F-581 (10)

F-581 (10) 222

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUT-4-(16.53-19.15)
LEMON TOWNSHIP
BUTLER COUNTY
GRADE SEPARATION WITH BALTIMORE & OHIO R.R.

LIMITED ACCESS

This improvement is especially designed for through traffic and has been declared a limited access highway or freeway from Station 555+00 to Station 634+50 by action of the Director of Highways in accordance with the provisions of Sec. 5511.02 of the Revised Code of Ohio.

CONVENTIONAL SIGNS

Sign	Symbol
TOWNSHIP LINE	
CORPORATION LINE	
RIGHT-OF-WAY	Prop. R/W
CENTER LINE	
PROPERTY LINE	PL
FENCE	
RAILROAD	
POLES	Power / Telephone
GAS	G
WATER	W
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	M
WATER VALVE	
SEWER	

INDEX OF SHEETS

LINE DATA

LENGTH OF PROJECT

Begin Project — Sta. 470+50

End Project — Sta. 634+50

Length of Project BUT-4-(16.53-19.15) — 16,400.00 lin. ft. = 3.106 Miles

LENGTH OF WORK

Length of Project — 16,400.00 lin. ft.

Add for Approaches

Todhunter Rd. = 512.80 lin. ft.

Ramp A = 1,038.00 lin. ft.

Ramp B = 2,414.00 lin. ft.

Route 73 = 1,592.00 lin. ft. — 5,556.80 lin. ft.

Length of Work — 21,956.80 lin. ft. = 4.158 Miles

DELIVERY POINTS - B&O R.R. — AVE. HAUL

5 CAR COMPANY TRACK AT LE SOURDSVILLE, OHIO - 3 Mi.

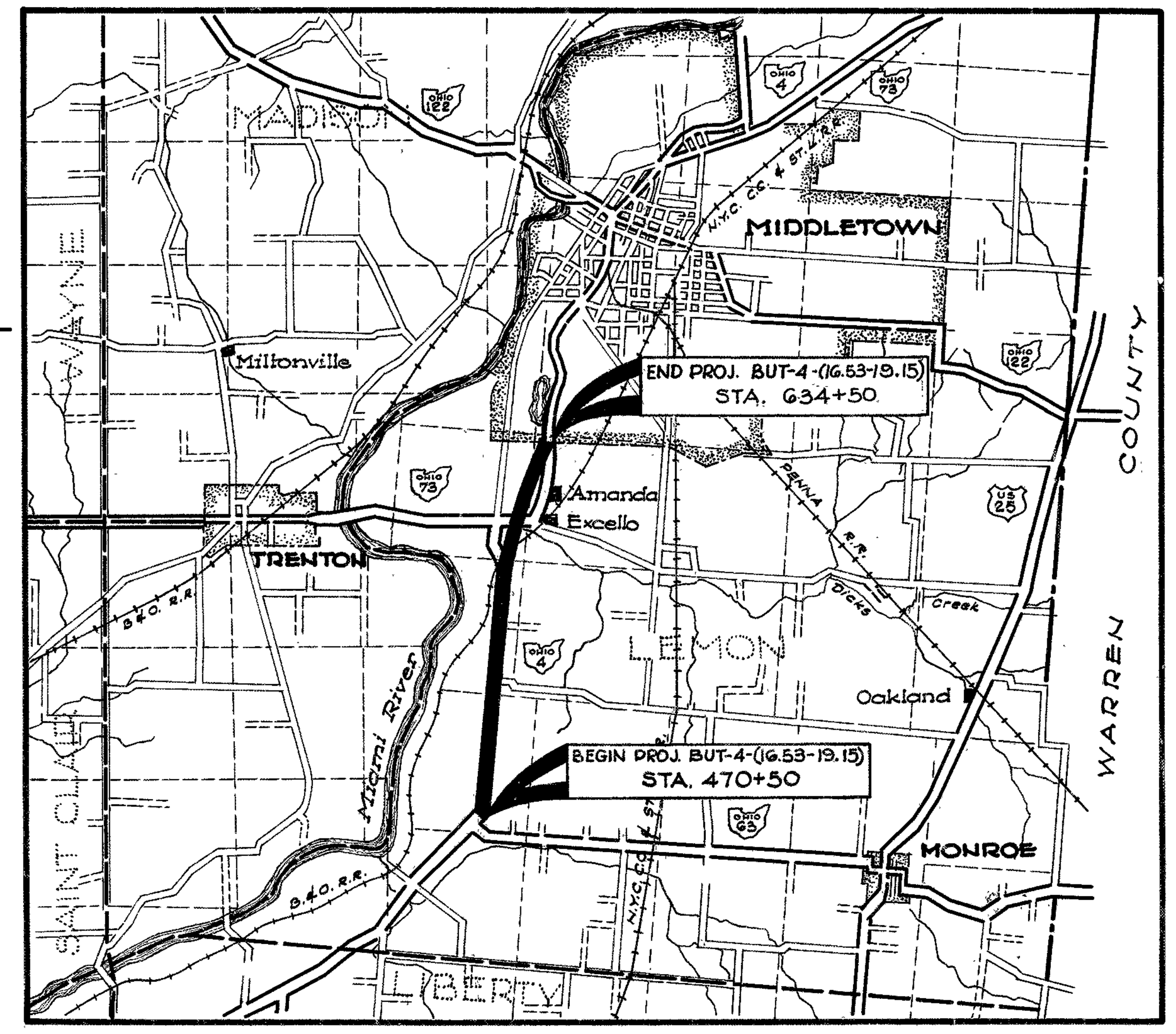
4 CAR COMPANY TRACK AT NORTH EXCELLO, OHIO - 1 Mi.

2 CAR COAL YARD AT EXCELLO, OHIO - 1 Mi.

10 CAR TEAM TRACK AT MIDDLETOWN, OHIO - 3 Mi.

REVIEWED & APPROVED H.G. Eckhardt ENGINEER OF TRAFFIC

DATE 9/19/55



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 L. S. Payton
Date 10-4-55 Division Deputy Director

Approved John J. Hurley
Date 10-20-55 Deputy Director of Planning & Programming

Approved E. S. Preston
Date 10-19-55 Engineer of Location & Design

Approved Richard Orth
Date 10-18-55 Engineer of Bridges

Approved [illegible]
Date 10-19-55 Deputy Director of Design & Construction

Approved [illegible]
Date [illegible] First Assistant Director

Approved [illegible]
Date [illegible] Director of Highways

Approved K. J. WAGONER
Date 10-26-55 Chief Engineer, Baltimore and Ohio Railroad Company

CONSTRUCTION BUREAU FEB 11 1960 GROUND PHOTOLAB

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

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

APPROVED: ____

DISTRICT ENGINEER ____ DATE ____

** SUBMITTED TO B.P.R. FOR APPROVAL

STANDARD DRAWINGS

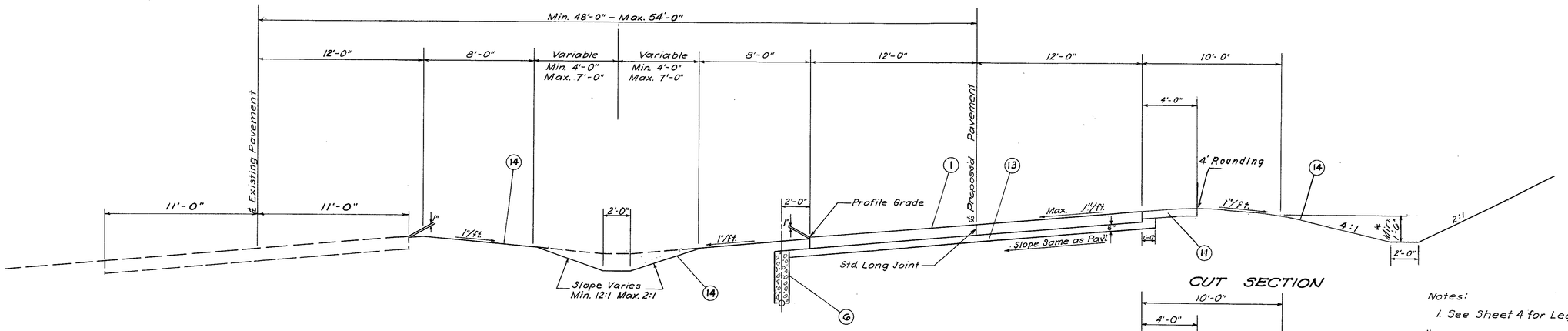
L-1	4-1-50	L-3-A	4-1-50	I-8 C.B. 2-3 & 2-4	5-1-52	I-8 M.H. No. 3	5-1-52
L-3	4-1-50	S-27 P.C. 3	2-20-45	I-8 C.B. 2-5 & 2-6	5-1-52	I-8 M.H. No. 3-A	5-1-52
RI-1	1-3-55	I-8 I No. 2	12-1-54	I-8 C.B. No. 3	5-1-52	I-8 M.H. No. 2	5-1-52
T-35	10-1-52	S-27 P.C. 4	1-4-54	I-8 C.B. No. 3-A	5-1-52	I-12	7-1-54
B-T-71R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

SUPPLEMENTAL SPECIFICATIONS

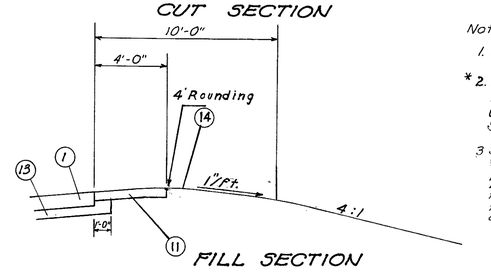
5	6-8-55
B-119	REV. 12-1-54
L-209.12	7-17-54
M-106.6 (d)	11-30-54
M-110.27	9-9-52
M-109.23	REV. 5-28-54
S-114	8-30-55

FILE NO. 512

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



SUPERELEVATED TYPICAL SECTION A
Sta. 470+50.0–479+00.0 = 850.00 Lin. Ft.

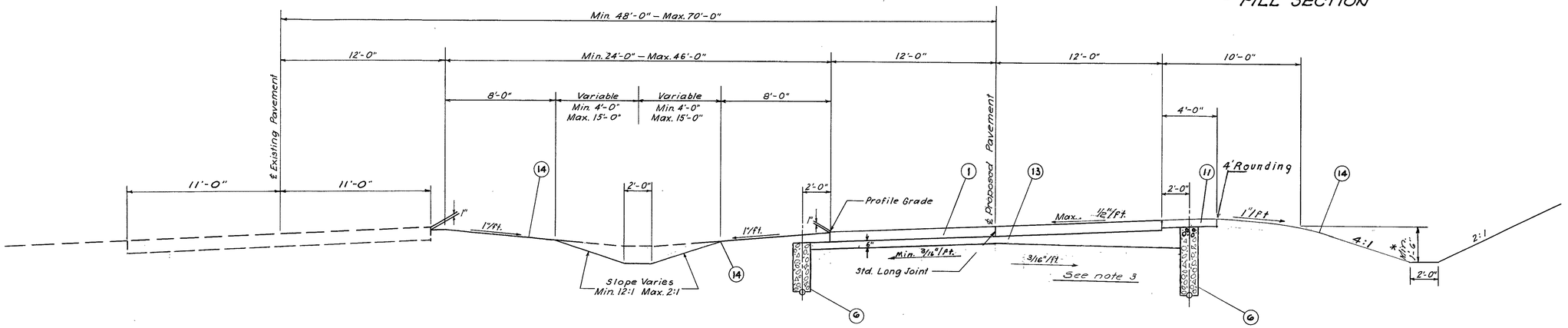


Notes:

1. See Sheet 4 for Legend

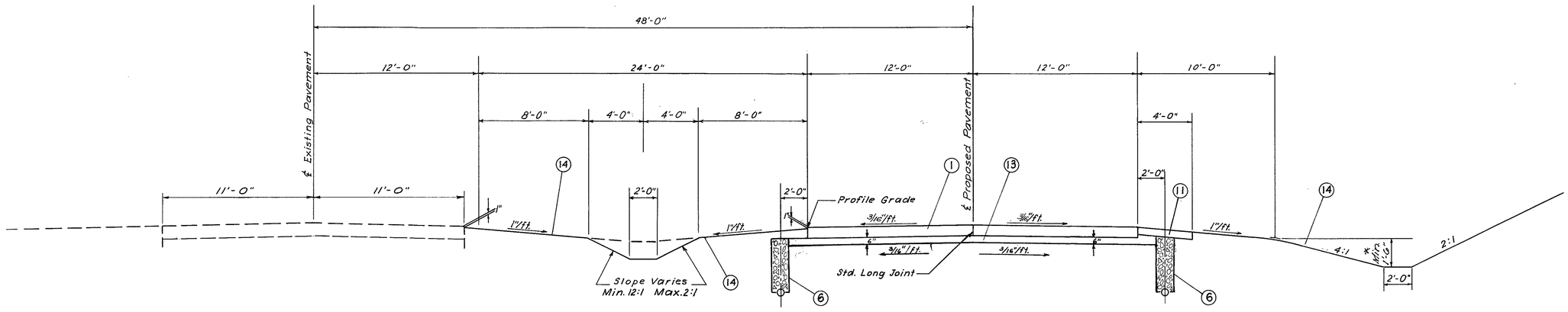
*2. Minimum depth of side ditches is as indicated on Typical Sections unless shown otherwise on Cross Sections or Plan & Profile

3. Subbase on high side of superelevated pavement section follows pavement slope when superelevation is ½" Per Ft. Where superelevation is less than ½" per ft, subbase slopes to outer edge as shown on Superelevated Typical Section B.



SUPERELEVATED TYPICAL SECTION B
Sta. 479+00.0–483+25.0 = 425.00 Lin. Ft.

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



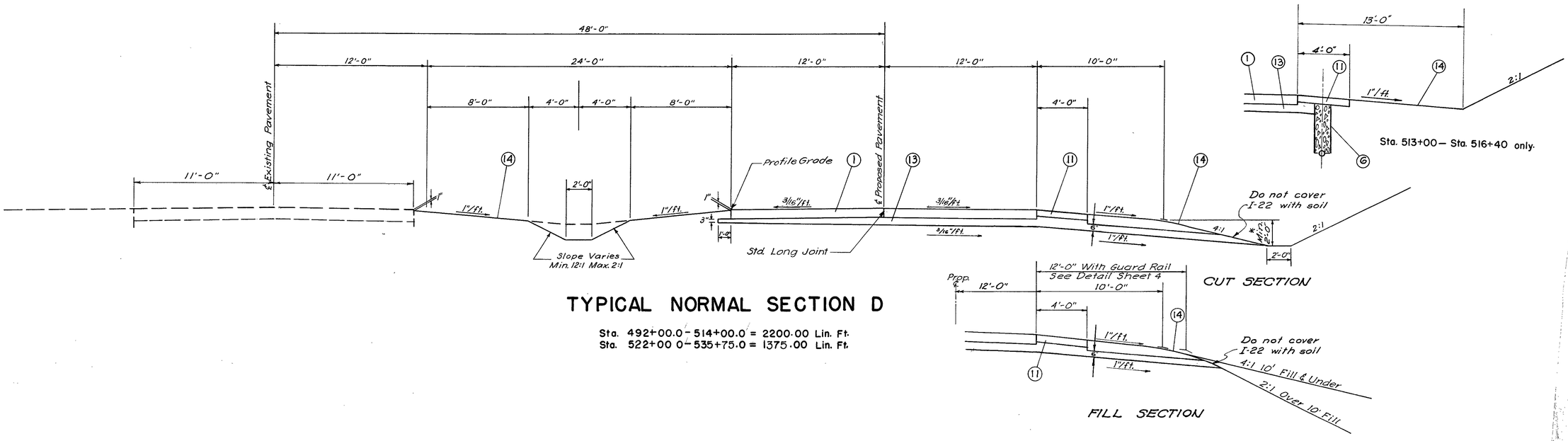
TYPICAL NORMAL SECTION C

Sta. 483+25.0 – 492+00.0 = 875.00 Lin. Ft.

Notes:

1. See Sheet 4 for Legend

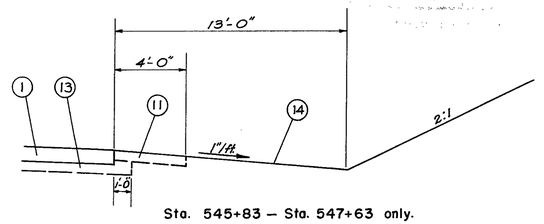
*2. Minimum depth of side ditches is as indicated on Typical Sections unless shown otherwise on Cross Sections or Plan & Profile



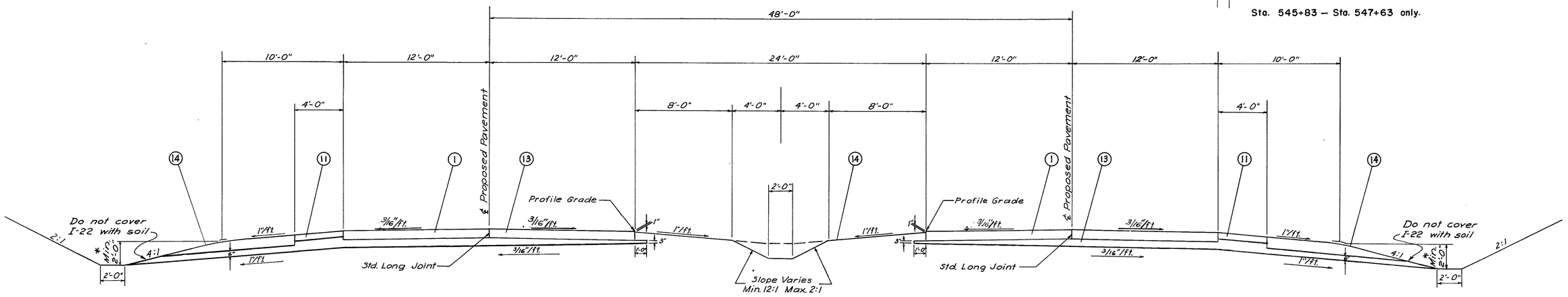
TYPICAL NORMAL SECTION D

Sta. 492+00.0 – 514+00.0 = 2200.00 Lin. Ft.
Sta. 522+00 0 – 535+75.0 = 1375.00 Lin. Ft.

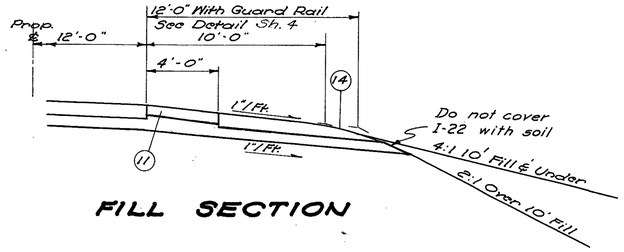
TYPICAL SECTIONS
TYPE T-71
SCALE: 1/4" = 1'-0"



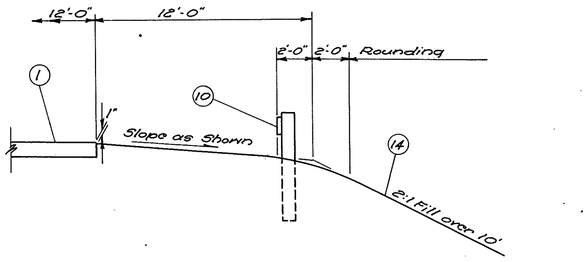
Sta. 545+83 — Sta. 547+63 only.



CUT SECTION



FILL SECTION



GUARD RAIL DETAIL

TYPICAL NORMAL SECTION E

Sta. 514+00.0 – 522+00.0 = 800.00 Lin. Ft.
Sta. 543+75.0 – 549+68.67 = 593.67 Lin. Ft.
Sta. 564+34.50 – 566+90.13 = 255.63 Lin. Ft.

Notes:

1. Minimum depth of side ditches is as indicated on Typical Section unless shown otherwise on Cross Sections or Plan & Profile

LEGEND

(1) Item T-71 9" Reinforced Portland Cement Concrete Pavement
(2) Item T-35 1½" Asphaltic Concrete Surface Course Type "C" (60-70)
(3) Item B-35 1¼" Asphaltic Concrete Leveling Course (60-70)
(4) Item B-35 3" Asphaltic Concrete Base Course (60-70)

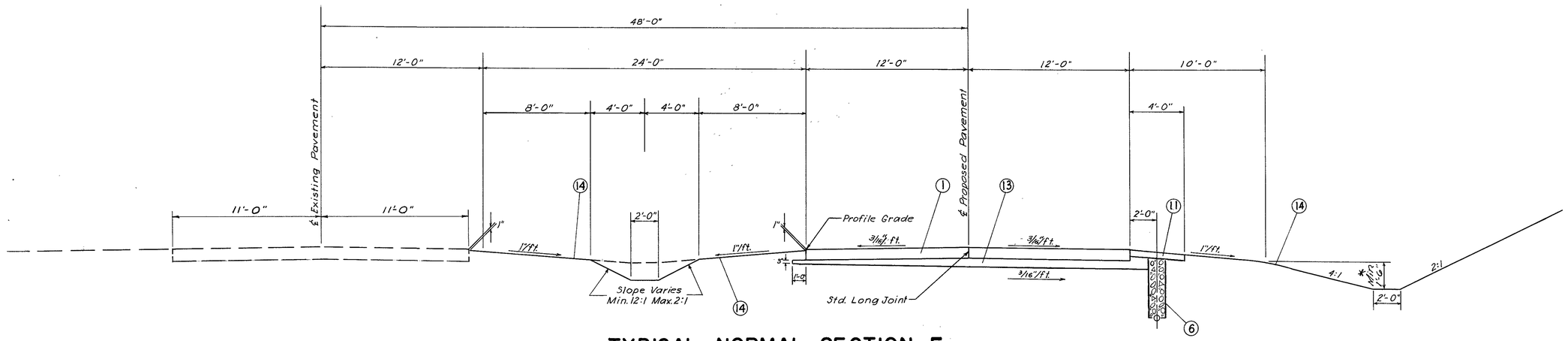
(6) Item I-4 6" Pipe Underdrains
(7) Item I-9 Stone Underdrain No. 2
(8) Item I-12 Type 2A Portland Cement Concrete Curb
(9) Item I-13 4" Portland Cement Concrete Sidewalk
(10) Item I-15 Deep Steel Beam Guard Rail
(11) Item I-18 6" Stabilized Crushed Aggregate Shoulders
(12) Item I-21 4" Type 1 Portland Cement Concrete Median Pavement
(13) Item I-22 Subbase Type A, B, C, or D
(14) Item L-9 Seeding & Protecting

(16) Item I-23 Precast White Portland Cement Concrete Traffic Dividers

(18) 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)

(19) Item B-70 8" Portland Cement Concrete Base Course

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



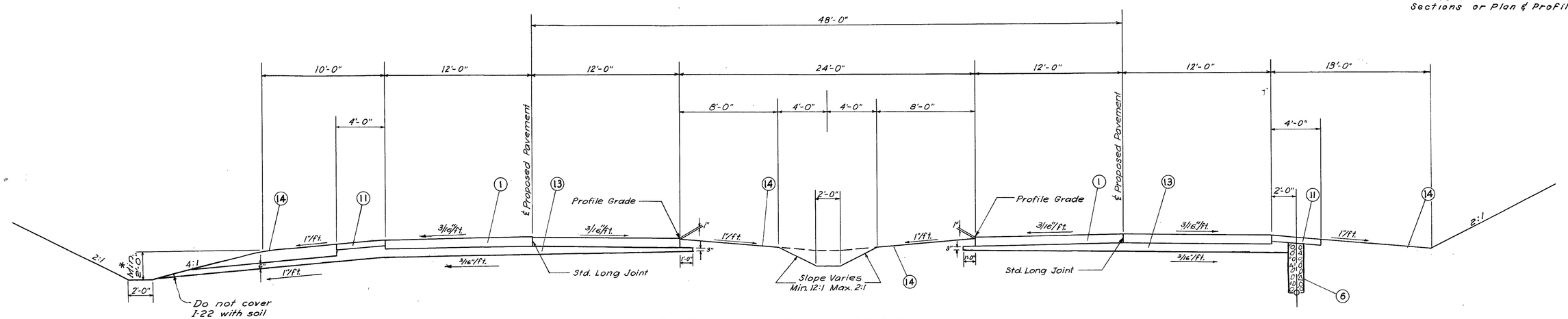
TYPICAL NORMAL SECTION F

Sta. 535+75.0 – 537+75.0 = 200.00 Lin. Ft.

Notes:

1. See Sheet 4 for Legend.

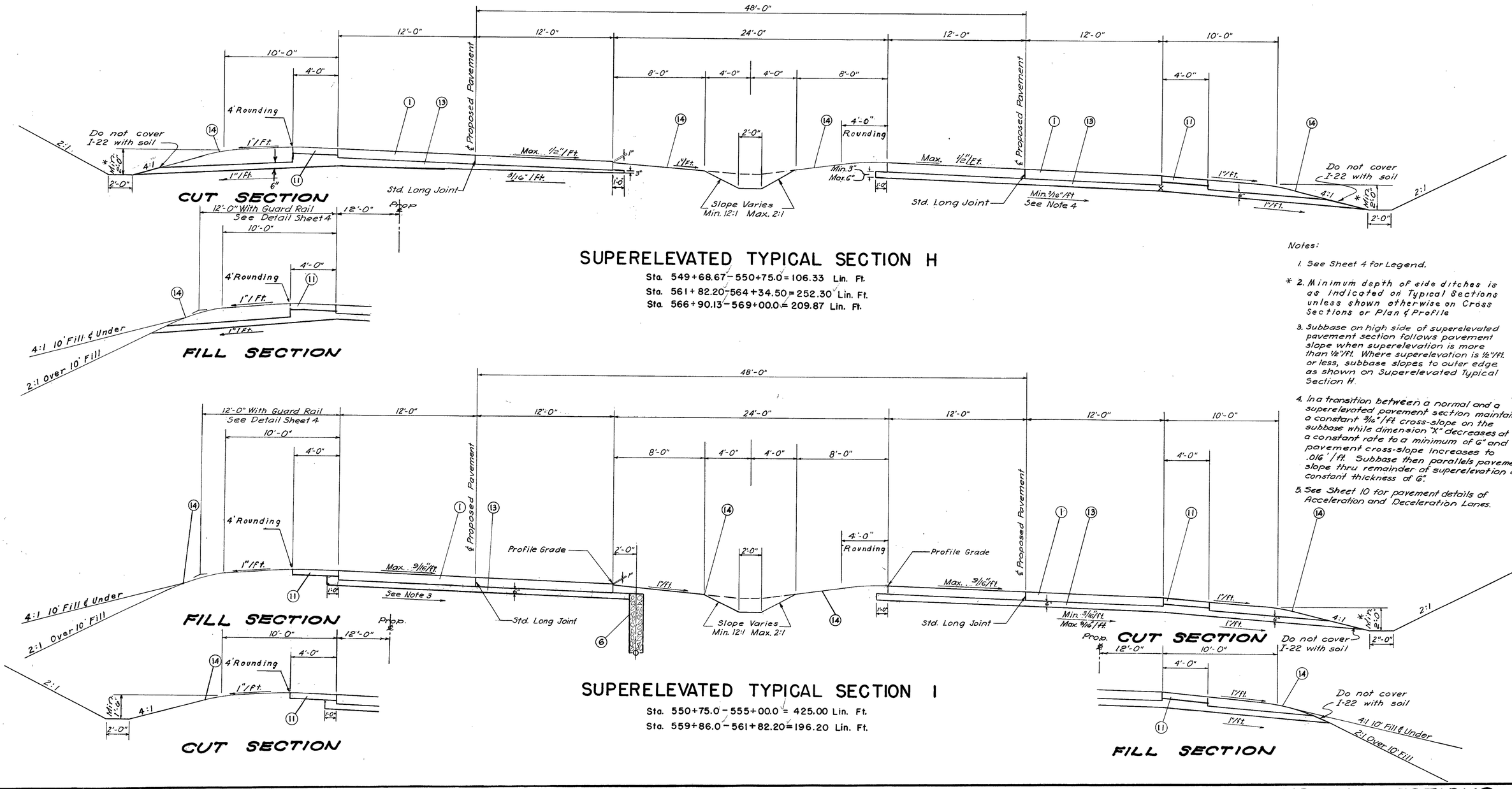
*2. Minimum depth of side ditches is as indicated on Typical Sections unless shown otherwise on Cross Sections or Plan & Profile



TYPICAL NORMAL SECTION G

Sta. 537+75.0 – 543+75.0 = 600.00 Lin. Ft.

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



SUPERELEVATED TYPICAL SECTION H

Sta. 549+68.67 – 550+75.0 = 106.33 Lin. Ft.
Sta. 561+82.20 – 564+34.50 = 252.30 Lin. Ft.
Sta. 566+90.13 – 569+00.0 = 209.87 Lin. Ft.

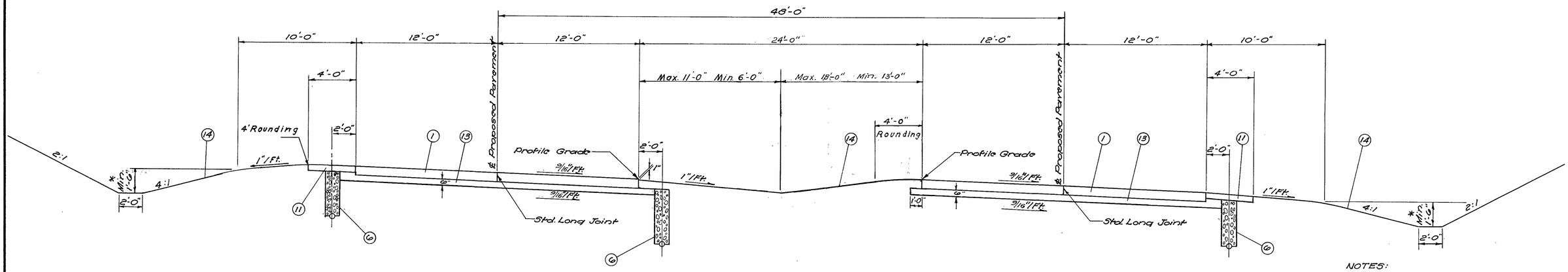
SUPERELEVATED TYPICAL SECTION I

Sta. 550+75.0 – 555+00.0 = 425.00 Lin. Ft.
Sta. 559+86.0 – 561+82.20 = 196.20 Lin. Ft.

Notes:

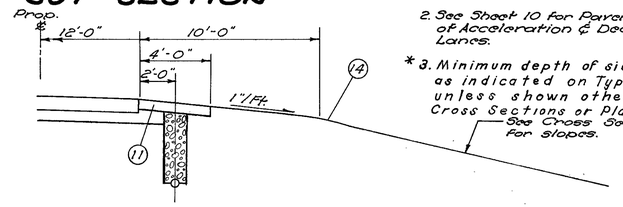
1. See Sheet 4 for Legend.
2. * Minimum depth of side ditches is as indicated on Typical Sections unless shown otherwise on Cross Sections or Plan & Profile
3. Subbase on high side of superelevated pavement section follows pavement slope when superelevation is more than ½"/ft. Where superelevation is ½"/ft. or less, subbase slopes to outer edge as shown on Superelevated Typical Section H.
4. In a transition between a normal and a superelevated pavement section maintain a constant 3/16"/ft cross-slope on the subbase while dimension "X" decreases at a constant rate to a minimum of 6" and pavement cross-slope increases to .016'/ft. Subbase then parallels pavement slope thru remainder of superelevation at constant thickness of 6".
5. See Sheet 10 for pavement details of Acceleration and Deceleration Lanes.

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

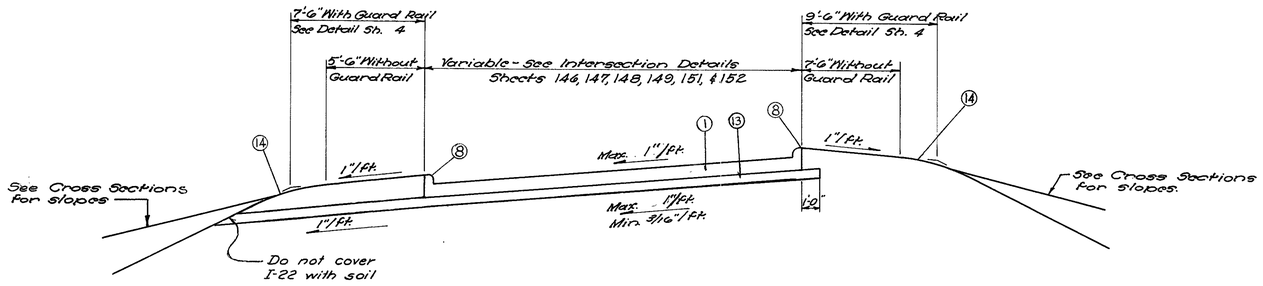


NOTES:

1. See Sheet 4 for Legend
2. See Sheet 10 for Pavement Details of Acceleration & Deceleration Lanes.
* 3. Minimum depth of side ditches is as indicated on Typical Sections unless shown otherwise on Cross Sections or Plan & Profile

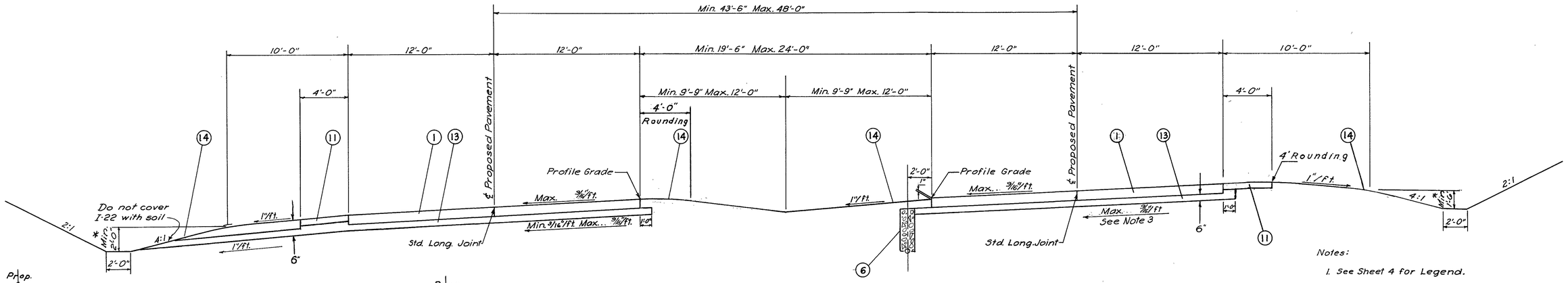


SUPERELEVATED TYPICAL SECTION J
Sta. 555+00.0 - 559+86.0 = 486.00 Lin. Ft.



TYPICAL RAMP SECTION

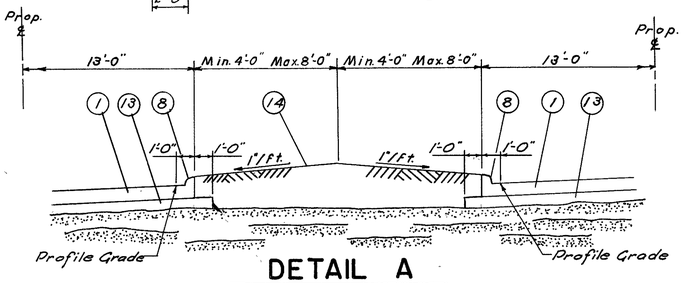
TYPICAL SECTIONS
TYPE T-71
SCALE: 1/4" = 1'-0"



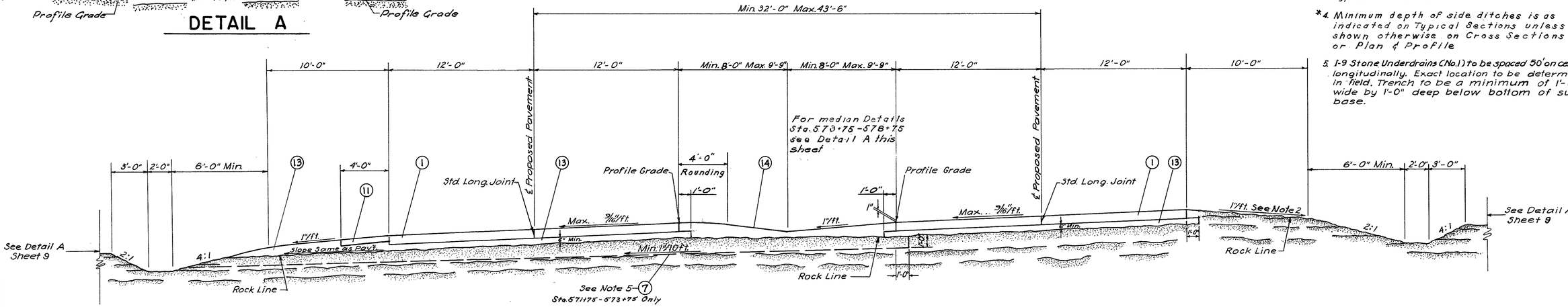
Notes:

1. See Sheet 4 for Legend.
2. Rock shoulders on high side of superelevated sections to follow pavement slope as shown on Superelevated Typical Section M when transverse pavement slope is more than .016/ft. When transverse pavement slope is .016/ft. or less, rock shoulders are shaped as indicated.
3. Subbase on high side of superelevated pavement section follows pavement slope when superelevation is more than ½"/ft. Where superelevation is ½"/ft. or less, subbase slopes to outer edge as shown on Superelevated Typical Section B.
4. *Minimum depth of side ditches is as indicated on Typical Sections unless shown otherwise on Cross Sections or Plan & Profile.
5. I-9 Stone Underdrains (No.1) to be spaced 50' on center longitudinally. Exact location to be determined in field. Trench to be a minimum of 1'-0" wide by 1'-0" deep below bottom of sub-base.

SUPERELEVATED TYPICAL SECTION K
Sta. 569+00.0-571+75.0 = 275.00 Lin. Ft.

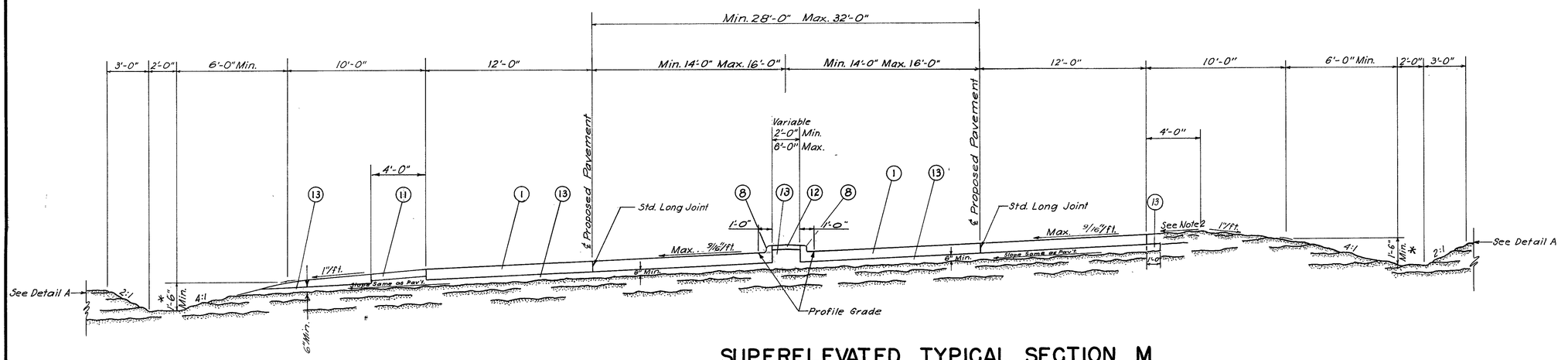


DETAIL A

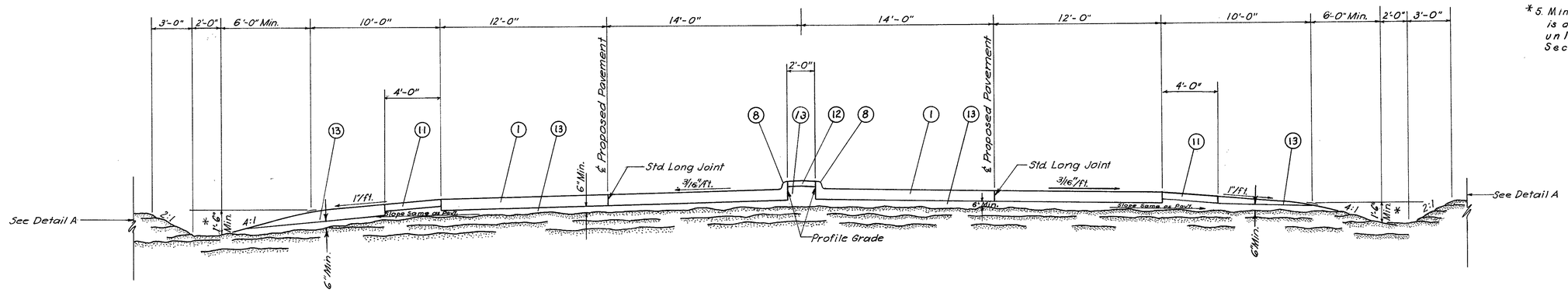


SUPERELEVATED TYPICAL SECTION L
Sta. 571+75.0-578+75.0 = 700.00 Lin. Ft.

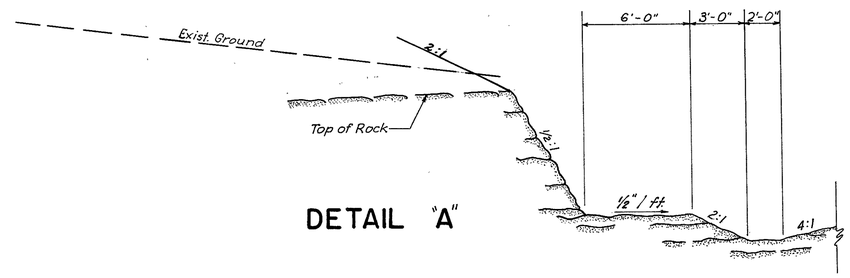
TYPICAL SECTIONS
TYPE T-71
SCALE: 1/4" = 1'-0"



SUPERELEVATED TYPICAL SECTION M
Sta. 578+75.0N — 580+56.97N = 181.97 Lin. Ft.



TYPICAL NORMAL SECTION N
Sta. 582+89.04N — 585+64.78 = 275.74 Lin. Ft.

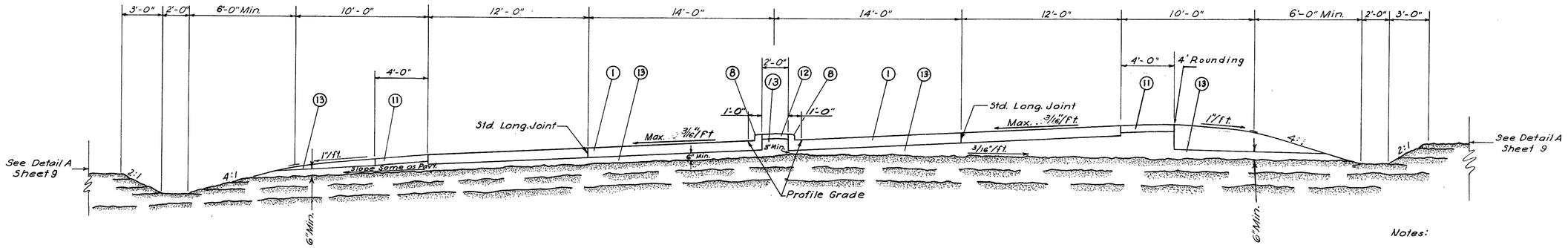


DETAIL "A"

Notes:

1. See Sheet 4 for Legend.
2. Rock shoulders on high side of superelevated sections to follow pavement slope as indicated when transverse pavement slope is more than 1/2"/ft.
3. See Std. Drwg. I-21-23 Item I-21 Type I for details of concrete median.
4. See Sheet 10 for Pavement Details of Deceleration Lane.
5. * Minimum depth of side ditches is as indicated on Typical Sections unless shown otherwise on Cross Sections or Plan & Profile

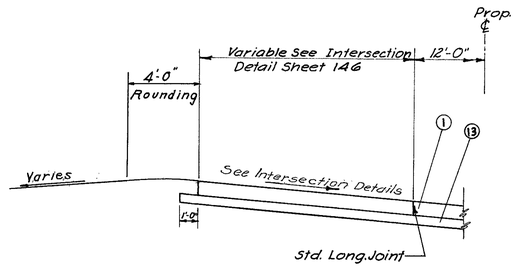
TYPICAL SECTIONS
TYPE T-71
SCALE: 1/4" = 1'-0"



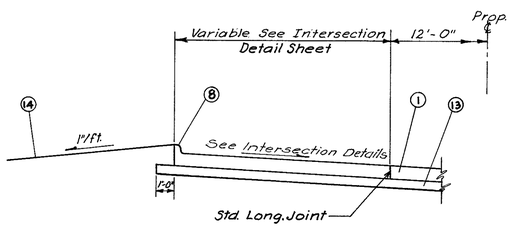
SUPERELEVATED TYPICAL SECTION O
Sta. 580+56.97 N - 582+89.04 N = 232.07 Lin. Ft.

Notes:

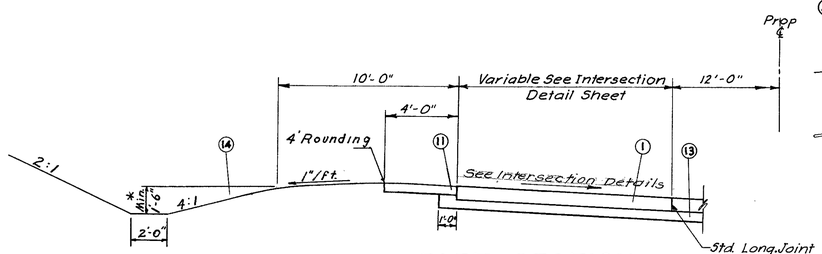
1. See Sheet 4 for Legend.
2. See Std. Drwg. I-21-23 Item I-21 Type 1 for details of concrete median.
*3. Minimum depth of side ditches is as indicated on Typical Sections unless shown otherwise on Cross Sections or Plan & Profile



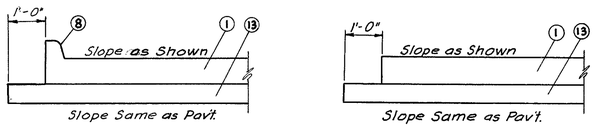
PART SECTION
Sta. 554+95.4 - 558+60.4
See Typical Sections I & J Sheets 6 & 7



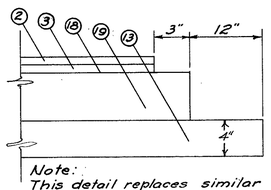
PART SECTION
Sta. 600+70.57 - 606+70.57 as shown
See Typical Section R Sheet 11
Sta. 596+37.23 - 601+00 opposite hand
See Typical Section R Sheet 11



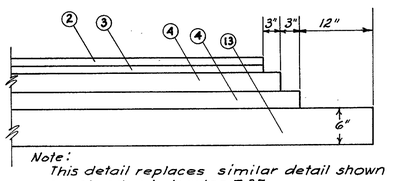
PART SECTION
Sta. 552+03 - 557+94
See Typical Sections I & J Sheets 6&7
Sta. 560+35.3 - 562+85.3
See Typical Sections H & I Sheet 6
Sta. 613+82.30 - 616+32.30
See Typical Section T Sheet 12



PART SECTIONS SHOWING SUBBASE FOR MEDIAN CROSSOVER

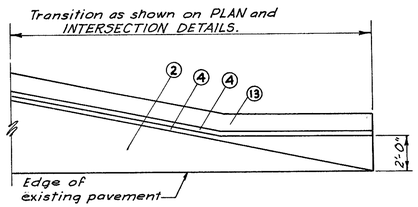


Note:
This detail replaces similar detail shown on standard drawing T-35



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

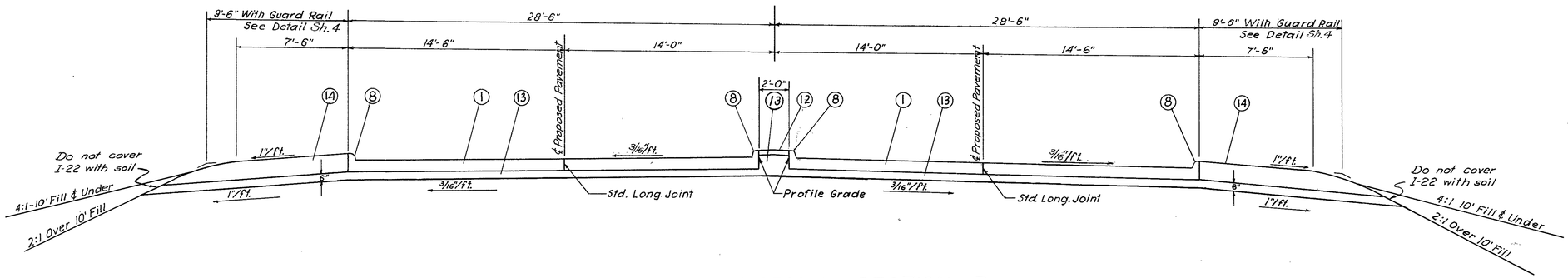
COURSE DETAILS FOR WIDENING



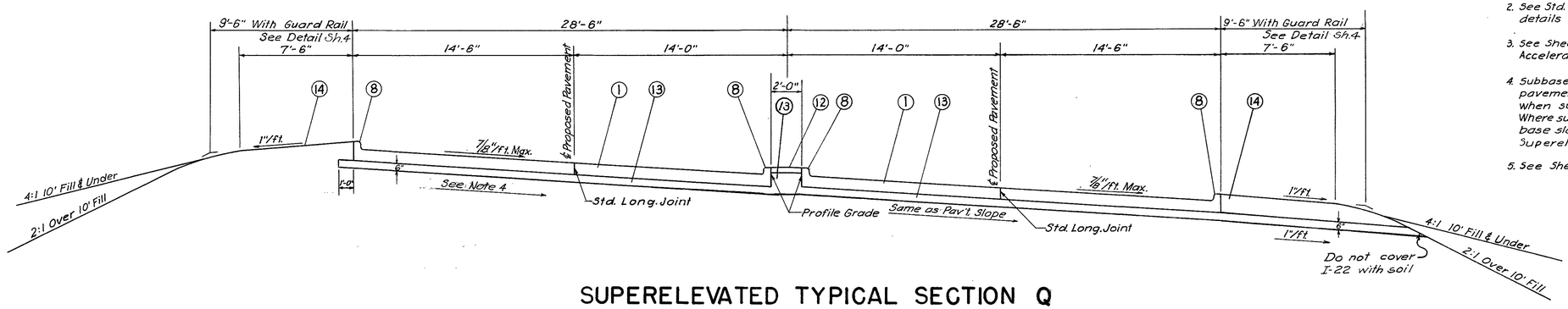
Note:
This detail replaces similar detail shown on standard drawing T-35.

MERGING EDGE OF PAVEMENT WIDENING WITH EDGE OF EXISTING PAVEMENT

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



TYPICAL NORMAL SECTION P
Sta. 590+17.54 – 594+28.63=411.09 Lin. Ft.



SUPERELEVATED TYPICAL SECTION Q
Sta. 596+37.23–601+50.00= 512.77 Lin. Ft.

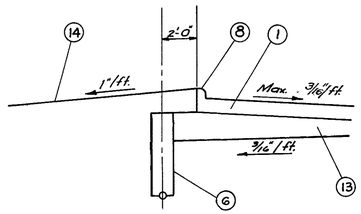
Notes:

1. See Sheet 4 for Legend.
2. See Std. Drwg. I-21-23 Item I-21 Type I for details of concrete median.
3. See Sheet 10 for pavement details of Acceleration and Deceleration Lanes.
4. Subbase on high side of superelevated pavement section follows pavement slope when superelevation is more than 3/16"/ft. Where superelevation is 3/16"/ft. or less, subbase slopes to outer edge as shown on Superelevated Typical Section O.
5. See Sheet 4 for Guard Rail Details.

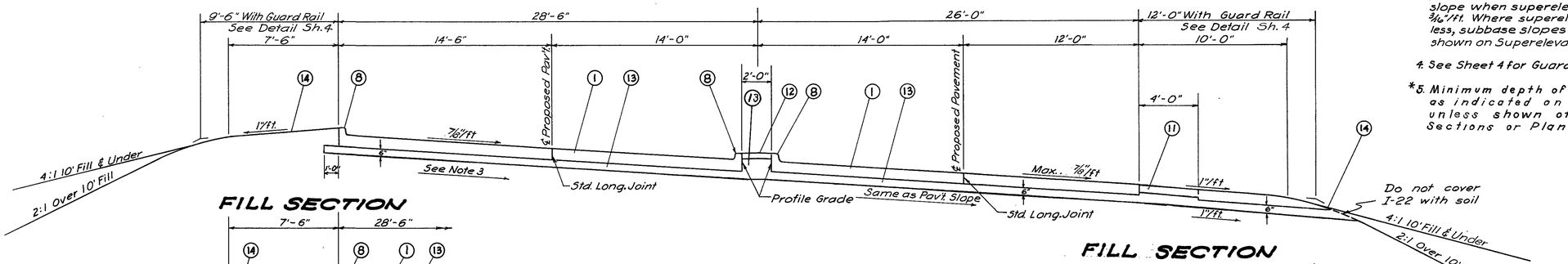
TYPICAL SECTIONS

TYPE T-71

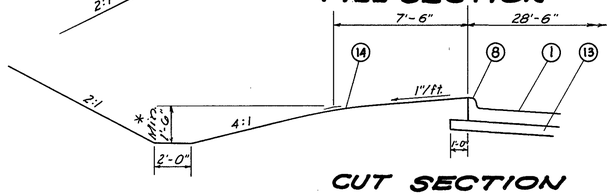
SCALE: 1/4" = 1'-0"



Sta. 608+00 – Sta. 610+35.57only.



FILL SECTION



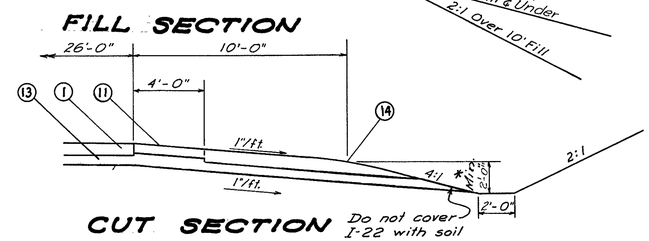
CUT SECTION

SUPERELEVATED TYPICAL SECTION R

Sta. 601+50 –610+35.57= 885.57 Lin. Ft.

Sta. 613+30.98–616+32.30= 301.32 Lin. Ft.

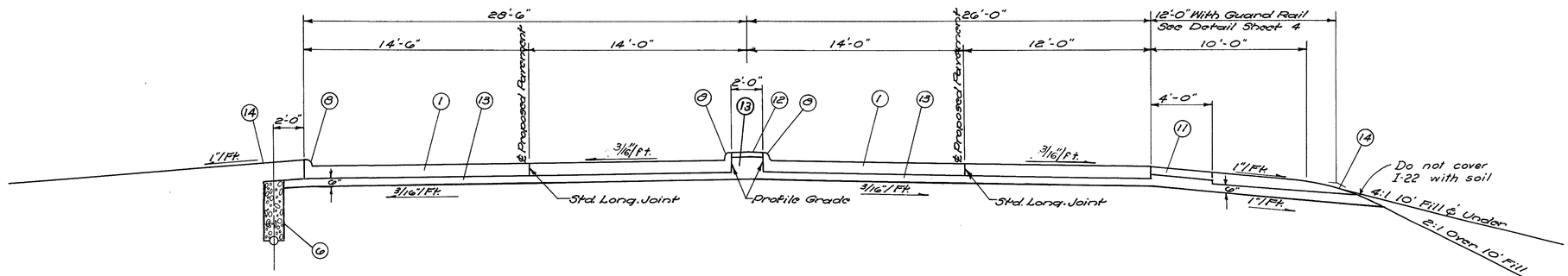
FILL SECTION



CUT SECTION

Notes:

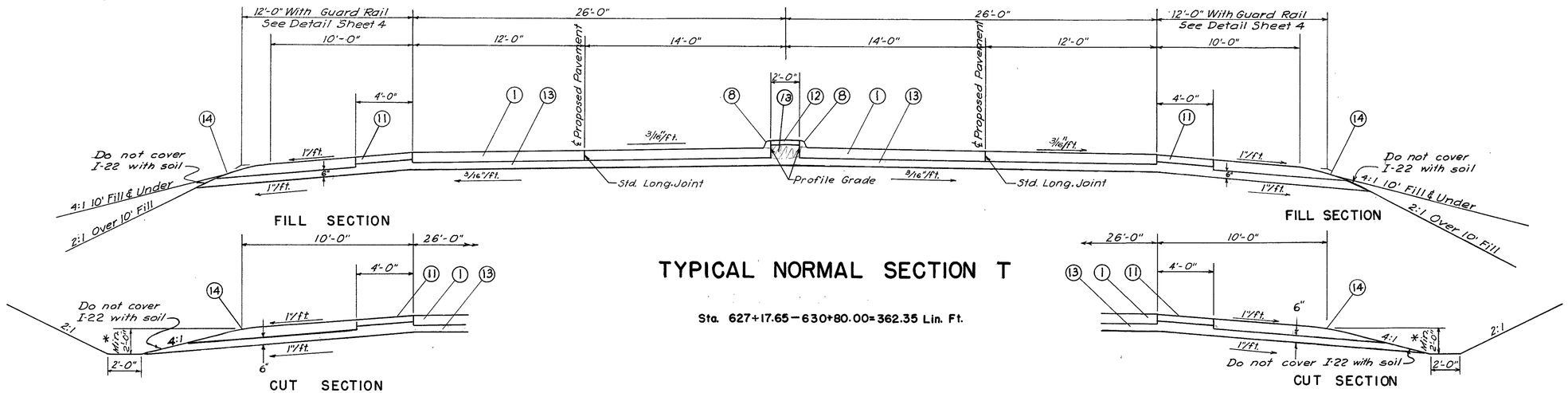
1. See Sheet 4 for Legend.
2. See Std. Drwg. I-21-23 Item I-21 Type 1 for details of concrete median.
3. Subbase on high side of superelevated pavement section follows pavement slope when superelevation is more than 3/16"/ft. Where superelevation is 3/16"/ft. or less, subbase slopes to outer edge as shown on Superelevated Typical Section O.
4. See Sheet 4 for Guard Rail Details.
5. *Minimum depth of side ditches is as indicated on Typical Sections unless shown otherwise on Cross Sections or Plan & Profile



TYPICAL NORMAL SECTION S

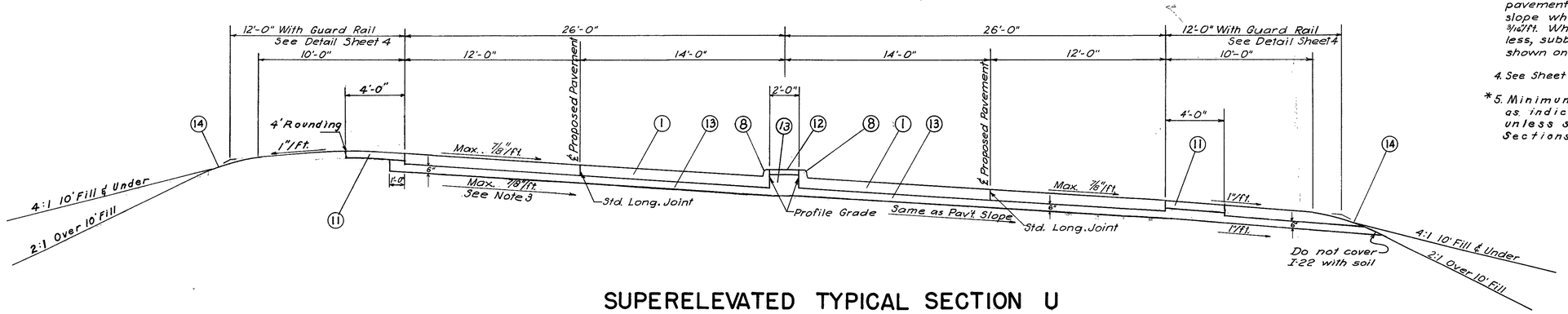
Sta. 610+35.57 – 613+30.98=295.41 Lin. Ft.

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



TYPICAL NORMAL SECTION T

Sta. 627+17.65 – 630+80.00 = 362.35 Lin. Ft.



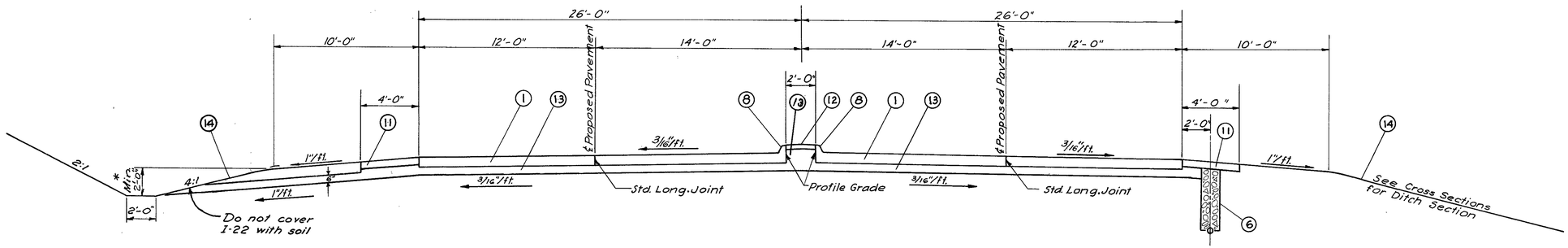
SUPERELEVATED TYPICAL SECTION U

Sta. 616+32.30 – 627+17.65 = 1085.35 Lin. Ft.

Notes:

1. See Sheet 4 for Legend.
2. See Std. Drwg. I-21,-23, Item I-21, Type 1 for details of concrete median.
3. Subbase on high side of superelevated pavement section follows pavement slope when superelevation is more than 3/16"/ft. Where superelevation is 3/16"/ft or less, subbase slopes to outer edge as shown on Superelevated Typical Section O.
4. See Sheet 4 for Guard Rail Details.
5. * Minimum depth of side ditches is as indicated on Typical Sections unless shown otherwise on Cross Sections or Plan & Profile.

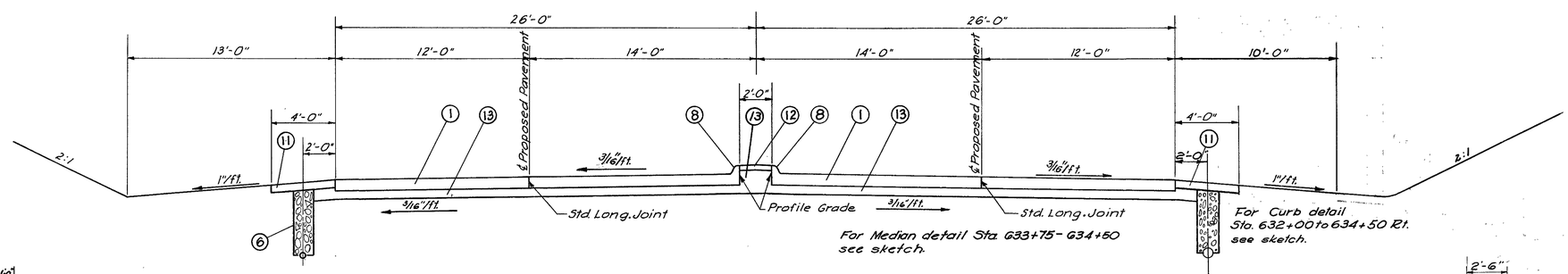
TYPICAL SECTIONS
TYPE T-71
SCALE 1/4"=1'-0"



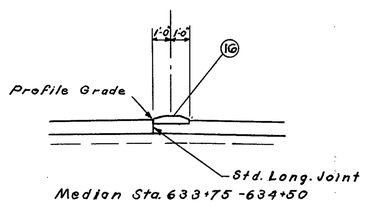
TYPICAL NORMAL SECTION V
Sta. 630+80.00 – 632+40.00 = 160.00 Lin. Ft.

Notes:

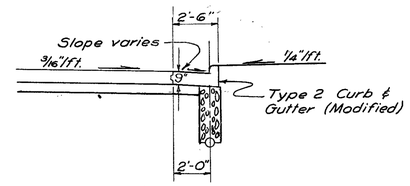
1. See Sheet 4 for Legend.
2. See Std. Drwg. I-21,-23, Item I-21, Type I for details of concrete median.
3. See Sheet 4 for Guard Rail Details
4. *Mimimum depth of side ditches is as indicated on typical sections unless shown otherwise on Cross Sections or Plan & Profile



TYPICAL NORMAL SECTION W
Sta. 632+40.00 – 634+50.00 = 210.00 Lin. Ft.



Median Sta. 633+75 – 634+50

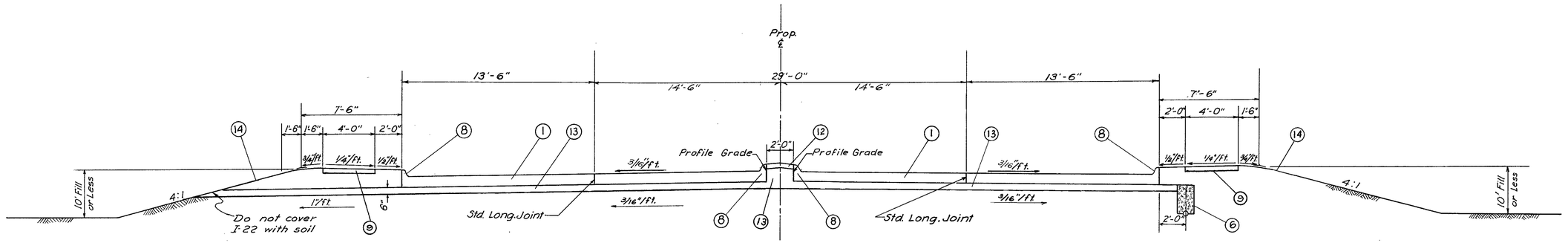


Curb Section Sta. 632+00 to 634+50

TYPICAL SECTIONS

TYPE T-71

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

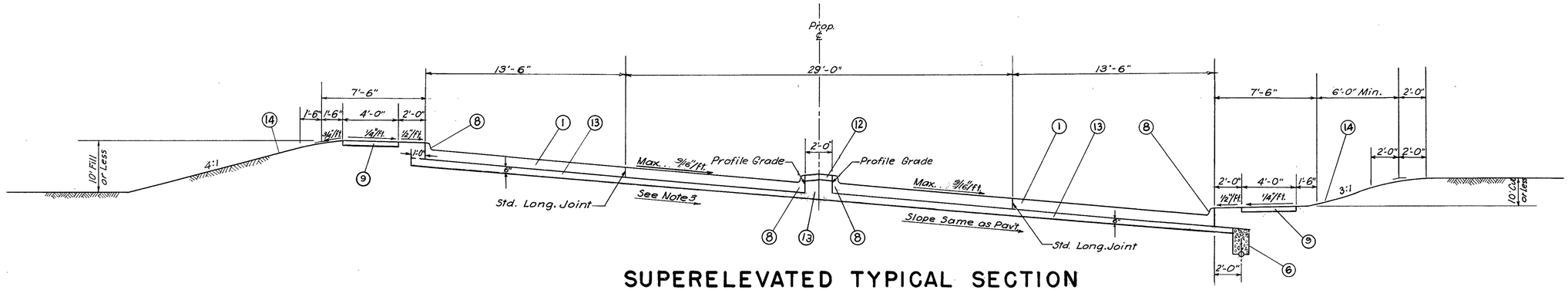


TYPICAL SECTION

STATE ROUTE 73

Notes:

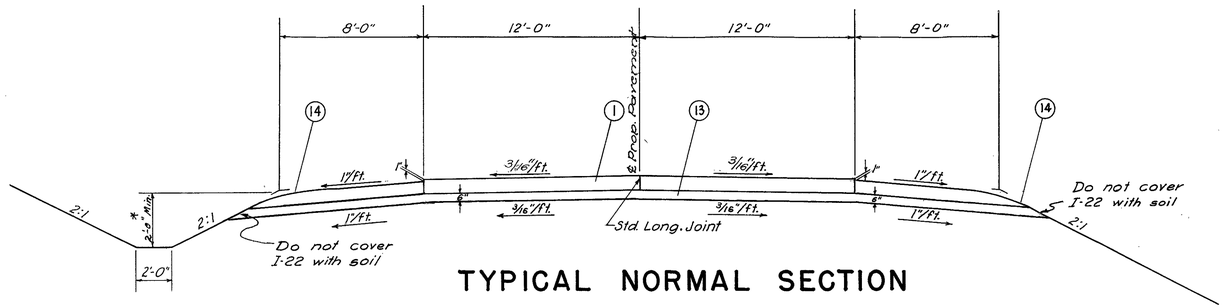
1. See Sheet 4 For Legend.
2. See Intersection Details Sheets for pavement widths & location of sidewalk.
3. Subbase on high side of superelevated pavement section follows pavement slope when superelevation is more than 3/16"/ft. Where superelevation is 3/16"/ft. or less, subbase slopes to outer edge as shown on Superelevated Section O.



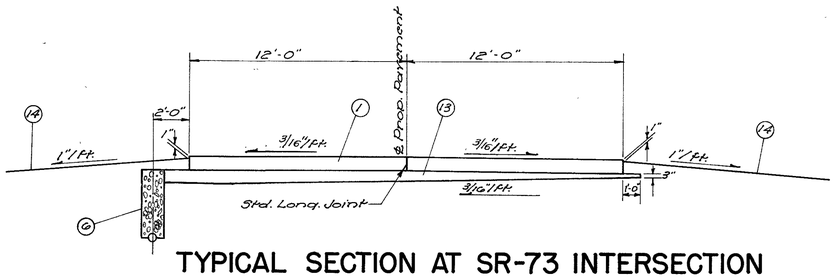
SUPERELEVATED TYPICAL SECTION

STATE ROUTE 73

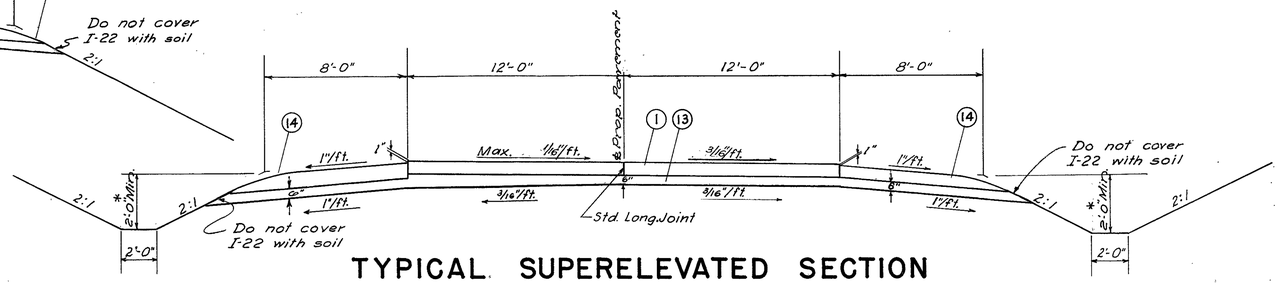
TYPICAL SECTIONS
TYPE T-71
SCALE: 1/4" = 1'-0"



TYPICAL NORMAL SECTION
AT PINTA AVENUE INTERSECTION



TYPICAL SECTION AT SR-73 INTERSECTION

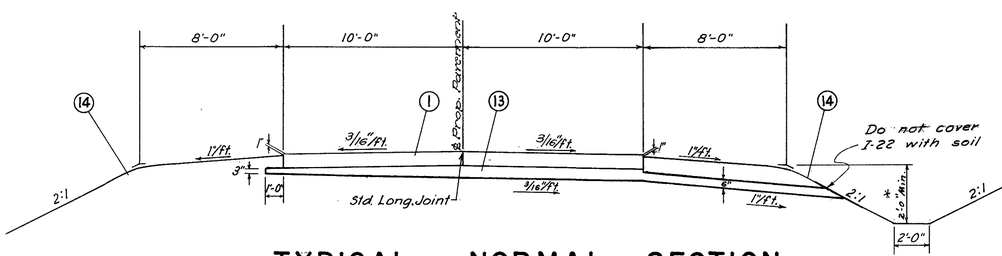


TYPICAL SUPERELEVATED SECTION
AT PINTA AVENUE INTERSECTION

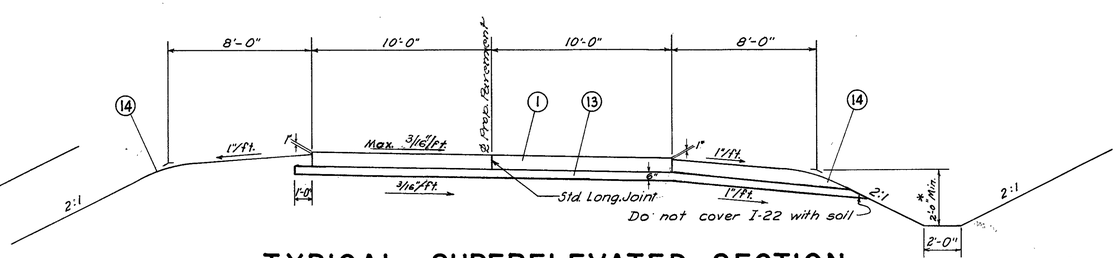
Notes:

1. See Sheet 4 for Legend.
2. See Intersection Detail Sheets
*3. Mimimum depth of side ditches is as indicated on Typical Sections unless shown otherwise on Cross Sections or Plan & Profile

VERITY PARKWAY



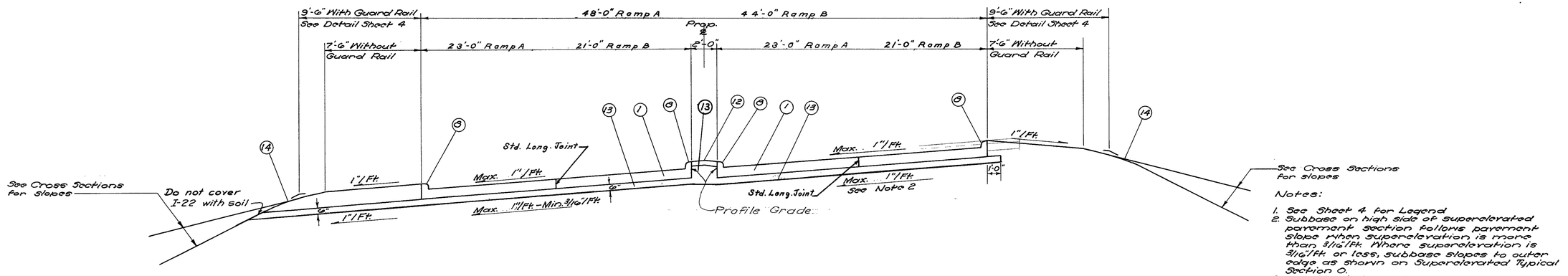
TYPICAL NORMAL SECTION



TYPICAL SUPERELEVATED SECTION

TODHUNTER ROAD

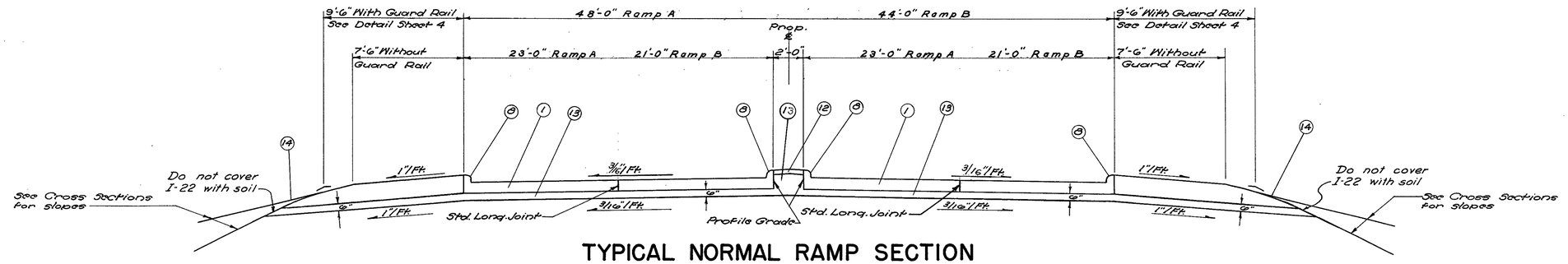
TYPICAL SECTIONS
TYPE T-71
SCALE: 1/4" = 1'-0"



Notes:

1. See Sheet 4 for Legend
2. Subbase on high side of superelevated pavement section follows pavement slope when superelevation is more than 3/16"/Ft. Where superelevation is 3/16"/Ft. or less, subbase slopes to outer edge as shown on Superelevated Typical Section O.
3. See Sheet 4 for Guard Rail Details.

SUPERELEVATED TYPICAL RAMP SECTION



TYPICAL NORMAL RAMP SECTION

GENERAL NOTES

GENERAL

DESIGN SPEED

Design speed on this project is 50 M. P. H., however the design speed on the northbound lane is 60 M.P.H. and on the southbound lane 50 M.P.H.

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 suffix "N" and the southbound lane by the sufflx "S" after the stationing.

TRAFFIC

At least ten (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 S-15, Furnishing and Placing Aggregate for Traffic Bound Surface Course and Item S-15 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 bound surface course.

HISTORICAL AND MEMORIAL MONUMENTS AND MARKERS

Historical and memorial monuments and markers shall be carefully removed, stored and reset where and as directed by the Engineer, in accordance with the provisions of Section G-7.09 of the Construction and Material Specifications.

RAILROAD TRAFFIC

See Special clauses in proposal as to protection of railroad traffic.

CONSTRUCTION LAYOUT STAKES

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

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 materials so removed shall be measured and paid for as Item E-1, Roadway Excavation.

REMOVALS (MISCELLANEOUS)

Building foundations, steps, walls, aquaduct structures, 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 Items 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, 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 . . . . . 

ROADWAY (CONT'D)

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.

ROUNDING OF CORNERS ON CROSS SECTIONS

The rounded corners, shown on Standard Drawing RI-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 I-13.06 of the Construction and Material Specifications, 1/2" of premo lded 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 I-13.06. Payment for the 1/2" premo lded expansion joint material is included in the price bid per square foot for Item I-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 work is included in 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) 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.

SUBGRADE COMPACTION FOR DRIVES AND CROSSOVERS

The subgrade under drives and crossovers having a crushed aggregate base, Item B-119, or paved with 7" or 8" of T-70 shall be compacted to a depth of six (6) inches to the density requirements of 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.

GENERAL NOTES (CONT'D)

ROADWAY (CONT'D)

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.

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
40% Creeping Red Fescue (Festuca rubra)
15% Red Top (Agrostis alba)
5% White Dutch Clover (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.

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.

ITEM T-30 BITUMINOUS TACK COAT

For tack coat bituminous materials see note in proposal

PAVEMENT (CONT'D)

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 requires 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.

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 Course, as per Item T-35.18 of the Construction and Material Specifications.

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.

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. 1-18.03 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 requirement 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.

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.

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 of pipe.

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 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.

ITEM SPECIAL - Furnishing and Installing 24" Cast Iron Pipe

The 24" Cast Iron pipe shall conform to the specification requirements of the American Standards Association A-21.2 ClassA. Method of measurement and basis of payment shall be in accordance with Sec. I-2.08 and Sec. I-2.09 of the Construction and Material Specifications.

ITEM I-3 Roadway Drainage With Porous Backfill

If corrugated Metal Pipe, Sec. M-64(c), is furnished for Roadway Drainage with porous backfill, it shall be perforated in accordance with Sec. M-6.4(b).

GENERAL NOTES (CONT'D)

SEWERS (CONT'D)

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 I-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.

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

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 the 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 cooperation 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.

STORM SEWER UNDER RAILROAD

To carry storm sewage under the tracks of the Baltimore and Ohio Railroad. 75 feet of 48" tunnel liner plate will be installed under the tracks by the Railroad, at no cost to the Contractor. The Contractor shall cooperate with the Railroad in every way to permit the work to proceed as expeditiously as possible.

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 the Dick's Creek Channel Relocation drawing.

The excavation required to place Dumped Rock Fill along the proposed channel 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 I-10.

FILL FOR DICK'S CREEK CHANNEL RELOCATION

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

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.

UTILITIES

GAS AND WATER LINES

All work required for removing, relocating, or constructing new facilities for private or public utilities and appurtenances as shown on the plans will be done by and at the expense of the respective owners unless otherwise noted on the plans.

UTILITY POLES

All work required for removing or relocating utility poles and towers 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.

GENERAL NOTES (CONT'D)

WATER LINES

GENERAL

The work of installing the water 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 mains. Items of work which are described in detail in the Ohio Department of Highway Specifications shall be adhered to unless otherwise specified.

WORK TO BE DONE

The installation of the water 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 are on S. R. #73 and include (1) Relocate 8" water main between Station 8+87 and Station 16+70. (2) Relocate 2" water main and meter from Station 15+20 to Station 13+89. (3) Relocate fire hydrant from Station 13+92 rt to Station 13+97 lt. (4) Relocate various house service curb boxes and meters.

MATERIALS

Water pipe shall be mechanical joint cast iron pipe 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.

Fittings for mechanical joint pipe shall be suitable for the type and class of pipe with which they are being used.

Bolts for flanged joints shall be stainless steel.

Pipe and fitting used with water shall be tar coated inside and outside.

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 casing pipe shall have metal thickness of not less than 1/4".

Valves shall be in accordance with AWWA Standard Specifications 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.

Corporation cocks for water service connections shall be 3/4" size and fitted for flared copper connection. Corporation cocks shall be Mueller or equal.

Curb stops shall be 3/4" size for water fitted for flared copper connections for water. 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". Curb box shall be Clow-National F2450 with F2494 cover or equal.

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.

Ends of pipes in trenches shall be closed when pipe is not being layed. Water main shall be installed 3 feet deep and in general shall follow the contour of the finished grade. (2) Joints for mechanical joint pipe shall be made up in accordance with the recommendation of the manufacturer. (3) Backfilling shall be done in accordance with the Ohio Department of Highway Specifications Section E-2.08 (4) Care of other services. All underground sewers, drainage, water, gas, electric, or telephone services which are encountered shall be cared 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 owners 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 completeness or correctness of such underground features. (5) Fire hydrants and curb stops shall be blocked suitably supported. (6) The installation of all water mains shall be placed 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 Butler County Engineer in placing the mains and service connections into normal operating 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 pipe lines shall satisfactorily pass the pressure test 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.

QUANTITIES

DRIVEWAYS & MAIL BOX TURNOUTS

Station	Side	8" Portland cement concrete pavement Item 7-10 Sq. Yd.	7" Portland cement concrete pavement Item 7-10 Sq. Yd.	8" Stabilized crushed aggregate Item 1-18 Cu. Yd.	6" Stabilized crushed aggregate Item 1-18 Cu. Yd.	Removal & disposal of existing pavement Item E-8 Sq. Yd.	5" Crushed Aggregate Base Course Item B-1/9 Cu. Yd.	2" Asphaltic Concrete Surface Course Type C Item 7-35 Cu. Yd.	Remarks
472+83	Rt.		55.8	3.7					Drive
473+72	Rt.		32.5	2.0					Drive
474+81.5	Rt.		35.6						Drive
477+32.5	Rt.		51.7						Drive
486+87	Rt.				16.2				Drive
489+74.5	Rt.		48.7	4.1					Drive
491+00	Rt.				13.4				Drive
494+19	Rt.		59.5	2.2					Drive
496+65	Rt.		53.6	2.8					Drive
499+27.5	Rt.		66.9	5.4					Drive
501+47	Rt.		62.5	2.7					Drive
505+80	Rt.				15.4				Drive
506+16	Rt.		59.9						Drive
514+40	Lt.		30.8						M.B. Turnout
516+50	Rt.		63.3		21.1				Drive
519+84.5	Lt.		72.5						Drive & M.B. Turnout
521+37.5	Lt.		35.9						Drive
0+92, Todhunter Rd.	Lt.		77.9						Drive
525+12	Rt.		108.3						Drive
528+96	Rt.		72.2						Drive
529+13	Rt.		83.3			15.6			Drive
530+35.5	Rt.		105.6			26.7			Drive
536+00.5	Rt.		47.9						Drive
538+42.5	Lt.		61.9						Drive & M.B. Turnout
538+54	Rt.		29.3						Drive
538+71	Lt.		37.3						Drive
540+38.5	Rt.		38.1	6.1					Drive
541+23	Lt.		96.4	2.5					Drive & M.B. Turnout
541+43	Rt.		37.5	4.4					Drive
543+56.5	Lt.		81.1	2.2					Drive & M.B. Turnout
543+62	Rt.		60.0	4.5					Drive
543+97	Lt.		48.8						Drive
545+95	Lt.		64.2	2.6					Drive & M.B. Turnout
549+10.5	Rt.		90.6						Drive
549+80	Lt.		34.8						M.B. Turnout
550+61.5	Rt.		78.3						Drive
551+88	Lt.		71.9	6.9					Drive & M.B. Turnout
552+10	Lt.				11.6				Drive
557+54	Lt.		36.2						M.B. Turnout
559+00	Rt.		83.9	5.3					Drive
559+40	Rt.		77.3	3.4					Drive
1+52.7 A, Exist S.R.4	—		54.2						Drive
561+02.5	Rt.		79.0						Drive
564+46	Rt.		56.5						Drive
3+24.7, S.R. 73	Lt.						4.2	1.7	Drive
3+62, S.R. 73	Rt.						5.3	2.1	Drive
3+75, S.R. 73	Lt.						4.0	1.6	Drive
4+26.2, S.R. 73	Lt.						5.2	2.1	Drive
4+60, S.R. 73	Rt.						4.9	2.0	Drive
4+79, S.R. 73	Lt.						4.9	2.0	Drive
5+28, S.R. 73	Lt.					51.4	5.6	2.3	Drive
5+40, S.R. 73	Rt.						6.6	2.7	Drive
6+70, S.R. 73	Rt.		45.8						Drive
8+21, S.R. 73	Rt.		60.3						Drive
8+50, S.R. 73	Rt.		20.0		103.7				Access Rd.
11+89, S.R. 73	Lt.		49.6	3.9					Drive
13+38, S.R. 73	Lt.		46.8	3.9					Drive
1+86 Verity Pkwy @ SR73	Lt.	47.8							Drive
Verity Pkwy & S.R. 73 inter.	Rt.	558.3							Service Sta. Dr.
17+13, S.R. 73	Rt.						5.9	2.4	Drive
18+16, S.R. 73	Rt.						4.1	1.7	Drive
Totals to Gen. Summary		606.1	2664.3	68.6	181.4	93.7	80.7	20.6	

MISC. REMOVALS

Station	Side	Removal of Existing Structures, Item S-24 — Pipe Removal Item E-12 Lin. Ft. 6"	9"	12"	15"	18"	21"	24"	30"	Lump Concrete	Lump Masonry
471+95	Rt.	50									
472+83	Lt.				25						Lump
473+72	Lt.			18							
474+81.5	Lt.			24							Lump
477+32.5	Lt.			26							Lump
480+13	Lt.			60							Lump
486+87	Lt.			24							
489+74.5	Lt.			24							Lump
494+19	Lt.			14							
495+10	Lt.			14							
496+65	Lt.			26							
499+27.5	Lt.			20							
501+47	Lt.			27							
503+60	Lt.	41		60							Lump
506+16	Lt.			18							
512+34	Lt.					62				Lump	
514+00	Lt. & Rt.			120						Lump	
530+35.5	Lt.			20							
533+20	Lt.							59		Lump	
536+00.5	Lt.			39							
538+54	Lt.			33							
550+61.5	Rt.			70							
552+25	Lt.										Lump
553+80	Lt.										Lump
558+30	Lt.			25							Lump
558+70	Lt.			15							Lump
559+00	Rt.								16		
559+40	Rt.							*65			
560+70	Lt.						35				Lump
6+50, S.R. 73	Lt.									Lump	
7+00, S.R. 73	Lt.									Lump	
7+50, S.R. 73	Lt.									Lump	
8+00, S.R. 73	Lt.									Lump	
8+50, S.R. 73	Lt.									Lump	
593+85	Lt.									Lump	
593+90	Rt.									Lump	
5+60 Ramp A	Rt.									Lump	
11+80, S.R. 73	Lt.									Lump	
15+10, S.R. 73	Rt.									Lump	
15+45, S.R. 73	Rt.									Lump	
15+95, S.R. 73	Rt.									Lump	
16+25, S.R. 73	Rt.									Lump	
16+60, S.R. 73	Rt.									Lump	
16+85, S.R. 73	Rt.									Lump	
17+25, S.R. 73	Rt.			10							
17+45, S.R. 73	Rt.			40							
602+00	Rt. & Lt.				26						
6+80, Ramp B	Lt.									Lump	
602+50	Lt.									Lump	
603+75	Lt.									Lump	
626+10	Lt.									Lump	
626+65	Lt.									Lump	
627+10	Lt.									Lump	
628+75	Lt.									Lump	
629+20	Lt.									Lump	
629+55	Lt.									Lump	
1+25, Verity Pkwy.	Lt. & Rt.		60								
632+46	Lt. & Rt.			78							
593+70	Lt.										Lump
4+11 A -5+10 AL	Lt.						50				
1+43.5 Pinta Ave.	Lt.		40								
Totals by pipe size		91	120	805	51	62	85	59 *65	16		
		Pipe removed 15" & under				Pipe removed over 15"					
Totals to Gen. Summary		1067				222 *65				Lump	Lump

* Remove for Storage (for disposal by property owner.)

TEMPORARY RUN-AROUNDS

Item S-15

Station	Quantity
480+13	Lump Sum
503+60	Lump Sum
512+20	Lump Sum
533+20	Lump Sum

Aggregate and Chloride for Temporary Run Arounds are included in the quantities on the General Summary

STEPS

Station	Side	Concrete Steps Item I-13 Width 3'-0" 6" Riser 12" Tread Lin. Ft.	7½" Riser 12" Tread Lin. Ft.
519+50	Lt.	15	
541+36	Rt.	24	
12+85, State Route #73	Lt.		15
551+05	Lt.		15
Totals to General Summary		39	30

CONCRETE REFERENCE MONUMENTS

Concrete Reference Monuments cast in place as per Plan. Item I-8	See Sheet
Each	
78	206

REMOVAL OF TREES & STUMPS

Item E-9

Lump Sum

QUANTITIES

DRAINAGE

Station to Station	Side	Pipe for Driveways Item I-1 Lin. Ft. Sec. M-6.4(c) 12"	15"	18"	24"	27"	Class B Storm Sewers Item I-2 Lin. Ft. 12"	Under Pav't. or Approaches 12"	Roadway Drainage Item I-3 Lin. Ft. 12"	15"	Porous Backfill 15"	Under Pavement or Approaches 18"	Outlets for Roadway Drainage 6"	15"	Pipe Underdrains Item I-4 Lin. Ft. 6"	Pipe Outlets for Underdrains 6"	Pipe Specials Item I-5 Each Tee 24"x6"x24"	30"x12"x30"	30"x15"x30"	24"x6" Cross	6"x45° Bend	Pipe for Roadway Culverts Item 5-27 Lin. Ft. Sec. M-6.6(b) or Sec. M-6.8(b) 24"	27"	30"	Catch Basins Item I-8 Each Std. No. I-2-A	Std. No. I-3	Std No. 2-2-A	Std. No. 2-3	Std. No. 3-A.	Inlets Item I-8 Std. No. 2-6 Each	Excavation for Structures (Dry) Item E-2 Cu. Yd.	Channel Excavation Item E-3 Cu. Yd.	Concrete for Structures Class E Item S-1 Cu. Yd.	Dumped Rock Fill Item I-10 Cu. Yd.	Abandon Existing Catch Basin Item I-16 Each
470+50 to 480+05	Lt.							88							946										1						0.2		0.2		
471+00 Rt. to 471+69 Lt.													10																						
472+05	Rt.							57				284													1						0.3		0.3		
472+24 to 475+00	Rt.																								1						0.2		0.2		
475+00 Rt. to 475+15 Lt.								68																	1						0.2		0.2		
479+00 Lt. to 479+17 Rt.															99		1			1		118								54.5	31.4	0.8		
479+12 to 480+11	Rt.														2,370										1						0.2		0.2		
480+13																																				
480+15 to 492+00	Rt. & Lt.							58																	1						0.2		0.2		
481+55																															0.6		0.6		
486+87	Rt.			32				58																	1						0.2		0.2		
487+50																															0.6		0.6		
489+74.5	Rt.			26				179																	2						0.2		0.2		
490+08 to 491+35	Rt. & Lt.																														0.6		0.6		
491+00	Rt.			28				297					18									126			3	1					79.5	14.5	0.8		
496+25 to 503+60	Lt.						432																								0.5		0.5		
496+65	Rt.	26																													0.5		0.5		
499+27.5	Rt.		28																												0.6		0.6		
501+47	Rt.			30																											0.2		0.2		
508+30								58																	1						0.2		0.2		
509+53								61																	1						0.2		0.2		
512+20																						132									140.0	43.0	1.0	20.0	
512+20 to 513+50	Lt.																																	60.5	
513+00 to 516+40	Rt.										100			50	189											1					0.3		0.3		
519+00 to 520+00	Lt.								100																	1					0.5		0.5		
519+50								58																	1						0.2		0.2		
521+03								67																	1						0.2		0.2		
521+37.5	Lt.		30																												0.5		0.5		
522+25								70																	1						0.2		0.2		
524+00								79																	1						0.2		0.2		
Todhunter Rd 0+92	Lt.	32																													0.5		0.5		
527+50 to 533+48	Lt. & Rt.		12				151	412										1	1			146	4								61.6	29.5	1.0	13.5	
533+75								90																	1						0.2		0.2		
535+38								64																	1						0.2		0.2		
536+50								60																	1						0.2		0.2		
535+49 to 541+53	Rt.			30					284	248					600	10				1						4									
538+42.5 & 538.71	Lt.		60																												0.5		0.5		
538+65 Rt. to 539+05 Lt.								61																	1										
541+23	Lt.	30																													0.5		0.5		
541+53 Rt. to 541+80 Lt.								54																	1										
541+53 to 543+75	Rt.														220					1															
545+60								58																	1						0.2		0.2		
545+83 to 547+63	Lt.								180																						0.5		0.5		
549+10	Rt.	34																													0.5		0.5		
548+75 to 550+15	Lt.						54	84																	1										
550+15								59																	1						0.2		0.2		
550+61.5	Rt.	38																													0.5		0.5		
550+75 to 552+23	Lt.								148																						0.5		0.5		
550+75 to 561+67	Lt.														1,094					1															
551+50								56																	1						0.2		0.2		
554+75								62																	1						0.2		0.2		
555+00 to 559+04	Lt.														425																				
555+00 to 559+86	Rt.														489	10				1															
556+75 Lt. to 559+55 Rt.					90		170	105																	2		1				0.8		0.8		
558+79 to 560+11.5	Lt.						26	109																				1	1		0.5		0.5		
559+78 to 560+19	Lt.							42																					1						
560+12 to 560+19	Lt.						14	23																				2			0.2		0.2		
560+32	Lt.						28																					1			0.2		0.2		
560+60 to 561+67	Lt. & Rt.					40		104																	1						0.9		0.9		
558+90	Rt.																																			1
Totals to General Summ.		160	130	146	90	40	875	2,641	712	248	100	284	28	50	6,432	20	1	1	1	1	4	244	132	146	34	1	6	1	4	2	350.3	118.4	18.3	94.0	1

QUANTITIES

DRAINAGE

Station to Station	Side	Class A Storm Sewers Item I-2 Lin. Ft.			Storm Sewers Item I-2 Lin. Ft.			Class B Storm Sewers Item I-2 Lin. Ft.						Roadway Drainage Item I-3 Lin. Ft. Under Pav't. or Approaches	Pipe Underdrains Item I-4 Lin. Ft.		Pipe Specials Item I-5 Each						Pipe for Roadway Culverts Item S-27 Lin. Ft. Sec. M-6.6 (b) or Sec. M-6.8(b)					Catch Basins Item I-8 Each									Inlets Item I-8 Each			Manholes Item I-8 Each					Catch Basins Abandoned Item I-16 Each	Paved Gutters Item I-14 Lin. Ft.			Dumped Rock Fill Item I-10	Excavation for Structures Item E-2 Cu. Yd.		Channel Excavation Item E-3	Concrete for Structures Item S-1 Cu. Yd.		Reinforcing Steel Item S-4	Gate Chamber & Flood Gates Item I-8	Installing 24" C.I.P. A.S.A.-A21.2 Class A Item Special	Class "A" Storm Sewers Item I-2		
			Under Pavement or Approaches M-6.5(b) or M-6.8(b)		M6.4(c)	M6.4(d)	Class "A" Under Pav't. Sec. M 6.6(a) or 6.8(b)			Under Pavement or Approaches						Pipe Outlets for Underdrains	Tee		24"x6"x24" Tee for Storm Sewers Sec. M-6.4(d)	Bend								Mod. No. 2-3	Std. No. 1-3	Std. No. 1-4	Std. No. 2-2-A	Std. No. 2-4	Std. No. 3	Std. No. 3-A	Std. No. 6	Std. No. 7	Std. No. 2-6	Std. No. 2-10	Std. No. 2-14	Std. No. 1		Std. No. 2 Mod.	Std. No. 3	Std. No. 3-A		Type A	Type 1 Modified			Dry	Wet		Class C	Class E				M-6.5(a) or M-6.8(a)	M-6.6(b)	Under Pavement or Approaches Sec. M-106.6(d)
		18"	18"		12"	24"	24"	12"	18"	12"	15"	18"	24"	4"	6"	6"	6"x6"x6"	15"x6"x15"		4"x90°	6"x45°	6"x90°		18"	21"	24"	30"																						Cu. Yd.			Cu. Yd.			Lb.	Each	Lin. Ft.	24"	24"	24"
561+58																											162			1																			7.9	53.6		14.4		1.0						
565+00																								178					1																				5.4	33.5		8.9		0.6						
565+33 to 567+00	Rt.																																														167													
568+51 Rt. to 571+75 Lt.															271	70					1																																							
577+25	Lt.									53																								1																0.2				0.2						
580+50 Lt. to 580+65 Rt.										49																												1												0.2				0.2						
585+37 Lt. to 581+71 Rt.													112															2																																
585+71 to 586+42	Rt.					72													1																					1																				
587+17 to 588+90	Rt.																																																83.9											
590+31 Rt. to 595+75 Lt.							198																									1										1								0.4	12.4		3.2	0.4	330	1	9	354	86	152
591+18 to 593+23	Rt.														205																																													
593+23 to 594+25.5	Rt.									101																								1																										
594+10.5 Lt. to 594+25.5 Rt.					58					68																								2																0.2				0.2						
596+50	Lt.				62																													1															10.0	0.2		10.0		0.2						
598+95 to 599+05	Rt.																																																3.6											
599+00	Rt.				40																													1																0.2				0.2						
600+00	Lt.							40		37																												1											10.0	0.2		10.0		0.2						
601+40 to 601+50	Rt.																																																4.7											
601+45	Rt.							48																										1																0.2				0.2						
602+00																										152																							10.0	84.0		10.0		0.8						
605+00	Rt. & Lt.							12		35																												1												0.2				0.2						
607+75	Rt. & Lt.							10		35																												1												0.2				0.2						
608+50	Rt. & Lt.							11		35																											1													0.2				0.2						
608+00 to 609+64	Lt.														164																																													
609+22 Lt. to 16+98 BL Lt.			96	36																																	1														0.3				0.3						
609+64 to 612+13	Lt.									244					243																			2										1																
612+13 Lt. to 19+75 BL Lt.								39		29																								1																0.2				0.2						
616+20 to 616+30	Lt.																																																4.7											
616+25	Lt.							37		26																								1			1													0.2				0.2						
616+50																									126																									24.0				0.7						
619+50	Lt.							27		35																												1												0.2				0.2						
624+75																										146											1									47				24.6		24.7		0.8						
630+80 to 634+50	Rt.														365																																													
632+40 to 634+50	Lt.														210																																													
632+00 to 634+50	Rt.																																																											
632+40											79							1															1												1					0.3		2.7		0.3						
6+08 to 8+50	Lt.														234		1																																											
6+10.45 to 6+90.36	Lt.									78																								2																										
6+90.36 Lt. to 0+50 B Rt.										58																																																		
8+00 to 8+50	Lt.									48																								2																										
8+50 Lt. to 9+40 Rt.											99																																																	
8+25 to 9+38	Rt.														113																																													
9+40 to 13+71	Rt.									332	80				300																			1									3																	
10+00 ℄ to 10+25 Rt.										35																													1																					
13+75 to 15+53	Rt.														178																																													
0+50A Lt. to 15+50 Rt.								77																																																				
15+50 to 16+63	Rt.									107																																	2																	
0+46H Rt. to 16+63 Rt.										74																									1																									
17+24 to 17+65	Lt.																														1														1															
17+25 to 17+35	Rt.				16																															1																								
15+85±	Lt.													4						1																																								
0+50E to 2+12E	Lt.														158																																													
2+12E Lt. to 2+12 E Rt.																36						1									1														1															
1+55AR Rt. to 0+50AR Rt.								19		37																								1																										
0+32A to 0+50A	Rt. & Lt.														32																																													
0+50A to 0+78A	Rt. & Lt.									65																							2																											
0+50A to 0+99A	Lt.														47																																													
0+50A to 1+06A	Rt.														54																																													
0+78A to 3+65A	Rt. & Lt.								47	17		274																						1					1	2										0.3		155.5		0.3						
Total to General Summary		96	36		176	72	198	320	47	1,598	258	274	112	4	2,574	106	1	1	1	1	1	1		178	126	298	162	2	1	1	2	1	3	18	1	2	3	5	2	3		1	5	1	3	47	167		140.2	223.6	12.4	236.2	3.2	7.8	330	1	9	354	86	152

QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(15.53-13.13)

DRAINAGE

Station to Station	Side	Class B Storm Sewers Item I-2 Lin. Ft.				Roadway Drainage Item I-3 Lin. Ft.			Pipe Underdrains Item I-4 Lin. Ft.	Pipe Specials Item I-5 Each	Catch Basins Item I-8 Each		Inlets Item I-8 Each		Manholes Item I-8 Each			Pipe for Roadway Culverts Item S-27 Lin. Ft.				Dumped Rock Fill Item I-10	Excavation for Structures (Dry) Item E-2	Channel Excavation Item E-3	Concrete for Structures Class E Item S-1	Sewers Item I-2 Lin. Ft.				Pipe Specials Item I-5 Each	Special Manhole Item I-8	Stone Underdrains No. 2 Item I-9	Item I-2 Sewer Under Pavement or Approaches Sec. M-106.6(c)
				Under Pavement or Approaches							Std. No. 3	Std. No. 3-A	Std. No. 2-6	Std. No. 2-10	Std. No. 1	Std. No. 3-A	Sanitary Manhole Adjusted to Grade Method "A"	Sec. M-6.6(b) or Sec. M-6.8(b)			Sec. M-6.6(b)												
		12"	15"	12"	15"	4"	6"	8"	6"	27"x18" 27" Tee								12"	18"	27"	42"	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	M6.6(c) 12"	M6.6(b) 21"	M6.6(a) 24"	M6.6(b) 30"	Bend 12"x45°	Each	Lin. Ft.	24"
3+65 A	Lt.																1															
4+38 A	Lt.														3							4.0										
4+23 A Rt. to 5+90+04 Lt.															3												455					125
4+60 A Lt. to 5+90+13 Lt.																										55		458				
4+13 A Rt. to 5+10 A Lt. & 5+90+13 Lt.																									145				1	1		
5+10 A Lt. to 5+40 A Rt.		50		58							1											10.0	0.2	10.0	0.2							
5+10 A Lt. to 6+00 A	Lt.	83													1																	
6+00 A Lt. to 7+10 A	Lt.	96									1																					
8+50 Lt. to 1+75 B Rt.					88																											
0+20 B to 0+73 B	Lt.								53																							
0+20 B to 1+92 B	Rt.								167																							
0+50 B to 0+75 B	Rt.			21							1					1																
1+50 B Lt. to 1+75 B Lt.	Lt.			22							1	1																				
1+75 B Lt. to 0+75 B Rt.				59																												
0+75 B Rt. to 1+75 B Rt.		61	21	25												1							0.3		0.3							
1+75 B Lt. to 2+50 B Rt.		26		70								2											0.2		0.2							
3+00 B																		98				10.0	32.0	10.0	0.5							
4+50 B	Rt.	21		31									1									10.0	0.2	10.0	0.2							
5+68 B	Lt.	18									1												0.2		0.2							
8+50 B	Rt.	22		52							1												0.2		0.2							
10+00 B	Rt.	18		31										1									0.2		0.2							
12+67 B to 13+25 B	Rt.	21		56							1		1									10.0	0.2	10.0	0.2							
14+00 BL																					106	20.0	92.0	20.0	1.5							
14+60 BL Rt. to 14+50 BR Rt.		23		24								2										10.0	0.2	10.0	0.2							
18+25 BL	Lt.	38									1												0.2		0.2							
0+87 P		18								1		1							70				23.6		1.0							
1+43.5 P												1						64					12.2		0.6							
571+75 to 573+75																															329	
To be placed at direction of engineer						100	100	100																								
Totals to General Summ.		495	21	449	88	100	100	100	220	1	5	10	1	2	7	2	1	98	64	70	106	74.0	161.9	70.0	5.7	145	55	455	458	1	1	329	125

QUANTITIES

PAVEMENT

Station to Station	Side	9" Reinf. Portland Cement Concrete Pavement Item T-71	Sub-base Item I-22	Concrete Curb Item I-12: Type 2A Curb	Concrete Curb Item I-12: Type 6 Curb	Asphaltic Concrete Surface Course Type "C" Item T-35: Minimum 1¼"	Asphaltic Concrete Surface Course Type "C" Item T-35: 1¼"	1¼" Asphaltic Conc. Leveling Course Item B-35	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	9" Stabilized Crushed Aggregate 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	Reinf. Concrete Approach Slab Item I-7	Precast White Portland Cement Concrete Traffic Dividers, Item I-23	4" Portland Cement Concrete Median Pavement Item I-21	Removing & Re-setting Historical Monument Item Special	Type 2 Curb & Gutter Modified Item I-12
		Sq. Yds.	Cu. Yds.	Lin. Ft.	Lin. Ft.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Cu. Yds.	Sq. Yds.	Gal.	Cu. Yds.	Cu. Yds.	Sq. Ft.	Sq. Yds.	Sq. Ft.	Sq. Yds.	Ea.	Sq. Yds.	Lump	Lin. Ft.
470+50 - 492+00		5,928.0	1,145.4				2.0	2.0		60.0	5.9	438.0			58.7						
492+00 - 514+00		5866.7	1,891.0			1.0	6.3	6.3		185.0	18.1	457.1			180.9						
514+00 - 522+00		4,266.7	1,305.3									316.9		18	1,955.6						
522+00 - 537+75		4,956.4	1,437.3			2.0	2.7	2.7		80.0	7.8	303.3			567.1			34			
525+37	Rt.	1,121.7	314.8	137		0.6	0.5	0.5	4.8												
537+75 - 563+00		15,047.7	3,832.4	144								956.9			5,096.7					Lump	
559+47	Lt.	1,294.7	267.2	865		0.8													14.8		
563+00 - 585+79.78		12,227.1	3,555.2	2,380								805.9					*120.3		230.2		
589+92.54 - 594+53.63		2,781.7	812.1	1,520													ϕ393.2		91.3		
Ramp A		4,570.2	1,211.6	3,475															103.2		
S.R. #73 (Including Verity Parkway & Harrison St.)		7,128.1	1,661.9	2,532	65	19.9	54.1	54.1	257.7			50.8		8,477		898			89.4		
596+12.23 - 616+32.30		13,709.6	3,228.7	6,156								329.4					ϕ202.2		443.3		
Ramp B		10,445.9	2,751.4	8,204															305.2		
616+32.30 - 634+50		10,121.7	2,588.4	3,285								807.9						6	365.0		250
Pinta Ave. (Including Verity Parkway & Minnesota Avenue)		1,372.5	379.9	408		0.9							213.4								
Totals to Gen. Summary		100,838.7	26,382.6	29,106	65	25.2	65.6	65.6	262.5	325.0	31.8	4,466.2	213.4	8,495	7,859.0	898	ϕ595.4 *120.3	40	1,642.4	Lump	250

ϕ (T=13")
* (T=10")

CROSS-OVERS

Station to Station	2" Asphaltic Conc. Surface Course Type C Item T-35	5" Crushed Aggregate Base Course Item B-119	Precast White Portland Cement Concrete Traffic Dividers-Item I-23
	Cu. Yd.	Cu. Yd.	Each
472+31 - 475+25	39.8	98.3	38
467+72 - 477+68	9.9	25.4	
480+75 - 481+65	9.0	22.2	
486+42 - 487+45	10.9	27.0	
489+30 - 490+18	8.7	21.4	
490+55 - 491+45	9.0	22.2	
493+75 - 494+67	8.7	21.4	
496+21 - 497+10	8.8	21.8	
498+50 - 499+72	14.4	35.7	
501+03 - 501+94	8.8	21.8	
505+35 - 506+61	14.4	35.6	
508+74 - 509+63	8.8	21.8	
516+05 - 516+95	8.9	21.9	
519+40 - 520+28	8.6	21.2	
520+93 - 521+81	8.6	21.2	
522+16 - 523+04	8.7	21.4	
527+46 - 529+58	27.4	67.7	26
530+99 - 531+89	9.0	22.2	
532+06 - 532+96	9.0	22.2	
532+96 - 533+85	8.8	21.8	
534+60 - 535+48	8.7	21.4	
535+56 - 536+46	9.0	22.2	
537+98.5 - 539+15	12.9	31.8	
539+94.5 - 541+87	24.4	60.2	22
543+11 - 544+41.5	15.0	37.0	
545+51 - 546+39	8.6	21.2	
548+63 - 549+58	9.6	23.8	
550+15.5 - 551+07.5	9.2	22.6	
551+41 - 552+55	12.5	30.9	
560+54 - 561+50	9.8	24.1	
563+94 - 564+92	10.1	24.9	
Totals to Gen. Summary	370.0	914.3	86

GUARD RAIL

Station to Station	Side	Guard Rail Steel Beam Type (Deep) Item I-15	Guard Rail Removed & Stored Item I-15
		Lin. Ft.	Lin. Ft.
551+00 - 553+88	Lt.		288
560+35 - 568+47.5	Lt.	812.5	
564+00	Lt.	25.0	
585+39 - 585+76.5	Rt.	37.5	
589+90 - 594+40	Lt.	450.0	
1+85 Lt. Ramp A - 590+15	Rt.	625.0	
1+93 Rt. Ramp A - 594+50	Rt.	587.5	
10+39 Lt. S.R. 73 - 606+67	Lt.	1,787.5	
596+12 - 606+62	Lt.	1,050.0	
596+30 - 601+05	Rt.	475.0	
601+93	Rt.	25.0	
1+25 Verity P'kw'y @ Pinta	Lt.	25.0	
627+74.5 - 628+62, 185'	Rt.	87.5	
628+15	Lt.	25.0	
632+27	Lt.	25.0	
16+00, S.R. 73	Rt.		25
609+555	Rt.	25.0	
Totals to Gen. Summary		6,062.5	313

EXCAVATION & EMBANKMENT

Station to Station	Roadway Excavation Item E-1	Embankment	Embankment + 15%
	Cu. Yd.	Cu. Yd.	Cu. Yd.
Sta. 470+50 - 480+00	1734	2095	2409
480+00 - 490+00	6347	365	420
490+00 - 500+00	6786	353	406
500+00 - 510+00	7789	479	551
510+00 - 520+00	10599	907	1043
520+00 - 530+00	2694	8486	9757
530+00 - 540+00	2641	6151	7074
540+00 - 550+00	23766	360	414
550+00 - 560+00	20375	8834	10159
560+00 - 570+00	2448	25781	29648
570+00 - 580+00	118325	381	438
580+00 - 590+11	144686	8564	9849
590+11 - 600+00	37583	176063	202472
600+00 - 610+00	18105	18000	20700
610+00 - 620+00	5221	17740	20401
620+00 - 630+00	2078	31345	36046
630+00 - 634+50	995	1261	1450
Totals to Gen. Summary	412172	307165	353239

EARTHWORK CALCULATIONS

Item	Quantity
	Cu. Yd.
E-1 Excavation	412,172
Embankment	307,165
Embankment + 15%	353,239
Excess Excavation	58,933

OVERHEAD SIGN ASSEMBLIES

STA.	SHEET No.	OS-1 TYPE "A" EACH	OS-2 TYPE "A" EACH
591+30	41	1	
621+00	46		1
Total		1	1

SODDING

Station to Station	Sodding Item L-10	Commercial Fertilizer (10-6-4 Mix) 20# per 1000 Sq. Ft. Item L-9
	Sq. Yd.	Ton
470+50 - 481+00	317.8	.029
481+00 - 495+00	1,053.6	.095
495+00 - 509+00	427.3	.038
509+00 - 523+00	678.9	.061
523+00 - 537+00	654.8	.059
Todhunter Rd.	324.0	.029
537+00 - 551+00	910.5	.082
551+00 - 565+50	1,415.4	.127
565+50 - 579+00	400.2	.036
593+00 - 607+00	176.7	.016
State Route 73	321.9	.029
607+00 - 621+00	37.2	.003
621+00 - 634+50	348.5	.031
Pinta Ave.	47.0	.004
Totals to Gen. Summary	7,113.8	.639

WATER CALCULATIONS

Item	Cu. Yd.	Rate: Gal. per Cu. Yd.	Water Item E-11 M. Gals.
Roadway Embankment	307,165	5	1,535.825
Channel Embankment	5,132	5	25.660
Sub-base	26,383	5	131.915
I-18 & B-119	5,895	5	29.475
Totals to Gen. Summary			1,722.875

SEEDING CALCULATIONS

		Sq. Yd.	Sq. Yd.
Gross Area Between Seeding Limits			260,459
Deductions	Pavement & Sidewalks	106,751	
	Stabilized Shoulders & Approaches	27,651	
	Gutters	237	
	Sod Area	7,114	
	Channel Protection	1,314	
	Driveway & Mailbox Turnouts	6,906	
	Cross-overs	6,660	
Total Area to be Deducted		156,633	156,633
Net Area to be Seeded & Protected, Item L-9			103,826
Commercial Fertilizer (10-6-4) @ 20# per 1000 sq. ft. Item L-9			Ton 9.344

QUANTITIES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

27/222

8"&12" WATER MAIN STATE ROUTE No. 73

Station	Cast Iron Water Pipe 12"	Cast Iron Water Pipe 8"	Cast Iron Water Pipe 6"	90° Bend 12"	90° Bend 8"	Tee 12"×12"×12"	Tee 8"×8"×6"	Tee 8"×8"×4"	Reducer 12"×8"	Valve 8"	Valve 6"	16" Dia. Casing pipe	Manhole for Water Valves & Meters	Relocate Fire Hydrant	Remove exist. MH, F.H. Valves
	Lin. ft.	Lin. ft.	Lin. ft.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Lin. ft.	Ea.	Ea.	Ea.
8+87 Rt. to 16+10 Rt.		827													
8+87 Rt.					1										
8+98 Rt. to 9+12 Lt.												75			
9+13 Lt.					1										
9+22 Rt.															1
13+97 Lt.								1							
13+98 Lt.			3				1				1			1	
14+02															2
14+05 Lt.							1				1		1		
14+10.73 to 14+85.73 Lt.												75			
15+20															*1
16+10															*2
16+10						*1			*1	*1			*1		
16+10 Lt. to 16+73 Rt.	*109														
16+59.59 to 16+84.59 Lt.												*75			
16+73 Lt.				*1											
16+73 Rt.				*1											
18+30 Rt.			*5											*1	
To Water Main S.R.4			8												
To Service Conn.													2		
To General Summ.	*109	827		2	2	1	2	1	1	1	2	225		2	6

6"&12" WATER MAIN STATE ROUTE No. 4

Station.	Adjust to Grade MH	Adjust to Grade F.H.	Manhole for Water Valves & Meters	Cast Iron Water Pipe 6"	22½° Bend 6"	11¼° Bend 6"	Air Relief Valve 1"	Lower exist. 12" Water Main
	Ea.	Ea.	Ea.	Lin. ft.	Ea.	Ea.	Ea.	Lin. ft.
0+39 M Lt.	1							
1+10 P Lt.	1							
1+57 P Rt.		1						
628+11 Rt.			1				1	
628+15 Rt.				107	4			
629+70 Rt.					1	2		
632+00 Lt.	1							
632+40 Lt.								80
To Service Conn.			1					
From W.M. S.R. 73				8				
To General Summ.	3	1		115	5	2	1	80

WATER MAIN SERVICE CONNECTIONS

Station	Copper Water Pipe 2"	90° Bend 2"	2" Coupling	Valve 2"	Reducer 4"×2"	Curb stop 3/4"	3/4" Corp. Cock	Manhole for Water Valves & Meters	Relocate Water Meter	Relocate Curb box	Install 3'-0" 3/4" copper conn. in place of removed Water Meter	Close Corp. Cock.	Adjust curb box to grade
	Lin. ft.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.
3+59 Lt.						1			1	1	1		
4+10 Lt.						1			1	1	1		
4+42 Lt.						1			1	1	1		
5+17 Lt.						1			1	1	1		
5+38 Lt.						1			1	1	1		
5+87 Rt.												1	
6+60 Rt.												1	
6+85 Rt.												1	
7+40 Rt.												1	
7+97 Rt.												1	
8+30 Rt.												1	
8+55 Rt.												1	
12+90 Lt.						1	1		1	1			
13+90 Lt.	50	2	1	1	1			1	1				
16+82 Rt.												*1	
16+88 Lt.													*1
17+40 Lt.						*1			*1	*1	*1		
17+42 Lt.						*1				*1			
17+92 Rt.						*1				*1			
From S.R. 73								2					
From S.R. 4								1					
To General Sum.	50	2	1	1	1	9	1	4	8	9	6	8	1

SEWERS & MANHOLES

Station to Station	Side	Sewers Item I-2 Lin. Ft. M-6.6(c) 12"	Sewers Item I-2 Lin. Ft. M-6.6(b) 21"	Sewers Item I-2 Lin. Ft. M-106.6(d) 24"	Manholes Item I-8 Each Standard No. 1	Manholes Item I-8 Each Adjusted to Grade Method A	Manholes Item I-8 Each Adjusted to Grade Method B	Manholes Abandoned Item I-16 Each	Removal of Pipe Item E-12 Lin. Ft. 21"
3+43A to 4+23A	Rt.			74	1				
3+50A to 4+13A	Rt.	53			1				
4+11A to 4+60A	Lt.		60						65
13+98	Rt.						1		
14+00	Lt.						1		
16+22	Lt.					*1			
18+50						*1			
4+15 A	Lt.							1	
4+22 A	Lt.							1	
4+26 A	Lt.							1	
Totals to General Summ.		53	60	74	2	2	2	3	65

*NOTE:
The cost of all water main, service connection, sewer and manhole items listed on this sheet between station 14+78 and station 18+92.6 shall be participated in by state and federal funds.
The cost of all other items listed on this sheet shall have no state or federal participation.

