

1-680-9(15)242

FED. RD. DIVISION	STATE	PROJECT	1 303
2	OHIO	MAH-680-9.32	

MAHONING COUNTY  
MAH-680-9.32

### LIMITED ACCESS

This improvement is especially designed for through traffic and has been declared a limited access highway or freeway, by action of the Director of Highways in accordance with provisions of Section 5511.02 of the Revised Code of Ohio.

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

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

I hereby approve these plans and declare that the making of this improvement will not require the closing of any highway to traffic, except as noted on Sheet 11, and that provisions for the maintenance and safety of traffic will be as set forth on the plans and estimates.

#### 1971 SPECIFICATIONS

- Approved Edifton M. Shawball Date 7-1-69 Division Deputy Director
- Approved \_\_\_\_\_ Date \_\_\_\_\_ Engineer of Bridges
- Approved E. J. Schaefer Date 11-11-71 Engineer of Location and Design
- Approved H. Brauser Date 11-12-71 Deputy Director of Design and Construction
- Approved R. H. Mastinger Date 11-30-71 Deputy Director of Right of Way
- Approved William Bunkley Date 11-30-71 Deputy Director of Planning and Programming
- Approved W. C. McKenna Date 11-30-71 First Assistant Director
- Approved [Signature] Date 11-30-71 Director of Highways

# STATE OF OHIO DEPARTMENT OF HIGHWAYS MAH-680-9.32 BOARDMAN TOWNSHIP MAHONING COUNTY VILLAGE OF POLAND CITY OF YOUNGSTOWN

CONVENTIONAL SIGNS

Township Line	-----
Section Line	-----
Center Line of Road	-----
Existing Right of Way Line	-----
Property Line	-----
Limited Access & Right of Way	---LA & R/W---
Limited Access Only	---LA---
Right of Way Only	---R/W---
Corporation Line	-----
Limits of Construction	-----
Guard Rail (Proposed)	-----
Guard Rail (Existing)	-----
Power Pole	-----
Telephone Pole	-----
Fire Hydrant	-----
Trees or Stumps	-----
Fence Line	-----
202 Removal	-----
Proposed Pipe	-----
Proposed Pipe (Quant. shown on other Dwg's.)	-----
Existing Pipe	-----

RE MICROFILMED  
FEB 11 1985

MICROFILMED  
JUN 25 1973  
REPRODUCTION

#### INDEX OF SHEETS

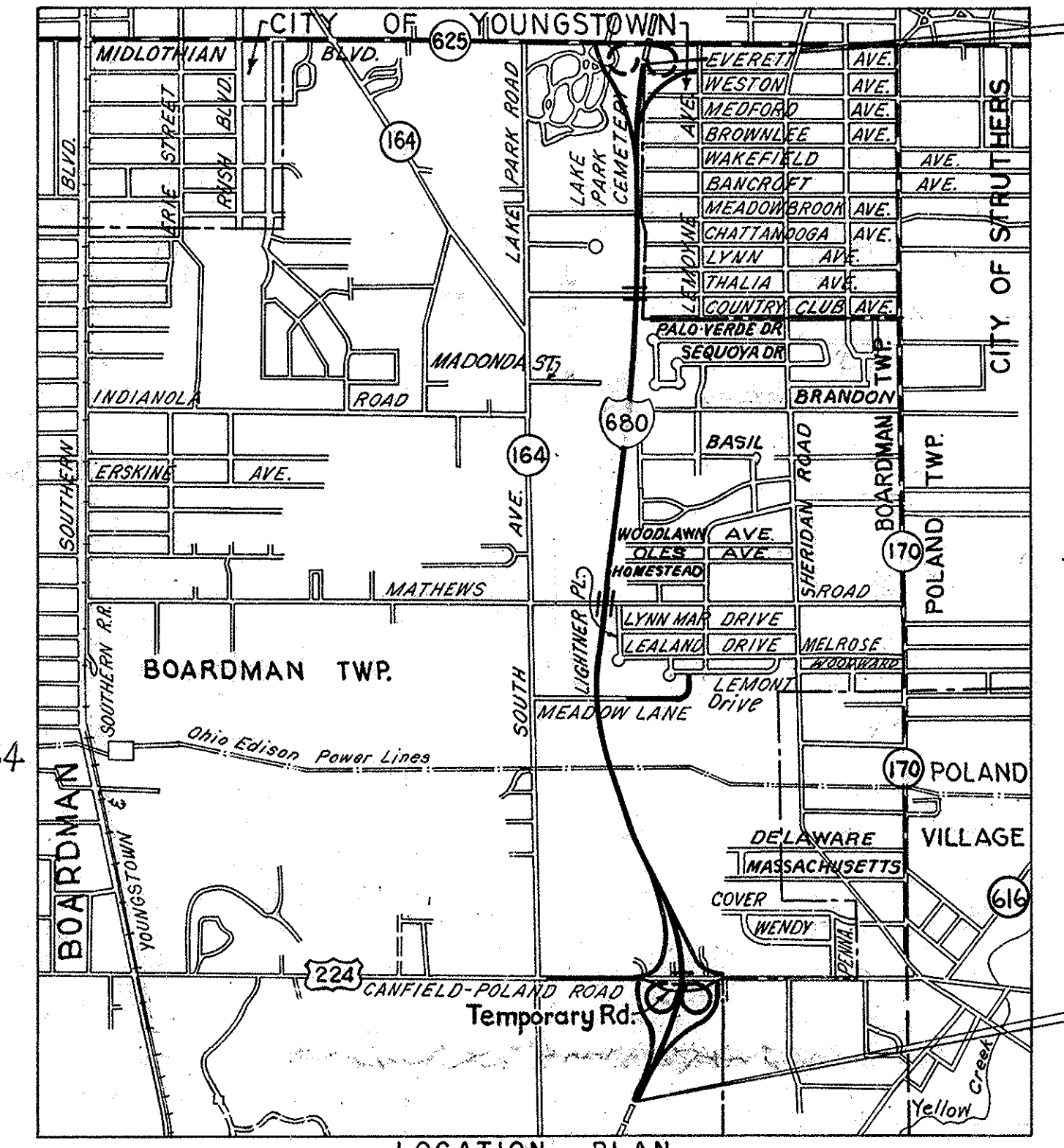
Title Sheet	1	Std. U-Turn Median Openings	158
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		Deleted	171 & 202

#### LINE DATA

Begin Project	Sta. 638+00.00 Bk.
Corp. Limit, City of Youngstown	Sta. 636+00.00
Net Length of Project (URBAN)	200.00 Lin. Ft. or 0.037 Miles
Add For Approaches:	
Sta. 638+00.00 Bk. to Sta. 643+38.00	538.00 Lin. Ft.
Thalia Ave. Sta. 22+39.00 to Sta. 25+25.00	286.00 Lin. Ft.
Lemoyne Ave. Sta. 4+24.14 to Sta. 9+79.00	554.86 Lin. Ft.
Gross Length of Work (URBAN)	1,578.86 Lin. Ft.
* Add For Equation	23.96 Lin. Ft.
Net Length of Work (URBAN)	1,602.82 Lin. Ft. or 0.303 Miles
Corp. Limit, City of Youngstown	Sta. 636+00.00
End Project	Sta. 488+13.35
Net Length of Project (RURAL)	14,786.65 Lin. Ft. or 2.800 Miles
Add For Approaches:	
Sta. 474+70.00 to Sta. 488+13.35	1,343.35 Lin. Ft.
U.S. 224 Sta. 0+52.00 to Sta. 39+50.00	3,898.00 Lin. Ft.
Meadow Lane Sta. 17+40.50 to Sta. 35+12.00	1,771.50 Lin. Ft.
Thalia Ave. Sta. 13+75.00 to Sta. 22+39.00	864.00 Lin. Ft.
Gross Length of Work (RURAL)	22,663.50 Lin. Ft.
Deduct:	
Meadow Lane Sta. 18+80.00 to Sta. 21+08.00	228.00 Lin. Ft.
Meadow Lane Sta. 22+45.00 to Sta. 24+75.00	230.00 Lin. Ft.
Net Length of Work (RURAL)	22,205.50 Lin. Ft. or 4.205 Miles
Net Length of Project	200.00 + 14,786.65 = 14,986.65 Lin. Ft. = 2.838 Miles
Net Length of Work	1,602.82 + 22,205.50 = 23,808.32 Lin. Ft. = 4.509 Miles

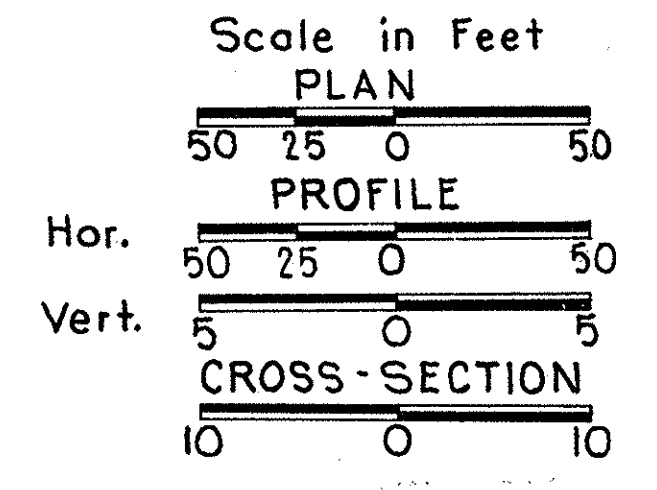
FILE NO.	MAHONING COUNTY	MAH-680-9.32
Date of Letting	196	
Contract No.		

Revised Sheets 1, 257 & 264  
Delete Sheet 171A  
Add Sheet 281A  
The following sheets are superseded:  
258 by 258A  
259 by 259A  
260 by 260A  
261 by 261A  
262 by 262A  
263 by 263A  
265 by 265A  
266 by 266A  
8-15-72 W.T.L.

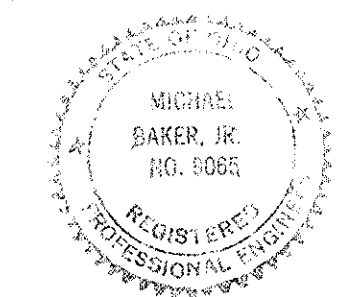


BEGIN PROJECT  
MAH-680-9.32  
Sta. 638+00.00 Bk.  
Sta. 637+76.04 Ah.

END PROJECT  
MAH-680-9.32  
Sta. 488+13.35



MICHAEL BAKER, JR.  
Consulting Engineers  
Baker Building  
Rochester, Penna.  
Michael Baker, Jr. P.E.  
REG. PROF. ENGR.  
Ohio 9085  
June 20, 1969  
Date



SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP-1	6-1-65	F-5	3-10-69	GR-6	1-1-71	CB-5	9-1-69
BP-2	12-1-68	F-6	10-1-66	HL-1	11-1-65	CB-6	6-1-65
BP-3	7-1-71	MC-1	6-13-69	HL-2	11-1-65	CB-8	9-1-69
BP-4	7-1-71	MC-3	6-20-69	HL-3	11-1-65	I-2	6-6-69
BP-5	1-1-71	MC-4	6-13-69	HL-4	1-1-66	MC-7	10-1-68
BP-6	6-1-65	MC-6	6-1-65	MH-2	10-1-68	MH-1	10-1-68
BP-7	1-1-66	GR-3	1-1-71	HW-E	6-1-65	MH-1A	10-1-68
MH-2A	10-1-68	GR-2A	1-1-71	CB-2-3&2-4	6-1-65	AS-1-67	6-12-69
FACI-1	4-20-71	GR-2B	7-1-71	CB-2-2A&B	6-1-65	BR-1-65 Sh. 1 & 2	11-24-65
FACI-2	4-20-71	L-1	6-1-65	CB-3	6-1-65	RB-1-55	2-2-59
F-1	3-10-69	GR-4	7-1-71	CB-3A	6-1-65	SD-1-69	6-12-69
F-3	3-10-69	GR-5	7-1-71	CB-4	9-1-69	SP-53	6-30-61

SUPPLEMENTAL SPECIFICATIONS

801	1-1-69
804	1-1-69
808	1-1-71
836	1-1-71
814	1-1-69
815	1-1-69
816	1-1-69
941	11-25-70
934	1-1-69
806	1-1-69
839	11-25-70
1001	1-1-69

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: \_\_\_\_\_ DATE \_\_\_\_\_

DIVISION ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

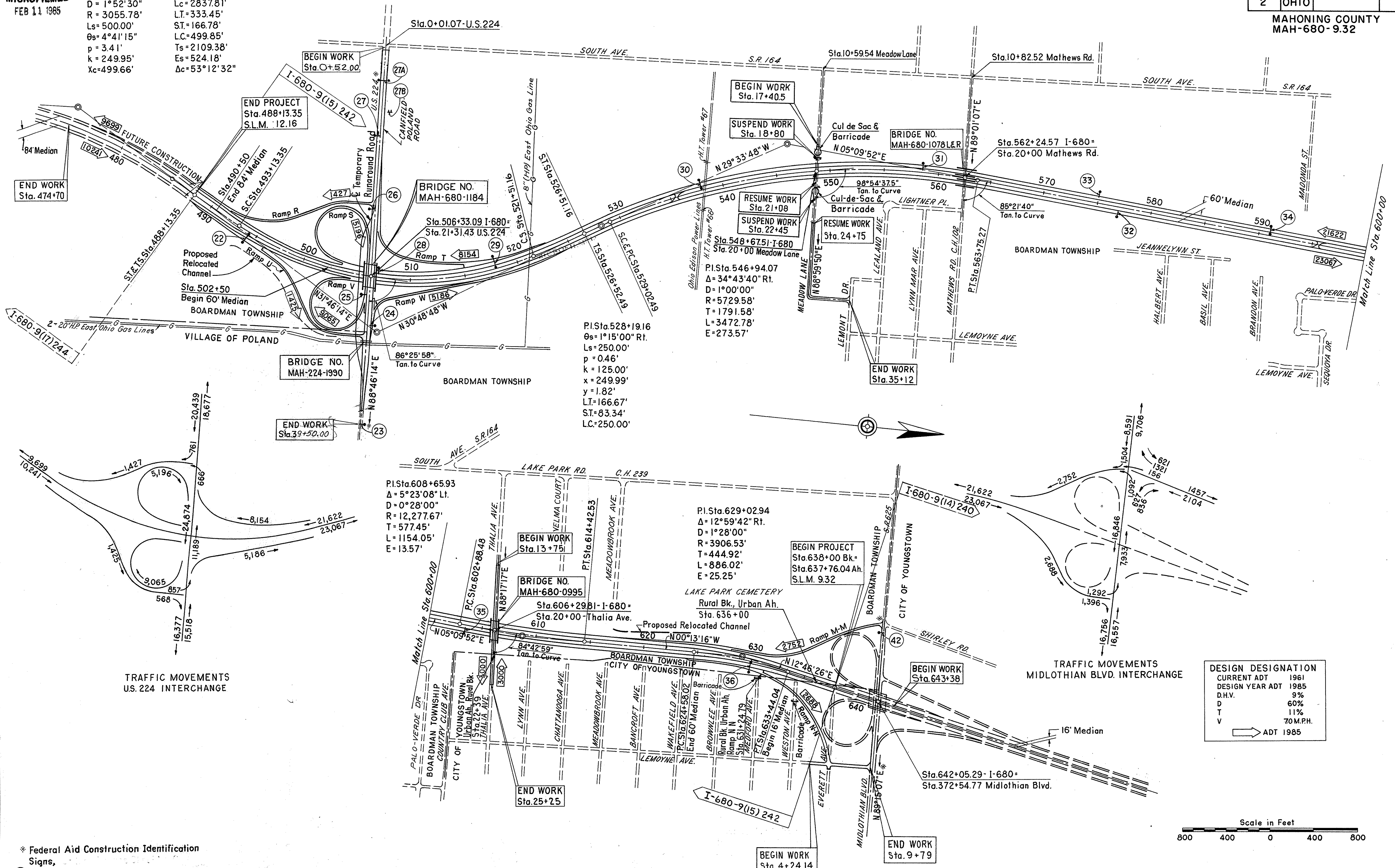
Rev. 2-23-72

MICROFILMED  
FEB 11 1985

PI.Sta.509+22.73  
 $\Delta = 62^{\circ}35'02''$  Lt. Yc=13.63'  
 D=1°52'30" Lc=2837.81'  
 R=3055.78' LT=333.45'  
 Ls=500.00' ST=166.78'  
 $\theta_s = 4^{\circ}41'15''$  LC=499.85'  
 p=3.41' Ts=2109.38'  
 k=249.95' Es=524.18'  
 Xc=499.66'  $\Delta c = 53^{\circ}12'32''$

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		2

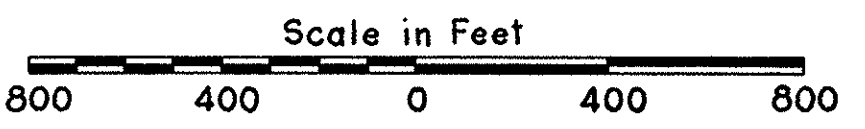
MAHONING COUNTY  
MAH-680-9.32



TRAFFIC MOVEMENTS  
U.S. 224 INTERCHANGE

TRAFFIC MOVEMENTS  
MIDLOTHIAN BLVD. INTERCHANGE

DESIGN DESIGNATION	
CURRENT ADT	1961
DESIGN YEAR ADT	1985
D.H.V.	9%
D	60%
T	11%
V	70 M.P.H.



DESIGN DESIGNATION AND SCHEMATIC LAYOUT

\* Federal Aid Construction Identification Signs,  
○ Signs

LEGEND

- ① 451 8" Continuously Reinforced Portland Cement Concrete Pavement (See Note in Proposal)
- ② 804 4" Cement Stabilized Base or Subbase
- ④ 301 Bituminous Aggregate Base (702.01(85-100 or AC20) or 702.09 RT 11 or RT12 as per plan (See note in Proposal) (See General Notes Sheet No. 9)
- ⑤ 304 Aggregate Base (Thickness as shown)
- ⑥ 605 6" Pipe Underdrain (Backfill From 6 inches above top of pipe to bottom of 304 shall be 703.02 Sand)
- ⑦ 606 Guard Rail, Type 5
- ⑨ 659 Seeding & Mulching (See General Notes Sheet No. 9)
- ⑩ 612 Concrete Median
- ⑪ Standard Longitudinal Joint (See Pavement Details, Sheet No. 169)
- ⑫ 310 Subbase, Grading A, as per plan (See Notes this Sheet)
- ⑬ 310 Subbase
- ⑰ Sealed Joint (See General Notes Sheet No. 9)
- ⑱ 605 Porous Backfill (See Sequence of Operations)
- ⑳ 409 Seal Coat Bituminous Material 702.09 RT-9 or 10 (Applied at the rate of 0.30 gal. per sq. yd.) See note in proposal
- ㉔ 622 CONCRETE BARRIER

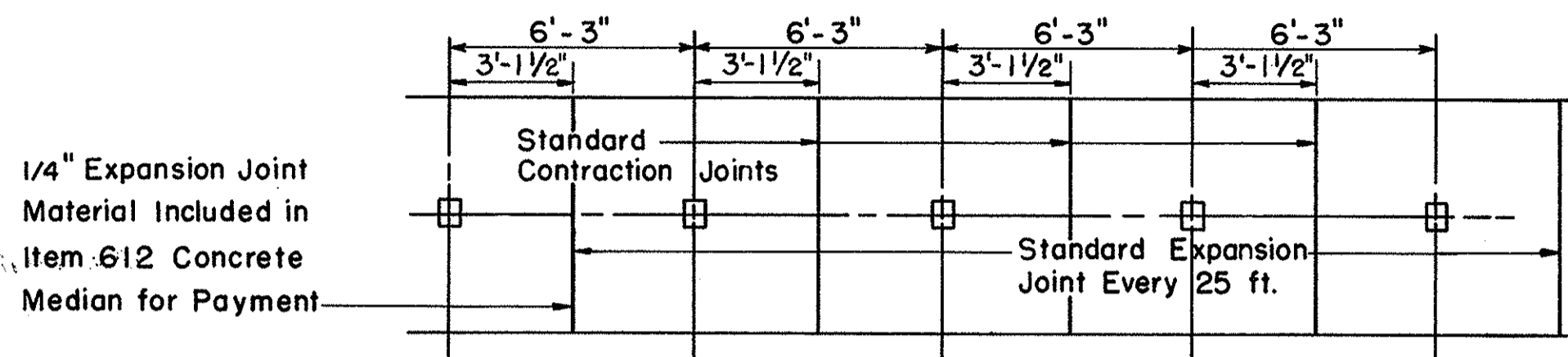
# TYPICAL SECTIONS

## TYPE 451

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

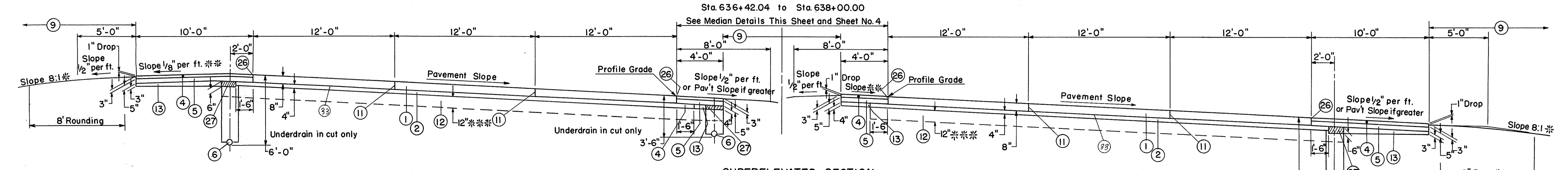
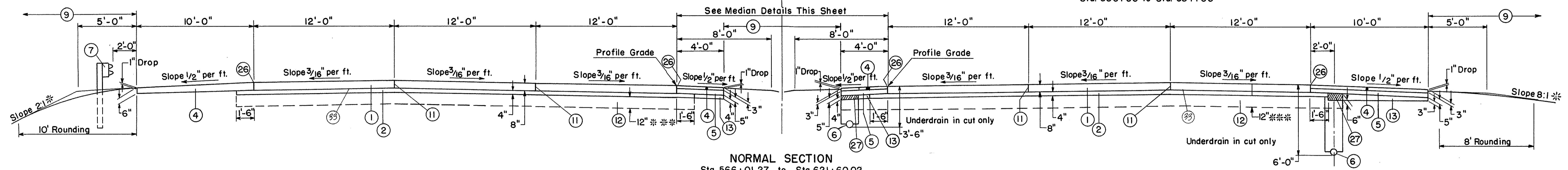
3  
303

MAHONING COUNTY  
MAH - 680-932

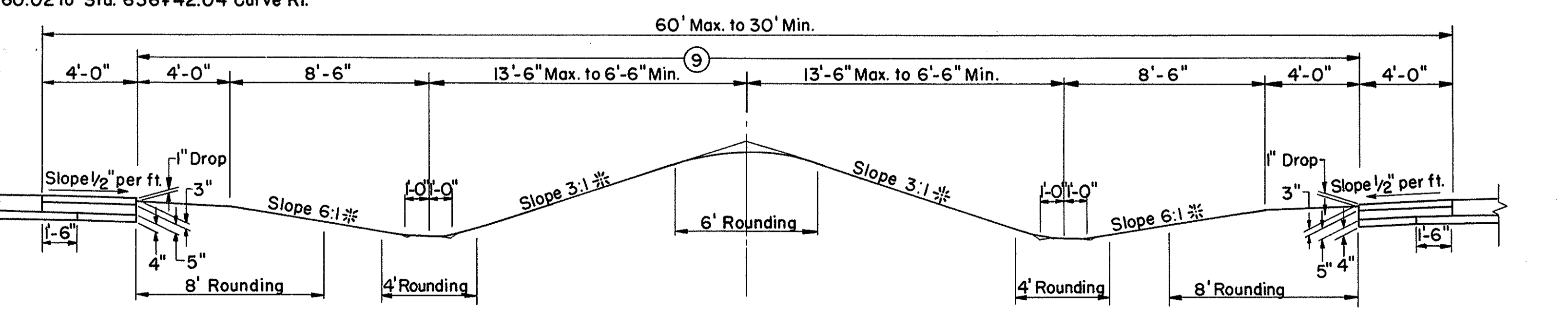
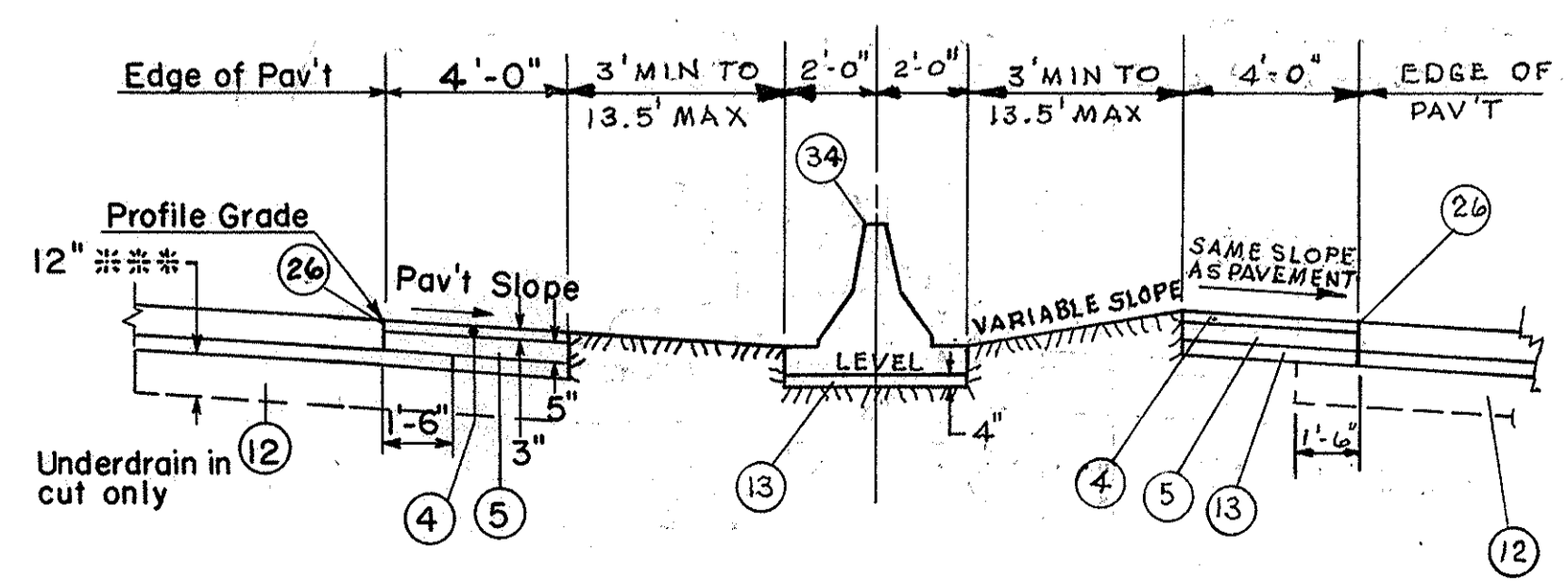
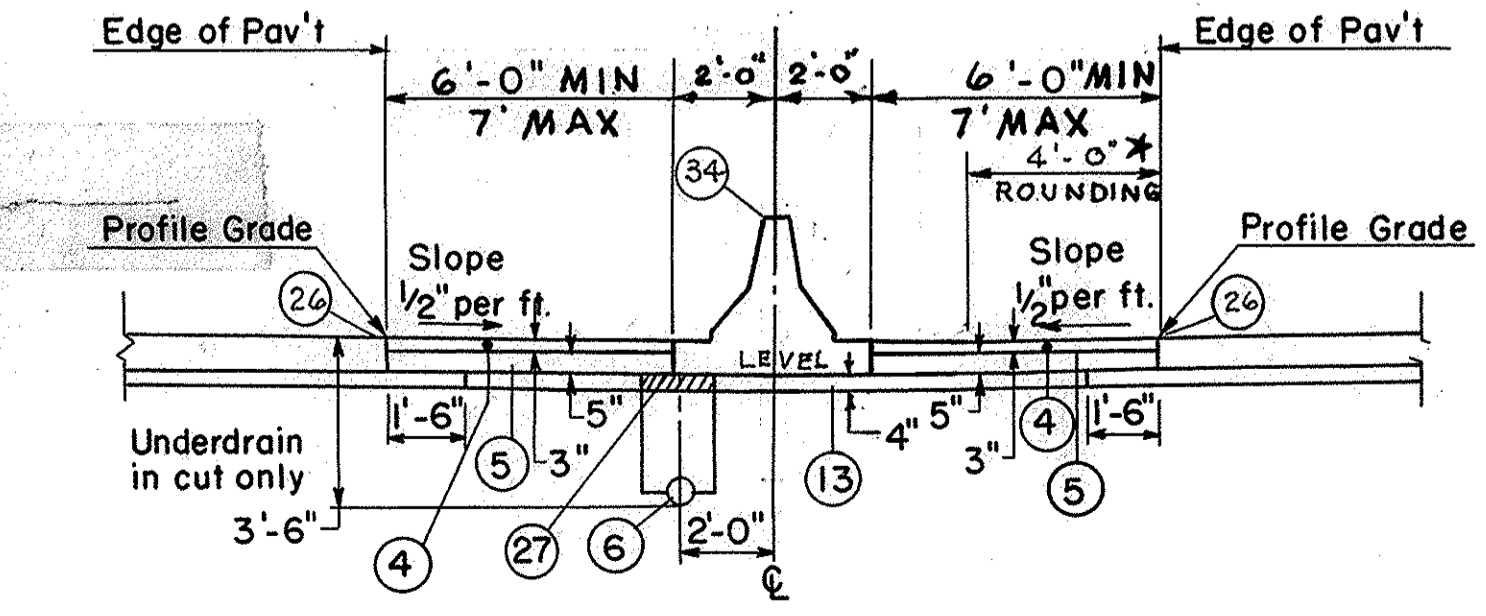


**JOINT DETAIL AT GUARD RAIL POSTS**  
In lieu of spacing requirements of Standard Drawing MC-6, expansion and contraction joints shall be provided in item 612 Concrete Median as detailed hereon, whenever guard rail is called for.

- \*\* SUPERELEVATED PAVED SHOULDERS**  
The median paved shoulders shall slope away from the pavement at the rate of 1/2" per ft. until the break between shoulder and pavement slopes reaches 5.8%, after which the same angle shall be maintained until the slope of the shoulder would be less than 1/8" per ft., after which the pavement slope shall extend through the shoulder.  
The outside shoulder shall receive the same treatment, except where the slope would be less than 1/8" per ft., the 1/8" shoulder slope and the pavement slope shall be joined by a gentle 5' rounding.
- SEQUENCE OF OPERATIONS**
1. Install pipe underdrain on outside shoulder, installation of shallow underdrain in median may be deferred until 451 is placed.
  2. Construct 804 and 451.
  3. Place 310 subbase on shoulders. Payment will be made for all subbase placed in this operation.
  4. Remove 310 subbase and any contaminated backfill over underdrain and replace with 605 porous backfill before construction of shoulders, as shown by ㉔.
  5. Complete shoulder construction.
  6. Payment for all of the above shall be included in the pertinent items affected.
- \*\*\* 310 Subbase shall be used under 804 Cement Stabilized Subbase in the following areas:**  
Sta. 600+00 to Sta. 607+00  
Sta. 630+00 to Sta. 634+50



\* The median paved shoulder shall slope away from the pavement at the rate of 1/2" per ft. until the break between shoulder and pavement slopes reaches 5.8%, after which the edge of the pavement and the edge of the concrete barrier shall be joined by a 4 ft. rounding.



**MEDIAN DETAIL**  
Sta. 633+00 Ad. to Sta. 638+00.00

**MEDIAN DETAIL**  
Sta. 628+80 TO 633+00 BK

**MEDIAN DETAIL**  
Sta. 516+00.00 to Sta. 624+58.02 - 60' Width  
Sta. 624+58.02 to Sta. 628+80 - Width Varies 60' Max. to 30' Min.

\* Or as shown on Cross Sections

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

4  
303

MAHONING COUNTY  
MAH - 680-932

# TYPICAL SECTIONS TYPE 451



- LEGEND**
- ① 451 8" Continuously Reinforced Portland Cement Concrete Pavement (See Note in Proposal)
  - ② 804 4" Cement Stabilized Base or Subbase
  - ④ 301 Bituminous Aggregate Base 702.01 (85-100 or AC20) or 702.09 RT11 or RT12, as per plan (See Note in Proposal) (See General Notes Sheet No. 9)
  - ⑤ 304 Aggregate Base (Thickness as Shown)
  - ⑥ 605 6" Pipe Underdrain (Backfill From 6 inches above top of pipe to bottom of 304 Shall be 703.02 Sand)
  - ⑨ 659 Seeding and Mulching (See General Notes Sheet No.9)
  - ⑪ Standard Longitudinal Joint (See Pavement Details, Sheet No. 169)
  - ⑬ 310 Subbase
  - ⑳ Sealed Joint (See General Notes Sheet No.9)
  - ㉑ 605 Porous Backfill (See Sequence of Operations)
  - ㉓ 409 Seal Coat Bituminous Material 702.09 RT-7 or 10 (Applied at the rate of 0.30 gal. per sq. yd.) See note in proposal

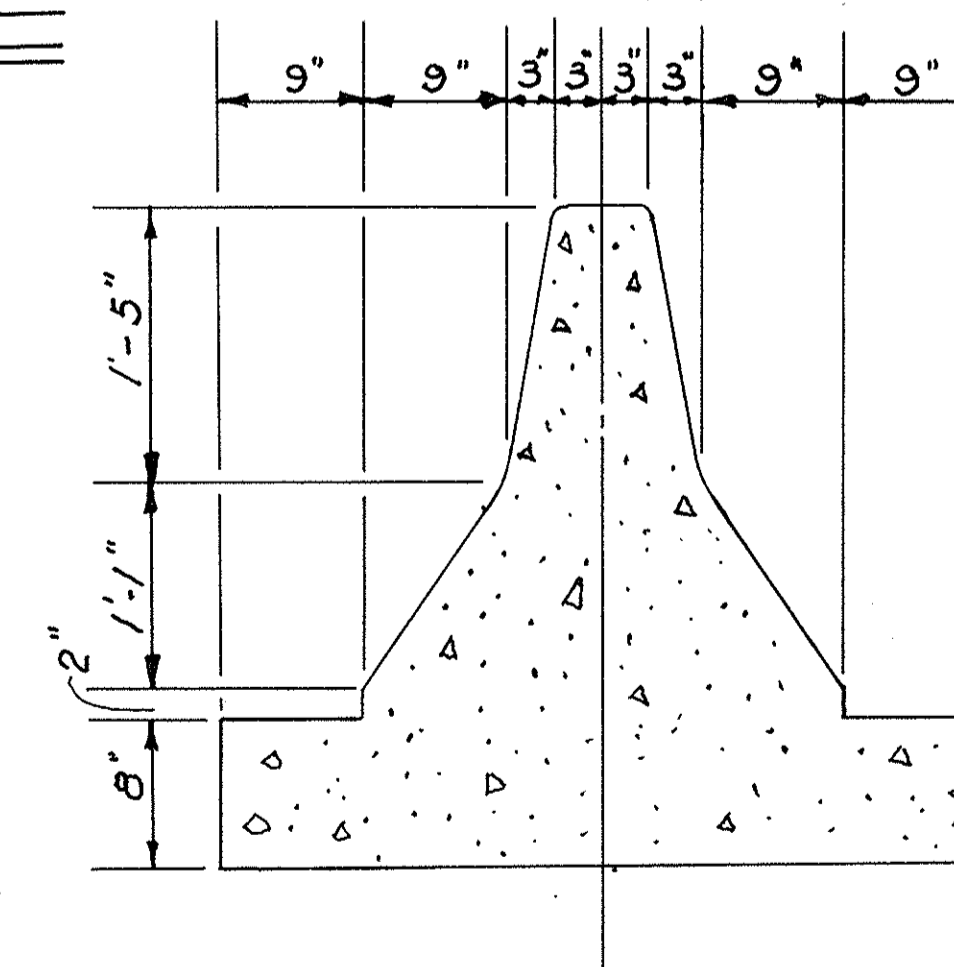
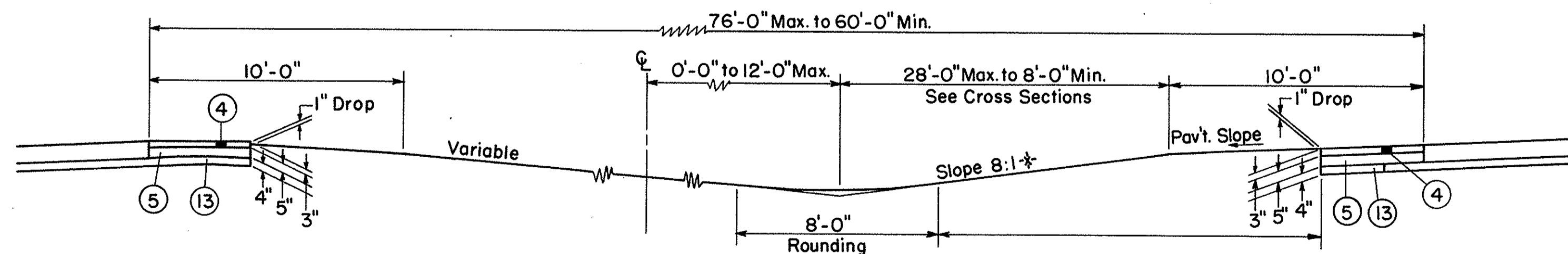
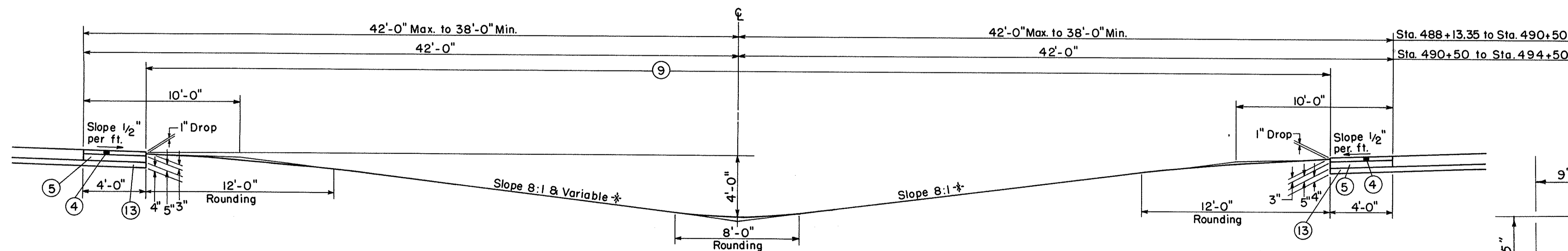
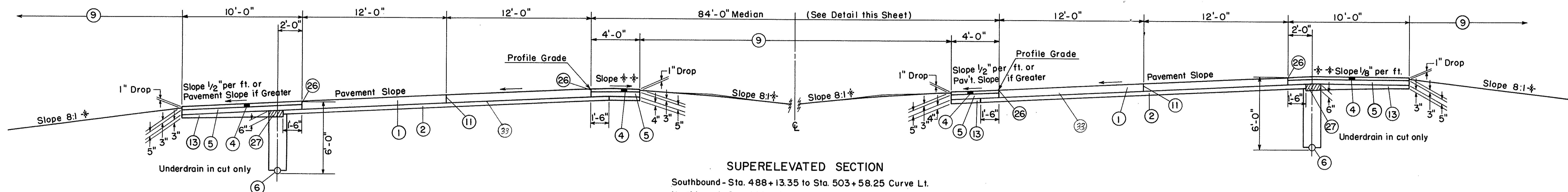
**\*\* SUPERELEVATED PAVED SHOULDERS**

This median paved shoulders shall slope away from the pavement at the rate of 1/2" per ft. until the break between shoulder and pavement slopes reaches 5.8%, after which the same angle shall be maintained until the slope of the shoulder would be less than 1/8" per ft., after which the shoulder shall be rounded with both edges at the same elevation as the pavement edge.

The outside shoulder shall receive the same treatment, except where the slope would be less than 1/8" per ft., the 1/8" shoulder slope and the pavement slope shall be joined by a gentle 5' rounding.

**SEQUENCE OF OPERATIONS**

1. Install pipe underdrain on outside shoulder. Installation of shallow underdrain in median may be deferred until 451 is placed.
2. Construct 804 and 451
3. Place 310 Subbase on Shoulders. Payment will be made for all subbase placed in this operation.
4. Remove 310 Subbase and any Contaminated Backfill over Underdrain and replace with 605 Porous Backfill before Construction of Shoulders, as shown by ㉑.
5. Complete Shoulder Construction
6. Payment for all of the above shall be included in the pertinent items affected.



\* Or as shown on Cross Sections

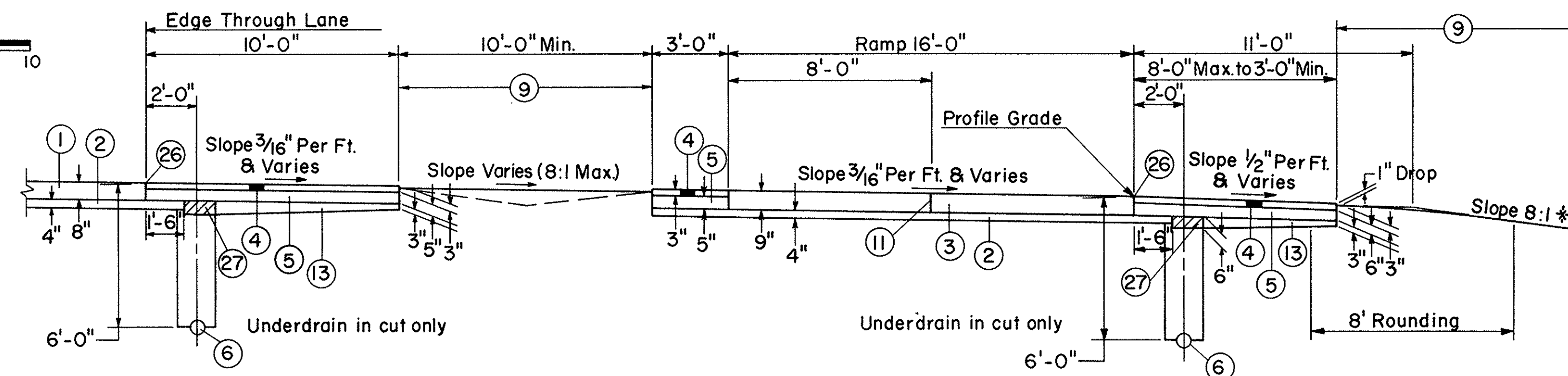
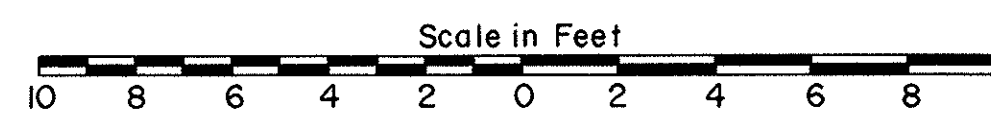
LEGEND

- ① 451 8" Continuously Reinforced Portland Cement Concrete Pavement (See Note in Proposal)
- ② 804 4" Cement Stabilized Base or Subbase
- ③ 451 9" Reinforced Portland Cement Concrete Pavement
- ④ 301 Bituminous Aggregate Base 702.01 (85-100 or AC20) or 702.09 RT11 or RT12, as per plan (See Note in Proposal) (See General Notes Sheet No. 9)
- ⑤ 304 Aggregate Base (Thickness As Shown)
- ⑥ 605 6" Pipe Underdrain (Backfill from 6 inches above top of pipe to bottom of 304 shall be 703.02 sand)
- ⑦ 606 Guard Rail, Type 5
- ⑨ 659 Seeding and Mulching (See General Notes Sheet No. 9)
- ⑩ 612 Concrete Median
- ⑪ Standard Logitudinal Joint
- ⑬ 310 Subbase
- ⑭ 609 Concrete Curb, Std. Type 8
- ⑳ Sealed Joint (See General Notes Sheet No. 9)
- ㉑ 605 Porus Backfill (See Sequence of Operations Sheet No. 3)

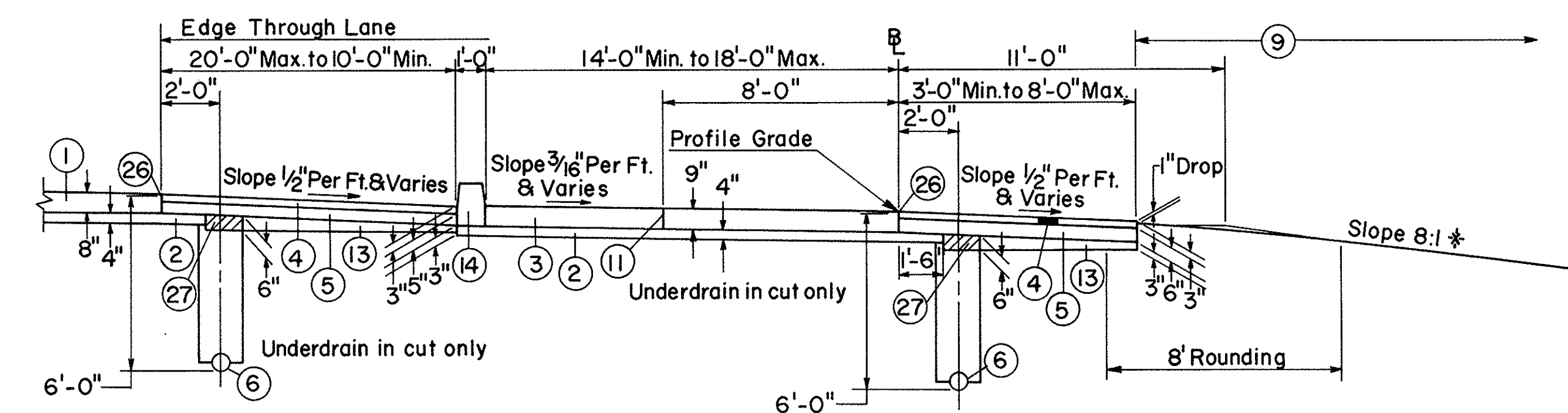
# TYPICAL SECTIONS TYPE 451

FED. RD. DIVISION	STATE	PROJECT	5
2	OHIO		303

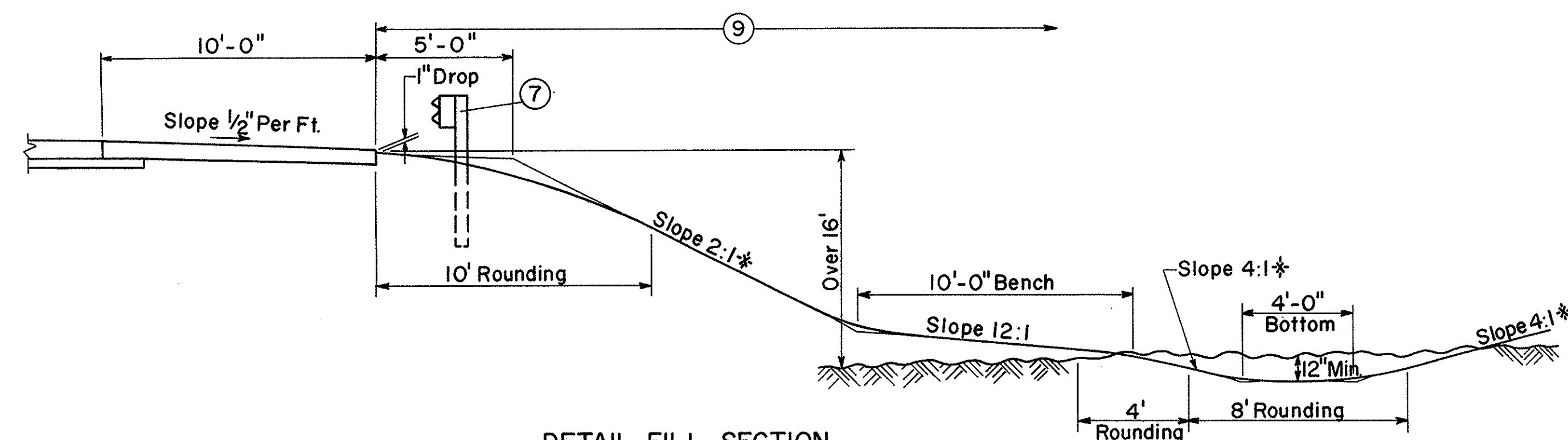
MAHONING COUNTY  
MAH-680-932



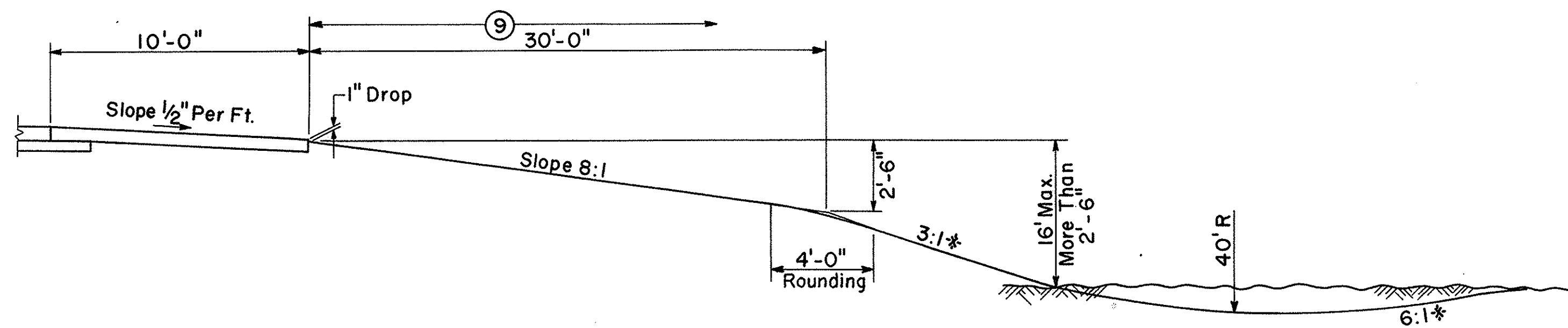
EXIT RAMP TERMINAL



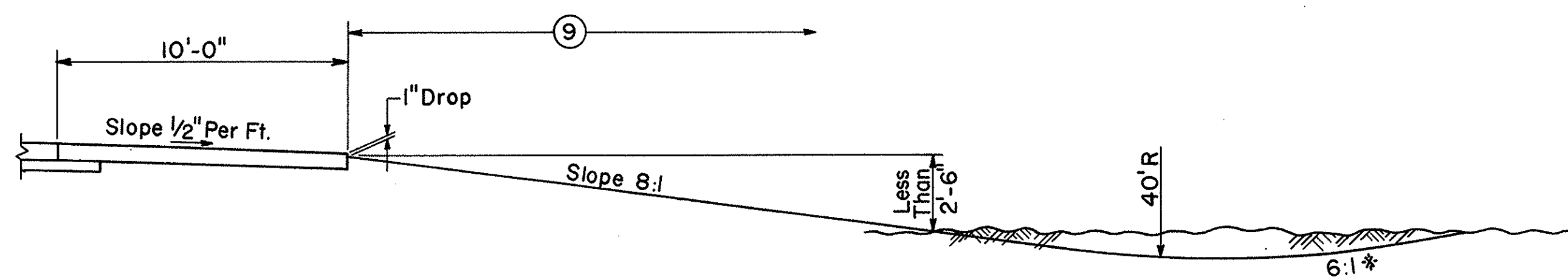
ENTRANCE RAMP TERMINAL



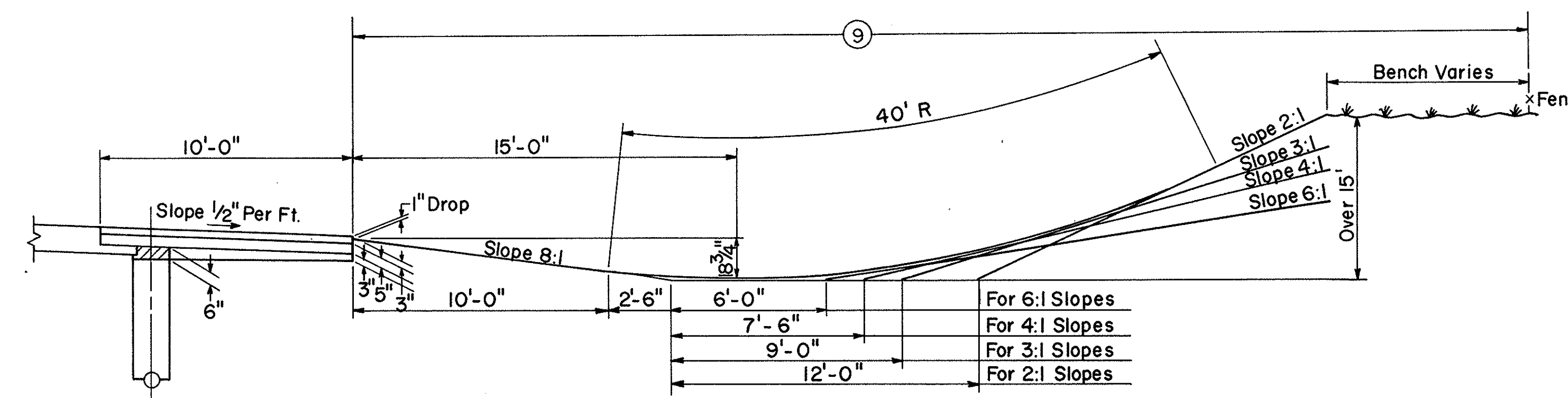
DETAIL FILL SECTION



DETAIL FILL SECTION



DETAIL FILL SECTION



DETAIL CUT SECTION

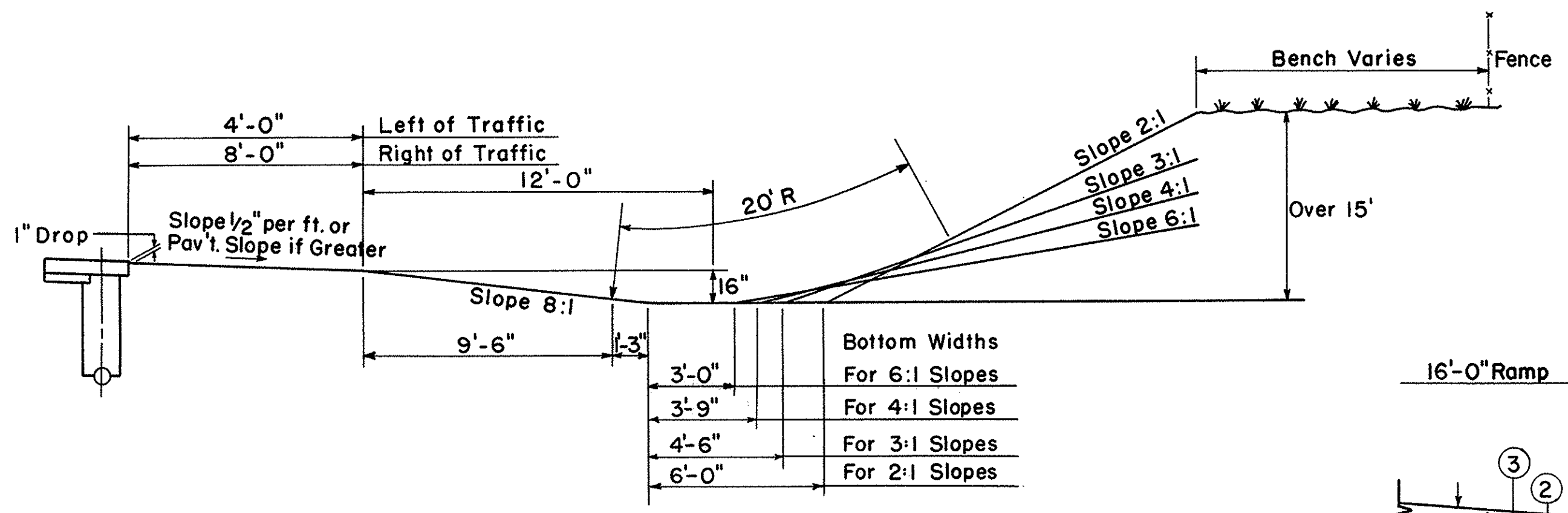
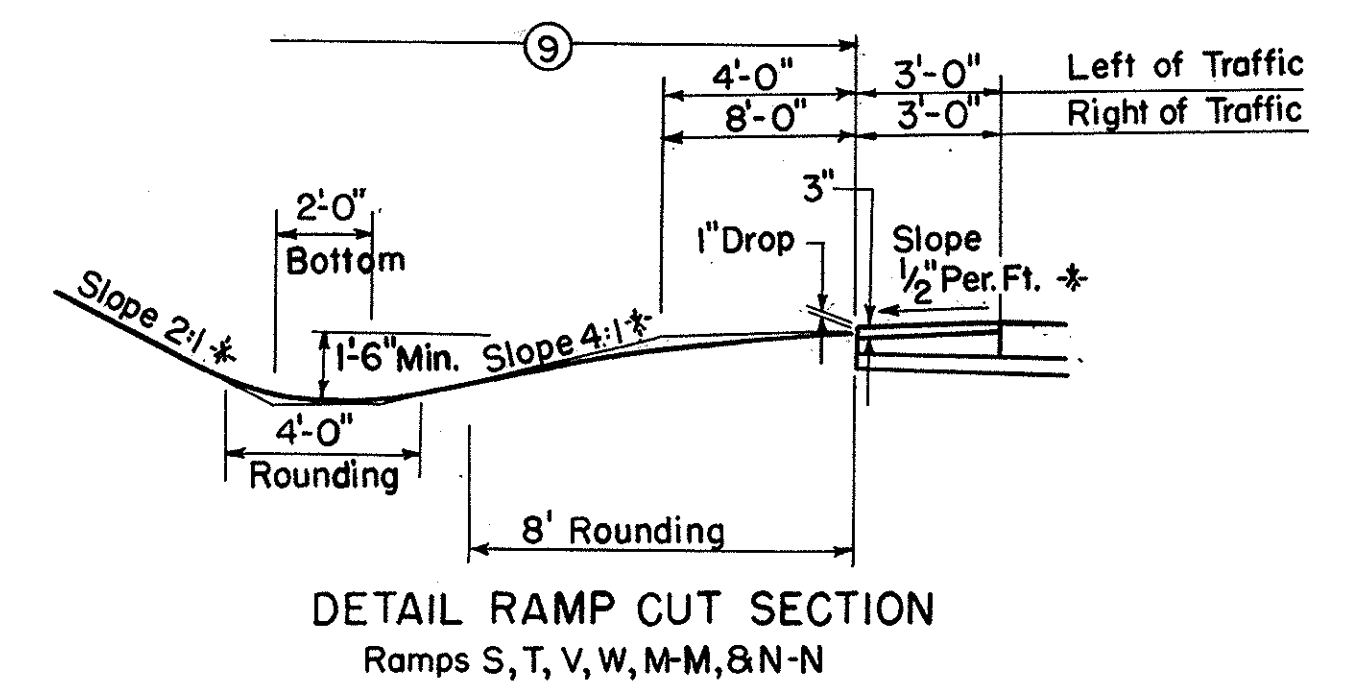
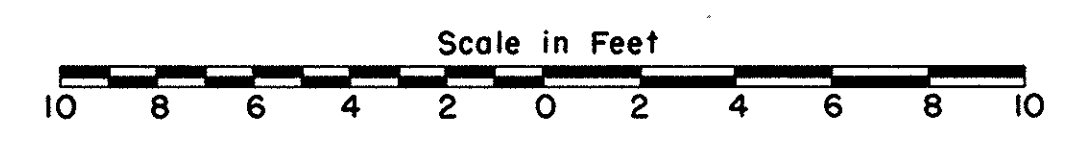
Southbound Sta. 488+13.35 to Sta. 503+58.25  
Northbound Sta. 488+13.35 to Sta. 504+62.88

\* Or As Shown On Cross Sections

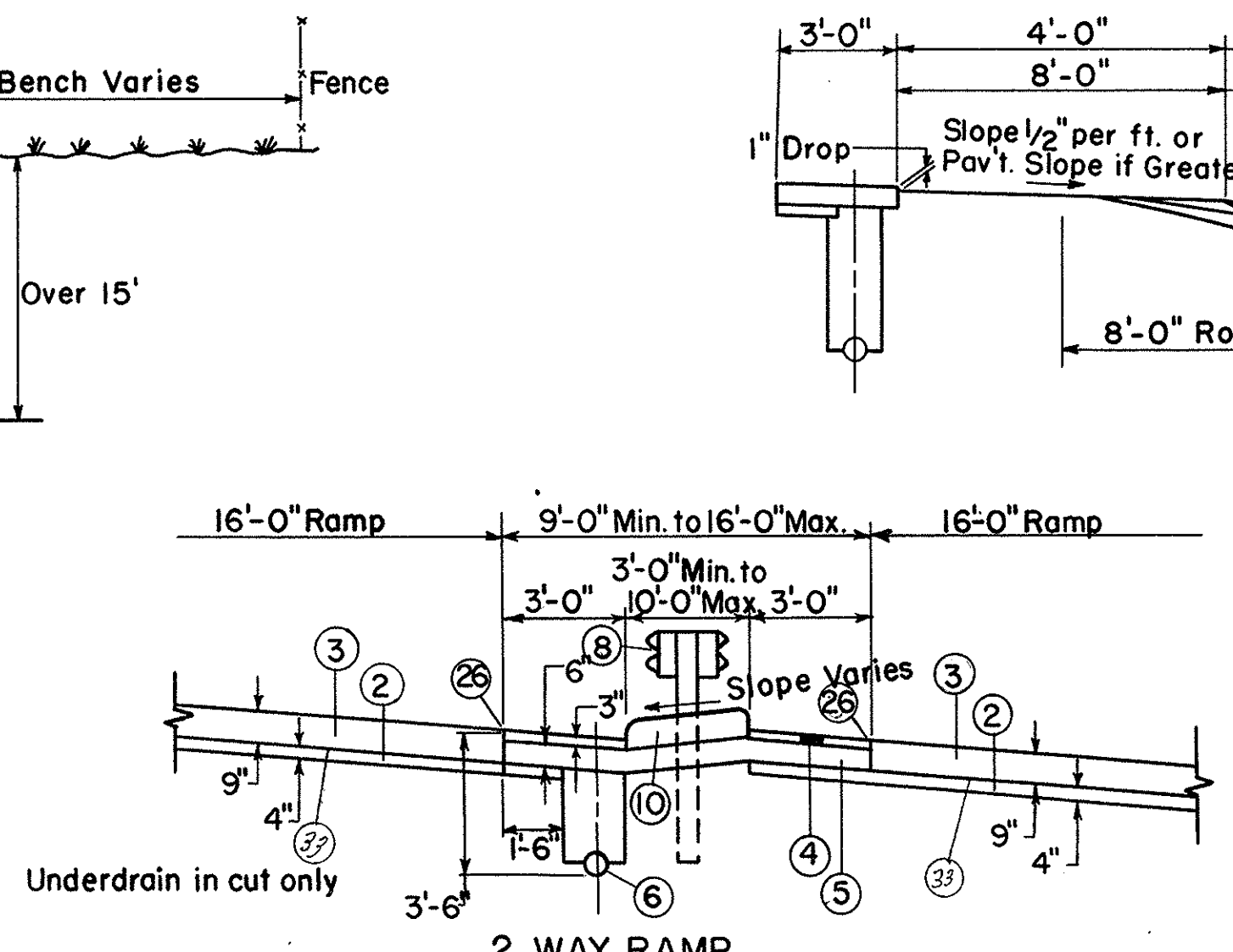
# TYPICAL SECTIONS TYPE 451

## LEGEND

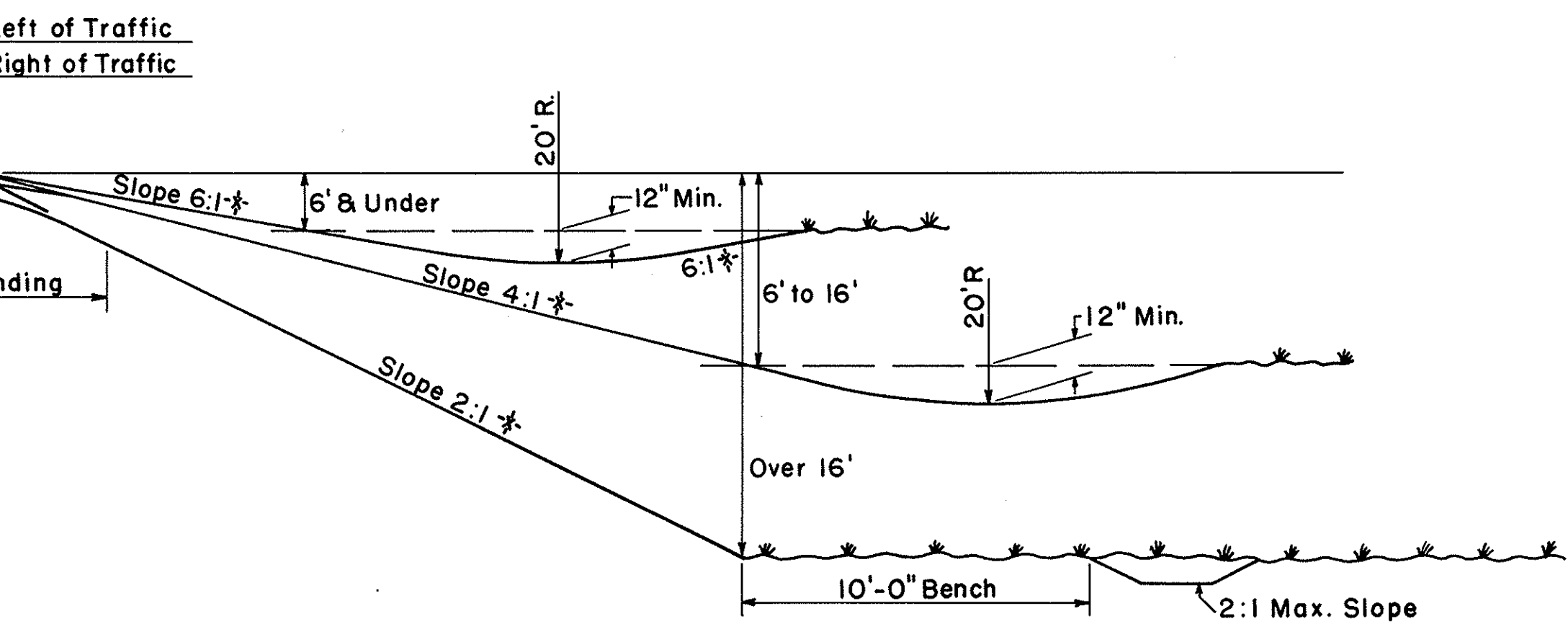
- ② 804 4" Cement Stabilized Base or Subbase (\*\* In Fill Sections Extend as Indicated by Dashed Lines)
- ③ 451 9" Reinforced Portland Cement Concrete Pavement
- ④ 301 Bituminous Aggregate Base 702.01 (85-100 or AC20) or 702.09 RT11 or RT12, as per plan (See Note in Proposal) (See General Notes Sheet No. 9)
- ⑤ 304 Aggregate Base (Thickness as shown)
- ⑥ 605 6" Pipe Underdrain (Backfill From Ginches above top of pipe to bottom of 304 Shall be 703.02 Sand)
- ⑦ 606 Guard Rail, Type 5
- ⑧ 606 Guard Rail, Type 5 Barrier
- ⑨ 659 Seeding and Mulching (See General Notes Sheet No.9)
- ⑩ 612 Concrete Median
- ⑪ Standard Longitudinal Joint
- ⑫ Sealed Joint (See General Notes Sheet No.9)
- ⑬ 409 Seal Coat Bituminous Material 702.09 RT-9 or 10 (Applied at the rate of 0.30 gal. per sq. yd.) See note in proposal



