FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	H. I. F.	1948

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ROSS COUNTY
ROS-159-2.70

392

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

ROS-159-2.70

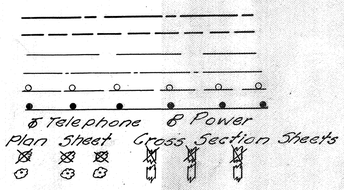
GREEN TOWNSHIP

ROSS COUNTY

CONVENTIONAL SIGNS

County Line
Township Line
Fence Line
Center Line
Guard Rail (Existing)
Guard Rail (Proposed)
Pole Lines

Trees to be removed
Trees to be preserved

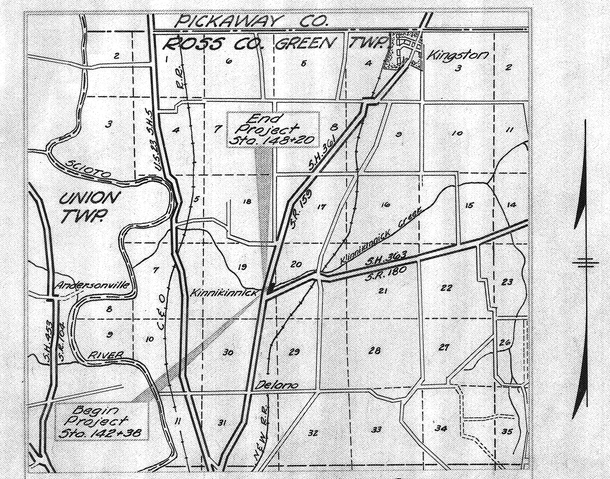


INDEX OF SHEETS

Title Sheet	1
Typical Section	2
Notes	3
Estimated Quantities & General Summary	4
Plan and Profile	5
Cross Sections	6-8
Approach Slabs	9
Structures over 20' Span	10-15
Channel Sections	16

LINE DATA

Begin Work Sta. 141 + 00
Begin Project Sta. 142+38
End Project Sta. 148+20
End Work Sta. 148+40
No Additions or Deductions
Net Length of Project 582 Lin.Ft. or 0.110 Mile
Net Length of Work 740 Lin.Ft. or 0.140 Mile



LOCATION PLAN
SCALE OF MILES

0 1 2 3 4

Portion to be improved
State Roads
Other Roads

SCALE

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

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 furnished by the State of Ohio.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety of traffic will be as set forth on these plans and estimates.

Approved Elmer S. Barrett
Date 6-10-48 Division Deputy Director

Approved _____
Date _____ Chief Engineer, Bureau of Maintenance

Approved G. R. Rogue
Date 6-28-48 Chief Engineer, Bureau of Bridges & R.R. Crossings

Approved Harvey J. Thornburgh
Date 7/1/48 Chief Engineer, Bureau of Location & Design

Approved [illegible]
Date 7-1-48 First Ass't. Director & Chief Engineer

Approved Earl L. Reab
Date 7-1-48 Director of Highways

Supplemental Prints of Standard Construction Dwg's.					
G-6.07	2-1-47	I-15-5	2-1-47	B-T-71 R	2-1-47
AS-1-47	9-18-47	I-15-6	2-1-47		
		I-15-7	2-1-47		
		I-15-9	2-1-47		
I-15-1	3-1-47	L-3	2-1-47		
		I-1,2,3,4&5	2-20-45		
I-15-3	2-1-47	I-8I No 1	3-1-39		
I-15-4	2-1-47	I-14-G	2-1-47		

Supplemental Specifications
S-303 12-20-46
T-110 Rev. 8-3-36

CONSTRUCTION BUREAU
SEP 4 1956
GROUND PHOTOLAB

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File No.	Ross County: ROS-159-2.70	194
	Date of Letting	
	Contract No.	

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
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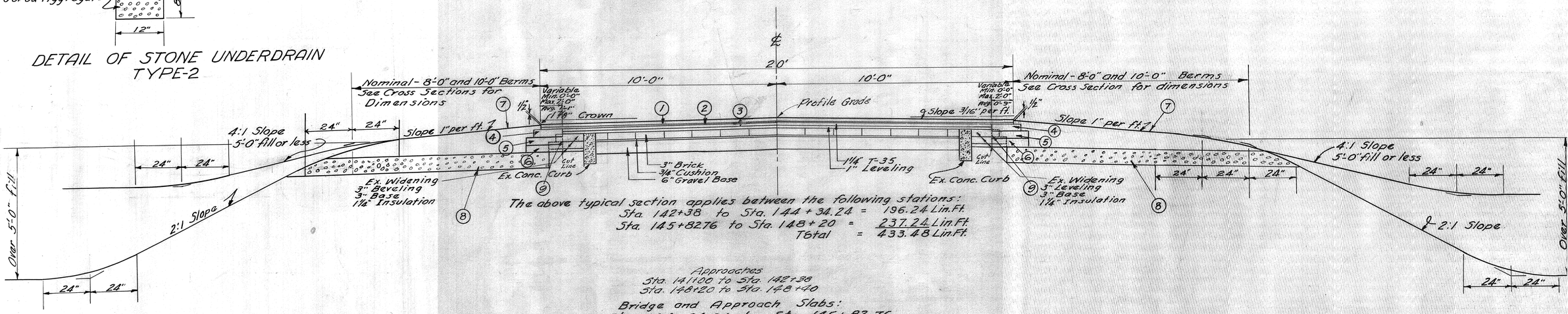
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ROSS COUNTY
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TYPICAL SECTION

TYPE-T-35

Scale 1/2" = 1'-0"



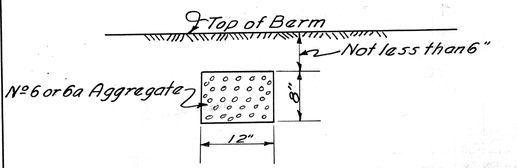
The above typical section applies between the following stations:

Sta. 142+38	to Sta. 144+34.24 =	196.24 Lin.Ft.
Sta. 145+82.76	to Sta. 148+20 =	237.24 Lin.Ft.
	Total =	433.48 Lin.Ft.

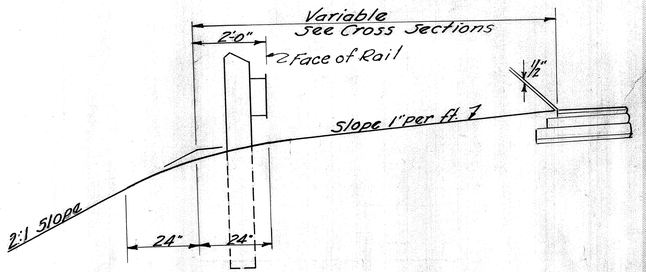
Approaches
Sta. 141+00 to Sta. 142+38
Sta. 148+20 to Sta. 148+40

Bridge and Approach Slabs:
Sta. 144+34.24 to Sta. 145+82.76

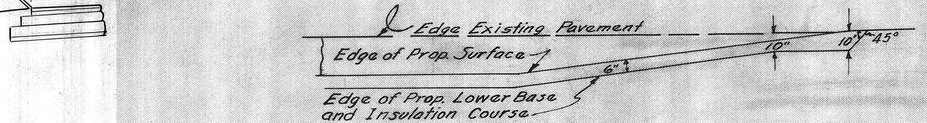
① Item T-35 1 1/4" Asphaltic Concrete Surface Course Type "A"
② Item B-35 3/4" Min. Asphaltic Concrete Leveling Course
③ Item T-30 Bituminous Tack Coat Sec. M-5.5 MS-1 applied at the rate of 0.15 gal. per sq. yd.
④ Item B-35 3" Asphaltic Concrete Leveling Course
⑤ Item B-35 3" Asphaltic Concrete Base Course
⑥ Item I-19 3 1/2" Insulation Course
⑦ Item L-9 Seeding and Protecting Type "A"
⑧ Item I-9 Stone Underdrains No. 2
⑨ Item E-8 Sealing Only



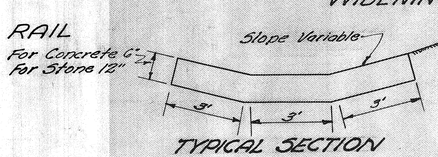
DETAIL OF STONE UNDERDRAIN
TYPE-2



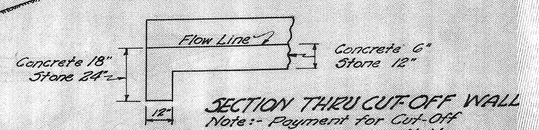
PART SECTION SHOWING GUARD RAIL



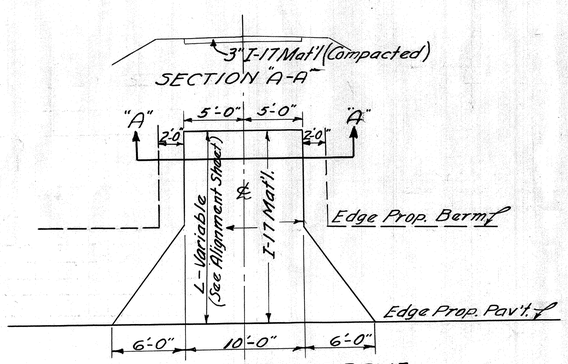
METHOD OF MERGING EDGE OF PAV'T. WIDENING WITH EDGE OF EXISTING PAV'T.



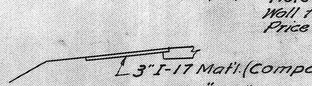
TYPICAL SECTION

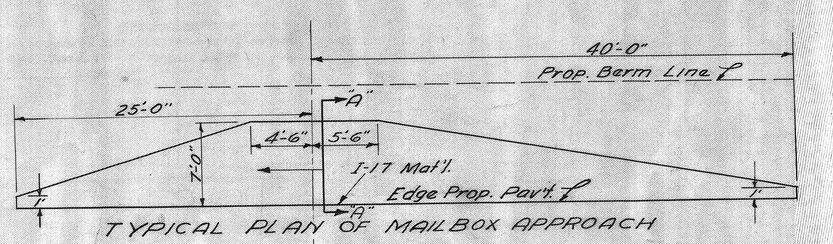


SECTION THRU CUT-OFF WALL
Note:- Payment for Cut-Off Wall to be included in Unit Price bid per Lin. Ft. for Paved Gutter.

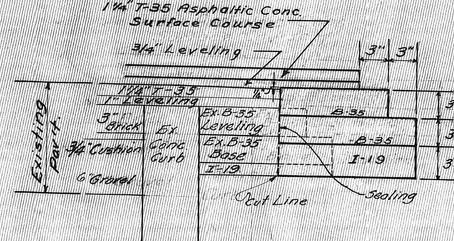


TYPICAL PLAN OF DRIVE





TYPICAL PLAN OF MAILBOX APPROACH



NOTE: If during construction the existing pavement edge is found to be in a suitable condition for widening it need not be removed, however the edge shall be sealed before the proposed widening is placed.