GENERAL SUMMARY

TYPE CODE 7221

ITEM	QUANTITY	NO STATE OR FEDERAL PARTICIPATION	TOTAL	UNIT	DESCRIPTION
					ROADWAY
E-1	412,172	———	412,172	Cu.Yd.	Roadway Excavation, as per plan
E-1	91,693	———	91,693	Sq.Yd.	Compacted Subgrade
E-8	300	———	300	Sq.Yd.	Removal and Disposal of Existing Wearing Course
E-8	7,953	———	7,953	Sq.Yd.	Removal and Disposal of Existing Pavement
E-8	898	———	898	Sq.Ft.	Removal and Disposal of Existing Sidewalk
E-9	Lump	———	Lump	Lump	Removal of Trees and Stumps
E-11	1723	———	1723	M.Gal.	Water
S-24	Lump	———	Lump	Lump	Removal of Existing Structures
I-8	78	———	78	Each	Concrete Reference Monuments
I-13	39	———	39	Lin.Ft.	Concrete Steps, 6"Riser, 12"Tread
I-13	30	———	30	Lin.Ft.	Concrete Steps, 7½"Riser, 12"Tread
I-13	8,495	———	8,495	Sq.Ft.	4"Concrete Sidewalk, as per plan
I-15	313	———	313	Lin.Ft.	Guard Rail, Removed and Stored
I-15	6062.50	———	6062.50	Lin.Ft.	Guard Rail, Steel Beam Type (Deep)
I-18	4,930	———	4,930	Cu.Yd.	Stabilized Crushed Aggregate Shoulders and Approaches
L-9	103,827	———	103,827	Sq.Yd.	Seeding and Protecting, as per Plan
L-9	9.98	———	9.98	Ton	Commercial Fertilizer(10-6-4)
L-10	7,113	———	7,113	Sq.Yd.	Sodding
S-15	Lump	———	Lump	Lump	Temporary Run-Arounds
S-15	90	———	90	Ton	Furnishing and Applying Calcium Chloride or Calcium Magnesium Chloride
S-15	3000	———	3000	Cu.Yd.	Furnishing and Placing Aggregate For Traffic Bound Surface Course
S-15	1500	———	1500	Cu.Yd.	Furnishing and Placing Aggregate For Traffic Bound Surface Course using Size No 2 Material
Special	1	———	1	Each	Single Pole Overhead Sign Assembly, Type "A"
Special	1	———	1	Each	Bridge Type Overhead Sign Assembly, Type "A" (Span = 70')
Special	Lump	———	Lump	Lump	Removing and Resetting Historical Monument
					DRAINAGE
I-1	160	———	160	Lin.Ft.	12" Pipe for Driveways, Sec. M-6.4(c)
I-1	130	———	130	Lin.Ft.	15" Pipe for Driveways, Sec. M-6.4(c)
I-1	146	———	146	Lin.Ft.	18" Pipe for Driveways, Sec. M-6.4(c)
I-1	90	———	90	Lin.Ft.	24" Pipe for Driveways, Sec. M-6.4(c)
I-1	40	———	40	Lin.Ft.	27" Pipe for Driveways
I-2	96	———	96	Lin.Ft.	18" Storm Sewer, Class "A"
I-2	72	———	72	Lin.Ft.	24" Storm Sewer, Class "A" Sec. MG.4 (d)
I-2	198	———	198	Lin.Ft.	24" Storm Sewer, Class "A" Under Pavement or Approaches, Sec. M-6.6(a) or Sec. M-6.8(b)
I-2	176	———	176	Lin.Ft.	12" Storm Sewer, Class "B", Sec. M-6.4(c)
I-2	36	———	36	Lin.Ft.	18" Storm Sewer, Class "A" Under Pavement or Approaches Sec. M-6.5(b) or Sec. M-6.8(b)
I-2	1,690	———	1,690	Lin.Ft.	12" Storm Sewer, Class "B"
I-2	354	———	354	Lin.Ft.	24" Storm Sewer, Class "A", Sec. M-6.5(a) or Sec. M-6.8(a)
I-2	21	———	21	Lin.Ft.	15" Storm Sewer, Class "B"
I-2	47	———	47	Lin.Ft.	18" Storm Sewer, Class "B"
I-2	4,688	———	4,688	Lin.Ft.	12" Storm Sewer, Class "B" Under Pavement or Approaches
I-2	346	———	346	Lin.Ft.	15" Storm Sewer, Class "B" Under Pavement or Approaches
I-2	274	———	274	Lin.Ft.	18" Storm Sewer, Class "B" Under Pavement or Approaches
I-2	112	———	112	Lin.Ft.	24" Storm Sewer, Class "B" Under Pavement or Approaches
I-3	100	———	100	Lin.Ft.	4" Roadway Drainage
I-3	4	———	4	Lin.Ft.	4" Roadway Drainage Under Pavement or Approaches, Sec. M-6.8(a)
I-3	100	———	100	Lin.Ft.	6" Roadway Drainage
I-3	100	———	100	Lin.Ft.	8" Roadway Drainage
I-3	712	———	712	Lin.Ft.	12" Roadway Drainage
I-3	248	———	248	Lin.Ft.	15" Roadway Drainage
I-3	100	———	100	Lin.Ft.	15" Roadway Drainage with porous backfill, as per plan
I-3	284	———	284	Lin.Ft.	18" Roadway Drainage Under Pavement or Approaches, Sec. M-6.5(b) or Sec. M-6.8(b)
I-3	28	———	28	Lin.Ft.	6" Outlets for Roadway Drainage, Sec. M-6.4(h), without Perforations
I-3	50	———	50	Lin.Ft.	15" Outlets for Roadway Drainage, Sec. M-6.4(c)
I-4	9,226	———	9,226	Lin.Ft.	6" Underdrains
I-4	126	———	126	Lin.Ft.	6" Outlets for Underdrains, Sec. M-6.4(h), without Perforations
I-5	7	———	7	Each	6"Pipe Specials for Underdrains
I-5	1	———	1	Each	4"Pipe Specials for Roadway Drainage Under Pavement or Approaches, Sec. M-6.8(a)
I-5	1	———	1	Each	12"Pipe Specials for Sewers, Sec. M-6.6(c)
I-5	1	———	1	Each	15"Pipe Specials for Class "B" Storm Sewers Under Pavement or Approaches
I-5	2	———	2	Each	24"Pipe Specials for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b)
I-5	1	———	1	Each	27"Pipe Specials for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b)
I-5	2	———	2	Each	30"Pipe Specials for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b)
I-2	86	———	86	Lin.Ft.	24" Class "A" Storm Sewer, Sec. M-6.6(b)
I-2	152	———	152	Lin.Ft.	24" Class "A" Storm Sewer Under Pavement or Approaches, Sec. M-106.6(d)
I-5	1	———	1	Each	24" Paved Bituminous Coated Corrugate Metal Pipe Special, Sec. M-6.9(d), for Storm Sewers.
I-8	34	———	34	Each	Catch Basins Std. No. 1-2-A
I-8	2	———	2	Each	Catch Basins Std. No. 1-3
I-8	1	———	1	Each	Catch Basins Std. No. 1-4
I-8	8	———	8	Each	Catch Basins Std. No. 2-2-A
I-8	1	———	1	Each	Catch Basins Std. No. 2-3
I-8	1	———	1	Each	Catch Basins Std. No. 2-4
I-8	8	———	8	Each	Catch Basins Std. No. 3
I-8	32	———	32	Each	Catch Basins Std. No. 3-A
I-8	1	———	1	Each	Catch Basins Std. No. 6
I-8	2	———	2	Each	Side Ditch Catch Basin Std. No. 7
I-8	6	———	6	Each	Inlets Std. No. 2-6
I-8	7	———	7	Each	Inlets Std. No. 2-10
I-8	2	———	2	Each	Inlets Std. No. 2-14
I-8	10	2	12	Each	Manholes Std. No. 1
I-8		2	2	Each	Manholes Adjusted to Grade Method "B"
I-8	1	———	1	Each	Manholes Std. No. 2 Modified as per Plan
I-8	5	———	5	Each	Combination Inlet Manhole Std. No. 3
I-8	3	———	3	Each	Combination Inlet-Manhole Standard No 3-A
I-8	3	———	3	Each	Manholes Adjusted to Grade Method "A"
I-9	329	———	329	Lin. Ft.	Stone Underdrains - No.1
I-10	308	———	308	Cu. Yd.	Dumped Rock Fill
I-14	47	———	47	Lin.Ft.	Paved Gutters, Type A
I-14	167	———	167	Lin.Ft.	Paved Gutters, Type 1 Modified as per Plan
I-8	2	———	2	Each	Catch Basins, Std. No. 2-3 Modified as per Plan
I-16	4	———	4	Each	Catch Basins Abandoned
E-2	736	———	736	Cu.Yd.	Excavation for Structures, Dry
E-2	13	———	13	Cu.Yd.	Excavation for Structures, Wet
E-3	425	———	425	Cu.Yd.	Channel Excavation
S-1	3.2	———	3.2	Cu.Yd.	Concrete for Structures, Class "C"
S-1	31.8	———	31.8	Cu.Yd.	Concrete for Structures, Class "E"
S-4	330	———	330	Lb.	Reinforcing Steel
S-27	98	———	98	Lin.Ft.	12" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b)
E-12	65	———	65	Lin.Ft.	24" Pipe Removed for Storage
S-27	242	———	242	Lin.Ft.	18" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b)
S-27	126	———	126	Lin.Ft.	21" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b)
S-27	542	———	542	Lin.Ft.	24" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b)
S-27	202	———	202	Lin.Ft.	27" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b)
S-27	308	———	308	Lin.Ft.	30" Pipe for Roadway Culverts, Sec. M-6.6(b) or Sec. M-6.8(b)
S-27	106	———	106	Lin.Ft.	42" Pipe for Roadway Culverts, Sec. M-6.6(b)
I-16	———	3	3	Each	Manholes Abandoned
I-8	1	———	1	Each	Manholes, Special

GENERAL SUMMARY

GENERAL SUMMARY

TYPE CODE 7221

ITEM	QUANTITY	NO STATE OR FEDERAL PARTICIPATION	TOTAL	UNIT	DESCRIPTION
					DRAINAGE (CONT'D.)
I-8	1	——	1	Each	Gate Chamber and Flood Gates, As per Plan
Special	9	——	9	Lin. Ft.	Furnishing and Installing 24" Cast Iron Pipe
I-2	145	53	198	Lin. Ft.	12" Sewer, Sec. M.6.6 (c)
I-2	55	60	115	Lin. Ft.	21" Sewer, Sec. M.6.6 (b)
I-2	455	——	455	Lin. Ft.	24" Sewer, Sec. M.6.6 (b)
I-2	458	——	458	Lin. Ft.	30" Sewer, Sec. M.6.6 (b)
E-12	1,067	——	1,067	Lin. Ft.	Pipe Removed, 15" and Under
E-12	222	65	287	Lin. Ft.	Pipe Removed, Over 15"
I-2	125	74	199	Lin. Ft.	24" Sewer Under Pavement or Approaches, Sec. M-106.6(d)
					PAVEMENT
B-35	263	——	263	Cu. Yd.	Asphaltic Concrete Base Course (60-70), as per plan.
B-35	66	——	66	Cu. Yd.	Asphaltic Concrete Leveling Course (60-70)
B-70	325	——	325	Sq. Yd.	8" Portland Cement Concrete Base Course
B-119	965	——	965	Cu. Yd.	Crushed Aggregate Base
T-30	32	——	32	Gal.	Bituminous Tack Coat, As per Plan
T-35	482	——	482	Cu. Yd.	Asphaltic Concrete Surface Course, Type "C" (60-70)
T-70	2,665	——	2,665	Sq. Yd.	7" Portland Cement Concrete Pavement
T-70	606	——	606	Sq. Yd.	8" Portland Cement Concrete Pavement
T-71	100,839	——	100,839	Sq. Yd.	9" Reinforced Portland Cement Concrete Pavement
I-7	120	——	120	Sq. Yds.	Reinforced Concrete Approach Slabs, (T=10")
I-7	596	——	596	Sq. Yd.	Reinforced Concrete Approach Slabs (T= 13") (T=13")
I-12	29,106	——	29,106	Lin. Ft.	Standard Concrete Curb, Type 2A, As Per Plan
I-12	65	——	65	Lin. Ft.	Standard Concrete Curb, Type G
I-21	1,643	——	1,643	Sq. Yd.	Portland Cement Concrete Median Pavement Standard Type 1
I-22	26,383	——	26,383	Cu. Yd.	Sub-base
I-23	126	——	126	Each	Precast White Portland Cement Concrete Traffic Dividers
I-12	250	——	250	Lin. Ft.	Std. Type 2 Combination Curb and gutter, Modified as per plan
					STRUCTURES OVER 20 FT. SPAN
For Quantities, See Sheet No. 173					Bridge No. BU-4-184, Bridge over B&O Railroad and Dick's Creek.
For Quantities, See Sheet No. 192					Bridge No. BU-4-186, Bridge over State Route 73 Relocated.
	Lump	Lump	Lump	Lump	Construction Layout Stakes
					WATER MAINS
Special	109	——	109	Lin. Ft.	12" Cast Iron Pipe
Special	——	827	827	Lin. Ft.	8" Cast Iron Pipe
Special	5	110	115	Lin. Ft.	6" Cast Iron Pipe
Special	75	150	225	Lin. Ft.	16" Dia. Casing Pipe
Special	——	50	50	Lin. Ft.	2" Copper Pipe
Special	——	1	1	Each	2" Coupling
Special	1	——	1	Each	12"x8" Reducer
Special	——	1	1	Each	4"x2" Reducer
Special	1	——	1	Each	12"x12"x12" Tee
Special	——	2	2	Each	8"x8"x6" Tee
Special	——	1	1	Each	8"x8"x4" Tee
Special	——	2	2	Each	6"x11¼° Bend
Special	——	5	5	Each	6"x22½° Bend
Special	2	——	2	Each	12"x 90° Bend
Special	——	2	2	Each	8"x 90° Bend
Special	——	2	2	Each	2"x 90° Bend
Special	1	——	1	Each	8" Valve
Special	——	2	2	Each	6" Valve
Special	——	1	1	Each	2" Valve
Special	——	1	1	Each	1" Air Relief Valve
Special	——	1	1	Each	¾" Corporation Cock
Special	1	7	8	Each	Close Corporation Cock
Special	3	6	9	Each	¾" Curb Stop
Special	1	3	4	Each	Manhole for Water Valves and Meters
Special	1	7	8	Each	Relocate Water Meter
Special	3	6	9	Each	Relocate Curb Box
Special	1	——	1	Each	Adjust Curb Box to Grade
Special	1	1	2	Each	Relocate Fire Hydrant
Special	——	1	1	Each	Adjust Fire Hydrant to Grade
Special	3	3	6	Each	Remove Existing Manhole and Fire Hydrant Valves
Special	——	80	80	Lin. Ft.	Lower Existing 12" Water Main
Special	1	5	6	Each	Install 3'-0", ¾" Copper Connection in Place of Removed Water Meter

GENERAL SUMMARY

NORTH

F-581(10)

Begin Project
BUT-4-(16.53-19.15)

St. Rt. 63

470+50

480

490

500

510

520

Todhunter Road

530

540

550

560

Existing St. Rt. 4

570

580

Dicks Creek
B & O Railroad

590

St. Rt. 73

Ramp B

Ramp A

Verity Pkwy.

Harrison St.

600

610

Oxford State Rd.

620

Verity Pkwy.

630

Pinto Ave.

Minnesota Ave.

Granada Ave.

Buena Ave.

634+50

End Project
BUT-4-(16.53-19.15)

F-581(10)

Verity Pkwy.

GENERAL PLAN
SCALE 1" = 600'

790
770
750
730
710
690
670
650
630

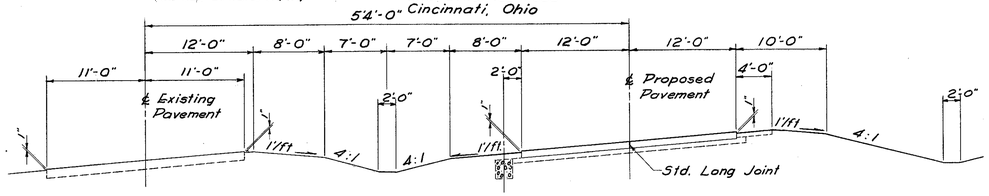
PVI 473+46.24
738.35
700' V.C.
200' V.C.
PVI 483+26.51
736.37
200' V.C.
PVI 494+38.46
745.74
200' V.C.
PVI 502+25.67
744.49
200' V.C.
PVI 512+27.53
746.58
850' V.C.
PVI 517+71.91
757.53
PVI 527+16.47
726.46
200' V.C.
PVI 531+80.37
720.50
200' V.C.
PVI 534+79.83
200' V.C.
PVI 543+50
754.49
1250' V.C.
PVI 560+50
687.56
500' V.C.
PVI 565+25
690.82
300' V.C.
PVI 574+50
719.50
1200' V.C.
PVI 587+00
688.80
200' V.C.
PVI 602+28.57
635.32
300' V.C.
PVI 616+50
632.40
100' V.C.
PVI 630+00
633.96
100' V.C.

470
482
494
506
518
530
542
554
566
578
590
602
614
626
638

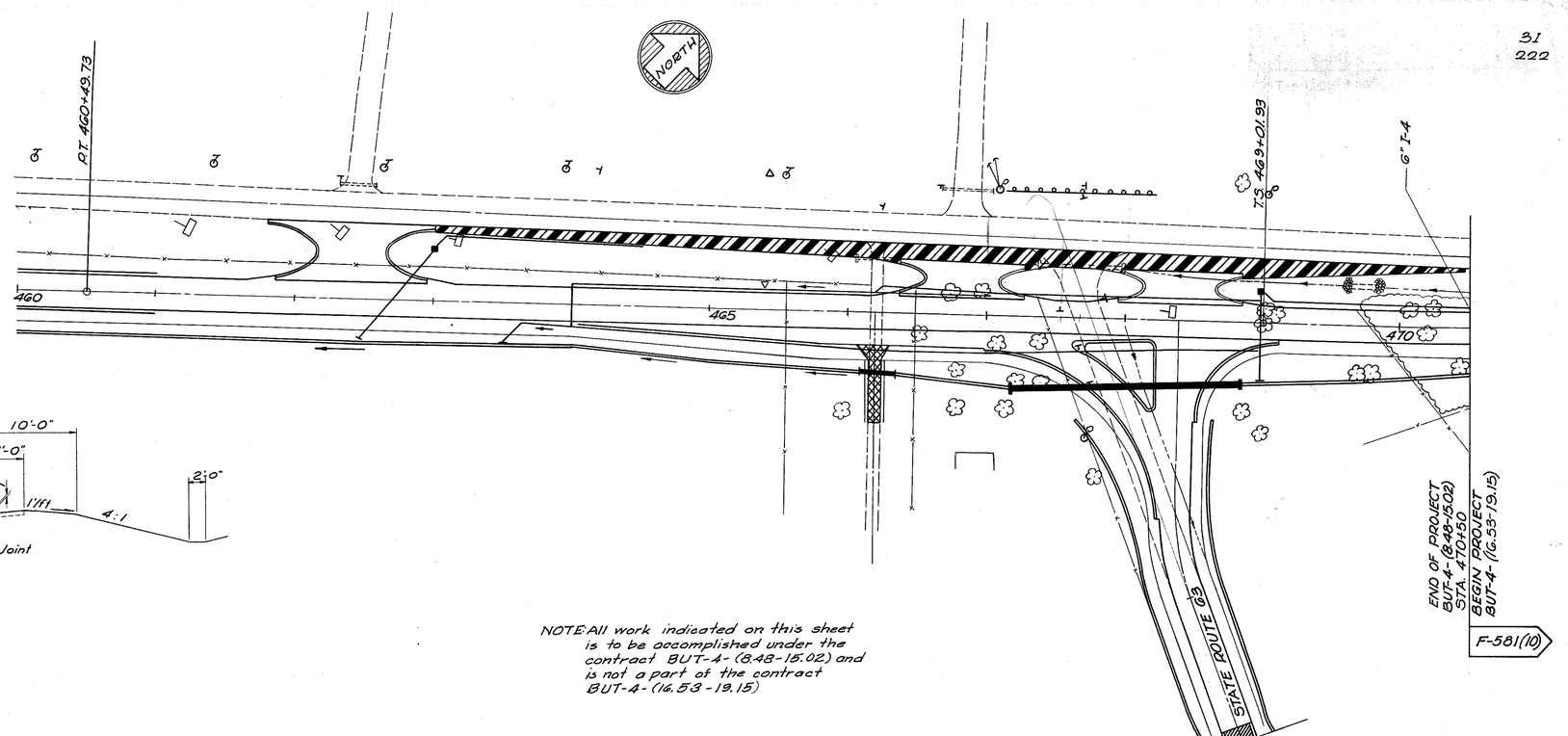
GENERAL PLAN & PROFILE

UTILITIES

Utility	Owner	Address
Gas	Cincinnati Gas & Electric Co.	4th. & Main Sts. Cincinnati 2, Ohio
Gas	Texas Eastern Transmission Corp.	108 W. Second St. Seymour, Indiana
Light & Power	Cincinnati Gas & Electric Co.	4th. & Main Sts. Cincinnati 2, Ohio
Water	Butler Co.	Butler County Court House Hamilton, Ohio
Sewer	Butler Co.	Butler County Court House Hamilton, Ohio
Telephone	Ohio Bell Telephone Co.	Dayton, Ohio
Telegraph	Western Union Telegraph Co. (On B & O. R.R. R/W.)	Consult Baltimore and Ohio Railroad Cincinnati, Ohio

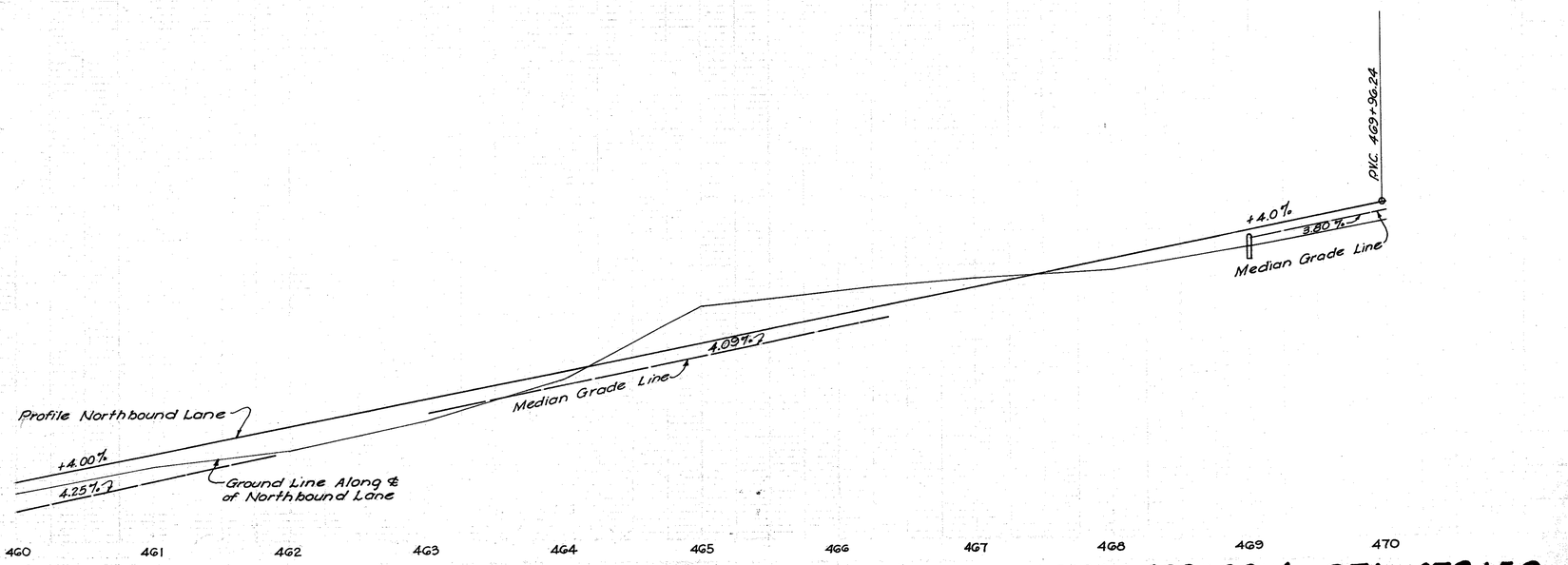


CROSS SECTION AT END OF PROJECT
BUT. 4 (8.48-15.02)
Scale: 1/8"=1'-0"



F-581(10)

NOTE: All work indicated on this sheet is to be accomplished under the contract BUT-4-(8.48-15.02) and is not a part of the contract BUT-4-(16.53-19.15)



STA. 460+00 to STA. 470+50

Note:
If Contract BUT-4 (8.48-15.02) has not progressed to Sta. 470+50, provide temporary outlet for proposed side ditch & 6" I-4 to existing ditch @ Sta. 470+00 as shown.
NORTH
B.M. #43 El. 733.501
N.W. corner of lower porch step to res. of Wm. B. Saunders. (Sta. 475+50-100' R)
CURVE DATA
P.I. = 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. = 1"/ft.
Should Contract But-4 (16.53-19.15) be constructed before But-4-(8.48-15.02), this cross-over shall be used to transfer traffic from existing road to proposed NB Lane & properly marked & controlled by the Ohio State Hwy Safety Dept.
32
222
2 OHIO
Exist. State Route #4
Base line
T.S. 469+01.93
Ex. State Route #4
S.C. 473+01.93
Brace pole
6" I-4 Sta. 470+50 14' Lt. Connect to I-4 in Contract But-4-(8.48-15.02) Inv. 717.6
Field Entrance
Begin Cross-over 470+76
Street
End Cross-over 471+79
Begin Cross-over 472+31
Corner of conc. foundation
Garage
Drive
C.S. 478+50.00
6" I-4 Sta. 475+00-14' Lt. Inv. 727.0
End Cross-over 475+25
Begin Cross-over 476+72
End Cross-over 477+68
Begin Cross-over 480+75
Inv. 728.30
6" I-4 Connected to Culvert Sta. 480+15-14' Lt.
Sta. 480+13 24" Pipe Culvert See sheet #157
End 6" I-4 Sta. 480+05-14' Lt. Inv. 729.4
Remove Ex. 12" V.S.P.
6" I-4 Connected to Culvert Sta. 480+15-14' Rt.
Inv. 729.00
Ditch Inv. 729.1
Temporary Run-Around Traffic Bound Surface Course
Cultivated
Begin 6" I-4 Sta. 479+12 Inv. 729.8
6" I-4 Connected to Culvert Sta. 480+11-14' Rt.
Ditch Inv. 729.6
Ditch Inv. 733.8
Abandon exist. light posts
Remove Ex. 12" CMP
Item E-12 & S-24
Item S-24
Remove Ex.
6'x1' Stone Headwalls
FL 730.9 Inv. 728.9
Remove Ex. 12" CMP
Item E-12
Loose Bricks
Remove Ex. 15" CMP
Remove exist. stone pillars
Ditch Inv. 731.8
Ditch Inv. 732.3
467
Conc. Headwalls
N. 41°49'-17" E
18" V.S.P.
STATE ROUTE 63
Ditch Inv. 717.4
Remove Ex. Conc. Blk. Head.
Item S-24
FL. 723.6 Wall Inv. 720.6
Inv. 720.0
Ditch Inv. 722.7
Remove Existing 6" Clay Tile-Item E-12
12" CMP to be removed Item E-12
Inv. 724.2
1 Sty. Fr. Res. & Gar.
2 Sty. Fr. Res.
Res.
B.M. 43
3" Flag Pole
Base line
P.I. 475+95.53
Corner of porch (conc. slab floor)
Ex. State Route #4
Base line
Tangent
C.S. 478+50.00
Brace pole
L-10 Sodded Ditch
1' Deep
470+50 Rt. to 472+24 Rt. - 161.8 sq. yd.
1.5' Deep
480+00 Rt. to 481+00 Rt. - 128.0 sq. yd.
See sh. 169
See Sh. 31 for work to be accomplished under Contract BUT-4-(8.48-15.02) Not in this contract.
471+00-33.5' Rt. Std. Endwall S27 PC4
68'-12" I-2
471+69-25' Lt. Std. I-2A C.B.
I-3
472+24-37.5' Rt. to 475+00-32' Rt.
284'-18"
2 Std. Endwalls S-27 PC4
Begin Project BUT-4-(16.53-19.15) 470+50 F-581 (10) 80+04.7 F-581 (10)
F-581 (10)
I-3
472+05 Rt
6" Pipe Outlet
10 Lin. Ft.
475+00-32' Rt. Std. I-2 A C.B. Inv. 18"-728.50 Inv. 12"-728.50
Marker will be furnished and erected on the right by the State of Ohio before acceptance of this improvement.
475+15-25' Lt. Std. I-2-A C.B. 57'-12" I-2 Connect to C.B. @ 475+00-32' Rt.
12' Drive 472+83 @ 10%
8' Drive 473+78 @ 10%
8' Drive 474+81 @ 8.33%
10' Drive 477+22 @ 8.33%
479+00-24' Lt. Std. I-2A C.B. 68'-12" I-2 479+17-43' Rt. Std. Endwall S-27 PC4
22'-0"
1½" T-35
Integral curb
3" Brick
¾" Sand cushion
6" Concrete base
Integral curb
TYPICAL SECTION-EXIST. PAV'T. STA. 470+50
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".
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 Minimum 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
I-18
I-18 Field Drives - 6" Residence drives beyond R/W - 8" Business drives beyond R/W - 9"
2" T-35 Surface Course - Type C 5" B119 Base Course
718.35 718.70 719.68 720.63 721.54 722.42 723.27 724.09 724.88 725.63 726.36 727.05 727.71 728.33 728.93 729.41 729.50 730.02 730.52 730.98 731.43 731.82 732.19 732.53 732.84 733.11 733.35 733.56 733.75 733.89 733.98 734.00 734.41 734.82 735.23 735.64
P.V.C. - 469+96.24
700' V.C.
P.V.I. - 473+46.24 El. 732.35
P.V.T. - 473+96.24
+0.41%
1.03%
-0.35%
0.76%
+4.0%
Ground Line Along ℄ of North Bound Lane
+50 Median Inv. 719.3
+86 Median Inv. 720.6
+69 Median Inv. 723.6 Std. I-2A C.B. Inv. 720.6
+41 Median Inv. 725.7
+15 Median Inv. 730.9 Std. I-2 A C.B. Inv. 728.9
Begin Run-Around
+80 Median Inv. 732.6
+58 Median Inv. 733.1
+00 Median Inv. 732.6 Std. I-2A C.B. Inv. 730.6
+85 Median Inv. 734.0
End Run-Around 5+83
TEMPORARY RUN-AROUND
750 740 730 720 710 700 690
640 630
716.0 720.3 726.8 731.3 731.5 732.2 732.1 732.9 733.6 733.8 734.1 735.3
470 471 472 473 474 475 476 477 478 479

B.M.#44 El. 739.316
Top of pipe @ end of walk W. side of Rte. #4 in front of Blount res. (Sta. 488+30 · 70' ±L.)

NORTH

CURVE DATA
P.I. = 475+95.53
Δ = 37°-55'-22"
D = 4°-00'-00"
R = 1,432.39'
L_s = 400.00'
L_c = 548.07'
T_s = 693.60'
E_s = 87.15'
Superelev. = 1\"/ft.

L-10
Sodded Ditch
1.5' Deep
481+00 Rt. to 486+71 Rt. - 730.9 sy.
1.0' Deep
487+03 Rt. to 489+59 Rt. - 238.1 sq.yd.
489+85 Rt. to 490+76 Rt. - 84.6 sq.yd.
See sh. 169

S.T. 482+50.00

Drive

End Cross-over 481+65

Begin Cross-over 486+42

Barn

Drive

End Cross-over 487+45

Milk House

2 Sty. Fr. Res.

Begin Cross-over 489+30

End Cross-over 490+18

Begin Cross-over 490+55

End Cross-over 491+45

End G" I-4
Sta. 492+00-14' Lt.
Inv. 738.3

Begin Cross-over 493+75

End Cross-over 494+67

6" I-4
Sta. 485+00-14' Lt.
Inv. 732.5

Item S-24
Remove Ex. Loose Stone

Item E-18
Remove Ex. 12" CMP

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

Brick & Plug Around Pipe Ends

Remove ex. iron & metal posts

F.L. 734.0
Inv. 732.0

F.L. 738.0
Inv. 736.0

F.L. 741.1
Inv. 739.1

F.L. 742.1
Inv. 740.1

481

485

490

495

N 3°-53'-55" E.

Temporary Run Around

Cultivated

Inv. 731.8

Ditch Inv. 732.7

Inv. 735.7

Ditch Inv. 735.5

Ditch Inv. 738.4

Inv. 738.9

Ditch Inv. 743.1

6" I-4
Sta. 485+00-14' Rt.
Inv. 732.5

I-18

+76

+50

+58

+26

0+57 Rt/W

0+77.5

0+62

0+55 Rt/W

0+55

I-18

End G" I-4
Sta. 492+00-14' Rt.
Inv. 738.3

Cultivated

Pole #6836

40°-20'

90°00

Existing State Route #4

Base line

34'

Hub

S.T. 482+50.00

481+55-24' Lt.
Std. 1-2 A C.B.
58'-12" I-2
Std. Endwall S-27 PC4

℄ 10' Field Dr.
486+87 ℄ +10%

I-1
486+87 Rt.
32'-18"
2 Std. Endwalls
S-27 PC4

Cultivated

487+50-24' Lt.
Std. 1-2 A C.B.
58'-12" I-2
Std. Endwall S-27 PC4

I-1
489+74.5-Rt.
26'-18"
2 Std. Endwalls
S-27 PC4

℄ Gravel Drive
489+76 ℄ +10%

℄ 10' Field Drive
491+00 ℄ +10%

490+08 to 491+35-24' Lt.
125'-12" I-2
491+35-24' Lt.
Std. 1-2 A C.B.

I-1
491+00 Rt.
28'-18"
2 Std. Endwalls
S-27 PC4

490+08-24' Lt.
Std. 1-2 A C.B.
54'-12" I-2
Std. Endwall S-27 PC4

℄ 10' Drive
494+18 ℄ +10%

+03
Ditch Inv. 742.6

24" C.M.P.

6'

Res.

Res.

735.64 736.05 736.16 736.27 736.38 736.52 736.66 736.67 736.82 737.00 737.18 737.38 737.39 738.00 738.82 739.65 740.47 741.30 742.12 742.95 743.77 744.60 744.92 745.01 745.19 745.34 745.45 745.50 745.54 745.59 745.61

+26.51 +26.51 +26.51 +38.46 +38.46

P.V.I. 493+26.51
El. 736.57

P.V.I. 494+38.46
El. 745.74

Ground Line @ ℄ of Northbound Lane

0.41%

0.825%

0.81%

Median Grade Line

Proposed

0.89%

125'-12" I-2 @ 0.80%

0.80%

Median Grade Line

0.24%

+55-Median Inv. 734.0
Std. 1-2A C.B. Inv. 732.0

P.V.C. 482+26.51

+25 Median Inv. 735.0

200' V.C.

P.V.T. 484+26.51

+60 Median Inv. 738.0

+50-Median Inv. 738.0
Std. 1-2A C.B. Inv. 736.0

+30-Median Inv. 739.6

+09-Median Inv. 741.1
Std. 1-2-A C.B. Inv. 739.1

+55-Median Inv. 741.5

+35-Median Inv. 742.1
Std. 1-2-A C.B. Inv. 740.1

P.V.C. 493+38.46

+85-Median Inv. 744.1

200' V.C.

+40-Median Inv. 744.1

735.3 736.3 737.0 738.4 739.3 740.5 740.6 742.0 742.2 743.4 743.6 744.5 744.9 746.1 745.9

481 482 483 484 485 486 487 488 489 490 491 492 493 494 495

770 760 750 740 730 720 710

STA. 481+00 to STA. 495+00

B.M. #45 El. 745.758
Nail in 5" G.G. W side of
Rte #4 in front of Van Guelpen
& Williams res.
(Sta. 498+80-100' Lt.)

NORTH

Barn

Begin Cross-over 496+21

End Cross-over 497+10

Begin Cross-over 498+59

B.M. #45 El. 10

2 Sty. Fr. Res.

End Cross-over 499+72

Begin Cross-over 501+03

End Cross-over 501+94

Temporary Run-Around
Traffic Bound Surface Course

503+60-130' Lt.
Meet Existing Ditch
Inv. 735.8

Sta. 503+60
24" Pipe Culvert
See sheet # 157

Item S-24
Remove Ex. Hdwl.
Inv. 736.42
Remove Ex. 12" C.M.P.
Item E-12

Begin Cross-over 505+35

End Cross-over 506+61

508+30-24' Lt.
Std. I-2 A C.B.
58'-12" I-2
Std. Endwall S-27 PC.4

Drive Begin Cross-over 504+74

Abandon Exist. Field drive
Remove Ex. 12" C.M.P. in Ditch
Item E-12

Item E-12
Remove Ex. 12" C.M.P.
Abandon Exist. Field Drive

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

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

Remove Ex. Brick Hdwl. Item S-24.

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

Fl. 744.0
Inv. 742.0

Fl. 743.3
Inv. 740.72

Fl. 742.7
Inv. 739.34

Fl. 742.5

Fl. 743.5
Inv. 741.7

Inv. 741.4

495 | 500 | 505 | 509

N. 3°-53'-55" E.

12" Apple

8" Apple

Grape Arbors

Flower Bed

Well

Ditch Inv. 737.70

Ditch Inv. 737.8
Cultivated

Ditch Inv. 740.8

I-18

I-3
6" Pipe Outlet

6" Field Tile

Ditch Inv. 741.7

Ditch Inv. 742.5

Ditch Inv. 741.3

0+558 Rt
0+68

0+60 Rt

0+184

0+172 Rt

0+525

0+683.5

L-10
Sodded Ditch
1.5 Deep
501+56 Rt. to 504+50 Rt.
376.3 sq. yd. See sh. 169

I-1
49G+65 Rt.
26'-12"
2 Std. Endwalls
S-27 PC4

I-1
499+27.5-Rt.
28'-15"
2 Std. Endwalls
S-27 PC4

I-1
501+47-Rt.
30'-18"
2 Std. Endwalls
S-27 PC4

Std. I-2A C.B.-24' Lt.
49G+25
498+60
501+13

I-2
49G+25-24' Lt. to 498+60-24' Lt.
233'-12"
498+60-24' Lt. to 501+13-24' Lt.
251'-12"
501+13-24' Lt. to 503+60-24' Lt.
245'-12"

℄ 9' Drive
496+65 @ +10%

℄ 9' Drive
499+27.5 @ +10%

℄ 9' Drive
501+47 @ +10%

℄ 10' Field Drive
505+80 @ +10%

℄ 9' Drive
506+16 @ +10%

Gravel Drive

Tree & Bush Line on Fence

Res.

Res.

Res.

745.61 | 745.61 | 745.59 | 745.80 | 745.35 | 745.20 | 745.05 | 744.90 | 744.75 | 744.64 | 744.61 | 744.58 | 744.58 | 744.58 | 744.59 | 744.68 | 744.66 | 744.71 | 744.71 | 744.76 | 744.98 | 745.20 | 745.42 | 745.64 | 745.86

+38.46 | +75.67 | +75.67 | +75.67

P.V. 495+38.46

+25-Median Inv. 744.0
Std. I-2 A C.B. Inv. 742.0

+00-Median Inv. 743.9

+60-Median Inv. 743.3
Std. I-2 A C.B. Inv. 740.12

+60-Median Inv. 743.5

+13-Median Inv. 742.7
Std. I-2 A C.B. Inv. 739.34

P.V.C. 501+75.67
+84 Median Inv. 743.1

+60 Median Inv. 742.5
Std. I-3 C.B.
P.V.T. 503+75.67

+45-Median Inv. 744.0

+50-Median Inv. 744.2

+30 Median Inv. 743.5
Std. I-2 A C.B. Inv. 741.5

+85-Median Inv. 744.7

745.9 | 745.9 | 745.7 | 746.7 | 746.9 | 745.9 | 744.8 | 746.6 | 746.1 | 745.7 | 745.8 | 745.7 | 746.0 | 746.7 | 747.2

495 | 496 | 497 | 498 | 499 | 500 | 501 | 502 | 503 | 504 | 505 | 506 | 507 | 508 | 509

Begin Run Around 744.68
P.I. 502+75.67
El. 744.49
End Run Around 744.86
3+10

750 | 740 | 750 | 740

0 | 1 | 2 | 3 | 4 | 5

TEMPORARY RUN AROUND

770 | 760 | 750 | 740 | 730 | 720 | 710

Ground Line ℄ of Northbound Lane

-0.15% | -0.37% | -0.52% | -0.34% | +0.22%

-0.24% | -0.81% | -0.39% | 2.18%

233'-12" @ -0.54%

251'-12" @ -0.54%

245'-12" @ 0.54%

Inv. 12" = 738.00

200' V.C.

200' V.C.

Median Grade Line

Median Grade Line

STA. 495+00 to STA. 509+00

BM #46 El. 754.586
Nail in ø #666. W. side of Rte. #4. 250'± S. of Meyer res. (Sta. 516+50 -100'± L.)

NORTH

Gravel Drive

End Cross-over 509+63

Res.

Inv. 734.20
Sta. 512+20
27" Pipe Culvert
See Sheet #158

I-10
512+20 to 513+50 Lt.
Dumped Rock Ditch
Depth 1'; Thickness 18"

Ditch Inv. 734.1

Meet Existing Ditch Inv. 745.2

Sta. 514+00 Begin New Pavement

May be relocated by Engineer to suit new house location

M.B. 514+40

Begin Cross-over 516+05

End Cross-over 516+95

Cultivated

Ditch Inv. 749.4

B.M. #46

I-3
519+00-82' Lt. to 520+00-86' Lt.
100'-12"
2 Std. Endwalls S-27 PC.4

I-8
519+45 Lt.
Std. 2-2A C.B. on 12" without side openings

3' Conc. Walk

519+50 & 3 Sidewalk
& 5 Steps 6" Risers
M.B. 519+56 12" Treads

2 Sty. Res.

Gravel Drive

519+84.52 ℄ 6' Drive +10%

Ditch Inv. 747.8

I-1
521+37.5 Lt.
30'-15"
2 Std. Endwalls S-27 PC.4

Res.

℄ 8' Drive +10%

Gravel Drive

Ditch Inv. 742.5

Loose Stone

Sta. 522+00 End New Pavement

Meet Existing Ditch Inv. 740.0

Loose Stone

Gravel Drive

12" Wooden Pipe

F.L. 744.1
Inv. 742.1

Remove Ex. 18" V.S.P. Item E-12

Remove, exist. headwall, Item S-24

Remove Ex. 12" V.S.P. Item E-12

Remove, exist. conc. headwall, Item S-24

Steel Anchor to be removed

F.L. 748.3
Inv. 746.3

F.L. 744.9
Inv. 742.9

F.L. 741.2
Inv. 739.2

509 510 515 520 523

Well to be abandoned

10"×10" Conc. Post to be removed N 3°-53'-55" E.

Abandon Gravel Dr. & Conc. Trough to be abandoned

Porter to be removed

Inv. 745.7

Inv. 740.0

Inv. 735.5

Cultivated Temporary Run Around Traffic Bound Surface Gr.

Ditch Inv. 740.8

Pipe Inv. 744.50

Inv. 741.2

509+53-24' Lt.
Std. 1-2 A C.B.
G1'-12" I-2
Std. Endwall S-27 PC.4

513+00-34' Rt. to 513+50-25' Rt.
1 Std. Endwall S-27 PC.4
50'-15" I-3 (Pipe Outlet for Roadway Drainage)

513+50-25' Rt. to 514+50-25' Rt.
100'-15" I-3 With Porous Backfill
No topsoil, sod or seed to be placed on porous trench.

514+50-25' Rt.
1 Std. 2-2A C.B.-Without Side Inlets
Inv. 15" 746.2 ; Inv. G" 747.0

514+50.25' Rt. to 516+40-25' Rt.
189'-G" I-4

2 Sty. Well Res.

Cistern

Gar.

Sheds

Hitching Post

Well

Barn

Barn

Silo

Pasture

Ditch Inv. 747.5

Ditch Inv. 748.7
Meet existing grade

519+50-24' Lt.
Std. 1-2 A C.B.
58'-12" I-2
Std. Endwall S-27 PC.4

521+03-24' Lt.
Std. 1-2 A C.B.
G7'-12" I-2
Std. Endwall S-27 PC.4

522+25-24' Lt.
Std. 1-2 A C.B.
70'-12" I-2
Std. Endwall S-27 PC.4

M.B. 514+00

Begin G" I-4 Inv. 747.0

End G" I-4 Inv. 748.5

Begin Cross-over 519+40

End Cross-over 520+23

Begin Cross-over 520+93

End Cross-over 521+81

Begin Cross-over 522+16

Ditch Inv. 732.6

Profile Both Lanes

745.86 746.08 746.30 746.31 746.36 746.43 746.57 746.75 747.00 747.03 747.30 747.65 748.06 748.53 748.58 749.03 749.03 749.51 749.95 750.35 750.72 751.04 751.33 751.57 751.79 751.96 752.09 752.18 752.23 752.25 752.22 752.15 752.05 751.90 751.90 751.72 751.50 751.23 750.94 750.60 750.22 749.80 749.35 748.85 748.33 747.75 747.14 746.49 745.81 745.07 744.31 743.50 743.50 740.20

+21.53 +27.53 +27.53 +27.53 +49.91 +74.91 +99.91

760 750 740 730 720 710 700

+0.22% +0.49% +1.77% +2.0% -3.3% -3.20%

Median Grade Line Parallel to Profile Grade

Median Grade Line Parallel to Profile Grade

Ground Line ℄ of Northbound Lane

Begin Run Around

+53-Median Inv. 744.1
Std. 1-24 C.B. - Inv. 742.1

P.V.C. 511+27.53

+00 Median Inv. 745.3

P.M. 512+27.53
El. 746.58

200' V.C.

P.V.T. 513+27.53

P.V.C. 513+49.91

+75 Median Inv. 748.4

End Run Around 6+17

+15-Median Inv. 751.0

+85-Median Inv. 750.7

P.M. 517+74.91
El. 751.53

850' V.C.

150-Median Inv. 749.3
Std. 1-24 C.B. Inv. 746.3

+03-Median Inv. 744.9
Std. 1-24 C.B.- Inv. 742.9

+75 Median Inv. 742.8

P.V.T. 521+99.91

125-Median Inv. 741.2
Std. 1-24 C.B. Inv. 739.2

TEMPORARY RUN AROUND

0 1 2 3 4 5 6 7

747.2 747.8 747.2 745.8 747.5 753.9 753.6 754.0 754.8 753.7 738.5 750.0 746.8 742.7 740.2 736.4

509 510 511 512 513 514 515 516 517 518 519 520 521 522 523

545 550 545

L-10
Sodded Ditch
1' Deep
512+00 Rt. to 513+00 Rt. - 93.0 sq. yd.
518+90 Rt. to 523+00 Rt. - 381.3 sq. yd.
520+00 Lt. to 521+26 Lt. - 117.2 sq. yd.
521+56 Lt. to 522+50 Lt. 87.4 sq. yd.
See sh. 169

STA. 509+00 to STA. 523+00

B.M.#47 El. 731.463
NAIL in S side #661 W. side Rte.#4 in front of Firth Res. (Sta. 526+00 -100'±L.)

B.M.#48 El. 720.890
S.E. corner of conc. headwall W. side of Rte.#4 in front of Wright res. (Sta. 533+20± -60'±Lt)

NORTH

Res. Res. Res. Barn Res. Res. Res.

End Cross-over 523+04 | Begin Cross-over 523+91 | 9' Gravel Dr. | 12' Gravel Dr. | End Cross-over 526+87 | Begin Cross-over 527+46 | 9' Gravel Dr. | 8' Field Dr. | End Cross-over 529+58 | Begin Cross-over 530+39 | 9' Gravel Dr. | Gravel Drive | Temporary Run Around Traffic Bound Surface Course | End Cross-over 531+89 | Begin Cross-over 532+06 | End 12' Gravel Dr. | Begin 533+56 | 7' Gravel Dr. | End Cross-over 533+85 | Begin Cross-over 534+60 | 8' Gravel Dr. | End Cross-over 535+48 | Begin Cross-over 535+56 | End Cross-over 536+46

B.M. 47

Hedgerow Fence

BM 48

524+00-24' Lt.
Std. I-2-A CB
79'-12" I-2
Std. Endwall S-27 PC-4

536+50-24' Lt.
Std. I-2-A CB.
60'-12" I-2
Std. Endwall S-27 PC-4

Remove exist. Hdwl.-Item S-24
Remove exist. 24" VTP & CMP Item E-12
Remove exist. 12" V.S.P. Item E-12
Remove exist. 12" CMP Item E-12
Remove ex. post
Remove exist. display lights
Remove ex. light post
Light Posts

FL. 734.9 Inv. 730.0
FL. 724.3 Inv. 722.25
FL. 719.4 Inv. 716.43
FL. 718.6 Inv. 714.74
FL. 718.8 Inv. 714.3
FL. 718.5 Inv. 714.5
FL. 721.0 Inv. 719.0
FL. 734.9 Inv. 722.9

523 | 525 | 530 | 535 | 537

N. 3°-53'-55" E.

Gravel | Cultivated | Stone Wall | 6" Ornamental | Asphalt Dr. | Nursery | Bush

Ditch Inv. 732.6 | Ditch Inv. 722.5 | Ditch Inv. 721.7 | Ditch Inv. 715.9 | Ditch Inv. 722.5 | Ditch Inv. 704.6

RELOCATION-TODHUNTER ROAD | TODHUNTER ROAD | Grovel Drive

10" Res. Dr. 0+32 @ -15.12% | 2 Sty. Fr. Res. & Gar. | conc. apron | Light Post

1 Sty. Fr. Res. | 1 Sty. Fr. Res.

Gas Lines | 24" Gas Line | 20" Gas Line

℄ 21' & 20' Drive 526+12 @ -15% | ℄ 10' Drive 526+32 @ -15.12% | ℄ 10' Drive 529+38 @ -15% | ℄ 10' Drive 536+00 @ -10%

Sta. 533+20 30" Pipe Culvert See Sh. 158

Inv. 704.80

Inv. 717.3 | Inv. 722.5

L-10
Sodded Ditch
1' Deep
523+00 Rt to 0+75 Todhunter Rd. - 206.5 sq. yd.
533+20 Rt to 535+85 Rt. - 246.5 sq. yd.
532+70 Lt. to 533+45 Lt. - 69.8 sq. yd.
See sh. 169.

For Plan-Profile of Todhunter Rd., see sh. 37

For Todhunter Rd. Intersection Details, see sheet 145

Std. 1-2-A CB-24' Lt.
527+50 532+15
531+10 532+96

527+50 to 533+20-24' Lt.
56.3' -12" I-2

I-1
533+48 Lt.
Extend exist. drive pipe - See sheet 158

533+75-24' Lt.
Std. 1-2-A CB
90'-12" I-2
Std. Endwall S-27 PC-4

535+38-24' Lt.
Std. 1-2-A CB
64'-12" I-2
Std. Endwall S-27 PC-4

6" I-4 Outlet Sta. 535+47-42' Rt. Inv. 717.8
45° Bend Sta. 535+75-14' Rt. Inv. 721.2

536+15-35' Rt.
Std. 2-2-A CB
Without side inlets
Inverts:
15"-719.0
18"-718.8

I-3 536+15-35' Rt. to 537+00-31.5' Rt. 84'-15"
I-1 535+85-45' Rt. to 536+15-35' Rt. 30'-18"

740.20 | 736.90 | 733.60 | 730.30 | 728.71 | 728.00 | 727.35 | 726.96 | 726.77 | 726.85 | 725.39 | 726.17 | 734.10 | 732.82 | 721.78 | 721.54 | 721.28 | 721.05 | 720.86 | 720.82 | 720.71 | 720.60 | 720.53 | 720.50 | 720.30 | 720.50 | 720.54 | 720.70 | 720.98 | 721.38 | 721.28 | 721.91 | 722.55 | 723.33 | 724.22 | 724.41 | 725.20 | 729.11

+16.47 | +16.47 | +16.47 | +80.37 | +80.37 | +80.37 | +11.83 | +79.83 | +79.83 | +79.83

P.V.C. 526+16.47 | P.V.I. 527+16.47 El. 726.96 | P.V.T. 528+16.47 | P.V.C. 530+80.37 | P.V.I. 531+80.37 El. 720.50 | P.V.T. 532+80.37 | P.V.C. 533+79.83 | P.V.I. 534+79.83 El. 720.50 | P.V.T. 535+79.83

200' V.C. | 200' V.C. | 200' V.C.

-3.33% | 1.30% | Median Grade Line | 2.29% | -1.284% | Ground Line @ ℄ of Northbound Lane | Median grade | 1.31% | 0.00% | 0.57% | -0.84% | 3.22% | +3.91% | 3.93%

358'-12" @ 1.62% | 24" Gas Line | 20" Gas Line | 103'-12" @ 1.62% | 79'-12" @ 1.62% Inv. 12" 713.07 | 23'-12" @ 1.62%

+00 Median Inv. 738.2 | +00 Median Inv. 734.9 Std. I-2-A CB-Inv. 730.0 | +80 Median Inv. 725.9 | +30 Median Inv. 724.3 Std. I-2-A CB-Inv. 722.25 | Begin Run Around | +50 Median Inv. 721.5 | +10 Median Inv. 719.4 Std. I-2-A CB, Inv. 716.43 | 3+47 End Run Around | +80 Median Inv. 718.8 | +15 Median Inv. 718.6 Std. I-2-A CB Inv. 714.74 | +36 Median Inv. 718.5 Std. I-2-A CB Inv. 714.3 | +75 Median Inv. 718.5 Std. I-2-A CB-Inv. 714.5 | +70 Median Inv. 719.3 | +38 Median Inv. 721.0 Std. I-2-A CB Inv. 719.0 | +68 Median Inv. 721.9 | +50 Median Inv. 724.9 Std. I-2-A CB Inv. 722.9

TEMPORARY RUN AROUND

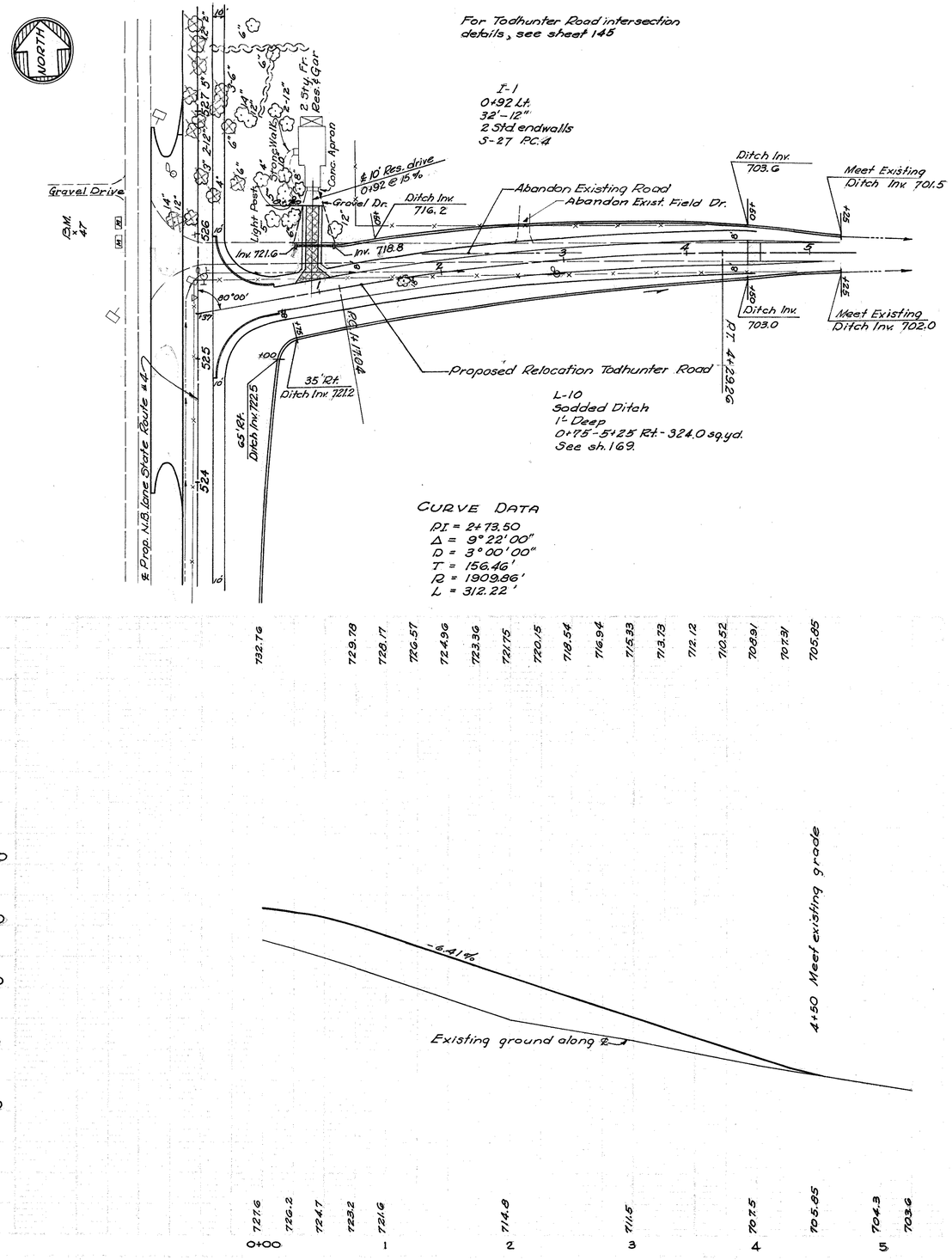
720 | 0 | 1 | 2 | 3 | 720

736.4 | 731.8 | 727.4 | 726.5 | 728.6 | 721.2 | 720.2 | 720.0 | 719.1 | 716.3 | 713.2 | 708.7 + 18 | 713.0 + 31 | 713.6 | 716.2 | 722.7 | 729.1

523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537

750 | 740 | 730 | 720 | 710 | 700 | 690

STA. 523+00 to STA. 537+00



PROPOSED RELOCATION - TODHUNTER ROAD

NORTH

Res. Res. Res. Res. Res.

I-1
538+42.5 Lt. ℄
538+71 Lt.
60'-15"
2 Std. Endwalls
S-27 PC-4

I-1
541+23 Lt.
30'-12"
2 Std Endwalls
S-27 PC4

B.M. #49 El. 746.822
Nail in ⌀ #650 W. side
of Rte. #4 - 20' N. of drive
to Fink res.
(Sta. 544+00 - 80' ± L.)

545+60 - 24' Lt.
Std. I-2-A CB
58'-12" I-2
Std. Endwall S-27 PC4

Sta. 537+75
Begin Cross-over 537+98.5
M.B. 538+11
℄ 8' Drive 538+25 @ +10%
Gravel Drive
℄ 8' Drive 538+71 @ +10%
End Cross-over 539+15
Begin Cross-over 539+94.5
M.B. 540+96
℄ 8' Drive 541+23 @ +10%
End Cross-over 541+87.
Ditch Inv. 741.1
M.B. 543+32
℄ 9' Drive 543+51
℄ 9' Drive 543+97 @ +10%
End Cross-over 544+41.5
Begin Cross-over 545+62
M.B. 545+62
℄ 8' Drive 545+95 @ +10%
End Cross-over 546+39
Begin Cross-over 548+63
End Cross-over 549+38
M.B. 549+90
Begin Cross-over 550+15.5
End Cross-over 551+07.5

Meet existing Ditch Inv. 725.4
3x3x5 Stone Pillars
Ditch Inv. 735.0
Ditch Inv. 739.4
Ditch Inv. 739.1
Pipe Inv. 737.0
Ditch Inv. 741.0
Pipe Inv. 734.0
Pipe Inv. 722.95
Begin 6" I-4 +7.5 -34' Lt. Inv. 722.9
Remove Ex. 12" C.M.P. Item E-12
3 Mail Boxes
Mile Marker
Abandon Field Drive
Remove exist 10" Steel Pipe
Pump Vault & Well to be abandoned
Remove Ex. 12" C.M.P.
F.L. 734.5 Inv. 732.5
F.L. 739.8 Inv. 737.8
12" C.M.P.
18" C.M.P.
F.L. 739.3 Inv. 737.3
F.L. 731.5 18" Inv. 729.5
F.L. 727.2 Inv. 725.2
537
540
545
551
N. 3° - 53' - 55" E.
Light Posts
Underbrush Area
Inv. 736.7
Ornamental
Orchard
Cedars
Plum
Ditch Inv. 739.2
Ditch Inv. 731.5
Inv. 724.60
Ditch Inv. 725.1
Remove exist 12" V.C.P. Item E-59
Stone Walk
2 Sty. Fr. Res.
Row of Small Trees
2 Sty. Res & Garage
2 Sty. Res.
Gravel Drive
Gravel Path
3 steps 6" Risers
3' Sidewalk
12" Treads
6" x 45° Bend
20' Hedge
Gravel Drive
Ex. State Route 4
Base line
Gravel Drive

I-3
537+00 - 25' Rt. to
538+65 - 25' Rt.
164 - 15"
538+65 - 25' Rt. to
541+53 - 25' Rt.
284' - 12"

538+65 - 25' Rt.
Std. 2-2-A CB
Without side inlets
Invert is
12" ℄ 731.5 West & North
15" ℄ 730.5

℄ 8' Drive
538+48 @ +5%

539+05 - 24' Lt.
Std. I-2-A CB
61'-12" I-2
Connect to CB @
538+65 - 25' Rt.

℄ 8' Drive
540+38 @ +10%

540+47 - 25' Rt.
Std. 2-2-A CB
without side inlets

℄ 8' Drive
541+98 @ +10%

Begin G "14
541+53 - 25' Rt.
Inv. 737.7

541+53 - 25' Rt.
Std. 2-2-A CB
without side inlets

541+80 - 24' Lt.
Std. I-2-A CB
54'-12" I-2
Connect to CB @
541+53 - 25' Rt.

℄ 10' Drive
543+62 @ +10%

End G "14
Sta 543+35 - 41' Rt.
Inv. 739.2

I-3
545+83 to 547+63 (Lt.)
180'-12"
2 Std. Endwalls S-27 PC4
550+75 to 551+00 (Lt.)
25'-12"
Std. Endwall S-27 PC4
L-10 Sodded Ditch
1' Deep
537+00 to 538+17 (Lt.) - 108.8 sq. yd.
538+77 to 541+07 (Lt.) - 213.9 sq. yd.
545+50 to 548+95 (Rt.) - 411.9 sq. yd.
543+23 to 550+55 (Rt.) - 117.2 sq. yd.
550+93 to 551+00 (Rt.) - 6.5 sq. yd.
547+63 to 550+75 (Lt.) - 290.2 sq. yd.
See sh. 169

Cultivated

Sta. 550+00 Rt.
Outlet existing swale
to proposed side ditch
Provide 60 Sq. Yds. Sod
to be placed @ direction
of Engineer See X-Sections

I-1
549+10 Rt.
34'-12"
2 Std. Endwalls S-27 PC4
550+61.5 Rt.
38'-12"
2 Std. Endwalls S-27 PC4

548+75 - 24' Lt.
Std. I-2-A CB
138'-12" I-2
Connect to CB
@ 550+15 - 24' Lt.

550+15 - 24' Lt.
Std. I-2-A CB
59'-12" I-2
Std. Endwall
S-27-PC 4

℄ 15' Drive
549+25 @ +10%

℄ 12' Drive
550+68 @ +10%

729.11 730.08 731.03 731.95 732.83 733.68 734.47 735.23 735.96 736.64 737.28 737.88 738.46 738.98 739.46 739.91 740.32 740.68 741.01 741.30 741.55 741.77 741.93 742.07 742.17 742.22 742.23 742.22 742.15 742.05 741.90 741.73 741.50 741.25 740.95 740.62 740.24 739.83 739.37 738.88 738.34 737.77 737.15 736.51 735.81 735.08 734.32 733.52 732.66 731.78 730.85 729.89 728.90 724.96

537 538 539 540 541 542 543 544 545 546 547 548 549 550 551

760 750 740 730 720 710 700

P.V.C. 537+25
Ground Line ℄ of Northbound Lane
P.I. 543+50
El. 734.49
Proposed
℄ Median Grade Line Parallel to Profile Grade
+3.91%
-0.92%
-3.93%
℄ 2.50%
℄ 3.93%
1250' V.C.
P.V.T. 549+75
3.85%
-3.93%
138'-12" I-2 @ 3.12%

+00 Median Inv. 730.8
+05 Median Inv. 734.5
Std. I-2-A CB Inv. 732.5
+05 Median Inv. 737.0
+30 Median Inv. 738.8
Std. I-2-A CB Inv. 737.8
+20 Median Inv. 740.7
+30 Median Inv. 740.5
+60 Median Inv. 739.3
Std. I-2-A CB Inv. 737.3
+30 Median Inv. 737.7
+75 Median Inv. 731.5
Std. I-2-A CB Inv. 729.5
+50 Median Inv. 729.7
+15 Median Inv. 727.2
Std. I-2-A CB Inv. 725.2

729.1 732.3 736.8 741.6 744.6 747.5 746.6 745.1 748.9 742.4 + 50 741.8 748.3 + 50 741.8 739.5 + 50 739.3 737.7 + 50 736.4 736.9 + 25 736.0 + 50 731.3 728.9 + 50 728.4 + 65 726.9 + 70 725.2 + 85 722.8

STA. 537+00 to STA. 551+00

B.M. #50 El. 717.063
Nail in ⚲ #644 - 25'± S. at Remembrance Monu. W. side of Rte #4 (Sta. 555+00 - 100'± L.)

Exist. pav't. to be removed Sta. 556+50 to 559+00. Backfill and seed area not otherwise covered.

561+58
30" Pipe Culvert
See sheet 159

Guard Rail Sta. 560+35 Lt. to Sta. 565+50 Lt. 515 Lin. ft.

565+00
18" Pipe Culvert
See sheet No. 159

551+50 - 24' Lt.
Std. 1-2-A C.B.
56' 12" I-2
Std. Endwall S-27 P.C. 4

554+75 - 24' Lt.
Std. 1-2-A C.B.
62' 12" I-2
Std. Endwall S-27 PC-4

Exist. Remembrance Monument Sta. 554+85 - 28' Lt. to be removed & reset @ R/W line. @ Sta. 554+50 Rt. See sh. 150 for footing details

Meet exist. ground elev. 701.1 Place 20 sq. yds. sod at outlet

558+79 - 122' Lt.
Std. Endwall S-27 P.C.-4
Inv. 12" - 692.50
26' - 12" I-2
Connect to No. 3-A C.B. at 559+04 - 119.8 Lt.
Inv. 12" @ C.B. 691.25
Inv. 6" I-4 @ C.B. 691.50
Connect C.B. to No. 2-6 Inlet at 559+53 - 111.0' Lt. with 49' - 12" I-2
Inv. 12" @ Inlet 688.91
Connect Inlet to Std. Endwall S-27 P.C.-4 @ 560+11.5 - 112.6 Lt. with 60' - 12" I-2
Inv. 12" @ Endwall - 686.00

I-3
551+00 to 552+23 (Lt.)
123' - 12"
1 Std. Endwall S-27-P.C.-4

559+78 - 153.4' Lt.
No. 2-6 Inlet
Connect to C.B. @ 560+19 - 161.8' Lt with 42' 12" I-2
Inv. 12" @ Inlet 688.00
Inv. 12" @ C.B. 686.25

Sta. 553+20± Rt.
Outlet Existing Swale to proposed ditch.
Provide 20 sq. yds sod to be placed @ direction of Engineer

CURVE DATA
P.I. = 557+08.86
Δ = 22°-19'-00" Rt.
D = 2°-00'-00"
R = 2,864.79'
L_s = 200.00'
L_c = 915.83'
T_s = 665.19'
E_s = 55.80'
Superelev. = 9/16"/ft.

556+75 - 29' Lt.
Std. 1-2-A C.B.
170' - 12" I-2
558+45 - 30' Lt.
Std. 1-2-A C.B.
105' - 12" I-2
Connect to C.B. 559+15 Rt.
Inv. 12" @ 559+15 Rt. 686.2

560+12 - 191.8' Lt.
No. 3-A C.B.
Inv. 12" - 686.00
Connect with 23' - 12" I-2 to No. 3-A C.B. at 560+19 - 161.8' Lt.
Inv. 12" (West) 685.80
Inv. 12" (East) 685.70
Connect C.B. at 560+19 - 161.8' Lt to Std. Endwall S-27 P.C. 4 with 14' - 12" I-2
Outlet pipe with 38' special ditch B = 1'; side slopes 2:1

I-1
558+61 to 559+55 Rt.
90' - 24"
2 Std. Endwalls S-27 P.C.-4

559+15 Rt.
Std. 2-3 C.B. Without side openings on prop 24"

Light posts along driveway Sta. 559+40 to be abandoned within right of way.

560+60 - 24' Lt.
Std. 1-2-A C.B.
104' - 12" I-2
connect to C.B. @ 561+67 24' Lt.

I-14 Paved Gutter Type 1 Modified
565+33 to 565+50 Rt.

560+32 - 74.1' Lt.
No. 3-A C.B.
Inv. 12' 688.50
28' - 12" I-2
Std. Endwall S-27 P.C. 4

563+25± Rt.
Outlet Exist Swale to prop. ditch

I-1
561+02.5 Rt.
40' - 27"
2 Std. Endwalls S-27 P.C. 4

L-10
Sodded Ditch (1' Deep)
551+00 to 555+00 (Rt.) - 372.0 sq. yd.
558+10 to 558+61 (Rt.) - 47.4 sq. yd.
559+55 to 560+95 (Rt.) - 130.2 sq. yd.
561+35 to 564+40 (Rt.) - 283.7 sq. yd.
552+23 (Lt.) to 555+73 (121' Lt.) - 336.7 sq. yd.
560+11.5 to 561+50 (Lt.) - 99.7 sq. yd.
564+31 to 565+50 (Lt.) - 85.7 sq. yd.
See sh. 169

6" I-4
555+00 - 74' Lt. to 557+94 - 76.5' Lt.
Inv. @ 555+00 Lt. 705.9
Inv. @ 557+94 Lt. 693.8

557+94 - 76.5' Lt. to 558+60 - 91' Lt.
Inv. @ 557+94 Lt. 693.8
Inv. @ 558+60 Lt. 692.2

558+60 - 91' Lt to 559+04 - 119.8' Lt. (C.B.)
Inv. @ 558+60 Lt 692.2
Inv. @ C.B. 691.50

551+00 - 34' Lt. to 555+00 - 34' Lt.
Inv. @ 551+00 Lt. 721.8
Inv. @ 555+00 Lt. 704.2

6" I-4 (cont'd.)
555+00 - 34' Lt. to 561+57 - 34' Lt. (45° bend)
Inv. @ 555+00 Lt. 704.2
Inv. @ 561+57 Lt. (45° bend) 684.2

561+57 - 34' Lt. to 561+67 - 24' Lt. (C.B.)
Inv. @ 561+57 Lt. 684.2
Inv @ C.B. 683.2

555+00 - 14' Rt. to 559+50 - 14' Rt. (45° bend)
Inv. @ 555+00 Rt. 702.0
Inv @ 559+50 Rt. (45° bend) 684.4

559+50 - 14' Rt. (45° bend) to 559+86 - 50' Rt.
(41' - I-4, 10' Outlet for I-4)
Inv. @ 559+50 Rt. 684.4
Inv. @ 559+86 Rt. 682.9

STA. 551+00 to STA. 565+50

FED. HIGHWAY DIVISION	STATE			
2	OHIO			

40
222

B.M. #52 El. 723.293
Wall in stump, 20' north
4' west of fence corner
(Sta. 574+90 ±, 110' ± Rt.)

CURVE DATA
P.I. = 574 + 93.44 S.B.
P.I. = 574 +52.44 N.B.
Δ = 23°-10'-00" Lt.
D = 2°-00'-00"
R = 2864.79
L_s = 200.00'
L_c = 958.33'
T_s = 687.31
E_s = 60.15
Superelev. = 9/16"/ft.

Sta. 573+75 Begin Type 2A Curb

End 6"I-4 Sta. 571+75-14'Lt. Inv. 704.9

Sta. 567+50 Side Slopes 2:1

T.S. 567+65.13

100' Transition

Wooded Area

T.S. 568+06.135

Sta. 568+50 Side Slopes 4:1

6"I-4-45° Bend Sta. 569+00-14'Lt. Inv. 699.4

S.C. 569+65.13

S.C. 570+06.13-S

565+60 Lt. Dump Remove & dispose of unsuitable material

Cultivated

Ditch Inv. 682.5

Ditch Inv. 684.0

Ditch Inv. 699.5

Ditch Inv. 704.2

Ditch Inv. 699.8

Inv. 700.92

Inv. 702.38

Ditch Inv. 702.4

Ditch Inv. 707.8

Guard Rail Sta 565+50 to Sta. 568+47.5 297.5 lin. ft.

N. 26°-12'-55" E.

565+50

570

575

579

Tree Line on Fence

Ditch Inv. 685.5

Ditch Inv. 693.0

Ditch Inv. 697.0

Ditch Inv. 702.0

Outlet 6"I-4 Sta. 568+51-35'Rt. Inv. 693.2

I-14
Paved Gutter
Type I Modified
565+50 to 567+00 Rt.

L-10
Sodded Ditch (1' Deep)
568+30 to 569+50 (Rt.) - 111.6 sq.yd.
565+50 to 565+70 (Lt.) - 14.4 sq.yd.
567+95 to 570+00 (Lt.) - 190.7 sq.yd.
See sh. 169

Cultivated

See Typical Sections & Cross Sections For Rock Benching in this Area.

Gravel Drive

B.M. #52

574+44.23 ℄ Northbound lane State Route #4

P.I. 574+52.44 N.B.

76°57'

C.N. on top of iron fence post

Gravel Road

577+25-Lt.
Std. #3-A CB
53'-12"I-2
Std. Endwall S-27.PC4

Profile
N. Bound Lane

692.83 692.77 693.38 694.02 694.73 695.47 696.25 699.35 700.90 701.66 702.38 703.06 703.70 704.38 704.88 705.48 705.92 706.38 706.80 707.19 707.54 707.86 708.13 708.37 708.57 708.74 708.86 708.96 709.00 709.03 709.00 708.95 708.85 708.72 708.55 708.35 708.10 707.83 707.51 707.16 706.77 706.34 705.88 705.38 704.84 704.26 703.65 703.00 702.32 701.59 700.83

750 740 730 720 710 700 690 680

P.V.T. 566+75

P.V.C. 568+50

P.V.I. 574+50 El. 719.38

Ground Line @ ℄ of Northbound Lane

300' V.C.

1200' V.C.

+25 Median Inv. 691.3

+3.1%

+2.06% +3.10%

Median Grade Line

+25 Median Inv. 694.4

+25 Median Inv. 708.2

Note: For Median Ditch Details Between Sta. 566+75 & Sta. 573+75 See Typical Sections

693.7 689.0 693.8 694.2 694.1 696.2 699.3 706.0 712.1 715.9 720.4 723.8 725.9 727.7 729.1 730.6 734.3 739.4

565+50 566 567 568 569 570 571 572 573 574 575 576 577 578 579

STA. 565 + 50 to STA. 579 + 00

NORTH

C.S. 579+23.46

C.S. 579+64.46-S

580+50 Lt.
Std. 2-10 Inlet
49'-12" I-2

580+65-33.9' Rt.
Std. Endwall
5-27 P.C.-4

S.T. 581+23.46

S.T. 581+64.46-S

Abandon Exist. Dirt Rd.

Inv. 12" 691.92

Inv. 691.45

Post in Conc.

Ditch Inv. 695.7

Ditch Inv. 692.0

Dirt Road

Abandon Exist. Dirt Rd.

S.T. 581+23.46 N.B.

B.M. #55 El. 643.769
N.E. corner conc. signal base W. side Rte. #4 @ R.R. (Sta. 586+70±5'±L)

For bridge site plan, see sh. 172

Guard Rail
589+90 to 593+00 Lt.

B&O Railroad

586+18.5-100' Lt.
Meet Exist. Ditch
Elev. 642.3

F.L. 672.52
Inv. 12" 669.52

5' ℄ Levee

Proposed Relocation of Dick's Creek
See sh. #161

℄ Dicks Creek

Wooded

℄ 10' Access Road

Access Road to meet exist. Levee

Fr. Shed

Sta. 8+72 on S.R. 73

See sheet 44 for Ramp A Drainage

1 Sty. Cement Bl. Res.

℄ R.R. Electric Box
B.M. #55

N 3°-08' 55" E.

F.L. 671.16
Inv. 24" 667.84

Guard Rail
585+39 to 585+76.5 Rt.

Inv. 630.00

Wooded
Inv. 625.0

586+87-100' Rt.
Meet Exist. Ditch
Elev. 640.5

1'-10" Conc. Slope Protection

Abandon Existing Gravel Parking Area

For Ramp "A" details see sheets 147 & 148

585+37-62.8' Lt.
Mod. 2-3 C.B. See sh. 164
112'-24" I-2
585+71-46.0' Rt.
Mod. 2-3 C.B. See sh. 164
585+71 to 586+42 Rt.
72'-24" I-2 [M6. 4(d)]

586+42-54' Rt.
Std. No. 1 M.H.
Rim elev. 647.00
Inv. 24"(South) 640.00
Inv. 48"(North) 634.50
See sheet 160

586+18.5-100' Lt. to 586+87-100 Rt.
Special Ditch
B=1' Side Slopes 1½:1

586+42-54' Rt. to 587+17-54' Rt.
48" ϕ Tunnel Liner Plate ℄ Endwall to be installed by B&O RR by Force Account
See sheet 160

OVERHEAD SIGN
STA. 591+30
TYPE: OS-1-A
H: 3'
B: 12'
Pole "A": 19'-6" (7 Ga.)
2 SIGNS: 3'x6'
4 SIGN SUPPORTS

Ex. 24" Industrial Waste
Ex. 12" Sanitary
Ex. Water Line
Ex. 20" Sanitary Sewer

RAMP A

I-10 Dumped Rock Ditch
587+17 to 588+90 (Rt.)
B=2 Side Slopes 2:1
Dump rock 18" thick to Elevation 1.5' above Ditch Bottom or to top of cut.
See sheet 160

700.83 700.04 699.20 698.33 697.43 696.48 695.50 693.50 689.50 685.50 681.50

674.50 673.53 672.62 671.78 671.00 670.28 669.43 668.71 667.95 667.26 666.63 664.90 662.60 660.30 658.80 655.70

Ground Line @ ℄ of Northbound Lane

P.V.T. 580+50

1200' V.C.

-4.0%

P.V.C. 585+75

P.V.T. 587+00
Elev. 669.17

250' V.C.

P.V.T. 588+25

-2.3%

Ground Line @ ℄ of Northbound Lane

PROPOSED STRUCTURE
TYPE: Continuous rolled beam with reinforced concrete deck and substructure.
SPANS: 48'-0", 75'-0", 75'-0", 75'-0", 75'-0", 60'-0" c to c of bearings.
SKEW: 19°-00'
WEARING SURFACE: 1" monolithic concrete.
SAFETY CURBS: 2 @ 2'-0"
ROADWAY: 68'-0" curb to curb.
APPROACH SLABS: South 15'-0" & North 25'-0" long.
LOADING: Standard lane loading as per State of Ohio Design Specifications for Highway Structures, October 1, 1951 with revisions dated July 15, 1952 and April 1, 1952.
CF = 400

739.4 746.6 750.0 745.1 737.6 725.6 707.6 691.4 677.9 663.9 642.2 641.9 631.4 627.3 627.4 627.2 627.7 627.5 623.5 632.6 632.6 626.1 626.4 626.8 627.1

+18 +32 +46 +60

579 580 581 582 583 584 585 586 587 588 589 590 591 592 593

STA. 579+00 to STA. 593+00

42
222

PROPOSED STRUCTURE

TYPE: Continuous rolled beam with reinforced concrete deck and substructure.

SPANS: 38'-6"-77'-0"-38'-6" c. to c. bearings
SKEW: 12°-10'
WEARING SURFACE: 1" monolithic concrete
SAFETY CURBS: 2 @ 2'-0"
ROADWAY: 68'-0" curb to curb
APPROACH SLABS: 25'-0" long
LOADING: Standard lane loading as per State of Ohio Design Specifications for Highway Structures, October 1, 1951, with revisions dated July 15, 1952 & April 1, 1954. CF=400

CURVE DATA
P.I. = 603+08.75'
Δ = 24°-31'-20" Rt.
D = 3°-00'-00"
R = 1,909.86
L_s = 350.00'
L_c = 467.41'
T_s = 590.59'
E_s = 47.31'
Superelev. = 7/8"/ft.

B.M. # 57
S.E. Corner ℞ Monu. @ fence corner 250' ± N. of trucking Co. office.
Sta. 606+35 - 65' ± L.

STA. 593+00 TO STA. 607+00

DIVISION	STATE	PROJECT	43
3	OHIO		222

BUT-4-(16.53-19.15)

6"I-4

6+08 Lt. to 8+50 Lt.
Inv. 6" @ 6+08 Lt. - 624.8
Inv. 6" @ 8+50 Lt. - 624.5
Connect to No 3-A CB @ 8+50 Lt.
6+96 Lt. -6"x6"x6" Tee

0+20 B Lt. to 0+73 B Lt. Tee
0+20 B Lt. - Connect 6" I-4 to Tee
0+73 B Lt. - Inv. 6" I-4 - 625.0

0+20 B Rt. to 1+92 B Rt.
Inv. 6" @ 0+20 B Rt. - 625.0 Connect to Inlet-MH
Inv. 6" @ 1+92 B Rt. - 625.0 Connect to Inlet-MH
Inv. 6" @ 0+75 B Rt. (Inlet-MH) - 624.8

8+25 to 9+38 - 29.5' Rt.
Inv. 6" I-4 @ 8+25 Rt. - 625.0
Inv. 6" I-4 @ 9+38 Rt. (C.B.) - 624.8

I-2

8+50 Lt. to 9+40 Rt.
99'-18"
Inv. @ 8+50 Lt. - 623.28
Inv. @ 9+40 Rt. - 623.85

8+00 Lt. to 8+50 Lt.
88'-12"
Inv. @ 8+00 Lt. - 626.55
Inv. @ 8+50 Lt. - 626.39

8+50 Lt. to 1+75 B2 - Rt.
88'-15"
Inv. @ 8+50 Lt. - 623.18
Inv. @ 1+75 BR Rt. - 622.64

1+50 B1 Lt. to 1+75 B1 Lt.
22'-12"
Inv. @ 1+50 B1 Lt. - 626.02
Inv. @ 1+75 B1 Lt. - 626.00

1+75 B1 Lt. to 0+75 B Rt.
59'-12"
Inv. @ 1+75 B1 Lt. - 625.90
Inv. @ 0+75 B Rt. - 625.84

G+10.45 Lt. to G+90.34 Lt.
78'-12"
Inv. @ G+10.45 Lt. - 626.80
Inv. @ G+90.34 Lt. - 626.40

I-2

0+50 B Rt. to 0+75 B Rt.
21'-12"
Inv. @ 0+50 B Rt. - 625.60
Inv. @ 0+75 B Rt. - 624.60

0+75 B Rt. to 1+75 B2-Rt.
86'-12"
Inv. @ 0+75 B Rt. - 624.50
Inv. @ 1+75 B2 Rt. - 622.89

1+75 BR Rt. (Inlet MH) to 1+75 BR Rt. (Endwall)
21'-15"
Inv. @ 1+75 BR Rt. (Inlet MH) - 622.54
Inv @ 1+75 BR Rt. (Endwall) - 621.1

1+75 B Lt. to 2+50 BR Rt.
70'-12"
Inv. @ 1+75 B Lt. - 626.50
Inv. @ 2+50 BR Rt. - 626.30

2+50 BR Rt. (C.B.) to 2+50 B2 Rt. (Endwall)
26'-12"
Inv. @ 2+50 B2 Rt. (C.B.) - 626.20
Inv. @ 2+50 B2 Rt. (Endwall) - 621.2

G+90.34 Lt. to 0+50 B Rt.
58'-12"
Inv. @ G+90.34 Lt. - 626.30
Inv. @ 0+50 B Rt. - 625.70

CATCH BASINS, INLETS & MANHOLES

STA.	TYPE
8+00 Lt.	#3-A Catch Basin
8+50 Lt.	#3-A Catch Basin
1+50 BL Lt.	#3 Catch Basin
1+75 BL Lt.	#3-A Catch Basin
0+50 B Rt.	#3-A Catch Basin
0+75 BR Rt.	#3-A Inlet Manhole
1+75 BR Rt.	#3-A Inlet Manhole
1+75 B Lt.	#3-A Catch Basin
2+50 BR Rt.	#3-A Catch Basin
G+10.45 Lt.	#3-A Catch Basin
G+90.34 Lt.	#3-A Catch Basin

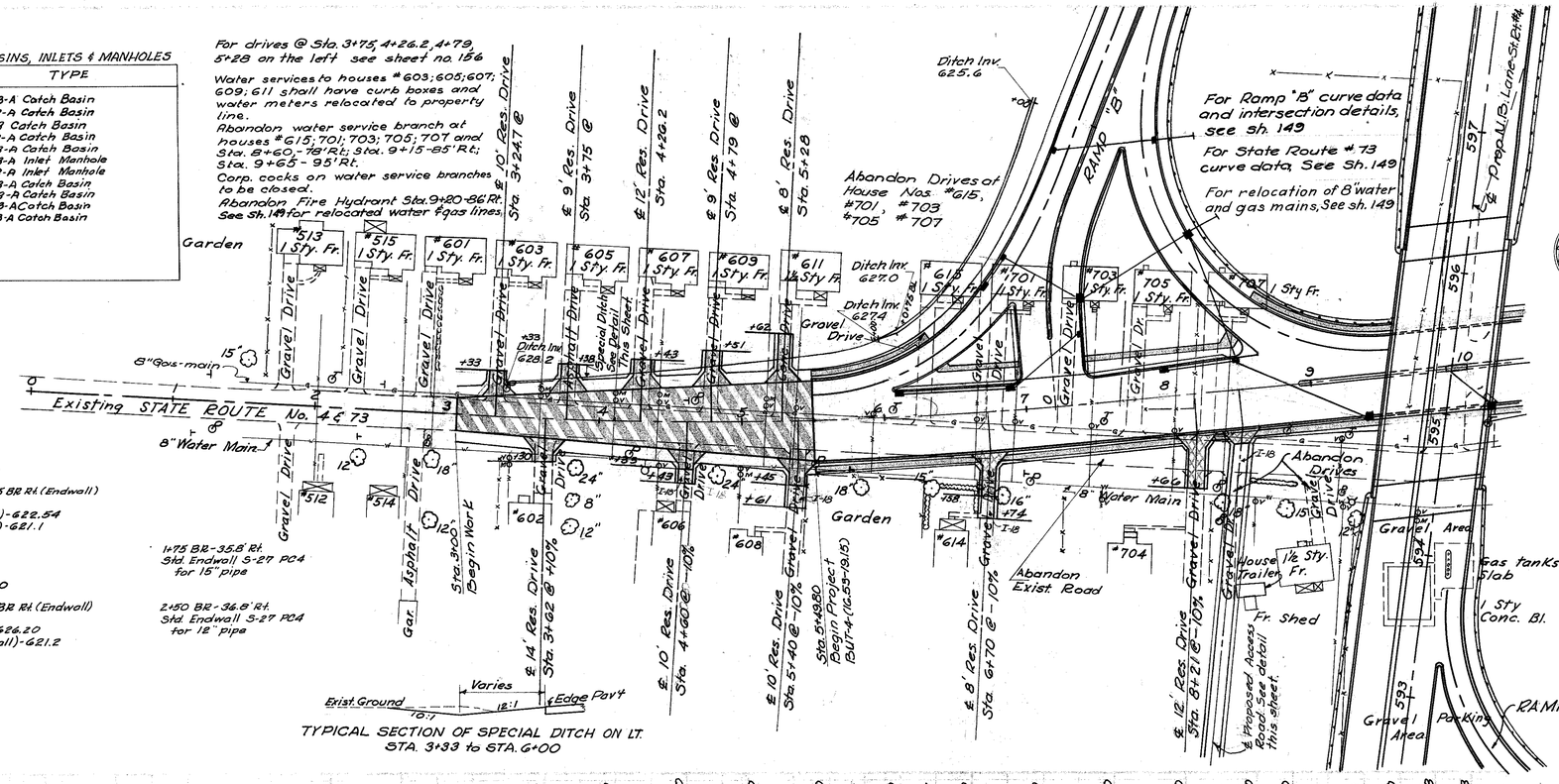
For drives @ Sta. 3+75, 4+26.2, 4+79, 5+28 on the left see sheet no. 156

Water services to houses #603; 605; 607; 609; 611 shall have curb boxes and water meters relocated to property line.

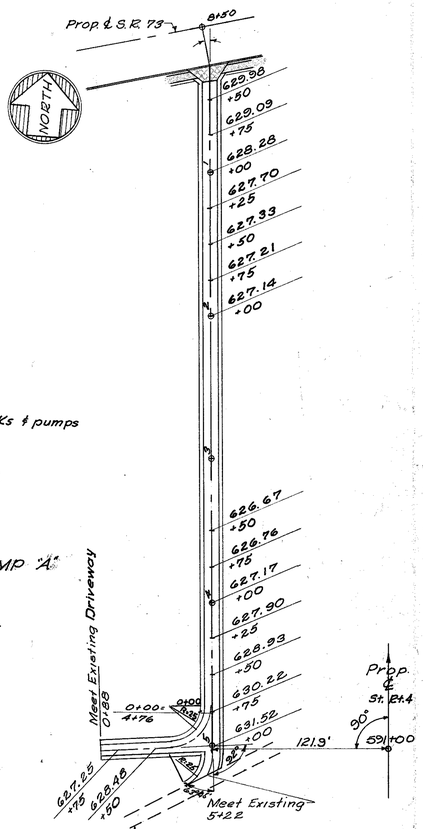
Abandon water service branch at houses #615; 701; 703; 705; 707 and Sta. 8+60 - 79' Rt.; Sta. 9+15 - 85' Rt.; Sta. 9+65 - 95' Rt.

Corp. cocks on water service branches to be closed.

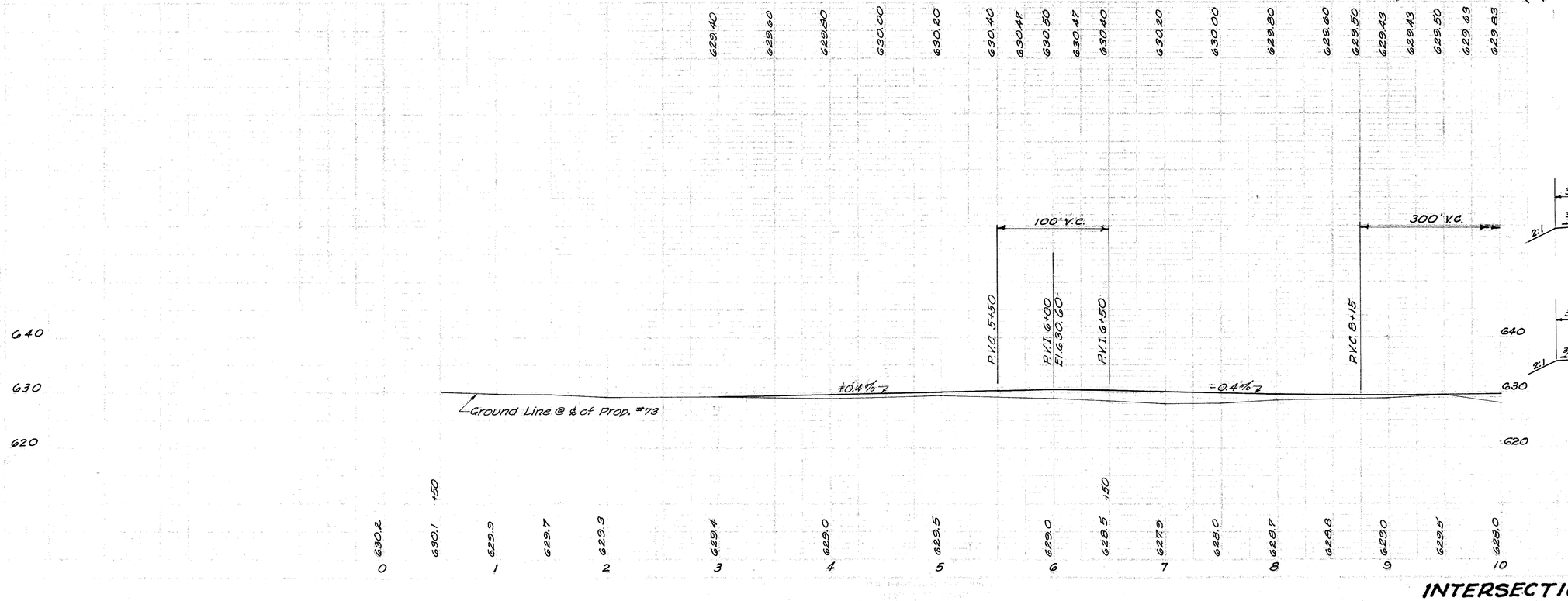
Abandon Fire Hydrant Sta. 9+20 - 86' Rt. See Sh. 149 for relocated water & gas lines.



TYPICAL SECTION OF SPECIAL DITCH ON LT.
STA. 3+33 to STA. 6+00



ACCESS ROAD



INTERSECTION - STATE ROUTES #4 & #7

CATCH BASINS, INLETS & MANHOLES

STATIONS	TYPE
16+63 Rt.	#3 Inlet Manhole
15+50 Rt.	#3 Inlet Manhole
13+71 Rt.	#3-A Catch Basin
12+50 Rt.	#3 Inlet Manhole
10+25 Rt.	#3 Inlet Manhole
10+00 ℄	#2-14 Inlet
9+40 Rt.	#3 Inlet Manhole
0+50 A Rt.	#3 Catch Basin — See Sh. #164
0+50 A Lt.	#3 Catch Basin — See Sh. #164
0+78 A-1.5' Lt.	#1 Manhole — See Sh. #164
1+55 AR Rt.	#3-A Catch Basin
2+25 A ℄	#2-14 Inlet
2+25 A-5.5' Rt.	#1 Manhole Rim El. 640.97
2+25 A-Rt.	#3-A Catch Basin
5+10 AL-Lt.	#3-A Catch Basin
7+10 AL Lt.	#3-A Catch Basin
593+23 Rt.	#3-A Catch Basin
594+10.5 Lt.	#3-A Catch Basin
594+25.5 Rt.	#3-A Catch Basin
17+65 - Lt.	#2-2A C.B. without side inlets
6+00 AL-16' Lt.	#1 Manhole Rim El. 656.91
4+10 A - Lt.	#2 MH on prop. 24" - See sh. #163
0+46 H - Rt	#6 Catch Basin
17+35-24.5' Rt.	#7 Catch Basin
2+12 E Rt.	#2-2-A C.B. without side inlets

For Ramp "A" curve data & intersection details, see sheets 147 & 148

For State Route #73 curve data, see sh. 149

Manholes Adjusted to Grade See sheet 164
14+00 Lt.
3+65 A Lt.
16+22 Lt.
18+50 ℄

For relocation of 8" water and gas mains and fire hydrants See sh. 147

I-2

9+40 Rt. to 10+25 Rt.
80'-15"
Inv. @ 9+40 Rt. - 624.10
Inv. @ 10+25 Rt. - 624.80

10+00 ℄ to 10+25 Rt.
35'-12"
Inv. @ 10+00 ℄ 625.00
Inv. @ 10+25 Rt. 624.90

10+25 Rt. to 12+50 Rt.
219'-12"
Inv. @ 10+25 Rt. - 624.90
Inv. @ 12+50 Rt. - 631.00

12+50 Rt. to 13+71 Rt.
113'-12"
Inv. @ 13+71 Rt. - 633.07
Inv. @ 12+50 Rt. - 631.13

15+50 Rt. to 16+63 Rt.
107'-12"
Inv. @ 15+50 Rt. - 631.11
Inv. @ 16+63 Rt. - 631.52

594+25.5 Rt. (CB) to Endwall Rt.
58'-12" M 6.4c (16 Ga.)
Inv. @ 594+25.5 Rt. (CB) 647.00
Inv. @ Endwall Rt. 628.00

7+10 AL-Lt (CB) to 6+00 AL-Lt (MH)
96'-12"
Inv. @ 7+10 AL-Lt. (CB) - 656.60
Inv. @ 6+00 AL-Lt (MH) - 651.00

593+23 Rt. to 594+25.5 Rt.
101'-12"
Inv. @ 593+23 Rt. - 650.20
Inv. @ 594+25.5 Rt. - 647.10

594+10.5 Lt. to 594+25.5 Rt.
68'-12"
Inv. @ 594+10.5 Lt - 649.50
Inv. @ 594+25.5 Rt. - 647.10

See sheet 162 for additional drainage

I-2

1+55 AR Rt. to 0+50 A Rt.
56'-12"
Inv @ 1+55 AR Rt. 632.13
Inv @ 0+50 A Rt. 632.07

15+50 Rt. to 0+50 A Lt.
77'-12"
Inv. @ 15+50 Rt. - 631.11
Inv. @ 0+50 A Lt. - 630.70

0+50 A Lt. to 0+78 A Lt.
31'-12"
See Sheet #164

0+50 A Rt. to 0+78 A Lt.
34'-12"
See Sheet #164

2+25 A ℄ to 2+25 A Rt. (MH)
3'-12"
Inv. @ 2+25 ℄ - 637.70
Inv. @ 2+25 Rt. (MH) - 636.70

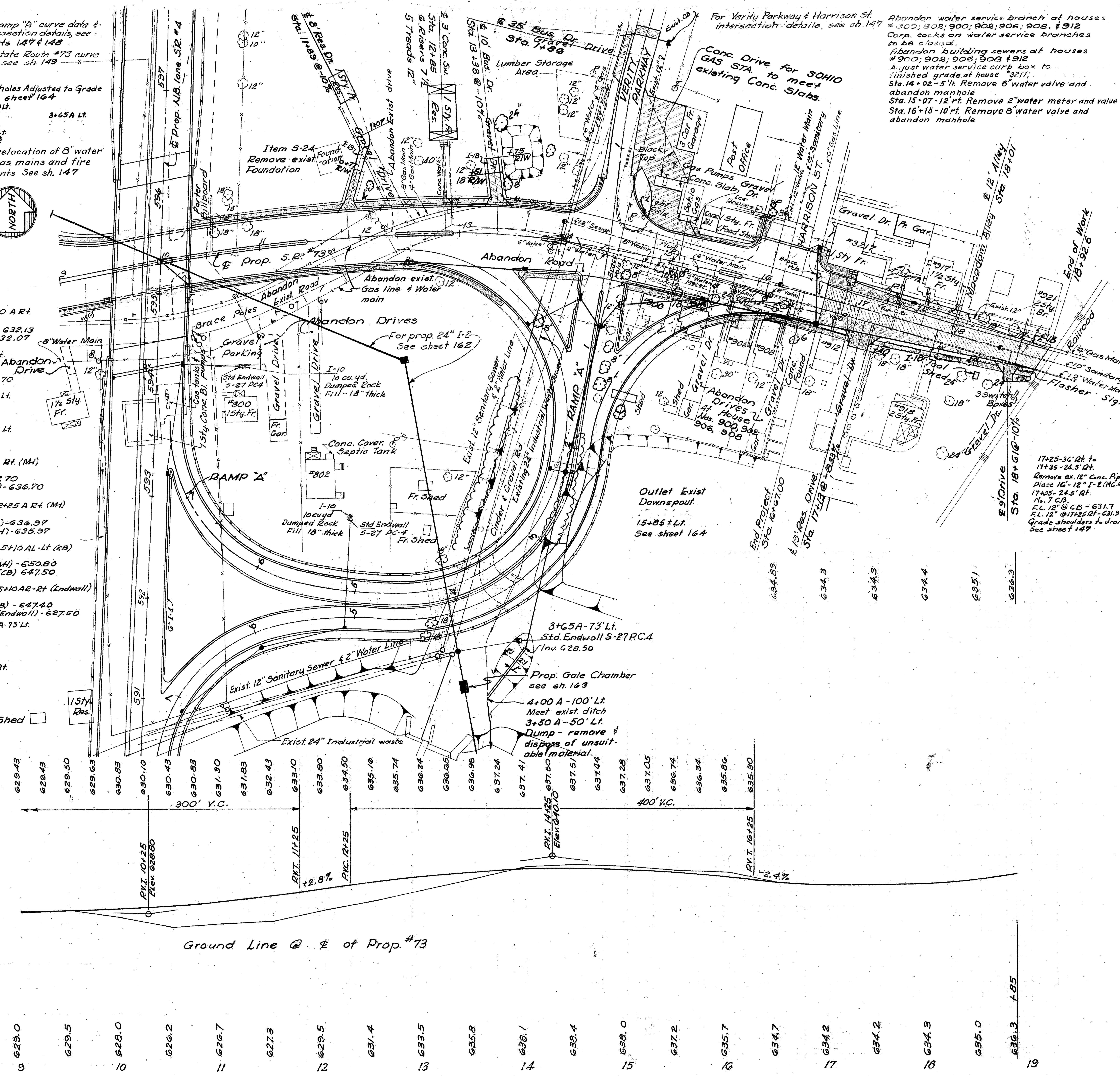
2+25 A Rt. (C.B.) to 2+25 A Rt. (MH)
14'-12"
Inv. @ 2+25 Rt. (C.B.) - 636.97
Inv. @ 2+25 A Rt. (MH) - 635.97

6+00 AL-Lt (MH) to 5+10 AL-Lt (CB)
83'-12"
Inv. @ 6+00 AL-Lt (MH) - 650.80
Inv. @ 5+10 AL-Lt (CB) 647.50

5+10 AL-Lt. (CB) to 5+10 AR-Rt (Endwall)
108'-12"
Inv. @ 5+10 AL-Lt (CB) - 647.40
Inv. @ 5+10 AR-Rt (Endwall) - 627.50

0+78 A-1.5' Lt. to 3+65 A-73' Lt.
321'-18" I-2
Inv. @ 0+78 A - 630.20
Inv. @ 3+65 A - 628.50

0+46 H Rt. to 16+63 Rt.
74'-12"
Inv. @ 0+46 H Rt. - 631.82
Inv. @ 16+63 Rt. - 631.52



Abandon water service branch at houses #800; 802; 900; 902; 906; 908. & 912
Corp. cocks on water service branches to be closed.
Abandon building sewers at houses #900; 902; 906; 908 & 912
Adjust water service curb box to finished grade at house #3217;
Sta. 14+02-5' lt. Remove 6" water valve and abandon manhole
Sta. 15+07-12' rt. Remove 2" water meter and valve
Sta. 16+15-10' rt. Remove 8" water valve and abandon manhole

6" I-4

13+75 Rt. to 15+53 Rt.
Inv. 6" I-4 @ 13+75 Rt. - 632.0
Inv. 6" I-4 @ 15+53 Rt. (C.B.) - 631.5

0+32 A Lt. to 0+50 A Lt.
Inv. 6" I-4 @ 0+32 A Lt. - 631.5
Inv. 6" I-4 @ 0+50 A Lt. (C.B.) - 631.2

0+50 A Lt. to 0+99 A Lt.
Inv. 6" I-4 @ 0+50 A Lt. (C.B.) - 631.2
Inv. 6" I-4 @ 0+99 A Lt. 632.0

0+32 A Rt. to 0+50 A Rt.
Inv. 6" I-4 @ 0+32 A Rt. - 632.6
Inv. 6" I-4 @ 0+50 A Rt. (CB) - 632.5

0+50 A Rt. to 1+06 A Rt.
Inv. 6" I-4 @ 0+50 A Rt. (C.B.) - 632.5
Inv. 6" I-4 @ 1+06 A Rt. - 634.7

9+42 to 10+22 - 27.5' Rt.
Inv. 6" I-4 @ 9+42 Rt. (C.B.) - 624.8
Inv. 6" I-4 @ 10+22 Rt. - 625.0

10+27 to 12+47 - 27.5 Rt.
Inv. 6" I-4 @ 10+27 (C.B.) - 625.0
Inv. 6" I-4 @ 12+47 - 629.1

0+50 E Lt. to 2+12 E Lt.
Inv. 6" I-4 @ 0+50 Lt. - 635.0
Inv. 6" I-4 @ 2+12 Lt. - 634.5 (90° bend)
Connect 6" I-4 to Prop. 2-2-A C.B. Sta. 2+12 Rt. with 36'-6" Outlet for I-4
Inv. @ C.B. - 634.0

17+25-36' Rt. to 17+35-24.5' Rt.
Remove ex. 12" Conc. Pipe Item E-12
Place 16'-12" I-2 (M6.4c-16Ga)
17+35-24.5' Rt.
No. 7 CB.
F.L. 12" @ CB - 631.7
F.L. 12" @ 17+25 Rt - 631.3
Grade shoulders to drain
See sheet 147

2+12 E - 23' Rt.
Abandon Exist. Catch Basin Item I-16
Build No. 2-2-A C.B. without side inlets on existing 12"
Top Grate elevation 637.0
Grade shoulder to prop. C.B.

6" I-4
591+18 Rt. to 593+23 Rt.
Inv. 6" I-4 @ 591+18 Rt - 655.2
Inv. 6" I-4 @ 593+23 Rt. (C.B.) - 650.7

17+24 to 17+65 Lt.
Abandon exist. C.B.
Remove exist 12" Pipe Item E-12
Build Std. No. 2-2-A C.B. without side inlets on exist. 12" @ 17+65
Inv. 12" - 629.6 ±
Grade shoulders to prop C.B.
See sheet 147
Remove exist 4" C.I. Pipe

INTERSECTION - STATE ROUTES #4 & #73

For drainage in Interchange Area
(Sta. 607+00 to 617+00) see sheets 166, 167 & 168

NORTH

Cultivated

Hog Pens

Abandon Drive

Gravel Drive

Guard rail barricade 25' long

2 Sty. Br. Res.

Barn

Garden

Cultivated

Partly Fenced

Ditch Inv. 623.5

T.S. G14+80.98

S.C. G17+80.98

21+49.30

Sta. G16+50
21" Pipe Culvert
see sh. # 170

Inv. 624.20

Inv. G25.00

Inv. 12"-G30.50

Inv. G24.90

Ditch Inv. 630.0

Ditch Inv. 629.5

Ditch Inv. 625.4

Ditch Inv. 624.9

Ditch Inv. 626.2

Ditch Inv. 627.5

G19+50-14' Lt.
No. 2-10 Inlet
G2'-12" I-2
Std. Endwall 5-27 P.C.4

N. 27°-34'-15" E.

607 610 615 620 621

CURVE DATA
P.I. = 620+28.49
Δ = 19°-40'-00" Lt.
D = 2°-30'-00"
R = 2291.83'
L_s = 300.00'
L_c = 489.67'
T_s = 547.51'
E = 35.83'
Superelev. = 1"/ft.

CURVE DATA
P.I. = 603+08.75
Δ = 24°-31'-20" Rt.
D = 3°-00'-00"
R = 1909.86'
L_s = 350.00'
L_c = 467.41'
T_s = 590.59'
E_s = 47.31'
Superelev. = 1"/ft.

C.N. on large flat stone

S.T. 608+85.57

Nail in stone foundation

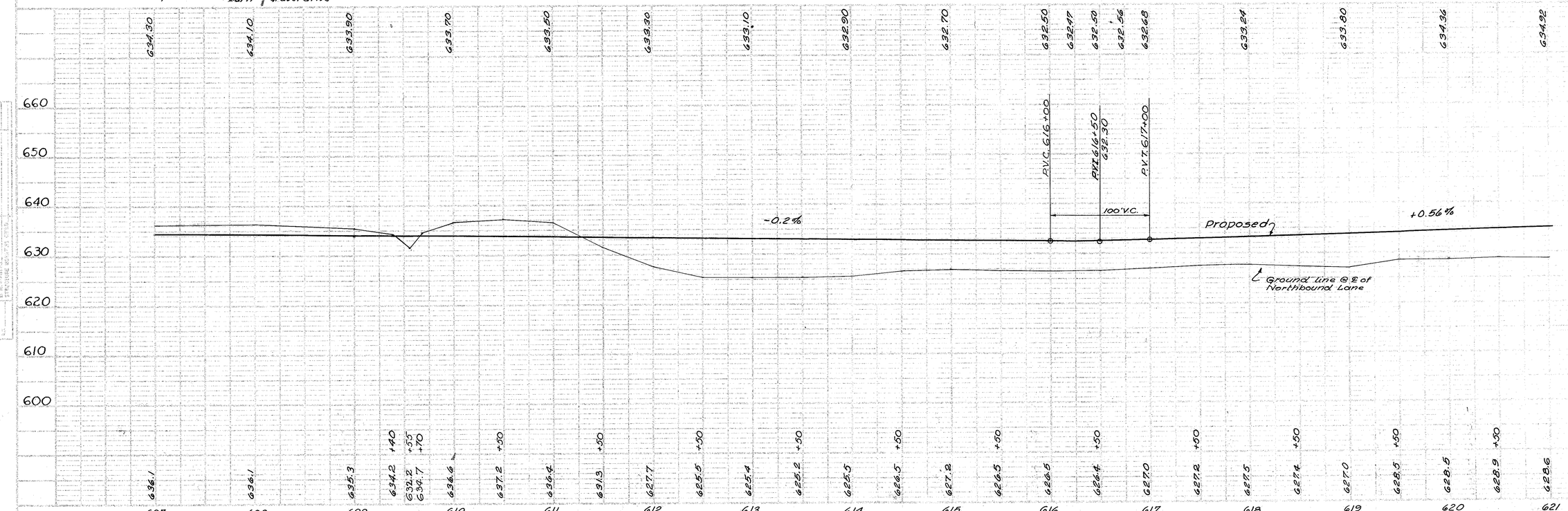
Barn

Gravel drive

T.S. G14+80.98

S.C. G17+80.98

P.I. G20+28.49



STA. 607+00 to STA. 621+00

DISTRICT	STATE	ROUTE	SECTION
2	OHIO		

AG 222

BUT-4-(16.53-19.15)

NORTH

CURVE DATA
PI = 620+28.49
Δ = 19°-40'-00" Lt
D = 2°-30'-00"
R = 2291.83'
L_s = 300.00'
L_c = 486.67'
T_s = 547.51'
E_s = 35.89'
Superelev = 11/16"/ft.

OVERHEAD SIGN
STA. 621+00
TYPE: OS-2-A
H: 3
SPAN "A": 70'
2 SIGNS: 3'-6" (Over S.B. SR 4)
4 SIGN SUPPORTS: 3', 9', 17', 23' From Beam Splice

For Drainage Details Pinta Avenue Intersection see sheet # 171

For Pinta Ave. Intersection Details See Sheet #154

C.S. 622+67.65

S.T. 625+67.65

PINTA AVE.

MINNESOTA AVE.

GRANADA AVE.

VERITY PARKWAY

BUENA AVE.

Gravel Drive

Ditch Inv. 628.5

Ditch Inv. 627.8

Ditch Inv. 629.0

I-18

Remove Item E-12 9"C.M.P.

Ditch Inv. 626.8

Ditch Inv. 626.3

Ditch Inv. 626.0

Guard Rail Barricade

Wooded Area

2 Sty. Fr. Res. #2801

2 Sty. Fr. Res. #2805

2 Sty. Fr. Res. #2509

Bldg. Material

4 Conc. Posts Aband. Pole

Guard Rail Barricade

1 Sty. Fr. Res. #805

1 Sty. Fr. Res. #2411

1 Sty. Fr. Res. #2415

2 Sty. Fr. Res. #2405

1½ Sty Fr. Res.

Gravel Dr.

Guard Rail Barricade

Abandon exist. pav't.

Ditch Inv. 633.70

Ditch Inv. 633.8

12" Conc. Pipe Outlet Remove Item E-12

Lower ex. 12" W.M.

1 Sty. Fr. Res. #2314

1 Sty. Fr. Res. #2312

2 Sty. Fr. Res. #2310

Porter

B.M. #60 Iron Pole

Conc. Mon.

Grape Arbor

Stone Walk

Conc. Cesspool

Conc. Bl. Shed

1 Sty. Fr. Res.

Fruit Trees

Air Relief Valve MH

Ditch Inv. 627.6

Conc. Mon. Lower existing 6" Water Main See Cross Section - Sh. N 1115

6" W.M.

Ditch Inv. 626.6

Ditch Inv. 626.7

Conc. Mon.

12" W.M.

12" Spiral Welded Water Main

Ditch Inv. 638.5

Ditch Inv. 631.2

Ditch Inv. 638.3

Ditch Inv. 637.0

Ditch Inv. 628.2

L-10 Sodded Ditch 1 ft. deep 0+75 V. Lt. to 624+90 Rt. 627+20 to 629+60 Rt.

N. 7°-54'-15" E. (Tang. to Spiral)

N 8°-02'-02" E. (to N.B. Lane)

0°-07'-47"

Edge of Pavement

V Ditch

New fittings

Ditch Inv. 638.7

Brace Pole

Abandon Exist. C.B.

Ditch Inv. 638.3

Ditch Inv. 636.8

Lower exist. 12" Water Main

Remove Exist. Pavement & seed from 622+00 to 631+00

Guard Rail Barricade

Item Special
Adjusting Water Valve Mh's to grade
0+39 M. Lt. (Minnesota Ave.)
1+10 R. Lt. (Pinta Ave.)
632+00 Lt.
Raising Fire Hydrant to grade
1+57 P. Rt. (Pinta Ave.)

Cemetery
632+40 Rt.
Std. No. 3 C.B. Inv. 15"-635.10
79'-15" I-2, 1-15" x 6" x 15" Tee
632+40-70.5' Lt.
Std. End wall 5-27 RC4 Inv. 15"-633.90
29.5' Sodded Outlet Ditch B-2'-S.S. 2:1
23 Sq. yd. Sod

Marker will be furnished and erected on the left by the State of Ohio before acceptance of this improvement.

F.S.81 (10)

Sta. 632+00 to 634+50 - Rt.
Type 2 Curb & Gutter (Mod.)
See Typical Sections & X-Sections

633+88 to 634+48 Lt.
Precast Conc. Dividers
633+76 Lt.
End Conc. Median

B.M. #59 El. 629.772
S.E. corner of walk @ house #805 on Granada Ave.
(Sta. 628+30± -50'± L.)

B.M. #60 El. 640.442
S.W. corner walk @ S. Corp. Line of Middletown (Verity Pkwy.) (Sta. 634+50-50'± L.)

South Corporation Line Middletown, Ohio

6" W.M.

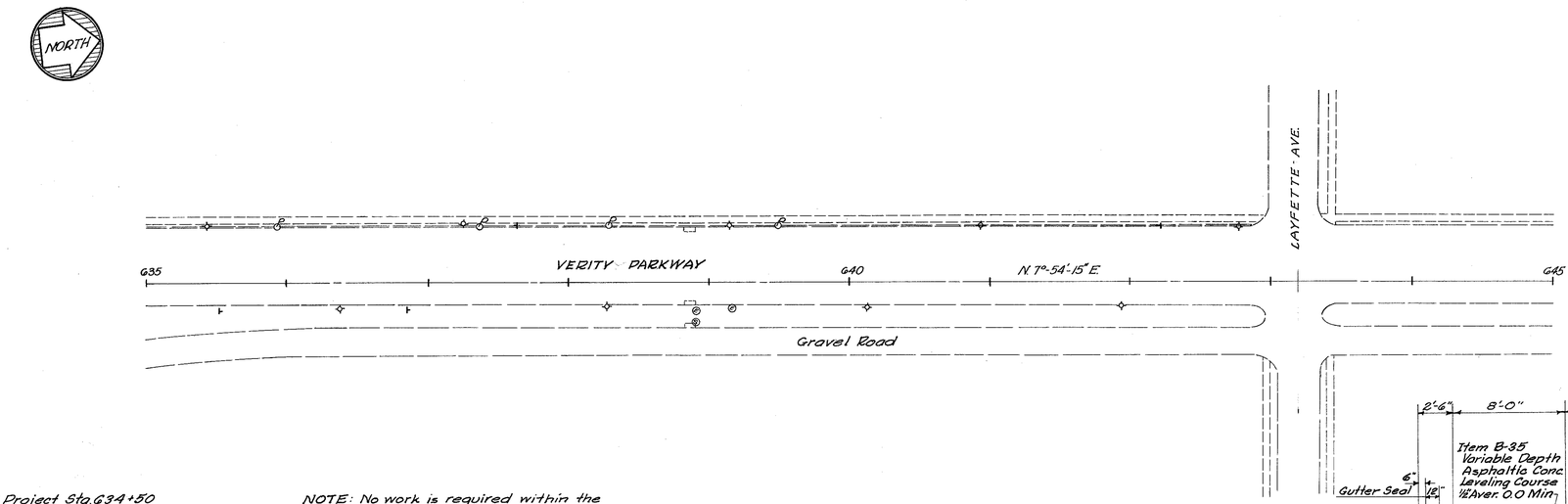
6" I-A
632+40 to 634+50 - 42' Lt. (Connect to 15" I-2)
Inv. @ 634+50-42' Lt. - 637.0
630+80 to 634+50 - 14' Rt.
Inv. @ 630+80 - 637.0
Inv. @ 632+40 (C.B.) - 635.4
Inv. @ 634+50-14' Rt. - 637.0

Item Special
Adjusting Water Mains
Sta. 628+15-50' Rt.
Relocate existing 6" W.M. with regd. new pipe & fittings to allow 30" cover where pipe crosses drainage ditch.
Sta. 629+70 - 33' Rt.
Provide 1" Air Relief Valve Mh
Sta. 629+70 - 33' Rt.
Lower existing 12" W.M. to allow 30" cover where pipe crosses drainage ditch.
Sta. 632+40 - 38' Lt.
Lower existing 12" W.M. to clear 15" pipe culvert.

