		1149.42	1149.60	1149.78	1149.78	1149.96	1150.14
+25		1149.55	1149.73	1149.91	1149.91	1150.09	1150.27
+50		1149.67	1149.85	1150.03	1150.03	1150.21	1150.39
+75		1149.79	1149.97	1150.15	1150.15	1150.33	1150.51
158+00		1149.90	1150.08	1150.26	1150.26	1150.44	1150.62
+25		1145.00	1150.18	1150.36	1150.36	1150.54	1150.72
+50		1150.08	1150.26	1150.44	1150.44	1150.62	1150.80
+75		1150.16	1150.34	1150.52	1150.52	1150.70	1150.88
159+00		1150.22	1150.40	1150.58	1150.58	1150.76	1150.94
+25		1150.28	1150.46	1150.64	1150.64	1150.82	1151.00
+50		1150.31	1150.49	1150.67	1150.67	1150.85	1151.03
+75		1150.34	1150.52	1150.70	1150.70	1150.88	1151.06

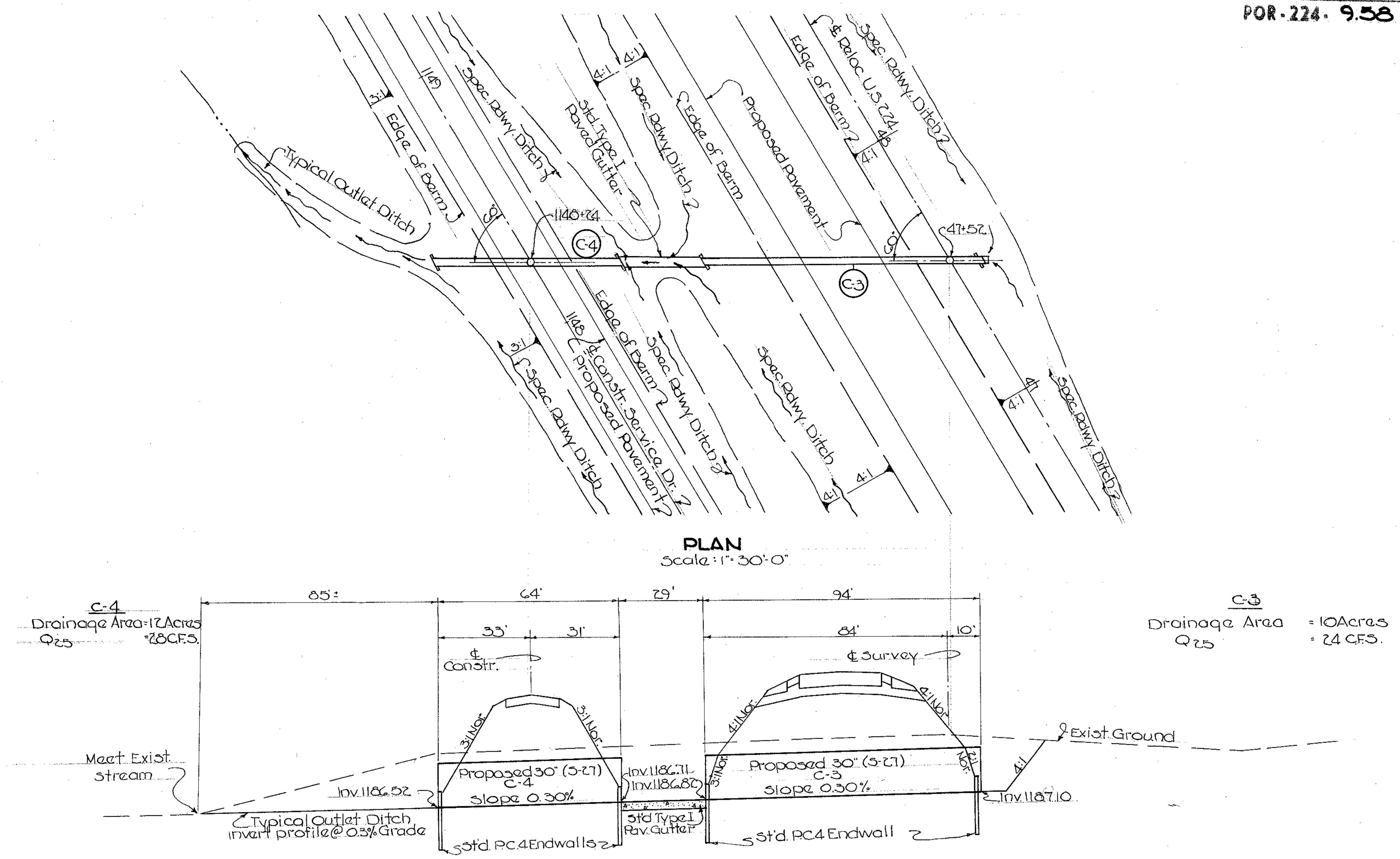
CURVE #7 (Continued)

STATION	SUPER SLOPE	ULTIMATE WESTBOUND LANE PRESENT CONST.			ULTIMATE EASTBOUND LANE FUTURE CONST.		
		Lt. Edge Pave.	℄ Elev.	Rt. Edge Pave.(P.G.L.)	Lt. Edge Pave.(P.G.L.)	℄ Elev.	Rt. Edge Pave.
160+00	+.015	1150.35	1150.53	1150.71	1150.71	1150.89	1151.07
+25		1150.37	1150.55	1150.73	1150.73	1150.91	1151.09
+50		1150.36	1150.54	1150.72	1150.72	1150.90	1151.08
+75		1150.35	1150.53	1150.71	1150.71	1150.89	1151.07
161+00		1150.32	1150.50	1150.68	1150.68	1150.86	1151.04
+25		1150.29	1150.47	1150.65	1150.65	1150.83	1151.01
+50		1150.24	1150.42	1150.60	1150.60	1150.78	1150.96
+75		1150.18	1150.36	1150.54	1150.54	1150.72	1150.90
162+00		1150.11	1150.29	1150.47	1150.47	1150.65	1150.83
+25		1150.04	1150.22	1150.40	1150.40	1150.58	1150.76
+50		1149.96	1150.14	1150.32	1150.32	1150.50	1150.68
+75		1149.89	1149.07	1150.25	1150.25	1150.43	1150.61
163+00		1149.81	1149.99	1150.17	1150.17	1150.35	1150.53
+25		1149.74	1149.92	1150.10	1150.10	1150.28	1150.46
+50		1149.66	1149.84	1150.02	1150.02	1150.20	1150.38
+75		1149.59	1149.77	1149.95	1149.95	1150.13	1150.31
164+00		1149.51	1149.69	1149.87	1149.87	1150.05	1150.23
+25		1149.44	1149.62	1149.80	1149.80	1149.98	1150.16
+50		1149.36	1149.54	1149.72	1149.72	1149.90	1150.08
+75		1149.29	1149.47	1149.65	1149.65	1149.83	1150.01
165+00		1149.21	1149.39	1149.57	1149.57	1149.75	1149.93
+25		1149.14	1149.32	1149.50	1149.50	1149.68	1149.86
+50		1149.06	1149.24	1149.42	1149.42	1149.60	1149.78
+75		1148.99	1149.17	1149.35	1149.35	1149.53	1149.71
166+00		1148.91	1149.09	1149.27	1149.27	1149.45	1149.63
+25		1148.84	1149.02	1149.20	1149.20	1149.38	1149.56
+50		1148.76	1148.94	1149.12	1149.12	1149.30	1149.48
+75		1148.69	1148.87	1149.05	1149.05	1149.23	1149.41
167+00		1148.61	1148.79	1148.97	1148.97	1149.15	1149.33
+25		1148.54	1148.72	1148.90	1148.90	1149.08	1149.26
+50		1148.46	1148.64	1148.82	1148.82	1149.00	1149.18
+75		1148.39	1148.57	1148.75	1148.75	1148.93	1149.11
168+00		1148.31	1148.49	1148.67	1148.67	1148.85	1149.03
+25		1148.24	1148.42	1148.60	1148.60	1148.78	1148.96
+50		1148.16	1148.34	1148.52	1148.52	1148.70	1148.88
+75		1148.09	1148.27	1148.45	1148.45	1148.63	1148.81
169+00		1148.01	1148.19	1148.37	1148.37	1148.55	1148.73
+25		1147.94	1148.12	1148.30	1148.30	1148.48	1148.66
+50		1147.86	1148.04	1148.22	1148.22	1148.40	1148.58
+75		1147.79	1147.97	1148.15	1148.15	1148.33	1148.51
170+00		1147.71	1147.89	1148.07	1148.07	1148.25	1148.43
+25		1147.64	1147.82	1148.00	1148.00	1148.18	1148.36
P.T. +47.91		1147.57	1147.75	1147.93	1147.93	1148.11	1148.29
+50	+.015	1147.56	1147.74	1147.92	1147.92	1148.10	1148.28
+75	+.01	1147.55	1147.73	1147.85	1147.85	1148.03	1148.15
171+00	+.005	1147.53	1147.71	1147.77	1147.77	1147.95	1148.01
+25	Level	1147.52	1147.70	1147.70	1147.70	1147.88	1147.88
+50	-.005	1147.50	1147.68	1147.62	1147.62	1147.80	1147.74
+75	-.01	1147.49	1147.67	1147.55	1147.55	1147.73	1147.61
172+00	Crown	1147.47	1147.65	1147.47	1147.47	1147.65	1147.47



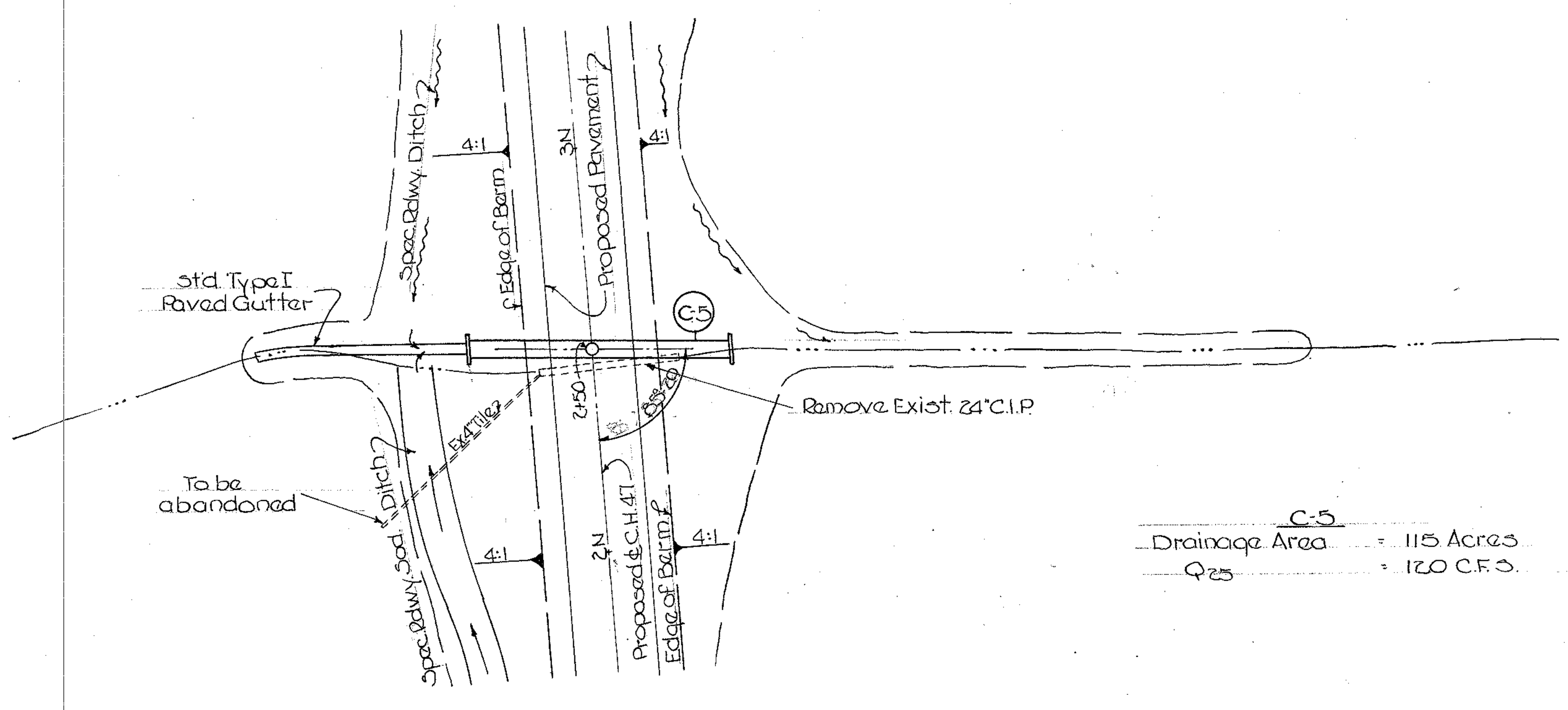
PROFILE

DETAIL OF CULVERTS 1 (Sta. 1435+50) & 2 (Sta. 36+30)
Scale: Hor. 1" = 30'-0"
Vert. 1" = 5'-0"

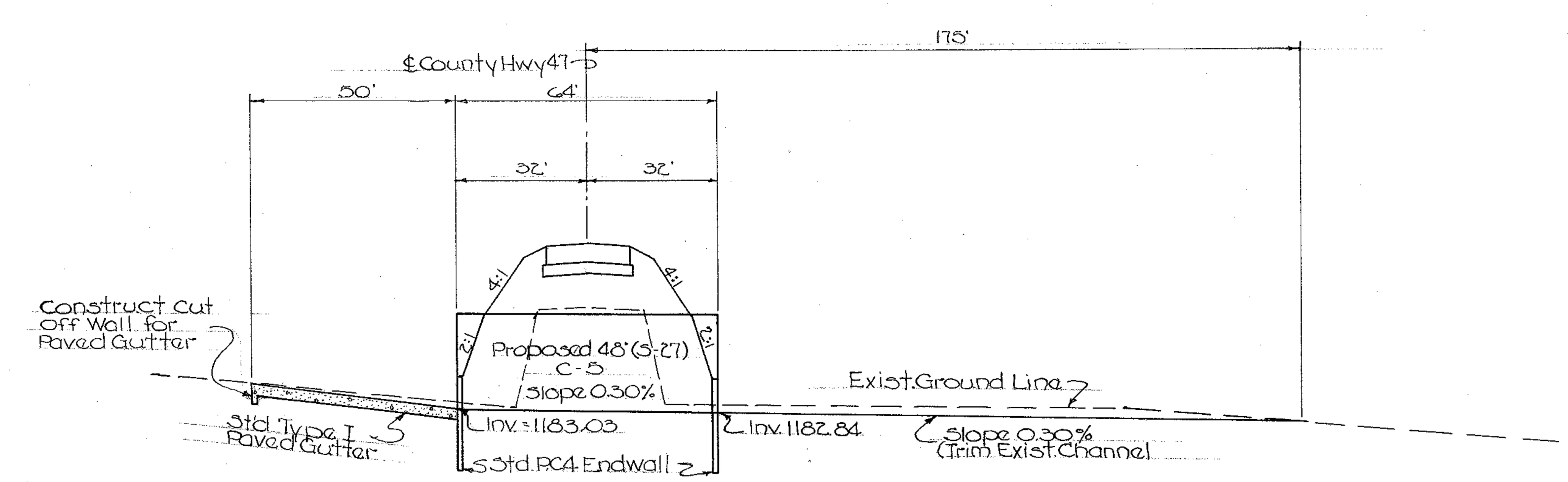


PROFILE

DETAIL OF CULVERTS 3 (Sta. 47+52) & 4 (Sta. 1148+24)
Scale: Hor. 1" = 30'-0"
Vert. 1" = 5'-0"



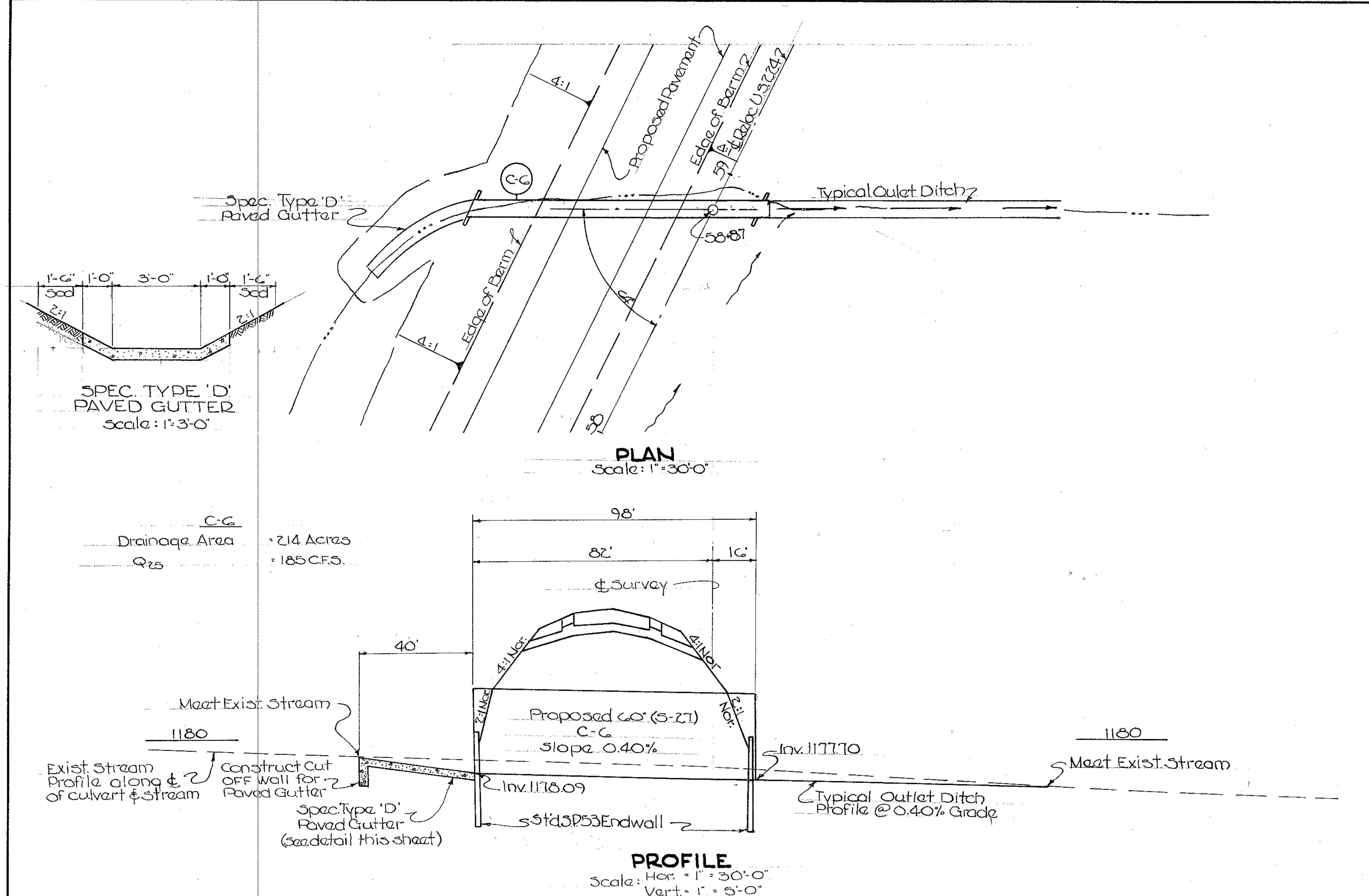
PLAN
Scale: 1" = 30'-0"



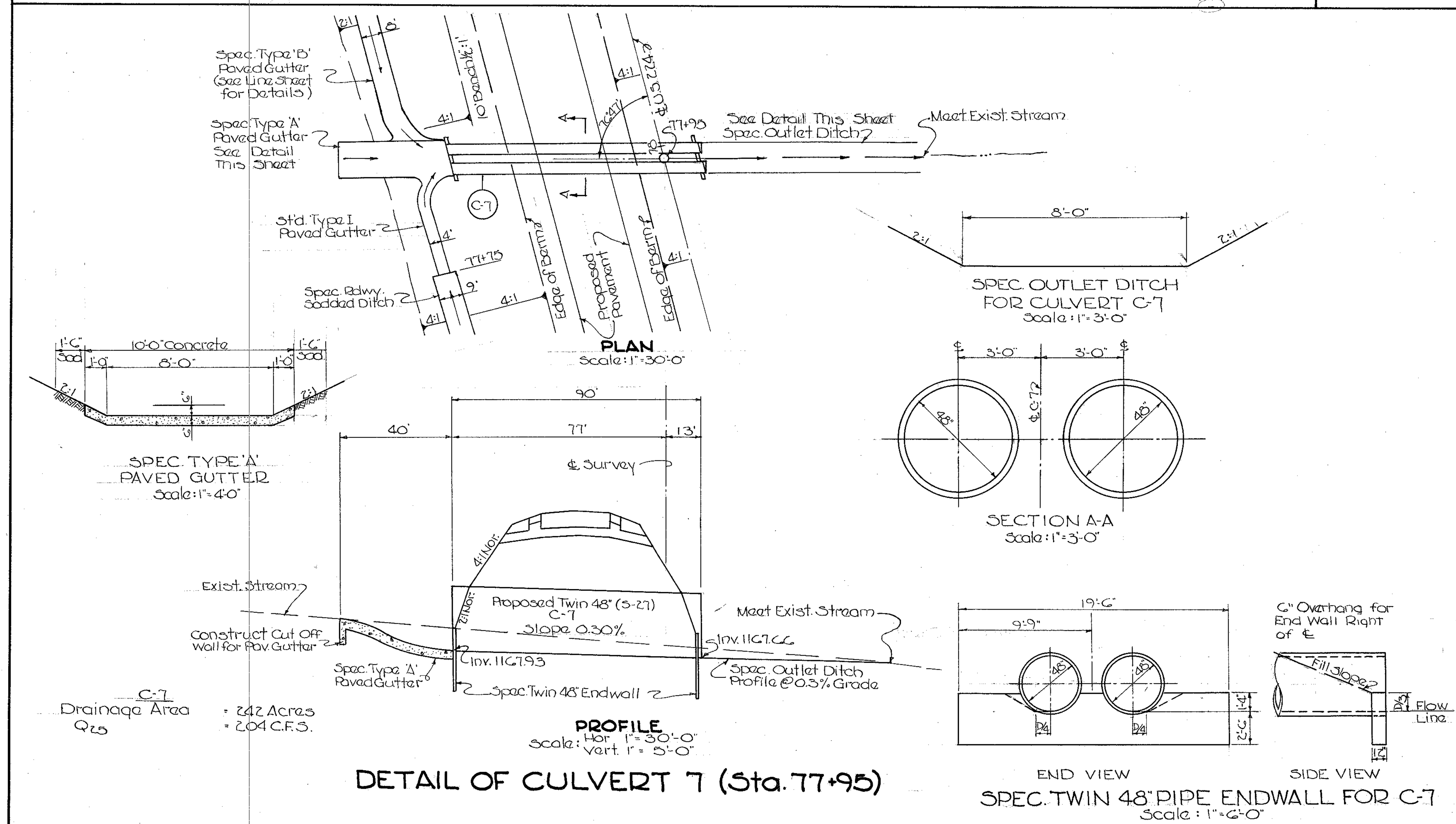
PROFILE
Scale: Hor. 1" = 30'-0"
Vert. 1" = 5'-0"

DETAIL OF CULVERT 5 (Sta. 2+50 N - County Hwy. 47)

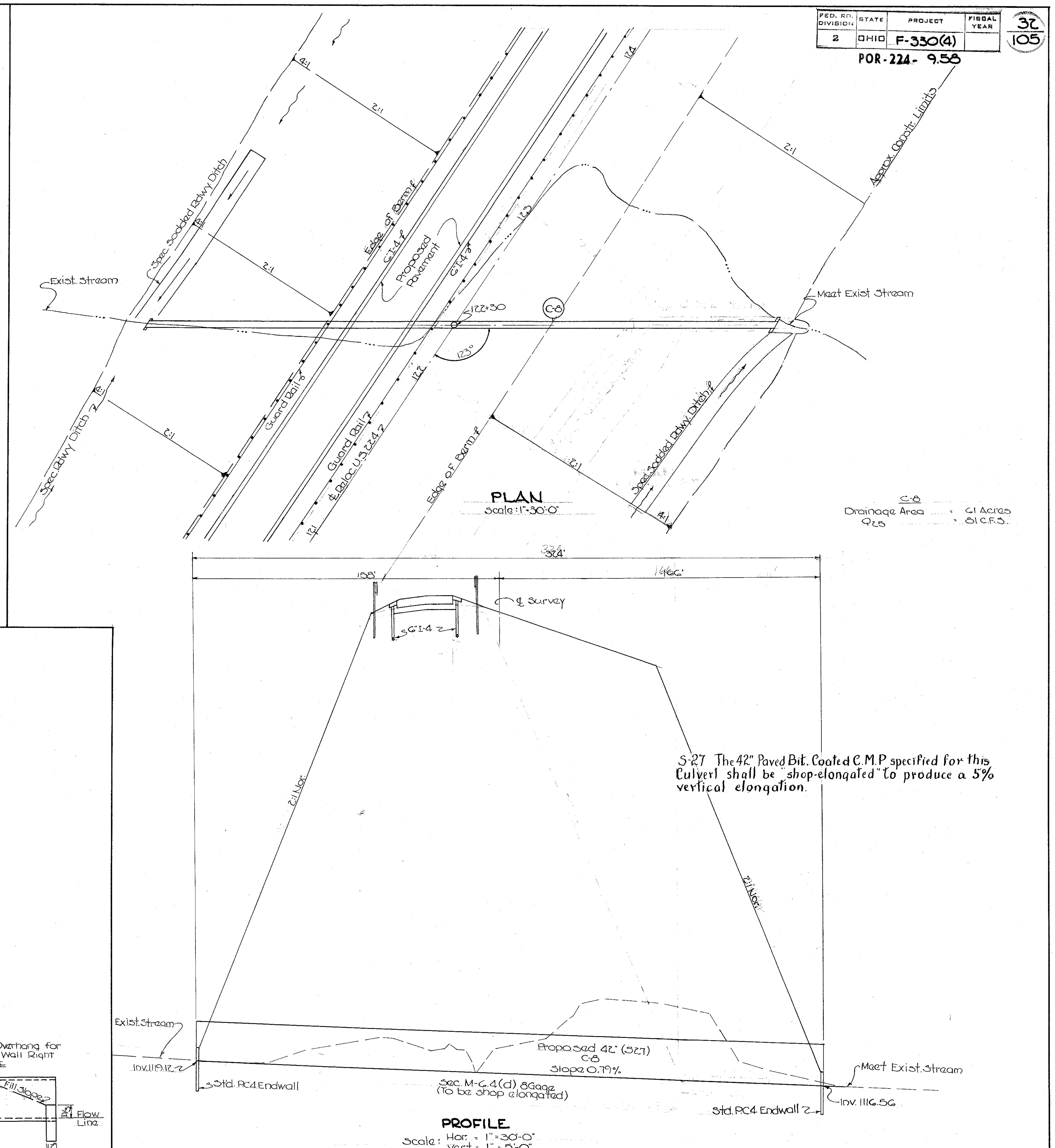
CULVERT DETAILS C1, C2, C3, C4 & C5



DETAIL OF CULVERT 6 (Sta. 58+87)



DETAIL OF CULVERT 7 (Sta. 77+95)

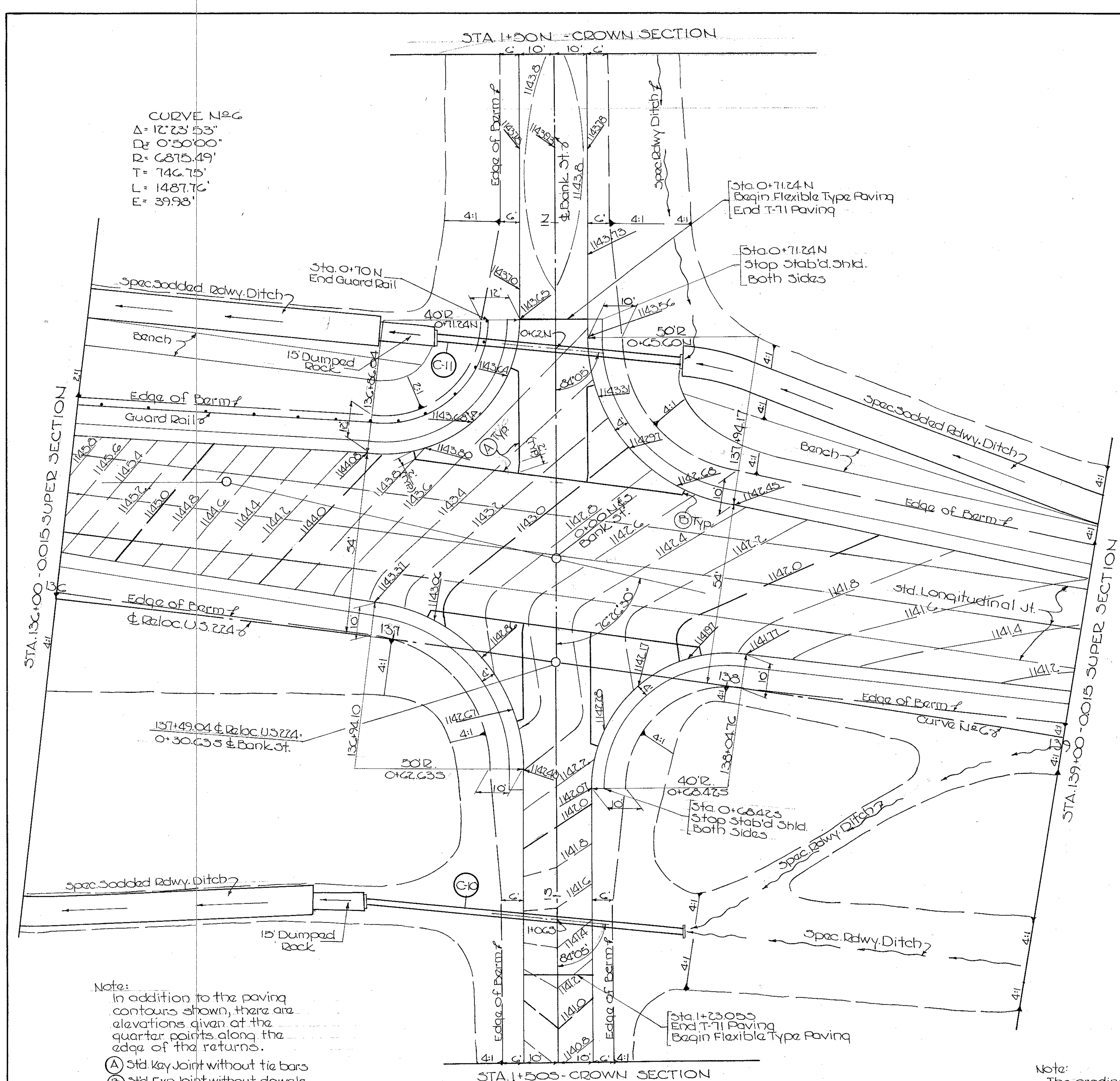


DETAIL OF CULVERT 8 (Sta. 122+30)

RECAPITULATION OF QUANTITIES FOR STRUCTURES UNDER 20' SPAN

Culvert No	E-2 Struct. Excav. C.Y.	E-3 Channel Excav. C.Y.	S-1 Concrete for Struct. Cl.-"E" C.Y.	I-14 Paved Gutter Std. Type I L.F.	I-14 Paved Gutter Spec. Type 'A' L.F.	I-14 Paved Gutter Spec. Type 'D' L.F.	I-8 Std. No. 2-2-B C.B. Each	L-10 Sodding S.Y.	E-12 Pipe Removal L.F.	I-10 Dumped Rock Channel Protection C.Y.	S-27 15" M-6.4(d) L.F.	S-27 24" Sec.M-6.6(b) or Sec.M-6.8(b) L.F.	S-27 30" Sec.M-6.6(b) or Sec.M-6.8(b) L.F.	S-27 36" L.F.	S-27 42" Sec. M-6.4(d) L.F.*	S-27 42" Sec. M-6.6(b) L.F.	S-27 48" Sec.M-6.6(b) L.F.	S-27 60" Sec.M-6.6(b) L.F.	S-27 36" Sec.M-6.8(b) or M-6.6(b) L.F.	S-28 108" Sec.M-6.4g 5 Ga.Top Pls. 3 Ga.Bot.Pls. L.F.	I-8 Std. No. 2-4 C.B. Each
C-1	38	20	1.02	27				9					64								
C-2	36	9	1.02										96								
C-3	60	35	1.02	29				9					94								
C-4	42	24	1.02										64								
C-5	44	2	1.72	50				17	35								64				
C-6	22	9	5.20			40		13										98			
C-7	79	32	4.66		40			13									180				
C-8	114		1.52												324						
C-9	300	50	11.20																	284	
C-10	49		0.82					5		83		94									
C-11	49		1.18					5		83				72							
C-12	14		0.52				1				56										
C-13	18	6	1.52													108					
C-14	58		0.59																60		1
C-15	113																		94		1
C-16	115		1.20					5		8.4									100		
TOTAL	1151	187	34.21	106	40	40	1	76	35	25	56	94	318	72	324	108	244	98	254	284	2
TO RECAP				106	40	40		76	35												
TO GEN. SUM	1151	187	34.2				1			25	56	94	318	72	324	108	244	98	254	284	2

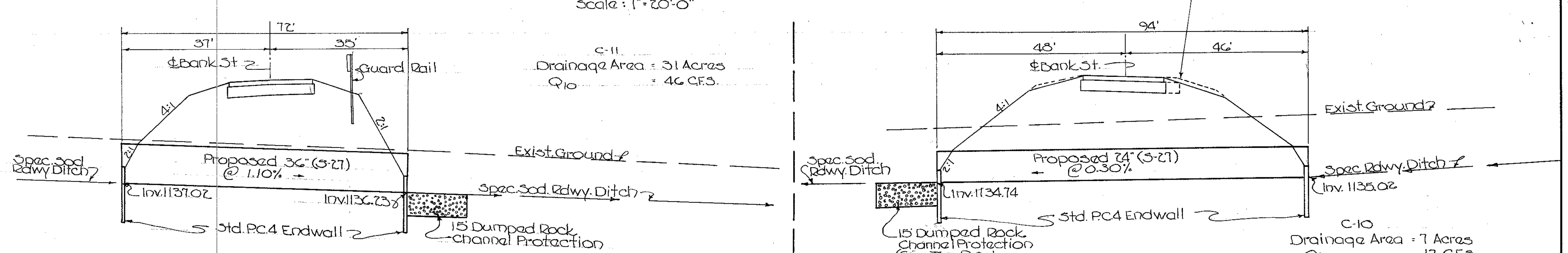
*This Culvert shall be shop elongated to produce a 5% Vertical Elongation.



Note:
In addition to the paving contours shown, there are elevations given at the quarter points along the edge of the returns.
(A) Std. Key Joint without tie bars
(B) Std. Exp. Joint without dowels

PAVING PLAN AT INTERSECTION OF BANK ST. & RELOC. U.S. 224 AND PLAN OF CULVERTS 10 & 11
Scale: 1" = 20'-0"

Note:
The grading at this culvert location is to be warped to meet that shown on this profile so as to suit the ultimate grading of the future pair of lanes.



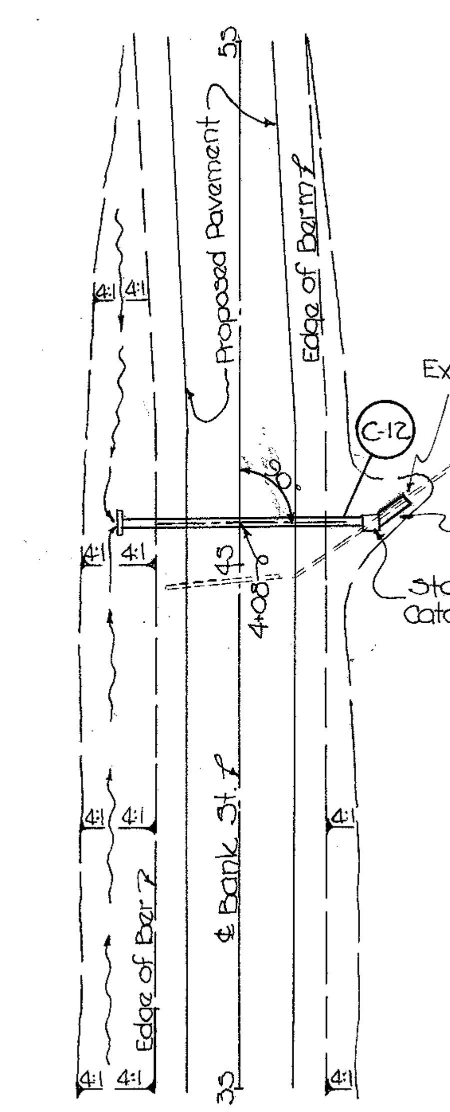
C-11
Drainage Area = 31 Acres
Q_{10} = 46 C.F.S.

CULVERT 11
STA 0+62 (N) BANK ST.

C-10
Drainage Area = 7 Acres
Q_{10} = 17 C.F.S.

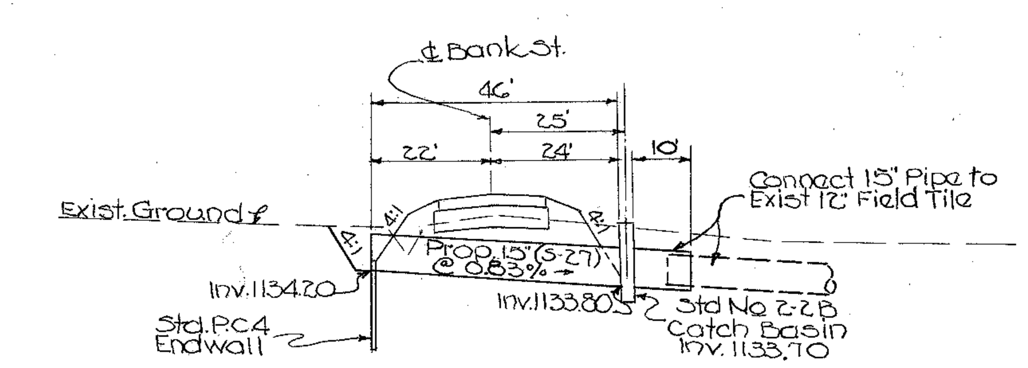
CULVERT 10
STA 1+06 (S) BANK ST.

PROFILES OF CULVERTS 10 & 11
Scale: Hor. 1" = 20'-0"
Vert. 1" = 5'-0"



PLAN
Scale: 1" = 30'-0"

C-12
Drainage Area = 3.5 Acres
Q_{10} = 9 C.F.S.



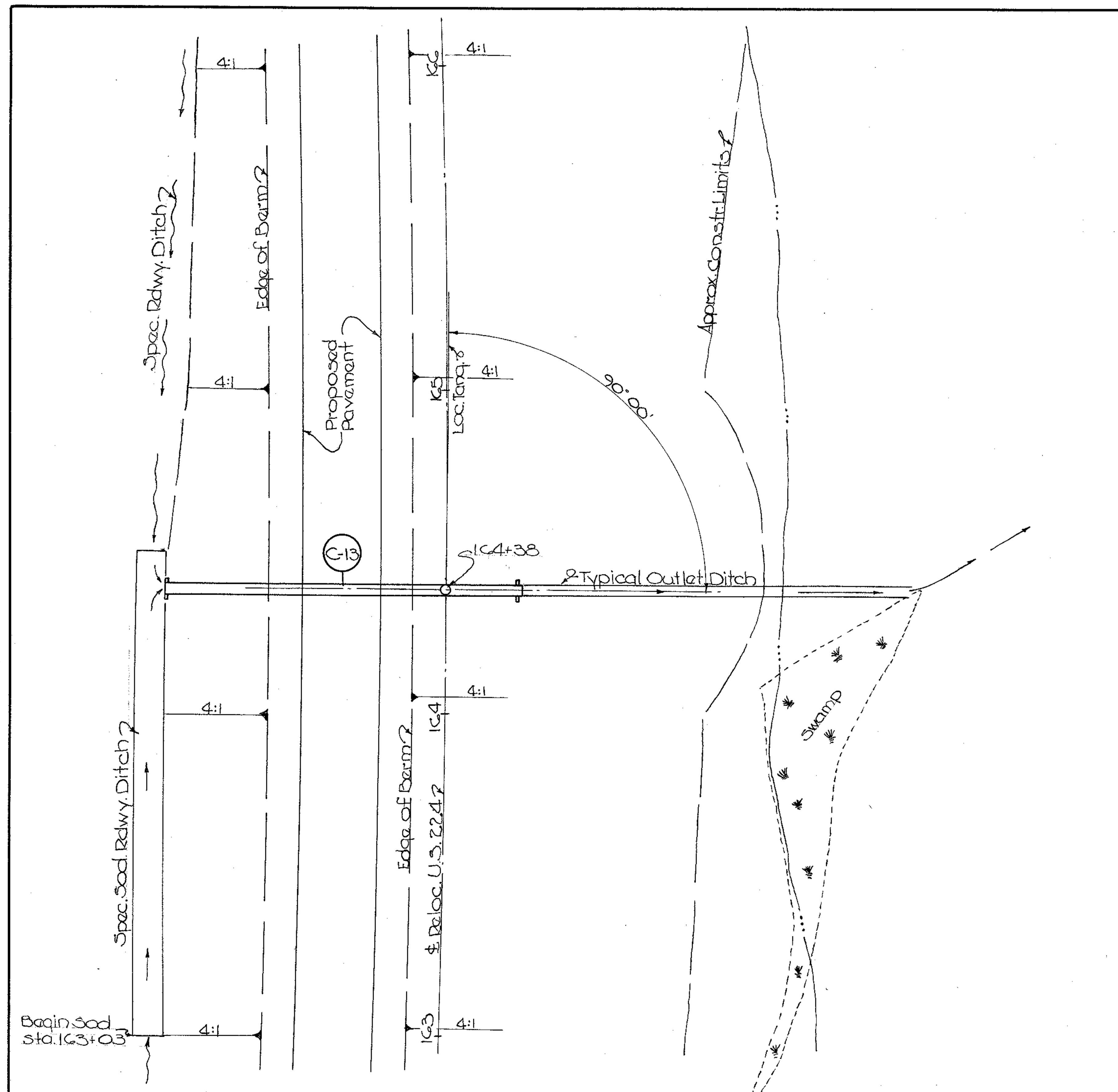
PROFILE
Scale: Hor. 1" = 30'-0"
Vert. 1" = 5'-0"

DETAIL OF CULVERT 12
STA. 4+08 (S) BANK ST.

CULVERT DETAILS & BANK ST. INTERSECTION DETAILS

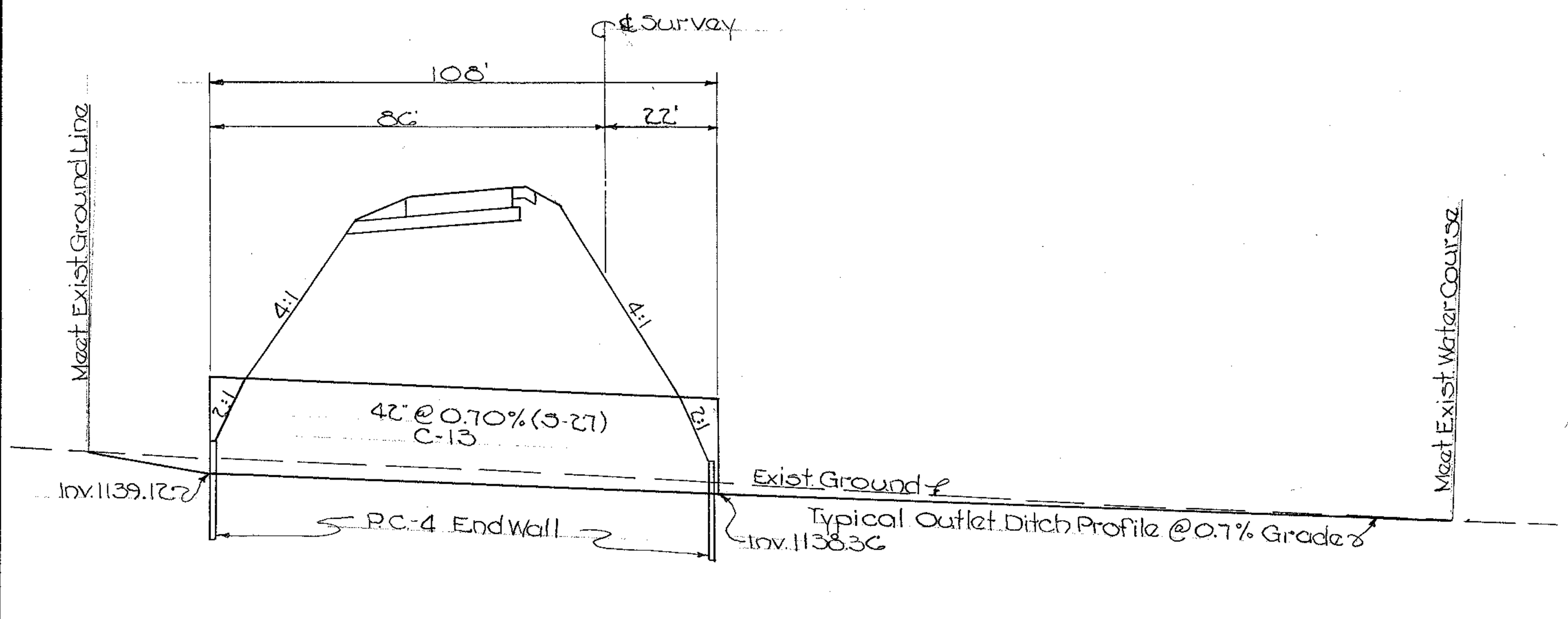
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	F-330(4)		34 / 105

POR-224-9.58



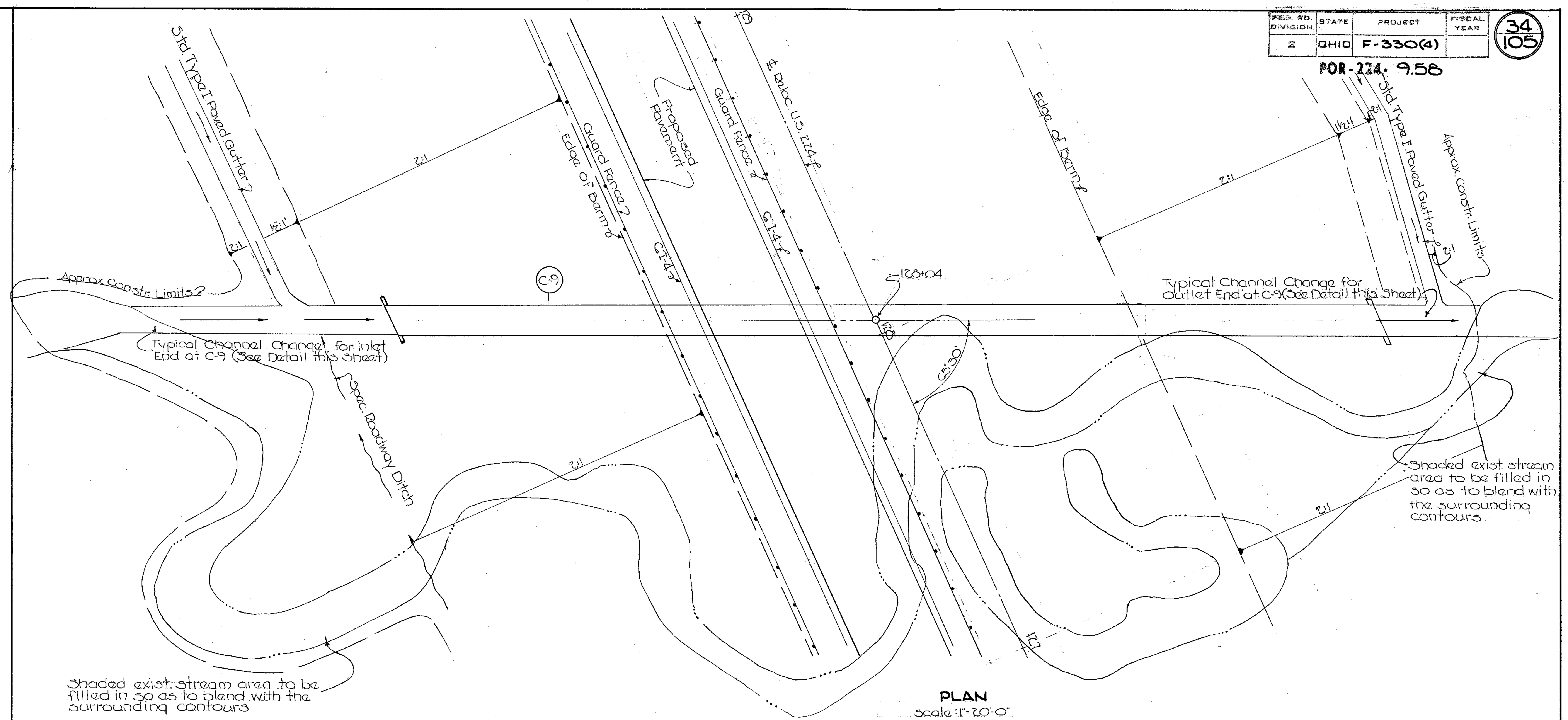
PLAN
Scale: 1"=20'-0"

C-13
Drainage Area 63 Acres
Q_{25} 84 C.F.S.

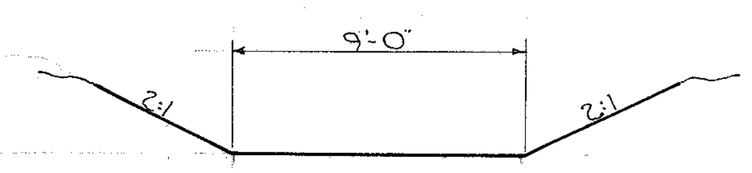


PROFILE
Scale: Hor. 1"=20'-0"
Vert. 1"=5'-0"

DETAIL OF CULVERT-13 (STA.164+38)



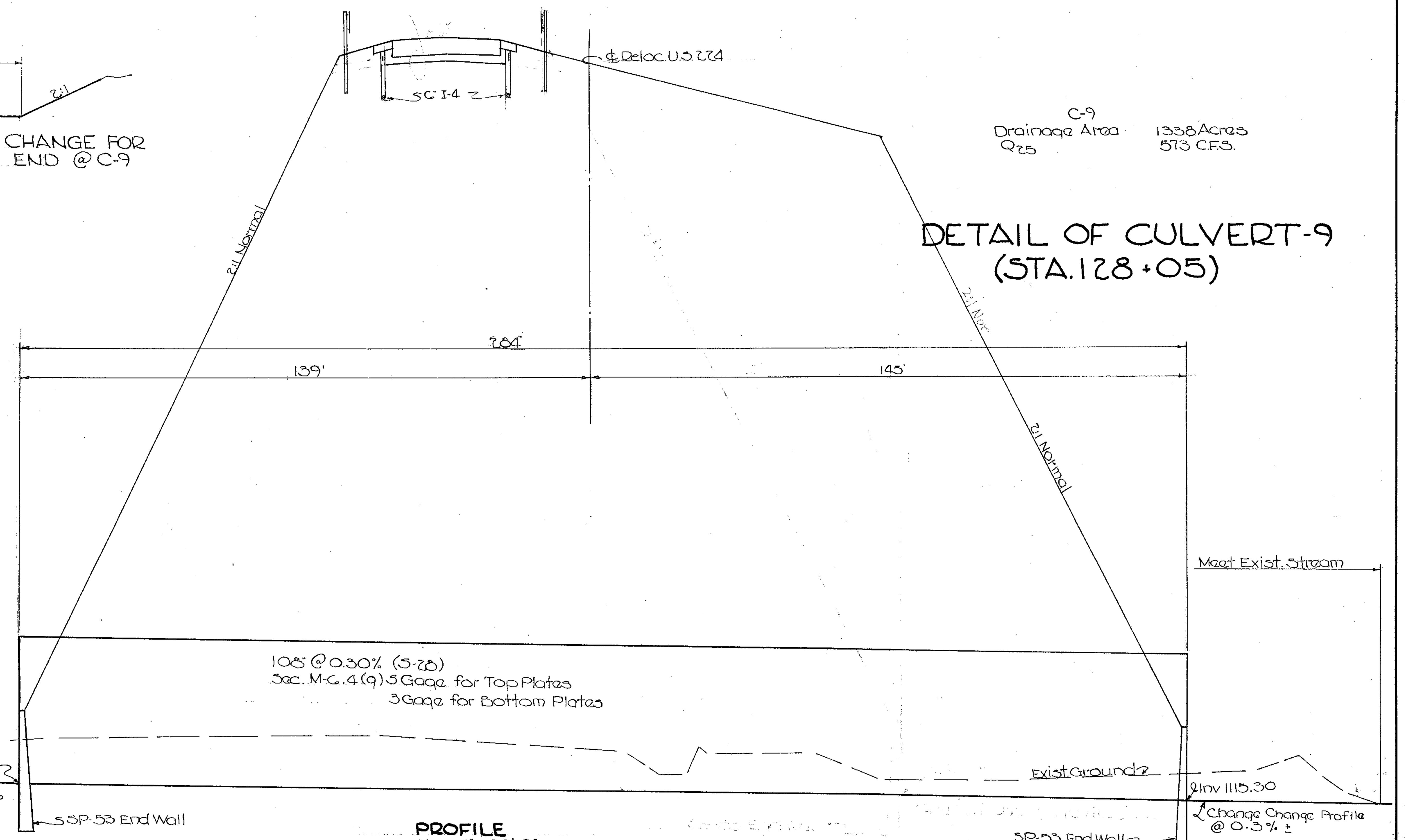
PLAN
Scale: 1"=20'-0"



TYPICAL CHANNEL CHANGE FOR INLET AND OUTLET END @ C-9
Scale: 1"=5'-0"

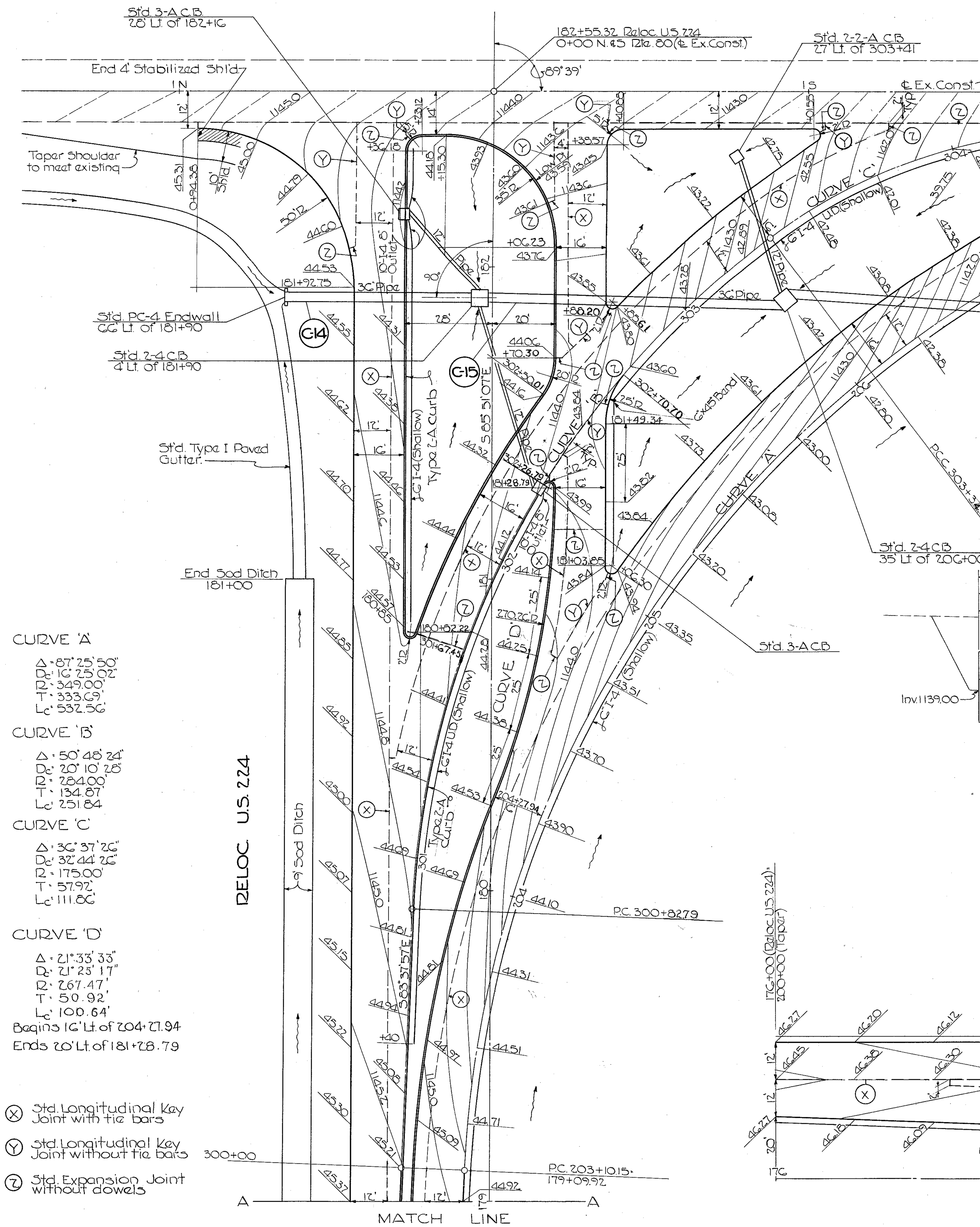
C-9
Drainage Area 1338 Acres
Q_{25} 573 C.F.S.

