STATE 1 291

Yellow 90

1-99

513

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUT-4-(8.48-15.02)
CITY OF HAMILTON
FAIRFIELD, LIBERTY AND LEMON TOWNSHIPS
BUTLER COUNTY

DEC 28 1961
GROUND PHOTOLAB

CONVENTIONAL SIGNS

- TOWNSHIP LINE
- CORPORATION LINE
- RIGHT-OF-WAY — Prop. R/W
- CENTER LINE
- PROPERTY LINE
- FENCE
- RAILROAD
- POLES — Power; Telephone
- GAS
- WATER
- TREES
- HEDGES
- GUARD RAIL — Existing; Proposed
- MANHOLES — Raised to Grade; Proposed
- INLETS — Ditch; Pavement
- CULVERTS — Exist.; Prop.
- DITCHES — Exist.; or Prop.
- HIGHWAY SIGNS
- MAIL BOX
- WATER VALVE

INDEX OF SHEETS

TITLE SHEET	1
TYPICAL SECTIONS	2-10
GENERAL NOTES	11-13
SUMMARY OF QUANTITIES	14-23, 15-A, 22-A
GENERAL PLAN	24-26
PLAN AND PROFILE	27-58
SUPERELEVATION TABLES	59-61
CROSS SECTIONS	62-205
INTERSECTION DETAILS	206-217
PAVEMENT DETAILS	218-220
DRAINAGE DETAILS	221-241
STRUCTURES OVER 20 FT. SPAN	242-252
RIGHT-OF-WAY PLAN	253-273
SOIL PROFILE	274-280
GAS & WATER LINES	281-291

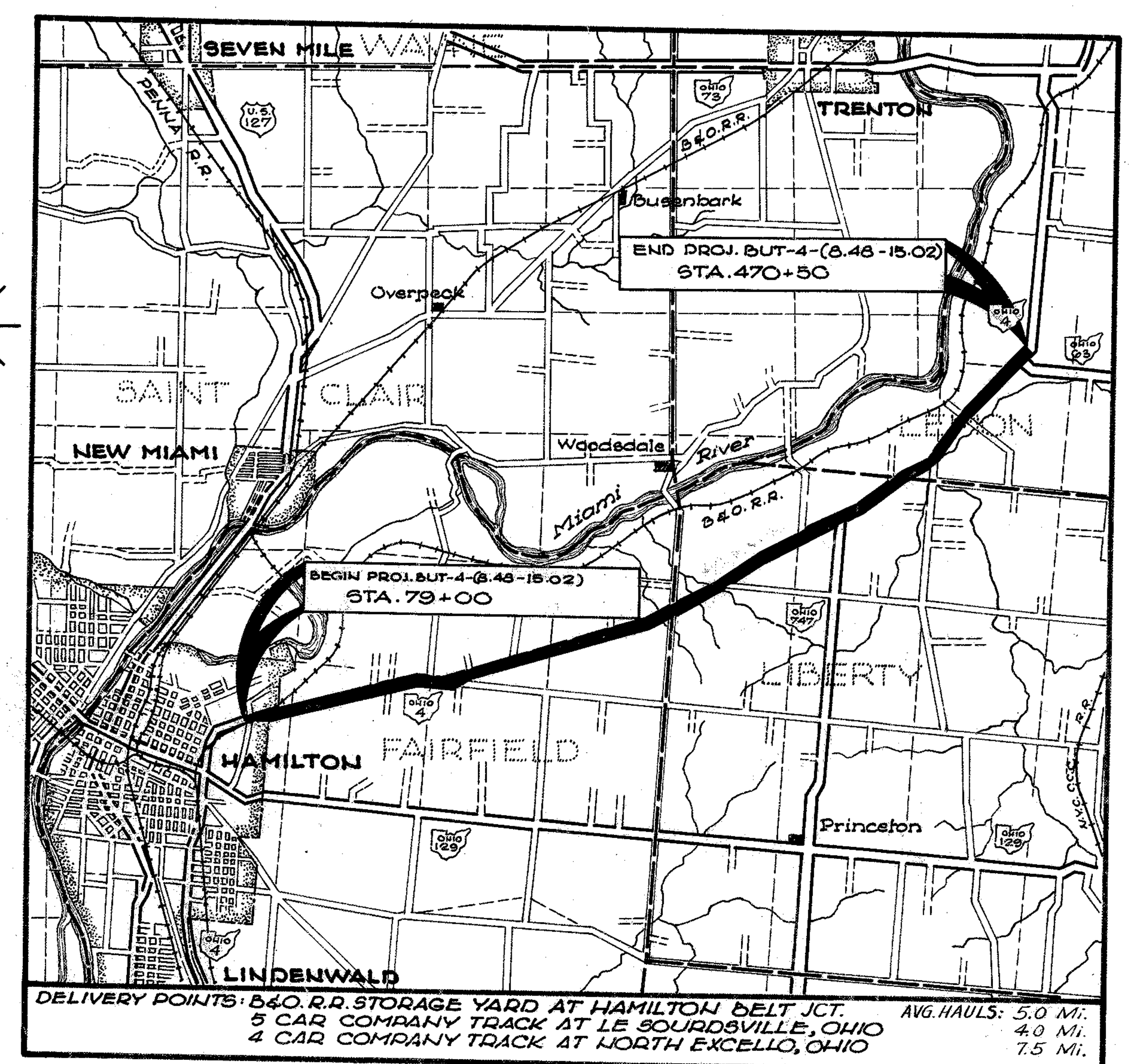
LINE DATA

LENGTH OF PROJECT

Begin Project & Begin Municipal	Sta. 79+00		
End Municipal	Sta. 119+12.65		
Gross Length of Project, Municipal		4012.65 lin. ft.	
Deduct for Railroad Crossing		35.55 lin. ft.	
Net Length of Project, Municipal		3977.10 lin. ft.	or 0.753 Miles
Begin Rural	Sta. 119+12.65		
End Project & End Rural	Sta. 470+50.0		
Net Length of Project, Rural		35,137.35 lin. ft.	or 6.654 Miles
Length of Project BUT-4-(8.48-15.02) Municipal & Rural		39,114.45 lin. ft.	or 7.408 Miles

LENGTH OF WORK

Net Length of Project, Municipal		3977.10 lin. ft.	
Add for Approaches:			
Heaton & Bingham Sts.	= 1100.0 lin. ft.		
Mill St.	= 394.5 lin. ft.		
Sta. 78+75 - Sta. 79+00	= 25.0 lin. ft.	1519.50 lin. ft.	
Length of Work, Municipal		5496.60 lin. ft.	or 1.041 Miles
Net Length of Project, Rural		35,137.35 lin. ft.	
Add for Approaches:			
Millikin Rd.	= 928.54 lin. ft.		
Kyles Station Rd.	= 389.22 lin. ft.		
Sta. 470+50 - 470+75	= 25.0 lin. ft.	1342.76 lin. ft.	
Length of Work, Rural.	= 36,480.11 lin. ft. or 6.909 Miles		
Length of Work, Municipal & Rural	= 41,976.71 lin. ft. or 7.950 Miles		



LOCATION PLAN

Scale: 1" = 1 Miles

- PORTION TO BE IMPROVED
- FEDERAL HIGHWAYS
- STATE HIGHWAYS
- OTHER ROADS

SCALES

PLAN	1" = 50'
PROFILE - HORIZONTAL	1" = 50'
PROFILE - VERTICAL	1" = 10'
CROSS SECTIONS	1" = 10'
APPROACHES & INTERSECTIONS	1" = 20'

The Standard Specifications of The State of Ohio, Department of Highways including changes and Supplemental Specifications listed in the proposal shall govern this improvement.

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

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

Approved J. F. Payton	Date 6-21-55	Division Deputy Director
Approved John J. Heer	Date 8-22-55	Deputy Director of Planning and Programming
Approved E. J. Preston	Date 8-12-55	Engineer of Location & Design
Approved Richard Ort	Date 8-8-55	Engineer of Bridges
Approved H. A. Gerold	Date 8-12-55	Deputy Director of Design and Construction
Approved J. F. Loughlin	Date 8-23-55	First Assistant Director
Approved S. Linzell	Date 8-23-55	Director of Highways

REVIEWED & APPROVED H. G. Eckhardt
DATE 8/9/55 ENGINEER OF TRAFFIC

STANDARD DRAWINGS							
L-3-A	4-1-50	I-15 NO.1	8-1-55	S-27 P.C.4	1-4-54	I-8 M.H. NO 3-A	5-1-52
L-1	4-1-50	S-27 P.C.3	2-20-45	I-8 C.B. 1-2-A&B	5-1-52	I-8 M.H. NO.1	5-1-52
L-3	4-1-50	AS-1-54	12-1-54	I-8 C.B. 1-3&1-4	5-1-52	I-8 M.H. NO.1-A	1-3-55
T-35	10-1-52	I-12	7-1-54	I-8 C.B. 2-3&2-4	5-1-52	G-7.07	1-2-53
B-T-71R	3-2-53	I-15 NO.2	12-1-54	I-8 C.B. 2-5&2-6	5-1-52	B-T-50-70-71E NO.1	10-1-47
L.J. NO.1	7-1-55	I-21-23	12-1-54	I-8 C.B. NO.3	5-1-52	I-8 C.B. NO.3-A	5-1-52
T.J.	7-1-55	S-27 P.C.1	5-1-52	I-8 C.B. NO.6	5-1-52	I-8 C.B. NO.7	5-1-52
DR-1	1-3-55	I-1,2,3,4,&5	2-20-45	I-8 C.B. 2-2-A&B	5-1-52	SP-53	7-21-53
RI-1	1-3-55	I-14G	1-22-52			I-8 M.H. NO.3	5-1-52

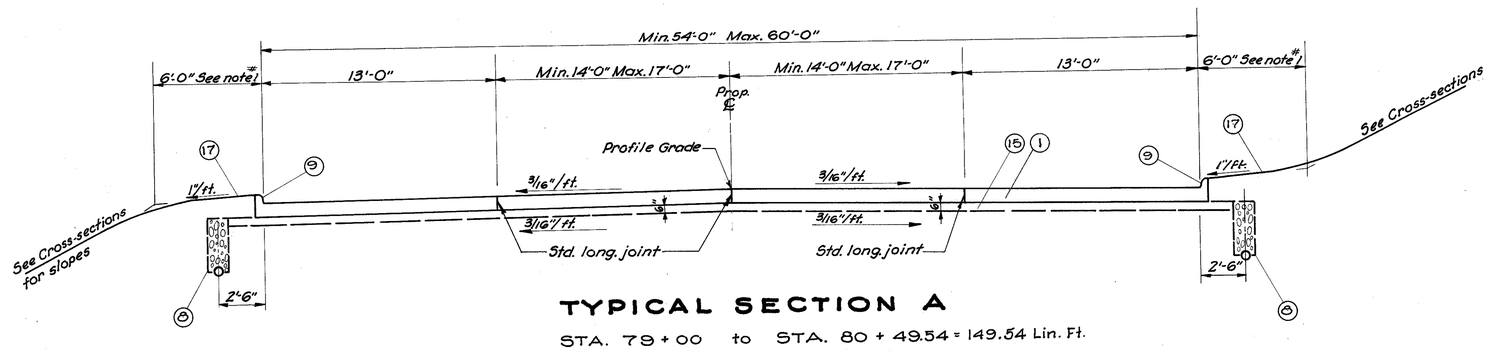
SUPPLEMENTAL SPECIFICATIONS	
L-209.12	7-17-54
M-110.27	9-9-52
5	6-8-55

DEC 28 1961
GROUND PHOTOLAB

PREPARED BY
VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO CHICAGO, ILLINOIS

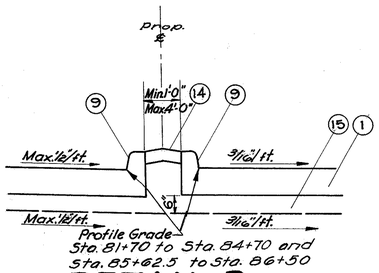
FILE NO 513 BUT-4-8.48

TYPICAL SECTIONS
TYPE T-71
SCALE: 1/4" = 1'-0"

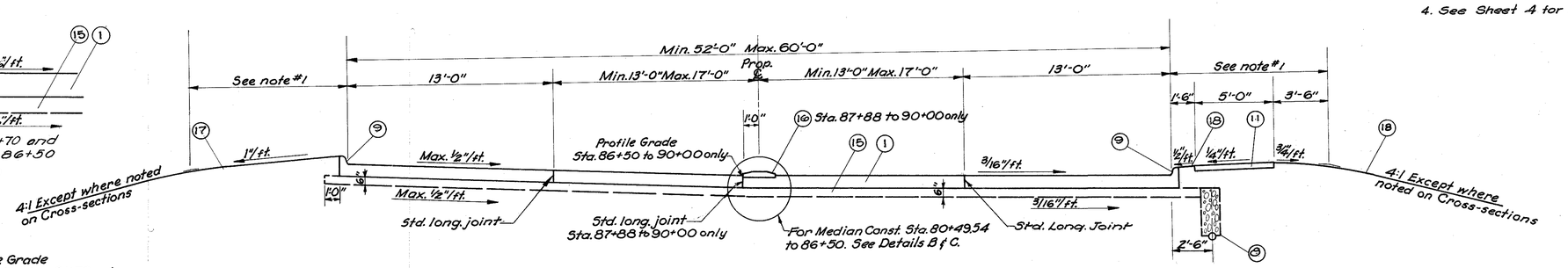


TYPICAL SECTION A
STA. 79+00 to STA. 80+49.54 = 149.54 Lin. Ft.

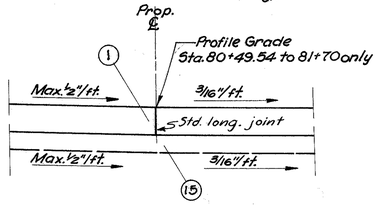
Notes:
1. See Intersection Details Sheet 206 & Cross Sections for Berm & Shoulder treatment.
2. For Location of Precast Concrete Traffic Dividers, see Plan & Profile Sheets. See Std. Dwg. I-21-23
3. See Std. Dwg. I-21-23 Item I-21 Type 1 for details of conc. median Sta. 81+70 to 86+50 only. See Intersection Details Sheets 206 & 207 for median widths.
4. See Sheet 4 for Legend



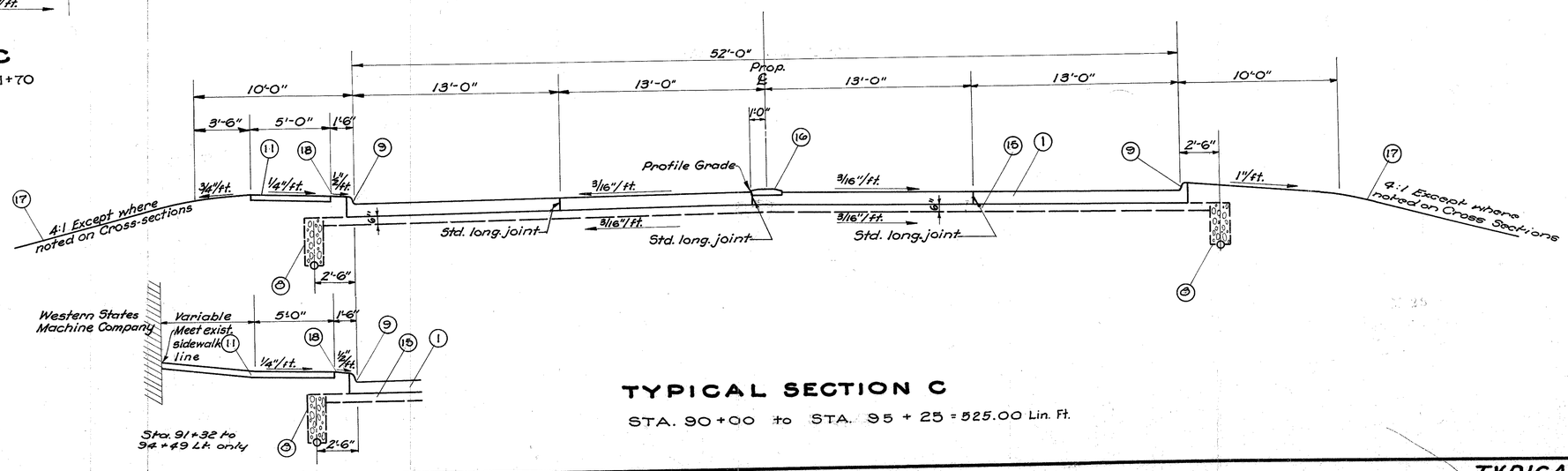
DETAIL B



SUPERELEVATED TYPICAL SECTION B
STA. 80+49.54 to STA. 90+00 = 950.46 Lin. Ft.



DETAIL C
STA. 80+49.54 to 81+70

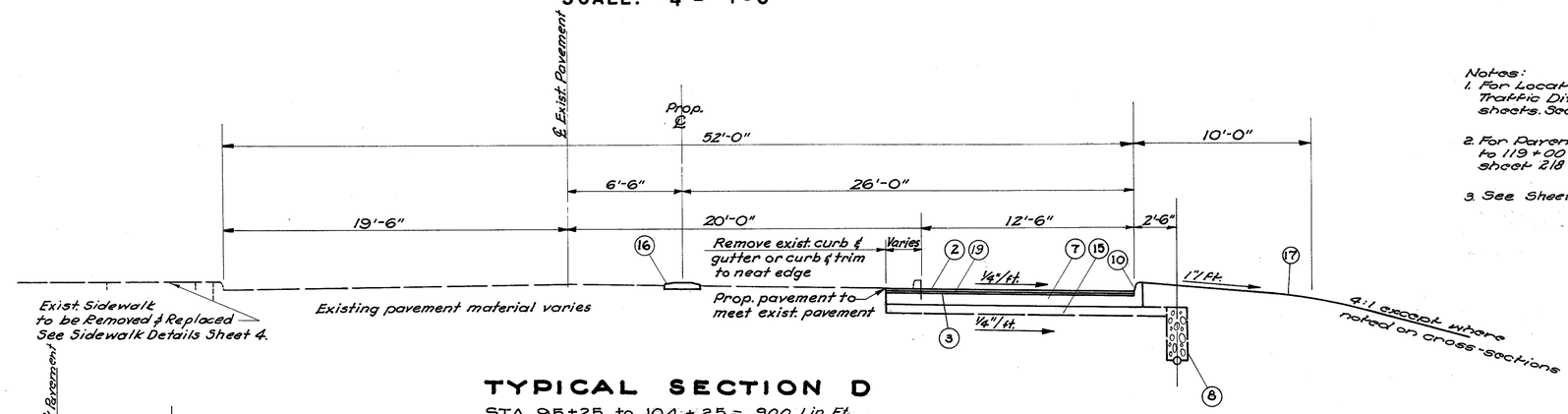


TYPICAL SECTION C
STA. 90+00 to STA. 95 + 25 = 525.00 Lin. Ft.

TYPICAL SECTIONS

TYPE T-35

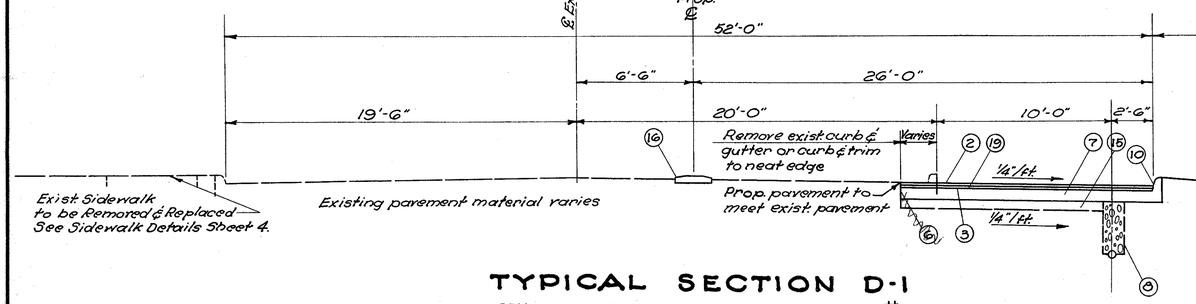
SCALE: 1/4 = 1'-0"



Notes:
1. For Location of Precast Concrete Traffic Dividers, see Plan & Profile sheets. See Std. Dwg. I-21-23
2. For Pavement Sections Sta. 114+50 to 119+00 see Pavement Details sheet 218
3. See Sheet 4 for Legend

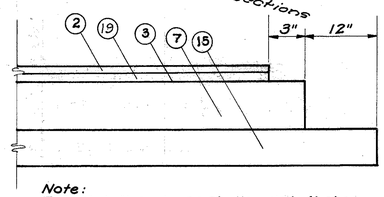
TYPICAL SECTION D

STA. 95+25 to 104+25 = 900 Lin. Ft.

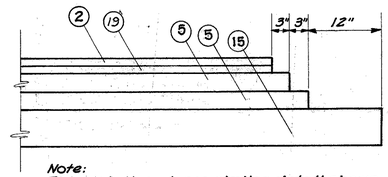


TYPICAL SECTION D-1

STA. 104+25 to 114+50 See Note #2

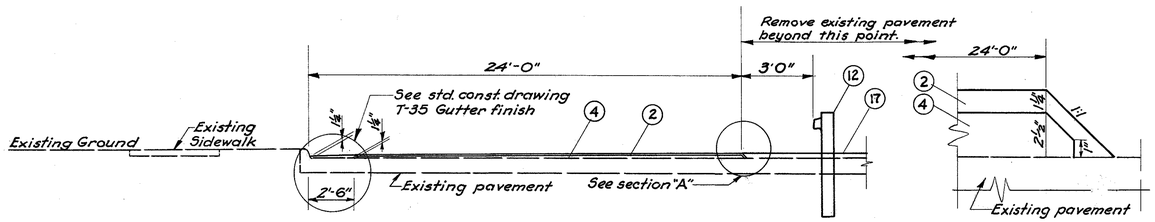


Note:
This detail replaces similar detail shown on standard drawing T-35.



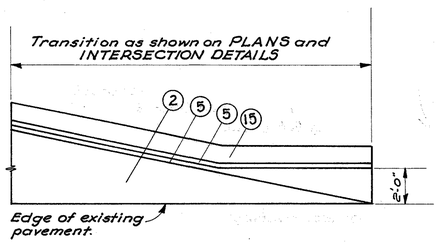
Note:
This detail replaces similar detail shown on standard drawing T-35.

COURSE DETAILS FOR WIDENING



MILL STREET

SECTION A



Note:
This detail replaces similar detail shown on standard drawing T-35.

MERGING EDGE OF PAVEMENT WIDENING WITH EDGE OF EXISTING PAVEMENT

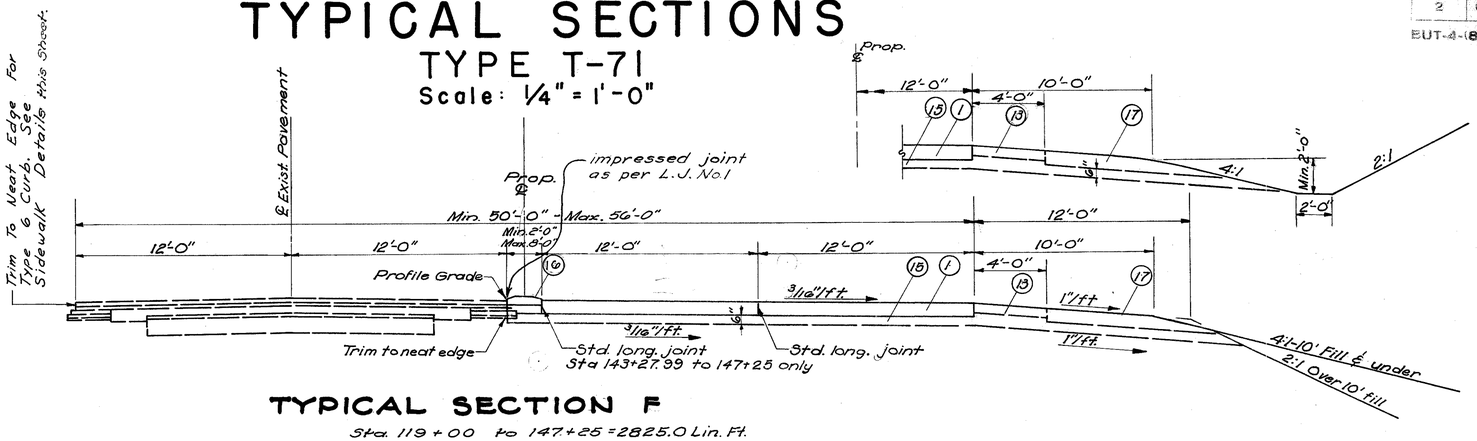
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

EUT-4-(8.48-15.02)

TYPICAL SECTIONS

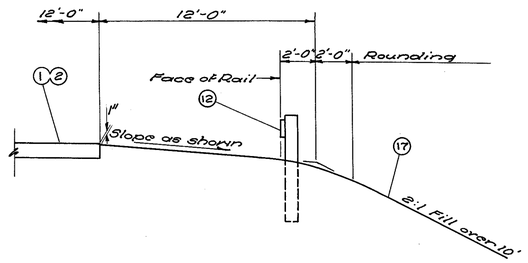
TYPE T-71

Scale: 1/4" = 1'-0"

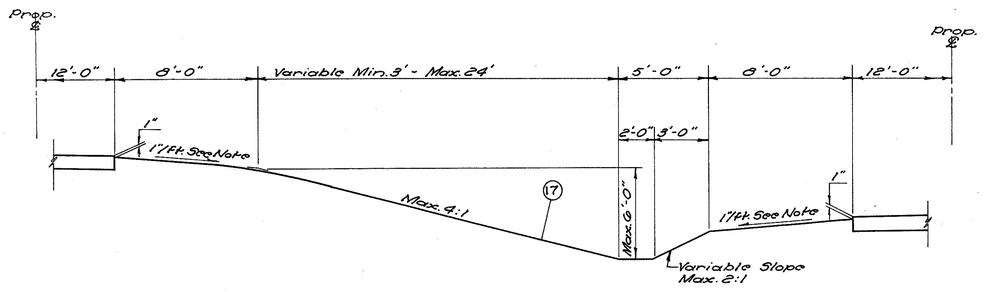


TYPICAL SECTION F

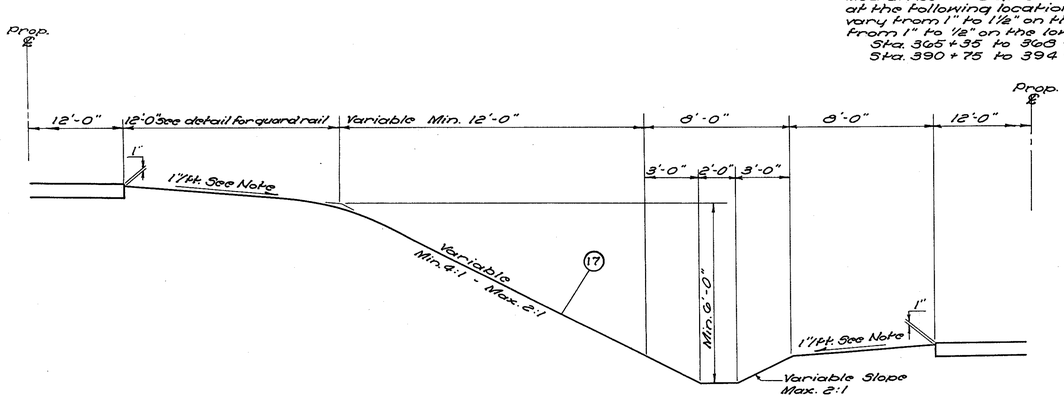
Sta. 119+00 to 147+25 = 2825.0 Lin. Ft.



DETAIL SHOWING GUARD RAIL LOCATION



Note:
Median berm slopes are 1"/ft. except at the following locations where they vary from 1" to 1½" on the high side & from 1" to ½" on the low side:
Sta. 305+35 to 306+00
Sta. 390+75 to 394+00



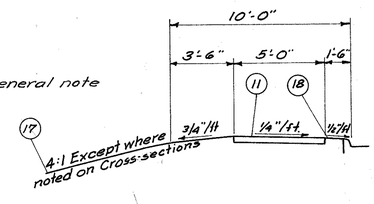
TYPICAL SECTIONS SHOWING MEDIAN FOR PAVEMENTS AT DIFFERENT LEVELS

See Typical Sections F, G, H & I for Pavement, Subbase, etc. Details. Sheets 5 & 6

Notes:
1. For location of Precast Concrete Traffic Dividers, see Plan & Profile sheets. See Std. Dwg. I-21-23

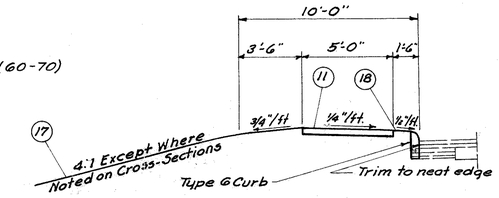
LEGEND

(1) Item T-71 9" Reinforced Portland Cement Concrete Pavement
(2) Item T-35 1¼" Asphaltic Concrete Surface Course Type "C" (60-70)
(3) Item T-30 Bituminous Tack Coat, Sec. M-5.5 MS-2 or RS-1; or Sec. 5.2 RC-1 or RC-2 applied at the rate of 0.10 gal. per sq. yd. (See note in proposal)
(4) Item B-35 Min. 1¼" Asphaltic Concrete Leveling Course (60-70)
(5) Item B-35 3" Asphaltic Concrete Base Course (60-70)
(6) Item B-35 Sealing Vertical Face of Existing Pavement (See general note on Sheet 12).
(7) Item B-70 8" Portland Cement Concrete Base Course
(8) Item I-4 6" Pipe Underdrains
(9) Item I-12 Type 2A Portland Cement Concrete Curb
(10) Item I-12 Type 2B Portland Cement Concrete Curb
(11) Item I-13 4" Portland Cement Concrete Sidewalk
(12) Item I-15 Deep Steel Beam Guard Rail
(13) Item I-18 6" Stabilized Crushed Aggregate Shoulders
(14) Item I-21 Type I Portland Cement Concrete Median Pavement
(15) Item I-22 Subbase Type A, B, C, or D
(16) Item I-23 Precast White Portland Cement Concrete Traffic Dividers
(17) Item L-9 Seeding & Protecting
(18) Item L-10 Sodding
(19) Item B-35 1¼" Asphaltic Concrete Leveling Course (60-70)



SIDEWALK DETAILS

Sta. 95+25 to 117+25
Sta. 121+02 to 122+00



SIDEWALK DETAILS

Sta. 118+25 to 121+02

TYPICAL SECTIONS

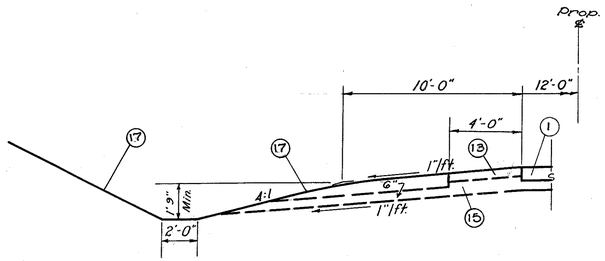
TYPE T-71

Scale: 1/4" = 1'-0"

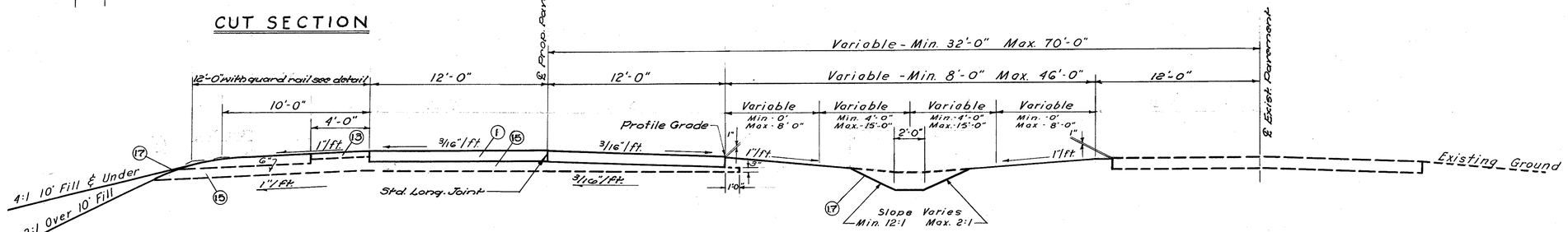
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

5
291

BUT-4-(8.46-15.02)



CUT SECTION

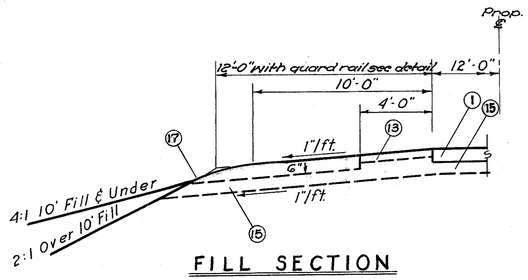


FILL SECTION

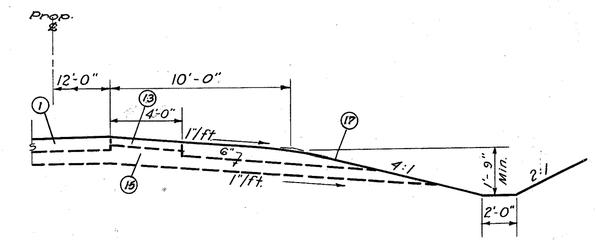
TYPICAL NORMAL SECTION G

Sta.				
147+52.99	to	148+00.0	=	47.01 Lin. Ft.
155+93.40	to	157+02.89	=	109.49
168+09.32	to	169+23.0	=	113.18
190+00.0	to	197+50.0	=	750.00
207+00.0	to	223+00.0	=	1600.00
257+25.0	to	263+20.0	=	595.00
273+75.0	to	277+75.0	=	400.00
288+70.0	to	295+44.58	=	674.58
303+60.64	to	319+00.0	=	1539.36
345+00.0	to	349+91.11	=	491.11
354+97.78	to	355+03.57	=	5.79
364+16.90	to	365+30.23	=	113.33
387+50.0	to	398+00.0	=	1050.00
435+53.20	to	452+00.0	=	1647.80
461+00.0	to	464+00.0	=	300.00
		Total	=	9426.65 Lin. Ft.

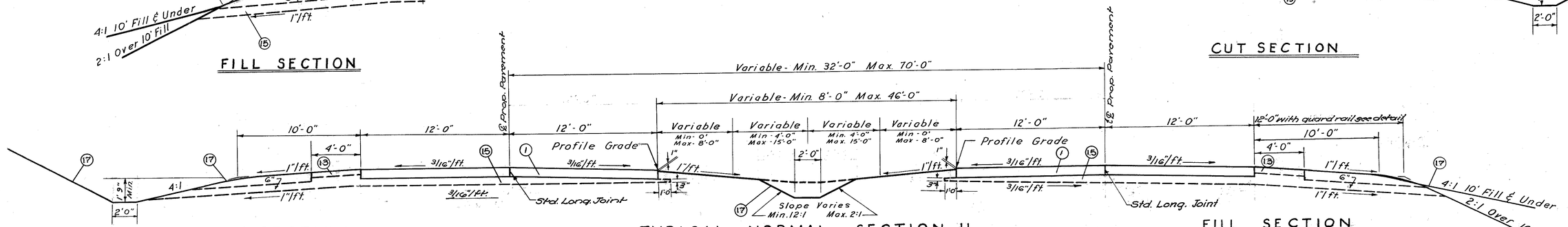
Notes:
1. See Sheet 4 for Legend.
2. See Sheet 4 for median treatment for pavements at different levels.
3. See Sheet 9 for Pavement Details of Acceleration & Deceleration Lanes.
4. See Sheet 4 for Guard Rail Details.



FILL SECTION



CUT SECTION



CUT SECTION

FILL SECTION

TYPICAL NORMAL SECTION H

Sta.				
148+00.0	to	150+43.40	=	243.40 Lin Ft.
169+23.0	to	169+23.11	=	0.11
179+32.46	to	190+00.0	=	1067.54
197+50.0	to	207+00	=	950.00
223+00.0	to	236+37.24	=	1337.24
256+47.56	to	257+25.0	=	77.44
263+20.0	to	265+19.65	=	199.65
273+73.86N	to	273+75.05	=	9.64
277+75.0	to	288+70.0	=	1095.00
319+00.0	to	324+28.96	=	529.96
333+70.63	to	345+00.0	=	1129.37
391+12.0	to	397+50.0	=	638.00
		Total		7276.35 Lin Ft.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	-	

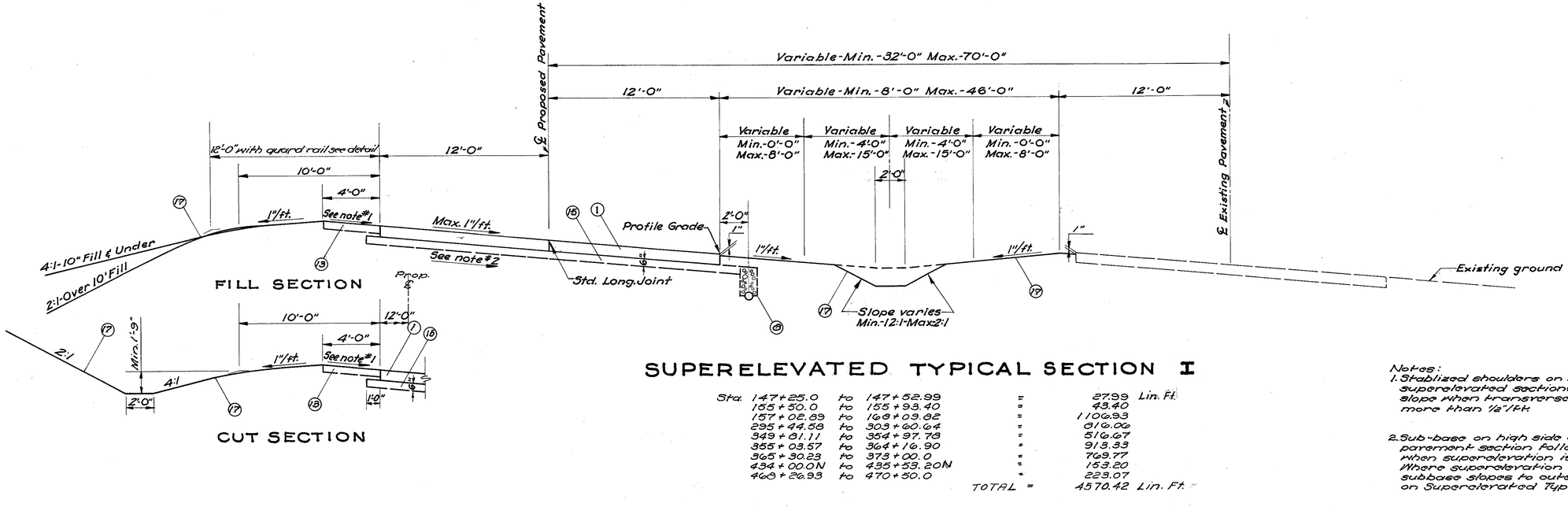
BUT-4 (8.48-15.02)

6
2.91

TYPICAL SECTIONS

TYPE T-71

SCALE: 1/4" = 1'-0"

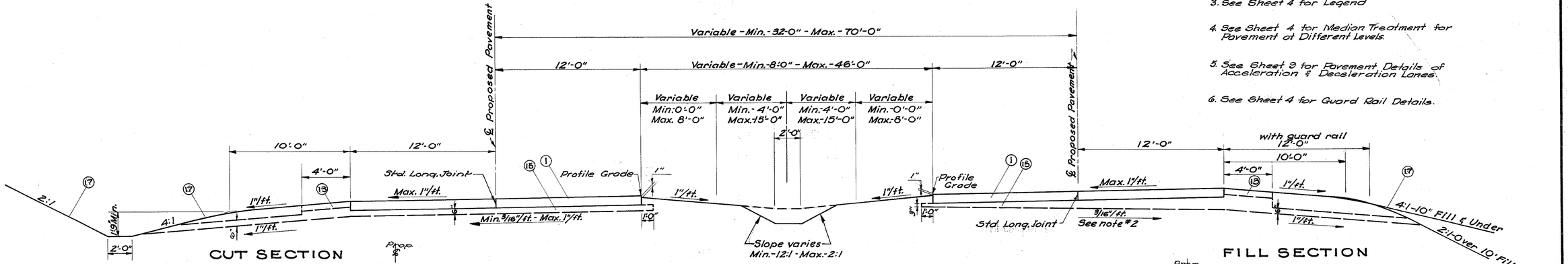


SUPERELEVATED TYPICAL SECTION I

Sta.	147+25.0	to	147+52.99	=	27.99 Lin. Ft.
	155+50.0	to	155+93.40	=	43.40
	157+02.89	to	168+03.82	=	1100.93
	295+44.58	to	301+60.64	=	616.06
	349+91.11	to	354+97.79	=	516.67
	355+03.57	to	364+16.90	=	913.33
	365+30.23	to	373+00.0	=	769.77
	434+00.0N	to	435+53.20N	=	153.20
	468+26.93	to	470+50.0	=	223.07
			TOTAL	=	4570.42 Lin. Ft.

Notes:

1. Stabilized shoulders on high side of superelevated sections to follow pavement slope when transverse pavement slope is more than 1/2"/Ft.
2. Sub-base on high side of superelevated pavement section follows pavement slope when superelevation is more than 1/2"/Ft. Where superelevation is 1/2"/Ft. or less, subbase slopes to outer edge as shown on Superelevated Typical Section J.
3. See Sheet 4 for Legend
4. See Sheet 4 for Median Treatment for Pavement at Different Levels.
5. See Sheet 9 for Pavement Details of Acceleration & Deceleration Lanes.
6. See Sheet 4 for Guard Rail Details.



SUPERELEVATED TYPICAL SECTION J

Sta.	150+43.40	to	155+50.0	=	506.60 Lin Ft
	169+23.11	to	179+32.46	=	1009.33
	236+37.24N	to	256+47.56S	=	2010.32
	265+19.65	to	273+73.86N	=	854.23
	324+89.96	to	333+70.68	=	941.67
	373+00.0	to	381+12.0	=	812.00
			TOTAL	=	6134.15 Lin. Ft.

TYPICAL SECTIONS

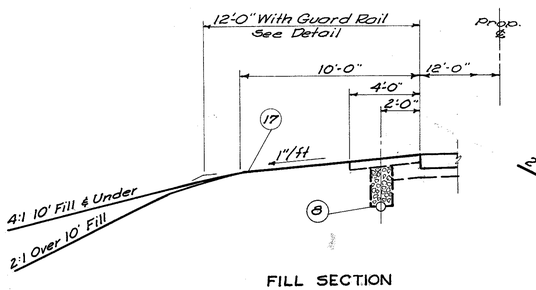
TYPE T-71

SCALE: 1/4" = 1'-0"

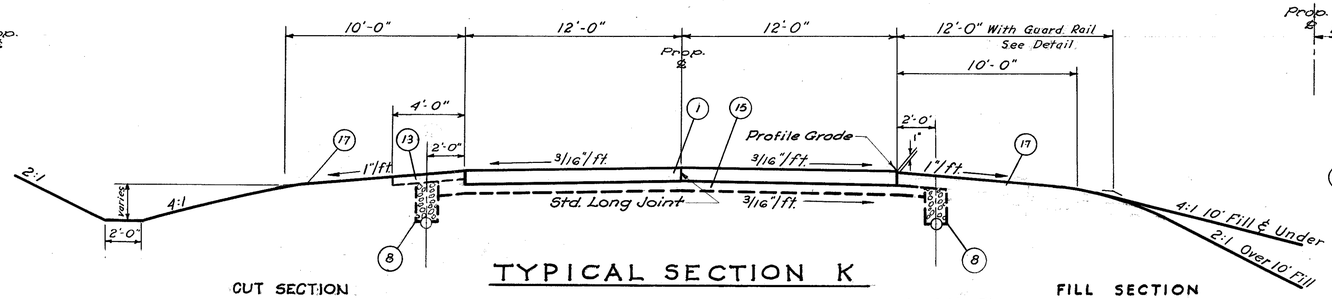
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

7
291

EUT-4-(8.48-15.02)



FILL SECTION

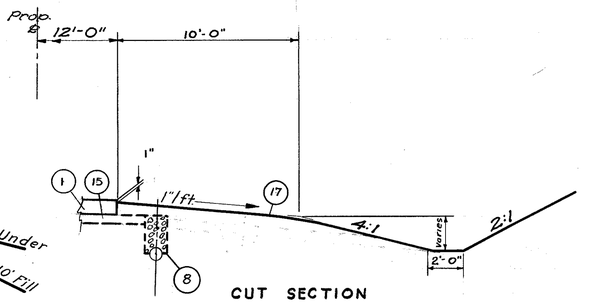


CUT SECTION

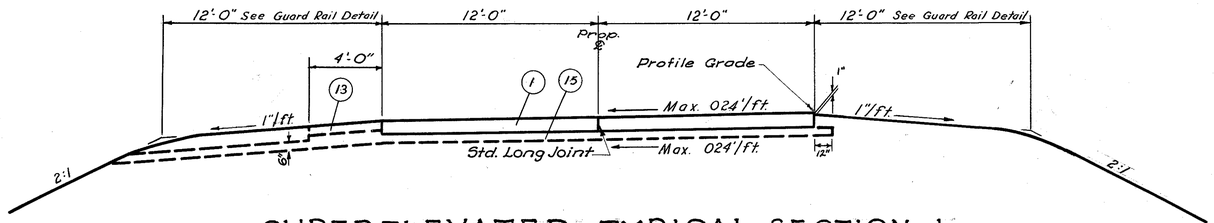
FILL SECTION

TYPICAL SECTION K

Sta.	398+00	to	403+75.95	= 575.95 Lin. Ft.
Sta.	452+00	to	461+00.00	= 900.00
Sta.	464+00	to	468+26.93	= 426.93
			TOTAL =	1902.88 Lin. Ft



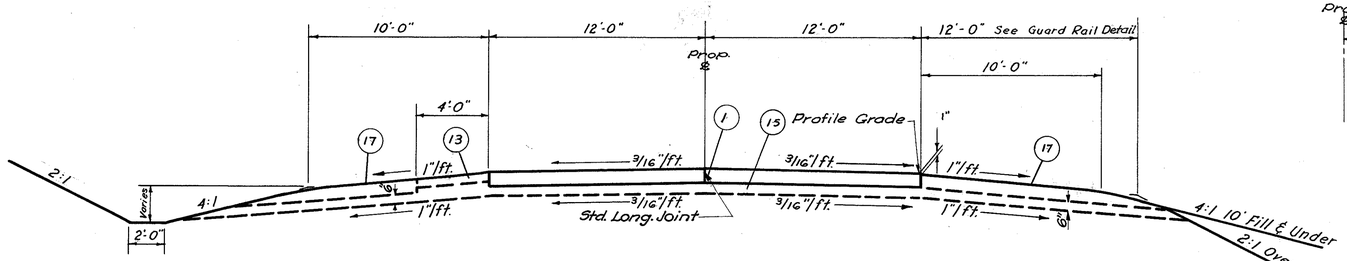
CUT SECTION



SUPERELEVATED TYPICAL SECTION L

Sta. 403+75.95 to 414+32.62 = 1056.67 Lin. Ft.

Notes:
1. See Sheet 4 for Legend
2. See Sheet 9 for Pavement Details of Acceleration & Deceleration Lanes.
3. See Sheet 4 for Guard Rail Details

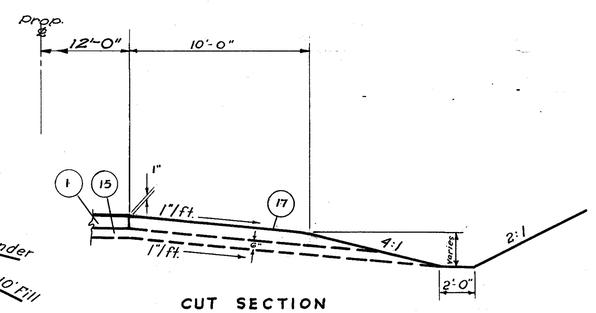


CUT SECTION

FILL SECTION

TYPICAL SECTION M

Sta.	414+32.62 S	to	414+38.93 S	= 6.31 Lin. Ft.
Sta.	416+43.07 S	to	434+00 S	= 1756.93 Lin. Ft.
			TOTAL =	1763.24 Lin. Ft.



CUT SECTION

FED. RTE. DIVISION	STATE	PROJECT	
2	OHIO		

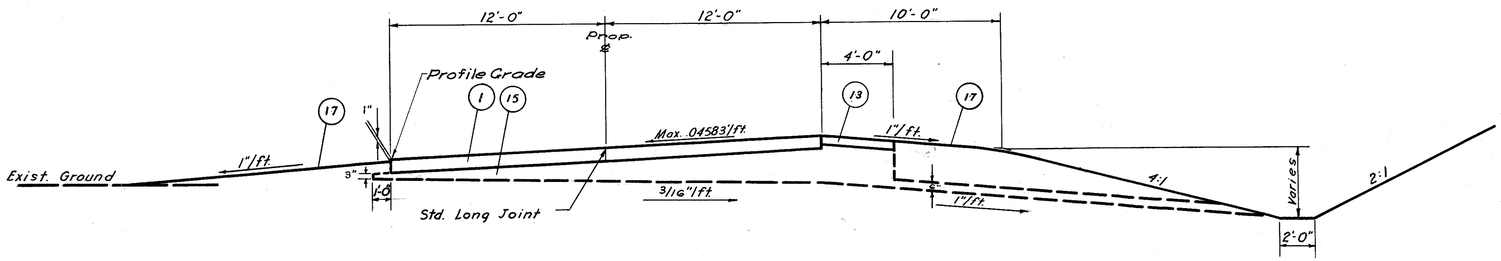
8
291

BUT-4-(8.48-15.02)

TYPICAL SECTIONS

TYPE T-71

SCALE: 1/4" = 1'-0"

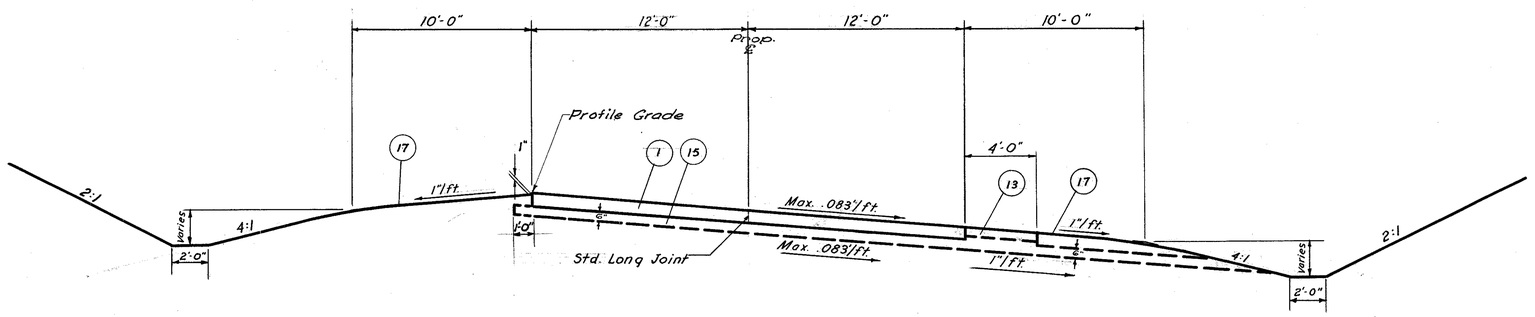


SUPERELEVATED TYPICAL SECTION N

Sta. 420 + 50 N to 423 + 32.27 N = 282.27 Lin. Ft.

Notes:

1. See Sheet 4 for Legend
2. See Sheet 9 for Pavement Details of Acceleration & Deceleration Lanes.
3. See Sheet 4 for Guard Rail Details.



SUPERELEVATED TYPICAL SECTION O

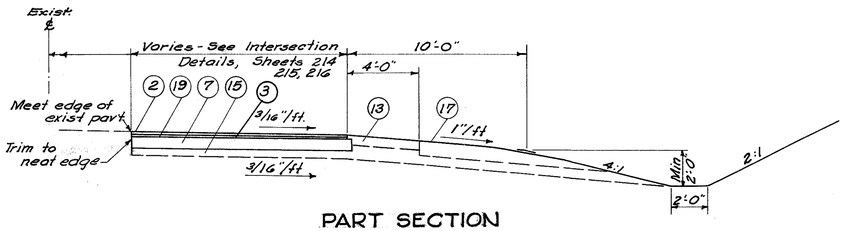
Sta. 423 + 32.37N to 434 + 00 N = 1067.63 Lin. Ft.

TYPICAL SECTIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

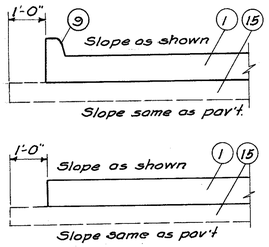
9
291

BUT-4-(8.48-15.02)

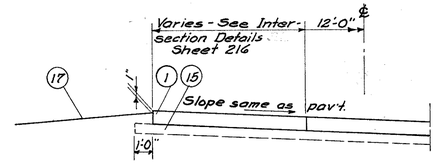


PART SECTION

Sta. 363+30 to 367+98 As shown
See Typical Sections G & I Sheets 5 & 6
Sta. 435+85 to 437+49.70 To opposite hand
Sta. 439+55.70 to 442+55 To opposite hand
See Typical Section G Sheet 5



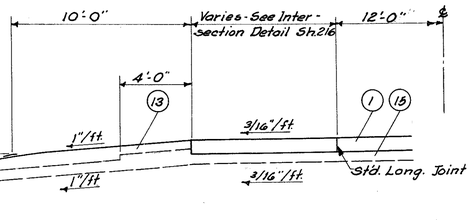
PART SECTIONS SHOWING SUBBASE FOR MEDIAN CROSSOVER



PART SECTION

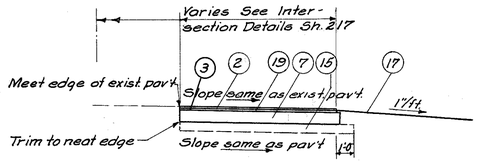
Sta. 429+35 N to 433+95 N
See Typical Section O Sh. 8

Note:
1. See Sheet 4 for Legend



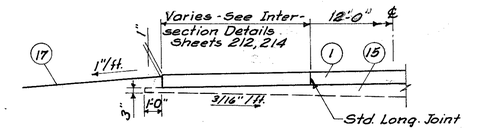
PART SECTION

Sta. 431+50 S to 434+005 as shown
See Typical Section M Sheet 7



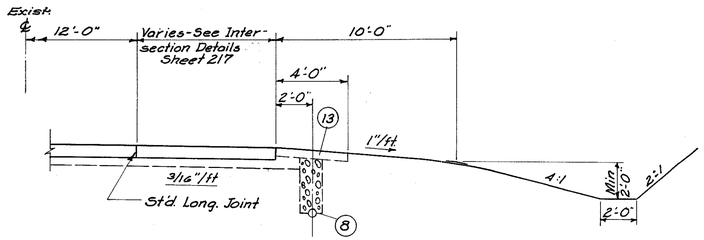
PART SECTION

Sta. 466+36.5 to 470+46
See Typical Section I Sh. 6



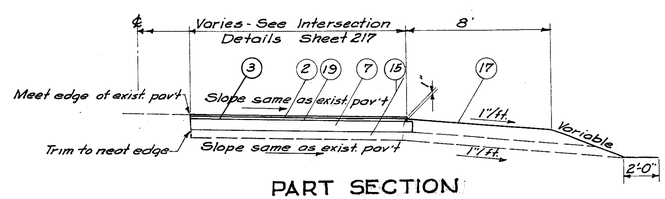
PART SECTION

Sta. 277+75 to 281+55 As shown
See Typical Section H Sheet 5
Sta. 363+45 to 367+64 To opposite hand
See Typical Sections H & I Sheets 5 & 6



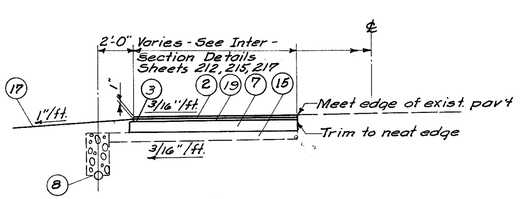
PART SECTION

Sta. 463+38.97 to 468+99
See Typical Section O Sh. 8



PART SECTION

Sta. 464+50 to 466+36.5
See Typical Section I Sh. 6



PART SECTION

Sta. 275+55 to 277+75 As shown
See Typical Section G Sheet 5
Sta. 434+005 to 435+855 As shown
See Typical Section G & I Sheets 5 & 6
Sta. 463+00 to 464+50 To opposite hand
See Typical Section K Sheet 7

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

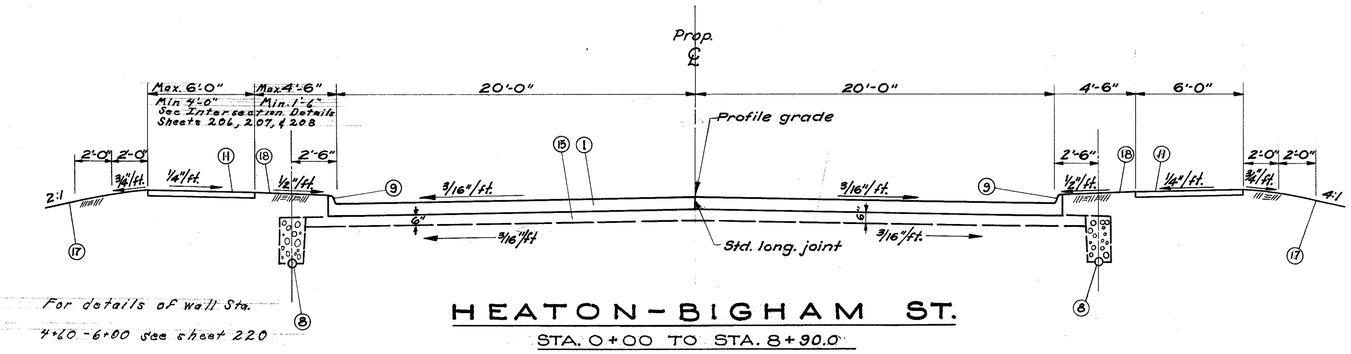
10
291

BUT-4-(8.48-18.02)

TYPICAL SECTIONS

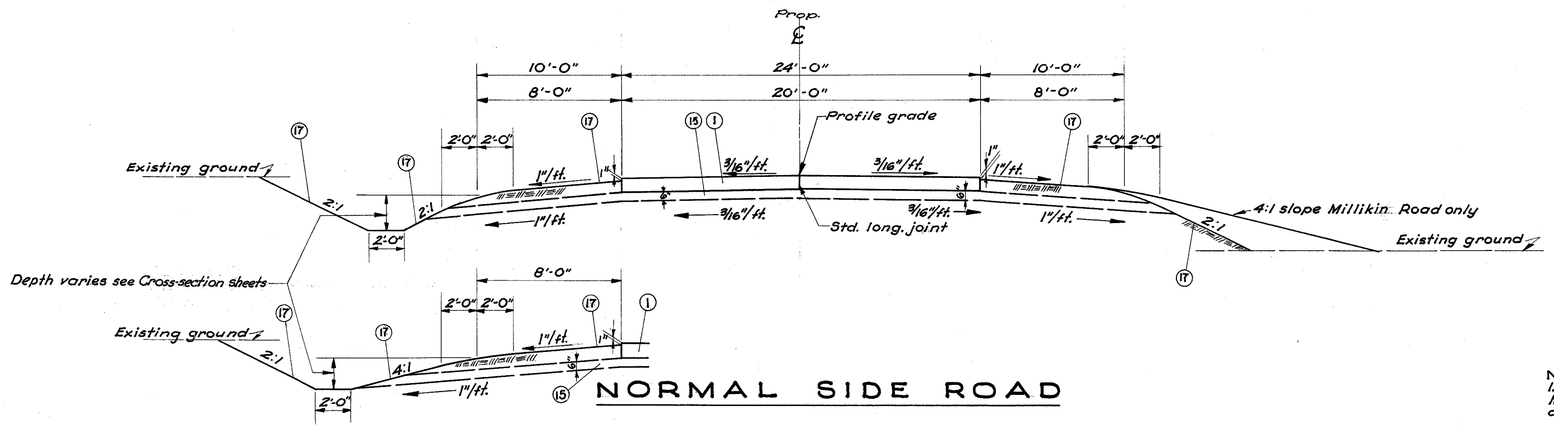
TYPE T-71

Scale 1/4" = 1'-0"

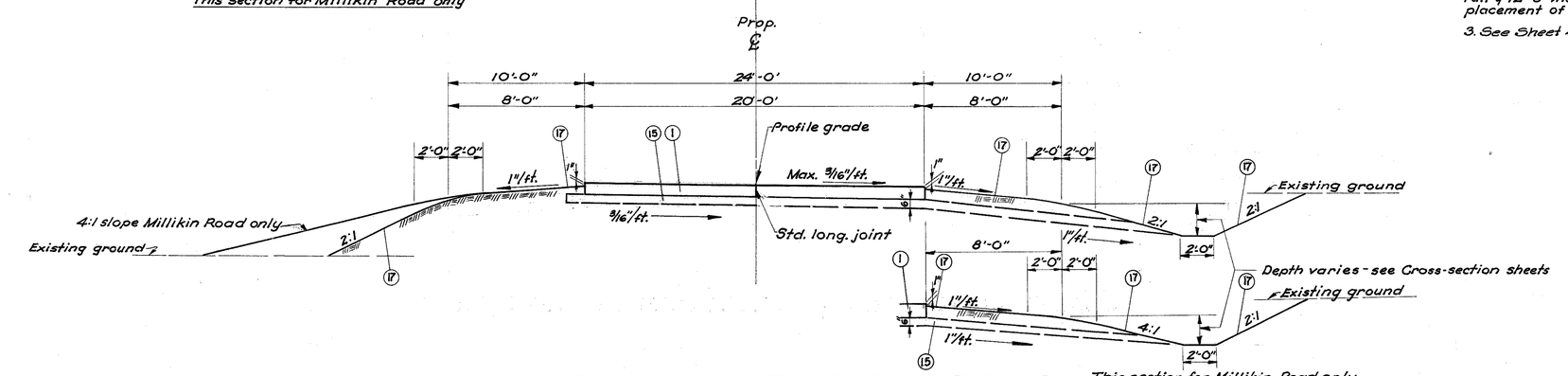


HEATON-BIGHAM ST.

STA. 0+00 TO STA. 8+90.0



NORMAL SIDE ROAD



SUPERELEVATED SIDE ROAD

NOTES:

1. All side roads to have 20'-0" pavement except Millikin Road, Liberty-Fairfield & S.R. 63 which are 24'-0".
2. Berms on S.R. 63 are 10'-0" wide without guard rail & 12'-0" wide with guard rail. See detail for placement of guard rail on all side roads.
3. See Sheet 4 for Legend

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(8.48-15.02)

11
291

GENERAL NOTES

GENERAL

DESIGN SPEED

Design speed on this project is 60 M. P. H. on new pavement and 50 M. P. H. on pavement to be left in place.

FIELD OFFICE

The contractor shall provide a suitable field office in accordance with Section S-0.01 (b), Structures General, having a minimum floor area of 500 sq. ft. The contractor shall have a telephone installed and maintained during the construction of this project.

DATUM

All elevations are referred to U.S.C. & G.S. Datum.

STATIONING

In general, stationing indicated on the Plans is along the centerline of the new lane regardless of the direction of flow of traffic. In locations where the two lanes are not concentric both lanes are stationed individually. The northbound lane is indicated by the suffiix "N" and the southbound lane by the suffix "S" after the stationing.

TRAFFIC

At least (10) days before any interruption of the normal flow of traffic within the project limits, the contractor shall submit to the Director in writing his proposed methods and procedures planned for the maintenance of traffic throughout the life of the contract.

The Contractor, to the satisfaction of the Director, shall plan and conduct his operations so that two way traffic, without detours, shall be maintained at all times consistent with the requirements of Sec. T-35.23 and as set forth below.

The Contractor shall provide temporary cross-overs between new and existing pavement as required to maintain traffic, suitable access shall be provided to all driveways and side roads at all times, as approved by the Engineer.

Aggregate and chloride used for maintaining local traffic shall be applied on temporary roadways as directed and in the amounts requested by the Engineer (see General Summary for quantities) and shall be paid for at the unit price bid for Item T-10, *Traffic Compacted* Surface Course and Item M-10 Furnishing and Applying Calcium Chloride or Calcium Magnesium Chloride. The hardness and soundness requirements of the Construction and Material Specifications shall be waived for the traffic *Compacted* surface course. The cost of all additional requirements to maintain traffic shall be included in the Lump Sum price bid for Maintaining Traffic and no additional allowance will be made therefor.

Within the City of Hamilton all work beyond the limits of the existing pavement shall be completed to the extent that it may be placed in service prior to beginning work in areas of existing pavement. Construction in areas of existing pavement shall be completed on one half of the roadway at a time to permit the maintenance of two-way traffic at all times without detours.

At the Shaffer Creek culvert the contractor shall remove the wing walls on the right side of the existing bridge, construct the culvert under the northbound lane and open these lanes to traffic with a traffic *Compacted* surface course applied over a width of approximately twenty (20) feet, prior to removing the remainder of the existing bridge, and completing the culvert construction.

It will be necessary to construct a temporary cross-over from Station 244+00 on the northbound lane to Station 248+00 on the southbound lane. The construction of this cross-over shall be as described above for traffic *Compacted* surface course.

It will also be necessary to construct a temporary cross-over from Station 429+50 on the southbound lane to Station 432+50 on the northbound lane. The construction of this cross-over shall be as described above for traffic *Compacted* surface course.

No work shall be done on the modifications to the existing Gregory Creek Bridge until the new southbound lane has been completed and is opened to traffic. During construction of the above modifications, traffic will be rerouted over the new southbound lane.

Payment for construction, maintenance and subsequent removal, where required, of temporary traffic lanes is included in the lump sum price bid for "Maintaining Traffic".

ROADWAY

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL

It is anticipated that certain areas will be encountered where the existing material is unsuitable for use as embankment or to support embankment. The Contractor shall make explorations for, and removal of, unsuitable material as directed by the Engineer. The Contractor is referred to Item E-1, Roadway Excavation, for basis of payment, method of disposal, etc. When approved by the Engineer, unsuitable embankment material may be wasted within the limits of the R/W, but outside roadway construction limits, providing it is covered with at least one foot of earth and left in a sightly condition. *All material so removed shall be measured and paid for as Item E-1, Roadway Excavation.*

REMOVALS (MISCELLANEOUS)

Building foundations, steps, walls, or other similar structures shall be excavated to a depth of three feet (3') below the proposed subgrade, or twelve inches (12") below finished surface if located outside the pavement limits but within the R/W or easement lines.

The removal of existing rigid concrete pavement either with or without surface courses shall be paid for at the contract unit price bid per square yard for Item E-8, Removal and Disposal of Existing Pavement. The removal of existing flexible pavement without rigid base shall be paid for at the contract unit price bid per cubic yard for Item E-1, Roadway Excavation. Wherever a portion of pavement remains in place, the cutting and trimming shall be neat and to the line shown on the drawings. No extra payment shall be made for cutting and trimming.

Removal of existing sidewalk when replaced by new sidewalk shall be paid for in the unit price bid for the new sidewalk, I-13. Removal of the existing sidewalk not to be replaced by new sidewalk shall be paid for as E-8, Removal and Disposal of Existing Sidewalk.

Wherever the proposed concrete sidewalk adjoins or abuts an existing sidewalk the existing walk shall be cut and trimmed to a neat line as shown on the Plans. Payment for cutting and trimming shall be included with sidewalks and shall be paid for at the contract unit prices bid for Item I-13, Sidewalks and Concrete Steps.

The contents of all existing privies or septic tanks, upon which embankment is to be placed, shall be removed and the empty pit backfilled with material meeting the requirements of Section E-1.08. The cost of removing and disposing of contents shall be paid for at the unit price bid per cu. yd. of "Roadway Excavation, Item E-1".

The removal and disposal of any existing pavement, sidewalk, head walls, pipe, curbs, foundations, retaining walls, concrete or masonry posts, wells, septic tanks, curb drains or other masonry, street railway rails and ties, guardposts, flagpoles, fences, billboards, or other similar items, lying within or below the limits of the Roadway Excavation, Item E-1, or Excavation for Structures, Item E-2, and not specifically paid for under a separate item are classified as excavation and are paid for as additional excavation under the excavation item of which they are a part.

REMOVAL OF TREES AND STUMPS

Trees or stumps, shall be removed or preserved as indicated on the Plans by the following symbols:

Trees or stumps to be removed. . .
Trees to be preserved . . .

The number of trees or stumps to be removed, as indicated by the above symbol, is approximate and the State of Ohio reserves the right to order the removal of additional trees or stumps, even though these trees or stumps are not indicated on the Plans or are indicated to be preserved.

Payment for the removal of these additional trees or stumps is included in the lump sum bid for the Removal of Trees and Stumps, Item E-9.

SUBBASE ITEM I-22

All 9" T-71 pavement throughout the job shall have a subbase of I-22 as shown on the Typical Sections. The I-22 shall be either Grade A, B, C or D.

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

ROADWAY (CONT'D)

ROUNDING OF CORNERS ON CROSS SECTIONS

The rounded corners, shown on *Standard Drawing R-1* apply to all cross sections even though otherwise shown in these plans.

SIDEWALK EXPANSION JOINTS

In addition to the expansion joints specified in Section 1-13.06 of the Construction and Material Specifications, 1/2" of premolded expansion joint shall be provided wherever the sidewalks or median pavement, abut longitudinal curbs or other permanent structures. One layer of 1/2" material may be used in lieu of the two 1/4" layers specified in Section 1-13.06. Payment for the 1/2" premolded expansion joint material is included in the price bid per square foot for Item 1-13, Sidewalks, or when used for median pavement, payment is included in the price bid per square yard for Item I-21, Portland Cement Concrete Median Pavement.

Existing street signs, traffic markers, and other similar objects within the limits of the construction shall be removed and stock piled as directed by the Engineer. Payment for removal and stock piling of these items shall be included in the contract price bid per cubic yard for Item E-1, Roadway Excavation.

FILLING OF BASEMENTS, WELLS, ETC.

All basements, wells, cisterns, holes resulting from the removal of storage tanks, etc. located wholly or partly within the right-of-way limits of this project except in excavation areas shall be filled to the contour of the surrounding ground and compacted as per Item E-1.08. This work shall be done as soon as possible in order not to leave an unsightly and dangerous condition any longer than is absolutely necessary. *Payment for the above shall be included in the unit price bid for Item E-1, Roadway Excavation.*

FERTILIZING AREAS TO BE SEEDED OR SODDED

All areas to be seeded, under Item L-9, or sodded, under Item L-10 shall have commercial fertilizer (10-6-4 mix) applied at the rate of twenty (20) pounds per 1000 square feet.

PLACING SOD

Sod shall be placed so that the top of the sod coincides with the finished surface as shown on the cross sections. All earthwork necessary to accomplish the above is included in the contract unit bid per square yard of sod.

SEEDING QUANTITIES

Quantities for seeding are calculated for the soil areas between lines ten feet (10') outside the construction limits as shown on the cross sections or to the R/W line if such line is less than ten feet from the construction limits. All areas outside these limits where the vegetative growth has been injuriously disturbed or destroyed by the contractor, shall be restored and seeded in accordance with the provisions of Item L-9 by the contractor at his own expense.

Berms along the inside edge of existing pavement which will become a portion of the median area shall be removed and restored with *embankment material and/or salvaged topsoil, at the direction of the Engineer,* and seeded in accordance with the provisions of Item L-9 Seeding and Protecting Roadway Areas.

The mixture of seed to be used in rural areas shall be as specified under Item L-9.

The seed mixture for urban and residential areas as designated by the Engineer, shall be as follows:

20% Kentucky Bluegrass (Poa pratensis)
20% *Kentucky 31 Fescue (Festuca elatior, var. Ky. 31)*
40% Creeping Red Fescue (Festuca rubra)
15% Red Top (Agrostis alba)
5% White Dutch Glover (Trifolium repens)

GUARD RAIL

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 one (1) foot in 10 feet.
The removal of any guard rail or guard rail posts lying within the limits of roadway excavation or embankment (and not specifically paid for under a separate item) is included in the Contract Unit Price per cubic yard bid for Item E-1 Roadway Excavation. All resulting materials shall become the property of the Contractor and shall be disposed of by him at no extra cost to the State, except steel rail on all existing steel beam type guard rail shall be stored on the right-of-way at the disposal of the State Maintenance Forces.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(8.48-15.02)

12
291

GENERAL NOTES (CONT'D)

PAVEMENT

SUPERELEVATION

Superelevated curves shall be built without crown. The crown shall be worked out of the pavement in accordance with the elevations shown in the Superelevation Tables.

PLACING AND FINISHING ASPHALTIC CONCRETE

The requirements under Sec. T-35.18 for mechanical equipment for placing and finishing asphaltic concrete are hereby waived for areas less than 5 feet in width or where surface is deformed, and the asphaltic concrete may be spread and finished by acceptable hand methods. Dump boards will be required if spread and finished by hand method.

The requirements under Sec. T-35.19 for rollers are hereby waived to permit the use of but one (1) roller, meeting the requirements of the specifications.

ASPHALTIC CONCRETE BASE COURSE.

Asphaltic Concrete base course may be constructed of Type "A" surface course composition *at no additional cost to the State.*

SUBBASE COURSE

In the final finishing of slopes and ditches, care shall be exercised to assure that the exposed edge of the subbase course will be left free of earth cover that would impede free drainage.

HAND FINISHING

Hand finishing will be permitted as per Section T-71.211 for the reinforced Portland cement concrete pavement on this project at the following locations:

1. Intersections and cross-overs
2. Sections where the sharp curvature prevents the use of finishing machine.
3. Sections where the maintenance of traffic requires hand finishing.
4. Variable width lanes which in the opinion of the Engineer require hand finishing.

EXPANSION AND CONTRACTION JOINTS

Where transverse joints are located closer than 10 feet to the regular blockout joints around catch basins, manholes and water valves, the blockout joints shall be continued to the transverse joint. Similarly where longitudinal joints are located closer than 2 feet to the regular blockout joints around catch basins, manholes and water valves, the blockout joints shall be continued to the longitudinal joints.

TREATMENT OF EXISTING PAVEMENT AT END OF NEW PAVEMENT

At terminal points between new and existing pavements any difference in grade between the two pavements shall be corrected by filling with T-35, Type C, as approved by the Engineer. Where the new pavement is above the existing pavement the difference shall be corrected by filling over the existing pavement as indicated on the Plans. Where the new pavement is below the existing pavement the existing pavement shall be removed to a depth at least 1 1/4 inches below the new pavement.

Removal of existing pavement as described above shall be paid for at the contract unit price for Item E-8, Removal and Disposal of Existing Wearing Course. *An estimated quantity of 300 Sq. Yds. is included in the General Summary.*

Filling shall be paid for at the contract unit price for Item T-35 Asphaltic Concrete Surface Course.

SEALING JOINTS WITH EXISTING PAVEMENT

Where *asphaltic concrete base or leveling courses abut* existing pavement of a rigid type an item of B-85, Sealing Vertical Face of Existing Pavement has been incorporated in these plans. Where proposed *T-35 surface abuts any proposed or* existing pavement, the cost of Sealing the resulting joint shall be included for payment in the price bid for Item T-35 Asphaltic Concrete Surface Courses per Item T-35.18 of the Construction and Material Specifications.

FLEXIBLE FORMS

Approved flexible forms shall be used for construction of circular pavement edges having a radius of 100 ft. or less, circular concrete curbs and concrete curb transitions of short radii.

PAVEMENT (CONT'D)

RESURFACING

Where crushed aggregate is used as a wedge course to build up the shoulder to meet the edge of the new pavement, compaction of the subgrade under the crushed aggregate shoulder as specified under Sec. I-18.03 is hereby waived on this project.

The contraction joints in the pavement shall extend through the curb. The contraction joints in the curb shall be of the premolded type, 3/8" thick in lieu of the kind that is in the pavement, and shall be cut to conform to the contour of the curb before being placed. Extreme care shall be used in placing this material at the proper alignment with the contraction joint in the pavement.

Premolded expansion joint material shall meet the requirements of Sec. M-10.02 or Sec. M-10.03, and poured joint seal material shall meet the requirements of Sec. M-10.23 or Section M-10.26. Payment for expansion and contraction joints in pavement shall be included in contract unit price bid per square yard for Item T-71, Reinforced Concrete Pavement.

Bituminous Tack Coat
See note in proposal for material to be used for this item.

SEWERS

SEWAGE

The Contractor shall conduct his operations so as to maintain any authorized sanitary sewage flow uninterrupted throughout the construction period. Any unauthorized sanitary sewers shall be sealed as described below.

Any additional costs involved in maintaining this flow, by pumping or by any other approved method which is necessary for construction of the project, shall be included in the contract unit price bid per linear foot for Item 1-2, Storm Sewer.

LOCATION AND SIZE OF EXISTING PIPE

The location, type, depth and size of all existing pipe and house connections affected by this project are shown as nearly exact as available information will permit. The State of Ohio and City of Hamilton will not be responsible for any variations found during construction.

INLETS, MANHOLES AND PIPES

The proposed elevations and locations of inlets, manholes and pipes and the estimated lengths of pipe may be adjusted by the Engineer during construction.

COMPACTION FOR DRIVES
The subgrade for drives and mail box approaches shall be compacted to a depth of six inches to the density requirements shown in Table III, Item E-1. Payment for subgrade compaction, as specified above, shall be included in the unit price bid for Item E-1 Roadway Excavation.

CONTRACTION JOINTS
In addition to the pavement joints detailed for approaches and intersections the maximum distance between contraction joints shall in all cases be in accordance with standard drawing TJ.

SEWERS (CONT'D)

CONNECTIONS TO EXISTING SEWERS OR MANHOLES

The Contractor shall remodel bottoms of existing manholes where indicated on the Plans to facilitate a change in pipe size, slope, elevations, or sewer alignment. The new bottoms shall conform with details of Standard I-8 No. 1 Manhole, as closely as conditions will permit. *Payment for this work shall be included in the unit price bid for the pertinent pipe item involved.*

SEALING OF PIPE

All pipes entering or leaving existing manholes, catch basins, inlets or culverts, which are indicated to be abandoned, sealed, removed, filled or otherwise made inoperative shall be sealed at both ends if practicable, unless otherwise indicated on the Plans. Payment for this work to be included in the pertinent item involved.

Wherever any existing pipes, regardless of their nature, which are inactive or are to be abandoned are encountered in construction operations, they shall be sealed on both sides where broken into. In any case if the inlet or outlet ends of such pipes are presently exposed, they shall be sealed prior to backfill or construction of embankment. Payment for this work shall be included in the contract unit price bid for *Item E-1, Roadway Excavation.*

Sealing of pipes shall be accomplished by the proper installation of a suitable precast concrete plug, or the construction of a bulkhead of brick or concrete masonry with a minimum thickness of 12".

UNRECORDED CONNECTIONS

Any unrecorded active connections to the sewer through existing catch basins or manholes to be removed or abandoned encountered in construction shall be reconnected to the sewer as the Engineer may direct. Payment for this work shall be included in the contract unit price bid per linear foot for Item 1-2, Storm Sewer.

CONCRETE COLLARS

Concrete collars as required by the Plans or requested by the Engineer shall be constructed of Class "C" Concrete and shall be not less than 6" in least dimension from any exterior surface involved. Payment shall be included in the contract unit price bid for the pertinent *pipe item involved.*

DISPOSAL OF CASTINGS

Castings of manholes, inlets, or catch basins which are to be relocated, abandoned or removed shall be removed in accordance with the Provisions of Item I-16. Castings of manholes which are to be adjusted to grade shall be removed, stored and reset by the Contractor.

The Plans estimate quantities of new inlet castings which are to be used on existing or relocated inlets.

All existing castings which are removed shall be stored on the right-of-way at the disposal of the City of Hamilton or the State of Ohio.

ITEM SPECIAL - MASONRY, AS PER PLAN.
Where existing box culverts are indicated to be abandoned they shall be sealed by construction of a bulkhead of brick or concrete block masonry with a minimum thickness of 12".
Materials shall meet the requirements of Sec. I-8.02 and shall be laid in accordance with Sec. I-8.05.
The yardage paid for shall be the actual cubical content of the masonry in place, completed and accepted.
The yardage measured as provided above shall be paid for at the contract unit price per cubic yard bid for "Item Special Masonry, as per plan", which price and payment shall constitute full compensation for furnishing and preparing all material, placing and finishing and for all labor, equipment tools, and incidentals necessary to complete this item.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

13
291

BUT-4-(8.48-15.02)

GENERAL NOTES (CONT'D)

SEWERS (CONT'D)

SEWER HOUSE DRAINS

Existing House Drains. All existing house drains, which includes yard, roof, basement or other similar pipe drains, now in use which are disturbed because of the Highway improvement shall be replaced by the Contractor. Where an existing house is to be removed, the upgrade end of the existing house connection shall be plugged and accurately referenced if the existing house connection remains satisfactory for future use. *Payment for plugging is included in the unit price bid for Item E-1, Roadway Excavation. Estimated quantities of I-3 pipe to be used for reconnecting disturbed drains are included in summaries.*

Proposed House Connections. The State of Ohio will notify property owners in advance of construction that if they contemplate new house connections to the proposed sewer, the property owner must furnish, at his sole cost, tees of the proper size and material to the Contractor. The Contractor will then install the tees as he proceeds with laying the sewer and payment for the work involved will be at the same rate as though he were furnishing and laying straight pipe.

To obtain a house connection to either an existing sewer that is to remain or to a proposed sewer, the property owner or his agent, at his sole cost, shall furnish all material and labor required to install the house connection from the carrier sewer to a point beyond the limits of roadway construction.

COOPERATION BETWEEN CONTRACTOR AND PROPERTY OWNER

The Contractor must cooperate with the property owner or his agent to give said property owner or his agent ample opportunity for extending said sewer connection from the tee branch or existing sewer to a point beyond roadway construction limits. The necessary house connections shall be installed by the property owner or his agent at no cost to the Contractor, other than the cost of cooperatinn in scheduling his work which said cost shall be assumed by the Contractor and shall be included in the unit prices bid for the various sewer items.

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 excavation limits shall be classified and paid for as item E-1, Roadway Excavation.

54" CLASS "A" STORM SEWERS
If the contractor elects to use Sec. M-6.4(c) pipe for the 54" Class "A" Storm Sewer from station 114+77 to Shaffer Creek the gage shall be No 10 or heavier.

MISCELLANEOUS

DUMPED ROCK FILL FOR CHANNEL PROTECTION

The masonry material used for the Dumped Rock Fill shall be obtained from the Removal of Existing Structures, Item S-24 or Item S-22 or from Item E-8, Removal of Existing Pavement. Larger size material than that which is specified in the Construction and Material Specifications may be used providing a reasonable smooth and continuous surface conforming to the lines shown on the Plans is obtained. All dumped rock used at the outlet of culverts shall be uniformly placed so that at least fifty percent (50%) of the pieces will weigh at least 75 pounds.

Dumped Rock Fill shall be placed as shown on Shaffer & Gregory Creek Channel Relocation drawings.

The excavation required to place Dumped Rock Fill along the proposed channels shall be paid for as Channel Excavation, Item E-3. Payment for all other work involved in obtaining and placing the Dumped Rock Fill shall be included in the price bid for Dumped Rock Fill as per Plan, Item 1-10.

FILL FOR GREGORY CREEK CHANNEL RELOCATION

All fill material placed in connection with the realignment of the existing Gregory Creek Channel shall meet the specification requirements for embankment as set forth under Item E-1, Roadway Excavation.

MATERIALS STOCK PILED FOR CITY

The City will claim and haul from the project, steel fence, street signs, castings, and railing which are to be removed from their locations and stock piled by the Contractor for that portion of the work within the City limits.

REMOVAL, RESETTING & REPAINTING OF FAIRGROUNDS FENCE

The fairgrounds fence shall be removed, reset and repainted by the Contractor as shown on the plans and as approved by the Engineer. *Payment for removing, resetting, and repainting shall be at the contract unit price bid per lineal foot for Item Special, Fence, Removed, Reset and Repainted.* (Cont'd below)

RIGHT-OF-WAY MONUMENTS, FEDERAL PROJECT MARKERS & SECTION MARKERS

Existing Right-of-Way Monuments, Bench Marks, Federal Project and Section Markers that will be removed by construction, shall be protected by the Contractor as per Section G-7.09 of the Construction and Material Specifications until they can be witnessed, referenced and reset by the Construction Field Crews.

REVISIONS TO MEDIAN DESIGN

Areas marked (1) and (2) are correct for general location only. Approximate quantities have been added to the summaries for estimating purposes. Correct design and quantities for the proposed construction in these areas will be provided by a change order at the time of construction.

REMOVING, RESETTING AND REPAINTING FAIRGROUNDS FENCE (Cont'd.)
The existing chain link fairgrounds fence shall be removed, re-erected in its new location and repainted by the Contractor prior to June 1 1956.

UTILITIES

GAS AND WATER LINES

All work required for removing, relocating, or constructing new gas and water lines and appurtenances as shown on the plans will be done by the Contractor unless otherwise noted.

UTILITY POLES

All work required for removing or relocating utility poles as required by the construction of the roadway and appurtenant facilities will be done by others. The Contractor must cooperate and coordinate his work with the other contractors to allow their work to proceed with a minimum of delay and cost.

RELOCATION OF RADIO ANTENNA GROUND WIRE SYSTEM

All work required for removing and relocating the radio antenna ground wire system at approximately Station 116+42 will be done by others. The Contractor must cooperate and coordinate with the contractor for the radio station work to allow him to proceed with a minimum of delay and cost.

QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

14
291

BUT-4-(8.48-15.02)

PAVEMENT

Station to Station	Side	9" Reinf Portland Cement Concrete Pavement Item T-71	Sub-base Item T-22	Concrete Curb Item I-12: Type 2A Curb	Type 2B Curb	Type 6 Curb	Type 2 Curb & Gutter	Asphaltic Concrete Surface Course Type "C" Item T-35: Minimum 1¼"	1¼"	Asphaltic Concrete Leveling Course Item B-35: 1¼"	Minimum 1¼"	3" Asphaltic Conc. Base Course Item B-35	8" Portland Cement Concrete Base Course Item B-70	Bituminous Tack Coat Item T-30		6" Stabilized Crushed Aggregate Shoulders Item I-18	4" Concrete Sidewalks Item I-13	Removal & Disposal of Existing Pavement Item E-8	Removal & Disposal of Existing Sidewalk Item E-8	Removal & Disposal of Existing Curb Item E-8	Removal & Disposal of Existing Header Curb Item E-8	Removal & Disposal of Existing Curb & Gutter Item E-8	Reinforced Conc. Approach Slab Item I-7	Precast White Portland Cement Concrete Traffic Dividers Item 123	4" Portland Cement Concrete Median Pavement Item I-21	Removing & Re-setting Historical Mon. Item Special	Excavation for Structures-Dry Item E-2	Concrete for Structures Class "S" Item S1	
		Sq. Yd.	Cu. Yd.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Sq. Yd.	Gal.		Cu. Yd.	Sq. Ft.	Sq. Yd.	Sq. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq. Yd.	Each	Sq. Yd.	Lump	Cu. Yd.	Cu. Yd.	
MUNICIPAL HAMILTON																													
73+75 to 95+25 incl. NB 11 St, Fair Ave., Heaton & Bigham Sts.		14,992.7	2,693.0	5,631		95	52	33.7	58.1	7.4	76.1	38.2				31.4	16,726	329.5	3,979		148	2,658		63	139.6		44.0	30.6	
95+25 - 114+50			571.4		1,925				105.9	105.9			3,134.7	313.5			3,703		267	664		1,261		152		Lump	2.1	1.0	
114+50 - 119+12.65		35.1	360.6		250	13			46.3	46.3			1,291.3	129.2		34.2	370							30					
Totals to General Summary		15,027.8	3,625.0	5,631	2,175	108	52	33.7	210.3	159.6	76.1	38.2	4,426.0	442.7		65.6	20,799	329.5	4,246	664	148	3,919	——	245	139.6	Lump	46.1	31.6	
RURAL																													
119+12.65 - 148+00		8,456.9	2,391.2		53	190		1.7	8.0	8.0			232.3	23.3		199.1	1,445		60					233					
121+54.4	L		16.6		64				1.9	1.9			52.9	5.3															
148+00 - 155+50		4,000.0	1,300.1													87.8		1,666.0											
155+50 - 169+23		4,312.3	1,211.1	304	12			3.1	0.8	0.8			22.0	2.2		116.9													
169+23 - 190+00		11,517.1	3,525.0	174												270.3		2,377.8											
176+17	L	544.9	141.6	138				0.6	0.2	0.2		2.0																	
184+00	R	2,753.2	719.3	502				1.4	1.9	1.9		19.1																	
190+00 - 197+50		2,203.4	699.3					3.4								52.8													
197+50 - 207+00		5,281.8	1,721.2	90												126.1		2,111.1											
204+95.8	L	380.4	98.6	138				0.6	0.7	0.7		7.2																	
207+00 - 223+00		4,470.1	1,453.2					3.4								115.7													
223+00 - 257+25		19,316.2	6,159.5	142												466.8		5,688.9											
252+16.8	R	241.3	56.7	134				0.8																					
257+25 - 263+20		1,903.6	580.7					3.4								83.7													
263+20 - 273+75		5,955.8	1,582.2													143.9		2,344.3	171										
273+75 - 277+75		1,066.7	389.2					3.4	6.8	6.8			202.2	20.2		57.3													
277+75 - 288+70		6,196.3	1,770.7	92												107.8		2,433.4											
279+22	R&L	1,504.0	347.3	471				1.6	1.0	1.0		9.5							579										
288+70 - 319+00		8,800.5	2,719.0	416				3.4								235.5													
292+07	R		24.4		127			1.2	3.1	3.1			91.9	9.2															
305+40	R	1,335.1	351.1	135				1.4	0.2	0.2		1.8																	
319+00 - 345+00		14,513.1	4,165.0	100												332.6		5,111.1	506										
344+30.1	L	710.7	167.8	171				0.7	0.1	0.1		0.6																	
345+00 - 373+00		8,984.8	2,851.5	274				3.4	23.3	23.3			689.9	69.0		230.7			945										
363+00	R	228.0	53.5	209																									
373+00 - 387+50		8,080.8	2,488.2													192.3		3,222.2	210										
387+50 - 434+00S		12,563.7	3,655.6					1.7	2.8	2.8			81.7	8.2		319.6		67.0	1,813			140.8							
420+50N - 470+50		17,193.4	4,691.8	784				3.4	55.4	55.4			1,643.5	164.4		367.9		3,000.0											
434+68	L	242.7	58.0	134				0.7	0.1	0.1		1.2																	
438+52.7	L	952.0	191.8	467				1.0																3					
468+40	R	1,345.8	322.3	474				0.8	0.5	0.5		5.0																	
Add for Areas Mkd. ①		3,340.0	557.0													12.0								135					
Totals to General Summary		158,694.6	46,460.5	5,349	256	190	——	41.4	106.0	106.0	——	46.4	3,016.4	137.4	——	3,518.8	1445	28,020.8	4,294	——	——	——	140.0	371	——	——	——	——	——

GUARD RAIL

Station to Station	Side	Guard Rail Steel Beam Type (Deep) Item I-15			Station to Station	Side	Guard Rail Steel Beam Type (Deep) Item I-15		
		Lin. Ft.					Lin. Ft.		
MUNICIPAL HAMILTON					308+60 - 309+22.5	Rt.	62.5		
82+50 - 83+70	Lt.	125.0			351+00 - 354+15	Rt.	425.0		
0+62.5 Mill-2+76 Mill	Rt.	225.0			357+00 - 358+50	Rt.	150.0		
Totals to General Summary		350.0	——	——	367+00 - 370+75	Lt. & Rt.	625.0		
RURAL					388+80 - 396+55	Lt. & Rt.	1,150.0		
120+25 - 123+00	Lt. & Rt.	450.0			405+22 - 414+60.5	Lt. & Rt.	1,275.0		
155+00 - 158+00	Lt.	200.0			416+21.5 - 425+72.5	Lt. & Rt.	1,800.0		
170+00 - 182+00	Lt. & Rt.	1,200.0			418+42N - 419+92N	Lt.	150.0		
236+50 - 244+55	Lt. & Rt.	1,300.0			Deduct for Areas Mkd. ②		-200		
252+38 - 256+00	Rt.	387.5							
274+53 - 276+85	Rt.	125.0			Sub-Total		10,837.5		
279+42 - 286+30	Rt.	862.5							
287+00 - 290+00	Lt.	300.0							
292+45 - 293+20	Rt.	75.0			Totals to General Summary		10,837.5		
298+40 - 302+87.5	Lt. & Rt.	500.0							

REMOVAL OF EXISTING STRUCTURES

Item S-24

			RURAL	
			Concrete Masonry	Stone Masonry
Existing Drainage Structures			Lump	Lump
Existing Shaffer Creek Bridge			Lump	Lump
Totals to General Summary			Lump	Lump

(See Sheet 20 for details)

REMOVAL OF PORTION OF EXISTING STRUCTURES

Item S-22

	MUNICIPAL HAMILTON		RURAL	
	Concrete Masonry	Stone Masonry	Concrete Masonry	Stone Masonry
Existing Drainage Structures (See Sheet 20 for details)			Lump	
Totals to General Summary	——	——	Lump	——

REMOVAL OF TREES & STUMPS

Item E-9

MUNICIPAL HAMILTON	Lump
RURAL	Lump

QUANTITIES

FED. RD. DIVISION	STATE	PROJECT		15
2	OHIO			291

UT-4-(8.48-15.02)

DRIVEWAYS & MAIL BOX TURNOUTS

Station to Station	Side	8" Portland Cement Concrete Pavement Item T-70 Sq. Yd.	7" Portland Cement Concrete Pavement Item T-70 Sq. Yd.	9" Stabilized Crushed Aggregate Item T-18 Cu. Yd.	8" Stabilized Crushed Aggregate Item T-18 Cu. Yd.	6" Stabilized Crushed Aggregate Item T-18 Cu. Yd.	6" Sub-base Item T-22 Cu. Yd.	Removal and disposal of existing pavement Sq. Yd.	
MUNICIPAL HAMILTON									
79 + 68	Lt.		12.4				2.1		
79 + 98	Lt.		21.1				3.5		
80 + 61	Lt.		31.1				5.2		
81 + 34	Lt.		48.3				8.1		
1+30 Heaton St.	Rt.		30.0				5.0		
89 + 22	Lt.		31.0				5.2		
90 + 10 to 91+00	Lt.		263.0				43.8		
90 + 16	Rt.	45.0					7.5		
91 + 17.5	Lt.	83.3					13.9		
93 + 00	Lt.	40.0					6.7		
94 + 65	Lt.	67.1					11.2		
95 + 09.5	Lt.	65.2					10.9		
95+25 to 114+50		340.2	387.0			19.5	121.2		
114 + 50 to 119+12.65		117.3					19.7		
Totals to General Summary		758.1	923.9			19.5	263.9		
RURAL									
119+12.65 to 143+00			394.8		6.4	11.2	65.8	96.5	
143+00 to 155+50			423.3			28.8	70.6		
155+50 to 169+23			20.8			34.0	3.5		
169+23 to 190+00			210.0		6.3	10.5	35.0		
194+00 (Millikin Rd.)	Rt.					18.8			
190+00 to 197+50						9.2			
197+50 to 207+00						39.9			
207+00 to 223+00			30.8			12.7			
223+00 to 257+25			540.8		6.8	9.7	86.6		
257+25 to 263+20			50.0				8.3		
263+20 to 273+75			199.6			8.2	33.3		
273+75 to 277+75			42.2				7.0		
277+75 to 288+70		696.7	239.9	23.5			156.1		
279+22 (Liberty-Fairfield Rd.)	Rt&Lt.	190.9					31.8		
288+70 to 319+00		103.4	92.9			7.8	32.7		
305+40 (Kyles Station Rd.)	Rt.	32.6	42.1		6.7				
319+00 to 345+00		196.2	292.3			86.5	81.4		
345+00 to 373+00		76.8	73.7			23.0	25.1		
373+00 to 387+00			165.8		18.7	56.7	27.6		
387+00 to 434+00S		57.4	295.0		6.9		48.7		
440+50N to 470+50		42.6	220.4		1.1		43.8		
Totals to General Summary		1,396.6	3,274.4	23.5	52.9	357.0	757.3	96.5	

VOID

SODDING

Station to Station	Sodding Item L-10 Sq. Yd.	Commercial Fertilizer (10-6-4 Mix) 20# per 1000 sq. ft. Item L-9 Ton
MUNICIPAL HAMILTON		
79+75 - 95+25	770.3	.069
102+68 - 111+00 Rt & Lt.	910.1	.082
112+95 - 116+00 Lt.	22.8	.002
118+20 - 119+12.65 Lt.	5.1	.001
Totals to General Summary	1708.3	.154
RURAL		
119+12.65 - 121+95 Lt.	33.3	.003
130+00 - 144+00	1,052.3	.095
144+00 - 158+00	1,505.6	.136
158+00 - 172+00	312.5	.028
172+00 - 186+00	1,159.9	.104
186+00 - 200+00	1,143.1	.103
200+00 - 214+00	1,550.6	.140
214+00 - 228+00	2,834.2	.255
228+00 - 242+00	1,261.1	.113
242+00 - 256+00	1,226.4	.111
256+00 - 270+00	1,236.6	.111
270+00 - 284+00	1,831.8	.165
284+00 - 298+00	333.9	.030
298+00 - 312+00	418.0	.038
312+00 - 326+00	329.2	.030
326+00 - 340+00	1,566.9	.141
340+00 - 354+00	483.7	.044
354+00 - 368+00	395.3	.036
368+00 - 382+00	947.4	.085
382+00 - 396+00	1,637.7	.141
396+00 - 410+00	2,237.0	.201
410+00 - 424+00	808.7	.073
411+00N - 425+00N	10.0	.001
424+00 - 438+00	1,530.8	.138
438+00 - 452+50	1,098.8	.099
452+50 - 467+00	1,324.3	.119
467+00 - 470+50	171.2	.015
Kyles Station Rd. Relocation	345.6	.031
Totals to Gen. Summary	29,798.9	2.592

STEPS

Station	Side	Concrete Steps Item I-13								
		Width 2'-6"		Width 3'-0"	Width 3'-6"	Width 4'-0"				Width 5.3'
		6" Riser 12" Tread	6" Riser 13" Tread	6" Riser 12" Tread	6" Riser 12" Tread	5 1/2" Riser 11" Tread	7 1/2" Riser 10 1/2" Tread	9" Riser 16" Tread	8" Riser 12" Tread	8" Riser 12" Tread
		Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.
MUNICIPAL HAMILTON										
89 + 00	Lt.						12	12		
89 + 62	Rt.		5							
106 + 20	Lt.						4			
107 + 79	Rt.			6						
108 + 70	Lt.			3						
109 + 24	Rt.									
109 + 85	Rt.	7.5		9						
110 + 74	Rt.				10.5					
111 + 40	Rt.					12				
112 + 00	Rt.			6						
108+65.4	Rt.								8	10.6
Totals to General Summary		7.5	5	24	10.5	12	16	12	8	10.6

ADJUSTMENTS

Station	Side	See Sheet No 22) Manholes adjusted to grade Item I-8 METHOD "A" Each		Manholes Adjusted to Grade Item I-8 METHOD "B" See Sheet No 22) Each
MUNICIPAL HAMILTON				
80+50	Lt			1
87+15	Rt.			1
91+33	Rt.			1
92+22	Lt.			1
93+24	Lt.			1
93+25	Rt.			1
96+00	Rt.	1		
98+75	Rt.	1		
101+32	Rt.	1		
7+42 Bigham St.	Rt.	1		
Totals to Gen. Summary		4		6

FENCE

Station to Station	Side	Excavation for structures-dry Item E-2 Cu. Yd.	Concrete for structures-class "E" Item S-1 Cu. Yd.	Removal & resetting of existing fence Item Special Lin. Ft.
89+97-93+34	Rt.			337
93+34-93+94	Rt.	20.0	8.4	60
93+94-98+00	Rt.			406
98+00-100+50	Rt.	46.3	83.3	250
100+50-104+40	Rt.			390
Totals to Gen. Summary		66.3	91.7	1,443

SEEDING CALCULATIONS

		MUNICIPAL HAMILTON Sq. Yd.	MUNICIPAL HAMILTON Sq. Yd.	RURAL Sq. Yd.	RURAL Sq. Yd.
Gross Area between seeding limits			38,181		534,439
Deductions	Pavement & Sidewalks	25,495		156,723	
	Stabilized Shoulders	204		21,041	
	Gutters	20		864	
	Sod Area	1,708		28,799	
	Channel Protection			1,954	
	Drives & Mail Box Turnouts	1,699		6,813	
Total Area to be deducted		29,126	29,126	216,194	216,194
Net Area to be seeded & protected Item L-9			9,055		318,245
Commercial Fertilizer (10-6-4 Mix) @ 20# per 1000 sq. ft. Item L-9			Ton .015		Ton 28.64

TREE PROTECTION

Station	Side	Aggregate for Tree Root Aeration Item L-8 Cu. Yd.	See Sheet No.
MUNICIPAL HAMILTON			
91+88	Lt	2.8	20B
Totals to General Summary		2.8	

DRIVEWAYS & MAILBOX TURNOUTS

Station	Side	8" Portland cement concrete pavement Item T-70 Sq. Yd.	7" Portland cement concrete pavement Item T-70 Sq. Yd.	9" Stabilized crushed aggregate Item 1-18 Cu. Yd.	8" Stabilized crushed aggregate Item 1-18 Cu. Yd.	6" Stabilized crushed aggregate Item 1-18 Cu. Yd.	6" Sub-base Item 1-22 Cu. Yd.	Removal and disposal of existing pavement Sq. Yd.	Remarks
MUNICIPAL HAMILTON									
79+68	Lt.		12.4				2.1		Drive
79+98	Lt.		21.1				3.5		Drive
80+61	Lt.		31.1				5.2		Drive
81+34	Lt.		48.3				8.1		Drive
1+30 Heaton Street	Rt.		30.0				5.0		Drive
89+22	Lt.		31.0				5.2		Drive
90+10 to 91+00	Lt.		263.0				43.8		Drive
90+16	Rt.	45.0					7.5		Drive
91+17.5	Lt.	83.3					13.8		Drive
93+00	Lt.	40.0					6.7		Drive
94+65	Lt.	67.1					11.2		Drive
95+09.5	Lt.	65.2					10.9		Drive
103+09	Lt.	38.9					6.5		Drive
104+03	Rt.	53.9					8.9		Drive
104+43	Rt.					8.2			Drive
105+12	Lt.	34.6					5.8		Drive
106+81	Lt.		30.0				5.0		Drive
107+60	Rt.		30.3		1.6		5.1		Drive
107+82	Lt.		26.0				4.3		Drive
108+39	Lt.		59.5				9.9		Drive
109+10	Rt.		31.2				5.2		Drive
109+21	Lt.		22.9				3.8		Drive
109+58	Rt.		36.7				6.1		Drive
110+10 & 110+23	Rt.		63.8				10.6		2 Drives, 1 Entrance
110+14	Lt.		26.0				4.3		Drive
111+18	Rt.		30.9				5.2		Drive
111+94	Rt.		29.7		1.5		4.9		Drive
112+84	Rt.					8.2			Drive
113+36	Lt.	51.1					8.5		Drive
113+40	Rt.	55.3					9.2		Drive
114+21	Lt.	51.1					8.5		Drive
114+31	Rt.	55.3					9.2		Drive
118+38	Lt.	117.3					19.5		Drive
Totals to Gen. Summary		758.1	823.9	—	3.1	16.4	263.5	—	
RURAL									
119+86	Rt.		32.2				5.4		M.B. Turnout
120+18	Lt.		28.4				4.7		Drive
120+65	Rt.		71.7				11.9	96.5	Drive
128+02	Rt.					11.2			Drive
130+25	Rt.		68.3		6.4		11.4		Drive & M.B. Turnout
131+86	Rt.		85.5				14.2		Drive & M.B. Turnout
135+02	Rt.		54.7				9.1		Drive & M.B. Turnout
137+39	Rt.		54.0				9.0		Drive & M.B. Turnout
148+77	Rt.		73.5				12.2		Drive & M.B. Turnout
149+05.5	Lt.		69.5				11.6		Drive
150+65.5	Lt.		108.4				18.1		Drive & M.B. Turnout
152+31	Lt.		171.9				28.6		Drive & M.B. Turnout
153+10	Rt.					12.8			Drive
153+63	Lt.					16.0			Drive
161+35	Rt.					10.8			Drive
167+00	Rt.					23.2			Drive
170+18	Lt.		160.8				26.8		Drive & M.B. Turnout
171+45	Lt.		70.0		6.3		11.7		Drive
6+50A Millikin Rd.	Lt.					7.6			Drive
6+50A Millikin Rd.	Rt.					11.2			Drive
184+45	Lt.					10.5			Drive
194+91	Rt.					9.2			Drive
198+85	Rt.					24.2			Drive
204+89	Rt.					15.7			Drive
213+71	Rt.		30.8			12.7	5.1		Drive & M.B. Turnout
223+76	Lt.					9.7			Drive
231+70	Rt.		30.8				5.1		M.B. Turnout
232+22	Lt.		71.8		6.8		11.9		Drive
245+17.5	Rt.		30.8				5.1		M.B. Turnout
245+34.5	Lt.		47.2				7.9		Drive
249+09.5	Lt.		36.5				6.1		Drive
249+20	Rt.		33.5				5.6		M.B. Turnout
249+88.5	Lt.		51.4				8.6		Drive

Station	Side	8" Portland cement concrete pavement Item T-70 Sq. Yd.	7" Portland cement concrete pavement Item T-70 Sq. Yd.	9" Stabilized crushed aggregate Item 1-18 Cu. Yd.	8" Stabilized crushed aggregate Item 1-18 Cu. Yd.	6" Stabilized crushed aggregate Item 1-18 Cu. Yd.	6" Sub-base Item 1-22 Cu. Yd.	Removal and disposal of existing pavement Sq. Yd.	Remarks
RURAL (Cont.)									
250+10	Rt.		88.1				14.7		Drive & M.B. Turnout
251+30	Rt.		30.8				5.1		M.B. Turnout
251+81.5	Lt.		37.5				6.2		Drive
254+75	Rt.		82.4				13.7		Drive & M.B. Turnout
258+81	Lt.		50.0				8.3		Drive
269+32	Rt.		98.6				16.4		Drive & M.B. Turnout
272+90	Rt.		33.5				5.6		M.B. Turnout
272+91	Lt.		67.5				11.3		Drive
273+87	Lt.		42.2				7.0		Drive
0+88 Lt. Liberty-Fairfield	Lt.	63.7					10.6		Drive
279+035, 280+37 & 1+32 Rt. Liberty-Fairfield	Rt.	935.5	18.0				158.9		Drive & M.B. Turnout
Service Station									
282+20	Rt.	84.8		6.6			14.1		Drive
283+43	Rt.	84.8	18.0	3.2			17.1		Drive & M.B. Turnout
283+74	Lt.	118.2		6.6			19.7		Drive
284+80	Rt.	93.3	18.0	7.4			18.5		Drive & M.B. Turnout
284+99	Lt.		89.2				14.9		Drive
285+87	Rt.	93.3		6.3			15.5		Drive
287+43	Rt.		96.7				16.1		Drive & M.B. Turnout
294+08	Lt.		34.3				5.7		Drive
295+86	Lt.		58.6				9.8		Drive
305+04	Lt.	103.4					17.2		Drive
1+43-Kyles Station Rd.	Rt.		16.3				2.7		Drive
0+61A-Kyles Station Rd.	Lt.		19.9				3.3		Drive
1+89A-Kyles Station Rd.	Lt.		22.2				3.7		Drive
2+26A-Kyles Station Rd.	Rt.		16.3				2.7		Drive
316+33	Lt.					7.8			Drive
323+68	Rt.					11.4			Drive
324+63	Lt.					9.3			Drive
325+15	Rt.		87.8		8.3		14.6		Drive & M.B. Turnout
326+00	Lt.		53.2				8.9		Drive
326+60	Lt.		44.1				7.4		Drive
326+82	Lt.		43.1				7.2		Drive
326+95	Lt.					7.7			Drive
333+75	Lt.					11.0			Drive
334+41	Rt.					10.4			Drive
339+05	Rt.	43.8					7.3		Drive
340+35	Lt.					10.8			Drive
340+35	Rt.	152.4					25.4		Drive
340+98	Rt.		30.8			17.3	5.1		Drive & M.B. Turnout
343+56	Rt.					8.6			Drive
346+32	Lt.					10.5			Drive
363+72	Lt.					12.5			Drive
365+40	Lt.		41.5				6.9		Drive
366+00	Rt.		32.2				5.4		M.B. Turnout
371+76	Lt.	76.8					12.8		Drive
375+90	Rt.		30.8				5.1		M.B. Turnout
376+04	Lt.		55.4		8.3		9.2		Drive
379+03	Rt.					19.6			Drive
381+04	Rt.					18.9			Drive
383+30.5	Lt.		48.8		10.4		8.1		Drive
383+30.5	Rt.		30.8				5.1		M.B. Turnout
383+67	Rt.					18.2			Drive
390+75	Lt.		99.0		6.9		16.5		Drive
397+58	Lt.		42.8				7.1		Drive
430+65 S	Lt.		51.0				8.5		Drive
430+78 N	Rt.		30.8				5.1		M.B. Turnout
432+04 N	Rt.		30.8				5.1		M.B. Turnout
432+64 S	Lt.		42.2				7.0		Drive
433+67 S	Lt.	57.4					9.6		Drive
434+85	Rt.		69.8		1.1		11.6		Drive & M.B. Turnout
435+57	Lt.	42.6					7.1		Drive
438+53	Rt.		30.8				5.1		M.B. Turnout
466+20	Rt.		58.2				9.7		Drive
Add for Areas Mkd (2)		660.5.0							
Totals to Gen. Summary		8555.0	3,273.7	30.1	54.5	348.8	869.8	96.5	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

15A 291

BUT-4-(8.48-15.02)

CONCRETE REFERENCE MONUMENTS

Concrete reference monuments cast in place as per plan Item 1-8 Each	See sheet
MUNICIPAL	
12	253
RURAL	
175	253

QUANTITIES

QUANTITIES

EXCAVATION & EMBANKMENT

Station to Station	Roadway Excavation Item E-1	Embankment	Embankment +15%
MUNICIPAL HAMILTON			
79+00 - 90+00	5,145	3,659	4,208
90+00 - 100+00	2,112	544	626
100+00 - 110+00	1,126	731	841
110+00 - 119+12.65	1,456	498	572
Sub-Totals	9,837	5,432	6,247
Total to General Summary	9,837 √		
RURAL			
119+12.65 - 130+00	641	4,705	5,411
130+00 - 140+00	1,143	3,214	3,696
140+00 - 150+00	2,955	1,978	2,275
150+00 - 160+00	13,347	6,528	7,507
160+00 - 170+00	538	7,209	8,290
170+00 - 180+00	2,161	40,384	46,442
180+00 - 190+00	7,633	6,498	7,473
190+00 - 200+00	4,131	2,281	2,623
200+00 - 210+00	11,771	1,147	1,319
210+00 - 220+00	2,623	2,633	3,028
220+00 - 230+00	23,260	806	927
230+00 - 240+00	21,253	17,681	20,333
240+00 - 250+00	5,360	20,503	23,578
250+00 - 260+00	7,188	8,717	10,025
260+00 - 270+00	7,532	13,198	15,178
270+00 - 280+00	8,423	10,409	11,970
280+00 - 290+00	10,925	6,305	7,251
290+00 - 300+00	850	12,617	14,510
300+00 - 310+00	2,998	5,204	5,985
310+00 - 320+00	2,267	5,523	6,351
320+00 - 330+00	6,306	6,773	7,789
330+00 - 340+00	4,323	4,668	5,368
340+00 - 350+00	5,986	3,006	3,457
350+00 - 360+00	262	3,519	4,047
360+00 - 370+00	2,346	14,121	16,239
370+00 - 380+00	42,696	5,081	5,843
380+00 - 390+00	29,902	5,567	6,402
390+00 - 400+00	1,680	19,108	21,974
400+00 - 410+00	4,884	14,977	17,224
410+00 - 420+00	549	29,238	33,624
420+00 - 430+00	12,823	33,245	38,232
430+00 - 440+00	12,702	798	918
440+00 - 450+00	2,083	994	1,143
450+00 - 460+00	2,028	3,122	3,590
460+00 - 470+50	5,237	3,448	3,965
Removal of Millikin Rd.	765		
Sub-Totals	271,571	325,205	373,987
Total to General Summary	271,571 √		

DRAINAGE (MUNICIPAL HAMILTON)

Station to Station	Side	STORM SEWERS Item I-2: Class A Storm Sewer Lin. Ft. 18"	24"	30"	54"	Class "A" Storm Sewers 12"	Under Pav't. or Appr. 12"	Class "B" Storm Sewers Lin. Ft. 12"	Under pav't or Approaches 12"	Roadway Drainage Item I-3 Lin. Ft. 4"	Pipe Specials Item I-5: 4"x90° Bend Each	4"x4"x4" Tee Each	CATCH BASINS Item I-8: Std. No. 1-2-A Each	Std. No. 3 Each	Std. No. 3-A Each	Std. No. G Each	Std. No. 7 Each	Special Inlet MH Item I-8 Each	MANHOLES Item I-8: Std. No.1 Each	Std. No.3 Each	Std. No.3-A Each	Special MH Each	Channel Excavation Item E-3 Cu.Yd.	Manholes-Abandoned Item I-16 Each	Catch Basins-Abandoned Item I-16 Each	Pipe Removed Item E-12 Lin. Ft.: 12"	15"	18"	24"	Paved Ditches Item I-14: Type I (Mod) Lin.Ft.	Type "A" Lin.Ft.	Removal of exist. Structures Item S-24 Lump
0+04 Heaton St.	Lt&Rt.								37						2																	
0+04 to 2+75 Heaton St.	Lt.							265																								
2+75 Heaton St.	Lt&Rt.							29	37						2				1													
1+75 Fair Ave.	Lt.																			1												
7+00 Bigham St.	Rt.					39							1																			
8+50 Bigham St.	Lt&Rt.								33					2					1													
																																Lump
86+38	Rt.								98						1																	
79+20	Lt.								24					1					1													
80+17	Lt.					45							1																			
80+20	Rt.								36					1																		
80+50	℄																								2							
81+78	℄								8							1			1													
87+40	Rt.														1							1										
86+45	℄								26							1																
89+45	Rt.																		1													Lump
89+50	Lt.								44					1																		
89+55	Rt.								9					1																		
91+33	Rt.					10									1										1							
91+45	Lt.								35						1																	
93+25.5	Rt&Lt.								8						2										2							
96+00	Rt.								5				1												1							
98+75	Rt.								5				1												1							
100+20	Rt.					10																			1							
101+32	Rt.								6				1												1							
104+25 to 106+88.7	Rt.	260				14			14							1				1				1	1	260						Lump
106+88.7 to 110+40	Rt.		351			13			14							1				1				1			351					
110+40 to 114+77	Rt.			428		12			14							1		1		1			1	1			432					
114+77 to 116+00	Rt.				121				16								1					7		1			123		10	21	Lump
116+00 to 119+12.65	Rt.				314																				22		313				Lump
104+25 to 110+40	Rt.							40								3																
91+71	Lt.									16	1	1																				
92+22	Lt.									18																						
93+18	Lt.									13	1																					
93+24	Lt.									4																						
93+39	Lt.									13	1																					
93+86	Lt.									12	1																					
																										Total (1½" & under)				Total (Over 1½")		
Totals to General Summary		260	351	428	435	39	104	334	469	76	4	1	3	9	10	2	6	1	6	1	3	1	7	2	13	282				6,219			

EARTHWORK CALCULATIONS

Item		MUNICIPAL HAMILTON Cu. Yds.	MUNICIPAL HAMILTON Cu. Yds.	RURAL Cu. Yds.	RURAL Cu. Yds.
Gross Borrow (Embankment +15%)			6,247		373,987
Deductions	Item E-1 Excavation	9,837		271,571	
	Item E-3 [Excav. minus (Emb. +15%)]	7		83,687	
	Item E-8 Removal & Disposal of Exist. Pavement, Sidewalks, Curb & Curb & Gutter	416		4,255	
	Item S-22 Partial Removal of Exist. Structures	——		41	
	Item S-24 Removal of Exist. Structures	11		1,074	
Less: Material Utilized as Dumped Fill & Rip Rap		——		2,090	
Total Material Available to Reduce Embankment		10,271	10,262	303,538	303,538
Total Material Available to Reduce Rural Borrow			4,015		4,015
Net Borrow - Total to General Summary, Item E-4					66,434

WATER CALCULATIONS

Item	MUNICIPAL HAMILTON Cu. Yds.	Rate: Gals per Cu. Yd.	Water Item E-11 M. Gals	RURAL Cu. Yds.	Rate: Gals per Cu. Yd.	Water Item E-11 M. Gals.
Roadway Embankment	5,432	5	27,160	325,205	5	1,626.025
Channel Embankment	——	——	——	547	5	2.735
Sub-base	3,906	5	19.530	46,661	5	233.305
I-18	85	5	.425	3,952	5	19.760
Totals to General Summary			47.115			1,881.125

UNDERDRAINS (MUNICIPAL HAMILTON)

Station to Station	Side	Underdrains Item I-4 Lin. Ft. 6"	Pipe Specials Item I-5 Each 6"x6"x6" Wye	Station to Station	Side	Underdrains Item I-4 Lin. Ft. 6"	Pipe Specials Item I-5 Each 6"x6"x6" Wye
0+04 - 2+75 Heaton	Lt&Rt.	538		86+69 - 86+45	Lt&Rt.	39	
0+70 - 2+75 Heaton	Lt&Rt.	315		87+50 - 88+00	Rt.	50	
2+75 Heaton - 5+60 Bigham	Lt.	285		87+50 - 0+90 Fair	Rt&Lt.	93	
0+93 F - 8+50 Bigham	Lt.	295		8+50 - 8+88 Bigham	Lt&Rt.	76	
5+60 - 8+50 Bigham	Lt.	325		89+50 - 95+25	Lt.	575	
79+00 - 79+20	Lt.	20		88+00 - 102+00	Rt.	1400	
79+20 - 80+50	Lt.	130		102+00 - 104+20	Rt.	220	
79+00 - 80+20	Rt.	120		104+25 - 114+50	Rt.	1010	
80+20 - 0+92 F	Rt.	763		84+50 - 87+40	Rt.	293	
84+25 - 86+69	Rt&Lt.	245	1				
86+69 - 0+74 F	Lt&Rt.	104		Totals to General Summary		6,896	1

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(8.48-15.02)

QUANTITIES

DRAINAGE (RURAL)

Station to Station	Side	Pipe for Driveways Item I-1 Lin. Ft.				Class "A" Storm Sewers Item I-2 Lin. Ft.							Class "B" Storm Sewers Item I-2 Lin. Ft.						Waterproofing Type B Item S-3	Roadway Drainage Item I-3 Lin. Ft.								Pipe for Roadway Culverts Item S-27 Lin. Ft.			14'3"x8'11" 7-5 Ga. Sectional Corrugated Metal Structure Item S-28	Catch Basins Item I-8									Manholes Item I-8			Junction Box, Type "A" Item I-8	Excavation for Structures Item E-2		Channel Excavation Item E-3	Concrete for Structures Item S-1		Reinforcing Steel Item S-4	Rip Rap, Type "A" Item I-10	Dumped Rock Fill Item I-10	Catch Basins Abandoned Item I-16	Manholes Abandoned Item I-16	Paved Ditches Item I-14		Furnishing & Placing MH Frame & Cover - Neenah Fdy #R6040 or Equal Item I-8	1 3/8"φx4" Dowel Holes Item S-23	3/4"φ Expansion Anchor Bolts - Item Special
										Sec. MG.6(b) or Sec. MG.4(c)	Under Pav't or Approaches					Under Pavement or Approaches						Sec. MG.4(c)	Under Pavement or Approaches							Sec. MG.6(c); Sec. MG.4(g) 10-10 Ga.		Std. No. 1-2-A	No. 1-2-A (Mod)	Std. No. 1-3	No. 1-4 (Mod.)	Std. No. 2-2-A	Std. No. 2-5	Std. No. 3-A	No. 7 (Mod.)	Std. No. 3	Std. No. 1				Dry	Wet		Class "C"	Class "E"						Type 1 (Mod.)	Type "B"			
		12"	15"	18"	27"	12"	30"	54"	18"	24"		18"	12"			12"	15"	18"	Sq.Yd.			30"	6"	12"	18"	30"		18"	24"	60"	Lin.Ft.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.			Each	Cu.Yd.	Cu.Yd.	Cu.Yd.	Cu.Yd.	Cu.Yd.	Lb.	Sq.Yd.	Cu.Yd.	Each	Each	Lin.Ft.	Lin.Ft.	Each	Ea.	Ea.
121+07.50	Lt.															20																								1																			
119+12.65 to Shaffer Ck.	Rt.							187																													1								32.0		104	7.3		441		61		1		27			
Shaffer Creek																															176														350.0	120.0	379	175.0		5,014		475							
121+72.5	Lt.						20																																		1																		
135+36.5																			6.0																										74.0		21	17.9		1,959		10					1	19	19
135+35 to 137+12	Rt.																																																						177				
135+42.5 to 135+90	Lt.																					48																																					
137+12 to 138+35	Rt.																									124																			1.0				1.0										
140+05	Rt.																																																			8							
146+79 Rt. to 151+00 Lt.																84																				1									0.2				0.2										
148+77	Rt.	28																																											0.5				0.5										
149+05	Lt.			36																																									0.6				0.6				2						
150+65	Lt.			34																																									0.6				0.6										
151+75																62																1													0.2				0.2										
152+31	Lt.			26																																									0.6				0.6										
153+10	Rt.	32																																											0.5				0.5										
153+63	Lt.		32																																										0.5				0.5										
155+59.8																			9.0																										221.0		31	53.5		6,385		22						16	16
155+45 to 155+66	Lt.																																																		17									
156+72	Lt.																												36																21.0				0.6										
156+80	Lt.															124																1																											
161+35	Rt.	26																																											0.5				0.5										
163+25	Lt.															54																1													0.2				0.2										
166+75 Rt. to 167+50 Lt.																99																1													0.2				0.2										
170+18	Lt.			30																																									0.6				0.6										
171+45	Lt.		34																																										0.5				0.5										
175+86.95 to 176+02	Lt.					171							28																					1				1																					
176+02 to 176+89	Lt.																106																																										
176+82 Rt. to 176+97 Lt.												84						99																	1	1					1																		
176+82 to 177+59	Rt.								77																							1																											
176+28 to 177+95	Lt.																																																				2						
194+20 Rt. to 194+29 Lt.																													58					1											34.0		3		0.4										
194+32																							66																																				
197+29 Rt. to 197+75 Lt.																												128											1						44.0		28	1.0	0.3	18		9							
204+19	Lt.															53																1													0.2				0.2										
204+89	Rt.	28																																											0.5				0.5										
210+25	Lt.																															1																											
210+93.5																			9.0																										185.0		160	43.5		5,016		12						16	16
213+71	Rt.				44																																								0.9				0.9										
214+00 Rt. to 214+35 Lt.																	65															1													0.3				0.3										
223+76	Lt.			32																																									0.6				0.6										
224+00 Lt. to 224+25 Lt.																62																1													0.2				0.2										
231+70	Lt.															54																1													0.5				0.5										
232+22	Lt.		36																																										0.5				0.5										
235+50 to 237+80	Rt.																																																						230				
238+00 to 239+20	Lt.																																																						120				
239+52 Rt. to 239+95 Lt.										89																															1				0.4				0.4			8							
243+12										8																				196														1	553.0		252		6.0			39							
243+25	Lt.												20																				1																										
249+05 to 250+21	Lt.																							116																					0.5				0.5										
249+19 to 250+19	Rt.																								100																				0.6				0.6										
Totals to General Summary		114	102	158	44	171	20	187	77	97		84	48			612	171	99	24.0			48	66	116	100	124		128	94	196	176	10	1	2	1	2	1	1	1	1	3			1	1,525.9	120.0	978	298.2	19.2	18,833	17	644	4	1	527	27	1	51	51

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

BUT-4-18.48-15.02)

18
291

QUANTITIES

DRAINAGE (RURAL)

Station to Station	Side	Pipe for Driveways Item I-1 Lin. Ft 12"	15"	18"	Sec. M6.4(a) or Sec. M6.4(b) 10-10Ga GG"	Bit. Coated Corrugated Metal Arch Sec. M6.4(c) 10Ga 36"x22"	Class "B" Storm Sewers Item I-2 Lin. Ft 12"	15"	Under Pavt or Approaches 12"	Roadway Drainage Item I-3 Lin. Ft 15"	18"	Under Pavement or Approaches 18"	24"	27"	Pipe for Roadway Culverts Item S-27 Lin. Ft 12"	Sec. M6.4(a) 1/4 Ga. 21"	24"	42"	48"	Sec. M6.4(b) or Sec. M6.4(c) 10-10Ga GG"	84"	Catch Basins Item I-8 Std. No. 1-2-A Each		Std. No. 1-3 Each	Std. No. 2-2-A Each	Std. No. 2-3 Each	Std. No. 3 Each		Manholes Item I-8 Std. No. 1 Each			Excavation for Structures (Dry) Item E-2 Cu. Yd.	Channel Excavation Item E-3 Cu. Yd.	Concrete for Structures Item S-1 Class "C" Cu. Yd.	Class "E" Cu. Yd.	Reinforcing Steel Item S-4 Lb.	Rip Rap, Type "A" Item F-10 Sq. Yd.	Dumped Rock Fill Item I-10 Cu. Yd.	Catch Basins Abandoned Item I-16 Each	Paved Ditches Type I (Mod.) Item F-14 Lin. Ft.	Waterproofing Type B Item S-3 Sq. Yd.	Expansion Anchor Bolts Item Special Each	Dowel Holes Item S-23 Each
251+75	Rt.								156												1																			
251+82	Lt.		30																											0.5			0.5									
251+80 to 252+62	Rt.															82														46.0			0.7									
253+39																				150										702.0	37	13.0	6.8	471		27						
253+37 to 256+00	Rt.						159	59	40												1																					
254+75	Rt.				52																									8.0			5.4									
256+05	Rt.																																			10						
256+00 to 258+00	Rt.						200																																			
258+00 to 259+25	Rt.								124												1																					
258+81	Lt.	32																												0.5			0.5									
265+55	Rt.																																			12						
270+40	Rt.																																			15						
272+91	Lt.	28																												0.5			0.5									
273+17	Rt.																																				1					
273+87	Lt.		30																											0.5			0.5									
274+90 to 275+40	Rt.										50														1					0.3			0.3									
275+52.4																														445.0	107	111.4		13,977					12.0	22	22	
275+40 to 275+65	Rt.																																		50	11						
275+47 to 275+90	Lt.																																				43					
275+56 to 276+00	Rt.																																				44					
276+00	Rt.						43														1																					
277+85 to 280+68	Rt.													282											1			1		0.9			0.9									
278+96 to 280+24	Lt.								30								126									1		1		68.0			0.8				1					
279+80	Rt.								64												1									0.5			0.5									
Liberty-Fairfield Rd 0+88	Lt.	34																												0.5			0.5									
281+97 to 283+69	Rt.												170												1					0.8			0.8									
283+74	Lt.			32																										0.6			0.6									
284+63 to 286+07	Rt.											142													1					0.6			0.6									
284+99	Lt.		28																											0.5			0.5									
288+61.5																				164										421.0	255		9.4			20						
288+62 to 292+60	Rt.						288		107												1																					
291+60 to 291+87	Rt.															30														6.9			0.2									
299+50	Rt.								90												1																					
300+23 to 300+30	Lt.																																			3						
300+41.3											80																			260.0	2218	57.6		5,649		38			9.5	18	18	
301+50 to 302+30	Lt.																													0.5			0.5									
305+04	Lt.	36																												0.5			0.5									
305+90	Rt.								64												1																					
316+75 to 319+84	Rt.						309														1																					
319+84																		152											1	270.0	58		1.7			29						
320+00	Rt.						10														1																					
323+53 to 325+21	Rt.											168																		0.6			0.6									
324+50	Lt.	24																												0.5			0.5									
326+00	Lt.	28																												0.5			0.5									
334+41	Rt.					28																								1.1			1.1									
338+38																		174										1		279.0	10	12.7		608		6						
338+25 to 339+90	Rt.								164												1																					
339+25	Rt.																																				1					
340+35	Lt.	28																												0.5			0.5									
340+98	Rt.	30																												0.5			0.5									
343+30 Rt. to 343+75 Lt.																	136						1							80.0			0.8									
Totals to General Summary		240	88	32	52	28	4,009	59	839	80	50	310	170	282	30	82	262	174	152	164	150	11	1	3	1	1	3		2597.0	2,685	194.7	36.9	20,705	50	171	3	87	21.5	40	40	

QUANTITIES

DRAINAGE (RURAL)

Station to Station	Side	Pipe for Driveways Item I-1 Lin. Ft. 12"	15"	18"	24"	30"	Bit Coated Corrugated Metal Arch Sec. M6.4(d),(c)12Ga. 29"x18"	Class "B" Storm Sewers Item I-2 Lin. Ft. 12"	15"	Under Pavement or Approaches 12"	15"	Roadway Drainage Item I-3 Lin. Ft. 4"	6"	8"	18"	Under Pavement or Approaches Bituminous Coated Corrugated Metal Arch Sec. M6.4(d),(c) 29"x18" 12Ga.	58"x36" 8Ga.	Pipe Special-8"x8"x12" Tee Item I-5 Each	Pipe for Roadway Culverts Item S-27 Lin. Ft. 18"	36"	42"	Sec. M6.4(c) 15"	Sec. M6.4(d) or Sec. M6.4(c) 18"	Paved Bit Coated Corrugated Metal Arch Sec. M6.4(2)(d) 18"x11"	43"x27" 10Ga.	58"x36" 8Ga.	65"x40" 8Ga.	I-2 Drop Pipe Sec. M-6.4(c) 12"	Catch Basins Item I-8 Std. No. 12-A Each	Std. No. 3-A Each	Manholes Item I-8 Std. No. 1 Each	Excavation for Structures (Dry) Item E-2 Cu. Yd.	Channel Excavation Item E-3 Cu. Yd.	Concrete for Structures Item S-1 Class "C" Cu. Yd.	Class "E" Cu. Yd.	Reinforcing Steel Item S-4 Lb.	Dumped Rock Fill Item I-10 Cu. Yd.	Junction Box Type "B" Item I-8 Each	Paved Ditches Item I-14 Type I (Mod) Lin. Ft.	Type "C" Lin. Ft.	Type "D" Lin. Ft.	Pipe Special Item I-5 Tee-12"x36"x40" C.M. Arch Each	Waterproofing-Type B Item S-3 Sq. Yd.	Expansion Anchor Bolts Item Special Each	Dowel Holes Item S-23 Each	Pipe Special Item I-5 Tee-24"x58"x36" C.M. Arch Each
34G+32	Lt.	26																												0.5			0.5													
351+90	Rt.							26																			1																							
352+335																										128				218.0	31	8.6	1.7	282					16	1								
352+54	Rt.																										46																						
362+20 to 368+69	Rt.							513		120																	2		1																				
363+61 to 364+00	Rt.																	40												13.0			0.3													
365+40	Lt.	30																												0.5			0.5													
368+69																														283.0		44.6		5,475							6.5	12	12		
368+69 to 372+30	Rt.							249		120																	2																						
376+04	Lt.	34																												0.5			0.5													
379+03	Rt.		36																											0.5			0.5													
381+04	Rt.			32																										0.6			0.6													
381+86 to 384+40	Lt.														254															0.6			0.6													
382+83	Rt.									57							1										1																						
383+67	Rt.			28																										0.6			0.6													
386+00 to 392+20	Lt.																													1.0			1.0					572								
390+80	Lt.				48																									1.0			1.0													
393+75 to 396+36	Rt.								258																		1																						
396+36.9																			158											19.8	27		1.2		27												
396+36 to 397+00	Rt.							61																			1																						
397+58	Lt.		22																											0.5			0.5													
402+50 to 403+05	Lt.																																					55									
403+68																				122										187.0	30	13.9		830	17												
405+00 to 405+93	Lt.																																					93									
405+60	Lt.				44																									0.8			0.8													
415+35	Lt.																																		12											
423+80																						246								79.0			0.6													
425+005 to 425+255	Lt.																																					65									
428+00 N																		72												31.0			0.6													
430+65	Lt.						28																							1.0			1.0													
432+64	Lt.				26																									0.8			0.8													
433+505 to 435+76N	Lt.															226														1.0			1.0													
433+50 to 434+78	Rt.																128													2.0			2.0													
434+245 to 435+12N	Lt.																						88							29.0			0.6													
437+785 to 439+34	Lt.						156																							1.0			1.0													
439+00	Lt.										72																1			0.3			0.3													
446+50	Lt.									68																				0.5			0.5													
451+50 Rt. to 452+00 Lt.										86																	1			0.3			0.3													
462+50 Rt. to 463+00 Lt.										83																	1			0.2			0.2													
466+20	Rt.				26																									0.8			0.8													
467+20 to 468+86	Rt.																							166						14.5.0			1.5													
469+00										64																	1			0.2			0.2													
MILLIKIN ROAD																																															
1+56.51 A	Rt.							16																				1		0.2			0.2													
3+67 M																					70									19.0			0.5													
6+50 A	Rt.		22																											0.5			0.5													
6+50 A	Lt.	22																												0.5			0.5													
KYLES STATION RD.																																															
2+27																									52					66.0	117		1.7					28								
1+89 A	Lt.				34																									0.4			0.4													
2+07 A																									56					70.0	24		1.7												1	
To be placed at direction of Engineer												100	100	100																																	
Totals to General Summary		112	80	60	130	48	184	865	258	598	72	100	100	100	254	226	128	1	112	158	122	70	246	88	166	108	128	46	12	1	1	4,175.6	229	67.1	26.2	6,587	56	1	785	28	16	1	6.5	12	12	1

QUANTITIES

MISCELLANEOUS REMOVALS (RURAL)

*L indicates Lump Sum

Station to Station	Side	Removal of Existing Structures Item 5-24 — Removal of Portions of Exist. Structures Item 5-22 — Pipe Removed Item E-12 Lin. Ft. 4"	6"	8"	12"	15"	18"	24"	30"	36"	Lump * Concrete	Lump * Masonry	Lump * Concrete	Lump * Masonry
119+12.65 to Shaffer Cr.	Rt.				35			178		57				
120+60													L	
Shaffer Creek													L	
130+40	Rt.				21								L	
134+95	Rt.													L
135+50 ℄ ℄ 136+36.5 Rt.											L			L
137+17 to 139+22							205							L
148+77 Rt. ℄ 149+05 Lt.					25		85						L	
155+59.8									18		L		L	
156+72								30						
166+95	Lt.												L	
170+18	Lt.					24								
171+45	Lt.				30									
176+28 to 177+95	Lt.				153									
176+90	Rt.							30					L	
194+29 ℄ 194+90	Lt.				28						L		L	
197+29 Rt. to 197+75 Lt.					62								L	
204+89	Rt.				24									
210+93.5									32		L			
213+71	Lt.						55						L	
223+76	Lt.				23									
228+61.5													L	
239+52 Rt. to 239+95 Lt.								15					L	
243+12													L	
253+39													L	
254+75	Rt.												L	
258+81	Rt.				41									
275+52.4											L			
277+85 to 280+68	Rt.				230								L	
278+96 to 280+24	Lt.				281								L	
Liberty Fairfield 0+88	Lt.		20		23									
281+62 to 283+69	Rt.				205									L
283+74	Rt.				48								L	
288+38													L	
294+08	Rt.				30									L
300+41.3											L			
305+04	Rt.													L
316+33	Rt.				24									
319+84													L	
323+68	Rt.				20								L	
324+65 to 326+98	Rt.				233									L
324+67 to 325+29	Rt.				62								L	
333+75 ℄ 334+41	Rt.				21		20						L	L
338+38					10								L	
339+05	Rt.				52									
343+30 Rt. to 343+75 Lt.					47								L	
343+56					34									L
343+78 to 346+12	Rt.				225								L	
360+42 to 366+05	Rt.				563									L
368+69	Rt.										L			
370+69 to 371+90	Rt.				122									
371+00	Rt.												L	
375+40	Rt.													L
383+20 to 384+85	Rt.				165								L	
383+67	Rt.				23								L	
390+70							23						L	
396+36.9							50						L	
397+58	Rt.			24										
400+80	Lt.	60												
432+005 to 436+85N	Lt.						485							L
432+64							80						L	
432+70 to 433+50	Lt.												L	
434+245 to 435+12N	Lt.						21						L	
437+78.5 to 439+34	Lt.						85							L
466+20	Lt.				30									
467+50	Lt.						60						L	
469+70							23							L
Kyles Sta. Rd. 1+89 A	Lt.							24					L	
Totals by pipe size		60	20	24	2890	24	1192	277	50	57				
		Pipe Removed (15" and under)					Pipe Removed (over 15")							
Totals to Gen. Summary		3018					1576							

UNDERDRAINS (RURAL)

Station to Station	Side	6" Underdrains Item I-4 Lin.Ft.	Pipe Specials Item I-5 6"x45° Bend Each	6"x90° Bend Each	6"x6"x6" Tee Each	Pipe Outlets for Underdrains, 8" Item I-4 Lin.Ft.
167+50 to 176+75	Lt.	911	1			10
147+50 to 151+00	Rt.&Lt.	348				
248+95 to 250+39	Lt.	140	1			10
265+66N to 268+75N	Lt.	325	1			10
268+75N to 273+43N	Lt.	475	1			10
276+00 to 278+40	Rt.	228	1			10
277+64 to 286+10	Rt.	835	1			10
278+36 to 280+50	Lt.	204	1			10
322+50 to 327+25	Rt.	469	1			10
323+00 to 328+75	Lt.	579	1			10
338+75 to 340+66	Rt.	186	1			10
381+75 to 384+62	Lt.	278	1			10
397+50 to 405+62	Lt.	813	1			10
397+50 to 404+62	Rt.	715	1			10
433+25 to 435+00	Rt.	172	1			10
433+32 to 435+85	Lt.	250	1			10
451+75 to 461+00	Rt.&Lt.	1800	1	1	1	10
344+00 to 345+75	Lt.	166	1			10
463+00 to 464+50	Lt.	130	1			10
463+50 to 468+99	Rt.&Lt.	1,063	1	1	1	10
469+00 to 470+50	Rt.&Lt.	137	1			10
Kyles Station Road						
304+80 Rt. to 2+25 Rt.						
Canal Street						
434+68	Lt.	121				
182+00 to 190+00	Rt.&Lt.	1292	2			20
Totals to General Summary		11,637	22	2	2	2.20

ADJUSTMENTS

CITY OF HAMILTON (NO STATE PARTICIPATION)

Station	Side	Manholes adjusted to grade Item I-8 Each	Water valve manholes adjusted to grade Item I-8 Each	Water valve boxes adjusted to grade Item I-8 Each	Water valve manholes abandoned Item I-16 Each	Water valve boxes abandoned Item I-16 Each	Relocation of fire hydrants Item special Each
86+90	Rt.	1					
0+96 Mill St.	Rt.				1		
2+47 Mill St.	Rt.	1					
0+88 Fair Ave.	Rt.					1	
0+95 Fair Ave.	Rt.				1		
1+07 Fair Ave.	Rt.				1		
1+42 Fair Ave.	Rt.			1			
1+54 Fair Ave.	Rt.			1			
1+27 Heaton St.	Rt.		1				
87+53	Rt.				1		
90+65	Lt.	1					
91+63	Lt.					1	
91+80	Lt.						1
93+35	Lt.				1	1	
93+95	Lt.					1	
94+30	Lt.	1					
98+38	Lt.						1
126+65	Lt.						1
132+50	Lt.						1
139+50	Lt.						1
156+60	Lt.						1
Totals to Gen. Summary		4	1	2	5	4	6

TRENCH RESTORATION

CITY OF HAMILTON (NO STATE PARTICIPATION)

Station	Side	8" Portland cement concrete pavement Item T-70 Sq.Yd.	6" Sub-base Item 1.22 Cu.Yd.		1¼ Asphaltic concrete surface course Type "C" Item T-35 Cu.Yd.	1¼ Asphaltic concrete leveling course Item B-35 Cu.Yd.	3" Asphaltic concrete base course Item B-35 Cu.Yd.	8" Portland cement concrete base course Item B-70 Sq.Yd.	Bituminous tack coat Item T-30 Gal.		6" Stabilized crushed aggregate Item 1.18 Cu.Yd.	Sodding Item L.10 Sq.Yd.	Commercial fertilizer (10-6-4 mix) 20# per 1000 sq.ft. Item L-9 Ton	4" Concrete sidewalks Item 1.13 Sq.Ft.
95+25 to 101+94	Lt.											67.2	.006	3040
101+80	Lt.											180.0	.016	
101+94 to 102+68	Lt.				1.6						4.7			
110+53 to 111+40	Lt.	33.8	5.6											
Campbell Dr.	Lt.		2.6		0.5	0.5	2.6							
111+77 to 112+95	Lt.	51.7	8.6											
115+95 to 117+18	Lt.	51.7	8.6											
North Eastview Pkwy.	Lt.		11.0		2.3	2.3	11.0							
Fernway Dr.	Lt.		3.9		0.8	0.8	3.9							
123+53	Lt.										0.7			
Theodore Ave.	Lt.		2.6		0.5	0.5	2.6							
126+75	Lt.										0.8			
128+25	Lt.										0.7			
128+85	Lt.										0.8			
Allison Ave.	Lt.		1.9		0.4	0.4	1.9							
132+15	Lt.										0.7			
133+10	Lt.										0.6			
133+60	Lt.										0.6			
137+50	Lt.										0.5			
138+90	Lt.				0.2						0.7			
140+33	Lt.				0.3						1.0			
141+62	Lt.				0.4						1.2			
Fairham Rd. (156+18)	Lt.		3.9		0.8	0.8		23.3	2.3					
Fairham Rd. (162+55)	Lt.		4.5		0.9	0.9	4.5							
Headgates Rd.	Lt.		4.9		1.0	1.0	4.9							
Drive-Headgates Rd.	Lt.				0.2						0.5			
97+40 - 98+43 - 101+62	Lt.		5.7		1.2	1.2	5.7							
Totals to Gen. Summary		137.2	63.8		11.1	8.4	37.1	23.3	2.3		13.5	247.2	.022	3040

SEEDING CALCULATIONS

TRENCH RESTORATION
CITY OF HAMILTON (NO STATE PARTICIPATION)

		Sq.Yd.	Sq.Yd.
Gross area to be seeded			2296
Deductions	Driveways	218	
	Roads	214	
	Sod area	247	
Total area to be deducted		679	679
Net area to be seeded & protected Item L-9			1617
Commercial fertilizer (10-6-4 mix) at 20# per 1000 sq.ft. Item L-9			Ton .146

QUANTITIES-CITY OF HAMILTON WATER & GAS MAINS

(NO STATE PARTICIPATION)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

21/291

BUT-4-(8.48-15.02)

WATER MAIN 24" C.I. PIPE

Station	Pipe, Ft. 24"	Pipe, Ft. 6"	24" Pipe 250# C.I. Flg'd 12' Lg	24" El. 250# C.I. Flanged	24" Bends 22½°	24" Bends 11¼°	6" Bends 90°	6" Bends 45°	24x24x6 Tee Sp-H-H	24x24x6 Tee	24" Dresser Coupling	24" Connect'g Pieces	Valves 16"	Valves 6"	Street Box	Reducers 24x16 Sp-Sp	Reducers 24x16 Sp-H	6" End Plug w/2" Tap	30" St. Casing Pipe-Ft.	Std. No. 1 MH Item I-18	Concrete Anchor Cu. Yds. Item 5-1 Class E			
84+50 (Lt.), East to pipe under B&O R.R., South to Sta. 101+80 Lt. East to Sta. 102+20 (Lt.)	2370	40	96	2	2	2	1	1	2	1	2	4	1	1	2	2		1	50	1	17.00			
120+33 (Lt.) to 123+22 (Lt.)	289																							
120+33 (Lt.)											1													
123+22 (Lt.)											1													
148+00 (Lt.) to 155+32 (Lt.)	732																							
148+00 (Lt.)											1													
152+15 (Lt.)																				1				
153+90 (Lt.)													1			1	1			1				
155+32 (Lt.)											1													
From 6" W.M.		12874					6	7						31	31									
To Gen. Sum.	3391	12914	96	2	2	2	7	8	1	1	6	4	2	32	33	3	1	1	50	3	17.00			

WATER MAIN 6" C.I. PIPE

	Station	6" Pipe Lin. Ft.	6" Bends 90°	6" Bends 45°	6" Bends 22½°	6" Bends 11¼°	Tees 6x6x6	Tees 6x6x3	6" Dresser Coupling	End Plugs 6"	End Plugs 3" w/ 2" Tap	6"x6" Cross	6" Valve	Street Box	6" Offset 6" Drop	16" St. Casing Pipe		
	1+25 (Rt.) Fair Ave. to 107+00 (Lt.) St. Rt. 4	2106																
Fair Ave.	1+20 (Rt.)								1									
Fair Ave.	1+18 (Rt.)		1															
Fair Ave.	1+18 (Lt.)		1															
Fair Ave.	00+70 (Lt.)				1													
Fair Ave.	00+50 (Lt.)	15					1											
State Route No. 4	87+95															88		
State Route No. 4	88+27 (Lt.)			1														
State Route No. 4	91+80 (Lt.)	12					1								1			
State Route No. 4	93+35 (Lt.)						1								1			
State Route No. 4	97+50 (Lt.)	6					1								1			
State Route No. 4	98+38 (Lt.)	4					1								1			
State Route No. 4	99+55 (Lt.)	6					1		1						1			
State Route No. 4	101+66 (Lt.)			1														
State Route No. 4	101+80 (Lt.)			1														
State Route No. 4	102+07 (Lt.)	2	2				1						3	3				
State Route No. 4	107+00	65	1				1						2	2		58		
State Route No. 4	107+00 (Lt.)-177+65 (Rt.)	7065																
State Route No. 4	107+00 (Rt.)-138 (Rt.)	3100																
State Route No. 4	111+70 (Lt.)	4					1		1				1	1				
State Route No. 4	114+60			2														
State Route No. 4	117+34 (Lt.)	100					1		1				3	3				
State Route No. 4	122+12 (Rt.)												1	1				
State Route No. 4	122+25 (Lt.)	6					1		1				1	1				
State Route No. 4	122+34 (Rt.)							1			1							
State Route No. 4	122+53												1	1				
State Route No. 4	125+40 (Lt.)	8					1		1				1	1				
State Route No. 4	126+65 (Lt.)	6					1								1			
State Route No. 4	131+50 (Lt.)	80					1		1			1	5	5		56		
State Route No. 4	132+50 (Lt.)	6					1								1			
State Route No. 4	134+95 (Lt.)					1												
State Route No. 4	135+30 (Lt.)					1												
State Route No. 4	138+00 (Rt.)									1								
State Route No. 4	139+50 (Lt.)	6					1								1			
State Route No. 4	141+80 (Lt.)					1												
State Route No. 4	142+50 (Lt.)					1												
State Route No. 4	148+45	90					2			2			3	3		67		
State Route No. 4	156+25 (Lt.)	4					1		1				2	2				
State Route No. 4	156+60 (Lt.)	6					1								1			
State Route No. 4	162+55 (Lt.)	4					1		1				1	1				
State Route No. 4	162+90 (Lt.)												1	1				
State Route No. 4	166+60 (Lt.)			2														
State Route No. 4																		
State Route No. 4	167+08 (Lt.)	8					1		1				1	1				
State Route No. 4	167+30 (Lt.)												1	1				
State Route No. 4	176+25 (Lt.)						1		1				1	1				
	177+65	165	1		2		2		2	1			3	3		78		
	To 24" W.M.	12874	6	7									31	31				
	To Gen. Sum.				3	4	25	1	13	4	1	1			9	347		

SERVICE CONNECTIONS TO 6" C.I. WATER MAIN

Station	3/4" Corp. Cock	3/4" Curb Stop	Curb Box	3/4" Coupling	3/4" Copper Pipe-Ft.	2" Valve	2" Dresser Coupling	2" Copper Pipe-Ft.		
89+00 (Lt.)	1	1	1	1	6					
89+62 (Lt.)	1	1	1	1	6					
91+53 (Lt.)	1	1	1	1	6					
93+35 (Lt.)	1	1	1	1	6					
93+92 (Lt.)	1	1	1	1	6					
94+08 (Lt.)	1	1	1	1	6					
97+61 (Lt.)	1	1	1	1	6					
97+80 (Lt.)	1	1	1	1	6					
101+52 (Lt.)	1	1	1	1	6					
101+92 (Lt.)	1	1	1	1	6					
106+25 (Lt.)	1	1	1	1	6					
107+85 (Rt.)	1	1	1	1	7					
107+93 (Lt.)	1	1	1	1	6					
108+62 (Lt.)	1	1	1	1	6					
108+78 (Rt.)	1	1	1	1	7					
108+92 (Lt.)	1	1	1	1	6					
109+65 (Rt.)	1	1	1	1	7					
109+66 (Lt.)	1	1	1	1	6					
110+23 (Lt.)	1	1	1	1	6					
111+12 (Lt.)	1	1	1	1	6					
112+00 (Rt.)	1	1	1	1	7					
113+80 (Lt.)	1	1	1	1	6					
116+27 (Lt.)	1	1	1	1	6					
116+65 (Rt.)	1	1	1	1	7					
118+33 (Lt.)	1	1	1	1	6					
118+95 (Rt.)	1	1	1	1	7					
119+21 (Lt.)	1	1	1	1	6					
119+85 (Lt.)	1	1	1	1	6					
122+32 (Rt.)			1			1	1	8		
123+83 (Lt.)	1	1	1	1	6					
126+52 (Lt.)	1	1	1	1	6					
127+10 (Lt.)	1	1	1	1	6					
127+80 (Lt.)	1	1	1	1	6					
129+12 (Rt.)	1	1	1	1	7					
129+50 (Lt.)	1	1	1	1	6					
130+50 (Lt.)	1	1	1	1	6					
130+92 (Rt.)	1	1	1	1	7					
131+98 (Lt.)	1	1	1	1	6					
132+00 (Rt.)	1	1	1	1	7					
132+06 (Lt.)	1	1	1	1	6					
132+37 (Lt.)	1	1	1	1	6					
133+35 (Lt.)	1	1	1	1	6					
134+35 (Lt.)	1	1	1	1	6					
135+23 (Rt.)	1	1	1	1	7					
137+08 (Lt.)	1	1	1	1	6					
138+84 (Rt.)	1	1	1	1	7					
140+30 (Lt.)	1	1	1	1	6					
140+88 (Lt.)	1	1	1	1	6					
141+68 (Lt.)	1	1	1	1	6					
148+52 (Rt.)	1	1	1	1	7					
149+00 (Lt.)	1	1	1	1	6					
152+02 (Lt.)	1	1	1	1	6					
171+40 (Lt.)	1	1	1	1	6					
Totals to General Summary	53	53	54	53	324	1	1	8		

SERVICE CONNECTIONS TO 6" & 8" C.I. GAS MAIN

Station	1¼" Street Tee	1¼" Street El.	1¼" Curb Stop	Curb Box	1¼" Dresser Coupling	1¼" Pipe Lin. Ft.	2" Pipe Lin. Ft.	4" Pipe Lin. Ft.	2" Dresser Coupling	4" Dresser Coupling
87+60 (Rt.)	1	2	1	1	1	197				
89+00 (Lt.)	1	1	1	1	1	5				
89+62 (Lt.)	1	1	1	1	1	5				
91+36 (Lt.)							7		1	
94+50 (Lt.)								6		1
98+25 (Lt.)	1	1	1	1	1	5				
101+62 (Lt.)								6		1
101+85 (Lt.)	1	1	1	1	1	5				
101+87 (Lt.)	1	1	1	1	1	5				
106+25 (Lt.)	1	1	1	1	1	5				
107+85 (Rt.)	1	1	1	1	1	6				
107+93 (Lt.)	1	1	1	1	1	5				
108+62 (Lt.)	1	1	1	1	1	5				
108+78 (Rt.)	1	1	1	1	1	6				
108+92 (Lt.)	1	1	1	1	1	5				
109+65 (Rt.)	1	1	1	1	1	6				
109+66 (Lt.)	1	1	1	1	1	5				
110+23 (Lt.)	1	1	1	1	1	5				
111+12 (Lt.)	1	1	1	1	1	5				
112+00 (Rt.)	1	1	1	1	1	6				
113+90 (Lt.)	1	1	1	1	1	5				
118+95 (Rt.)	1	1	1	1	1	6				
119+85 (Lt.)	1	1	1	1	1	5				
120+80 (Rt.)	1	1	1	1	1	6				
123+83 (Lt.)	1	1	1	1	1	5				
126+52 (Lt.)	1	1	1	1	1	5				
127+10 (Lt.)	1	1	1	1	1	5				
127+80 (Lt.)	1	1	1	1	1	5				
129+12 (Rt.)	1	1	1	1	1	6				
129+50 (Lt.)	1	1	1	1	1	5				
130+50 (Lt.)	1	1	1	1	1	5				
130+92 (Rt.)	1	1	1	1	1	6				
131+98 (Lt.)	1	1	1	1	1	5				
132+00 (Rt.)	1	1	1	1	1	6				
132+06 (Lt.)	1	1	1	1	1	5				
132+37 (Lt.)	1	1	1	1	1	5				
133+35 (Lt.)	1	1	1	1	1	5				
134+35 (Lt.)	1	1	1	1	1	5				
134+52 (Lt.)	1	1	1	1	1	5				
135+23 (Rt.)	1	1	1	1	1	6				
138+84 (Rt.)	1	1	1	1	1	6				
139+60 (Lt.)	1	1	1	1	1	5				
140+30 (Lt.)	1	1	1	1	1	5				
140+88 (Lt.)	1	1	1	1	1	5				
141+68 (Lt.)	1	1	1	1	1	5				
149+00 (Lt.)	1	1	1	1	1	5				
149+90 (Lt.)	1	1	1	1	1	5				
To 6" & 8" G.M.								12		2
Totals to Gen. Summary	44	45	44	44	44	423	7		1	