End Project BUT-4 (16.53-19.15) 634+50

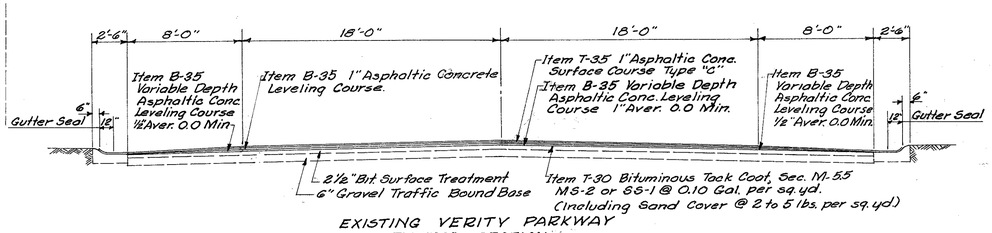
P.V.C. 629+50
P.I. 630+00 639.96
P.V.T. 630+50
100' V.C.
+0.56%
+0.142%
Ground Line @ ℄ of Northbound Lane

STA. 621+00 to STA. 635+00

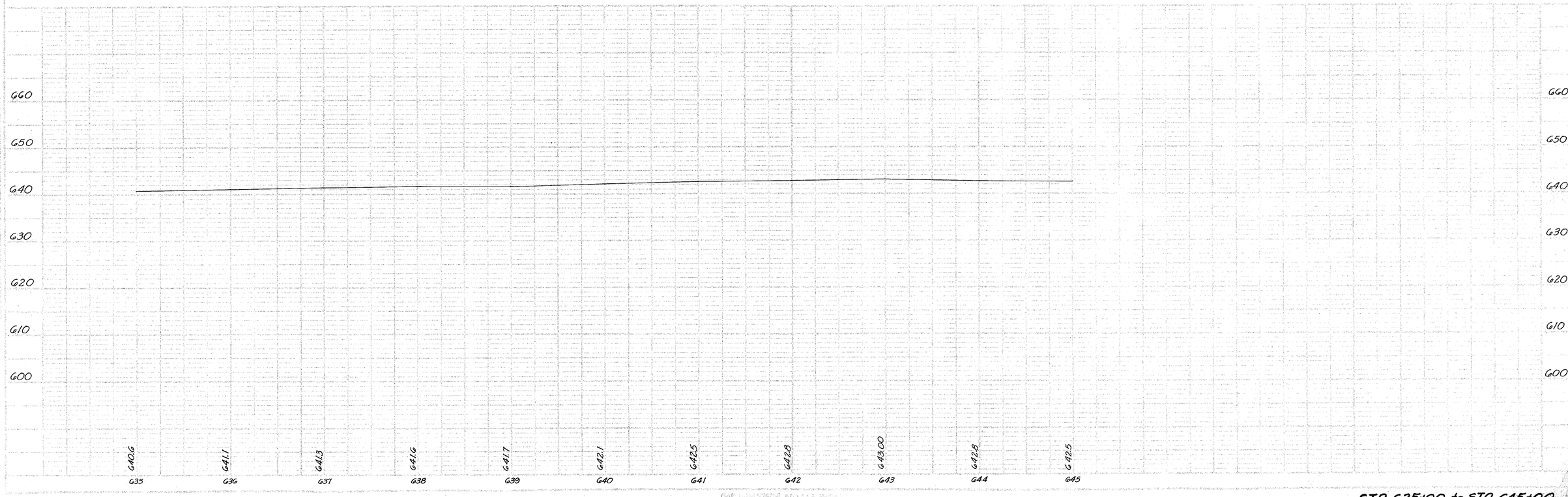


End Project Sta. 634+50
BUT-4-(16.53-19.15)
See sheet 46

NOTE: No work is required within the limits shown on this sheet under Contract BUT-4-(16.53-19.15)



EXISTING VERITY PARKWAY
TYPICAL SECTION
Scale: 1"=5'



STA. 635+00 to STA. 645+00

SUPERELEVATION TABLES

TS = 469+01.93 D = 4°00' Lt.
SC = 473+01.93 S = 1"/ft.
CS = 478+50.00
ST = 482+50.00

Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
470+50	720.63	721.06	721.49
+75	721.54	722.03	722.51
471+00	722.42	722.96	723.51
+25	723.27	723.87	724.47
+50	724.09	724.75	725.40
+75	724.88	725.59	726.30
472+00	725.63	726.40	727.17
+25	726.36	727.19	728.01
+50	727.05	727.93	728.81
+75	727.71	728.65	729.59
473+00	728.33	729.33	730.32
S.C.473+01.93	728.41	729.41	730.41
+25	728.93	729.93	730.93
+50	729.50	730.50	731.50
+75	730.02	731.02	732.02
474+00	730.52	731.52	732.52
+25	730.98	731.98	732.98
+50	731.43	732.43	733.43
+75	731.82	732.82	733.82
475+00	732.19	733.19	734.19
+25	732.53	733.53	734.53
+50	732.84	733.84	734.84
+75	733.11	734.11	735.11
476+00	733.35	734.35	735.35
+25	733.56	734.56	735.56
+50	733.75	734.75	735.75
+75	733.89	734.89	735.89
477+00	734.00	735.00	736.00
+25	734.10	735.10	736.10
+50	734.20	735.20	736.20
+75	734.31	735.31	736.31
478+00	734.41	735.41	736.41
+25	734.51	735.51	736.51
C.S.478+50.00	734.61	735.61	736.61
+75	734.72	735.66	736.61
479+00	734.82	735.71	736.59
+25	734.92	735.75	736.58
+50	735.02	735.79	736.57
+75	735.13	735.85	736.56
480+00	735.23	735.89	736.55
+25	735.33	735.93	736.54
+50	735.43	735.98	736.52
+75	735.54	736.03	736.52
481+00	735.64	736.07	736.51
+25	735.74	736.12	736.49
+50	735.84	736.16	736.48
+75	735.95	736.21	736.48
482+00	736.05	736.26	736.46
+25	736.15	736.34	736.45
S.T.482+50.00	736.27	736.46	736.46
+75	736.39	736.57	736.50
483+00	736.52	736.71	736.58
483+25.00	736.66	736.95	736.66

Notes:
1. All Elevations Marked Thusly-*-are at back edge of curb & 6" below top of curb. All other elevations shown are at normal edge of pavement.
2. Inner edge elevation is profile grade.

T.S. = 550+43.67 D = 2°00' Rt.
S.C. = 552+43.67 S = 3/16"/Ft.
C.S. = 561+59.50
S.T. = 563+59.50

Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge Both Lanes	℄ N.B. Lane	Outer Edge N.B. Lane
549+68.67	730.13	730.32	730.13	730.32	730.13
+75	729.91	730.03	729.89	730.06	729.87
550+00	729.98	729.09	728.90	729.01	728.82
+25	729.06	729.11	727.92	727.97	727.78
T.S.550+43.67	727.37	727.37	727.13	727.18	726.99
+50	727.15	727.12	726.93	726.91	726.72
+75	726.28	726.14	725.95	725.96	725.67
551+00	725.41	725.19	724.96	724.90	724.61
+25	724.55	724.26	723.98	723.75	723.52
+50	723.69	723.34	723.00	722.70	722.40
+75	722.82	722.41	722.01	721.64	721.27
552+00	721.95	721.49	721.03	720.59	720.15
+25	721.08	720.56	720.04	719.53	719.02
S.C.552+43.67	720.44	719.87	719.31	718.75	718.18
+50	720.19	719.62	719.06	718.50	717.93
+75	719.20	718.63	718.07	717.51	716.94
553+00	718.22	717.65	717.09	716.53	715.96
+25	717.23	716.66	716.10	715.54	714.97
+50	716.25	715.68	715.12	714.56	713.99
+75	715.27	714.70	714.14	713.58	713.01
554+00	714.28	713.71	713.15	712.59	712.02
+25	713.30	712.73	712.17	711.61	711.04
+50	712.31	711.74	711.18	710.62	710.05
+75	711.33	710.76	710.20	709.64	709.07
555+00	710.34	709.77	709.21	708.65	708.08
+25	709.36	708.79	708.23	707.67	707.10
+50	708.38	707.81	707.25	706.69	706.12
+75	707.39	706.82	706.26	705.70	705.13
556+00	706.41	705.84	705.28	704.72	704.15
+25	705.42	704.85	704.29	703.73	703.16
+50	704.44	703.87	703.31	702.75	702.18
+75	703.45	702.90	702.32	701.76	701.19
557+00	702.47	701.90	701.34	700.78	700.21
+25	701.49	700.92	700.36	699.80	699.23
+50	700.50	699.93	699.37	698.81	698.24
+75	699.52	698.95	698.39	697.83	697.26
558+00	698.53	697.96	697.40	696.84	696.27
+25	697.58	697.01	696.45	695.89	695.32
+50	696.68	696.11	695.55	694.99	694.42
+75	695.84	695.27	694.71	694.15	693.58
559+00	695.06	694.49	693.93	693.37	692.80
+25	694.33	693.76	693.20	692.64	692.07
+50	693.67	693.10	692.54	691.98	691.41
+75	693.06	692.49	691.93	691.37	690.80
560+00	692.51	691.94	691.38	690.78	690.25
+25	692.01	691.44	690.89	690.32	689.75
+50	691.58	691.01	690.45	689.89	689.32
+75	691.20	690.63	690.07	689.51	688.94
561+00	690.88	690.31	689.75	689.19	688.62
+25	690.62	690.05	689.49	688.93	688.36
+50	690.42	689.85	689.29	688.73	688.16
C.S.561+59.50	690.36	689.79	689.23	688.67	688.10
+75	690.20	689.67	689.14	688.62	688.10
562+00	689.99	689.52	689.05	688.60	688.15
+25	689.84	689.43	689.02	688.64	688.26
+50	689.75	689.40	689.05	688.74	688.43
+75	689.72	689.44	689.14	688.90	688.66
563+00	689.75	689.51	689.28	689.11	688.91
+25	689.80	689.64	689.45	689.35	689.17
+50	689.85	689.81	689.62	689.59	689.41
S.T.563+59.50	689.88	689.58	689.69	689.69	689.50
+75	689.95	689.98	689.79	689.83	689.64
564+00	690.08	690.18	689.99	690.09	689.90
+25	690.25	690.42	690.23	690.39	690.20
564+34.50	690.34	690.53	690.34	690.53	690.34

T.S. = 507+65.13 D = 2°00' Lt.
S.C. = 509+65.13 S = 3/16"/Ft.
C.S. = 579+23.46
S.T. = 581+23.46

Station	Inner Edge N.B. Lane	℄ N.B. Lane	Outer Edge N.B. Lane
506+90.13	695.94	696.13	695.94
507+00	696.25	696.44	696.27
+25	697.03	697.22	697.12
+50	697.80	697.99	697.95
T.S.507+65.13	698.27	698.46	698.46
+75	698.58	698.77	698.81
508+00	699.35	699.54	699.70
+25	700.13	700.36	700.60
+50	700.90	701.19	701.49
+75	701.66	702.01	702.36
509+00	702.38	702.79	703.20
+25	703.06	703.53	704.00
+50	703.70	704.23	704.76
S.C.509+65.13	704.08	704.64	705.21
+75	704.32	704.88	705.45
510+00	704.88	705.44	706.01
+25	705.42	705.98	706.55
+50	705.92	706.48	707.05
+75	706.38	706.94	707.51
511+00	706.80	707.36	707.93
+25	707.19	707.75	708.32
+50	707.54	708.10	708.67
+75	707.86	708.42	708.99
512+00	708.13	708.69	709.26
+25	708.37	708.93	719.50
+50	708.57	709.13	719.70
+75	708.74	709.30	719.87
513+00	708.90	709.42	719.99
+25	708.96	709.52	710.09
+50	709.00*	709.56	710.13
+75	708.98*	709.59	710.16
514+00	708.95*	709.56	710.13
+25	708.90*	709.51	710.08
+50	708.80*	709.41	709.48
+75	708.67*	709.28	709.85
515+00	708.50*	709.11	709.68
+25	708.30*	708.91	709.48
+50	708.05*	708.66	709.23
+75	707.78*	708.39	708.96
516+00	707.46*	708.07	708.64
+25	707.11*	707.72	708.29
+50	706.72*	707.33	707.90
+75	706.29*	706.90	707.47
517+00	705.83*	706.44	707.01
+25	705.33*	705.94	706.51
+50	704.79*	705.40	705.97
+75	704.21*	704.82	705.39
518+00	703.60*	704.21	704.78
+25	702.95*	703.56	704.13
+50	702.27*	702.88	703.45
+75	701.54*	702.15*	702.72
519+00	700.78*	701.39	701.96
C.S.519+23.46	700.04*	700.65	701.22
+25	699.99*	700.60	701.16
+50	699.16*	699.69	700.18
+75	698.29*	698.75	699.17
520+00	697.40*	697.78	698.13
+25	696.46*	696.76	697.04
+50	695.48*	695.71	695.91
+75	694.49*	694.64	694.77
521+00	693.49*	693.57	693.63
S.T.521+23.46	692.50*	692.56	692.56
+25	692.50*	692.50	692.50
+50	691.50*	691.47	691.43
+75	690.50*	690.43	690.37
522+00	689.50*	689.40	689.30
+25	688.50*	688.37	688.24
+50	687.50*	687.34	687.17
522+73.46	686.50*	686.36	686.17

T.S. = 565+06.13 S D = 2°00' Lt.
S.C. = 570+06.13 S S = 3/16"/Ft.
C.S. = 579+64.46 S
S.T. = 581+64.46 S

Station	Outer Edge S.B. Lane	℄ S.B. Lane	Inner Edge S.B. Lane
567+31.13	697.23	697.42	697.23
+50	697.76	697.95	697.81
+75	698.47	698.66	698.53
568+00	699.19	699.38	699.36
T.S.568+06.13	699.38	699.57	699.57
+25	699.95	700.14	700.19
+50	700.62	700.81	700.93
+75	701.31	701.51	701.70
569+00	701.99	702.16	702.42
+25	702.47	702.80	703.14
+50	703.01	703.41	703.82
+75	703.50	703.97	704.45
570+00	703.91	704.45	705.00
S.C.570+06.13	704.00	704.57	705.13
+25	704.40	704.97	705.53
+50	704.69	705.46	706.02
+75	705.31	705.89	706.44
571+00	705.73	706.30	706.86
+25	706.13	706.70	707.26
+50	706.49	707.06	707.62
+75	706.90	707.37	707.93
572+00	707.05	707.62	709.13
+25	707.27	707.84	709.40
+50	707.45	709.02	708.58
+75	707.63	708.20	708.76
573+00	707.76	708.33	708.89
+25	707.85	708.42	708.98
+50	707.99	708.46	709.02
+75	707.87	708.44	709.05*
574+00	707.84	708.41	709.02*
+25	707.79	708.36	708.97*
+50	707.67	708.24	708.85*
574+75	707.48	708.05	708.66*
575+00	707.29	707.86	708.47*
+25	707.10	707.67	708.28*
+50	706.87	707.44	708.05*
+75	706.54	707.11	707.72*
576+00	706.20	706.77	707.38*
+25	705.82	706.39	707.00*
+50	705.40	705.97	706.58*
+75	704.96	705.53	706.17*
577+00	704.47	705.04	705.65*
+25	703.96	704.53	705.14*
+50	703.39	703.96	704.57*
+75	702.78	703.35	703.96*
578+00	702.12	702.69	703.30*
+25	701.43	702.00	702.61*
+50	700.73	701.30	701.91*
+75	699.99	700.56	701.17*
579+00	699.23	699.80	700.41*
+25	698.42	698.99	699.60*
+50	697.54	698.11	698.72*
C.S.579+64.46	696.99	697.56	698.17*
+75	696.66	697.19	697.78*
580+00	695.87	696.33	696.84*
+25	695.02	695.42	695.84*
+50	694.18	694.51	694.86*
+75	693.34	693.60	693.87*
581+00	692.47	692.66	692.88*
+25	691.48	691.67	691.88*
+50	690.49	690.63	690.89*
S.T.581+64.46	689.91	690.10	690.30*
+75	689.49	689.68	689.88*
582+00	688.49	688.68	688.88*
+25	687.49	687.68	687.88*
+50	686.49	686.68	686.88*
+75	685.49	685.68	685.88*
583+00	684.49	684.68	684.88*
583+14.46	683.91	684.10	684.30*

T.S. = 614+30.98 D = 2°30' Lt.
S.C. = 617+30.98 S = 11/16"/Ft.
C.S. = 622+67.65
S.T. = 625+67.65

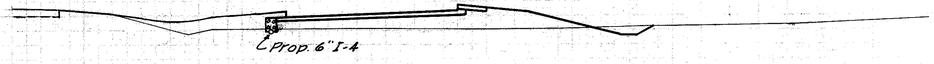
Station	Outer Edge S.B. Lane	Inner Edge Both Lanes*	Outer Edge N.B. Lane
613+30.98	632.61*	633.04	632.65
+50	632.57*	633.00	632.66
+75	632.52*	632.95	632.67
614+00	632.47*	632.90	632.69
+25	632.42*	632.85	632.70
+50	632.37*	632.80	632.72
+75	632.32*	632.75	632.73
T.S.614+30.98	632.31*	632.74	632.74
615+00	632.27*	632.70	632.80
+25	632.22*	632.65	632.89
+50	632.17*	632.60	632.94
+75	632.04*	632.55	633.01
616+00	631.86*	632.50	633.09
+25	631.69*	632.47	633.10
+50	631.67	632.50	633.33
+75	631.61	632.56	633.51
617+00	631.60	632.63	633.76
+25	631.62	632.82	634.02
+50	631.64	632.96	634.28
+75	631.65	633.10	634.55
S.C.617+30.98	631.65	633.13	634.61
618+00	631.76	633.24	634.72
+25	631.90	633.38	634.86
+50	632.04	633.52	635.00
+75	632.18	633.66	635.14
619+00	632.32	633.80	635.28
+25	632.46	633.94	635.42
+50	632.60	634.08	635.56
+75	632.74	634.22	635.70
620+00	632.89	634.36	635.84
+25	633.02	634.50	635.98
+50	633.16	634.64	636.12
+75	633.30	634.79	636.26
621+00	633.44	634.92	636.40
+25	633.58	635.06	636.54
+50	633.72	635.20	636.68
+75	633.86	635.34	636.82
622+00	634.00	635.48	636.96
+25	634.14	635.62	637.10
+50	634.28	635.76	637.24
C.S.622+67.65	634.32	635.80	637.24
+75	634.46	635.90	637.34
623+00	634.72	636.04	637.36
+25	634.99	636.13	637.37
+50	635.25	636.32	637.39
+75	635.51	636.46	637.41
624+00	635.78	636.60	637.42
+25	636.04	636.74	637.44
+50	636.30	636.88	637.46
+75	636.56	637.02	637.48
625+00	636.77	637.16	637.49
+25	636.91	637.30	637.51
+50	637.05	637.44	637.53
S.T.625+67.65	637.15	637.54	637.54
+75	637.19	637.58	637.56
626+00	637.33	637.72	637.64
+25	637.47	637.86	637.71
+50	637.61	638.00	637.79
+75	637.75	638.14	637.86
627+00	637.89	638.28	637.94
+17.65	637.99	638.38	637.99

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

49
222

725.63
472+00
726.8

722.42
471+00
720.3



720.63
470+50
718.2

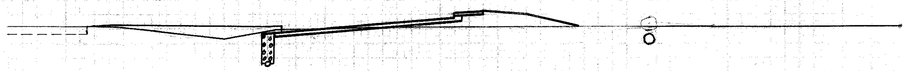
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
130	4		
		248	165
4	85		
		9	162
6	90		

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

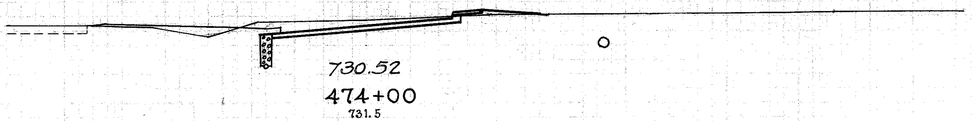
STA. 470+50 TO 472

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

733.35
476+00
732.1

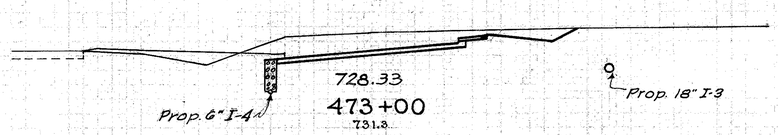


732.19
475+00
732.2



730.52
474+00
731.5

Note:
Drive Rt. Sta. 474+81.5



728.33
473+00
731.3

Prop. 6" I-4

Prop. 18" I-3

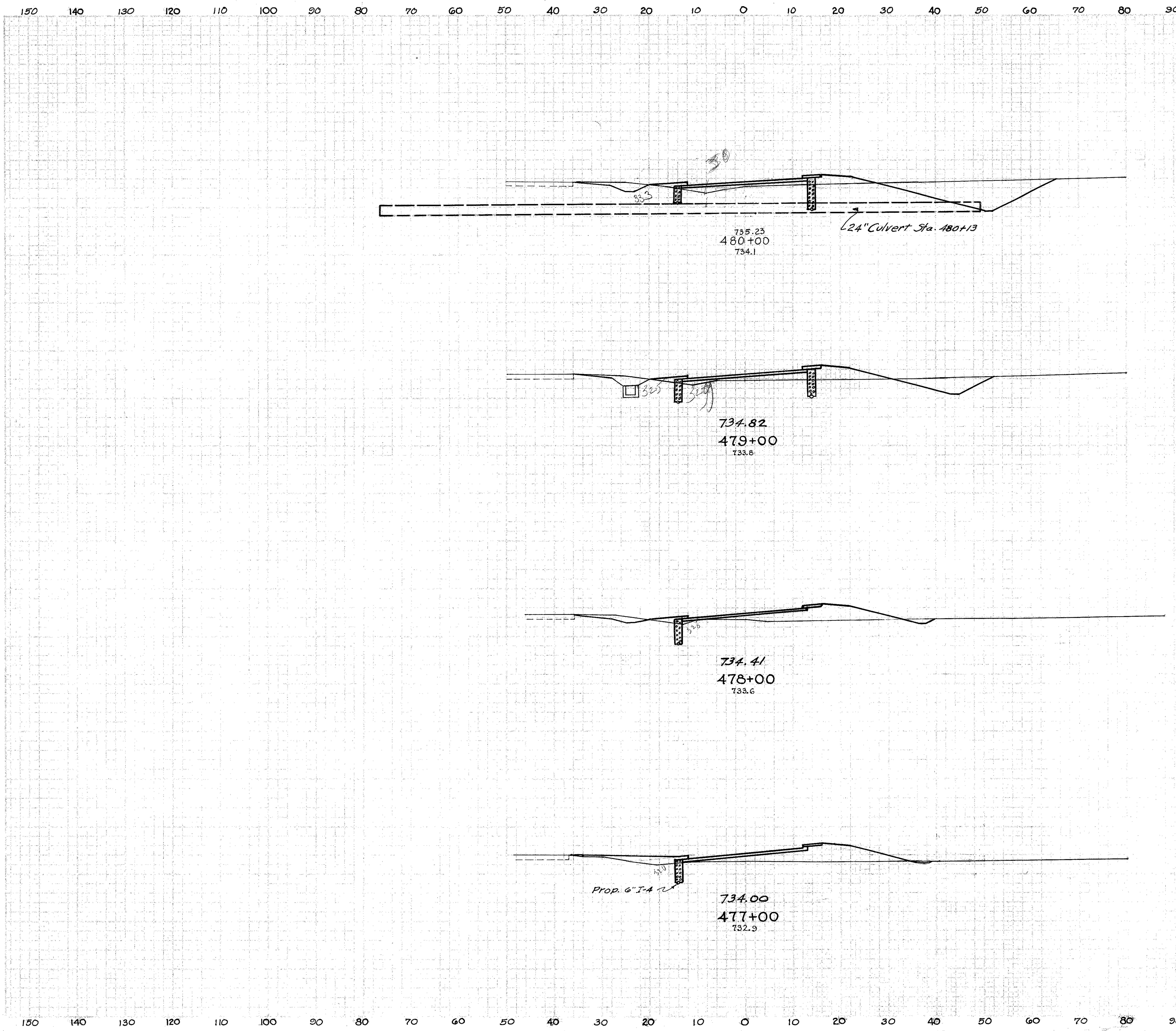
Note:
Drive Rt. Sta. 473+72

Note:
Drive Sta. 472+83

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
7	66		
		28	226
8	56		
		100	130
			15
46	14		
		274	57
		30	
102	17		
		19	
		430	39

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

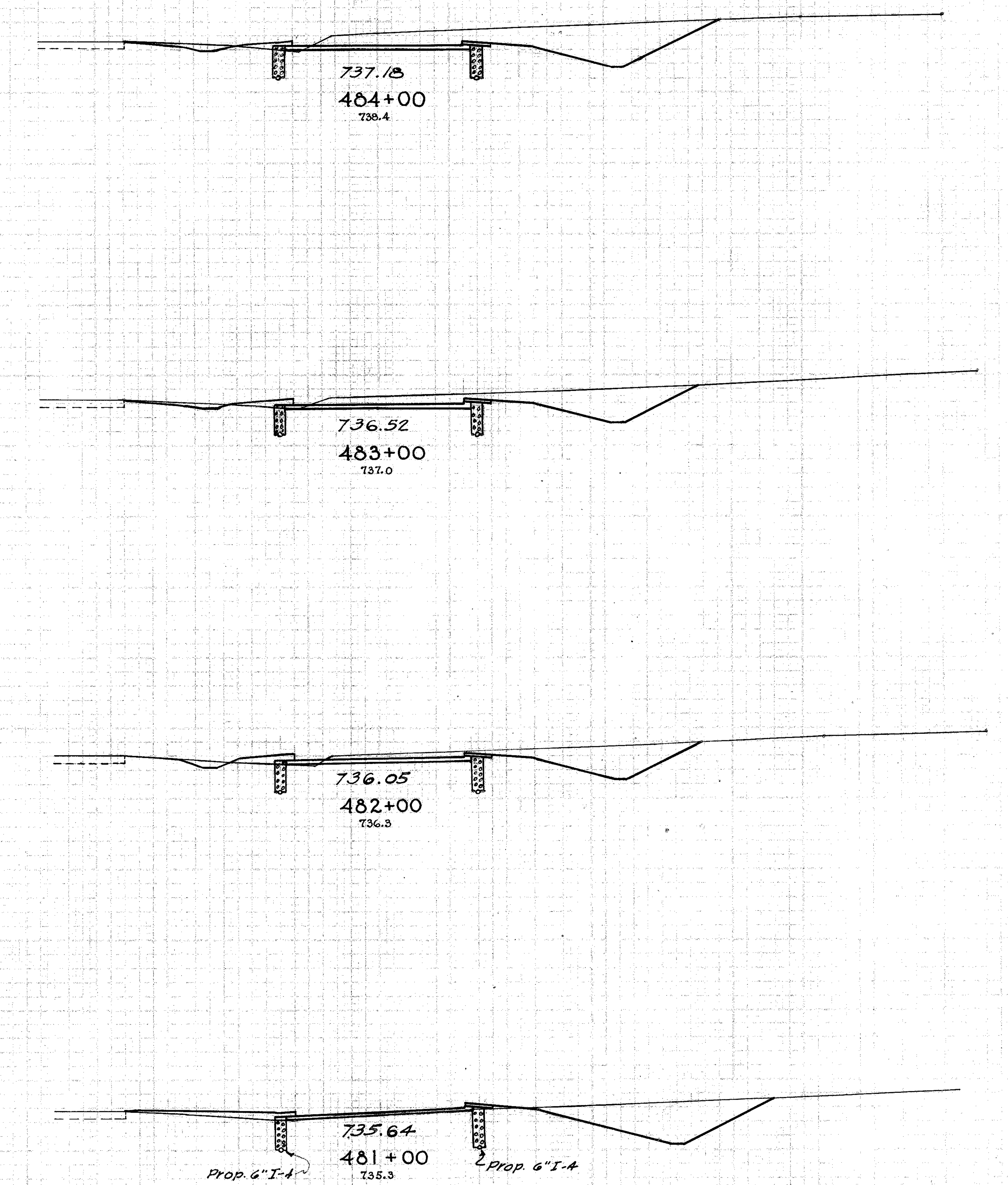
STA. 473+00 TO 476+00



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
156	48		
		404	235
.62	79		
		141	298
14	82		
		32	393
			12
3	130		
		19	363

Sta. 470+50 to Sta. 480+00
E-1 734 Cu. Yds.
Embankment 2095 Cu. Yds.
Embankment +15% 2409 Cu. Yds.

Note:
Drive Rt. Sta. 477+31

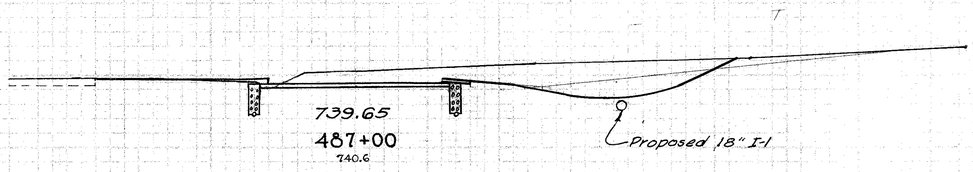


End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
176	5		
		599	19
126	5		
		428	22
105	7		
		406	54
114	22		
		500	130

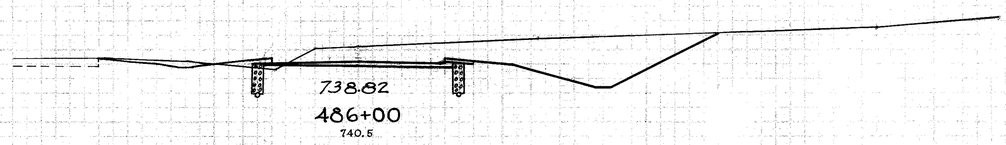
STA. 481+00 TO 484+0

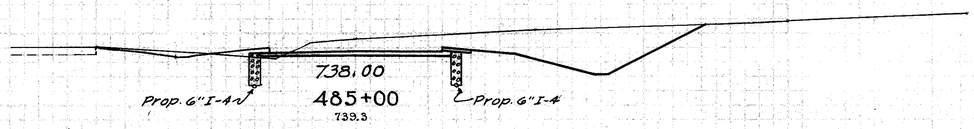
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

53
222



Note:
Field Drive Rt. Sta. 486+87





End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
191	1	9	25
		772	11
226	5		
		774	20
192	6		
		682	20

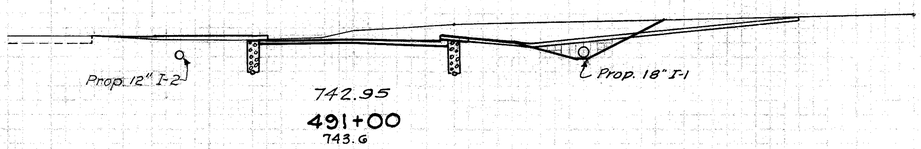
STA. 485+00 TO 487+00

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

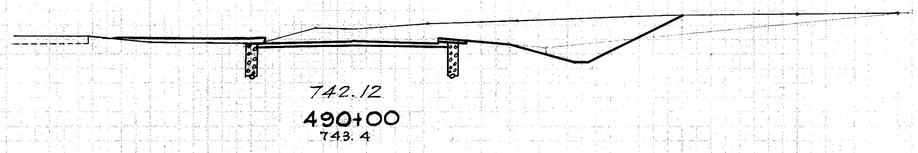
REGION	DIVISION	COUNTY	PROJECT	
2		OHIO		

54
222

SUT-4-(19.53 18.15)



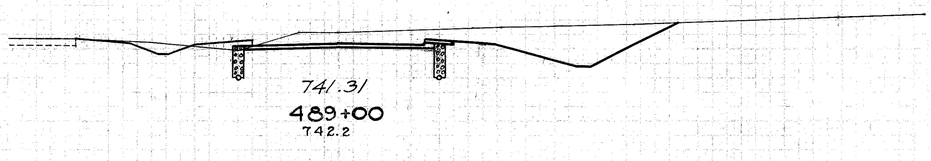
742.95
491+00
743.6



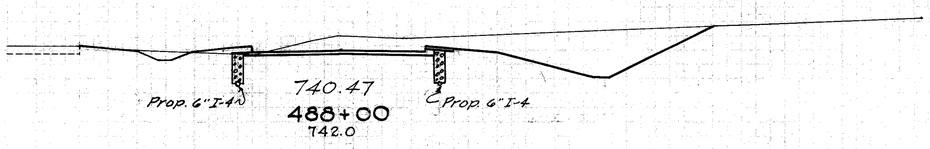
742.12
490+00
743.4

Note:
Field Drive Sta. 491+00

Note:
Drive Rt Sta. 489+75



741.31
489+00
742.2



740.47
488+00
742.0

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		9	12
138	3		
		630	13
202	4		
		700	20
		26	11
176	7		
		732	22
219	5		
		759	11

Sta. 480+00 to Sta. 490+00
E-1 6347 Cu. Yds.
Embankment 365 Cu. Yds.
Embankment +15% 420 Cu. Yds.

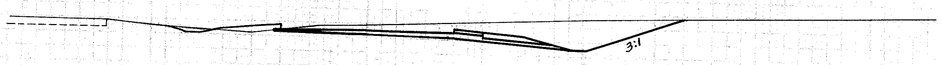
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 488+00 TO 491+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

	STATE	PROJECT	
4	OHIO		55 222

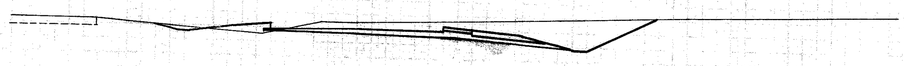
BUT-4-(16.53-19.13)



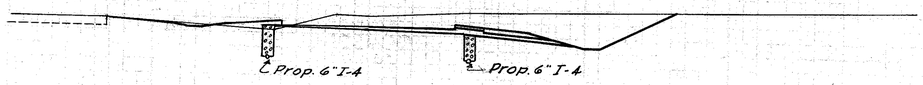
745.61
495+00
745.9

745.34
494+00
746.1

Note:
Drive Rt. Sta. 494+19



744.60
493+00
744.9

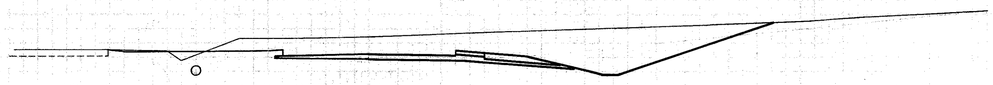


743.77
492+00
744.5

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
142	12		
		559	43
		17	8
160	11		
		559	43
		550	43
137	12		
		559	46
165	13		
		561	30

140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40

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



745.05
499+00
746.9

745.20
498+00
746.7

745.35
497+00
745.7

745.50
496+00
745.9

Note:
Drive Sta. 499+27 Rt.

Note:
Drive Rt. Sta. 496+64

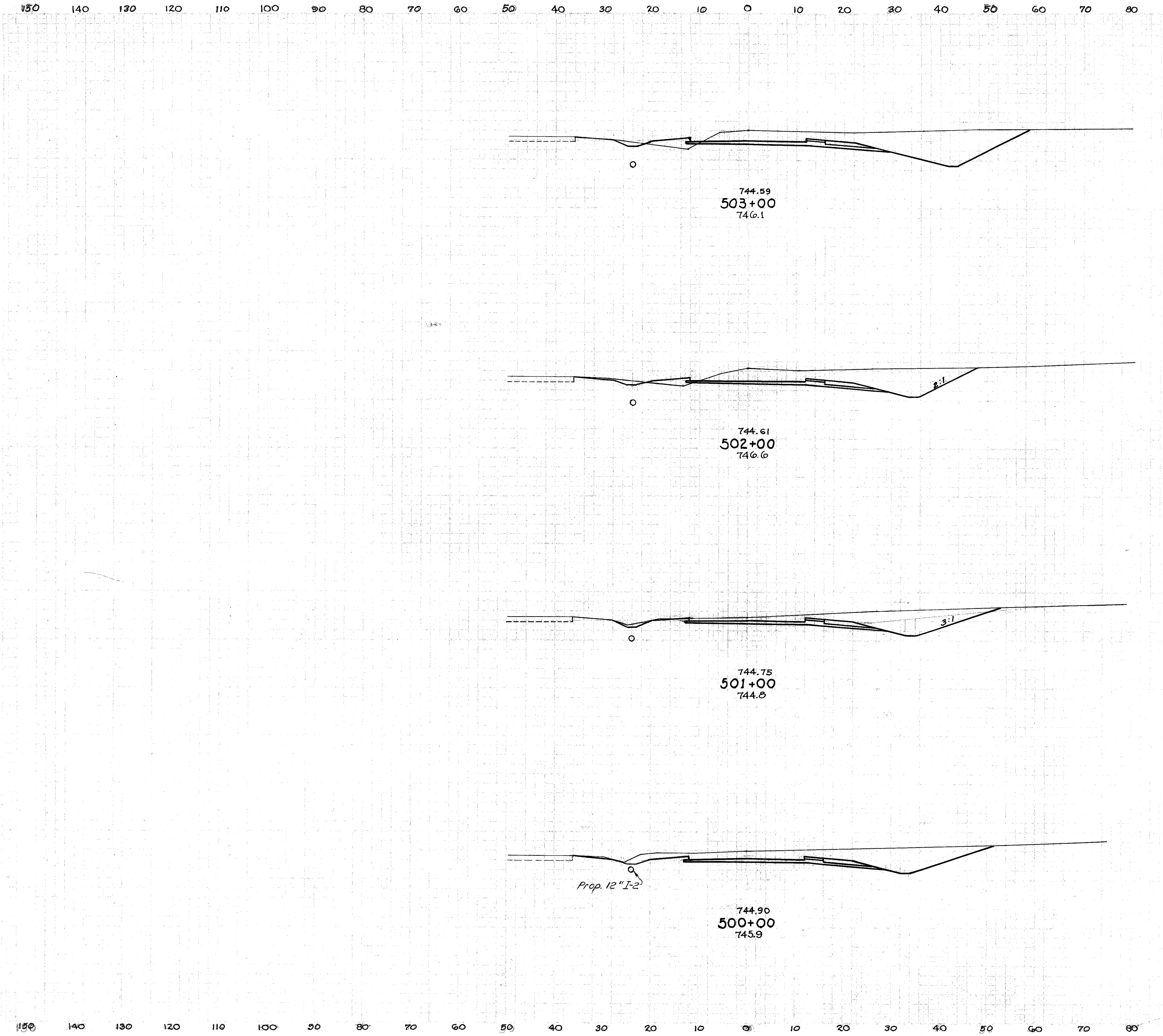
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		15	26
295	4		
		1009	19
250	6		
		770	22
166	6		
		598	22
		7	17
157	6		
		554	33

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. 496+00 TO 499+00

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			57 222

RUT-8 (16.53-18.15)

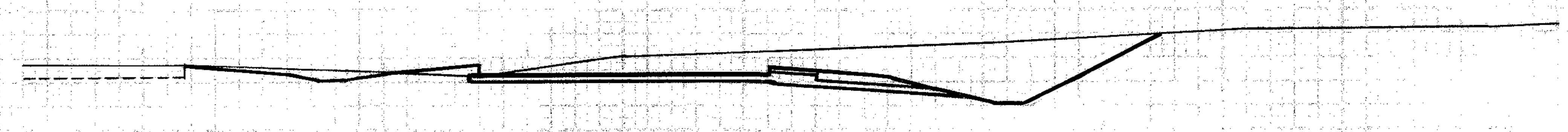


Note:
Drive Rt. Sta. 501+47

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
279	20		
		894	67
204	16		
		4	25
		706	41
177	6		
		730	22
217	6		
		948	19

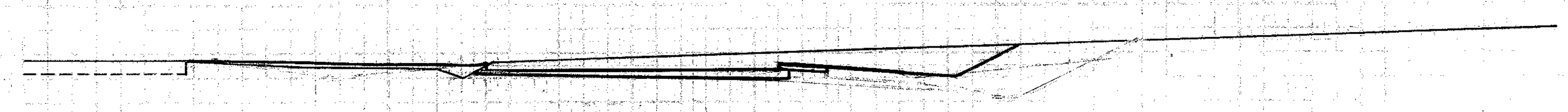
Sta. 490+00 to Sta. 500+00
E-1 6786 Cu. Yds.
Embankment 353 Cu. Yds.
Embankment +15% 406 Cu. Yds.

STA. 500+00 TO 503+00

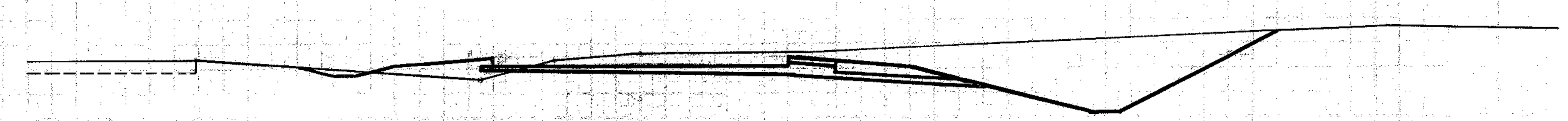


745.42
507+00
746.0

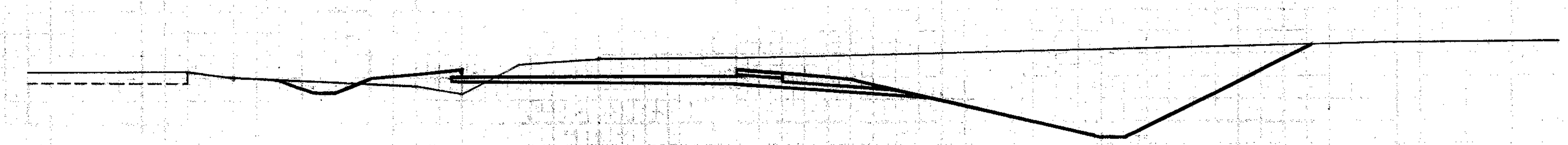
Note:
Drive Rt. Sta. 506+18



745.20
506+00
745.7



744.98
505+00
745.2



744.76
504+00
745.7

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
180	9		
		463	32
		22	
70	8		
		446	43
172	15±		
		833	61
278	18		
		1032	70

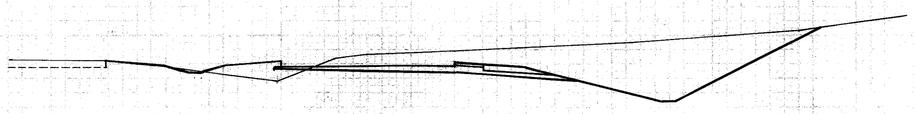
STA. 504+00 TO 507+0

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

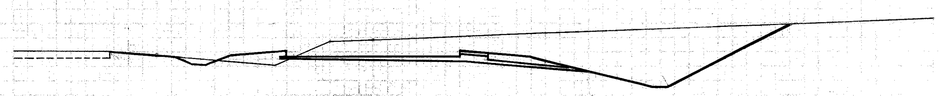
FEDERAL DIVISION	STATE	PROJECT
2	OHIO	

59
222

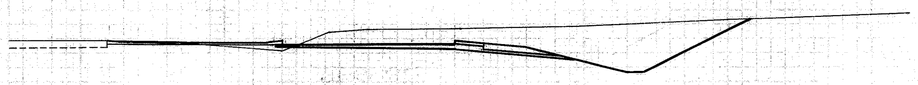
SUT-4-(16.53-19.15)



746.30
511+00
747.2



746.08
510+00
747.8



745.86
509+00
747.2

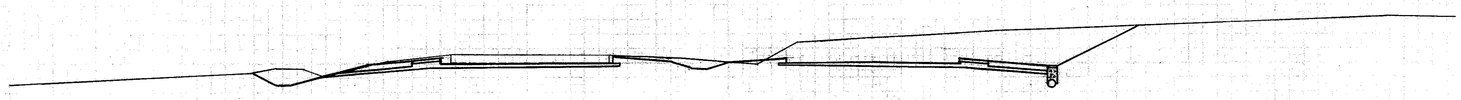
745.64
508+00
746.7

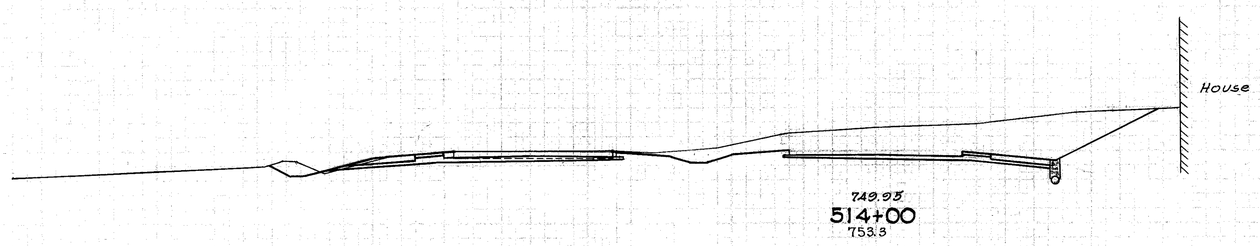
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
325	30		
		1174	91
309	19		
		998	57
230	12		
		876	33
243	6		
		783	28

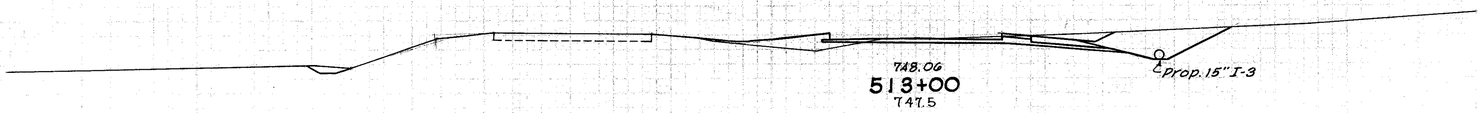
Sta. 500+00 to Sta. 510+00
2-1 Embankment 7789 Cu. Yds.
Embankment +15% 479 Cu. Yds.
851 Cu. Yds.

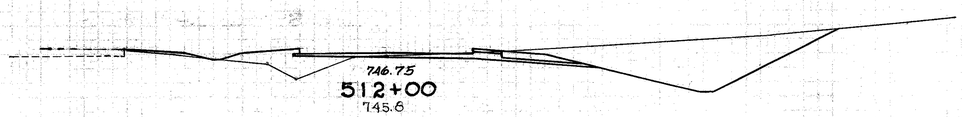
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 508+00 TO 511+0





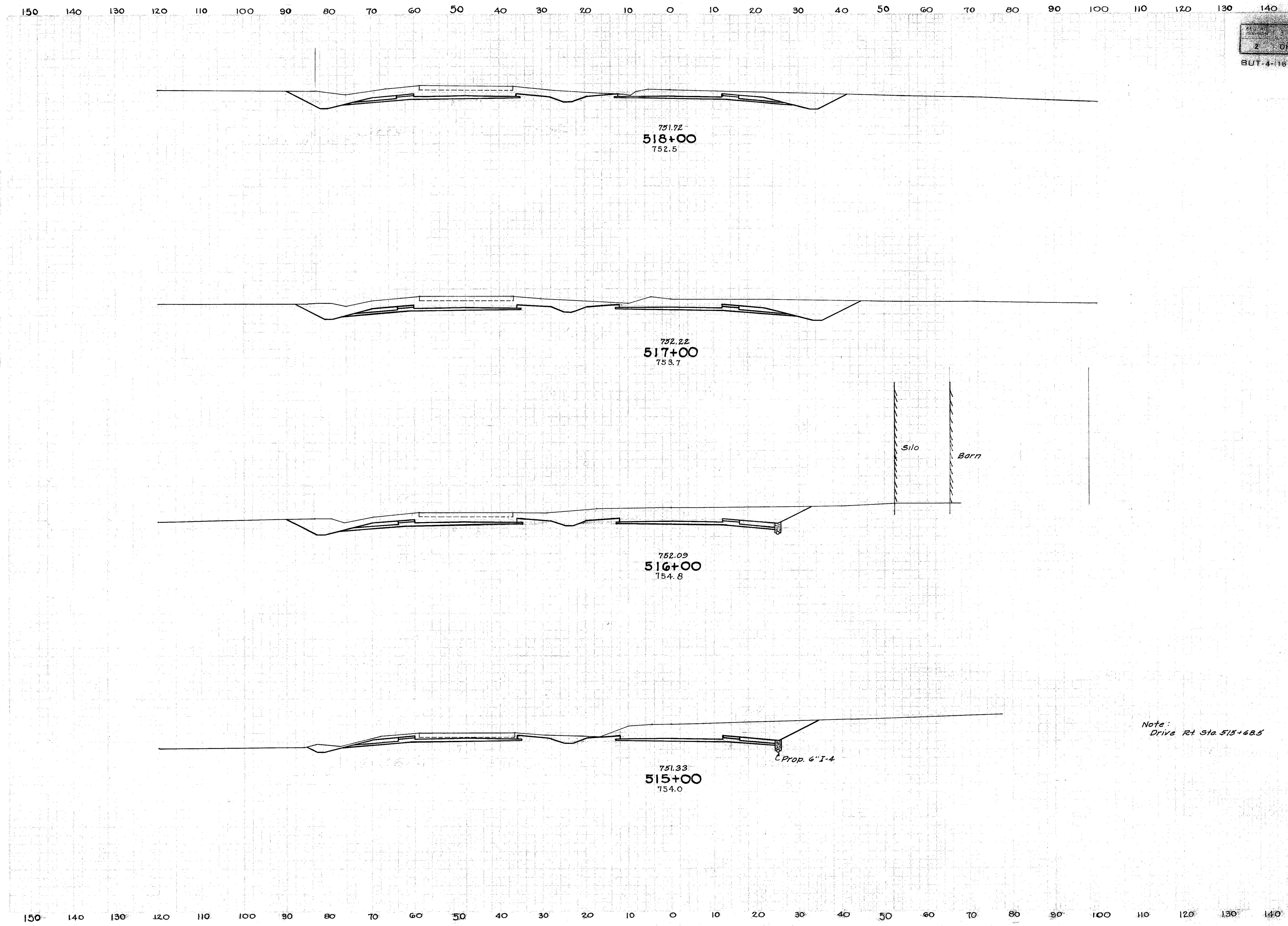




House

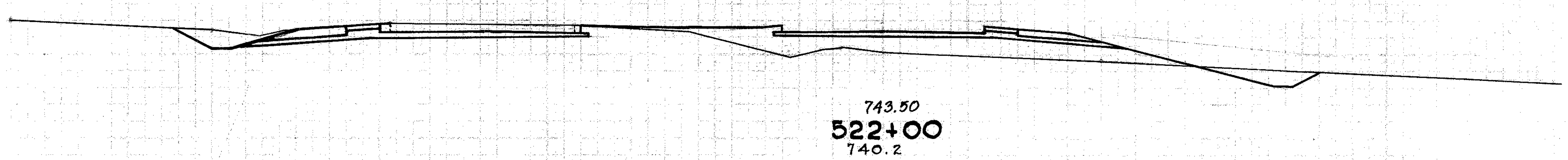
	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	316	13		
			588	24
				93
	319	13		
			604	69
Ahead	7	24		
Back	65	24		
			485	119
	197	40		
			967	130

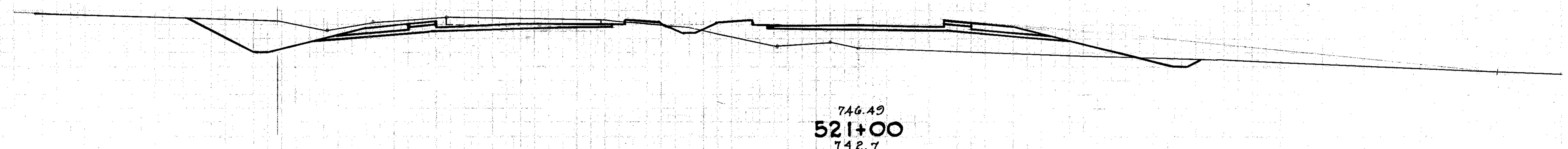
STA. 512+00 TO 514+50



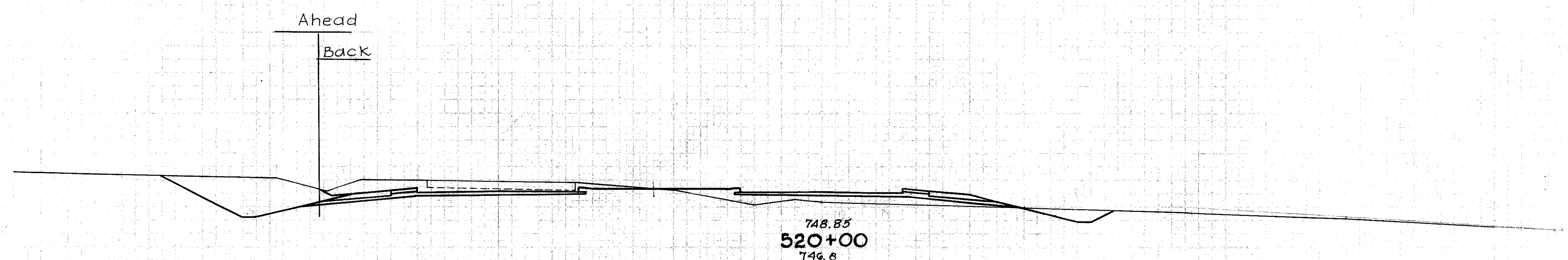
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
314	12		
		1278	44
376	12		
		1528	48
449	14		
		1385	48
		58	
299	12		
		1139	46

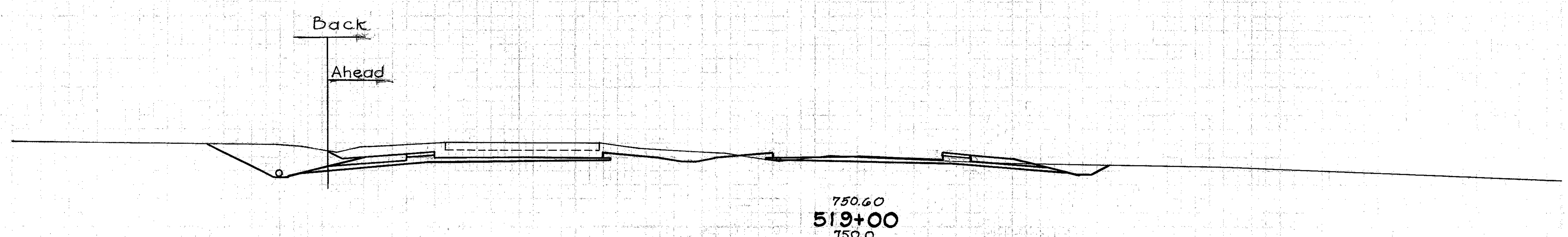
Note:
Drive Rt. Sta. 515+68.5





Note:
Drive Lt. Sta. 521+39





Note:
Drive Lt. Sta 519+85

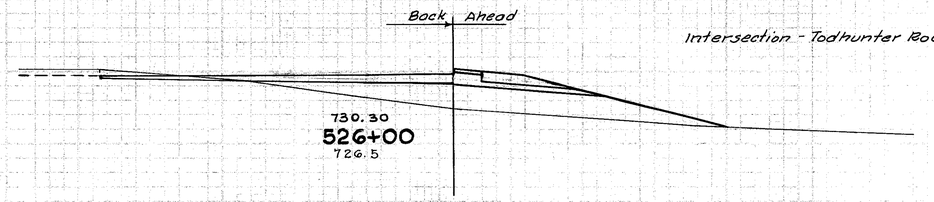
	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	203	12		
			857	44
				53
	260	12	x	
			850	133
Ahead	199	60		
Back	89	54		
			424	119
Ahead	140	10		
Back	209	16		
				24
			969	52

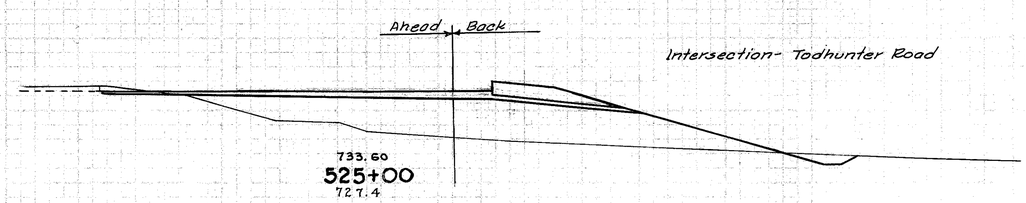
Sta. 510+00 to Sta. 520+00
F-1 10 599 Cu. Yds.
Embankment 907 Cu. Yds.
Embankment +15% 1043 Cu. Yds.

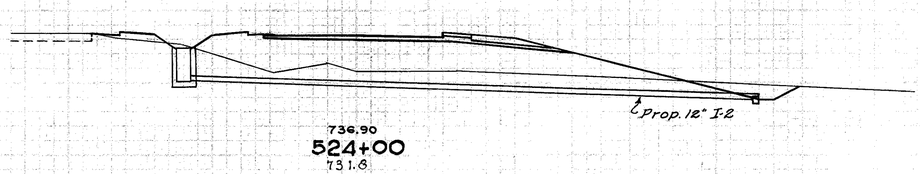
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

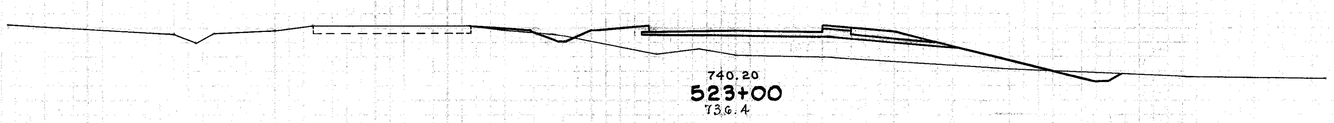
FED. ROAD DIVISION	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
5	OHIO		63	222

SUT-4-(15.53-19.15)









	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
Back	11	43		
Ahead	11	170		
			30	570
Todhunter Road			401	2941
Ahead	5	138		
Back	14	333		
			63	1076
			20	248
			54	769
			9	167
			393	332

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. 523+00 TO 526+00

70 60 50 40 30 20 10 0 10 20 30 40 50 60 70

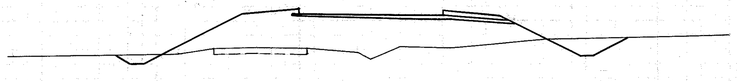
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

44
222

BUT-4-(16.53 -19.15)

715.33
3+00
711.5

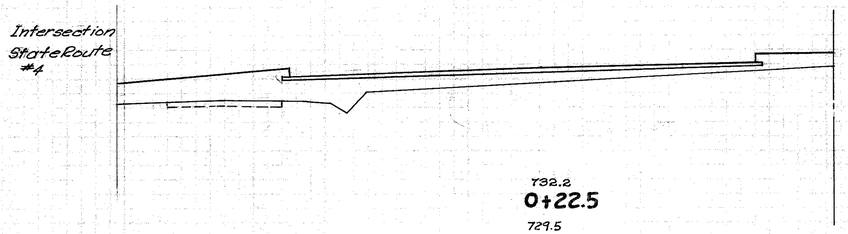
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
21	140		
		80	637
22	204		
		57	1069
9	373		
		26	854
			15
0	444		



721.75
2+00
714.8

728.17
1+00
721.6

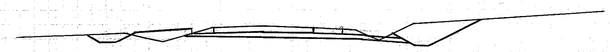
Note:
Drive Sta. 0+92 Lt.



732.2
0+22.5
729.5

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

703.6
5+25
703.6



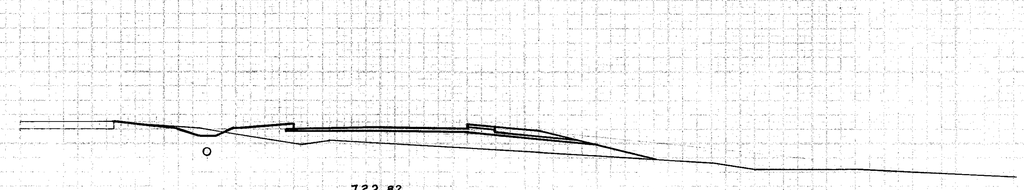
705.85
4+50
705.85

708.31
4+00
707.5

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
5	0		
		60	—
Ahead	38	—	
Back	51	14	
		78	44
33	34		
		100	322

50 40 30 20 10 0 10 20 30 40 50

TODHUNTER ROAD



722.82
530+00
720.0

Note:
Drive Rt. Sta 530+32

724.10
529+00
720.2

Note:
Drive Rt. Sta. 529+12

Note:
Drive Rt. Sta. 528+37

Note:
Drive Rt. Sta. 528+12

725.39
528+00
721.2

727.35
527+00
722.6

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
			33
4	112		
		7	646
			25
0	237		
			39
		1	444
			40
0	203		
		9	844
5	253		
		30	530

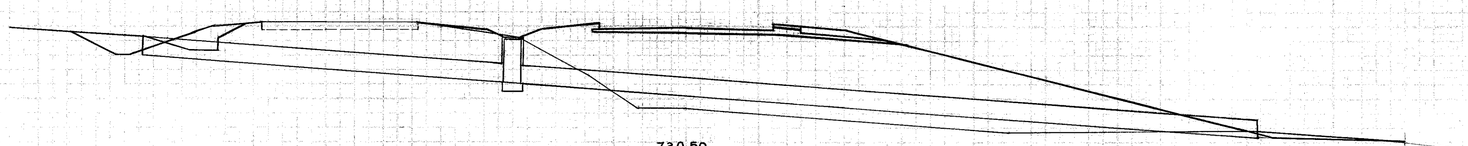
Sta. 520+00 to Sta. 530+00
E-1
Embankment 2694 Cu. Yds.
8486 Cu. Yds.
Embankment +5% 9709 Cu. Yds.

STA. 527+00 TO 530+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		66 222
2	OHIO			

BUT-4-16.53-19.15



720.50
533+18
708.7

720.50
533+00
713.2

720.71
532+00
TIG.3

721.54
531+00
719.1

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
7	797		
		3	410
0	433		
		2	1233
1	233		
		11	682
5	135		
		17	457

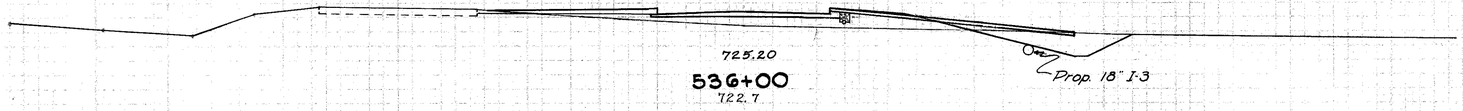
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 531+00 TO 533+18

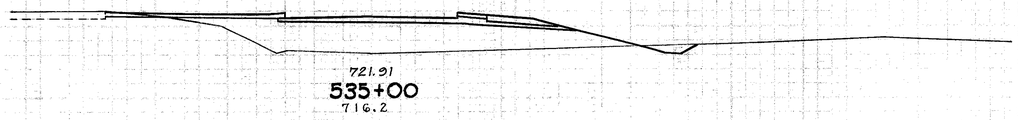
FED. RD. DIV. NO.	STATE	PROJECT	
2	OHIO		

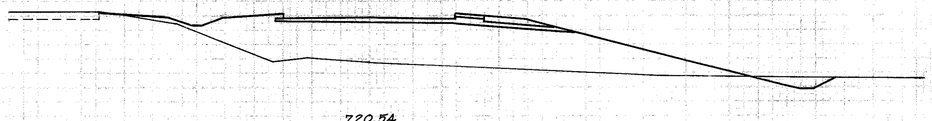
67
222

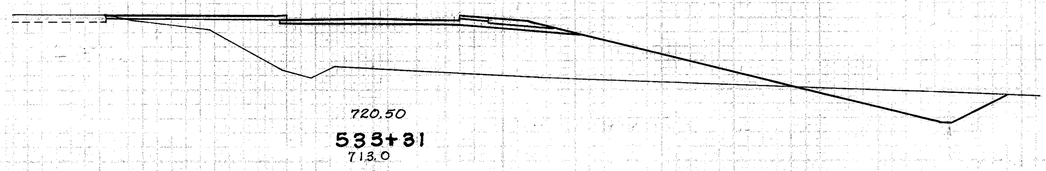
BUT-4-(16.53-19.35)



Note:
Drive Rt. Sta. 535+99

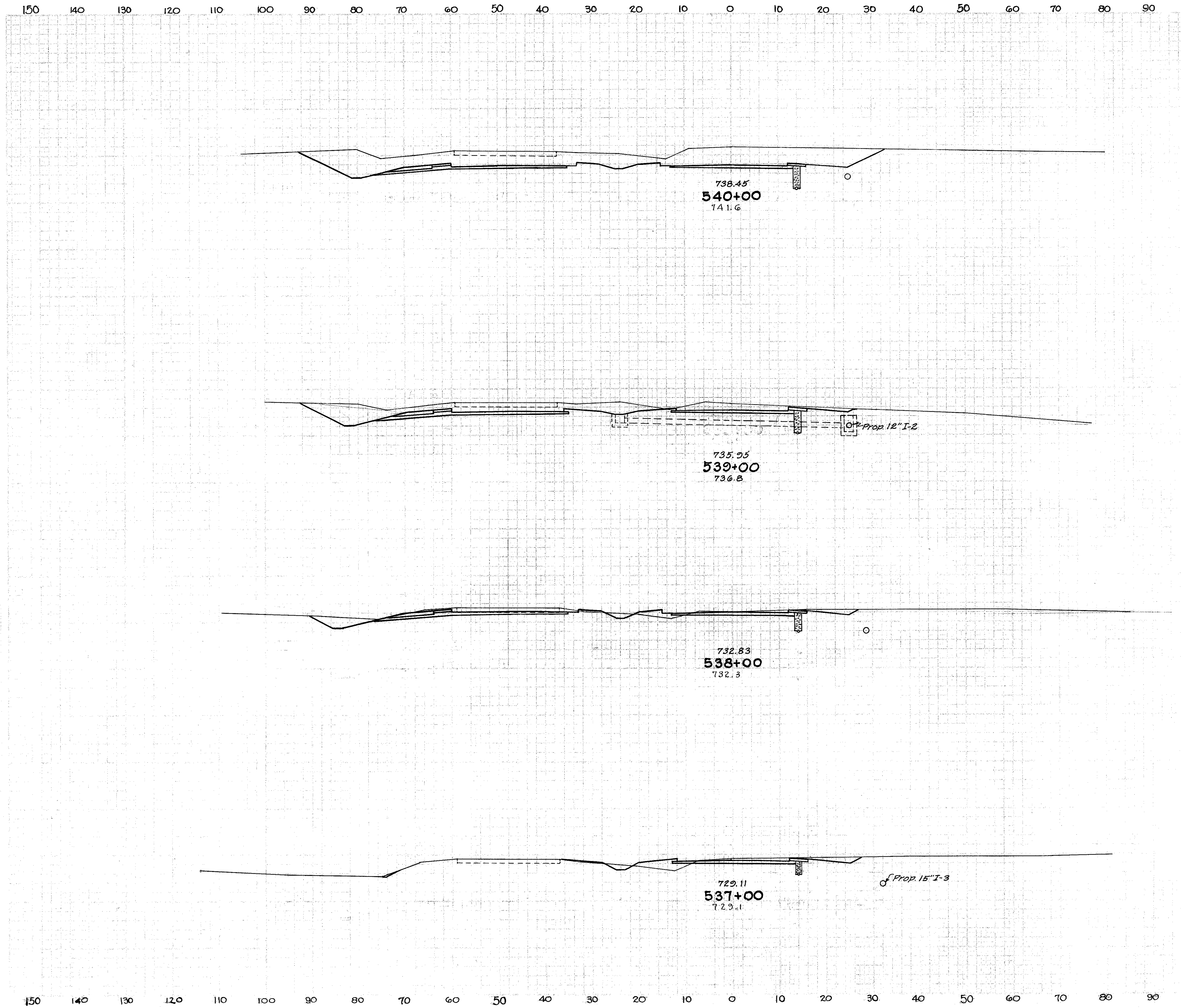






End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
4	48		
			2
		17	509
5	227		
		28	1143
10	390		
		97	1086
66	460		
		18	303

STA. 533+31 TO 536+00



Note:
Drive Rt. Sta. 540+37

Note:
Drive Rt. Sta. 538+54
Drive Lt. Sta. 538+37
Drive Lt. Sta. 538+67

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		8	6
466	6		
		1346	22
261	6		
		48	20
			25
		689	37
111	14	28	
		282	63
41	20		
		83	126

Sta. 530+00 to Sta. 540+00
E-1 2641 Cu. Yds.
Embankment 6151 Cu. Yds.
Embankment +15% 7074 Cu. Yds.

STA. 537+00 TO 540+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

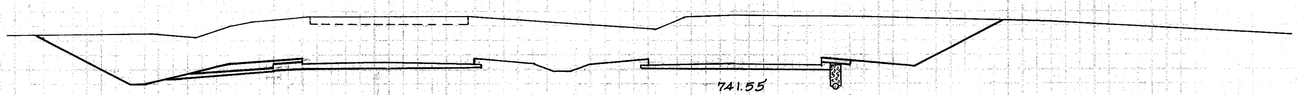
FED. ROAD DIVISION	STATE	PROJECT
5	OHIO	

69
222

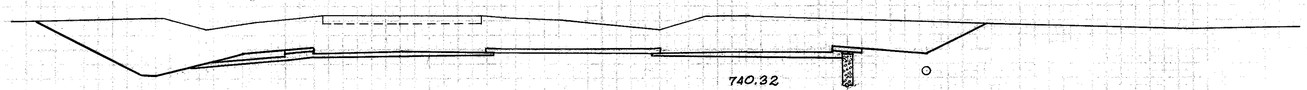
742.15
544+00
745.1

742.17
543+00
746.6

Note:
Drive Lt. Sta. 543+87
Drive Rt. Sta. 543+56
Drive Lt. Sta. 543+62



741.55
542+00
747.5



740.32
541+00
744.6

Note:
Drive Rt. Sta. 541+42
Drive Lt. Sta. 541+22

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
630	6		
		2390	22
		8	6
		3	18
		8	6
661	6		
		2763	22
831	6		
		2732	22
		45	
		13	26
644	6		
		2056	22

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

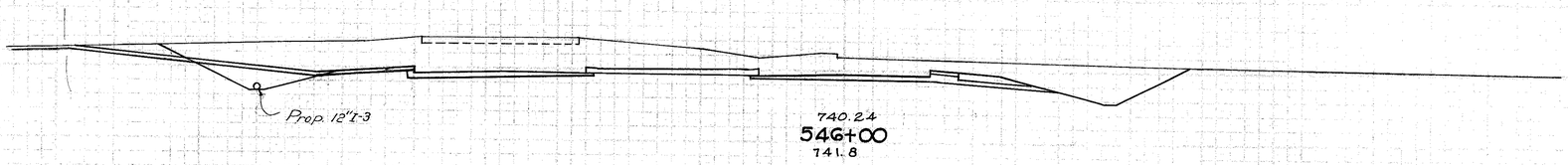
STA. 541+00 TO 544+00

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

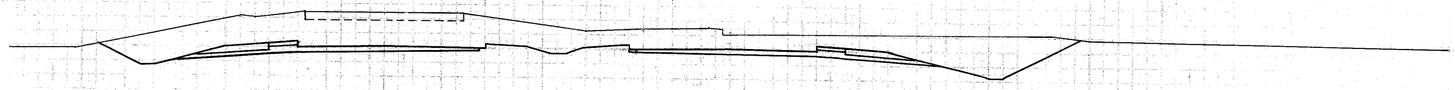
F.A. RTE.	DIVISION	STATE	PROJECT
	2	OHIO	

70
222

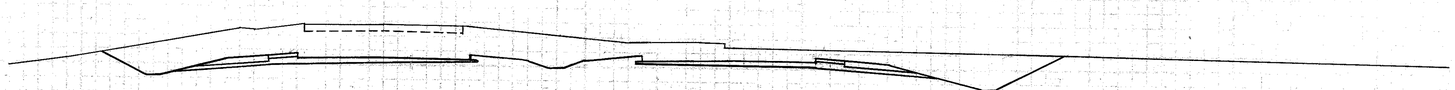
SUT-4-(16.53-19.15)



740.24
546+00
741.8



740.95
545+50
742.4



741.50
545+00
742.9

Note:
Drive Lt. Sta 545+95

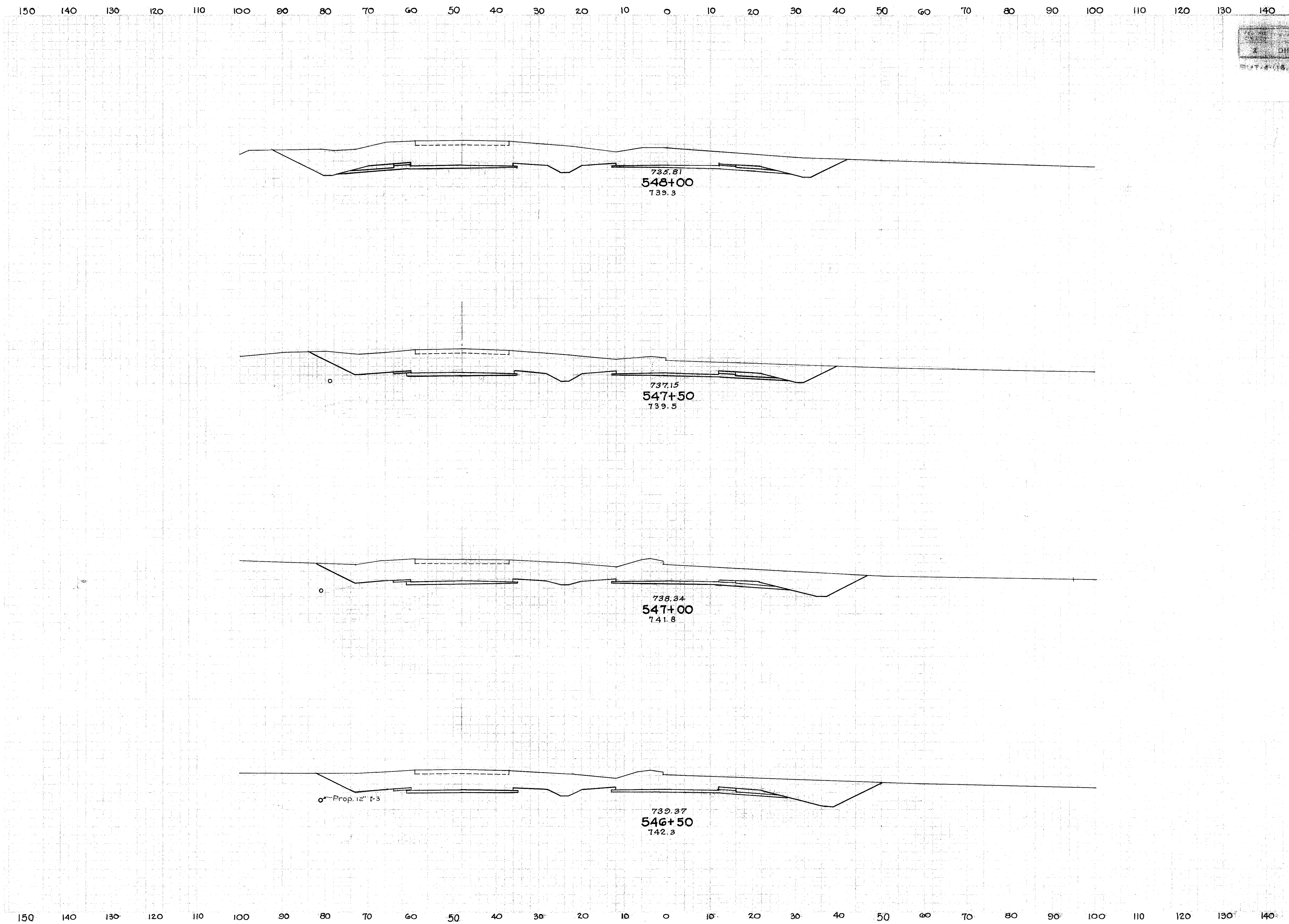
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		26	19
630	6		
		1108	17
567	12		
		1017	22
531	12		
		2150	33

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. 545+00 TO 546+00

FED. RD. DIVISION	STATE			71 / 222
2	OHIO			

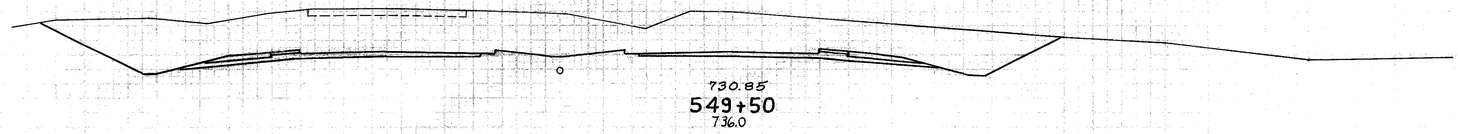
BUT-4-(18.53-19.15)



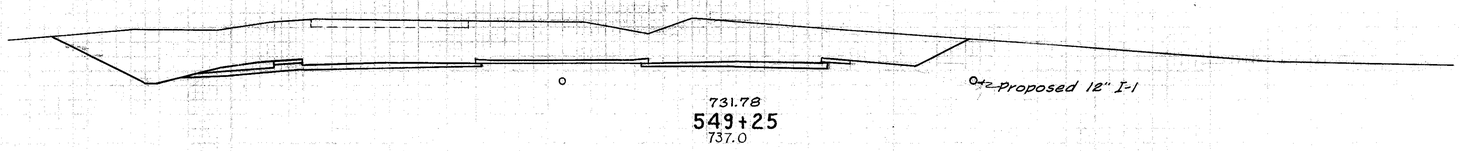
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
682	12		
		1138	17
547	6		
		1019	11
553	6		
		1138	11
573	6		
		1207	11

STA. 546+50 TO 548+00

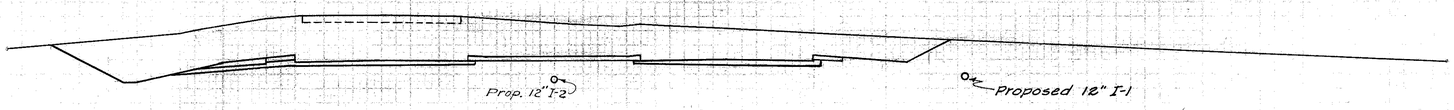
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



730.85
549+50
736.0



731.78
549+25
737.0



732.66
549+00
736.4

734.32
548+50
737.7

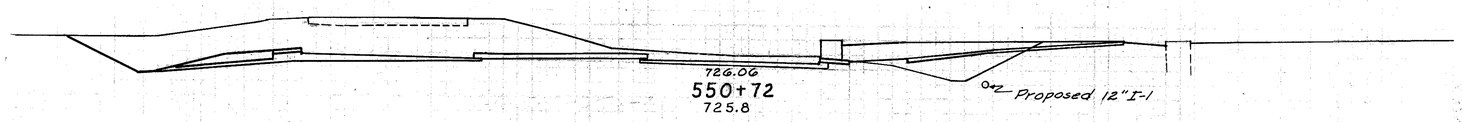
Note:
Drive Rt. Sta. 549+11

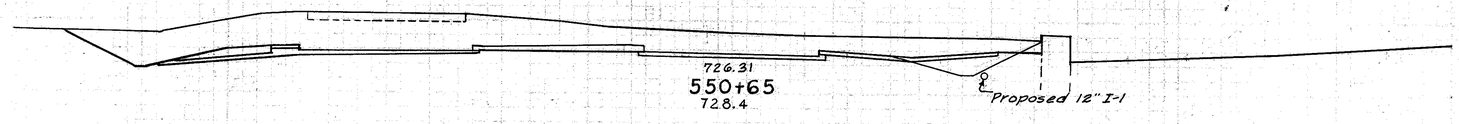
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
803	12		
		686	8
733	6		
		642	6
654	6	46	
		1181	17
621	12		
		1207	32

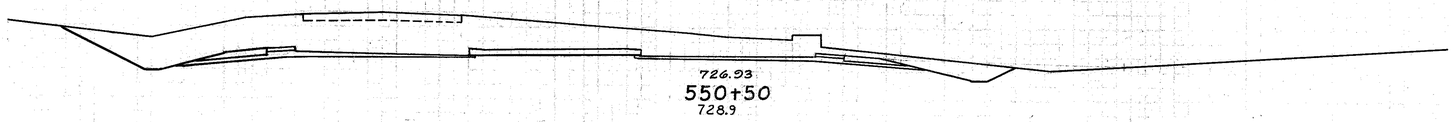
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

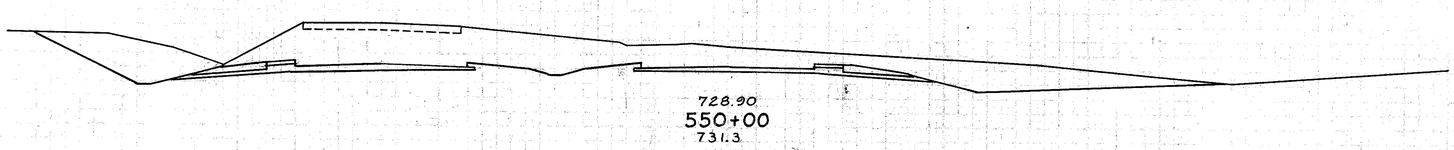
STA. 548+50 TO 549+50

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









Note

Drive Sta. 550+60 Rt

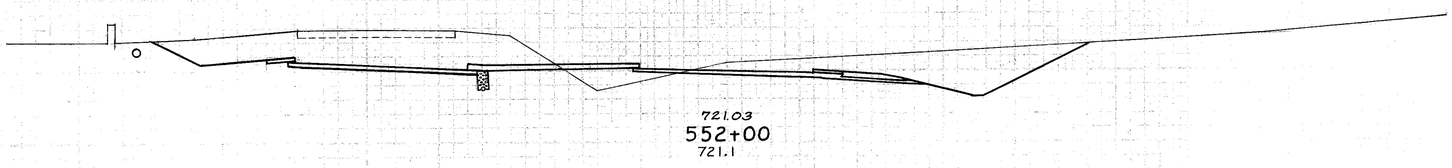
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
514	15		
		6	33
		143	3
587	10		
		317	6
555	12		
		1142	22
678	12		
		1371	22

Sta. 540+00 to Sta. 550+00
E-1 23766 Cu. Yds.
Embankment 360 Cu. Yds.
Embankment +15% 414 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. 550+00 TO 550+77

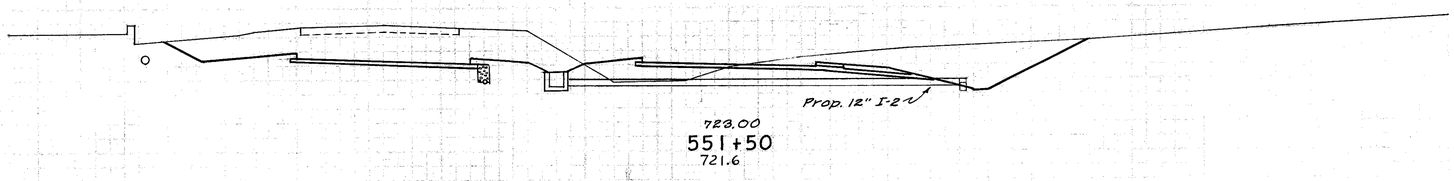
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



721.03
552+00
721.1

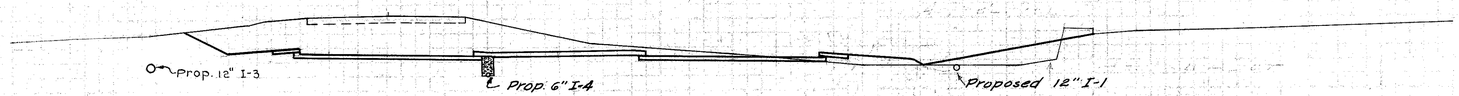
Note:
Field Drive Lt. Sta. 552+10

Note:
Drive Lt. Sta. 551+86



723.00
551+50
721.6

724.96
551+00
722.8



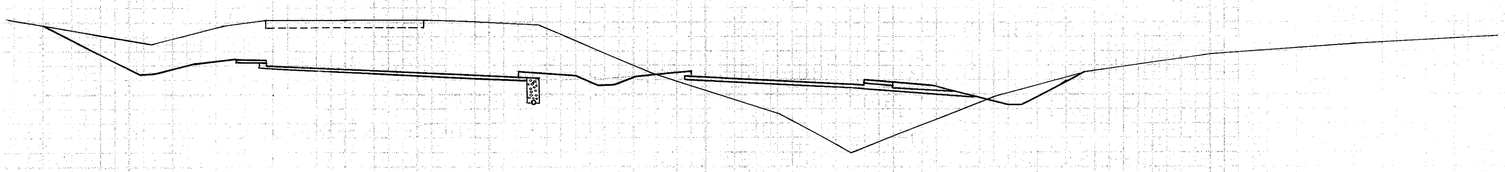
725.55
550+85
725.2

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		20	
449	35		
		25	
		797	76
412	47		
		682	57
324	14		
		180	15
324	41		
		202	13

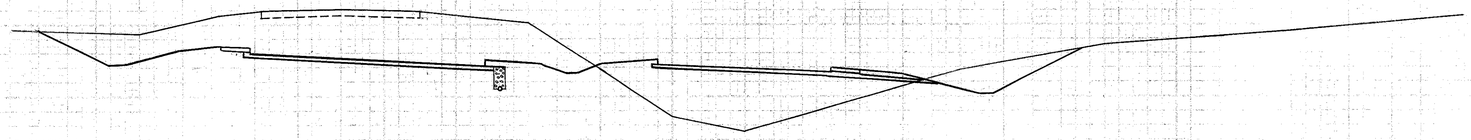
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 550+85 TO 552+0

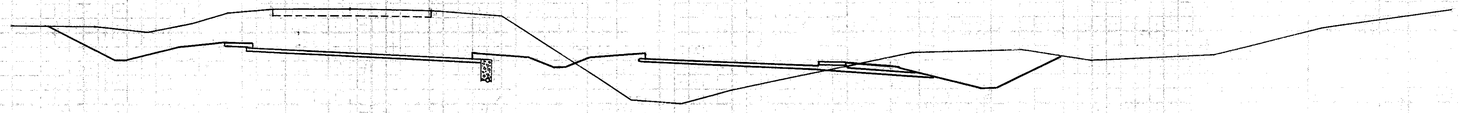
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



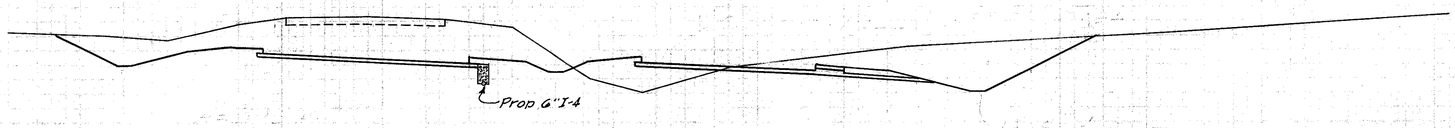
713.15
554+00
707.4



715.12
553+50
705.4



717.09
553+00
712.0



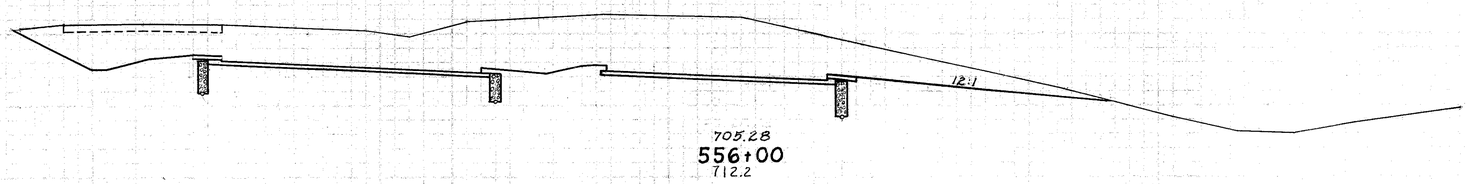
719.06
552+50
717.8

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
487	191		
		881	377
464	216		
		839	316
442	125		
		862	166
489	54		
		869	82

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

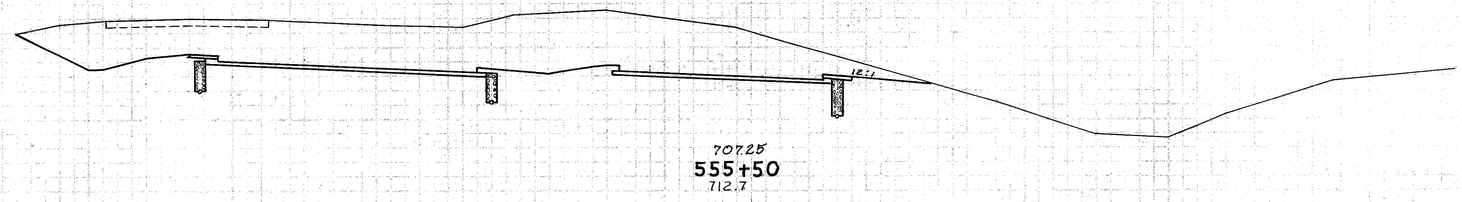
STA. 552+50 TO 554+0

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



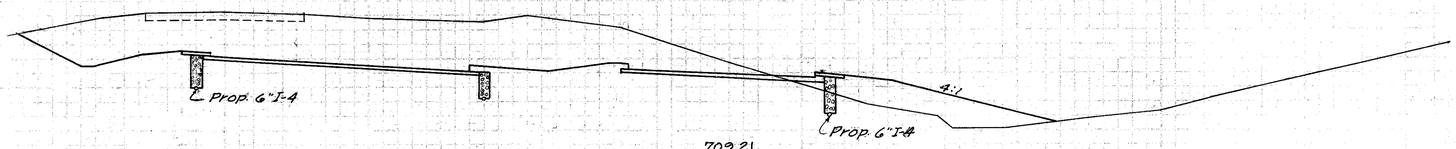
705.28
556+00
712.2

End Transition
Std. 555+50
Side Slope 12:1

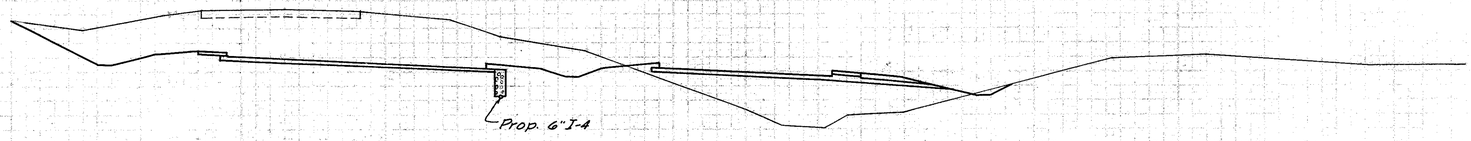


707.25
555+50
712.7

Begin Transition
Std. 550+00
Side Slope 4:1



709.21
555+00
709.4



711.18
554+50
704.8

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
871	–		
		1551	–
804	–		
		1321	88
620	95		
		1007	255
467	180		
		883	344

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

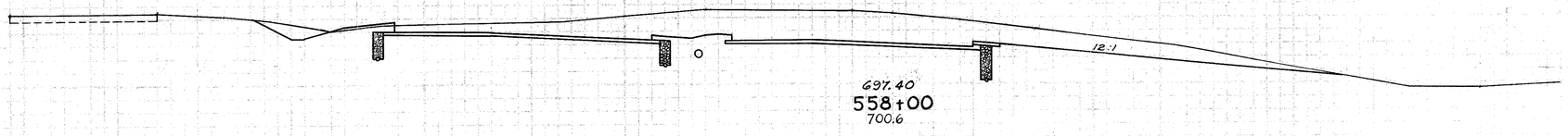
STA. 554+50 TO 556+0

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

77
222

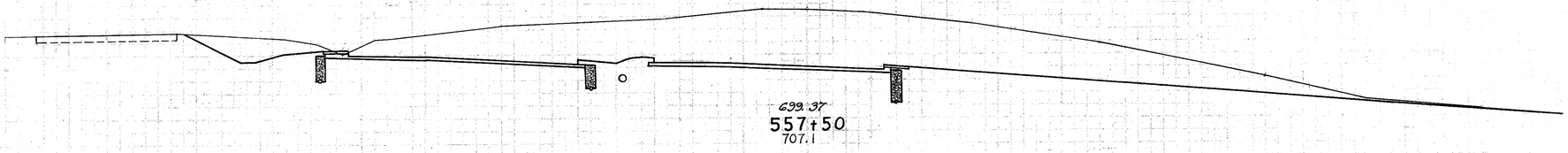
BUT-4-(16.53-19.15)

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

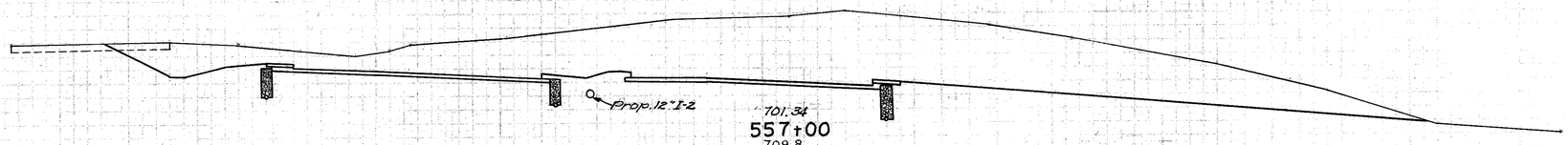


697.40
558+00
700.6

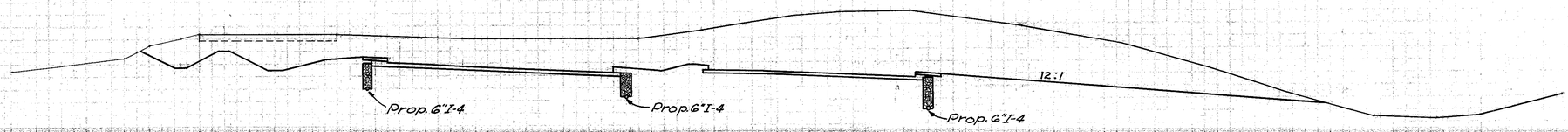
Begin Transition
Sta. 558+00
Side Slope 12:1



699.37
557+50
707.1



701.34
557+00
709.8



703.31
556+50
712.0

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

STA. 556+50 TO 558+00

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
456	3		
		1407	3
1063	1		
		2151	2
1260	1		
		1418	1
1148	—		
		1870	—

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

See Sheets 79 & 80
for Relocation Exist. S.R.#4 & Exist. Pavement

For Pavement Removal See Item E-8

B
Match Line
B

B
Match Line
B

691.38
560+00
681.8

A
Match Line
A

A
Match Line
A

692.54
559+50
680.1

Relocation Exist.
State Route #4

Backfill for
Pavement Removal

693.83
559+00
690.3

Prop. 24" I-1

Note:
Drive Rt. Sta. 559+00
Drive Rt. Sta. 559+40

Back Ahead

Prop. 6" I-4
Prop. 6" I-4
Prop. 6" I-4
4:1

695.55
558+50
694.1

End Transition
Sta 558+50
Side Slope 4:1

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
62	856		
		61	1609
		226	3591
4	882		
			322
		89	1033
			49
			71
92	234		
		120	254
Ahead	37	40	
Back	75	47	
		494	46

Sta 550+00 to Sta 560+00
Ex. Cu. Yds. 20375
Fill Cu. Yds. 8834
Embankment +15% 10,159 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

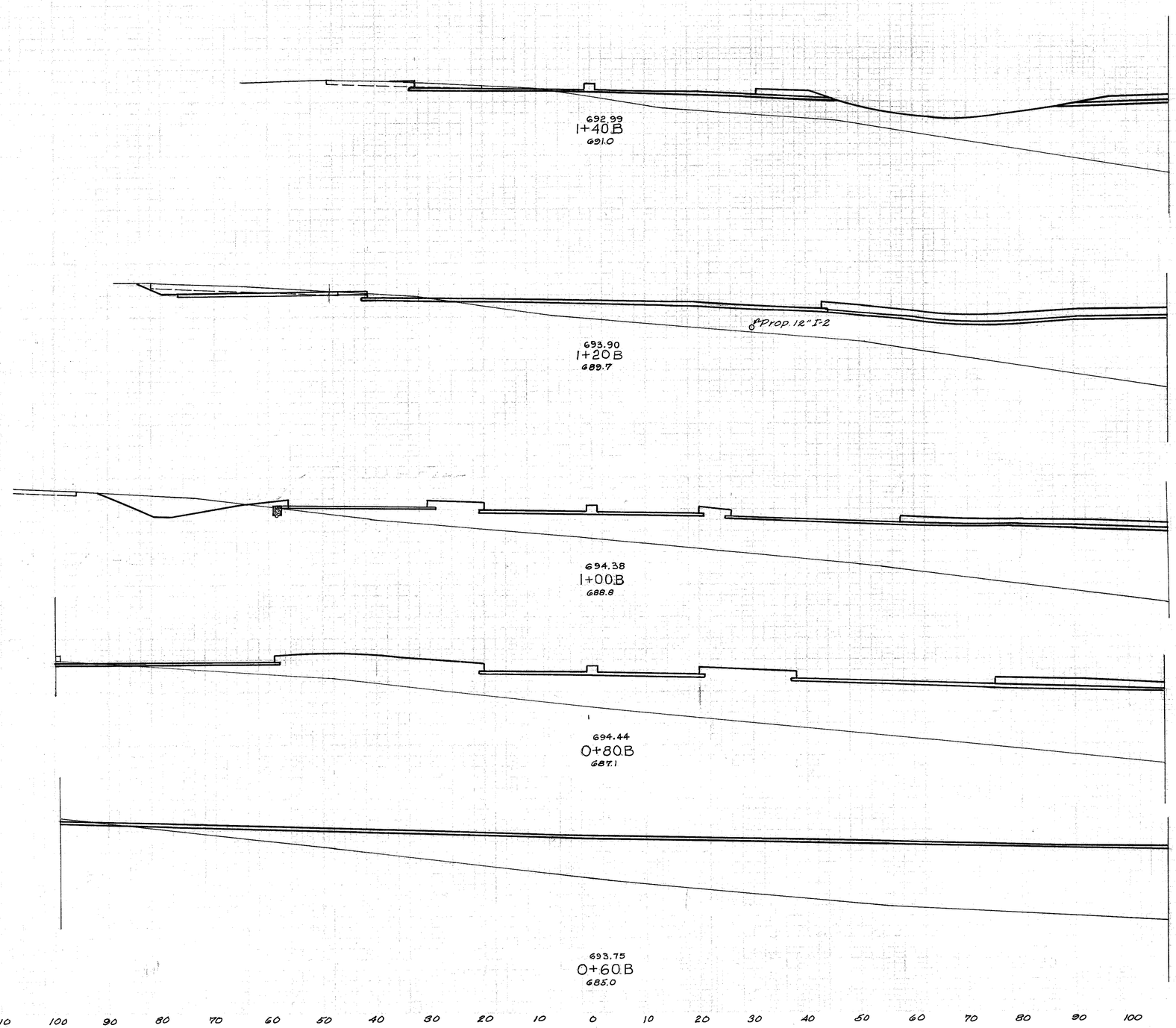
STA. 558+50 TO 560+00

FED. HWY. DIVISION	STATE	PROJECT	
2	OHIO		

79
222

BUT-4-(16.53-19.15)

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



End Area		Volume	
cut	fill	cut	fill
28	643		
		42	544
15	827		
		7	
		56	736
67	1161		
		28	971
9	1461		
		6	1024
7	1305		

Note:
Drive Sta. 1+52.7 A
= Sta. 1+20 B±

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

RELOCATION EXISTING STATE ROUTE

WI. NO.	STATE	PROJECT	
2	OHIO		

80
222

I-T-4-(16.53-19.15)

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

689.02
2+17.5B
689.0

689.92
2+00B
689.9

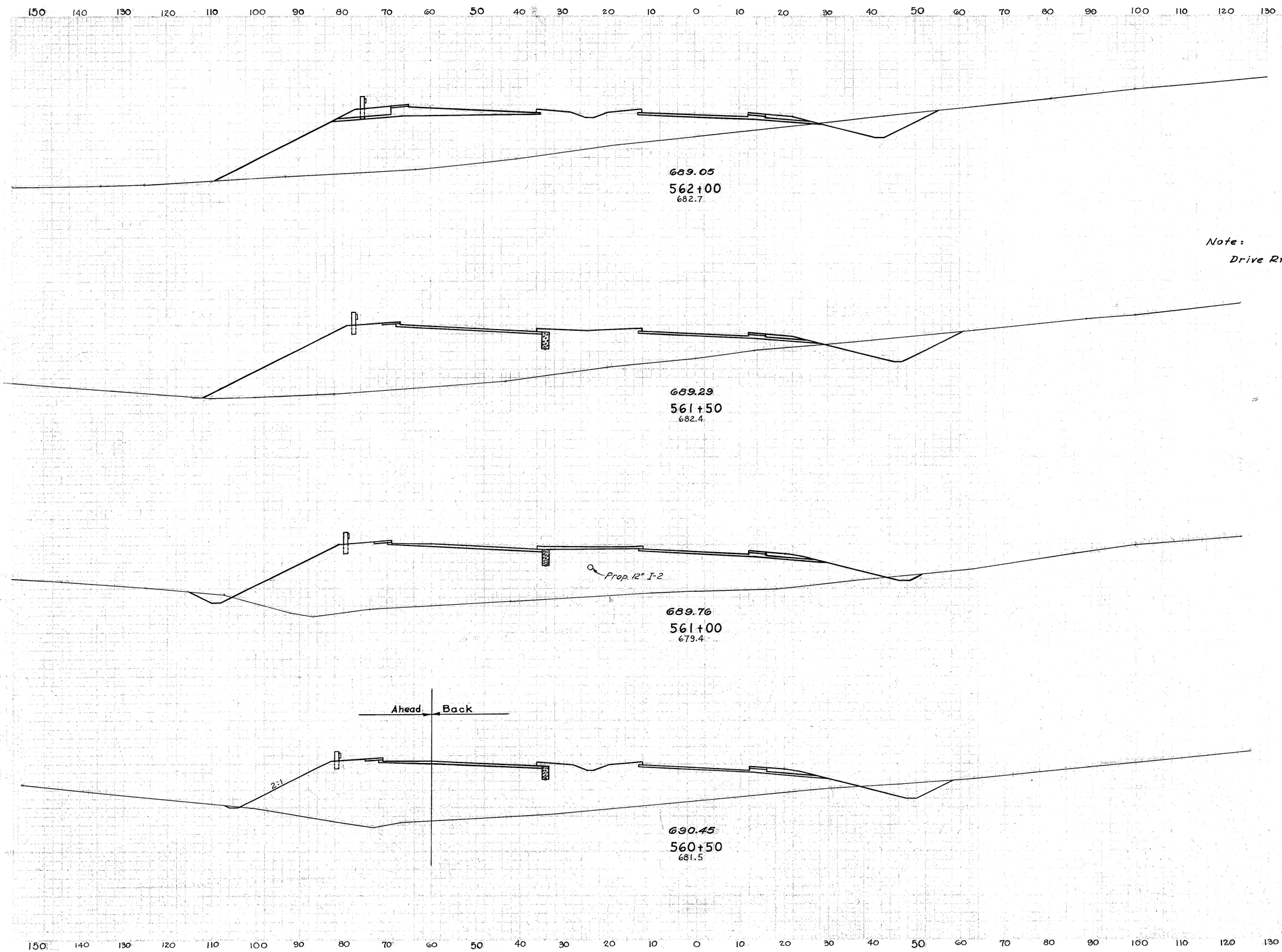
690.95 0
1+80B
690.8

0
Prop. 12" I-2
691.97
1+60B
691.4

END-AREA		CU. YDS.	
CUT	FILL	CUT	FILL
40	9		
		26	7
40	14		
		24	12
25	19		
		18	33
23	71		
		19	264

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

RELOCATION EXISTING STATE ROUTE #4



81
222

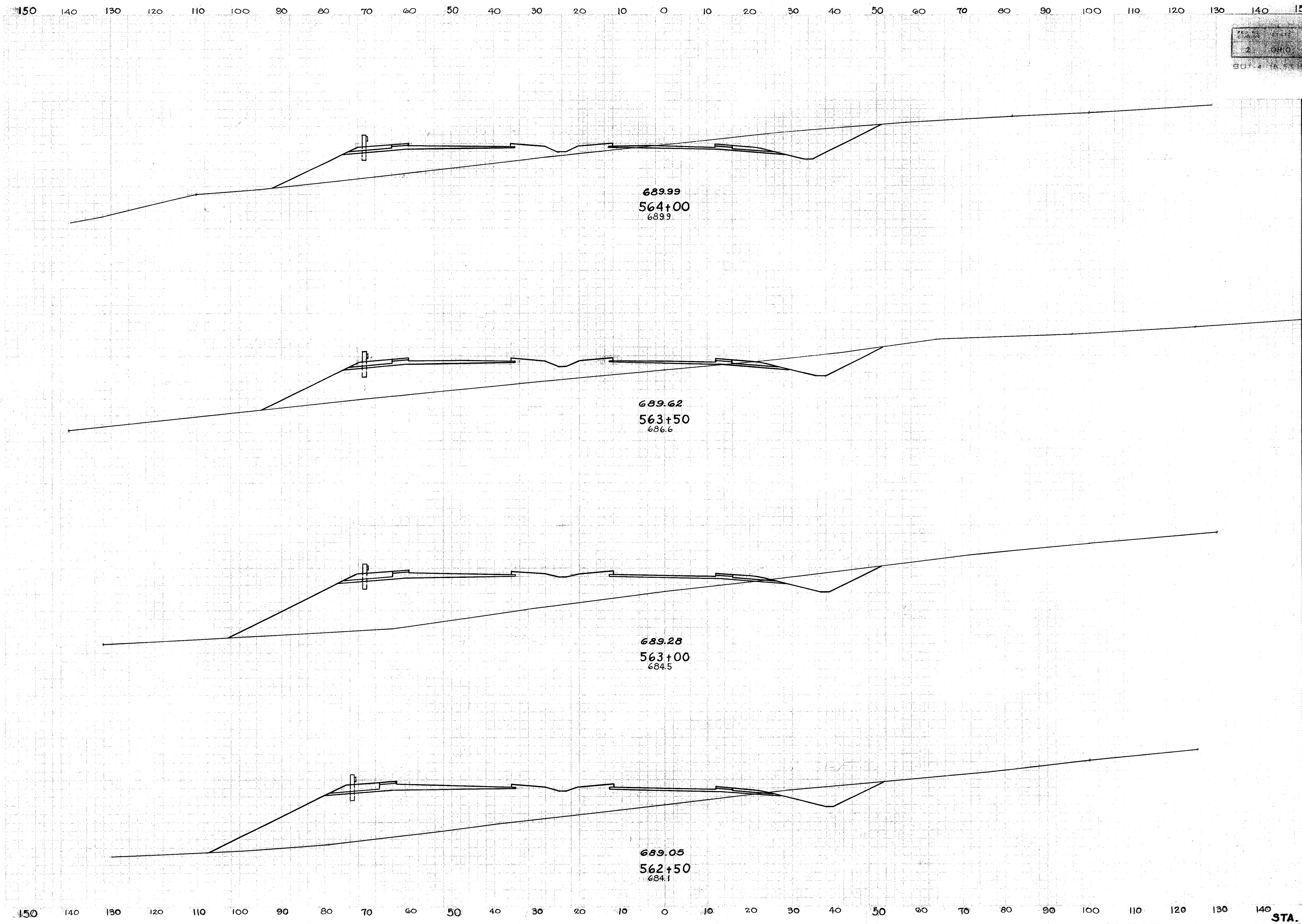
Note:
Drive Rf. Sta. 561+05

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	76	1053		
			150	2092
				48
	86	1206		
			94	2457
	16	1447		
			53	2537
Ahead	41	1293		
Back	40	813		
			94	1545

STA. 560+50 TO 562+00

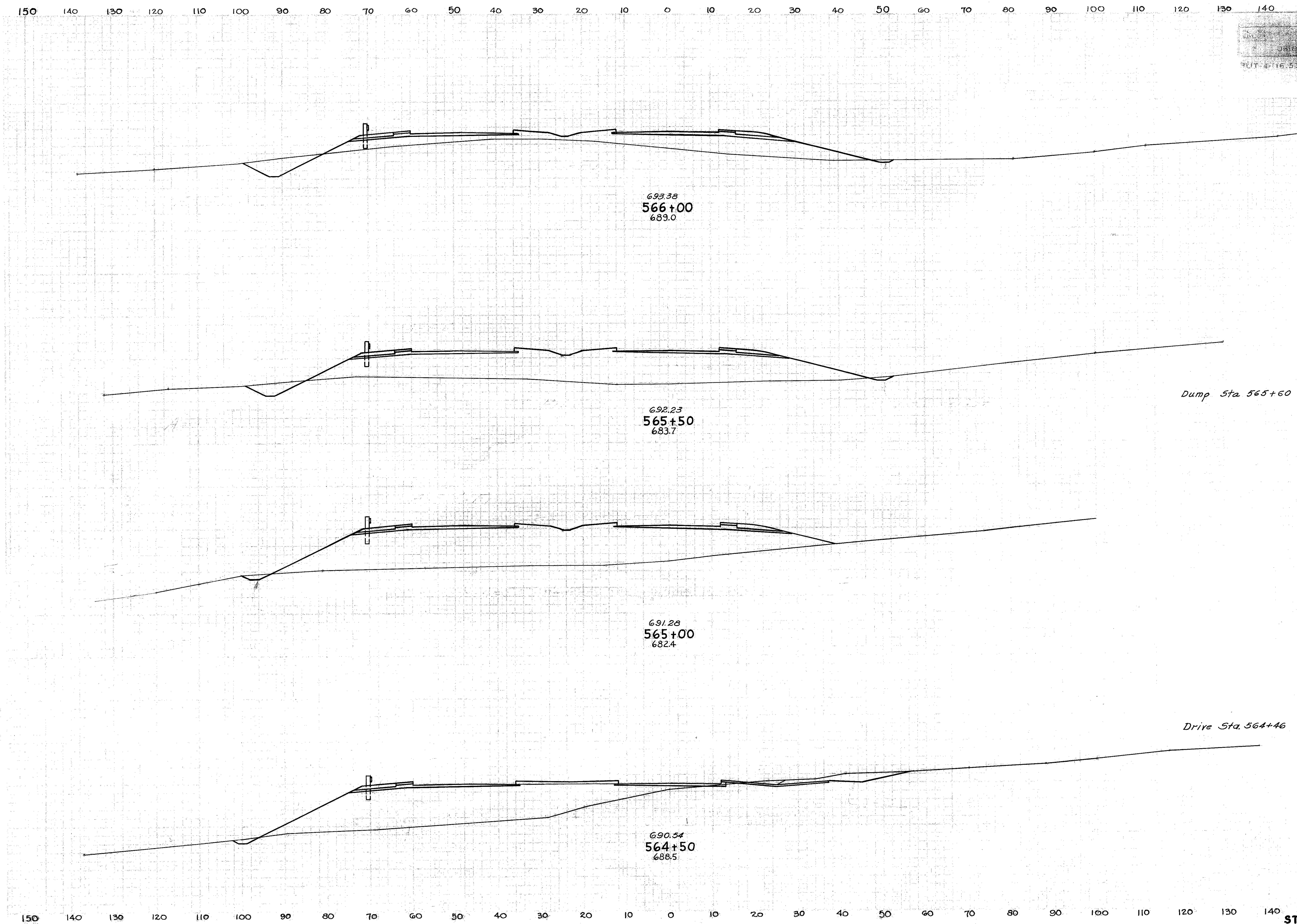
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-18.53



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
170	316		
		244	747
94	491		
		151	1284
69	896		
		137	1684
73	923		
		138	1830

STA. 562+50 TO 564+00

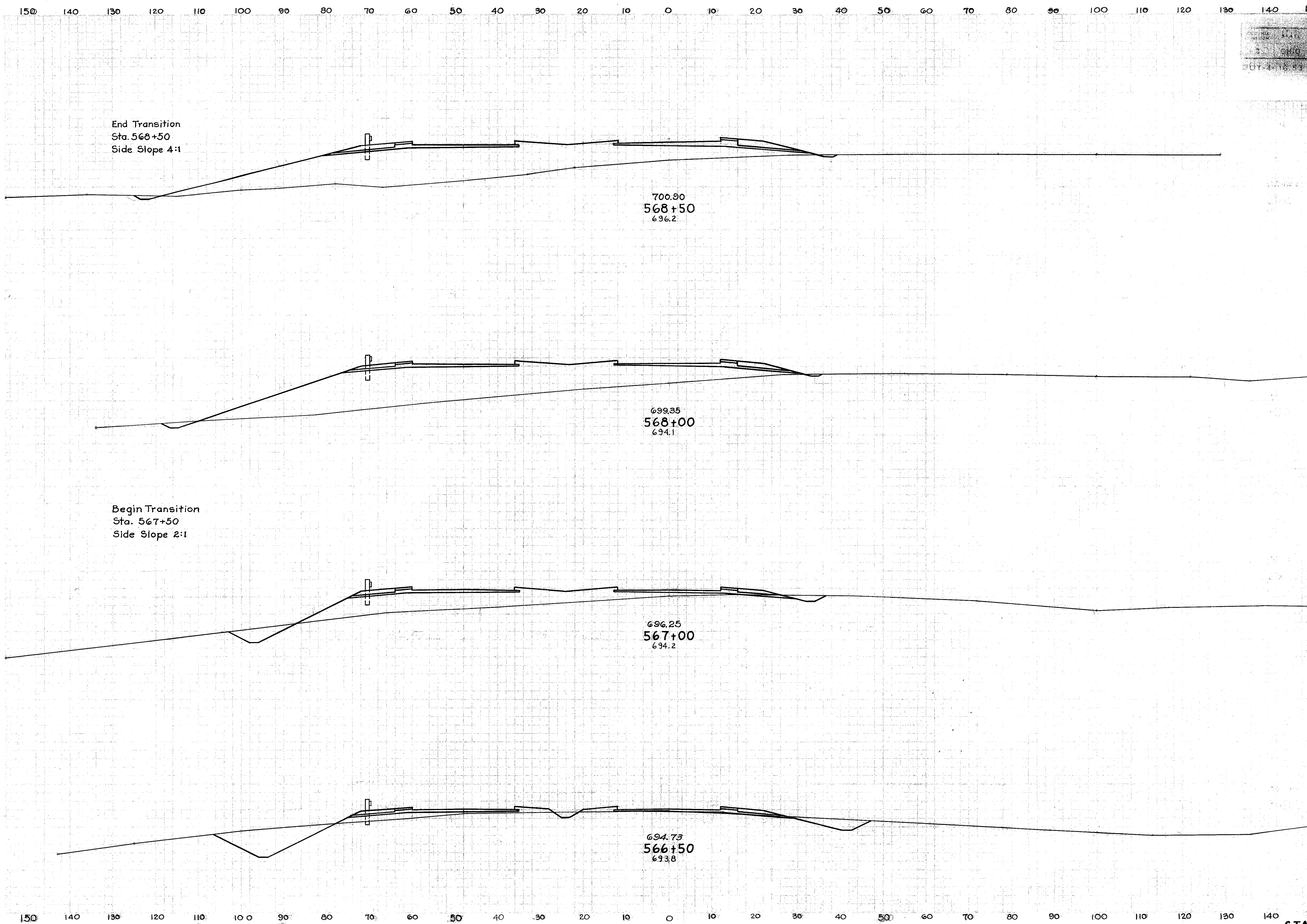


End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
46	330		
		67	1002
26	752		
		79	
		29	1601
5	977		
		18	1504
		31	
14	647		
		171	892

STA. 564+50 TO 56(

Division	State
2	OHIO

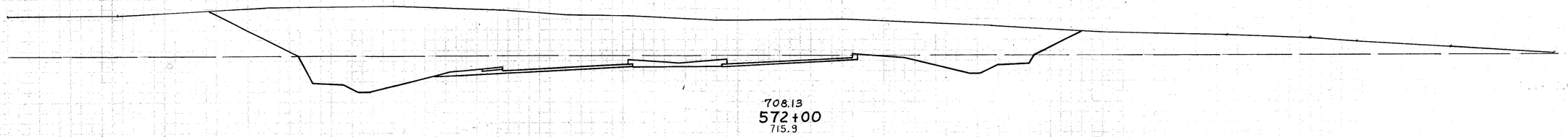
OUT-4-(16.53-19.15)



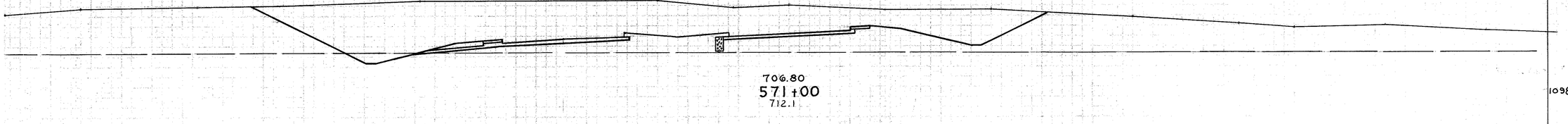
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
6	772		
		13	1476
8	822		
		104	2126
48	326		
		176	369
142	72		
		174	372

STA. 566+50 TO 568+50

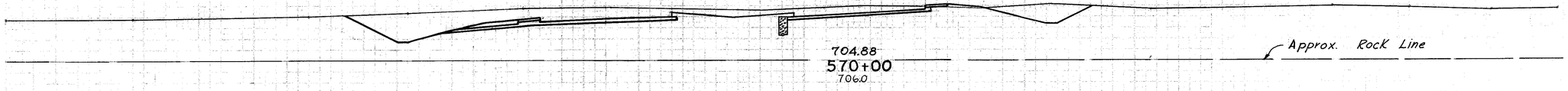
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



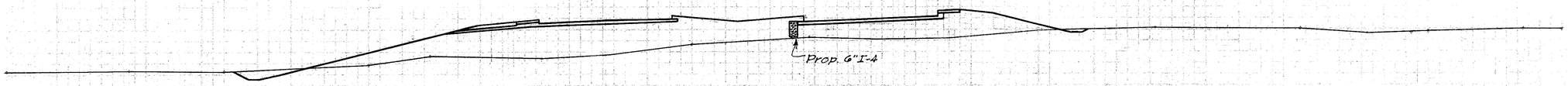
708.13
572+00
715.9



706.80
571+00
712.1



704.88
570+00
706.0



702.38
569+00
698.3

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
	—		
1594	20		
		4985	48
	—		
1098	6		
		2511	28
258	9		
		506	1006
15	534		
		19	1209

Sta 560+00 to Sta 570+00
E-1 2448 Cu. Yds.
Embankment 25781 Cu. Yds.
Embankment f-ST 296448 Cu. Yds.