DETAIL OF CULVERT-9
(STA.128+05)



PROFILE
Scale: Hor. 1"=20'-0"
Vert. 1"=5'-0"

S.R. #80



CURVE 'A'
Δ = 87°25'50"
D_c = 16°25'02"
R = 349.00'
T = 333.69'
L_c = 532.56'

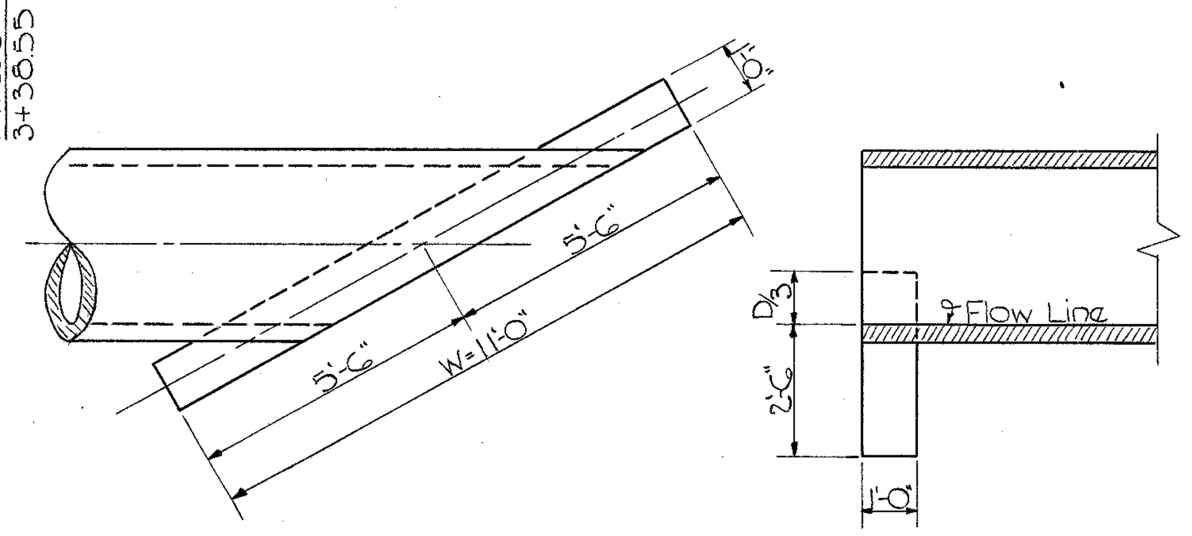
CURVE 'B'
Δ = 50°48'24"
D_c = 20°10'28"
R = 284.00'
T = 134.87'
L_c = 251.84'

CURVE 'C'
Δ = 36°37'26"
D_c = 32°44'26"
R = 175.00'
T = 57.92'
L_c = 111.86'

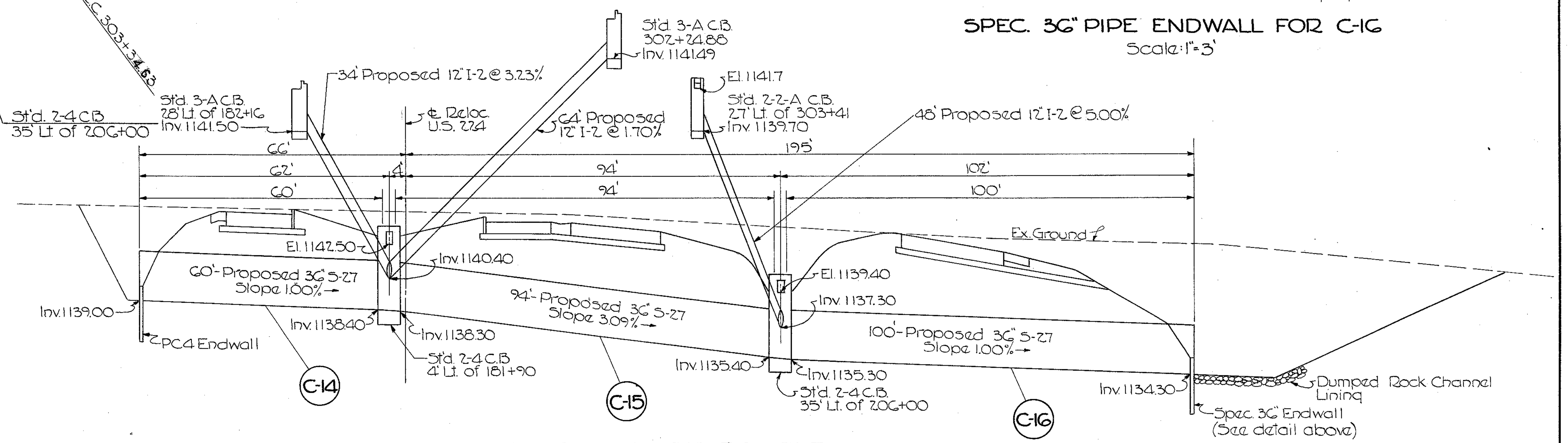
CURVE 'D'
Δ = 21°33'33"
D_c = 21°25'17"
R = 267.47'
T = 50.92'
L_c = 100.64'
Begins 16' Lt. of 204+27.94
Ends 20' Lt. of 181+28.79

⊗ Std. Longitudinal Key Joint with tie bars
Ⓨ Std. Longitudinal Key Joint without tie bars
Ⓩ Std. Expansion Joint without dowels

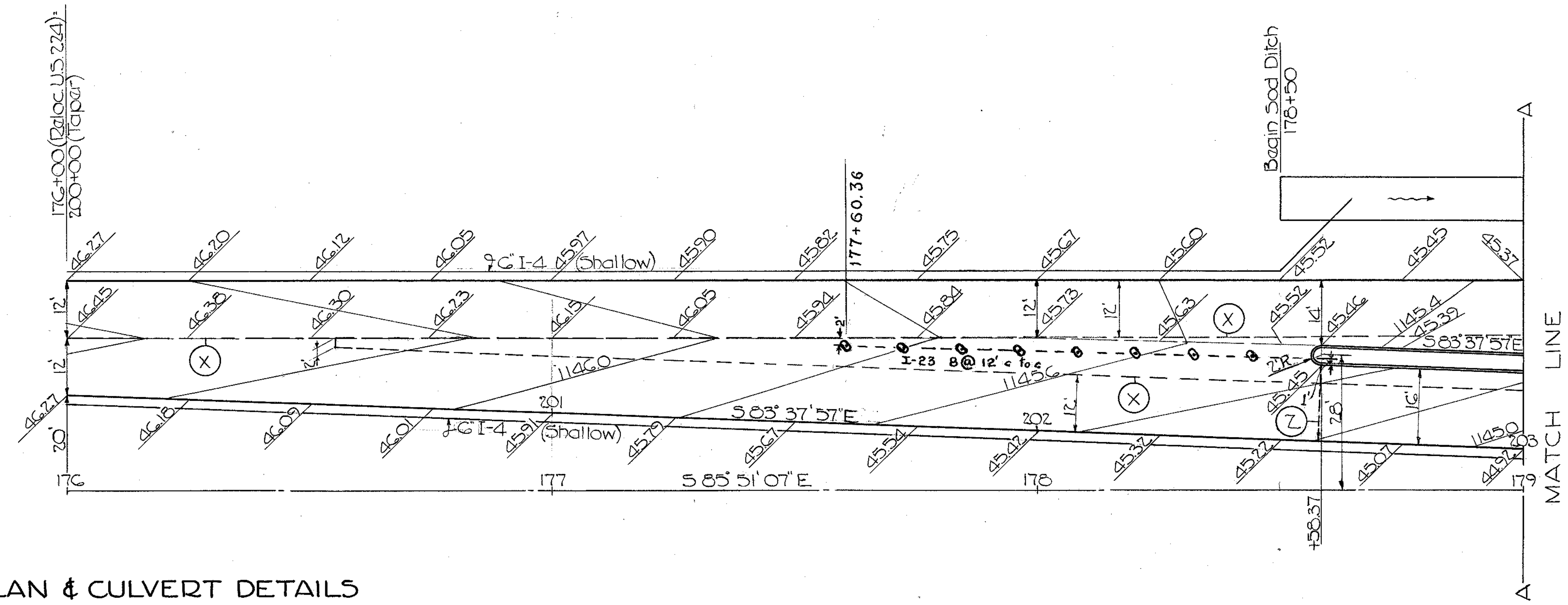
S.R. #80 INTERSECTION PAVING PLAN & CULVERT DETAILS
Scale: 1"=20'

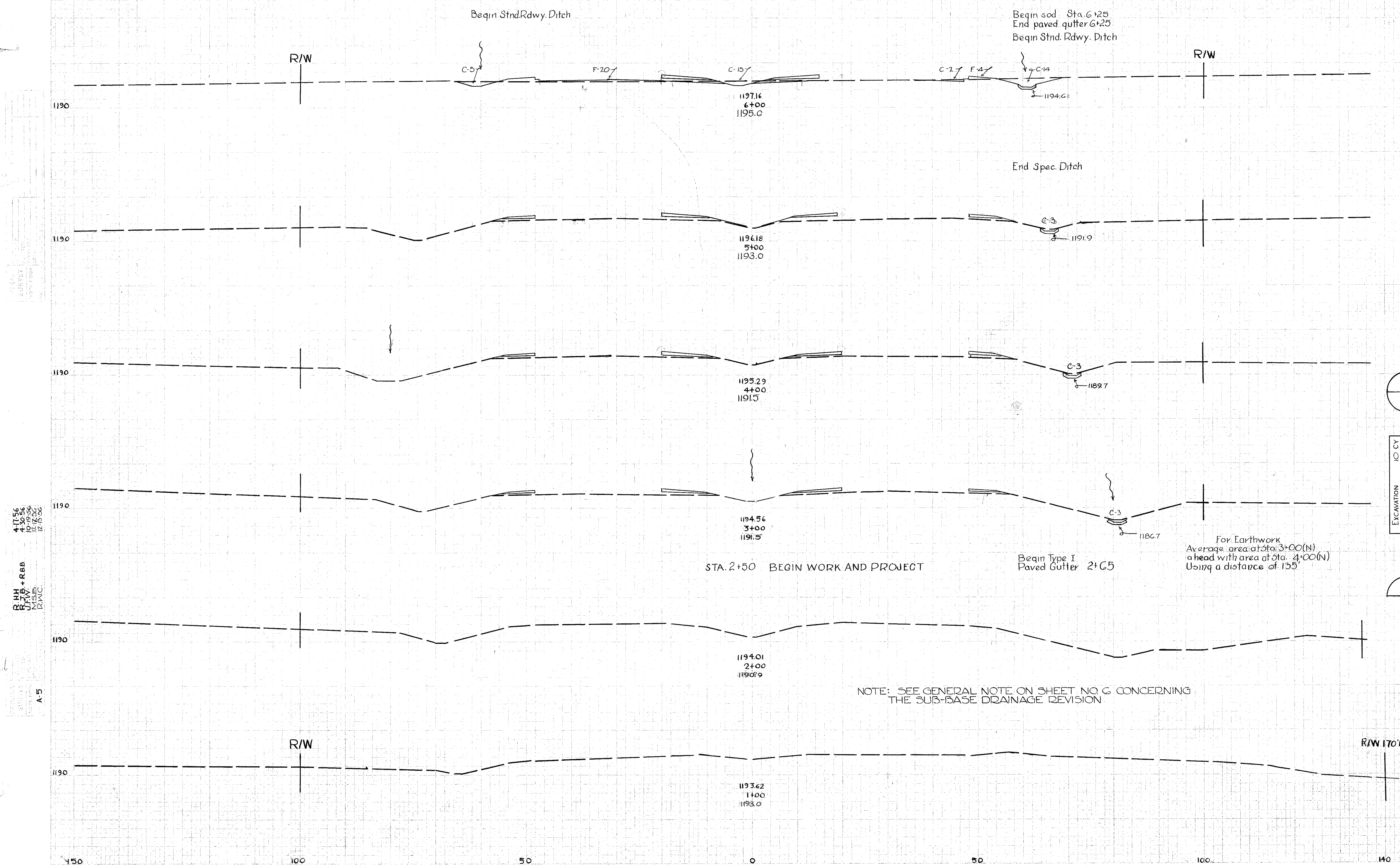


SPEC. 36" PIPE ENDWALL FOR C-16
Scale: 1"=3'



CULVERT C-14, C-15, C-16 PROFILE
Scale: Hor. 1"=20'
Ver. 1"=5'





SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
94		36	24		
	750			70	44
41		2	0		
	456			7	0
41		2	0		
	645			10	0
45		2	0		

Excavation 10 CY
Embankment 0 CY
Seeding 645 SY

ATWATER CROSS SECTIONS - STA 1+00 TO STA 6+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F 330 (4)	

POR-224-9.58

SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
75		234	0		
	883			839	0
84		219	0		
	900			867	0
78		249	0		
	1111			1146	0
122		370	0		
	1261			1722	0
105		560	0		
	1156			1648	0
103		330	0		
	1094			678	44

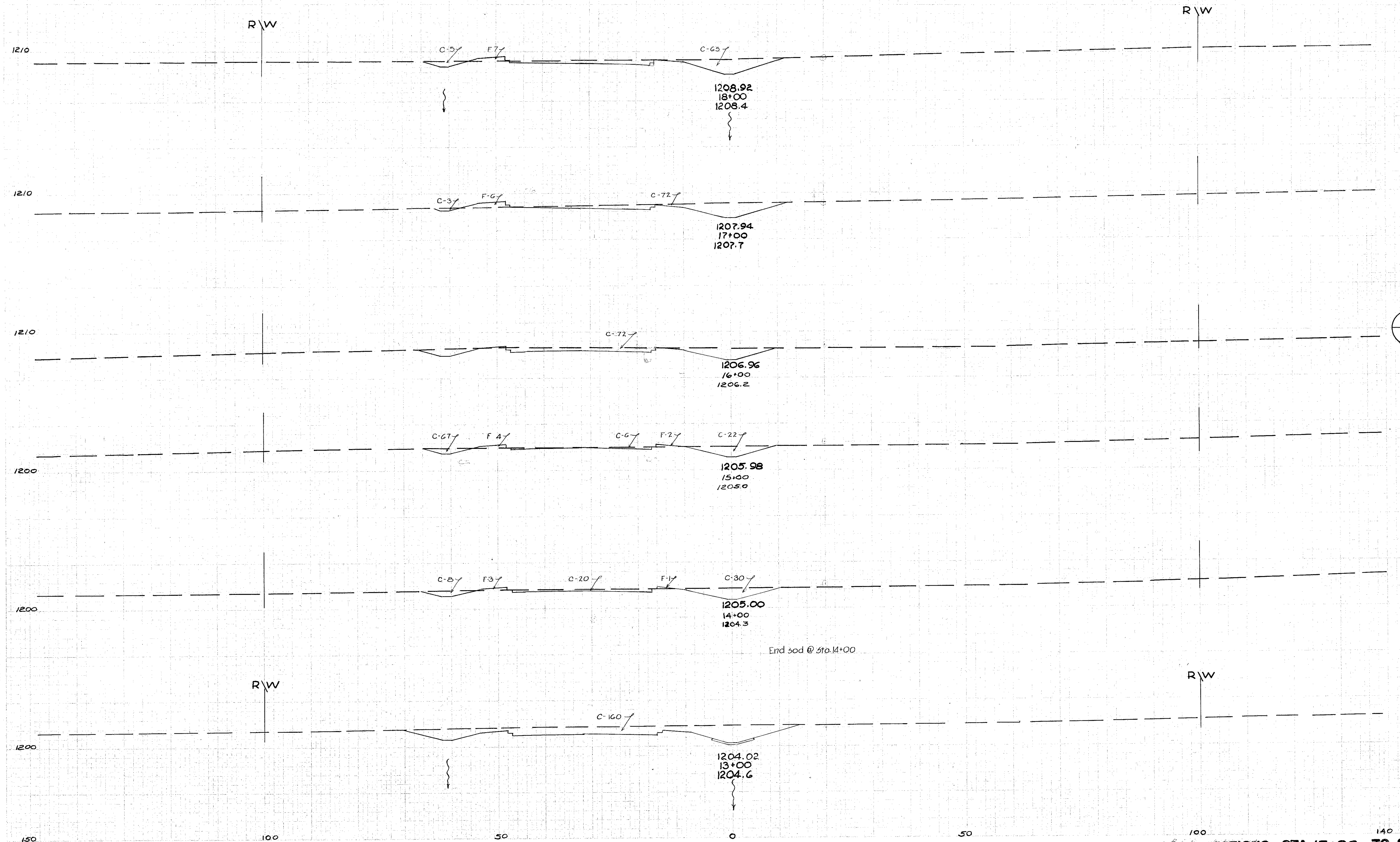
EXCAVATION	8477 CY
EMBANKMENT	147 CY
SEEDING	1068 SY

CROSS SECTIONS - STA 7+00 TO STA 12+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F 330(4)	

38 / 105

POR-224- 9.58



SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
66		70	7		
	717			269	24
63		75	6		
	711			272	11
65		72	0		
	728			196	22
66		34	12		
	733			170	30
66		58	4		
	783			404	7
75		160	0		
	833			730	0

ORIGINAL SURVEY A-5

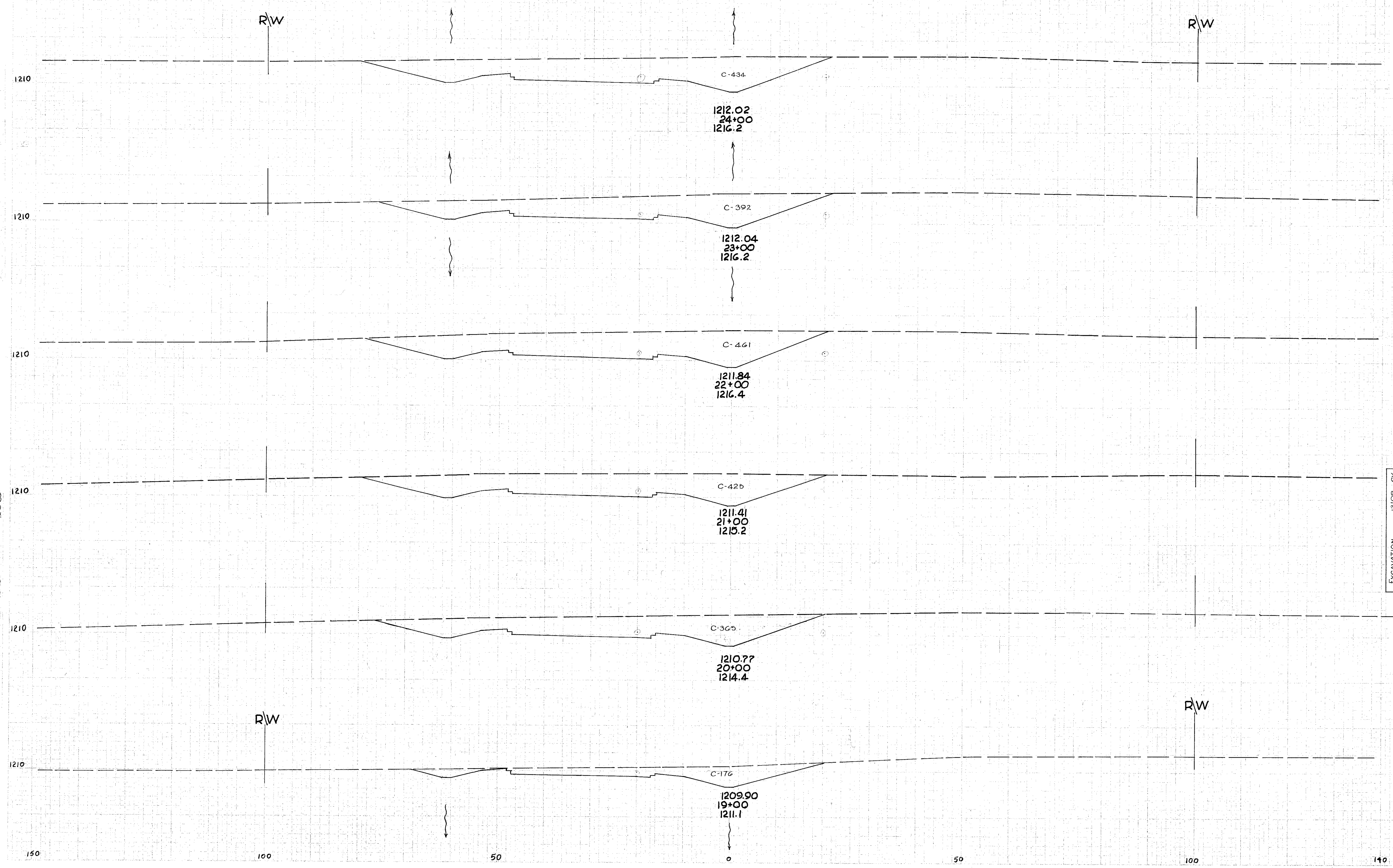
R.H.H.
R.J.B. & R.B.B.
R.B.B. ✓ J.F.W.
M.S.B.
D.W.C.

4-17-56
4-30-56
6-26-56
7-3-56
12-5-56

CROSS SECTIONS - STA 13+00 TO STA 18+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F 330(4)		39 / 105

POR-224-9.58



SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
91		434	0		
	1006			1530	0
90		392	0		
	1000			1580	0
90		461	0		
	1000			1641	0
90		425	0		
	983			1463	0
87		365	0		
	922			1002	0
79		176	0		
	806			456	13

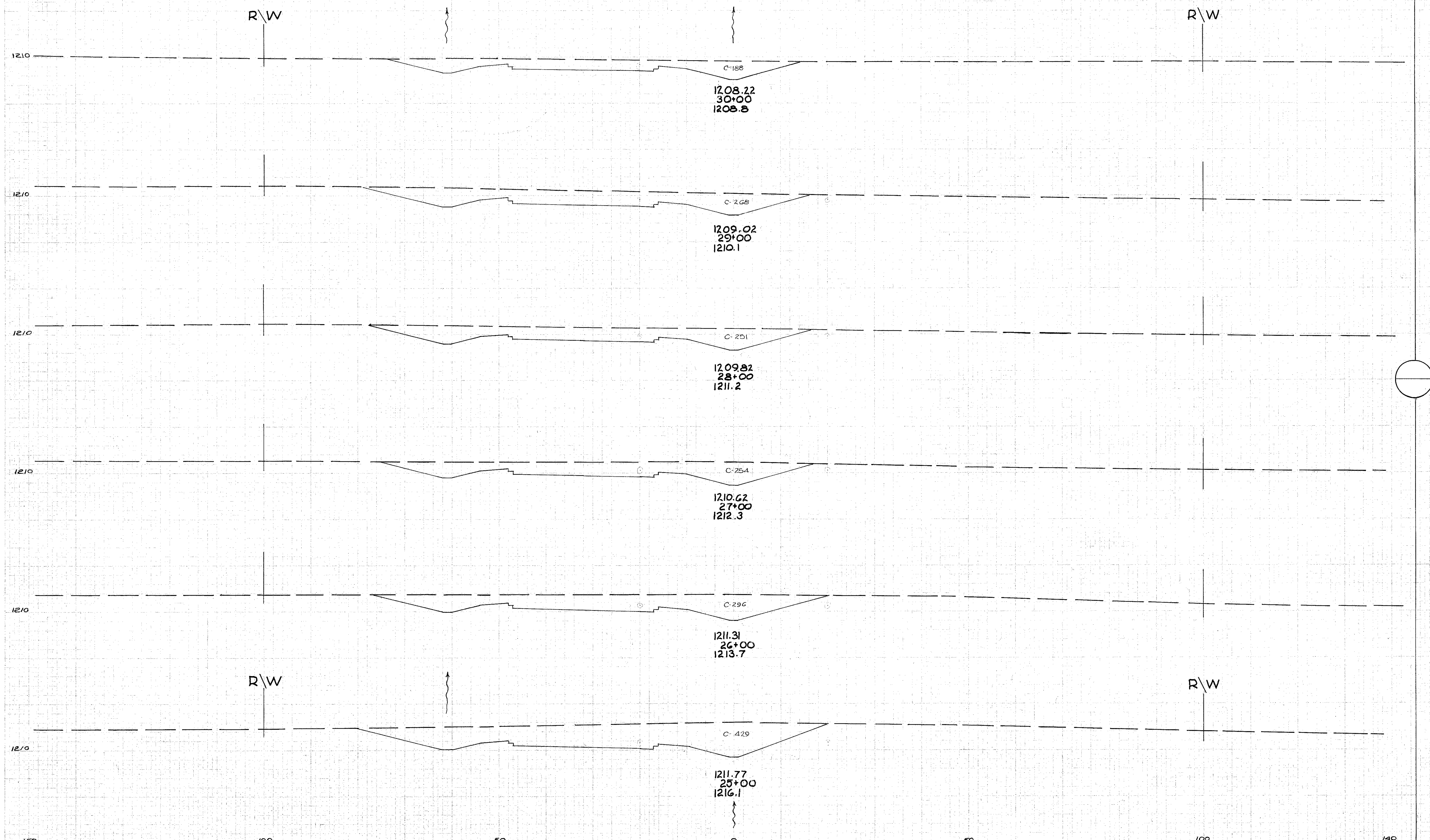
Excavation	13108	CY
Embankment	48	CY
Seeding	11000	SY

CROSS SECTIONS - STA 19+00 TO STA 24+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F 330 (4)	

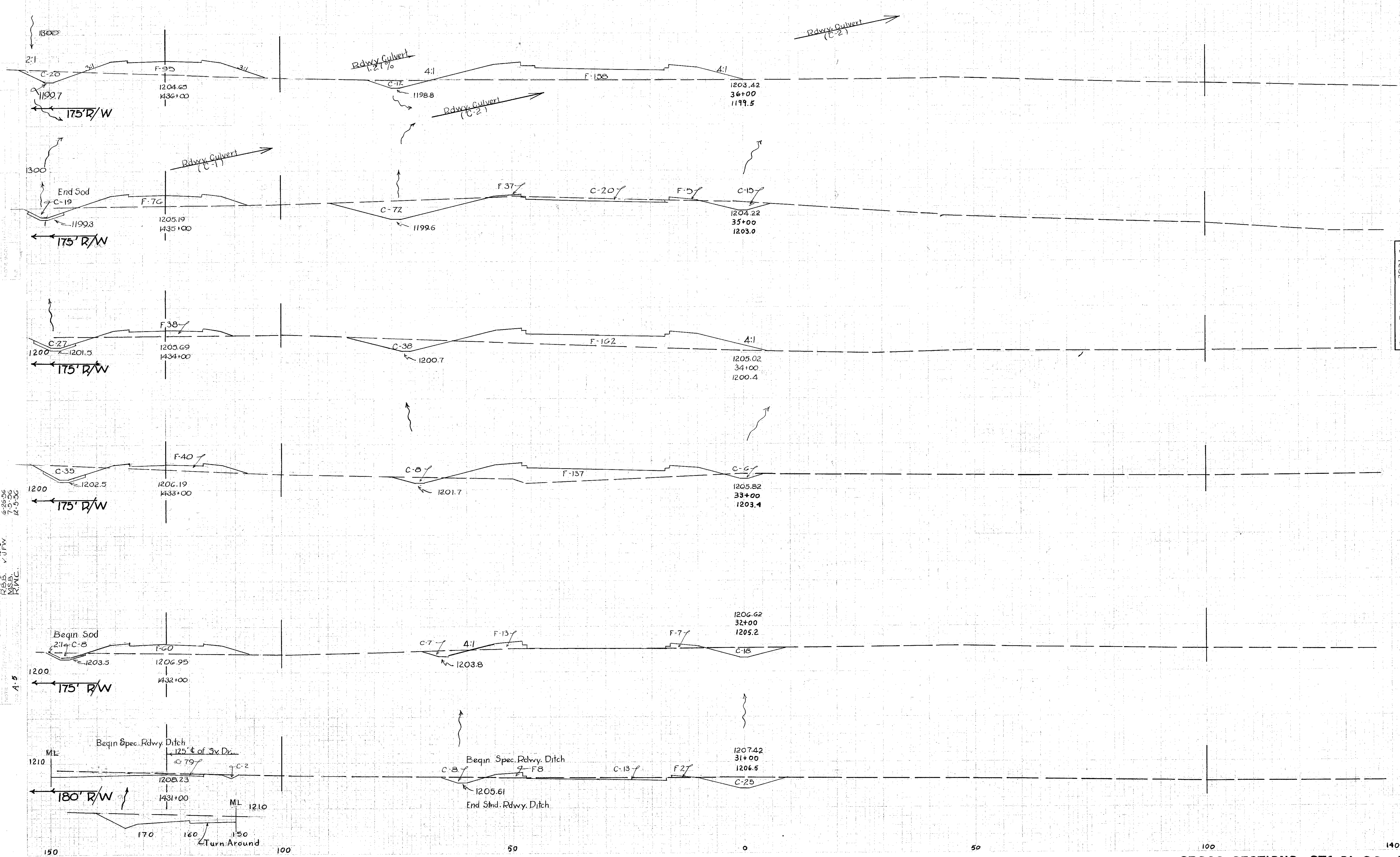
40
105

POR-224-9.58



SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
76		188	0		
	878			830	0
82		260	0		
	917			946	0
83		251	0		
	911			935	0
81		254	0		
	933			1019	0
87		296	0		
	994			1343	0
92		429	0		
	1017			1598	0

CROSS SECTIONS - STA 25+00 TO STA 30+00



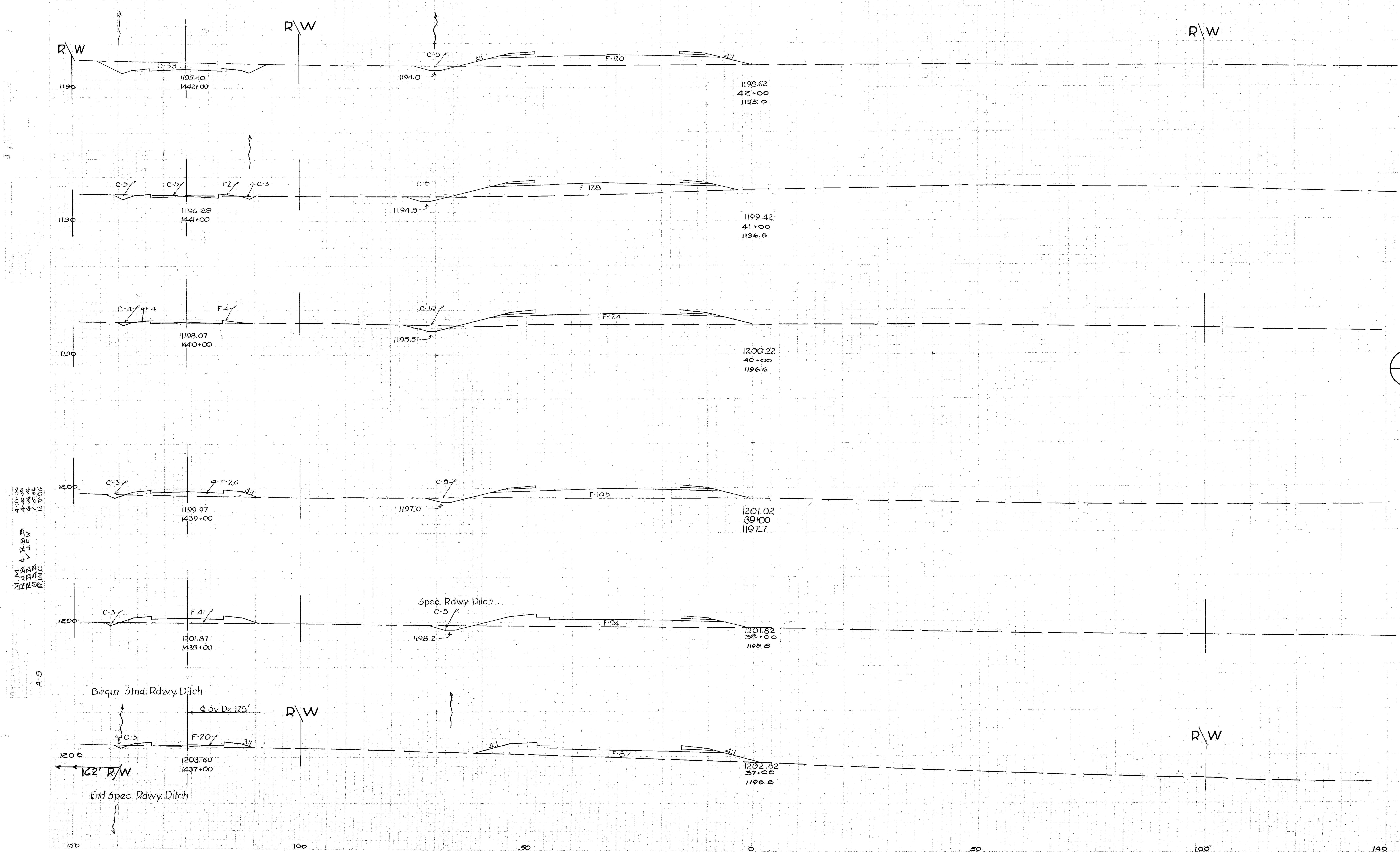
EXCAVATION	3821 CY
EMBANKMENT	4605 CY
SEEDING	13817 SY

SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
135		32	253		
	1472			293	624
130		126	84		
	1394			354	526
121		65	200		
	1289			211	698
111		49	177		
	1228			152	476
110		33	80		
	1189			296	167
104		127	10		
	1000			583	19

CROSS SECTIONS - STA 31+00 TO STA 36+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F330(4)		42 / 105

POR-~~224~~-9.58

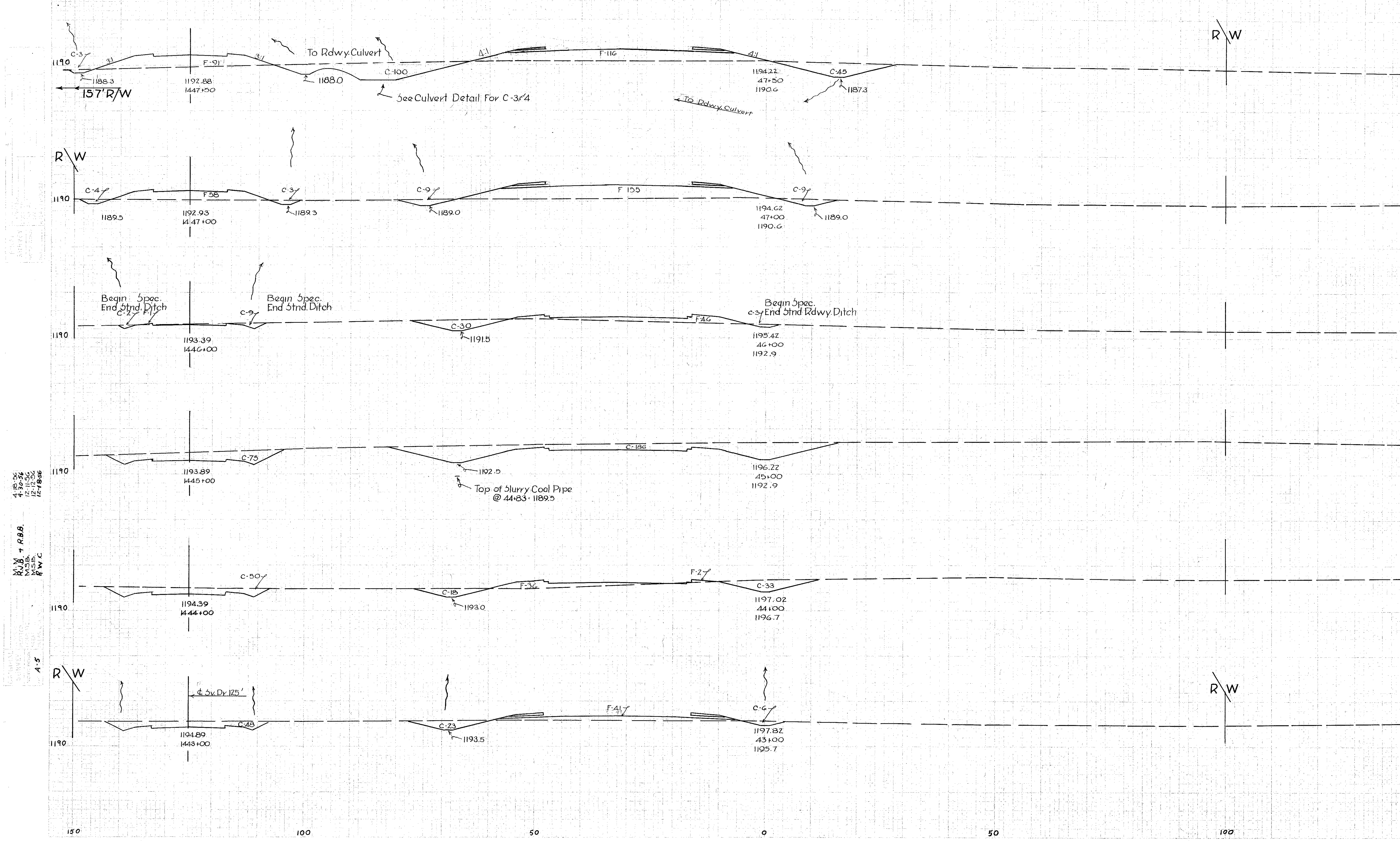


SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
102		58	120		
	1111			141	463
98		18	130		
	1100			59	485
100		14	132		
	1100			41	487
98		8	131		
	1094			30	493
99		8	135		
	1028			20	448
86		3	107		
	1228			65	667

CROSS SECTIONS - STA 37+00 TO STA 42+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	F-330 (4)		43 / 105

POR-224-9.58



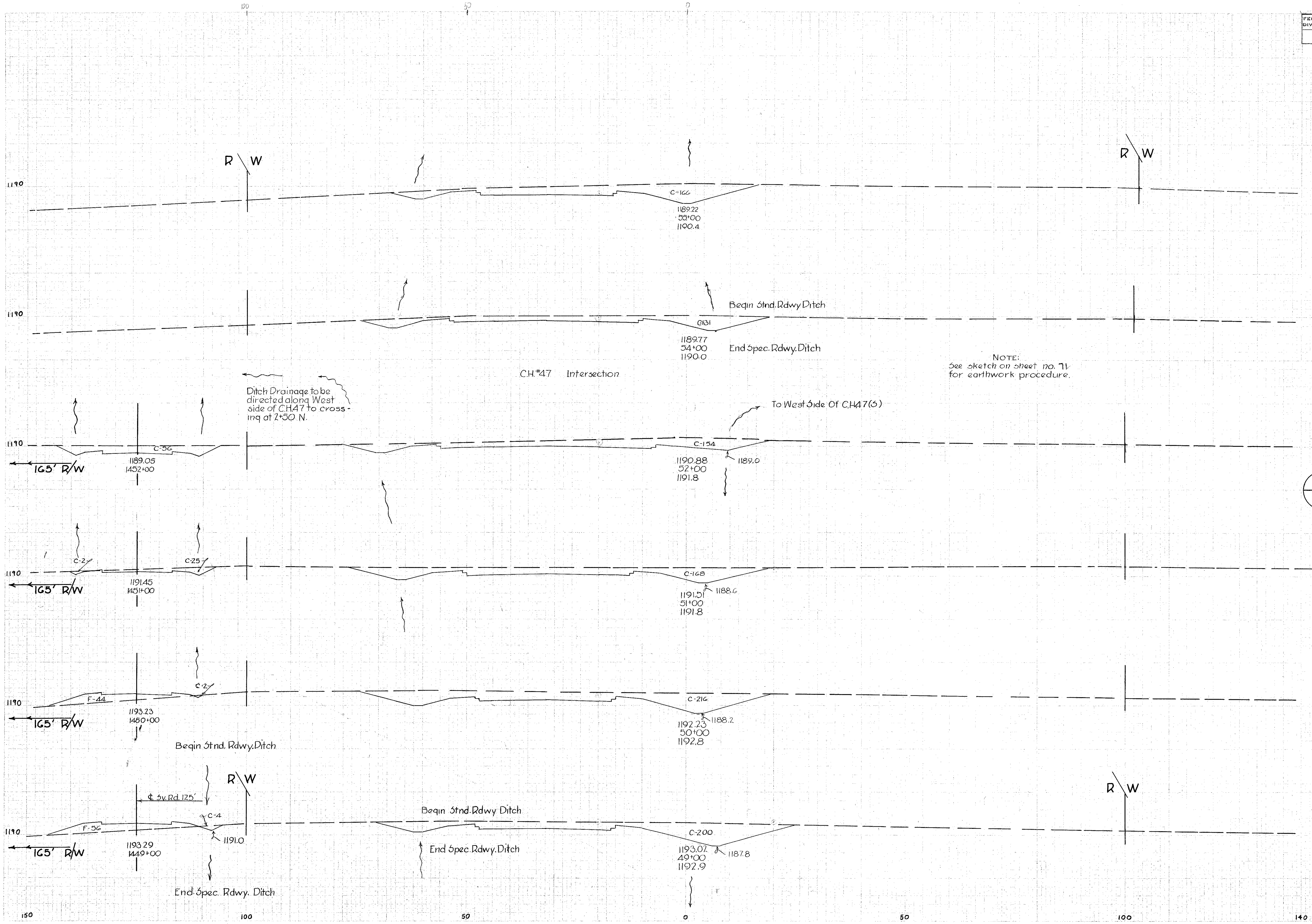
SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
146		148	207		
	789			160	388
138		25	213		
	1356			128	481
106		44	47		
	1311			565	87
130		261	0		
	1383			670	70
119		101	38		
	1272			330	146
110		77	41		
	1178			250	298

EXCAVATION	5577 CY
EMBANKMENT	3415 CY
SEEDING	15758 SY

CROSS SECTIONS - STA 43+00 TO STA 47+50

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330 (4)		44/105

POR-224-9.58



SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
74		166	0		
	794			550	0
69		131	0		
	1006			1056	0
112		210	0		
	1256			750	0
114		195	0		
	1300			765	81
120		218	44		
	1394			781	185
131		204	56		
	2308			978	731

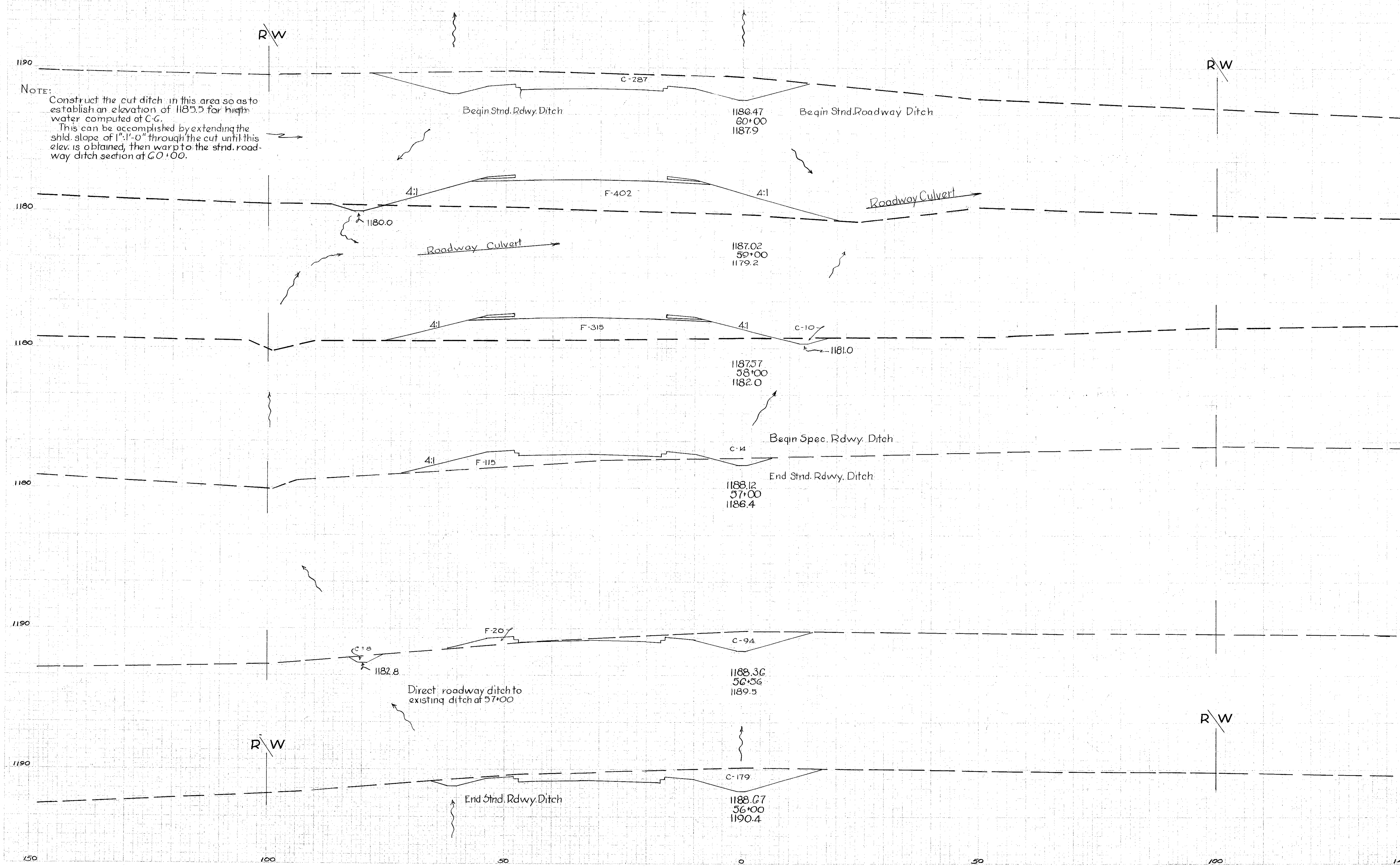
CROSS SECTIONS - STA 49+00 TO STA 55+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F330 (4)	

POR-224-9.58

SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
81		287	0		
	994			531	744
98		0	402		
	956			19	1328
74		10	315		
	783			44	796
67		14	115		
	325			95	100
66		102	20		
	429			291	21
72		179	0		
	811			639	0

EXCAVATION	10437 CY
EMBANKMENT	2989 CY
SEEDING	10364 SY



R.H.H. 4-19-56
R.J.B. & R.B.B. 4-20-56
C.R.L. 6-28-56
C.R.L. ✓ J.F.W. 7-3-56
R.W.C. 12-11-56

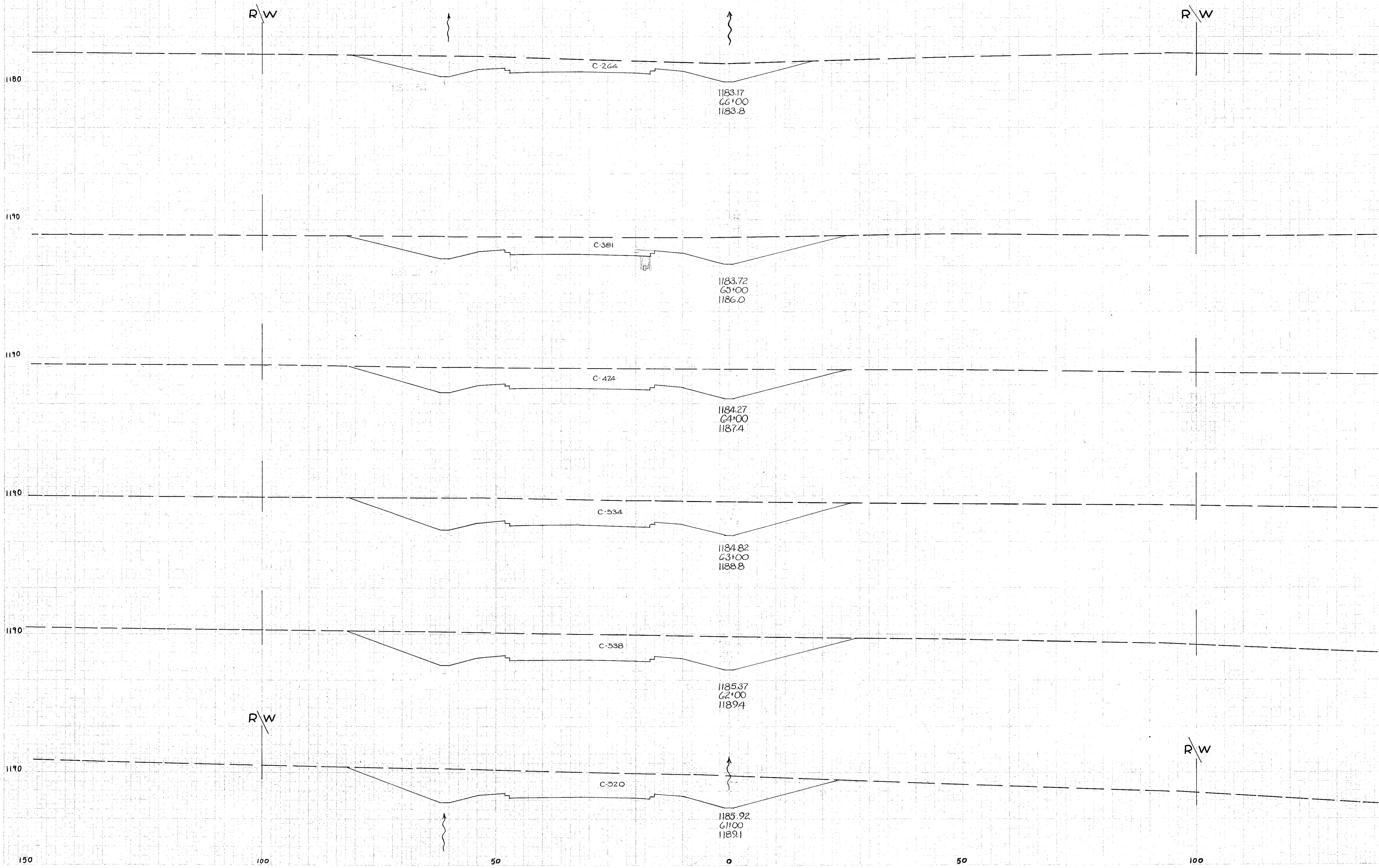
A-5

CROSS SECTIONS - STA 56+00 TO STA 60+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F330(4)	

46
105

POR-224-9.58

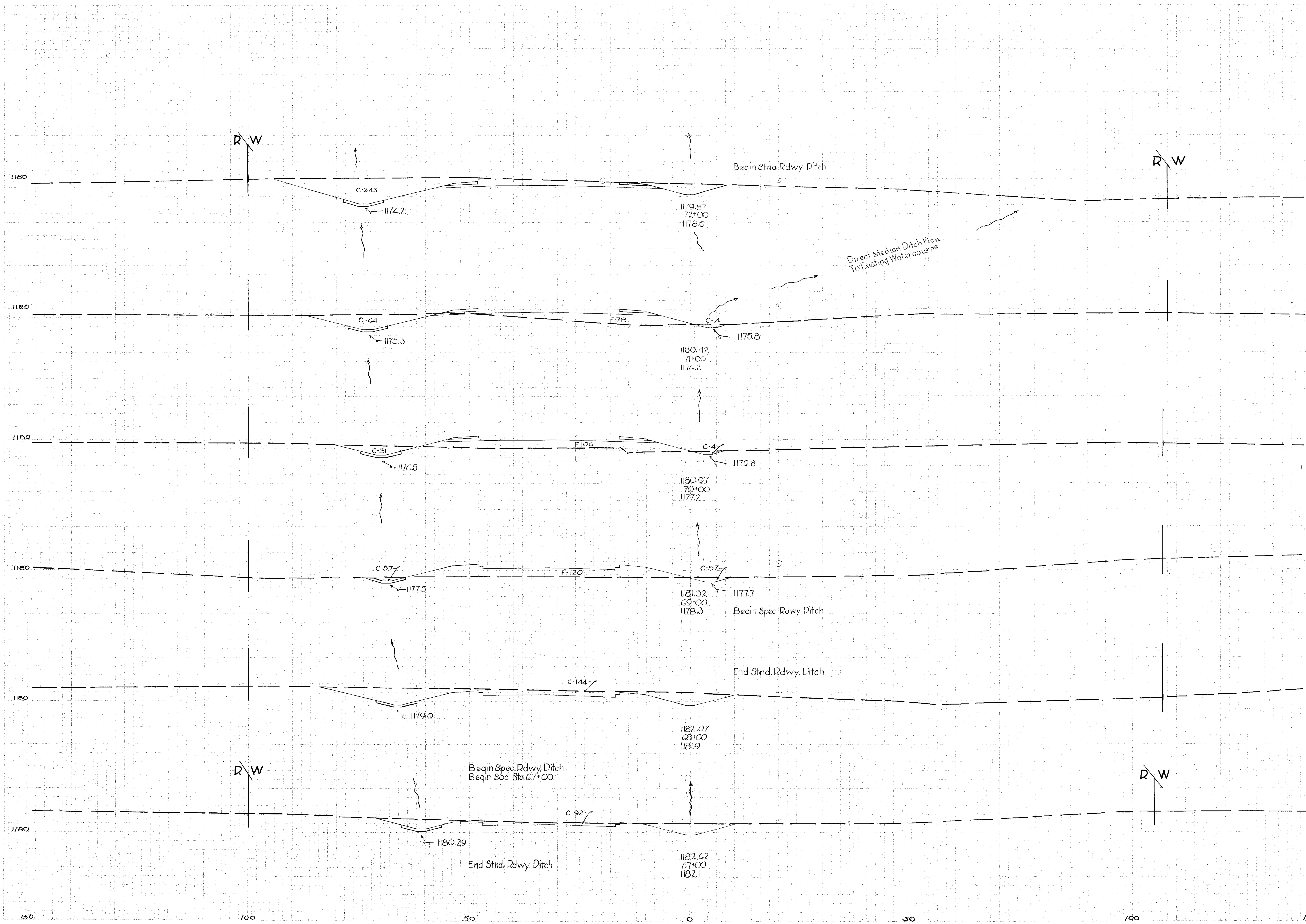


SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
88		264	0		
	1028			1157	0
97		361	0		
	1078			1454	0
97		424	0		
	1083			1774	0
98		534	0		
	1100			1985	0
100		538	0		
	1094			1959	0
97		520	0		
	989			1494	0

CROSS SECTIONS - STA 61+00 TO STA 66+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330 (4)		47 / 105

POR-224-9.58



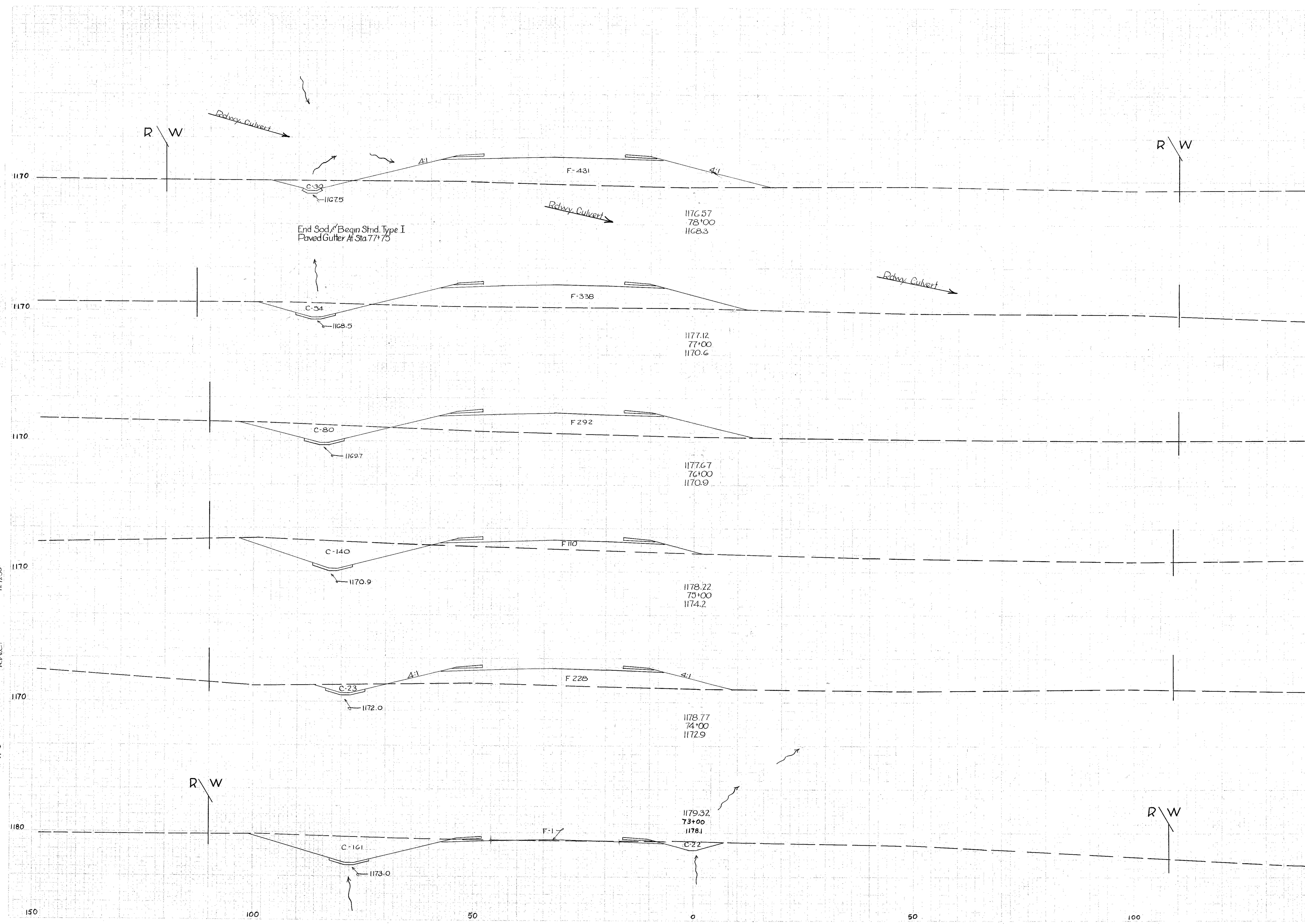
EXCAVATION	6721 CY
EMBANKMENT	2922 CY
SEEDING	11585 SY

SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
89		243	0		
	967			576	144
85		68	78		
	906			191	341
78		35	106		
	839			83	419
73		10	120		
	878			285	222
85		144	0		
	872			437	0
72		92	0		
	889			659	0

CROSS SECTIONS - STA 67+00 TO STA 72+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	F-330 (4)		48 / 105

POR-224-9.58

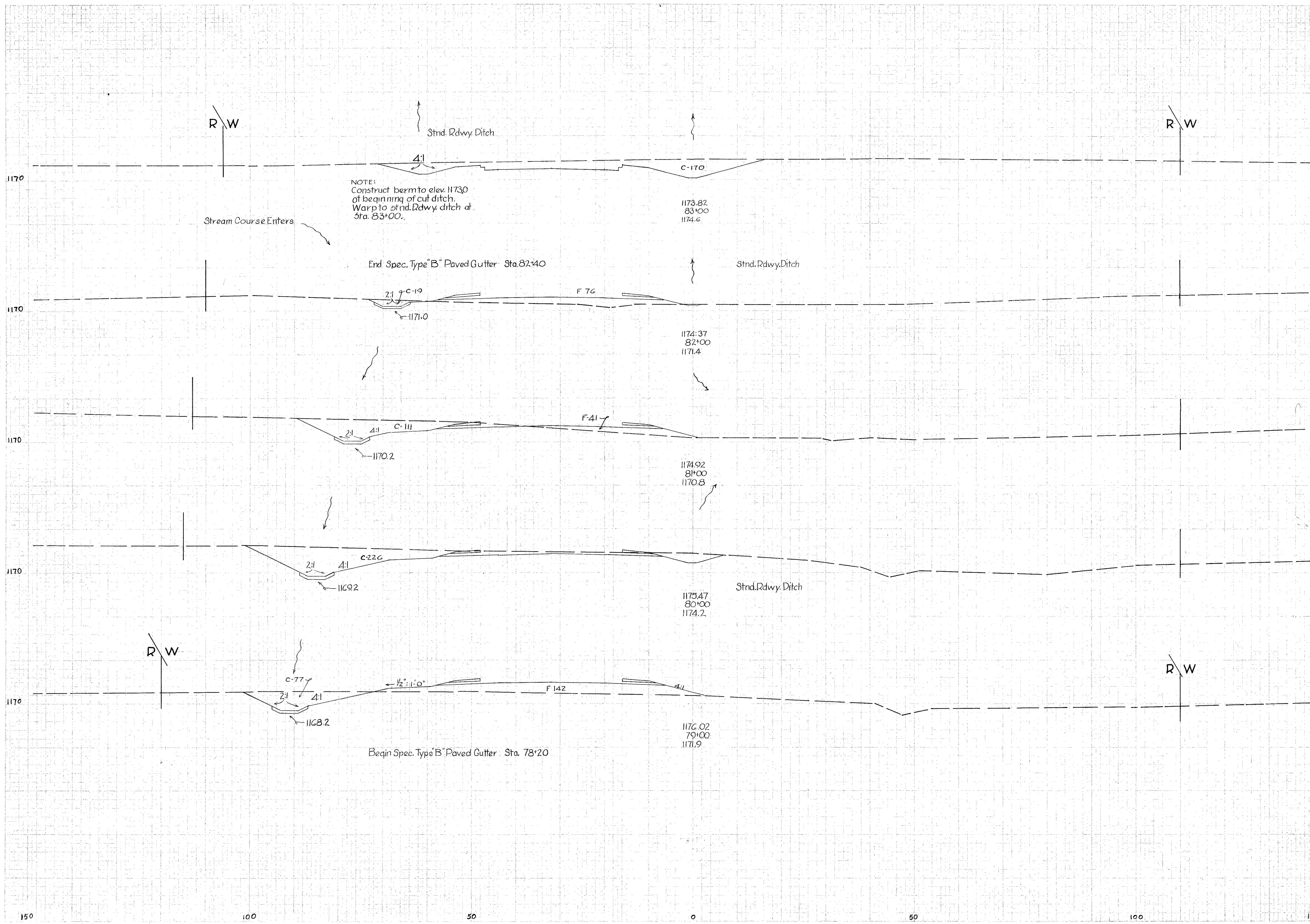


SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
104		30	431		
	1144			156	1424
102		54	338		
	1144			248	1167
104		80	292		
	1100			407	744
94		140	110		
	989			302	626
84		23	228		
	1006			381	424
97		183	1		
	1033			789	2

CROSS SECTIONS - STA 73+00 TO STA 78+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330 (4)		49/105

POR-224-9.58



SEEDING L.F.	SEEDING S.Y.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
76		170	0		
	744			350	141
58		19	76		
	772			241	217
81		111	41		
	1006			624	76
100		226	0		
	1078			561	263
94		77	142		
	1100			198	1061

EXCAVATION 14516 CY
EMBANKMENT 4349 CY
SEEDING 12311 SY

R.H.H.
R.J.B. + R.B.B.
C.R.L. J.F.W.
M.S.B.
R.W.C.