GAS MAIN 6" & 8" C.I. PIPE

	Station	Pipe-Lin. Ft. 8"	Pipe-Lin. Ft. 6"	Pipe-Lin. Ft. 4"	8" Bends 45°	8" Bends 22½°	8" Bends 11¼°	6" Bends 90°	6" Bends 45°	6" Bends 22½°	Tees 8x8x8	Tees 8x8x6	Tees 8x8x4	Tees 8x6x6	Tees 6x6x6	Tees 6x6x4	Tees 6x6x3	Dresser Coupling 6"	Dresser Coupling 4"	End Plugs 6"	End Plugs 8"	End Plugs 3" w/ 2" Tap.	Cross 8x6	16" St. Casing Pipe	Reducers 8"x4"	Reducers 8"x6"	4" 90° Bend
	1+25 (Rt.) Fair Ave. to 107+00 (Lt.) St. Rt. 4		2106																								
Fair Ave.	1+20 (Rt.)																	1									
Fair Ave.	1+15 (Rt.)							1																			
Fair Ave.	1+15 (Lt.)							1																			
Fair Ave.	0+70 (Lt.)									1																	
State Route No. 4	87+95																							88			
State Route No. 4	88+27 (Lt.)								1																		
State Route No. 4	91+36 (Lt.)																1					1					
State Route No. 4	94+50 (Lt.)															1											
State Route No. 4	101+62 (Lt.)															1											
State Route No. 4	101+66 (Lt.)								1																		
State Route No. 4	101+80 (Lt.)								1																		
State Route No. 4	107+00		70					1							1									58			
State Route No. 4	107+00 (Lt.) to 117+32 (Lt.)		1032																								
State Route No. 4	107+00 (Rt.)-138 (Rt.)		3100																								
State Route No. 4	111+70 (Lt.)		4												1			1									
State Route No. 4	114+60								2																		
State Route No. 4	117+32 (Lt.)		100											1				1						56			
State Route No. 4	117+32 (Lt.) to 177+65	6033																									
State Route No. 4	122+25 (Lt.)		6									1						1									
State Route No. 4	125+30 (Lt.)		8									1						1									
State Route No. 4	131+50		100												1					1			1				
State Route No. 4	134+95 (Lt.)						1																				
State Route No. 4	135+30 (Lt.)						1																				
State Route No. 4	138+00 (Rt.)																			1							
State Route No. 4	141+80 (Lt.)						1																				
State Route No. 4	142+50 (Lt.)						1																				
State Route No. 4	148+45		78									1			1					2				67			
State Route No. 4	156+20 (Lt.)			4			1						1						1								
State Route No. 4	162+55 (Lt.)			4									1						1								
State Route No. 4	166+60 (Lt.)				2								1						1								
State Route No. 4	167+10 (Lt.)			8									1						1								
State Route No. 4	176+25 (Lt.)		200												1				1						1		
State Route No. 4	177+65 (Lt.)	176		25		2					2								1		2			78		1	1
	From Serv. Conn. 6" & 8" G.M.			12															2								
	To General Summary	6209	6804	53	2	2	5	3	5	1	2	3	4	1	5	2	1	5	8	4	2	1	1	347	1	1	1

GENERAL SUMMARY

ITEM	MUNICIPAL HAMILTON	RURAL	NO STATE PARTICIPATION	TOTAL	UNIT	DESCRIPTION
						ROADWAY
E-1	9,837	271,571	———	281,408	Cu. Yd.	Roadway Excavation, as per plan
E-1	19,454	168,458	———	187,912	Sq. Yd.	Compacted Subgrade
E-2	113	5,299	———	5,412	Cu. Yd.	Excavation for Structures (dry)
E-2	———	120.0	———	120	Cu. Yd.	Excavation for Structures (wet)
E-3	7	3,892	———	3,899	Cu. Yd.	Channel Excavation
E-4	———	66,434	———	66,434	Cu. Yd.	Borrow
E-8	330	28,021	———	28,351	Sq. Yd.	Removal and Disposal of Existing Pavement, as per Plan
E-8	4,246	4,284	———	8,530	Sq. Ft.	Removal and Disposal of Existing Sidewalk
E-8	664	———	———	664	Lin. Ft.	Removal and Disposal of Existing Curb, as per Plan
E-8	148	———	———	148	Lin. Ft.	Removal and Disposal of Existing Header Curb, as per Plan
E-8	3,919	———	———	3,919	Lin. Ft.	Removal and Disposal of Existing Curb & Gutter, as per Plan
E-9	Lump	Lump	———	Lump	Lump	Removal of Trees and Stumps
E-11	47	1881	———	1928	M. Gal.	Water
S-1		560.0	———	560.0	Cu. Yd.	Concrete for Structures, Class "C"
S-1	123.3	82.3	17.0	222.6	Cu. Yd.	Concrete for Structures, Class "E"
S-4	———	46,125	———	46,125	Lb.	Reinforcing Steel
S-22	———	Lump	———	Lump	Lump	Removal of Portions of Existing Structures
I-13	20,799	1,445	3,040	25,284	Sq. Ft.	4" Concrete Sidewalk, as per plan
I-13	12	———	———	12	Lin. Ft.	Concrete Steps, 5½" Risers, 11" Treads
I-13	42	———	———	42	Lin. Ft.	Concrete Steps, 6" Risers, 12" Treads
I-13	5	———	———	5	Lin. Ft.	Concrete Steps, 6" Risers, 13" Treads
I-13	16	———	———	16	Lin. Ft.	Concrete Steps, 7½" Risers, 10½" Treads
I-13	12	———	———	12	Lin. Ft.	Concrete Steps, 8" Risers, 16" Treads
I-13	19	———	———	19	Lin. Ft.	Concrete Steps, 8" Risers, 12" Treads
I-15	350.00	10,837.50	———	11,187.50	Lin Ft.	Guard Rail, Steel Beam Type (Deep)
I-18	85	3,952	14	4,051	Cu. Yd.	Stabilized Crushed Aggregate Shoulders and Approaches
L-8	3	———	———	3	Cu. Yd.	Aggregate for Tree Root Aeration
L-9	9,055	318,245	1,617	328,917	Sq. Yd.	Seeding and Protecting, as per Plan
L-9	0.97	31.23	0.17	32.37	Ton	Commercial Fertilizer (10-6-4)
L-10	1,709	28,799	247	30,755	Sq. Yd.	Sodding
M-10	3	117	———	120	Ton	Furnishing and Applying Calcium Chloride or Calcium Magnesium Chloride
T-10	100	3,900	———	4,000	Cu. Yd.	Traffic Compacted Surface Course, as per plan
T-10	50	1,950	———	2,000	Cu. Yd.	Traffic Compacted Surface Course, using Size No. 2 aggregate, as per plan
E-8	100	200	—	300	Sq. Yd.	Removal and Disposal of Existing Wearing Course
Special	Lump	———	———	Lump	Lump	Removing and Resetting Historical Monument
S-24		Lump	———	Lump	Lump	Removal of Existing Structures
Special	1,443	———	———	1,443	Lin. Ft.	Fence, Removed, Reset and Repainted
I-8	12	175	———	187	Each	Concrete Reference Monuments, as per plan
						DRAINAGE
I-1	———	466	———	466	Lin. Ft.	12" Pipe for Driveways
I-1	———	270	———	270	Lin. Ft.	15" Pipe for Driveways
I-1	———	250	———	250	Lin. Ft.	18" Pipe for Driveways
I-1	———	130	———	130	Lin. Ft.	24" Pipe for Driveways
I-1	———	44	———	44	Lin. Ft.	27" Pipe for Driveways
I-1	———	48	———	48	Lin. Ft.	30" Pipe for Driveways
I-1	———	52	———	52	Lin. Ft.	66" Pipe for Driveways, Sec. M-6.6 (a.) or Sec. M-6.4 (g.), 10-10 Gage
I-1	———	184	———	184	Lin. Ft.	29"x 18" Pipe for Driveways, Bituminous Coated Corrugated Metal Arch, Sec. M-6.4 (i)(c), 12 Gage
I-1	———	28	———	28	Lin Ft.	36"x 22" Pipe for Driveways, Bituminous Coated Corrugated Metal Arch, Sec. M-6.4 (i)(c), 10 Gage
I-2	260	———	———	260	Lin Ft.	18" Storm Sewers, Class "B"
I-2	351	———	———	351	Lin. Ft.	24" Storm Sewers, Class "B"
I-2	428		———	428	Lin. Ft.	30" Storm Sewers, Class "B"
I-2	435	187	———	622	Lin. Ft.	54" Storm Sewers, Class "A"
I-2	———	97	———	97	Lin. Ft.	24" Storm Sewers, Sec. M-6.6 (b) or Sec. M-6.4 (c),
I-2	334	1,922	———	2,256	Lin. Ft.	12" Storm Sewers, Class "B"
I-2	———	317	———	317	Lin. Ft.	15" Storm Sewers, Class "B"
I-2	———	77	———	77	Lin. Ft.	18" Storm Sewers, Class "A"
I-2	39	171	———	210	Lin. Ft.	12" Storm Sewers, Class "A"
I-2	469	2,049	———	2518	Lin. Ft.	12" Storm Sewers, Class "B", Under Pavement or Approaches
I-2	———	243	———	243	Lin. Ft.	15" Storm Sewers, Class "B", Under Pavement or Approaches
I-2	———	99	———	99	Lin. Ft.	18" Storm Sewers, Class "B", Under Pavement or Approaches
I-3	76	100	———	176	Lin. Ft.	4" Roadway Drainage
I-3	———	100	———	100	Lin. Ft.	6" Roadway Drainage
I-3	———	100	———	100	Lin. Ft.	8" Roadway Drainage
I-3	———	80	———	80	Lin. Ft.	15" Roadway Drainage
I-3	———	304	———	304	Lin. Ft.	18" Roadway Drainage
I-3	———	48	———	48	Lin. Ft.	30" Roadway Drainage, Sec. M-6.4 (c.)
I-3	———	66	———	66	Lin. Ft.	6" Roadway Drainage Under Pavement or Approaches
I-3	———	116	———	116	Lin. Ft.	12" Roadway Drainage Under Pavement or Approaches
I-3	———	410	———	410	Lin. Ft.	18" Roadway Drainage Under Pavement or Approaches
I-3	———	170	———	170	Lin. Ft.	24" Roadway Drainage Under Pavement or Approaches
I-3	———	282	———	282	Lin. Ft.	27" Roadway Drainage Under Pavement or Approaches
I-3	———	124	———	124	Lin. Ft.	30" Roadway Drainage Under Pavement or Approaches
I-3	———	226	———	226	Lin. Ft.	29"x 18" Roadway Drainage, Bituminous Coated Corrugated Metal Arch, Sec. M-6.4 (i)(c), 12 Gage
I-3	———	128	———	128	Lin. Ft.	58"x 36" Roadway Drainage, Bituminous Coated Corrugated Metal Arch, Sec. M-6.4 (i)(c), 8 Gage
I-4	6,896	11,637	———	18,533	Lin. Ft.	6" Underdrains
I-4	———	220	———	220	Lin. Ft.	8" Plain Corrugated Metal Pipe, Sec. M-6.4 (a), for Outlets for Underdrains
I-5	5	———	———	5	Each	4" Pipe Specials for Roadway Drainage
I-5	1	26	———	27	Each	6" Pipe Specials for Underdrains
I-5	———	1	———	1	Each	18" Pipe Special for Class "B" Storm Sewers Under Pavement or Approaches
I-5	———	1	———	1	Each	65" x 40" Paved Bituminous Coated Corrugated Metal Arch Special, Sec. M-6.4 (i)(d), 8 Gage, for Roadway Culverts
I-5	———	1	———	1	Each	58" x 36" Paved Bituminous Coated Corrugated Metal Arch Special, Sec. M-6.4 (i)(d), 8 Gage, for Roadway Culverts
I-8	3	33	———	36	Each	Catch Basins, Std. No. 1-2-A
I-8	———	1	———	1	Each	Catch Basins, Std. No. 1-2-A, Modified as per plan
I-8	———	3	———	3	Each	Catch Basins, Std. No. 1-3
I-8	———	1	———	1	Each	Catch Basins, Std. No. 1-4, Modified as per plan
I-8	———	5	———	5	Each	Catch Basins, Std. No. 22-A
I-8	———	1	———	1	Each	Catch Basins, Std. No. 2-3
I-8	———	1	———	1	Each	Catch Basins, Std. No. 2-5
I-8	9	2	———	11	Each	Catch Basins, Std. No. 3
I-8	10	2	———	12	Each	Catch Basins, Std. No. 3A
I-8	2	———	———	2	Each	Catch Basins, Std. No. 6
I-8	6	———	———	6	Each	Side Ditch Catch Basins, Std. No. 7
I-8	———	1	———	1	Each	Side Ditch Catch Basins, Std. No. 7, Modified as per plan
I-8	6	7	3	16	Each	Manholes, Std. No. 1
I-8	1	———	———	1	Each	Inlet-Manhole, Std. No. 3 Combination
I-8	1	———	———	1	Each	Special Manhole
I-8	4	———	4	8	Each	Manholes Adjusted to Grade, Method "A"
I-8	———	———	○ 1	1	Each	Water Valve Manholes Adjusted to Grade, Method "B"
I-8	———	———	○ 2	2	Each	Water Valve Boxes Adjusted to Grade
I-8	2	———	———	2	Each	Cisterns Adjusted to Grade, Method "B"
I-8	1	———	———	1	Each	Special Inlet Manhole
I-8	———	1	———	1	Each	Junction Box, Type "A"
I-8	———	1	———	1	Each	Junction Box, Type "B"
I-8	———	1	———	1	Each	Furnish and Place Manhole Frame and Cover, Neenah Foundry #R 6040 or equal
I-10	———	67	———	67	Sq. Yd.	Riprap, Type "A"
I-10	———	871	———	871	Cu. Yd.	Dumped Rock Fill, as per plan
I-14	10	1,399	———	1,409	Lin. Ft.	Paved Ditch, Type 1, Modified as per plan
I-14	21	———	———	21	Lin. Ft.	Paved Ditch, Type "A"
I-14	———	27	———	27	Lin. Ft.	Paved Ditch, Type "B"
I-14	———	28	———	28	Lin. Ft.	Paved Ditch, Type "C"
I-14	———	16	———	16	Lin. Ft.	Paved Ditch, Type "D"
I-16	2	1	———	3	Each	Manholes Abandoned
I-16	———	———	○ 5	5	Each	Water Valve Manholes Abandoned
I-16	13	7	———	20	Each	Catch Basins Abandoned
I-16	———	———	○ 4	4	Each	Water Valve Boxes Abandoned
E-12	282	3,018	———	3,300	Lin. Ft.	Pipe Removed (15" and under)
E-12	1,219	1,576	———	2,795	Lin. Ft.	Pipe Removed (over 15")

GENERAL SUMMARY

DIST.	STATE	PROJECT
2	OHIO	SUT-4-8.43-15.02

GENERAL SUMMARY

ITEM	MUNICIPAL HAMILTON	RURAL	NO STATE PARTICIPATION	TOTAL	UNIT	DESCRIPTION
						DRAINAGE (Continued)
Special	———	103	———	103	Each	Expansion Anchor Bolts
S-23	———	103	———	103	Each	Dowel Holes
S-3	———	52	———	52	Sq. Yd.	Waterproofing - Type B
I-8	6			6	Each	Manholes Adjusted to Grade, Method "B"
I-8	3	———	———	3	Each	Std. No. 3-A Combination Inlet-Manholes
Special		1		1	Cu. Yd	Masonry, as per plan
I-2		20		20	Lin. Ft.	30" Class "A" Storm Sewers
I-2	104			104	Lin. Ft.	12" Class "A" Storm Sewers Under Pavement or Approaches
I-2		84		84	Lin. Ft.	18" Class "A" Storm Sewers Under Pavement or Approaches
I-2		46		46	Lin. Ft.	12" Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(C), for Storm Sewers

GENERAL SUMMARY

SECTION 2 | STATE OHIO | PROJECT EUT-4-(8.48-15.02)

GENERAL SUMMARY

ITEM	MUNICIPAL HAMILTON	RURAL	NO STATE PARTICIPATION	TOTAL	UNIT	DESCRIPTION
						DRAINAGE (Continued)
S-27	——	30	——	30	Lin. Ft.	12" Pipe for Roadway Culverts
S-27	——	240	——	240	Lin. Ft.	18" Pipe for Roadway Culverts
S-27	——	356	——	356	Lin. Ft.	24" Pipe for Roadway Culverts
S-27	——	70	——	70	Lin. Ft.	15" Pipe for Roadway Culverts, Sec. M-6.4(d)
S-27	——	82	——	82	Lin. Ft.	21" Pipe for Roadway Culverts, Sec. M-6.4(d), 14 Ga.
S-27	——	246	——	246	Lin. Ft.	18" Pipe for Roadway Culverts, Sec. M-6.6(c) or Sec. M-6.4(d)
S-27	——	296	——	296	Lin. Ft.	42" Pipe for Roadway Culverts
S-27	——	152	——	152	Lin. Ft.	48" Pipe for Roadway Culverts
S-27	——	158	——	158	Lin. Ft.	36" Pipe for Roadway Culverts
S-27	——	196	——	196	Lin. Ft.	60" Pipe for Roadway Culverts, Sec. M-6.6(c) or Sec. M-6.4(g), 10-10 Gage
S-27	——	164	——	164	Lin. Ft.	66" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.4(g), 10-10 Gage
S-27	——	150	——	150	Lin. Ft.	84" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.4(g), 10-10 Gage
S-27	——	88	——	88	Lin. Ft.	18"×11" Pipe for Roadway Culverts, Paved Bituminous Coated Corrugated Metal Arch, Sec. M-6.4(i)(6)
S-27	——	166	——	166	Lin. Ft.	43"×27" Pipe for Roadway Culverts, Paved Bituminous Coated Corrugated Metal Arch, Sec. M-6.4(i)(d), 10 Ga.
S-27	——	108	——	108	Lin. Ft.	58"×36" Pipe for Roadway Culverts, Paved Bituminous Coated Corrugated Metal Arch, Sec. M-6.4(i)(d), 8 Ga.
S-27	——	128	——	128	Lin. Ft.	65"×40" Pipe for Roadway Culverts, Paved Bituminous Coated Corrugated Metal Arch, Sec. M-6.4(i)(d), 8 Ga.
S-28	——	176	——	176	Lin. Ft.	14'-3"×8'-11" Sectional Corrugated Metal Structure, Sec. M-6.4(g), 7-5 Gage
						PAVEMENT
B-35	39	47	37	123	Cu. Yd.	Asphaltic Concrete Base Course (GO-70), as per plan
B-35	236	107	9	352	Cu. Yd.	Asphaltic Concrete Leveling Course (GO-70)
B-70	4,426	3,017	24	7,467	Sq. Yd.	8" Portland Cement Concrete Base Course
T-30	443	138	3	584	Gal.	Bituminous Tack Coat as per Plan
T-35	244	148	11	403	Cu. Yd.	Asphaltic Concrete Surface Course, Type "C" (GO-70)
T-70	824	3,274	——	4098	Sq. Yd.	7" Portland Cement Concrete Pavement
T-70	758	8,555	137	9,450	Sq. Yd.	8" Portland Cement Concrete Pavement
T-71	15,028	158,695	——	173,723	Sq. Yd.	9" Reinforced Portland Cement Concrete Pavement
I-7	——	141	——	141	Sq. Yd.	Reinforced Concrete Approach Slab, as per Plan (T=11½")
I-12	5,631	5,349	——	10,980	Lin. Ft.	Standard Concrete Curb, Type "2A"
I-12	2,175	256	——	2,431	Lin. Ft.	Standard Concrete Curb, Type "2B"
I-12	108	190	——	298	Lin. Ft.	Standard Concrete Curb, Type "G"
I-12	52	——	——	52	Lin. Ft.	Standard Type "2" Combination Curb and Gutter
I-21	140	——	——	140	Sq. Yd.	Portland Cement Concrete Median Pavement, Standard Type I
I-22	3,889	47,331	64	51,284	Cu. Yd.	Subbase
I-23	245	371	——	616	Each	Precast White Portland Cement Concrete Traffic Dividers
	Lump	Lump	Lump	Lump	Lump	Construction Layout Stakes.
						STRUCTURES OVER 20 FT. SPAN
For Quantities,	See Sheet No. 244					Bridge No. BU-4-152 Over Gregory Creek
For Quantities,	See Sheet No. 242					Bridge No. BU-4-151 Alterations to Existing Bridge over Gregory Creek
						CITY OF HAMILTON - WATER AND GAS MAINS (NO STATE PARTICIPATION)
						WATER MAINS
Special	——	——	3,391	3,391	Lin. Ft.	24" Cast Iron Pipe
Special	——	——	12,914	12,914	Lin. Ft.	6" Cast Iron Pipe
Special	——	——	96	96	Lin. Ft.	24" Cast Iron Pipe Class 250 Flanged (12'-0" lengths)
Special	——	——	50	50	Lin. Ft.	36" Steel Casing Pipe
Special	——	——	347	347	Lin. Ft.	16" Steel Casing Pipe
Special	——	——	8	8	Lin. Ft.	2" Copper Pipe
Special	——	——	324	324	Lin. Ft.	¾" Copper Pipe
Special	——	——	4	4	Each	24" Connecting Piece (Mechanical Joint to Flanged) Class 250
Special	——	——	6	6	Each	24" Dresser Coupling
Special	——	——	13	13	Each	6" Dresser Coupling
Special	——	——	1	1	Each	2" Dresser Coupling
Special	——	——	53	53	Each	¾" Coupling
Special	——	——	3	3	Each	24"×16" Reducer (Spigot-Spigot)
Special	——	——	1	1	Each	24"×16" Reducer (Spigot-Hub)
Special	——	——	1	1	Each	24"×24"×6" Tee (Spigot-Hub-Hub)
Special	——	——	1	1	Each	24"×24"×6" Tee
Special	——	——	25	25	Each	6"×6"×6" Tee
Special	——	——	1	1	Each	6"×6"×3" Tee
Special	——	——	1	1	Each	6"×6" Cross
Special	——	——	2	2	Each	24"×11¼° Bend
Special	——	——	4	4	Each	6"×11¼° Bend
Special	——	——	2	2	Each	24"×22½° Bend
Special	——	——	3	3	Each	6"×22½° Bend
Special	——	——	8	8	Each	6"×45° Bend
Special	——	——	7	7	Each	6"×90° Bend
Special	——	——	2	2	Each	24"×90° Short Radius Bend, Class 250 Flanged
Special	——	——	4	4	Each	6" End Plug
Special	——	——	1	1	Each	6" End Plug with 2" Tap
Special	——	——	1	1	Each	3" End Plug with 2" Tap
Special	——	——	9	9	Each	6" Offset with 6" Drop
Special	——	——	2	2	Each	16" Valve
Special	——	——	32	32	Each	6" Valve
Special	——	——	1	1	Each	2" Valve
Special	——	——	53	53	Each	¾" Corporation Cock
Special	——	——	53	53	Each	¾" Curb Stop
Special	——	——	54	54	Each	Curb Box
Special	——	——	33	33	Each	Street Box
Special	——	——	6	6	Each	Relocate Fire Hydrant
						GAS MAINS
Special	——	——	6,209	6,209	Lin. Ft.	8" Cast Iron Pipe
Special	——	——	6,804	6,804	Lin. Ft.	6" Cast Iron Pipe
Special	——	——	53	53	Lin. Ft.	4" Cast Iron Pipe
Special	——	——	7	7	Lin. Ft.	2" Steel Pipe
Special	——	——	423	423	Lin. Ft.	1¼" Steel Pipe
Special	——	——	347	347	Lin. Ft.	16" Steel Casing Pipe
Special	——	——	5	5	Each	6" Dresser Coupling
Special	——	——	8	8	Each	4" Dresser Coupling
Special	——	——	1	1	Each	2" Dresser Coupling
Special	——	——	44	44	Each	1¼" Dresser Coupling
Special	——	——	1	1	Each	8"×6" Reducer
Special	——	——	1	1	Each	8"×4" Reducer
Special	——	——	2	2	Each	8"×8"×8" Tee
Special	——	——	3	3	Each	8"×8"×6" Tee
Special	——	——	4	4	Each	8"×8"×4" Tee
Special	——	——	1	1	Each	8"×6"×6" Tee
Special	——	——	5	5	Each	6"×6"×6" Tee
Special	——	——	2	2	Each	6"×6"×4" Tee
Special	——	——	1	1	Each	6"×6"×3" Tee
Special	——	——	44	44	Each	1¼" Street Tee
Special	——	——	1	1	Each	8"×6" Cross
Special	——	——	5	5	Each	8"×11¼° Bend
Special	——	——	2	2	Each	8"×22½° Bend
Special	——	——	1	1	Each	6"×22½° Bend
Special	——	——	2	2	Each	8"×45° Bend
Special	——	——	5	5	Each	6"×45° Bend
Special	——	——	3	3	Each	6"×90° Bend
Special	——	——	1	1	Each	4"×90° Bend
Special	——	——	45	45	Each	1¼"×90° Street Elbow
Special	——	——	2	2	Each	8" End Plug
Special	——	——	4	4	Each	6" End Plug
Special	——	——	1	1	Each	3" End Plug with 2" Tap
Special	——	——	44	44	Each	1¼" Curb Stop
Special	——	——	44	44	Each	Curb Box

GENERAL SUMMARY

FED. ROAD NO. 2 | STATE OHIO | PROJECT BUT-4-8.49-15.02

STATE	STATE PROJECT			
OHIO				

BUT-4-(8.48-15.02)

24
291

NORTH

79+00 BEGIN PROJECT
BUT-4-(8.48-15.02)

HEATON ST.
Conc. Alley
B & O. R.R.
MILL RD
Alley
FAIR AVE.
BUTLER CO. FAIRGROUNDS
CAMPBELL DR.
NORTH EASTVIEW PKWY.
END OF MUNICIPAL
119+12.65 CITY OF HAMILTON
CORPORATION LINE
BEGIN RURAL
FERNWAY DR.
THEODORE AVE.
ALLISON DR
FAIRHAM RD
FAIRHAM RD
HEADGATE RD.
OAKRIDGE RD
REIGART RD
SHAFFER CREEK
MILLIKIN RD.
PROP. MILLIKIN RD.

69 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 218

GENERAL PLAN

SCALE 1"=600'

780 760 740 720 700 680 660 640 620 600

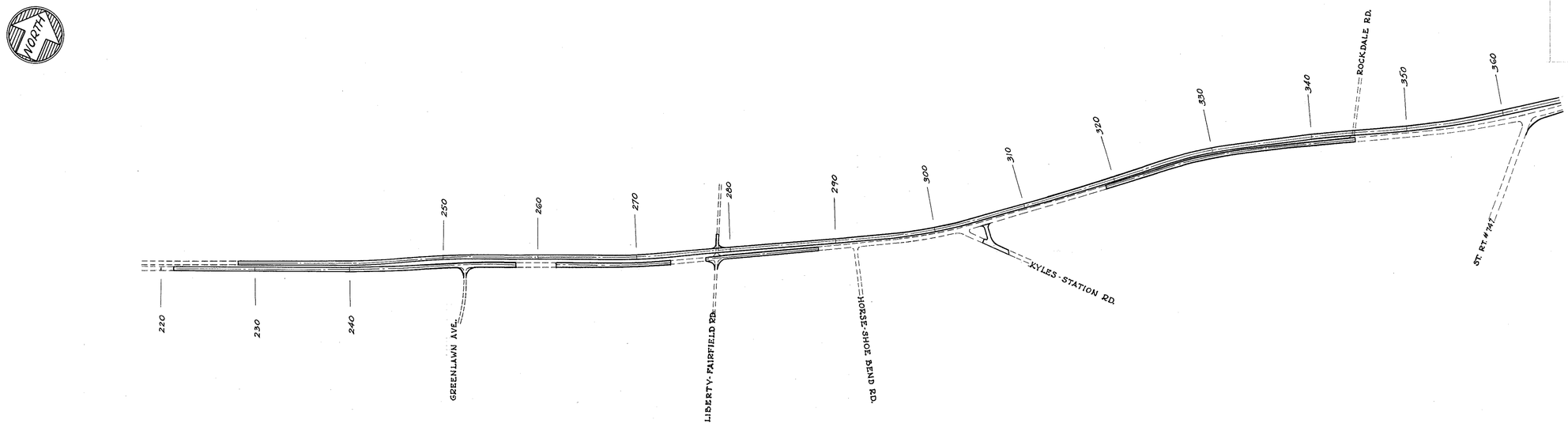
PVI 85+19.71
612.84
250' V.C.
PVI 89+00
608.09
200' V.C.
PVI 95+00
610.64
50' V.C.
PVI 115+00
619.10
100' V.C.
PVI 116+50
619.10
100' V.C.
PVI 118+50
619.50
50' V.C.
PVI 120+00
618.30
200' V.C.
PVI 120+83.71
618.71
PVI 120+33.33
626.27
200' V.C.
PVI 131+85.71
627.50
100' V.C.
PVI 133+11.11
636.89
100' V.C.
PVI 135+56.76
630.10
100' V.C.
Proposed Grade
PVI 152+75
685.50
650' V.C.
PVI 159+05.62
685.50
400' V.C.
PVI 173+00
742.12
200' V.C.
PVI 184+50
785.85
1200' V.C.
250' V.C.
PVI 192+92.91
736.37
PVI 200+00
750.00
400' V.C.
100' V.C.
PVI 203+00
736.40
300' V.C.
PVI 209+74
726.92
400' V.C.
PVI 215+55.56
738.31

70 74 80 86 92 98 104 110 116 122 128 134 140 146 152 158 164 170 176 182 188 194 200 206 212 218

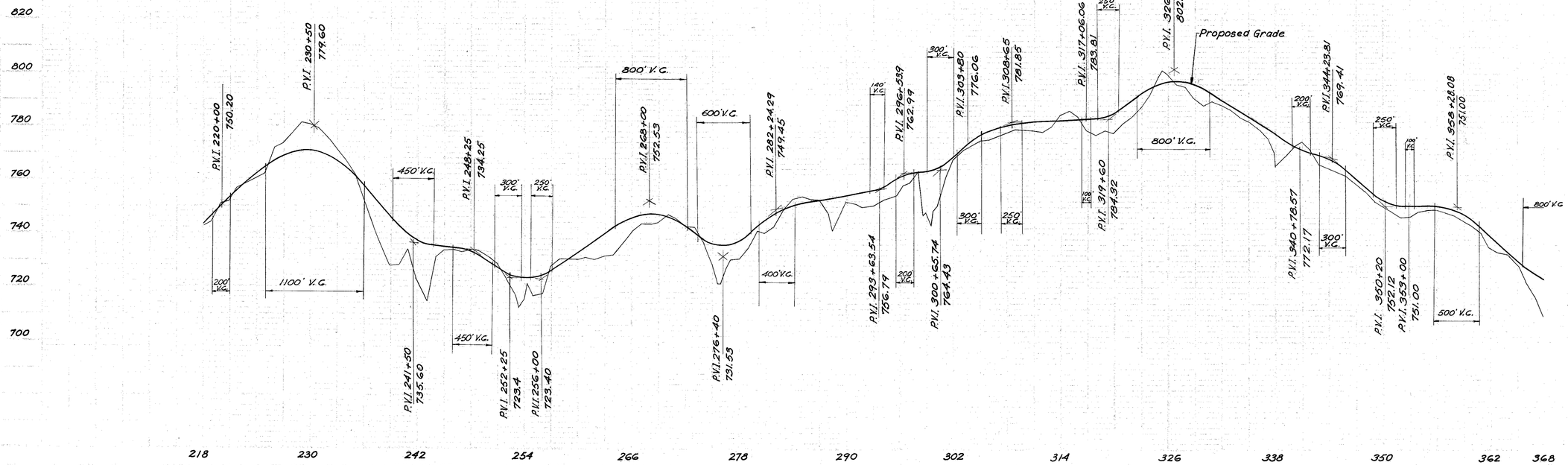
GENERAL PLAN & PROFILE

DIVISION	STATE	PROJECT		SHEET NO.
2	OHIO			25 291

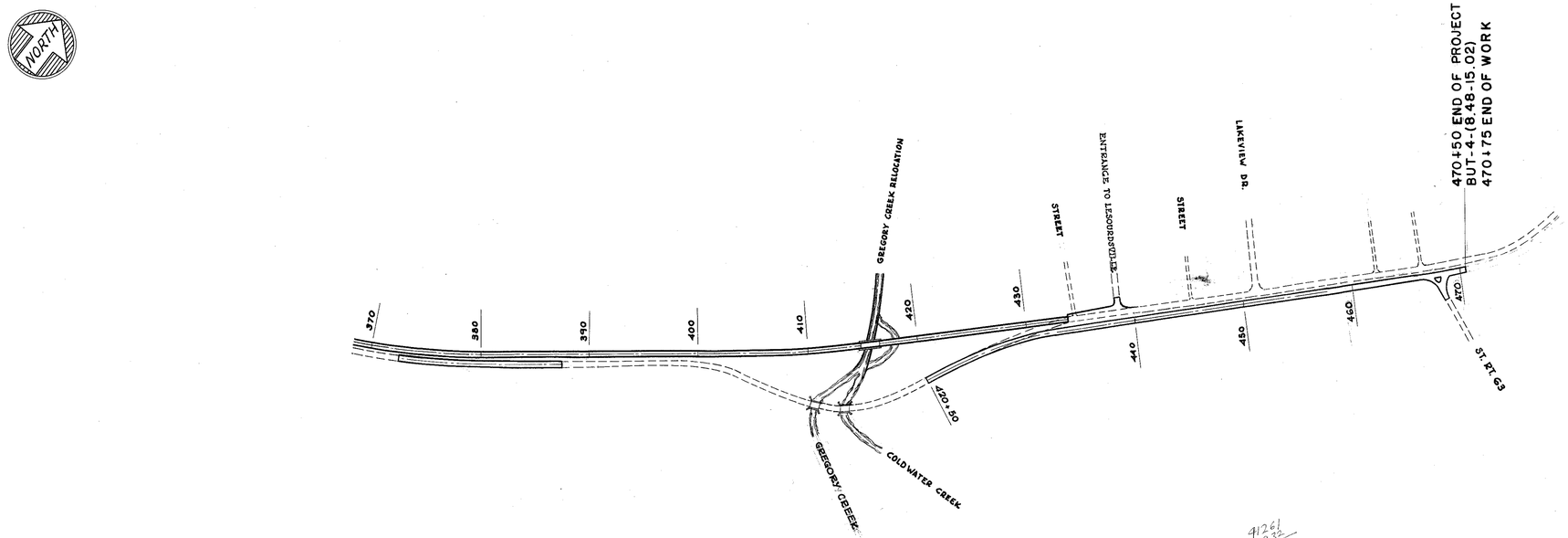
BUT-4-(8.48-15.02)



GENERAL PLAN
SCALE 1"=600'

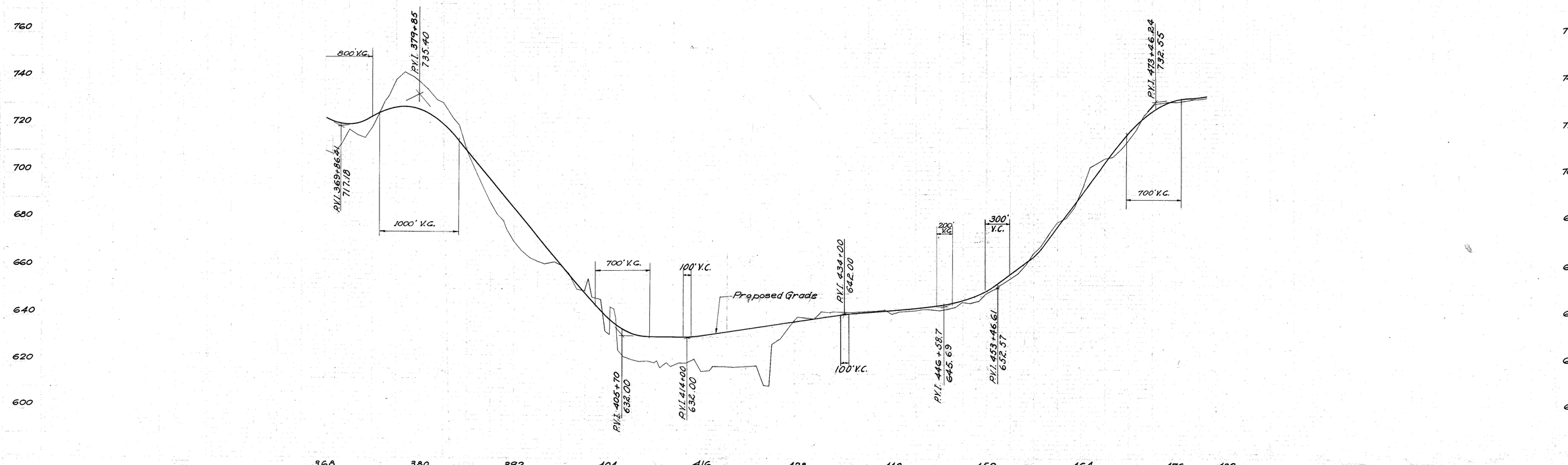


GENERAL PLAN & PROFILE



41261
40932
329

GENERAL PLAN
SCALE 1"=600'



GENERAL PLAN & PROFILE

84+25 30'Rt. to 86+69 38'Lt.
F.L. 6" 84+25 - 608.6
F.L. 6" 86+69 - 608.2 - 6" "Y"
245' - 6" I-4

86+69 38'Lt. to 0+74 F 32 Rt
F.L. 6" 0+74F - 609.4
F.L. 6" 86+69 - 608.2 6" "Y"
104' - 6" I-4

86+69-38 Lt. to 86+45
86+69 - F.L. 6" - 608.2
86+45 F.L. 6" @ C.B. 608.0
39' - 6" I-4

79+00 to 79+20 Lt.
20'-6" I-4
F.L. 6" @ 79+00 - 605.7
F.L. 6" @ 79+25 (C.B.) 605.6

79+20 to 80+50 Lt.
130'-6" I-4
F.L. 6" @ 79+25 (C.B.) 605.6
F.L. 6" @ 80+50 - 606.0

80+20 Rt. to 0+92 F - 32' Rt.
763' 6" I-4
F.L. 6" @ 80+20 Rt. (C.B.) 605.4
F.L. 6" @ 0+92 F - 609.0

84+50 Rt. to 87+40 - 23' Rt.
293' 6" I-4
F.L. 6" @ 84+50 Rt. 608.7
F.L. 6" @ 87+40 Rt. (MH) 606.5

87+50 to 88+00 Rt.
50'-6" I-4

0+04 to 2+72 Heaton St.
538' 6" I4 on Lt. and Rt.
F.L. 6" @ 0+03 (C.B.) 604.6 Lt & Rt.
F.L. 6" @ 2+72 Heaton 606.6 Lt. & Rt.
See sheets 206 & 207

0+70 F. Lt. to 2+75 Heaton St. Rt.
315'-6" I-4
F.L. 6" @ 0+75 Lt. 609.3
F.L. 6" @ 2+75 Rt. (CB) 606.5
See sheet 207

0+93 F. Rt. to 8+50 Bigham St. Rt.
295' 6" I-4
F.L. 6" @ 0+93 - F. Rt. 609.0
F.L. 6" @ 8+50 Bigham St. Rt. (C.B.) 607.4

5+60 to 8+50 Bigham St. Lt.
325 6" I-4 on Lt.
F.L. 6" @ 5+60 - 608.4
F.L. 6" @ 8+50 (C.B.) 607.4

2+75 to 5+60 Heaton St. Lt.
285' 6" I-4
F.L. 6" @ 2+75 (C.B.) 606.5
F.L. 6" @ 5+60 608.4

B.M. #1 EL. 610.62
W. nut of fire hydrant
S. side of Route #4
at entrance to Fair
Grounds. [Sta. 87+50 - 70' Rt.]

Note:
For location of 6" I-4 on
Heaton St. & Bigham St.
See Intersection Detail

For Intersection Details
See Sheets 206 & 207

Install precast concrete
dividers on new ℄,
Sta. 87+88 to Sta. 88+00.

0+90 Fair Ave. Lt. to 87+50 Rt.
93'-6" I-4
F.L. 6" @ 0+90 Fair Ave. Lt. (Ex. C.B.) - 604.0
F.L. 6" @ 87+50 Rt. - 606.1

Guard Rail
82+50 to 83+75 Lt.
0+60 to 2+60 Lt. Mill St.

79+00 to 80+20 Rt.
120'-6" I-4
F.L. 6" @ 79+00 - 605.6
F.L. 6" @ 80+20 (C.B.) 605.4

79+20 Std. No. 3 C.B. on Lt.
Std. No. 1 MH on ℄ Ex. 18"
Inv. 600.4 Rim 609.5
Connect C.B. on Lt. to MH with 24'-12" I-2
Inv. @ C.B. 605.3
Inv. @ MH 605.0

80+20
Std. No. 3 C.B. on Rt.
Inv. 12" 605.1
Connect to Ex. MH at 80+50 ℄
with 36'-12" I-2 Inv. @ MH - 604.7

81+67
Std. No 1 MH on
Ex. 18" Sewer
F.L. Ex. 18" = 600.8
Rim 609.9

81+78 ℄ Lt.
Std. No. 6 C.B.
Inv. 606.3
Connect to MH @ 81+67
With 8'-12" I-2
Inv. @ MH 606.1

86+38 - Rt
Std. No 3A C.B
Connect to MH @ 87+40
with 98'-12" I-2
Inv. @ C.B. - 607.4
Inv. @ MH - 606.2

84+39 - 30' Lt.
Std. No. 1 MH
on Ex. 18" Inv. 601.9
Connect to C.B. @ 2+75,
Heaton St. Rt. with 29'-12" I-2
Rim 613.5 Inv. @ MH 602.1

86+45
Std. No. 6 C.B.
Connect to C.B. 86+38
with 26'-12" I-2 - Inv. 12" - 607.8
Inv. 12" @ C.B. 86+38 607.4

87+40 - 23' Rt.
Remove Ex. C.B.
Build Spec. MH on Ex. 12"
Inv. 606.0
Rim 609.8
See Sh. 222

0+04 Heaton St
Std. No. 3-A C.B. on Lt.
Inv. 604.1
Std. No. 3-A C.B. on Rt.
Inv. 604.3
Connect C.B.'s with
37'-12" I-2
Connect C.B. on Lt. to
C.B. @ 2+75 Heaton
Street Lt. with 265'-12" I-2
Inv. @ C.B. 602.7

Abandon Ex. Water Valve MHs
0+95 Fair Ave. Rt.
1+07 Fair Ave. Rt.
0+86 Mill St. Rt.
87+53 Rt.

2+75 Heaton St.
Std. No. 3-A C.B. on Lt. Inv. 602.7
Std. No. 3A C.B. on Rt. Inv. 602.5
Connect C.B.'s with 37'-12" I-2

Adjust Exist. MHs
80+50 ℄
86+90 Rt
87+15 - 86' Rt.
2+47 Mill St. Lt.
Adjust Exist. Water Valve Boxes
1+42 Fair Ave. Rt.
1+54 Fair Ave. Rt.
Adjust Exist. Water Valve MHs
1+27 Heaton St. Rt.
See Sh. 221

Abandon Exist. Water Valve Boxes
0+88 Fair Ave. Rt.

1+75 Fair Ave.
Std. No. 3 MH Lt. on Ex. 27"
Inv. Ex. 27" 598.9
Rim 606.6

80+17 - 38' Lt.
Std. No. 1-2-A C B
F.L. 608.5 Inv. 606.5
Connect to MH @ 80+50
with 45'-12" I-2
Inv. @ MH 605.0

Curve Data
P.I. = 84+03.02
Δ = 20°08'00" Rt.
D = 4°-00'-00"
R = 1432.39
Lc = 303.33
Ls = 200.00'
Ts = 354.48
Es = 23.58'
Superelev. = 0.042' per ft.

STANDARD PAVEMENT SYMBOLS

☐	9" Reinforced Portland Cement Concrete Pavement
▨	8" Plain Portland Cement Concrete Pavement
▨	7" Plain Portland Cement Concrete Pavement
▨	4" Concrete Sidewalk
▨	T-35 Surface Course - Type C Minimum 1¼"
▨	2" T-35 Surface Course 6" I-18 Stabilized Crushed Aggregate Base
▨	1¼" T-35 Surface Course - Type C 1¼" B-35 Leveling Course T-30 Bit. Tack Coat - 0.10 Gal./S.Y. 8" B-70 Base Course I-22 Sub-base - Variable thickness to meet bottom of exist. sub-base Min. 6"
▨	1¼" T-35 Surface Course - Type C 1¼" B-35 Leveling Course B-35 Base Course - 2-3" Courses 6" I-22 Sub-base
▨	1¼" T-35 Surface Course - Type C B-35 Leveling Course Min. 1¼"
I-18	I-18 Field drives - 6" Residence drives beyond R/W - 8" Business drives beyond R/W - 9"

Meet Exist. 609.45 609.38 609.32 609.26 609.32 609.35 609.42 609.49 609.61 609.77 609.96 610.17 610.40 610.61 610.81 611.02 611.23 611.44 611.64 611.85 612.02 612.14 612.20 612.22 612.18 612.09 611.95 611.76 611.51 611.21 610.90 610.59 610.28 609.97 609.65 609.34

Southbound Lane

611.44 611.62 611.74 611.82 611.91 611.99 612.07 612.09 612.06 611.95

Northbound Lane

TYPICAL SECTION EXIST. PAV'T.
STA. 79+00

DIVISION	STATE	PROJECT	SHEET
2	OHIO	—	28 291

SHT-4-(8.48 15.09)

7+00 Bigham St.-37' Rt.
Std. No. 1-2A C.B.
F.L. C.B. 610.0
Inv. 12"-607.3
Connect to Ex. MH @ 7+42
Bigham St. Rt. with 39'-12"
Inv. @ MH 607.0

89+50 Lt.
Std. No. 3 C.B.
Connect to new MH @ 89+45 Rt.
with 44'-12" I-2
Inv. 12"-605.1
Inv. @ MH 604.3
93+00 to 95+25
Abandon Ex. 4" I-4 on Lt.

91+45 Lt.
Std. No. 3A C.B.
Connect to MH @ 91+33 with 35'-12" I-2
Inv. 12"-605.8
Inv. @ MH 605.4

89+50 to 95+25
Build 6" I-4 on Lt.
Connect to Ex. 4" I-4 at 95+25
Inv. I-4 @ C.B. 605.7

Sidewalk Quantities from Sta. 95+25 to 101+94 included in Quantities for Trench Restoration. No State Participation.

B.M. #2 El. 614.51
E. nut of fire hydrant on S. side of Route #4 - 10'± E. of W. bldg. line (as extended) of "Fashion Frocks, Inc." (Sta. 98+75 - on Line)

Install precast concrete dividers on new ℄ Sta. 88+00 to Sta. 102+00

Remove existing pavement, and curb and gutter, from Sta. 88+00 to 95+25. Remove existing curb and/or curb and gutter, south side, from Sta. 95+25 to 102+00. Widen pavement 13½' south side only. Construct Type 2B curb, Sta. 95+25 to 102+00, south side.

Outlet Existing Roof Drains & Cisterns See Sheet 231

Remove Gasoline Tanks

Approx. Location 4" Gas Main

Approx. Location 6" Water Main

Approx. Location 24" Water Main

Sta. 88+83 Lt. 89+00 Lt.
89+13.5 Lt. & 89+62.5 Lt.
Remove & Replace Ex. Walks & Steps

Abandon Water Valve Boxes
91+63 - 38' Lt.
93+35 - 22' Lt.
93+95 - 19' Lt.

Abandon Water Valve MH 93+35-35' Lt.

89+45 Rt.
Build Std. No. 1 MH on Ex. 27"
Remove Ex. No. 3 Inlet MH - Item 5-24

Remove Ex. Sidewalk & Steps & Replace with 2-6" Risers & 1-13" Tread

For new pavement details Sta. 88+00 to 95+25, see Sh. 207 & 208

Adjust Exist Cisterns
92+22 - 45' Lt.
93+24 - 35' Lt.
See sheet 221

Remove Exist Gas Valves
91+39 - 49' Lt.
94+51 - 39' Lt.

Adjust Exist. MH
90+65 - 31' Lt.
91+39 - 11' Rt.
93+25 - 17' Rt.
94+30 - 22' Lt.
96+00 - 20' Rt.
98+75 - 20' Rt.
101+32 - 20' Rt.
7+42 Bigham St. Rt.
See sheet 221

Item 5-24
Remove Conc. Posts

Abandon Exist. Drive 98+10

Remove and reset Fairgrounds Fence. See Sh. 220

Curve Data
P.I. 94+01.66
Δ = 2°-07'-30" Rt.
D = 1°-00'-00"
R = 5729.58
Le = 212.50'
T = 106.26'

P.C. 92+95.40
P.T. 95+07.90

88+00 to 90+115
New Sidewalk on Rt.
88+00 to 90+00
New Sidewalk on Left.

8+50 to 8+88 Bigham St. Lt. & Rt.
76'-6" I4
Inv. 6" I4-8+88-607.6
Inv. 6" I4-8+50-607.5

96+00
Place 2.3'-12" in Ex. C.B. on Rt.
Std. No 3 C.B. on Rt.
Adjust Ex. MH on Rt.
Connect C.B. to MH with 2.9'-12" I-2
Abandon exist. C.B on Rt.
See sheet 221

98+75
Abandon Ex. C.B. on Rt.
Build No. 3 C.B. on Rt.
Adjust Ex. MH on Rt.
Connect C.B. to MH with 2.6'-12" I-2
Place 2.3'-12" I-2 in exist. C.B. See sh. 221

100+20
Std. 1-2A C.B.-44' Rt.
Connect thru exist C.B. to meet Ex. 12" with 10'-12"
Join pipes with 6" Concrete Collar Abandon Ex. C.B.

101+32
Abandon Ex. C.B. on Rt.
Place 2.3'-12" in Ex. C.B.
Build No. 3 C.B. on Rt.
Adjust Ex. MH on Rt.
Connect C.B. to MH with 3.2'-12" I-2
See sh. 221

88+00 to 102+00
Abandon 4" I-4 on Rt.
Build 6" I-4 on Rt.

89+55 Build Std. No. 3 C.B. on Rt. Connect C.B. to new MH with 9'-12"

93+25.5
Place 2.3'-12" in Ex. C.B. on Rt.
Abandon Ex. C.B. on Rt & Lt.
Build No. 3A C.B. on Rt & Lt.
Adjust Ex. MH on Rt.
Connect C.B. to MH with 5.6'-12" See sh. 221

91+33 - Rt.
Abandon Ex. C.B.
Build No. 3A C.B.
Adjust Ex. MH
Connect C.B. to MH with 10'-12". See sh. 221

8+50 Bigham
Std. No. 3 C.B. Lt. & Rt.
Build Std. No. 1 MH on Ex. 18"
Connect C.B.s to MH-Rim 610.3
with 33'-12"
C.B. (Lt & Rt.) F.L. 12" 607.4
F.L. @ MH - 607.0

Meet existing edge of pavement Sta. 95+25 to Sta. 119+00

Meet exist. 4" I4 Lt.

Existing Ground along ℄

℄ Profile

+0.42.5%

+0.667%

200' V.C.

50' V.C.

P.V.C. 88+00
P.V.I. 89+00
El. 608.09
P.V.T. 90+00
No. 3 C.B. Rt. +55
Inv. 605.0
No. 3A C.B. Rt. +33
Inv. 606.4
No. 3A C.B. Rt. +25.5
Inv. 606.9
P.V.I. 94+75
P.V.I. 95+00
El. 610.64
P.V.T. 95+25
No. 3 C.B. Rt. +00
Inv. 608.5
No. 3 C.B. Rt. +75
Inv. 605.8
No. 3 C.B. Rt. +32
Inv. 609.0

6" I-4 Lt.
I-4 Lt.
607.1-12"
608.3-12"
6" I-4 on Rt.
608.6-12"
6" I4 on Rt.
608.8-12"
605.5
Ex. 27"
604.8 12"
605.9 (Outlet I-4 @ +3 CB Lt.)
Outlet I4s @ MH 604.0
Ex. 24"
12" 606.2
Ex. 24"
Ex. 21"
Ex. 18"
Std. No 1 MH +45

608.94 609.06 608.82 608.64 608.51 608.44 608.40 608.44 608.52 608.95 609.37 609.80 610.22 610.53 610.66 610.81

608.8 608.1 607.8 607.5 607.4 607.4 608.3 609.3 610.0 610.6 611.3 611.7 611.9 612.0 612.4 612.7 612.9

88 89 90 91 92 93 94 95 96 97 98 99 100 101 102

640 630 620 610 600 590 580

Place sod in front of businesses and houses between sta. 102+68 & 110+59 lt. Sod to extend from sidewalk to limit of construction and to include area between roadway and sidewalk.

Vertical face of existing pavement on left to be sealed where new driveways abut existing pavement.

6" I-4 on Rt.
102+00 to 104+20 - 28.5' Rt.
104+25 to 114+50 - 23.0' Rt.
Connect I-4 to inlet MH's @ sta.
104+25, 106+88.7 & 110+40
Connect I-4 to MH @ sta. 114+50

104+25
Abandon ex. C.B. & MH on Rt.
Build No. 3A inlet MH on Rt.
Connect thru abandoned C.B. and MH with 13.9'-12"
See sheet 221.

104+25 to 106+88.7
260'-18" I-2 on Rt.

106+88.7
Abandon exist. C.B. on Rt.
Build No. 3A inlet MH on Rt.
Connect thru abandoned C.B. with 13.9'-12"
See sh. 221

106+88.7 to 110+40
351'-24" I-2 on Rt.

110+40
Abandon exist. C.B. & MH on Rt.
Build No. 3A inlet MH on Rt.
Connect thru abandoned C.B. with 13.9'-12"
See sh. 221

B.M. #3 El. 619.02
S. nut of fire hyd. at N. E corner of Route #4 & Campbell Dr.
Sta. 111+75 - 60' L)

110+40 to 114+50
406'-30" I-2 on Rt.
114+50 to 114+77
22'-30" I-2 on Rt.

114+50 - 29.5' Rt.
Std. No. 1 MH on prop. 30"
Rim elev. 618.0
F.L. elev. 607.77

114+77 to 116+00
121'-54" I-2

114+73 Lt.
No. 3A C.B. on existing 12"
Abandon exist. C.B. on Rt.
Extend 12" thru ex. C.B. & connect to special inlet - MH @ Sta. 114+77 with 16'-12" I-2 See Sh. 223
Item Special

Remove existing curb and/or curb and gutter, south side, from Sta. 102+00 to 114+50. Widen pavement 13'± South side only. Construct Type 2B curb, Sta. 102+00 to 114+50, south side. Construct Special curb, Sta. 114+50± to Sta. 116+00± north side to meet existing curb. Install precast concrete dividers on new ℄, Sta. 102+00 to 116+00, except as noted.

104+25 - 44' Rt.
Std. No. 7 Side Ditch C.B.
Connect to inlet MH with 14'-12" I-2

106+88.7 43' Rt.
Std. No. 7 Side Ditch C.B.
Connect to inlet MH with 13'-12" I-2

110+40 - 42' Rt.
Std. No. 7 Side Ditch C.B.
Connect to inlet MH with 12'-12" I-2

Omit precast concrete dividers, Sta. 111+08
Sta. 112+08

Provide 3 - No. 7 Side Ditch C.B.'s & 40'-12" I-2 to be located on Rt. between Sta. 104+25 & Sta. 110+40 by Engineer.

For pavement widening details, Sta. 114+50 to Sta. 116+00, See Sh. 218

CURVE DATA
P.I. = 115+87.47
Δ = 1°-08'-44" RT.
D = 0°-25'-00"
R = 13,750.99'
L_c = 274.93'
T = 137.47'

Place sod on front yards of houses between 107+60± & 112+20± Rt. Sod to extend from roadway curb to limit of construction.

Place sod between roadway curb and sidewalk sta. 112+95 to 116+00 lt.

104+25 to 116+00 Rt.
Any existing authorized connections to present sewer shall be connected to the proposed sewer. Payment for sewer will include cost of connections.

STA. 102+00 to STA. 116+00

Build Type 6 Curb on Left of Existing Road from Sta. 119+00 to Sta. 121+02

NORTH

For pavement widening details Sta. 116+00 to Sta. 119+00 See Sh. 218

Place sod between roadway curb and sidewalk sta. 118+20 to 121+95 Lt.

CURVE DATA
PI = 119+12.46
Δ = 1°-08'-44" Lt.
D = 0°-25'-00"
R = 13,750.99'
L_c = 274.93'
T = 137.47'

B.M.#4 El. 617.79 + cut in S.W. corner of lower step at Res. #2130. (Sta. 119+75-75 Lt.)

For Fernway Drive Intersection Details See Sh. 209

Remove existing Shaffer Creek Bridge Item 5-24 construct twin Sectional Corr. Metal Struct. 14'-3"x 8'-11" See Sheets 225, 226

Install precast concrete dividers on new ℄ Sta. 116+00 to Sta. 121+00, and on new center of road, Sta. 121+00 to Sta. 130+00, except as noted
Omit precast concrete dividers Sta. 117+02 to 116+02, Sta. 121+61 to 122+62, Sta. 125+05 to 126+05.

121+07.50 Lt.
Std. No. 3 CB
20'-12" I-2
Connect to Prop. Culvert
Inv. @ C.B. 615.6
Inv. @ Culvert 610.7

NORTH EASTVIEW PARKWAY (Macadam)
FERNWAY DR. (Macadam)
THEODORE AVE. (Macadam)
Service Sta.
Parking Apron
Macadam
Gravel Drive
Existing 24" Water Main
Approx. Location 6" Water Main
Approx. Location 4" Gas Main
Item E-12 15 Cons. Pipe (To Be Removed)
Item E-12 Remove Ex. 24" Underdrain
Remove Existing Guard Rail
Remove Existing Guard Posts
Abandon
Booster Pump
Abandon exist. MH
Remove Existing 1-9 Headwall and 12" CMP. Item 5-24 & Item E-12
Ditch Inv. 616.5
Ditch Inv. 616.3
Ditch Inv. 615.0
Stone Headwall
Remove 36" Stone Storm Sewer
Remove Exist. Conc. Apron Item 5-24
Gas Meter Pit
Berm
Gravel Drive
Remove Existing Gravel Drive
Exist. 12" CMP & Exist. 24" VSP
Exist. 4" Blowoff Stack
Existing Valve MH
Exist. 18" V.I.P.
Exist. C.B.
Exist. 24" Water Main
Ditch Inv. 605.5
Ditch Inv. 618.0
Ditch Inv. 620.6
Cultivated
Pasture
Improve Shaffer Creek See Sheets 225 & 199
Shaffer Creek
Grape Vine
2.5 Sty. Fr. Res.
Fr. Gar.
Gravel Drive
WMQR Transmitter Station
Radio Tower
Antenna ground wires
Vertical face of existing pavement on left to be sealed where new driveways abut existing pavement

120+26 to Prop. 2-5 C.B. on Rt.
Type B Paved Ditch - See Sh. 222

120+39
Build 2-5 C.B. 60' Rt on Prop. 54"
Top of C.B. @ 613.0
F.L. 54" = 605.77
See Detail Sheet 222

116+00 to 120+99
501'-54" on Rt.

120+99 - 62.5' Rt.
Headwall for 54" Pipe
See Detail Sheet 224

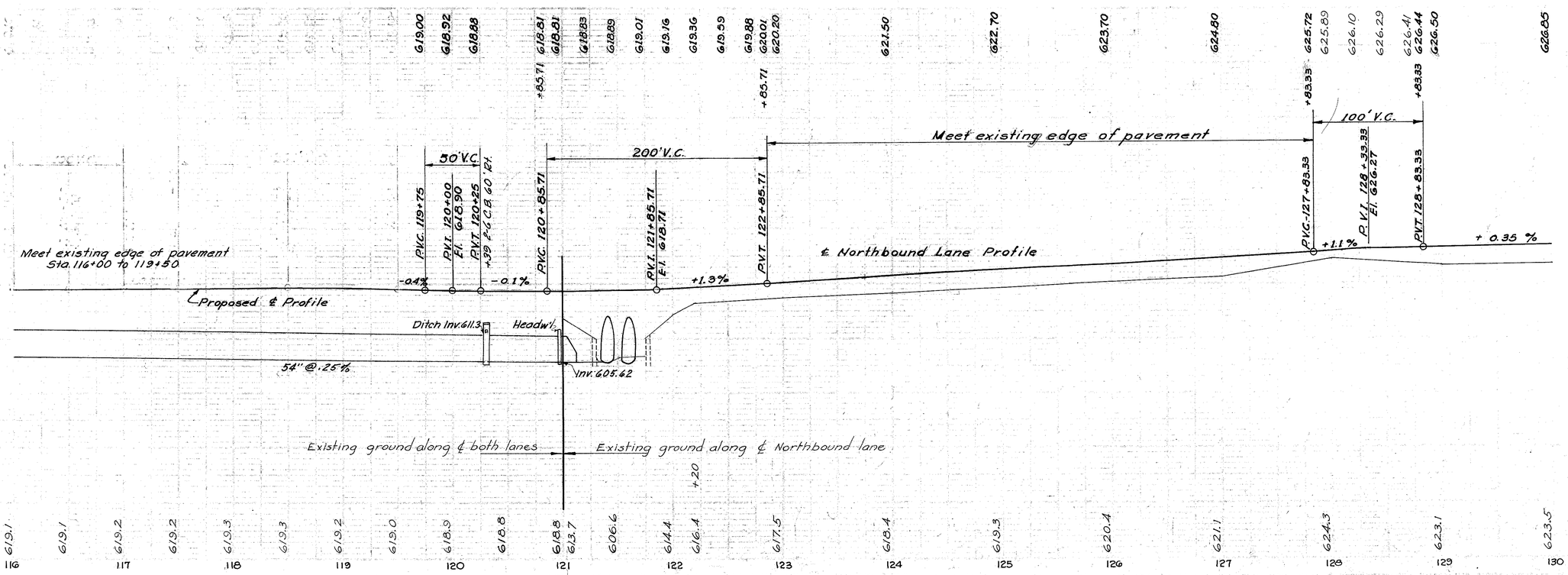
120+99 to Shaffer Creek
Special Ditch
B=4.5' Side Slope 2:1
Dumped Rock Fill - 4' High
18" Thick - See Sh. 222

121+72.5 - 50' Lt.
Std. No. 1 MH on exist. 12" & 24" Pipe
Outlet to Culvert
Wingwall with 20'-30" I-2
Inv. @ MH 608.0
Inv. @ Culvert 604.7
MH Rim Elev. 619.0

Guard Rail
120+25 to 123+00 (Rt.)
120+32 to 121+86 (Lt.) 175'

Station 116+00 to 120+99 Rt.
Any existing authorized connections to present sewer shall be connected to the proposed sewer. Payment for sewer will include cost of connections.

Sta. 120+25 Side Slope 4:1
Sta. 121+25 Side Slope 2:1
Sta. 122+00 Side Slope 2:1
Sta. 123+00 Side Slope 4:1
100' Transition
100' Transition



STA 116+00 to STA 130+00

B.M.#5 El. 630.13
E. nut of fire hyd. 150± N. of Allison St. (Sta. 132+50-50' L.)

B.M.#6 El. 638.96
N.E. corner of Walk @ 2351 (Sta. 137+61-30' Rt.

B.M.#7 El. 644.57
E. nut of fire Hyd. N. side Route #4 House # 2350. (Sta. 139+50-60' L.)

NORTH

Omit precast concrete dividers Sta. 130+90 to Sta. 131+90

Install precast concrete dividers on new center of road, Sta. 130+00 to Sta. 144+00, except as noted.

135+45± Lt. Existing 4" Sanitary Outlet Plug @ upstream R/W line.

Median Widening Sta. 143+27.99 to Sta. 144+00 See Sh. 218 for details.

Sta. 135+36.5 3'x3' Box Culvert See Sheet 227

See Sh. 227 for connection

Existing Wingwalls to be removed - Item S-22 -

Remove Existing Stone Headwall - Item S-24.

Remove Existing Gravel & Stone Wall - Item S-24

Remove Existing 135 (Remove Existing Concrete Pavement)

Approx. Location 6" Water Main (to be abandoned)

Approx. Location 4" Gas Main (to be abandoned)

Conc. Headwall (to be Removed)

12" C.M.P. (to be Removed) Item E-12

Wingwalls - Item S-24

Exist. 24" V.T.P.

Exist. C.B.

Exist. 15" V.S.P.

Exist. 12" V.T.P.

Exist. 4" Pipe

Gravel Drive

Asphalt Drive

Macadam Drive

B.M.#5

B.M.#7

30" C.M.P.

Meter Pit

Conc. Headwall

24" Water Main

N 76°-00'-00" E

N. 76-00-00 E.

0+40 R/W

0+50 R/W

0+56

0+08 R/W

6" Tree Line & Shrubs

Shed

M.B. 132+15

M.B. 130+50

Inlet 4" V.C.P.

1-Sty. Fr. Res.

Conc. Slab

1-Sty. Conc. Blk. Res.

Gar.

Gravel Drive

12" Res. Drive Sta. 130+25 @ -10%

12" Res. Drive Sta. 131+66 @ 8.33%

12' Res. Drive 135+02 @ -8.33%

9' Res. Drive 137+39 @ 8.33%

Ditch Inv. 622.4

Ditch Inv. 624.9

Inv. 636.79

Ditch Inv. 641.6

Cultivated

0.5'x2' Item S-24 Inv. 628.55

Conc. Wall (to be Removed) Inv. 622.80 Cobble Stone

Stone Wall

Bot. width 5'

135+27 79' Rt.

Meet ex. ditch Elev. 622.2

Gravel

5' Stone Walk

M.B. 137+77

1-Sty. Fr. Res.

L-10 Sodded Ditch 138+35 to 144+00 (Rt.) D=2'

I-14 Paved Ditch Type 1 Mod- 135+35 to 137+12 (Rt.)

135+27-79' Rt. Outlet Ditch B=3' Side Slopes 2:1 Place 10 cu. yds. I-10-18" Thick @ Culvert Outlet

I-3 137+12-50' Rt. to 138+35-34' Rt. 124'-30" 2 Std. Endw'ls S-27 PC.4.

I-3 135+425 to 135+90 (Lt.) Connect ex.-30" CMP to Prop. Structure with 48'-30" MG. 4(c)

140+05± Rt. Outlet existing ditch to proposed ditch. Provide 8 cu. yds. I-10 Dumped Rock-18" thick @ junction to be placed at direction of Engineer.

CURVE DATA
P.I. 144+78.00
Δ = 1°-30'-00" RT.
D = 0°-30'-00"
R = 11,459.15'
Lc = 300.00'
T = 150.01'
Superelev. = 3/16" per. ft.
P.C. 143+27.99

626.85 627.15 627.20 627.30 627.42 627.53 627.66 627.81 627.96 628.13 628.20 628.30 629.00 629.70 629.75 629.94 630.40 631.03 632.01 632.30 634.69 635.28 636.26 637.13 637.89 638.20 639.80 641.40 644.20 647.00 649.50 651.70 654.20

+85.71 +85.71 +06.76 +06.76 +61.11 +61.11

200' V.C. 100' V.C. 100' V.C.

P.V.C. 130+85.71 P.V.T. 131+85.71 El. 627.30 P.V.T. 132+85.71 P.V.C. 135+06.76 P.V.T. 135+56.76 El. 630.70 P.V.T. 136+06.76 P.V.C. 136+61.11 P.V.T. 137+11.11 El. 636.89 P.V.T. 137+61.11

+0.35% +0.70% +4.4%

Profile

Existing Ground Along ℄ Northbound Lane

623.5 624.3 627.6 625.0 625.7 626.6 629.6 627.6 626.7 634.5 638.8 640.3 641.6 644.7 646.5 649.1 652.0

130 131 132 133 134 135 136 137 138 139 140 141 142 143 144

660 650 640 630 620 610 600

STA. 130+00 to STA. 144+00

Remove existing pavement and construct new pavement from Sta. 148+00 to Sta. 155+50

Install precast concrete dividers on new center of road Sta. 144+00 to Sta. 144+50.

B.M. 8 El. 670.29
N.W. corner W. headwall @2830 N. side Route #4
(Sta. 148+90 - 60'± Lt.)

I-1
149+05 - Lt.
36'-18"
2 Std. Endw'ls S-27 PC4
149+00± Lt.
Outlet Exist. Swale to proposed ditch

I-2
64'-12".
Sta. 146+79 - 32' Rt. to
Sta. 147+50 - 16.25 Lt.

I-1
150+65 Lt.
34'-18"
2 Std. Endw'ls S-27 PC4

I-1
152+31 Lt.
26'-18"
2 Std. Endw'ls S-27 PC4

CURVE DATA
P.I. = 153 + 18.41
Δ = 1°-30'-00" LT.
D = 0°-30'-00"
R = 11,459.15'
L_c = 300.00'
T = 150.01'
Superelev. = 3/16" per ft.

I-1
153+63 Lt.
32'-15"
2 Std. End w'ls S-27 PC4

B.M. 9 El. 685.76
W. nut of fire hyd. N. side Route #4 Fairham Road.
(Sta. 156+60± - 70'± Lt.)

For Cross-over details See Sh. 209

Guard Rail
155+00 to 155+75 Lt.
156+75 to 158+00 Lt.

Sta. 155+59.8
6'-0" x 4'-0" Box Culvert
See Sheet 228

Sta. 155+45 to 155+66 (Lt.)
Place 17 sq. yds. Type A Riprap en embankment

L-10
Sodded Ditch 1' Deep
144+00 to 148+56 Rt.
148+84 to 150+50 Rt.
147+80 to 148+93 Lt.
149+29 to 150+45 Lt.
150+79 to 152+19 Lt.
156+72 to 158+00 Lt.

155+70 - 80' Rt.
25' Outlet Ditch
B = 4'-6" Side slopes 2:1
I-10 22 cu. yd. Dumped Rock Fill - 18" thick

156+80 - 24' Lt.
Std. 1-2-A C.B.
Connect to 6'-4" Box Culvert with 124'-12" I-2

156+72 80' Lt.
Std. Endwall S-27-P.C.4
36'-24" S 27
Connect to existing M.H.
Remove exist. H'wall & 24" C.M.P. to M.H.

Sta. 147+50 - 16.25 Lt.
1-2A C.B. no side openings
Grate El. 664.08

348'-6" I-4
Sta. 151+00-21' Lt. Block open end.

I-1
148+77 Rt.
28'-12"
2 Std. End w'ls S-27 PC4

146+79 - 32' Rt.
Std. Endwall S-27 P.C.4 for 12" Pipe

Sta. 152+30± - Lt.
Pedestrian Gate to be abandoned

Median Widening
Sta. 144+50 to Sta. 147+25
See Sh. 218 for details

149+35± - 65' Lt.
Abandon Ex. C.B. & outlet existing 18" V.S.P. to proposed ditch

151+75-22.1' Lt.
Std. 1-2-A C.B.
62'-12" I-2
39' Rt. Std. End w'l
S-27 P.C.4

Nail in corner post
P.I. 153+18.41
Nail in corner post

Ref. to Shts. 13 & 14

Profile Both Lanes

TYPICAL SECTION - EXIST. PAV'T STA. 148+00
24'
2-1½-T-35
1¼" Insulation Course
3" Asphaltic Conc. Base Course
3" Asphaltic Conc. Leveling Course
Sealing of exist. pav't edge
5½" Reinf. Conc.
3" Asphalt
10" W.B. Macadam
Bit. Tack Coat
½" Asphaltic Conc. Leveling Course
1½" Asphaltic Conc. Surface Course

650' V.C.
400' V.C.
P.V.C. - 149+50
P.V.I. 152+75
El. 685.50
P.V.T. 156+00
P.V.C. - 157+05.42
Northbound Lane Profile
Median Grade Line Parallel to Profile Grade
Existing Ground Along ℄ Northbound Lane
+79 - 32' Rt. Std. Endwall
4.07%
4.60%
3.34%
5.09%
0.00%
0.67%
-348'-6" I-4
-124'-12" I-2
Inv. 675.7
10.96%
83'-12"
Inv. 657.2
F.L. 658.0
+50 - 16.25' Lt. Std. No. 2-2-A C.B.
+00 Begin 12" I-3 Inv. 674.0 - Seal End
+69 - Med. Inv. 679.0
+75 Med. Inv. 678.2 Std. 1-2-A C.B. Inv. 678.2
+50 - Med. Inv. 680.7
+10 Med. Inv. 684.2
+80 - Med. Inv. 684.1 Std. 1-2-A C.B. Inv. 682.0
+00 Med. Inv. 684.9

654.20 656.80 659.50 662.50 666.50 670.50 672.50 673.48 674.42 675.33 676.19 677.02 677.81 678.56 679.27 679.94 680.58 681.17 681.73 682.25 682.73 683.17 683.58 683.94 684.27 684.56 684.81 685.02 685.19 685.33 685.42 685.48 685.50 685.50 685.52 685.60 685.75 685.95

652.0 654.2 656.2 659.3 663.5 669.3 674.8 680.7 686.5 687.6 683.1 678.6 676.8 677.1 678.1 679.9

144 145 146 147 148 149 150 151 152 153 154 155 156 157 158

700 690 680 670 660 650 640

STA. 144+00 to STA. 158+00

NORTH

Nail & Bottle Top At Edge of Road
PT-162+59.32
52.41

For Cross-over details See Sh. 209

B.M #10 El. 719.31
N. nut of fire hyd.
N. side of Route #4
@ Headgates Rd.
(Sta. 166+77± 84.1± Lt.)

12" 6" Water Main 4" Gas Main 2"

HEADGATES ROAD

24" Water Main

1' Conc. Wall

Asphalt Drive

Outlet 6" I-4 @ C.B. Sta. 167+50.24' Lt. Inv. 717.0

2'x2' Stone Posts

18" V.S.P

24" V.S.P

Ditch Inv. 723.0

I-1
170+18 Lt.
30°-18'
2 Std. Endw'ls S-27 P.C.4

Sta. 169+23 Begin new pavement.

Exist. Macadam Drive

178

T.S. 169+98.11 S.

T.S. 170+07.45

E.O. Res. Drive 170+18.6 Lt. 0%

℄ 11' Res. Drive 171+45 @ 13%

12"

24

36

1+33

I-18

1+10 R/W

Exist. Gravel Dr.

12" Conc. Pipe to be removed Item E-12

Ditch Inv. 733.0

15" C.M.P. To Be Removed

170-S Item E-12 172-S

Approx. Location 6" Water Main

Approx. Location 4" Gas Main

CURVE DATA
P.I. - 174+31.47
Δ = 22°-02'-00" Lt.
D = 5°-00'-00"
R = 1145.92'
L_s = 400.00'
L_c = 40.67'
T_s = 424.02
E_s = 27.47
Superelev. = 0.083' per ft.

Sta. 158+00 to 159+00 (Lt.) Taper proposed shoulder to existing shoulder.

FAIRHAM ROAD (Macadam)

15" V.S.P

12" V.S.P

24" C.M.P

+00 Meet exist ditch

24" Water Main

Approx. Location 6" Water Main

Approx. Location 4" Gas Main

158 160

I-18

0+48

Ditch Inv. 687.0

Ditch Inv. 682.4

F.L. 701.5
Inv. 699.5

Inv. 697.8

Cultivated Ditch Inv. 696.1

165

Item S-24-
2'x2' Conc. Post To Be Removed
Inv. 710.2±

S. 85°-47'-30" E.

Ditch Inv. 710.0

30" F.L. 718.4
Inv. 716.4

24"

170

172

12"

48"

Pasture

Guard Rail

6" I-4
Sta. 172+00-14' Lt.
Inv. 735.1

Begin Cross-over Sta. 166+42

I-18

1+75

1+15

End Cross-over Sta. 167+47

6" I-4 - 45° Bend Std. 167+60-14' Lt. Inv. 717.2

℄ 10' Field Drive 167+00 @ -10%

S.T. 167+34.82

170+28± Lt.
Connect existing ditch to proposed ditch

Sta. 170+00 Side Slope 4:1

Sta. 171+00 Side Slope 2:1

Refer to Sh. 15 & Sh. 15A

100' Transition

166+75-41' Rt.
Std. Endwall S-27 P.C.4.
99°-12" T-2
167+50-24' Lt.
Std. 1-2-A C.B.

Remove existing pavement and construct new pavement from Sta. 169+23 to Sta. 172+00

Guard Rail
170+00 to 172+00 Rt.

I-1
161+35 Rt.
26°-12"
2 Std. Endw'ls S-27 P.C.4

S.C. 161.1+27.89

℄ 10' Field Entrance 161+35 @ -10%

End Cross-over Sta. 163+04

C.S. 163+84.82

CURVE DATA
P.I. 162+59.32
Δ = 18°-12'-30" Rt.
D = 3°00'00"
R = 1909.86'
L_s = 350.00'
L_c = 256.93
T_s = 481.43
Superelev. = 0.071' per ft.

Begin Cross-over Sta. 161+78

163+25-24' Lt.
Std. 1-2-A C.B.
54' 12"-1-2
31' Rt Std. Endwall S-27 P.C.4

L-10
Sodded Ditch 1' Deep
158+00 to 159+00 (Lt.)
163+00 to 170+07 (Lt.)
170+37 to 171+26 (Lt.)
171+60 to 172+00 (Lt.)

Corner of conc. post

Nail in post

48.22

48.22

ST. 167+34.82

Nail in post

66.45

TS-170+07.45

I-1
171+45-Lt.
34°-15"
2 Std. Endw'ls S-27 P.C.4

Profile Grades North bound Lane	685.95	686.23	686.56	686.96	687.42	687.94	688.54	689.18	689.90	690.63	691.53	692.43	693.40	+05.42	693.62	697.46	701.52	705.58	709.64	713.70	717.76	721.82	725.88	+23	726.40	726.90	727.91	728.93	729.94	729.94	730.96	731.97	732.98	734.00	735.03	736.08	737.12	738.14	738.06	Profile Grades North bound Lane
Profile Grades South bound Lane																																									Profile Grades South bound Lane

400' V.C.

P.V.T. - 159+05.42
El. 685.50

P.V.T. - 161+05.42

Parallel to Profile Grade

+ 4.06%

4.04%

4.10%

Median Grade Line

Northbound Lane Profile

4.40%

4.06%

Existing Ground along ℄ Northbound Lane

679.9 +00 Med. Inv. 684.9
682.9
686.2
689.7 +00 Med. Inv. 692.3
693.5 +00 Med. Inv. 696.4
697.3
+25 Med. Inv. 701.5
701.6
706.7
710.6
+40 Med. Inv. 714.2
713.2
+50 Med. Inv. 718.4
Std. 1-2-A C.B. Inv. 716.4
715.8
+50 Med. Inv. 722.8
718.7
723.4
726.3
730.6
+00 Med. Inv. 737.0

158 159 160 161 162 163 164 165 166 167 168 169 170 171 172

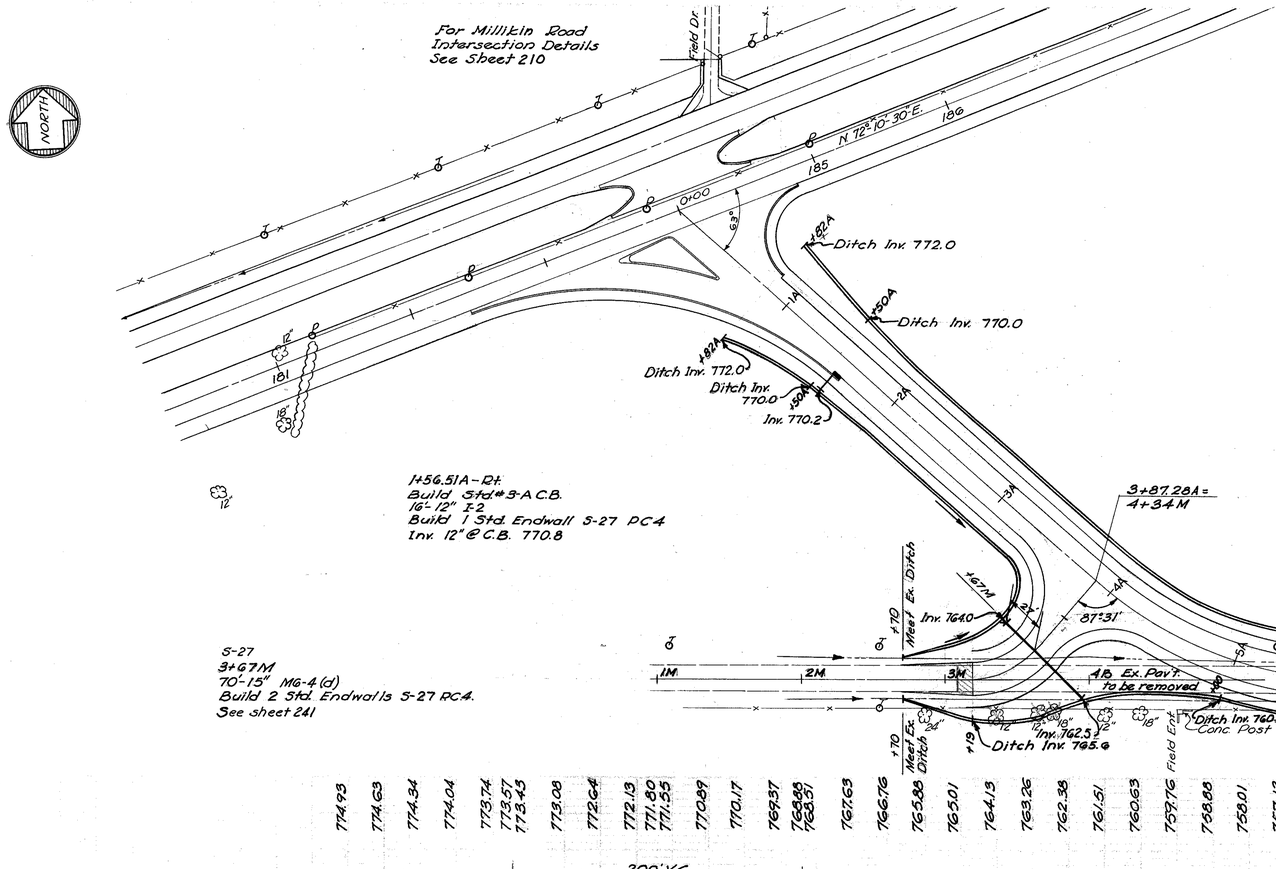
740 730 720 710 700 690 680

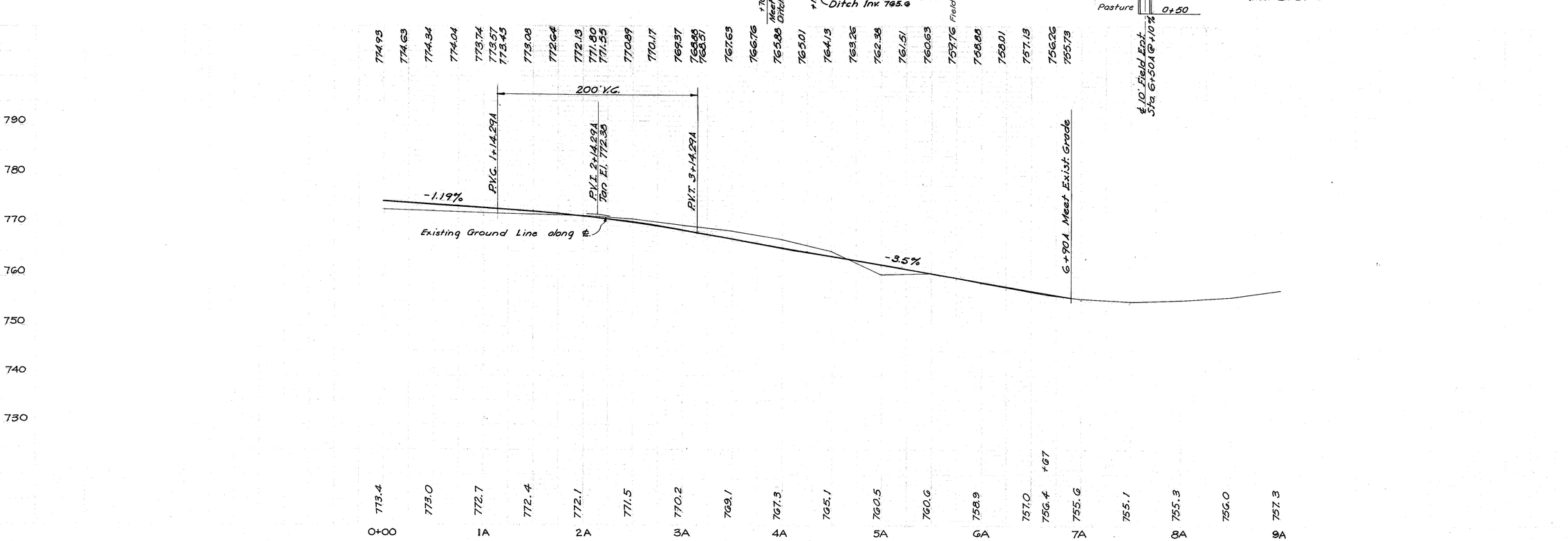
STA. 158+00 to STA. 172+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(6.48-15.02)

34
291





RELOCATION MILLIKIN ROAD

STA 172+00 to STA 186+00

FED. RD. DIV. NO.	STATE	PROJECT	
5	OHIO		

36
291

BUT-4-(6.43-15.02)

Remove existing pavement and construct new pavement from Sta. 186+00 to Sta. 190+00

NORTH

End 6"I-4 Sta. 187+00-62' Lt. Inv. 769.4 Begin 6"I-4

Sta. 190+00 End new pavement

End 6"I-4 Sta. 190+10 Lt.

+50 Ditch Inv. 769.4'

+30 Ditch Inv. 762.9

B.M. #14 EL. 758.87
□ Notch - top of conc. fence post (Sta. 193+13-87½ L)

For Cross-over details See Sh. 209

Remove existing pavement and construct new pavement from Sta. 197+50 to Sta. 200+00

Sta. 197+50 Begin new pavement

12" V.S.P.

24" V.S.P.

12" C.M.P. To Be Removed Item E-12

B.M. 14"

6" V.S.P.

Ditch Inv. 748.0

12" V.S.P.

2'×2' Concrete Post

Inv. 742.9

Remove Existing Guard Rail

F.L. 754.0
Inv. 748.9

Gravel 18" 30' Picnic Area

FL 750.7
Inv. 744.5

Remove Exist. 12" CMP Item E-12

Remove Existing Fence

Remove Existing Fence

N. 72°-10'-30" E.

186 190 195 200

I-18

Inv. 750.70

Concrete Headwalls to Be Removed Item S-24

Ditch Inv. 751.5

0+39

Ditch Inv. 748.4

Ditch Inv. 747.0

Concrete Headwalls to be Removed Item S-24

Inv. 747.00

Wooded Area

Ditch Inv. 748.0

Ditch Inv. 747.0

Ditch Inv. 747.8

Ditch Inv. 746.0

I-18

1+20

Cultivated

Ditch Inv. 770.0

End 6"I-4 Sta. 187+00-14' Rt. Inv. 769.4

Ditch Inv 759.0

Ditch Inv 752.0

8'×1' Conc. Headwall to be Removed. Item S-22

Ditch Inv. 751.7

Ex. 6"F.T.

Well

Cultivated

Ditch Inv. 752.0

194+29-24' Lt.
Std. 1:3 C.B.
On Ex. 24"
Remove Exist. Hdw'l.

194+20-35' Rt.
Std. Endwall S-27 P.C.4
for 24" pipe. Connect to C.B. @ 194+29 with 58'-24" S-2T.
Build 25' Sodded Inlet Ditch B-2' Side Slope 2:1
Place 20 sq. yds. L-10 See sh. 230

194+32
Replace exist. 6" Field Tile with 6G"-6"I-3
Connect to Existing 6" VSP under Southbound Lane.

Begin Cross-over Sta. 194+38

℄ 10' Field Drive 194+91 @ +10%

End Cross-over Sta. 195+48

197+54-24' Lt.
Mod. No. 7 Side Ditch Inlet on Proposed 18" See Sh. 229

197+75-80' Lt.
Std Hd'w'l For 18" S-27 P.C.1

197+29 43' Rt.
Std. Endwall S-27 P.C.4
For 18"-18"S-2T See sh. 230
Build 25' Inlet Ditch Place 9 Cu. Yds. I-10 Dumped Rock 18" Thick
B-2' Side Slope 2:1

℄ 10' Field Drive 198+85 @ +10%

L-10
Sodded Ditch 1:0" Deep
187+50 to 190+30 Lt.
187+00 to 194+20 Rt.
195+10 to 197+23 Rt.

Profile Both Lanes

774.44 774.23 773.98 773.70 773.37 773.02 772.61 772.18 771.70 771.19 770.63 770.05 769.42 768.75 768.05 767.31 766.52 765.71 764.85 763.10 760.75 760.48 759.66 758.90 758.21 757.58 757.02 756.60 756.09 755.71 755.42 755.24 754.50 753.60 752.70 752.25 751.80 751.57 751.29 751.00 750.67 750.32 749.94 749.53 749.09

+67.31- +17.31-

Profile Both Lanes

790 780 770 760 750 740 730

1200' V.C.

250' V.C.

400' V.C.

+00 Med. Inv. 773.4

Parallel to Profile Grade

Existing Ground Along ℄ Northbound Lane

P.V.T. - 190+50

P.V.C. - 191+67.31

-3.50%

-3.47%

Median Grade Line

P.V.I. 192+92.31 El. 756.37

0.79%

P.V.T. - 194+17.31

Profile Northbound Lane

-0.9%

0.69%

P.V.C. - 198+00

P.V.I. 200+00 El. 750.00

Parallel to Profile Grade

+00 Med. Inv. 765.4

+00 Med. Inv. 755.0

+29 Med. Inv. 754.0
Std. 1-3 C.B. Inv. 748.3

+70 Med. Inv. 752.5

+00 Med. Inv. 751.6

+55 Med. Inv. 750.7
Mod. No. 7 Ditch Inlet Inv. 744.5

+00 Med. Inv. 751.1

+25 Med. Inv. 750.5

+00 Med. Inv. 748.0

773.6 772.1 769.4 767.2 764.2 760.7 757.2 753.7 752.0 754.0 754.8 751.1 750.8 753.1 751.6

186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

STA. 186+00 to STA. 200+00

Remove existing pavement and construct new pavement from Sta. 200+00 to Sta. 207+00

NORTH

B.M. #15 El. 738.199
S.E. corner of conc. fence post @ N.W. corner Reigart Rd. & Route #4
(Sta. 205+15 102'Lt.)

Sta. 207+00 End new pavement

For Reigart Rd. Intersection Details See Sheet 211

+00 Ditch Inv. 735.2

+75 Outlet Into Exist. Ditch

Remove 2x2' Concrete Post

REIGART RD.

Outlet Ditch Over Exist. Ground Place 10 sq. yds. sod at outlet.

Ditch Inv. 744.0

Ditch Inv. 743.1

BM #15

Inv. 734.2

Brick Wall

Curb

F.L. 737.2
Inv. 734.7

Wooded Area

Ditch Inv. 746.0

12" C.M.P. (to be Removed) Item E-12

Concrete Headwall (to be Removed) Item S-24

Ditch Inv. 733.5

Cultivated

204+19-24' Lt.
Std. 1-2-A C.B.
59'-12" I-2
204+28-80' Lt.
Std Endwall S-27 P.C. 4.

I-1
204+89-Rt.
28'-12"
2 Std. Endw'ls S-27 PC4

10' Field Entrance
204+89 @ +10%

Profile: Both Lanes

For Cross-over details See Sh. 209

Begin Cross-over Sta. 213+17

Gravel Drive

Ex. 6'x4' Culvert

6'x4' Concrete Culvert

1'-8" Concrete Headwall

12" Conc. Pipe

Gravel Parking Area

12" C.M.P.

F.L. 726.6
Inv. 726.8

Existing 12" V.S.P. abandon

Remove Existing Conc. Headwall
Inv. 719.91
Item S-22

18" C.M.P (to be Removed) Item E-12

Remove Existing Conc. Headwalls Item S-24

N. 72°-10'-30" E.

30" C.M.P to be Removed Item E-12
Inv. 720.55

Abandon Drive

210+25
Build 1-2-A C.B. On Exist. 12" Underdrain
Block Ex. 12" @ C.B. and @ upper end.

+12
Ditch Inv. 721.0

+20
Ditch Inv. 721.7

+29
93' Rt. Meet Exist Ditch
Ex. 8" Field Tile

Sta. 210+93.5
6'-0"x4'-0" Box Culvert
See Sheet 231

L-10
Sodded Ditch 1' Deep
201+30 to 204+75 Lt.
200+00 to 204+78 Rt.
205+06 to 211+12 Rt.
211+20 to 213+49 Rt.
213+93 to 214+00 Rt.

211+29-93' Rt.
Build 62' Dumped Rock Inlet
Ditch - B = 6'
Side Slopes: 2:1
Place 12 Cu. Yds. I-10-18" thick
211+42-50' Rt.
Outlet Existing 8" Field Tile to proposed ditch
Abandon Ex. 8" North of proposed outlet.

6" 24 Field Entrance
215+71 @ +1.5%

I-1
213+71'-Rt.
44'-27"
2 Std. Endw'ls S-27 PC4

749.09 748.62 748.13 747.60 747.05 746.47 745.86 745.23 744.56 741.84 739.12 737.76 737.10 736.49 735.92 735.40 734.40 732.40 730.40 729.98 729.50 729.43 729.03 728.70 728.43 728.22 728.08 728.00 727.93 728.03 728.16 728.33 728.57 729.40 730.30 731.11 731.34 731.67

+24.19 +55.56

400' V.C.

100' V.C.

300' V.C.

400' V.C.

PVI 200+00 El. 750.00

PVT. 202+00

PVC. 204+50

PVI. 205+00 El. 736.40

PVT. 205+50

PVC. 208+24.19

PVI. 209+74.19 El. 726.92

PVT. 211+24.19

PVC. 213+55.56

Parallel to Profile Grade

-2.72%

-2.88%

Median Grade Line

-2.6%

2.00%

Existing Ground Along ℄ Northbound Lane

Parallel to Profile Grade 0.80%

0.80%

+1.1%

1.13%

Northbound Lane Profile

+00 Med. Inv. 749.0

+00 Med. Inv. 743.5

+19 Med. Inv. 737.2
Std. 1-2-A C.B. Inv. 734.1

+70 Med. Inv. 733.9

+25 Med. Inv. 728.8

+75 Med. Inv. 727.0

+25 Med. Inv. 726.6
Std. 1-2-A C.B. on Ex. 12" Inv. 721.8

+30 Med. Inv. 729.8

749.6 748.5 748.8 747.2 741.2 737.0 734.2 731.8 729.1 727.8 727.9 723.9 727.4 729.5 730.5

760 750 740 730 720 710 700

200 201 202 203 204 205 206 207 208 209 210 211 212 213 214

STA. 200+00 to STA. 214+06

B.M. #16 El. 737.694
Nail in ℄ N. side Route #4
1000'± E. of Reigart Rd.
[Sta. 217+25± -90'± Lt]

NORTH

I-1
223+76 - Lt
32'-18"
2 Std. Endw'ls
S-27 PC 4

Sta. 223+00
Begin new pavement

℄ 10' Field Ent.
223+76 @ 1/10 %

Remove existing pavement and construct new pavement from Sta. 223+00 to Sta. 228+00

Cultivated

Ditch Inv. 756.0

Ditch Inv. 752.1

12" C.M.P. to be removed Item E-12

Ditch Inv. 764.4

B.M. 16

0+20

Inv. 758.0

4'x1' Headwalls to be Removed Item S-24

I-18

18" C.M.P.

F.L. 730.8
Inv. 728.8

Existing ditch

F.L. 760.8
Inv. 758.8

214 215 220 N. 72°-10'-30" E. 225 228

Inv. 728.1

Pasture

Remove Exist. Signs

Ditch Inv. 747.0

Remove Exist. Ladder

Pasture

For cross-over details See Sh. 209

Ditch Inv. 765.0

Ditch Inv 733.8

End Cross-over Sta. 214+22

214+00 - 32' Rt.
Std. Endwall S-27 PC4
65'-15" I-2

214+35 - 24' Lt.
Sta. 1-2 A C.B.

L-10
Sodded Ditch
214+00 to 228+00 (Rt.) 2' Deep
222+00 to 223+60 (Lt) - 1' Deep
223+32 to 228+00 (Lt) - 1' Deep

Sta. 219+00± & 220+60± 35' Rt.
Outlet existing swales to proposed ditch.
Provide 5 sq. yd. sod @ each location to be placed @ direction of Engineer

Begin Cross-over Sta. 223+19

End Cross-over Sta. 224+24

16" Gas Line

224+00 - 81' Lt.
Std. Endwall S-27 PC4
62'-12" I-2

224+25 - 24' Lt.
Std. 1-2-A C.B.

Profile Both Lanes

731.67 732.04 732.45 732.91 733.40 733.95 734.53 735.15 735.82 736.53 737.28 738.07 738.90 739.78 740.70 740.91 742.60 746.40 747.33 748.24 749.11 749.95 750.26 751.54 752.28 753.00 755.80 758.60 761.40 764.20 764.88 765.52 766.13 766.69 767.22 767.70 768.15 768.56 768.94 769.27 769.56 769.82

+35.56

780 770 760 750 740 730 720

400' V.C.

200' V.C.

1100' V.C.

P.V.C. 225+00

P.V.I. 215+55.56
El. 733.31

P.V.T. 217+55.56

P.V.C. 219+00

P.V.I. 220+00
El. 750.20

P.V.T. 221+00

Northbound Lane Profile

Median Grade Line

Parallel to Profile Grade

Existing Ground Along ℄ Northbound Lane

2.00% 3.25% 3.80% +3.8% +2.8% 2.82% 2.67%

+35 Med. Inv. 730.8
Std. 1-2-A C.B. Inv. 728.8

+50 Med. Inv. 733.1

+50 Med. Inv. 739.6

+00 Med. Inv. 745.3

+00 Med. Inv. 751.9

+20 Med. Inv. 758.1

+25 Med. Inv. 760.8
Std. 1-2-A C.B. Inv. 758.8

+00 Med. Inv. 762.8

+00 Med. Inv. 768.4

730.5 732.1 734.8 738.1 742.3 744.0 750.3 752.2 756.4 758.6 760.2 762.3 771.8 773.4 777.1

214 215 216 217 218 219 220 221 222 223 224 225 226 227 228

STA. 214+00 to STA. 228+00

B.M. #17 El. 780.363
Nail in S N. side Route #4
150'± W. of drive to #3620
(Sta. 230+50-85'± Lt.)

NORTH

For Cross-over Details
See Sheet 209

Remove existing pavement
Sta. 228+00 to 236+00
Build new pavement
Sta. 228+00+242+00

Guard Rail
236+70 to 240+57.5 Rt.
238+00 to 242+00 Lt.
241+80 to 242+00 Rt.

Gravel Drive
8' Res. Drive
232+22 8+10'Lt.
I-10
+60
+26

Ditch Inv. 767.9
+00 B.M.#17
Ditch Inv. 762.8
12" C.M.P. To Be Removed
Ditch Inv. 754.4
+00 Ditch Inv. 738.2
P.C. 237+62.24-S
Sta. 238+00 Side Slope 4:1
Sta. 239+00 Side Slope 2:1
+00 Ditch Inv. 726.5
P.C. 240+35.44-N
Plane 10 sq. yds. L-10 @ Ditch Outlet
Ditch Inv. 720.3 Outlet Into Natural Swale
+50

Southbound Lane
CURVE DATA
P.I. = 240+99.84-S
Δ = 3°-22'-30" Lt.
D = 0°-30'-00"
R = 11,459.15'
Lc = 675.00'
T = 337.60'
Superelev. = 3/16" per ft.
100' Transition

Northbound Lane
CURVE DATA
P.I. = 243+73.04-N
Δ = 3°-22'-30" Lt.
D = 0°-30'-00"
R = 11,459.15'
Lc = 675.00'
T = 337.60'
Superelev. = 3/16" per ft.

237-S
Remove Existing Guard Rails
240-S
242-S

Abandon exist. drive
F.L. 768.0
Inv. 766.0
228
230
N. 7.2°-10'-30" E.
235
"Item F-8"
Remove exist. 24" C.M.P. and Headwalls Item 8-26
240-N
242-N
24" V.S.P.
12"
29"
36"
30"
3-12"
2-12"

Ditch Inv. 768.0
Inv. 765.9
Ditch Inv. 765.0' Pasture
Road sign
Remove Existing Porter Billboards
Ditch Inv. 756.0
Wooded Area
Ditch Inv. 732.0
Ditch Inv. 725.6
Inv. 724.80

Scattered 1'-4" Trees

Existing Rd.
(Nail 50' Nail
62.27 36.30 32.13 38.18
P.O.T. - 230+00
(Top of hill)

Begin Cross-over Sta. 231+70
M.B. 231+70
End Cross-over Sta. 232+75

231+70-24' Lt.
Std. I-2A C.B.
54"-12" I-2
31' Rt.-Std. Endwall 5-27 PC4

I-1
232+22-Lt.
36'-15"
2 Std. Endw'ls 5-27 PC4

L-10
Sodded Ditch 1' deep
232+40 to 235+50 (Rt.)
232+55 to 238+00 (Lt.)
239+20 to 240+50 (Lt.)
237+80 to 239+52 (Rt.)

238+88-Rt.
Outlet Existing Swale
To Proposed Ditch
Provide 8 Cu. Yds. I-10 Dumped rock 18" thick
to be placed @ Direction of Engineer

I-14
Paved Ditch-Type I-Modified
235+50 to 237+80 (Rt.)
238+00 to 239+20 (Lt.)

239+52-61' Rt.
Std. Endwall 5-27 PC4
89"-24" I-2
239+95-18' Lt.
Std. No. 1 MH-Rim elev. 741.3
Match Inverts

Sta. 239+60 Side Slope 2:1
Sta. 240+60 Side Slope 4:1
Sta. 241+80 Side Slope 4:1
Sta. 236+70 Side Slope 4:1
Sta. 237+70 Side Slope 2:1
100' Transition

769.82 770.04 770.21 770.35 770.45 770.52 770.54 770.53 770.47 770.38 770.25 770.08 769.87 769.63 769.34 769.02 768.65 768.25 767.81 767.34 766.82 766.26 765.67 765.04 764.36 763.65 762.90 762.12 761.29 760.43 759.52 758.58 757.60 753.60 749.60 745.60 744.60 743.63 742.71 741.84 741.02 740.26 739.55 738.89 738.29 737.74 737.24 736.79

PVI 230+50 EL. 778.60
1100' V.C.
PVT - 236+00
PVC - 239+25
PVI - 241+50 EL. 735.60
450

780
770
760
750
740
730
720

Parallel to Profile Grade
Median Grade Line
4.00%
Parallel to Profile Grade
Profile Both Lanes
2.80%
Existing Ground Along ℄ of Northbound Lane
-4.0%
4.03%
4.10%
3.10%
2.20%

+00 Median Inv. 768.4
+50 Median Inv. 769.5
+70 Median Inv. 768.0
Std. I-2A C.B. Inv. 766.0
+75 Median Inv. 766.4
+00 Median Inv. 765.4
+75 Median Inv. 757.2
+00 Median Inv. 756.5
+00 Median Inv. 744.4
+00 Median Inv. 740.3
+00 Median Inv. 737.2
+00 Median Inv. 735.0

777.1 780.9 780.3 778.7 775.5 771.5 766.9 761.8 758.6 753.6 742.8 734.1 726.8 727.6 733.6 722.4

228 229 230 231 232 233 234 235 236 237 238 239 240 241 242

STA 228+00 to 242+00

STA 242+00 to STA 256+00

B.M. #20 El. 732.794
N.E. corner of porch
@ #3991
(Std. 258+75-100'± ℄)

NORTH

℄ 12' Lane
258+81 ℄ +10 ℄

I-1
258+81 Lt.
32'-12"
2 Std. Endw'ls S27 P.C.4

For Cross-over Details
See Sheet 209

Gravel Drive

Sta. 257+25
End new pavement

Outlet ditch to natural swale. Place 10 sq. yds. sod @ outlet.

Ditch Inv. 721.2

Pasture

0=40.7

Ditch Inv. 729.6'

Sta. 263+20
Begin new pavement

Remove existing pavement and construct new pavement from Sta. 263+20 to Sta. 270+00

T.S. 263+94.65

22°44'

-3.59.02

64'

℄ Ex. Rd.

T.S. 265+94.655

T.S. 266+47.28 N.

S.C. 267+94.655

S.C. 268+47.28 N.

Southbound Lane
CURVE DATA
P.I. = 269+07.58
Δ = 8°-30'-00" Lt.
D = 2°-00'-00"
R = 2864.79'
L_s = 200'
L_c = 225.00'
T_s = 312.93'
E_s = 8.47'
Superelev. = 0.047 ft/ft.

Ditch Inv. 743.8'

Pasture

B.M. #21 El. 753.684
Nail in 8" #49 BT 337 E.
@ house #4101
(Sta. 269+60-105'± ℄)

256

260

N. 71°-58'-00" E

265

270

12"

Prop. 12"

64'

F.I. 729.8
Inv. 724.22

12" C.M.P. To Be Removed Item E-12

270-N

265-N.

12" C.M.P. To Be Removed

Northbound Lane
CURVE DATA
P.I. = 269+73.59
Δ = 9°-01'-54" Lt.
D = 2°-00'-00"
R = 2864.79
L_s = 200'
L_c = 251.58'
T_s = 326.31
E_s = 9.52
Superelev. = 0.047 ft/ft

18" C.M.P.
B.M. #20 ×

Ditch Inv. 718.5

Ditch Inv. 729.3

Ditch Inv. 735.0'

Ditch Inv. 742.2'

12"

B.M. #21

14"

Ditch Inv. 746.3'

Lawn

Well

I-18

Cultivated

Outlet 6" I-4
Sta. 265+66-95 Rt.
Inv. 739.0

6" I-4 45° bend
Sta. 266+00 N-14 Lt.
Inv. 739.9

6" I-4
Sta. 268+75 N
14' Lt.
Inv. 742.7

18"

Ditch Inv. 744.3

Septic Cross-over
Sta. 268+71 N

℄ 12' Less Dr.
269+32±10'

M.B.
269+46 N

PI - 269+07.58

Res.

105.00'

130.56'

End Cross-over
Sta. 269+93 N

Remove existing pavement and construct new pavement from Sta. 256+00 To Sta. 257+25

256+05± Rt.
Outlet existing ditch to proposed ditch.
Provide 10 cu. yd. Dumped Rock 18" Thick

Begin Cross-over
Sta. 258+20

End Cross-over
Sta. 259+40

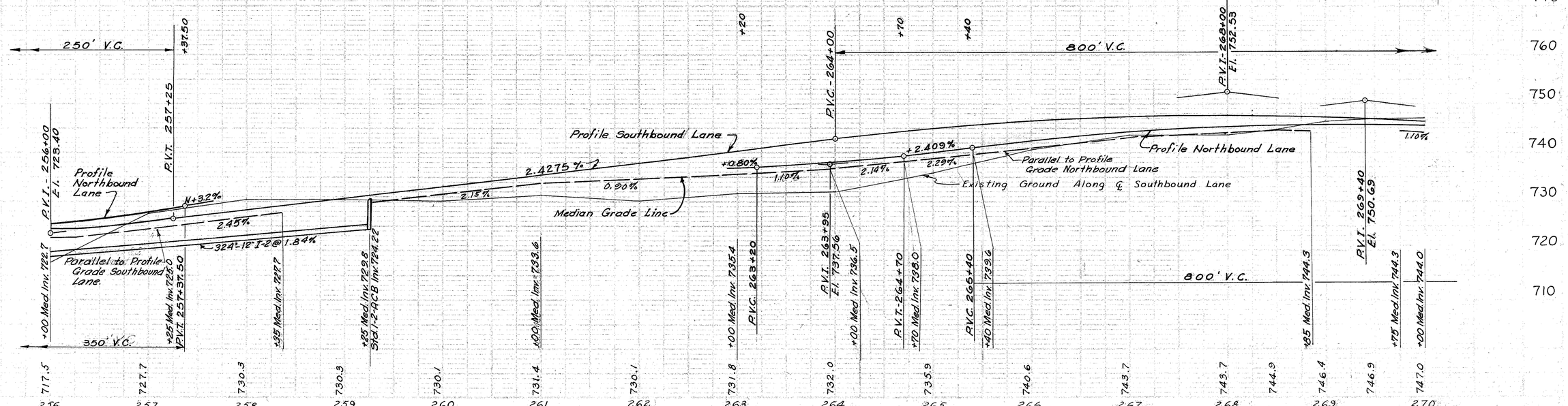
259+25-26' Rt.
Std. I-2-A C.B.
324'-12" I-2

L-10
Sodded Ditch 1' deep
256+30 to 258+71 (Lt.)
259+03 to 259+80 (Lt.)
256+05 to 258+26 (Rt.)
259+20 to 267+00 (Rt.)

Sta. 265+55± Rt.
Outlet existing ditch to proposed ditch.
Provide 12 cu. yd. I-10 Dumped Rock 18" deep to be placed @ direction of Engineer.

Profile Grades for Southbound Lane: 724.16 | 724.50 | 724.88 | 725.34 | 725.86 | 726.43 | 728.26 | 730.68 | 733.11 | 735.54 | 737.97 | 740.39 | 742.82 | 743.41 | 743.95 | 744.47 | 744.94 | 745.37 | 745.77 | 746.13 | 746.45 | 746.72 | 746.97 | 747.17 | 747.33 | 747.46 | 747.55 | 747.59 | 747.60 | 747.58 | 747.51 | 747.41 | 747.26 | 747.08 | 746.86 | 746.60 | 746.30

Profile Grades for Northbound Lane: 725.46 | 725.98 | 726.55 | 727.18 | 727.86 | 728.61 | 729.00 | 736.96 | 737.00 | 737.25 | 737.56 | 737.94 | 738.39 | 738.91 | 739.37 | 740.09 | 741.05 | 741.29 | 741.85 | 742.39 | 742.88 | 743.33 | 743.74 | 744.11 | 744.46 | 744.76 | 745.01 | 745.23 | 745.43 | 745.57 | 745.68 | 745.74 | 745.77 | 745.77 | 745.73 | 745.64



STA 256+00 to STA 270+00

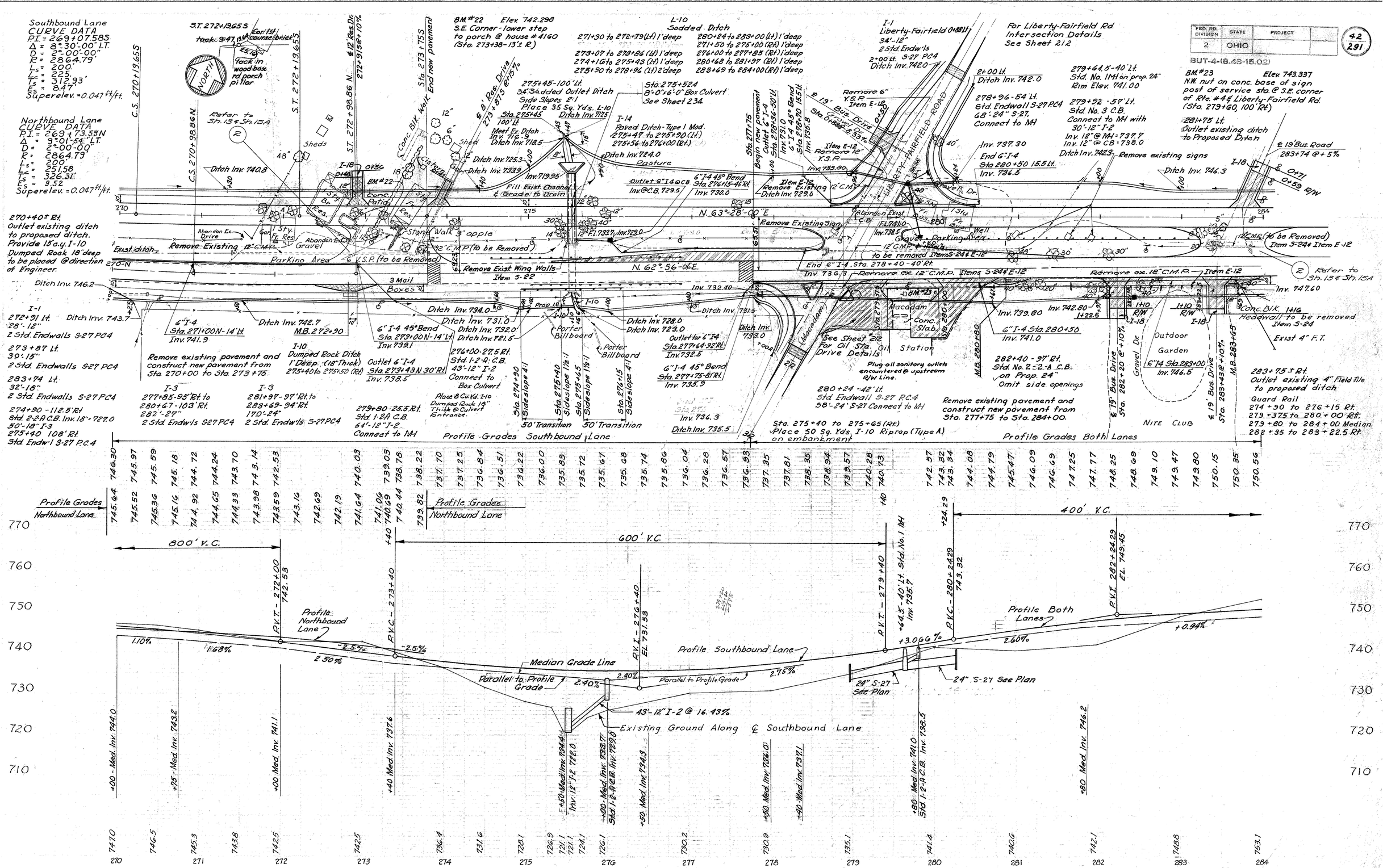
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

42
291

BUT-4-(8.43-15.02)

Southbound Lane
CURVE DATA
PI = 269+07.585
Δ = 8°30'-00" LT.
D = 2°-00'-00"
R = 2864.79'
L_s = 200'
L_c = 425.
T_s = 312.93'
E_s = 8.47'
Superelev. = 0.047 ft/ft.

Northbound Lane
CURVE DATA
PI = 269+73.58N
Δ = 9°01'-54" LT.
D = 2°-00'-00"
R = 2864.79'
L_s = 200'
L_c = 451.58
T_s = 326.31'
E_s = 9.52
Superelev. = 0.047 ft/ft.



STA. 270+00 to STA. 284+00

L-10
Sodded ditch -1' deep
284+00 to 284+63 (Rt.)
288+55 to 290+00 (Rt.)

B.M. #24 El. 756.293
N.E. corner of conc. headwall
W. side Horseshoe Bend Rd.
(Sta. 291+85 - 137' R.)

Remove existing pavement &
Construct new pavement from
Sta. 284+00 to Sta. 288+70

For Cross-over Details
See Sheet 209

Guard Rail
284+00 to 286+30 (Median)
292+45 to 293+20 (Rt.)
287+00 to 290+00 (Lt.)
285+06.5 to 285+69 (Rt.)

NORTH

℄ 10' Ees. Drive
284+89 @ +5%

Existing Asphalt Drive

Trailer Park

S-27
Sta. 288+61.5
66" Pipe Culvert
See Sh. 235

Refer to Sh. 13 & Sh. 15A

Pond

Ditch Inv. 735.0

Sta. 288+78
30' Lt.
Inv. 736.50

Trailer Park

Wood Post

Stone Grill

Well

Orchard

Sta. 287+00 Side Slope 4:1

Sta. 288+00 Side Slope 2:1

Sta. 289+00 Side Slope 2:1

Sta. 290+00 Side Slope 4:1

Begin Cross-over Sta. 291+52

End Cross-over Sta. 292+60

Pasture

Exist. Gravel Dr. ℄ 9' Farm Drive 294+08 @ -8.33%

Yard

Exist. Gravel Dr. ℄ 12' Barn Drive 295+86 @ 0% Sta. 296+19.58

Barn

Platform & Well

Ditch Inv. 759.3

6" Peach

4" Cherry

2½ Sty. Fr.

Remove Existing Conc. Slabs

Remove Existing Sewer & 6" Water Tap 20"

Wood Post

Ditch Inv. 750.01

Remove Exist. Headwall 6" Item S-24

Remove Exist. Structs. Item S-24

Remove Existing Guard Posts

Remove Ex. Hdw'l Item S-22

Remove Existing Brick Headwalls Item S-24

-12" V.S.P. (to be Removed) Item E-12

Guard Rail

Bituminous

12" Conc. Pipe

12" C.M.P.

Apple

Shrubs & Small Trees

15" CMP

F.L. 7505

12" Conc. Pipe

3 Mail Boxes

12" Conc. Pipe

Prop. 12" & 36"

F.L. 754.9
Inv. 752.9

290 N. 63°-28'-00" E. 295

Berm

Pipe Inv. 748.0

I-18

Pipe Inv. 749.1

Ditch Inv. 749.5

Ditch Inv. 742.7

Pipe Inv. 742.50

Ditch Inv. 742.6

Ditch Inv. 751.0

Ditch Inv. 751.8

Meet Ex. Ditch 291+84 Inv. 753.3

Refer to Sh. 13 & Sh. 15A

Refer to Sh. 13 & Sh. 15A

Gravel Dr.

Gravel Dr.

℄ 19' Bus. Drive
Sta. 284+60 @ +0%

1 Sty. Permastone Nite Club

℄ 19' Bus. Drive
Sta. 285+47 @ +0%

2 Sty. Fr. Res.

Conc. Slab

Ditch Inv. 745.0
Sta. 288+47
175' Rt.

℄ 19' Bus. Drive
287+43 @ +0%

End 6" I-4
Sta. 286+10 72' Rt.
Inv. 748.9

End new pavement
Sta. 288+70

Pure Oil Co.

Parking Area (Gravel)

Conc. Block Grocery

12" Conc. Pipe

HORSESHOE BEND R.D.

For Horseshoe Bend Road Intersection Details
See Sht. 211

B.M. #25 El. 756.912
N.E. corner of conc. pump base @ house.
(Sta. 296+50 - 50' Lt.)

CURVE DATA
P.I. = 297+53.11
Δ = 9°-09'-05" Lt.
D. = 2°-30'-00"
R. = 2291.83'
L_s = 300.00
L_c = 66.06
T_s = 333.53
E_s = 8.98
Superelev. = 0.059'/ft.

I-1
284+99 - Lt.
28' - 15"
2 Std. End w'ls S-27 PC4

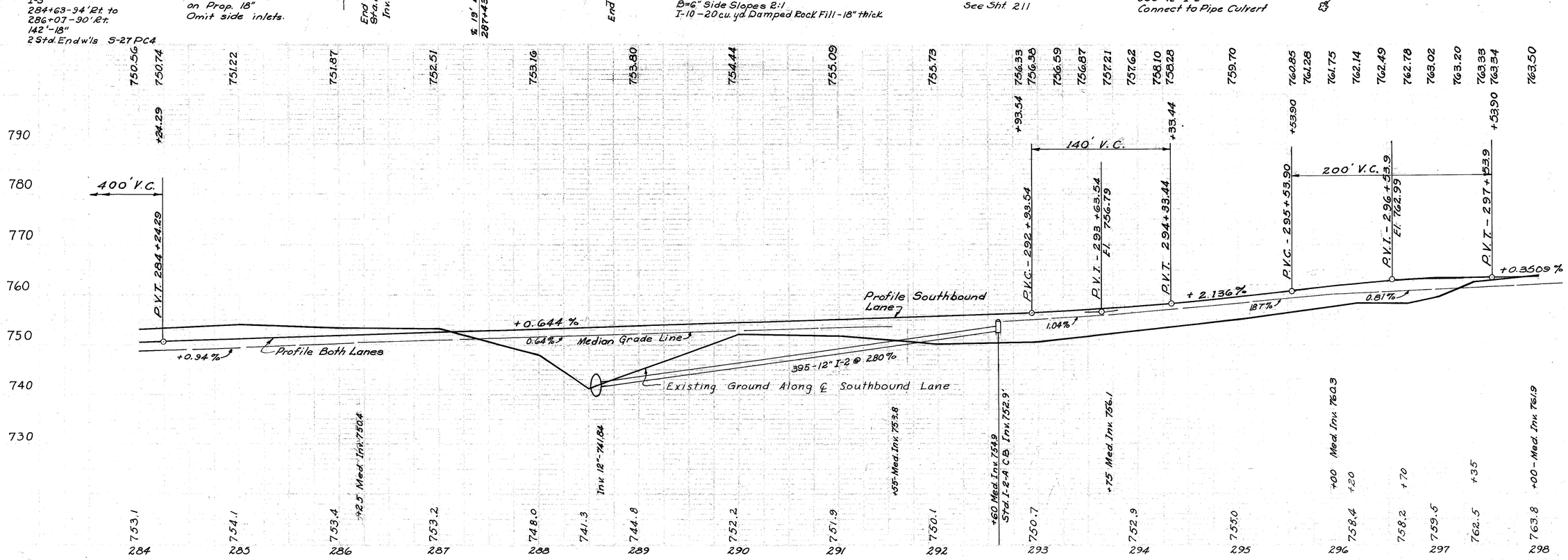
I-3
284+63-94' Rt. to
286+07-90' Rt.
142' - 18"
2 Std. End w'ls S-27 PC4

285+00 - Rt.
Std. No. 2-2-A C.B.
on Prop. 18"
Omit side inlets.

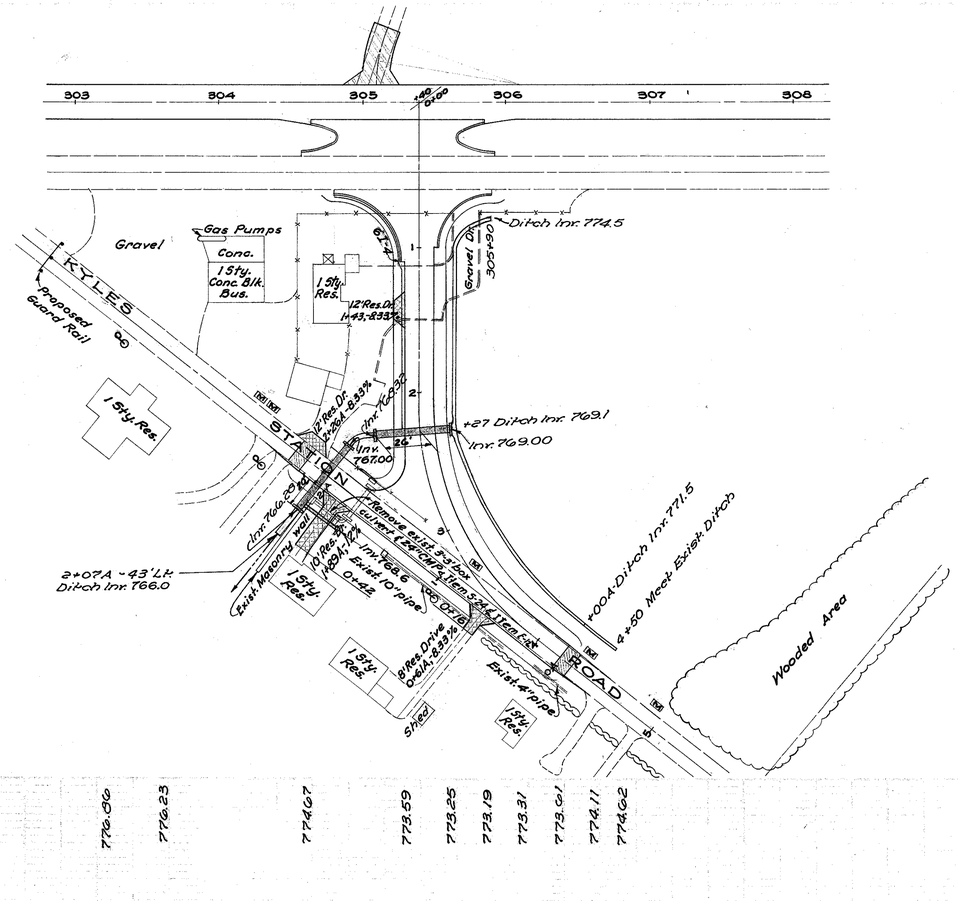
288+47 - 175' Rt.
45' Sodded Inlet ditch - 3' deep
B=6' - side slopes 2:1
288+78 - 90' Lt.
39' Outlet ditch
B=6' Side Slopes 2:1
I-10 - 20 cu. yd. Damped Rock Fill - 18" thick

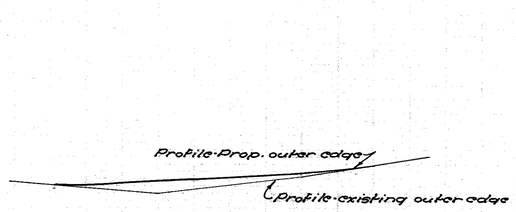
291+60 to 291+87 Rt.
Outlet Ex-12" to Side
Ditch with 30'-12" S.27
Use Std.-Endwall S-27 PC.4

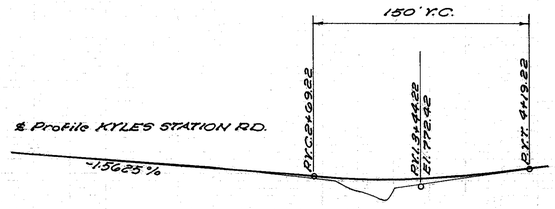
292+60-25' Rt.
Std. 1-2-A C.B.
395'-12" I-2
Connect to Pipe Culvert

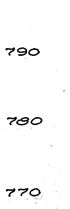


STA. 284+00 to STA. 298+00









FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(8.48-15.02)

2+27
52'-58"x36" Paved Inv. Bituminous
Coated Corr. Metal Arch M6.4(i)(d)8Ga.
2 Endwalls S-27 P.C. 4
Use W=8'-0"
See sheet 241

I-14 Type C paved ditch
B-4', 1' Deep 2:1 Side Slopes
2+27 Rt. to 2+07A Rt.

2+07A
56'-58"x36" Paved Inv. Bituminous
Coated Corr. Metal Arch M6.4(i)(d)8Ga.
2 Endwalls S-27 P.C. 4
Use W=8'-0"
See sheet 241

For Intersection Details
See Sheet 213

6" I-4
304+80-64.5' Rt.-Inv. 774.0
to
2+25-12' Rt.-Inv. 770.4
Connect to Culvert

L-10 Sodded Ditch 1' Deep
305+90 Rt. to 4+50 Lt.

Sta. 0+00A to 0+35A (Lt.)
Grade proposed fadeaway
ditch to existing 10" pipe

I-1
1+89A-Lt.
34'-24"
1 Std. Endwall S27 P.C 4
Connect to proposed Culvert

RELOCATION KYLES STATION ROAD

Sta. 0+40.5 D to 2+50 D
209.5 Special Ditch
Bottom Width=6' See Sh. 231
Use 12 cu. yd. I-10 @ culvert Outlet-18" thick.

0+59 D to 1+07 D (Rt.)
1+94 D to 2+50 D (Lt.)
I-10 Dumped Rock Fill
18" thick to elev. 2' above bottom of channel
26 Cu. Yd. I-10

NORTH

West Exist. Ditch 2+50 D

CURVE DATA
P.I. = 299+53.11
Δ = 9°-09'-05" Lt.
D = 2°-30'-00"
R = 2291.83'
L_s = 300.00
L_c = 66.06'
T_s = 333.53'
E_s = 8.98'
Superelev. = 0.059' per ft.

I-3
301+50 - 36' Lt. to 302+30 - 34' Lt.
80.45'
2 Std. Endwalls S-27 P.C. 4

B.M. 26 El. 776.079
On N.E. corner of Terrace.
(Sta. 305+00 - 100' Rt.)

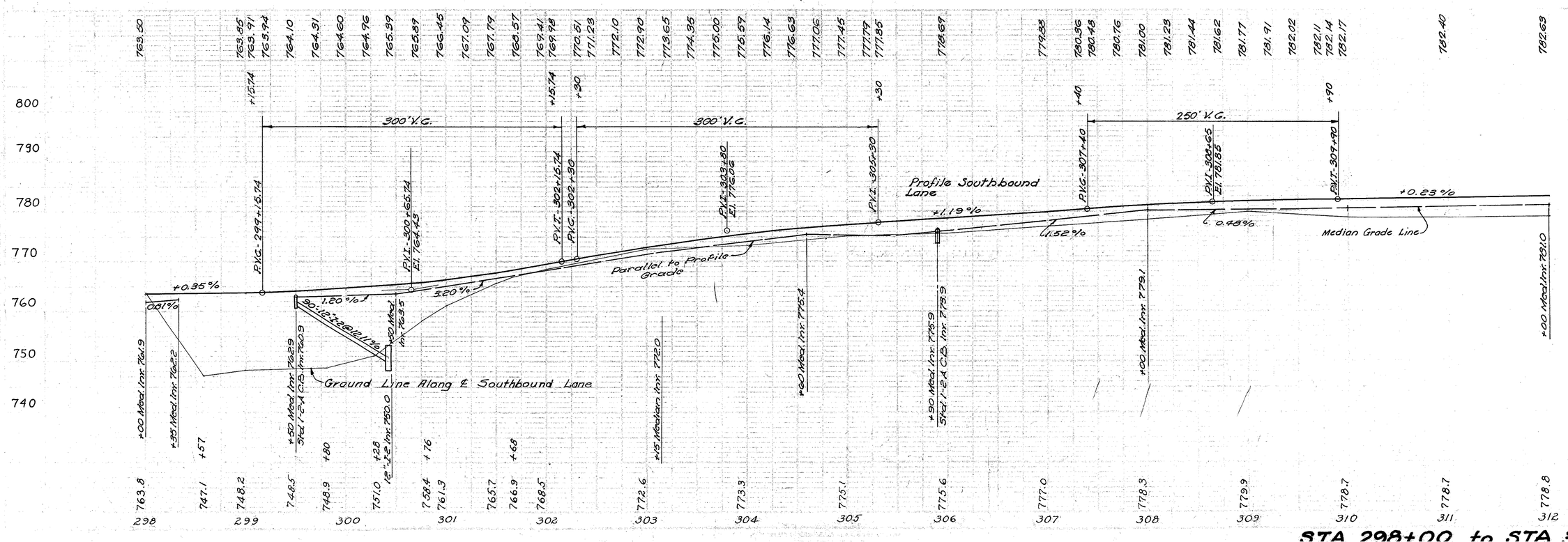
L-10
Sodded Ditch 1' Deep.
300+30 to 301+50 Lt.
302+30 to 304+96 Lt.
305+32 to 306+00 Lt.
I-10
Dumped Rock Ditch 18" thick.
300+23 to 300+30 1' Deep

I-1
305+04 Lt.
36" - 12"
2 Std. Endwalls S-27 P.C. 4

℄ 12' B.P.A.E. Club Dr. 9.5% @ -8.33%

Refer to Sh. 13 & Sta. 13A
Golf Course

Sta. 299+46.40 Side Slope 2:1
Sta. 299+59.40 Side Slope 2:1
Sta. 299+72.40 Side Slope 2:1
Sta. 300+50 Side Slope 2:1
Sta. 301+50 Side Slope 4:1
100' Transition
100' Transition
R.C. 1+94.0
S.C. 299+13.58
C.S. 299+85.64
S.T. 302+85.64
Ditch Inv. 749.25
Ditch Inv. 750.7
Ditch Inv. 759.8'
Ditch Inv. 766.5
Ditch Inv. 766.0
Ditch Inv. 773.0
Inv. 747.91
Inv. 773.1
1 Sty. Fr. Res.
Brush & Small Trees
Remove Existing Stone Walls & Pillars. Item S-24
Remove Exist. Sign
Remove Exist. Guard Rail
Remove exist. Wing walls Item S-22
Remove Existing 12" V.S.P. Item E-12
R.L. 762.9 Inv. 760.9
R.L. 772.9 Inv. 773.9
N. 54°-18'-35" E.
2-14"
12" C.M.P.
18" V.S.P.
3 Mail Boxes
Gas Pumps
Gravel
2-4'2' columns
KYLES STATION ROAD
PROP. KYLES STATION ROAD RELOCATION
B.M. 26
1 Sty. Conc. Blk. Bus.
1 Sty. Res.
Gravel Dr.
Asphalt Dr.
Sta. 300+41.3 6'0"x5'-0" Box Culvert. See Sh. 236
Basin Cross Over Sta. 298+34
HORSESHOE BEND R.D. (Alexadem)
End Crossover Sta. 299+39
299+50 - 24' Rt. Std. 1-2-A C.B. 90°-12"-I-2 Connect to 6'x5' Box Culvert
ST. 302+85.64
69.22'
126.96'
139.97'
145.36'
P.I. 299+53.16
For Cross-over detail See Sheet 209
305+90 - 24' Rt. Std. 1-2-A C.B. 6.4'-12" I-2 91' Lt. - Std. Endwall S-27 P.C. 4
For Kyles Station Road relocation and drainage See Sheet 44
For Kyles Station Road intersection details See Sheet 213
Guard Rail
298+40 to 301+52.5 Lt.
301+25 to 302+87.5 Rt.
Kyles Sta. Rd. Sta. 4+50 A 25'
308+60 to 309+22.5 Rt.
1 Sty. Fr. Bus
Fr. Res. 1 Sty.
Antiques



STA. 298+00 to STA. 312+00

NORTH

Golf Course

B.M. 27 Elev. 784.34
N.E. corner of W. headwall of field entrance to golf course (Sta. 316+25·25'± Rt.)

℄ 10' Field Entrance to Golf Course Sta. 316+33 @ -8.33%

Ditch Inv. 780.0'

Ditch Inv. 780.8

Ditch Inv. 780.8

Ditch Inv. 780.0

Golf Tees

I-18

N. 54°-18'-55" E.

B.M. 27.7

Remove Exist. 12" C.M.P. Item E-12 Prop. 12"

F.L. 781.8
Inv. 779.8

Ditch Inv. 781.9

316+75 - 24' Rt.
Std. 1-2-A C.B.
309'-12" I-2
Connect to M1

319+86.7 - 24' Rt.
Std. No. 1 M1 on 48" Culvert
Rim Elev. 783.8

320+01 - 117' Rt.
Build 25' Dumped Rock Ditch B=4
Side Slopes 2:1
Place 12 cu. yd. I-10
18" Thick

L-10
Sodded Ditch 1' Deep
320+00 to 323+54 Rt.

320+00 - 24' Rt.
Std. 1-2-A C.B.
10'-12" I-2
Connect to M1

Outlet Ditch
B=4' Side Slope 2:1
Place 17 cu. yd.
I-10 Dumped
Rock 18" Thick
@ Culvert Outlet.

Remove existing pavement and construct new pavement from Sta. 319+00 to Sta. 326+00

Sta. 319+00
Begin new pavement

+72 - 99' Lt.
Ditch Inv. 772.6

30" Pipe Footbridge

Inv. 773.70

5" Creek

2-5"

Marsh

5"

83°30'

S-27
Sta. 319+84
48" Pipe Culvert
See Sh. 232

Remove Exist. Box Culvert
Item S-24
Ditch Inv. 778.5

Inv. 778.20

Ditch Inv. 784.0'

+01 - 117' Rt.
Ditch Inv. 780.0

I-3
323+53 - 80' Rt. to
325+21 - 83' Rt.
168'-18"
2 Std. Endw'ls S-27 PC4

I-1
324+50 Lt.
24'-12"
2 Std. Endw'ls S-27 PC4

I-1
324+00 - Lt.
28'-12"
2 Std. Endw'ls
S-27 PC4

Posture

Outlet 6" I-4
Sta. 323+00 - 33.5' Lt.
Inv. 788.0

6" I-4 45° Bend
Sta. 323+10 - 14' Lt. Inv. 789.2

6" I-4 Sta. 323+50 - 14' Lt.
Inv. 789.5'

Outlet 6" I-4
Sta. 322+50 - 74' Rt.
Inv. 788.6'

6" I-4 - 45° Bend
Sta. 322+62 - 68' Rt.
Inv. 788.9

6" I-4 Sta.
Inv. 789.3

323+00

Inv. 790.98

Ent. To Barnyard

℄ Field Entrance Sta. 324+50 @ 10%

Begin Cross-over Sta. 324+63

Cement Patio

Outlet over existing ground

Ditch Inv. 792.1
0+40
I-18

End Cross-over Sta. 325+68

℄ Res. Drive Sta. 326+06 @ 15%

B.M. 28
S.E. corner of lower porch step @ house #4700 (Sta. 325+40 - 18' Lt.)

Parking Area

Gravel Dr.

BM 28

Remove Exist. Sign

Remove Exist. C.M.P.

Remove Exist. 12" C.M.P.s Item E-12

Cistern

Inv. 792.83

Fr. Shed

℄ P.C. 325+35.96

Refer to Sh. 13 & Sh. 15A

Fr. Barn

Gravel Dr.

℄ 10' Field Entrance Sta. 323+66 @ -10%

℄ 10' Farm Drive Sta. 325+15 @ 12.5%

M.B. 325+41

P.C. 325+53.96

2563 24.00 37.95

782.63 782.86 783.10 783.33 783.56 783.74 783.80 783.85 783.90 784.00 784.11 784.22 784.39 784.62 784.91 785.26 785.65 786.12 786.63 787.20 787.82 790.32 792.82 793.42 793.98 794.50 794.98 795.44 795.85 796.23 796.56 796.87 797.13 797.37 797.55

P.V.C. - 316+56.06
783.80

P.V.I. - 317+06.06
El. 783.81

P.V.T. - 317+56.06
783.91

100' V.C.

P.V.C. - 318+35
784.07

250 V.C.

P.V.T. - 319+40
El. 784.92

+86.7' - 24' Rt. Sta. No. 1 PM
Inv. 776.23

10°-12" I-2 @ 37%

P.V.T. - 320+85
787.45

800 V.C.

P.V.C. - 322+98.19
792.65

+0.23%
0.38%
0.82%
+0.2%
0.88%
0.40%
1.40%
0.60%
3.00%
2.50%
Profile Both Lanes +2.5%

Profile Southbound Lane

309'-12" I-2 @ 1.13%

Existing Ground Along ℄ Southbound Lane

Median Grade Line
Parallel to Profile Grade

778.8 +00. Med Inv. 778.10
780.6
784.8
786.5
+90 Med Inv. 782.5
784.3
+75 Med. Inv. 781.8
Sta. 1-2 @ C.B. Inv. 779.8
779.4
778.1
777.7 +00 Med Inv. 782.9
779.4 +00 Med. Inv. 783.3
+59 Med Inv. 784.0
Inv. 12"-1-2 776.3
Inv. 12"-1-2 778.0
+00 Med. Inv. 783.7
Sta. 1-2 @ C.B. Inv. 781.7
781.7 +00 Med. Inv. 786.7
784.2
788.0 +00 Med Inv. 791.7
792.8
796.8
799.9
801.6
800.5 +00. Med. Inv. 796.5

312 313 314 315 316 317 318 319 320 321 322 323 324 325 326

830 820 810 800 790 780 770

STA. 312+00 to STA. 326+00


2 OHIO
B.M. #29 El. 777.796
On R/W mon. in front of
State Highway Patrol Sta.
[Sta. 339+87 67' Rt.
Remove Exist. Pavement
from Sta. 326+00 to Sta. 335+50
& from Sta. 338+50 to Sta. 340+00
Construct New Pavement
from Sta. 326+00 to Sta. 340+00
PI 329+00.21
P.T. 332+45.63
S-27
Sta. 338+38
42" Pipe Culvert
See Sheet 233
For Cross-over Details
See Sheet 209
Begin Cross over
Sta. 339+83
Refer to
Sh. 13 & Sh. 15A
Cultivated
Pasture
Brush & Small Trees
Inv. 764.00
Ditch Inv. 770.5
N. 61°-13'-55" E.
F.L. 773.0
Inv. 771.0
℄ 10' Res. Drive
326+00 @ +15%
Existing Gravel Dr.
℄ 10' Drive
326+60 @ +3.2%
℄ 8' Barn Drive
326+82 @ +3.2%
℄ 10' Field Ent.
326+95 @ -10%
℄ 10' Field Entrance
333+75 @ -10%
6" I-4
Sta. 327+00 - 14' Lt.
Inv. 792.0'
End 6" I-4
Sta. 328+75 - 14' Lt.
Inv. 793.0
0+43 Conc. Curb
Existing Gravel Drive
12" C.M.P. To Be Removed
Item E-12
Headwalls & 12" C.M.P. To Be Removed Item E-12
Item S-24
Remove Existing Headwall & Culvert
Item S-24
Remove Existing Guard Posts
Remove Existing 18" C.M.P.
Item E-12
Remove Existing 12" V.S.P.
Item E-12
36" Picnic Area to be Removed
Abandon Ex. C.B.
B.M. #29
12" V.S.P. To Be Removed
Item E-12
Ditch Inv. 793.0
Ditch Inv. 795.1
Ditch Inv. 779.0
Inv. 768.00
+70
Ditch Inv. 769.0
+71-109 Rt.
Ditch Inv. 770.7
End 6" I-4
Sta. 327+25 - 62' Rt.
Inv. 792.4
I-1
326+00 Lt.
See preceding sheet
CURVE DATA
P.I. = 329+00.21
Δ = 6°-55'-00" RT.
D = 1°-00'00"
R = 5729.58'
Lc = 691.67
T = 346.25'
Superelev. = 0.024' per ft.
L-10
Sodded Ditch
327+00 to 329+00 (Rt.)
1' Deep
329+00 to 334+27 (Rt.)
2' Deep
334+55 to 337+70 (Rt.)
2' Deep
P.T. 332+45.63
I-18
I-1
334+41 - Rt.
28'-36" x 22" MG.4(1)(c) 10 Ga.
2 Endw'ls S-27 PC4 W=5'-6"
337+71 - 109' Rt.
Build 15' Dumped
Rock Inlet Ditch
B=35'
Side Slopes 2:1
Provide 6 cu. yd. I-10
18" Thick.
℄ Field Ent.
334+41 @ +5%
338+23.3 - 24' Rt.
Std. No. 1 MH
Rim elev. 776.3
339+90 - 24' Rt.
Std. 1-2-A C.B.
164' - 12" I-2
Connect to MH
Begin 6" I-4
Sta. 338+75 - 62' Rt.
Inv. 773.6
℄ 19' St. Hwy. Pat. Drive
339+05 @ +8.3%
Bituminous Drive
1 Sty. Br
State Hwy
Patrol Station
Radio Tower
797.55 797.72 797.83 797.92 797.96 797.97 797.94 797.88 797.77 797.64 797.46 797.25 797.00 796.72 796.40 796.04 795.64 795.21 794.75 794.24 793.85 793.70 791.50 789.30 787.10 784.90 782.70 780.50 778.30 776.10 774.37 773.92
P.V.I. 326+93.19
El. 802.65
800' V.C.
P.V.T. 330+93.19
Median Grade Line
(Parallel to Profile Grade)
Profile Both Lanes
-2.2%
2.20%
Existing Ground Along ℄ Southbound Lane
+23.3 - 24' Rt. #1 MH
Inv. 766.08
+50 775.28
P.V.C. 339+78.57
200' V.C.
164' - 12" I-2 @ 2.71%
+00 Med. Inv. 796.5
+90 Med. Inv. 796.7
+25 Med. Inv. 796.9
+00 Med. Inv. 792.6
Inv. 12" 768.55
+90 Med. Inv. 773.0
Std. 1-2-A C.B. Inv. 771.0
810 800 790 780 770 760 750
800.5 796.9 795.9 791.7 788.8 790.1 789.0 786.8 784.1 782.3 780.0 776.3 771.5 766.3 767.3 769.9 773.4
326 327 328 329 330 331 332 333 334 335 336 337 338 339 340
STA. 326+00 to STA. 340+00

STA. 340+00 to STA. 354+00

OHIO

(UT-4-9.48-15.02)

B.M.#31 El. 739.314
Top of S. end of E. curb of State Rte. #747 @ Rte. #4 (Sta. 362+40 - 145' Lt.)

B.M.#32 El. 741.707
NW. corner of side porch of house @ S.E. corner of Routes #4 & 747 (Sta. 362+65 - 78' Lt.)

NORTH

Guard Rail
354+00 to 354+15 Rt.
357+00 to 358+50 Rt.
367+50 to 368+00 Lt.
367+00 to 368+00 Median

P.I. 359+60.33
41°39'
61°29'
57.40
70.02
30.09
25.19
14.41

P.T. 362+91.90
41.70
37.55
30.10

Tack clusters in Guard Posts

℄ Ex. Rd

For State Route #747 Intersection Details See Sheet 214

L-10
Sodded ditch 1' deep
363+75 to 368+00 Rt.

Refer to Shts 13 & 14

Refer to Sh. 13 & Sh. 15A

See Sheet for Removal of Left Edge of Exist. Pav't.

P.C. 356+28.57

Iron fence posts

End Guard Rail Sta. 355+65

℄ 10' Field Entrance 363+72 @ -10°

Pasture

Cultivated

2 Sty. Barn

2 Sty. Fr. Barn

Cistern

Gravel

Conc. Blk. Gar.

Grape Vine

Cistern 8"

1 Sty.

2-Sty. Fr. Res.

Ditch Inv. 731.9

Ditch Inv. 723.8

I-1
365+40 Lt.
30'-12"
2 Std. Endw'ls S-27 PC4

100' Transition

Refer to Sh. 13 & Sh. 15A

CURVE DATA
P.I. = 373+42.64 N.
P.I. = 372+99.59 S.
Δ = 12°-50'-00" Lt.
D = 1°-00'-00"
R = 5729.58
Lc = 1283.33
T = 644.36
Superelev. = 0.024' per ft.

Sta. 367+50 Side Slope 4:1

P.C. 366+55.23 S

N 63°-27'55" E

Existing Gravel Drive

Remove exist. sign

Remove Existing Signs

Remove exist. sign

Remove Existing Signs Item E-12

Remove Existing 12" Conc. Pipe

Remove Existing Endw'ls - Item S-24

125' Transition

F.L. 737.9
Inv. 735.0

Remove Existing 12" R.C.P.

Inv. 717.81

F.L. 714.0
Inv. 711.00

368+00 - 40.5' Rt.
Std. 1-2-A C.B.

N 60°-08'-55"E 355

354

12" C.M.P.

12" C.M.P.

18"

12"

12"

357+00

358+50

2 Sty. Fr.

Gravel Parking Area

Bus.
1 Sty.
Fr.

Gravel Drive

Gravel Drive

Gravel Dr.

SUNSET LANE (Gravel)

12" V.S.P.

10"

24"

36"

362+20 - 25' Rt.
Std. 1-2-A C.B.
377'-12" I-2

CURVE DATA
P.I. = 359+60.33
Δ = 3°-19'-00" Rt.
D = 0°-30'-00"
R = 11459.15'
Lc = 663.33
T = 331.76
Superelev. = 3/16" per foot

Seed Island

6" Curb

Stone Walk

10'

Conc. Slab

Old Filling Sta.

Well

Ditch Inv. 736.0

B.M. 31

B.M. 32

S.R. 747

4

30'

1 Sty. Fr. Res.

12"

2 Sty. Fr. Res.

High Tension Power Line (Overhead)

Ditch Inv. 731.0
363+61 - 90' Rt.
Outlet Exist. 18" Pipe with 40'-18" S-27
364+00 = 102' Rt.
Build 1 Std. Endw'l S-27 PC4

Ditch Inv. 726.6

366+00-39' Rt.
Std. No. 1 M1
Rim Elev. 723.6
197'-12" I-2

Ditch Inv. 715.7

M.B. 364+00

Hub - Sta. 364+50

Hub

Hub

Exist. Rd.

R.C. 366+55.23 S

90.22

16"

24.69

28.46

6.40

6.40

Profile Southbound Lane

760
750
740
730
720
710
700

751.00 751.00 751.00 750.99 750.94 750.85 750.73 750.57 750.37 750.14 749.87 749.56 749.22 748.84 748.43 747.97 747.49 746.96 746.40 745.80 745.17 744.50 743.79 743.70 743.06 740.14 737.22 734.30 731.38 728.86 728.47 727.87 727.12 726.50 725.92 725.38 724.87 724.40 723.97

+86.41

P.C. - 355+78.08

P.I. 358+28.08
21° 737.00

P.T. 360+28.08
+28.08

P.C. - 365+86.41

Proposed 0.0%

Ground Along ℄ of Southbound Lane

500' V.C.

800' V.C.

0.49%
1.87%
2.00%
2.40%
2.92%
1.82%
3.60%
4.70%
4.60%
5.00%
3.40%

Median Grade Line

+65 Med. Inv. 749.0
+50 Med. Inv. 748.1
+00 Med. Inv. 745.3
+70 Med. Inv. 743.9
+20 Med. Inv. 737.9
Std. No. 1-2-A C.B. Inv. 735.0
+45 Med. Inv. 732.9
+00 Med. Inv. 731.9
+00 Med. Inv. 728.3
+00 Med. Inv. 723.6
Std. #1 MH Inv. 717.81
+00 Med. Inv. 719.0
+00 Med. Inv. 714.0
Std. No. 1-2-A C.B.
Inv. 711.00

377' 12" I-2 @ 4.56%
197'-12" I-2 @ 3.40%

748.8 749.6 749.6 748.7 747.9 745.6 743.8 740.6 735.7 734.0 733.2 731.8 728.1 + 35 730 717.4 710.1

354 355 356 357 358 359 360 361 362 363 364 365 366 367 368

STA. 354+00 to STA. 368+00

B.M.#33 El. 714.560
S.E. corner of headwall on E. side of Rte. #4 (Sta. 368+30-90' R.)

For Cross-over Details See Sheet 209

100' Transition

100' Transition

NORTH

Sta. 368+69
4'-0"×3'-0" Box Culvert
See Sheet 239

Sta. 368+50 Side Slope 2:1

Brush & Trees

Inv. 704.40

Brush & Trees

Sta. 369+70 Side Slope 2:1

Sta. 370+70 Side Slope 4:1

Remove Ex. Signs

Remove Exist. Wing Walls Item S-22

368

368-N

Prop. 18"

FL. 713.7, Inv. 702.9

Prop. 12"

Remove Existing Conc. Wall Item S-24

310-N

B.M. 33

Ditch Inv. 712.0'

369

370

Ditch Inv. 716.2 Meet exist. ditch

371

Remove Ex. Conc. Wall Item S-24

Fl. 717.40 Inv. Fl. 706.10

12" C.M.P. to be Removed & Headwalls Item S-24 & Item E-12

372

Ditch Inv. 719.0

373

Remove Existing Conc. Blk. Wall

Remove Existing 12" C.M.P.

375-N

Item S-24

Item E-12

3G8+00 to Box Culvert
59'-12" I-2

369+00 Rt. to 372+30 Rt.
328'-12" I-2

369+00-40' Rt.
Std. 1-2-A C.B.
41'-12" I-2
Connect to Box Culvert

Begin Cross-over Sta. 370+98

End Cross-over Sta. 372+18

372+30-30' Rt.
Std. 1-2-A C.B.

Guard Rail
368+00 to 370+75 Lt.
368+00 to 370+00 Median

CURVE DATA
P.I. = 373+42.64 N
P.I. = 372+99.59 S
Δ = 12°-50'-00" Lt.
D = 1°-00'-00"
R = 5729.58'
L_c = 1283.33'
T = 644.36
Superelev. = 0.024' per foot

Sta. 373+00-S Begin new Pavement

P.I. 372+99.595

Nail

12.38 @ 30°

8.66 @ 30°

38.19

36.20 @ Nail

Nail

Nail

Outlet Ditch over existing ground. Provide 10 sq. yds. sod @ outlet.

Orchard

Cistern

Orchard

Remove existing pavement and construct new pavement
Sta. 373+00 to Sta. 382+00

P.T. 379+38.56

P.T. 379+87.00 N

I-1
376+04-Lt.
34'-12"
2 Std. End w'ls S-27. P.C.4

Refer to Sh. 13 & Sh. 15A

2

Pasture

P.O.T. 377+59.06

Hub

53.07

Nail

23.29

Nail

27.22

Nail

Hub
380+37.43

G1.73

Nail

23.49

25.18

Nail

#7G70

Nail

Inv. 721.37

Ditch Inv. 724.7

Ditch Inv. 725.5'

Fence On Conc. Wall (Remove Both)

Cistern

Orchard

Ditch Inv. 722.5

£9 Res. Drive 376+04 E+10%

Evergreens

2.5 ty. Fr. Res.

12" C.M.P. to be Removed

Remove Existing Signs

Sign

Abandon drive

380

N. 50°-37'-55" E.

382

B.M.#34 El. 737.682
S.W. corner of S. headwall of field entrance (Sta. 381+13-100' Rt.)

Begin 6" I-4
Sta. 381+75-14' Lt.
Inv. 719.5

BM 34

12" C.M.P. to be Removed

Ditch Inv. 721.6'

Porter Billboards

Ditch Inv. 724.9

Pasture

I-18

1+65.5

I-18

1+62

I-3
381+86-32' Lt. to 382+00 Lt.
14"-18"
1 Std. Endwall

I-1
381+04 Rt.
32'-18"
2 Std. Endwalls S-27. P.C.4

£10 Field Ent. 379+03 @ 15%

£10 Field Ent. 381+04 @ 15%

Ditch Inv. 724.5

Ditch Inv. 726.0

Porter Billboards

I-1
379+03-Rt.
36'-15"
2 Std. End w'ls S-27. P.C.4

2 Refer to Sh. 13 & Sh. 15A

L-10
Sodded Ditch
368+00 to 368+10 Rt. 1' Deep
370+00 to 373+00 Rt. 2' Deep
373+00 to 376+00 Rt. 1' Deep
380+00 to 380+88 Rt. 1' Deep
381+20 to 382+00 Rt. 1' Deep

Profile Grades Southbound Lane

723.97 723.58 723.22 722.90 722.62 722.37 722.16 721.99 721.85 721.75 721.70 721.67 721.68 721.74 721.82 721.95 722.10 722.30 722.54 722.81 723.12 723.47 723.85 724.27 724.72

Profile Grades Northbound Lane

722.90 724.73

724.28 726.54 726.96 727.34 727.68 727.98 728.26 728.50 728.69 728.85 728.98 729.06 729.12 729.13 729.11 729.08 729.03 728.96 728.83 728.67 728.46 728.23 727.95 727.64 727.29 726.90 726.48 726.03 725.53 725.00 724.43

Profile Grades Southbound Lane

Profile Grades Northbound Lane

+85 726.55 726.76 727.00 727.41 727.80 728.13 728.44 728.70 728.92 729.11 729.26 729.37 729.45 729.47 729.47 729.47 729.43 729.35 729.28 729.08 728.88 728.64 728.37 728.06 727.71 727.32 726.90 726.44 725.94 725.40 724.82

+11.48 725.40 724.48

760 750 740 730 720 710 700

800' V.C.

1000' V.C.