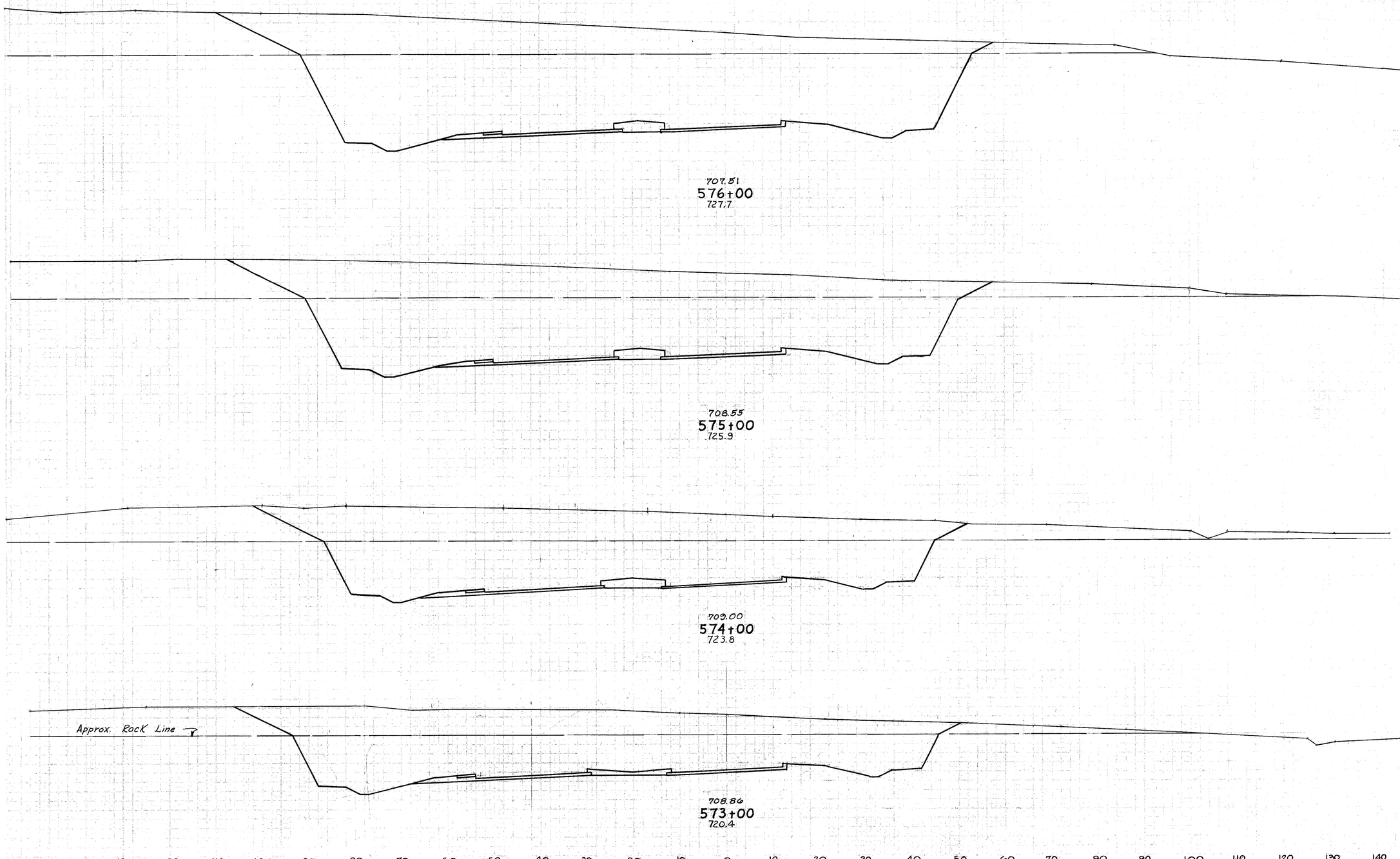
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 569+00 TO 572+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

86
222

BUT-4-16.53 19.15

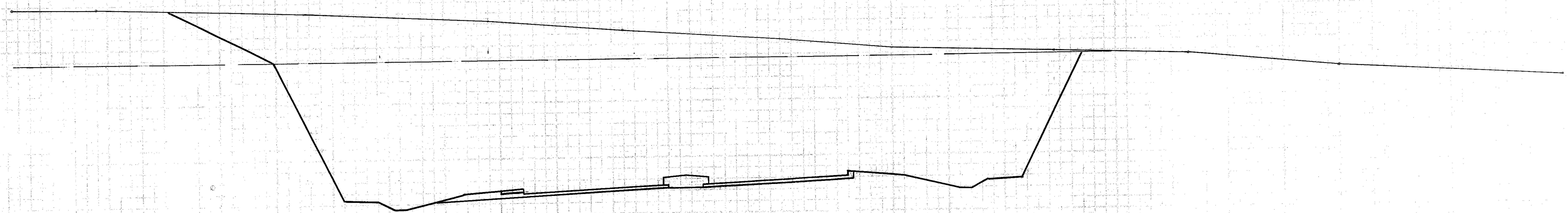


End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
	—		
3310	11		
		11,263	43
	—		
2772	12		
		9147	48
	—		
2167	14		
		7546	56
	16		
1908	—		
		6485	67

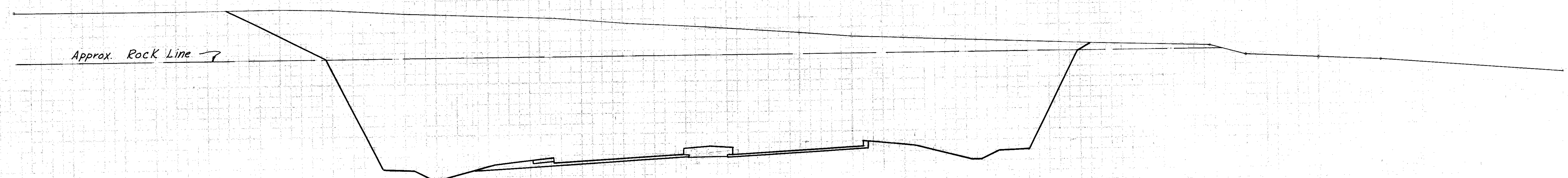
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 573+00 TO 576+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



705.88
577+00
730.6

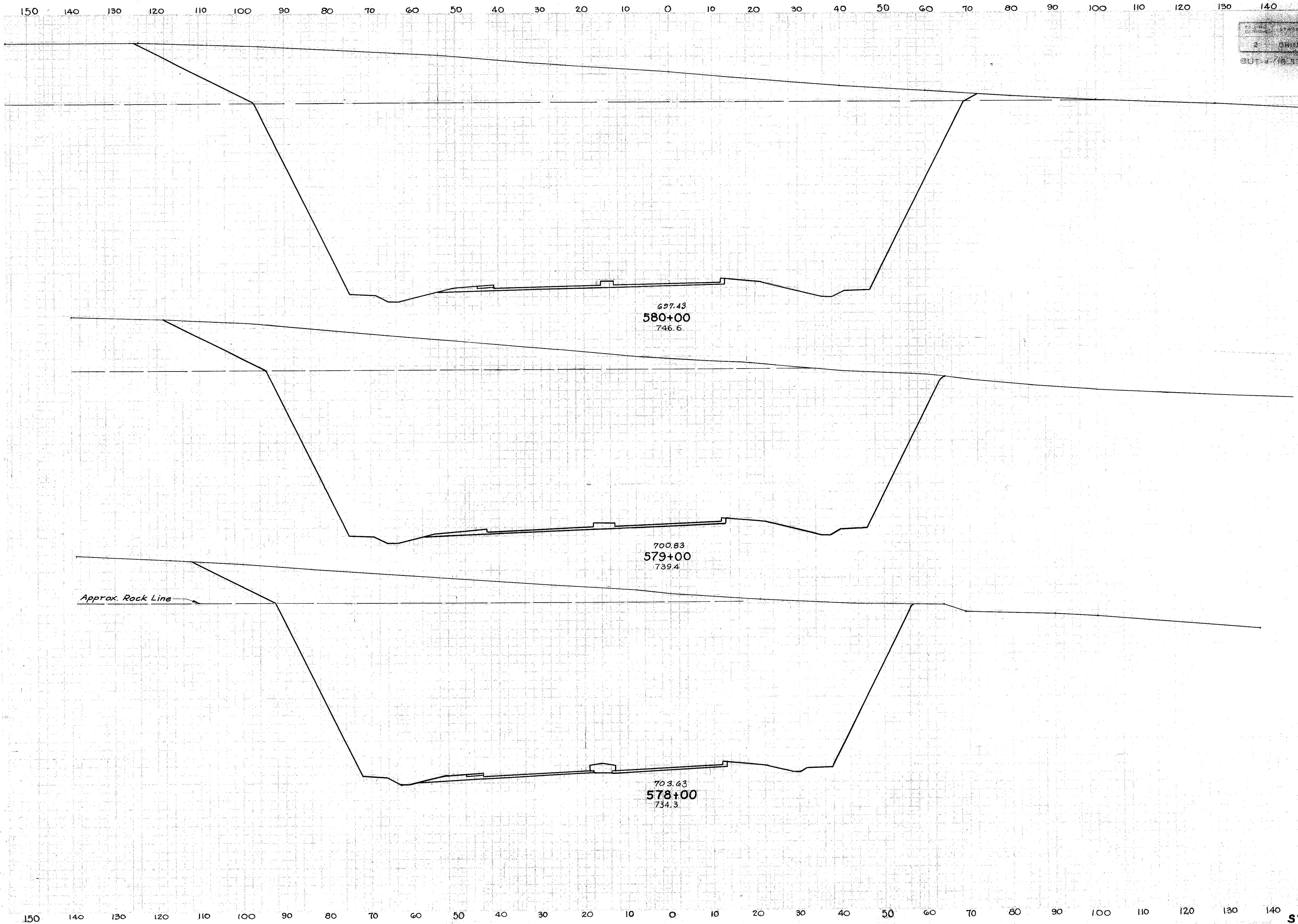


706.77
576+50
729.1

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
2852	10		
		5830	49
3353	10		
		6354	20

STA. 576+50 TO 577+0



End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
7906			
		25,956	—
6110	—		
		22,191	17
5873	9		
		16,057	35

Sta. 570+00 to Sta. 580+00
E-1 118,325 Cu. Yds.
Embankment 381 Cu. Yds.
Embankment +15% 438 Cu. Yds.

STA. 578+00 TO 580+0

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

89
222

BUT-4-16.53 19.15

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

685.50
583+00
737.6

689.50
582+00
745.1

693.50
581+00
750.0

Approx. Rock Line

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
	—		
7687	—		
		30773	—
	—		
8930	—		
			32947 —
	—		
8861	—		
			31051 —

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. 581+00 TO 583+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

675.50
585+50
677.9

677.50
585+00
691.7

679.50
584+50
707.9

681.50
584+00
725.6

Approx. Rock Line

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
1365	—		
		4134	—
3106	—		
		6742	—
4504	—		
		10071	—
6373	—		
		26238	—

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

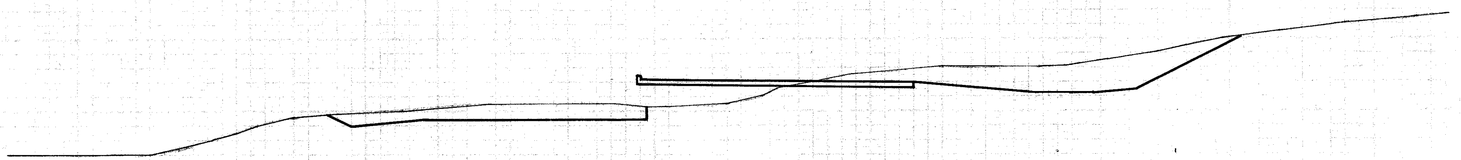
STA. 584+00 TO 585+50

STATE	PROJECT
OHIO	

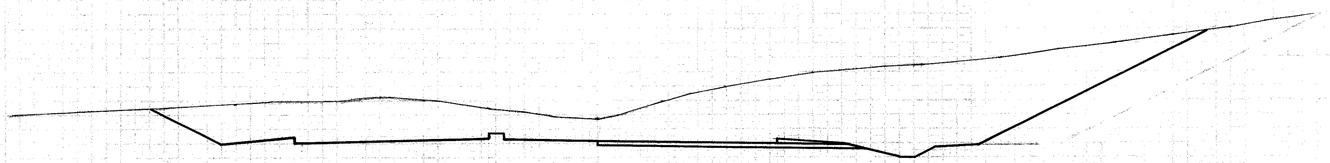
91
222

BUT-4-(16.53-19.15)

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120



G74.34
585+79
G71.0



G75.30
585+55
G77.5

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
251	—		
		716	1
1360	3		
		253	1

STA. 585+55 TO STA. 585+

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

32
222

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
		—	—
		—	—
		—	1478
		98	—

586+75
641.9

48" Pipe

586+50
642.2

Prop. 48" Pipe

Ditch South Side
B&O. Railroad Tracks

Prop. 24" Pipe

586+00
663.9

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

STA. 586+00 TO 586+75

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

2 OHIO

33
222

A-16.53-19.13)

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
35	—		
		86	—
58	—		
		71	—
—	—		

588+00
627.4

587+50
637.3

Prop. 48" Pipe

587+00
631.4

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

STA. 587+00 TO 588+00

FED. AID DIVISION	STATE	PROJECT		
2	OHIO			

94
222

BUT-4-(16.53-19.15)

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

589+50
627.5

589+00
627.7

Dumped Rock

588+50
627.2

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		Cu. Yds.	
Cut	Fill	Cut	Fill
		—	—
			84
			47 —
		7 —	
			39 —

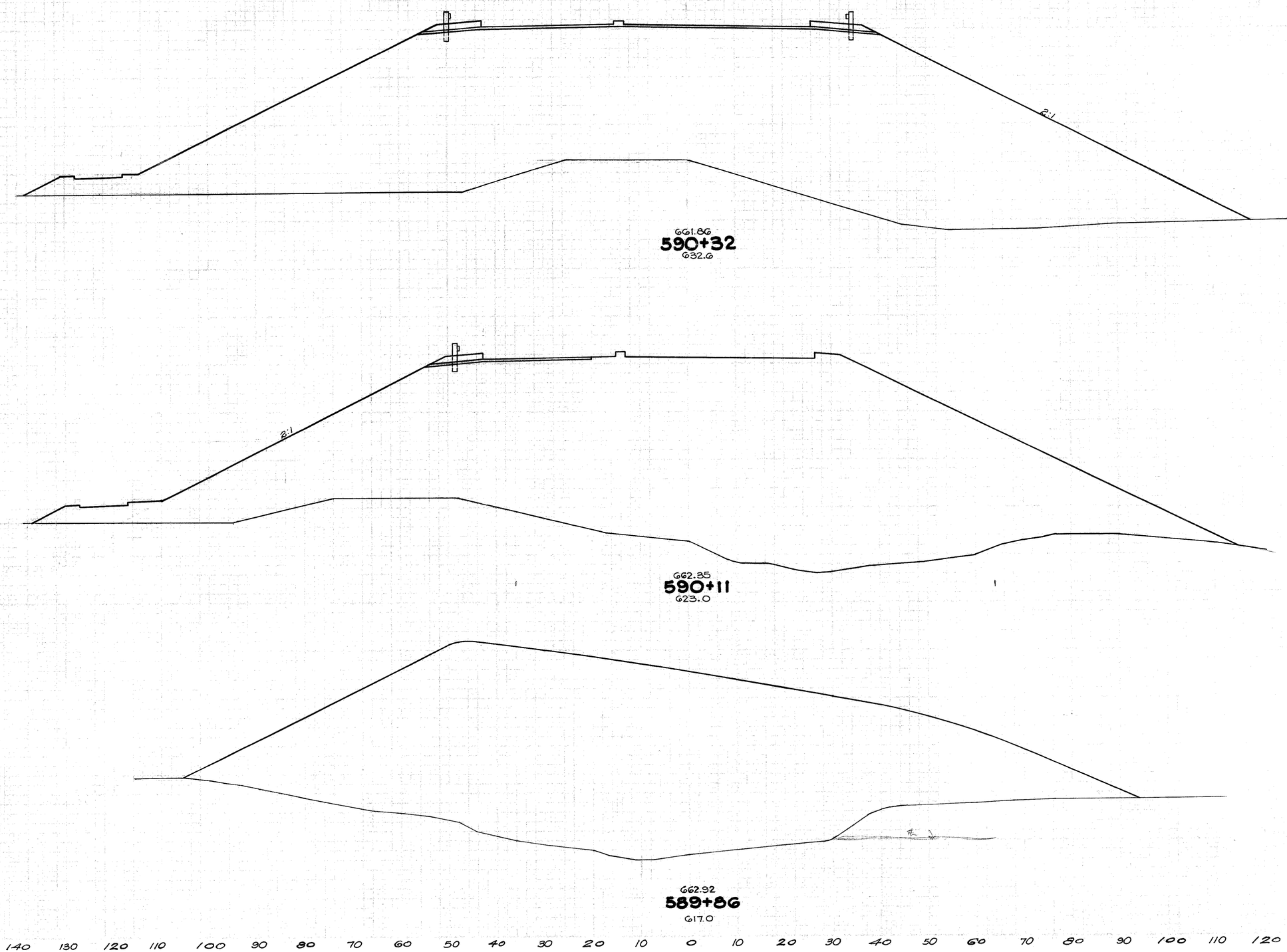
STA. 588+50 TO 589+50

DIVISION	STATE	PROJECT	
2	OHIO		

95
222

BUT-4-(16,53-19.15)

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
—	5913		
		—	4687
—	6139		
		—	5157
—	5107		
		—	3405

Sta. 580+00 to Sta. 590+11
E-1 1441 c.s.f. Cu. Yds.
Embankment 8564 Cu. Yds.
Embankment +15% 9849 Cu. Yds.

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 589+86 TO 590+32

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

Prop. 6" I-4

658.00
592+00
626.8

AHEAD | BACK

Intersection Ramp A

BLDG.
Fl. El. 628.2

660.30
591+00
626.4

Dump Sta 591+00±

Exist. 21"
Exist. 12"

661.22
590+60
626.1

40'

Exist. 24"

661.54
590+46
632.6

	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
	–	4104		
			–	12378
Ahead	–	2580		
Back	–	2378		
			2622	2622
		5958		
			4052	5785
	5471			
	–	5431		
			1418	2894
	–	5731		
			–	3019

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. 590+46 TO 592+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

652.53
594+38
628.7

House

Tank Plat.

BLDG.

653.40
594+00
627.8

SHED

BLDG.

Prop. 12" I-2

654.55
593+50
627.5

Prop. 6" I-4

655.70
593+00
627.1

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
—	3043		
		—	4574
—	3457		
		—	6726
—	3807		
		—	6170
—	2856		
		—	12889

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. 593+00 TO 594+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 90 100 110 120 130 140 150

2:1 2:1

646.50
597+00
627.6

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
386	2296		
		1085	6687
395	2526		
		91	1351
424	2033		
		361	1632
—	—	—	—
		—	—
		2306	81403
—	—		
		—	2365
—	2776		
		—	1724

648.22
596+25
627.8

648.59
596+09
627.8

595+63
627.9

State Route #73

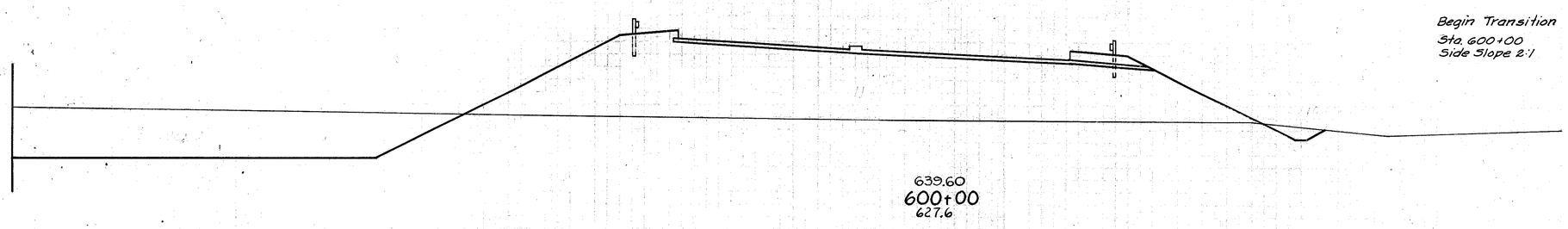
595+00
628.0

652.16
594+54
629.3

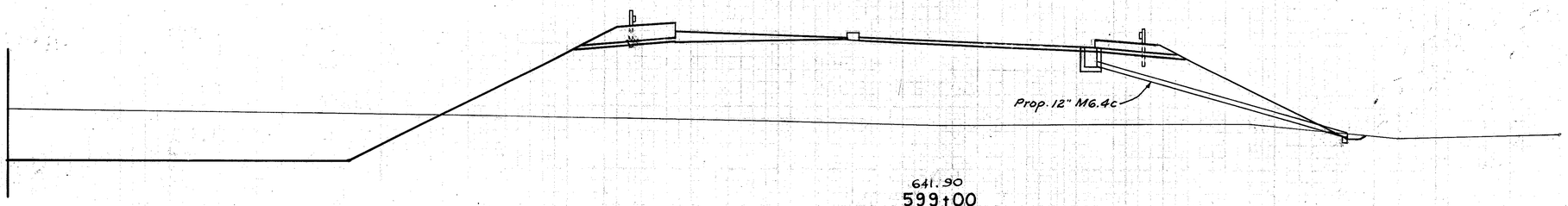
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 594+54 TO 597

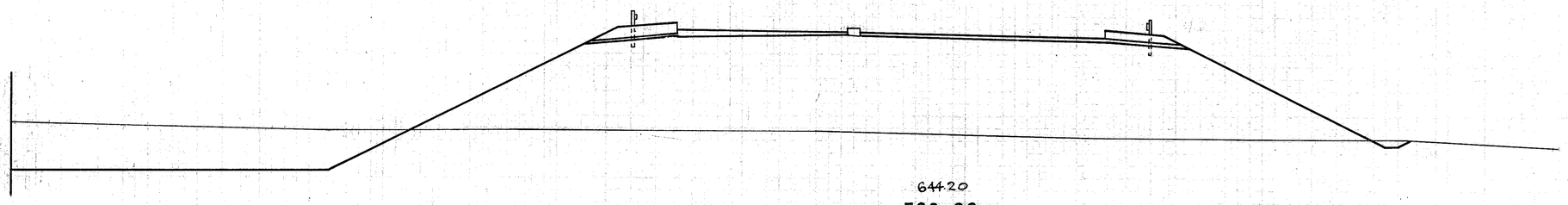
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



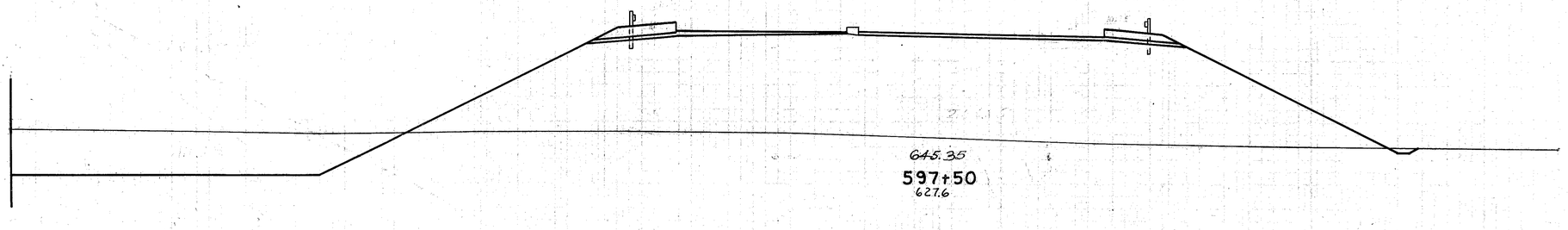
639.60
600+00
627.6



641.90
599+00
627.0



644.20
598+00
627.1



645.35
597+50
627.6

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
500	1168		
		1791	4967
467	1514		
		1606	6419
400	1952		
		753	3721
413	2067		
		740	4040

Sta. 590+11 to Sta. 600+00
2:1
Embankment 37,593 Cu. Yds.
Embankment +15% 176,663 Cu. Yds.
Embankment +15% 202,412 Cu. Yds.

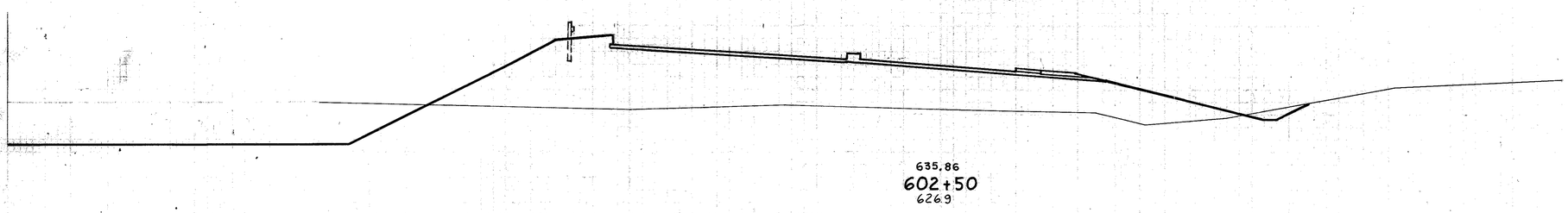
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 597+50 TO 600+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

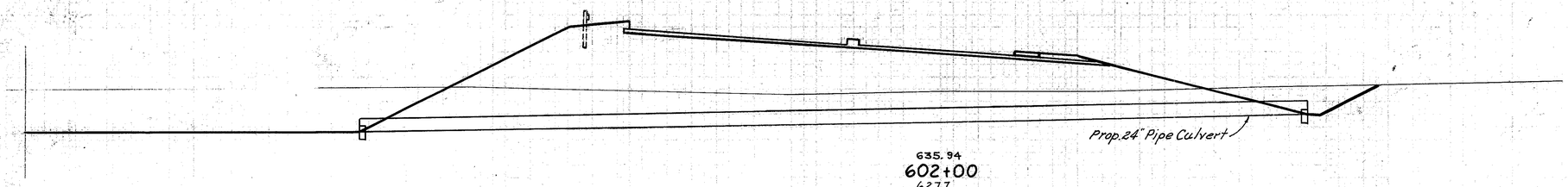
100
222

100-200 & BLACK

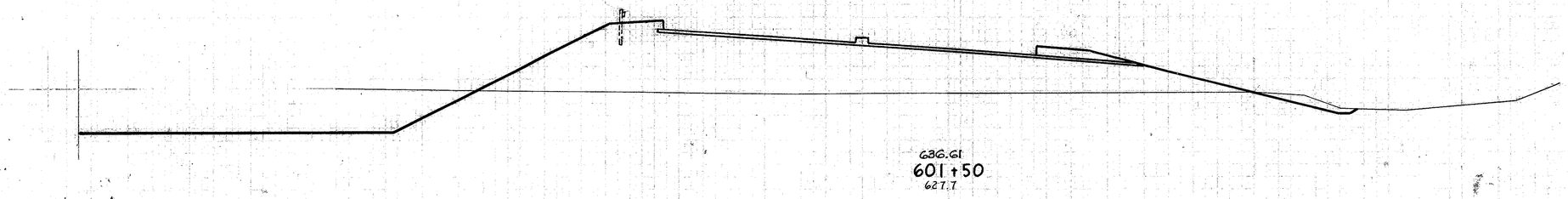


635.86
602+50
626.9

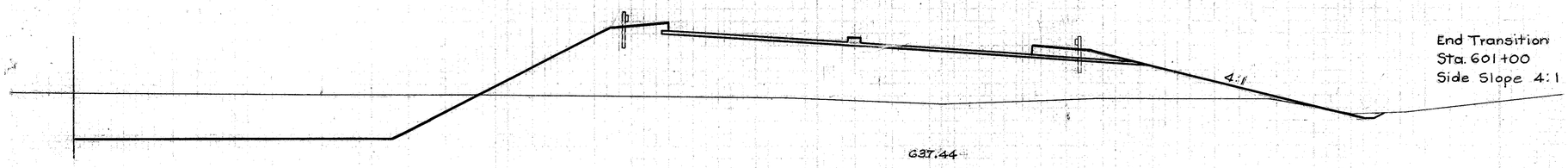
Gas Tanks
"Bob's Truck Serv.



635.94
602+00
627.7



636.61
601+50
627.7



End Transition
Sta. 601+00
Side Slope 4:1

637.44
601+00
626.8

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
438	934		
			20
		869	1618
500	809		
		869	1546
438	861		
		845	1671
475	944		
		1806	3911

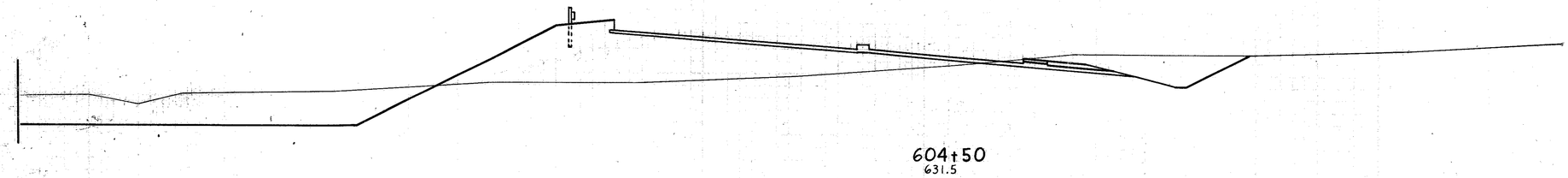
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 601+00 TO 602+50

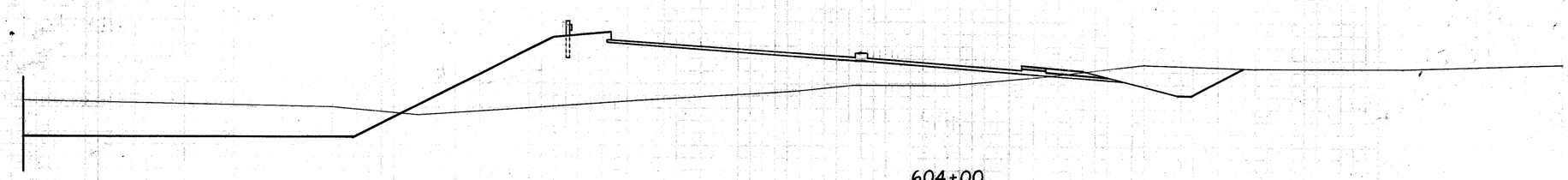
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

Block 3

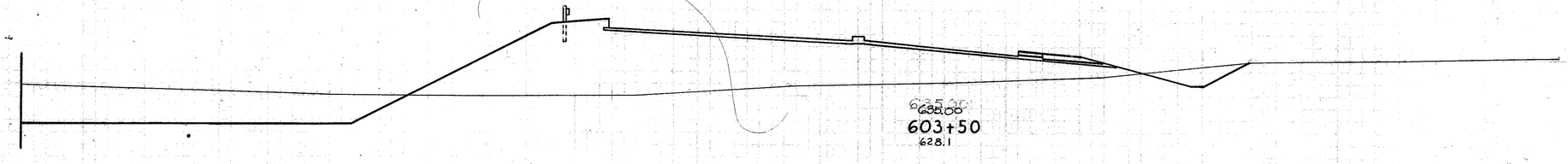
101
222



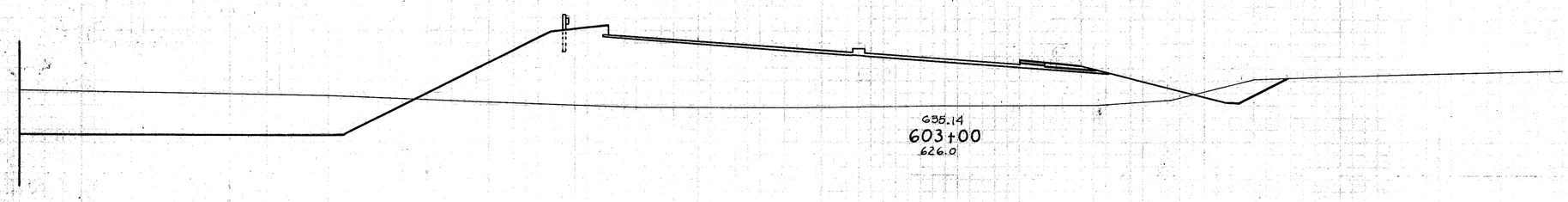
604+50
631.5



604+00
629.8



635.00
603+50
628.1



635.14
603+00
626.0

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
443	458		
		762	1009
			30
380	632		
		672	1334
346	809		
		709	1662
420	986		
		794	1778

Office Bob's Truck Service

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. 603+00 TO 604+50

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

102
222

D D

D D

634.40
606+50
636.2

C C

C C

634.50
606+00
636.5

B B

B B

634.60
605+50
636.6

A A

A A

Prop. 12" I-2

605+00
633.7

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
1229	10		
		2247	71
1198	67		
		985	269
866	223		
		1416	550
663	371		
		1024	768

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. 605+00 TO 606+50

Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
608+50	247	91		
			486	93
608+00	278	9		
			548	14
607+50	314	6		
			569	11
607+00 Ahead	300	6		
607+00 Back	961	71		
			2028	71

STA. 607+00 TO 608+50

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

Prop. 12" I-2

633.76
609+70
634.7

633.79
609+55
632.2

633.82
609+40
634.2

Barn

Prop. 6" I-4

633.90
609+00
635.3

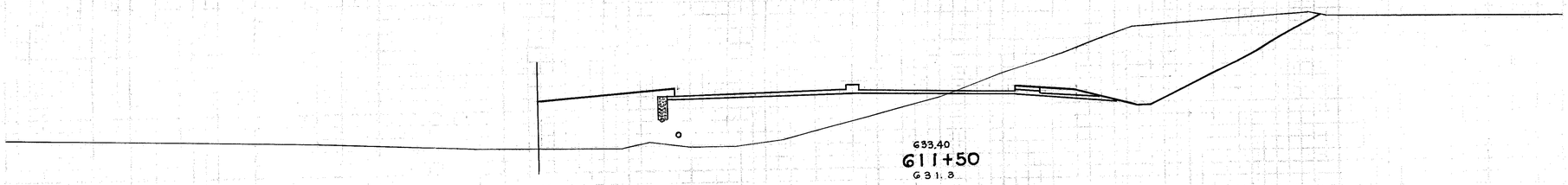
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. 609+00 TO 609+70

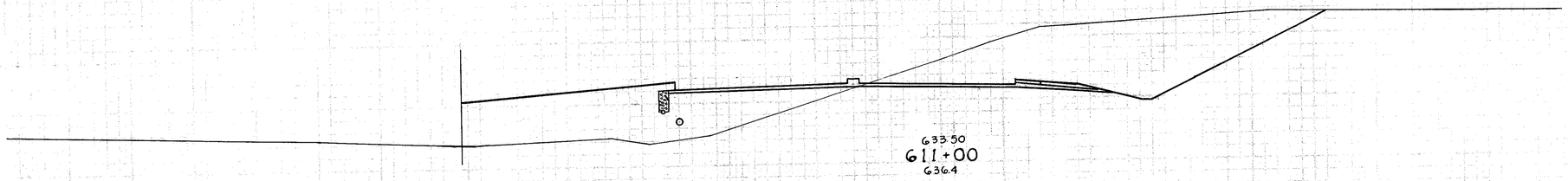
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
307	383		
		114	222
102	417		
		99	216
254	362		
		385	421
266	206		
		475	275

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

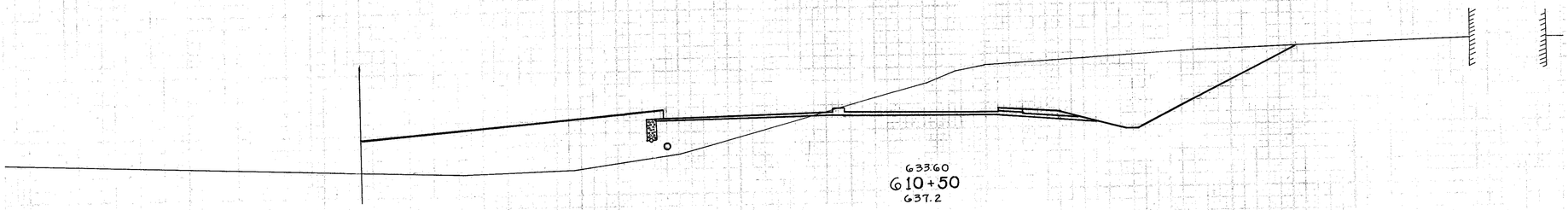
FED. ROAD DIVISION | STATE | PROJECT
2 | OHIO | 105 222



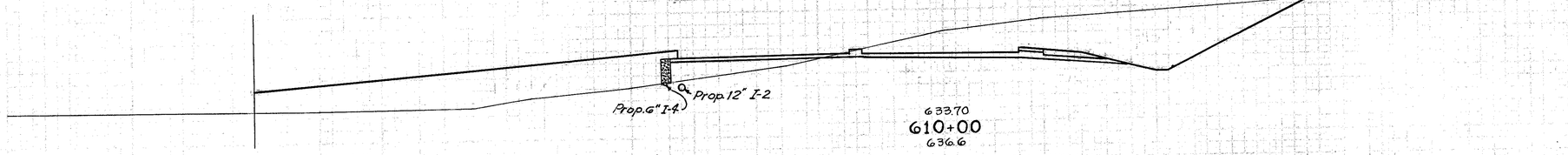
633.40
611+50
631.8



633.50
611+00
636.4



633.60
610+50
637.2



633.70
610+00
636.6

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
368	468		
		854	802
554	398		
		1021	773
549	437		
		896	782
419	407		
		403	439

Sta. 600+00 to Sta. 610+00
18105 Cu Yds.
E-1
Embankment 18000 Cu Yds.
Embankment +1% 20700 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. 610+00 TO 611+50

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

Ahead, Back

633.00
G13+50
G25.2

633.10
G13+00
G25.4

633.20
G12+50
G25.5

Prop. 6"I-4

Prop. 12" I-2

633.30
G12+00
G27.7

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

	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
Ahead	76	568		
Back	15	403		
			92	756
	84	413		
			264	732
	201	378		
			430	758
	263	408		
			589	811

STA. G12+00 TO G13+50

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

107
222

632.60
615+50
626.5

632.70
615+00
627.2

632.80
614+50
626.5

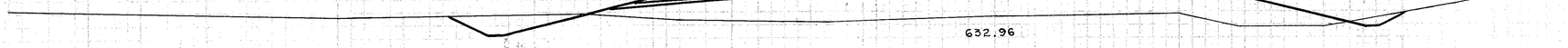
632.90
614+00
625.5

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
49	490		
		108	957
68	543		
		131	1050
73	591		
		132	1089
69	585		
		134	1068

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. 614+00 TO 615+50

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



632.96

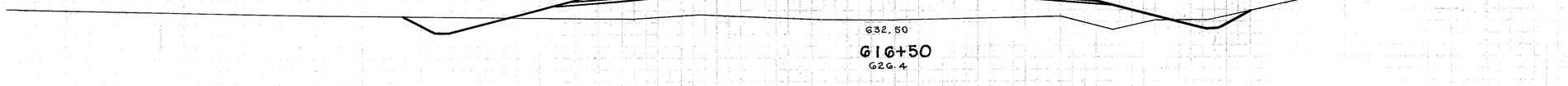
G17+50

627.2

632.68

G17+00

627.0



632.50

G16+50

626.4

632.50

G16+00

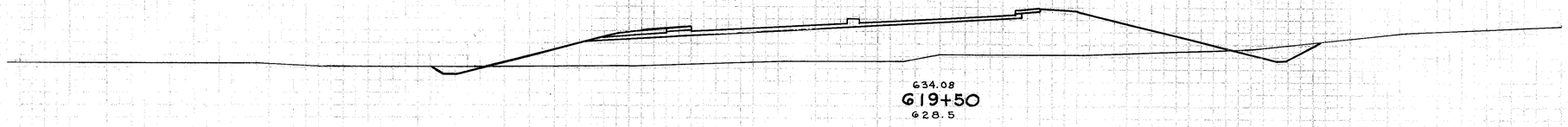
626.5

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
39	492		
		76	882
43	466		
		74	824
37	424		
		59	835
27	478		
		70	896

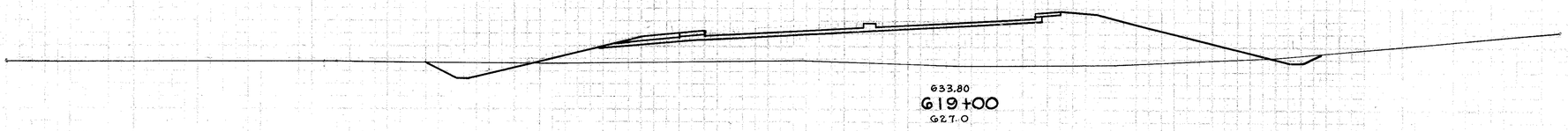
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

STA. G16+00 TO G17+50

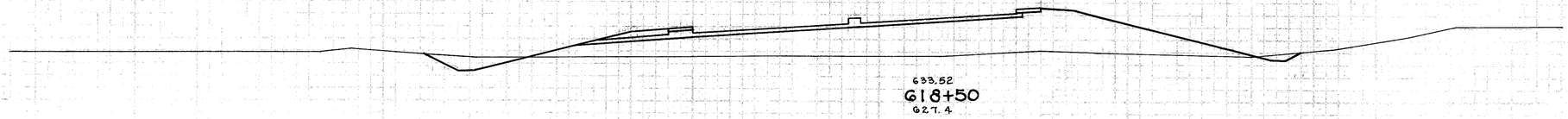
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



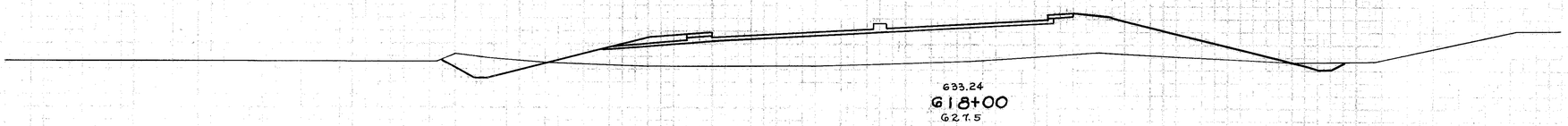
634.08
G19+50
G28.5



633.80
G19+00
G27.0



633.52
G18+50
G27.4



633.24
G18+00
G27.5

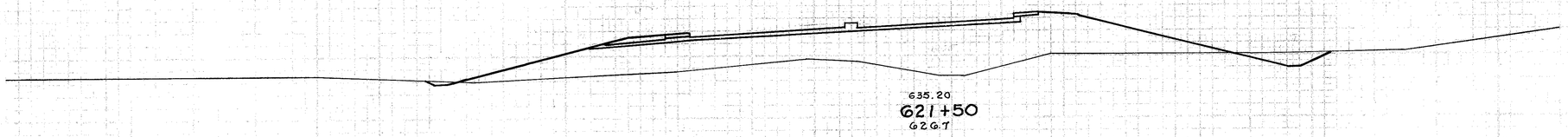
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
27	535		
		53	1003
30	528		
		53	920
27	466		
		58	874
36	478		
		69	898

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

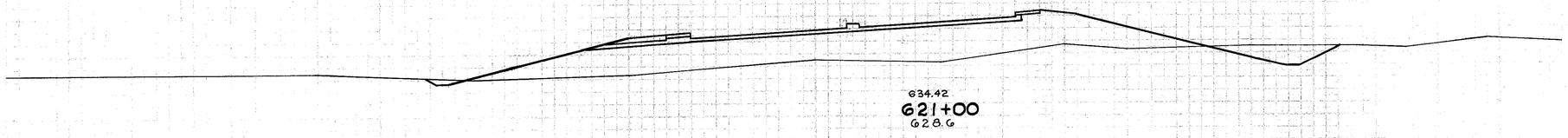
STA. 618+00 TO 619+50

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

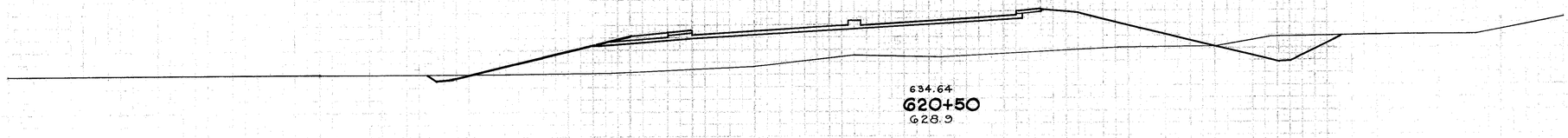
110
222



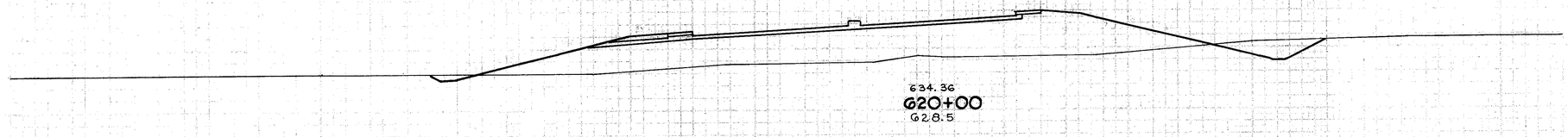
635.20
621+50
626.7



634.42
621+00
628.6



634.64
620+50
628.9



634.36
620+00
628.5

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
19	611		
		57	1042
13	514		
		84	976
48	540		
		78	1016
36	537		
		58	1030

Sta 610+00 to Sta 620+00
E-1
3221 Cu. Yds.
17740 Cu. Yds.
Embankment +15% 20401 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. 620+00 TO 621+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

111
222

636.32
623+50
628.2

636.04
623+00
626.8

635.76
622+50
626.7

635.48
622+00
626.5

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
5	774		
		10	1464
6	807		
		20	1420
16	727		
		23	1259
		435	435
14	633		
		31	1152

Exist. Pavement
Sta. 622+00 to Sta. 631+00
to be Removed &
Backfilled

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. 622+00 TO 623+50

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

112
222

636.88
624+50
627.9

636.77
624+30
628.1

Exist. 6" Water Main

636.60
624+00
628.8

636.43
623+70
628.5

INTERSECTION VERITY PKWY. & PINTA AVE.

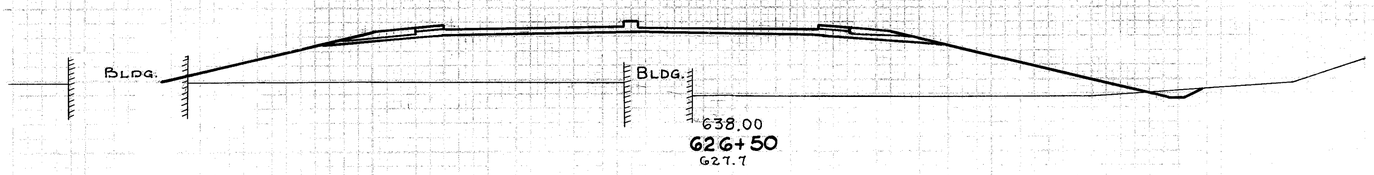
	End Area		C.u. Yds.	
	Cut	Fill	Cut	Fill
	8	974		
			9	700
	17	917		
			9	719
	—	377		
Verity Pkwy.			624	2137
Minnesota Ave.			65	552
Pinta Ave.			71	1821
			—	407
	—	356		
			2	419

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. 623+70 TO 624+5

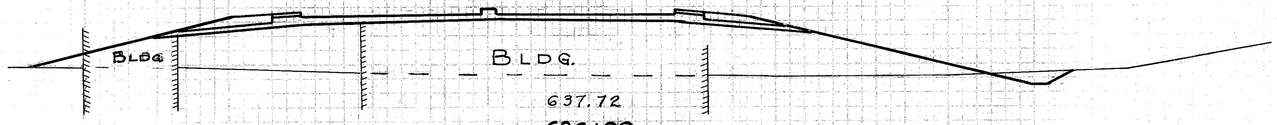
150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

OHIO 113 222

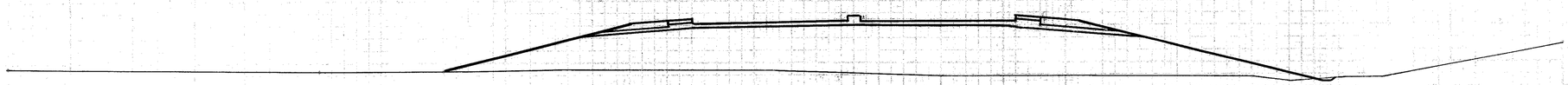


638.00
626+50
627.7

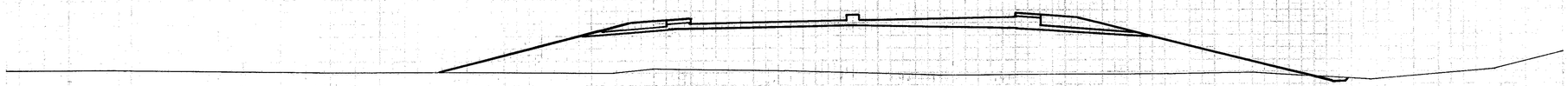
Houses #2801
#2805



637.72
626+00
628.6±



637.44
625+50
627.9

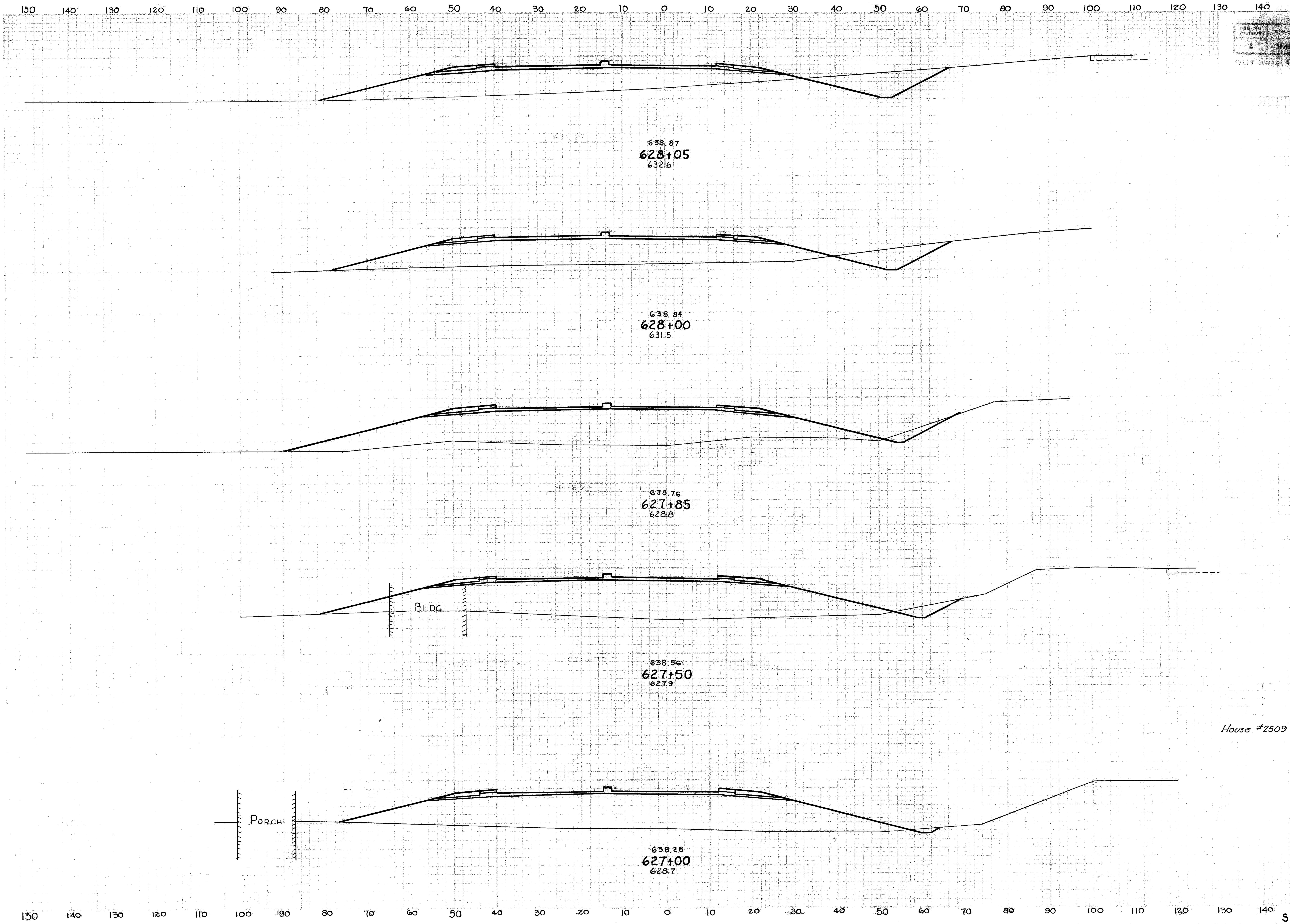


637.16
625+00
627.6

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
6	839		
			134
			138
		16	1501
11	782		
		11	1483
1	820		
		3	1357
2	846		
		9	1685

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. 625+00 TO 626+50



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
121	515		
		18	102
74	589		
		27	404
22	865		
		36	1068
34	882		
		35	1703
			148
4	957		
		9	1663

STA. 627+00 TO 628+05

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

639.12
628+50
630.5

639.06
628+40
630.6

638.99
628+26
632.7

12" Water

638.92
628+15
632.9

Exist. 6" Water Main

Air Relief Valve

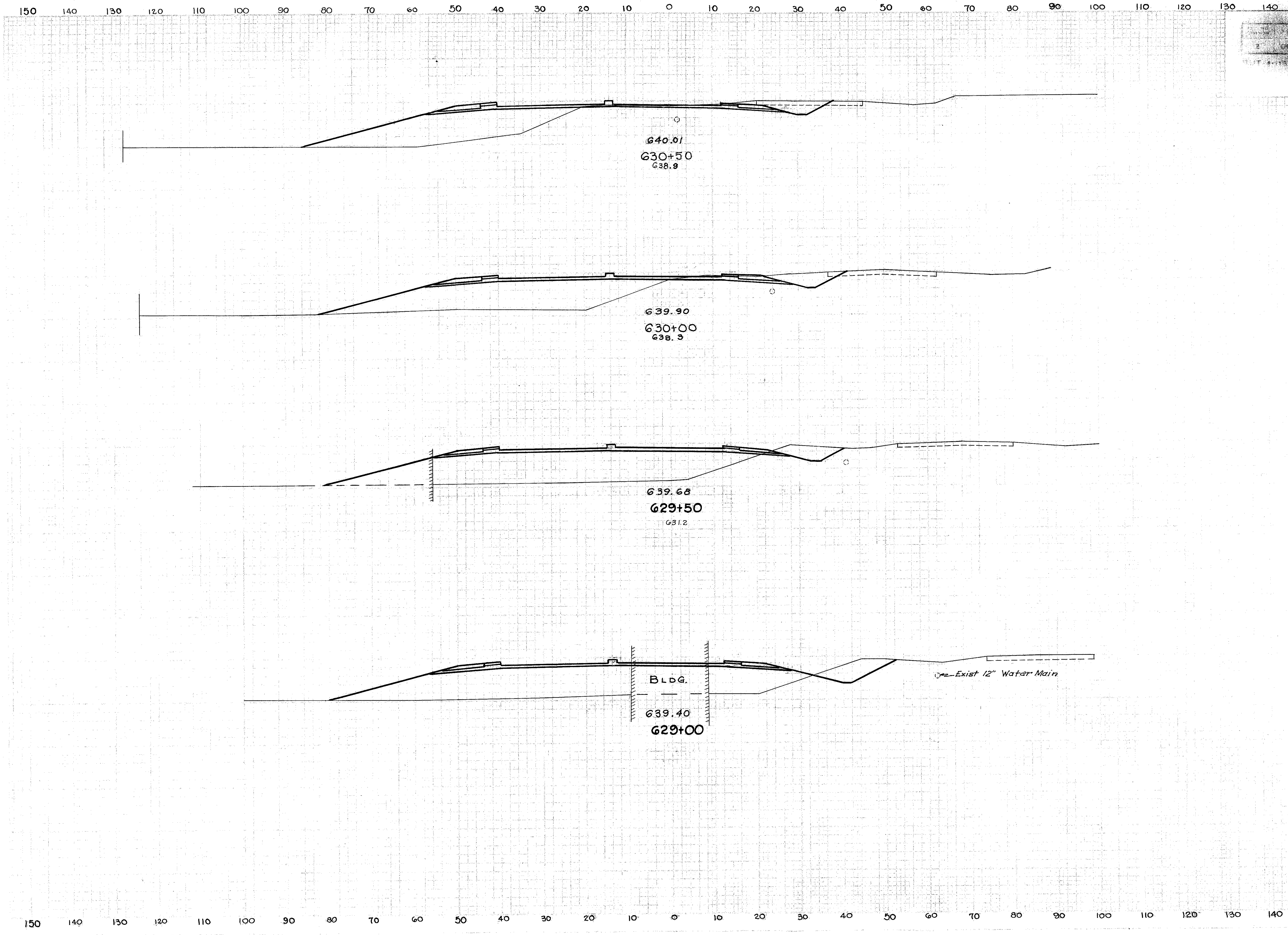
Water Valve

Existing
12" Water Main

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
32	783		
		8	284
12	732		
		24	331
82	525		
		32	169
111	491		
		43	186

STA. 628+15 TO 628+50

116
222

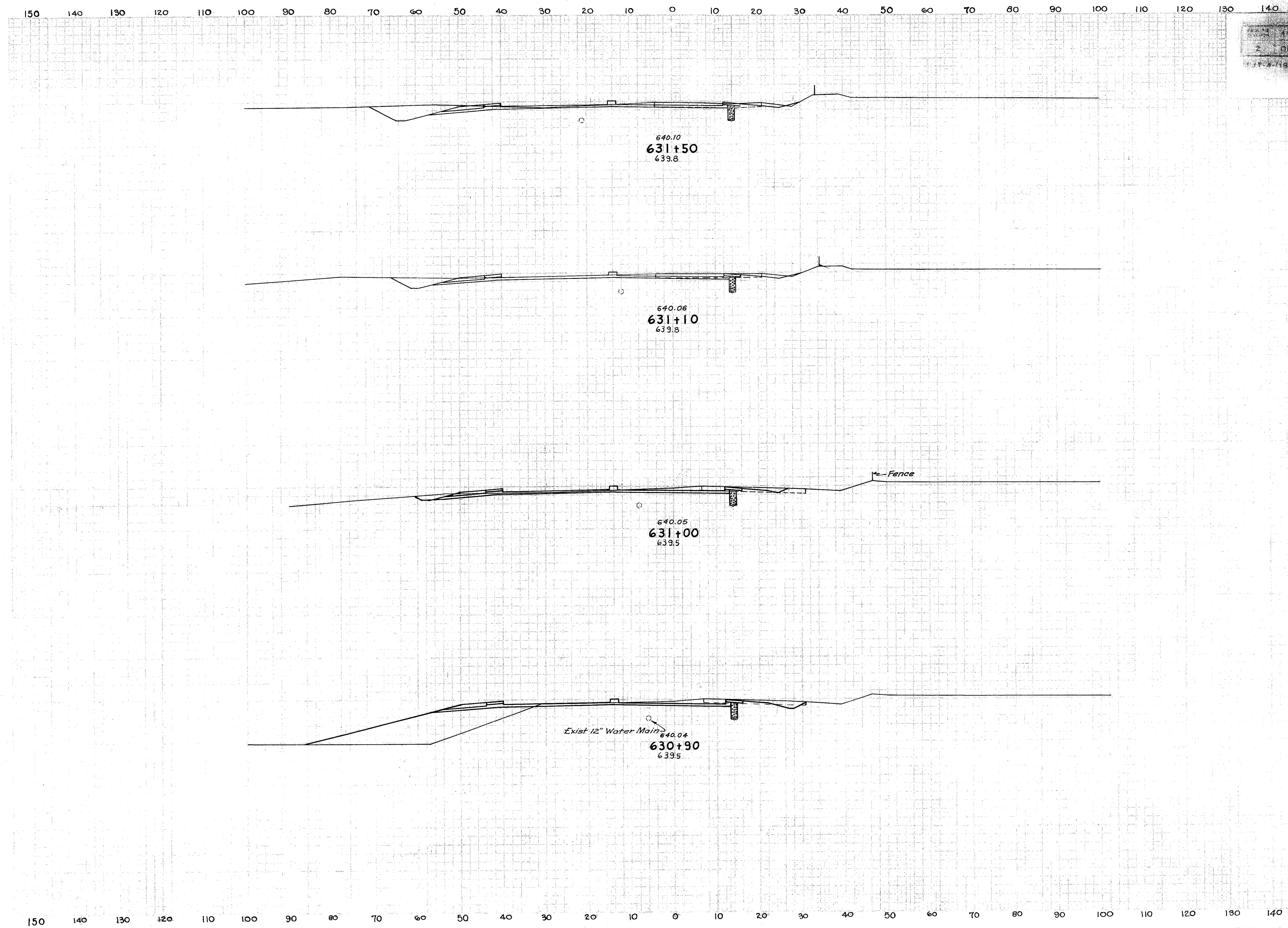


End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
75	316		
		141	671
77	414		
		114	945
46	607		
		94	1181
55	668		
		81	1344

Sta. 620+00 to Sta. 630+00
E-1 2078 Cu. Yds.
Embankment 31345 Cu. Yds.
Embankment +15% 36046 Cu. Yds.

STA. 629+00 TO 630+50

STATE	SHEET
OHIO	117 / 222



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
106	8		
		147	12
92	8		
		25	3
45	6		
		18	41
51	216		
		93	394

STA. 630+90 TO 631+50

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

118
222

SUT-4-(16.53-19.15)

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

639.74
Elev. back curb
Fence

640.31
632+50
640.0

639.71
Elev. back curb
Gutter Slope
1"/ft
1/4"/ft
Fence

6"I-4

Lower exist. 12" Water Main
to clear proposed Drainage Struct.

640.30
632+40
640.0

639.77
Elev. back curb
Fence

Exist. 12" WM
Exist. 6" Water Main
Exist. 6" Valve

640.27
632+15
639.9

Begin Type 2 Curb & Gutter
Gutter Slope 3/16"/ft.
639.81
Elev. back curb
1/4"/ft.
Fence

Exist. 12" Water Main

640.24
632+00
639.9

SCALE CHANGE: 1"=5'

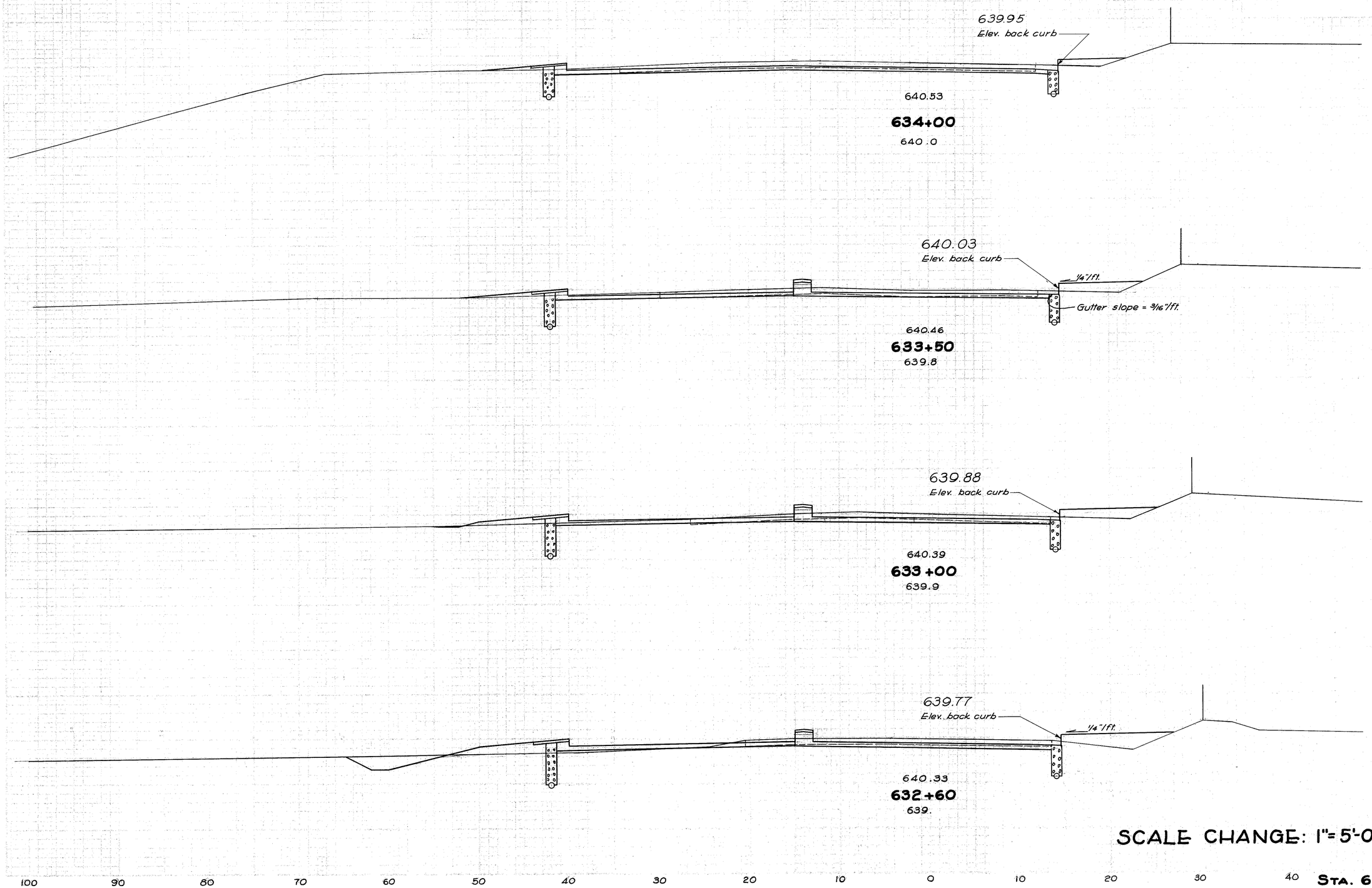
100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
62	17		
		19	12
43	48		
		37	49
36	55		
		29	19
68	14		
		98	20

STA. 632+00 TO 632+5

DIVISION	STATE	PROJECT		119
2	OHIO			222

CUT-4-(16.53-19.15)



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
61	—		
		100	—
47	—		
		79	2
39	2		
		64	28
48	36		
		20	10

SCALE CHANGE: 1"= 5'-0"

STA. 632+60 TO 634+00

FED. RD. DIVISION	STATE	PROJECT		120
2	OHIO			222

BUT-4-(16.53-19.15)

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

636+00

635+00

Meet crown of existing pavement

640.60

634+50

640.4

640.57

634+30

640.3

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
	76		
	53		
	68		
	72		

Sta. 630+00 to Sta. 634+50
E-1
Embankment 395 Cu. Yds.
Embankment +15% 1261 Cu. Yds.
1450 Cu. Yds.

SCALE CHANGE 1"=5'-0"

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

STA. 634+30 TO 636+00

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

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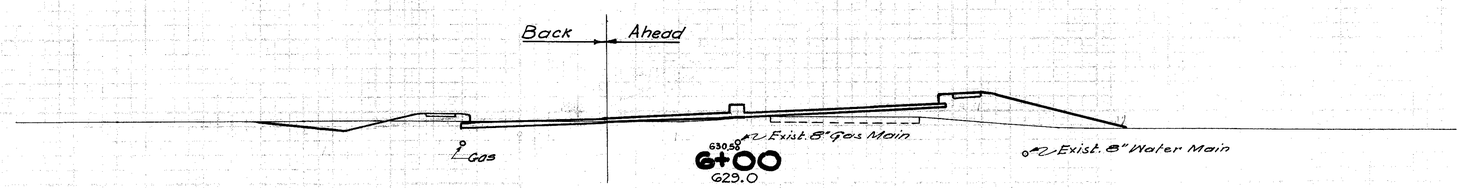
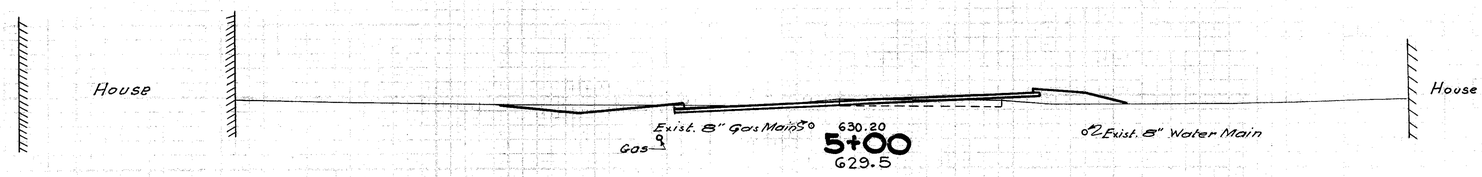
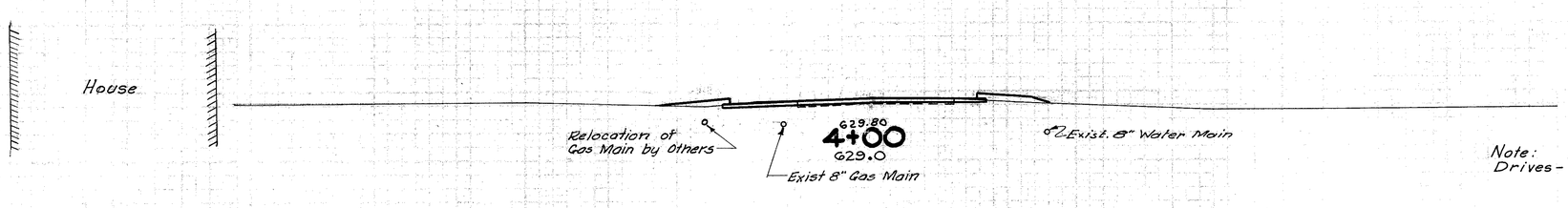
SUT-4-(16.53-19.15)

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

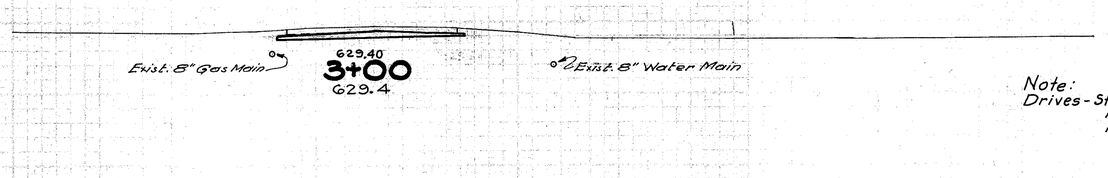




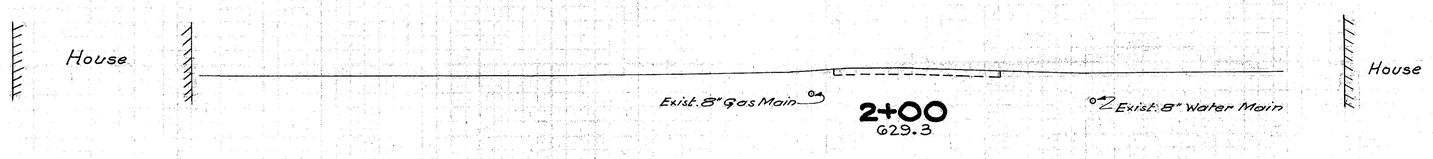
Note:
Drives - Sta. 5+28 Lt.
Sta. 5+40 Rt.



Note:
Drives - Sta. 4+26 Lt.
" 4+60 Rt.
" 4+79, Lt.



Note:
Drives - Sta. 3+24.75 Lt.
" 3+75.00 Lt.
" 3+62.00 Rt.

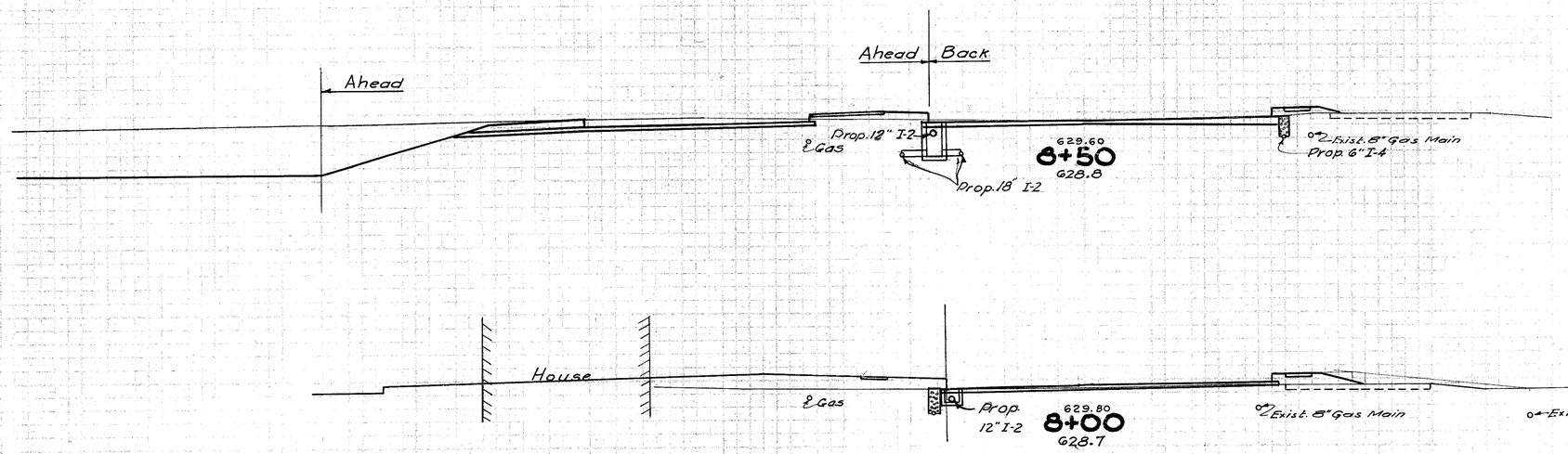


	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
Ahead		89		
Back	24	94		
			109	215
	35	22	18	
			3	1
			100	63
	19	12	9	
			3	
			7	
			89	22
	29	—	7	
			7	
			8	
			54	

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

STATE ROUTE 73

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120



	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Ahead	203	46		
Back	52	5		
			48	25
Houses				
#705				178
#707				176
	—	22		
Note: Drive - Sta. 8+24 Rt.				13
				87
	—	72		
				147
Houses				
#701				142
#703				171
	—	87		
				167
Note: Drive Sta. 6+70 Rt.				12
	—	93		
House				
#615				142
				169

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

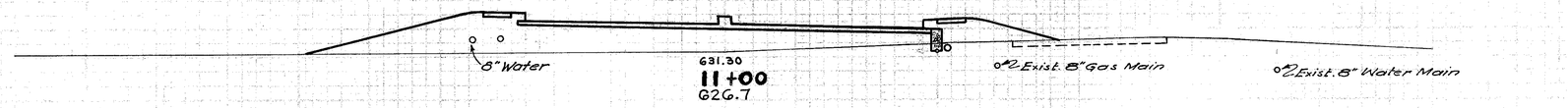
STATE ROUTE 73

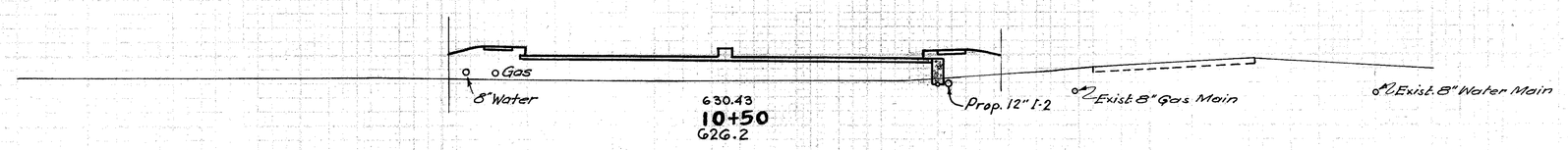
FED. HWY. DIVISION	STATE	PROJECT	
5	OHIO		

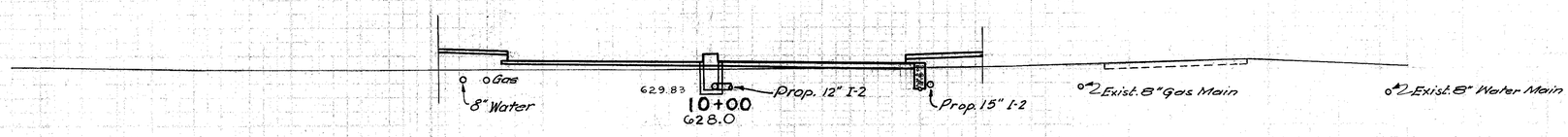
123
222

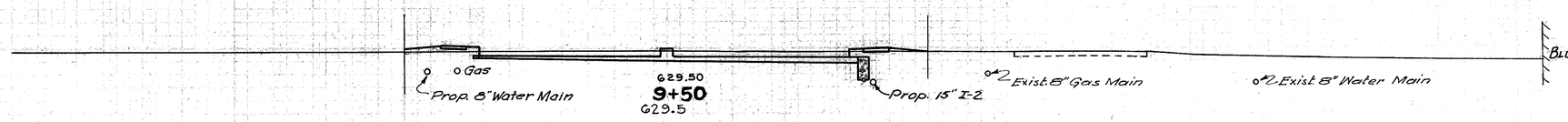
BUT-4-16.53-19.15)

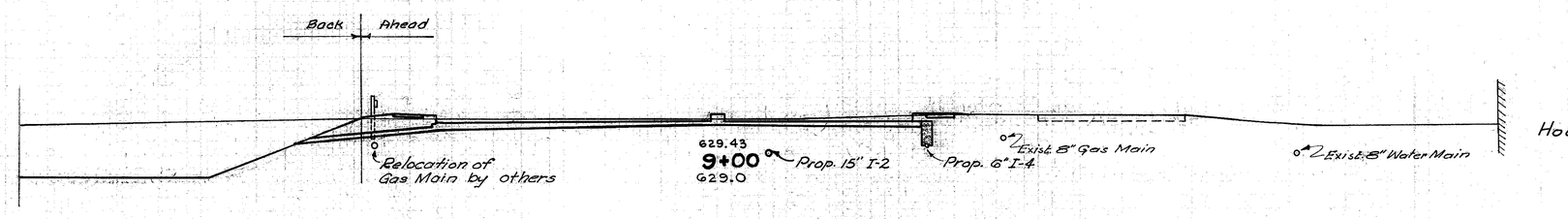
160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120











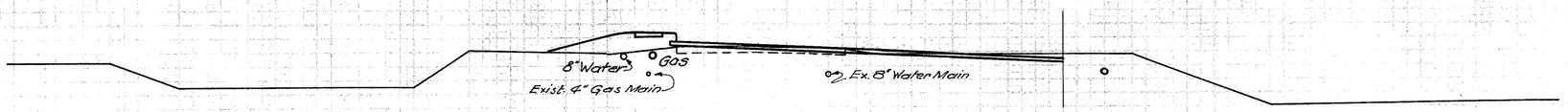
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
—	348		
			549
—	245		
			281
	58		
		79	60
			4000
	85		7
		178	8
Ahead	107	2	
Back	414	2	
		576	44

Gas Tanks

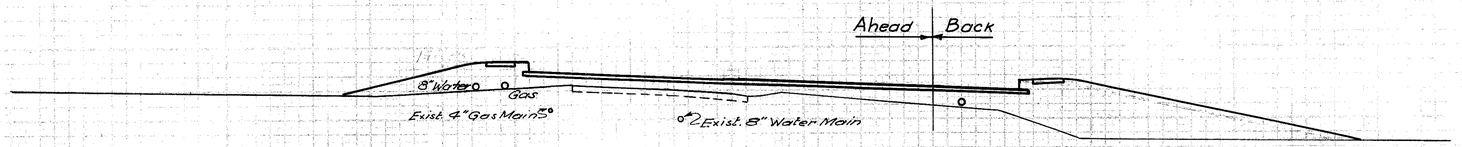
160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130

STATE ROUTE 73

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

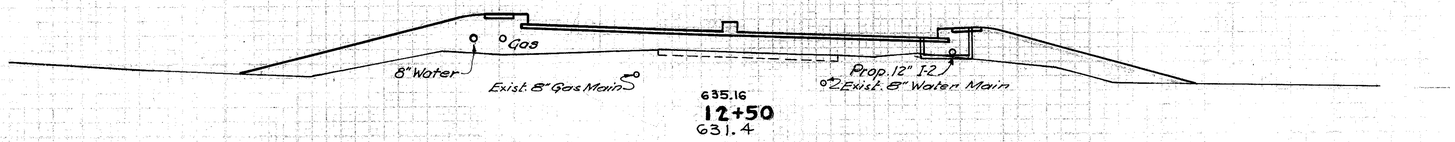


636.98
13+50
635.8

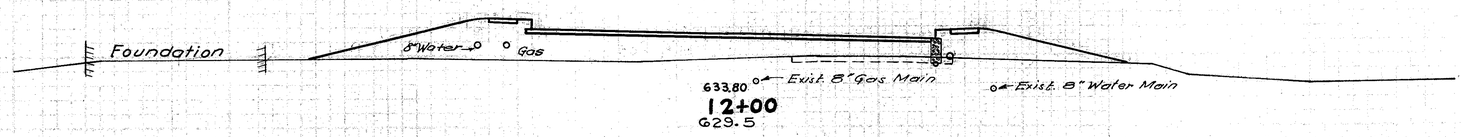


636.24
13+00
633.5

Note:
Drive - Sta. 13+38

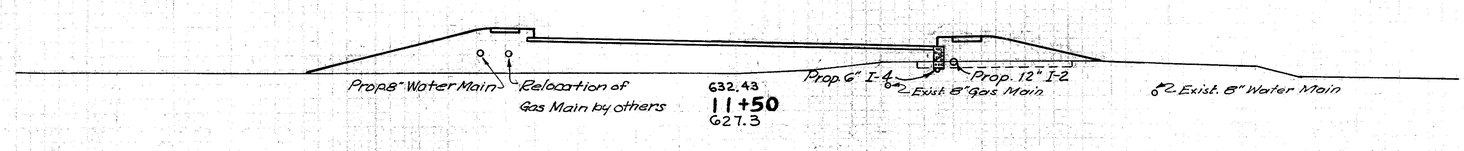


635.16
12+50
631.4



633.80
12+00
629.5

Note:
Drive Sta. 11+89



632.43
11+50
627.3

	End Area Cut	End Area Fill	Cu Yds. Cut	Cu Yds. Fill
	27	31		
			25	166
Ahead	—	148		
Back	—	359		
			—	15
			—	688
	—	384		
			—	685
	—	356		
			—	10
			—	682
	—	580		
			—	674

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130

STATE ROUTE 73

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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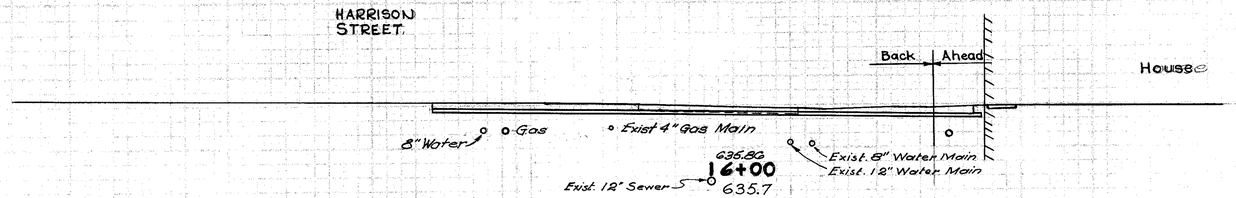
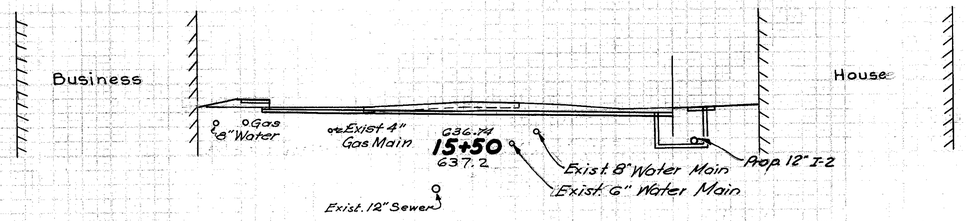
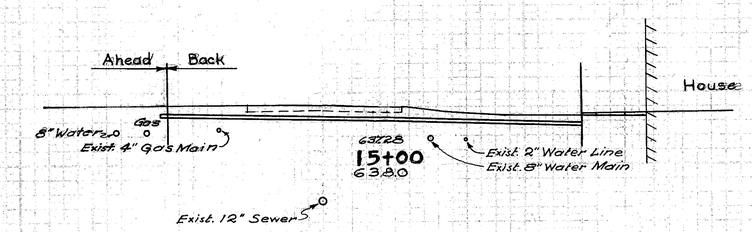
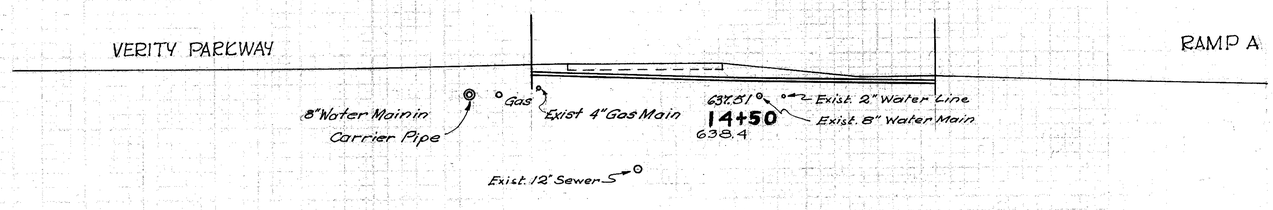
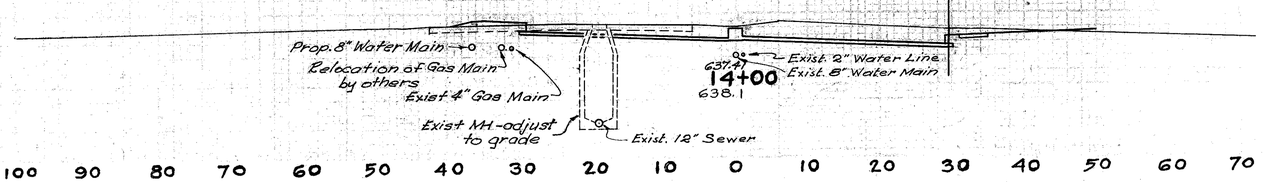
HARRISON STREET











	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
Ahead	110	—		
Back	0.3	—		
			153	6
House #906				181
	72	6		
			151	7
Houses #900				116
#902				116
Ahead	21	1		
Back	21	—		
			164	—
	86	—		
			203	5
	133	5		
			149	33

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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BUT-4-(16.53-19.15)

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

Exist. 4" Gas Main

18+95.5
636.7

End of Work on Lt.
End Work on Rt. Sta. 18+91

Note:
Drive Sta 18+61 Rt

Exist. 4" Gas Main
Exist. 12" Water Main
Exist. MH.
Exist. 10" Sewer

18+50
635.0

MULBERRY STREET

Exist. 4" Gas Main
Exist. 12" Water Main
Exist. 10" Sewer

18+00
634.3

Garage

Exist. 4" Gas Main
Exist. 12" Water Main
Exist. 10" Sewer

17+50
634.2

Bldg.

Exist. 4" Gas Main
Exist. 12" Water Main
Exist. 10" Sewer

17+00
634.2

Note:
Drive Sta 17+13 Rt

House
912
910

Prop. 8" Water Main
Relocation of
Gas Main by others
Exist 4" Gas Main
Exist. 12" Water Main
Prop. 12" F.E.
Exist. 10" Sewer

16+50
634.7

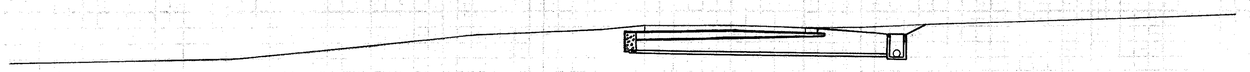
House
908

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 STATE ROUTE 73

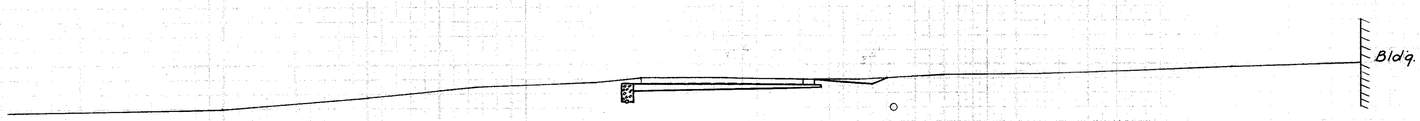
End Area		Cu Yds.	
Cut	Fill	Cut	Fill
			6
		5 (Rt.)	5 (Rt.)
		3 (Lt.)	3 (Lt.)
9	2		
		21	13
14	8		
		34	10
23	3		
		33	26
18	25		
		70	25
			139
			189
64	2		
		161	2
			195

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

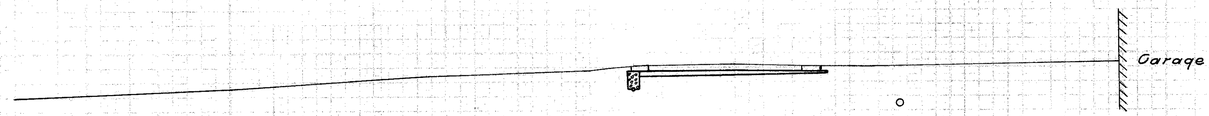
CUT-4-16.53-19.15



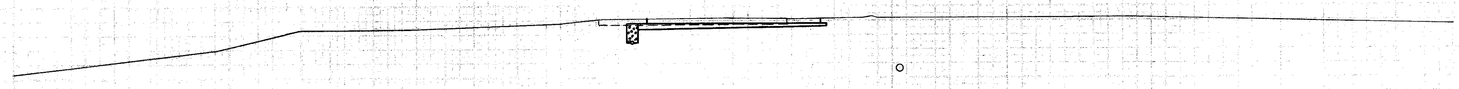
638.13
2+12 E
638.1



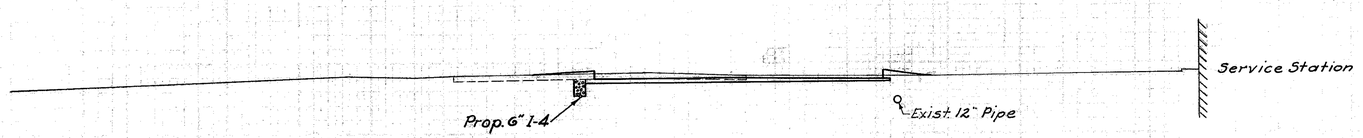
638.10
2+00
638.1



638.25
1+50 E
638.3



638.51
1+00 E
638.3



638.66
0+50 E
638.2

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
51	—		
		18	—
28	—		
		53	—
29	—		
		58	—
34	—		
		79	4
51	4		
		65	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 90 100 110 120 130 140 150

VERITY PARKWAY STA.0+50E TO STA.2+12 E

70 60 50 40 30 20 10 0 10 20 30 40 50 60

Exist 24" Exist 21" Exist 12"

659.5
7+00-AL
626.2

Exist 24" Exist 21" Exist 21"

658.52
6+50-AL
626.6

Prop. 12" I-2

Exist 24"

657.20
6+00-AL
627.5

Exist 24" Exist 21" Exist 12"

655.33
5+50-AL
627.4

Exist 21" Exist 12"
Exist 24"

653.04
5+00-AL
626.8

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
—	2347		
		—	5221
—	3282		
		—	4888
—	1987		
		—	3541
—	1837		
		—	3106
—	1517		

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

DIVISION	STATE	PROJECT
2	OHIO	

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1-4-(16,53-19.15)

655.20
7+00-AR
627.2

655.38
6+50-AR
626.4

654.87
6+00-AR
627.3

654.00
5+50-AR
626.7

652.30
5+00-AR
626.8

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
—	1737		
		—	3824
—	2393		
		—	4002
—	1929		
		—	3405
—	1748		
		—	2920
—	1406		

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

FED. NO. DIVISION	STATE	PROJECT	
2	OHIO		

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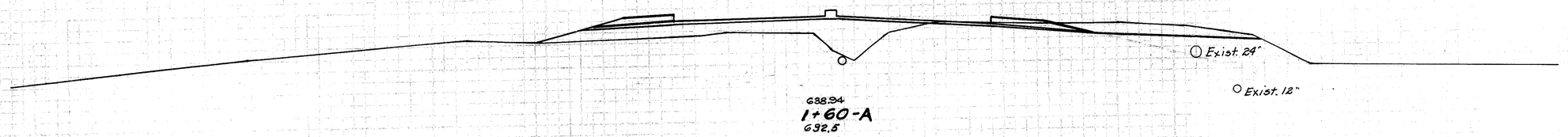
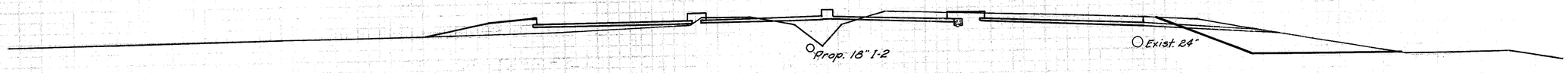
BUT-4-(16.53-19.15)

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

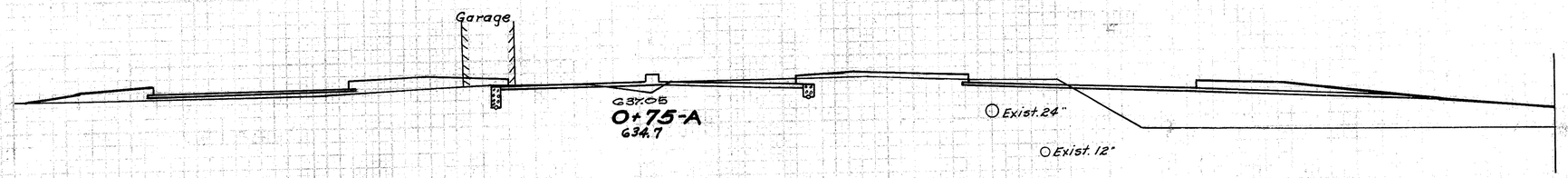
Begin transition
Sta. 1+85-A
Side Slope 4:1



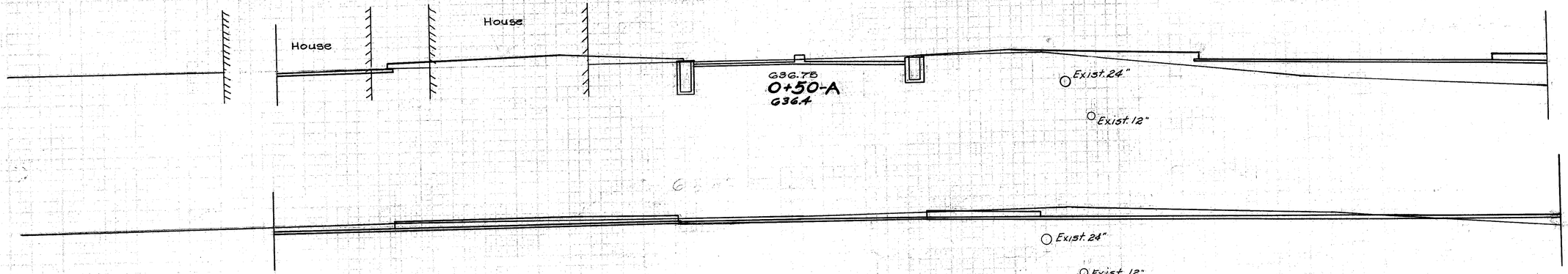
638.34
1+60-A
632.5



637.46
1+00-A
632.1



637.05
0+75-A
634.7



636.75
0+50-A
636.4

636.82
0+30-A
636.8

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
111	220		
		376	361
227	105		
		130	274
53	486		
		65	389
87	354		
		170	173
371	112		

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

STATE ROUTE 44 RAMP-A

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

650.85
4+50-A
627.1

Exist. 21" Exist. 12" 12"
Exist. 24"

648.72
4+00-A
635.7

Exist. Manholes
Adjust to grade
Exist. 24"
Exist. 12"
Exist. 24"
Exist. 21"
Exist. 21"

Shed

Proposed 18"
Exist. 24"
Exist. 12"

646.60
3+50-A
635.4

End Transition
Sta. 3+00A
Side Slope 2:1

2:1
Prop. 18"
Exist. 24"
Exist 18"

644.47
3+00-A
636.1

End Transition
Sta. 2+85
Side Slope 2:1

2.7:1
Prop 18" I-2
Exist. 24"
Exist. 12"

642.35
2+50-A
633.1

Begin Transition
Sta. 2+00 A
Side Slope 4:1

3.7:1
Prop. 18" I-2
Exist. 24"
Exist. 12"

640.28
2+00-A
636.2

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		—	4952
—	2425		
		—	3617
—	1481		
		—	2237
—	935		
		—	1880
—	1095		
		—	2013
—	1079		
		—	1567
—	613		
		82	617

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 STATE ROUTE #4 RAMP-

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

DIVISION	STATE	PROJECT
2	OHIO	

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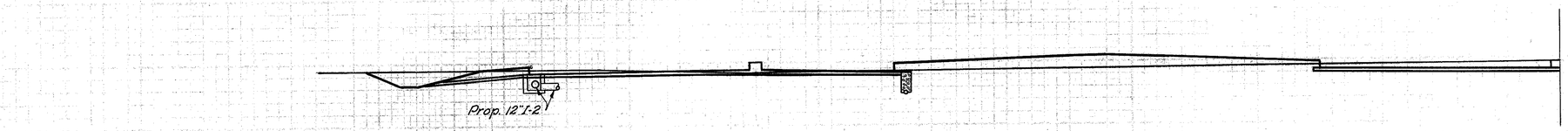
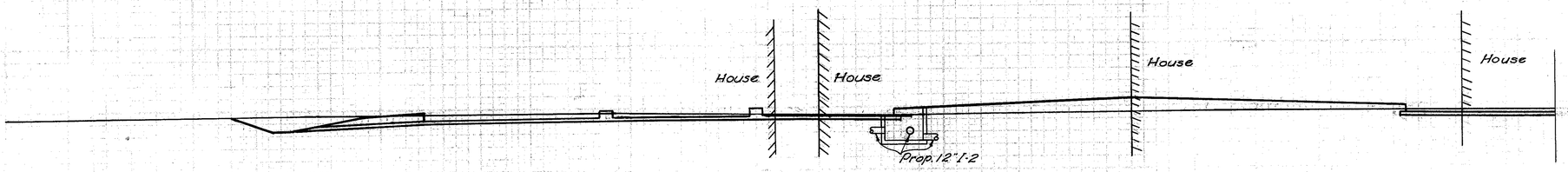
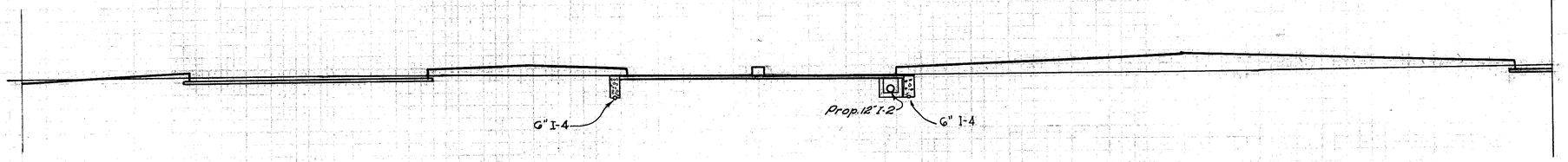
BUT-4-16.93-19.15



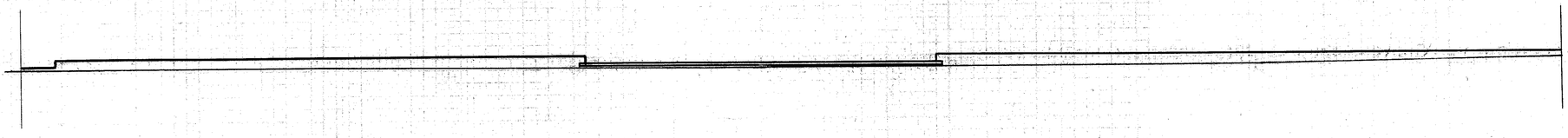
629.59
1+00-B
628.4



629.49
0+75-B
629.0



629.50
0+50-B
628.6



629.75
0+18-B
628.2

Station	End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
140	135			
			148	126
180	137			
			106	189
48	272			
			254	161
381	—			

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

STATE ROUTE #73 - RAMP - "B"

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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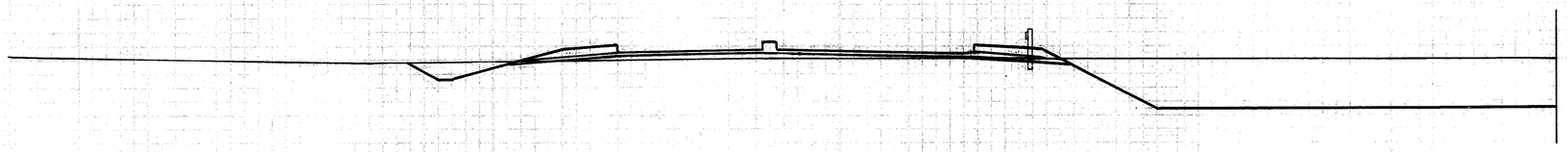
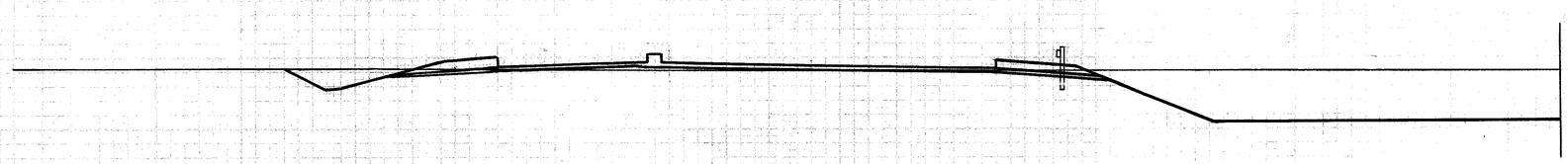
222

UT-4-(16.53-19.15)

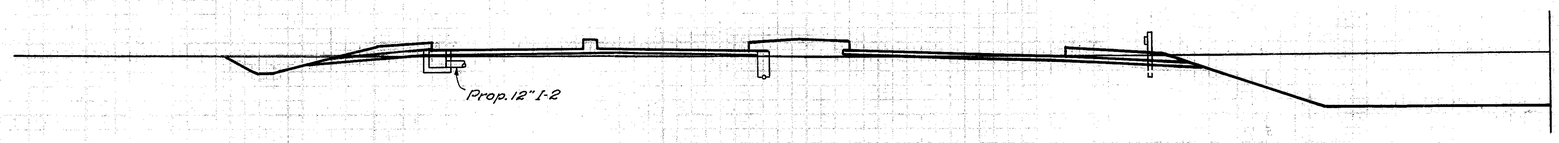
140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140



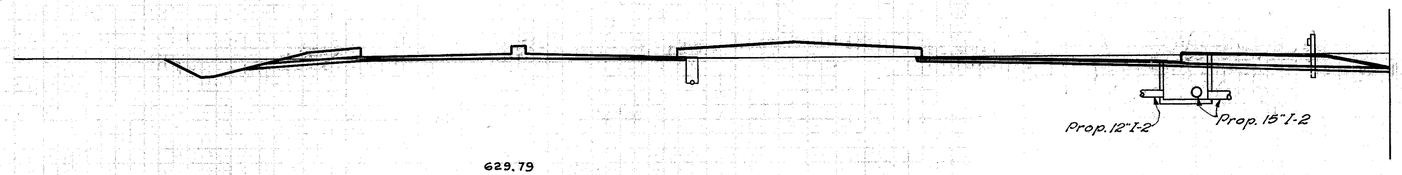
630.19
2+50-B
628.2



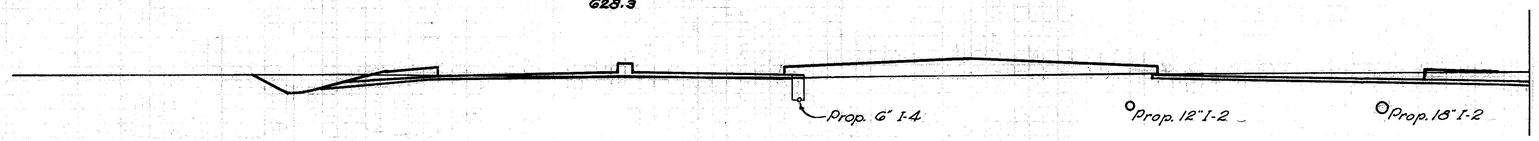
629.99
2+00-B
628.3



629.89
1+75-B
628.3



629.79
1+50-B
628.3



629.69
1+25-B
628.3

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
523	81		
		932	115
483	43		
		398	49
376	62		
		232	80
125	111		
		115	119
124	146		
		122	130

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 STATE ROUTE #73 RAMP-B

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

FED. AID CIVIL NO.	STATE	PROJECT	
2	OHIO		

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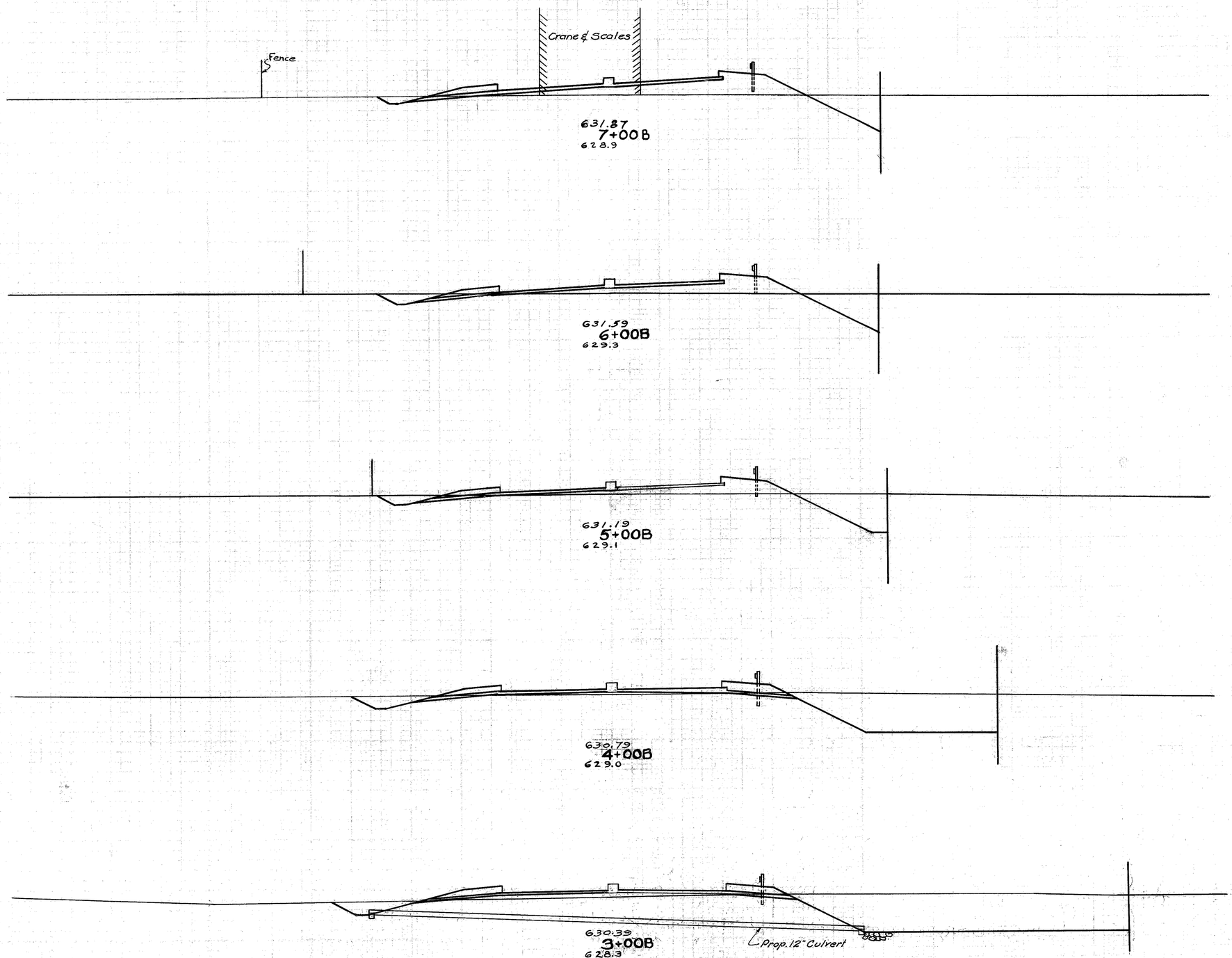
222

SUT-4-(16,53-19.15)



End Area		Cu Yds.	
Cut	Fill	Cut	Fill
73	151		
		298	513
88	126		
		365	437
109	110		
		776	280
310	41		
		1437	222
466	79		
		916	148

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 RAMP B

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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222

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140

Transmission Tower

629.39
12+25 B
626.2

629.49
12+00 B
626.5

Fence

629.99
11+00B
626.4

630.94
10+00B
627.8

Prop. 12" I.D.