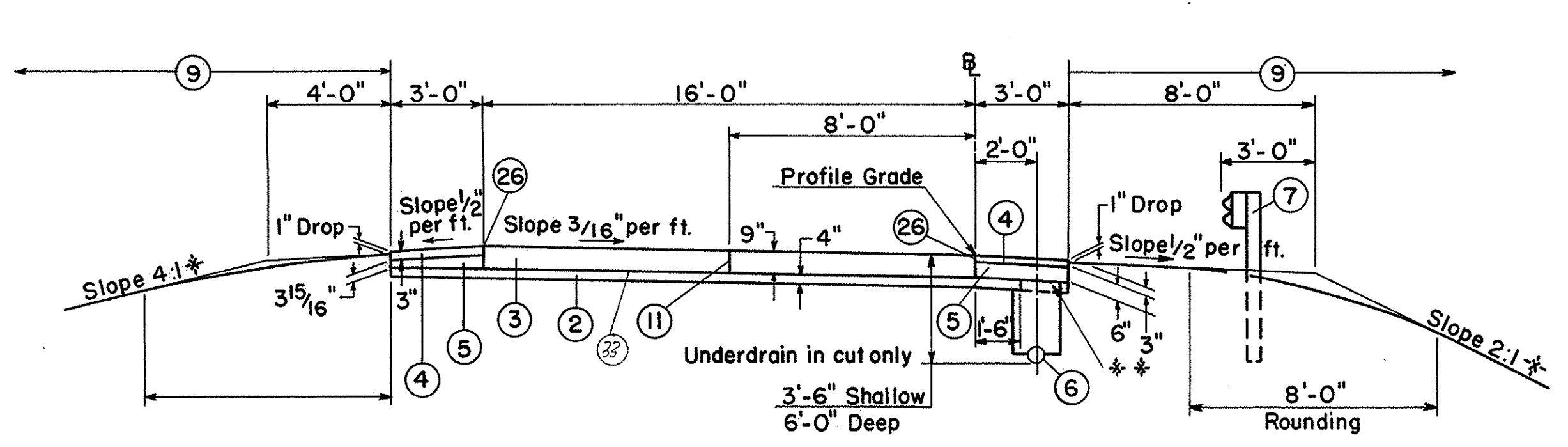
DETAIL RAMP CUT SECTION  
Ramps R and U



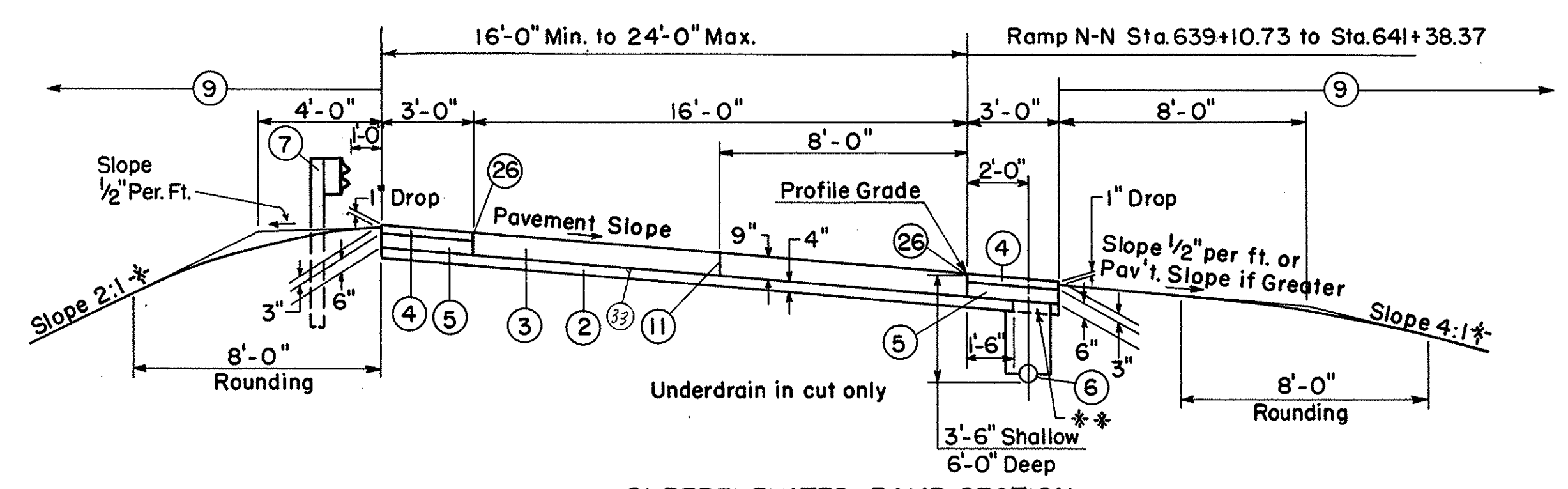
2 WAY RAMP  
SUPERELEVATED SECTION  
Ramp R Sta. 501+48.00 to Sta. 502+82.00  
Ramp S Sta. 496+03.00 to Sta. 497+24.00  
Ramp U Sta. 503+32.00 to Sta. 507+09.00  
Ramp V Sta. 495+90.00 to Sta. 499+15.00



DETAIL RAMP FILL SECTION



NORMAL RAMP SECTION  
Ramp R Sta. 498+69.52 to Sta. 499+19.52    Ramp W Sta. 509+15.11 to Sta. 511+25.00  
Ramp R Sta. 503+84.86 to Sta. 504+41.48    Ramp M-M Sta. 636+23.23 to Sta. 637+02.54  
Ramp U Sta. 508+19.89 to Sta. 508+93.35    Ramp N-N Sta. 637+31.96 to Sta. 638+76.24



SUPERELEVATED RAMP SECTION  
Ramp S Sta. 494+25.04 to Sta. 503+78.33    Ramp R Sta. 488+13.35 to Sta. 498+69.52  
Ramp T Sta. 507+35.35 to Sta. 515+14.32    Ramp R Sta. 499+19.52 to Sta. 503+84.86  
Ramp V Sta. 492+66.95 to Sta. 502+62.88    Ramp U Sta. 496+27.52 to Sta. 508+19.89  
Ramp W Sta. 505+98.47 to Sta. 509+15.11  
Ramp M-M Sta. 632+50.00 to Sta. 636+23.23  
Ramp M-M Sta. 637+02.54 to Sta. 641+88.61  
Ramp N-N Sta. 631+24.79 to Sta. 637+31.96  
Ramp N-N Sta. 638+76.24 to Sta. 641+45.75

Ramp Typical Sections Are Shown With Traffic  
\* Or As Shown On Cross Sections

RG

LEGEND

- ② 804 4" Cement Stabilized Base or Subbase
- ③ 451 9" Reinforced Portland Cement Concrete Pavement
- ④ 301 5" Bituminous Aggregate Base 702.01(85-100 or AC20) or 702.09 RT-11 or RT-12  
(See Note in Proposal) (See General Notes Sheet No. 9)
- ⑤ 304 Aggregate Base (Thickness as shown)
- ⑥ 605 6" Pipe Underdrain (Backfill from 6" above top of pipe to bottom of 304 shall be 703.02 sand)
- ⑦ 606 Guard Rail, Type 5
- ⑧ 606 Guard Rail, Type 5 Barrier
- ⑨ 659 Seeding & Mulching (See General Notes Sheet No. 9)
- ⑩ 612 Concrete Median
- ⑪ Standard Longitudinal Joint
- ⑫ 310 Subbase, Grading A as per plan
- ⑬ 310 Subbase
- ⑭ 609 Combination Curb and Gutter, Standard Type 2
- ⑮ 301 3" Bituminous Aggregate Base, 702.01(85-100 or AC20) or 702.09 RT-11 or RT-12
- ⑯ 409 Seal Coat Bituminous Material (Applied at the rate of 0.30 Gal. Bituminous Material Per Sq. Yd.) & Seal Coat Cover Aggregate (Applied at the rate of 0.008 C.Y. Cover Aggregate Per Sq. Yd.)
- ⑰ 305 9" Portland Cement Concrete Base
- ⑱ 407 Tack Coat (702.04 (MS-2 or RS-1) or 702.02 (RC-70 or RC-250) (Applied at the rate of 0.10 Gal. Per Sq. Yd.))
- ⑳ 404 Asphalt Concrete (70-85 or AC20) (Thickness as shown)
- ㉑ 402 Asphalt Concrete (70-85 or AC20) (Thickness as shown)
- ㉒ Sealed Joint (See General Notes Sheet No. 9)
- ㉓ 605 Porous Backfill (See Sequence of Operations, Sheet No. 3)
- ㉔ 609 Curb, Standard Type 6
- ㉕ 409 Seal Coat Bituminous Material 702.09 RT-9 or 10 (Applied at the rate of 0.30 gal. per sq. yd.) See note in proposal

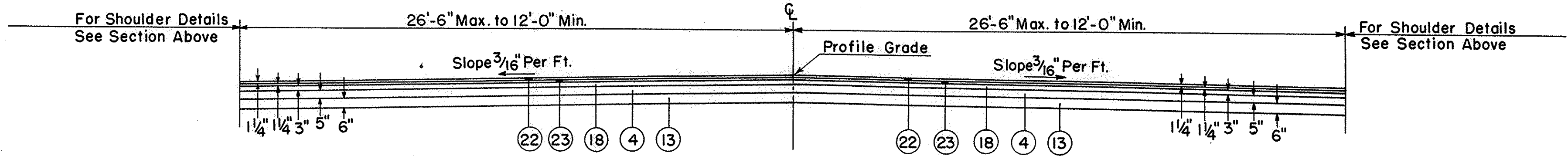
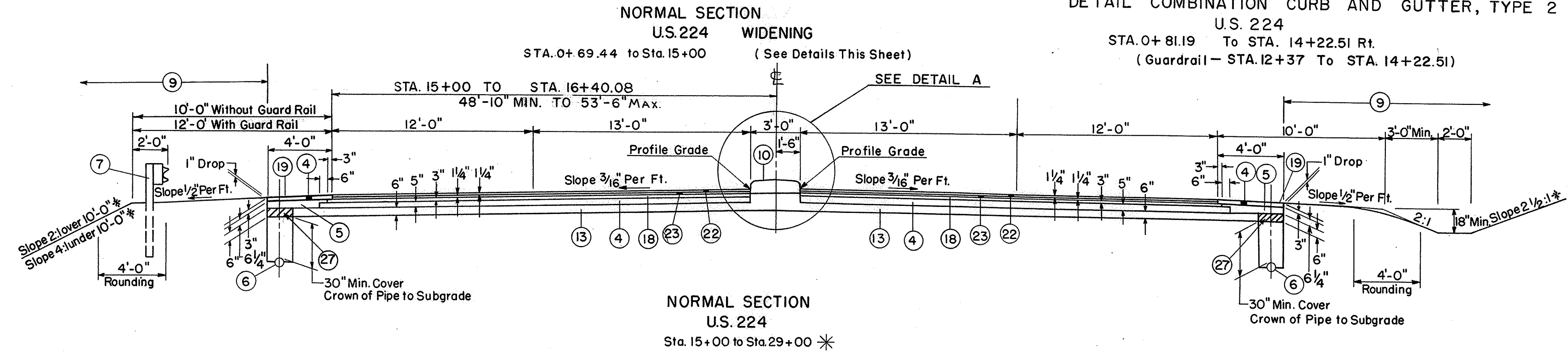
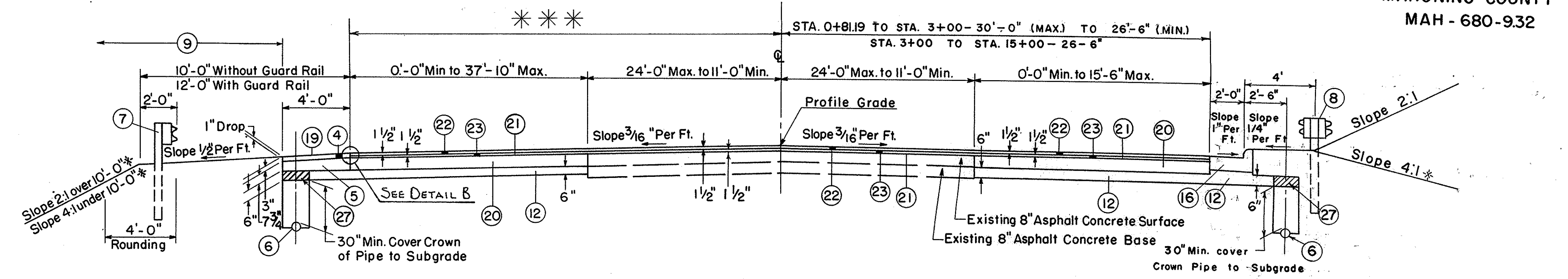
# TYPICAL SECTIONS

## TYPE 404

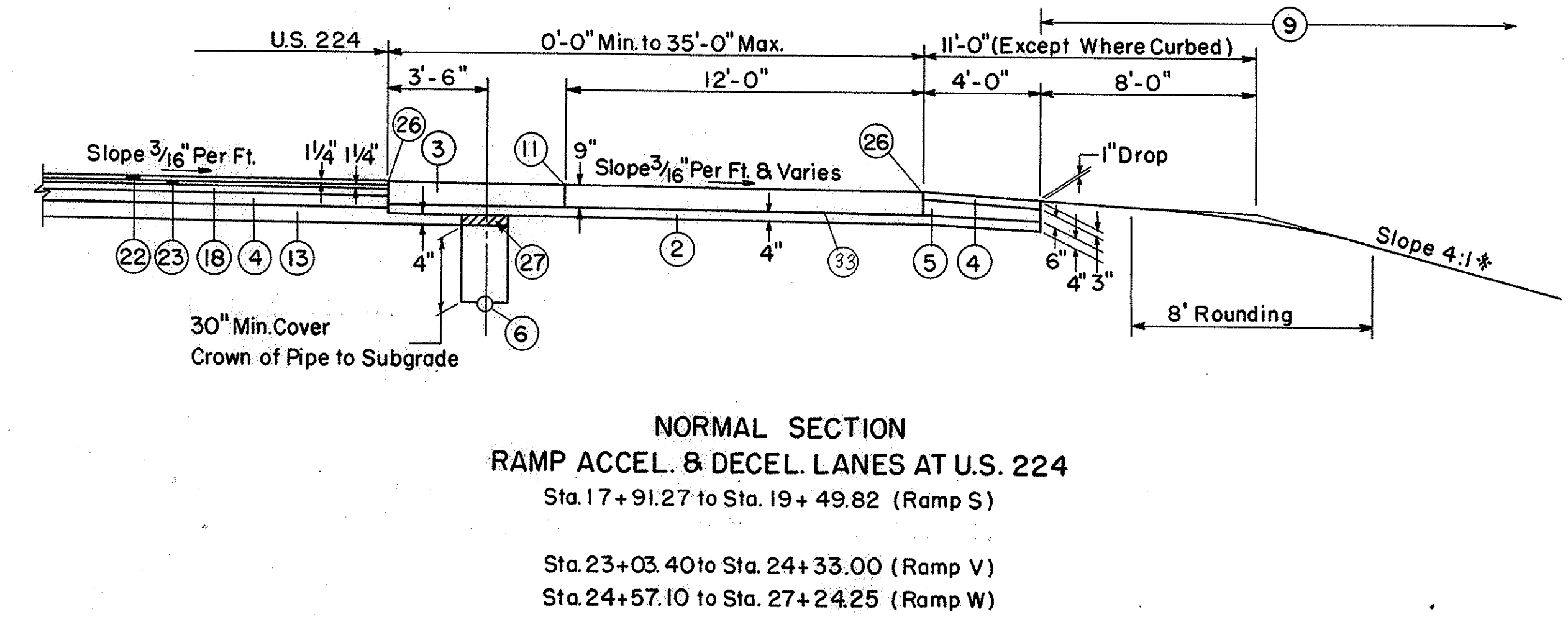
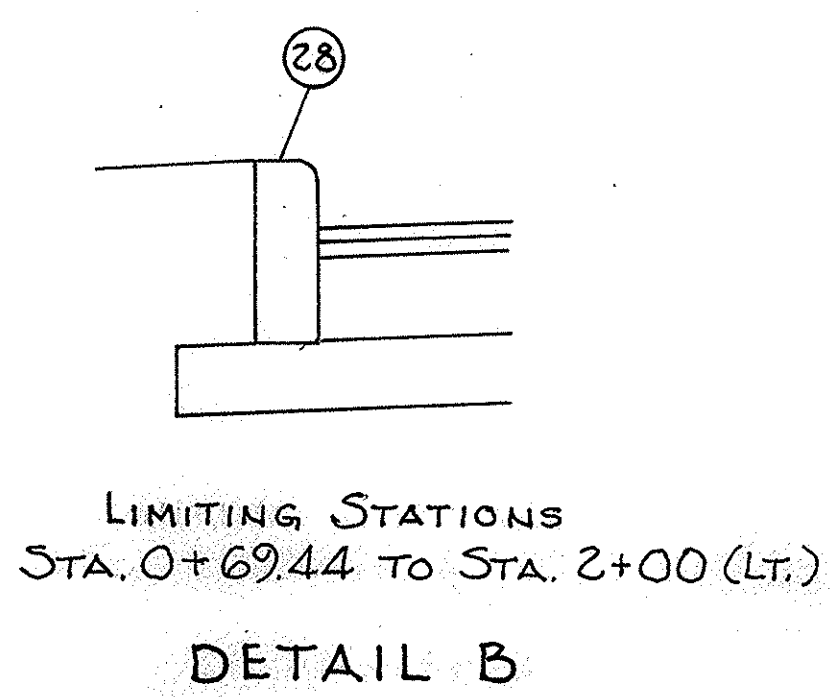
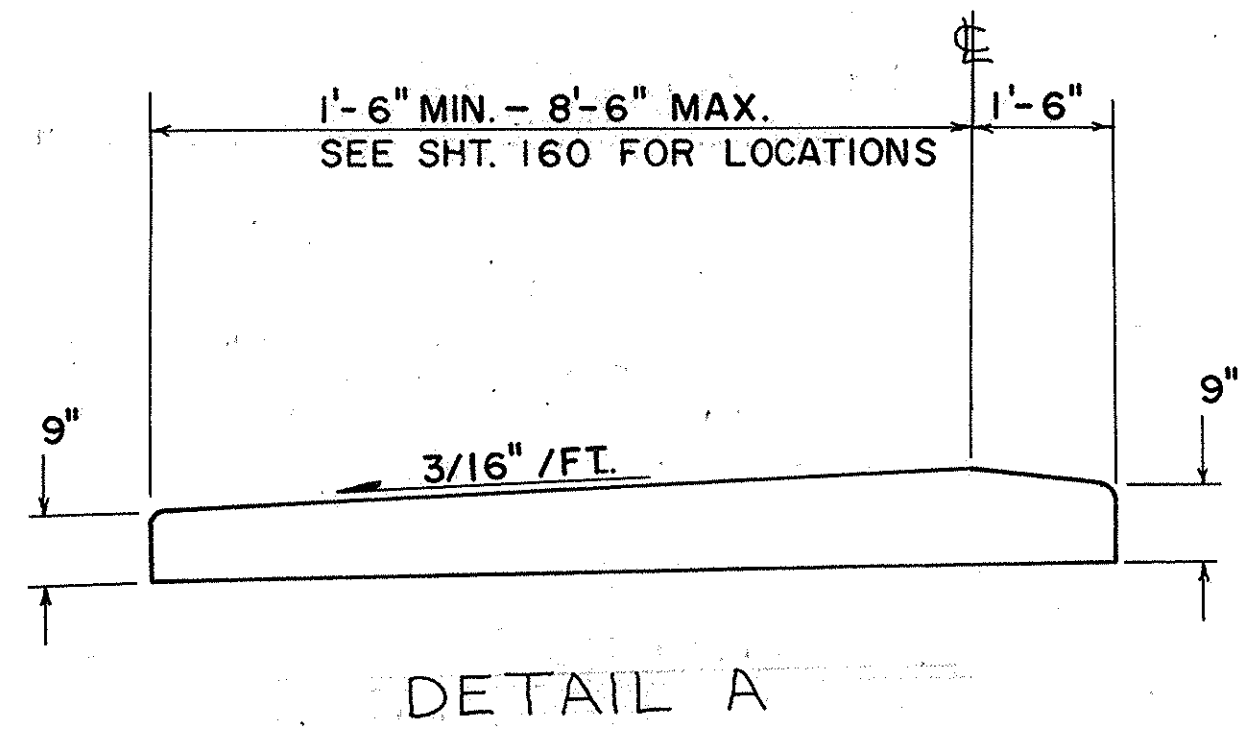
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

7  
303

MAHONING COUNTY  
MAH - 680-932



\* BEGIN CONC. MEDIAN STA. 16+86.69  
 \*\*\* STA. 0+69.44 To STA. 3+00 (Variable) 32'-0" To 33'-6"  
 STA. 3+00 To STA. 10+40.08 - 33'-6"  
 STA. 10+40.08 To STA. 15+00 (Variable) 33'-6" To 48'-10"



FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

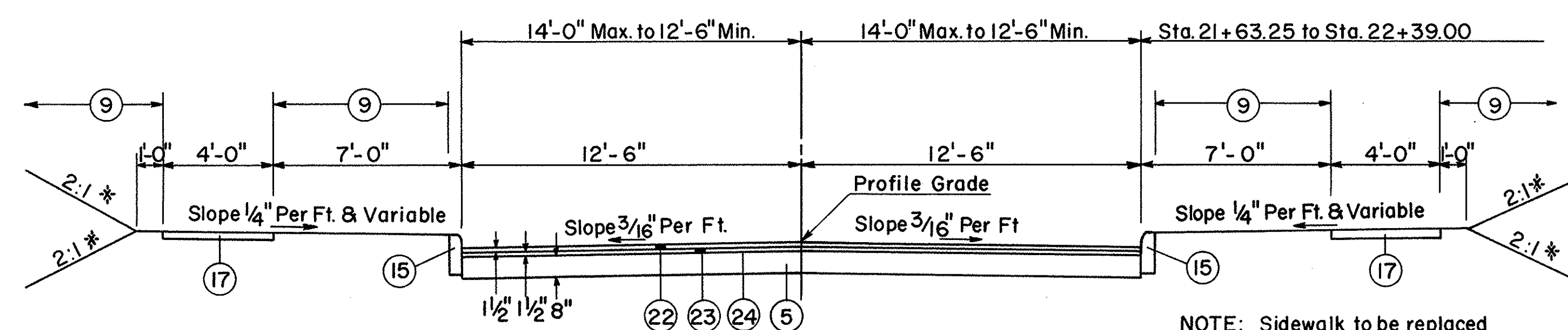
8  
303

MAHONING COUNTY  
MAH - 680-9.32

# TYPICAL SECTIONS

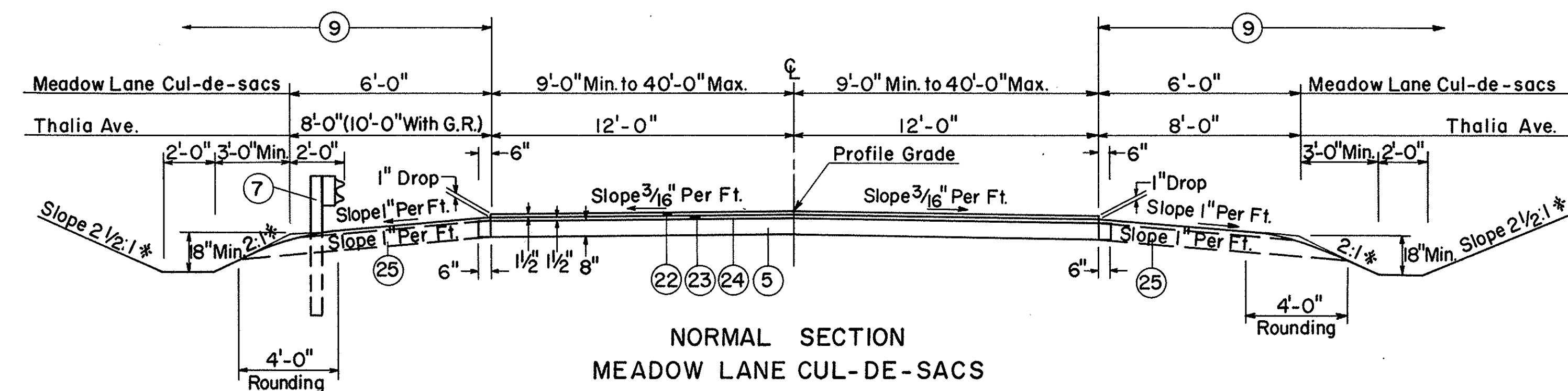
- LEGEND**
- ② 804 4" Cement Stabilized Base or Subbase
  - ③ 451 9" Reinforced Portland Cement Concrete Pavement
  - ⑤ 304 Aggregate Base (Thickness as shown)
  - ⑦ 606 Guard Rail, Type 5
  - ⑨ 659 Seeding & Mulching (See General Notes Sheet No. 9)
  - ⑪ Standard Logitudinal Joint

- ⑮ 609 Concrete Curb, Standard Type 6
- ⑰ 608 4" Concrete Sidewalk
- ⑳ 404 1 1/2" Asphalt Concrete (70-85 or AC20)
- ㉑ 402 1 1/2" Asphalt Concrete (70-85 or AC20)
- ㉒ 408 Bituminous Prime Coat (702.09 RT-2 or RT-3)  
(Applied at the rate of 0.40 Gal. Per Sq. Yd.)
- ㉓ 605 Aggregate Drains (See General Notes Sheet No. 9)
- ㉔ 609 Concrete Curb, Standard Type 2 A

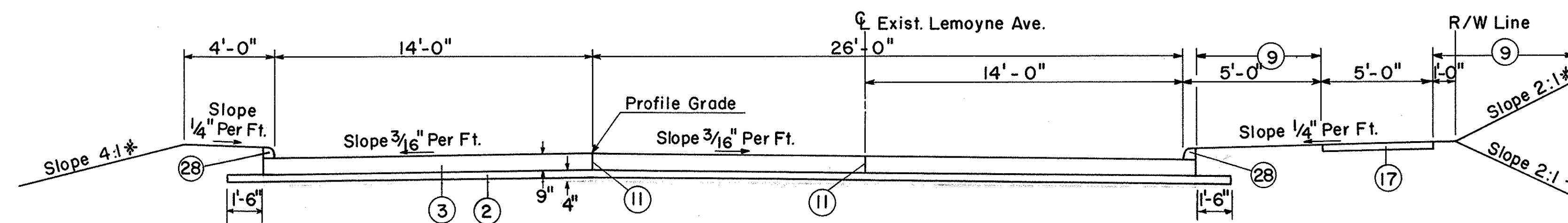


**NORMAL SECTION  
THALIA AVE.**  
Sta. 21+66.25 to Sta. 25+00

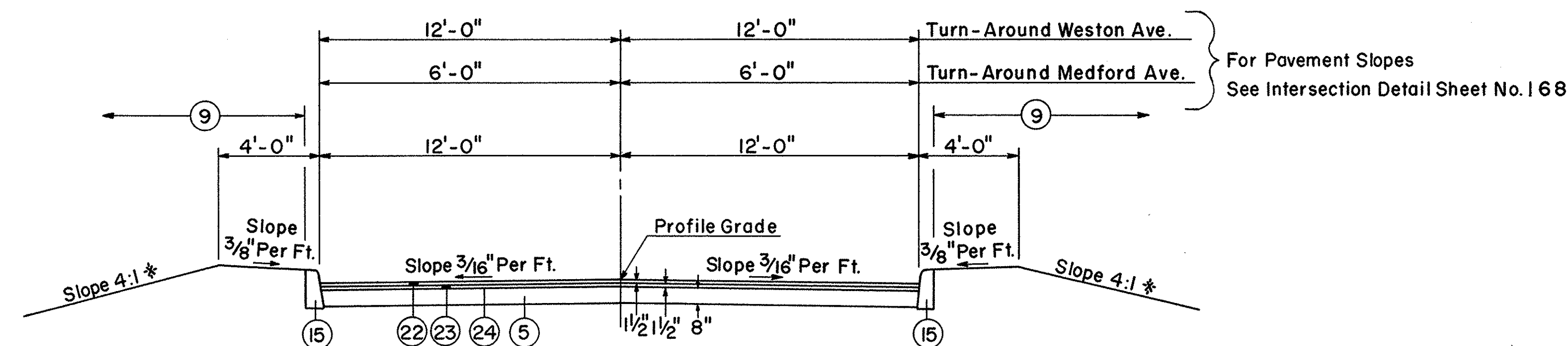
NOTE: Sidewalk to be replaced on Thalia Ave. Sta. 22+62 to Sta. 23+25. Existing sidewalks to remain Sta. 23+25 to Sta. 25+00.



**NORMAL SECTION  
MEADOW LANE CUL-DE-SACS  
THALIA AVE.**  
Sta. 18+33.75 to Sta. 21+66.25 (Approach Slab & Structure)

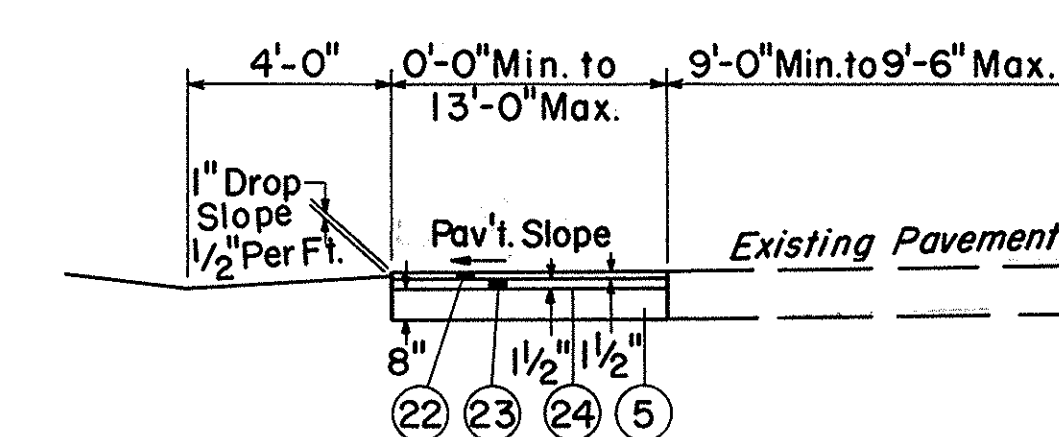


**NORMAL SECTION  
LEMOYNE AVE.**  
Sta. 5+54.14 to Sta. 9+78



**NORMAL SECTION  
MEADOW LANE CONNECTION**  
Sta. 25+00 to Sta. 35+12  
TURN-AROUND WESTON AVE.  
TURN-AROUND MEDFORD AVE.

For Pavement Slopes See Intersection Detail Sheet No. 168



**TAPER  
LEMOYNE AVE.**  
Sta. 4+24.14 to Sta. 5+54.14

\* Or As Shown On Cross Sections



# GENERAL NOTES

## DESIGN SPEED

THE GEOMETRICS FOR THIS PROJECT HAVE BEEN PLANNED FOR A DESIGN SPEED OF SEVENTY (70) MILES PER HOUR.

## FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 800 SQUARE FEET OF FLOOR SPACE FOR THE FIELD OFFICE AND IN ADDITION TO THE REQUIREMENTS OF ITEM 619 PROVIDE AND MAINTAIN SANITARY PROVISIONS AS PER ITEM 107.06. ALL THE ABOVE IS INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 619. "FIELD OFFICE".

## UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT BUT THE STATE OF OHIO DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS.

## ESTIMATED QUANTITIES

SPECIFIC LOCATIONS AND USAGE OF ESTIMATED QUANTITIES SET UP ON THIS PLAN TO BE USED "AS DIRECTED BY THE ENGINEER" SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT. THIS NOTE SHALL APPLY TO ALL CONTINGENCY ITEMS. THE ESTIMATED QUANTITIES SHALL NOT BE ORDERED UNTIL SO DIRECTED BY THE ENGINEER.

## CONSTRUCTION LAYOUT STAKES

SEE NOTE IN PROPOSAL DESCRIBING THE WORK INCLUDED IN THIS LUMP SUM PAY ITEM.

## FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS

THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN AND SUBSEQUENTLY REMOVE FEDERAL AID CONSTRUCTION SIGNS AT EACH OF THE FOLLOWING APPROXIMATE LOCATIONS:

- (1) RT. OF U.S. 224 AT S.R. 164 (SOUTH AVENUE)
- (2) LT. OF U.S. 224 AT AUDUBON (ILLINOIS) AVENUE
- (3) RT. OF MIDLOTHIAN BOULEVARD AT SHIRLEY ROAD
- (4) LT. OF MIDLOTHIAN BOULEVARD AT LEMOYNE AVENUE

SIGN DETAILS SHALL BE AS SPECIFIED ON FACI-1. "CODE N-55(1)-120-(2)". THE SIGNS SHALL BE ERECTED IN ACCORDANCE WITH STANDARD DRAWING FACI-2. ADDITIONAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH NOTES IN THE PROPOSAL.

FOR LOCATION OF SIGNS, SEE SHEET NO. 2.

## PROFILE (RESURFACING AND SALVAGE PROJECTS)

THE PROFILE OF THE PROPOSED ASPHALT CONCRETE COURSE SHALL BE APPROXIMATELY THREE (3) INCHES ABOVE THAT OF THE EXISTING PAVEMENT.

## PUBLIC UTILITIES AFFECTED

THE CONTRACTOR SHALL NOTIFY, AT LEAST SEVEN (7) DAYS IN ADVANCE OF GROUNDBREAKING, ALL OWNERS OF UTILITIES BEING AFFECTED BY THE PROJECT:

- (1) EAST OHIO GAS COMPANY, 101 EAST BOARDMAN STREET, YOUNGSTOWN, OHIO
- (2) OHIO EDISON COMPANY, 730 SOUTH AVENUE, YOUNGSTOWN, OHIO
- (3) OHIO BELL TELEPHONE COMPANY, 2405 MARKET STREET, YOUNGSTOWN, OHIO

(4) SANITARY DEPARTMENT, CITY OF YOUNGSTOWN, OHIO

(5) WATER DEPARTMENT, CITY OF YOUNGSTOWN, OHIO

(6) POLAND SANITARY SEWER DISTRICT NO. 4, MAHONING COUNTY ENGINEER, 940 BEARS DEN ROAD, YOUNGSTOWN, OHIO

(7) OHIO WATER SERVICE COMPANY, STRUTHERS, OHIO

## REMOVAL OF TREES AND STUMPS

ALL TREES AND STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT SHALL BE REMOVED UNDER THE LUMP SUM PRICE BID FOR ITEM 201. "CLEARING AND GRUBBING". EXCEPT THAT THOSE TREES FOR WHICH PROTECTION AND PRESERVATION WORK IS INDICATED ELSEWHERE IN THESE PLANS SHALL NOT BE REMOVED.

THE FOLLOWING IS AN APPROXIMATE ESTIMATE OF THE NUMBER OF TREES AND STUMPS TO BE REMOVED:

SIZES	NO. OF TREES
48"	1745
30"	115
48"	17
60"	0

THE ABOVE ESTIMATE IS APPROXIMATE AND THE STATE OF OHIO RESERVES THE RIGHT TO ORDER THE REMOVAL OF ADDITIONAL TREES OR STUMPS OUTSIDE THE LIMITS OF CONSTRUCTION BUT WITHIN THE RIGHT-OF-WAY AND/OR EASEMENT LINES. PAYMENT FOR THE REMOVAL OF THESE ADDITIONAL TREES OR STUMPS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201. "CLEARING AND GRUBBING".

## ITEM 659. "SEEDING AND MULCHING"

**MAINLINE** - QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN THE RIGHT-OF-WAY FENCE LINES, BETWEEN THE RIGHT-OF-WAY LINES IN UNFENCED AREAS, AND WITHIN THE WORK LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT.

**INTERSECTING ROADS** - QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN LINES TEN (10) FEET OUTSIDE THE WORK LIMITS, AS SHOWN ON THE CROSS SECTIONS, OR TO THE RIGHT-OF-WAY LINE IF SUCH LINE IS LESS THAN TEN (10) FEET FROM THE WORK LIMITS.

## ITEM 203. "PROOF ROLLING"

AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN PROVIDED IN THE GENERAL SUMMARY FOR USE IN PROOF ROLLING OF SUBGRADE FOR THE MAINLINE AND RAMP PAVEMENTS, AND FOR PAVED SHOULDERS, IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 801.

## SUBGRADE COMPACTION-EXTRA-DEPTH SUBBASE AREAS

THE PROVISIONS OF 203.13 RELATING TO SUBGRADE COMPACTION ARE WAIVED IN THOSE AREAS WHERE EXTRA-DEPTH SUBBASE (12" TO 24" TOTAL THICKNESS) IS PROVIDED FOR PREVENTION OF FROST-HEAVING.

## CASTINGS

ALL CASTINGS FROM ABANDONED MANHOLES, INLETS AND CATCH BASINS SHALL BECOME THE PROPERTY OF THE CONTRACTOR, AND DISPOSED OF BY HIM.

## JOINTS IN CONCRETE BARRIER

Contraction joints shall be used at 20' intervals. The maximum joint opening shall be 1" and shall not extend into the base. 1/2" expansion joints shall be used on either side of bridge piers and overhead sign supports or as required by the Engineer. The cost of all the above shall be included in the unit price bid per lineal foot of the concrete barrier.

## CONTRACTION AND EXPANSION JOINTS

**MAINLINE AND ADJACENT SPEED CHANGE LANES** - EXPANSION JOINTS SHALL BE PROVIDED AT ALL MAJOR STRUCTURES IN ACCORDANCE WITH PAVEMENT DETAILS FOR CONTINUOUSLY REINFORCED CONCRETE PAVEMENT, SHEET NO. 169. NO CONTRACTION JOINTS WILL BE PERMITTED.

**RAMPS** - ALTHOUGH SPECIFIC LOCATIONS OF CERTAIN EXPANSION AND CONTRACTION JOINTS HAVE BEEN DETAILED ON THIS PLAN, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. PROVISION OF EXPANSION JOINTS AT ALL MAJOR STRUCTURES AND THE MAXIMUM SPACING BETWEEN CONTRACTION JOINTS SHALL IN ALL CASES BE IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING BP-4.

## ITEM 310. "SUBBASE, GRADING A, AS PER PLAN"

MATERIAL FOR THIS ITEM SHALL CONTAIN NOT MORE THAN 10% PASSING A NO. 200 SIEVE AFTER ALL OPERATIONS OF SPREADING AND COMPACTION.

STA. 600+00 TO STA. 607+00, STA. 630+00 TO STA. 634+50 MAINLINE  
STA. 2+00 TO STA. 15+00 U.S. 224

## DRIVEWAYS AND MAILBOX APPROACHES

FOR DETAILS OF DRIVEWAYS AND MAILBOX APPROACHES, SEE STANDARD DRAWING BP-6 AND SHEET NO. 170.

## ROUNDING OF CORNERS SHOWN ON CROSS SECTIONS

THE ROUNDED CORNERS SHOWN ON THE TYPICAL SECTIONS APPLY TO ALL CROSS SECTIONS EVEN THOUGH OTHERWISE SHOWN ON THESE PLANS.

## CONSTRUCTION SIGNING

ALL CONSTRUCTION SIGNING SHALL CONFORM TO "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION" EVEN THOUGH THE SIGN MAY BE LOCATED BEYOND THE WORK LIMITS.

## ITEM 301. "BITUMINOUS AGGREGATE BASE"

IN AREAS WHERE NO UNDERDRAINS ARE USED, THE TEN (10) FEET OUTSIDE PAVED SHOULDER SHALL CONSIST OF 301 BITUMINOUS AGGREGATE BASE 8" THICK ADJACENT TO THE CONCRETE PAVEMENT AND 6" THICK AT THE OUTSIDE EDGE OF SHOULDER. THE ENTIRE DEPTH OF 301 MAY BE PLACED IN A SINGLE COURSE.

## SEALED JOINT BETWEEN CONCRETE PAVEMENT AND PAVED SHOULDER

A JOINT NOT LESS THAN TWO (2) INCHES DEEP AND WITH A MINIMUM WIDTH OF 1/4" SHALL BE FORMED IN THE 301 BITUMINOUS CONCRETE BASE COURSE IMMEDIATELY ADJACENT TO THE PORTLAND CEMENT CONCRETE PAVEMENT. THIS JOINT SHALL BE PLACED IN ALL AREAS WHERE BITUMINOUS CONCRETE SHOULDERS CONTACT PORTLAND CEMENT CONCRETE PAVEMENT. THE JOINT SHALL BE SEALED WITH MATERIAL MEETING THE REQUIREMENTS OF 705.01 OR 705.02 IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF 451.13.

PAYMENT FOR CONSTRUCTING AND SEALING THIS JOINT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE PAVEMENT.

## SCHEDULE OF OPERATIONS

The Contractor shall so schedule his operations that the removal of the structures on parcel Nos. 277 WL, 278 WL, 285 WL, 286 WL, 287 WL and the construction of the 84" culvert at Sta. 637+65 Ramp M-M shall be performed at the earliest time possible.

## PROPERTY MARKERS

ALL IRON PINS OR MARKERS WITHIN LIMITS OF THE PROJECT SHALL BE REFERENCED, SAVED AND ADJUSTED TO THE NEW GRADE BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER. COST OF ADJUSTING AND RESETTING PROPERTY MARKERS SHALL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR ITEM 203. "EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION".

## PAVEMENT REMOVAL OUTSIDE NORMAL CONSTRUCTION LIMITS

AFTER THE EXISTING PAVEMENT AS INDICATED ON THE PLANS HAS BEEN REMOVED, THE OLD ROADWAY SHALL BE GRADED TO THE LEVEL OF THE SURROUNDING GROUND, THE OLD DITCHES FILLED AND THE DISTURBED AREAS SLOPED TO DRAIN AND LEFT IN A NEAT CONDITION READY FOR SEEDING. SEEDING SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH ITEM 659. "SEEDING AND MULCHING". PAYMENT FOR ALL OTHER WORK REQUIRED SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203.

## GUARD RAIL ADJUSTMENT

PRIOR TO STAKING THE GUARD RAIL, THE ENGINEER SHALL MAKE A FIELD INSPECTION AND, IF NECESSARY, ADJUST THE STATIONS OF THE END POSTS TO ACCOMMODATE FIELD CONDITIONS AND TO PROVIDE BETTER PROTECTION FOR TRAFFIC.

## SPECIAL SEEDING PREPARATION AREAS

THE REFERENCE IN THE FIRST PARAGRAPH OF 659.09 TO PREPARATION OF THE SEED BED IN FRONT OF RESIDENCES, ETC., SHALL ON THIS PROJECT BE CONSIDERED TO BE PARTICULARLY APPLICABLE TO ALL AREAS LISTED IN 659.09 IN ADDITION TO THE FOLLOWING AREAS:

U.S. 224	STA. 2+00 TO STA. 10+00 LT. STA. 2+00 TO STA. 3+30 RT. STA. 10+70 TO STA. 11+90 RT. STA. 30+00 TO STA. 33+65 RT.
MEADOW LANE	STA. 17+40 TO STA. 28+00 LT. AND RT.
THALIA AVENUE	STA. 13+75 TO STA. 16+00 LT. AND RT. STA. 22+40 TO STA. 25+25 LT. AND RT.
RAMP N-N	STA. 629+00 TO STA. 641+75 RT.
LEMOYNE AVENUE	STA. 4+25 TO STA. 5+50 LT. AND RT. STA. 5+50 TO STA. 9+80 LT.

## ITEM 605. "AGGREGATE DRAINS" (SIDE ROADS ONLY)

AGGREGATE DRAINS SHALL BE PLACED AT FIFTY (50) FOOT INTERVALS ON EACH SIDE OF NORMAL CROWNED SECTIONS AND AT TWENTY-FIVE (25) FOOT INTERVALS ON THE LOW SIDE ONLY OF SUPERELEVATED SECTIONS, EXCEPT WHERE ITEM 605. "PIPE UNDERDRAINS" HAVE BEEN PROVIDED.

AN AGGREGATE DRAIN SHALL BE PLACED AT THE LOW POINT OF EACH SAG VERTICAL CURVE.

AN ESTIMATED QUANTITY OF 850 L.F. FOR AGGREGATE DRAINS, HAS BEEN INCLUDED IN THE GENERAL SUMMARY.

## MONUMENTS

Monuments shall be constructed in accordance with details shown on Standard Drawing MC-1. For locations, see sheet No. 282.

# GENERAL NOTES

## REMOVAL OF EXISTING PIPE

THE REMOVAL OF ALL EXISTING PIPE DRAINS WHICH WOULD NORMALLY BE REMOVED IN VARIOUS EXCAVATION ITEMS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICE BIDS FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

## CONNECTIONS TO EXISTING PIPE

AT PLACES WHERE THE PLANS PROVIDE FOR PROPOSED PIPE TO BE CONNECTED TO EXISTING PIPE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE STARTS TO LAY THE PROPOSED PIPE. THE COST OF THIS OPERATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEM.

## REINFORCED CONCRETE CONDUIT FOR SANITARY SEWERS

WHEN USING REINFORCED CONCRETE PIPE FOR SANITARY SEWERS, IT SHALL BE COATED INSIDE WITH TWO COATS OF COAL TAR PITCH PAINT AT THE RATE OF NOT MORE THAN 180 SQUARE FEET PER GALLON PER COAT. WATER-PROOFING MATERIAL SHALL CONSIST OF "INTEROL STANDARD THICK", "KOPPERS SUPER SERVICE", "PITT-CHEM. 103", OR AN APPROVED EQUAL.

## SEWER HOUSE DRAINS AND EXISTING HOUSE CONNECTIONS

ALL EXISTING HOUSE DRAINS WHICH INCLUDES YARD, ROOF, BASEMENT OR OTHER SIMILAR HOUSE CONNECTIONS NOW IN USE, WHICH ARE DISTURBED BECAUSE OF THE HIGHWAY IMPROVEMENT, SHALL BE REPLACED BY THE CONTRACTOR. SANITARY DRAINS SHALL NOT BE CONNECTED TO THE STORM SEWERS. PAYMENT FOR PLUGGING IS INCLUDED IN THE UNIT PRICE BID FOR ITEM 203. "EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION". THE ESTIMATED QUANTITIES SHALL NOT BE ORDERED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603 4" CONDUIT TYPE B 200 LINEAL FEET

## MAINTENANCE OF SEWER FLOWS

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MAINTAIN, AT ALL TIMES, SEWER FLOWS THROUGH EXISTING FACILITIES TO REMAIN IN PLACE AND THROUGH EXISTING FACILITIES TO BE REPLACED UNTIL NEW FACILITIES ARE COMPLETED AND PLACED INTO USE. PAYMENT FOR ANY ADDITIONAL COSTS INVOLVED IN MAINTAINING THESE FLOWS BY PUMPING OR BY ANY OTHER MEANS APPROVED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE RESPECTIVE ITEMS OF 603 CONDUIT.

## FARM DRAINS

ALL FARM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS UNDER THE DIRECTION OF THE ENGINEER. EXISTING COLLECTORS WHICH ARE LOCATED BELOW THE ROADWAY DITCH ELEVATIONS AND WHICH CROSS THE ROADWAY SHALL BE REPLACED WITHIN THE RIGHT-OF-WAY LIMITS BY ITEM 603, "CONDUIT, TYPE B", ONE COMMERCIAL SIZE LARGER THAN THE EXISTING CONDUIT.

EXISTING COLLECTORS AND ISOLATED FARM DRAINS WHICH ARE ENCOUNTERED ABOVE THE ELEVATION OF THE ROADWAY DITCHES SHALL BE OUTLETTED INTO THE ROADWAY DITCH BY ITEM 603, "CONDUIT, TYPE F". THE OPTIMUM OUTLET ELEVATION SHALL BE, IF POSSIBLE, ONE (1) FOOT ABOVE THE FLOWLINE ELEVATION OF THE DITCH. LATERAL TILE FIELDS WHICH CROSS THE ROADWAY SHALL BE INTERCEPTED BY ITEM 603, "CONDUIT, TYPE E" AND CARRIED IN A LONGITUDINAL DIRECTION TO AN ADEQUATE OUTLET OR ROADWAY CROSSING.

THE LOCATION, TYPE, SIZE AND GRADE OF REQUIRED REPLACEMENTS SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION AND PAYMENT SHALL BE MADE ON FINAL MEASUREMENTS. THE ESTIMATED QUANTITIES SHALL NOT BE ORDERED WITHOUT PRIOR APPROVAL OF THE ENGINEER.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

ITEM 603	6" CONDUIT, TYPE B	200 LIN. FT.
ITEM 603	6" CONDUIT, TYPE E	200 LIN. FT.
ITEM 603	6" CONDUIT, TYPE F	100 LIN. FT.
ITEM 603	8" CONDUIT, TYPE B	200 LIN. FT.
ITEM 603	8" CONDUIT, TYPE E	200 LIN. FT.
ITEM 603	8" CONDUIT, TYPE F	100 LIN. FT.
ITEM 601	ROCK CHANNEL PROTECTION - TYPE B	30 CU. YDS.

ALL NECESSARY BENDS AND BRANCHES SHALL BE INCLUDED FOR PAYMENT IN THE PERTINENT CONDUIT ITEM.

## ITEM SPECIAL - DRILLED WELL ABANDONED

THE EXISTING CONCRETE OR STONE SLAB WELL COVER AND PUMPING EQUIPMENT SHALL BE REMOVED AND DISPOSED OF. THE CASING SHALL BE CUT OFF AT LEAST TWO (2) FEET BELOW THE PROPOSED FINISHED GRADE OUTSIDE PROPOSED PAVEMENT AREAS OR AT LEAST TWO (2) FEET BELOW THE PROPOSED SUBGRADE ELEVATION INSIDE PROPOSED PAVEMENT AREAS AND CAPPED WITH CLASS "E" CONCRETE OR A STANDARD THREADED PIPE CAP.

THE UNIT PRICE BID FOR EACH "DRILLED WELL ABANDONED" SHALL INCLUDE PAYMENT FOR ALL LABOR, TOOLS, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM.

FOR LOCATION OF DRILLED WELLS, SEE SHEET NO. 26, 27, 32, 36, 37, 39, 43, 48

## ITEM SPECIAL - CLEANING AND DISPOSING OF SEPTIC TANKS

THIS ITEM SHALL INCLUDE CLEANING, BACKFILLING AND REMOVING OF ALL OR ANY PORTION OF EXISTING TANKS.

ALL SEPTIC TANKS LYING WITHIN THE PROPOSED RIGHT-OF-WAY LIMITS SHALL BE CLEANED AND EMPTIED. MATERIAL REMOVED FROM THESE TANKS SHALL BE CLASSIFIED UNSUITABLE AND DISPOSED OF OUTSIDE THE RIGHT-OF-WAY OR EASEMENT LINES.

WHEN THE SEPTIC TANKS ARE LOCATED ABOVE THE FINISHED PAVEMENT OR GROUND LINES, THEY SHALL BE ENTIRELY REMOVED AND DISPOSED OF IN ACCORDANCE WITH ITEM 202.

WHEN THE SEPTIC TANKS ARE LOCATED BELOW THE FINISHED PAVEMENT OR GROUND LINES, THE TOPS OF THE TANKS SHALL BE REMOVED AND THE WALLS SHALL BE REMOVED TO A DEPTH OF THREE (3) FEET BELOW THE FINISHED SUBGRADE OR GROUND LINES. THE REMOVED MATERIAL SHALL BE DISPOSED OF AS EXPLAINED ABOVE. THE TANKS SHALL BE BACKFILLED WITH SUITABLE SOIL OR GRANULAR MATERIAL IN ACCORDANCE WITH ITEM 203.07.

THIS ITEM SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR ITEM SPECIAL - "CLEANING AND DISPOSING OF SEPTIC TANKS", WHICH PRICE AND PAYMENT SHALL CONSTITUTE FULL COMPENSATION FOR CLEANING, REMOVING AND DISPOSING OF EXCESS MATERIALS, BACKFILLING AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THIS ITEM INCLUDING INCIDENTAL EXCAVATION.

## SPECIAL DITCHES

FOR SPECIAL DITCH GRADES, SEE CROSS SECTIONS.

## STANDARD NO. 3 AND NO. 3-A CATCH BASIN

THE FLOW LINE LOCATION FOR THE STANDARD NO. 3 AND NO. 3-A CATCH BASINS IS SHOWN AT THE TOP OF THE GRATE AT THE FACE OF CURB.

## STANDARD NO. 2-6 MEDIAN INLETS

THE FLOW LINE LOCATION FOR THE STANDARD NO. 2-6 TO 2-20 MEDIAN INLETS IS SHOWN AT THE FACE OF CURB WITH A TWO (2) INCH DEPRESSION.

## STEPS IN CATCH BASIN

STEPS SHALL BE PLACED IN ALL CATCH BASINS THAT ARE OVER SIX (6) FEET IN DEPTH AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DRAWING CB-2-3 AND 2-4. THE COST OF THESE STEPS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EACH TYPE OF CATCH BASIN.

## STANDARD NO. 6 CATCH BASIN (MODIFIED) AS PER PLAN

IN LIEU OF THE PROVISIONS FOR DEPRESSING THE PAVEMENT ONE (1) INCH, AS SHOWN IN THE STANDARD DRAWING CATCH BASIN CB-6, THE PAVEMENT SHALL BE DEPRESSING TWO (2) INCHES ON THIS PROJECT.

## SPRING DRAINS

REFERENCE IS MADE TO THE STANDARD DRAWING M C-1 SHOWING THE METHOD OF DRAINING ANY SPRING THAT MAY BE SHOWN ON THE PLAN OR ENCOUNTERED DURING CONSTRUCTION AS DETERMINED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE:

ITEM 605	6" UNCLASSIFIED PIPE UNDERDRAIN, 707.01, TYPE III OR 707.12, AS PER PLAN	200 LIN. FT.
ITEM 605	AGGREGATE DRAINS FOR SPRINGS, AS PER PLAN	30 LIN. FT.

THE CONTRACTOR SHALL NOT ORDER MATERIALS FOR "SPRING DRAINS" UNTIL AUTHORIZED BY THE ENGINEER AND IN THE EVENT NO SPRINGS ARE ENCOUNTERED, THE ITEM SHALL BE NON-PERFORMED.

## 8" WATER LINE (VELMA COURT)

THE 8" WATER LINE ON VELMA COURT, AT STATION 611+75 MUST BE IN OPERATION BEFORE THE 16" WATER LINE ON MIDLOTHIAN BOULEVARD IS DISRUPTED. THESE TWO LINES ARE THE ONLY FEED TO A LARGE SECTION OF HIGH SERVICE, EAST OF THE HIGHWAY.

## 20" GAS PIPE LINES (U.S. 224)

THE CONTRACTOR SHALL SAVE THE EAST OHIO GAS COMPANY HARMLESS FROM ALL DAMAGES OR GAS OUTAGES RESULTING FROM NEGLIGENCE ON HIS PART WITH REGARD TO THE CONSTRUCTION OR REMOVAL OF THE TEMPORARY PAVEMENT SURFACE AND FILL OVER THE TWO 20" DIAMETER GAS PIPE LINES CROSSING U.S. 224 AT STATION 27+60 AND STATION 27+70. HEAVY EQUIPMENT WILL NOT BE PERMITTED TO CROSS OVER THESE LINES WITHOUT ADEQUATE PROTECTION TO THE GAS PIPE LINES.

THE CONTRACTOR SHALL ALSO BEAR THE COST OF REPLACING ANY PORTION OR PORTIONS OF THE LINES IN THE EVENT THEY ARE COMPRESSED OR FLATTENED AND/OR SHALL BEAR THE COST IN REPAIRING THE CATHODIC PROTECTION COATINGS IN THE EVENT THEY ARE DAMAGED AS A RESULT OF THE OVERBURDEN.

## GUARD RAIL TERMINAL SECTION

Where indicated on the plan, guard rail shall be terminated by using a Terminal Section. This shall consist of bolting a Standard Terminal as detailed on Standard Drawing GR-2A to the rail element at the last post. Also, the three end post of each Terminal Section shall be encased in a minimum 4-inch thickness of Class C Concrete for the full depth of the post below the ground line. Payment for the Terminal Section shall be included in the unit price bid for Item 606 Guard Rail Type 5.

## 20" GAS PIPE LINES (U.S. 224) CONT'D

NO EXISTING OVERBURDEN SHALL BE REMOVED FROM THE PIPE LINES TO CREATE DRAINAGE DITCHES. IF DITCHES ARE REQUIRED, THEY SHALL BE OF THE CONCRETE SLUICE CONSTRUCTION FOR A DISTANCE OF TWENTY (20) FEET IN EACH DIRECTION PERPENDICULAR TO THE CENTERLINE OF THE TWO LINES. THESE LINES SUPPLY GAS TO A LARGE PORTION OF YOUNGSTOWN AND ANY INTERRUPTION WOULD BE VERY EXPENSIVE.

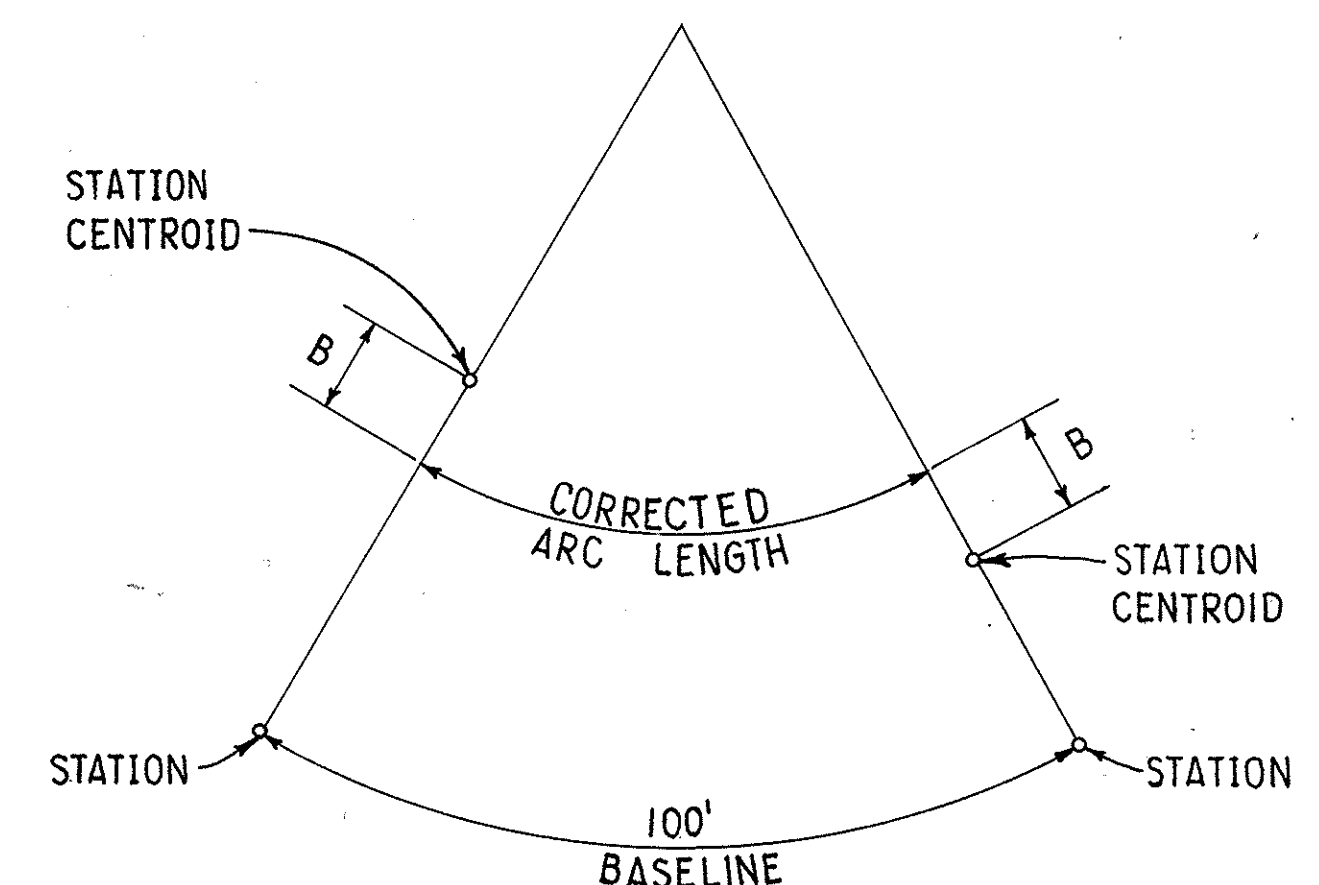
THE CONTRACTOR SHALL NOTIFY THE EAST OHIO GAS COMPANY, DIVISION ENGINEER AT 746-7611, EXTENSION 248, 48 HOURS IN ADVANCE OF STARTING THE CONSTRUCTION OF THE TEMPORARY EARTH FILL.

## STRAIGHT LINE MILEAGE

THE STRAIGHT LINE MILEAGE ON THIS PROJECT IS MEASURED FROM NORTH TO SOUTH AND FROM A HIGHER STATION (BEGIN WORK STA. 638+00) TO A LOWER STATION (END WORK STA. 488+13.35)

## COMPUTATIONS FOR EARTHWORK, LOOP RAMPS

THE FOLLOWING DIAGRAM SHOWS THE METHOD USED FOR CALCULATING THE CORRECTED ARC LENGTHS USED IN THE EARTHWORK CALCULATIONS FOR RAMP S AND RAMP V.



## WATER POLLUTION, SOIL EROSION AND SILTATION CONTROL

The following estimated quantities are to be used as directed by the Engineer for erosion and siltation control measures. For details see note in the Proposal.

Special, Temporary Seeding and Mulching	89,956 S.Y.
659, Commercial Fertilizer (12-12-12)	16.67 Tons
Special, Water	1943 M. Gal.
Special, Temporary Slope Drains	2600 Lin. Ft.
Special, Temporary Berches, Dikes, Dams and Sediment Basins	4666 C.Y.
Special, Repair Seeding and Mulching	28,464 S.Y.
Special, Mowing	1010 M.S.F.