P.V.I.-369+36.41 El. 717.78

P.V.I.-373+86.41

P.V.C.-374+85

P.V.I.-379+85 El. 735.40

P.V.I.-381+11.48

1.825%

-6.129%

Profile Southbound Lane

Profile Northbound Lane

Profile Southbound Lane

1.82%

1.20%

1.80%

5'3"-12" I-2 @ 5.94%

328'-12" I-2 @ 2.88%

41'-12" I-2 @ 5.85%

Ground Line Along ℄ of Southbound Lane

Median Grade Line (Parallel to Profile Grade) Southbound Lane

+00 Median Inv. 725.11

+00 Med. Inv. 727.7

1300' V.C.

+00 Med. Inv. 723.0

+50

718.1 +00 Med. Inv. 714.0 Std. 1-2-A C.B. Inv. 710 See preceding sheet

+50 Med. Inv. 714.6

Inv. 12" 707.5

708.9 +00 Med. Inv. 713.7 Std. 1-2-A C.B. Inv. 709.9

712.8

719.3

+20 Med. Inv. 717.9

717.4

+30 Med. Inv. 720.0 Std. 1-2-A C.B. Inv. 716.85

716.0

720.4

731.3

739.6

740.5

743.9

742.1

739.4

736.6

732.4

368 369 370 371 372 373 374 375 376 377 378 379 380 381 382

STA. 368+00 to STA. 382+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

51
291

BUT-4-(6.48-15.02)

NORTH

B.M. #35 El. 780.741
On E. edge of stone porch @side of bldg. @ bldg. line @ #5210 (Sta. 384+22 60 Lt.)

℄ 10' Barn Dr. 383+30.5 @+15%

2 Stv. Fr. Barn

Cistern

I-18

Gravel Parking Area 0+48 ℄ R/W

20" Well

20" Inv. 712.98

2 Stv. Fr. 2c-s

6"-1-45° Bend Sta. 384+45 - 14' Lt. Inv. 713.7

Outlet ℄ I-4 Sta. 384+62 - 31' Lt. Inv. 712.7

B.M. 35

Remove existing pavement and construct new pavement from Sta. 382+00 to Sta. 387+50.

I-3
382+00 Lt. to 384+40 - 36' Lt.
240'-18"
Std. End w'l S-27 PC4

Sta. 387+50 End new pavement

Pasture Ditch Inv. 706.0

Ditch Inv. 711.0

3" Plum

Remove Existing Billboard

Porter

Remove Exist. Signs

10"

24"

20"

Existing ditch

Remove Existing Signs

N. 50°-37'-55" E.

Abandon 12" Y.S.P.

F.L. 780.6 Inv. 778.6

Gravel Drive

Remove Conc. Hdwl. Item S-24

Conc. Hdwl. to be removed. Item S-24

Remove Exist. 12" C.M.P. Item EP. Remove Guardposts

I-18

Ditch Inv. 721.6

Ditch Inv. 713.8

Posture

Ditch Inv. 708.0 Outlet into existing swale.

Ditch Inv. 708.2

Ditch Inv. 697.0

Remove Existing Conc. Headwall

18" C.M.P. to be removed - E-12

100' Transition

Sta. 390+75 Side Slope 4:1

℄ 10' Res. Dr. 390+80 @ 10%

1+20

Gravel Drive

0+92 R/W

Sta. 391+75 Side Slope 2:1

Ditch Inv. 670.7

100' Transition

Sta. 393+70 Side Slope 2:1

Sta. 394+70 Side Slope 4:1

Ditch Inv. 663.0

Cultivated

Remove Existing Signs

F.L. 665.5 Inv. 663.5

Prop. 18"

Field Entrance

382+83-25' Rt.
Std. 1-2-A C.B.
5'7"-12" I-2
Connect to 18" with a 12"x18" Tee

Begin Cross-over Sta. 382+70

M.B. 383+30.5

14.45

℄ Field Drive 383+67 @+10%

End Cross-over Sta. 383+94

For Crossover Detail See Sheet 209

L-10
Sodded Ditch
382+00 to 383+54 Rt. 1' deep
383+82 to 385+70 Rt. 1' deep
384+40 to 386+00 Lt. 1' deep
385+80 to 388+00 Rt. 1' deep
392+20 to 396+00 Lt. 2' deep

I-14
Paved Ditch Type I Mod.
386+00 to 390+64 (Lt.)
391+12 to 392+20 (Lt.)

I-1
383+67 Rt.
28'-18"
2 Endwalls S-27 PC4

390+80 Lt.
48'-30"
2 Endwalls S-27 PC4

393+75-47.5 Rt.
Sta. 1-2 A C.B.
22'-15" I-2

Guard Rail
388+80 to 396+00 Median
390+95 to 394+70 (Lt.)

Profile along Southbound Lane: 724.43 | 723.88 | 723.19 | 722.58 | 721.80 | 721.05 | 720.27 | 719.45 | 718.59 | 717.70 | 716.76 | 715.80 | 715.40 | 714.80 | 710.80 | 706.80 | 702.80 | 698.80 | 694.80 | 690.80 | 686.80 | 682.80 | 678.80 | 674.80 | 670.80

Profile along Northbound Lane: 724.82 | 724.12 | 723.56 | 722.85 | 722.13 | 721.36 | 720.56 | 719.71 | 718.82 | 717.90 | 716.94 | 715.95 | 714.90 | 713.73 | 712.72 | 711.57 | 710.38 | 709.15 | 707.88 | 706.58 | 705.24 | 703.85 | 702.43 | 700.98 | 699.49 | 698.78

+11.48

℄ Profile Northbound Lane

Median Grade Line Parallel to Profile Grade Southbound Lane.

Profile Southbound Lane

4.22%

5.60%

1000' ~ V.C.

+00 Median Inv. 723.0

+82 Med. Inv. 720.6
Std. 1-2-A C.B. - Inv. 718.6

+75 Med. Inv. 718.0

P.V.T. 384+85

+00 Median Inv. 718.4

+00 Median Inv. 709.2

Profile Northbound Lane

End NB Lane

+00 Med. Inv. 698.0

Median Grade Line

-4%

Profile Southbound Lane

6.43%

1300' V.C.

P.V.T. 388+11.48

Ground Line ℄ of Southbound Lane

+00 Med Inv. 678.7

4.80%

+75 Median Inv. 665.5
Std. 1-2-A C.B. Inv. 663.5

+00 Median Inv. 663.3

+00 Median Inv. 662.4

1.76%

0.20%

224'-15" I-2 @ 1.98%

24:0"

2-1½"-T-35

Bit. Tack Coat

Sealing of exist. pav't. edge
3" Asphaltic Conc. Leveling Course
3" Asphaltic Conc. Base Course
1¼" Insulation Course

5½" Reinf. Conc.
3" Asphalt
10" W.B. Macadam

1½" Asphal. Conc. Leveling Course
1½" Asphaltic Conc. Surface Course

TYPICAL SECTION - EXIST. PAV'T STA. 387+50

730 720 710 700 690 680 670 660

732.4 | 730.8 | 725.5 | 721.2 | 710.2 | 703.4 | 696.1 | 689.2 | 683.7 | 681.1 +75 | 677.5 | 672.4 | 668.2 | 665.9 | 664.2 | 663.0

382 383 384 385 386 387 388 389 390 391 392 393 394 395 396

STA. 382+00 to STA. 396+00

B.M. #36 El. 661.124
N.E. corner of headwall
E. side of Rte #4 100' S. of
#5330 (Sta. 396+35-95' Rt)

NORTH

For Cross-over Details
See Sheet 209

Begin 6" I-4
Sta. 397+50-14' Lt.
Inv. 658.8'

℄ 10' Res. Drive
397+58 @ +10%

I-1
397+58 Lt.
22'-15"
2 Endwalls S-27 P.C.4

Basketball Court

402+97-59' Lt.
Meet Exist. Ditch
Elev. 635.7

402+97-59' Lt.
Dumped Rock Inlet
Ditch B=3.5'
Side Slopes 2:1
Place 17 cu. yd. I-10
Dumped Rock 18"
Thick

P.C. 405+00.95

6" I-4, 45° Bend
Sta. 405+29-14' Lt.
Inv. 629.6

Outlet 6" I-4
Sta. 405+62-46' Lt.
Inv. 627.7

℄ 10' Barn Drive
405+60 @ -12%

CURVE DATA
P.I. 409+04.95
Δ = 8°-04'-00" Lt.
D = 1°-00'-00"
R = 5729.58'
L_c = 806.67'
T = 404.00'
Superelev. = 0.024' per foot

Refer to sheets 13 & 14

Pump House

6" I-4
Sta. 402+00-14' Lt.
Inv. 640.8

Meet Exist. Ground
El. 664.7

Inv. 659.80

Ditch Inv. 660.5

Ditch Inv. 663.3

Ditch Inv. 634.4

Ditch Inv. 641.5

Ditch Inv. 633.5

Ditch Inv. 634.0

Ditch Inv. 633.5

Ditch Inv. 636.5

Ditch Inv. 621.0

Ditch Inv. 624.0

Woods

Cultivated

Cultivated

Remove Existing
4" C.I. Pipe Item E-12

Gravel Drive

Full Trees

0+42.2

88°45'

N. 50°-37'-55" E.

Remove Exist.
Sign

Prop. 15"

Ditch Inv. 660.5

Pond

Ditch Inv. 645.7

Ditch Inv. 638.5
Meet Exist. Ditch

S-27
Sta. 403+68
42" Pipe Culvert
See Sheet 224

Abandon Drive
Entrance

Sta. 405+20
Side Slope 4:1

Sta. 406+20
Side Slope 2:1

100' Transition

Outlet 6" I-4
Sta. 404+62-51' Rt.
Inv. 629.6

6" I-4, 45° Bend
Sta. 404+25-14' Rt.
Inv. 633.0

I-18

P.I. 409+04.95

107.97 6.33 5" 118.37 9" 12" 12.25 6"

I-1
405+60 Lt.
44'-24"
2 Endwalls S-27 P.C.4

I-14
Paved ditch Type 1 Mod.
402+50 to 403+05 Lt.
405+00 to 405+93 Lt.

Guard Rail
396+00 to 396+55-Median
405+22 to 410+00-Rt.

B.M. 36

Inv. 657.40

F.L. 661.5
Inv. 659.5

S-27
Sta. 396+36.9
158'-36"
2 Std. Endw'ls S-27 P.C.4
25' Inlet Ditch B=3'
Side Slopes 2:1. Place 396+36 - 39.9' Rt.
17 Cu. Yd. I-10 Dumped
Rock 18" Thick. Place
10 Cu. Yd. I-10 @ Culvert
Outlet (18" Thick).
See Sh. 238

Junction Box-Item Special
F.L. 658.4
Rim elev. 662.1
Connect 34'-15" I-2
to Junction Box
See Sheet 229

Remove Exist. 18" Y.S.P.
Culvert & Headw'ls
Item S-24 & Item E-12

Begin 6" I-4
Sta. 397+50-14' Rt.
Inv. 658.8'

397+00 38' Rt.
Std. I-2 A C.B.
61'-12" I-2
Connect to Junction
Box @ 396+36

L-10
Sodded ditch
396+00 to 396+37 (Lt.) 2' deep
396+40 to 397+47 (Lt.) 2' deep
397+69 to 402+50 (Lt.) 2' deep
404+00 to 405+00 (Lt.) 1' deep
406+37 to 410+00 (Lt.) 2' deep
398+00 to 402+50 (Rt.) 1' deep

3" Iron Post

6" I-4
Sta. 402+00-14' Rt.
Inv. 640.8

15" C.M.P.

8" C.M.P. to be removed Item E-12

N65-43-03 E

Median Grade Line

0.20%

34"-15" @ 1.98%

61"-12" @ 0.77%

Ground Line Along
℄ of Southbound Lane

-4.00%

+00 Median Inv. 662.4

+36-39.9' Rt.
Junction Box

+00 Med. Inv. 661.5
Std. I-2-A C.B. Inv. 659.5

P.V.C. 402+20

700' V.C.

P.V.T. 405+70
El. 632.00

P.V.T. 409+20

Profile Southbound Lane

0.0%

670.80 666.80 662.80 658.80 654.80 650.80 646.80 645.80 644.83 643.89 642.98 642.12 641.28 640.49 639.73 639.00 638.31 637.66 637.04 636.46 635.91 635.40 634.93 634.49 634.08 633.72 633.38 633.09 632.83 632.60 632.41 632.26 632.14 632.06 632.01 632.00 632.00

670 660 650 640 630 620 610

663.0 663.9 662.4 658.8 652.5 649.4 651.8 657.0 649.3 649.7 649.0 648.0 646.8 633.7 633.1 632.7 644.7 643.9 639.9 626.0 623.7 622.5 621.5 621.6 620.9

396 397 398 399 400 401 402 403 404 405 406 407 408 409 410

STA. 396+00 to STA. 410+00

B.M. #37 El. 632.118
□ Notch N.W. corner of abut. on W. side of Rte. #4 of bridge over Gregory Creek (@ top of slope of wingwall) (Sta. 410± 300± Rt.)

NORTH

CURVE DATA
P.I. = 409+04.95
Δ = 8°-04'-00" Lt.
D = 1°-00'-00"
R = 5729.58'
Lc = 806.67'
T = 404.00'
Superelev. = 0.024' per ft.

B.M. #38 El. 632.054
□ Notch S.W. corner of S. abut. (on W. Side of Rd.) of bridge over Coldwater Creek (Sta. 413±-300'±Rt.)

P.T. 413+07.62

Gregory Creek Channel Relocation
See Sheet 240

L-10
Sodded Ditch
410+00 to 415+35 (Lt.) 2' Deep
423+00 to 424+00 (Rt.) 1' Deep

415+35 Lt.
Place 12 Cu. Yds.
I-10 (18" Thick) @ Ditch Outlet

100' Transition
Sta. 411+00 Side Slope 4:1
Sta. 412+00 Side Slope 2:1

Cultivated
Ditch Inv. 616.3
Bridge No. BU. 4-152
℄ Sta. 415+41.5
For Details See Sh. 243
Ditch Inv. 616.0
GREGORY CREEK RELOCATION
Overflow Channel
Berm Line
410
415
420
424
N. 42°-33'-55" E
Cultivated
Inv. 610.0
132'
Inv. 610.0
Ditch Inv. 610.0
Garage
Wooded
Cleaning for Power Line
Top of Bank
Gregory Creek
Top of Bank

For Details of Approach Slabs for Bridge No. BU. 4-152 See Sheet 252

S-27
423+80
24G-18"
2 Endwalls S-27 PC+
See Sheet 241

Guard Rail
410+00 to 414+34.5 Rt.
410+88 to 414+60.5 Lt.
416+47.5 to 424+00 Lt.
416+21.5 to 424+00 Rt.

PROPOSED STRUCTURE

TYPE: Continuous rolled beam with reinforced concrete slab and superstructure.
SPANS: 48'-9" - 61'-0" - 48'-9" c.to c. bearings.
SKEW: 37° L.F.
WEARING SURFACE: 1" monolithic concrete.
SAFETY CURBS: 2 @ 2'-0"; 9" high
ROADWAY: 2 - 15'-0" lanes.
APPROACH SLABS: 20'-0" long.
LOADING: Standard lane loading as per State of Ohio Design Specifications for Highway Structures, October 1, 1951 with revisions CF-400.

100' V.C.
P.V.C. 413+50
P.V.I. 414+00
El. 632.00
P.V.T. 414+50
Bridge Limits 164.14'
0.0 %
+0.50 %
Profile Southbound Lane
Ground Line Along ℄ of Southbound Lane
610.27

632.00 632.00 632.00 632.00 632.00 632.02 632.06 632.15 632.25 632.50 633.00 633.50 634.00 634.50 635.00 635.50 636.00 636.50 637.00

620.9 621.9 618.5 620.0 620.5 619.5 620.6 620.7 620.8 620.7 622.3 622.7 619.1 616.9 618.2 617.5 619.3 619.5 619.3 618.9 619.2 619.2 619.6 618.4 610.9

410 411 412 413 414 415 416 417 418 419 420 421 422 423 424

670 660 650 640 630 620 610

STA 410+00 to STA 424+00


Bridge BU-4-151
For Details See Sh. 242
NORTH
22'-0"
1½"-T-35
Integral Curb
3" Brick
¾" Sand Cushion
6" Concrete Base
Integral Curb
TYPICAL SECTION - EXIST. PAV'T.
STA. 420+50 N
B.M. #39 Elev. 632.370
N.E. corner of top step
to porch on house on W.
side of old Rte. #4
[Sta. 424+50-100'± Rt.]
Remove existing pavement and
construct new pavement from
Sta. 420+50 to Sta. 425+00
Remove Existing Guard Rail
425 N
Ditch Inv. 630.3
Gregory Creek
Coldwater Creek
409N
410N
415N
420N
P.T. 420+50
Begin New Pavement
1½ Story Fr. Bus
Gravel Parking Area
418+42
419+92
N 15°43'55" E
T.S. 424+07.37
× B.M. #39
Ditch Inv. 628.5
Outlet over Existing Ground
Provide 10 sq. yds. Sod @ Outlet
Guard Rail
418+42 to 419+92 Lt.
Coldwater Creek
Top Bank Coldwater Creek
632.00
632.00
632.02
632.09
632.21
632.37
632.39
632.76
633.53
634.30
635.07
+51.30
+51.30
100' V.C.
P.V.C. 420+51.30
P.V.I. 421+01.30
El. 632.00
P.V.T. 421+51.30
0.00%
+0.77%
Existing Grade Along ℄ Northbound Lane
Profile Northbound Lane
660
650
640
630
620
610
600
632.17
632.51
632.40
632.44
632.37
632.49
632.54
632.6
632.5
632.5
632.5
632.6
633.4
634.6
635.7
411-N
412-N
413-N
414-N
415-N
416-N
417-N
418-N
419-N
420-N
421-N
422-N
423-N
424-N
425-N

Remove existing pavement and construct new pavement from Sta. 425+00-N to Sta. 434+00-S.

NORTH

100' Transition

Ditch Inv. 610.5

Sta. 424+70 Side Slope 2:1

Ditch Inv. 625.4

Sta. 425+70 Side Slope 4:1

Ditch Inv. 633.9

Hub 426+82.93 — 40' — Hub — 70' — Garage — 2 Sty Res. & Bus. — 40' — Hub 428+41.54

70'

C.N. on old brick rd.

3" Plum Trees

2-12"

12"

30"

24"

4"

5"

10"

Fireplace

Cistern Under House

2 Sty Fr. Res. & Store

Remove Existing Signs

0+49

24"

12"

Wells

20"

14"

50' lilac bush

Fr. Gar.

18"

Ditch Inv. 635.6

4" Cherry

Top of Bank

Ditch Inv. 626.5

Ditch Inv. 623.8

Remove Existing Pumps & Gas Tanks Underneath

Ditch Inv. 628.0

20" Cherry

Shed

Base

Fr. Gar.

2 Sty Fr. Res.

Brick Road

Refer to Sh. 13 & Sh. 14

4' Stab. Berm

Gravel

End of Road

Ditch Inv. 633.4

Ditch Inv. 635.0

Power & Billboard

Sta. 424+00 Side Slope 2:1

Sta. 425+00 Side Slope 4:1

100' Transition

Remove Existing Guard Rail

425-N

Ditch Inv. 631.0

Ditch Inv. 630.3

Top of Bank

427+00 N 120' Rt.

Ditch Inv. 629.7

Ditch Inv. 631.0 50' R

S.C. 428+07.37

428+07.37

Nails

65.82

24.45

P.I. 429+50.04

Brick Rd

430

N-42°-33-55"E

430-N

Gravel Drive

6" Res. Drive

430+65 @ +10%

Ditch Inv. 637.5

2 Sty Fr. Res.

12"

14"

Pear

Gravel Drive & 10' Res. Dr. 432+64 @ +10%

Outlet 6" I-4 Sta. 433+32.45 Lt. Inv. 638.25

6" I-4 45° Bend Sta. 433+50-25 Lt. Inv. 638.5

Conc. Slab

Barn

2 Sty Fr. Res.

Sta. 433+50 Inv. 638.5

4" Bus. Dr. @ +10%

Sty Fr. Bus.

Sta. 433+67 @ +10%

Sta. 434+00 End new pavement 6" I-4

Sta. 434+00-27.5 Lt. Inv. 638.6

B.M. #40 El. 643.019 N.E. corner of wall front at house by Li'l's Restaurant (Sta. 433+50 ± L)

I-1 430+65-Lt. 28'-29"x18" 12 Ga. M64(i)(c) 2 Endwalls S-27 P.C.4-Use W=4'-10" 432+64-Lt. 26'-24" 2 Std. Endwalls S-27 P.C.4.

I-3 433+50 S-48' Lt to 435+76 N. 118' Lt. 226'-29"x18" 12 Ga. M64(i)(c) 2 Endwalls S-27 P.C.4-Use W=4'-10"

For Canal Street Intersection Details & Drainage See Sh. 215

CANAL STREET

Gravel

1 Sty Cafe

conc. piers

Gas Pump Base

Tanks Underneath

Island

18"

14"

Ditch Inv. 638.6

Ditch Inv. 638.9

Ditch Inv. 638.1

Outlet 6" I-4 Sta. 433+25-40' Rt. Inv. 636.8

6" I-4 45° Bend Inv. 637.00 Sta. 433+50-14' Rt. Inv. 638.5

I-3 433+50-41' Rt. to 434+18-36' Rt. 126'-58"x36" 8 Gage M64(i)(c) 2 Endwalls S-27 P.C.4 Use W=8'-4" 434+245-30' Rt. to 435+12 N-40' Lt. 88'-18"x1" Paved Bit. Coated M64(i)(d) Build 2 Endwalls S-27 P.C.4 Use w=3'-0"

1 Sty Br. Res.

Conc. Slab

1.08 Br. Walk

I-18

End 6" I-4 Sta. 435+00-14' Rt. Inv. 639.0

Brace pole

S.T. 434+78.20 N

S.T. 434+78.20 M.B. 434+58.20 C.S. 434+38.20

Change Sterioning from South Bound Lane to North Bound Lane

Gr. Drive

28'

28'

Guard Rail 424+00 to 425+72.5 Lt. 424+00 to 424+90.5 Rt.

I-14 Paved Ditch-Type I Mod. 425+00 S to 425+25 S Lt. Length 65'

L-10 Sodded Ditch 424+00 S to 424+70.5 (Rt.) 1' Deep. 425+80.5 to 427+10.5 (Rt.) 1' Deep. Coldwater Creek to 433+50 N (Rt.) 2' Deep. 427+00 N to Ditch Junction-1' Deep. 425+25 S to 426+10 (Lt.) 2' Deep.

I-1 437+78.5 to 438+00 (Lt.) 21.5'-29"x18" 12 Ga. M64(i)(c) Endwall S-27 P.C.4-Use W=4'-10"

Inv. 638.45'

6"x6" Wood Posts

Brick Headwall To Be Removed Item S-24

18" C.M.P. To Be Removed Item E-12

Conc. Hd. Walls To Be Removed Item S-24.

Conc. Wall from Fence on Top To be removed Item S-24

Inv. 638.8

Inv. 639.1

Remove Exist. Signs

Remove Exist. Pipe Item E-12

Mail Boxes

435-N

438-N

Inv. 637.75

CURVE DATA

P.I. = 429+50.04
Δ = 26°-50'-00" Rt.
D = 4°-00'-00"
R = 1432.39'
Ls = 400.00
Lc = 270.83'
Ts = 542.67

Superelevation = 0.083' per foot

S-27 Sta. 428+00 N 72'-18" 2 Std. Endwalls S-27 P.C.4. See Sheet 241

M.B. 430+78 C.S. 430+78.20

Ditch Inv. 638.9

Ditch Inv. 638.6

Ditch Inv. 638.1

M.B. 432+40 N

Inv. 638.8

Inv. 638.1 West Prop. Side Ditch

+005 Median

Inv. 639.1

88'-18"x11" M64A(i)

Inv. 639.0

Median Inv. 640.0

640.4

Ground Line Along ℄ of South Bound Lane

Profile - South Bound Lane

+0.5%

P.V.C. 433+50

P.V.I. 434+00 El. 642.00

P.V.T. 434+50

100' V.C.

Ground Line Along ℄ of North Bound Lane

Profile - North Bound Lane

+0.77%

-0.31%

0.34%

0.00%

+0.322%

0.31%

Median Grade line

P.V.C. 433+50 to 434+62

P.V.T. 434+38 to 435+46

P.V.C. 435+46 to 436+44.6

P.V.I. 435+46 El. 642.00

P.V.I. 436+44.6 El. 642.06

Sta. 424+00 to Sta. 438+00

For Le Sourdsville Intersection Details See Sheet 215

Penetrated Parking Lot

Entrance to Le Sourdsville

Grass Parking Area

NORTH

Spotlights

Overhead Sign

Inv. 640.00

Ditch Inv. 640.5

Remove Ex. 18" C.M.P.C. Item E-12

Brick Headwall to be removed Item S-24

I-1
438+00 Lt. to 439+34 - 113' Lt.
134.5 - 29"x18" Bit. Coated M 64 (i) 12 Ga.
Endwalls S-27 PC4 Use W=4'-10"

Ditch Inv. 642.5

For Cross-over Details See Sheet 209

B.M. #41 El. 648.807
B.M. on R/W mon. W. side of Rte #4 500'± N. of entrance to Le Sourdsville
(Sta. 450+40 107'± L)

Refer to Sh. 13 & Sh. 15A

2

Back Entrance to Le Sourdsville

Gravel Drive

B.M. #41

Begin Cross-over Sta. 450+70

Lakeview Drive (Penetrated)

End Cross-over Sta. 457+34

F.I. 641.6
Inv. 639.6

Inv. 639.2

438

440

445 N. 42°-33'-55" E.

450

452+50

Inv. 643.5

F.I. 649.5
Inv. 647.5

Porter

Inv. 646.0

Porter

Cultivated

Ditch Inv. 641.5

Cultivated

Inv. 642.0

Remove Existing Billboards

Cultivated

Ditch Inv. 646.6

Cultivated

M.B. 438+53

439+00 - 37.5' Lt.
Std. 1-2-A C.B.
72'-15" I-2
34.5' Rt. - Std. Endwall S-27 PC4

L-10
Sodded Ditch 2' deep
445+80 to 452+50 (Rt.)

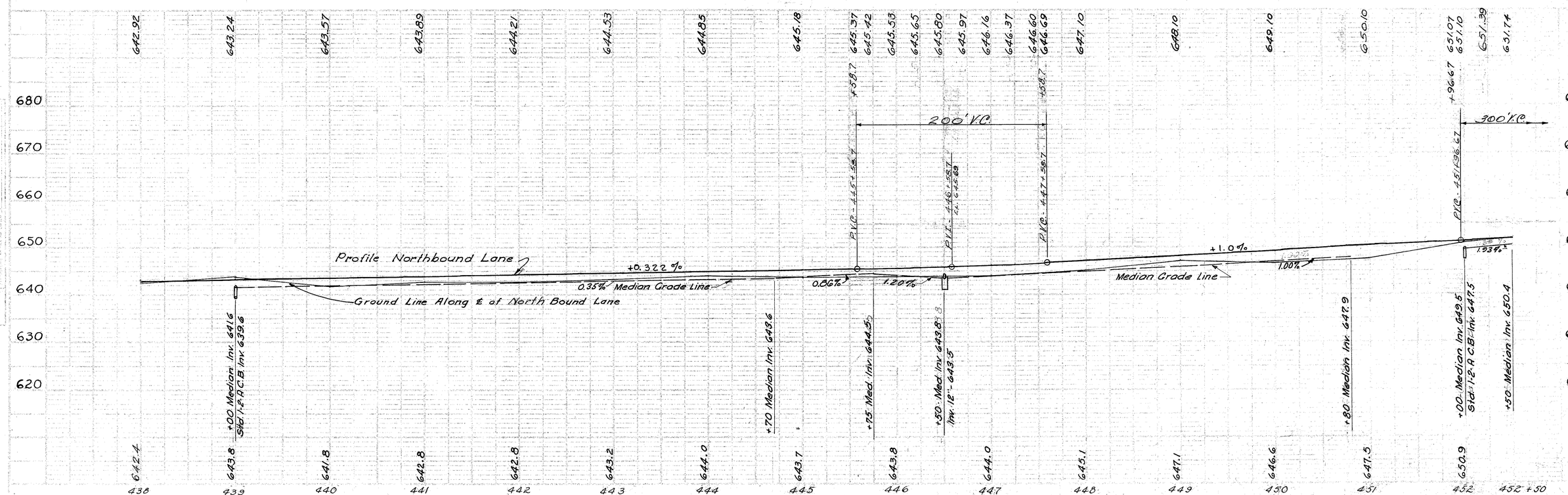
446+50 - 34' Lt.
Std. Endwall S-27 PC4
68'-18" I-2
34' Rt. Std. Endwall S-27 PC4

451+50 - 37' Rt.
Std. Endwall S-27 PC4
86'-12" I-2
452+00 35' Lt.
Std. 1-2-A C.B.

Outlet 6" I-4
Sta. 451+75-35' Rt.
Inv. 646.2

6" I-4 45° Bend
Sta. 451+97-14' Rt.
Inv. 646.4

6" I-4 90° Bend
Sta. 452+00-14 Lt.
Inv. 646.6
28' Outlet for 6" I-4
6" I-4 Tee
Sta 452+00-14' Rt.
Inv. 646.5



STA. 438+00 to STA. 452+50

CURVE DATA
P.I. 459+00.95
Δ = 0°-44'-38" LT.
D = 0°-15'-00"
R = 22,918.31'
L_c = 297.56'
T = 148.78'

For Cross-over Details See Sheet 209

B.M. #42 El. 703.585
On R/W Mon. W. Side of Rte. #4 200'± S. of Rte #63 (Sta. 465+40 - 100'± L)

NORTH

Res. Drive

(2) Refer to Sh. 13 & Sh. 13A

P.C. 457+58.17

P.T. 460+49.73

Begin Cross-over Sta. 461+82

Asphalt Road

Outlet 6"I-4 @ C.B. Inv. 689.9

End Cross-over Sta. 463+03

Sta. 463+45° Bend Sta. 463+17.49' L.H. Inv. 687.5

End 6"I-4 Sta. 464+30.49' L.H. Inv. 689.0

(2) Refer to Sh. 13 & Sh. 13A

Street

12" C.M.P.

B.M. 42

8" C.M.P.

Remove Exist. Signs

12" V.S.P. to be removed Item E-12

Remove Existing Sign 3

Fl. 688.4
Inv. 686.4'

4" Cherry

4" Cherry

N. 42°-33'-55" E.

N. 41°-49'-17" E.

452+50

455

460

465

467

Ditch Inv. 665.3

Ditch Inv. 675.5

Inv. 685.5

Ditch Inv. 691.5

30"

24"

12"

01+79.5

6"I-4
Sta. 4.55+00-14' Rt & Lt.
Inv. 6.542'

End 6"I-4
Sta. 461+00-14' Rt & Lt.
Inv. 674.2'

L-10
Sodded Ditch 1' Deep
452+50 to 466+08 (2 Lt.)
466+32 to 467+00 (Rt.)

462+50-31' Rt
Endwall S-27 P.C.4
83-12" I-2
463+00-36.5 Lt.
Std. 1-2-A C.B.

Outlet 6"I-4
Sta. 463+50-28' Rt.
Inv. 689.5

6"I-45° Bend
Sta. 463+63-16' Rt.
Inv. 689.8

6"I-4-90° Bend
Sta. 464+00-14' Lt.
Inv. 690.2'

30' Outlet for 6"I-4
I-4 6"x16" Tee
Sta. 464+00 16' Rt.
Inv. 690.0

I-1
466+20± Rt.
26'-24"
2 Endwalls S-27 P.C.4

25+44 Res.

6"I-4
Sta. 467+00-27.5' Rt.
Inv. 700.7

6"I-4
Sta. 467+00-14' Lt.
Inv. 700.7

(2) Res. Drive
466+20± Rt.

Gravel Drive

Nail
18.20
12.10
El. 4.87
72°-37'-30"
R.I. 459+00.95
148-78
P.T. 460+49.73

651.74 652.16 652.63 653.17 653.78 654.44 655.47 655.96 656.81 657.72 658.57 658.70 662.70 666.70 670.70 674.70 678.70 682.70 686.70 690.70 694.70 698.70 702.70 706.70

+96.67

700 690 680 670 660 650 640

300' V.C.

P.V.T. 455+96.67

P.V.C. 4667
Elev 652.57

+50 Med. Inv. 650.4'

+00 Med. Inv. 657.2'

+90 Med. Inv. 682.3

+00 Med. Inv. 688.4
Std. I-2-A C.B. Inv. 686.4

+35 Med. Inv. 702.1'

Profile Northbound Lane

+4.00 %

4.09%

4.25%

1.94%

Median Grade Line

Ground Line Along ℄ of Northbound Lane

452+50 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667

652.9 655.4 657.4 659.7 663.3 667.1 671.3 677.0 680.6 683.0 687.4 693.5 704.1 706.3 708.0

STA. 452+50 to STA. 467+00

NORTH

End 6" I-4 Sta. 469+39.4 Lt. Inv. 708.1

Outlet 6" I-4 to Prop. C.B. Inv. 711.1

T.S. 469+01.93 6"-I-4: 45° Bend Sta. 469+09.1 Lt. Inv. 712.0

End 6" I-4 Sta. 470+30.4 Lt. Inv. 717.6

END OF PROJECT STATION 470+50 END OF WORK STATION 470+75

S.C. 473+01.93

C.S. 478+50.00

Ex. State Route #4

Base line

T.S. 469+01.93

Curve Data
PI = 475+95.53
Δ = 37°-55'-22"
D = 4°-00'-00"
R = 1432.39'
Ls = 400.00'
Lc = 548.07'
Ts = 693.60'
Es = 87.15'
Superelev. = 0.083' per foot

B.M. #43 El. 733.501
N.W. corner of lower porch step to res. of Wm. B. Sanders.
[Sta. 475+50 100' ± Rt.]

Remove ex. 18" V.S.P. & conc. headwalls
Item S-24 - 12 cu. yd.
Item E-12

Remove Existing 18" V.S.P.

Field Entrance

Remove Ex. Sign

Remove Loose Stones

Street

Drive

Conc. Bl. Hdwl.

15" C.M.P.

12" C.M.P.

Loose Bricks

St. Hdwl.

St. Pillars

Brick

2 Light Posts

Gravel Drive

1 Sty. Fr. Res. & Gar.

2 Sty. Fr. Res.

3" Flag Pole

Gravel Driveway

Island

12" O+60 Ditch Inv. 706.1

Ditch Inv. 709.6

Ditch Inv. 709.5

Ditch Inv. 709.23

End 6" I-4 Sta. 468+99-17' Rt. Inv. 708.7

Ditch Inv. 717.4

For State Route 63 intersection details See Sh. 217

PROP. RELOCATION STATE ROUTE #63

STATE ROUTE #63

Match Line

+10 Ditch Inv. 707.0

+75 Ditch Inv. 706.0

+00 Ditch Inv. 702.9

469+00 - 22.5' Lt.
Std. I-2 A C.B.
64"-12" I-2
42.5' Rt. Std. Endwall
S-27 P.C.4

S-27
467+20 - 53 Rt. to 468+86 - 46' Rt.
166'-43"x27" Paved, Bit. Coated M64 (1)(a) 10.6a.
2 Endwalls S-27 P.C.4 Use W-6'-10"

L-10
Sodded Ditch - 1' Deep
467+00 to 467+20 (Rt.)
468+86 to 470+50 (Rt.)

22'-0"
1½"-T-35
Integral Curb
Integral Curb
3" Brick
¾" Sand Cushion
6" Concrete Base

TYPICAL SECTION - EXIST. PAV'T. STA. 470+50

706.70 710.70 714.70 718.55 718.70 719.68 720.63 721.54 722.42 723.27 724.09 724.88 725.63 726.36 727.05 727.71 728.33 728.93 729.50 730.02 730.52 730.98 731.43 731.82 732.19 732.53 732.84 733.11 733.35 733.56 733.75 733.89 733.98 734.00 734.41 734.82

+96.24 +96.24

750 740 730 720 710 700 690

P.V.C.-469+96.24

700' V.C.

P.V.I.-473+46.24
El. 732.53

P.V.T.-476+96.24

+0.41%

+4.04%

-3.80%

Med. Grade Line

Profile Northbound Lane

Ground Line Along ℄ of North Bound Lane

100' Med. Inv. 713.6
Std. I-2 A C.B. Inv. 706

+50 Med. Inv. 719.3

708.0 709.1 712.4 716.0 720.3 726.8 731.3 731.5 732.2 732.1 732.9 733.6 733.8

467 468 469 470 471 472 473 474 475 476 477 478 479

STA. 467+00 to STA. 479+00

SUPERELEVATION TABLES

T.S. = 80+49.54 D=4°00' Rt.
S.C. = 82+49.54 S=.042'/Ft.
C.S. = 85+52.89
S.T. = 87+52.89

Station	Outer Edge S.B. Lane*	Inner Edge S.B. Lane	Inner Edge N.B. Lane	Outer Edge N.B. Lane*
79+00	608.95	609.51		608.90
+25	608.93	609.45		608.81
+50	608.94	609.38		608.72
+75	608.99	609.32		608.65
80+00	609.07	609.26		608.60
+25	609.20	609.32		608.59
T.S.80+49.54	609.35	609.35		608.62
+50	609.36	609.35		608.62
+75	609.58	609.42		608.72
81+00	609.84	609.49		608.89
+25	610.14	609.61		609.10
+50	610.44	609.77		609.33
+75	610.75	609.96	609.96	609.56
82+00	611.06	610.17	610.17	609.79
+25	611.35	610.40	610.40	610.01
S.C.82+49.54	611.61	610.60	610.60	610.21
+50	611.62	610.61	610.61	610.22
+75	611.09	610.81	610.81	610.43
83+00	612.10	611.02	611.02	610.64
+25	612.29	611.23	611.23	610.85
+50	612.45	611.44	611.44	611.06
+75	612.65	611.64	611.62	611.24
84+00	612.86	611.85	611.74	611.36
+25	613.01	612.00	611.82	611.44
+50	613.15	612.14	611.91	611.53
+75	613.21	612.20	611.99	611.61
85+00	613.23	612.22	612.07	611.69
+25	613.19	612.18	612.09	611.71
+50	613.10	612.09	612.06	611.68
85+52.89	613.09	612.09	612.05	611.67
+75	612.96	611.95	611.95	611.57
86+00	612.77	611.76	611.76	611.38
+25	612.52	611.51	611.51	611.13
+50	612.22	611.21	611.21	610.83
+75	611.91	610.90		610.52
87+00	611.60	610.59		610.21
+25	611.29	610.28		609.90
+50	610.98	609.97		609.59
S.T.87+52.89	610.94	609.93		609.55
+75	610.66	609.65		609.27
88+00	610.35	609.34		608.96
+25	609.90	609.06		608.68
+27.89	609.85	609.03		
+50	609.48	608.82		
+75	609.13	608.64		
89+00	608.83	608.51		
+25	608.58	608.44		
+50	608.37	608.40		
+75	608.22	608.44		
90+00	608.14	608.52		

Notes:

* Elevations shown for Outer Edge of both Southbound & Northbound Lanes are at back of curb and six(6) inches below top of curb.

1. Elevations shown for Inner Edge of Southbound Lane between Sta. 79+00 thru 81+50 & 86+75 thru 90+00 are Profile Grades as indicated on Typical Sections, Sheet No. 2.

P.C. = 143 +27.99 D = 0° 30' Rt.
P.T. = 146 +27.99 S = 3/16"/ft.

Station	Inner Edge N.B. Lane *	℄ N.B. Lane	Outer Edge N.B. Lane
142+02.99	649.54	649.35	649.16
+25	650.02	649.83	649.64
+50	650.57	650.38	650.19
+75	651.12	650.93	650.74
142+77.99	651.19	651.00	650.81
143+00	651.67	651.48	651.29
+25	652.30	652.11	651.92
P.C.143+27.99	652.39	652.20	652.01
+50	652.92	652.73	652.54
+75	653.55	653.36	653.17
143+77.99	653.63	653.44	653.25
144+00	654.17	653.98	653.79
+25	654.81	654.62	654.43
+50	655.46	655.27	655.08
+75	656.10	655.91	655.72
145+00	656.75	656.56	656.37
+25	657.42	657.23	657.04
+50	658.09	657.90	657.69
+75	658.76	658.57	658.38
145+77.99	658.85	658.66	658.47
146+00	659.42	659.27	659.09
+25	660.16	660.06	659.87
P.T.146+27.99	660.25	660.16	659.97
+50	660.90	660.85	660.66
+75	661.64	661.63	661.45
146+77.99	661.74	661.74	661.55
147+00	662.48	662.54	662.35
+25	663.50	663.62	663.43
+50	664.50	664.68	664.49
147+52.99	664.62	664.81	664.62

* See Typical Section F, Sheet 4, for location of Profile Grade (Inner Edge N.B. Lane)

P.C. = 151 + 68.40 D = 0° 30' Lt.
P.T. = 154 + 68.40 S = 3/16"/ft.

Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
150+43.40	675.10	675.29	675.10
+50	675.33	675.52	675.35
+75	676.19	676.38	676.27
151 + 00	677.02	677.21	677.16
+18.40	677.61	677.80	677.80
+25	677.81	678.00	678.01
+50	678.56	678.75	678.81
P.C.151+68.40	679.09	679.28	679.38
+75	679.27	679.46	679.57
152+00	679.94	680.13	680.28
152+18.40	680.42	680.61	680.80
+25	680.58	680.77	680.96
+50	681.17	681.36	681.55
+75	681.73	681.92	682.11
153+00	682.25	682.44	682.65
+25	682.73	682.92	683.11
+50	683.17	683.36	683.55
+75	683.58	683.77	683.96
154+00	683.94	684.13	684.32
154+18.40	684.19	684.38	684.57
+25	684.27	684.46	684.64
+50	684.56	684.75	684.88
P.T.154+68.40	684.76	684.95	685.05
+75	684.81	685.00	685.08
155+00	685.02	685.21	685.25
155+18.40	685.15	685.34	685.34
+25	685.19	685.38	685.36
+50	685.33	685.52	685.44
+75	685.42	685.61	685.47
155+93.40	685.47	685.66	685.47

T.S. = 157+77.89 D = 3°00' Rt.
S.C. = 161+27.89 S = .071'/ft.
C.S. = 163+84.82
S.T. = 167+34.82

Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
157+02.89	685.50	685.69	685.50
+25	685.52	685.65	685.46
+50	685.60	685.67	685.48
+75	685.75	685.76	685.57
T.S.157+77.89	685.77	685.77	685.58
158+00	685.95	685.90	685.71
+25	686.23	686.12	685.93
+50	686.56	686.38	686.19
+75	686.96	686.72	686.49
159+00	687.42	687.12	686.83
+25	687.94	687.58	687.22
+50	688.54	688.12	687.70
+75	689.16	688.70	688.22
160+00	689.90	689.36	688.82
+25	690.66	690.08	689.48
+50	691.53	690.87	690.21
+75	692.43	691.71	690.98
161+00	693.40	692.62	691.83
+25	694.42	693.56	692.73
S.C.161+27.89	694.53	693.68	692.83
+50	695.43	694.58	693.73
+75	696.44	695.59	694.74
162+00	697.46	696.61	695.76
+25	698.47	697.62	696.77
+50	699.49	698.64	697.79
+75	700.50	699.65	698.80
163+00	701.52	700.67	699.82
+25	702.53	701.68	700.83
+50	703.55	702.70	701.85
+75	704.56	703.71	702.86
C.S.163+84.82	704.96	704.11	703.26
164+00	705.58	704.76	703.95
+25	706.59	705.64	705.08
+50	707.61	706.92	706.22
+75	708.62	707.99	707.36
165+00	709.64	709.07	708.50
+25	710.65	710.14	709.63
+50	711.67	711.22	710.77
+75	712.68	712.29	711.90
166+00	713.70	713.37	713.04
+25	714.71	714.44	714.18
+50	715.73	715.52	715.32
+75	716.74	716.59	716.40
167+00	717.76	717.66	717.49
+25	718.77	718.75	718.56
S.T.167+34.82	719.17	719.17	718.98
+50	719.79	719.83	719.64
+75	720.80	720.90	720.71
168+00	721.82	721.98	721.80
168+09.82	722.22	722.41	722.22

T.S. = 169+98.11-S D = 5°00' Lt.
S.C. = 173+98.11-S S = .083'/ft.
C.S. = 174+38.78-S
S.T. = 176+38.78-S

Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
169+23.11-S	726.82	727.01	726.82
+25	726.90	727.08	726.90
+50	727.84	728.03	727.91
+75	728.80	728.99	728.93
T.S.169+98.11-S	729.67	729.86	729.86
170+00	729.75	729.94	729.94
+25	730.70	730.88	730.95
+50	731.65	731.84	731.97
+75	732.60	732.79	732.98
171+00	733.52	733.78	734.03
+25	734.42	734.73	735.05
+50	735.32	735.70	736.08
+75	736.24	736.68	737.12
172+00	737.13	737.64	738.14

T.S. = 169+98.11-S D = 5°00' Lt. (Cont'd.)
S.C. = 173+98.11-S S = .083'/ft.
C.S. = 174+38.78-S
S.T. = 176+38.78-S

Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
172+25	736.02	738.58	739.15
+50	736.91	739.54	740.17
+75	739.80	740.49	741.18
173+00	740.69	741.45	742.20
+25	741.58	742.39	743.21
+50	742.46	743.34	744.22
+75	743.35	744.29	745.23
S.C.173+98.11-S	744.17	746.17	746.17
174+00	744.25	745.25	746.25
+25	745.24	746.24	747.24
C.S.174+38.78-S	745.79	746.79	747.79
+50	746.29	747.26	748.23
+75	747.41	748.32	749.23
175+00	748.53	749.37	750.22
+25	749.62	750.41	751.19
+50	750.73	751.45	752.17
+75	751.82	752.48	753.14
176+00	752.93	753.52	754.12
+25	754.02	754.56	755.09
+50	755.12	755.59	756.06
+75	756.21	756.62	757.03
177+00	757.31	757.65	758.00
+25	758.39	758.68	758.96
+50	759.49	759.71	759.93
+75	760.54	760.73	760.89
178+00	761.57	761.75	761.85
+25	762.58	762.77	762.80
S.T.178+38.78-S	763.13	763.32	763.32
+50	763.59	763.78	763.75
+75	764.54	764.73	764.64
179+00	765.48	765.66	765.51
179+13.78-S	765.96	766.15	765.96

T.S. = 170+07.45 D = 5°00' Lt. (Cont'd.)
S.C. = 174+07.45 S = .083'/ft.
C.S. = 174+48.12
S.T. = 176+48.12

Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
176+50	755.43	755.97	756.52
+75	756.38	756.87	757.35
177+00	757.33	757.76	758.19
+25	758.28	758.65	759.03
+50	759.23	759.55	759.86
+75	760.18	760.44	760.70
178+00	761.13	761.33	761.54
+25	762.08	762.27	762.37
S.T.178+48.12	762.96	763.15	763.15
+50	763.03	763.22	763.21
+75	763.96	764.15	764.08
179+00	764.85	765.04	764.91
179+23.12	765.66	765.85	765.66

P.C. = 240+35.44-N D = 0° 30' Lt.
P.T. = 247+10.44-N S = 3/16"/ft.

Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
239+10.44-N	745.18	745.37	745.18
+25	744.60	744.79	744.64
+50	743.63	743.82	743.73
+75	742.71	742.90	742.87
239+35.44-N	742.34	742.53	742.53
240+00	741.84	742.03	742.05
+25	741.02	741.21	741.28
P.C.240+35.44-N	740.70	740.89	740.99
+50	740.26	740.45	740.57
+75	739.55	739.74	739.91
+35.44-N	739.27	739.46	739.65
241+00	738.89	739.08	739.27
+25	738.29	738.48	738.67
+50	737.74	737.93	738.12
+75	737.24	737.43	737.62
242+00	736.79	736.98	737.17
+25	736.40	736.59	736.78
+50	736.06	736.25	736.44
+75	735.77	735.96	736.15
243+00	735.54	735.73	735.92
+25	735.36	735.55	735.74
+50	735.23	735.42	735.61
+75	735.15	735.34	735.53
244+00	735.10	735.29	735.48
+25	735.05	735.24	735.43
+50	735.00	735.19	735.38
+75	734.95	735.14	735.33
245+00	734.90	735.09	735.28
+25	734.85	735.04	735.23
+50	734.80	734.99	735.18
+75	734.75	734.94	735.13
246+00	734.70	734.89	735.08
+23.07-N	734.64	734.83	735.02
+25	734.63	734.82	735.01
+50	734.53	734.72	734.85
+75	734.39	734.58	734.67
247+00	734.22	734.41	734.45
P.T.247+10.44-N	734.14	734.33	734.35
+23.07-N	734.03	734.22	734.22
+25	734.01	734.20	734.19
+50	733.77	733.96	733.89
+75	733.50	733.69	733.56
247+98.07-N	733.21	733.40	733.21

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

BUT-4-(8.48-15.02)

SUPERELEVATION TABLES

P.C.=237+62.24-S S = 3/16"/ft.
P.T.=244+37.24-S D= 0°30' Lt.

Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
236+37.24-S	756.11	756.30	756.11
+50	755.57	755.76	755.60
+75	754.51	754.69	754.60
237+00	753.44	753.63	753.60
237+12.24-S	752.92	753.11	753.11
+25	752.39	752.58	752.60
+50	751.34	751.53	751.60
P.C.237+62.24-S	750.83	751.02	751.11
+75	750.29	750.48	750.60
238+00	749.25	749.44	749.60
238+12.24-S	748.73	748.92	749.11
+25	748.22	748.41	748.60
+50	747.22	747.41	747.60
+75	746.22	746.41	746.60
239+00	745.22	745.41	745.60
+25	744.22	744.41	744.60
+50	743.25	743.44	743.63
+75	742.33	742.52	742.71
240+00	741.46	741.65	741.84
+25	740.64	740.83	741.02
+50	739.88	740.07	740.26
+75	739.17	739.36	739.55
241+00	738.51	738.70	738.89
+25	737.89	738.10	738.29
+50	737.36	737.55	737.74
+75	736.86	737.05	737.24
242+00	736.41	736.60	736.79
+25	736.02	736.21	736.40
+50	735.68	735.87	736.06
+75	735.39	735.58	735.77
243+00	735.16	735.35	735.54
+25	734.98	735.17	735.36
+50	734.85	735.04	735.23
+75	734.77	734.96	735.15
243+87.24-S	734.75	734.94	735.13
244+00	734.75	734.94	735.10
+25	734.74	734.93	735.05
P.T.244+37.24-S	734.75	734.94	735.03
+50	734.74	734.93	735.00
+75	734.74	734.93	734.95
244+87.24-S	734.74	734.93	734.93
245+00	734.74	734.93	734.90
+25	734.76	734.94	734.85
+50	734.77	734.96	734.80
245+62.24-S	734.78	734.97	734.78

P.C.=248+89.23-S S = 3/16"/ft.
P.T.=255+22.56-S D=0°30' Rt.

Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
247+64.23-S	733.62	733.81	733.62
+75	733.53	733.69	733.50
248+00	733.27	733.37	733.18
+25	732.99	733.03	732.84
+39.23-S	732.81	732.81	732.62
+50	732.66	732.64	732.45
+75	732.30	732.23	732.04
P.C.248+89.23-S	732.07	731.98	731.79
249+00	731.89	731.78	731.59
+25	731.45	731.29	731.10
+39.23-S	731.19	731.00	730.81
+50	730.96	730.77	730.58
+75	730.40	730.21	730.02
250+00	729.81	729.62	729.43
+25	729.19	729.00	728.81
+50	728.53	728.34	728.15
+75	727.85	727.66	727.47
251+00	727.20	727.01	726.82
+25	726.60	726.41	726.22

P.C.=248+89.23-S S = 3/16"/ft.
P.T.=255+22.56-S D= 0°30' Rt. (Cont'd)

Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
251+50	726.06	725.87	725.68
+75	725.59	725.40	725.21
252+00	725.17	724.98	724.79
+25	724.80	724.61	724.42
+50	724.49	724.30	724.11
+75	724.23	724.04	723.85
253+00	724.03	723.84	723.65
+25	723.89	723.70	723.51
+50	723.81	723.62	723.43
+75	723.78	723.59	723.40
254+00	723.78	723.59	723.40
+25	723.78	723.59	723.40
+50	723.78	723.59	723.40
+72.56	723.78	723.59	723.40
+75	723.78	723.59	723.40
255+00	723.76	723.62	723.43
+22.56	723.79	723.70	723.51
+25	723.80	723.71	723.52
+50	723.90	723.86	723.67
+72.56-S	724.05	724.05	723.86
+75	724.07	724.08	723.89
256+00	724.28	724.35	724.16
+25	724.56	724.69	724.50
256+47.56-S	724.84	725.03	724.84

P.C.=248+89.23-S
P.T.=255+22.56-S

Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
247+98.07	733.20	733.39	733.20
248+00	733.18	733.36	733.18
+25	732.84	732.96	732.77
+50	732.45	732.51	732.32
+73.07	732.08	732.08	731.89
+75	732.04	732.04	731.85
P.C.248+89.23	731.79	731.76	731.57
249+00	731.59	731.54	731.35
+23.07	731.14	731.05	730.86
+25	731.10	731.00	730.82
+50	730.58	730.44	730.25
+73.07	730.06	729.87	729.68
+75	730.02	729.83	729.64
250+00	729.43	729.24	729.05
+25	728.81	728.62	728.43
+50	728.15	727.96	727.77
+75	727.47	727.28	727.09
251+00	726.82	726.63	726.44
+25	726.22	726.03	725.84
+50	725.68	725.49	725.30
+75	725.21	725.02	724.83
252+00	724.79	724.60	724.41
+25	724.42	724.23	724.04
+50	724.11	723.92	723.73
+75	723.85	723.66	723.47
253+00	723.65	723.46	723.27
+25	723.51	723.32	723.13
+50	723.43	723.24	723.05
+75	723.40	723.21	723.02
254+00	723.41	723.22	723.03
+25	723.46	723.27	723.08
+50	723.58	723.39	723.20
+72.56	723.73	723.54	723.35
+75	723.75	723.57	723.38
255+00	723.98	723.84	723.66
P.T.255+22.56	724.23	724.14	723.95
+25	724.26	724.17	723.98
+50	724.61	724.57	724.38
+72.56	724.96	724.96	724.77
+75	725.01	725.02	724.83
256+00	725.46	725.53	725.34
+25	725.98	726.11	725.92
256+47.56	726.49	726.68	726.49

T.S.=265+94.65 S=.047'/ft.
S.C.=267+94.65 D= 2°00' Lt.
C.S.=270+19.65
S.T.=272+19.65

Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
265+19.65	745.28	745.47	745.28
+25	745.36	745.54	745.37
+50	745.69	745.88	745.77
+75	745.99	745.18	746.13
T.S.265+94.65	746.19	746.38	746.38
266+00	746.25	746.43	746.45
+25	746.45	746.63	746.72
+50	746.63	746.81	746.97
+75	746.72	746.94	747.17
267+00	746.74	747.03	747.33
+25	746.73	747.09	747.46
+50	746.68	747.11	747.55
+75	746.57	747.08	747.59
S.C.267+94.65	746.47	747.04	747.60
268+00	746.47	747.04	747.60
+25	746.45	747.02	747.58
+50	746.38	746.95	747.51
+75	746.28	746.85	747.41
269+00	746.13	746.70	747.26
+25	745.95	746.52	747.08
+50	745.73	746.30	746.86
+75	745.47	746.04	746.60
270+00	745.17	745.74	746.30
C.S.270+19.65	744.91	745.48	746.04
+25	744.87	745.42	745.97
+50	744.63	745.11	745.59
+75	744.37	744.77	745.18
271+00	744.05	744.38	744.72
+25	743.71	743.97	744.24
+50	743.31	743.50	743.70
+75	742.83	743.01	743.14
272+00	742.29	742.47	742.53
S.T.272+19.65	741.85	742.04	742.04
+25	741.74	741.97	741.91
+50	741.17	741.36	741.28
+75	740.61	740.80	740.66
272+94.65	740.17	740.36	740.17

T.S.=266+47.28 S=.047'/ft.
S.C.=268+47.28 D= 2°00' Lt.
C.S.=270+98.86
S.T.=272+98.86

Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
265+72.28	741.81	742.00	741.81
+75	741.85	742.04	741.86
266+00	742.39	742.58	742.46
+25	742.88	743.07	743.01
T.S.266+47.28	743.29	743.48	743.48
+50	743.33	743.52	743.53
+75	743.74	743.93	744.06
267+00	744.11	744.33	744.54
+25	744.46	744.73	745.01
+50	744.76	745.09	745.43
+75	745.01	745.40	745.80
268+00	745.23	745.68	746.13
+25	745.43	745.94	746.45
S.C.268+47.28	745.56	746.12	746.69
+50	745.57	746.13	746.70
+75	745.68	746.24	746.81
269+00	745.74	746.30	746.87
+25	745.77	746.33	746.90
+50	745.77	746.33	746.90
+75	745.73	746.29	746.86
270+00	745.64	746.20	746.77
+25	745.52	746.08	746.65
+50	74[illegible].36	745.92	746.49

T.S.=266+47.28 S= .047'/ft. (cont'd)
S.C.=268+47.28 D=2°00' Lt.
C.S.=270+98.86
S.T.=272+98.86

Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
270+75	745.16	745.72	746.29
C.S.270+98.86	744.93	745.49	746.06
271+00	744.92	745.48	746.04
+25	744.65	745.15	745.65
+50	744.33	744.77	745.22
+75	743.98	744.36	744.75
272+00	743.59	743.92	744.24
+25	743.16	743.43	743.69
+50	742.69	742.90	743.11
+75	742.19	742.38	742.49
S.T.272+98.86	741.67	741.86	741.86
273+00	741.64	741.83	741.82
+25	741.06	741.25	741.18
+50	740.44	740.63	740.50
273+73.86	739.85	740.04	739.85

T.S.=296+19.58 S=.059'/ft.
S.C.=299+19.58 D=2°30' Lt.
C.S.=299+85.64
S.T.=302+85.64

Station	Outer Edge S.B. Lane	℄ N.B. Lane	Inner Edge S.B. Lane
295+44.58	760.65	760.84	760.65
+50	760.76	760.94	760.77
+75	761.20	761.39	761.28
296+00	761.61	761.80	761.75
T.S.296+19.58	761.87	762.06	762.06
+25	761.94	762.13	762.14
+50	762.23	762.42	762.49
+75	762.46	762.65	762.78
297+00	762.64	762.83	763.02
+25	762.70	762.95	763.20
+50	762.72	763.02	763.33
+75	762.68	763.04	763.41
298+00	762.65	763.07	763.50
+25	762.62	763.11	763.59
+50	762.59	763.14	763.68
+75	762.55	763.16	763.76
299+00	762.53	763.19	763.85
S.C.299+19.58	762.50	763.21	763.92
+25	762.52	763.23	763.94
+50	762.68	763.39	764.10
+75	762.89	763.60	764.31
C.S.299+85.64	763.00	763.71	764.42
300+00	763.25	763.93	764.60
+25	763.73	764.34	764.96
+50	764.28	764.83	765.39
+75	764.90	765.39	765.89
301+00	765.57	766.01	766.45
+25	766.33	766.71	767.09
+50	767.15	767.47	767.79
+75	768.05	768.31	768.57
302+00	769.01	769.21	769.41
+25	770.00	770.19	770.33
+50	770.96	771.15	771.23
+75	771.89	772.07	772.10
S.T.302+85.64	772.25	772.44	772.44
303+00	772.75	772.94	772.90
+25	773.56	773.75	773.65
+50	774.32	774.51	774.35
303+60.64	774.63	774.82	774.63

P.C.=325+53.96 D = 1°00' Rt.
P.T.=332+45.63 S = .024'/ft.

Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge Both Lanes	℄ N.B. Lane	Outer Edge N.B. Lane
324+28.96	795.50	795.69	795.50	795.69	795.50
+50	795.90	796.04	795.85	795.98	795.80
+75	796.35	796.42	796.23	796.30	796.11
325+00	796.74	796.75	796.56	796.57	796.38
325+03.96	796.80	796.80	796.61	796.61	796.42
+25	797.14	797.06	796.87	796.81	796.62
+50	797.50	797.32	797.13	797.00	796.81
P.C.325+53.96	797.55	797.36	797.17	797.03	796.84
+75	797.83	797.60	797.37	797.17	796.96
326+00	798.11	797.83	797.55	797.27	797.00
326+03.96	798.16	797.87	797.58	797.29	797.00
+25	798.30	798.01	797.72	797.43	797.14
+50	798.41	798.12	797.83	797.54	797.25
+75	798.50	798.21	797.92	797.63	797.34
327+00	798.54	798.25	797.96	797.67	797.38
+25	798.55	798.26	797.97	797.68	797.39
+50	798.52	798.23	797.94	797.65	797.36
+75	798.46	798.17	797.88	797.59	797.30
328+00	798.35	798.06	797.77	797.48	797.19
+25	798.22	797.93	797.64	797.35	797.06
+50	798.04	797.75	797.46	797.17	796.88
+75	797.83	797.54	797.25	796.96	796.67
329+00	797.58	797.29	797.00	796.71	796.42
+25	797.30	797.01	796.72	796.43	796.14
+50	796.98	796.69	796.40	796.11	795.82
+75	796.62	796.33	796.04	795.75	795.46
330+00	796.22	795.93	795.64	795.35	795.06
+25	795.79	795.50	795.21	794.92	794.63
+50	795.33	795.04	794.75	794.46	794.17
+75	794.82	794.53	794.24	793.95	793.66
331+00	794.28	793.99	793.70	793.41	793.12
+25	793.73	793.44	793.15	792.86	792.57
+50	793.18	792.89	792.60	792.31	792.02
+75	792.63	792.34	792.05	791.76	791.47
+95.63	792.17	791.88	791.59	791.30	791.01
332+00	792.06	791.78	791.50	791.22	790.95
+25	791.41	791.18	790.95	790.75	790.54
P.T.332+45.63	790.87	790.68	790.49	790.35	790.16
+50	790.76	790.59	790.40	790.27	790.08
+75	790.12	790.04	789.85	789.79	789.60
332+95.63	789.58	789.58	789.39	789.39	789.20
333+00	789.48	789.49	789.30	789.31	789.12
+25	788.86	788.94	788.75	788.82	788.64
+50	788.25	788.39	788.20	788.34	788.15
333+70.63	787.74	787.93	787.74	787.93	787.74

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

61/291

BUT-4-(8.48-16.02)

SUPERELEVATION TABLES

P.C.-351+06.11		D=0°-30'LT.	
P.T.-353+72.78		S=3/16"/ft	
Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
349+81.11	753.62	753.81	753.62
350+00	753.20	753.39	753.25
+25	752.71	752.90	752.82
+50	752.28	752.47	752.45
+56.11	752.18	752.37	752.37
+75	751.93	752.11	752.15
351+00	751.63	751.82	751.90
P.C.351+06.11	751.57	751.76	751.85
+25	751.40	751.59	751.72
+50	751.24	751.42	751.60
+56.11	751.19	751.38	751.57
+75	751.12	751.31	751.50
352+00	751.02	751.21	751.40
+25	750.92	751.11	751.30
+50	750.82	751.01	751.20
+75	750.73	750.92	751.11
353+00	750.67	750.86	751.05
+22.78	750.63	750.82	751.01
+25	750.64	750.83	751.01
+50	750.68	750.86	751.00
PT353+72.78	750.72	750.91	751.00
+75	750.72	750.91	751.00
354+00	750.77	750.96	751.00
+22.78	750.81	751.00	751.00
+25	750.82	751.01	751.00
+50	750.88	751.07	751.00
+75	750.94	751.13	751.00
354+97.78	751.00	751.19	751.00

PC-356+28.57		D=0°-30'RT	
PT-362+91.90		S=3/16"/ft.	
Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
355+03.57	751.00	751.19	751.00
+25	751.05	751.19	751.00
+50	751.12	751.19	751.00
+75	751.18	751.19	751.00
+78.57	751.19	751.19	751.00
356+00	751.22	751.18	750.99
+25	751.21	751.13	750.94
PC 356+28.57	751.21	751.12	750.93
+50	751.17	751.04	750.85
+75	751.10	750.92	750.73
+78.57	751.09	750.90	750.71
357+00	750.95	750.76	750.57
+25	750.75	750.56	750.37
+50	750.52	750.33	750.14
+75	750.25	750.06	749.87
358+00	749.94	749.75	749.56
+25	749.60	749.41	749.22
+50	749.22	749.03	748.84
+75	748.81	748.62	748.43
359+00	748.35	748.16	747.97
+25	747.87	747.68	747.49
+50	747.34	747.15	746.96
+75	746.78	746.59	746.40
360+00	746.18	745.99	745.80
+25	745.55	745.36	745.17
+50	744.88	744.69	744.50
+75	744.17	743.98	743.79
361+00	743.44	743.25	743.06
+25	742.71	742.52	742.33
+50	741.98	741.79	741.60
+75	741.25	741.06	740.87
362+00	740.52	740.33	740.14
+25	739.79	739.60	739.41

PC-356+28.57		D=0°-30'RT	
PT-362+91.90		S=3/16"/ft.	CONTD.
Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
362+41.90	739.30	739.11	738.92
+50	739.03	738.86	738.67
+75	738.26	738.14	737.95
P.T.362+91.90	737.74	737.65	737.46
363+00	737.49	737.41	737.22
+25	736.71	736.68	736.49
+41.90	736.19	736.19	736.00
+50	735.93	735.95	735.76
+75	735.13	735.22	735.03
364+00	734.34	734.49	734.30
364+16.90	733.81	734.00	733.81

PC-366+55.23		D=1°-00'LT	
PT-379+38.56		S=.024'/ft.	
Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
365+30.23	730.50	730.69	730.50
+50	729.87	730.06	729.92
+75	729.08	729.27	729.19
366+00	728.50	728.48	728.47
+05.23	728.13	728.32	728.32
+25	727.53	727.71	727.77
+50	726.80	726.99	727.12
P.C.366+55.23	726.66	726.85	726.99
+75	726.10	726.30	726.50
367+00	725.38	725.65	725.92
+05.23	725.22	725.51	725.80
+25	724.80	725.09	725.38
+50	724.19	724.58	724.87
+75	723.82	724.11	724.40
368+00	723.39	723.68	723.97
+25	723.00	723.29	723.58
+50	722.64	722.93	723.22
+75	722.32	722.61	722.90
369+00	722.04	722.33	722.62
+25	721.81	722.08	722.37
+50	721.58	721.87	722.16
+75	721.41	721.70	721.99
370+00	721.27	721.56	721.85
+25	721.17	721.46	721.75
+50	721.12	721.41	721.70
+75	721.09	721.38	721.67
371+00	721.10	721.39	721.68
+25	721.16	721.45	721.74
+50	721.24	721.53	721.82
+75	721.37	721.66	721.95
372+00	721.52	721.81	722.10
+25	721.72	722.01	722.30
+50	721.96	722.25	722.54
+75	722.23	722.52	722.81
373+00	722.54	722.83	723.12
+25	722.89	723.18	723.47
+50	723.27	723.56	723.85
+75	724.29	724.58	724.87
374+00	724.14	724.43	724.72
+25	724.60	724.89	725.18
+50	725.06	725.35	725.64
+75	725.51	725.80	726.09
375+00	725.96	726.25	726.54
+25	726.38	726.67	726.96
+50	726.76	727.05	727.34
+75	727.10	727.39	727.68
376+00	727.40	727.69	727.98
+25	727.68	727.97	728.26
+50	727.92	728.21	728.50
+75	728.11	728.40	728.69
377+00	728.27	728.56	728.85
+25	728.40	728.69	728.98
+50	728.48	728.77	729.06
+75	728.54	728.83	729.12

PC-366+55.23		D=1°-00'LT	
PT-379+38.56		S=.024'/ft.	Contd.
Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
378+00	728.55	728.84	729.13
+25	728.53	728.82	729.11
+50	728.48	728.77	729.06
+75	728.38	728.67	728.96
+88.56	728.32	728.61	728.90
379+00	728.32	728.57	728.83
+25	728.30	728.49	728.67
PT379+38.56	728.23	728.42	728.56
+50	728.16	728.35	728.46
+75	728.00	728.19	728.23
+88.56	727.89	728.08	728.08
380+00	727.79	727.98	727.95
+25	727.54	727.73	727.64
+50	727.26	727.44	727.29
380+63.56	727.08	727.27	727.08

PT-379+87.0N		D=1°-00' Lt.	
		S=.021'/ft.	
Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
372+9.34	722.90	723.15	723.40
373+00	723.03	723.28	723.53
+25	723.49	723.74	723.99
+50	723.94	724.19	724.44
+75	724.40	724.65	724.90
374+00	724.85	725.10	725.25
+25	725.30	725.55	725.80
+50	725.74	725.99	726.24
+75	726.18	726.43	726.68
375+00	726.63	726.88	727.13
+25	727.08	727.33	727.58
+50	727.46	727.71	727.96
+75	727.85	728.10	728.35
376+00	728.17	728.42	728.67
+25	728.47	728.72	728.97
+50	728.73	728.98	729.23
+75	728.94	729.19	729.44
377+00	729.12	729.37	729.62
+25	729.27	729.52	729.77
+50	729.37	729.62	729.87
+75	729.45	729.70	729.95
378+00	729.47	729.72	729.97
+25	729.46	729.71	729.96
+50	729.42	729.67	729.92
+75	729.34	729.59	729.84
379+00	729.23	729.48	729.73
+25	729.08	729.33	729.58
+37.0	728.98	729.23	729.48
+50	728.88	729.11	729.34
+75.	728.64	728.83	729.02
PT379+87.0	728.51	728.70	728.85
380+00	728.37	728.56	728.67
+25	728.06	728.25	728.29
+50	727.71	727.90	727.87
+75	727.32	727.51	727.41
381+00.	726.90	727.09	726.93
381+12	726.67	726.86	726.67

PC.-405+00.95		D=1°-00'LT	
PT-413+07.62		S=.024'/ft.	
Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
403+75.95	640.45	640.64	640.45
404+00	639.67	639.86	639.73
+25	638.88	639.06	639.00
+50	638.12	638.31	638.31
+50.95	638.09	638.28	638.28
+75	637.40	637.59	637.66
405+00	636.71	636.90	637.04
P.C.405+00.95	636.67	636.86	637.00
+25	636.03	636.25	636.46
+50	635.34	635.62	635.91
+50.95	635.29	635.58	635.87
+75	634.82	635.11	635.40
406+00	634.35	634.64	634.93
+25	633.91	634.20	634.49
+50	633.50	633.79	634.08
+75	633.14	633.43	633.72
407+00	632.80	633.09	633.38
+25	632.51	632.80	633.09
+50	632.25	632.54	632.83
+75	632.02	632.31	632.60
408+00	631.83	632.12	632.41
+25	631.68	631.97	632.26
+50	631.56	631.85	632.14
+75	631.48	631.77	632.06
409+00	631.43	631.72	632.01
+25	631.42	631.71	632.00
+50	631.42	631.71	632.00
+75	631.42	631.71	632.00
410+00	631.42	631.71	632.00
+25	631.42	631.71	632.00
+50	631.42	631.71	632.00
+75	631.42	631.71	632.00
411+00	631.42	631.71	632.00
+25	631.42	631.71	632.00
+50	631.42	631.71	632.00
+75	631.42	631.71	632.00
412+00	631.42	631.71	632.00
+25	631.42	631.71	632.00
+50	631.42	631.71	632.00
+57.62	631.42	631.71	632.00
+75	631.53	631.76	632.00
413+00	631.65	631.83	632.00
PT.413+07.62	631.67	631.86	632.00
+25	631.72	631.91	632.00
+50	631.79	631.98	632.00
+57.62	631.81	632.00	632.00
+75	631.88	632.06	632.02
414+00	631.98	632.17	632.06
+25	632.13	632.32	632.15
414+32.62	632.17	632.36	632.17

T.S.424+07.37		D:4°00' Rt.	
S.C.428+07.37		S:.083' ft.	
C.S.430+78.20			
S.T.434+78.20			
Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
420+50	632.00	632.55	633.10
+75	632.02	632.51	633.00
421+00	632.09	632.52	632.94
+25	632.21	632.57	632.94
+50	632.38	632.68	632.98
+75	632.57	632.81	633.05
422+00	632.76	632.95	633.11
+25	632.95	633.14	633.18
+50	633.14	633.33	633.24
+70	633.30	633.49	633.30
+75	633.34	633.53	633.34
423+00	633.53	633.72	633.53
+25	633.72	633.91	633.72
+32.37	633.78	633.97	633.78
+50	633.91	634.05	633.87

T.S.424+07.37			
S.C.428+07.37			
C.S.430+78.20		D:4°00' Rt.	
S.T.434+78.20		S:.083' ft.	
Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
423+75	634.11	634.19	634.00
424+00	634.30	634.32	634.13
+07.37	634.36	634.36	634.17
+25	634.49	634.45	634.26
+50	634.68	634.57	634.39
+75	634.88	634.71	634.52
425+00	635.07	634.84	634.61
+25	635.26	634.97	634.67
+50	635.45	635.09	634.74
+75	635.65	635.23	634.81
426+00	635.84	635.36	634.88
+25	636.03	635.49	634.94
+50	636.22	635.61	635.01
+75	636.42	635.75	635.08
427+00	636.61	635.88	635.15
+25	636.80	636.01	635.21
+50	636.99	636.13	635.28
427+75	637.19	636.27	635.35
428+00	637.38	636.40	635.42
+07.37	637.44	636.44	635.44
+25	637.57	636.57	635.57
+50	637.76	636.76	635.76
+75	637.96	636.96	635.96
429+00	638.15	637.15	636.15
+25	638.34	637.34	636.34
+50	638.53	637.53	636.53
+75	638.73	637.73	636.73
430+00	638.92	637.92	636.92
+25	639.11	638.11	637.11
+50	639.30	638.30	637.30
+75	639.50	638.50	637.50
+78.20	639.52	638.52	637.52
431+00	639.69	638.74	637.80
+25	639.88	639.00	638.11
+50	640.07	639.25	638.43
+75	640.27	639.51	638.75
432+00	640.46	639.76	639.07
+25	640.65	640.02	639.39
+50	640.84	640.27	639.70
+75	641.04	640.53	640.02
433+00	641.23	640.78	640.34
+25	641.42	641.04	640.65
+50	641.62	641.30	640.98
+75	641.79	641.53	641.27
434+00	641.90	641.70	641.51
+25	641.98	641.85	641.66
+50	642.00	641.93	641.74
+75	642.00	641.99	641.80
+78.20	642.00	642.00	641.81
435+00	642.02	642.07	641.89
+25	642.06	642.18	641.99
+50	642.12	642.30	642.11
435+53.20	642.13	642.32	642.13

T.S.469+01.93		S.T.482+50.00	
S.C.473+01.93		D:4°00' Lt.	
C.S.478+50.00		S:.083'/ft.	
Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
468+26.93	711.78	711.97	711.78
+50	712.70	712.89	712.76
+75	713.70	713.89	713.82
469+00	714.70	714.89	714.88
T.S.469+01.93	714.78	714.97	714.97
+25	715.70	715.89	715.99
+50	716.70	716.90	717.11
+75	717.70	717.96	718.22
470+00	718.70	719.02	719.33
+25	719.68	720.05	720.43
+50	720.63	721.06	721.49

SUPERELEVATION TABLES

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

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

GR 291

SUT-4-(8.48-15.02)

Drive Sta. 79+68

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		2	
93	2		

609.51

79+00
609.5

78+00
610.0

77+00
610.3

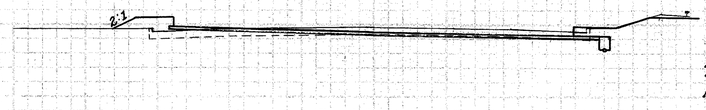
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 77+00 TO 79+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

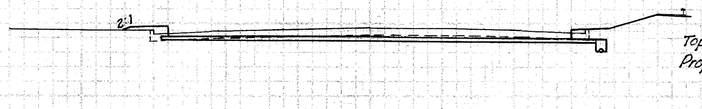
63
291

BUT-4-(8.48-15.02)



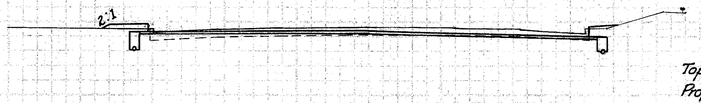
Top of Rail
Prop. grade 611.65

609.77
81+50
609.8



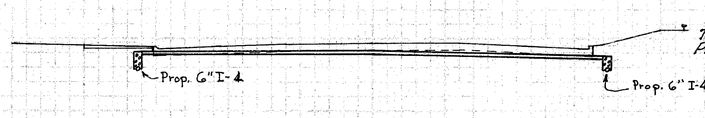
Top of Rail
Prop. grade 611.89

609.49
81+00
609.5



Top of Rail
Prop. grade 611.91

609.35
80+50
609.4



609.26
80+00
609.3

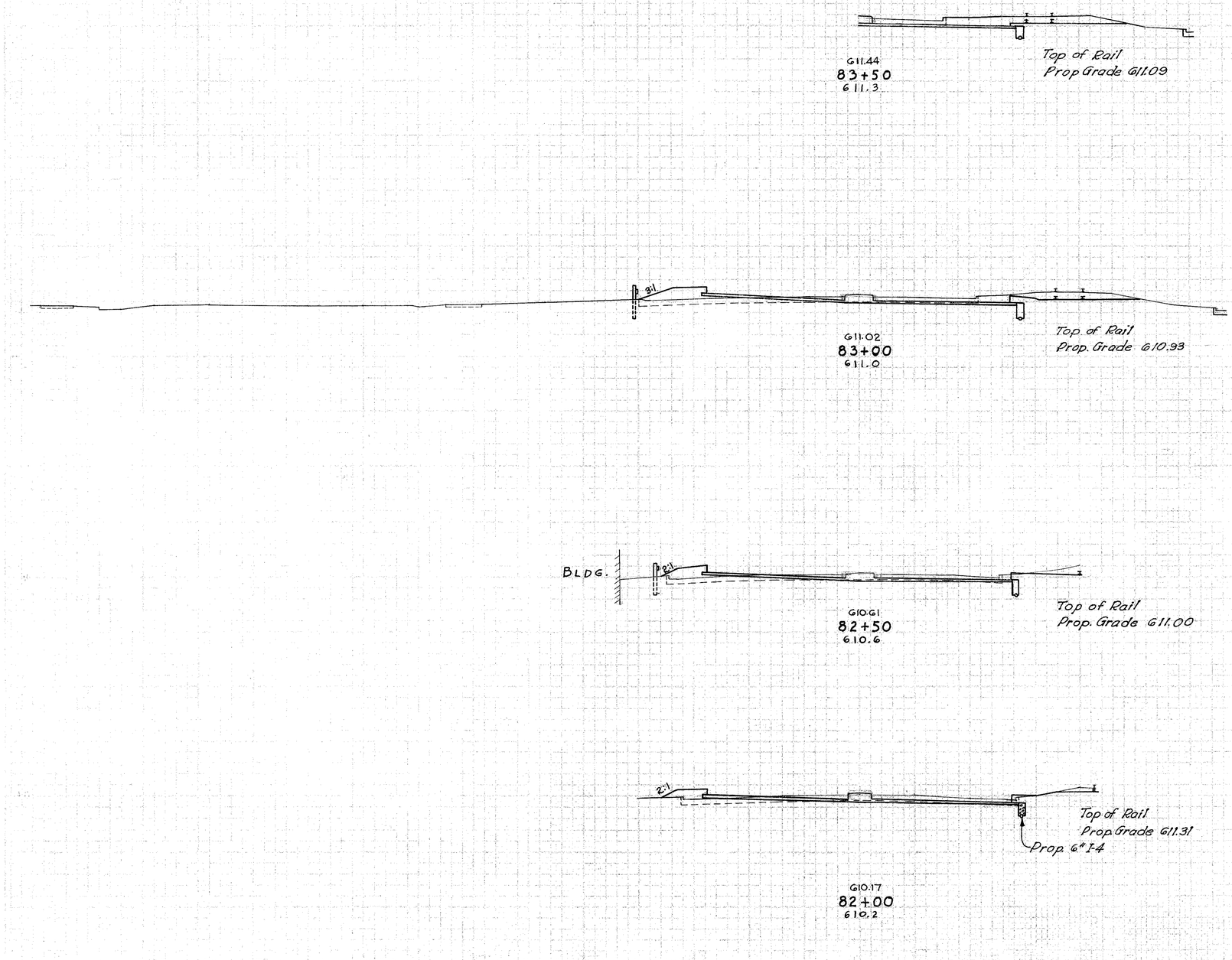
	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	64	33		
			121	54
Drive Sta. 81+34			4	2
	83	9		
			135	25
Drive Sta. 80+61			3	1
	63	18		
			143	21
	91	5		
Drive Sta. 79+98			3	
			341	13

STA. 80+00 TO 81+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

64
291

BUT-4-(8.48-15.02)



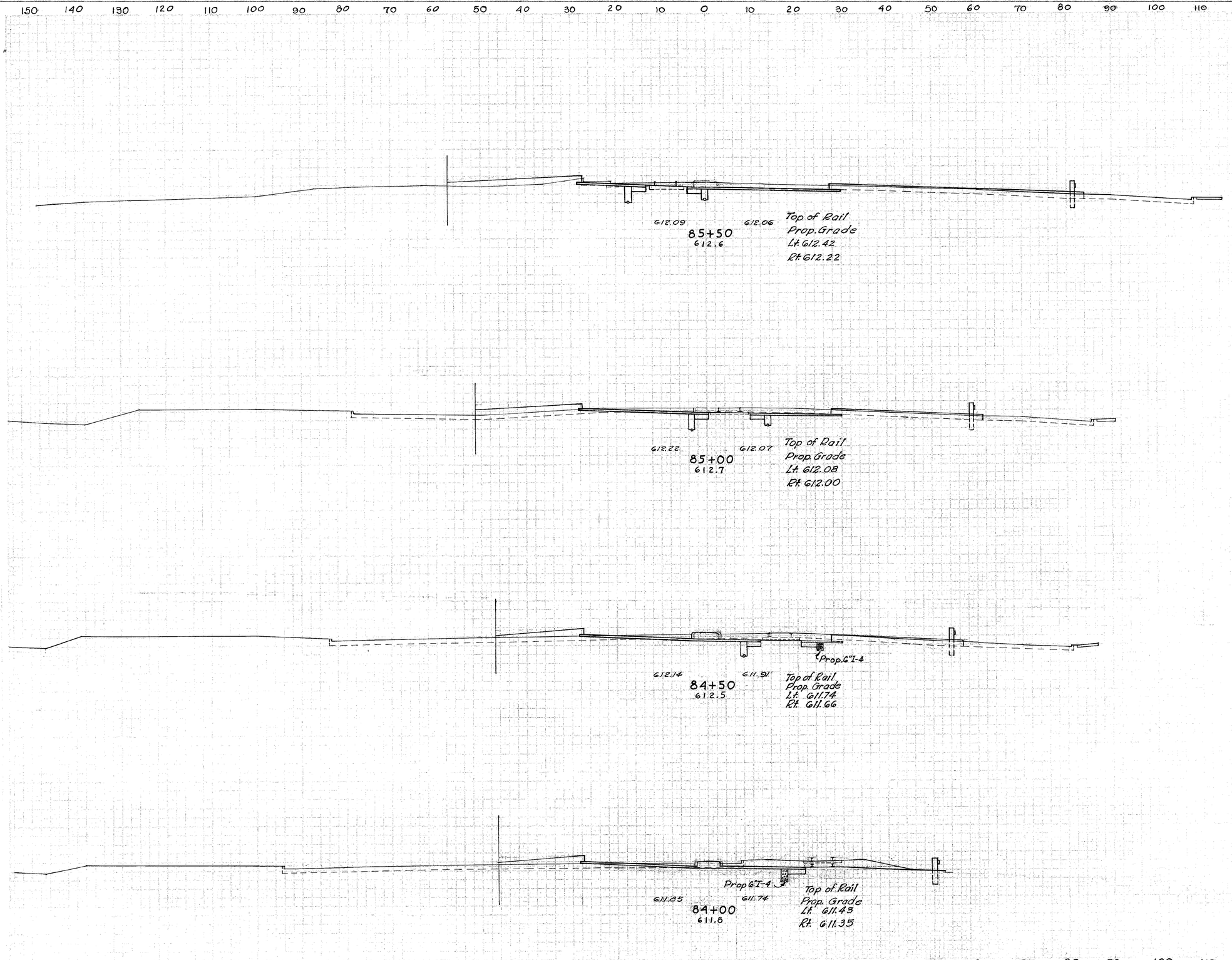
	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	74	0		
			(Rt.) 119	0
			(Lt.) 161	(Lt.) 187
Ahead Lt.	40	48		
Ahead Rt.	54	0		
Back	94	48		
			152	75
	70	33		
			127	54
	67	25		
			121	54

STA. 82+00 TO 83+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

66
291

BUT-4-(8.48-15.02)



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
132	112		
		247	175
135	77		
		258	146
144	81		
		240	124
Ahead	115	53	
Back Rt.	68	0	
Back Lt.	47	53	
			(Rt.) 132
			0

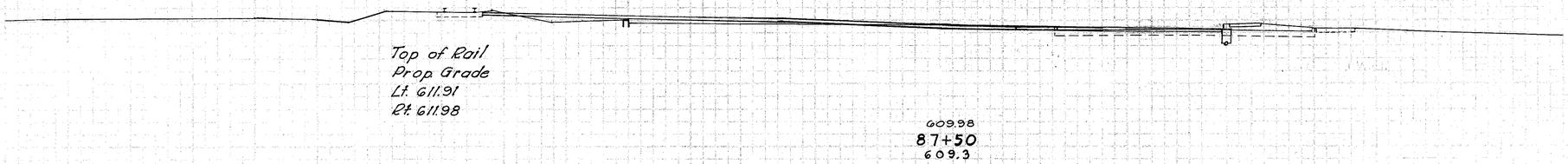
STA. 84+00 TO 85+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

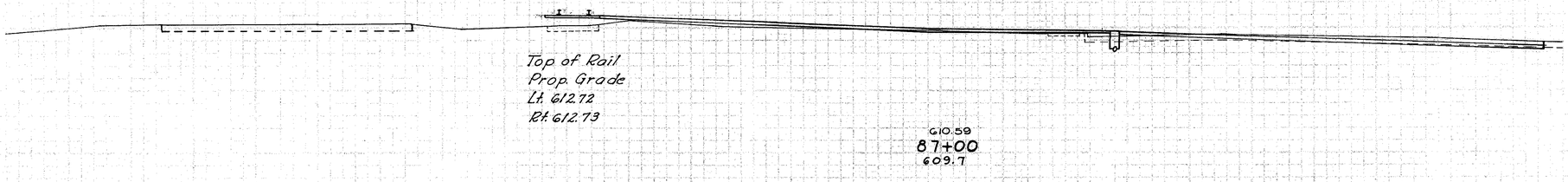
66
291

BUT-4-(8.48-15.02)

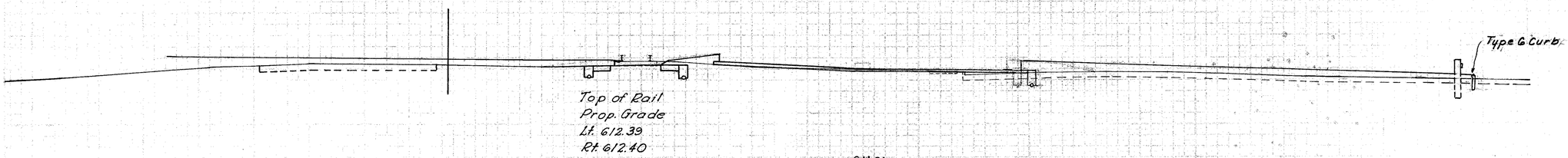
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



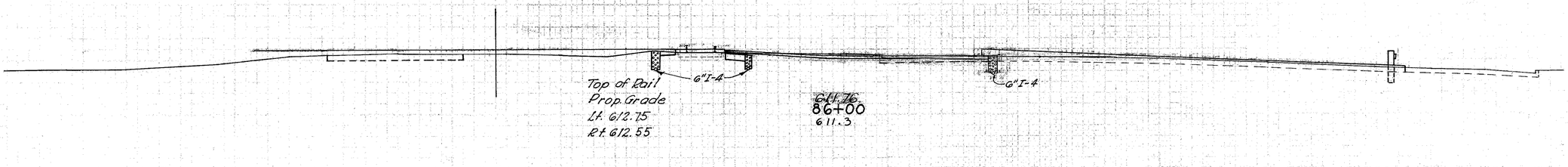
609.98
87+50
609.3



610.59
87+00
609.7



611.21
86+50
610.0



611.76
86+00
611.3

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

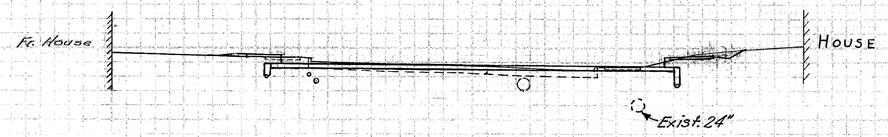
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
55	58		
		118	91
72	40		
		159	264
100	245		
		188	378
103	163		
		218	255

STA. 86+00 TO 87+50

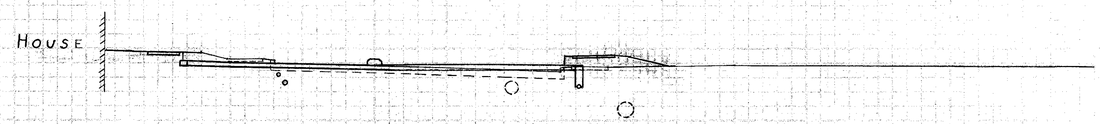
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(B.48-13.02)

G7
291

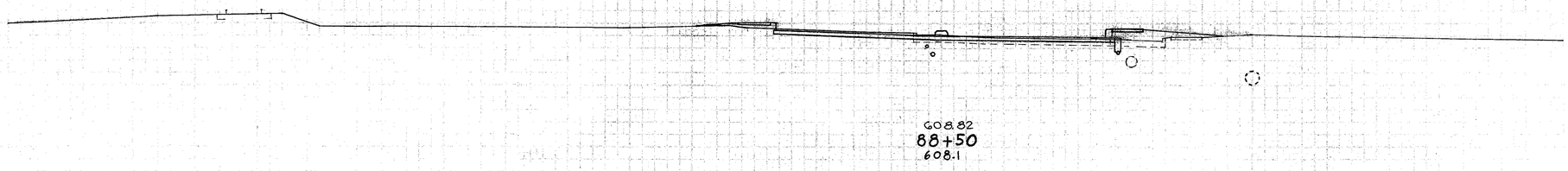


608.40
89+50
607.5

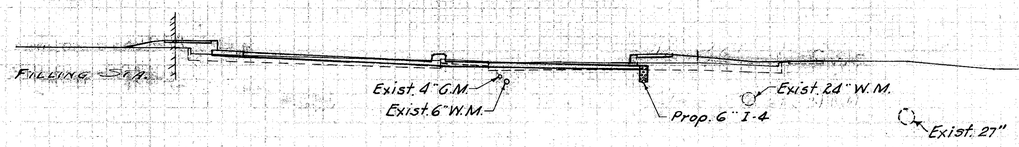


608.51
89+00
607.8

Drive Sta. 89+22



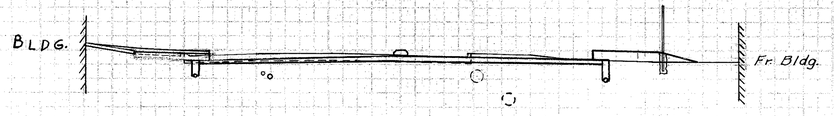
608.82
88+50
608.1



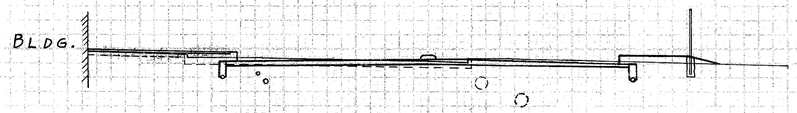
609.34
88+00
608.8

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
56	19		
		105	47
		6	
57	32		
		111	76
63	50		
		95	111
40	70		
		88	119

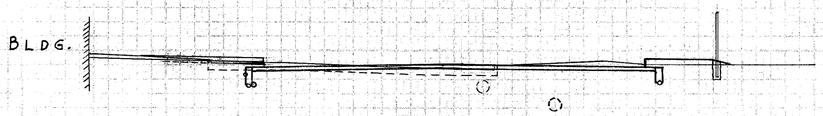
STA. 88+00 TO 89+50



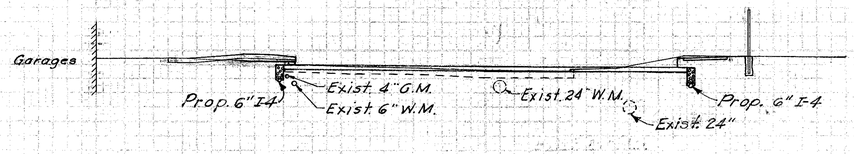
609.80
93+00
609.3



609.37
92+00
608.3



608.95
91+00
607.6



608.52
90+00
607.4

Bldg Ent. Sta. 92+98

Drive Sta. 91+17.5

Drive Sta. 90+50

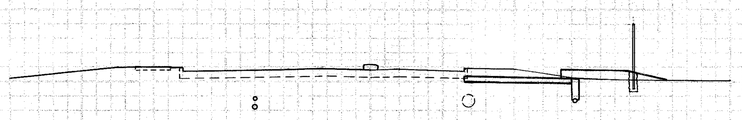
Drive Sta. 90+16

Alley Sta. 90+05.5

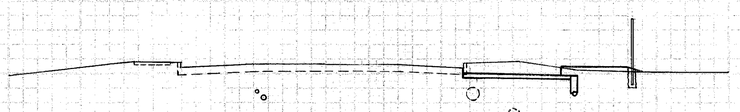
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		5	
66	20		
		239	70
63	18		
		239	57
66	13	11	
		219	61
		15	
52	20	5	
		8	
		100	36

Sta. 79+00 to Sta. 90+00 5,145 Cu. Yds.
E-1 Embankment 3,659 Cu. Yds.
Embankment +15% 4,208 Cu. Yds.

STA. 90+00 TO 93+00

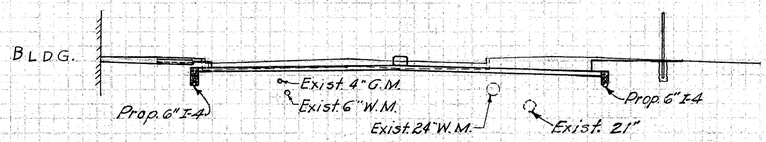


97+00
611.7



96+00
611.3

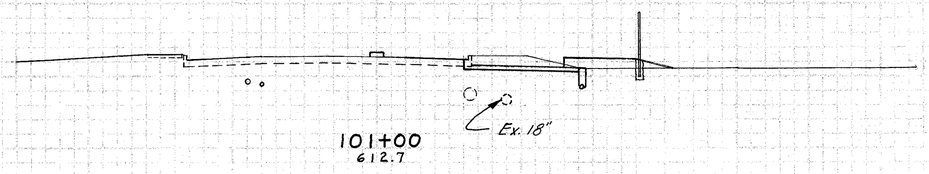
G10.66
95+00
610.6



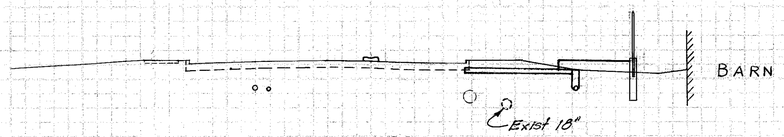
G10.22
94+00
610.0

End Area		Cu. Yds	
Cut	Fill	Cut	Fill
27	19		
		107	46
31	6		
		93	37
		13	
Drive Sta. 95+09.5			
Ahead	19 14		
Back	93 14		
		441	26
		14	
Drive Sta. 94+65			
145	—		
		391	37

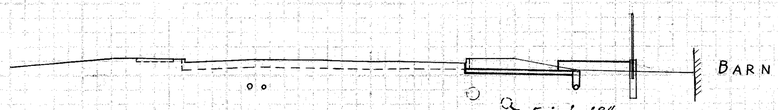
STA 94+00 TO 97+00



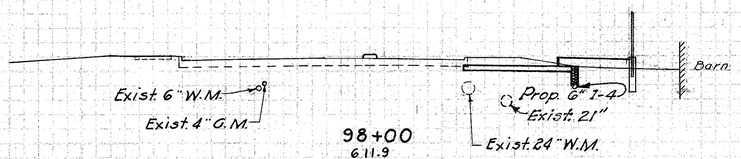
101+00
612.7



100+00
612.4



99+00
612.0



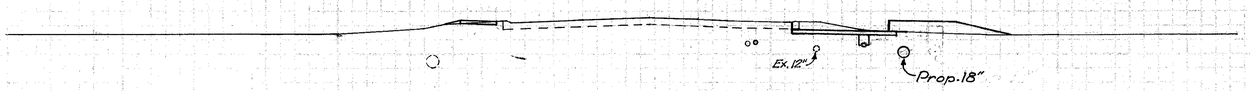
98+00
611.9

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
34	18		
		113	74
27	22		
		104	74
29	18		
		106	67
28	18		
		102	69

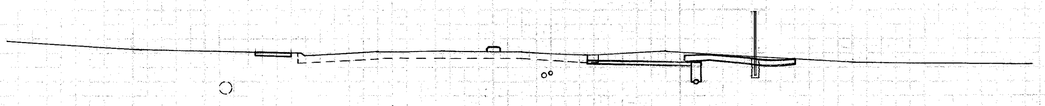
Sta. 98+00 to Sta. 100+00
E-1 Embankment 2,112 Cu. Yds.
Embankment +15% 544 Cu. Yds.
626 Cu. Yds.

STA 98+00 TO 101+00

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

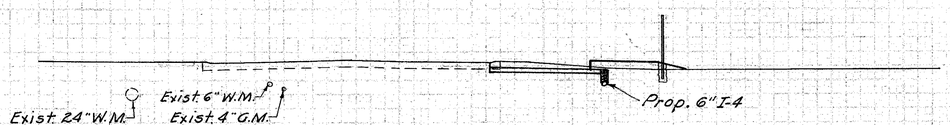


105+00
615.0



104+00
614.2

103+00
613.4



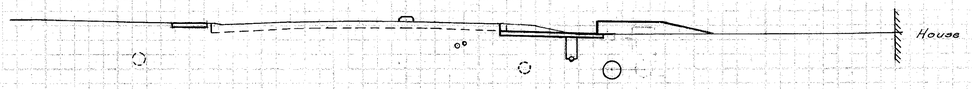
102+00
612.9

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
Drive Sta. 105+12				4
	28	23		
			106	45
Field Ent. Sta. 104+43			8	
Drive Sta. 104+03	28	0	16	
Drive Sta. 103+09				2
			87	28
	21	15		
			82	52
	23	13		

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

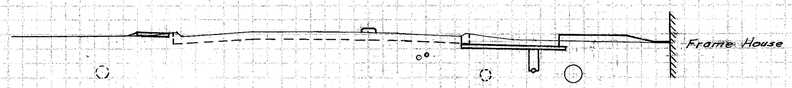
STA. 102+00 TO 105+0

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



109+00
616.6

Drive Sta. 109+58
Drive Sta. 108+21
Drive Sta. 109+10

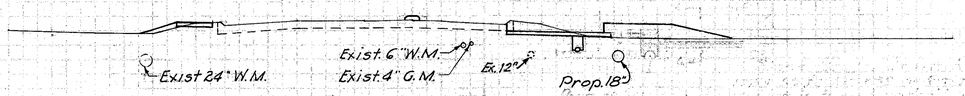


108+00
616.3

Drive Sta. 108+39

107+00
615.7

Drive Sta. 107+82
Drive Sta. 107+60



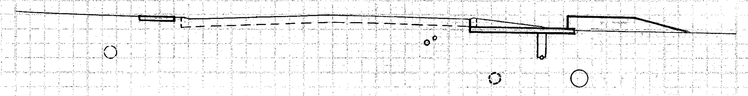
106+00
615.5

Drive Sta. 106+81

End Area		Cu. Yds	
Cut	Fill	Cut	Fill
		9	2
96	24	7	
		154	68
			3
44	13		
		130	91
			1
		8	
23	34		
		67	122
			1
10	28		
		74	101

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

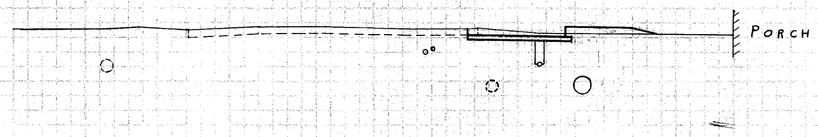
STA. 106+00 TO 109+00



113+00
617.9

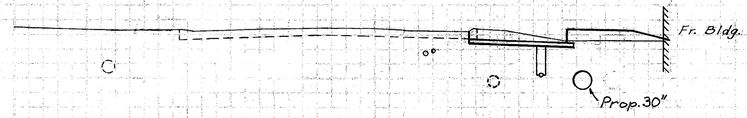
Drive Sta. 113+40
Drive Sta. 113+36

Field Drive Sta. 112+84



112+00
617.4

Drive Sta. 111+94



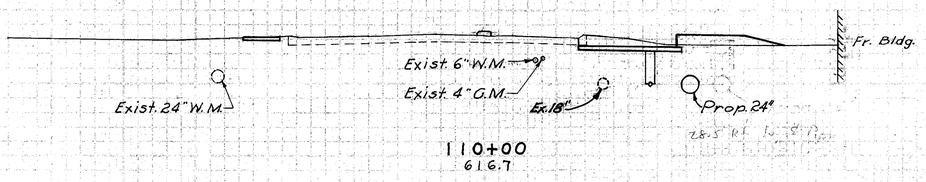
111+00
617.0

Drive Sta. 111+18

Drive Sta. 110+23

Drive Sta. 110+14

Drive Sta. 110+10

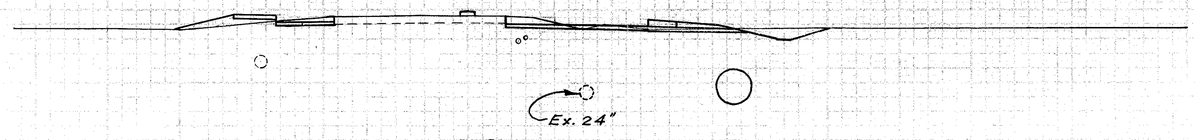


110+00
616.7

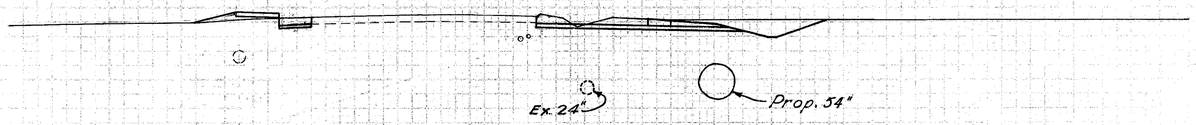
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		12	
		2	
44	26		
		22	
		176	78
51	16		
		183	70
		8	
48	22	6	
		174	80
		7	
		1	
46	19	7	
		159	80

Sta. 100+00 to Sta. 110+00
E-1 1,186 Cu. Yds.
Embankment 731 Cu. Yds.
Embankment +15% 841 Cu. Yds.

STA. 110+00 TO 113+00

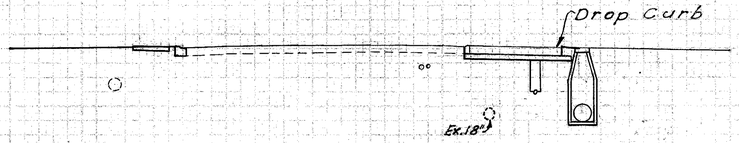


115+50
619.1

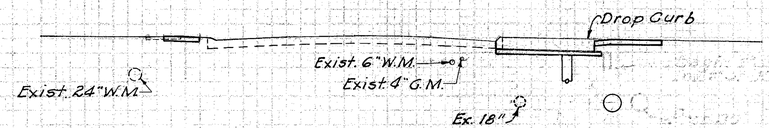


115+00
619.0

Sta. 114+77, Rt.
Channel Improvement



114+50
618.6



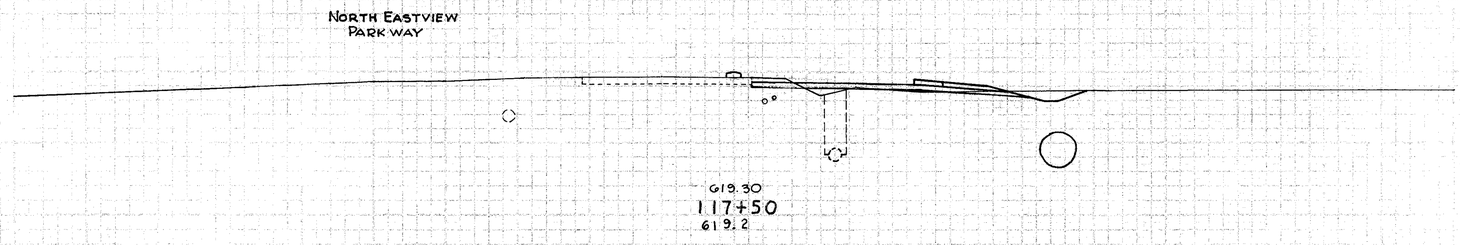
114+00
618.2

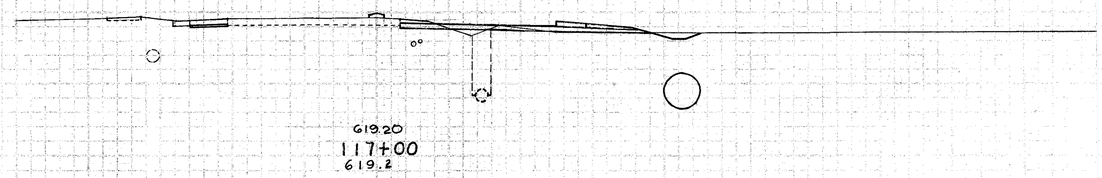
Drive Sta. 114+31

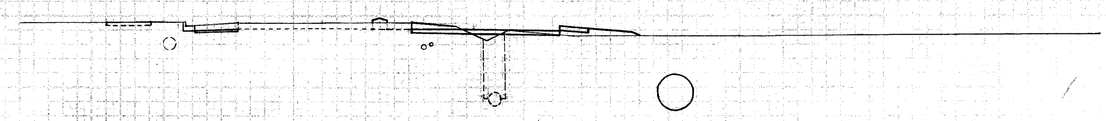
Drive Sta. 114+21

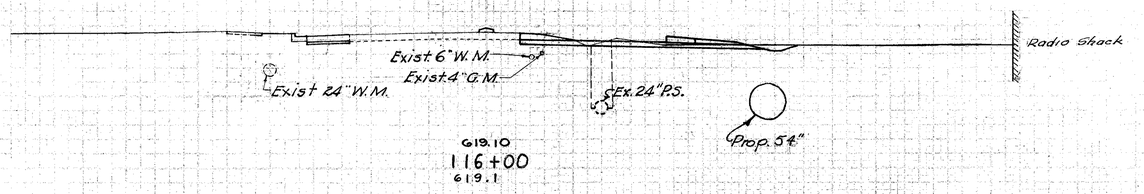
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
95	15		
		108	25
65	12		
		7	
		92	15
32	0		
		69	0
		12	
		2	
39	0		
		161	48

STA. 114+00 TO 115+50





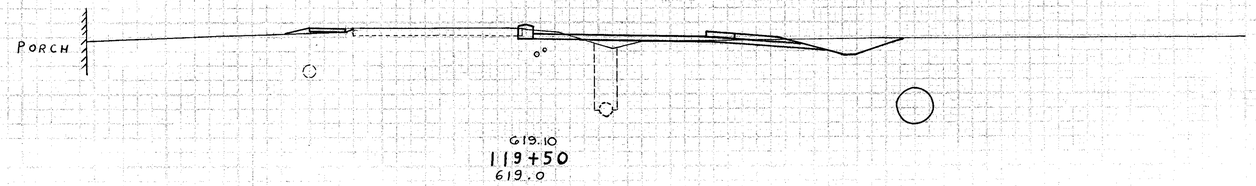




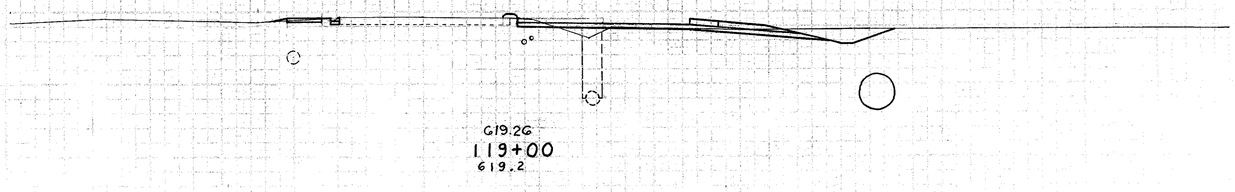
Drive Sta. 116+42

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
21	9		
		39	16
21	8		
		44	15
26	8		
		63	13
42	6		
		2	2
		82	19

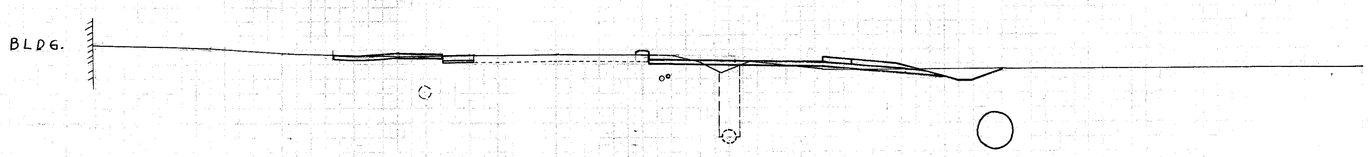
STA. 116+00 TO 117+50



G19.10
119+50
619.0

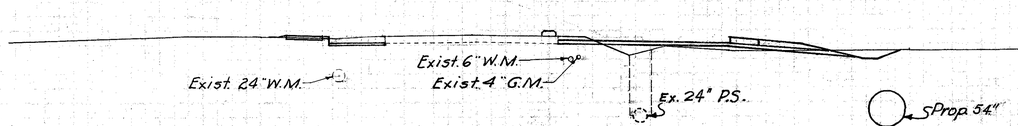


G19.26
119+00
619.2



G19.35
118+50
619.3

Drive Sta. 118+38



G19.36
118+00
619.3

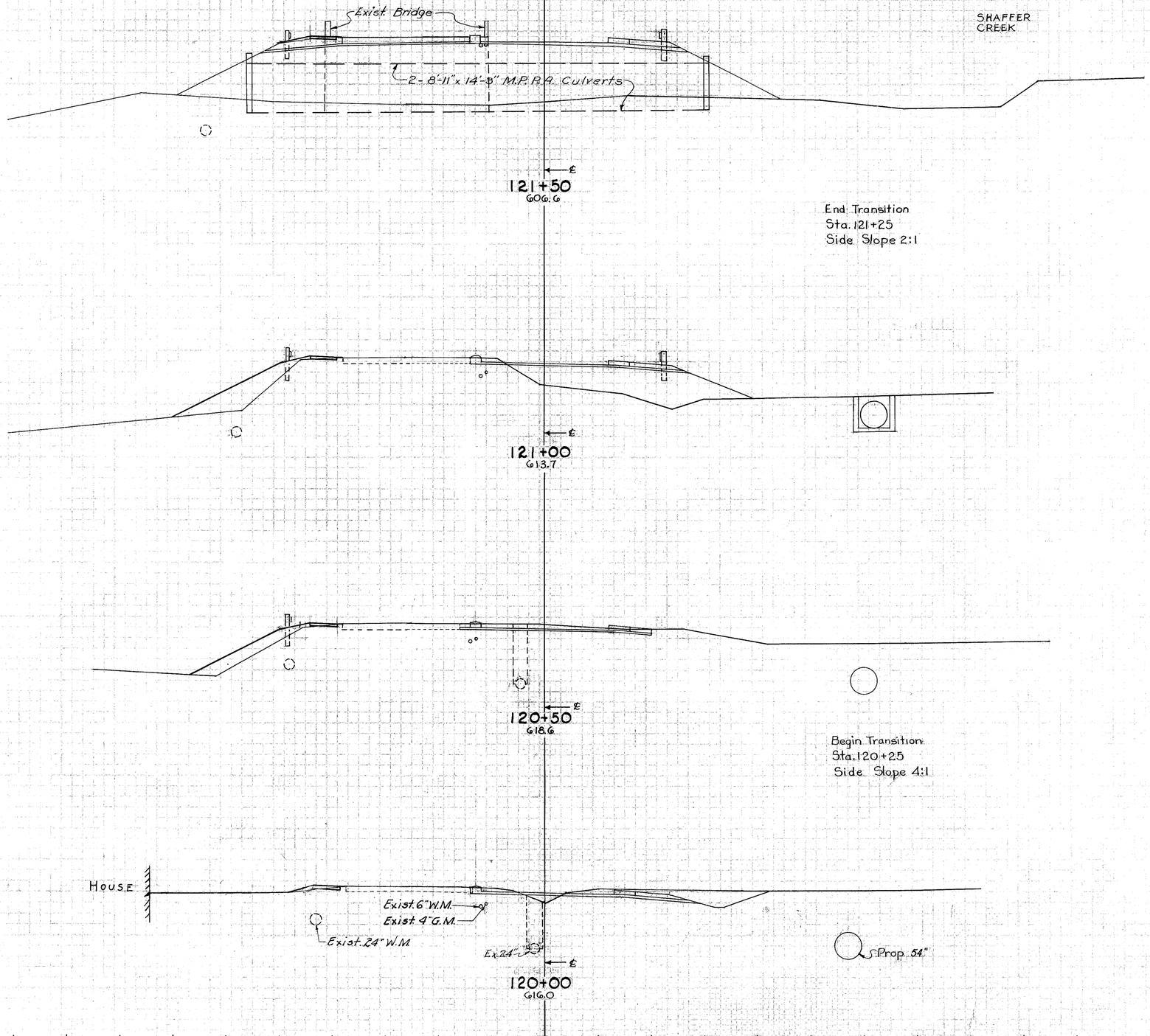
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
47	10		
		75	24
33	12		
		56	22
26	11		
		50	27
			15
27	17		
		45	25

Sta. 110+00 to Sta. 119+12.65
E-1 Embankment 1,456 Cu. Yds.
Embankment +1.5% 498 Cu. Yds.
572 Cu. Yds.

STA. 118+00 TO 119+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		77 291

BUT-4-(8.43-15.02)



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
0	1000		
		11	1176
10	270		
		48	296
40	50	14	
		111	63
			3
78	15		
		117	28

STA. 120+00 TO 121+50

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
9	34		
		9	187
10	67		
		30	256
10	106		
		6	132
6	251		
		6	1159

621.50
124+00
618.4

End Transition
Sta. 123+00
Side Slope 4:1

620.20
123+00
617.5

619.32
122+20
616.4

Begin Transition
Sta. 122+00
Side Slope 2:1

FERNWAY DRIVE

Exist. 6" W.M.

Exist. 4" G.M.

Exist. 24" W.M.

619.16
122+00
614.4

STA. 122+00 TO 124+00

Field Drive 128+02

625.89
℄
128+00
624.3

624.80
℄
127+00
621.1

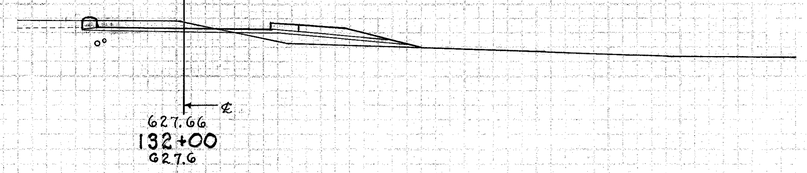
623.70
℄
126+00
620.4

Exist. 6" W.M.
Exist. 4" G.M.
622.50
℄
125+00
619.3

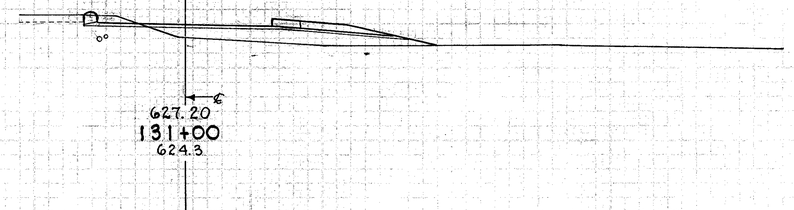
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		8	2
10	34		
		33	202
8	75		
		28	263
7	67		
		39	204
14	43		
		43	143

STA 125+00 TO 128+00

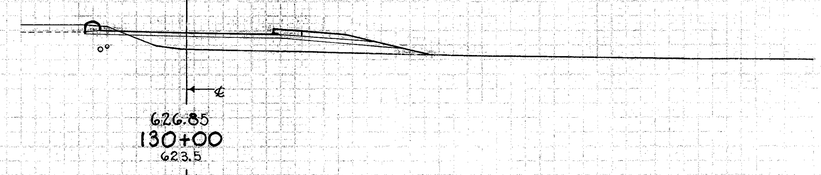
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

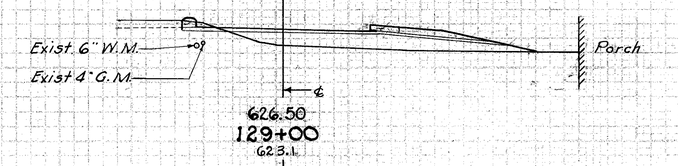


Drive Sta. 131+86



Drive Sta. 130+25





End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
26	39		
		3	6
		65	228
9	84		
		30	317
7	87	3	44
		26	335
7	94	32	237

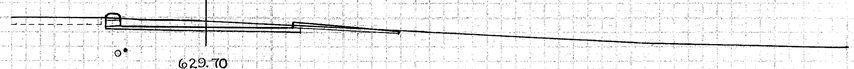
E.I.
Embankment 641 Cu. Yds.
Sta. 119+18.65 to Sta. 130+00 4705 Cu. Yds.
Embankment +15% 5411 Cu. Yds.

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

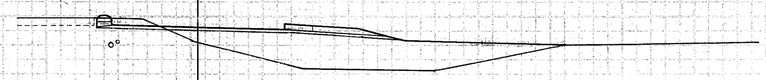
STA. 129+00 TO 132+00

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

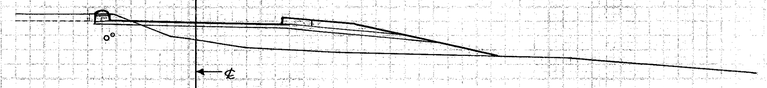
Drive Sta. 135+02



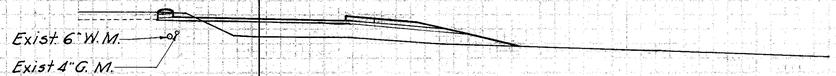
629.70
135+00
629.6



629.61
134+85
626.6



629.00
134+00
625.7

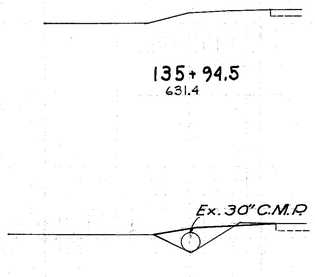


628.30
133+00
625.0

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		3	
39	0		
		14	54
11	196		
		30	524
8	137		
		26	433
6	97		
		59	252

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

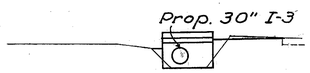
STA. 133+00 TO 135+00



135+94.5
631.4

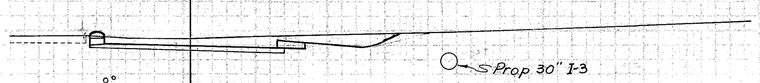
135+82.5
628.0

135+60.5
626.4

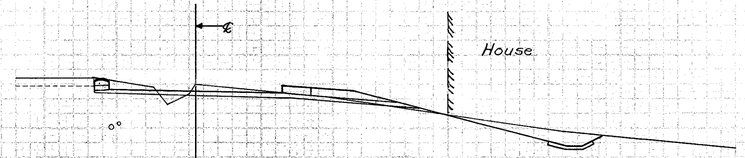


135+42
626.1

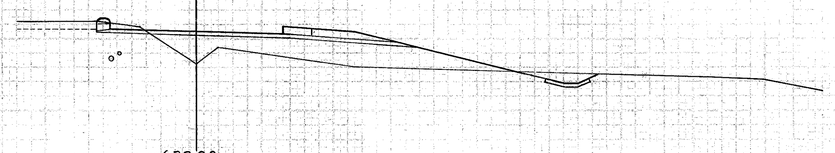
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
0	0		
		0	2
1	10		
		1	12
1	20		
		1	15
1	24		



639.20
138+00
638.8

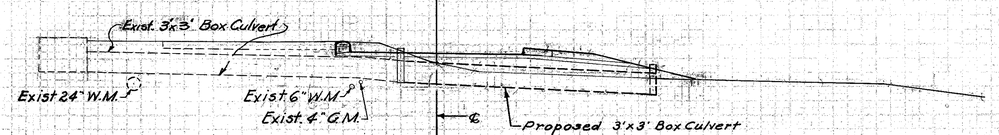


636.26
137+00
634.5



632.22
136+05
626.7

632.01
136+00
625.3



629.94
135+25
627.6

House Sta. 137+75 Rt.

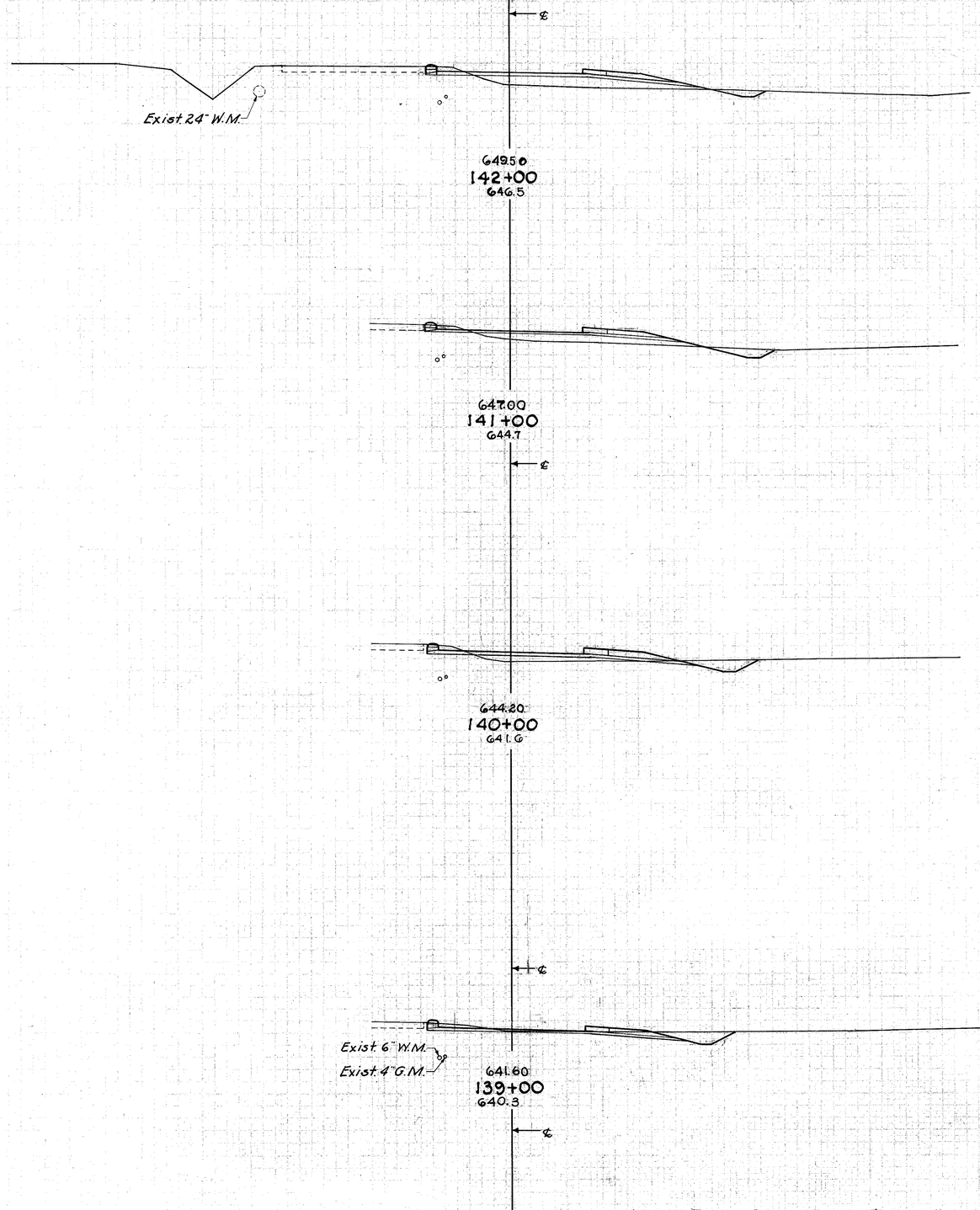
Drive Sta. 137+39

Sta. 135+35 Rt.
Channel Improvement

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
88	0		
			600
		280	19
		7	
63	10		
		144	264
19	140		
		4	26
29	141		
		64	313
		21	
17	84		
		26	39

STA. 135+25 TO 138+00

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



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
17	62		
		91	198
32	45		
		117	132
31	26		
		139	57
44	5		
		244	9

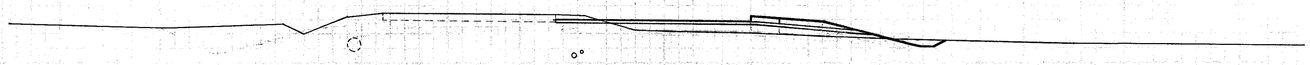
Sta. 130+00 to Sta. 140+00
E-1 Embankment 1,143 Cu. Yds
Embankment +15% 321.4 Cu. Yds
3,296 Cu. Yds

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

STA. 139+00 TO 142+00

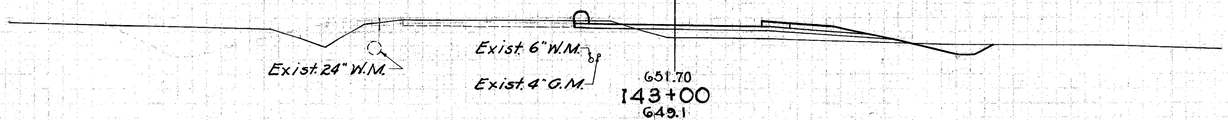
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

659.50
146+00
656.2



656.80
145+00
654.8

654.20
144+00
652.0



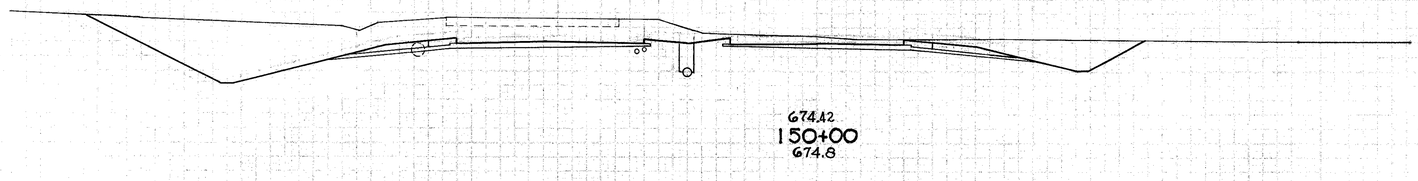
651.70
143+00
649.1
℄

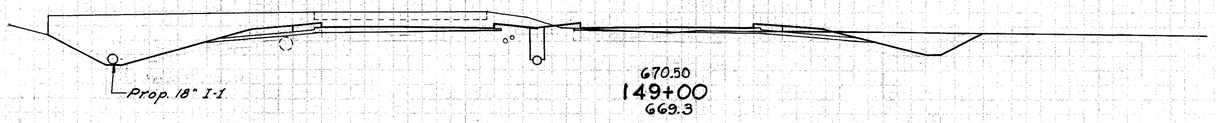
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
11	71		
		43	215
12	45		
		70	107
26	13		
		83	96
19	39		
		67	187

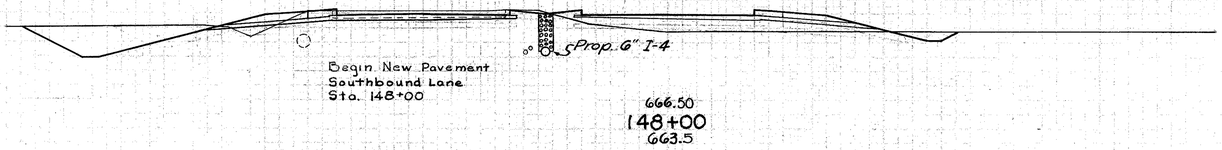
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

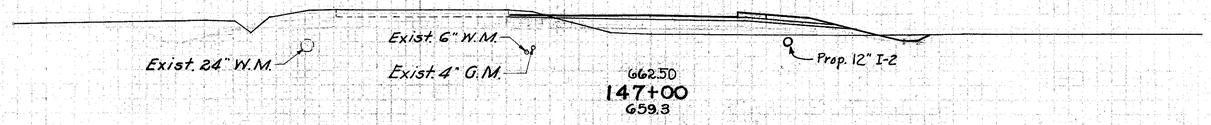
STA. 143+00 TO 146+0

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









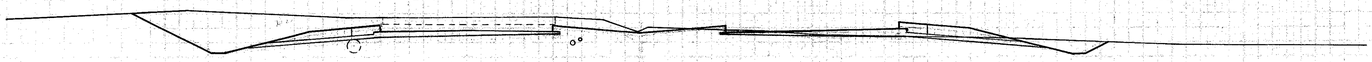
	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
Drive Sta. 150+65.5	513	12	171	
			1480	44
Drive Sta. 149+05.5			85	
	286	12		
			826	217
Drive Sta 148+77			26	
Ahead	160	105		
Back	9	97		
			32	415
	8	127		
			35	367

Sta. 140+00 to Sta. 150+00
2,955 Cu. Yds
1,978 Cu. Yds
2,215 Cu. Yds
Fill embankment +15% bankment

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

STA. 147+00 TO

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



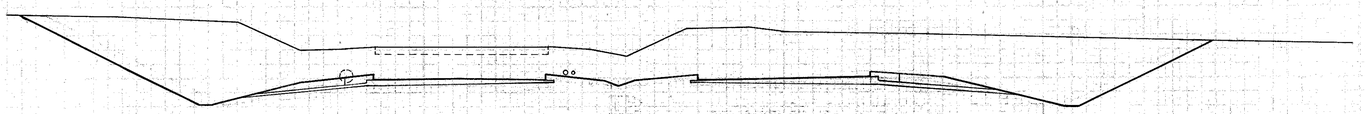
684.27
I 54+00
683.1

682.73
I 53+00
687.6

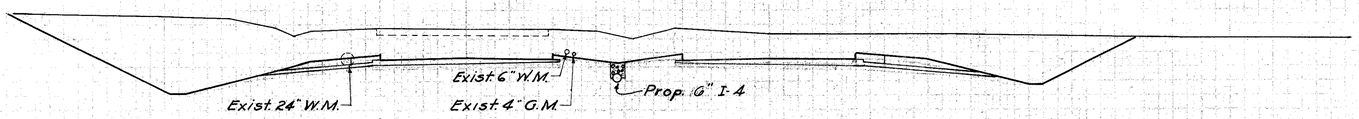
Field Drive Sta. 153+63

Field Drive Sta. 153+10

Drive Sta. 152+31



680.58
152+00
686.5



677.81
151+00
680.7

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
236	14		
		2030	48
		32	
		34	
860	12		
		3591	44
		403	
1079	12		
		3582	44
855	12		
		2533	44

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

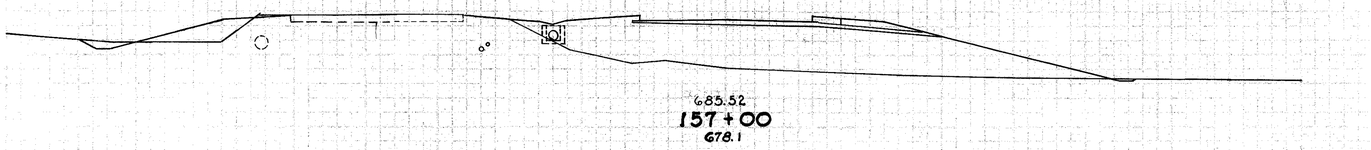
STA. 151+00 TO 154+00

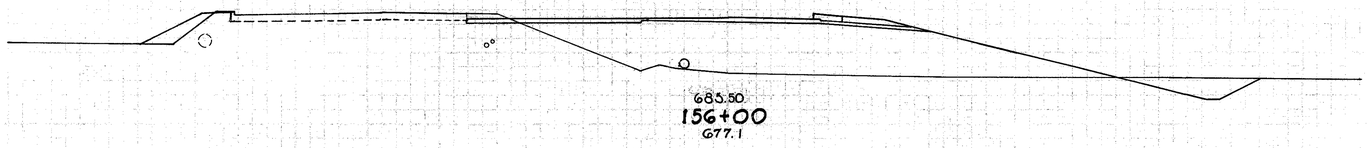
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

67
291

BUT-4-(8.48-15.02)

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

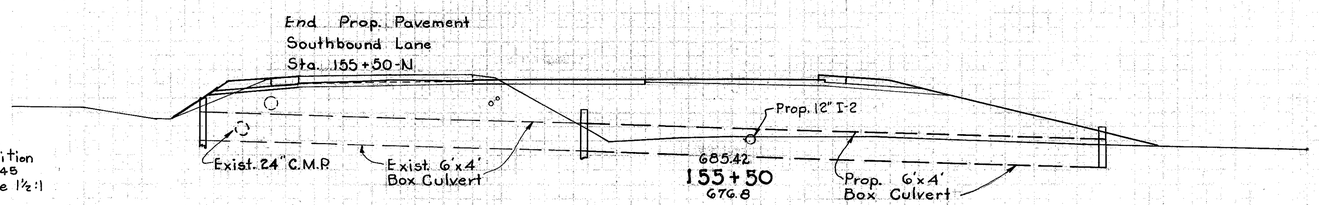




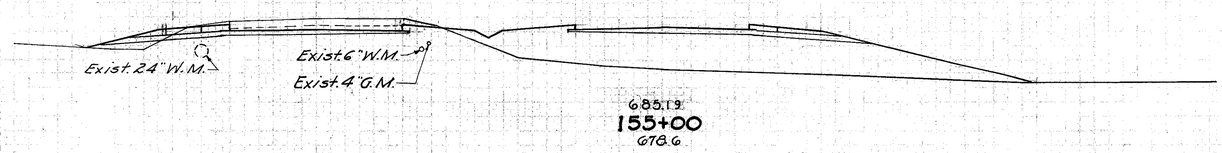
Begin Transition
Sta. 155+66
Side Slope 1½:1

End Prop. Pavement
Southbound Lane
Sta. 155+50 N.

End Transition
Sta. 155+45
Side Slope 1½:1



Begin Transition
Sta. 155+00
Side Slope 4:1



Sta. 155+60 Rt.
Channel Improvement

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	6	416		
			87	1604
	41			
	9	450		
			13	952
			31	
Ahead	5	578		
Back	26	580		
			70	868
	50	357		
			530	687

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

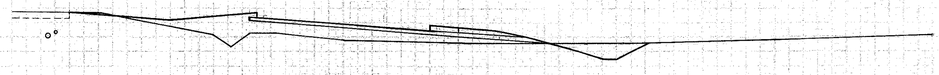
STA. 155+00 TO 157+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

88
291

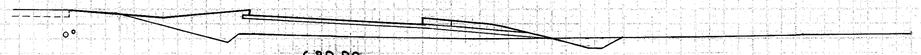
BUT-4-(8.48-15.02)

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

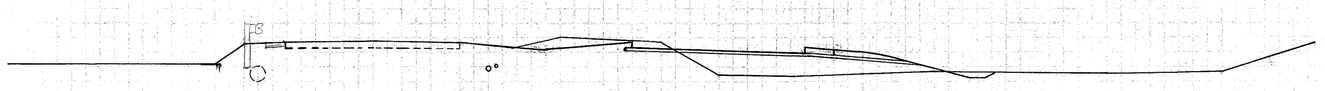


693.40
161+00
689.7

Field Drive Sta. 161+35



689.90
160+00
686.2



687.42
159+00
682.9

685.95
158+00
679.9

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		2	45
8	122		
		24	470
5	132		
		69	396
32	82		
		65	611
3	248		
		17	1230

Sta. 158+00 To Sta. 160+00
E-1 Embankment 13,347 Cu. Yds.
Embankment 6,528 Cu. Yds.
Embankment +15% 7,507 Cu. Yds.

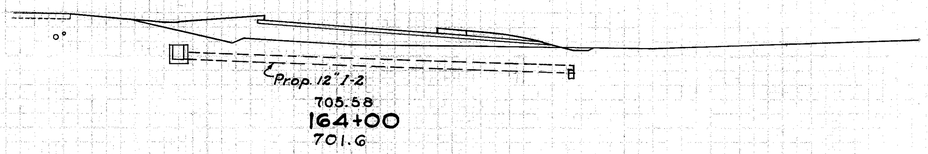
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

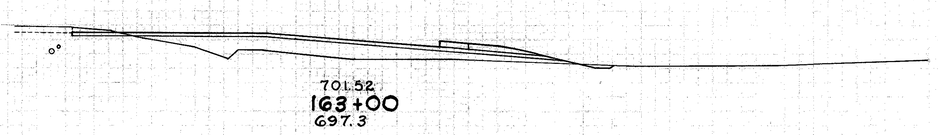
STA. 158+00 TO 161+00

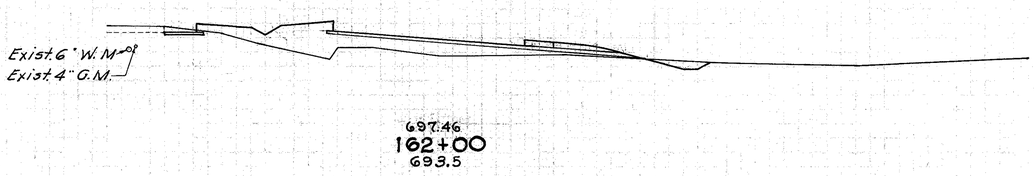
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

89
231

BUT-4-(8.48 15.02)







End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
8	57		
		17	313
1	112		
		19	394
9	101		
		33	394
9	112		
		32	433

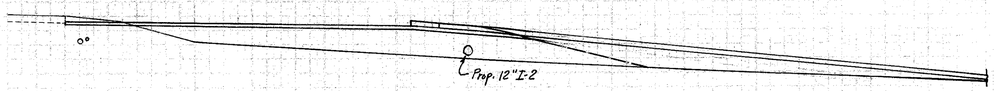
STA. 162+00 TO 165+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

90
291

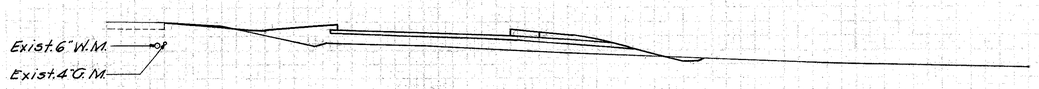
BUT-4-(8.48-15.02)

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		2	199
9	237		
		26	613
5	94		
		24	280



717.76
167+00
713.2

Field Drive Sta. 167+00

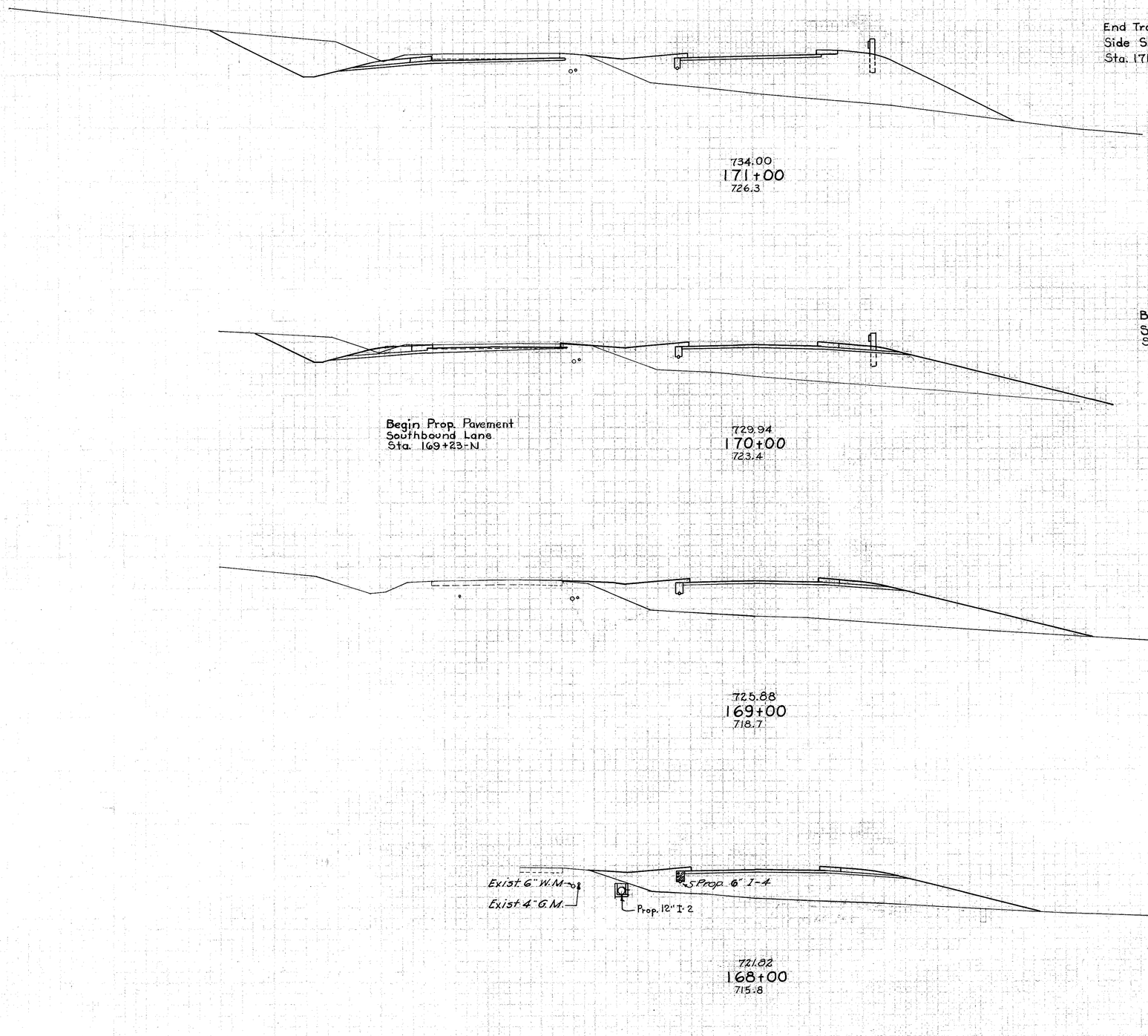


713.70
166+00
710.6

STA. 166+00 TO 167+00

FED. RD. DIVISION	STATE	PROJECT		91
2	OHIO			291

BUT 4-(8.48 13.02)



Drive Sta. 171+45

Drive Sta. 170+18

Ahead

Back

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Drive Sta. 171+45			44	
	170	467		
			504	1676
Drive Sta. 170+18			156	
Ahead	102	438		
Back	0	428		
			342	14
			—	1630
	0	452		
			—	1411
	0	310		
			17	1013

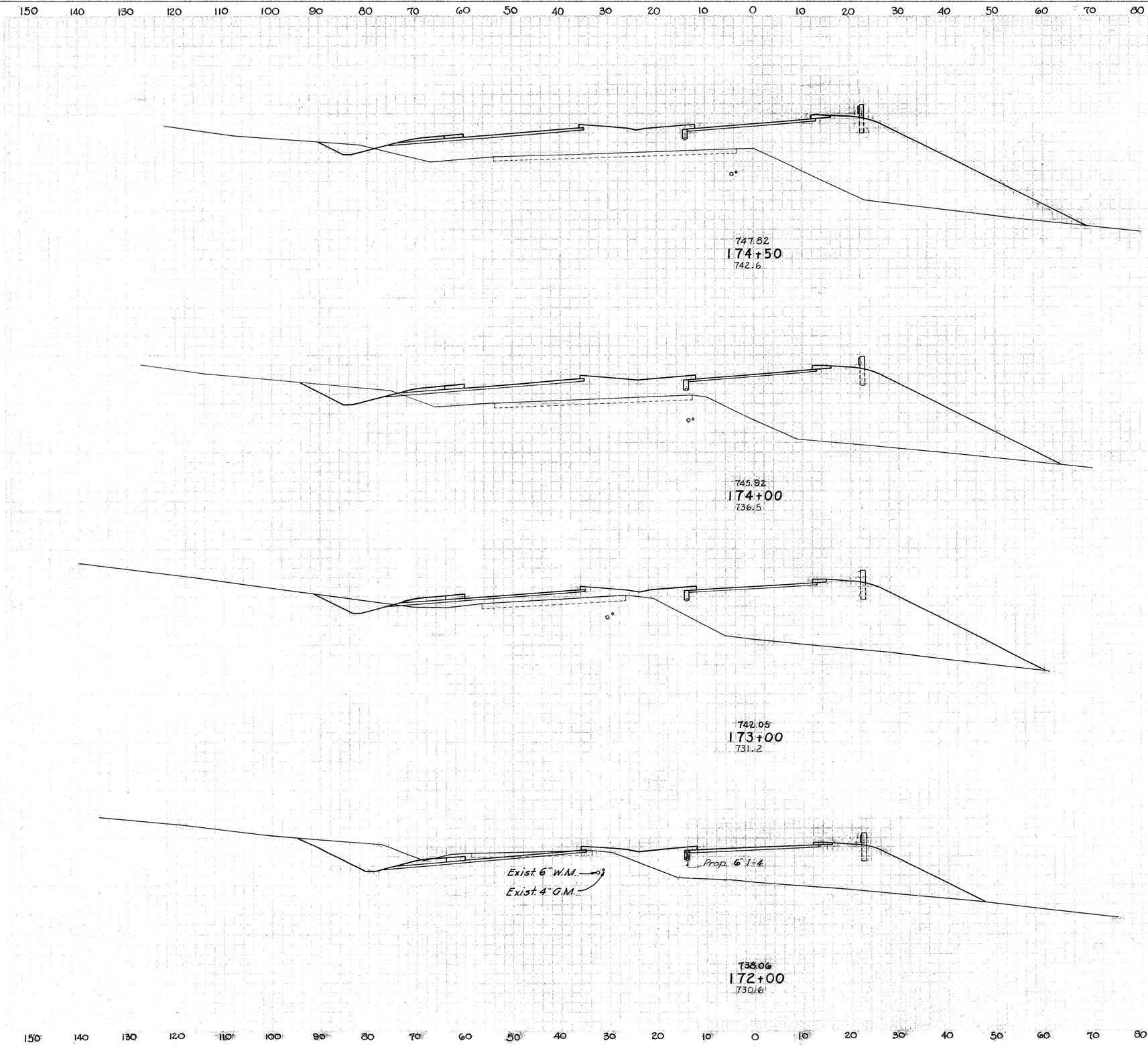
Sta. 160+00 to Sta. 170+00
538 Cu. Yds.
7,209 Cu. Yds.
8,290 Cu. Yds.
E-I
Embankment
Embankment +15%

STA. 168+00 TO 171+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

92
291

BUT-4-(8.48-15.02)



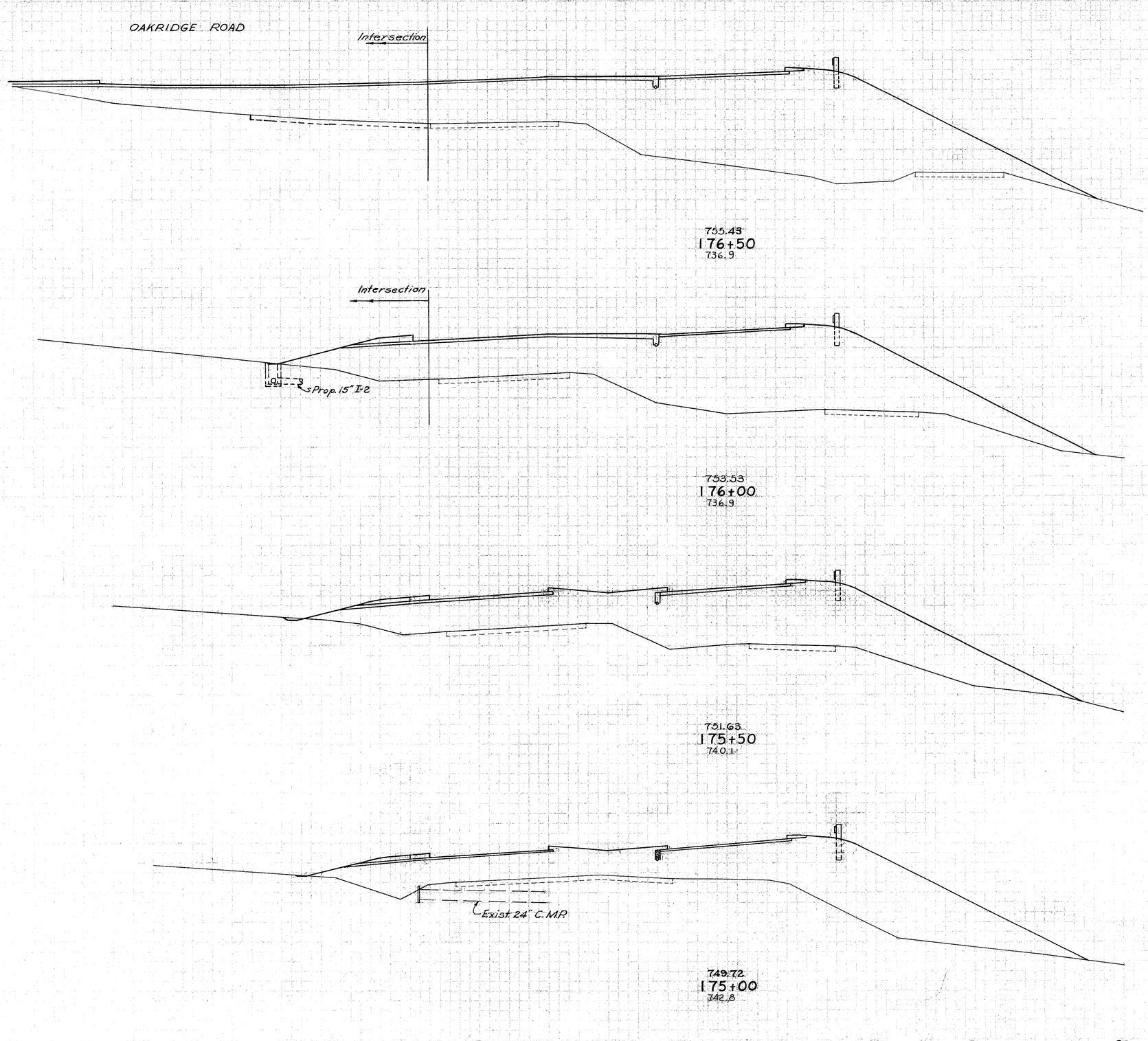
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
18	975		
		59	1804
46	974		
		135	3339
27	829		
		291	2426
130	481		
		556	1756

STA. 172+00 TO 174+50

FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

93
291

BUT-4-(8.68-15.02)



	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	–	1625		
			–	2778
OAKRIDGE ROAD STA. 176+17			204	1438
Ahead		1375		
Back	1	1516		
			3	2576
	2	1266		
			3	2361
	1	1284		
			18	2092

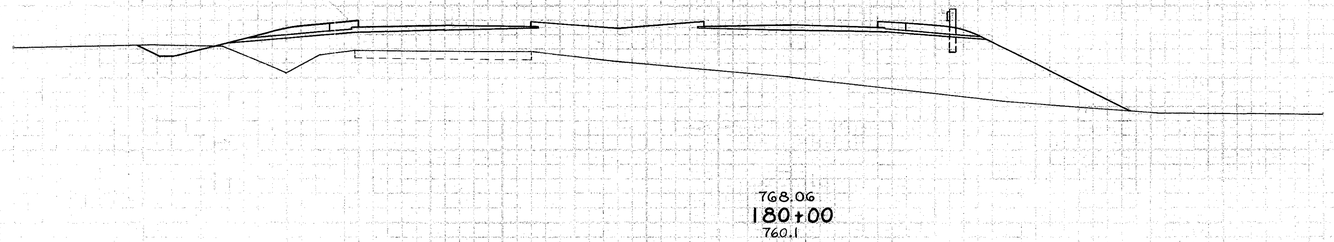
STA. 175+00 TO 176+50

FED. DIVISION	STATE		
2	OHIO		

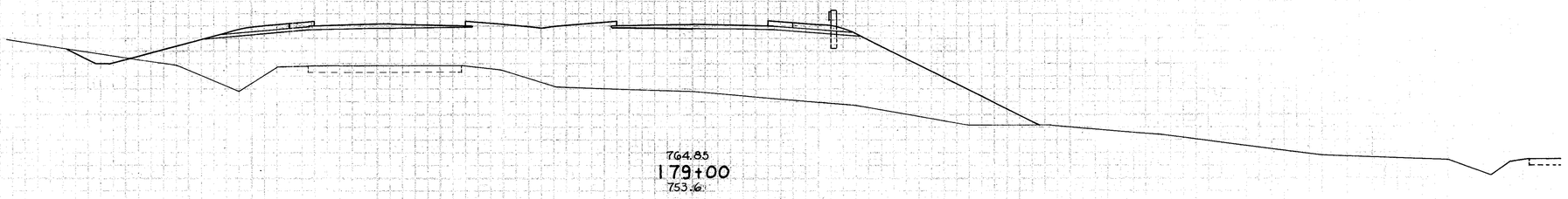
94
291

BUT-4-(8.42-15.02)

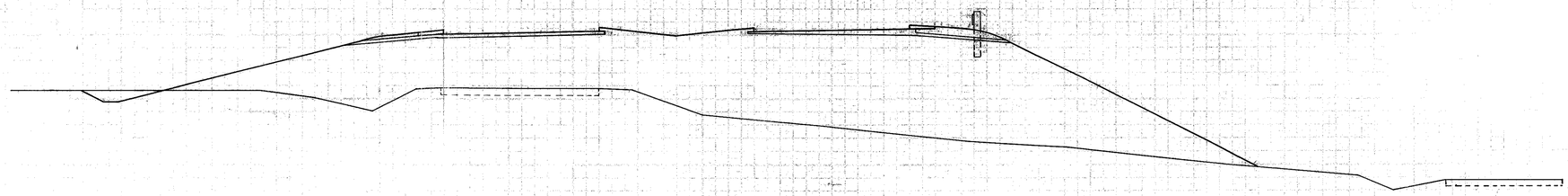
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



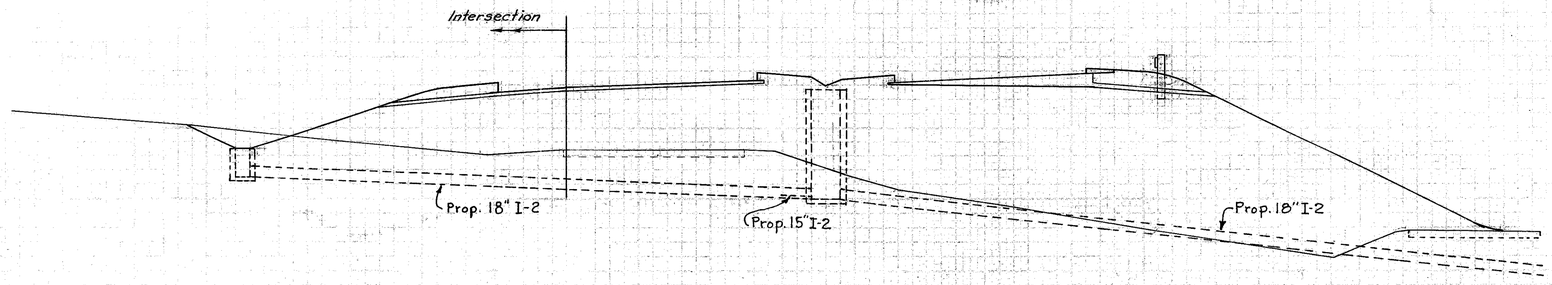
768.06
180+00
760.1



764.85
179+00
753.6



761.13
178+00
745.7



757.33
177+00
739.2

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

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	12	688		
			39	3419
	9	1158		
			43	5117
	14	1605		
Sta. 177+00± To Sta. 178+40± Pavement Removal on Rt.			12	10
			94	6535
Ahead	37	1924		
Back		1676		
				3057

Sta. 170+00 to Sta. 180+00
E-1
Embankment = 2,161 Cu. Yds.
Embankment +15% = 40,384 Cu. Yds.
46,442 Cu. Yds.