EDGE CONSTRUCTION & COURSE DETAIL

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NOTES

GENERAL

FIELD HOUSE

The contractor shall provide a suitable "Field Office" for the exclusive use of the engineer and inspectors assigned to this project. This office shall have a minimum of 140 sq.ft. of floor space and so arranged, equipped and lighted that the State employees will have a convenient place for making the necessary records, etc., and have a safe place for storage of equipment, plans and necessary supplies. The contractor shall have a telephone installed and maintained during construction of this project. When the work is in progress during cold weather, the office shall be heated to a temperature of at least (70°) seventy degrees Fahrenheit. (See section 5-0.01 (b) of the Construction and Material Specifications.

UTILITY ADJUSTMENT

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

TRAFFIC

Two-way traffic shall be maintained at all times except that one-way traffic will be permitted during the ¾" leveling and 1¼" surface paving operations, at which time the requirements of Sec. T-35.23 shall be strictly followed.

PAVEMENT

ROADWAY

GUARD RAIL

All guard rail listed for Removing and Storing, Item I-15, shall be stored on the right-of-way at the disposal of the State.

SEEDING AREAS

The quantities of seeding, Item L-9, are calculated for the soil areas between lines ten (10') feet outside the work limits as shown on the cross-sections or to the right-of-way line if such line is less than ten (10') feet from the work limits.

The quantities are approximate and actual limits of seeding will be determined by the Engineer during construction.

The number of square yards of seeding to be paid for shall be the actual number of square yards of seeding placed, as determined by final measurement.

FLARED GUARD RAIL AT BRIDGE

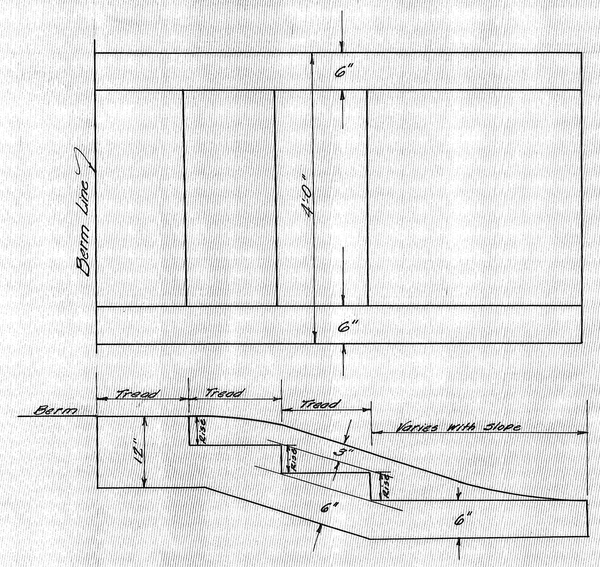
Guard rail shall be flared to meet bridge railing in such a manner that the change in alignment of the guard rail will not exceed 1:10.

STONE UNDERDRAINS

Proposed stone underdrains shall be placed at the same locations as the existing stone underdrains.

ITEM E-8 SEALING ONLY:-

In addition to the requirements of Sec. E-8.04 Sealing Joints, edges of existing pavement to be sealed shall be thoroughly cleaned before applying the sealing agent.



DETAIL OF STEPS STA. 146+74

ESTIMATED QUANTITIES

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PAVEMENT CALCULATIONS

Location	Calculations	Asphaltic Conc. Surface Course Item T-35 1/4"		Asphaltic Concrete Leveling Course Item B-35 3/4" Min.	3"	Asphaltic Conc. Base Course Item B-35 3"	Sealing Only Item E-8	Bit. Tack Coat Sec. M-5.5 MS-1 @ .15 gal per Sq.Yd. Item T-30	3 1/2" Insulation Course Item I-19
		Sq. Yds.	Cu. Yds.	Sq. Yds.	Sq. Yds.	Sq. Yds.	Lin. Ft.	Sq. Yds.	Sq. Yds.
Typ. Sec.	433.48 x 20 x 1/9	963.28		963.28					
Typ. Sec.	433.48 x 18.17 x 1/9							875.14	
Typ. Sec.	433.48 x 2.33 x 1/9				112.22				
Typ. Sec.	433.48 x 2						866.96		
Feather Areas	2 (20 x 20 x 1/9)							88.89	
Feather Areas	2 (20 x 20 x 1/9 x 1/36)		2.47						
Approach Slabs	See Sheet No. 9	146.00						73.00	
	433.48 x 2.83 x 1/9					136.31			136.31
	Subtotals	1109.28	2.47	963.28	112.22	136.31		1037.03	136.31
	Conversion To Cu. Yds. Cals. etc.	38.51	2.47	20.07	9.35	11.30			
	Totals	40.98		29.42		11.36	866.96	155.55	136.31

EROSION CONTROL

See Sht. No.	Commercial Fertilizer (10-6-4 Mix) Item L-9 Tons	Seeding & Protecting Type "A" Item L-9 Sq. Yds.	Paved Gutters (as per plan) Item I-14 Lin. Ft.	Agricultural Ground Limestone Item L-9 Tons
5		3629		
5			30	
Total	.33	3629	30	1.63

GUARD RAIL

Sheet No.	Guard Rail Removed & Stored Item I-15 Lin. Ft.	Guard Rail Item I-15 Lin. Ft.
5	87	240
Total	87	240

APPROACH SLABS

Sheet No.	9" Reinforced Concrete Approach Slabs Item I-7 Sq. Yds.
9	73
Total	73

EXCAVATION & EMBANKMENT

Location	Roadway Excavation Item E-1 Cu. Yds.	Roadway Embankment Cu. Yds.	Embankment + 20% Cu. Yds.	Borrow Cu. Yds.
141+00 - 144+48.73	68	443	532	464
145+17 - 148+20	38	474	569	531
	106	917	1101	995

MATERIAL AVAILABLE TO REDUCE BORROW

Channel Excavation 240 Cu. Yds.
995 - 240 = 755 Cu. Yds. Net Borrow

REMOVALS

See Sht. No.	Removal & Disposal of Exist. Pavement Item E-8 Sq. Yds.
5	52.7
Total	52.7

DRIVES & APPROACHES

See Sht. No.	Side Approaches Mailbox Turnouts & Berm Mat'l. Item I-17 Cu. Yds.	12" Pipe for Driveways Item I-1 Lin. Ft.
5	11.9	42
Total	11.9 *	42

* 11.9 + 25% for Compaction = 14.9

DRAINAGE

Sheet No.	Sodding Item L-10 Sq. Yds.	12" Pipe for Storm Sewers Item I-2 Lin. Ft.	No. 1 Side Ditch Inlet Item I-8 Each	Stone Underdrain No. 2 Item I-9 Lin. Ft.
5	9	93	1	100
Total	9	93	1	100

CONC. STEPS

See Sht. No.	Conc. Steps. 2" Rise 16" Tread Item I-13 Lin. Ft.
5	16
Total	16

GENERAL SUMMARY

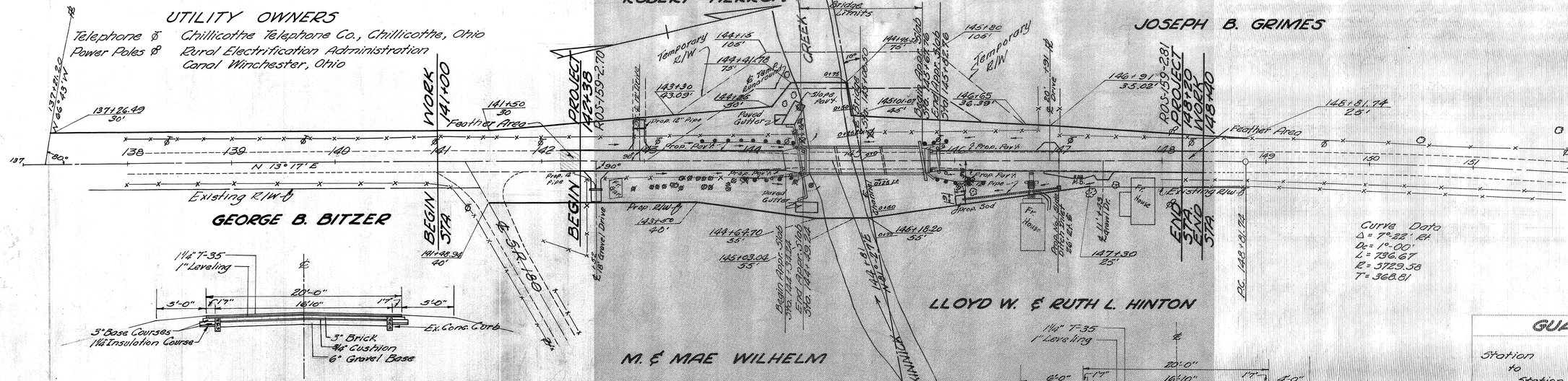
Item No.	Quantity	Unit	Description
			ROADWAY
E-1	106	Cu. Yd.	Roadway Excavation
E-4	755	Cu. Yds.	Borrow
E-8	867	Lin. Ft.	Sealing Only
E-8	53	Sq. Yds.	Removal & Disposal of Existing Pavement
E-9	Lump	Lump	Removal of Trees and Stumps
E-11	5	M Gal.	Water
I-1	42	Lin. Ft.	12" Pipe for Driveways
I-2	93	Lin. Ft.	12" Pipe for Storm Sewers
I-8	1	Each	Standard No. 1 Side Ditch Inlet
I-9	100	Lin. Ft.	Stone Underdrains No. 2
I-13	16	Lin. Ft.	Concrete Steps - 2" Rise 16" Tread, As Per Plan
I-14	30	Lin. Ft.	Paved Gutter, as per plan
I-15	240	Lin. Ft.	Guard Rail, Woven Wire Type, 2 Tapes, Standard Strength
I-15	87	Lin. Ft.	Guard Rail Removed and Stored (Plank)
I-17	15	Cu. Yds.	Side Approaches, Mail Box Turnouts and Berm Material
L-9	3629	Sq. Yds.	Seeding and Protecting, Type "A"
L-9	0.33	Ton	Commercial Fertilizer (10-6-4)
L-9	1.63	Ton	Agricultural Ground Limestone
L-10	9	Sq. Yds.	Sodding
			PAVEMENT
T-35	41	Cu. Yds.	Asphaltic Concrete Surface Course Type "A" (85-100)
T-30	156	Gal.	Bituminous Tack Coat Sec. M-5.5 MS-1
B-35	30	Cu. Yds.	Asphaltic Concrete Leveling Course (85-100)
B-35	12	Cu. Yds.	Asphaltic Concrete Base Course (85-100)
I-7	73	Sq. Yds.	9" Reinforced Concrete Approach Slabs
I-19	137	Sq. Yds.	3 1/2" Insulation Course
			STRUCTURE OVER 20 FOOT SPAN
			For Estimated Quantities See Sheet No. 11
Special	Lump	Lump Sum	Maintaining Traffic (See Note on Sheet No. 3)