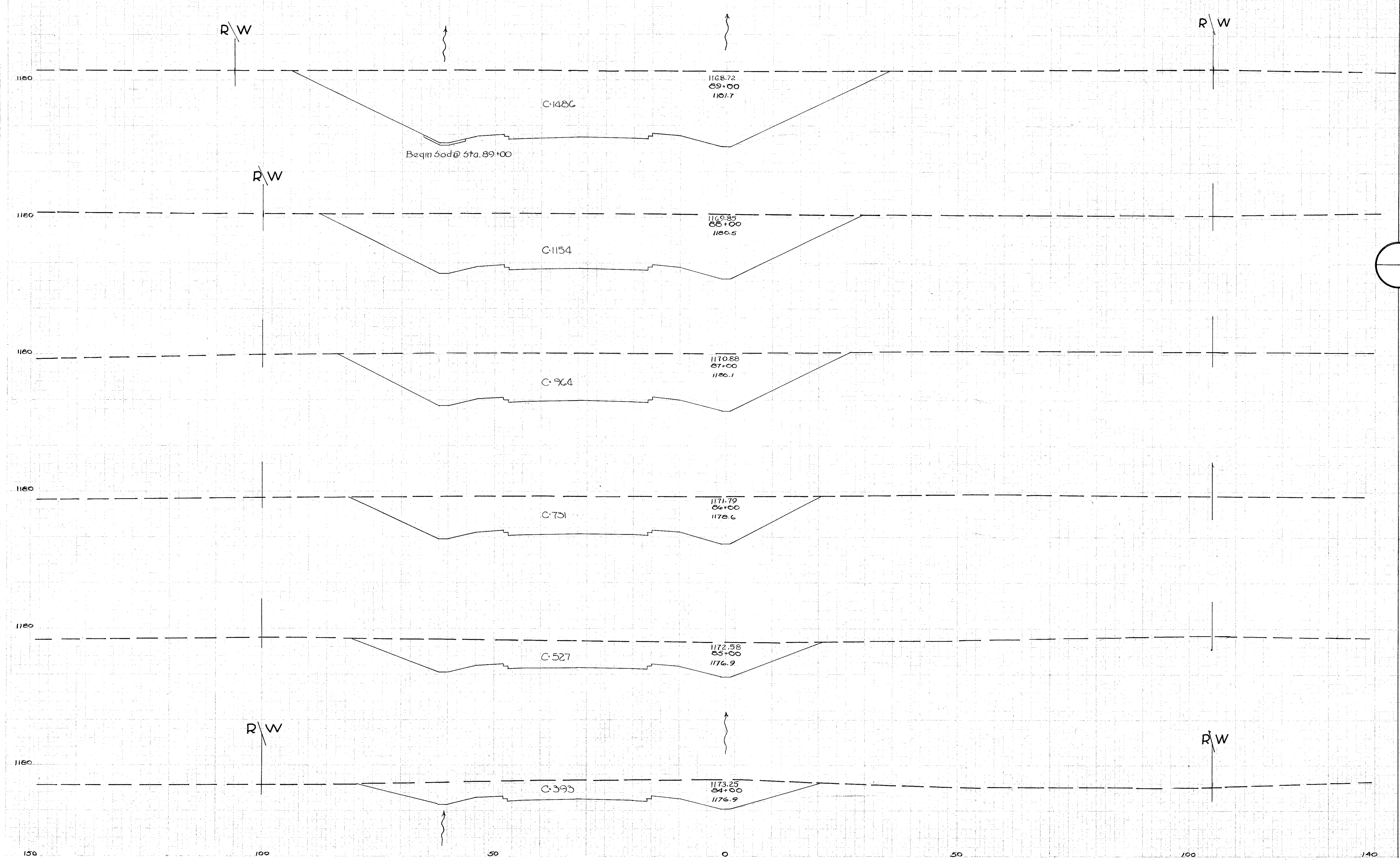
4-30-56
4-30-56
6-29-56
7-6-56
12-12-56

A-5

CROSS SECTIONS - STA 79+50 TO STA 83+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	F330(4)		50/105

POR-224-9.58



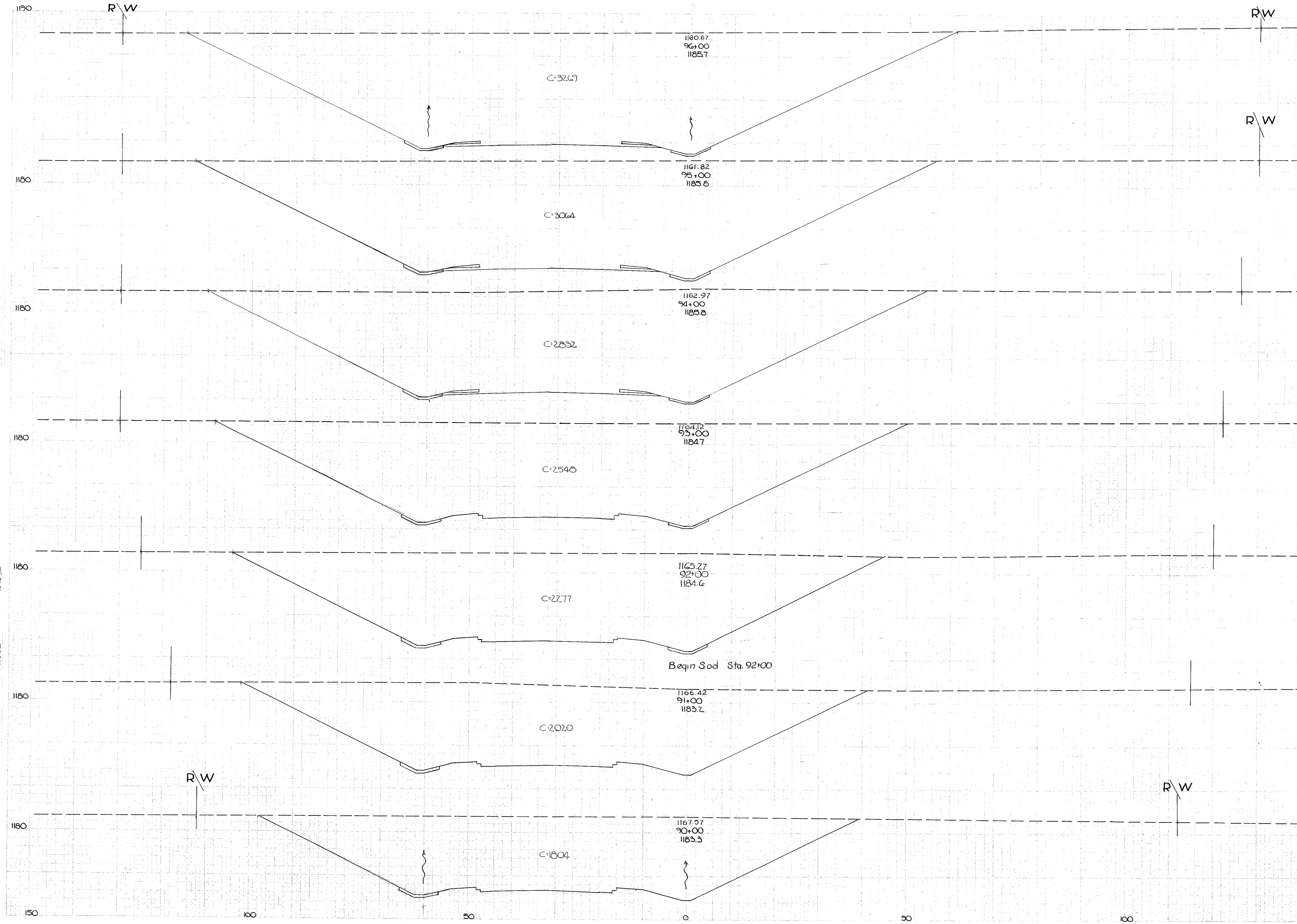
SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
125		1486	0		
	1317			4889	0
112		1154	0		
	1206			3922	0
105		964	0		
	1117			3139	0
96		731	0		
	1050			2330	0
93		527	0		
	1022			1704	0
91		393	0		
	928			1043	0

R.H.H. & R.B.B. 4-56
R.J.B. & J.F.W. 4-30-56
C.R.L. 6-29-56
M.S.B. 7-6-56
R.W.C. 12-10-56
A-5

CROSS SECTIONS - STA 84+00 TO STA 89+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F330 (4)	

POR-224- 9.58



SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
177		3269	0		
	1928			11728	0
170		3064	0		
	1850			10919	0
163		2832	0		
	1728			9963	0
148		2548	0		
	1644			8935	0
148		2277	0		
	1600			7957	0
141		2020	0		
	1528			7081	0
134		1804	0		
	1439			6093	0

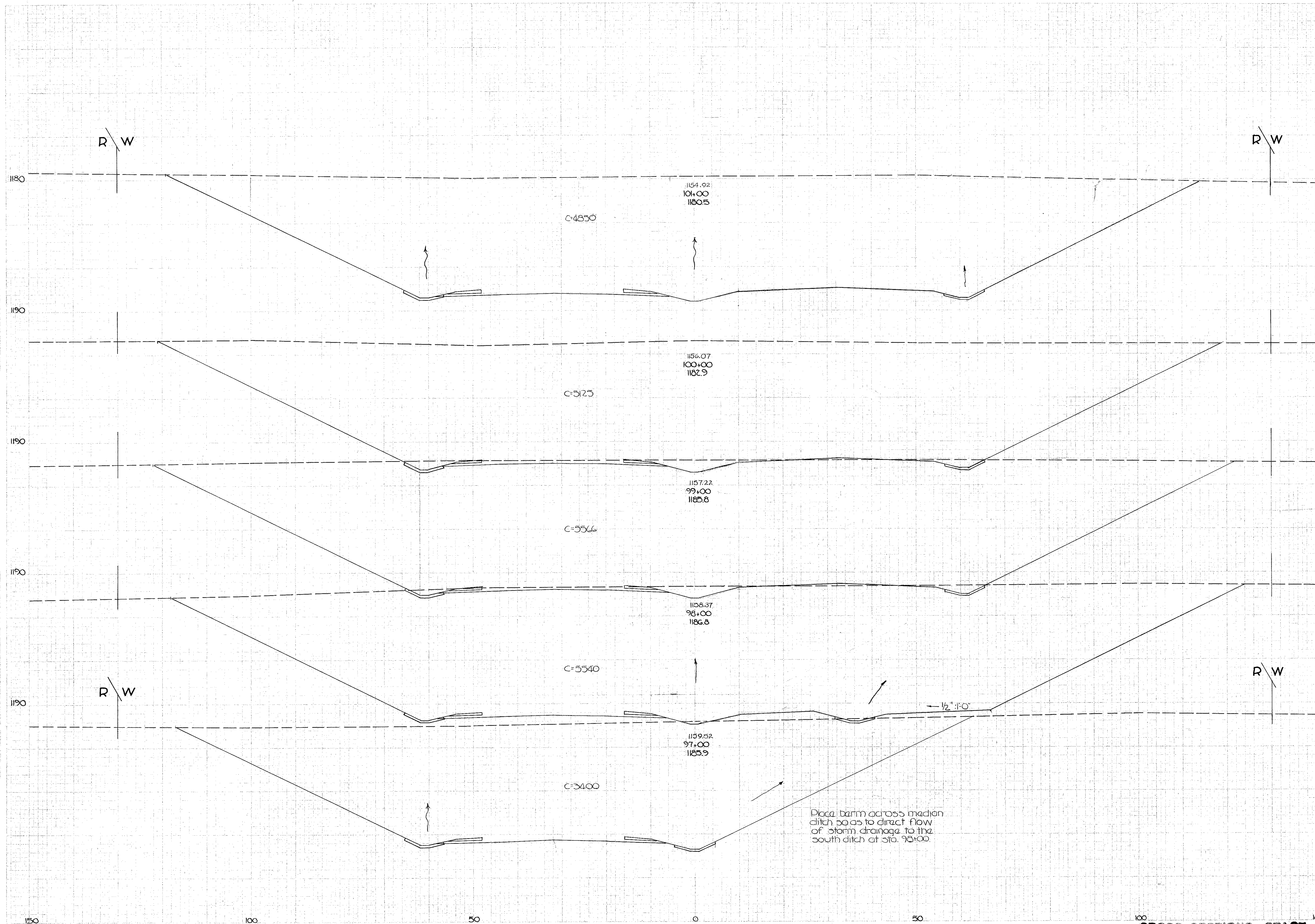
EXCAVATION	136836 CY
EMBANKMENT	0 CY
SEEDING	22834 SY

CROSS SECTIONS - STA 90+00 TO STA 96+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

52/105

POR-224-9.58

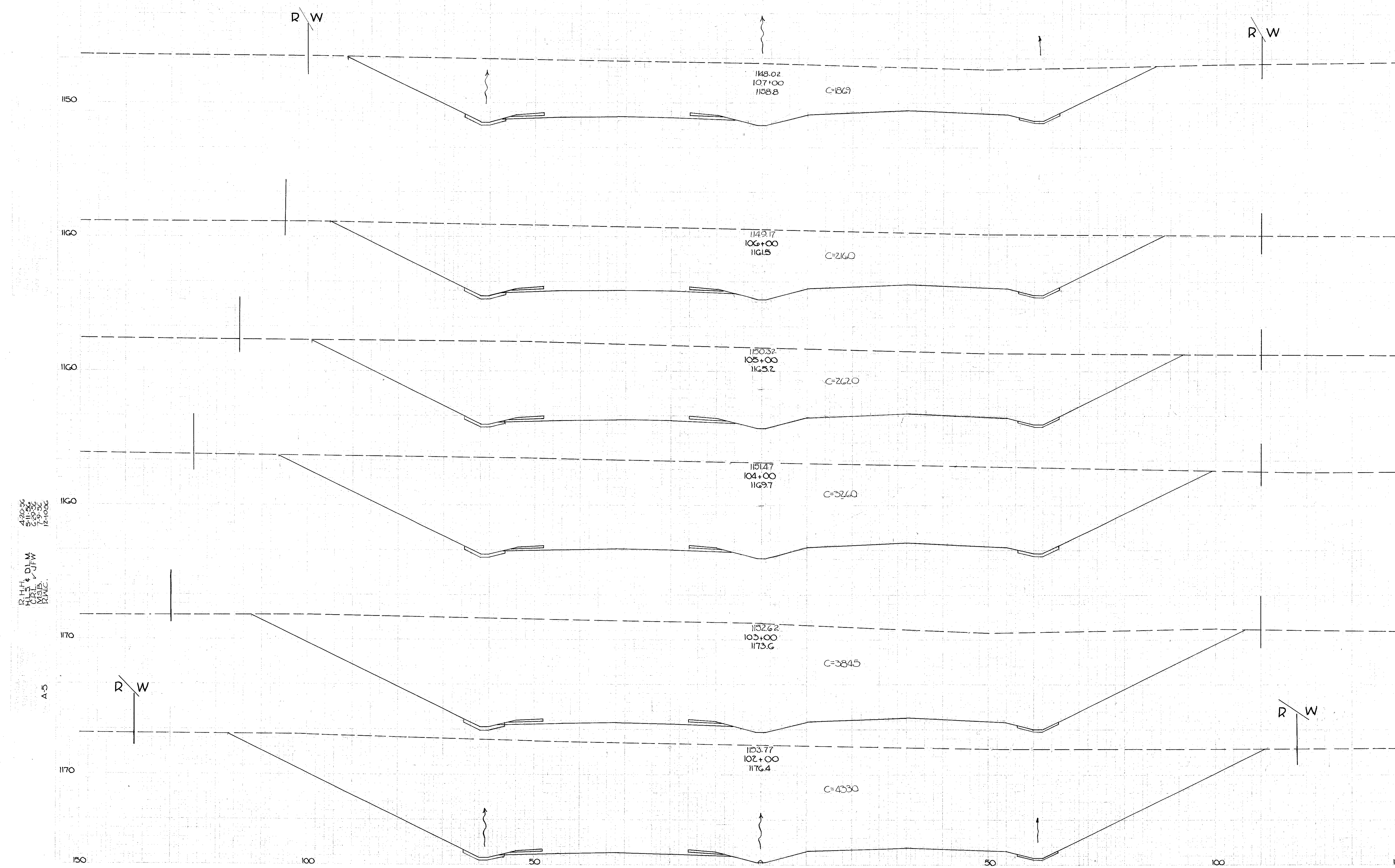


SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
237		4850	0		
	2661			18472	0
242		5125	0		
	2706			19798	0
245		5566	0		
	2722			20567	0
245		5540	0		
	2372			16556	0
182		3400	0		
	1994			12350	0

CROSS SECTIONS - STA 97+00 TO STA 101+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	F-330 (4)		53 / 105

POR-224-9.58

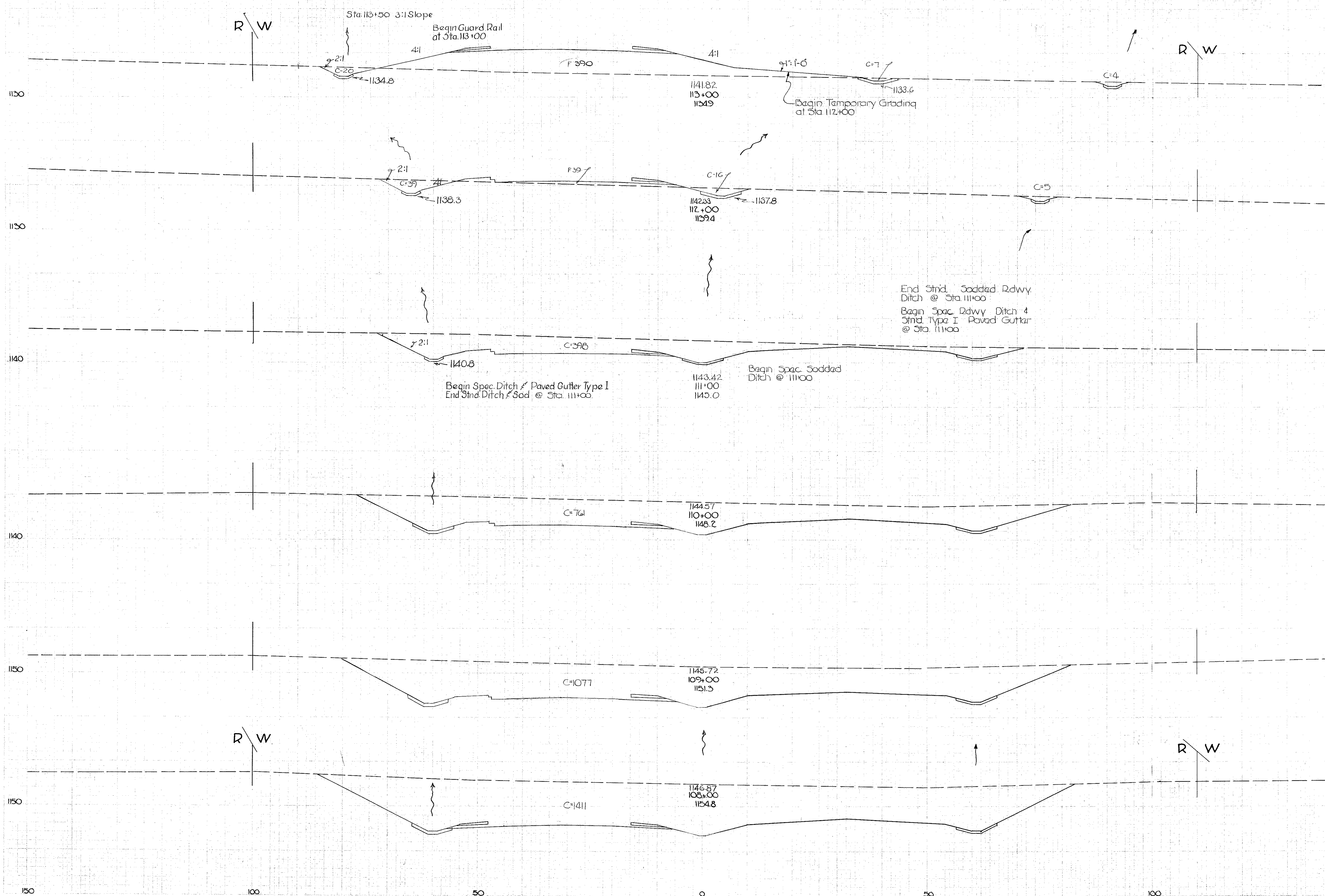


SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
172		1869	0		
	1956			7461	0
180		2160	0		
	2061			8852	0
191		2620	0		
	2200			10889	0
205		3260	0		
	2322			13157	0
213		3845	0		
	2450			15139	0
228		4330	0		
	2583			17000	0

CROSS SECTIONS - STA 102+00 TO STA 107+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330-(4)		54 / 105

POR-224-9.58



EXCAVATION	108049 CY
EMBANKMENT	72 CY
SEEDING	24367 SY

SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
130		31	390		
	1122			169	794
72		60	39		
	1167			848	72
138		398	0		
	1611			2146	0
152		761	0		
	1717			3404	0
157		1077	0		
	1778			4607	0
163		1411	0		
	1861			6074	0

R.H.H. & D.L.M. 4-20-56
H.L.S. ✓J.F.W. 5-11-56
C.R.L. 6-29-56
M.S.B. 7-9-56
R.W.C. 12-10-56

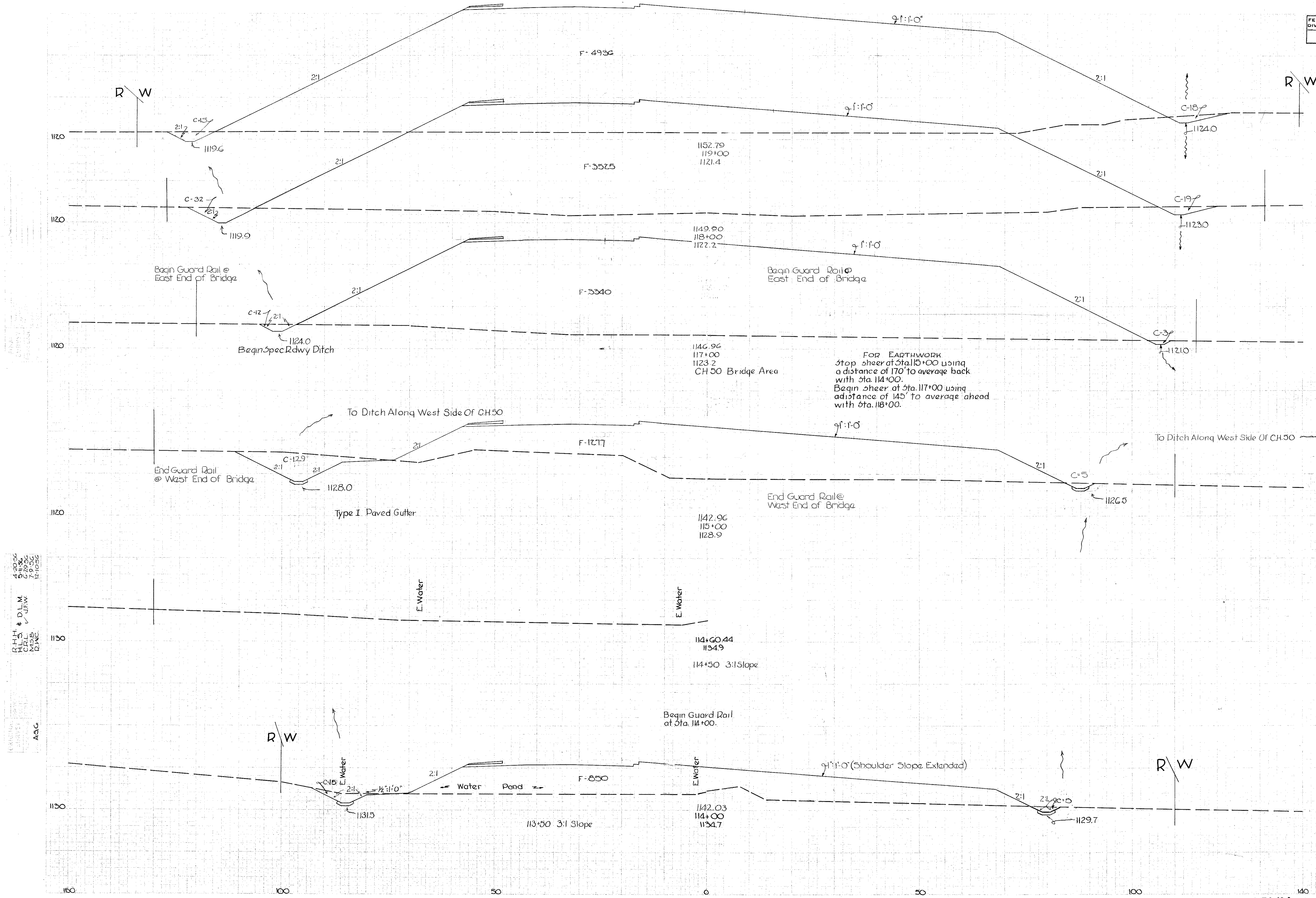
A-5

CROSS SECTIONS - STA 108+00 TO STA 113+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

55
105

POR-224- 9.58



SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
250		33	4936		
	2717			156	15069
239		51	3525		
	3641			177	18436
213		15	3340		
	0			0	0
200		134	1277		
	3466			485	6699
167		20	850		
	1650			94	2296

CROSS SECTIONS - STA 114+00 TO STA 119+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330 (4)	

56/105

POR-224- 9.58

EXCAVATION	2111 CY
EMBANKMENT	178260 CY
SEEDING	30373 SY

SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
	5344			196	45904
298		53	7357		
	3311			281	25569
298		99	6450		
	3250			293	22085
287		59	5800		
	3039			154	20904
260		24	5488		
	2833	°		106	19304

CROSS SECTIONS - STA 120+00 TO STA 123+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330 (4)	

57
105

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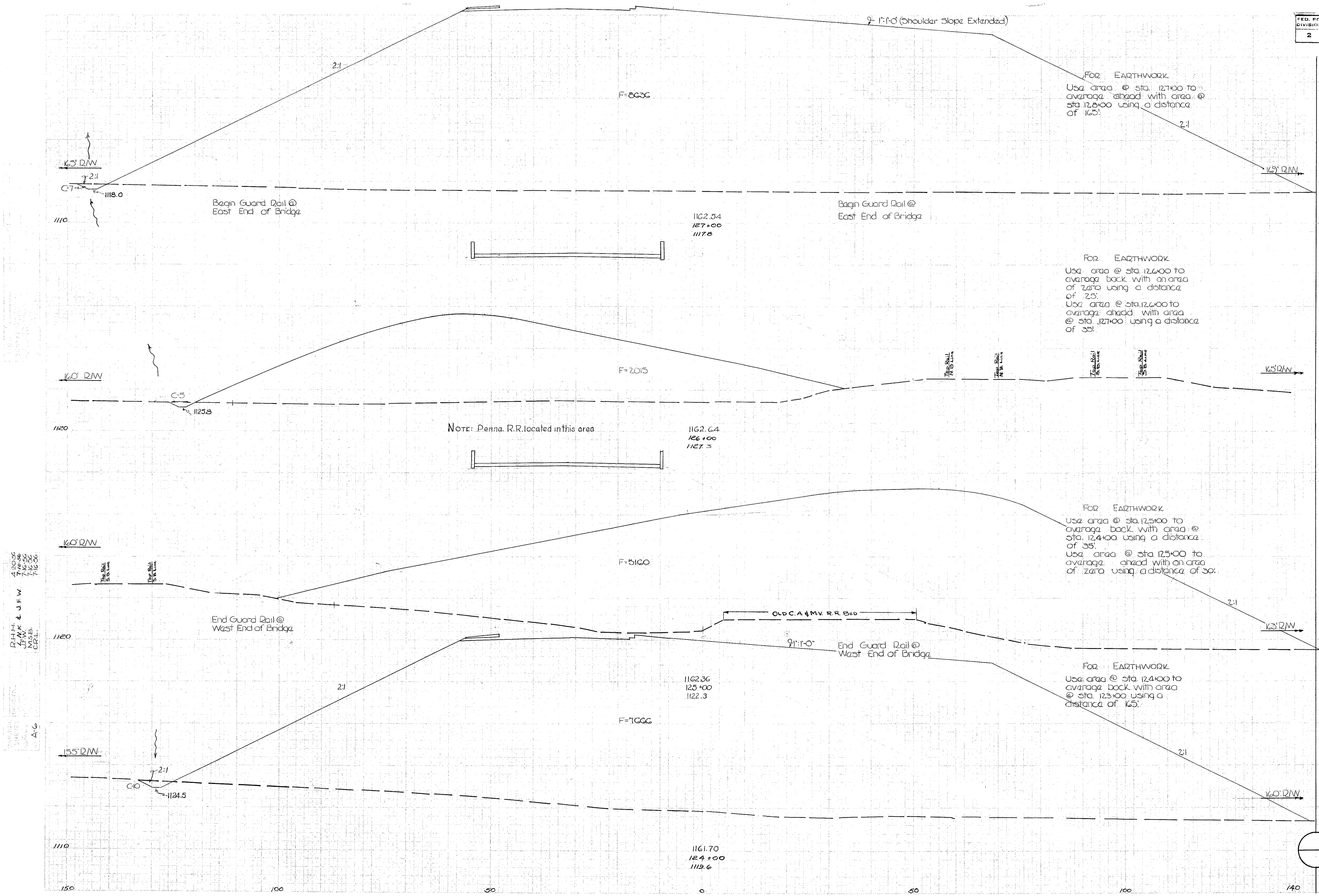
SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
	5775			49	5277
301		7	8636		
	949			8	6904
187		5	2015		
	260			2	933
0		0	0		
0		0	0		
	467			0	7867
280		0	5160		
	1099			6	8313
285		10	7666		



CROSS SECTIONS - STA 124+00 TO STA 127+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330 (4)		58/105

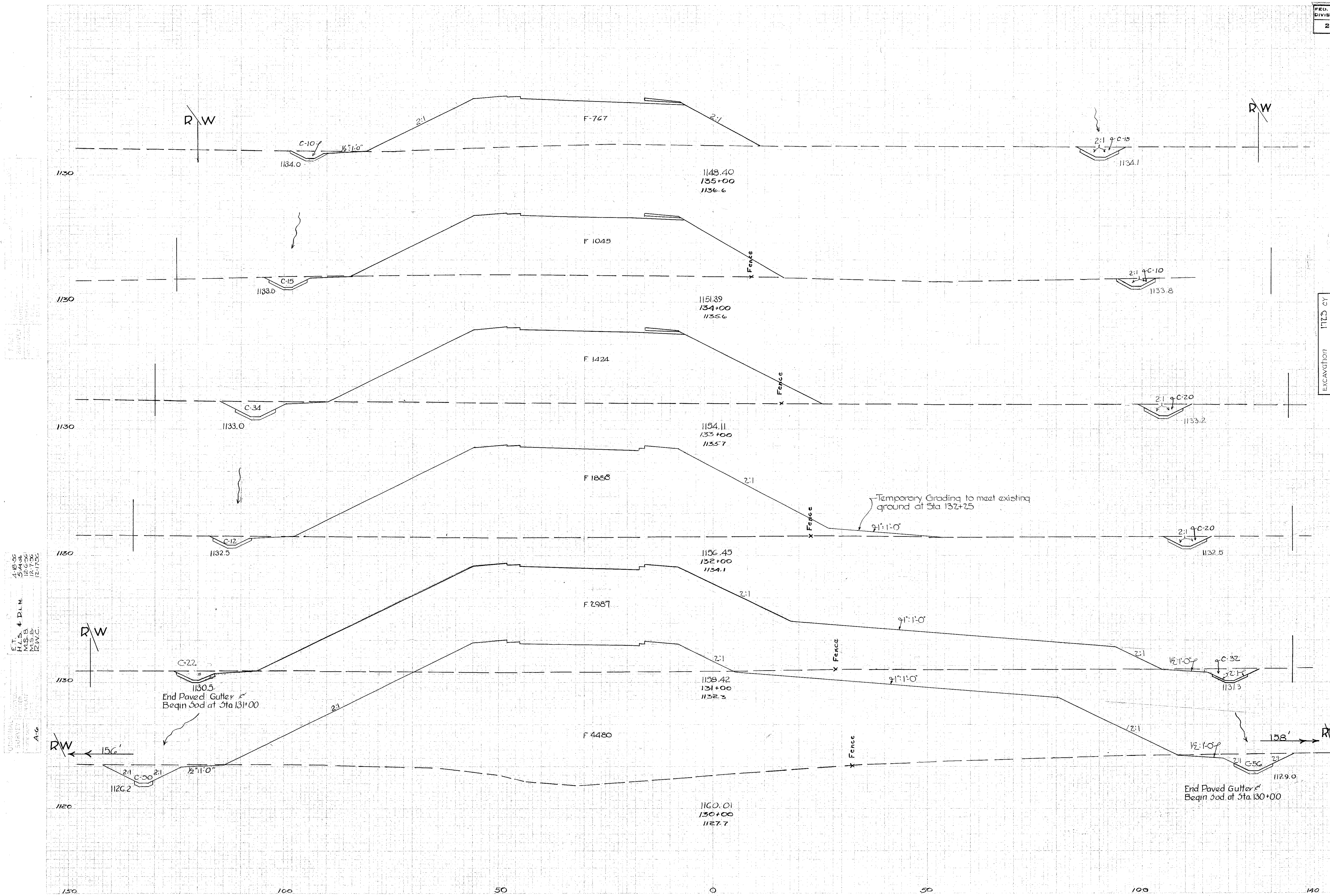
POR-224- 9.58

SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
312		176	5418		
	1721			239	11315
332		92	7288		
	3742			192	29682
329		9	8440		

CROSS SECTIONS - STA 128+00 TO STA 129+50

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

POR-224-9.58



EXCAVATION	1723 CY
EMBANKMENT	160,853 CY
SEEDING	27,869 SY

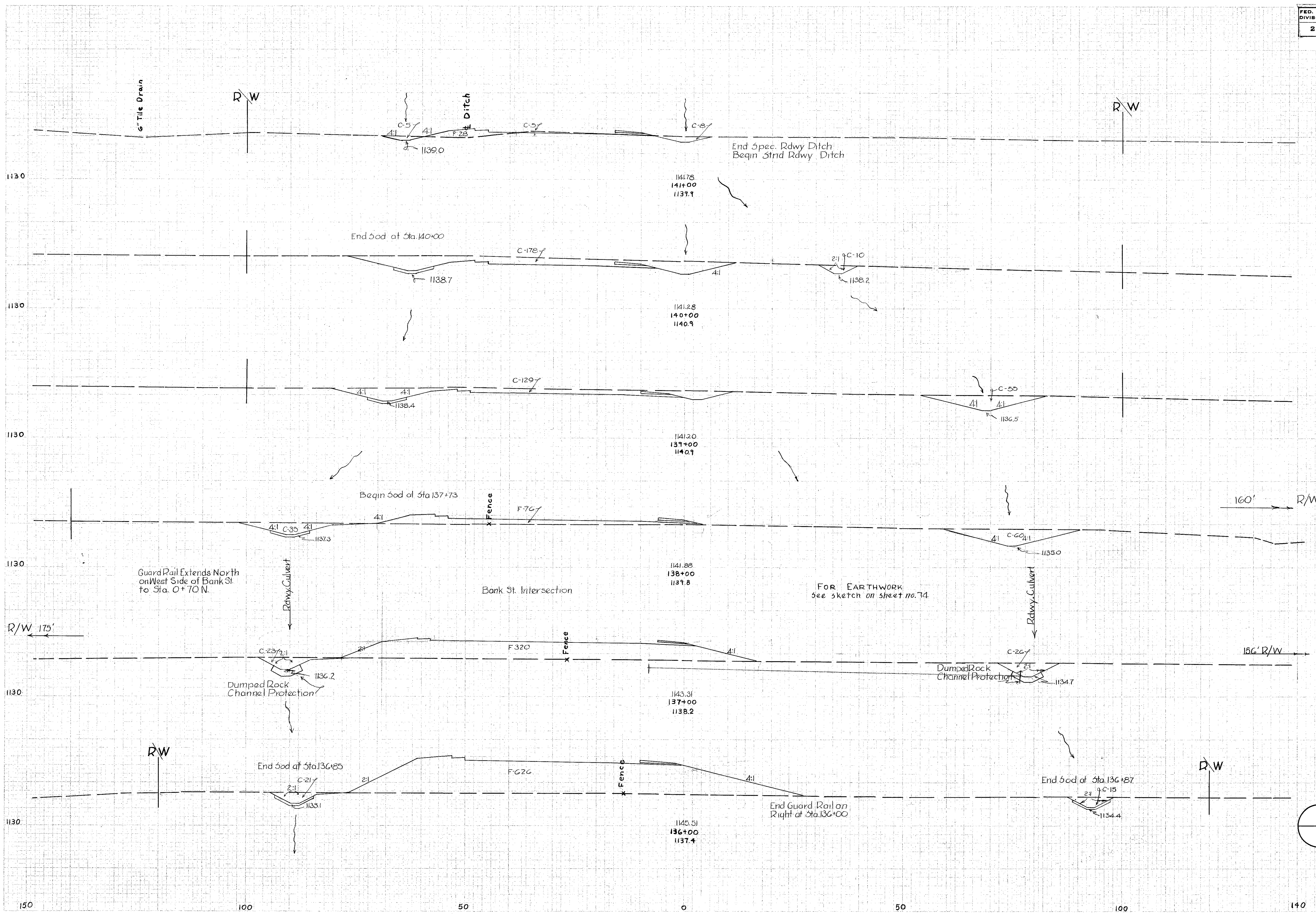
SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
136		25	767		
	1578			93	3356
148		25	1045		
	1778			146	4572
172		54	1424		
	2056			159	6133
198		32	1888		
	2522			159	9028
256		54	2987		
	2989			296	13828
282		106	4480		
	1650			261	9165

CROSS SECTIONS - STA 130+00 TO STA 135+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

60
105

POR-224-9.58

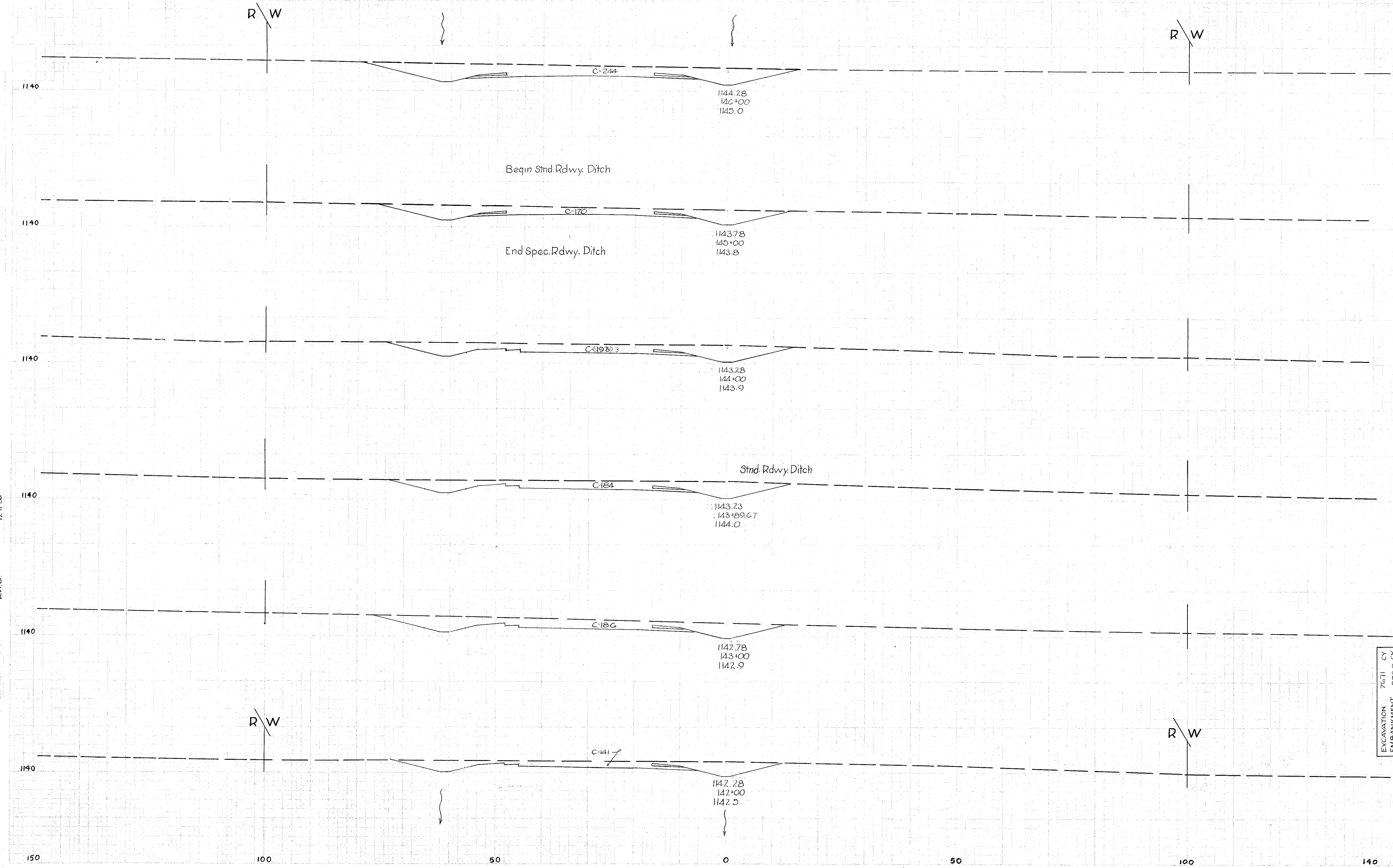


SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
65		18	28		
	972			381	52
110		188	0		
	1283			689	0
121		184	0		
	1339			517	141
120		95	76		
	1244			247	733
104		49	320		
	1106			157	1752
95		36	626		
	1283			113	2580

CROSS SECTIONS - STA 136+00 TO STA 141+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330 (4)		61 / 105

POR-224-9.58



SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
85		244	0		
	911			767	0
79		170	0		
	828			672	0
70		193	0		
	79			72	0
68		184	0		
	643			614	0
61		186	0		
	650			606	0
56		141	0		
	672			294	52

EXCAVATION	7671 CY
EMBANKMENT	2730 CY
SEEDING	1749 SY

A-6

MLM
HLS + DLM
MSB
RWC

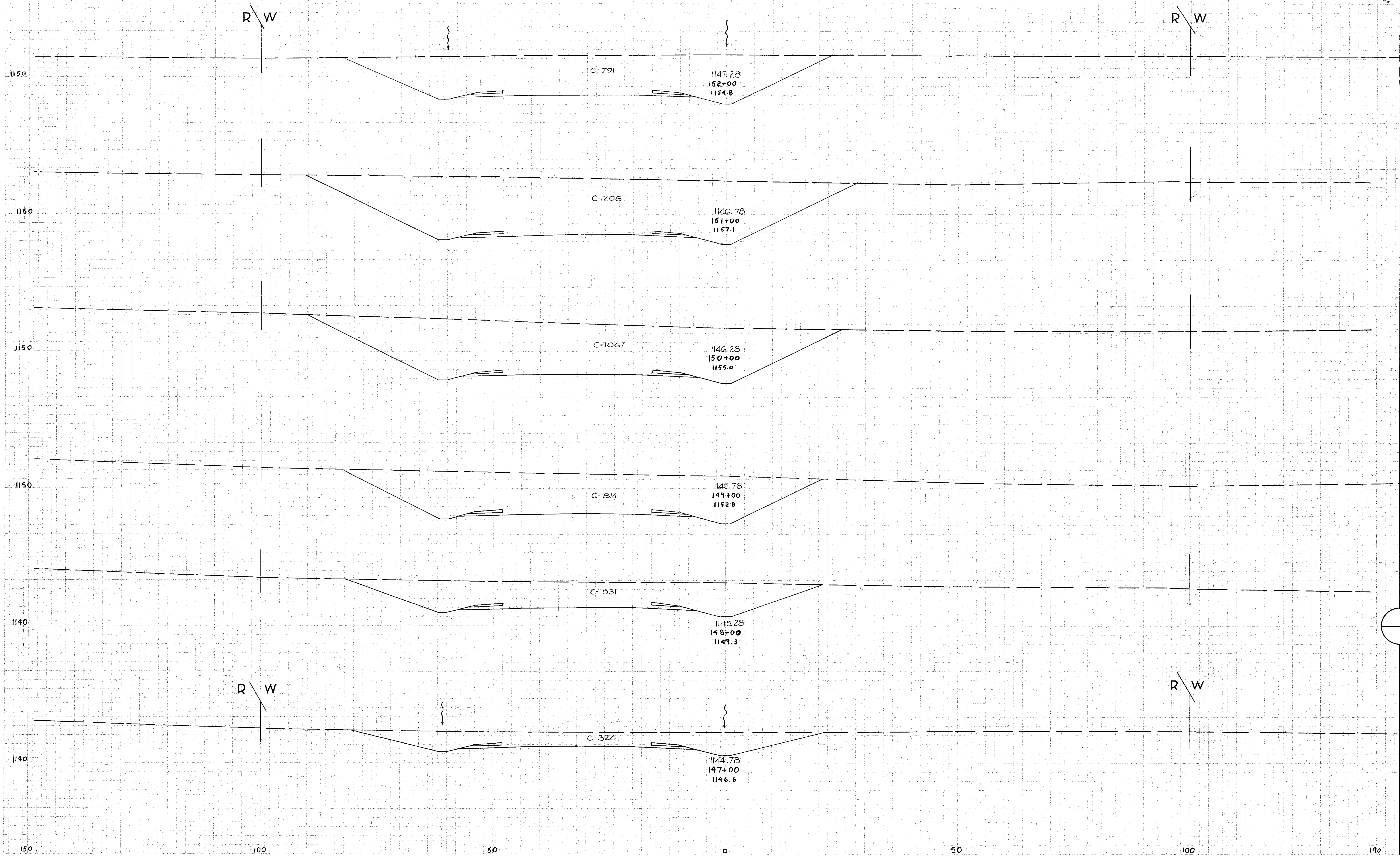
4-56
5-14-56
12-16-56
12-17-56
12-11-56

CROSS SECTIONS - STA 142+00 TO STA 146+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330 (4)	

62
105

POR-224-9.58



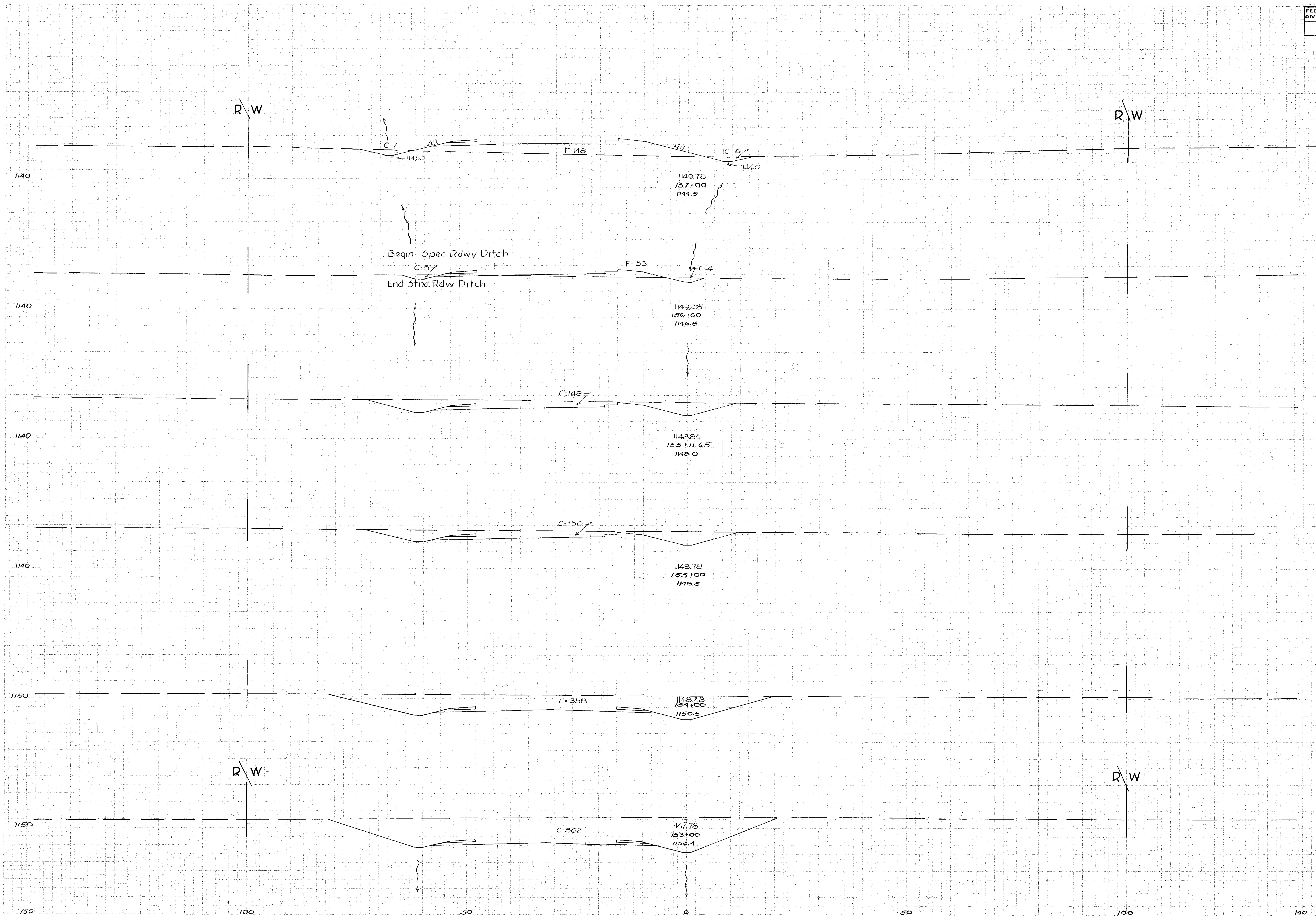
SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
97		791	0		
	1167			3702	0
113		1208	0		
	1244			4213	0
111		1067	0		
	1161			3483	0
98		814	0		
	1061			2491	0
93		531	0		
	1033			1583	0
93		374	0		
	989			1052	0

CROSS SECTIONS - STA 147+00 TO STA 152+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330 (4)	

63/105

POR-224- 9.58



SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
79		13	148		
	750			41	335
56		9	33		
	711			257	54
72		148	0		
	811			64	0
74		150	0		
	911			941	0
90		358	0		
	1017			1704	0
93		562	0		
	1056			2506	0

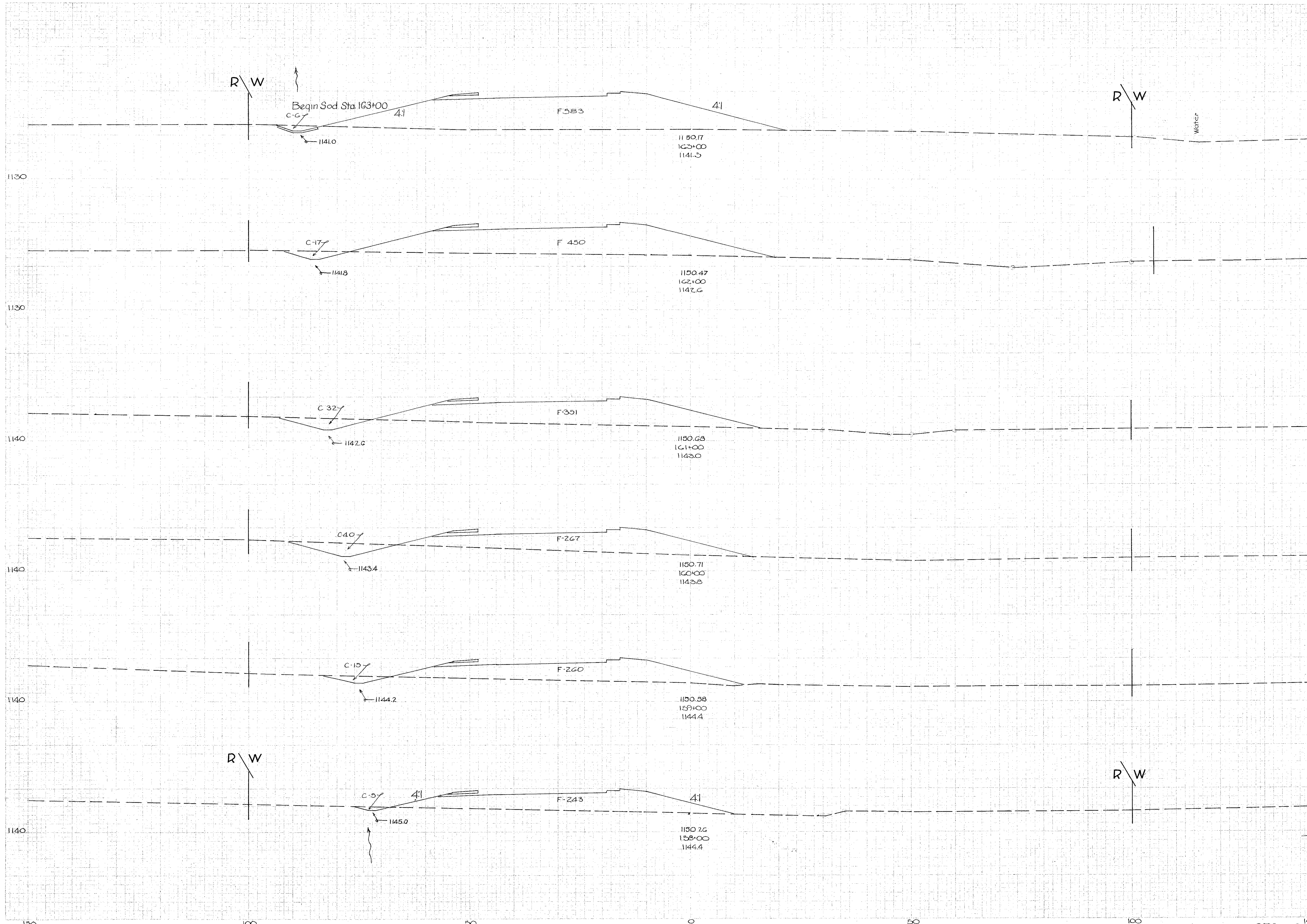
ORIGINAL SURVEY NOTE BOOK No. A-6
E.T. 4-18-56
H.L.S. & D.L.M. 5-14-56
R.B.B. & J.F.W. 6-26-56
M.S.B. 7-17-56
R.W.C. 12-12-56

CROSS SECTIONS - STA 153+00 TO STA 157+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330 (4)	

64/105

POR-224-9.58



SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
102		6	583		
	1117			43	1913
99		17	450		
	1083			91	1483
96		32	351		
	1056			133	1144
94		40	267		
	994			102	976
85		15	260		
	889			37	931
75		5	243		
	856			33	724

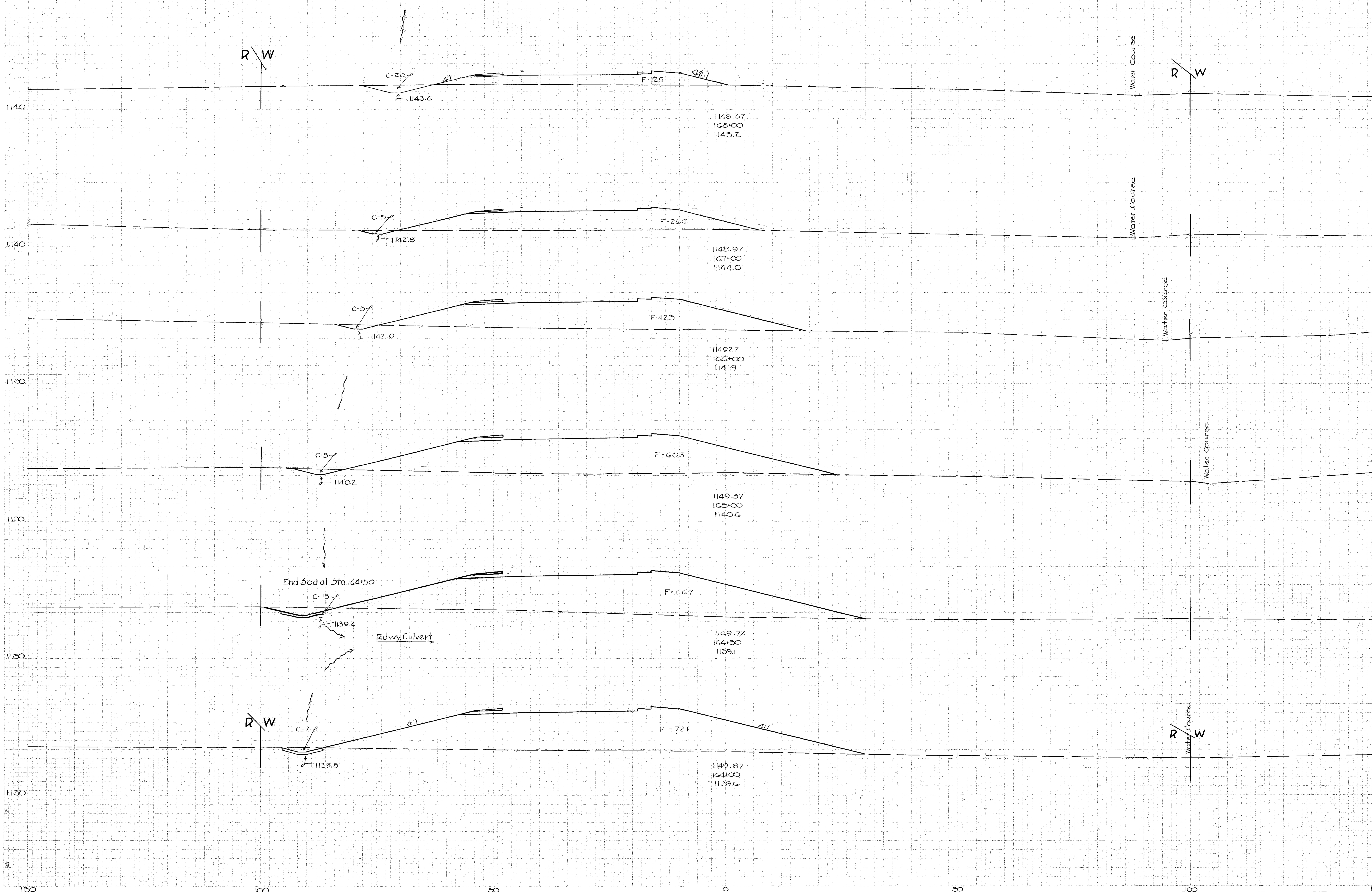
EXCAVATION	19574	CY
EMBANKMENT	3020	CY
SEEDING	12628	SY

CROSS SECTIONS - STA 158+00 TO STA 163+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

65
105

POR-224- 9.58



EXCAVATION	567 CY
EMBANKMENT	14,379 CY
SEEDING	12,175 SY

SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
68		20	125		
	806			46	722
77		5	264		
	939			19	1272
92		5	423		
	1088			24	1900
104		8	603		
	1189			21	1174
110		15	667		
	1228			20	1285
111		7	721		
	1185			24	2415

CROSS SECTIONS - STA 164+00 TO STA 168+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

66
105

POR-224-958

SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
59		46	0		
	639			115	41
56		16	22		
	583			43	115
49		7	40		
	281			9	110
48		2	74		
	277			5	141
56		4	85		
	639			30	313
59		12	86		
	706			59	392

CROSS SECTIONS - STA 169+00 TO STA 173+00

FED. RD. DIVISION	STATE	PROJECT	YEAR
2	OHIO	F-330(4)	

67
105

POR-224, 9.58

SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
71		86	3		
	817			530	6
76		200	0		
	889			835	0
84		251	0		
	906			844	0
79		205	0		
	850			642	0
74		142	0		
	811			546	0
72		153	0		
	728			369	0

EXCAVATION 7647CY.
EMBANKMENT 53CY.
SEEDING 10057SY.