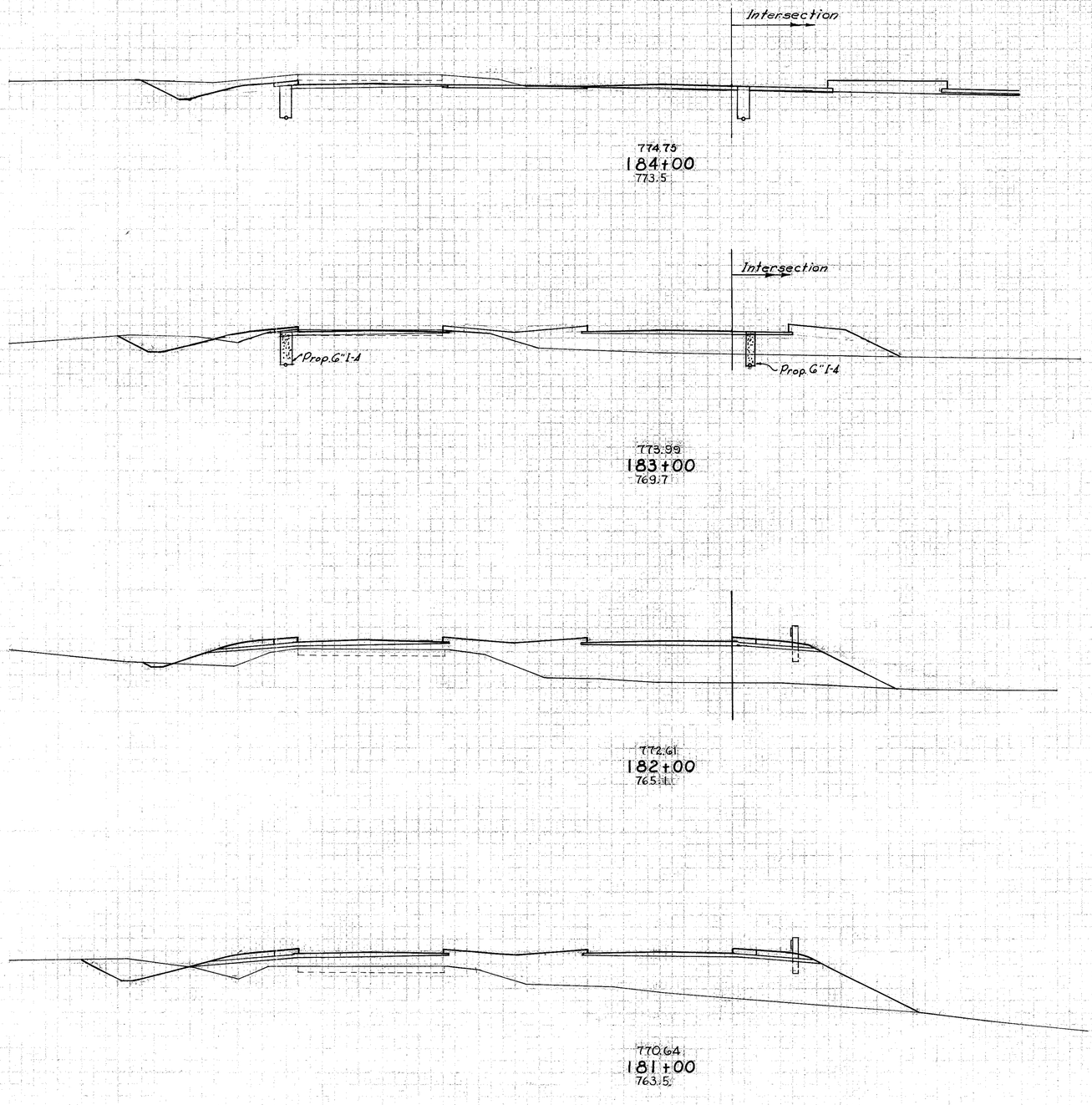
STA. 177+00 TO 180+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

95
291

SUT-4-(8.48-15.02)

MILLIKIN ROAD



Field Drive Sta. 184+45

Millikin Road Sta. 184+00
Add for removing and
Leveling Millikin Rd. See Sht. 35

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
			20	
			4075	432
			765	
	108	6		
			915	239
	62	123		
			121	730
				186
Ahead	3	271		
Back	3	398		
			143	1730
	74	536		
			159	2267

STA. 181+00 TO 184+00

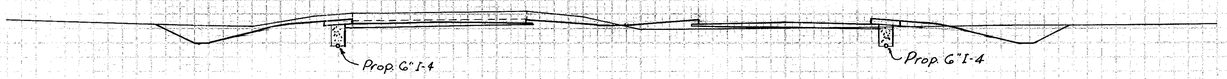
FED. ROD. DIVISION	STATE	PROJECT
2	OHIO	

96
291

UT-4-(8.46-15.02)

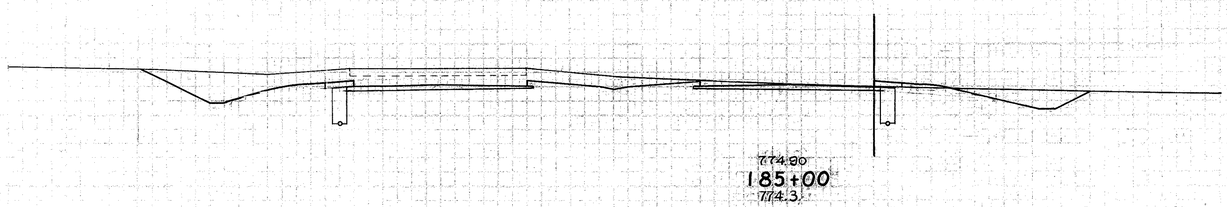
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

771.70
188+00
769.4



773.37
187+00
772.1

774.44
186+00
773.6



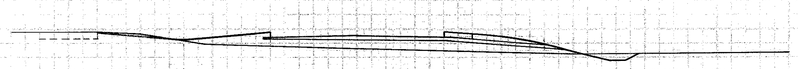
774.90
185+00
774.3

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	73	80		
			343	185
	112	20		
			533	65
	176	15		
			806	50
Ahead	259	12		
Back	207	6		
			583	22
			29	3

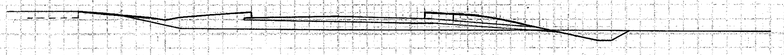
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 185+00 TO 188+00

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



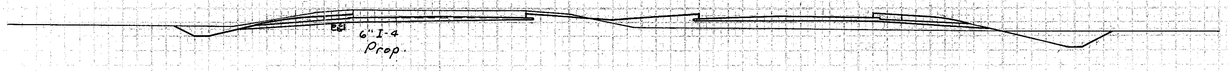
759.66
192+00
757.2



763.10
191+00
760.7

End Prop. Pavement
Southbound Lane
Sta. 190+00

766.52
190+00
764.2



769.42
189+00
767.2

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	8	78		
			35	300
	11	84		
			56	296
			5	
Ahead	19	76		
Back	58	82		
			239	296
	71	78		
			267	293

Sta 180+00 to Sta. 190+00
8398 Cu. Yds.
6,498 Cu. Yds.
7,473 Cu. Yds.
Embankment at +1.5%

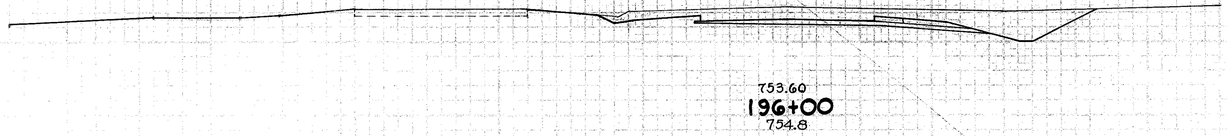
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA 189+00 TO 19

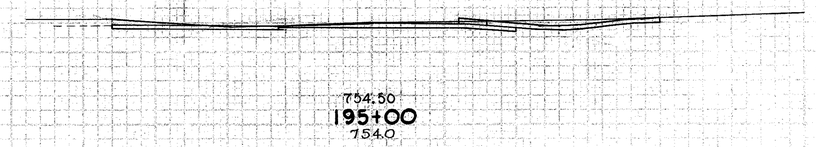
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

FED. ROAD DIVISION	STATE	SHEET NO.
2	OHIO	98 291

BUT-4-(5.48-15.02)



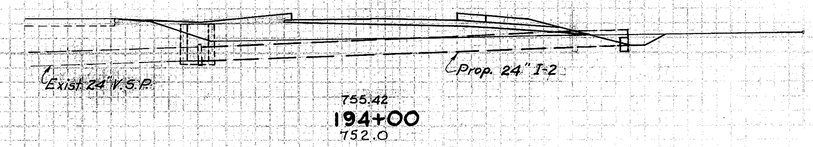
753.60
196+00
754.8



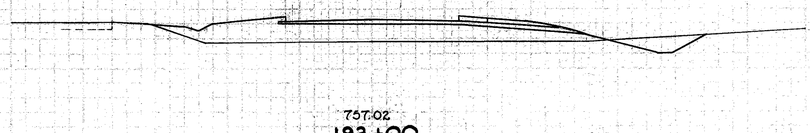
754.50
195+00
754.0

Field Drive Sta. 194+91

Sta. 194+18 Rt.
Channel Improvement



755.42
194+00
752.0

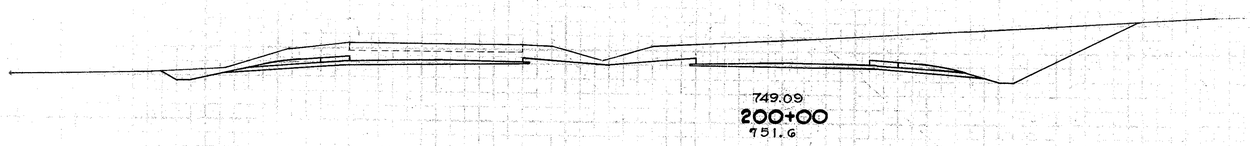


757.02
193+00
753.7

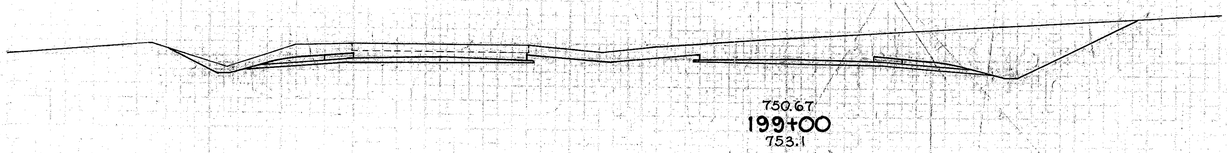
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
156	6		
		387	33
		13	
53	12		
		3	
		120	243
12	119		
		54	476
17	138		
		46	400

STA. 193+00 TO 196+00

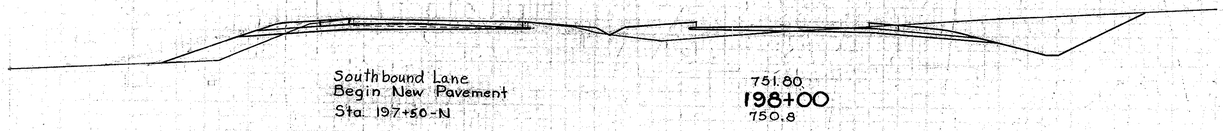
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



749.09
200+00
751.6

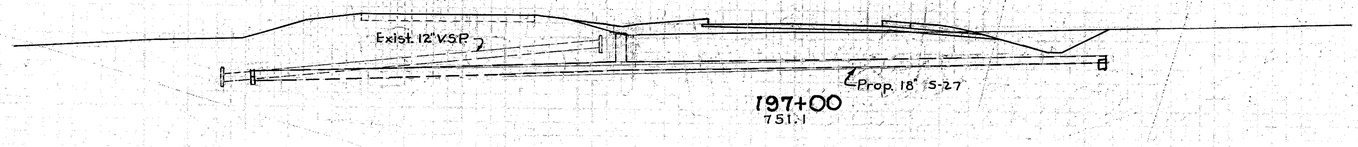


750.67
199+00
753.1



751.80
198+00
750.8

Southbound Lane
Begin New Pavement
Sta. 197+50-N



197+00
751.1

Field Drive Sta. 198+85

Sta. 197+20 Rt.
Channel Improvement

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	426	12		
			1515	44
	392	12		
			1004	165
			190	
Ahead	130	77		
Back	120	45		
			28	30
			306	183
			28	
	45	54		
			372	111

Sta. 190+00 to Sta. 200+00
E.I.
Embankment 4,131 Cu. Yds.
Embankment+15% 2,281 Cu. Yds
2,623 Cu. Yds

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

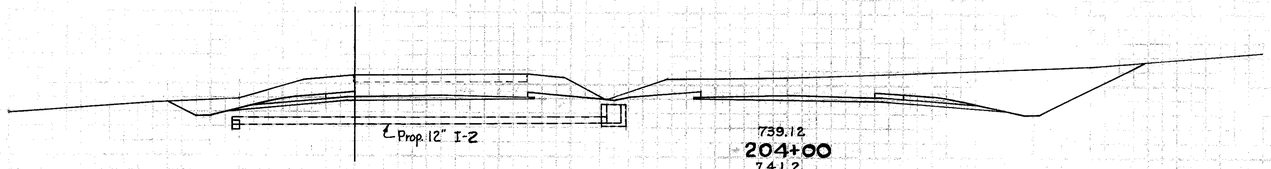
97+00 TO 200+0

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

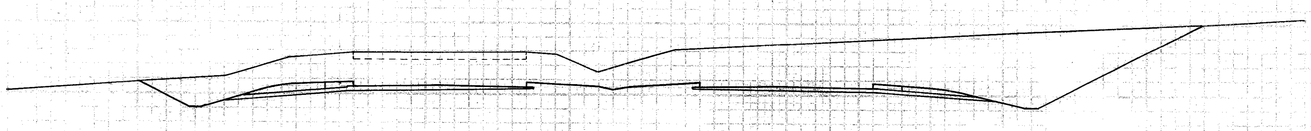
Yellow
91

100
291

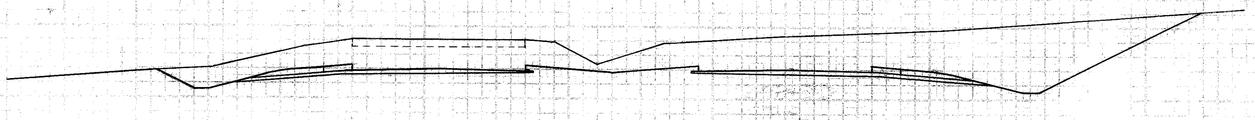
91 Yellow 100 -199



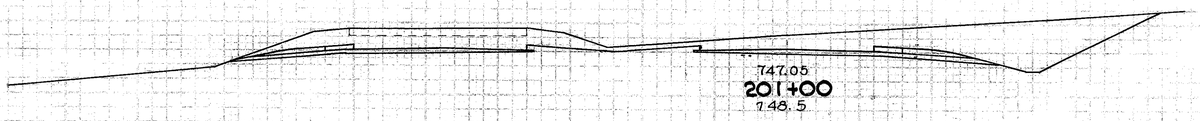
739.12
204+00
741.2



741.84
203+00
747.2



744.56
202+00
748.8



747.05
201+00
748.5

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
Field Drive Sta. 204+89			58	
Ahead	341	6		
Back	417	12		
			2270	44
	809	12		
			2758	44
	680	12		
			1972	44
	385	12		
			1502	44

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

STA. 201+00 TO 204+00

PROJECT DIVISION	STATE	PROJECT
2	OHIO	

101
291

RUT 4 (R 48-15.62)

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

730.40
208+00
729.1

End New Pavement
Southbound Lane
Sta. 207+00

732.40
207+00
731.8

734.40
206+00
734.2

REIGART ROAD
Intersection

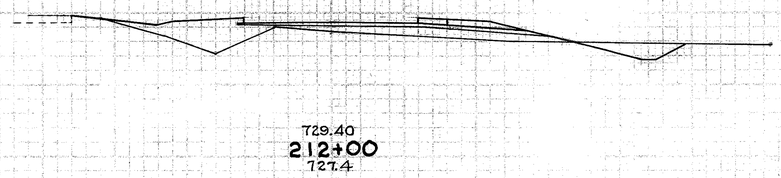
736.49
205+00
737.0

5 Prop. 12" B.C.C.M.P.

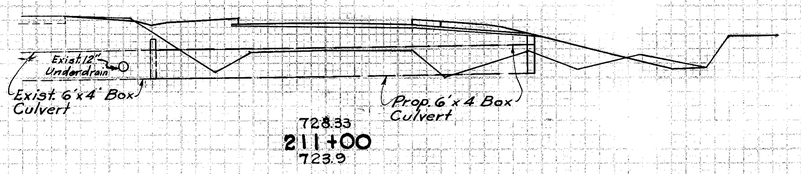
	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	51	9		
			239	63
Ahead	78	25		
Back	129	43		
			480	204
Ahead	130	67		
Back	122	31		
			556	76
Ahead	178	10		
Back	220	23		
			1039	54
REIGART ROAD STA. 204+95.8			178	435

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

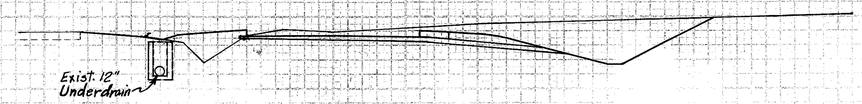
STA. 205+00 TO 208+00



729.40
212+00
727.4



728.33
211+00
723.9



728.00
210+00
727.9

728.76
209+00
727.8

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	22	111		
			57	698
Sta. 211+30 Rt. Channel Improvement			160	12
	9	266		
			367	548
	189	30		
			487	89
	74	18		
			232	50

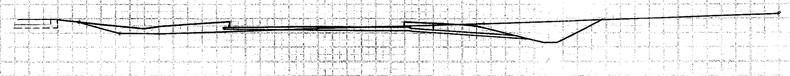
Sta. 200+00 to Sta. 210+00
11,771 Cu. Yds.
1,147 Cu. Yds.

STA. 209+00 TO

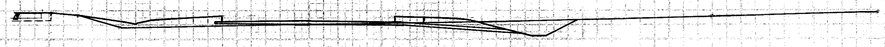
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

103
291

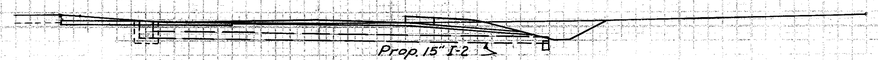
OUT-4-18.48-15.02)



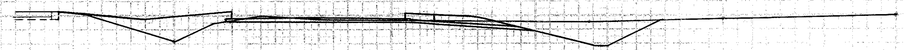
735.82
216+00
734.8



733.40
215+00
732.1



731.67
214+00
730.5



730.50
213+00
729.5

Field Drive Sta. 213+70

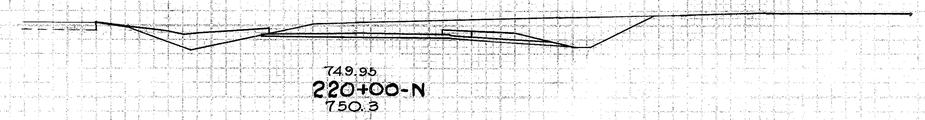
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
58	36		
		163	133
30	36		
		183	78
69	6		
		250	96
		14	
66	46		
		163	291

STA. 213+00 TO 216+00

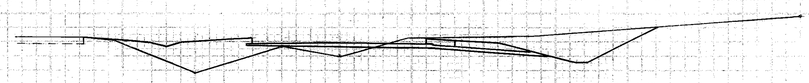
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

104
291

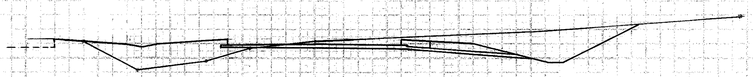
BUT-4-(8.48-15.02)



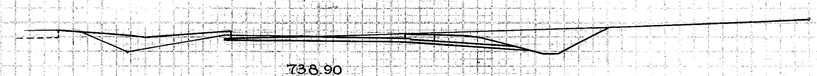
749.95
220+00-N
750.3



746.40
219+00-N
744.0



742.60
218+00-N
742.3



738.90
217+00-N
738.1

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
144	36		
		430	207
88	76		
		374	267
114	68		
		363	187
82	33		
		259	128

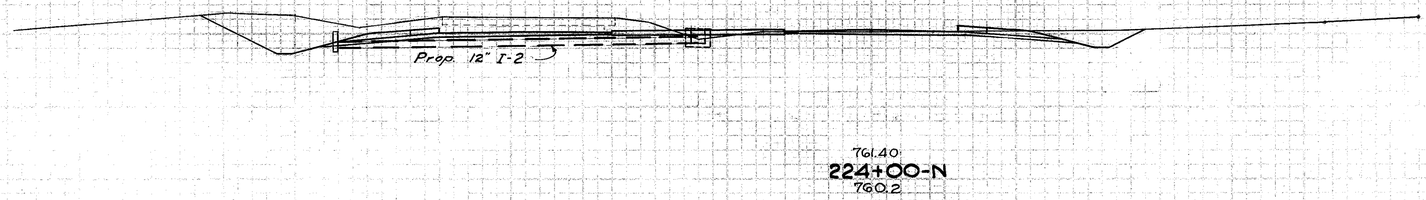
Sta. 210+00 to Sta. 220+00
E-1
Embankment 2,623 Cu. Yds.
Embankment +15% 2,633 Cu. Yds.
3,028 Cu. Yds.

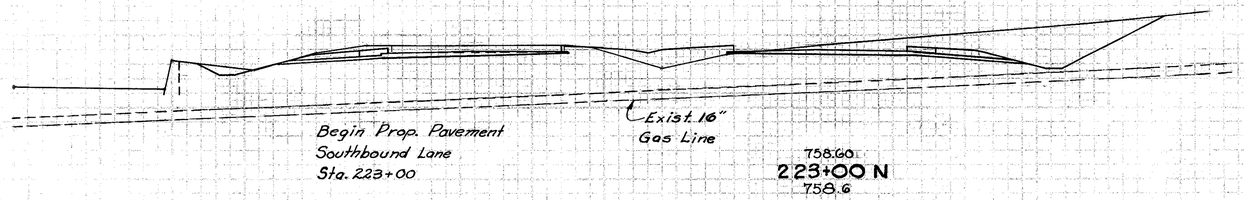
STA. 217+00 TO 220+00

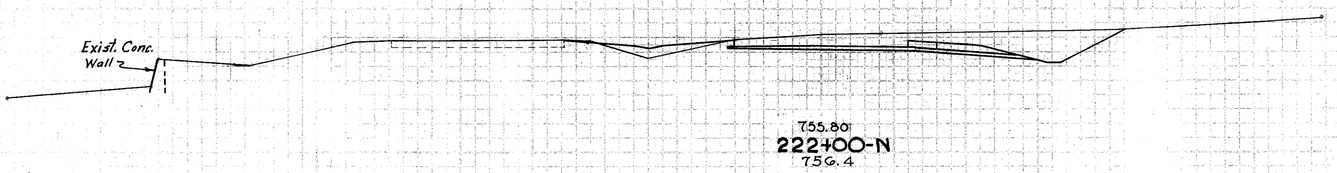
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

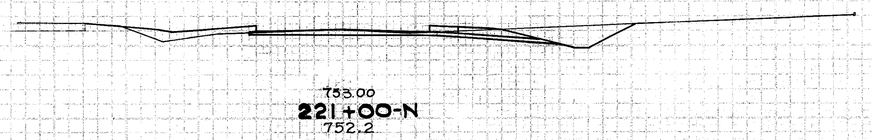
105
291

BUT-4-(8.48-15.02)







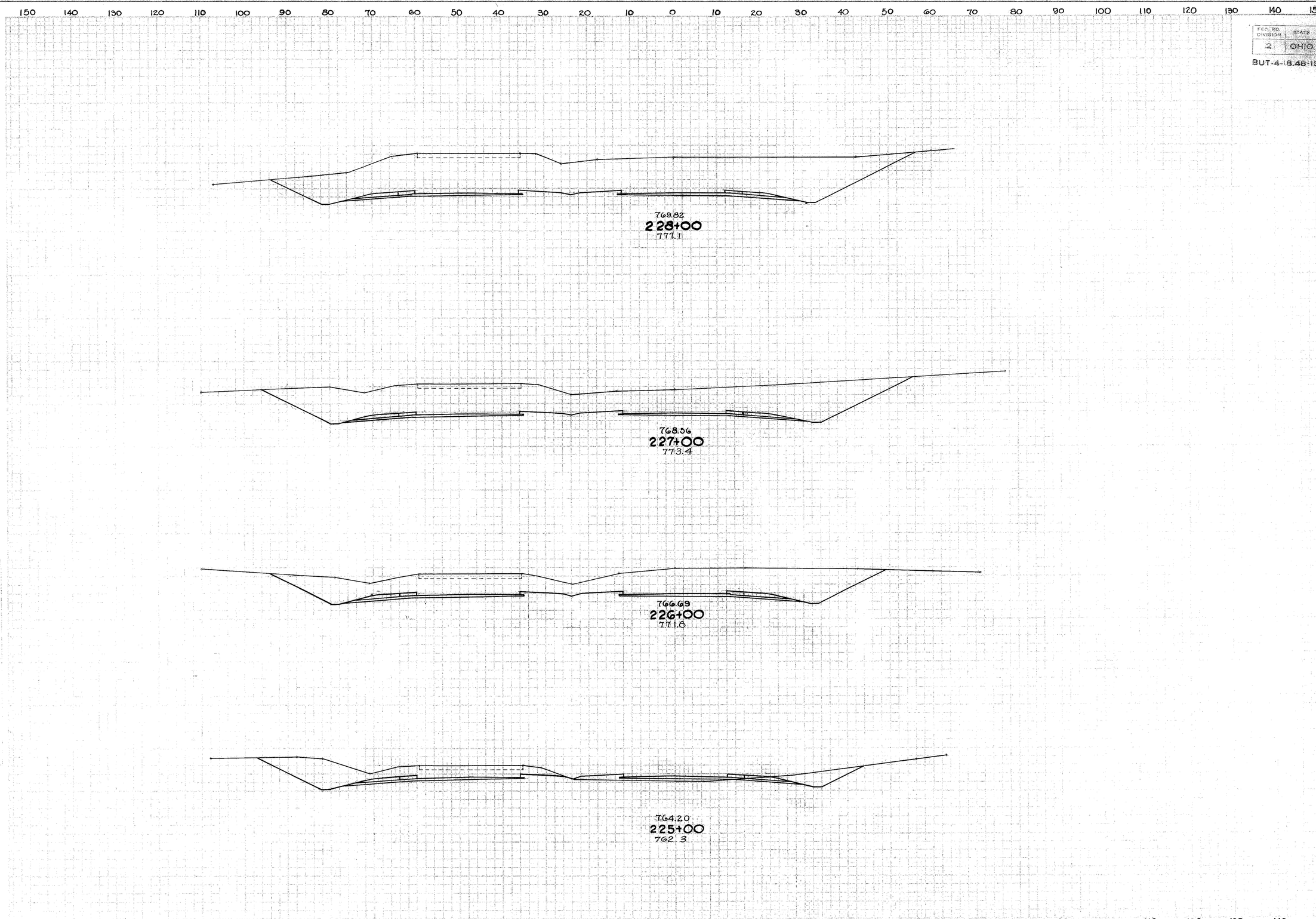


	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	194	14		
			757	102
Field Drive Sta. 223+76			25	
Ahead	215	41		
Back	154	35		
			541	100
			11	
	138	19		
			365	82
	59	25		
			376	113

STA. 221+00 TO 224+00

FED. RD. DIVISION	STATE	PROJECT	106 291
2	OHIO		

BUT-4-(8.48-15.02)



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
1163	12		
		4065	44
1032	12		
		3191	44
691	12		
		1778	115
269	50		
		857	118

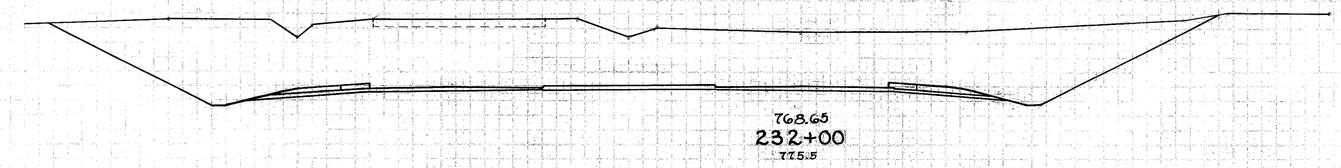
STA. 225+00 TO 228+00

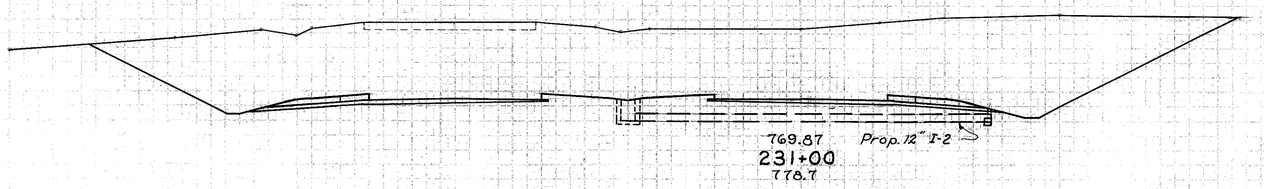
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

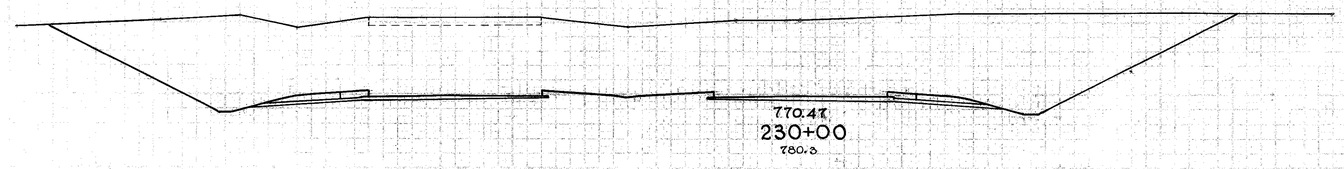
FED. RD. DIVISION	STATE	PROJECT	107
2	OHIO		291

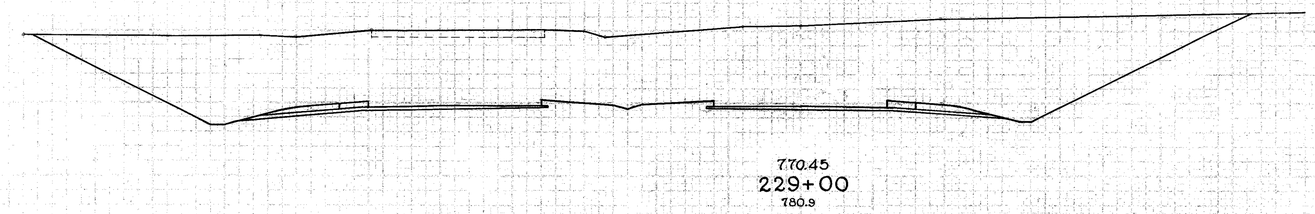
BUT-4-(8.48-15.02)

Drive Lt. Sta. 232+22









End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		354	
1316	12		
		5280	44
1535	12		
		5850	44
1624	12		
		6074	44
1656	12		
		5220	44

Sta. 220+00 to Sta. 230+00
23,260 Cu. Yds.
E.-I. Embankment 806 Cu. Yds.
Embankment+15% 927 Cu. Yds.

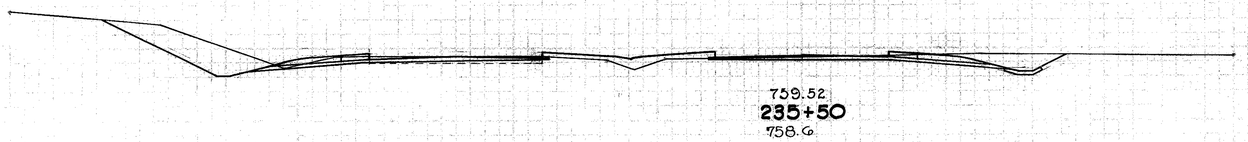
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 220+00 TO 232+00

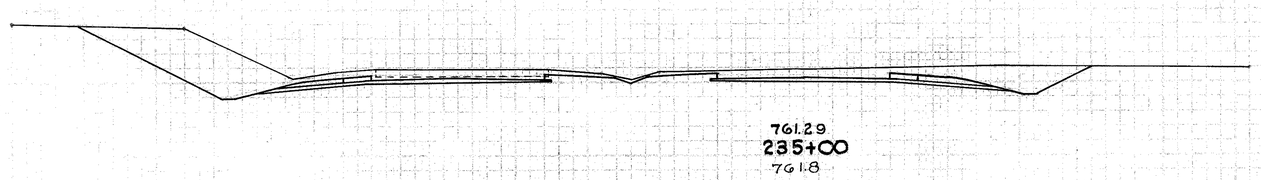
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

FED. ROAD DIVISION	STATE			108
2	OHIO			291

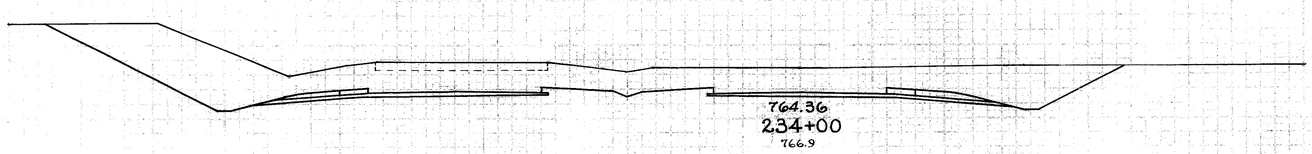
BUT-4-(8.48-15.02)



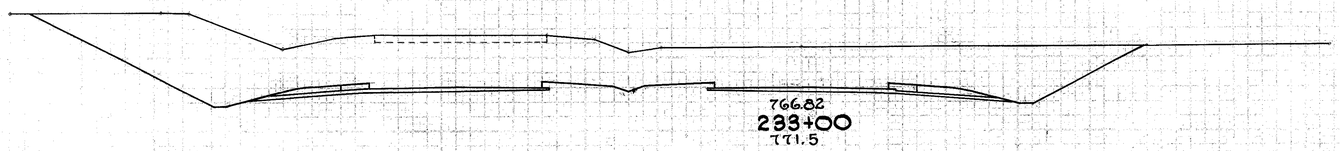
759.52
235+50
758.6



761.29
235+00
761.8



764.36
234+00
766.9



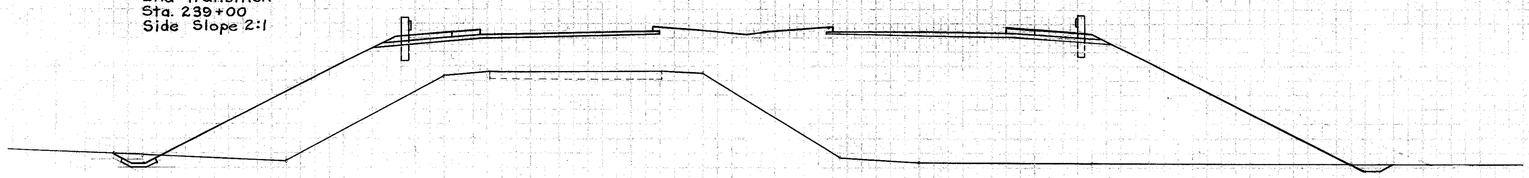
766.82
233+00
771.5

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
130	37		
		402	45
304	12		
		1739	44
695	12		
		2996	44
983	12		
		4258	44

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

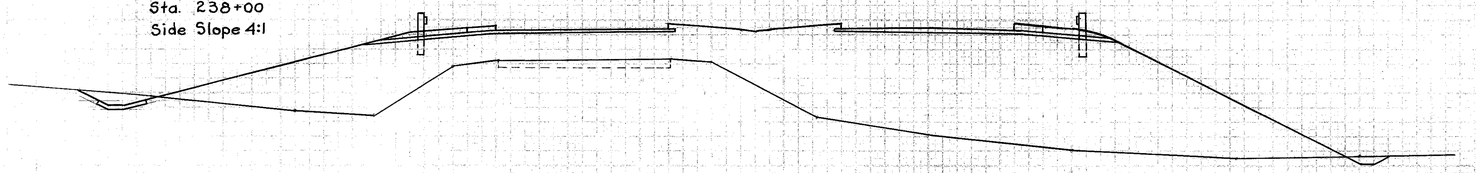
STA. 233+00 TO 235+50

End Transition
Sta. 239+00
Side Slope 2:1



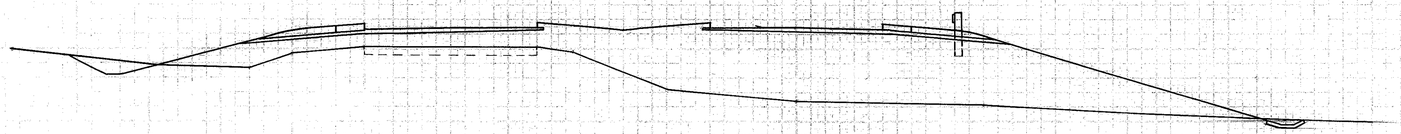
745.60
239+00
726.8

Begin Transition
Sta. 238+00
Side Slope 4:1



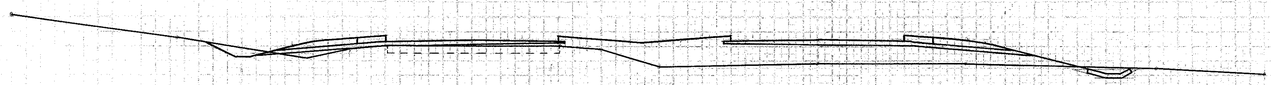
749.60
238+00
734.1

End Transition
Sta. 237+70
Side Slope 2:1



753.60
237+00
742.8

Begin Transition
Sta. 236+70
Side Slope 4:1



757.60
236+00
753.6

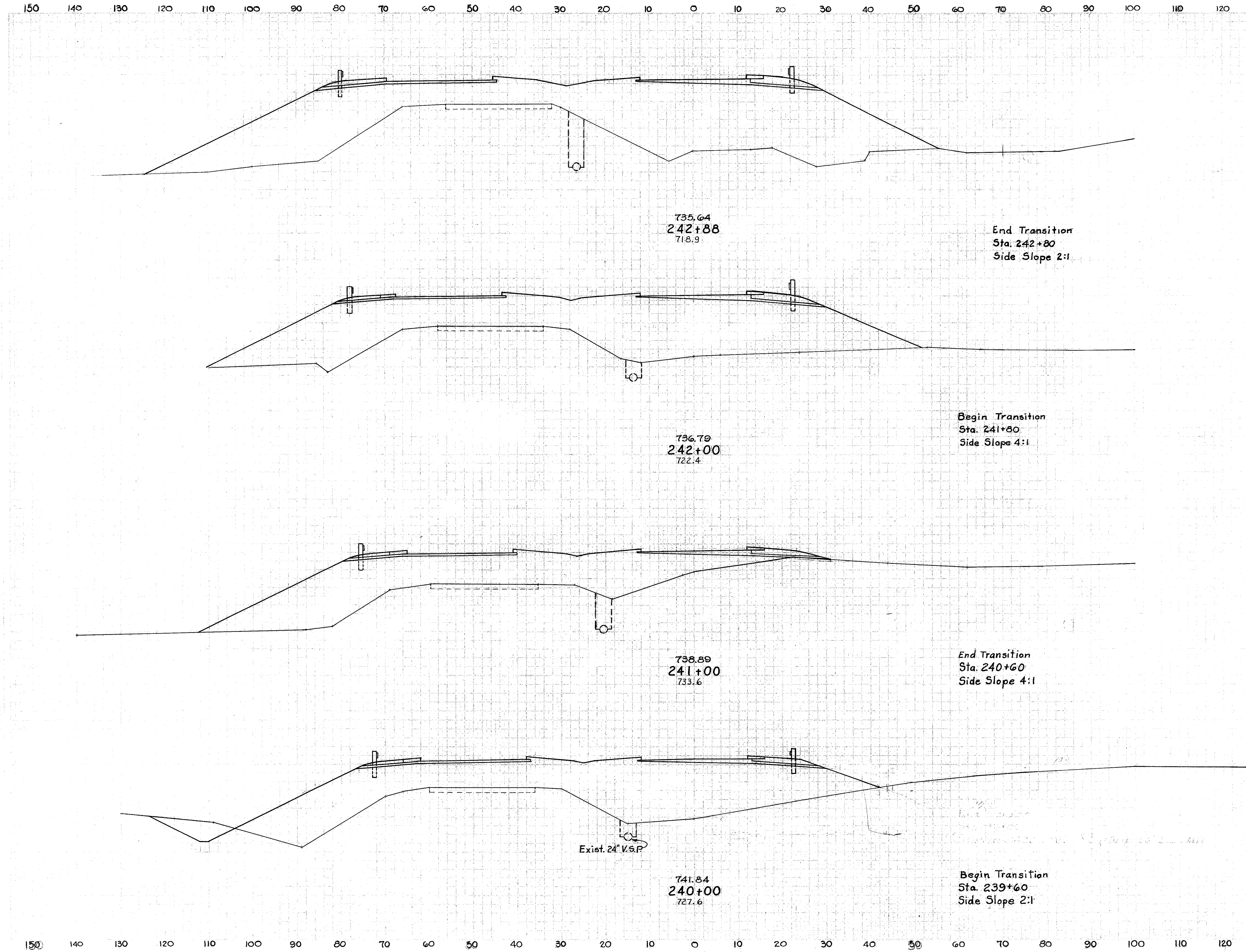
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
9	1694		
		43	5674
14	1370		
		50	4044
13	814		
		44	1857
11	189		
		131	209

STA. 236+00 TO 239+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

110
291

BUT-4-(8.48-15.02)

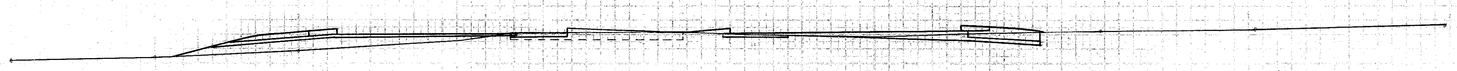


Sta. 242+75 Lt. Channel Improvement

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
—	1801		
		17	
		—	5322
—	1465		
		—	4426
—	925		
		23	4208
48	1347		
		106	5632

Sta. 230+00 to Sta. 240+00
E-1 21,253 Cu. Yds.
Embankment 17,681 Cu. Yds.
Embankment +15% 20,333 Cu. Yds.

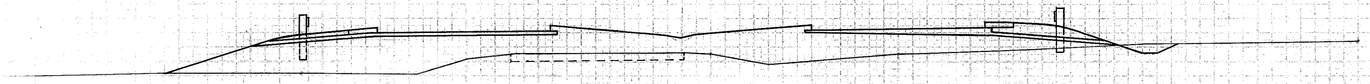
STA. 240+00 TO 242+8



734.90
245+00
733.7

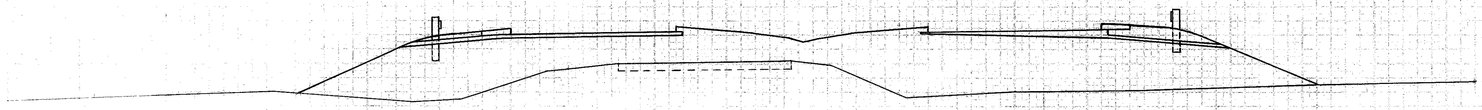
End Transition
Sta. 244+40
Side Slope 4:1

End Transition
Sta. 244+50
Side Slope 4:1



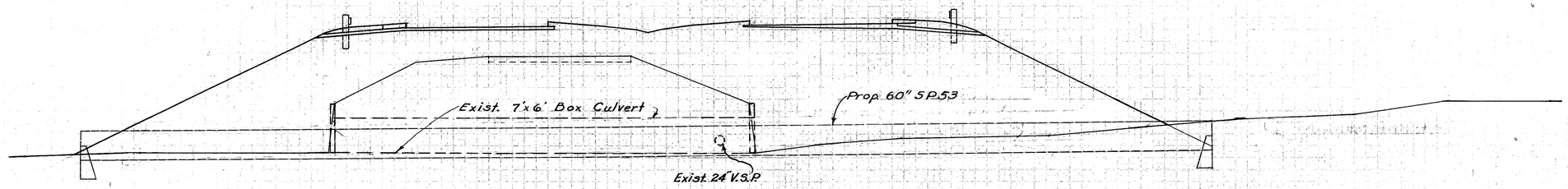
735.10
244+00
731.0

Begin Transition
Sta. 243+50
Side Slope 2:1



Begin Transition
Sta. 243+40
Side Slope 2:1

735.23
243+50
726.1



735.54
243+00
714.4

Drive Sta. 245+34.5

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		55	
23	68		
		52	913
5	425		
		4	
		–	1158
		–	826
		–	2640
		235	
		–	2025
		–	850

Sta. 243+30, Rt.
Channel Improvement

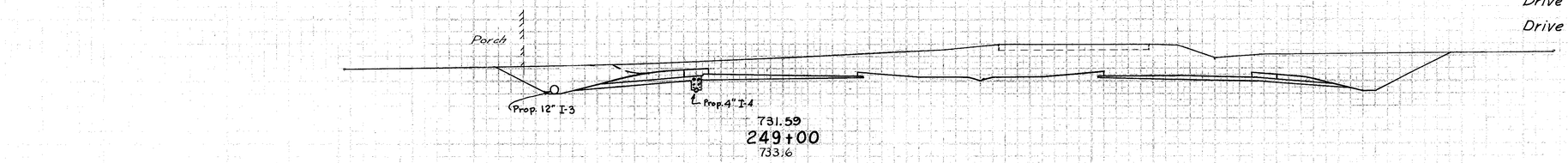
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA. 243+00 TO 245+34.5

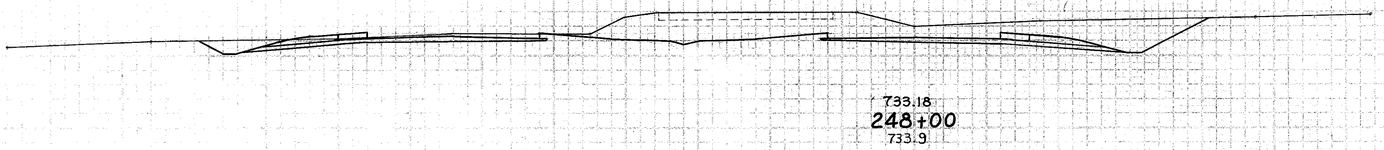
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

112
291

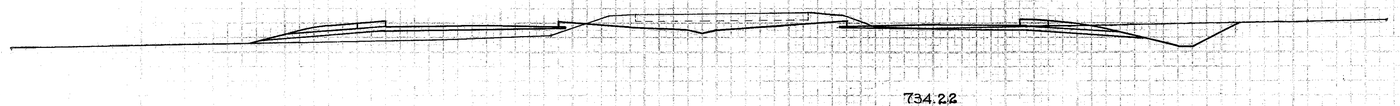
BUT-4-(8.48-15.02)



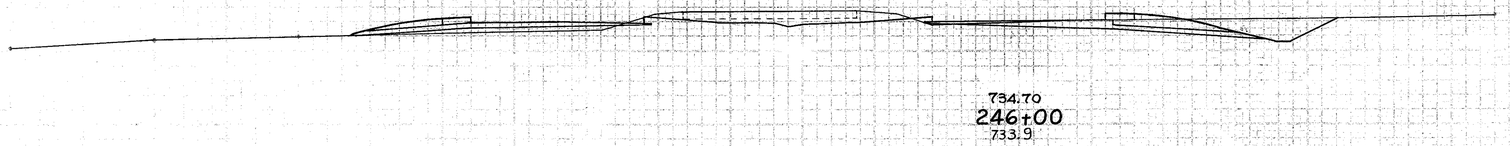
731.59
249+00
733.6



733.18
248+00
733.9



734.22
247+00
733.2



734.70
246+00
733.9

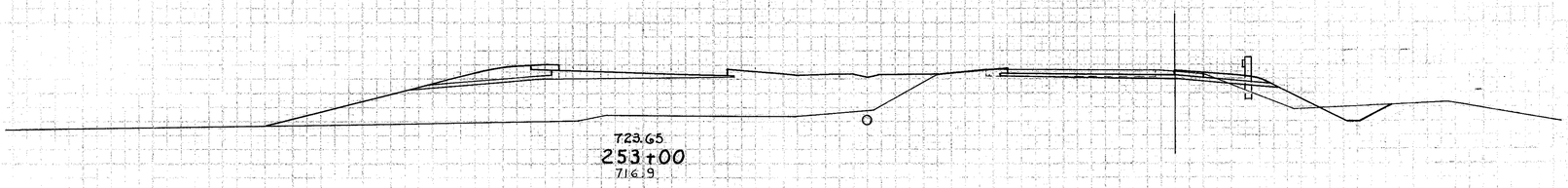
	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
Drive Sta. 249+88.5			47	
Drive Sta. 249+09.5			40	
Ahead	520	6		
Back	608	19		
			1685	46
	302	13		
			767	183
	112	86		
			418	291
	114	71		
			254	257

STA. 246+00 TO 249+00

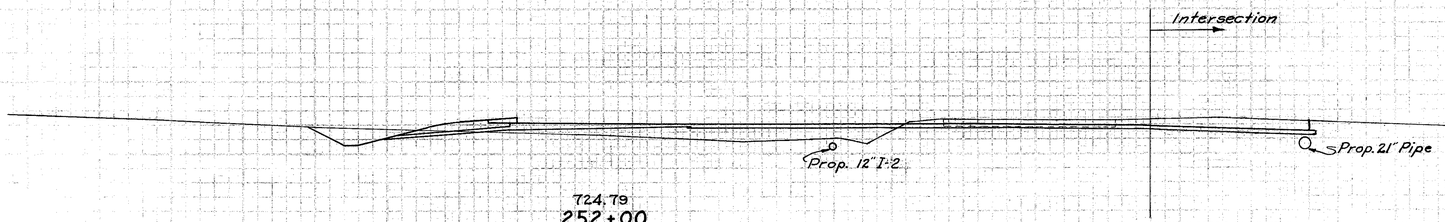
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

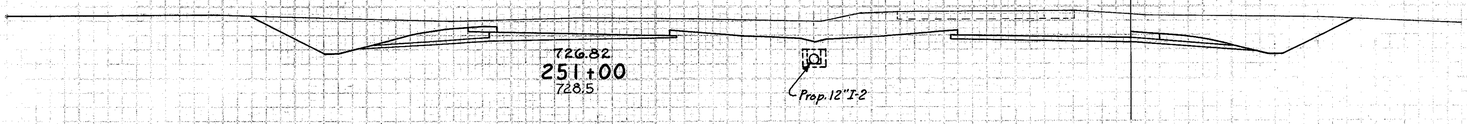
113
291

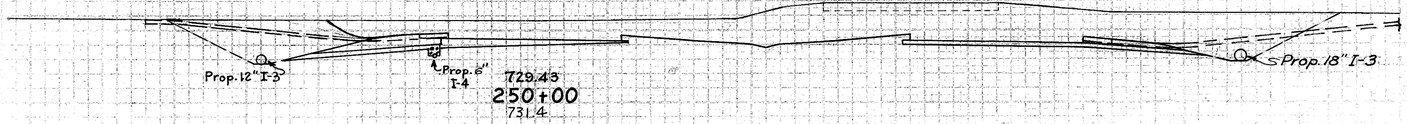
BUT-4-(8.48-15.02)



GREENLAWN ROAD
STA. 252+16.8







	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Ahead	50	499		
Back	27	477		
			23	26
			106	19
			172	1083
	66	108		
			291	
			828	235
Drive Sta. 251+81.5			22	
Ahead	381	19		
Back	507	25		
			2239	93
Drive Sta. 250+10			57	
Ahead	699	25		
Back	568	6		
			2015	22
House Sta 249+50 Lt.			187	

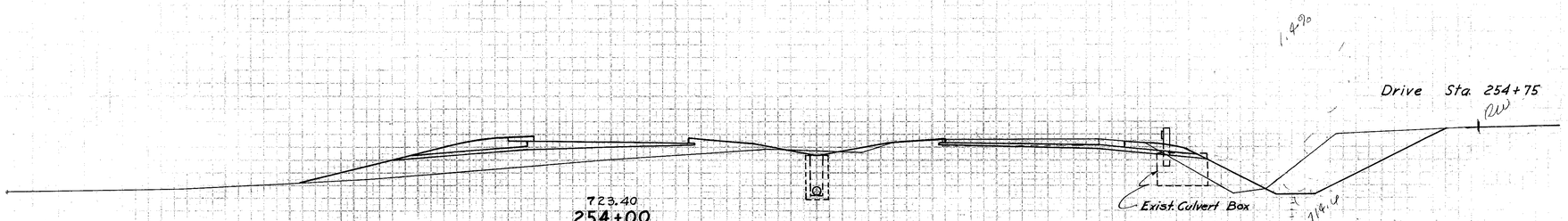
Sta 240+00 to Sta 250+00
5,360 Cu. Yds.
20,503 Cu. Yds.
23,578 Cu. Yds.
E-1
Embankment
Embankment +15%

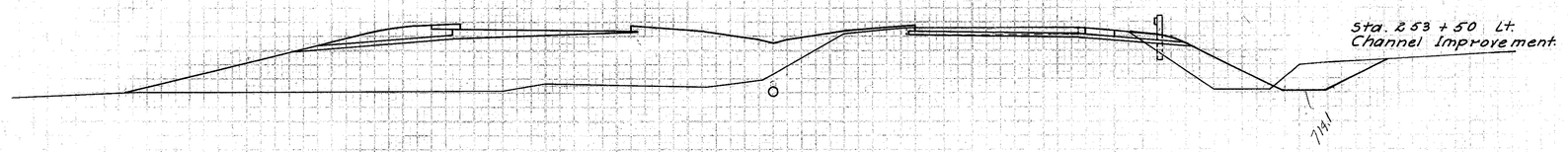
STA. 250+00 TO 253+00

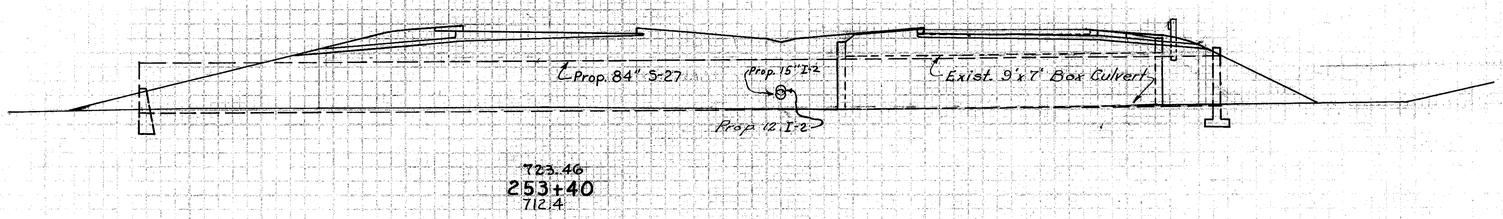
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

114
291

BUT-4-(8.48-15.02)







Channel Improvement
Sta. 253+20 Rt.

Sta. 253+31 Rt.
Channel Improvement

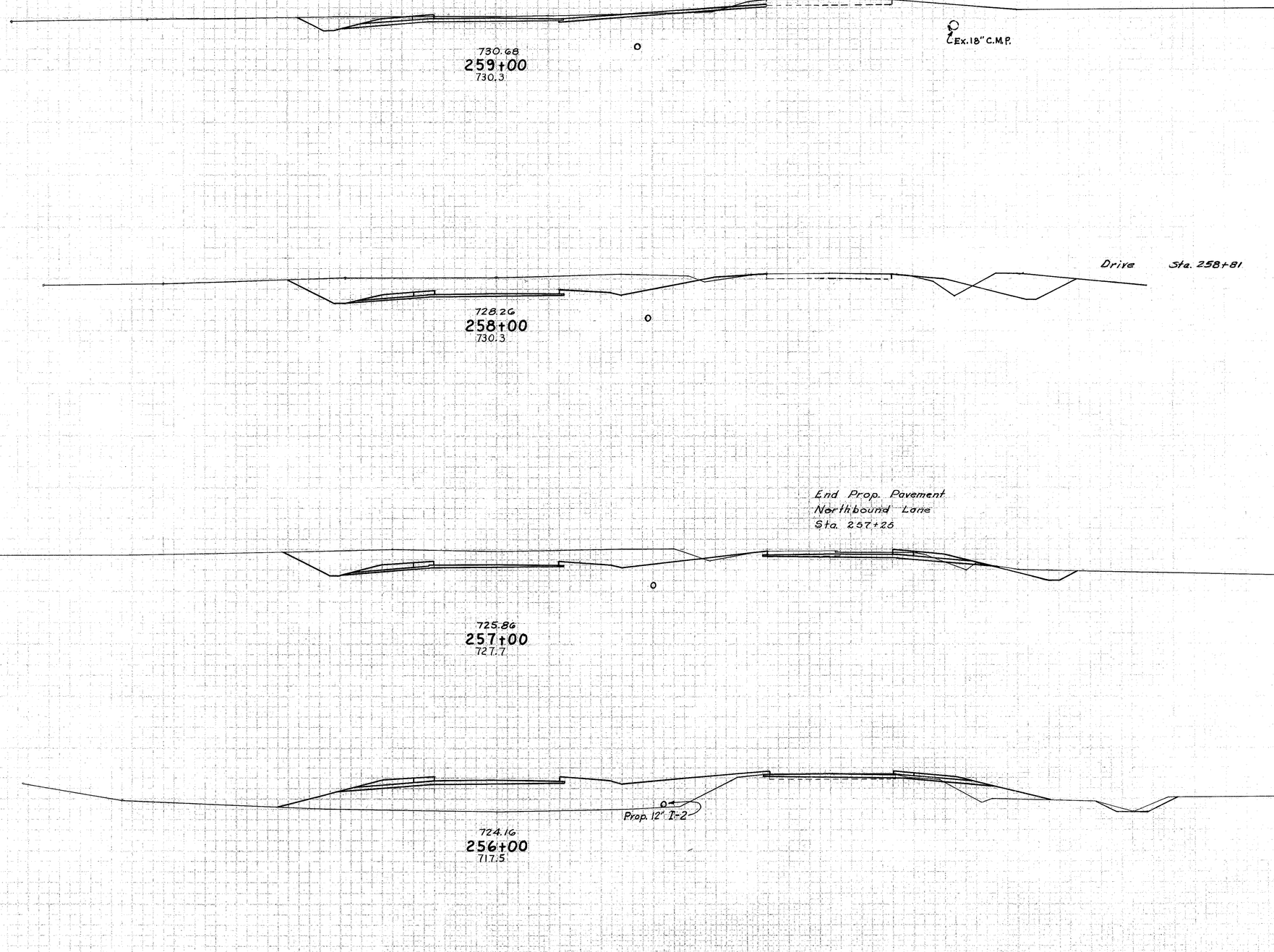
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
67	422		
		356	1593
		32	
125	438		
		150	1000
		12	
37	641		
		7	378
		25	
—	1403		
		37	1409
		25	

STA. 253+40 TO 255+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

115
291

BUT-4-(8.48-15.02)



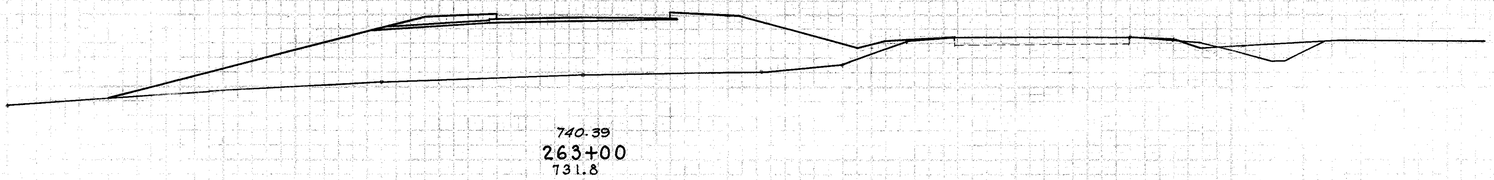
	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	91	6		
			782	56
	381	24	32	
			1137	80
	283	19		
			552	843
	15	436		
			152	1589

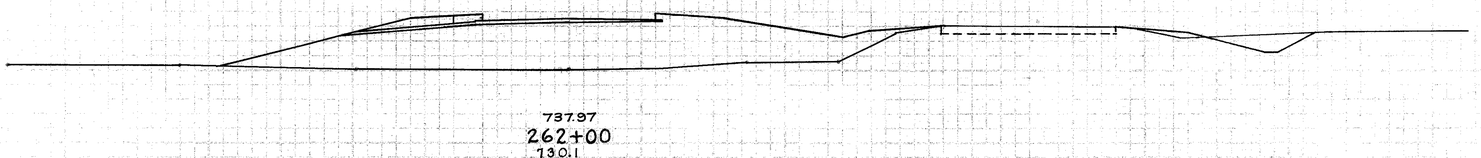
STA. 256+00 TO 259+00

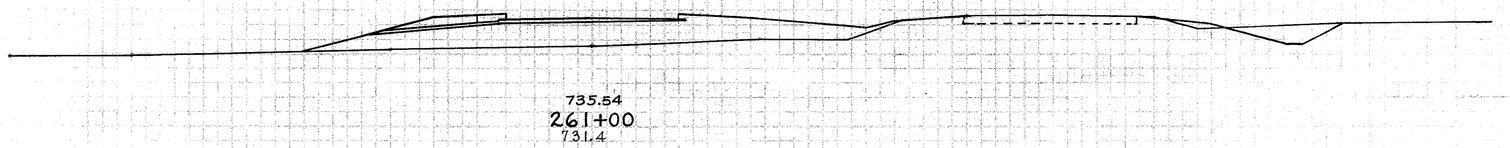
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

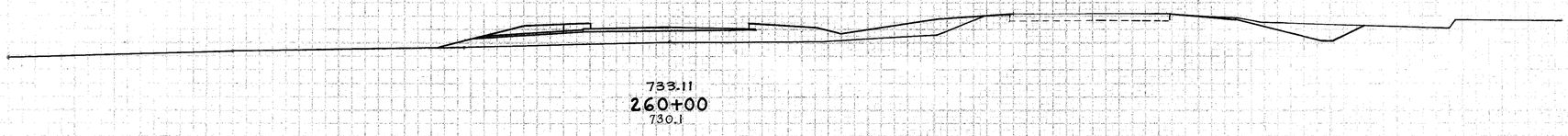
116
291

BUT-4-(8.48-15.02)









End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
21	621		
		80	2061
22	498		
		94	1937
29	230		
		104	728
27	163		
		219	313

E-1
Embankment
Sta. 230+00 to 260+00
7,188 Cu. Yds.
8,772 Cu. Yds.
Embankment +15% 10,088 Cu. Yds.

STA. 260+00 TO 263+00

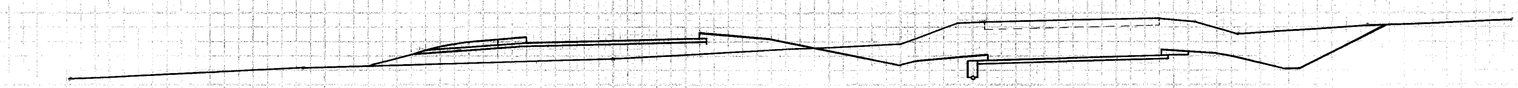
FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

117
291

SUT-4-(2.48 15.02)

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

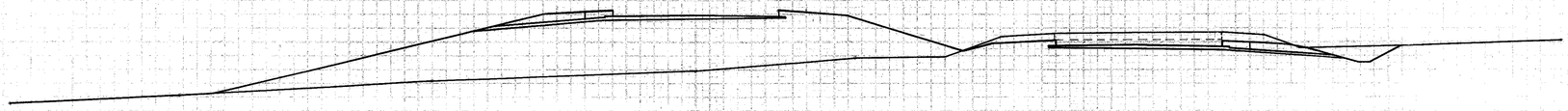
747.33
267+00
743.7



746.45
266+00
740.6

Prop. 6" I-A

744.94
265+00
735.9



742.82
264+00
732.0

Begin Prop. Pavement
Northbound Lane
Sta 263+20

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

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
308	148		
		933	985
196	384		
		544	1911
98	648		
		304	2678
66	798		
		161	2628

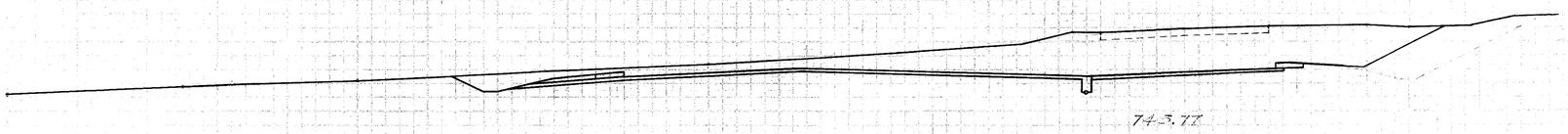
STA 264+00 TO 267+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

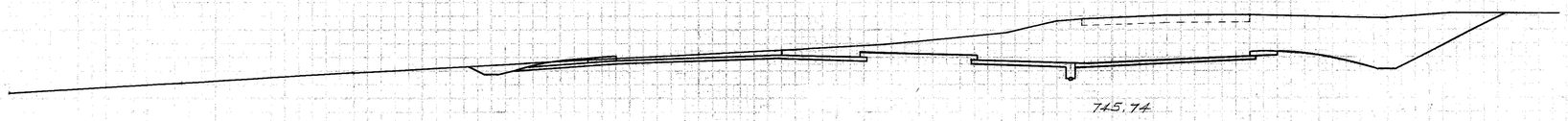
118
291

BUT-4-(8.48-15.02)

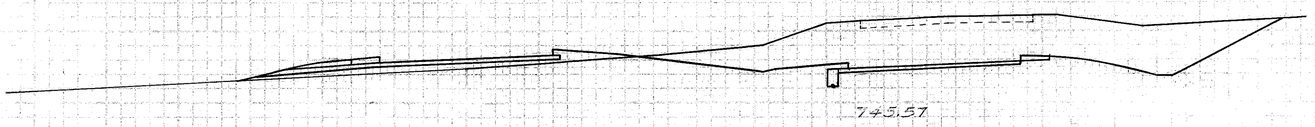
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



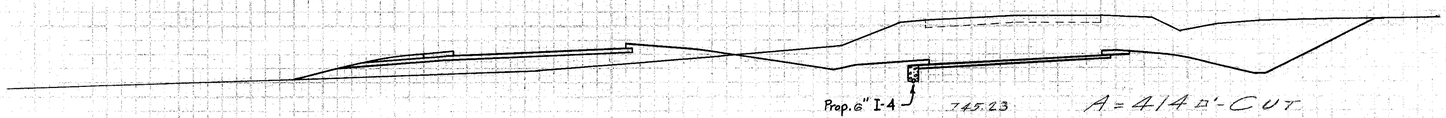
746.86
269+50
746.9



747.26
269+00
746.4



747.51
268+50
744.9



747.60
268+00
743.7

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
524	6		
		1048	11
		268	
520	6		
		885	87
436	88		
		787	217
414	146		
		1337	544

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

STA. 268+00 TO 269+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

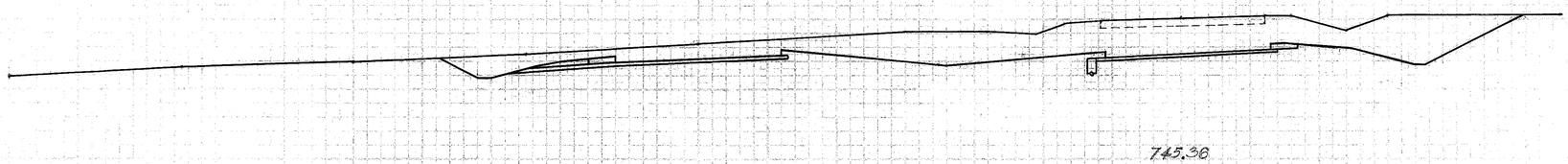
119
291

BUT-4-(8.48-15.02)

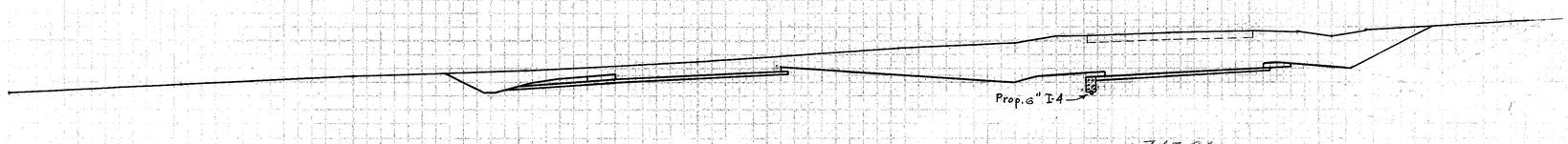
Field Drive Sta. 271+90

743.70
271+50
743.8

744.72
271+00
745.3



745.59
270+50
746.5



746.30
270+00
747.0

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		18	
344	G		
		754	11
470	G		
		972	11
580	G		
		1161	11
554	G		
		1191	11

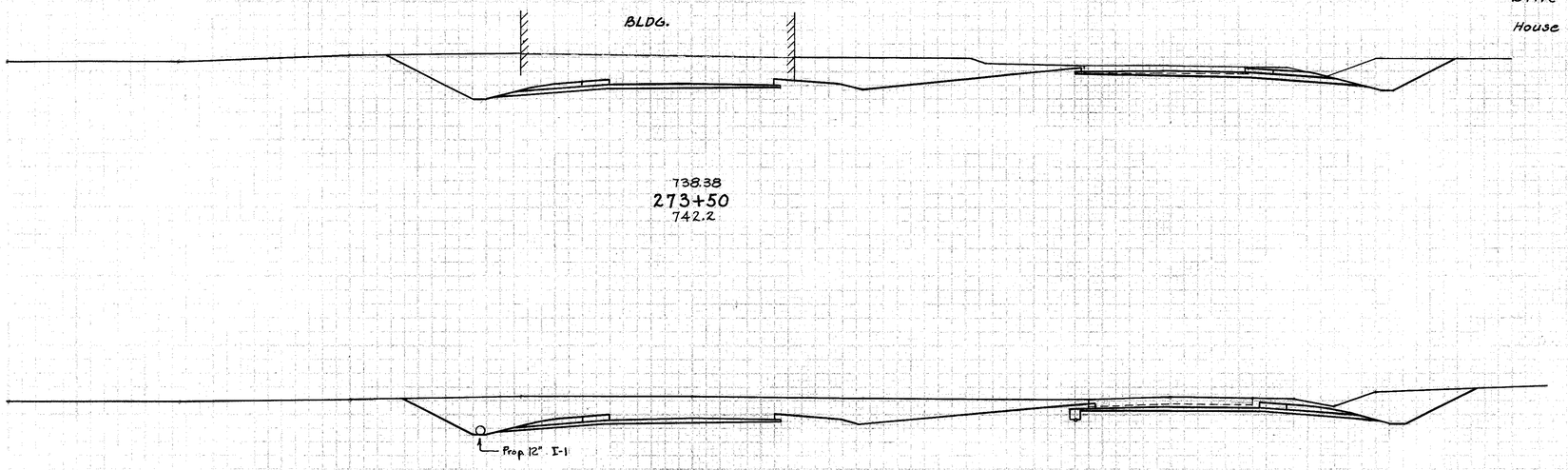
Sta. 260+00 to Sta. 270+00
E-1
Embankment 7532 Cu. Yds.
Embankment+15% 13,198 Cu. Yds.
13,178 Cu. Yds.

STA. 270+00 TO 271+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

120
291

BUT-4-(8.48-15.02)



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		33	
			46
494	12		
		874	22
450	12		
		759	22
			72
370	12		
		635	22
316	12		
		611	17

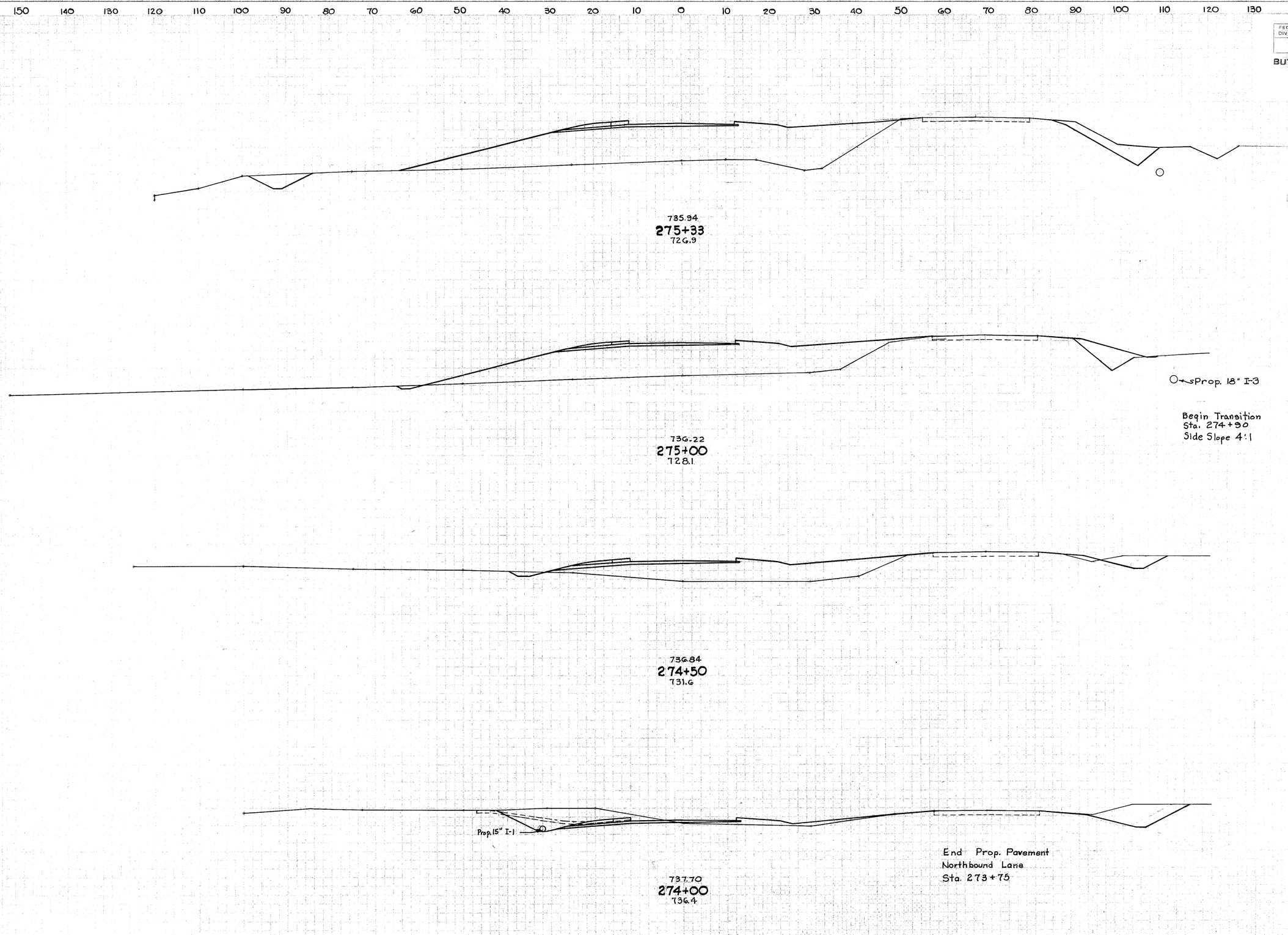
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 272+00 TO 273+51

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

121
291

BUT-4-(8.48-15.02)



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
26	845		
		18	934
4	683		
		36	932
85	323		
		208	345
190	50		
		693	57

STA. 274+00 TO 275+33

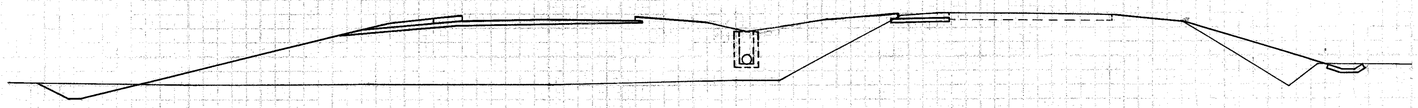
FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

122
291

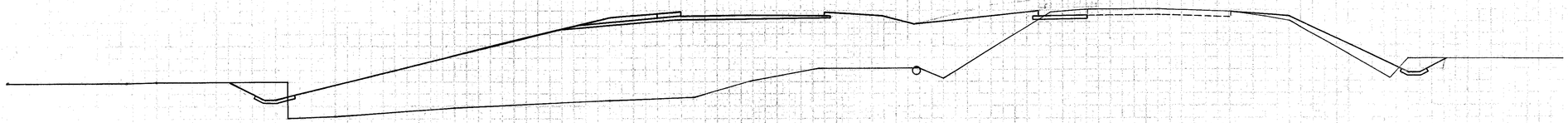
BUT-4-(8.48-15.02)

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

End Transition
Sta. 276+15
Side Slope 4:1

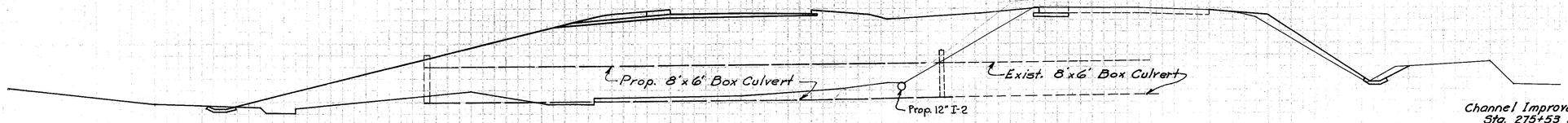


735.67
276+00
726.1



735.72
275+77
724.1

Begin Transition
Sta. 275+65
Side Slope 1½:1



735.77
275+60
721.1

Channel Improvement
Sta. 275+53 Rt.

Sta. 275+45 Lt.
Channel Improvement

735.87
275+42
721.1

End Transition
Sta. 275+40
Side Slope 1½:1

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
32	736		
		32	818
43	1184		
		17	774
12	1275		
		10	
		97	92
		15	775
34	1049		
		10	316

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

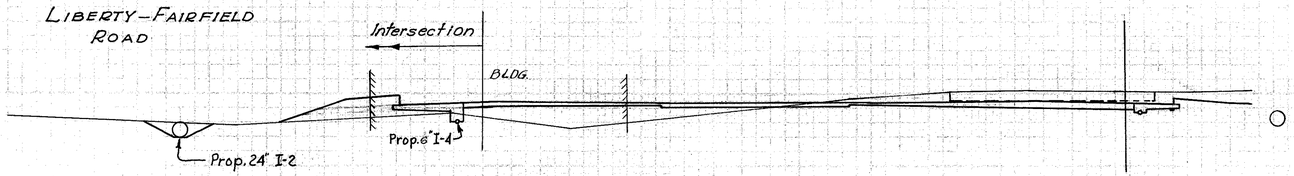
STA. 275+42 TO 276+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

123
291

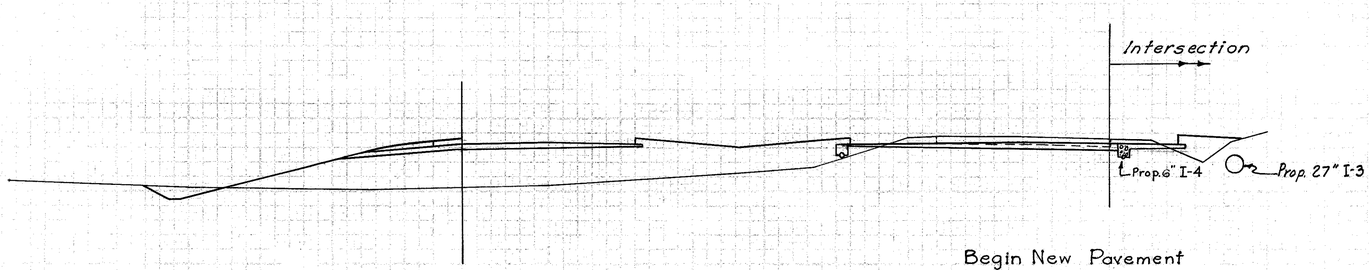
SU T-4-(B.48 15.02)

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



739.57
279+00
735.1

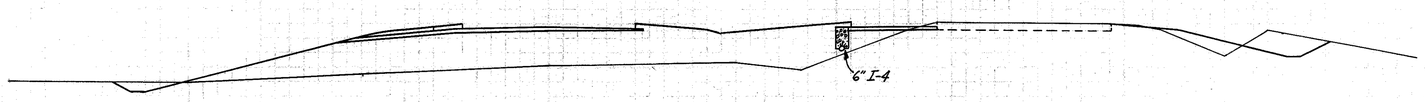
LIBERTY-FAIRFIELD ROAD
Sta. 279+22
Drive Sta 279+21



737.35
278+00
730.9

LIBERTY-FAIRFIELD ROAD

Begin New Pavement
Northbound Lane
Sta. 277+75



736.04
277+00
730.2

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
			751 60	966
	51	109		
			139	659
			16	166
Ahead	24	247		
Back	36	371		
			78	56
			139	1583
	39	484		
			132	2259

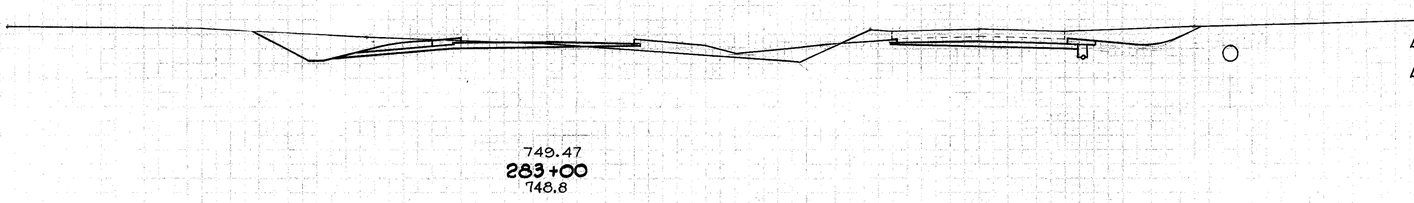
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 277+00 TO 279+00

LO. RD. DIVISION	STATE	PROJECT	
2	OHIO		

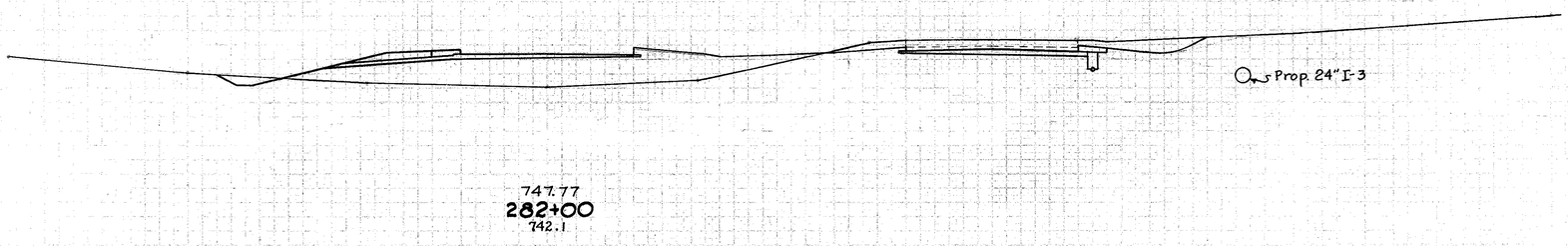
124
291

BUT-4-(8.48-15.02)

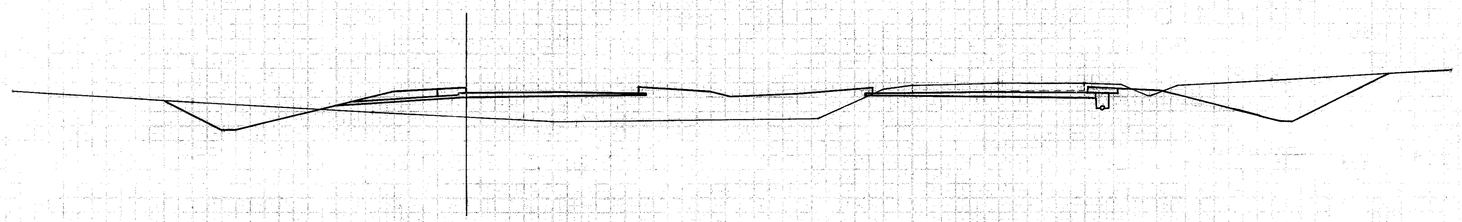


Drive Sta. 283+74

Drive Sta. 283+43



Drive Sta. 282+20



Ahead

Back

House Sta. 280+25

Drive Sta. 280+29

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	152	52	157	
			106	
			719	226
			101	
	236	70		
			935	604
Ahead	269	256		
Back	221	216		
			93	78
			565	406
				249
			69	
	84	3		
			250	207

Sta. 270+00 to Sta. 280+00
E-1 Embankment 8,423 Cu. Yds.
Embankment +15% 10,693 Cu. Yds.
11,370 Cu. Yds.

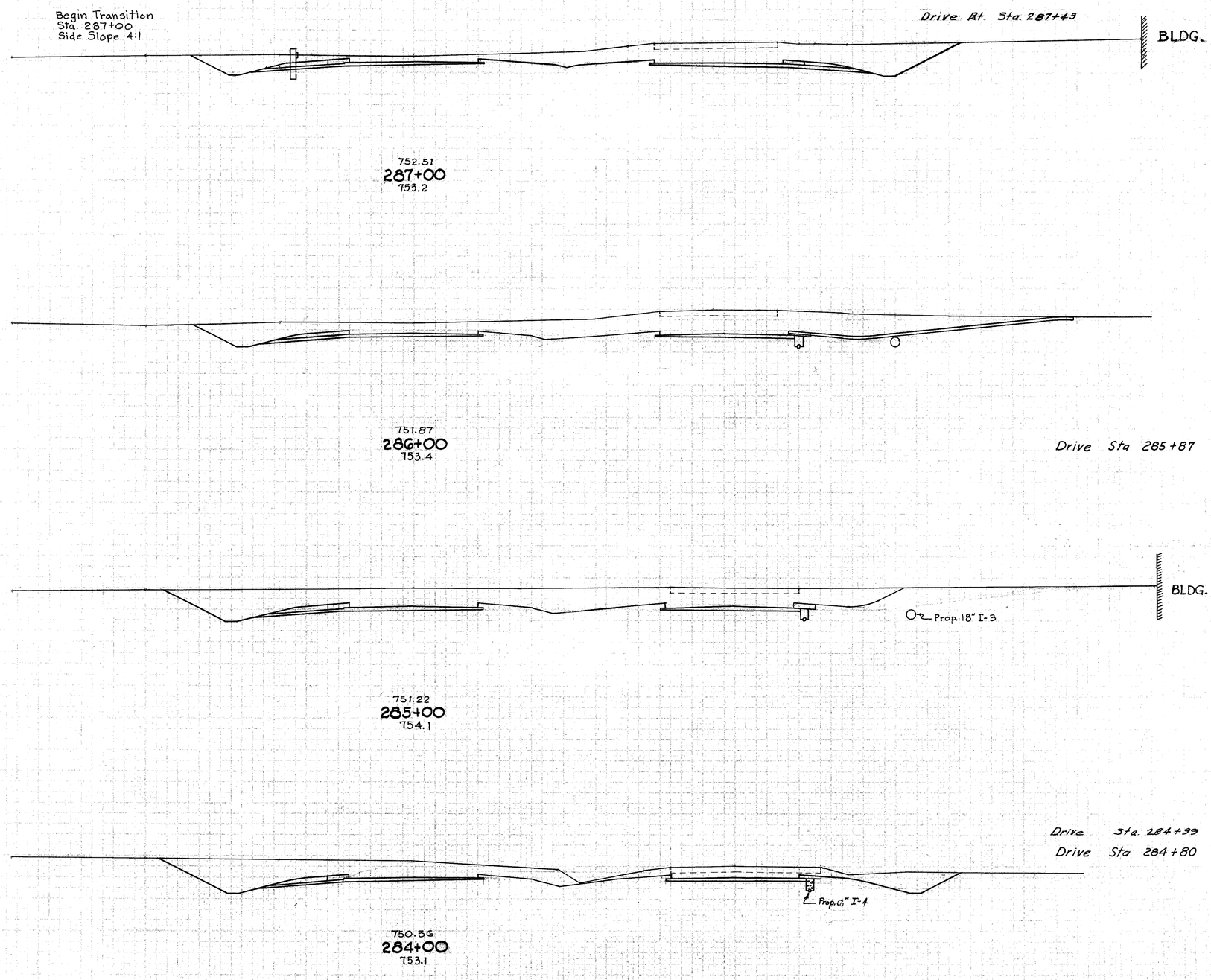
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

STA. 280+00 TO 283+00

FED. HD. DIVISION	STATE	PROJECT	
2	OHIO		

125
291

BUT-4-(8.48-15.02)



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		61	
412	12		
		1769	33
543	6		
		176	
		1978	22
525	6		
		1728	22
		113	
408	6	115	
		1037	107

STA. 284+00 TO 287+00

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

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

126
291

BUT-4-(8.48-15.02)

End Transition
Sta. 290+00
Side Slope 4:1

754.44
290+00
752.2

Begin Transition
Sta. 289+00
Side Slope 2:1

753.80
289+00
744.8

End New Pavement
Northbound Lane
Sta. 288+70

Channel Improvement
Sta. 288+62
Rt.
Lt.

Prop. 12" I-2

℄ Exist. 7'x5' Culvert

Prop. 66" S-27

753.48
288+50
741.3

End Transition
Sta. 288+00
Side Slope 2:1

753.16
288+00
746.0

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	61	142		
			152	1380
	21	602		
			19	1510
			200 55	45
Ahead	—	1028		
Back	36	1040		
			112	1224
	85	282		
			920	544

Sta. 288+00 to Sta. 290+00
10,925 Cu. Yds.
6,305 Cu. Yds.
7,251 cu. Yds.

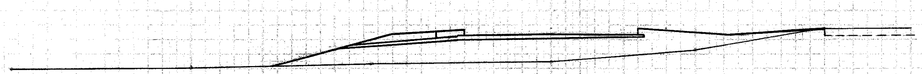
E.T.
Embankment
Embankment + 15%

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

STA. 288+00 TO 290+00

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			127 291

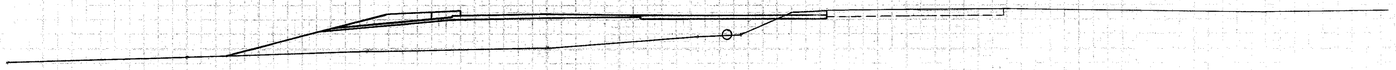
BUT-4-(8.48-15.02)



Drive Sta. 294+08

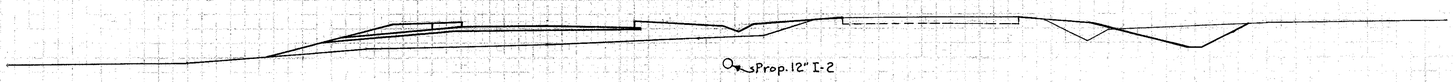
757.62
294+00
752.9

750.38
293+00
750.7



Horseshoe Bend Rd.
Sta 292+07

755.73
292+00
750.1



755.09
291+00
751.9

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		1	51
–	228		
			1035
–	331		
		11	1150
6	290		
		12	95
		74	885
34	188		
		176	611

STA. 291+00 TO 294+00

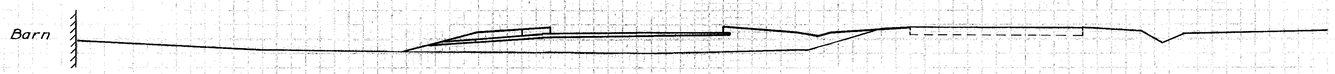
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

128
291

SUT-4-(8.48 15.02)

7G2.73
296+70
758.2

7G2.07
296+20
758.4



7G1.75
296+00
758.0

759.70
295+00
755.0

Barn Drive Sta 295+86

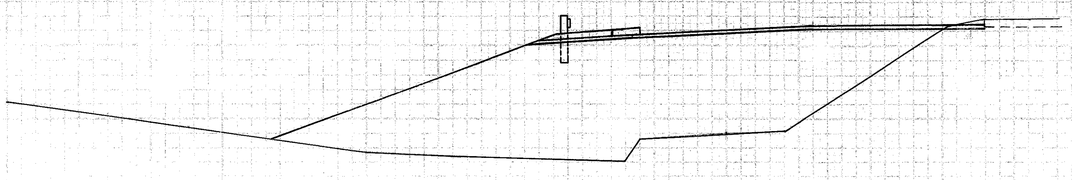
End Area		Cu Yds.	
Cut	Fill	Cut	Fill
—	222		
			369
—	176		
			132
—	180		
			770
		1	29
—	236		
			859

STA 295+00 TO 296+70

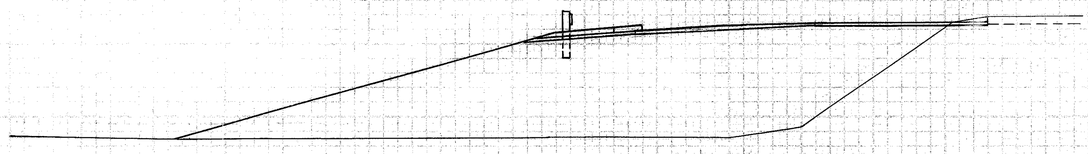
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

129
291

BUT-4-(8.48-15.02)



763.85
299+00
748.2



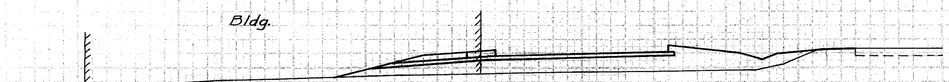
763.70
298+57
747.1

Begin Transition
Sta. 298+40
Side Slope 4:1

763.50
298+00
763.8

House Sta. 297+75 Lt.

763.12
297+35
762.5



763.02
297+00
759.5

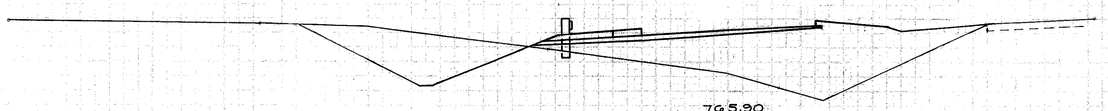
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
5	1046		
		7	1696
4	1084		
		177	1151
164	6		
			244
		320	30
102	19		
		66	119
=	164		
			214

STA. 297+00 TO 299+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

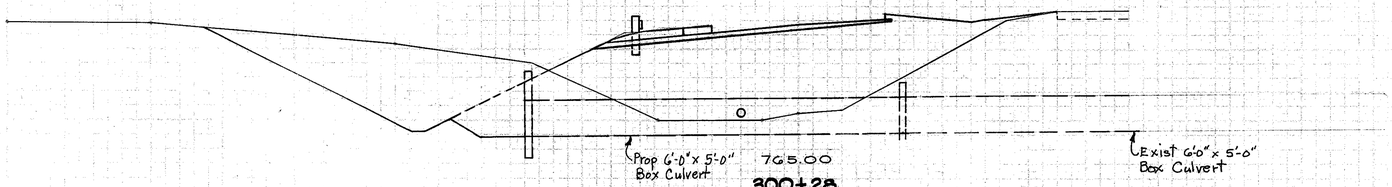
130
291

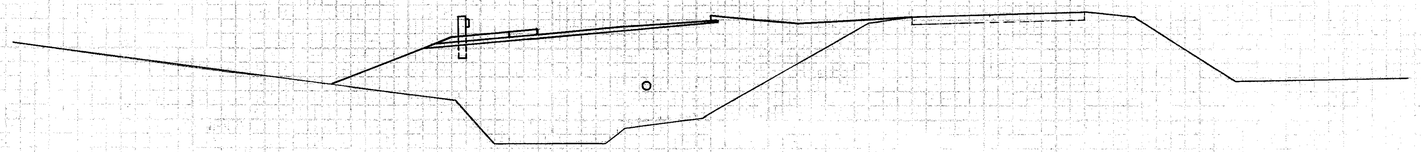
BUT-4-8.48-15.02)

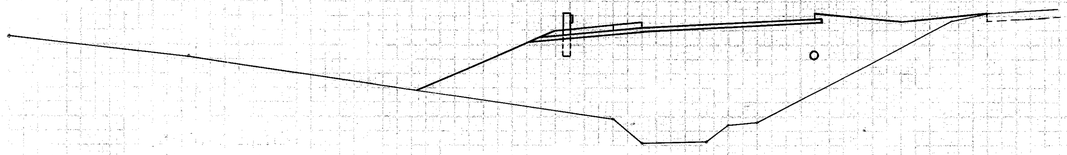


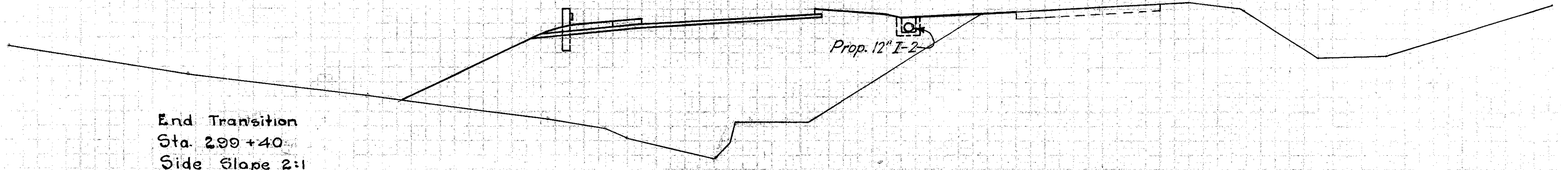
Begin Transition
Sta. 300+50
Side Slope 2:1

Channel Improvement
Sta 300+41 Lt.









	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	191	308		
			2218	
			386	782
Ahead	303	572		
Back	–	572		
				692
	–	762		
				550
	–	724		
				892
	–	882		
			5	1785

Sta. 290+00 to Sta. 300+00
0.50 Cu. Yds.
136.17 Cu. Yds.
14,510 Cu. Yds.

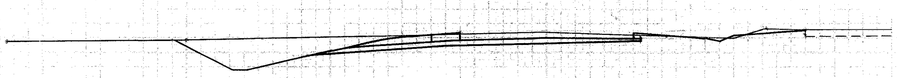
E-1
Embankment
Embankment + 15% =

STA. 299+50 TO 300+76

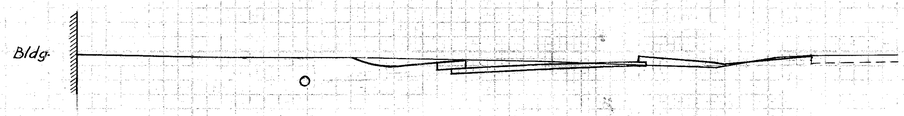
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

131
291

BUT-4-(8.48-15.02)

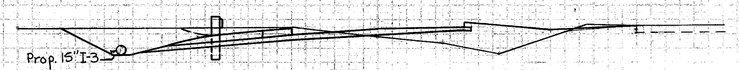


772.90
303+00
772.6

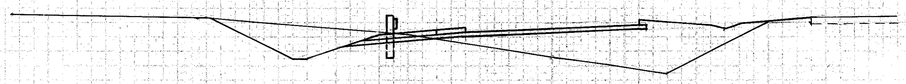


769.41
302+00
768.5

End Transition
Sta. 301+50
Side Slope 4:1



767.79
301+50
765.7



766.45
301+00
761.3

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	150	7		
Sta. 302+50 to Sta. 303+00 Pavement Removal on Rt.			12	10
			352	26
	40	7		
			71	82
Ahead	37	82		
Back	96	82		
			167	263
	84	202		
			96	227

STA. 301+00 TO 303+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

132
291

SUT-4-(8.48-15.02)

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

779.89
307+00
777.0

778.69
306+00
775.6

Kyles Station Road – Sta. 305+40

Drive Sta. 305+04

777.45
305+00
775.1

775.59
304+00
773.3

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

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
–	11.6		
		46	456
25	130		
		141	396
		1132	402
		67	
51	84		
		172	389
42	126		
		356	246

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

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

133
291

BUT-4-(8.48-15.02)

782.40
311+00
778.7

782.17
310+00
778.7

781.77
309+00
779.9

781.00
308+00
778.3

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
–	178		
			630
–	162		
			487
1	74		
			359
–	120		
			437

E-1
Embankment
Embankment+15%

Sta. 300+00 to Sta. 310+00
2,998 Cu. Yds.
5,204 Cu. Yds.
5,985 Cu. Yds.

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

STA. 308+00 TO 311+00

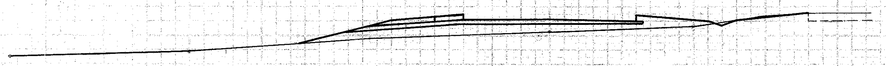
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

134
291

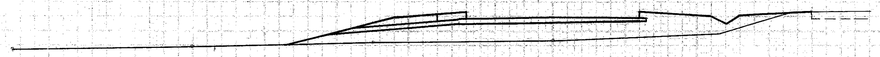
BUT-4-(8.48-15.02)

783.33
315+00
786.5

783.10
314+00
784.9



782.86
313+00
780.6



782.63
312+00
778.8

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
260	6		
		822	22
184	6		
		343	156
1	78		
		2	444
	162		
			630

STA. 312+00 TO 315+00

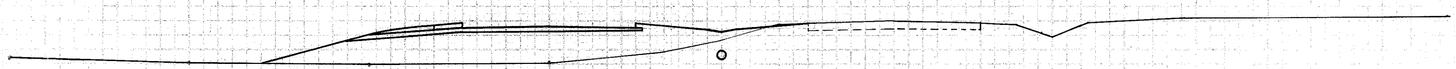
FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

135
291

BUT-4-(8.48-15.02)

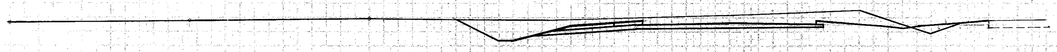
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

784.00
318+00
777.7



783.90
317+50
778.1

783.80
317+00
779.4



Drive Lt. Sta. 316+33

783.56
316+00
784.3

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
—	324		
		1	519
1	236		
		2	376
1	170		
		220	332
118	9	1	
		700	28

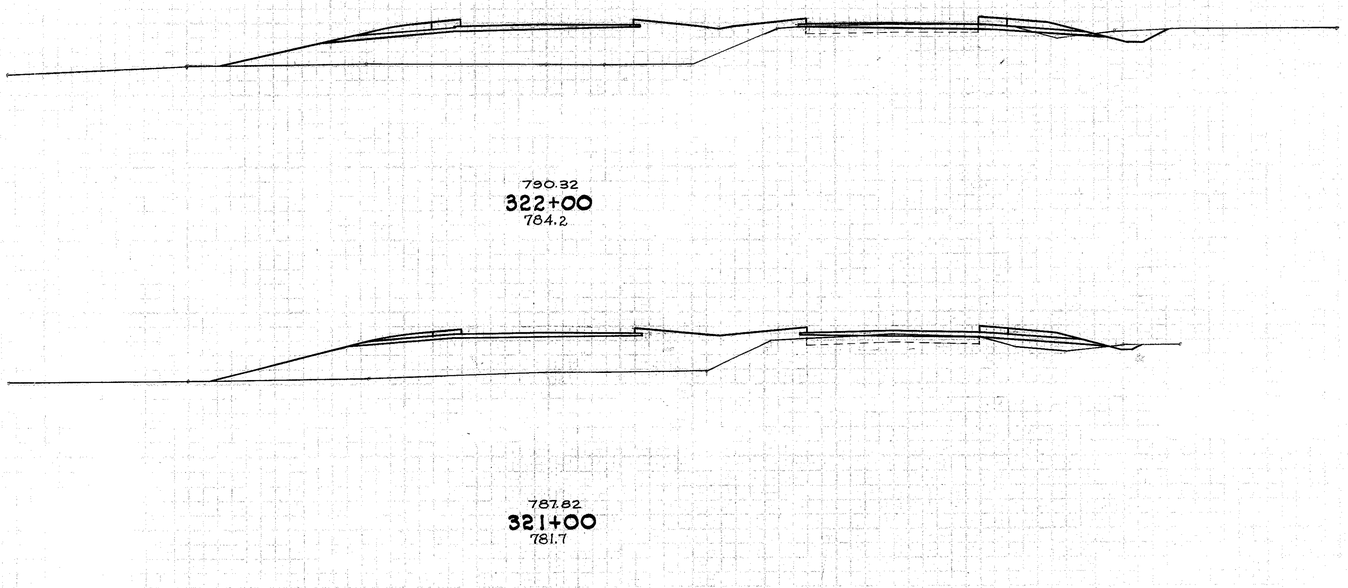
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 316+00 TO 318+

CO. RD. DIVISION	STATE	PROJECT	
2	OHIO		

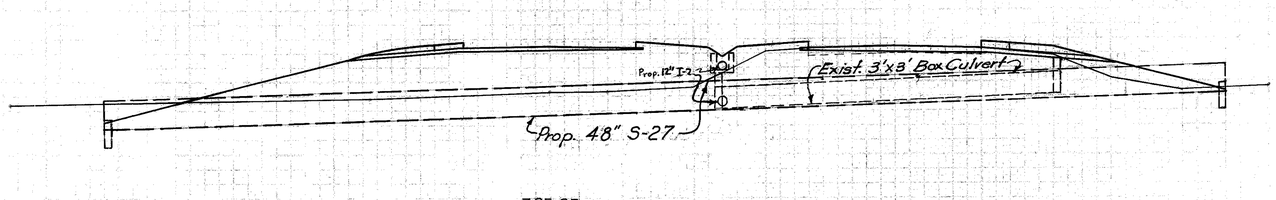
156
291

BUT-4-(8.48-15.02)

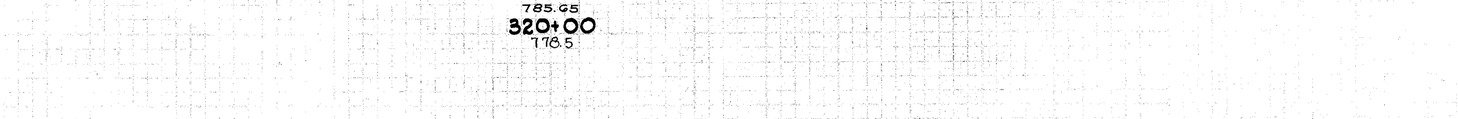


790.32
322+00
784.2

787.82
321+00
781.7



785.65
320+00
778.5



784.39
319+00
779.4

Begin Proposed Pavement
Northbound Lane
Sta. 319+00-S

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	15	323		
			32	1298
	2	378		
			18	1541
	8	454		
Sta. 320+00 Rt. Channel Improvement			14	
Sta. 319+75 Lt. Channel Improvement			30	
			176	1319
Ahead	87	258		
Back	—	252		
				1067

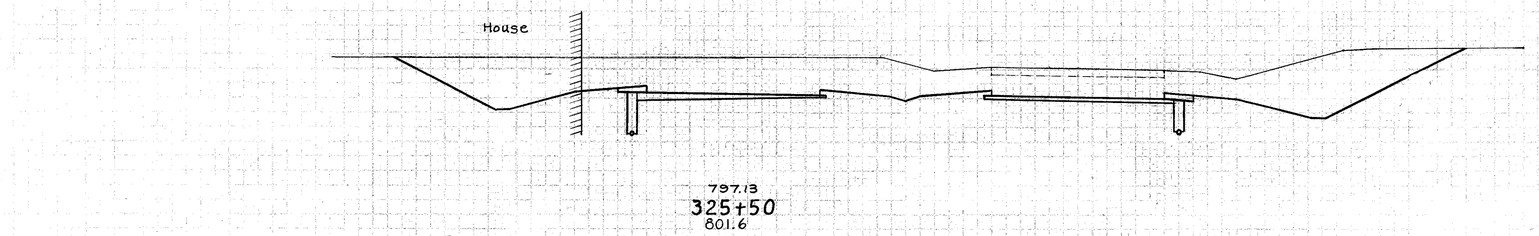
Sta. 319+00 to Sta. 320+00
E-1 Embankment 2,267 Cu. Yds.
Embankment +15% 3,523 Cu. Yds.
6,331 Cu. Yds.

STA. 319+00 TO 322+00

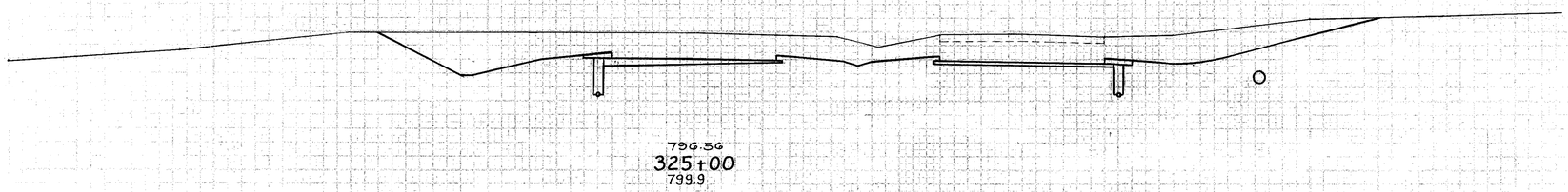
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

137
291

BUT-4-(8.48-15.02)

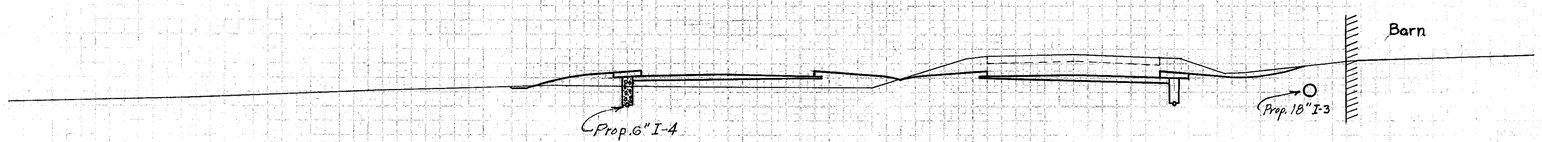


House Sta. 325 + 50 Lt.



Drive 325+15

Field Ent. Sta. 324+50



Drive Sta. 323+68

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
			250	
	728			
			1185	
			135	
	552			
			806	
			27	
	318	—		
			400	72
	114	78		
			354	544
			36	
	77	216		
			170	998

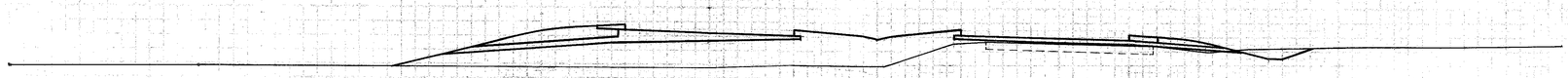
STA. 323+00 TO 325+15

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

133
291

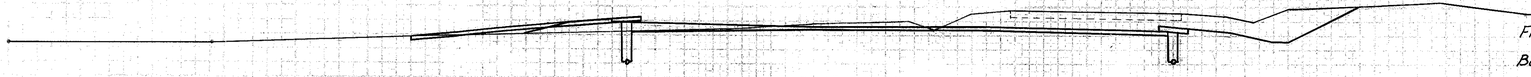
BUT-4-(8.48-15.02)

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

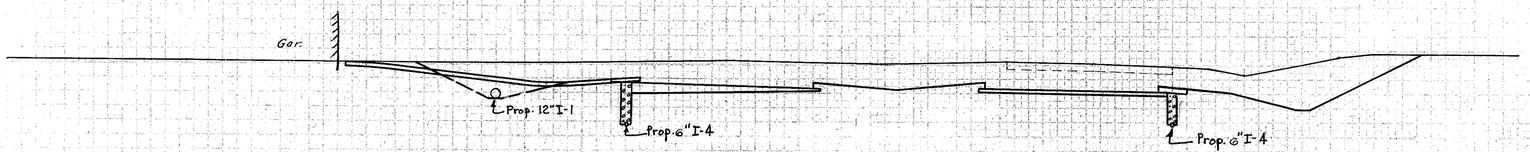


797.00
329+00
791.7

797.77
328+00
795.9



797.96
327+00
796.9



797.55
326+00
800.5

Field Drive Sta. 326+95
Barn Drive Sta. 326+82
Drive Sta. 326+60
Drive Sta. 326+00

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
11	240		
		76	607
30	88		
		370	185
170	12		
		2	4
		18	
		1359	22
			21
			51
564			
		1196	

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

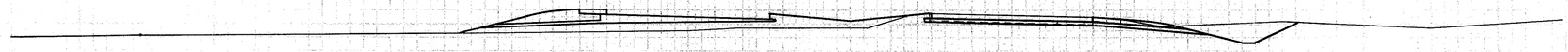
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

BUT-4-(8.48-15.02)

139
291

789.30
333+00
786.8

Field Ent. Sta. 333+75



791.50
332+00
789.0

793.70
331+00
790.1

795.64
330+00
788.8

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	58	70		
Field Ent. Sta. 333+75			2	16
			196	296
	48	90		
			133	430
	84	142		
			74	1070
	16	436		
			50	1852

Sta. 320+00 To Sta. 330+00
E-1
Embankment 6306 Cu. Yds.
Embankment +15% 6773 Cu. Yds.
7,789 Cu. Yds.

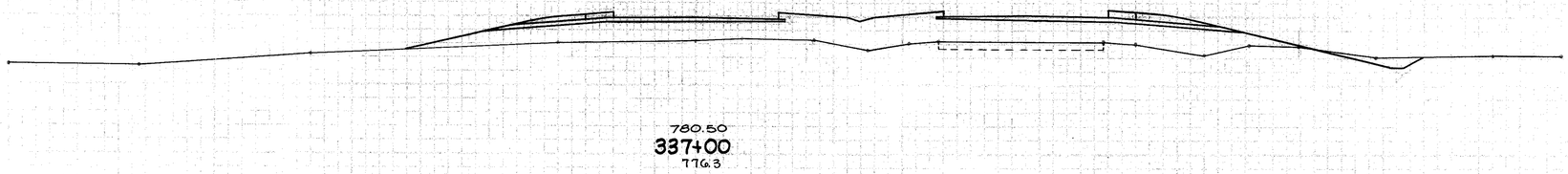
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 330+00 S TO 333+0

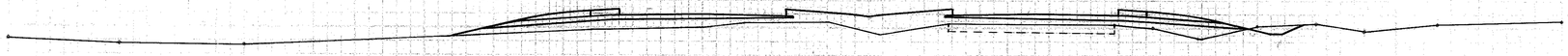
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

140
291

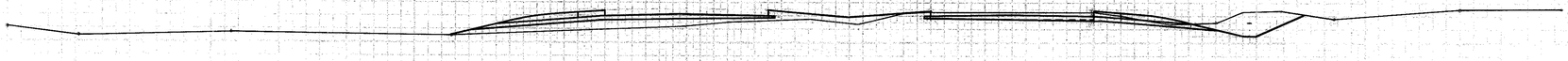
BUT-4-(8.48-13.02)



780.50
337+00
776.3



782.70
336+00
780.0



784.90
335+00
782.3

Field Ent. Sta. 334+41

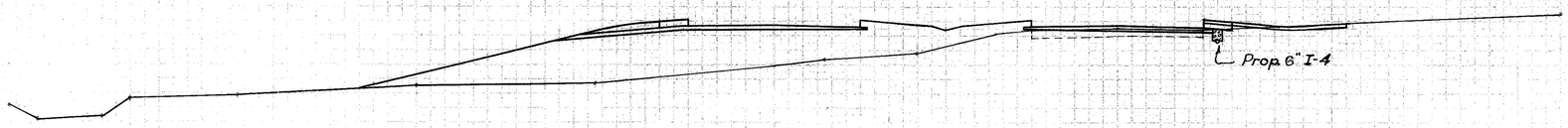
787.10
334+00
784.1

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
13	386		
		41	1017
9	163		
		107	463
49	87		
		294	324
		2	12
110	88		
		311	293

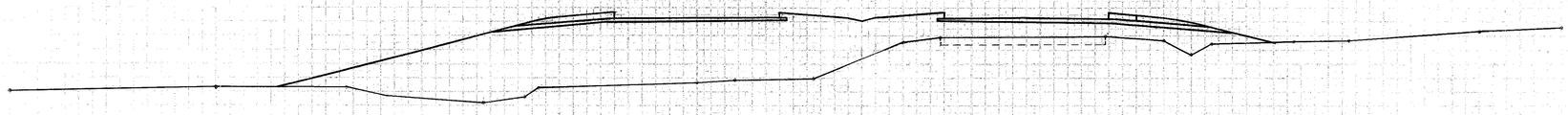
FED. RD. DIVISION	STATE	PROJECT		141 291
2	OHIO			

BUT-4-(8.48-15.02)

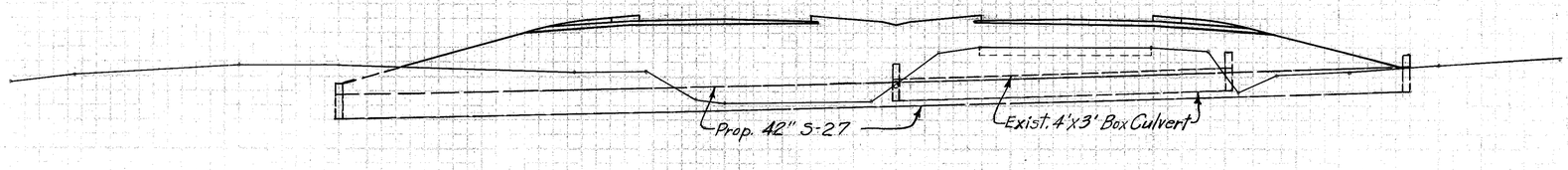
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



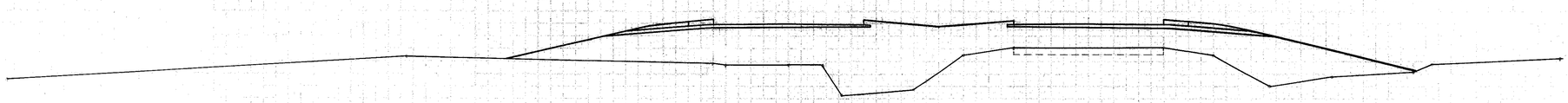
776.10
339+00
769.9



777.20
338+50
767.3



778.30
338+00
766.3



778.52
337+90
771.5

Drive Sta. 339+05

Channel Improvement
Sta. 337+80 Rt

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
–	390	2	2
		10	
		601	22
–	789		
		1067	22
–	796		
		179	4
–	730		
		10	
		458	658

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

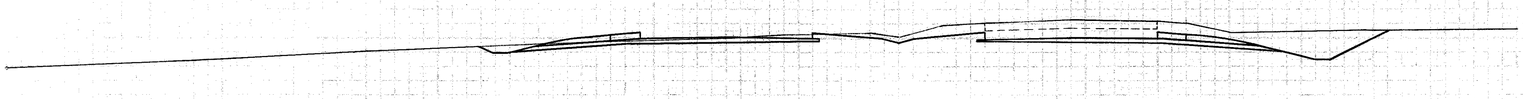
STA. 337+90 TO 339+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

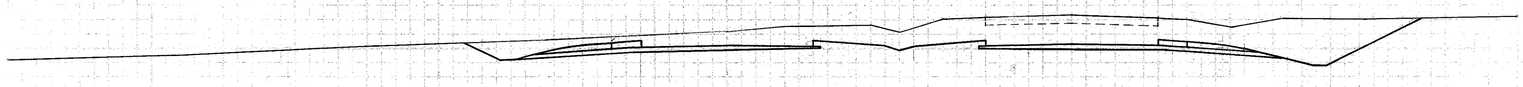
142
291

BUT-4-(8.48-15.02)

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



770.80
342+50
770.0



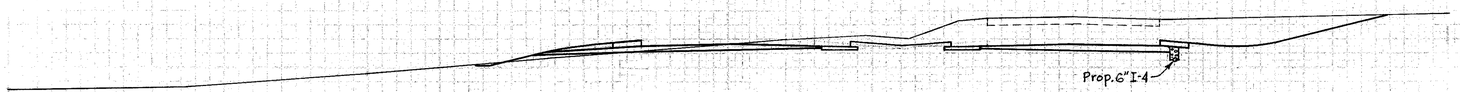
771.20
342+00
772.3

772.22
341+00
775.5

Field Ent. Sta. 340+98

Field Drive Sta. 340+35

Drive Sta. 340+35



773.92
340+00
773.4

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
200	12		
		601	22
449	12		
		2133	44
703	12		
			35
		1787	39
			8
			54
262	9		
		856	38

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

STA. 340+00 TO 342+50

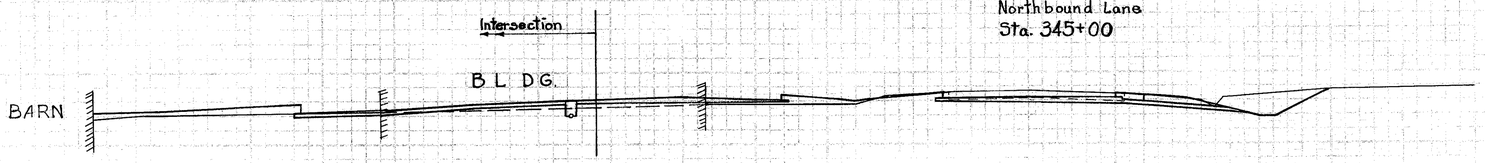
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

143
291

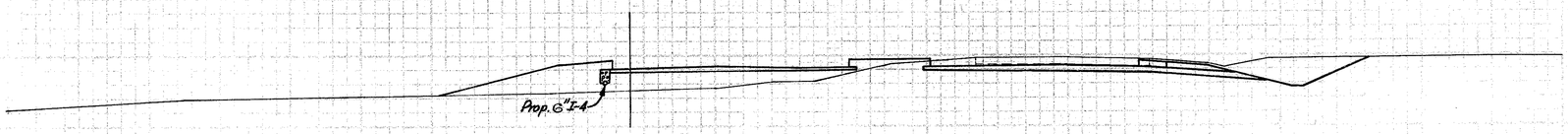
BUT-4-(9.48-15.02)

Rockdale Road

End Prop. Pavement
Northbound Lane
Sta. 345+00

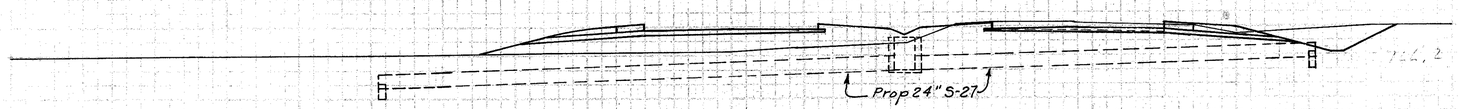


767.01
345+00
765.7



769.04
344+00
765.4

769.80
343+50
763.1



770.38
343+00
766.6

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
House Sta 345+00				276
Ahead	27	42		
Back	82	48		
			343	287
ROCKDALE ROAD STA. 344+30.1			56	258
Ahead	103	107		
Back	103	198		
			134	481
Field Entr. Sta. 343+56	42	321	18	
			109	492
	76	146		
			256	146

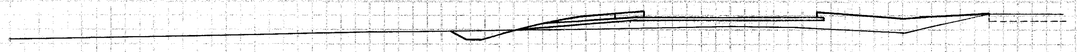
STA. 343+00 TO 345+00

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

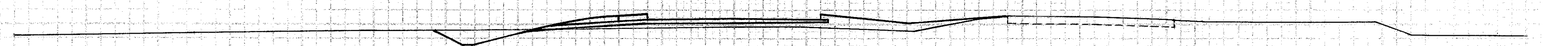
144
291

BUT-4-(8.48-15.02)

755.60
349+00
753.4



758.50
348+00
756.5



761.40
347+00
759.7

764.30
346+00
762.7

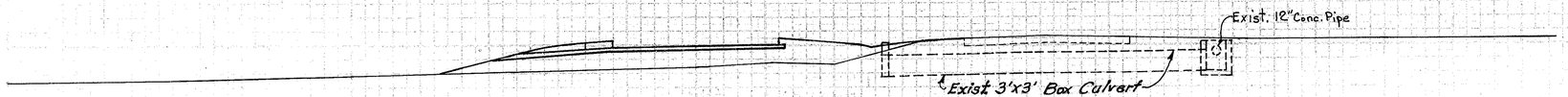
	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	8	71		
			30	300
	8	91		
			78	265
	34	52		
			139	132
Drive Sta. 346+32			2	29
Ahead	41	19		
Back	7	11		
			58	14
			63	98

STA. 346+00 TO 345

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

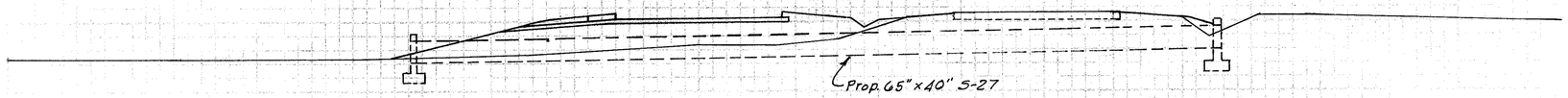
145
291

BUT-4-(8.48-15.02)



751.05
353+00
747.0

Sta. 352+70 Lt.
Channel Improvement



751.40
352+00
746.9

751.90
351+00
748.3

753.25
350+00
751.5

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
—	161		
			748
		31	
—	243		
		35	693
19	131		
		102	294
36	28		
		82	183

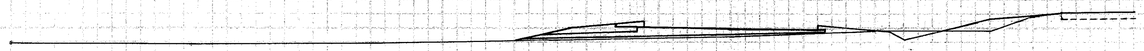
Sta. 350+00 to Sta. 350+00
3,986 Cu Yds.
3,006 Cu Yds.
3,457 Cu Yds.
E-J
Embankment
Embankment + 15%

STA. 350+00 TO 353+00

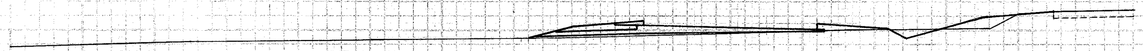
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

146
291

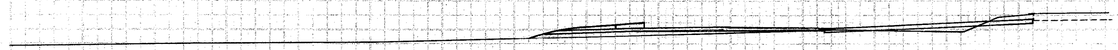
BUT-4-(8.48-1.52)



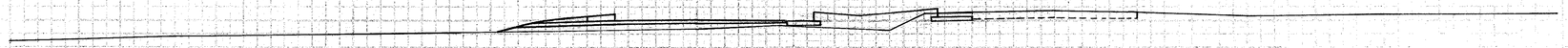
750.57
357+00
748.7



750.99
356+00
749.6



751.00
355+00
749.6



751.00
354+00
748.8

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
4	34		
		15	117
4	29		
		20	107
7	29		
		24	193
6	75		
		11	437

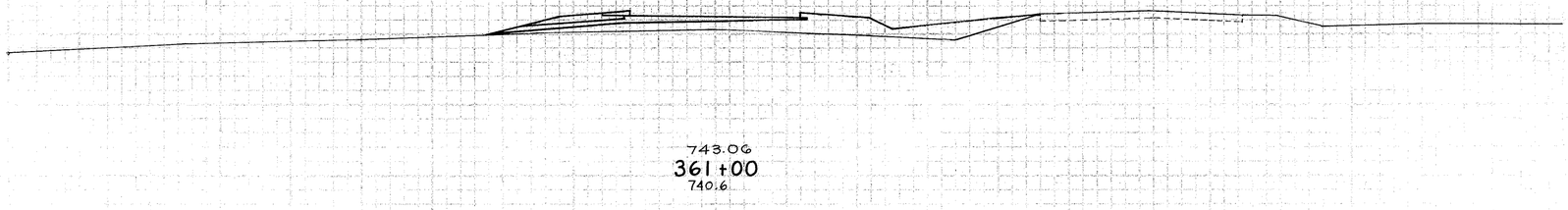
STA 354+00 TO 357+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

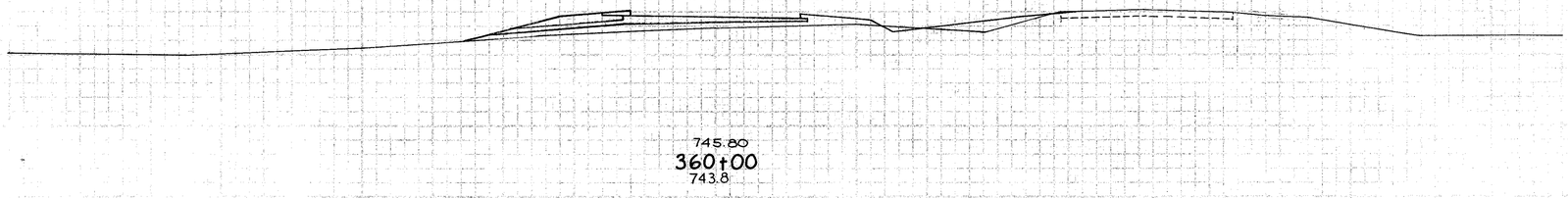
147
291

BUT-4-(8.48-15.02)

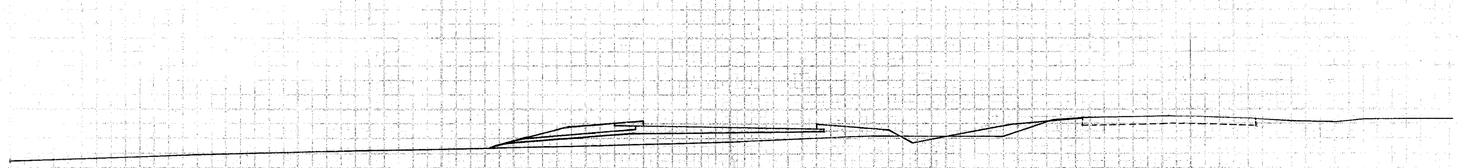
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



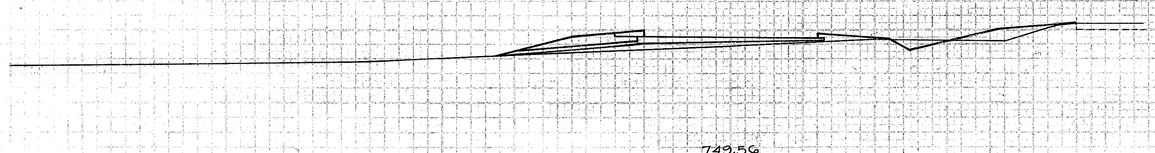
743.06
361+00
740.6



745.80
360+00
743.8



747.97
359+00
745.6



749.56
358+00
747.9

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

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
—	120		
		2	385
1	88		
		9	393
3	124		
		22	352
9	66		
		24	185

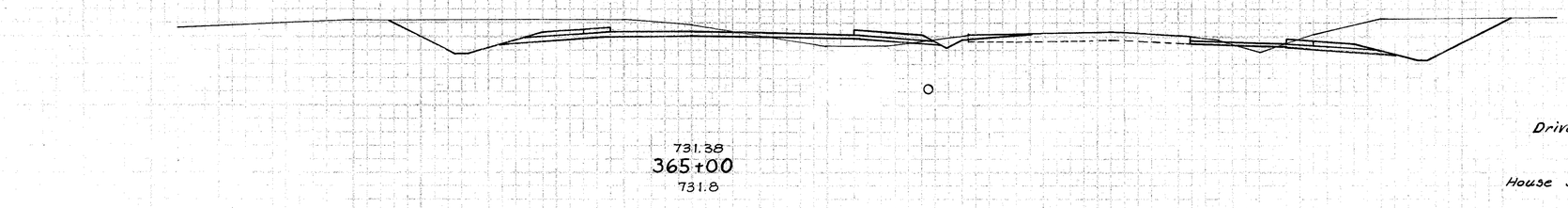
Sta. 350+00 to Sta. 360+00
Cut 262 Cu. Yds.
Fill 3519 Cu. Yds.
E-I Embankment +15% 4047 Cu. Yds.

STA. 358+00 TO 361+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

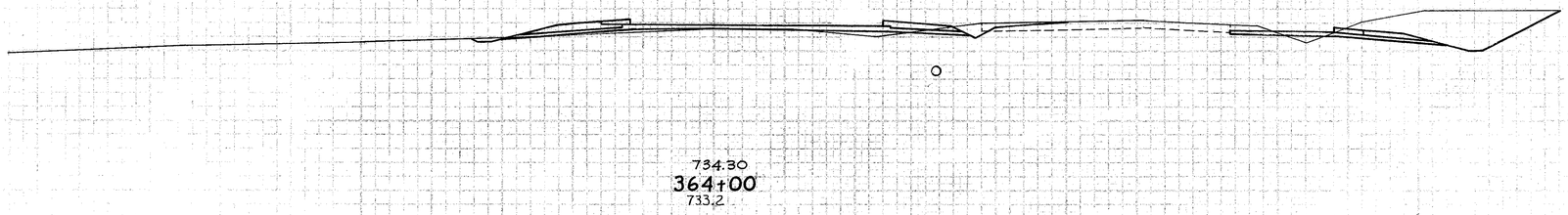
148
291

BUT-4-(8.48-15.02)



Drive Sta. 365+40

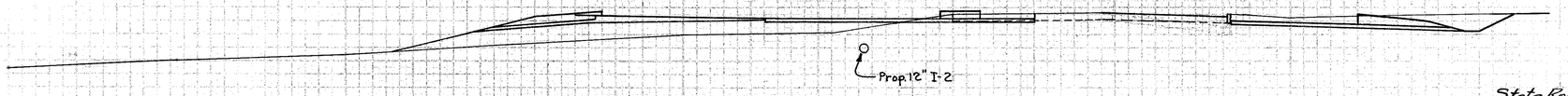
House Sta. 364+80 Lt.



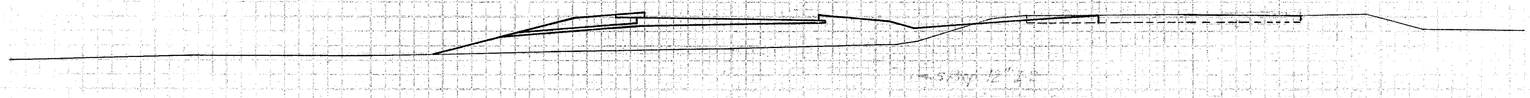
Field Ent. Sta. 363+72

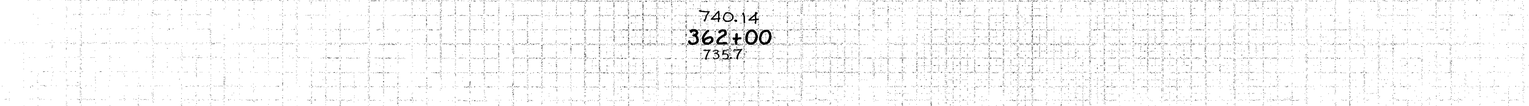
Ahead

Back



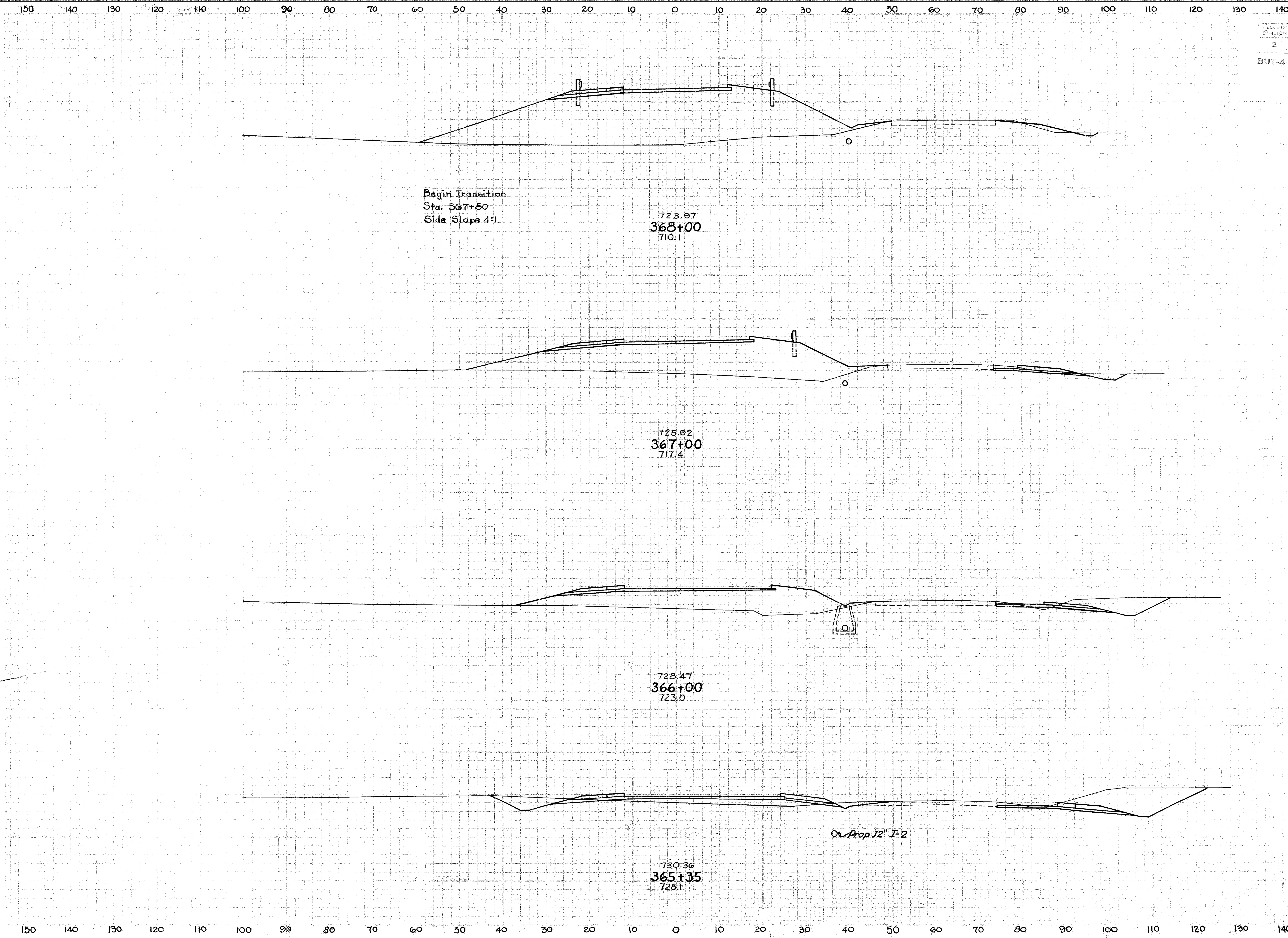
State Route #747
Sta. 363+00





	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	286	51		
			14	
				450
			783	163
	137	37		
			413	382
			2	38
Ahead	86	169		
Back	5	155		
			139	26
			15	683
	3	214		
			6	618

STA. 362+00 TO 365+00



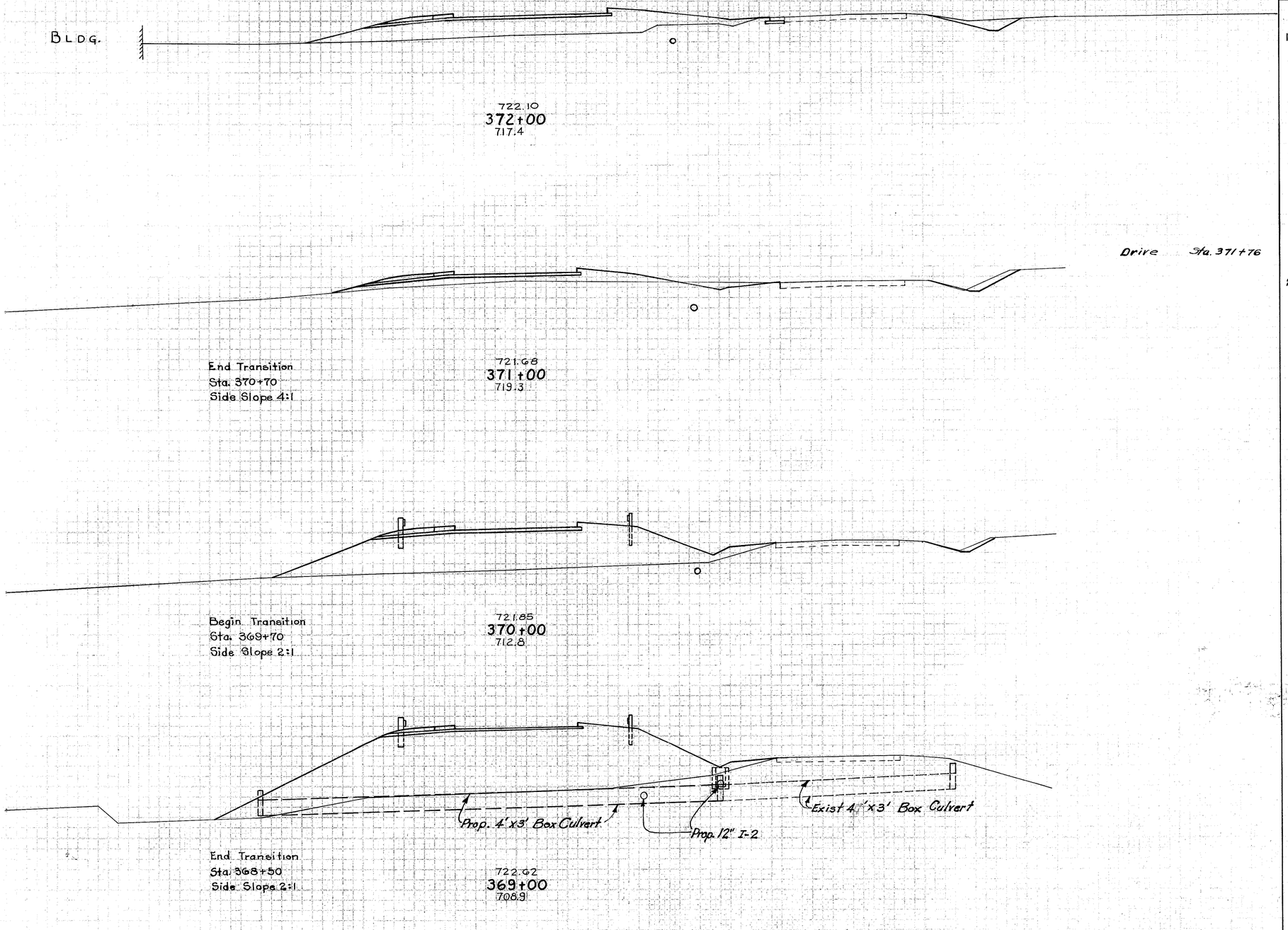
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
5	927		
		74	2785
35	577		
		204	1683
75	332		
		349	501
215	84		
		325	88

STA. 365+35 TO 368+0

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

150
291

BUT-4-(8.48-15.02)



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
19	257		
		83	652
		1	28
26	95		
		59	1185
6	545		
		11	2806
–	970		
		9	3519

Sta. 360+00 to Sta. 370+00
E-1 2,346 Cu. Yds.
Embankment 14,121 Cu. Yds.
Embankment +15% 16,239 Cu. Yds.

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

726.54
375+00
725.4

724.22
374+00
720.4

723.12
373+00
716.0

Begin Prop. Pavement
Sta. 373+00 N

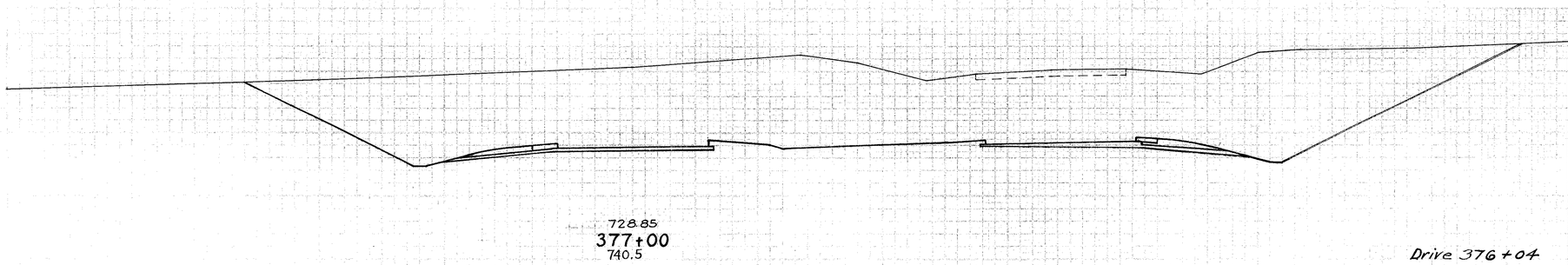
	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	475	18		
			1132	450
	136	225		
			333	1196
Ahead	44	421		
Back	26	412		
			83	1239

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

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

152
291

BUT-4 (8.48-15.02)



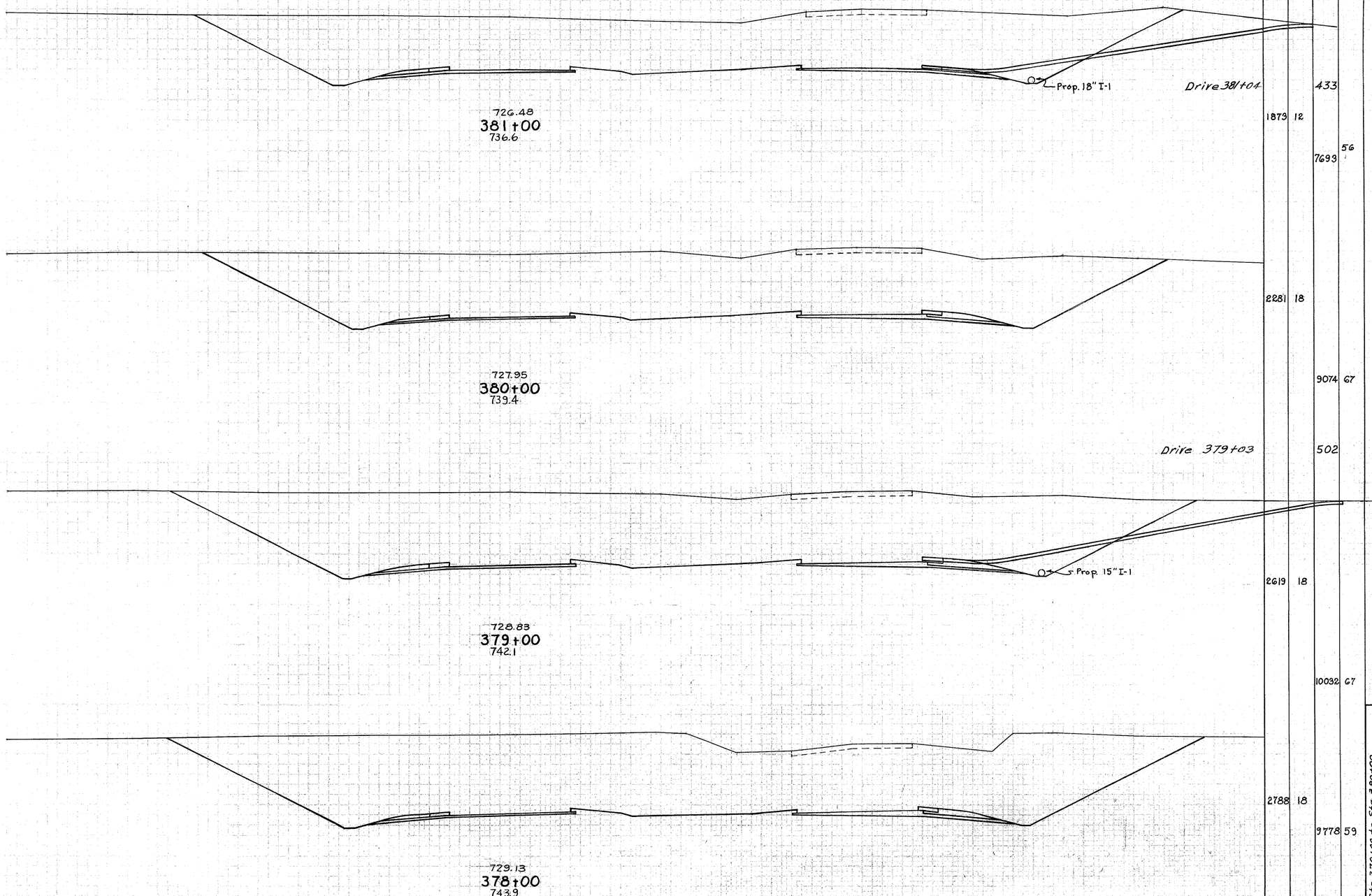
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
2492	14		
		7495	59
		235	
1555	18		
		2445	33
		13	
1085	18		
		1444	33

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

153
291

BUT-4-(8.48-15.02)

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



726.48
381+00
736.6

727.95
380+00
739.4

728.83
379+00
742.1

729.13
378+00
743.9

Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
381+00				
			433	
	1873	12		
			7693	56
	2281	18		
380+00			9074	67
			502	
	2619	18		
			10032	67
379+00				
	2788	18		
			9778	59
378+00				

Sta. 370+00 to Sta. 380+00 Cu. Yds.
E-1 Embankment 12,696 Cu. Yds.
Embankment +15% 5,081 Cu. Yds.
5,843

FED. HY. DIVISION	STATE	PROJECT		
2	OHIO			

154
291

BUT-4-(8.48-15.02)

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

714.80
385+00
721.2

BLDG.

718.59
384+00
725.7

721.80
383+00
730.8

BARN

Prop. 18" I-3

Prop. 6" I-4

724.43
382+00
732.4

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	981	12		
			3587	99
	956	6		
Drive 383+67			118	
Drive 383+30.5			275	
			3908	22
	1154	6		
			4650	22
Ahead	1357	6		
Back	1485	6		
			6219	33

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

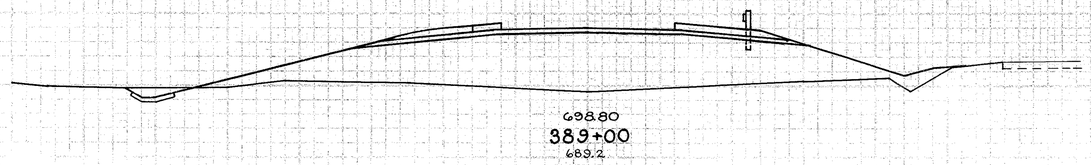
STA. 382+00 TO 385+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

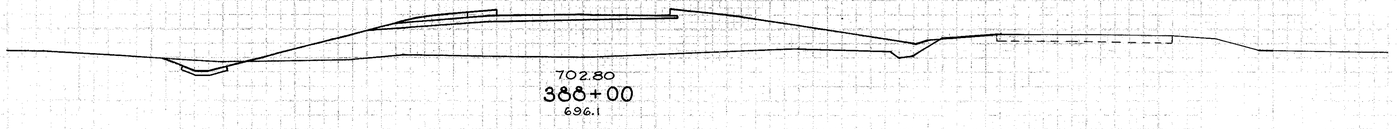
155
291

BUT-4-(8.88-13.02)

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

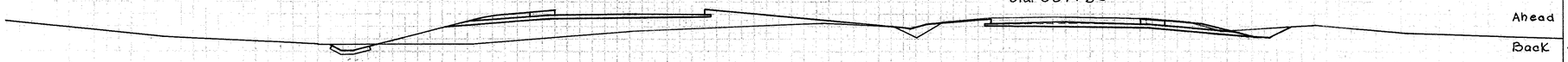


698.80
389+00
689.2



702.80
388+00
696.1

Northbound Lane
End Prop. Pavement
Sta. 387+50



706.80
387+00
703.4

710.80
386+00
710.2

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	10	535		
			37	1644
	10	353		
			32	967
Ahead	7	169		
Back	42	175		
			572	346
	267	12		
			2311	44

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

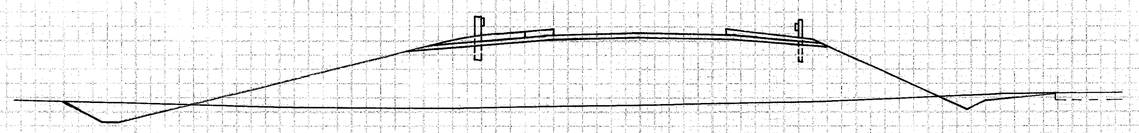
STA. 386+00 TO 389+00

U.S. RD. DIVISION	STATE	ROUTE	
2	OHIO		

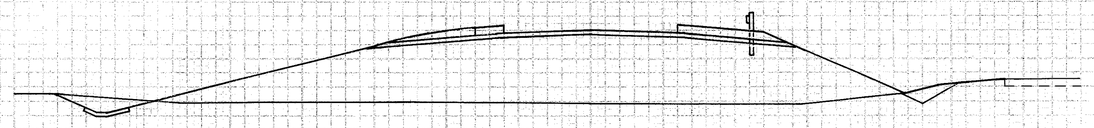
156
291

SUT-4-(6.48-15.02)

Begin Transition
Sta. 390+75
Side Slope 4:1



691.80
390+75
681.1



694.80
390+00
683.7

Drive 390+80

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		2	361
39	740		
		90	2085
26	76.1		
		67	2400

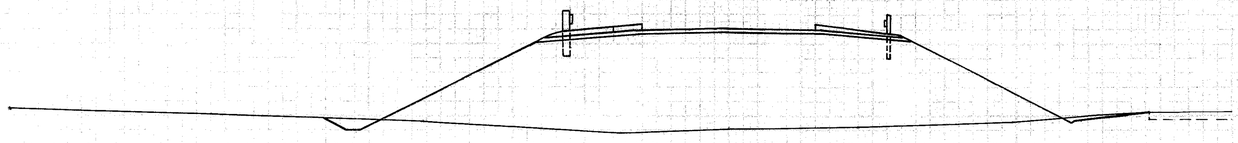
Sta. 330+00 to Sta. 390+00
29,902 Cu. Yds.
E-1 Embankment 5,567 Cu. Yds.
Embankment +15% 6,402 Cu. Yds.