DIVISION 5
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UTILITY OWNERS

Telephone ☎ Chillicothe Telephone Co., Chillicothe, Ohio
Power Poles ⊕ Rural Electrification Administration
Canal Winchester, Ohio


ROBERT HERRON
JOSEPH B. GRIMES
GEORGE B. BITZER
M. & MAE WILHELM
LLOYD W. & RUTH L. HINTON
CREEK
Bridge Limits
Temporary R/W
Proj. 12" Pipe
Fuzed Gutter
Slope Paving
Grass Apron Slab
Feather Area
Fr. House
Gravel Dr.
Existing R/W
Prop. R/W
Prop. Fence
Prop. Apron Slab
Begin Apron Slab Sta. 144+74.70 Elev. 665.32
End Apron Slab Sta. 145+03.04 Elev. 665.28
Approx. Sod
Curve Data
Δ = 7°-22' Rt.
Dc = 1°-00'
L = 736.67
R = 5729.58
T = 368.61
N 13°17' E
BEGIN STA. 141+00
END STA. 148+40
PROJECT 142+38
PROJECT 148+20
ROS-159-2.70
WORK
Existing R/W
Prop. 12" Pipe
Prop. Apron Slab
Prop. Gutter
Prop. Fence
Prop. Pipe
Prop. Slope Paving
Prop. Grass Apron Slab
Prop. Feather Area
Prop. Approach Slab
Prop. Gravel Dr.
Prop. Gravel Drive
Prop. Concrete Gutter
Prop. Concrete Curb
Prop. Concrete Curb & Gutter
Prop. Concrete Curb & Gutter Transition
Prop. Concrete Curb Transition
Prop. Concrete Curb & Gutter Transition
Prop. Concrete Curb & Gutter Transition
Prop. Concrete Curb & Gutter

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Seeding

End Width	Sq. Yds.
67	
	359
62	
617	
49	
272	
0	

Begin Prop. Guard Rail
Sta. 143+40 Lt. ℄

10'-0" .9

R/W

R. 661.5'

143+50
667.70

Begin Prop. Guard Rail
Sta. 143+92 Rt. ℄

.5 8'-0"

3" Peach +65
4" Apple +80
4" Apple +80
4" Plum +62
4" Apple +62
3" Plum +36
3" Bush +36
4" Bush +30
4" Plum +42
3" Plum +36
3" Peach +35
R. 662.9'
R/W

6" Bush +28
8" Peach +19
6" Bush +12
3" Peach +04

8'-0" .9'

Profile of Prop. Drive
Sta. 142+95 Lt. ℄
10%
R/W
R. 662.0'
Prop. 12" Pipe for Driveway

143+00
667.09

.9' 8'-0"

R/W
R. 663.1'
3" Cherry +90

Profile of drive at Sta. 142+52 Rt.
10%
R. 663.3'
12" Pipe for Driveway

BEGIN PROJECT STA. 142+38

8'-0" 8'-0"

R/W R/W

142+00
666.59

Begin earthwork
Lt. ℄ Sta. 141+00

Begin earthwork
Rt. ℄ Sta. 141+65

R/W

141+00 = 0.0 SECTION
666.61

BEGIN WORK
STA. 141+00

Sta. 141+00

	End Area Cut	End Area Fill	Volume Cut	Volume Fill
	9	45		
			14	69
	6	29		
Drive Lt. ℄ Sta. 142+95			0	14
			11	107
Drive Rt. ℄ Sta. 142+52			0	10
			0	29
			0	19
	0	0		

80 70 60 50 40 30 20 10 ℄ 10 20 30 40 50 60 70

STA. 142+00 TO STA. 143+50

ROSS COUNTY
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Seeding End Width	Seeding Sq. Yds.	
67		
	215	
71		
	66	
56		
	42	
0		

SEEDING & PROTECTING TYPE A
ITEM L-9 1282 SQ YDS.

Sta. 145+49

+01 18" Syc.

+03 - 12" Syc. 94' Lt. ℄

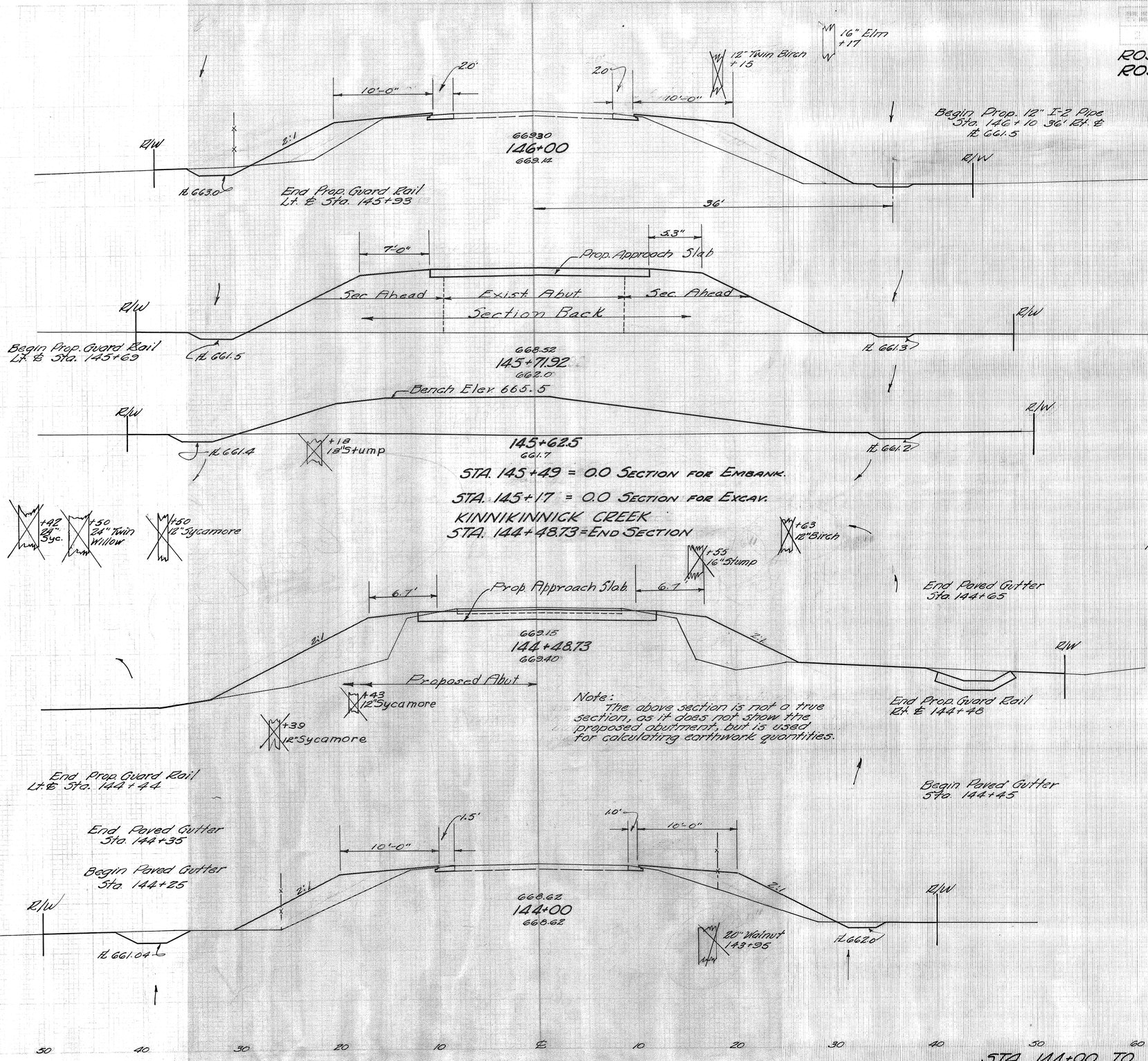
+00 - 12" Syc. 103' Lt. ℄

Sta. 145+17

0		
	299	
79		
	411	
73		
	389	
67		

SEEDING & PROTECTING TYPE A
ITEM L-9 2347 SQ YDS.

Sta. 143+50



Excavation & Embankment in Cu. Yds.	End Area Cut	End Area Fill	Volume Cut	Volume Fill
	6	60		
			6	118
145+71.92 Ahead	5	169		
145+71.92 Back	5	271		
			2	72
145+62.5	7	139		
145+49	0	6	113	
145+17	0			

Excavation & Embankment in Cu. Yds.		
	14	84
	24	128
	11	58
	19	96
Sta. 143+50	9	45

STA. 144+00 TO STA. 146+00

				8
	H.I.F.	1948		16

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END WORK STA. 148+40

END PROJECT STA. 148+20 = 0.0 SECTION

Seeding End Width	Seeding Sq. Yds.
0	
	36
20	
	111
20	
	178
44	
	275
55	
	339

End Area Cut	End Area Fill	Volume Cut	Volume Fill
0	0		
		1	0
1	0		
		2	0
1	0		
		2	0
147+36	1	0	
		2	5
	2	6	
		7	58
	5	56	
		10	108
Sta. 146+00	6	60	

148+00
667.98

147+50
667.82

147+00
667.99

146+74
668.3

146+50
668.51

0.6
R/W
R/W

0.5'
0.5'
R/W
R/W

+55
22" Oak

(℄ Drive Rt. Sta. 147+43)
Meet existing berm
Rt. ℄ Sta. 147+36

+30
20" Maple

3'-0"
1.5'
0.5
8'-0"
R/W
4:1
R/W

Prop. No. 1 Side Ditch Inlet
Sta. 147+00 26' Rt. ℄
IE Top 665.25
IE Pipe 663.0

(℄ Drive Lt. Sta. 146+91)
Meet existing berm
Lt. ℄ Sta. 146+84

Note: Payment for removal of Existing Concrete walk and steps is included for payment in price bid per Lin. Ft. for Concrete Steps, Item S.13.