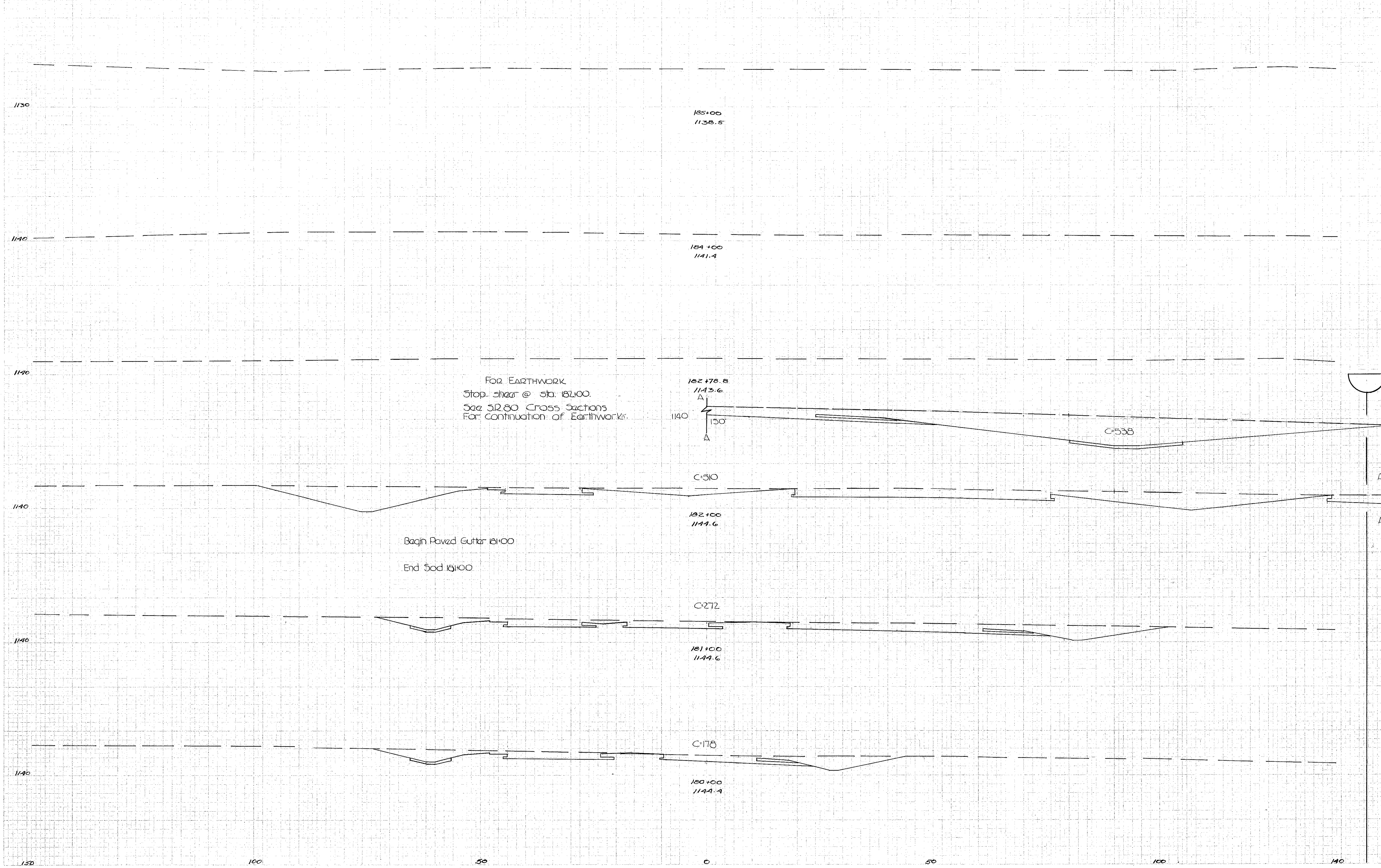
R.H.H. 4-56
H.L.S. + D.L.M. 5-14-56
M.S.B. 12-14-56
M.S.B. 12-14-56
R.W.C. 12-17-56

A-5

CROSS SECTIONS - STA 174+00 TO STA 179+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

POR-224-9.58



SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
310		1048	0		
	2356			2444	0
114		272	0		
	1150			833	0
93		178	0		
	911			489	6

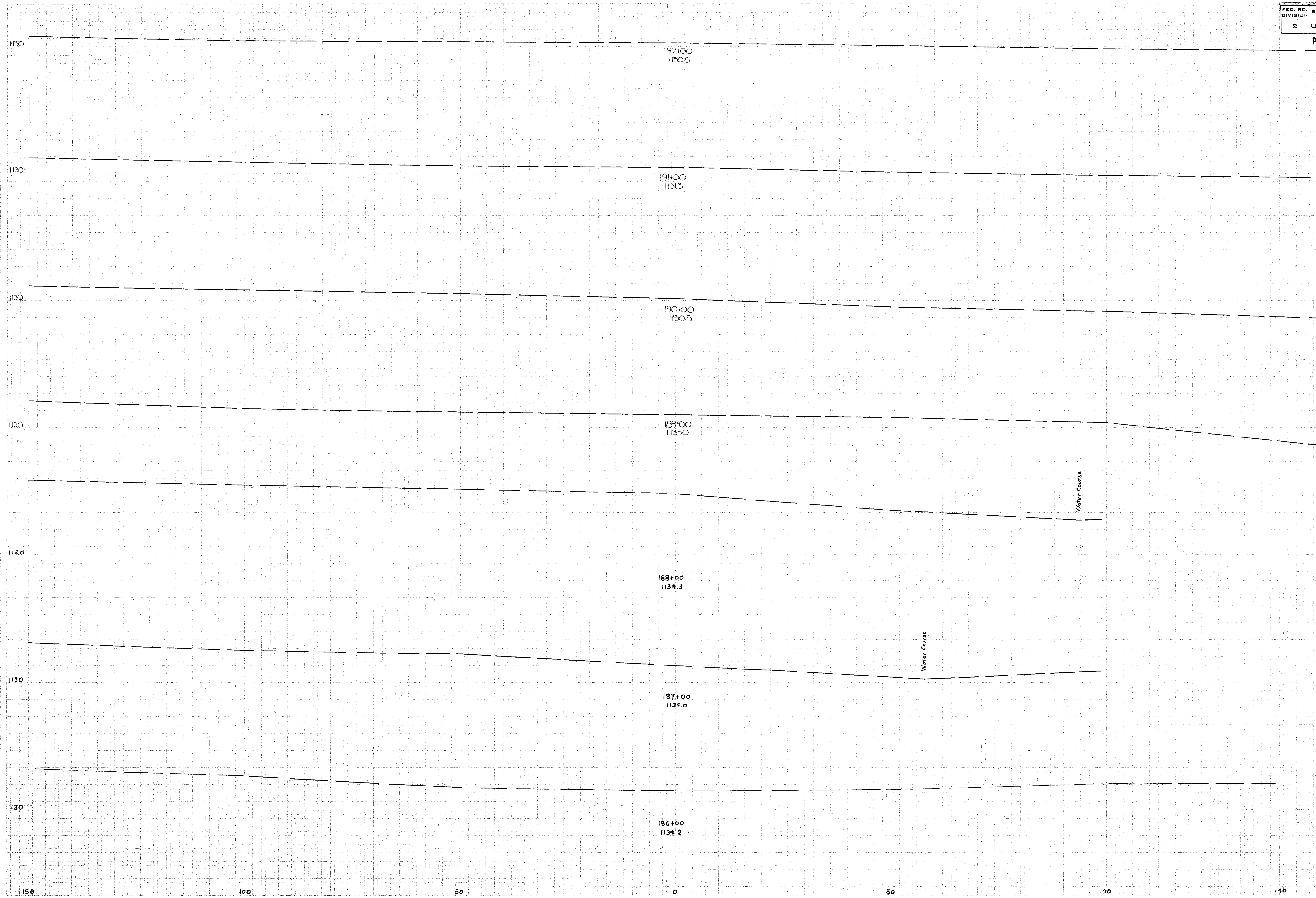
CROSS SECTIONS - STA 180+00 TO STA 185+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

69
105

POR-224-958

SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.



RHH
HLS + DLM.
4-54
5-14-56
A-5

CROSS SECTIONS - STA 186+00 TO STA 188+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
3	OHIO	F-330 (4)	

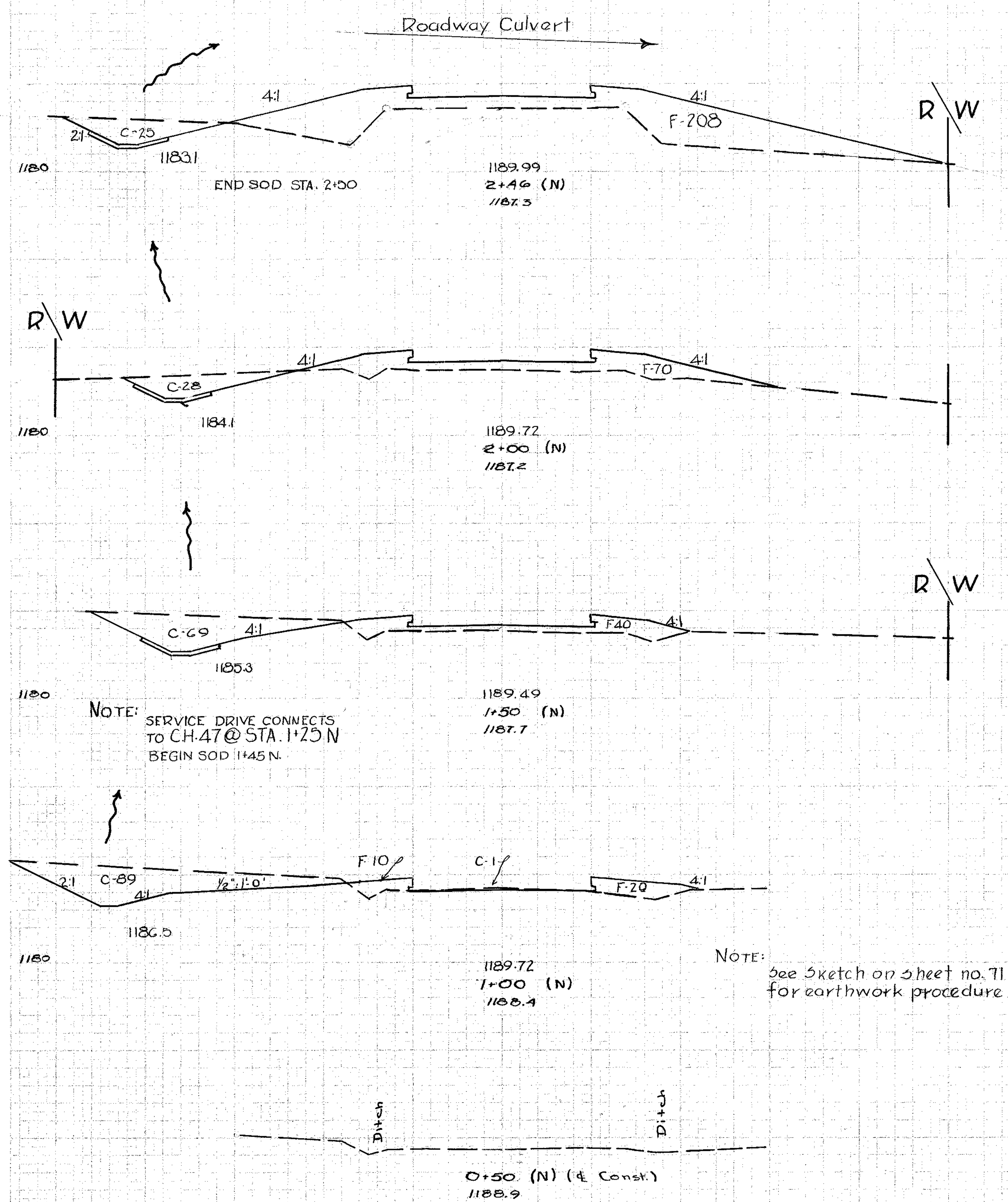
POR-224-9.58

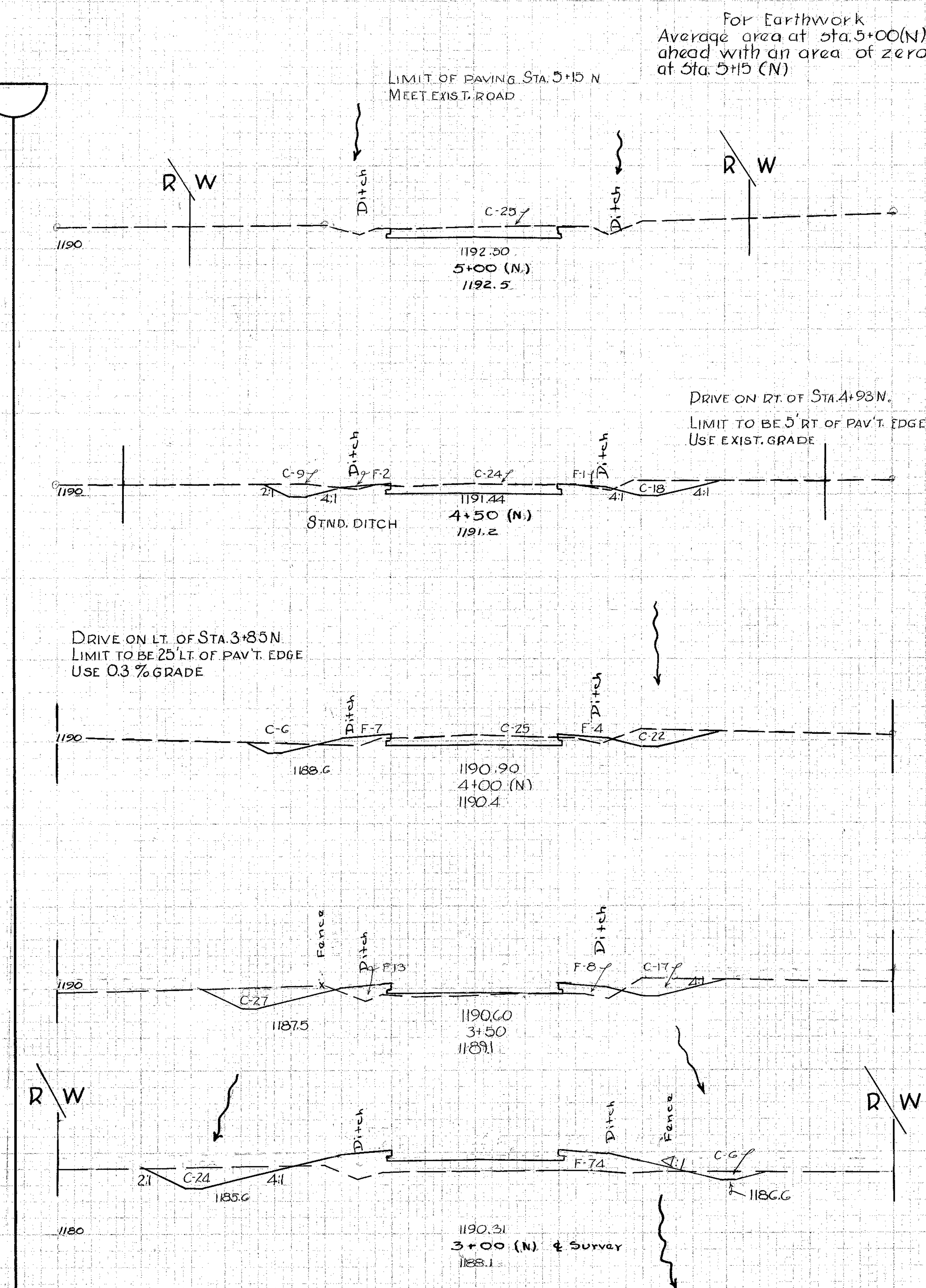
70/105

SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
93		25	208		
	429			45	237
75		28	70		
	403			90	102
70		69	40		
	608			215	95
80		90	30		

EXCAVATION 736 CY
EMBANKMENT 850 CY
SEEDING 3238 SY

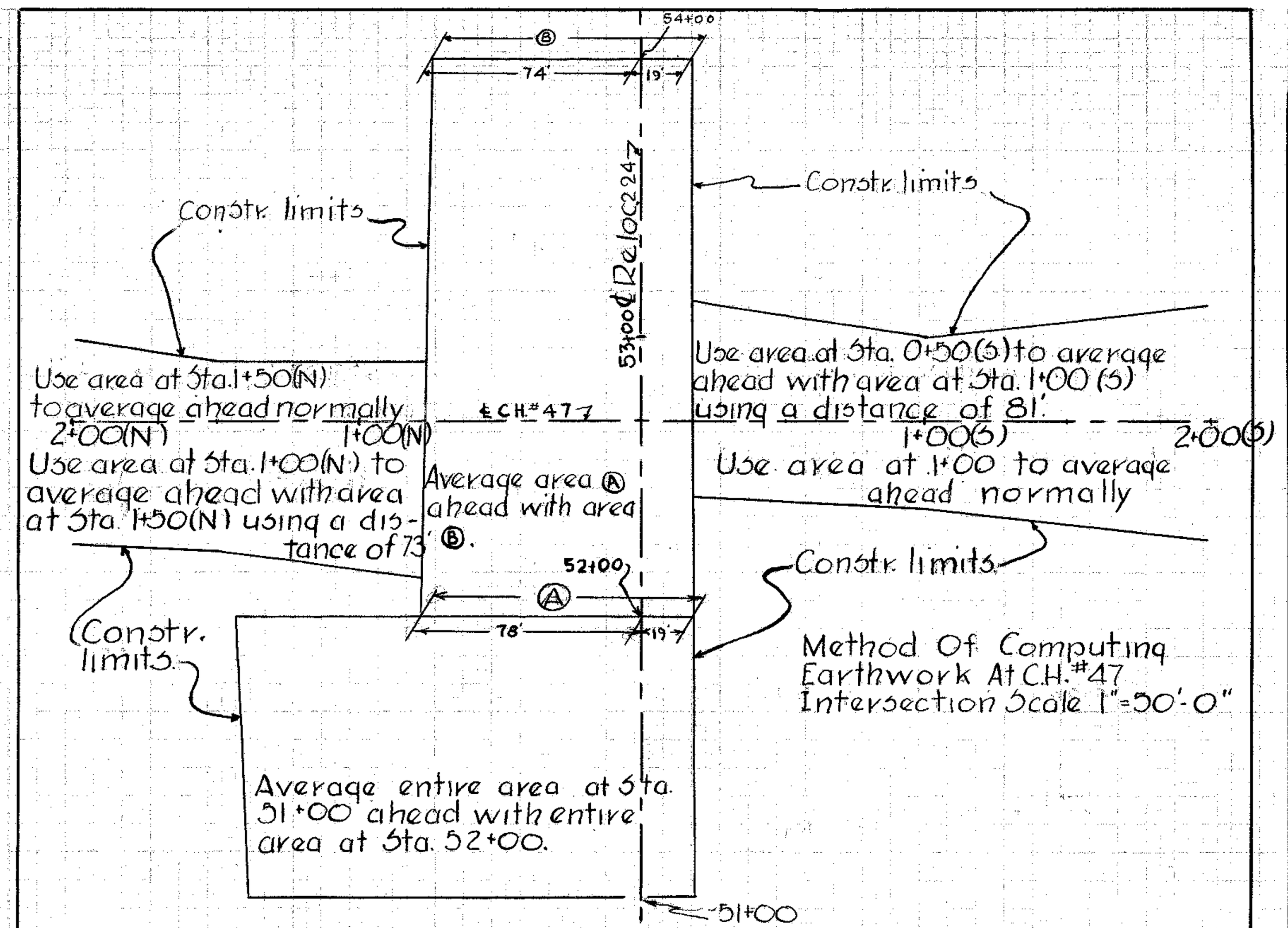
SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
0		0	0		
	18			7	0
22		25	0		
	217			70	3
56		51	3		
	317			96	13
58		53	11		
	342			90	30
65		44	21		
	394			68	88
77		30	74		
	510			55	282

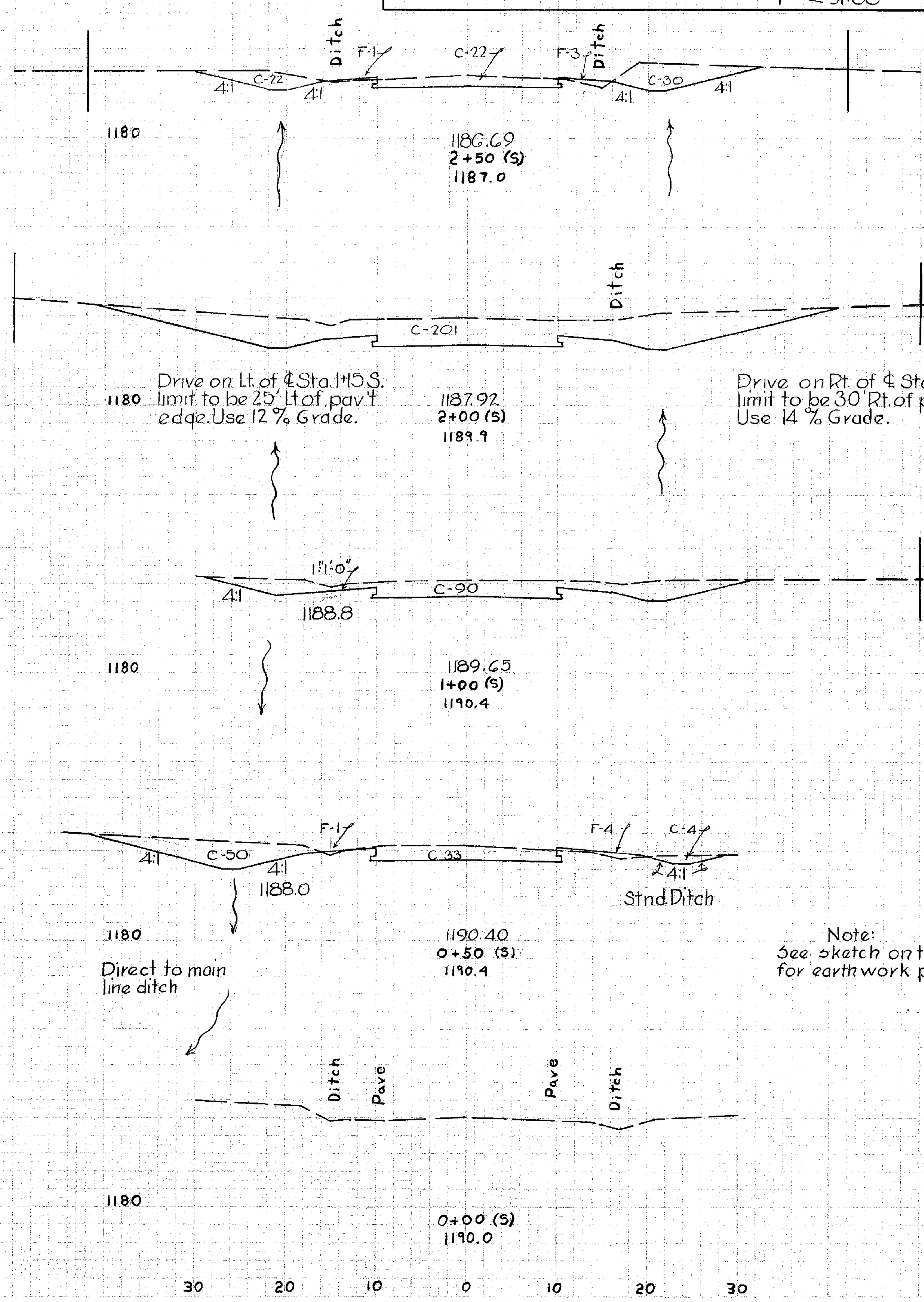




30 20 10 0 10 20 30

C.H. 47 CROSS SECTIONS - STA 0+50(N) TO STA 5+00 (N)

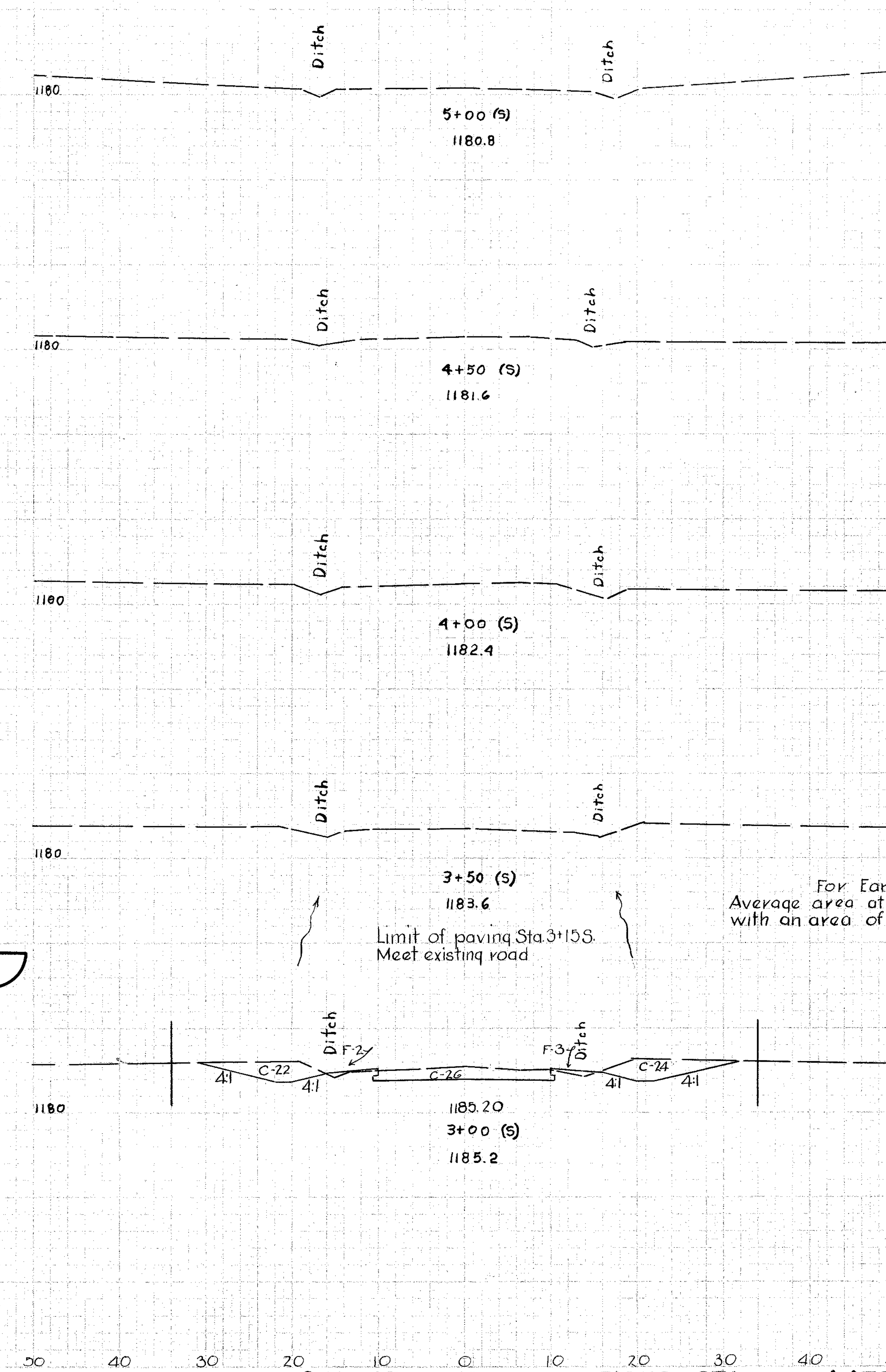




SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
64		74	4		
	406			255	4
82		201	0		
	800			539	0
62		90	0		
	201			266	8
72		87	5		

EXCAVATION 1215 CY
EMBANKMENT 21 CY
SEEDING 1762 SY

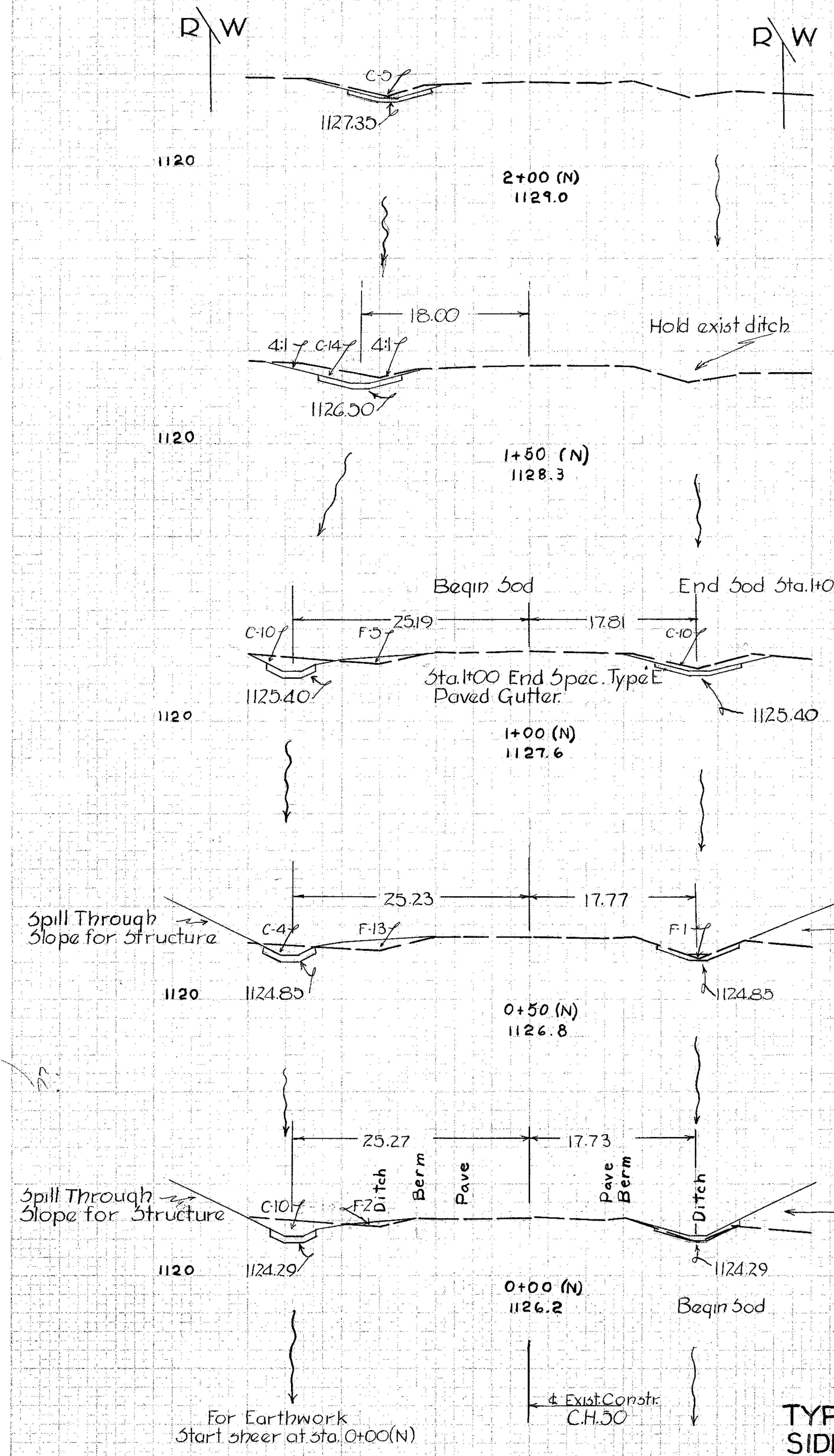
SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
0		0	0		
	41			20	1
49		72	5		
	314			135	8

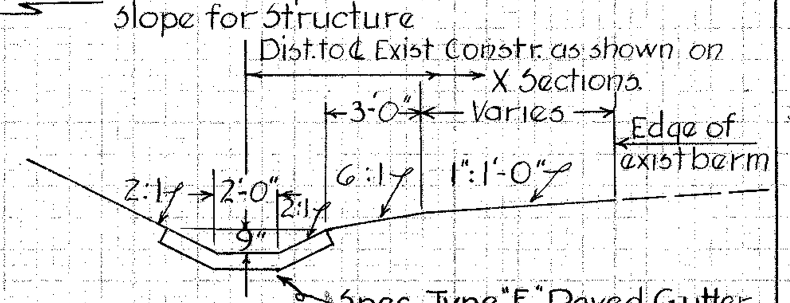


For Earthwork
Average area at Sta 3+00(S) ahead with an area of zero at Sta 3+15 (S)

C.H. 47 CROSS SECTIONS - STA 0+00(S) TO STA 5+00(S)

For Earthwork
Average area @ Sta. 2+50(N) ahead with an area of zero using a distance of 50'.

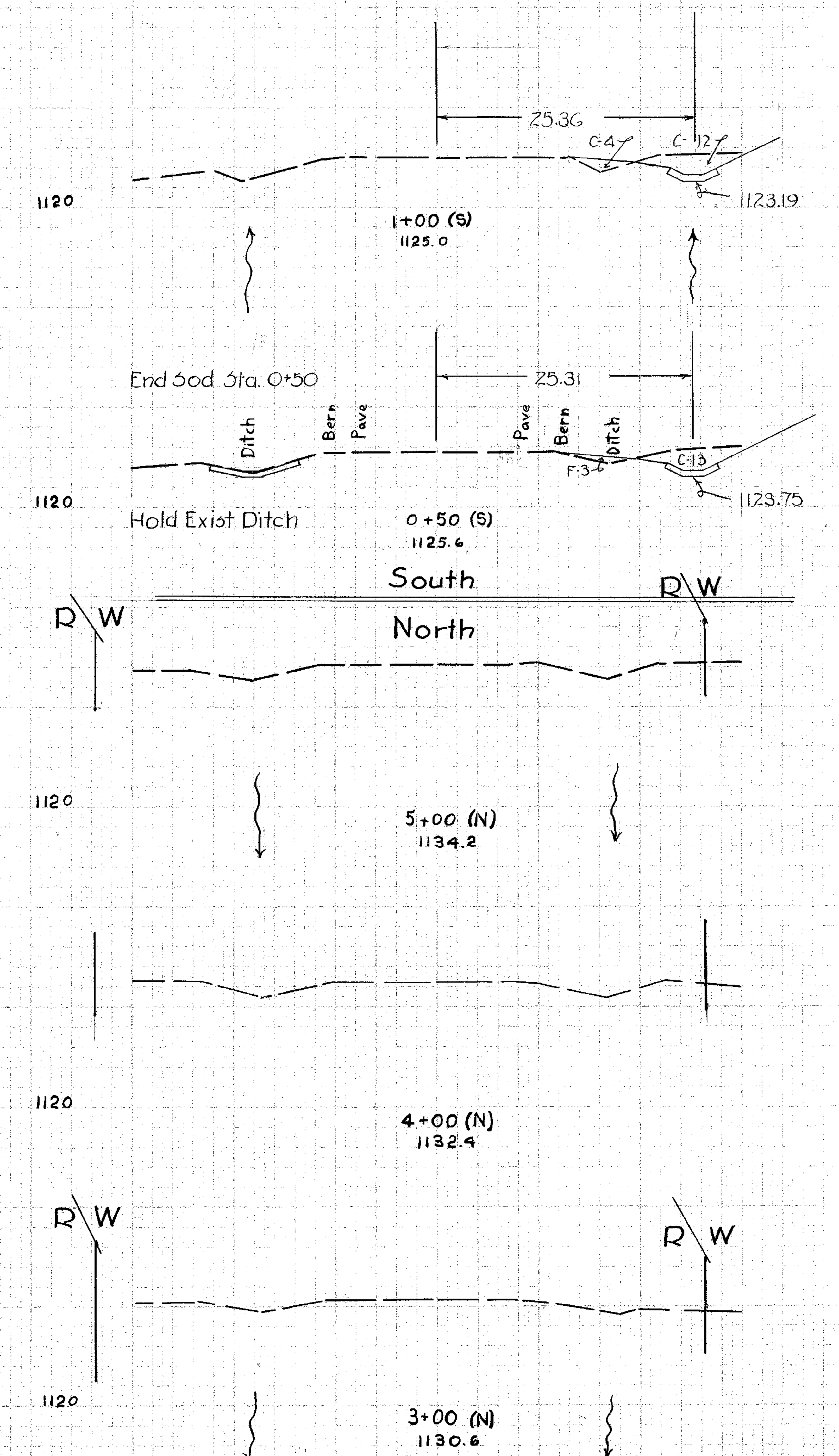




TYPICAL DITCH SECTION FOR WEST SIDE OF C.H.50 STA.1+00(N) TO STA.4+00(S)

SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.	SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
0		0	0								
	69			4	0						
25		5	0			28		12	4		
	144			18	0		161			23	6
27		14	0			30		13	3		
							228			21	4
	228			31	9						
55		20	5								
	286			22	8						
48		4	14								
	278			13	15						
52		10	2								

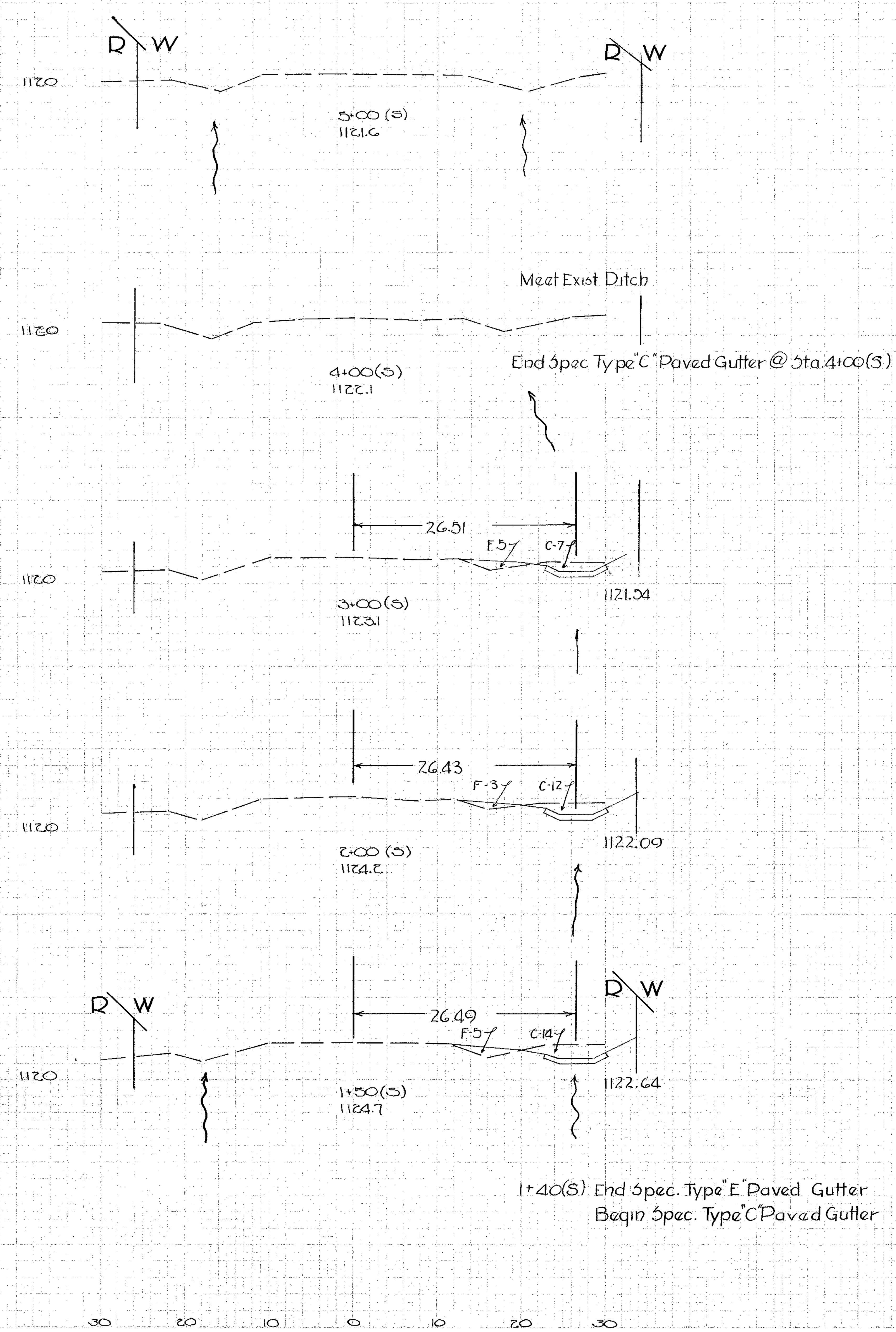
EXCAVATION 86 CY
EMBANKMENT 32 CY
SEEDING 1005 SY



For Earthwork
Average Area at Sta. 0+50(S)
Back with area at Sta. 0+00(N)

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	F-330(4)		73 / 105

POR-224-9.58



SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.	SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
0		0	0								
	117			13	9						
21		7	5								
	239			35	15						
22		12	3								
	122			24	7						
22		14	5								
	139			24	8						

EXCAVATION 140 CY
EMBANKMENT 49 CY
SEEDING 1006 SY

R.H.H. 4-56
H.L.S. & D.L.M. 5-15-56
R.N.B. 1-7-57
M.S.B. 1-7-57
D.L.R.

A-5

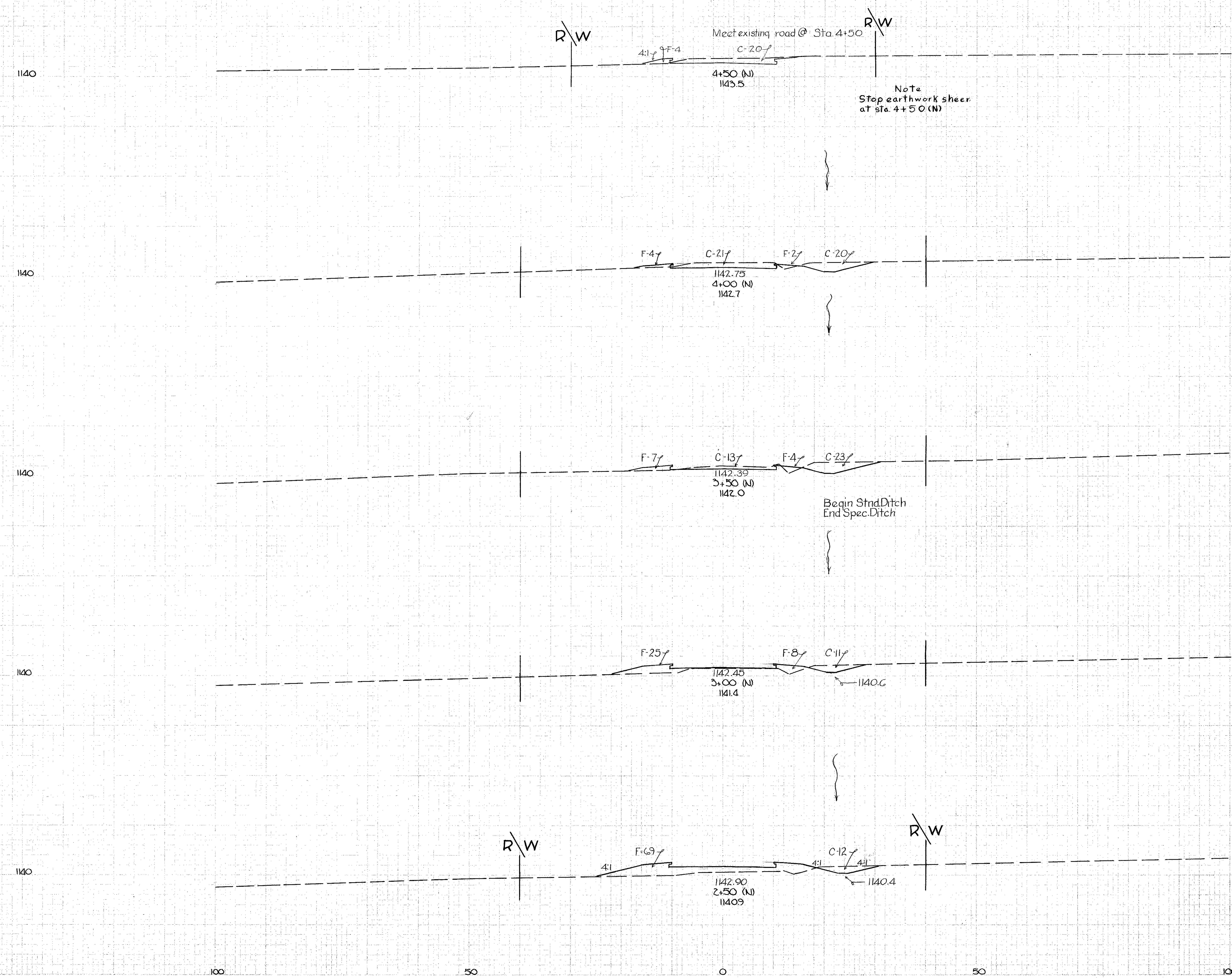
C.H.50 **CROSS SECTIONS - STA** 1+50(S) **TO STA** 5+00 (S)

SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
62		13	118		
	356			19	251
66		7	153		
	392			18	290
75		12	160		
	446			54	437
71		41	264		

T.H. #43 BANK STREET CROSS SECTIONS - STA 0+00(N) TO STA 2+00(N)

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330 (4)		75 / 105

POR-224-9.58



SEEDING		END AREA		CU. YDS.	
L.F.	S.Y.	CUT	FILL	EXC.	EMB.
30		20	4		
	217			56	9
48		41	6		
	272			71	16
50		36	11		
	281			44	41
51		11	33		
	294			21	94
55		12	69		
	325			23	173

EXCAVATION 306 C.Y.
EMBANKMENT 1306 C.Y.
SEEDING 2583 S.Y.

M.M. 4-56
T.M.D. & M.S.B. 7-24-56
R.F.G. 12-5-56
M.S.B. 12-10-56
R.W.C. 12-11-56

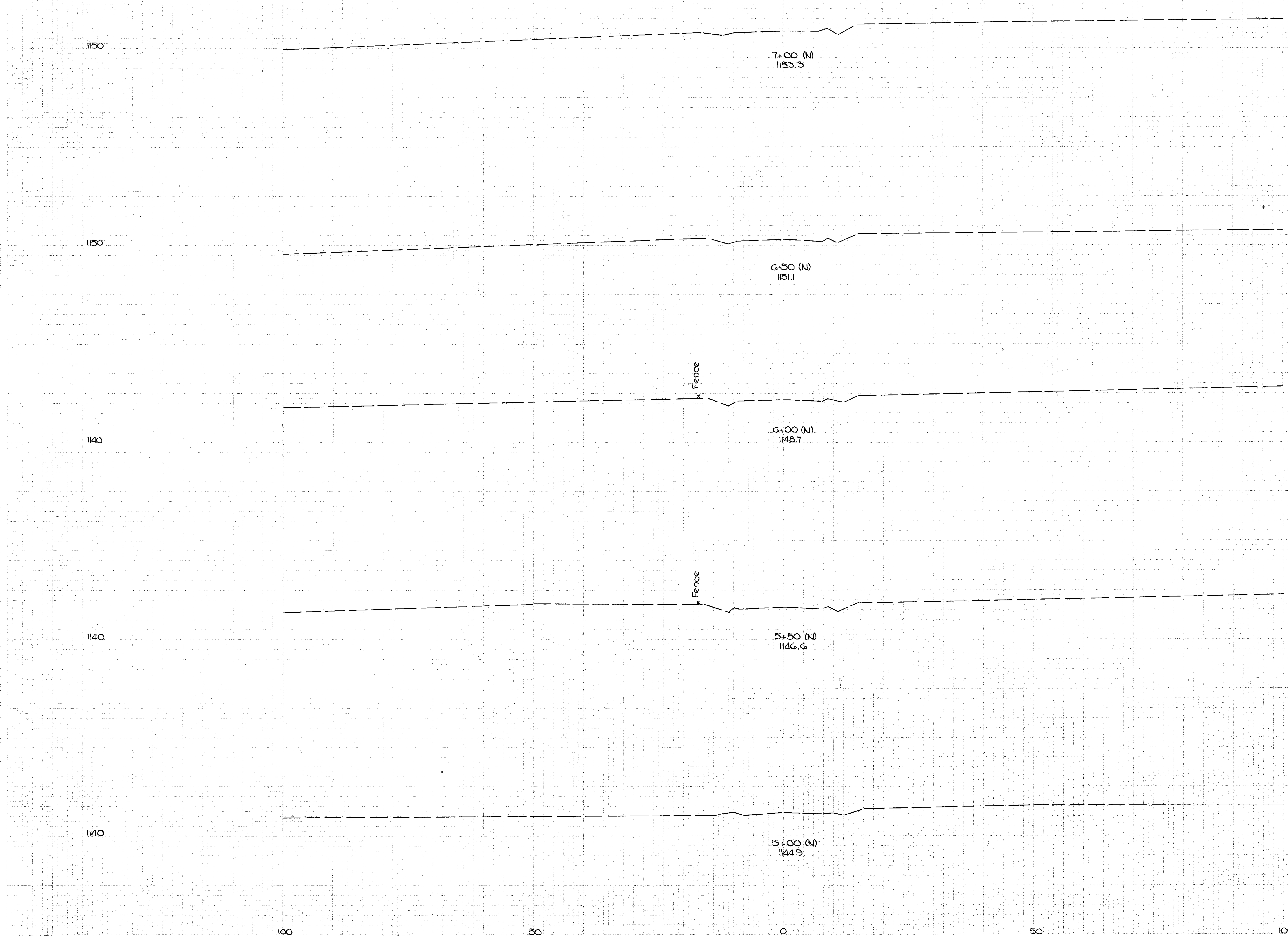
ZA-4

TH#43 BANK ST. **CROSS SECTIONS - STA 2+50(N) TO STA 4+50(N)**

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330 (4)	

POR-224-9.58

SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.