STA. 390+00 TO 390+75

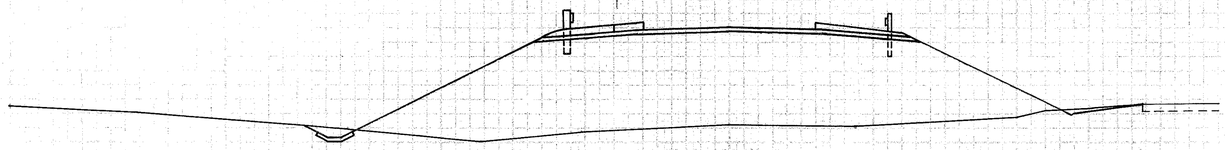
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

157
291

BUT-4-(8.48-15.02)

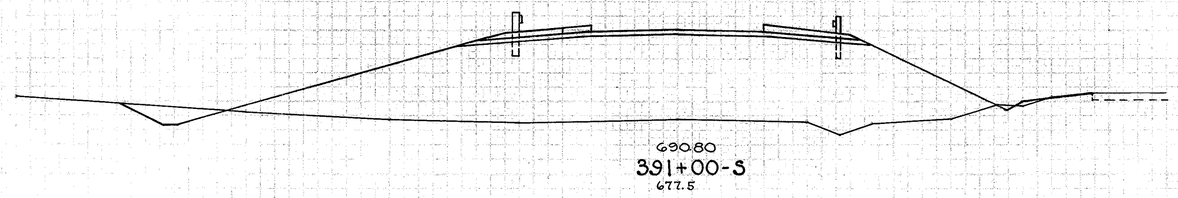


682.80
393+00-S
668.2



686.80
392+00-S
672.4

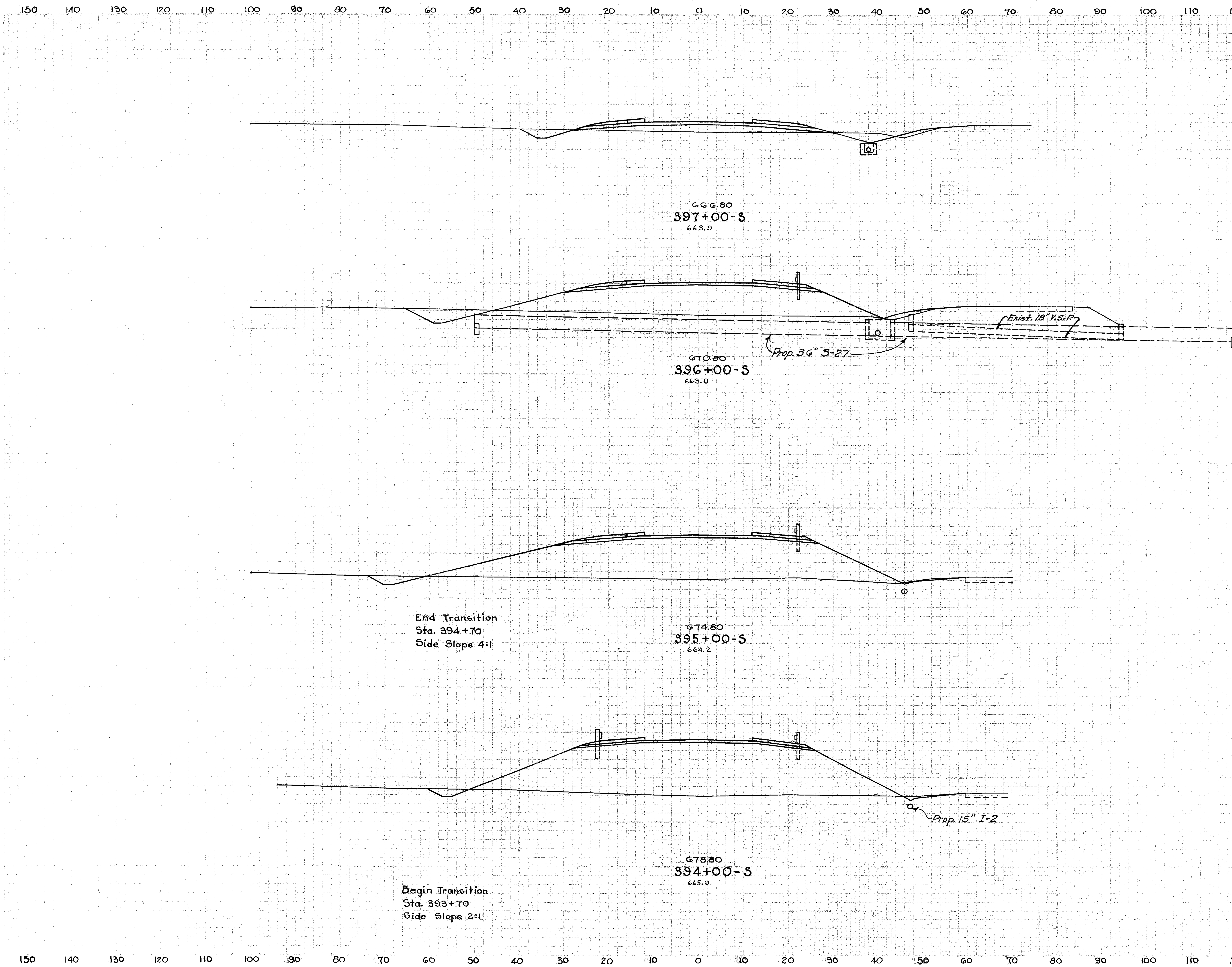
End Transition
Sta. 391+75
Side Slope 2:1



690.80
391+00-S
677.5

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
12	932		
		44	3859
11	993		
		48	3565
23	976		
		63	3646

STA. 391+00 TO 393+00

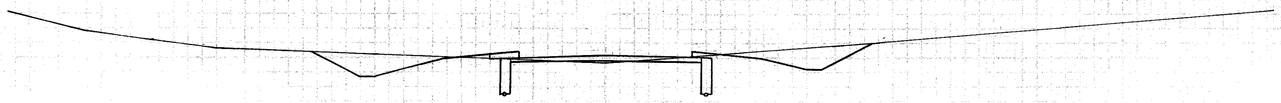


End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		32	
31	76		
		115	569
		81	
		15	
31	231		
		85	1720
15	698		
		50	2826
12	828		
		44	3259

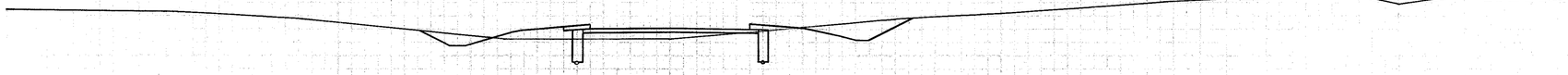
STA. 394+00 TO 397+00

SUT-4-3.48-15.02

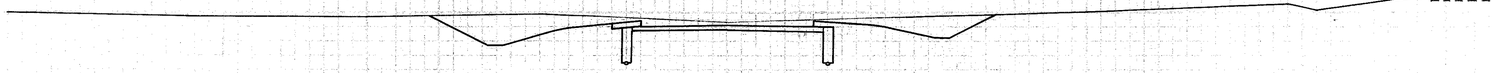
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



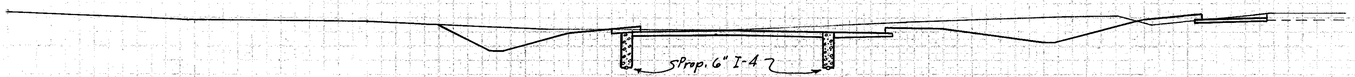
650.80
401+00
649.4



654.80
400+00
652.5



658.80
399+00
658.8



662.80
398+00
662.4

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

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
68	2		
		207	113
44	59		
		307	109
122	0		
		494	17
145	9		
		326	157

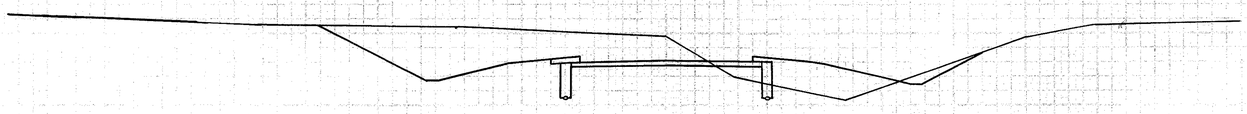
Sta. 390+00 to Sta 400+00
E-1 Embankment 1,630 Cu. Yds.
Embankment +15% 1908 Cu. Yds.
21,974 Cu. Yds.

STA. 398+00 TO 401+00

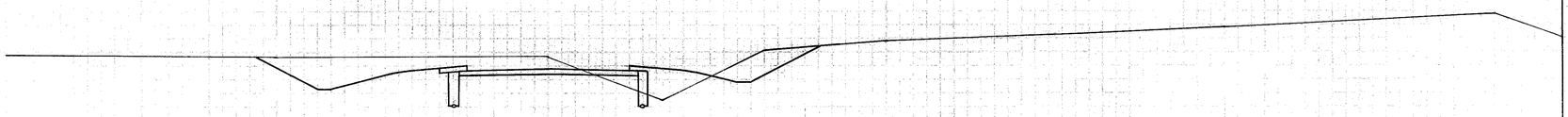
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

160
291

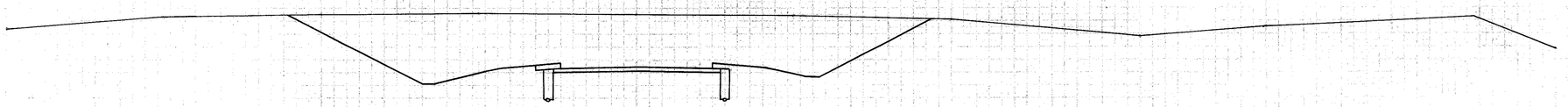
BUT-4-(6.48-15.02)



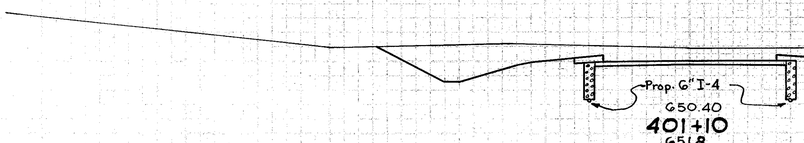
646.80
402+00
649.7



648.00
401+70
649.3



649.56
401+31
657.0



650.40
401+10
651.8

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
237	84		
		217	73
153	47		
		654	34
753	–		
		373	
206	–		
		51	1

STA. 401+10 TO 402+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

161
291

SUT-4-(8.48-15.02)

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

639.00
404+25
632.7

639.73
404+00
633.1

640.46
403+76
633.7

℄ Prop. 42°5-27

642.98
403+00
648.0

644.83
402+50
649.0

Sta 403+10 Lt.
Channel Improvement

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
249	252		
		176	264
131	319		
		152	256
212	257		
		30	
		638	491
241	92		
		518	85
319	—		
		515	78

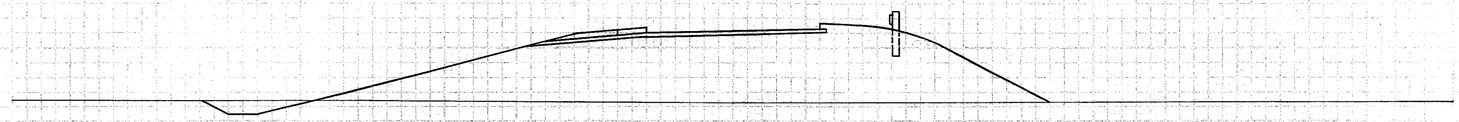
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 402+50 TO 404+25

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

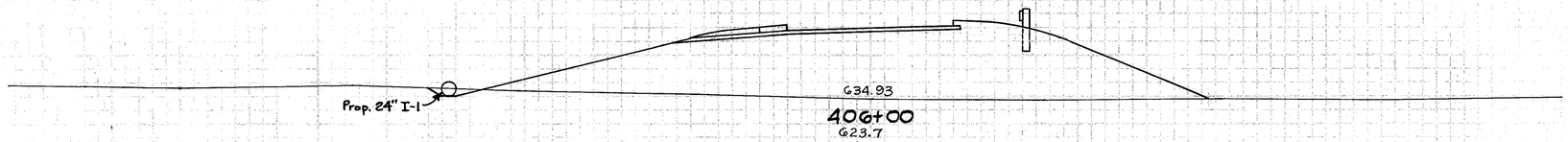
162
291

SUT-4-(8.48-15.02)

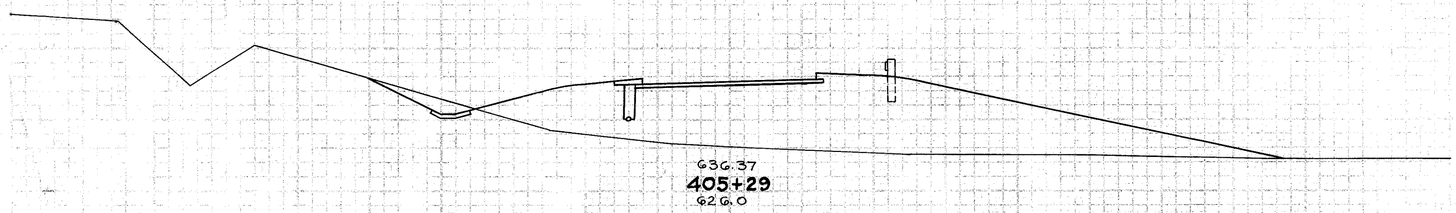


G33.38
407+00
G22.5

End Transition
Sta. 406+20
Side Slope 2:1

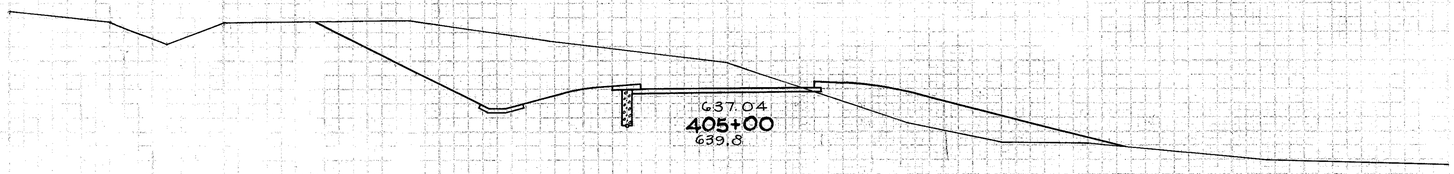


G34.93
406+00
G23.7



G36.37
405+29
G26.0

Begin Transition
Sta. 405+20
Side Slope 4:1



G37.04
405+00
G39.8

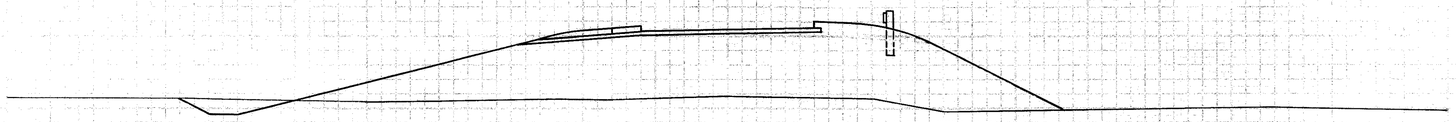
	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	20	689		
			46	2694
	5	766		
Barn Drive Sta. 405+60			2	33
			26	2016
	15	767		
			216	489
	388	144		
			885	550

STA. 405+00 TO 407+00

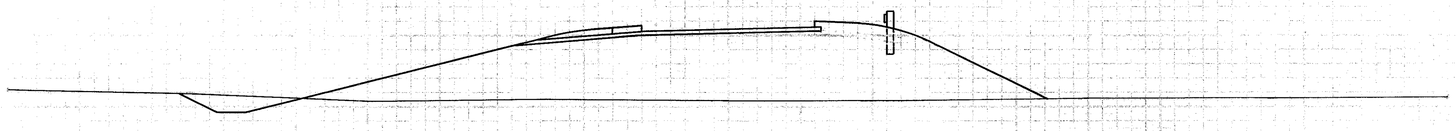
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

163
291

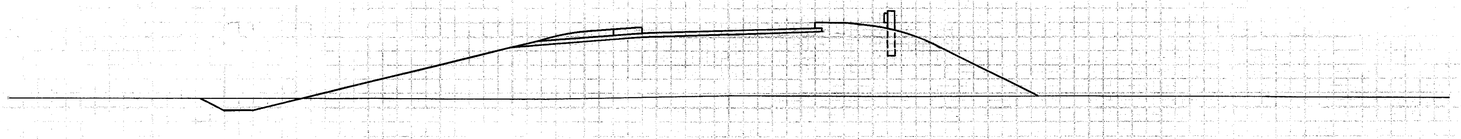
SUT-4-(8.48-15.02)



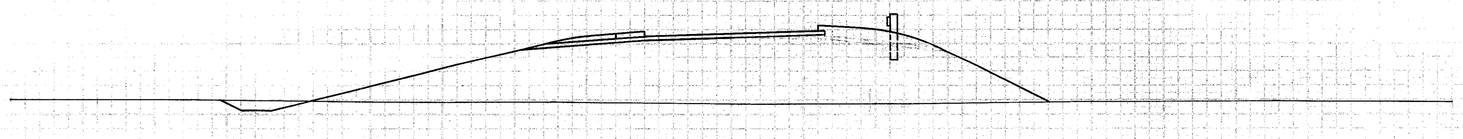
G32.00
410+24
G21.9



G32.00
410+00
G20.8



G32.01
409+00
G21.6



G32.41
408+00
G21.5

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
23	728		
		22	641
26	715		
		82	2576
18	676		
		61	2600
15	728		
		65	2624

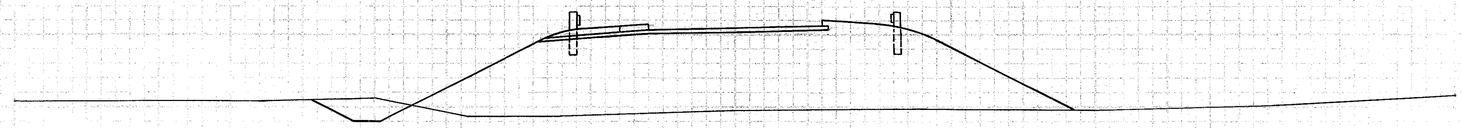
Sta. 400+00 to Sta. 410+00
E-1
Embankment 4,834 Cu. Yds.
Embankment +15% 14,977 Cu. Yds.
17,224 Cu. Yds.

STA. 408+00 TO 410+24

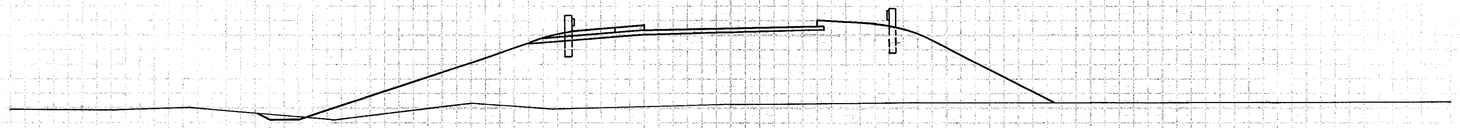
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

164
291

BUT-4-(8.48-15.02)

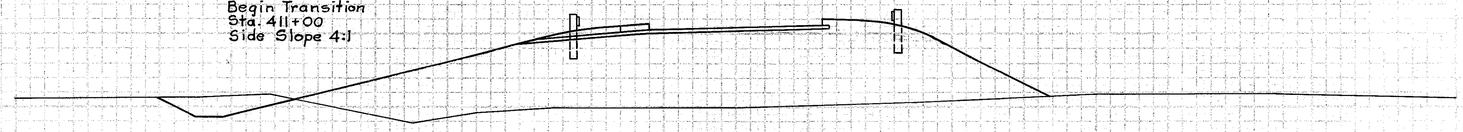


G32.00
412+00
G19.5

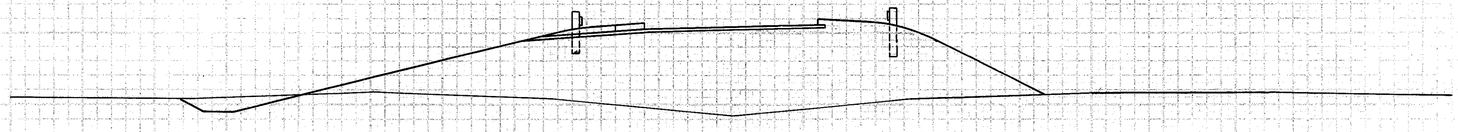


G32.00
411+50
G20.5

Begin Transition
Sta. 411+00
Side Slope 4:1



G32.00
411+00
G20.0



G32.00
410+45
G18.5

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
28	794		
		32	1439
7	761		
		69	1471
68	828		
		92	1658
22	800		
		17	594

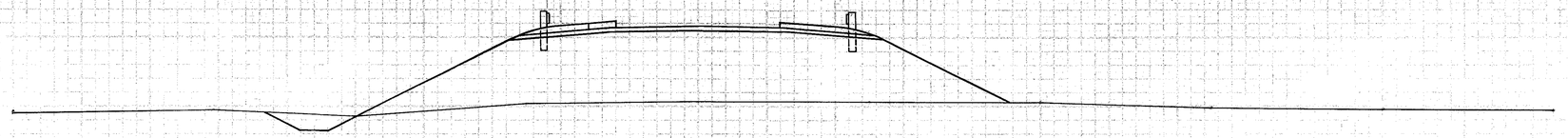
STA 410+45 TO 412+00

F&D. RD. DIVISION	STATE	PROJECT	
2	OHIO		

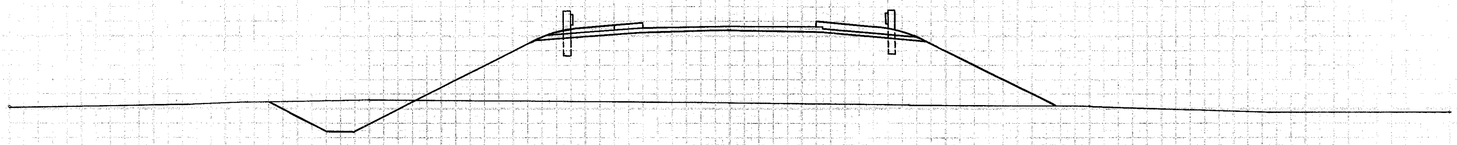
165
291

BUT-4-(8.48-15.02)

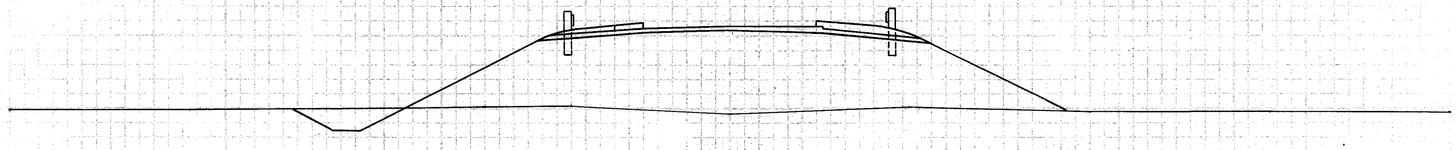
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



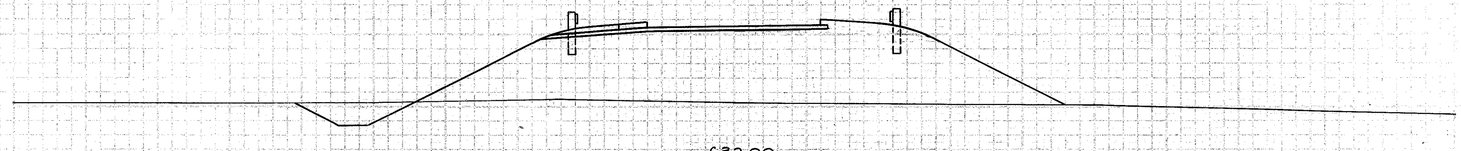
632.20
414+39
620.7



632.06
414+00
620.8



632.02
413+77
619.2



632.00
413+00
620.6

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

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
22	767		
		57	1055
57	694		
		38	622
33	767		
		96	2122
34	721		
		115	2806

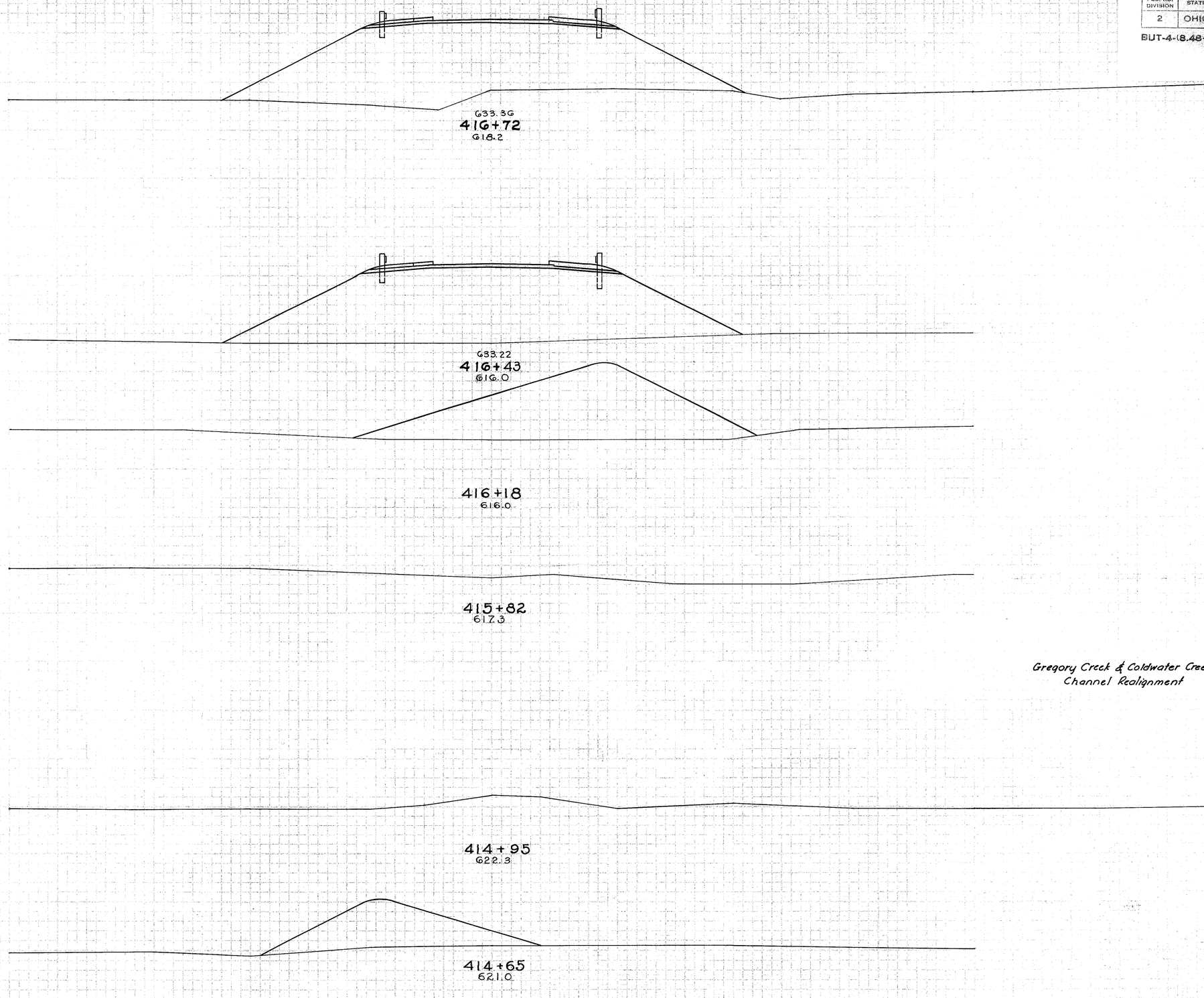
STA. 413+00 TO 414+50

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

166
291

BUT-4-(8.48-15.02)

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



Gregory Creek & Coldwater Creek
Channel Realignment

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
—	1201		
			1304
—	1228		
			93
—	728		
—	0		
		25532	284
—	0		
			177
—	318		
		11	522

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

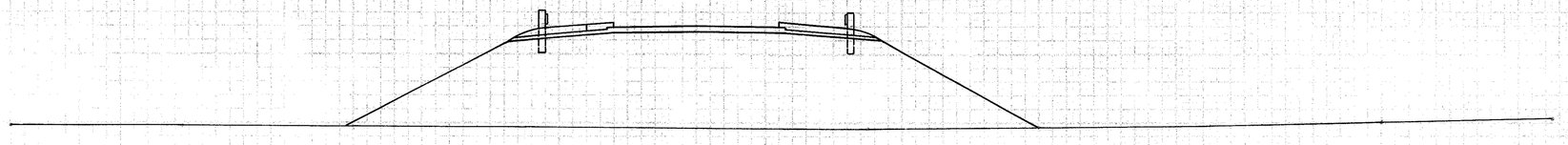
STA. 415+00 TO 416+72

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

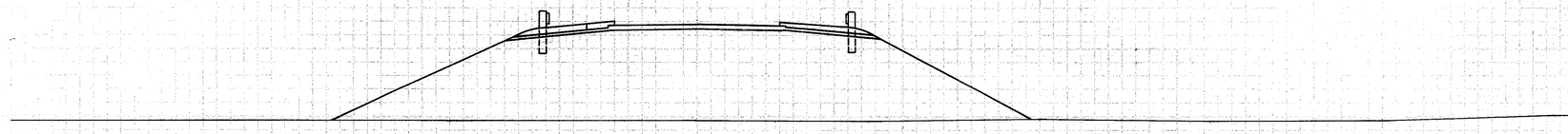
167
291

SUT-4-(8.48-15.02)

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

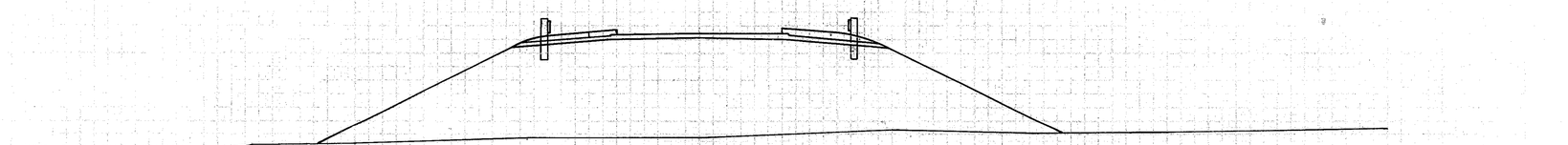


G34.50
419+00
G19.3



G34.00
418+00
619.5

G33.75
417+50
G19.3



G33.50
417+00
G17.6

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

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
–	1066		
			3869
–	1023		
			1974
–	1109		
			2110
–	1170		
			1229

STA. 417+00 TO 419+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	-	

168
291

BUT-4-(8.48-15.02)

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

G36.50
423+00
G19.6

Prop. 18" S-27

G36.00
422+00
G19.2

G35.50
421+00
G19.2

G35.00
420+00
G18.9

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
–	1644		
			5595
–	1377		
			4830
–	1231		
			4567
–	1235		
			4261

Sta. 410+00 to Sta. 420+00
E-1 549 Cu. Yds.
Embankment 29,239 Cu. Yds.
Embankment 1.05% 33,624 Cu. Yds.

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

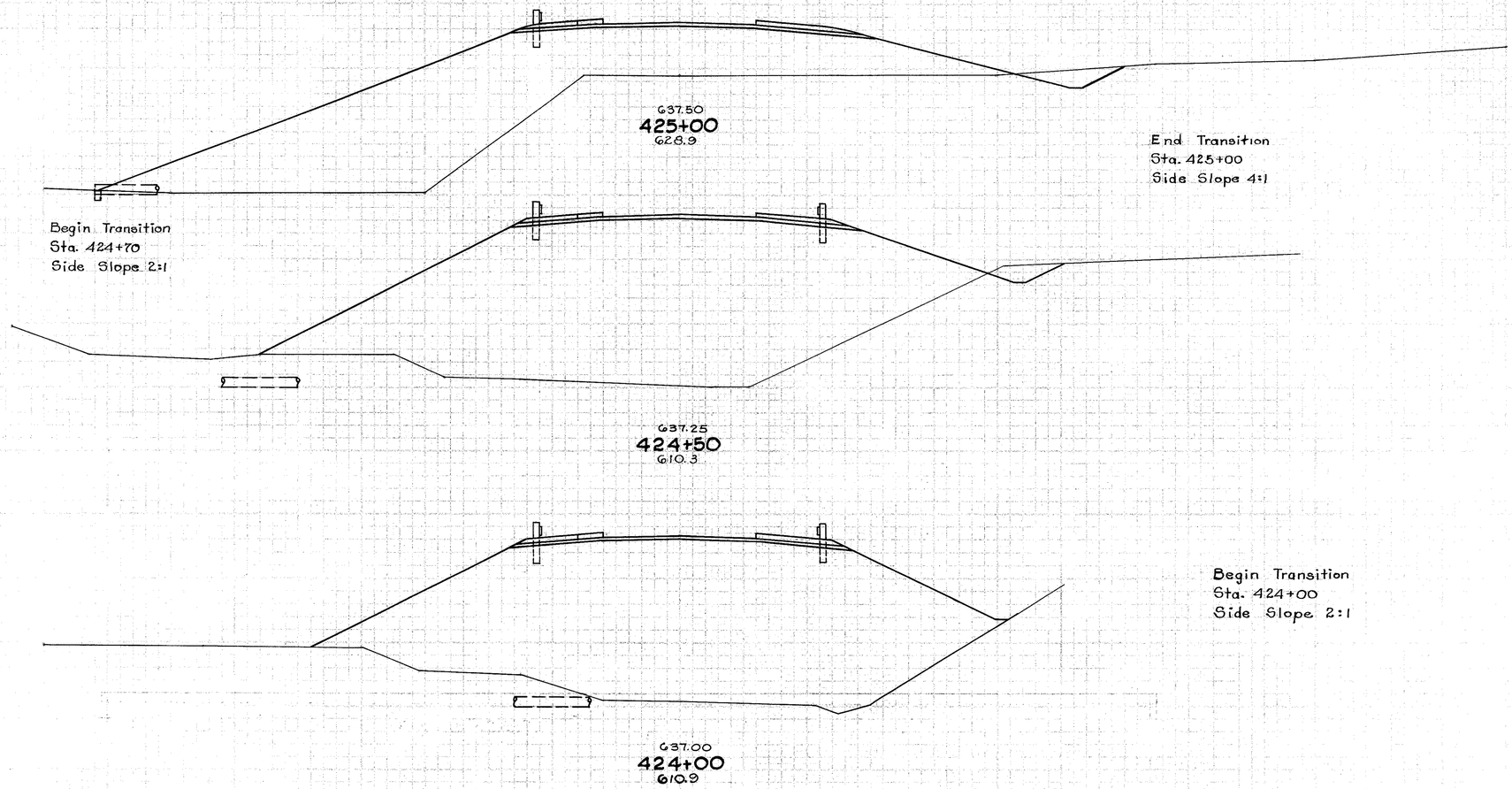
STA. 420+00 TO 423+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

169
291

BUT-4-(9.48-15.02)

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



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
28	1298		
		44	3025
19	1969		
		18	3654
–	1977		
			3481
–	1782		
			3172

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

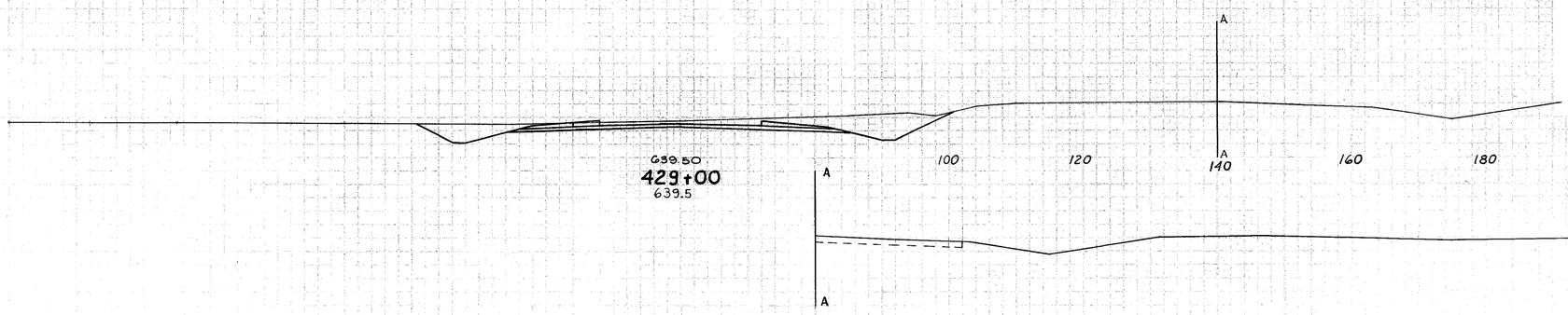
STA. 423+50 TO 425+00

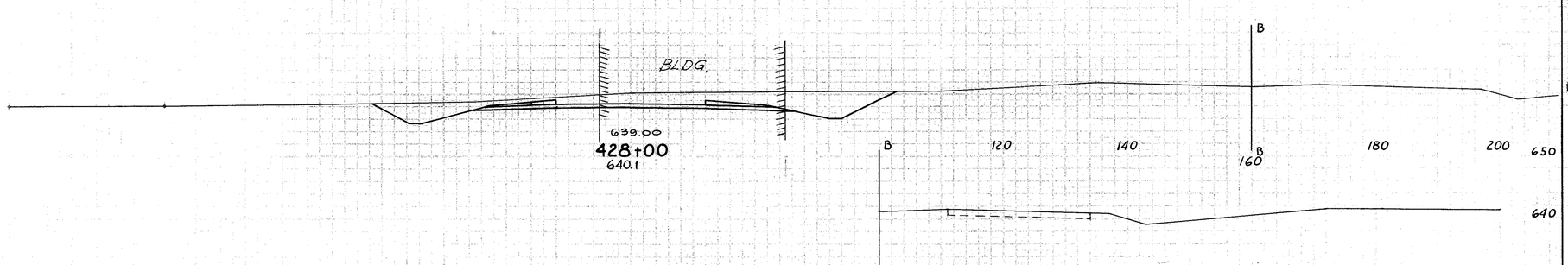
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

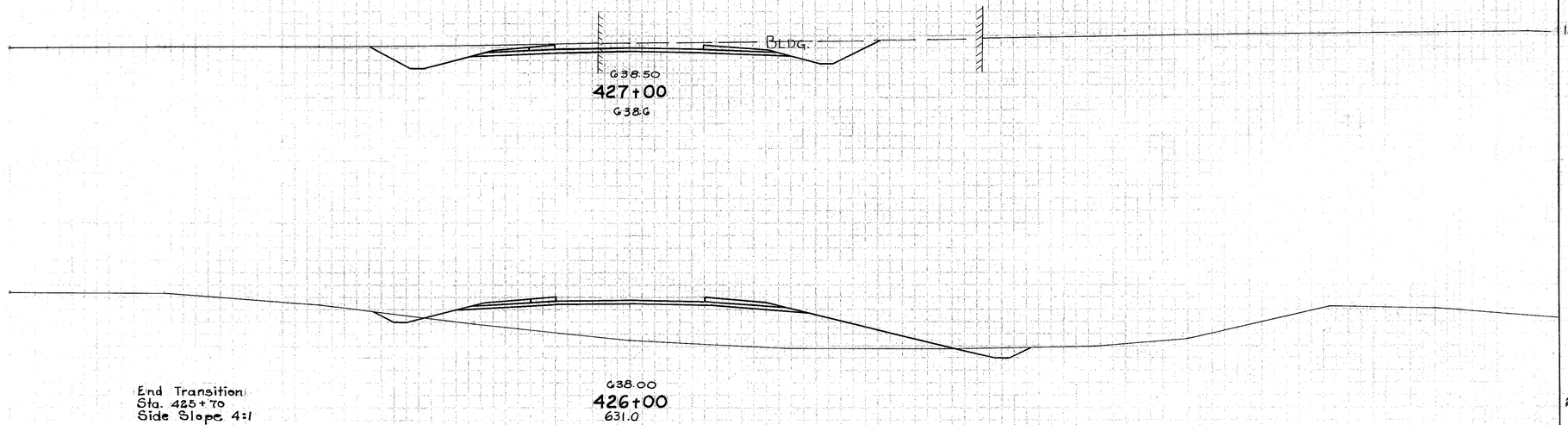
170
291

DUT-4-(2.48-15.02)

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







End Transition
Sta. 425+70
Side Slope 4:1

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
650				
	109	15		
640				
			498	56
	160	15		
650				
640				
			548	56
	136	15		
			289	759
	20	395		
			89	3135
				222

House Sta. 425+00 Rt

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

STA. 426+00 TO 429+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(8.48-15.02)

End Area		Cu. Yds.		
Cut	Fill	Cut	Fill	Sta.
4				

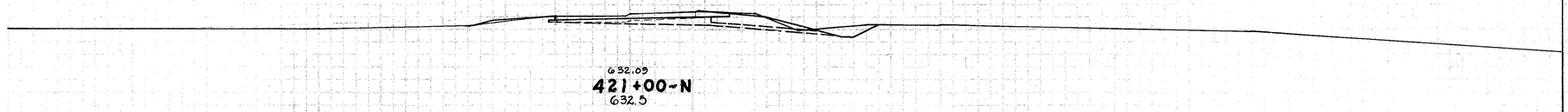
STA. 418+00 N TO 420+0

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

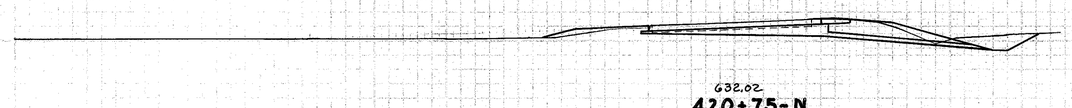
172
291

SLI-4-18.48-15.02

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



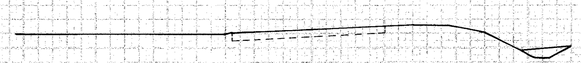
632.09
421+00-N
632.5



632.02
420+75-N
632.5

632.00
420+50-N
632.5

Begin New Pavement
Sta. 420+50N
North Bound Lane



420+25-N
632.5

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

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	56	21		
			62	24
	77	31		
			80	28
Ahead	95	30		
Back	86	—		
			15	
	6	—		
			5	

STA. 420+25N TO 421+00

FED. NO. DIVISION	STATE	PROJECT	
2	OHIO		

173
291

(UT-4-18.48-15.02)

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

635.07
425+00-N
635.7

634.30
424+00-N
634.6

633.53
423+00-N
633.4

632.76
422+00-N
632.6

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

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
103	62		
		318	174
69	32		
		94	224
52	19		
		202	61
57	14		
		209	65

STA. 422+00 N TO 425+00

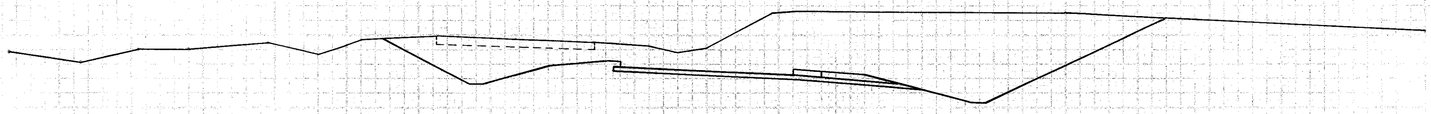
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

174
291

BUT-4-(8.48-15.02)

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

G36.61
427+00-N
640.2



G36.22
426+50-N
638.3

G35.84
426+00-N
635.9

G35.45
425+50-N
634.8

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
700	6		
		1262	11
663	6		
		942	11
354	6		
		448	20
130	16		
		216	72

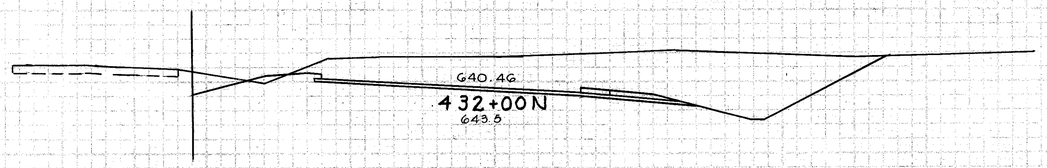
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

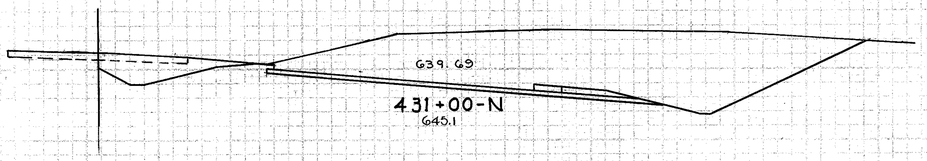
STA 425+50 N TO 427+00 N

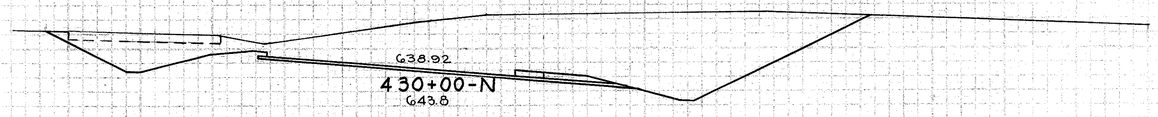
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

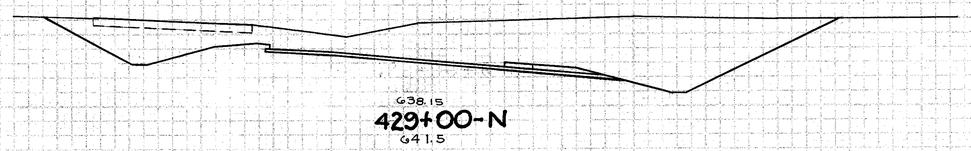
175
291

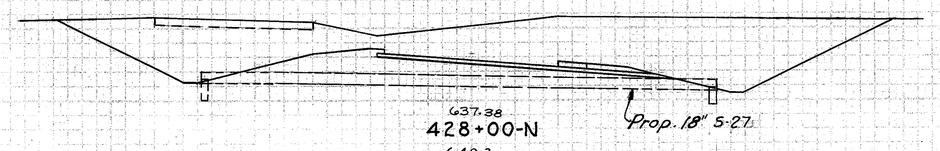
BUT-4-(8.48-15.02)











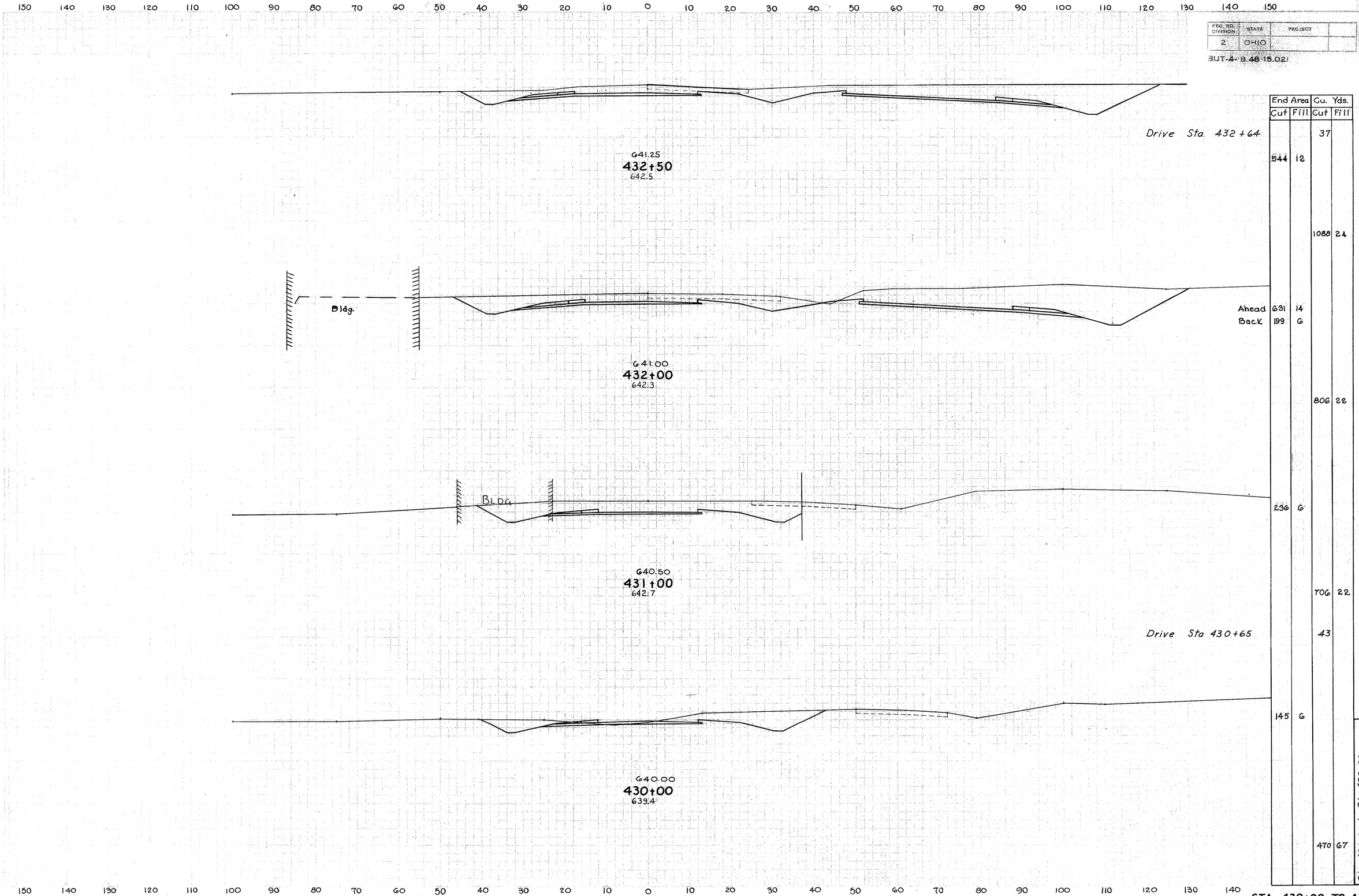
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
457	10		
		1958	30
600	6		
		2335	22
661	6		
		2182	22
547	6		
631	6		
		2465	28

STA. 428+00 N TO 432+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

176
291

BUT-4-8.48-15.02)



	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
			37	
	544	12		
			1088	24
Ahead	631	14		
Back	199	6		
			806	22
	236	6		
			706	22
			43	
	145	6		
			470	67

Sta. 420+00 to Sta. 430+00
12,823 Cu Yds.
E-1 Embankment 33,245 Cu Yds.
Embankment +15% 38,232 Cu Yds.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

177
291

BUT-4-(8.48-15.02)

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Ahead	107	30		
Back	60	24		
Drive Sta 435+57			4	
			138	18
			302	107
	103	34		
CANAL ST. STA. 434+68			37	19
			543	91
Drive 434+65			2	
	190	15		
Drive Sta 433+67			25	
			1174	61
	444	18		
			915	28

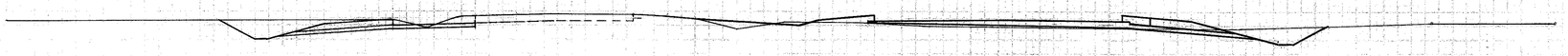
STA. 433+00 TO 436+00

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

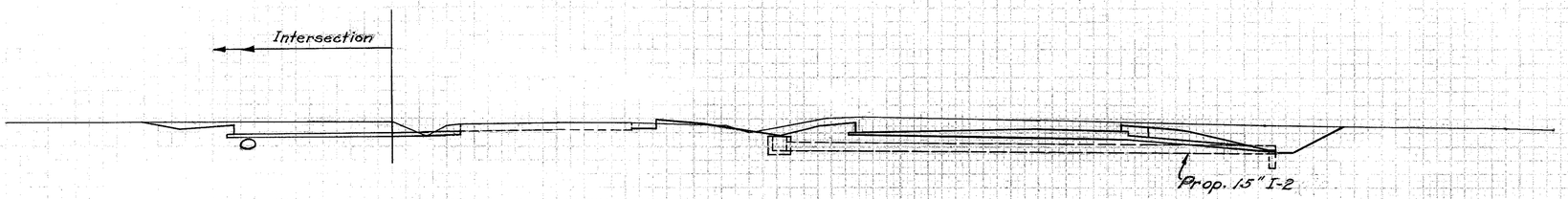
178
291

BUT-4-(8.48-15.02)

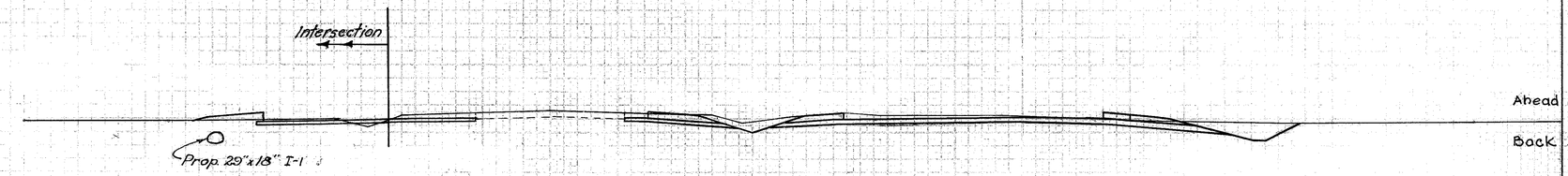
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



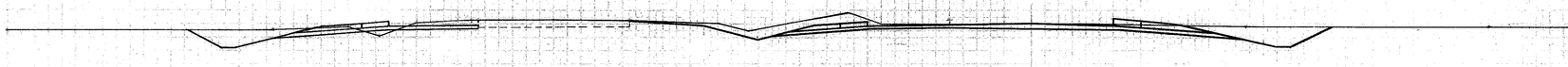
G43.27
440+00
641.8



G43.24
439+00
643.8



G42.92
438+00
643.1



G42.60
437+00
642.7

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

STA. 437+00 S TO 440+00

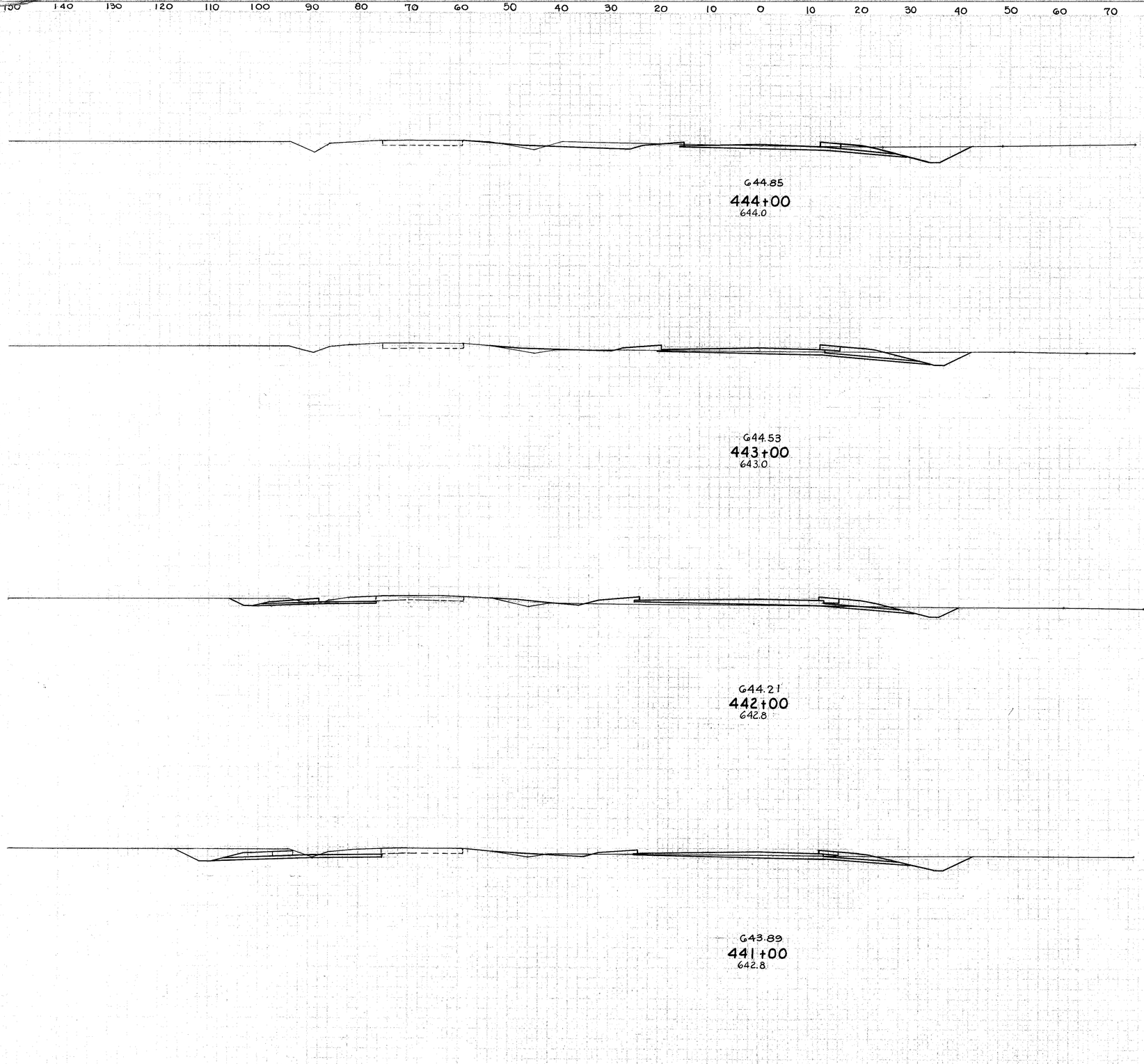
	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	83	24		
			670	70
Ahead	279	14		
Back	224	14		
LeSOUREDSVILLE LAKE ROAD STA. 438+52.70			296	49
			691	78
Ahead	149	28		
Back	137	19		
			524	68
	146	18		
			468	89

Sta. 430+00 to Sta. 440+00
12,702 Cu. Yds.
E-1 798 Cu. Yds.
Embankment 918 Cu. Yds.
Embankment +15%

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

179
291

SUT-4-8.48-15.02)

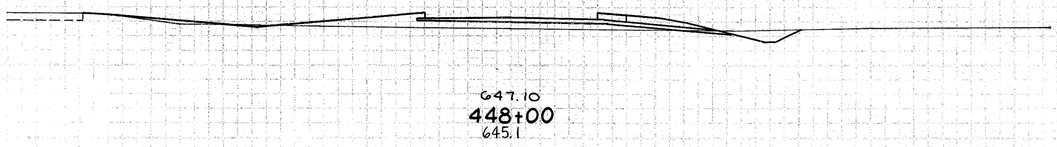


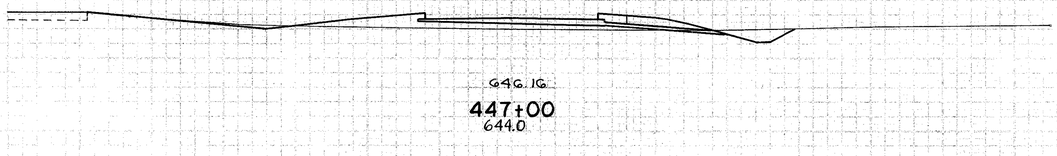
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
83	10		
		254	63
54	24		
		194	102
51	31		
		324	94
124	20		
		383	82

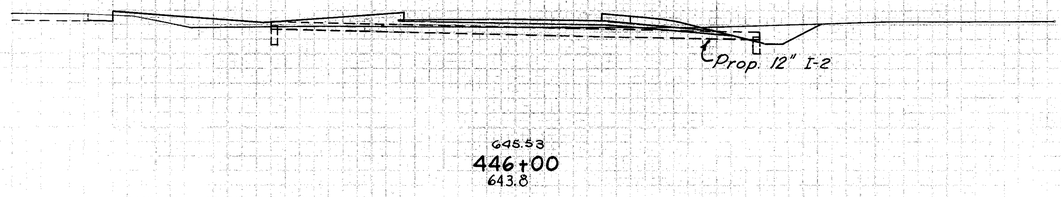
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

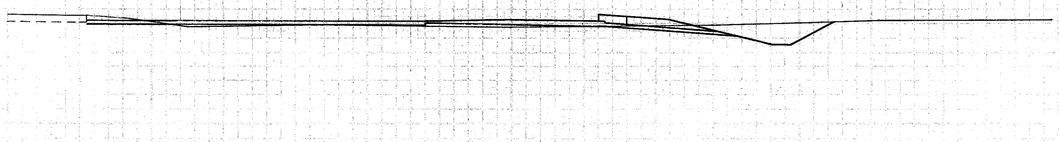
180
291

BUT-4-(5.48-15.02)









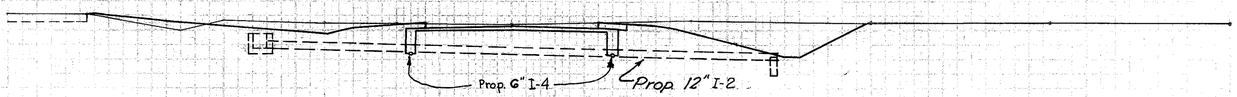
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
11	51		
		46	176
14	44		
		132	139
57	31		
		189	72
45	8		
		237	33

STA. 445+00 TO 448+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

181
291

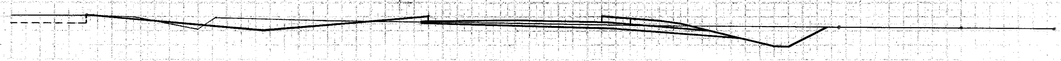
BUT-4-(8.48 15.02)



G51.10-N
452+00
650.9

G50.10-N
451+00
647.5

G49.10
450+00
646.6



G48.10
449+00
647.1

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
127	8		
		261	217
14	109		
		56	304
16	55		
		167	120
74	10		
		157	113

Sta. 440+00 to Sta. 450+00
E-1
Embankment 2,083 Cu. Yds.
Embankment +15% 934 Cu. Yds.
1,145 Cu. Yds.

STA. 449+00 TO 452+00

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

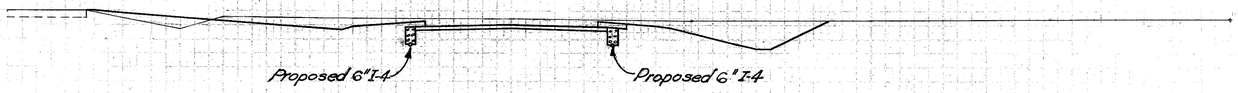
182
291

BUT-4-(9.48-15.02)

662.70
456+00
659.7

658.70
455+00
657.4

655.17
454+00
655.4



652.63
453+00
652.9

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
31	104		
		120	233
34	22		
		357	56
159	8		
		515	39
119	13		
		456	39

STA. 453+00 TO 456+00

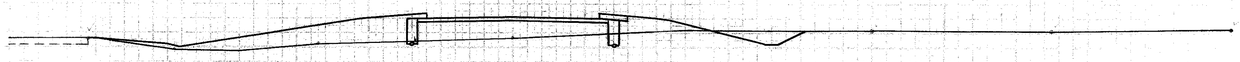
U.S. BTG. DIVISION	STATE	PROJECT	
2	OHIO		

183
2.91

BUT-4-(8.48-15.02)

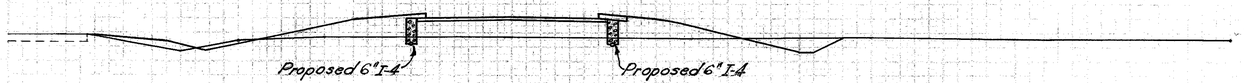
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

G78.70
460+00
667.0



G74.70
459+00
671.3

G70.70
458+00
667.1



GGG.70
457+00
663.3

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
21	102		
		59	493
11	164		
		50	656
16	190		
		63	622
18	146		
		91	463

Sta. 450+00 to Sta. 460+00
E-1 Embankment 2,028 Cu. Yds.
Embankment +15 % 3,122 Cu. Yds.
3,590 Cu. Yds.

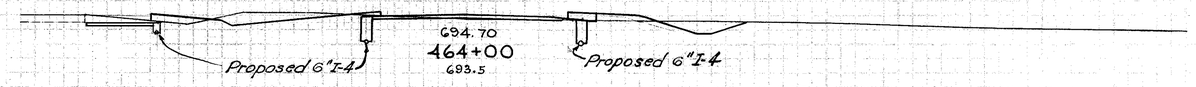
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

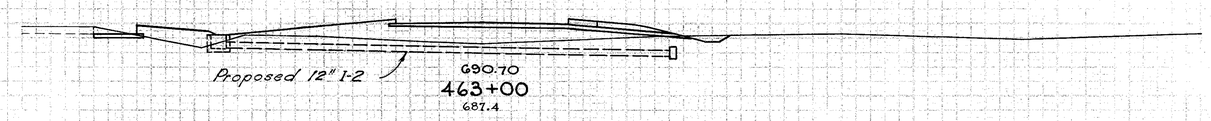
STA. 457+00 TO 460+00

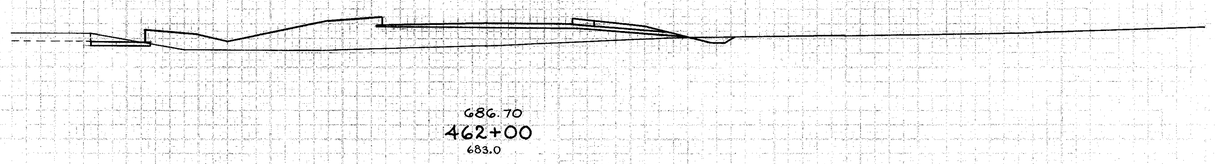
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

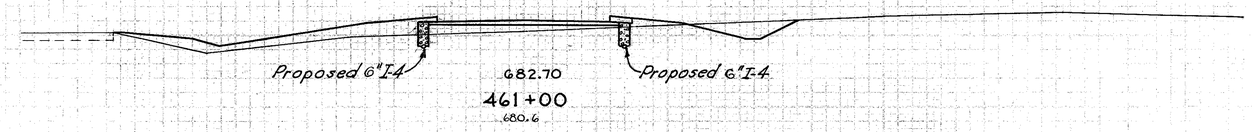
184
291

SUT-4-(8.48-15.02)









End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
96	11		
		83	230
9	113		
		35	550
10	184		
		54	504
19	88		
		74	352

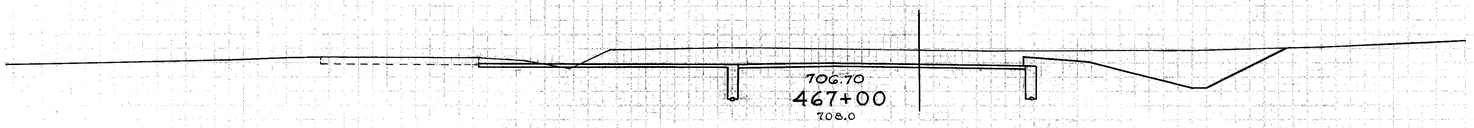
STA. 461+00 TO 464+00

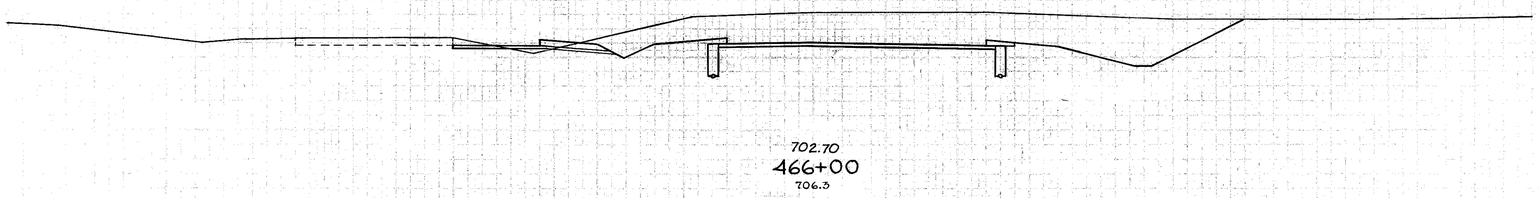
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

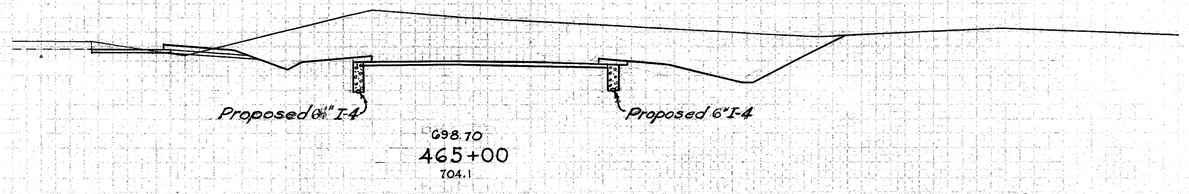
185
291

BUT-4-(8.48-15.02)

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







	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
Ahead	143	1		
Back	285	1		
			1124	11
Dr. 466+20			96	
	392	5		
			1470	18
	472	5		
			941	30

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

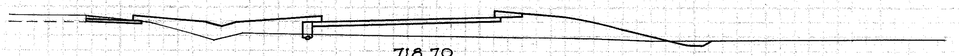
STA. 465+00 TO 467+00

DIVISION	STATE	PROJECT	
2	OHIO		

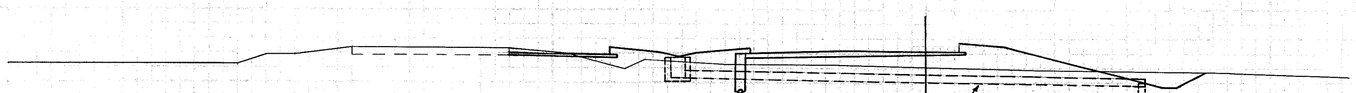
186
291

BUT-4-(8.48-15.02)

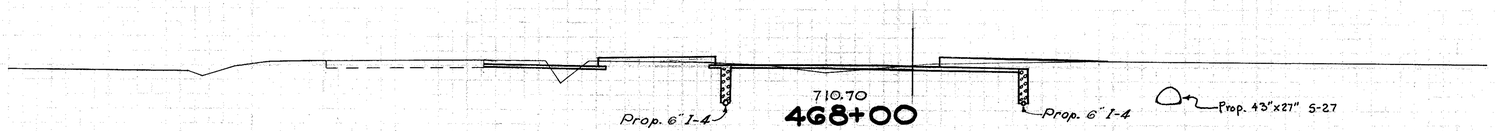
711.78
470+50
718.2



718.70
470+00
716.0



714.70
469+00
712.4



710.70
468+00
709.1

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	6	138		
			14	561
	9	165		
			67	550
Ahead	27	132		
Back	6	79		
			44	183
			337	420
	18	20		
			298	39

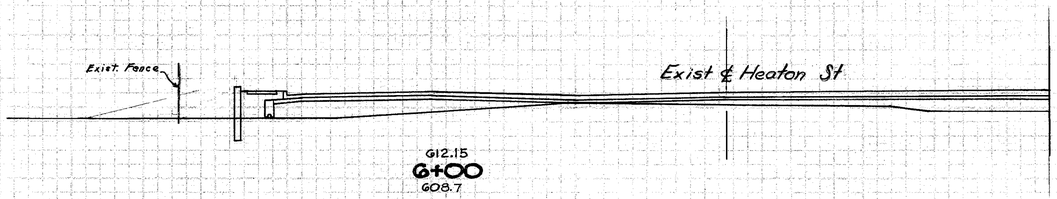
STATE ROUTE # 63
STA. 468+40

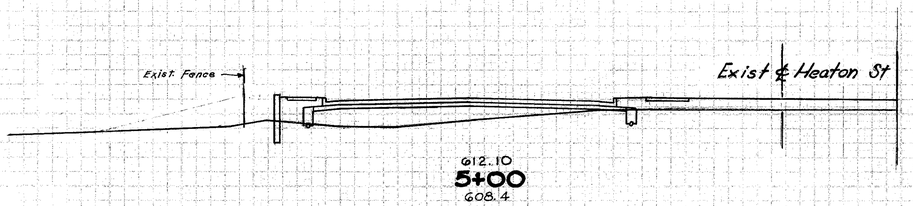
Sta. 460+00 to Sta. 470+50
E-1 5,237 Cu. Yds.
Embankment 3,448 Cu. Yds.
Embankment +15% 3,965 Cu. Yds.

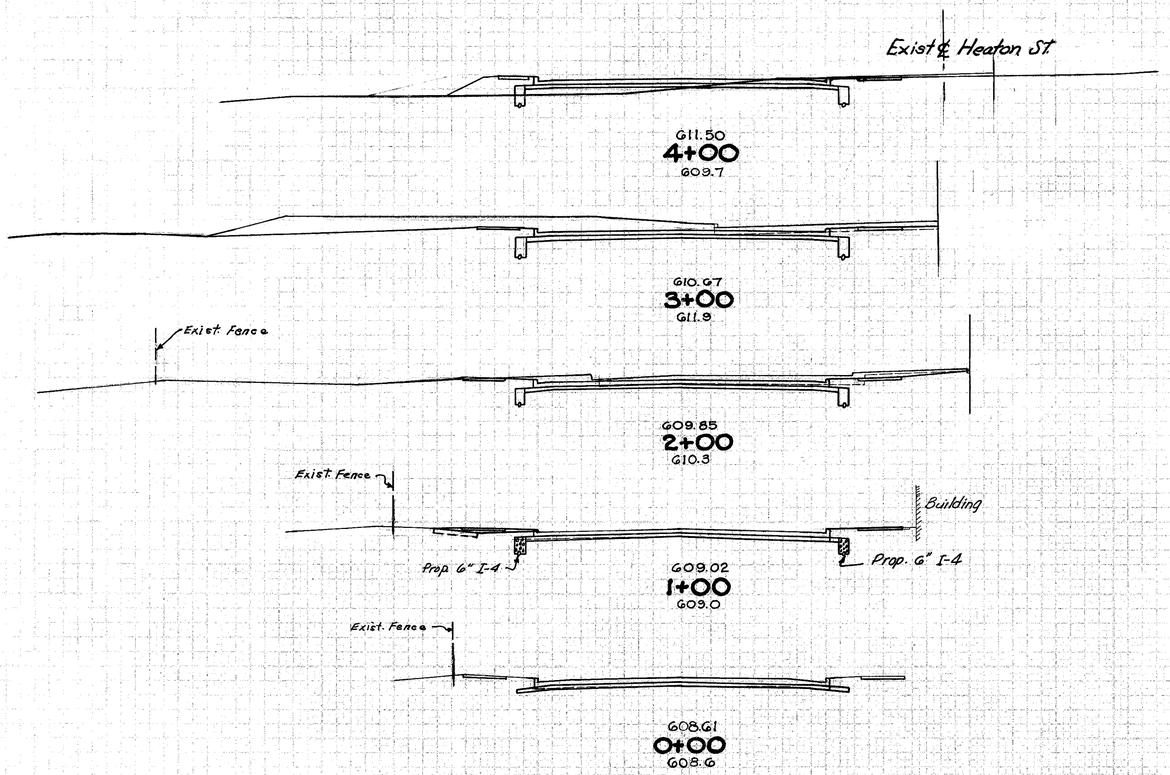
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

187
291

BUT-4-(8.48-15.02)







End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
–	206		
		–	718
–	182		
		24	439
13	55		
		406	113
206	6		
		565	20
99	5		
		193	35
		3	
5	14		
		17	26
4	–		

Drive Sta. 1+30

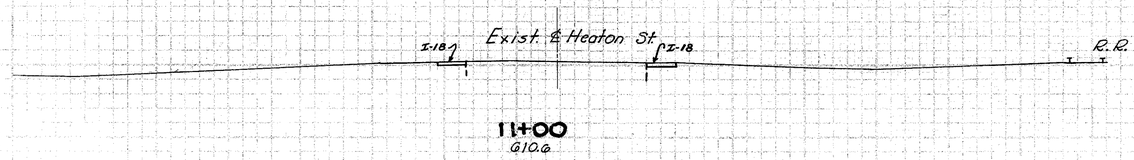
HEATON ST. STA 0+00 TO STA 6+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

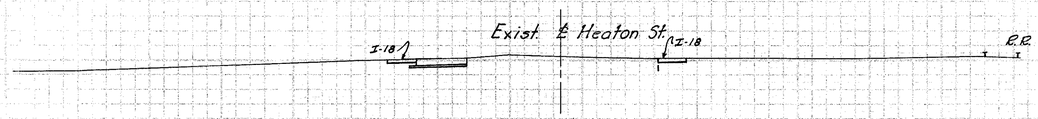
188
291

BUT-4-(8.48-15.02)

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

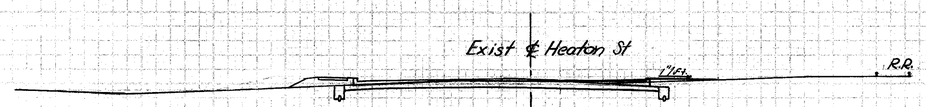


11+00
G10.6

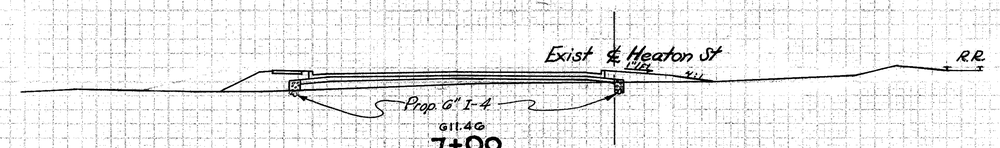


10+00
G10.7

G10.48
9+00
G10.5



G10.59
8+00
G10.3



G11.46
7+00
G09.7

End Area		Cu. Yds	
Cut	Fill	Cut	Fill
3	–		
		30	–
13	0		
		139	–
62	0		
		193	19
42	10		
		78	196
0	96		
		–	559

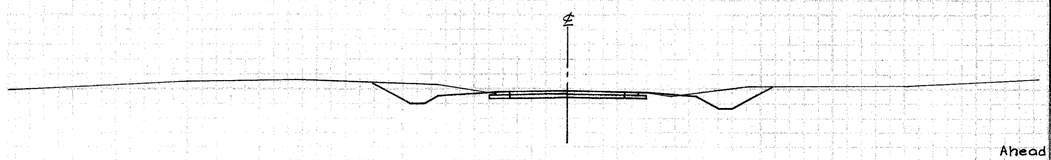
100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100

HEATON ST. STA. 7+00 TO STA. 11+00

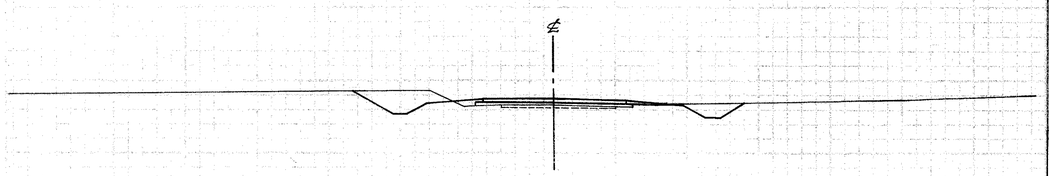
FED. RD. DIVISION	STATE	PROJECT		189 291
2	OHIO			

BUT-4-(8.48-15.02)

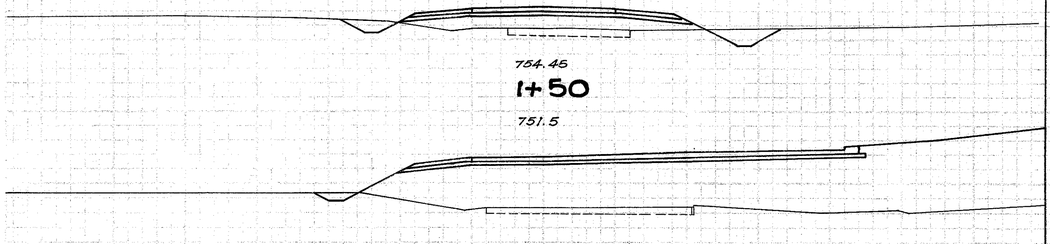
70 60 50 40 30 20 10 0 10 20 30 40 50 60 70



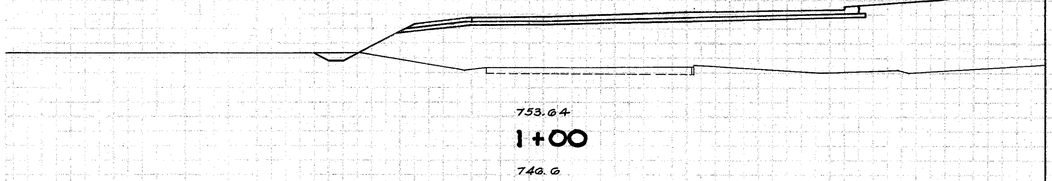
759.79
2+25
759.7



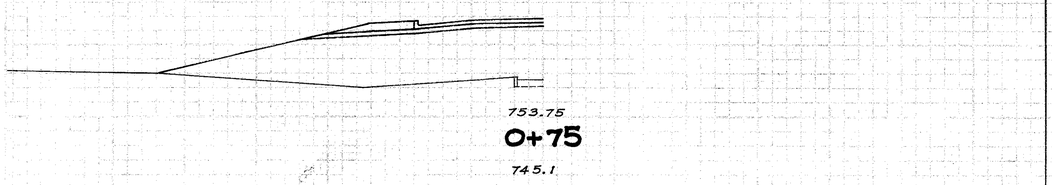
757.40
2+00
757.1



754.45
1+50
751.5



753.64
1+00
749.6

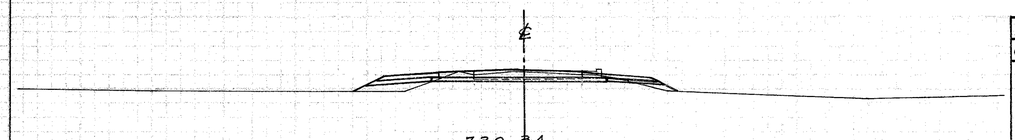


753.75
0+75
745.1

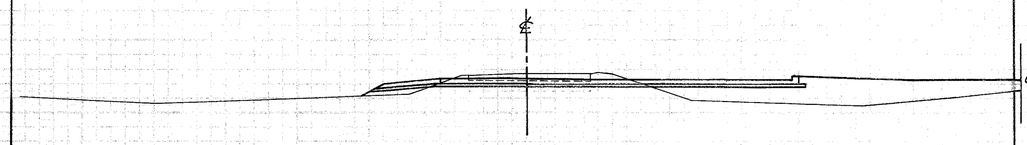
OAKRIDGE ROAD

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
			30	
Ahead	64			
Back	85			
			58	2
	41	4		
			74	93
	39	96		
			42	751
	5	715		
				476
		313		
				116

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

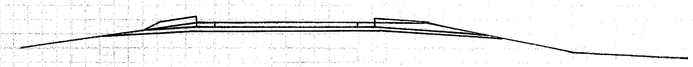


732.34
1+43.7
732.3

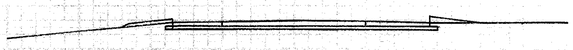


734.80
1+00
735.4

REIGART ROAD



723.50
1+22.8
723.53



724.20
1+00
723.82

GREENLAWN ROAD

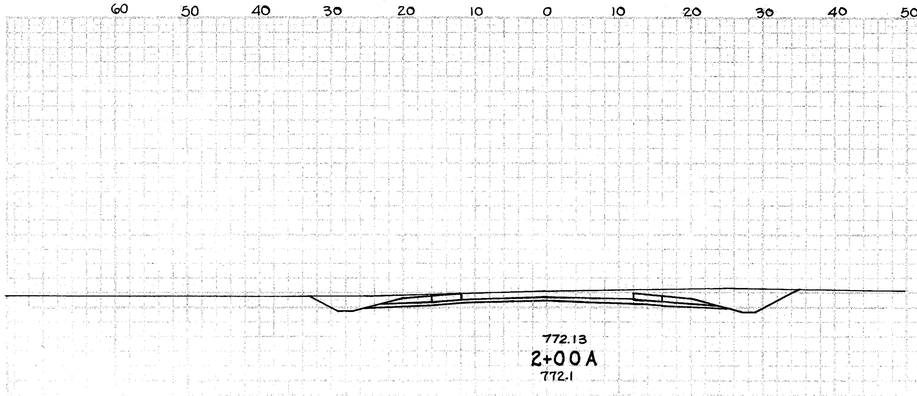
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		4	25
46	21		
		90	168
65	187		
		84	242
		12	3
66	17		
		50	10
52	7		
		44	6

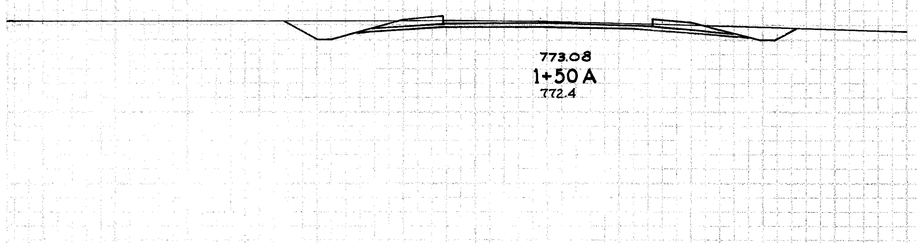
70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

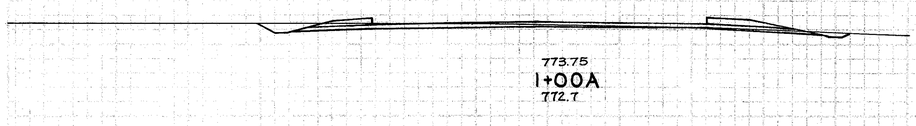
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

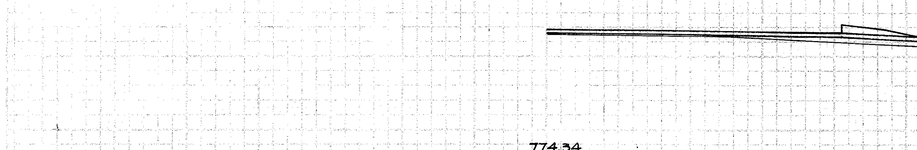
190
291

BUT-4-(8.48-15.02)

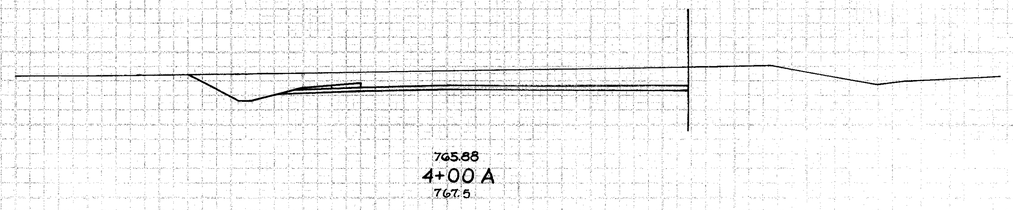


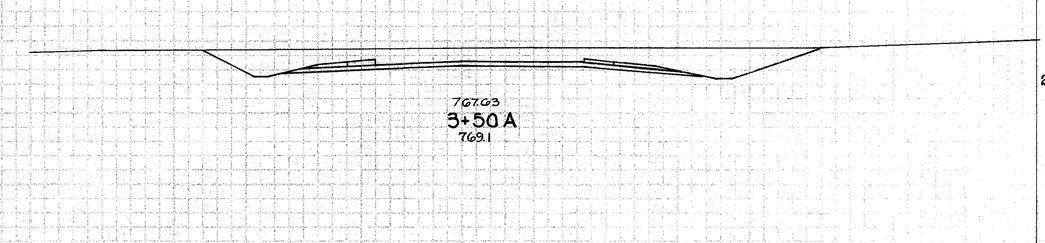


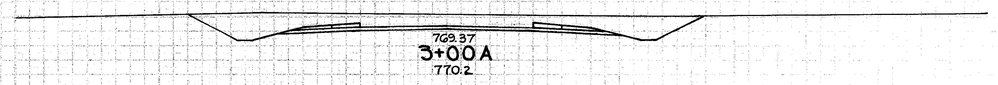


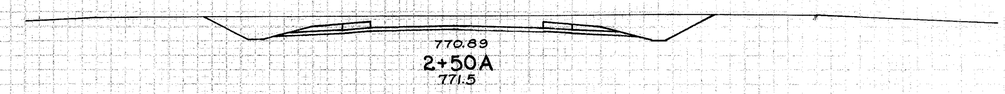


End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
131	9		
		198	21
83	14		
		103	26
28	14		
		26	68
	59		
	83		









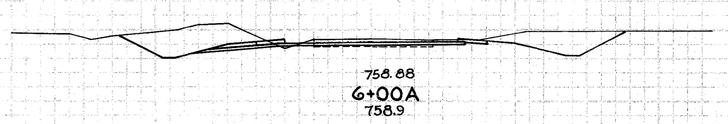
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
193	5		
		407	13
247	9		
		393	17
177	9		
		315	17
163	9		
		272	17

MULLIKIN ROAD STA. 0+50A TO STA. 4+00 A

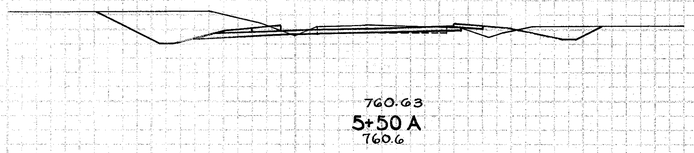
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

191
291

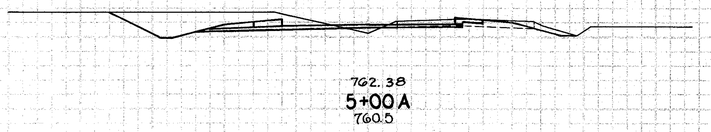
BUT-4-(8.48-15.02)



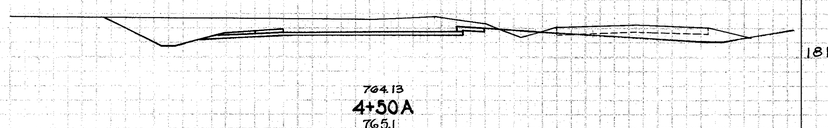
758.88
6+00A
758.9



760.63
5+50A
760.6



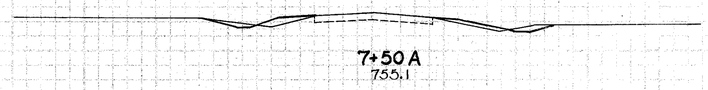
762.38
5+00A
760.5



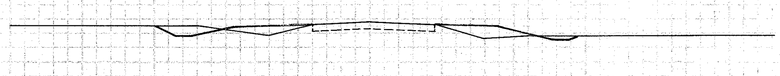
764.13
4+50A
765.1

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
137	6		
		221	17
102	12		
		177	17
89	6		
		250	13
181	8		
		346	12

7+90A
755.3

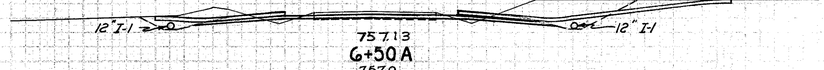


7+50A
755.1



7+00A
755.6

756.62
6+67A
756.4



757.13
6+50A
757.0

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
0	0		
		7	7
9	10		
		21	31
14	23		
		59	22
82	13		
		58	8
103	12		
		36	
		8	
		222	17

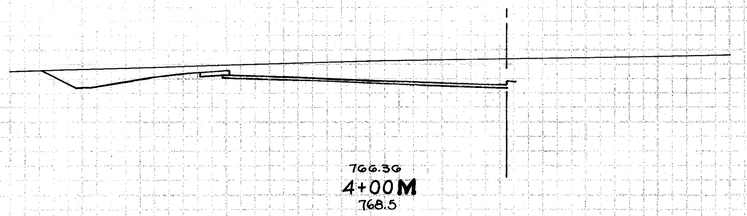
Field Drive Sta. 6+50 A-Rt.
Field Drive Sta 6+50 A-Lt.

MILLIKIN ROAD STA. 4+50 A TO STA. 7+90 A

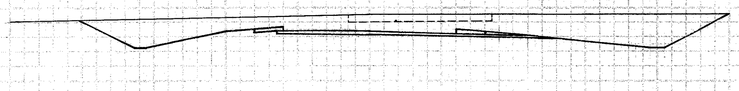
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

192
291

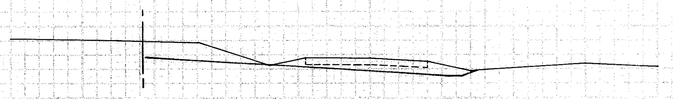
BUT-4-(8.48-15.02)



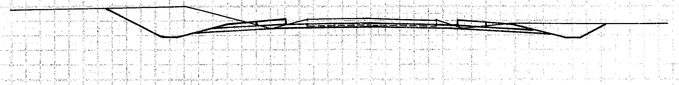
766.36
4+00 M
768.5



767.38
3+50 M
769.1



4+00 B
765.4



768.37
3+19.3 M
768.4

3+00 M
769.0

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
			155	
Ahead	174	0		
Back	246	0		
			475	5
	267	5		
			204	8

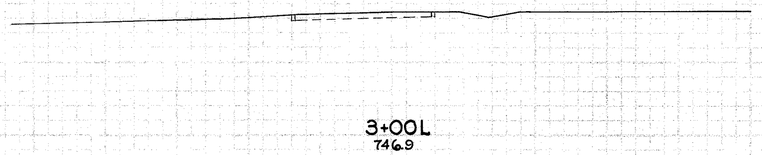
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		67	
72	0		
104	9		
		44	7
20	10		
		11	6

STA. 3+50 B TO STA. 4+00 B
MILLIKIN RD. STA. 3+00 M TO STA. 4+00 M

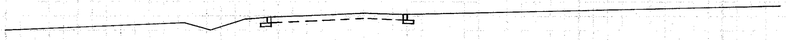
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

193
291

BUT-4-(8.48-15.02)



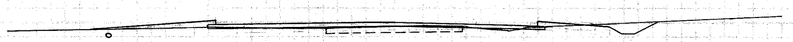
3+00L
746.9



2+50L
746.3

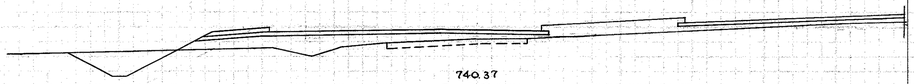
743.80
2+00L
743.9

741.89
1+50L
741.4



740.75
1+00L
739.4

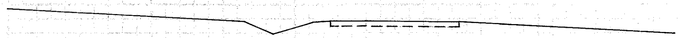
Drive Sta. 0+88 L



740.37
0+50L
738.4

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
2	0		
		50	1
52	2		
		98	15
54	14		
		58	24
9	12		
		38	176
		2	2
32	178		
		44	122

3+00R
737.4

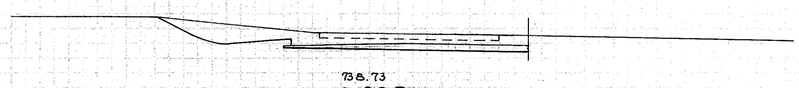


2+45R
737.8

738.28
2+00R
738.3

738.44
1+50R
738.9

Drive Sta. 1+42 R



738.73
1+00R
739.4

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
			18
21	0		
		129	13
118	14		
		175	13
		94	
71			
			45

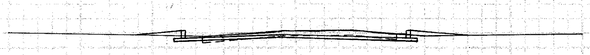
LIBERTY-FAIRFIELD RD-STL 270:23

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

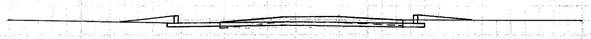
BUT-4-(8.48-15.02)

194
291

70 60 50 40 30 20 10 0 10 20 30 40 50 60

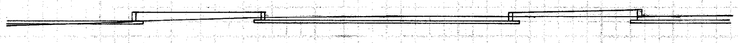


642.14
1+14
642.2



642.30
1+00
642.4

642.77
0+30
642.8

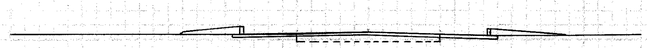


642.93
0+25
642.8

LeSourdsville Lake Road

1+00
640.1

640.73
0+69.30
640.5



641.36
0+50
641.1

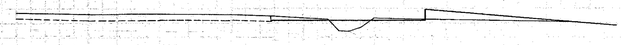
Canal Street

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
52	6		1
		26	3
47	5		
		119	9
82	5		
		64	19
57	35		
		27	17
			2
34	10		
		19	7
19	9		
		18	10

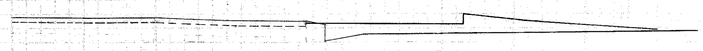
1+40

1+14

1+00



0+80



0+72

Cross Section Line
Sta. 292+00

0+64

Horseshoe Bend Road

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		2	1
9	6		
		4	4
7	11		
		5	14
6	28		
		1	15
0	74		
			11

70 60 50 40 30 20 10 0 10 20 30 40 50 60

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

C.G.H 3/5/15

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

195
291

SUT-4-(8.48-15.02)

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

773.31
3+50

773.25
3+00
771.5

773.89
2+50
773.8
Proposed 58"x36" S-27

774.67
2+00
774.9

775.45
1+50
775.56

776.23
1+00
774.1

776.62
0+75
776.5
Proposed 6" I-4

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
400	32	4		
			49	20
	21	18		
			58	54
	42	40		
			151	49
	121	13		
			241	20
	139	9		
			236	17
	116	9		
			169	18
	66	10		
			72	6
	89	4		
			49	2

50 40 30 20 10 0 10 20 30 40 50

772.05
2+22.5A
771.6

772.06
2+00A
771.4
Proposed 58"x36" S-27

772.61
1+50A
771.0

773.16
1+00A
770.9

774.21
0+19.22A
773.9

774.70
0+00A
774.6

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
			4	1
	21	5		
			13	12
	9	23		
			8	44
	–	25		
				52
	–	31		
				69
	–	44		
			18	30
Ahead	32	–		
Back	72	9		
			51	6
	70	9		
			13	2

40 30 20 10 0 10 20 30 40 50

Relocation Kyles Station Road

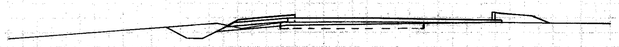
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

196
291

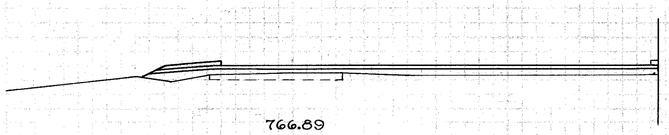
SUT-4-(8.48-15.02)

761.50
1+75 L
761.4

762.32
1+50 L
762.1



764.54
1+00 L
763.5

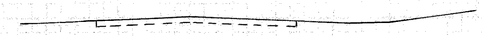


766.89
0+50 L
765.0

ROCKDALE ROAD

50 40 30 20 10 0 10 20 30 40 50

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
12	3		
		11	3
12	4		
		28	14
18	11		
		17	105
0	108		
			136



2+00
740.1

1+62
739.3

1+50
739.2

1+00
738.4

STATE ROUTE # 747

50 40 30 20 10 0 10 20 30 40 50

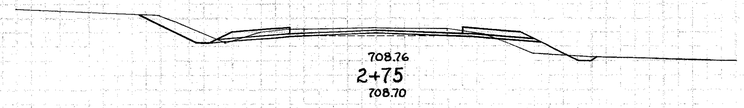
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
34	7		
		17	3
42	8		
		78	15
42	8		
		44	8

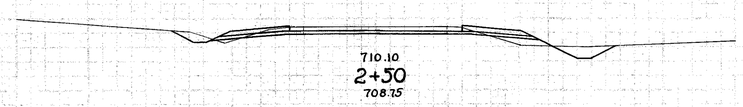
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

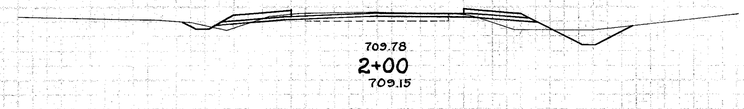
197
291

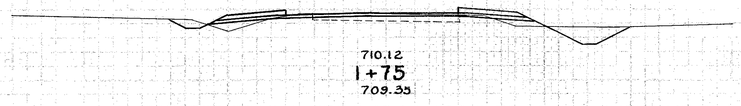
BUT-4-(8.48-15.02)

70 60 50 40 30 20 10 0 10 20 30 40 50 60



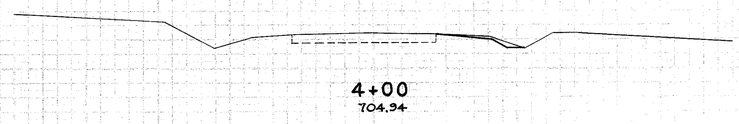


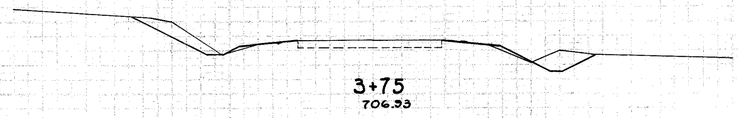


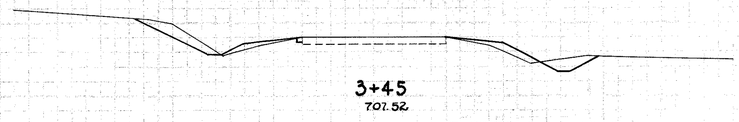


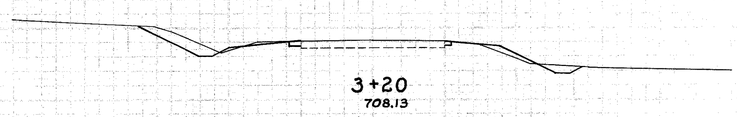
End Area		Cu.Yds.	
Cut	Fill	Cut	Fill
50	21		
		44	18
45	18		
		75	33
36	18		
		33	18
35	20		
		54	31

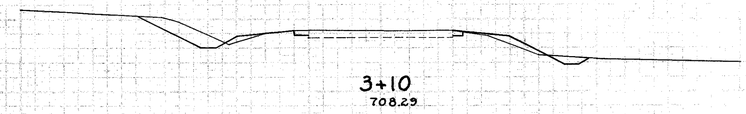
60 50 40 30 20 10 0 10 20 30 40 50 60

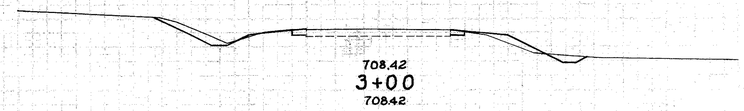












End Area		Cu.Yds.	
Cut	Fill	Cut	Fill
4	–		
		18	3
34	6		
		33	14
26	19		
		24	11
25	5		
		10	3
29	11		
		9	4
19	9		
		32	14

70 60 50 40 30 20 10 0 10 20 30 40 50 60

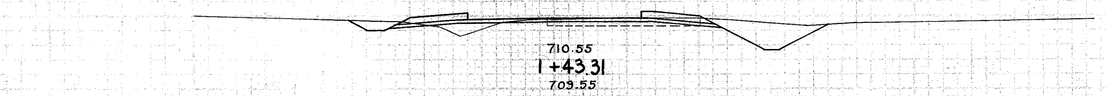
60 50 40 30 20 10 0 10 20 30 40 50 60

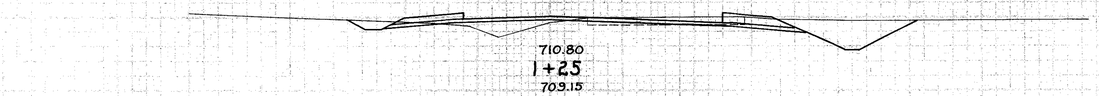
State Route #63

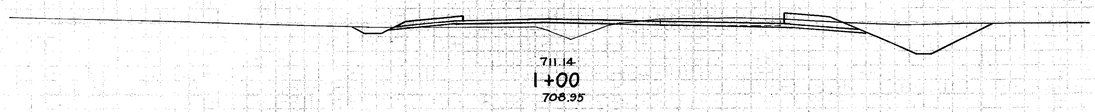
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

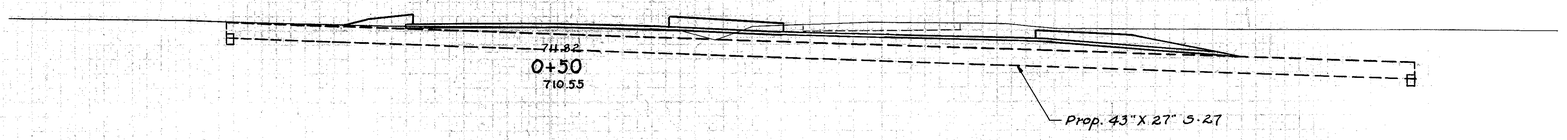
198
291

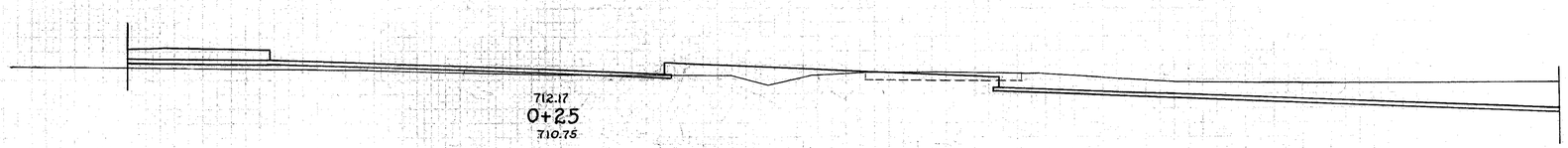
BUT-4-(8.48-15.02)









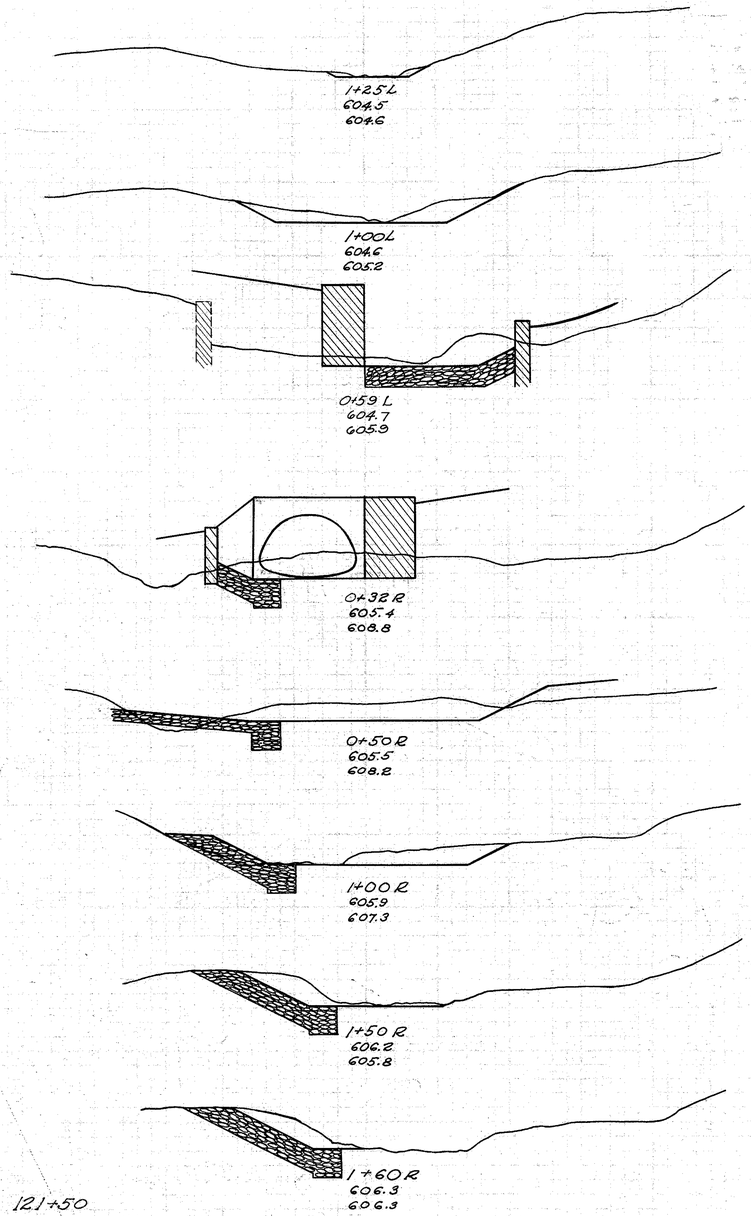


End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
54	32		
		40	23
64	36		
		62	36
70	42		
		98	38
119	32		
		112	37
155	60		
		180	81
234	116		
		113	56

State Route #63

FED. RD. DIVISION	STATE	PROJECT		199 291
2	OHIO			

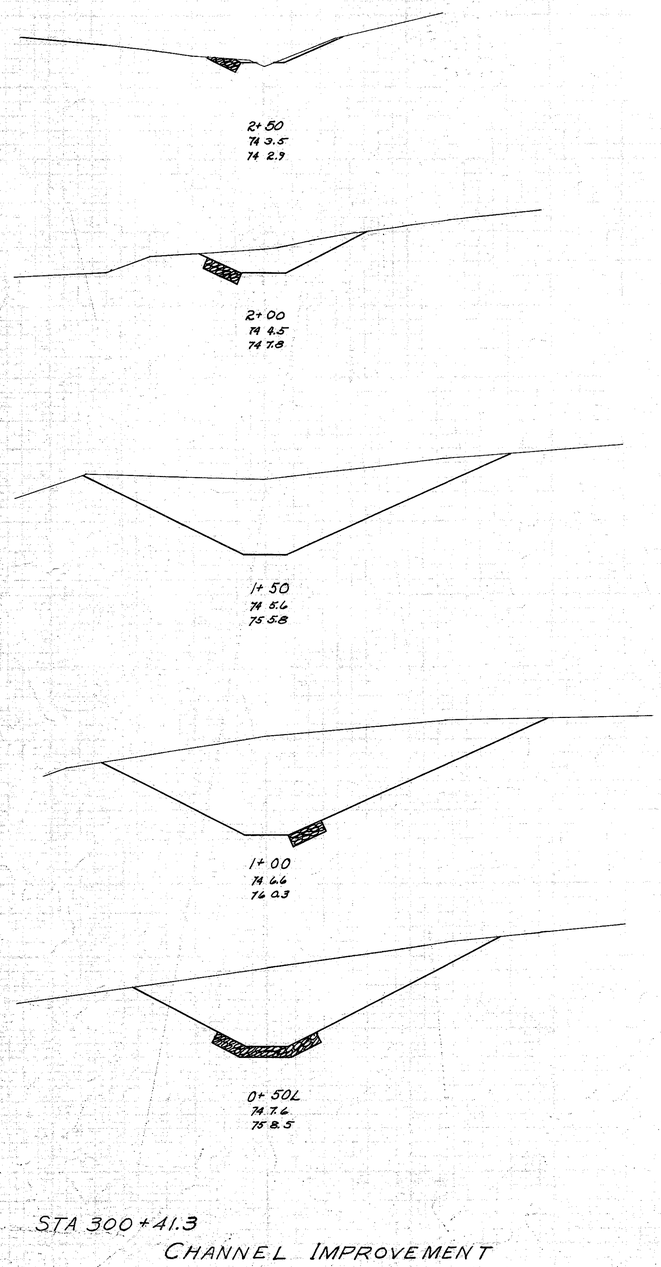
CUT-4-(8.28-15.02)



STA. 121+50

SHAFFER CREEK CHANNEL IMPROVEMENT

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
6			
		29	
57			
		73	
39			
		61	
92	22		43
		125	
43	24		
		78	
41			
		13	
29			
		370	43



STA 300+41.3

CHANNEL IMPROVEMENT

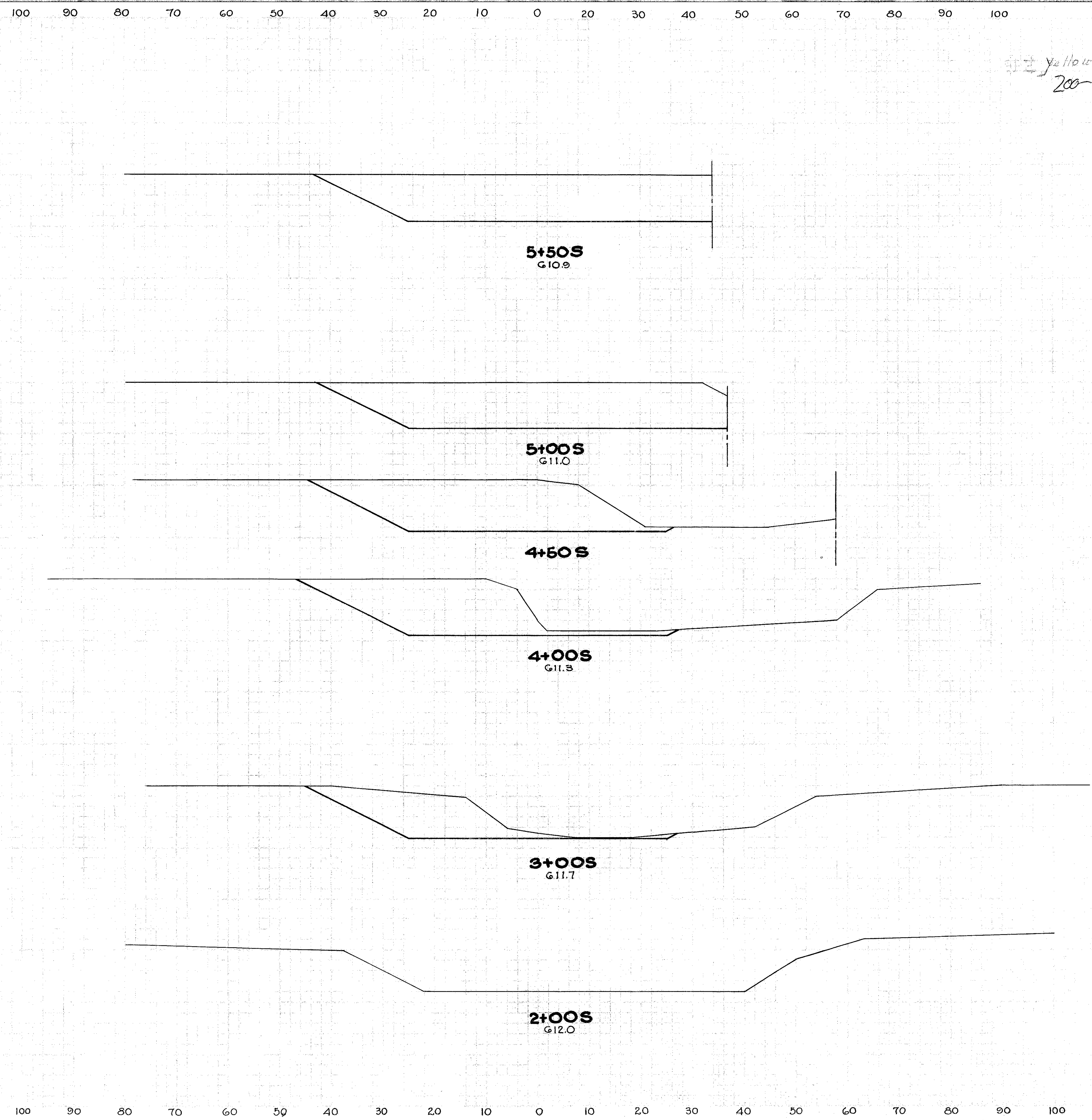
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
18			
		69	
62			
		401	
371			
		817	
511			
		805	
358			
		126	

CHANNEL IMPROVEMENT

Yellow 200-291

F.A. RD. DIVISION	STATE	PROJECT		
2	OHIO			200 291

BUT-4-(8.48-15.02)



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
634			
		1177	
637			
		1057	
505			
		843	
405			
		1217	
252			
		467	
0			

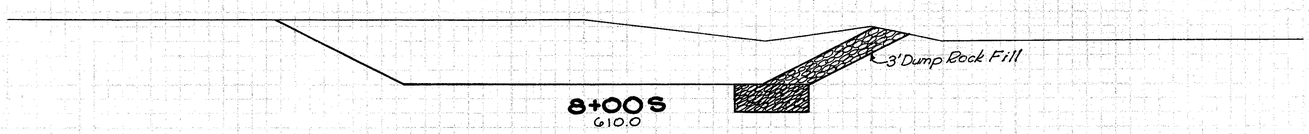
Gregory Creek Channel Improvement

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

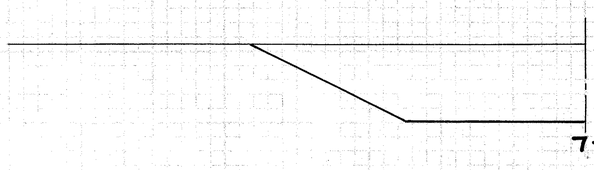
201
291

BUT-4-(8.48-15.02)

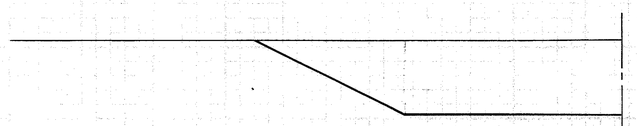
80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80



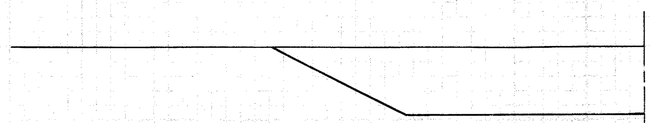
8+00S
G10.0



7+00S
G10.3



6+50S
G10.5



6+00S
G10.7

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

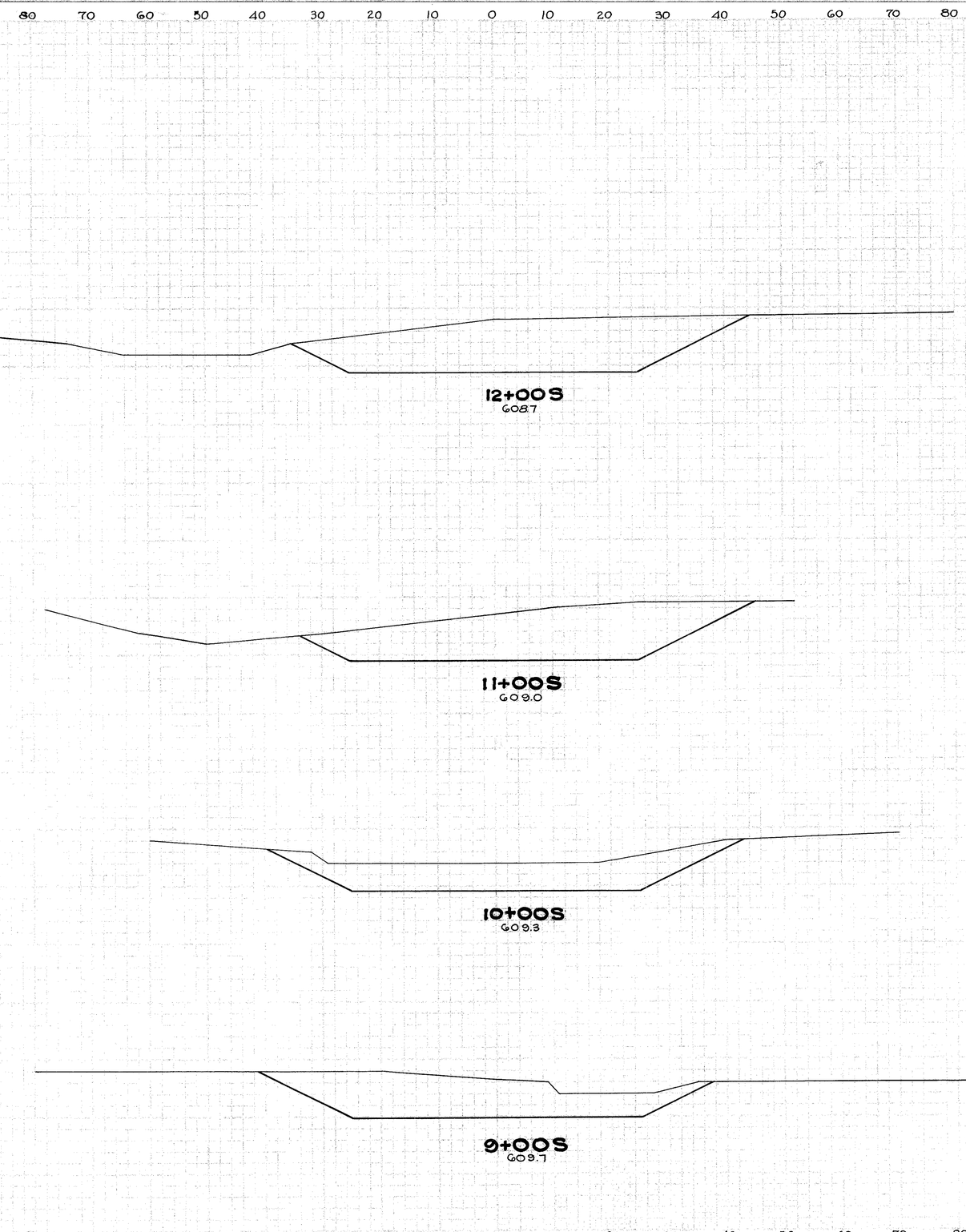
	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Ahead	599			
Back	691			
			300	
Ahead	930			
Back	394			
			758	
	425			
			766	
	402			
			960	

Gregory Creek Channel Improvement

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

202
291

BUT-4-(8.48-15.02)



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
571			
			2046
534			
			1641
352			
			1426
418			
			1883
		6396	

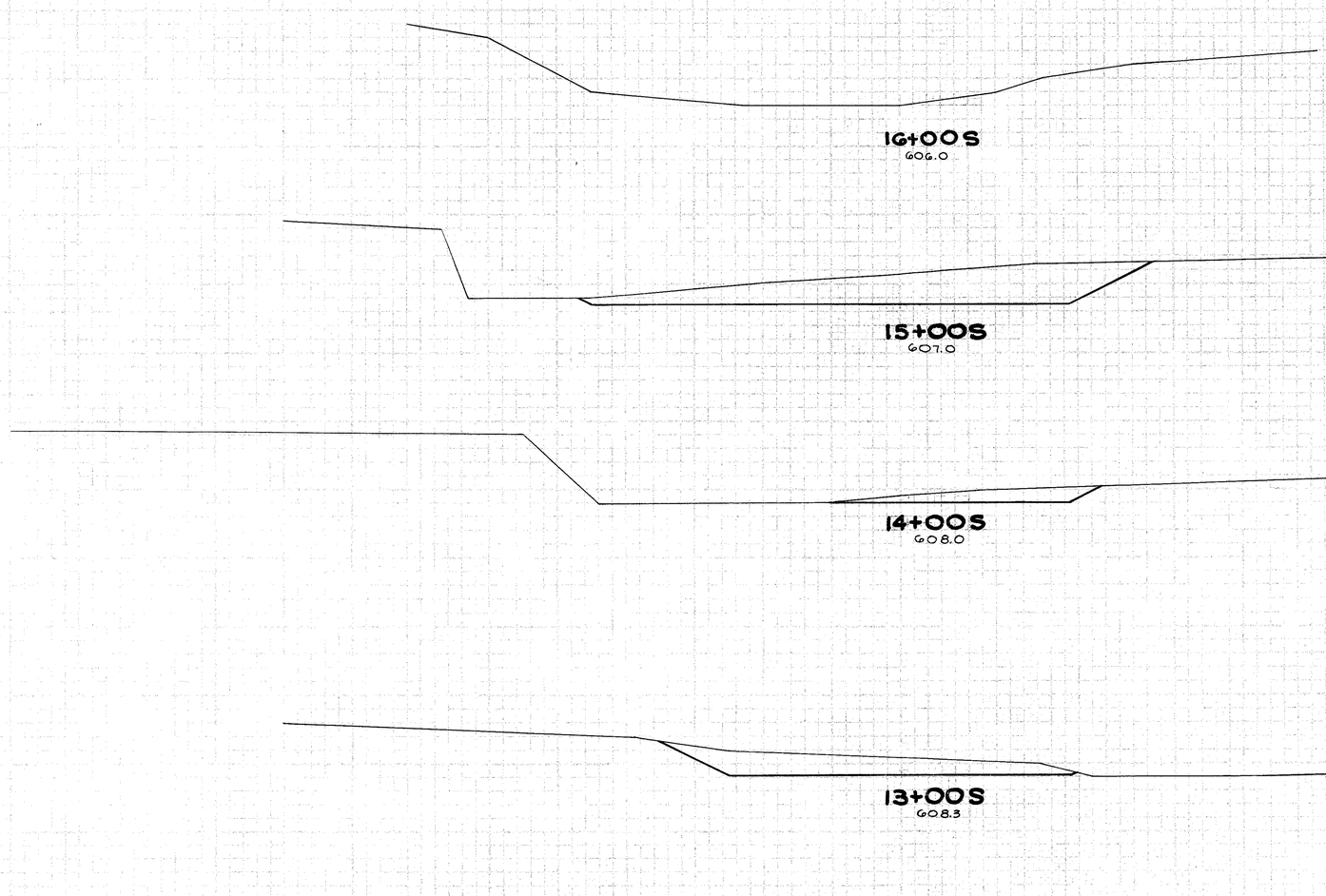
Gregory Creek Channel Improvement

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

203
291

BUT-4-(8.48-15.02)

130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110



130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		568	
307			
		680	
60			
		387	
149			
		1333	
		2908	

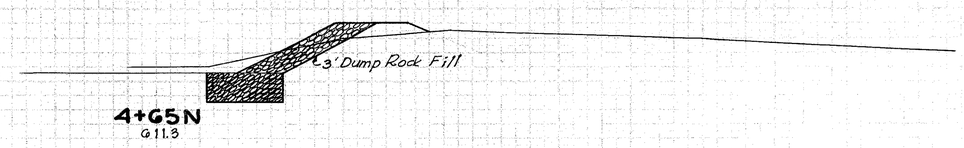
Gregory Creek Channel Improvement

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

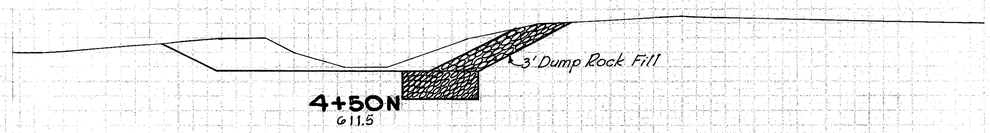
204
291

BUT-4-(8.48-15.02)

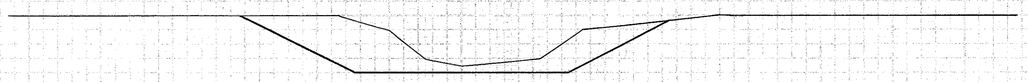
80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100



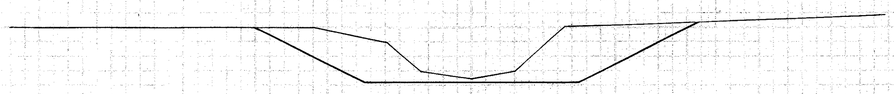
4+65N
G 11.3



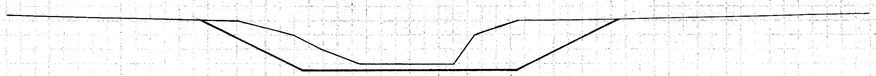
4+50N
G 11.5



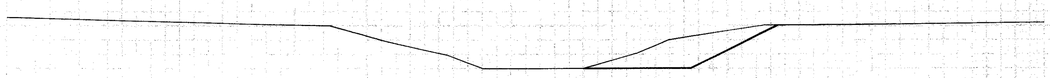
4+00N
G 12.0



3+50N
G 12.5



3+00N
G 13.0



2+00N
G 14.0

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

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
119	12		
		100	3
241			
		414	
206			
		402	
228			
		374	
176			
		339	
7			
		6	

1635 8

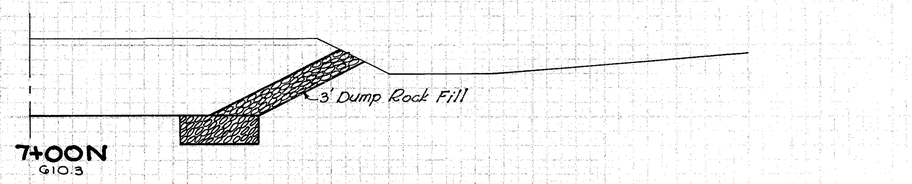
Coldwater Channel Improvement

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

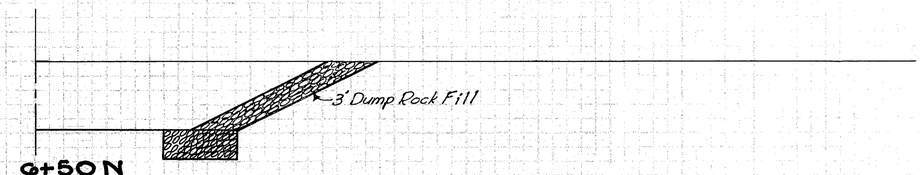
205
291

BUT-4-(8.48-15.02)

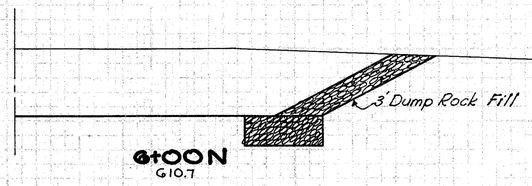
80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120



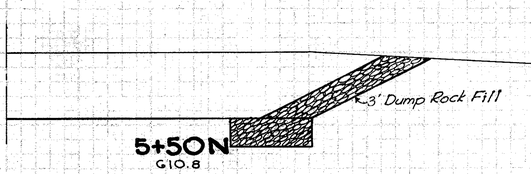
7+00N
G10.3



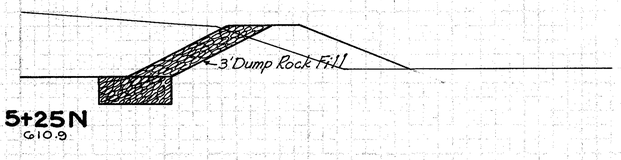
6+50N
G10.5



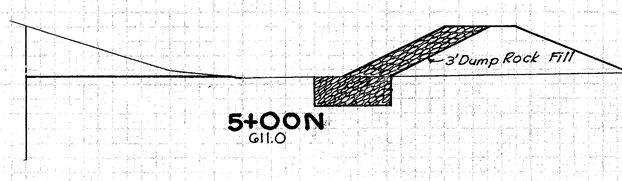
6+00N
G10.7



5+50N
G10.8



5+25N
G10.9



5+00N
G11.0

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
536			
		947	
487			
		976	
567			
		1052	
569	0		
		405	30
305	65		
		178	119
79	192		
		128	132

80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130

3695 3251

Caldwater Channel Improvement

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

206
291

BUT-4-(8.48-15.02)

Begin Work Sta. 0+00 Meet Existing Walk and Pavement

Remove existing curb & gutter and sidewalk Sta. 0+00 to 1+57 Left Heaton

Remove existing curb & gutter, and sidewalk Sta. 0+00 to 2+00 right Heaton

℄ Heaton St.

24" Approx. Location

Prop. No. 3A C.B. 4" C.I.P. 0+04 Lt. Approx. Location

Prop No. 3A C.B. 0+04 Rt.

6" I-4 Sta. 0+25.53-22.5 Lt.

Prop. 12"

40°-0"

608.13 +25

608.43 +50

608.67 +25

608.75 +50

608.82 +75

609.02

609.23 +25

609.43 +50

609.64 +75

609.83 2+00

609.53

609.53

Type 2A Curb

Prop. 6" I-4

Abandon Exist. Drive

Prop. 12"

Remove Exist. Curb

Sta. 1+46.79

1+42.5

1+12.5

Prop. 6" I-4

608.70

3 Sty. Bus.

℄ 19' Business Dr. Sta. 1+30

Berm Line

Concrete Median I-21 Type 1

+50

Remove exist. curb & gutter Sta. 79+00 Right to Sta. 83+50 Right

Begin Project BUT-4-(8.48-15.02) Sta. 79+00 Meet Existing Pavement

Begin Work Sta. 78+75

Remove existing curb & gutter Sta. 79+00 to 83+50 left.

6" I-4 Sta. 79+39.5 32.5 Lt.

℄ 12' Alley -0.8% Sta. 79+58.5 Lt.

℄ 10' Res. Dr. -2.0% Sta. 79+38 Lt.

℄ 10' Res. Dr. -2.0% Sta. 79+68 Lt.

℄ 10' Res. Dr. -2.0% Sta. 80+61 Lt.

℄ 10' Res. Dr. -5.0% Sta. 81+34 Lt.

0+10

0+20

0+24.5

0+14

0+00

Prop 1-2A C.B. Sta. 80+17-38 Lt.

Prop. 6" I-4

Exist. C.B. Abandon

Prop. 12" 60°

Exist. 12" Abandon

Prop. 6" I-4

Prop. No. 6 C.B. Sta. 81+78

Prop. 12"

Exist. 18"

Type 2A Curb

Std. No. 1 MH 81+67 ℄

Prop. 6" I-4

Prop. 6" I-4

Prop. No. 3 C.B. Sta. 79+20 Lt.

Prop. 6" I-4 Sta. 79+10-32 Rt.

Prop. 12"

Std. No. 1 MH 79+20 - ℄

Exist. 18"

Prop. No. 3 C.B. Sta. 80+20 Rt.

Prop. 12"

Exist. 12" Abandon

Exist. C.B. Abandon

6" I-4 Sta. 80+72.5-32 Rt.

6" I-4 Sta. 80+00-32.5 Rt.

6" I-4 Sta. 83+15.5-30 Rt.

B & O R.R.

Prop. 6" I-4

T.S. 80+49.54

Match Line B-B

28.5'

26'

25'

2'

8'

7.5'

1'

For standard pavement joint symbols, See Sheet 218

INTERSECTION DETAILS

2	OHIO	PROJECT	

207
291

BUT-4-(8.48-15.02)

CURVE DATA
P.I. = 2+82.75 Heaton
Δ = 24°-06'-37.72" Lt.
D = 9°-00'
T = 135.96'
L = 267.89'
R = 636.62'

CURVE DATA
P.I. = 5+88.92 Bigham
Δ = 16°-12'-11.10" Rt.
D = 9°-00'
T = 90.62'
L = 180.04'
R = 636.62'

NORTH

Heaton St.
Bigham St.
Abandon Exist. Drive
Abandon Exist. Drive
For Wall Details See Sheet 220
Begin Wall G+60
End Wall G+00
P.C. 6+91.02
P.T. 4+14.68
Match Line B-B
Match Line A-A
Type 2A Curb
Std. No. 3-A.C.B. 2+75 Lt.
Std. No. 3-A.C.B. 2+75 Rt.
Std. No. 2A C.B. Sta. 7+00 Rt.
Remove Exist. Curb
Remove Existing Pavement & Seed
Remove Exist. Curb & Gutter & Sidewalk Sta. 2+00 Heaton Rt. to 03+50 Lt.
Std. No. 1 M.H. 04+39-30' Lt.
Berm Line
Exist. 24"Z
Exist. 18"Z
B&O Rail Road
Std. No. 6 C.B. 06+45 Lt.
Std. No. 3A C.B. 06+38 Rt.
Remove Existing Curb & Gutter Sta. 2+50 M to 03+50 Right
Remove Existing Pavement & Seed
Exist. 6"Z
Exist. 24"Z
Exist. 6" Sanitary
Special MH Sta. 07+40-29' Rt.
Install precast concrete dividers on proposed 8 Sta. 07+00 to 09+40
Remove Existing Sidewalk Sta. 0+20 E Left to 09+40 Right
Existing C.B. Sta. 1+20 FAIR AVE. Lt. to remain undisturbed Resurfacing to be warped around exist. catch basin.
Remove Existing Curb & Gutter or Curb Sta. 1+00 Fair Lt. to 09+40 Rt.
Remove Existing Curb & Gutter & Sidewalk Sta. 05+50 to 09+40 Lt.
Gutter plate for Type 2 Curb and Gutter shall be 8 1/4" thick finished 1/4" below T-35 surface course.
For 6" Curb Transition See Pavement Detail Sheet No. 219
For standard pavement joint symbols, See Sheet 219
Remove & Replace Exist. Sidewalks & Steps
2 Sty. Fr. #1714 & 1716
4" Walk & Steps 09+99 Lt.
8" Walk 09+76 Lt.
9" RCP 09+21 Lt. Grand Drive
Remove Gas Pumps & Underground Storage Tanks
Gas Station
4" Roof Drains
Alley
End Mark & Construction Sta. 3+14.5 M
P.T. 2+91.82 M
P.C. 1+64.4 M
CURVE DATA
P.I. = 2+17.82 M
Δ = 39°-51'-01" Lt.
D = 30°-00'
T = 69.42'
L = 132.83'
R = 190.98'
Type 2 Curb & Gutter
End Mark 0+00 E
Std. No. 3 M.H. 1+75 Fair Lt.
End Mark 0+00 M
Type 6 Curb
Type 2A Curb
Gas Station
R=60'
R=50'
R=40'
R=25'
R=2'
R=24'
R=50'

9'-0"
℄ Spun
9" Reinforced Portland Cement Conc. Pav't.
6" Subbase
Porous backfill
6" Pipe Underdrain
8'-6"
8'-6"

TYPICAL TRACK SECTION A-A

Scale: 1/8" = 1'-0"

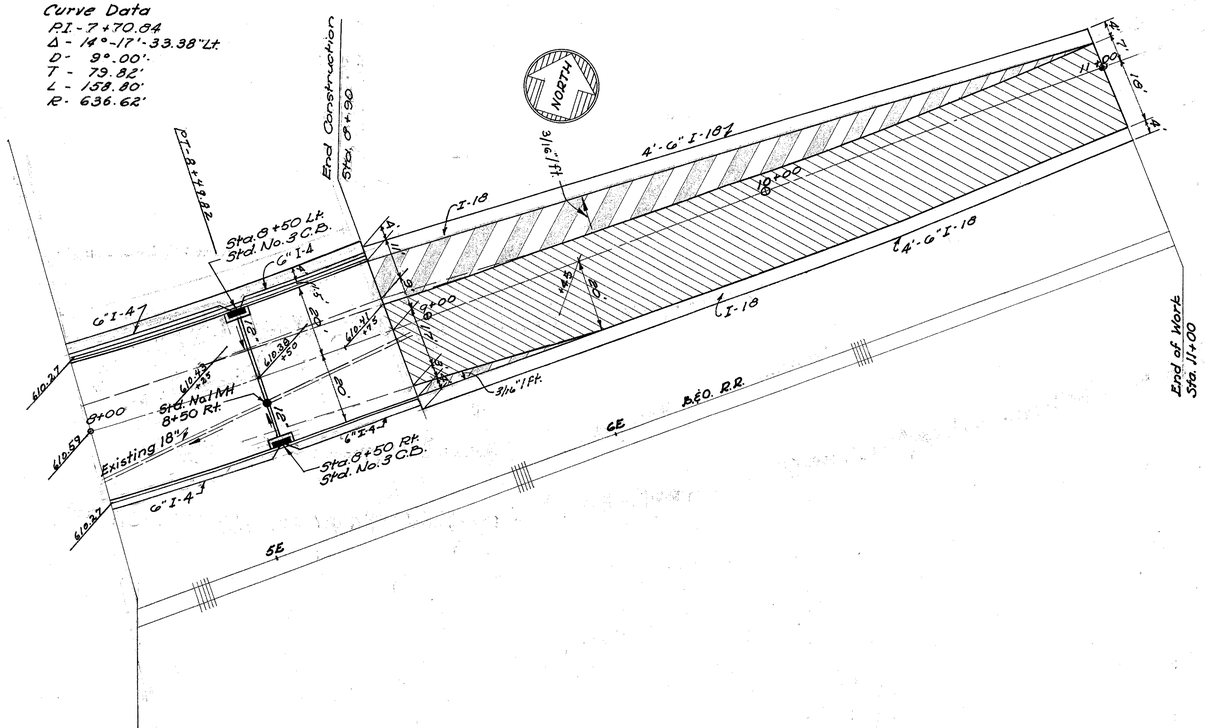
INTERSECTION DETAILS

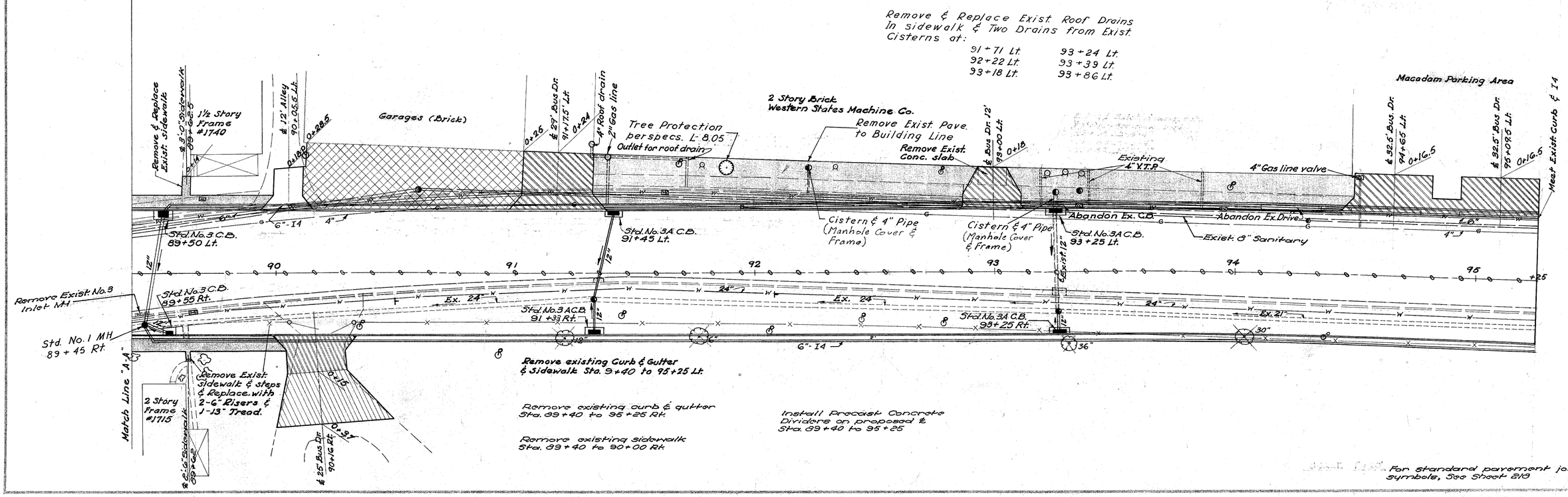
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

208
291

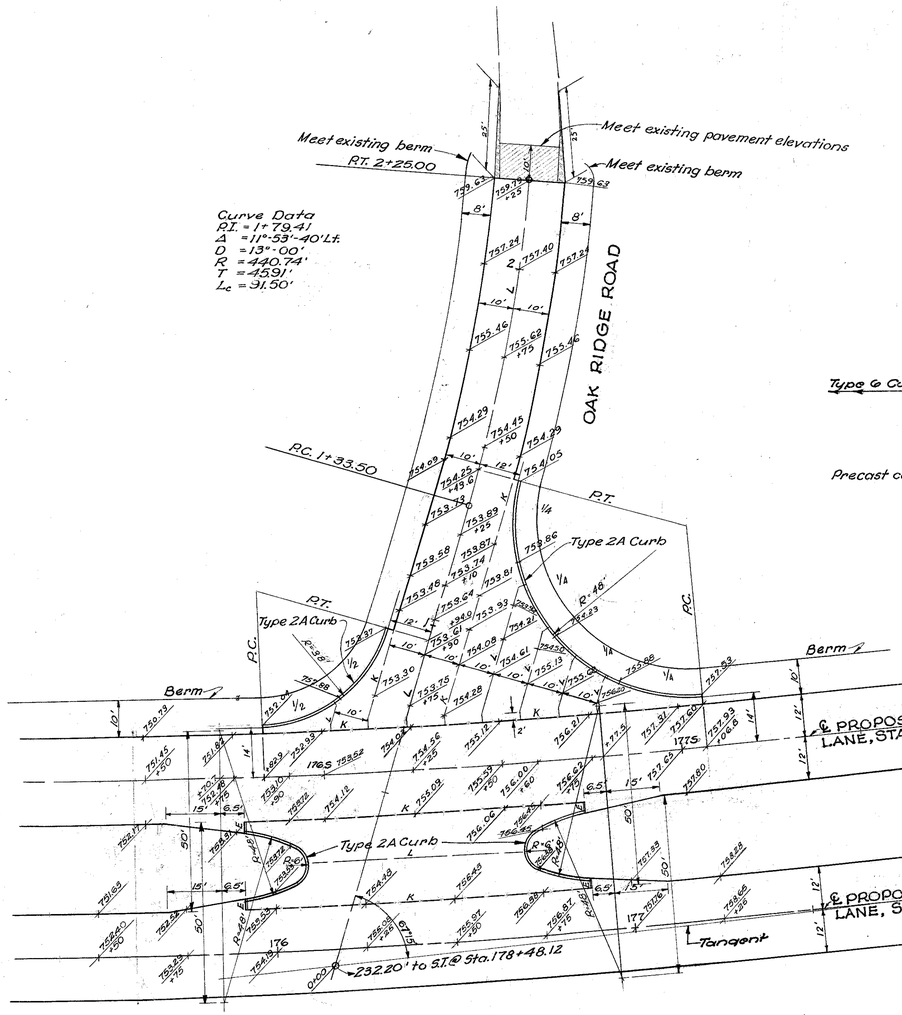
BUT-4-(8.48-15.02)

Curve Data
P.I.- 7+70.04
Δ - 14°-17'-33.38" Lt
D - 9°.00'.
T - 79.82'.
L - 158.80'.
R - 636.62'.





INTERSECTION DETAILS



OAK RIDGE ROAD

ESTIMATED QUANTITIES

Item		Quantity
I-71	9" Reinf. P.C. Conc. Pav't.	544.9 Sq. Yd.
I-22	Subbase	141.6 Cu. Yd.
I-12	Type 2A Curb	138 Lin. Ft.
T-35	Asph. Conc. Surf. Course	0.6 Cu. Yd.
T-35	1¼" Asph. Conc. Surf. Course	0.2 Cu. Yd.
B-35	1¼" Asph. Conc. Level. Course	0.2 Cu. Yd.
B-35	3" Asph. Conc. Base Course	2.0 Cu. Yd.

ESTIMATED QUANTITIES

Item		Quantity
I-22	Subbase	16.6 Cu. Yd.
I-12	Type B Curb	64 Lin. Ft.
T-35	1¼" Asph. Conc. Surf. Course	1.9 Cu. Yd.
B-35	1¼" Asph. Conc. Level. Course	1.9 Cu. Yd.
B-70	8" P.C. Conc. Base	52.9 Sq. Yd.
T-30	Bit. Tack Coat	5.3 Gal.

FERNWAY DRIVE

CROSS-OVER
STA. 396+97.5 to STA. 398+30.5

NO SCALE

For standard pavement joint symbols, See Sheet 213

TYPICAL CROSS-OVER
TYPE A

NO SCALE

TYPICAL CROSS-OVER
TYPE B

NO SCALE

CROSS-OVER DATA

BEGIN CROSS-OVER STATION:	END CROSS-OVER STATION:	R	TYPE	END TREATMENT	BEGIN CROSS-OVER STATION:	END CROSS-OVER STATION:	R	TYPE	END TREATMENT
155 + 62	156 + 84	5'	A	Curbed	291 + 52	292 + 60	5'	A	Curbed
161 + 98	163 + 04	5'	A	Curbed	298 + 34	299 + 39	5'	A	Curbed
166+42	167 +47	5'	A	Curbed	324 + 63	325 + 68	5'	B	Plain
194+38	195 +43	5'	A	Plain	339 + 83	340 + 88	5'	B	Plain
213+ 17	214 + 22	5'	A	Plain	353 + 90	355 + 65	5'	A	Curbed
223+ 19	224+24	5'	B	Plain	370 + 98	372 + 16	8'	A	Plain
231+70	232+75	5'	B	Plain	382 + 70	383 + 94	9'	B	Plain
244+75	245+94	7'	B	Plain	450 + 70	451 + 94	9'	A	Curbed
258+20	259+40	8'	A	Plain	461 + 82	463 + 03	8'	A	Curbed
268+71	269+93	8'	B	Plain					

INTERSECTION DETAILS

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

210
291

BUT-4-18.48 15.02

℄ PROPOSED SOUTHBOUND LANE, STATE ROUTE #4

℄ PROPOSED NORTHBOUND LANE, STATE ROUTE #4

CURVE DATA
Δ = 93°
T_c = 151.67'
L_c = 272.00'
E = 42.78'

CURVE DATA
Δ = 41° 24'
T_c = 99.00'
L_c = 189.31'
E = 18.08'

Type 2A Curb

Meet existing pavement elev.

Meet existing berm

P.C. 0+00

P.T. 2+72.00

P.C. 3+93.4

P.T. 5+82.31

℄ of Existing Millikin Road

℄ Proposed Millikin Road

PROPOSED RELOCATION MILLIKIN ROAD

ESTIMATED QUANTITIES

Item		Quantity
I-71	9" Reinf. P.C. Conc. Pavt.	2753.2 Sq. Yd.
I-22	Subbase	719.3 Cu. Yd.
I-12	Type 2A Curb	502 Lin. Ft.
T-35	Asph. Conc. Surf. Course	1.4 Cu. Yd.
T-35	1¼" Asph. Conc. Surf. Course	1.9 Cu. Yd.
B-35	1¼" Asph. Conc. Level. Course	1.9 Cu. Yd.
B-35	3" Asph. Conc. Base Course	19.1 Cu. Yd.