Prop. Steps
Exist. Walk & Steps
27.5'
Prop. 18" Pipe Sta. 146+74
IE 662.57

1.8'
1.0'
3'-0"
3'-0"
R/W
3:1
3:1
R/W
℄ 664.7
30'
Prop. 12" Pipe
IE 662.17

End Prop Guard Rail
Sta. 146+69 Rt. ℄

Sta. 146+00 Sta. 146+50 Sta. 147+00 Sta. 147+50 Sta. 148+00

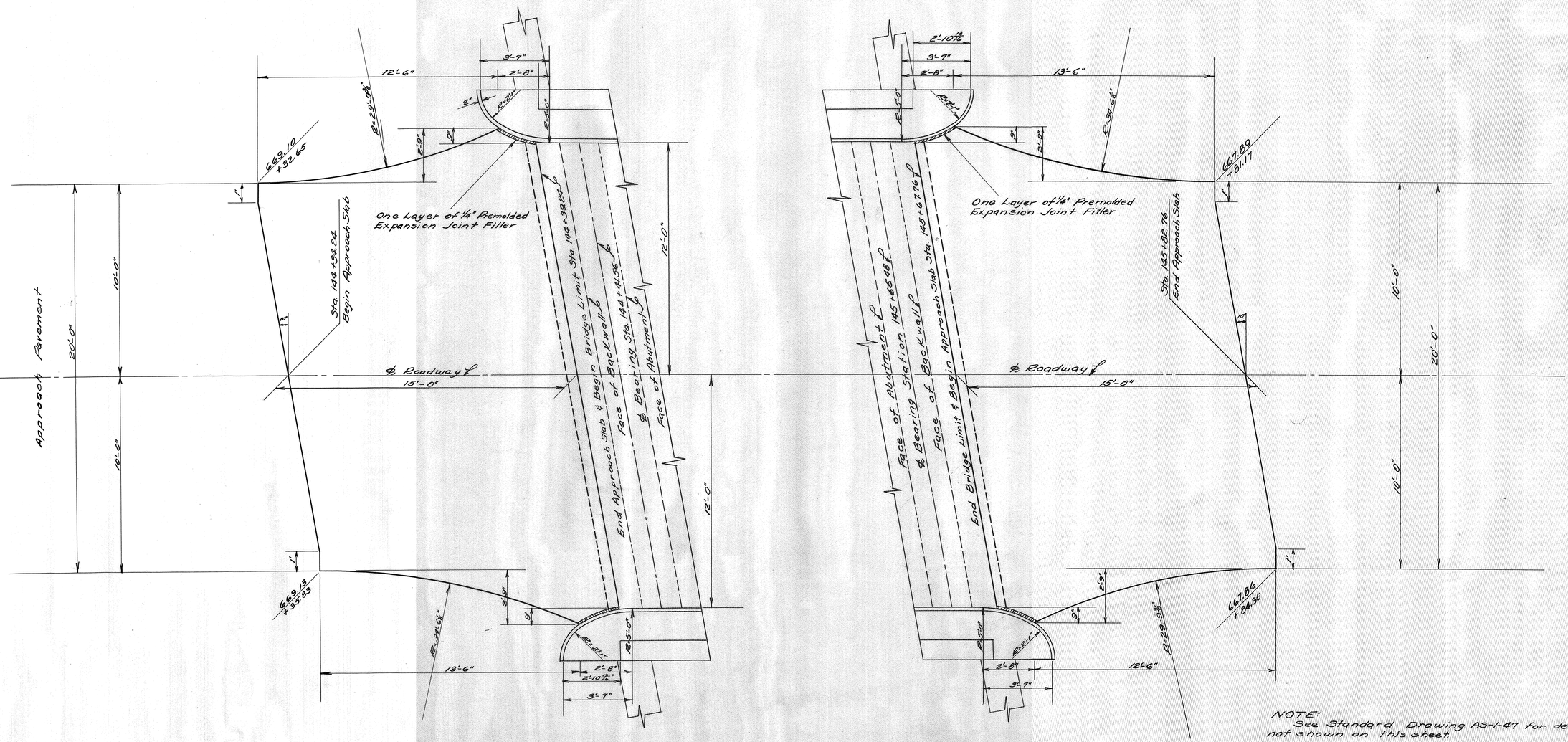
STA. 146+50 TO STA. 147+50

'67

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	H.I.F.	1948

9/16

ROSS COUNTY
ROS-159-2.70



NOTE:
See Standard Drawing AS-1-47 for details not shown on this sheet

ESTIMATED QUANTITIES

Item I-7	9" Reinforced Concrete Approach Slabs	73.0	Sq. Yds.
* Item T-30	Bituminous Tack Coat	73	Sq. Yds.
* Item T-35	Asphaltic Concrete Surface Course (2-1½" Courses)	146	Sq. Yds.

* Carried to Pavt. Calculations Sheet #4

APPROACH SLABS FOR BRIDGE STATION 145+08.50

FED. RD. DIVISION	STATE	PROJECT	FISCAL YEAR
2	OHIO	H.I.F.	1948

10/16

ROSS COUNTY
ROS-159-2.70
5.85 Mi.± N. of Chillicothe

CREEK

Preserve these trees

5" conc. channel pavement

℄ Pier Sta. 144+86.00

℄ Temporary Runaround (Same grade as existing road

℄ Bridge Sta. 145+08.50

℄ Pier Sta. 145+31.00

10°

58'±

68'±

40'±

2:1

End Appr. Slab Sta. 144+49.24

Begin Appr. Slab Sta. 144+34.24

Begin Appr. Slab Sta. 145+07.76

End Appr. Slab Sta. 145+82.76

N 13°-17' E

20" Walnut

12" Twin Birch

16" Elm

Frame Garage

Frame House

664 666 668 660 658 662 656 600

SOUNDING NOTE

Estimated average piling lengths determined by rod soundings

Clears 3 to 5 yr. H.W. 1.85'±

PROPOSED STRUCTURE

TYPE: Cont. Conc. Slab with Conc. Substructure.
SPANS: 36'-45'-36' ℄ brgs.
ROADWAY: 24'-0" with two 1'-3" safety curbs.
LOADING: S-15-48
SKEW: 10°-0' R.F.
SURFACE COURSE: Bituminous
APPR. SLABS: AS-1-47 Type

DRAINAGE AREA
33.75 SQ. MILES

EXISTING BRIDGE DATA

TYPE: Warren High Steel Truss
SPAN: 111' Clear Span
ROADWAY: 15'6"
SKEW: None
LOADING: H-4

(TO BE REMOVED)

Bridge Limits

KINNIKINNICK

Sta. 144+49.24

Sta. 145+07.76

℄ Bridge Sta. 145+08.50 Elev. 669.63

668.82 669.12 669.36 669.52 669.62 669.34 669.60 669.48 669.30 669.04 668.72

P.I. +25 El. 670.52
+1.36% -1.44%

Extreme H.W., Flash Flood, 1907, Elev. 668.1

3-5 Year High Water, Elev. 665.3

Channel Exc. between ends of abut.

Exc. channel To El. 656.0

Normal Water Elev. 656.3 ℄

Bench El. 665.5

Precast conc. piles Est. Av. Length 39'± N. abut.; 42'± piers.

250' V.C.

El. 650.0

12 Std. timber piles with steel points Est. Av. length 24'±

G75 G70 G65 G60 G55 G50 G45

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN
BRIDGE No. RO-159-26
OVER KINNIKINNICK CREEK
ROSS CO. S.R. 159
SEC. ROS-159-2.70 STA. 145+08.50
SCALE 1"=20'

PRECAST TENDENT	PROPOSED WORK				
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	CHECKED
BOWEN	CARROLL	C.F.B.	C.F.B.	J.M.A.	BFG

REVISED 6-24-48

FED. RD. DIV. NO.	STATE	FED. AID ROJECT	FISCAL YEAR
2	OHIO	H.I.F.	1948

11/16

ROSS COUNTY
SEC. ROS-159-2.70

General Notes

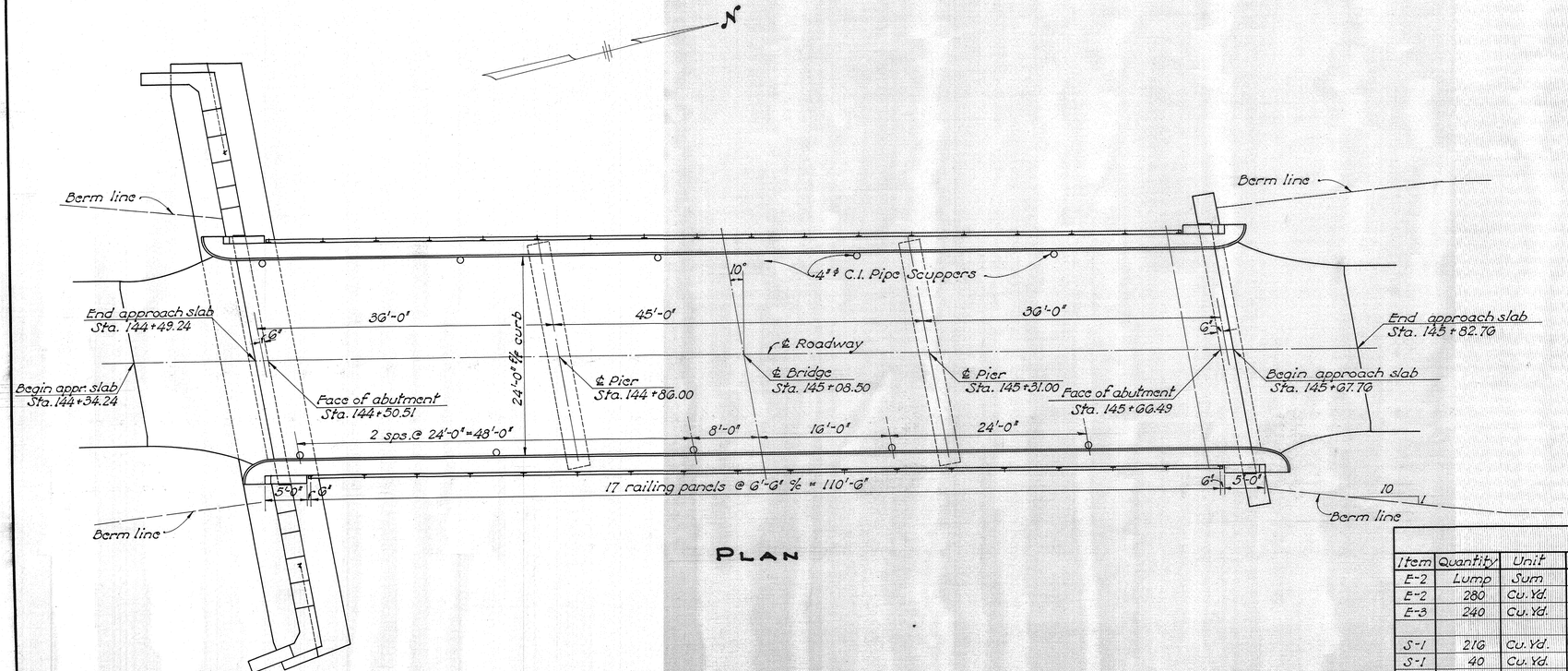
REFERENCE shall be made to Supplemental Specifications S-303, dated 12-20-46; and T-110, dated 8-3-36.