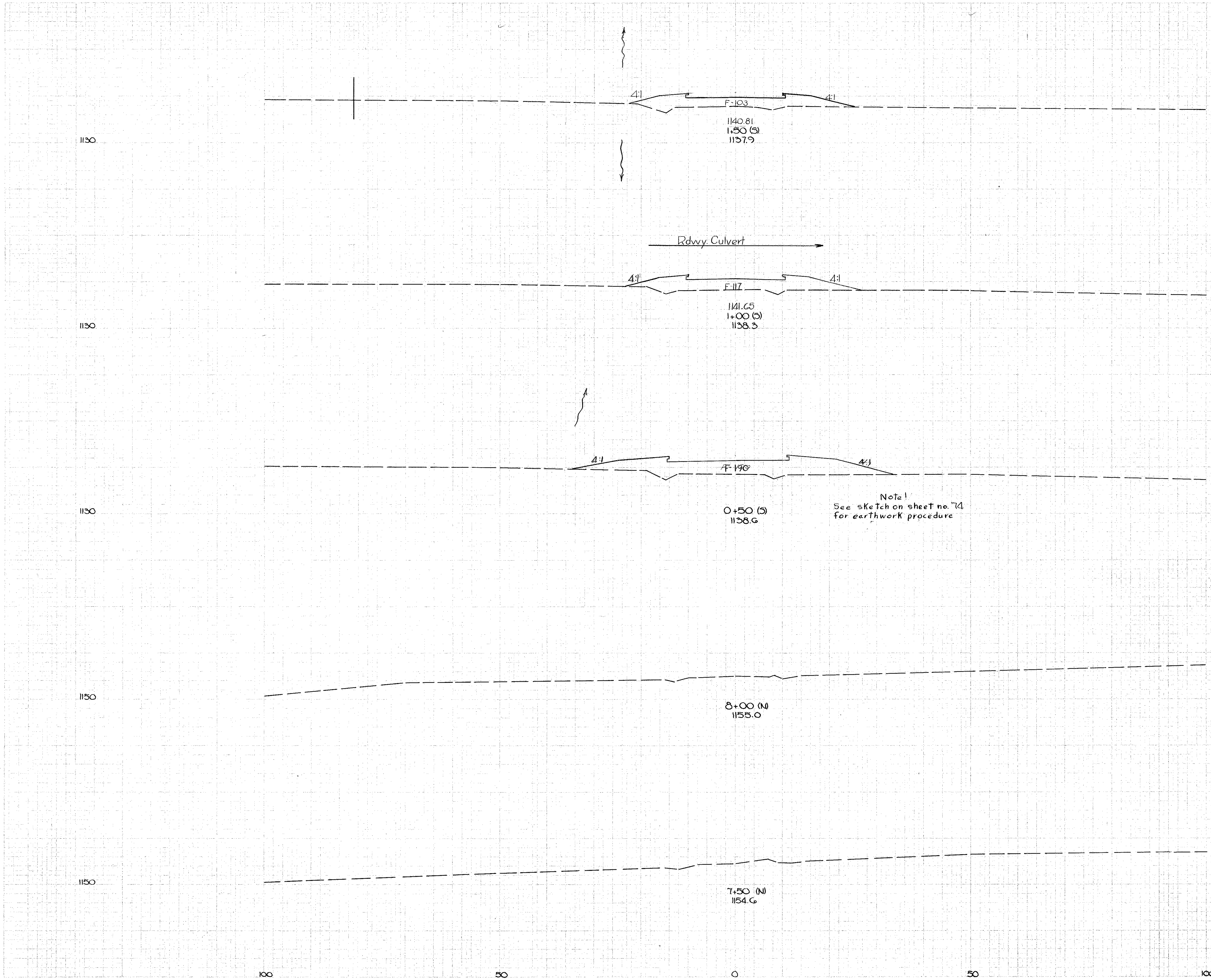
M.M.
T.M.D & M.S.B.
4-'56
7-24-56
RA-4

T.H.#43 BANK ST. **CROSS SECTIONS - STA 5+00(N) TO STA 7+00(N)**

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330 (4)	

77/105

POR-224-9.58



SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
48		0	103		
	275			0	204
51		0	117		
	387			0	341
65		0	190		

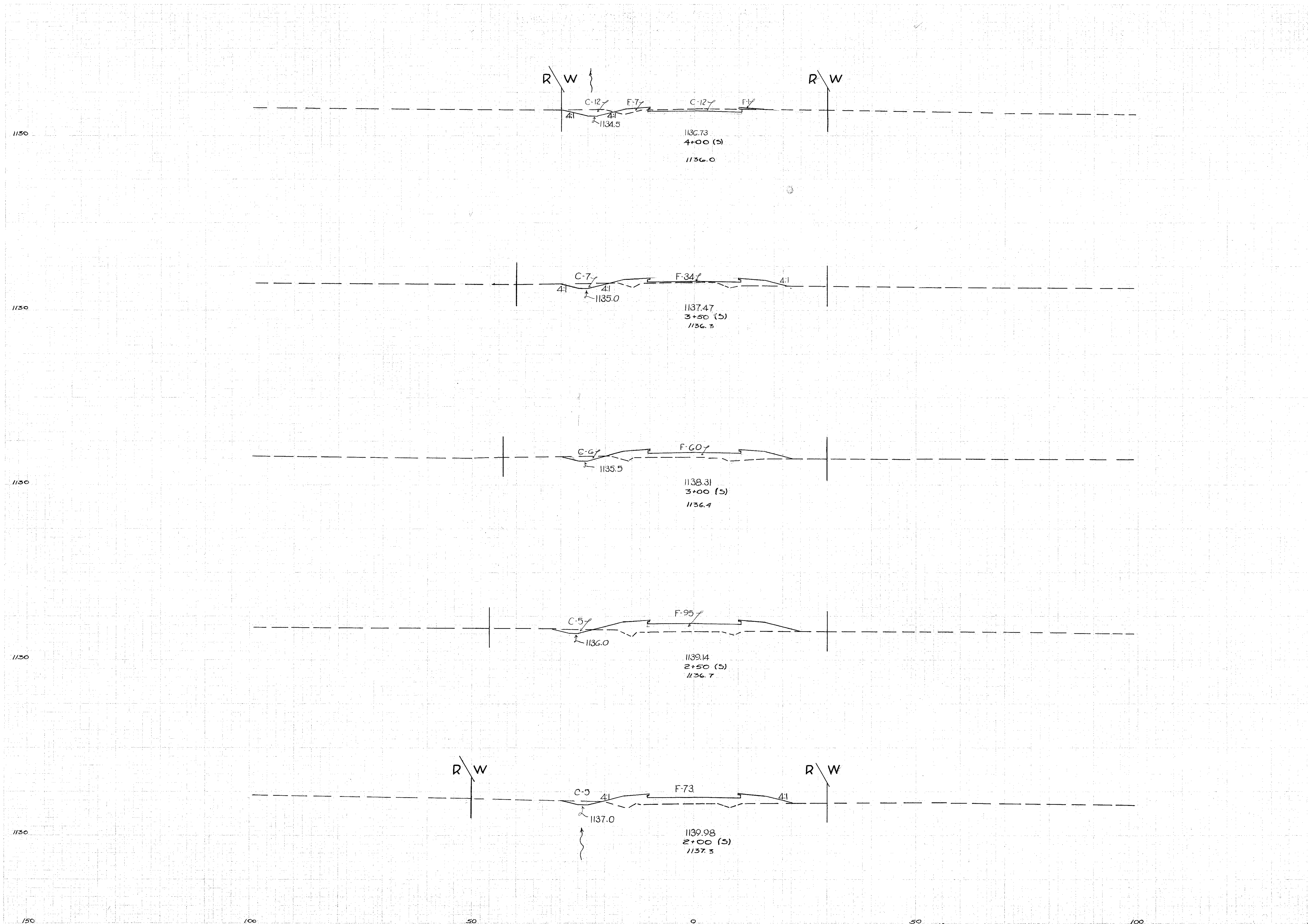
M.M.
T.M.D. ¢ M.S.B. 4 56
R.F.G. 7-24-56
M.S.B. 12-5-56
R.W.C. 12-11-56
12-11-56

RA-4

T.H.#43 BANK ST. CROSS SECTIONS - STA 7+50 (N) TO STA 1+50 (S)

FED. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	F-330 (4)		78 / 105

POR-224-9.58



EXCAVATION 134 C.Y.
EMBANKMENT 1166 C.Y.
SEEDING 2436 S.Y.

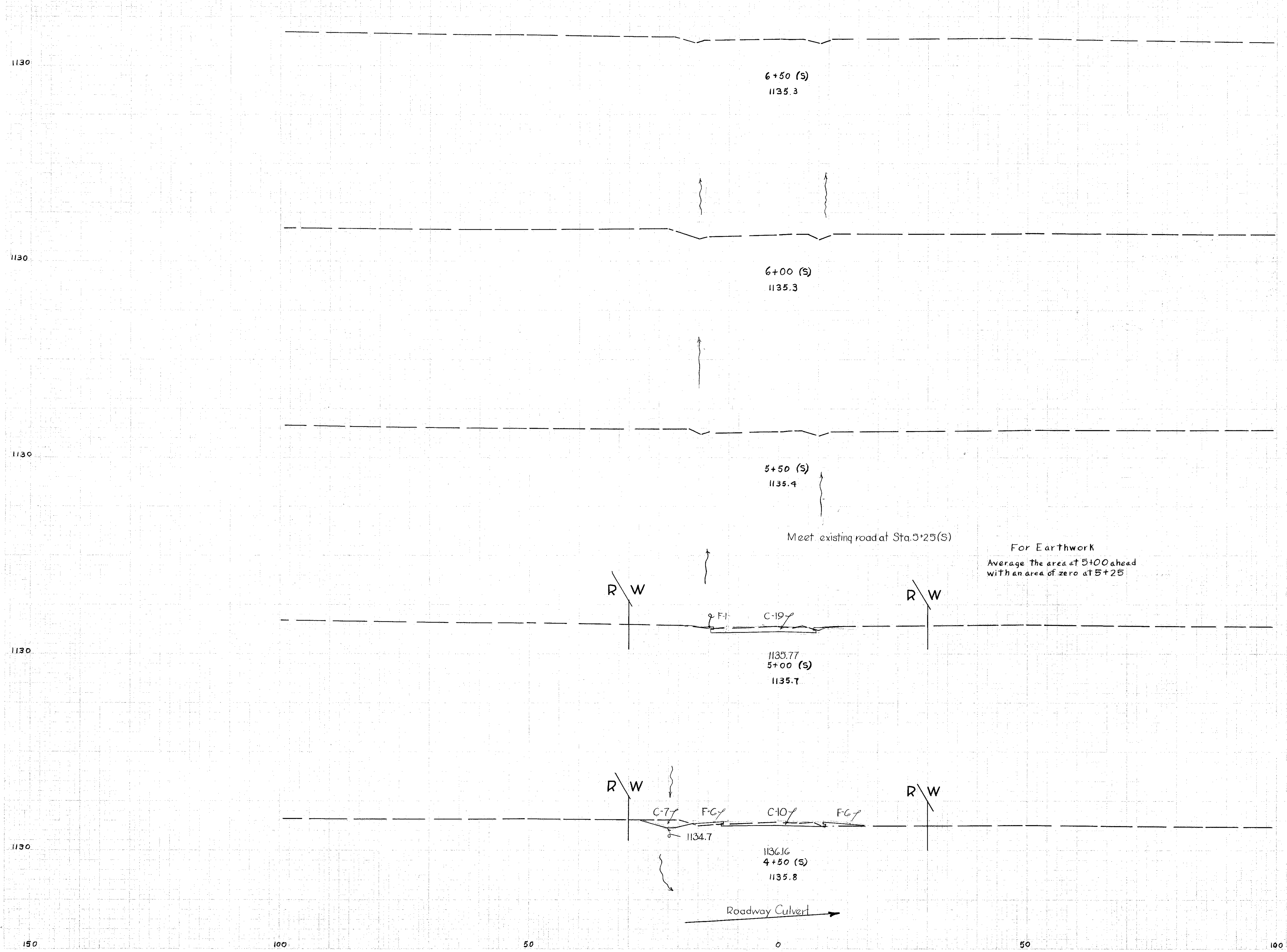
SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
36		24	8		
	239			29	39
50		7	34		
	281			12	87
51		6	60		
	289			10	144
53		5	95		
	289			9	156
51		5	73		
	275			5	163

T.H.#43 BANK ST.

CROSS SECTIONS - STA 2+00(S) TO STA 4+00(S)

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
8	OHIO	F-330(4)		79 / 105

POR-224-9.58



SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.
0		0	0		
	35			18	1
25		19	1		
	178			33	12
39		17	12		
	208			38	19

A-4

M.M. / T.M.O. + M.S.B. / R.F.G. / M.S.B. / R.W.C.

4-56 / 7-25-56 / 12-5-56 / 12-11-56 / 12-11-56

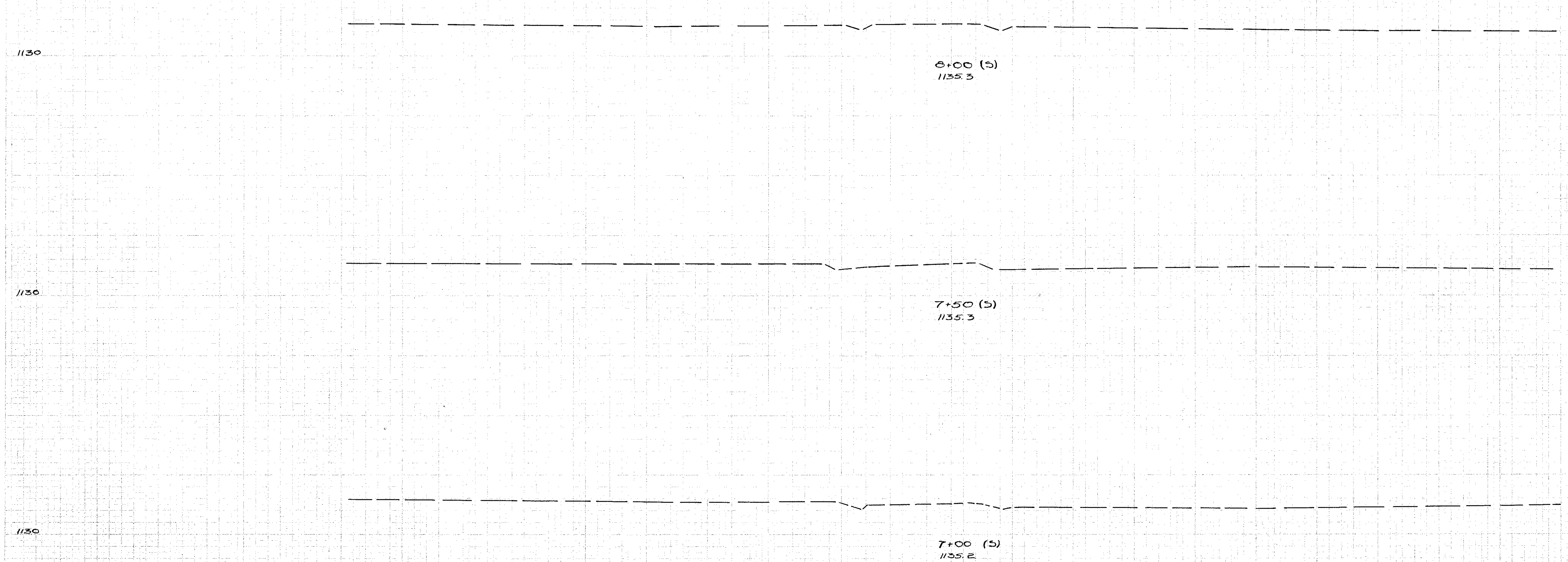
T.H. #43 BANK STREET CROSS SECTIONS - STA 4+50(S) TO STA 6+50 (S)

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330 (4)	

POR-224-9.58

SEEDING		END AREA		CU. YDS.	
LF.	SY.	CUT	FILL	EXC.	EMB.

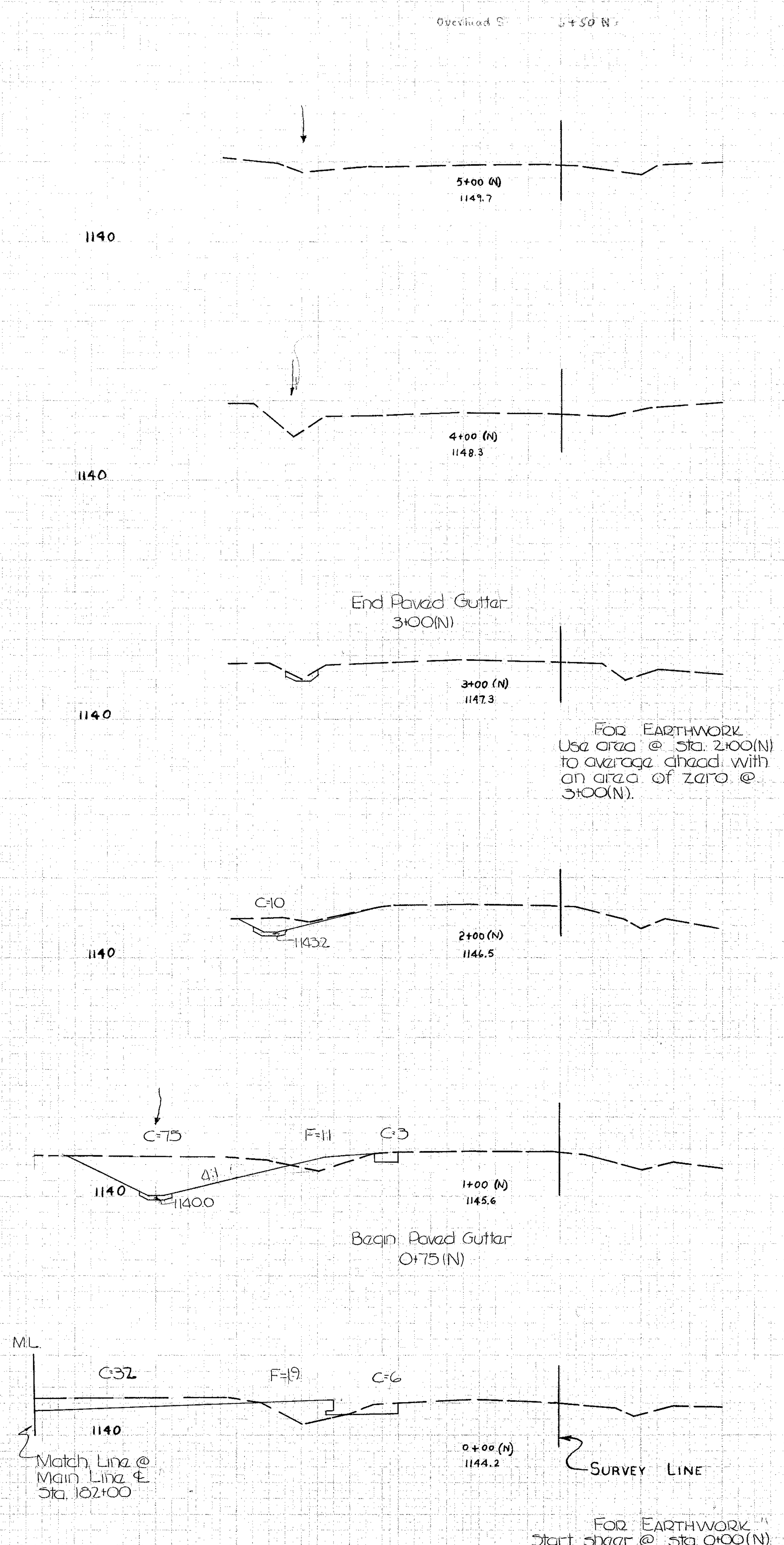
M.M. 4-56
T.M.D. & M.S.B. 7-25-56
RA-4



T.H.#43 BANK ST. CROSS SECTIONS - STA 7+00(S) TO STA 8+00(S)

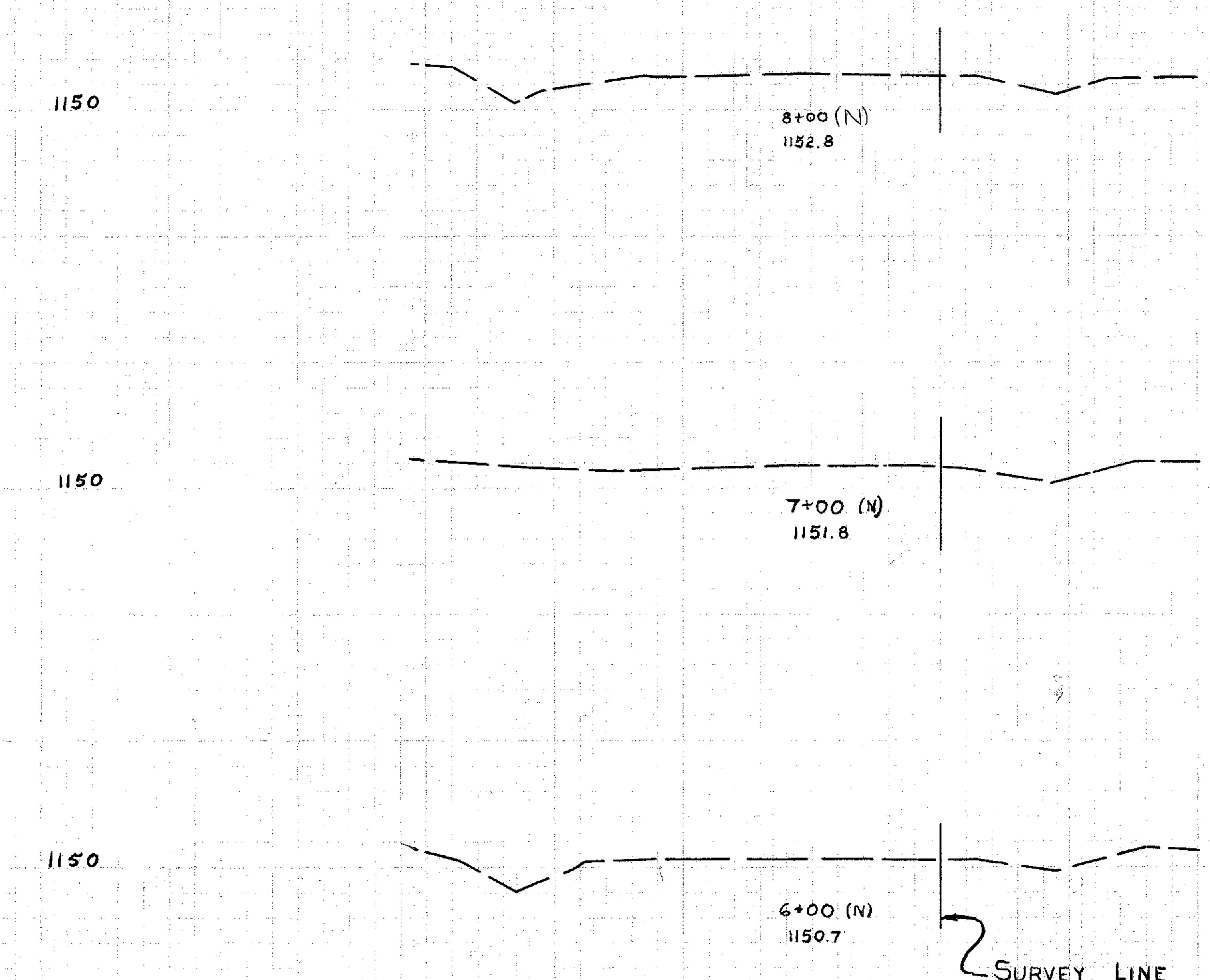
FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	F-330(4)		81 / 105

POR-224- 9.58



SEEDING L.F.	SEEDING S.Y.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.	SEEDING L.F.	SEEDING S.Y.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
0		0	0								
	150			19	0						
27		10	0								
	428			163	20						
50		78	11								
	483			215	56						
37		38	19								

EXCAVATION 397 C.Y.
EMBANKMENT 76 C.Y.
SEEDING 1061 S.Y.



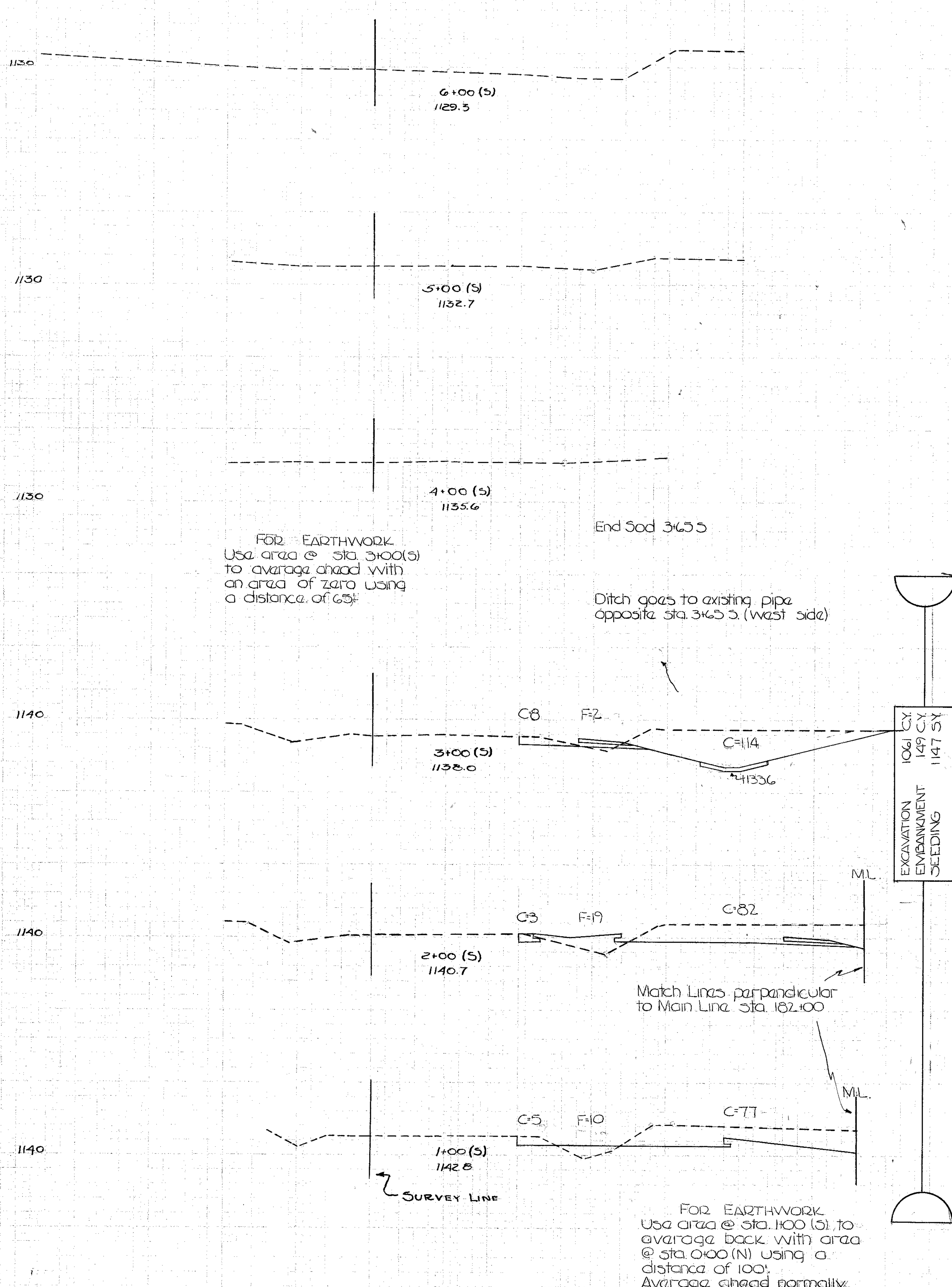
R.H.H. 4-1-56
C.R.I. - J.M.D. 1-1-56
D.L.M. 2-1-57
J.F.W. 2-5-57

A-5

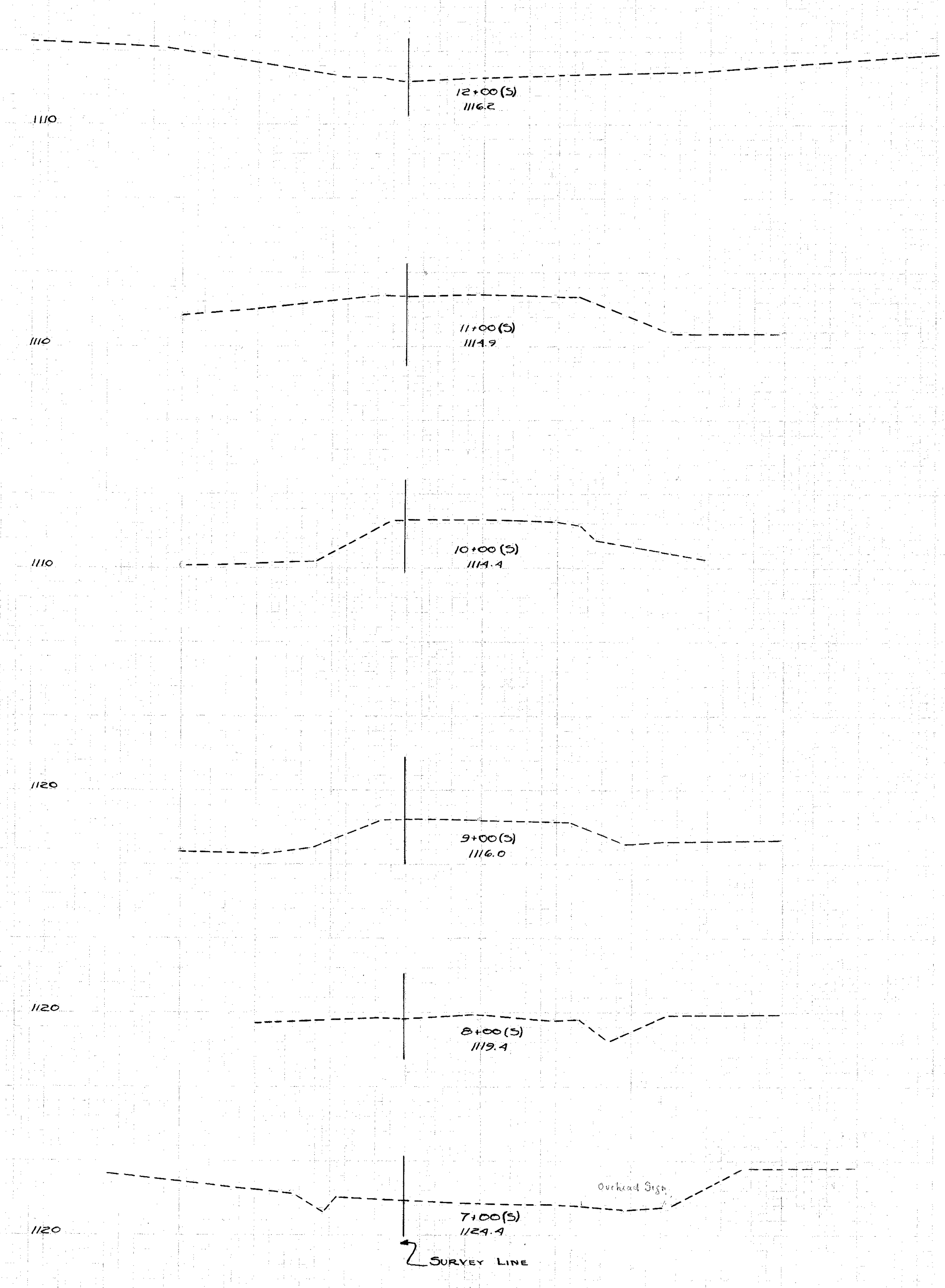
S.R. 80 CROSS SECTIONS - STA 0+00(N) TO STA 8+00 (N)

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330(4)		82/105

POR-224-9.58



SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.	SEEDING LF.	SEEDING SY.	END AREA CUT	END AREA FILL	CU. YDS. EXC.	CU. YDS. EMB.
0		0	0								
	191			147	2						
53		122	2								
	422			383	39						
23		85	19								
	228			309	54						
18		82	10								
	306			222	54						



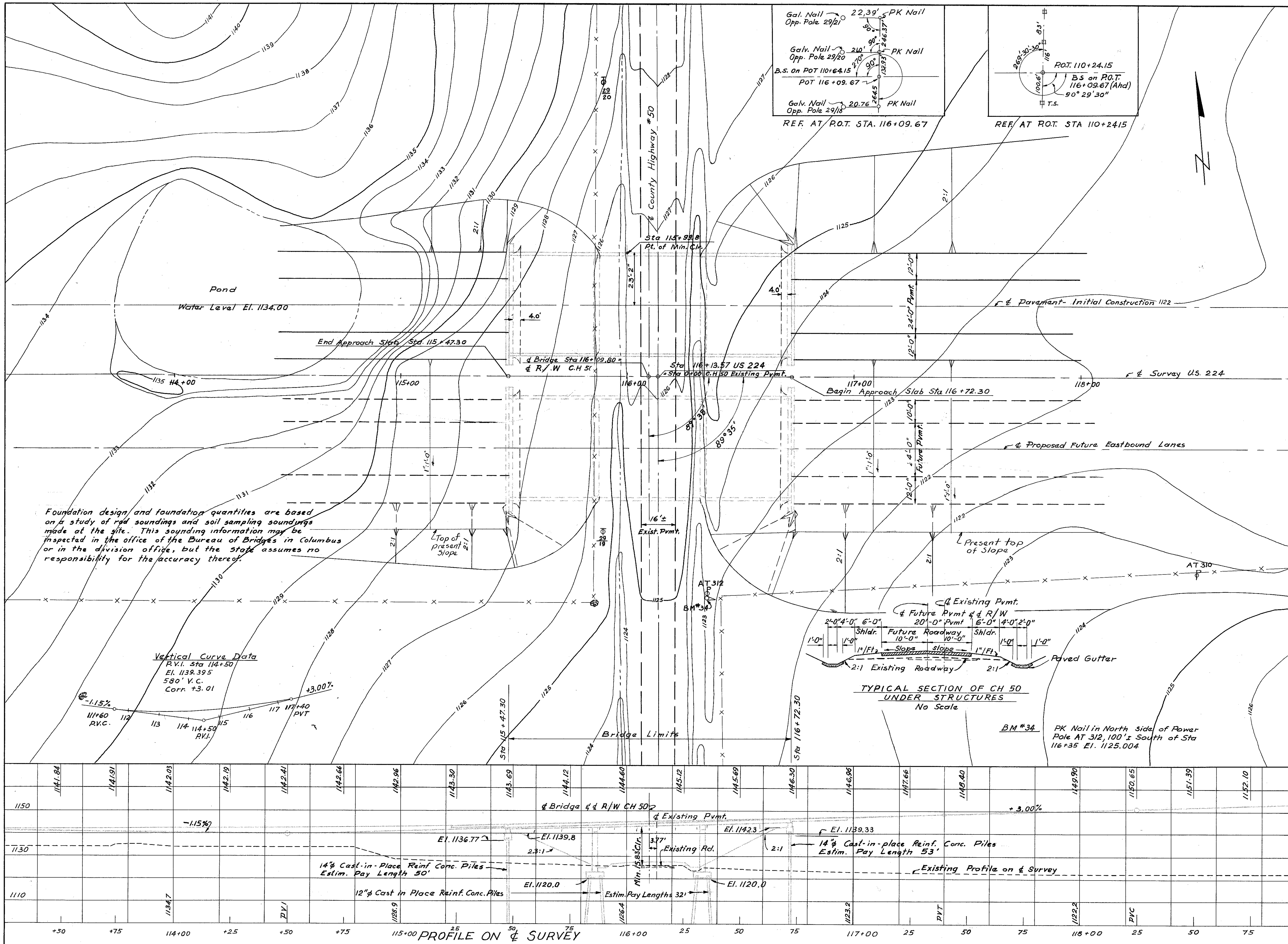
R.H.H. 4-3-56
C.R.L. 1-11-56
D.L.M. 1-31-56
D.L.M. 2-1-57
J.F.W. 2-4-57
A-5

S.R. 80 CROSS SECTIONS - STA 1+00(S) TO STA 12+00(S)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-330(4)	

83
105

SEC. POR.- 224-9.58



PROPOSED STRUCTURE

TYPE: Three Span Continuous Slab Bridge with Concrete Substructure.
SPANS: 38'-47.5'-38' c/c Bearings
ROADWAY: 44'-0" f/f of Parapet Walls
LOAD FREQ.: CF = 2000(51)
SKEW: None
WEARING SURFACE: 1" Monolithic
APPROACH SLABS: AS-1-54 (25'-0" Lg)
ALIGNMENT: Tangent

Foundation design and foundation quantities are based on a study of rod soundings 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 the division office, but the State assumes no responsibility for the accuracy thereof.

AURILIO, PACE AND BALLARD
CONSULTING ENGINEERS

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

SITE PLAN

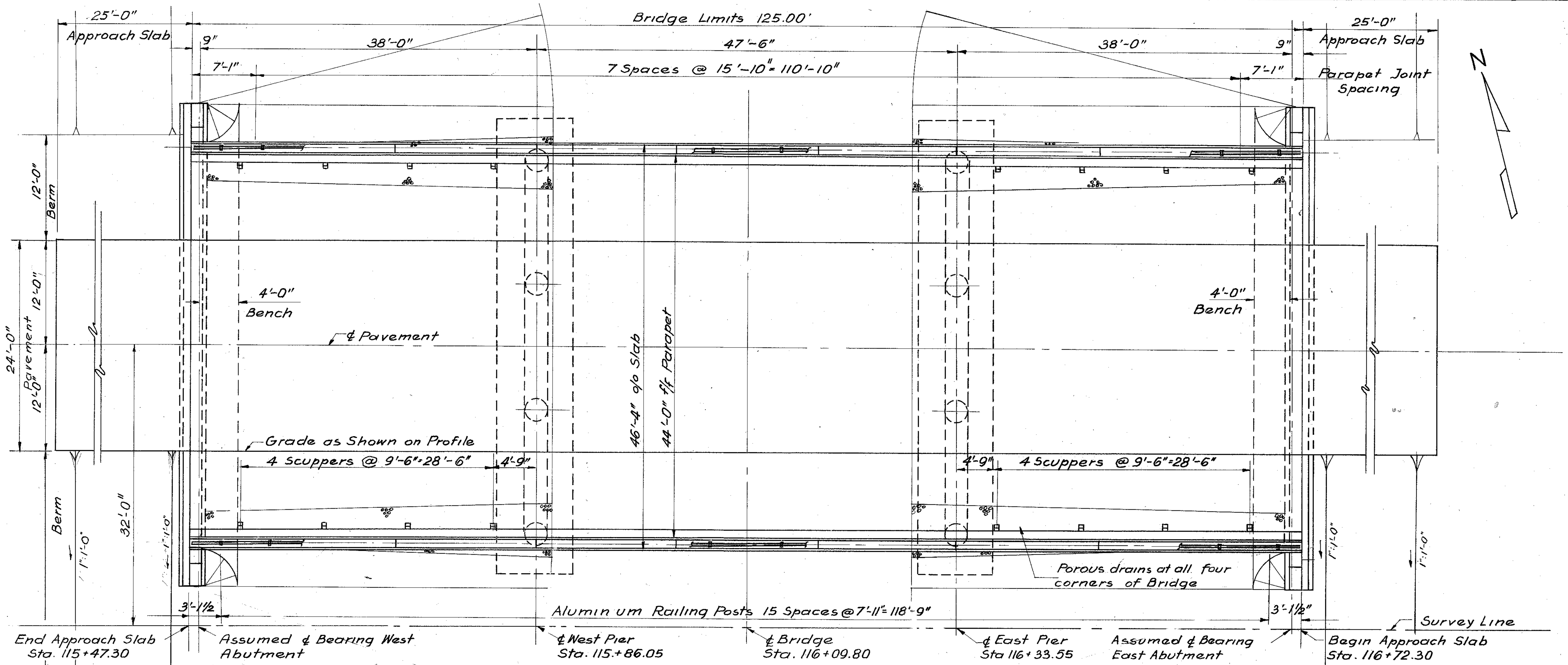
BRIDGE NO. POR-224-1172 OVER C.H. 50
PORTAGE CO. USR 224
STA. 115+47.30
SCALE 1"=20' STA. 116+72.30

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
A.S.A	R.N.B.	R.P.	W.S.	E.F.N.	R.R. 4/25/67

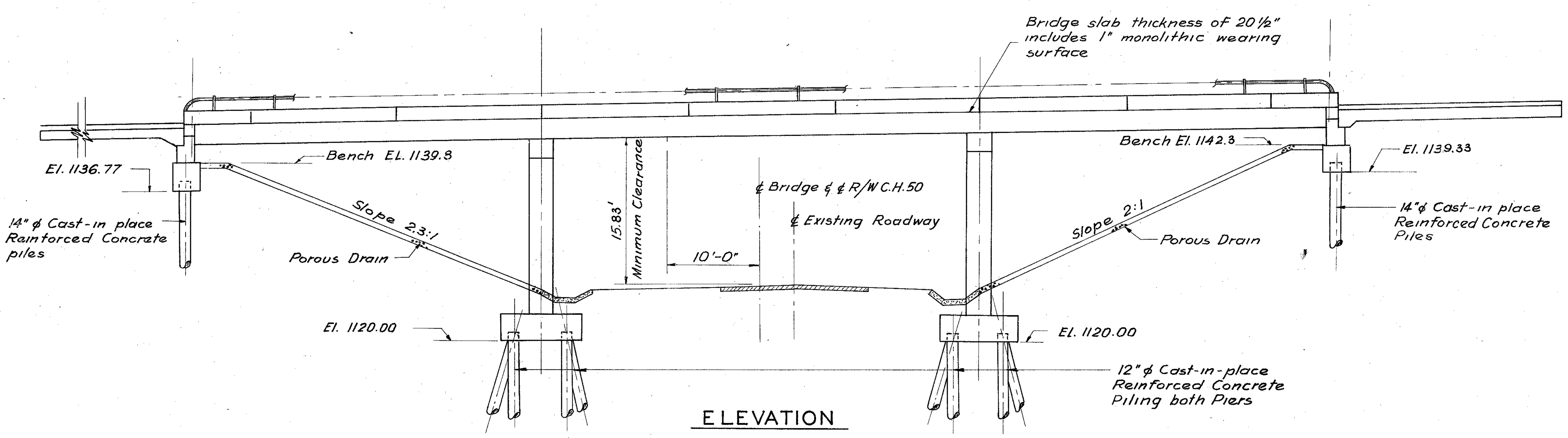
S-1

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	F-330(4)

SEC.POR. 224-9.58



PLAN



ELEVATION

GENERAL NOTES

DESIGN SPECIFICATIONS: This bridge conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio Department of Highways, dated Oct. 1. 1951, together with revisions thereof dated July 15, 1952 and April 1, 1954.

REFERENCE shall be made to Supplemental Specification S-114 dated 8-30-55

PILING shall be driven to a minimum bearing capacity of 35 Tons per pile. Piles shall be 12" ϕ & 14" ϕ diameter cast-in-place reinforced concrete.

POROUS DRAINS, extending from the face of abutment to toe of slope shall be placed on and flush with embankment slopes at all four corners of the bridge. The drains shall be 6 ft. wide at the low end, tapering to 4 ft. wide at face of the abutment, and one foot thick.

FILL MATERIAL will be placed for the proposed future eastbound lanes at this time in accordance with the roadway plans and cross sections.

MAINTAINING TRAFFIC: The Contractor shall provide platforms, nets or other suitable devices to safeguard the traveling public on County Highway No. 50. (See Traffic Note on page 6)

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Superstr.	Abut.	Piers	General	As Built	
E2	277	Cu.Yd.	Unclassified Excavation	—	63	214	—		
S1	377	Cu.Yd.	Class "C" Concrete, superstructure	377	—	—	—		
S1	47	Cu.Yd.	Class "C" Concrete, pier caps and columns	—	—	47	—		
S1	55	Cu.Yd.	Class "E" Concrete abutments	—	55	—	—		
S1	99	Cu.Yd.	Class "E" Concrete, pier footings	—	—	99	—		
S4	109,037	Lb.	Reinforcing Steel	85,249	6242	17,546	—		
S29	16	Ea.	Scuppers (Structural steel)	16	—	—	—		
S14	250	Lin.ft.	Railing (Aluminum Rail & Supports & Conc. Parap.)	250	—	—	—		
S16	Lump	Sum	First Test Pile	—	—	—	Lump.		
S18	1112 ~~1320~~	Lin.ft.	Piling 12" Cast-in-place reinforced concrete	—	—	~~1320~~	—	C-7, -208'	1112
S18	618 ~~746~~	Lin.ft.	Piling 14" Cast-in-place reinforced concrete	—	~~740~~	—	—	C-7, -128	618
S29	30	Cu.Yd.	Porous drains on embankment slopes	—	—	—	~~30~~		
S29	19 ~~30~~	Cu.Yd.	Porous Backfill	—	~~30~~	—	—	C-7, -11	19

AURILIO, PACE AND BALLARD
CONSULTING ENGINEERS

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

GENERAL PLAN

BRIDGE NO POR-224-1172 OVER C.H.50
PORTAGE CO. USR 224
STA. 115 + 47.30
SCALE STA. 116 + 72.30

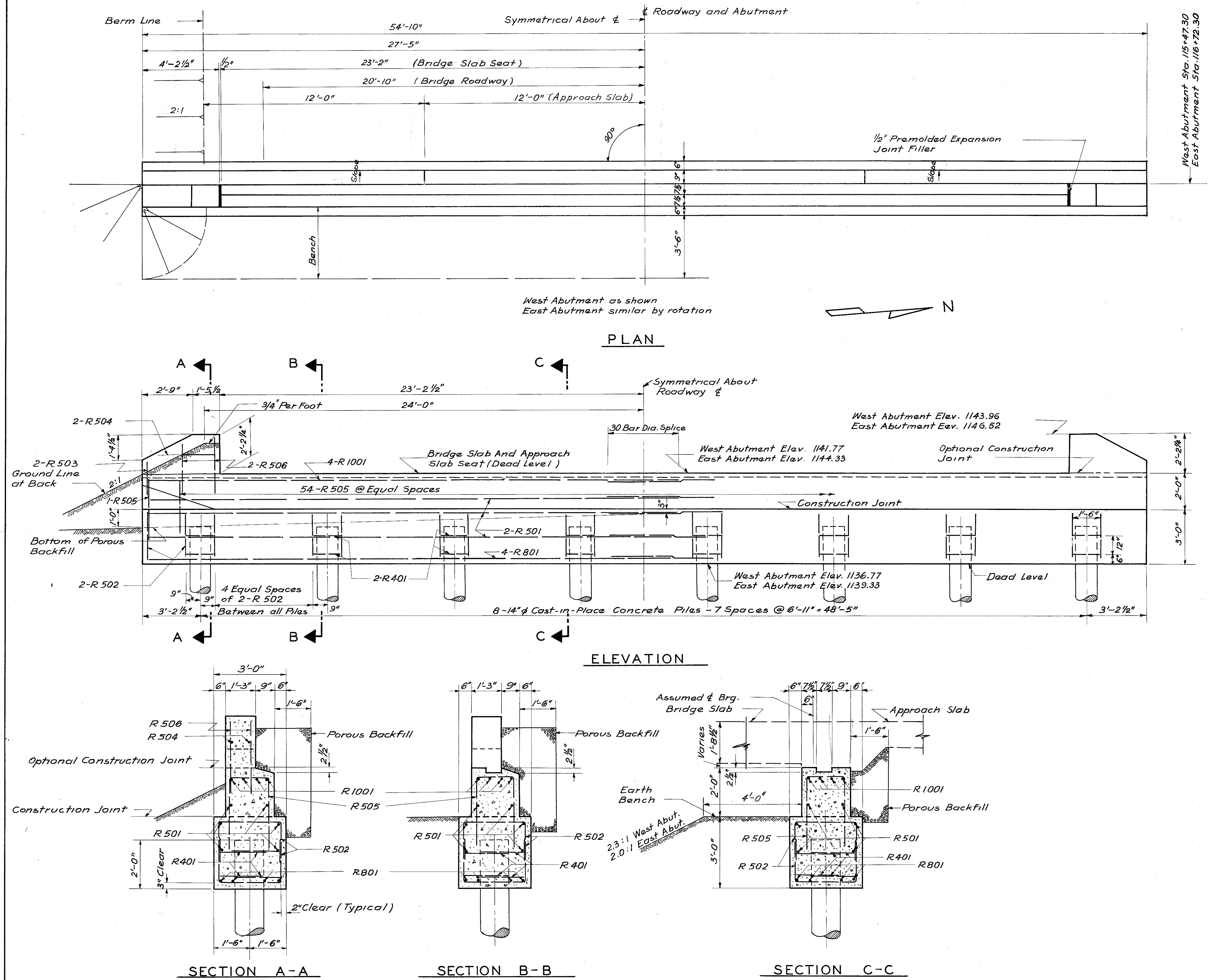
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
RR	SFM	SFM	REP	RR 4/25/57	

Revised As-Built H.E.B. 7-21-59

S-1

FED.RD. DIVISION	STATE	PROJECT
2	OHIO	F-330(4)

SEC.POR. 224-9.58



REINFORCING steel shall Clear face of concrete 2" unless other wise noted.

POROUS BACKFILL shall extend upward to the approach slab and to the surface of the earth shoulders, and outward to the surface of the embankment slopes. Excavation therefor, in excess of that required for construction of the footing, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

AURILIO, PACE AND BALLARD
CONSULTING ENGINEERS

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

ABUTMENT DETAILS

BRIDGE NO. POR.-224-1172 OVER CH.50

PORTAGE CO. USR-224
STA. 115+47.30
SCALE STA. 116+72.30

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
ANA	ANA	SFM	REP	RR 4/25/57	

Raymond Roberts

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-330(4)	

86/105

SEC.POR-224-9.58

AURILIO, PACE AND BALLARD
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STATE OF OHIO
DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

PIER DETAILS
BRIDGE NO POR.224-1172 OVER CH.50

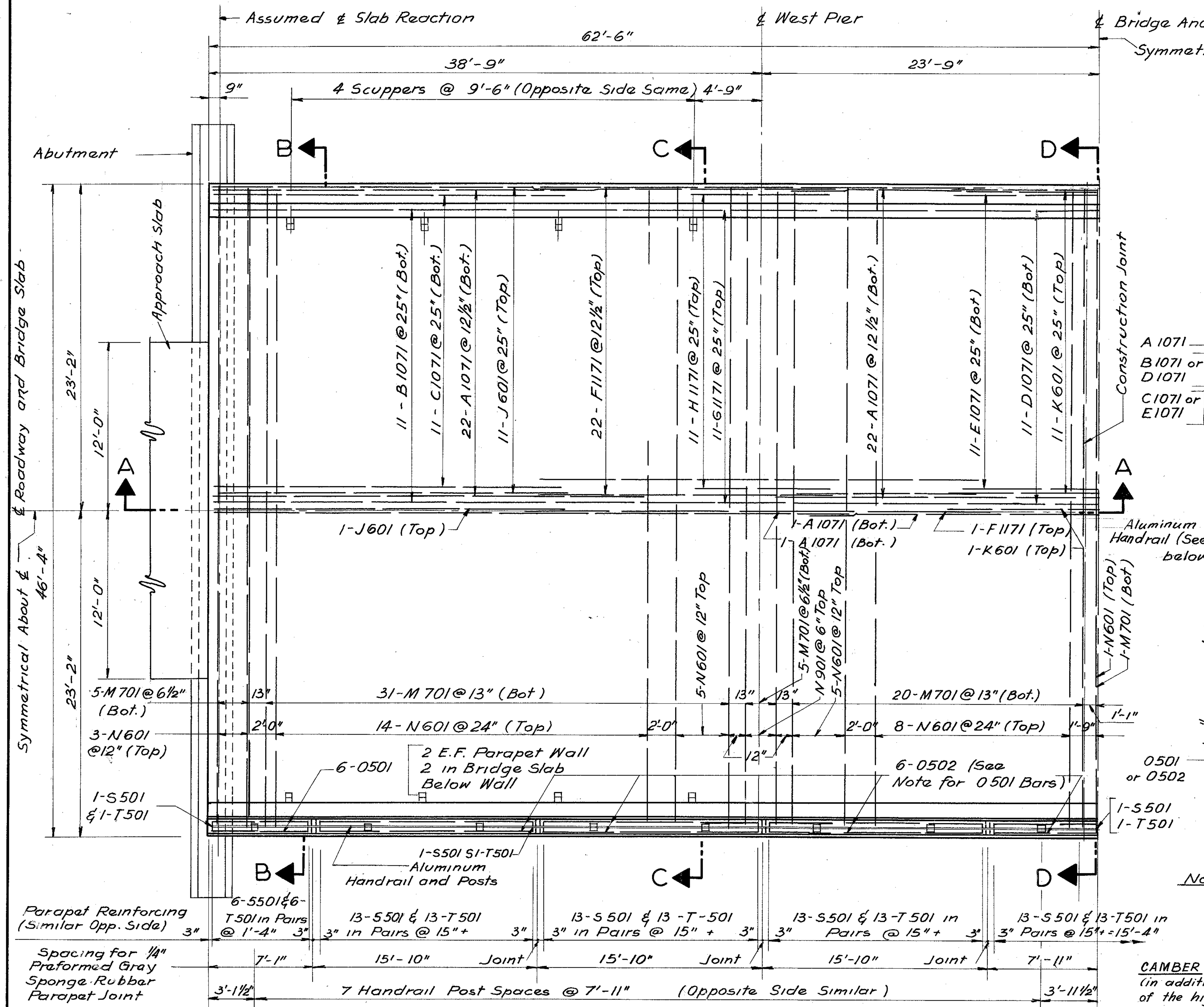
PORTAGE CO. USR 224
STA. 115+47.30
STA. 116+72.30

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
E.L.	A.N.A.	S.F.M.	R.E.R.	R.R. 1/25/57	

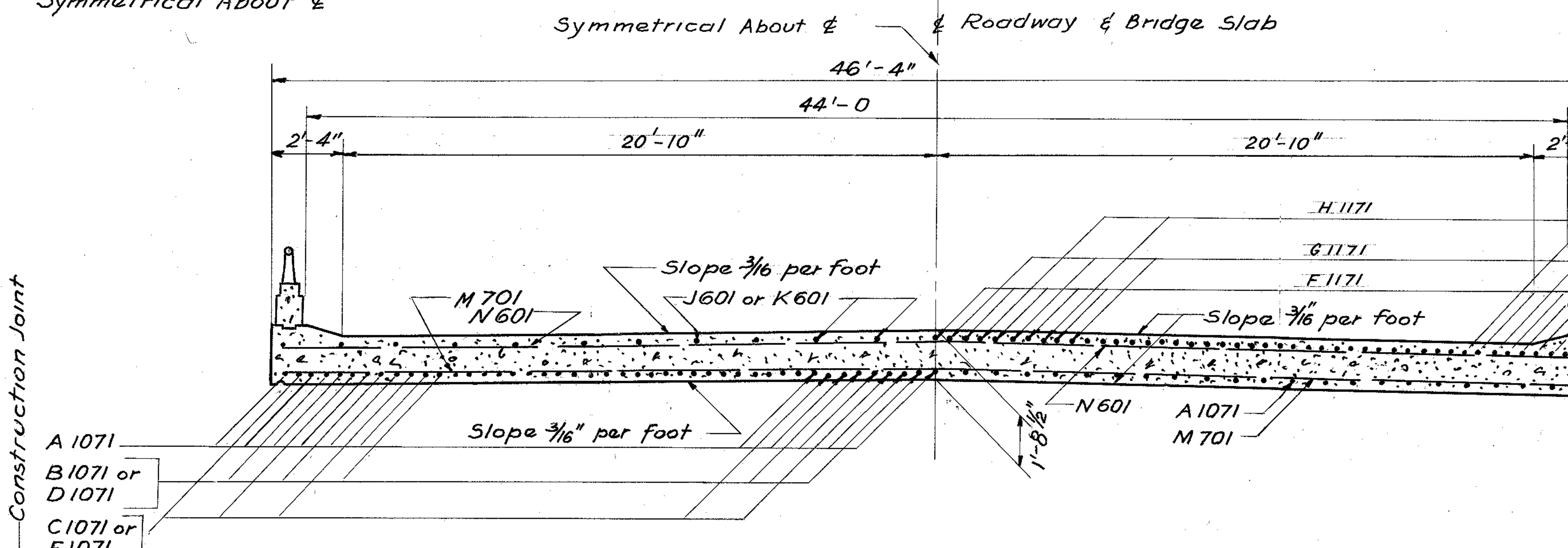
Raymond Roberts

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-330 (4)	

SEC. POR - 224-9.58



HALF PLAN

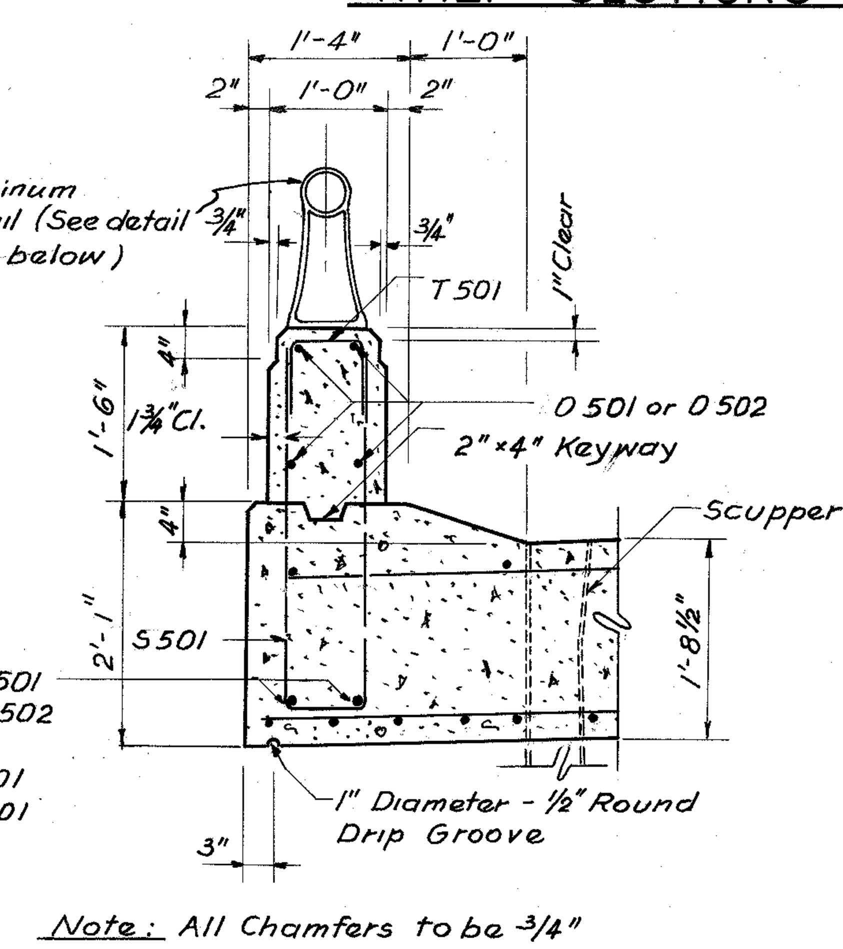


HALF SECTIONS B-B & D-D

HALF SECTION C-C

CONSTRUCTION JOINTS: One construction joint in the bridge slab shall be placed on the transverse centerline of the middle span or 1'-0"± off the transverse centerline if necessary to miss railing posts and transverse reinforcing bars. One longitudinal joint, on the centerline of roadway, will be permitted. A horizontal construction joint shall be placed between each curb and the top of the slab.

"M" AND "N" BARS may be furnished in one length as shown or in pairs of equal length, lapped thirty diameters at the centerline of roadway, or they may be furnished in pairs of different length in order to place the lap beyond a longitudinal construction joint at the centerline of roadway, at the option of the contractor. Determination of the pay quantity will be according to the number and length of bars as shown hereon unless otherwise called for on the project plans.