PROPOSED RELOCATION of MILLIKIN ROAD

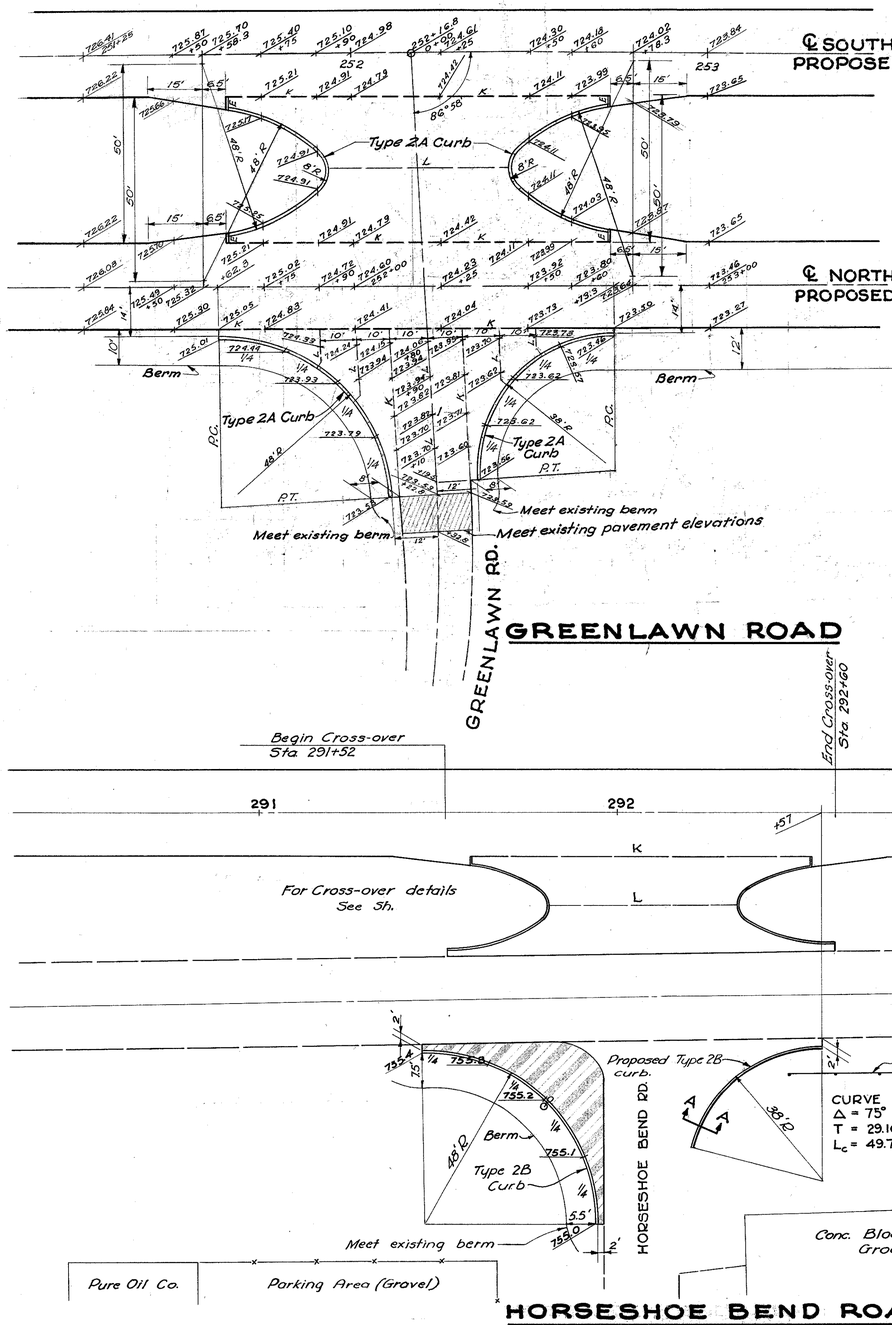
For standard pavement joint symbols, See Sheet 219

INTERSECTION DETAILS

U.S. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(6.48-15.02)

211
291



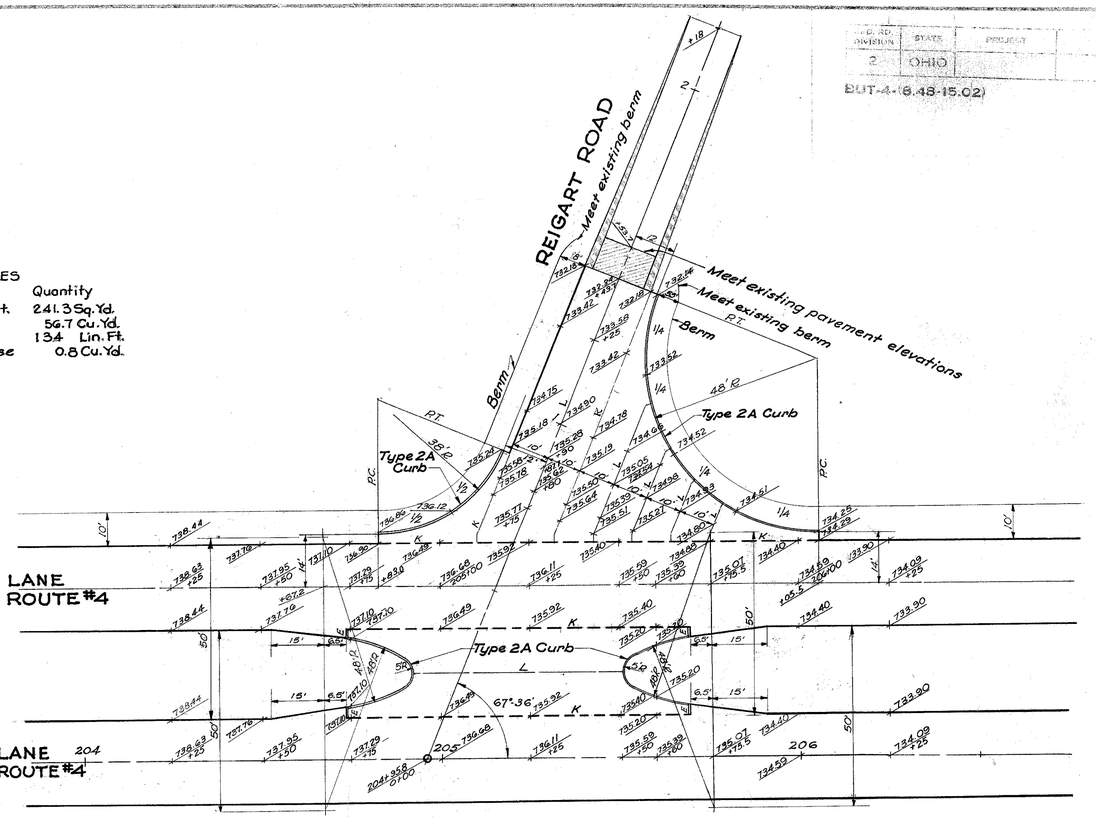
ESTIMATED QUANTITIES

Item		Quantity
T-71	9" Reinf. P.C. Conc. Pavt.	241.3 Sq. Yd.
I-22	Subbase	56.7 Cu. Yd.
I-12	Type 2A Curb	134 Lin. Ft.
T-35	Asph. Conc. Surf. Course	0.8 Cu. Yd.

CURVE DATA
Δ = 75°
T = 29.16'
L_c = 49.74'

ESTIMATED QUANTITIES

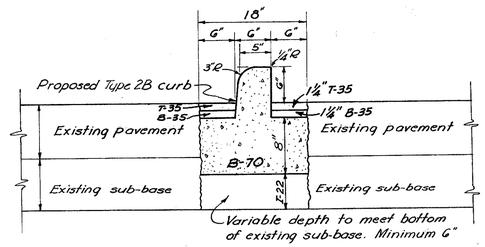
Item		Quantity
I-22	Subbase	24.4 Cu. Yd.
I-12	Type 2B	127 Lin. Ft.
T-35	Asph. Conc. Surf. Course	1.2 Cu. Yd.
T-35	1¼" Asph. Conc. Surf. Course	3.1 Cu. Yd.
B-35	1¼" Asph. Conc. Level. Course	3.1 Cu. Yd.
B-70	8" P.C. Conc. Base Course	91.9 Sq. Yd.
T-30	Bit. Tack Coat	9.2 Gal



REIGART ROAD

ESTIMATED QUANTITIES

Item		Quantity
T-71	9" Reinf. P.C. Conc. Pavt.	380.4 Sq. Yd.
I-22	Subbase	98.6 Cu. Yd.
I-12	Type 2A Curb	138 Lin. Ft.
T-35	Asph. Conc. Surf. Course	0.6 Cu. Yd.
T-35	1½" Asph. Conc. Surf. Course	0.7 Cu. Yd.
B-35	1¼" Asph. Conc. Level. Course	0.7 Cu. Yd.
B-35	3" Asph. Conc. Base Course	7.2 Cu. Yd.



SECTION A-A

No Scale

For standard pavement joint symbols, See Sheet 218

INTERSECTION DETAILS

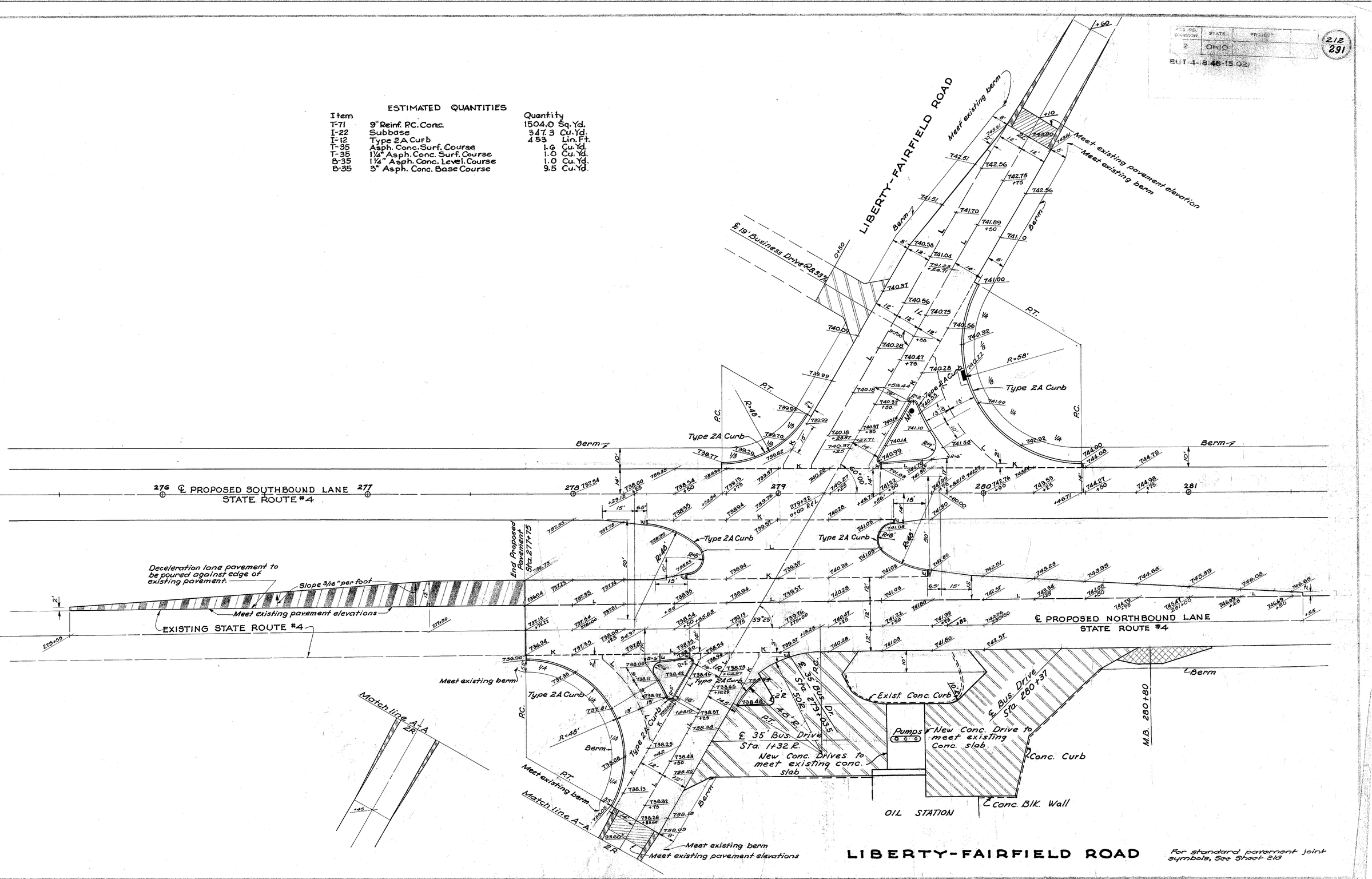
STATE	PROJECT
OHIO	

BUT-4-8.46-15.02

212
291

ESTIMATED QUANTITIES

Item		Quantity
T-71	9" Reinf. P.C. Conc.	1504.0 Sq. Yd.
I-22	Subbase	347.3 Cu. Yd.
I-12	Type 2A Curb	453 Lin. Ft.
T-35	Asph. Conc. Surf. Course	1.6 Cu. Yd.
T-35	1½" Asph. Conc. Surf. Course	1.0 Cu. Yd.
B-35	1¼" Asph. Conc. Level. Course	1.0 Cu. Yd.
B-35	3" Asph. Conc. Base Course	9.5 Cu. Yd.



LIBERTY-FAIRFIELD ROAD

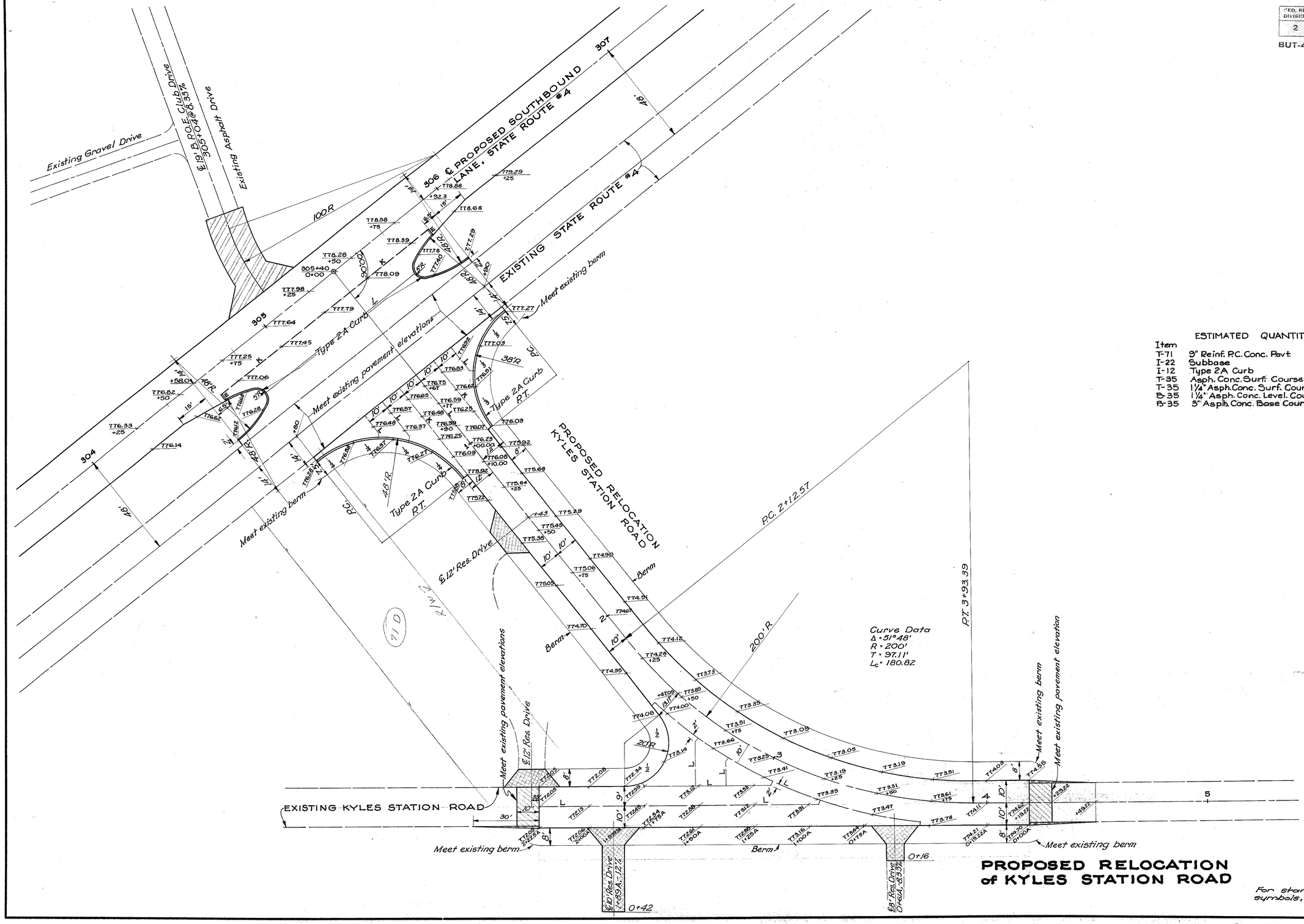
For standard pavement joint symbols, See Sheet 2/3

INTERSECTION DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

213
291

BUT-4-(8.48-15.02)



For standard pavement joint symbols, See Sheet 218

ESTIMATED QUANTITIES

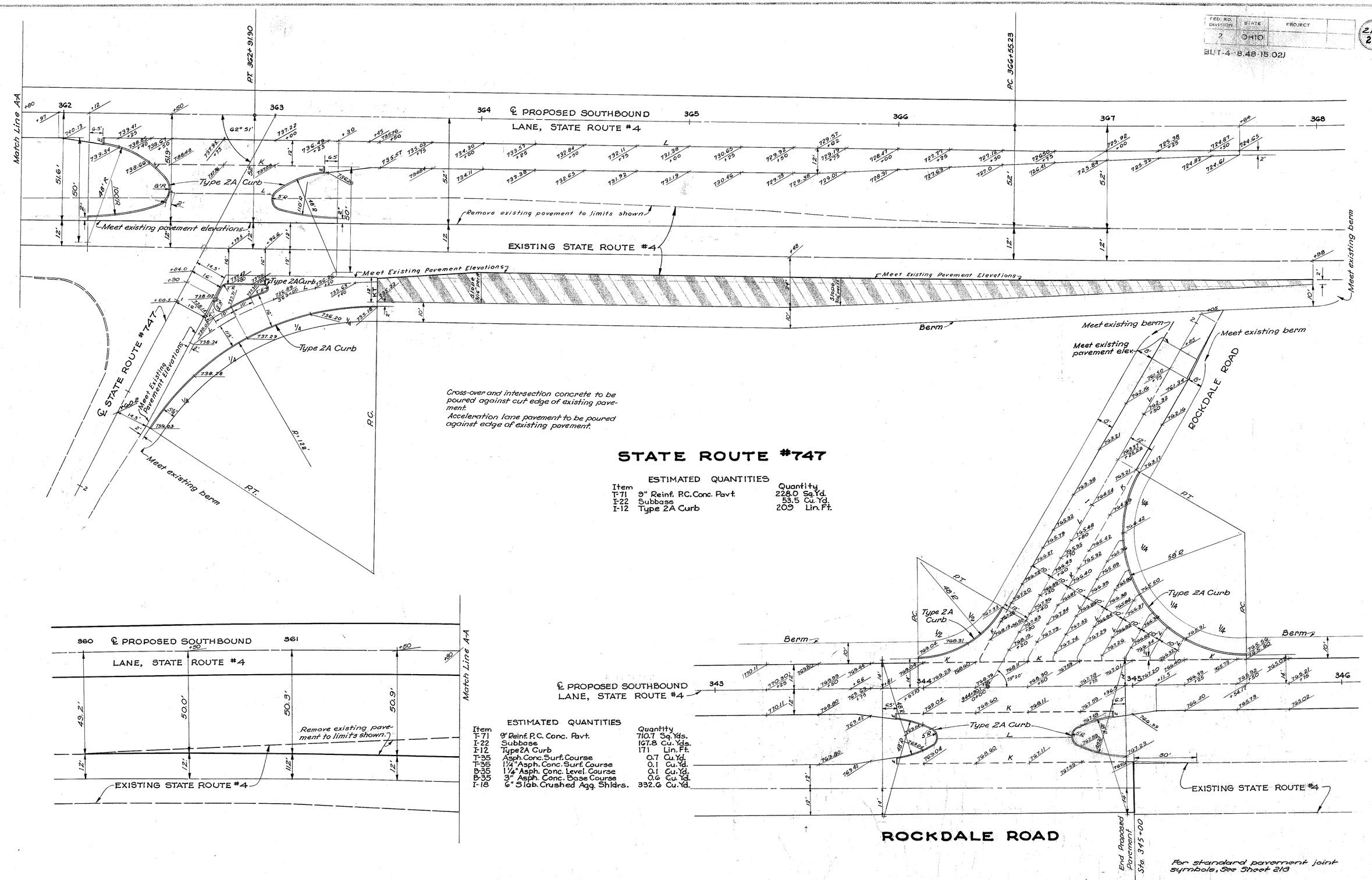
Item		Quantity	
T-71	9" Reinf. P.C. Conc. Pavt.	1335.1	Sq.Yd.
I-22	Subbase	351.1	Cu.Yd.
I-12	Type 2A Curb	135	Lin.Ft.
T-35	Asph. Conc. Surf. Course	1.4	Cu.Yd.
T-35	1¼" Asph. Conc. Surf. Course	0.2	Cu.Yd.
B-35	1¼" Asph. Conc. Level. Course	0.2	Cu.Yd.
B-35	3" Asph. Conc. Base Course	1.8	Cu.Yd.

INTERSECTION DETAILS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

BUT-4-8.48-15.02J

214
291



STATE ROUTE #747

ESTIMATED QUANTITIES

Item		Quantity
T-71	9" Reinf. P.C. Conc. Pavt.	228.0 Sq.Yd.
I-22	Subbase	53.5 Cu.Yd.
I-12	Type 2A Curb	209 Lin.Ft.

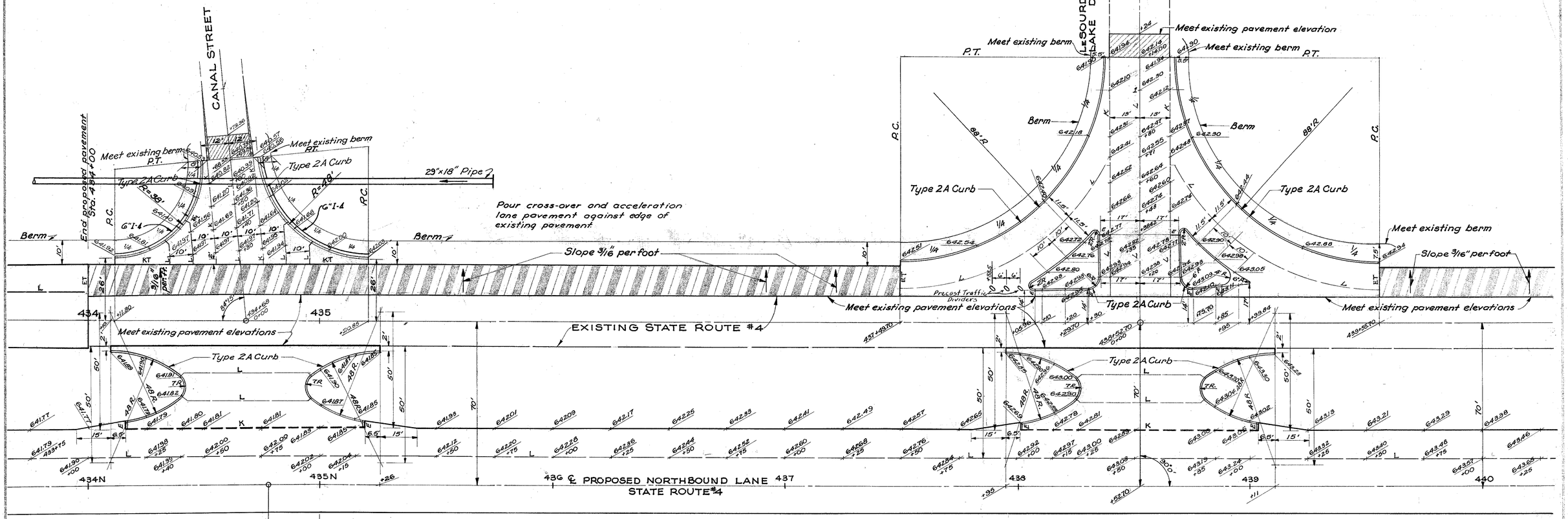
ESTIMATED QUANTITIES

Item		Quantity
T-71	9" Reinf. P.C. Conc. Pavt.	710.7 Sq.Yds.
I-22	Subbase	197.8 Cu.Yds.
I-12	Type 2A Curb	171 Lin.Ft.
T-35	Asph. Conc. Surf. Course	0.7 Cu.Yd.
T-35	1¼" Asph. Conc. Surf. Course	0.1 Cu.Yd.
B-35	1¼" Asph. Conc. Level. Course	0.1 Cu.Yd.
B-35	3" Asph. Conc. Base Course	0.6 Cu.Yd.
I-18	6" Slab. Crushed Agg. Shldrs.	332.6 Cu.Yd.

For standard pavement joint symbols, See Sheet 219

INTERSECTION DETAILS

6" I-4
434+11-27.5' Lt. (Inv. 639.9) to 29"x18" Pipe
0+69-13.5' Lt. (Inv. 638.5) to 29"x18" Pipe
0+69-13.5' Rt. (Inv. 638.6) to 29"x18" Pipe
435+21-27.5' Lt. (Inv. 640.0) to 29"x18" Pipe



S.T. 434+78.20

Change stationing from southbound to northbound lane

CANAL STREET

ESTIMATED QUANTITIES

Item		Quantity
T-71	9" Reinf. P.C. Conc. Pavt.	242.7 Sq. Yd.
I-22	Subbase	58.0 Cu. Yd.
I-12	Type 2A Curb	134 Lin. Ft.
T-35	Asph. Conc. Surf. Course	0.7 Cu. Yd.
T-35	1¼" Asph. Conc. Surf. Course	0.1 Cu. Yd.
B-35	1¼" Asph. Conc. Level Course	0.1 Cu. Yd.
B-35	3" Asph. Conc. Base Course	1.2 Cu. Yd.

LeSOURDSVILLE LAKE DRIVE

ESTIMATED QUANTITIES

Item		Quantity
T-71	9" Reinf. P.C. Conc. Pavt.	952 Sq. Yd.
I-22	Subbase	191.8 Cu. Yd.
I-12	Type 2A Curb	467 Lin. Ft.
T-35	Asph. Conc. Surf. Course	1.0 Cu. Yd.

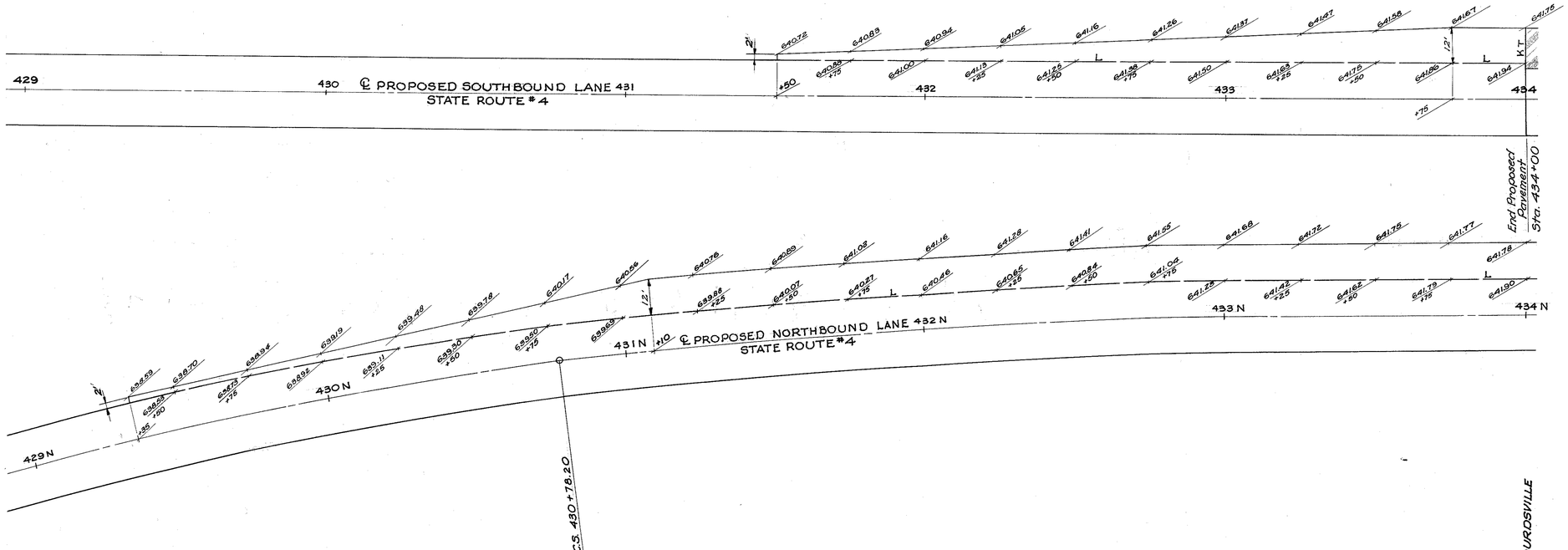
For standard pavement joint symbols, See Sheet 219

INTERSECTION DETAILS

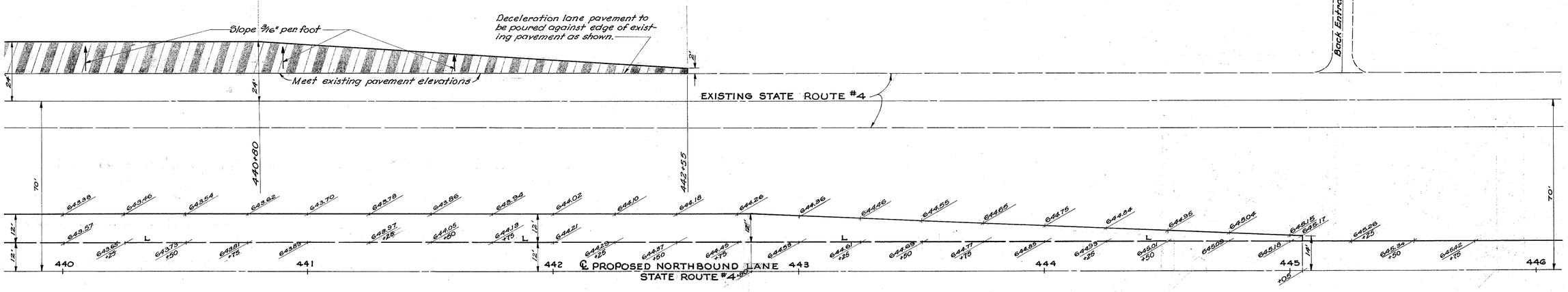
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

216
291

BUT-4-(8.48-13.02)



STATE ROUTE #4 STA. 429+00 to 434+00



STATE ROUTE #4 STA. 440+00 to 446+00

For standard pavement joint symbols, See Sheet 219

INTERSECTION DETAILS

EXISTING STATE ROUTE #4
Slope 9/16" per foot
Meet existing pavement elevations
Type 2A Curb
℄ PROPOSED NORTHBOUND LANE, STATE ROUTE #4
Match Line Sta. 463+95
Berm
8' Res. Drive
P.C. 0+00A
128' R.
Curve Data
Δ = 85°-40'-31"
R = 128'
T = 120.54'
L_c = 190.65'
P.T. 1+90.65A
R.C. 1+28.21
200' R.
P.T. 2+03.14
Curve Data
Δ-21°28'
R-200'
T-37.91'
L_c-74.93'
Begin Cross-over Station 461+82
End Cross-over Station 463+03
℄ Asphalt Road
For Cross-over details See Sh. 209
End of acceleration lane to meet back of curb.
Match Line A-A
Meet existing berm
PROPOSED RELOCATION OF STATE ROUTE #63
For standard pavement joint symbols, See Sheet 218

ESTIMATED QUANTITIES

Item		Quantity	
I-71	9" Reinf. P.C. Conc. Pavt.	1345.8	Sq. Yd.
I-22	Subbase	322.3	Cu. Yd.
I-12	Type 2A Curb	474	Lin. Ft.
T-35	Asph. Conc. Surf. Course	0.8	Cu. Yd.
T-35	1¼" Asph. Conc. Surf. Course	0.5	Cu. Yd.
B-35	1¼" Asph. Conc. Surf. Course	0.5	Cu. Yd.
B-35	3" Asph. Conc. Base Course	5.0	Cu. Yd.

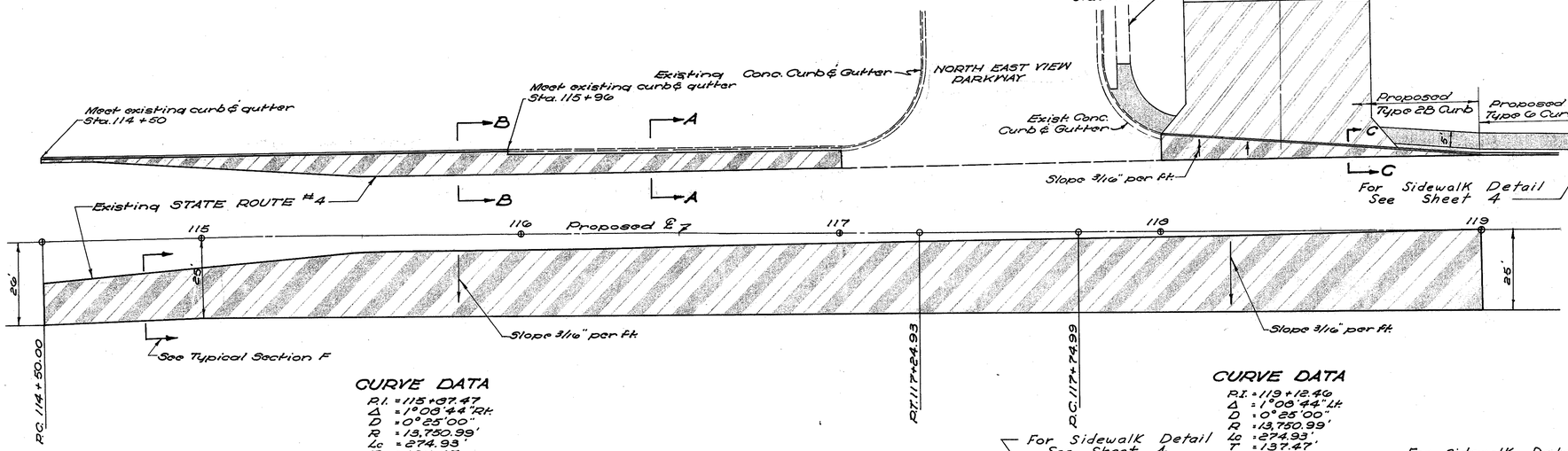
PROPOSED RELOCATION of STATE ROUTE #63

INTERSECTION DETAILS

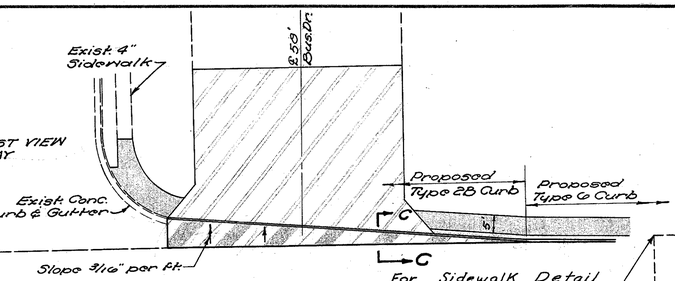
FED. NO. DIVISION	STATE	PROJECT	
2	OHIO		

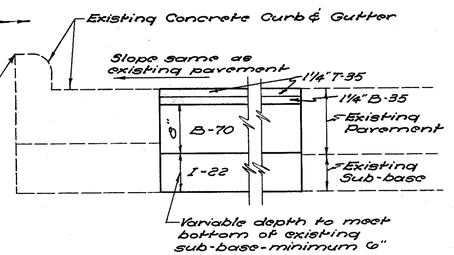
BUT-4-(6.48-15.02)

218
291



CURVE DATA
P.I. = 115+97.47
Δ = 1°08'44" Rt.
D = 0°25'00"
R = 13,750.99'
Lc = 274.93'
T = 137.47

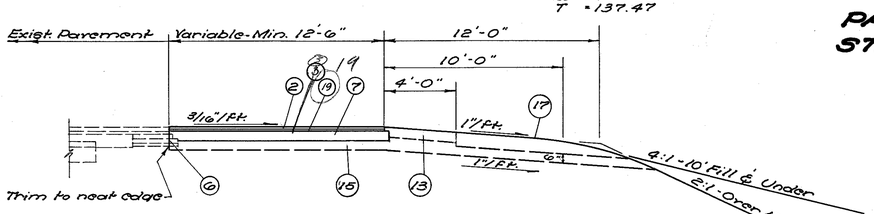




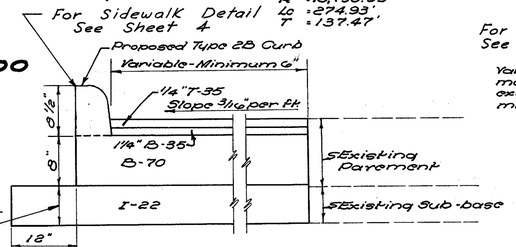
SECTION A-A
No Scale

CURVE DATA
P.I. = 119+12.46
Δ = 1°08'44" Lt.
D = 0°25'00"
R = 13,750.99'
Lc = 274.93'
T = 137.47

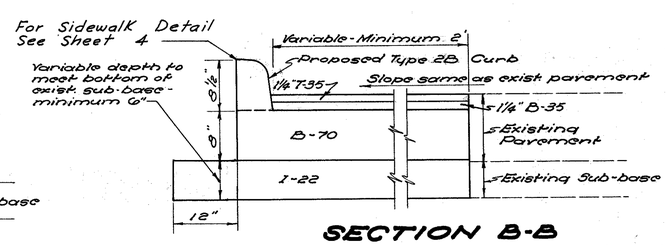
PAVEMENT WIDENING
STA. 114+50 to STA. 119+00
SCALE: 1" = 20'



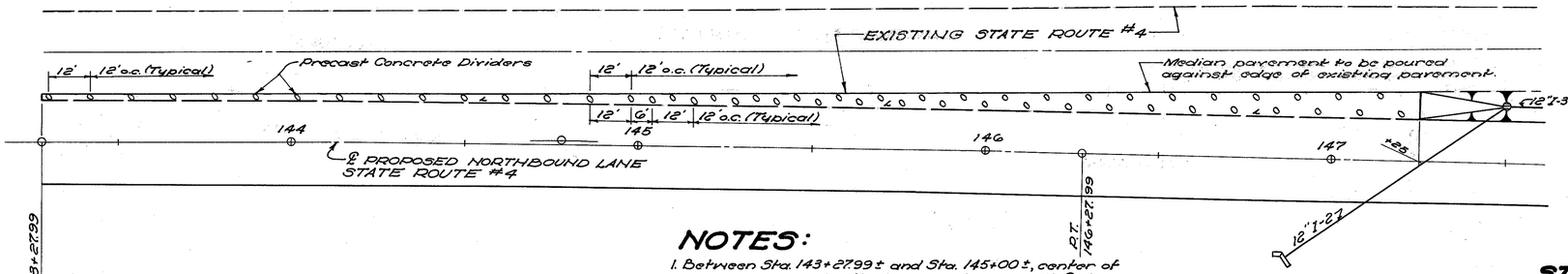
TYPICAL SECTION E
STA. 114+50 to STA. 119+00



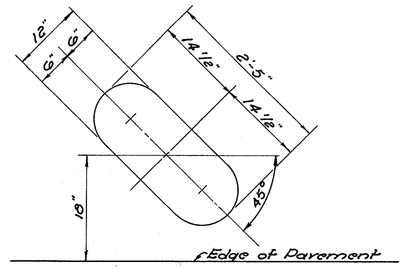
SECTION C-C
No Scale



SECTION B-B
No Scale



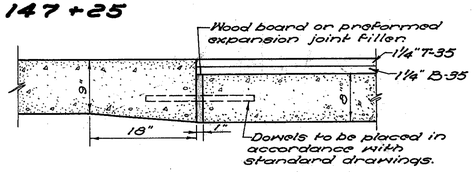
NOTES:
1. Between Sta. 143+27.99± and Sta. 145+00±, center of precast concrete dividers to coincide with ℄ of median and spaced as shown.
2. Between Sta. 145+00± and Sta. 147+25±, northbound and southbound lanes, center of precast concrete dividers to be located 18" from edge of pavement and spaced as shown. See precast concrete divider detail this sheet.



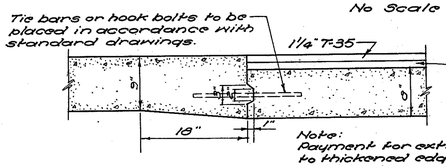
PRECAST CONCRETE DIVIDER
SCALE: 1" = 1'-0"

MEDIAN WIDENING
STA. 143+27.99 to STA. 147+25
SCALE: 1" = 20'

Note:
Payment for extra concrete due to thickened edge included in price bid per sq. yd. of pavement. (nominal thickness)



EXPANSION JOINT - THICKENED EDGE
No Scale



Note:
Payment for extra concrete due to thickened edge included in price bid per sq. yd. of pavement. (nominal thickness)

KEY JOINT - THICKENED EDGE
No Scale

STANDARD PAVEMENT JOINT SYMBOLS

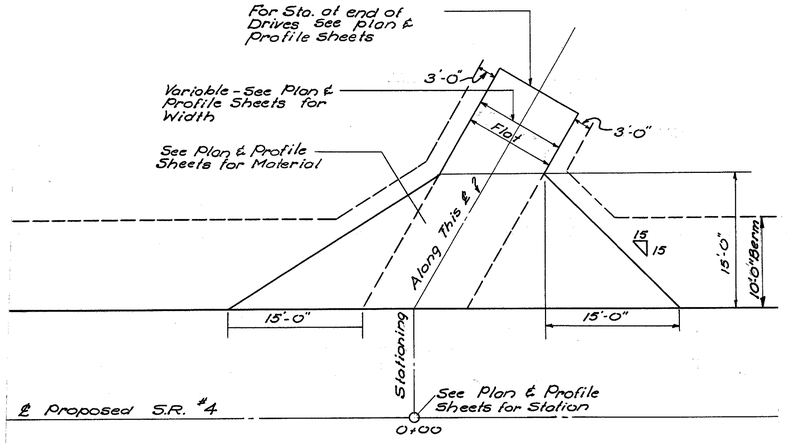
L	Standard Longitudinal Joint
K	Standard Key Joint without tie bars or hook bolts
KH	Standard Key Joint
E	Standard Expansion Joint
ET	Expansion Joint - Thickened Edge See detail this sheet
KT	Key Joint - Thickened Edge See detail this sheet

PAVEMENT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

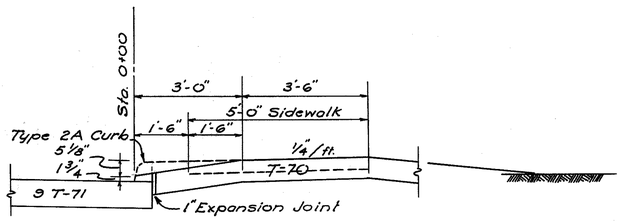
219
291

BUT-4-(8.48-15.02)



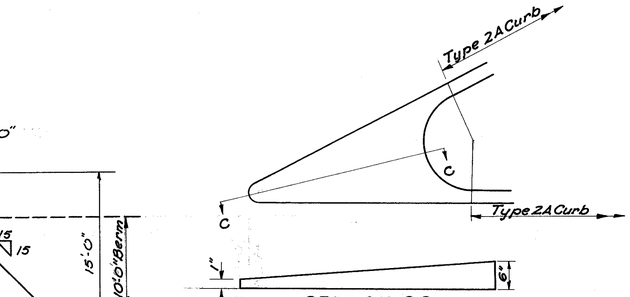
TYPICAL FIELD DRIVE

Scale: 1/8" = 1'-0"



SECTION A-A

Scale: 1/2" = 1'-0"

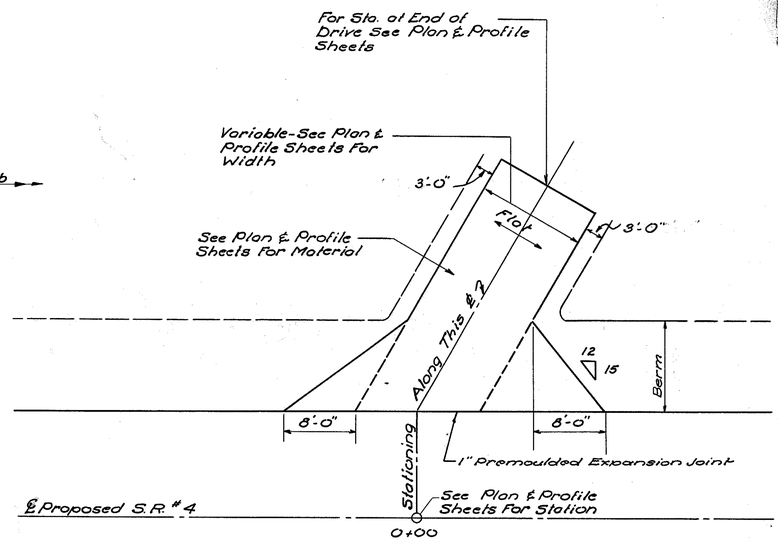


SECTION C-C

Note: Island end treatment to be paid for as linear feet of type 2A curb measured along gutter edge of island end.

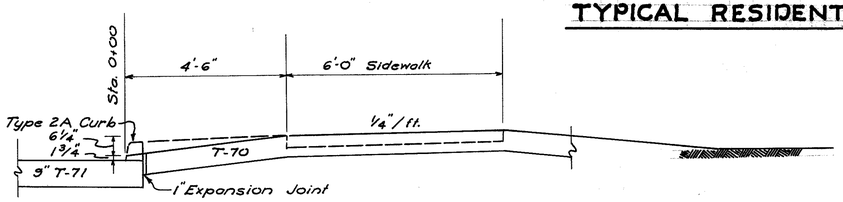
TYPICAL TRAFFIC ISLAND END TREATMENT

No Scale



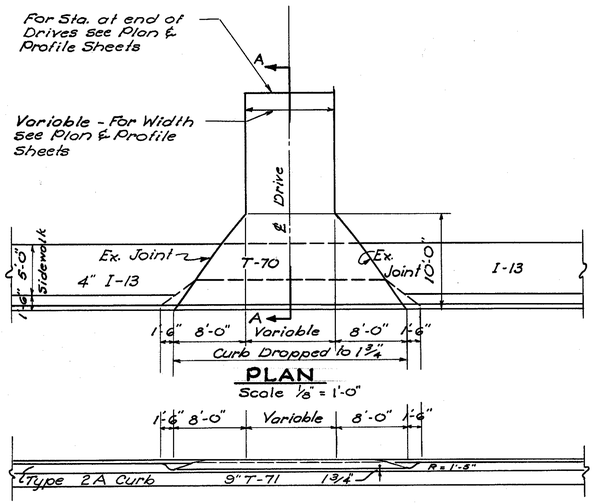
TYPICAL RESIDENTIAL OR BUSINESS DRIVE

Scale 1/8" = 1'-0"



SECTION B-B

Scale: 1/2" = 1'-0"



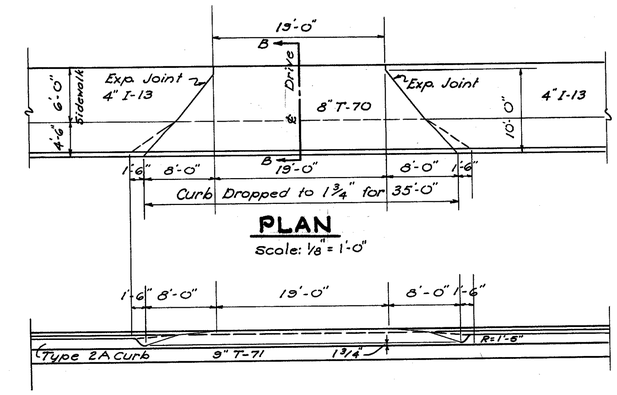
PLAN

Scale 1/8" = 1'-0"

ELEVATION

Hor. Scale 1/8" = 1'-0" Ver. Scale 1/4" = 1'-0"

TYPICAL DRIVE AT SIDEWALK



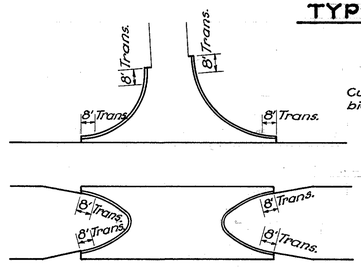
PLAN

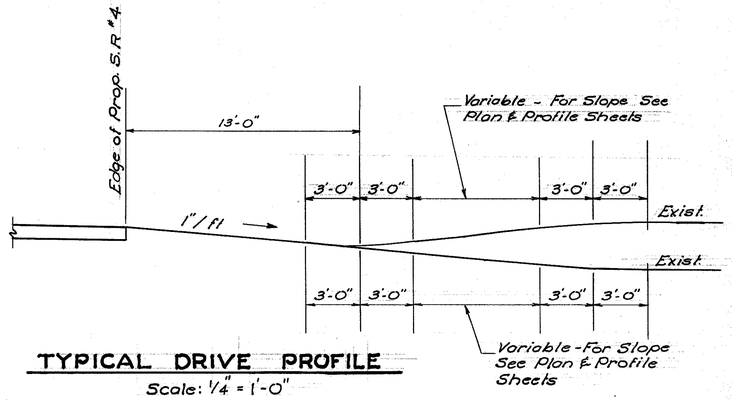
Scale: 1/8" = 1'-0"

ELEVATION

Hor. Scale 1/8"=1'-0" Ver. Scale: 1/4" = 1'-0"

DRIVE AT STA. 1+30 HEATON ST.

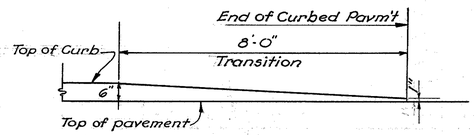




TYPICAL DRIVE PROFILE

Scale: 1/4" = 1'-0"

Curb transition to be paid for at unit price bid per. lin. foot of type curb specified in plans.



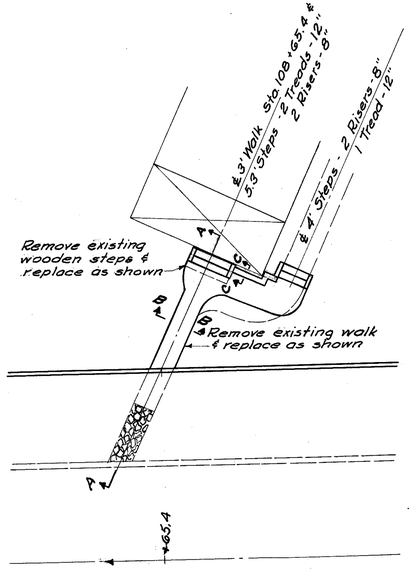
TYPICAL CURB TRANSITION

No Scale

PAVEMENT DETAILS

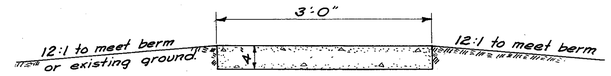
FED. RD. DIVISION	STATE	PROJECT		220 291
2	OHIO			

BUT-4-(8.48-15.02)

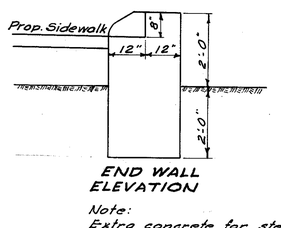


ESTIMATED QUANTITIES

Item 1-13	4" Concrete sidewalk	— 96.0 sq.ft.
Item 1-13	Concrete steps-5.3 wide 8" risers, 12" treads	— 10.6 lin.ft.
Item 1-13	Concrete steps - 4' wide 8" riser, 12" treads	— 8.0 lin.ft.
Item S-1	Concrete for structures Class "E" conc.	— 1.0 cu.yds.
Item E-2	Excavation for structures - dry	— 2.1 cu.yds.

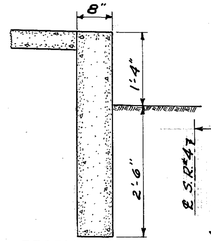


SECTION B-B

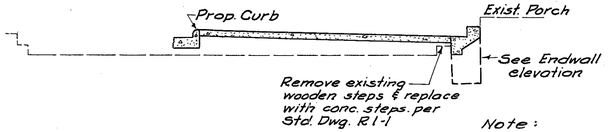


END WALL ELEVATION

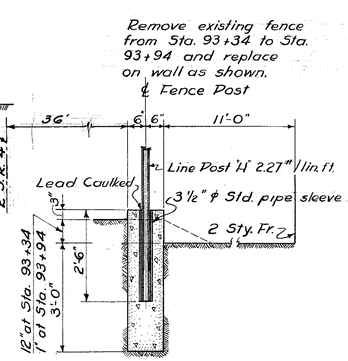
Note:
Extra concrete for step end-walls to be included in unit price bid per lin.ft. of conc. steps.



SECTION C-C



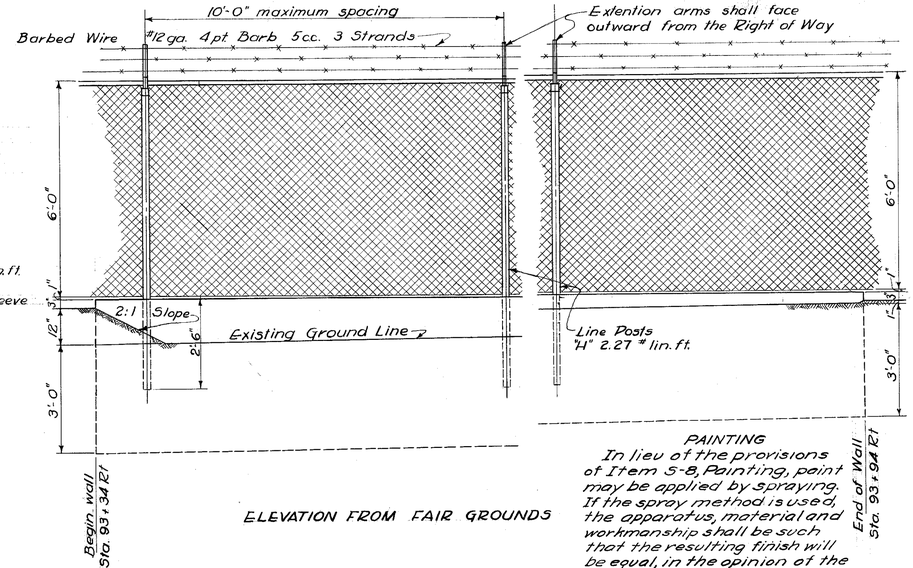
SECTION A-A



SECTION

Note:
Spacing of Posts and details of End Posts, Pull Posts and fence construction shall be similar to that of the existing fence.

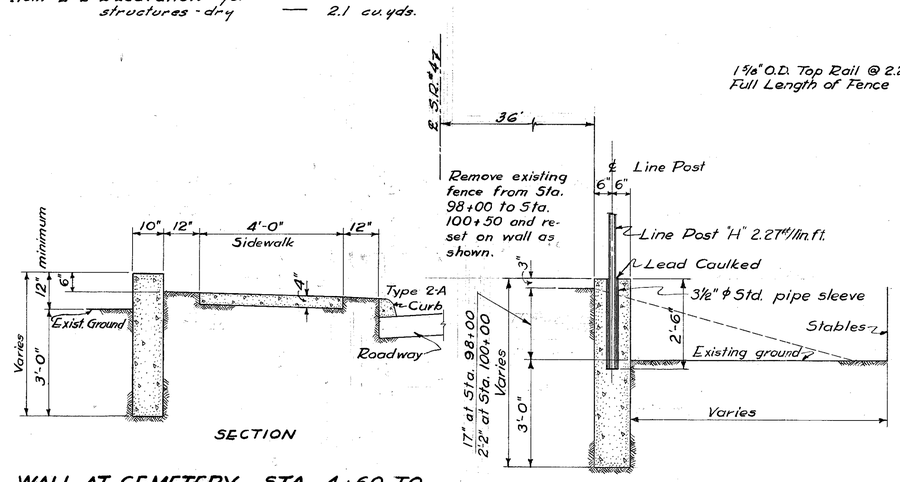
SIDEWALK STA. 108+65.4 RT.



ELEVATION FROM FAIR GROUNDS

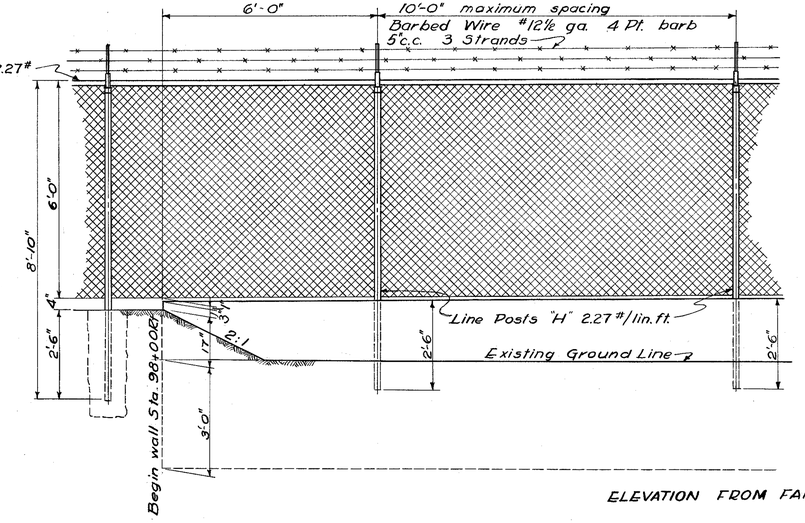
PAINTING
In lieu of the provisions of Item S-8, Painting, paint may be applied by spraying. If the spray method is used, the apparatus, material and workmanship shall be such that the resulting finish will be equal, in the opinion of the Engineer, to that obtained by brushing.

WALL STA. 93+34 TO STA. 93+94 RT.

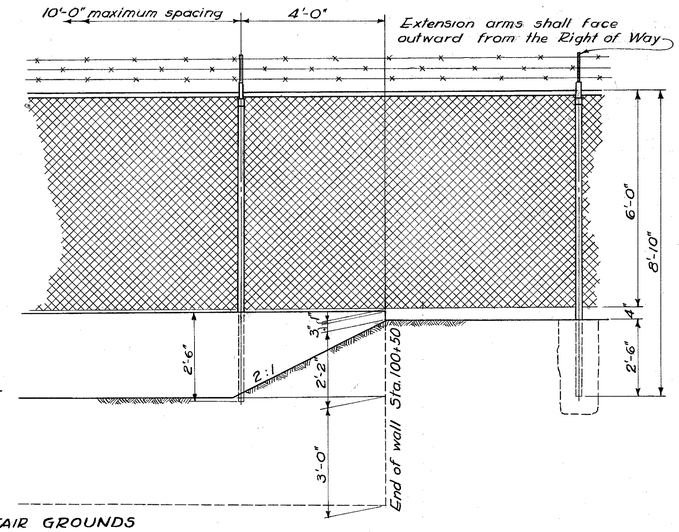


SECTION

WALL AT CEMETERY STA. 4+60 TO STA. 6+00 LT. HEATON ST.



ELEVATION FROM FAIR GROUNDS



WALL AT FAIRGROUNDS STA. 98+00 TO STA. 100+50 RT.

Note:
All R/W fence from Sta. 99+97 to Sta. 104+40 Rt. shall be removed and re-set in concrete.

Note:
Repaint R/W Fence with base coat and two coats of aluminum paint, As per Item S-8. Use all old material possible, any new material necessary, to be included in price for removing and resetting, also painting.

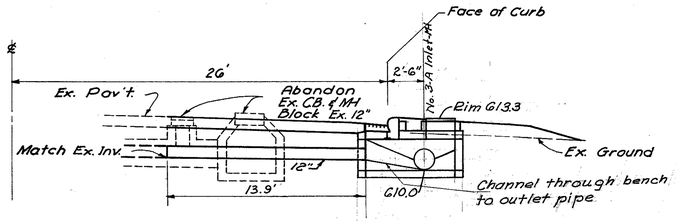
ESTIMATED QUANTITIES

	Wall & Fence at Fairgrounds Sta. 93+34 to Sta. 93+94 Rt.	
Item S-1	Concrete for structures, Class "E"	6.4 cu.yds.
Item E-2	Excavation for structures — dry	20.0 cu.yds.
	Wall & Fence at Fairgrounds Sta. 98+00 to Sta. 100+50 Rt.	
Item S-1	Concrete for structures, Class "E"	46.3 cu.yds.
Item E-2	Excavation for structures — dry	83.3 cu.yds.
	Wall at Cemetery Sta. 4+60 Lt. to Sta. 6+00 Lt.	
Item S-1	Concrete for structures, Class "E"	30.6 cu.yds.
Item E-2	Excavation for structures — dry	44.0 cu.yds.
Item Special	Removal & Resetting fence	1443.0 lin.ft.

PAVEMENT DETAILS

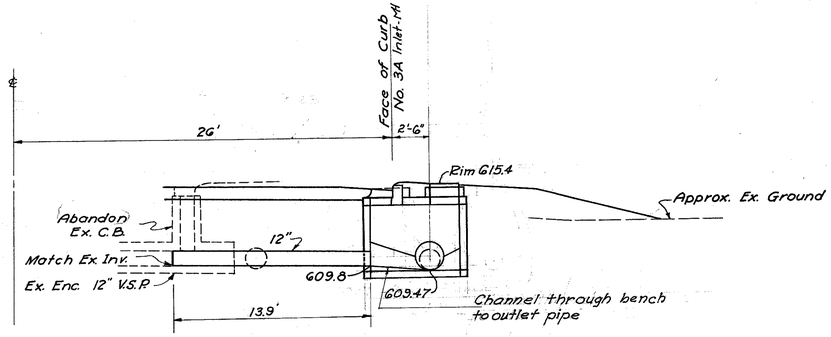
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(8.48-15.02)



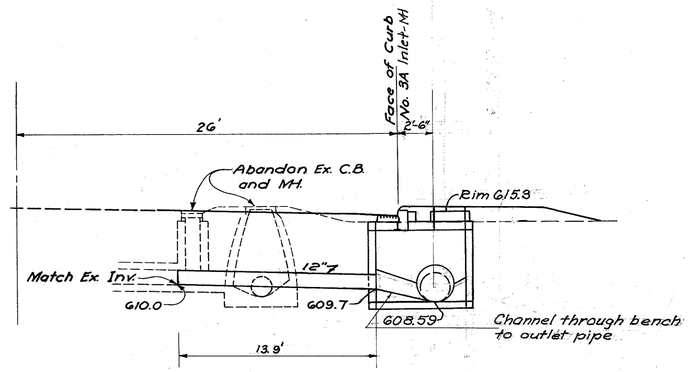
PROFILE AT 104+25

Scale: 1"=5'-0"



STA. 106+88.7

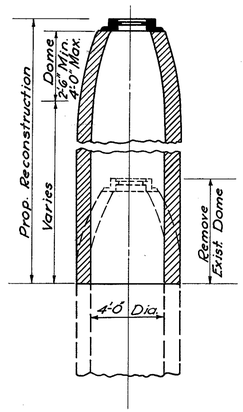
Scale: 1"=5'-0"



STA. 110+40

Scale: 1"=5'-0"

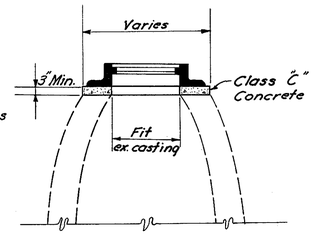
METHOD A



METHOD A is to be used where the existing casting is to be raised an amount exceeding 12" or lowered more than 6."

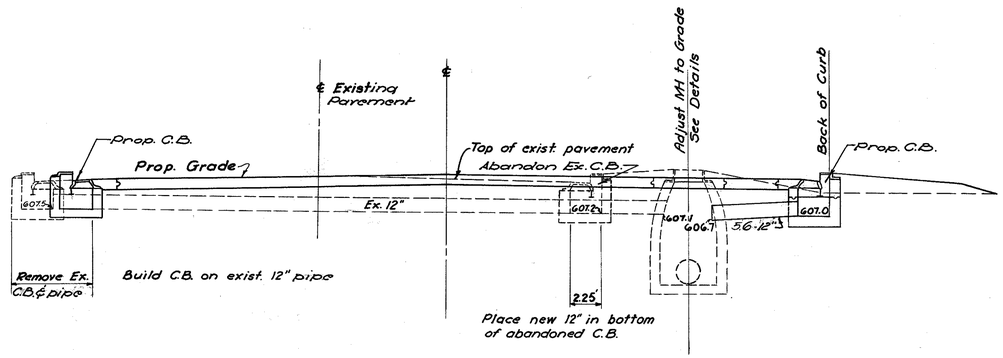
METHOD B is to be used where the existing casting is to be raised an amount less than 12" or lowered less than 6." Sufficient brick or concrete shall be removed to permit a minimum thickness of concrete of 3."

METHOD B



MANHOLE ADJUSTED TO GRADE

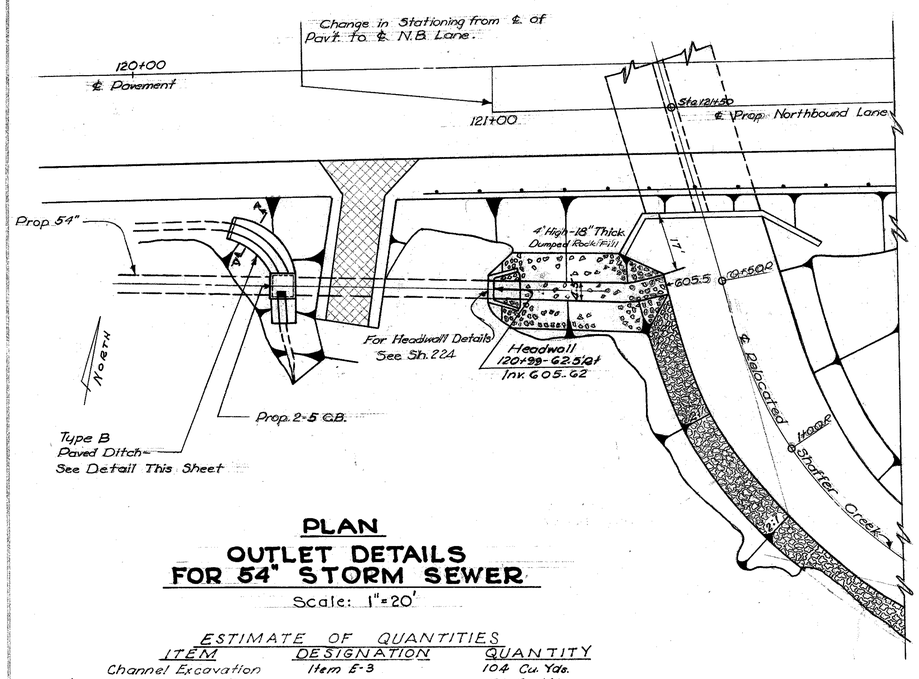
No Scale



DETAIL SHOWING WORK AT STATION 93+25.5 TYPICAL FOR STATIONS 91+33 RT., 96+00 RT., 98+75 RT., & 101+32 RT.

No Scale

DRAINAGE DETAILS

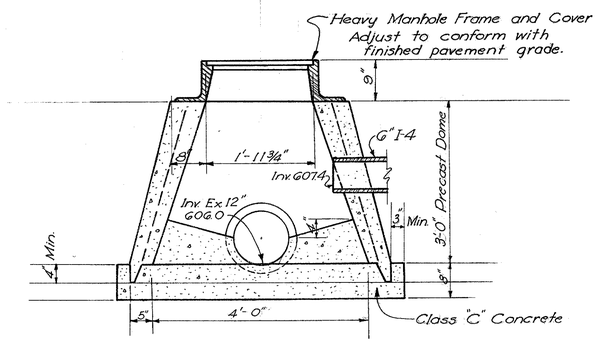


PLAN
OUTLET DETAILS FOR 54" STORM SEWER
Scale: 1"=20'

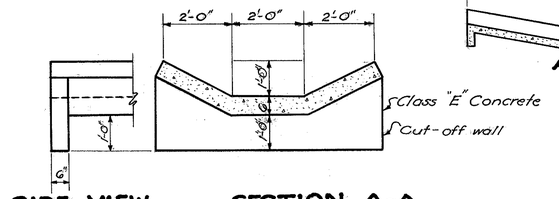
ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Channel Excavation	Item E-3	104 Cu. Yds.
Dumped Rock Fill	Item 1-10	61 Cu. Yds.

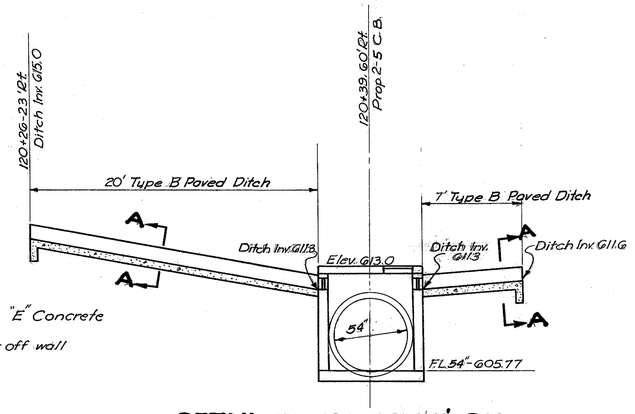
Note: For Headwall Quantities See Detail Sheet # 224



SPECIAL MANHOLE
STA. 87+40 R.T.
Scale: ¾"=1'-0"



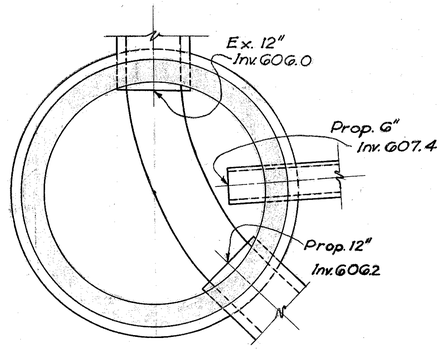
SIDE VIEW SECTION A-A
Scale: ½"=1'-0"



DETAIL AT 120+39-60' R.T.
Scale: 1"=5'

ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Std. No. 2-5 Catch Basin	Item 1-8	1 Each
Type "B" Paved Ditch	Item 1-14	27 Lin. Ft.



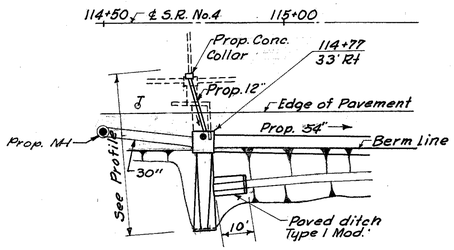
PLAN
SHOWING CONNECTION AT MANHOLE
Scale: 3/4"=1'-0"

DRAINAGE DETAILS

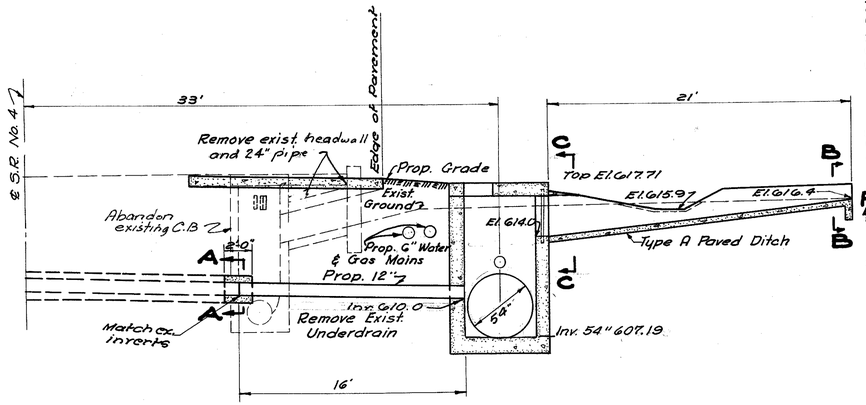
FED. RD. DIVISION	STATE	PROJECT		223 291
2	OHIO			

BUT-4-(8.48-15.02)

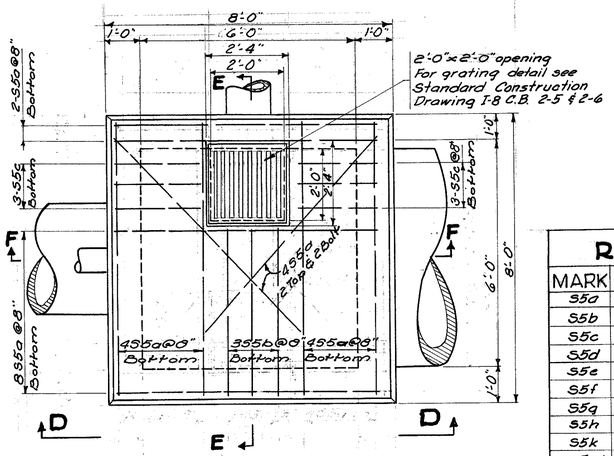
NORTH



PLAN
Scale : 1" = 20'



PROFILE
Scale : 1" = 5'-0"



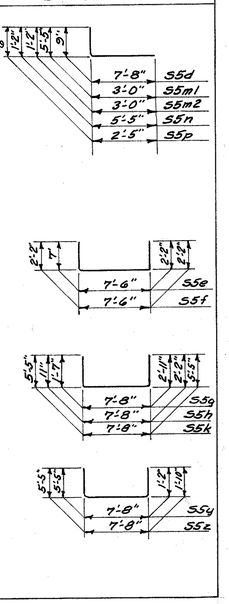
Grating shall be of cast iron in accordance with Material Details. The design shall be essentially the same and equally as strong as the one shown hereon and shall be given one coat of asphaltum paint as per specifications. Minimum weight shall be 120 lbs. All grate edges to be rounded ¼ inch radius

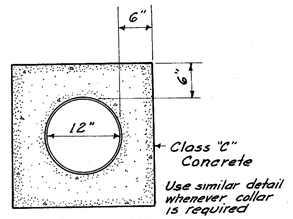
PLAN-TOP SLAB

REINFORCING DETAILS

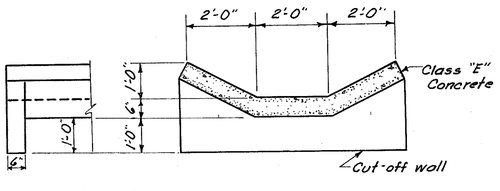
MARK	NO.	LENGTH	WEIGHT	SHAPE
55a	61	7'-8"	488	Str.
55b	3	4'-8"	15	Str.
55c	6	2'-8"	17	Str.
55d	4	8'-4"	35	Bt.
55e	2	10'-1"	21	
55f	10	11'-8"	122	
55g	2	12'-0"	25	
55h	4	10'-7"	44	
55k	7	18'-4"	134	
55m1	1	8'-4"	9	
55m2	1	4'-1"	4	
55n	6	6'-6"	41	
55p	12	2'-10"	35	Bt.
55r	2	3'-0"	6	Str.
55s	6	1'-2"	7	
55t	4	6'-10"	28	
55u	4	2'-2"	9	
55v	2	2'-10"	5	
55w	2	1'-7"	3	
55x	2	1'-10"	4	Str.
55y	1	14'-1"	15	Bt.
55z	1	14'-9"	15	Bt.
54a	28	10'-4"	193	Str.
54b	2	2'-4"	3	
54c	10	6'-6"	44	
54d	6	5'-2"	21	
54e	4	6'-0"	16	
54f	2	6'-2"	8	
54g	6	7'-6"	30	Str.

BENDING

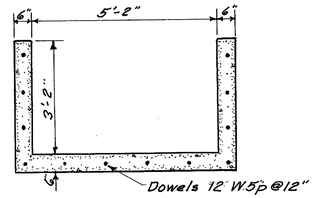




CONCRETE COLLAR



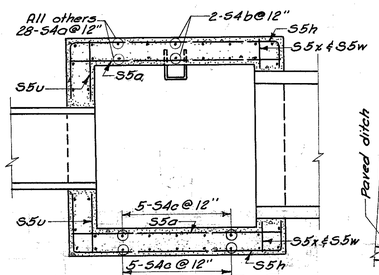
SIDE VIEW



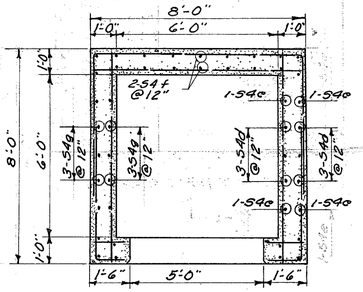
SECTION B-B
Scale : ½" = 1'-0"

SECTION C-C
Scale : ½" = 1'-0"

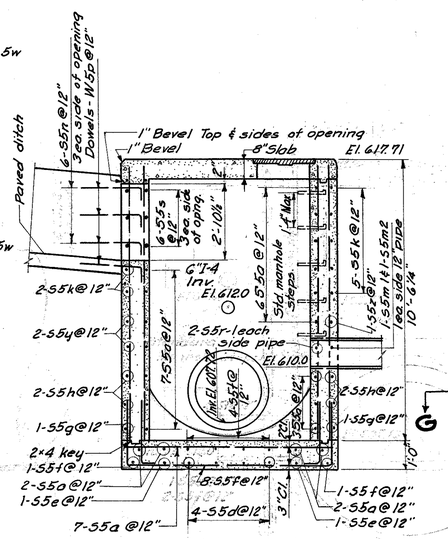
SECTION A-A
Scale : 1" = 1'-0"



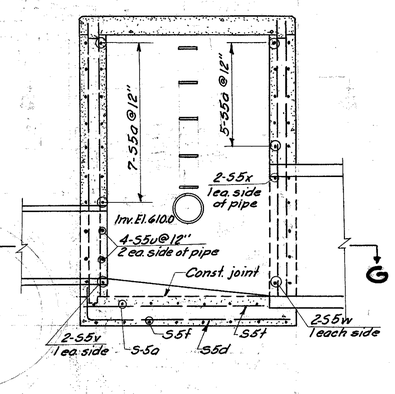
SECTION G-G
Scale : 3/8" = 1'-0"



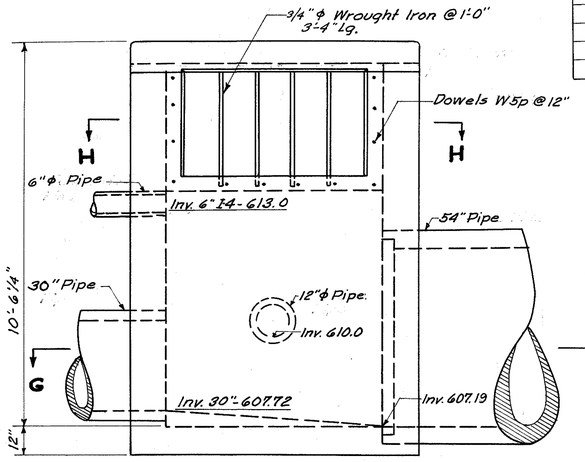
SECTION H-H
Scale : 3/8" = 1'-0"



SECTION E-E
Scale : 3/8" = 1'-0"



SECTION F-F
Scale : 3/8" = 1'-0"



ELEVATION D-D
Scale : ½" = 1'-0"

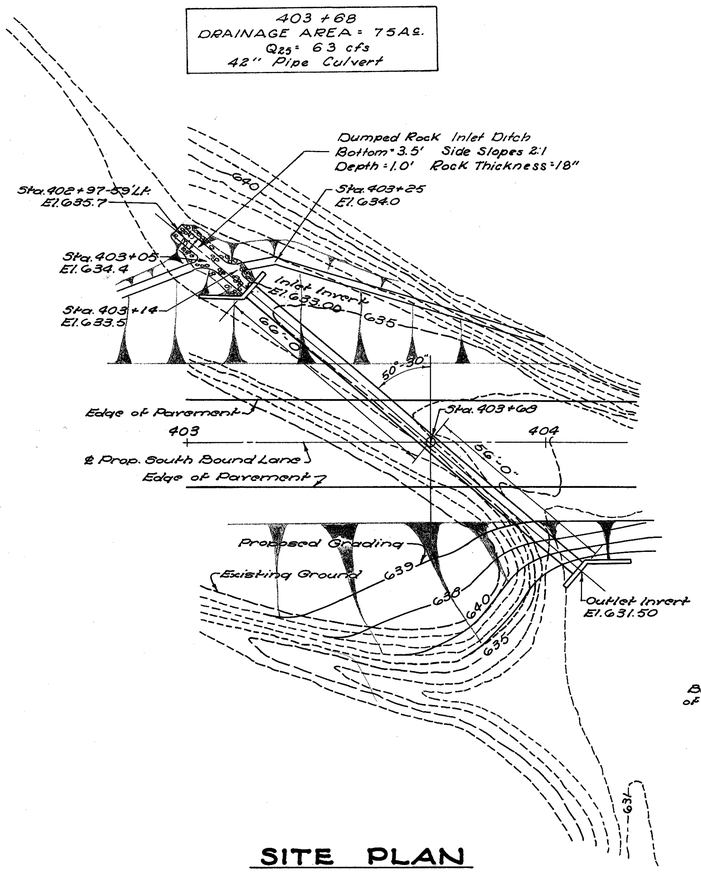
SPECIAL INLET - MANHOLE
STATION 114+77
DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

224
291

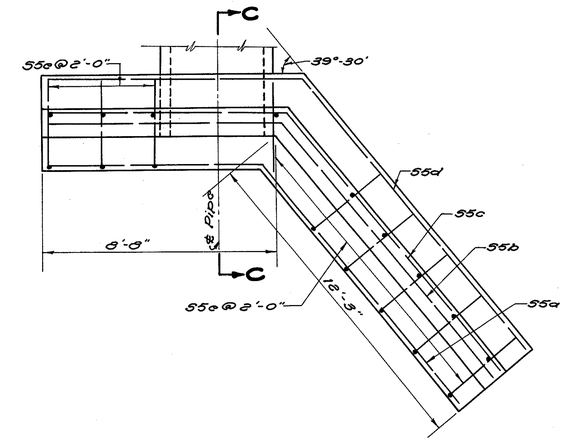
SUT-4-(8.48-15.02)

403 + 68
DRAINAGE AREA = 75 Aq.
Q_{25} = 63 cfs
42" Pipe Culvert



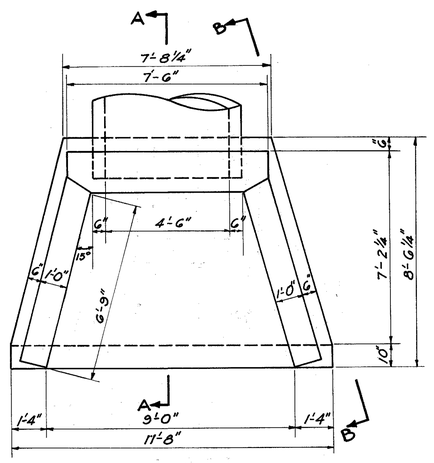
SITE PLAN

Scale: 1" = 20'



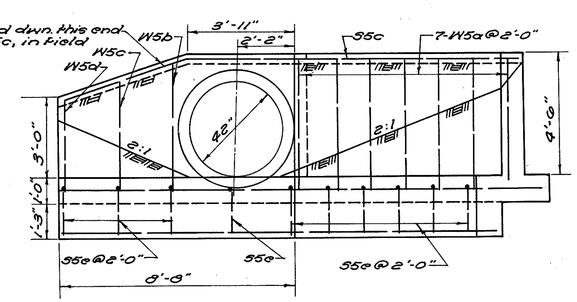
PLAN OF HEADWALL

STA. 403 +68
Scale: 3/8" = 1'



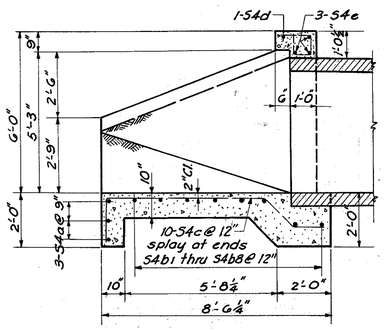
PLAN - HEADWALL
STA. 120+99 - 62.5 Ft. Rt.

Scale: 3/8" = 1'-0"



ELEVATION OF HEADWALL

Scale: 3/8" = 1'-0"



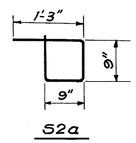
SECTION A-A

Scale: 3/8" = 1'-0"

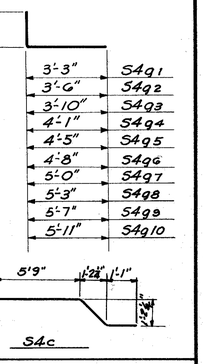
REINFORCING DETAILS

MARK	NO.	LENGTH	WEIGHT	SHAPE
52a	3	3'-5"	2	Bt.
54a	3	11'-4"	23	Str.
54b1	1	11'-2"	7	
54b2	1	10'-7"	7	
54b3	1	10'-1"	7	
54b4	1	9'-6"	6	
54b5	1	9'-0"	6	
54b6	1	8'-5"	6	
54b7	1	7'-11"	5	
54b8	1	7'-4"	5	Str.
54c	10	10'-0"	67	Bt.
54d	1	5'-2"	3	Str.
54e	3	7'-2"	14	
54f1	2	2'-8"	4	
54f2	2	3'-2"	4	
54f3	2	3'-8"	5	
54f4	2	4'-3"	6	
54f5	2	4'-9"	6	
54f6	2	5'-4"	7	Str.
54g1	2	6'-4"	8	Bt.
54g2	2	6'-7"	9	
54g3	2	6'-11"	9	
54g4	2	7'-1"	9	
54g5	2	7'-5"	10	
54g6	2	7'-9"	10	
54g7	2	8'-1"	11	
54g8	2	8'-4"	11	
54g9	2	8'-8"	12	
54g10	2	8'-11"	12	Bt.
54h	12	7'-8"	61	Str.
54k	4	5'-10"	16	Str.
54m	4	3'-1"	8	Str.
54n	12	8'-2"	65	Str.

BENDING



52a



54c

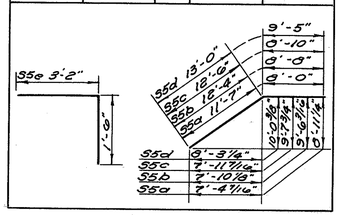
ESTIMATE OF QUANTITIES

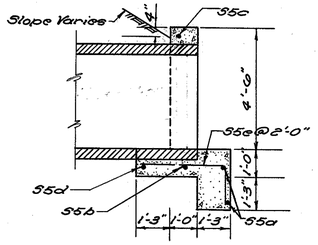
ITEM	DESIGNATION	QUANTITY
Excavation for Structures (Dry)	Item E-2	32.0 Cu. Yds.
Concrete for Structures, Class "C"	Item S-1	7.3 Cu. Yds.
Reinforcing Steel	Item S-4	441 Lb.

Culvert (Sta. 403+68)

REINFORCING STEEL DETAILS

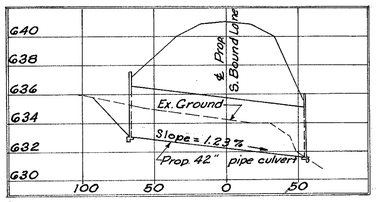
MARK	LENGTH	NO.	WEIGHT	SHAPE
55a	19'-7"	4	82	Bt.
55b	21'-0"	2	44	
55c	21'-4"	2	45	
55d	22'-5"	2	47	
55e	4'-7"	20	96	Bt.
W5a	5'-1"	14	74	St.
W5b	4'-11"	2	10	
W5c	4'-3"	2	9	
W5d	3'-7"	2	8	St.





SECTION C-C

Scale: 3/8" = 1'-0"

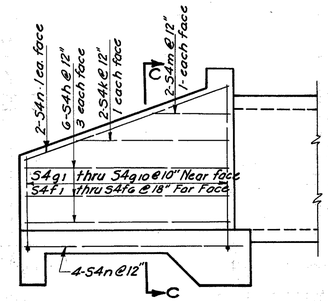


CULVERT PROFILE

Scale
1"=50' Hor.
1"=5' Vert.

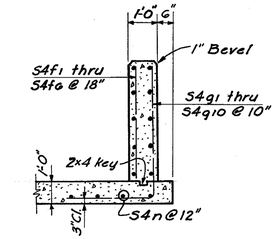
ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Excavation for Structures (Dry)	Item E-2	187.0 Cu. Yds.
Channel Excavation	Item E-3	30.0 Cu. Yds.
Concrete for Structures, Class "C"	Item S-1	13.9 Cu. Yds.
Reinforcing Steel	Item S-4	830.0 Lbs.
Dumped Rock Fill	Item 1-10	17.0 Cu. Yds.
Pipe for Roadway Culverts - 42" 12 Ga - Sec. M6.6(b) or M6.4(d)	Item S-27	122.0 Ft.



ELEVATION B-B

Scale: 3/8" = 1'-0"



SECTION C-C

Scale: 3/8" = 1'-0"

STATIONS 120 + 99 & 403 + 68

DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

BUT.-4-(8.48-15.02)

225/291

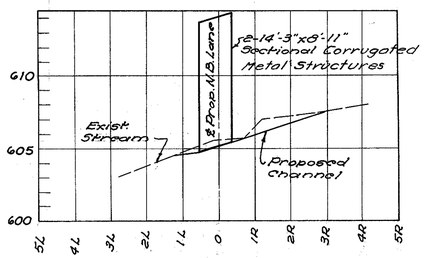
DRAINAGE AREA 2.6 SQ. MILES
Q_2 = 2,000 c.f.s.

CROSS-SECTION OF TWIN CULVERT

Scale: 1" = 10'

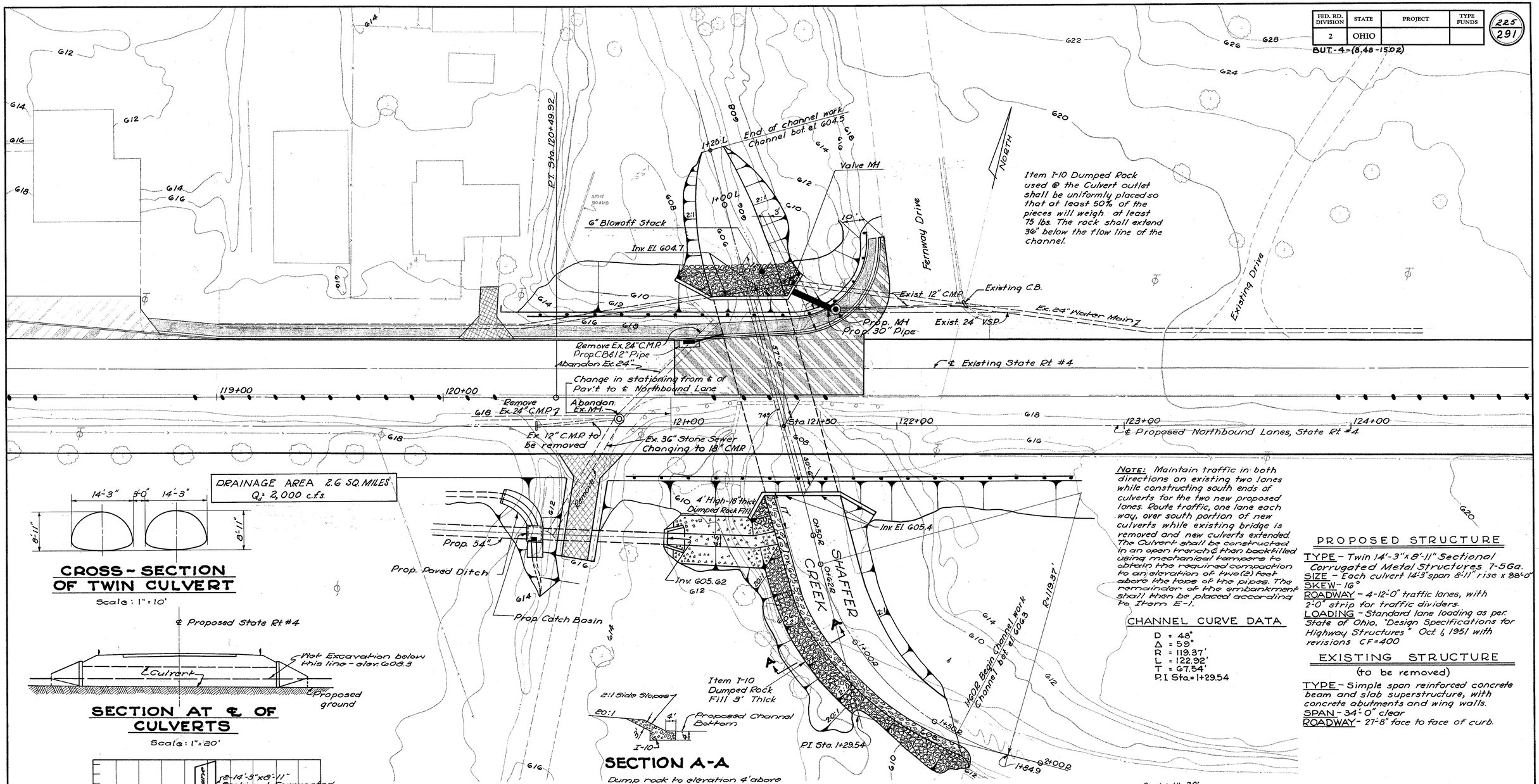
SECTION AT ℄ OF CULVERTS

Scale: 1" = 20'



STREAM PROFILE

Scale: HORIZ. 1" = 200'
VERT. 1" = 5'



SECTION A-A

Scale: 1" = 20'

Note: Maintain traffic in both directions on existing two lanes while constructing south ends of culverts for the two new proposed lanes. Route traffic, one lane each way, over south portion of new culverts while existing bridge is removed and new culverts extended. The Culvert shall be constructed in an open trench & then backfilled using mechanical tampers to obtain the required compaction to an elevation of two (2) feet above the tops of the pipes. The remainder of the embankment shall then be placed according to Item E-1.

CHANNEL CURVE DATA

D = 48°
Δ = 59°
R = 119.37'
L = 122.92'
T = 67.54'
P.I Sta. = 1+29.54

PROPOSED STRUCTURE

TYPE - Twin 14'-3" x 8'-11" Sectional Corrugated Metal Structures 7-5Ga.
SIZE - Each culvert 14'-3" span 8'-11" rise x 88'-0"
SKEW - 16°
ROADWAY - 4-12'-0" traffic lanes, with 2'-0" strip for traffic dividers.
LOADING - Standard lane loading as per State of Ohio, "Design Specifications for Highway Structures" Oct 1, 1951 with revisions CF=400

EXISTING STRUCTURE

(to be removed)

TYPE - Simple span reinforced concrete beam and slab superstructure, with concrete abutments and wing walls.
SPAN - 34'-0" clear
ROADWAY - 27'-8" face to face of curb.

ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Excavation for Structures (Dry)	Item E-2	350.0 Cu. Yds
Excavation for Structures (Wet)	Item E-2	120.0 Cu. Yds.
Channel Excavation	Item E-3	379.0 Cu. Yds.
Concrete for Structures, class "C"	Item S-1	175.0 Cu. Yds.
Reinforcing Steel	Item S-4	501.4 Lbs.
Dumped Rock Fill	Item I-10	475 Cu. Yds.
Sectional Corrugated Metal Structure	Item S-28	176 Lin. Ft.
Removal of Existing Structures	Item S-24	Lump

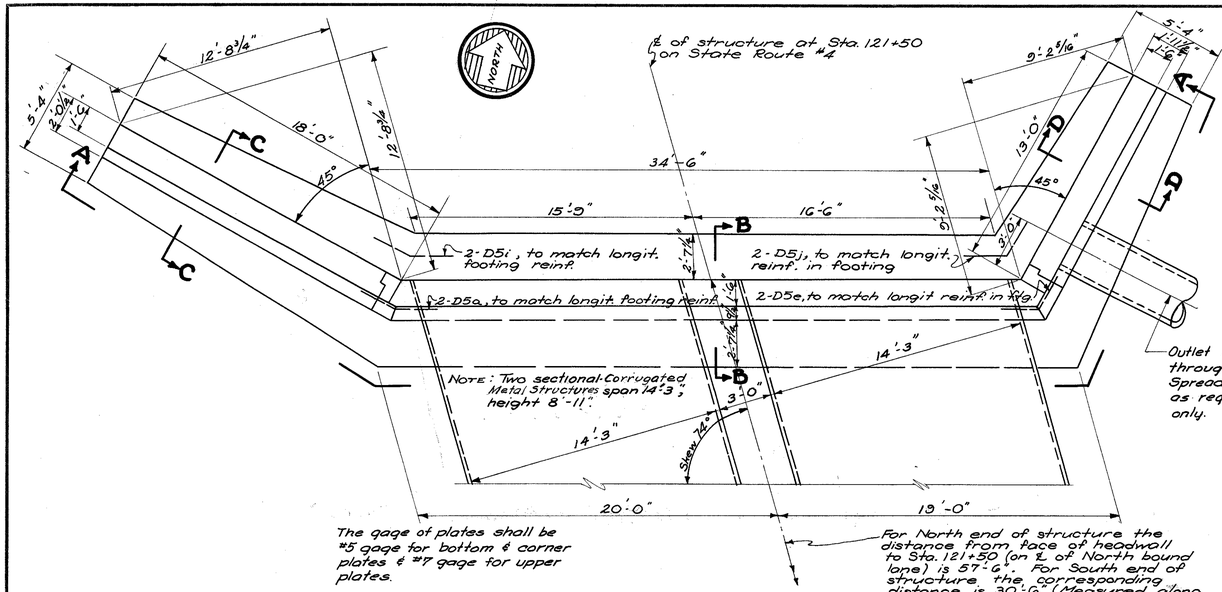
SHAFFER CREEK SITE PLAN

DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

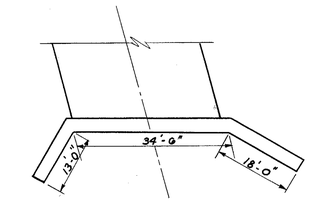
226
291

SUT-4-(8.48-15.02)



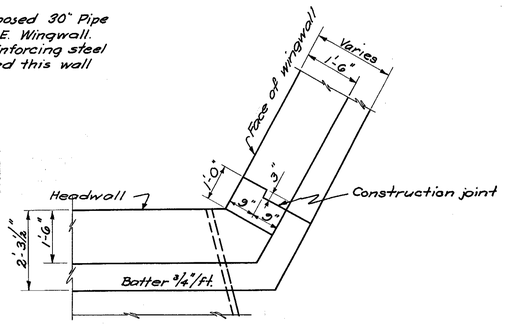
PLAN

(North end shown, South end similar)
Scale: 1/4" = 1'-0"



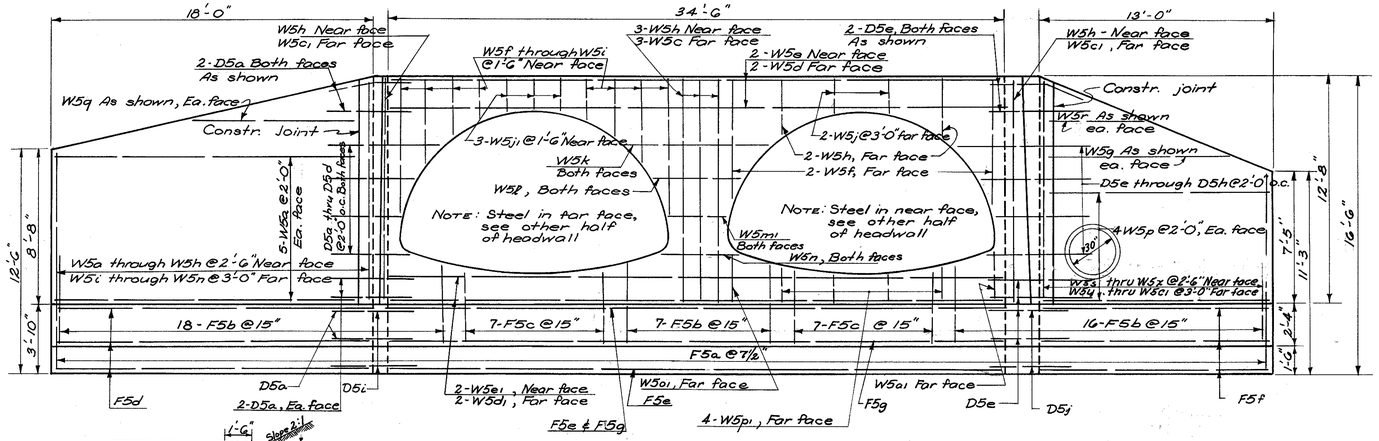
SOUTH END

Scale: 1/16" = 1'-0"



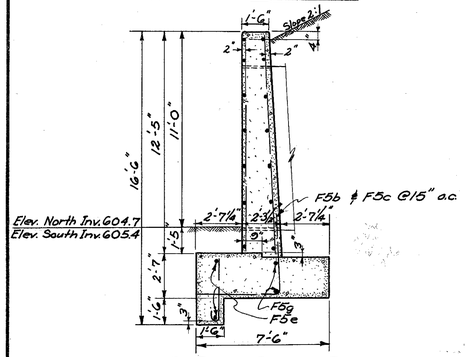
DETAIL CONSTRUCTION JOINT

Scale: 1/2" = 1'-0"



SECTION A-A

Scale: 1/4" = 1'-0"

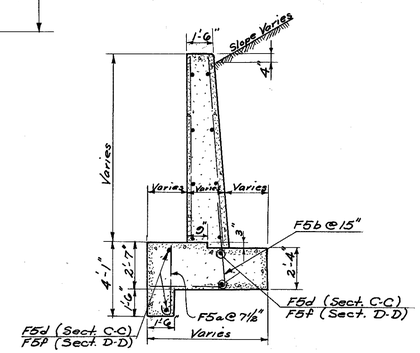


SECTION B-B

Scale: 1/4" = 1'-0"

Bituminous Coating

The bituminous coating material shall conform to the requirements of Sec 707-2.4(C) for bituminous coated corrugated metal pipe. The bituminous material shall be heated in a tank to approximately 400° Fahrenheit and shall be applied to both surfaces of the metal with a mop or brush to a thickness of approximately 1/16 of an inch. The bottom plates shall be coated on the outside before installation. The remainder of the structure shall be coated after the plates are assembled and all the bolts are tight.

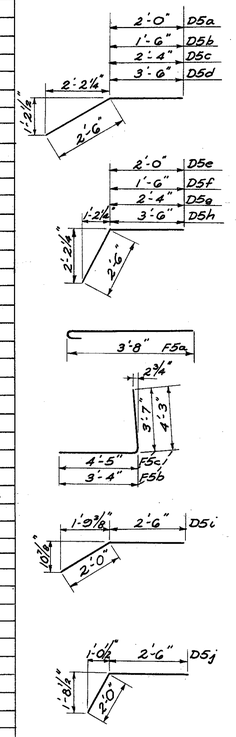


SECTION C-C & D-D

Scale: 1/4" = 1'-0"

REINFORCING STEEL DETAILS

MARK	No.	LENGTH	WEIGHT	SHAPE	REMARKS
W5a	2	8'- 7"	18	Str.	
W5b	2	9'- 1"	19		
W5c	2	9'- 8"	20		
W5d	2	10'- 3"	21		
W5e	2	10'- 9"	22		
W5f	2	11'- 4"	24		
W5g	2	11'- 10"	25		
W5h	12	12'- 5"	155		
W5i	2	8'- 8"	18		
W5j	2	9'- 5"	20		
W5k	2	10'- 1"	21		
W5l	2	10'- 8"	22		
W5m	2	11'- 3"	23		
W5n	2	11'- 11"	25		
W5o	20	16'- 8"	348		
W5p	16	11'- 8"	195		
W5q	8	9'- 3"	77		
W5r	4	5'- 0"	21		
W5s	2	7'- 4"	15		
W5t	2	8'- 4"	17		
W5u	2	9'- 4"	19		
W5v	2	10'- 4"	22		
W5w	2	11'- 5"	24		
W5x	2	12'- 4"	26		
W5y	2	7'- 5"	15		
W5z	2	8'- 8"	18		
W5a1	2	9'- 11"	21		
W5b1	2	11'- 1"	23		
W5c1	12	12'- 3"	153		
W5d1	8	34'- 2"	285		
W5e1	8	35'- 2"	293		
W5f1	16	7'- 6"	125		
W5g1	8	4'- 9"	40		
W5h1	16	3'- 2"	53		
W5i1	8	2'- 6"	21		
W5j1	20	2'- 0"	42		
W5k1	4	8'- 0"	33		
W5l1	4	5'- 1"	21		
W5m1	4	3'- 3"	14		
W5n1	4	4'- 2"	17		
W5o1	8	2'- 3"	19		
W5p1	16	1'- 4"	22	Str.	
F5a	206	4'- 4"	931	Bt.	
F5b	82	7'- 6"	641	Bt.	
F5c	28	7'- 11"	231	Bt.	
F5d	1	17'- 8"	74	Str.	
F5e	4	32'- 2"	134		
F5f	4	12'- 8"	53		
F5g	4	36'- 0"	150	Str.	
D5a	24	4'- 6"	113	Bt.	
D5b	4	4'- 0"	17		
D5c	4	4'- 10"	20		
D5d	4	6'- 0"	25		
D5e	24	4'- 6"	113		
D5f	4	4'- 0"	17		
D5g	4	4'- 10"	20		
D5h	4	6'- 0"	25		
D5i	4	4'- 6"	19		
D5j	4	4'- 6"	19	Bt	



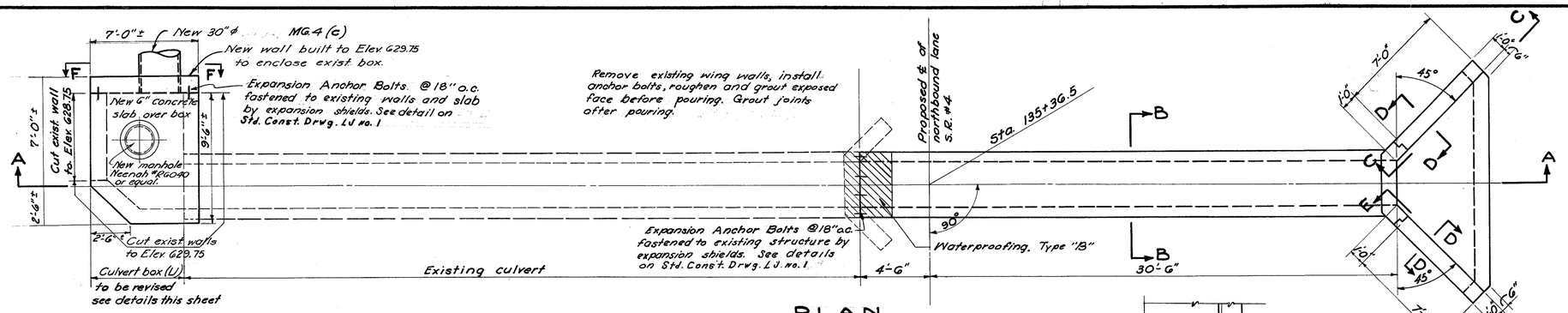
STATION 121 + 50

DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

227
291

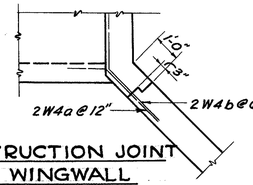
BUT-4-(8.48-15.02)



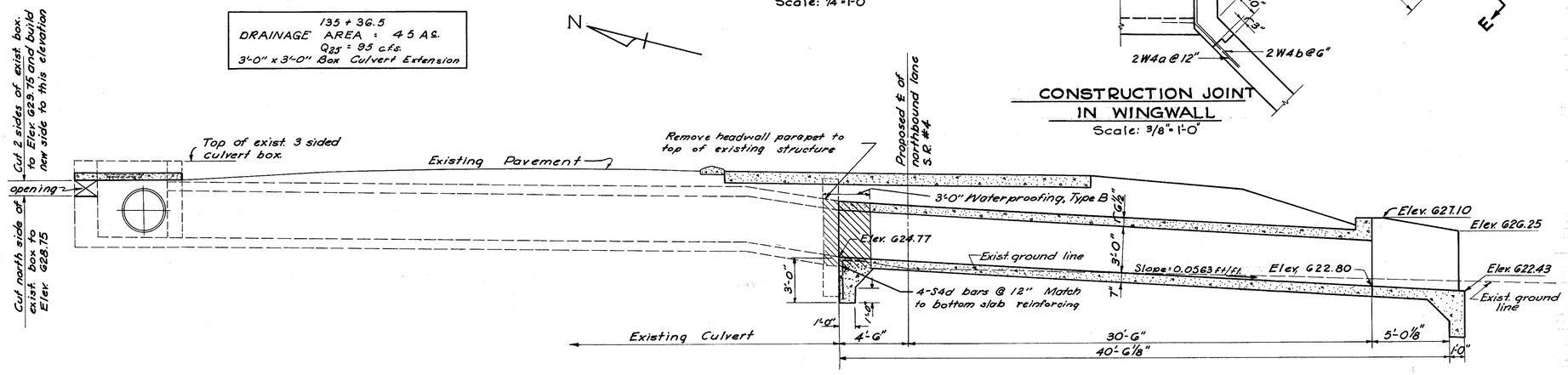
PLAN
Scale: 1/4"=1'-0"

135+36.5
DRAINAGE AREA = 4.5 A.S.
Q_{25} = 9.5 c.f.s.
3'-0" x 3'-0" Box Culvert Extension

N



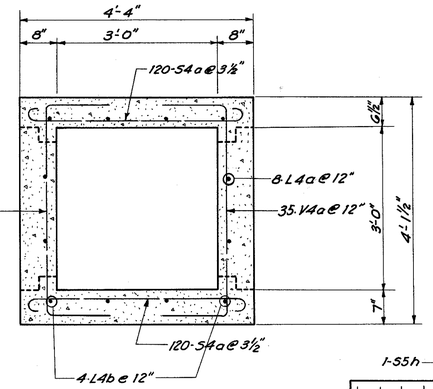
CONSTRUCTION JOINT IN WINGWALL
Scale: 3/8"=1'-0"



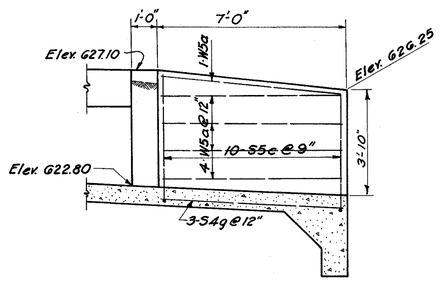
SECTION A-A
Scale: 1/4"=1'-0"

REINFORCING DETAILS

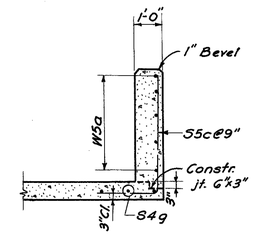
MARK	No.	LENGTH	WEIGHT	SHAPE	BENDING
L4a	8	34'-8"	185	Str.	
L4b	4	40'-8"	107	Str.	
S4a	240	5'-0"	802	Bt.	4'-0" S4a
S4b	4	1'-11"	51	Bt.	
S4c	4	1'-3"	3	Bt.	
S4d	22	3'-10"	56	Bt.	2'-5", 1'-3", 9", 1'-3" S4b, 2'-8" S4d, 4'-1" S5c
S4e	2	4'-8"	6	Str.	
S4f	4	15'-9"	42	Bt.	
S4g	3	6'-8"	13	Str.	
V4a	70	6'-0"	281	Bt.	9" S4c
W4a	4	4'-3"	11	Bt.	
W4b	2	8'-11"	12	Bt.	
S5a1	1	5'-11"	6	Str.	10", 1'-2", 10", 13'-6", 10", 10", 1'-2" S4f
S5a2	1	7'-5"	8		
S5a3	1	8'-11"	9		
S5a4	1	10'-5"	11		
S5a5	1	11'-11"	12		
S5a6	1	13'-5"	14		
S5a7	1	14'-11"	16		
S5b	1	13'-10"	14	Str.	1'-2", 1'-2", 3'-9 1/2" V4a
S5c	10	6'-5"	67	Bt.	
S5d1	1	6'-9"	7	Str.	
S5d2	1	7'-6"	8		
S5d3	1	8'-5"	9		
S5e	2	4'-2"	9		1'-0", 2'-10", 1'-0", 1'-5" W4a
S5f	4	9'-2"	38		
S5g	2	2'-8"	6		
S5h	1	8'-0"	8		
S5k	1	8'-4"	9	Str.	2'-3 1/4", 1'-0", 2'-3 1/4", 3'-8", 2'-3 1/4", 2'-3 1/4", 2'-8" W4b
W5a	13	6'-8"	90	Str.	
W5b	4	2'-10"	12	Str.	
W5c	12	3'-11"	37	Str.	



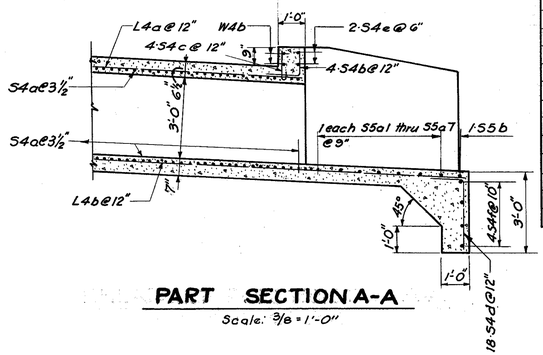
SECTION B-B
Scale: 3/4"=1'-0"



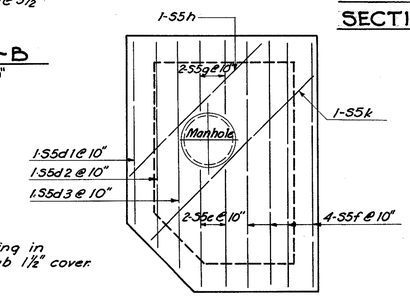
SECTION G-G AS SHOWN
SECTION E-E OPPOSITE HAND
Scale: 3/8"=1'-0"



SECTION D-D
Scale: 3/8"=1'-0"

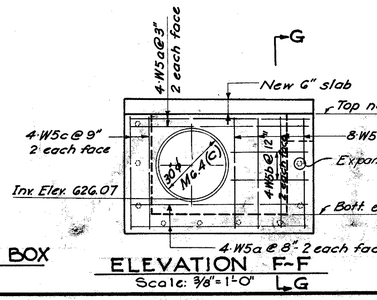


PART SECTION A-A
Scale: 3/8"=1'-0"

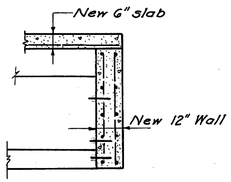


All reinforcing in bottom of slab 1 1/2" cover.

TOP SLAB OVER EXIST. CULVERT BOX
Scale: 3/8"=1'-0"



ELEVATION F-F
Scale: 3/8"=1'-0"



SECTION G-G
Scale: 3/8"=1'-0"

ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Excavation for Structures (Dry)	Item E-2	74.0 Cu. Yds.
Channel Excavation	Item E-3	21.0 Cu. Yds.
Concrete for Structures, Class "C"	Item S-1	17.9 Cu. Yds.
Reinforcing Steel	Item S-4	1959 Lbs.
Dumped Rock Fill	Item I-10	10.0 Cu. Yds.
Furnishing & Placing M.H. Frame & Cover Neenah Foy. #R 6040 or equal	Item I-B	1 Each
Waterproofing - Type "B"	Item S-3	6.0 Sq. Yds.
Removal of Portions of Existing Structure	Item S-22	Lump Sum
3/4" ϕ Expansion Anchor Bolts	Item Special	19 Each
1 3/8" ϕ x 4" Dowel Holes	Item S-28	19 Each

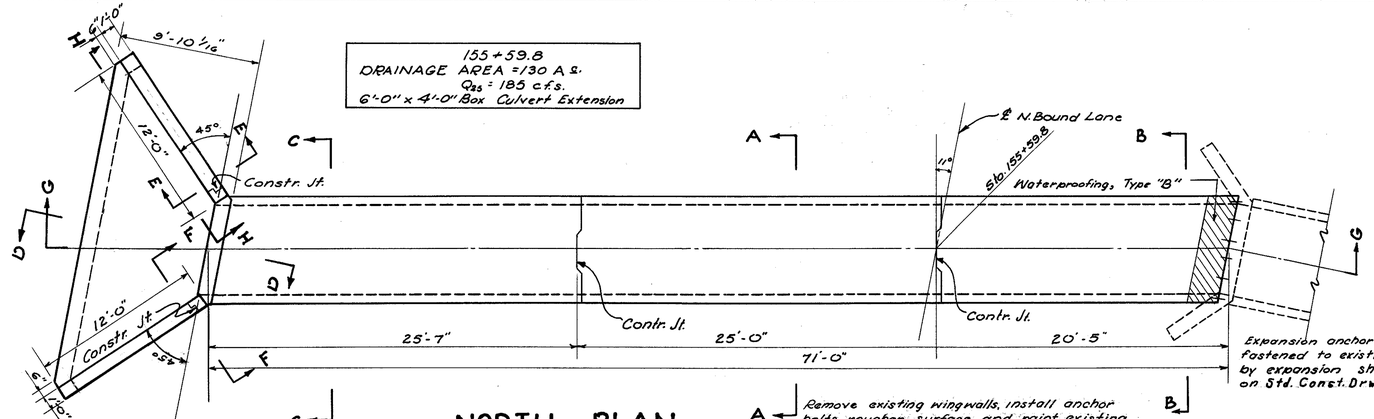
STA. 135+36.5 DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

228
291

BUT-4-(8.48-15.02)

155+59.8
DRAINAGE AREA = 130 A.s.
Q_{25} = 185 c.f.s.
6'-0" x 4'-0" Box Culvert Extension



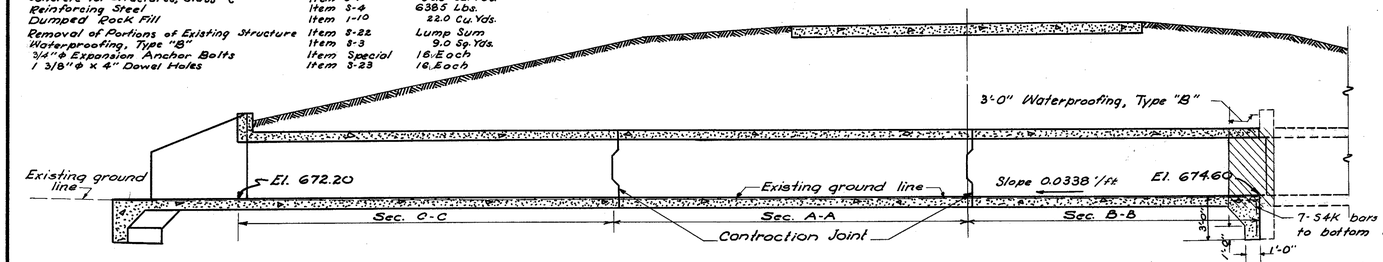
NORTH PLAN
Scale: 1" = 5'-0"

Expansion anchor bolts @18"o.c. fastened to existing structure by expansion shields. See detail on Std. Const. Drwg. LJ no.1

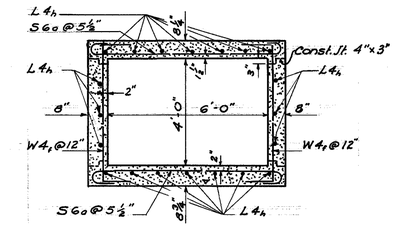
Remove existing wingwalls, install anchor bolts, roughen surface and paint existing concrete with thin grout before pouring new concrete against existing culvert. Grout joints after pouring.

ESTIMATE OF QUANTITIES

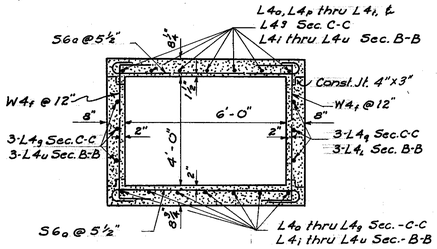
ITEM	DESIGNATION	QUANTITY
Excavation for Structures (Dry)	Item E-2	221.0 Cu. Yds.
Channel Excavation	Item E-3	31.0 Cu. Yds.
Concrete for Structures, Class "C"	Item S-1	53.5 Cu. Yds.
Reinforcing Steel	Item S-4	6385 Lbs.
Dumped Rock Fill	Item 1-10	22.0 Cu. Yds.
Removal of Portions of Existing Structure	Item S-22	Lump Sum
Waterproofing, Type "B"	Item S-3	9.0 Sq. Yds.
3/4" ϕ Expansion Anchor Bolts	Item Special	16 Each
1 3/8" ϕ x 4" Dowel Holes	Item S-23	16 Each



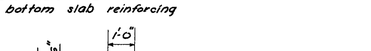
SECTION G-G
Scale: 1" = 5'-0"



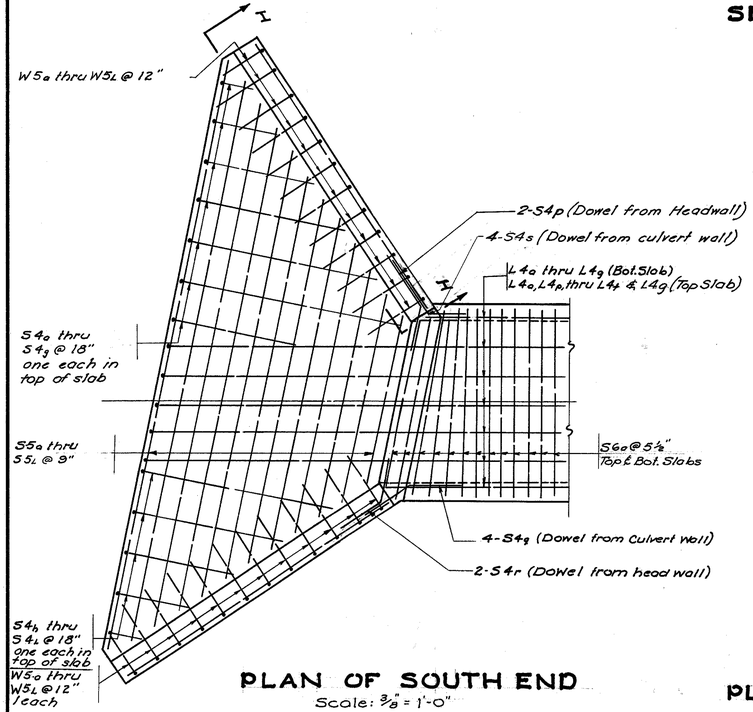
SECTION A-A
Scale: 3/8" = 1'-0"



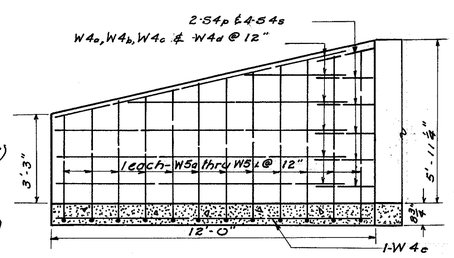
SECTION B-B & C-C
Scale: 3/8" = 1'-0"



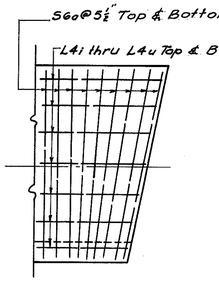
SECTION D-D
Scale: 3/8" = 1'-0"



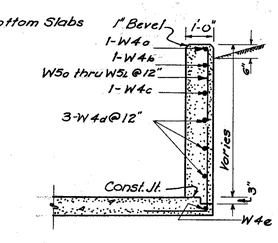
PLAN OF SOUTH END
Scale: 3/8" = 1'-0"



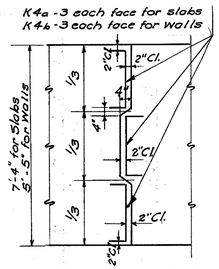
SECTION H-H
Scale: 3/8" = 1'-0"



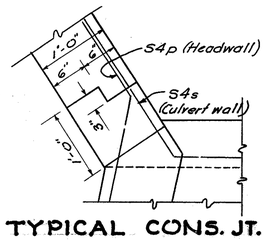
PLAN OF NORTH END
Scale: 3/8" = 1'-0"



SECTION E-E & F-F
Scale: 3/8" = 1'-0"



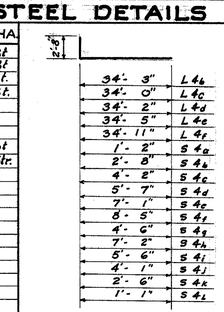
DETAIL OF CONT. JT.

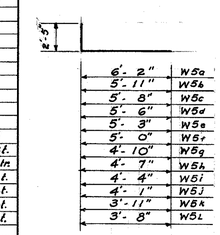


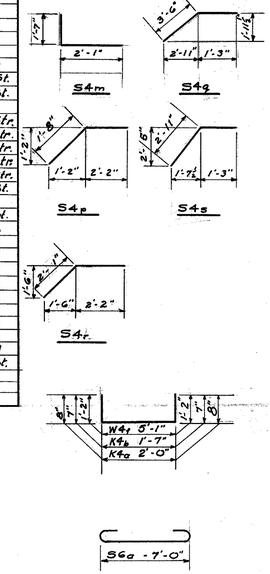
TYPICAL CONS. JT.
Scale: 1" = 1'-0"

REINFORCING STEEL DETAILS

MARK	LENGTH	No	WEIGHT	SHA.
K4a	3'- 3"	24	52	Bt
K4b	2'- 8"	24	43	Bt
L4a	25'- 0"	5	84	St.
L4b	36'-10"	1	25	Bt.
L4c	36'- 7"	1	24	
L4d	36'- 9"	1	25	
L4e	37'- 0"	1	25	
L4f	37'- 6"	1	25	Bt
L4g	26'- 2"	5	87	Str.
L4h	24'- 8"	20	330	
L4i	20'- 4"	5	68	
L4j	20'- 1"	2	28	
L4k	20'- 4"	2	27	
L4L	20'- 2"	2	27	
L4m	19'-10"	2	26	
L4n	19'- 5"	2	26	
L4p	25'- 1"	1	17	
L4q	25'- 2"	1	17	
L4r	25'- 3"	1	17	
L4s	25'- 5"	1	17	
L4t	25'-11"	1	17	
L4u	19'- 3"	5	64	Str.
S4a	3'- 9"	1	3	Bt.
S4b	5'- 3"	1	4	
S4c	6'- 9"	1	5	
S4d	8'- 2"	1	5	
S4e	9'- 8"	1	6	
S4f	11'- 0"	1	7	
S4g	7'- 1"	1	5	
S4h	9'- 9"	1	7	
S4i	8'- 1"	1	5	
S4j	6'- 8"	1	4	
S4k	5'- 1"	8	27	
S4L	3'- 8"	1	2	
S4m	3'- 7"	8	19	Bt.
S4n	7'- 0"	2	9	Str.
S4p	3'-10"	2	5	Bt.
S4q	4'- 9"	4	13	Bt.
S4r	4'- 3"	2	6	Bt.
S4s	4'- 2"	4	11	Bt.
S5a	22'- 3"	3	70	St.
S5b	21'- 4"	1	22	
S5c	18'-11"	1	21	
S5d	18'- 6"	1	19	
S5e	16'-11"	1	18	
S5f	15'- 6"	1	16	
S5g	14'- 0"	1	15	
S5h	12'- 6"	1	13	
S5i	11'- 1"	1	12	
S5j	9'- 7"	1	10	
S5k	8'- 2"	1	9	
S5L	6'- 8"	1	7	St.
S6a	8'- 4"	312	3905	Bt.
W4a	10'-11"	2	15	Str.
W4b	3'- 5"	2	5	Str.
W4c	7'-11"	2	11	Str.
W4d	10'- 8"	6	44	Str.
W4e	11'- 8"	2	16	Str.
W4f	7'- 3"	142	689	Bt.
W5a	8'- 6"	2	18	Bt.
W5b	8'- 3"	2	17	
W5c	8'- 0"	2	17	
W5d	7'-10"	2	16	
W5e	7'- 7"	2	16	
W5f	7'- 4"	2	15	
W5g	7'- 2"	2	15	
W5h	6'-11"	2	14	
W5i	6'- 8"	2	14	
W5j	6'- 5"	2	13	
W5k	6'- 3"	2	13	
W5L	6'- 0"	2	13	Bt.





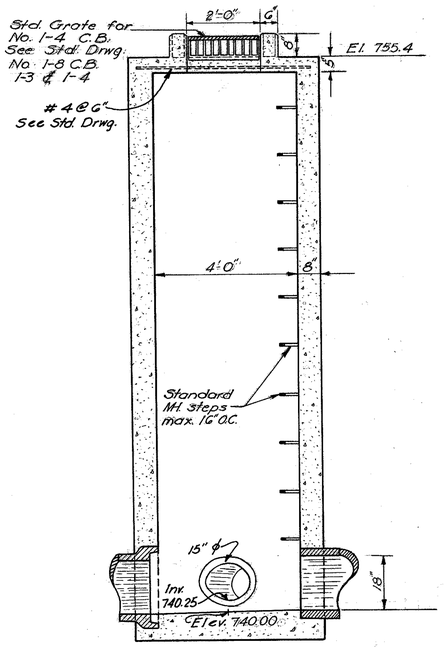


STATION 155+59.8

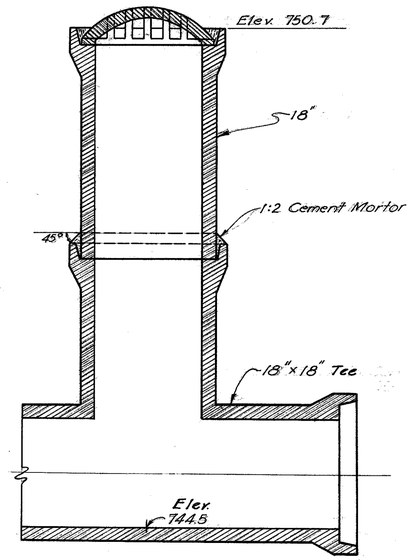
DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT		229 291
2	OHIO			

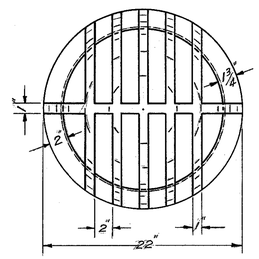
SUT-4-(8.48-15.02)



STA. 176+89-24' LT.
NO. 1-4 C.B. MODIFIED



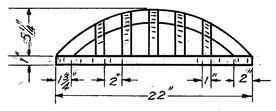
NO. 7 C.B. MODIFIED
STA. 197+55-24' RT.
Scale: 1"=1'-0"



PLAN

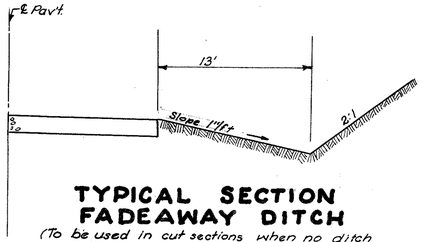
CASTING shall be of cast iron in accordance with Material Details. The design shall be essentially the same and equally as strong as the one shown hereon, and shall be given one coat of asphaltum paint as per specifications. Min. weight 70 lbs. (See Standard Drawing I-8 C.B. No 7)

All edges to be rounded 1/4 inch radius.

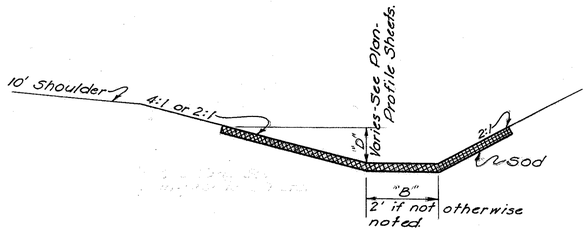


ELEVATION

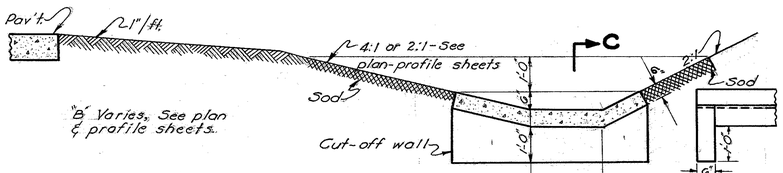
GRATE



TYPICAL SECTION
FADEAWAY DITCH
(To be used in cut sections when no ditch is indicated on plans)
No Scale



SODDED DITCH
Scale: 1/2"=1'-0"

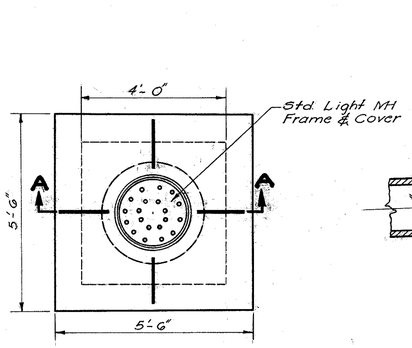


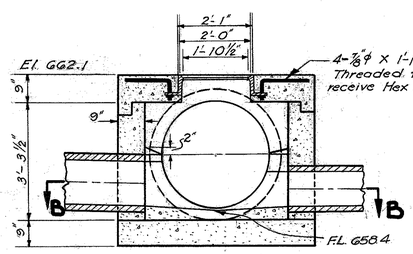
Concrete shall be Class "E"
Paved Ditch shall have impressed contraction jts. @ 10' centers.

TYPE I MODIFIED
PAVED DITCH
Scale: 1/2"=1'-0"

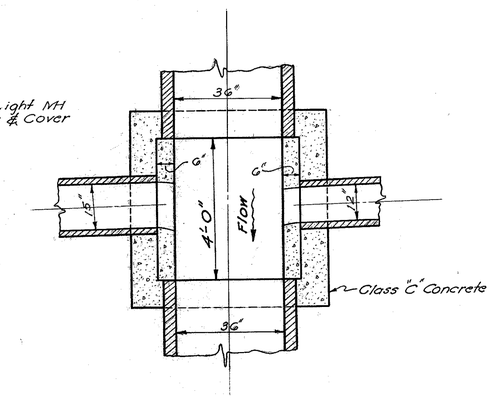
SECTION C-C

ROADWAY DITCH DETAILS

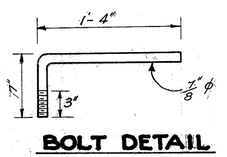




SECTION A-A
Scale: 1/2"=1'-0"



SECTION B-B
Scale: 1/2"=1'-0"



BOLT DETAIL

TYPE "B" JUNCTION BOX
STA. 396+36 - 39.9' RT.

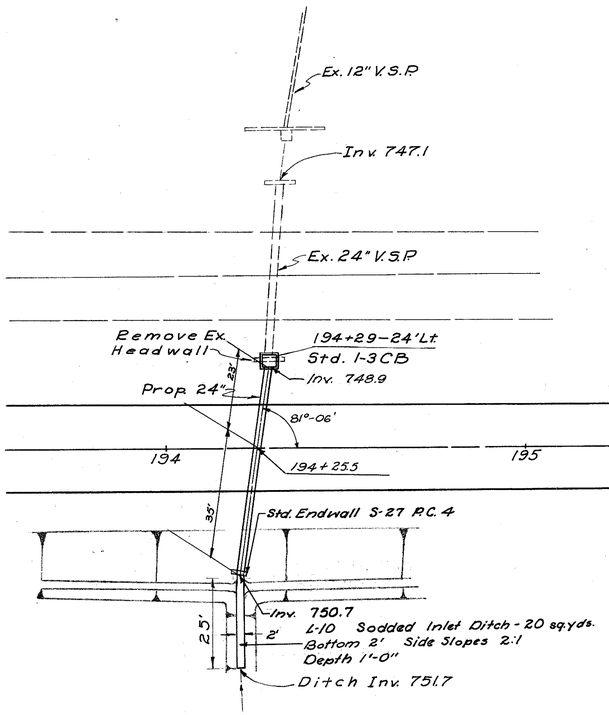
DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

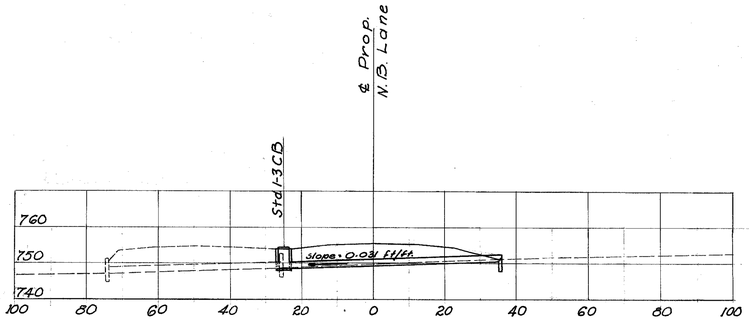
230
291

CU-1-8.48 15.02)

194 + 25.5
DRAINAGE AREA = 9 A±.
Q_{25} = 17 c.f.s.
24" Pipe Culvert



CULVERT PLAN
STA 194 + 29

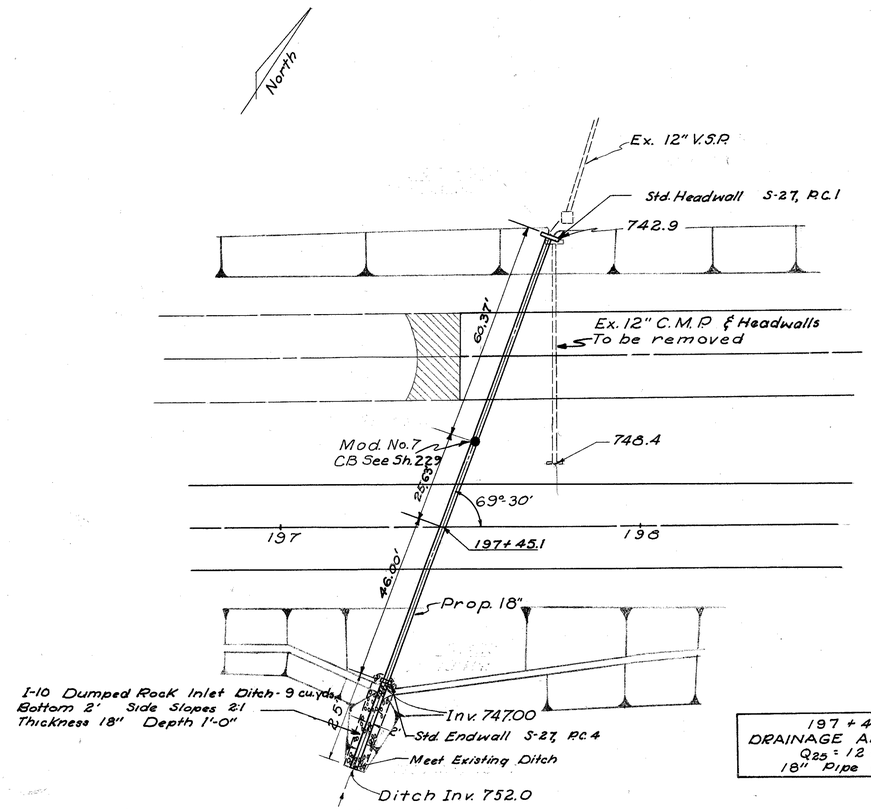


CULVERT PROFILE

ESTIMATE OF QUANTITIES

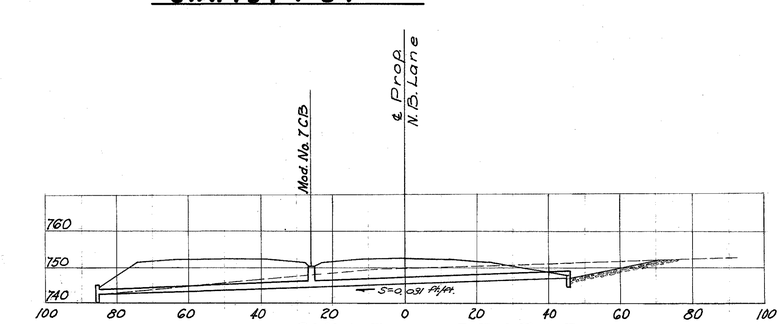
ITEM	DESIGNATION	QUANTITY
Pipe for Roadway Culverts - 24"	Item S-27	58 Lin. Ft.
Catch Basins - Std. No. 1-3	Item I-8	1 Each
Excavation for Structures	Item E-2	34.0 Cu. Yds.
Channel Excavation	Item E-3	3 Cu. Yds.
Concrete for Structures, Class "E"	Item S-1	0.4 Cu. Yds.
Removal of Existing Structures	Item S-22	Lump Sum
Sod	Item L-10	20 Sq. Yds.

SCALES
Horizontal: 1"=20'
Vertical: 1"=20'



197 + 45.1
DRAINAGE AREA = 6 A±.
Q_{25} = 12 c.f.s.
18" Pipe Culvert

CULVERT PLAN
STA. 197 + 54



CULVERT PROFILE

ESTIMATE OF QUANTITIES

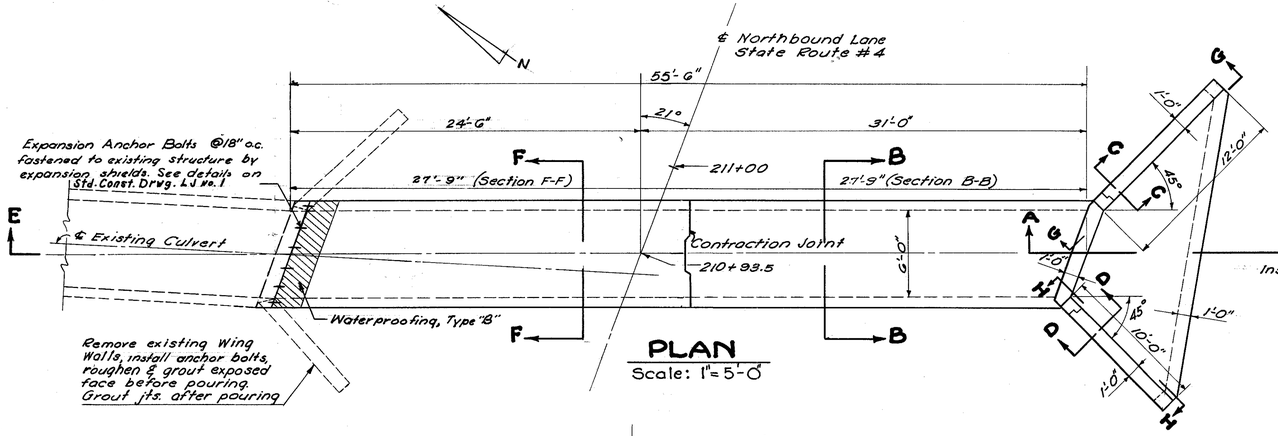
ITEM	DESIGNATION	QUANTITY
Pipe for Roadway Culverts - 18"	Item S-27	128 Lin. Ft.
Catch Basins - No. 7 (Mod)	Item I-8	1 Each
Excavation for Structures (Dry)	Item E-2	44.0 Cu. Yds.
Channel Excavation	Item E-3	28.0 Cu. Yds.
Concrete for Structures, Class "C"	Item S-1	1.0 Cu. Yds.
Concrete for Structures, Class "E"	Item S-1	0.3 Cu. Yds.
Reinforcing Steel	Item S-4	18 Lbs.
Dumped Rock Fill	Item I-10	9 Cu. Yds.
Removal of Existing Structures	Item S-24	Lump Sum
Pipe Removal	Item E-18	62 Lin. Ft.

STATIONS 194 + 29 & 197 + 54
DRAINAGE DETAILS

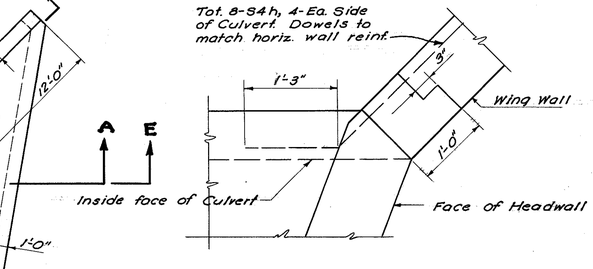
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

231
291

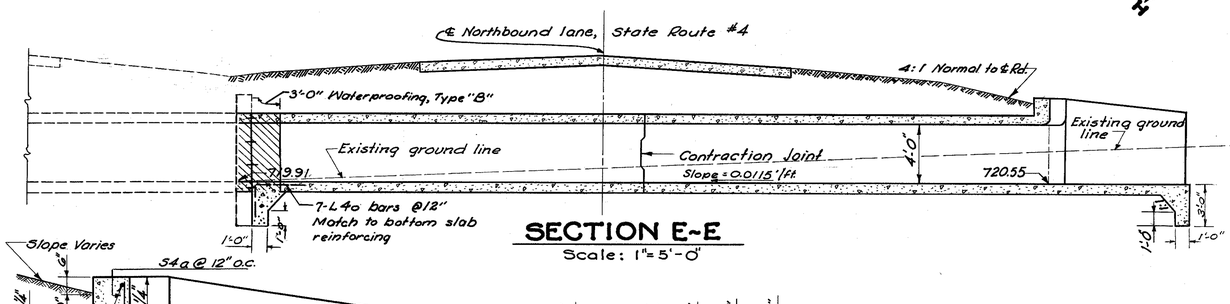
BUT-4-(8.48-15.02)



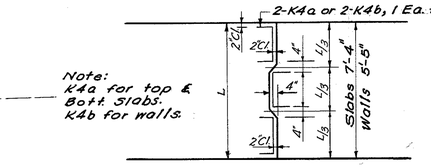
PLAN
Scale: 1"=5'-0"



DETAIL-CONSTRUCTION JOINT FOR WING WALLS
Scale: 1"=1'-0"



SECTION E-E
Scale: 1"=5'-0"



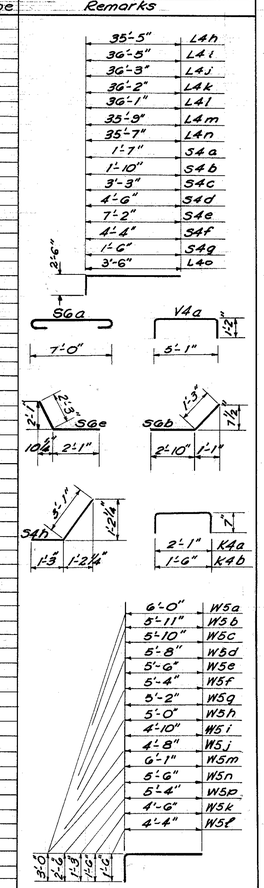
Note:
K4a for top & Bott. Slabs:
K4b for walls.

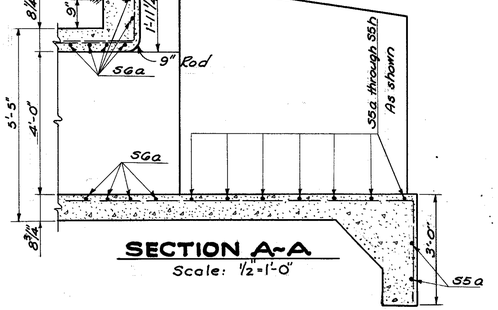
DETAIL - CONTRACTION JOINT FOR CULVERT
Scale: None

210+93.5
DRAINAGE AREA = 130 A℄.
Q_{25} = 185 cfs.
6'-0" x 4'-0" Box Culvert Extension

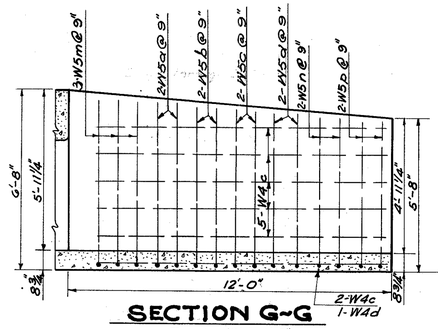
REINFORCING STEEL DETAIL

Mark	No.	Length	Weight	Shape	Remarks
L4a	8	28'-8"	153	Str.	
L4b	5	28'-3"	94		
L4c	3	27'-6"	55		
L4d	5	27'-1"	54		
L4e	6	26'-7"	107		
L4f	7	26'-2"	122		
L4g	1	25'-10"	17	Str.	
L4h	1	37'-4"	25	Bt.	
L4i	1	38'-4"	26		
L4j	1	38'-2"	26		
L4k	1	38'-1"	25		
L4l	1	38'-0"	25		
L4m	1	37'-8"	25		
L4n	1	37'-6"	25		
L4o	7	5'-11"	28	Bt.	
V4a	112	7'-3"	542	Bt.	
SGa	244	8'-4"	3,053		
SGb	2	4'-2"	13		
SGc	2	4'-5"	13	Bt.	
S5a	3	20'-8"	65	Str.	
S5b	1	19'-0"	20		
S5c	1	16'-11"	18		
S5d	1	14'-10"	15		
S5e	1	12'-8"	11		
S5f	1	10'-4"	9		
S5g	1	8'-2"	8		
S5h	1	6'-10"	7	Str.	
S4a	7	3'-8"	18	Bt.	
S4b	1	4'-0"	3		
S4c	1	5'-5"	4		
S4d	1	6'-8"	5		
S4e	1	9'-4"	6		
S4f	1	6'-6"	4		
S4g	1	3'-8"	3		
S4h	8	3'-3"	17	Bt.	
W5a	3	8'-11"	28	Bt.	
W5b	3	8'-10"	28		
W5c	3	8'-9"	27		
W5d	3	8'-7"	27		
W5e	1	8'-5"	9		
W5f	1	8'-3"	9		
W5g	1	8'-1"	8		
W5h	1	7'-11"	8		
W5i	1	7'-9"	8		
W5j	1	7'-7"	8		
W5k	1	5'-11"	6		
W5l	1	5'-9"	6		
W5m	3	9'-0"	28		
W5n	2	7'-11"	17		
W5p	2	6'-6"	14	Bt.	
W4a	1	5'-0"	3	Str.	
W4b	7	8'-6"	40		
W4c	7	10'-8"	50		
W4d	1	8'-9"	6	Str.	
K4a	12	3'-1"	25	Bt.	
K4b	12	2'-6"	20	Bt.	

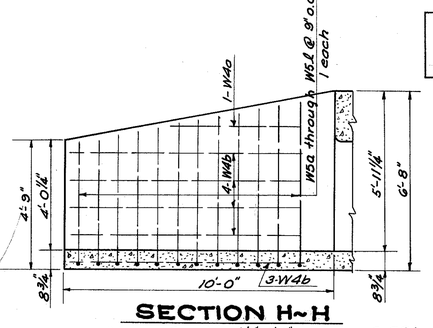




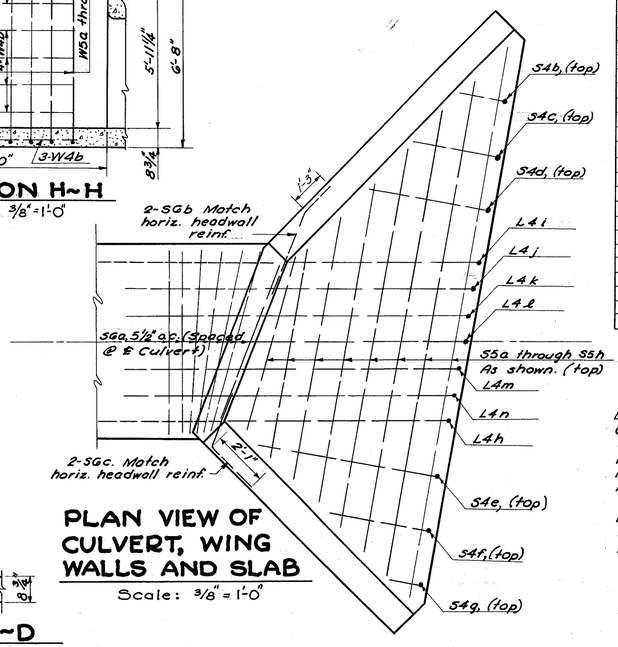
SECTION A-A
Scale: ½"=1'-0"



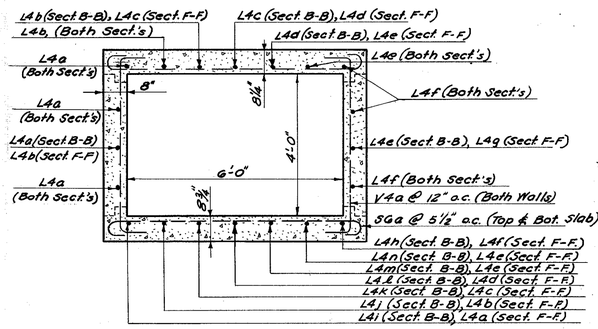
SECTION G-G
Scale: ⅜"=1'-0"



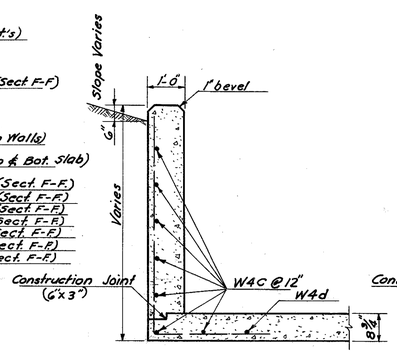
SECTION H-H
Scale: ⅜"=1'-0"



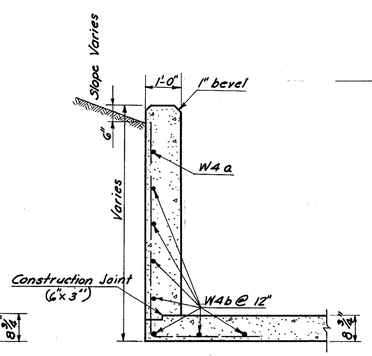
PLAN VIEW OF CULVERT, WING WALLS AND SLAB
Scale: ⅜"=1'-0"



SECTION B-B & F-F
Scale: ½"=1'-0"



SECTION C-C
Scale: ½"=1'-0"



SECTION D-D
Scale: ½"=1'-0"

Note:
All construction joints in culvert walls to be 4"x3"

ESTIMATE OF QUANTITIES

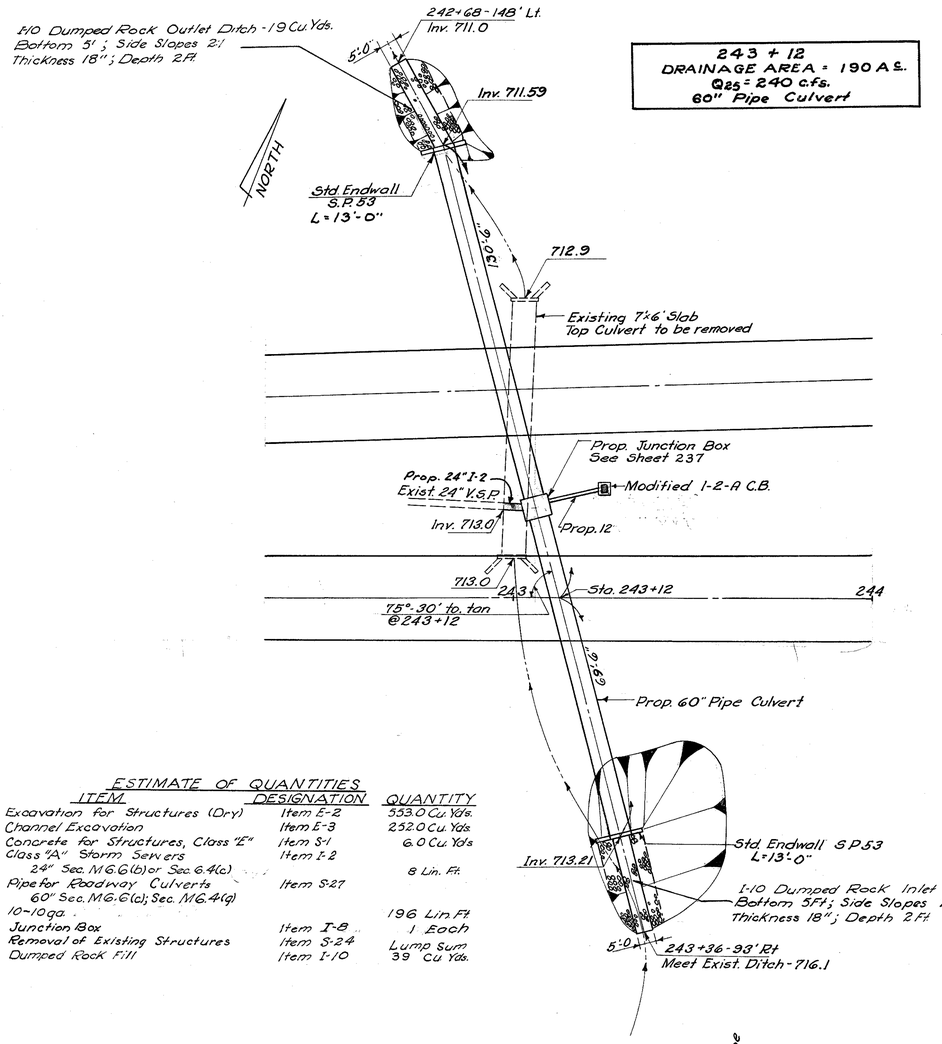
ITEM	DESIGNATION	QUANTITY
Excavation for Structures (Dry)	Item E-2	185.0 Cu. Yds.
Channel Excavation	Item E-3	160.0 Cu. Yds.
Concrete for Structures, Class "C"	Item S-1	43.5 Cu. Yds.
Reinforcing Steel	Item S-4	5016 Lbs.
Riprap, Type "A"	Item I-10	12 Sq. Yds.
Removal of Portions of Existing Structure	Item S-22	Lump Sum
Waterproofing, Type "B"	Item S-3	9 Sq. Yds.
3/4" Φ Expansion Anchor Bolts	Item S, special	16 Each
1 3/8" Φ x 4" Dowel Holes	Item S-23	16 Each

CULVERT STA. 210+93.5 N
DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

232
291

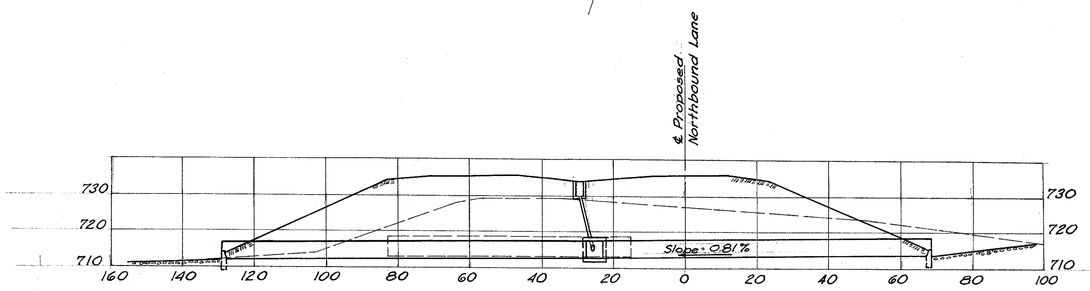
BUT-4-(8.48-15.02)



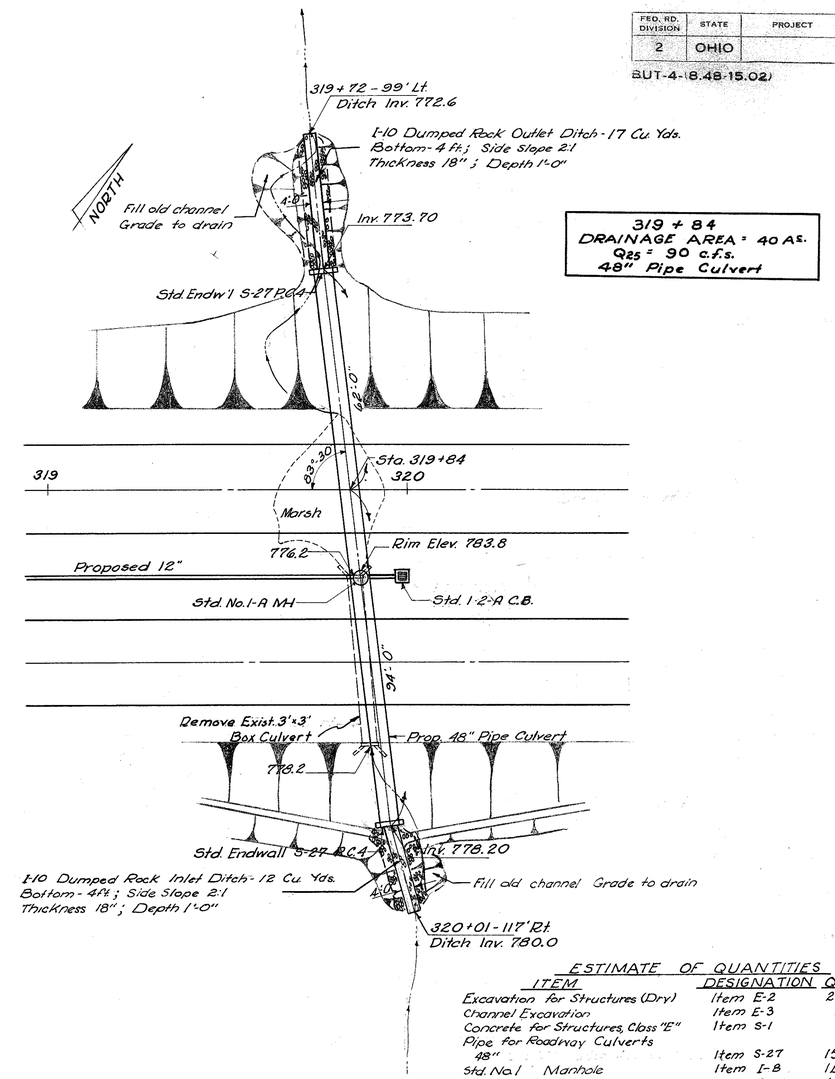
243 + 12
DRAINAGE AREA = 190 Ac.
Q_{25} = 240 c.f.s.
60" Pipe Culvert

ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Excavation for Structures (Dry)	Item E-2	553.0 Cu. Yds.
Channel Excavation	Item E-3	252.0 Cu. Yds.
Concrete for Structures, Class "E"	Item S-1	6.0 Cu. Yds.
Class "A" Storm Sewers 24" Sec. M.6.6(b) or Sec. 6.4(c)	Item I-2	8 Lin. Ft.
Pipe for Roadway Culverts 60" Sec. M.6.6(c); Sec. M6.4(g) 10-10 ga.	Item S-27	196 Lin. Ft.
Junction Box	Item I-8	1 Each
Removal of Existing Structures	Item S-24	Lump Sum
Dumped Rock Fill	Item I-10	39 Cu. Yds.