# GENERAL NOTES (TRAFFIC)

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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MAHONING COUNTY  
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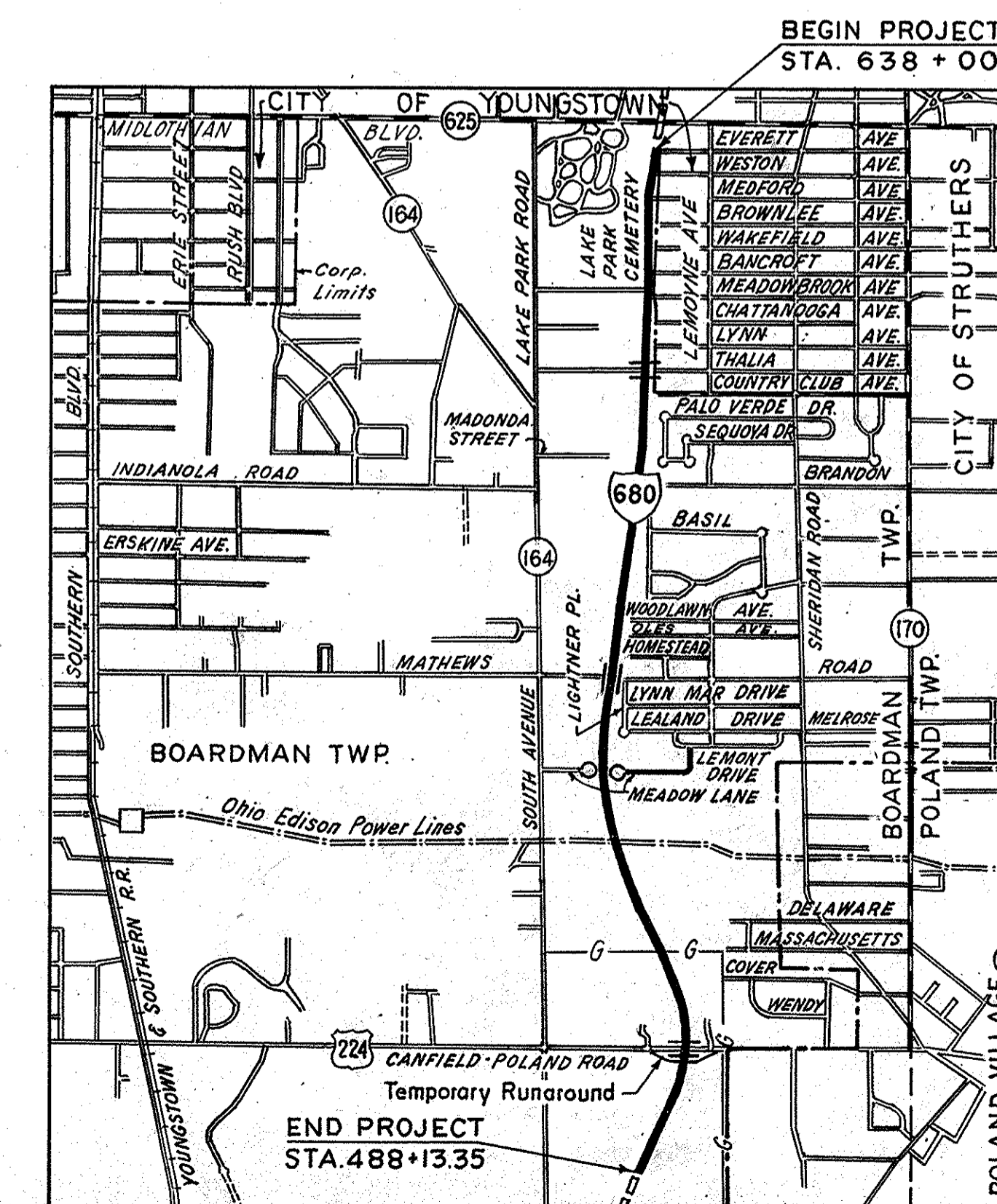
1. MINIMUM PROVISIONS FOR THE MAINTENANCE OF TRAFFIC ON PUBLIC ROADS AFFECTED BY THIS IMPROVEMENT SHALL BE AS FOLLOWS:

- (A) CANFIELD POLAND ROAD (U.S. 224)-  
TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES BY USE OF EITHER THE EXISTING PAVEMENT OR THE TEMPORARY RUN AROUND. (SEE DETAIL SHEET NO. 153)
- (B) MEADOW LANE -  
SHALL BE CLOSED TO TRAFFIC ONLY AFTER MEADOW LANE CONNECTION IS COMPLETED AND OPEN TO TRAFFIC.
- (C) MATHEWS ROAD -  
TWO WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES.
- (D) THALIA AVENUE -  
MAY BE CLOSED TO TRAFFIC.
- (E) LEMOYNE AVENUE -  
MAY BE CLOSED TO TRAFFIC BETWEEN MIDLOTHIAN BLVD. AND WESTON AVE. TO CONSTRUCT NEW PAVEMENT
- (F) EVERETT AVENUE -  
MAY BE CLOSED TO TRAFFIC JUST WEST OF SHERIDAN ROAD TO CONSTRUCT NEW PAVEMENT

ESTIMATED QUANTITIES  
(TO GENERAL SUMMARY)

- ITEM 410 525 C.Y. TRAFFIC COMPACTED SURFACE, TYPE "A" OR "B"
- ITEM 410 525 C.Y. TRAFFIC COMPACTED SURFACE, TYPE "C"
- ITEM 616 500 M. GALLONS WATER
- ITEM 616 21 TONS CALCIUM CHLORIDE

- 3. THE LIMITS AND DURATION OF USE OF TEMPORARY ROADWAYS SHALL BE HELD TO AN ABSOLUTE MINIMUM, AND IN ALL CASES SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
  - 4. LOCAL TRAFFIC SHALL BE MAINTAINED AT ALL TIMES IN ACCORDANCE WITH THE PROVISIONS OF SECTION 104.04 AND 614.02.
  - 5. THE CONTRACTOR SHALL IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614 ON THIS PROJECT, PERFORM THE FOLLOWING:
    - (A) PROVIDE, ERECT, AND MAINTAIN STANDARD 48" X 30" SIZE "ROAD CLOSED" SIGNS, SIGN SUPPORTS AND LIGHTS AT THE FOLLOWING LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.
      - 1. JUST WEST OF THE INTERSECTION OF LEMOYNE AVE. AND THALIA AVE.
      - 2. JUST EAST OF THE INTERSECTION OF LAKE PARK RD. AND THALIA AVE.
- SIGN SUPPORTS AND LIGHTS FOR "ROAD CLOSED" SIGNS SHALL BE DETAILED IN THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, CURRENT EDITION, LATEST REVISION".
- PAYMENT FOR PROVIDING, ERECTING, MAINTAINING, AND REMOVING BARRICADES, GATES, LIGHTS, SIGNS, AND SIGN SUPPORTS SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "ITEM 614 MAINTAINING TRAFFIC".



LOCATION MAP  
Scale in Feet  
2000 1000 0 2000

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GENERAL NOTES-TRAFFIC



# GENERAL SUMMARY

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ITEM	CODE TYPE 7224		GRAND TOTAL			DESCRIPTION
	TOTAL RURAL	TOTAL URBAN	ITEM	QUANT.	UNIT	
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 84 WL: One 1 - Sty. Brick Dwelling and Garage
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 99 WL: One 1 - Sty. Frame Dwelling and Garage, One Frame Garage
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 198 WL: One 2 - Sty. Frame Dwelling and Garage, One Frame Shed
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 199 WL: One 1/2 Sty. Frame Dwelling, One Concrete Block Garage, One 1 - Sty. Concrete Block Building
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 204 WL: One 1 - Sty. Concrete Block Commercial Building
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 206 WL: One 2 - Sty. Frame Dwelling, One 1/2 Sty. Frame Dwelling, One Frame Garage
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 224 WL: One Frame Garage
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 229 WL: One 1/2 Sty. Frame Dwelling and Garage
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 234 WL: One 1/2 Sty. Frame Dwelling, One Frame Garage
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 255 WL: One Frame Stable, One Frame Garage
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 256 WL: One 1/2 Sty. Frame Dwg., One 2 - Story Frame Dwelling and Garage
202	Lump Sum		202	Lump Sum	Lump Sum	Parcel 273 WL: One 2 - Sty. Frame Dwelling, One 2 - Sty. Concrete Block Bldg with attached Block Garage
202	Lump Sum	Lump Sum	202	Lump Sum	Lump Sum	Parcel 277 WL: One 1/2 Sty. Frame Dwelling, One Frame Garage
202	Lump Sum	Lump Sum	202	Lump Sum	Lump Sum	Parcel 278 WL: One 1/2 Sty. Frame Dwelling, One Concrete Block Garage
202	Lump Sum	Lump Sum	202	Lump Sum	Lump Sum	Parcel 280 WL: One 1/2 Sty. Frame Dwelling, One Frame Garage
202	Lump Sum	Lump Sum	202	Lump Sum	Lump Sum	Parcel 281 WL: One 1 - Sty. Frame Dwelling and Garage
202	Lump Sum	Lump Sum	202	Lump Sum	Lump Sum	Parcel 284 WL: One 1/2 Sty. Frame Dwelling and Garage
202	Lump Sum	Lump Sum	202	Lump Sum	Lump Sum	Parcel 285 WL: One 1/2 Sty. Frame Dwelling, One Frame Garage
202	Lump Sum	Lump Sum	202	Lump Sum	Lump Sum	Parcel 286 WL: One 1/2 Sty. Frame Dwelling, One Frame Garage
202	Lump Sum	Lump Sum	202	Lump Sum	Lump Sum	Parcel 287 WL: One 1 - Sty. Concrete Block Dwelling, One Frame Garage, One Frame Shed
202	Lump Sum	Lump Sum	202	Lump Sum	Lump Sum	Parcel 293 WL: One 1/2 Sty. Frame Dwelling, One Concrete Block Garage
202	Lump Sum	Lump Sum	202	Lump Sum	Lump Sum	Parcel 294 WL: One 1 - Sty. Frame Dwelling





# GENERAL SUMMARY

MAHONING COUNTY  
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ITEM	RURAL												URBAN						GRAND TOTAL			DESCRIPTION				
	SHEET NUMBERS												SHEET NUMBERS						ITEM	QUANT.	UNIT					
	17	18	19	20	21	29-A-B	31	37	38	39	44	48	TOTAL RURAL	17	18	19	20	21					44	48	TOTAL URBAN	
301				5,630									5,630					209				209	301	5,839	CU. YDS.	Bituminous Aggregate Base, 702.01(85-100 or AC-20) or 702.09, RT-11 or RT-12, as per plan
				2,101									2,101									301	2,101	CU. YDS.	Bituminous Aggregate Base, 702.01(85-100 or AC-20) or 702.09, RT-11 or RT-12	
304				7,340		55	18	8	24	36	11		7,492					488	3	23		514	304	8006	CU. YDS.	Aggregate Base
305						5107	46						5173							17		17	305	5190	SQ. YDS.	9" Portland Cement Concrete Base
310				5,241									5,241					38				38	310	5,219	CU. YDS.	Subbase
310						4,742							4,742										310	4,742	CU. YDS.	Subbase Grading A, As Per Plan
402			923										924		45							45	402	969	CU. YDS.	Asphalt Concrete (70-85 or AC 20)
404			929			30	6	3	6	3	5		982		46				2	4		52	404	1034	CU. YDS.	Asphalt Concrete (70-85 or AC 20)
407				960									962										407	962	GALS.	Tack Coat 702.04 (MS-2 or RS-1) or 702.02 (RC-70 or RC-250)
409						46,007							46,007					1979				1979	409	47,986	GALS.	SEAL COAT, BITUMINOUS MATERIAL; 702.09, RT-9 or RT-10 (For 804)
408				2,180									2,180			430						430	408	2,610	GALS.	Bituminous Prime Coat, 702.09 (RT-2 or RT-3)
409						522							522										409	522	GALS.	Seal Coat Bituminous Material, As Per Plan
409						14							14										409	14	CU. YDS.	Seal Coat Cover Aggregate, No. 8
451	16,712												16,712	4,167								4,167	451	20,879	SQ. YDS.	9" Reinforced Portland Cement Concrete Pavement
451	121,781												121,781	1,600								1,600	451	123,381	SQ. YDS.	8" Continuously Reinforced Portland Cement Concrete Pavement, As Per Plan
452							58	57					115					123	45			168	452	283	SQ. YDS.	7" Plain Portland Cement Concrete Pavement
609														814								814	609	814	LIN. FT.	Curb, Standard Type 2A
609	3,346					131							3,346	1,143								1,143	609	4,489	LIN. FT.	Curb, Standard Type 6
609													876										609	876	LIN. FT.	Curb, Standard Type 7
609	1148												1,148										609	1,148	LIN. FT.	Curb, Standard Type 8
609	171					1203							1374										609	1374	LIN. FT.	Combination Curb and Gutter, Standard Type 2
611	309												309										611	309	SQ. YDS.	Reinforced Concrete Approach Slabs (T=12")
611	962												962										611	962	SQ. YDS.	Reinforced Concrete Approach Slabs (T=13")
612	636												636										612	636	SQ. YDS.	Concrete Median, Standard
613							21						21										613	21	Each	Traffic Divider
622											690		690						180			180	622	870	Lin. Ft.	Concrete Barrier
409						1,227							1,227					53				53	409	1,280	CU. YD.	Seal Coat Cover Aggregate, No. 8 (For 804)
804						153,337							153,337					6,598				6,598	804	159,935	SQ. YDS.	4" Cement Stabilized Base or Subbase
804						6,832							6,832					295				295	804	7,127	Barrels	Portland Cement
												For Lighting Quantities, See Sheet No. 204									QUANTITIES FOR LIGHTING					
												For Traffic Control Quantities, See Sheet No. 221									QUANTITIES FOR TRAFFIC CONTROL					
												For Bridge Quantities, See Sheet No. 268									QUANTITIES FOR STRUCTURES OVER 20 FT. SPAN					
												For Bridge Quantities, See Sheet No. 258									Bridge No. MAH-680-0995					
												For Bridge Quantities, See Sheet No. 245									Bridge No. MAH-680-1078 Lt. & Rt.					
												For Bridge Quantities, See Sheet No. 245									Bridge No. MAH-680-1184					
614																							Lump Sum	Lump Sum	Construction Layout Stakes	
619																							Lump Sum	Lump Sum	Maintaining Traffic	
																							Lump Sum	Lump Sum	Field Office	
301						17,037							17,037					733				733	301	17,770	CU. YD.	ALTERNATE BID ITEM Bituminous Aggregate Base, 702.01(85-100 or AC 20); or 702.09, RT-11 or RT-12



CALCULATIONS

ITEM 451 - 8" CONTINUOUSLY REINFORCED CEMENT CONCRETE PAVEMENT

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS. Includes Mainline - Rural and Mainline - Urban sections.

RURAL TOTAL: 110,953.0

MAINLINE - URBAN

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

URBAN TOTAL: 1,600.0

SPEED CHANGE LANES & TAPERS - RURAL

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS. Includes deceleration and acceleration lanes.

RURAL TOTAL: 10,827.2

TOTAL ITEM 451 - 8" CONTINUOUSLY REINFORCED - RURAL 121,780.2 SQ. YDS.

USE . . . 121,781 SQ. YDS.

TOTAL ITEM 451 - 8" CONTINUOUSLY REINFORCED - URBAN 1600.0 SQ. YDS.

USE . . . 1600 SQ. YDS.

ITEM 451 - 9" REINFORCED CEMENT CONCRETE PAVEMENT

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

RAMP R

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 3,127.8

RAMP S

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 2,271.7

RAMP T

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 1,725.5

RAMP U

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 2,404.2

RAMP V

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 2,432.8

ITEM 451 - 9" REINFORCED CEMENT CONCRETE PAVEMENT - CONTINUED

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

RAMP W

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 1,924.0

U.S. 224

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 142.7

RAMP M - M

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 2,676.2

TOTAL ITEM 451 - 9" PAVEMENT - RURAL 16711.6 Sq. Yds. USE . . . 16712 Sq. Yds.

RAMP N - N - URBAN

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 2,091.3

LEMOYNE AVE. - URBAN

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 2,028.6

EVERETT AVE. - URBAN

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 46.7

TOTAL ITEM 451 - 9" PAVEMENT - URBAN 4166.6 Sq. Yds. USE . . . 4167 Sq. Yds.

ITEM 611 - REINFORCED CONCRETE APPROACH SLABS (T=13")

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS. Includes approach slabs and ramps.

TOTAL ITEM 611: 961.2 Sq. Yds.

USE . . . 962 Sq. Yds.

ITEM 611 REINFORCED CONCRETE APPROACH SLABS (T=12")

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL ITEM 611: 308.5 Sq. Yds.

USE . . . 309 Sq. Yds.

ITEM 612 - CONCRETE MEDIAN

Table with columns: STATION TO STATION, LENGTH, WIDTH, SQ. YDS., REMARKS.

TOTAL: 635.4 Sq. Yds.

USE . . . 636 Sq. Yds.

ITEM 609 - CONCRETE CURB, STANDARD TYPE 6

Table with columns: STATION TO STATION, LIN. FT., REMARKS.

URBAN

Table with columns: STATION TO STATION, LIN. FT., REMARKS.

URBAN TOTAL: 1,093 LIN. FT.

RURAL

Table with columns: STATION TO STATION, LIN. FT., REMARKS.

RURAL TOTAL: 3346 LIN. FT.

ITEM 609 - CONCRETE CURB, STANDARD TYPE 7 - RURAL

Table with columns: STATION TO STATION, LIN. FT., REMARKS.

Table with columns: STATION TO STATION, LIN. FT., REMARKS.

TOTAL: 876 LIN. FT.

ITEM 609 - CONCRETE CURB, STANDARD TYPE 8 - RURAL

Table with columns: STATION TO STATION, LIN. FT., REMARKS.

Table with columns: STATION TO STATION, LIN. FT., REMARKS.

TOTAL: 1,143 LIN. FT.

ITEM 609 - COMBINED CURB AND GUTTER, STANDARD TYPE 2 - RURAL

Table with columns: STATION TO STATION, LIN. FT., REMARKS.

Table with columns: STATION TO STATION, LIN. FT., REMARKS.

TOTAL: 171 LIN. FT.

ITEM 609 - CONCRETE CURB STANDARD TYPE 2A - URBAN

Table with columns: STATION TO STATION, LIN. FT., REMARKS.

Table with columns: STATION TO STATION, LIN. FT., REMARKS.

TOTAL: 814 LIN. FT.









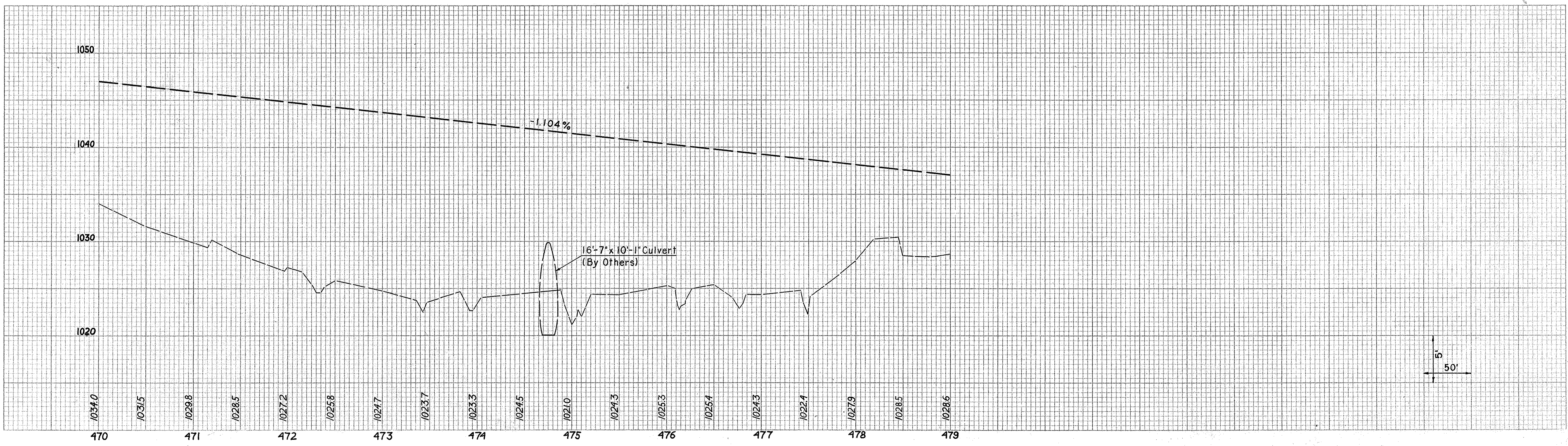
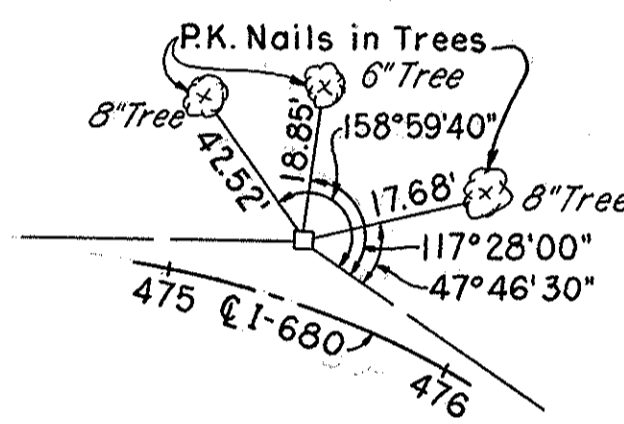
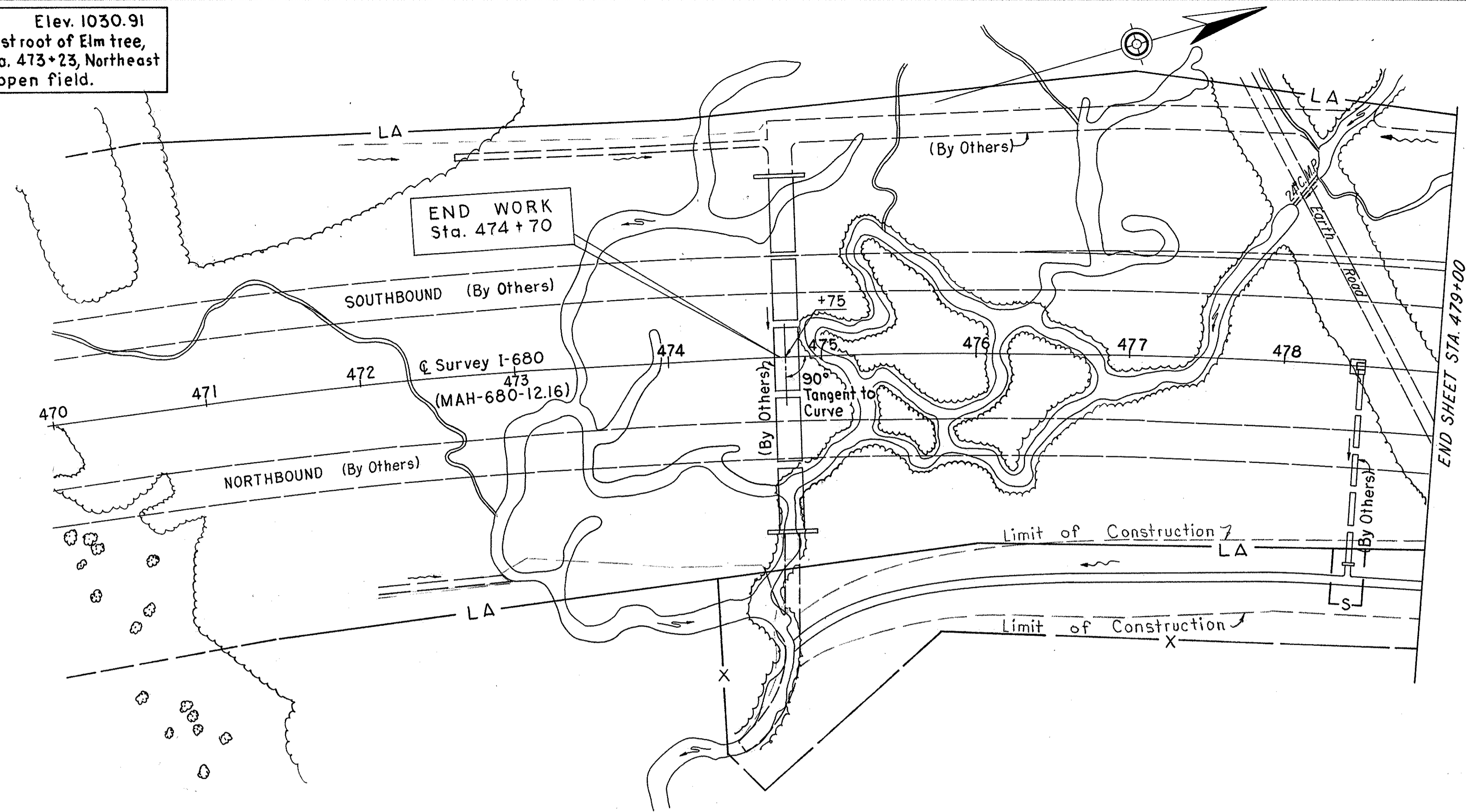
B.M. No. 13 Elev. 1030.91  
 Spike in East root of Elm tree,  
 170' Lt. of Sta. 473+23, Northeast  
 Corner of open field.

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P.I. Sta. 475+45.69  
 $\Delta = 33^\circ 56' 12''$  Rt.  $Y_c = 2.62'$   
 $D = 1^\circ 26' 23''$   $L_c = 2107.16'$   
 $R = 3979.65'$   $L.T. = 166.68'$   
 $L_s = 250.00'$   $S.T. = 83.34'$   
 $\theta_s = 1^\circ 47' 59''$   $L.C. = 249.99'$   
 $p = 0.66'$   $T_s = 1339.50'$   
 $k = 125.00'$   $E_s = 181.82'$   
 $X_c = 249.98'$   $\Delta_c = 30^\circ 20' 14''$



B.M. No. 15 Elev. 1040.82  
 Spike in West root of twin  
 18" Maple tree, 136' Rt. of  $\phi$   
 Sta. 487+38.

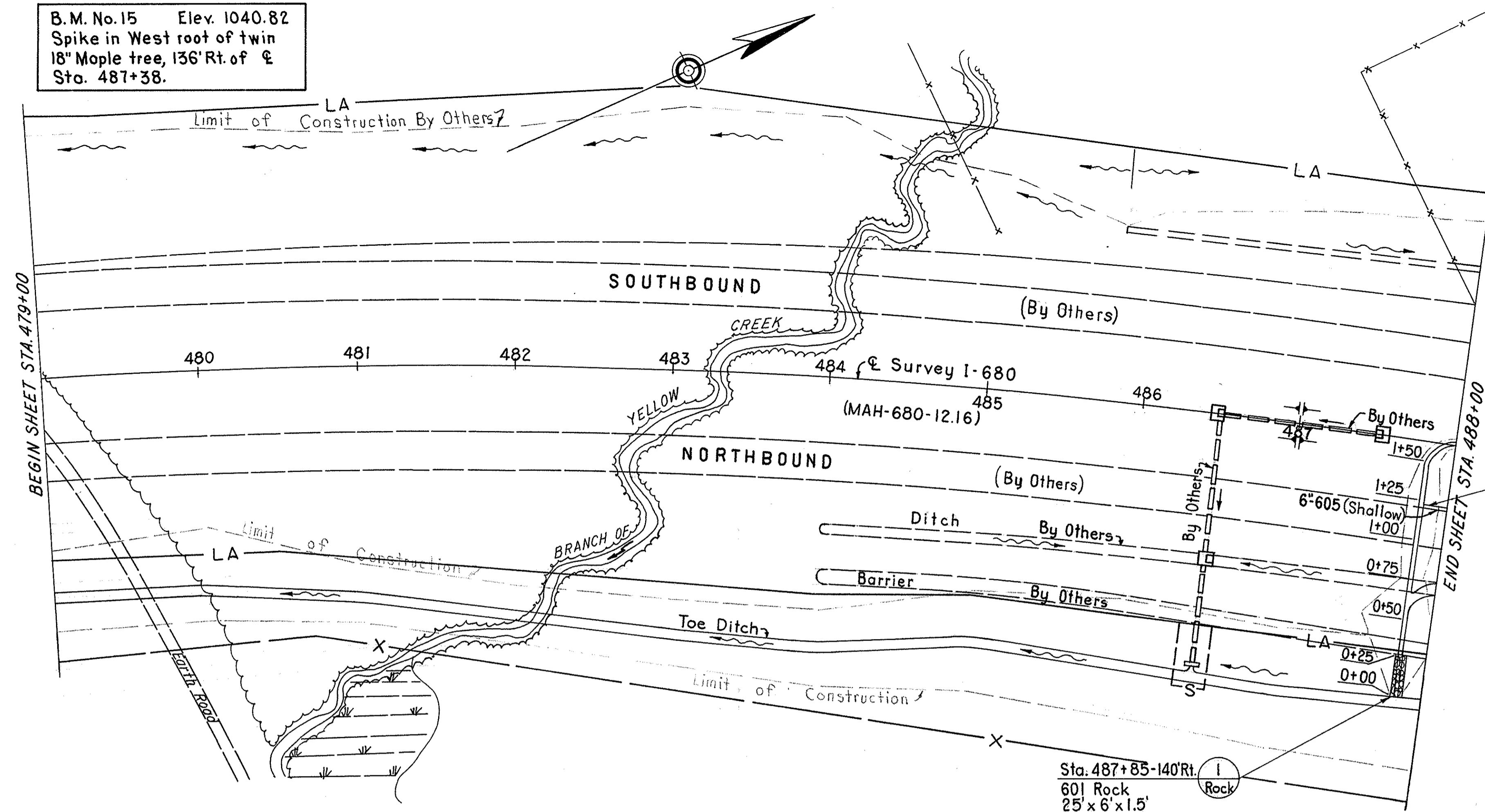
FED. RD. DIVISION	STATE	PROJECT
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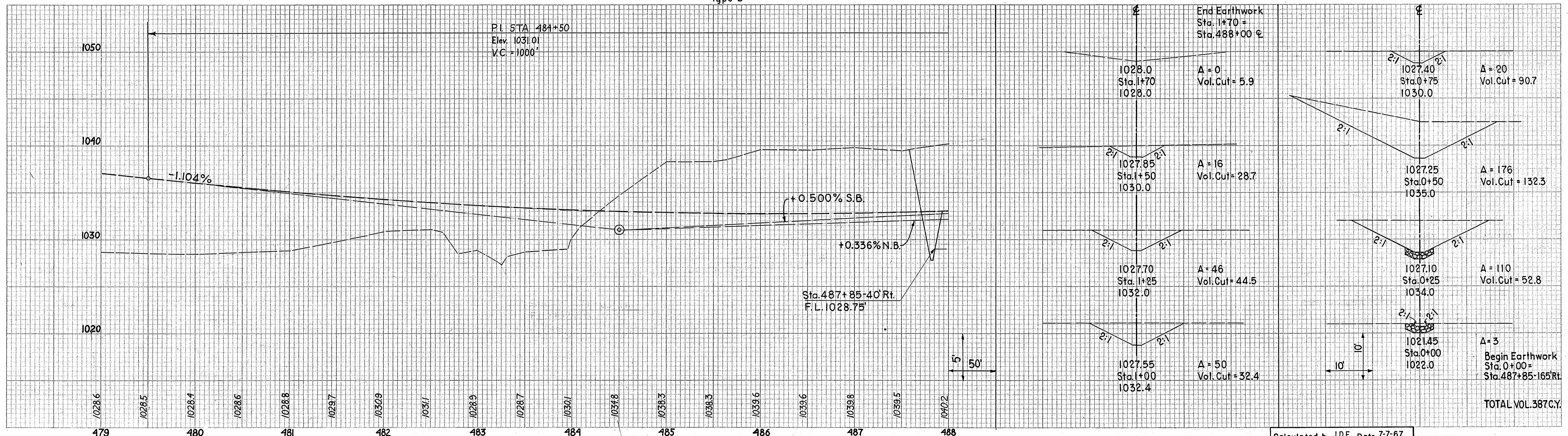
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Ref. No.	See Sheet No.	Station to Station	Side	ESTIMATED QUANTITIES		
				601 C.Y. Rock Channel Protection Type B	205 C.Y. Excavation not including Embankment Construction	605 L.F. Shallow 6" Pipe Underdrain
23		487+85	Rt.		387	
1-Rock	23	487+85	Rt.	11		
5b-Ud	23	487+85-488+00 N.B.	Lt.			15
TOTAL				11	387	15

P.I. Sta. 475+45.69  
 $\Delta = 33^\circ 56' 12''$  Rt.  
 $D = 1^\circ 26' 23''$   
 $R = 3,979.65'$   
 $L_s = 250.00'$   
 $\theta_s = 1^\circ 47' 59''$   
 $P = 0.66'$   
 $K = 125.00'$   
 $X_c = 249.98'$   
 $Y_c = 2.62'$   
 $L_c = 2,107.16'$   
 $L.T. = 166.68'$   
 $S.T. = 83.34'$   
 $L_c = 249.99'$   
 $T_s = 1,339.50'$   
 $E_s = 181.82'$   
 $\Delta c = 30^\circ 20' 14''$



For Typical Section of Adjoining Project MAH-680-12.16  
 See Superelevated Section Sheet No. 4



Calculated by J.D.F. Date 7-7-67  
 Checked by P.J.B. Date 4-28-69

B.M. No. 16 Spike in East Root of cluster of 3-10' Hickory trees, 225' Left of E tan., 102' Left of Station 497+94 at the Northwest Corner of the Woods, South of U.S. 224  
Elev. 1049.29

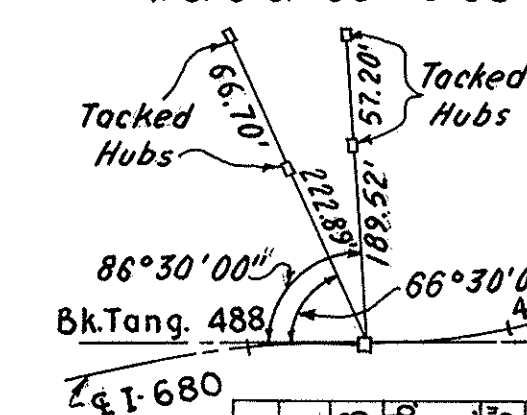
I-680  
P.I. Sta. 509+22.73  
 $\Delta = 62^{\circ}35'02''$  Lt.  
 $D = 1^{\circ}52'30''$   
Ls = 500.00  
R = 3055.78'  
 $\theta_s = 4^{\circ}41'15''$   
P = 341'  
K = 249.95'  
L.T. = 333.45'  
S.T. = 166.78'  
L.C. = 499.85'  
Ts = 2109.38'  
Es = 524.18'  
Lc = 2837.81'  
Xc = 499.66'  
Yc = 13.63'  
Ac = 53^{\circ}12'32''

FED. RD. DIVISION	STATE	PROJECT
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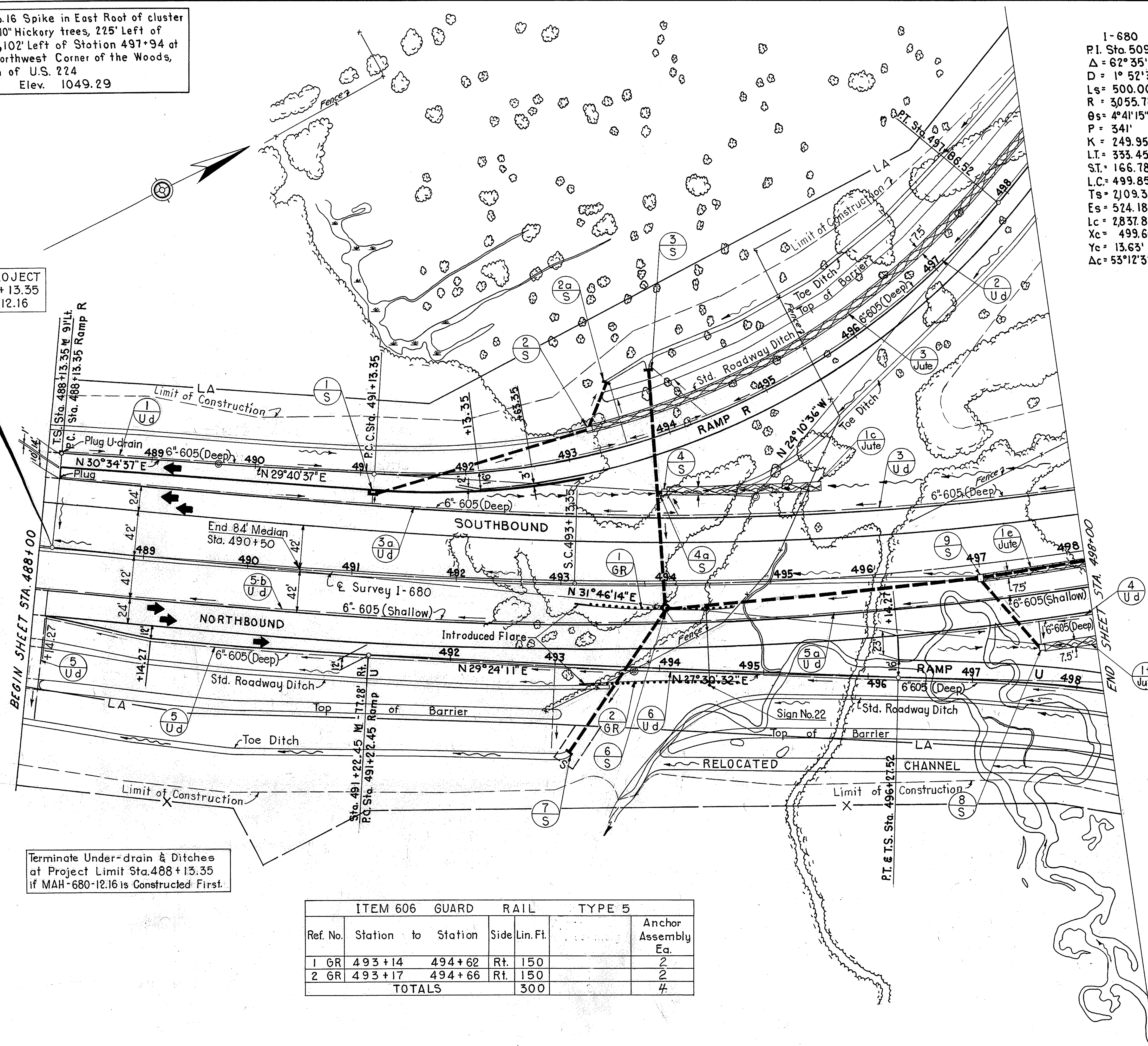
24  
313

MAHONING COUNTY  
MAH-680-9.32

REFERENCE POINT  
T.S. Sta. 488+13.35



END PROJECT  
Sta. 488+13.35  
S.L.M. 12.16



Terminate Under-drain & Ditches at Project Limit Sta. 488+13.35 if MAH-680-12.16 is Constructed First.

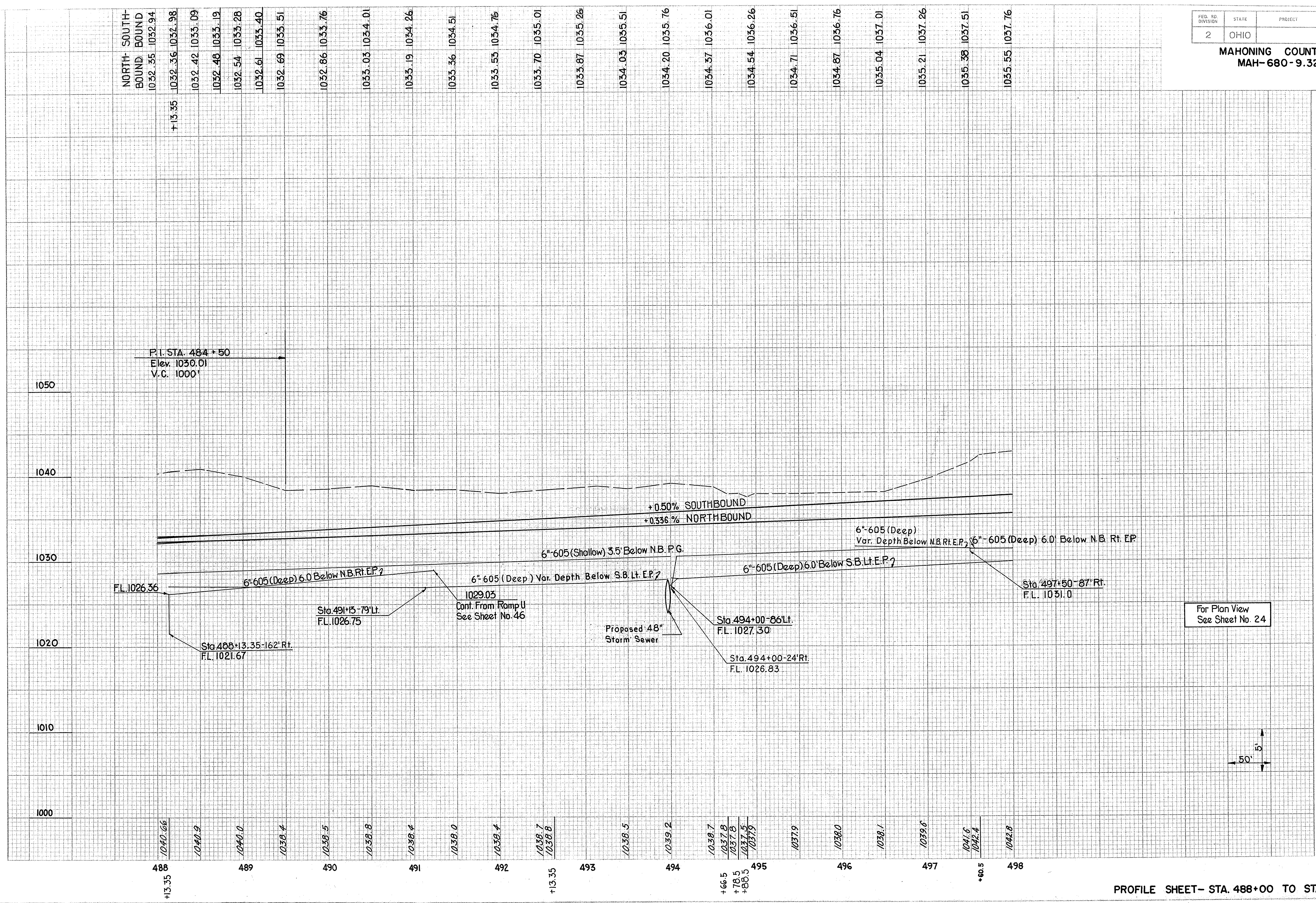
ITEM 606 GUARD RAIL TYPE 5					
Ref. No.	Station to	Station	Side	Lin. Ft.	Anchor Assembly Ea.
1 GR	493+14	494+62	Rt.	150	2
2 GR	493+17	494+66	Rt.	150	2
TOTALS				300	4

See Ref. No.	Sht. No.	Station to	Side	605 Conduit		602 C.Y.		604 Each		603 C.Y.		601 C.Y.		Bends & Branches											
				Type	Lin. Ft.	Type	Lin. Ft.	Type	Lin. Ft.	Type	Lin. Ft.	Type	Lin. Ft.												
1S-2S	189	491+13 - 493+25	Lt.	216	10	10	10	10	10	10	10	10	10	1											
2S-2aS	189	Ramp R 493+25 - 493+57	Lt.	50	50	50	50	50	50	50	50	50	50	1											
3S-6S	189	494+00 - 494+00	Rt.	200	166	166	166	166	166	166	166	166	166	1											
6S-7S	188	493+12 - 494+00	Rt.	166	166	166	166	166	166	166	166	166	166	1											
6S-9S	188	494+00 - 497+00	Rt.	188	188	188	188	188	188	188	188	188	188	1											
8S-9S	189	497+50 - 497+00	Rt.	188	188	188	188	188	188	188	188	188	188	1											
9S	188	497+00 - 498+00	Rt.	100	100	100	100	100	100	100	100	100	100	1											
4S-4aS	189	493+92 - 494+00	Lt.	8	8	8	8	8	8	8	8	8	8	1											
3-Jute	24	Ramp R 493+25 - 498+32	Lt.	10	10	10	10	10	10	10	10	10	10	1											
1c-Jute	24	494+00 - 495+50	Lt.	10	10	10	10	10	10	10	10	10	10	1											
1e-Jute	24	497+00 - 498+00	Rt.	10	10	10	10	10	10	10	10	10	10	1											
1f-Jute	24	497+50 - 498+00	Rt.	10	10	10	10	10	10	10	10	10	10	1											
1-Jute	24	Ramp R 488+13.35 - 493+88	Lt.	10	10	10	10	10	10	10	10	10	10	1											
2-Ud	24	Ramp R 494+05 - 498+32	Lt.	10	10	10	10	10	10	10	10	10	10	1											
3-Ud	24	493+96 - 498+00	Lt.	10	10	10	10	10	10	10	10	10	10	1											
3a-Ud	24	488+13.35 - 493+90	Lt.	10	10	10	10	10	10	10	10	10	10	1											
4-Ud	24	496+14.27 - 498+00	Rt.	10	10	10	10	10	10	10	10	10	10	1											
5-Ud	24	488+13.35 - 493+00	Rt.	10	10	10	10	10	10	10	10	10	10	1											
5a-Ud	24	494+06 - 498+00	Rt.	10	10	10	10	10	10	10	10	10	10	1											
5b-Ud	24	488+00 - 494+04	Rt.	10	10	10	10	10	10	10	10	10	10	1											
6-Ud	24	493+00 - 498+25	Rt.	10	10	10	10	10	10	10	10	10	10	1											
TOTALS													166	150	400	8	80	1	2	1	1	9.46	67.3	1008	3477

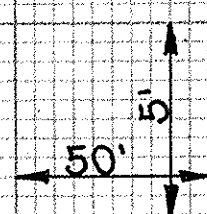
For Mainline Profiles See Sheet No. 25  
For Ramp R Profiles See Sheet No. 52  
For Ramp U Profiles See Sheet No. 55  
For Detail of Ramp R Entrance To Southbound See Sheet No. 162  
For Detail of Ramp U Exit From Northbound See Sheet No. 162  
For Variable Median Widths Sta. 490+50 to Sta. 502+50 See Sheet No. 172  
For Interchange Layout and Curve Data - See Sheets No. 154 & 156

Calculated by J.D.F. Date 7-7-67  
Checked by P.J.B. Date 4-29-68





For Plan View  
See Sheet No. 24



PROFILE SHEET- STA. 488+00 TO STA. 498+00

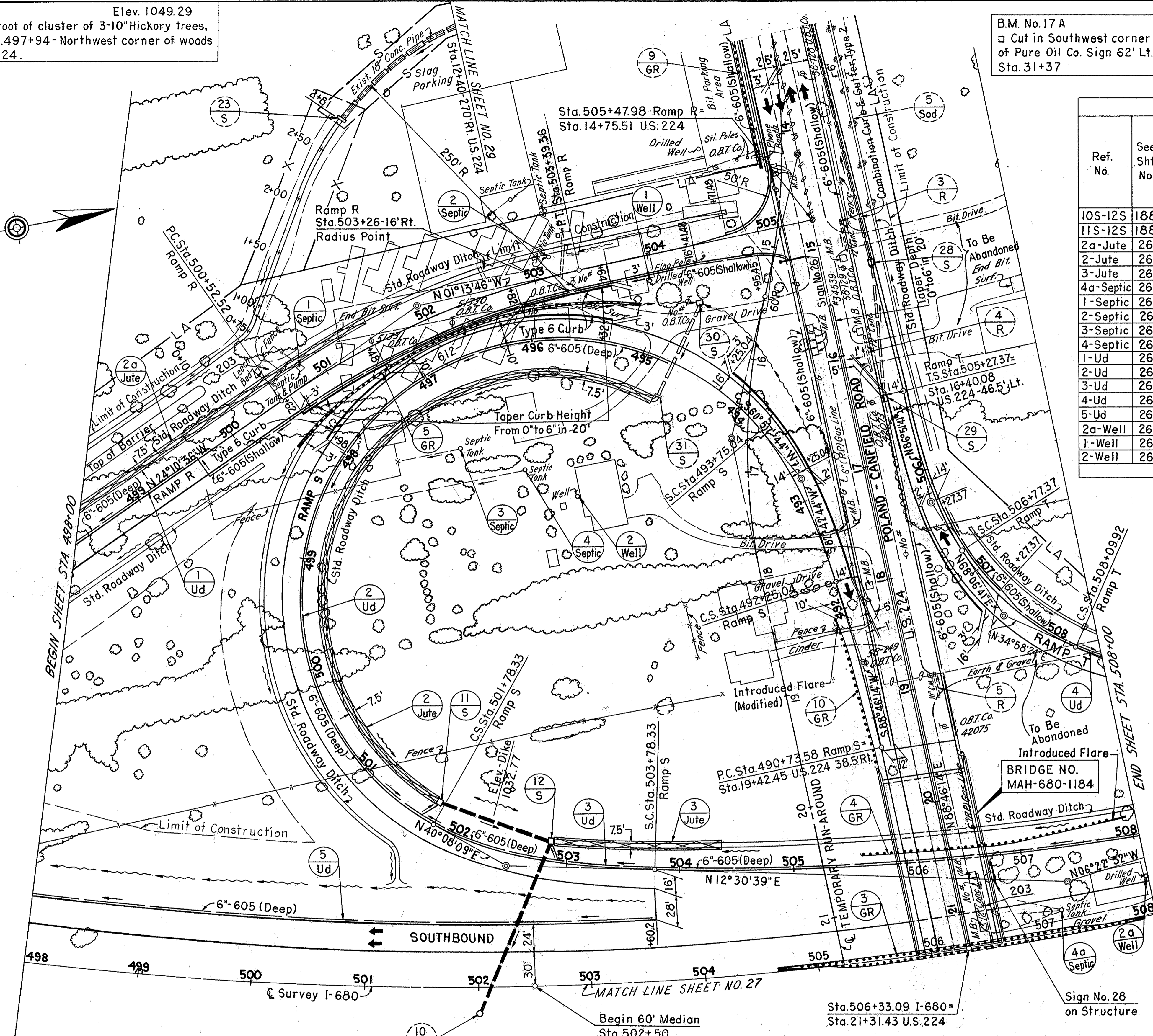
B.M. No.16 Elev. 1049.29  
 Spike in East root of cluster of 3-10" Hickory trees,  
 102' Lt. of Sta.497+94- Northwest corner of woods  
 South of U.S. 224.

B.M. No.17A Elev. 1059.16  
 Cut in Southwest corner of Concrete Base  
 of Pure Oil Co. Sign 62' Lt. of U.S. 224  
 Sta. 31+37

FED. RD. DIVISION	STATE	PROJECT
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Ref. No.	See Sht. No.	Station to Station	Side	ESTIMATED QUANTITIES														
				603 Conduit L.F.			604 Each 667 S.Y.		605 Conduit L.F.		Special Each		Bends & Branches					
				Type B	Type C	Type F	Std. No. 4 C.B.	Std. No. 5 C.B.	Seeding & Jute Matting	Shallow	Deep	Drilled Well Abandoned	Cleaning & Disposing of Septic Tank	60° Wye	90° Bend			
10S-12S	188	502+00 - 502+85	Rt.-Lt.	164														
11S-12S	188	501+75 - 502+85	Lt.		100													
2a-Jute	26	498+32 - 501+50 Ramp R	Lt.						250									
2-Jute	26	494+73 - 501+75 Ramp S	Lt.						521									
3-Jute	26	502+85 - 504+35	Lt.						125									
4a-Septic	26	507+19	Lt.															
1-Septic	26	500+84 Ramp R	Lt.															
2-Septic	26	503+16 Ramp R	Lt.															
3-Septic	26	497+09 Ramp S	Lt.															
4-Septic	26	496+36 Ramp S	Lt.															
1-Ud	26	498+32-505+20 Ramp R	Lt.-Rt.	20						555	128							2
2-Ud	26	494+78-501+75 Ramp S	Lt.			10					795							
3-Ud	26	502+85-508+05 Ramp S	Lt.			10					527							
4-Ud	26	506+40-508+35 Ramp T	Lt.			10					195							
5-Ud	26	498+00-503+58	S.B. Lt.								548							
2a-Well	26	507+98 M	Lt.															
1-Well	26	503+98 Ramp R	Rt.															
2-Well	26	495+36 Ramp S	Lt.															
TOTALS				20	164	100	30	1	1	896	750	1998	3	5				

ITEM 606 GUARD RAIL TYPE 5					
Ref. No.	Station to Station	Side	Lin. Ft.	Barrier Design Assembly Ea.	Anchor Assembly Ea.
3GR	504+90 - 507+65 M	Median	550.0		
4GR	505+60 - 507+95 Ramp S	Lt.	237.5		2
TOTALS			787.5		2
Barrier Design					
3GR	504+65 - 507+90 M	Median	50.0	2	
5GR	495+14 - 498+15 Ramp S	Rt.	337.5	2	
TOTALS			387.5	4	

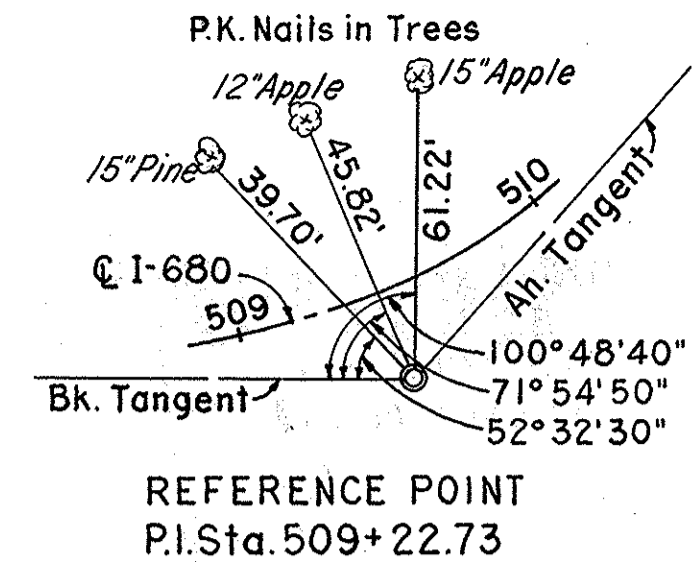
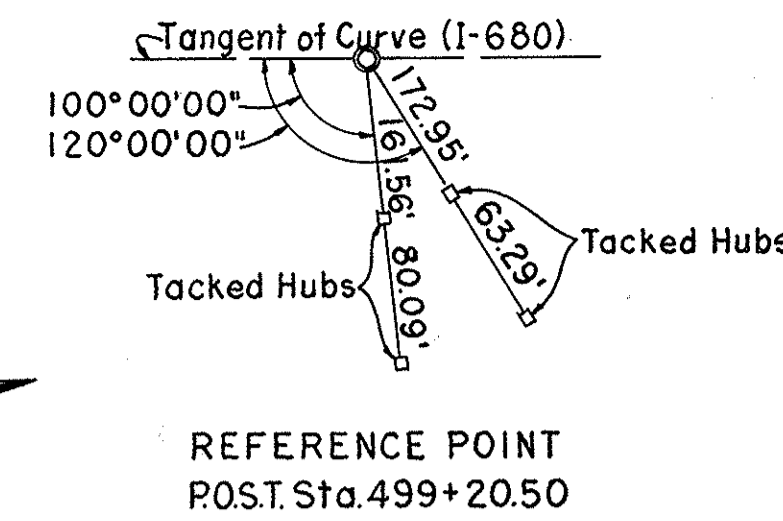
STRUCTURES UNDER 20' SPAN					
Ref. No.	Detail Sheet	Sta.	Type	Size	Remarks
21S-23S	184	12+40	706.02 or 706.08	36'x456'	U.S. 224

For Plan and Profile of U.S. 224 (Poland-Canfield Road) See Sheets No. 29, 30 & 31  
 For Detail of Ramp S Exit from Southbound See Sheet No. 163  
 For Detail of Ramp S Entrance to U.S. 224 See Sheet No. 159  
 For Detail of Ramp R Intersection with U.S. 224 See Sheet No. 159  
 For Detail of Ramp T Entrance to U.S. 224 See Sheet No. 160  
 For Southbound Profile See Sheet No. 28  
 For Ramp R Profile See Sheet No. 52  
 For Ramp S Profile See Sheet No. 53  
 For Ramp T Profile See Sheet No. 54  
 For Interchange Layout and Curve Data See Sheets No. 154 & 156  
 For Channel Cross Sections See Culvert Detail Sheet No. 184  
 For Variable Median Widths Sta. 490+50 to Sta. 502+50 See Sheet No. 172  
 For Plan & Profile of Temporary Run-Around See Sheet No. 153

Calculated by J.D.F. Date 7-7-67  
 Checked by P.J.B. Date 4-29-69

P.I. Sta. 509+22.73  
 $\Delta = 62^\circ 35' 02''$  Lt. S.T. = 166.78'  
 D =  $1^\circ 52' 30''$  L.C. = 499.85'  
 Ls = 500.00' T.S. = 2,109.38'  
 R = 3055.78' Es = 524.18'  
 $\theta_s = 4^\circ 41' 15''$  Lc = 2,837.81'  
 p = 3.41' Xc = 499.66'  
 k = 249.95' Yc = 13.63'  
 L.T. = 333.45'  $\Delta c = 53^\circ 12' 32''$

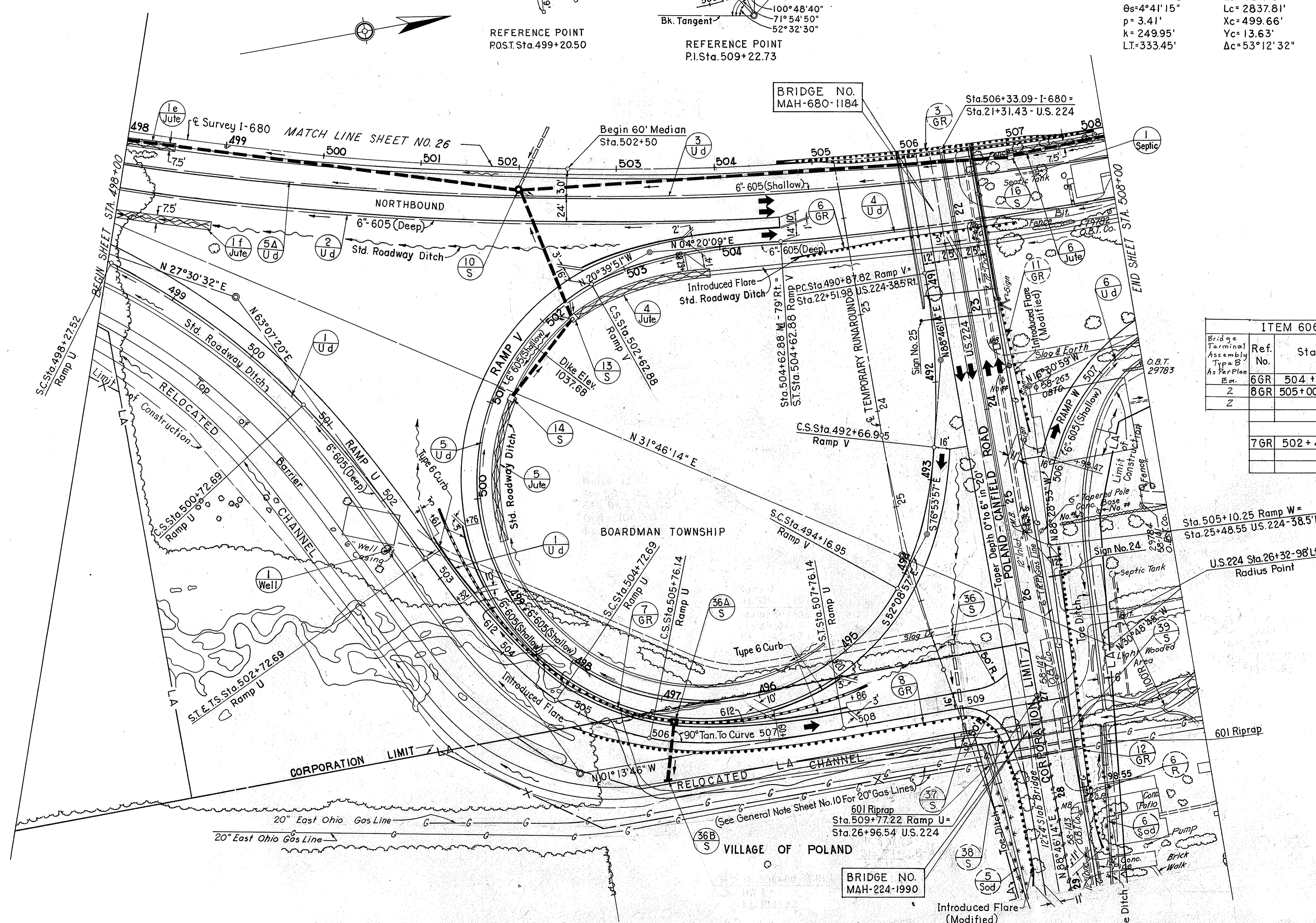
B.M. No. 17A Elev. 1059.16  
 □ Cut in Southwest corner of Concrete Base  
 of Pure Oil Co. Sign 62' Lt. of U.S. 224  
 Sta. 31+37



PI Sta. 509+22.73  
 $\Delta = 62^\circ 35' 02''$  Lt. ST = 166.78'  
 $D = 1^\circ 52' 30''$  LC = 499.85'  
 $L_s = 500.00'$  Ts = 2,109.38'  
 $R = 3055.78'$  Es = 524.18'  
 $\theta_s = 4^\circ 41' 15''$  Lc = 2837.81'  
 $p = 3.41'$  Xc = 499.66'  
 $k = 249.95'$  Yc = 13.63'  
 $LT = 333.45'$   $\Delta c = 53^\circ 12' 32''$

FED. RD. DIVISION	STATE	PROJECT
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ITEM 606		GUARD RAIL		TYPE 5	
Ref. No.	Station to Station	Side	Lin. Ft.	Barrier Design Assembly Ea.	Anchor Assembly Ea.
6GR	504 + 63 - 507 + 00 M	Rt.	237.5		22
2	8GR 505+00 Ramp U - 28+95 U.S.224	Rt.	612.5		22
TOTALS			850.0		44
Barrier Design					
7GR	502 + 40 - 508 + 07 Ramp U	Lt.	550.0	2	
TOTAL			550.0	2	

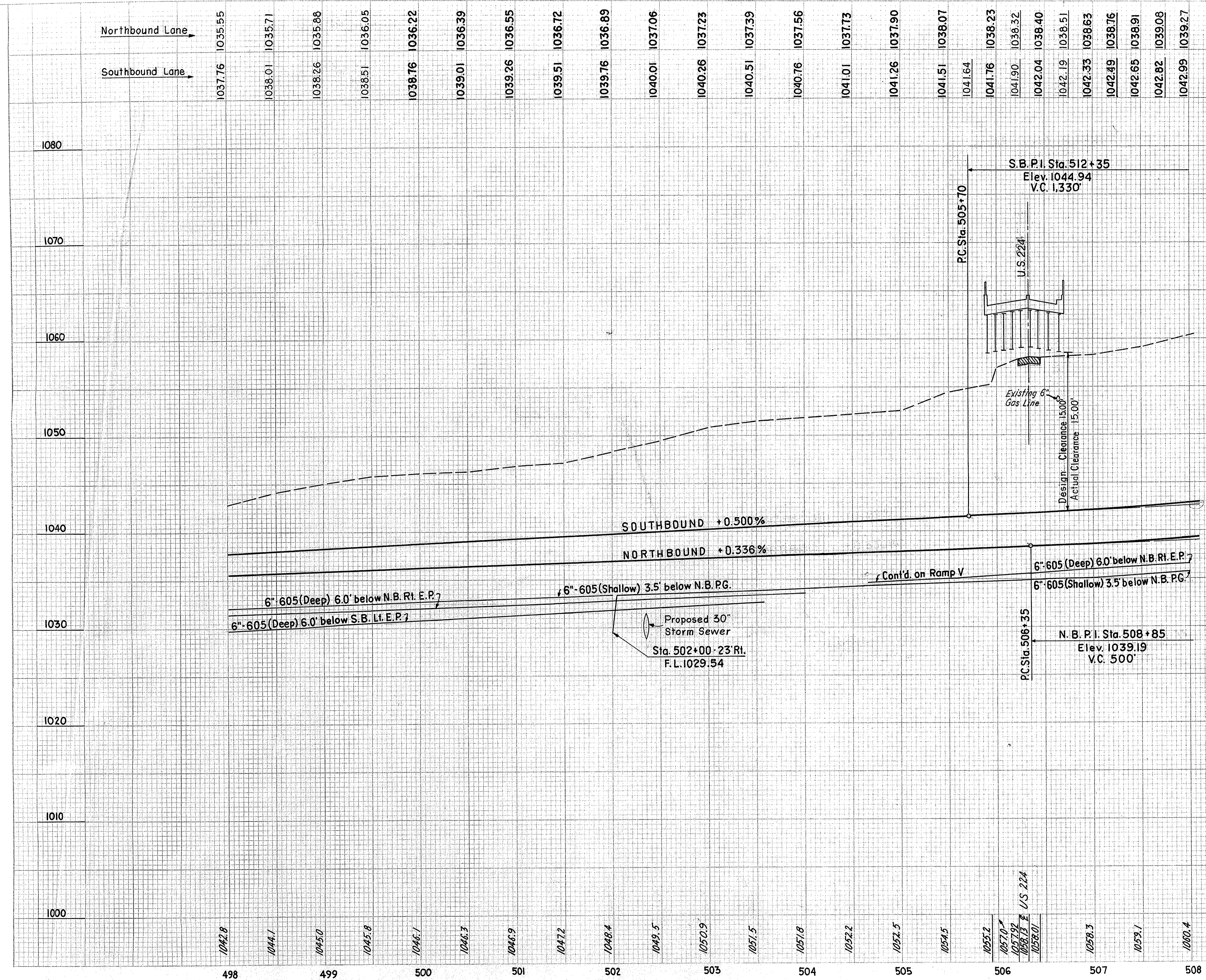
For Northbound Profile - See Sheet No. 28  
 For Ramp U Profile - See Sheet No. 55  
 For Ramp V Profile - See Sheet No. 56  
 For Ramp W Profile - See Sheet No. 57

For Plan and Profile of U.S.224  
 (Poland - Canfield Road)  
 See Sheets No. 29, 30 & 31  
 For Detail of Ramp W Exit From  
 U.S. 224 - See Sheet No. 161  
 For Detail of Ramp V Exit From  
 U.S. 224 - See Sheet No. 161  
 For Detail of Ramp V Entrance To  
 Northbound - See Sheet No. 165  
 For Detail of Ramp U Intersection With  
 U.S. 224 - See Sheet No. 160

For Interchange Layout and Curve Data  
 See Sheets No. 154 & 156  
 For Drainage Quantities - See Sheet No. 45  
 For Variable Median Widths Sta. 490+50  
 to Sta. 502+50 See Sheet No. 172  
 For Plan & Profile of Temporary  
 Run-Around See Sheet No. 153

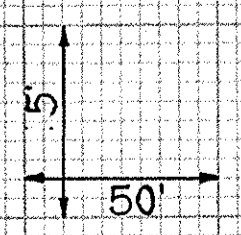
Calculated by J.D.F. Date 1-7-67  
 Checked by R.J.B. Date 4-29-69