630.99
9+00B
627.4

631.49
8+00B
628.3

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 RAMP B

End Area Cut	End Area Fill	Cu Yds Cut	Cu Yds Fill
348	195		
		369	159
448	148		
		1498	630
461	192		
		1659	582
435	122		
		1196	2248
211	1092		
		541	2417
81	213		
		285	674

FED. NO. (WHERE APPL.)	STATE	PROJECT
2	OHIO	

135
222

BUT-4-(16.53-19.15)

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

RAMP BL AHEAD

RAMP BR AHEAD

629.59

13+78.31B

623.9

Ahead BL — 162

Ahead BR 455 42

1234 599

396 209

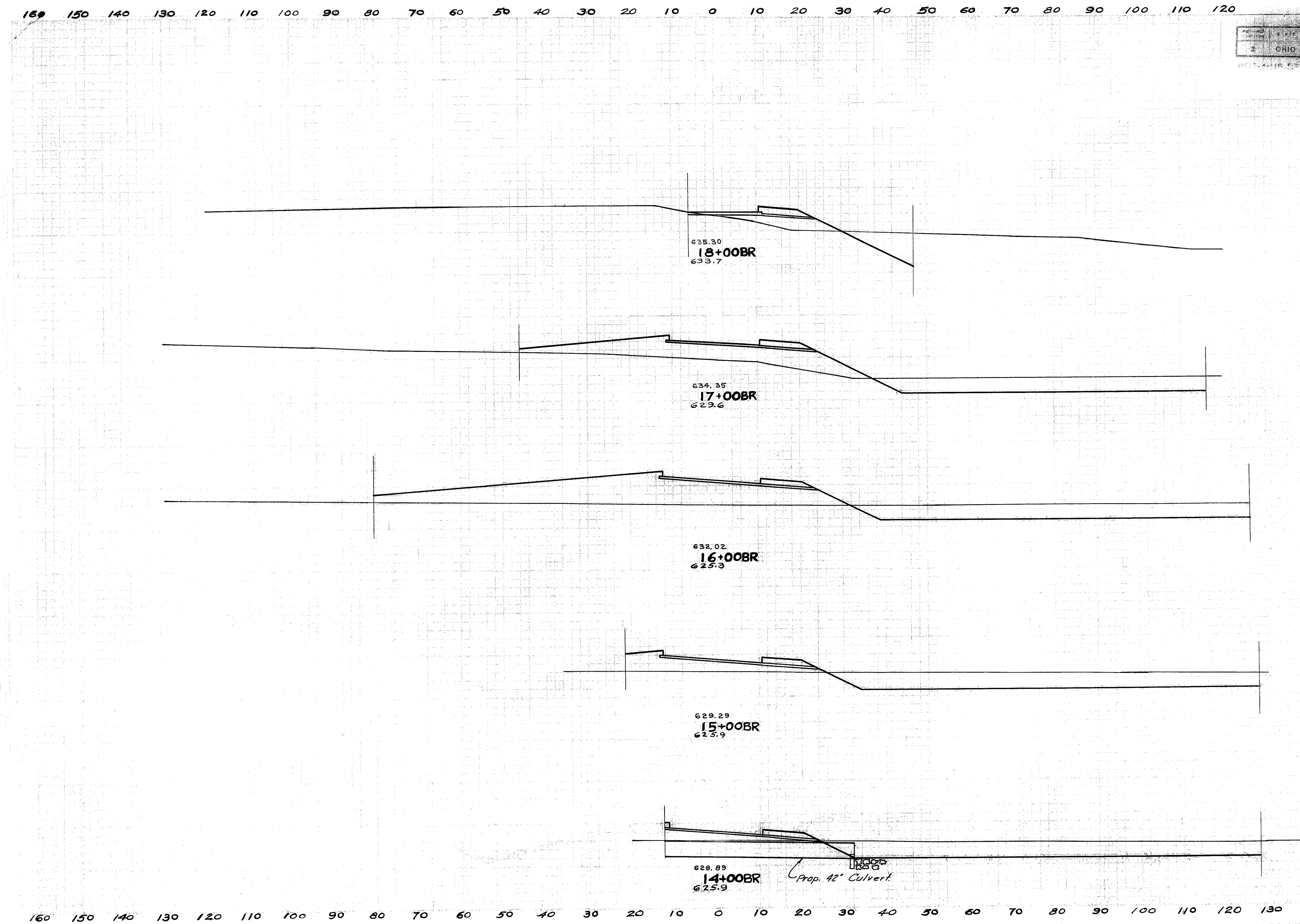
298 187

13+00B

626.3

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 RAMP B

Federal Road Division	State	Project	
2	OHIO		



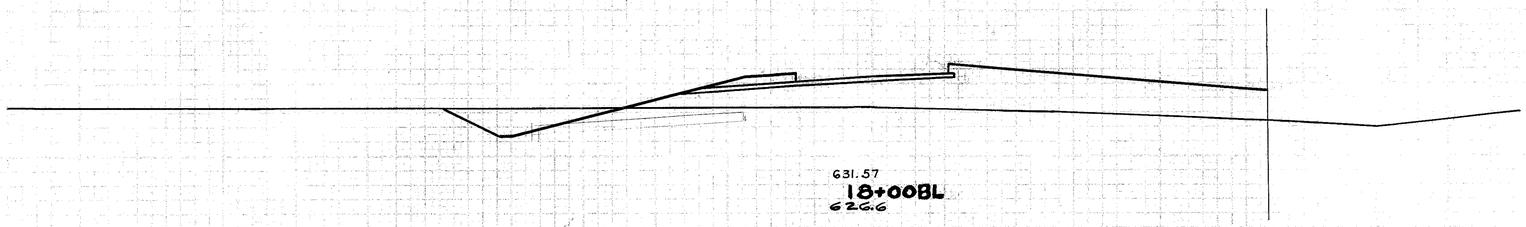
End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
68	79		
		619	694
266	296		
		1107	1557
332	545		
		1378	1269
412	140		
		1483	354
389	51		
		339	87

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

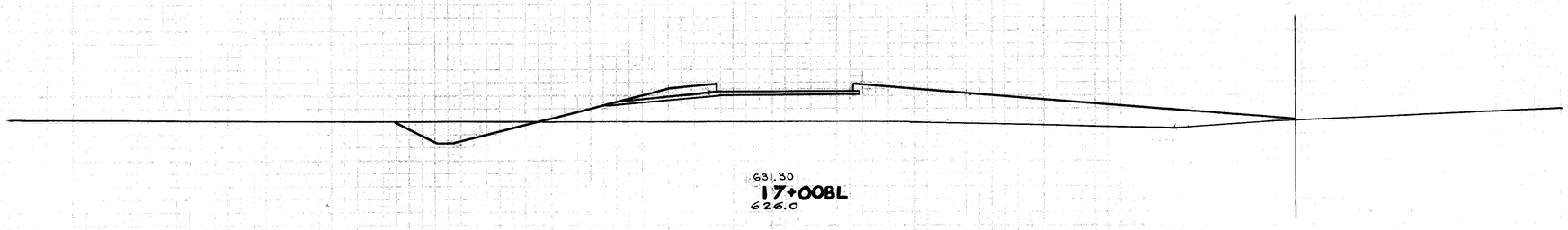
Federal Project Number	State	Project
2	OHIO	

137
222

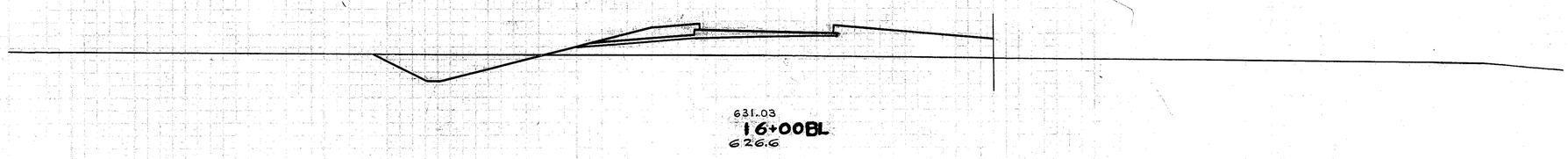
RUT-2-(15.53-19.15)



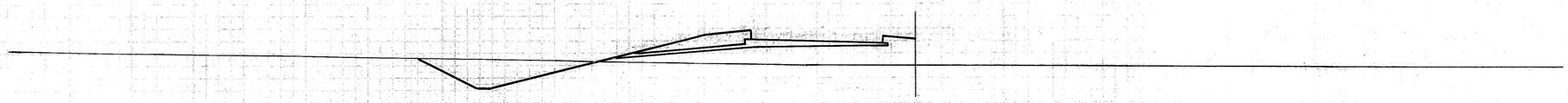
631.57
18+00BL
626.6



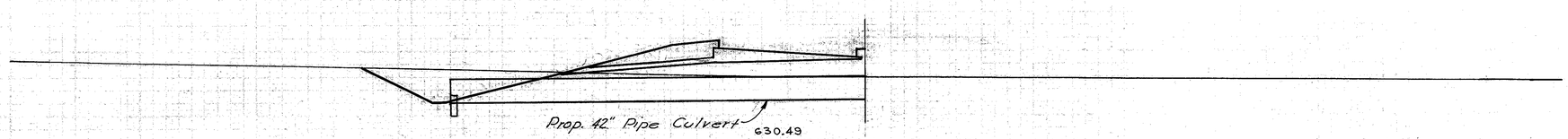
631.30
17+00BL
626.0



631.03
16+00BL
626.6



630.76
15+00BL
626.0



630.49
14+00BL
626.0

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

End Area		Cu Yds.	
Cut	Fill	Cut	Fill
58	398		
		193	1533
46	430		
		193	1235
58	237		
		241	733
72	161		
		307	467
94	91		
		38	102

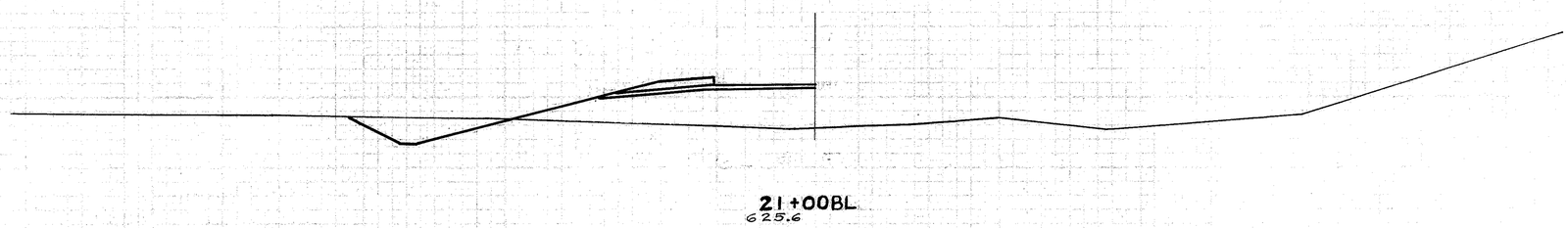
RAMP B L

DIVISION	STATE	PROJECT	
2	OHIO		

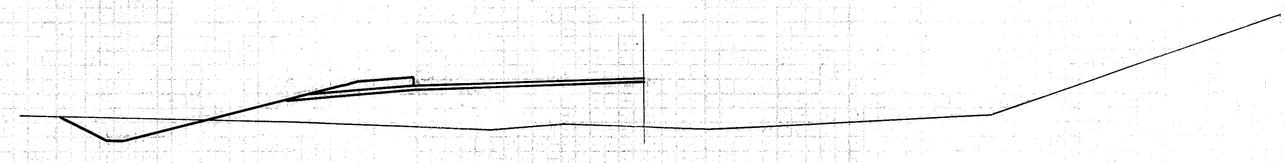
138
222

17-8-(16.53-19.15)

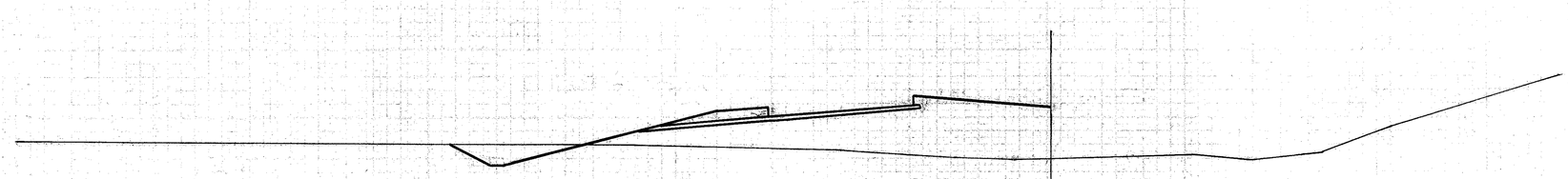
160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120



21+00BL
625.6



632.25
20+00BL
625.0



631.84
19+00BL
625.3

160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
53	199		
		170	941
39	309		
		130	1256
31	389		
		165	1457

RAMP B L

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

139
222

BUT-4-(16.33-19.15)

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

2+67.50P
629.1

630.4
2+00P
628.9

631.29
1+52.74P
628.5

633.81
1+00P
628.2

634.35
0+84.19P
628.1
℄ 27" Culvert

635.16
0+60P
627.9
Exist 6" Water Main

PINTA AVE

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
5	–		
		16	29
8	23		
		22	150
17	148		
		25	451
9	314		
		5	183
7	311		
		3	367
–	509		
		–	641

2+00M
629.7

631.70
1+00M
628.8

632.76
0+38.57M
628.8
Exist 6" Water Main

MINNESOTA AVE

641.20
2+61.61V
641.2

640.69
2+00V
640.70

639.56
1+00V
632.0

638.46
0+53.8V
631.0
see Sta. 624+30

637.82
0+30V
629.7

End Area		Cu Yds.	
Cut	Fill	Cut	Fill
8	–		
		26	81
6	87		
		24	300
15	177		
		15	171
113	14		
		295	33
146	15		
		283	824
7	480		
		29	661
27	343		
		14	344
4	437		
		3	275

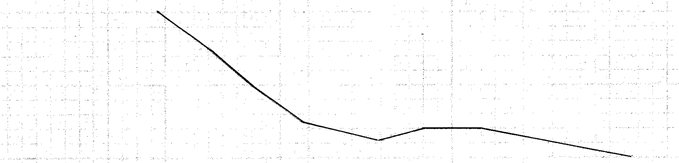
60 50 40 30 20 10 0 10 20 30 40 50 60 VERITY PARKWAY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

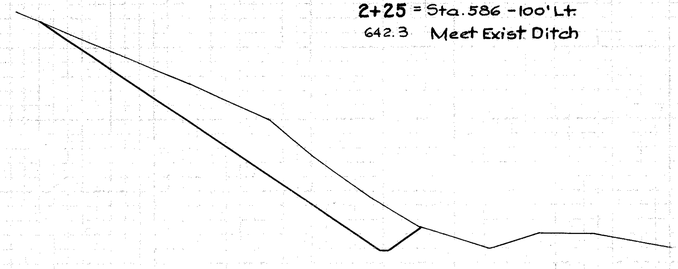
140 228

BUT-4-(16.53-19.15)

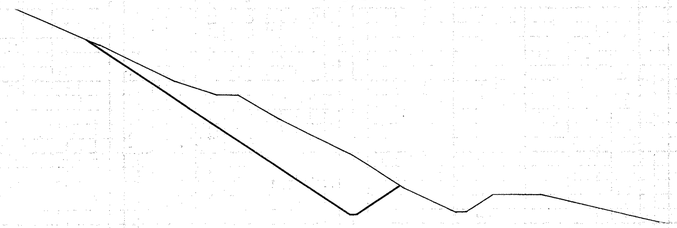
50 40 30 20 10 0 10 20 30 40 50 60



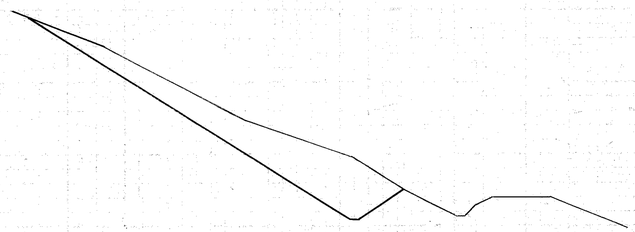
2+25 = Sta. 586 - 100' Lt.
642.3 Meet Exist Ditch



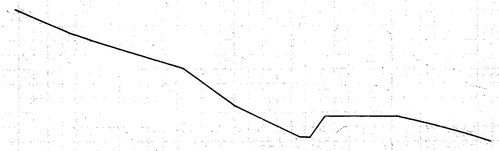
641.88
1+79
648.0



641.30
1+00
649.5



640.94
0+55
649.5



0+00 = Sta. 586+87 - 100' Rt
640.5 Meet Exist. Ditch

End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill
		227	—
267	—		
		676	—
195	—		
		348	—
223	—		
		227	—

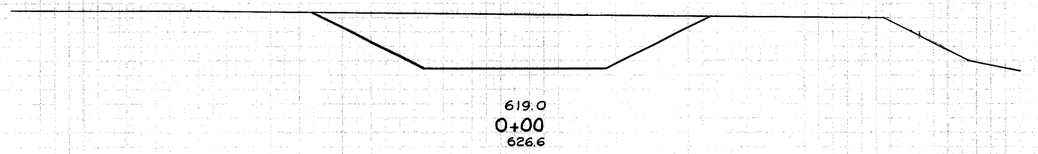
End Area Cut	End Area Fill	Cu. Yds. Cut	Cu. Yds. Fill

70 60 50 40 30 20 10 0 10 20 30 40 50

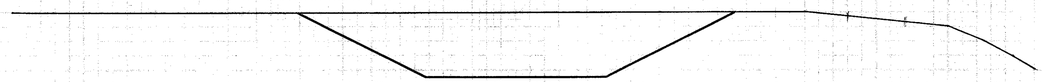
Ditch South Side B&O R.R. Tracks

50 40 30 20 10 0 10 20 30 40 50

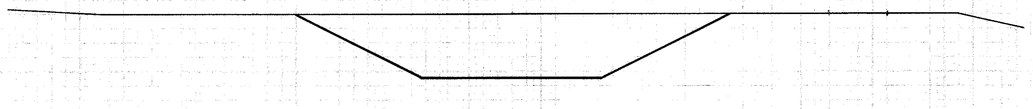
120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150



619.0
0+00
626.6

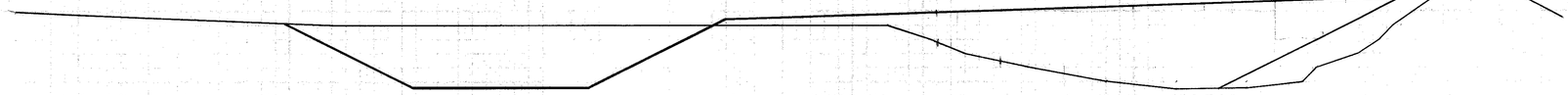


619.1
0+50R
628.0

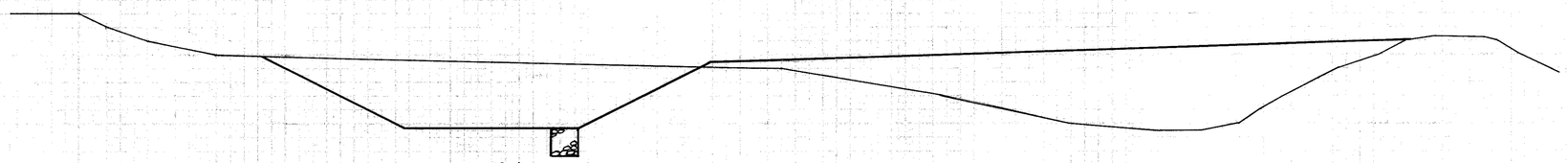


619.2
1+00R
628.0

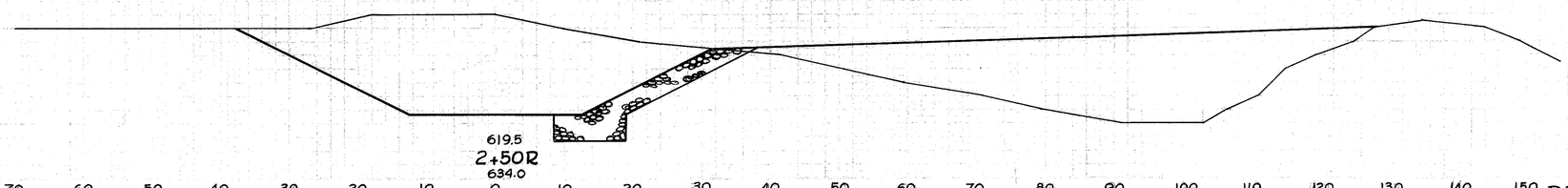
Slope from Ramp AL



619.3
1+50R
628.0



619.4
2+00R
629.0



619.5
2+50R
634.0

End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
304			
378			
374			
374	587		
425	670		
Dump rock fill			16
766	689		
Dump rock fill			107

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

Dick's Creek Channel Relocation

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

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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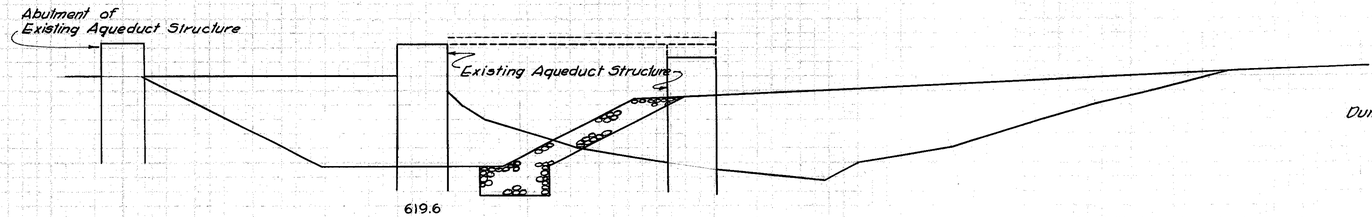
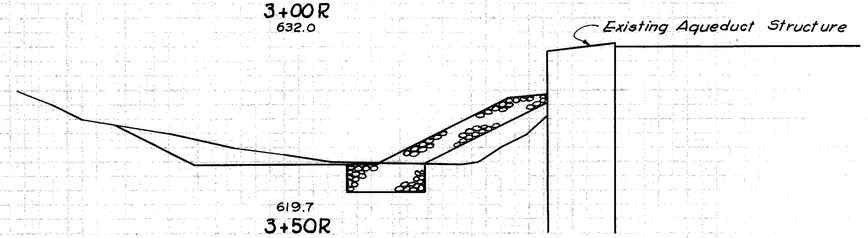
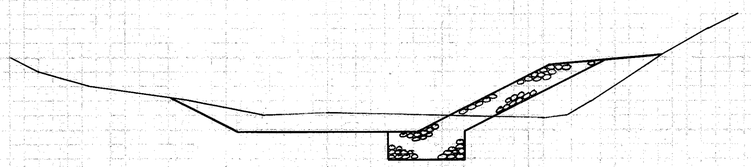
BUT-4-(15.53-19.0)



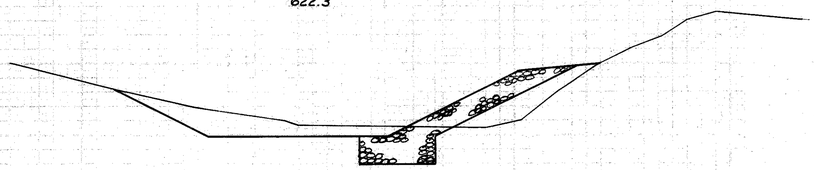
619.6
3+00 R
632.0



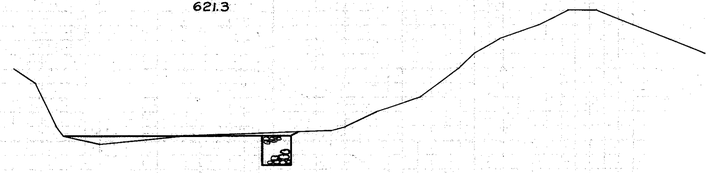
619.7
3+50R
621.0



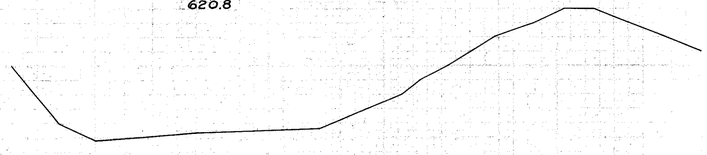
619.8
4+00R
622.3



619.9
4+50R
621.3



620.7
5+00R
620.8

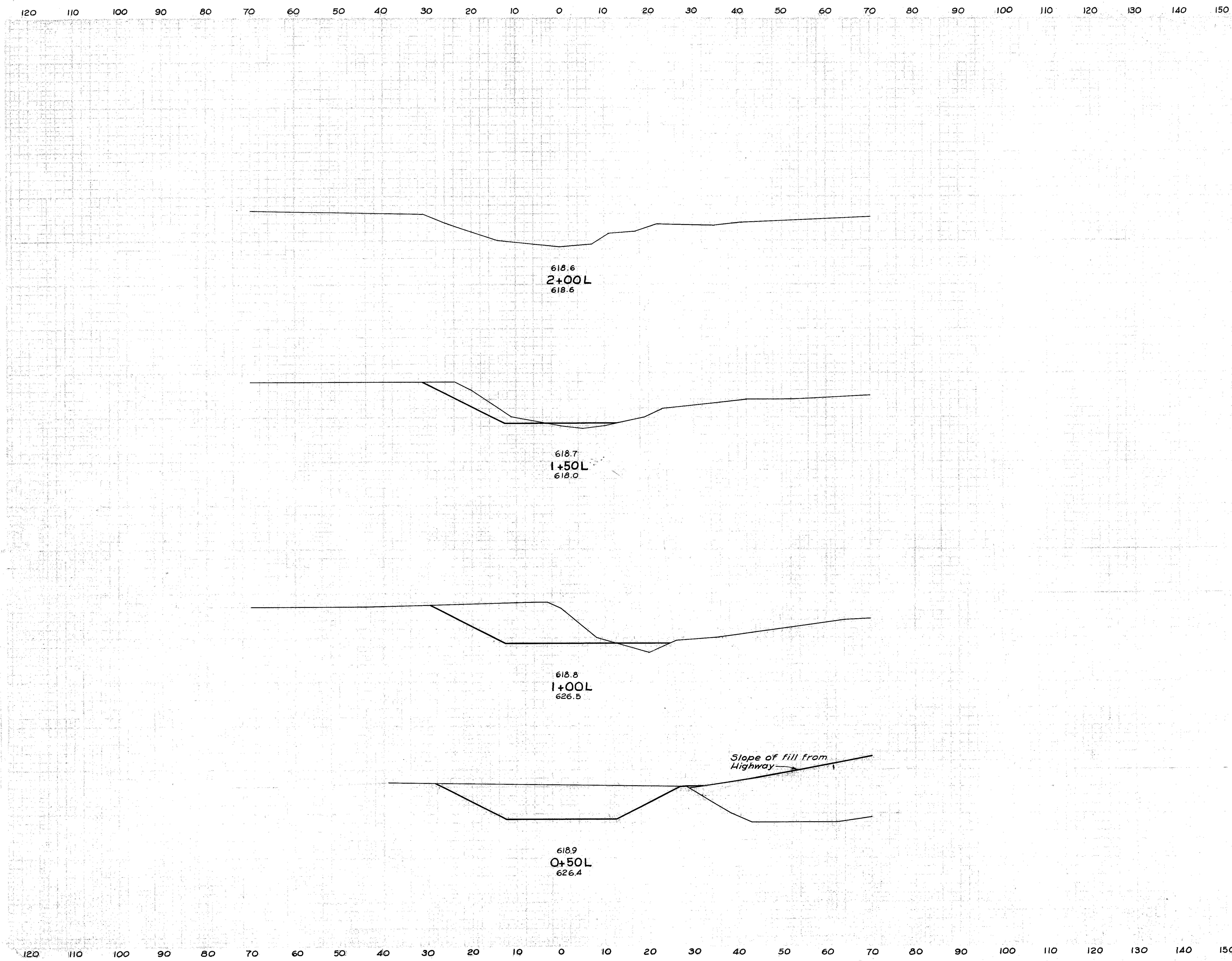


620.8
5+05.5 R
620.8

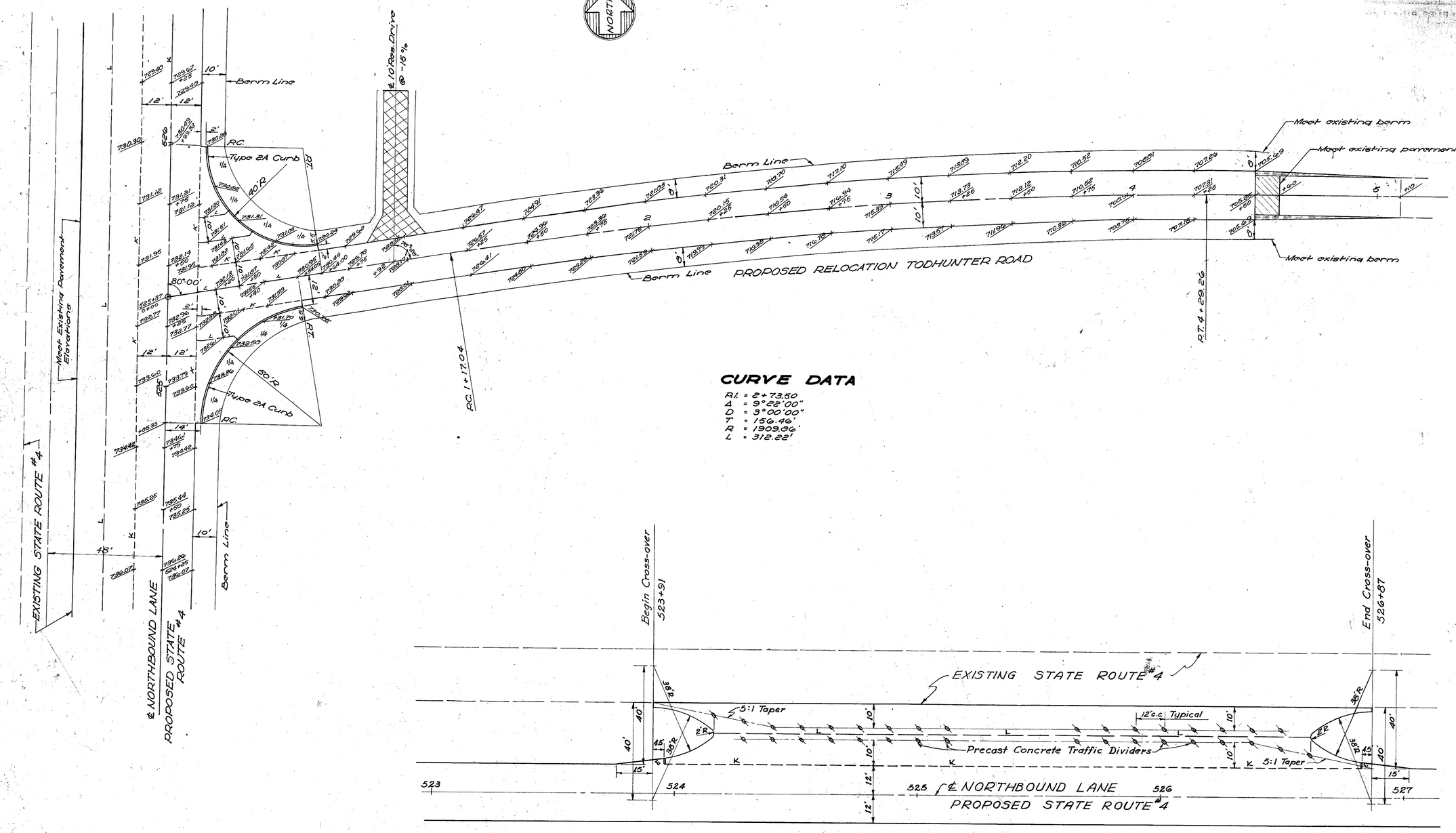
	End Area		Cu. Yds.	
	Cut	Fill	Cut	Fill
	125	687		
Dump rock fill		126		
	104	41		
Dump rock fill		105		
	142	72		
Dump rock fill		105		
	131	41		
Dump rock fill		107		
	20	9		
Dump rock fill		16		

150 150 140 130 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120

Dick's Creek - Channel Relocation



End Area		Cu. Yds.	
Cut	Fill	Cut	Fill
60	10		
237	11		
300	2		



CURVE DATA

R.I. = 2+73.50
Δ = 9°22'00"
D = 3°00'00"
T = 156.46'
R = 1909.86'
L = 312.22'

CROSS-OVER DETAIL
PROPOSED RELOCATION TODHUNTER ROAD

INTERSECTION DETAIL

Curve Data, Line "A"
P.I.-1+98.55A
Δ -32°52'
R -200.5'
Lc -115.01'
T -59.14'
Curve Data, Line "A"
P.I.-0+73.52A
Δ -45°00'
R -177.5'
Lc -139.41'
T - 73.52
Curve Data, Line "B"
P.I.-1+57.91B
Δ -75°00
R -110.0'
Lc -144.0'
T -84.41'
NORTH
Meet existing berm
Meet existing pavement elevations
EXISTING STATE ROUTE #4
Meet existing berm
Meet existing drive elevations.
For driveways see sheet 39.
Type 2A curb
℄ PROPOSED SOUTHBOUND LANE, STATE ROUTE #4
℄ PROPOSED NORTHBOUND LANE, STATE ROUTE #4
Match line A-A
C.S. 561+59.50
℄ 14 Res. drive, 551+88 @+10%
S.C. 552+43.67
Berm

PROPOSED RELOCATION EXISTING STATE ROUTE #4

INTERSECTION DETAILS

STATE ROUTE 73

NORTH

Prop. 8" water main

8" Gas main to be relocated by Others

Berm Line

See Sheet 44 for Driveways and Topo.

See Sheet 44 for existing water and gas mains and service connections.

Sta. 13+92 Relocate fire hydrant at 12' rt. to Sta 14+00-40'lt.

Sta. 14+48.23-36@75'L-16" dia. casing pipe for 8" water main

Sta. 13+93 Connect Prop. 2" water line to 2" water line

Sta. 13+98-36' rt- Prop. 2" water line connection with valve and meter in manhole

Sta. 14+05-36' rt- Prop. 6" branch water main connection to exist. 6" main with valve and manhole

VERITY PKWY.

Water meter manhole

Water Valve

Prop. 2" water line

Meet existing pavement elevations

P.T. 1+95.09 E

Match Line B-B

Proposed sidewalk to meet existing steps

Meet existing Sidewalk

Slope 1/4"/Ft.

TYPE 6 CURB

SECTION B-B

Bldg.

6" slope varies

6" Slope 1/4"/Ft.

TYPE 2A CURB

4'

SECTION A-A

CURVE DATA VERITY PKY.

P.I. = 1+45.79 E
Δ = 7°-54'
D = 8°-00'
R = 716.20'
T = 49.45' Bldg.
Lc = 98.75'

CURVE DATA S.R. # 73

P.I. = 13+28.87
Δ = 27°-00' Rt.
D = 6°-00'
R = 954.93'
Ls = 400.00'
Lc = 50.00'
Ts = 430.64'
Θs = 12°-00'

CURVE DATA RAMP AR

P.I. = 1+97.51 AR
Δ = 101°-37'-51"
D = 35°-35'-15"
R = 161.00'
T = 197.51'
Lc = 285.58'

P.C. 0+00 AR

P.T. 2+85.58 AR

CURVE DATA RAMP AL

P.I. = 1+78.42 AL
Δ = 95°-52'-31"
D = 35°-35'-15"
R = 161.00'
T = 178.42'
Lc = 269.40'

P.C. 0+00 AL

P.T. 2+69.40 AL

RAMP A

RAMP AL

HARRISON ST.

Sta. 16+22.09-32'lt.-75'-16" dia. casing pipe for 8" water main.

Sta. 16+08-32'lt. Prop. 8" valved connection and manhole to existing 12" water main. Abandon existing 12" water main to the South.

Sta. 16+08 to Sta. 16+73-32'lt. Prop. 12" water main

Sta. 16+73 Prop. 30'-12" water main and connection to existing 12" main. Abandon existing 12" water main to the West.

Sta. 18+28 Relocate fire hydrant from 20' rt. to 25' rt.

KEY PLAN

INTERSECTION DETAILS

Transition curb from 6" to 9" height in length of 8' at approach slab of bridge.

Beginning of Approach Slab Sta 594+28.63

Berm Line

Rt. 7+67.92 AR

Berm Line

PROP. NORTHBOUND LANE STATE ROUTE #4

No Joint

End of Approach Slab Sta 590+44.11

Rt. 7+97.92 AL

Sc. 6+12.91 AL

Ts 4+62.91 AL

Sc. 6+12.91 AR

Ts 4+62.91 AR

End Median Pavement

Berm Line

P.C. 2+17.65 A

P.T. 4+62.91 A

Berm Line

RAMP A

NORTH

KEY PLAN

CURVE DATA RAMP AR

RI = 6+96.51 AR
Δ = 90°-00'
D = 36°-00'
R = 159.16'
L_s = 150.00'
L_c = 175.01'
T_s = 233.60'
T_c = 165.00'
θ_s = 27°-00'

CURVE DATA RAMP AL

RI. = 6+96.51 AL
Δ = 90°-00'
D = 36°-00'
R = 159.16'
L_s = 150.00'
L_c = 175.01'
T_s = 233.60'
T_c = 165.00'
θ_s = 27°-00'

CURVE DATA RAMP A

RI = 3+97.19 A
Δ = 82°-42'-00"
D = 33°-43'-11"
R = 169.92'
L_c = 245.26'
T = 149.54'

Note:
Elevations shown are at back of curve.
Dimensions shown are to face of curb.

INTERSECTION DETAILS - RAMP A

For driveway details see sheet 155

S.C. 4+19.11

Match Line 4A

I-18, 4' Width, 6" Depth (Slope same as pav't.)

8" Gas main to be relocated by Others

Meet existing berm

Berm line

27.5'

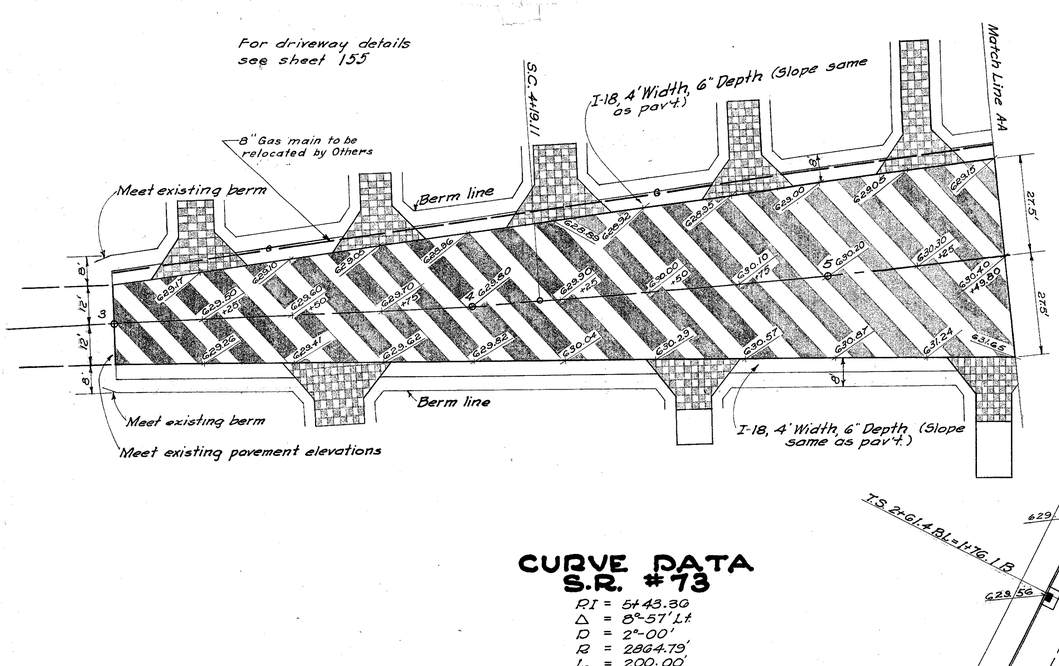
27.5'

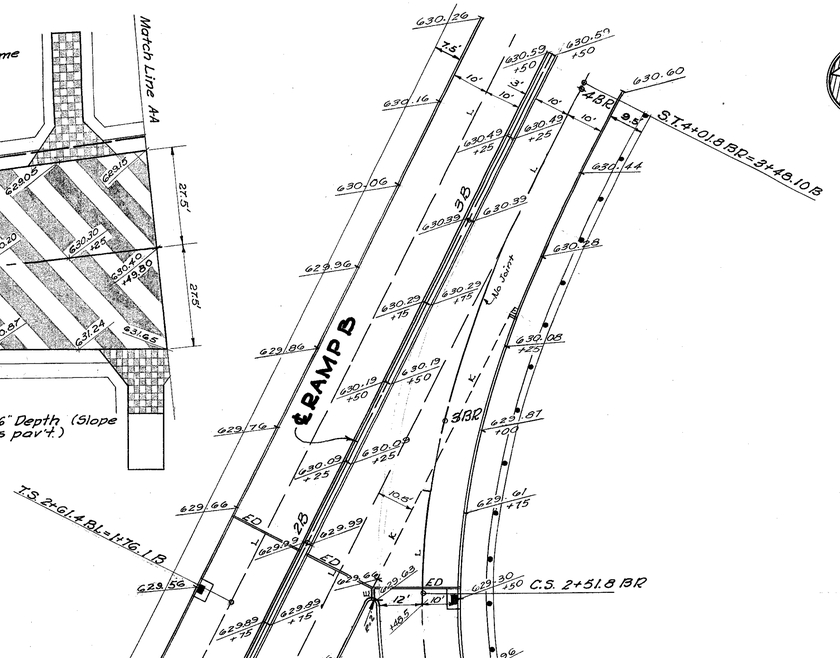
Meet existing berm

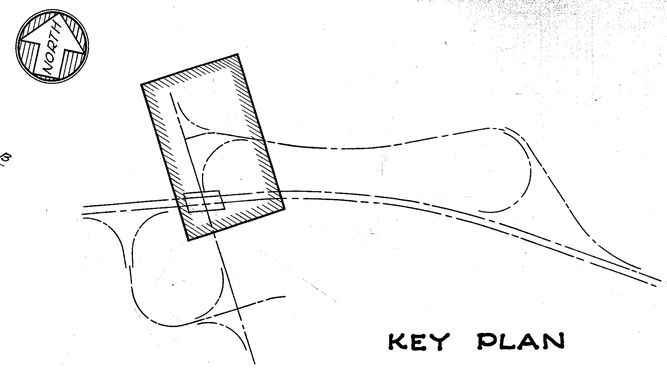
Meet existing pavement elevations

Berm line

I-18, 4' Width, 6" Depth (Slope same as pav't.)







KEY PLAN

CURVE DATA S.R. #73

P.I. = 5+43.30
Δ = 8°-57' Lt.
D = 2°-00'
R = 2864.79'
L_s = 200.00'
L_c = 247.50'
T_s = 324.25'
Θ_s = 2°-00'

CURVE DATA RAMP BL

P.I. = 1+11.89 BL
Δ = 67°-06'-19"
D = 36°-00'
R = 159.15'
L_s = 150.00'
L_c = 111.40'
T_s = 177.53'
T_c = 111.89'
Θ_s = 27°-00'

CURVE DATA RAMP B

P.I. = 1+06.59 B
Δ = 26°16'
D = 28°-00'
R = 204.63'
T = 47.74'
L_c = 93.81'

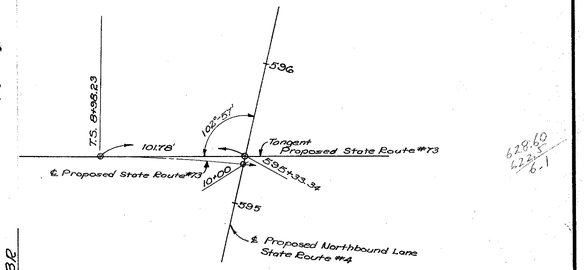
CURVE DATA RAMP BR

P.I. = 2+69.64 BR
Δ = 117°-39'-03"
D = 36°-00'
R = 159.15'
L_s = 150.00'
L_c = 251.80'
T_s = 340.56'
T_c = 269.64'
Θ_s = 27°-00'

CURVE DATA S.R. #73

P.I. = 13+28.87
Δ = 27°-00' Rt.
D = 6°-00'
R = 954.93'
L_s = 400.00'
L_c = 50.00'
T_s = 430.64'
Θ_s = 12°-00'

Note:- Only Prop. water and gas mains shown on this sheet. See sheet 43 for modifications to existing water services.



TIE BETWEEN SR#4 & SR#73

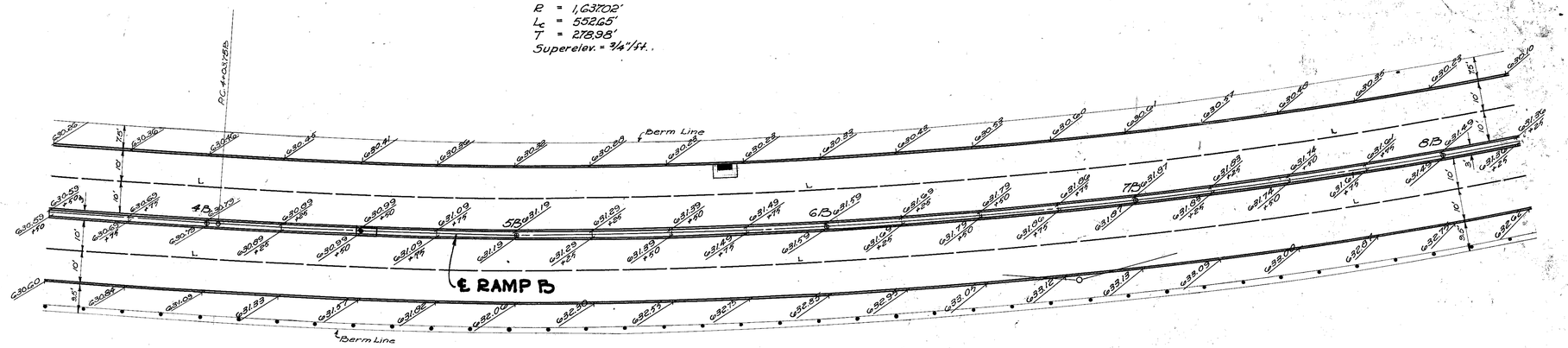
628.60
222
6-1

INTERSECTION DETAILS - RAMP B

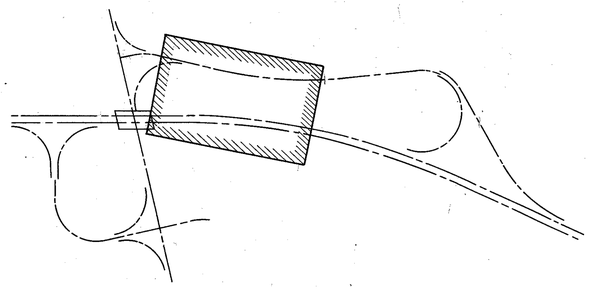
NORTH

CURVE DATA
RAMP B

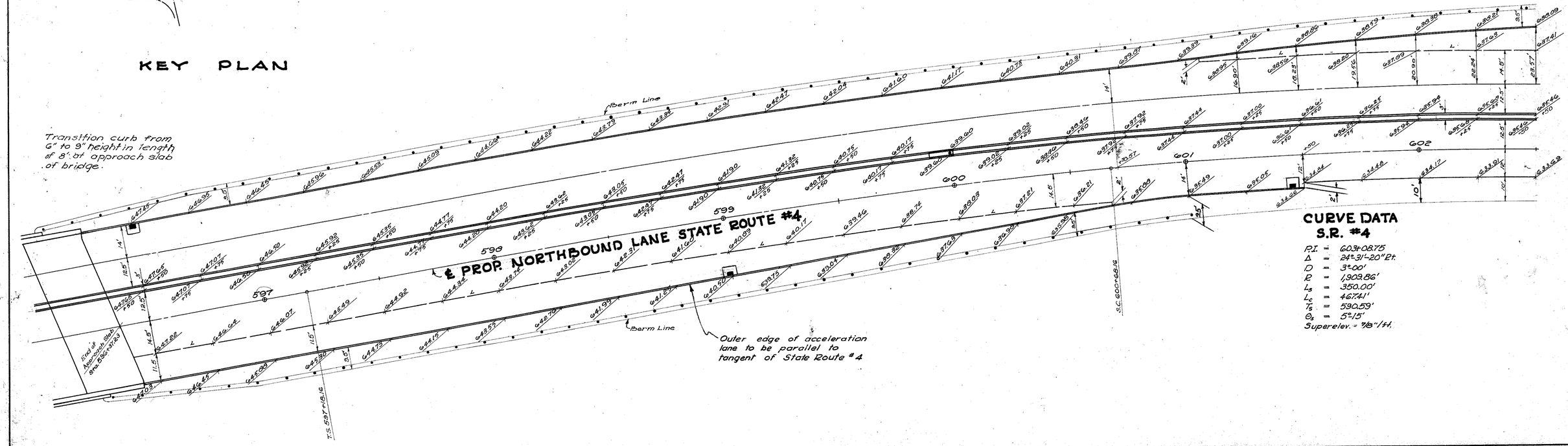
P.I. = 6+82.73 B
Δ = 19°-20'-34"
D = 3°-30'
R = 1,637.02'
L_c = 552.65'
T = 278.98'
Superelev. = 3/4"/ft.



Note:
Elevations shown are at back of curb.
Dimensions shown are to face of curb.



KEY PLAN



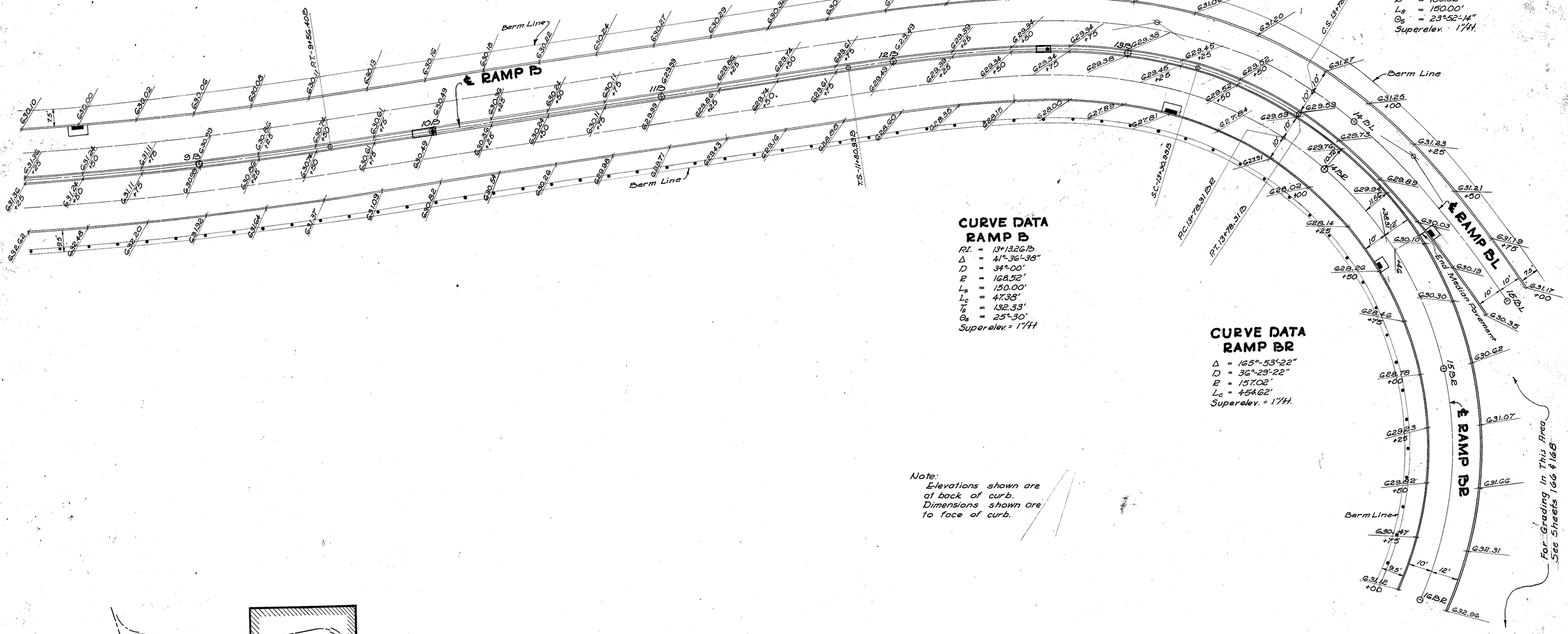
CURVE DATA
S.R. #4

P.I. = 603+08.75
Δ = 24°-31'-20" Rt.
D = 3°-00'
R = 1,909.86'
L_s = 350.00'
L_c = 467.41'
T_s = 590.59'
θ_s = 5°-15'
Superelev. = 7/8"/ft.

INTERSECTION DETAILS - RAMP B

CURVE DATA
RAMP B

P.I. = 6+82.73B
Δ = 19°-20'-34"
D = 3°-30'
R = 1,637.02'
L_c = 552.65'
T = 278.98'
Superelev. = 3/4"/ft.



CURVE DATA
RAMP BL

P.I. = 14+29.15BL
Δ = 23°-52'-14"
D = 3°-49'-39"
R = 180.02'
L_s = 150.00'
θ_s = 23°-52'-14"
Superelev. = 1"/ft.

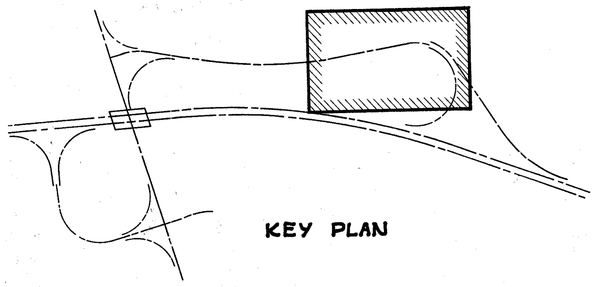
CURVE DATA
RAMP B

P.I. = 13+13.26B
Δ = 41°-36'-38"
D = 34°-00'
R = 168.52'
L_s = 150.00'
L_c = 47.38'
T_s = 132.33'
θ_s = 25°-30'
Superelev. = 1"/ft

CURVE DATA
RAMP BR

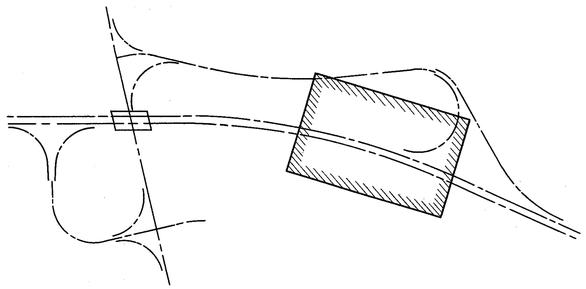
Δ = 165°-53'-22"
D = 36°-29'-22"
R = 157.02'
L_c = 454.62'
Superelev. = 1"/ft.

Note:
Elevations shown are at back of curb.
Dimensions shown are to face of curb.



KEY PLAN

INTERSECTION DETAILS- RAMP B



KEY PLAN

NOTE: Elevations shown are at back of curb. Dimensions shown are to face of curb.

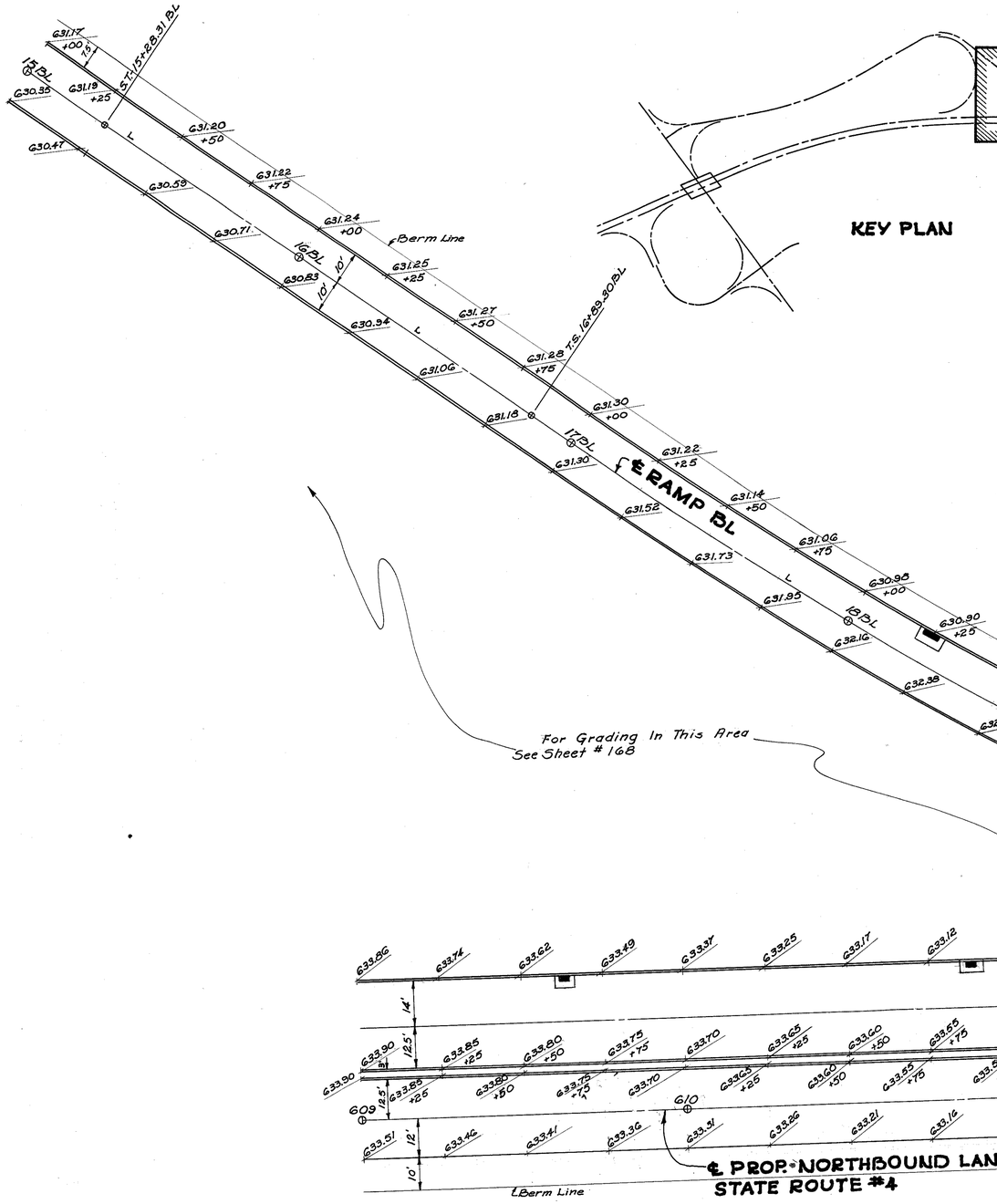
CURVE DATA RAMP BR

Δ = 165°-53'-22"
D = 36°-29'-22"
R = 157.02'
Lc = 454.62'
Superelev. = 1"/ft.

CURVE DATA S.R.# 4

P.I. = 603+08.75
Δ = 24°-31'-20" Rt.
D = 3°-00'
R = 1,909.86'
Ls = 350.00'
Lc = 467.41'
Ts = 590.59'
Qs = 5°-15'
Superelev. = 3/8"/ft.

INTERSECTION DETAILS-RAMP B



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

BUT-4-(16.53-19.75)

CURVE DATA
RAMP BL

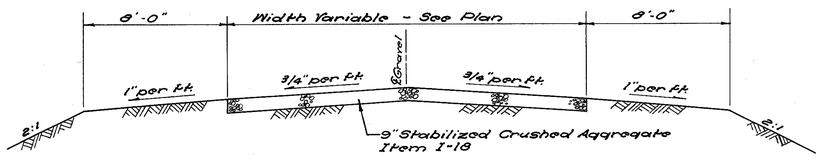
P.I. = 19+71.36 BL
Δ = 36°-00′
D = 10°-00′
R = 572.96′
L_s = 200.00′
L_c = 260.00′
T_s = 282.06′
T_c = 191.12′
Θ_s = 10°-00′
Superelev. = 7/8″/ft.

NOTE: Elevations shown are at back of curb. Dimensions shown are to face of curb.

INTERSECTION DETAILS - RAMP B

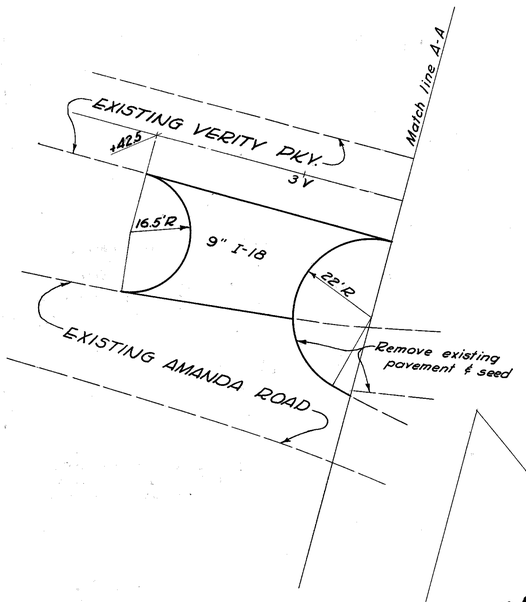
DIST.	STATE	PROJECT		154
2	OHIO			222

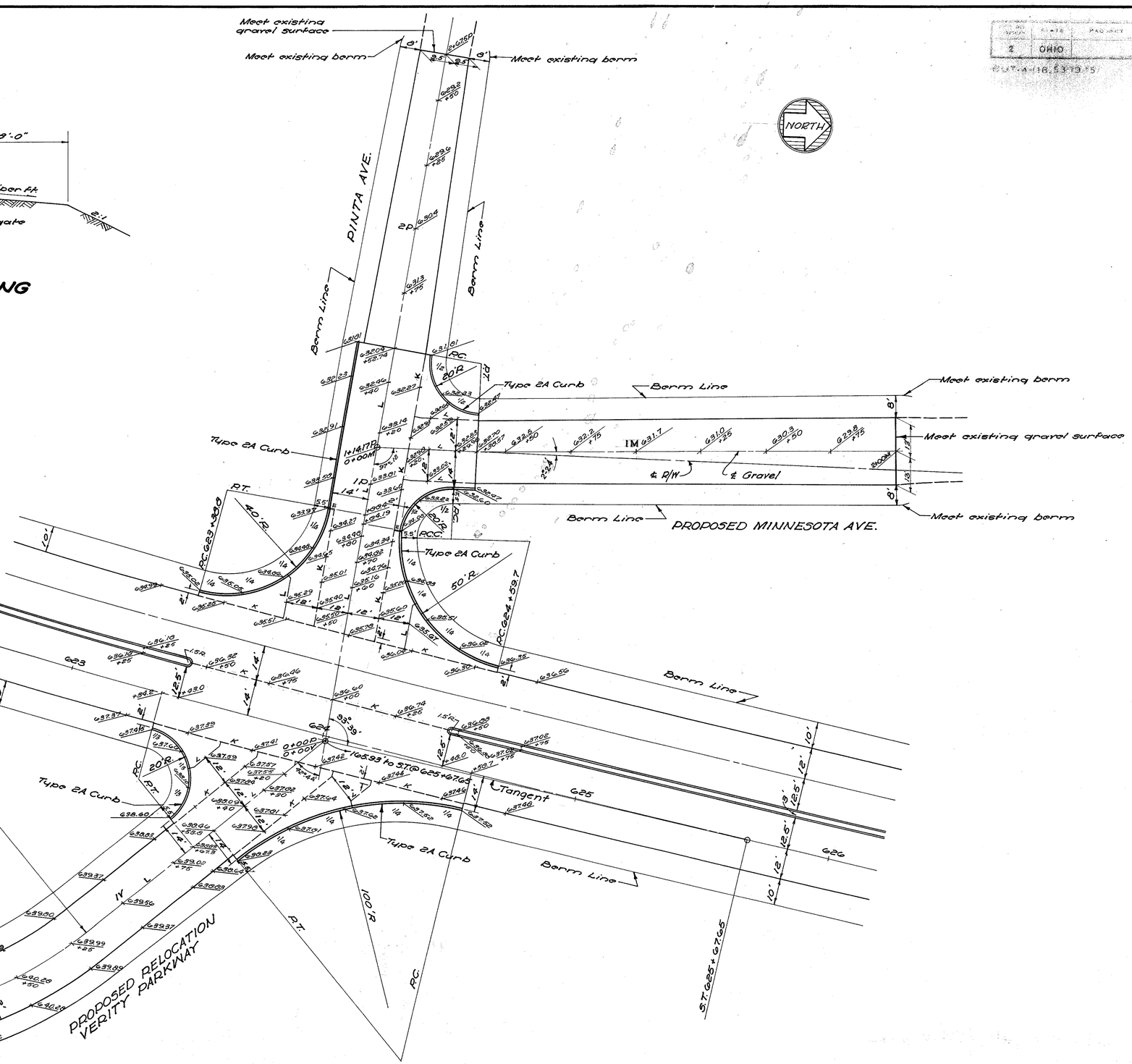
CLT-4-16.53 TO 15



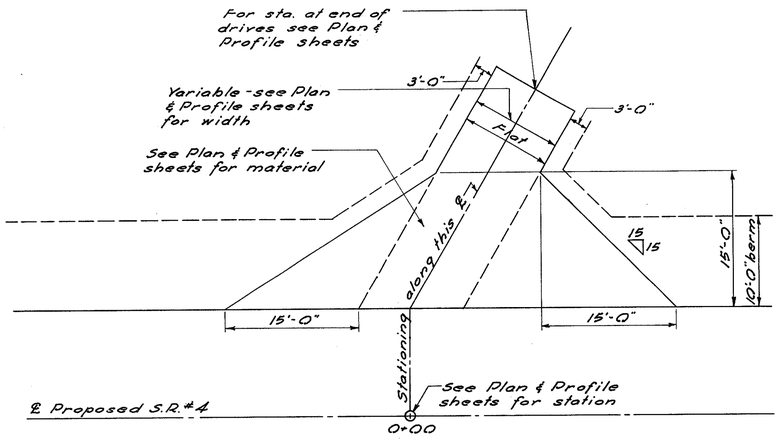
TYPICAL SECTION THROUGH GRAVEL SURFACING

Sta. 1+52.74 P to Sta. 2+67.5 P
Sta. 0+39.57 M to Sta. 2+00 M



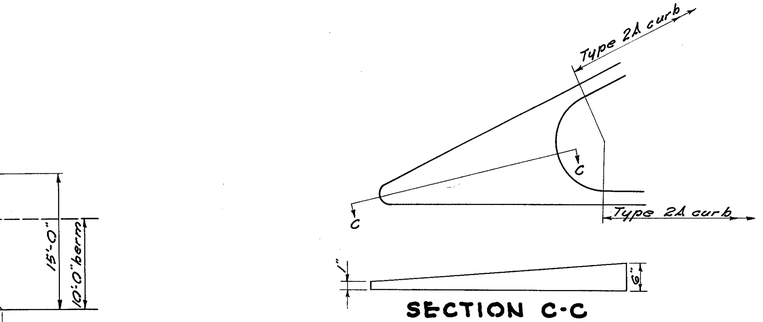


INTERSECTION DETAILS



TYPICAL FIELD DRIVE

Scale: 1/8"=1'-0"

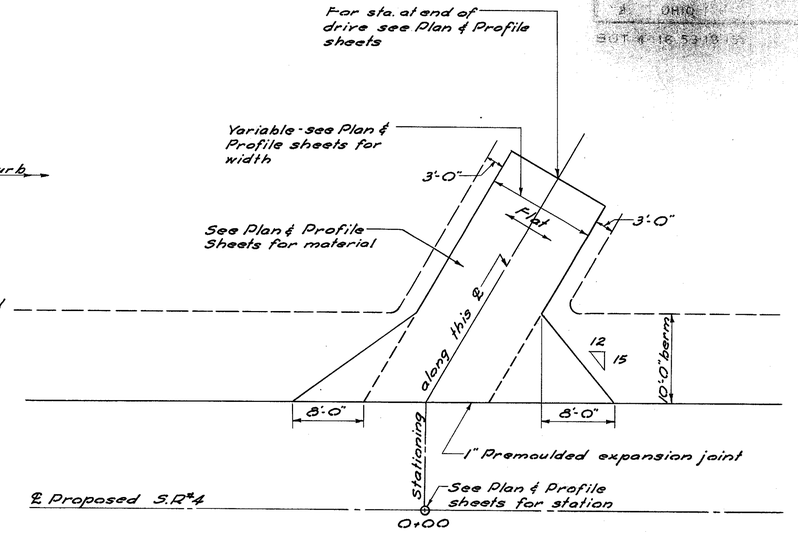


SECTION C-C

Note: Island end treatment to be paid for as lin.ft. of Type 2A curb measured along gutter edge of island end.

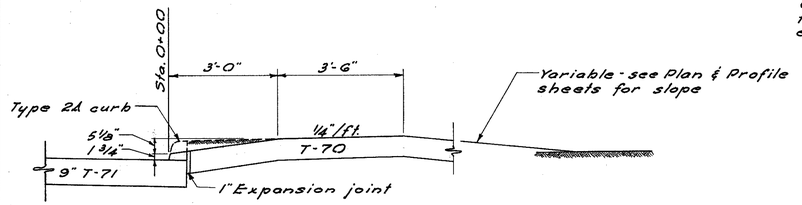
TYPICAL TRAFFIC ISLAND END TREATMENT

No Scale



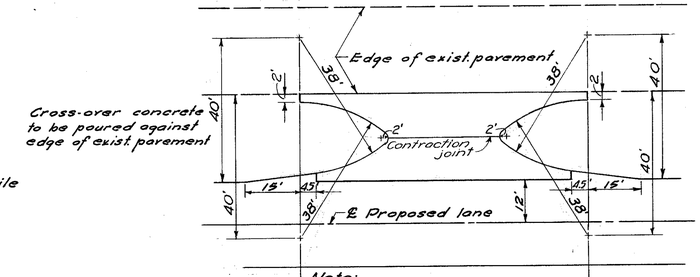
TYPICAL RESIDENTIAL OR BUSINESS DRIVE

Scale: 1/8"=1'-0"



SECTION A-A

Scale: 1/2"=1'-0"



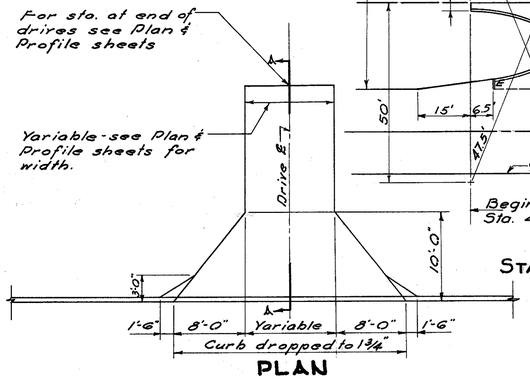
Note: Cross-overs to consist of 5" Crushed Aggregate Base Course B-119, & 2" Asphaltic Conc. Surface Course T-35 Type C.

Begin cross-over Station: (as indicated on PLANS)

End cross-over Station: (as indicated on PLANS)

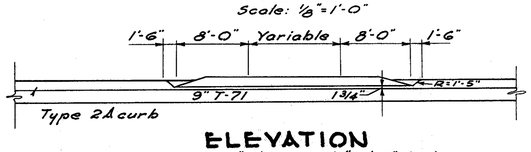
TYPICAL CROSS-OVER, TYPE A

No Scale



PLAN

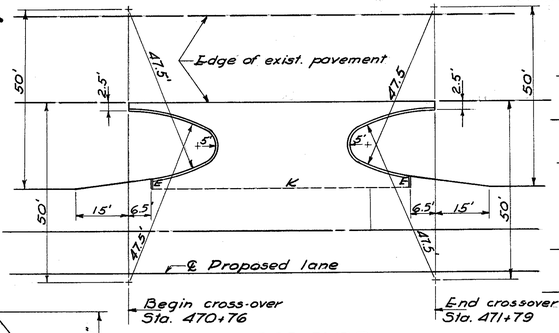
Scale: 1/8"=1'-0"



ELEVATION

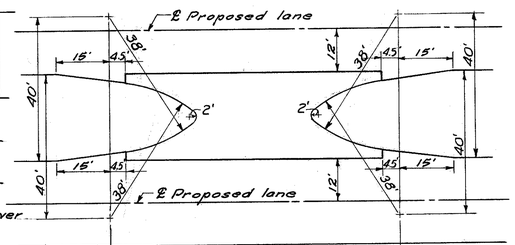
Scale: 1/8"=1'-0" Hor., 1/4"=1'-0" Vert.

TYPICAL DRIVE AT SIDEWALK



CROSS-OVER STA. 470+76 TO STA 471+79 TYPE C

No Scale



Note: Cross-overs to consist of 5" Crushed Aggregate Base Course B-119, & 2" Asphaltic Conc. Surface Course T-35 Type C.

Begin cross-over Station: (as indicated on PLANS)

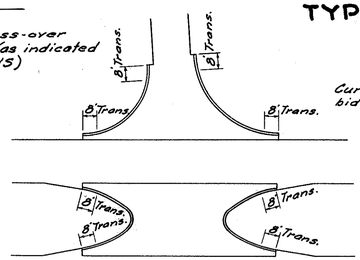
End cross-over Station: (as indicated on PLANS)

TYPICAL CROSS-OVER, TYPE B

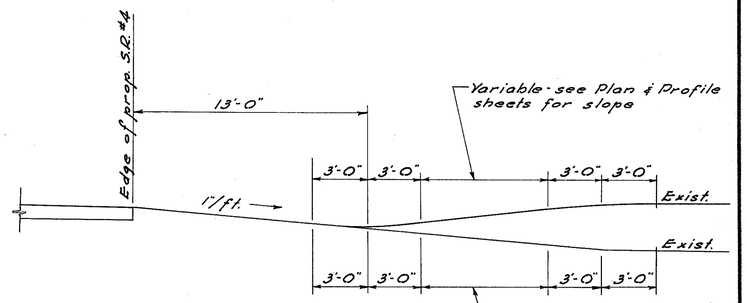
No Scale

CROSS-OVER DATA

BEGIN CROSS-OVER STA.	END CROSS-OVER STA.	TYPE	BEGIN CROSS-OVER STA.	END CROSS-OVER STA.	TYPE	BEGIN CROSS-OVER STA.	END CROSS-OVER STA.	TYPE
470+76	471+79	C	506+74	509+63	A	537+98.5	539+15	B
472+31	475+25	A	516+05	516+95	B	539+94.5	541+87	B
476+82	477+78	A	519+40	520+28	B	543+11	544+41.5	B
480+75	481+65	A	520+93	521+81	B	545+51	546+39	B
486+42	487+45	A	522+16	523+04	A	548+63	549+58	B
489+30	490+18	A	527+46	529+58	A	550+15.5	551+07.5	B
493+75	494+67	A	530+99	531+89	A	551+41	552+55	B
496+21	497+10	A	532+06	532+96	A	560+54	561+50	B
498+50	499+72	A	532+96	533+85	A	563+94	564+92	B
501+03	501+94	A	534+60	535+48	A	490+55	491+35	A
505+35	506+61	A	535+56	536+46	A			

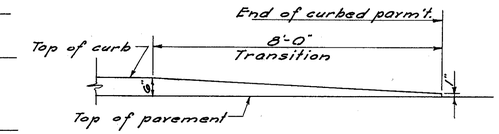


Curb transition to be paid for at unit price bid per lin.foot of type curb specified in plans.



TYPICAL DRIVE PROFILE

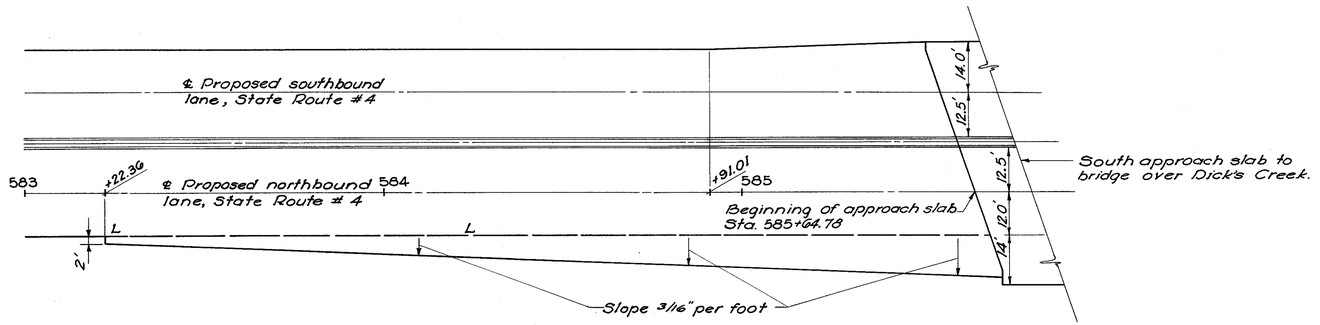
Scale: 1/4"=1'-0"



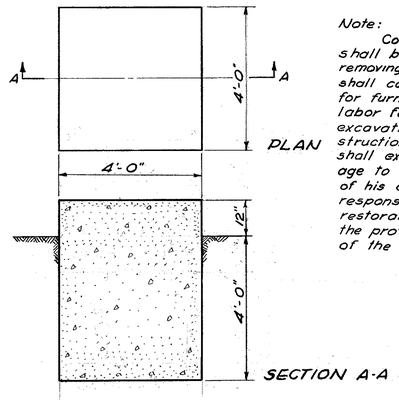
TYPICAL CURB TRANSITION

No Scale

PAVEMENT DETAILS

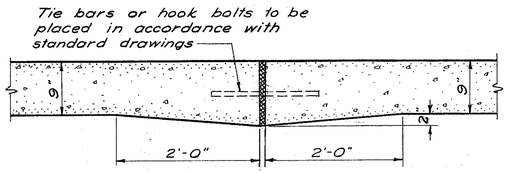


DECELERATION LANE - STA. 583+22.36 TO STA. 585+72.36



Note:
Concrete for monument footing shall be Class "E." Payment for removing and resetting monument shall constitute full compensation for furnishing all materials and labor for this item, including all excavation and backfill and construction of footing. The Contractor shall exercise care to avoid damage to the monument during any of his operations and shall be responsible for preservation and restoration, in accordance with the provisions of Sec. G-7.09 of the Specifications.

FOOTING FOR REMEMBRANCE MONUMENT STATION 554+50



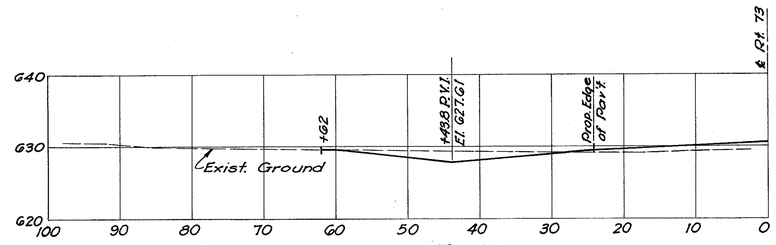
Note:
Payment for extra concrete due to thickened edge included in price bid per sq. yd. of pavement. (nominal thickness.) Joint without dowels not thickened.

EXP. JOINT - THICKENED EDGE

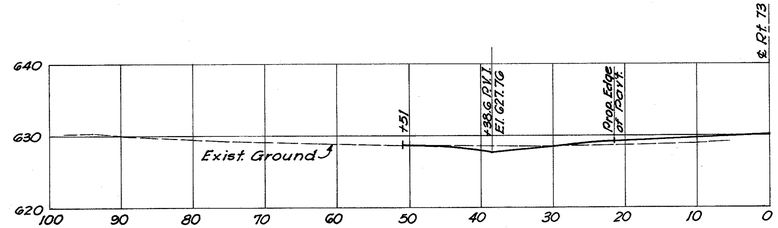
Scale: 1" = 1'-0"

TYPICAL JOINT LEGEND

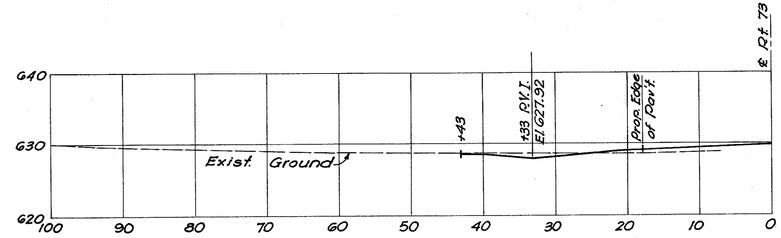
L	Standard Longitudinal Joint.
K	Standard Key Joint Without Tie Bars.
E	Expansion Joint Without Dowels.
ED	Expansion Joint With Dowels, thickened edge.



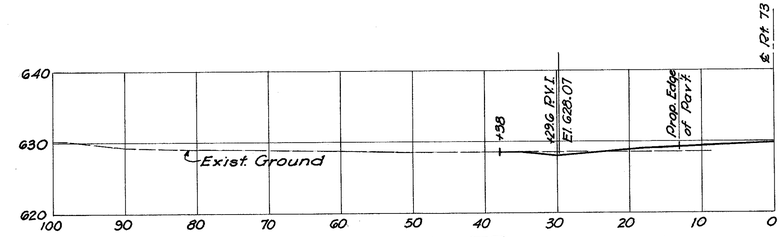
STA. 5+28



STA. 4+79



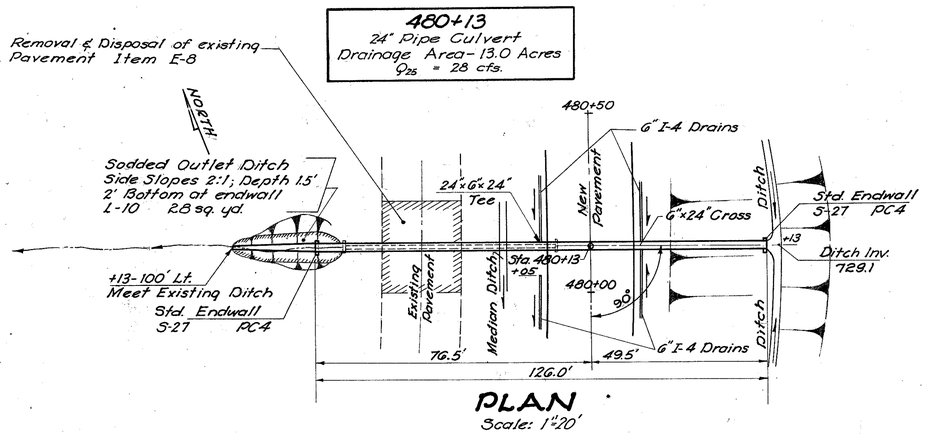
STA. 4+26.2



STA. 3+75

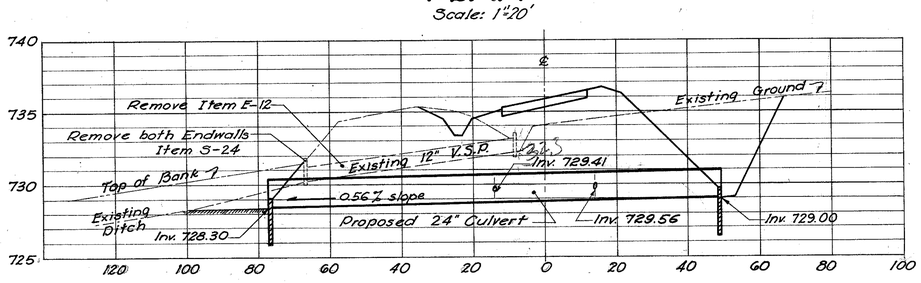
DRIVEWAY PROFILES - STATE ROUTE 73

Note:
For driveways not shown here see Sheets



PLAN

Scale: 1"=20'



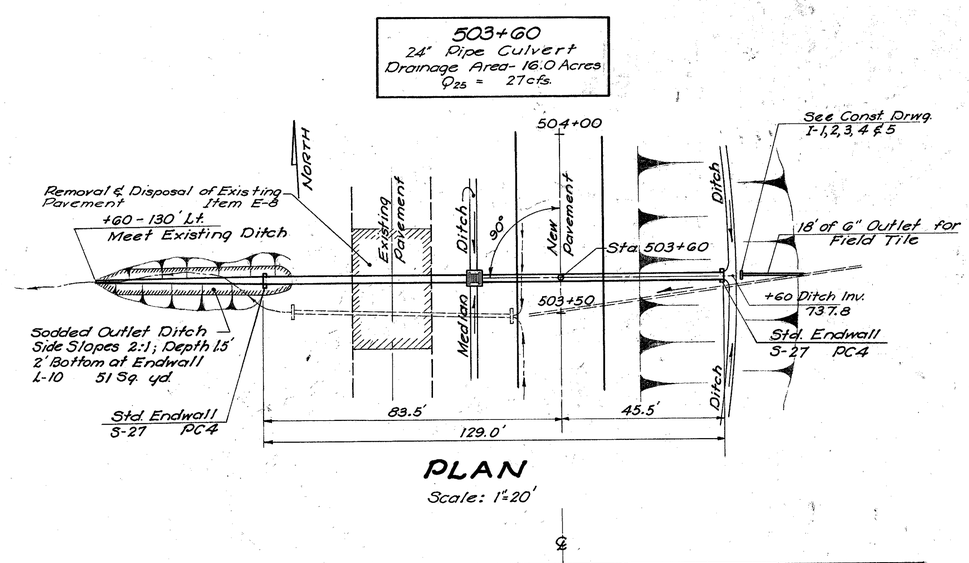
PROFILE

Scales:
Vertical 1"= 5'
Horizontal 1"= 20'

CULVERT STA. 480+13

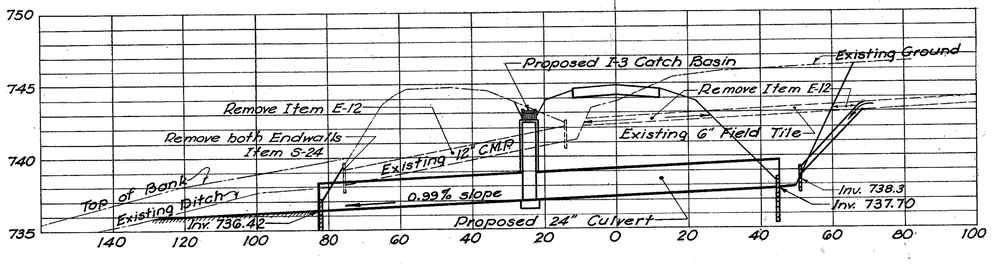
Estimate of Quantities

Description	Item	Quantity
Excavation for structures (Dry)	E-2	54.5 cu. yd.
Channel Excavation	E-3	31.4 cu. yd.
Removal of Pipe -12"	E-12	60 lin. ft.
Concrete for Structures-Class E	S-1	.08 cu. yd.
Pipe for Roadway Culverts - 24"	S-27	118 lin. ft.
Removal of Existing Structures	S-24	Lump Sum
Pipe Specials 24"x6"x24" Tee	I-5	1 each
Pipe Specials 6"x24" Cross	I-5	1 each
Sodding	L-10	28 sq. yd.



PLAN

Scale: 1"=20'



PROFILE

Scales:
Vertical 1"= 5'
Horizontal 1"= 20'

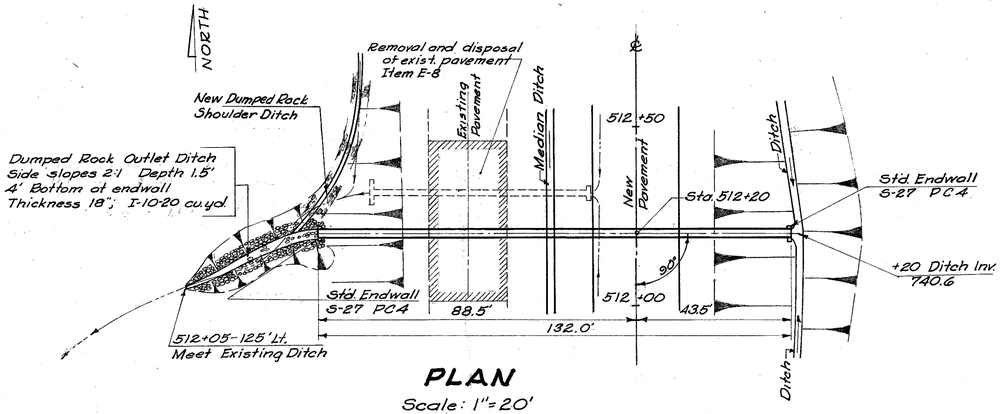
CULVERT STA. 503+60

Estimate of Quantities

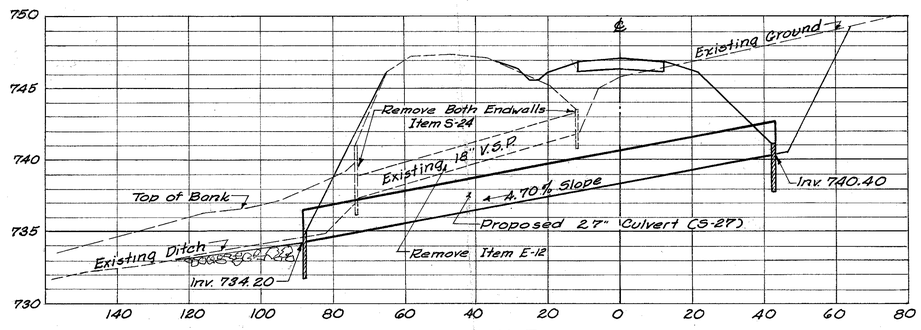
Description	Item	Quantity
Excavation for Structures (Dry)	E-2	79.5 cu. yd.
Channel Excavation	E-3	14.5 cu. yd.
Removal of Pipe - 12"	E-12	62 lin. ft.
Removal of Pipe - 6"	E-12	41 lin. ft.
Concrete for Structures-Class E	S-1	0.8 cu. yd.
Pipe for Roadway Culverts - 24"	S-27	126 lin. ft.
Removal of Existing Structures	S-24	Lump Sum
Pipe Outlets for Roadway Drainage-6"	I-3	18 lin. ft.
Catch Basins No. I-3	I-8	1 each
Sodding	L-10	51 sq. yd.

512+20

27" Pipe Culvert
Drainage Area - 13.0 Acres
Q_{25} - 27 cfs



PLAN
Scale: 1" = 20'



PROFILE
Scales:
Vertical 1" = 5'
Horizontal 1" = 20'

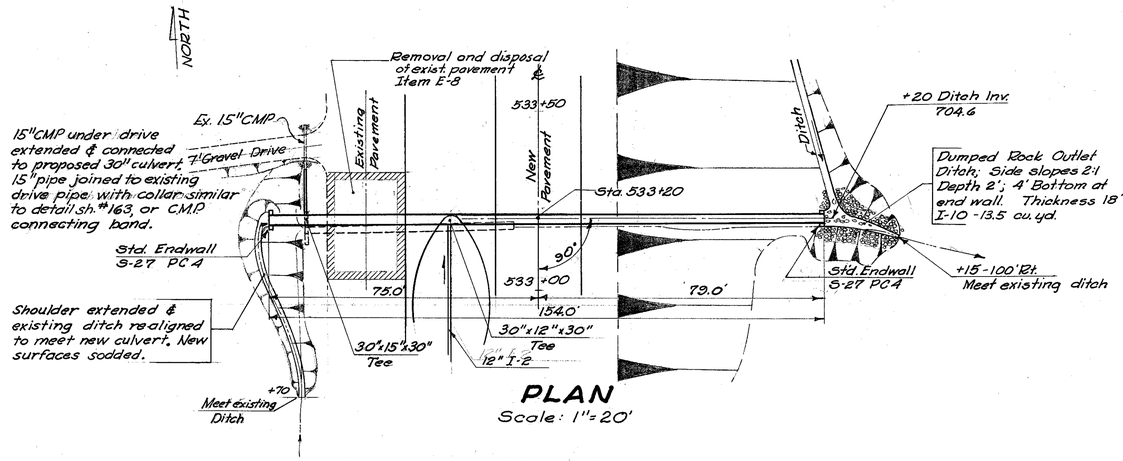
CULVERT STA. 512+20

Estimate of Quantities

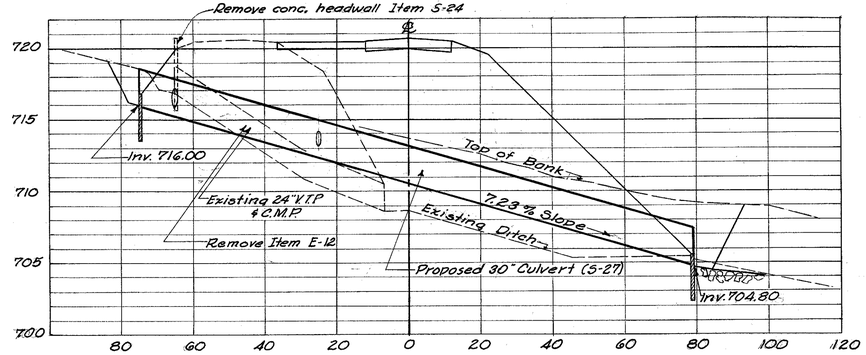
Description	Item	Quantity
Excavation for structures (dry)	E-2	140.0 cu.yd.
Channel Excavation	E-3	43.0 cu.yd.
Removal of pipe	E-12	62 lin.ft.
Concrete for structures-Class E	S-1	1.0 cu.yd.
Pipe for Roadway Culverts-27"	S-27	132 lin.ft.
Dumped Rock Fill	I-10	20.0 cu.yd.
Removal of Existing Structures	S-24	Lump Sum

533+20

30" Pipe Culvert
Drainage Area = 34.0 Acres
Q_{25} - 36 cfs



PLAN
Scale: 1" = 20'



PROFILE
Scales:
Vertical 1" = 5'
Horizontal 1" = 20'

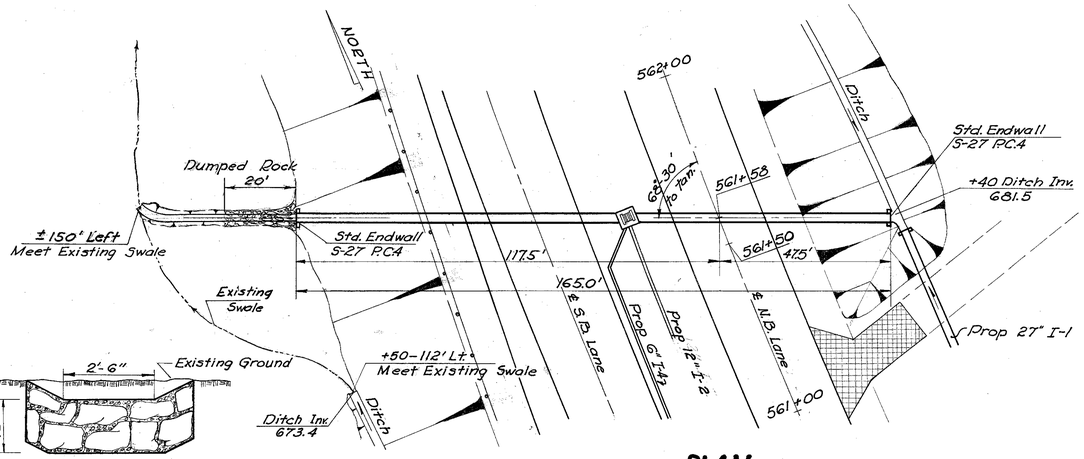
CULVERT STA. 533+20

Estimate of Quantities

Description	Item	Quantity
Excavation for structures (dry)	E-2	61.6 cuyd.
Channel Excavation	E-3	29.5 cuyd.
Removal of pipe	E-12	59 lin.ft.
Concrete for structures-Class E	S-1	1.0 cuyd.
Pipe for Roadway Culverts-30"	S-27	146 lin.ft.
Pipe Specials 30"x15"x30" Tee	I-5	1 each
Dumped Rock Fill	I-10	13.5 cuyd.
Sodding	L-10	132 sq.yd.
Pipe for Driveways - 15"	I-1	12 lin.ft.
Pipe Specials 30"x12"x30" Tee	I-5	1 each
Removal of existing structures	S-24	Lump Sum

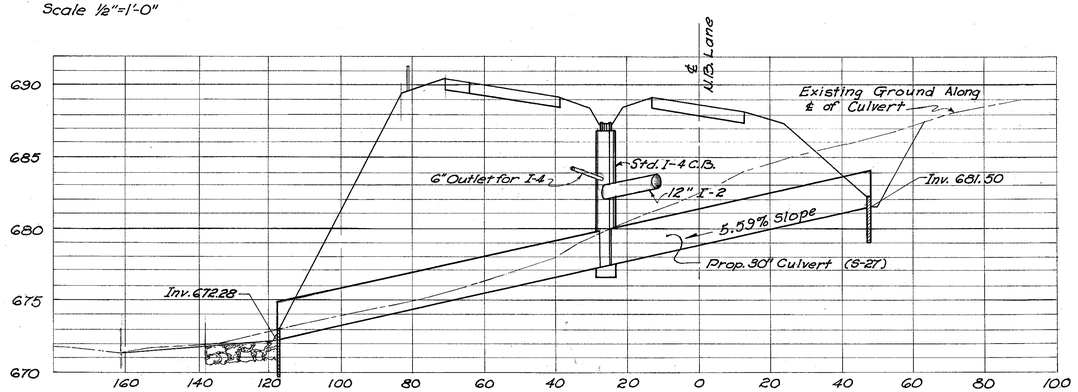
Estimate of Quantities

Description	Item	Quantity
Excavation for Structures (Dry)	E-2	53.6 Cu. Yd.
Channel Excavation	E-3	14.4 Cu. Yd.
Concrete for Structures	S-1	1.0 Cu. Yd.
Pipe for Roadway Culverts 30"	S-27	162 lin. ft.
Catch Basins No. 1-4	I-8	1 each
Dumped Rock Fill	I-10	7.9 Cu. Yd.



PLAN
Scale 1"=20'

SECTION THRU OUTLET DITCH
Scale ½"=1'-0"



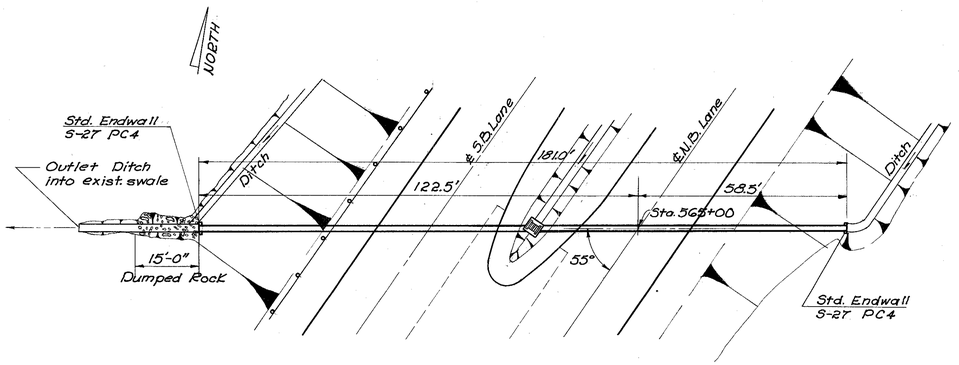
561+58
30" Pipe Culvert
Drainage Area - 17.5 Acres
Q_{25} - 25 cfs.

PROFILE
Scales:
Horizontal 1"=20'
Vertical 1"=5'

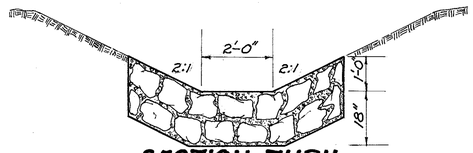
CULVERT STA. 561+58

Estimate of Quantities

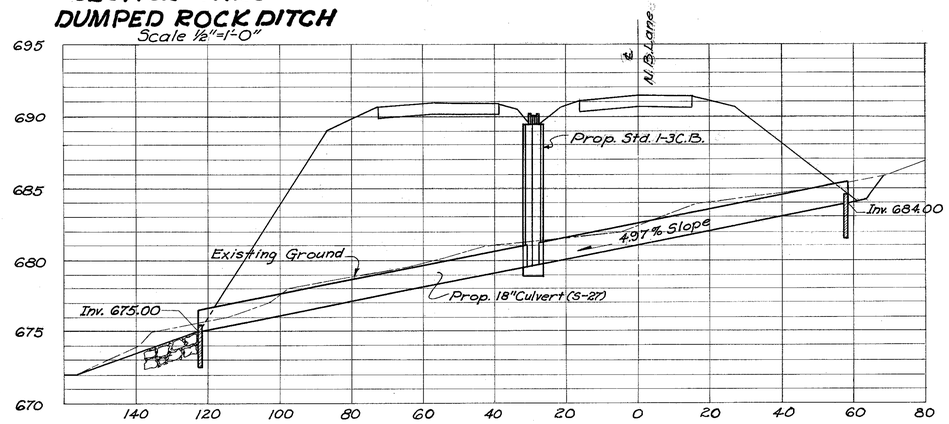
Description	Item	Quantity
Excavation for Structures (Dry)	E-2	33.5 Cu. Yd.
Channel Excavation	E-3	8.9 Cu. Yd.
Concrete for Structures	S-1	0.6 Cu. Yd.
Pipe for Roadway Culverts 18"	S-27	178 lin. ft.
Catch Basins No. 1-3	I-8	1 each
Dumped Rock Fill	I-10	5.4 Cu. Yd.



PLAN
Scale 1"=20'



SECTION THRU DUMPED ROCK DITCH
Scale ½"=1'-0"



565+00
18" Pipe Culvert
Drainage Area - 4.0 Acres
Q_{25} - 15 cfs.

PROFILE
Scales:
Horizontal 1"=5'
Vertical 1"=20'

CULVERT STA. 565+00

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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BUT 4-(16.53-19.15)

586+18.5 - 100' Lt
Meet existing Ditch
Elev. 642.3

Bench Fl. 672.52
Inv. 669.52

Scupper

24" I-2

Bench Fl. 671.16
Inv. 667.84

8" M6.5

Connect 6" Abutment Drain to prop. 24". See Sh. 186

586+87 - 100' Rt.
Meet existing Ditch
Elev. 640.5

℄ B.&O. R.R.
Sta. 586+59.77

Inv. 630.00

45° 6 Tunnel Liner Plate

Ditch Inv. 625.0

Dumped Rock Fill - 40 Cu. Yds.

Existing Channel

Flow

℄ Proposed Dicks Creek
Sta. 588+94

℄ State Route #4
(Northbound Lane)

(Northbound Lane)

℄ Proposed Dicks Creek

Dumped Rock Channel Lining I-10

2:1
1½:1
1½ Ft.
2:1 Ditch
4:1
1 Ft.
1 Ft.
4:1
Ditch 2:1
1½ Ft.
1½:1
2:1

Side Slope 1½:1

Scupper 1½:1

Bench

1½:1

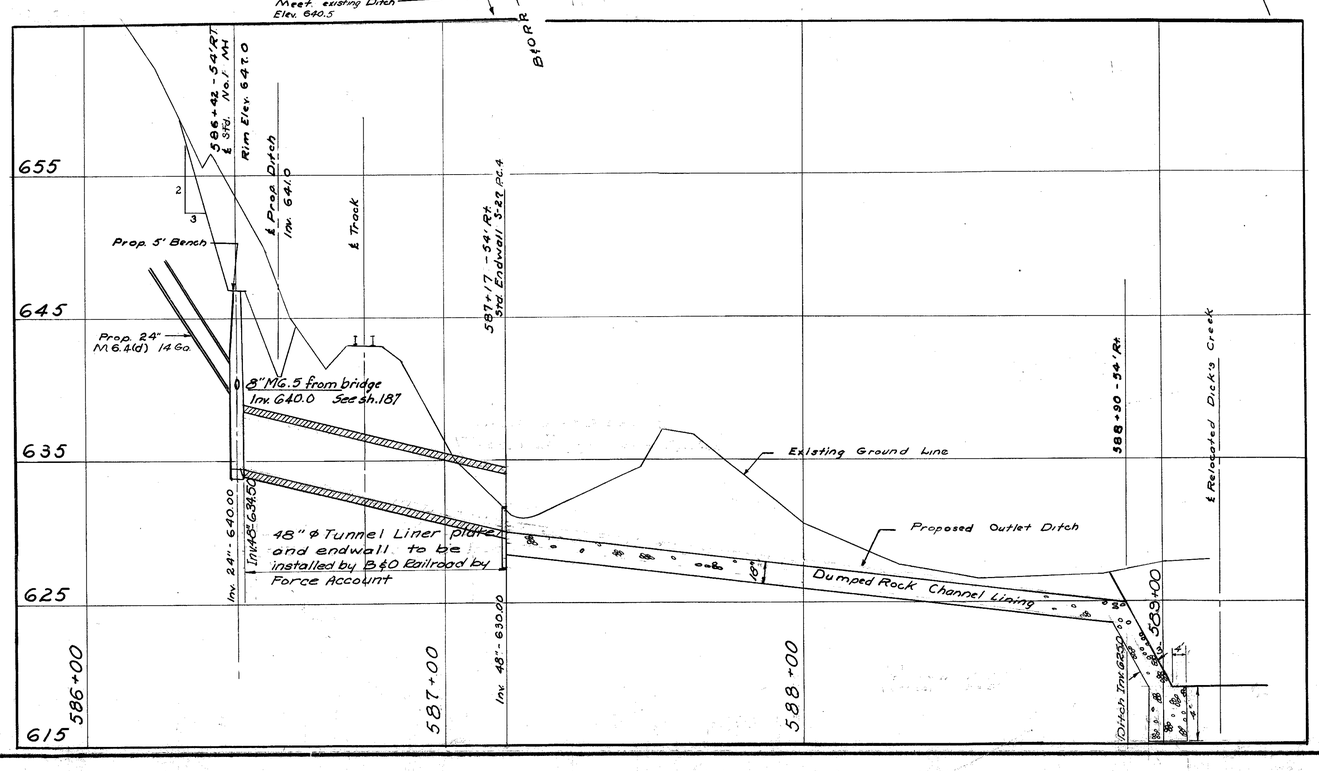
2:1

2'

1'

SECTION A-A

Scale: ½" = 1'



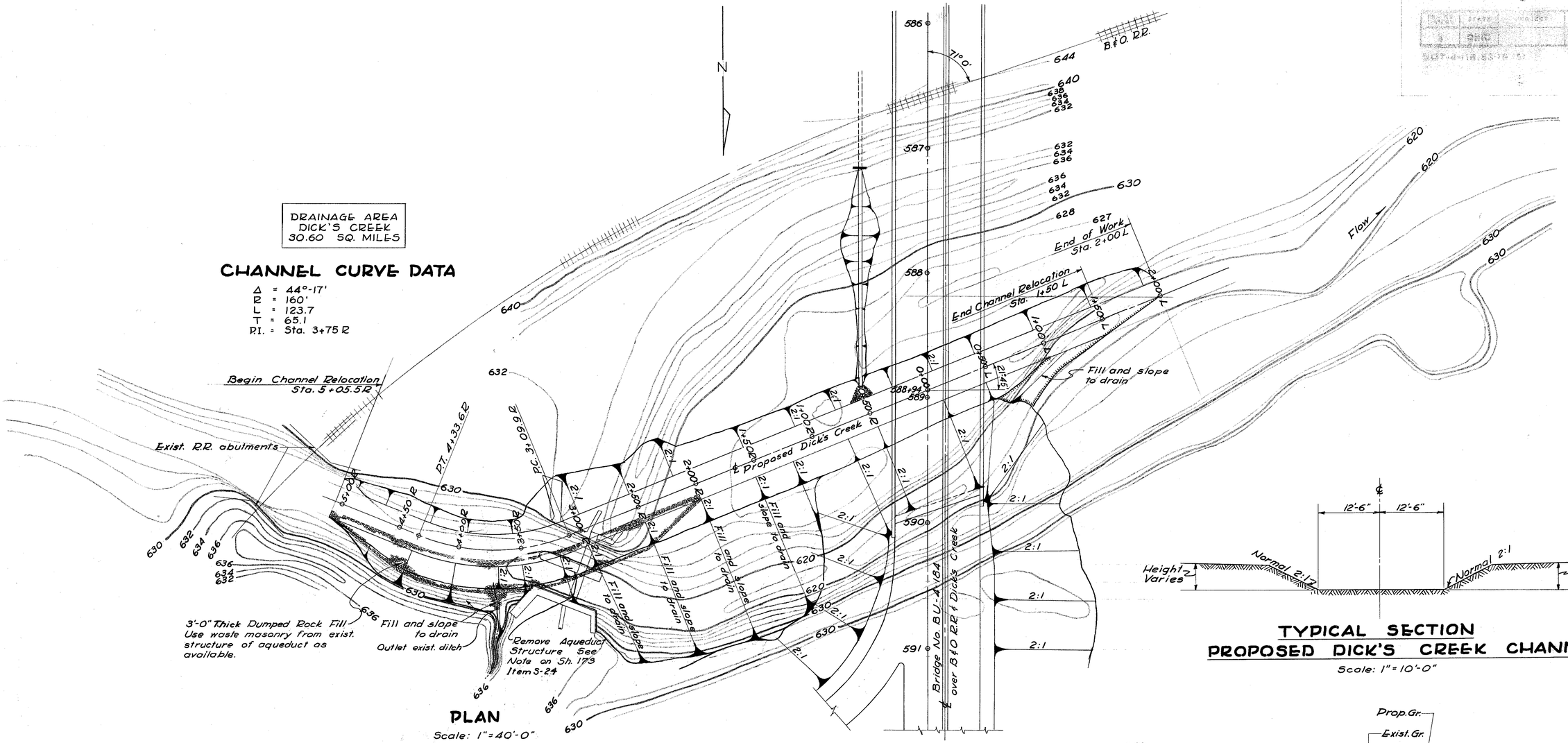
Scales:
Horizontal: 1" = 20'
Vertical: 1" = 5'

DRAINAGE DETAILS

DRAINAGE AREA
DICK'S CREEK
30.60 SQ. MILES

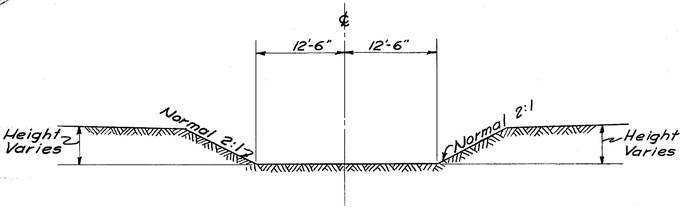
CHANNEL CURVE DATA

Δ = 44°-17'
R = 160'
L = 123.7
T = 65.1
PI. = Sta. 3+75 R



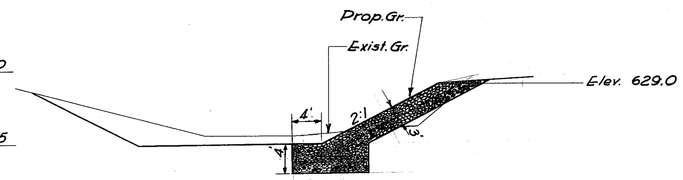
PLAN

Scale: 1"=40'-0"



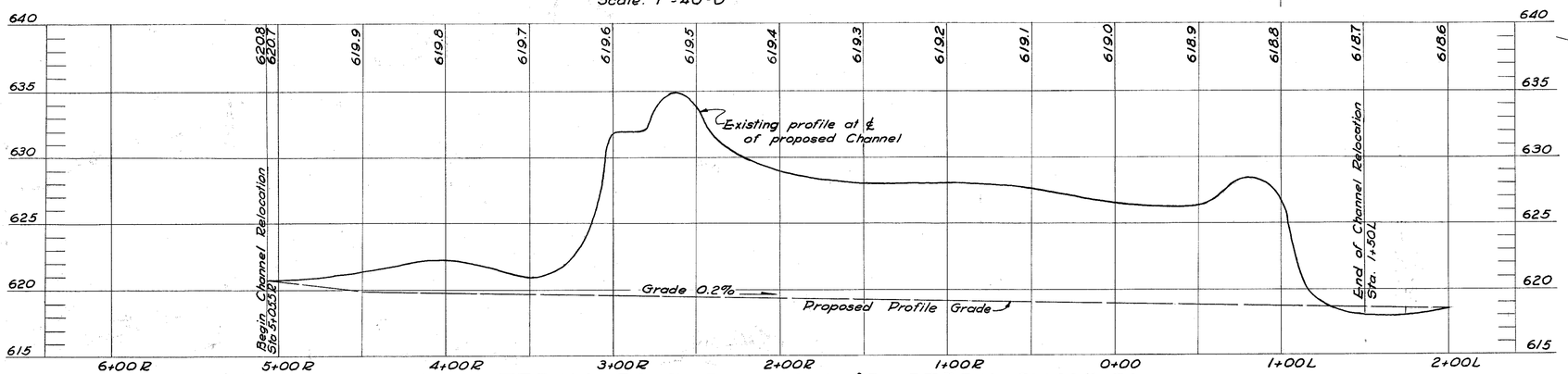
TYPICAL SECTION
PROPOSED DICK'S CREEK CHANNEL

Scale: 1"=10'-0"



TYPICAL SECTION
DUMPED ROCK FILL

Scale: 1"=10'-0"

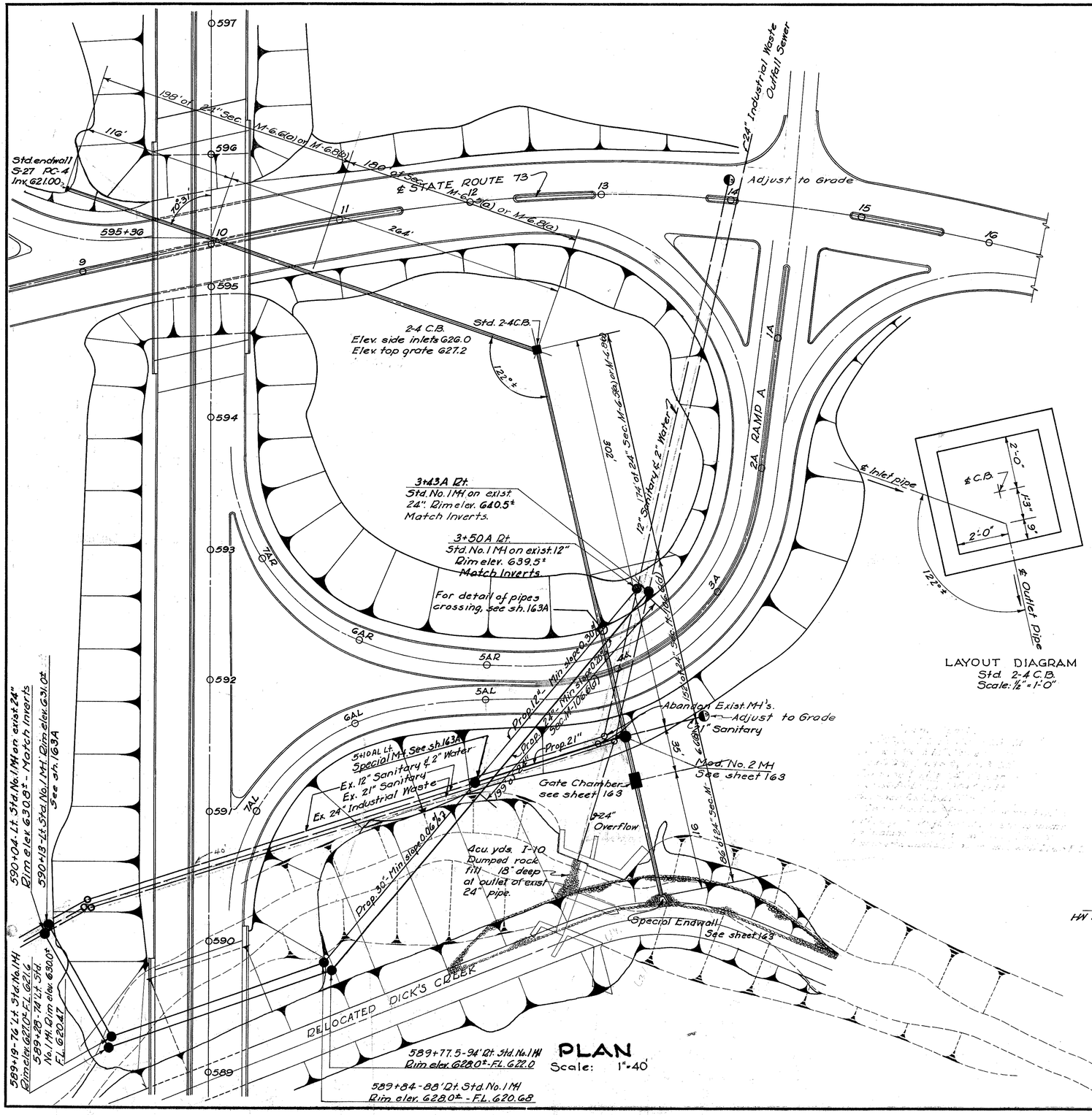


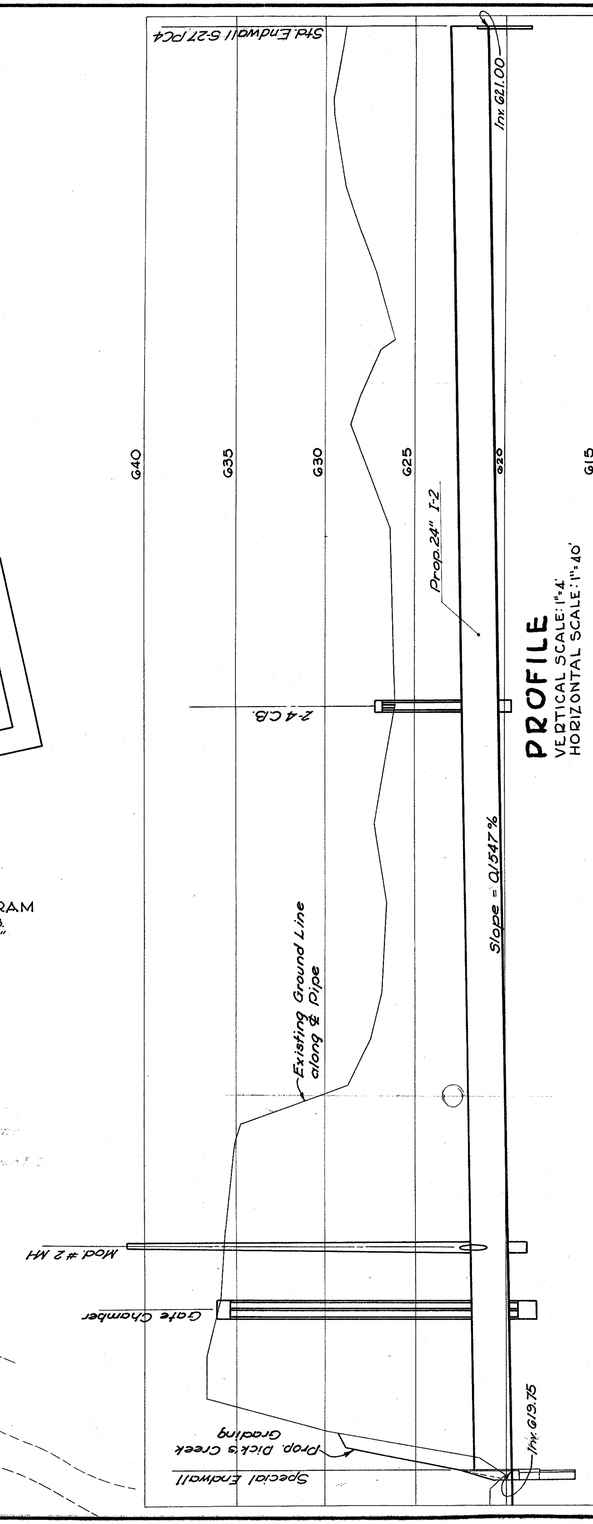
STREAM PROFILE OF DICK'S CREEK CHANNEL

Scale: Vert. 1"=5' Hor. 1"=40"

For quantities for Dick's Creek Channel Relocation See Sh. 173

RELOCATION OF DICK'S CREEK CHANNEL





LAYOUT DIAGRAM
Std. 2-4 C.B.
Scale: ½"=1'-0"

PROFILE
VERTICAL SCALE: 1"=4'
HORIZONTAL SCALE: 1"=40'

SUGGESTED INSTALLATION PROCEDURE FOR PROPOSED SEWER RELOCATIONS

Step 1: Block exist. 24" Outlet Pipe in exist. MH. @ Sta. 4+15 A Lt. so that flow will go thru exist. over flow pipe to Dick's Creek.

Step 2: Build prop. MH on exist. 24" @ Sta. 3+43A Rt. but do not open exist. pipe.

Step 3: Build prop. 24" Sewer & MH's between 3+43A Rt. & 590+04 Lt.

Step 4: Break exist. pipe in new MH. @ 3+43A Rt. & divert flow through new sewer. Seal old 24" pipe where it leaves new MH. Crystal Tissues Co. shuts down on certain Sundays. Step 4 can be accomplished on those days.

Step 5: Build part of proposed 24" Storm Sewer between Mod. No. 2 MH & Dick's Creek.

Step 6: Outlet exist. 21" sewer to prop. No. 2 MH & divert flow to Dick's Creek.

Step 7: Build prop. MH @ 3+50A Lt. on exist. 12" sewer but do not open exist. pipe.

Step 8: Remove exist. 21" between Mod. No. 2 MH & Sta. 5+10 AL Lt. & Build prop. 21" sewer from Mod. No. 2 MH to a point near prop. special MH @ 5+10 AL Lt. Do not build special MH. Abandon exist. MH on 21".

Step 9: Build prop. 12" sewer from MH @ 3+50A Rt. to a point near special MH @ 5+10 A L Lt. Do not build special MH. Do not break exist. 12" in MH @ 3+50A Rt.

Step 10: Build MH on exist. 21" @ Sta. 590+13 Lt. Provide 12" Stub in MH to connect to exist. 12" sewer at a later time. Seal upstream end of exist. 21".

Step 11: Build prop. 30" sewer from Sta. 590+13 Lt. to a point near prop. special MH @ 5+10 AL Lt.

Step 12: Build special MH @ 5+10 AL Lt., connect prop. 12", 21" & 30" sewers. Break exist. 12" sewer in MH @ 3+50 A Rt. & divert flow through new 12". Seal existing 12" pipe where it leaves new MH.

Step 13: Connect exist. 12" to new MH @ Sta. 590+13 Lt.

Step 14: Connect exist. 21" sewer to new 21" sewer through Mod. No. 2 MH with 24" C.I.P.

Step 15: Abandon exist. MH's on exist. 12" & 24" sewers @ 4+15 A Lt. & 4+22 A Lt. Seal ends of exist. pipes

The above is merely a suggested sequence of operations. The Contractor may deviate from this method if he wishes, as approved by the Engineer

All locations & elevations are approximate only & are from the best available information.

The existing 2" Water Line is to remain in place.

All existing sewers that remain in place but are not to function after the new work is completed shall be sealed in the manner set aside under Item I-16 wherever they are encountered. Payment for sealing the pipes will be included in the other pertinent items in the work.

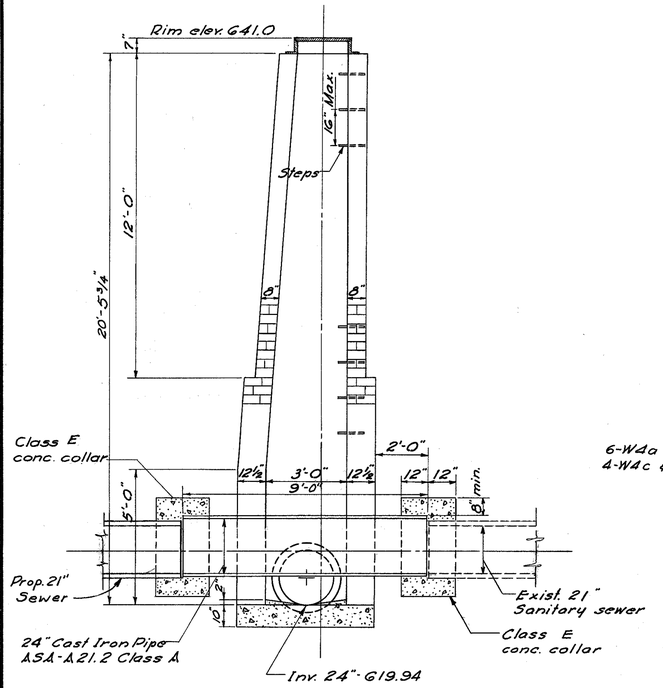
Extreme caution must be exercised while installing the sewers through the existing levee. The Contractor will be held responsible for any flood damage caused by opening up the levee.

The following minimum grades shall hold:
- 12" Sanitary – 0.30%
- 21" Sanitary – 0.12%
- 24" Indust. Waste – 0.20%

Flow must be maintained at all times. The cost of any pumping which may be required to maintain flow shall be included in the unit cost of the various items in the contract.

Flow of sanitary sewage into Dick's Creek will not be permitted for a period in excess of 24 hours.

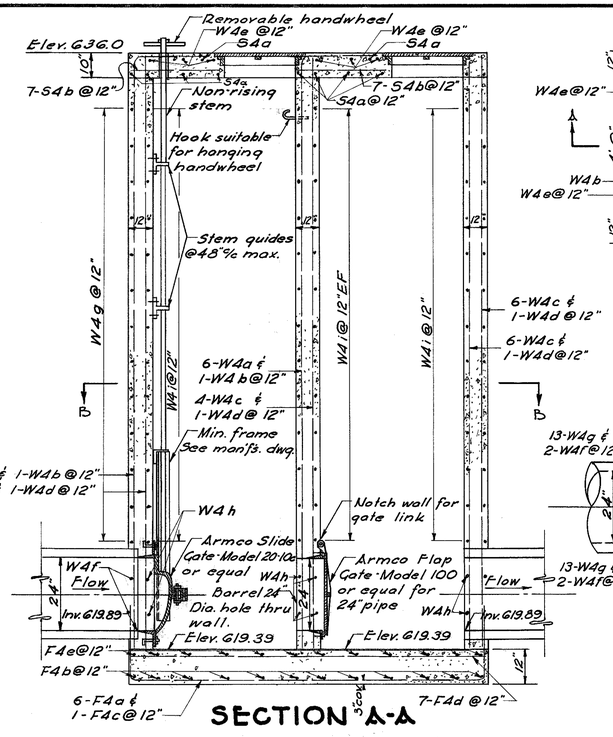
24" STORM SEWER TO DICK'S CREEK



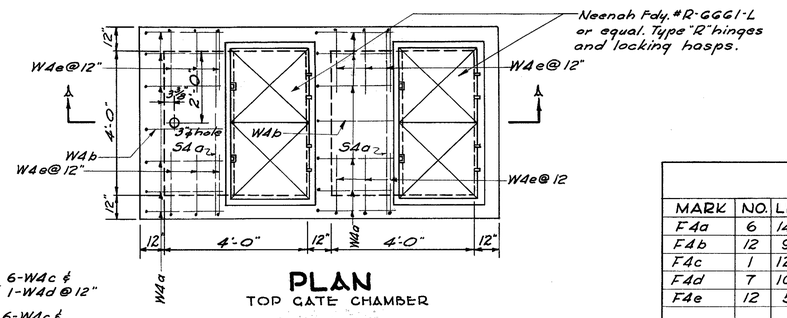
MOD. No. 2 MANHOLE

ON PROPOSED 24" STORM SEWER

Scale ⅜"=1'-0"

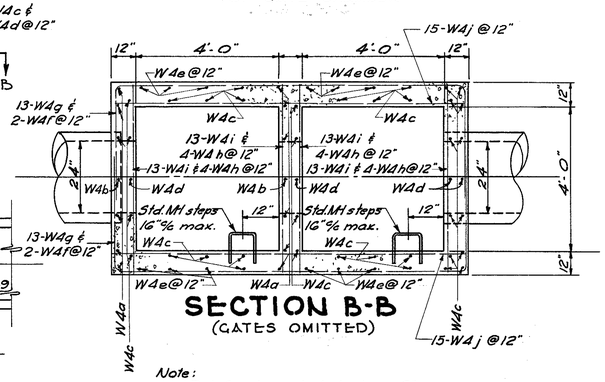


SECTION A-A



PLAN

TOP GATE CHAMBER



SECTION B-B

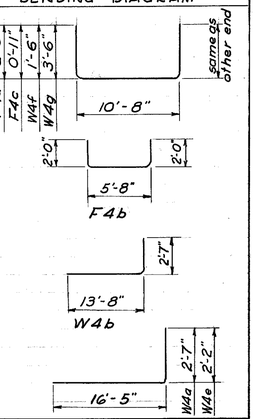
(GATES OMITTED)

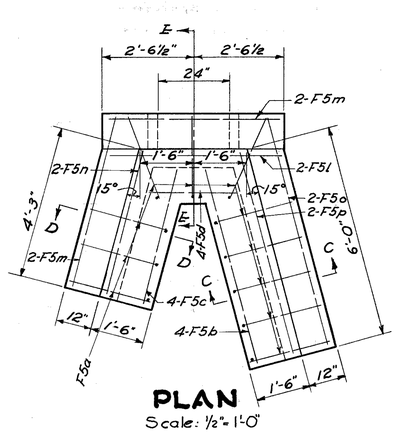
Note:
Reinforcing steel to have 2" cover
Except footings where 3" is required.