Note: All Chamfers to be 3/4"

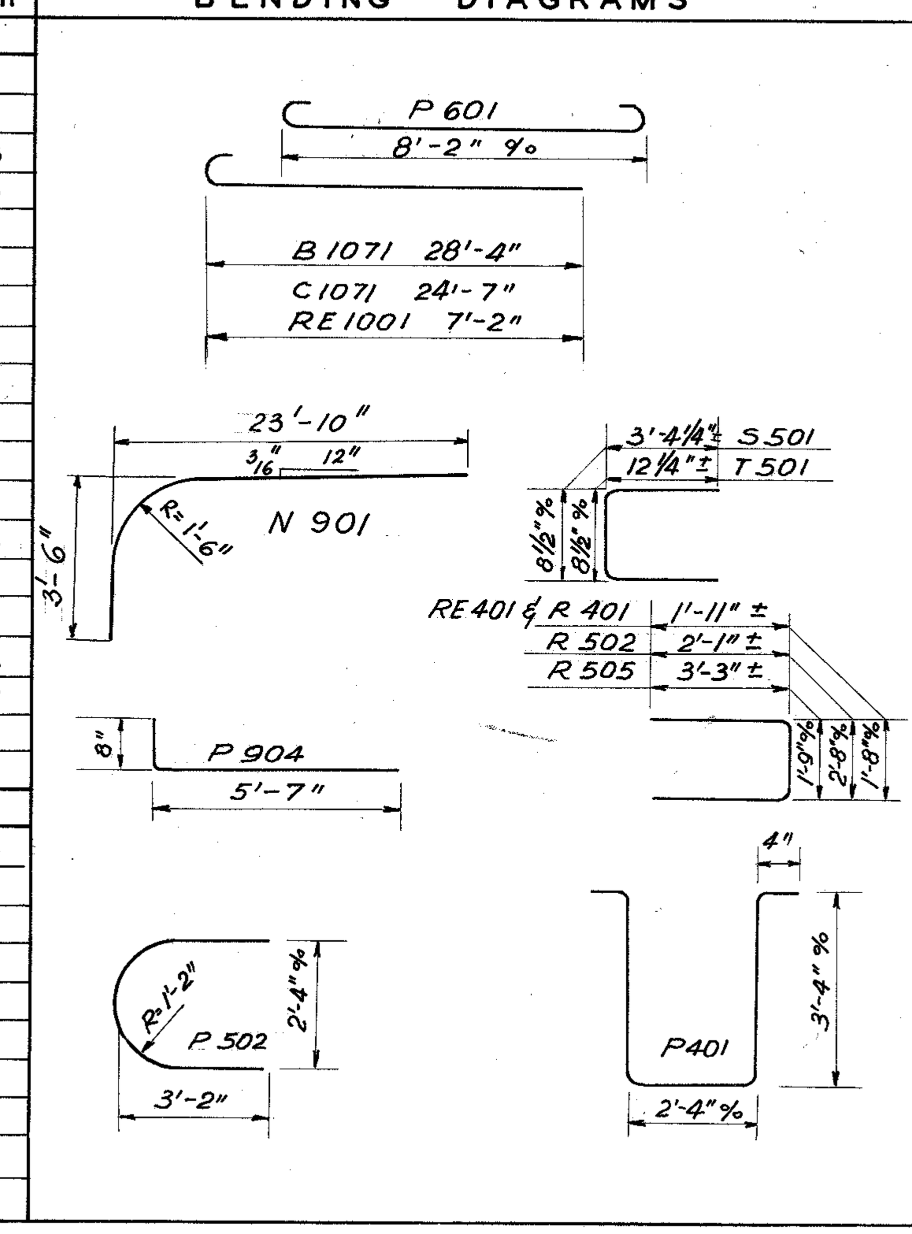
PARAPET DETAILS

CAMBER of 1/800 of the span shall be provided in each span (in addition to any required for conformance with the profile of the highway) to allow for dead load deflection. This is the amount of camber required before falsework is released. To obtain this, proper allowance shall be made for the deflection of falsework members.

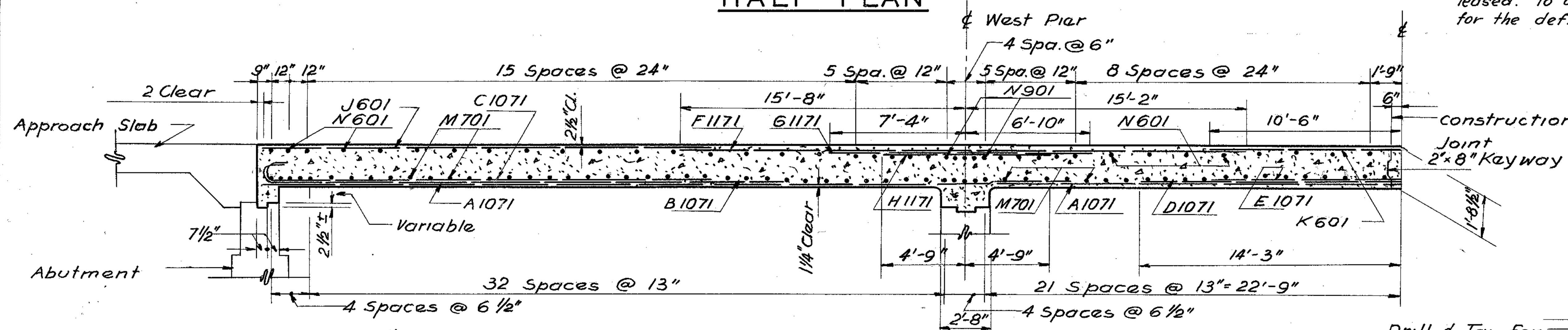
REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	SHP
SUPERSTRUCTURE				
A1071	135	43'-8"	25,366	S
B1071	44	29'-7"	5601	B
C1071	44	25'-10"	4891	B
D1071	22	28'-6"	2698	S
E1071	22	20'-10"	1972	S
F1171	90	30'-10"	14744	S
G1171	44	14'-2"	3312	S
H1171	44	9'-6"	2221	S
J 601	46	24'-10"	1716	S
K 601	23	21'-0"	725	S
M 701	123	46'-0"	11 565	S
N 601	71	46'-0"	4906	S
N 901	20	26'-9"	1820	B
O 501	24	6'-9"	169	S
O 502	84	15'-6"	1358	S
S 501	206	7'-5"	1594	B
T 501	206	2'-9"	591	B
ABUTMENTS				
R1001	16	28'-10"	1985	S
R 801	16	28'-6"	1218	S
R 501	24	28'-1"	703	S
R 502	156	6'-7"	1072	B
R 503	8	2'-3"	19	S
R 504	8	3'-4"	28	S
R 505	112	7'-11"	925	B
R 506	16	3'-7	60	S
R 401	64	5'-5"	232	B

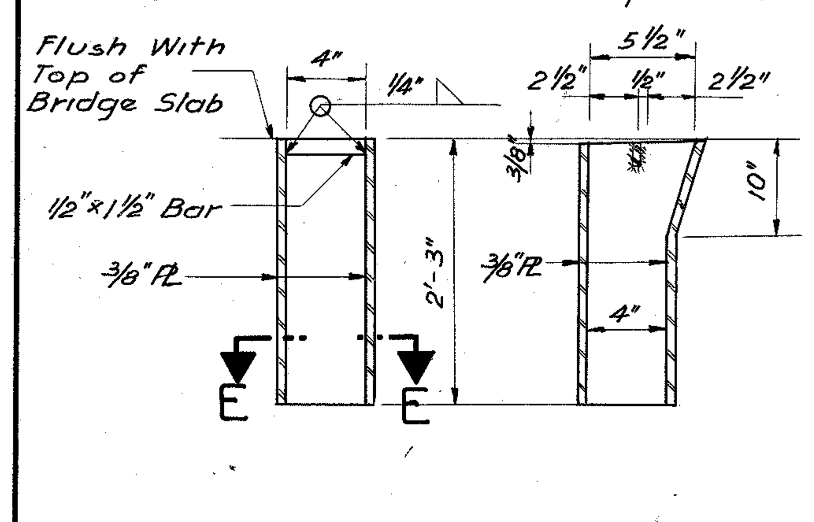
BENDING DIAGRAMS



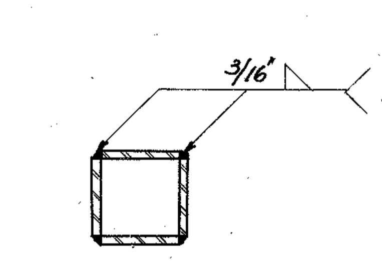
MARK	NO.	LENGTH	WEIGHT	SHP
PIERS				
P901	36	27'-3"	3335	S
P902	32	20'-6"	2230	S
P903	32	21'-6"	2340	S
P904	64	6'-0"	1306	B
P801	24	27'-1"	1733	S
P802	24	16-6"	1055	S
P601	112	9'-4"	1570	B
P602	70	8'-2"	859	S
P501	8	22'-4"	187	S
P502	8	7'-8"	64	B
P401	86	9'-2"	527	B
P803	8	16'-9"	359	S
REPLACEMENT BARS				
RE1101	2	7'-7"		S
RE1001	1	8'-7"		B
RE1002	2	7'-2"		S
RE901	1	6'-10"		S
RE801	1	6'-6"		S
RE701	1	6'-2"		S
RE601	1	5'-11"		S
RE501	1	5'-7"		S
RE401	1	5'-5"		B



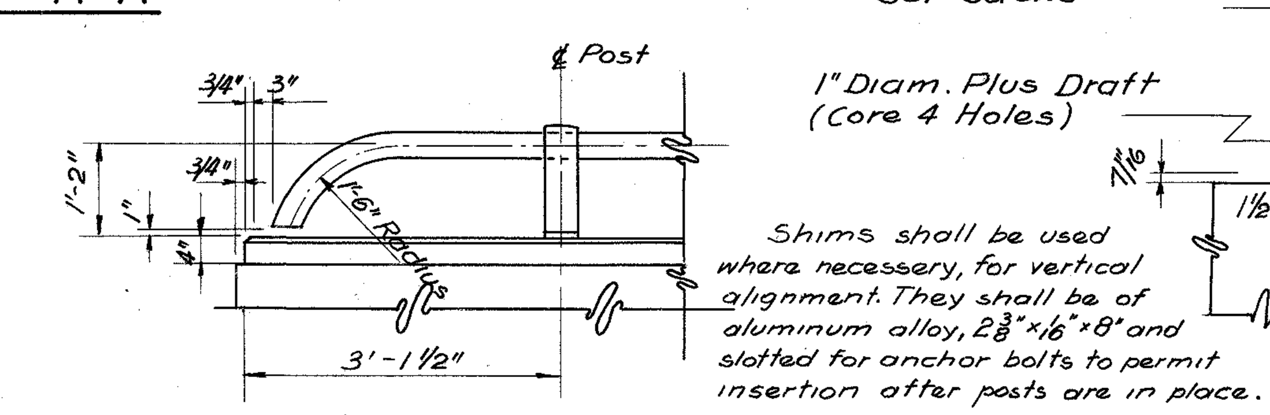
SECTION A-A



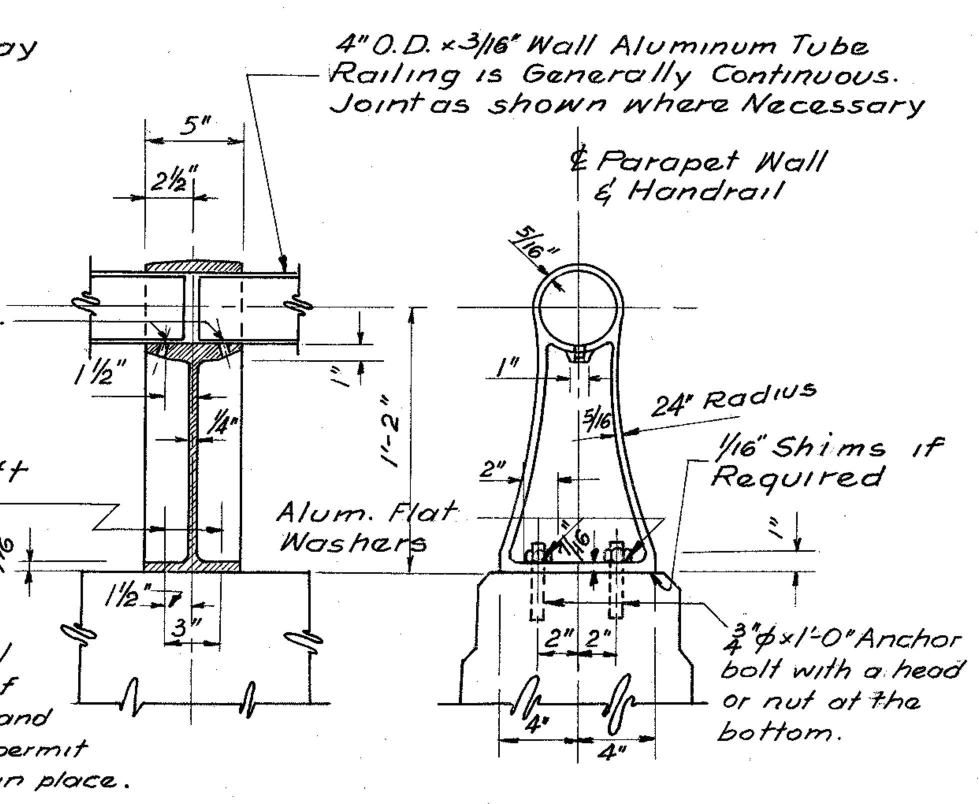
SCUPPER DETAILS



SECTION E-E



HANDRAIL DETAIL AT END



HANDRAIL DETAILS

SPIRAL REINFORCING						
Mark	No.	Core Dia. % Spiral	Length	Pitch	No. of Turns	Weight
PIERS						
SP401	4	28"	17'-5±	4 1/2"	49	960
SP402	4	28"	18'-5±	4 1/2"	52	1020

NOTE:
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 Sec. S-4.02 need not be furnished and replacement bars will not be required.

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SPIRAL REINFORCING BARS:

The "length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap.

The "No. of Turns" shown in the steel list for the spiral bars is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number.

Spiral reinforcing bars shall not have deformations but shall in other respects conforms to Item S-4.

1 1/2 closed coils shall be provided at the ends of each spiral unit.

Three steel channels, tee or angle spacers, weighing approximately 0.68 lb. per lin ft. of spacer; shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lbs. per lin ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

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SUPERSTRUCTURE DETAILS

BRIDGE NO. POR - 224 - 1172 OVER C.H50
PORTAGE CO. U.S.R. 224
STA. 115 + 47.30
SCALE STA. 116 + 72.30

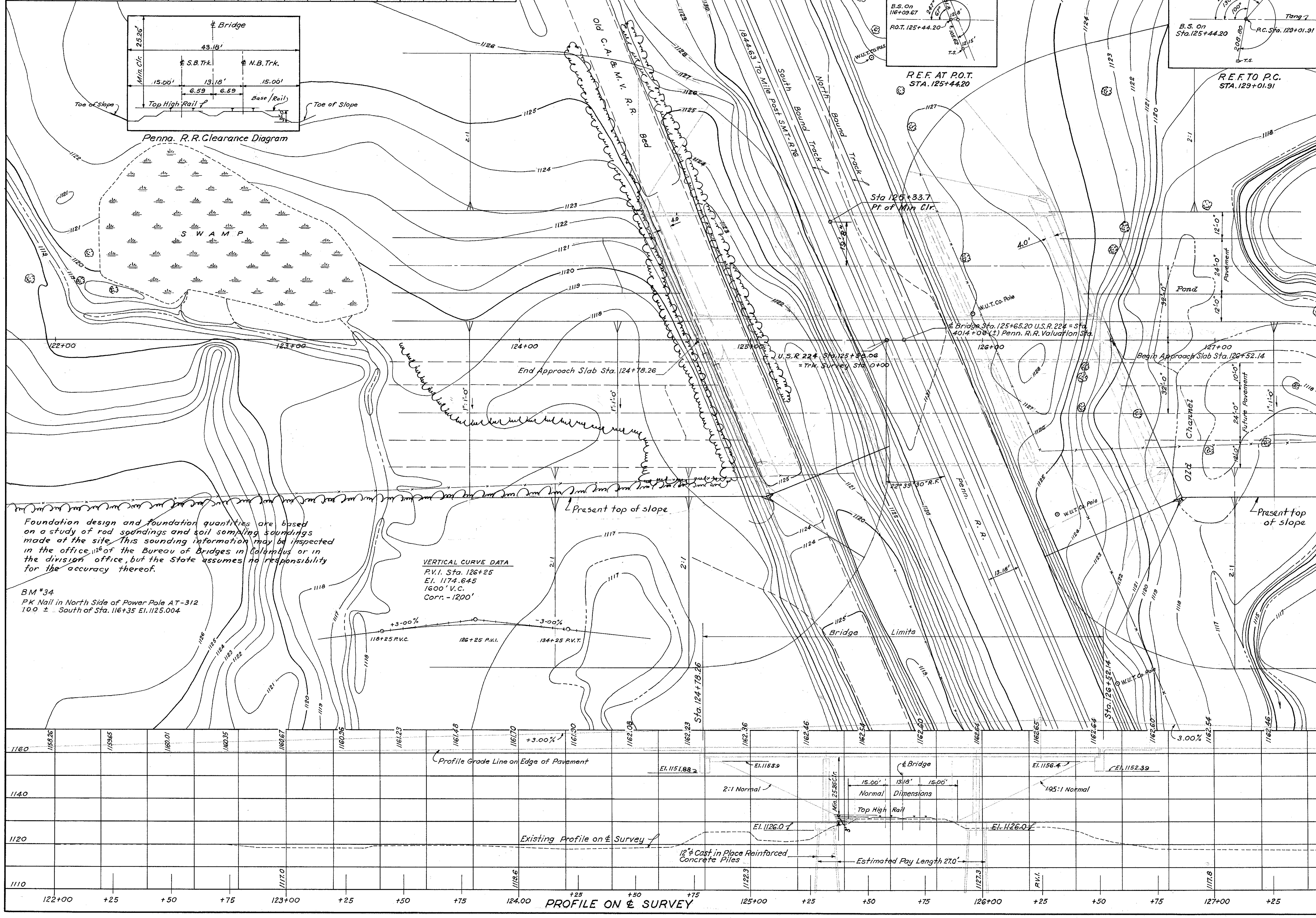
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
R.R	A.N.A	S.F.M.	R.F.N.	R.R. 4/25/57	

S-I

SEC. POR-224-9.58

ELEVATIONS TOP OF WEST RAIL - SOUTHBOUND TRACK - PENNA. R. R.

Sta.	0+00	0+50	1+00	1+50	2+00	2+50	3+00	3+50	4+00	4+50	5+00	5+50	6+00	6+50	7+00	7+50	8+00	8+50	9+00	9+50	10+00
North	1133.23	1133.35	1133.44	1133.65	1133.83	1133.99	1134.22	1134.51	1134.73	1134.96	1135.23	1135.52	1135.80	1136.10	1136.42	1136.79	1137.16	1137.52	1137.87	1138.25	1138.63
South	1133.23	1133.08	1133.01	1132.94	1132.88	1132.95	1133.02	1133.08	1133.17	1133.27	1133.33	1133.40	1133.53	1133.68	1133.91	1134.10	1134.29	1134.49	1134.69	1134.89	1135.10



Foundation design and foundation quantities are based on a study of rod soundings 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 the division office, but the State assumes no responsibility for the accuracy thereof.

BM #34
PK Nail in North Side of Power Pole AT-312
100 ± South of Sta. 116+35 El. 1125.004

U.S.R. 224 12'-24'-12' Initial Construction
Pavement Type T-71
Future Construction 10'-24'-12'

PROPOSED STRUCTURE

TYPE: Three Span Continuous Steel Beams With Conc. Deck & Substructure ("T" Type Piers)
SPANS: 52'-65'-52' c/c Bearings
ROADWAY: 44'-0" f/f of Parapet Walls
LOAD FREQ.: CF = 2000 (51)
SKEW: 22° 39' 30" R.F.
WEARING SURFACE: 1" Monolithic
APPROACH SLAB: AS-1-54 (25'-0" Lg.)
ALIGNMENT: Tangent

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DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

SITE PLAN

BRIDGE NO. POR-224-1190 OVER PENNA. R.R.
PORTAGE CO. U.S.R. 224
STA. 124+78.26
SCALE 1" = 20' STA. 126+54.14

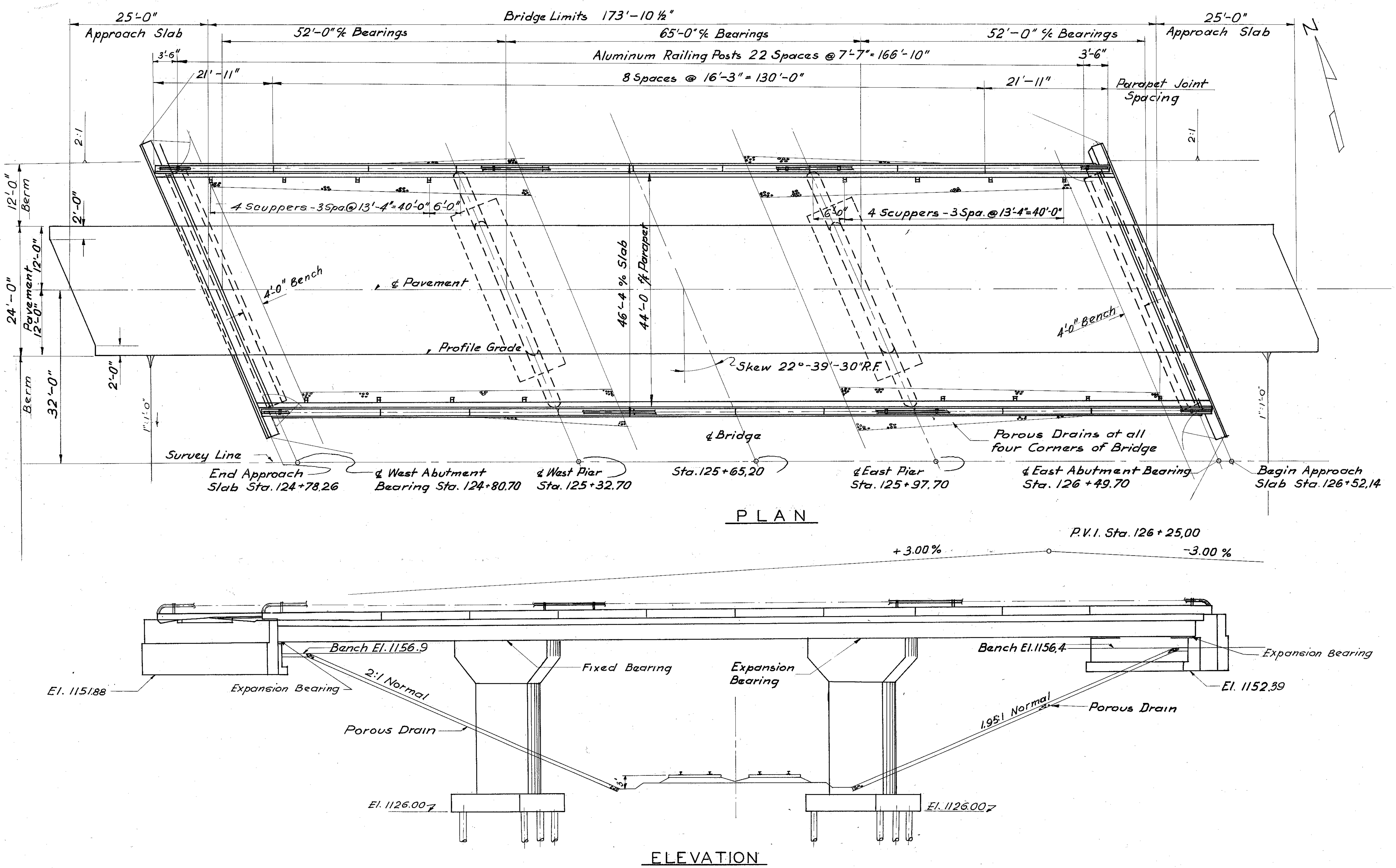
PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
A.S.A	R.N.B	R.R.	R.DEG	R.F.M.	R.R. 4/15/57

S-I

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	F-330(4)

89/105

SEC. POR.-224-9.58



ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPERSTR.	ABUT.	PIERS	GENR'L	As Built	
E 2	~~410~~ 309	Cu. Yd.	Unclassified Excavation	—	~~132~~	~~278~~	—	C-7, -101	309
E 2	Lump	Sum.	Cofferdam, cribs and sheeting	—	—	—	Lump		
S-1	223	Cu. Yd.	Class "C" concrete superstructure	223	—	—	—		
S-1	185	Cu. Yd.	Class "C" concrete pier walls and caps	—	—	185	—		
S-1	140	Cu. Yd.	Class "E" concrete, abutments	—	140	—	—		
S-1	66	Cu. Yd.	Class "E" concrete, Pier footings	—	—	66	—		
S-4	88,379	Lb.	Reinforcing Steel	69,293	7091	11995	—		
S-7	~~196,050~~ 197,667	Lb.	Structural Steel	~~196,050~~	—	—	—	C-7, +1617	197,667
S-8	~~196,050~~	Lb.	Field painting of structural steel (as per plan)	~~196,050~~	—	—	—	C-7, +1617	197,667
S-14	347.67	Lin. Ft.	Railing (Aluminum Rail And Supports And Conc. Parap.)	347.67	—	—	—		
S-16	Lump	Sum.	First Test Pile	—	—	—	Lump		
S-18	~~1456~~ 1163	Lin. Ft.	Piling 12" ø cast-in-place reinforced concrete	—	—	~~1466~~	—	C-7, -293	1163
S-29	24	Cu. Yd.	Porous Backfill	—	24	—	—		
S-29	56	Cu. Yd.	Porous drains on embankment slopes	—	—	—	56		

GENERAL NOTES

DESIGN SPECIFICATIONS: This bridge conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated Oct. 1, 1951, together with revisions thereof dated July 15, 1952 and April 1, 1954.

EXCAVATION QUANTITY includes the removal of fill material between top of the earth bench and bottom of abutment, and between finished ground line and bottom of pier footings.

WELDED STEEL the steel for the 36 WF 160 beams shall conform to ASTM Designation A-373. All other structural steel shall conform to either ASTM A-7 or to A-373.

REFERENCE shall be made to Supplemental Specification No. S-114 Aluminum For Bridge Railing dated 8-30-55.

WELDING of structural steel shall be Class "A" Unless otherwise noted.

POROUS DRAINS, extending from the face of abutment to the toe of slope shall be placed on and flush with embankment slopes at all four corners of the bridge. The drains shall be 8'-0" wide at the low end, tapering to 4' wide at face of the abutment, and one foot thick.

FIELD PAINTING: One additional field coat of paint, of the same kind as the shop coat, shall be applied to all structural steel in the track span, except that in contact with concrete and that in railings. This additional coat shall be applied prior to applying the field coats.

PILING shall be driven to a minimum bearing capacity of 35 tons per pile. Piles shall be 12" diameter cast-in-place.

SHEETING AND BRACING: Before construction is started, plans of sheeting and bracing to be used adjacent to the railroad tracks for pier footing excavation shall be submitted to the Director of Highways and to the Railroad.

CONSTRUCTION CLEARANCE of 20'-0" vertically above top of the railroad companys existing rails and 8'-0" horizontally from center of existing tracks shall be maintained at all times.

SPECIAL PROVISION is hereby made as follows: After the Contractor has completed all excavation backfill adjacent to the railroad tracks in compliance with Sections E-2.04 and E-2.08 of the Construction and Material Specifications, subject to the supervision of the railroad company nothing in section E-2.04, E-2.08 or G-8.07 of the Specifications shall be construed to hold the Contractor liable for aligning and resurfacing the tracks.

CONSTRUCTION PROCEDURE: Approach embankment under the bridge and a distance of at least 100 feet beyond the bridge shall be placed to subgrade elevation for a period of 60 days before abutment or pier excavation is started. Upon completion of embankment, hubs will be set at bridge limits and accurate settlement readings taken each week. At the end of the 60 days, the readings shall be reported to the project engineer and abutment excavation shall not be started until approval is given be the Engineer. The excavated pits for the pier construction shall be adequately sheeted and braced to prevent displacement of the surrounding embankment, and the backfill in such pits shall be thoroughly tamped. It will not be permissible to temporarily remove any of the spill-through embankment under the structure in order to provide a bench for construction operations or for other reasons. The Engineer will take readings at time intervals of not more than 15 days, at each pier and abutment after it has been completed up to the elevation of the bridge seat, at each end and the middle, to determine the amount of settlement and the amount of horizontal movement including the amount of tilt of the piers. The information obtained will be reported and studied to determine what changes (if any) in the structure need be made. If settlement of the abutment is found to be taking place, the abutment backwall shall be placed as late as practicable (after the concrete deck of the superstructure has been placed) and the bearing plates on the abutments shall be progressively raised as necessary by the insertion of steel shims. The final vertical position of the ends of the superstructure and of the top of the backwall, to allow for probable additional settlement (if expected) will be as directed by the Engineer.

FILL MATERIAL will be placed for the proposed future eastbound lanes at this time in accordance with the roadway plans and cross sections.

Raymond Pilut

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

GENERAL PLAN

BRIDGE NO. POR. 224-1190 OVER PENNA R.R.
PORTAGE CO. USR. 224
STA. 124+78.26
STA. 126+52.14

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RR	REP	SFM	RFN	RP	4/25/57	

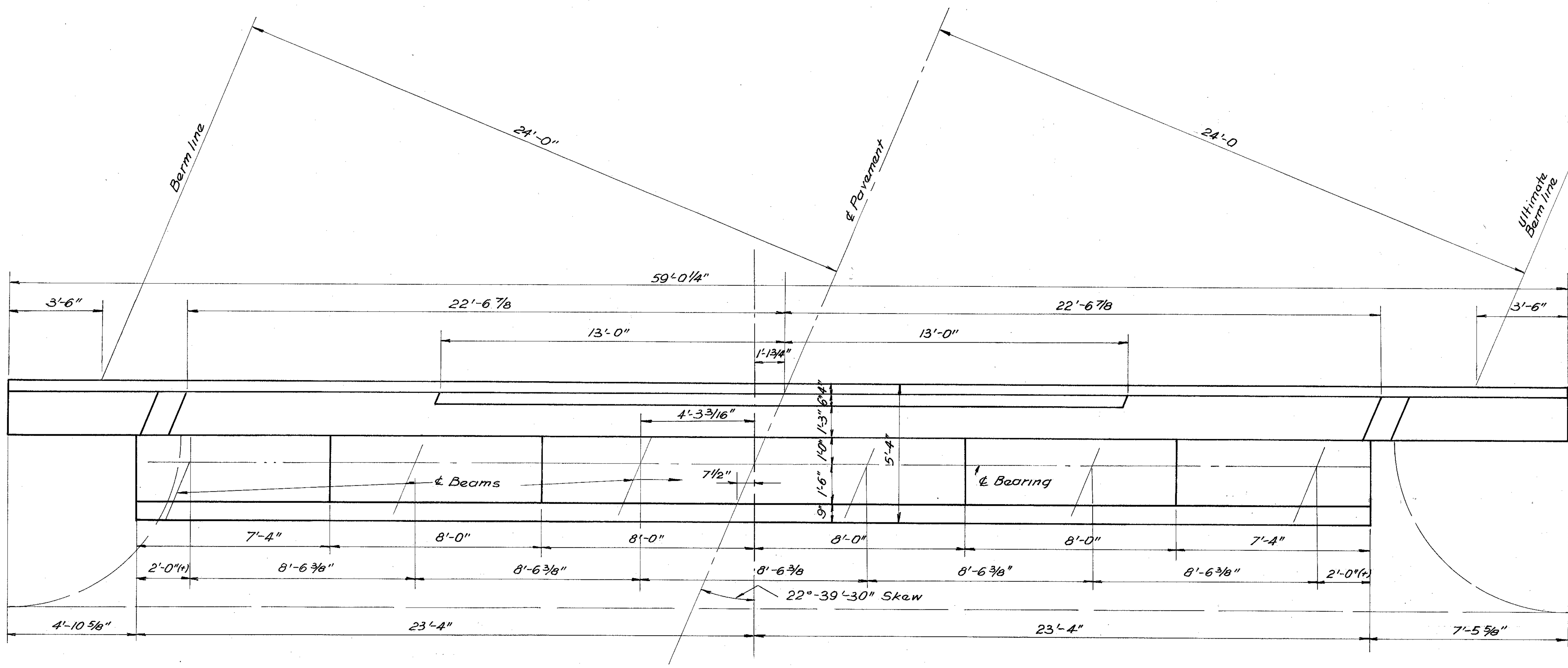
Revised As-Built H.E.R. 7-21-59

S-I

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-330(4)	

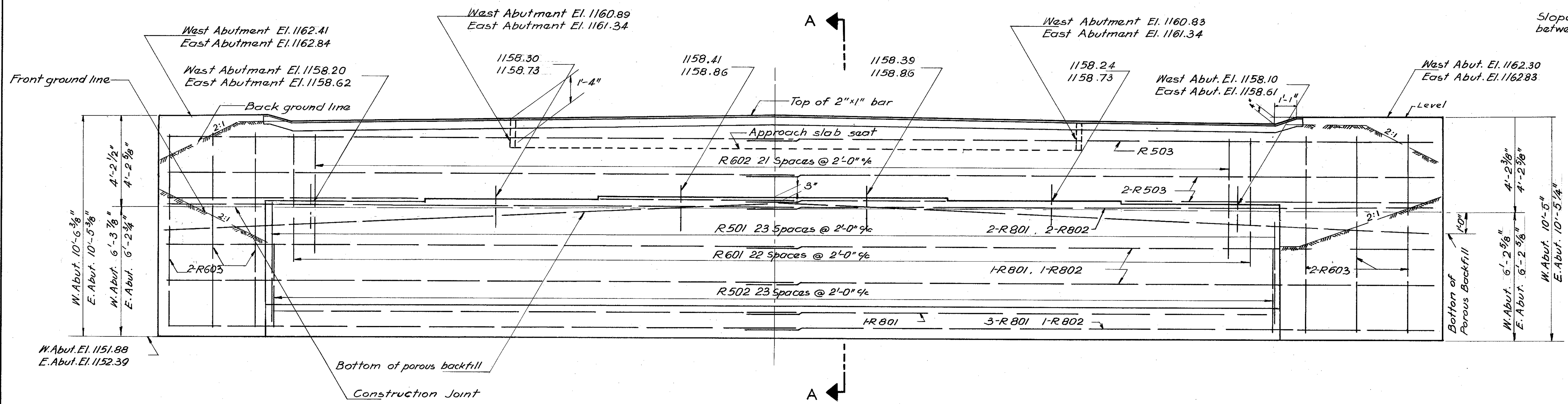
90

SEC. POR.-224-9.58



ABUTMENT PLAN

East Abutment as shown
West Abutment Similar By Rotation



ABUTMENT ELEVATION

NOTES

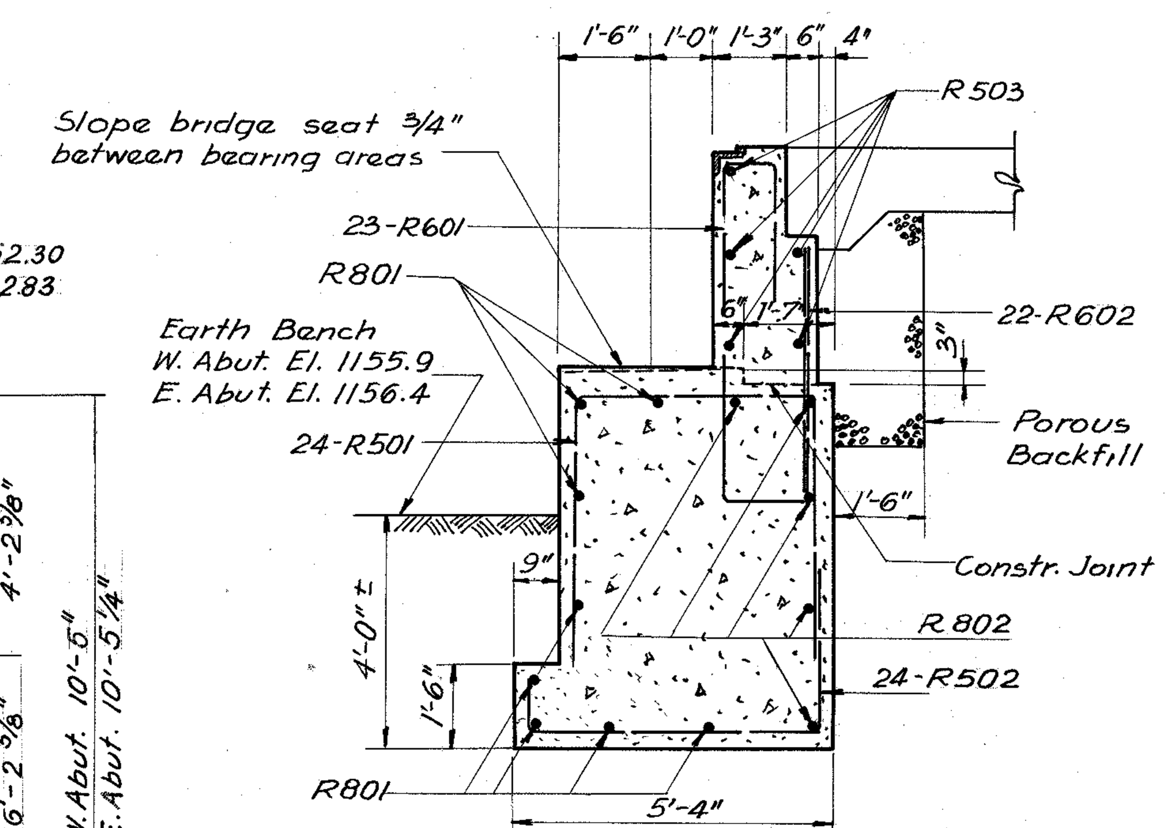
EMBANKMENT PROCEDURE: All earth fill around the abutments shall be made full height of earth bench. Exavation shall then be made for the abutment.

BRIDGE SEAT PROCEDURE: Concrete above the bridge seat construction joint shall not be placed until after the steel work is erected. Steel end finish shall be used as a template for top of backwall.

DESIGN FOOTING PRESSURE = 4.91 kips per sq. ft.

POROUS BACKFILL shall extend upward to the approach slab and to the surface of the earth shoulders, and outward to the surface of the embankment slopes. Excavation therefore, in excess of that required for construction of footing, shall be considered as paid for in the bid price per Cu. Yd. paid for "Porous Backfill".

FILL MATERIAL shall be placed for the proposed future eastbound lanes at this time in the area adjacent to this bridge in accordance with the roadway plans & cross sections.



SECTION A-A

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

ABUTMENT DETAILS

BRIDGE NO. POR. 224-1190 OVER PENNA R.R

PORTAGE CO. U.S.R. 224
STA. 124 + 78.26
STA. 126 + 52.14

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWC	JWC	SFM	RR	RR 4/25/57	

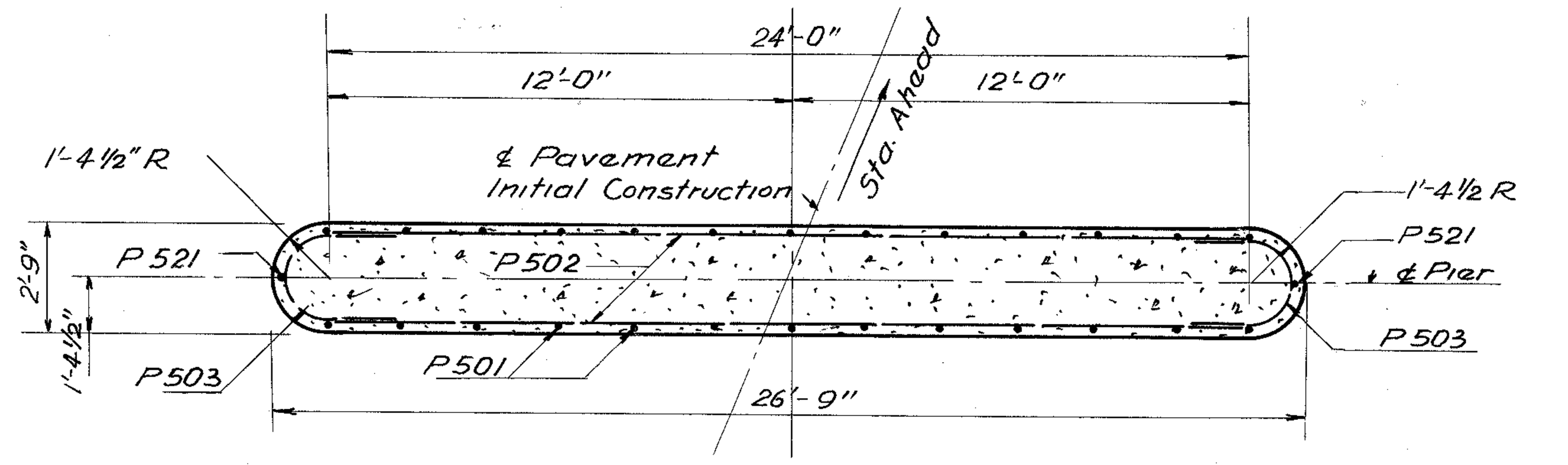
Raymond Roberts

S-I

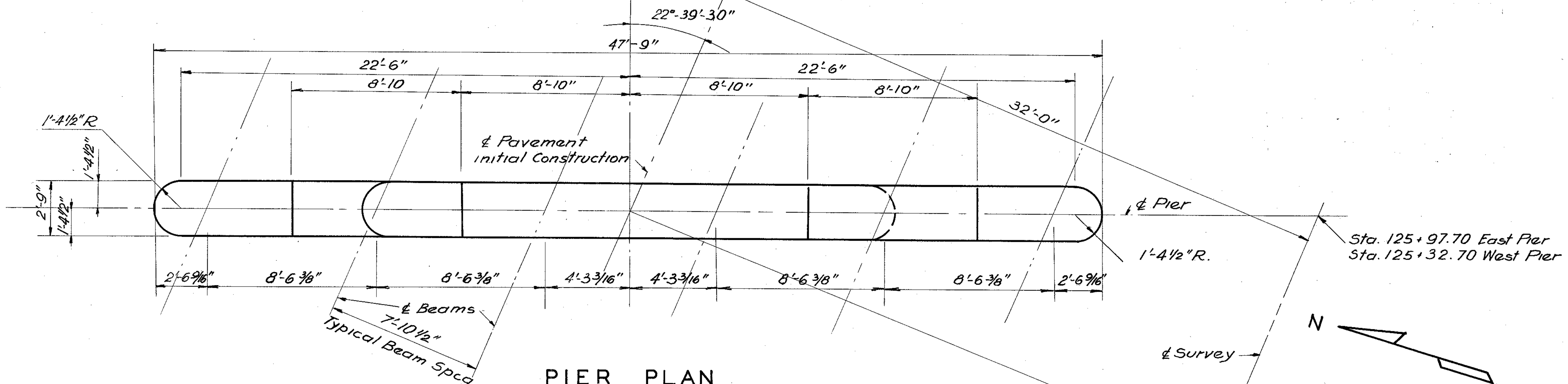
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-330(4)	

91/105

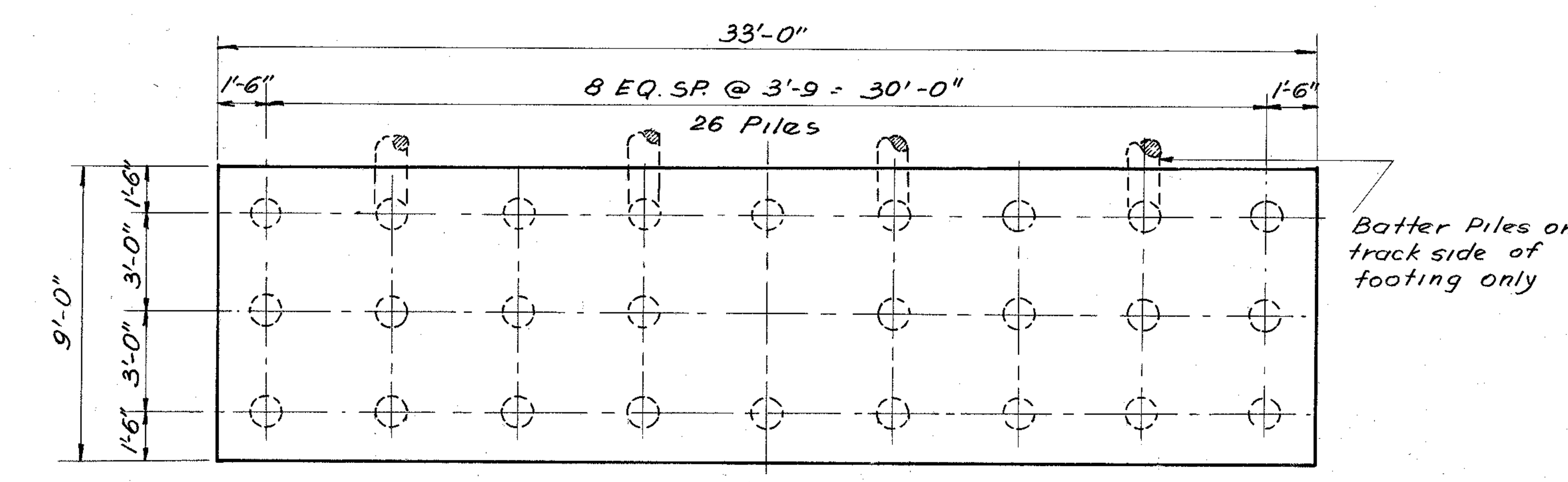
SEC. POR. 224-9.58



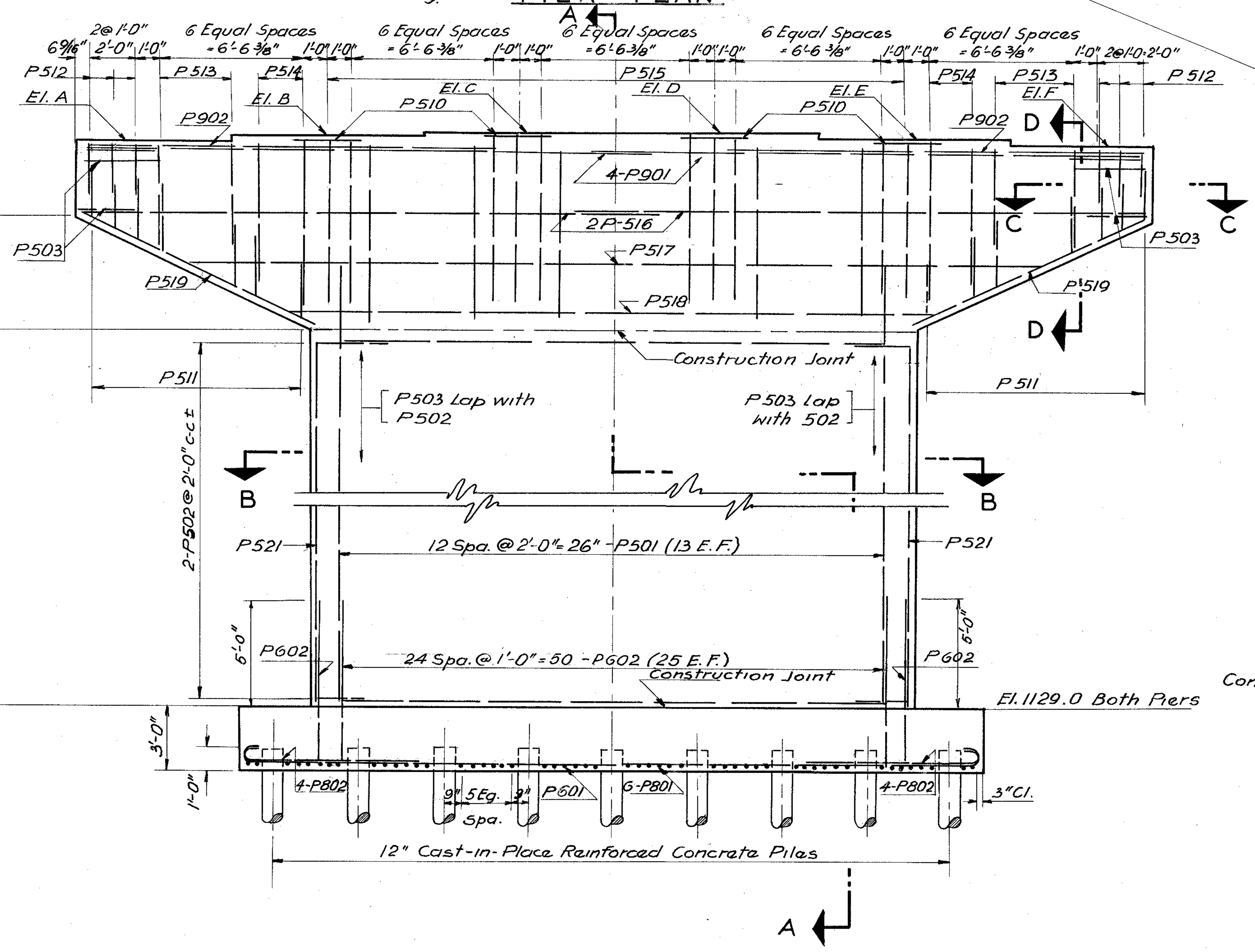
SECTION B-B



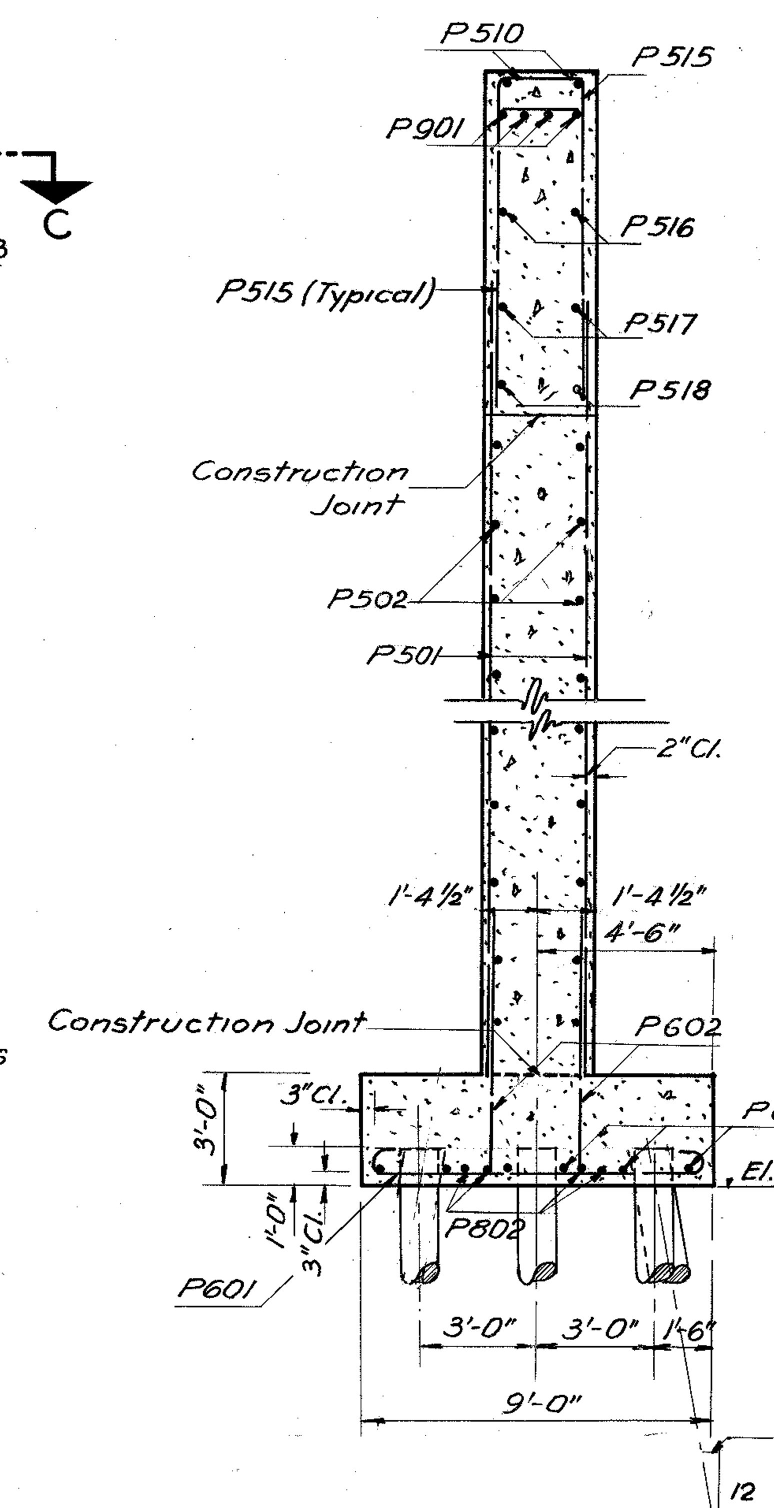
PIER PLAN



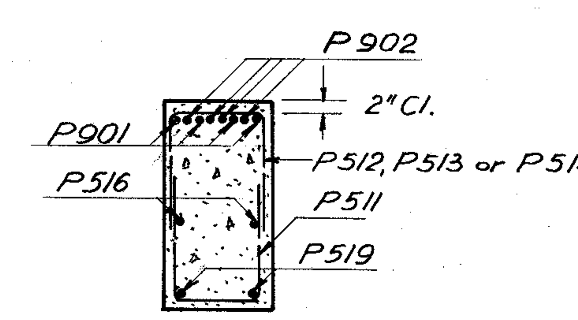
FOOTING PLAN



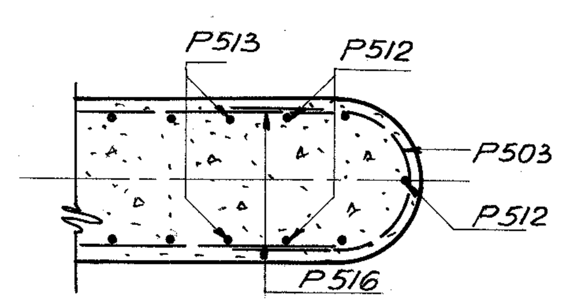
ELEVATION



SECTION A-A



SECTION D-D



SECTION C-C

TABLE OF ELEVATIONS

PIER	A	B	C	D	E	F
West	1158.39	1158.53	1158.67	1158.68	1158.57	1158.46
East	1158.51	1158.64	1158.77	1158.78	1158.65	1158.54

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DEPARTMENT OF HIGHWAYS
DIVISION OF DESIGN AND CONSTRUCTION
BUREAU OF BRIDGES

PIER DETAILS

BRIDGE NO. POR. 224-1190 OVER PENNA R.R.
PORTAGE CO. U.S.R. 224
STA. 124+78.26
STA. 126+52.14

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
R.R.	R.E.P.	S.F.M.	E.L.	RR 4/25/57	

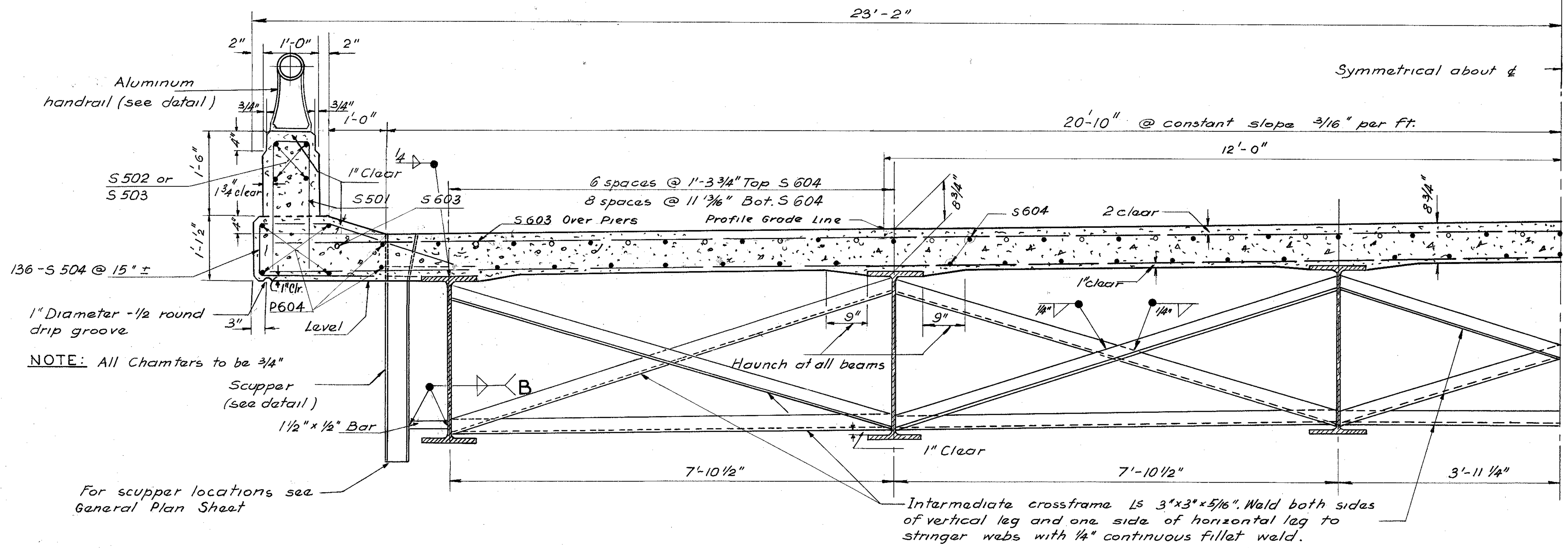
Raymond Roberts

S-I

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO	F-330(4)		

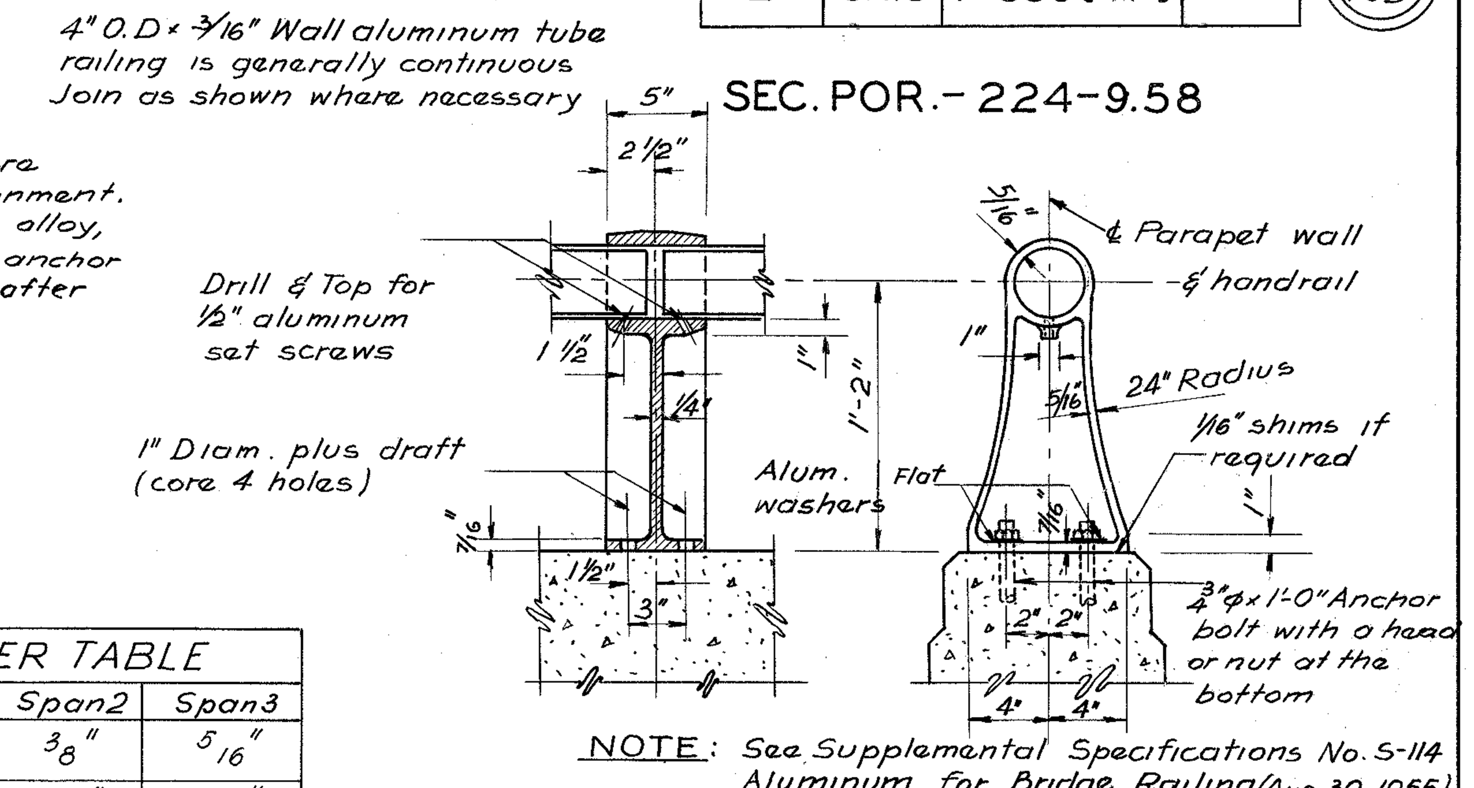
92/105

SEC. POR.-224-9.58



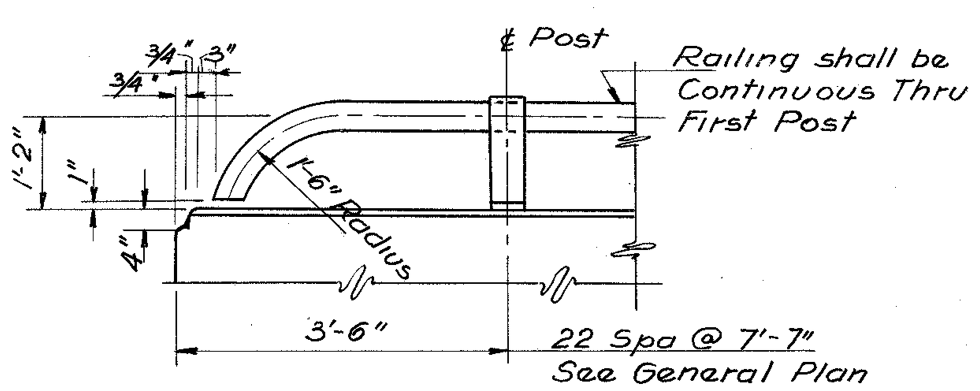
TRANSVERSE HALF SECTION

Shims shall be used where necessary, for vertical alignment. They shall be of aluminum alloy, 2 3/8"x1/16"x 8" and slotted for anchor bolts to permit insertion after posts are in place.