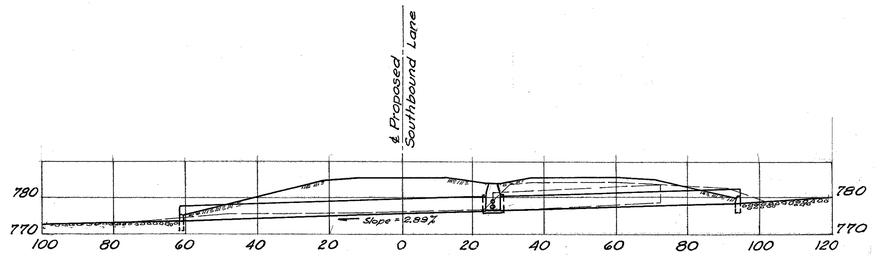
PIPE CULVERT STA. 243 + 12



319 + 84
DRAINAGE AREA = 40 Ac.
Q_{25} = 90 c.f.s.
48" Pipe Culvert

ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Excavation for Structures (Dry)	Item E-2	270.0 Cu. Yds.
Channel Excavation	Item E-3	58 Cu. Yds.
Concrete for Structures, Class "E"	Item S-1	1.7 Cu. Yds.
Pipe for Roadway Culverts 48"	Item S-27	152 Lin. Ft.
Std. No. 1 Manhole	Item I-8	1 Each
Removal of Existing Structures	Item S-24	Lump Sum
Dumped Rock Fill	Item I-10	29 Cu. Yds.



PIPE CULVERT STA. 319 + 84

SCALES
Horizontal: 1" = 20'
Vertical: 1" = 20'

STATIONS 243+12 & 319+84
DRAINAGE DETAILS

D. RD. DIVISION	STATE	PROJECT		233 291
2	OHIO			

BUT-4-(8.48-15.02)

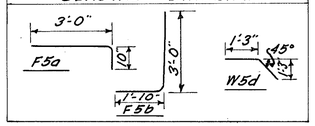
253+38
DRAINAGE AREA = 300 A ±
Q_{25} = 330 cfs
84" Pipe Culvert

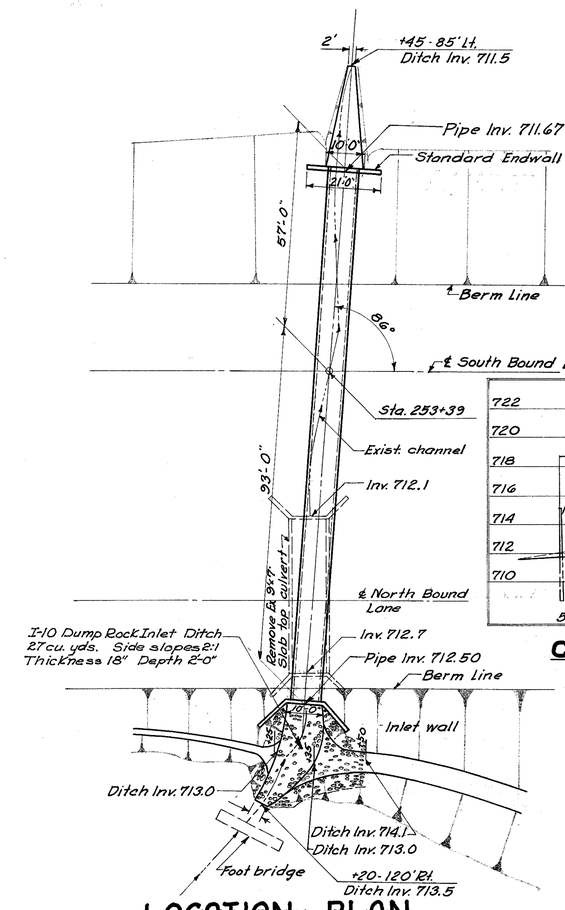
INLET HEADWALL FOR CULVERT AT STATION 253+39

REINFORCING STEEL

MARK	NO.	LENGTH	WEIGHT	SHAPE
FOOTINGS				
F5a	14	3'-9"	55	Bt.
F5b	14	4'-9"	69	Bt.
F5c	3	10'-6"	33	Str.
F5d	3	10'-0"	31	Str.
F5e	2	9'-6"	20	Str.
F5f	1	12'-0"	13	Str.
WALLS				
W5a	10	9'-8"	101	Str
W5b	2	4'-0"	8	Str.
W5c	2	5'-0"	10	Str.
W5d	6	2'-5"	15	Str.
W5e	2	10'-0"	21	Str.
W5f	2	6'-6"	14	Str.
W5g	2	9'-3"	19	Str.
W5h	2	8'-6"	18	Str.
W5i	2	7'-9"	16	Str.
W5j	2	7'-0"	15	Str.
W5k	2	6'-3"	13	Str.

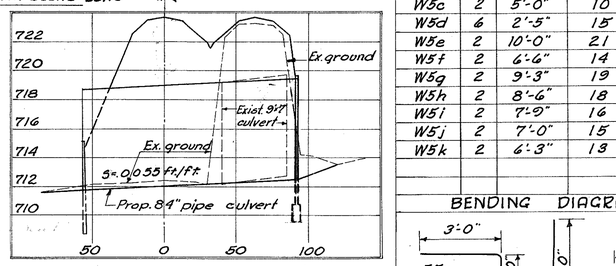
BENDING DIAGRAM





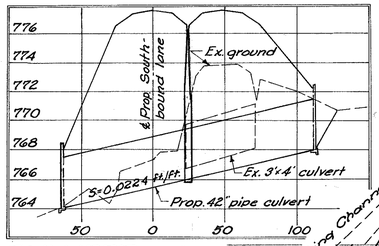
LOCATION PLAN

Scale: 1"=20'



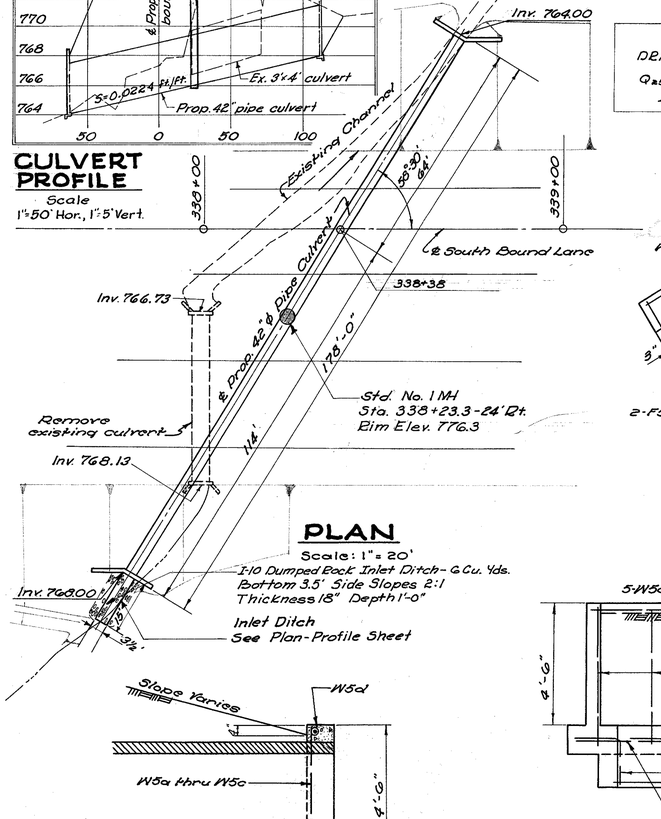
CULVERT PROFILE

Scale
1"=50' Hor. 1"=5' Vert.



CULVERT PROFILE

Scale
1"=50' Hor., 1"=5' Vert.



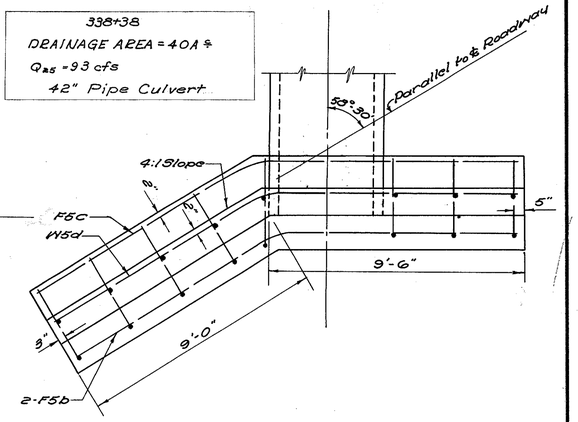
PLAN

Scale: 1"=20'

I-10 Dumped Rock Inlet Ditch - 6 Cu. Yds.
Bottom 3.5' Side Slopes 2:1
Thickness 18" Depth 1'-0"

Inlet Ditch
See Plan-Profile Sheet

338+38
DRAINAGE AREA = 40 A ±
Q_{25} = 93 cfs
42" Pipe Culvert

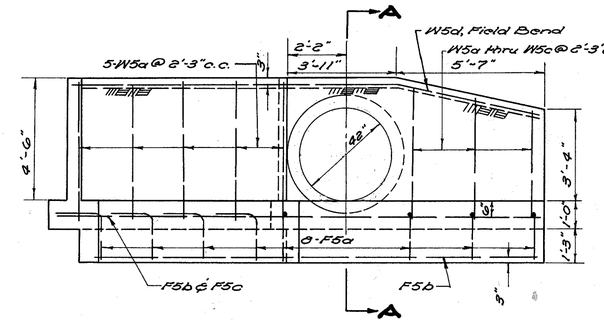


PLAN OF HEADWALL

Scale: 3/8"=1'-0"

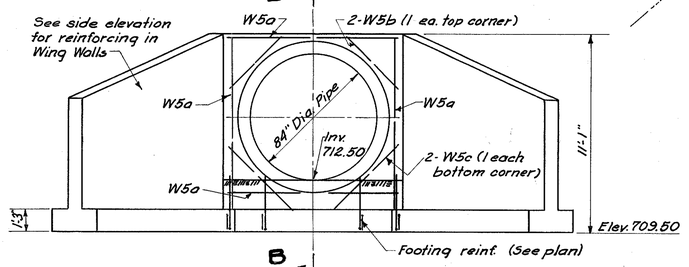
SECTION A-A

Scale: 3/8"=1'-0"



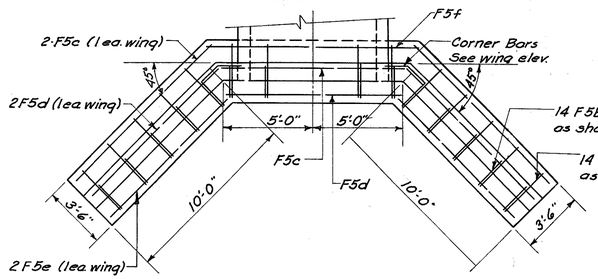
ELEVATION OF HEADWALL

Scale: 3/8"=1'-0"



INLET ELEVATION

Scale: 1/4"=1'-0"

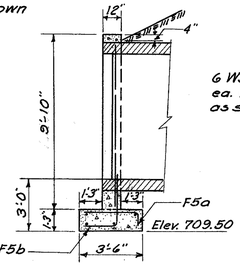


INLET WALL PLAN

Scale: 1/4"=1'-0"

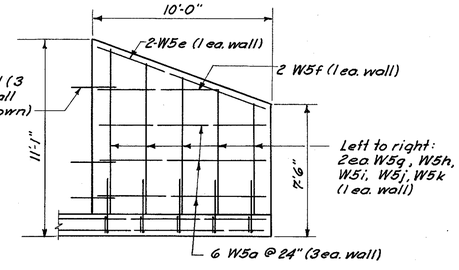
ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Pipe for Roadway Culverts - Sec. M6.6(b) or Sec. M6.4(g)-84"-10-10 Gage	Item 5-27	150 Lin. Ft.
Excavation for Structures (Dry)	Item E-2	702.0 Cu. Yds.
Channel Excavation	Item E-3	37 Cu. Yds.
Concrete for Structures, Class "C"	Item 5-1	13.0 Cu. Yds.
Concrete for Structures, Class "E"	Item 5-1	6.8 Cu. Yds.
Reinforcing Steel	Item 5-4	471 Lbs.
Dumped Rock Fill	Item I-10	27 Cu. Yds.
Removal of Existing Structures	Item S-24	Lump Sum



SECTION B-B

Scale: 1/4"=1'



WING WALL

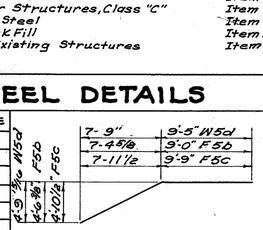
Scale: 1/4"=1'-0"

ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Pipe for Roadway Culverts - 42"	Item S-27	174 Lin. Ft.
Manholes - Std. No. 1	Item Z-8	1 Each
Excavation for Structures (Dry)	Item E-1	279.0 Cu. Yds.
Channel Excavation	Item E-3	10.0 Cu. Yds.
Concrete for Structures, Class "C"	Item S-1	12.7 Cu. Yds.
Reinforcing Steel	Item S-4	608 Lbs.
Dumped Rock Fill	Item I-10	6 Cu. Yds.
Removal of Existing Structures	Item S-24	Lump Sum

REINFORCING STEEL DETAILS

MARK	NO.	LENGTH. FT.	WEIGHT	SHAPE
W5a	12	5'-0"	63	Str.
W5b	2	4'-5"	9	Str.
W5c	2	5'-11"	8	Str.
W5d	2	18'-6"	39	Bk.
F5a	16	4'-3"	71	Bk.
F5b	4	17'-9"	74	Bk.
F5c	2	19'-1"	40	Bk.



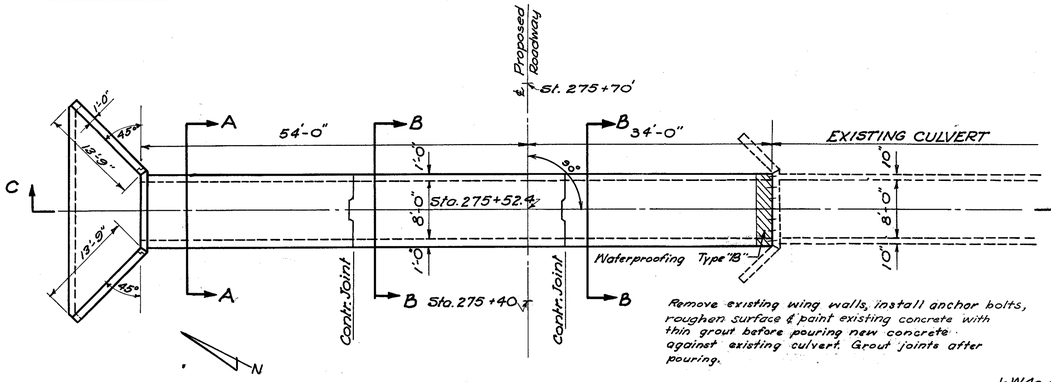
STATIONS 253+39 & 338+38

DRAINAGE DETAILS

FED. RD.	STATE	PROJECT	
2	OHIO		

234
291

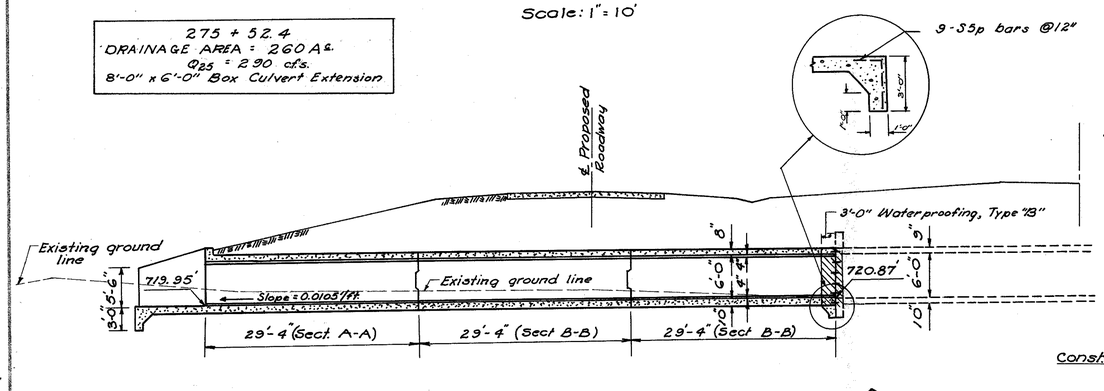
BUT-4-(8.48-15.02)



PLAN

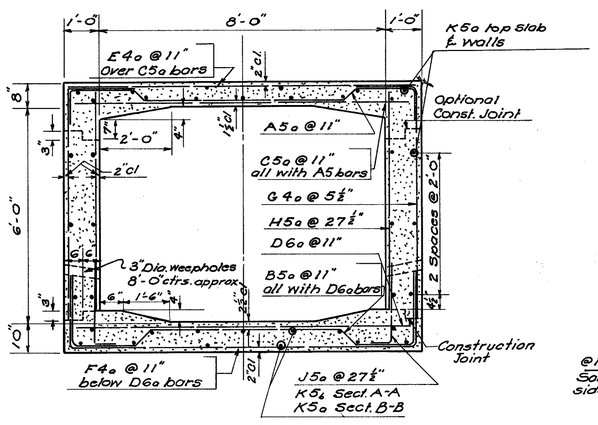
Scale: 1" = 10'

275 + 52.4
DRAINAGE AREA = 260 A℄.
Q_{25} = 290 cfs.
8'-0" x 6'-0" Box Culvert Extension



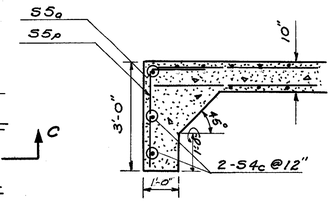
SECTION C-C

Scale: 1" = 10'



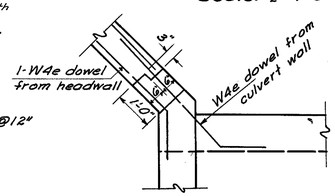
SECTION A-A & B-B

Scale ½" = 1'-0"



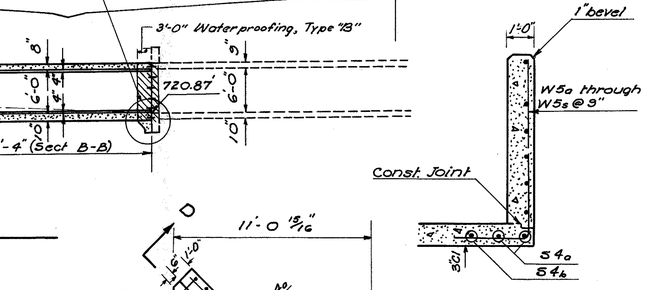
SECTION E-E

Scale: ½" = 1'-0"



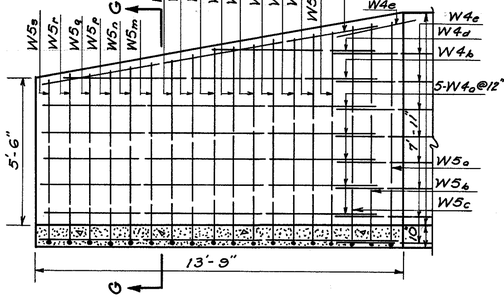
TYPICAL CONST. JOINT

Scale: ½" = 1'-0"



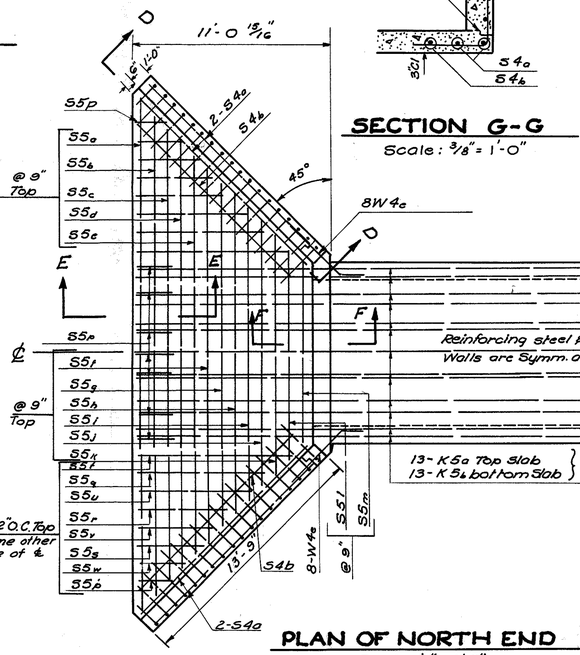
SECTION G-G

Scale: ⅜" = 1'-0"



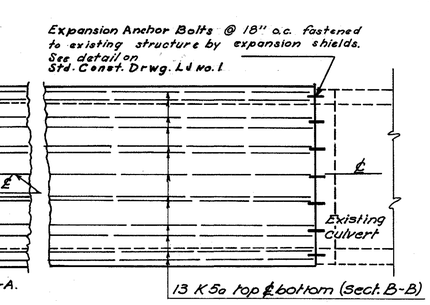
SECTION D-D

Scale: ⅜" = 1'-0"



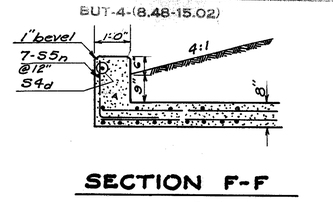
PLAN OF NORTH END

Scale: ¼" = 1'-0"



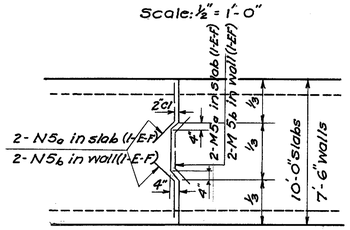
PLAN OF SOUTH END

Scale: ¼" = 1'-0"



SECTION F-F

Scale: ½" = 1'-0"

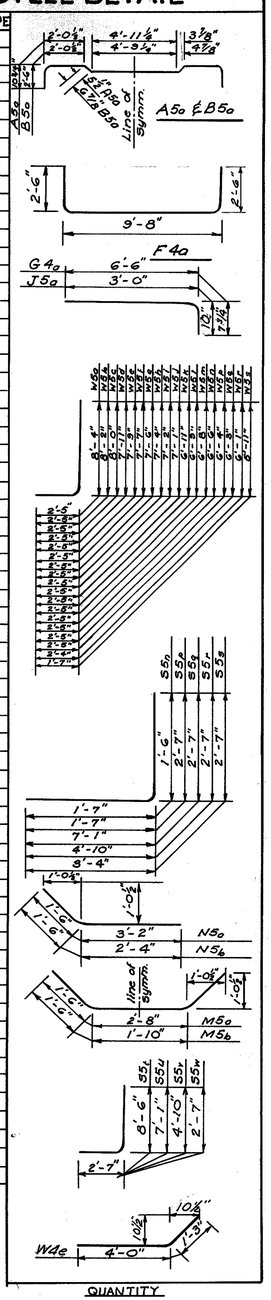


DETAIL OF CONTR. JOINT

Scale: ¼" = 1'-0"

REINFORCING STEEL DETAIL

MARK	NO	LENGTH	WEIGHT	SHAPE
A5a	96	11'-5"	1143	BT
B5a	96	14'-9"	1477	BT
C5a	96	9'-6"	951	Str
D6a	96	8'-6"	1370	Str
E4a	96	9'-6"	609	Str
F4a	96	14'-5"	925	Bt
G4a	384	7'-1"	1816	Bt
H5a	78	6'-0"	488	Str
J5a	78	3'-9"	305	Bt
K5a	101	28'-10"	3037	Str
K5b	13	38'-9"	525	
W4a	10	12'-5"	83	
W4b	2	11'-6"	15	
W4c	2	12'-9"	17	Str
W5a	2	10'-8"	22	Bt
W5b	2	10'-6"	22	
W5c	2	10'-4"	22	
W5d	2	10'-3"	21	
W5e	2	10'-1"	21	
W5f	2	9'-11"	21	
W5g	2	9'-10"	21	
W5h	2	9'-8"	20	
W5i	2	9'-6"	20	
W5j	2	9'-5"	20	
W5k	2	9'-3"	19	
W5l	2	9'-1"	19	
W5m	2	9'-0"	19	
W5n	2	8'-10"	18	
W5p	2	8'-8"	18	
W5q	2	8'-7"	18	
W5r	2	8'-4"	17	
W5s	2	7'-6"	16	Bt
S4a	4	13'-1"	35	Str
S4b	2	12'-4"	16	
S4c	2	28'-6"	38	
S4d	1	9'-8"	7	
S5a	1	28'-6"	30	
S5b	1	27'-0"	28	
S5c	1	25'-6"	27	
S5d	1	24'-0"	25	
S5e	1	22'-6"	23	
S5f	1	21'-0"	22	
S5g	1	19'-5"	20	
S5h	1	17'-10"	19	
S5i	1	16'-4"	17	
S5j	1	14'-10"	15	
S5k	1	13'-4"	14	
S5l	1	11'-10"	12	
S5m	1	10'-4"	11	Str
S5n	7	3'-0"	22	Bt
S5p	18	4'-1"	76	
S5q	2	9'-7"	20	
S5r	2	7'-5"	15	
S5s	2	5'-11"	12	
N5a	16	4'-7"	76	
N5b	16	3'-9"	63	
M5a	8	5'-7"	47	
M5b	8	4'-9"	40	
S5t	2	11'-0"	23	
S5u	2	9'-8"	20	
S5v	2	7'-4"	15	
S5w	2	5'-1"	11	Bt
W4d	2	6'-4"	8	Str
W4e	18	5'-2"	62	Bt



ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Excavation for Structures (Dry)	Item E-2	445.0 Cu. Yds.
Channel Excavation	Item E-3	107.0 Cu. Yds.
Concrete for Structures, Class "C"	Item S-1	111.4 Cu. Yds.
Reinforcing Steel	Item S-4	13,977 Lbs.
Removal of Portions of existing structure	Item S-22	Lump Sum
Waterproofing, Type "B"	Item S-3	12 Sq. Yds.
¾" ℄ Expansion Anchor Bolts	Item Special	32 Each
1⅜" ℄ x 4" Dowel Holes	Item S-23	22 Each

STATION 275 + 52.4

DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

235
291

BUT-4-(8.48-15.02)

352+87
101' Lt.
Meet Ex. Ditch

352+33.5
DRAINAGE AREA = 40 A.S.
Q_{25} = 90 cfs
G5"x40" Deformed Pipe Culvert

Inv. 744.10

6-0" x 6-0"

Std. Endwall S.P. 53
Length = 12'

48'

Existing channel

62°30' to tangent

℄ Southbound Lane

352

353

+33.5

G5"x40" Bit. Coated Paved Inv. M6-A(1)(d), 8 Gage

84'

Inv. 745.61

Pipe Special Tee

Exist. Pav't.

Abandon exist. 3'x3' Box Culvert

Prop. 12" S86.4' @ 6.4%

Seal this face of existing inlet with suitable plug - see General Notes

Abandon 18" C.M.P.

12" C.M.P.

Inv. 746.11

Inv. 746.00

Ditch Inv. 748.0

For Headwall details and paving details, see below

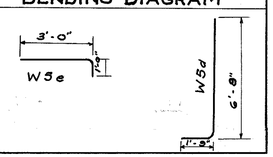
Scale: 1" = 20'-0"

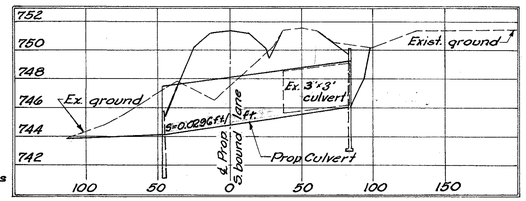
STATION 352+33.5 RT.

REINFORCING STEEL

MARK	NO	LENGTH	WEIGHT	SHAPE
W5a	6	22'- 0"	138	Str.
W5b	1	9'- 9"	10	Str.
W5c	1	5'- 9"	6	Str.
W5d	8	8'- 4"	70	Bt.
W5e	10	3'- 11"	41	Bt.
W5f	2	8'- 3"	17	Str.

BENDING DIAGRAM

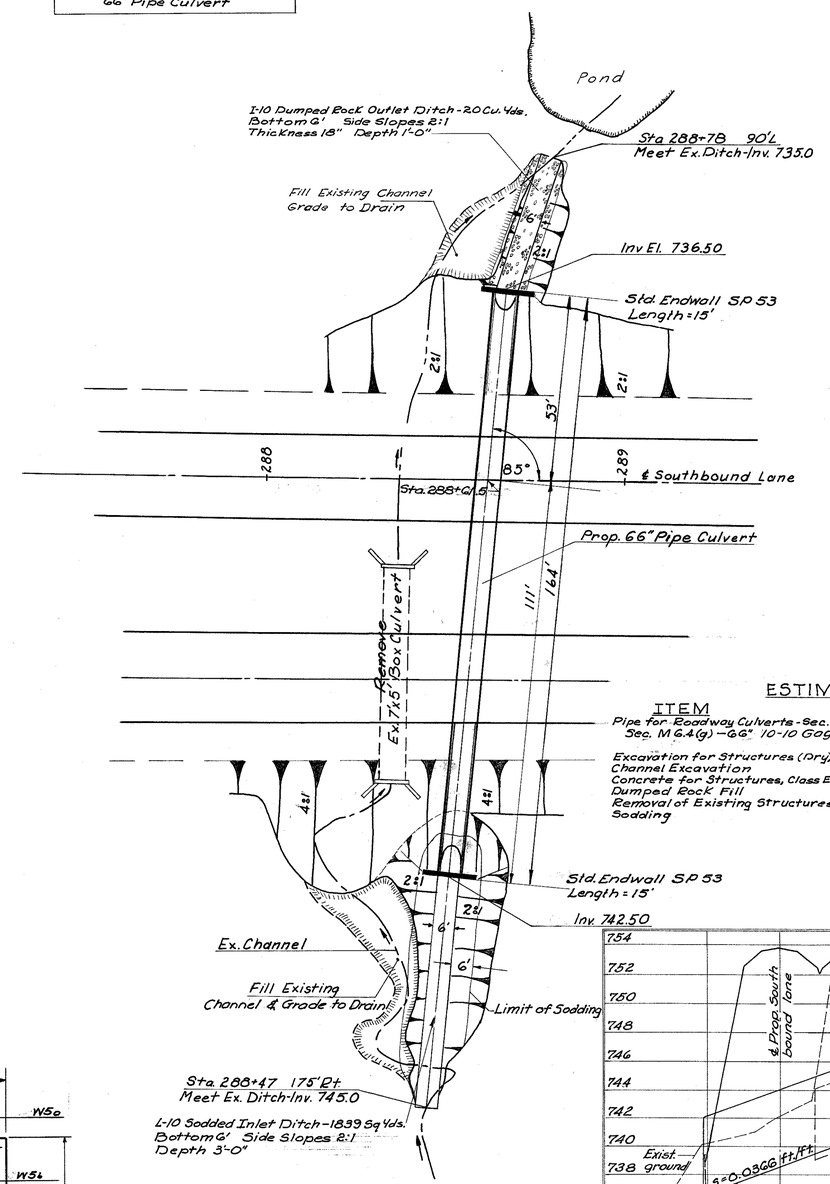




SECTION D-D

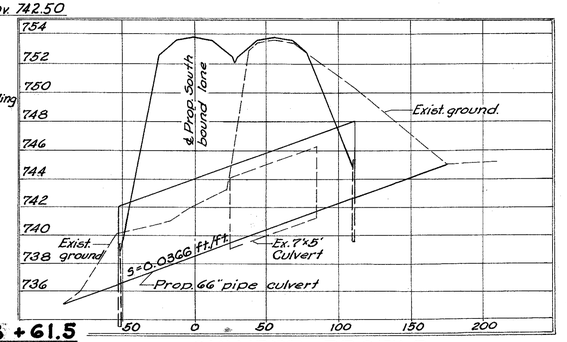
Scale
1"=50' Hor. 1"=5' Vert.

288+61.5
DRAINAGE AREA = 160 A.S.
Q_{25} = 210 cfs
66" Pipe Culvert



ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Pipe for Roadway Culverts - Sec. M.6.4(g) - G6" 10-10 Gage	Item S-27	164 Lin. Ft.
Excavation for Structures (Dry)	Item E-2	421 Cu. Yds.
Channel Excavation	Item E-3	255 Cu. Yds.
Concrete for Structures, Class E	Item S-1	9.4 Cu. Yds.
Dumped Rock Fill	Item I-10	20 Cu. Yds.
Removal of Existing Structures	Item S-24	Lump Sum
Sodding	Item L-10	183.3 Sq. Yds.

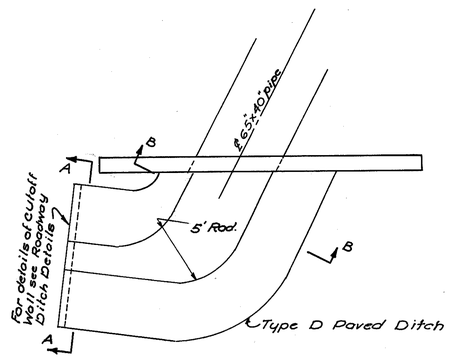


CULVERT STA. 288+61.5 DITCHOUT DETAILS

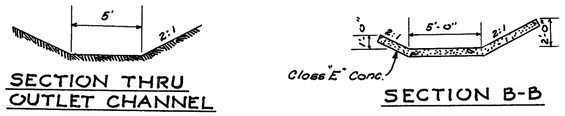
Scale: 1"=20'

CULVERT PROFILE

Scale:
1"=50' Hor. 1"=5' Vert.



Scale: 1"=5'-0"



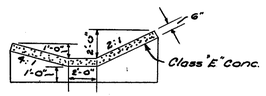
SECTION THRU OUTLET CHANNEL

SECTION B-B

Scale 1"=5'-0"

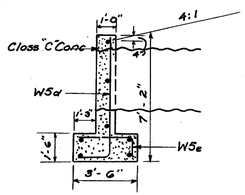
ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Paved Bituminous Coated Corrugated Metal Arch, Sec. M.6.4(i)(d), G5"x40" 8 Ga.	Item S-27	128 Lin. Ft.
Excavation for Structures - (Dry)	Item E-2	218.0 Cu. Yds.
Channel Excavation	Item E-3	31 Cu. Yds.
Concrete for Structures - Class C	Item S-1	8.6 Cu. Yds.
Concrete for Structures - Class E	Item S-1	1.7 Cu. Yds.
Reinforcing Steel	Item S-4	282 Lbs.
Paved Ditches, Type D	Item I-14	16 Lin. Ft.
Pipe Special - Tee - 12" to G5"x40" C.M. Arch	Item I-5	1 Each



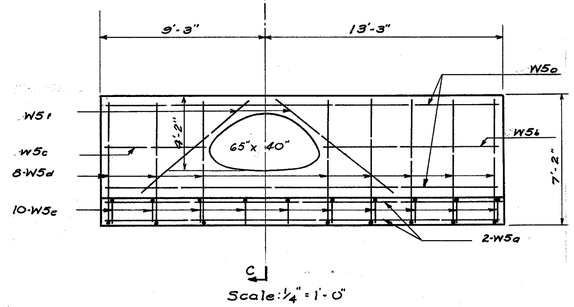
SECTION A-A

Scale: 1"=5'-0"



SECTION C-C

Scale: 1/4" = 1'-0"



Scale: 1/4" = 1'-0"

CULVERT STA. 352 + 33.5

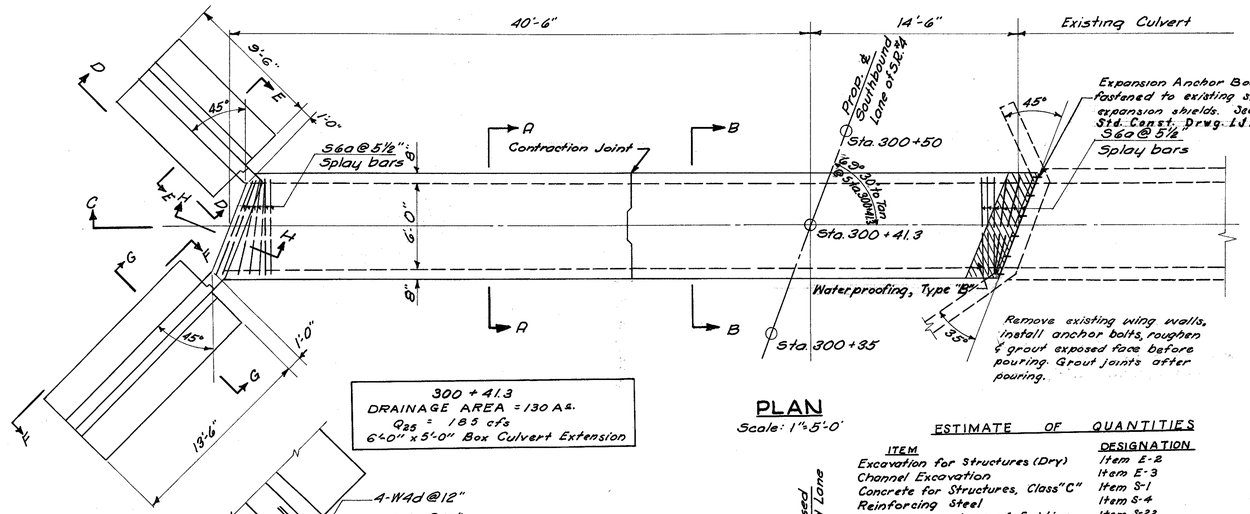
STRUCTURAL & LOCATION DETAILS

STATIONS 288 + 61.5 & 352 + 33.5 DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

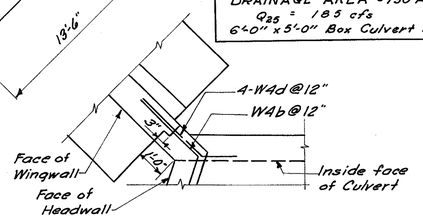
236
291

BUT-4-(8.48-15.02)



PLAN

Scale: 1"=5'-0"

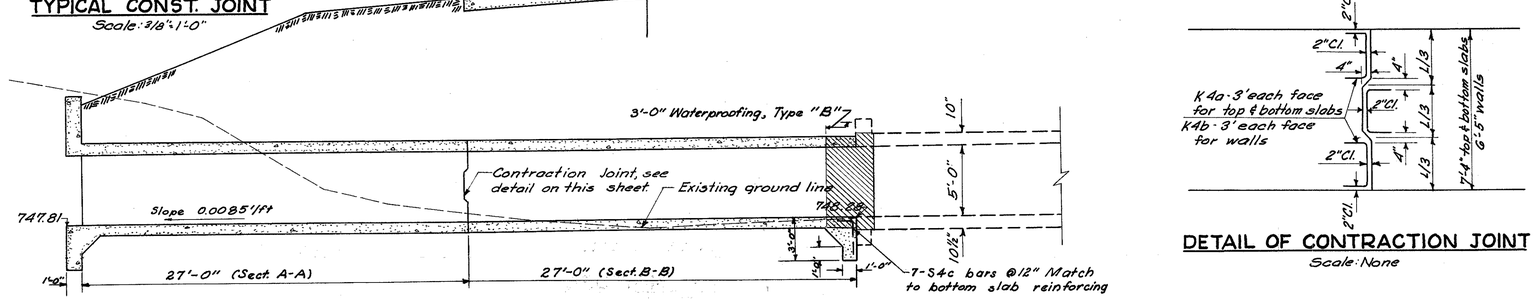


TYPICAL CONST. JOINT

Scale: 3/8"=1'-0"

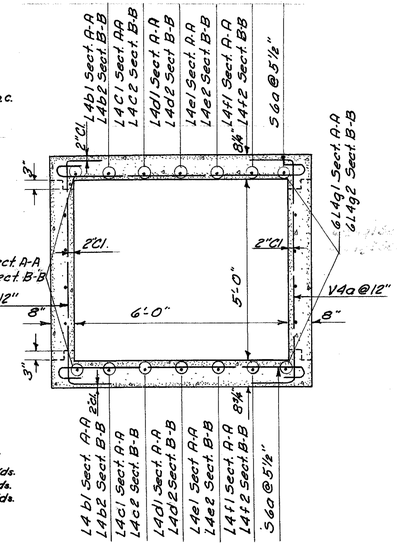
ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Excavation for Structures (Dry)	Item E-2	260.0 Cu. Yds.
Channel Excavation	Item E-3	2218 Cu. Yds.
Concrete for Structures, Class "C"	Item S-1	57.6 Cu. Yds.
Reinforcing Steel	Item S-4	5649 Lbs.
Removal of Portions of Existing Structures	Item S-22	Lump Sum
Waterproofing, Type "B"	Item S-3	9.5 Sq. Yds.
¾" ℄ Expansion Anchor Bolts	Item Special	18 Each
1⅜" ℄ x 4" Dowel Holes	Item S-23	18 Each
Dumped Rock Fill	Item 1-10	38.0 Cu. Yds.



SECTION C-C

Scale: 1"=5'-0"

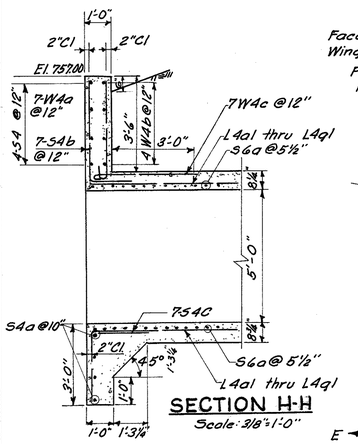


SECTION A-A & B-B

Scale: ½"=1'-0"

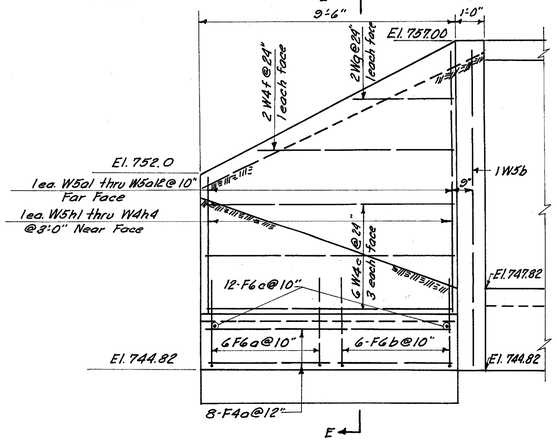
DETAIL OF CONTRACTION JOINT

Scale: None



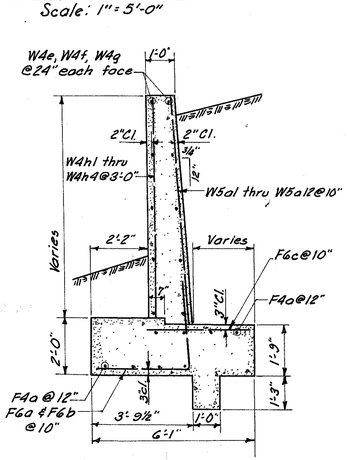
SECTION H-H

Scale: 3/8"=1'-0"



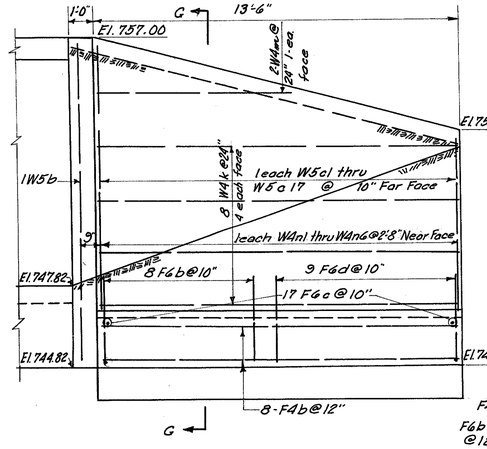
SECTION D-D

Scale: 3/8"=1'-0"



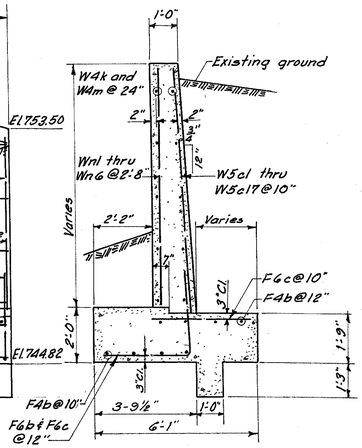
SECTION E-E

Scale: 3/8"=1'-0"



SECTION F-F

Scale: 3/8"=1'-0"



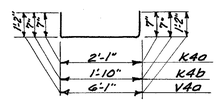
SECTION G-G

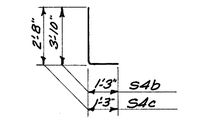
Scale: 3/8"=1'-0"

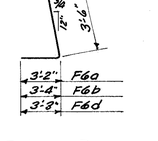
REINFORCING DETAILS

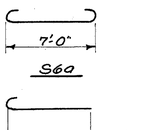
MARK	NO.	LENGTH	WEIGHT	SHAPE
F4a	8	9'-2"	49	Str.
F4b	8	13'-2"	70	Str.
K4a	12	3'-2"	25	Bt.
K4b	12	2'-11"	23	Bt.
L4a1	6	26'-7"	107	Str.
L4a2	6	27'-8"	111	↓
L4b1	2	27'-0"	36	
L4b2	2	27'-4"	37	
L4c1	2	27'-1"	36	
L4c2	2	26'-11"	36	
L4d1	2	27'-5"	37	
L4d2	2	27'-2"	36	
L4e1	2	27'-9"	37	
L4e2	2	26'-8"	36	
L4f1	2	28'-6"	38	
L4f2	2	26'-0"	35	
L4g1	6	28'-11"	116	↓
L4g2	6	25'-6"	102	Str.
S4a	8	7'-5"	40	Str.
S4b	7	5'-0"	23	Bt.
S4c	14	3'-10"	36	Bt.
V4a	110	7'-5"	545	
F6a	6	6'-7"	58	Bt.
F6b	17	6'-9"	172	Bt.
F6c	29	3'-3"	163	Str.
F6d	9	6'-8"	90	Bt.
S6a	240	8'-4"	3003	Bt.
W4a	7	4'-4"	20	Bt.
W4b	4	11'-3"	31	Bt.
W4c	7	4'-3"	20	Bt.
W4d	4	4'-1"	11	Bt.
W4e	6	9'-2"	37	Str.
W4f	2	7'-4"	10	↓
W4g	2	3'-8"	5	
W4h	1	5'-0"	3	
W4h2	1	6'-7"	4	
W4h3	1	8'-2"	5	
W4h4	1	9'-9"	7	
W4k	8	13'-2"	70	
W4m	2	6'-11"	9	
W4n1	1	6'-6"	4	
W4n2	1	7'-2"	5	
W4n3	1	7'-10"	5	
W4n4	1	8'-7"	6	
W4n5	1	9'-3"	6	
W4n6	1	9'-11"	7	Str.
W5a1	1	5'-3"	5	Str.
W5a2	1	5'-8"	6	↓
W5a3	1	6'-1"	6	
W5a4	1	6'-7"	7	
W5a5	1	7'-0"	7	
W5a6	1	7'-5"	8	
W5a7	1	7'-10"	8	
W5a8	1	8'-4"	9	
W5a9	1	8'-9"	9	
W5a10	1	9'-2"	10	
W5a11	1	9'-7"	10	
W5a12	1	10'-0"	10	
W5b	2	12'-0"	25	
W5c1	1	6'-9"	7	
W5c2	1	6'-11"	7	
W5c3	1	7'-2"	7	
W5c4	1	7'-4"	8	
W5c5	1	7'-7"	8	
W5c6	1	7'-9"	8	
W5c7	1	8'-0"	8	
W5c8	1	8'-2"	9	
W5c9	1	8'-5"	9	
W5c10	1	8'-8"	9	
W5c11	1	8'-10"	9	
W5c12	1	9'-1"	9	
W5c13	1	9'-3"	10	
W5c14	1	9'-6"	10	
W5c15	1	9'-8"	10	
W5c16	1	9'-11"	10	
W5c17	1	10'-2"	11	Str.
Total	Steel		5613	

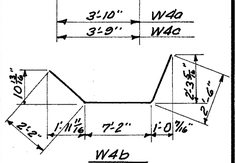
BENDING

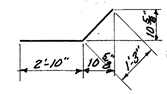












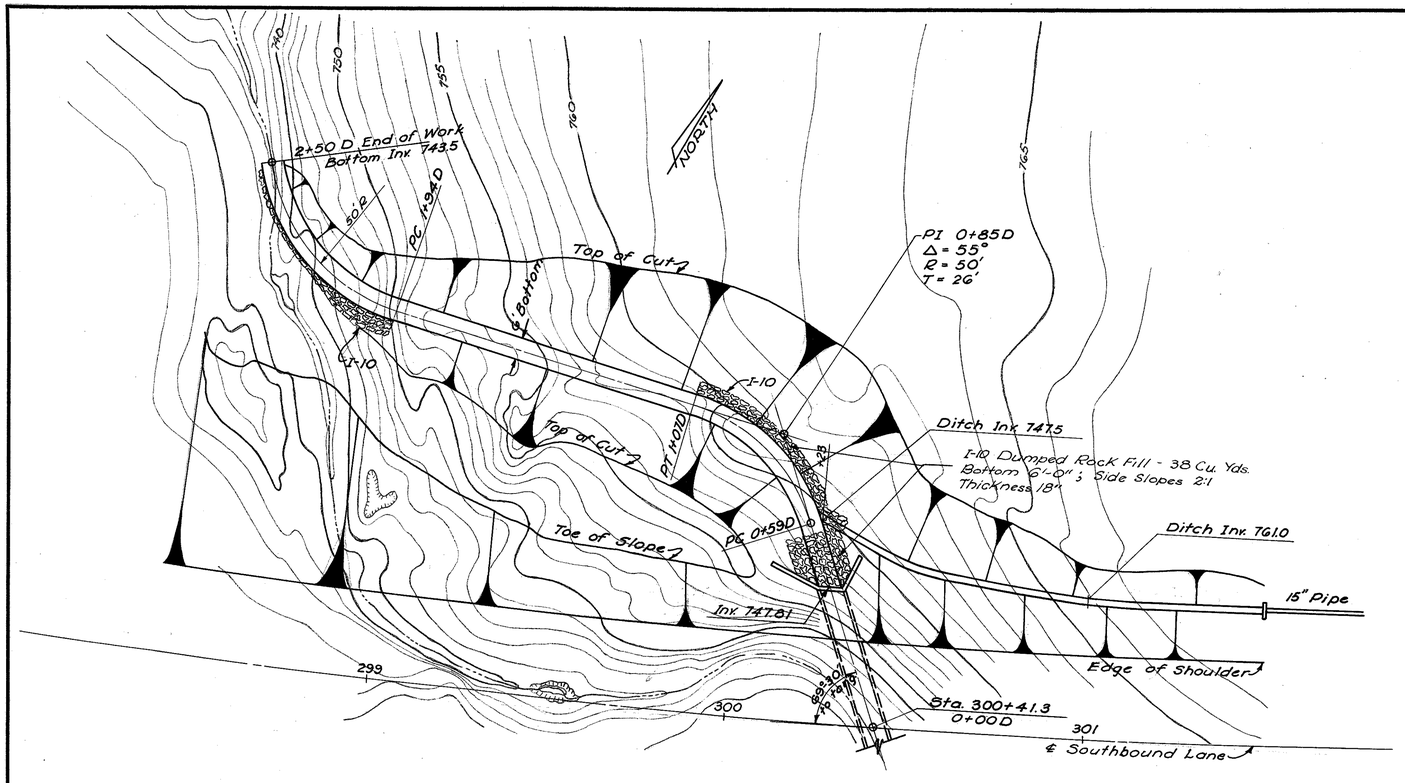
STATION 300+41.3

DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(8.48-15.02)

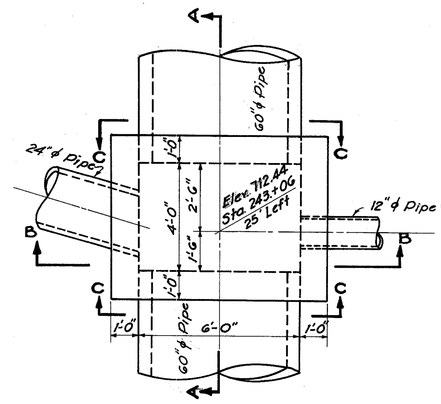
237
291



For Estimates of Quantities for Outlet Ditch
See Sheet 236

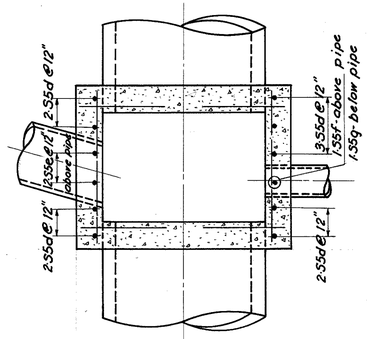
OUTLET DITCH AT STATION 300+41.3

Scale: 1"=20'



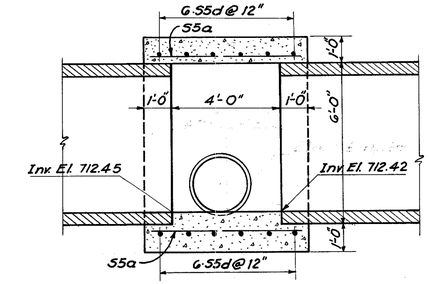
PLAN ~ JUNCTION BOX

Scale: 3/8"=1'-0"



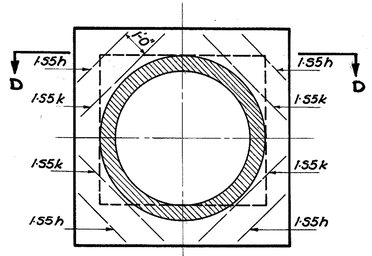
SECTION D~D

Scale: 3/8"=1'-0"



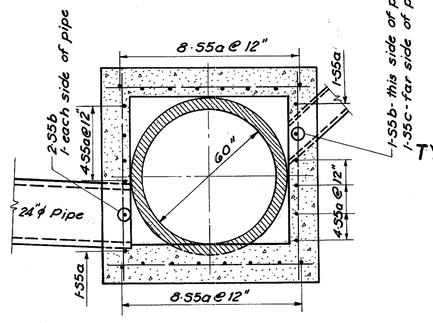
SECTION A~A

Scale: 3/8"=1'-0"



ELEVATION C~C

Scale: 3/8"=1'-0"



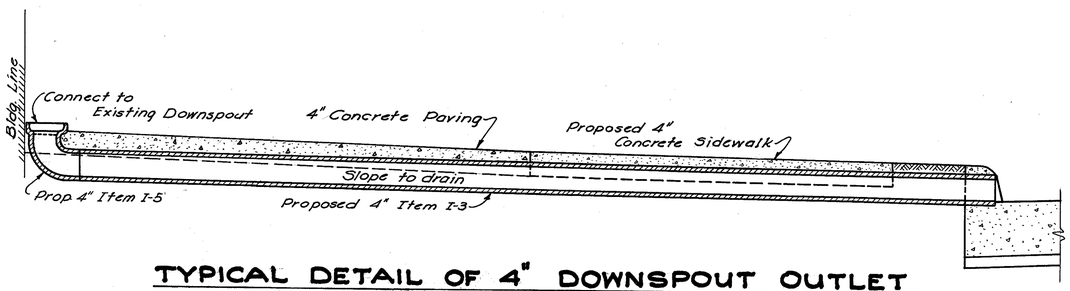
SECTION B~B

Scale: 3/8"=1'-0"

TYPE "A" JUNCTION BOX - STATION 243+06

REINFORCING DETAILS

MARK	NO	LENGTH	WEIGHT	SHAPE	BENDING
55a	26	5'-8"	154	Str.	
55b	3	1'-4"	4		
55c	1	2'-7"	3		
55d	21	7'-8"	168		
55e	2	4'-3"	9		
55f	1	1'-3"	1		
55g	1	4'-1"	4		
55h	4	2'-6"	10		
55k	4	4'-6"	19	Str.	



TYPICAL DETAIL OF 4" DOWNSPOUT OUTLET THRU CURB & SIDEWALK

STATION	4" I-3 (LIN. FT.)	4" I-5 (Ea.)	COMMENTS
91+71 (Lt.)	16	90° Elbow 4"x4" Tee	Downspout
92+22 (Lt.)	18		Cistern Outlet
93+18 (Lt.)	13	90° Elbow	Downspout
93+24 (Lt.)	4		Cistern Outlet Connect to Prop. C.B.
93+39 (Lt.)	13	90° Elbow	Downspout
93+86 (Lt.)	12	90° Elbow	Downspout

Use Similar Detail to Outlet existing Cisterns @ Stations 92+22 & 93+24.

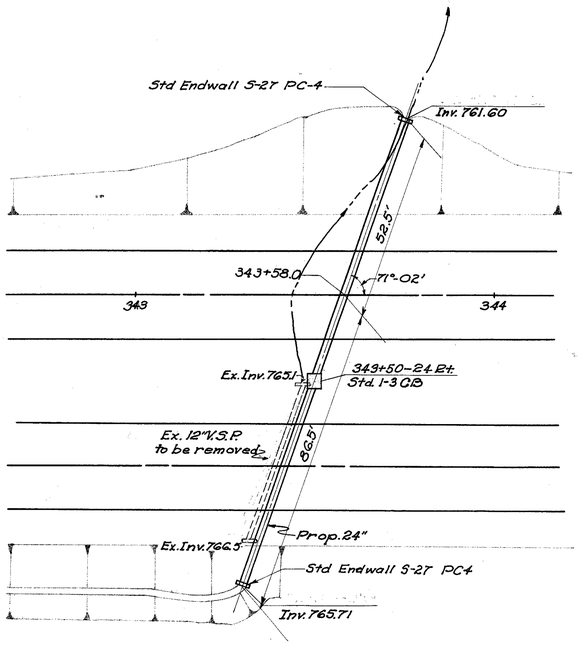
DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

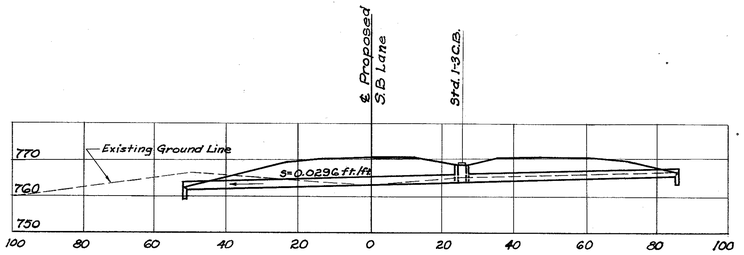
238
291

(UT-4-8.48-15.02)

343+58
DRAINAGE AREA = 7A ±
Q_{25} = 18 cfs
24" Pipe Culvert



CULVERT AT STA. 343+58



CULVERT PROFILE

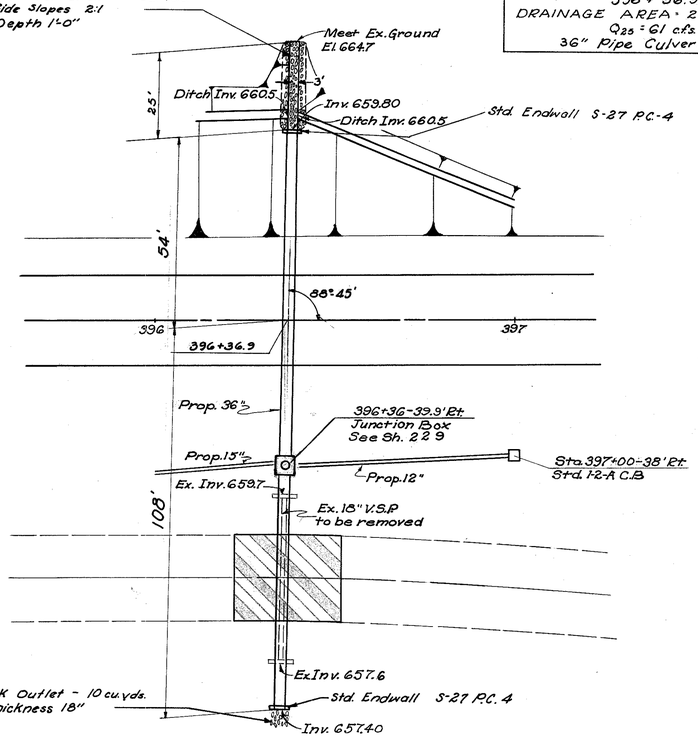
ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Pipe for Roadway Culverts - 24"	Item S-27	136 Lin. Ft.
Catch Basins - Std. No. 1-3	Item I-3	1 Each
Excavation for Structures (Dry)	Item E-2	80 Cu. Yds.
Concrete for Structures, Class "E"	Item S-1	0.8 Cu. Yds.
Removal of Existing Structures	Item S-24	Lump Sum
Pipe Removal	Item E-12	47 Lin. Ft.

SCALES
Horizontal: 1"=20'
Vertical : 1"=20'

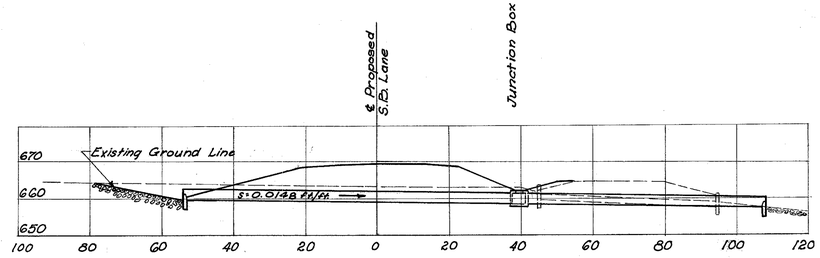
I-10 Dumped Rock Inlet Ditch - 17 Cu. Yds.
Bottom 3'-0", Side Slopes 2:1
Thickness 18" Depth 1'-0"

396 + 36.9
DRAINAGE AREA - 24 Ac.
Q_{25} = 61 c.f.s.
36" Pipe Culvert



I-10 Dumped Rock Outlet - 10 cu. yds.
Bottom 3'-0" Thickness 18"

CULVERT AT STA. 396 + 36.9



CULVERT PROFILE

ESTIMATE OF QUANTITIES

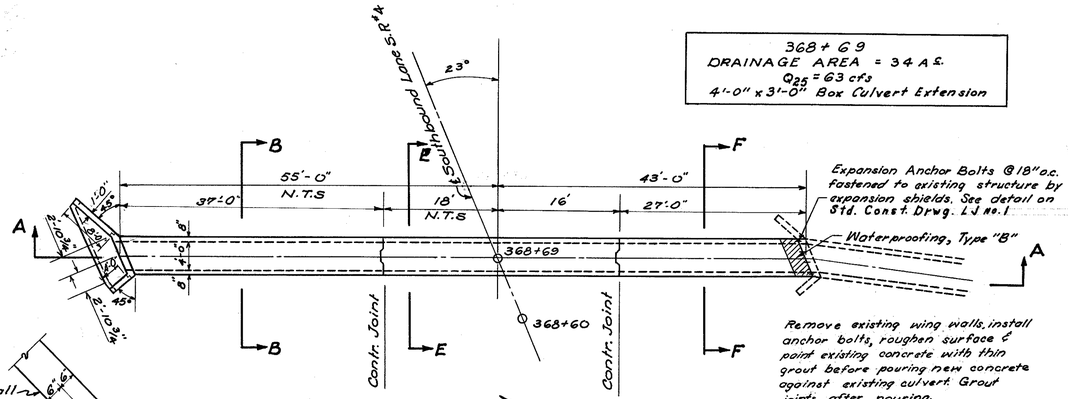
ITEM	DESIGNATION	QUANTITY
Pipe for Roadway Culverts - Sec. M 6.8 (b), Sec. M 6.6 (b), Sec. M 6.4 (d) - 36" - 12 Ga.	Item S-27	158 Lin. Ft
Excavation for Structure (Dry)	Item E-2	19.8 Cu. Yds.
Channel Excavation	Item E-3	11 Cu. Yds.
Concrete for Structures, Class "E"	Item S-1	1.2 Cu. Yds.
Dump Rock Fill	Item I-10	27 Cu. Yds.
Removal of Existing Structures	Item S-24	Lump Sum
Pipe Removal	Item E-12	47 Lin. Ft
Junction Box	Item I-8	1 Each

STATIONS 343 + 50 & 396 + 36.9
DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT		239 291
2	OHIO			

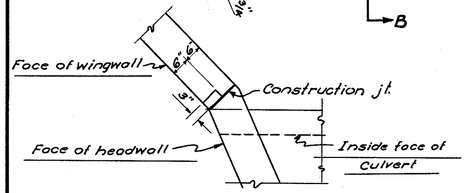
BUT-4-(8.48-15.02)

368+69
DRAINAGE AREA = 34 A.S.
Q_{25} = 63 cfs
4'-0" x 3'-0" Box Culvert Extension



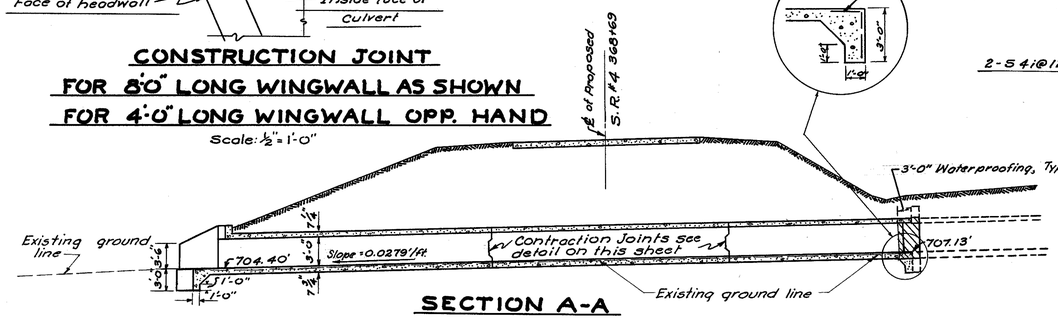
PLAN

Scale 1" = 10'



CONSTRUCTION JOINT FOR 8'0" LONG WINGWALL AS SHOWN FOR 4'-0" LONG WINGWALL OPP. HAND

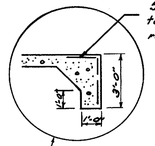
Scale: ½" = 1'-0"

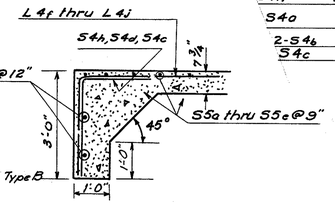


SECTION A-A

Scale 1" = 10'-0"

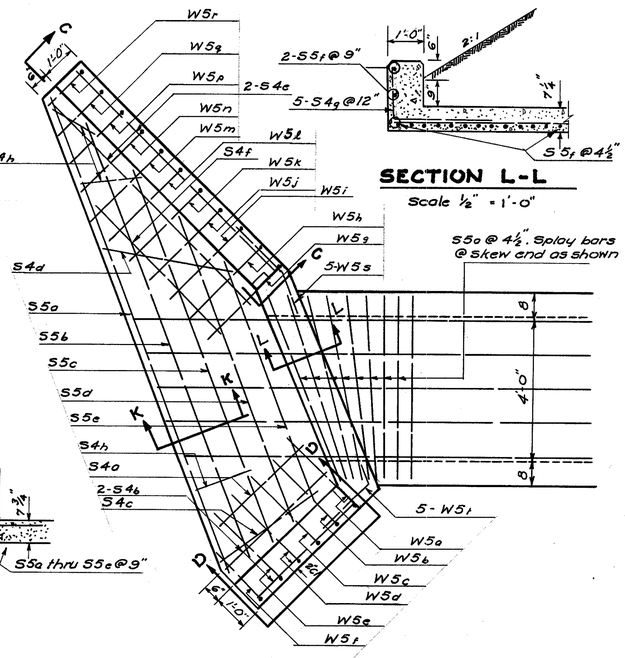
5-S4h bars @12" Match to bottom slab reinforcing.





SECTION K-K

Scale: ½" = 1'-0"



SECTION L-L

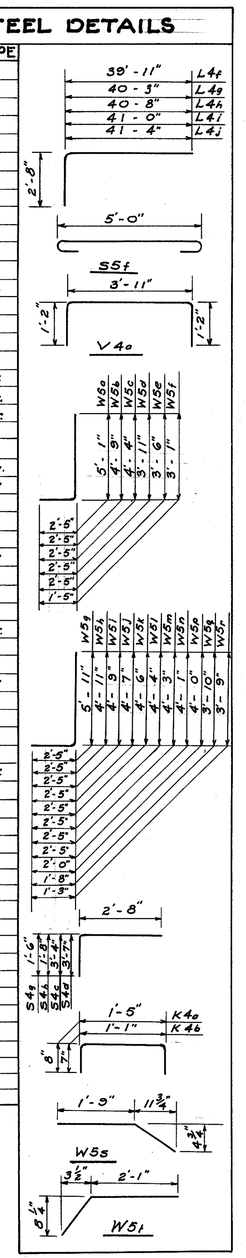
Scale ½" = 1'-0"

PLAN OF NORTH END

Scale: ½" = 1'-0"

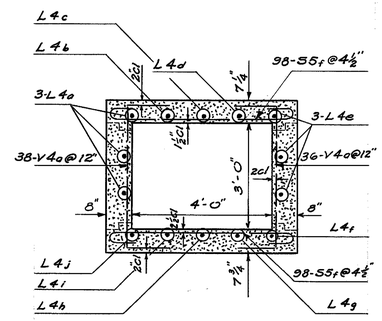
REINFORCING STEEL DETAILS

MARK	NO	LENGTH	WEIGHT	SHAPE
K4a	24	2'-7"	41	Bt.
K4b	24	2'-1"	33	Bt.
L4a	3	37'-6"	75	Str.
L4b	1	37'-1"	25	
L4c	1	36'-8"	24	
L4d	1	36'-3"	24	
L4e	3	35'-10"	72	Str
L4f	1	42'-6"	28	Bt
L4g	1	42'-10"	29	
L4h	1	43'-3"	29	
L4i	1	43'-7"	29	
L4j	1	43'-11"	29	Bt.
L4k	14	33'-8"	315	Str.
L4l	4	25'-9"	69	
L4m	2	26'-3"	35	
L4n	2	26'-8"	36	
L4p	4	27'-6"	73	
L4q	2	27'-1"	36	Str.
S4a	1	3'-4"	2	Str.
S4b	2	4'-1"	5	Str.
S4c	1	5'-11"	2	Bt.
S4d	1	6'-2"	2	Bt.
S4e	2	7'-10"	10	Str.
S4f	1	5'-7"	4	Str
S4g	5	4'-1"	14	Bt.
S4h	8	4'-3"	23	Bt.
S4i	2	13'-8"	18	Str
S5a	1	14'-3"	15	Str
S5b	1	13'-1"	14	
S5c	1	11'-2"	12	
S5d	1	9'-2"	10	
S5e	1	7'-1"	7	Str.
S5f	522	6'-2"	3357	Bt.
V4a	196	6'-1"	796	Bt
W4a	3	7'-10"	16	Str.
W4b	1	6'-4"	4	
W4c	1	7'-11"	5	
W4d	3	4'-1"	8	
W4e	1	1'-10"	1	
W4f	1	4'-4"	3	Str.
W5a	1	7'-5"	8	Bt.
W5b	1	7'-1"	7	
W5c	1	6'-8"	7	
W5d	1	6'-3"	7	
W5e	1	5'-10"	6	
W5f	1	4'-5"	5	
W5g	1	7'-5"	8	
W5h	1	7'-3"	8	
W5i	1	7'-1"	7	
W5j	1	6'-11"	7	
W5k	1	6'-10"	7	
W5l	1	6'-8"	7	
W5m	1	6'-7"	7	
W5n	1	6'-5"	7	
W5p	1	5'-11"	6	
W5q	1	5'-5"	6	
W5r	1	4'-11"	5	
W5s	5	2'-10"	15	
W5t	5	2'-10"	15	Bt



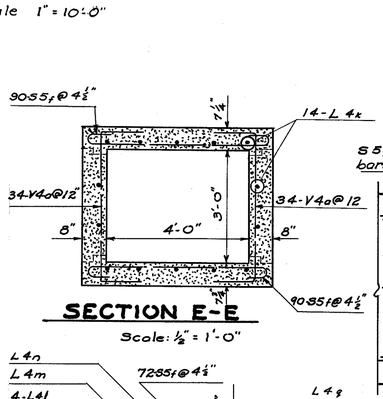
ESTIMATE OF QUANTITIES

ITEM	DESIGNATION	QUANTITY
Excavation for Structures (Dry)	Item E-2	283.0 Cu. Yds.
Concrete for Structures, Class "C"	Item S-1	44.6 Cu. Yds
Reinforcing Steel	Item S-4	5475 Lbs.
Removal of Portions of existing Structure	Item S-22	Lump Sum
Waterproofing, Type "B"	Item S-3	6.5 Sq. Yds.
¾"Ø Expansion Anchor Bolts	Item Special	12 Each
⅞"Ø x 4" Dowel Holes	Item S-23	12 Each



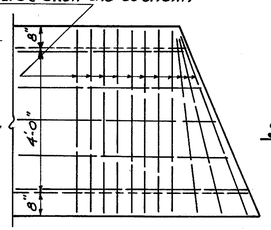
SECTION B-B

Scale: ½" = 1'-0"



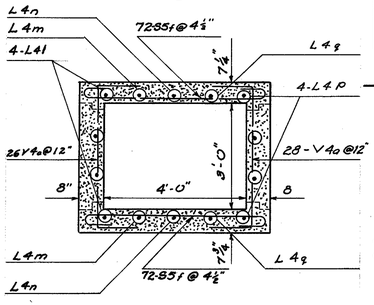
SECTION E-E

Scale: ½" = 1'-0"



PLAN OF SOUTH END

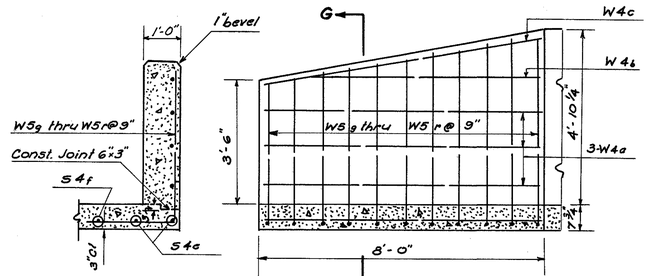
Scale ½" = 1'-0"



SECTION F-F

Scale: ½" = 1'-0"

All Const. Joints in Culvert are 4" x 3"

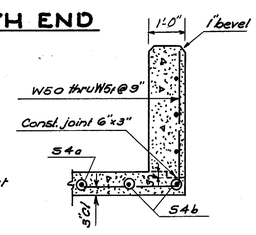


SECTION G-G

Scale: ½" = 1'-0"

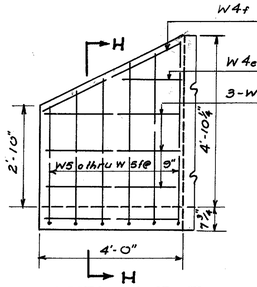
SECTION C-C

Scale: ½" = 1'-0"



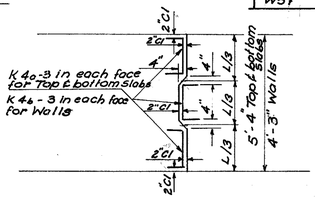
SECTION H-H

Scale ½" = 1'-0"



SECTION D-D

Scale ½" = 1'-0"



DETAIL OF CONTRACTION JOINT

STATION 368+69

DRAINAGE DETAILS

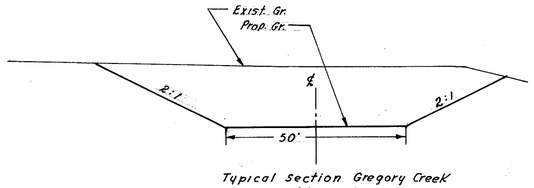
P.I.D. NO. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(8.48-15.02)

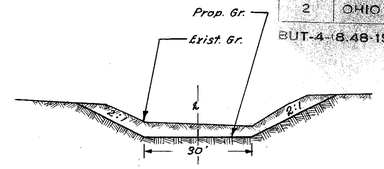
240
291

RELOCATION OF GREGORY CREEK

Scale: 1" = 50'

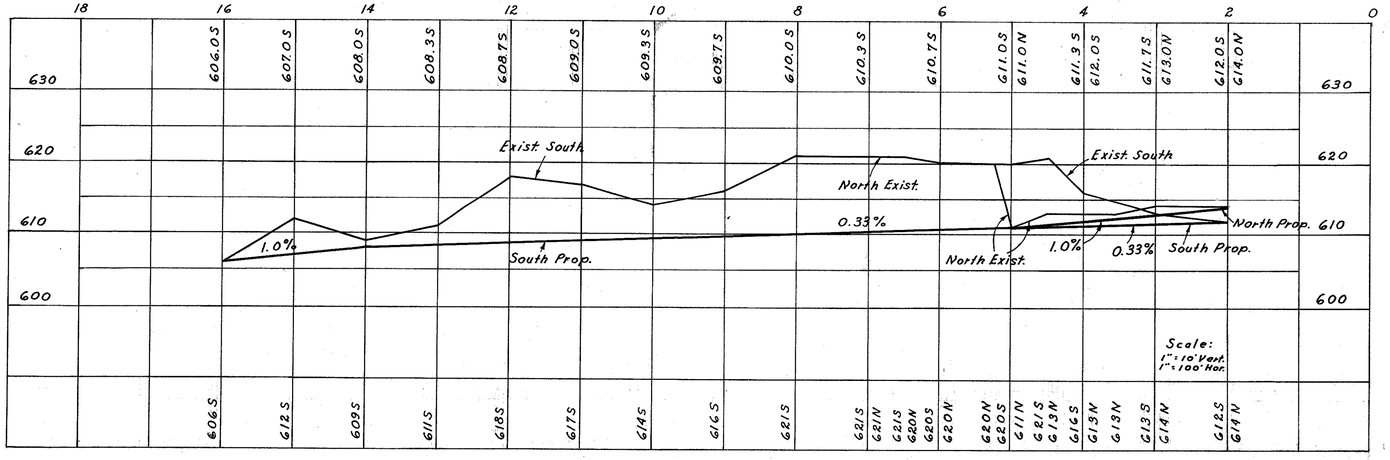


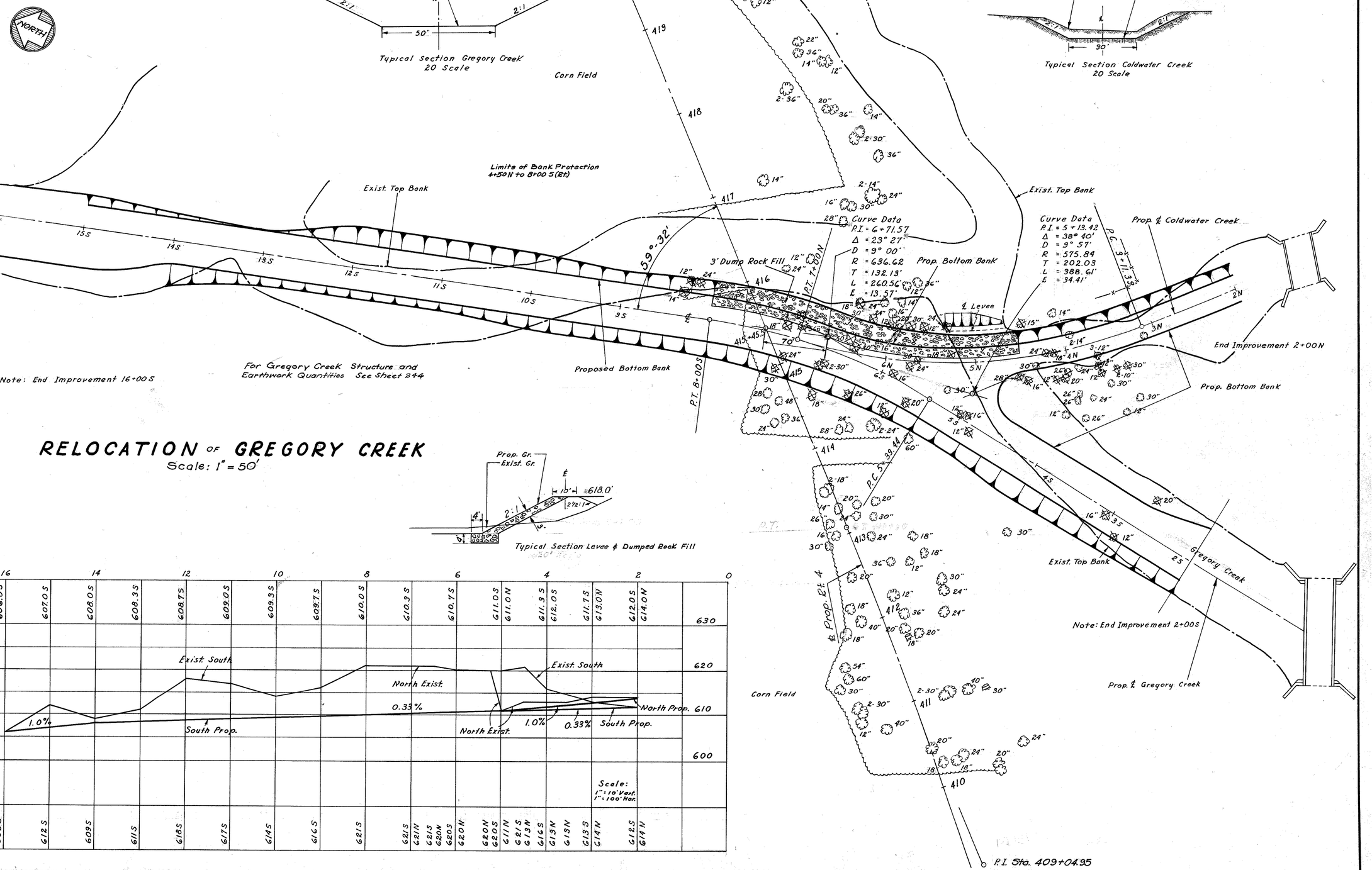
Typical Section Gregory Creek
20 Scale



Typical Section Coldwater Creek
20 Scale

Typical Section Levee & Dumped Rock Fill





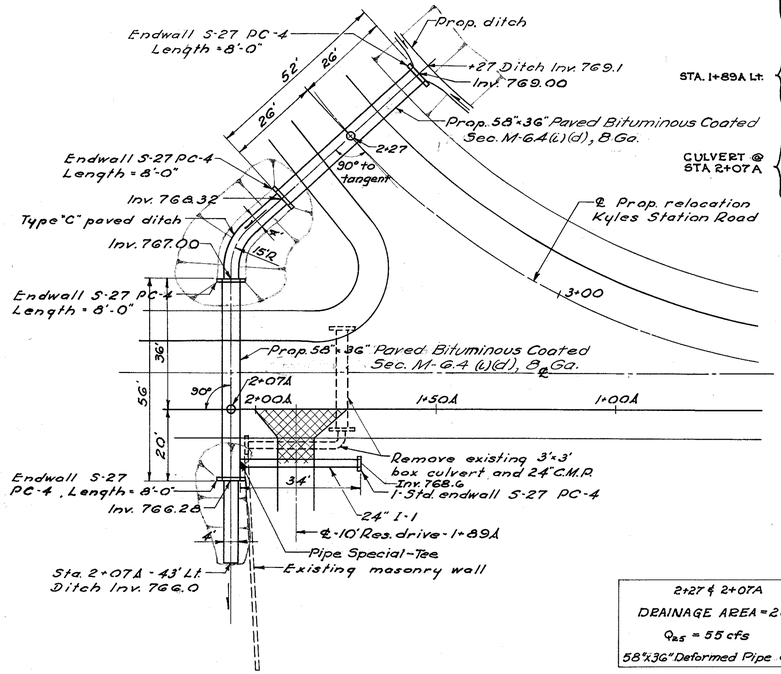
DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT		241 / 291
2	OHIO			

BUT-4-(8.48-15.02)

ESTIMATE OF QUANTITIES

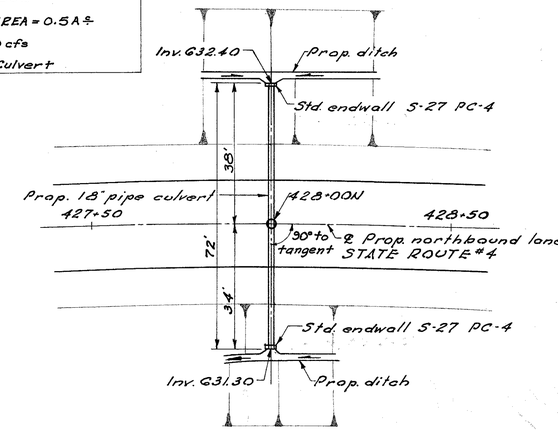
	ITEM	DESIGNATION	QUANTITY
CULVERT @ STA. 2+27	Paved Bituminous Coated Corrugated Metal Arch, Sec. M.G.4.(i) 58"x36" - B Ga.	Item S-27	52 Lin. Ft.
	Excavation for Structures (Dry)	Item E-2	66 Cu. Yds.
	Channel Excavation	Item E-3	117 Cu. Yds.
	Concrete for Structures, Class E	Item S-1	1.7 Cu. Yds.
	Paved Ditches, Type C	Item I-14	28 Lin. Ft.
STA. 1+89A Lt.	Pipe for Driveways - 24"	Item I-1	34 Lin. Ft.
	Excavation for Structures (Dry)	Item E-2	0.4 Cu. Yds.
	Concrete for Structures, Class E	Item S-1	0.4 Cu. Yds.
	Removal of Existing Structure	Item S-24	Lump Sum
	Pipe Removal	Item E-12	24 Lin. Ft.
CULVERT @ STA 2+07A	Paved Bituminous Coated Corrugated Metal Arch, Sec. M.G.4.(i) 58"x36" - B Ga.	Item I-27	56 Lin. Ft.
	Excavation for Structures (Dry)	Item E-2	70.0 Cu. Yds.
	Channel Excavation	Item E-3	24 Cu. Yds.
	Concrete for Structure, Class E	Item S-1	1.7 Cu. Yds.
	Pipe Special - Tee - 24" to 58"x36" C.M. Arch	Item I-5	1 Each



2+27 & 2+07A
DRAINAGE AREA = 20A ac
Q_{25} = 55 cfs
58"x36" Deformed Pipe Culverts

3+67M
DRAINAGE AREA = 1A ac
Q_{25} = 2.1 cfs
15" Pipe Culvert

428+00N
DRAINAGE AREA = 0.5A ac
Q_{25} = 2.0 cfs
18" Pipe Culvert

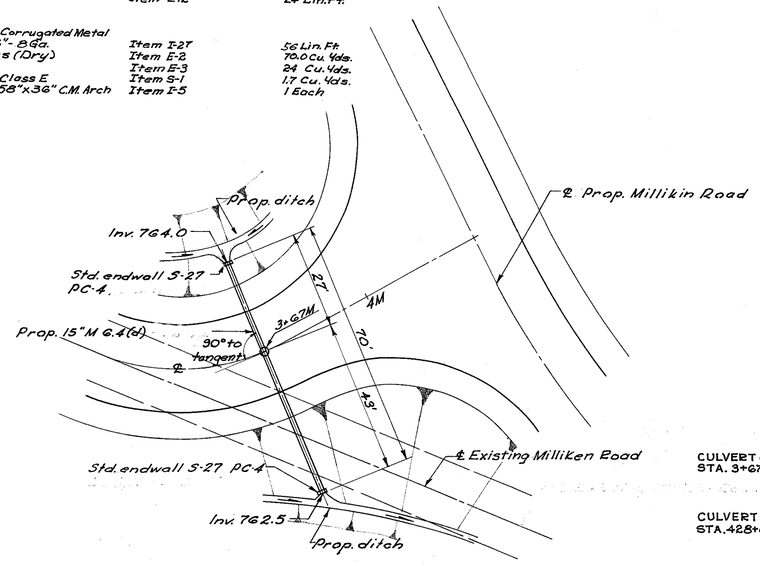


CULVERT AT STA. 428+00N

Scale: 1" = 20'

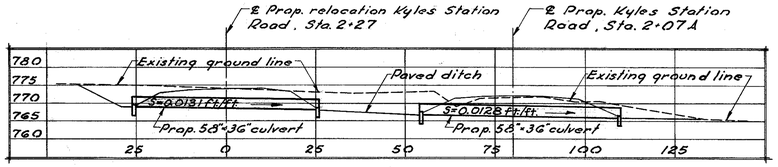
ESTIMATE OF QUANTITES

	ITEM	DESIGNATION	QUANTITY
CULVERT @ STA. 3+67 M	Pipe for Roadway Culverts - Sec. M 6.4 (d) 15"	Item S-27	70 Lin. Ft.
	Excavation for Structures (Dry)	Item E-2	19 Cu. Yds.
	Concrete for Structures, Class E	Item S-1	0.5 Cu. Yds.
CULVERT @ STA. 428+00N	Pipe for Roadway Culverts - 18"	Item S-27	72 Lin. Ft.
	Excavation for Structures (Dry)	Item E-2	31 Cu. Yds.
	Concrete for Structures, Class E	Item S-1	0.6 Cu. Yds.
CULVERT @ STA. 423+80	Pipe for Roadway Culverts, Sec. M.6.6(c) or Sec. M.6.4 (d) - 18"	Item S-27	246 Lin. Ft.
	Excavation for Structures (Dry)	Item E-2	79.0 Cu. Yds.
	Concrete for Structures, Class E	Item S-1	0.6 Cu. Yds.



CULVERT UNDER KYLES STATION ROAD

Scale: 1" = 20'

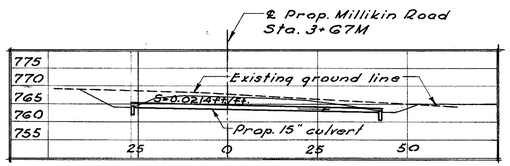


CULVERT PROFILE
STA. 2+27, STA. 2+07A - KYLES STATION RD.

Scale: 1" = 20'

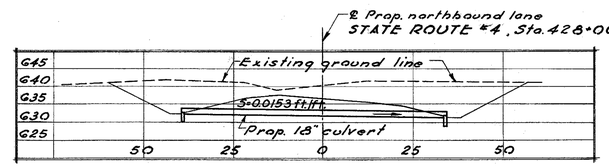
CULVERT UNDER MILLIKIN ROAD

Scale: 1" = 20'



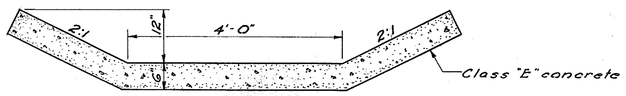
CULVERT PROFILE
STA. 3+67M MILLIKIN RD.

Scale: 1" = 20'



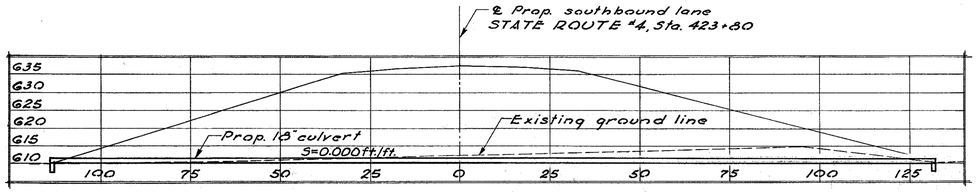
CULVERT PROFILE
STA. 428+00N

Scale: 1" = 20'



TYPE "C" PAVED DITCH

Scale: 3/4" = 1'-0"



CULVERT PROFILE
STA. 423+80

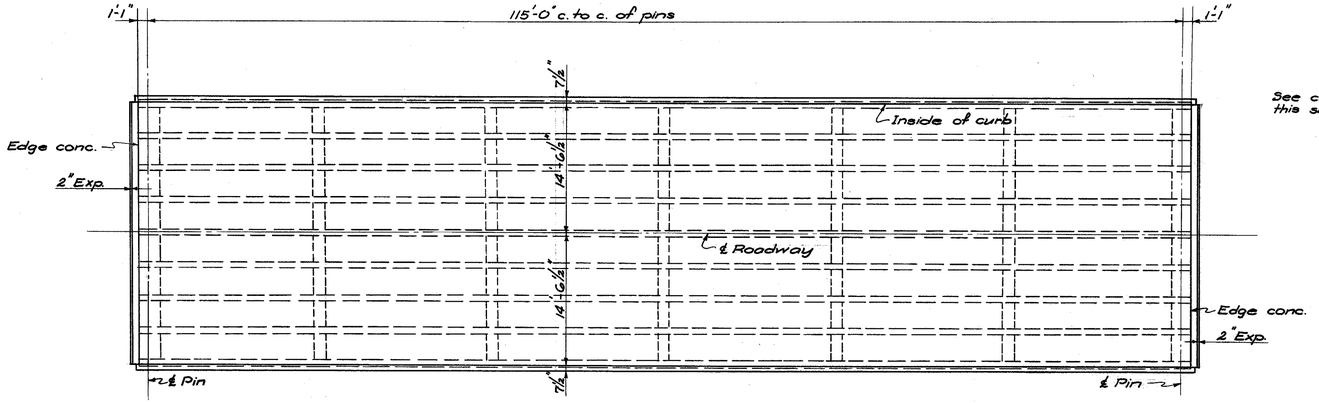
Scale: 1" = 20'

DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

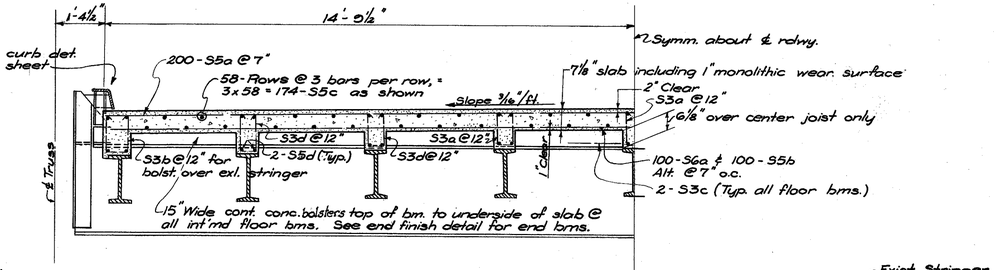
242
291

BUT-4-(8.48-15.02)



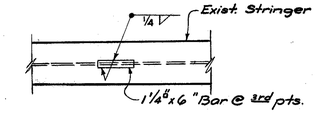
PLAN OF PAVEMENT

Scale: ⅛" = 1'-0"



TYPICAL HALF SECTION OF ROADWAY

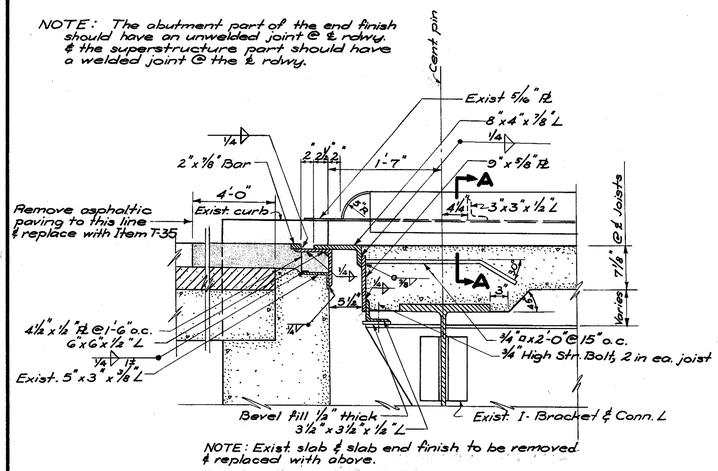
Scale: ½" = 1'-0"



PLAN OF TOP OF STRINGER SHOWING LATERAL SUPPORT

Scale: 1" = 1'-0"

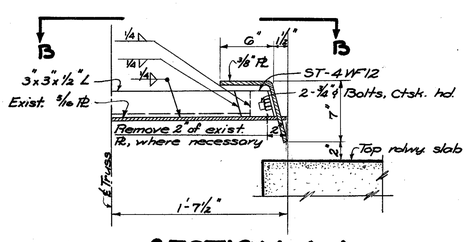
NOTE: The abutment part of the end finish should have an unwelded joint @ ℄ rdwy. & the superstructure part should have a welded joint @ the ℄ rdwy.



NOTE: Exist slab & slab end finish to be removed & replaced with above.

TYPICAL END FINISH DETAIL

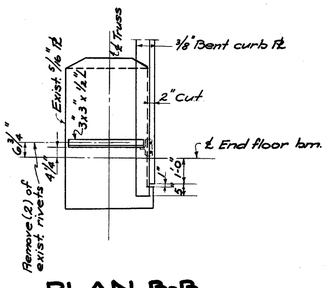
Scale: 1" = 1'-0"



SECTION A-A

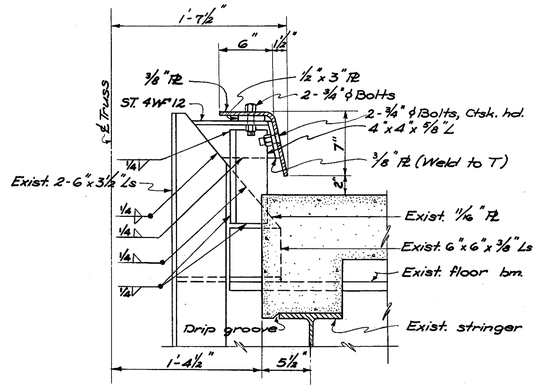
TYPICAL SUPPORT FOR CURB Pl @ END PANEL PTS.

Scale: 1½" = 1'-0"



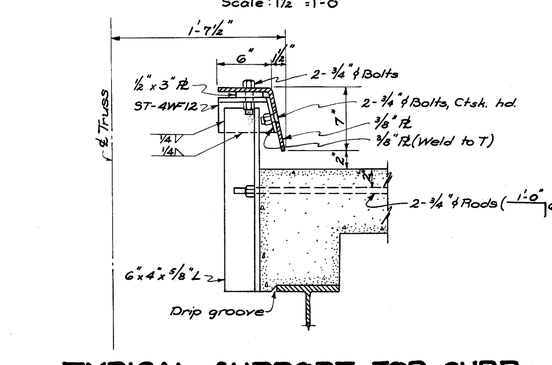
PLAN B-B

Scale: ⅜" = 1'-0"



TYPICAL SUPPORT FOR CURB Pl AT INTERIOR PANEL POINTS

Scale: 1½" = 1'-0"



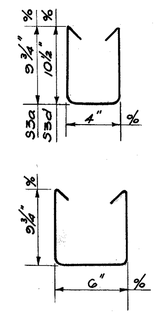
TYPICAL SUPPORT FOR CURB Pl AT THIRD PANEL POINTS

Scale: 1½" = 1'-0"

REINFORCING STEEL SCHEDULE

Mark	No.	Length	Weight	Shape
S3a	324	2'-7"	315	Bt.
S3b	216	2'-9"	223	Bt.
S3c	14	29'-3"	154	Str.
S3d	432	2'-8"	433	Bt.
S5a	200	30'-5"	6,345	Bt.
S5b	100	29'-3"	3,051	Str.
S5c	174	40'-0"	7,259	Str.
S5d	108	18'-10"	2,122	Str.
S6a	100	29'-3"	4,393	Str.
REPLACEMENT BARS				
RE3	1	5'-0"	2	Str.
RE5	1	5'-7"	6	Str.
RE6	1	5'-11"	9	Str.

NOTE: In the reinforcing steel bar marks, the first numeral is the bar number which indicates the size of the bar.



ESTIMATED QUANTITIES (Superstructure)

ITEM	TOTAL	UNITS	DESCRIPTION
S-1	91.8	Cu. yds.	Class "C" conc. - Superstructure.
S-4	24,298	Pounds	Reinforcing Steel.
S-7	12,541	Pounds	Structural Steel.
S-8	12,541	Pounds	Field painting of structural steel.
S-22		Lump Sum	Removal of portions of existing structure.
T-35	3.3	Cu. yds.	Asphaltic concrete Surface course, Type "C" (60-70)

Existing Structure
SPAN: 112'-4" clear; 115'-0" c/c brgs
LENGTH c/c FLOOR: 117'-2"
WIDTH BETWEEN CURBS: 29'-0"
FLOOR: 6" reinf. conc. slab
CURBS: 6"x12"
WEARING SURFACE: Brick with sand cushion +4" Bituminous material.

GRAVEL, if used as the coarse aggregate, shall be according to Sec. M-3.93 instead of M-3.91 for Class "C" concrete, superstructure. Gravel meeting the requirements of Sec. M-3.93 also may be used for other concrete in this structure.

NOTES: New slab designed for CF=400 & 30"/ft. future wearing surface.
Existing floor beams, stringers & trusses have a capacity for S-15 loading.
No work shall be done on the modifications to the existing Gregory Creek Bridge until the new southbound lane has been completed & is open to traffic. During alterations of this bridge, traffic will be rerouted over the new southbound lane.
Disposition of removed materials in accordance with Item S-24.
Use class "A" welding through out.
Work to be done — Exist. slab & end finish (except 5"x3"x⅜" L on backwall) & asphaltic pavement at abutments to line indicated to be removed. New conc. slab, bolsters, end finish, metal curbs, & asphaltic pavement to be added as shown on this sheet.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS CINCINNATI, OHIO ARCHITECTS

ALTERATIONS ON EXISTING BRIDGE NO. Bu-4-151

STATE RT. #4 OVER GREGORY CREEK

BUTLER COUNTY

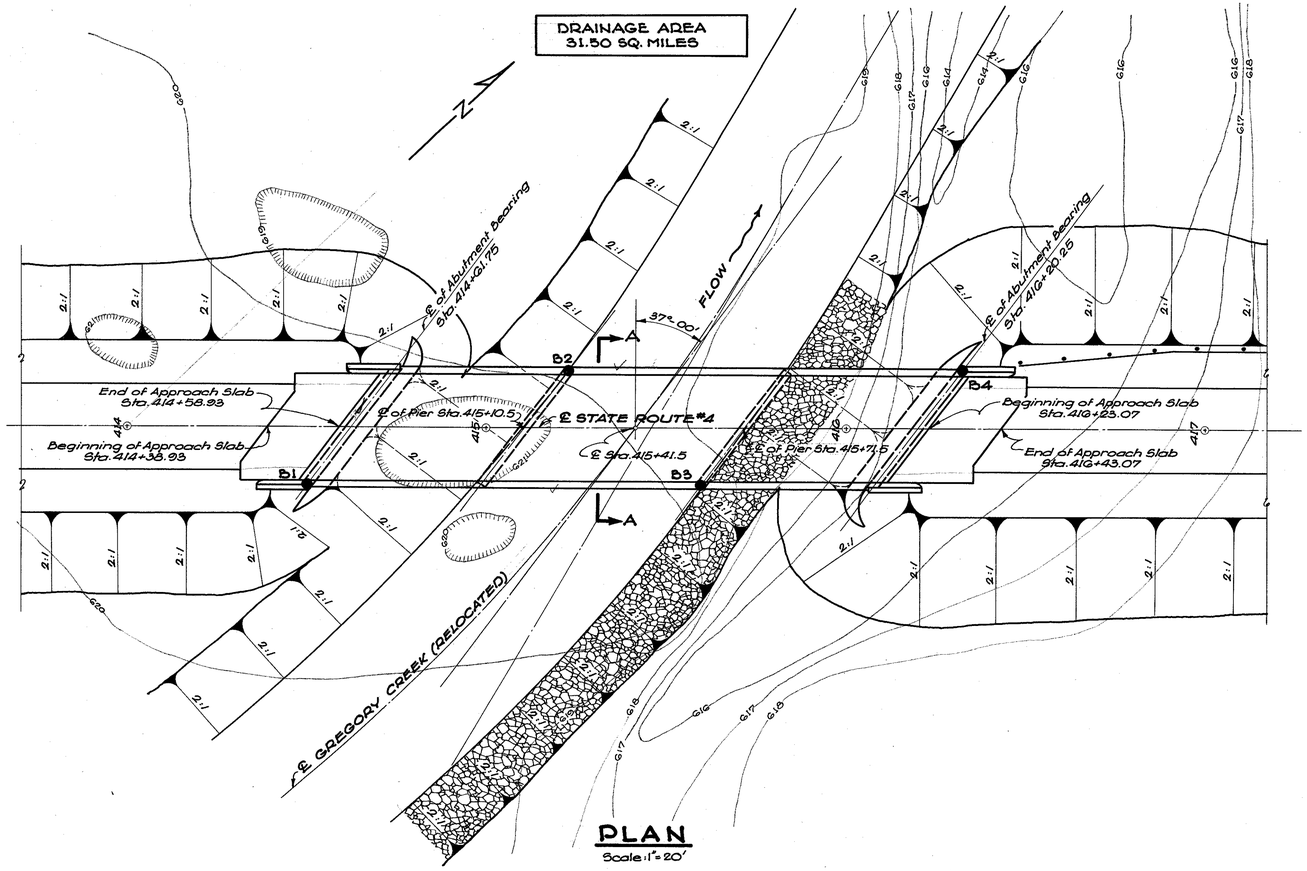
Scale: As shown FEB. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.V.B.	G.V.B.	B.L.K.	O.L.A.			3-4-55

FED. RD. DIVISION	STATE	PROJECT	TYPES FUNDS
2	OHIO		

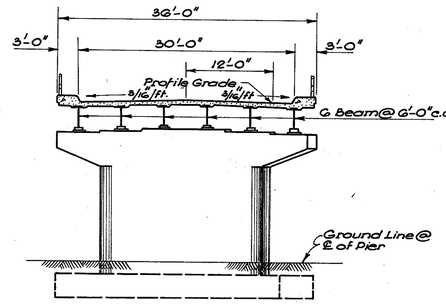
243
291

BUT.-4-(8.48-15.02)



PLAN

Scale: 1"=20'



(Bearing Piles not shown)

SECTION A-A

Scale: 1"=10'-0"

PROPOSED STRUCTURE

TYPE: Continuous rolled beam with reinforced concrete deck and substructure.
SPANS: 45'-9" - 61'-0" - 45'-9" c. to c. bearings
SKEW: 37° L.F.
WEARING SURFACE: 1" monolithic concrete.
SAFETY CURBS: 2 @ 2'-0"; 9" high.
ROADWAY: 30'-0" between curbs.
APPROACH SLABS: 20'-0" long.
LOADING: Standard lane loading as per State of Ohio Design Specifications for Highway Structures, October 1, 1951 with revisions, (July 15, 1952, and April 1, 1954). C.F. = 400.

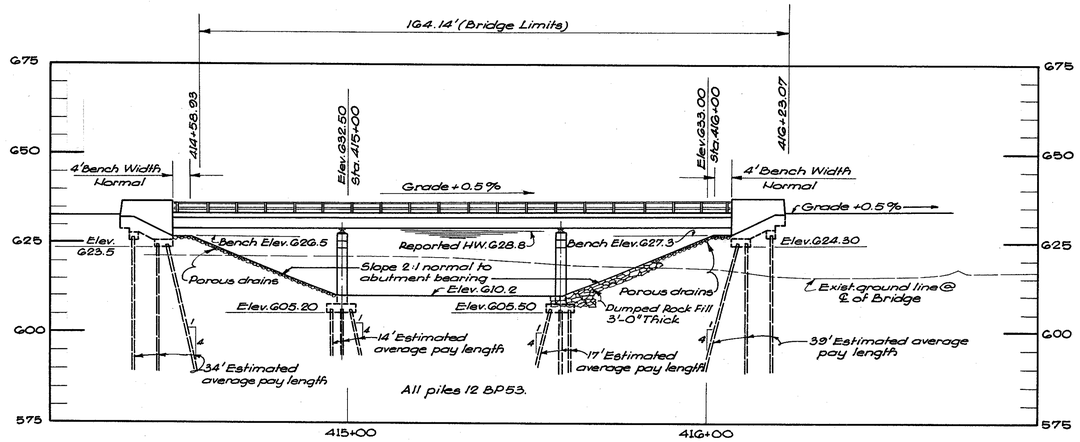
NOTES

- Symbol denotes drill hole.

See sheet no. 245 for test boring data.

See sheet number 53 for trees.

Foundation design and foundation quantities are based on a study of test borings and soil samplings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges, in Columbus or in an abridged form in the Division office, but the State assumes no responsibility for the accuracy thereof.



ELEVATION

Scale: 1"=20'

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS CINCINNATI, OHIO ARCHITECTS

SITE PLAN
BRIDGE NO. BU.-4-152
OVER GREGORY CREEK

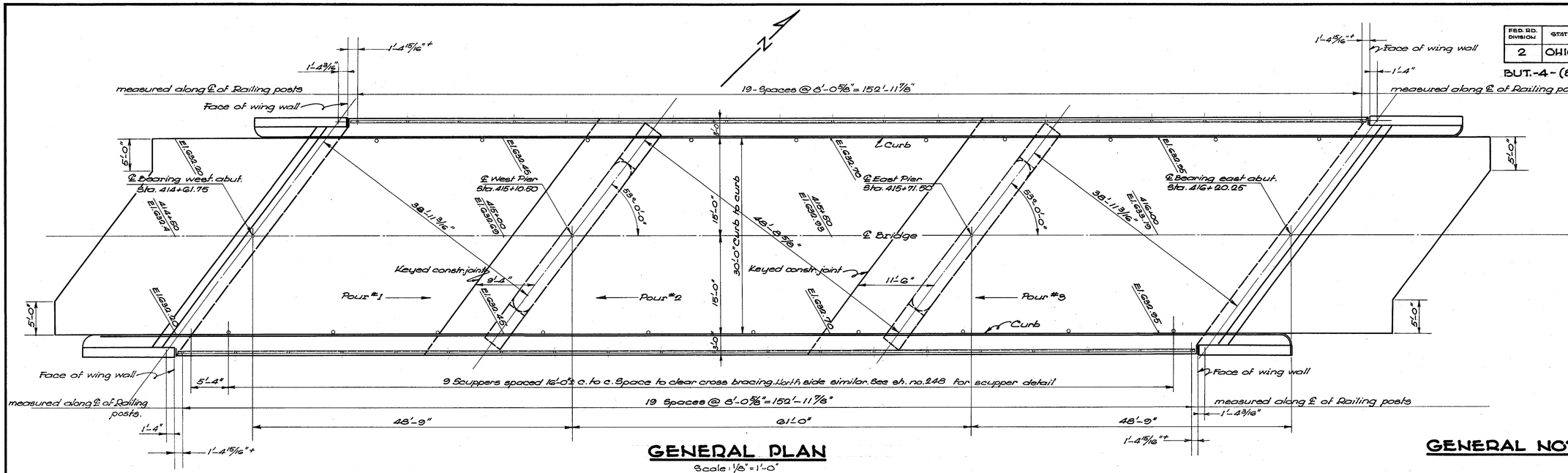
BUTLER COUNTY
Scale: 1"=20'
AUGUST, 1954

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVISIONS
J.O.W	R.G.H	O.L.A	R.G.H	R.J.L	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

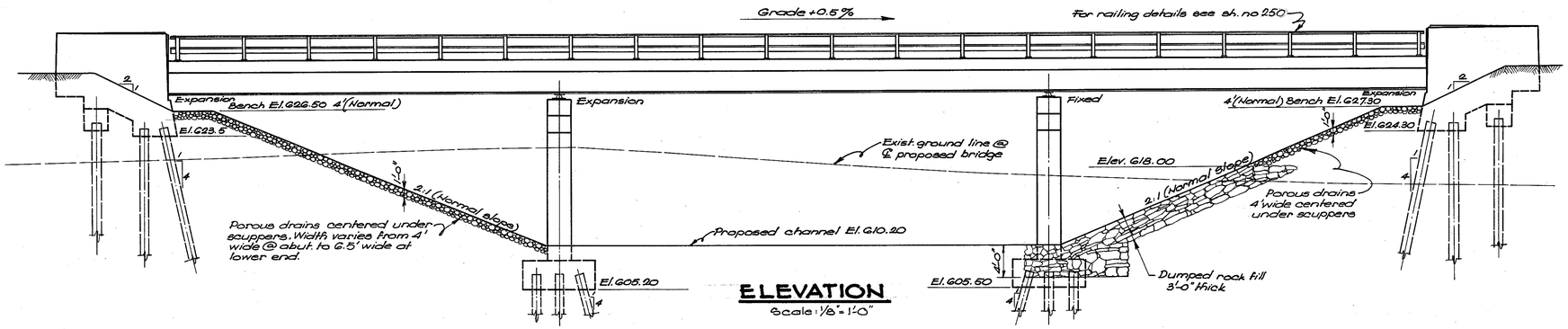
244
291

BUT.-4-(8.48-15.02)



GENERAL PLAN

Scale: 1/8" = 1'-0"



ELEVATION

Scale: 1/8" = 1'-0"

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	WEST ABUT.	WEST PIER	EAST PIER	EAST ABUT.	SUPER STRUCTURE	GENERAL		
E-2	254	Cu. Yds.	Unclassified Excavation	45	76	68	45				
E-3	25,532	Cu. Yds.	Channel Excavation						25,532		
S-1	177	Cu. Yds.	Class "C" concrete - Superstructure					177			
S-1	34	Cu. Yds.	Class "C" concrete - Pier Caps		17	17					
S-1	94	Cu. Yds.	Class "C" concrete - Pier Walls		47	47					
S-1	86	Cu. Yds.	Class "E" concrete - Pier & Abut. Ftg's.	4	39	39	4				
S-1	120	Cu. Yds.	Class "E" concrete - Abut. & Wingwalls	63			63				
S-4	61,099	Lbs.	Reinforcing Steel	5,128	4,496	4,496	5,128	41,769	81		
S-7	152,815	Lbs.	Structural Steel					152,815			
S-8	152,815	Lbs.	Field painting of Structural Steel					152,815			
S-14	311	Lin. Ft.	Railing (Steel)					311			
S-16		Lump Sum	First test pile								
S-18	1963	Lin. Ft.	Steel Bearing Piles 12BP53	544	336	459	624				
E-10	1236	Cu. Yds.	Dumped rock fill						1236		
S-28	20	Each	Scuppers					20			
S-29	28	Cu. Yds.	Porous drains on embankment slope						28		
S-29	56	Cu. Yds.	Porous Backfill	28			28				

NOTE: Materials in approach slabs are not included in the above estimated quantities.

NOTE:
Materials in approach slabs are not included in the estimated quantities.

GENERAL NOTES

DECK PLACING PROCEDURE: Deck slab shall be placed in sections, between transverse construction joints, in the numerical order and in the direction indicated on the drawings.

WELDING: Welding shall be Class "A" unless otherwise shown on plans. Any weld shown as field weld may be in the shop at the option of the contractor. Class "B" welds are shown with the letter "B" in the V-tail of the weld symbol. -

BEARING PILES: Piles shall be driven to firm contact with rock. This shall be considered as attained when the capacity according to the formula in Sec. 3-18.05 is at least 45 tons per pile for the pier piles and 35 tons per pile for the abutment piles if a 7,000 ft. lb. steam hammer is used, or 35 tons for the pier piles and 25 tons for the abutment piles if a steam hammer or drop hammer of 15,000 ft. lb. or greater energy is used and if the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report. If the energy rating of the hammer is between these values, the required formula capacity shall be determined by interpolation.

EXCAVATION: Roadway embankment at abutments shall be placed and compacted to the elevation of the earth benches shown. Excavation shall then be made for abutment footings, after which the piling shall be driven. Quantities for excavation includes removal of fill material between top of earth benches and bottom of abutment footings.

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

GRAVEL: If used as a coarse aggregate, shall be according to Sec. M-3.93 instead of M-3.91 for Class "C" concrete in the superstructure. Gravel meeting the requirements of Sec. M-3.93 may also be used for other concrete in this structure.

ADDITIONAL NOTES: For additional notes see sheet 243.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS CINCINNATI, OHIO ARCHITECTS

GENERAL PLAN & ELEVATION NOTES & QUANTITIES

BRIDGE NO. BU.-4-152
OVER GREGORY CREEK

BUTLER COUNTY STA. 415+41.5

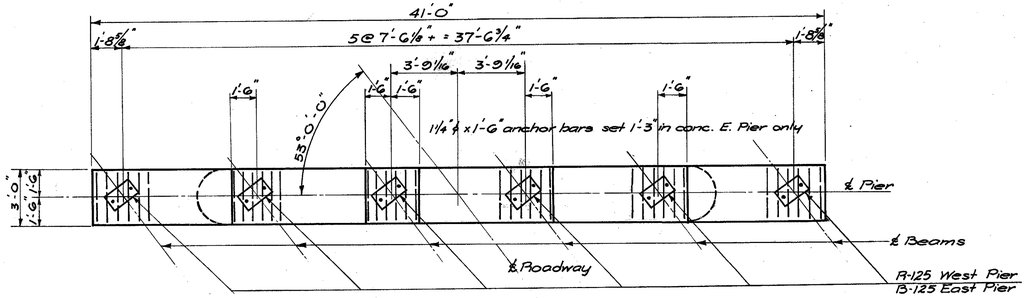
Scale: 1/8" = 1'-0"

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
O.L.A	V.K.	J.H.K.	R.J.L			

FED.RD DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

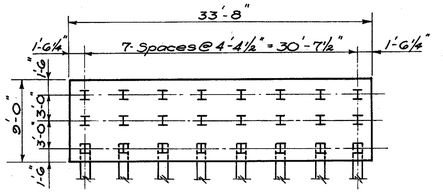
245
291

BUT.-4-(8.48-15.02)



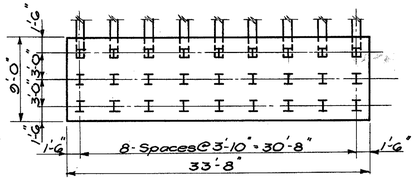
PLAN
Scale: 1/4" = 1'-0"

Note:
Place pier cap reinf. to clear anchor bars.

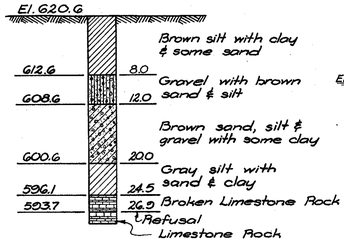


PILING PLAN - WEST PIER
Scale: 1/8" = 1'-0"

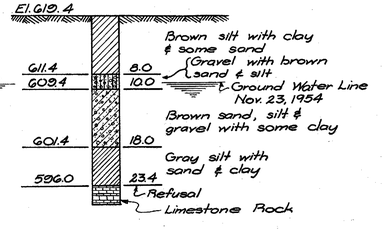
NOTE:
All piles 12BP53



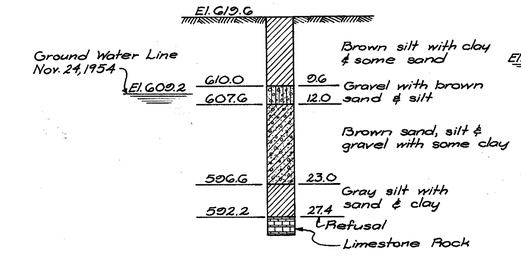
PILING PLAN - EAST PIER
Scale: 1/8" = 1'-0"



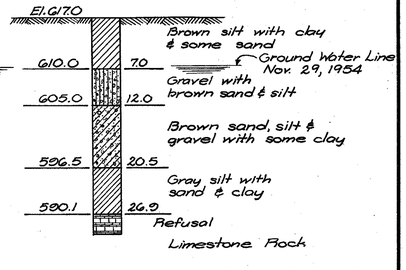
BORING NO. 1



BORING NO. 2

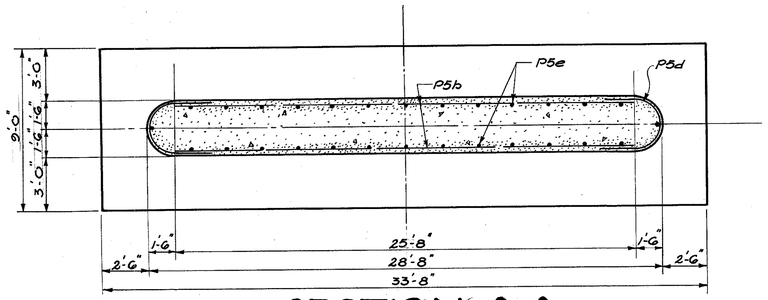


BORING NO. 3

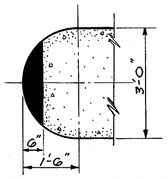


BORING NO. 4

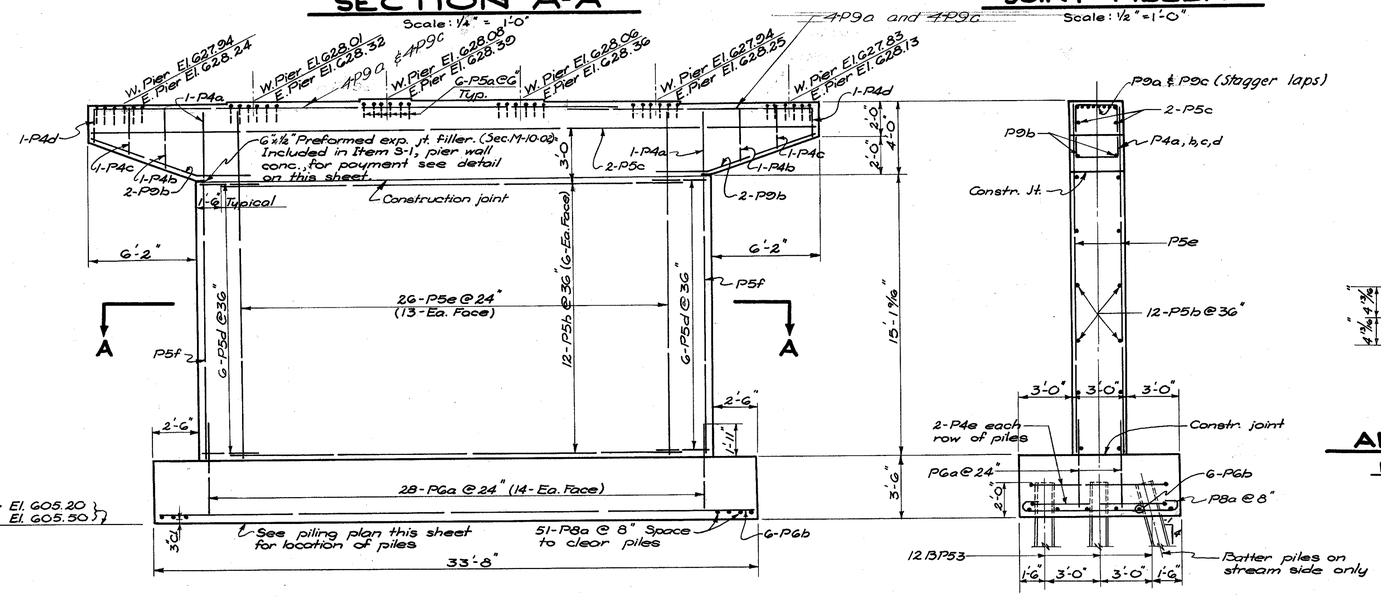
NOTE:
Soil auger borings were made between Nov. 19 & Nov. 29, 1954 with a 3" continuous flight auger.



SECTION A-A
Scale: 1/4" = 1'-0"

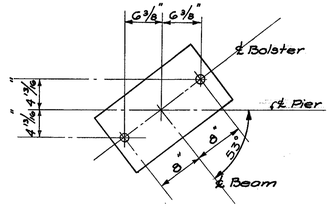


DETAIL OF EXPANSION JOINT FILLER
Scale: 1/2" = 1'-0"



ELEVATION
(LOOKING EAST)
Scale: 1/4" = 1'-0"

END ELEVATION
Scale: 1/4" = 1'-0"



ANCHOR BOLT LAYOUT
FOR EAST PIER ONLY (B-125)
Scale: 1" = 1'-0"

NOTE:
All main reinforcing steel to have 2" cover unless otherwise noted.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

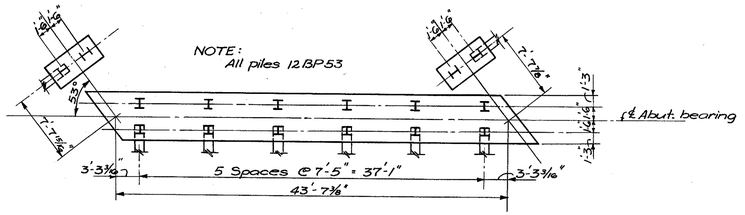
EAST & WEST PIERS
BRIDGE NO. BU.-4-152
OVER GREGORY CREEK
BUTLER COUNTY
STA. 415+41.5
Scale: As shown

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
O.L.A	G.V.B. V.K.	S.L.K.	O.L.A R.L.S			8-20-55

FED. RD DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

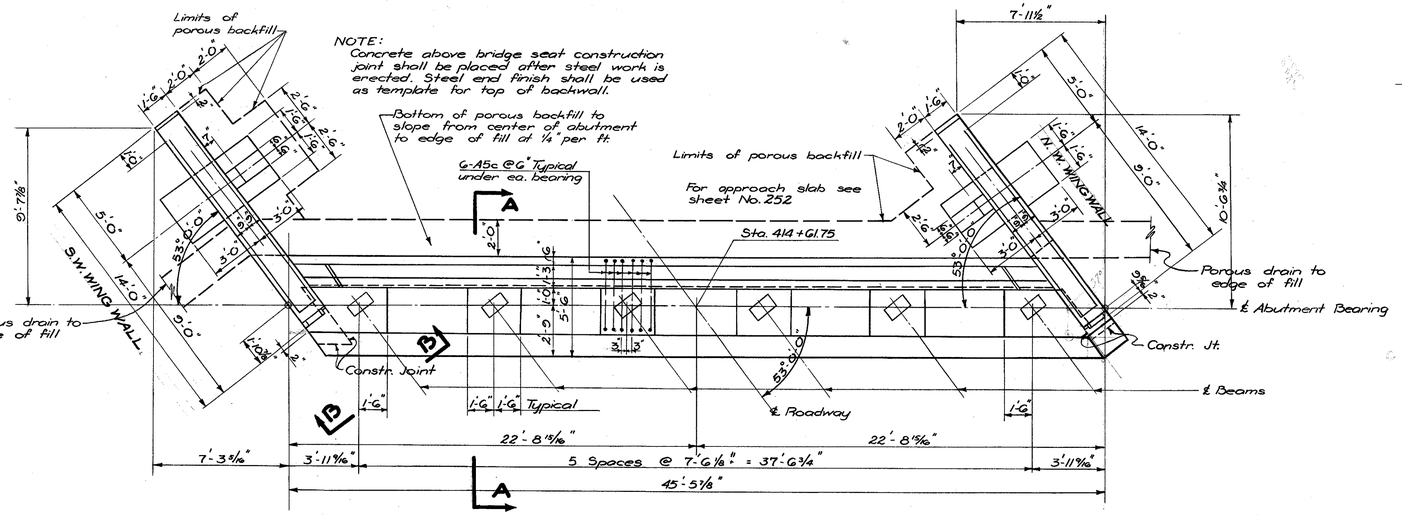
240 / 291

BUT.-4-(8.48-15.02)



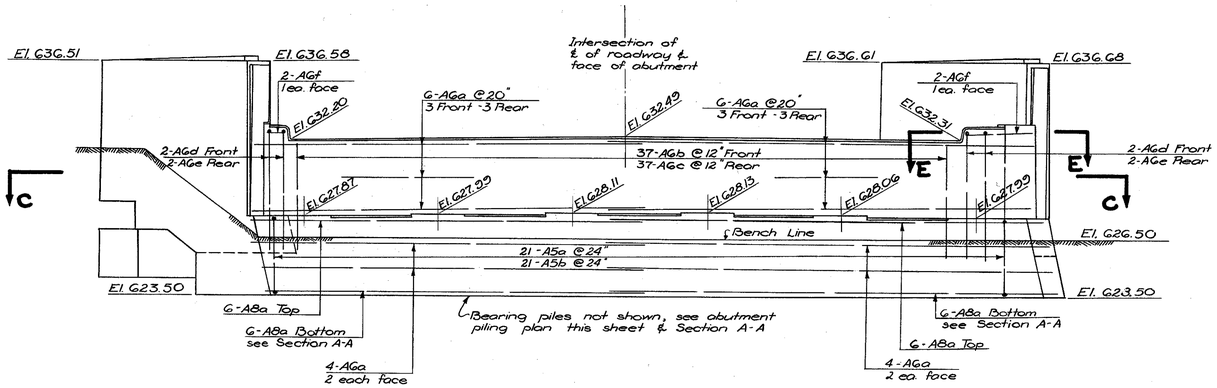
ABUTMENT PILING PLAN

Scale: ⅛"=1'-0"



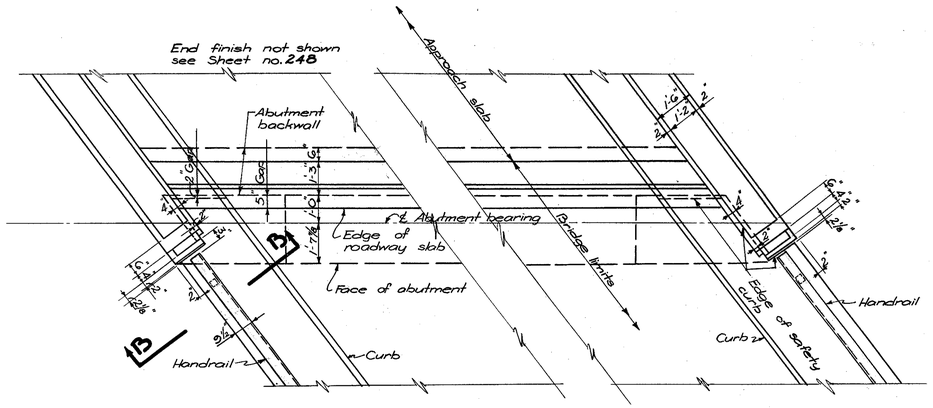
PLAN

Scale: ¼"=1'-0"



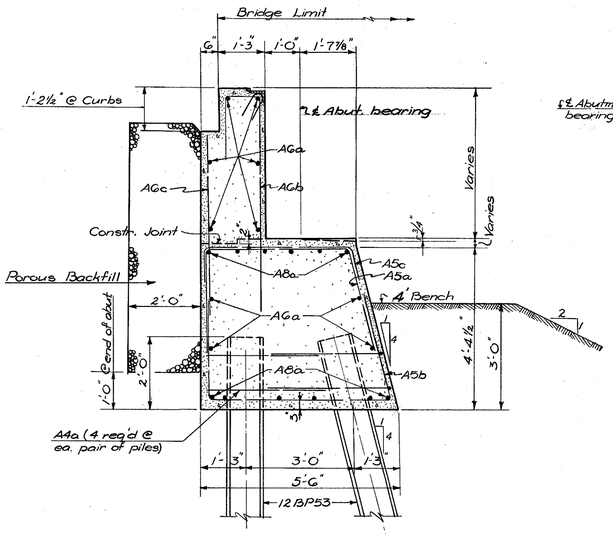
ELEVATION

Scale: ¼"=1'-0"



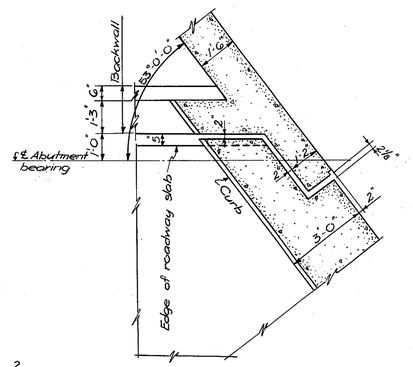
PART PLAN AT ENDS

Scale: ⅜"=1'-0"



SECTION A-A

Scale: ½"=1'-0"



SECTION E-E

Scale: ⅜"=1'-0"

NOTE:
Sections not shown on this sheet are on sheet No. 247

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

WEST ABUTMENT

BRIDGE NO. BU.-4-15.2
OVER GREGORY CREEK

BUTLER COUNTY

Scale: As shown

STA. 415+41.5

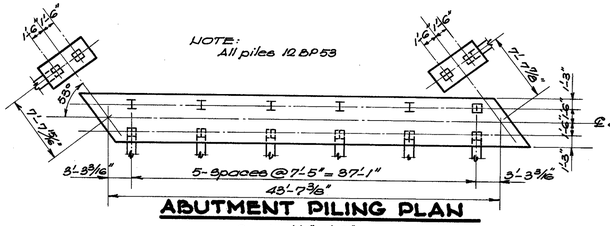
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
O.L.A.	V.K.	S.L.K.	R.J.L.			

FED. RD DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

247
291

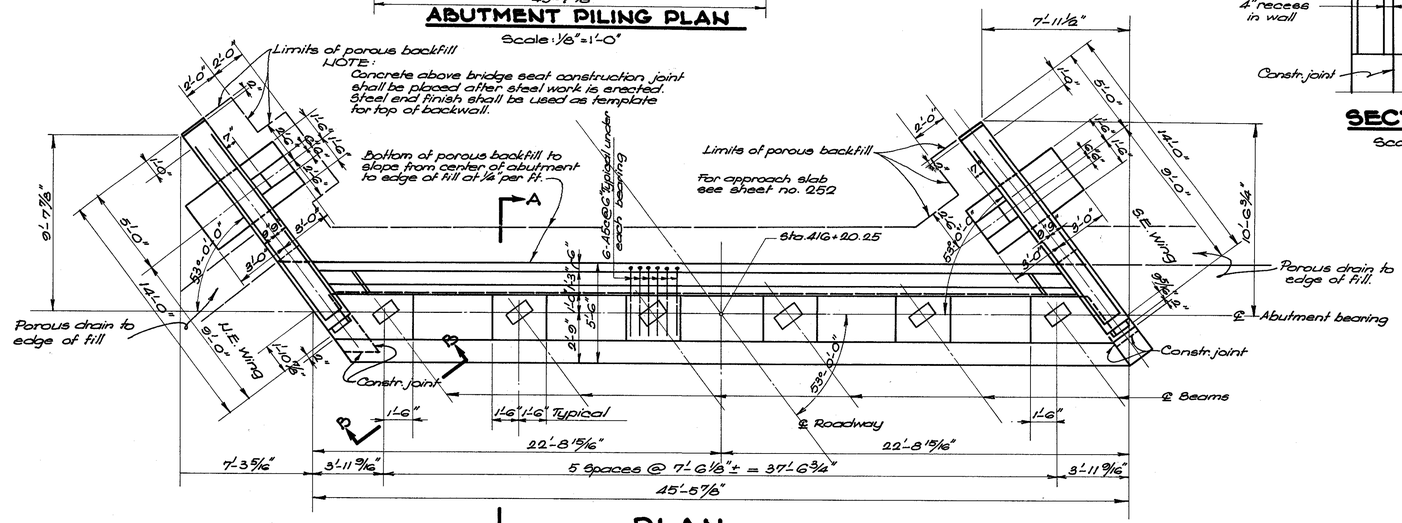
BUT.-4-(8.48-15.02)

NOTE:
All piles 12 BP 53



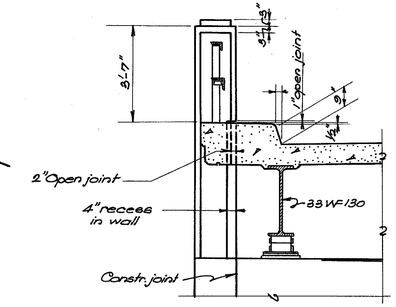
ABUTMENT PILING PLAN

Scale: 1/8"=1'-0"



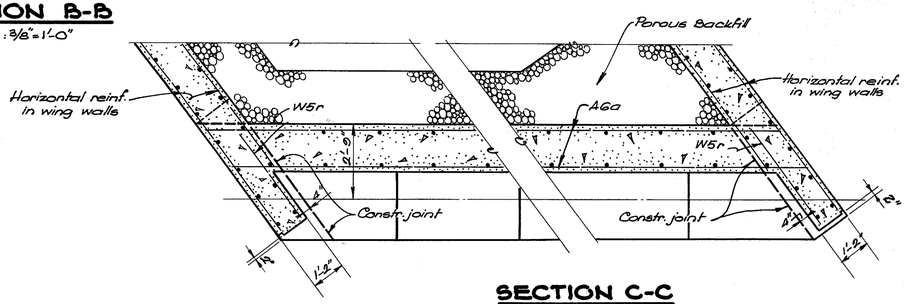
PLAN

Scale: 1/4"=1'-0"



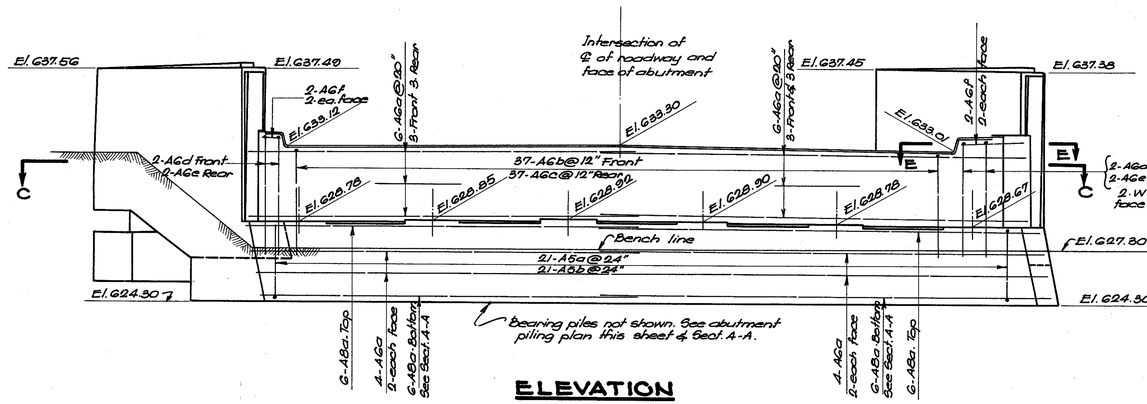
SECTION B-B

Scale: 3/8"=1'-0"



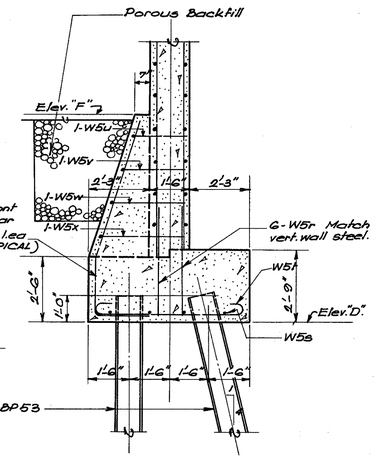
SECTION C-C

Scale: 3/8"=1'-0"



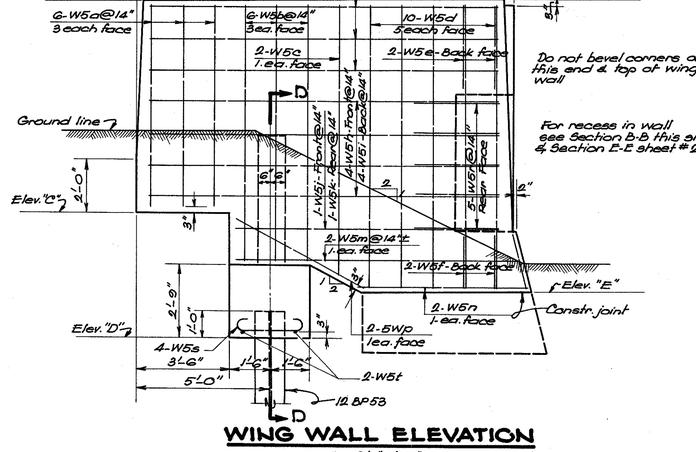
ELEVATION

Scale: 1/4"=1'-0"



SECTION D-D

Scale: 3/8"=1'-0"



WING WALL ELEVATION

Scale: 3/8"=1'-0"

NOTE:
Sections not shown on this sheet are on sheet # 246.

WING WALL ELEVATIONS

ELEVATIONS	A	B	C	D	E	F
N.W. WINGWALL	G36.68	G36.61	G28.76	G24.53	G25.93	G31.09
S.W. WINGWALL	G36.58	G36.51	G28.67	G24.42	G25.82	G30.94
N.E. WING WALL	G37.49	G37.56	G29.72	G25.47	G26.87	G31.96
S.E. WING WALL	G37.38	G37.45	G29.60	G25.35	G26.75	G31.82

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

EAST ABUTMENT

BRIDGE NO. BU.-4-152
OVER GREGORY CREEK

BUTLER COUNTY STA. 415+41.5

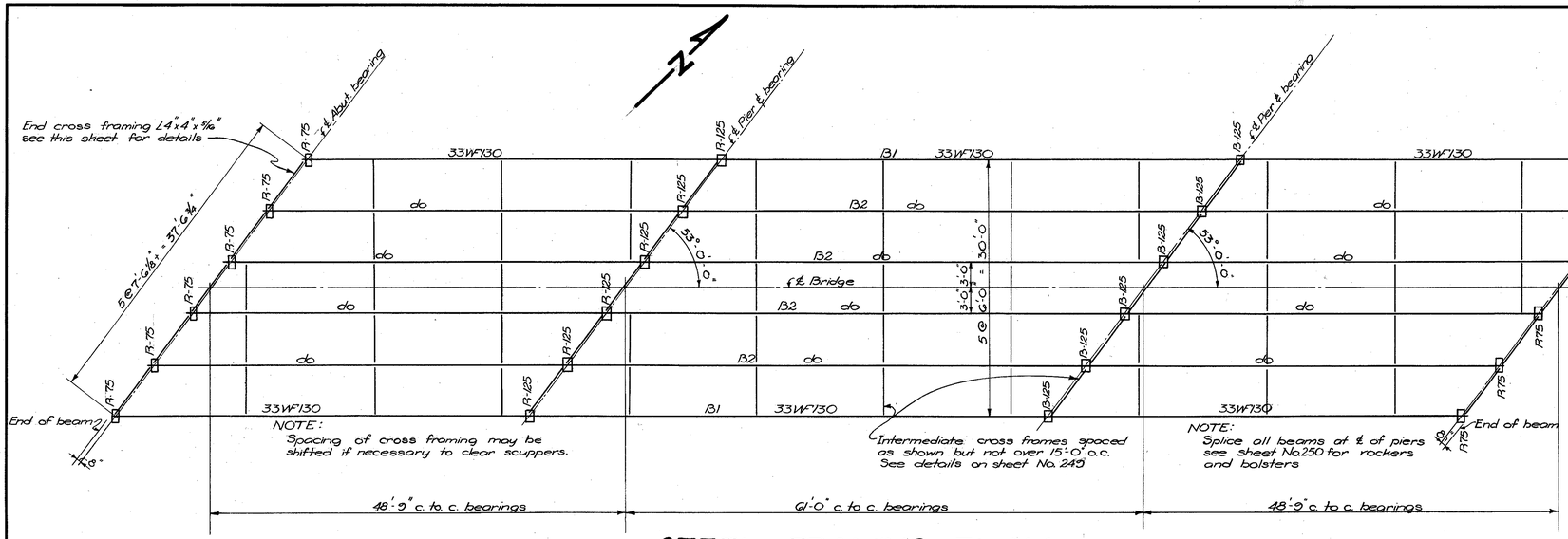
Scale: As shown

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.L.A	V.K	J.H.K.	R.J.L. R.L.S			

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

248/291

BUT.-4-(8.48-15.02)



STEEL FRAMING PLAN

Scale: 1/8" = 1'-0"

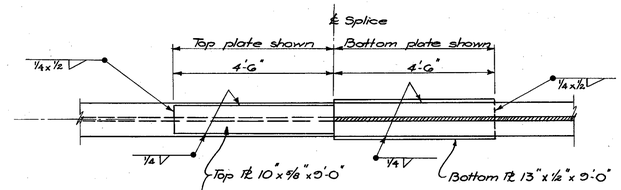
BEAM SPLICE WELDING PROCEDURE

1. At first pier, weld bottom flange splice plate to beam on middle span side of joint only.
2. Raise end of beam at first abut. 1/8".
3. Weld beam flanges and web at first pier.
4. Weld top flange splice plate at first pier, (both sides of joint).
5. Complete welding of bottom flange splice plate at first pier.
6. Repeat steps 1 to 5 inclusive at second pier by raising at second abutment.
7. Lower ends of beams at both abutments.

DEFLECTION & CAMBER

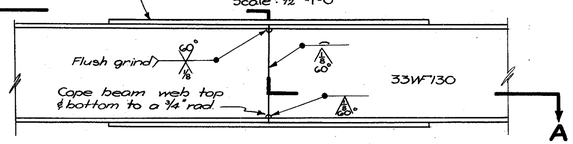
LOCATION	B-1 End Span	B-1 Middle Span	B-2 End Span	B-2 Middle Span
Deflection due to weight of steel	1/16"	1/16"	1/16"	1/16"
Deflection due to remaining dead load	1/4"	3/8"	3/16"	1/4"
Sum of deflection and camber	5/16"	7/16"	1/4"	5/16"
Required shop camber	0	0	0	0

No cambering of the beams is required but the beams shall be so fabricated that any curved beams will be placed with the convex flange up.