GATE CHAMBER

MARK	NO.	LENGTH	WEIGHT	SHAPE
F4a	6	14'-7"	58	Bt.
F4b	12	9'-7	77	Bt.
F4c	1	12'-5"	8	Bt.
F4d	7	10'-8"	50	Str.
F4e	12	5'-8"	45	Str.
W4a	12	18'-11"	152	Bt.
W4b	2	16'-2"	22	Bt.
W4c	36	16'-5"	395	Str.
W4d	4	13'-8"	37	Str.
W4e	12	18'-6"	149	Bt.
W4f	4	13'-7"	36	Bt.
W4g	26	17'-7"	305	Bt.
W4h	16	1'-6"	16	Str.
W4i	52	5'-8"	197	Str.
W4j	30	10'-8"	214	Str.
S4a	10	5'-8"	39	Str.
S4b	14	2'-8"	25	Str.

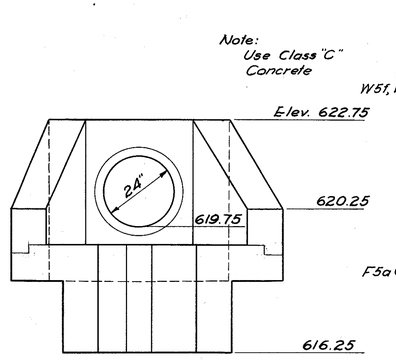
BENDING DIAGRAM





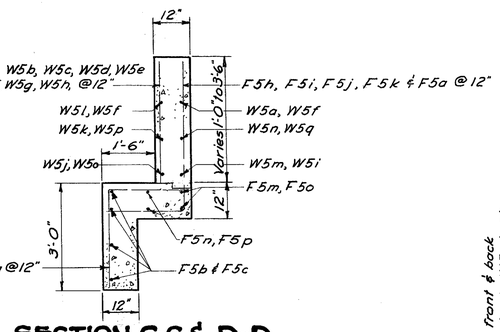
PLAN

Scale: ½"=1'-0"



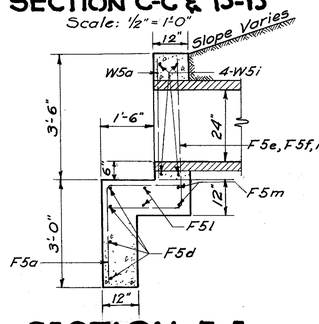
ELEVATION

Scale: ½"=1'-0"



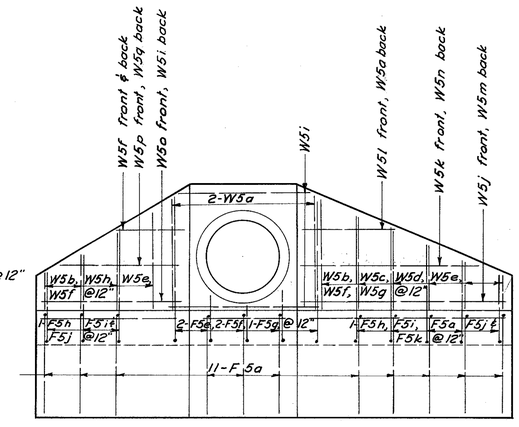
SECTION C-C & D-D

Scale: ½"=1'-0"



SECTION E-E

Scale: ½"=1'-0"



DEVELOPED VIEW

Scale: ½"=1'-0"

SPECIAL ENDWALL

FOR 24" STORM SEWER

ESTIMATE OF QUANTITIES

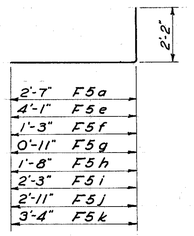
Description	Item	Quantity
Excavation for Structures E-2		12.4 Cu. Yd. (Wet)
Concrete for Structures (Class C)	S-1	3.2 Cu. Yd.
Reinforcing Steel	S-4	330 Lb.

See sheet 162 for Structure locations

SPECIAL ENDWALL

MARK	NO.	LENGTH	WEIGHT	SHAPE
F5a	12	4'-8"	58	Bt.
F5b	4	5'-5"	23	Str.
F5c	4	3'-9"	16	Str.
F5d	4	2'-3"	9	Str.
F5e	2	6'-2"	13	Bt.
F5f	2	3'-4"	7	Bt
F5g	1	3'-0"	3	Bt.
F5h	2	3'-9"	8	Bt.
F5i	2	4'-4"	9	Bt.
F5j	2	5'-0"	10	Bt.
F5k	1	5'-5"	6	Bt.
F5l	2	4'-11"	10	Str.
F5m	4	4'-9"	20	Str.
F5n	2	3'-11"	8	Str.
F5o	2	6'-5"	13	Str.
F5p	2	5'-8"	12	Str.
W5a	3	3'-4"	10	Str.
W5b	2	0'-11"	2	Str.
W5c	1	1'-4"	1	Str.
W5d	1	1'-10"	2	Str.
W5e	2	2'-3"	5	Str.
W5f	4	2'-8"	11	Str.
W5g	1	3'-1"	3	Str.
W5h	1	1'-7"	2	Str.
W5i	4	4'-9"	25	Str.
W5j	5	6'-7"	7	Str.
W5k	1	5'-11"	6	Str
W5l	1	3'-7"	4	Str.
W5m	1	6'-5"	7	Str.
W5n	1	5'-9"	6	Str.
W5o	1	4'-11"	5	Str
W5p	1	4'-5"	5	Str.
W5q	1	4'-3"	4	Str.

BENDING DIAGRAM



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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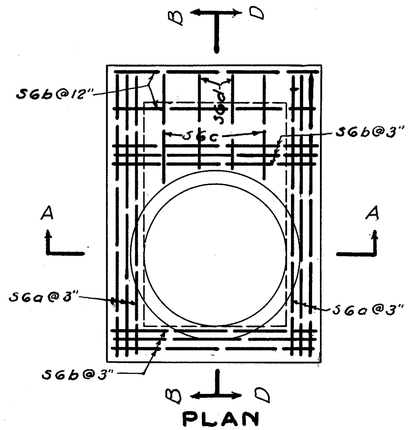
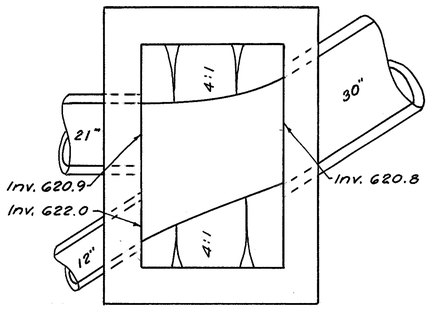
BUT-4-(16.53-19.15)



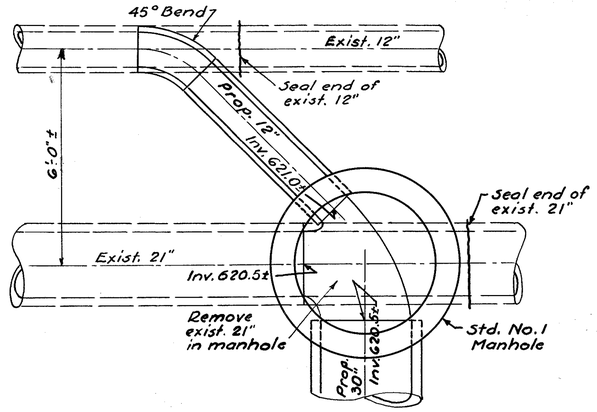
PLAN



SECT. C-C

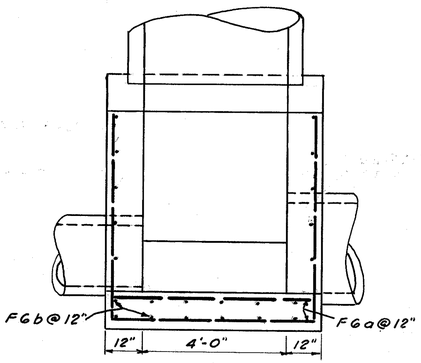
REINFORCING STEEL DETAILS

MARK	NO	LENGTH	WEIGHT	SHAPE	REMARKS
FGa	18	5'-8"	153	Str.	
FGb	12	7'-11"	143	Str.	
WGa	19	5'-9"	164	Str.	
WGb	10	5'-8"	85	Str.	
WGc	3	2'-6"	11	Str.	
WGd	1	3'-6"	5	Str.	
WGe	7	7'-11"	83	Str.	
WGf	3	2'-0"	9	Str.	
WGg	1	1'-3"	2	Str.	
SGa	6	7'-11"	71	Str.	
SGb	8	5'-8"	68	Str.	
SGc	2	3'-0"	9	Str.	
SGd	2	2'-9"	8	Str.	

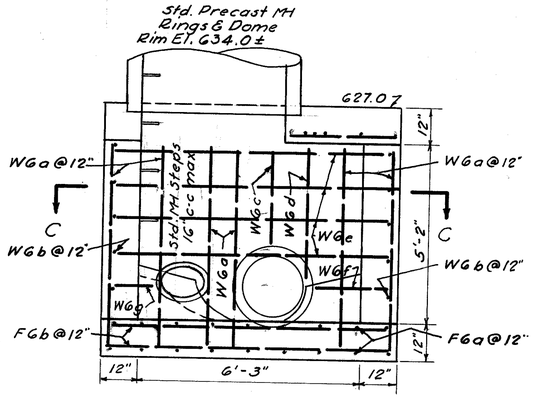


PLAN SHOWING CONNECTIONS IN MANHOLE - STA. 590+13 Lt.

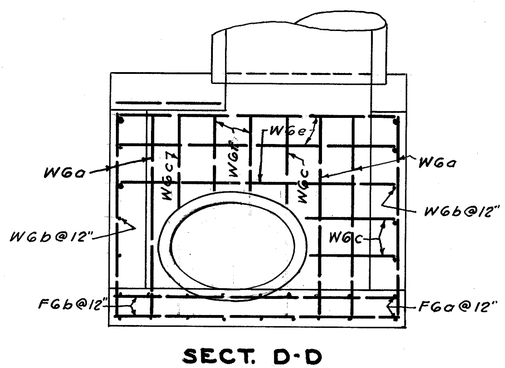
SCALE: $\frac{1}{2}$" = 1'-0"



SECT. A-A



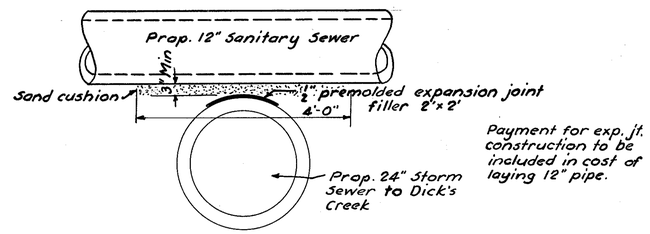
SECT. B-B



SECT. D-D

SPECIAL MANHOLE
STA. 5+10 AL Lt.

SCALE: $\frac{1}{2}$" = 1'-0"



Payment for exp. jt. construction to be included in cost of laying 12" pipe.

PIPE CROSSING DETAIL

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

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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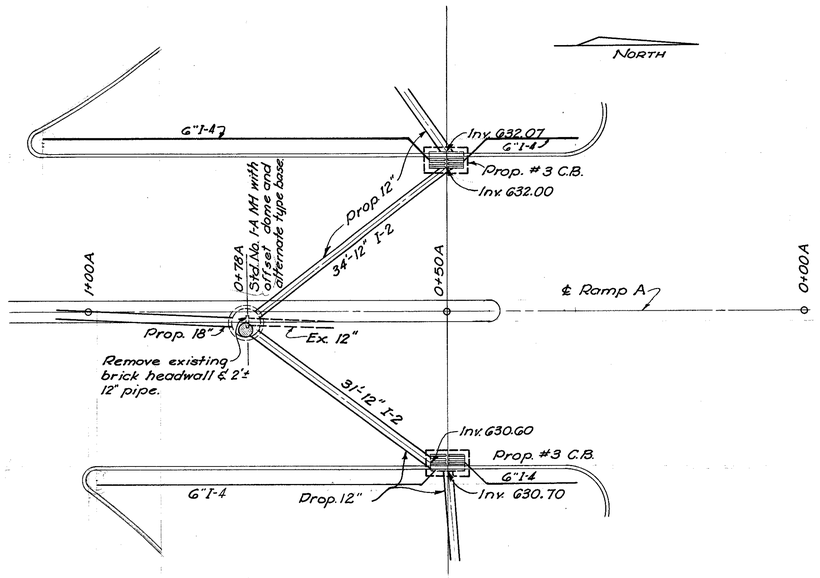
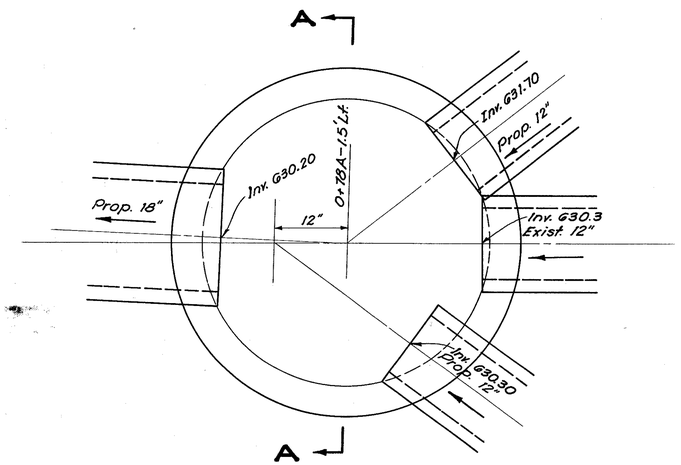
BUT-4-(16.53-19.15)

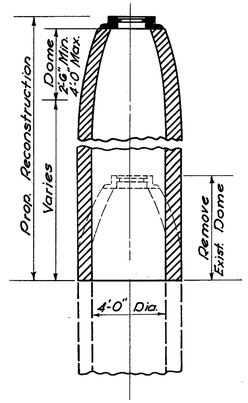


DRAINAGE PLAN
STATION 0+78A ~ RAMP A
Scale: 1" = 10'



PLAN
SHOWING PIPES ENTERING AND LEAVING MANHOLE @ 0+78 A – 1.5' LT.
Scale: 1"=1'-0"

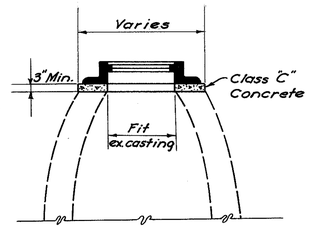
METHOD A



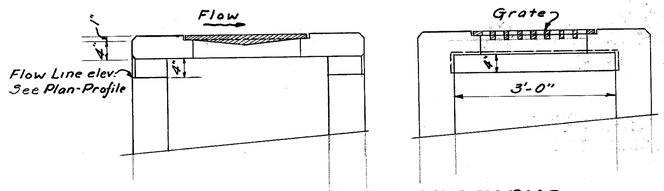
METHOD A is to be used where the existing casting is to be raised an amount exceeding 12" or lowered more than 6".

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

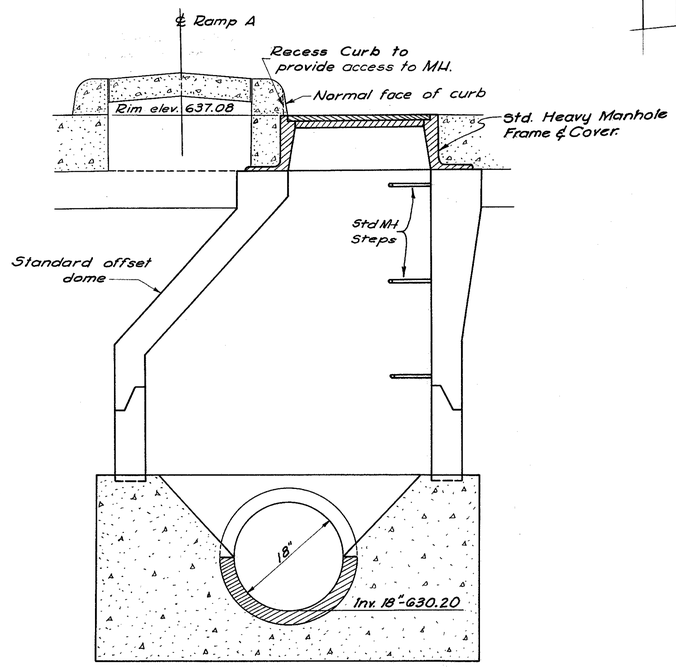


MANHOLE ADJUSTED TO GRADE
No Scale



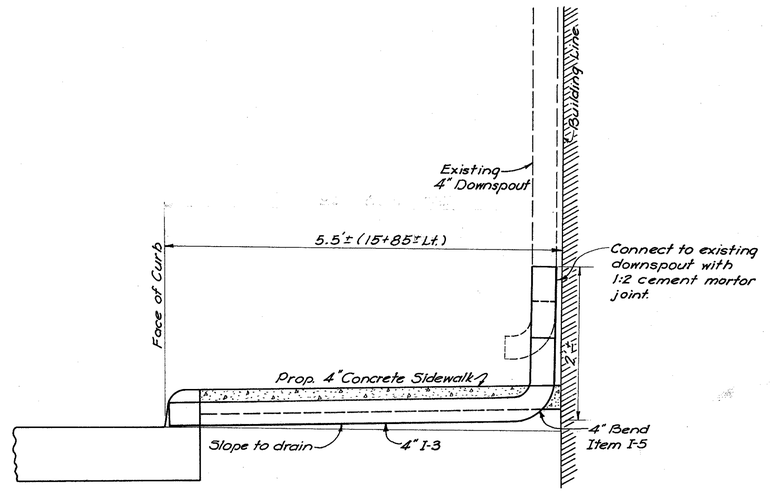
Modification involves size & location of side openings. Reinforcing Steel, Grate, & all other dimensions same as for Std. 2-3 C.B.

PART SECTIONS
MOD. Nº 2-3 CATCH BASIN



SECTION A-A
STANDARD NO. 1-A MANHOLE
STATION 0+78 A 1.5' RT.
Scale: 1"=1'-0"

Note: Precast reinforced concrete manholes as detailed above and on Standard Drawing I-8 M.H. Nº1-A may be used in lieu of the design shown on Standard Drawing I-8 M.H. Nº1.



OUTLET FOR 4" DOWNSPOUT
STATION 15+85 ± Lt. (ROUTE 73)

ESTIMATE OF QUANTITIES:
4'-4" I-3 Under Pavement
1-4"x90° Bend Item I-5

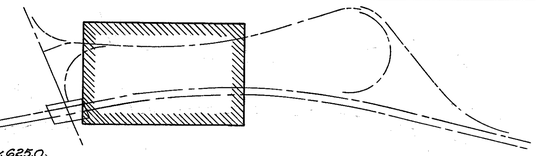
DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

165
222

BUT-4-(16.53-19.15)

KEY PLAN



Ditch Inv. 625.6
Ditch Inv. 625.0
Inv. 625.00
Ditch Inv. 627.1
Inv. 627.20
Std. Endwall S-27 PC4
+68-40.8' Lt.
18'-12" T-2
Inv. 12"-627.23
Ditch Inv. 627.5
Gravel Pit
2B
Sta. 3+00 B
12" Pipe Culvert
See sheet 169
3B
4B
5B
6B
7B
8B
Crane & Scale
Inv. 12"-627.41
52'-12" T-2
621.0±
Inv. 621.10
621.1±
Inv. 621.30
Std. Endwall S-27 PC4
+50 B-53' Rt.
Toe of Slope
621.2±
621.3±

Grade toe of slope to elevation 0.5± above elevations shown. After all seeding and mulching has been completed on the side slopes & the grass has taken root, the final 0.5' shall be removed from the bottom of the enclosed area. No topsoil, seed, or sod is to be placed on the bottom of the enclosed area. The intent is to have a clean gravel surface free of top-soil or grass on the bottom of the enclosed area.

Due care shall be exercised while grading the last 0.5' that the damage to the seeded area is kept to a minimum. After all grading has been completed any damaged area shall be restored.

Place 10 C.Y. I-10 Dumped Rock 18" Thick @ outlet

CATCH BASINS AND INLETS	
LOCATION	TYPE
598+50 Lt.	#3-A Catch Basin
599+00 Rt.	#3-A Catch Basin
600+00 Lt.	#2-10 Inlet
601+45 Rt.	#3-A Catch Basin
4+50 B & 5+68 B Lt.	#2-10 Inlet
	#3 Catch Basin

Place 10 C.Y. I-10 Dumped Rock 18" Thick @ outlet
Inv. 621.30
Std. Endwall S-27 PC4
+00-92' Lt.
Inv. 621.20
621.3±
621.2±
621.1±
Toe of Slope
Fill to elev. 621.1±
Gravel Pit
Place 10 C.Y. I-10 Dumped Rock 18" Thick @ outlet
Inv. 621.10
Std. Endwall S-27 PC4
+50-104.8' Lt.
621.0±
62'-12" M6.4c (16 GA)
77'-12" T-2
Sta. 602+00
24" Pipe Culvert
See sheet #170
Inv. 12"-636.00
601
602
600
599
598
597
Inv. 12"-630.78
Inv. 12"-642.43
48'-12" T-2
Inv. 12"-636.50
Inv. 624.20
Std. Endwall S-27 PC4
+45-62.8' Rt.
Inv. 623.90
Ditch Inv. 623.9
40'-12" M6.4c (16 GA)
Inv. 625.00
Std. Endwall S-27 PC4
+00-65.8' Rt.

I-10 Dumped Rock Ditch
1' Deep - 18" Thick
598+95 to 599+05 (Rt.)
601+40 to 601+50 (Rt.)

L-10 Sodded Ditch 1' Deep
601+70 to 602+50 (Rt.)

DRAINAGE - RAMP B

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			166 / 222

BUT-4-(16.53-19.13)

Gravel Pit
Transmission Tower
KEY PLAN
INLETS
LOCATION | TYPE
605+00 Lt. | #2-10
607+75 Lt. | #2-10
608+50 Lt. | #2-6
See note sheet 165 for grading enclosed area.
For additional Topo see Sheets 42 & 45
Pig Pen
621.35
621.45
621.55
16BR
17BR
18BR
603
604
605
606
607
608
609
629
630
631
632
633
634
Inv.12"-631.12
47'-12" T-23
Inv. 628.80
Std. Endwall S-27 PC4
+00-34' Rt.
Ditch Inv. 628.1
+60
Begin 6" I-4
+00-44.5' Lt.
Inv. 629.5
100' 6" I-4
Inv.12" 630.57
Inv.12"-630.47
45'-12" T-23
46'-12" T-23
Inv. 630.10
Std. Endwall S-27 PC4
+75 -32' Rt.
Ditch Inv. 630.0
Inv.12"-630.00
Std. Endwall S-27 PC4
+50 -33' Rt.
L-10 Sodded Ditch 1' Deep
602+50 to 603+60 (Rt.)

DRAINAGE - RAMP B

FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

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222

UT-4-(16.53-19.15)

Gravel Pit
Inv. 12"-627.00
Inv. 12"-626.91
Inv. 12"-625.76
Inv. 12"- 624.81
Inv. 12"-624.71
9+00B
10+00B
11+00B
12+00B
13+00B
Inv. 621.30
+50B-54'Rt.
Std. Endwall S-27 PC4
Inv. 621.40
Std. Endwall S-27 PC4
+00B-50'Rt.
Transmission
Tower
2:1
Inv. 621.50
Std. Endwall S-27 PC4
+25 B- 43.9'Rt.
Place 10 C.Y. I-10 Dumped
Rock 18" Thick @ Outlet
Inv. 622.00
Ditch Inv. 622.0
Sta. 14+00 BL
42" Pipe Culvert
See sheet 170
14+00 BL
14+00 BR
Inv. 621.50
621.5±
Inv. 12"- 627.10
Inv. 12"- 625.16
Inv. 12"-625.26
Inv. 621.50
Std. Endwall S-27 PC4
+50BR-33.6'Rt.
Place 10C.Y. I-10 Dumped
Rock 18" Thick @ Outlet
15+00 BL
15+00 BR
16+00 BR
621.5±
See note sheet 165
for grading enclosed area
For additional Topo.
see Sheet 42
20"
18"
12"
2-12"
30"
30"
12"
18"
12"
16"
14"
12"
Pig Pen
KEY PLAN

CATCH BASINS AND INLETS	
LOCATION	TYPE
8+50 B - Lt.	#3 Catch Basin
10+00 B - ℄	#2-10 Inlet
12+67 B - ℄	#2-6 Inlet
13+25 B - Rt.	#3 Catch Basin
14+50 BR - Rt.	#3-A Catch Basin
14+60 BL - Rt.	#3-A Catch Basin

DRAINAGE- RAMP B

L-10 Sodded Ditch-1'Deep
G16+40 to G16+60 (Rt.)
G16+40 to G16+60 (Lt.)

I-10 Dumped Rock Ditch
1' Deep - 18" Thick
G16+20 to G16+30(Lt.)

KEY PLAN

15+00

16+00 BL

17+00 BL

18+00 BL

19+00 BL

20+00 BL

21+00 BL

Inv. G22.70
Std. Endwall S-27 PC4
+98 BL - 51' Lt.

Inv. G23.10
Std. Endwall S-27 PC4
+25 BL - 48.8' Lt.

Inv. 12"-G27.90

13'-12"-T2

38'-12"-T2

G09+22-141' Lt.
Std. No. 7 C.B.

Grate - G26.0
F.L. 18"-G23.0

G27

G28

G29

G30

G31

G32

G33

+64 End 6"-I-4
Inv. 628.8
16' Begin 6"-I-4
Inv. 628.8

+89 End 6"-I-4
Inv. 628.3
+91 Begin 6"-I-4
Inv. 628.3

64'-6"-I-4

123'-6"-I-4

120' 6"-I-4

121'-12"-I-2

123'-12"-T-2

Inv. 12"-628.30

Inv. 12"-626.50

Inv. 12"-626.40

Inv. 12"-624.61

Inv. 12"-624.51

Inv. G23.30
Std. Endwall S-27-PC4
+75 BL 49.8' Lt.

39'-12"-I-2

Inv. 12" 624.07

Inv. 623.97

11' End 6"-I-4
Inv. 621.8
29'-12"-I-2

Inv. G24.10
Std. Endwall S-27 PC4
+25 - 80.1' Lt.

Inv. G24.20

37'-12"-I-2

Sta. G16+50
21" Pipe Culvert
See Sh. 170

Inv. 12"-628.50

Inv. 12"-628.70

26'-12"-I-2

Inv. 12"-628.80

Inv. G24.90

Ditch Inv. G24.9

Ditch Inv. G25.4

Ditch Inv. G23.5

Ditch Inv. G23.5

Match Line

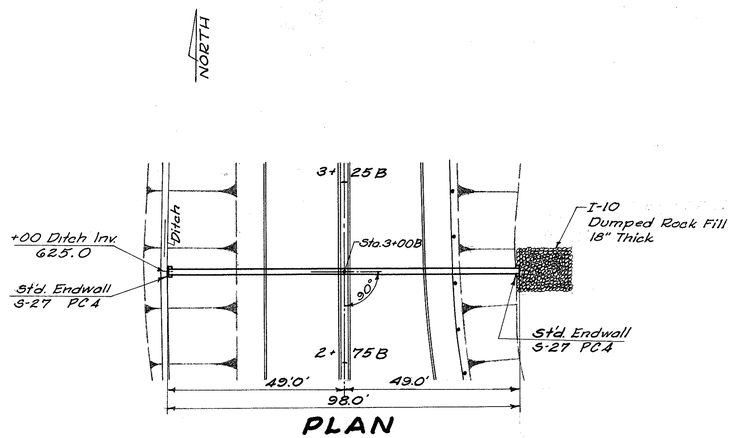
Match Line

609 610 611 612 613 614 615 616 617

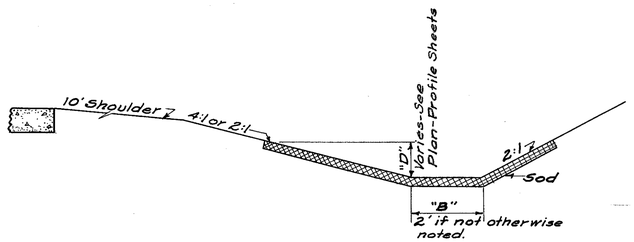
CATCH BASINS AND INLETS	
LOCATION	TYPE
609+22-141 Lt.	#7 Catch Basin
G09+64 Lt.	#3-A Catch Basin
G10+89 Lt.	#3-A Catch Basin
G12+13 Lt.	#3-A Inlet Manhole
18+25 BL Lt.	#3 Catch Basin
19+75 BL Lt.	#3-A Catch Basin
G16+25 Lt.	#3-A Catch Basin
G16+25 Lt.	#2-6 Inlet

DRAINAGE - RAMP B

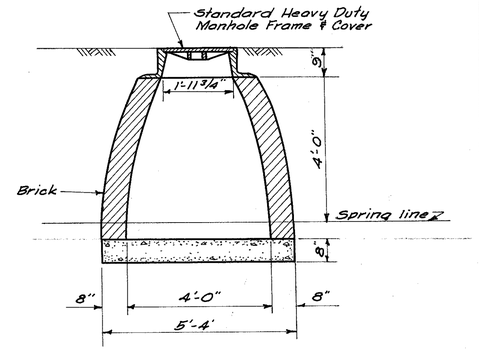
3+00B
12" Pipe Culvert
Drainage Area = 2 Acres
Q25 - 4.2 cfs.



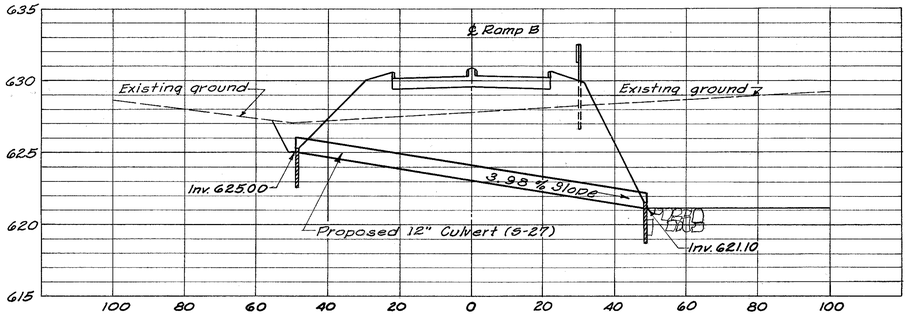
PLAN
Scale: 1" = 20'



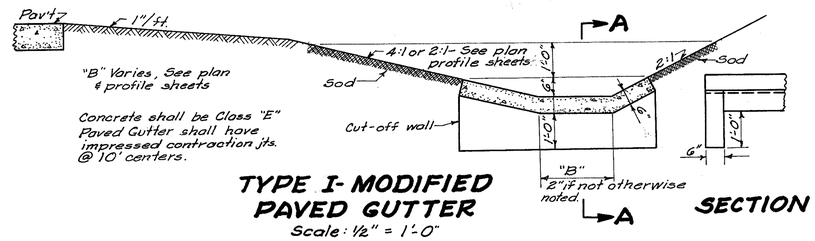
SODDED DITCH
Scale: 1/2" = 1'-0"



MANHOLE FOR WATER VALVES & METERS
Scale: 1/2" = 1'-0"



PROFILE
Scales
Vertical: 1" = 5'
Horizontal: 1" = 20'



TYPE I - MODIFIED PAVED GUTTER
Scale: 1/2" = 1'-0"

SECTION A-A

CULVERT STA. 3+00B

ESTIMATE OF QUANTITIES

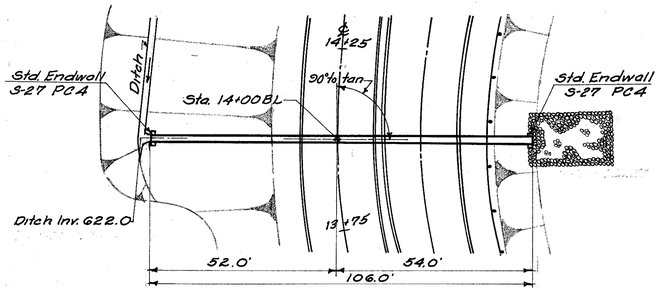
DESCRIPTION	ITEM	QUANTITY
Excavation for Structures	E-2	32.0 cu.yds.
Channel Excavation	E-3	10.0 cu.yds.
Concrete for Structures (Class E)	S-1	0.5 cu.yds.
Pipe for Roadway Culverts - 12"	S-27	98 lin. ft.
Dumped Rock Fill	I-10	100.0 cu.yds.

ROADWAY DITCH DETAILS

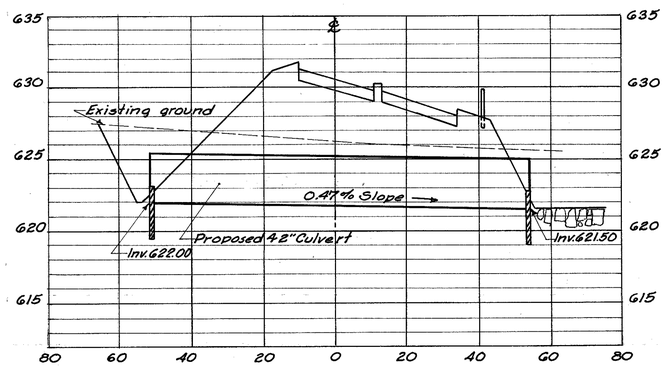
Sheet 170
After 158

NORTH

14+00 BL
42" Pipe Culvert
Drainage Area = 30. Acres
Q25 - 42 cfs



PLAN
Scale: 1"=20'



PROFILE
Scales:
Vertical 1"=5'
Horizontal 1"=20'

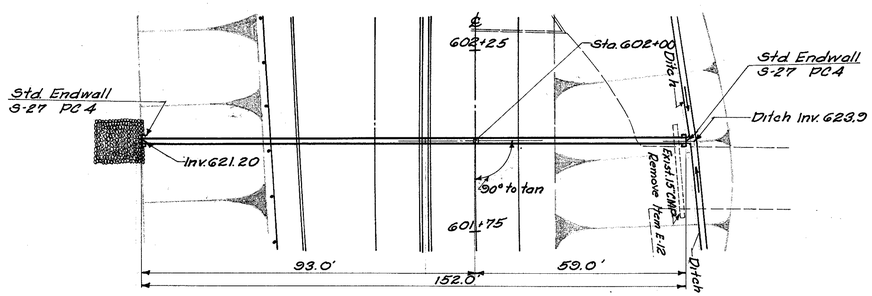
CULVERT STA. 14+00 BL
RAMP B

ESTIMATE OF QUANTITIES

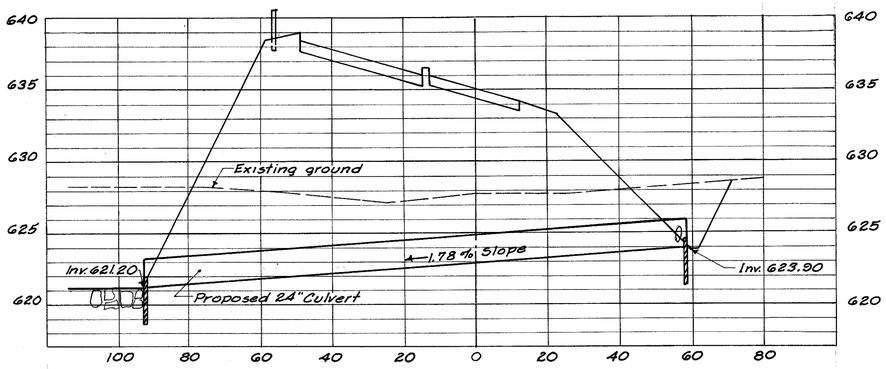
DESCRIPTION	ITEM	QUANTITY
Excavation for Structures (Dry)	E-2	92.0 cu. yd.
Channel Excavation	E-3	20.0 cu. yd.
Concrete for Structures - Class E	S-1	1.5 cu. yd.
Pipe for Roadway Culverts - 42"	S-27	106 lin. ft.
Dumped Rock Fill	I-10	20.0 cu. yd.

NORTH

602+00
24" Pipe Culvert
Drainage Area = 13.0 Acres
Q25 - 28 cfs



PLAN
Scale: 1"=20'



PROFILE
Scales:
Vertical 1"=5'
Horizontal 1"=20'

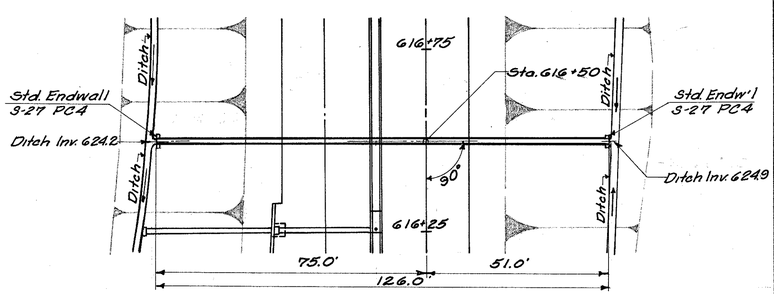
CULVERT STA. 602+00

ESTIMATE OF QUANTITIES

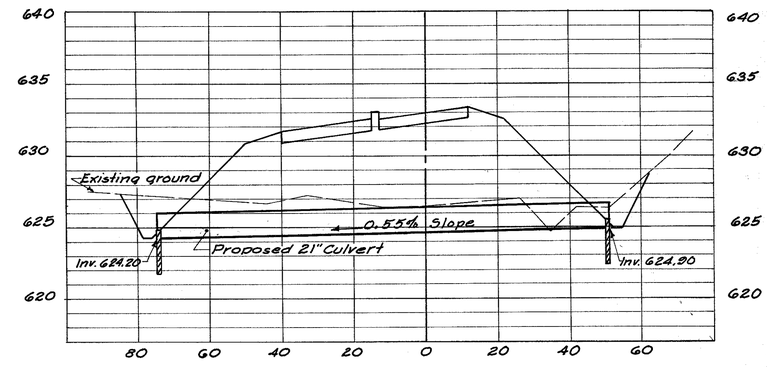
DESCRIPTION	ITEM	QUANTITY
Excavation for Structures	E-2	840 cu. yd.
Channel Excavation	E-3	10.0 cu. yd.
Concrete for Structures - Class E	S-1	0.8 cu. yd.
Pipe for Roadway Culverts - 24"	S-27	152 lin. ft.
Dumped Rock Fill	I-10	10.0 cu. yd.
Removal of Pipe	E-12	26 lin. ft.

NORTH

616+50
21" Pipe Culvert
Drainage Area = 10.0 Acres
Q25 - 14.5 cfs



PLAN
Scale: 1"=20'

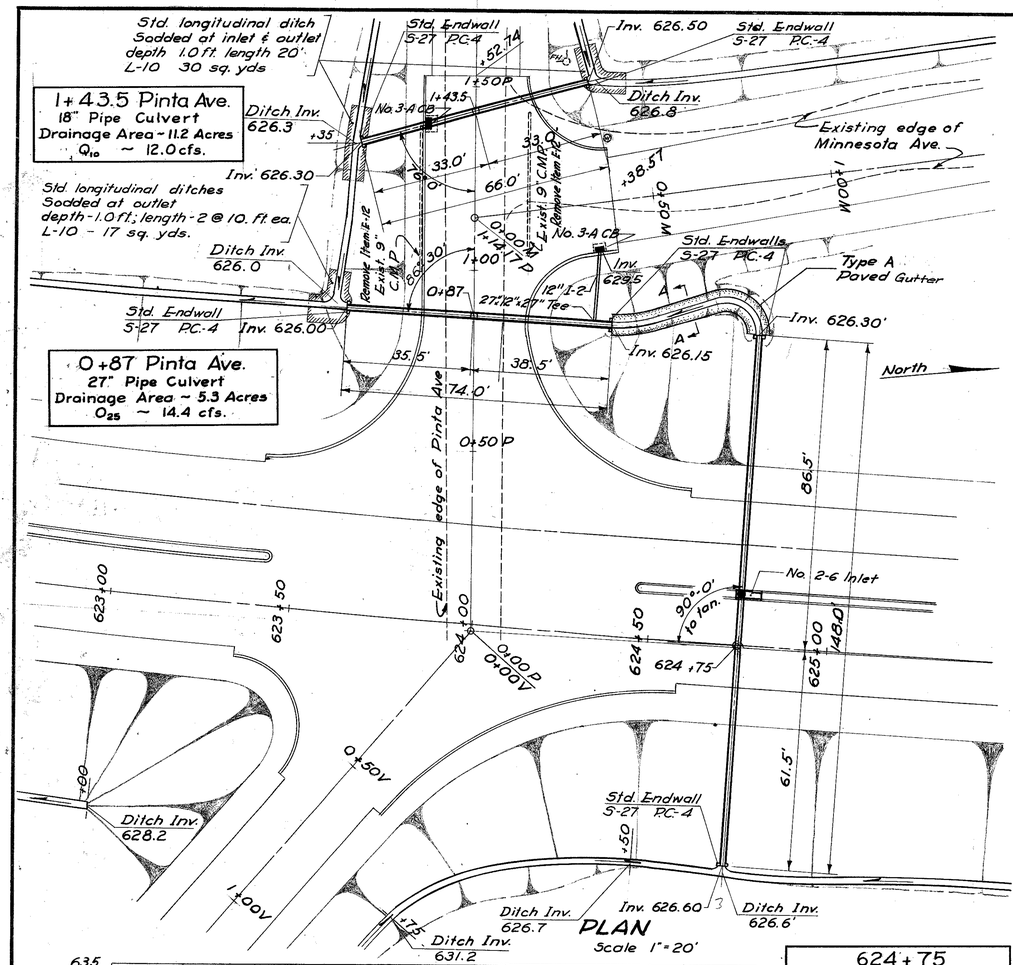


PROFILE
Scales:
Vertical 1"=5'
Horizontal 1"=20'

CULVERT STA. 616+50

ESTIMATE OF QUANTITIES

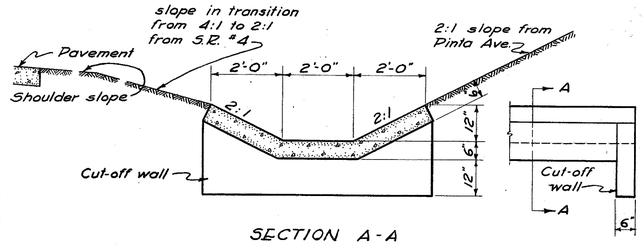
DESCRIPTION	ITEM	QUANTITY
Excavation for Structures	E-2	240 cu. yd.
Concrete for Structures - Class E	S-1	0.7 cu. yd.
Pipe for Roadway Culverts - 21"	S-27	126 lin. ft.



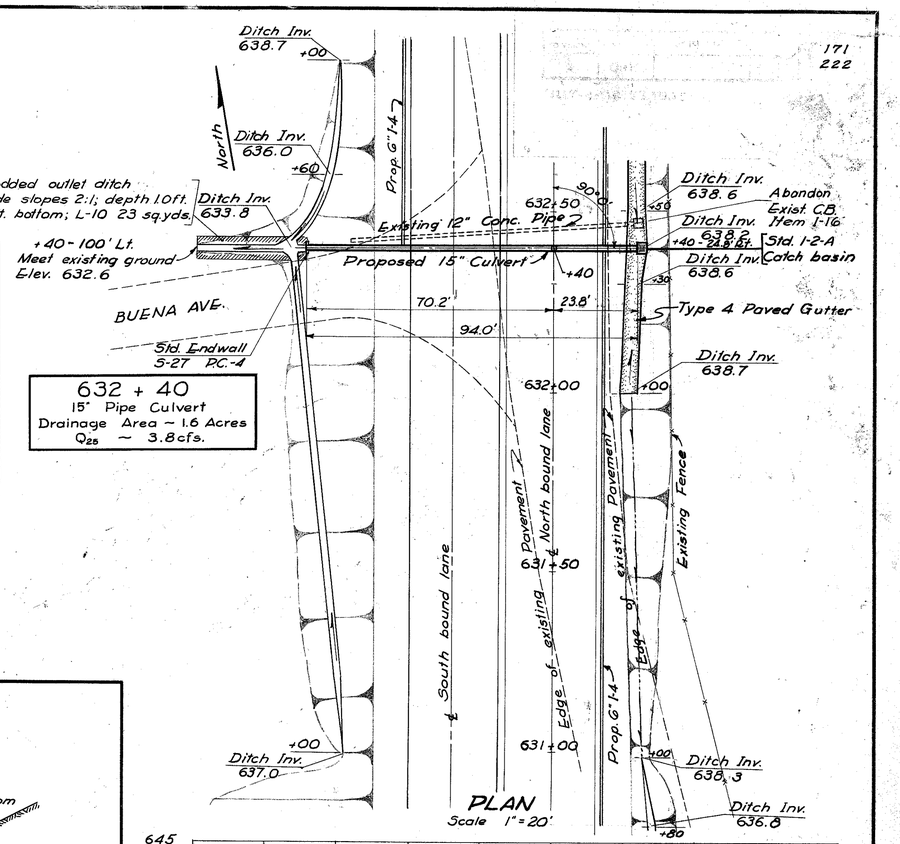
Estimate of Quantities

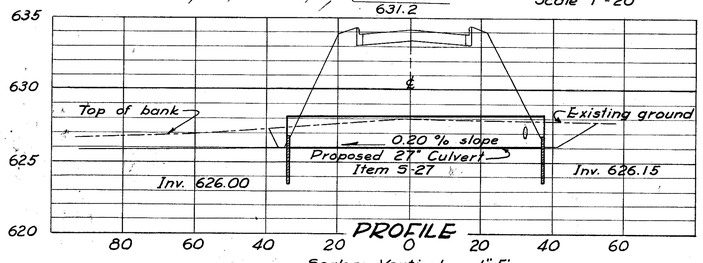
Description	Item	Quantity
Culvert Sta. 0+87 Pinta Ave.		
Excavation for structures (Dry)	E-2	23.6 cu.yd.
Concrete for structures (Class E)	S-1	1.0 cu.yd.
Pipe for roadway culverts 27"	S-27	70 lin.ft.
Storm Sewers 12" Class B	I-2	18 lin.ft.
Pipe Specials 27"x12"x27" Tee	I-5	1 each
Catch Basin No. 3-A	I-8	1 each
Sodding	L-10	17.0 sq.yd.
Culvert Sta. 1+43.5 Pinta Ave.		
Excavation for structures (Dry)	E-2	12.2 cu.yds.
Concrete for structures (Class E)	S-1	0.6 cu.yds.
Pipe for roadway culverts-18"	S-27	64.0 lin.ft.
Sodding	L-10	30.0 sq.yds.
Removal of pipe	E-12	40.0 lin.ft.
Catch Basin No. 3-A	I-8	1 each
Culvert Sta. 624+75		
Excavation for structures (Dry)	E-2	24.6 cu.yds.
Channel excavation	E-3	24.7 cu.yds.
Concrete for structures (Class E)	S-1	0.8 cu.yds.
Pipe for roadway culverts-24"	S-27	146.0 lin.ft.
Paved outlet gutter Type A	I-14	47.0 lin.ft.
Inlet - No. 2-6 on 24" Culvert	I-8	1 each
Culvert Sta. 632+40		
Excavation for structures (Dry)	E-2	31.2 cu.yds.
Channel excavation	E-3	2.7 cu.yds.
Removal of pipe	E-12	80.0 lin.ft
Concrete for structures (Class E)	S-1	0.3 cu.yds.
Catch Basins Abandoned	I-16	1 each
Pipe for roadway culverts-15"	S-27	86.0 lin.ft
Catch Basin No. 1-2-A	I-8	1 each
Sodding	L-10	23.0 sq.yds.
Pipe Specials 15"x6"x15" Tee	I-5	1 each
Pipe Specials 15"x6" Cross	I-5	1 each

VOID



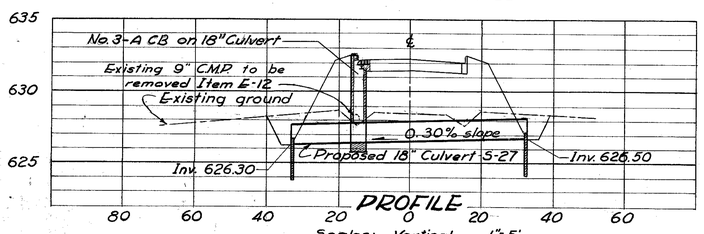
TYPE A PAVED GUTTER





CULVERT STA. 0+87P

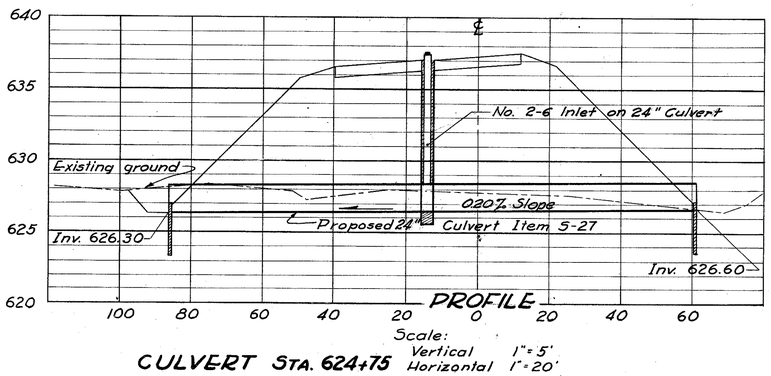
Scales: Vertical 1"=5' Horizontal 1"=20'



CULVERT STA. 1+43.5P

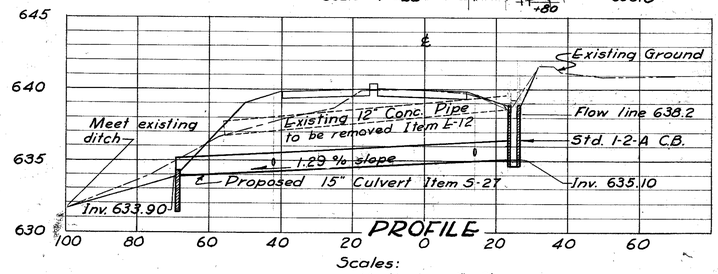
Scales: Vertical 1"=5' Horizontal 1"=20'

624+75
24" Pipe Culvert
Drainage Area ~ 3.7 Acres
Q25 ~ 10.6 cfs.



CULVERT STA. 624+75

Scale: Vertical 1"=5' Horizontal 1"=20'



Scales:
Vertical 1"=5'
Horizontal 1"=20"

CULVERT STA. 632+40

VOID

FED. RD. DIVISION	STATE	FED. AID PROJECT	TYPE FUNDS
2	OHIO	F-581(10)	

172
222

BUT.-4-(16.53-19.15)

DRAINAGE AREA
DICK'S CREEK
30.60 SQ. MILES

PLAN
Scale: 1" = 20'

For relocation of Dick's Creek Channel see Sheet No. 161

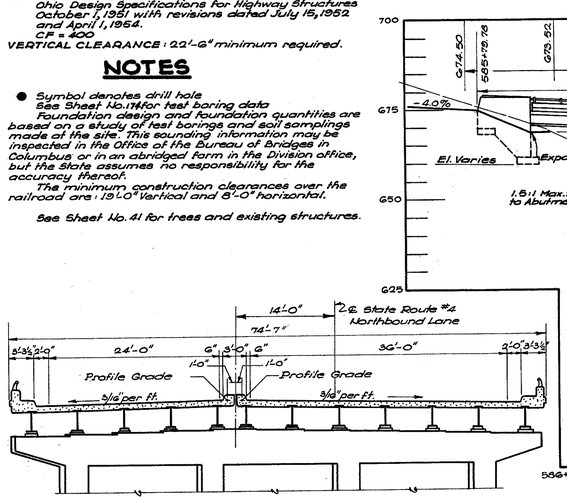
PROPOSED STRUCTURE

TYPE: Continuous rolled beam with reinforced concrete deck and substructure.
SPANS: 124'-0", 75'-0", 75'-0", 75'-0", 75'-0", 60'-0" c. to c. bearings
SKEW: 19°-00'
WEARING SURFACE: 1" monolithic concrete.
SAFETY CURBS: 2@ 2'-0"
ROADWAY: 62'-0" curb to curb
APPROACH SLABS: South 15'-0" & North 25'-0" long
LOADING: Standard lane loading as per State of Ohio Design Specifications for Highway Structures October 1, 1951 with revisions dated July 15, 1952 and April 1, 1954.
CF = 400
VERTICAL CLEARANCE: 22'-6" minimum required.

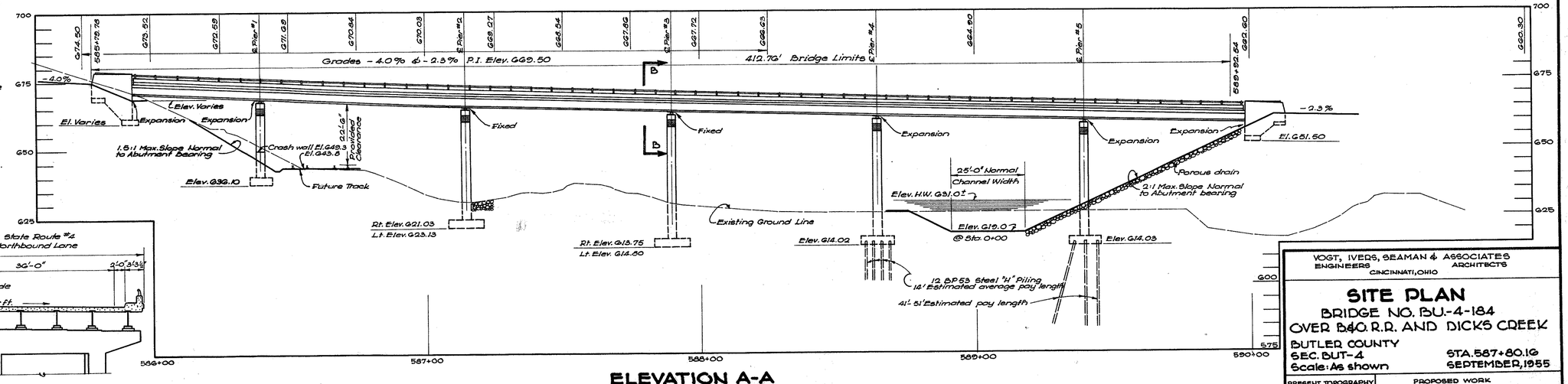
NOTES

- Symbol denotes drill hole
  See Sheet No. 11 for test boring data
  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.
  The minimum construction clearances over the railroad are: 19'-0" Vertical and 8'-0" horizontal.

See Sheet No. 41 for trees and existing structures.



SECTION B-B
Scale: 1" = 10'



ELEVATION A-A
Scale: 1" = 20'

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

SITE PLAN
BRIDGE NO. BU.-4-184
OVER B&O R.R. AND DICKS CREEK

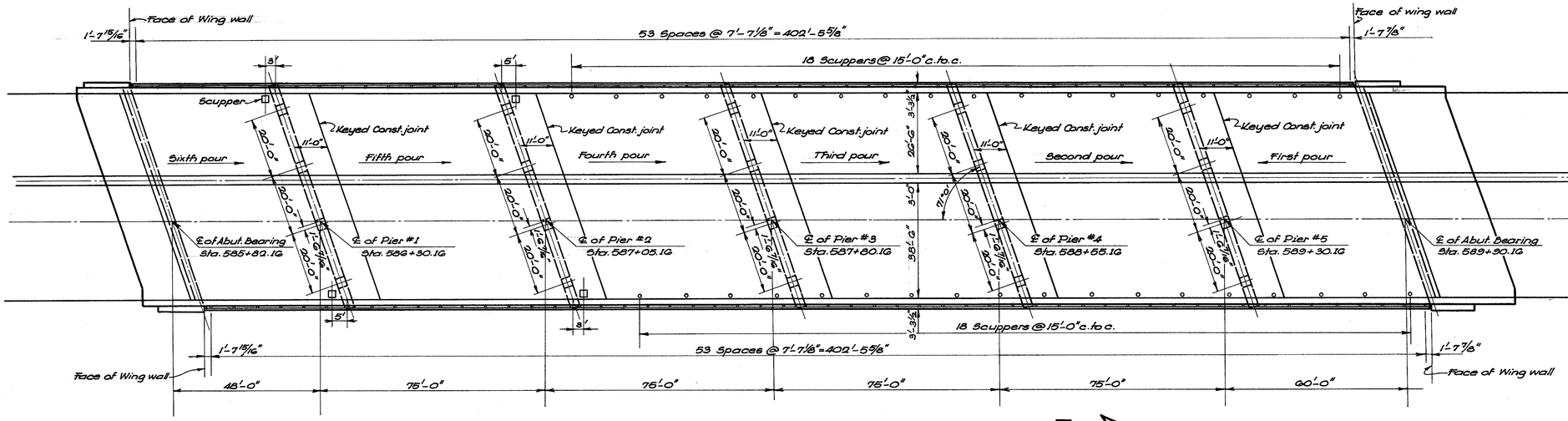
BUTLER COUNTY
SEC. BUT-4 STA. 587+80.16
Scale: As shown SEPTEMBER, 1955

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVISIONS
J.O.W.	B.G.E.	R.G.H.	R.G.H.	R.J.L.	

FED. RD. DIVISION	STATE	FED. AID. PROJECT	TYPE FUNDS
2	OHIO	F-581(10)	

173
222

BUT-4-(16.53-19.15)



℄ of abutments & pier are all parallel

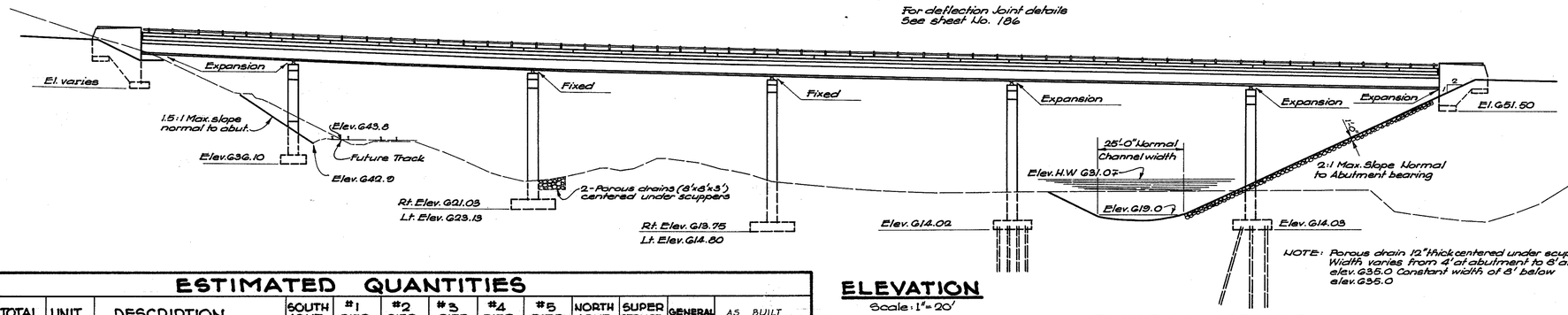
For bridge drainage details and scupper details see sheet No. 187

GENERAL PLAN

Scale: 1" = 20'

For railing details see sheet No. 184

For deflection Joint details See sheet No. 186



ELEVATION

Scale: 1" = 20'

PAVEMENT ELEVATIONS

STATIONS	26' LEFT OF ℄ MEDIAN	1'-6" LEFT OF ℄ MEDIAN	1'-6" RIGHT OF ℄ MEDIAN	40' RIGHT OF ℄ MEDIAN
585 +50	675.08	675.49	675.49	674.89
585 +75	674.08	674.49	674.49	673.89
586 +00	673.10	673.51	673.51	672.91
586 +25	672.16	672.58	672.58	671.98
586 +50	671.27	671.68	671.68	671.08
586 +75	670.42	670.83	670.83	670.23
587 +00	669.61	670.02	670.02	669.42
587 +25	668.84	669.26	669.26	668.66
587 +50	668.12	668.53	668.53	667.93
587 +75	667.44	667.85	667.85	667.25
588 +00	666.80	667.21	667.21	666.61
588 +25	666.20	666.62	666.62	666.02
588 +50	665.63	666.04	666.04	665.44
588 +75	665.05	665.47	665.47	664.87
589 +00	664.48	664.89	664.89	664.29
589 +25	663.90	664.32	664.32	663.72
589 +50	663.33	663.74	663.74	663.14
589 +75	662.75	663.17	663.17	662.57
590 +00	662.18	662.59	662.59	661.99
590 +25	661.60	662.02	662.02	661.42

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SOUTH ABUT.	#1 PIER	#2 PIER	#3 PIER	#4 PIER	#5 PIER	NORTH ABUT.	SUPER STRUCT.	GENERAL	AS BUILT	
E-2	~~1707~~ 1707	Cu. Yds.	Unclassified Excavation	148	74	215	392	378	308	182			C-6, +6	1707
E-2	395	Cu. Yds.	Rock Excavation	108	164	41	82							
E-2		Lump Sum	Cofferdams, Cribs & Sheeting									Lump		
E-3	~~7511~~ 7468	Cu. Yds.	Channel Excavation									7468	C-6, +43	7511
S-1	858	Cu. Yds.	Class "C" Concrete - Superstructure								858			
S-1	544	Cu. Yds.	Class "C" Concrete - Pier Caps & Columns		91	108	119	115	111					
S-1	~~407~~ 401	Cu. Yds.	Class "E" Concrete - Pier & Abut. footings	38	60	66	72	75	56	34			C-6, +6	407
S-1	189	Cu. Yds.	Class "E" Concrete - Abut. & Wing walls	100						89				
S-1	66	Cu. Yds.	Class "E" Concrete - Crashwall		66									
S-4	~~422,529~~ 422,529 ~~407,610~~ 407,610	Lbs.	Reinforcing Steel	8956	22921	45604	45494	25394	26014	7486	245285	456	C-6, -3081	422,529
S-7	~~911,045~~ 911,045	Lbs.	Structural Steel								911,045		C-6, +993	912,042
S-8	~~911,045~~ 911,045	Lbs.	Field Painting of Structural Steel								911,045		C-6, +993	912,042
S-9	297	Sq. ft.	1" Premolded Exp. Joint filler	40	216					41				
S-14	811	Lin. ft.	Railing (aluminum rail and supports and Concrete parapet)								811			
S-16		Lump Sum	First test pile											
S-18	~~2832~~ 2864	Lin. ft.	Steel piling (12 - BP53)					840	2024				C-6, -32	2832
S-24		Lump Sum	Removal of exist. structures											
S-29	98	Cu. Yds.	Porous Backfill	68						30				
S-29	59	Cu. Yds.	Porous Drains			14						45		
S-29	66	Lin. ft.	6" Wrought Iron Pipe includ. specials									66		
S-29	95	Lin. ft.	8" Plain Concrete Pipe									95		
S-29	36	Each	Scuppers (6" ϕ W.I.)								36			
S-29	4	Each	Scuppers (Large C.I.)								4			
S-29	30	Lin. ft.	6" Corrugated Metal Pipe	30										
I-9	30	Lin. ft.	Stone Under Drain (Fr. Dr.)							30				
I-10	1048	Cu. Yds.	Dumped Rock Fill									1048		

NOTE: Materials in approach slabs are not included in the above 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 welded 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 for pier number four shall be driven to firm contact with rock. This shall be considered as attained when the capacity according to the formula in Sec. S-18.05 is at least 45 tons per pile if a 7000 lb steam hammer is used or 35 tons per pile if a steam hammer or drop hammer of 15000 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. The design load is 24 tons per pile. Piles for pier number five shall be driven to a minimum bearing capacity of 40 tons and preferably to firm contact with rock.
PAINT: One additional field coat of paint, of the same kind, as the shop coat, shall be put on the structural steel in the span over the Railroad track, with the exception of the steel in contact with concrete.
FOOTINGS: Footings of rear abutment and of piers Nos. 1, 2 & 3 shall extend a minimum of 3' into solid rock or to the elevation shown, whichever is lower.
EXCAVATION: Roadway embankment at north abutment shall be placed and compacted to the elevation at which the embankment slope intersects the face of the abutment. Excavation shall then be made for abutment footings. Quantities for excavation includes removal of fill material between the above described elevation and bottom of abutment footings.

REMOVAL OF EXISTING STRUCTURES: That portion of the old abandoned aqueduct structure (see sheet No. 161) that interferes with the relocated Dick's Creek channel shall be removed to the proposed grade of the channel. Waste masonry may be disposed of as bank protection as directed by the Engineer. Cost of this removal shall be included in the lump sum price bid Item S-24.
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.
TRAFFIC: Adequate protection and maintenance of railway traffic shall be provided at all times.
EMBANKMENT: The approach embankment to the North abutment to be placed and brought to the planned subgrade elevation, from the forward bridge limit to about station 592+00 (200 ft.) during the initial stage of work at this structure. The above shall be completed before any work will be permitted for the construction of Pier No. 5. Provisions shall be made for, and periodic checks made of the elevation of the approach embankment at the North abutment immediately following the placement of the embankment to the planned subgrade elevation. Such periodic observations shall be continued until the existence, degree and nature of any subsidence due to the consolidation of the subsoil has been established.
ADDITIONAL NOTES: For additional notes see sheet No. 172

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS — ARCHITECTS
CINCINNATI, OHIO

GENERAL PLAN, ELEVATION NOTES & QUANTITIES

BRIDGE NO. BU-4-184
OVER B&O R.R. AND DICKS CREEK

BUTLER COUNTY
SEC. BUT.-4 — STA. 587+80.16
Scale: As shown — SEPTEMBER 1955

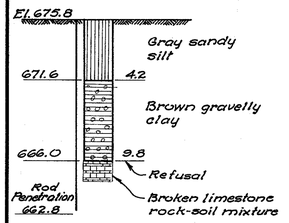
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
O.L.A.	D.G.B. J.H.K.	J.H.K.	V.D. R.J.L.	W.J.I.	10,11,1955	

6-18-58 Revised As-Built JEP

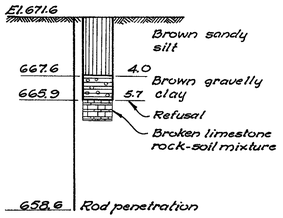
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

174
222

BUT-4-(16.53-19.15)



BORING NO. 1
Scale: 1"=5'-0"



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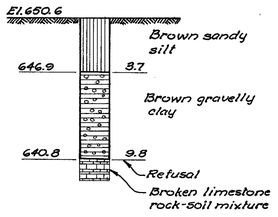

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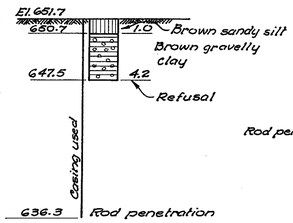

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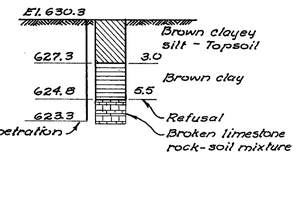

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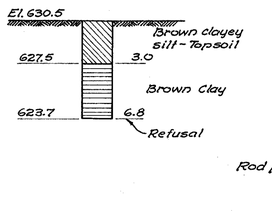

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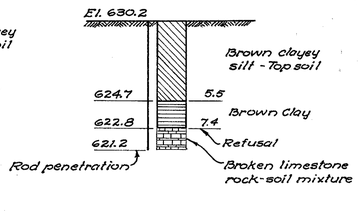

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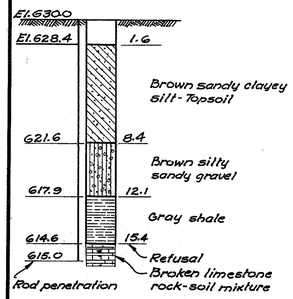

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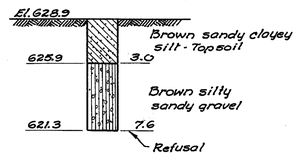

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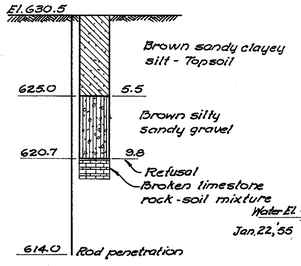

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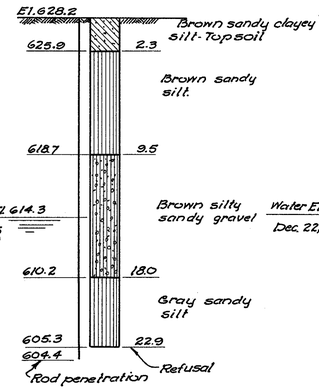
Scale: 1"=5'-0"



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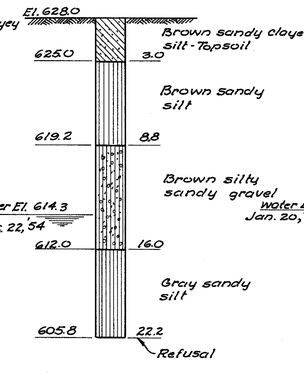

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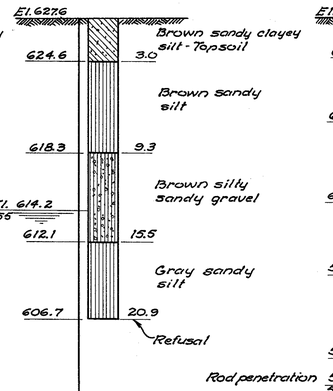
Scale: 1"=5'-0"



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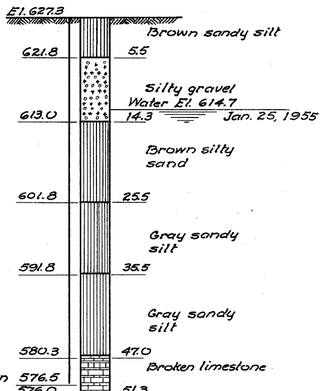
Scale: 1"=5'-0"



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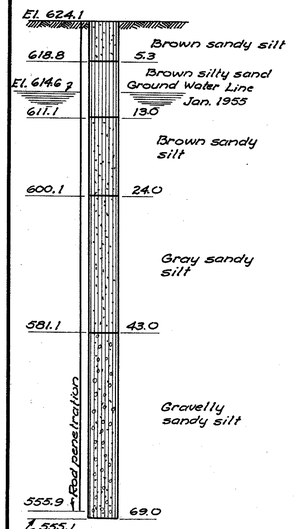

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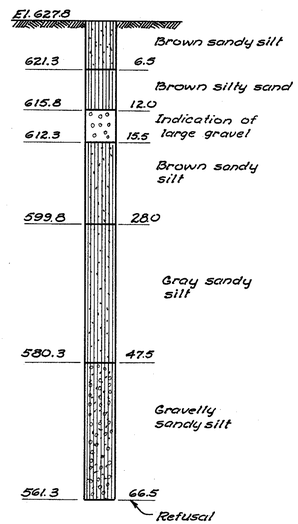
Scale: 1"=10'-0"



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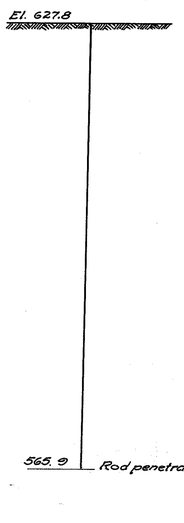
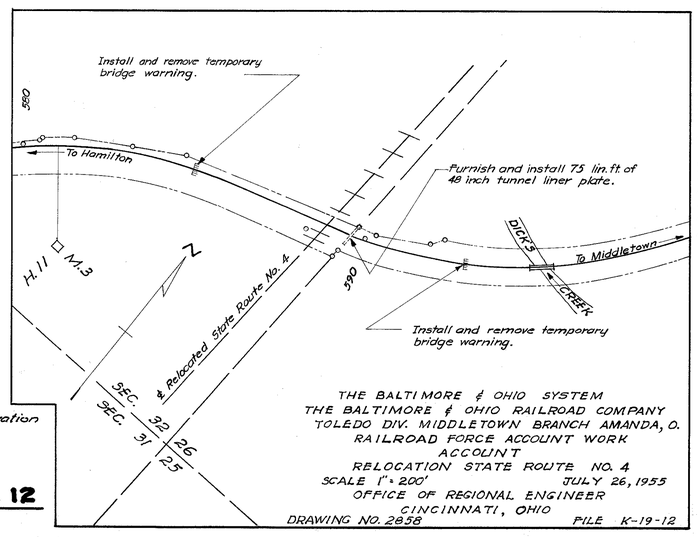
Scale 1"=10'-0"



BORING NO. 12
Scale: 1"=10'-0"



NOTES:
1. Soil auger borings and rod penetration tests were made between Dec. 22, 1954 & Jan. 25, 1955 with a 3" continuous flight auger.

2. The structure site is generally located on the South edge of a Deep Stage Stream Valley. Overburden at the rear abutment and rear pier consists of residual soil and fragmental rock. Glacial outwash occurs at the location of the remaining piers and the forward abutment. The outwash is composed of somewhat granular material with occasional limestone floaters, for this reason it is believed that the rod penetration tests are the more accurate inasmuch as they penetrated to a lower elevation at some test locations. Refusal of the soil auger borings at a higher elevation at the same test location probably is caused by encounter with floaters.

FORCE ACCOUNT WORK
by
The Baltimore and Ohio Railroad Company

Inspection During Construction.
Install and Remove Temporary Bridge Warnings.
Furnish and Install Tunnel Liner Plate Under Track.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

RAILROAD FORCE ACCOUNT WORK & BORINGS

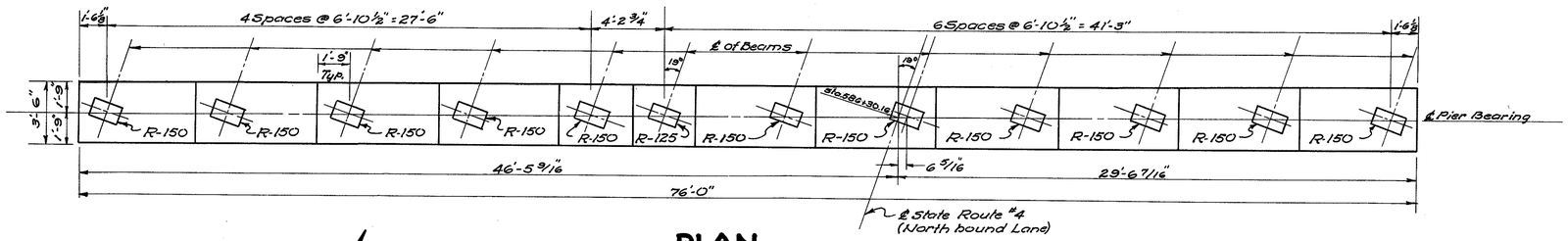
BRIDGE NO. BU.-4-184
OVER B.&O.R.R. & DICKS CREEK

BUTLER COUNTY
SEC. BUT.-4 STA. 587+80.16
Scale: As shown Sept. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	R.G.H.	K.L.	A.L.I.	W.J.I.	10-11-55	

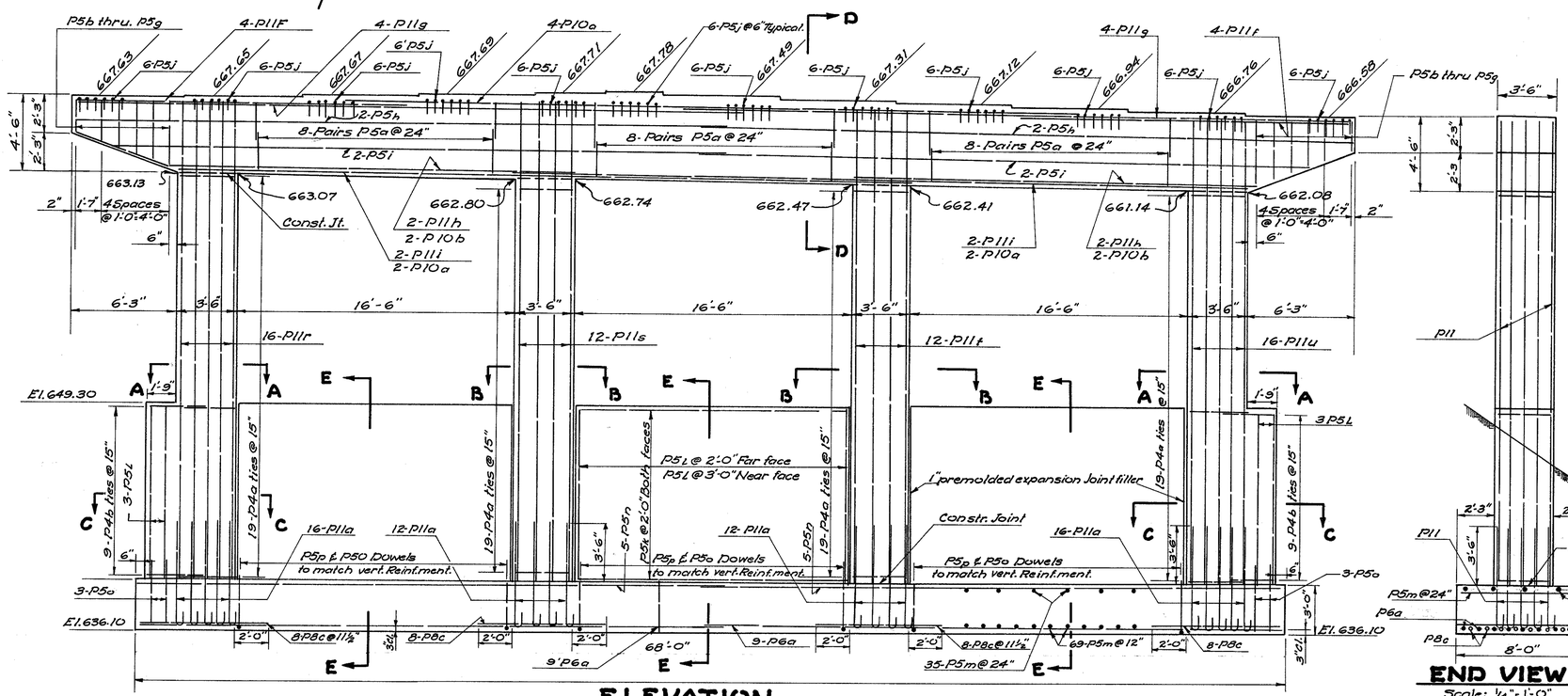
FED. RD DIVISION	STATE	PROJECT		175
2	OHIO			222

BUT-4-(16.53-19.15)



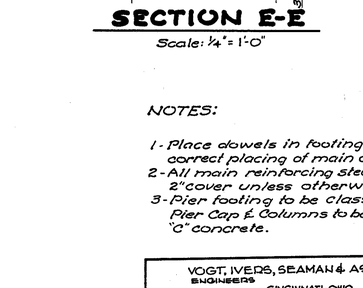
PLAN

Scale: ¼" = 1'-0"



ELEVATION

Scale: ¼" = 1'-0"



ROCKER LAYOUT

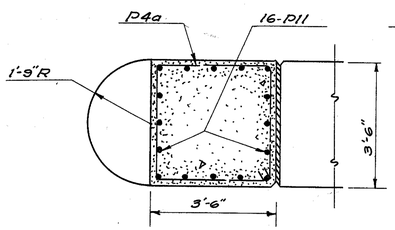
Scale ¾" = 1'-0"

END VIEW

Scale: ¼" = 1'-0"

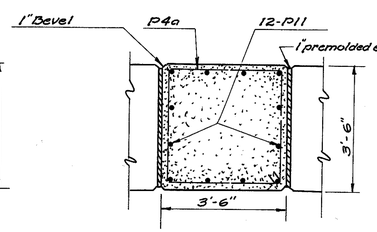
SECTION E-E

Scale: ¼" = 1'-0"



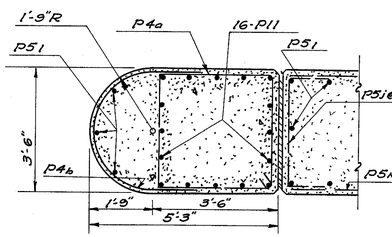
SECTION A-A

Scale: ½" = 1'-0"



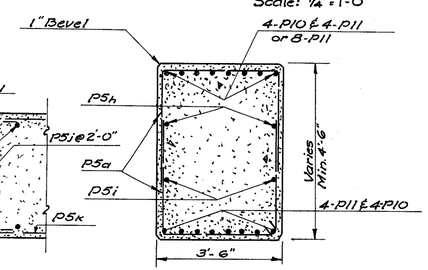
SECTION B-B

Scale: ½" = 1'-0"



SECTION C-C

Scale: ½" = 1'-0"



SECTION - D-D

Scale: ½" = 1'-0"

NOTES:

1. Place dowels in footings to insure correct placing of main column steel.
2. All main reinforcing steel to have 2" cover unless otherwise noted.
3. Pier footing to be class 'E' concrete. Pier Cap & Columns to be Class 'C' concrete.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

PIER NO. 1

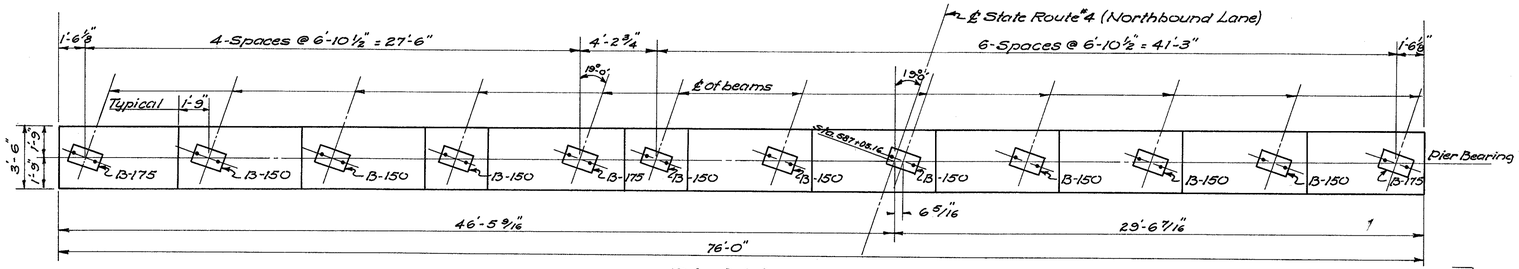
BRIDGE NO. BU.-4-184
OVER B&O R.R. & DICKS CREEK

BUTLER COUNTY
SEC. BUT.-4 STA. 587+80.16
Scale: As shown SEPTEMBER, 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
V.D.	A.L.I	K.L.	O.L.A	W.J.I.	10-11-55	

FED. ROAD DIVISION	STATE	PROJECT		176
2	OHIO			222

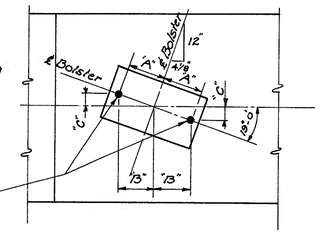
BUT-4-(16.53-19.15)



PLAN

Scale: ¼" = 1'-0"

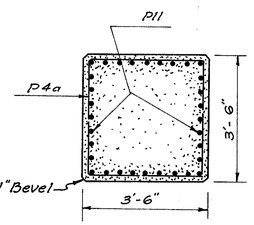
BOLSTER LAYOUT DIMENSIONS			
BOLSTER	A	B	C
B-150	8½"	8 1/16"	2 3/4"
B-175	9"	8 ½"	2 15/16"



15/8" holes for 1 1/4" x 1'-6" anchor bars, to be set 1'-3" in concrete.

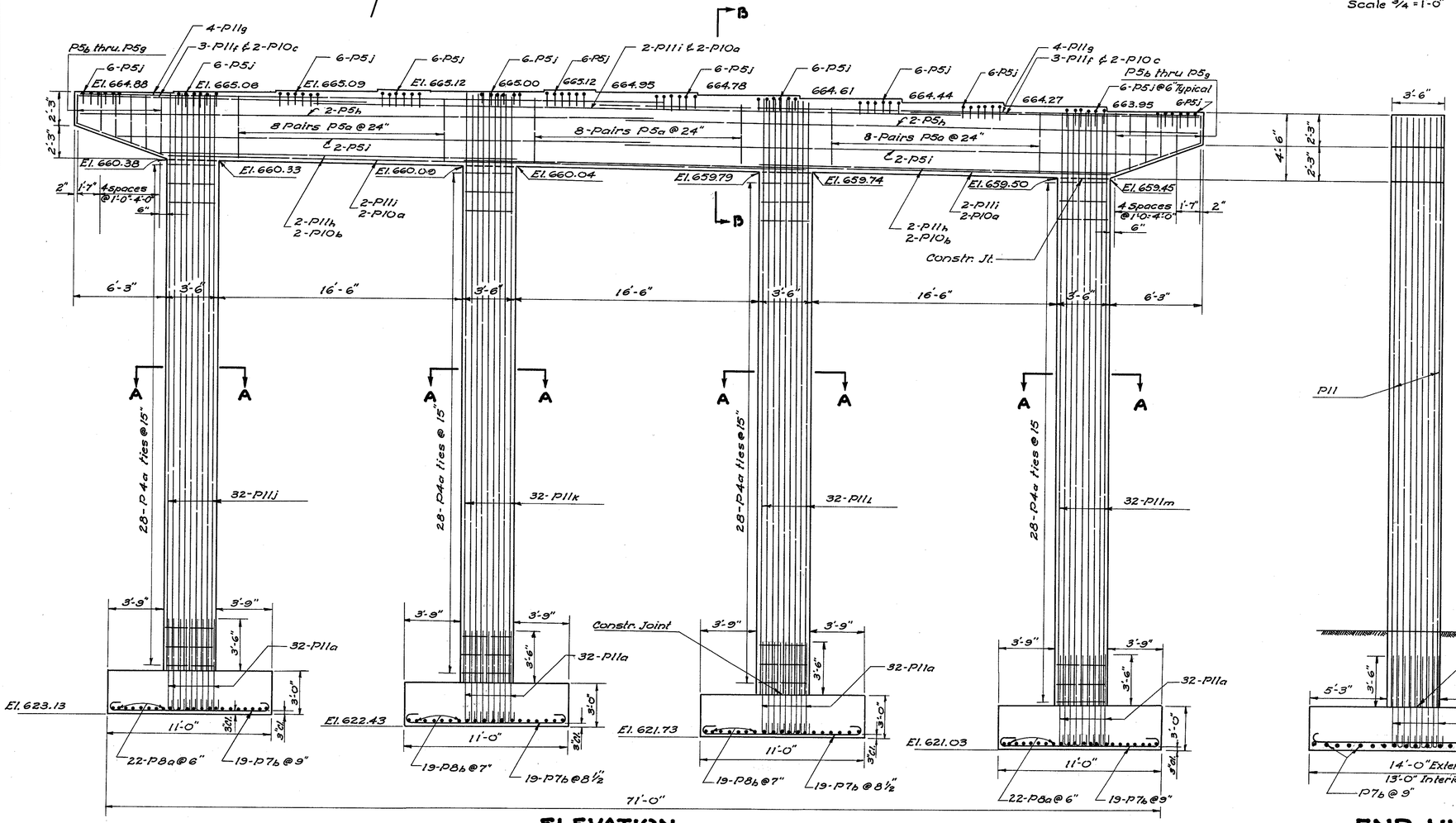
BOLSTER LAYOUT

Scale ¾" = 1'-0"



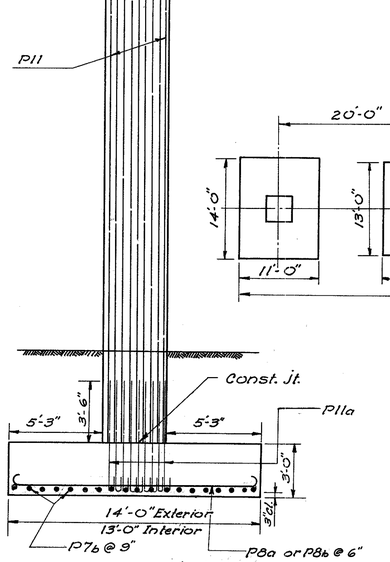
SECTION A-A

Scale: ½" = 1'-0"



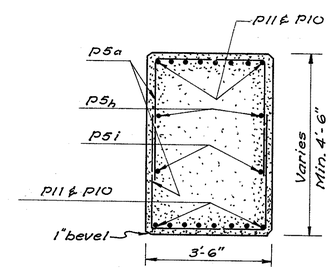
ELEVATION

Scale: ¼" = 1'-0"



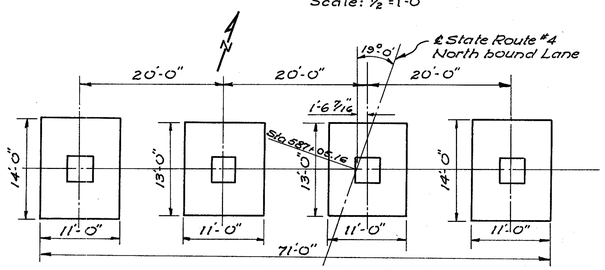
END VIEW

Scale: ¼" = 1'-0"



SECTION B-B

Scale: ½" = 1'-0"



FOOTING PLAN

Scale: 1" = 10"

NOTES:
1- Place pier cap reinforcement to clear anchor bars
2- Place dowels in footings to insure correct placing of main column steel.
3- All main reinforcing steel to have 2" cover unless otherwise noted.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

PIER NO. 2

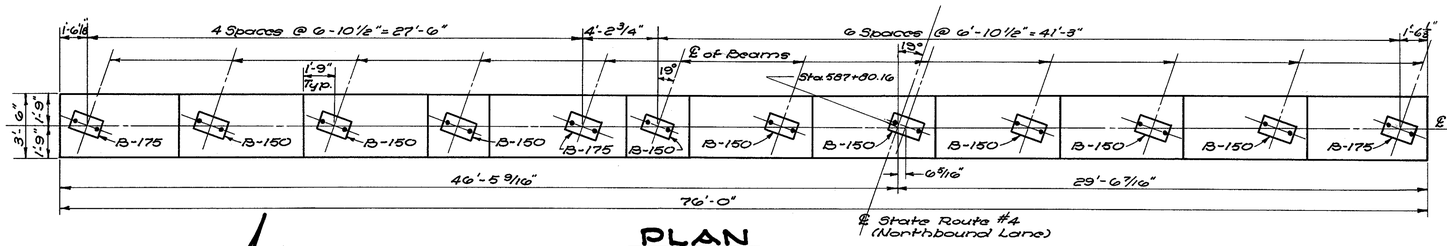
BRIDGE NO. BU.-4-184
OVER B.&O.R.R & DICKS CREEK

BUTLER COUNTY
SEC. BUT.-4 STA. 587+80.16
Scale: As shown SEPTEMBER, 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.G.E.	B.G.E.	K.L.	O.L.A	W.J.I.	10-11-55	

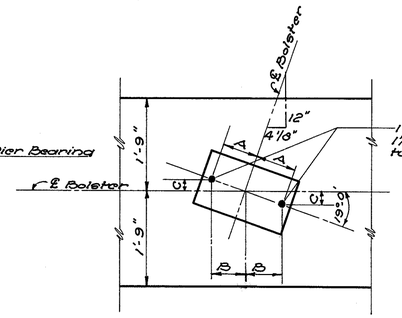
FED. RD. DIVISION	STATE	PROJECT		177
2	OHIO			222

BUT-4-(16.53-19.15)



PLAN

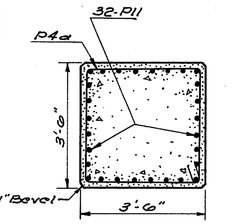
Scale: 1/4" = 1'-0"



BOLSTER LAYOUT DIAMEN.			
BOLSTER	A	B	C
B-150	8½"	8 1/16"	2 3/4"
B-175	9"	8½"	2 15/16"

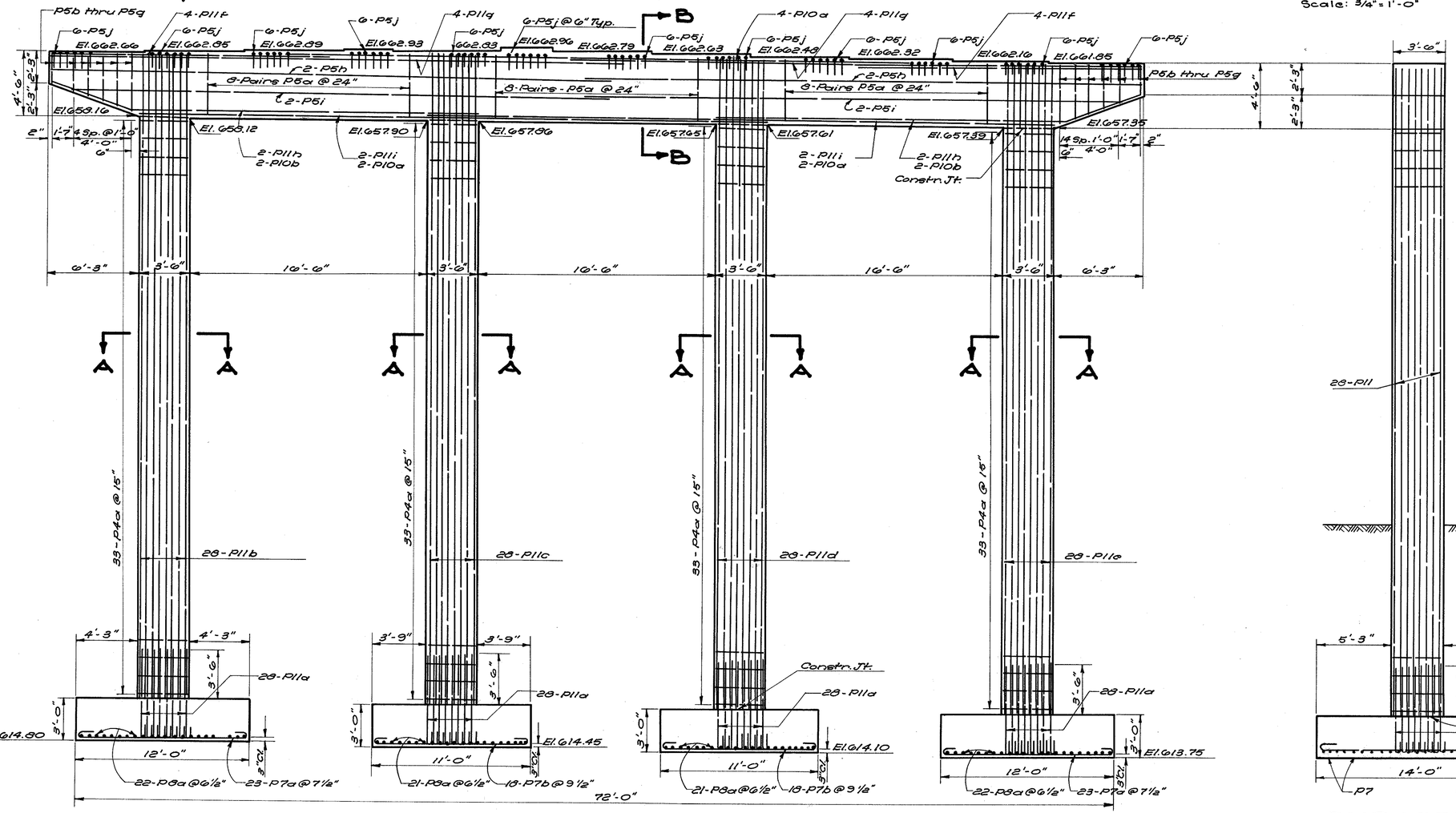
BOLSTER LAYOUT

Scale: 3/4" = 1'-0"



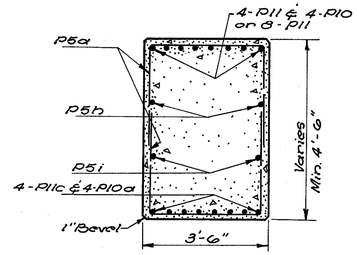
SECTION A-A

Scale: 1/2" = 1'-0"



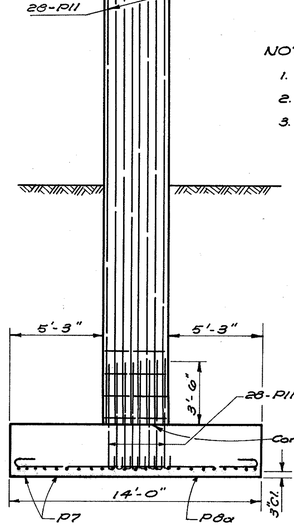
ELEVATION

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



SECTION B-B

Scale: 1/2" = 1'-0"

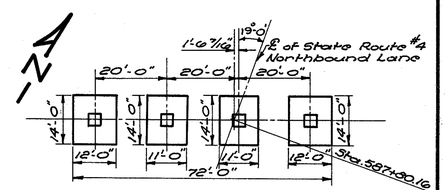


END VIEW

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

NOTES:

1. Place pier cap reinforcement to clear anchor bolts.
2. Place dowels in footings to insure correct placing of main column steel.
3. All main reinforcing steel to have 2" cover unless otherwise noted.



FOOTING PLAN

Scale: 1" = 20'-0"

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

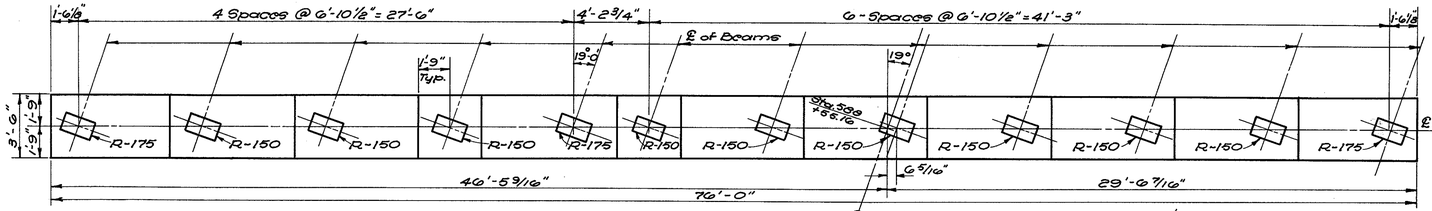
PIER NO. 3

BRIDGE NO. BU-4-164
OVER B&O R.R. & DICKS CREEK
BUTLER COUNTY
SEC. BUT.-4 STA. 587+80.16
Scale: As shown Sept. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
O.L.A.	A.L.I.	N.B.	O.L.A.	W.J.I.	10-11-55	

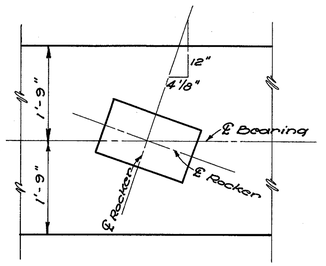
DISTRICT	STATE	PROJECT	SHEET
8	OHIO		178 / 222

BUT-4-(16.53-19.15)



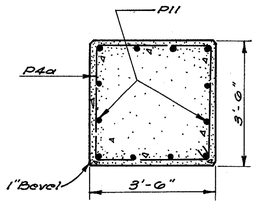
PLAN

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



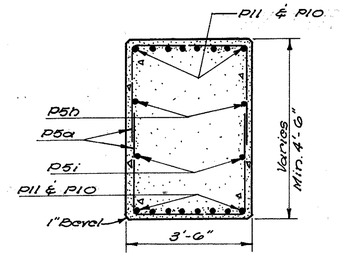
ROCKER LAYOUT

Scale: 3/4" = 1'-0"



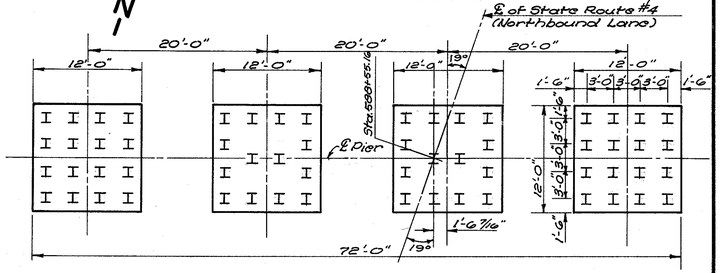
SECTION A-A

Scale: 1/2" = 1'-0"



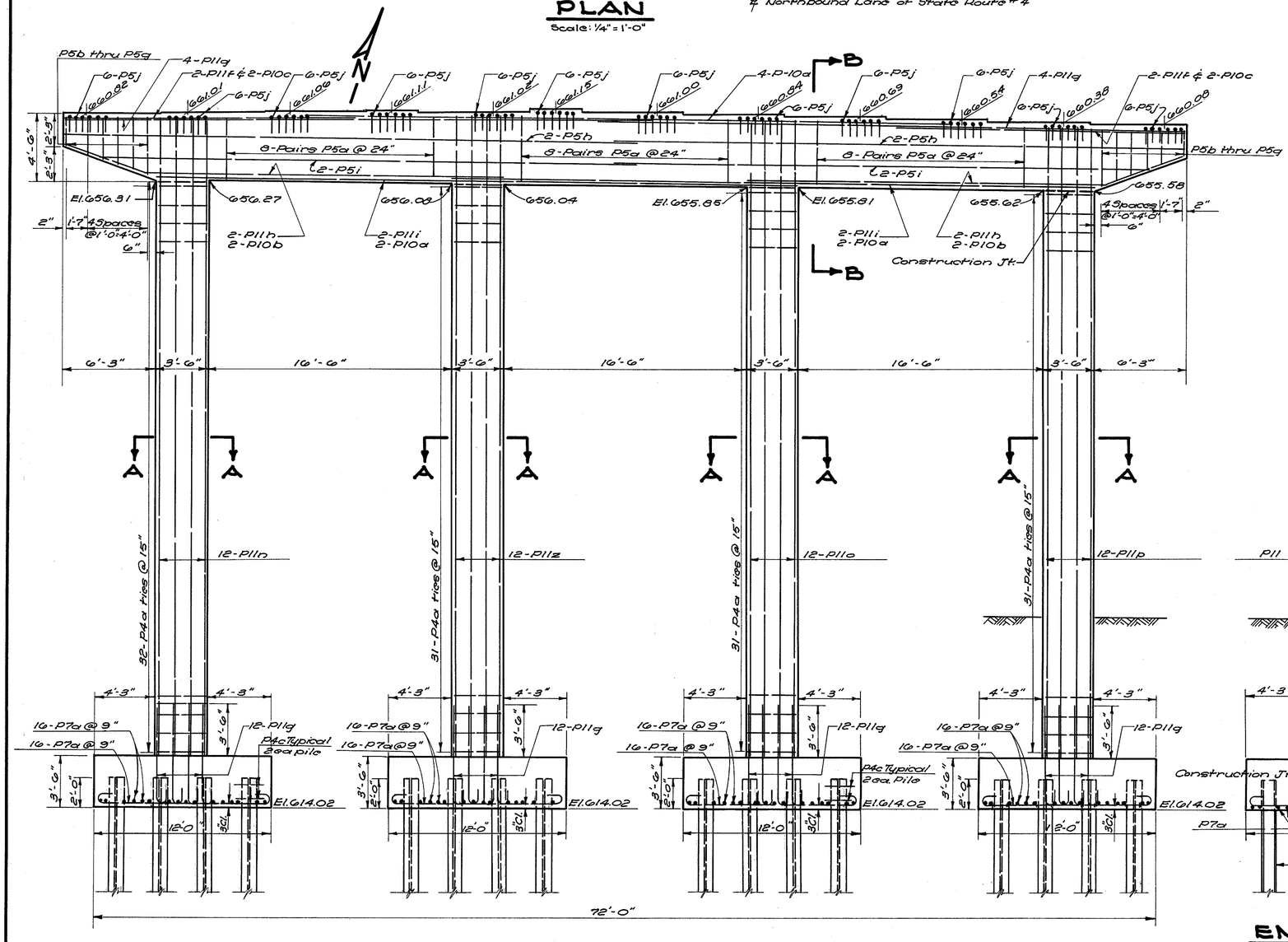
SECTION B-B

Scale: 1/2" = 1'-0"



PILING PLAN

Scale: 1/8" = 1'-0"



ELEVATION

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

END VIEW

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

NOTES:

1. Place dowels in footings to insure correct placing of main column steel.
2. All main reinforcing steel to have 2" cover unless otherwise noted.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS CINCINNATI, OHIO ARCHITECTS

PIER NO. 4

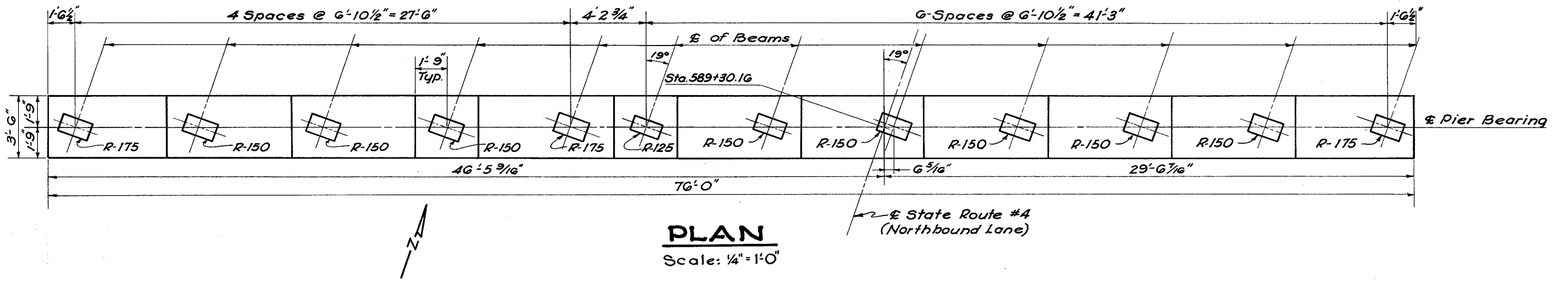
BRIDGE NO. BU-4-184
OVER B&O R.R. & DICKS CREEK
BUTLER COUNTY
SEC. BUT.-4 STA. 557+80.16
Scale: As shown SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
V.D.	A.L.I.	N.B.	O.L.A.	W.J.I.	10-11-55	

FED. OR. DIVISION	STATE	PROJECT	
2	OHIO		

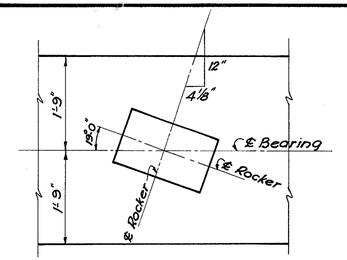
179
222

BUT-4-(16.53-19.15)



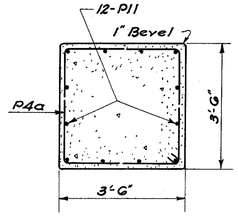
PLAN

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



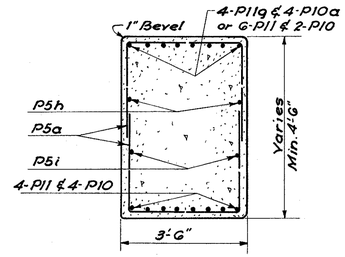
ROCKER LAYOUT

Scale: 3/4" = 1'-0"



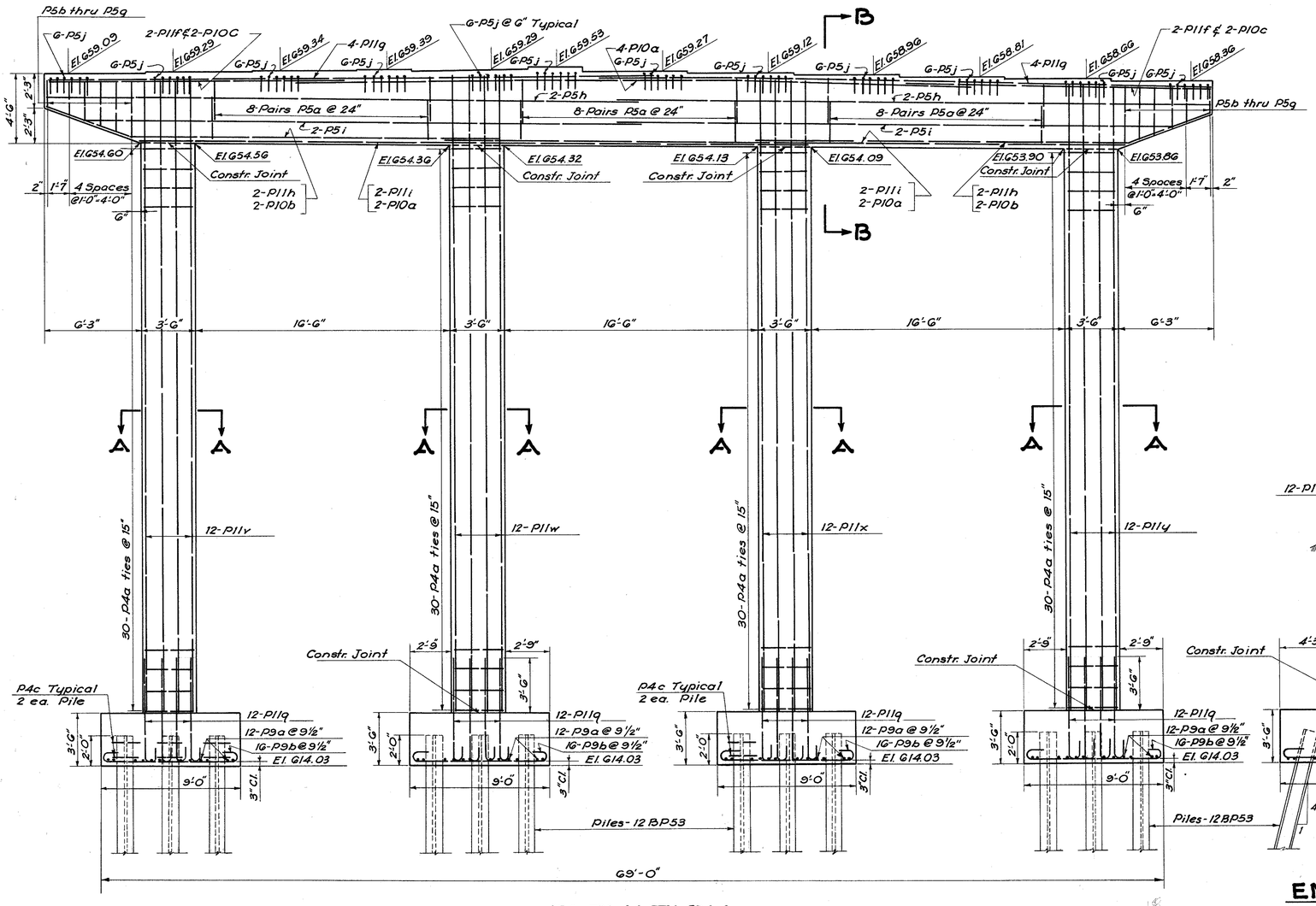
SECTION A-A

Scale: 1/2" = 1'-0"



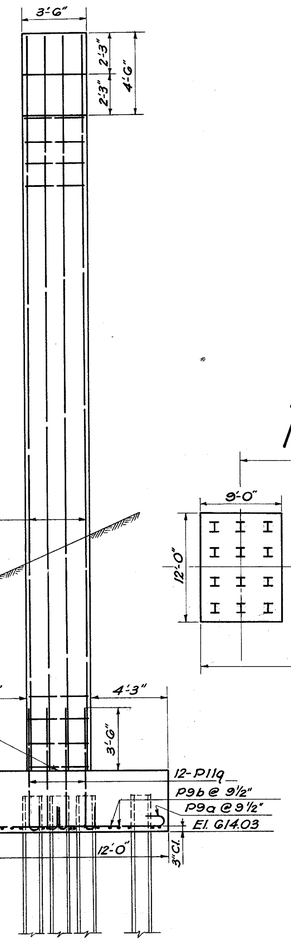
SECTION B-B

Scale: 1/2" = 1'-0"



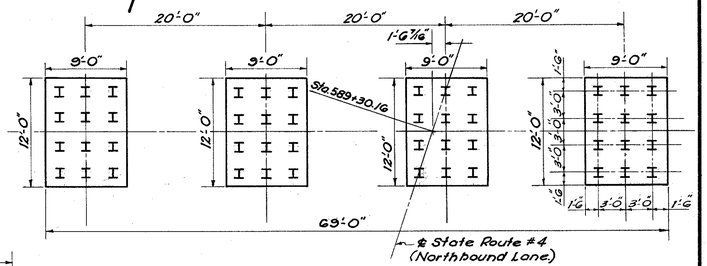
ELEVATION

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



END VIEW

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



PILING PLAN

Scale: 1/8" = 1'-0"

Note:
1. Place dowels in footing to insure correct placing of main column steel.
2. All main reinforcing steel to have 2" cover unless otherwise noted.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

PIER NO. 5

BRIDGE NO. BU-4-184
OVER B.&O. R.R. & DICKS CREEK

BUTLER COUNTY
SEC. BUT. - 4
Scale: As shown

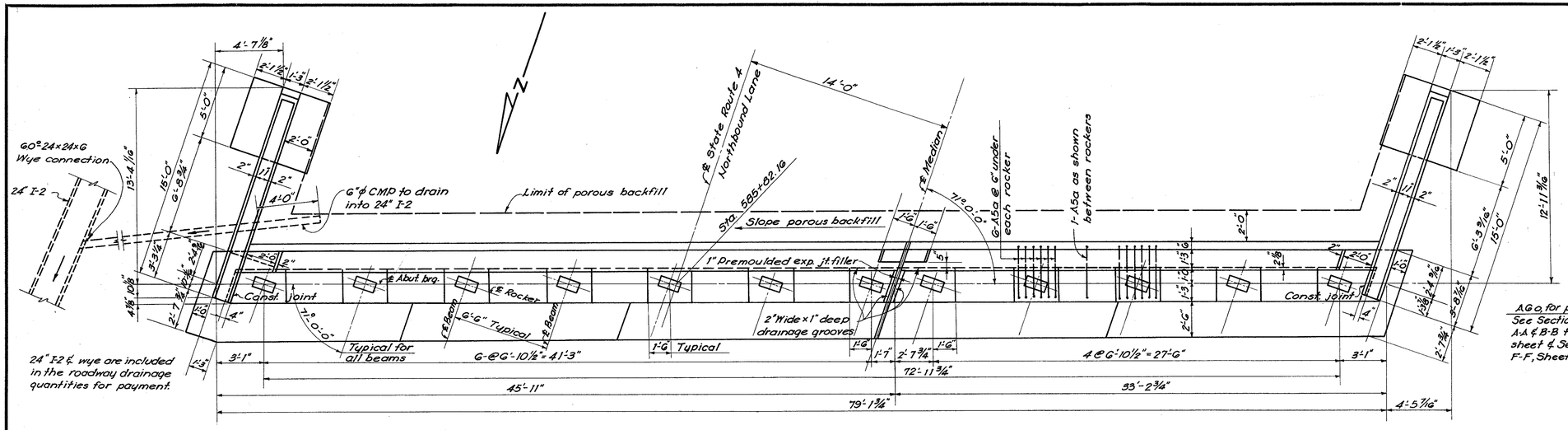
STA. 587+80.16
SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
V.D.	V.D.	S.J.B.	O.L.A.	W.J.I.	10-11-55	

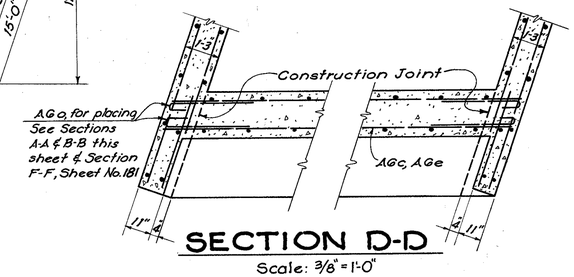
FED. ROAD DIV. NO.	STATE	PROJECT		
2	OHIO			

180 / 222

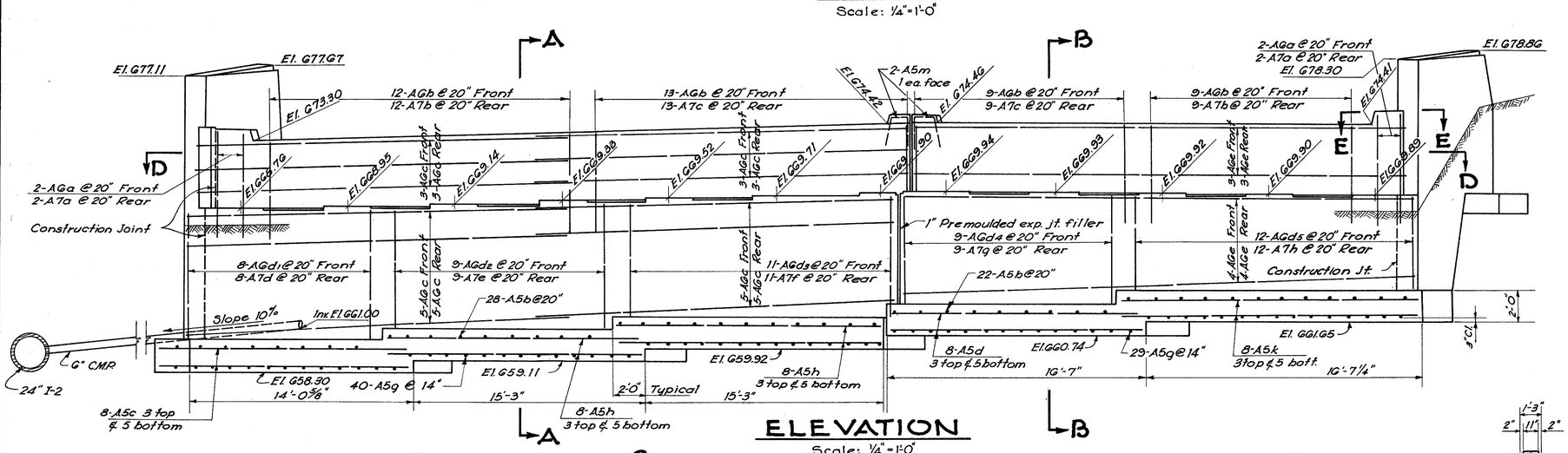
BUT-4-(16.53-15.15)



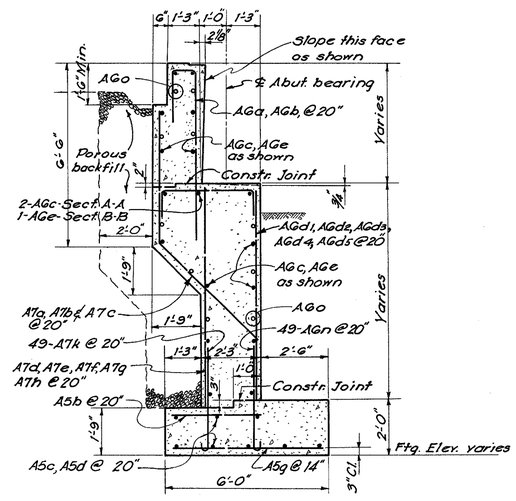
PLAN
Scale: 1/4"=1'-0"



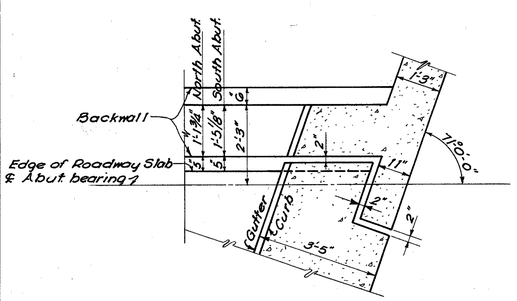
SECTION D-D
Scale: 3/8"=1'-0"



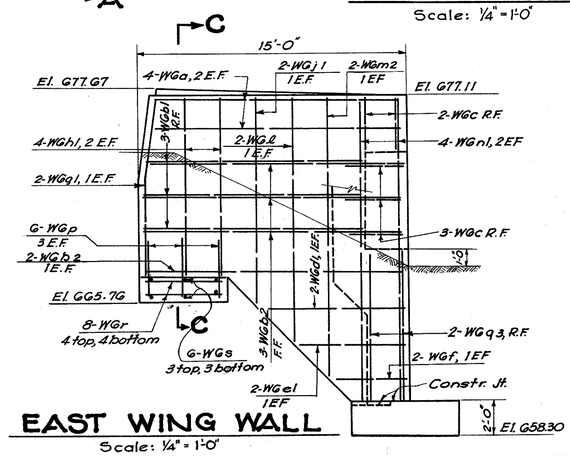
ELEVATION
Scale: 1/4"=1'-0"



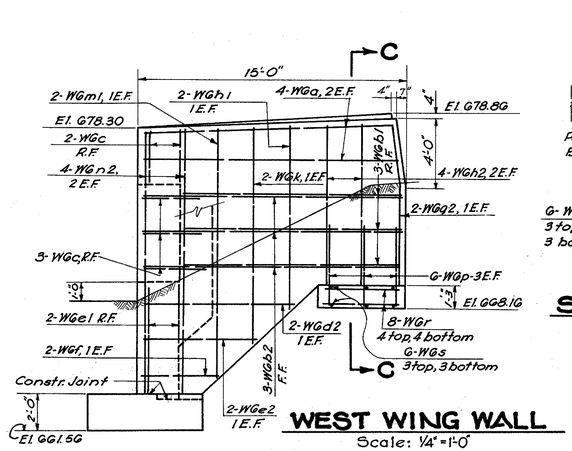
SECTION A-A
SECTION B-B
Scale: 3/8"=1'-0"



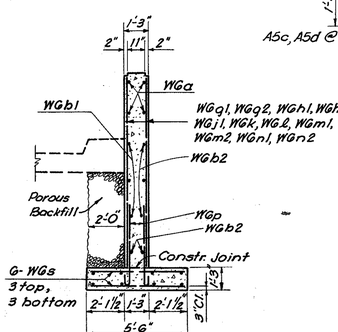
SECTION E-E
Scale: 1/2"=1'-0"



EAST WING WALL
Scale: 1/4" = 1'-0"



WEST WING WALL
Scale: 1/4" = 1'-0"



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

All horizontal and vertical reinforcing steel is spaced @ 24" in each wing wall.