NOTE: See Supplemental Specifications No. S-114 Aluminum for Bridge Railing (Aug. 30, 1955)

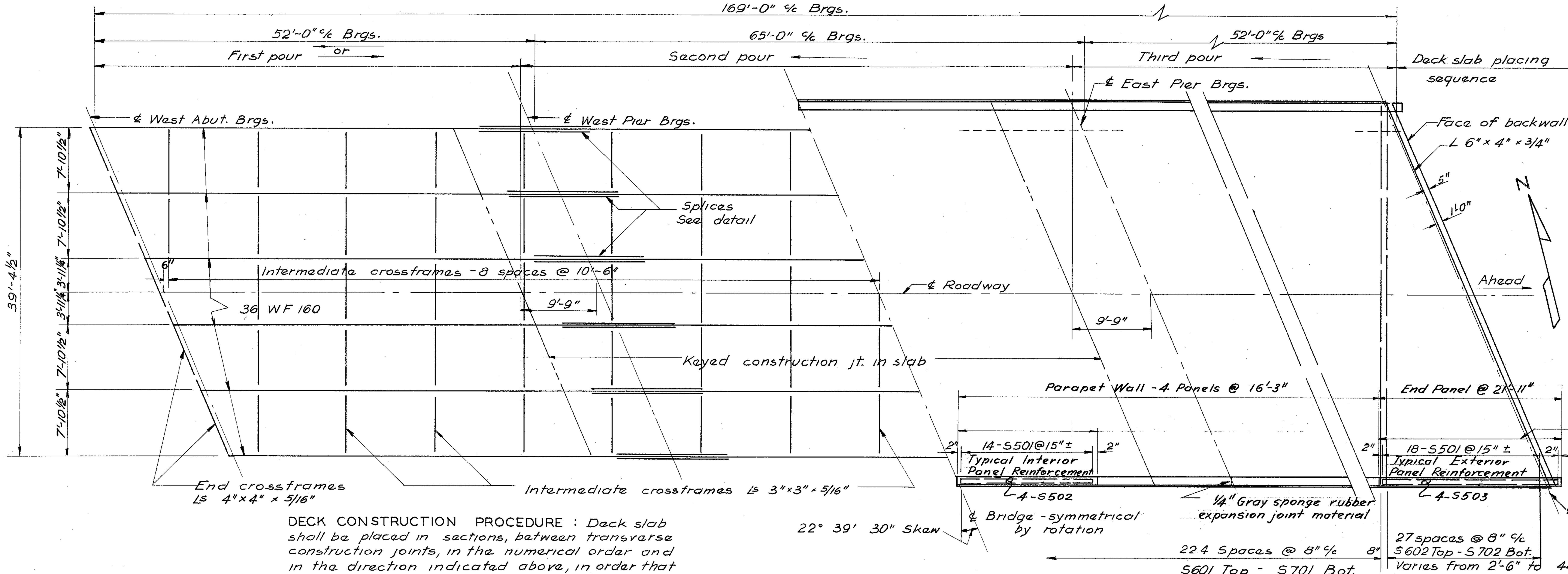
HANDRAIL DETAILS

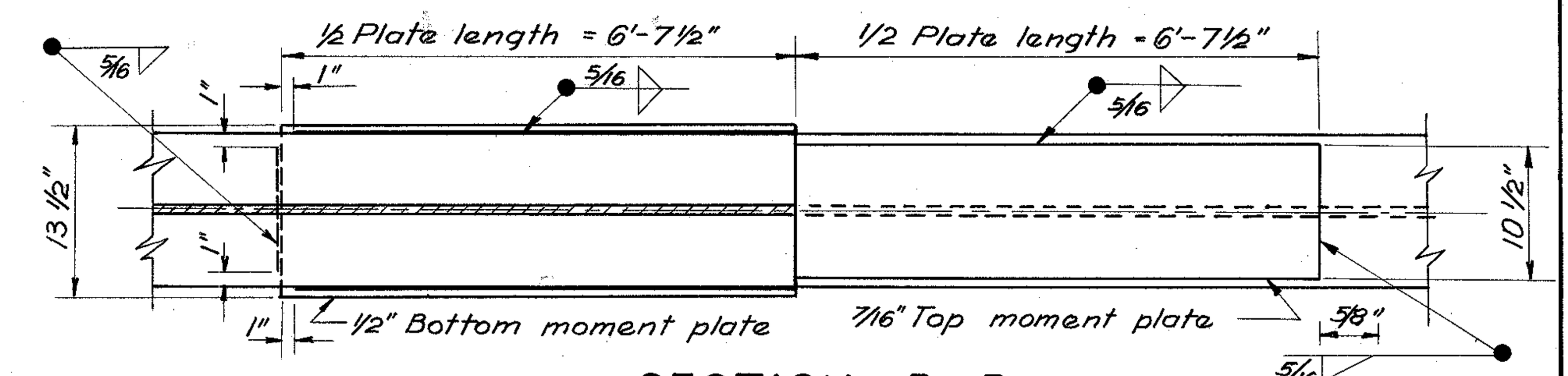


HANDRAIL DETAILS AT END

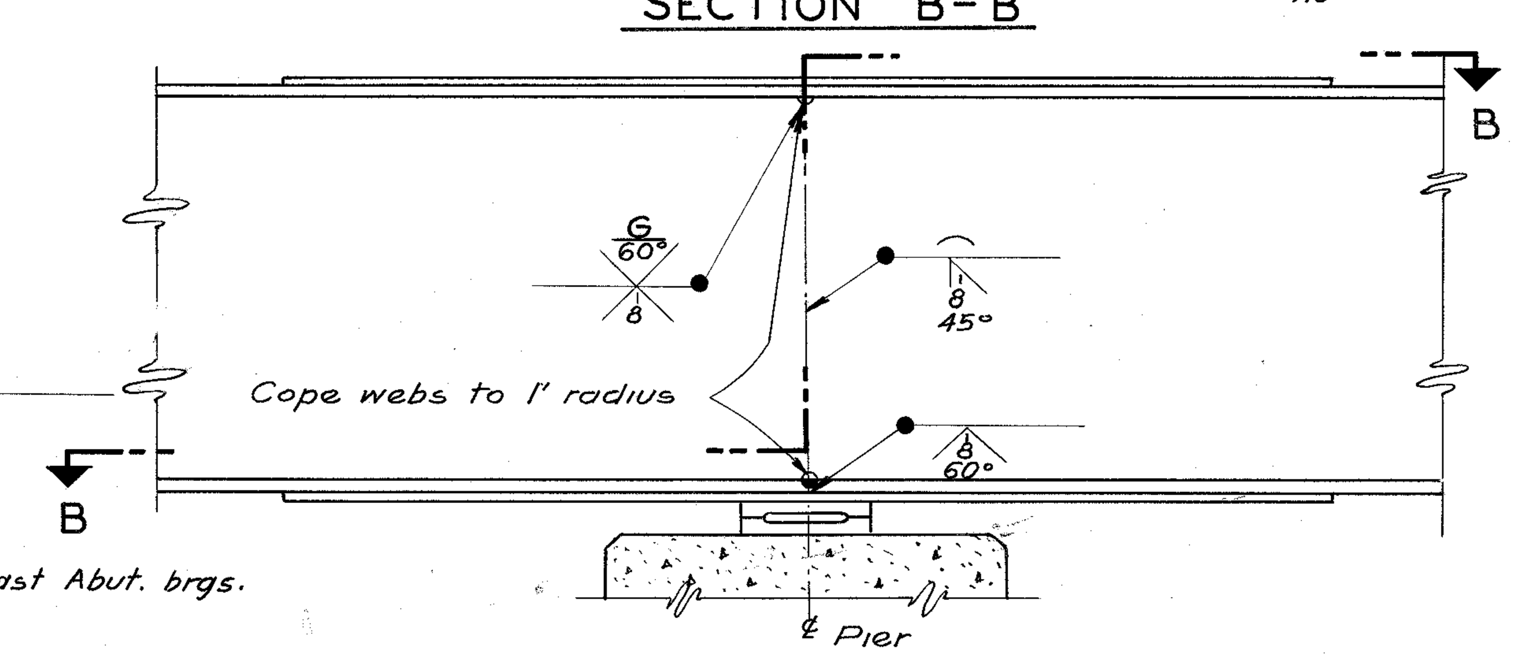
BEAM CAMBER TABLE

	Span 1	Span 2	Span 3
Dead Load Deflection	5/16"	3/8"	5/16"
Grade Line Curvature	3/16"	1/4"	3/16"
Total	1/2"	5/8"	1/2"





SECTION B-B



BEAM SPLICE DETAILS

DECK CONSTRUCTION PROCEDURE: Deck slab shall be placed in sections, between transverse construction joints, in the numerical order and in the direction indicated above, in order that the major portion of the dead load deflection may occur prior to placing concrete over each pier.

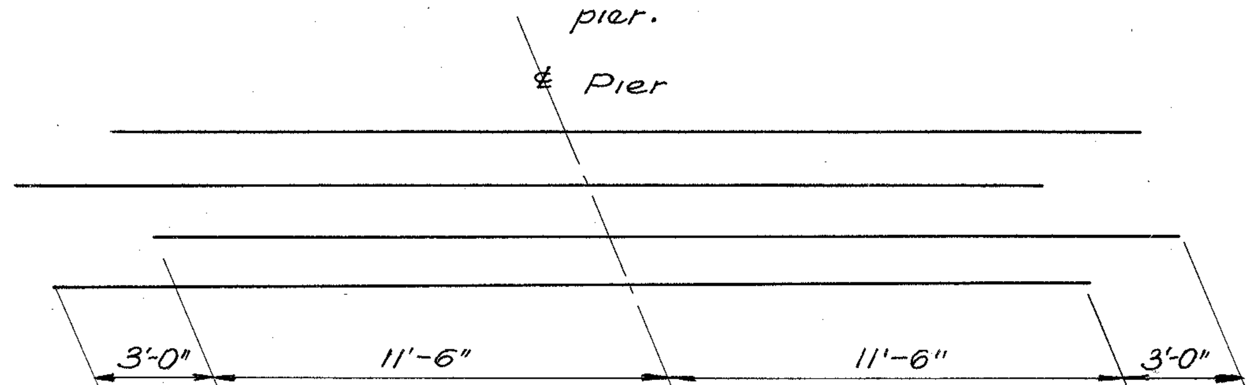
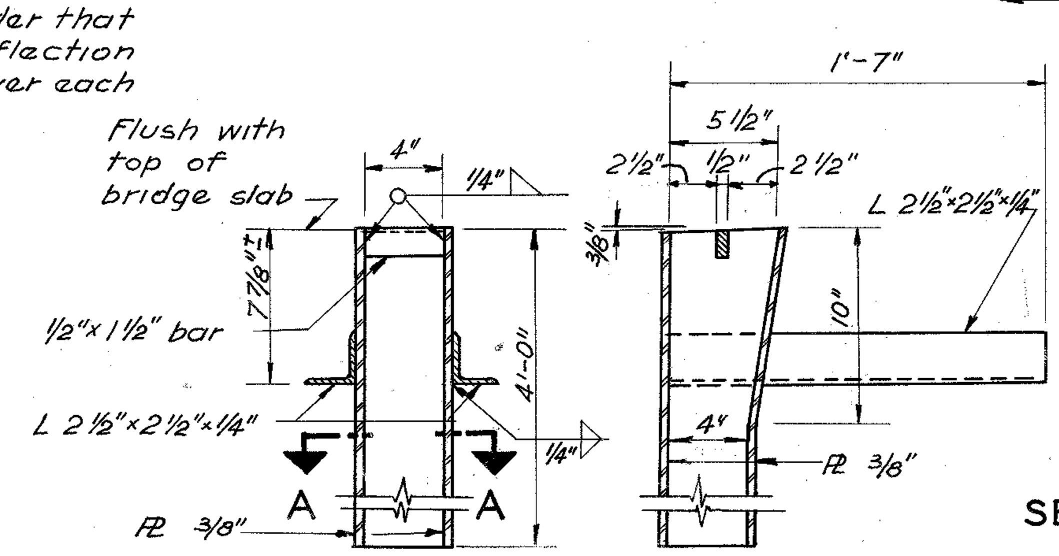
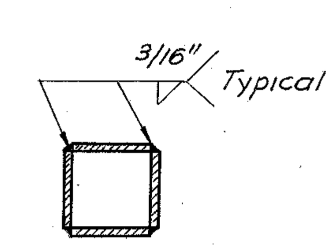


DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS



SCUPPER DETAILS



SECTION A-A

CAMBER: No cambering of beams is required but the beams shall be so fabricated that any curved beams will be placed with the convex flange up. (See Beam Camber Table).

BEAM SPLICE WELDING PROCEDURE:
1. Raise the abutment ends of the beams 7/8 inch
2. Butt-weld the beam flanges and web, using the following sequence: make one pass on each flange, then one on the web; repeat until welds are completed.
3. Weld the bottom and top moment plates.
4. Lower the beam ends to final position.

AURILIO, PACE AND BALLARD
CONSULTING ENGINEERS

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

SUPERSTRUCTURE DETAILS
BRIDGE NO. POR. 224-1190 OVER PENNA R.R.
PORTAGE CO.
U.S.R. 224
STA. 124 + 78.26
STA. 126 + 52.14

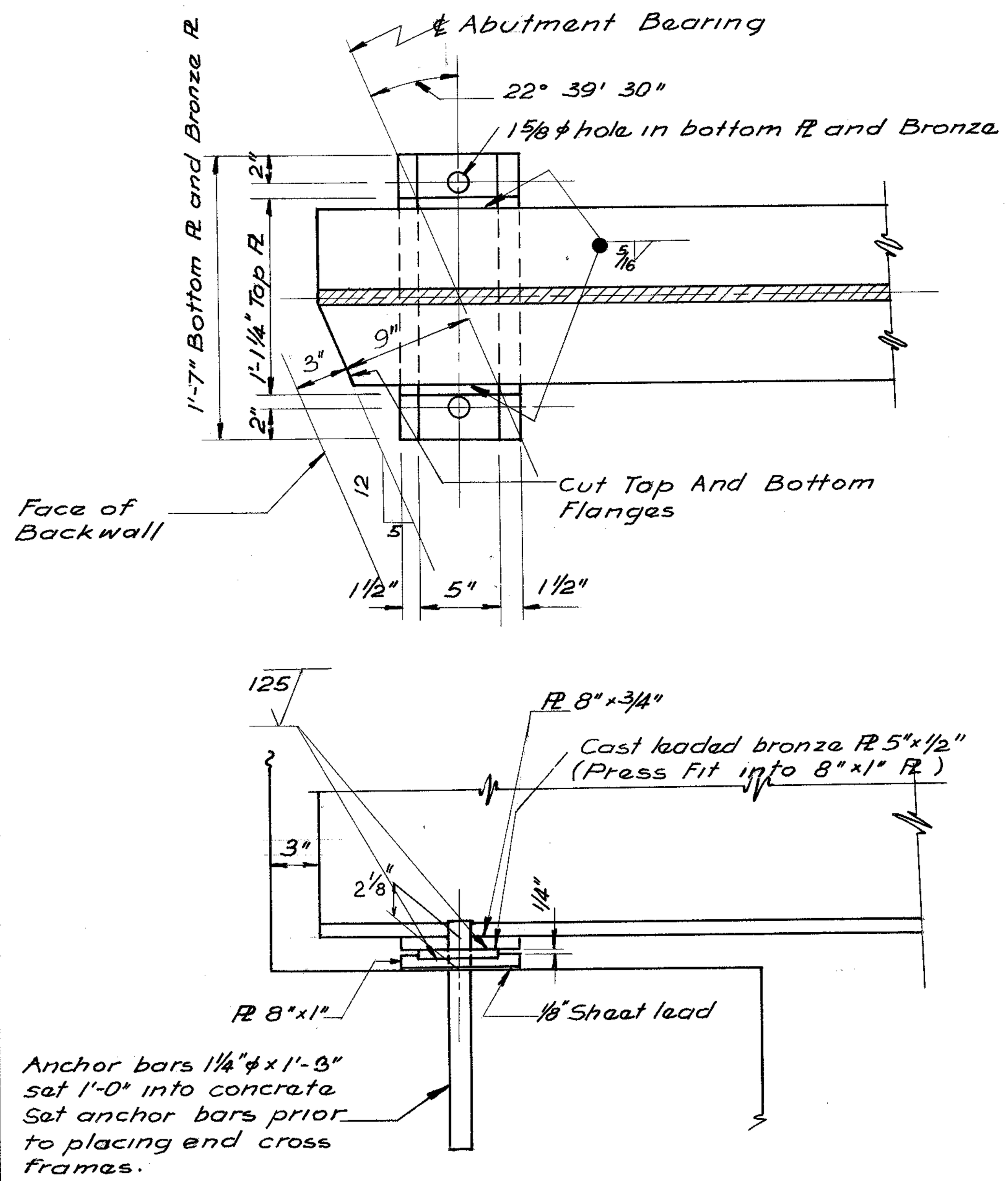
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
R.R.	P.C.	S.F.M.	A.N.A	R.R. 4/25/57	

S-I

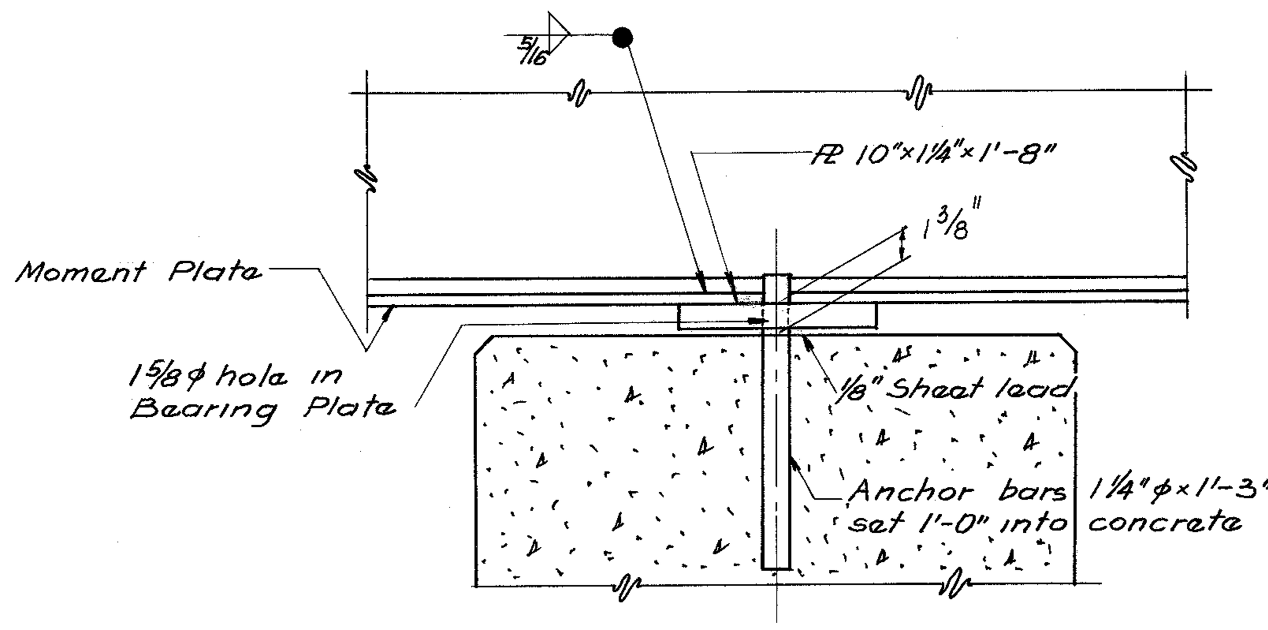
Note:
REPLACEMENT BARS: If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. S-4.02 need not be furnished and replacement bars will not be required.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	F-330(4)	93/105

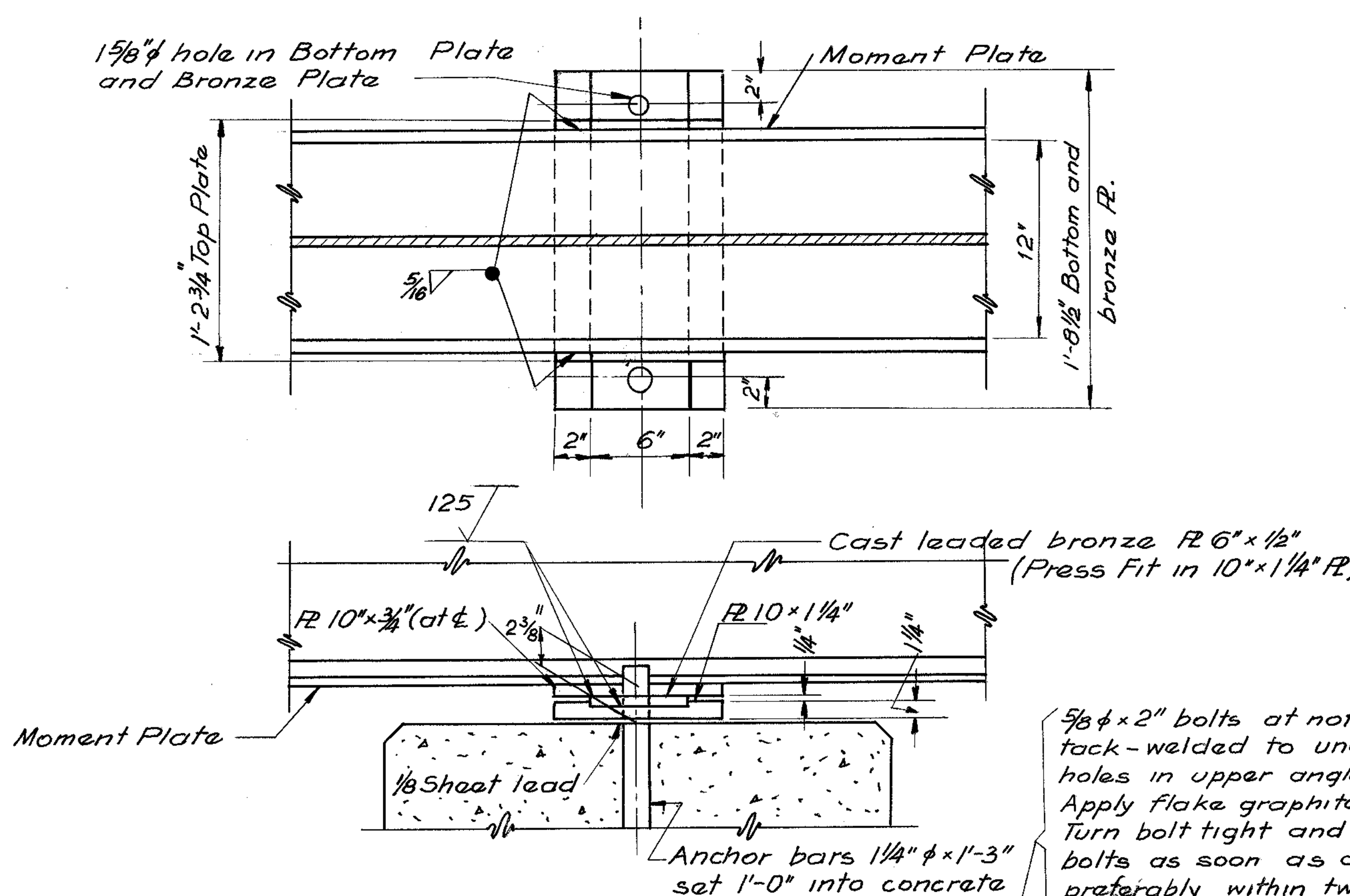
SEC. POR. 224-9.58



ABUTMENT BEARING PLATES



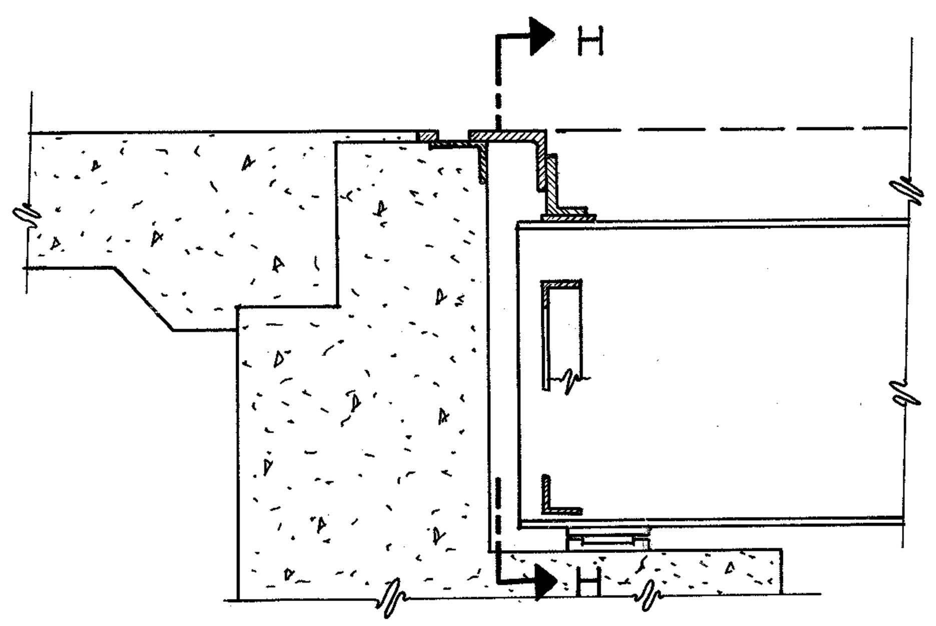
FIXED (WEST PIER)



EXPANSION (EAST PIER)

PIER BEARING PLATES

5/8 ϕ × 2" bolts at not more than 2'-0" c/c with nuts tack-welded to under side of lower angle. 1 1/16" ϕ holes in upper angle. Center 5/8" bolts in 1 1/16" ϕ holes. Apply flake graphite between washers and angle. Turn bolt tight and release one-half turn. Remove bolts as soon as concrete has reasonably set, preferably within two hours, to avoid effect of temperature expansion or constraction of super-structure. Fill holes with bituminous material.

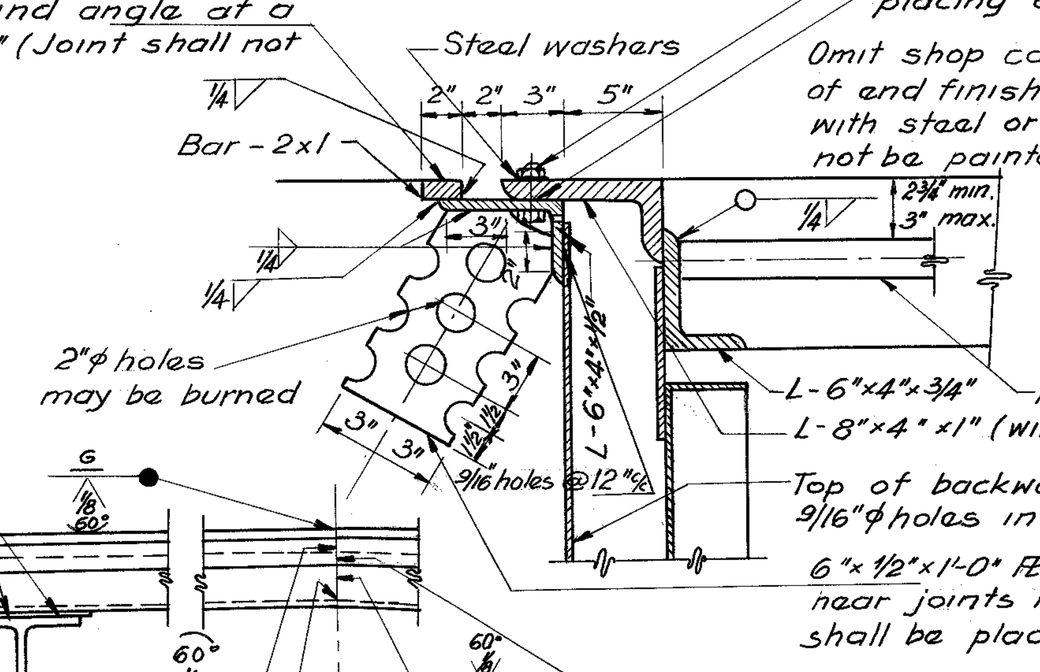


SECTION AT ABUTMENT

Provide joint in 2×1 edge bar and 6"×4"×1/2" angle on center line of roadway. Additional joints may be provided in the edge bar and angle at a minimum spacing of 6'-0" (Joint shall not be welded).

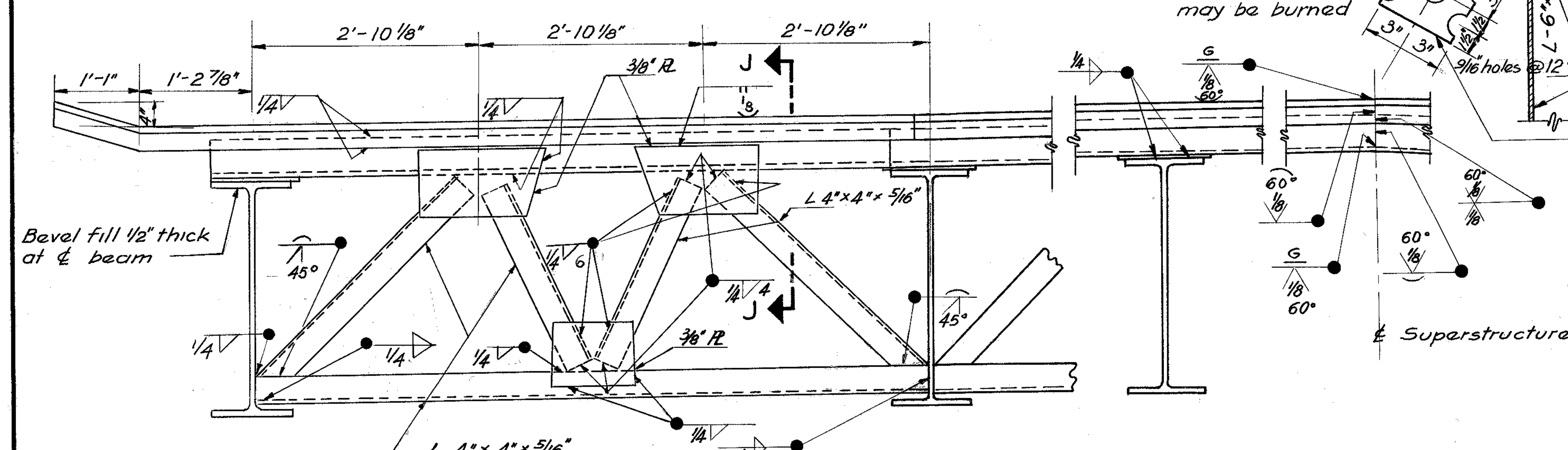
This contact surface shall not be painted and shall be lubricated with flake graphite prior to placing of backwall concrete

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



SECTION J-J

ROADWAY END FINISH

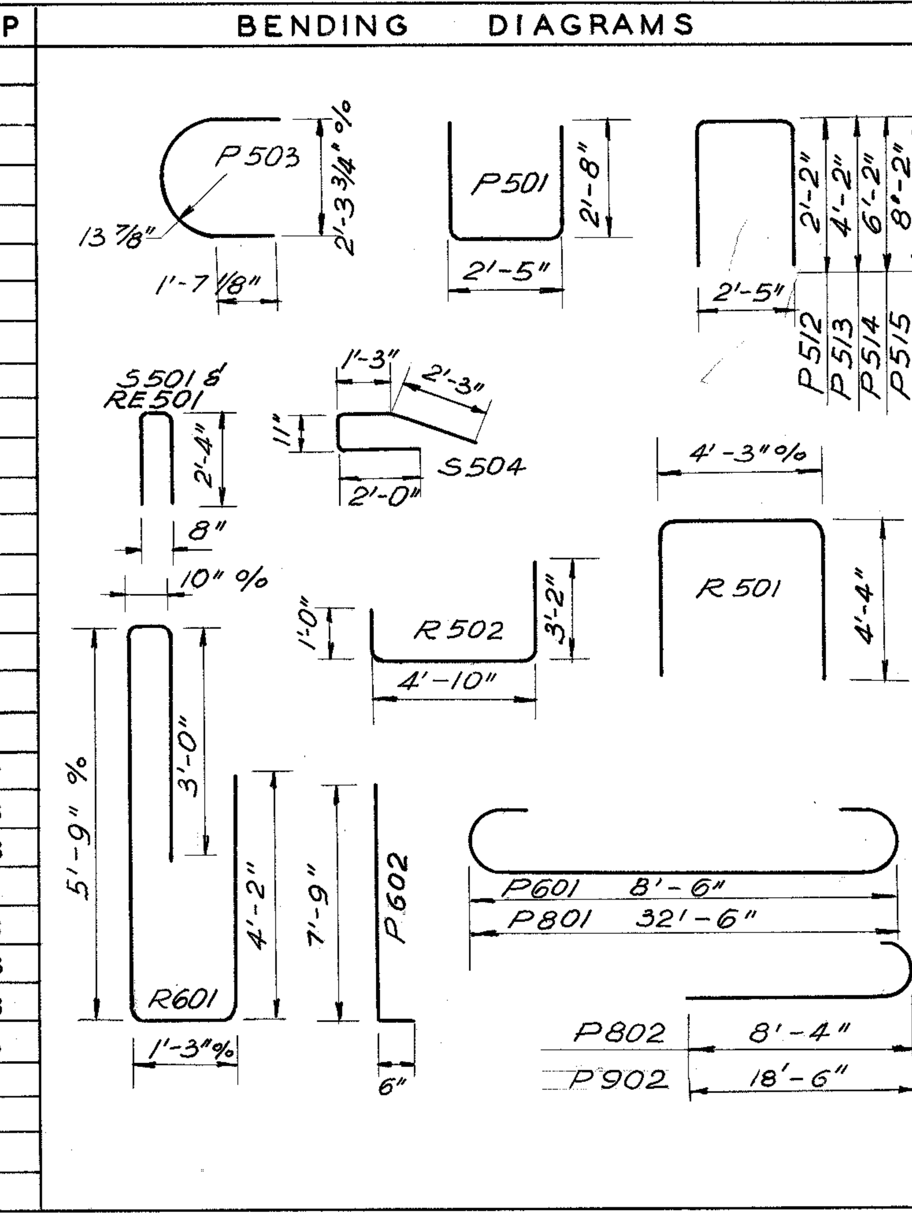


SECTION H-H

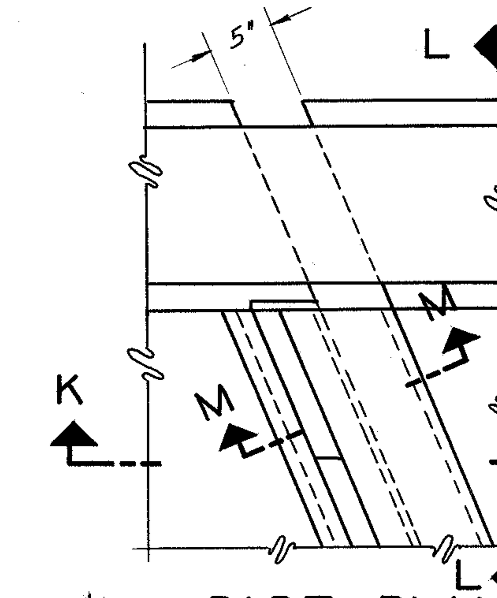
REINFORCING STEEL LIST

MARK	NO.	LENGTH	WEIGHT	SHP
SUPERSTRUCTURE				
S 701	225	45'- 8"	21002	S
	TWO SERIES OF 28	2'- 6"		S
S 702		To	2690	S
		44'- 6"		S
S 601	225	45'- 8"	15433	S
	TWO SERIES OF 28	2'- 6"		S
S 602		To	1977	S
		44'- 6"		S
S 603	64	26'- 0"	2499	S
S 604	390	35'- 6"	20795	S
S 501	296	5'- 4"	1647	B
S 502	64	16'- 0"	1068	S
S 503	16	21'- 8"	362	S
S 504	272	6'- 5"	1820	B
ABUTMENTS				
R 801	32	24'-4"	2079	S
R 802	20	30'-6"	1629	S
R 601	46	15'- 0"	1036	B
R 602	44	4'- 6"	297	S
R 603	24	9'- 6"	342	S
R 501	48	12'- 7"	630	B
R 502	48	9'- 0"	457	B
R 503	20	30'- 1"	627	S

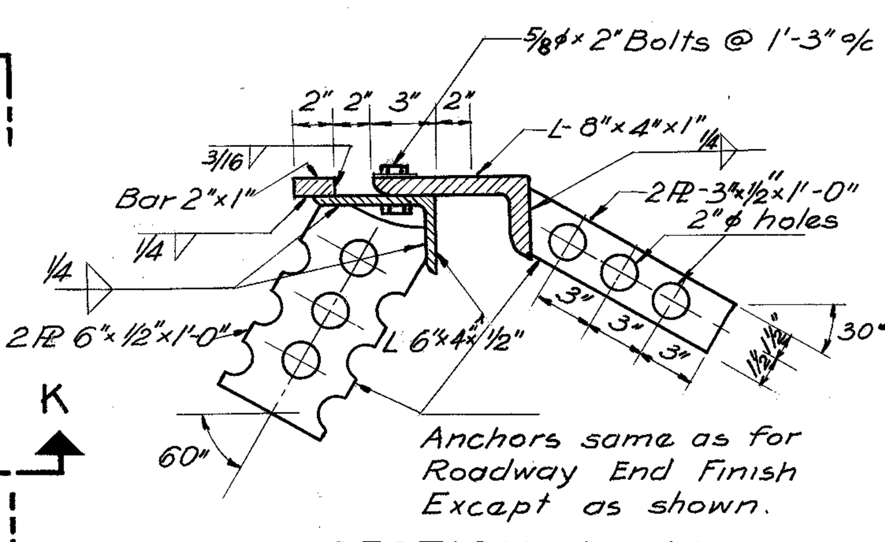
BENDING DIAGRAMS



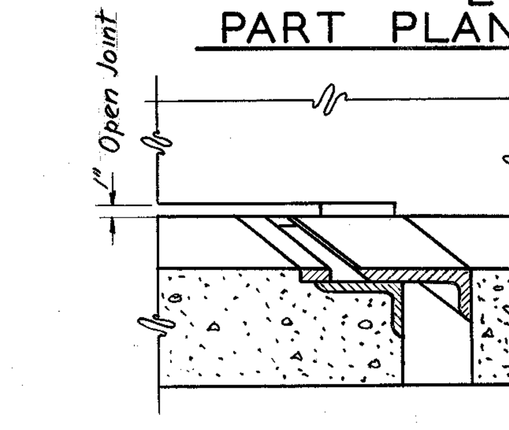
MARK	NO	LENGTH	WEIGHT	SHP
PIERS				
P 501	52	23'- 0"	1207	S
P 502	44	24'- 0"	1101	S
P 503	52	6'- 9"	366	S
P 510	16	3'- 0"	50	S
P 511	40	7'- 9"	323	B
P 512	12	6'- 9"	84	B
P 513	16	10'- 9"	179	B
P 514	12	14'- 9"	185	B
P 515	50	18'- 9"	978	B
P 516	8	23'- 6"	196	S
P 517	4	38'- 0"	159	S
P 518	4	28'- 9"	120	S
P 519	8	10'- 0"	83	S
P 521	4	20'- 6"	86	S
P 901	16	24'- 10"	1351	S
P 902	16	19'- 7"	1065	B
P 602	114	8'- 3"	1413	B
P 601	104	9'- 10"	1536	B
P 801	12	34'- 8"	1111	B
P 802	16	9'- 5"	402	B
REPLACEMENT BARS				
RE 901	1	6'- 10"		S
RE 801	1	6'- 6"		S
RE 701	2	6'- 2"		S
RE 601	3	5'- 11"		S
RE 501	1	5'- 4"		B



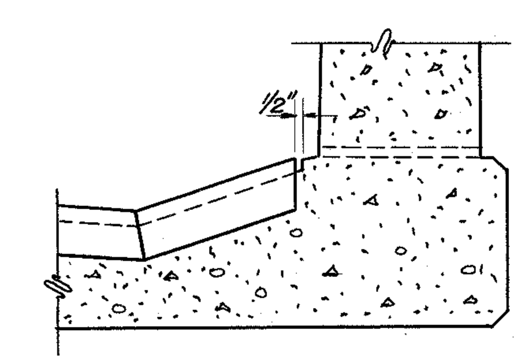
PART PLAN



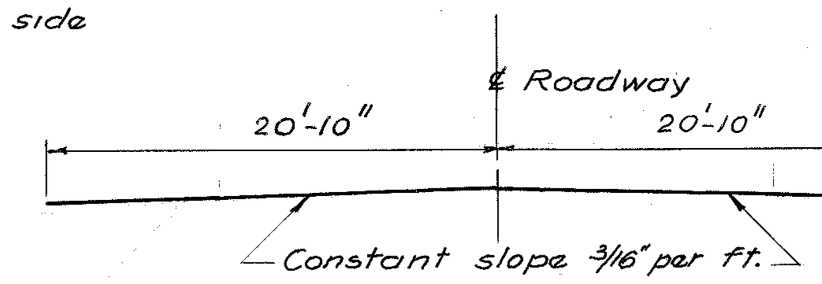
SECTION M-M



SECTION K-K



SECTION L-L



BRIDGE ROADWAY CROWN

Raymond Roberts

AURILIO, PACE AND BALLARD CONSULTING ENGINEERS

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

END FINISH & END CROSS FRAME DETAILS STEEL LIST

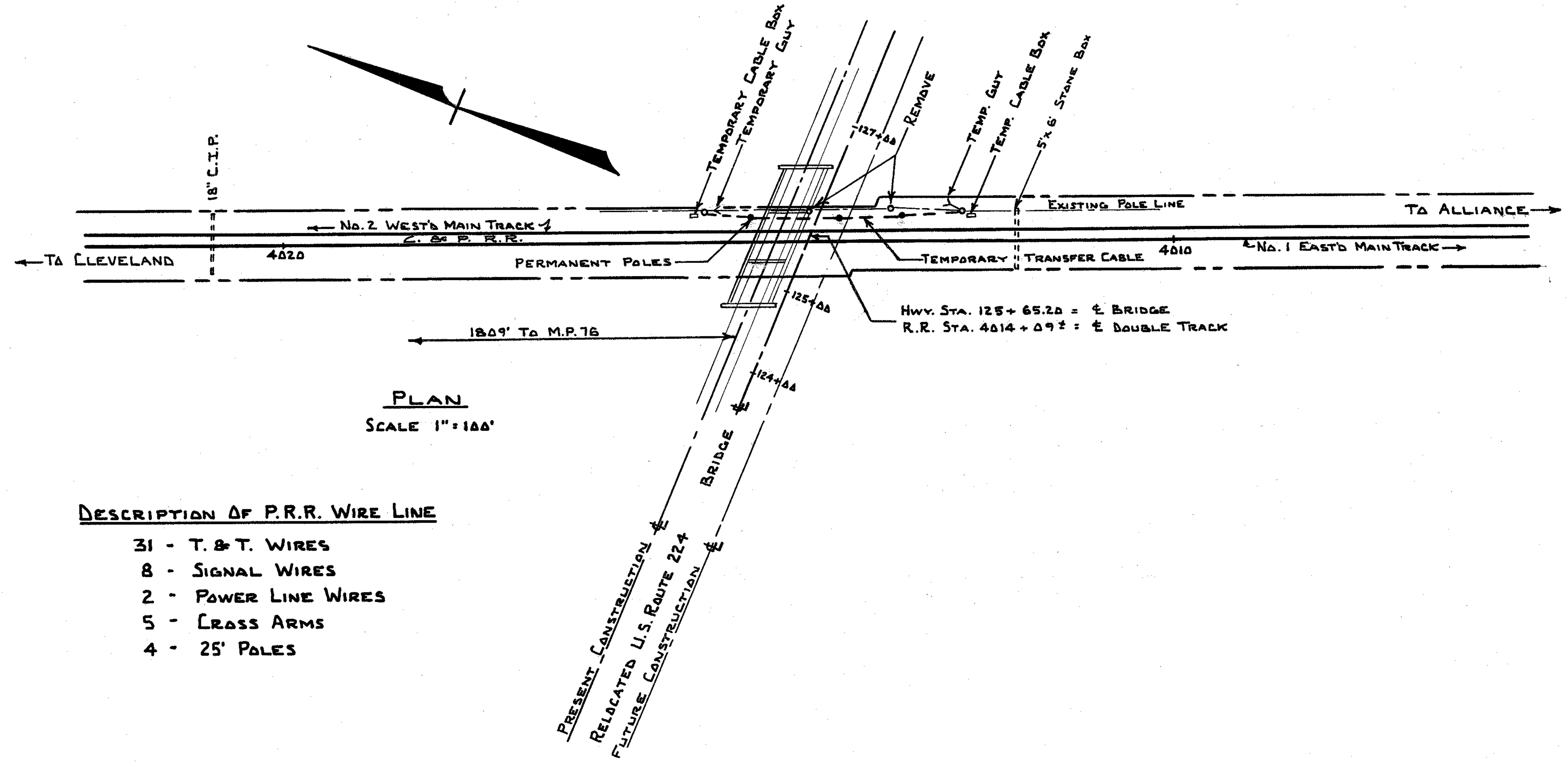
BRIDGE NO. POR. 224-1190 OVER PENNA R.R.

PORTAGE CO. U.S.R. 224
STA. 124+78.26
STA. 126+52.14

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.R	P.C.	S.F.M	R.F.N	RR	4/25/57	

Fed. Rd. Division	State	Project		
2	Ohio	F-330(4)		93A / 105

Sec. POR-224-9.58



PLAN

Scale 1" = 100'

Description of P.R.R. Wire Line

31 - T. & T. Wires
8 - Signal Wires
2 - Power Line Wires
5 - Cross Arms
4 - 25' Poles

Railroad Force Account Work

1. Preparation of Plans and Field Engineering.
2. Temporary Communications and Pole Line Changes.
3. Permanent Communication and Power Lines.

Railroad Force Account Plan

Hwy. Br. No. POR-224-1190

The Pennsylvania Railroad Company
Lake Region — Cleveland District

The Cleveland and Pittsburgh Railroad Co.