TEMPORARY RUN-AROUND BRIDGE AND APPROACHES shall be paid for as lump sum under Item S-15, except furnishing and placing approach surface course. Surface course aggregate shall be paid for per cu.yd. and governed by Supple. Spec. T-110, except that rolling will be required. Calcium chloride (M-10), applied to surface course, shall be paid for per ton. Amount of surface material applied and paid for shall be as directed by the Engineer. Embankment shall be substantially in accordance with E-1.05, with side slopes not steeper than 1½:1. Existing bridge may be used for run-around.

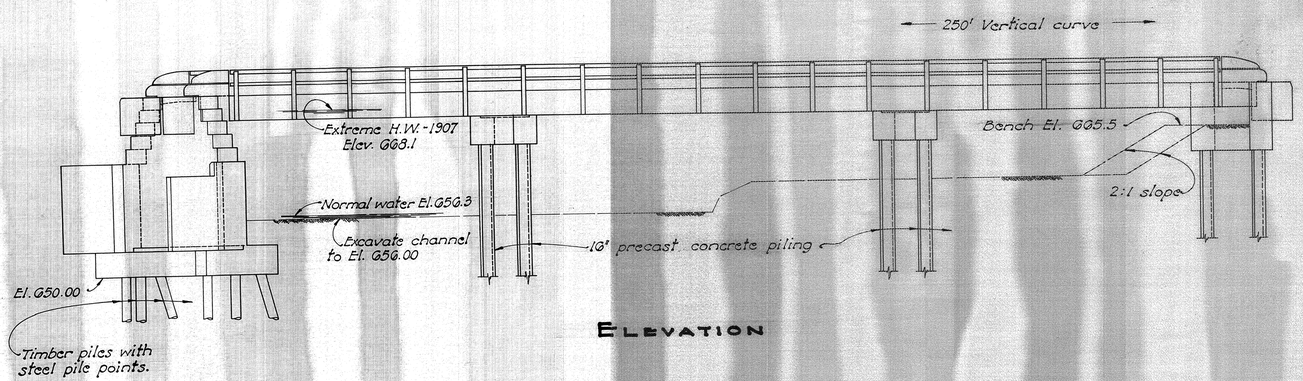
REMOVAL OF EXISTING BRIDGE:
Existing superstructure shall be carefully removed, matchmarked, and piled on the R/W at the disposal of State Forces, when no longer needed to maintain traffic.
Existing substructure shall be removed, South abutment entirely removed, North abutment removed to 3'-0" below finished grade. Material shall be disposed of as directed by the Engineer.

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

PILING shall be driven to a minimum bearing capacity of 20 tons at South abutment, 32 tons at North abutment, and 40 tons at piers.



PLAN



ELEVATION

Estimated Quantities "As Built"

Item	Quantity	Unit	Description	Abuts.	Piers	Superstr.	General	Change Order	Final Quantity
E-2	Lump	Sum	Cofferdams, cribs and sheeting				Lump		Lump
E-2	280	Cu. Yd.	Unclassified excavation	280					280
E-3	240	Cu. Yd.	Channel excavation				240		240
S-1	216	Cu. Yd.	Class "C" concrete, superstructure			216			216
S-1	40	Cu. Yd.	Class "C" concrete, pier caps & north abut cap	23	17				40
S-1	81	Cu. Yd.	Class "E" concrete, south abut. walls	81					81
S-1	74	Cu. Yd.	Class "E" concrete, south abut. footing	74					74
S-1	225	Cu. Yd.	Class "E" concrete, toe wall				225		225
Special	50	Sq. Yd.	Channel pavement (Class "C" reinf. conc. 5" thick)				50		50
S-3	322	Sq. Yd.	Type "C" waterproofing			322			322
S-303	15	Lin. Ft.	Waterproofing, premolded sealing strip	15					15
S-4	66540	Lb.	Reinforcing steel	8382	3448	54520	190		66540
S-9	28	Sq. Ft.	½" Premolded expansion joint filler				28		28
S-14	243	Lin. Ft.	Railing, steel with concrete end posts			243			243
S-15	Lump	Sum	Temporary run-around bridge & approaches				Lump		Lump
T-110	225	Cu. Yds.	Traffic compacted surface course for run-around approaches				225	"2,-115	110
M-10	4	Tons	Calcium chloride for surface course of run-around approaches				4	"2,-1.5	2.5
S-16	Lump	Sum	First test pile, timber or concrete				Lump		Lump
S-18	912	Lin. Ft.	Timber piling, untreated	912				"2,+131.67	1043.67
S-18	867	Lin Ft.	16" Precast reinforced concrete piling	195	672				867
S-18	38	Each	Steel pile points	38					38
S-24	Lump	Sum	Removal of existing bridge				Lump		Lump
S-29	40	Cu. Yd.	Porous backfill	40					40
S-29	10	Each	Scuppers			10			10
T-35	22	Cu. Yd.	Asphaltic concrete surface course, Type "A" or "C"			22			22

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

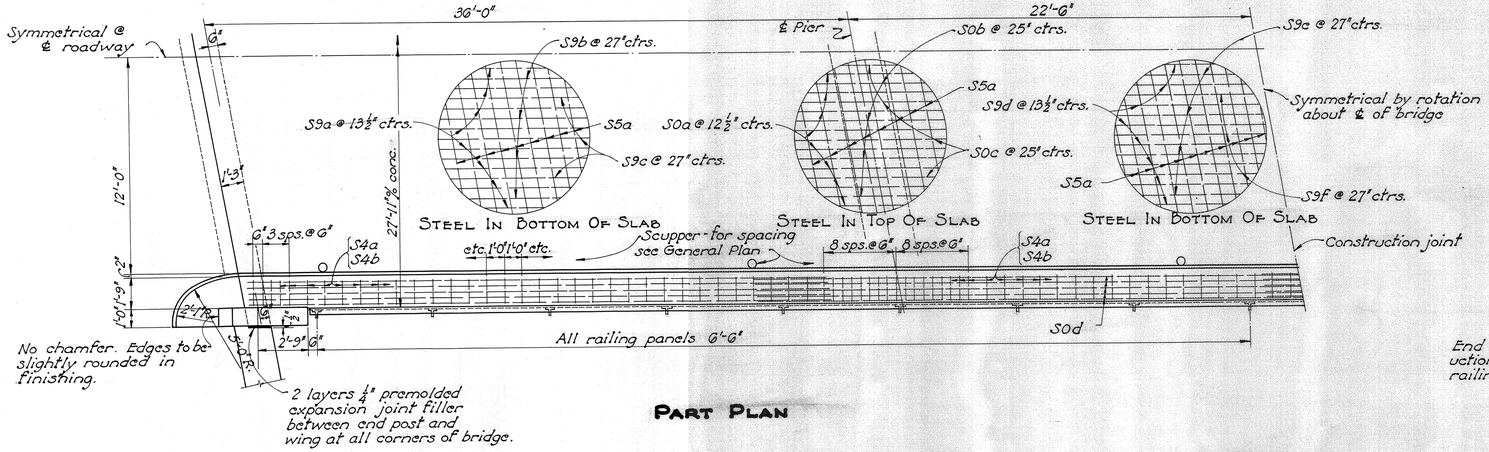
General Plan & Elevation Notes & Estimated Quantities

Bridge No. RO-159-20
Over Kinnikinnick Creek
Ross County — Sta. 145+08.50
Sec. ROS-159-2.70

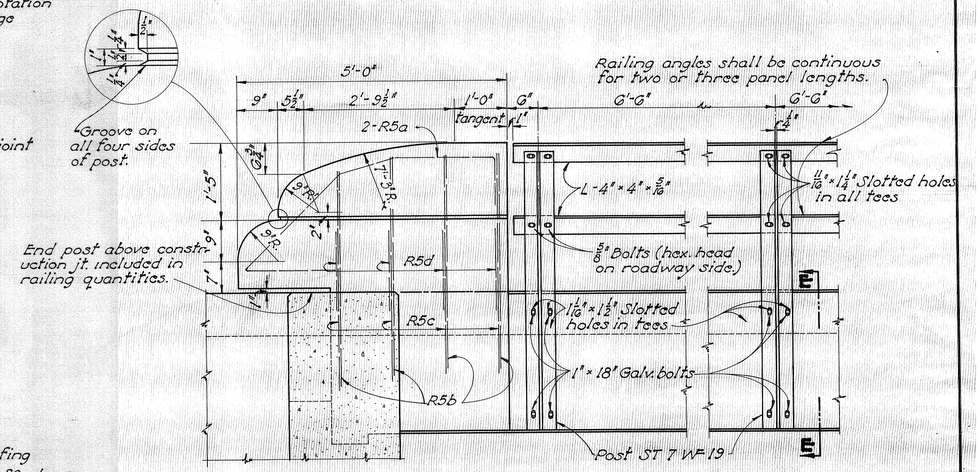
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
N.E.Y.	N.E.Y.	JAMES	Cobb	DFG	6/3/48	6-24-48