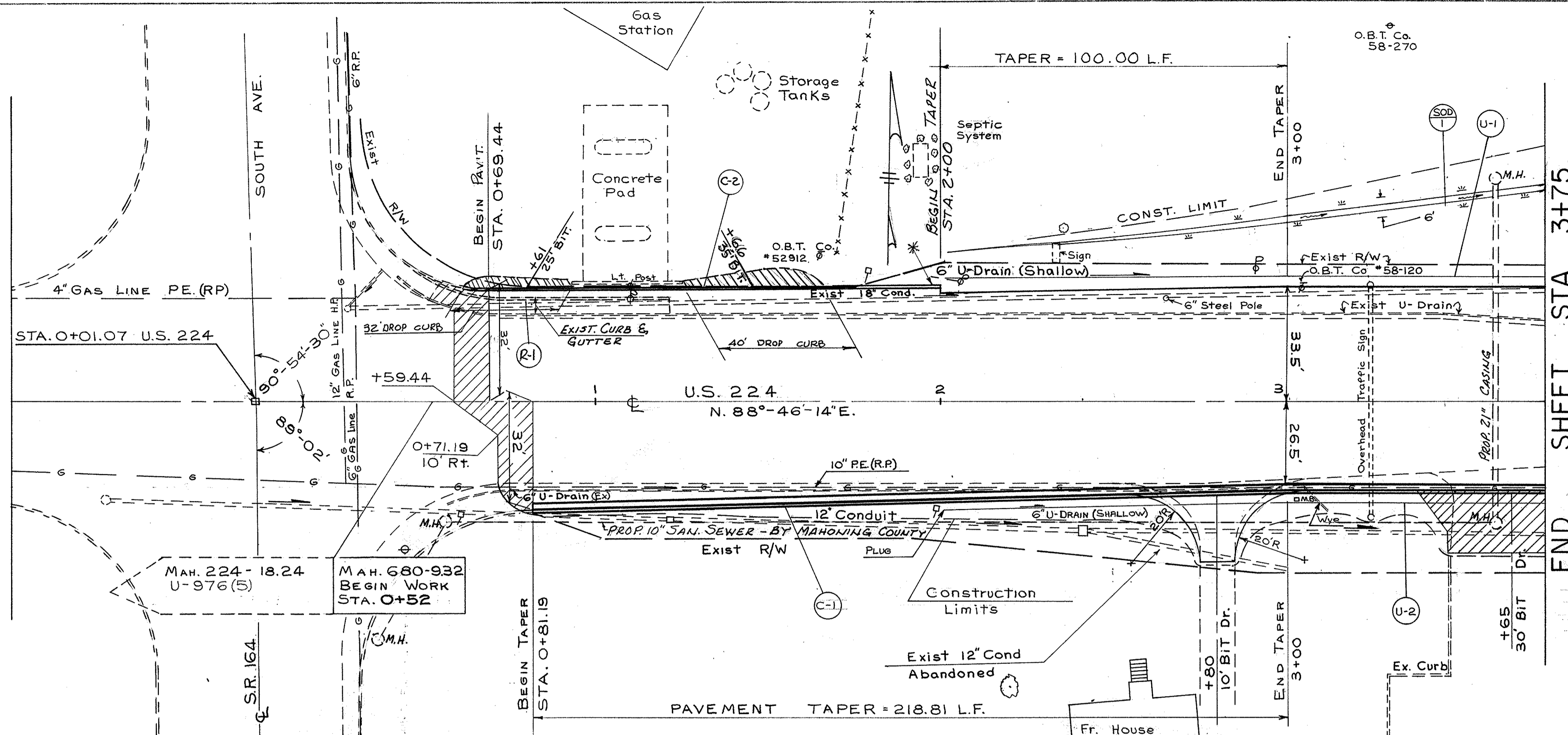
MAHONING COUNTY  
MAH-680-9.32



For S.B. Plan View  
See Sheet No. 26

For N.B. Plan View  
See Sheet No. 27





REMOVAL			
CODE	SIDE	STATION	202
R-1	LT.	0+69	1+35
TOTAL			66

PAVEMENT				
CODE	SIDE	STATION	609	609
			COMB. CURB & GUTTER	CONC. CURB STD. TYPE 6
			L.F.	L.F.
C-1	RT.	0+81.19	3+75	294
C-2	LT.	0+61	2+00	139
TOTAL			294	139

NOTE: ALTHOUGH PAVEMENT WIDTH ON RT. FROM STA. 3+00 TO STA. 13+00 SCALES 24.5' THE DIMENSION SHOWN AS 26.5' SHALL GOVERN

EROSION CONTROL Y-005			
CODE	SIDE	STATION	660
			SODDING
			S.Y.
SOD-1	LT.	2+60	3+75
TOTAL			84

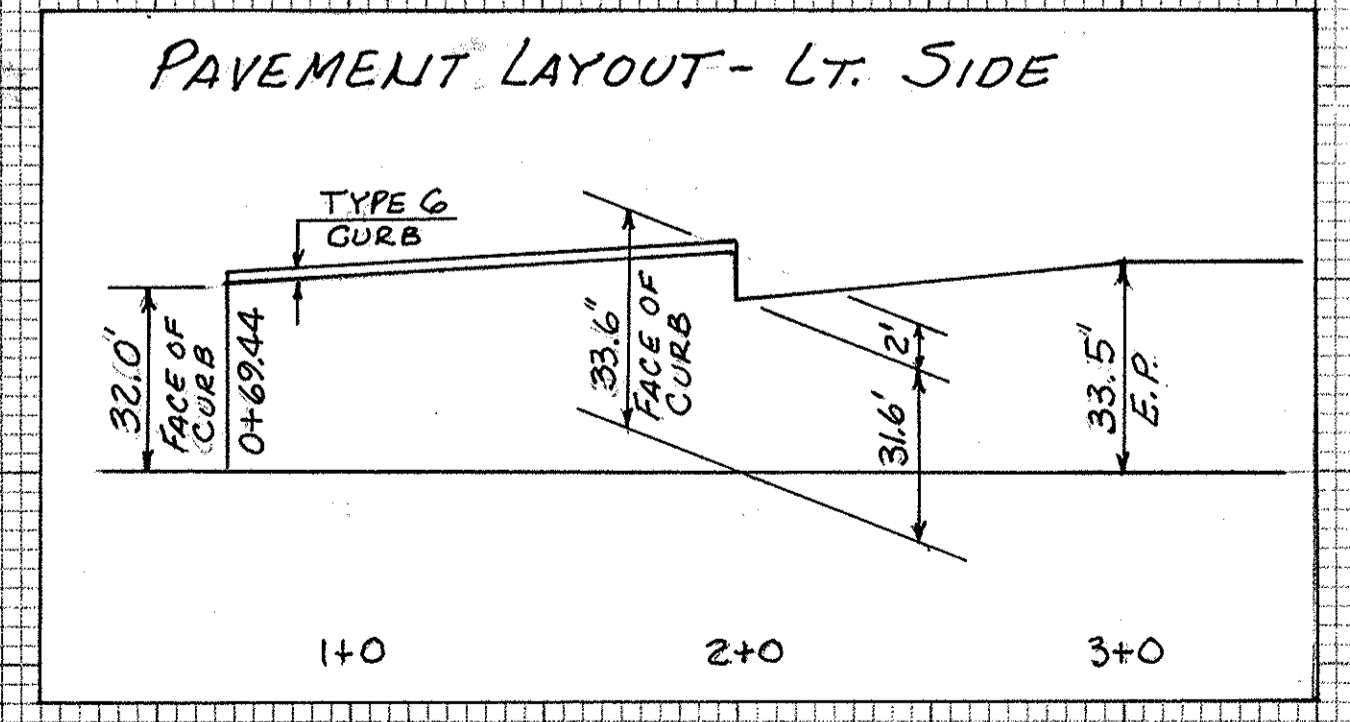
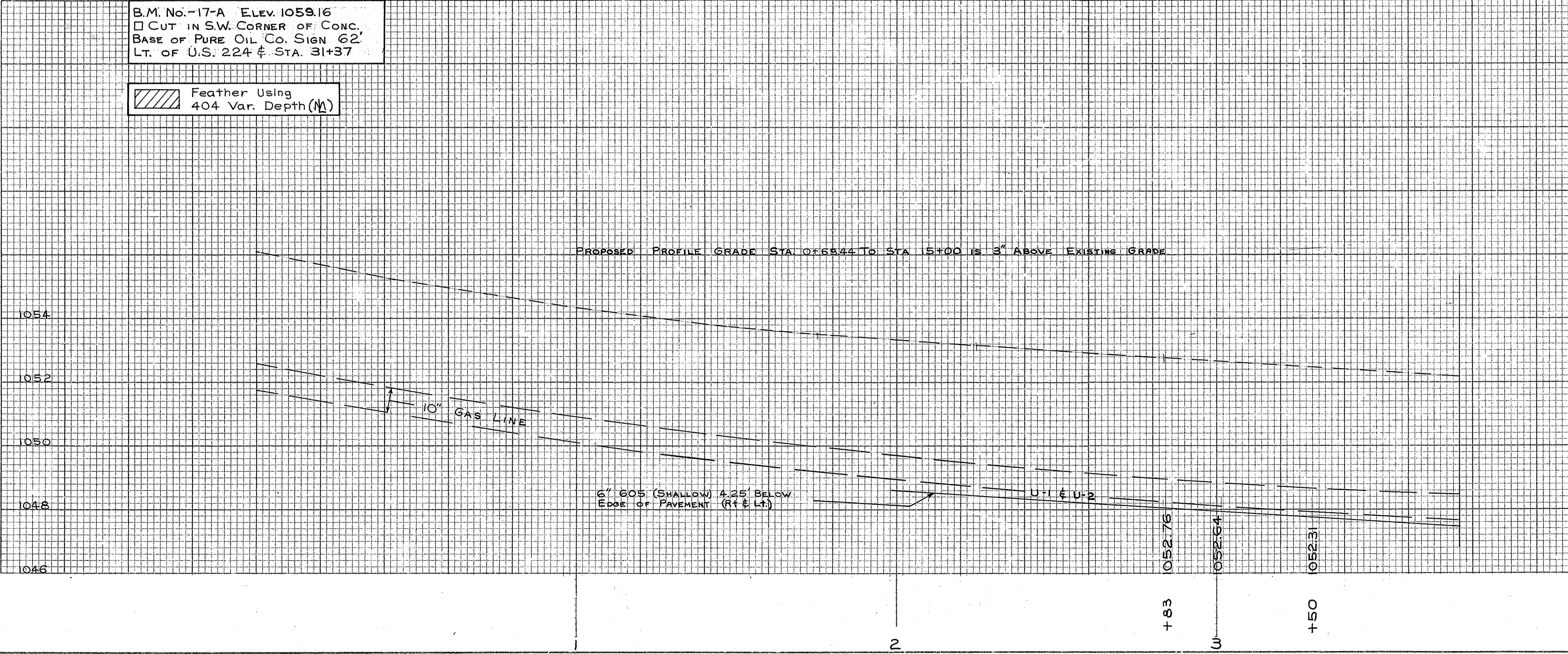
FOR DRIVE APPROACH DETAILS, SEE SHT. 170

UNDERDRAINS - ITEM 605						603	
CODE	SIDE	STATION		6" SHALLOW	6" UNCLASSIFIED	BENDS & BRANCHES 6"	6" TYPE F
		FROM	TO				
U-1	LT.	2+00	3+75	175			
U-2	RT.	2+00	3+75	175		1	
TOTAL				350			

B.M. No. -17-A ELEV. 1059.16  
 □ CUT IN S.W. CORNER OF CONC. BASE OF PURE OIL CO. SIGN 62.  
 LT. OF U.S. 224 & STA. 31+37

Feather Using 404 Var. Depth (M)

DRIVES								
STA	BEGIN WORK	END WORK	304		404		203	203
			AGGREGATE BASE	ASPH. CONC (70-85)	2"	VAR. DEPTH		
			5"	7"	2"	C.Y.	Exc. Not Inc. Emb. CONST.	EMB.
			C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.
2+80	28.5 RT.	47 RT.	5		2		3	1
3+65	29 RT.	45 RT.		1		4	1	
0+61	32 LT.	36 LT.				1		
0+66	33.1 LT.	38.1 LT.				1		
TOTAL			5	1	2	6	4	1



PAVEMENT					
CODE	SIDE	STATION	305		609
			FOR CEMENT CONCRETE BASE	COMBINATION CURB & CUTTER TYPE 2	
BR-1	LT.	4+14	17		
BR-2	LT.	7+83	11		
C-1	RT.	3+75		414	
TOTAL			28	414	

EROSION CONTROL Y-005					
CODE	SIDE	STATION	660		601
			SODDING	Rock Channel Protection Type B	
EC-1	LT.	4+27	4+33		2
EC-2	LT.	5+18	5+24		2
EC-3	LT.	7+24	7+30		2
SOD-1	LT.	3+75	4+06	20	
SOD-2	LT.	5+66	7+24	105	
TOTAL			125	6	

DRAINAGE				
CODE	SIDE	STATION	202	
			PIPE REMOVED 2' & UNDER	L.F.
R-1	LT.	3+78	4+84	106
R-2	LT.	5+13	5+67	54
TOTAL				160

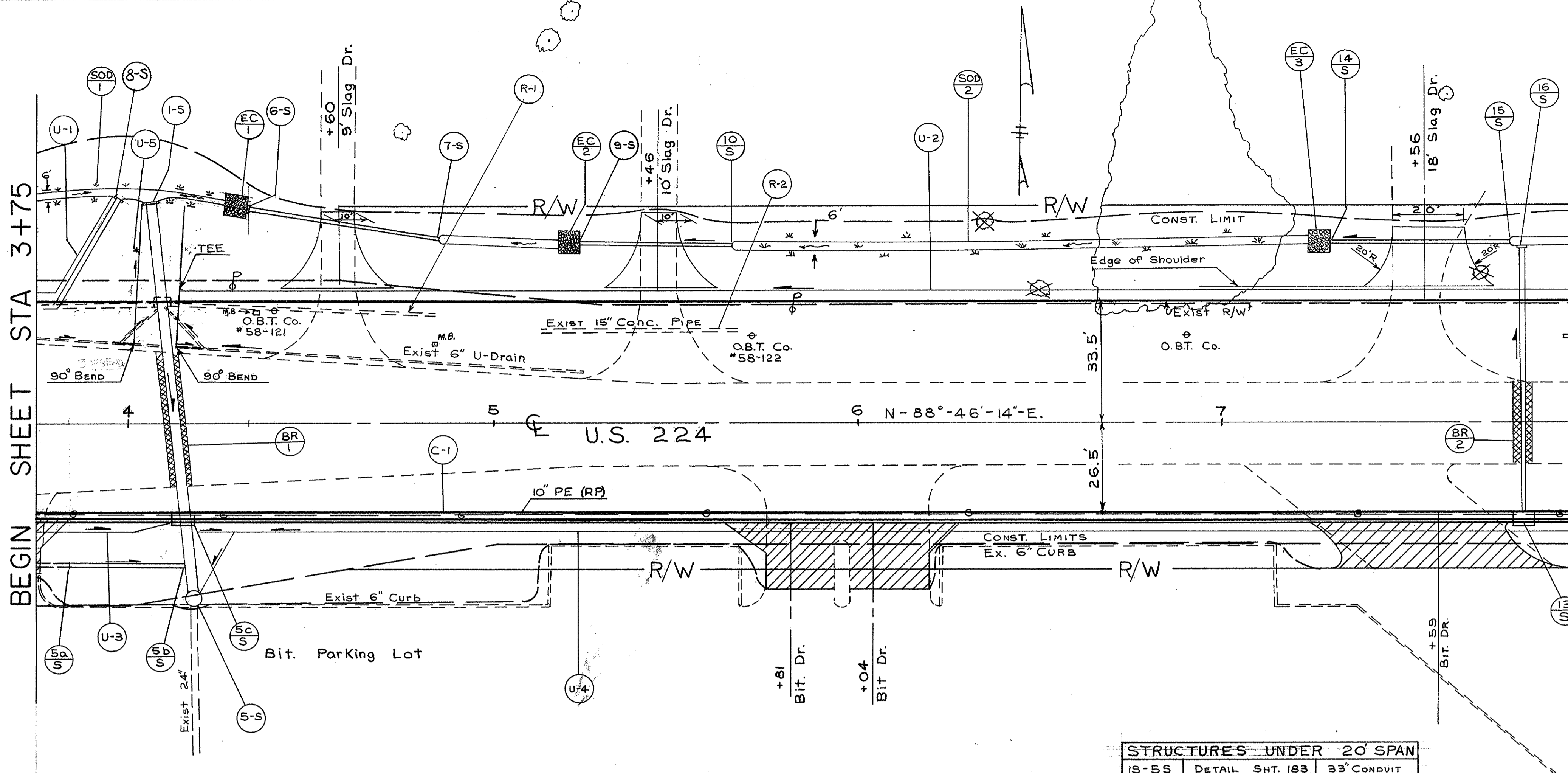
UNDERDRAINS - ITEM 605						603
CODE	SIDE	STATION	6" SHALLOW		6" UNCLASSIFIED	BENDS & BRANCHES
			LT.	RT.	LT.	6" TYPE F
U-1	LT.	3+75	3+90	26		1
U-2	LT.	4+17	8+00	78	338	2
U-3	RT.	3+75	4+16	28		1
U-4	RT.	4+18	8+00	200	190	1
U-5	LT.	4+03	4+06	44		1
TOTAL			376	528		50

DRAINAGE												
CODE	SIDE	STATION	DETAIL SHEET NO.	603					604	604	602	BENDS & BRANCHES
				B 12'	C 12'	D 12'	D 15'	B 18'	STD NO. 2-6 MEDIAN INLET	STD NO. 3 CATCH BASIN	CONC. MASONRY	TEE 33" BEND 18"
6S-7S	LT.	4+33	4+85	191								
9S-10S	LT.	5+24	5+66	191			42					
8S	LT.	3+78	3+98	191				38		0.30		
13S-16S	LT-RT.	7+83	3+98	190	76				1	0.23		
14S-15S	LT.	7+30	7+79	191			50					
5aS-5bS	RT.	3+84	4+16	191		32						
TOTAL					76	32	50	76	38	1	0.53	

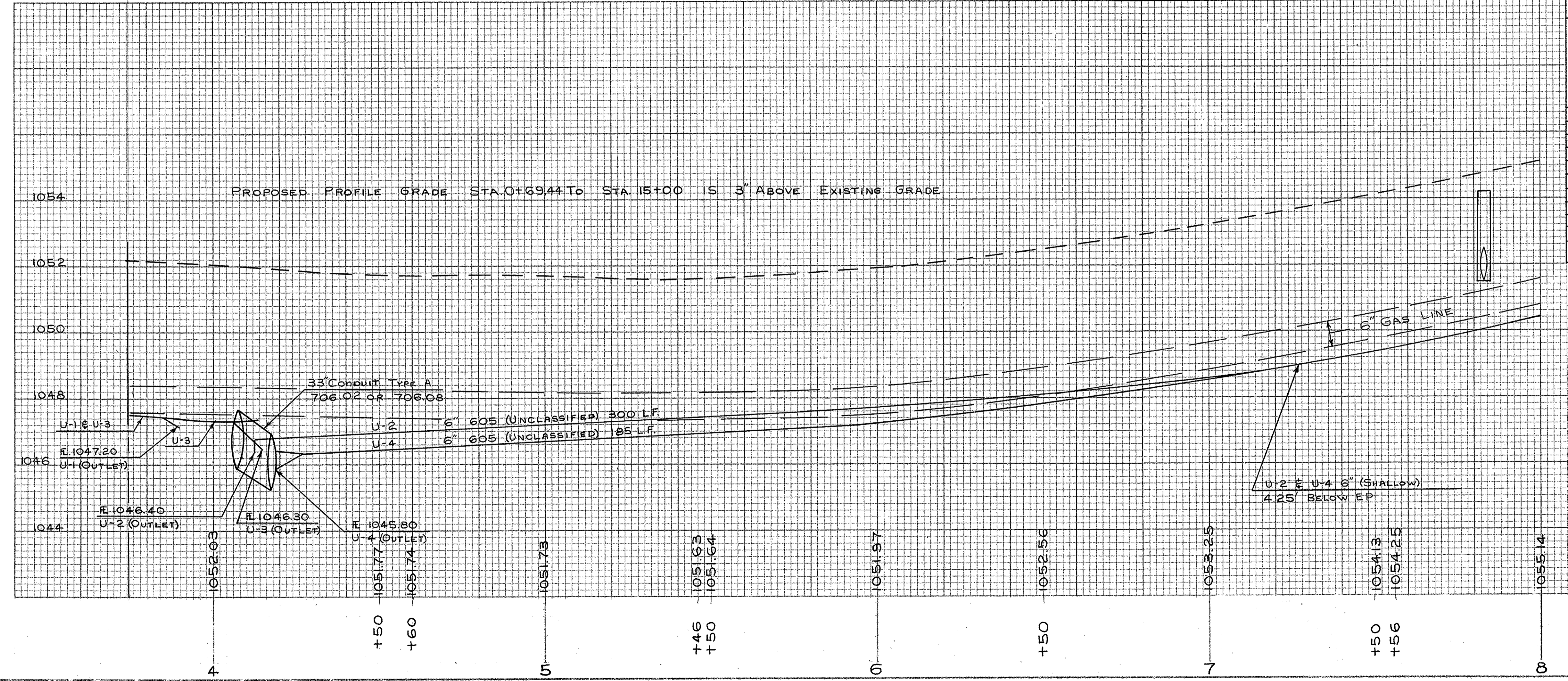
DRIVES							
STA.	BEGIN WORK	END WORK	304		404	203	203
			AGGREGATE BASE	ASP. CONC. (70-85)	VAR. DEPTH	Exc. Not Inc. Emb. Const.	EMB.
4+60	37.5' LT.	58.5' LT.	5				
5+46	37.5' LT.	58.5' LT.	5		2	7	1
7+56	37.5' LT.	58.5' LT.	6		2	11	11
5+81	29' RT.	46' LT.		1		3	
6+04	29' RT.	46' LT.		1		3	
7+59	29' RT.	40' LT.		1		4	
TOTAL			16	3	6	10	23

BEGIN SHEET STA 3+75

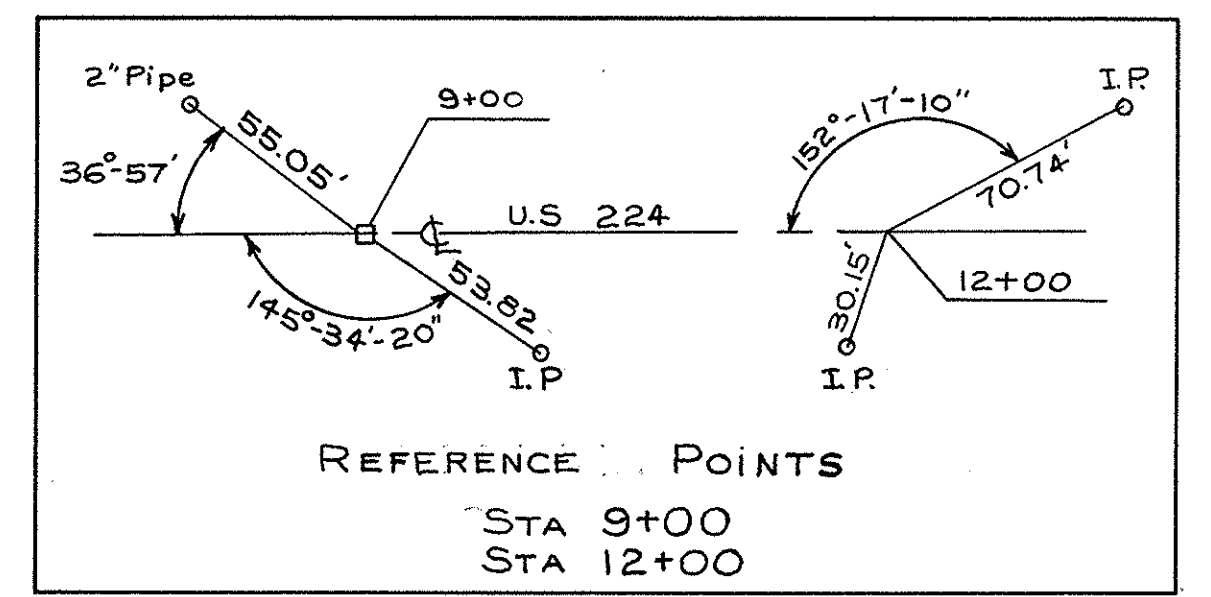
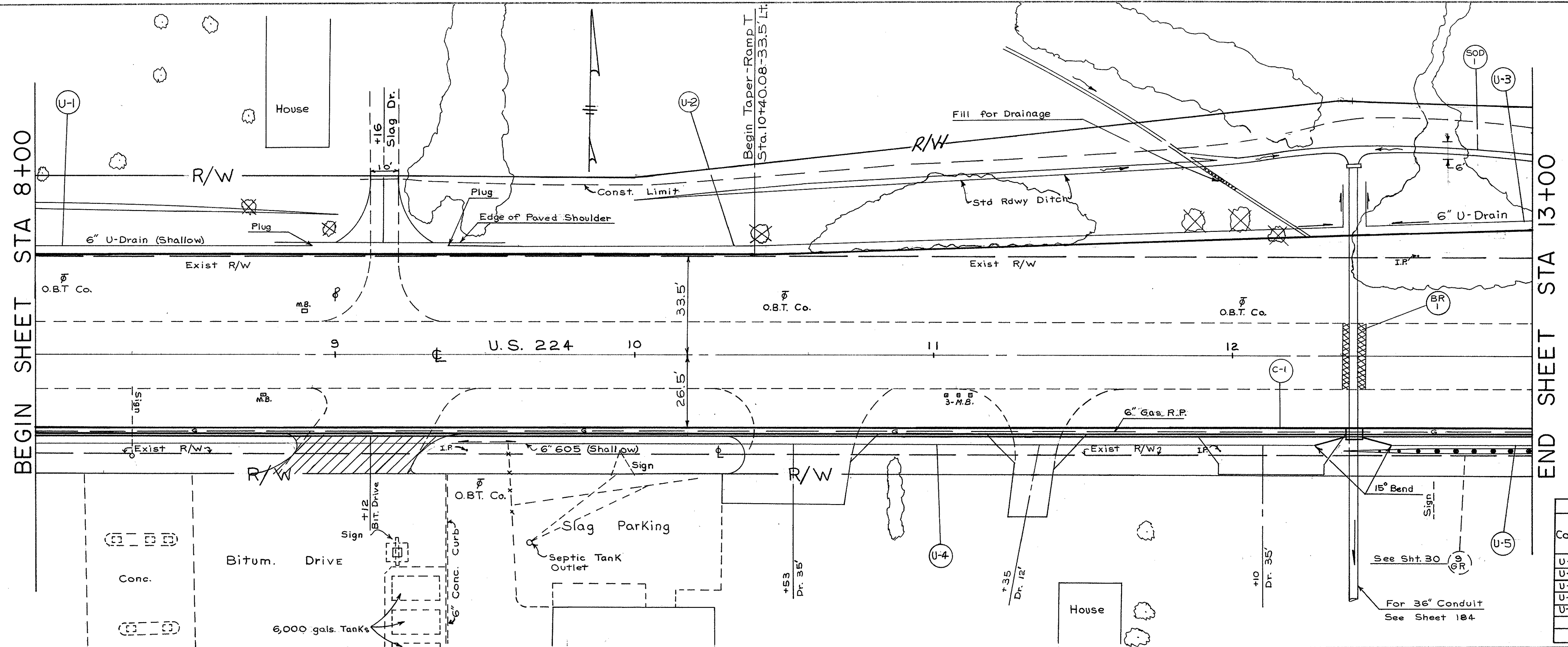
END SHEET STA 8+00



STRUCTURES UNDER 20' SPAN  
IS-55 DETAIL SHT. 183 33" CONDUIT



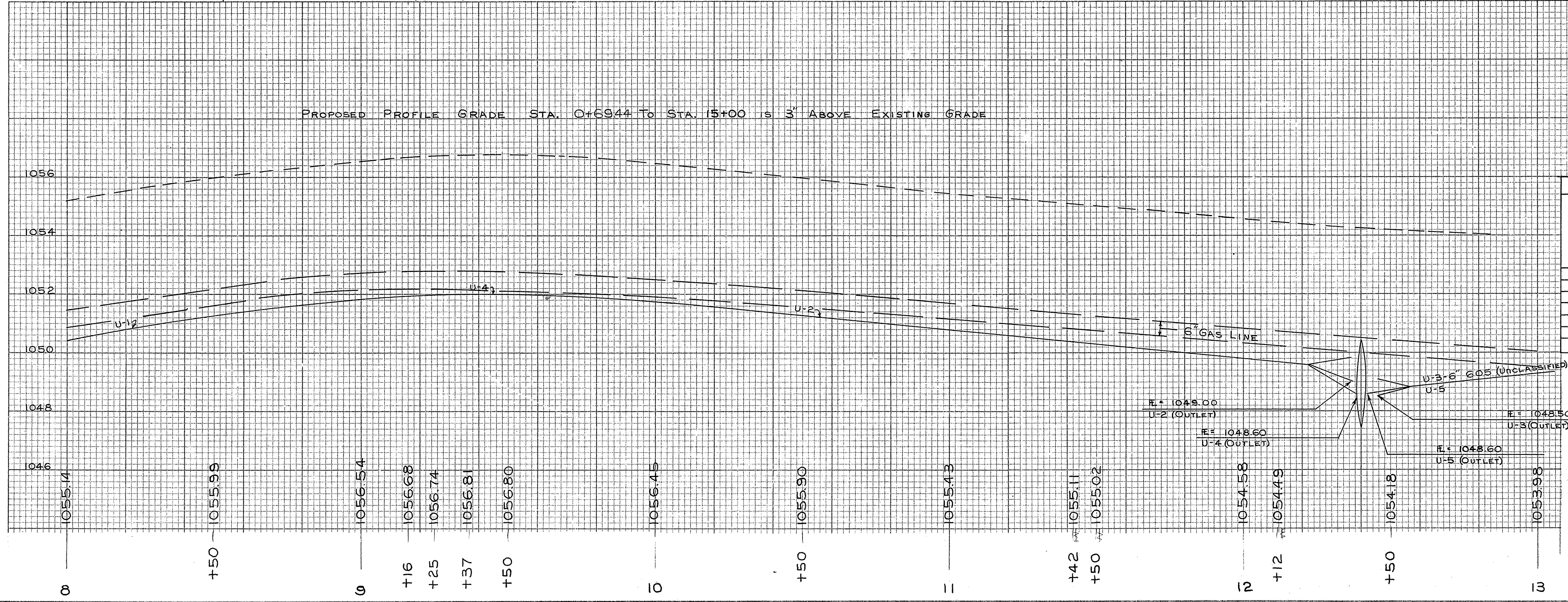
U.S.224 PLAN & PROFILE SHEET - STA. 3+75 TO STA. 8+00



STRUCTURES UNDER 20' SPAN		EROSION CONTROL Y-005		
215	DETAIL SHT. 184	36" COND.		660
235				
CODE	SIDE	STATION	SODDING	
		FROM	TO	S.Y.
SOD-1	LT.	12+42	13+00	39
TOTAL				39

UNDERDRAINS - ITEM 605						
CODE	SIDE	STATION	6" SHALLOW	6" UNCLASSIFIED	BENDS & BRANCHES	6" TYPE F
		FROM	TO	L.F.	L.F.	L.F.
U-1	LT.	8+00	8+92	92		
U-2	LT.	9+37	12+37	314	1	10
U-3	LT.	12+44	13+00		70	10
U-4	RT.	8+00	12+40	430	1	10
U-5	RT.	12+40	13+00	50	1	10
TOTAL				886	70	40

PAVEMENT					
CODE	SIDE	STATION	305	609	
		FROM	TO	FOR CEM. CONCRETE BASE	COMBINATION CURB & GUTTER
				S.Y.	L.F.
BR-1	LT.	12+36.25	12+43.75	18	
C-1	RT.	8+00	13+00		495
TOTAL				18	495



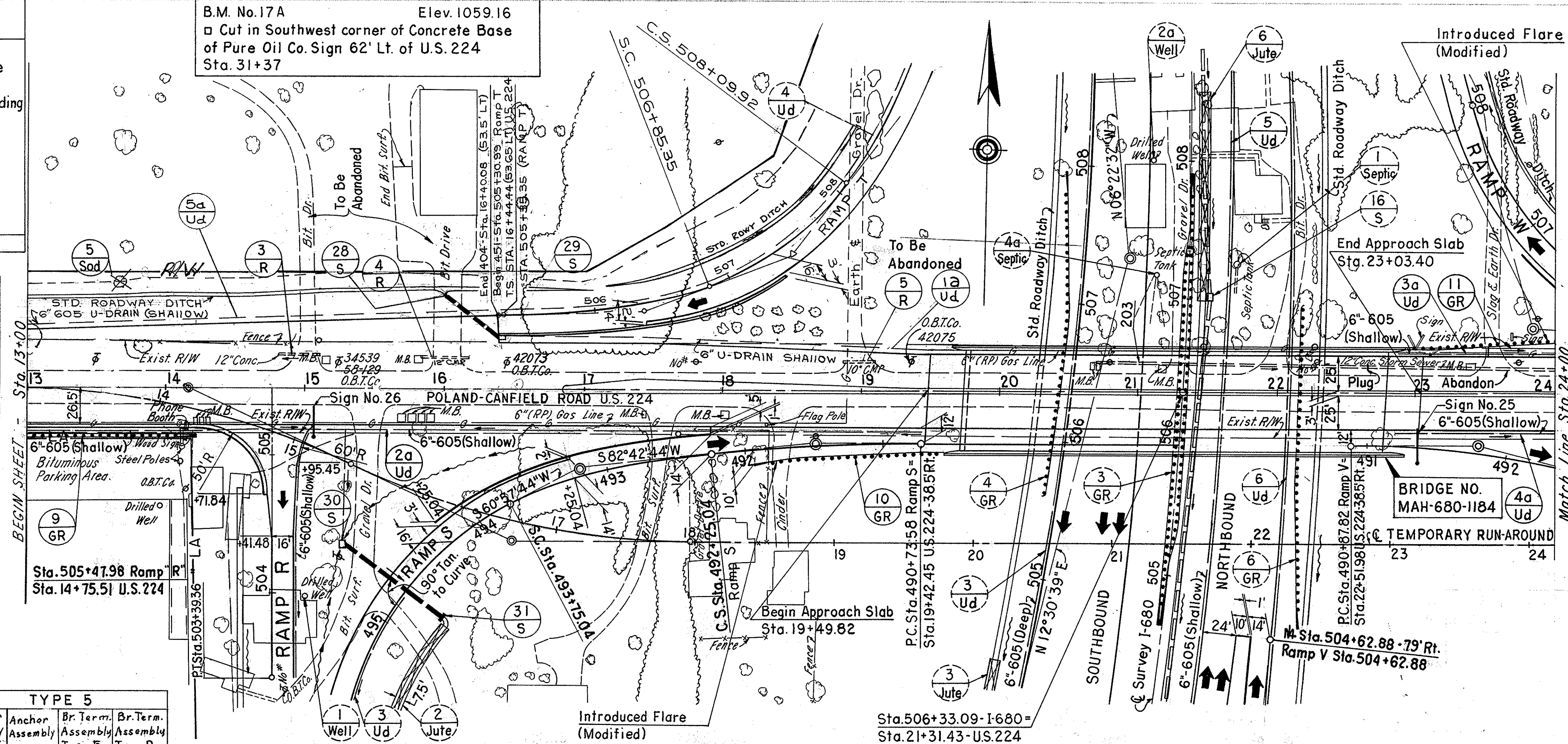
DRIVES								
STA.	BEGIN WORK	END WORK	304		404		203	203
			Asp. Base	Asp. Conc. (70-88)	Exc. Not Inc. Emb. Const.	EMB		
			5'	7'	2'	VAR DEPTH	C.Y.	C.Y.
9+12	29 Rt.	40 Rt.		1		3	1	
9+16	37.5 Rt.	53.5 Lt.	3		1		2	1
10+53	29 Rt.	50 Rt.		18	5		45	
11+35	29 Rt.	54 Rt.	6		3		20	
12+10	29 Rt.	40 Rt.	8		2		4	1
TOTAL			17	19	11	3	72	2

**PROPOSED STRUCTURE**  
MAH-680-1184

TYPE: Continuous welded plate girders with reinforced concrete deck and substructure  
 SPANS: 60.75', 93.50', 87.83', 57.00' c/c Brgs.  
 ROADWAY: 76'-0" f/t parapets (and variable) including 2'-0" safety curb left, 3'-0" raised median, and 1'-0" curb right  
 LOAD FREQUENCY: CF-2000 (57)  
 SKEW: 03°39'03.5" Left forward  
 WEARING SURFACE: 1" Monolithic concrete  
 APPROACH SLABS: Special (25' Long)  
 ALIGNMENT: Tangent  
 For Structure Dwgs. See Sheet No. 244

B.M. No. 17A Elev. 1059.16  
 □ Cut in Southwest corner of Concrete Base of Pure Oil Co. Sign 62' Lt. of U.S. 224  
 Sta. 31+37

For Plan Views of Mainline & Ramps R,S,T, V & W See Sheets No. 26, 27 & 32  
 For Mainline Profile See Sheet No. 28  
 For Ramp R Profile See Sheet No. 52  
 For Ramp S Profile See Sheet No. 53  
 For Ramp T Profile See Sheet No. 54  
 For Ramp V Profile See Sheet No. 55  
 For Ramp W Profile See Sheet No. 56  
 For Detail of Ramp S Entrance to U.S. 224 See Sheet No. 159  
 For Detail of Ramp T Entrance to U.S. 224 See Sheet No. 160  
 For Interchange Layout and Curve Data See Sheets No. 154 & 156  
 For Plan and Profile of Temporary Run-Around See Sheet No. 153



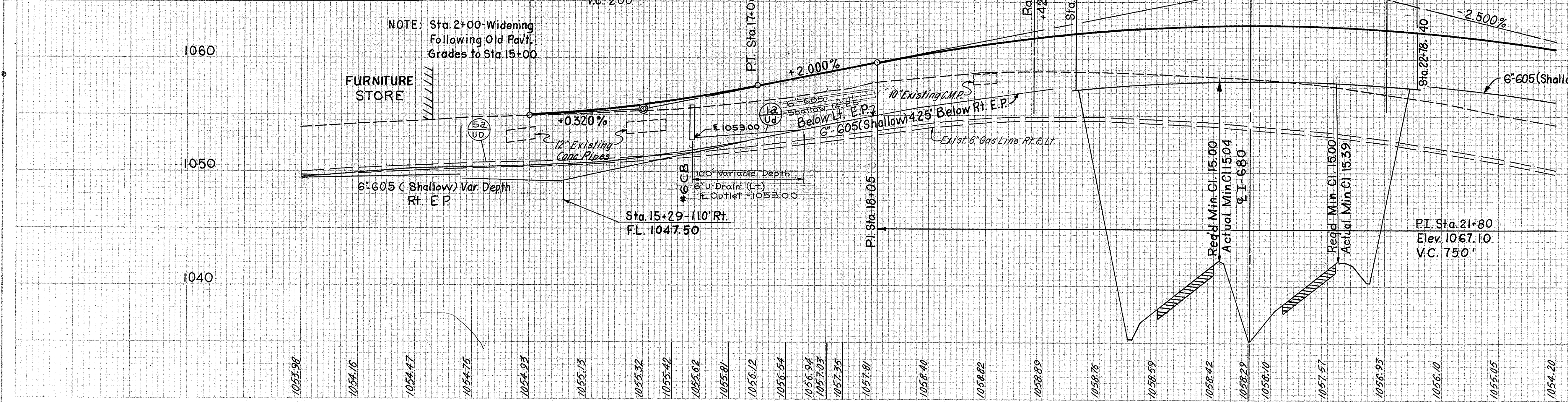
ITEM 606 GUARD RAIL TYPE 5						
Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly Ea.	Br. Term. Assembly Type E Ea.	Br. Term. Assembly Type D Ea.
10GR	18+25-19+60 U.S. 224	Rt.	137.5	1	1	
11GR	22+92-24+29 U.S. 224	Lt.	137.5	1		1
TOTALS			275.0	2	1	1

Barrier Design						
Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly Ea.	Br. Term. Assembly Type E Ea.	Br. Term. Assembly Type D Ea.
96R	12+37-14+24.5	Rt.	187.5	2		
TOTALS			187.5	2		

**ESTIMATED QUANTITIES**

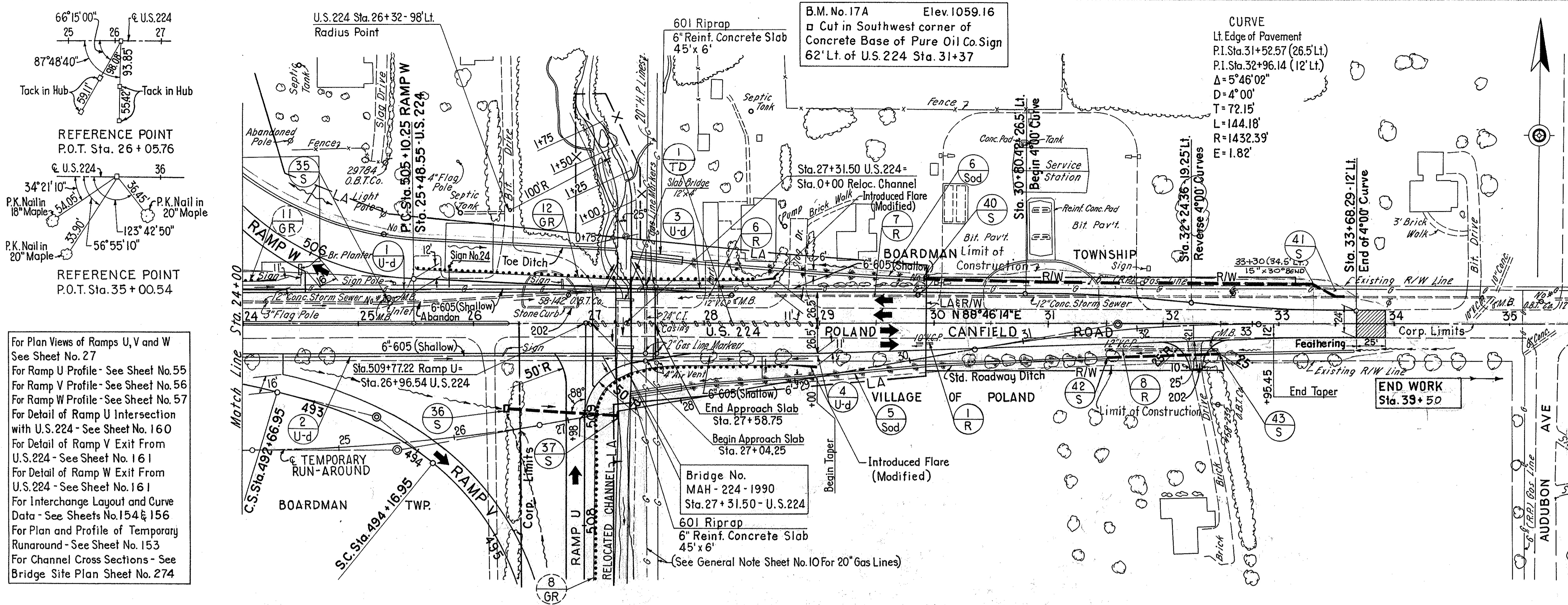
603 Conduit LF	604 Each	202 LF	602 C.Y.	605 Conduit LF	606 S.Y.	Bends & Branches	Tee
265.235	190	15+25-16+42	11.8	1062.56	1062.38	1062.15	1061.89
305.315	190	49+4+73 Ramp S	11.8	1062.15	1061.89	1061.59	1061.26
3R	30	14+81-15+11 U.S. 224	11.8	1061.89	1061.59	1061.26	1060.88
4R	30	15+84-16+19 U.S. 224	11.8	1061.59	1061.26	1060.88	
5R	30	18+88-19+09 U.S. 224	11.8	1061.26	1060.88		
1a-Ud	30	16+42-19+66	11.8	1060.88			
2a-Ud	30	13+00-19+61	11.8				
3a-Ud	30	22+89-24+00	11.8				
4a-Ud	30	22+85-24+00	11.8				
5-Sod	30	13+00-14+80 U.S. 224	11.8				
5a-Ud	30	13+00-506+25 (Ramp)	11.8				
TOTALS			1251	140	30	1	1



Calculated by J.D.F. Date 1-7-67  
 Checked by P.J.B. Date 5-1-69

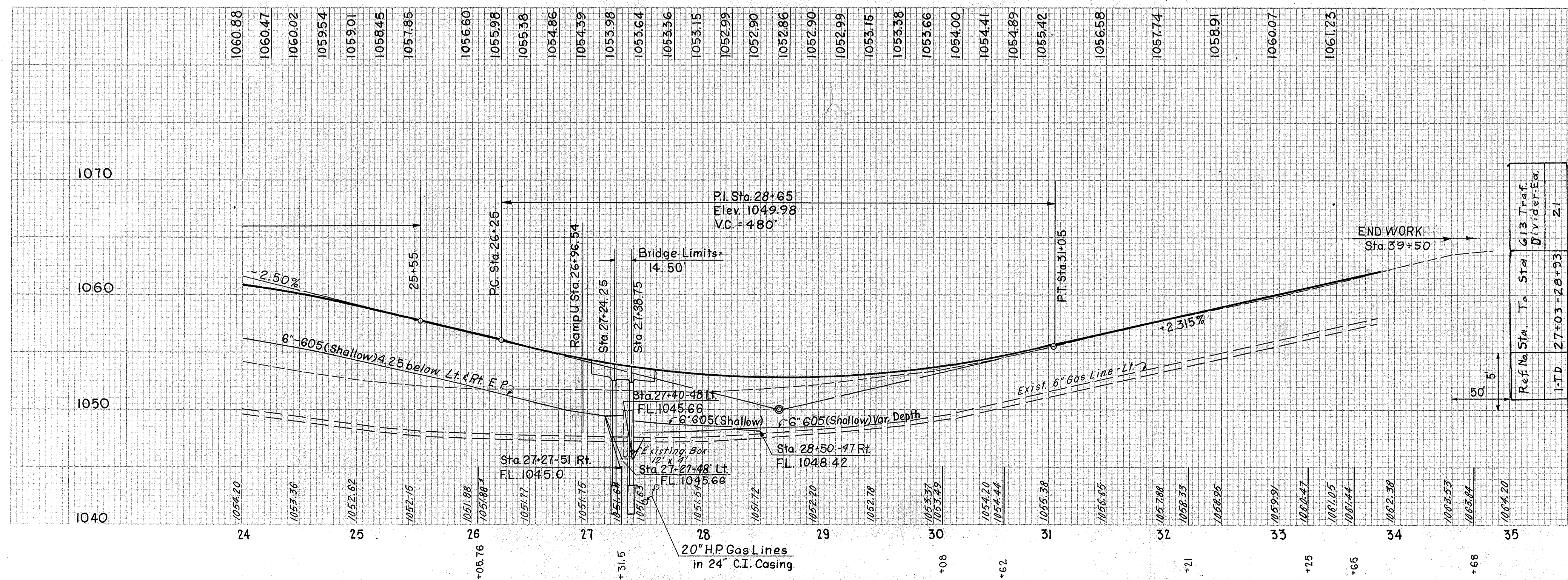


MAHONING COUNTY  
 MAH-680-932



For Plan Views of Ramps U, V and W See Sheet No. 27  
 For Ramp U Profile - See Sheet No. 55  
 For Ramp V Profile - See Sheet No. 56  
 For Ramp W Profile - See Sheet No. 57  
 For Detail of Ramp U Intersection with U.S. 224 - See Sheet No. 160  
 For Detail of Ramp V Exit From U.S. 224 - See Sheet No. 161  
 For Detail of Ramp W Exit From U.S. 224 - See Sheet No. 161  
 For Interchange Layout and Curve Data - See Sheets No. 154 & 156  
 For Plan and Profile of Temporary Runaround - See Sheet No. 153  
 For Channel Cross Sections - See Bridge Site Plan Sheet No. 274

ESTIMATED QUANTITIES	605 Conduit L.F. 604 Eal		602 202 L.F. 660 605 Cmd		Bends & Branches		601 202 Ea		203 C.Y.	
	Station to Station	Side	Station to Station	Side	Station to Station	Side	Station to Station	Side	Station to Station	Side
Excavation Not Including Embankment Construction										
Inlet Removed										
Riprap 6\"										
Rein. Conc. Slab										
Tee										
Wye										
6\"										
Shallow										
Sodding										
Pipe Removed 24\"										
Concrete Masonry										
Std. No. 2-2BC.B										
Type F										
Type D										
Type B										
TOTALS										



**PROPOSED STRUCTURE**  
 MAH-224-1990  
 TYPE: Slab top culvert with reinforced concrete deck and substructure  
 SPANS: 12'-0" Clear. f/f abutments  
 ROADWAY: Variable  
 LOAD FREQUENCY: CF-2000(57)  
 SKEW: None  
 WEARING SURFACE: 1" Monolithic Concrete  
 APPROACH SLABS: Special (20'-0" long)  
 ALIGNMENT: Tangent  
 For Structure Dwg. See Sheet No. 274

DRIVES					
Station U.S. 224	Side	Item 404 2" - C.Y.	Item 304 7" - C.Y.	Item 203 Exc. C.Y.	Item 452 7" - S.Y.
30 + 26	Lt.	3	8	13	
31 + 61	Lt.	3	10	17	
32 + 21	Rt.			7	58
<b>TOTALS</b>		<b>6</b>	<b>18</b>	<b>37</b>	<b>58</b>

ITEM 202 EXISTING PAVEMENT REMOVED AND DISPOSED OF		
Station	Side	SQ. YD.
32 + 21	Right	31

ITEM 202 EXISTING CURB REMOVED AND DISPOSED OF			
Station to Station	Side	Lin. Ft.	
26 + 43	26 + 92	Left	140

ITEM 606 GUARD RAIL TYPE 5				
Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly
126R	25 + 52 - 28 + 63 U.S. 224	Lt.	312.5	2

Calculated by JDF Date 1-10-67  
 Checked by PJB Date 5-2-69

B.M. #18 Spike in Northwest roof of 12" Hickory, 240' Rt. of Sta. 516+65  
Elev. 1053.64

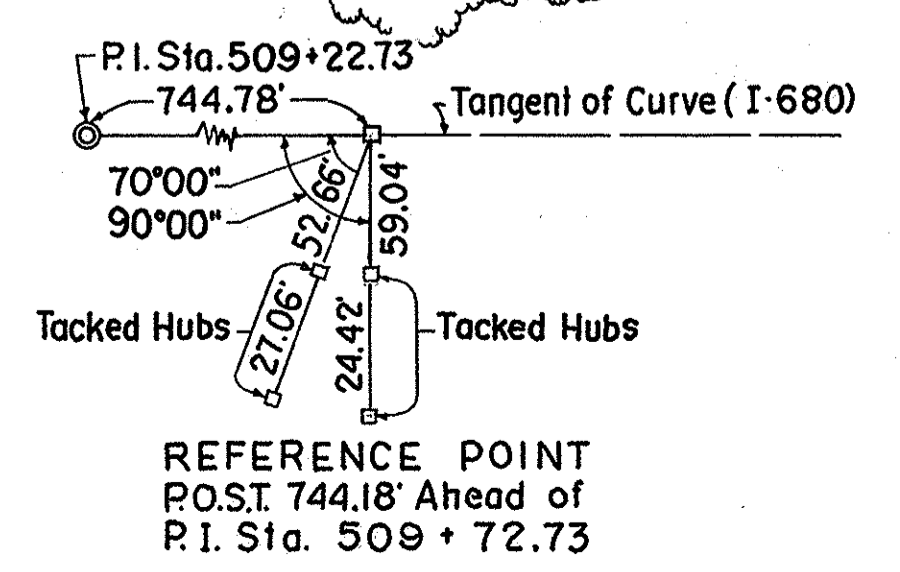
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

MAHONING COUNTY  
MAH-680-9.32

P.I. Sta. 509+22.73  
 $\Delta = 62^\circ 35' 02''$  Lt.  
 $D = 1^\circ 52' 30''$   
 $L_s = 500.00'$   
 $R = 3,055.78'$   
 $\theta_s = 4^\circ 41' 15''$   
 $P = 3.41'$   
 $K = 249.95'$   
 $L.T. = 333.45'$   
 $ST. = 166.78'$   
 $L.C. = 499.85'$   
 $T_s = 2,109.38'$   
 $E_s = 524.18'$   
 $L_c = 2,857.81'$   
 $X_c = 499.66'$   
 $Y_c = 13.63'$   
 $\Delta c = 53^\circ 12' 32''$

Ref. No.	See Sheet No.	Station to Station	Side	603 Conduit L.F.			604 Each			667(S) Special	605 Conduit L.F. Bends & Branches	Rock Channel Protection Type B													
				Type B	Type C	Type C	604	604	604				Deep	Shallow											
18 S	188	508+00 - 516+00 IM	Rt.	6"	15'	27'	12"	21"	27'																
18S-19S	188	512+00 IM-512+62 Ramp T	Rt. Lt.			182																			
19S-20S	188	512+62 - 513+62 Ramp T	Lt.			100																			
18S-21S	188	512+00 IM-511+75 Ramp W	Rt. Lt.			86																			
21S-22S	188	511+75 Ramp W	Lt. Rt.			36																			
18S-24S	188	512+00 - 516+00 IM	Rt.																						
23S-24S	188	516+00 IM	Lt. Rt.			28																			
21S-22S	188	511+75 - 513+01 Ramp W	Lt. Rt.			126																			
6 Jute	32	508+00 - 508+50	Rt.																						
8 Jute	32	511+12 - 512+62 Ramp T	Lt.																						
10 Jute	32	510+25 - 511+75 Ramp W	Rt.																						
11 Jute	32	511+75 - 513+25 Ramp W	Rt.																						
12 Jute	32	513+62 - 517+75 Ramp T	Lt.																						
12a Jute	32	516+00 - 517+50	Lt.																						
13 Jute	32	516+00 - 517+50	Rt.																						
1 Septic	32	508+32 Ramp W	Lt.																						
2 Septic	32	511+21 Ramp W	Rt.																						
3 Septic	32	509+92 Ramp T	Lt.																						
1-Well	32	508+55 Ramp W	Lt.																						
1 Ud	32	508+35 - 513+62 Ramp T	Lt.																						
2 Ud	32	513+62 - 518+07 Ramp T	Lt.																						
3 Ud	32	508+07 - 514+98 SB Lt.	Lt.																						
4 Ud	32	508+00 - 511+98 NB Lt.	Lt.																						
5 Ud	32	512+04 - 518+00 NB Lt.	Lt.																						
6 Ud	32	508+00 - 511+91 NB Rt.	Rt.																						
6a-Ud	32	511+96 - 515+75 IM	Rt.																						
7 Ud	32	511+75 - 515+75 Ramp W	Lt.																						
8 Ud	32	507+74 - 511+75 Ramp W	Lt. Rt.																						
1 Rock	32	517+35 Ramp T																							
T O T A L S						74	126	122	182	28	100	404	404	40	1	1	3	2	1	10	11	3	1	2791	1473

For Detail of Ramp T Exit from Southbound, see Sheet No. 164  
 For Detail of Ramp W Entrance to Northbound, see Sheet No. 165  
 For Mainline Profile, see Sheet No. 33  
 For Ramp T Profile, see Sheet No. 54  
 For Ramp W Profile, see Sheet No. 57  
 For Interchange Layout and Curve Data, see Sheets No. 154 & 156



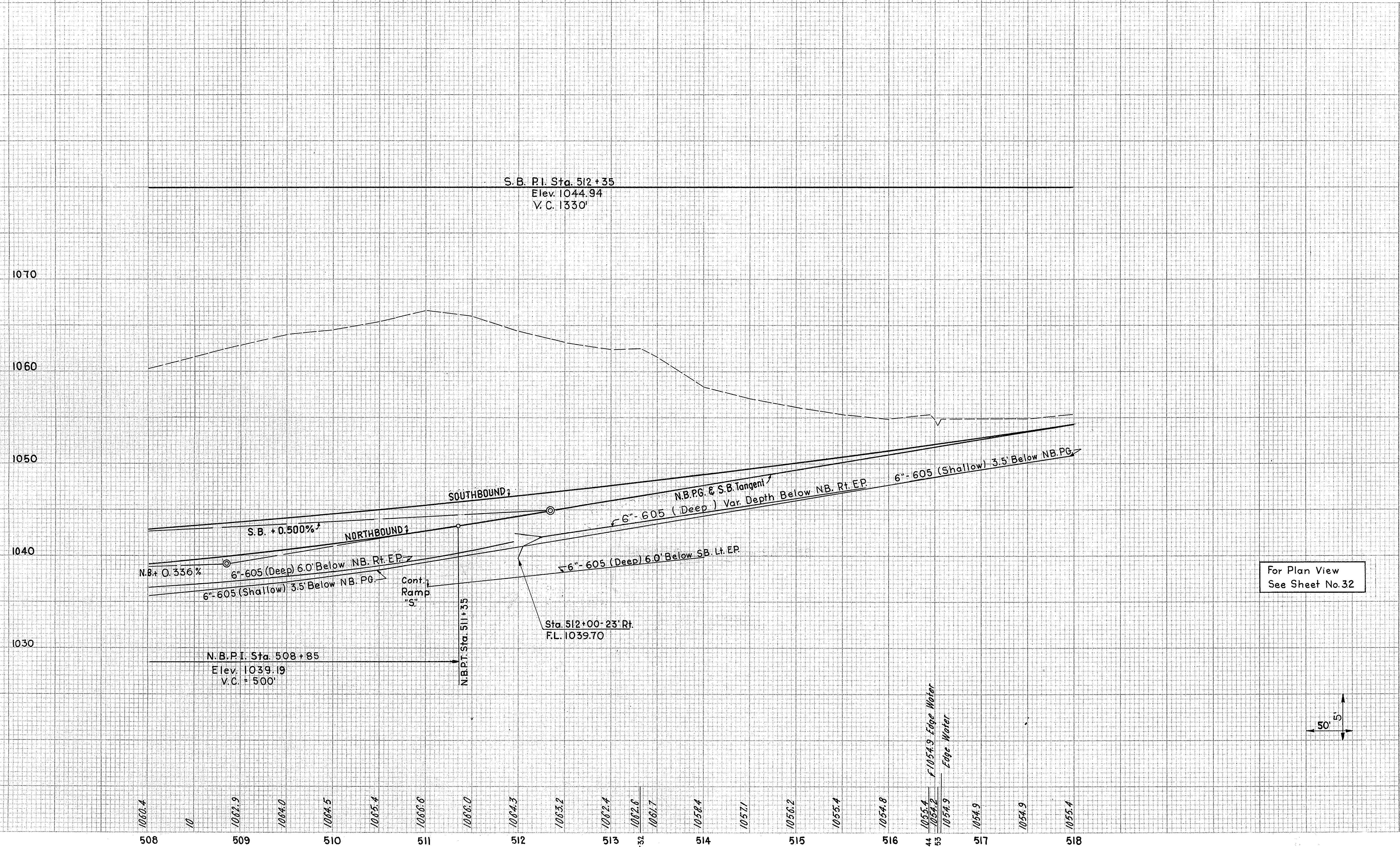
Calculated by J.D.E. Date 10-67  
 Checked by P.J.B. Date 5-2-69

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NORTHBOUND  
→

SOUTHBOUND  
→

1042.99	1039.27	1043.17	1039.46	1043.35	1039.67	1043.54	1039.91	1043.73	1040.16	1043.93	1040.43	1044.13	1040.71	1044.34	1041.00	1044.55	1041.32	1044.78	1041.65	1045.00	1041.99	1045.23	1042.36	1045.47	1042.74	1045.71	1043.13	1045.95	1043.54	1046.21	1046.46	1044.37	1046.73	1047.00	1045.19	1047.28	1047.56	1046.01	1047.84	1048.13	1046.83	1048.42	1048.72	1047.65	1049.03	1049.34	1048.47	1049.66	1049.98	1048.29	1050.30	1050.64	1050.11	1050.97	1051.32	1050.93	1051.66	1052.02	1051.75	1052.38	1052.75	1052.58	1053.12	1053.50	1053.40	1053.88	1054.26	1054.22
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For Plan View  
See Sheet No. 32

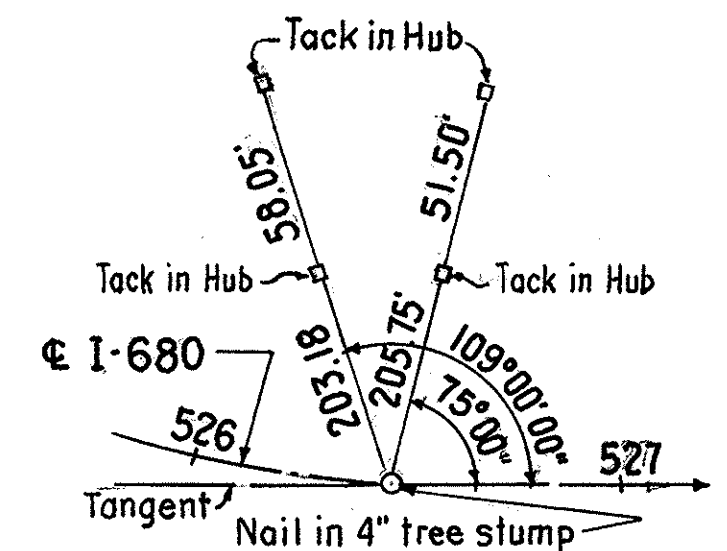
B.M. No. 19 - Spike in East root of 9" Hickory  
145' Lt. of Sta. 528+00 Elev. 1070.04

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

34  
308

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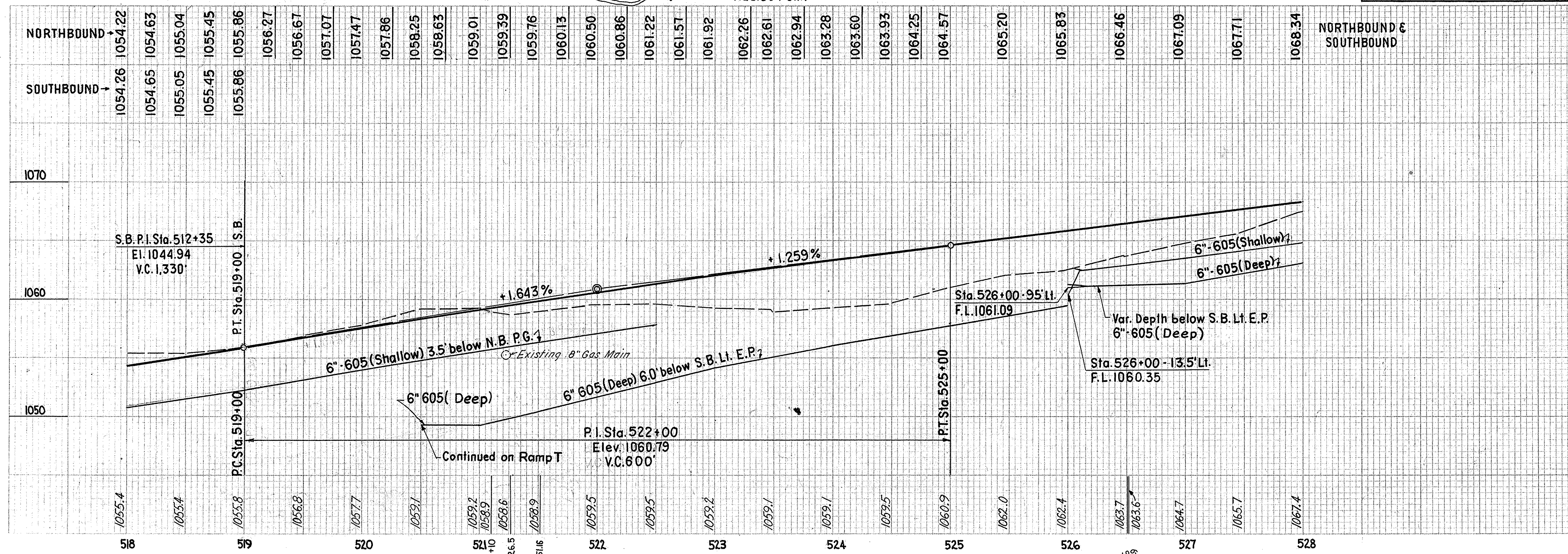
P.I. Sta. 509+22.73 P.I. Sta. 528+19.16  
 $\Delta = 62^{\circ}35'02''$  Lt.  $\Theta_s = 1^{\circ}15'00''$  Rt.  
 $D = 1^{\circ}52'30''$   $L_s = 250.00'$   
 $L_s = 500.00'$   $P = 0.46'$   
 $R = 3,055.78'$   $K = 125.00'$   
 $\theta = 4^{\circ}41'15''$   $X = 249.99'$   
 $P = 3.41'$   $Y = 1.82'$   
 $K = 249.95'$   $L.T. = 166.67'$   
 $L.T. = 333.45'$   $S.T. = 83.34'$   
 $S.T. = 166.78'$   $L.C. = 250.00'$   
 $L.C. = 499.85'$   
 $T_s = 2,109.38'$   
 $E_s = 524.18'$   
 $L_c = 2,837.81'$   
 $X_c = 499.66'$   
 $Y_c = 13.63'$   
 $A_c = 53^{\circ}12'32''$



REFERENCE POINT  
S.T. Sta. 526+51.16

Ref. No.	See Sheet No.	Station to Station	Side	ESTIMATED QUANTITIES																	
				603 Conduit L.F.	605 Cond L.F.	604 Each	601 C.Y.	602 C.Y.	667 S.Y.	Bends & Branches	60° Wye										
25S-26S	192	526+00-526+00	S.B. Lt.&Rt.	82																	
26S-27S	192	526+00-526+00	€ Lt.&Rt.		28																
27S-28S	192	526+00-526+00	N.B. Lt.&Rt.	104																	
1-U d	34	518+00-525+98	S.B. Lt.				110	674													
2-U d	34	518+00-522+50	N.B. Lt.				450														
3-U d	34	526+02-528+00	S.B. Lt.			10	214														
4-U d	34	526+02-528+00	S.B. Rt.			10	204														
14 Jute	34	526+00-527+50	S.B. Lt.																	125	
15 Jute	34	526+00-527+50	€ Lt.																	125	
16 Jute	34	526+00-527+50	€ Rt.																	125	
TOTALS				82	104	28	20	764	888	1	2	2	.30	375							

For Ramp T Profile See Sheet No. 54  
For Detail of Ramp T Exit from Southbound See Sheet No. 164