Changes to Railroad Pole Line in Connection with Relocation of U.S. Route 224

Atwater, Ohio

Scale: 1" = 100' — March 7, 1957

Office Regional Engr. — Cleveland, Ohio

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

POR-224- 9.58

SUMMARY OF ADDITIONAL R/W REQUIRED

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS.	REMARKS
235 L.A.	Minnie F. Sharp	0.03		95-96	
236 L.A.	Evolyn Willadine Miller &				
	Elmer Ellis Miller	2.14		95-96	
235B L.A.	Minnie F. Sharp	2.15		96	These parcels
237 L.A.	Jesse U. Hillegas	0.47		96	were submitted
238 L.A.	Hazel Needham &				with Por-224-6.22
	W. Dale Jones	2.36		96	
239 L.A.	Frank Kaltenbach &				
	Elizabeth Kaltenbach	3.06		96	
240 L.A.	Jonathan E. Lloyd &				
	Marie M. Lloyd	2.64		96-97	
241 L.A.	Eliza Corbett	0.78		97	
241	Eliza Corbett	0.32		97	
242 L.A.	James R. Jones	0.87		97	
242	James R. Jones	0.33		97	
243 L.A	William Glen Bailey &				
	Ruth Ann Bailey	1.69		97	
243	William Glen Bailey &				
	Ruth Ann Bailey	0.58		97	
244 L.A	Sherrill Wilson &				
	Vallie P. Wilson	3.39		97	
244	Sherrill Wilson &				
	Vallie P. Wilson	0.83		97	
245 L.A	Jasper P. Evans &				
	Hattie B. Evans	3.42		97-98	
245	Jasper P. Evans &				
	Hattie B. Evans	0.05		98	
245-A	Jasper P. Evans &				
	Hattie B. Evans	0.07		98	
246 L.A.	Esther L. Davis	0.13	1	97-98	
246	Esther L. Davis	1.34	2	97-98	
246-W.A.	Esther L. Davis			97-98	
247	Frank C. Corl & Edith Corl	0.05		98	
248 L.A.	Kenneth E. Richards &				
	Loretta A. Richards	5.08		98	
248	Kenneth E. Richards &				
	Loretta A. Richards	0.14		98	

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS.	REMARKS
248-W.A.	Kenneth E. Richards &				
	Loretta A. Richards			98	
249 L.A.	John Massa &				
	Frances C. Massa	6.44		98-99	
250 L.A.	Nellie Baldwin	6.56		99	
251 L.A.	William L. Timmons	13.68		99-100	
252 L.A	A.L. Mullins & Edith E. Mullins	0.43		99-100	
253 L.A.	Herbert White &				
	Helen White	0.28		100	
254A-L.A.	Elmer L. Gravesmill &				
	Norma L. Gravesmill	6.39		100-101	
254-W.A.	Elmer L. Gravesmill &				
	Norma L. Gravesmill			101	
255 L.A.	R. Rudolph Whittlesey	0.73		100	
256 L.A.	Iva Stella Chapman				
	Oscar Kenneth Chapman				
	Carmen Conrad				
	A.K.A. Mrs. J.A. Conrad	0.83		100-101	
257 L.A	Ralph F. Pol	0.27		100-101	
258 L.A.	Chester E. Stroup &				
	Mary Stroup	6.14		100-102	
258-W.A.	Chester E. Stroup &				
	Mary Stroup			101-102	
258	Chester E. Stroup &				
	Mary Stroup	0.16		102	
259 L.A.	Arnett E. Swiger &				
	Ada R. Swiger	2.15		102	
259	Arnett E. Swiger				
	Ada R. Swiger	0.07		102	
260 L.A.	Pearl Wise	6.20		102-103	
261 L.A.	Paul Mayton &				
	Tessie Mayton	15.59		103-104	
261 W.A.	Paul Mayton &				
	Tessie Mayton			103	
261	Paul Mayton &				
	Tessie Mayton	0.11		104	
262 W.A.	Pearl & Roy Green				
	V391-P510			103	

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS.	REMARKS
262 L.A.	Pearl & Roy Green				
	V 391-P 510	0.64		104	
263 L.A.	Clarence W. Strong &				
	Emma Strong	2.17		104	
263	Clarence W. Strong &				
	Emma Strong	0.20		104	
264 L.A.	Sarah H. Martz	7.62		104-105	
264	Sarah H. Martz	0.17		104	
265 L.A.	Roy R. Mc. Henry &		1		
	Ariel G. Mc.Henry	1.70		104-105	
265	Roy R. McHenry &				
	Ariel G. McHenry	0.02		104	
256 A	Pennsylvania R.R. Co.				
	(See Special Plat)			101	

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS.	REMARKS

SUMMARY OF ADDITIONAL R/W REQUIRED

SUMMARY OF ADDITIONAL R/W REQUIRED

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS.	REMARKS
235 LA	Minnie F Sharp	1.39		9-10	
236 LA	Evolyn Willadine Miller &				
	Elmer Ellis Miller	1.99		9-10	
235B LA	Minnie F Sharp	2.15		10	These parcels
237 LA	Jesse U Hillegas	0.37		10	were submitted
238 LA	Hazel Needham &				with Por-224.622
	W. Dale Jones	2.36		10	
239 LA	Frank Kaltenbach &				
	Elizabeth Kaltenbach	3.06		10	
240 LA	Jonathan E Lloyd &				
	Marie M Lloyd	2.64		1	
241 LA	Eliza Corbett	0.78		1	
241	Eliza Corbett	0.32		1	
242 LA	James R Jones	0.87		1	
242	James R Jones	0.33		1	
243 LA	William Glen Bailey &				
	Ruth Ann Bailey	1.69		1	
243	William Glen Bailey &				
	Ruth Ann Bailey	0.58		1	
244 LA	Sherrill Wilson &				
	Vallie P Wilson	3.39		1	
244	Sherrill Wilson &				
	Vallie P Wilson	0.83		1	
245 LA	Jasper P Evans &				
	Hattie B Evans	3.25		1-2	
245	Jasper P Evans &	0.05		2	
245 A	Hattie B Evans	0.07		2	
246 LA	Esther L. Davis	0.12		2	
246WA	" " "	–		1	
246	Esther L. Davis &	1.14	Yes	1-2	
246AWA	" " "	–		1-2	
247	Frank C. Cork &				
	Edith M. Cork	0.05		2	
248 LA	Kenneth E Richards &				
	Loretta A Richards	4.91		2	
248	Kenneth E Richards &				
	Loretta A Richards	0.14		2	

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS.	REMARKS
248-WA	Kenneth E Richards &				
	Loretto A Richards			2	
249 LA	John Masso &				
	Frances C Massa	6.44		2-3	
250 LA	Nellie Boldwin	6.56		3	
251 LA	William L Timmons	13.49		3-4	
252 LA	AL & Ethel E. Mullins	0.43		3-4	
253 LA	Herbert White &				
	Helen White	0.25		4	
254 LA	Norma L Gravesmill	4.10		4-5	
254 WA	" " "	–		5	
254-ALA	Norma L Gravesmill	2.10		5	
255 LA	R Rudolph Whittlesey	0.70		4	
256 LA	Iva Stella Chapman &			4-5	
256ALA	Oscar Kenneth Chapman	–		5	
	Carmen Conrad	0.83			
257 LA	Ralph F Pol	0.27		5	
258 LA	Chester E Stroup &				
	Mary Stroup	5.80		5-6	
258-X	Chester E Stroup &				
	Mary Stroup	0.02		6	
258	Chester E Stroup &	0.09		6	
258A	Mary Stroup	0.10		6	
259 LA	Arnett E Swiger &				
	Ada R Swiger	2.03		6	
259	Arnett E Swiger				
	Ada R Swiger	0.07		6	
260 LA	Pearl Wise	6.20		6-7	
261 LA	Paul Mayton &				
	Tessie Mayton	15.24		7-8	
261WA	" "	–		7	
261AWA	" "	–		7	
261	" "	0.11		8	
262 LA	Roy Green - Pearl Green	0.64		8	
263 LA	Clarense W. Strong &				
	Emma Strong	2.02		8	
263	" " "	0.20		8	

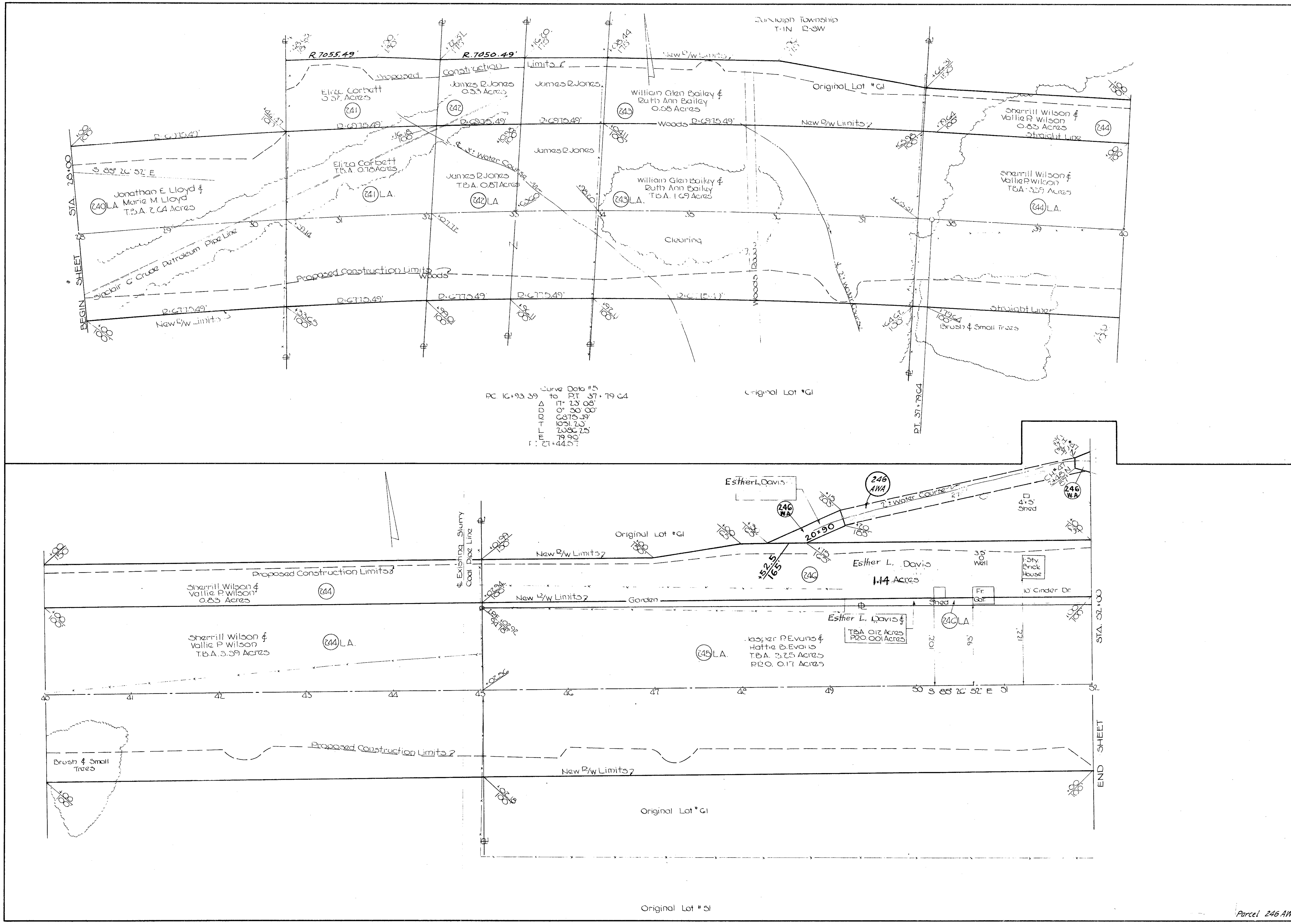
PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS.	REMARKS
264 LA	Sarah H. Martz	7.27		8-9	
264	" " "	0.17		8	
265 LA	Roy R. McHenry &				
	Ariel G. McHenry	1.55		8-9	
265	" " "	0.02	Yes	8	

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS.	REMARKS

Revised 3-11-57

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330(4)		1/9

POR-224-9.58



Parcel 246 AWA ------- Added ------- 6-19-58

RIGHT OF WAY SHEET - STA. 28+00 TO STA. 52+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330(4)		2/9

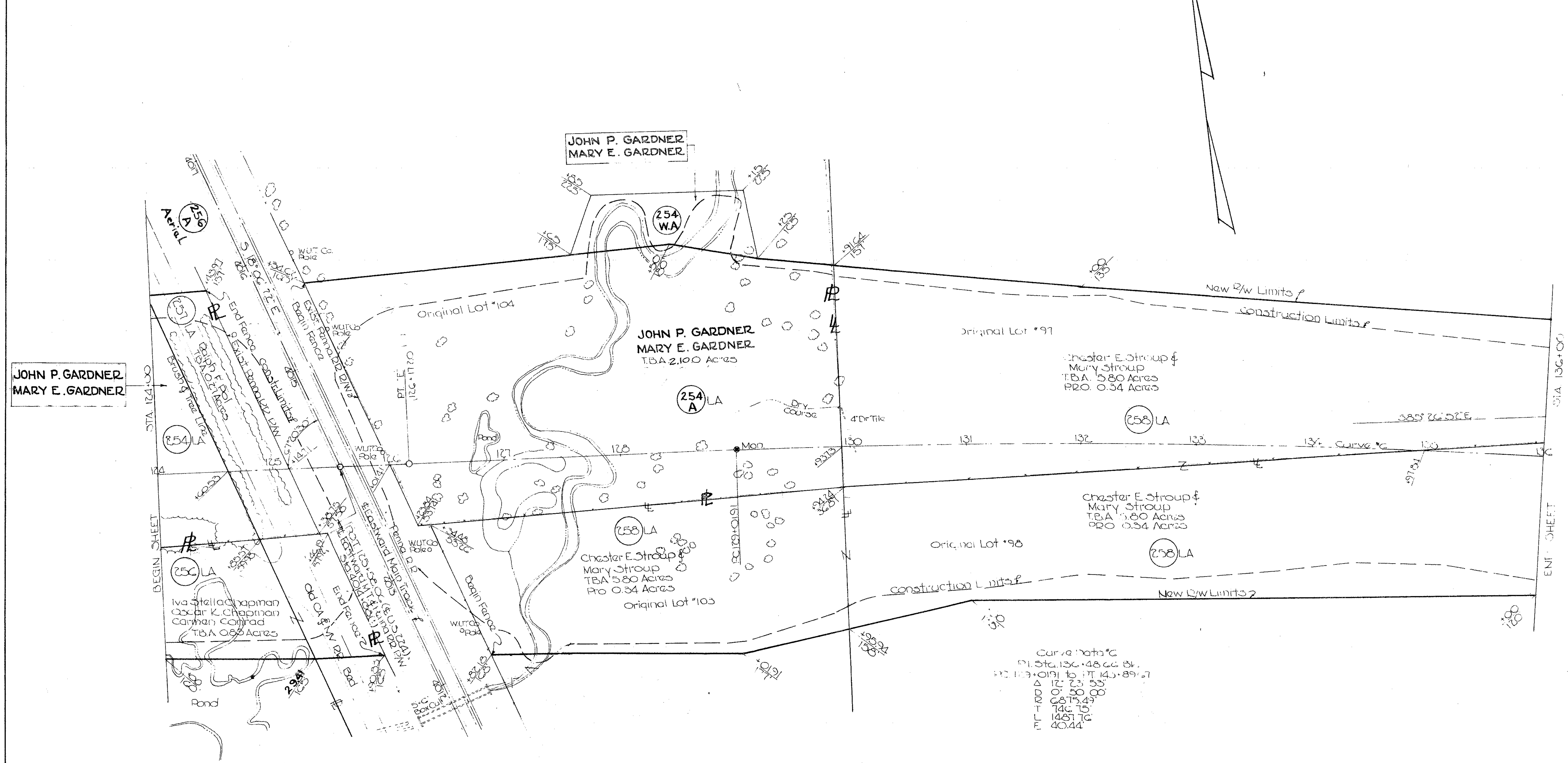
POR-224-9.58

RIGHT OF WAY SHEET - STA. 52+00 TO STA. 76+00

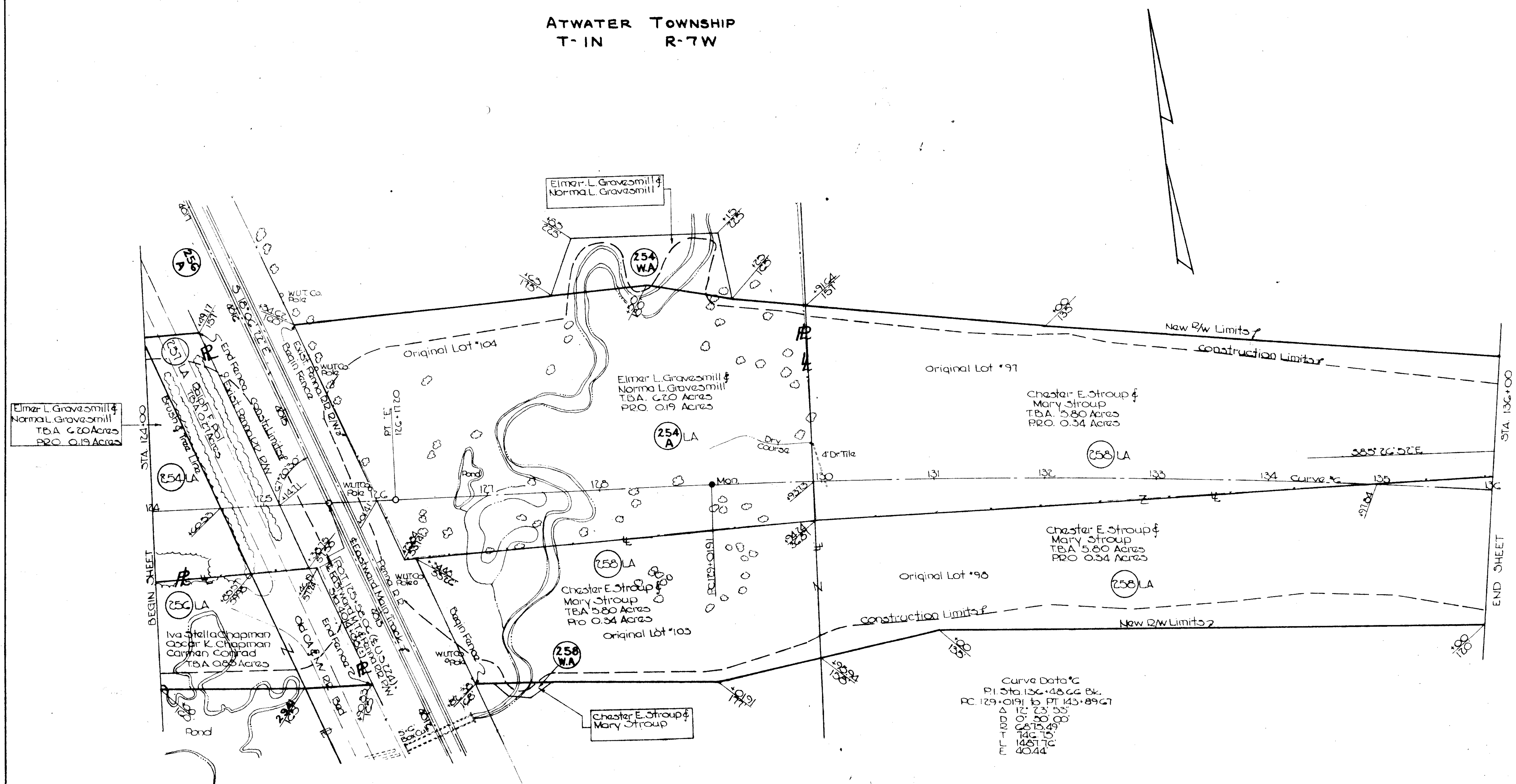
RIGHT OF WAY SHEET - STA. 76+00 TO STA. 100+00

RIGHT OF WAY SHEET - STA. 100+00 TO STA. 124+00

ATWATER TOWNSHIP
T-1N R-7W



ATWATER TOWNSHIP
T-1N R-7W

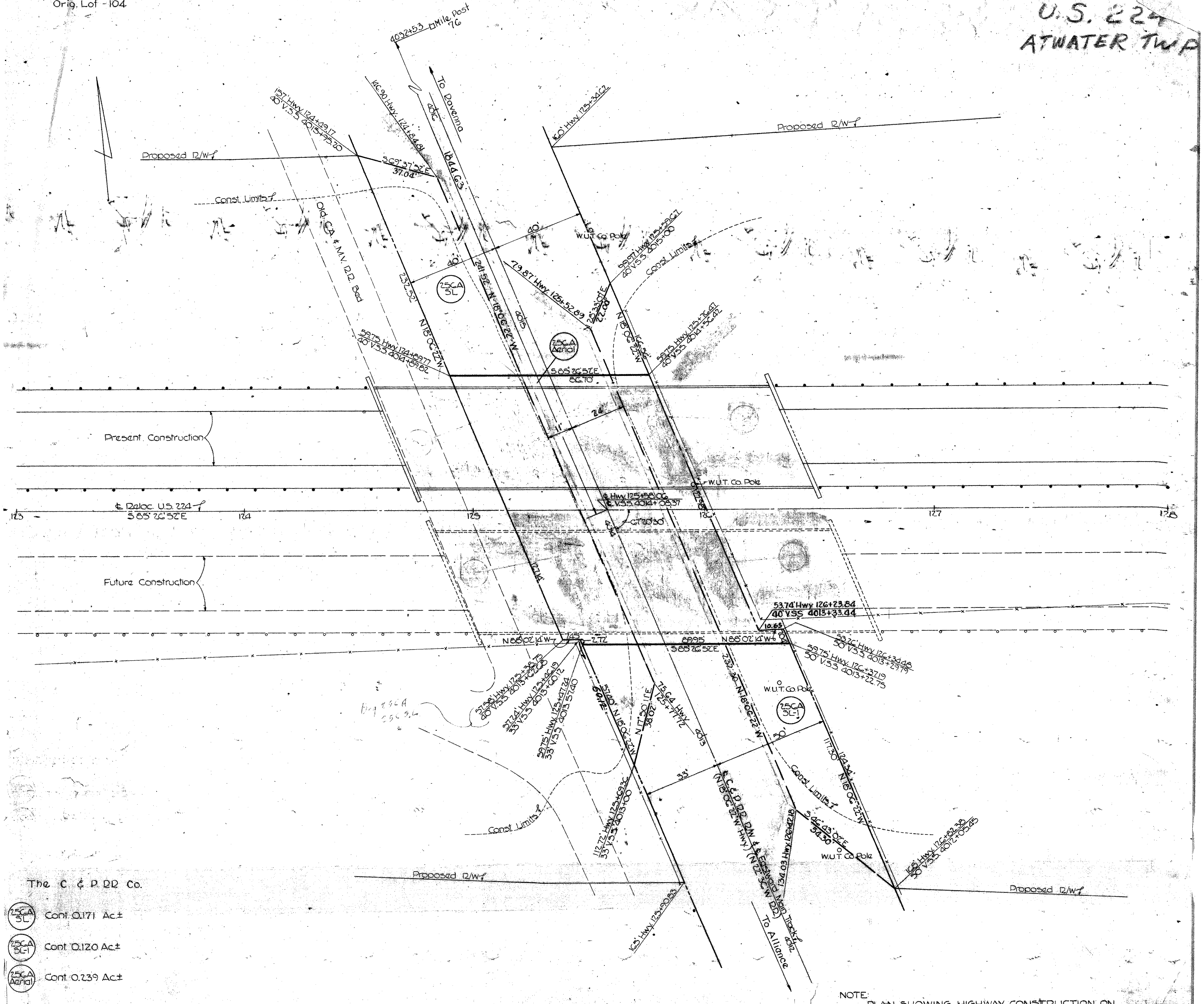


Note:
See Special Right of Way Plat
fo Pennsylvania Railroad.

Atwater Township Portage County
T 1-N R 7-W
Orig. Lot - 104

P012-224-958
R/W PLAN

U.S. 224
ATWATER TWP



The C. & P. RR Co.

25CA SL Cont. 0.171 Ac±

25CA SL-1 Cont. 0.120 Ac±

25CA Aerial Cont. 0.239 Ac±

NOTE:
PLAN SHOWING HIGHWAY CONSTRUCTION ON
The Cleveland and Pittsburg Railroad Company

Note:
Valuations Survey Stations shown are referred to those shown on Railroad Company R/W Track Map V-8a, Sheet 62.

Date: Feb. 13, 1957
Scale 1"-20'

Revised 7-1-57.

RIGHT OF WAY SHEET - STA. 136+00 TO STA. 148+00

RIGHT OF WAY SHEET - STA 148+00 TO STA 172+00

FED RD DIVISION	STATE	PROJECT	FISCAL YEAR	8/9
2	OHIO	F-330(4)		

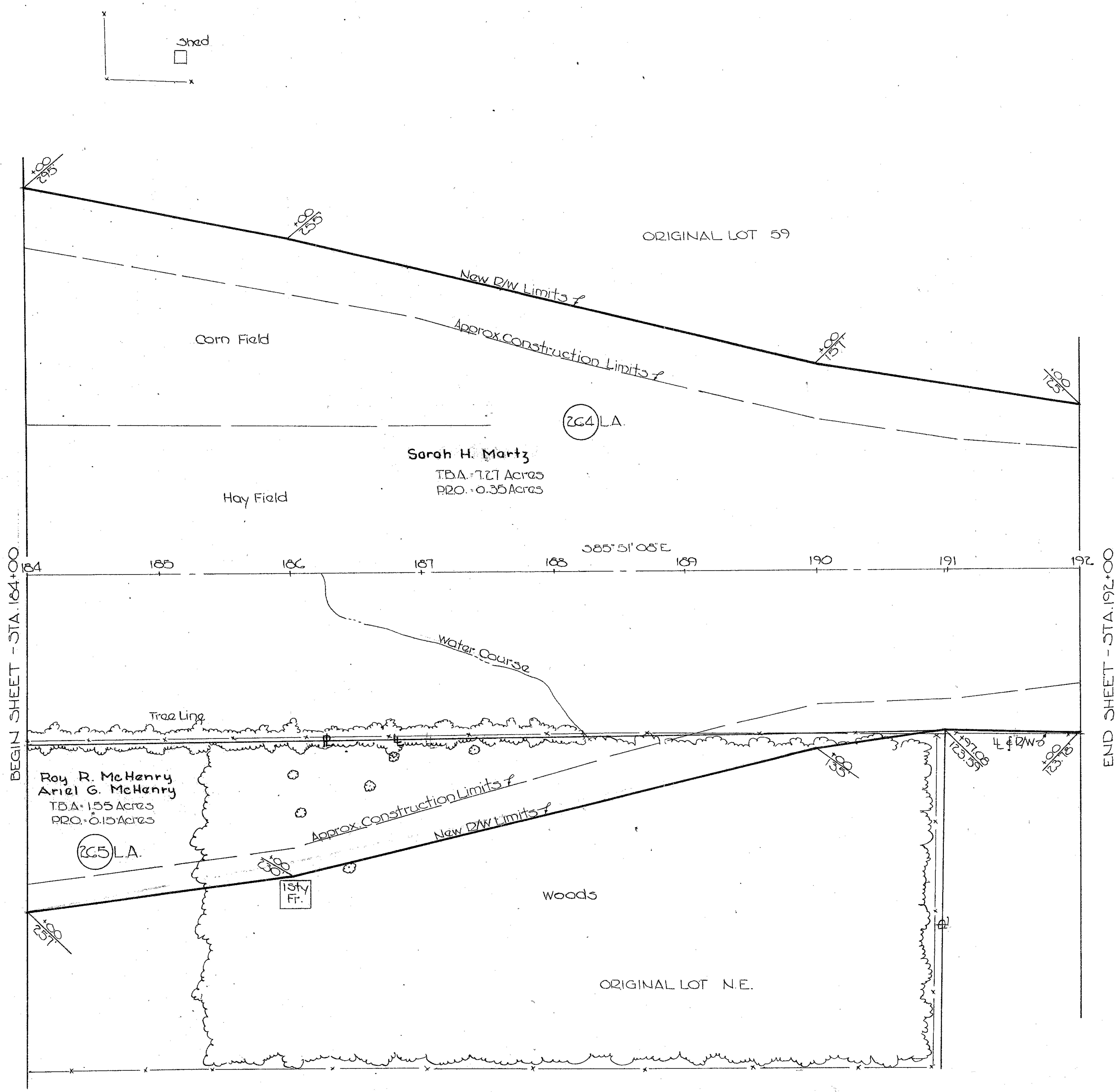
POR-224-958

STATE	PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OHIO	F-330(4)		9	9

PGR-224-9.58

ATWATER TOWNSHIP

T-1-N R-7-W



RIGHT OF WAY SHEET - STA. 184+00 TO STA. 192+00

224-POR-9.58
LIMITED ACCESS HIGHWAY
I Hereby Certify this Plat to be Correct
Signed by: Carl L. Campbell 3-19-57
Division Deputy Director
State of Ohio Department of Highways
LOCATION PLAT
NATIONAL ROAD
POR.-224 - 9.58
PORTAGE COUNTY-RANDOLPH TOWNSHIP & ATWATER TOWNSHIP
0 600 900 1200 1800 2400
Scale
Received 3-20-1957 At
Recorded
Plat Book 12 Page 48
Signed Recorder Portage County, Ohio
Fee 3.80
Signed Anthony S. Aurilio
Anthony S. Aurilio P.E. No. 8063
Registered Surveyor No. 3210
Date Dec. 6, 1956
Curve No. 7
P.I. Sta. 162+83.01
Δ 12°48'08"
D 0°30'00"
R 6875.49'
T 771.36'
L 1536.26'
E 42.52'
RANDOLPH TOWNSHIP
T-1-N R-8-W
ATWATER TOWNSHIP
T-1-N R-7-W
Field Measurement = 2891.70'
Use Deed Measurement = 2896.63
Tacked Stake
SEE DETAIL 'D'
Corner Posts along T.H.51 used to est. other end of ℄
Used Deed Dist. (1333.20) to est. Lot Line
END CONTRACT POR.224-6.22
BEGIN CONTRACT POR.224-9.58
Sta. 2+50 ATWATER
To Akron
To Youngstown
ORIGINAL LOT #62
ORIGINAL LOT #61
ORIGINAL LOT #129
ORIGINAL LOT #124
ORIGINAL LOT #113
ORIGINAL LOT #112
ORIGINAL LOT #105
ORIGINAL LOT #104
ORIGINAL LOT #97
ORIGINAL LOT #91
ORIGINAL LOT #74
ORIGINAL LOT #130
ORIGINAL LOT #123
ORIGINAL LOT #114
ORIGINAL LOT #111
ORIGINAL LOT #106
ORIGINAL LOT #103
ORIGINAL LOT #98
ORIGINAL LOT #90
ORIGINAL LOT #51
ORIGINAL LOT #52
ORIGINAL LOT NW.
GRANDVIEW PARK ALLOTMENT
ATWATER STATION
County Highway No. 47
County Highway No. 50
State Rte. No. 80
T.H. No. 434
Exist. U.S. Rte. 224
U.S. Rte. 224
S 89°26' 52" E
S 73°02' 59" E
S 89°51' 07" E
N 77°10' 00" E
℄ 60' R/W S 61°46' 30" E
Exist. U.S. 224
Point on Fence Line used to est. Lot Line
Used Corner Post to est. Lot Line
Used Tree Line & Fence Line to establish Lot Line
Corner Post used
Stone Found & Used
Sta. 182+55.76 AT
LIMITED ACCESS HIGHWAY
Note: See prior Location Plat (1 of 2) for method of establishing existing R/W on Existing U.S. 224.
Curve No. 5
P.I. Sta. 27+44.59
Δ 17°23'08"
D 0°30'00"
R 6875.49'
T 1051.20'
L 2086.25'
E 79.82'
Curve No. 6
P.I. Sta. 136+48.66
Δ 12°23'53"
D 0°30'00"
R 6875.49'
T 746.75'
L 1487.76'
E 40.44
DETAIL 'D'
Tacked Stake Set & I.P.F. used to est. ℄ R/W CH.#47
DETAIL 'E'
I.P.F. & used to est. ℄ R/W CH.#50
DETAIL 'F'
I.P.F. & used to est. ℄ R/W Bank St.
DETAIL 'G'
I.P.F. & used to est. ℄ R/W S.R.#80
This Contract P.C. 16+93.39
Mile Post System P.C. 615+85.94
CENTER LINE REFERENCE MONUMENTS WILL BE SET AFTER CONSTRUCTION
This Contract 23+00
Mile Post System 621+92.55
This Contract P.T. 37+79.64
Mile Post System P.T. 636+72.19
This Contract 55+00
Mile Post System 653+92.55
This Contract 86+00
Mile Post System 684+92.55
This Contract 111+00
Mile Post System 709+92.55
This Contract 121+00
Mile Post System 719+92.55
This Contract P.C. 129+01.91
Mile Post System P.C. 727+94.46
This Contract P.T. 143+89.67
Mile Post System P.T. 742+82.22
This Contract P.C. 155+11.65
Mile Post System P.C. 754+04.20
This Contract P.T. 170+47.91
Mile Post System P.T. 769+40.46
This Contract 181+50
Mile Post System 780+42.55
PREPARED AND RECOMMENDED BY
AURILIO, PACE & BALLARD
CONSULTING ENGINEERS

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	F-330(4)	

94/105

POR-224- 9.58

SUMMARY OF ADDITIONAL R/W REQUIRED

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS.	REMARKS
235 L.A.	Minnie F. Sharp	0.03		95-96	
236 L.A.	Evolyn Willadine Miller &				
	Elmer Ellis Miller	2.14		95-96	
235 B L.A.	Minnie F. Sharp	2.15		96	These parcels
237 L.A.	Jesse U. Hillegas	0.47		96	were submitted
238 L.A.	Hazel Needham &				with Por-224-6.22
	W. Dale Jones	2.36		96	
239 L.A.	Frank Kaltenbach &				
	Elizabeth Kaltenbach	3.06		96	
240 L.A.	Jonathan E. Lloyd &				
	Marie M. Lloyd	2.64		96-97	
241 L.A.	Eliza Corbett	0.78		97	
241	Eliza Corbett	0.32		97	
242 L.A.	James R. Jones	0.87		97	
242	James R. Jones	0.33		97	
243 L.A.	William Glen Bailey &				
	Ruth Ann Bailey	1.69		97	
243	William Glen Bailey &				
	Ruth Ann Bailey	0.58		97	
244 L.A.	Sharrill Wilson &				
	Vallie P. Wilson	3.39		97	
244	Sharrill Wilson &				
	Vallie P. Wilson	0.83		97	
245 L.A.	Jasper P. Evans &				
	Hattie B. Evans	3.42		97-98	
245	Jasper P. Evans &				
	Hattie B. Evans	0.05		98	
245-A	Jasper P. Evans &				
	Hattie B. Evans	0.07		98	
246 L.A.	Esther L. Davis	0.13	1	97-98	
246	Esther L. Davis	1.34	2	97-98	
246-W.A.	Esther L. Davis			97-98	
247	Frank C. Corl & Edith Corl	0.05		98	
248 L.A.	Kenneth E. Richards &				
	Loretta A. Richards	5.08		98	
248	Kenneth E. Richards &				
	Loretta A. Richards	0.14		98	

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS.	REMARKS
248-W.A.	Kenneth E. Richards &				
	Loretta A. Richards			98	
249 L.A.	John Massa &				
	Frances C. Massa	6.44		98-99	
250 L.A.	Nellie Baldwin	6.56		99	
251 L.A.	William L. Timmons	13.68		99-100	
252 L.A.	A.L. Mullins & Edith E. Mullins	0.43		99-100	
253 L.A.	Herbert White &				
	Helen White	0.28		100	
254A-L.A.	Elmer L. Gravesmill &				
	Norma L. Gravesmill	6.39		100-101	
254-W.A.	Elmer L. Gravesmill &				
	Norma L. Gravesmill			101	
255 L.A.	R. Rudolph Whittlesey	0.73		100	
256 L.A.	Iva Stella Chapman				
	Oscar Kenneth Chapman				
	Carmen Conrad				
	A.K.A. Mrs. J.A. Conrad	0.83		100-101	
257 L.A.	Ralph F. Pol	0.27		100-101	
258 L.A.	Chester E. Stroup &				
	Mary Stroup	6.14		100-102	
258 -W.A.	Chester E. Stroup &				
	Mary Stroup			101-102	
258	Chester E. Stroup &				
	Mary Stroup	0.16		102	
259 L.A.	Arnett E. Swiger &				
	Ada R. Swiger	2.15		102	
259	Arnett E. Swiger				
	Ada R. Swiger	0.07		102	
260 L.A.	Pearl Wise	6.20		102-103	
261 L.A.	Paul Mayton &				
	Tessie Mayton	15.59		103-104	
261 W.A.	Paul Mayton &				
	Tessie Mayton			103	
261	Paul Mayton &				
	Tessie Mayton	0.11		104	
262 W.A.	Pearl & Roy Green				
	V391-P510			103	

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS.	REMARKS
262 L.A.	Pearl & Roy Green				
	V 391-P 510	0.64		104	
263 L.A.	Clarence W. Strong &				
	Emma Strong	2.17		104	
263	Clarence W. Strong &				
	Emma Strong	0.20		104	
264 L.A.	Sarah H. Martz	7.62		104-105	
264	Sarah H. Martz	0.17		104	
265 L.A.	Roy R. Mc. Henry &		1		
	Ariel G. Mc.Henry	1.70		104-105	
265	Roy R. McHenry &				
	Ariel G. McHenry	0.02		104	
256 A	Pennsylvania R.R. Co.				
	(See Special Plat)			101	

SUMMARY OF ADDITIONAL R/W REQUIRED

U.S. 224

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET NO.
2	OHIO	F-330(4)		87

POR-224-9.58

SUMMARY OF ADDITIONAL R/W REQUIRED

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS	REMARKS
235 LA	Minnie F Sharp	1.39		9-10	
236 LA	Evolyn Willadine Miller &				
	Elmer Ellis Miller	1.99		9-10	
235B LA	Minnie F Sharp	2.15		10	These parcels
237 LA	Jesse U Hillegas	0.37		10	were submitted
238 LA	Hazel Needham &				with Por-224.6.22
	W. Dale Jones	2.36		10	
239 LA	Frank Kaltenbach &				
	Elizabeth Kaltenbach	3.06		10	
240 LA	Jonathan E Lloyd &				
	Marie M Lloyd	2.64		1	
241 LA	Eliza Corbett	0.78		1	
241	Eliza Corbett	0.32		1	
242 LA	James R Jones	0.87		1	
242	James R Jones	0.33		1	
243 LA	William Glen Bailey &				
	Ruth Ann Bailey	1.69		1	
243	William Glen Bailey &				
	Ruth Ann Bailey	0.58		1	
244 LA	Sherrill Wilson &				
	Vallie P Wilson	3.39		1	
244	Sherrill Wilson &				
	Vallie P Wilson	0.83		1	
245 LA	Jasper P Evans &				
	Hattie B Evans	3.25		1-2	
245	Jasper P Evans &	0.05		2	
245 A	Hattie B Evans	0.07		2	
246 LA	Esther L. Davis	0.12		2	
246WA	" " "	—		1	
246	Esther L. Davis &	1.14	Yes	1-2	
246AWA	" " "	—		1-2	
247	Frank C. Corl &				
	Edith M. Corl	0.05		2	
248 LA	Kenneth E. Richards &				
	Loretta A Richards	4.91		2	
248	Kenneth E. Richards &				
	Loretta A Richards	0.14		2	

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS	REMARKS
248-WA	Kenneth E Richards &				
	Loretta A Richards			2	
249 LA	John Masso &				
	Frances C. Massa	6.44		2-3	
250 LA	Nellie Boldwin	6.56		3	
251 LA	William L Timmons	13.49		3-4	
252 LA	Al & Ethel E. Mullins	0.43		3-4	
253 LA	Herbert White &				
	Helen White	0.25		4	
254 LA	Norma L Gravesmill	4.10		4-5	
254 WA	" " "	—		5	
254-ALA	Norma L Gravesmill	2.10		5	
255 LA	R Rudolph Whittlesey	0.70		4	
256 LA	Iva Stella Chapman &			4-5	
256ALA	Oscar Kenneth Chapman	—		5	
	Carmen Conrad	0.83			
257 LA	Ralph F Pol	0.27		5	
258 LA	Chester E. Stroup &				
	Mary Stroup	5.80		5-6	
258-X	Chester E Stroup &				
	Mary Stroup	0.02		6	
258	Chester E Stroup &	0.09		6	
258A	Mary Stroup	0.10		6	
259 LA	Arnett E Swiger &				
	Ada R Swiger	2.03		6	
259	Arnett E Swiger				
	Ada R Swiger	0.07		6	
260 LA	Pearl Wise	6.20		6-7	
261 LA	Paul Mayton &				
	Tessie Mayton	15.24		7-8	
261WA	" "	—		7	
261AWA	" "	—		7	
261	" "	0.11		8	
262 LA	Roy Green - Pearl Green	0.64		8	
263 LA	Clarense W. Strong &				
	Emma Strong	2.02		8	
263	" " "	0.20		8	

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS	REMARKS
264 LA	Sarah H. Martz	7.27		8-9	
264	" " "	0.17		8	
265 LA	Roy R. McHenry &				
	Ariel G. McHenry	1.55		8-9	
265	" " "	0.02	Yes	8	

PARCEL NO.	OWNER	AREA (ACRES)	EXIST BLDGS	SHEET NOS	REMARKS

Revised 3-11-57

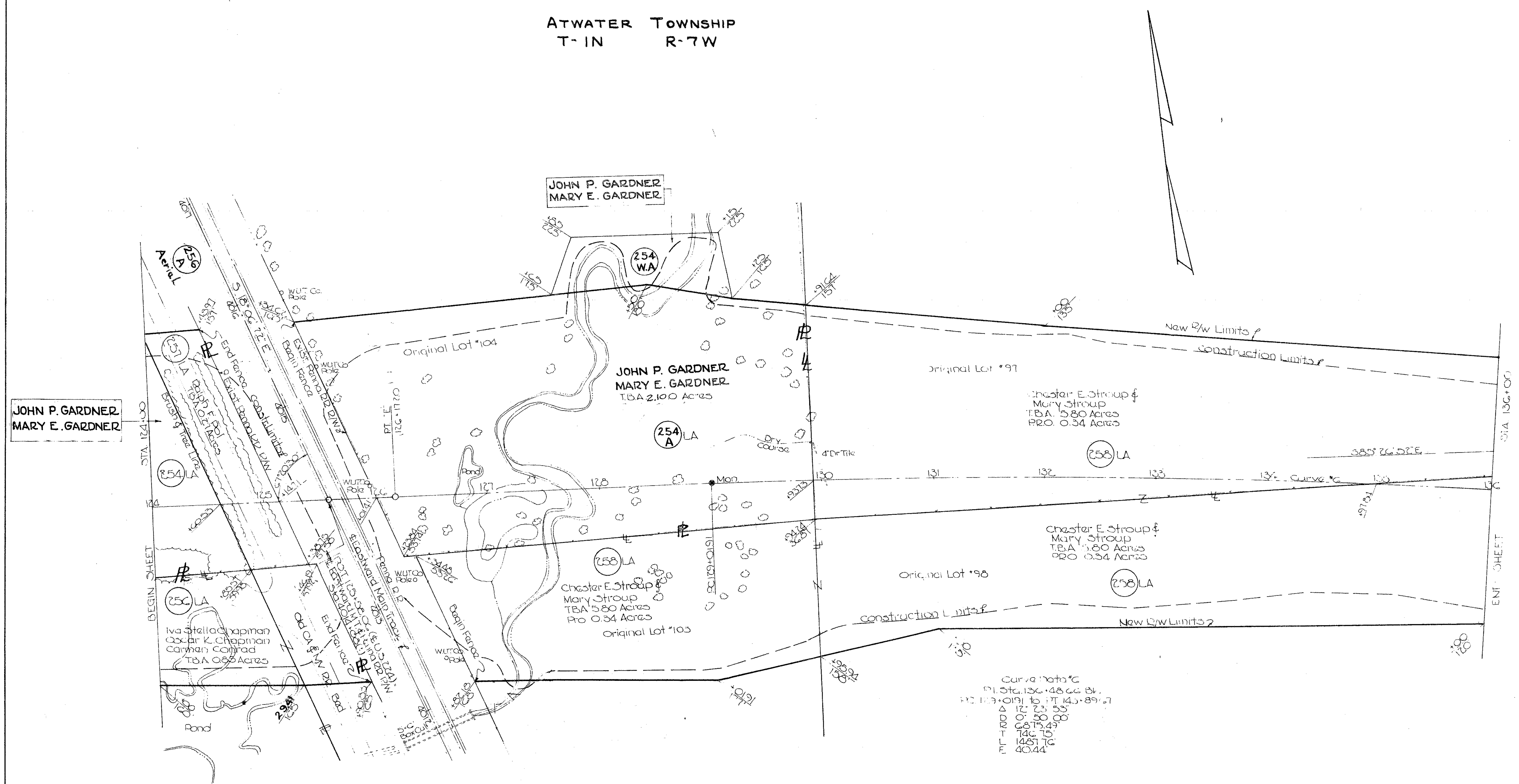
RIGHT OF WAY SHEET - STA. 28+00 TO STA. 52+00

RIGHT OF WAY SHEET - STA. 52+00 TO STA. 76+00

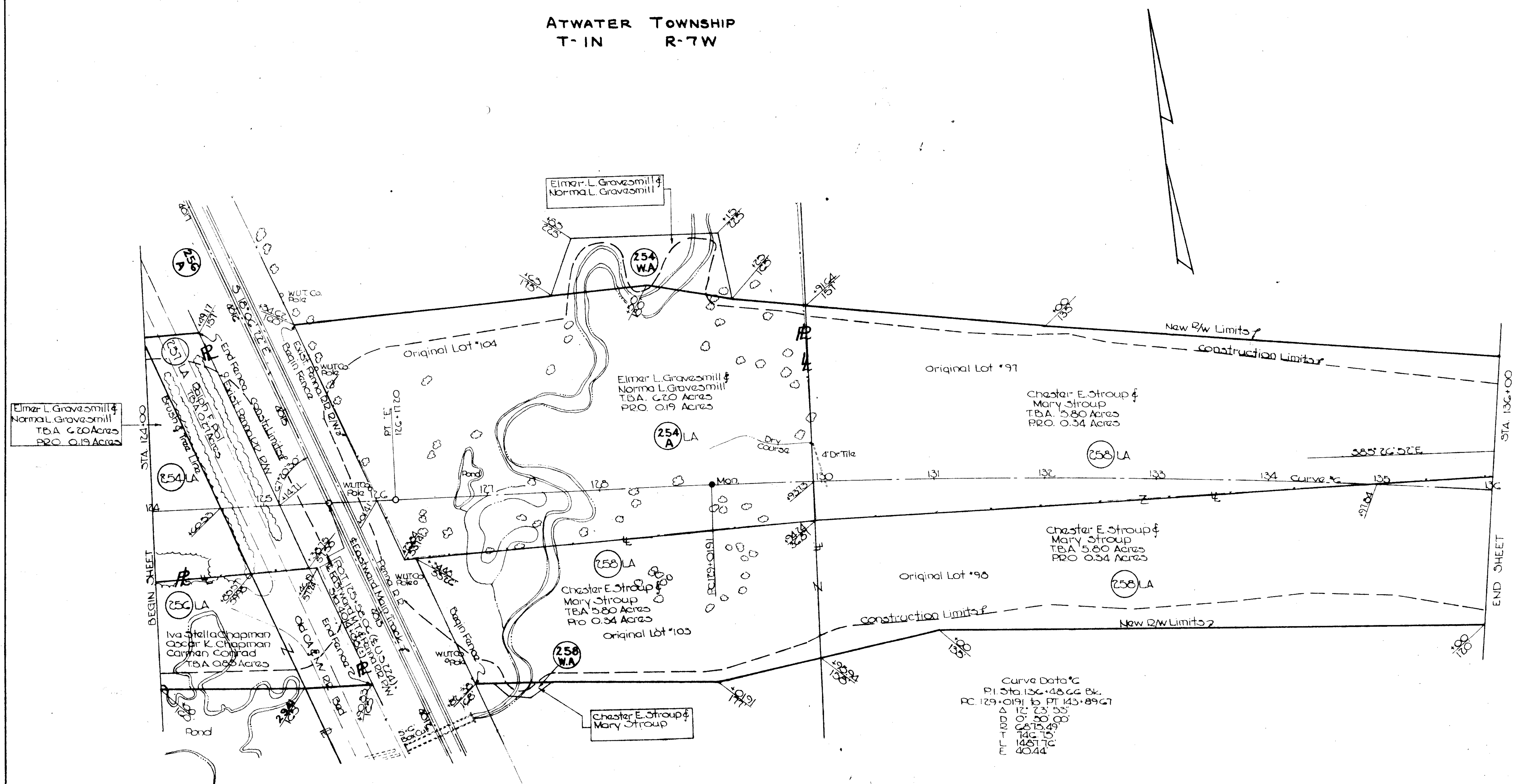
RIGHT OF WAY SHEET - STA. 76+00 TO STA. 100+00

RIGHT OF WAY SHEET - STA. 100+00 TO STA. 124+00

ATWATER TOWNSHIP
T-1N R-7W

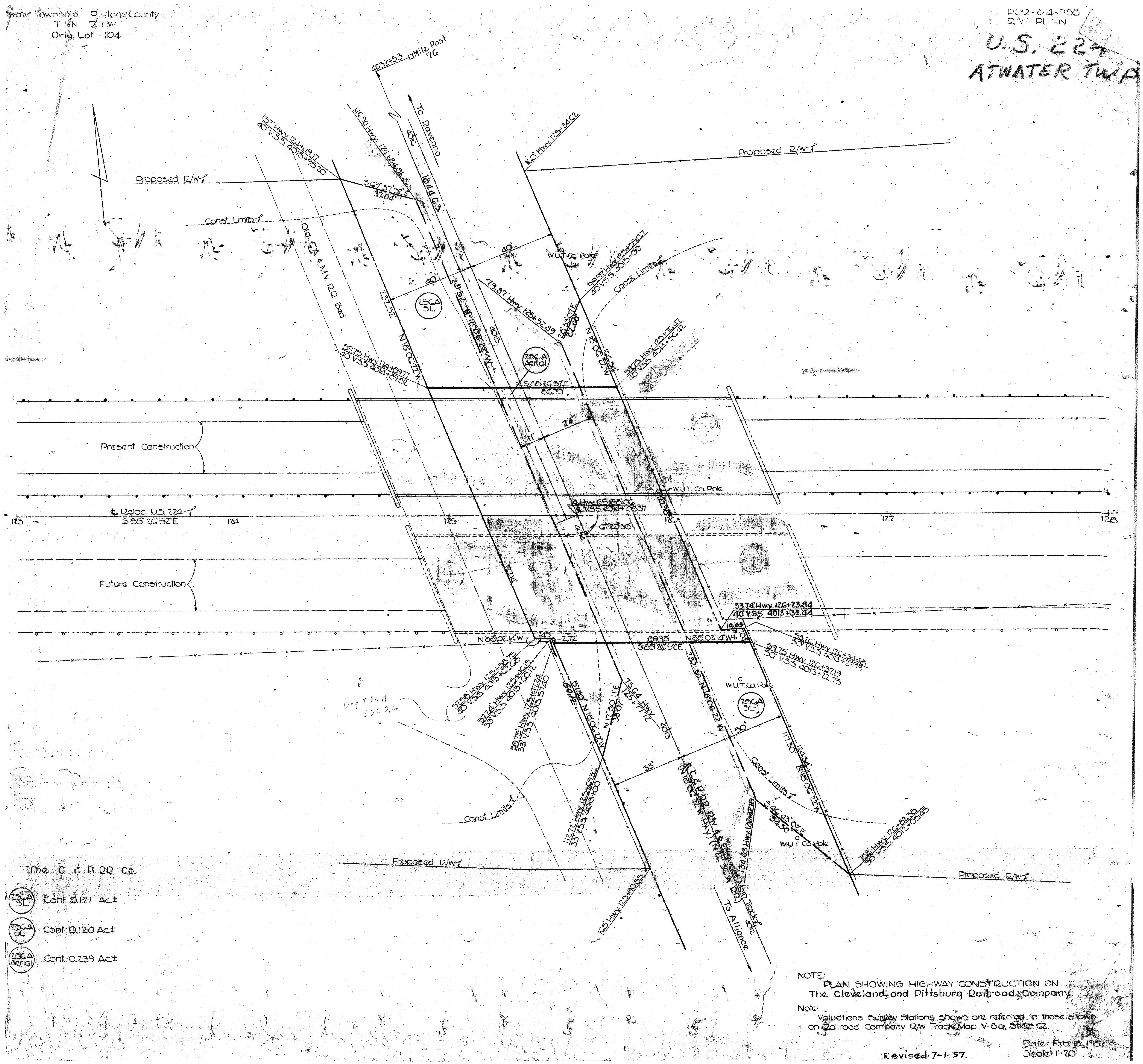


ATWATER TOWNSHIP
T-1N R-7W



Note:
See Special Right of Way Plat
fo Pennsylvania Railroad.

RIGHT OF WAY SHEET - STA. 124+00 TO STA. 136+

Atwater Township Portage County
T 1-N R 7-W
Orig. Lot -104
POR-224-958
R/W PLAN
U.S. 224
ATWATER TWP
To Ravenna
Mile Post 76
Proposed R/W
Const. Limits
Old C.A. & M.V. R.R. Bed
W.U.T. Co. Pole
Present Construction
Future Construction
℄ Reloc. U.S. 224
S 85° 26' 52" E
To Alliance
The C. & P. RR Co.
25CA SL Cont. 0.171 Ac±
25CA SL-1 Cont. 0.120 Ac±
25CA Aerial Cont. 0.239 Ac±
NOTE:
PLAN SHOWING HIGHWAY CONSTRUCTION ON
The Cleveland and Pittsburg Railroad Company
Note:
Valuations Survey Stations shown are referred to those shown on Railroad Company R/W Track Map V-6a, Sheet 62.
Date: Feb. 13, 1957
Scale 1"-20'
Revised 7-1-57.

RIGHT OF WAY SHEET - STA. 136+00 TO STA. 148+00

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR	
2	OHIO	F-330-(4)		7/9

POR-224- 9.58

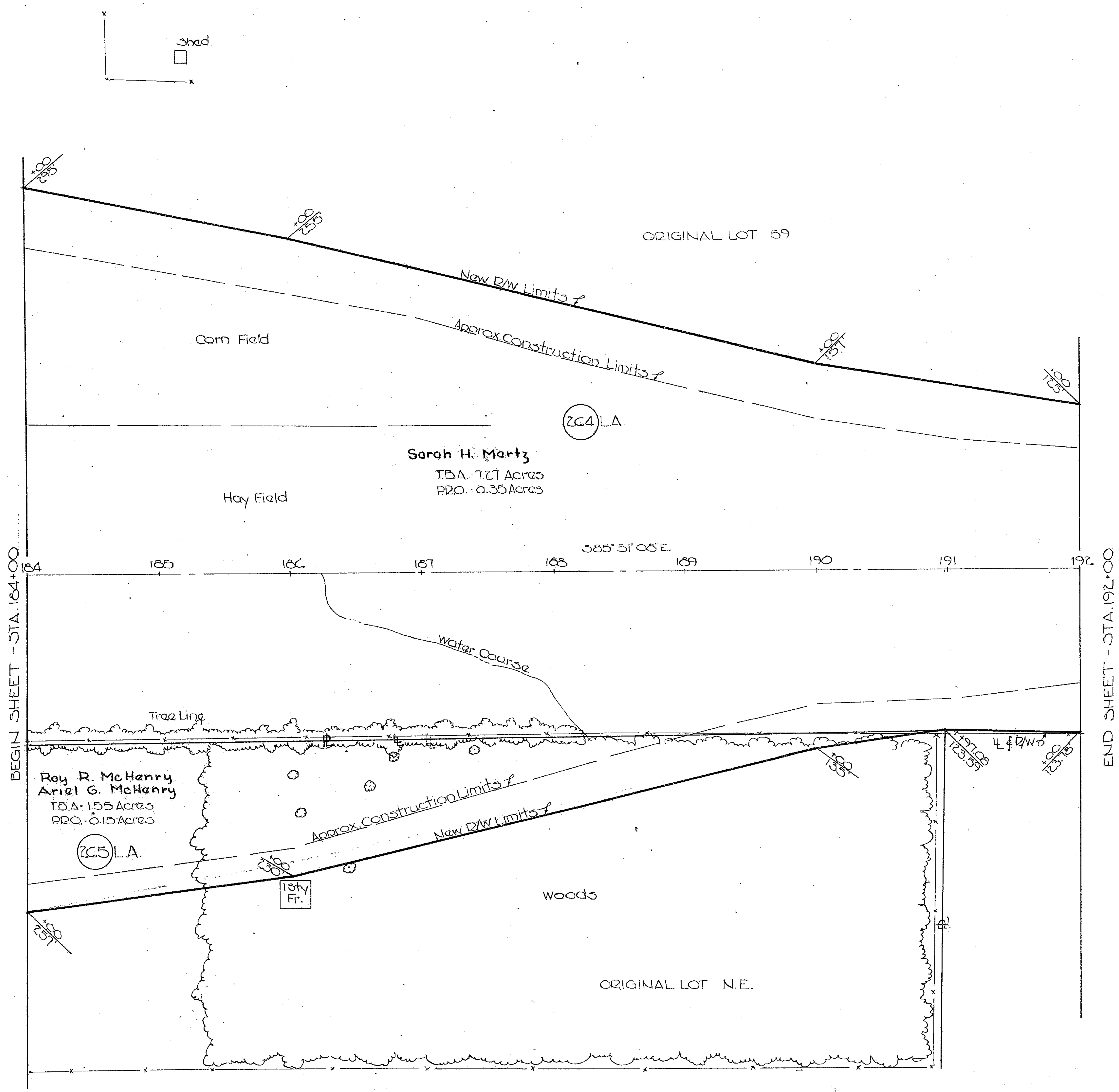
RIGHT OF WAY SHEET - STA 148+00 TO STA 172+00

RIGHT OF WAY SHEET - STA 172+00 TO STA...

FED. AID DIVISION	STATE	PROJECT	FISCAL YEAR	SHEET
2	OHIO	F-330(4)		9 / 9

PGR-224-9.58

ATWATER TOWNSHIP
T-1-N R-7-W



RIGHT OF WAY SHEET - STA. 184+00 TO STA. 192+00

LIMITED ACCESS HIGHWAY
I Hereby Certify this Plat to be Correct
Signed by: Carl L. Campbell 3-19-57
Division Deputy Director
State of Ohio Department of Highways

LOCATION PLAT
NATIONAL ROAD
POR.-224 - 9.58
PORTAGE COUNTY-RANDOLPH TOWNSHIP & ATWATER TOWNSHIP

Received 3-20-1957 At
Recorded
Plat Book 12 Page 48
Signed Recorder Portage County, Ohio
Fee 3.80

Signed Anthony S. Aurilio
Anthony S. Aurilio P.E. No. 8063
Registered Surveyor No. 3210
Date Dec. 6, 1956

PREPARED AND RECOMMENDED BY
AURILIO, PACE & BALLARD
CONSULTING ENGINEERS

SOIL PROFILE
PORTAGE COUNTY
POR-224-9.58

1/5

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

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

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 404 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
Gravel.	A-1-a(0)	A-1-a	59	20	12	3	6	N.P.	N.P.	11	5
Gravel with sand.	A-1-b(0)	A-1-b	38	23	24	6	9	N.P.	N.P.	12	19
F.S. Fine sand.	A-3(0)	A-3	9	18	65	3	5	N.P.	N.P.	18	6
Coarse and fine sand.	—	A-3a	12	18	48	9	13	N.P.	N.P.	17	41
Gravel with sand and silt.	A-2-4(0)	A-2-4	36	12	25	12	15	22	3	14	14
Sandy silt.	A-4(4)	A-4a	9	8	26	29	28	22	6	17	204
Silt.	A-4(8)	A-4b	1	1	8	62	28	25	3	24	17
Silt and clay.	A-6(9)	A-6a	5	4	12	32	47	32	13	21	56
Silty clay.	A-6(11)	A-6b	4	3	13	31	49	37	18	25	17
Elastic clay with organic material.	A-7-5(20)	A-7-5	1	4	12	46	37	72	33	66	11
Clay.	A-7-6(12)	A-7-6	4	2	6	27	61	44	18	27	14

S F Peat. S=Sedimentary. F=Fibrous. (Classified by visual inspection.)

Auger boring plotted to vertical scale only.

Auger boring - plan view.

W— Free water.

Sod & topsoil = X' = approximate depth.

Berm material.

● Water content nearly equal to or greater than liquid limit.

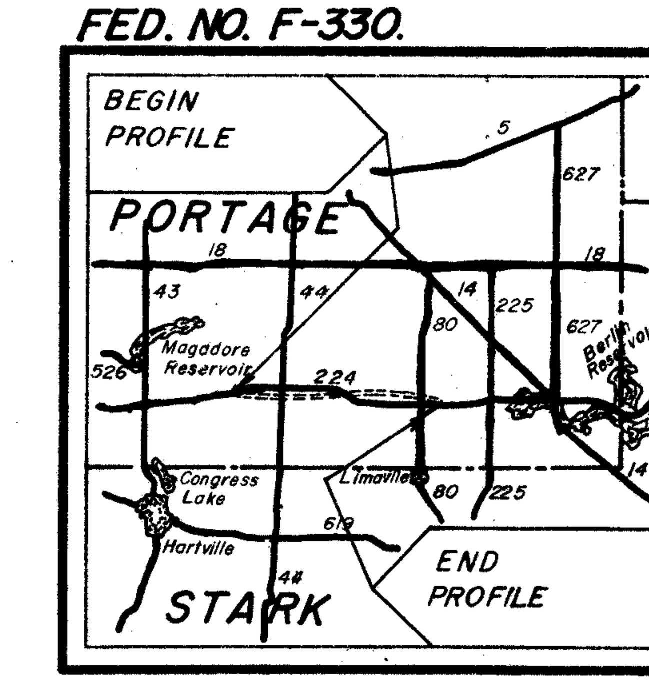
⊙ This A-4a soil will be rubbery and unstable at water contents which exceed the optimum.

Note: Figures beside borings indicate water content in percent.

Samples Taken.
Lab. Nos. So. 43317-43435 incl.; 43975-44050 incl.; 44332-44367 incl.; 44449-44453 incl.; 44554-44662 incl.; 44762-44781 incl.; 44973-45022 incl.

Moisture Density Samples.
Lab. Nos. So. 44048-44050 incl.; 44449-44453 incl.

FED. NO. F-330.



LOCATION MAP

Recon-L.O.T.- 5/30/56
Drilling-C.A.S.-C.A.C.-7/18/56
Drafting-P.A.H.-8/10/56


SOIL PROFILE
PORTAGE COUNTY
POR-224-9.58
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO
2/5
See sheet 6 for cross sections.
Note: Area between Sta. 110+00 and Sta. 114+00 is low and poorly drained
Corn Field
Clover
Wheat
Oat Field
Woods
Sizable Stream
Swampy
Field
Hole closed at 8'
Hole closed at 10'
Refusal (Hand auger)
Hay
Corn
Orchard
Tree Line
Moisture density sample (0.3-(1.5') Maximum dry wt. 119.3 lbs/cu. ft. Optimum moisture 12.7%
Note: Sta. 0+00 to Sta. 3+00 Ground breaks as it approaches stream. This is part of the outwash plain and well drained
Note: From Sta. 115+00 to Sta. 173+00 drainage is fair to good, the area is an eastward extension of the outwash plain previously mentioned
1.5' ditches
C.H. 31
S.R. 224
Small Stream
Tree & Brush Line
High well drained land
Plowed Field
Pasture
Randolph Section
STA.173+79.95 Back = Sta.0+00 Ahead
Atwater Section
BEGIN PROJECT

SOIL PROFILE
PORTAGE COUNTY
POR-224-9.58
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS COLUMBUS, OHIO
3
5
Note: Water standing at Sta.27+00, poor drainage, hummocky topography.
Surface water 7/9/56
Sta 47+50
From Sta.63+50 to Sta.79+00, water standing in many places, hummocky terrain.
Unable to drill at sta 55+00 and 62+00 because of crops.
Ditches 1'-1.5'
3' Watercourse
6' Watercourse Brisk flow
Tree and brush line
Standing water from Sta.89+90 to Sta.96+10
Moisture Density Samples
(0.4-2.5') Maximum dry wt. 109.6 lbs./cu. ft. Optimum moisture 16.9%
(2.5-10.5') Maximum dry wt. 126.6 lbs./cu. ft. Optimum moisture 10.5%
(10.5-16.0) Maximum dry wt. 129.3 lbs./cu. ft. Optimum moisture 9.7%
Moisture Density Sample
(0.4-19.0') Maximum dry wt. 124.2 lbs./cu. ft. Optimum moisture 11.2%
Refusal (Hand auger)
Refusal (Gravel)
Refusal (Boulders)
Refusal (Hole closed at 22')
Refusal (Hole closed at 20')
Wheat
Woods
Corn
Clover
Farm Land
Trees
Swampy
Standing Water
Low Ground
Sluggish Stream
Small Stream
Swale
Pond
100'LT.
100'RT.

SOIL PROFILE
PORTAGE COUNTY
POR-224-9.58
4
5
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO
Note: Between Sta.126+00 and Sta.129+50 there is a meandering stream, not shown because of its very erratic course.
High ground, well drained outwash plain.
Pond
Ditches 1'-1.5' deep
C.H.30
Swampy
Creek
Woods
Penna. RR
Corn
Tree line
Well drained
Bank
Field
Clover
Tree Line
100'LT.
100'RT.
Surface water 7/12/56
Sod & T.S.=0.8'
50' Rt.
Refusal (Gravel)
35' Rt.
12' Rt.
Sod=0.4'
Sod=0.3'
Sod & T.S.=0.6'
T.S.=0.5'
Refusal (Hand auger)
T.S.=0.6'
Sod & T.S.=0.8'
Sod & T.S.=0.4'
Sod & T.S.=0.5'
Refusal (Boulders)
Trees
High well drained land
1150
1140
1130
1120
1110
1100
1090
1080
114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146
146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178

SOIL PROFILE
PORTAGE COUNTY
POR-224- 9.58

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

5/5