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	
2	OHIO	H.I.F.	1948	12/16

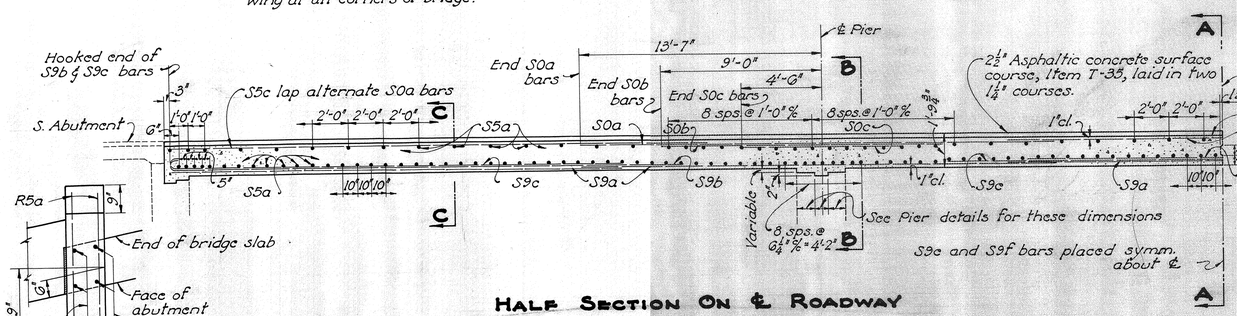
ROSS COUNTY
SEC. ROS-159-2.70



PART PLAN

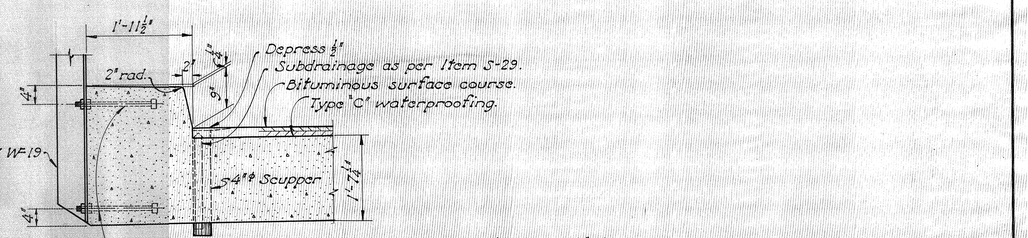


PART ELEVATION

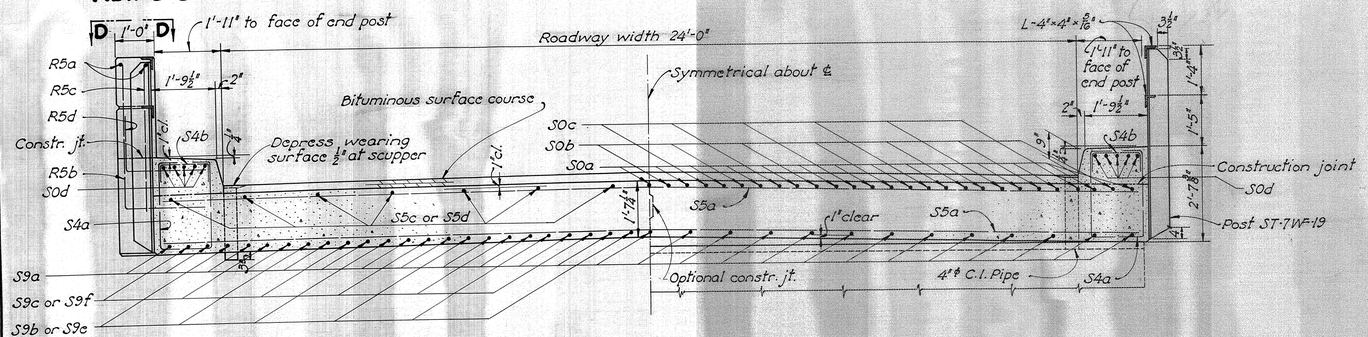


HALF SECTION ON ℄ ROADWAY

VIEW D-D

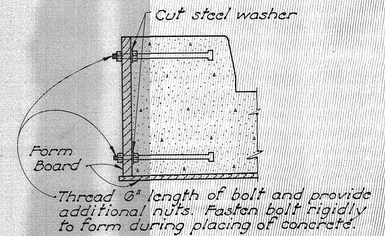


SECTION E-E

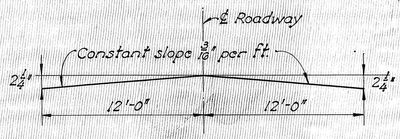


SECTION A-A AND C-C

SECTION B-B



DETAIL "A"



BRIDGE ROADWAY CROWN

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

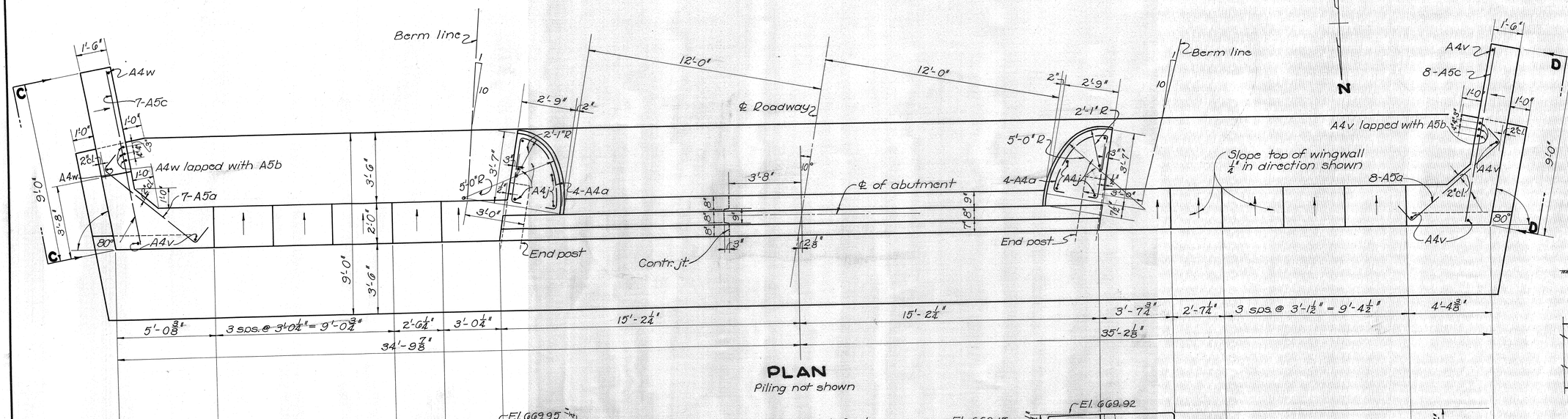
SUPERSTRUCTURE DETAILS

BRIDGE NO. RO-159-20
OVER KINNIKINNICK CREEK
ROSS COUNTY — STA. 145+08.50
SEC. ROS-159-2.70

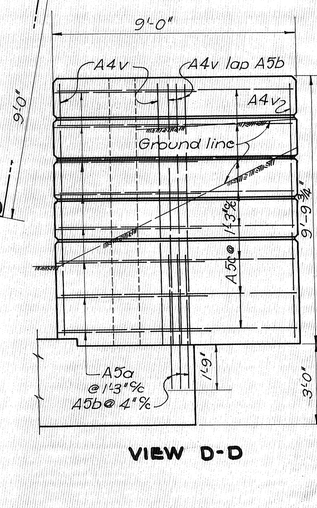
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
N.E.Y.	N.E.Y.	JAMES		BFG	6/1/48	

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	
2	OHIO	H.I.F	1948	13/16

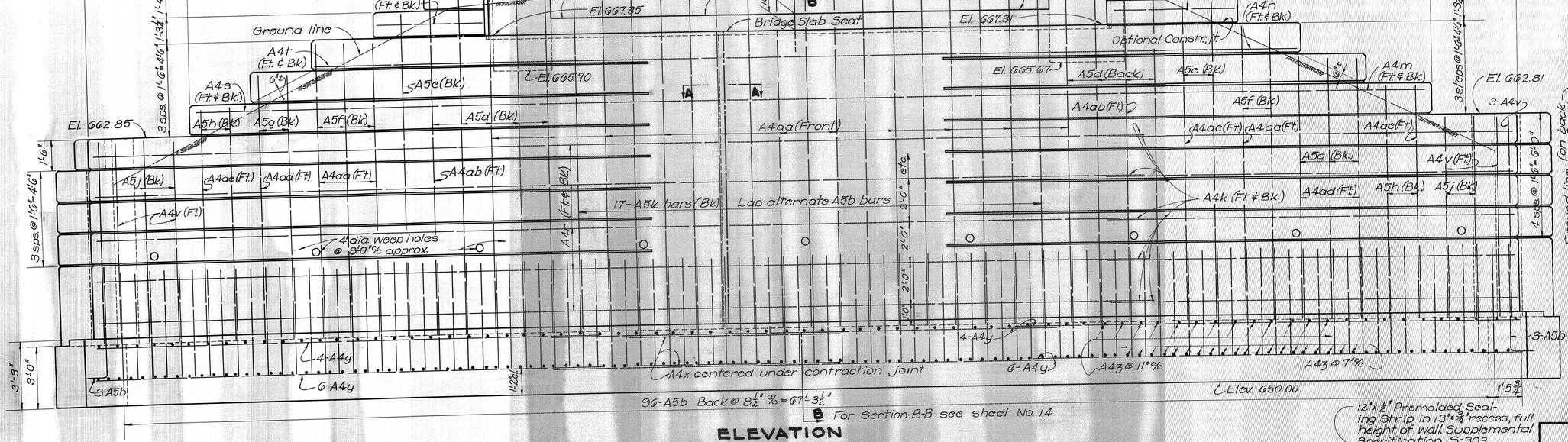
ROSS COUNTY
SEC. ROS-159-2.70



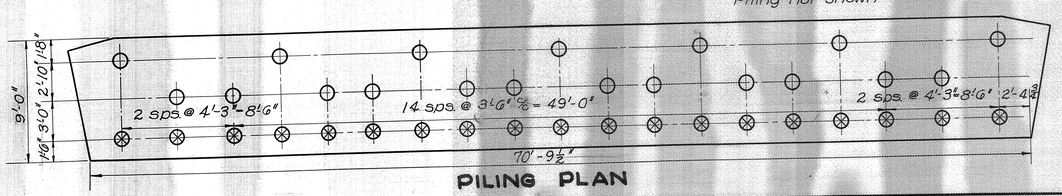
PLAN
Piling not shown



VIEW D-D



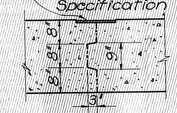
ELEVATION
Piling not shown



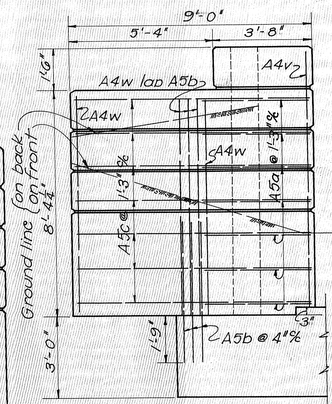
PILING PLAN

⊗ Piling shown this way shall be battered 1:4.