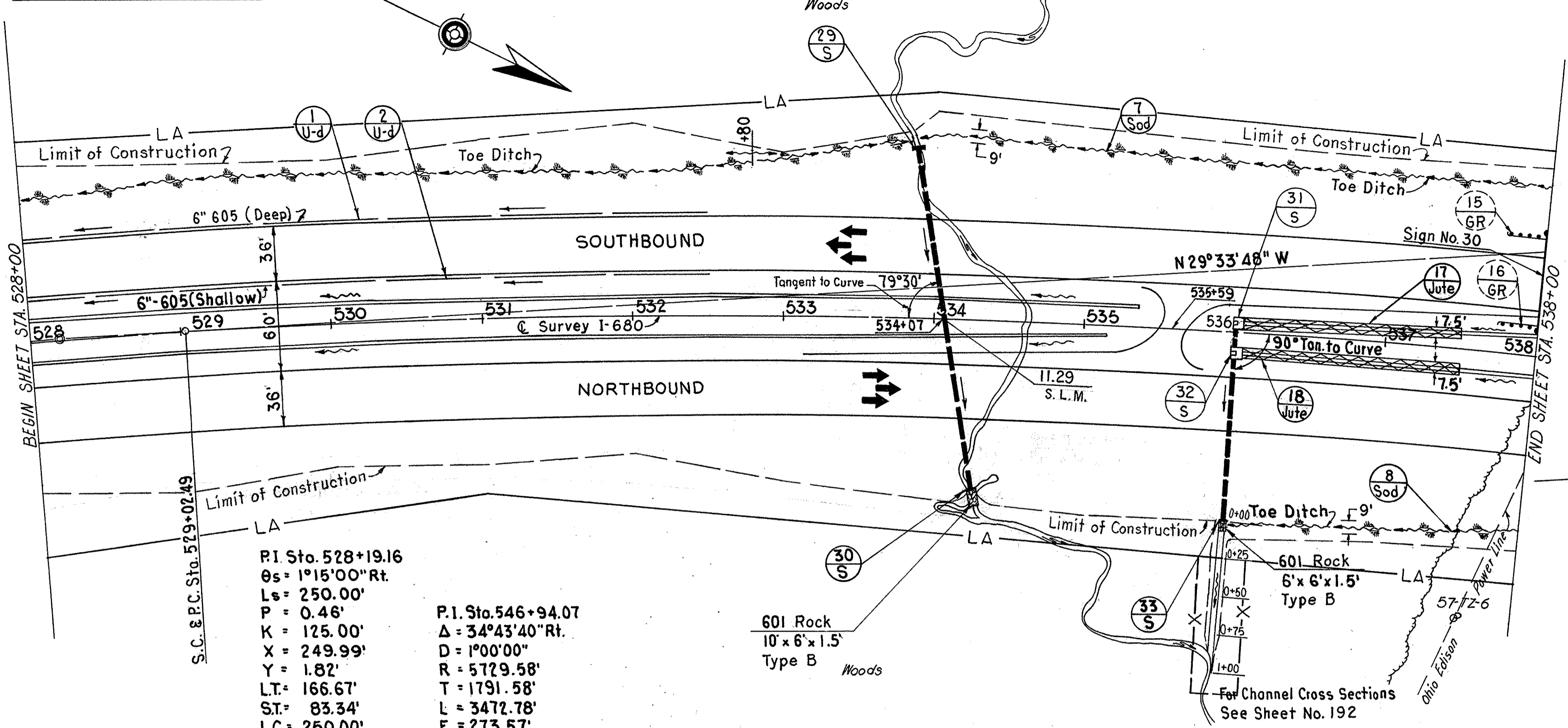


Ref. No.	Station to Station	Side	GUARD RAIL		TYPE 5 Anchor Assembly Ea.
			Lin. Ft.		
13GR	517+75-519+25	M	Lt.	150.0	2
14GR	517+80-519+30	Ramp T	Lt.	150.0	2
TOTALS				300.0	4

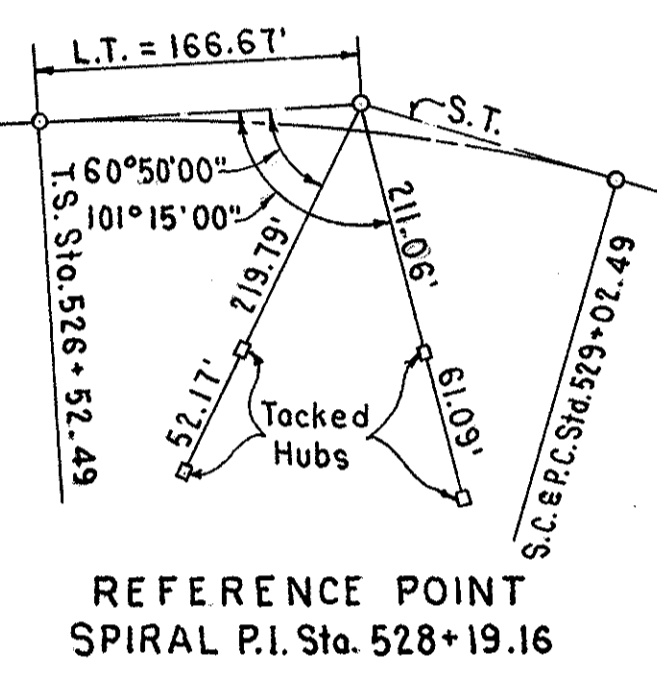
Calculated by JDE Date 11-67  
Checked by PJB Date 5-6-69

MAHONING COUNTY  
MAH-680-9.32

B.M. No. 19 Spike in east root of  
9" Hickory, 145' Lt. of Sta. 528+00  
Elev. 1070.04

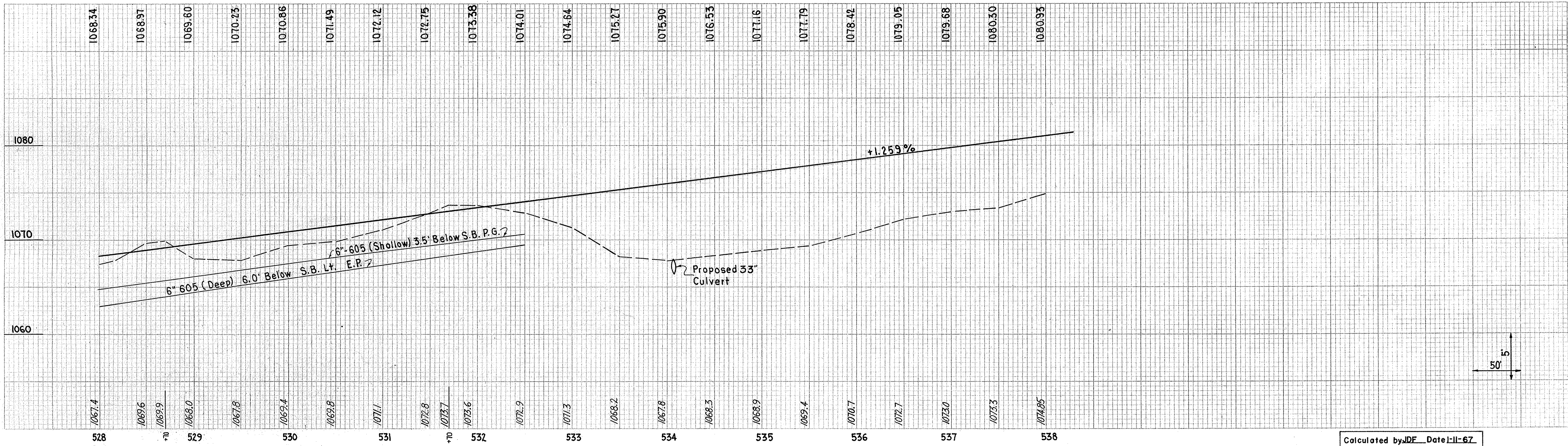


Ref. No.	See Sheet No.	Station to Station	Side	603 Conduit		605 Conduit		203 C.Y. Excavation Not Including Embankment	602 C.Y. Concrete Masonry	604 Each C.B.	601 C.Y. Rock Channel Protection Type B	667 S.Y. Seeding & Jute Matting	660 S.Y. Sodding
				Type B	Type C	Shallow	Deep						
31S-32S	192	536+00	Lt. & Rt.	112	20			35	.26	2	2		
32S-33S	192	536+00 N.B.	Lt. & Rt.										
1-Ud	35	528+00 532+50 S.B.	Lt.				456						
2-Ud	35	528+00 532+50 S.B.	Rt.				453						
17-Jute	35	536+00 537+50	Lt.									125	
18-Jute	35	536+00 537+50	Rt.									125	
7-Sod	35	533+87 538+00 S.B.	Lt.										413
8-Sod	35	536+04 538+00 N.B.	Rt.										196
TOTALS				112	20	453	456	35	.26	2	2	250	609



Ref. No.	Detail Sheet	Station	Type	Size	Remarks
29S-30S	182	534+07	T06.02 or T06.08 E.S.	33' x 230'	M

For U-Turn Median Opening Detail  
See Sheet No. 158



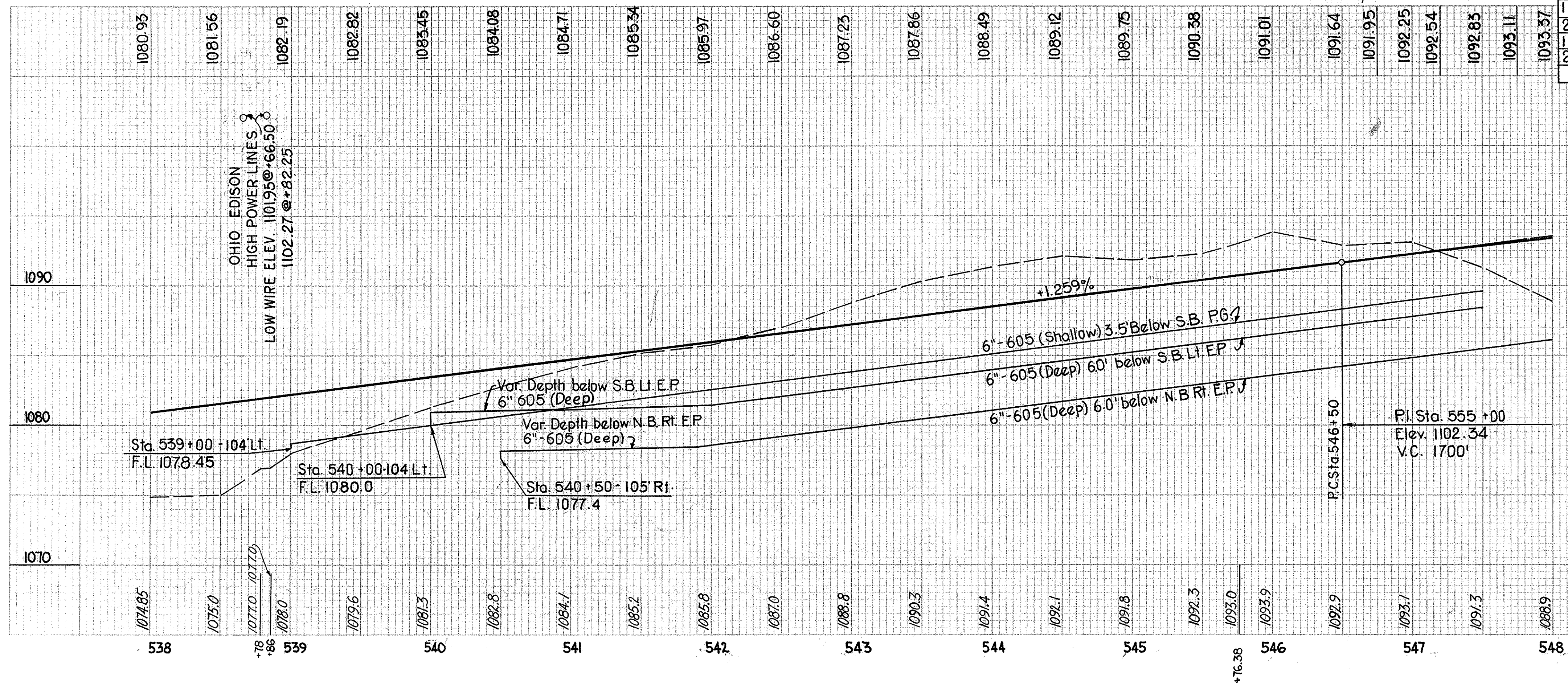
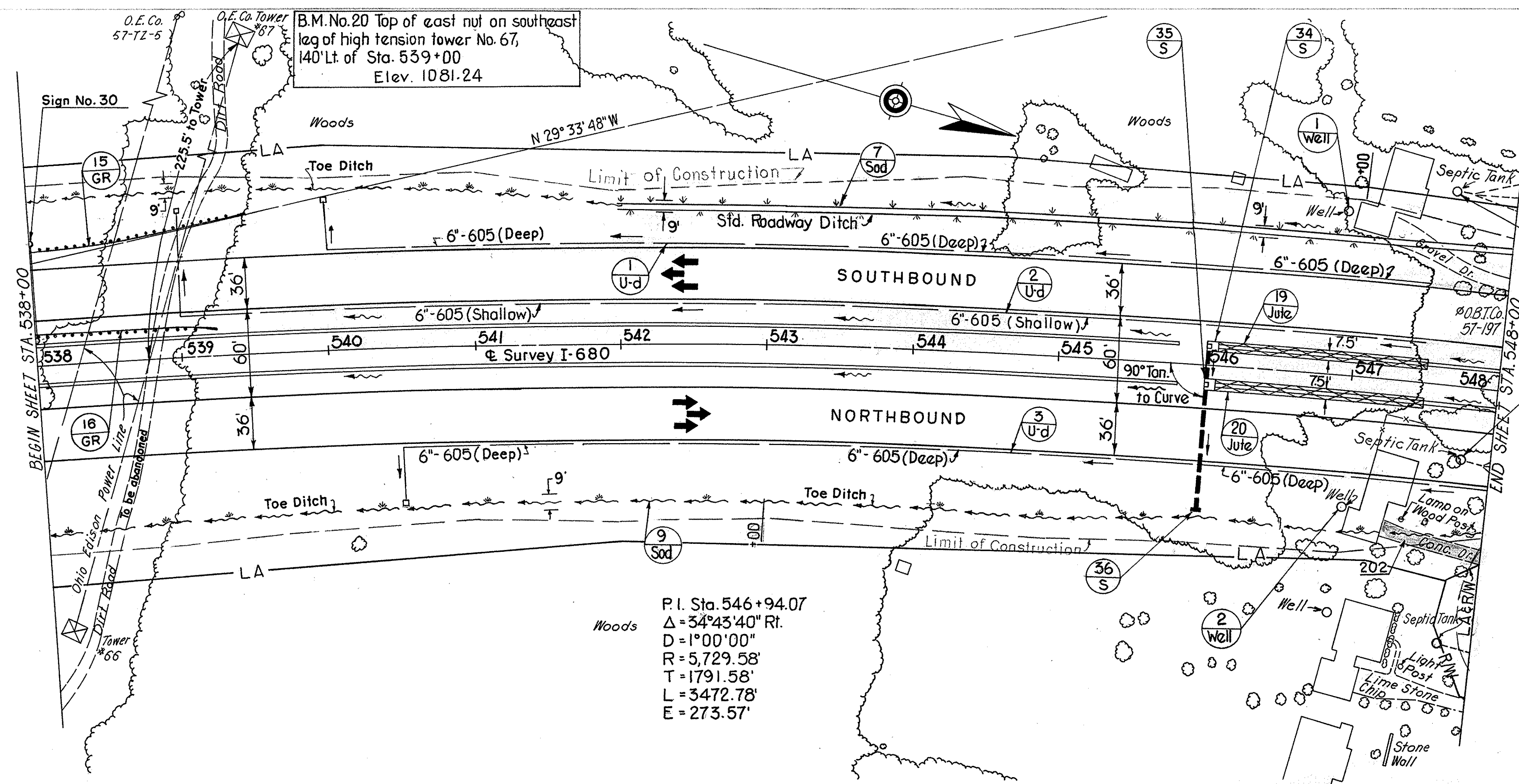
Calculated by JDF Date 11-67  
Checked by PJB Date 5-6-69

MAHONING COUNTY  
MAH-680-932

For Existing Pavement Removal Quantities  
see Sheet No. 37

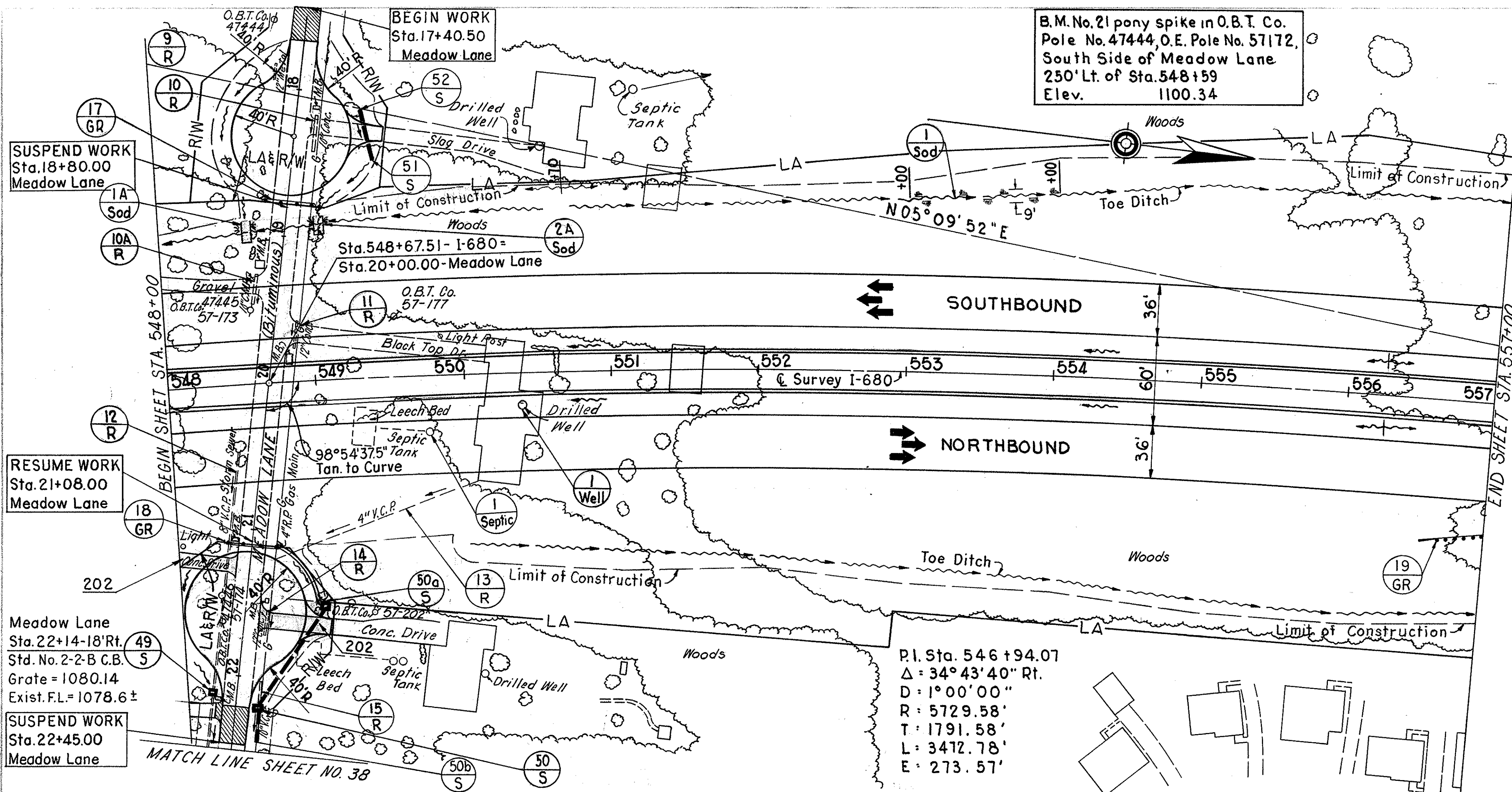
ITEM 606		GUARD RAIL		TYPE 5	
Ref. No.	Station to Station	Side	Lin. Ft.		Anchor Assembly Ea.
15 GR	537+75 - 539+47	Lt.	175		2
16 GR	537+75 - 539+25	Lt.	150		2
TOTALS			325		4

Ref. No.	See Sheet No.	Station to Station	Side	603 Conduit Lin. Ft.		605 Conduit Lin. Ft.		602 Concrete Masonry Sid. No. 8	604 Catch Basin	606 Seeding & Jute Matting	607 Sodding	608 Drilled Well Abandoned	Special - Each		
				Type D	Type C	Type F Outlet	Shallow							Deep	
34s-35s	192	546+00	Lt. & Rt.												
35s-36s	192	546+00	Lt. & Rt.	86				.26							
1-Ud	36	540+00 - 547+50 S.B.	Lt.			10	775	1							
2-Ud	36	539+00 - 547+50 S.B.	Rt.	40		10	882	1							
3-Ud	36	540+50 - 548+00 N.B.	Rt.			10	772	1							
19 Jute	36	546+00 - 547+50 C.	Lt.										125		
20 Jute	36	546+00 - 547+50 C.	Rt.										125		
7-Sod	36	538+00 - 547+00 S.B.	Lt.										900		
9-Sod	36	538+00 - 543+00 S.B.	Rt.										490		
1-Well	36	546+88	Lt.										1		
2-Well	36	547+00	Rt.										1		
1-Septic	36	547+60	Lt.										1		
2-Septic	36	547+79	Rt.										1		
TOTAL				40	86	28	30	882	1547	.26	2	250	1390	2	2

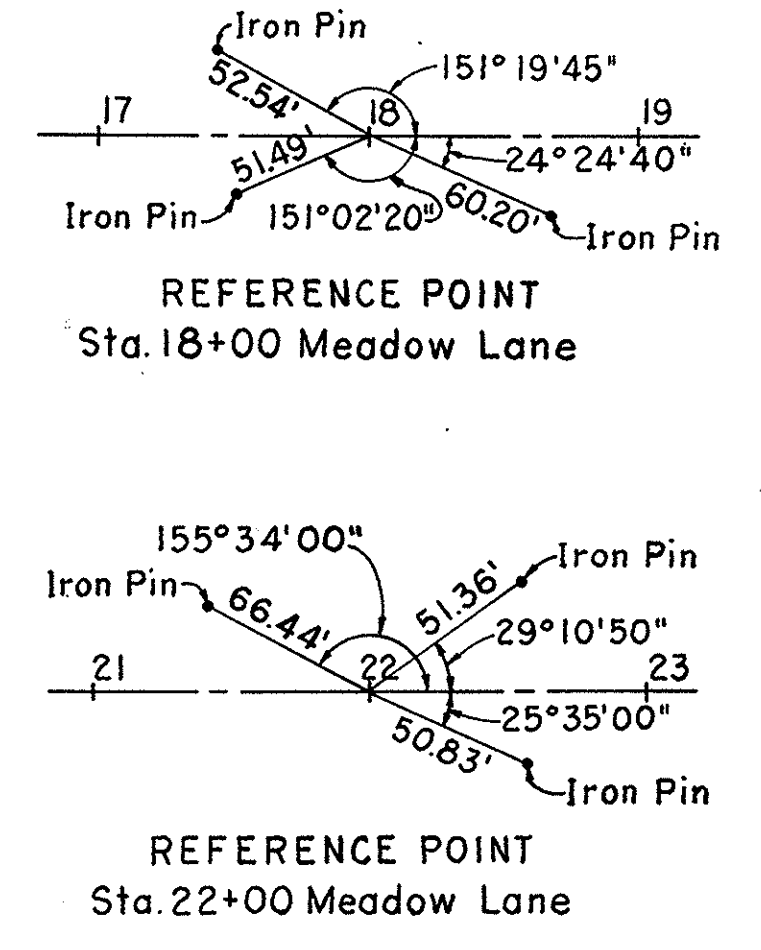


Calculated by J.D.F. Date 1-11-67  
Checked by P.J.B. Date 5-6-69

MAHONING COUNTY  
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Ref. No.	See Sheet No.	Station to Station	Side	ESTIMATED QUANTITIES							
				Type D	Std. No. 2-2-B C.B.	Pipe Removed 2' & Under	Sodding	Cleaning & Disposing of Septic Tank	Drilled Well	Abandoned	
49S	37	22+14	Meadow Lane	Rt.	12"	1					
50a-50S	192	21+47-22+20	Meadow Lane	Lt.	82	2					
50S-50bs	192	22+20-22+42	Meadow Lane	Rt.	22						
51S-52S	192	18+43-18+10	Meadow Lane	Lt.	34						
9-R	37	17+83-17+94	Meadow Lane	Rt.			11				
10-R	37	18+15-18+40	Meadow Lane	Lt.			25				
10A-R	37	19+26-19+47	Meadow Lane	Rt.			21				
11-R	37	19+56-19+74	Meadow Lane	Lt.			18				
12-R	37	20+48-22+14	Meadow Lane	Rt.			166				
13-R	37	550+07M-21+18	Meadow Lane	Lt.			148				
14-R	37	21+53-21+70	Meadow Lane	Lt.			17				
15-R	37	22+01-22+20	Meadow Lane	Lt.			19				
1-Sod	37	553+00 to 554+00	Lt.				100				
1A-Sod	37	548+58 M	Lt.				11				
2A-Sod	37	549+09 M	Lt.				13				
1-Septic	37	549+75 M	Rt.					1			
1-Well	37	550+40 M	Rt.						1		
					138	3	425	124	1	1	

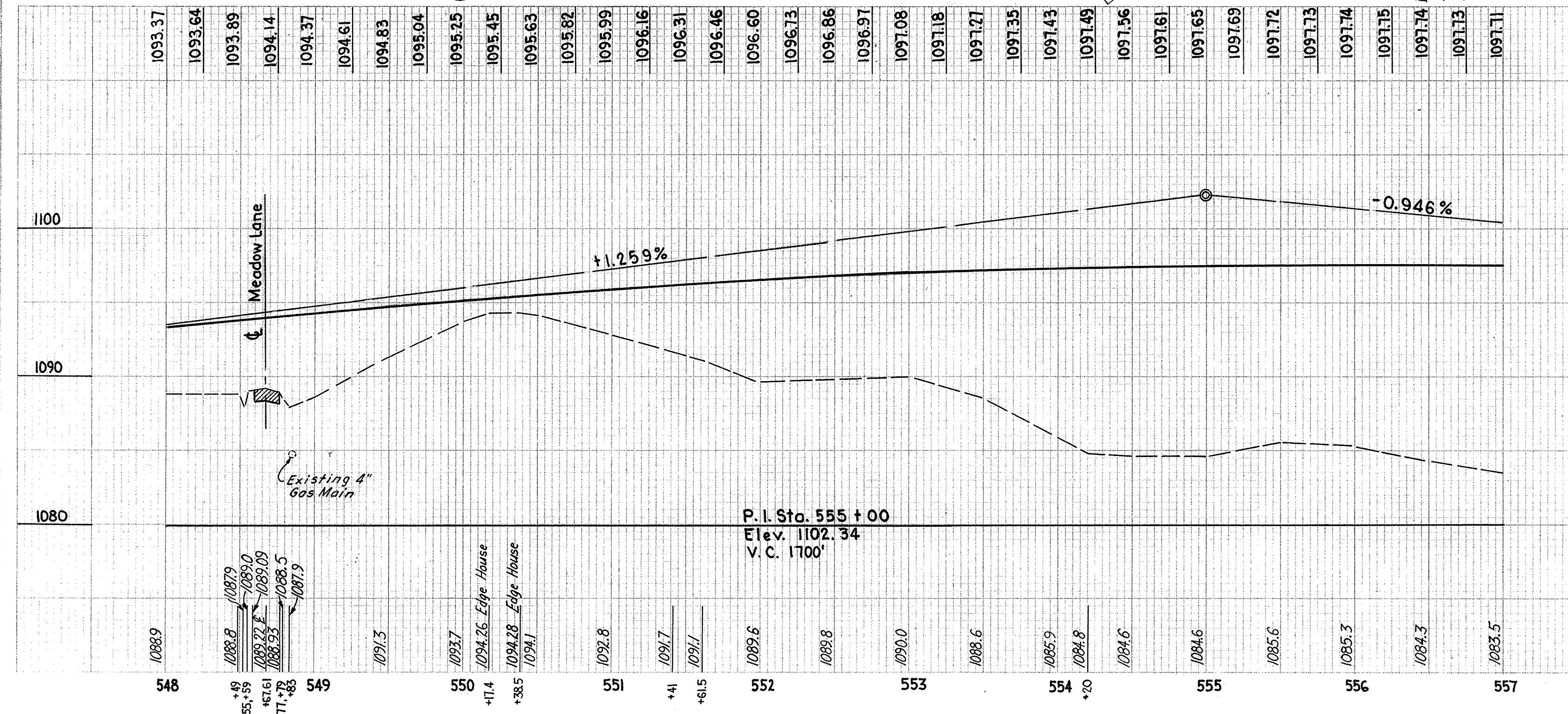


Ref. No.	Station to Station	Side	Lin. Ft.
17GR	548+46- (Barricade)	Rt.	37.5
18GR	548+86- (Barricade)	Lt.	37.5
TOTAL			75.0

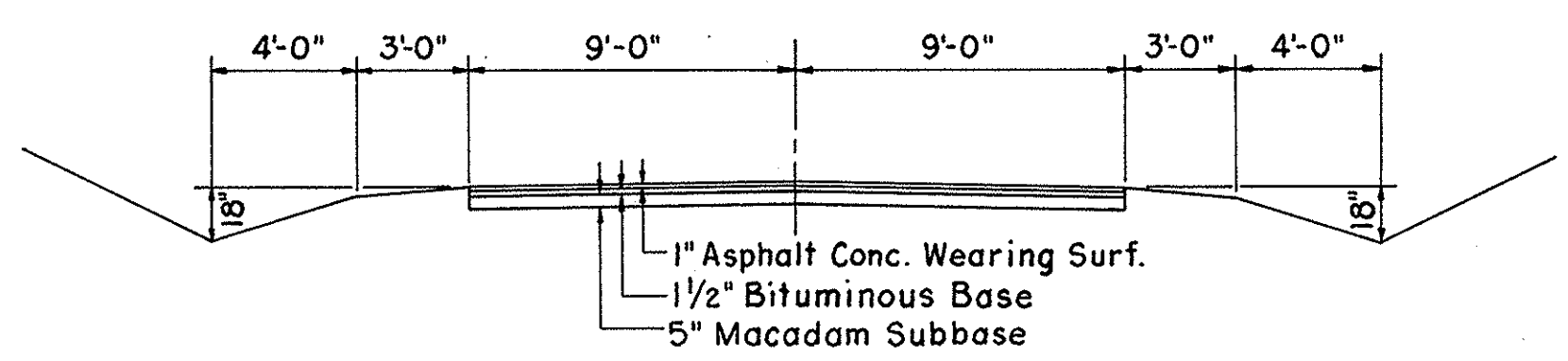
Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly Ea.
19GR	556+55 557+00	Rt.	44.0	1

Street	Station	Side	Sq. Yd.
Meadow Lane	21+25	Rt.	125
Meadow Lane	21+61.5	Lt.	60
TOTAL			185

Station Meadow Lane	Side	DRIVES + Feathering			
		Item 404 2" C.Y.	Item 452 7" S.Y.	Item 304 5" C.Y.	Item 203 Exc. C.Y.
18+23.5	Lt.	3		6	8
21+61.5	Lt.		57		8
22+25.0	Rt.			2	
TOTALS		3	57	8	16

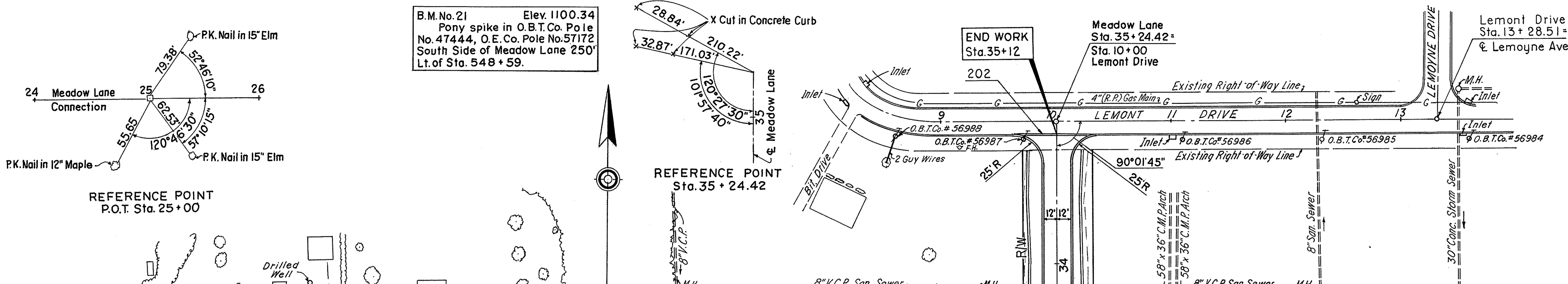


For Details of Meadow Lane Cul-de-Sacs & Drives See Sheet No. 168



TYPICAL SECTION EXISTING MEADOW LANE

Calculated by J.D.F. Date 12-67  
Checked by P.J.B. Date 5-6-69



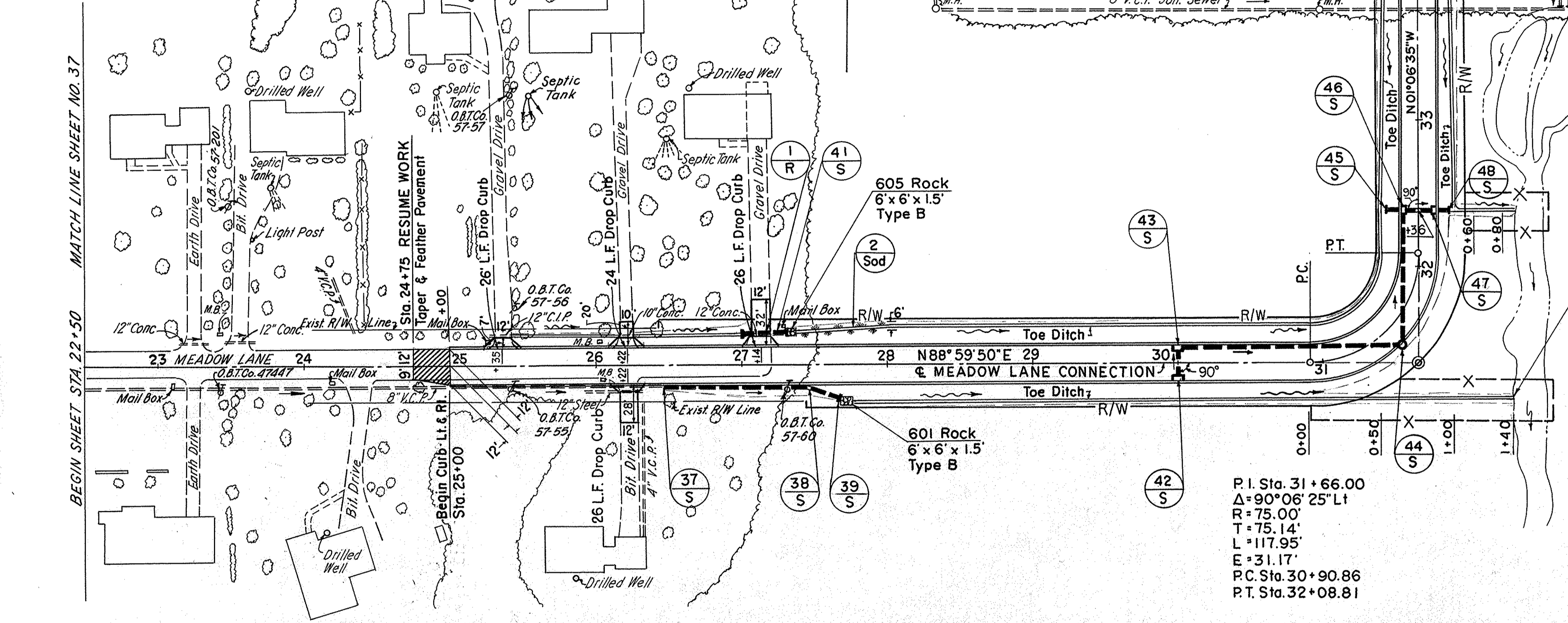
ITEM 202- Existing Curb Removed and Disposed of  
Sta. 35+12 Lt. & Rt. 70 L.F.

STRUCTURES UNDER 20' SPAN					
Ref No.	Detail Sheet	Sta.	Type	Size	Remarks
455-485	183	32+36	707.05 Type C	36"x22"x46"	MEADOW LANE CONN.

For Typical of Existing Meadow Lane, see Sheet No. 44

DRIVES						
Station Meadow Lane	Side	Item 404 2\"/>				
25+36	Lt.	1	2		2	
26+22	Lt.	1	2	4	2	4
26+22	Rt.	3	6		2	9
27+14	Lt.	1	2	8	2	17
<b>TOTALS</b>		<b>6</b>	<b>12</b>	<b>12</b>	<b>8</b>	<b>30</b>

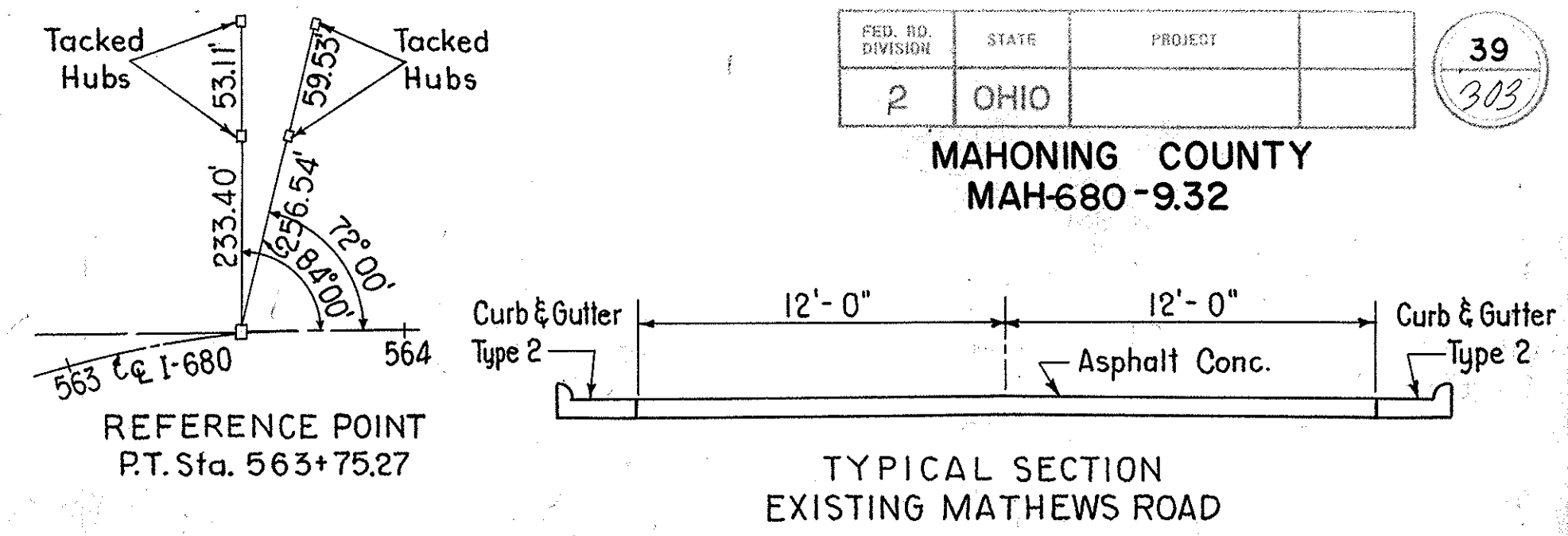
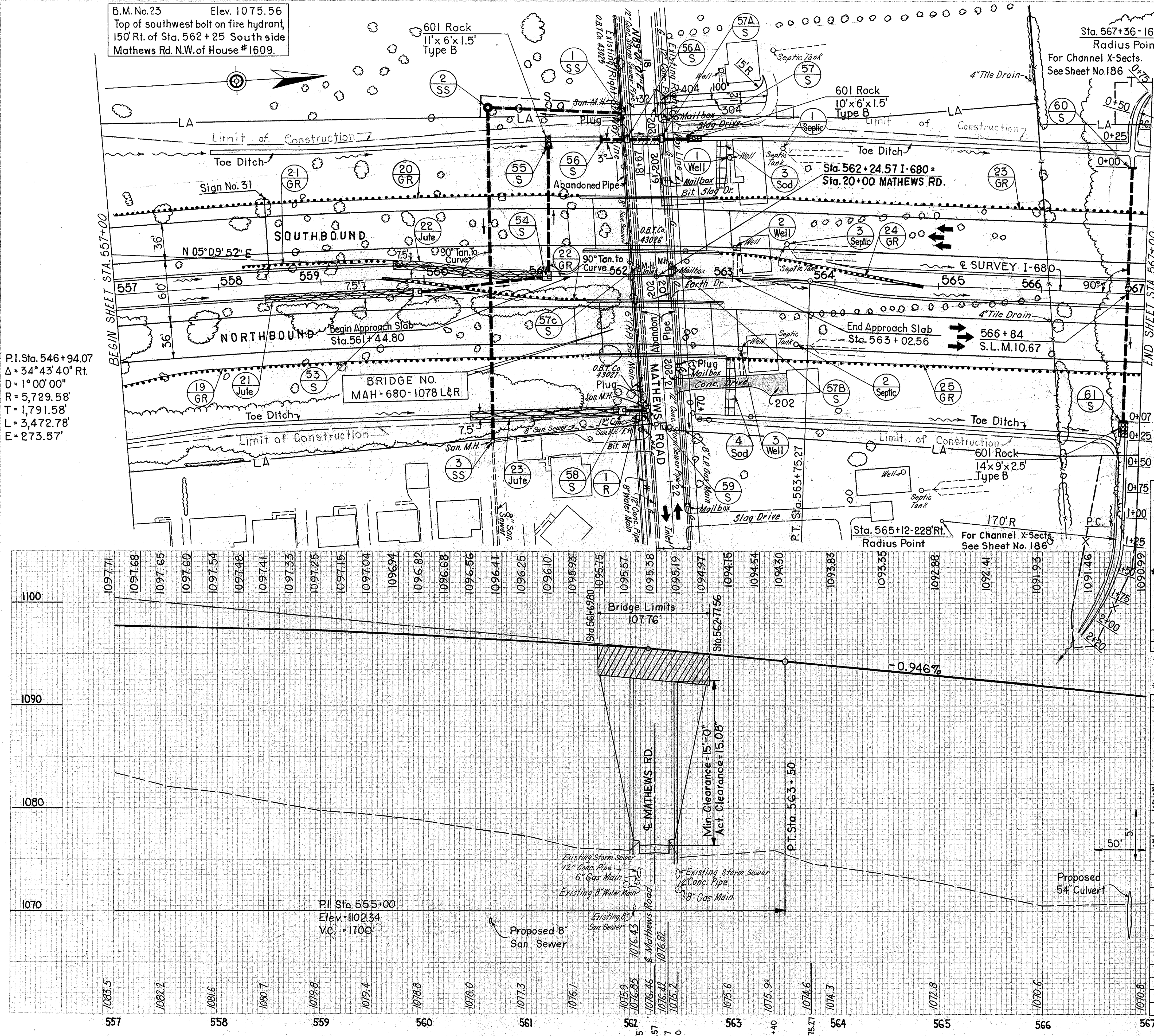
ESTIMATED QUANTITIES												
Ref. No.	See Sheet No.	Station to Station Meadow Lane Connection	Side	603 Conduit L.F.			601 C.Y. Rock Channel Protection Type B	602 C.Y. Concrete Masonry	604 Each Std. No. 1 Manhole	202 L.F. Std. No. 3A Catch Basin	202 L.F. Pipe Removed 24\"/>	
				Type B 12\"/>								
375-395	193	26+45 27+70	Rt.	124	124		3	0.23				
405-415	193	27+00 27+30	Lt.		30		3					
425-435	193	30+00	Rt.-Lt.	24								
435-445	193	30+00 31+50	Lt.	154								
445-465	193	31+50 32+36	Rt.-Lt.	92								
1 Sod	38	27+36 28+00	Lt.								43	
1 R	38	27+03 27+29	Lt.							26		
<b>T O T A L</b>				<b>270</b>	<b>124</b>	<b>30</b>	<b>6</b>	<b>0.23</b>	<b>1</b>	<b>2</b>	<b>26</b>	<b>43</b>



Calculated by P.J.B. Date 3-14-69  
Checked by M.H. Date 5-6-69



B.M. No.23 Elev. 1075.56  
 Top of southwest bolt on fire hydrant,  
 150' Rt. of Sta. 562+25 South side  
 Mathews Rd. N.W. of House #1609.



**ESTIMATED SANITARY QUANTITIES**

Ref. No.	See Sht. No.	Station to Station	Side	603 Conduit L.F.	604 Each
1SS-2SS	201	18+41	Mathews-560+65	12	1
2SS-3SS	201	560+65	LT&RT	326	
<b>TOTALS</b>				<b>326</b>	<b>1</b>

**STRUCTURES UNDER 20' SPAN**

Ref. No.	Det. Sht.	Station	Type	Size	Remarks
60S-61S	186	566+84	706.02 Class V	54'x 248'	M
56S-57S	185	18+67	706.02 or 706.08	36'x 82'	Mathews Road

**PAVEMENT REPLACEMENT**

Station	Side	402 C.Y.	404 C.Y.	407 Gal.	9" 305S.Y.
18+67	Lt-Rt	1	1	2	20
<b>TOTALS</b>				<b>2</b>	<b>20</b>

**For Drive Approach Detail See Sheet No. 170**

**DRIVES**

Station	Side	Item 404	Item 304	Item 304	Item 203	Item 203
18+32	Lt.	2	5	31	23	11
<b>TOTALS</b>		<b>2</b>	<b>5</b>	<b>31</b>	<b>23</b>	<b>11</b>

**ITEM 202 EXISTING PAVEMENT REMOVED AND DISPOSED OF**

Street	Station	Side	Sq. Yds.	
Mathews Road	21+07	Lt.	153	
<b>TOTAL</b>				<b>153</b>

**ITEM 202 EXISTING CURB & GUTTER REMOVED AND DISPOSED OF**

Street	Station	Side	Lin. Ft.	
Mathews Rd.	18+19	18+45	Lt.	26
Mathews Rd.	19+10	19+33	Lt.	23
Mathews Rd.	20+00	20+25	Lt.	25
Mathews Rd.	20+98	21+17	Lt.	19
<b>TOTAL</b>				<b>93</b>

**PROPOSED STRUCTURE MAH-680-1078 L&R**  
 TYPE: Continuous Steel Beams with Reinforced Concrete Deck and Substructure  
 \*SPANS: 50'-43.25'-50', 9/8 Brgs.  
 ROADWAY: 51' f/f of 1'-0" Curbs  
 LOAD FREQUENCY: CF-2000(57)  
 WEARING SURFACE: 1" Monolithic Concrete  
 APPROACH SLABS: AS-154 (25' Long)  
 ALIGNMENT: 1° Curve Right  
 SUPERELEVATION: 0.032 ft./ft.  
 For Structure Dwg. - See Sheet No. 257  
 For Cross Sections of Mathews Rd. - See Sheet No. 123

**ITEM 606 GUARD RAIL TYPE 5**

Ref. No.	Station to Station	Side	Lin. Ft.	Barrier Design Ea.	Bridge Terminal Assembly	Anchor Assembly
19 GR	557+00-561+63	M	456.0			
20 GR	557+05-561+53	M	Lt.	450.0		1
21 GR	558+25-559+75	M	Lt.	150.0		2
22 GR	560+34-561+60	M	Median	125.0	1	
23 GR	562+83-567+00	M	Lt.	421.0		
24 GR	562+87-564+12	M	Median	125.0	1	
25 GR	562+97-567+00	M	Rt.	404.0		1
<b>TOTALS</b>				<b>2151.0</b>	<b>4</b>	<b>2</b>

**Barrier Design**

Ref. No.	Station to Station	Side	Median	75.0	1
22 GR	559+59-560+34	M	75.0		
24 GR	564+12-564+87	M	75.0		
<b>TOTALS</b>				<b>150.0</b>	<b>2</b>

**ESTIMATED QUANTITIES**

Ref. No.	See Sheet No.	Station to Station	Side	603 Conduit Lin. Ft.	604 Each	602 C.Y.	601 C.Y.	667 S.Y.	660 S.Y.	202 Protection	Bends & Branches	Special	Each	
53S-54S	194	559+95 N.B. - 561+22	Rt. & Lt.	128	2						15"	Cleaning & Disposing of	1	
54S-55S	194	561+22 - 561+22 S.B.	Rt. & Lt.	90	36	.26	5				2	Septic Tank	1	
57B S	39	19+89 Mathews Road	Lt.									Drilled Well	1	
57C S	39	19+89 Mathews Road	Rt.									Abandoned	1	
58S-59S	194	561+95 - 562+15 N.B.	Rt.	20	1									
21 Jute	39	558+45 - 559+95	Rt.					125						
22 Jute	39	559+72 - 561+22	Rt.					125						
23 Jute	39	560+45 - 561+95 N.B.	Rt.					125						
3 Sod	39	562+86	Lt.						49					
4 Sod	39	563+00	Rt.						60					
1 Septic	39	563+44	Lt.											
2 Septic	39	563+64	Rt.											
3 Septic	39	563+52	Lt.											
1 Well	39	562+95	Lt.											
2 Well	39	563+02	Lt.											
3 Well	39	563+09	Rt.											
<b>TOTALS</b>				<b>90</b>	<b>148</b>	<b>36</b>	<b>2</b>	<b>1</b>	<b>.26</b>	<b>5</b>	<b>375</b>	<b>109</b>	<b>2</b>	<b>3</b>

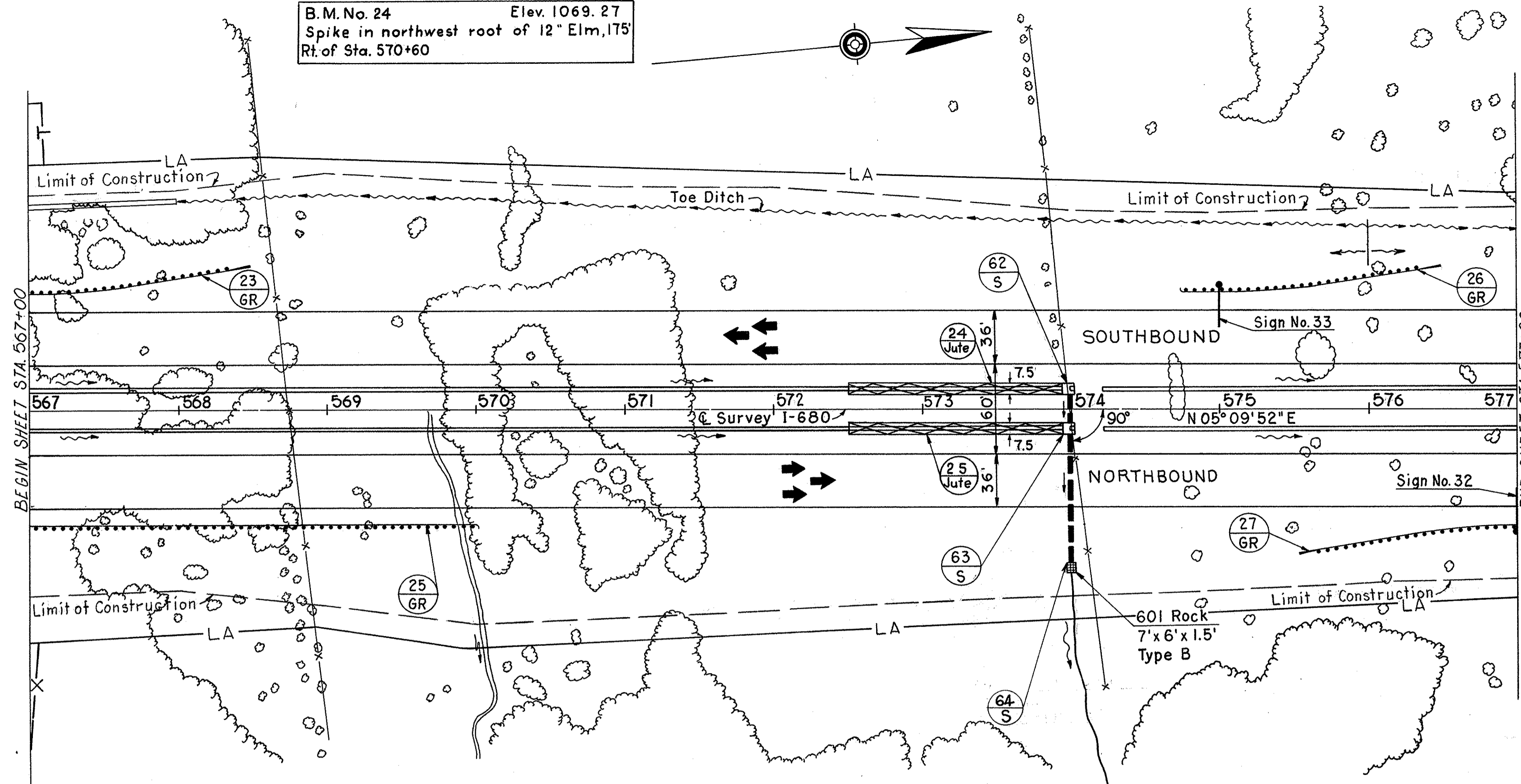
Calculated by J.D.F. Date 1-13-67  
 Checked by P.J.B. Date 5-6-69

B.M. No. 24 Elev. 1069.27  
Spike in northwest root of 12" Elm, 175'  
Rt. of Sta. 570+60

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

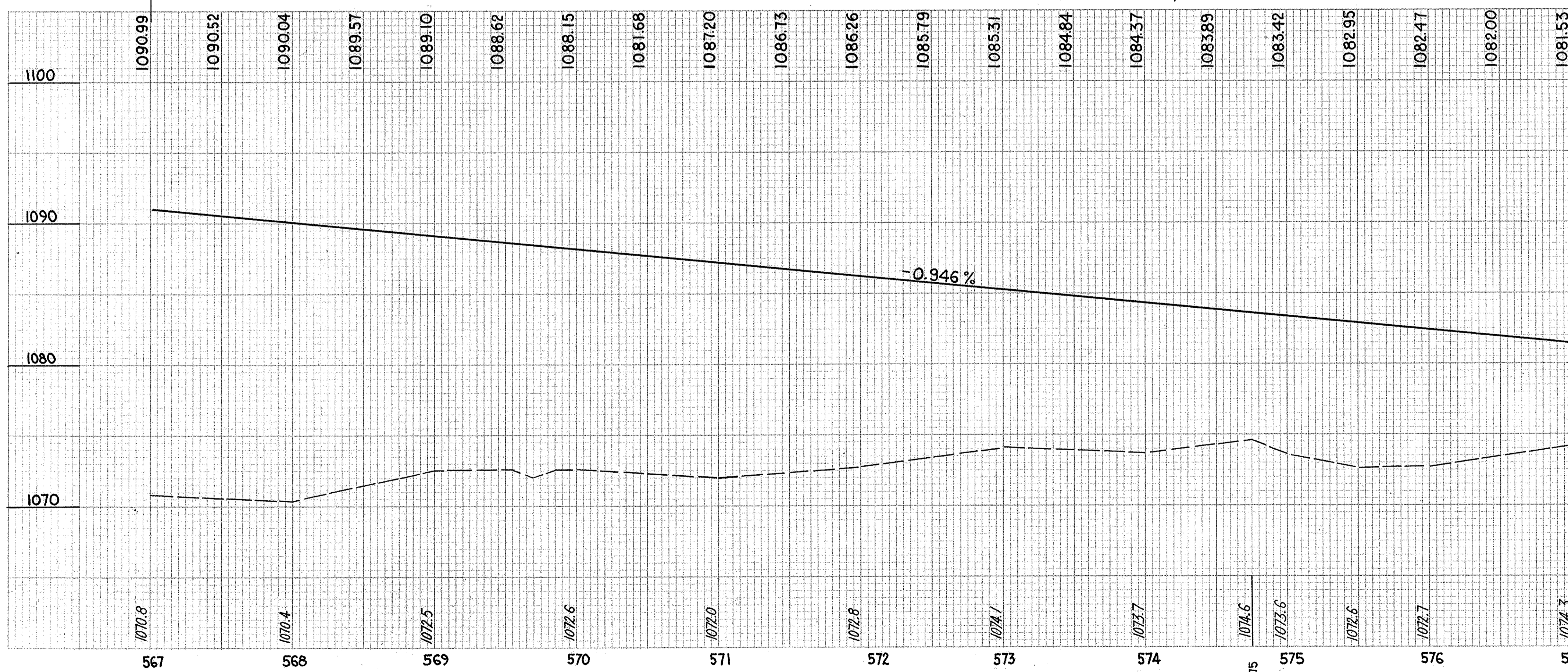
40  
303

MAHONING COUNTY  
MAH-680-9.32



Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly Ea.
23GR	567+00 - 568+49	Lt.	154.0	1
25GR	567+00 - 569+96	Rt.	296.0	1
26GR	574+75 - 576+47	Lt.	175.0	2
27GR	575+53 - 577+25	Rt.	175.0	2
TOTALS			800.0	6

Ref. No.	See Sheet No.	Station to Station	Side	ESTIMATED QUANTITIES						22° 30' Bend 15"
				603 Conduit LF	604 Ea.	601 C.Y.	602 C.Y.	667 S.Y.	Seeding & Jute Matting	
62S-63S	194	574+00	Lt.-Rt.	28	15	15	2			
63S-64S	194	574+00	N.B		72	20		3		2
24 Jute	40	572+50-574+00	Lt.						125	
25 Jute	40	572+50-574+00	Rt.						125	
TOTALS				28	72	20	2	3	.26	250



Calculated by JDE Date 1-13-67  
Checked by PJB Date 5-6-69

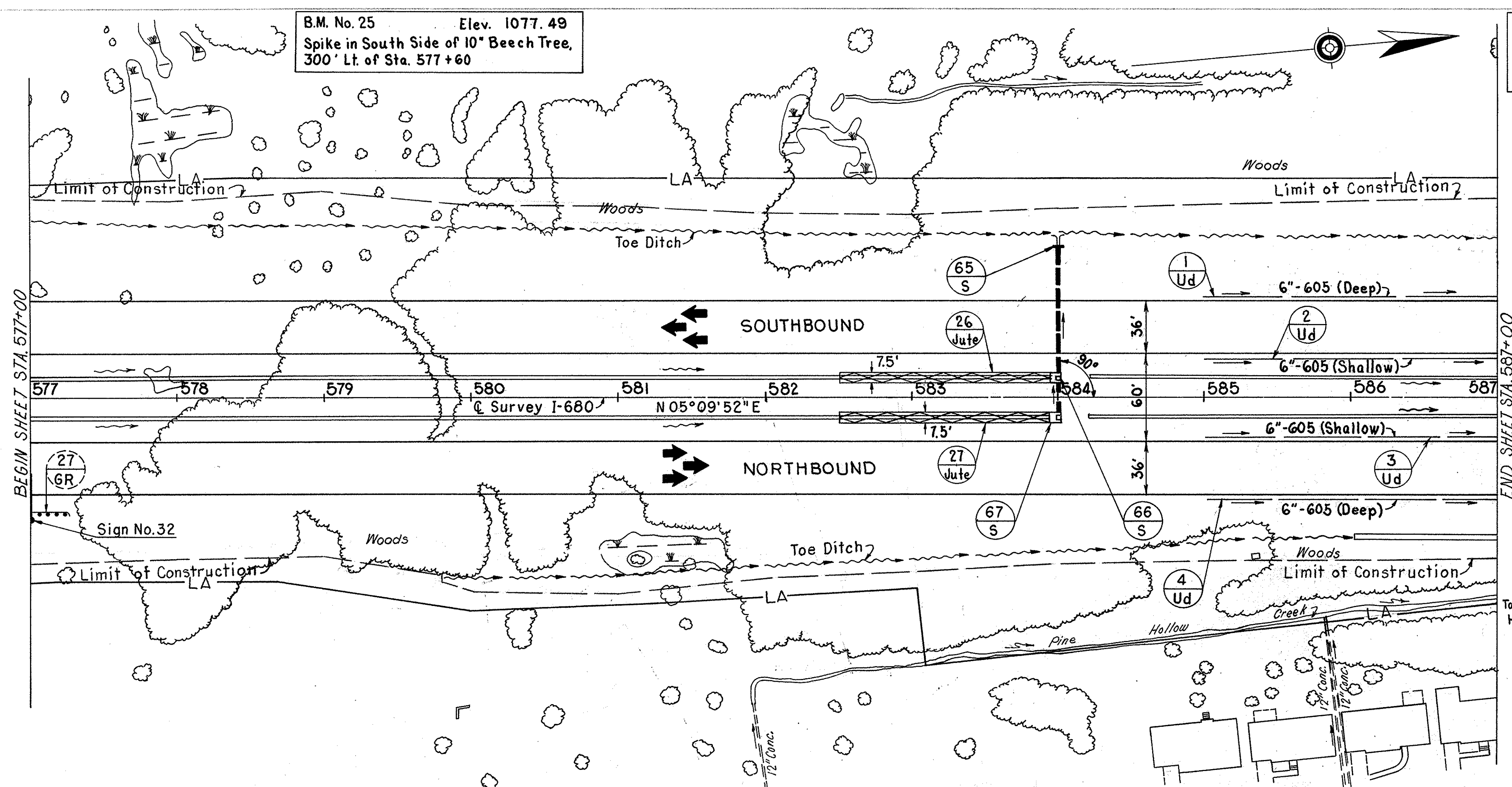
B.M. No. 25 Elev. 1077.49  
Spike in South Side of 10" Beech Tree,  
300' Lt. of Sta. 577+60

B.M. No. 26 Elev. 1073.89  
Spike in West Root 20" Oak 160' Rt.  
of Sta. 585+25 in Back Yard of  
House No. 5260 Jeannelynn St.