F.F. denotes Front Face
R.F. denotes Rear Face
E.F. denotes Each Face

Notes:
All main reinforcing steel to have 2" cover unless otherwise noted.
For approach slab details, see Sheet No. 189
Concrete above the bridge seat construction joint shall not be placed until after structural steel work is erected. Steel end finish shall be used as a template for top of backwall.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

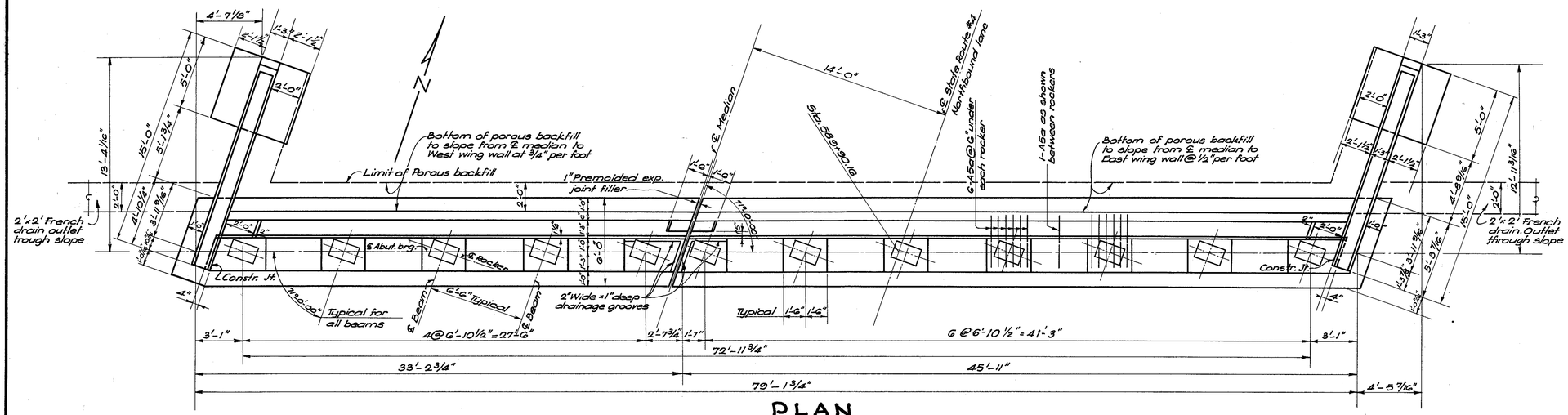
SOUTH ABUTMENT
BRIDGE NO. BU-4-184
OVER B.&O. R.R. & DICKS CREEK
BUTLER COUNTY
SEC. BUT.-4 STA. 587+80.16
Scale: As shown SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
V.K.	V.K.	S.J.B.	V.D.	W.J.I.	10-11-55	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

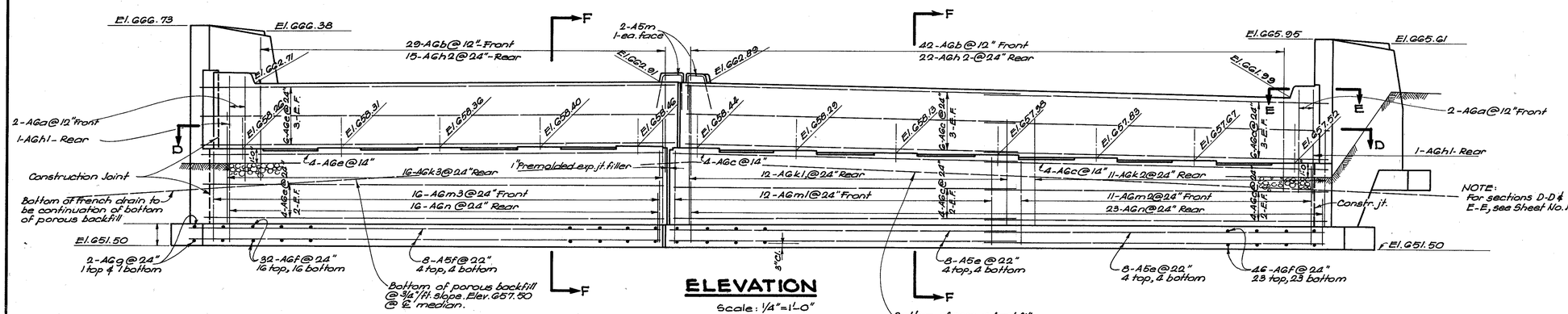
161
222

BUT-4-(16.53-19.15)



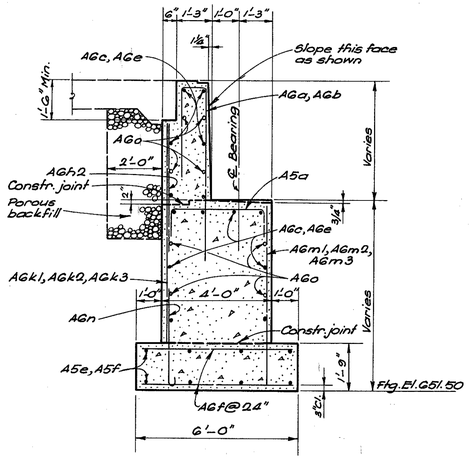
PLAN

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



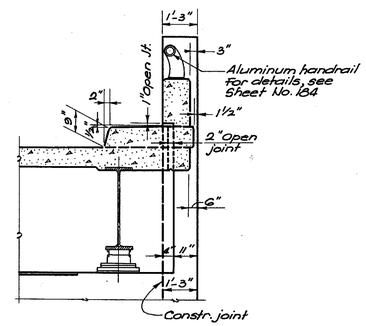
ELEVATION

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



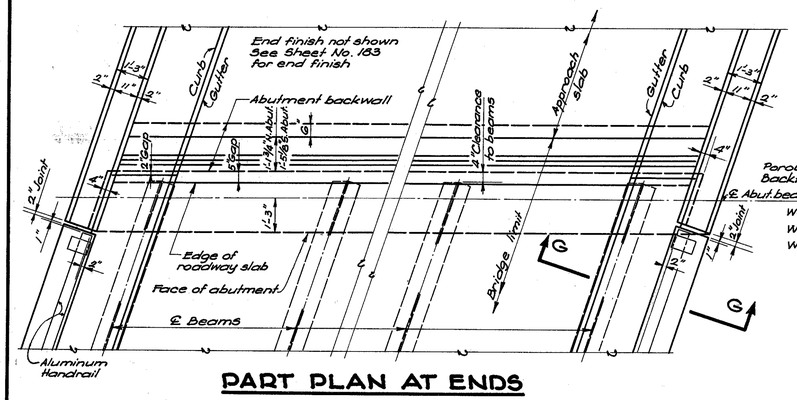
SECTION F-F

Scale: 3/8"=1'-0"



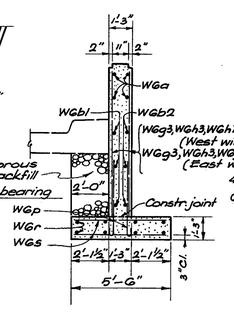
SECTION G-G

Scale: 3/8"=1'-0"



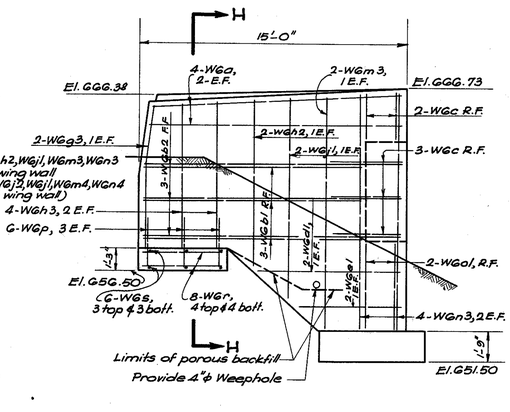
PART PLAN AT ENDS

Scale: 3/8"=1'-0"



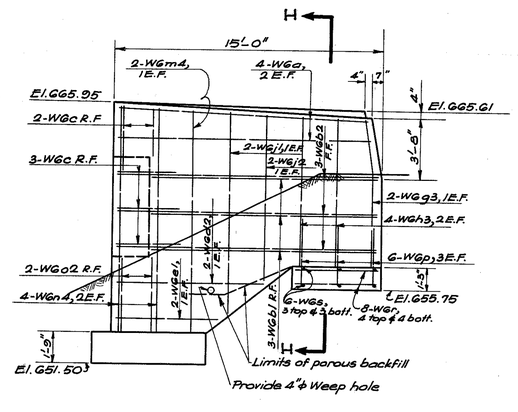
SECTION H-H

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



WEST WING WALL

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



EAST WING WALL

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

All horizontal & vertical reinforcing steel is spaced @ 24" in each wing wall.
F.F. denotes front face
R.F. denotes rear face
E.F. denotes each face

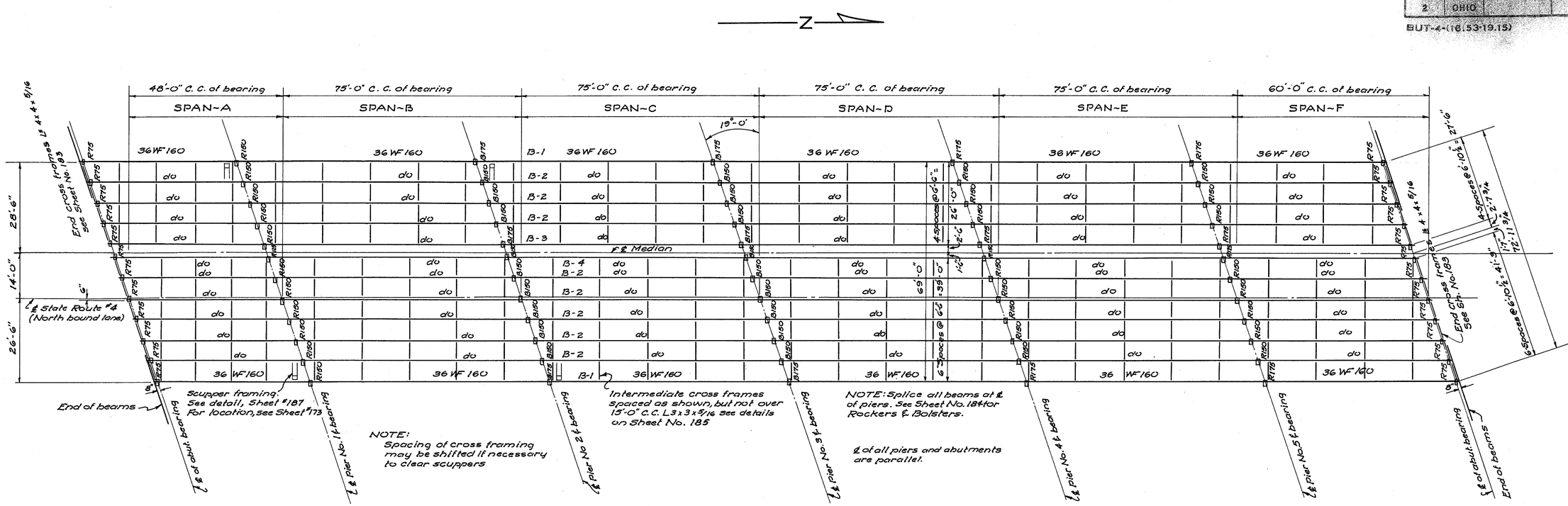
NOTE:
All main reinforcing steel to have 2" cover unless otherwise noted. For approach slab details, see Sheet No. 190. Concrete above the bridge seat construction joint shall not be placed until after structural steel work is erected. Steel end finish shall be used as a template for top of backwall.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

NORTH ABUTMENT
BRIDGE NO. BU-4-184
OVER B.&O.R.R. AND DICKS CREEK

BUTLER COUNTY
SEC. BUT-4 STA: 587+80.16
Scale: As shown SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
V.K.	V.K.	J.H.K.	V.D.	W.J.I.	10-11-55	



STEEL FRAMING PLAN

Scale: 1/16" = 1'-0"

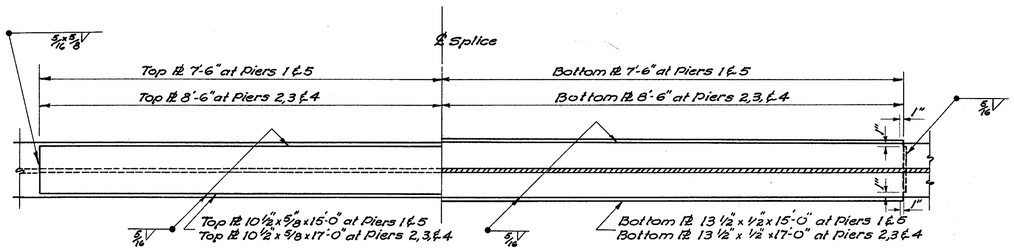
DEFLECTION & CAMBER

Beams	B-1						B-2						B-3						B-4					
Span	A	B	C	D	E	F	A	B	C	D	E	F	A	B	C	D	E	F	A	B	C	D	E	F
Deflection due to weight of steel	0"	1/8"	1/16"	1/16"	1/16"	1/16"	0"	1/8"	1/16"	1/16"	1/16"	1/16"	0"	1/8"	1/16"	1/16"	1/16"	1/16"	0"	1/8"	1/16"	1/16"	1/16"	1/16"
Deflection due to remaining dead load	1/8"	7/8"	11/16"	3/4"	3/4"	9/16"	1/16"	9/16"	7/16"	1/2"	1/2"	3/8"	1/16"	1/2"	7/16"	7/16"	7/16"	3/8"	1/16"	7/16"	3/8"	3/8"	3/8"	5/16"
Summation of deflection	1/8"	1"	3/4"	13/16"	13/16"	5/8"	1/16"	11/16"	1/2"	9/16"	9/16"	7/16"	1/16"	5/8"	1/2"	1/2"	7/16"	1/16"	1/16"	9/16"	7/16"	7/16"	7/16"	3/8"
Required shop camber	0	1"	1"	1"	1"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: Where no cambering is required the beams shall be so fabricated that any curved beams will be placed with the convex flange up.

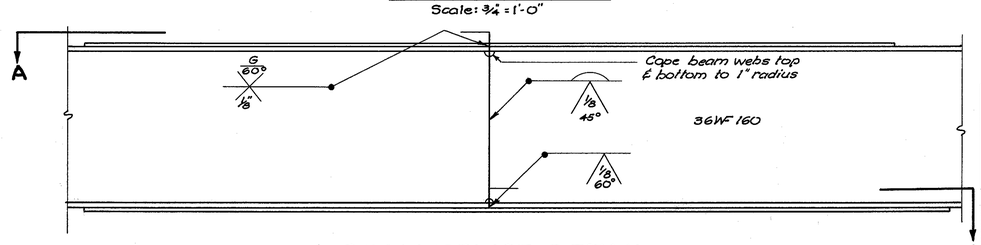
BEAM SPLICE WELDING PROCEDURE

1 - At pier #3 weld bottom flange splice plates to beams spanning between piers #3 & #4.
2 - Raise ends of beams @ pier #2, 2 3/16".
3 - Weld beam flanges & webs @ pier #3.
4 - Weld top flange splice plates @ pier #3 (both sides of joint.)
5 - Complete welding of bottom flange splice plates @ pier #3.
6 - Lower end of beams @ pier #2.
7 - Repeat steps 1 thru 5 @ piers #2 & #4 by raising ends of beams, 1 15/16" @ pier #1 & 1 15/16" @ pier #5.
8 - Lower ends of beams @ piers #1 & #5.
9 - Repeat steps 1 thru 5 @ pier #1 & #5 by raising ends of beams, 1 1/16" @ south abutment & 1 1/8" @ north abutment.
10 - Lower ends of beams @ both abutments.



SECTION A-A

Scale: 3/4" = 1'-0"



BEAM SPLICE DETAIL

Scale: 3/4" = 1'-0"

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

SUPERSTRUCTURE STEEL FRAMING PLAN

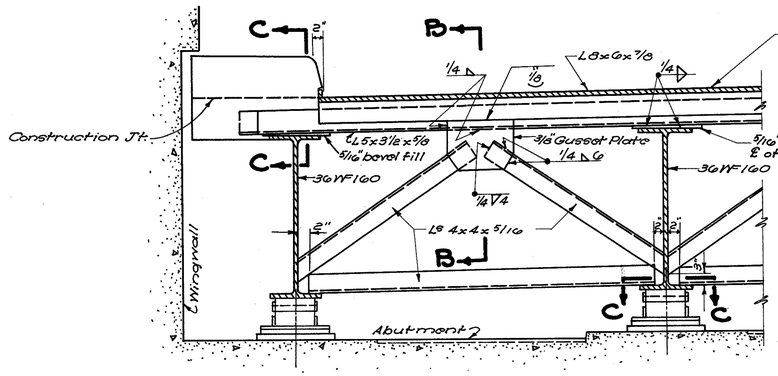
BRIDGE NO. BU-4-184
OVER B.& O. R.R. AND DICK'S CREEK
BUTLER COUNTY
SEC. BUT-4 STA. 567+80.16
Scale: As Shown SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
O.L.A.	B.G.E.	K.L.	O.L.A.	W.J.I. 10-11-55	

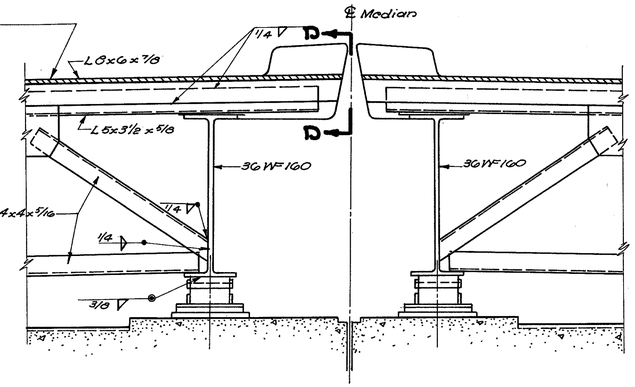
FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

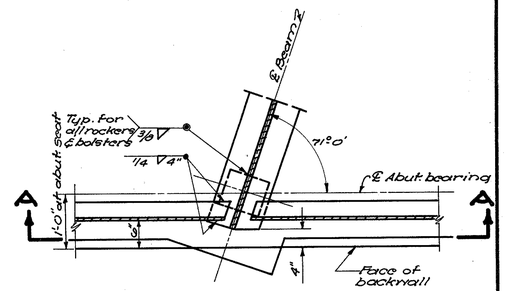
183
222

BUT-4-(16.53-19.15)



A welded butt joint will be permitted in the superstructure portion of the end finish over a beam near the midpoint of each half of dock. The abutment portion of the end finish shall be furnished in lengths of angle and bar not under 6'-0" nor over 20'-0".





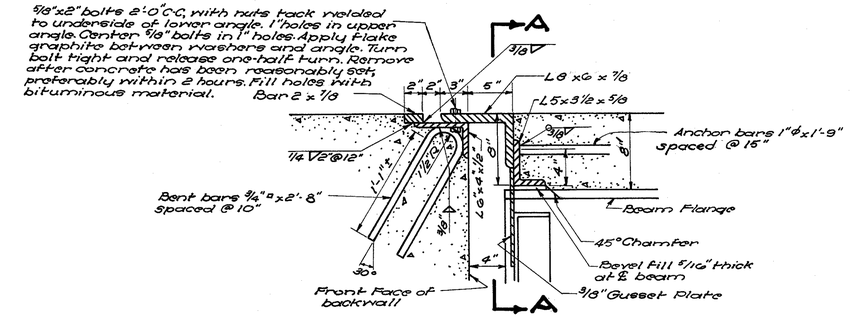
SECTION C-C

Scale: 3/4"=1'-0"

SECTION A-A
SHOWING END BRIDGING
END FRAMING & END FINISH DETAILS

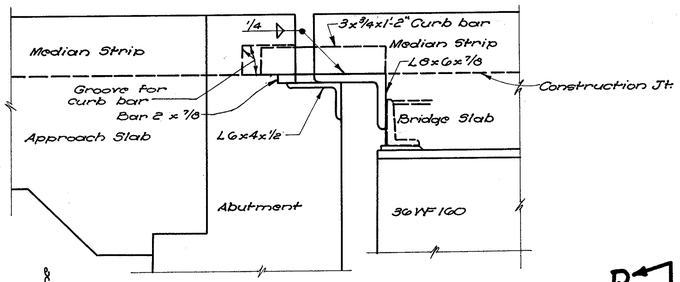
Scale: 3/4"=1'-0"

5/8"x2" bolts 2'-0" C-C, with nuts tack welded to underside of lower angle. 1" holes in upper angle. Center 5/8" bolts in 1" holes. Apply flake graphite between washers and angle. Turn bolt tight and release one-half turn. Remove after concrete has been reasonably set, preferably within 2 hours. Fill holes with bituminous material.



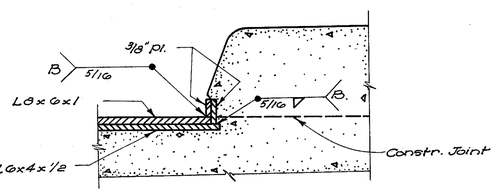
SECTION B-B

Scale: 1½"=1'-0"

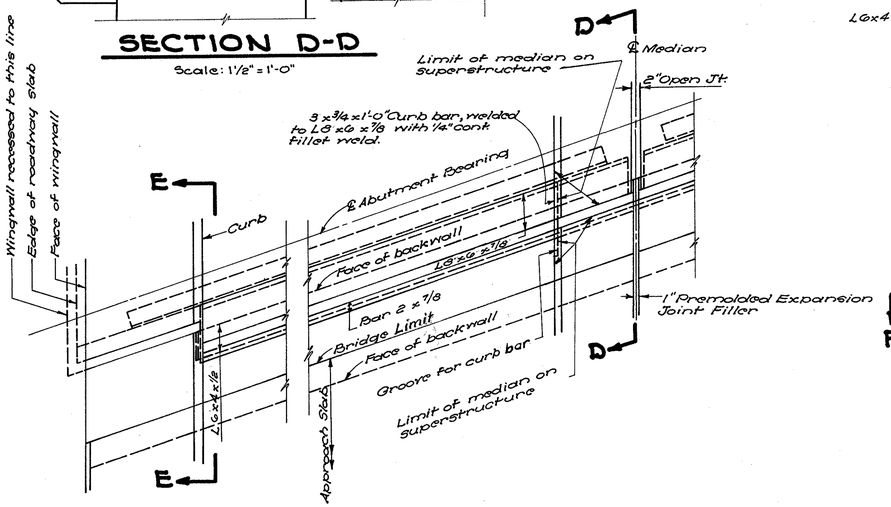


SECTION D-D

Scale: 1½"=1'-0"

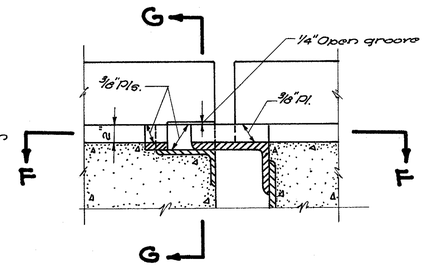


SECTION G-G

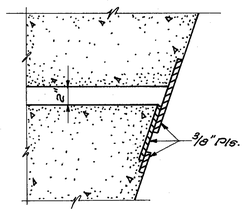


PARTIAL PLAN OF END FINISH
SOUTH ABUT. SHOWN, NORTH ABUT. SIMILAR

Scale: 3/4"=1'-0"



SECTION E-E



SECTION F-F

CURB PLATE DETAILS

Scale: 1½" = 1'-0"

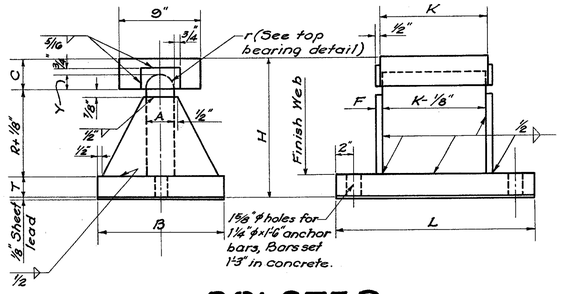
VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS CINCINNATI, OHIO ARCHITECTS

SUPERSTRUCTURE
END FINISH & END BRIDGING

BRIDGE NO. BU-4-16.4
OVER B&O R.R. & DICKS CREEK

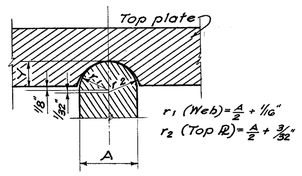
BUTLER COUNTY
SEC. BUT-4 STA. 587+80.16
Scale: As shown Sept. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
O.L.A.	V.D.	N.B.	O.L.A.	W.J.I.	10-11-55	



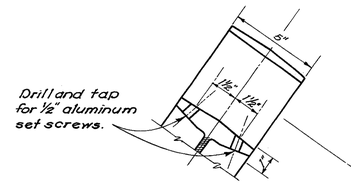
BOLSTER

See table for additional dimensions

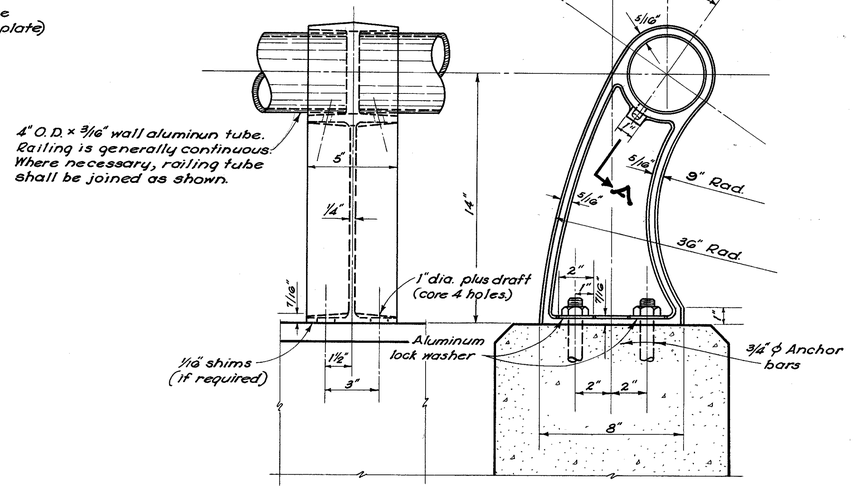


TOP BEARING DETAIL

Top plate of rockers and bolsters shall be attached to bottom of beam (or splice plate) with 5/16" fillet weld all around.



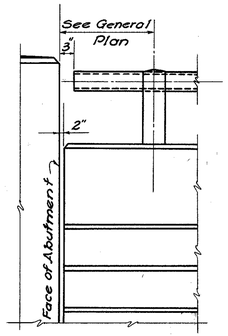
SECTION A-A



ALUMINUM RAILING

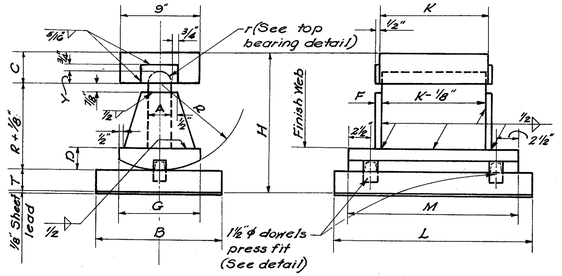
TYPE B

Scale: 3" = 1'-0"



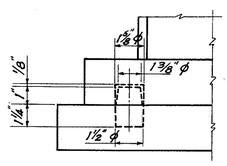
DETAIL AT WINGWALL

Scale: 3/4" = 1'-0"



ROCKER

See table for additional dimensions



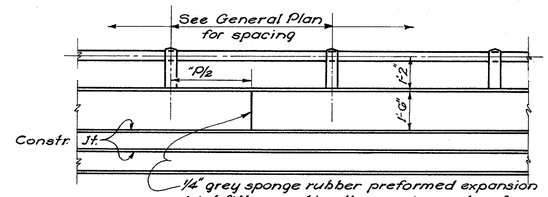
DOWEL DETAIL

ROCKERS & BOLSTERS
(STRUCTURAL STEEL)

SCHEDULE OF ROCKERS & BOLSTERS

BOLSTER NO.	ROCKER NO.	DIMENSIONS (INCHES)													WEIGHT EACH (LB)		MAXIMUM LOAD (LB)
		F	B	L	H	T	R	C	A	Y	K	D	G	M	BOLSTER	ROCKER	
	R-75	1/2	8	17	9 5/8	1 1/2	5 1/2	2 1/2	2 1/2	1 3/16	9	1 3/4	7	15		195	75,000
	R-125	1/2	11	20	12 5/8	2	7 1/2	3	3	1 7/16	10 1/2	2	8	17 1/2		345	125,000
B-150	R-150	1/2	12	21	13 7/8	2 1/4	8 1/2	3	3	1 7/16	11 1/2	2 1/4	8 1/2	18	370	425	150,000
B-175	R-175	1/2	14	22	15 5/8	2 1/2	9 1/2	3 1/2	3	1 7/16	12	2 1/2	9	19	465	535	175,000

Weights given are for rocker or bolster complete (including sheet lead)



1/4" grey sponge rubber preformed expansion joint filler meeting the requirements of Sec. M-10.02, Type 1, space two panel lengths apart. (Included with Item S-14 for payment)

TREATMENT OF PARAPET AND FASCIA

Scale: 3/8" = 1'-0"

NOTES

REFERENCE: shall be made to Suppl. Spec. No. S-114 Aluminum for Bridge Railing.

ANCHOR BARS shall be 3/4" ϕ aluminum bars, threaded and fitted with aluminum nuts at both ends, and embedded 1'-0"± into concrete. Care shall be exercised in placing the anchor bars to insure correct horizontal alignment of the railing.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

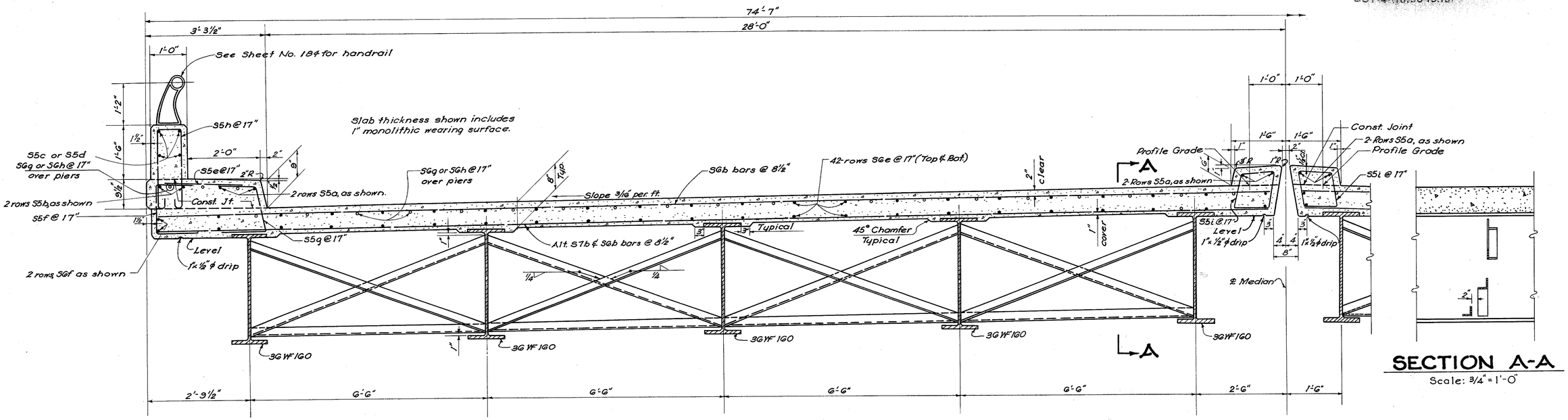
ROCKER, BOLSTER & RAILING DETAILS
BRIDGE NO. BU-4-184
OVER B.&O. R.R. & DICK'S CREEK

BUTLER COUNTY
SEC. BUT.-4 STA. 587+80.16
Scale As shown SEPT., 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	J.H.K.	S.J.B.	R.J.L.	W.J.I	10-11-55	

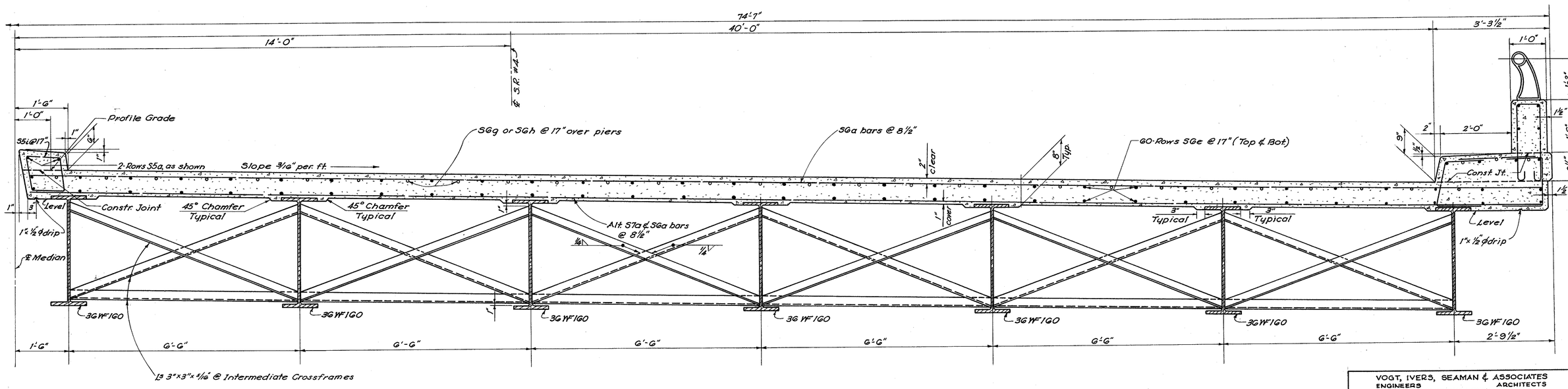
FED. ROAD DIVISION	STATE	PROJECT		185
2	OHIO			222

BUT-4-(16.53-19.15)



SECTION A-A

Scale: 3/4" = 1'-0"



Weld both sides of vertical leg & top side of horizontal leg to beam web with 1/4 cont. fillet weld.

TYPICAL TRANSVERSE SECTION THRU ROADWAY

Scale: 3/4" = 1'-0"

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

SUPERSTRUCTURE ROADWAY SLAB

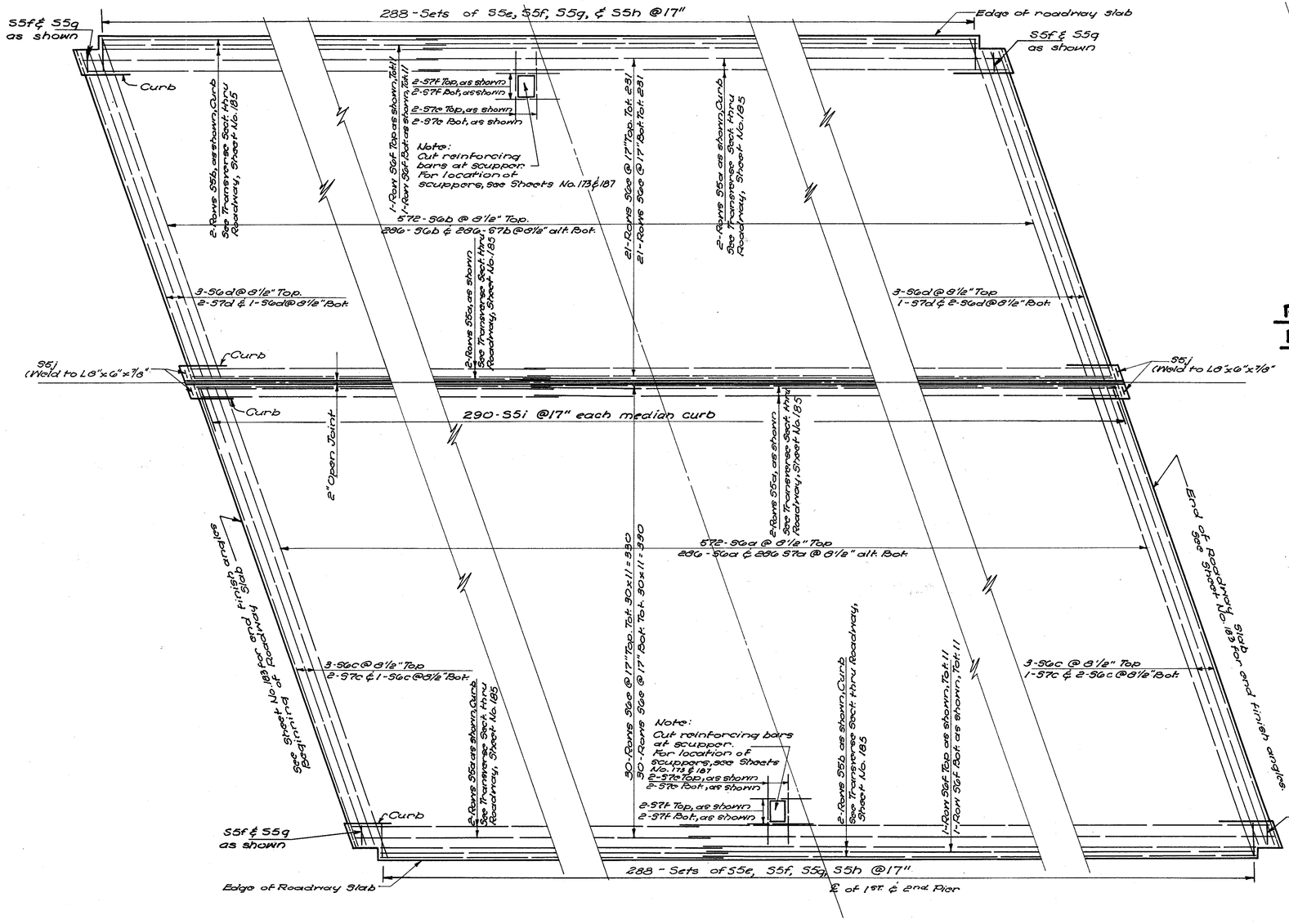
BRIDGE NO. BU-4-184
OVER B.&O. R.R. AND DICK'S CREEK

BUTLER COUNTY
SEC. BUT-4 STA. 587+80.16
Scale: As shown SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
O.L.A.	V.D.	S.J.B.	O.L.A.	W.J.I.	10-11-55	

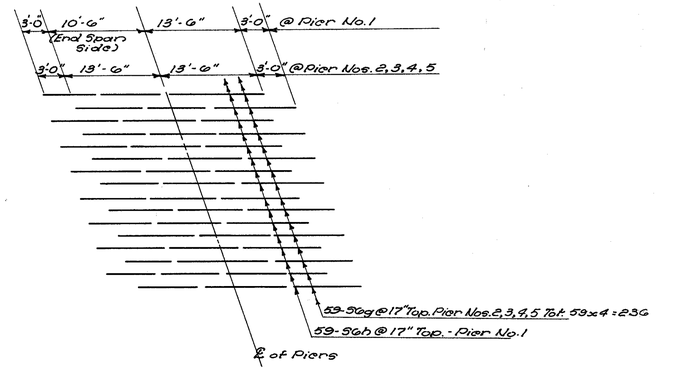
FED. RD. DIVISION	STATE	PROJECT		185
5	OHIO			222

BUT-4-(16.53-19.15)



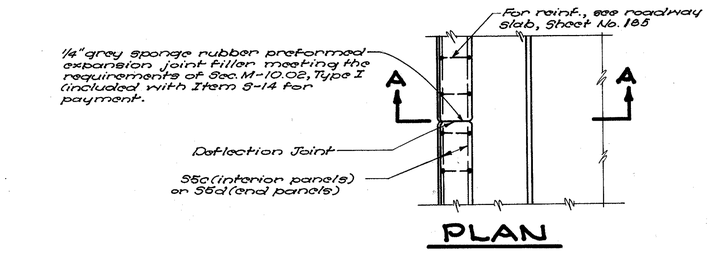
PLAN SHOWING REINFORCING FOR ROADWAY & SIDEWALK SLABS

Scale: 3/16" = 1'-0"

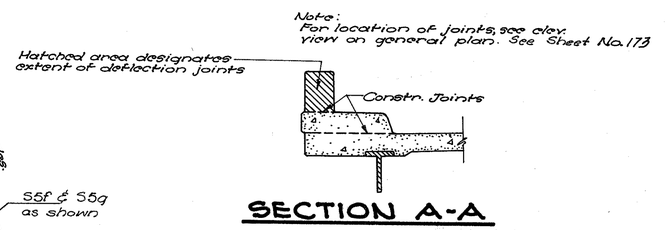


PLAN OF ADDITIONAL SLAB REINFORCING AT PIERS

No Scale



PLAN



SECTION A-A

PARAPET DEFLECTION JOINT DETAIL

Scale: 3/8" = 1'-0"

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS CINCINNATI, OHIO ARCHITECTS

SUPERSTRUCTURE ROADWAY SLAB

BRIDGE NO. BU.-4-184
OVER B & O R.R. & DICKS CREEK

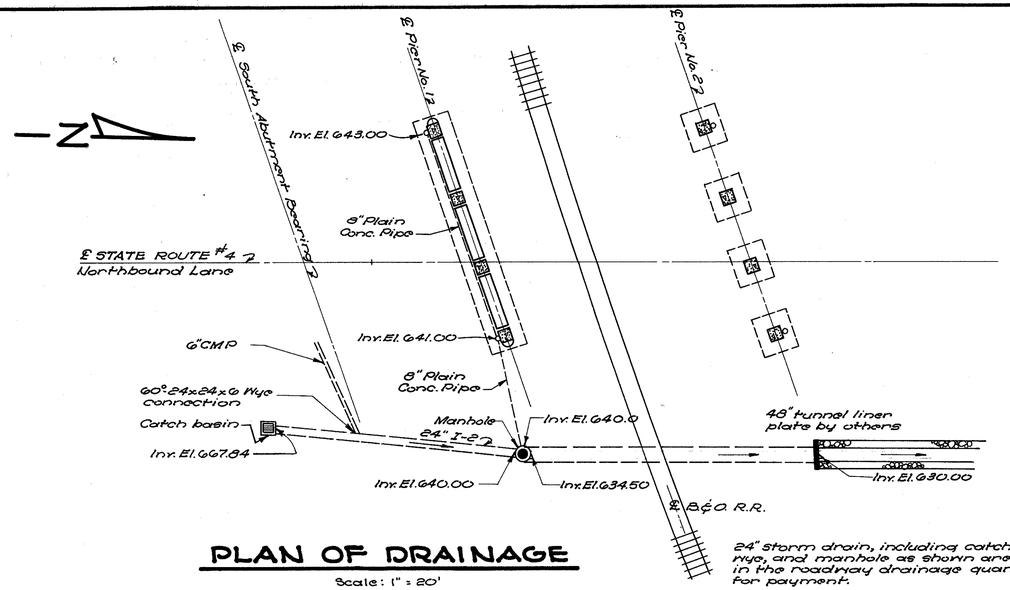
BUTLER COUNTY
SEC. BUT.-4 STA. 587+80.16
Scale: As shown SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
O.L.A.	V.D.	N.B.	O.L.A.	W.J.I. 10-11-55	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

187
222

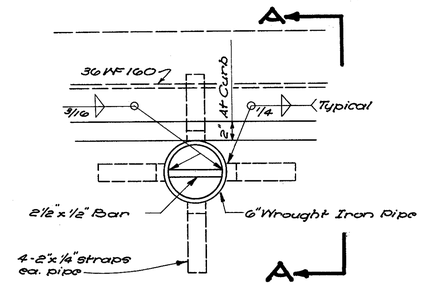
BUT-4-(16.53-19.13)



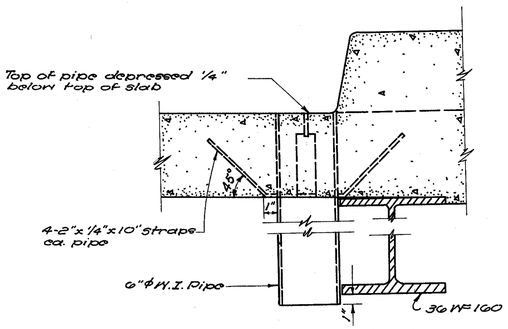
PLAN OF DRAINAGE

Scale: 1" = 20'

24" storm drain, including catch basin, wye, and manhole as shown are included in the roadway drainage quantities for payment.



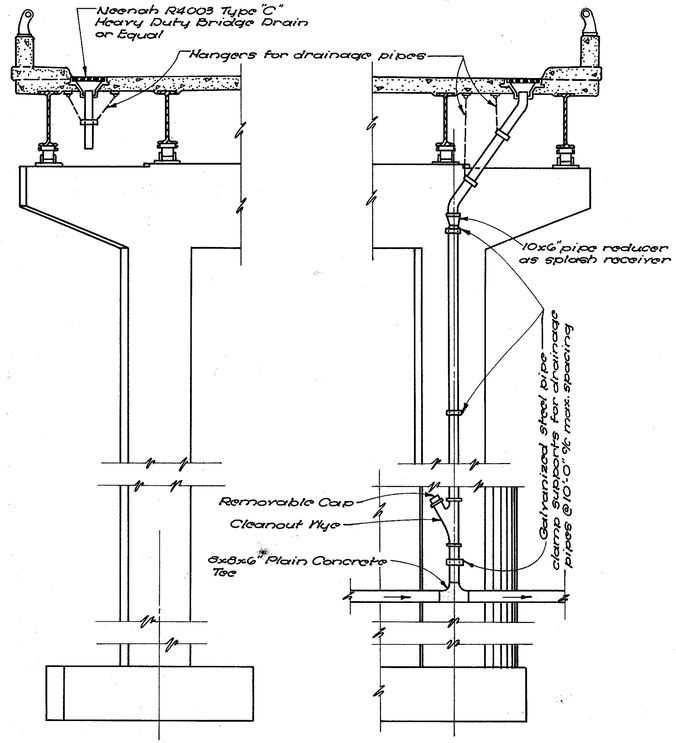
PLAN



SECTION A-A

TYPICAL SCUPPER DETAILS OVER DICKS CREEK

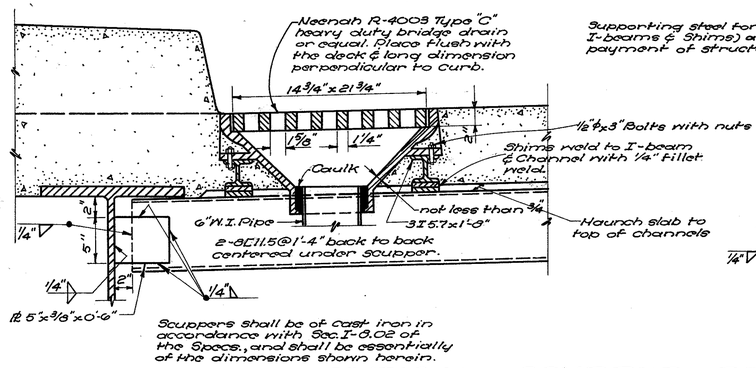
Scale: 1½" = 1'-0"



PIER NO. 2 PIER NO. 1

TYPICAL DOWNSPOUT DETAILS & DRAINAGE PIPE SUPPORTS

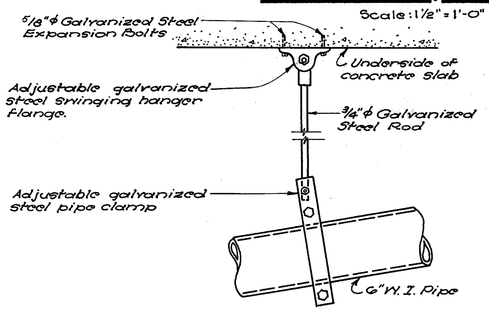
Scale: ¼" = 1'-0"



Supporting steel for scuppers (including I-beams & Shims) are included in the payment of structural steel, Item S-7.

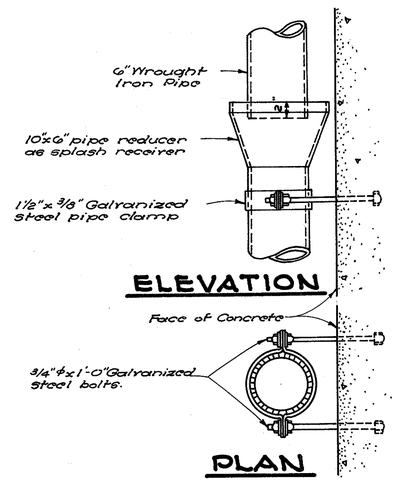
Scuppers shall be of cast iron in accordance with Sec. I-8.02 of the Specs., and shall be essentially of the dimensions shown herein.

TYPICAL SCUPPER DETAILS OVER B & O R.R.



DETAIL - HANGER FOR DRAINAGE PIPE

Scale: 1½" = 1'-0"



ELEVATION

PLAN

DETAIL - SUPPORTS FOR VERTICAL DRAINAGE PIPES

Scale: 1½" = 1'-0"

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS
CINCINNATI, OHIO

DRAINAGE DETAILS

BRIDGE NO. BU-4-184
OVER B & O R.R. & DICKS CREEK

BUTLER COUNTY
SEC. BUT.-4 STA. 567+80.16
Scale: As shown SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
R.G.H.	R.G.H.	N.B.	O.L.A.	W.J.I. 10-11-55	

FED. AID DIVISION	STATE	PROJECT		
2	OHIO			

100
322

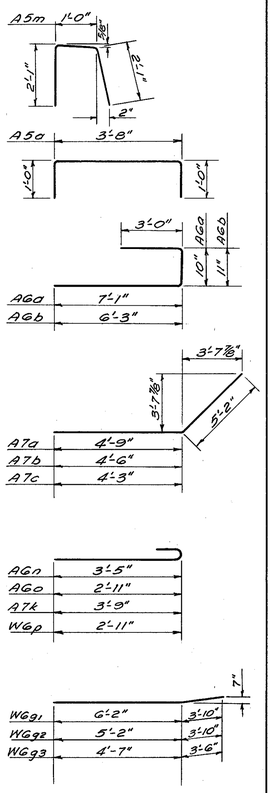
BUT-4-(16.53-19.15)

ABUTMENTS

MARK	NO.	LENGTH	WEIGHT	SHAPE
A5a	166	5'-6"	952	Bt.
A5b	50	3'-3"	169	Str.
A5c	8	15'-10"	132	↓
A5d	8	16'-3"	136	
A5e	16	24'-6"	409	
A5f	8	33'-8"	281	
A5g	69	5'-8"	408	
A5h	16	16'-10"	281	↓
A5k	8	19'-3"	161	Str.
A5m	8	5'-0"	42	Bt.
AGa	8	10'-9"	129	Bt.
AGb	114	10'-0"	1712	Bt.
AGc	62	23'-9"	2212	Str.
AGd1	8	8'-2"	98	↑
AGd2	9	7'-7"	103	
AGd3	11	7'-2"	118	
AGd4	9	6'-11"	94	
AGd5	12	6'-0"	108	
AGe	29	32'-10"	1430	
AGf	78	5'-8"	664	
AGg	2	5'-4"	16	
AGh1	2	7'-0"	21	
AGh2	37	6'-5"	357	
AGk1	12	7'-6"	135	
AGk2	11	7'-1"	117	
AGk3	16	7'-10"	188	
AGm1	12	6'-1"	110	
AGm2	11	5'-7"	92	↓
AGm3	16	6'-4"	152	Str.
AGn	88	4'-1"	540	Bt.
AGo	36	3'-7"	194	Bt.
A7a	4	9'-10"	80	Bt.
A7b	21	9'-7"	411	Bt.
A7c	22	9'-4"	420	Bt.
A7d	8	8'-5"	138	Str.
A7e	9	7'-10"	144	↑
A7f	11	7'-5"	167	
A7g	9	7'-2"	132	
A7h	12	6'-3"	153	Str.
A7k	49	4'-7"	459	Bt.
WGa	16	14'-0"	336	Str.
WGb1	12	12'-3"	221	↑
WGb2	14	14'-8"	308	
WGc	20	2'-10"	85	
WGd1	4	8'-0"	48	
WGd2	4	8'-6"	51	
WGe1	8	6'-0"	72	
WGe2	2	6'-6"	20	↓
WGf	4	4'-0"	24	Str.
WGg1	2	10'-0"	30	Bt.
WGg2	2	9'-0"	27	Bt.
WGg3	6	8'-1"	73	Bt.
WGh1	6	10'-0"	90	Str.
WGh2	6	8'-11"	80	↑
WGh3	8	8'-3"	99	
WGj1	2	11'-2"	34	
WGj2	2	9'-6"	29	
WGk	2	12'-0"	36	
WGL	2	13'-4"	40	
WGm1	2	13'-9"	41	
WGm2	2	15'-4"	46	
WGm3	2	13'-1"	39	
WGm4	2	12'-4"	37	↓
WGn1	4	16'-10"	101	Str.

MARK	NO.	LENGTH	WEIGHT	SHAPE
WGn2	4	14'-9"	89	Str.
WGn3	4	13'-3"	80	
WGn4	4	12'-6"	75	
WGo1	2	4'-10"	15	
WGo2	2	4'-1"	12	Str.
WGp	24	3'-7"	129	Bt.
WGr	32	4'-8"	224	Str.
WGs	24	5'-2"	186	Str.

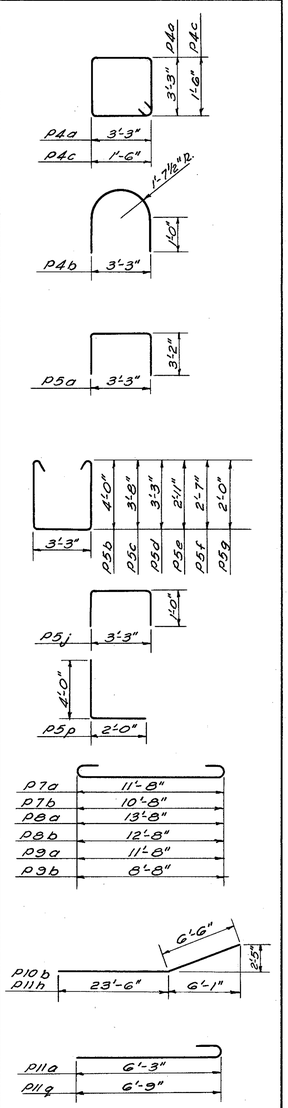
BENDING DIAGRAM



PIERS

MARK	NO.	LENGTH	WEIGHT	SHAPE
P4a	565	13'-7"	5127	Bt.
P4b	18	7'-0"	84	Bt.
P4c	208	6'-7"	915	Bt.
P5a	240	9'-5"	2357	Bt.
P5b	10	11'-11"	124	↑
P5c	10	11'-3"	117	
P5d	10	10'-5"	109	
P5e	10	9'-9"	102	
P5f	10	9'-1"	95	↓
P5g	10	7'-11"	83	Bt.
P5h	20	38'-7"	805	Str.
P5i	20	36'-6"	761	Str.
P5j	360	5'-1"	1909	Bt.
P5k	36	16'-0"	601	Str.
P5L	57	10'-0"	595	↑
P5m	104	7'-8"	832	
P5n	10	34'-6"	360	↓
P5o	30	4'-0"	125	Str.
P5p	27	5'-11"	167	Bt.
P6a	18	34'-6"	933	Str.
P7a	174	13'-4"	4742	Bt.
P7b	112	12'-4"	2823	Bt.
P8a	130	15'40"	5496	Bt.
P8b	38	14'-10"	1505	Bt.
P8c	32	7'-6"	641	Str.
P9a	48	14'-2"	2312	Bt.
P9b	64	11'-2"	2430	Bt.
P10a	38	43'-6"	7113	Str.
P10b	20	30'-0"	2582	Bt.
P10c	12	19'-7"	1011	Str.
P11a	296	7'-10"	12319	Bt.
P11b	28	44'-4"	6595	Str.
P11c	28	44'-5"	6608	↑
P11d	28	44'-6"	6620	
P11e	28	44'-7"	6632	
P11f	30	19'-7"	3121	↓
P11g	40	39'-7"	8412	Str.
P11h	20	30'-0"	3188	Bt.
P11i	22	43'-5"	5075	Str.
P11j	32	38'-2"	6489	↑
P11k	32	38'-7"	6560	
P11L	32	39'-0"	6631	
P11m	32	39'-5"	6701	
P11n	12	42'-9"	2726	
P11o	12	42'-4"	2699	↓
P11p	12	42'-1"	2683	Str.
P11q	96	8'-4"	4250	Bt.
P11r	16	28'-0"	2380	Str.
P11s	12	27'-8"	1764	↑
P11t	12	27'-4"	1743	
P11u	16	27'-0"	2295	
P11v	12	41'-0"	2614	
P11w	12	40'-9"	2598	
P11x	12	40'-7"	2587	
P11y	12	40'-4"	2571	↓
P11z	12	42'-6"	2710	Str.

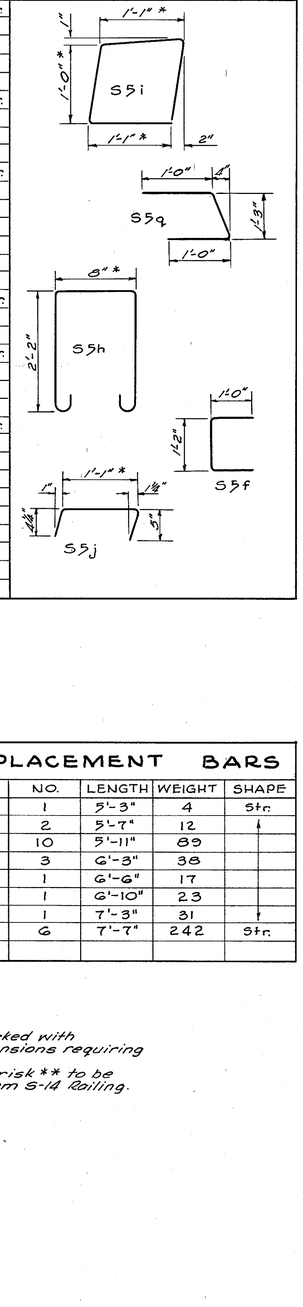
BENDING DIAGRAM



ROADWAY SLAB

MARK	NO.	LENGTH	WEIGHT	SHAPE
S7a	286	44'-10"	26209	Str.
S7b	286	32'-2"	18804	↑
S7c	3	44'-0"	270	
S7d	3	31'-4"	192	
S7e	16	6'-4"	207	↓
S7f	16	5'-9"	188	Str.
S6a	858	44'-10"	57777	Str.
S6b	858	32'-2"	41454	↑
S6c	9	44'-0"	595	
S6d	9	31'-4"	424	
S6e	1122	38'-11"	65584	
S6f	44	36'-7"	2550	
S6g	236	30'-0"	10634	↓
S6h	59	27'-0"	2393	Str.
S5a	88	36'-7"	3541	Str.
S5b	44	38'-3"	1755	↑
**S5c	200	14'-10"	3094	
**S5d	16	12'-6"	209	↓
S5e	376	2'-5"	1452	Str.
S5f	580	3'-0"	1815	Bt.
S5g	580	3'-1"	1865	↑
**S5h	576	8'-0"	4807	
S5i	580	4'-0"	2420	
S5j	4	1'-9"	2427	
S5k	580	4'-6"	2722	↓
S5L	4	1'-9"	7	Bt.

BENDING DIAGRAM



REPLACEMENT BARS

MARK	NO.	LENGTH	WEIGHT	SHAPE
RE4	1	5'-3"	4	Str.
RE5	2	5'-7"	12	↑
RE6	10	5'-11"	89	
RE7	3	6'-3"	38	
RE8	1	6'-6"	17	
RE9	1	6'-10"	23	
RE10	1	7'-3"	31	↓
RE11	6	7'-7"	242	Str.

NOTE:
Reinforcing steel dimensions marked with asterisks * are out-to-out dimensions requiring exact bending.
Bars marked with double asterisk ** to be included in payment under Item S-14 Railing.

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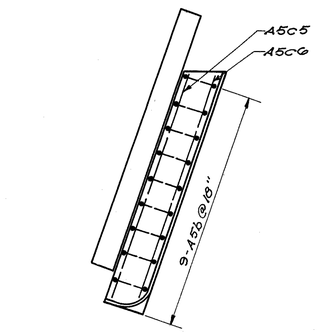
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

REINFORCING STEEL LISTS

BRIDGE NO. BU.-4-18.4
OVER B&O R.R. & DICKS CREEK

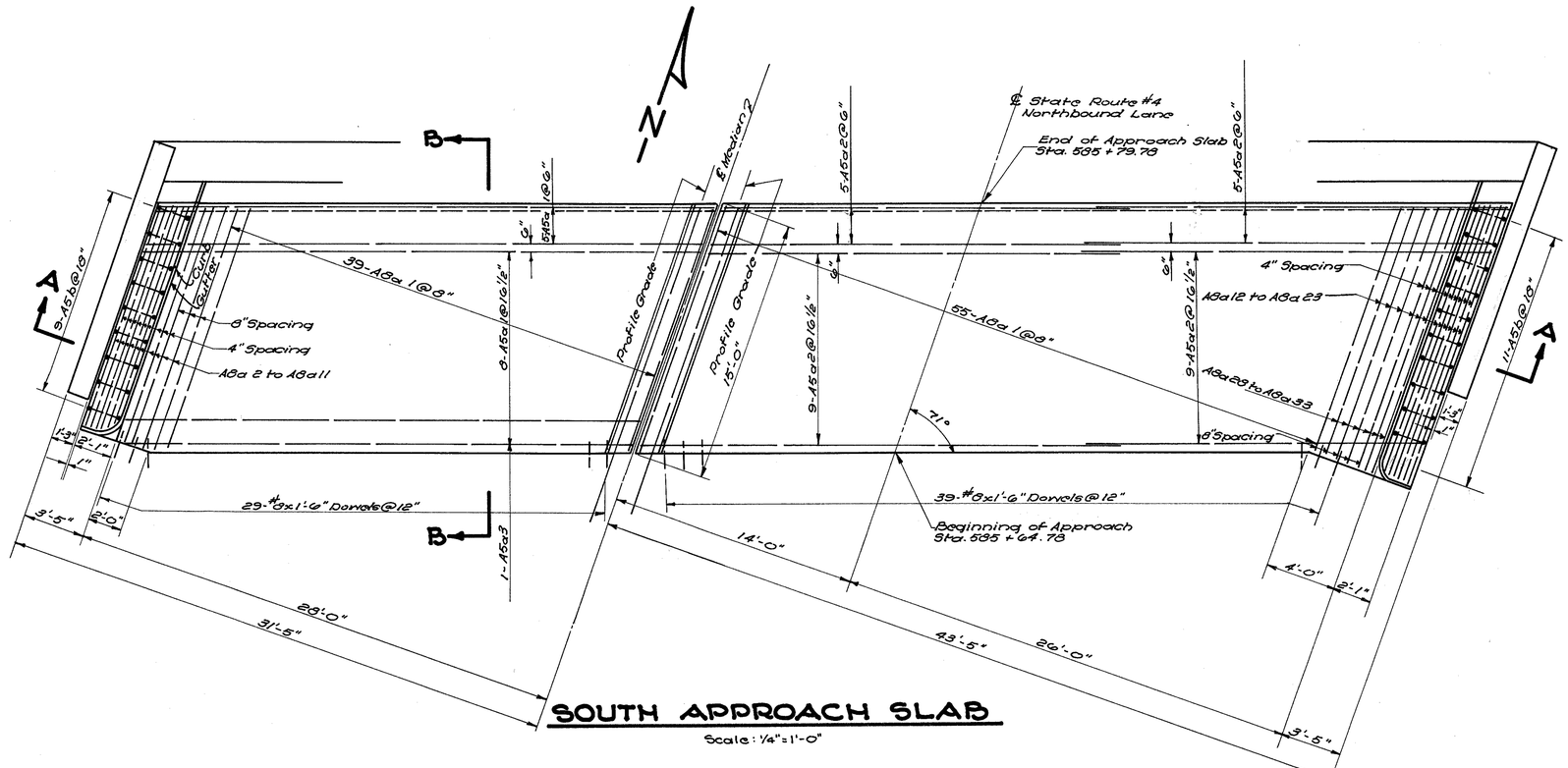
BUTLER COUNTY
SEC. BUT.-4 STA. 587+80.16
Scale: As shown September 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
O.L.A.	A.D.	R.E.M.	V.D.	W.J.I.	10-11-55	



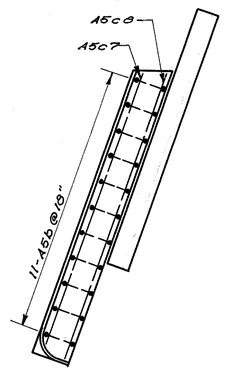
SAFETY CURB REINF. STEEL

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



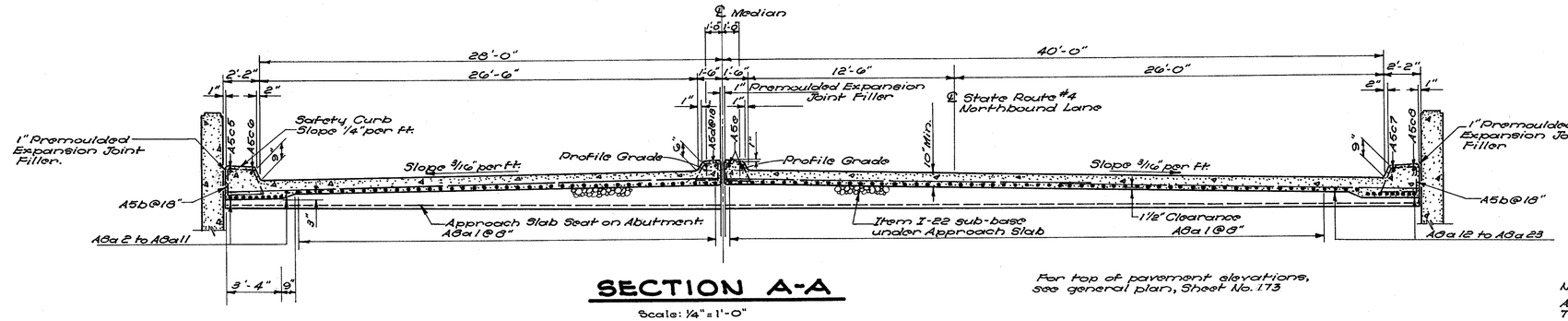
SOUTH APPROACH SLAB

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



SAFETY CURB REINF. STEEL

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



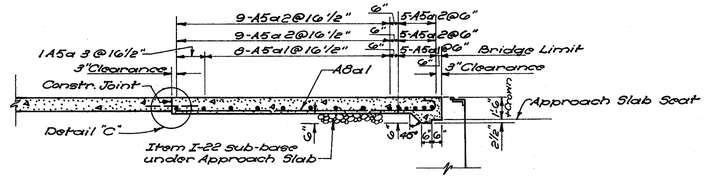
SECTION A-A

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

For top of pavement elevations, see general plan, Sheet No. 173

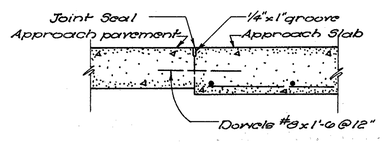
NOTE:

Approach Slab to be Class "C" Concrete. The price bid for Item I-7 for the approach slab shall include Safety Curb & 1"Premoulded Expansion Joint Filler. For location of expansion joints in the approach pavement adjacent to the bridge, See Standard Drawing, T.J. No. 1 dated 3-2-63. See Sheet No. 188 for reinforcing Steel list. Payment for the construction joints, including dowel bars, is included in the price per sq. yd. bid for the approach pavement.



SECTION B-B

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



DETAIL "C"

Scale: 3/4"=1'-0"

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

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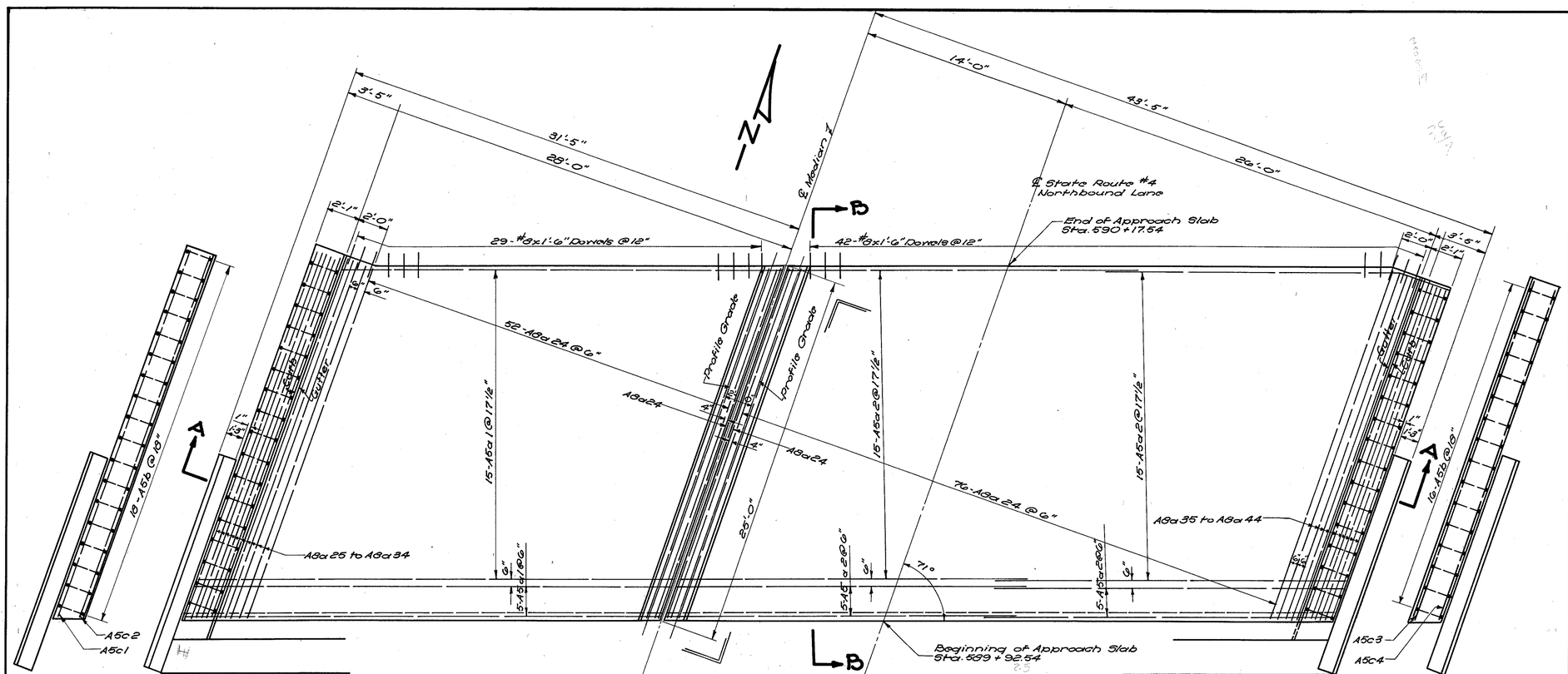
BUT-4-(16,53-19.15)



SAFETY CURB REINF. STEEL

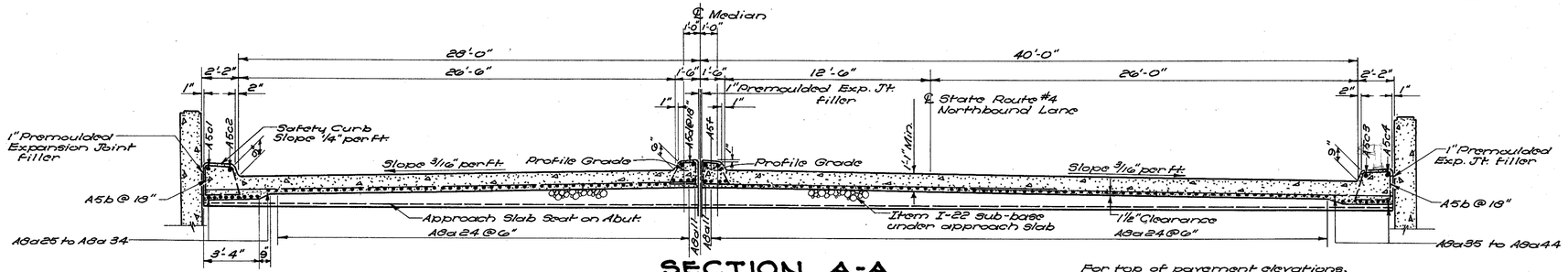
Scale: ¼"=1'-0"

NORTH APPROACH SLAB

Scale: ¼"=1'-0"

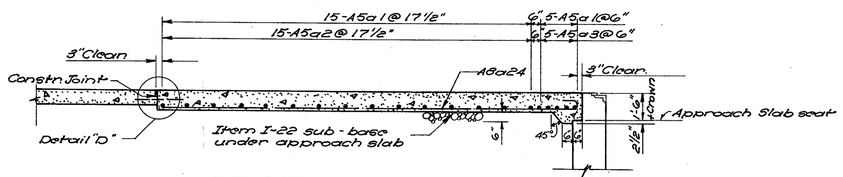
SAFETY CURB REINF. STEEL

Scale: ¼"=1'-0"



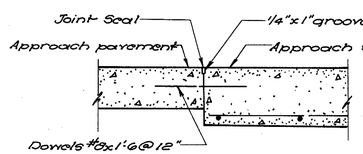
SECTION A-A

Scale: ¼"=1'-0"



SECTION B-B

Scale: ¼"=1'-0"



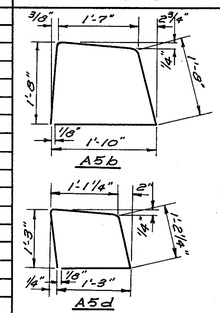
DETAIL "D"

Scale: ¾"=1'-0"

NOTE:
Approach Slabs to be Class "C" Concrete. The price bid for Item I-7 for the approach slab shall include safety curb & 1" premoulded expansion joint filler. For location of expansion joints in the approach pavement adjacent to the bridge, see Standard drawing T.J. No. 1 dated 3-2-53. Payment for the construction joints, including dowel bars, is included in the price per sq. yd. bid for the approach pavement.

REINFORCING STEEL LIST

MARK	LENGTH	NUMBER	TOT. W.T.	SHAPE
A5a1	31'-4"	33	1078	Str.
A5a2	22'-10"	68	1619	↕
A5a3	29'-2"	1	30	Str.
A5b	6'-6"	54	366	Bt.
A5c1	25'-9"	1	27	Str.
A5c2	25'-4"	1	26	↕
A5c3	23'-11"	1	25	
A5c4	23'-3"	1	24	
A5c5	13'-3"	1	12	
A5c6	13'-9"	1	14	
A5c7	16'-2"	1	17	↓
A5c8	16'-8"	1	17	Str.
A5d	4'-7"	54	258	Bt.
A5e	14'-6"	4	60	Str.
A5f	24'-6"	4	102	Str.
A8a1	15'-7"	94	3911	Bt.
A8a2	14'-5"	1	30	↕
A8a3	14'-6"	1	39	
A8a4	14'-7"	1	39	
A8a5	14'-9"	1	39	
A8a6	14'-10"	1	40	
A8a7	14'-11"	1	40	
A8a8	15'-0"	1	40	
A8a9	15'-1"	1	40	
A8a10	15'-3"	1	41	
A8a11	15'-5"	1	41	
A8a12	17'-9"	1	47	
A8a13	17'-8"	1	47	
A8a14	17'-6"	1	47	
A8a15	17'-5"	1	47	
A8a16	17'-4"	1	46	
A8a17	17'-3"	1	46	
A8a18	17'-0"	1	45	
A8a19	16'-9"	1	45	
A8a20	16'-6"	1	44	
A8a21	16'-3"	1	43	
A8a22	16'-0"	1	43	
A8a23	15'-9"	1	42	
A8a24	25'-7"	130	8880	
A8a25	27'-1"	1	72	
A8a26	27'-0"	1	72	
A8a27	26'-10"	1	72	
A8a28	26'-9"	1	71	
A8a29	26'-7"	1	71	
A8a30	26'-3"	1	70	
A8a31	26'-2"	1	70	
A8a32	26'-0"	1	69	
A8a33	25'-11"	1	69	
A8a34	25'-9"	1	69	
A8a35	24'-3"	1	65	
A8a36	24'-4"	1	65	
A8a37	24'-6"	1	65	
A8a38	24'-7"	1	66	
A8a39	24'-9"	1	66	
A8a40	24'-10"	1	66	
A8a41	24'-11"	1	67	
A8a42	25'-1"	1	67	
A8a43	25'-2"	1	67	↓
A8a44	25'-6"	1	68	Bt.



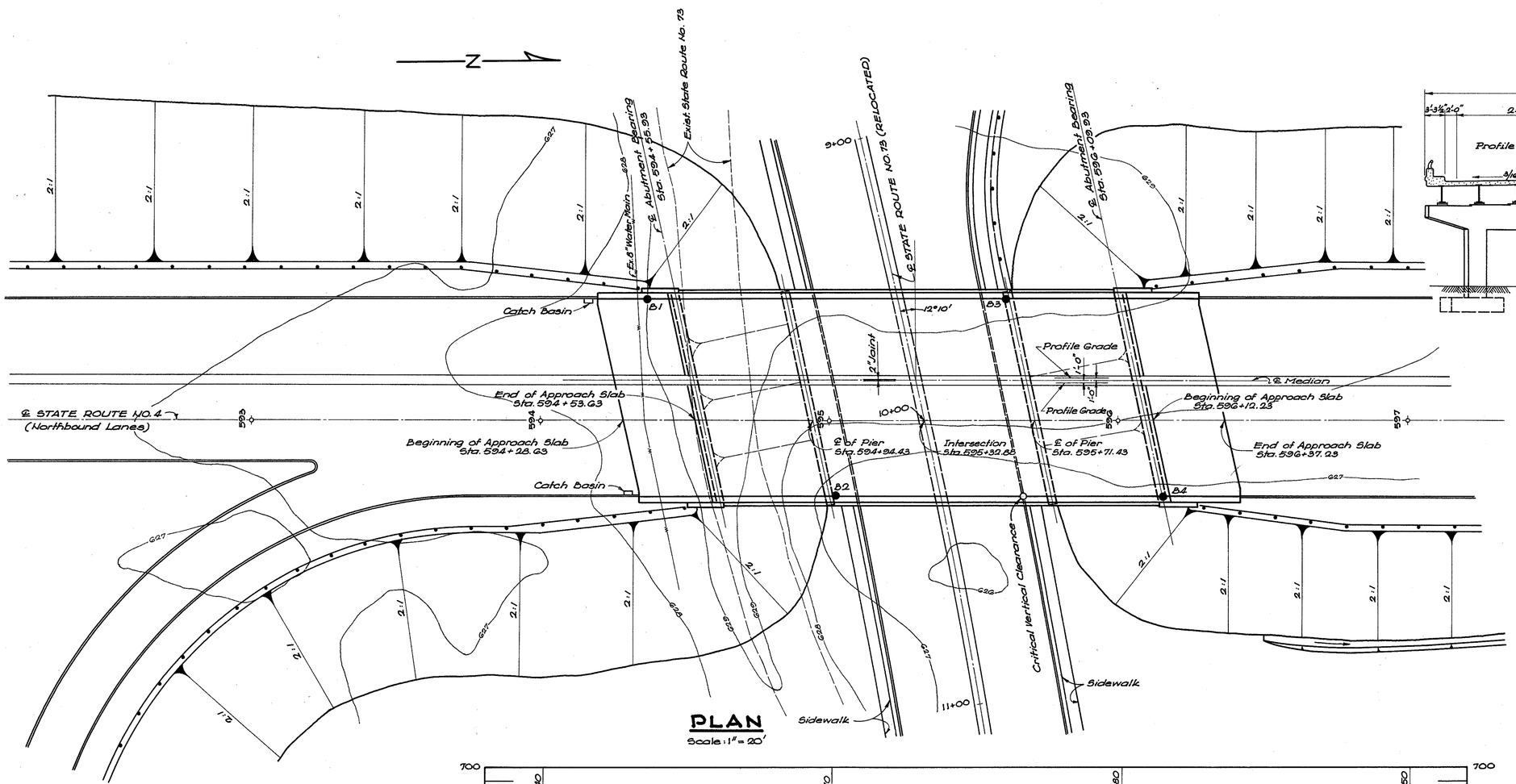
14'-6"	A8a1
13'-4"	A8a2
13'-5"	A8a3
13'-6"	A8a4
13'-8"	A8a5
13'-9"	A8a6
13'-10"	A8a7
13'-11"	A8a8
14'-0"	A8a9
14'-2"	A8a10
14'-4"	A8a11
16'-8"	A8a12
16'-7"	A8a13
16'-5"	A8a14
16'-4"	A8a15
16'-3"	A8a16
16'-2"	A8a17
15'-11"	A8a18
15'-8"	A8a19
15'-5"	A8a20
15'-2"	A8a21
14'-11"	A8a22
14'-8"	A8a23
24'-6"	A8a24
26'-0"	A8a25
25'-11"	A8a26
25'-9"	A8a27
25'-8"	A8a28
25'-6"	A8a29
25'-5"	A8a30
25'-1"	A8a31
24'-11"	A8a32
24'-10"	A8a33
24'-8"	A8a34
23'-8"	A8a35
23'-9"	A8a36
23'-5"	A8a37
23'-6"	A8a38
23'-8"	A8a39
23'-9"	A8a40
23'-10"	A8a41
24'-0"	A8a42
24'-1"	A8a43
24'-4"	A8a44

NORTH APPROACH SLAB BRIDGE NO. BU-4-164

FED. RD. DIVISION	STATE	FED. AID PROJECT	TYPE FUNDS
2	OHIO	F-581(10)	

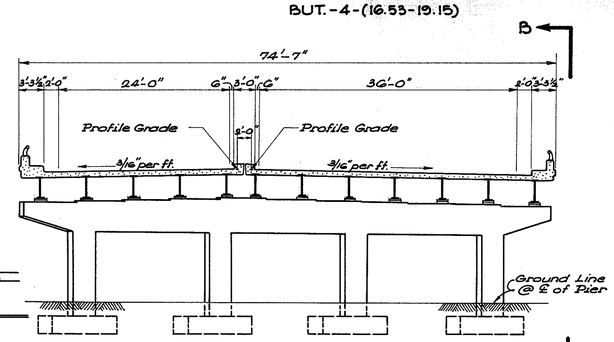
121
222

BUT.-4-(16.53-19.15)



PLAN

Scale: 1"=20'



SECTION A-A

Scale: 1"=10'

PROPOSED STRUCTURE

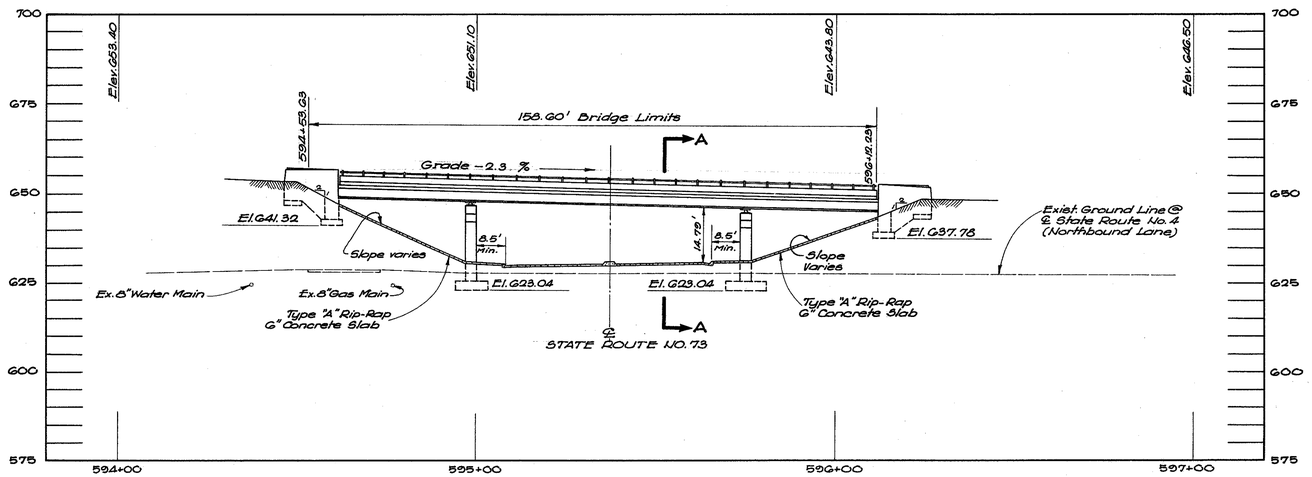
TYPE: Continuous rolled beam with reinforced concrete deck and substructure.
SPANS: 38'-0" - 77'-0" - 38'-0" c. to c. bearings
SKEW: 12°-10'
WEARING SURFACE: 1" monolithic concrete.
SAFETY CURBS: 2 @ 2'-0"
ROADWAY: 68'-0" curb to curb
APPROACH SLABS: 25'-0" Long
LOADING: Standard lane loading as per State of Ohio Design Specifications for Highway Structures, October 1, 1951 with revisions dated July 15, 1952 and April 1, 1954. CF = 1.00

NOTES

- Symbol denotes drill hole
  See Sheet No. 195 for test boring data

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.

See Sheet No. 42 for trees and existing structures.



ELEVATION B-B

Scale: 1"=20'

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ENGINEERS ARCHITECTS
CINCINNATI, OHIO

SITE PLAN

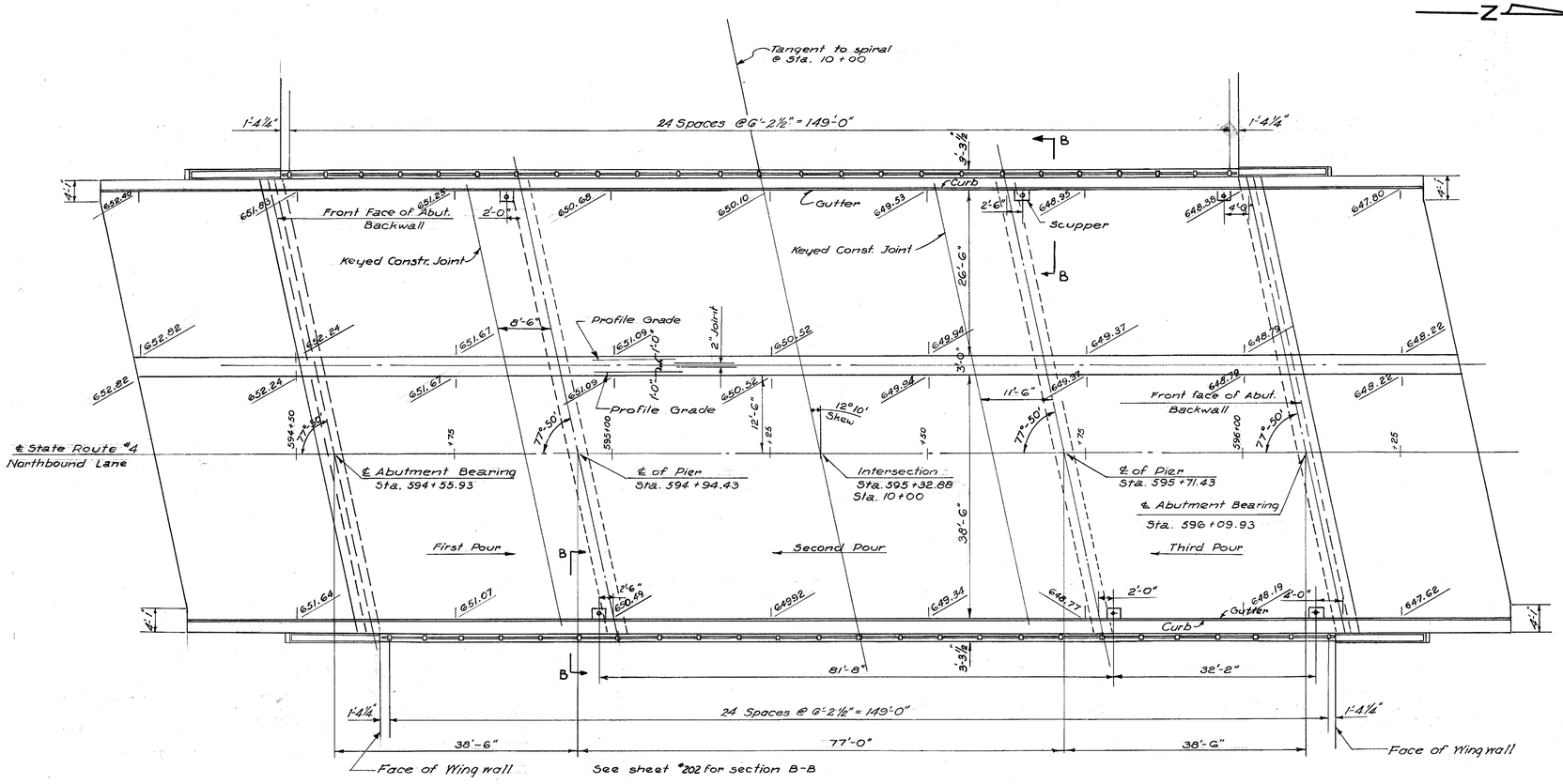
BRIDGE NO. BU.-4-18.6
OVER STATE ROUTE 73 (RELOCATED)
BUTLER COUNTY
SEC. BUT.-4 STA. 595+32.88
Scale: As shown SEPTEMBER, 1955

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVISIONS
J.C.W.	B.G.E.	G.V.	R.G.H.	R.J.L.	

FED. RD. DIVISION	STATE	FED. AID PROJECT	TYPE FUNDS
2	OHIO	F-581 (10)	

102
222

BUT.-4-(16.53-19.15)

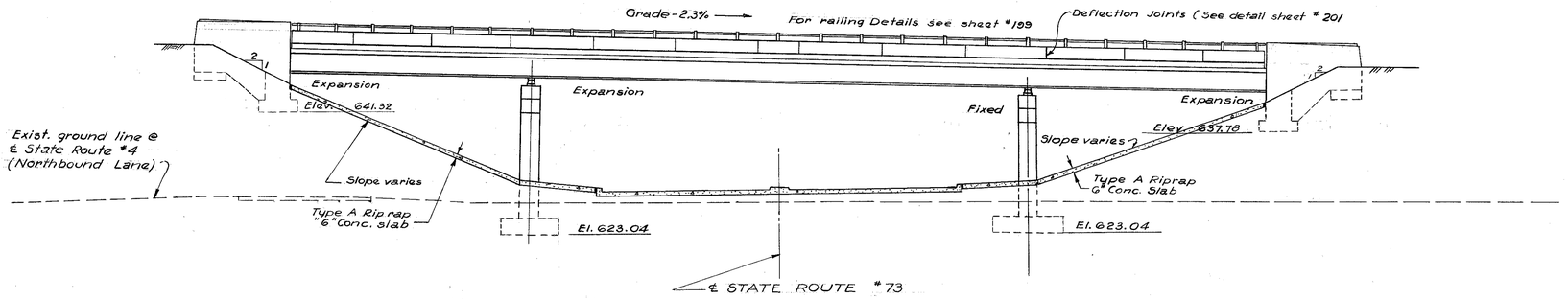


GENERAL PLAN

Scale : 3/32" = 1'-0"

Note:
For bridge drainage details & scupper details see sh #202

Note:
Elevations shown on plan view are top of pavement elevations.



ELEVATION

Scale : 3/32" = 1'-0"

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	NORTH ABUT.	NORTH PIER	SOUTH PIER	SOUTH ABUT.	SUPER STRUCTRE	GENERAL
E-2	484	Cu. Yds.	Unclassified Excavation	143	107	91	143		
S-1	325	" "	Class "C" Concrete-Superstructre					325	
S-1	110	" "	Class "C" Concrete-Pier Caps & Col's		54	56			
S-1	133	" "	Class "E" Concrete - Pier & Abut. Foot's	33	37	30	33		
S-1	161	" "	Class "E" Concrete - Abut & Wing Walls	80			81		
S-4	136,971	Pounds	Reinforcing Steel	7080	19459	19039	7112	84095	186
S-7	35G,270	"	Structural Steel					35G270	
S-8	35G,270	"	Field Painting of Structural Steel					35G270	
S-9	238	Sq. Ft.	1" Premolded Expansion Jt. Filler						238
S-14	303	Lin.Ft.	Railing Aluminum rail & supports, and conc. parapet					303	
S-29	G2	Cu. Yds.	Porous Backfill	31			31		
S-29	115	Lin. Ft.	6" Wrought Iron Pipe						115
S-29	252	Lin. Ft.	8" Plain Concrete Pipe, incl. Specials						252
S-29	6	Each	Scuppers					6	
S-29	1	Each	Concrete Junction Box						1
I-9	50	Lin.Ft.	Stone Underdrain (French drain)	25			25		
I-10	800	Sq.Yds.	Type "A" Riprap, 6" concrete slab						800

Note:
Materials in approach slabs are not included in the above 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 welded 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.

EXCAVATION: Roadway embankment at abutments shall be placed and compacted to the bridge seat elevation. Excavation shall then be made for the abutment footings. Quantities for excavation includes removal of fill material between the above described elevation and bottom of the abutment footings.

SURFACE FINISH OF CONCRETE: Curb faces, fascias of deck and exposed surfaces of piers, abutments, and wing walls 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.

TRAFFIC: Adequate protection and maintenance of two-way traffic on existing or relocated State Route No. 73 shall be provided at all times.

ADDITIONAL NOTES: For additional notes, see Sheet No. 191

EMBANKMENT: Approximately 200 ft. of approach embankment at each end of the bridge to be placed and brought to the planned subgrade elevation during the initial stage of work at this structure. The above shall be completed before any work will be permitted on the construction of piers. Provisions shall be made for, and periodic checks made of the elevation of the approach embankments immediately following the placement of the embankment to the planned subgrade elevation. Such periodic observations shall be continued until the existence, degree and nature of any subsidence due to the consolidation of the subsoil has been established.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS CINCINNATI, OHIO ARCHITECTS

GENERAL PLAN, ELEVATION NOTES & QUANTITIES

BRIDGE NO. BU-4-186
OVER STATE ROUTE 73 (RELOCATED)

BUTLER COUNTY
SEC. BUT.-4 STA. 595+32.88
Scale: As shown Sept. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
G.V.	M.A.A.	G.I.	G.V. R.J.L.	W.J.I. 10-11-55	

FED. RD. DIVISION	STATE	FED. AID PROJECT	TYPE FUNDS
2	OHIO	F-581(10)	

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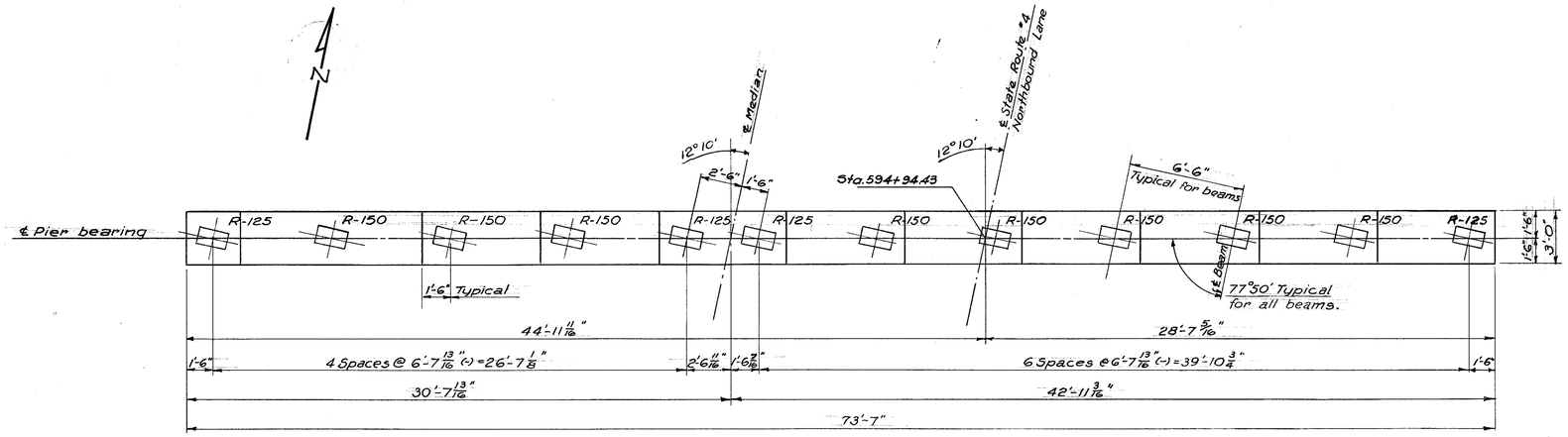
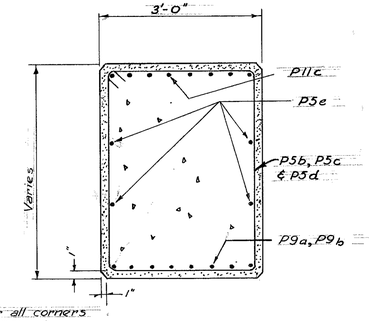
222

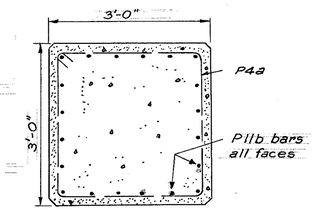
BUT.-4-(16.53-19.15)



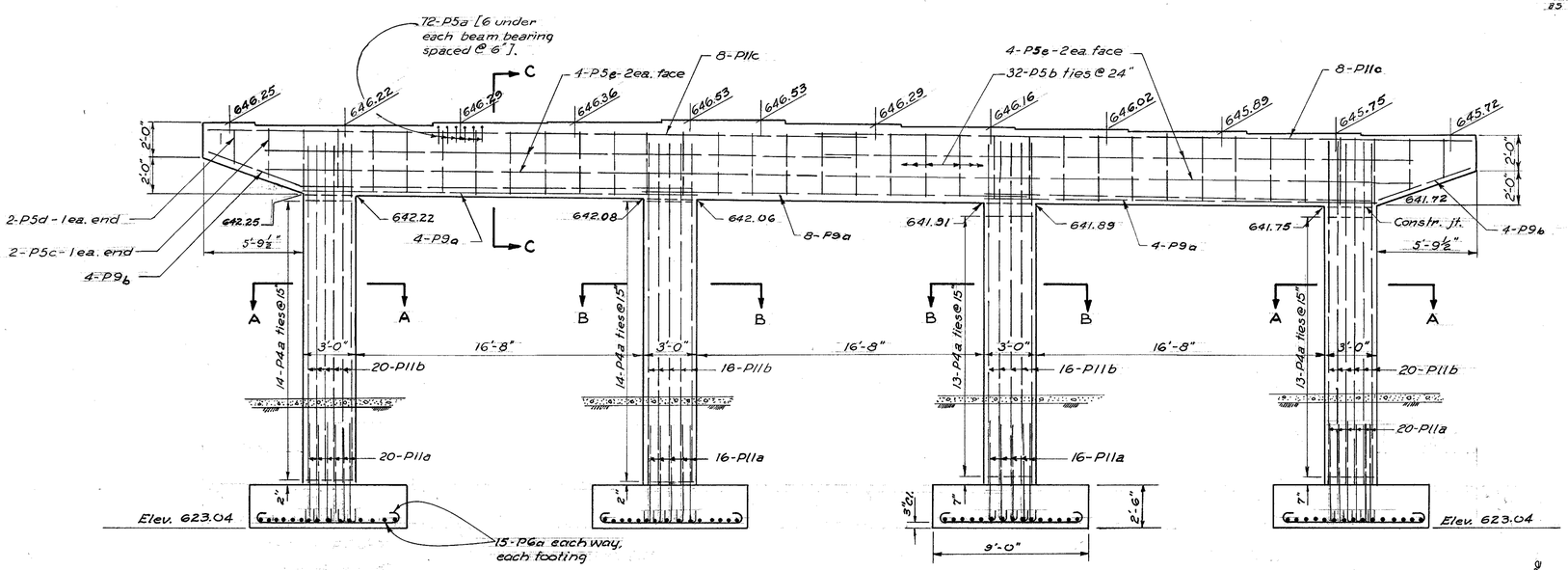
PLAN
Scale: 1/4" = 1'-0"



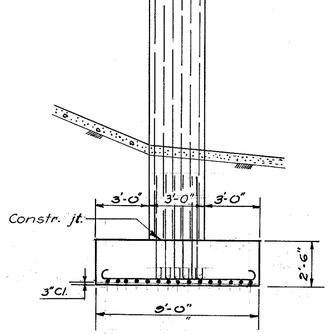
SECTION C-C
Scale: 3/4" = 1'-0"



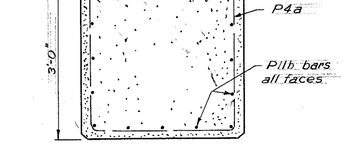
SECTION A-A
Scale: 3/4" = 1'-0"



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

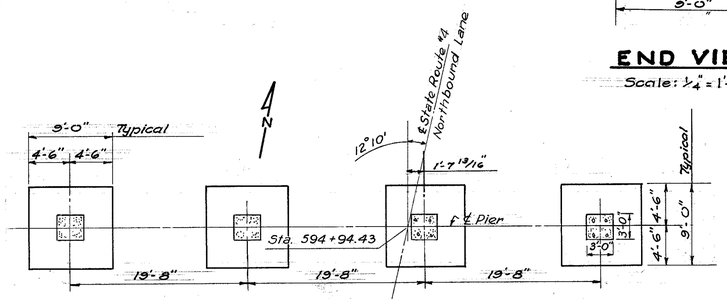


END VIEW
Scale: 1/4" = 1'-0"



SECTION B-B
Scale: 3/4" = 1'-0"

Notes:
Place dowels in footings to insure correct placing of main column steel
All main reinforcing steel to have 2" cover unless otherwise noted.



FOOTING PLAN
Scale: 1/8" = 1'-0"

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

SOUTH PIER
BRIDGE NO. BU-4-186
OVER STATE ROUTE 73 (RELOCATED)

BUTLER COUNTY
SEC. BUT-4 STA. 595 + 32.88
Scale: As shown SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.V.	R.L.S.	C.I.	G.V.	W.J.I.	10-11-55	

FED. RD. DIVISION	STATE	FED. AID PROJECT	TYPE FUNDS
2	OHIO	F-581(10)	

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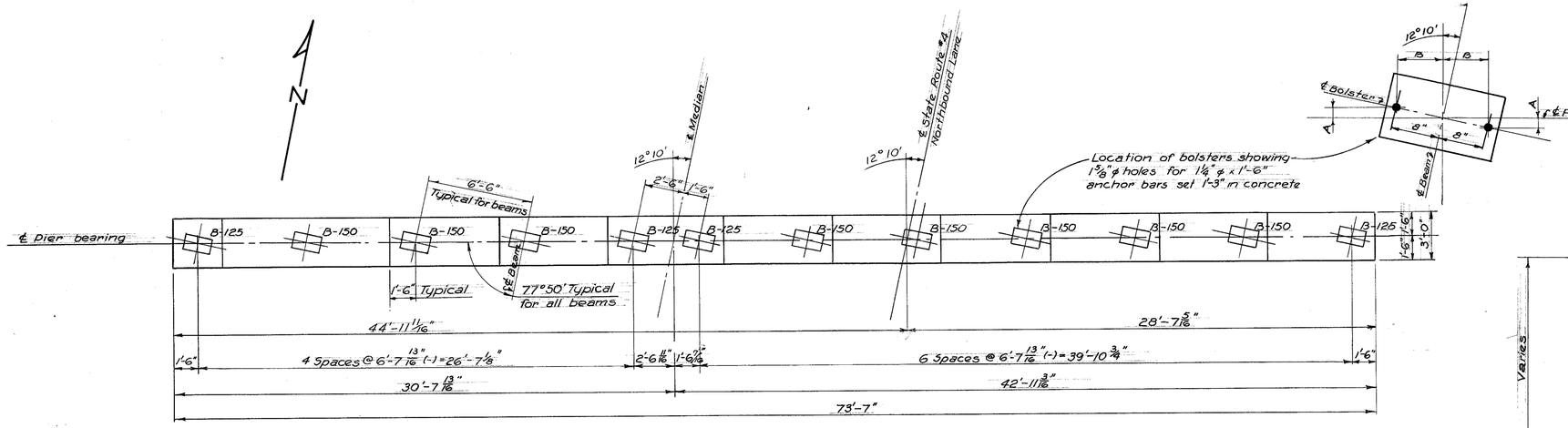
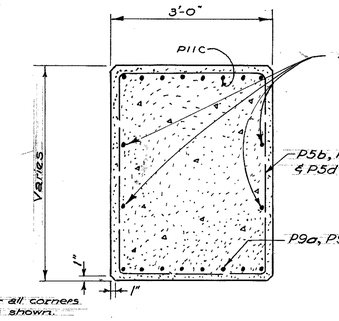
BUT.-4-(16.53-19.15)

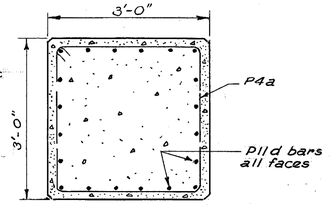
B-125		B-150	
A	B	A	B
1 5/16"	7 13/16"	1 13/16"	8 3/16"



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

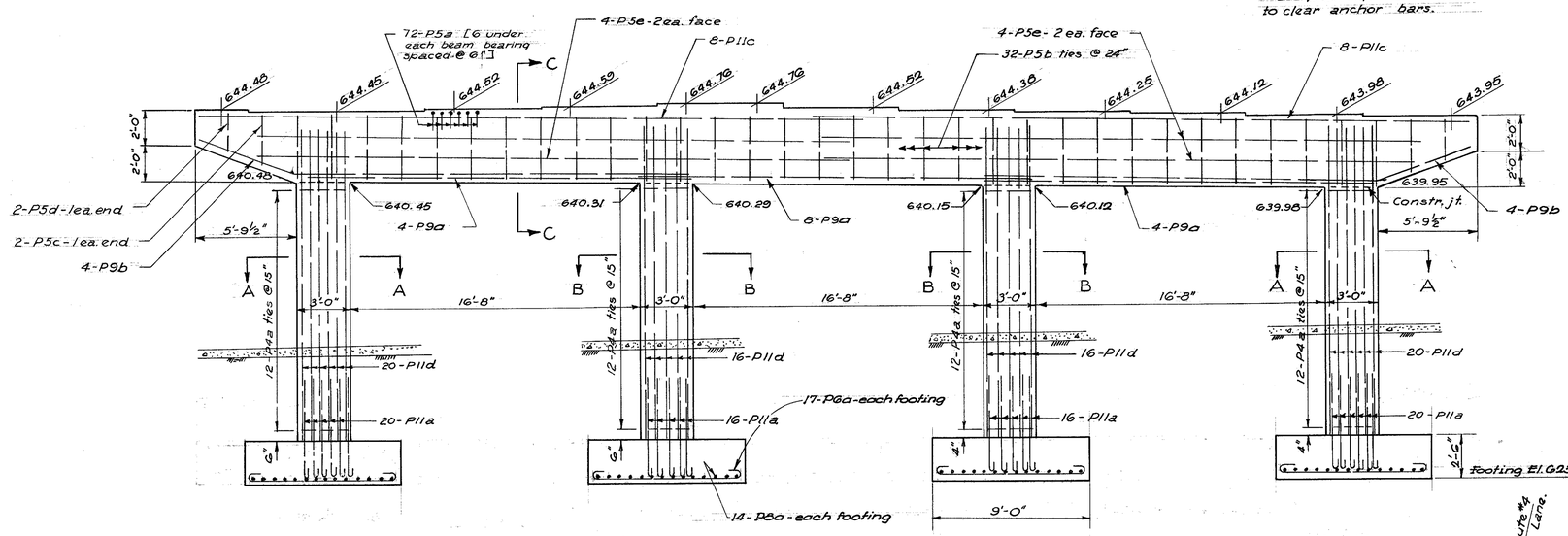


SECTION C-C
Scale: 3/4" =1'-0"

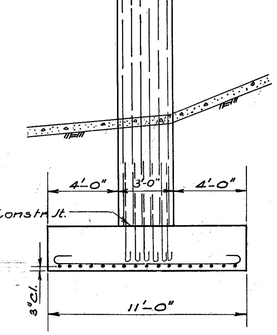


SECTION A-A
Scale 3/4" = 1'-0"

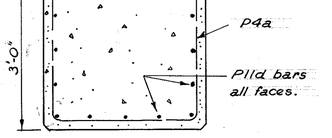
Note:
Place pier cap reinforcement to clear anchor bars.



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

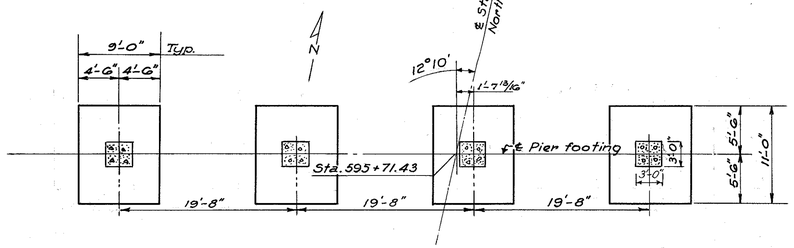


END VIEW



SECTION B-B
Scale: 3/4" = 1'-0"

Note:
Place dowels in footings to insure correct placing of main column steel. All main reinforcing steel to have 2" cover unless otherwise noted.



FOOTING PLAN
Scale: 1/8"=1'-0"

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

NORTH PIER

BRIDGE NO. BU-4-18G
OVER STATE ROUTE 73 (RELOCATED)

BUTLER COUNTY
SEC. BUT-4
Scale: As shown
STA. 595+32.88
SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
G.V.	R.L.S.	C.I.	G.V.	W.J.I. 10-11-55	

FED. RD. DIVISION	STATE	FED AID PROJECT	TYPE FUNDS
2	OHIO	F-581 (10)	

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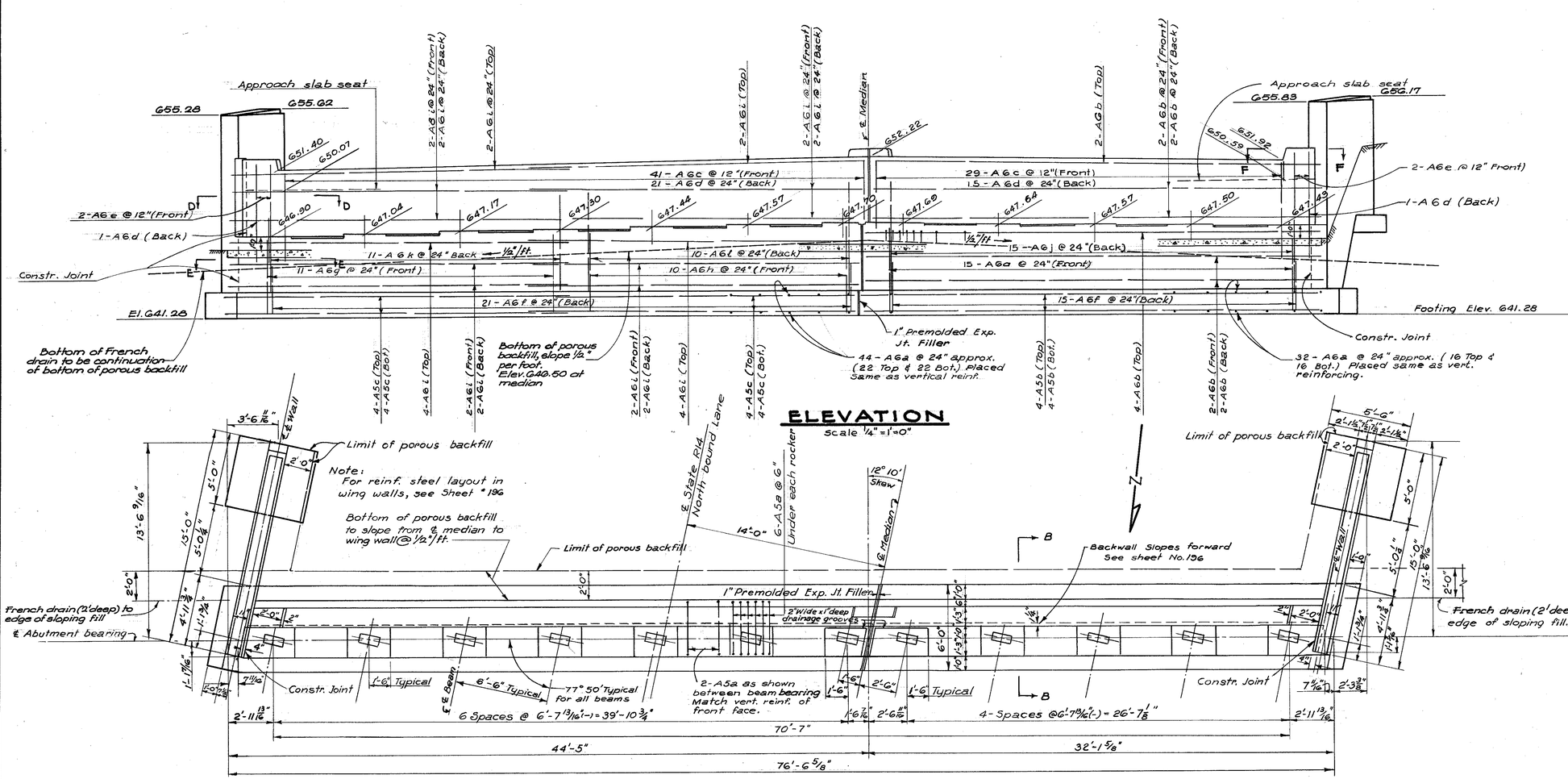
BUT - 4 - (16.53 - 19.15)

NOTES:

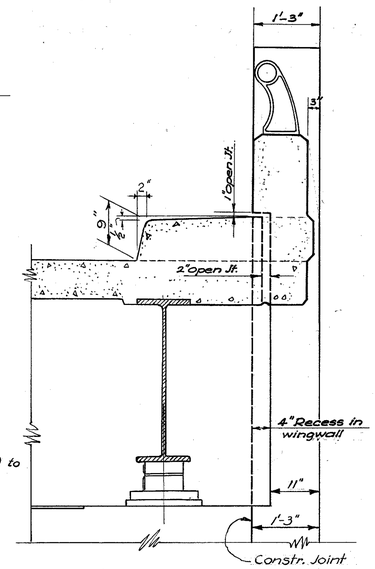
For approach slab details, see Sheet No. 204. All reinforcing steel to have 2" clearance, except bottom of footings where 3" is required.