For Steel pile point details see Sheet No. 14



SECTION A-A



VIEW C-C

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SOUTH ABUTMENT DETAILS

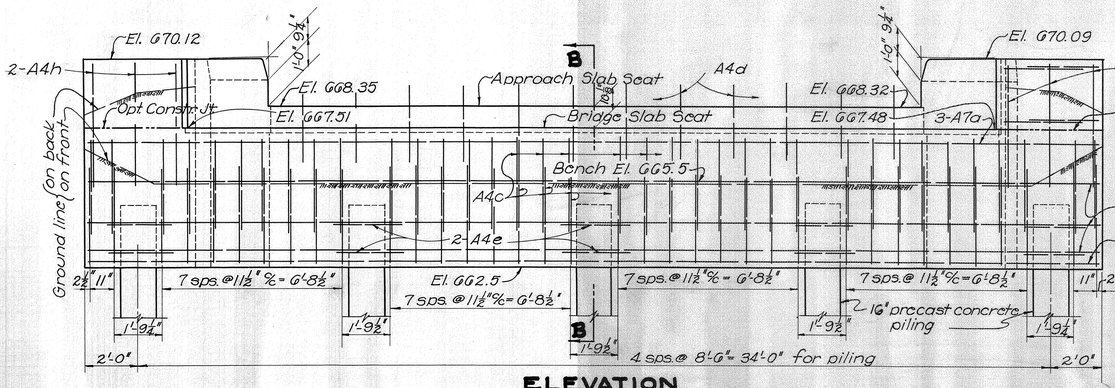
BRIDGE NO RO-159-26
OVER KINNIKINNICK CREEK
ROSS COUNTY SEC. ROS-159-2.70
STA. 143 + 08.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
N.E.Y.	N.E.Y.	JWT	[illegible]	BFG	6/7/48	

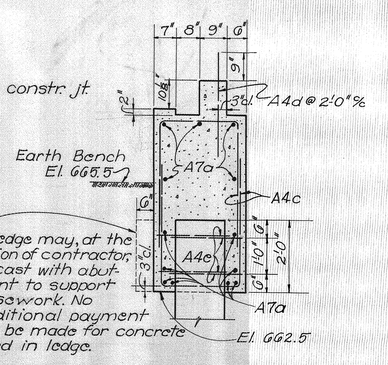
FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR	14/16
2	OHIO	HIF	1948	

ROSS COUNTY
SEC. ROS-159-2.70

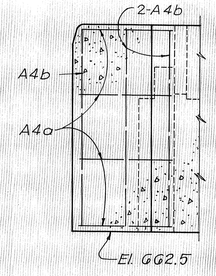
NOTE: All reinforcing 2" clear unless otherwise shown.



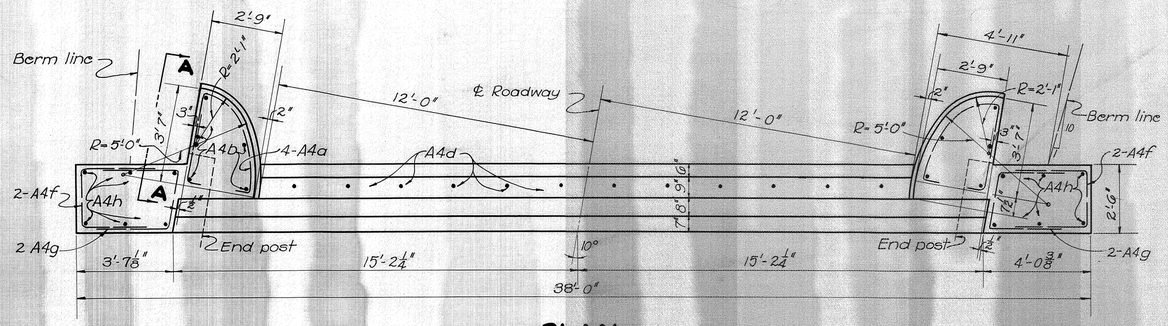
ELEVATION



SECTION B-B

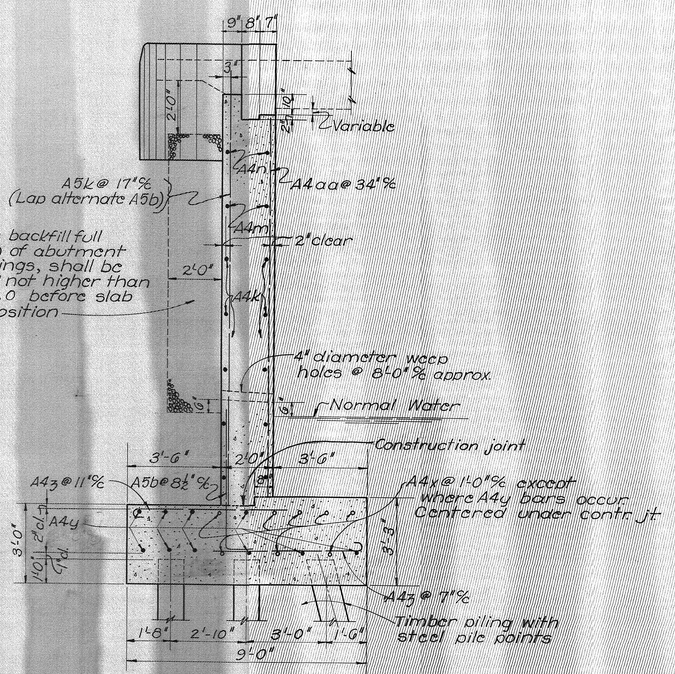


VIEW A-A

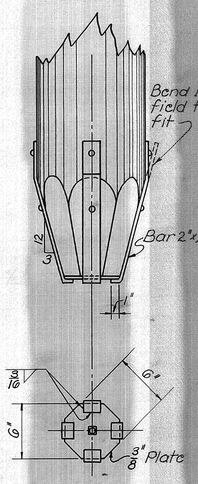


PLAN

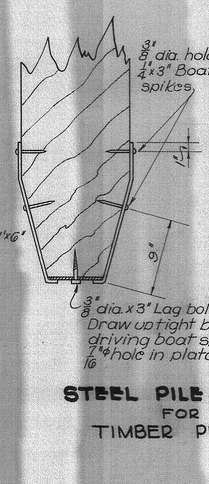
All earth fill around abutment shall be made full height of earth bench. Excavation shall then be made for abutment cap, after which piling shall be driven. If bottom forms for abutment cap are used, they shall be left in place.



SECTION B-B
SOUTH ABUTMENT



BOTTOM VIEW



STEEL PILE POINT
FOR
TIMBER PILES

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

NORTH ABUTMENT DETAILS & S. ABUTMENT PILE POINT DETAILS
BRIDGE No. ROS-159-2.70
OVER KINNIKINICK CREEK
ROSS COUNTY SEC. ROS-159-2.70
STA. 145+08.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
N.E.Y.	N.E.Y.	[illegible]	[illegible]	DFG	4/8/48	

FED. RD. DIV. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	HIF	1948

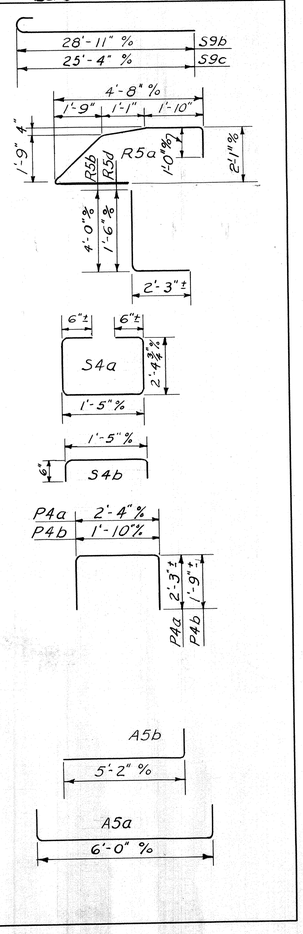
15
16

ROSS COUNTY
SEC. ROS-159-2.70

REINFORCING STEEL LIST

MARK	SIZE	NO.	LENGTH	WEIGHT	SH'R
	Superstructure				
S9b	1⅛" □	24	30'-2"	3116	Bt.
S9c	1⅛" □	24	26'-7"	2745	Bt.
S9e	1⅛" □	12	30'-10"	1592	Str.
S9f	1⅛" □	12	21'-10"	1127	Str.
S9a	1⅛" □	125	26'-7"	14296	Str.
S0a	1¼" □	54	26'-6"	7603	Str.
S0b	1¼" □	28	15'-9"	2343	Str.
S0c	1¼" □	24	9'-0"	1148	Str.
S0d	1¼" □	40	32'-7"	6924	Str.
S5a	¾" ϕ	230	27'-6"	9501	Str.
S5c	¾" ϕ	28	25'-6"	1072	Str.
S5d	⅞" ϕ	14	24'-2"	508	Str.
S4a	⅝" ϕ	276	6'-8"	1921	Bt.
S4b	⅝" ϕ	276	2'-2"	624	Bt.
R5a	¾" ϕ	8	8'-6"	included with railing for payment	Bt.
R5b	¾" ϕ	16	6'-1"		Bt.
R5c	¾" ϕ	16	4'-0"		Str.
R5d	¾" ϕ	16	3'-7"		Bt.
	Piers				
P0a	1¼" ϕ	16	27'-2"	2310	Str.
P4a	⅝" ϕ	100	6'-7"	686	Bt.
P4b	⅝" ϕ	64	5'-1"	339	Bt.
P4c	⅝" ϕ	4	27'-2"	113	Str.
	Abutments				
A7a	1" ϕ	13	37'-8"	1308	Str.
A5a	¾" ϕ	15	7'-8"	173	Bt.
A5b	¾" ϕ	102	6'-0"	919	Bt.
A5c	¾" ϕ	15	8'-6"	192	Str.
A5d	¾" ϕ	9	16'-6"	223	Str.
A5e	¾" ϕ	3	15'-2"	68	Str.
A5f	¾" ϕ	5	13'-11"	105	Str.
A5g	¾" ϕ	5	12'-5"	93	Str.
A5h	¾" ϕ	4	10'-11"	66	Str.
A5j	¾" ϕ	4	9'-5"	57	Str.
A5k	¾" ϕ	17	15'-11"	406	Str.