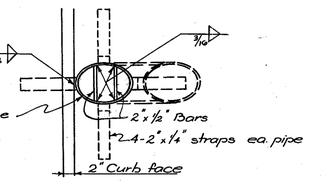
SECTION A-A

Scale: 1/2" = 1'-0"



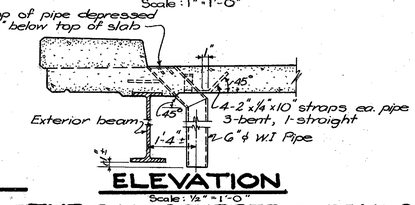
BEAM SPLICE DETAIL

Scale: 1/2" = 1'-0"



PLAN

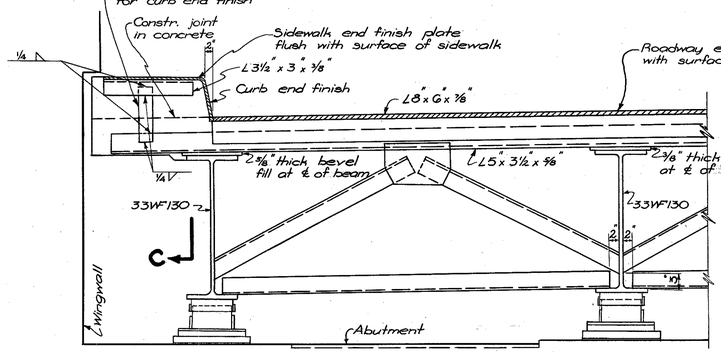
Scale: 1" = 1'-0"



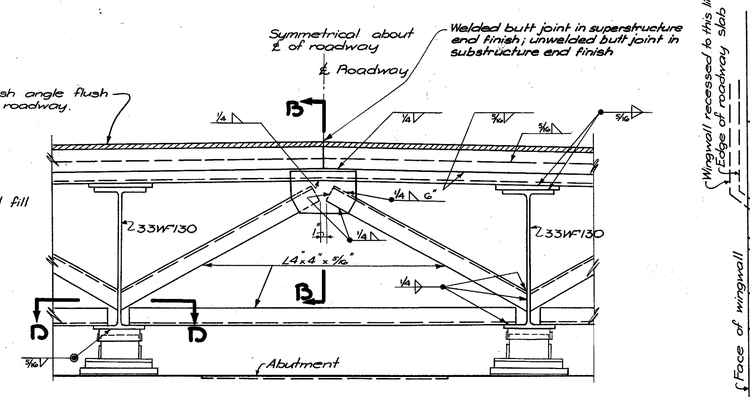
ELEVATION

Scale: 1/2" = 1'-0"

TYPICAL SCUPPER DETAILS

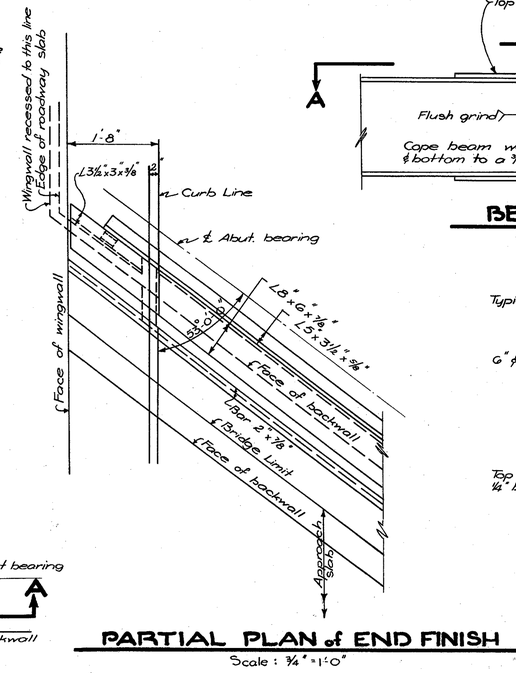


SECTION A-A (SHOWING END BRIDGING)



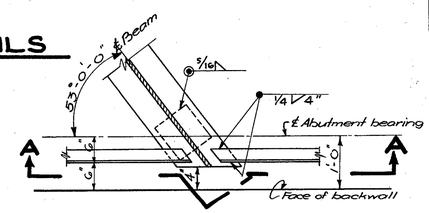
END FRAMING & END FINISH DETAILS

Scale: 3/4" = 1'-0"



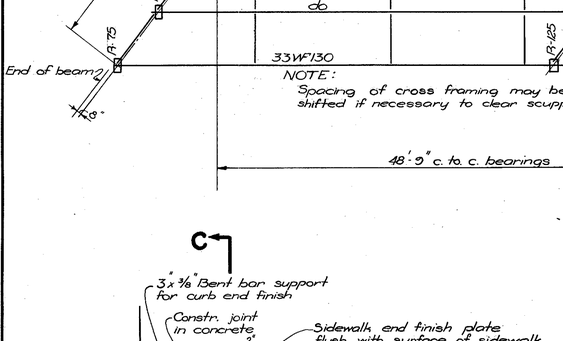
PARTIAL PLAN of END FINISH

Scale: 3/4" = 1'-0"



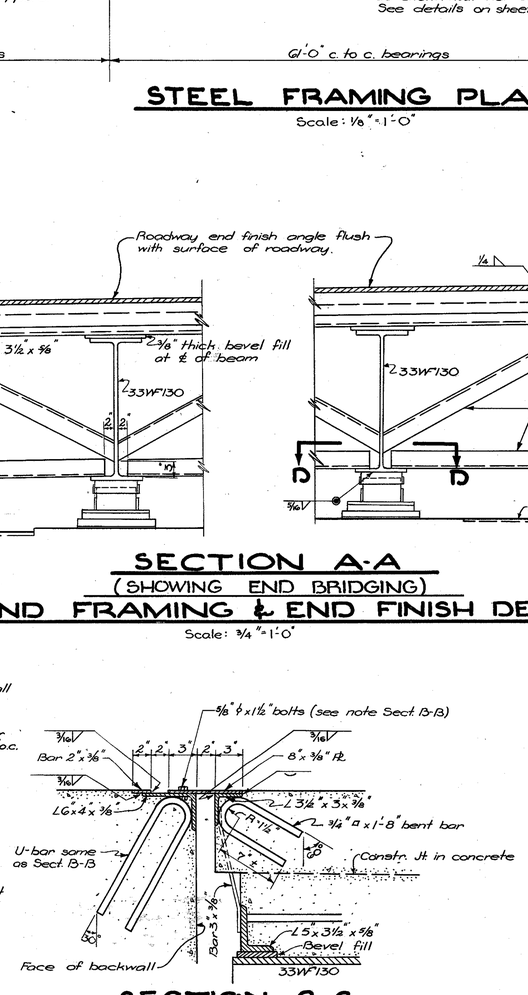
SECTION D-D

Scale: 3/4" = 1'-0"



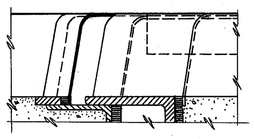
SECTION B-B

Scale: 1½" = 1'-0"



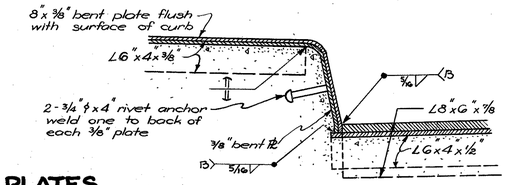
SECTION C-C

Scale: 1½" = 1'-0"



ELEVATION VIEW OF CURB PLATES

Scale: 1½" = 1'-0"



CURB PLATE DETAIL

Scale: 1½" = 1'-0"

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

STEEL FRAMING PLAN & DETAILS

BRIDGE NO. BU.-4-152
OVER GREGORY CREEK

BUTLER COUNTY STA. 415+41.5

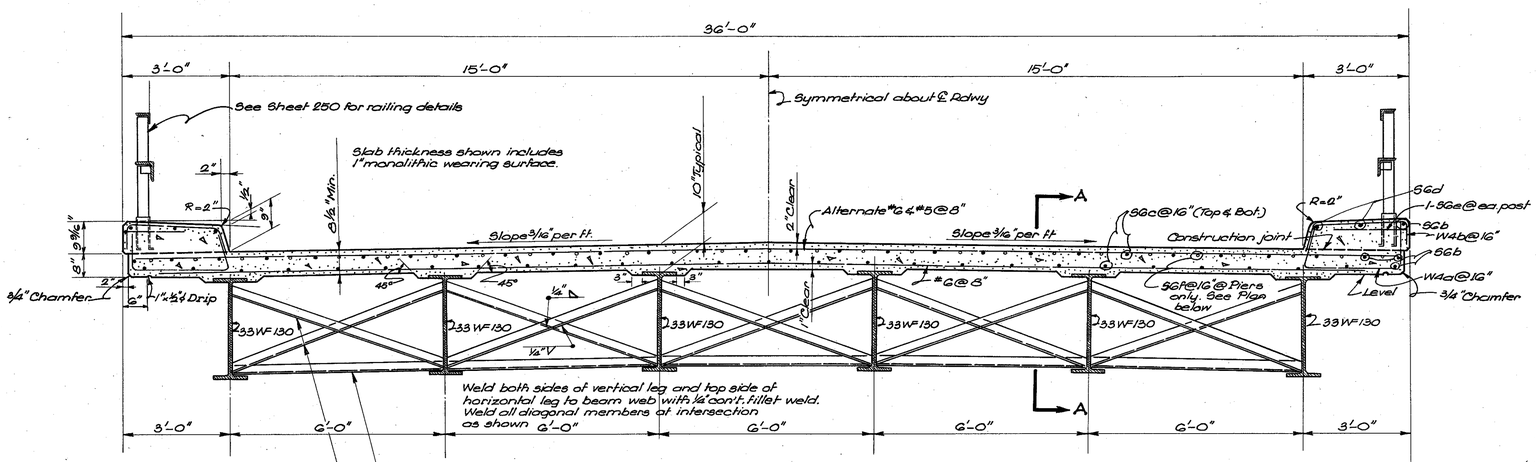
Scale: As shown

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
O.L.A.	V.K.	O.L.K.	R.G.H. R.L.S			

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

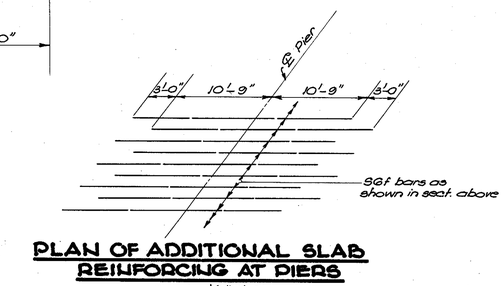
249
291

BUT.-4-(8.48-15.02)



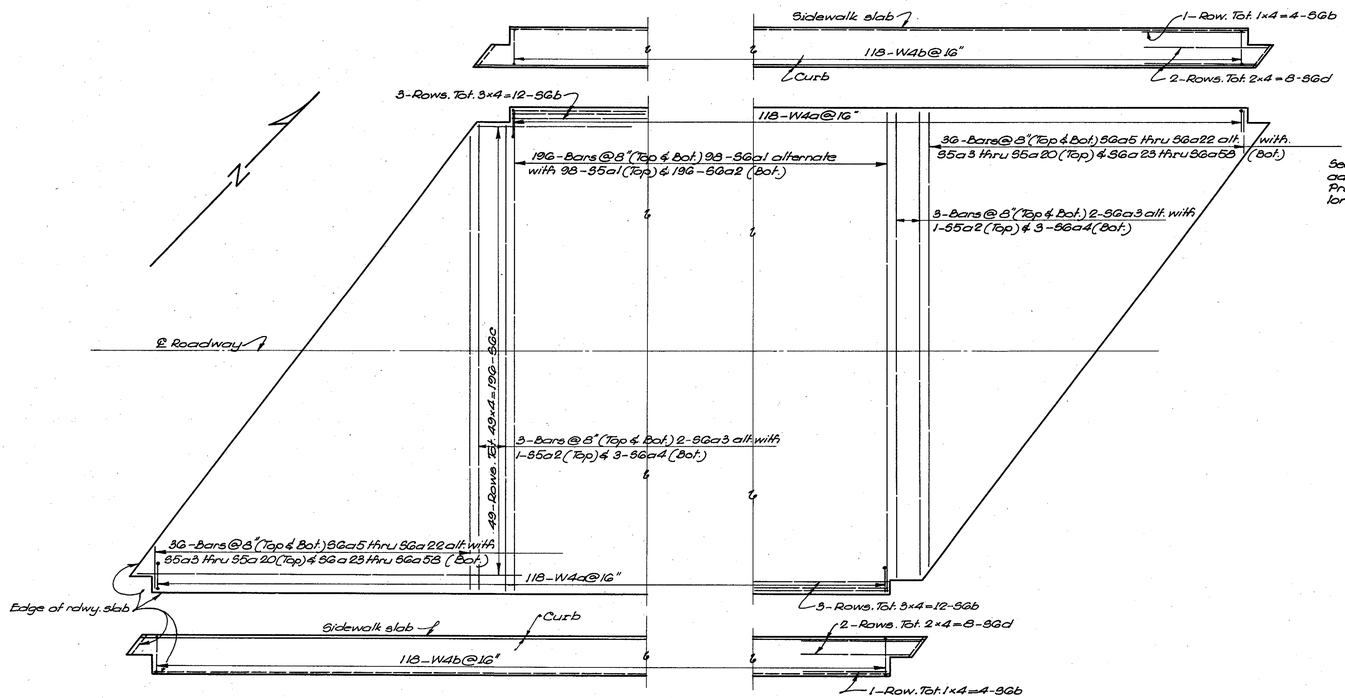
TYPICAL TRANSVERSE SECTION THRU ROADWAY

Scale: 1/2"=1'-0"



PLAN OF ADDITIONAL SLAB REINFORCING AT PIERS

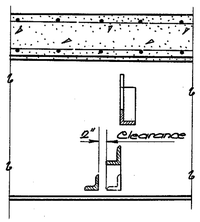
Scale: 1/8"=1'-0"



NOTE:
See section above for additional placing information. Provide min. 1'-11" lap @ all longitudinal bar splices

PLAN SHOWING REINFORCING FOR ROADWAY & SIDEWALK SLABS

Scale: 3/16"=1'-0"



SECTION A-A TYPICAL

Scale: 3/4"=1'-0"

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

SUPERSTRUCTURE ROADWAY SLAB

BRIDGE NO. BU.-4-152
OVER GREGORY CREEK

BUTLER COUNTY

STA. 415+41.5

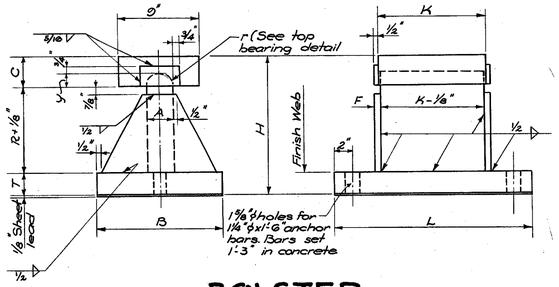
Scale: As shown

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
O.L.A G.V.B	G.V.B	J.H.K.	R.J.L R.L.S			

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

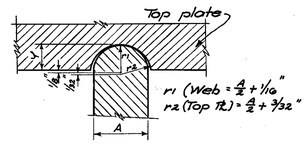
250/291

BUT.-4-(8.48-15.02)



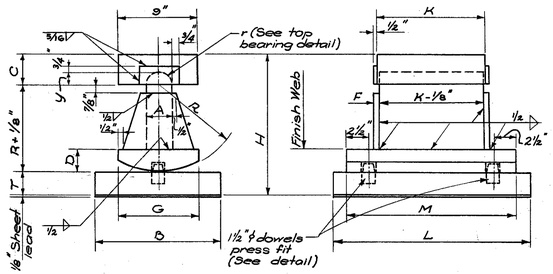
BOLSTER

See table for additional dimensions



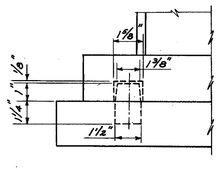
TOP BEARING DETAIL

Top plate of rockers and bolsters shall be attached to bottom of beam (or splice plate) with ⅝" fillet weld all around.



ROCKER

See table this sheet for additional dimensions

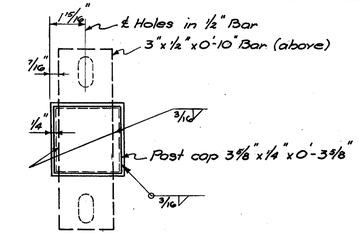


DOWEL DETAIL

BOLSTER No.	ROCKER No.	DIMENSIONS F	B	L	H	T	R	C	A	Y	K	D	G	M	WEIGHT EA. (LBS) BOLSTER	ROCKER	MAXIMUM LOAD (LBS)
	R-75	½"	8"	17"	9⅝"	1½"	5½"	2½"	2½"	1⅜"	9"	1¾"	7"	15"		195	75,000
B-125	R-125	½"	11"	20"	12⅝"	2"	7½"	3"	3"	1⅞"	10½"	2"	8"	17½"	300	345	125,000

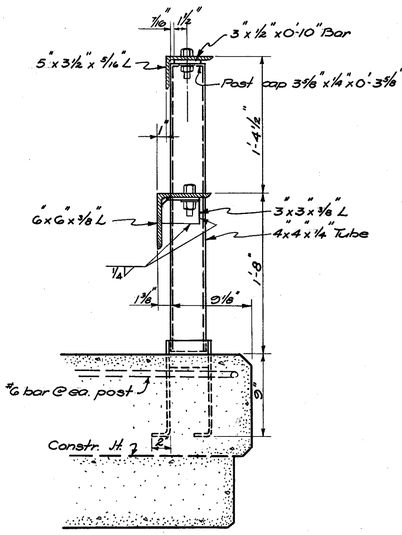
Weights given are for rocker or bolster complete (including sheet lead)

ROCKERS & BOLSTERS
(STRUCTURAL STEEL)



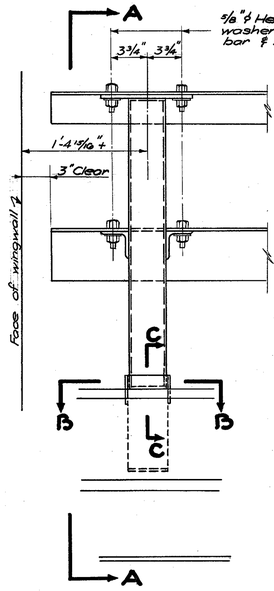
POST CAP DETAIL

Scale: 3" = 1'-0"



SECTION A-A

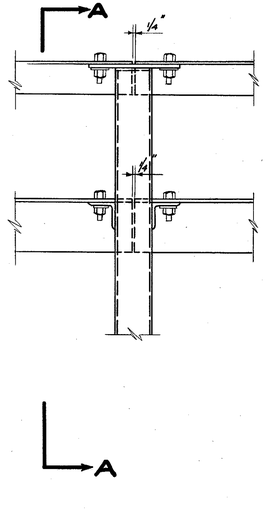
Scale: 1½" = 1'-0"



ELEVATION END POST

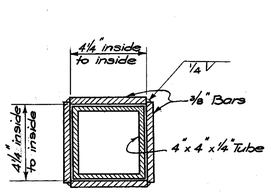
Scale: 1½" = 1'-0"

NOTE: Railing angles shall be continuous for two or three panel lengths. Joints in upper and lower rails to be staggered.



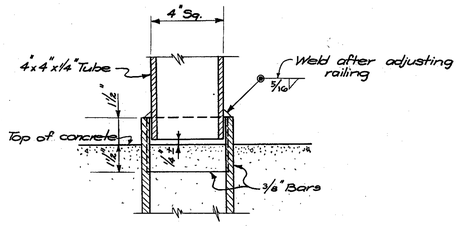
ELEVATION INTERMEDIATE POST

Scale: 1½" = 1'-0"



SECTION B-B

Scale: 3" = 1'-0"



SECTION C-C

Scale: 3" = 1'-0"

HANDRAIL DETAILS

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

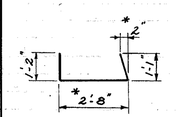
SUPERSTRUCTURE DETAILS

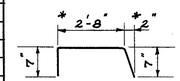
BRIDGE NO. BU.-4-152
OVER GREGORY CREEK

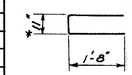
BUTLER COUNTY STA. 415+41.5

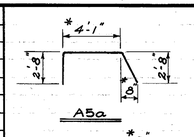
Scale: As shown

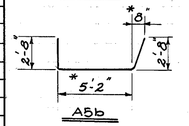
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.V.B	G.V.B	B.L.K.	R.J.L			

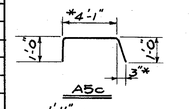


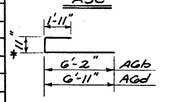


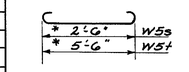


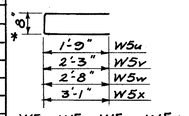


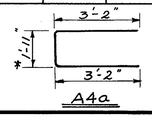


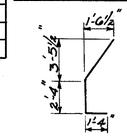












FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

BUT.-4-(8.48-15.02)

ROADWAY SLAB

MARK	NUMBER	LENGTH	WEIGHT	SHAPE	MARK	NUMBER	LENGTH	WEIGHT	SHAPE
S4a	236	4'-9"	749	Bt.	S6a28	2	28'-11"	87	Str.
S4b	236	3'-8"	578	Bt.	S6a29	2	28'-1"	84	↑
					S6a30	2	27'-2"	82	
					S6a31	2	26'-4"	79	
S5a1	98	35'-4"	3,611	Str.	S6a32	2	25'-4"	76	
S5a2	2	34'-2"	72	↑	S6a33	2	24'-5"	74	
S5a3	2	34'-0"	71		S6a34	2	23'-7"	71	
S5a4	2	32'-3"	67		S6a35	2	22'-8"	68	
S5a5	2	30'-6"	64		S6a36	2	21'-10"	66	
S5a6	2	28'-9"	60		S6a37	2	20'-11"	63	
S5a7	2	27'-0"	56		S6a38	2	20'-1"	60	
S5a8	2	25'-1"	52		S6a39	2	19'-2"	58	
S5a9	2	23'-4"	49		S6a40	2	18'-4"	55	
S5a10	2	21'-7"	45		S6a41	2	17'-4"	52	
S5a11	2	19'-10"	41		S6a42	2	16'-5"	51	
S5a12	2	18'-0"	38		S6a43	2	15'-7"	47	
S5a13	2	16'-3"	34		S6a44	2	14'-8"	44	
S5a14	2	14'-6"	30		S6a45	2	13'-10"	42	
S5a15	2	12'-9"	27		S6a46	2	12'-11"	39	
S5a16	2	11'-0"	23		S6a47	2	12'-1"	36	
S5a17	2	9'-1"	19		S6a48	2	11'-2"	34	
S5a18	2	7'-4"	15		S6a49	2	10'-4"	31	
S5a19	2	5'-7"	12	↓	S6a50	2	9'-4"	28	
S5a20	2	3'-10"	8	Str.	S6a51	2	8'-5"	25	
					S6a52	2	7'-7"	23	
					S6a53	2	6'-8"	20	
S6a1	98	35'-4"	5,200	Str.	S6a54	2	5'-10"	18	
S6a2	196	34'-0"	10,009	↑	S6a55	2	4'-11"	15	
S6a3	4	34'-2"	205		S6a56	2	4'-1"	12	
S6a4	6	33'-6"	302		S6a57	2	3'-2"	10	
S6a5	2	33'-1"	99		S6a58	2	2'-4"	7	
S6a6	2	31'-4"	94		S6b	32	40'-6"	1,947	
S6a7	2	29'-7"	89		S6c	196	41'-7"	12,242	↓
S6a8	2	27'-10"	84		S6d	16	41'-9"	1,003	Str.
S6a9	2	26'-0"	78		S6e	40	4'-1"	245	Bt.
S6a10	2	24'-3"	73		S6f	54	24'-6"	1,987	Str.
S6a11	2	22'-6"	68						
S6a12	2	20'-9"	62						
S6a13	2	19'-0"	57						
S6a14	2	17'-1"	51						
S6a15	2	15'-4"	46						
S6a16	2	13'-7"	41						
S6a17	2	11'-10"	36						
S6a18	2	10'-0"	30						
S6a19	2	8'-3"	25						
S6a20	2	6'-6"	20						
S6a21	2	4'-9"	14						
S6a22	2	3'-0"	9						
S6a23	2	33'-4"	100						
S6a24	2	32'-5"	98						
S6a25	2	31'-7"	95						
S6a26	2	30'-8"	92	↓					
S6a27	2	29'-10"	90	Str.					

S4a

S4b

S6e

ABUTMENTS

MARK	NUMBER	LENGTH	WEIGHT	SHAPE
A4a	48	8'-2"	262	Bt.
A5a	42	9'-2"	409	Bt.
A5b	42	10'-5"	456	Bt.
A5c	72	5'-9"	444	Bt.
A6a	40	23'-7"	1,417	Str.
A6b	74	8'-10"	982	Bt.
A6c	74	5'-2"	574	Str.
A6d	8	9'-7"	115	Bt.
A6e	8	5'-11"	71	Str.
A6f	8	3'-3"	39	Str.
A8a	48	23'-10"	3,054	Str.
W5a	24	7'-6"	188	Str
W5b	24	9'-0"	225	↑
W5c	8	9'-6"	79	
W5d	40	10'-4"	431	
W5e	8	3'-2"	26	
W5f	8	1'-8"	15	
W5g	24	13'-2"	325	
W5h	16	13'-5"	224	
W5i	16	11'-1"	185	
W5j	4	10'-1"	42	
W5k	4	7'-6"	31	
W5m	8	10'-6"	88	
W5n	8	6'-3"	52	
W5p	8	4'-10"	40	↓
W5r	44	4'-1"	187	Str.
W5s	16	3'-8"	61	Bt.
W5t	8	6'-8"	57	↑
W5u	4	4'-0"	17	
W5v	4	5'-0"	21	
W5w	4	5'-10"	23	↓
W5x	4	6'-8"	28	Bt.
W6a	8	7'-4"	88	Bt.

A4a

A5a

A5b

A5c

AGb & AGd

W5s & W5t

W5u, W5v, W5w, W5x

W6a

PIERS

MARK	NUMBER	LENGTH	WEIGHT	SHAPE
P4a	4	13'-3"	35	Bt.
P4b	4	11'-11"	32	↑
P4c	4	10'-8"	29	
P4d	4	9'-4"	25	↓
P4e	34	18'-7"	422	Bt.
P5a	72	4'-7"	344	Bt.
P5b	24	25'-8"	642	Str.
P5c	4	40'-8"	170	Str.
P5d	24	7'-4"	184	Bt.
P5e	52	19'-0"	1,030	Str.
P5f	4	15'-0"	63	Str.
P6a	56	5'-2"	435	Str.
P6b	12	33'-4"	601	Str.
P8a	102	10'-10"	2,949	Bt.
P9a	16	30'-6"	961	Bt.
P9b	8	9'-4"	254	Bt.
P9c	16	15'-0"	816	Bt.

P4a, P4b, P4c, P4d

P5a

P5d

P8a

P9b

P4e

NOTE:
Reinforcing steel dimensions marked with asterisks (*) are out-to-out dimensions requiring exact bending.

REPLACEMENT BARS

MARK	NUMBER	LENGTH	WEIGHT	SHAPE
RE4	1	5'-3"	4	Str.
RE5	1	5'-7"	6	↑
RE6	2	5'-11"	18	
RE7	1	6'-3"	13	
RE8	1	6'-6"	17	↓
RE9	1	6'-10"	23	Str.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

REINFORCING STEEL LISTS

BRIDGE NO. BU.-4-152
OVER GREGORY CREEK

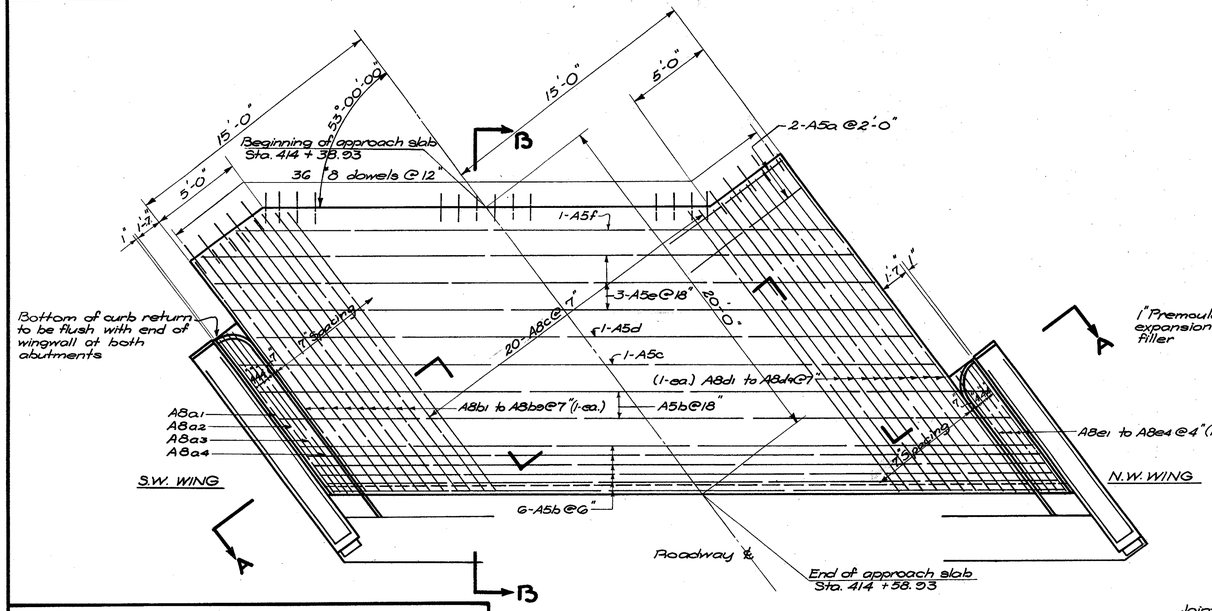
BUTLER COUNTY
STA. 415+41.5
Scale: No scale

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
V.K	V.K	S.L.K.	O.L.A R.L.S			8-20-55

FED. NO. DIVISION	STATE	PROJECT	
2	OHIO		

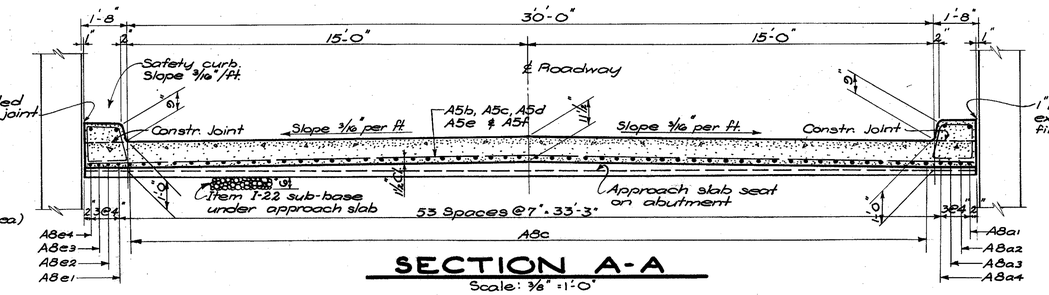
252
291

BUT-4-(8.48-15.02)



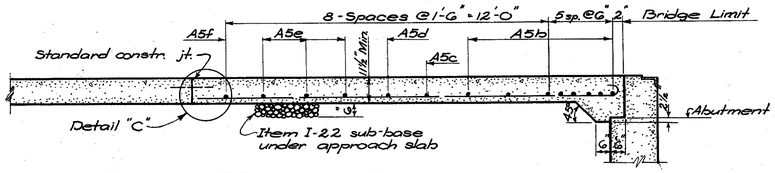
PLAN- WEST APPROACH SLAB

Scale: 1/4" = 1'-0"



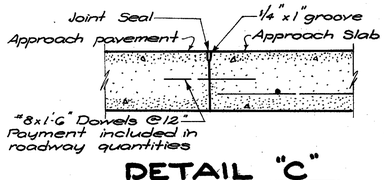
SECTION A-A

Scale: 3/8" = 1'-0"



SECTION B-B

Scale: 3/8" = 1'-0"

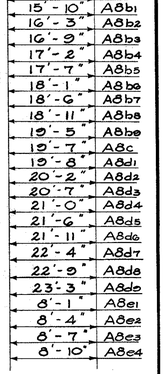


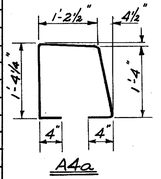
DETAIL "C"

Scale: 1/4" = 1'-0"

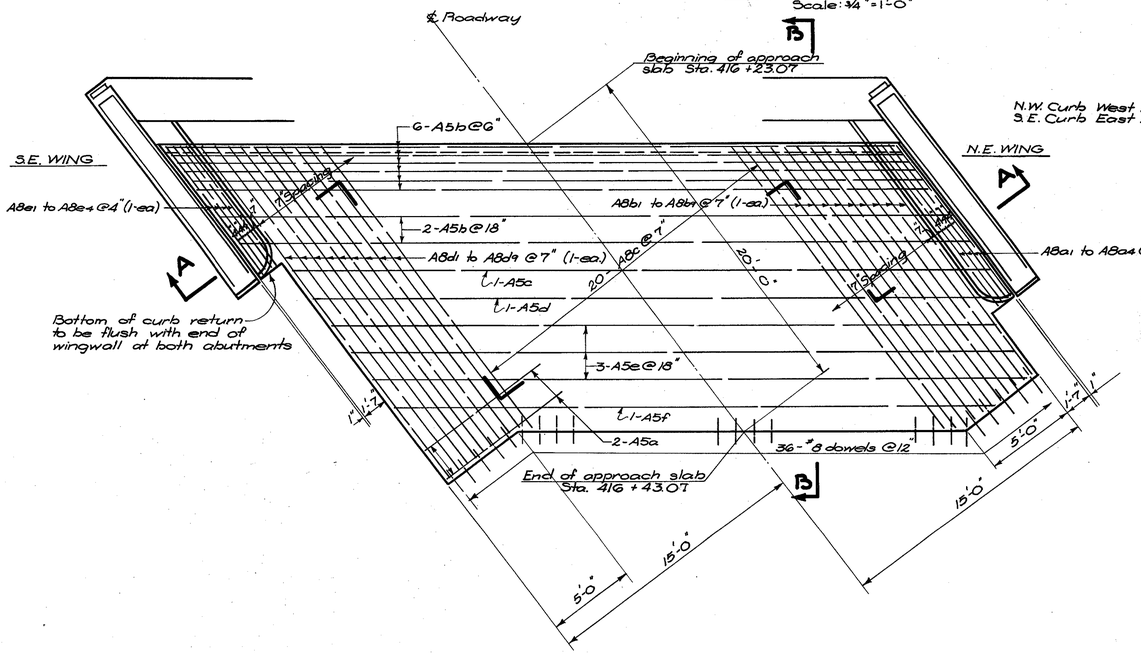
REINFORCING STEEL LIST

MARK	NUMBER	LENGTH	WEIGHT	SHAPE
A8a1	2	11'-4"	G1	Bent
A8a2	2	11'-7"	G2	
A8a3	2	11'-11"	G4	
A8a4	2	12'-2"	G5	
A8b1	2	16'-11"	90	
A8b2	2	17'-4"	93	
A8b3	2	17'-10"	95	
A8b4	2	18'-3"	97	
A8b5	2	18'-8"	100	
A8b6	2	19'-2"	102	
A8b7	2	19'-7"	105	
A8b8	2	20'-0"	107	
A8b9	2	20'-6"	109	
A8c	40	20'-8"	110	
A8d1	2	20'-9"	111	
A8d2	2	21'-3"	113	
A8d3	2	21'-8"	117	
A8d4	2	22'-1"	118	
A8d5	2	22'-7"	121	
A8d6	2	23'-0"	123	
A8d7	2	23'-5"	125	
A8d8	2	23'-10"	127	
A8d9	2	24'-4"	130	
A8e1	2	9'-2"	50	
A8e2	2	9'-5"	50	
A8e3	2	9'-8"	52	
A8e4	2	9'-11"	53	Bent
A5a	4	8'-0"	33	Str.
A5b	16	41'-2"	70	
A5c	2	39'-2"	82	
A5d	2	38'-7"	80	
A5e	6	36'-0"	225	
A5f	2	33'-3"	69	Str.
A4a	20	4'-4"	31	Bent
A4b	2	8'-10"	12	Str.
A4c	2	6'-10"	9	
A4d	2	10'-1"	13	
A4e	2	10'-3"	14	Str.



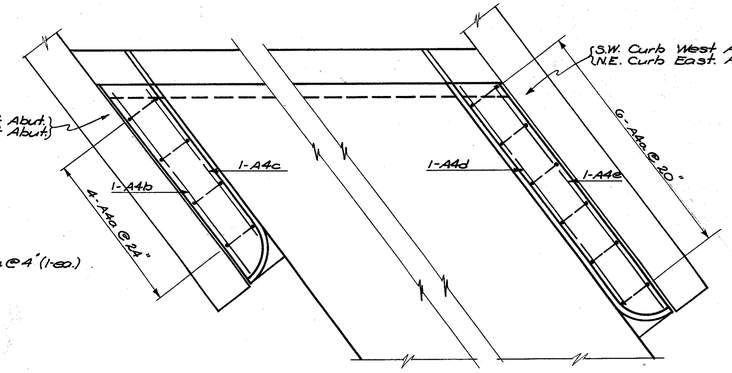


A4a



PLAN- EAST APPROACH SLAB

Scale: 1/4" = 1'-0"



SAFETY CURB REINFORCING STEEL

Scale: 3/8" = 1'-0"

NOTES:

Approach slabs to be Class "C" concrete
The price bid for Item 7-7 for the approach slabs shall include safety curb and 1" premoulded expansion joint filler.
For location of expansion joints in the approach pavement adjacent to the bridge see standard drawing TJ-1. For details not shown reference is made to Standard Drawing BS-1-54.

APPROACH SLABS FOR BRIDGE OVER GREGORY CREEK

LOCATION PLAN
STATE ROUTE 4
BUT.-4-(8.48-15.02)
BUTLER COUNTY

Scale 0 600 1200 1800 2400

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)
253/291

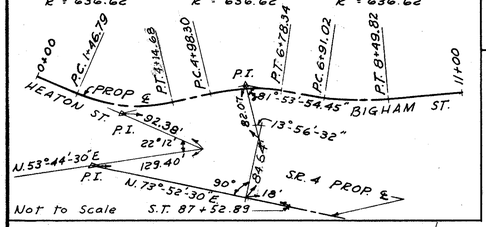
Date	Revision	By

DETAIL OF HEATON ST.- BIGHAM ST. ℄

CURVE DATA P.I. 2+82.75 Δ = 24°-06'-37.72" LT. D = 9°-00'-00" T = 135.96' L_c = 267.89' R = 636.62'

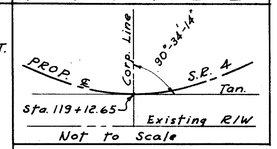
CURVE DATA P.I. 5+88.92 Δ = 16°-12'-11.10" RT. D = 9°-00'-00" T = 90.62' L_c = 180.04' R = 636.62'

CURVE DATA P.I. 7+70.84 Δ = 141°-17'-33.38" LT. D = 9°-00'-00" T = 79.82' L_c = 158.80' R = 636.62'

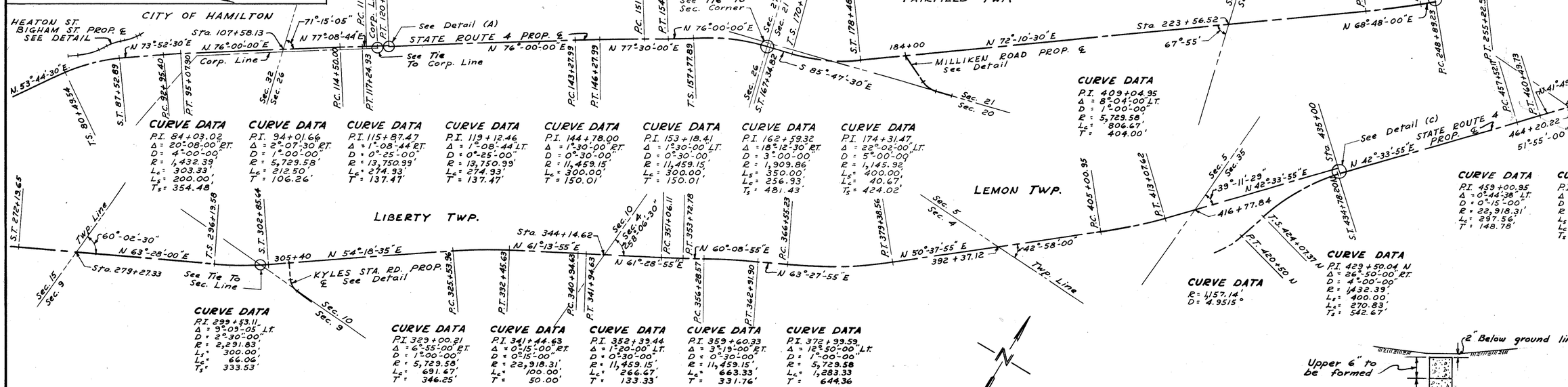


Not to Scale

TIE TO CORP. LINE



Not to Scale



CURVE DATA P.I. 84+03.02 Δ = 20°-08-00" RT. D = 4°-00'-00" R = 1,432.39' L_c = 303.33' L_s = 200.00' T_s = 354.48'

CURVE DATA P.I. 94+01.66 Δ = 2°-07'-30" RT. D = 1°-00'-00" R = 5,729.58' L_c = 212.50' T = 106.26'

CURVE DATA P.I. 115+87.47 Δ = 1°-08'-44" RT. D = 0°-25'-00" R = 13,750.99' L_c = 274.93' T = 137.47'

CURVE DATA P.I. 113+12.46 Δ = 1°-08'-44" LT. D = 0°-25'-00" R = 13,750.99' L_c = 274.93' T = 137.47'

CURVE DATA P.I. 144+78.00 Δ = 1°-30'-00" RT. D = 0°-30'-00" R = 11,459.15' L_c = 300.00' T = 150.01'

CURVE DATA P.I. 153+18.41 Δ = 1°-30'-00" LT. D = 0°-30'-00" R = 11,459.15' L_c = 300.00' T = 150.01'

CURVE DATA P.I. 162+59.32 Δ = 18°-12'-30" RT. D = 3°-00'-00" R = 1,909.86 L_c = 350.00' L_s = 256.93' T_s = 481.43'

CURVE DATA P.I. 174+31.47 Δ = 22°-02'-00" LT. D = 5°-00'-00" R = 1,145.92' L_c = 440.00' L_s = 40.67' T_s = 424.02'

CURVE DATA P.I. 409+04.95 Δ = 8°-04'-00" LT. D = 1°-00'-00" R = 5,729.58' L_c = 806.67' T = 404.00'

CURVE DATA P.I. 243+73.04 Δ = 3°-22'-30" LT. D = 0°-30'-00" R = 11,459.15' L_c = 675.00' T = 337.60'

CURVE DATA P.I. 252+05.98 Δ = 3°-10'-00" RT. D = 0°-30'-00" R = 11,459.15' L_c = 633.33' T = 316.75'

CURVE DATA P.I. 269+07.58 Δ = 8°-30'-00" LT. D = 2°-00'-00" R = 2,864.79' L_s = 200' L_c = 225' T_s = 312.93'

CURVE DATA P.I. 459+00.95 Δ = 0°-44'-38" LT. D = 0°-15'-00" R = 22,918.31' L_s = 297.56' T = 148.78'

CURVE DATA P.I. 475+95.53 Δ = 37°-55'-22" LT. D = 4°-00'-00" R = 1432.39' L_s = 400.00' L_c = 548.07' T_s = 693.60'

CURVE DATA P.I. 429+50.04 N Δ = 26°-50'-00" RT. D = 4°-00'-00" R = 1432.39' L_s = 400.00' L_c = 670.83' T_s = 542.67'

CURVE DATA R = 4157.14' D = 4.9515°

CURVE DATA P.I. 299+53.11 Δ = 9°-09'-05" LT. D = 2°-30'-00" R = 2,291.83' L_s = 300.00' L_c = 66.06' T_s = 333.53'

CURVE DATA P.I. 329+00.21 Δ = 6°-55'-00" RT. D = 1°-00'-00" R = 5,729.58' L_c = 691.67' T = 346.25'

CURVE DATA P.I. 341+44.63 Δ = 0°-15'-00" RT. D = 0°-15'-00" R = 22,918.31' L_c = 100.00' T = 50.00'

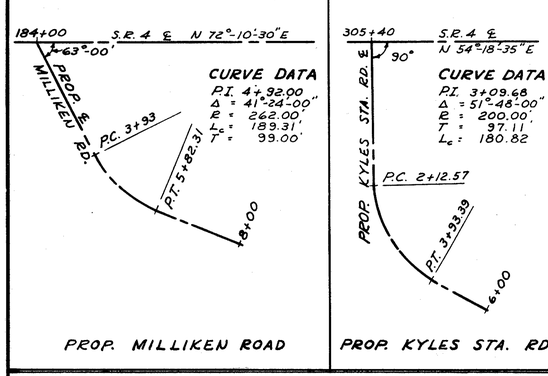
CURVE DATA P.I. 352+33.44 Δ = 1°-20'-00" LT. D = 0°-30'-00" R = 11,459.15' L_c = 266.67' T = 133.33'

CURVE DATA P.I. 359+60.33 Δ = 3°-19'-00" RT. D = 0°-30'-00" R = 11,459.15' L_c = 663.33' T = 331.76'

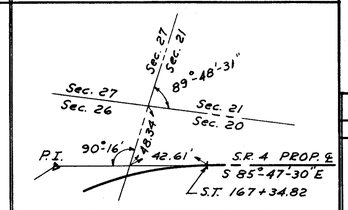
CURVE DATA P.I. 372+93.59 Δ = 12°-50'-00" LT. D = 1°-00'-00" R = 5,729.58 L_c = 1,283.33 T = 644.36

Note : Details are not to scale.

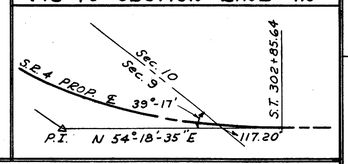
DETAILS OF INTERSECTIONS



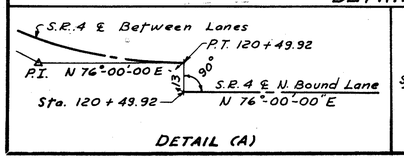
TIE TO SECTION CORNER



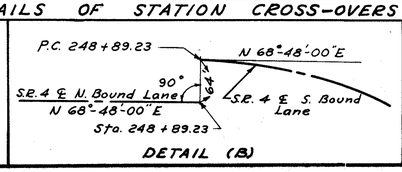
TIE TO SECTION LINE 9/10



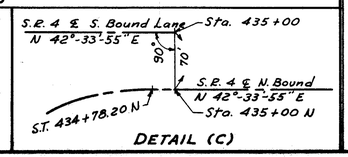
DETAILS OF STATION CROSS-OVERS



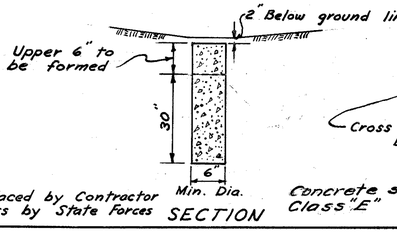
DETAIL (A)



DETAIL (B)



DETAIL (C)



NOTE: Monuments to be placed by Contractor and marked with cross by State Forces

LOCATION OF CENTERLINE REFERENCE MONUMENTS

Stationing on ℄ Between Lanes	Station	Dist. Rt.	Dist. Lt.	Location
	79+00.00	NONE	36'	RIGHT ANGLES
	80+49.54 T.S.	NONE	36'	" "
	88+00.00	36'	46'	" "
	92+95.40 P.C.	34'	NONE	" "
	95+07.90 P.T.	34'	NONE	" "
	100+00.00	36'	NONE	" "
	105+00.00	36'	NONE	" "
	110+50.00	36'	NONE	" "
	114+50.00 P.C.	36'	NONE	" "
	117+24.93 P.T.	36'	NONE	" "
	117+74.99 P.C.	36'	NONE	" "
	120+49.92 P.T.	33'	37'	RIGHT ANGLES
Stationing on ℄ of North Bound Lane	120+49.92	20'	30'	RIGHT ANGLES
	125+00.00	20'	41'	" "
	130+00.00	20'	41'	" "
	134+00.00	20'	41'	" "
	140+00.00	20'	41'	" "
	143+27.99 P.C.	20'	39'	" "
	146+27.99 P.T.	20'	48'	" "
	151+68.40 P.C.	20'	63'	" "
	154+68.40 P.T.	20'	20'	" "
	157+77.89 T.S.	20'	20'	RIGHT ANGLES
	161+27.89 S.C.	25'	20'	RADIAL LINE
	163+84.82 C.S.	20'	20'	RADIAL LINE
	167+34.82 S.T.	20'	24'	RIGHT ANGLES
	170+07.45 T.S.	20'	20'	RIGHT ANGLES
	174+07.45 S.C.	20'	20'	RADIAL LINE
	174+68.40 C.S.	20'	20'	RADIAL LINE
	178+48.12 S.T.	20'	20'	RIGHT ANGLES
	182+00.00	20'	20'	" "
	185+00.00	20'	20'	" "
	190+00.00	20'	20'	" "
	196+00.00	20'	20'	" "
	200+00.00	20	20'	RIGHT ANGLES

Stationing on ℄ of South Bound Lane	Station	Dist. Rt.	Dist. Lt.	Location
	206+00.00	20'	20'	RIGHT ANGLES
	210+00.00	20'	20'	" "
	215+00.00	20'	20'	" "
	220+00.00	20'	20'	" "
	225+00.00	20'	20'	" "
	230+00.00	20'	20'	" "
	235+00.00	20'	20'	" "
	240+35.44 P.C.	20'	20'	RIGHT ANGLES
	243+72.94	20'	20'	RADIAL LINE
	247+10.44 P.T.	20'	20'	RIGHT ANGLES
	248+89.23	20'	44'	RIGHT ANGLES
	248+89.23 P.C.	20'	20'	RIGHT ANGLES
	255+22.56 P.T.	20'	20'	" "
	260+00.00	20'	20'	" "
	265+94.65 T.S.	20'	20'	RIGHT ANGLES
	267+94.65 S.C.	20'	20'	RADIAL LINE
	270+19.65 C.S.	20'	20'	RADIAL LINE
	272+19.65 S.T.	20'	20'	RIGHT ANGLES
	277+00.00	20'	20'	" "
	282+00.00	20'	20'	" "
	287+00.00	20'	20'	" "
	291+00.00	20'	20'	" "
	294+19.58 T.S.	20'	20'	RIGHT ANGLES
	299+19.58 S.C.	25'	20'	RADIAL LINE
	299+85.64 C.S.	20'	20'	RADIAL LINE
	302+85.64 S.T.	20'	20'	RIGHT ANGLES
	306+00.00	20'	20'	" "
	310+00.00	20'	20'	" "
	315+00.00	20'	20'	" "
	320+00.00	20'	20'	" "
	325+53.96 P.C.	25'	20'	RIGHT ANGLES
	328+99.80	20'	20'	RADIAL LINE
	332+45.63 P.T.	20'	20'	RIGHT ANGLES
	336+00.00	20'	20'	RIGHT ANGLES

Stationing on ℄ of South Bound Lane	Station	Dist. Rt.	Dist. Lt.	Location
	340+94.63 P.C.	20'	20'	RIGHT ANGLES
	341+94.63 P.T.	20'	20'	" "
	347+00.00	20'	20'	" "
	351+06.11 P.C.	20'	20'	" "
	353+72.78 P.T.	20'	20'	" "
	356+28.57 P.C.	20'	20'	RIGHT ANGLES
	359+60.24	20'	20'	RADIAL LINE
	363+50.00	35'	20'	RIGHT ANGLES
	366+55.23 P.C.	28'	20'	RIGHT ANGLES
	372+96.90	20'	20'	RADIAL LINE
	379+38.56 P.T.	20'	20'	RIGHT ANGLES
	385+00.00	20'	20'	RIGHT ANGLES
	390+00.00	20'	20'	" "
	395+00.00	20'	20'	" "
	400+00.00	20'	20'	" "
	405+00.95 P.C.	20'	20'	RIGHT ANGLES
	409+04.29	20'	20'	RADIAL LINE
	413+07.62 P.T.	20'	20'	RIGHT ANGLES
	418+00.00	20'	20'	" "
	423+00.00	20'	20'	" "
	428+00.00	20'	20'	" "
	433+00.00	20'	30'	RIGHT ANGLES
Stationing on ℄ of North Bound Lane	436+00.00	20'	30'	RIGHT ANGLES
	440+00.00	20'	30'	" "
	445+00.00	20'	20'	" "
	450+00.00	20'	20'	" "
	455+00.00	20'	20'	" "
	457+52.17 P.C.	20'	20'	" "
	460+49.73 P.T.	20'	20'	" "
	465+00.00	27'	20'	" "
	469+01.93 T.S.	22'	18'	RIGHT ANGLES

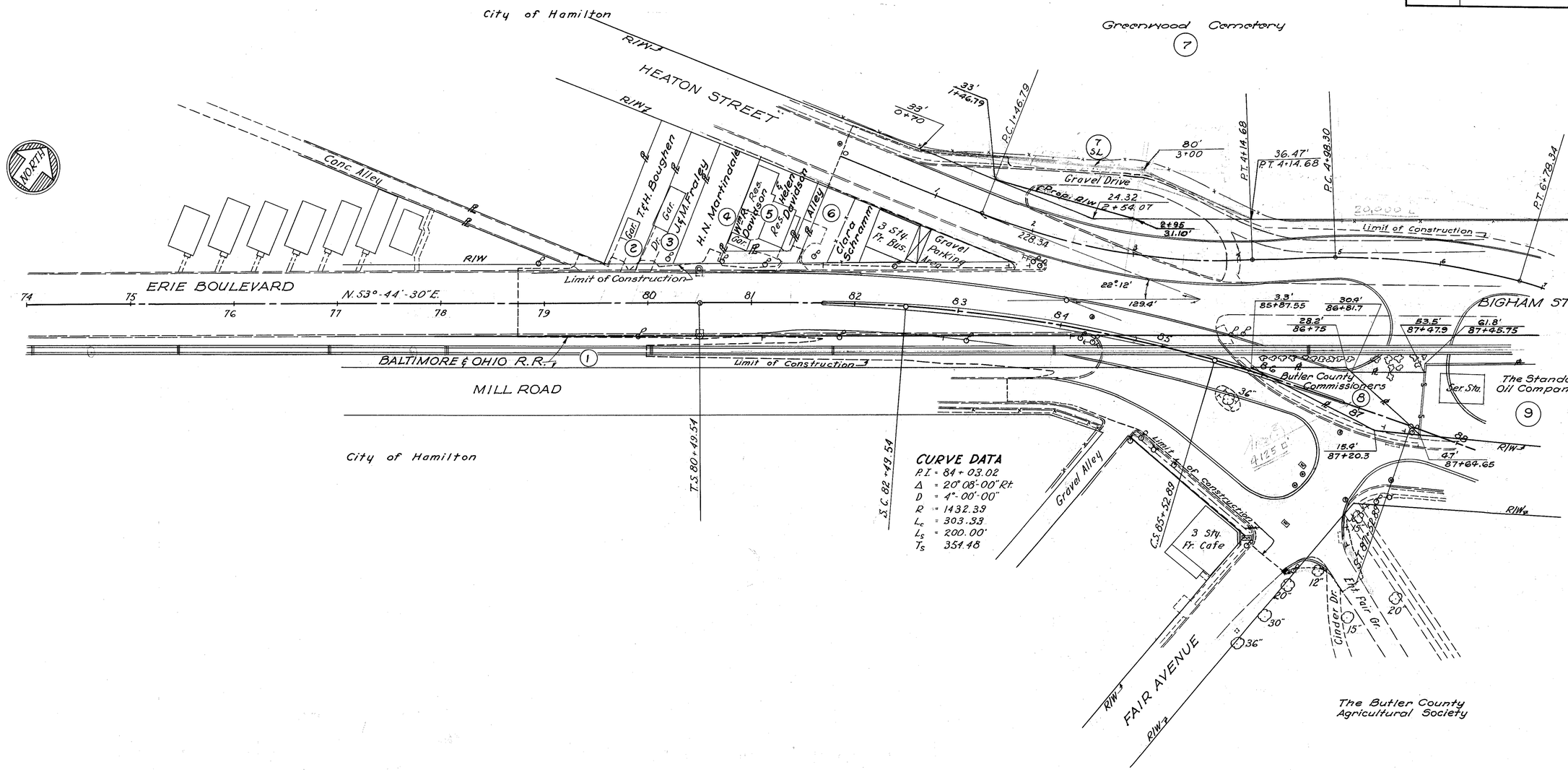
R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

254/291

Date	Revision	By

HEATON ST. - BIGHAM ST.
CURVE DATA

P.I. = 2+82.75	P.I. = 5+88.92
Δ = 24°06'37.72"	Δ = 16°12'11.10"
D = 9°00'00"	D = 9°00'00"
T = 135.96'	T = 90.62'
L = 267.09'	L = 180.04'
R = 636.62'	R = 636.62'



Sta 74+00 to Sta 88+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

255/297

Date	Revision	By

Greenwood Cemetery (7)

BIGHAM ST.

Limit of Construction

BIGHAM STREET CURVE DATA
P.I. = 7+70.84
Δ = 14°17'33.38"
D = 9°00'00"
T = 79.92'
L = 159.00'
R = 636.62'

P.T. 6+78.34
P.C. 6+91.02
P.T. 8+48.82
8+90.00
8+91.00
8+88.00
5.60
5.60
61.8' 87+45.75
53.5' 87+47.2
30.4' 86+81.7
4.7' 87+64.65
The Standard Oil Company
Service Station
Jack Oden White
2 Sty. Ft. & Res.
Gravel Dr.
Sidewalk 89+42.5
Donald C. Hoze, Woltman
Cinder Dr.
Garages (Brick)
Conc.
Conc. Dr.
2 Sty. Brick
Western States Machine Company
Macadam Parking Area
4" V.T.P.
Limit of Construction
Ex. R/W
Concrete Wall
The W.H. Kiefaber Company
Macadam Drive
Bus.
City of Hamilton
Fashion Frocks Incorporated
Macadam Drive & Walks
Limit of Construction
Prop. R/W
40' 88+44.36
33.24' 88+46.08
35' 88+82
36.90 89+28.5
36.00 89+35.62
Conc.
R=1397.39, L=204.41
N. 73°-52'-30" E.
R=5693.58
L=211.16'
R=5684.58', L=210.83'
Ex. R/W
Conc. Posts
gravel
Prop. R/W
Prop. Slope Easement
Limit of Construction
Prop. Slope Easement
46.37' 88+73.67
36' 89+72.84
2 Sty. Fr. Res.
Black Top
45' 89+86.11
45' 89+89.88
36' 89+89.07
45' P.C. 92+95.40
36' P.C. 92+95.40
P.C. 92+95.40
2 Sty. Frame
P.T. 95+07.90
36' P.T. 95+07.90
45' 98+00
41' 98+00
41' 100+15
50' 100+15
45' 100+25
50' 100+25
Stables
Ex. R/W
Butler County Commissioners
Drive 30+16 Rt.
The Butler County Agricultural Society
The Butler County Agricultural Society
City of Hamilton Corporation Line
Fairfield Twp. Sec. 32, T-2, R-3

CURVE DATA
P.I. = 94+01.66
Δ = 2°-07'-30" Rt.
D = 1°-00'-00"
R = 5729.58
Lc = 212.50'
T = 106.26'

Board of Education Easement for access
City of Hamilton
John Webb & Margaret Webb
Bus.
Macadam Dr.
Omar Bakery
United Benefit Life Insurance Company
Macadam Parking Area
Limit of Construction
Guard Posts
Dirt Road
Gertrude Silver
Minnie Silver
Old Cistern
Gravel Dr.
Ex. R/W
Andrew L. Trunck
Harold E. Hoffman
Myrtle M. Hoffman
Edward Wirbel
Elizabeth Wirbel
Hot House
L.B. & R.B. Boies
Lot 1
Service Sta Concrete
Campbell Dr.
Macadam
R/W
City of Hamilton
Fairgrove Place #1
Mabel B. Hicks
John C. Hicks
Lot 2
Lot 3
Lot 4
Lot 5
Lot 6
Lot 7
Lot 8
Lot 9
Service Sta. Concrete
Business Gravel Drive
20 A
Limit of Construction
1794'
N. 76°-00'-00" E.
Stone & Brick
Conc.
Corporation Line
24" V.T.P.
Prop. R/W
Gravel Drive & Parking Area
Broken Brick Wall
Ex. R/W
Brick Headwall
Conc. Anchor for Radio Tower
60' 114+61.60
Prop. R/W
Prop. Slope Easement
Fort Hamilton Broadcasting Company
23.55 101+89.39
28.55 101+89.99
R/W
2-10"
30"
9'x9' Stone Marker
Prop. R/W-2
Entrance to Fair Grounds
Limit of Construction
Field Entrance
Prop. Slope Easement
Cultivated
Parking Area
24"
18"
Macadam
45' 104+32.92
36' 104+36.15
45' 107+42.85
36' 107+45.90
Drive 104+03
Field Ent. 104+43
Butler County Fair Grounds
The Butler County Agricultural Society
Butler County Infirmary
Fairfield Twp. Sec. 32, T-2, R-3
Sec. 32 Sec. 26
Drive 10'-60
William Carter & Minnie Carter
Conrad C. Stroh
Drive 89'-10
Harold C. Hoff & Mary C. Hoff
Lucy M. Schlosser
Margaret L. Utz
Drive 111'-26
Lewis S. & Ruth S. Miller
Drive 111'-91
Arthur W. Strunks & Martha L. Strunks
Fairfield Twp. Sec. 26, T-2, R-3
Lucy M. Schlosser
F.J. Egner & Son Incorporated
Field Entr. 41' 112+17.11
36' 112+17.11
Cultivated
Business 36' 113+16.02
36' 114+59.42
2.3
Prop. Slope Easement

CURVE DATA
P.I. = 115+87.47
Δ = 1°-08'-44" Rt.
D = 0°-25'-00"
R = 13,750.99'
Lc = 274.93'
T = 137.47'

Sta. 88+00 to Sta. 116+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

256/291

Date	Revision	By

CURVE DATA
PI = 119+12.46
Δ = 1°-08'-44" LT.
D = 0°-25'-00"
R = 13,750.99'
Lc = 274.93'
T = 137.47'

CURVE DATA
P.I. = 115+87.47
Δ = 1°-08'-44" RT.
D = 0°-25'-00"
R = 13,750.99'
Lc = 274.93'
T = 137.47'

CURVE DATA
P.I. 144+78.00
Δ = 1°-30'-00" RT.
D = 0°-30'-00"
R = 11,459.15'
Lc = 300.00'
T = 150.01'

Sta. 116+00 to Sta. 144+00


R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)
257/291
Date
Revision
By
Fairfield Twp. Sec. 26, T-2, R-3
Andrew Wirtz
33
34
Herbert J. Weik
35
Marjorie V. Fiehrer
Lot 1
Marjorie V. Fiehrer
Eastover Sub. PB 6 P 26
Lot 21
M. Mostow & Co.
35 A
CURVE DATA
P.I. = 153+18.41
Δ = 1°-30'-00" LT.
D = 0°-30'-00"
R = 11,459.15'
Lc = 300.00'
T = 150.01'
Prop. R/W
Ex. R/W
N. 77°-30'-00" E.
N. 76°-00'-00" E.
Cultivated
Limit of Construction
Proposed R/W
Orchard
Mary C. Rentschler
32 A
CURVE DATA
P.I. = 144+78.00
Δ = 1°-30'-00" RT.
D = 0°-30'-00"
R = 11,459.15'
Lc = 300.00'
T = 150.01'
P.T. 146+27.99
T.S. 157+77.89
Fairfield Twp. Sec. 27, T-2, R-3
Eastover Subdivision PB 6 P 26
Fairfield Twp. Sec. 21, T-2, R-3
Lot 15
Lot 12
Lot 11
FAIRHAM ROAD (Macadam)
HEADGATES ROAD
Cyrus J. Filton
36
Brice M. Brandenburg & Mary Lee Brandenburg
37
Bernard H. Cawein & Deboda Cawein
38
Custer A. Honchell & Sally E. Honchell
Oak Ridge Sub. PB 9 P 13
CURVE DATA
P.I. 174+31.47
Δ = 22°-02'-00" LT.
D = 5°-00'-00"
R = 1145.92'
Ls = 400.00'
Lc = 40.67'
Ts = 424.02
Fairfield Twp. Sec. 26, T-2, R-3
S. 85°-47'-30" E
Pasture
Cultivated
CURVE DATA
P.I. 162+59.32
Δ = 18°-12'-30" RT.
D = 3°00'00"
R = 1909.86'
Ls = 350.00'
Lc = 256.93
Ts = 481.43
Mary C. Rentschler
Fairfield Twp. Sec. 20, T-2, R-3

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

258/291

Date	Revision	By

NORTH

CURVE DATA

P.I. = 174+22.13 S.B.
P.I. = 174+31.47 N.B.
Δ = 22°-02'-00" L.T.
D = 5°-00'-00"
R = 1145.92'
L_s = 400.00'
L_c = 40.67'
T_s = 424.02'
E_s = 27.47'

Oak Ridge Subdivision PB 9 - P13

Lot 1 Custer A. Honchell & Sally E. Honchell

Lot 2 240.40' 176+70.50

Lot 3 222.70' 177+21.90

Lot 9 203' 177+26

Sidney J. Whelen

Florence M. Goosmann

Fairfield Twp. Sec. 21, T-2, R-3

Walter A. Rentschler

Mary C. Rentschler

Fairfield Twp. Sec. 20, T-2, R-3

Mary C. Rentschler

Mary C. Rentschler

S.C. 174+07.45

C.S. 174+48.12

S.T. 178+48.12

Sub Line

Oakridge Rd.

Headwall

Inlet

Brick Headwall

Conc. Culvert

24" V.S.P.

15" V.S.P.

12" C.M.P.

24" C.M.P.

Store Headwall

24" Conc. Pipe

Mon.

Mon. 0.62' N.

Mon. 1.33' N.

Limit of Construction

Prop. R/W

Ex. R/W

Pasture

Gravel Field Drive

Field Drive

Tree Line

MILLIKEN ROAD

Millikan Road

Macadam

Sec. 21

Sec. 20

Ex. R/W

Prop. R/W

Limit of Construction

Prop. R/W

Field Entrance

Conc. Post

Pasture

N. 72°-10'-30" E.

Sta. 172+00 to Sta. 186+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

259/291

Date	Revision	By

Fairfield Twp.
Sec. 21, T-2, R-3

NORTH

41/A

Walter A. Rentschler

100'
186+00

Prop. R/W

Limit of Construction

88.12'
190+50

Ex. R/W

Ex. R/W
N. 72°-10'-30" E.

185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200

24" V.S.P.

12" V.S.P.

12" C.M.P.

6 V.S.P.

8'x1' Conc. Headwall

Concrete Headwall

Walter A. Rentschler

Inlet

12" V.S.P.

2'x2' Concrete Post

Limit of Construction

Gravel Picnic Area

18"

30"

8 Ø 4
191+24.30

Concrete Headwall

Gate

18"

Limit of Construction

Prop. R/W

Wooded Area

Limit of Construction

Prop. R/W

60'

50'
192+00

200

60'
194+00

Field Drive

Hay

Well

60'
196+97.34

Field Dr.
Sta. 198+85

Mary C. Rentschler

32/B

Peter E. Rentschler

42

Prop. R/W

℄ Limit of Construction

34

3+21.94

45'
3+93 A

3+93 A

32/C

4A

P.I. 5+82.31 A

R=212', L=156.80'

12" 18" 12" 18"

Conc. Post

Field Entrance

Pasture

5A

6A

45'
5+82.31 A

Ex. R/W

120

40'
7+00 A

7A

8A

21' Wide

20'
8+00 A

Prop. R/W

Limit of Construction

Ex. R/W

135

45'
6+50 A

Field Dr.
6+50 A

20'
8+00 A

Sec. 21
Sec. 20

CURVE DATA

Δ = 41°-24'
T = 99.00'
L = 189.31'
E = 18.08'
R = 262.00'

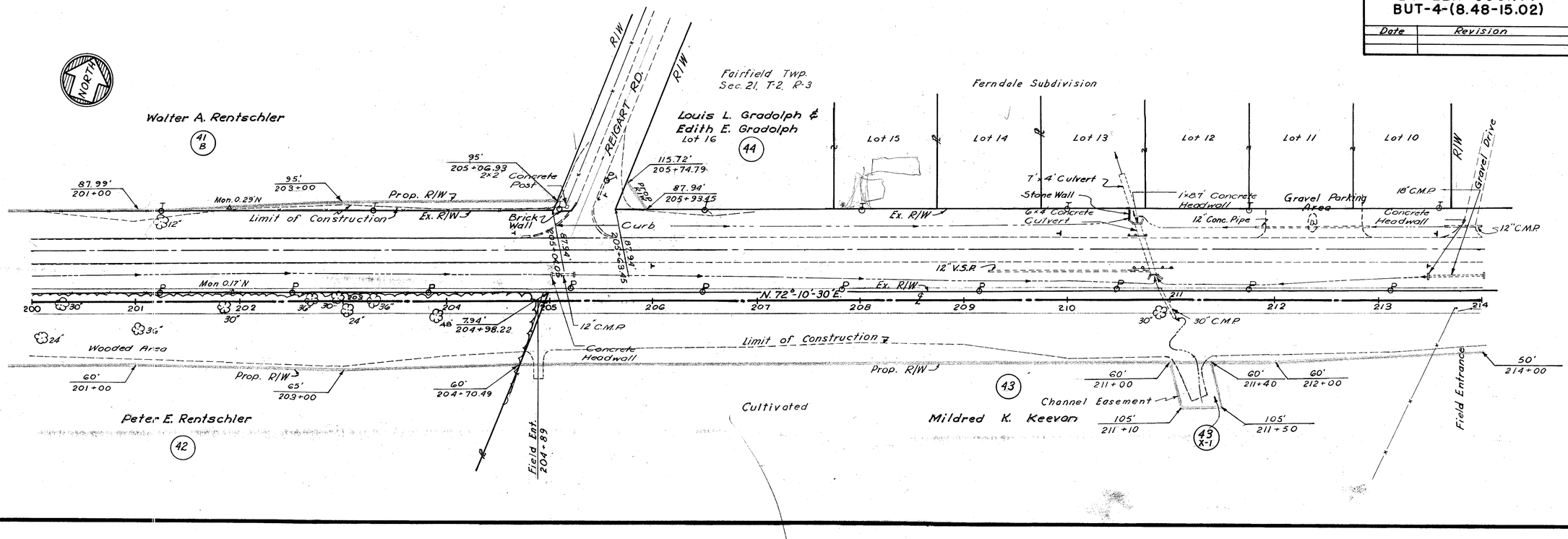
3

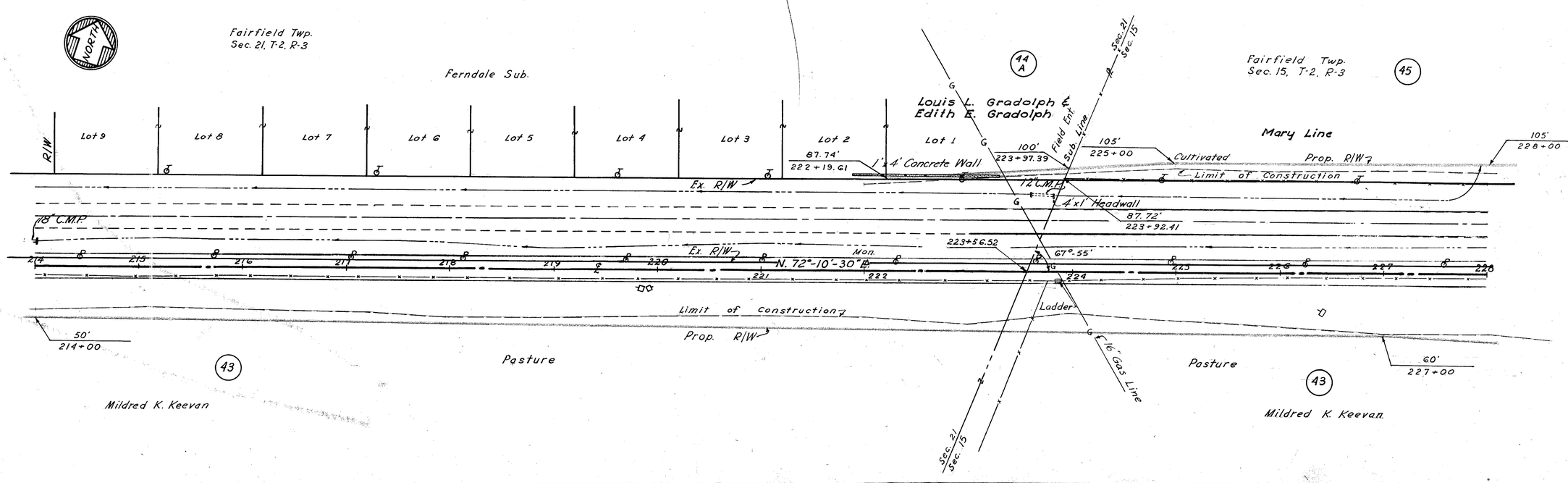
Sta. 186+00 to Sta. 200+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

260/291

Date	Revision	By





Sta. 200+00 to Sta. 228+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

261/291

Date	Revision	By

Fairfield Twp.
Sec. 15, T-2, R-3

Mary Line

Southbound Lane
CURVE DATA
P.I. = 240+99.84
Δ = 3°-22'-30" Lt.
D = 0°-30'-00"
R = 11,459.15'
L_c = 675.00'
T = 337.60'

P.C. 240+35.44

Northbound Lane
CURVE DATA
P.I. = 243+73.04
Δ = 3°-22'-30" Lt.
D = 0°-30'-00"
R = 11,459.15'
L_c = 675.00'
T = 337.60'

Hedge Row
Gravel
Drive 233+72
Hedge Row
105' 228+00
115' 229+00
115' 233+00
130' P.C. 240+35.44
Prop. R/W
Limit of Construction
Mon. 4.75'N.
Mon. 0.25'S
Ex. R/W
12" C.M.P.
Mon. 0.34'S
Ex. R/W
N. 72°-10'-30" E.
Mon. 5.34'S
24" V.S.P.
12" C.M.P.
3-12"
24" 36"
2-12"
Limit of Construction
Porter
Pasture
Wooded Area
Prop. R/W
70' 229+00 Scattered 1-4" Trees
45' P.C. 240+35.44
80' 239+00
Mildred K. Keevan
Mildred K. Keevan

Fairfield Twp.
Sec. 15, T-2, R-3

Southbound Lane
CURVE DATA
P.I. = 240+99.34
Δ = 3°-22'-30" Lt.
D = 0°-30'-00"
R = 11,459.15
L_c = 675.00'
T = 337.60'

Northbound Lane
CURVE DATA
P.I. = 243+73.04
Δ = 3°-22'-30" Lt.
D = 0°-30'-00"
R = 11,459.15
L_c = 675.00'
T = 337.60'

P.T. 247+10.44

Channel Easement
155' 242+50
160' 242+75
130' 242+60
130' 243+10
Mary Line
Res.
Drive 245+34
conc. post
Orchard
Gravel
Josephine Hansel
Prop. R/W
Limit of Construction
Ex. R/W
103' 244+84.45
110' 246+42.19
79.18' 244+80.22
Mon. 0.09'N.
Mon.
Mon.
12" C.M.P.
Gravel
Field Entrance
P.T. 0.62'
30" 244+37.33
30" 243+65
70' 243+65
Wooded Area (1"ℓ2" Trees)
70' 243+00
Channel Easement
100' 243+65
100' 243+00
Mildred K. Keevan
Ralph L. Rodefeld & Mildred Rodefeld
Conc. Apron
Drive 249+09
Garage Ft.
Howard A. Johnson
Prop. 12" Pipe
Gravel
Gravel Dr.
2-Stone Pillars
50' 249+10
55' 249+98.51
55' 250+18.40
Ex. R/W
Limit of Construction
Pasture
12" C.M.P.
Conc. Hdwl.
Box Culvert
Curb
Brick
6'-5' Culvert
Construction Limit
2" Cl.
PROPOSED R/W
Wooden Bridge
15" Conc. Pipe
2-12" Conc. Pipe
Gravel Dr.
Gravel Dr.
Mildred S. Thompson
90' 253+25
90' 253+65
Channel Easement
G5' 253+25
G5' 253+65
G0' 254+68.23
Earl H. Thompson
P.C. 248+89.23
Change in Sloping from N. to S. bound Lane
N. 68°-48'-00" E.
N. 71°-58'-00" E.
94.90' 250+91.06
115' 250+81.95
115' 251+61.85
CURVE DATA
P.I. = 252+05.98
Δ = 3°-10'-00" Rt.
D = 0°-30'-00"
R = 11,459.15'
L_c = 633.33'
T = 316.75'
Lynn Beeler
Lot 1
Bessie J. Newton
Lot 2
Edwin G. Welage & Cecilia F. Welage
Green Lawn Subdivision
PB-7 P-17
Lot 24
Lot 25
Lot 26
Carl Morrell & Lila Morrell
135' 256+00
P.T. 255+22.56
Sub. Line
Drive 250+10
GREENLAWN RD.
R/W
R/W
Back
Sta 228+00 to Sta 256+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

262
291

Date	Revision	By

Hamilton, Ohio Area
Girl Scouts Council

Fairfield Twp.
Sec. 15, T-2, R-3

Liberty Twp.
Sec. 9, T-2, R-3

Earl H. Thompson

David W. Watson

Carl Morrell & Lila Morrell

Green Lawn Sub.
Lot 26

Mary Davis

Leona M. Issenmann

Ada L. Hart

Calvin Barnes & Lucille Barnes
Lot 2

William J. Welsh Jr.
Lot 3

Ada L. Hart
Lot 4

Lot 5

Lot 6

Country Club Highlands Sub.
PB-12 P-42

William Whitaker & Kate Whitaker

Austin Palmer & Jessie Lynn Palmer

Walter White & Carrie White

Southbound Lane
CURVE DATA
P.I. = 269+07.58
Δ = 8°-30'-00" LT.
D = 2°-00'-00"
R = 2864.79'
L_s = 200'
L_c = 425.00'
T_s = 312.93'
E_s = 9.52

Northbound Lane
CURVE DATA
P.I. = 269+73.75
Δ = 9°-01'-54" Lt.
D = 2°-00'-00"
R = 2864.79'
L_s = 200'
L_c = 251.51'
T_s = 126.26'
E_s = 9.52

Sta. 256+00 to Sta. 284+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

263/291

Date	Revision	By

Liberty Twp.
Sec. 9, T-2, R-3

Trailer Park
Ada L. Hart
Pond
Woods
Orchard
Well
Stone Grill
Wood Post
Trailer Park
Conc. Slabs
Sewer & Water Top
Asphalt Drive
Drive 284+99
Apple
Shrubs & Small Trees
Stephen Dollno & Anna Dollno
Pasture
Prop. R/W
Limit of Construction
N. 63°-28'-00" E.
Ex. R/W
Gravel Dr.
Yard
Barn
Drive 295+66 T-3 236 1958
Elizabeth A. Dunnihoo
Garage
Platform & Well
2½ Sty. Fr.
4" Cherry
P.C. 11.10 298+03.30
Brick Headwalls
12" V.S.P.
Sign
12" Conc. Pipe
Channel Easement
Gravel
Prop. R/W
5' Conc. Wk.
1 Sty. Permastone
Lot 6
Lot 7
Lot 8
Lot 9
Lot 10
Lot 11
Lot 12
Lot 13
Lot 26
Lot 27
Lot 28
Lot 29
Lot 30
Lot 99
Drive 284+80
Lucille Wills
Drive 285+57
Drive 287+43
1½ Sty. Fr. Res.
Roland E. Wilson
Bernice E. Wilson
The Pure Oil Company
HORSESHOE BEND ROAD (Macadam)
Macadam Parking Area
1 Sty. Conc. Blk. Grocery Store
Gravel Drive
Gravel Dr.

Country Club Highlands Subdivision
PB-12 P-42

CURVE DATA
P.I. = 299 + 53.11
Δ = 9°-09'-05" Lt
D = 2°-30'-00"
R = 2291.83'
L_s = 300.00
L_c = 66.06
T_s = 333.53
E_s = 8.98

Liberty Twp.
Sec. 9, T-2, R-3

Liberty Twp.
Sec. 10, T-2, R-3

Sec. 10
Sec. 9

CURVE DATA
P.I. = 299 + 53.11
Δ = 9°-09'-05" LT.
D = 2°-30'-00"
R = 2291.83'
L_s = 300.00'
L_c = 66.06'
T_s = 333.53'
E_s = 8.98'

C.S. 299+85.64
S.T. 302+85.64
S.C. 299+13.58
Channel Easement
Woods
Brush & Small Trees
Elizabeth A Dunnihoo
Prop. R/W
Limit of Construction
Asphalt Dr.
Gravel Dr.
Hamilton Lodge No. 93
Benevolent and Protective Order of Elks
Golf Course
N. 54°-18'-35" E.
Ex. R/W
12" V.S.P.
18" V.S.P.
12" C.M.P.
Gravel
Gas pumps
1 Sty. Conc. Blk. Bus.
1 Sty. Res.
Mary Mc Governs
Mary A. Augspurger & Gordon H Augspurger
Macadam
1 Sty. Fr. Bus. Antiques
Fr. Res. 1 Sty.
Henry Clausing
Lot 99
Lot 98
Lot 53
Ex. R/W
Horseshoe Bend Road (Macadam)
KYLES - STATION - ROAD
Ex. R/W
PROP. KYLES STA. RD.
Prop. Gravel R/W
Prop. R/W
Limit of Construction
P.C. 2+12.57
Country Club Highlands Subdivision
PB-12 P-42

For Proposed R/W See Sheet No. 264

Sta. 284+00 to Sta. 312+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

264/291

Date	Revision	By

CURVE DATA

P.I. = 299+53.11
Δ = 9°-09'-05" Lt.
D = 2°-30'-00"
R = 2291.83'
L_c = 66.06'
L_s = 300.00'
T_s = 333.53'
E_s = 8.98'

NORTH

Liberty Twp.
Sec. 10, T-2, R-3

For right-of-way north of proposed centerline, see Sheet #2G3

P.C.S. 299+19.58
Sec. 10
Sec. 9
P.C.S. 299+85.64
S.T. 302+85.64

Hamilton Lodge No. 93
Benevolent and Protective Order of ELKS

70

Golf Course

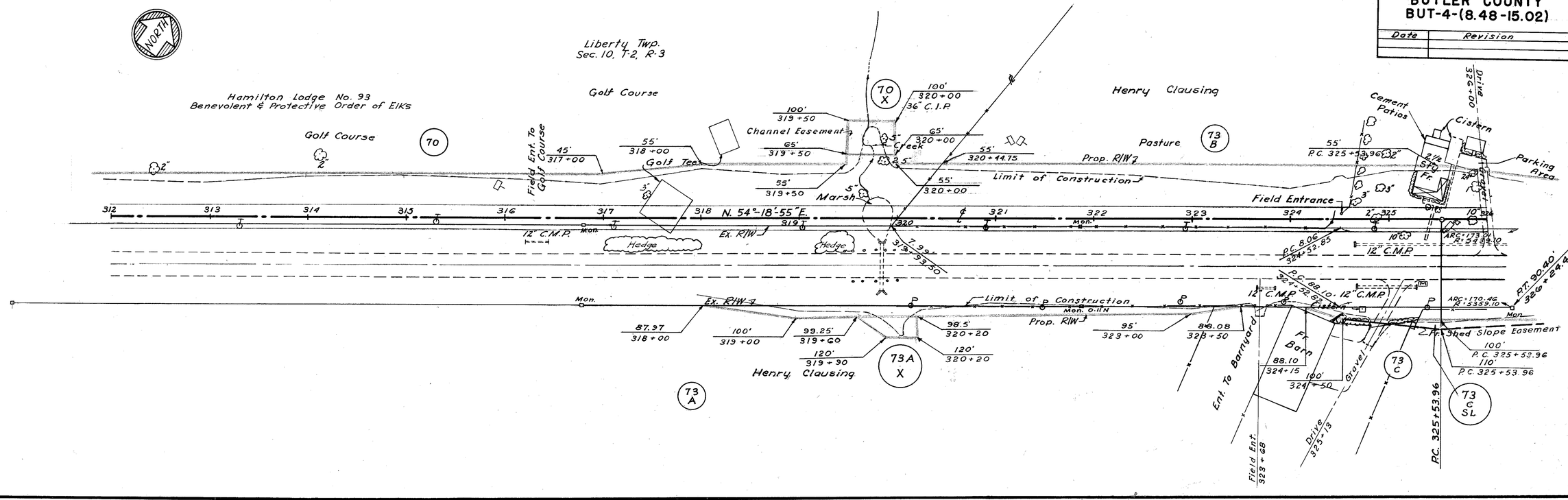
55' 301+09.50
60' 306+00
45' 307+00
Prop. R/W 7
Limit of Construction
Gravel Dr.
Asphalt Dr.
1 Sty. Fr.
18"
10"
1"
305+40
Brush & Small Trees
Mon. o.229 s 301
Ex. Mon.
Mon.
299
Ex. R/W
302
303
Sign
304
306
307
308
309
310
311
312
N 54°-18'-35" E
36"
95.38' 0+47.70
95.39' 0+77.70
55' 0+77.71
70' 0+77.74
124.62' 0+47.74
108.40' 0+77.75
Ex. R/W 2
Gas pump
1 Sty. Con Blk. Bus.
Gravel
Ex. R/W 2
95.41' 2+02.19
KYLES STATION ROAD
36.22' 2+27.19
96.09' 2+31.36
119.59' 2+64.13
Prop. R/W 2
Prop. KYLES STA. RD.
Basil McGovern & Mary McGovern
Prop. R/W Sty. Res.
Lot 98
Lot 53
R/W 2
Country Club Highlands Sub. PB-12, P-42
Liberty Twp. Sec. 3, T-2, R-3
71
71-X
Lot 54
Charles L. Bruce
Mabaleen Bruce
Lot 55
Drive
John C. Leeds & Romilda Leeds
89.55' 2+68.72
101.96' 2+74.33
Limit of Construction
Lot 56
Lot 57
Lot 58
Mary A. Augspurger & Gordon H. Augspurger
72
50' 1+85.77
P.C. 2+12.57
50' 3+00
KYLES STATION RD. CURVE DATA
Δ = 51°-48'
R = 200'
T = 97.11'
L_c = 180.82'
Limit of Construction
Prop. R/W 2
85.59 2+97.32
R.T. 3+93.39
84.19' 5+00
24.00' 5+81.94
0.39 R 5+81.17
Wooded
Ex. R/W 3
Ex. R/W 2
Sec. 10
Sec. 9
50' 1+00
Macadam
2"
10"
12"
1 Sty. Fr. Bus.
Antiques
Fr. Res. 1 Sty.
Henry Clausing
Liberty Twp.
Sec. 10, T-2, R-3

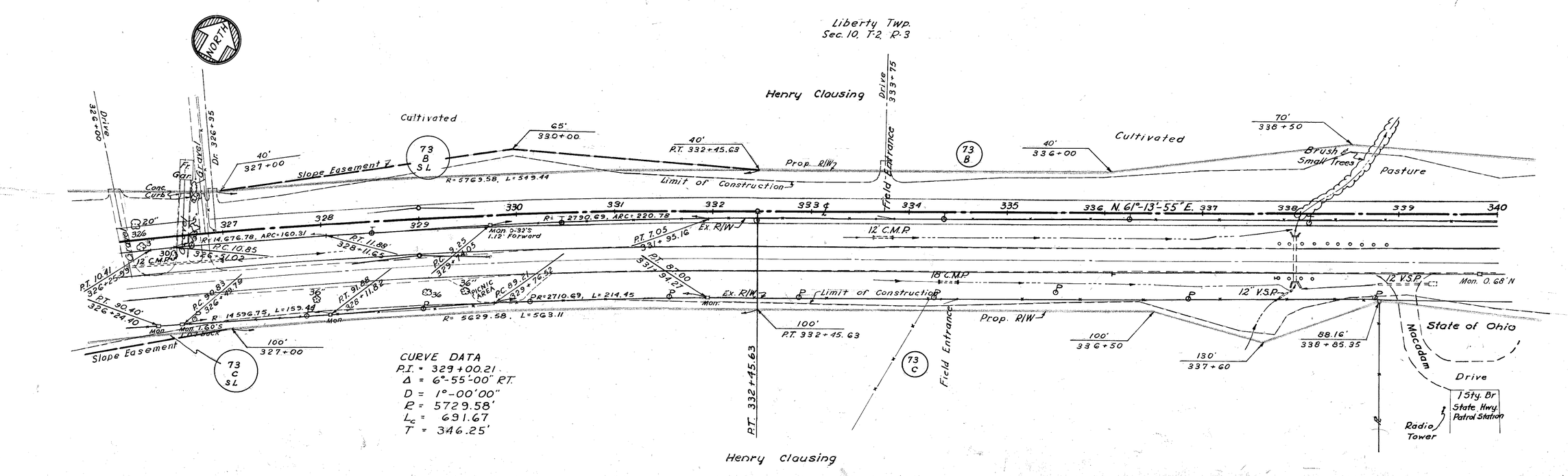
Detail - KYLES STATION ROAD Intersection

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

265/291

Date	Revision	By





CURVE DATA
P.I. = 329+00.21
Δ = 6°-55'-00" RT.
D = 1°-00'00"
R = 5729.58'
L_c = 691.67
T = 346.25'


R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)
266/291
Date
Revision
By
Curve Data
P.I. = 352+39.44
Δ = 01°20'-00" Lt.
D = 0°-30'-00"
R = 11,459.15'
L.C. = 266.67'
Liberty Twp.
Sec. 10, T-2, R-3
Liberty Twp.
Sec. 4, T-2, R-3
Henry Clausing
Hattie C. Frederick
Lenora Auraden
Cultivated
Limit of Construction
Prop. R/W
Ex. R/W
Field Entrance
Channel Easement
Pond (Dry)
Pasture
Dike
State of Ohio
Curve Data
P.I. = 341+44.63
Δ = 0°-15'-00" Rt.
D = 0°-15'-00"
R = 22,918.31'
LC = 100.00'
T = 50.00'
John O. Mehl & Altha Mehl
Gravel Parking Area
Nite Club
Unrecorded Plat of Ruben F. Hoffman Sr.
State Hwy. Patrol Station
Liberty Twp.
Sec. 4, T-2, R-3
Hattie C. Frederick
CURVE DATA
P.I. = 359+60.33
Δ = 03°-19'-00" Rt.
D = 0°-30'-00"
R = 11459.15
Lc = 663.33
T = 331.76
2 Sty. Barn
Cistern
Gravel
Cultivated
Gravel Parking Area
Bus. 1 Sty. Fr.
Sunset Lane
Gravel Drive
Stanley M. Perin
2 Sty. Fr. Res.
Stone Walk
Old Filling Sta.
High Tension Power Line (Overhead)
Joseph Davis
Elizabeth Davis
1 Sty. Fr. Res.
Unrecorded Plat of Ruben F. Hoffman Sr.
Sta. 340+00 to Sta. 368+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

(267/291)

Date	Revision	By

CURVE DATA
P.I. = 373+25.80-N
P.I. = 372+99.59-S
Δ = 12°-50'-00" Lt.
D = 1°-00'-00"
R = 5729.58'
L = 1283.33'
T = 644.36

Liberty Twp.
Sec. 4, T-2, R-3

Hattie C. Frederick

Lillie B. Patrick & Vaughn Henry Patrick

Elizabeth Davis

Blanche Amiot

Elizabeth Davis

Elizabeth Davis

Henry Termuhlen

Liberty Twp.
Sec. 4, T-2, R-3

Elizabeth Davis

Lemon Twp.
Sec. 5, T-2, R-3

Elizabeth Davis

Henry Termuhlen

Sta. 368+00 to Sta. 396+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

268/291

Date	Revision	By

NORTH
Lemon Twp.
Sec. 5, T-2, R-3
Elizabeth Davis
William F. Stiehl & Hilda B. Stiehl
Elizabeth Davis
84
81 B
81B X
81 C
82 X
CURVE DATA
P.I. 409+04.95
Δ = 8°-04'-00" LT.
D = 1°-00'-00"
R = 5729.58'
Lc = 806.67'
T = 404.00'
Basketball Court
Pump House
Pond
Woods
Cultivated
Cultivated
Fruit Trees
Gravel Dr.
Channel Easement
90' 396+50
90' 396+20
64.57 396+60
74.85' 396+20
50' 397+16.65
70' 402+58.89
70' P.C. 405+00.95
P.C. 405+00.95
Limit of Construction
Prop. R/W
N. 50°-37'-55" E.
29.49 396+28.73
R=994.93 L=83.79
32.96 397+12.43
Headwall 6'x1'
18" V.S.P.
8" C.M.P.
R=994.93 L=177.85
69.36' 398+86.82
3" Iron Post
Ex. R/W
Ex. R/W
15" C.M.P.
80' 403+27.75
80' P.C. 405+00.95
R=5809.58, L=817.93
Dirt Road
109.10' 396+20
110.60' 396+55
125' 396+20
125' 396+55
Henry Termuhlen

Sta. 396+00 to Sta. 410+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

269/297

Date	Revision	By

NORTH

Lemon Twp.
Sec. 5, T-2, R-3

81 C X-2

For Channel Easement
See Sheet # 270

Sec. 5
Sec. 35

Lemon Twp.
Sec. 35, T-3, R-3

CURVE DATA
PI = 409+04.95
Δ = 8°-04'-00" Lt.
D = 1°-00'-00"
R = 5729.58'
Lc = 806.67'
T = 404.00'

Elizabeth Davis

81 C

P.T. 413+07.62

Channel Easement

Limit of Construction

115

105

95

Limit of Construction

Channel Easement

Elizabeth Davis

81 C

Cultivated

85'
411+00

70'
P.T. 413+07.62

70'
415+20

P.T. 8+00.95

Channel

70'
416+45

Prop. R/W

Cultivated

Limit of Construction

Limit of Construction

Overflow

39°-11'-29"

N 42°-33'-55"E

410 411 412 413 414 416 417 418 419 420 421 422 424

416+77.84

Wooded

R=5809.58, L=817.93

80'
413+75

Point for Clearing

Limit of Construction

80'
415+50

Top of Bank

Prop. R/W

80'
423+96.27

Frank S. Wilson

Gar.

80'
423+42.66

Wooded

Gregory Creek

Top of Bank

Old R/W

Old R/W

Elizabeth Davis

81 C X-1

Channel Easement

Limit of Construction

PC 5+39.44

Clearing

Top of Bank

Levee

Channel Easement

CHANNEL
CURVE DATA
PI = 6+71.57
Δ = 23° 27'
D = 9° 00'
R = 636.62'
T = 132.13'
L = 260.56'
E = 13.51'

Proposed ℄ Gregory Creek

395.36'
410+04.34

35

356.26'
411+00.45

406.40
411+39.26

382.40'
413+50

220'
413+50

364.40'
414+35

P.C. 3+11.39

Proposed ℄ Coldwater Creek

CHANNEL
CURVE DATA
PI = 5+13.42
Δ = 30° 45'
D = 9° 57'
R = 575.89
T = 202.03
L = 388.61'
E = 34.41'

Merle Cavin & Earl Cavin

85 A-X

526.50'
413+50

R=1109.14
L=80'

543.62'
414+28.11

Limit of Construction

PT 420+50

1½ Story Fr. Bus.

Gravel Parking Area

Ex. R/W

Ex. R/W

Prop. R/W

424-N

423-N

422-N

421-N

420-N

419-N

418-N

417-N

416-N

415-N

414-N

413-N

412-N

411-N

R=1109.14, L=113.52

38.90
421+14.18

50'
420+00

40.48'
420+00

T.S. 424+07.37

50'
T.S. 424+07.37

85

Vernon Roden

Creek

Sec. 5
Sec. 35

CURVE DATA
R = 1157.14
D = 4.9515

Sta. 410+00 to Sta. 424+00

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

270/291

Date	Revision	By

NORTH

Lemon Twp.
Sec. 5, T-2, R-3

772.23'
419+33.09

717.62'
420+25.97

16+00 S

15+00 S

14+00 S

13+00 S

12+00 S

11+00 S

10+00 S

9+00 S

Top of Bank

Channel Easement

Limit of Construction

Limit of Construction

Channel Easement

81 C
X-2

Sec. 5
Sec. 35

Lemon Twp.
Sec. 35, T-3, R-3

Elizabeth Davis

Elizabeth Davis

81 C

81 C

P.T. 413+07.62

P.T. 8+00 S

P.T. 7+00 N

85'
411+00

70'
413+07.62

70'
415+20

70'
416+45

Prop. R/W ℄

Limit of Construction

Limit of Construction

Limit of Construction

Prop. ℄ Rt. 1

410 411 412 413 414 415 416 417 418 419 420 421 422

415+45.3

c=2.13'

39°-32'

39°-11'-29"

416+77.84

N. 42°-33'-55" E.

Top of Bank

For Right of Way in this area, see Sheet # 269

For Right of Way in this area, see Sheet # 269

Gregory Creek ~ Sta. 8+00 S to Sta. 16+00 S

R/W PLAN

BUTLER COUNTY
BUT-4-(8.48-15.02)

271
291

Date	Revision	By

Lemon Twp.
Sec. 35, T-3, R-3

NORTH

Edward Oberly Jr.

Village of Lesourdsville
PB 6 P 194

Miami Savings & Loan Company

Frank S. Wilson

Paul Reiff

Taylor Mynhier &

Florence Mynhier

Edward Oberly Jr.

Lot 4 Edward Oberly Jr.

Lot 3

Lot 2 Mabel Bovereiss

Lot 1

Lesourdsville Lake, Incorporated

Merle Cavin & Earl Cavin

Vernon Roden

Old R/W 7

Ex. R/W 7

Prop. R/W 7

Limit of Construction

Gravel

Brick Road

Asphalt

Canal St.

Sub Line

Alley

Channel Ease.

Conc. Slab

Conc. Apron

Conc. Wall-Iron Fence on Top

Brick Headwall

6"x6" Wood Posts

Conc. Hd. Walls

Mail Boxes

Gas Pump Base

Gas Tanks Underneath

Tanks Underneath

Island

Cistern under house

Shed

Fr. Gar.

2 Sty. Fr. Res.

1 Sty. Fr. Store

1 Sty. Fr. Gar.

1 Sty. Cem. Bl.

2 Sty. Fr. Bus.

1 Sty. Cafe

1 Sty. Br. Res.

Br. Walk

Axle

End of Road

Old Hub

Iron Pipe Foreward

Plum Trees

Pear Trees

Cherry

Apple Trees

Wells

Bush

Top of Bank

Lot 20

Lot 21

Lot 22

Lot 23

Lot 5

Lot 6

87 X

87

88

89

90

91

92

93

94

86

85

85 X

105' 424+75

105' 425+20

77.81' 425+20

72.81' 424+50

75.87 425+08.37

56.42 423+92.96

70' 423+96.27

99.63' 425+29.34

68.87' 427+02.49

141.27 423+19.03

69.67' 428+46.90

69.18' 428+59.21

64.73' 430+44.50

59.70' 430+86.09

59.51' 432+52.44

59.06' 432+69.08

55' 434+95.39

119' 434+96.35

130' 436+60.19

106.27' 436+62.69

106.28'

36.28 434+87.50

34.81 433+54.59

26.15' 432+72.55

32.72 433+54.8

24.43 432+56.14

7.13 430+92.05

33.67' 428+64.89

30.75' 428+81.13

0.19' R 430+51.33

5.94' L 430+65.60

114' R 430+66.20

R=1863.00 L=419.61 T=216.33 434+88.76

R=1870.00 L=550.60

R=1842.49 L=382.69

74' 426+85

135' 427+05

125' 426+85

75' 427+65

50' P.C. 18.30' 425+11.60 T.S. 424+07.37

S.C. 428+07.37

C.S. 431+78.20

75' C.S. 430+78.20

S.T. 434+78.20

38' S.T. 434+78.20

55' S.T. 434+78.20

Change Stationing from South Bound to North Bound Lane

Axle .14 N

I.P. 0.50 back

P.P. Spike

Axle .33 back

Mon. 0.09 S 1.81 back

N 42° 33' 55" E.

CURVE DATA

P.I. = 429+50.04
Δ = 26° 50'-00" Rt.
D = 4°-00'-00"
R = 1432.39'
L_s = 400.00
L_c = 270.83'
T_s = 542.67

Sta. 424+00 to Sta. 438+00 & Sta. 424+07.37-N to Sta. 438+00-N

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)

272
291

Date	Revision	By

Lemon Twp.
Sec. 35, T-3, R-3

Lesourdsville Lake, Incorporated

LESOURDSVILLE LAKE DR.
438 + 52.70

Penetrated Parking Lot

Grass Parking Area

Spotlights

Overhead Sign

Entrance to Le Sourdsville Prop. R/W

130'
441 + 00

106.26'
443 + 00

Limit of construction

18" C.M.P.

Brick Headwalls

94

Back Entrance to Le Sourdsville

Ex. R/W

Gravel Drive

Mon.

Sub. Line

LAKEVIEW DR.

Lot 11
Lesourdsville Sub.

Ex. R/W

Mon. 0.22 S

Mon. 0.41 N

Mon.

26.20'
451 + 84.56

Porter

438 439 440 441 442 443 444 445 N. 42°-33'-55" E. 446 447 448 449 450 451 452+50

452

Porter

Cultivated

Limit of construction

Cultivated

Prop. R/W

55'
451 + 75.90

85

Vernon Roden

95 A

Christina E. Seeman

CURVE DATA
P.I. 459+00.95
Δ = 0°44'-38" LT.
D = 0°-15'-00"
R = 22,918.31'
L_c = 297.56'
T = 148.78'

Lesourdsville Sub.

Sec. 36
Sec. 35

Woodcrest Sub.

NORTH

Lot 10 Lot 9 Lot 8 Lot 7 Lot 6 Lot 5 Lot 4 Lot 3 Lot 2 Lot 1 Lot 1 Lot 2

P.C. 457+52.17

P.T. 460+49.73

DAZY DRIVE

Sub. Line

WOODCREST DR.

Mon.

12" C.M.P.

8" C.M.P.

Ex. R/W

Ex. R/W

12" V.S.P.

4" Cherry

4" Cherry

20.32

Mon. 0.09 S

452+50 453 454 455 456 457 458 459 460 461 462 N. 41°-49'-17" E. 463 464 465 466 467

51°-55'

30"

24"

18"

30"

Gravel Drive

2514
Res.

Limit of Construction

Prop. R/W

55'
464+00

95 A

Christina E. Seeman

Lemon Twp.
Sec. 35, T-3, R-3

Sec. 36
Sec. 35

Lemon Twp.
Sec. 36, T-3, R-3

R/W PLAN
BUTLER COUNTY
BUT-4-(8.48-15.02)
273
291
Date
Revision
By
Curve Data
PI = 475+95.53
Δ = 37°-55'-22"
D = 4°-00'-00"
R = 1432.39'
Ls = 400.00'
Lc = 548.07'
Ts = 693.60'
Es = 87.15'
Lemon Twp.
Sec. 36, T-3, R-3
Woodcrest Sub.
WOODCREST DRIVE
NORTH
Lot 3
Lot 4
Lot 5
Lot 6
Lot 7
Lot 8
Lot 9
T.S. 469+01.93
S.C. 473+01.93
C.S. 478+50.00
Woodcrest Drive
Field Entrance
Sub-Line
Drive
Hughes Manor
Dedicated 33' R/W
Limit of Construction
Prop. R/W
N 41°-49'-17" E
Conc. Blk. Headwalls
15" C.M.P.
12" C.M.P.
Loose Bricks
6'x1' Stone Headwall
3 1/2' x 4' St. Pillars
2 Light Posts
Brick
Gravel Drive
Asphalt Drive
1 Sty. Fr. Res. & Gar.
2 Sty. Fr. Res.
3" Flag Pole
STATE ROUTE 63
Prop. ℄
Ex. R/W
Christina E. Seeman
Grace Marvin Allen
Gerald E. Meehan
Myrtice C. Langdon
95 A
95 B
96 A
96 B
97
98
STATE ROUTE #63
CURVE DATA
Δ = 21°-28'
R = 200'
T = 37.91'
Lc = 74.93'
HUGHES MANOR
SUBDIVISION

TE-14 A
100 6-53

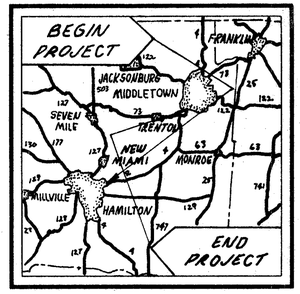
SOIL PROFILE

274
291

BUTLER COUNTY
BUT.-4-(8.48-15.02)
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.

REVISED - OCTOBER - 1954



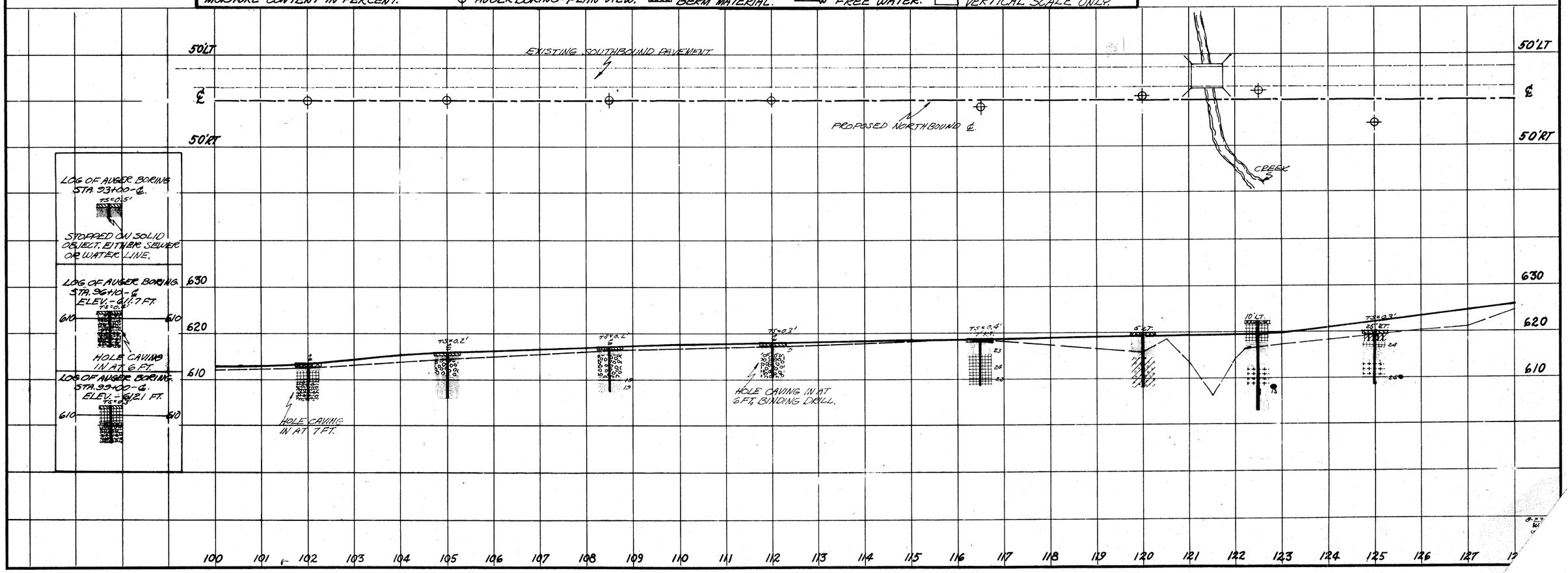
LOCATION MAP

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 204 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-1a	72	12	5	8	3	24	5	–	5
GRAVEL WITH SAND.	A-1-b(0)	A-1b	34	40	12	10	4	23	1	13	3
GRAVEL WITH SAND & SILT.	A-2-4(0)	A-2-4	58	14	4	19	6	25	8	7	2
GRAVEL WITH SAND, SILT, AND CLAY.	A-2-6(0)	A-2-6	48	13	11	15	13	33	16	17	3
COARSE & FINE SAND.	—	A-3a	2	33	42	13	10	N.P.	N.P.	18	5
SANDY SILT.	A-4(2)	A-4a	18	12	18	31	21	23	7	15	49
SILT.	A-4(8)	A-4b	2	3	9	61	25	27	5	19	25
SILT & CLAY.	A-6(7)	A-6a	10	9	13	34	34	29	13	17	51
CLAY.	A-6(12)	A-6b	13	7	11	30	39	36	18	18	30
ELASTIC CLAY WITH SOME ORGANIC MATERIAL.	A-7-5(14)	A-7-5a	4	4	11	50	31	42	13	26	2
CLAY.	A-7-6(18)	A-7-6a	14	3	6	32	45	44	23	21	22
SHALE.	CLASSIFIED BY VISUAL INSPECTION.										6
LIMESTONE.	CLASSIFIED BY VISUAL INSPECTION.										
CINDERS.	CLASSIFIED BY VISUAL INSPECTION.										1

-SAMPLES TESTED-
LAB. NOS. 50-1002-1026 INCL; 1041-1087 INCL; 1192-1219 INCL; 1448-1477 INCL; 1496-1515 INCL; 1649-1669 INCL; 1773-1802 INCL.
MOISTURE DENSITY SAMPLE.
LAB. NO. 50-1087.
NOTE: FIGURES BESIDE BORING INDICATE MOISTURE CONTENT IN PERCENT.

AUGER BORING PLOTTED TO VERTICAL SCALE ONLY.
TOP SOIL, TS=X'= APPROX. DEPTH.
MOISTURE CONTENT NEARLY EQUAL TO OR GREATER THAN THE LIQUID LIMIT.
AUGER BORING-PLAN VIEW.
BERM MATERIAL.
FREE WATER.
CORE BORING PLOTTED TO VERTICAL SCALE ONLY.



SOIL PROFILE
BUTLER COUNTY
BUT - 4 - (8.48 - 15.02)
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

275/291


SOIL PROFILE
BUTLER COUNTY
BUT - 4 -(8.48-15.02)
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO
276/291
EXISTING ROAD
NOTE: REFUSAL PROBABLY DENOTES BEDROCK CONSISTING OF SHALE WITH INTERMITTENT LAYERS OF LIMESTONE.
REFUSAL
30' RT.
770
760
750
740
730
720
192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224
THIN BEDDED LIMESTONE EXPOSED IN BOTTOM OF DRY RUN
STA. 248+89 CHANGE IN STATIONING FROM NORTHBOUND TO SOUTHBOUND LANE.
ORGANIC MATTER
REFUSAL
STOPPED ON BROKEN LIMESTONE
UNABLE TO USE HAND AUGER DUE TO GRAVEL & BROKEN ROCK
DRIVEWAY METAL
OLD ROADBED METAL
REFUSAL
780
710
224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256

SOIL PROFILE

277
291

BUTLER COUNTY

BUT - 4 -(8.48-15.02)

STATE HIGHWAY TESTING AND RESEARCH LABORATORY

O. S. U. CAMPUS, COLUMBUS, OHIO

NOTE: REFUSAL PROBABLY INDICATES BEDROCK CONSISTING OF SHALE WITH INTERMITTENT LAYERS OF LIMESTONE.

EXISTING ROAD

REFUSAL

STOPPED IN SHALE

THIN BEDDED LIMESTONE EXPOSED IN CREEK 50'LT OF ℄

THIN BEDDED LIMESTONE EXPOSED IN CREEK BED

CREEK

MARSH

EXISTING ROAD

REFUSAL

REFUSAL

REFUSAL

TE-54-B
100-6-53

SOIL PROFILE

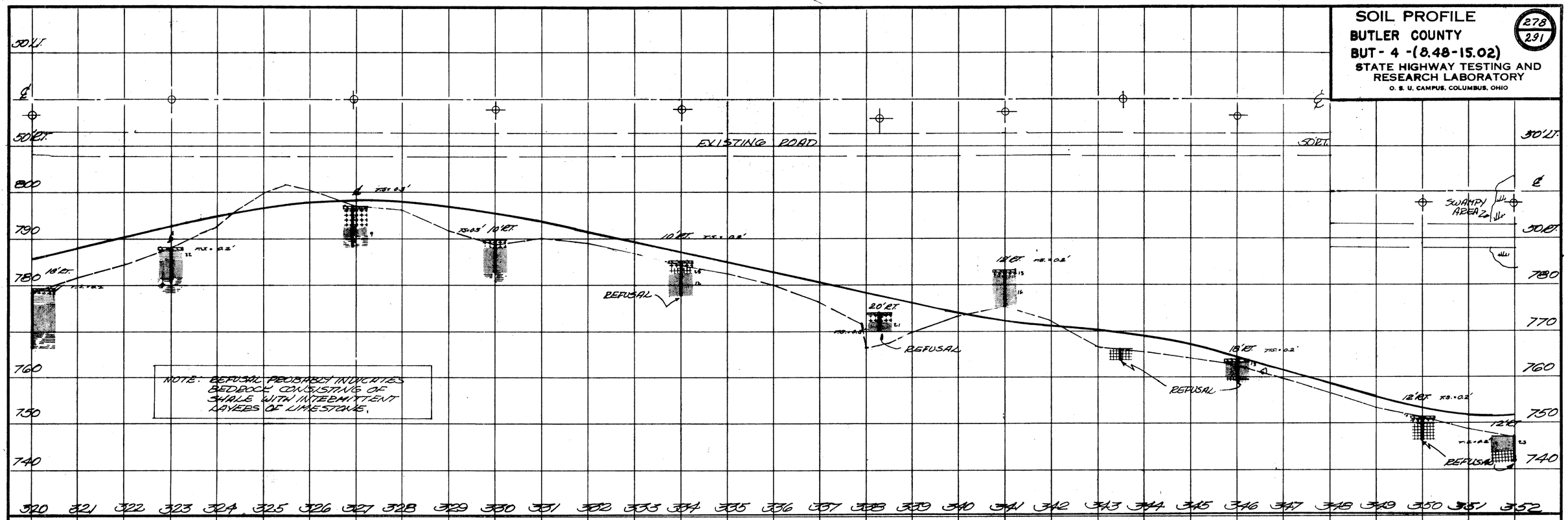
278
291

BUTLER COUNTY

BUT - 4 -(8.48-15.02)

STATE HIGHWAY TESTING AND RESEARCH LABORATORY

O. S. U. CAMPUS, COLUMBUS, OHIO



TE 54 B
100 6 53

SOIL PROFILE

279
291

BUTLER COUNTY

BUT - 4 - (8.48 - 15.02)

STATE HIGHWAY TESTING AND RESEARCH LABORATORY

O. S. U. CAMPUS, COLUMBUS, OHIO

EXISTING ROAD

REFUSAL

REFUSAL

POND (SPRING FED)

STREAM

STOPPED IN GRAVEL

CLAY SILT & ORGANIC MATTER

OVERFLOW CHANNEL

STREAM

BRICK ROAD

GRAVEL

EXISTING ROAD

APPROXIMATE CHANGE OF STATIONING FROM SOUTHBOUND TO NORTHBOUND LANE

EDGE OF EXISTING SOUTHBOUND LANE APPROX. 60' LT OF ℄

HOLE CAVED IN (4.2')

HOLE CAVED IN (15.5')

STOPPED IN LARGE GRAVEL

HOLE CAVED IN (10')

HOLE CAVED IN (12')

HOLE CAVED IN (10')

HOLE CAVED IN (10')

TE-54-B 100-6-53

SOIL PROFILE

BUTLER COUNTY

BUT - 4 -(8.48 - 15.02)

STATE HIGHWAY TESTING AND RESEARCH LABORATORY

O. S. U. CAMPUS, COLUMBUS, OHIO

280 / 291

EDGE OF EXISTING PAVEMENT APPROX. 60' FROM ℄
EXISTING PAVEMENT
30' RT.
NOTE: REFUSAL PROBABLY DENOTES BEDROCK CONSISTING OF SHALE WITH INTERMITTENT LAYERS OF LIMESTONE.
REFUSAL
25' LT.
T.S. = 0.2'
30' LT.
5' LT.
+50 END OF PROJECT BUT. 4 (8.48-15.02)
730
720
710
700
690
680
670
660
650
640
630
448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480
15' LT.
10' LT.
750
740
730
480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512

P.&O. RR. DIVISION	STATE	PROJECT	
2	OHIO		

281/297

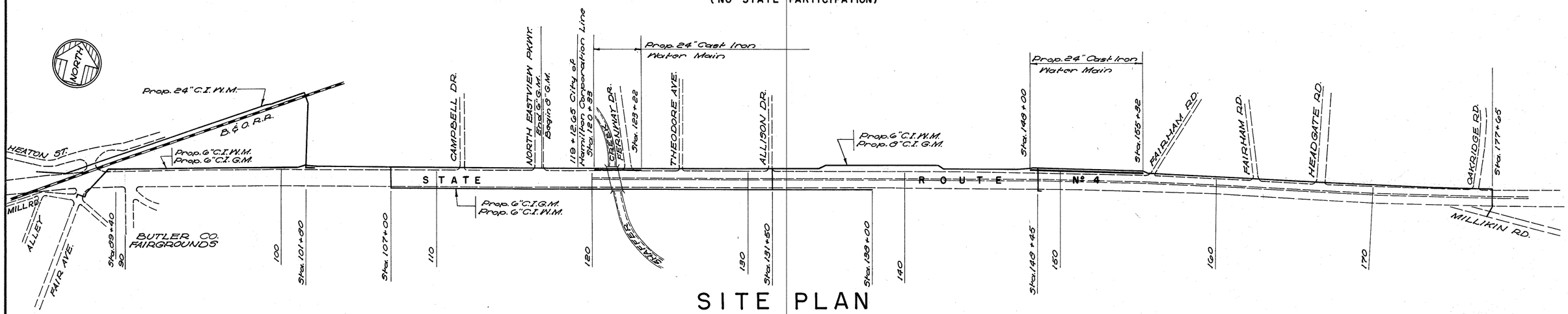
SUT-4-(8.48-15.02)

CITY OF HAMILTON

WATER & GAS MAINS

MILL RD. & FAIR AVE. TO MILLIKIN RD.

(NO STATE PARTICIPATION)



SITE PLAN

SPECIFICATION

General

The work of installing the water mains and gas mains shall be accomplished in accordance with all the applicable provisions of the State of Ohio Department of Highways - Construction and Material Specifications - and these specifications together with the drawings. In general these specifications cover materials and items of work which are peculiar to the work of installing water and gas mains. Items of work which are described in detail in the Ohio Department of Highway Specifications shall be adhered to unless otherwise specified.

Rules and Regulations

The contractor shall comply with all City of Hamilton rules and regulations governing construction work within the corporation limits. The contractor shall comply with all rules and regulations of the Baltimore & Ohio Railroad Co. for work which is to be accomplished on the railroad right of way. Connections to existing gas mains will be made by the City of Hamilton Gas Department but all work of exposing existing mains shall be done as part of this contract.

Work To Be Done

The installation of the water and gas mains shall include all material, labor, equipment, services, and accessories necessary to complete the work as shown on the drawings and here specified. The major items of work include (1) install sections of 24" water supply main (2) install 6" water distribution main (3) connect existing water service branches to 6" water distribution main (4) connect existing fire hydrants to new 6" water distribution main (5) install 6" and 8" gas distribution mains (6) connect existing gas service branches to new 6" and 8" distribution mains.

Materials

Mechanical joint cast iron pipe 4", 6", 8", and 24" diameter shall be centrifugally cast, Class 150, in accordance with Federal Specification WW-P-421 Type I or II. Joints shall conform to A.S.A. Specification A21.11.

Flanged joint cast iron pipe 24" diameter shall be pit cast class 250, in accordance with A.S.A., A21.2 with American 250 # flanges, plain faced.

Fittings for both mechanical joint and flanged joint pipe shall be suitable for the type and class of pipe with which it is being used.

Bolts for flanged joints shall be stainless steel.

Pipe and fitting used with water shall be tar coated inside and outside.

Pipe and fittings used with gas shall be tar coated on the outside only.

Steel casing pipe shall be butt or spiral welded in accordance with A.S.T.M. 139.

Joints for steel pipe shall be field welded.

Steel pipe 16" diameter shall have metal thickness of not less than 1/4" and 36" diameter pipe shall have metal thickness of 9/16".

Valves all sizes shall be in accordance with AWWA Standard Specification C 500-52 T for gate valves for Ordinary Water Work Service. Valves shall be for 150 p.s.i. working pressure, cast iron body, bronze mounted, parallel seat, double disc non-rising stem, nut operated. All valves to have a thread arrangement to open valve when turned clockwise. Valve shall have mechanical joint ends. The 16" valves shall be provided with bevel gears to allow horizontal installation and a nut operated by-pass valve.

Corporation cocks for water service connections shall be 3/4" size with 90° elbow and fitted for flared copper connections. Corporation cock shall be Mueller or equal.

Curb stops shall be 3/4" size for water and 1 1/4" for gas and fitted for flared copper connections for water and threaded pipe for gas. Curb stops shall be Mueller or equal.

Curb boxes shall be 2 1/2" diameter and adjustable height between 30" and 42". Cover shall have in raised letters the word "WATER" or "GAS" for the required water or gas service. Curb box shall be Clow - National F-4600 No. 92D or equal.

Valve boxes shall be 5 1/4" diameter and adjustable height between 30" and 42". Base shall be suitable for the size of valve. Cover shall be of "Stay Put" type with the word "WATER" in raised letters. The valve boxes shall be Clow - National F2450 with F2494 cover.

Laying Of Pipe.

(1) Care shall be taken not to damage the tar coatings. Pipe shall be laid upon an undisturbed foundation giving uniform bearing with the holes dug for the joints. All trench excavation below subgrade shall be refilled to subgrade with concrete. If trench bottom is soft and unsuitable to carry the pipe a concrete bed shall be provided. Ends of pipes in trenches shall be closed when pipe is not being layed. (2) Joints for mechanical joint pipe and flanged pipe shall be made up in accordance with the recommendation of the manufacturer. (3) Backfilling shall be done in accordance with AWWA Standard Specification for laying cast iron pipe except that 6" layer of earth may be used and earth shall be free from rocks. (4) Care of Other Services. All underground sewers, water, gas, electric, or telephone services which are encountered shall be carred for and maintained as part of this work. If any such services are injured or disturbed this contractor shall arrange for their restoration by the respective owner company at no additional cost to the contract. All known underground services and structures are shown for the convenience of the contractor. No assurance can be given as to the completness or correctness of such underground features. (5) Fire hydrants and curb stops shall be blocked and suitably supported. (6) The installation of all water mains shall be carried into service with the minimum of interruption to the normal service. All water mains shall be installed, tested, chlorinated and filled with potable water before service taps are made. The contractor shall work with the City of Hamilton Director of Utilities in placing the mains and service connections into normal service.

Testing

The water mains shall be tested under a pressure of 150 p.s.i., in accordance with the AWWA Standard Specification for laying cast iron pipe modified for mechanical joint pipe. The testing of gas mains shall be made at 50 p.s.i., with air pressure. The pipe lines shall satisfactorily pass the pressure tests before service connections are made.

Chlorination

After satisfactory installation and testing of the water mains they shall be chlorinated in accordance with the AWWA Specification.

Backfilled trenches shall have the surface restored as soon as possible. The restoration of the surface shall be such as to match the surrounding surfaces.

Clean up of work area shall consist of the removal of surplus material in order to leave the entire site free and clear and in good condition.

Approved_____

Date:_____ Director of Utilities - City of Hamilton.

PREPARED BY

VOGT, IVERS, SEAMAN & ASSOCIATES

ENGINEERS ARCHITECTS

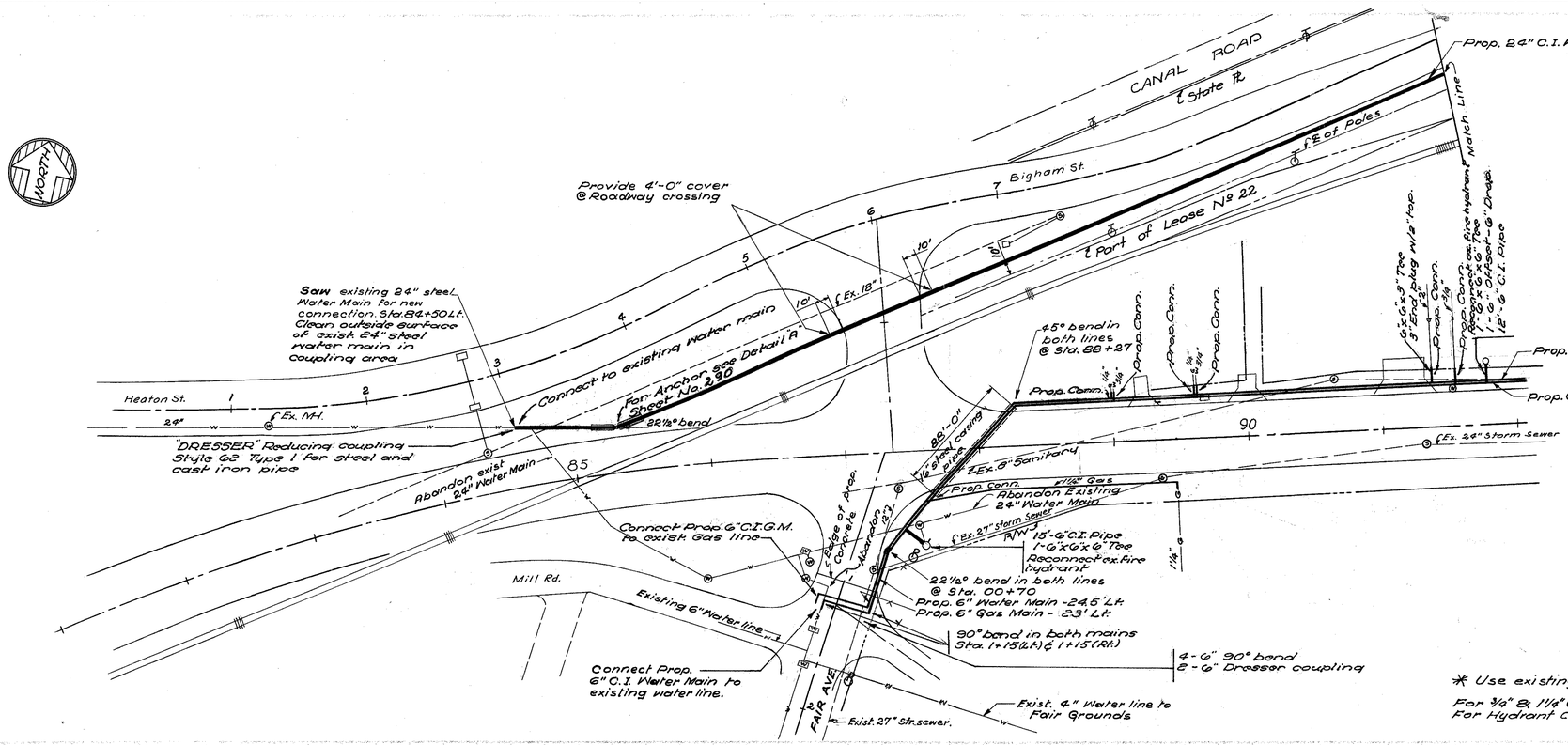
CINCINNATI, OHIO CHICAGO, ILLINOIS

GENERAL PLAN

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

282
291

UT-4-(8.48-15.02)



SCHEDULE OF SERVICE CONNECTIONS

STATION	TO PROP. 6" WATER MAIN	TO PROP. 6" GAS MAIN
87+60(±) Rt.		1¼"
89+00(±) Lt.	¾"	1¼"
89+62(±) Lt.	¾"	1¼"
91+36(±) Lt.		2" *
91+53(±) Lt.	¾"	

* Use existing Valve and Valve box.

For ¾" & 1¼" Connection See Sheet No 291
For Hydrant Connection See Sheet No 291

STA. 81+00 to STA. 93+00

NORTH
CANAL ROAD
State R. 4
2 - Conn. piece
4 - 24"-250# Flauged pipe @ 12'-0" lg.
1 - 24"-250# 90° bend Flauged
1-24"x24"x6" Tee (S to H)
1-6" Valve
1-St. box
40' 6" C.I. Pipe
1-6" 45° bend
1-6" 90° bend
Connect Exist. 6" Water line to Prop. 24" C.I.W.M.
Concrete anchor detail similar to detail Sta 101+83 and section A-A - drwg N° 290
90° bend
11¼° bend
C.I. Mon.
180'-0"
Railroad crossing See detail-Sheet No. 290
See Anchor detail "A" See Sheet No. 290
22½° bend
Exist. Gas Service
Drive
C.I. Mon.
Abandon Exist. 6" Water Main
Sodding - 3' trench, East of Fashion Frocks, from State Route N° 4 Sta. 101+80 (Lt.) to fence at R.R., Length 540'.
℄ of Poles
Part of Lease N° 212
Prop. 24" C.I. W.M. 5'-0" below ground
Match Line
Prop. 24" C.I. Water Main 3'-0" below ground 6'-0" from fence line
Prop. Conn. from Prop. 24" W.M.
1 - 24"x24"x6" Tee
1 - 6" End plug with 2" taped outlet
Use exist. valve & street box
Relocate Fire Hydrant to Sta. 98+38 (Rt.) Lt.
Reconnect Fire Hydrant
Reconnect Viking Fire Connection
Macadam Drive
Macadam Parking Area
Electric Sign approx. location
Connect Prop. 6" W.M. to Prop. 24" W.M.-See Sheet
Exist. R/W
Prop. 6" C.I. Gas Main 9.0' from curb line
Prop. 6" C.I. W.M. 7.5' from curb line
Exist. 24" W.M.
New MH for 16" Gate Valve
See detail - sheet No. 290
Prop. 6" C.I. Gas Main 31.5' Lt. from ℄
Prop. 6" C.I. Water Main 30.0' Lt. from ℄
Post ind. valve
Ex. R/W
Cistern
Prop. Conn.
6"x6"x4" Tee
Prop. 6" C.I.G.M. 3.5' from curb line
Prop. 6" C.I.W.M. 2.4' from curb line
8" Existing
curb line
Remove Valve & MH.
Abandon Exist. 24" W.M.
Prop. 6" Gas Main - 3.9' from curb line
Prop. 6" Water Main - 2.4' from curb line
92
95
100
102

2 - Conn. piece
4 - 24" C.I. pipe 250# Flauged
1 - 24" 90° bend
1 - 24"x24"x6" (S. to H.)
2 - 24"x16" Reducers (S. to S.)
1 - 16" Valve (H. to H.)
4 - Street box
2 - 6" 90° bend
3 - 6" Valve
1 - 6"x6"x6" Tee
2' - 6" C.I. Pipe

SCHEDULE OF SERVICE CONNECTIONS

STATION	TO PROP. 6" WATER MAIN	TO PROP. 6" GAS MAIN
93+35(±) Lt.	3/4"	
93+92(±) Lt.	3/4"	
94+08(±) Lt.	3/4"	
94+50(±) Lt.		4" *
97+61(±) Lt.	3/4"	
97+80(±) Lt.	3/4"	
98+25(±) Lt.		1¼"
101+52(±) Lt.	3/4"	
101+62(±) Lt.		4" *
101+85(±) Lt.		1¼"
101+87(±) Lt.		1¼"
101+92(±) Lt.	3/4"	

* Use existing valve and existing street box.

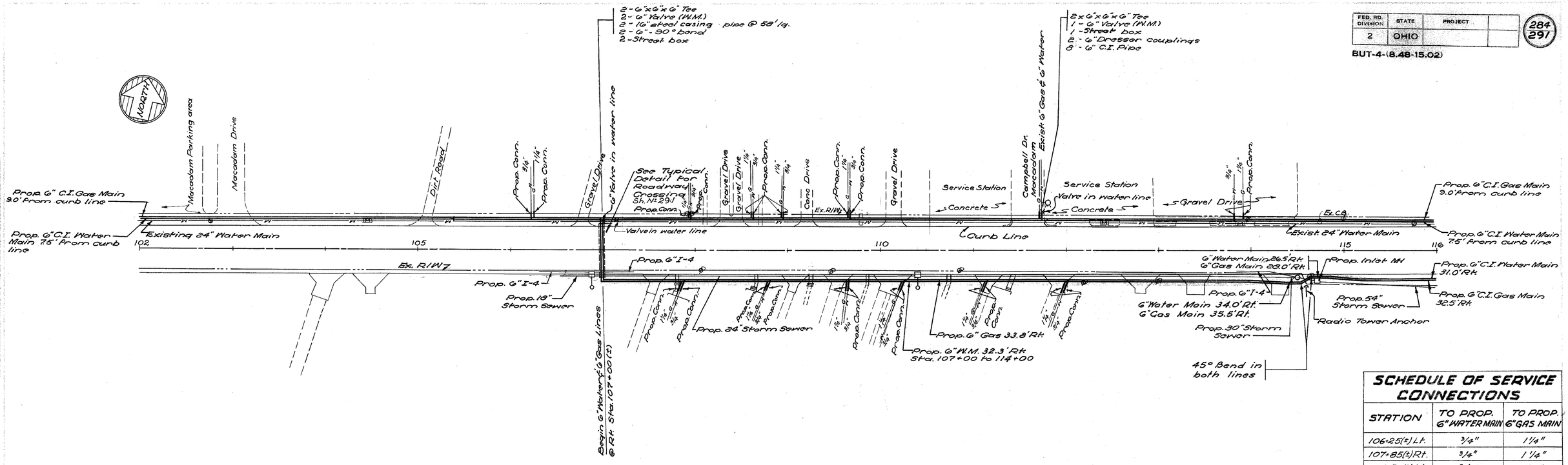
For 3/4" & 1¼" Connection see sheet N° 291
For hydrant connection see sheet N° 291

STA. 93+00 to STA. 103+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

284
291

BUT-4-(8.48-15.02)



For 3/4" & 1 1/4" Connection See Sheet No. 291
For Hydrant Connection See Sheet No. 291

SCHEDULE OF SERVICE CONNECTIONS

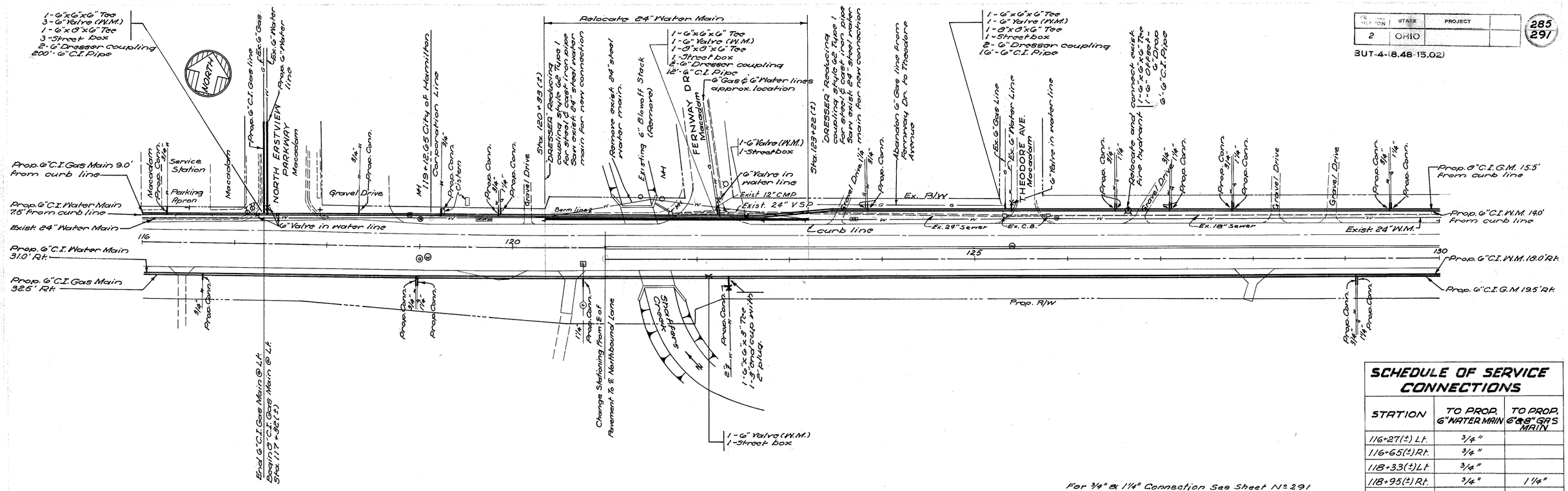
STATION	TO PROP. 6" WATER MAIN	TO PROP. 6" GAS MAIN
106+25(±) Lt.	3/4"	1 1/4"
107+85(±) Rt.	3/4"	1 1/4"
107+93(±) Lt.	3/4"	1 1/4"
108+62(±) Lt.	3/4"	1 1/4"
108+78(±) Rt.	3/4"	1 1/4"
108+92(±) Lt.	3/4"	1 1/4"
109+65(±) Rt.	3/4"	1 1/4"
109+66(±) Lt.	3/4"	1 1/4"
110+23(±) Lt.	3/4"	1 1/4"
111+12(±) Lt.	3/4"	1 1/4"
112+00(±) Rt.	3/4"	1 1/4"
113+80(±) Lt.	3/4"	
113+90(±) Lt.		1 1/4"

STA. 102+00 to STA. 116+00

SHEET NO.	STATE	PROJECT	
2	OHIO		

285
297

BUT-4-(8.48-15.02)



For 3/4" & 1 1/4" Connection See Sheet N° 291
For Hydrant Connection See Sheet N° 291

SCHEDULE OF SERVICE CONNECTIONS

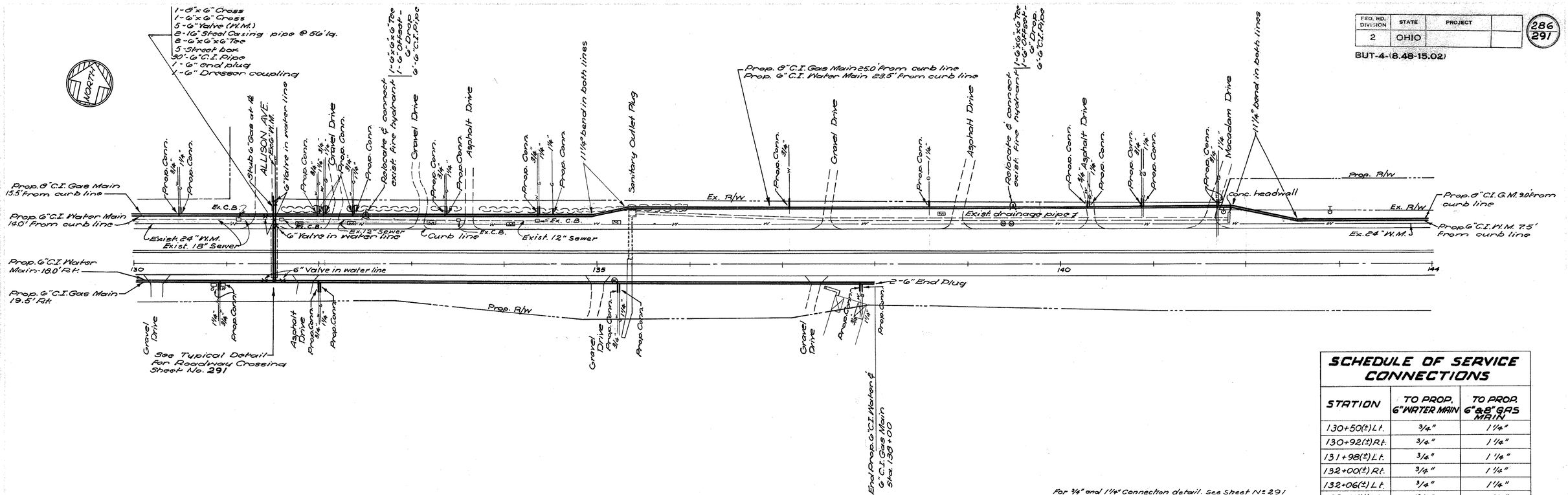
STATION	TO PROP. 6" WATER MAIN	TO PROP. 6 & 8" GAS MAIN
116+27(±) Lt.	3/4"	
116+65(±) Rt.	3/4"	
118+33(±) Lt.	3/4"	
118+95(±) Rt.	3/4"	1 1/4"
119+21(±) Lt.	3/4"	
119+85(±) Lt.	3/4"	1 1/4"
120+80(±) Rt.		1 1/4"
122+32(±) Rt.	2	
123+83(±) Lt.	3/4"	1 1/4"
126+52(±) Lt.	3/4"	1 1/4"
127+10(±) Lt.	3/4"	1 1/4"
127+80(±) Lt.	3/4"	1 1/4"
129+12(±) Rt.	3/4"	1 1/4"
129+50(±) Lt.	3/4"	1 1/4"

STA 116+00 to STA 130+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

286
291

BUT-4-(8.48-15.02)



For 3/4" and 1 1/4" Connection detail. See Sheet No. 291
For Hydrant connection See Sheet No. 291

SCHEDULE OF SERVICE CONNECTIONS

STATION	TO PROP. 6" WATER MAIN	TO PROP. 6" & 8" GAS MAIN
130+50(±) Lt.	3/4"	1 1/4"
130+92(±) Rt.	3/4"	1 1/4"
131+98(±) Lt.	3/4"	1 1/4"
132+00(±) Rt.	3/4"	1 1/2"
132+06(±) Lt.	3/4"	1 1/4"
132+37(±) Lt.	3/4"	1 1/4"
133+35(±) Lt.	3/4"	1 1/4"
134+35(±) Lt.	3/4"	1 1/4"
134+52(±) Lt.		1 1/4"
135+23(±) Rt.	3/4"	1 1/4"
137+08(±) Lt.	3/4"	
138+84(±) Rt.	3/4"	1 1/4"
139+60(±) Lt.		1 1/4"
140+30(±) Lt.	3/4"	1 1/4"
140+88(±) Lt.	3/4"	1 1/4"
141+68(±) Lt.	3/4"	1 1/4"

141+68(±) Lt.	3/4"	1 1/4"

SCHEDULE OF SERVICE CONNECTIONS

STATION	TO PROP. 6" WATER MAIN	TO PROP. 8" GAS MAIN
148+52(±) Rt.	3/4"	
149+00(±) Lt.	3/4"	1 1/4"
149+90(±) Lt.	3/4"	1 1/4"
152+02(±) Lt.	3/4"	

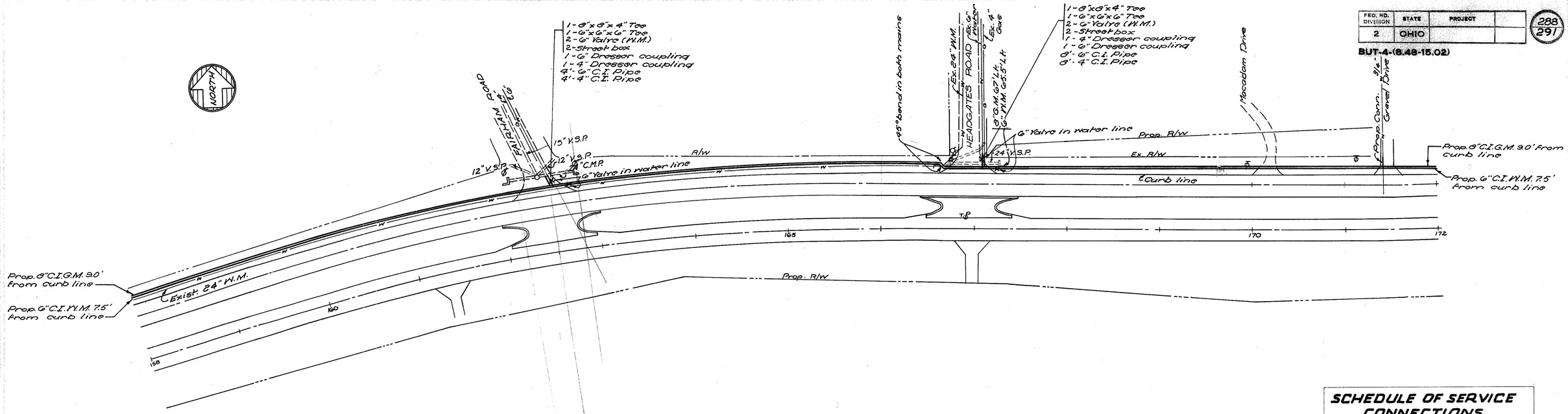
For 3/4" and 1 1/4" Connection detail See Sheet No 291
For Hydrant Connection See Sheet No 291

STA. 144+00 to STA. 158+0

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

288
291

BUT-4-(8.48-15.02)



For 3/4" and 1 1/4" Connection detail
See Sheet No 291

SCHEDULE OF SERVICE CONNECTIONS

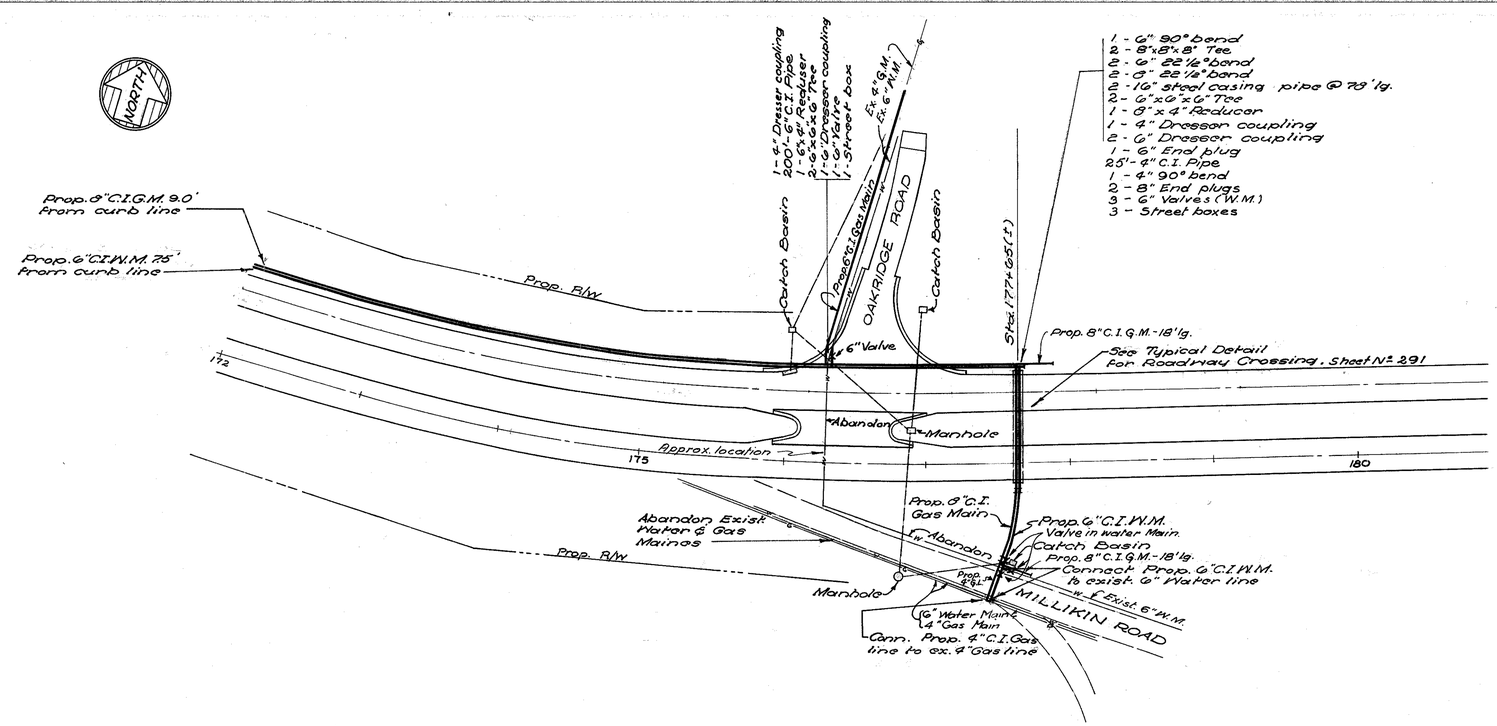
STATION	TO PROP. 6" WATER MAIN	TO PROP. 8" GAS MAIN
171+40(±) L.t.	3/4"	

STA. 158+00 to STA. 172+00

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

289
291

BUT-4-(8.48-15.02)

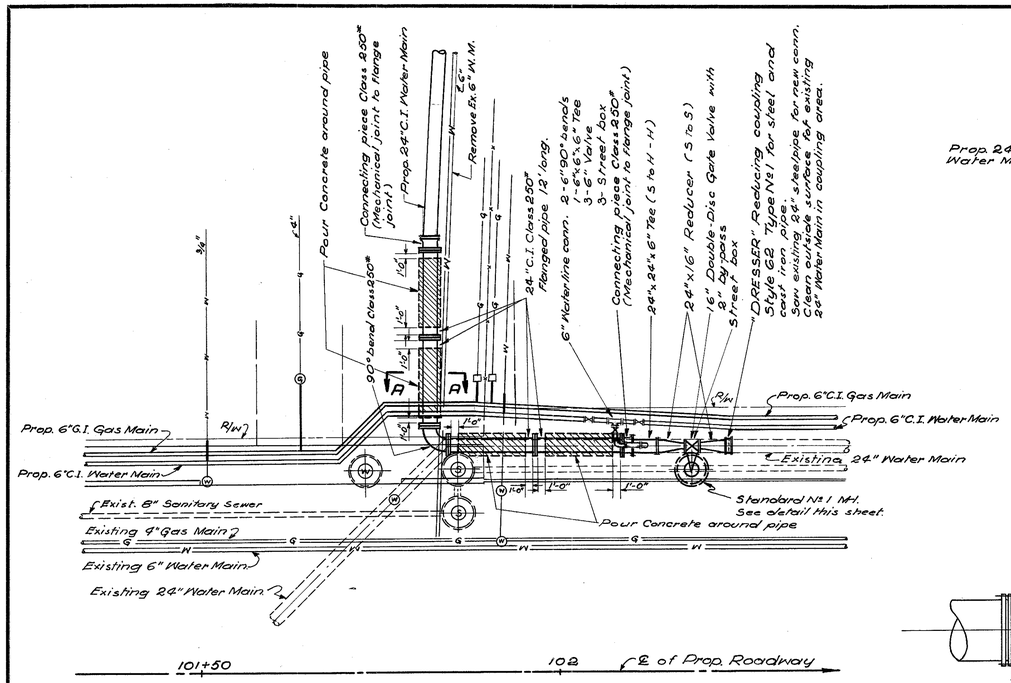


STA 172+00 to STA 180+00

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

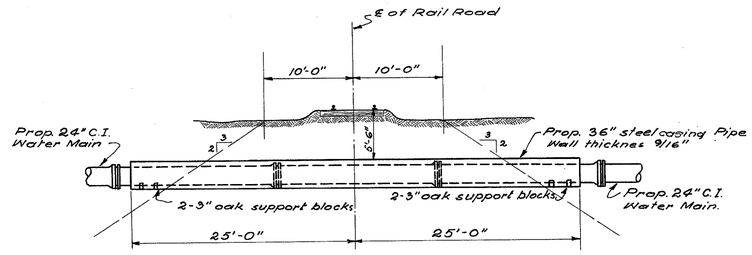
290
291

BUT-4-(8.48-15.02)



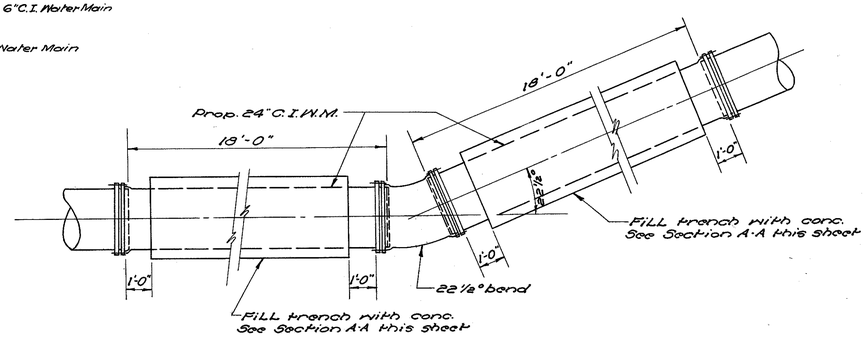
DETAIL STA. 101+83 LEFT
CONNECTION TO EXISTING 24" WATER MAIN

Scale: 1"=10'-0"



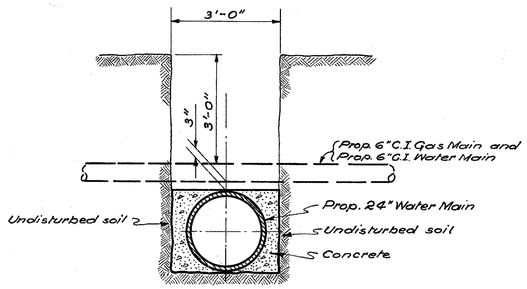
RAILROAD CROSSING

Scale: 1/8"=1'-0"



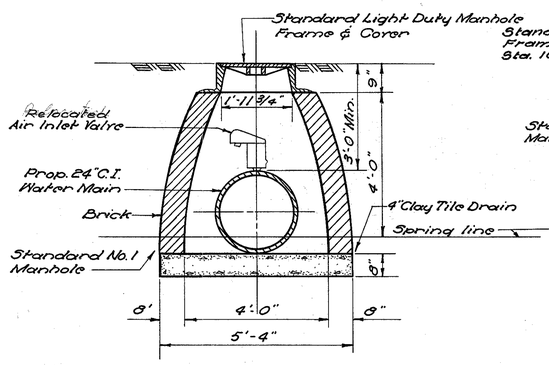
DETAIL A

Scale: 3/8"=1'-0"



SECTION A-A

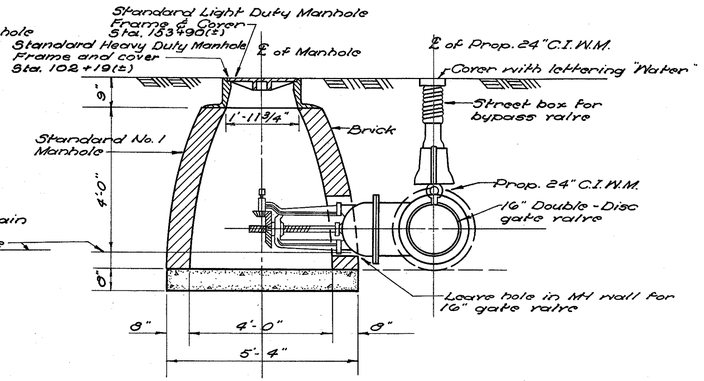
Scale: 1/2"=1'-0"



STANDARD NO. 1 MANHOLE FOR AIR INLET VALVE

STA. 152+18 (Lt) (±)

Scale: 1/2"=1'-0"



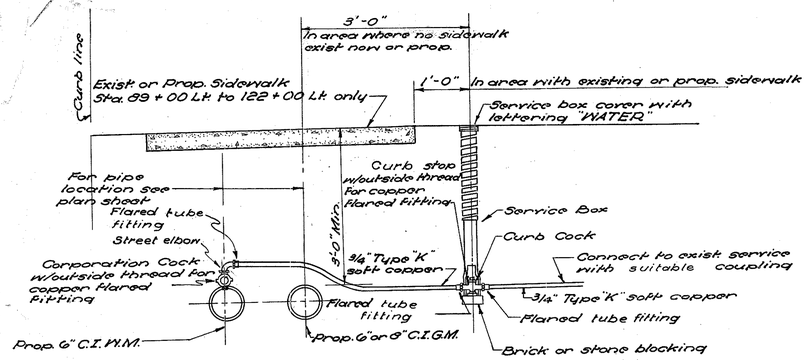
STANDARD NO.1 MANHOLE MODIFIED FOR 16" GATE VALVE

STA. 102+19 (Lt)(±) & STA. 153+90 (Lt)(±)

Scale: 1/2"=1'-0"

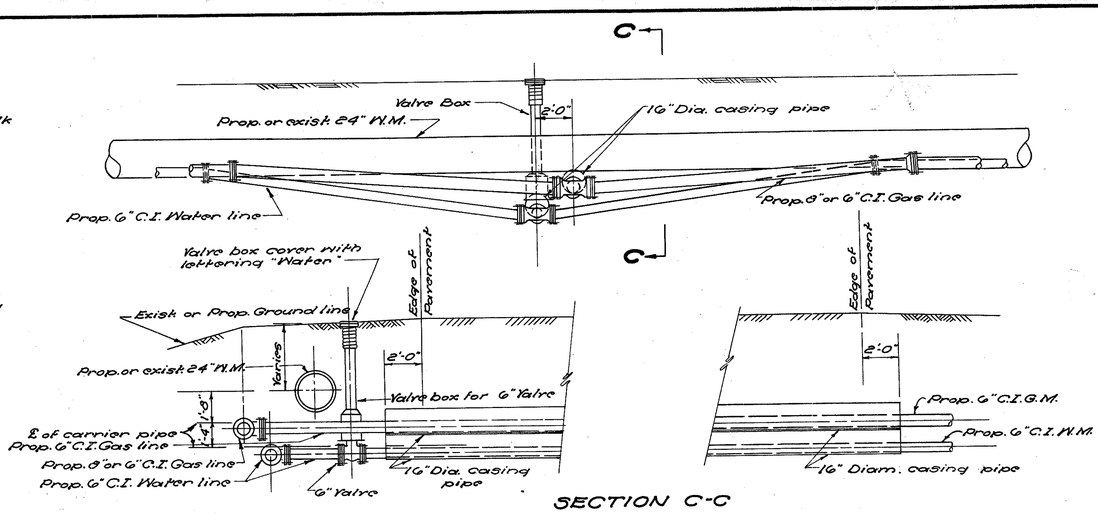
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(6.48-15.02)



TYPICAL SECTION OF WATER SERVICE BRANCH INSTALLATION

Scale: 3/4" = 1'-0"



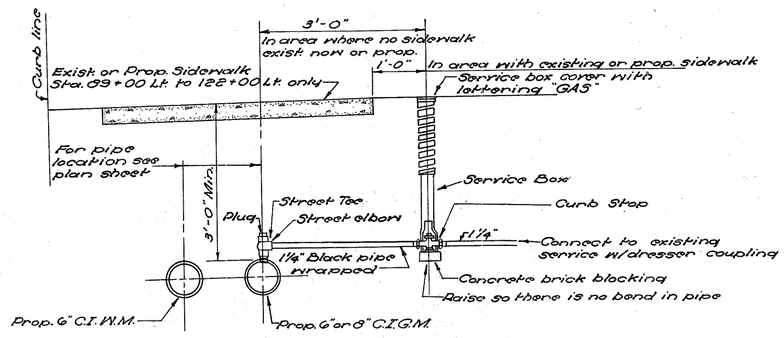
SECTION C-C

TYPICAL ROADWAY CROSSING DETAIL

Scale: 1/4" = 1'-0"

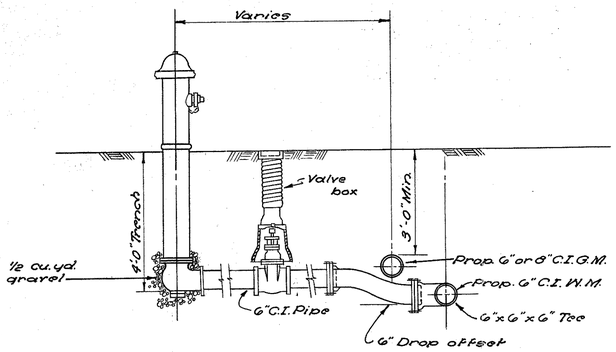
MINIMUM TRENCH WIDTH

PIPE	TRENCH WIDTH
24"	36"
6"	21"
8"	24"
6"+6"	39"
6"+8"	42"
24"+6"+8"	75"



TYPICAL SECTION OF GAS SERVICE BRANCH INSTALLATION

Scale: 3/4" = 1'-0"



TYPICAL FIRE HYDRANT CONNECTION

Scale: 1/2" = 1'-0"