For sections not shown on this sheet, see Sheet No. 196.

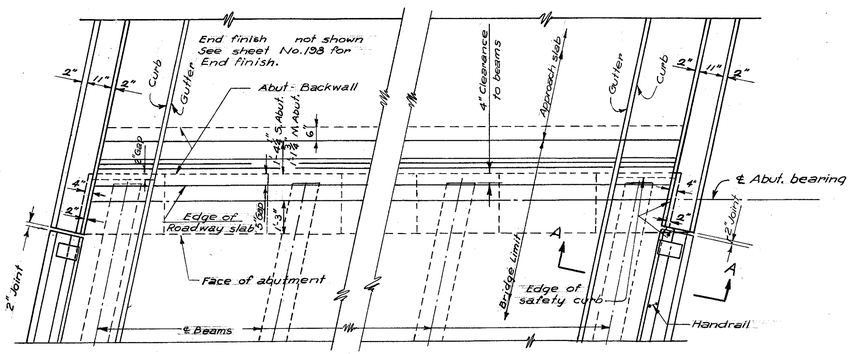


ELEVATION
scale 1/4" = 1'-0"

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



SECTION A-A
Scale 3/4" = 1'-0"



PART PLAN OF ENDS
Scale: 3/8" = 1'-0"

NOTE:

The structure site is located in an area of drift covering a Deep Stage Valley. The drift is composed of relative granular material. In no case did the soundings penetrate to bedrock. All depths were limited only by the capacity of the equipment.

BORING B-1 — El. 628.8

622.0	6.8	Gravel, Brown Sand & Silt & Some Clay
612.8	16.0	Gravel, Brown Silt with Some Sand
601.2	27.6	Brown Sand With Silt & Some Clay
583.1	45.7	Gray Silt & Sand With clay & Some Gravel
568.8	60.0	Gray Silt with Sand & Clay.

BORING B-2 — El. 626.8

618.8	8.0	Gravel, Brown Sand & Silt & Some Clay
598.6	28.4	Brown Sand With Silt & Some clay
576.2	50.6	Gray Silt & Sand With Clay & Some Gravel.
566.8	60.0	Gray Silt With Sand & Clay

BORING B-3 — El. 629.1

615.1	14.0	Gravel, Brown Silt With Some Sand.
599.5	29.6	Brown Sand With Silt & Some Clay
583.5	45.6	Gray Silt & Some Sand & Some Gravel
569.1	60.0	Gray Silt with Sand & Clay

BORING B-4 — El. 626.7

622.3	4.4	Gravel, Brown Sand & Silt & Some Clay
611.6	15.1	Gravel, Brown Silt with some sand
597.6	29.1	Brown Sand with Silt & some clay
579.8	46.9	Gray Silt & Sand with Clay & some Gravel.
566.7	60.0	Gray Silt with Sand & Clay.

Test borings were made between Jan. 5th & Jan. 12th 1955

See Sheet No. 191 for location of borings.

Soil borings were made with 3" Continuous flight auger.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS CINCINNATI, OHIO ARCHITECTS

SOUTH ABUTMENT
BRIDGE NO. BU.-4-18.6 OVER STATE ROUTE 73 (RELOCATED)

BUTLER COUNTY
SEC. BUT.-4 STA. 595+32.88
Scale: As shown SEPTEMBER, 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
G.V.	A.L.I	C.I.	G.V. R.L.S.	W.J.I. 10-11-55	

FED. RD. DIVISION	STATE	FED. AID ROJECT	TYPE FUNDS
2	OHIO	F-581(10)	

19G
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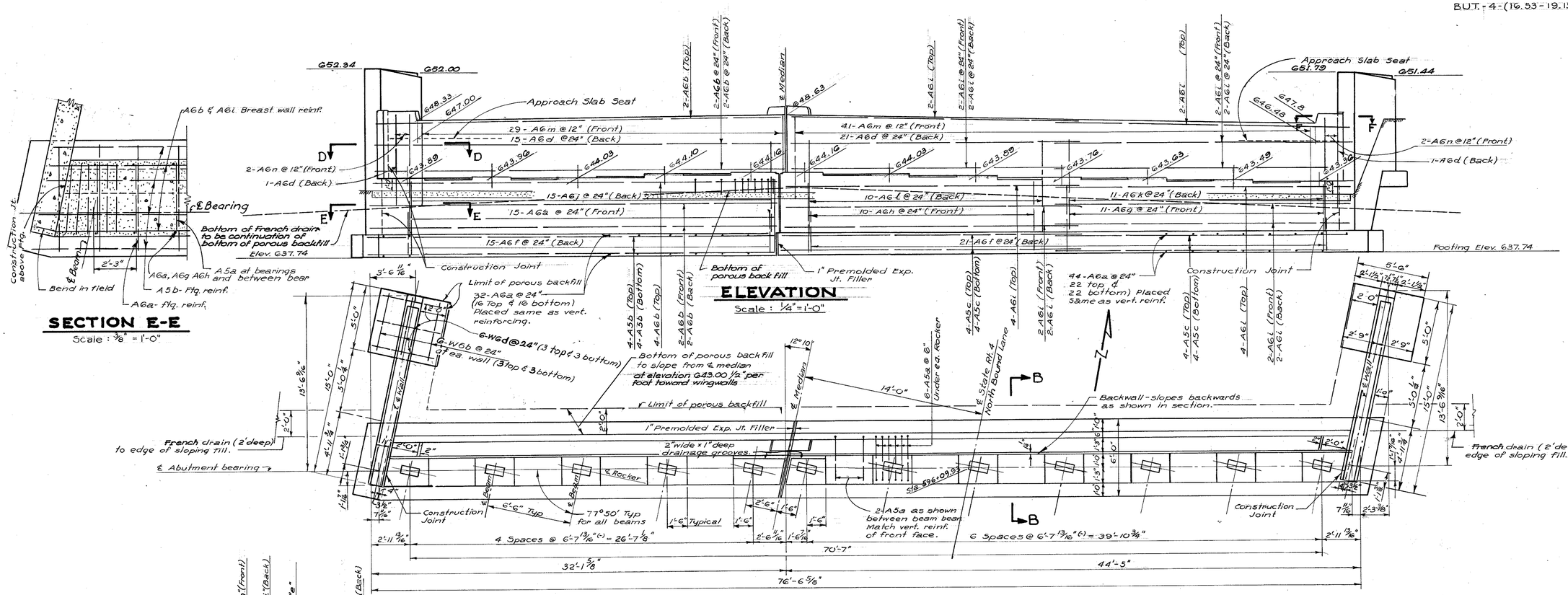
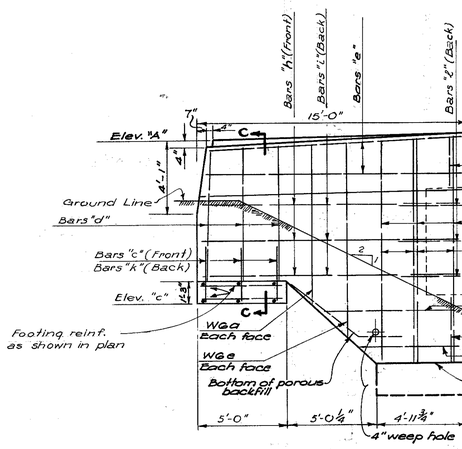
B.U.T.-4-(16.53-19.15)



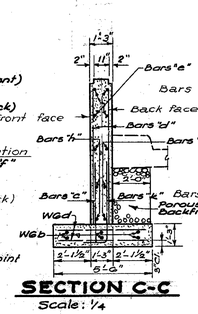
SECTION E-E
Scale : 3/8" = 1'-0"

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

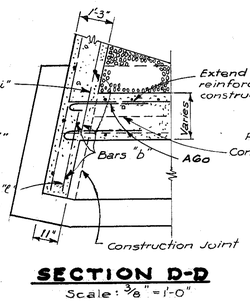
PLAN
Scale: 1/4"=1'-0"



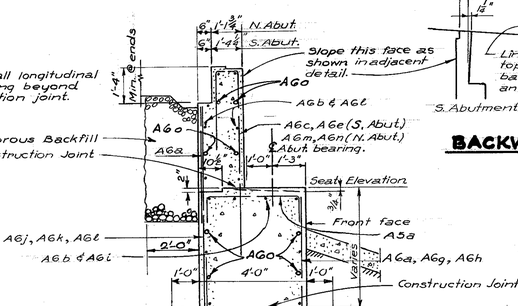
TYPICAL WING WALL ELEVATION
Scale : 1/4" = 1'-0"



SECTION C-C
Scale: 1/4

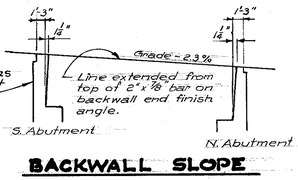


SECTION D-D
Scale: 3/8" = 1'-0"

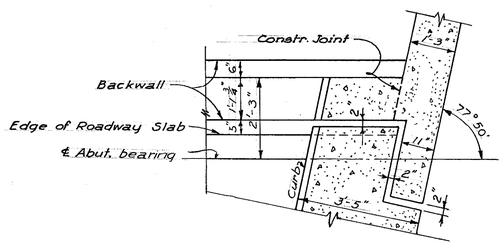


SECTION B-B
Scale: 3/8"=1'-0"

Note:
Section B-B is drawn for North abutment



BACKWALL SLOPE



SECTION F-F
Scale : 1/2 = 1'-0"

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

For approach slab details, see Sheet # 205

All reinforcing steel to have 2" clearance except bottom of footings where 3" is required

WING WALLS

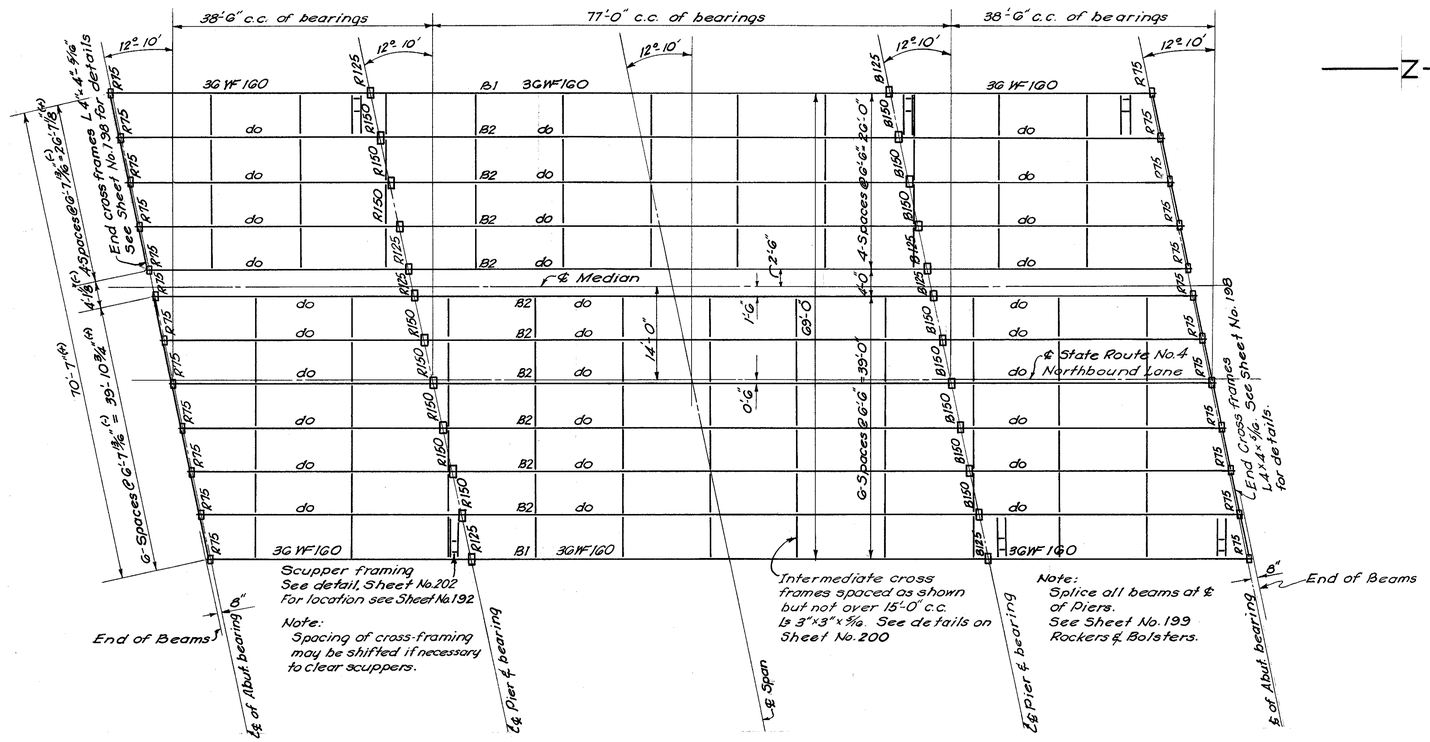
	DIMENSIONS			Bars "a"		Bars "b"		Bars "c"		Bars "d"		Bars "e"		Bars "f"		Bars "g"		Bars "h"		Bars i			Bars "k"		Bars "l"	
	Elev."A"	Elev."B"	Elev."C"	Mk.	No.	Mk.	No.	Mk.	No.	Mk.	No.	Mk.	No.	Mk.	No.	Mk.	No.	Mk.	No.	Mk.	No.		Mk.	No	Mk.	No.
NORTH ABUTMENT																										
E. WALL	651.44	651.79	642.86	W6f	3	W6f	4	W6h	3	W6i	6	W6c	4	W6g	2	W6k	2	W6l	3	W6m	3		W6w	3	W6x	4
W. WALL	652.00	652.34	643.39	W6n	3	W6n	4	W6h	3	W6l	6	W6c	4	W6g	2	W6k	2	W6l	3	W6m	3		W6w	3	W6x	4
SOUTH ABUTMENT																										
E. WALL	655.62	655.28	646.39	W6p	3	W6p	4	W6h	3	W6j	6	W6c	4	W6g	2	W6k	2	W6l	3	W6m	3		W6w	3	W6x	4
W. WALL	656.17	655.83	646.93	W6t	3	W6t	4	W6h	3	W6j	6	W6c	4	W6g	2	W6k	2	W6l	3	W6m	3		W6w	3	W6x	4

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

NORTH ABUTMENT
BRIDGE NO. BU-4-186
OVER STATE ROUTE 73 (RELOCATED)

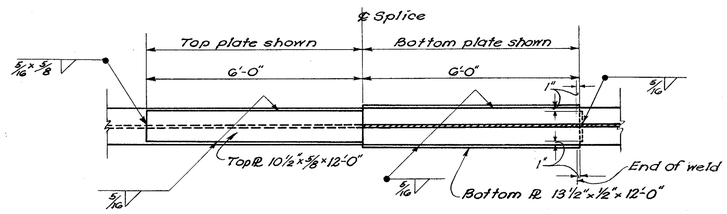
BUTLER CO.
SEC. BUT. - 4 Sta. 595 + 32.88
Scale : As shown SEPTEMBER, 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED, DATE	REVISED
G.V.	G.V.	C.I.	R.L.S.	W.J.I. 10-11-55	

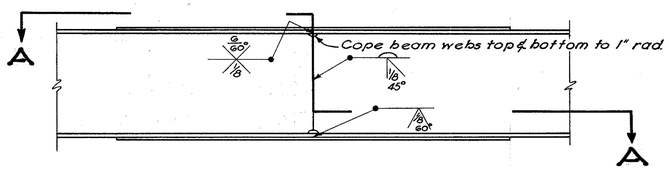


STEEL FRAMING PLAN

Scale: 3/32" = 1'-0"



SECTION A-A



BEAM SPLICE DETAIL

Scale: 1/2" = 1'-0"

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	0"	5/32"	0"	5/32"
Deflection due to remaining dead load	-3/32"	1 3/16"	-15/32"	11/16"
Sum of deflections	-3/32"	1 1/32"	-15/32"	27/32"
Required shop camber	0"	1 3/8"	0"	1"

Note: No cambering of beams is required for the end spans, but the beams shall be so fabricated that any curved beam will be placed with the convex flange down. For center spans camber as shown in table.

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 abutment 7/8".
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.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

SUPERSTRUCTURE STEEL FRAMING PLAN

BRIDGE NO. BU-4-18.66
OVER STATE ROUTE 73 (RELOCATED)
BUTLER COUNTY
SEC. BUT-4 STA. 595+32.88
Scale: As shown SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.V.	B.G.E.	S.J.B.	G.V. R.J.L.	W.J.I.	10-11-55	

FED. AID DIVISION	STATE	PROJECT	
2	OHIO		

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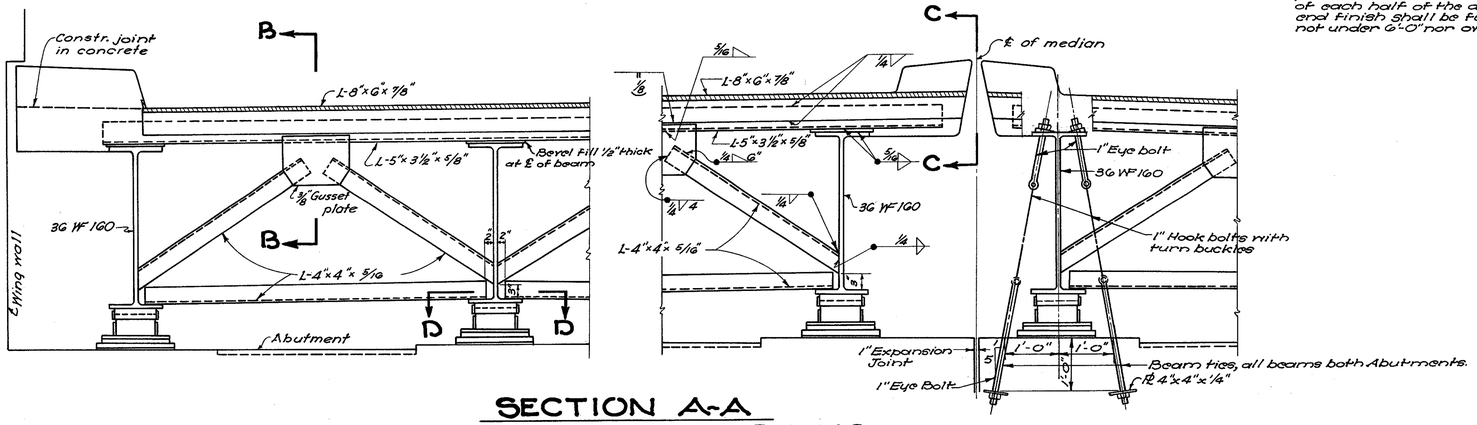
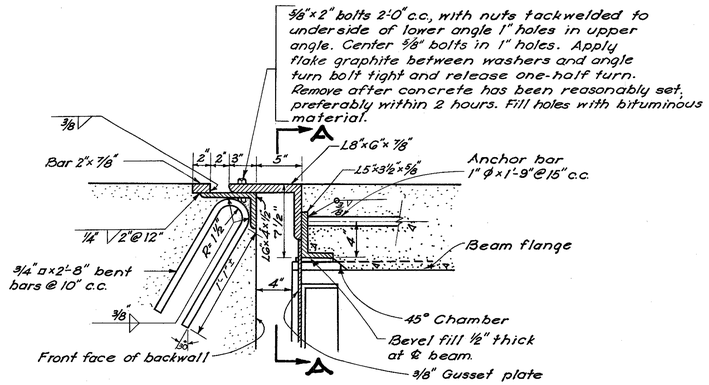
BUT-4-(16.53-19.13)

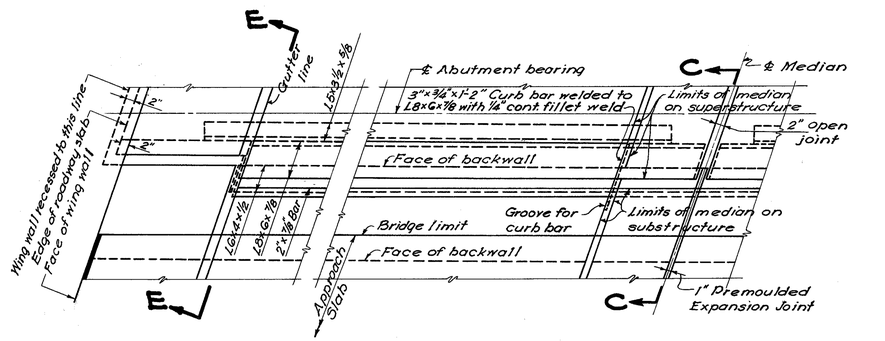
A welded butt joint will be permitted in the superstructure portion of the end finish over a beam near the mid point of each half of the deck. The abutment portion of the end finish shall be furnished in lengths of angle and bar not under 6'-0" nor over 20'-0". These shall not be welded.



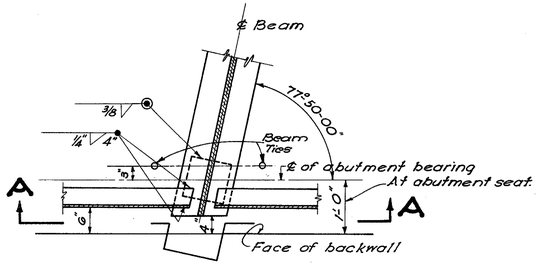
SECTION A-A
SHOWING END BRIDGING
END FRAMING & END FINISH DETAILS
Scale: 3/4" = 1'-0"



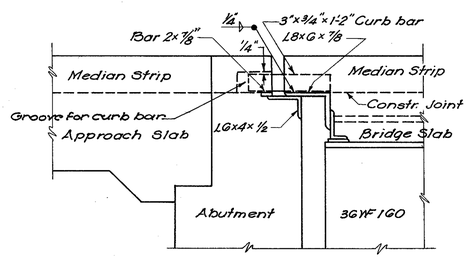
SECTION B-B
Scale: 1½" = 1'-0"



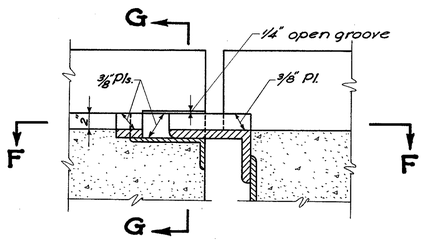
PARTIAL PLAN OF END FINISH
SOUTH ABUTMENT SHOWN, NORTH ABUTMENT SIMILAR
Scale: 3/4" = 1'-0"



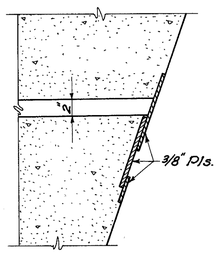
SECTION D-D
Scale: 3/4" = 1'-0"



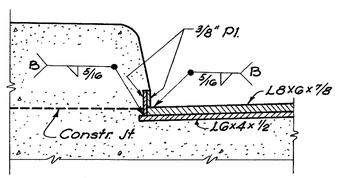
SECTION C-C
Scale: 1" = 1'-0"



SECTION E-E



SECTION F-F



SECTION G-G

CURB PLATE DETAILS
Scale: 1½" = 1'-0"

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

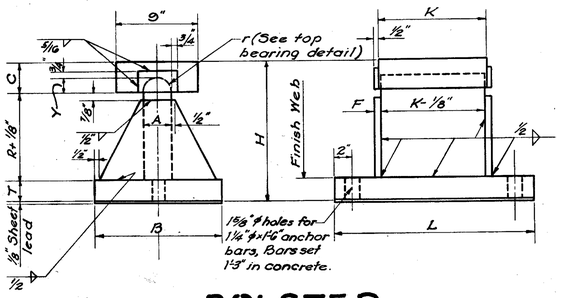
SUPERSTRUCTURE END FINISH & END BRIDGING
BRIDGE NO. BU-4-18G
OVER STATE ROUTE 73 (RELOCATED)
BUTLER COUNTY
SEC. BUT-4 STA. 595+32.88
Scale: As shown SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.V.	B.G.E.	S.J.B.	G.V. R.J.L.	W.J.I.	10-11-55	

FED. ROAD DIVISION	STATE	PROJECT	
2	OHIO		

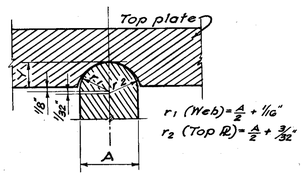
199
222

BUT-4-(16.53:19.15)



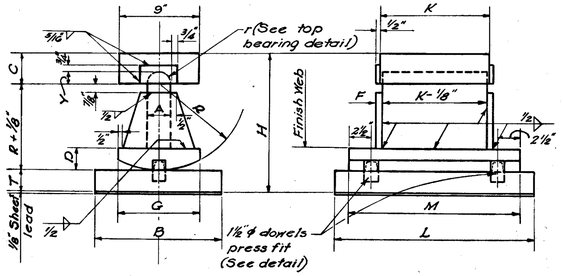
BOLSTER

See table for additional dimensions



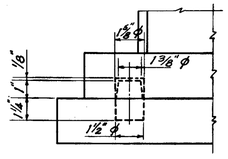
TOP BEARING DETAIL

Top plate of rockers and bolsters shall be attached to bottom of beam (or splice plate) with 5/16" fillet weld all around.



ROCKER

See table for additional dimensions



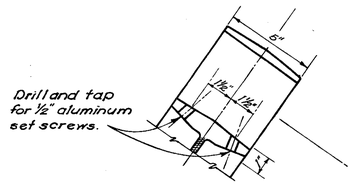
DOWEL DETAIL

ROCKERS & BOLSTERS
(STRUCTURAL STEEL)

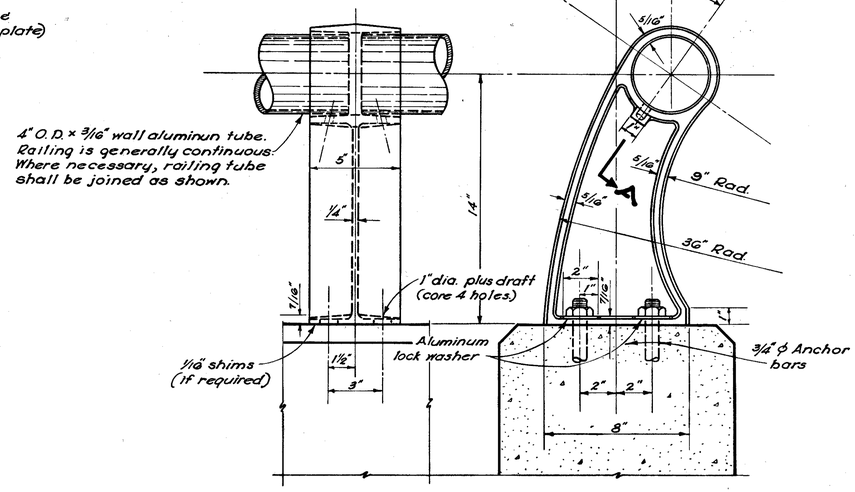
SCHEDULE OF ROCKERS & BOLSTERS

BOLSTER NO.	ROCKER NO.	DIMENSIONS (INCHES)													WEIGHT EACH (LB)		MAXIMUM LOAD (LB)
		F	B	L	H	T	R	C	A	Y	K	D	G	M	BOLSTER	ROCKER	
	R-75	1/2	8	17	9 5/8	1 1/2	5 1/2	2 1/2	2 1/2	1 3/16	9	1 3/4	7	15		195	75,000
B-125	R-125	1/2	11	20	12 5/8	2	7 1/2	3	3	1 7/16	10 1/2	2	8	17 1/2		345	125,000
B-150	R-150	1/2	12	21	13 7/8	2 1/4	8 1/2	3	3	1 7/16	11 1/2	2 1/4	8 1/2	18	370	425	150,000

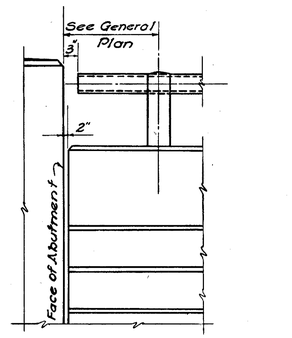
Weights given are for rocker or bolster complete (including sheet lead)



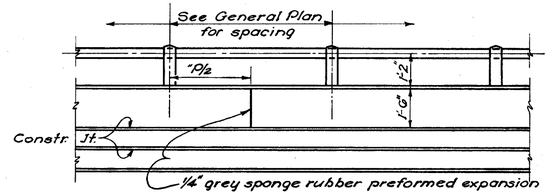
SECTION A-A



ALUMINUM RAILING
TYPE B
Scale: 3"=1'-0"



DETAIL AT WINGWALL
Scale: 3/4" = 1'-0"



TREATMENT OF PARAPET AND FASCIA
Scale: 3/8" = 1'-0"

NOTES

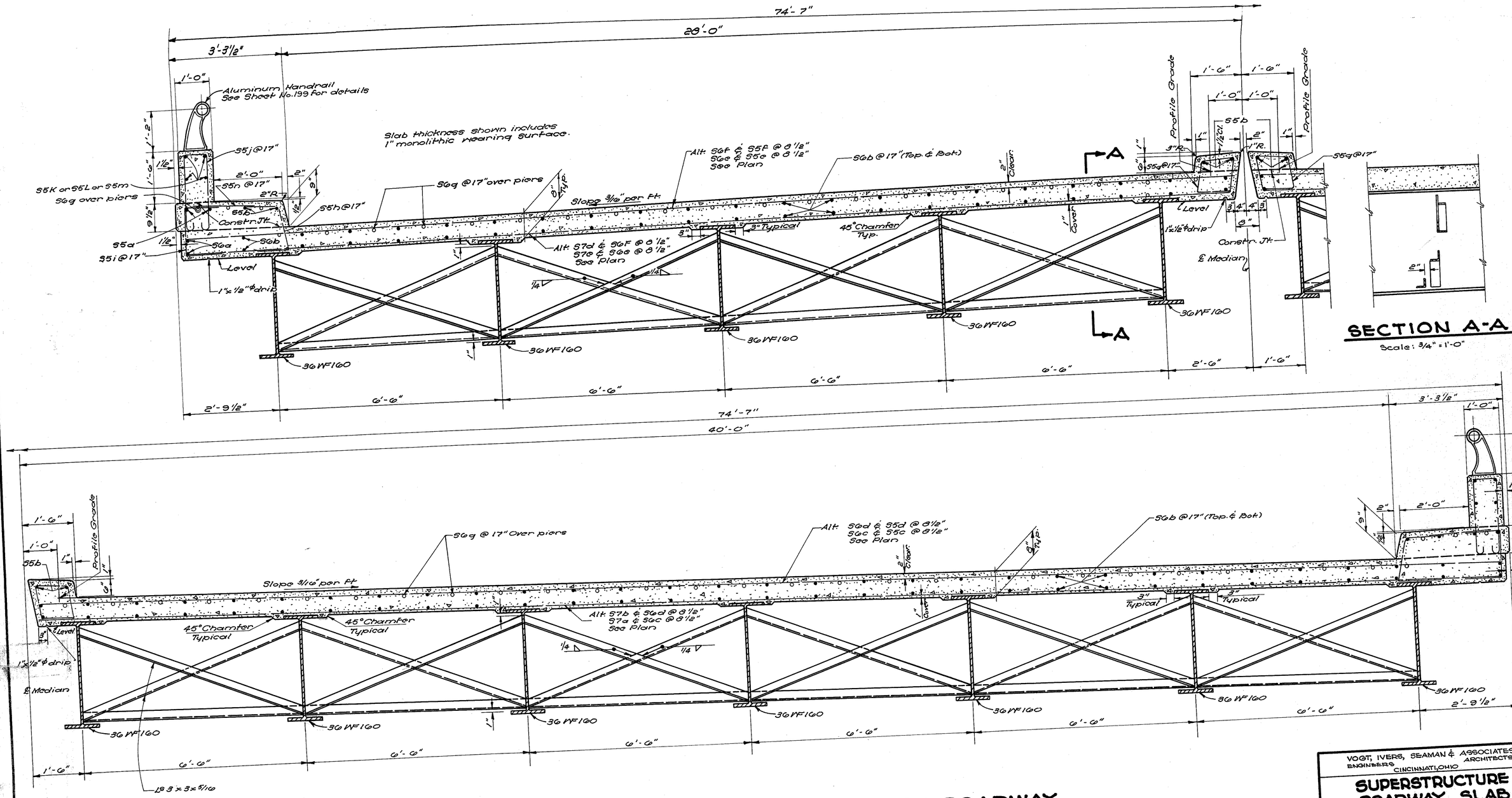
REFERENCE: shall be made to Suppl. Spec. No. S-114 Aluminum for Bridge Railing.

ANCHOR BARS shall be 3/4" ϕ aluminun bars, threaded and fitted with aluminum nuts at both ends, and embedded 1'-0"± into concrete. Care shall be exercised in placing the anchor bars to insure correct horizontal alignment of the railing.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS CINCINNATI, OHIO ARCHITECTS

ROCKER, BOLSTER & RAILING DETAILS
BRIDGE NO. BU-4-18.66
OVER STATE RT. 73 (RELOCATED)
BUTLER COUNTY
SEC. BUT.-4 STA. 595+32.88
Scale As shown SEPT., 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	J.H.K.	S.J.B.	R.J.L.	W.J.I	10-11-55	



VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

SUPERSTRUCTURE ROADWAY SLAB

BRIDGE NO. BU-4-186
OVER STATE RT. 73 (RELOCATED)

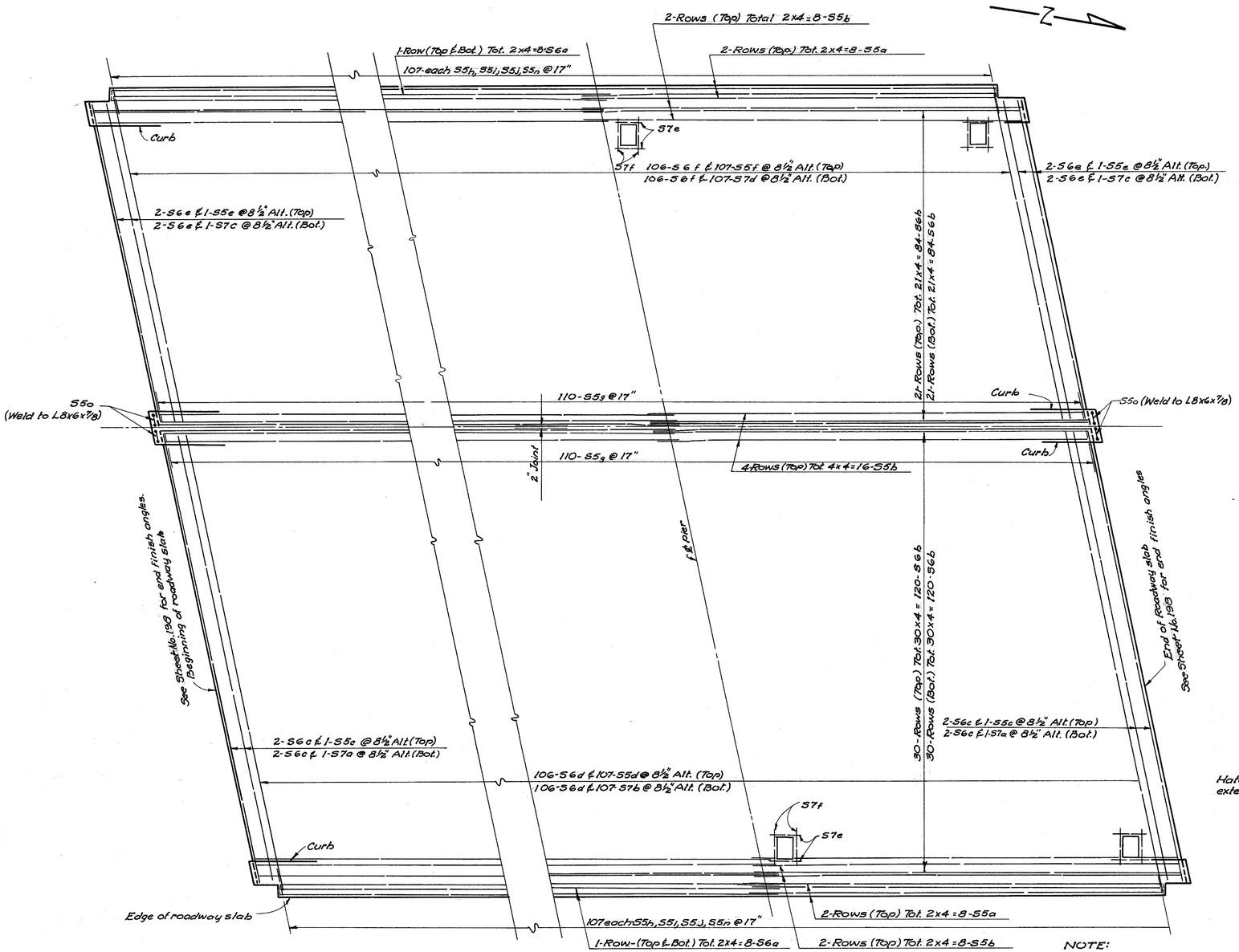
BUTLER COUNTY
SEC. BUT.-4
Scale: As shown

STA. 595+32.68
Sept. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE:	REVISED
G.V.	ALI	N.B.	G.V. R.J.L.	W.J.I. 10-11-55	

FED. RD. DIVISION	STATE	PROJECT		201 / 222
2	OHIO			

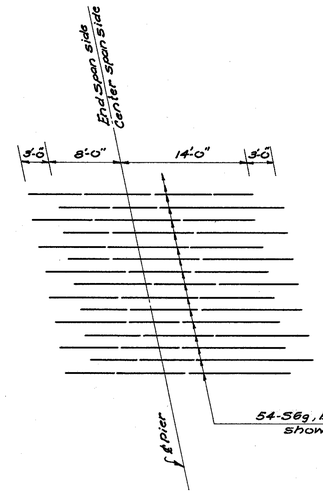
BUT-4-(16.53-19.15)



PLAN SHOWING REINFORCING FOR ROADWAY & SIDEWALK SLABS

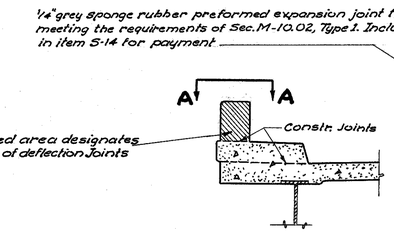
Scale: 3/16" = 1'-0"

NOTE:
Cut reinforcing bars at scuppers as required.
For location of scuppers see Sheet No. 192



PLAN OF ADDITIONAL SLAB REINFORCING AT PIERS

Scale: 1/8" = 1'-0"



DEFLECTION JOINT DETAIL

Scale: 3/8" = 1'-0"

VIEW A-A

NOTE: For location see elevation view on general plan.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

SUPERSTRUCTURE ROADWAY SLAB

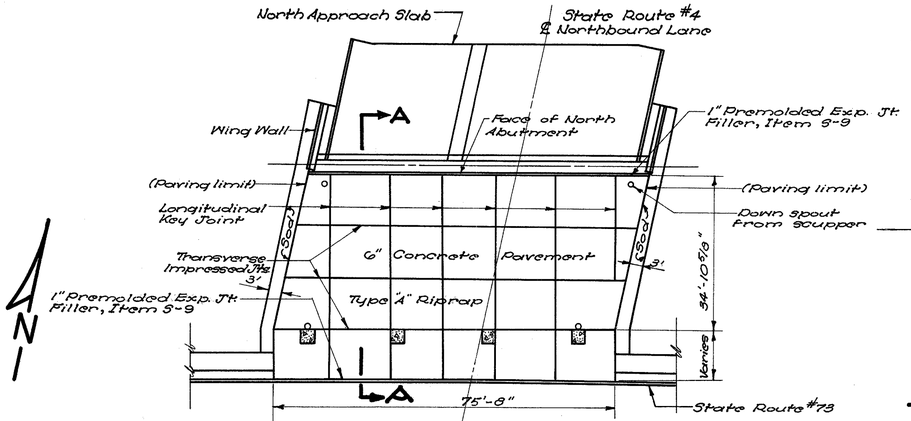
BRIDGE NO. BU-4-18C
OVER STATE ROUTE 73 (RELOCATED)

BUTLER COUNTY
SEC. BUT.-4 STA. 595+32.88
Scale: As shown SEPTEMBER, 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.V.	A.L.I.	K.L.	G.V.	W.J.I.	10-11-55	

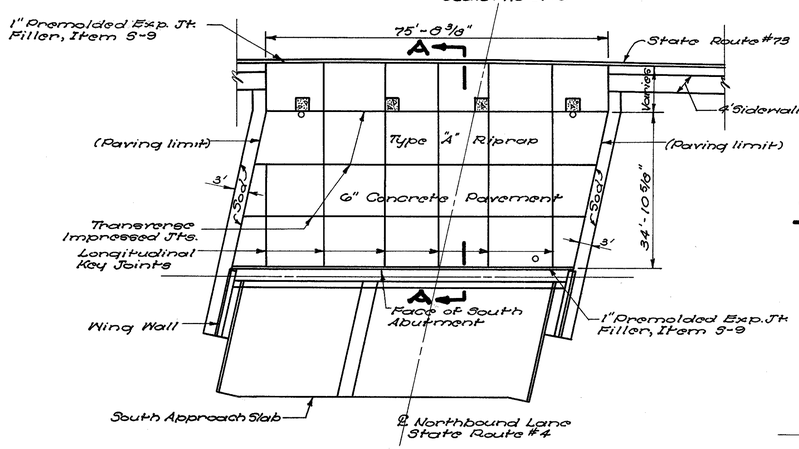
FED. RD. DIVISION	STATE	PROJECT		202 / 222
2	OHIO			

BUT-4-(16.53-19.15)



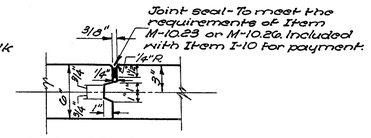
SLOPE PROTECTION - NORTH END

Scale: 1/16" = 1'-0"



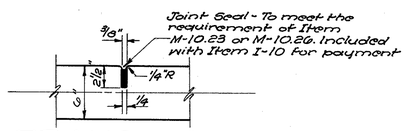
SLOPE PROTECTION - SOUTH END

Scale: 1/16" = 1'-0"



LONGITUDINAL KEY JOINT

Scale: 1 1/2" = 1'-0"

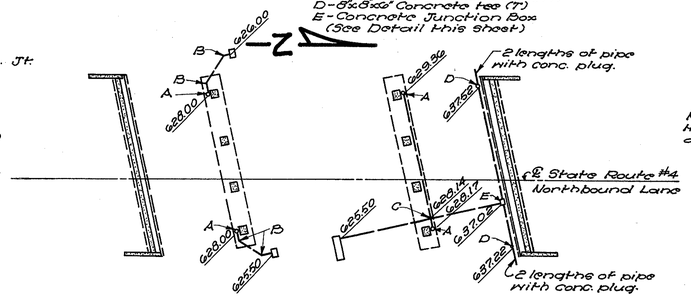


TRANSVERSE IMPRESSED JOINT

Scale: 1 1/2" = 1'-0"

TABLE OF SPECIALS

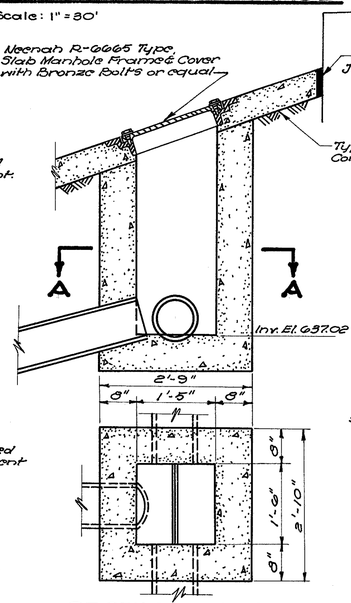
A - 6"x6" Concrete elbow
B - 8" Concrete Wye (Y)
C - 8" Concrete double tee (+)
D - 6"x6"x8" Concrete tee (T)
E - Concrete Junction Box (See Detail this Sheet)



All elevations are flow line elevations.
All underground pipe is 8" Plain Conc. pipe.

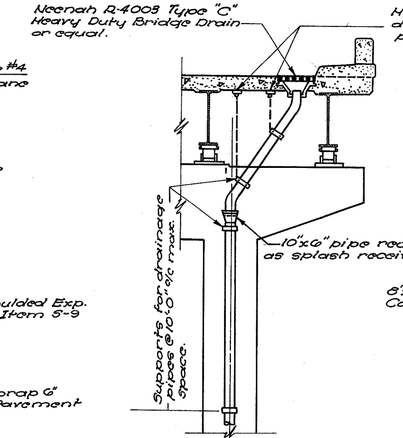
PLAN OF UNDERGROUND DRAINAGE

Scale: 1" = 30'



SECTION A-A CONCRETE JUNCTION BOX

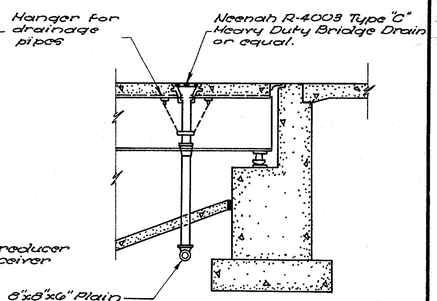
Scale: 3/4" = 1'-0"



SECTION B-B TYPICAL DRAINAGE PIPE SUPPORTS

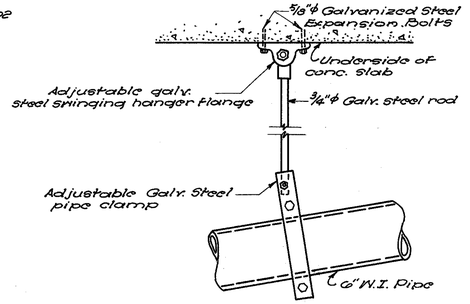
Scale: 1/4" = 1'-0"

For location of Section B-B, see Sheet No. 192



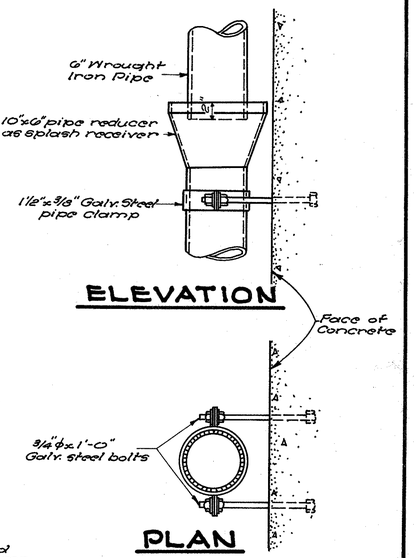
TYPICAL DRAINAGE PIPE SUPPORTS AT ABUTMENT

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



DETAIL - HANGER FOR DRAINAGE PIPE

Scale: 1 1/2" = 1'-0"



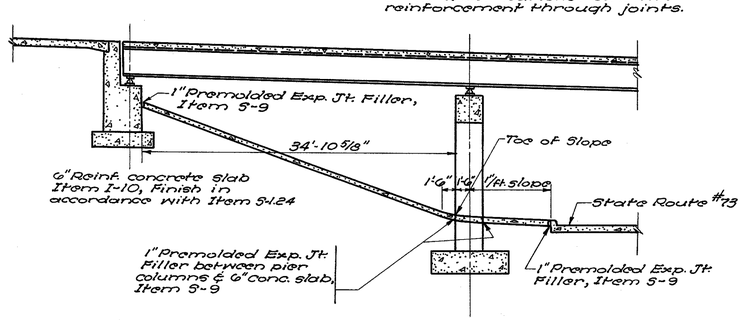
ELEVATION

PLAN

DETAIL - SUPPORTS FOR VERTICAL DRAINAGE PIPES

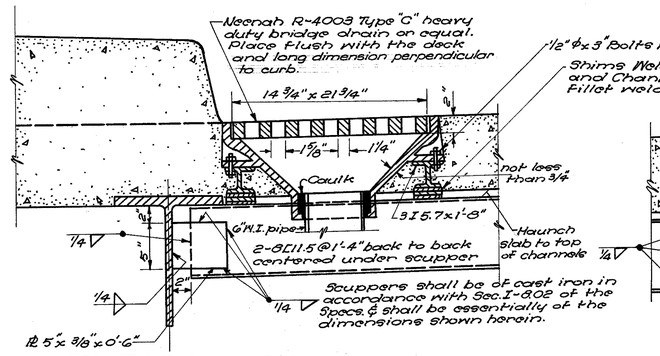
Scale: 1 1/2" = 1'-0"

Slope Protection Class "E" Concrete. Reinforce in accordance with Item I-10 of the specifications. Continue reinforcement through joints.



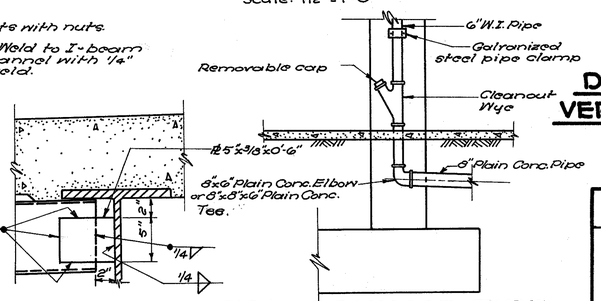
SECTION A-A

Scale: 1/8" = 1'-0"



TYPICAL SCUPPER DETAILS

Scale: 1 1/2" = 1'-0"



TYPICAL DRAINAGE PIPE AT BASE OF PIER

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

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS CINCINNATI, OHIO ARCHITECTS

SLOPE PROTECTION DRAINAGE DETAILS

BRIDGE NO. BU.-4-106
OVER STATE RT. 73 (Relocated)

BUTLER COUNTY
SEC. BUT.-4 STA. 595 + 52.68
Scale: As shown Sept. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
R.G.H.	R.G.H.	N.B.	R.J.L.	W.J.I. 10-11-55	

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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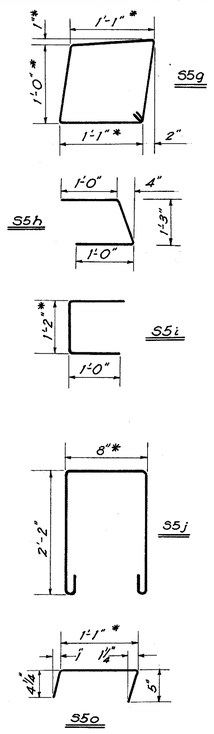
222

BUT-4-(16.53-19.15)

ROADWAY SLAB

MARK	LENGTH	NO.	WEIGHT	SHAPE
S5a	38'-11"	16	649	St.
S5b	39'-11"	32	1322	
S5c	42'-8"	2	89	
S5d	43'-2"	107	4817	
S5e	30'-6"	2	64	
S5f	30'-11"	107	3450	St.
S5g	4'-10"	220	1109	Bt.
S5h	3'-1"	214	688	
S5i	3'-0"	214	670	
S5j**	8'-0"	214	1786	Bt.
S5k**	10'-4"	16	172	St.
S5l**	12'-1"	80	1008	
S5m**	5'-10"	8	49	
S5n	2'-5"	214	539	St.
S5o	1'-9"	4	7	Bt.
SGa	39'-2"	16	941	St.
SGb	40'-1"	408	24564	
SGc	42'-8"	8	513	
SGd	43'-2"	212	13745	
SGe	30'-6"	8	366	
SGf	30'-11"	212	9845	
SGg	25'-0"	108	4055	St.
S7a	42'-8"	2	174	St.
S7b	43'-2"	107	9441	
S7c	30'-6"	2	125	
S7d	30'-11"	107	6762	
S7e	3'-0"	12	74	
S7f	3'-6"	12	86	St.

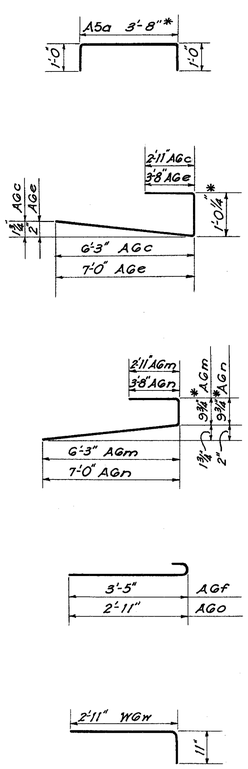
BENDING DIAGRAM



ABUTMENTS

MARK	LENGTH	NO.	WEIGHT	SHAPE
A5a	5'-6"	184	1056	Bt.
A5b	32'-6"	16	542	St.
A5c	23'-4"	32	779	St.
AGa	5'-6"	182	1504	St.
AGb	31'-8"	28	1332	St.
AGc	10'-0"	70	1051	Bt.
AGd	5'-1"	76	580	St.
AGe	11'-6"	4	69	Bt.
AGf	4'-1"	72	442	Bt.
AGg	5'-0"	22	165	St.
AGh	5'-5"	20	163	St.
AGi	22'-11"	56	1928	St.
AGj	7'-3"	30	327	St.
AGk	6'-11"	22	229	St.
AGl	7'-1"	20	213	St.
AGm	3'-10"	70	1034	Bt.
AGn	11'-4"	4	68	Bt.
AGo	3'-7"	32	172	Bt.
WGa	8'-3"	8	99	St.
WGb	4'-6"	24	162	
WGc	14'-2"	16	340	
WGd	5'-0"	24	180	
WGe	10'-4"	8	124	
WGf	11'-9"	7	125	
WGg	7'-10"	8	94	
WGh	2'-11"	12	53	
WGi	6'-10"	12	123	
WGj	7'-6"	72	135	
WGk	5'-8"	8	68	
WGl	14'-8"	12	264	
WGm	12'-4"	12	222	
WGn	12'-6"	7	131	
WGp	12'-0"	7	126	
WGr	2'-6"	4	15	
WGt	12'-8"	7	133	St.
WGw	3'-9"	12	68	Bt.
WGx	3'-2"	16	70	St.

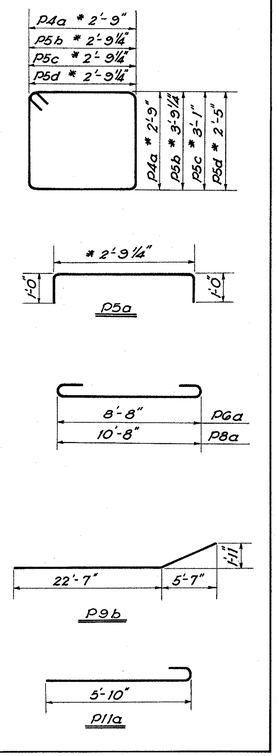
BENDING DIAGRAM



PIERS

MARK	LENGTH	NO.	WEIGHT	SHAPE
P4a	11'-7"	102	789	Bt.
P5a	4'-7"	144	688	Bt.
P5b	13'-8"	64	912	
P5c	12'-3"	4	52	
P5d	10'-11"	4	46	Bt.
P5e	34'-0"	16	568	Str.
PGa	10'-0"	188	2824	Bt.
P8a	12'-10"	56	1919	Bt.
P9a	22'-5"	32	2439	Str.
P9b	28'-6"	16	1550	Bt.
P11a	7'-5"	144	5674	Bt.
P11b	19'-10"	72	7587	Str.
P11c	38'-5"	32	6532	Str.
P11d	18'-1"	72	6918	Str.

BENDING DIAGRAM



REPLACEMENT BARS

MARK	LENGTH	NO.	WEIGHT	SHAPE
RE4	5'-3"	1	4	Str.
RE5	5'-7"	2	12	
RE6	5'-11"	4	30	
RE7	6'-3"	1	13	
RE8	6'-6"	1	17	
RE9	6'-10"	1	23	
RE11	7'-7"	2	81	Str.

Note:
Reinforcing steel dimensions marked with asterisks * are out-to-out dimensions requiring exact bending.
Bars marked with double asterisk ** to be included in payment under Item S-14, Railing.

VOGT, IVERS, SEAMAN & ASSOCIATES
ENGINEERS ARCHITECTS
CINCINNATI, OHIO

REINFORCING STEEL LIST

BRIDGE NO. BU-4-18G
OVER STATE ROUTE 73 (RELOCATED)
BUTLER COUNTY
SEC. BUT-4 STA. 595+32.88
Scale: As shown SEPT. 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.Y.	R.L.S.	S.J.B.	V.D. R.L.S.	W.J.I.	10-11-55	

FED. RD. DIVISION	STATE	PROJECT		
2	OHIO			

204
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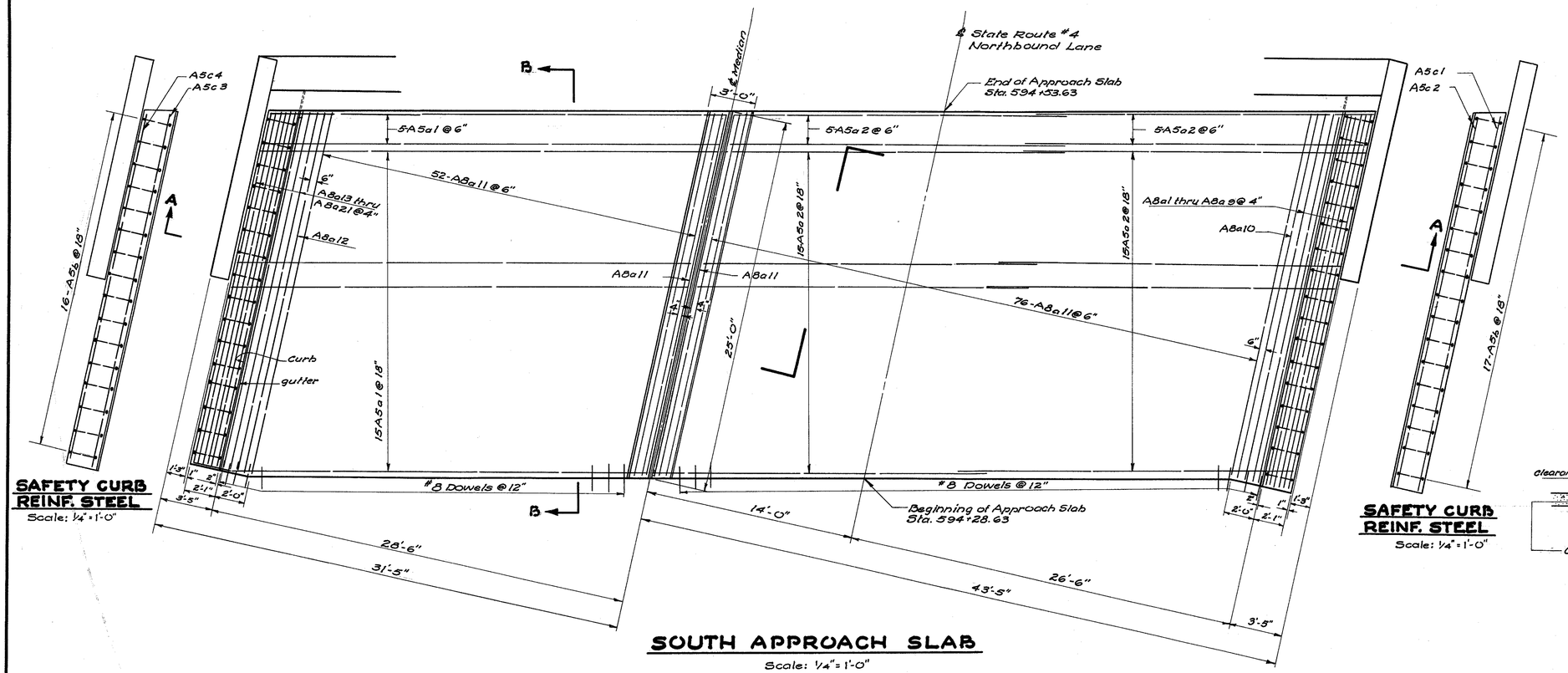
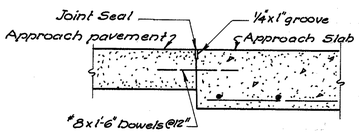
BUT-4-(16.53-19.15)



SAFETY CURB REINF. STEEL
Scale: 1/4"=1'-0"

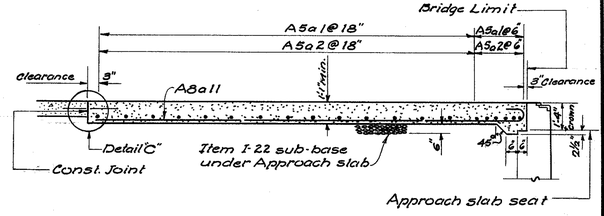
SAFETY CURB REINF. STEEL
Scale: 1/4"=1'-0"

SOUTH APPROACH SLAB
Scale: 1/4"=1'-0"

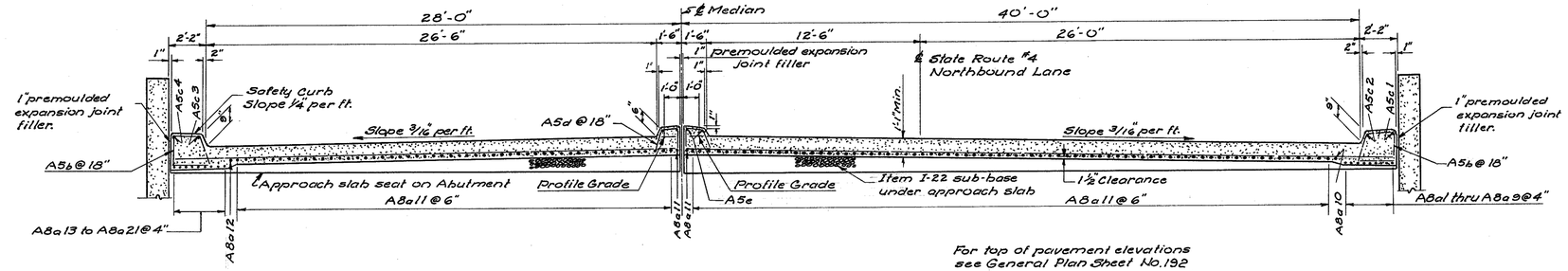


DETAIL "C"
Scale 3/4"=1'-0"

Payment for the construction joints, including dowel bars, is included in the price per sq. yd. bid for the approach pavement.



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



For top of pavement elevations see General Plan Sheet No.192

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

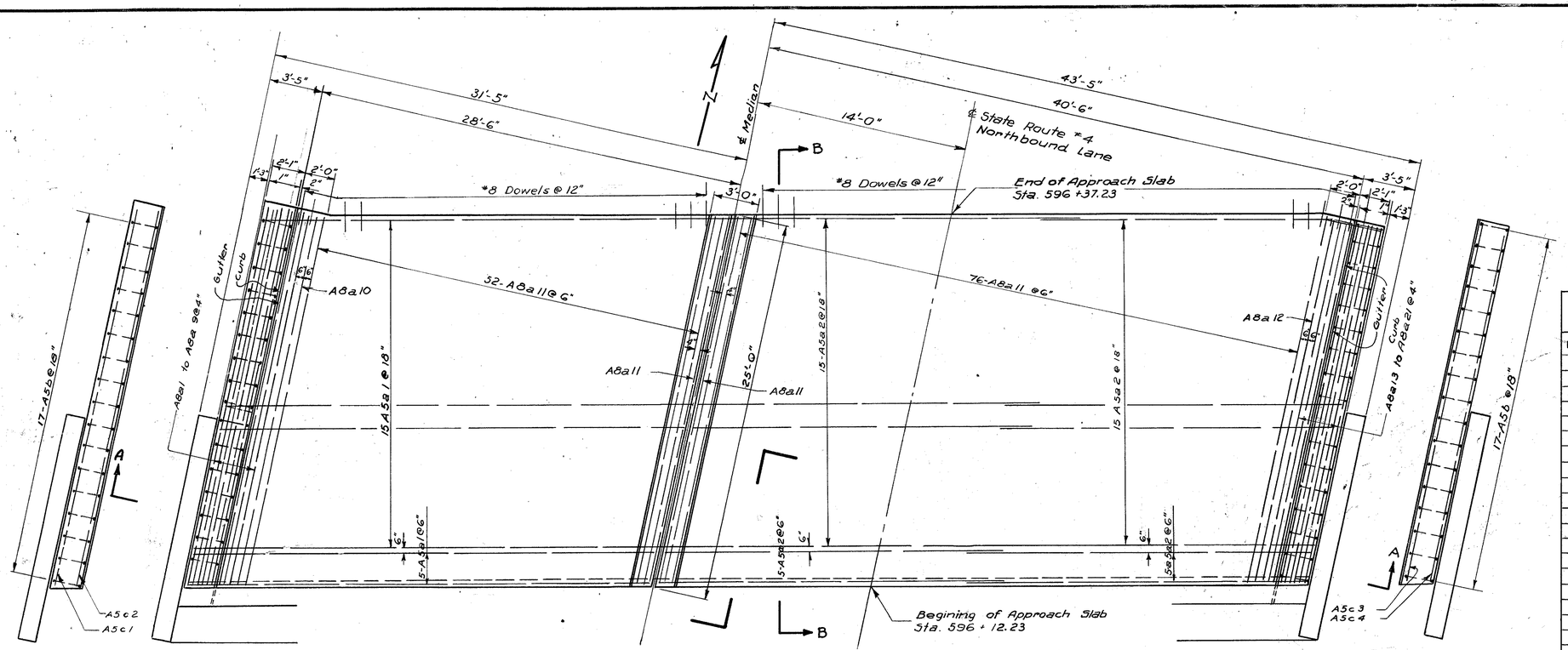
NOTE:
Approach Slabs to be Class "C" Concrete.
The price bid for Item I-7 for the approach slab shall include safety curb and 1" premoulded expansion joint filler.

See Sheet 205 for reinforcing steel list.
For location of expansion joints in the approach pavement adjacent to the bridge see standard drawing T.J. No.1 dated 3-2-53

FED. RD. DIVISION	STATE	FED. AID PROJECT	TYPE FUNDS
2	OHIO	F-581(10)	

205
222

BUT.-4-(16.53-19.15)



SAFETY CURB REINF. STEEL

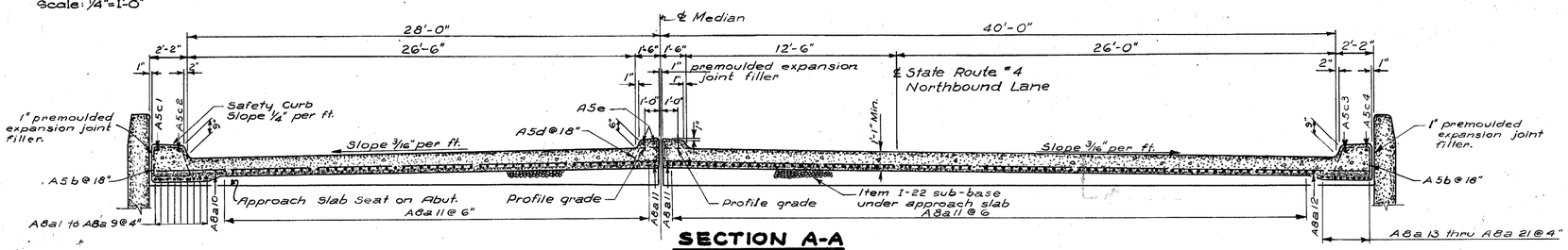
Scale: 1/4"=1'-0"

NORTH APPROACH SLAB

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

SAFETY CURB REINF. STEEL

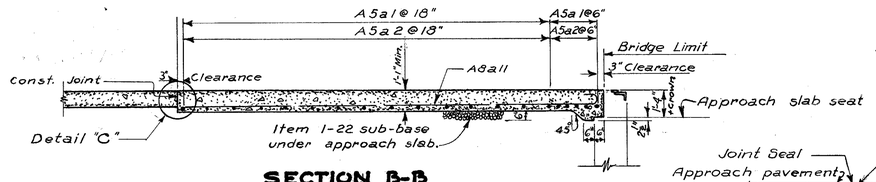
SCALE : 1/4"=1'-0"



SECTION A-A

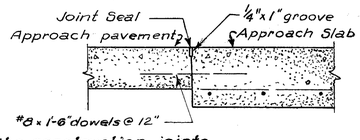
SCALE : 1/4"=1'-0"

For top of pavement elevations see general plan Sheet #152



SECTION B-B

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



Payment for the construction joints, including dowel bars, is included in the price per sq. yd. bid for the approach pavement.

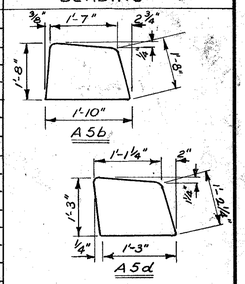
DETAIL "C"

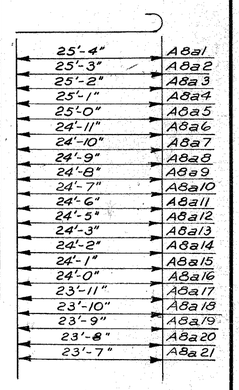
Scale: 3/4"=1'-0"

REINFORCING STEEL LIST FOR NORTH & SOUTH APPROACH SLABS

MARK	LENGTH	NUMBER	TOTAL WT	SHAPE
A5a1	30'-3"	40	1262	Str.
A5a2	22'-1"	80	1843	Str.
A5b	6'-6"	67	454	Bt.
A5c1	25'-4"	2	53	Str.
A5c2	24'-11"	2	52	↕
A5c3	24'-0"	2	50	↕
A5c4	23'-7"	2	49	Str.
A5d	4'-7"	68	325	Bt.
A5e	24'-6"	8	204	Str.
A8a1	26'-5"	2	141	Bt.
A8a2	26'-4"	2	141	↕
A8a3	26'-3"	2	140	↕
A8a4	26'-2"	2	140	↕
A8a5	26'-1"	2	139	↕
A8a6	26'-0"	2	139	↕
A8a7	25'-11"	2	138	↕
A8a8	25'-10"	2	138	↕
A8a9	25'-9"	2	138	↕
A8a10	25'-8"	2	137	↕
A8a11	25'-7"	260	17,760	↕
A8a12	25'-6"	2	136	↕
A8a13	25'-4"	2	135	↕
A8a14	25'-3"	2	135	↕
A8a15	25'-2"	2	134	↕
A8a16	25'-1"	2	134	↕
A8a17	25'-0"	2	134	↕
A8a18	24'-11"	2	133	↕
A8a19	24'-10"	2	133	↕
A8a20	24'-9"	2	132	↕
A8a21	24'-8"	2	132	Bt.

BENDING





NOTE:

Approach Slabs to be Class "C" Concrete. The price bid for Item 1-7 for the approach slab shall include safety curbs, and 1" premoulded expansion joint filler. For location of expansion joints in the approach pavement adjacent to the bridge see standard drawing T.J. No.1 dated 3-2-53.

APPROACH SLAB
BRIDGE NO BU-4-186
OVER STATE RT. 75 (RELOCATED)
BUTLER COUNTY
STA. 595+32.86

NORTH APPROACH SLAB - BRIDGE NO-BU-4-186

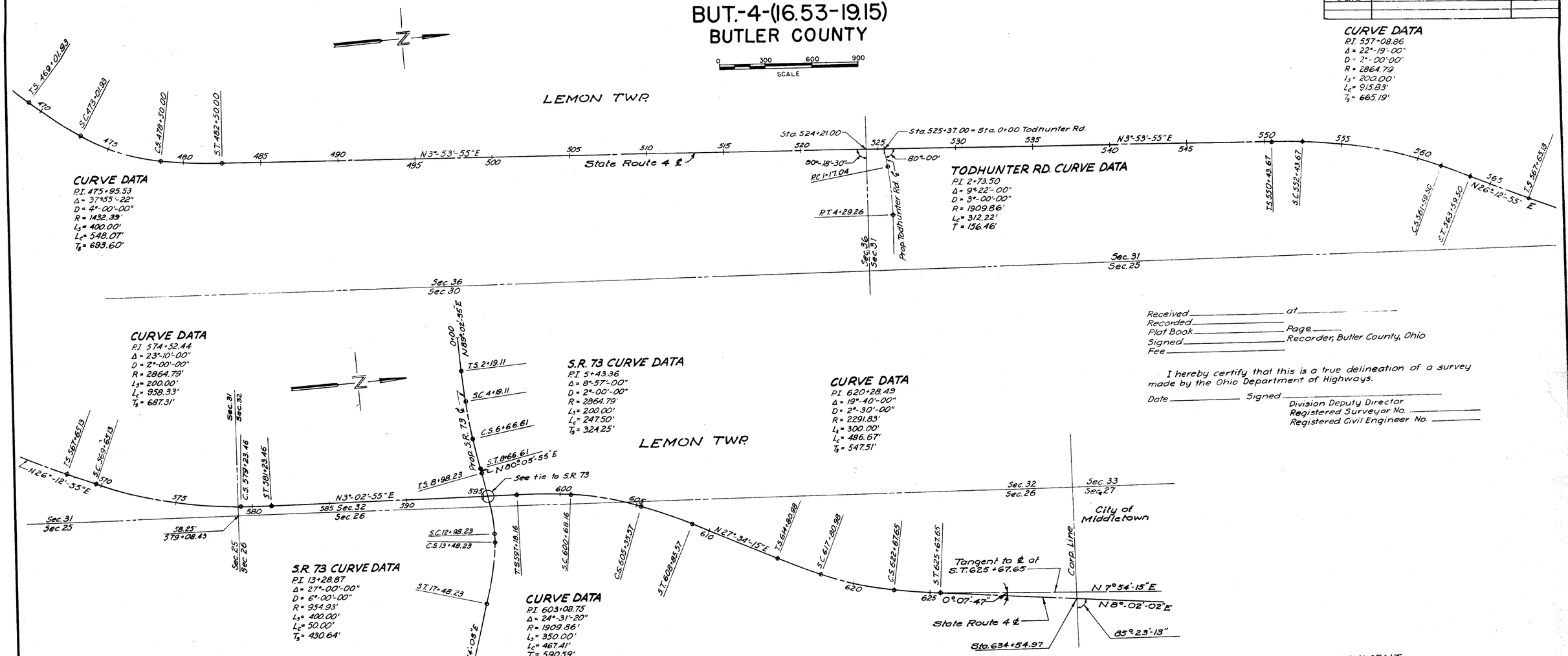
LOCATION PLAN
STATE ROUTE 4
BUT.-4-(16.53-19.15)
BUTLER COUNTY

SCALE 0 300 600 900

R/W PLAN
BUTLER COUNTY
BUT-4-(16.53-19.15)

206
222

Date	Revision	By



CURVE DATA
P.I. 475+95.53
Δ = 37°-55'-22"
D = 4°-00'-00"
R = 1432.39'
L_s = 400.00'
L_c = 548.07'
T_s = 693.60'

CURVE DATA
P.I. 574+52.44
Δ = 23°-10'-00"
D = 2°-00'-00"
R = 2864.79'
L_s = 200.00'
L_c = 958.33'
T_s = 687.31'

S.R. 73 CURVE DATA
P.I. 5+43.36
Δ = 8°-57'-00"
D = 2°-00'-00"
R = 2864.79'
L_s = 200.00'
L_c = 247.50'
T_s = 324.25'

S.R. 73 CURVE DATA
P.I. 13+28.87
Δ = 27°-00'-00"
D = 6°-00'-00"
R = 954.93'
L_s = 400.00'
L_c = 50.00'
T_s = 430.64'

CURVE DATA
P.I. 603+08.75
Δ = 24°-31'-20"
R = 1909.86'
L_s = 350.00'
L_c = 467.41'
T_s = 590.59'
D = 3°-00'-00"

CURVE DATA
P.I. 620+28.49
Δ = 19°-40'-00"
D = 2°-30'-00"
R = 2291.83'
L_s = 300.00'
L_c = 486.67'
T_s = 547.51'

CURVE DATA
P.I. 557+08.86
Δ = 22°-19'-00"
D = 2°-00'-00"
R = 2864.79'
L_s = 200.00'
L_c = 915.83'
T_s = 665.19'

TODHUNTER RD. CURVE DATA
P.I. 2+73.50
Δ = 9°-22'-00"
D = 3°-00'-00"
R = 1909.86'
L_c = 312.22'
T = 156.46'

Received _____ at _____
Recorded _____
Plat Book _____ Page _____
Signed _____ Recorder, Butler County, Ohio
Fee _____

I hereby certify that this is a true delineation of a survey made by the Ohio Department of Highways.

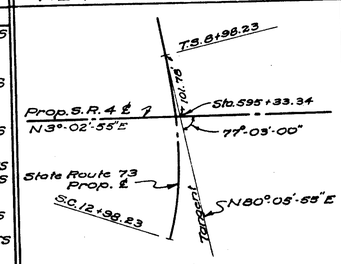
Date _____ Signed _____
Division Deputy Director
Registered Surveyor No. _____
Registered Civil Engineer No. _____

LOCATION OF CENTER LINE REFERENCE MONUMENTS

Station	Dist. Rt.	Dist. Lt.	Location
473+01.93 S.C.	20'	70'	RADIAL LINE
478+50.00 C.S.	20'	18'	" "
482+50.00 S.T.	20'	18'	RADIAL LINE
487+00.00	20'	18'	RIGHT ANGLES
492+00.00	20'	18'	" "
495+00.00	20'	18'	" "
500+00.00	20'	18'	" "
505+00.00	20'	18'	" "
510+00.00	20'	18'	" "
515+00.00	20'	18'	" "
520+50.00	20'	18'	" "
525+00.00	24'	70'	" "
530+00.00	20'	18'	" "
534+00.00	20'	18'	" "
539+50.00	20'	18'	" "
545+00.00	20'	18'	" "
550+43.67 T.S.	20'	68'	RIGHT ANGLES
552+43.67 S.C.	20'	72'	RADIAL LINE
557+01.59	20'	80'	"
561+59.50 C.S.	20'	75'	RADIAL LINE
563+59.50 S.T.	20'	18'	RIGHT ANGLES

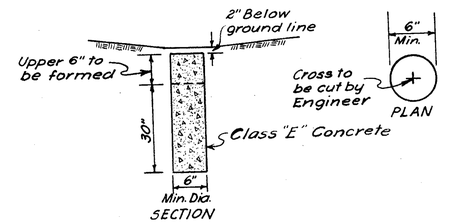
Station	Dist. Rt.	Dist. Lt.	Location
567+65.13 T.S.	20'	18'	RIGHT ANGLES
569+65.13 S.C.	20'	68'	RADIAL LINE
574+44.30	20'	60'	"
579+23.46 C.S.	20'	52'	RADIAL LINE
581+23.46 S.T.	20'	48'	RIGHT ANGLES
585+00.00	30'	50'	" "
590+50.00	36'	47'	" "
594+00.00	31'	46'	" "
597+18.16 T.S.	31'	47'	RIGHT ANGLES
600+68.16 S.C.	21'	49'	RADIAL LINE
605+35.57 C.S.	20'	60'	RADIAL LINE
608+85.57 S.T.	20'	50'	RIGHT ANGLES
614+80.98 T.S.	20'	55'	RIGHT ANGLES
617+80.98 S.C.	20'	48'	RADIAL LINE
622+67.65 C.S.	21'	48'	RADIAL LINE
625+67.65 S.T.	20'	48'	RIGHT ANGLES
630+00.00	20'	48'	"
634+50.00	20'	48'	RIGHT ANGLES

TIE TO STATE ROUTE 73



Not to scale

DETAIL OF REFERENCE MONUMENT



NOTE: Monuments to be placed by Contractor and marked with cross by State Forces.

R/W PLAN

BUTLER COUNTY
BUT-4-(16.33-19.15)

207
222

Date	Revision	By

NORTH

Woodcrest Subdivision

Lemon Twp.
Sec. 36 T-3 R-3

CURVE DATA
P.I. = 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'

T.S. 469+0.93

S.C. 473+0.93

WOODCREST DRIVE

Field Entrance

Conc. Headwalls

N 41°49'17" E

18" V.S.P.

Conc. Blk. Headwalls
E=1479.40
I=136.01

15" C.M.P.

12" C.M.P.
E=1479.40
L=153.48

Loose Bricks

6'x1' Stone Headwall

Grave Drive

1 Sty. Fr. Res & Gar.

2 Sty. Fr. Res

Gravel Drive

Style Line

Drive

Prop R/W

STATE ROUTE 63

Ex. R/W

Pc 1+28.21

PT 2+03.14

S.R. 63 Prop ℄

For R/W Information at intersection
See Sheet 273/291 But-4-(8.48-15.02)

7.10
471+48.00

8.66
473+05.24

8.24
474+39.52

Ex. R/W

Charles E. Matson
&
Carrie M. Matson

105
X

C.S. 478+50.00

Channel Agreement

105'
480+00

81.20'
480+00

105'
480+25

81.30
480+25

Conc. Headwall

12" C.M.P.

Brick Headwall

Brick

2 Light Posts

29.68
476+02.72

0.80' Lt
478+62.80

10.32'
477+84.41

18.80
477+33.74

66.1'
481+35

Temp. R/W

110'
480+55

75'
480+00

110'
480+00

61.5'
479+00

60'
478+69.70

104
T

Lot 7
Charles E. Matson

104

55'
470+20.75

55'
471+90.60

38'
473+31.63

42'
474+62.27

50'
476+09.01

50'
477+40.53

B.M. 473
Res

3" Flag Pole

Limit of Construction

Asphalt

Howard C. Yoho
&
Betty F. Yoho

99

Mary Elizabeth Hinsh

100

Lot 10
William L. Sanders
&
Martha Sanders

101

and
William B. Sanders, Jr.
&
Margaret Sanders

Lot 9
Fred C. McCarthy
&
Nathalie W. McCarthy

102

Lot 8
Robert B. Marshall
&
Ruth Marshall

103

Subdivision Line

Hughes Manor Subdivision
P.B. 8 P. 7

Sta. 467+00 to Sta. 481+00

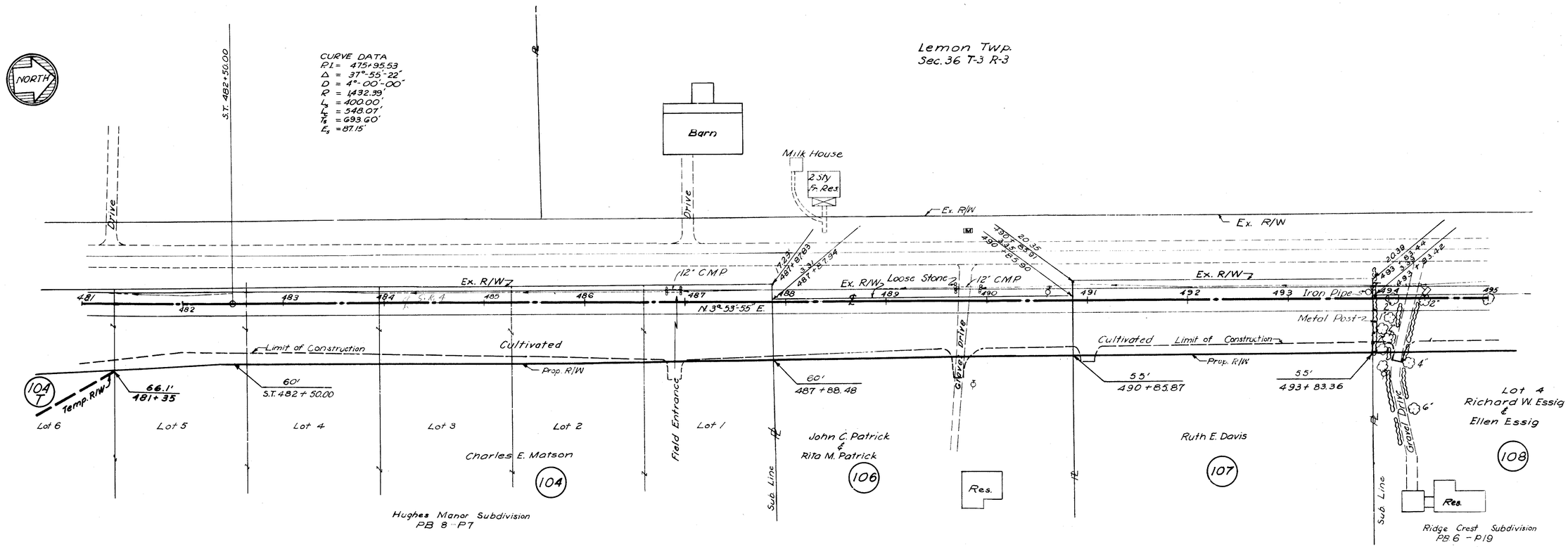
R/W PLAN

BUTLER COUNTY

BUT-4-(16.53-19.15)

(208 / 222)

Date	Revision	By



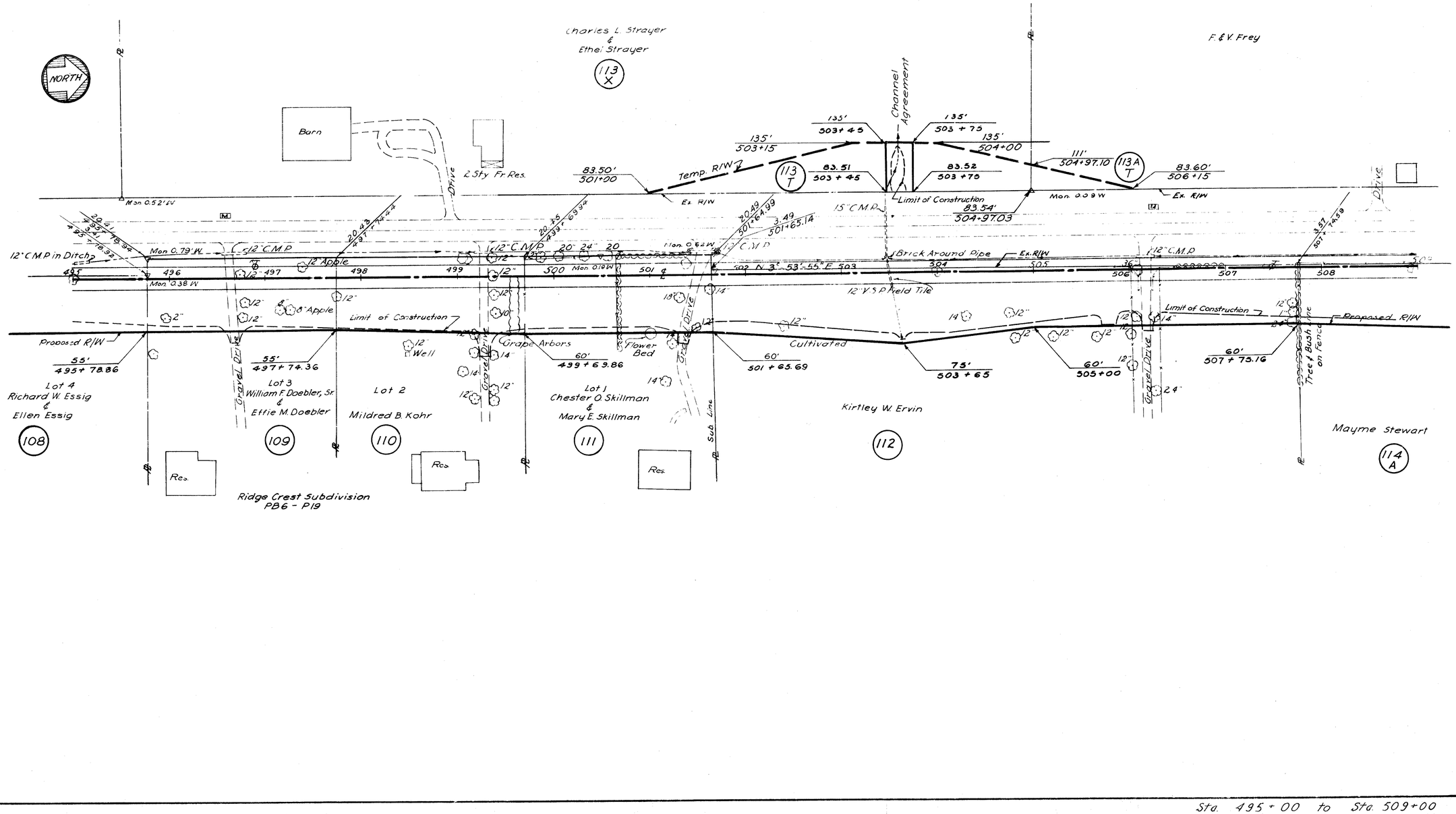
Sta. 481+00 to Sta. 495+00

R/W PLAN
BUTLER COUNTY
BUT-4-(16.53-19.15)

209
222

Date	Revision	By

Leinon Twp.
Sec. 36 T-3 R-3



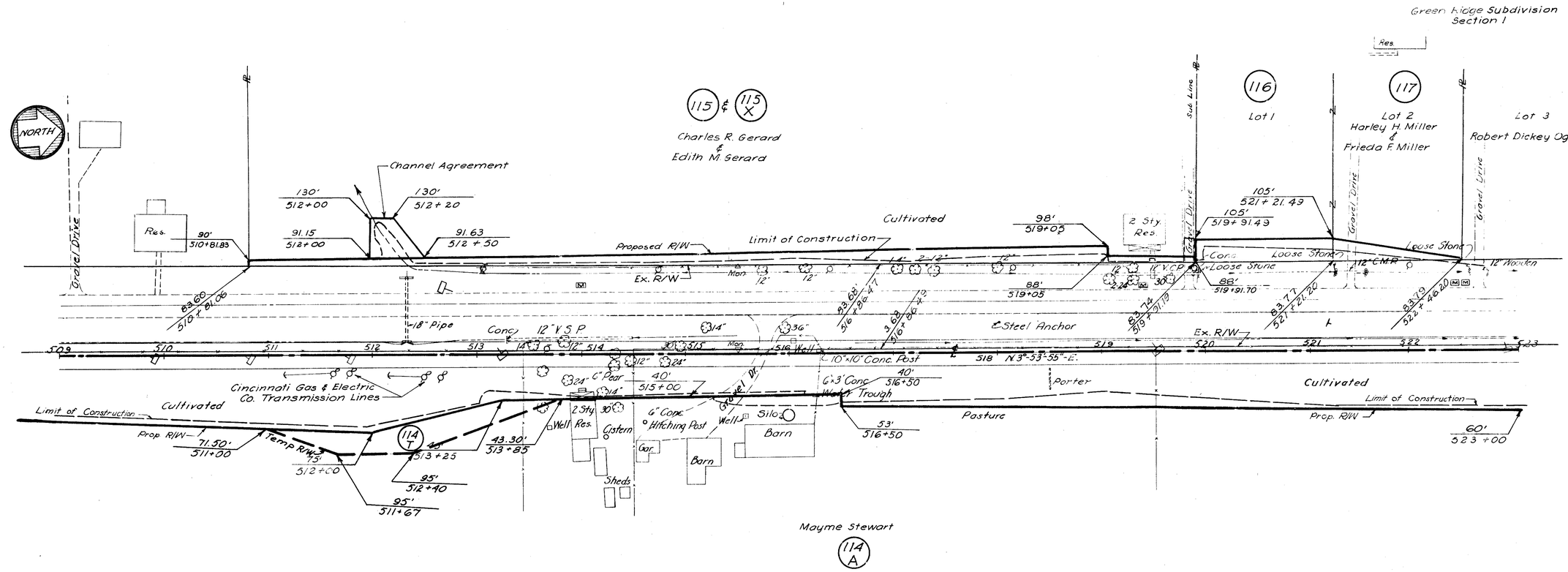
Sta. 495+00 to Sta. 509+00

R/W PLAN
BUTLER COUNTY
BUT-4-(16.53-19.15)

210
222

Date	Revision	By

Lemon Twp.
Sec. 36 T-3 R-3



Sta. 509+00 to Sta. 523+00

R/W PLAN
BUTLER COUNTY
BUT-4-(16.53-19.15)

211
222

Date	Revision	By

Lemon Twp.
Sec. 36 T-3 R-3

Lemon Twp.
Sec. 31 T-2 R-4

Green Ridge Subdivision
Section 1

NORTH

Lot 3 | Lot 4 | Lot 5 | Lot 6 | Lot 7 | Lot 8 | Lot 9 | Lot 10 | Lot 11 | Lot 12 | Betty B. Owens

R.G. Miller

Elmer D. Wright & Olive M. Wright

Howard Huffman & Edith Huffman

Res. | Gar. | Kas. | Barn

Sec. 36 | Sec. 31

Gravel Drive | Sub. Line

12" Wood Pipe | Ex. R/W | Mon. 0.24 E | Mon. 0.11 W | Hedgerow Fence

Temp. R/W | Limit of Construction

84.03' 531+75.82
84.05' 532+75.82
125' 532+75.86
125' 533+25
84.08' 534+00.83
105' 534+00.87
84.10' 534+80

121A T | 121B T | 121C T

80° 18' 30"

Mon. 0.16 E

40' 526+20 S.R.4 = 74.80' 0+53.81 Todhunter

40' 529+03.82

40' 530+63.83

Display Lights | Gravel Post | 12" C.M.P. | 12" V.S.P.

Mon. 0.18 W & 0.31

N. 3°-53'-55" E.

523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537

40' 525+84.42 S.R.4 = 39.76' 0+47.63 Todhunter Rd.

Cultivated | Nursery | Bush

Limit of Construction

Proposed R/W

Slope Easement

Channel Agreement

Stone Wall | Gravel Drive | 2 Sty. Fr. Res. & Gar. | conc. apron | Light Post

Asphalt Dr. | Conc. Drive

1 Sty. Fr. Res. | 1 Sty. Fr. Res.

6' Ornamental

60' 523+00

80' 525+00 S.R.4 = 50.33' 0+72.36 Todhunter Rd.

PC 1+17.04

TODHUNTER ROAD

Limit of Construction

Proposed R/W

55' 526+20 S.R.4 = 71.20' 0+68.40 Todhunter

55' 528+03.82

55' 529+03.82

45' 530+63.83

70' 533+07.24

90' 533+07.74

83.27' 533+60

105' 533+25

105' 533+08.12

50' 536+18.51

40' 537+00

P.T. 4+29.26

30' 4+29.26

E.T.

Sub. Line

22.58' 5+54.80

2.58' 5+55

17.42' 5+55.20

TODHUNTER ROAD
CURVE DATA
P.I. = 2 + 73.50
Δ = 3° 22'-00"
D = 3° 00'-00"
T = 156.46'
R = 1909.86
L = 312.22

Lot 13 — Audrey C. Firth — 118 A & 118 SL — 118 B

Lot 14 — Theodore E. Snider — 119 & 119 SL

Lot 15 — Everette Whitt — 120 & 120 SL

Lot 16 — Herschel Marshall — 121 & 121 X

Green Ridge Subdivision
Section 2
PB 8 - P. 24

Lot 17

Lot 18 — Lawrence E. Shackelford & Grayce L. Shackelford — 122

Mayme Stewart — 114 A & 114 B

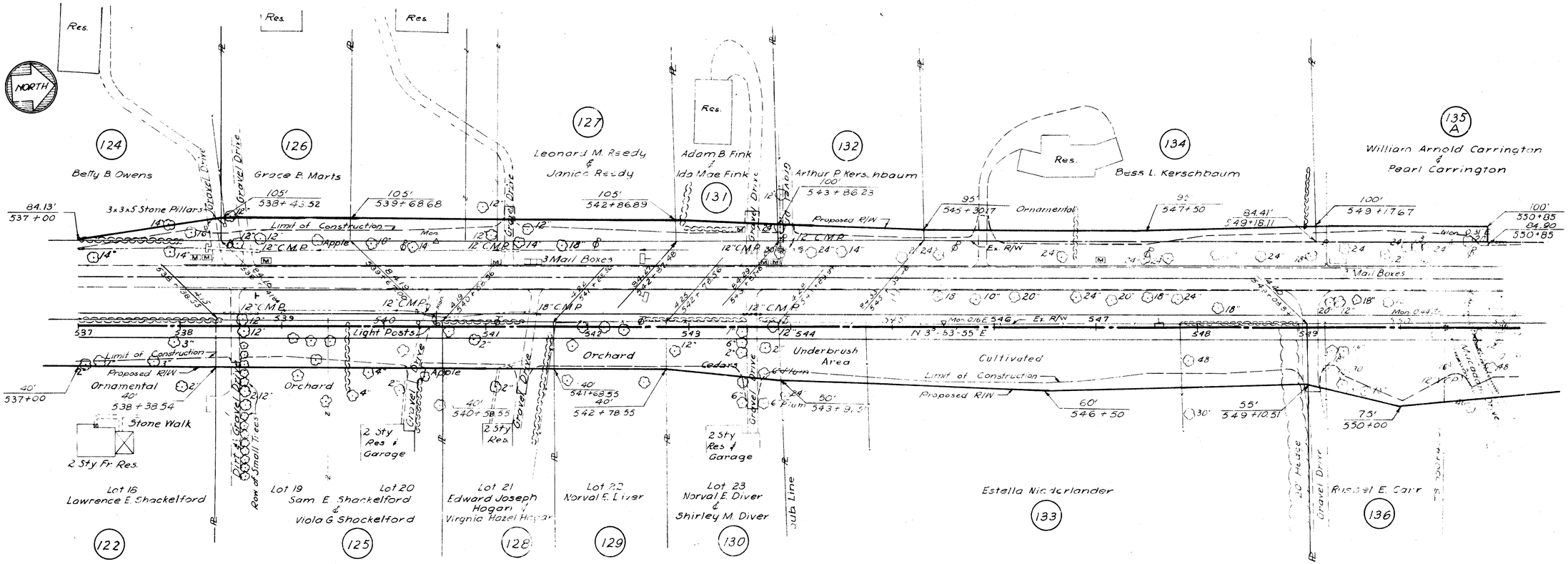
Sta. 523 + 00 to Sta. 537 + 00

R/W PLAN
BUTLER COUNTY
BUT-4-(16.53-19.15)

212/222

Date	Revision	By

Lemon Twp.
Sec. 31 T-2 R-4



Note: Parcel No. 123 not used

Green Ridge Subdivision
Section 2
P.B. 8 P. 24

Sta. 537+00 to Sta. 551+00

R/W PLAN

BUTLER COUNTY
BUT-4-(16.53 - 19.15)

213/222

Date	Revision	By

LIMITED ACCESS

Lemon Twp.
Sec. 31 T-2 R-4
NORTH
William Arnold Carrington & Pearl Carrington
135 B
135 A
Clifford Morningstar, Jr. & Barbara Morningstar
Henry C. Hale & Elva Hale
Existing State Rt #4
Remembrance Monument
Remembrance Mon.
Limit of Construction
Proposed R/W
Ex. R/W
Flowers & Shrubs
Loose Rock Wall
Loose Rock Wall 2' high
Stone Coping
Masonry Pillars
Light Post
30" Conc. Pipe
24" Steel Pipe
Iron Rail
6" Conc. Curb
Abandon Drive
21" C.M.P.
Loose Stone
Conc. Headwall
36" Stone Culvert
Porter
Yard
Pasture
Gravel Drive
Note: Drive never finished
Point of permissable access
CURVE DATA
PI = 557+08.86
Δ = 22°-19'-00" Rt
D = 2°-00'-00"
R = 2,864.79'
Ls = 200.00'
Lc = 915.83'
Ts = 665.19'
Es = 55.80'
T.S. 550+43.67
S.C. 552+43.67
C.S. 561+59.50
S.T. 563+59.50
Russell E. Carr
136
Martin L. Bauer
137 LA
Norbert F. Kneisel & Margaret E. Kneisel
138 LA
Harry E. Waldner & Etheline R. Waldner
139 LA
C.W. Martin & Helen B. Martin
140 LA
140 X
Orna Albaugh
141 LA
141 X
Sec. 31
Sec. 25
Iron Pipe

STA. 551+00 TO STA. 565+00

R/W PLAN
BUTLER COUNTY
BUT-4-(16.53-19.15)

214/222

Date	Revision	By

LIMITED ACCESS

Lemon Twp.
Sec. 31 T-2 R-4

NORTH

T.S. 567+65.13

S.C. 569+65.13

Oma Albaugh

CURVE DATA

P.I. = 574 + 52.44 N.B.
Δ = 23° 10'-10" Lt
D = 2°-00'-00"
R = 2864.79
L_s = 200.00'
L_c = 558.33'
T_s = 687.31
E_s = 60.15

Wooded Area

Cultivated

120'
573+00

Proposed R/W

Limit of Construction

135'
563+97.22

135'
564+25

110'
564+45

110'
564+07.93

36"

568-S

570-S

575-S

564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579

N. 26° - 12' - 55" E.

140'
579+02.61

Sec. 31
Sec. 32

58.25
579+08.43

Sec. 32
Sec. 26

85'
579+09.22

Sec. 25
Sec. 26

12"

Tree Line On Fence

85.82'
576+00

Limit of Construction

Proposed R/W

60'
564+80.43

Tree Line on fence
Hedge Row

75'
572+00

Cultivated

Gravel Drive

Omo Albaugh
141 LA & 141 X

Sec. 31
Sec. 25

Lemon Twp.
Sec. 25 T-2- R-4

C.W. Martin
&
Helen Martin

C.W. Martin
&
Helen Martin
142 LA

STA. 565+00 TO STA. 579+00

R/W PLAN
BUTLER COUNTY
BUT-4-(16.53-19.15)

215/222

Date	Revision	By

LIMITED ACCESS

Lemon Twp.
Sec. 32 T-2 R-4

Mary Gordon

Oma Albough

140' @ 579+02.61

C.S. 579+23.46

145 S.T. 581+23.46

Prop. R/W

Limit of Construction

S.T. 581+23.46

NORTH

Part of Lease No. 22

The Crystal Tissue Company

145 LA ℄ 145 X

230' 588+30

205' 587+70

Transformer Pad

140' 588+65

110' 587+45.94

110' 588+05

℄ Levee

Wooded

℄ Creek

Sub. Line

Engleside Acres Subdivision
PB 6 P19

Lot 17

The Harding Jones Paper Company

146 LA

151.89' 592+00

141.86' 592+00

138.63' 590+15.44

128.65' 590+16.16

Lot 18
Robert K. Shields

147 LA

Fr. Shed 79.74 590+33.03

1 Sty. Cement Bl.

Eddie Lawson & Bessie Lawson

148 LA

Lot 19
LeRoy Clark

149 LA

Gravel Parking Area

Lot 20
Orville Pummill

150 LA

164.81' 591+17.59

Sub. Line

Cenora Adams

151 LA

Fr. Shed

58.25
579+08.43

Sec. 31 Sec. 25 / Sec. 32 Sec. 26

85' 579+09.22

C.W. & Helen Marvin

Dirt Road

Limit of Construction

Prop. R/W

63.60' 585+99.71

R=372.53

L=59.82

120' 586+47.87

68.92' 586+27.87

Wooded

68.57' 587+86.21

105.70' 587+25.36

165.15' 588+74.49

Prop. ℄ Dicks Creek

Indefinite

MIAMI AND ERIE CANAL

144 LA

229.57' 590+02.22

239.86' 590+12.30

322.61' 589+65.40

152 X

R/W

R/W

The Baltimore & Ohio Railroad Company

439.58' 589+55

R=1272.53 L=74.61

Channel Easement

359.85' 591+10 S.R. 4 = 460.8 14+18.2 S.R. 73

300' 15+50 S.R. 73

Prop. R/W

184.95' 590+05

The Crystal Tissue Company

164.00 15+50 S.R. 73

152 LA

Lemon Twp.
Sec. 26 T-2 R-4

Mary Gordon

143 LA

STA. 579+00 TO STA. 593+00

R/W PLAN
BUTLER COUNTY
BUT-4-(16.53-19.15)

216/222

Date	Revision	By

LIMITED ACCESS

CURVE DATA

P.I. = 603+08.75'
Δ = 24°-31'-20" Rt.
D = 3°-00'-00"
R = 1,909.86'
L_s = 350.00'
L_c = 467.41'
T_s = 590.59'
E_s = 47.31'

CURVE DATA
S.R. 73

P.I. = 13+28.87
Δ = 27°-00' Rt.
D = 6°-00'
R = 954.93'
L_s = 400.00'
L_c = 50.00'
T_s = 430.64'
θ_s = 12°-00'

STA. 593+00 TO STA. 607+00 (EAST)

R/W PLAN
BUTLER COUNTY
BUT-4-(16.53-19.15)

217
222

Date	Revision	By

LIMITED ACCESS

CURVE DATA
S.R. 73

P.I. = 5+43.36
Δ = 8°-57'-Lt.
D = 2°-00'
R = 2864.79'
L_s = 200.00'
L_c = 247.50'
T_s = 324.25'
θ_s = 2°-00'

CURVE DATA
S.R. 4

P.I. = 603+08.75'
Δ = 24°-31'-20" Rt.
D = 3°-00'-00"
R = 1,909.86'
L_s = 350.00'
L_c = 467.41'
T_s = 590.59'
E_s = 47.31'

NORTH

N89°02'-55"E

Engleside Acres Subdivision PB 6 P. 19

Englemeade Subdivision PB 13 P. 2

Eugene Joffe

The Commercial Developement Company

Helo Concessions, Incorporated

Lemon Twp. Sec. 32 T-2 R-4

Lemon Twp. Sec 26 T-2 R-4

Harding-Jones Paper Company

Prop. R/W

Ex. S.R. 4 & 73

Ex. R/W

Prop. R/W

RAMP "B"

Gravel Drive

Asphalt Drive

Gravel Dr.

Concrete Dr.

Cinder Drive

Gravel Road

Lot 12

Wilbur W. Wells & Mary F. Wells

Lot 13 Alex Fultz & Corda Fultz (155 C)

Lot 14 Everett A. Long (155 D)

Lot 15 Chester Whitt & Ida Whitt (156 LA)

Lot 16 Paul Smalley & Rebecca Smalley (157 LA)

Lot 17 Hazel Craig (155 E LA)

Lot 18 Eddie Lawson & Bessie Lawson (148 LA)

Lot 19 LeRoy Clark (149 LA)

Lot 20 Orville Pummill (150 LA)

Lot 3 D. & A. Holthaus

Lot 4 (155 F) T. & W. McAdams

Lot 5 (155 G) H. C. Campbell

Lot 6 (155 H) W. & H. Swope

Lot 7 (158 LA) John M. Healy & Delores M. Healy

Lot 8 J. H. Tibbs

Lot 9 (159 LA)

Lot 10 (160 LA) John Rothwell & Lucy Rothwell

Lot 11 (161 LA) Charles D. Zimmsey & Lillian Zimmsey

Lot 12 Carl Cockerham & Daisy Cockerham

Lot 13 (163 LA) Leonard Willoughby & Ollie Willoughby

Lot 14 (164 LA) Ottis Ratliff & Ada Adela Ratliff

Lot 15 Bob's Truck Service, Incorporated

Lot 16 (165 LA)

(166 LA)

(167 LA) Gravel Parking Area

(168 LA) Lumber Warehouse

Point of permissable access — 36.54' 4+86.79 — 60'

Point of permissable access — 60' 7+21.50

Point of permissable access — 65' 7+81.00

Point of permissable access — 43.72' 4+68.55

Point of permissable access — 60' 5+20.54

Point of permissable access — 41.75' 5+19.26

33.14 6+20.22 — 80' 6+25.23

60' 6+00 — 60' 6+23.41

47.79' 6+24.67

C.S. 6+66.61

72.60' 8+10.10

157.71' 594+20.68

107.84 594+24.16

27.03' 594+60.17

74.15' 594+84.66

PT-72.68 594+83.85

T.S. 2+19.11

S.C. 4+19.11

T.S. 8+66.61

T.S. 8+98.23

T.S. 597+18.16

S.C. 600+68.16

C.S. 605+35.57

248.37' 6+44.67

342.48' 597+05.45 S.R. 4 = 243.30' 6+98.80 S.R. 73

246.70' 597+62.00

248.10' 599+41.40

374.10' 605+37.00

23.89' 597+33.83

26.20' 597+88.55

23.04 594+65.64

Lot 1 St. Fr. — No. 513
Lot 1 St. Fr. — No. 515
Lot 1 St. Fr. — No. 601
Lot 1 St. Fr. — No. 603
Lot 1 St. Fr. — No. 605
Lot 1 St. Fr. — No. 607
Lot 1 St. Fr. — No. 609
Lot 1 St. Fr. — No. 611
Lot 1 St. Fr. — No. 701
Lot 1 St. Fr. — No. 703
Lot 1 St. Fr. — No. 705
Lot 1 St. Fr. — No. 707
Lot 1 St. Fr. — No. 709
Lot 1 St. Fr. — No. 711
Lot 1 St. Fr. — No. 713
Lot 1 St. Fr. — No. 715

1 St. Fr. Res.
1 St. Fr. Conc. Bl.
1 St. Fr. Garage
Fr. Shed
Gas Tanks
Storage Tank
Gas Tank Vents
Gas Intakes
Vent Pipes
Pipe
Slab
Brace Cables
Trailer
Office with Base
Board Walk
Pig Pen
Transmission Tower Cincinnati Gas & Electric Co.
Crane & Scales
Foundation
Res.
Mon.
Gravel Parking Area
Bob's Truck Service, Incorporated

For Proposed R/W in this area, See Sheet #216 Sta. 593+00 to 607+00 (East)

STA. 593+00 TO STA. 607+00 (E

R/W PLAN
BUTLER COUNTY
BUT-4-(16.53-19.15)

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Date	Revision	By

LIMITED ACCESS

460'
607+50

Lemon Twp.
Sec. 32 T-2 R-4

Sec. 32
Sec. 26

Lemon Twp.
Sec. 26 T-2 R-4

13 B
13 BL
14 BL
15 BL
16 BL
17 BL
18 BL
19 BL
20 BL
21 BL
21+49.30 BL

S.C. 13+30.93
S.T. 15+28.19 BL
T.S. 16+89.30 BL
S.C. 18+89.30 BL

NORTH

The Commercial Developement Company

173
LA

145'
612+00

P.T. 21+49.30 BL
= 613+22.40 (SR 4)

T.S. 614+80.98

S.C. 617+80.98

90'
S.C. 617+80.98

Prop. R/W

Limit of Construction

Cultivated

20" Thorn Hedgerow

15" Thorn Hedgerow

Hog Pens

Pasture

Partly Fenced

Cultivated

10' Hedge Row

48'
608+50

Fr. Barn

50'
S.T. 608+85.57

S.T. 608+85.57

Gravel Drive

2 Sty. Br.

70'
611+00

70'
T.S. 614+80.98

80'
S.C. 617+80.98

70'
621+00

607 608 609 610 611 612 613 614 615 616 617 618 619 620 621

G12 N.27°34'15" E.

The Commercial Developement Company

173
LA

VERITY PARKWAY

EX. R/W

CURVE DATA

P.I. = 620 + 28.19
Δ = 19°-40'-00"
D = 2°-30'-00"
T_s = 547.51
R_c = 2291.83
L_c = 486.67'
θ_s = 3°-45'-00"
L_s = 300.00'

STA. 607+00 TO STA. 621+00

R/W PLAN
BUTLER COUNTY
BUT-4-(16.53-19.15)

219/222

Date	Revision	By

LIMITED ACCESS

CURVE DATA

$P.I. = 620+28.49$
$\Delta = 19°-40'-00"$
$D = 2°-30'-00"$
$T_s = 547.51'$
$R_c = 2291.83$
$L_c = 486.67$
$\theta_s = 3°-45'-00"$
$L_s = 300.00'$

Buena Vista Subdivision

Parcel No.	Lot No.	Owner
174 LA	159	Tailored Homes, Incorporated
175	155	" " "
176 LA	158	" " "
177	156	" " "
178 LA	157	Tailored Homes, Incorporated
179 LA	104	Nancy Ann Prater
180 LA	103	Harold E. Smith & Eva Smith
181 LA	102	Carl B. Kash & Nannie Kash
182 LA	101	John Ganz
183 LA	40	Zelda R. Hudson
184 LA	39 & pt. 38	J. P. Keath & Viola Keath
185 LA	pt. 38 & 37 & 36	W. J. Brewer
186 LA	35 & 34	John S. Fisher

STA. 621+00 TO STA. 635+00

SOIL PROFILE

BUTLER COUNTY
BUT.-4-(16.53-19.15)
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

219-A
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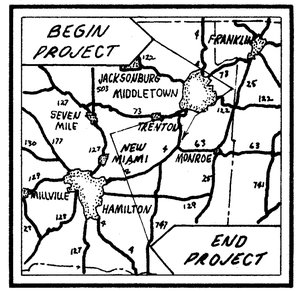
5/2

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



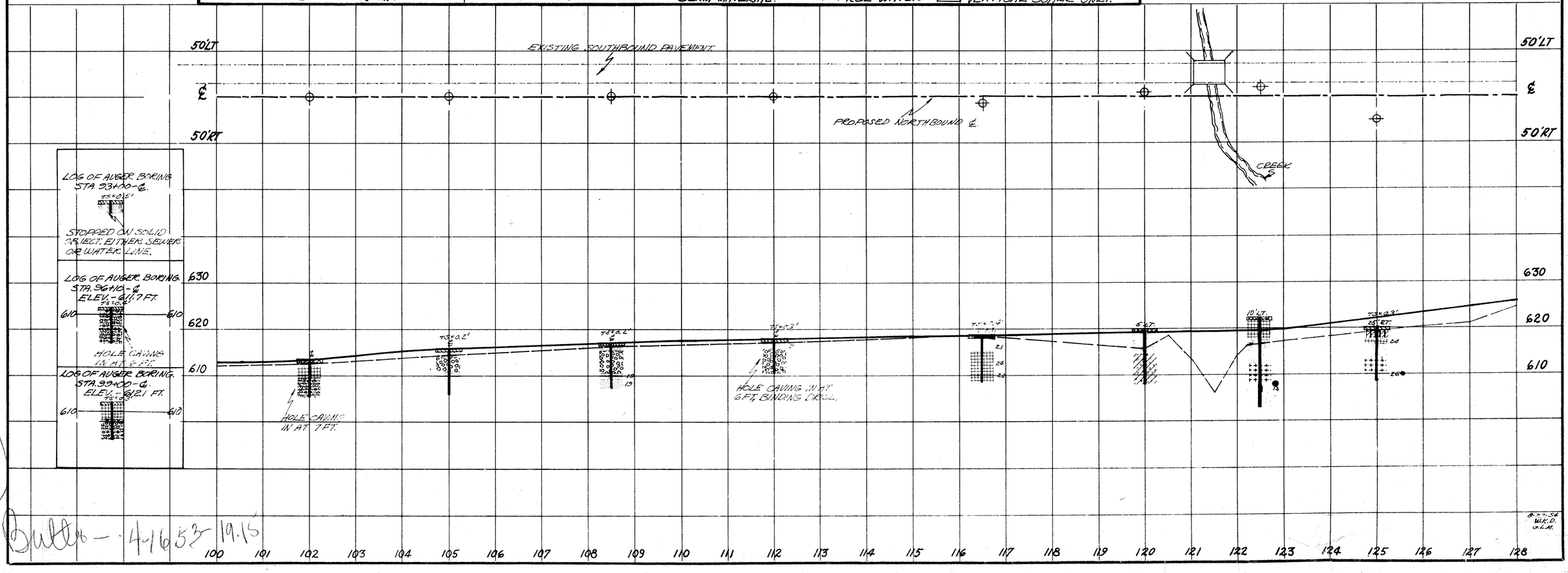
LOCATION MAP

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(3)	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(16)	A-6b	13	7	11	30	39	36	18	18	30
ELASTIC CLAY WITH SOME ORGANIC MATERIAL.	A-7-5(16)	A-7-5a	4	4	11	50	31	42	13	26	2
CLAY.	A-7-6(14)	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. SO-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. SO-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.



8-27-56
W.K.D.
O.E.M.

5/2

Butler - 4-16.53-19.15

TE-54-B
100-6-53

SOIL PROFILE

BUTLER COUNTY

BUT - 4 - (16.53-19.15)

STATE HIGHWAY TESTING AND RESEARCH LABORATORY

O. S. U. CAMPUS, COLUMBUS, OHIO

220/222

EDGE OF EXISTING PAVEMENT APPROX. 60' FROM ℄

EXISTING PAVEMENT

NOTE: REFUSAL PROBABLY DENOTES BEDROCK CONSISTING OF SHALE WITH INTERMITTENT LAYERS OF LIMESTONE.

30' RT.

25' LT. T.S. + 0.5' 30' LT.

T.S. + 0.5'

5' LT.

T.S. + 0.8'

REFUSAL

EXISTING PAVEMENT

15' LT.

T.S. + 0.2'

10' LT.

T.S. + 0.5'

TE 54 B
100 6-51

SOIL PROFILE

BUTLER COUNTY

BUT - 4 - (16.53-19.15)

STATE HIGHWAY TESTING AND RESEARCH LABORATORY

O. S. U. CAMPUS, COLUMBUS, OHIO

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EXISTING PAVEMENT

TODHUNTER RD.

EXISTING PAVEMENT

NOTE: REFUSAL PROBABLY INDICATES BEDROCK CONSISTING OF SHALE WITH INTERMITTENT LAYERS OF LIMESTONE.

REFUSAL

REFUSAL

STRATED LIM. SHALE

EXISTING PAVEMENT

SWAMPY AREA

REFUSAL

REFUSAL

REFUSAL

NOTE: STA. 569+70 TO STA. 585+60
SLOPE OF THE GROUND SURFACE ON CROSS SECTIONS IN THIS AREA VARIES FROM NEARLY FLAT TO VERY GENTLE. BEDROCK CONDITIONS AS DISCLOSED BY THE CORE DRILL HOLES AT STA 574+00 & STA 581+00 ARE CONSIDERED REPRESENTATIVE OF THE ENTIRE CUT AREA. EXTENSIVE ELECTRICAL RESISTIVITY TESTS AND THE CORE DRILL HOLES INDICATE THE SOIL OVERBURDEN TO BE COMPARATIVELY UNIFORM IN THICKNESS, AND TO RANGE IN THICKNESS FROM APPROXIMATELY 3 TO 10 FEET.

TE-54 B
100-6-53

SOIL PROFILE

BUTLER COUNTY

BUT - 4 - (16.53-19.15)

STATE HIGHWAY TESTING AND RESEARCH LABORATORY

O. S. U. CAMPUS, COLUMBUS, OHIO