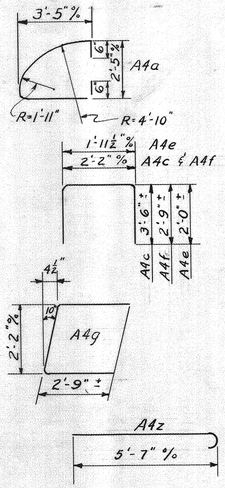
BENDING DIAGRAMS

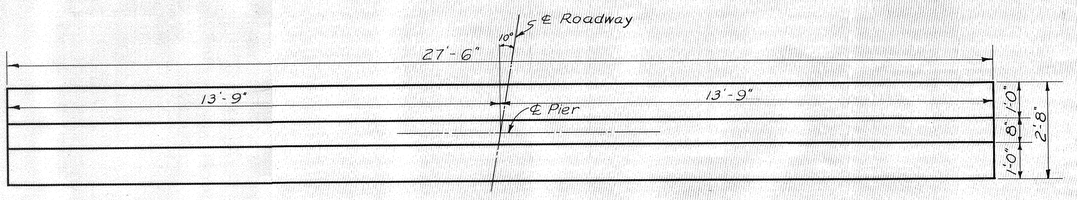


REINFORCING STEEL LIST

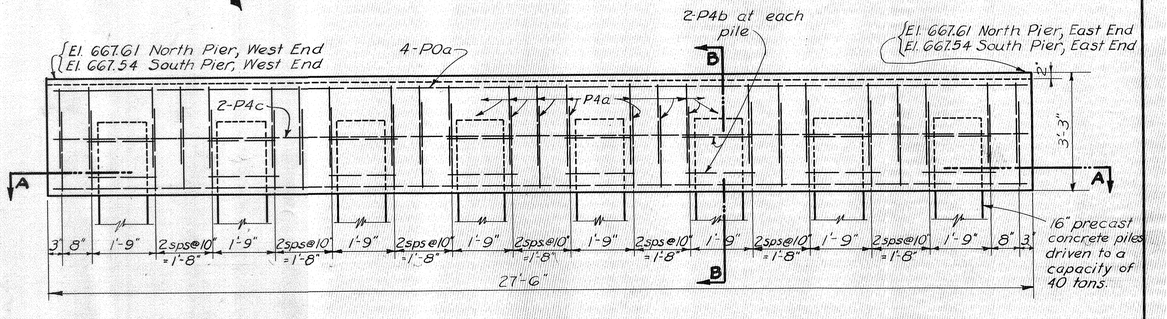
MARK	SIZE	NO.	LENGTH	WEIGHT	SH'R
	Abutments				
A4a	⅝" ϕ	16	6'-5"	140	Bt.
A4b	⅝" ϕ	10	7'-3"	76	Str.
A4c	⅝" ϕ	72	8'-11"	670	Bt.
A4d	⅝" ϕ	12	2'-10"	35	Str.
A4e	⅝" ϕ	20	5'-8"	118	Bt.
A4f	⅝" ϕ	4	7'-5"	31	Bt.
A4g	⅝" ϕ	4	7'-5"	31	Bt.
A4h	⅝" ϕ	12	4'-6"	56	Str.
A4j	⅝" ϕ	10	3'-11"	41	Str.
A4k	⅝" ϕ	20	20'-3"	422	Str.
A4m	⅝" ϕ	2	33'-11"	71	Str.
A4n	⅝" ϕ	2	27'-8"	58	Str.
A4p	⅝" ϕ	2	5'-10"	12	Str.
A4r	⅝" ϕ	10	31'-0"	323	Str.
A4s	⅝" ϕ	2	25'-11"	54	Str.
A4t	⅝" ϕ	2	19'-11"	42	Str.
A4u	⅝" ϕ	2	5'-2"	11	Str.
A4v	⅝" ϕ	9	9'-4"	88	Str.
A4w	⅝" ϕ	5	8'-0"	42	Str.
A4x	⅝" ϕ	8	10'-0"	83	Str.
A4y	⅝" ϕ	30	25'-0"	782	Str.
A4z	⅝" ϕ	198	6'-2"	1275	Bt.
A4aa	⅝" ϕ	14	13'-9"	201	Str.
A4ab	⅝" ϕ	2	16'-5"	34	Str.
A4ac	⅝" ϕ	1	15'-0"	16	Str.
A4ad	⅝" ϕ	3	12'-3"	38	Str.
A4ae	⅝" ϕ	2	10'-9"	22	Str.
	Replacement Steel				
RE0	1⅛" □	2	8'-2"	87	Str.
RE9	1⅛" □	2	7'-9"	67	Str.
RE7	1" ϕ	1	7'-4"	20	Str.
RE5	⅞" ϕ	1	6'-6"	10	Str.
RE4	⅝" ϕ	1	6'-1"	6	Str.

BENDING DIAGRAMS

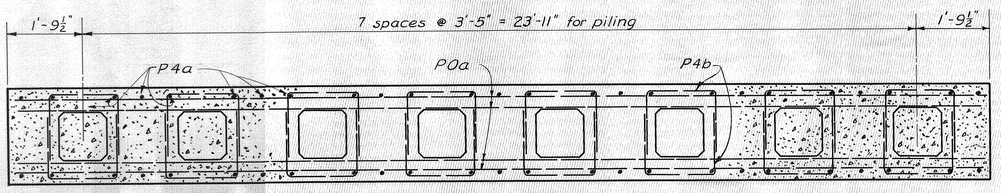




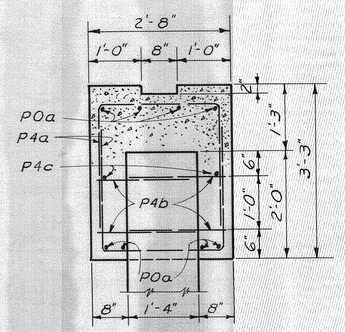
PLAN



ELEVATION



SECTION A-A



SECTION B-B

Note: All reinforcing steel shall be 2" clear unless otherwise shown.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

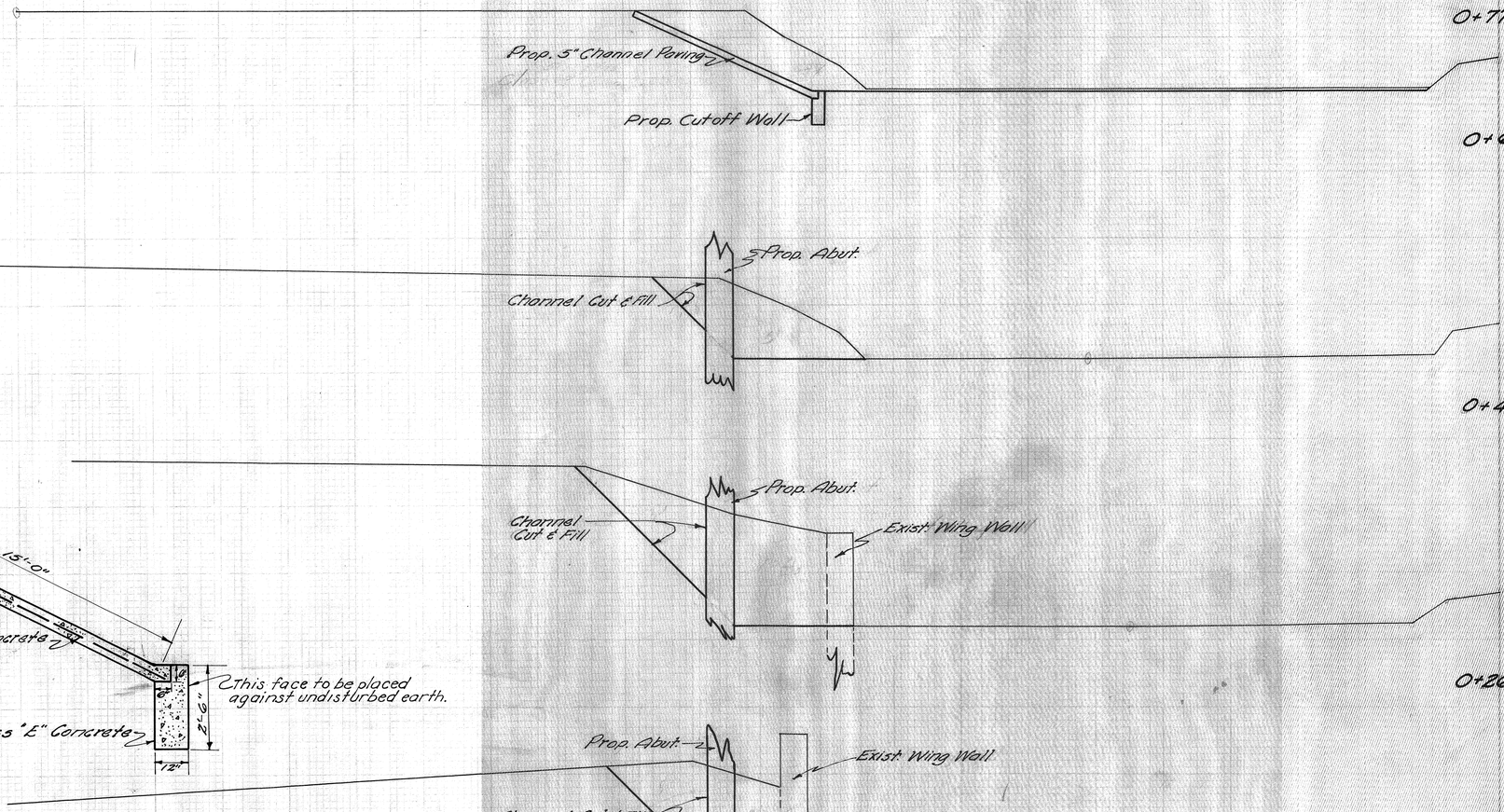
PIER DETAILS AND REINFORCING STEEL LIST

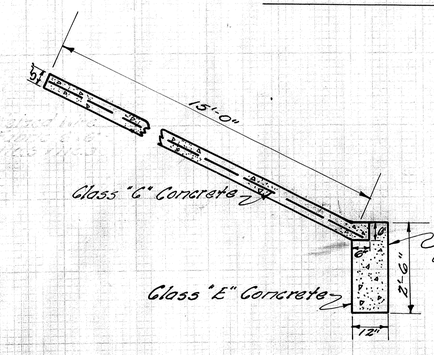
BRIDGE NO. RO-159-26
OVER KINNIKINNICK CREEK
ROSS COUNTY SEC. ROS-159-2.70
STA. 145+08.50

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
N.E.Y.	N.E.Y.	J.J.J.	C.S.S.	D.F.G.	6/2/48	

H.I.F. 1948

ROSS COUNTY
ROS-159-2.70





SECTION OF 5" CHANNEL PAVEMENT AND TOE WALL STA. 145+08.50 Lt. ℄

ESTIMATED QUANTITIES

Item	Special	5" Class "C" Concrete Channel Pavement	50 Sq. Yds.
Item	5-1	Class "E" Concrete for toe wall	2.25 Cu. Yds.

NOTE: Payment for excavation necessary to construct toe walls is included in price bid per cu. yd. for "Item 5-1 Class "E" concrete for toe wall, as per plan."

NOTE: No expansion or contraction joints are necessary.

End Area		Volume	
Cut	Fill	Cut	Fill
0	0		
		15	0
47	0		
		29	5
		39	8
		35	6
78	32		
		92	38
77	28		
		43	12
60	9		
		26	3
0	0		

Excavation for Channel

120 110 100 90 80 70 60 50 40 30 20 10 ℄

CHANNEL CROSS SECTIONS