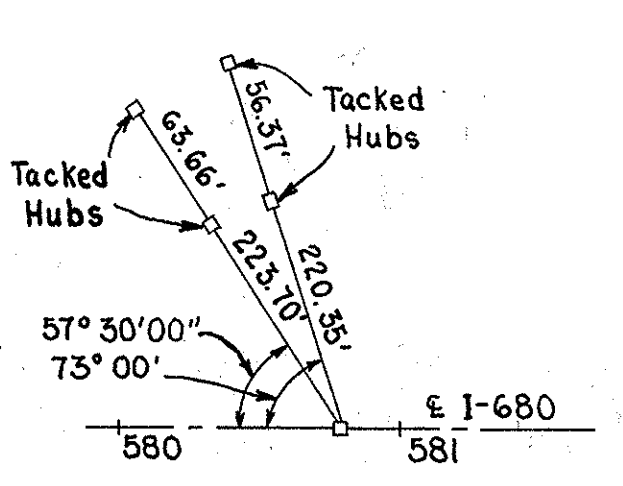
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

41  
303

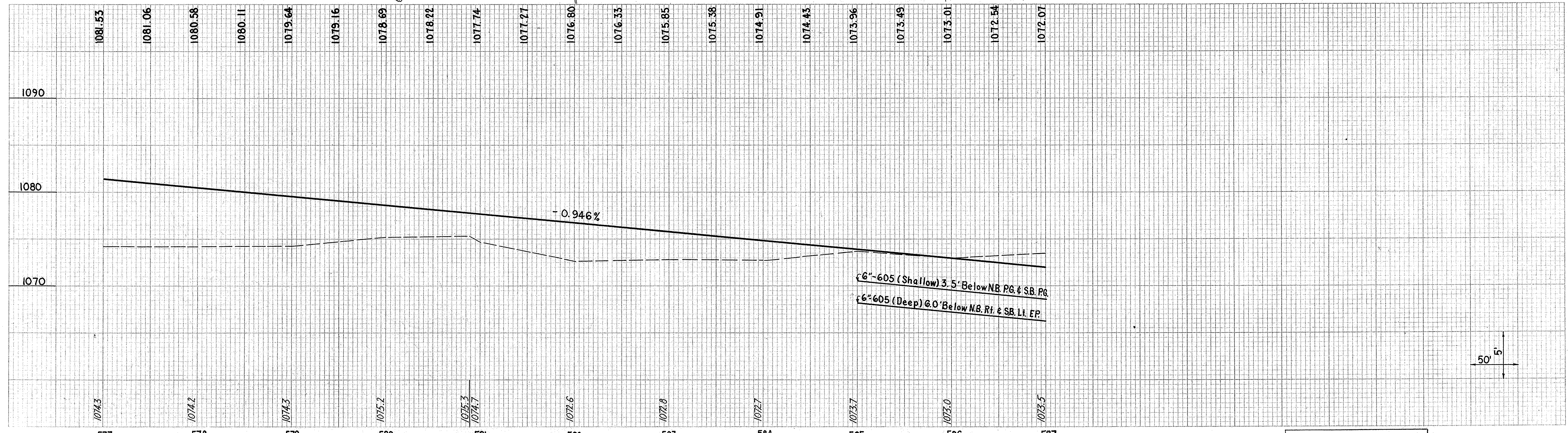
MAHONING COUNTY  
MAH-680-9.32



Ref. No.	See Sheet No.	Station to Station	Side	ESTIMATED QUANTITIES							
				603 Conduit LF		604 Ea.	602 C.Y.	667 S.Y.	605 Conduit L.F.		
				Type B	Type C	Std. No. 8 C.B.	Concrete Masonry	Seeding & Jute Matting	Shallow	Deep	
65S-66S	194	584+00	S.B. Lt.-Rt.	90	15"	1	.30				
66S-67S	194	584+00	£ Lt.-Rt.		28	1					
26-Jute	41	582+50-584+00	£ Lt.					125			
27-Jute	41	582+50-584+00	£ Rt.					125			
1-Ud	41	585+00-587+00	S.B. Lt.							200	
2-Ud	41	585+00-587+00	S.B. Rt.							200	
3-Ud	41	585+00-587+00	N.B. Lt.							200	
4-Ud	41	585+00-587+00	N.B. Rt.							200	
TOTAL				90	28	2	.30	250	400	400	



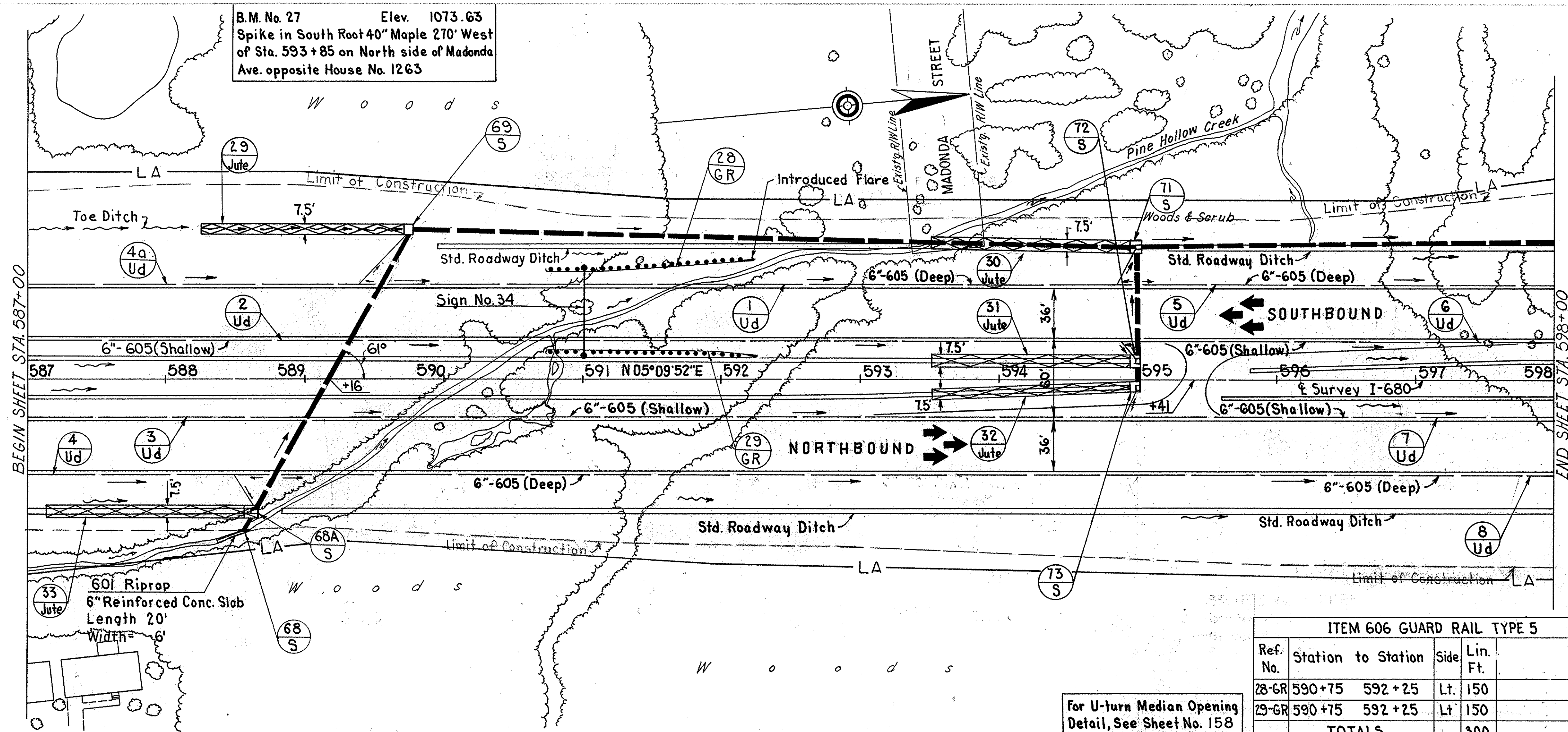
REFERENCE POINT  
P.O.T. Sta. 580+89.26



Calculated by JDF Date 1-16-67  
Checked by PJB Date 5-6-67

B.M. No. 27 Elev. 1073.63  
Spike in South Root 40" Maple 270' West  
of Sta. 593+85 on North side of Madonda  
Ave. opposite House No. 1263

MAHONING COUNTY  
MAH-680-932



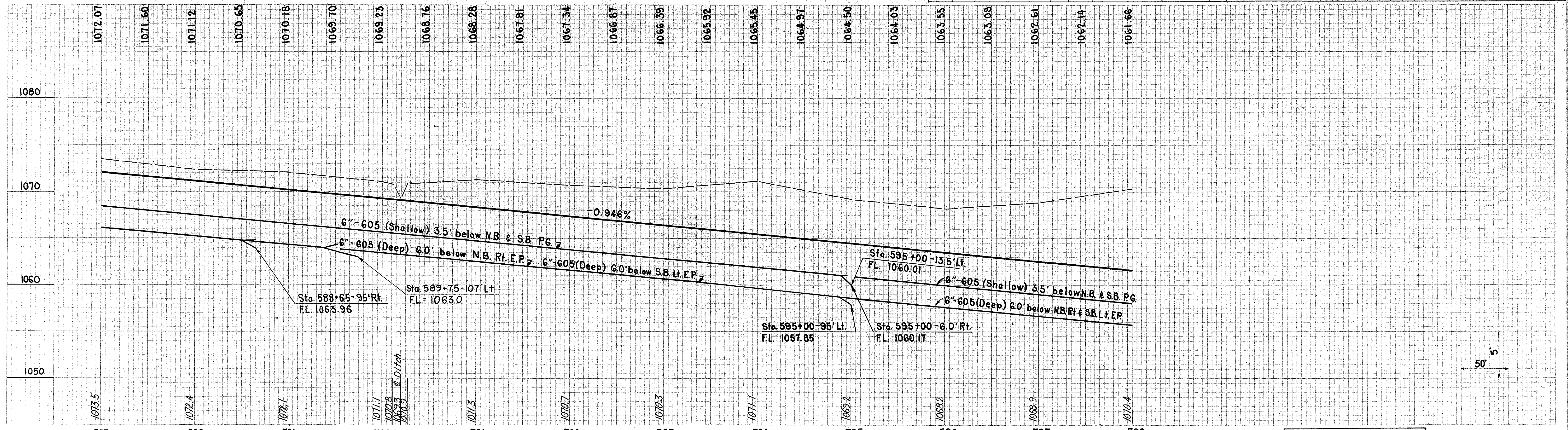
ITEM 606 GUARD RAIL TYPE 5

Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly Ea.
28-GR	590+75 592+25	Lt.	150	2
29-GR	590+75 592+25	Lt.	150	2
TOTALS			300	4

For U-turn Median Opening Detail, See Sheet No. 158

ESTIMATED QUANTITIES

Ref. No.	See Sheet No.	Station to Station	Side	Lin. Ft.	Anchor Assembly Ea.
601	601	588+55-588+65	Lt.	10	1
602	602	588+65-589+75	Rt.	10	1
603	603	589+75-595+00	Lt.	150	2
604	604	589+75-595+00	Rt.	150	2
605	605	595+00-595+00	Lt.	0	0
606	606	595+00-595+00	Rt.	0	0
607	607	595+00-599+00	Sb.	40	1
608	608	599+00-599+00	Lt.	0	0
609	609	599+00-599+00	Rt.	0	0
610	610	599+00-599+00	Nb.	0	0
611	611	599+00-599+00	Sb.	0	0
612	612	599+00-599+00	Lt.	0	0
613	613	599+00-599+00	Rt.	0	0
614	614	599+00-599+00	Nb.	0	0
615	615	599+00-599+00	Sb.	0	0
616	616	599+00-599+00	Lt.	0	0
617	617	599+00-599+00	Rt.	0	0
618	618	599+00-599+00	Nb.	0	0
619	619	599+00-599+00	Sb.	0	0
620	620	599+00-599+00	Lt.	0	0
621	621	599+00-599+00	Rt.	0	0
622	622	599+00-599+00	Nb.	0	0
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643	643	599+00-599+00	Sb.	0	0
644	644	599+00-599+00	Lt.	0	0
645	645	599+00-599+00	Rt.	0	0
646	646	599+00-599+00	Nb.	0	0
647	647	599+00-599+00	Sb.	0	0
648	648	599+00-599+00	Lt.	0	0
649	649	599+00-599+00	Rt.	0	0
650	650	599+00-599+00	Nb.	0	0
651	651	599+00-599+00	Sb.	0	0
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653	653	599+00-599+00	Rt.	0	0
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655	655	599+00-599+00	Sb.	0	0
656	656	599+00-599+00	Lt.	0	0
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658	658	599+00-599+00	Nb.	0	0
659	659	599+00-599+00	Sb.	0	0
660	660	599+00-599+00	Lt.	0	0
661	661	599+00-599+00	Rt.	0	0
662	662	599+00-599+00	Nb.	0	0
663	663	599+00-599+00	Sb.	0	0
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665	665	599+00-599+00	Rt.	0	0
666	666	599+00-599+00	Nb.	0	0
667	667	599+00-599+00	Sb.	0	0
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670	670	599+00-599+00	Nb.	0	0
671	671	599+00-599+00	Sb.	0	0
672	672	599+00-599+00	Lt.	0	0
673	673	599+00-599+00	Rt.	0	0
674	674	599+00-599+00	Nb.	0	0
675	675	599+00-599+00	Sb.	0	0
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678	678	599+00-599+00	Nb.	0	0
679	679	599+00-599+00	Sb.	0	0
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684	684	599+00-599+00	Lt.	0	0
685	685	599+00-599+00	Rt.	0	0
686	686	599+00-599+00	Nb.	0	0
687	687	599+00-599+00	Sb.	0	0
688	688	599+00-599+00	Lt.	0	0
689	689	599+00-599+00	Rt.	0	0
690	690	599+00-599+00	Nb.	0	0
691	691	599+00-599+00	Sb.	0	0
692	692	599+00-599+00	Lt.	0	0
693	693	599+00-599+00	Rt.	0	0
694	694	599+00-599+00	Nb.	0	0
695	695	599+00-599+00	Sb.	0	0
696	696	599+00-599+00	Lt.	0	0
697	697	599+00-599+00	Rt.	0	0
698	698	599+00-599+00	Nb.	0	0
699	699	599+00-599+00	Sb.	0	0
700	700	599+00-599+00	Lt.	0	0



Calculated by J.D.F. Date 1-17-67  
Checked by P.J.B. Date 5-6-69

P.I. Sta. 608+65.93  
 $\Delta = 5^\circ 23' 08''$  Lt.  
 $D = 0^\circ 28' 00''$   
 $R = 12,277.67'$   
 $L = 577.45'$   
 $T = 1,154.05'$   
 $E = 13.57'$

B.M. No. 28 - Spike in West side 12" Oak  
 220' East of Sta. 602+25 near the  
 end of Country Club Ave.  
 Elev. 1066.99

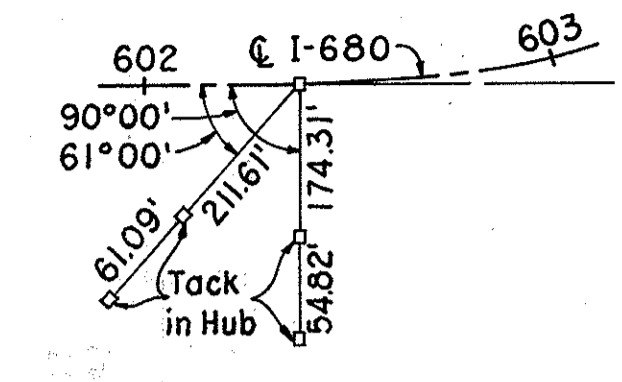
For Plan & Profile of  
 Thalia Ave., see Sheet  
 No. 44

For Structure Note  
 See Sheet No. 44

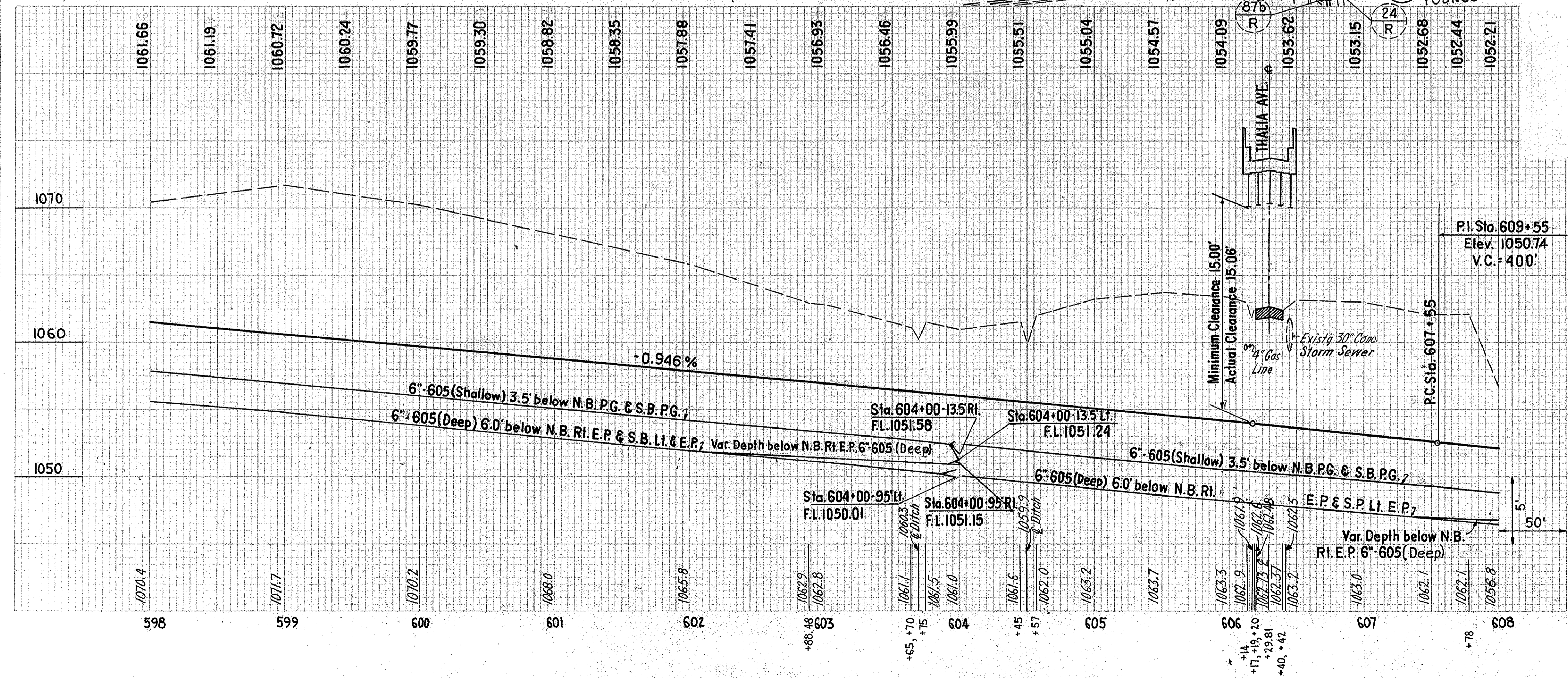
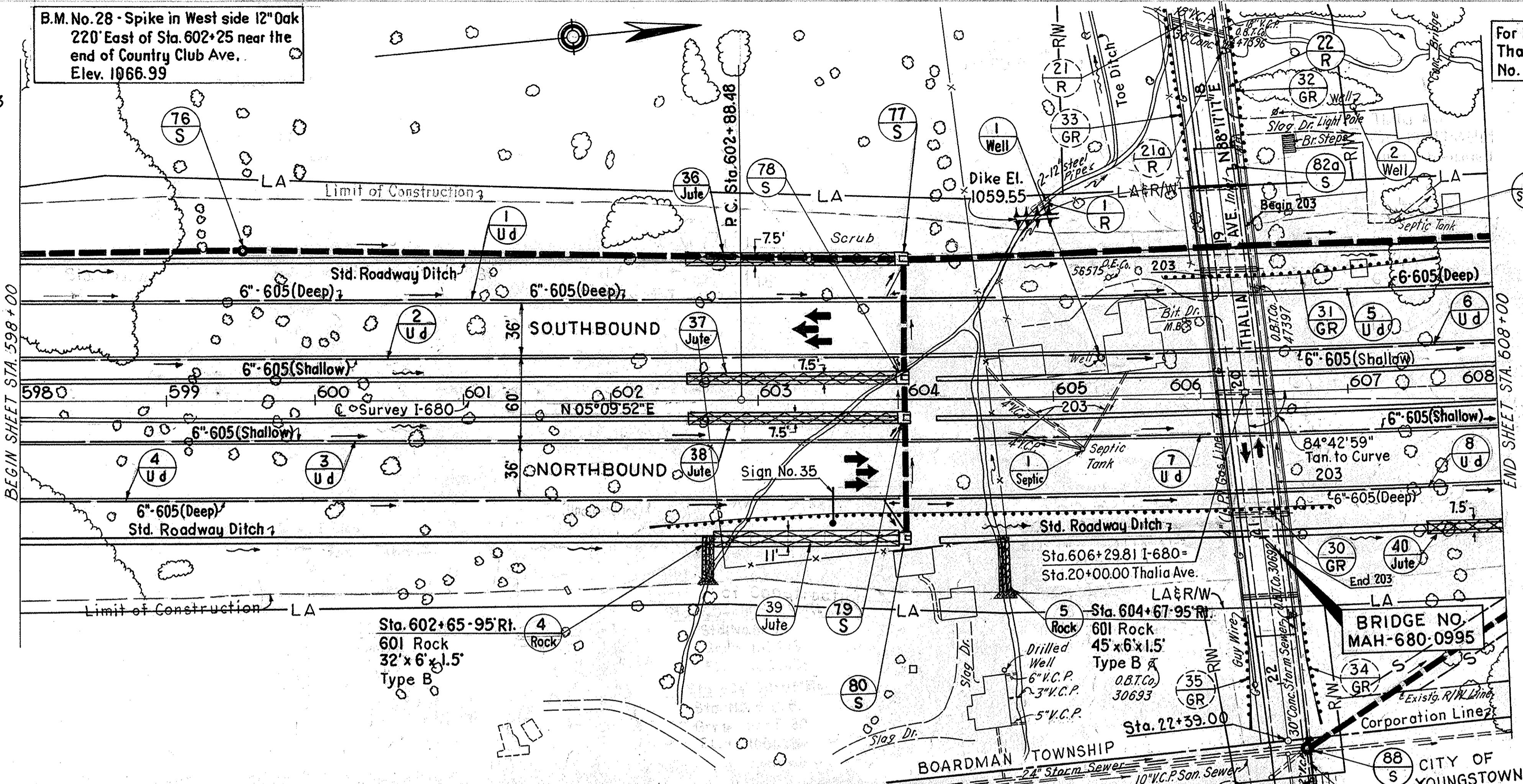
FED. RD. DIVISION	STATE	PROJECT	43
2	OHIO		303

MAHONING COUNTY  
 MAH-680-932

Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly Ea.
30GR	602+25 - 606+85	Rt.	462.5	2
31GR	605+77 - 607+65	Lt.	187.5	2
TOTALS			650.0	4



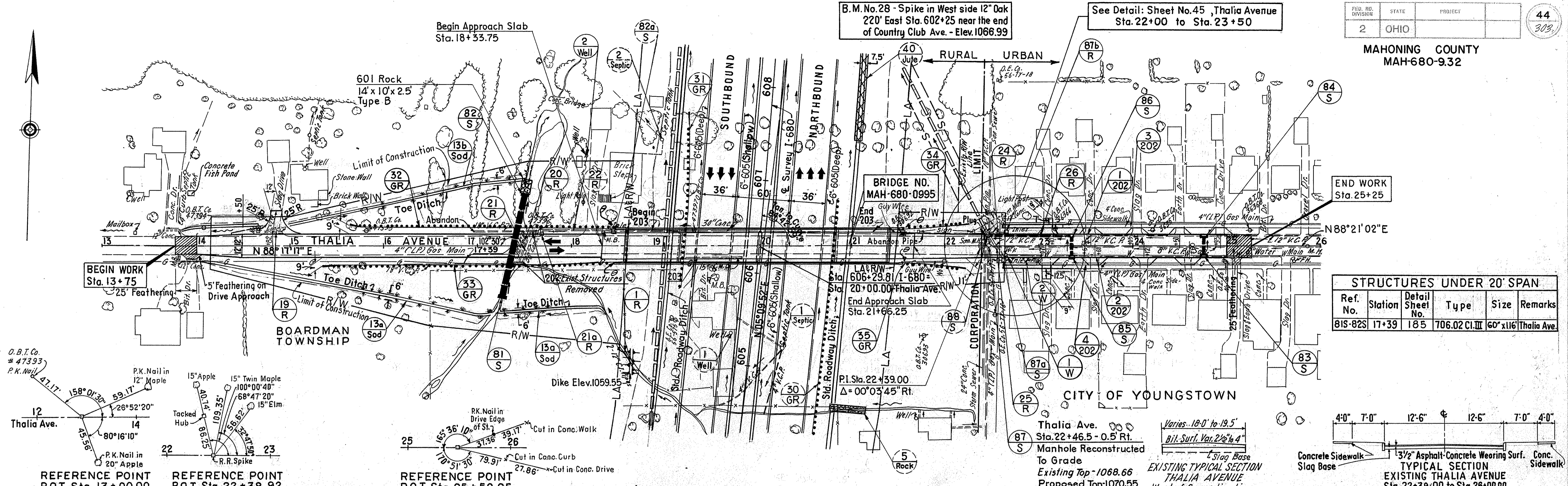
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 P.C. Sta. 602+88.48



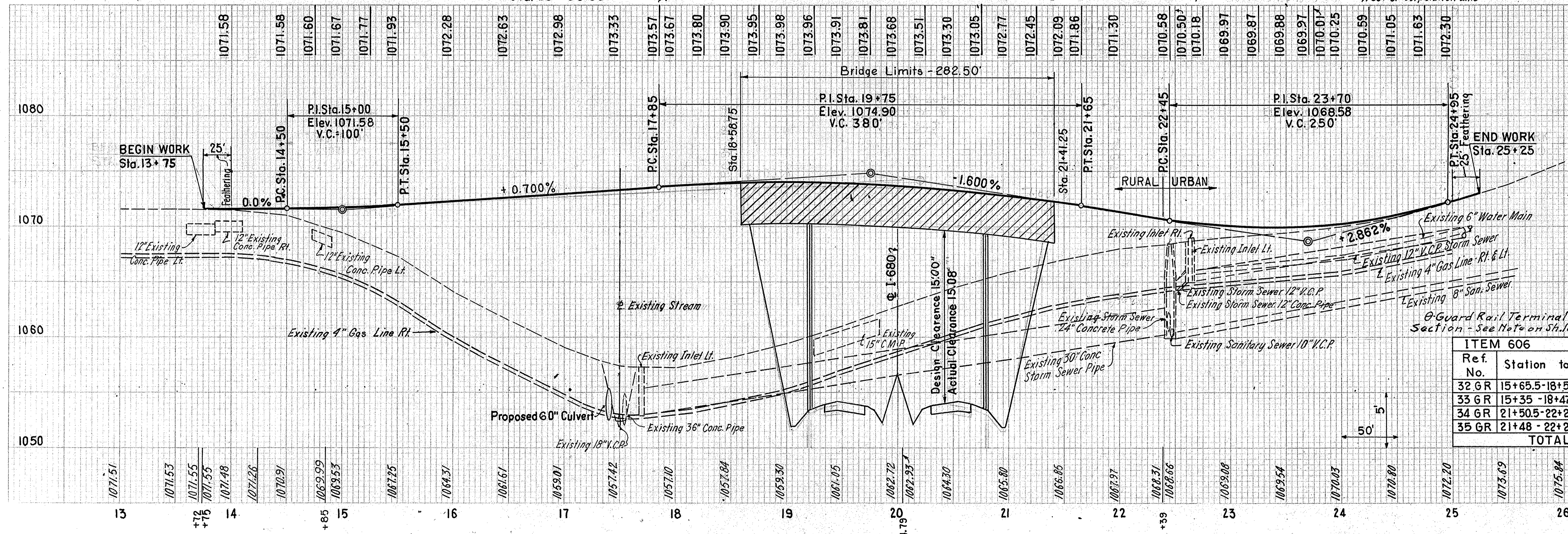
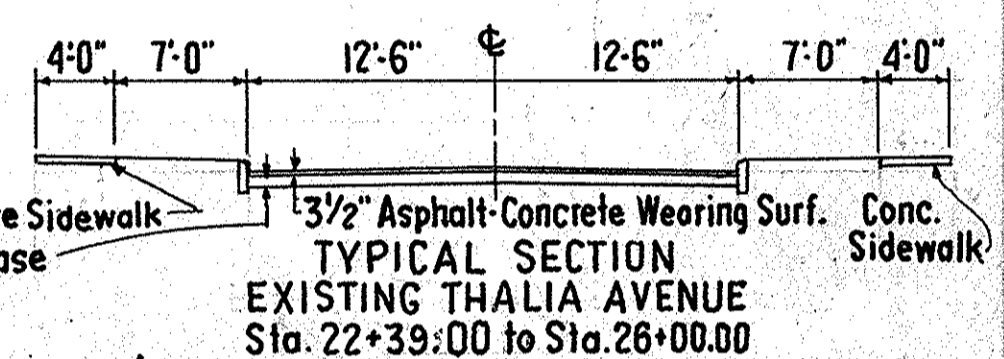
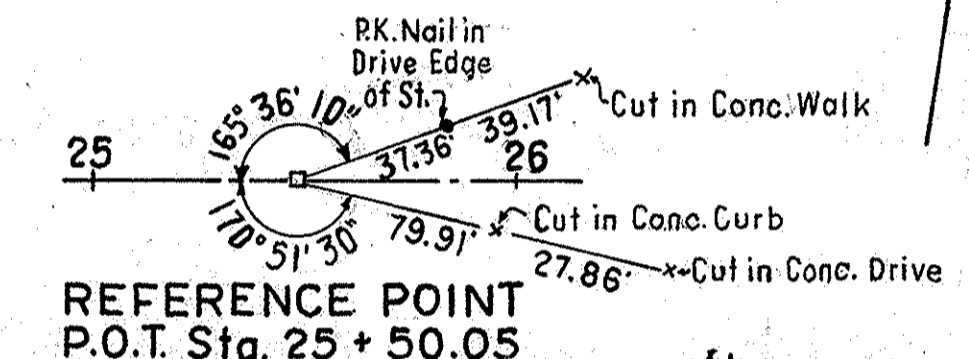
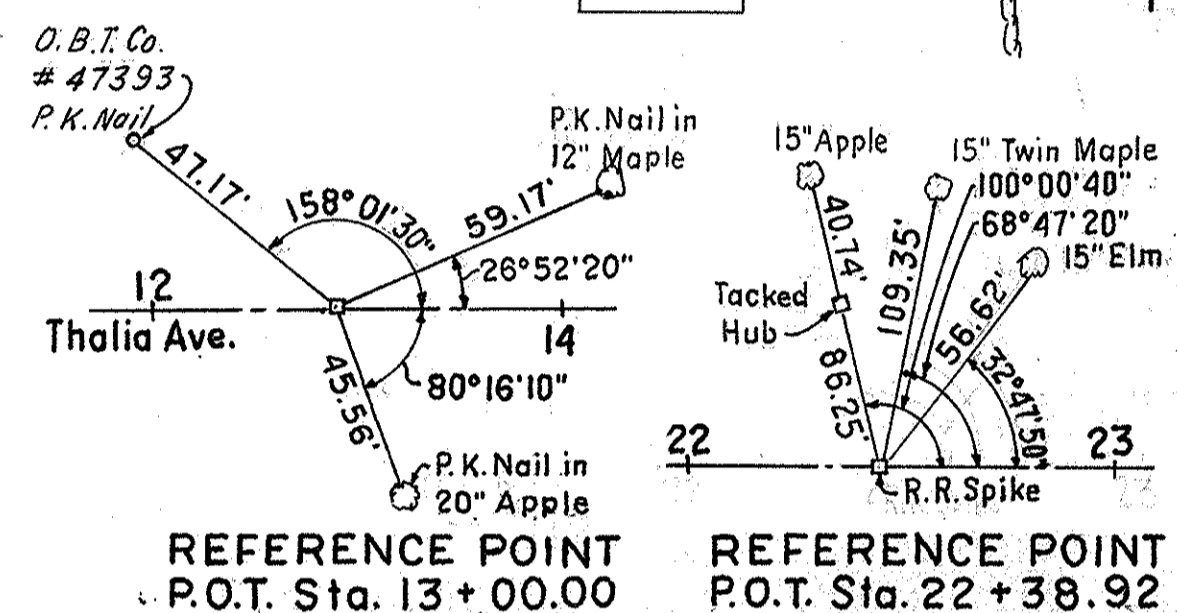
Ref. No.	See Sheet No.	Station to Station	Side	ESTIMATED QUANTITIES		* URBAN	
				Type B	Type C	604 Ea.	202
76S	195	598+00-599+50 S.B.	Lt.	30" 24"	150		
76S	195	599+50-604+00 S.B.	Lt.	36" 42"	450		
77S	191	604+00-608+00 S.B.	Lt.	400			
77S	196	604+00 S.B.	Lt.	82			
78S	196	604+00	Lt.	28			
79S	196	604+00 N.B.	Lt.	144#148			
88S	197	229+43 Thalia Ave. 608+00W	Lt.				
82aS	43	604+87-605+00	Lt.				
22R	43	1770-18+86 Thalia Ave.	Lt.				
5Rock	43	602+65 N.B.	Rt.				
36Jute	43	602+50-604+00 S.B.	Lt.				
37Jute	43	602+50-604+00 C.	Lt.				
38Jute	43	602+50-604+00 C.	Rt.				
39Jute	43	602+68-604+00 S.B.	Rt.				
40Jute	43	607+50-608+00 N.B.	Rt.				
1Ud	43	598+00-603+98 S.B.	Lt.	10			
2Ud	43	598+00-603+98 S.B.	Rt.	10			
3Ud	43	598+00-603+98 N.B.	Lt.	10			
5Ud	43	604+02-608+00 S.B.	Lt.				
6Ud	43	604+02-608+00 S.B.	Rt.				
8Ud	43	604+02-608+00 N.B.	Rt.				
2Well	43	607+10 S.B.	Lt.				
1Septic	43	608+19 N.B.	Rt.				
2Septic	43	607+35 S.B.	Lt.				
TOTALS				82	82	40	28

Calculated by JDF Date 11-8-67  
 Checked by PJB Date 5-7-69

PLAN AND PROFILE SHEET - STA. 598+00 TO STA. 608+00



STRUCTURES UNDER 20' SPAN					
Ref. No.	Station	Detail Sheet No.	Type	Size	Remarks
81S-82S	17+39	185	706.02 CI. III	60' x 116'	Thalia Ave.



**PROPOSED STRUCTURE MAH-680-0995**

TYPE: Continuous Steel Beams with Reinforced concrete deck and substructure.  
 SPANS: 57'-82'-82'-57'; 6% Brgs.  
 ROADWAY: 28' f/f Curbs plus 5'-0" Sidewalks  
 LOAD FREQUENCY: CF 400 (57)  
 SKEW: 5° 17' 01" Left Forward  
 WEARING SURFACE: 1" Monolithic Concrete  
 APPROACH SLABS: AS-1-67 (25' Long)  
 ALIGNMENT: Tangent

For Structure Drawings, see Sheet No. 267

For Detail: Thalia Avenue, Sta. 22+00 to Sta. 23+50 See Sheet No. 45

For Removal and Disposal Quantities, see Supplemental Sheet No. 45

For Driveway Quantities, see Supplemental Sheet No. 45

For Estimated Drainage Quantities, see Supplemental Sheet No. 45

ITEM 606 GUARD RAIL TYPE 5					
Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly E.g.	
32 GR	15+65.5-18+50	Thalia Ave. Lt.	287.5	F	
33 GR	15+35-18+47.5	Thalia Ave. Rt.	312.5	I	
34 GR	21+50.5-22+25	Thalia Ave. Lt.	75.0	I	
35 GR	21+48-22+25	Thalia Ave. Rt.	75.0	I	
TOTALS			750.0	4	

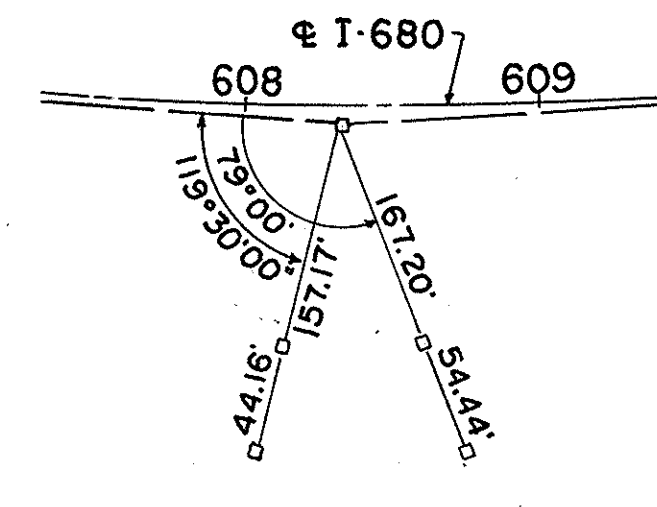
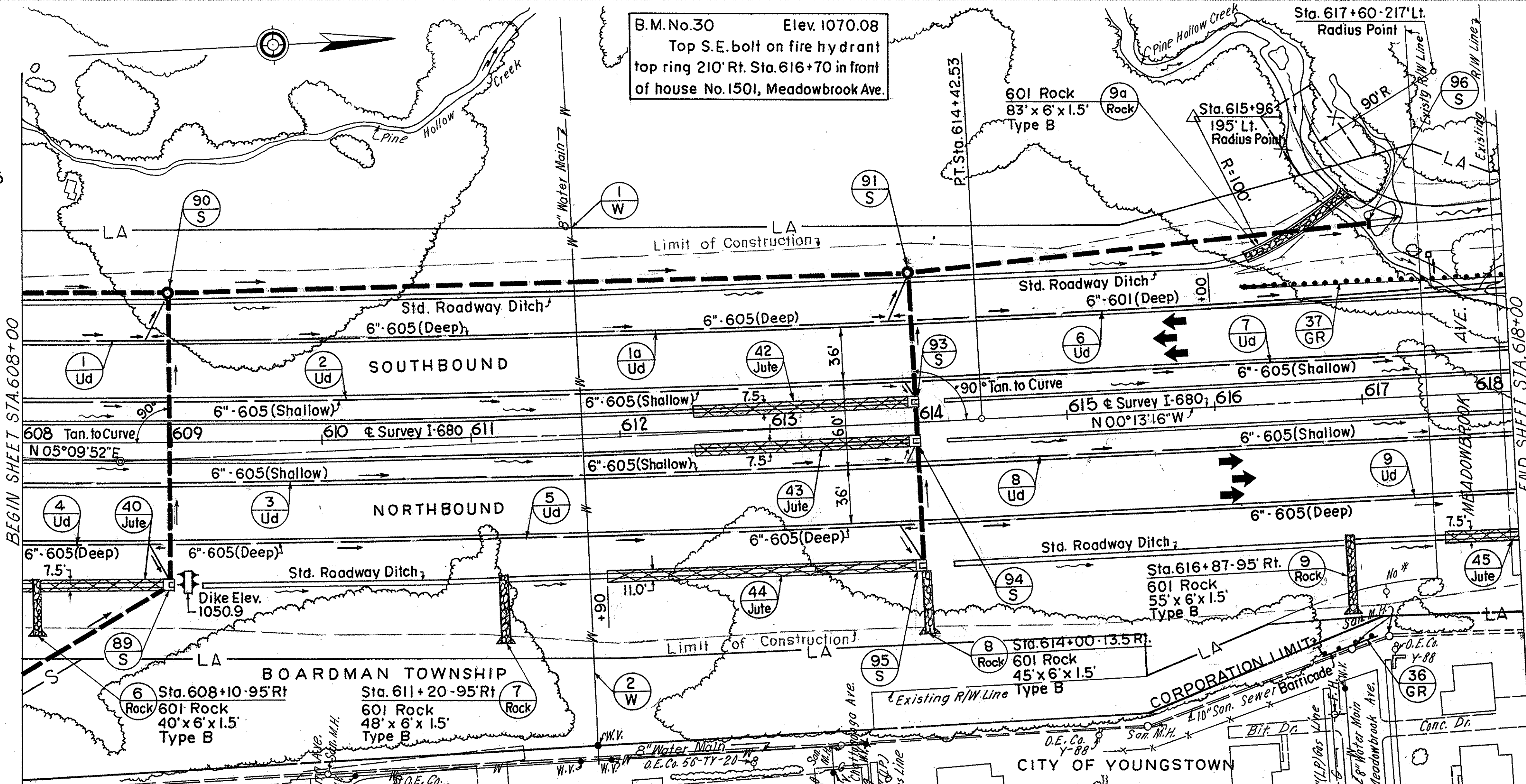
For Drive Details - See Sheet No. 170

Calculated by JDE Date 1-18-67  
 Checked by PJB Date 5-7-69

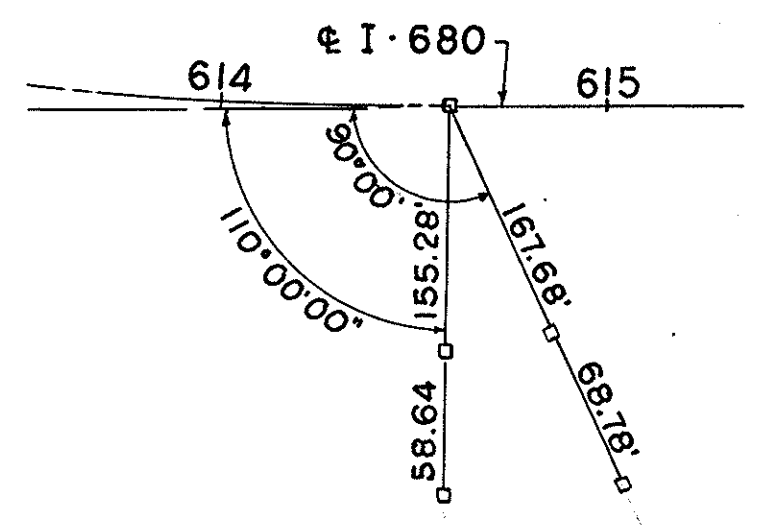


MAHONING COUNTY  
MAH-680-9.32

Pl. Sta. 608+65.93  
Δ = 5°23'08" Lt.  
D = 0°28'  
R = 12,277.70'  
T = 577.45'  
L = 1,154.05'  
E = 13.57'



REFERENCE POINT  
P.I. Sta. 608+65.98

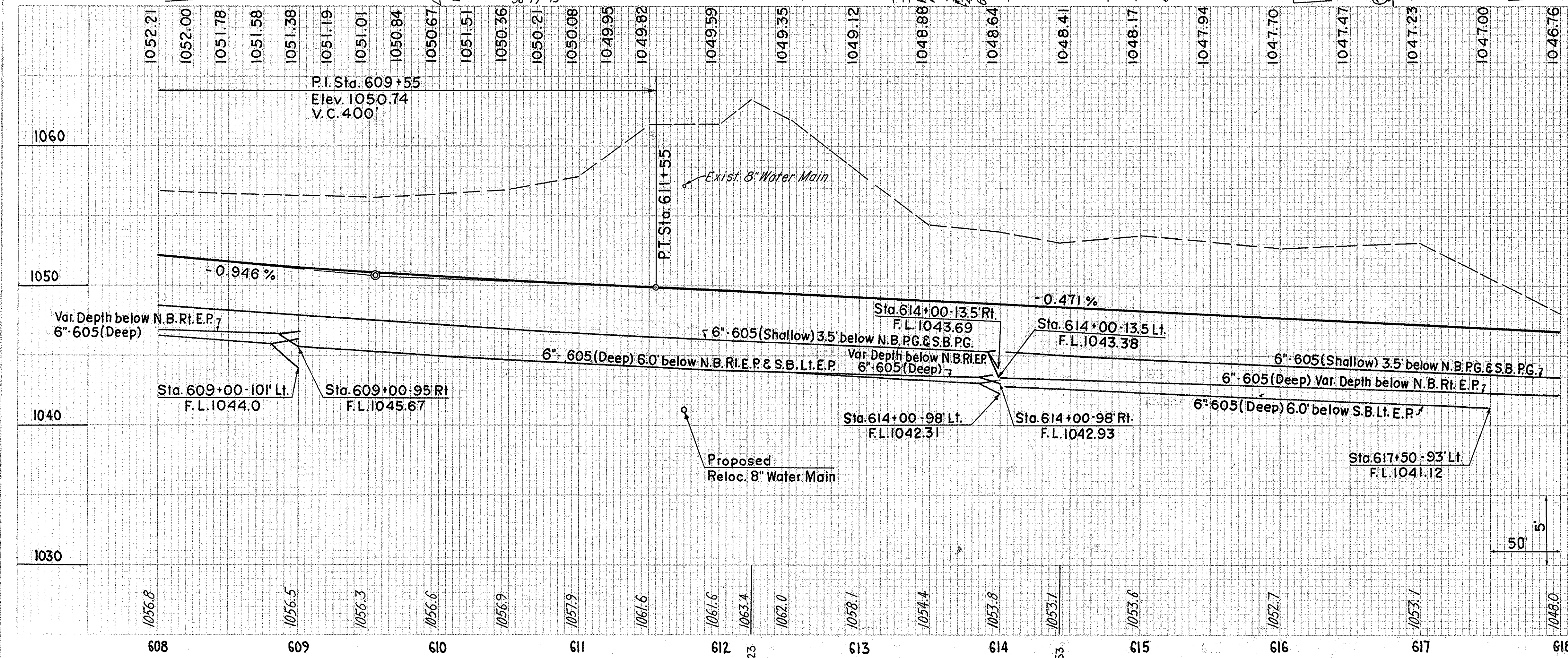


REFERENCE POINT  
P.T. Sta. 614+42.53

Ref. No.	Station to Station	Side	Lin. Ft.
36 GR	616+81 (Barricade)	Rt.	37.5
<b>TOTAL</b>			<b>37.5</b>

Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly Each	814 ESTIMATED QUANTITIES					
					Ref. No.	Station to Station	Side	Bends & Valve Boxes		
37 GR	616+23 - 618+00	Lt.	177.0	I	W-2W 201	611+71 - 611+79	Lt. & Rt.	308	4	1
<b>TOTAL</b>			<b>177.0</b>	<b>I</b>	<b>TOTALS</b>			<b>308</b>	<b>4</b>	<b>1</b>

Ref. No.	See Sheet No.	Station to Station	Side	603 Conduit L.F.		604 Each		667 S.Y.	602 C.Y.	601 C.Y.	605 Cond. Lin. Ft.	Bends & Branches									
				Type B	Type C	Type F	Type H														
89 S	197	608+00-693+00	N.B.	Rt.	118																
89S-90S	196	609+00 N.B. & S.B.	Rt. & Lt.		196																
90 S	195	608+00-609+00	N.B.	Lt.		100															
90S-91S	195	609+00-614+00	S.B.	Lt.		500															
91S-93S	197	614+00 S.B.	Lt. & Rt.	88																	
93S-94S	197	614+00	€	Lt. & Rt.	28																
94S-95S	197	614+00	N.B.	Lt. & Rt.	82																
91S-96S	195	614+00-617+10	S.B.	Lt.		310			0.96												
40 Jute	46	608+00-609+00	N.B.	Rt.					83												
42 Jute	46	612+50-614+00	€	Lt.					125												
43 Jute	46	612+50-614+00	€	Rt.					125												
44 Jute	46	611+90-614+00	N.B.	Rt.					257												
45 Jute	46	617+50-618+00	N.B.	Rt.					42												
1 Ud	46	609+02-613+98	S.B.	Lt.		10					515	1									
1a Ud	46	608+00-608+98	S.B.	Lt.		10					119	1									
2 Ud	46	608+00-613+98	S.B.	Rt.		20					587	1									
3 Ud	46	608+00-613+98	N.B.	Lt.		20					600	1									
4 Ud	46	608+00-608+98	N.B.	Rt.		10					112	1									
5 Ud	46	609+02-613+98	N.B.	Rt.		10					517	1									
6 Ud	46	614+02-617+50	S.B.	Lt.		10					360	1									
7 Ud	46	614+02-618+00	S.B.	Rt.							398										
8 Ud	46	614+02-618+00	N.B.	Lt.							398										
9 Ud	46	614+02-616+97	N.B.	Rt.							398										
9a Rock	46	616+25-616+97	S.B.	Lt.							37										
6 Rock	46	608+10	N.B.	Lt.							18										
7 Rock	46	611+20	N.B.	Rt.							21										
8 Rock	46	614+00	N.B.	Rt.							20										
9 Rock	46	616+87	N.B.	Rt.							24										
<b>TOTALS</b>					170	196	118	28	100	500	310	90	2	2	1	1	632	0.96	120	2021	1983



Calculated by J.D.E. Date 1-19-67  
Checked by P.J.R. Date 5-7-67

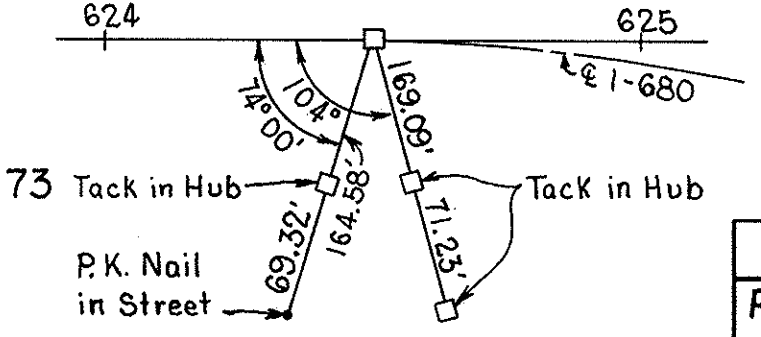
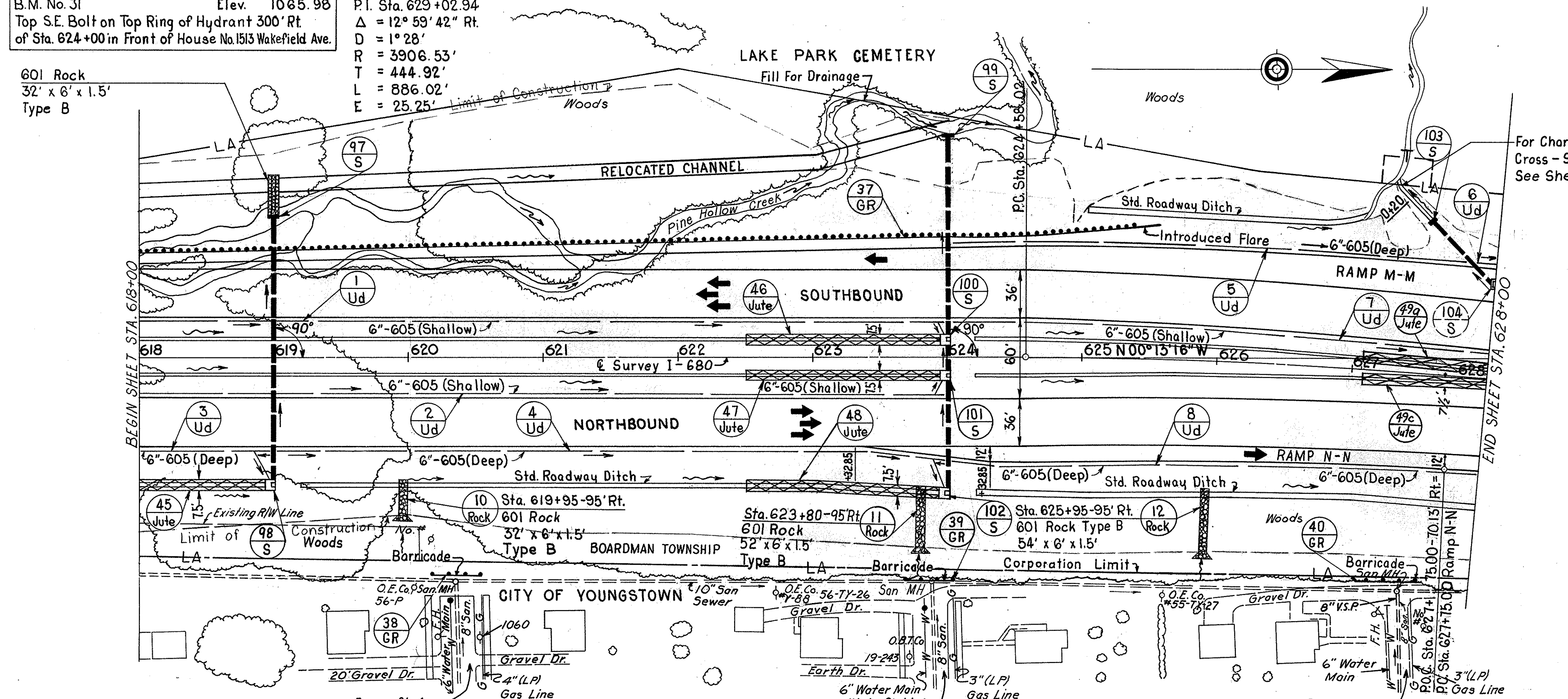


B.M. No. 31 Elev. 1065.98  
 Top S.E. Bolt on Top Ring of Hydrant 300' Rt.  
 of Sta. 624+00 in Front of House No. 1513 Wakefield Ave.

601 Rock  
 32' x 6' x 1.5'  
 Type B

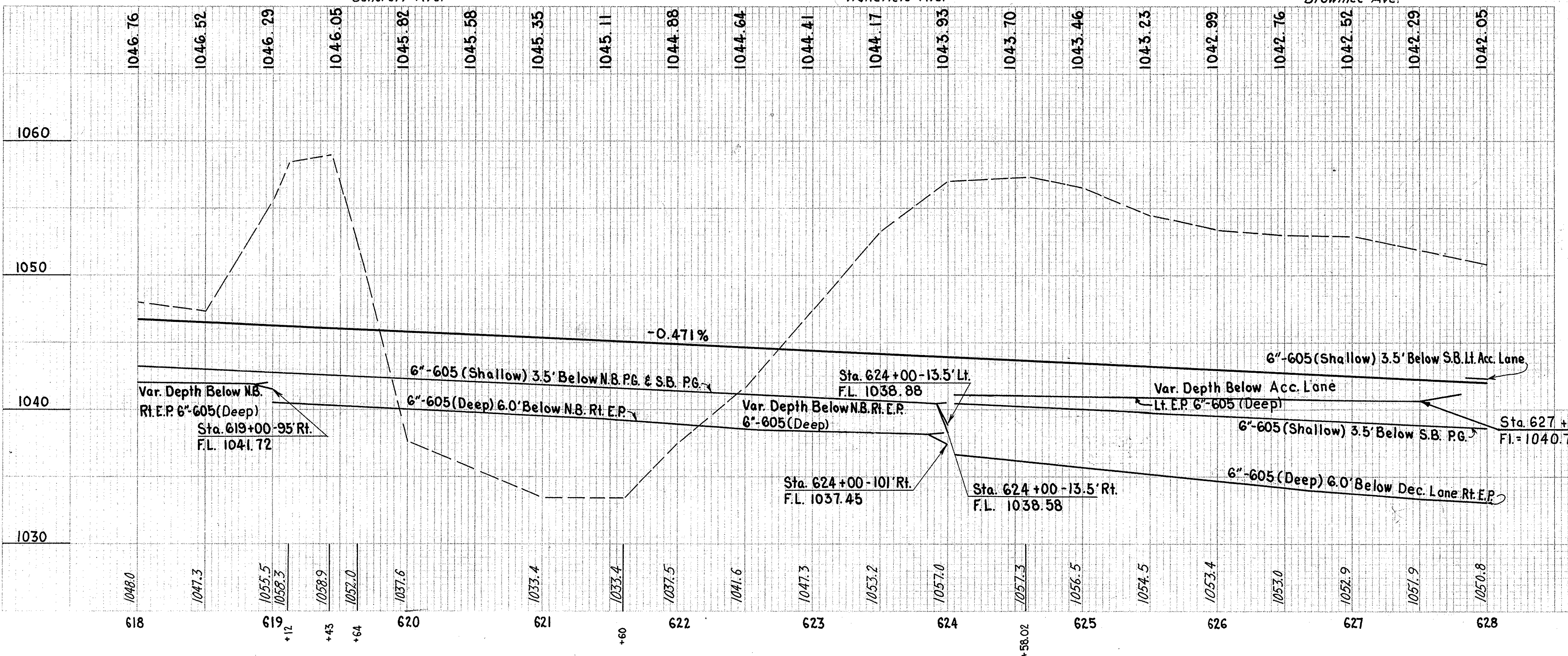
P.I. Sta. 629+02.94  
 $\Delta = 12^\circ 59' 42''$  Rt.  
 $D = 1^\circ 28'$   
 $R = 3906.53'$   
 $T = 444.92'$   
 $L = 886.02'$   
 $E = 25.25'$

MAHONING COUNTY  
 MAH-680-9.32



Ref. No.	Station to Station	Side	Lin. Ft.
38 GR.	620+36	Rt.	37.5
39 GR.	623+86	Rt.	37.5
40 GR.	627+45	Rt.	37.5
TOTAL			112.5

REFERENCE POINT  
 P.C. Sta. 624+58.02



Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly Ea.
37 GR.	618+00 - 625+56	Lt.	7605	1
TOTAL			7605	1

Ref. No.	See Sheet No.	Station to Station	Side	ESTIMATED QUANTITIES	
				603 Conduit - L.F.	604 Each
97.5-98.5	198	619+00	SB&NB Lt. & Rt.	18'	200
99.5-100.5	198	624+00	S.B. Lt. & Rt.	18'	66
100.5-101.5	198	624+00	Q. Lt. & Rt.	18'	28
101.5-102.5	198	624+00	N.B. Lt. & Rt.	18'	88
103.5-104.5	198	627+50 - 628+02	S.B. Lt.	18'	70
45 Jute	47	618+00 - 619+00	N.B. Rt.	20'	20
46 Jute	47	622+50 - 624+00	Q. Lt.	20'	20
47 Jute	47	622+50 - 624+00	Q. Rt.	20'	20
48 Jute	47	622+50 - 624+00	N.B. Rt.	20'	20
1 Ud	47	618+00 - 623+98	S.B. Rt.	10'	10
2 Ud	47	618+00 - 623+98	N.B. Lt.	10'	10
3 Ud	47	618+00 - 618+98	N.B. Rt.	10'	10
4 Ud	47	619+02 - 623+98	N.B. Rt.	10'	10
5 Ud	47	624+02 - 627+80	S.B. Lt.	10'	10
6 Ud	47	627+84 - 628+00	S.B. Lt.	10'	10
7 Ud	47	624+02 - 628+00	S.B. Rt.	10'	10
8 Ud	47	624+02 - 628+00	N.B. Rt.	10'	10
10 Rock	47	619+95	N.B. Rt.	14	14
11 Rock	47	623+86	N.B. Rt.	24	24
12 Rock	47	625+95	N.B. Rt.	24	24
49 Jute	47	627+04 - 628+00	S.B. Lt.	1	80
49 Jute	47	627+04 - 628+00	N.B. Rt.	1	80
Totals				200	70

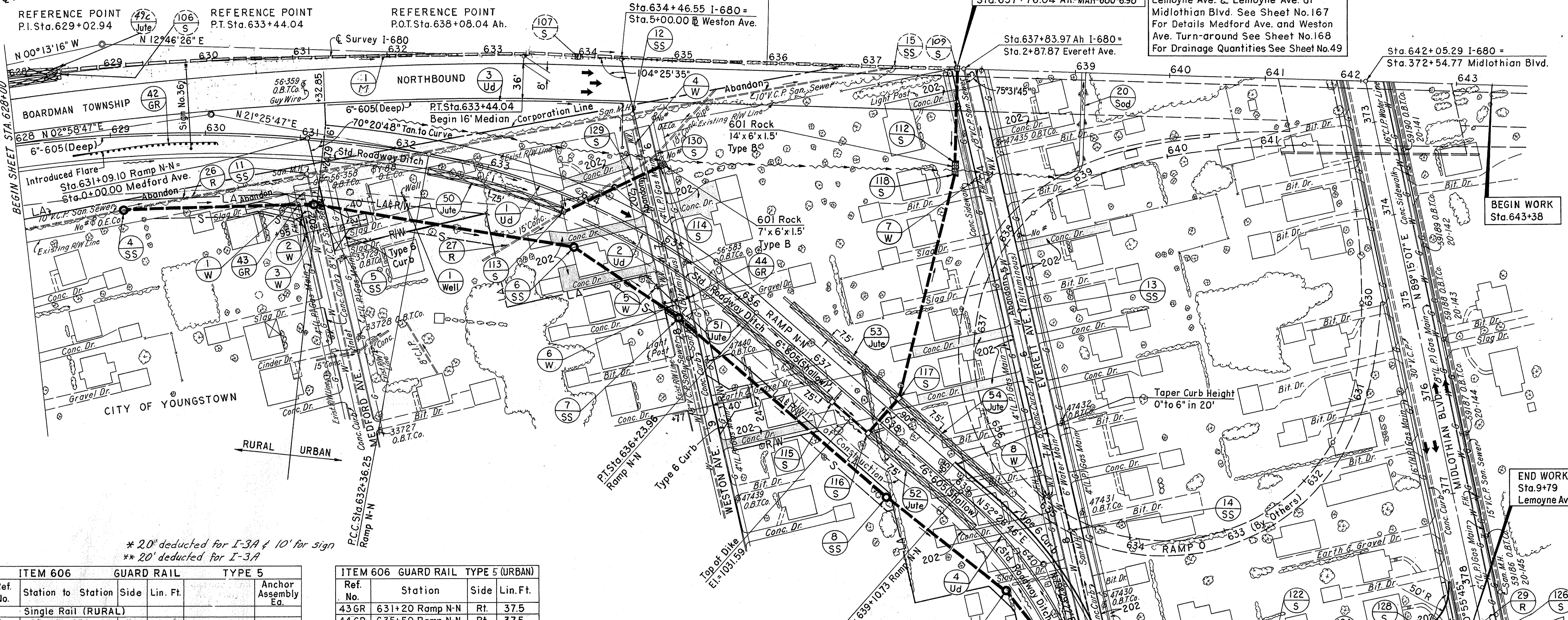
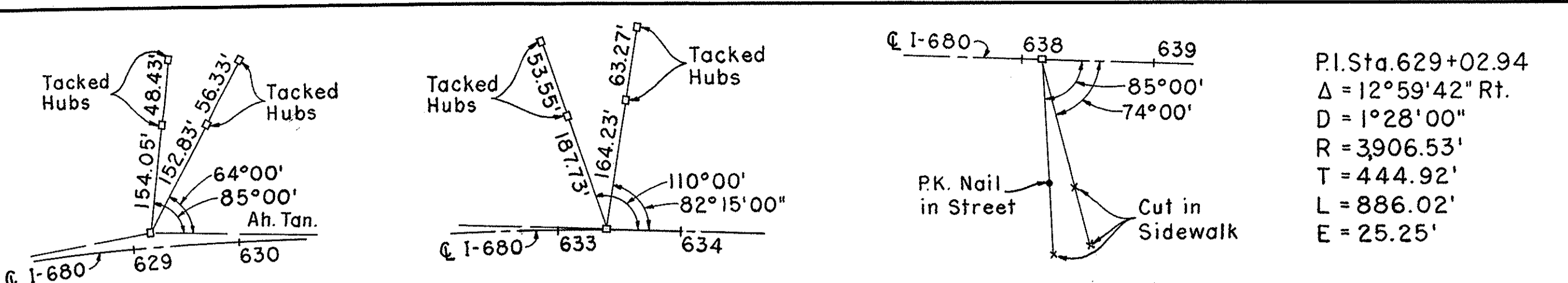
Calculated by J.D.F. Date: 1-20-69  
 Checked by P.J.B. Date: 5-8-69

**MAHONING COUNTY  
MAH-680-9.32**

B.M. N-154 1950 Elev. 1035.602  
U.S.C. & G. Disk in Concrete S.E. Corner of  
Midlothian Blvd. and Lemoyne Ave.  
32' Rt. of Sta. 378+94

For Existing Pavement, Curb and  
Sidewalk Removal Quantities  
See Sheet No. 49

For Northbound Profile  
See Sheet No. 52  
For Ramp N-N, Lemoyne Ave. &  
Turn-Around Profiles See Sheet No. 59  
For Interchange Layout and Curve  
Data See Sheets No. 155 & 156  
For Detail of Ramp N-N Exit from  
Northbound See Sheet No. 166  
For Intersection Details of Ramp N-N at  
Lemoyne Ave. & Lemoyne Ave. at  
Midlothian Blvd. See Sheet No. 167  
For Details Medford Ave. and Weston  
Ave. Turn-around See Sheet No. 168  
For Drainage Quantities See Sheet No. 49



\* 20' deducted for I-3A & 10' for sign  
\*\* 20' deducted for I-3A

Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly Eq.
<b>ITEM 606 GUARD RAIL TYPE 5</b>				
Single Rail (RURAL)				
42GR	628+60 to 630+12	Rt.	150.0	2
TOTALS			150.0	2
<b>ITEM 622 (RURAL) CONCRETE BARRIER</b>				
41GR	628+80 to 636+00	Median	690*	
TOTAL			690	
<b>ITEM 622 (URBAN) CONCRETE BARRIER</b>				
41GR	636+00 to 638+00	Median	180.0**	
TOTAL			180.0	

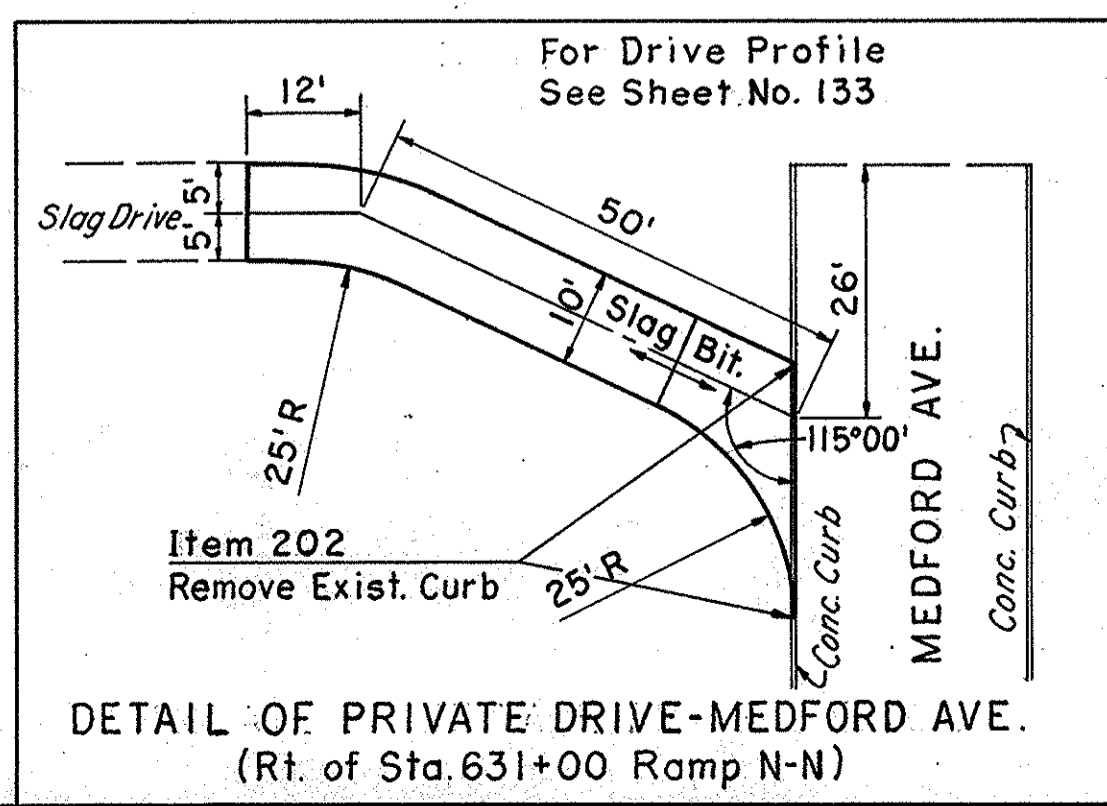
Ref. No.	Station	Side	Lin. Ft.
<b>ITEM 606 GUARD RAIL TYPE 5 (URBAN)</b>			
43GR	631+20 Ramp N-N	Rt.	37.5
44GR	635+50 Ramp N-N	Rt.	37.5
TOTAL			75.0

PAVEMENT REPLACEMENT		
Station	Side	305 S.Y.
7+70 Weston Ave.	℄	13
1+75 Medford Ave.	℄	4
TOTAL		17

DRIVES (URBAN)						
Station	Side	Item 452 7"-S.Y.	Item 404 2"-C.Y.	Item 304 5"-C.Y.	Item 304 8"-C.Y.	Item 203 Exc.-C.Y.
631+00 Ramp N-N	Rt.			3	12	48
7+22 Weston Ave.	Rt.	1				
5+00 Lemoyne Ave.	Lt.		3	8		20
7+12 Lemoyne Ave.	Rt.	22				6
8+79 Lemoyne Ave.	Rt.	22				6
TOTALS		45	4	11	12	80

Eliminate Item 660 - 20/Sod  
if Project MAH-680-6.98  
is constructed first.

For Typical Section of Adjoining Project MAH-680-6.98  
See Normal Section Sheet No. 3



BEGIN WORK  
Sta. 4+24.14  
Lemoyne Ave.

END WORK  
Sta. 10+55  
Everett Ave.

Sta. 6+02.01 Lemoyne Ave. =  
Sta. 10+00.00 Everett Ave.  
Sta. 642+08.43 Ramp N-N =  
Sta. 5+94.54 Lemoyne Ave.

Calculated by P.J.B. Date 5-8-69  
Checked by M.H. Date 5-9-69



ESTIMATED QUANTITIES

\* URBAN

Ref. No.	See Sht. No.	Station to Station	Side	603 Conduit Lin. Ft.		604 Each		601 C.Y.	667 S.Y.	660 S.Y.	202 L.S.	605 Cond. L.F.	Bends 60°	602	
				Type B	Type C	Type U	Type S								
104S-105S	198	628+02 - 629+52 Ramp M-M	Rt.	180											
106S-107S	199	628+54 - 634+00	Rt.	551											
119a S	50	639+92 Ramp M-M	Lt.											23	
107S-107S	199	634+00 - 638+00	Rt.	200											
5-Rock	50	642+02 - 642+32 Ramp M-M	Rt.											26	
8-Rock	50	639+07	Lt.												
7-Rock	50	637+34 - 637+68 Ramp M-M	Lt.												
6-Rock	50	637+30 - 638+19 Ramp M-M	Rt.												
7-Rock	50	637+34 - 637+68 Ramp M-M	Lt.												
20-Sod	50	639+07	Lt.												
119b S	50	639+86 Ramp M-M	Rt.												
15-Sod	50	634+00 - 637+30 Ramp M-M	Rt.												
17-Sod	50	638+21 - 639+39 Ramp M-M	Rt.												
18-Sod	50	637+68 - 639+00 Ramp M-M	Lt.												
202	50	637+55 Ramp M-M	Lt.												
1-Ud	50	628+00 - 635+50 Ramp M-M	Lt.												
2-Ud	50	628+00 - 628+54 S. B.	Rt.												
3-Ud	50	628+00 - 635+76 S. B.	Lt.												
118a S-118S	199	641+00 - 642+02 Ramp M-M	Rt.	100											
118S-119S	199	642+02 Ramp M-M - 365+99 Midlothian Blvd.	Lt.												
TOTALS				442	200	751	52	20	1	1	2	2	1	1	23

B.M. #34 U.S.C. & G.S. Mon. #W-151-1950  
N.W. Corner Youngstown-Poland Rd. & Everett Ave. Elev. 1058.65

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	MAH-680-932

MAHONING COUNTY  
MAH-680-932

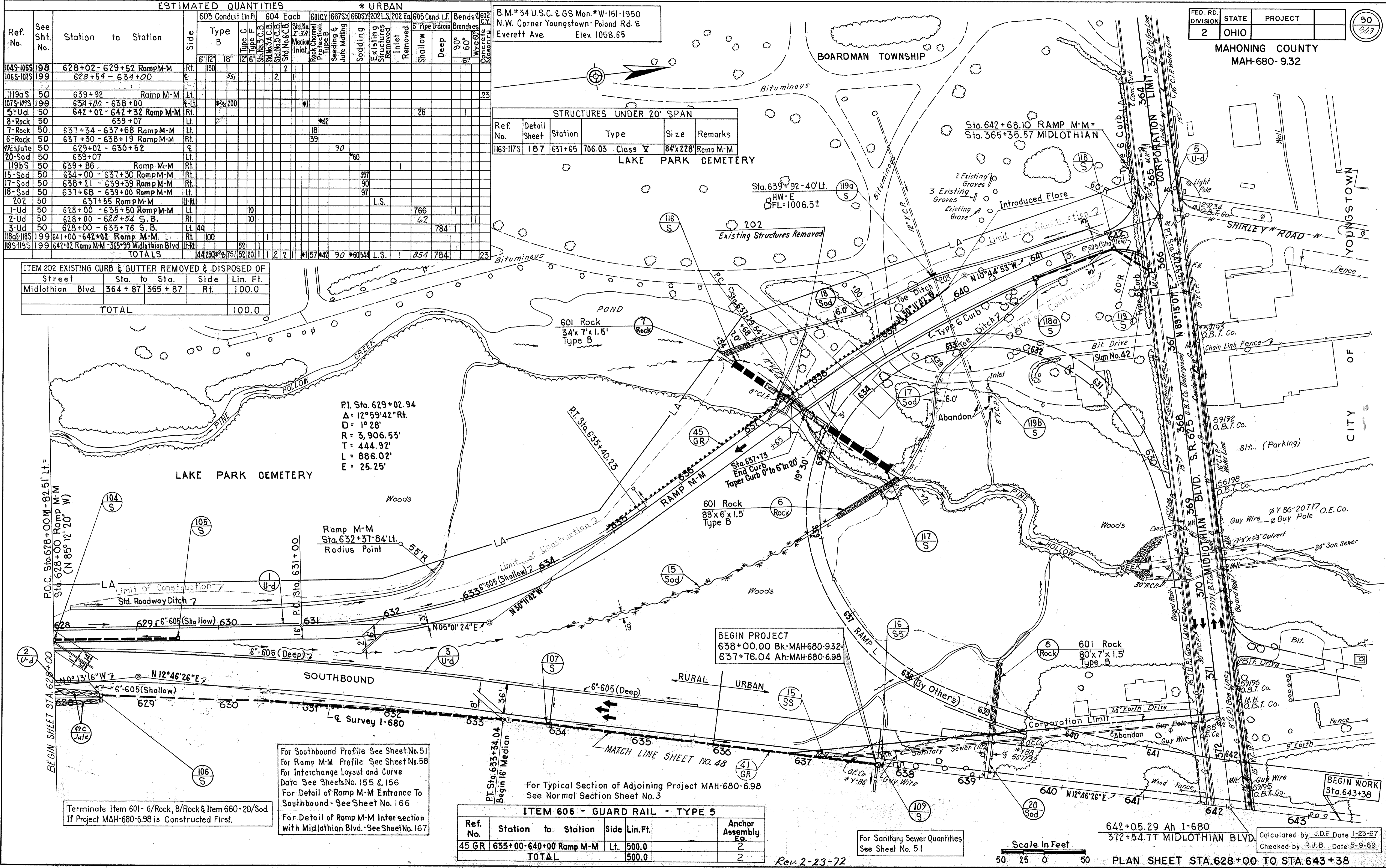
STRUCTURES UNDER 20' SPAN

Ref. No.	Detail Sheet	Station	Type	Size	Remarks
116S-117S	107	631+65	706.03 Class V	84'x228'	Ramp M-M

LAKE PARK CEMETERY

ITEM 202 EXISTING CURB & GUTTER REMOVED & DISPOSED OF

Street	Sta. to Sta.	Side	Lin. Ft.
Midlothian Blvd.	364 + 87 - 365 + 87	Rt.	100.0
TOTAL			100.0

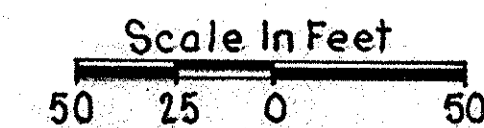


For Southbound Profile See Sheet No. 51  
For Ramp M-M Profile See Sheet No. 58  
For Interchange Layout and Curve Data See Sheets No. 155 & 156  
For Detail of Ramp M-M Entrance To Southbound - See Sheet No. 166  
For Detail of Ramp M-M Inter section with Midlothian Blvd. - See Sheet No. 167

ITEM 606 - GUARD RAIL - TYPE 5

Ref. No.	Station to Station	Side	Lin. Ft.	Anchor Assembly E.g.
45 GR	635+00-640+00 Ramp M-M	Lt.	500.0	2
TOTAL			500.0	2

For Sanitary Sewer Quantities See Sheet No. 51



642+05.29 Ah I-680  
372+54.77 MIDLOTHIAN BLVD.  
Calculated by J.D.E. Date 1-23-67  
Checked by P.J.B. Date 5-9-69  
PLAN SHEET STA. 628+00 TO STA. 643+38

Rev. 2-23-72

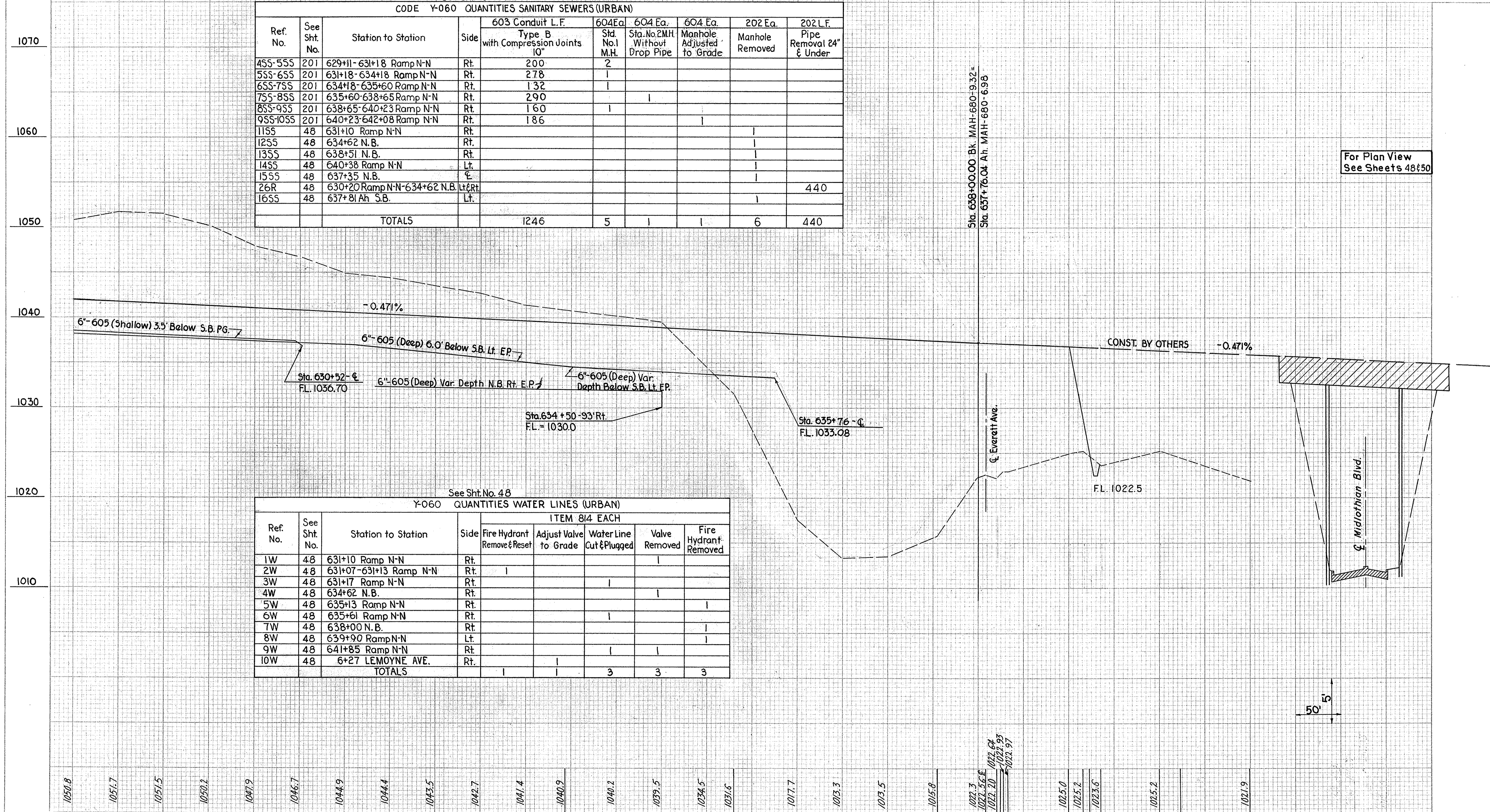
MAHONING COUNTY  
MAH-680-9.32

See Sht. No. 48 & 50

CODE Y-060 QUANTITIES SANITARY SEWERS (URBAN)

Ref. No.	See Sht. No.	Station to Station	Side	ITEM 814 EACH					
				603 Conduit L.F. Type B with Compression Joints 10"	604 Ea. Std. No. 1 M.H.	604 Ea. Sta. No. 2 M.H. Without Drop Pipe	604 Ea. Manhole Adjusted to Grade	202 Ea. Manhole Removed	202 L.F. Pipe Removal 24" & Under
455-555	201	629+11-631+18 Ramp N-N	Rt.	200	2				
555-655	201	631+18-634+18 Ramp N-N	Rt.	278	1				
655-755	201	634+18-635+60 Ramp N-N	Rt.	132	1				
755-855	201	635+60-638+65 Ramp N-N	Rt.	290		1			
855-955	201	638+65-640+23 Ramp N-N	Rt.	160	1				
955-1055	201	640+23-642+08 Ramp N-N	Rt.	186			1		
1155	48	631+10 Ramp N-N	Rt.					1	
1255	48	634+62 N.B.	Rt.					1	
1355	48	638+51 N.B.	Rt.					1	
1455	48	640+38 Ramp N-N	Lt.					1	
1555	48	637+35 N.B.	E					1	
26R	48	630+20 Ramp N-N-634+62 N.B. Lt. & Rt.							440
1655	48	637+81 Ah. S.B.	Lt.					1	
TOTALS				1246	5	1	1	6	440

For Plan View  
See Sheets 48 & 50



See Sht. No. 48

Y-060 QUANTITIES WATER LINES (URBAN)

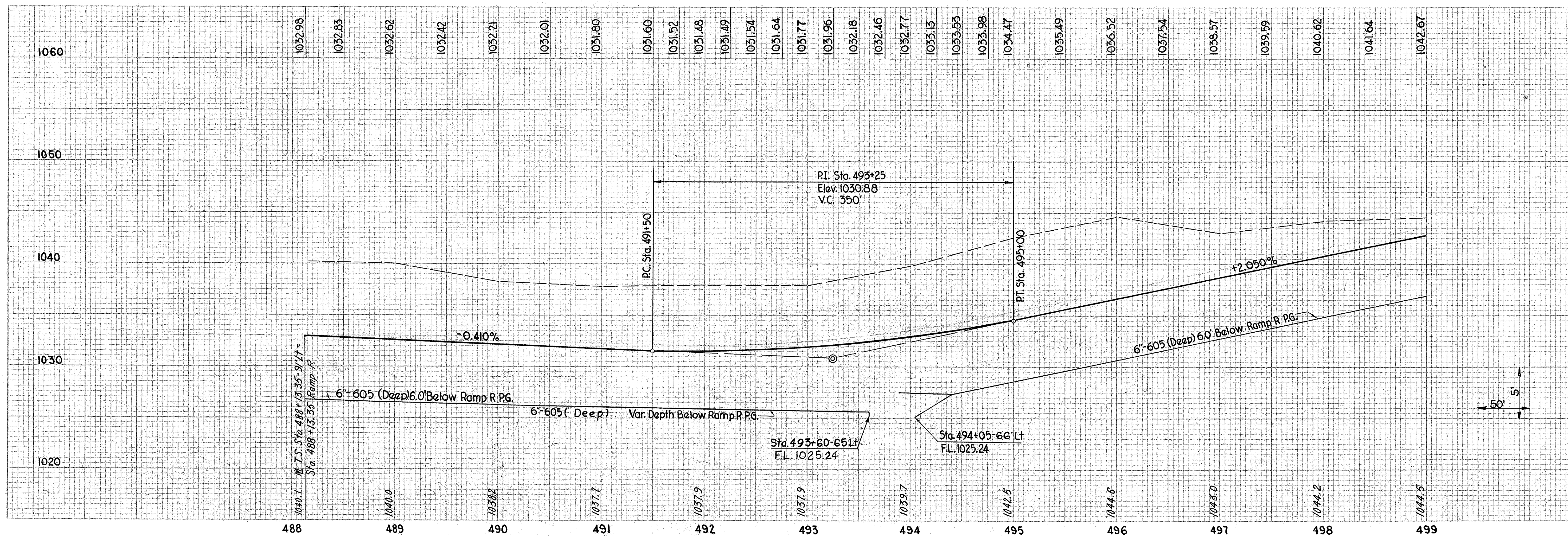
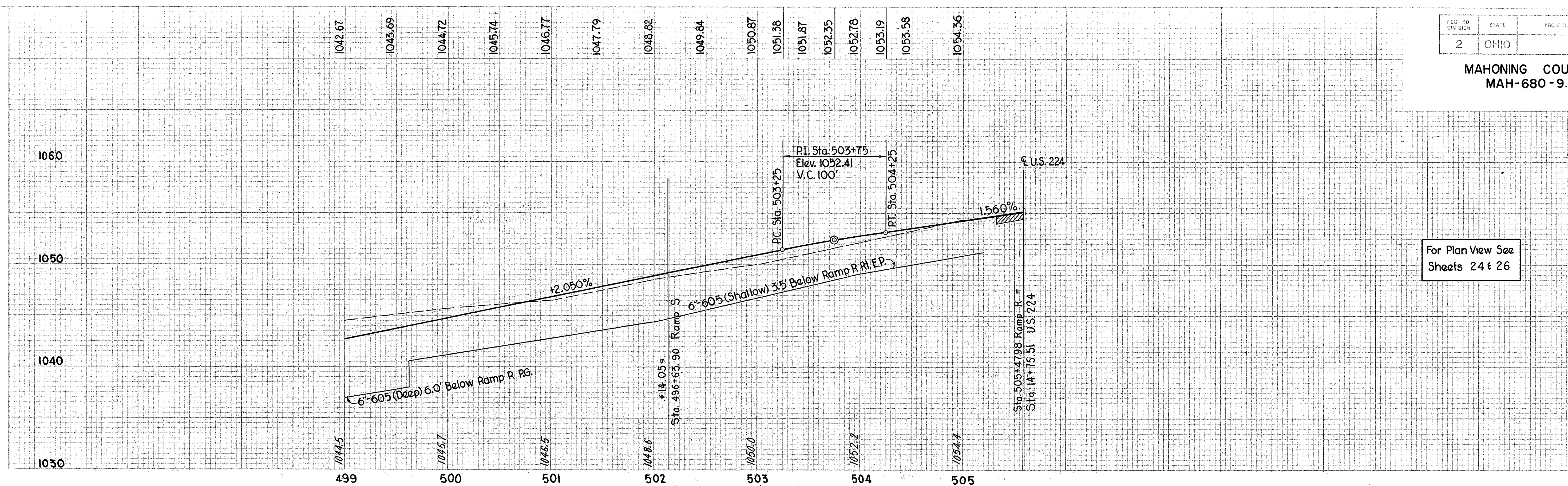
Ref. No.	See Sht. No.	Station to Station	Side	ITEM 814 EACH				
				Fire Hydrant Remove & Reset	Adjust Valve to Grade	Water Line Cut & Plugged	Valve Removed	Fire Hydrant Removed
1W	48	631+10 Ramp N-N	Rt.				1	
2W	48	631+07-631+13 Ramp N-N	Rt.	1				
3W	48	631+17 Ramp N-N	Rt.			1		
4W	48	634+62 N.B.	Rt.				1	
5W	48	635+13 Ramp N-N	Rt.					1
6W	48	635+61 Ramp N-N	Rt.			1		
7W	48	638+00 N.B.	Rt.					1
8W	48	639+90 Ramp N-N	Lt.					1
9W	48	641+85 Ramp N-N	Rt.			1	1	
10W	48	6+27 LEMOYNE AVE.	Rt.		1			
TOTALS				1	1	3	3	3

50' 5'

Calculated by P.J.B. Date 5-8-69  
Checked by M.H. Date 5-9-69

MAHONING COUNTY  
MAH-680-9.32

For Plan View See  
Sheets 24 & 26



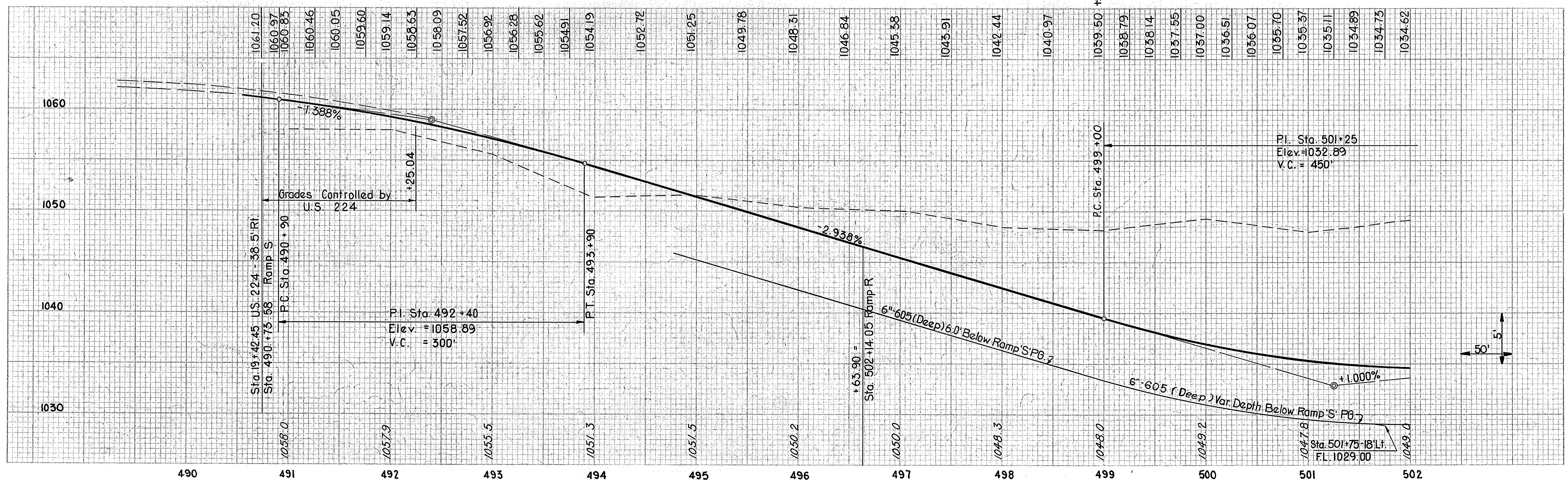
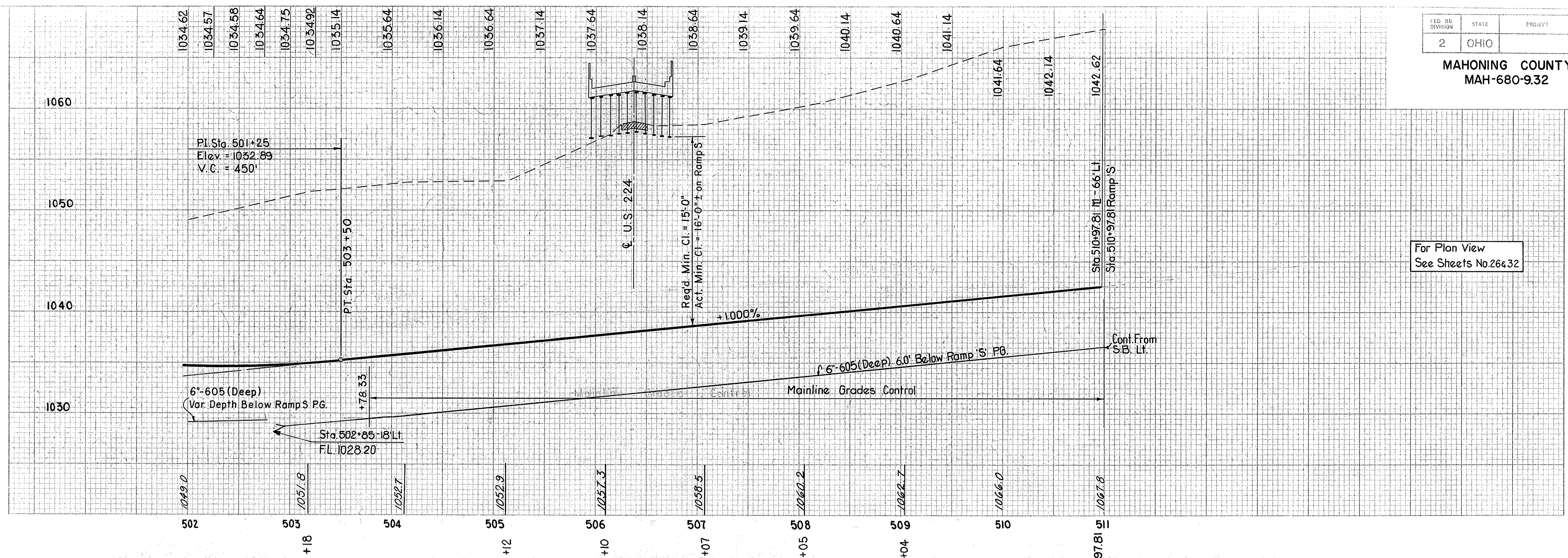
RAMP R  
PROFILE SHEET- STA.488+13.35 TO STA.505+4798

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

53  
308

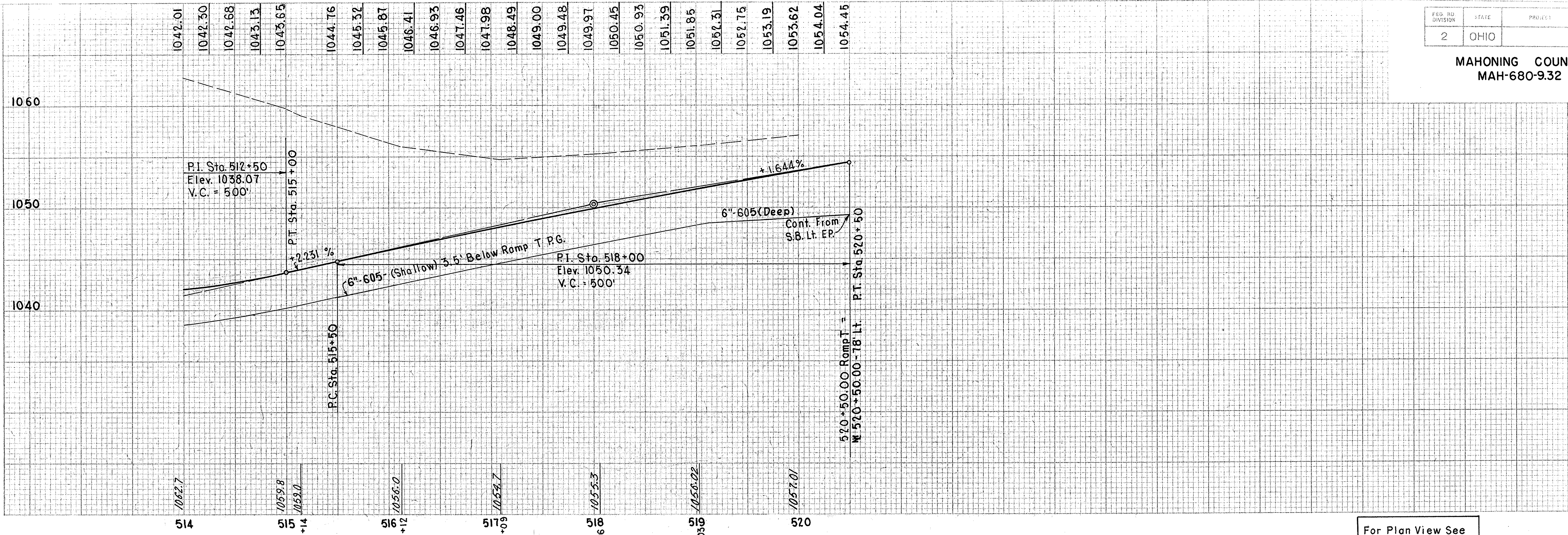
MAHONING COUNTY  
MAH-680-932

For Plan View  
See Sheets No.266,32

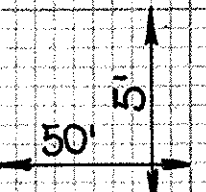
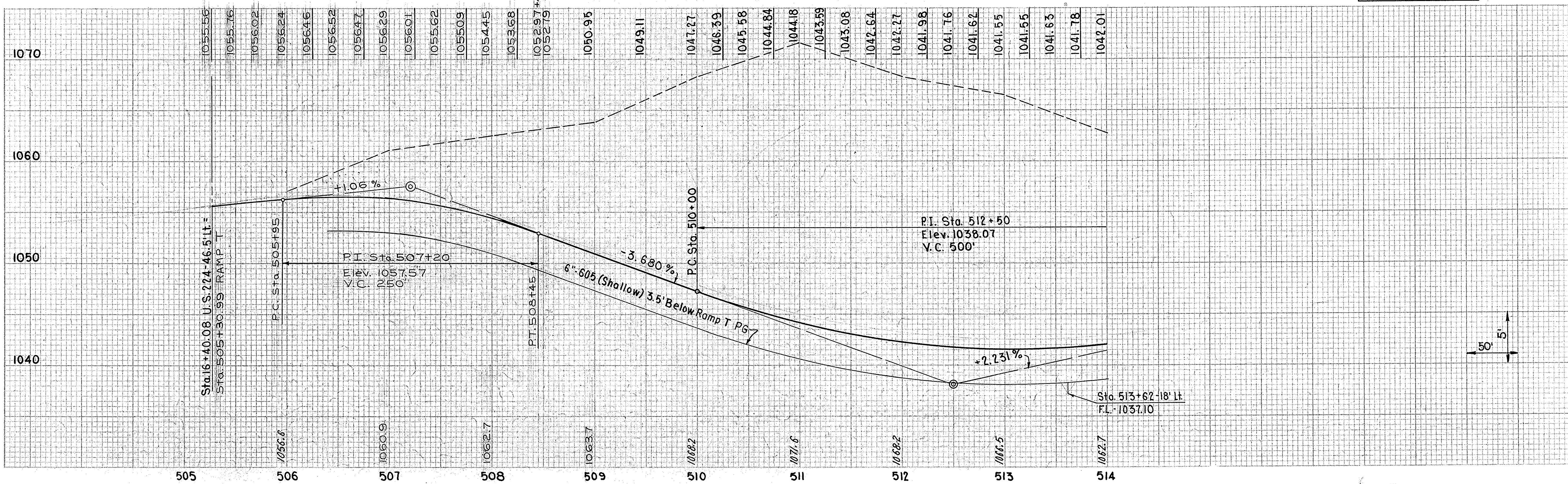


RAMP S  
PROFILE SHEET-STA.490+73.58 TO STA. 510+97.81

MAHONING COUNTY  
MAH-680-9.32

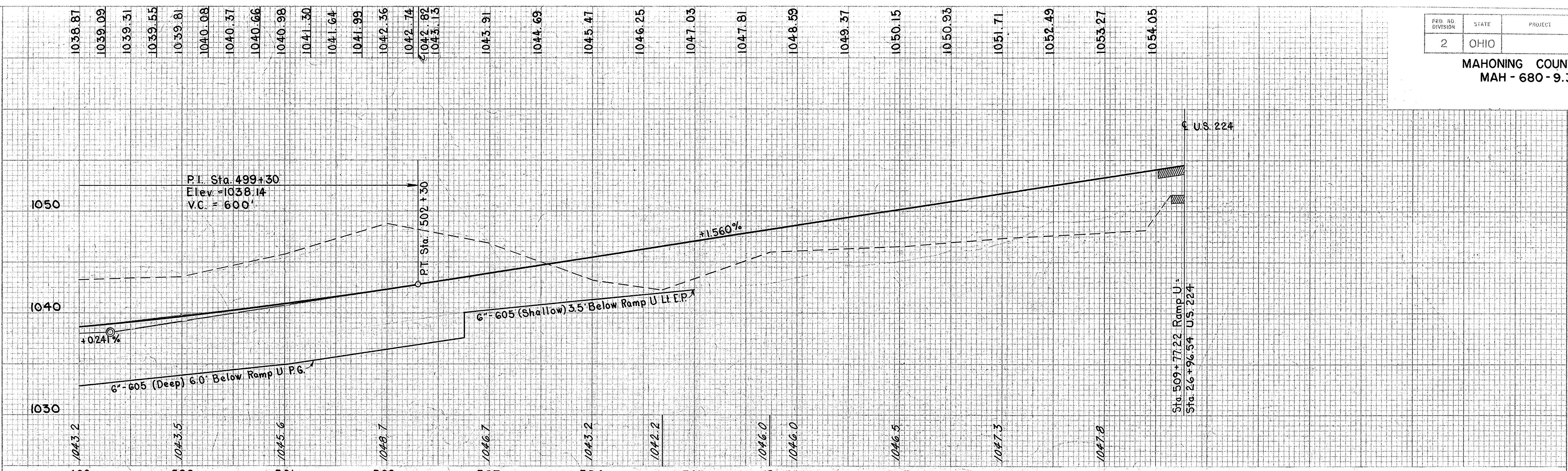


For Plan View See  
Sheets No. 26, 32 & 34

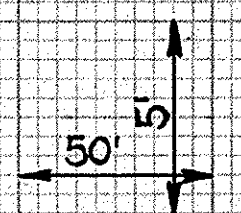
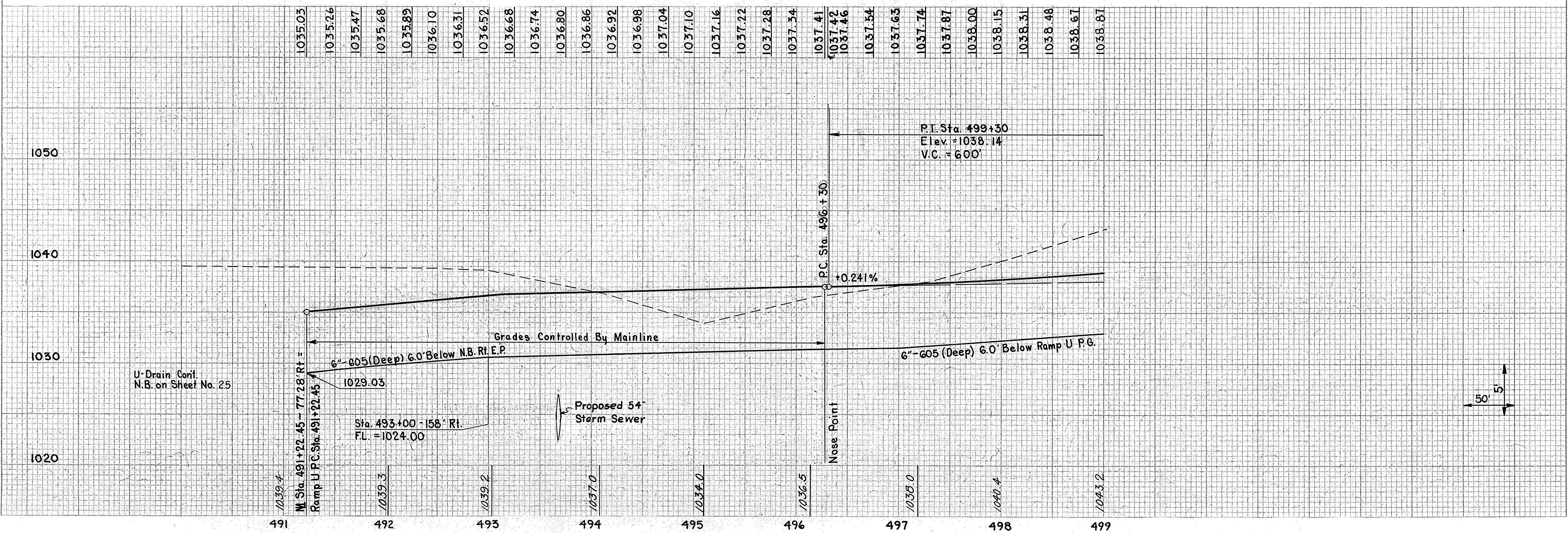


RAMP T  
PROFILE SHEET - STA. 505+27.37 TO STA. 520+50.00





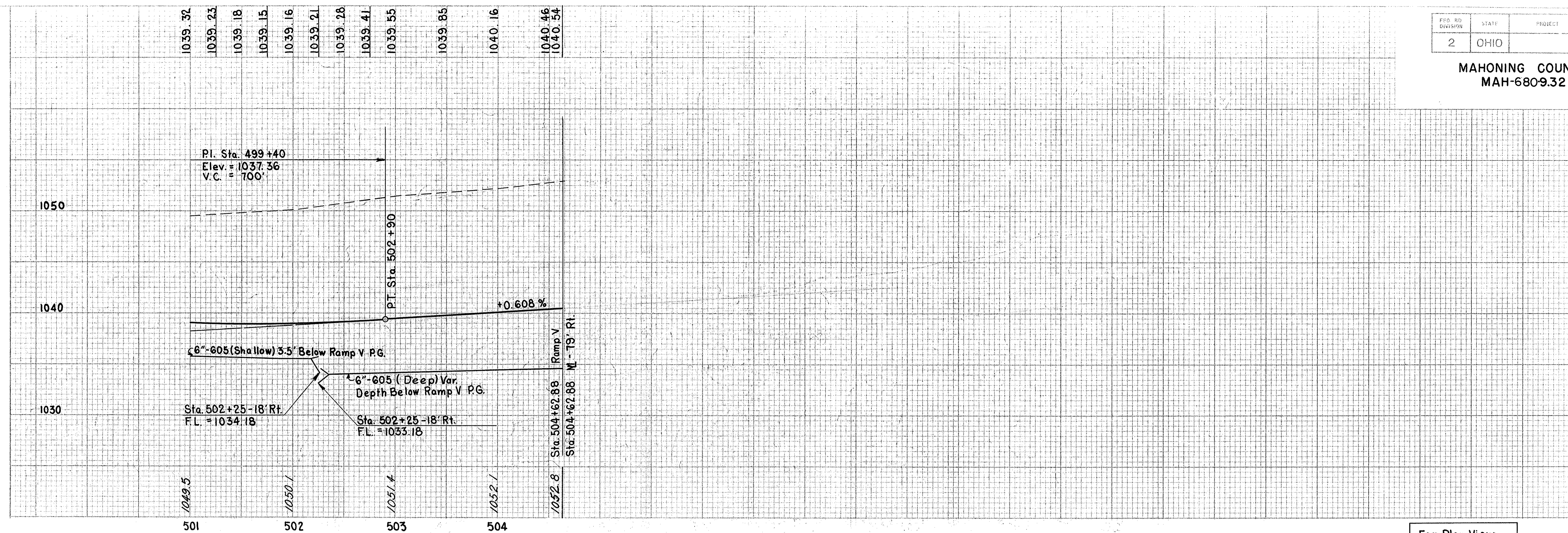
For Plan View See  
Sheets No. 24 & 27



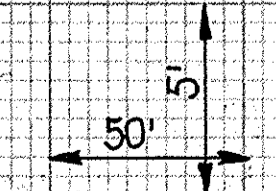
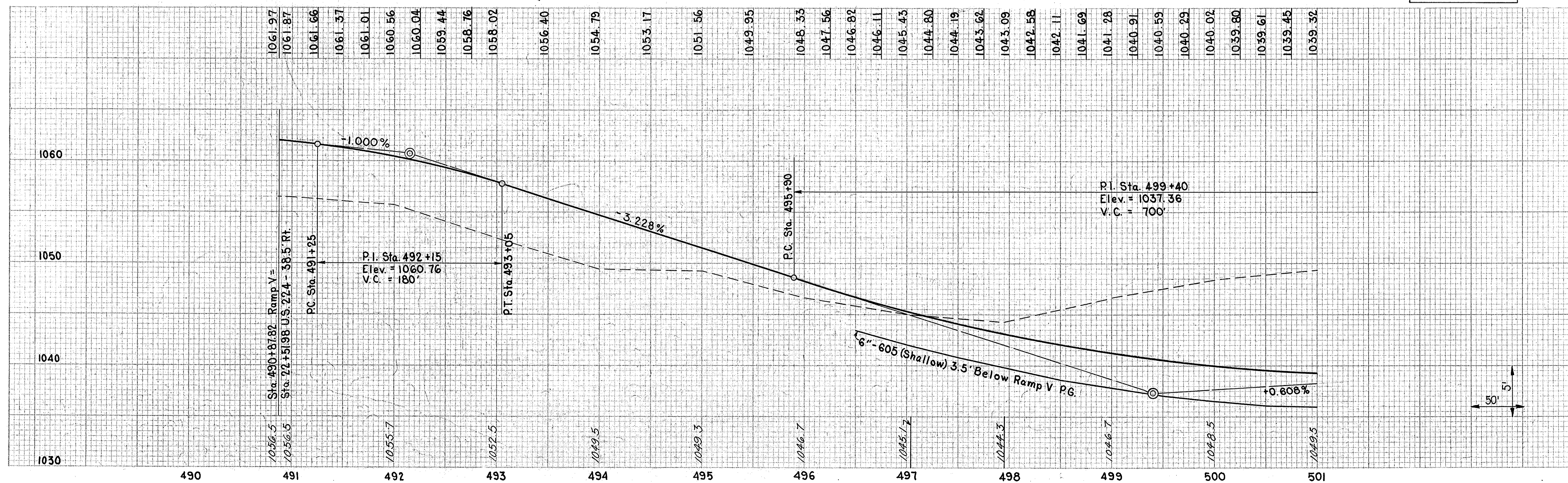
PG. NO. DIVISION	STATE	PROJECT
2	OHIO	

56  
303

MAHONING COUNTY  
MAH-6809.32



For Plan View  
See Sheet No. 27



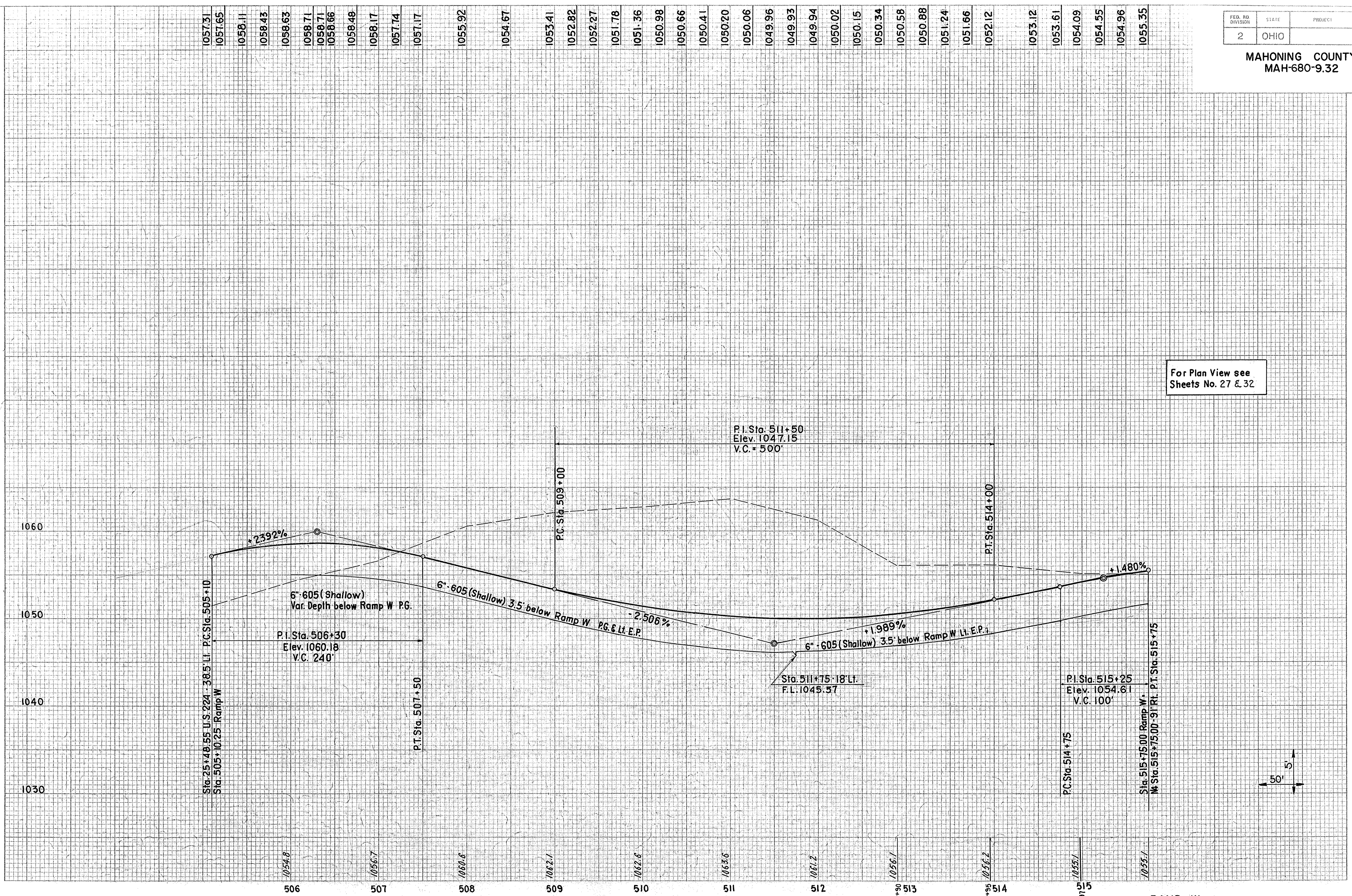
RAMP V  
PROFILE SHEET-STA.490+87.82 TO STA.504+62.88

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

57  
303

MAHONING COUNTY  
MAH-680-9.32

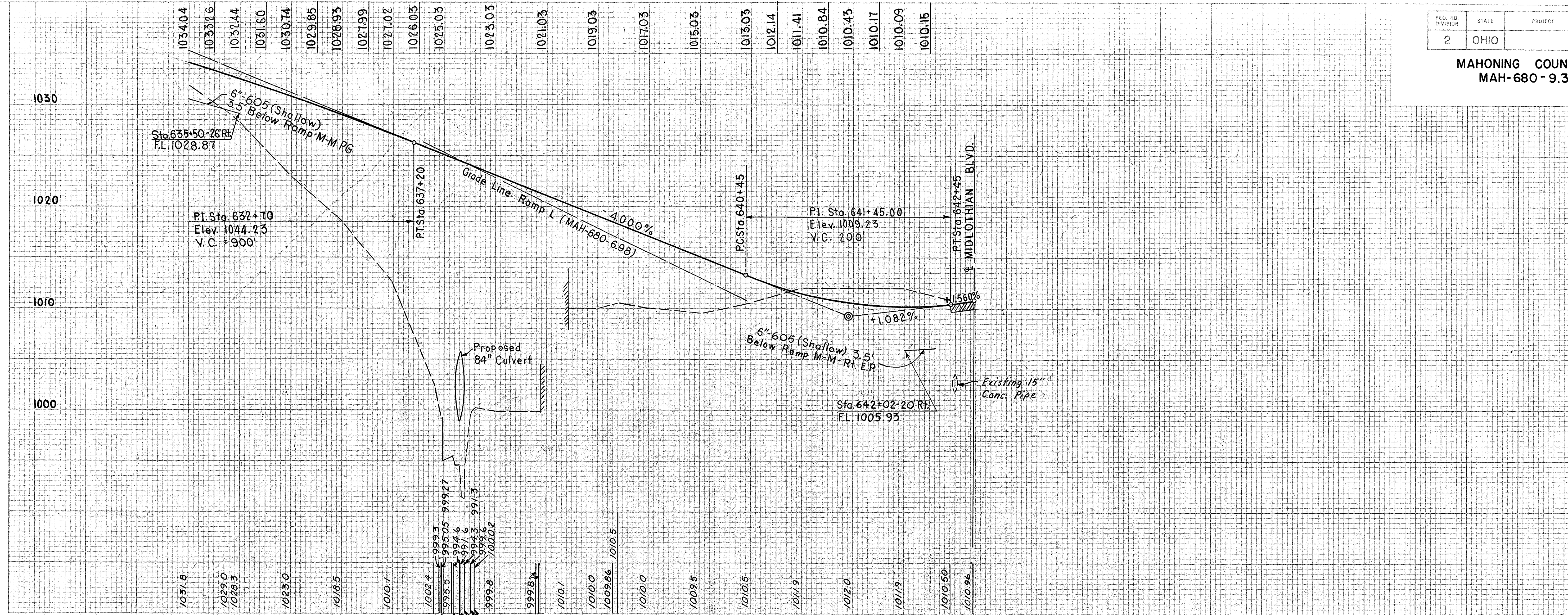
For Plan View see  
Sheets No. 27 & 32



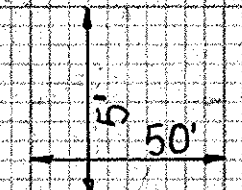
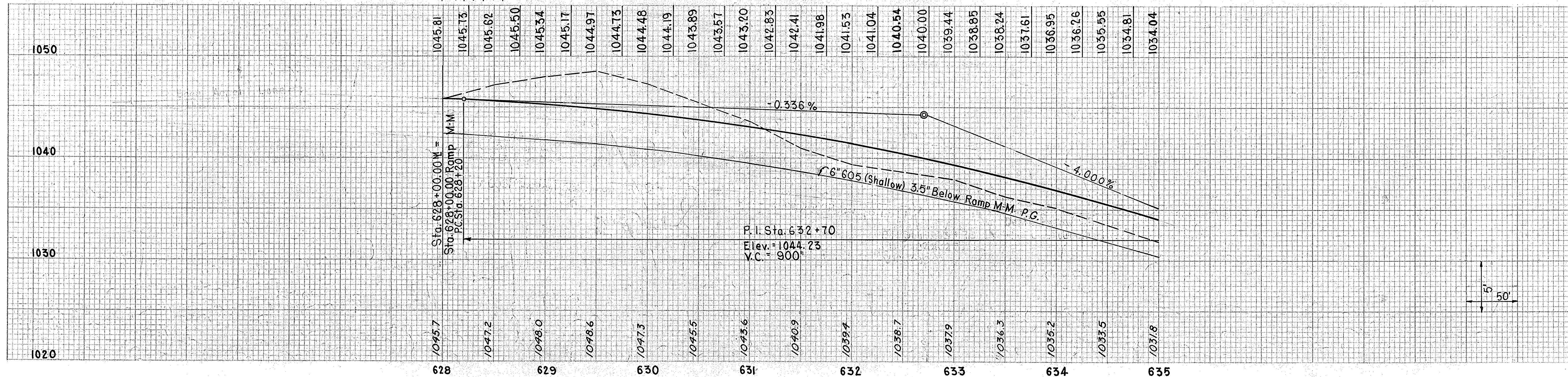
1057.31	1057.65	1058.11	1058.43	1058.63	1058.71	1058.71	1058.66	1058.48	1058.17	1057.74	1057.17	1055.92	1054.67	1053.41	1052.82	1052.27	1051.78	1051.36	1050.98	1050.66	1050.41	1050.20	1050.06	1049.96	1049.93	1049.94	1050.02	1050.15	1050.34	1050.58	1050.88	1051.24	1051.66	1052.12	1053.12	1053.61	1054.09	1054.55	1054.96	1055.35
---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------

RAMP W  
PROFILE SHEET- STA.505+10.25 TO STA. 515+75.00

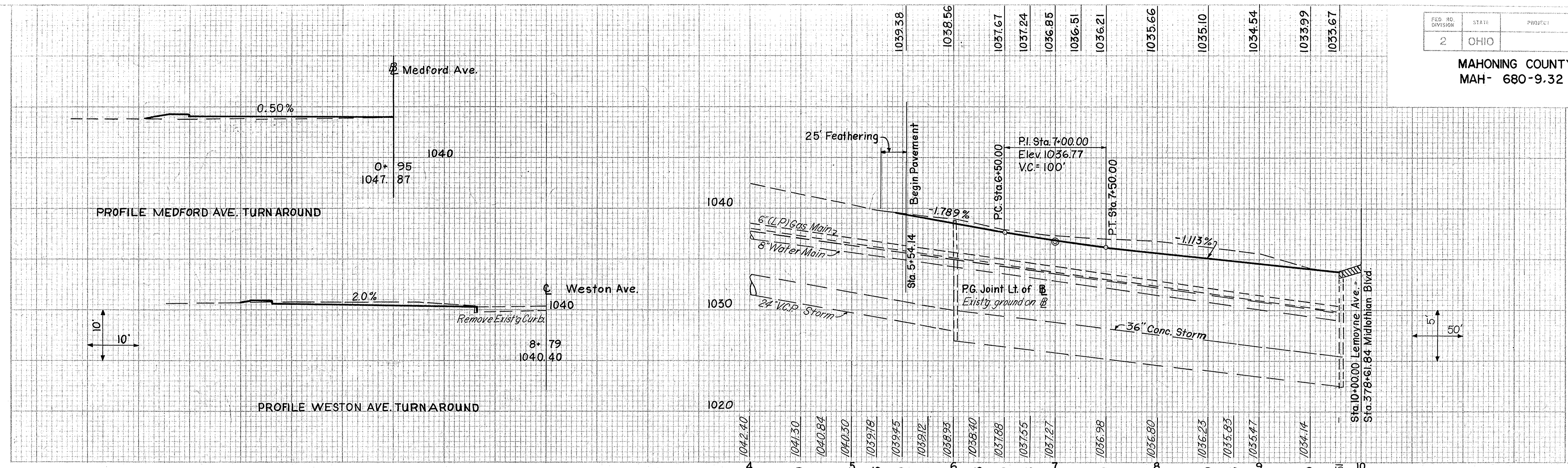
MAHONING COUNTY  
MAH-680-9.32



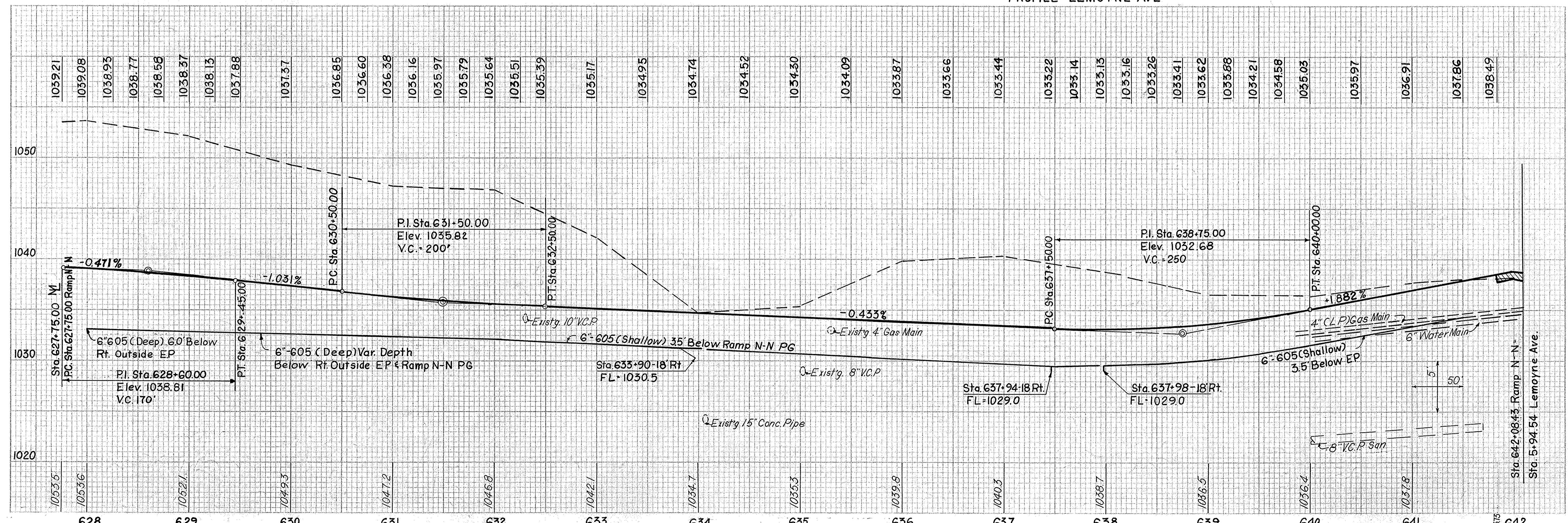
For Plan View See  
Sheet No. 50



MAHONING COUNTY  
MAH- 680-9.32



For Plan View  
See Sheet No. 48



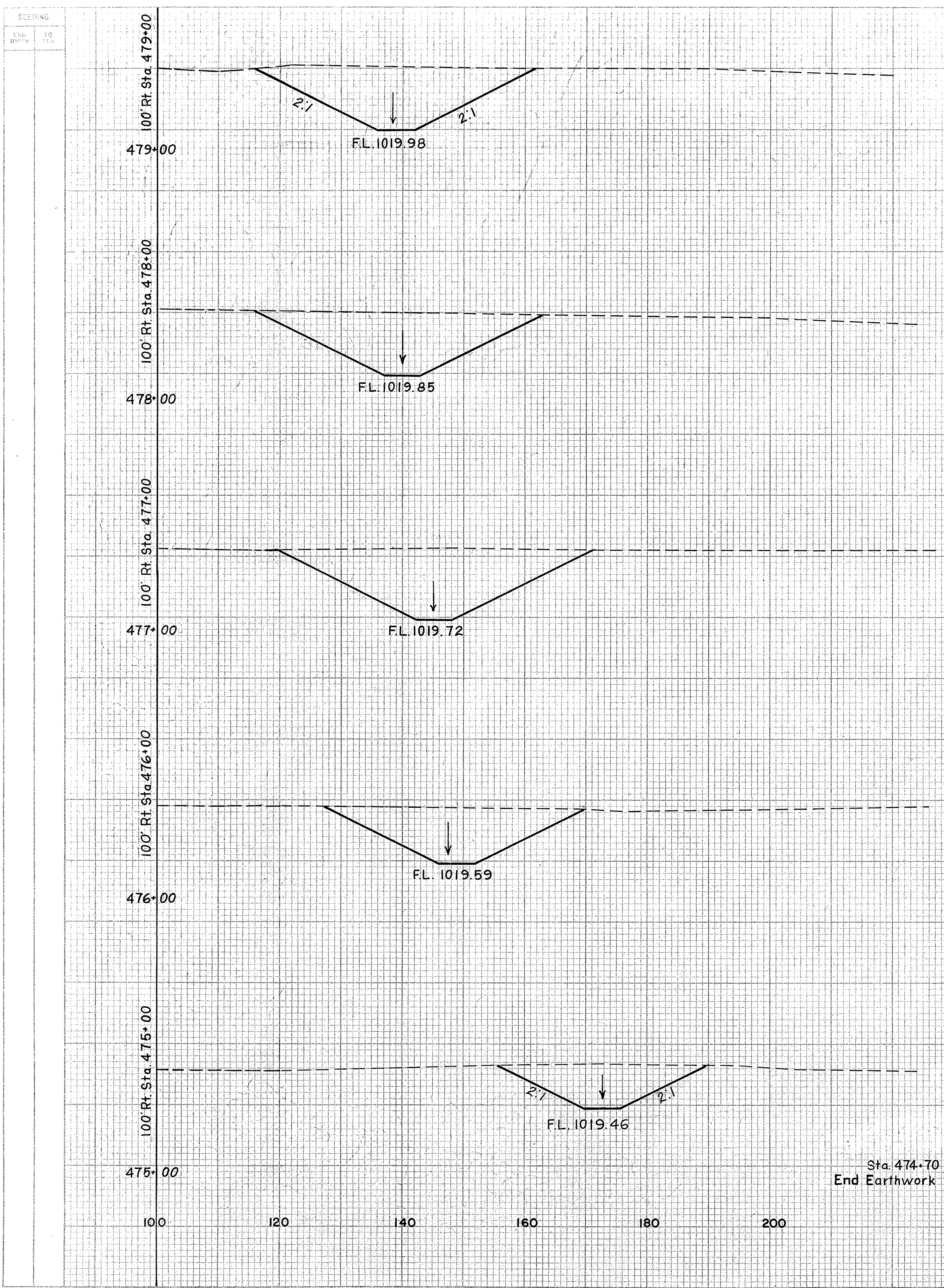
LEMOYNE AVENUE PROFILE SHEET STA. 4+00.00 TO STA. 10+00.00  
 RAMP N-N PROFILE SHEET STA. 627+75.00 TO STA. 642+08.43

SEEDING  
 4 1/2" WIDE  
 30 TONS

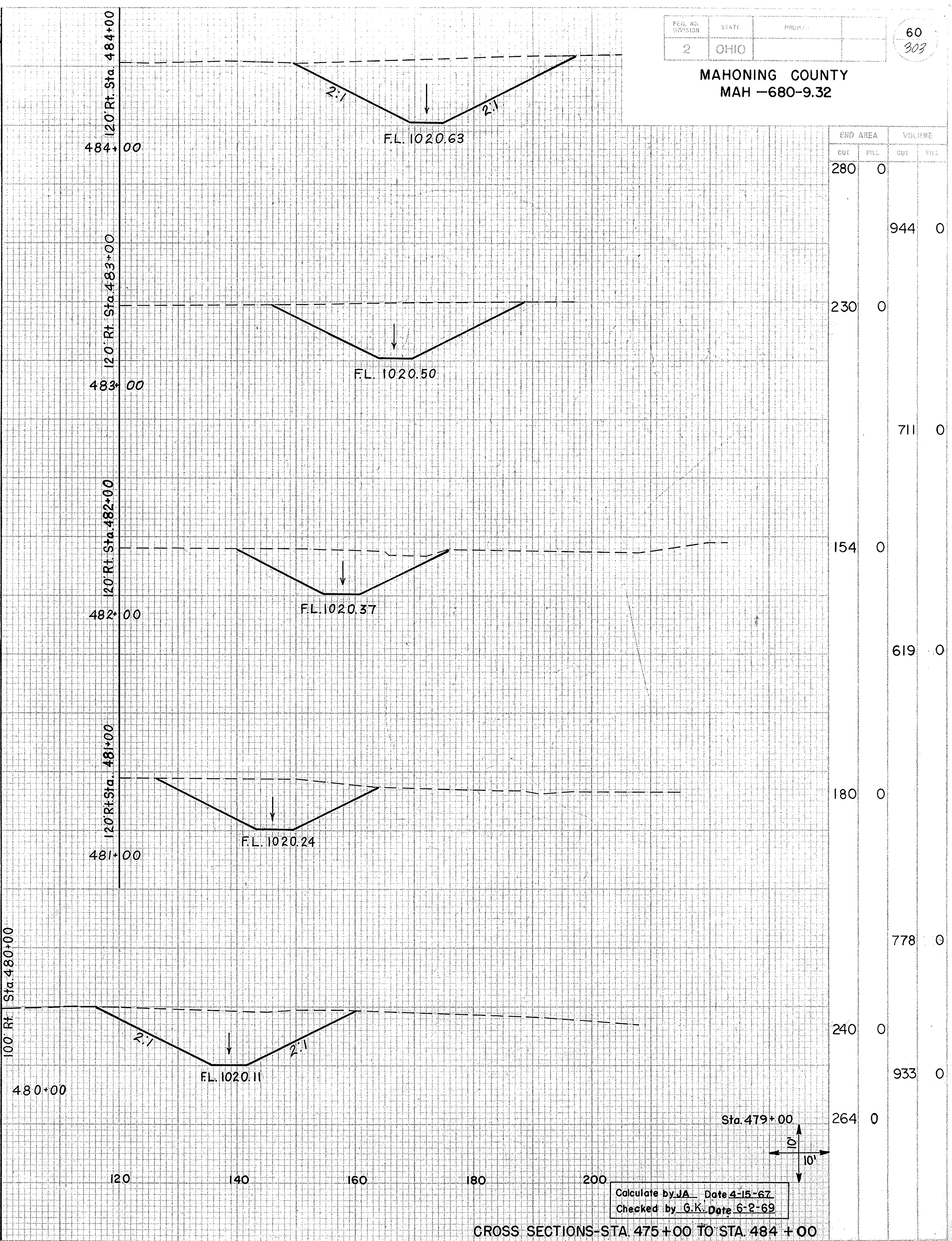
FED. RD. DISTRICT	STATE	PROJECT
2	OHIO	

60  
 303

MAHONING COUNTY  
 MAH-680-9.32



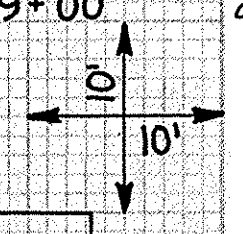
END AREA	VOLUME	
	CUT	FILL
264	0	
998	0	
275	0	
1139	0	
340	0	
1037	0	
220	0	
681	0	
148	0	
164	0	
148	0	



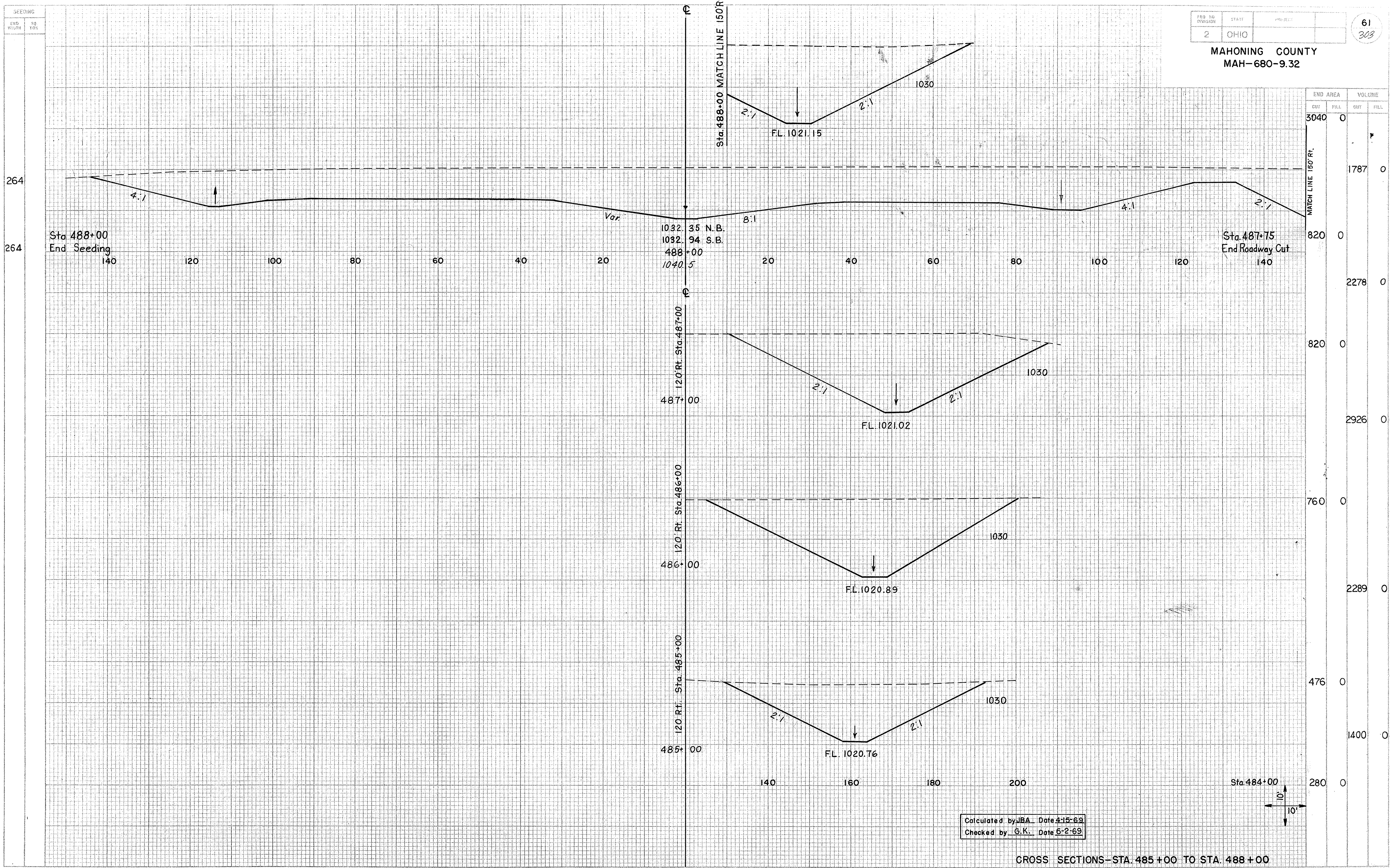
END AREA	VOLUME	
	CUT	FILL
280	0	
944	0	
230	0	
711	0	
154	0	
619	0	
180	0	
778	0	
240	0	
933	0	
264	0	

Calculate by J.A. Date 4-15-67  
 Checked by G.K. Date 6-2-69

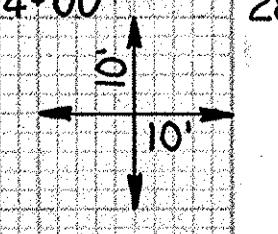
CROSS SECTIONS-STA. 475+00 TO STA. 484+00



MAHONING COUNTY  
MAH-680-9.32

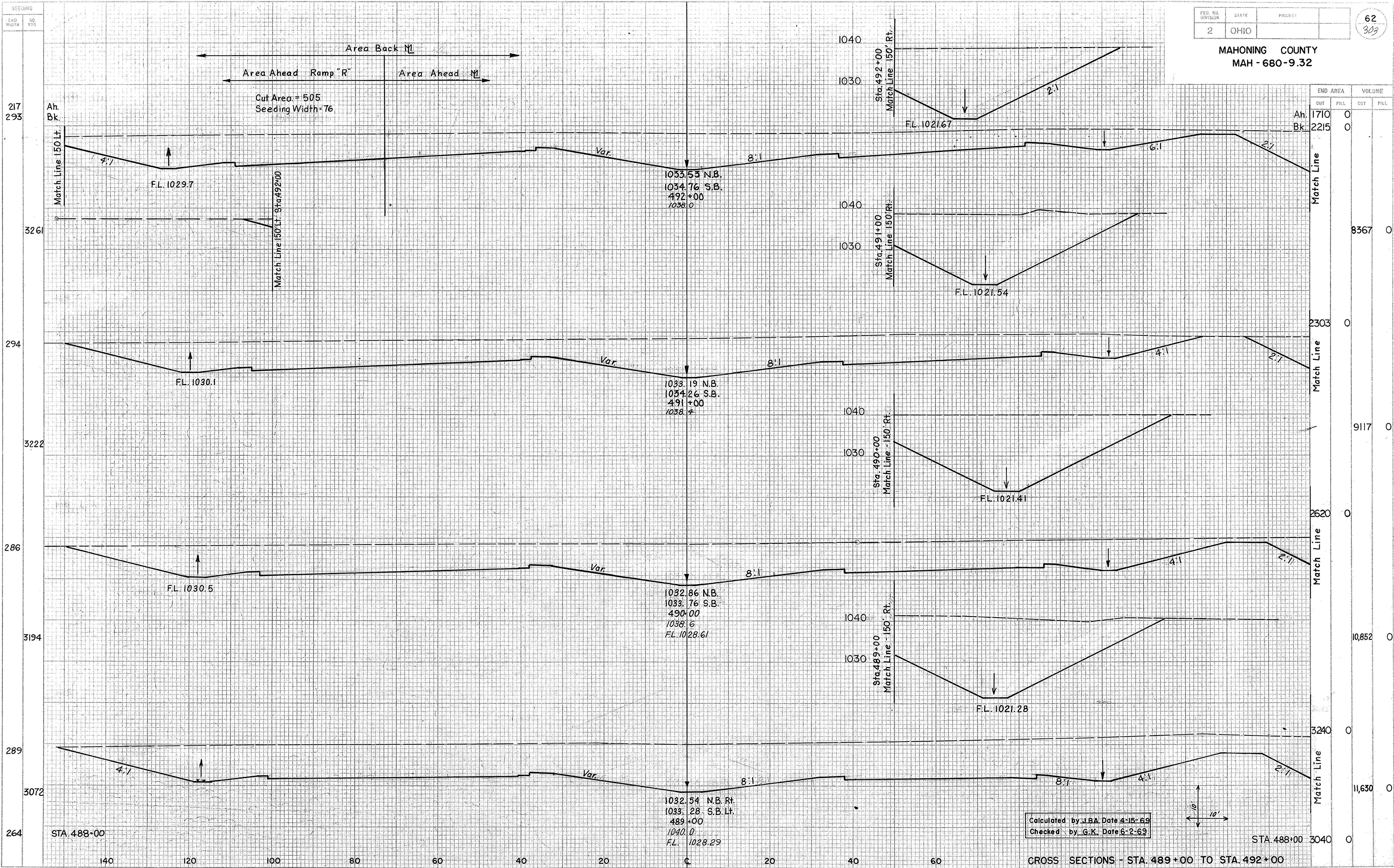


Calculated by JBA Date 4-15-69  
Checked by G.K. Date 5-2-69



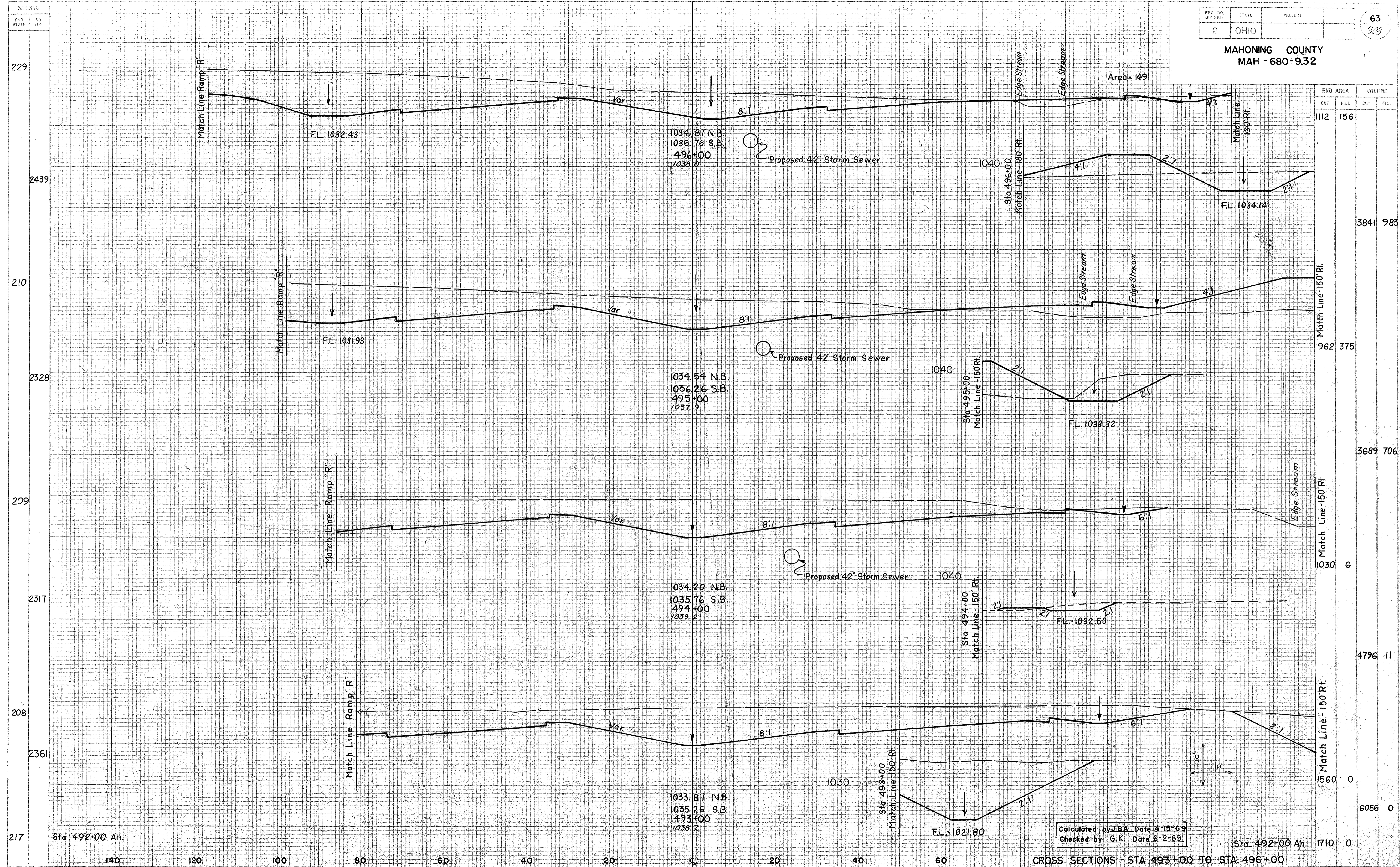
GROSS SECTIONS—STA. 485+00 TO STA. 488+00

MAHONING COUNTY  
MAH-680-9.32





MAHONING COUNTY  
MAH - 680-932

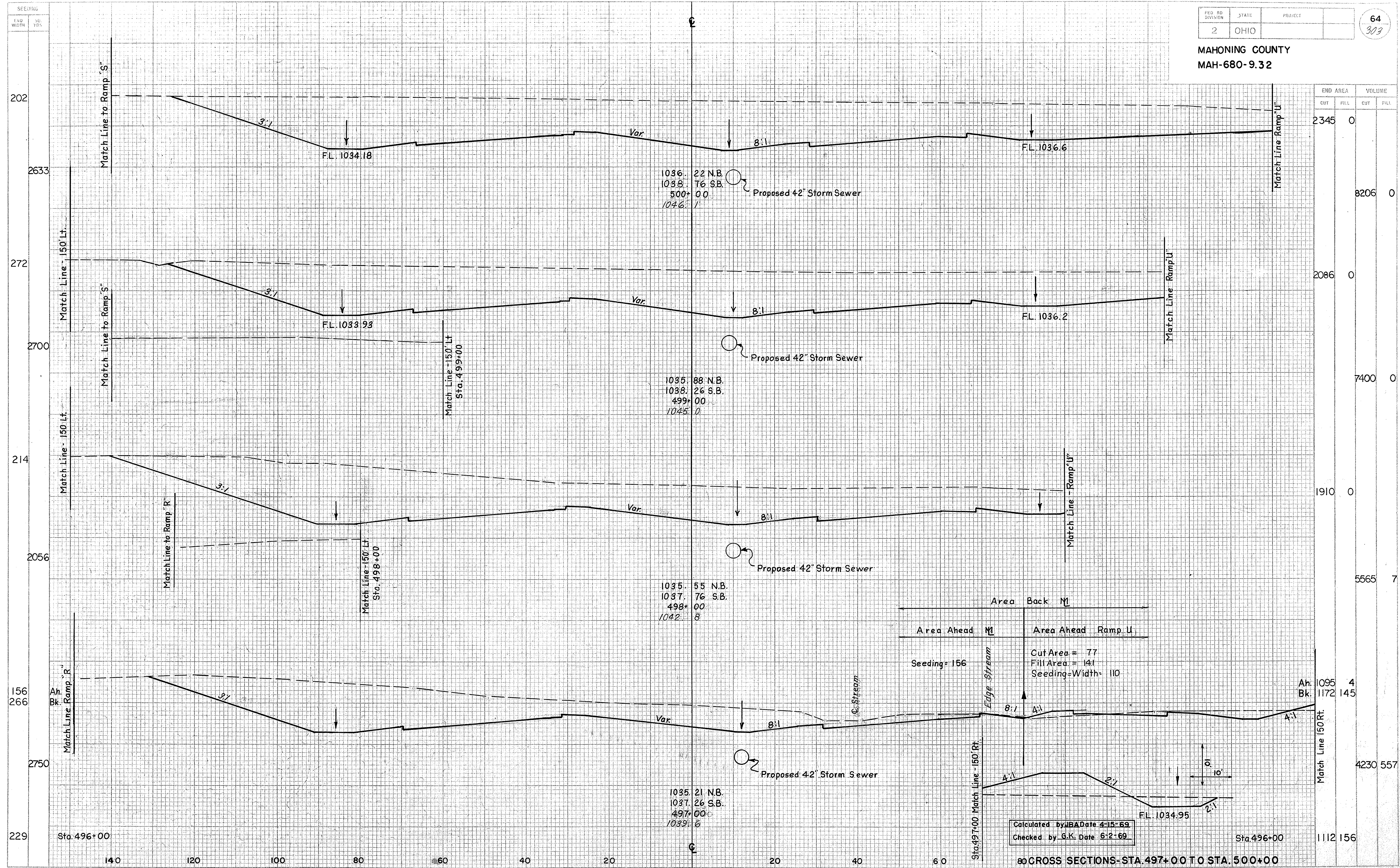


END STA.	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
1112		156		
2439			3841	985
210				
2328			962	375
209				
2317			3689	706
208				
2361			1030	6
217				
1710			4796	11
			1560	0
			6056	0
			1710	0

Calculated by J.B.A. Date 4-15-69  
Checked by G.K. Date 6-2-69

CROSS SECTIONS - STA. 493+00 TO STA. 496+00

MAHONING COUNTY  
MAH-680-9.32



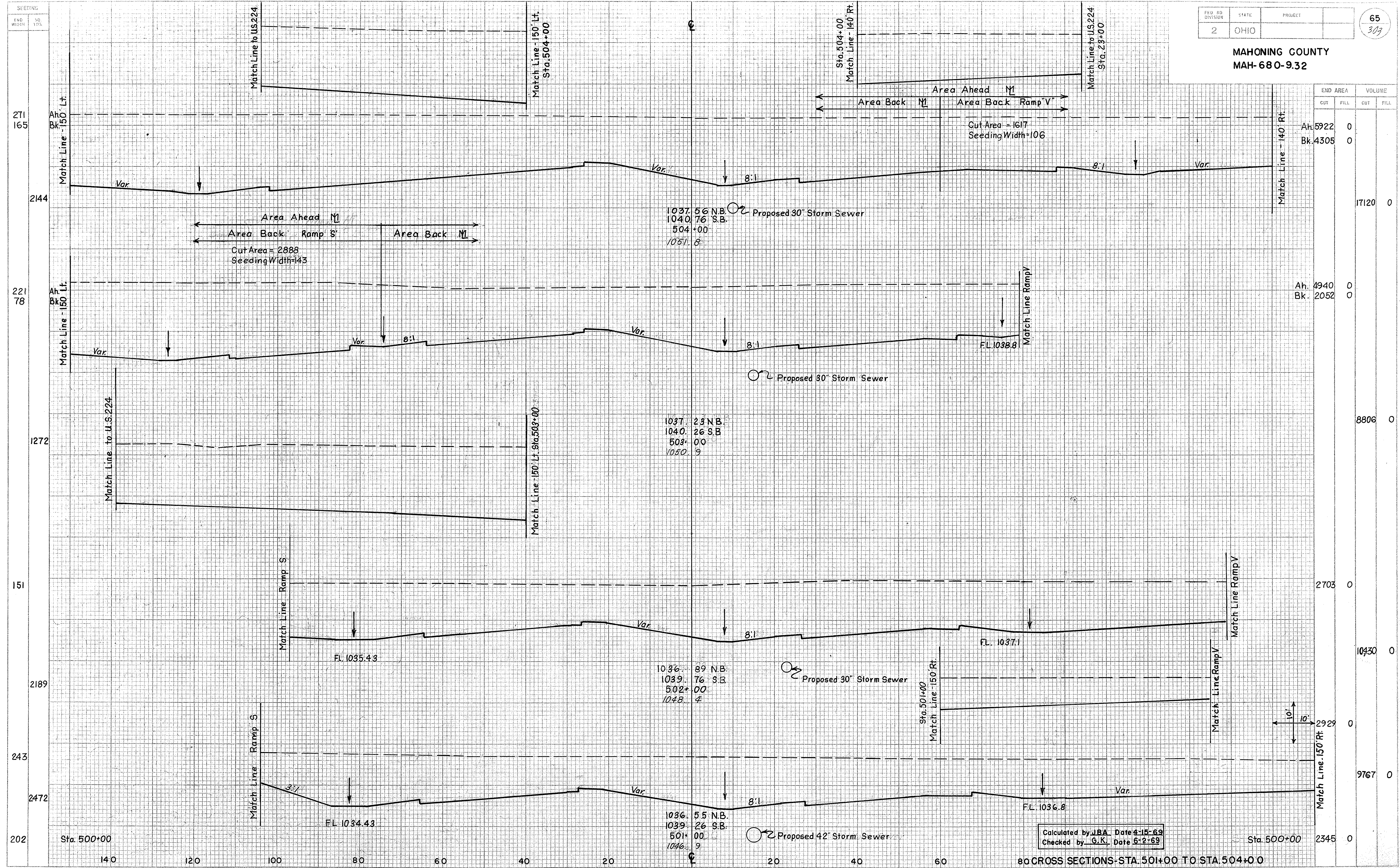
END STA.	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
2345	0			
8206	0			
2086	0			
7400	0			
1910	0			
5565	7			
1095	4			
1172	145			
4230	557			
1112	156			

Area Back M	Area Ahead M	Area Ahead Ramp U
	Seeding = 156	Cut Area = 77 Fill Area = 141 Seeding-Width = 110

Calculated by JBA Date 4-15-69  
Checked by G.K. Date 6-2-69

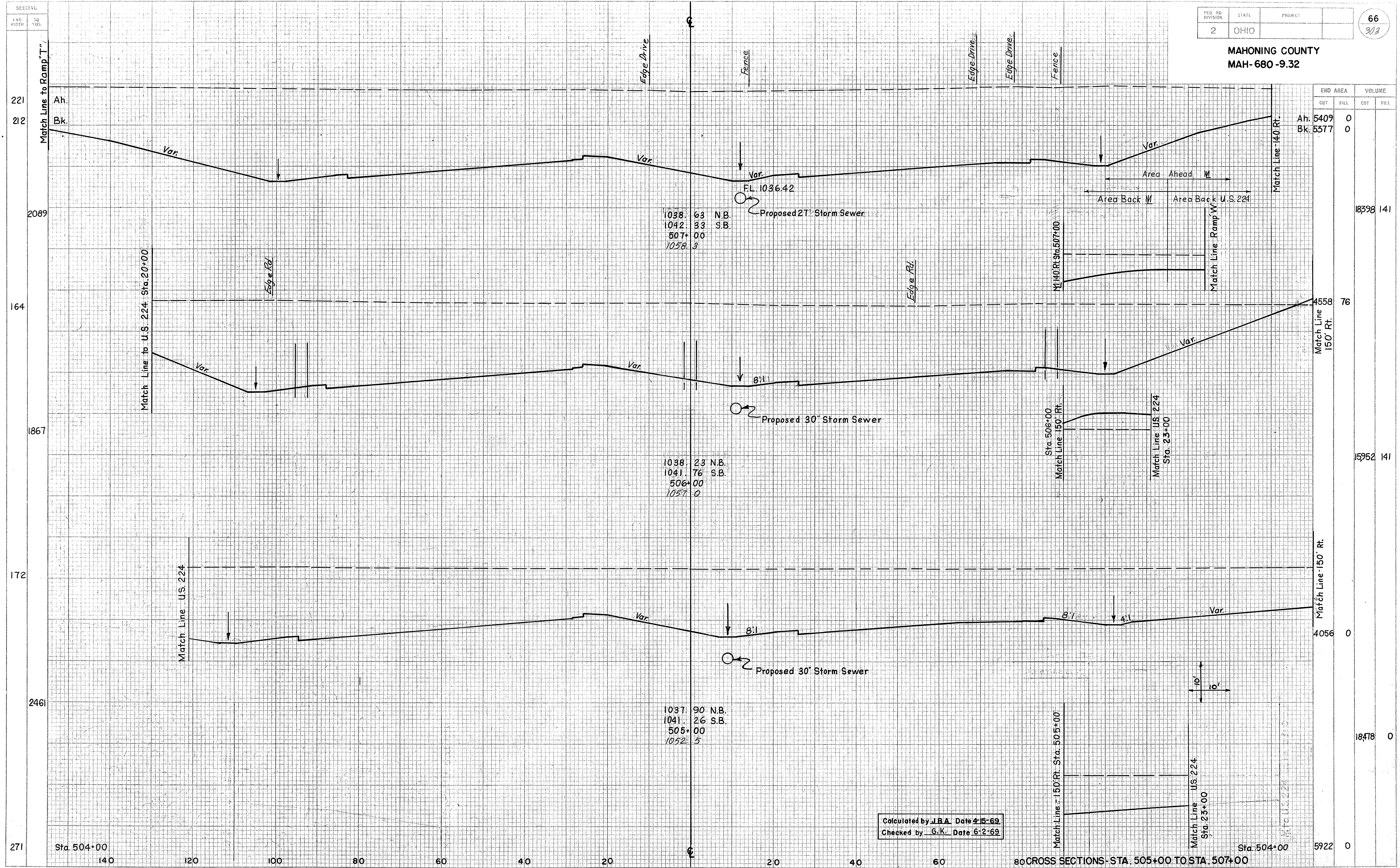
80 CROSS SECTIONS - STA. 497+00 TO STA. 500+00

**MAHONING COUNTY  
MAH-680-9.32**



END AREA	VOLUME	
	CUT	FILL
Ah. 5922 Bk. 4305	0	0
	17120	0
Ah. 4940 Bk. 2052	0	0
	8806	0
	2703	0
	10430	0
	2929	0
	9767	0
	2345	0

MAHONING COUNTY  
MAH-680-9.32



1038	63	N.B.
1042	33	S.B.
507+00	00	
1058	3	

1038	23	N.B.
1041	76	S.B.
506+00	00	
1057	0	

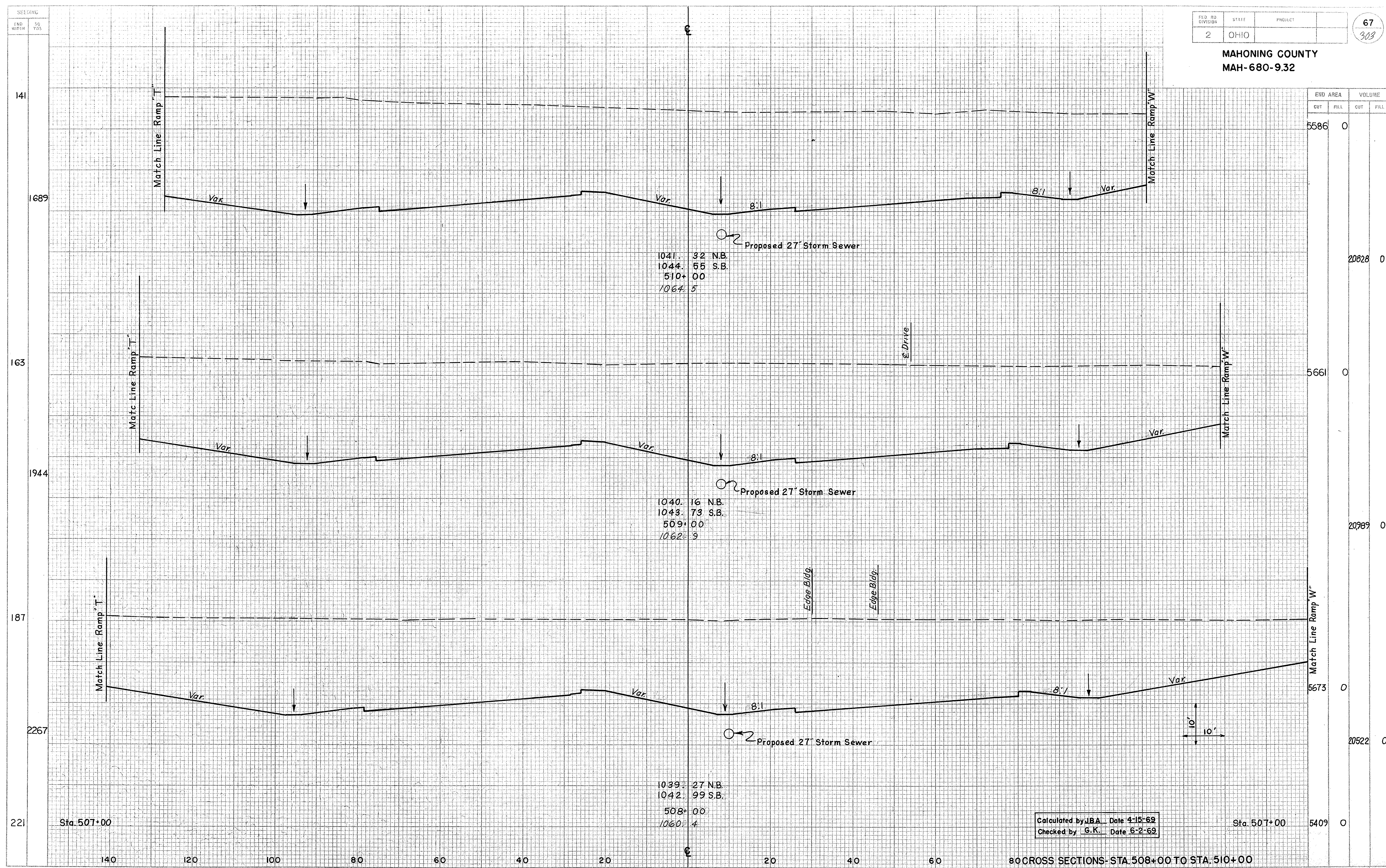
1037	90	N.B.
1041	26	S.B.
505+00	00	
1052	5	

END AREA	VOLUME	
	CUT	FILL
Ah. 5409	0	0
Bk. 5377	0	0
18398 141		
76		
15952 141		
0		
18478 0		
5922 0		

Calculated by J.B.A. Date 4-15-69.  
Checked by G.K. Date 6-2-69.

80 CROSS SECTIONS - STA. 505+00 TO STA. 507+00

MAHONING COUNTY  
MAH-680-932



1041. 32 N.B.  
1044. 55 S.B.  
510+ 00  
1064. 5

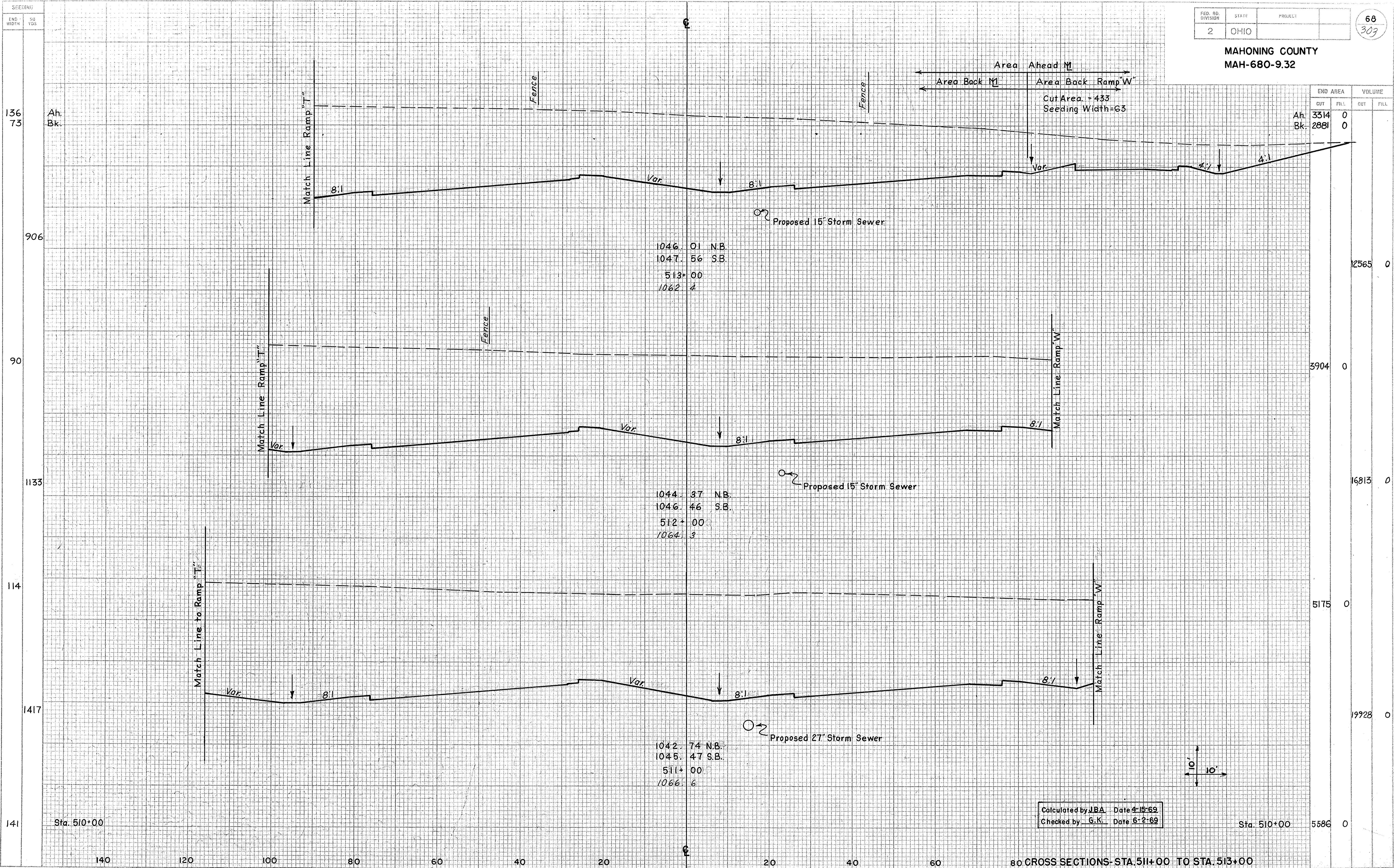
1040. 16 N.B.  
1043. 73 S.B.  
509+ 00  
1062. 9

1039. 27 N.B.  
1042. 99 S.B.  
508+ 00  
1060. 4

Calculated by JBA Date 4-15-69  
Checked by G.K. Date 6-2-69

80 CROSS SECTIONS- STA. 508+00 TO STA. 510+00

MAHONING COUNTY  
MAH-680-9.32

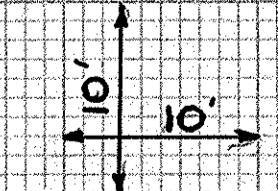


1046. 01 N.B.  
1047. 56 S.B.  
513+ 00  
1062. 4

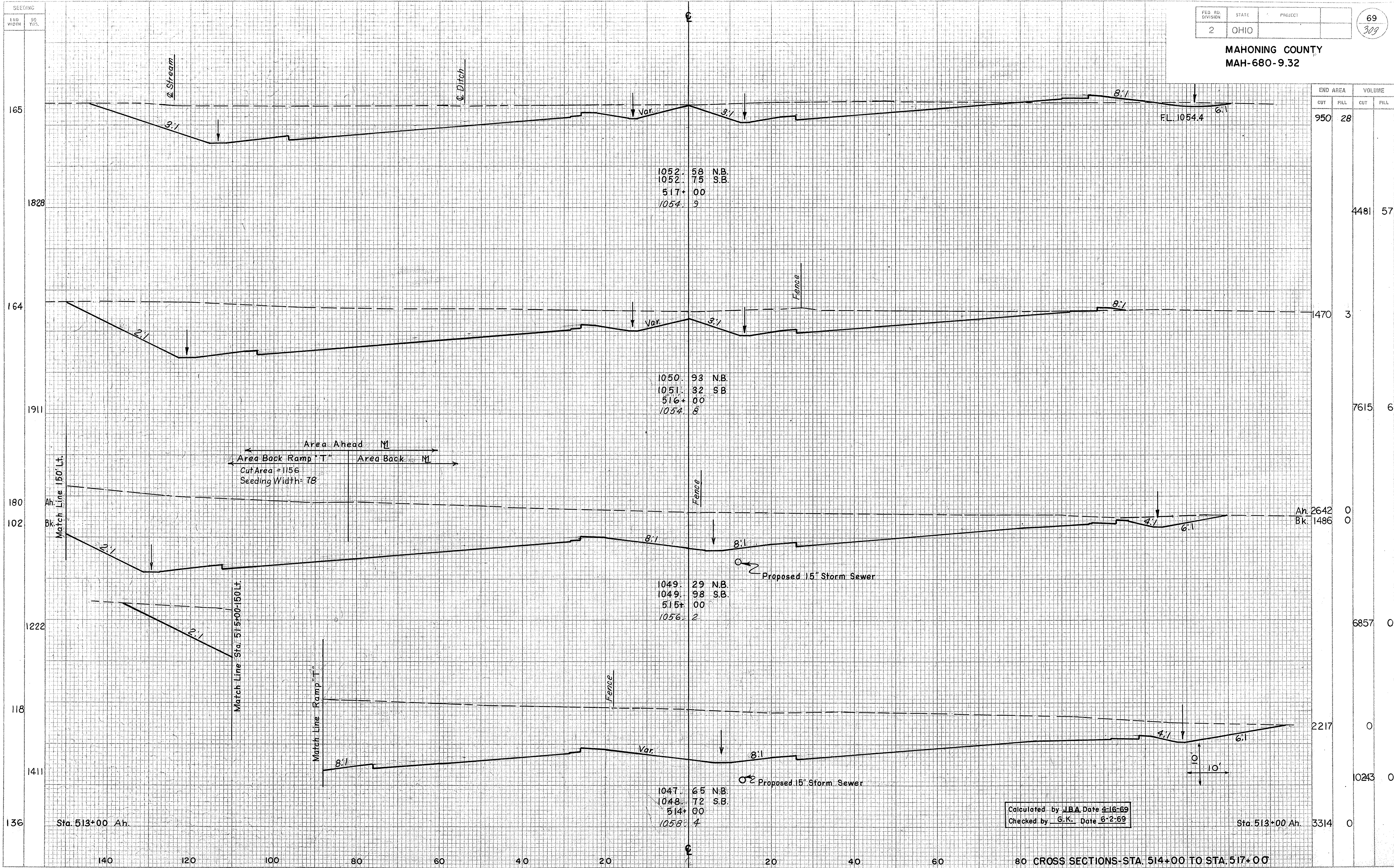
1044. 37 N.B.  
1046. 46 S.B.  
512+ 00  
1064. 3

1042. 74 N.B.  
1045. 47 S.B.  
511+ 00  
1066. 6

Calculated by JBA Date 4-15-69  
Checked by G.K. Date 5-2-69



MAHONING COUNTY  
MAH-680-9.32



END STA.	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
165	950	28		
1828			4481	57
164				
1911			7615	6
180				
102				
1222			6857	0
118				
1411				
136				
Sta. 513+00 Ah.				
Sta. 513+00 Ah.	3314	0		

Area Ahead M  
Area Back Ramp "T"  
Area Back M  
Cut Area = 1156  
Seeding Width = 78

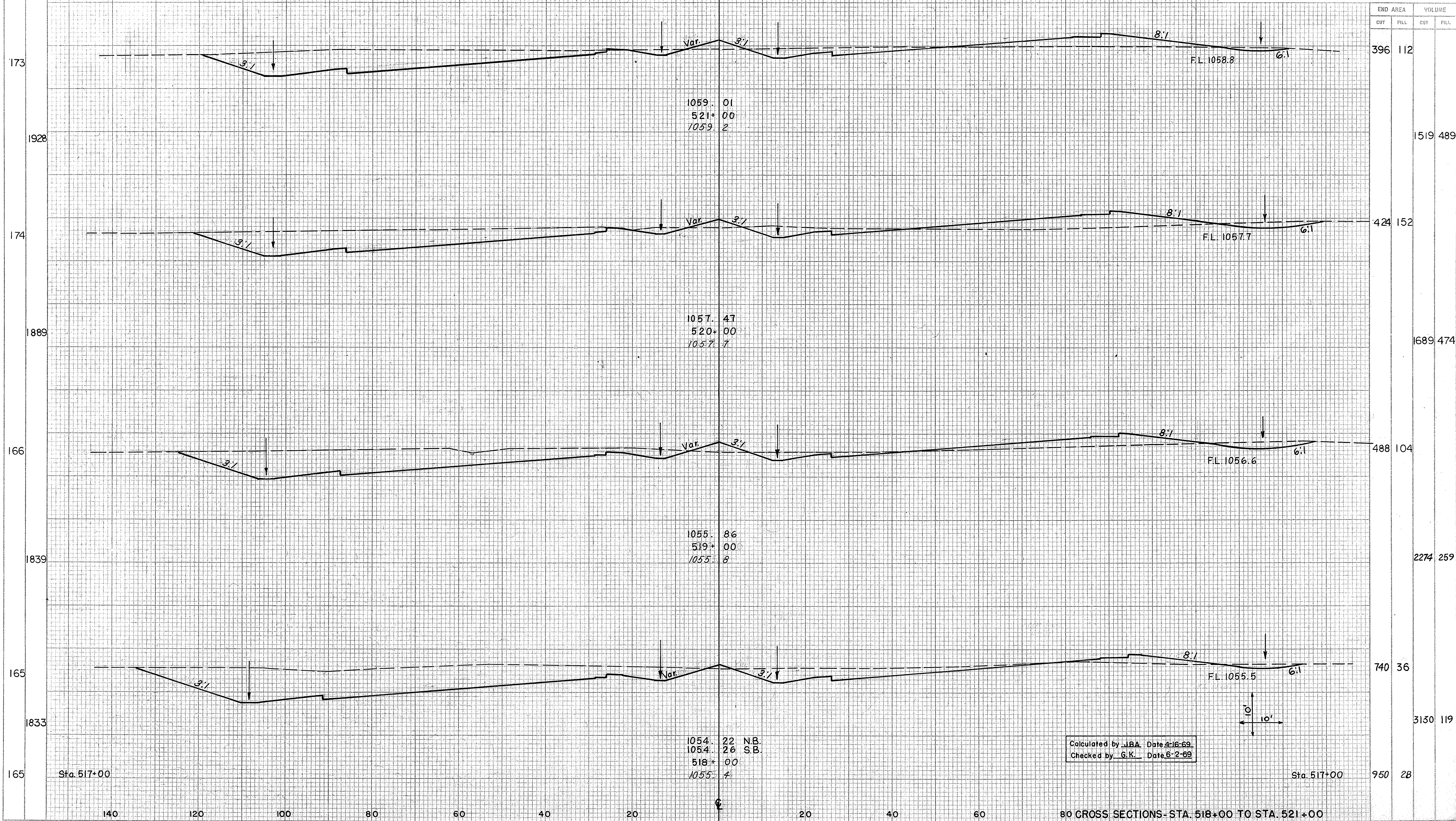
Calculated by JBA Date 4-16-69  
Checked by G.K. Date 6-2-69

SEEDING  
END WIDTH SO YDS.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

70  
303

MAHONING COUNTY  
MAH-680-9.32



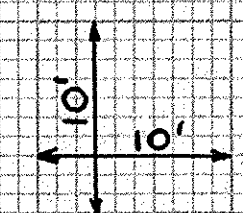
1059. 01  
521+ 00  
1059. 2

1057. 47  
520+ 00  
1057. 7

1055. 86  
519+ 00  
1055. 8

1054. 22 N.B.  
1054. 26 S.B.  
518+ 00  
1055. 4

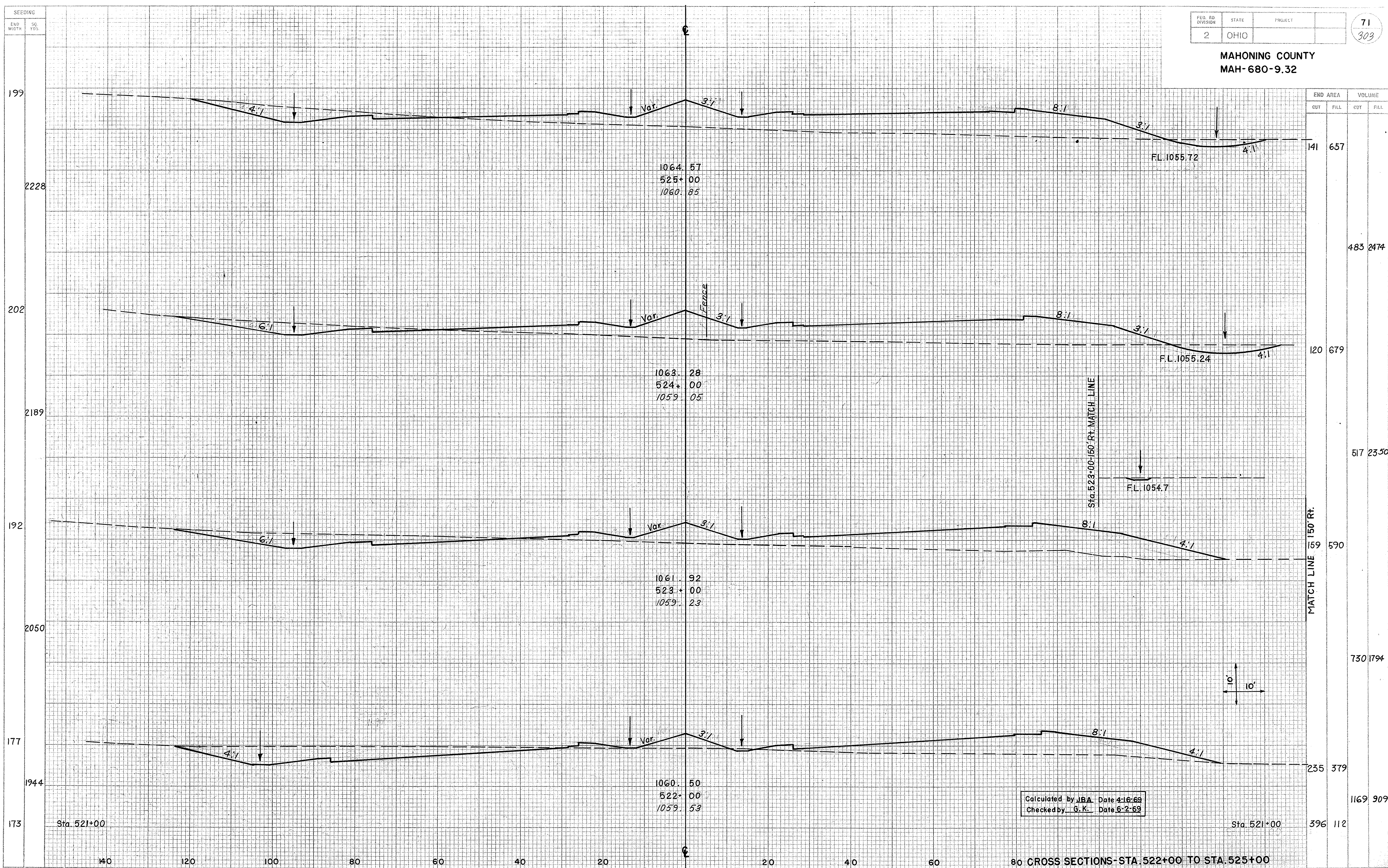
Calculated by JBA Date 4-16-69  
Checked by G.K. Date 6-2-69



80 CROSS SECTIONS- STA. 518+00 TO STA. 521+00



MAHONING COUNTY  
MAH-680-9.32



END AREA	VOLUME	
	CUT	FILL
141	657	
120	679	483 2474
159	590	517 2350
235	379	730 1794
396	112	1169 909

1064.57  
525+00  
1060.85

1063.28  
524+00  
1059.05

1061.92  
523+00  
1059.23

1060.50  
522+00  
1059.53

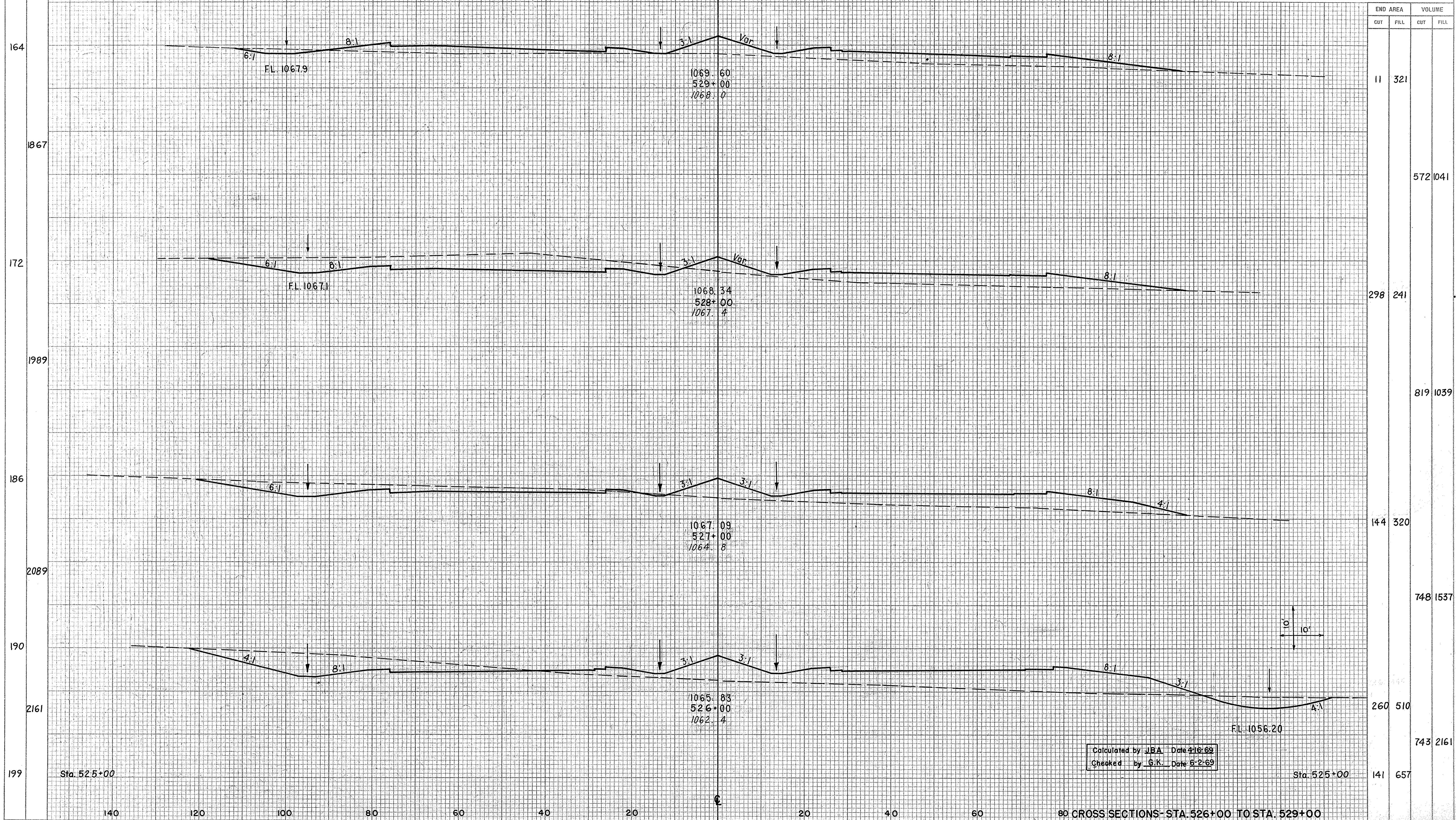
Calculated by J.B.A. Date 4-16-69  
Checked by G.K. Date 6-2-69

SEEDING  
END WIDTH SQ YDS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

72  
302

MAHONING COUNTY  
MAH-680-9.32



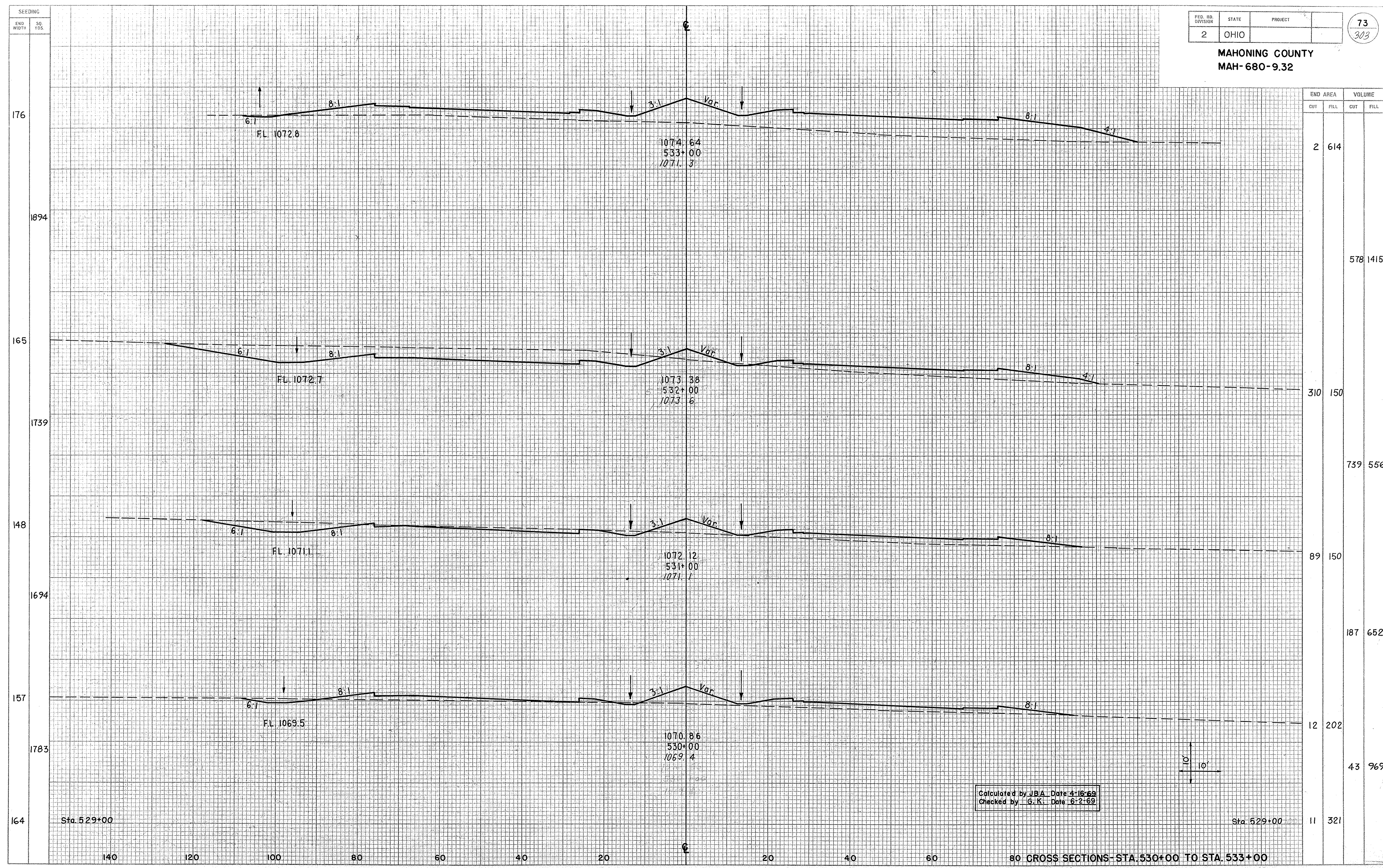
END AREA	VOLUME	
	CUT	FILL
11	321	
298	241	
144	320	
260	510	
141	657	
		572 1041
		819 1039
		748 1537
		743 2161

Calculated by JBA Date 4-16-69  
Checked by G.K. Date 6-2-69

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

73  
303

MAHONING COUNTY  
MAH-680-9.32



1074.64  
533+00  
1071.3

1073.38  
532+00  
1073.6

1072.12  
531+00  
1071.1

1070.86  
530+00  
1069.4

END AREA	VOLUME	
	CUT	FILL
2	614	
310	150	
89	150	
12	202	
11	321	

Calculated by JBA Date 4-16-69  
Checked by G.K. Date 6-2-69

Sta. 529+00

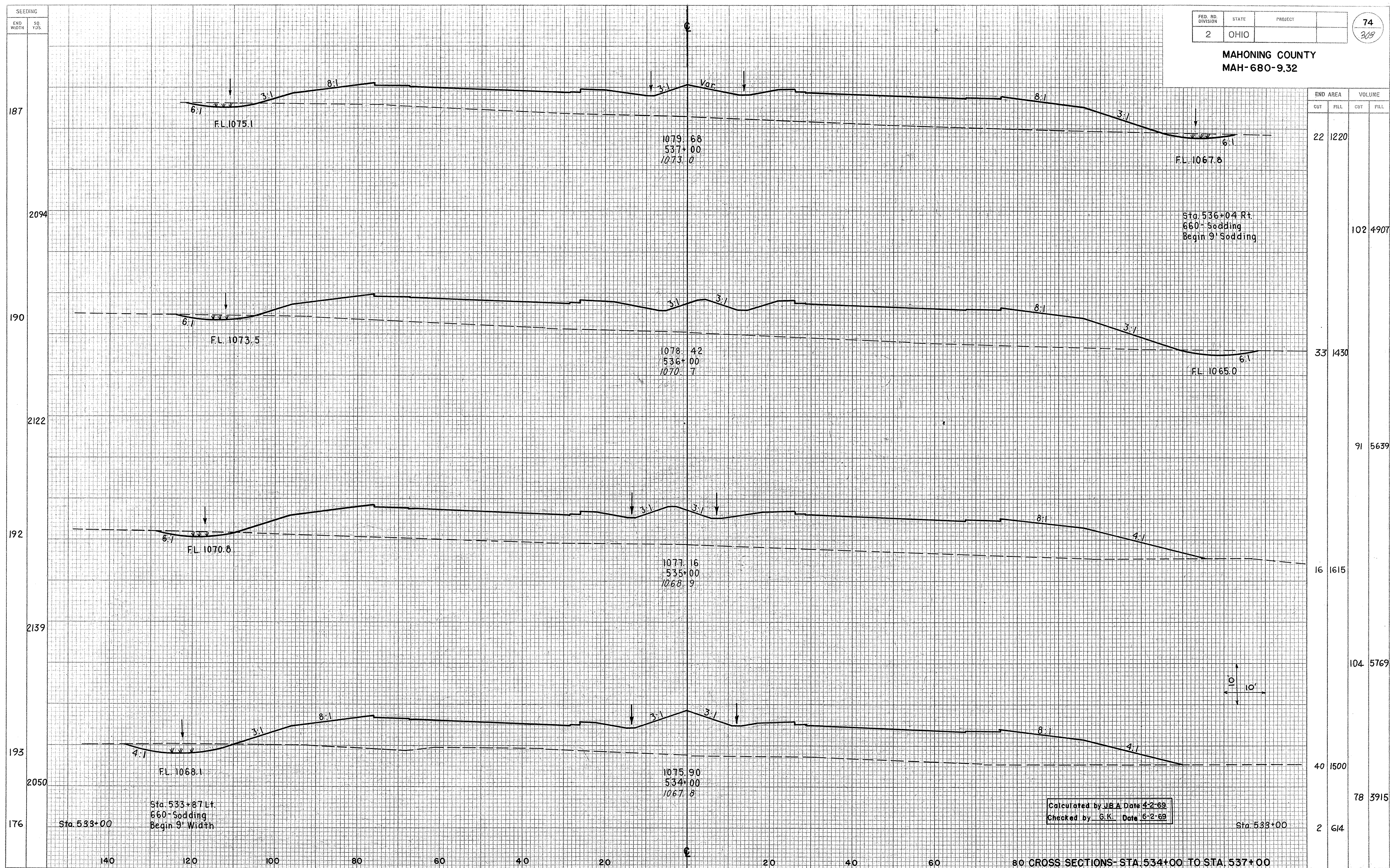
Sta. 529+00

80 CROSS SECTIONS - STA. 530+00 TO STA. 533+00

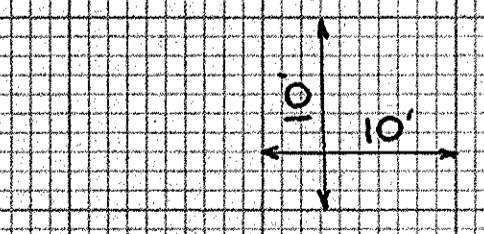
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

74  
308

MAHONING COUNTY  
MAH-680-9.32



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
187	22	1220		
2094				102 4907
190	33	1430		
2122				91 5639
192	16	1615		
2139				104 5769
193	40	1500		
2050				78 3915
176	2	614		



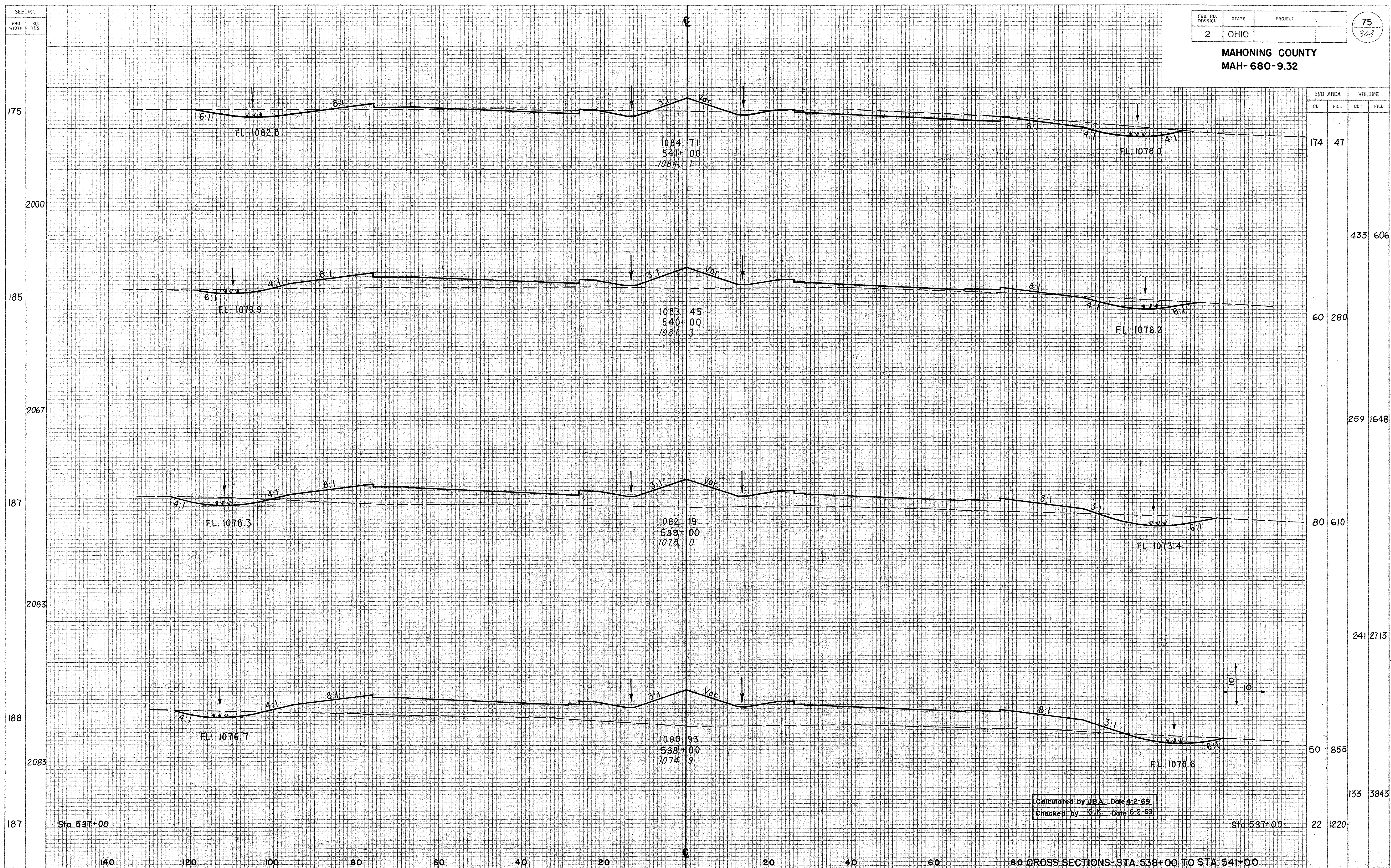
Calculated by JBA Date 4-2-69  
Checked by G.K. Date 6-2-69

Sta. 533+87 Lt.  
660' Sodding  
Begin 9' Width

Sta. 533+00

80 CROSS SECTIONS- STA. 534+00 TO STA. 537+00

MAHONING COUNTY  
MAH-680-9.32



Calculated by JBA Date 4-2-69  
Checked by G.K. Date 6-2-69

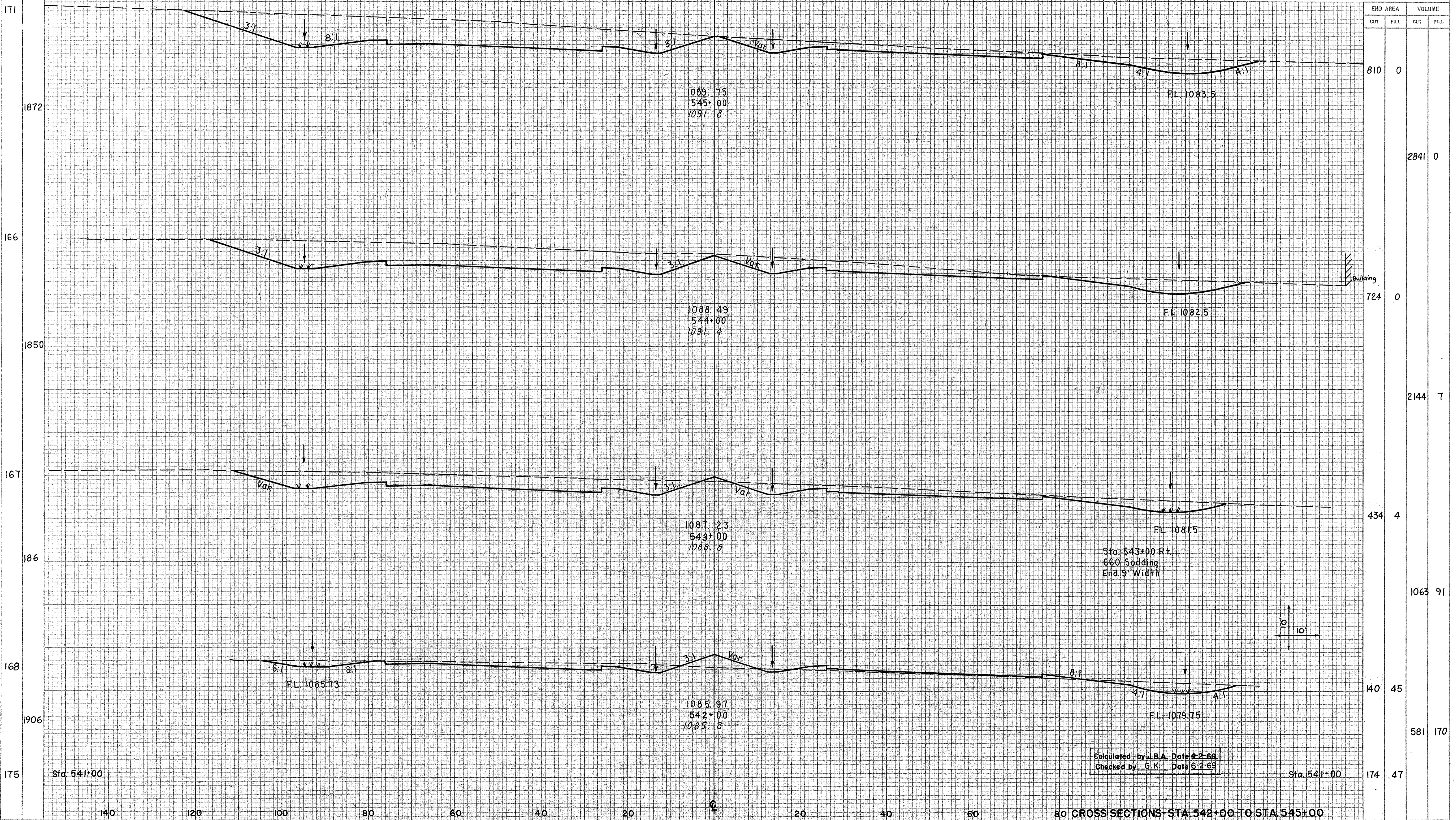
80 CROSS SECTIONS- STA. 538+00 TO STA. 541+00

SEEDING  
END WIDTH  
50 YDS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

76  
303

MAHONING COUNTY  
MAH-680-9.32



END AREA	VOLUME	
	CUT	FILL
810	0	
		2841 0
724	0	
		2144 7
434	4	
		1063 91
140	45	
		581 (70)
174	47	

Calculated by J.B.A. Date 4-2-69.  
Checked by G.K. Date 6-2-69

Sta. 541+00

Sta. 541+00

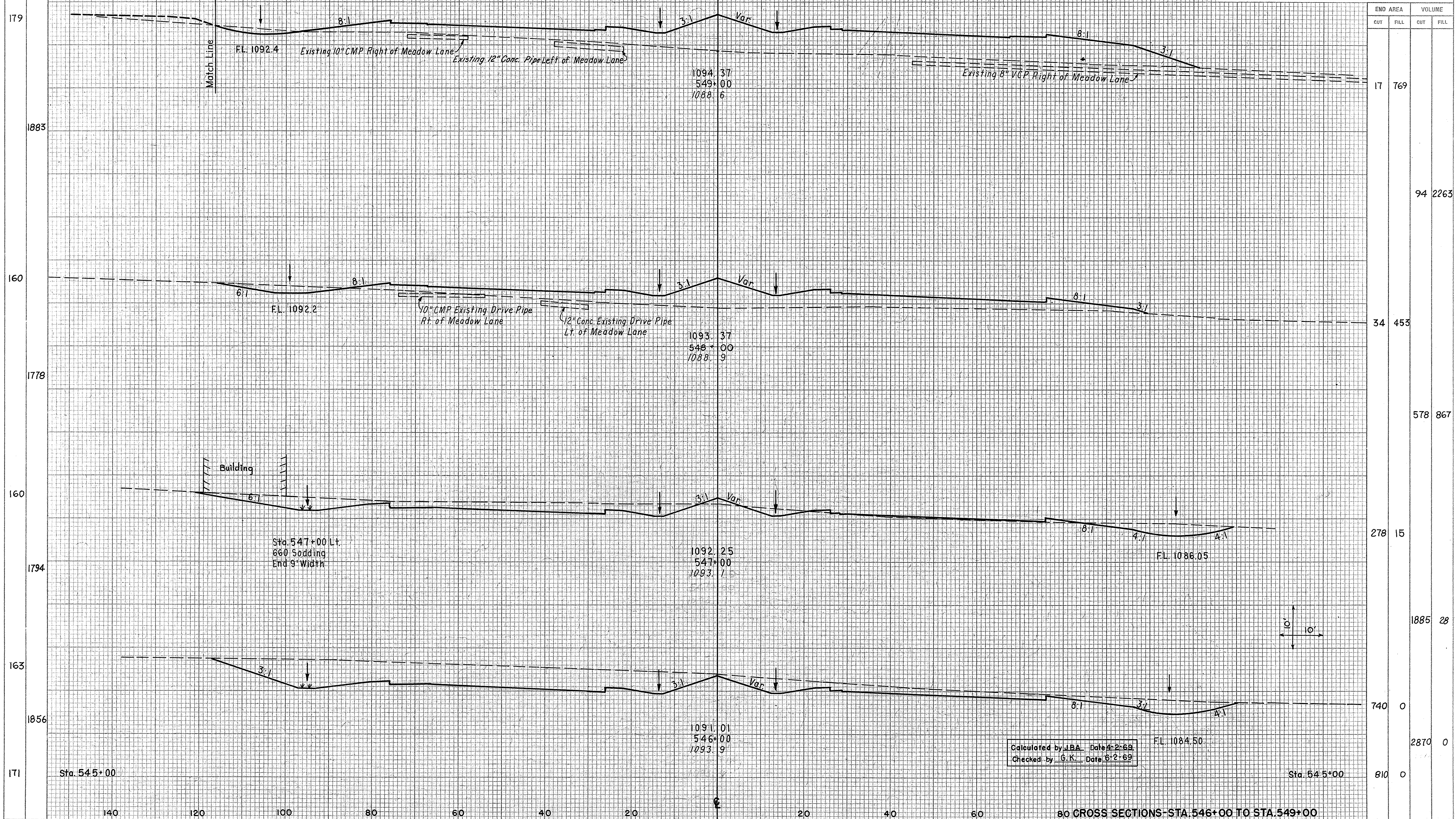
80 CROSS SECTIONS- STA. 542+00 TO STA. 545+00

SEEDING  
END WIDTH SQ YDS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

77  
309

MAHONING COUNTY  
MAH-680-9.32



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
179	17	769		
1883			94	2263
160	34	453		
1778			578	867
160				
1794	278	15		
163			1885	28
1856	740	0		
			2870	0
171	810	0		

Calculated by J.B.A. Date 4-2-69  
Checked by G.K. Date 6-2-69

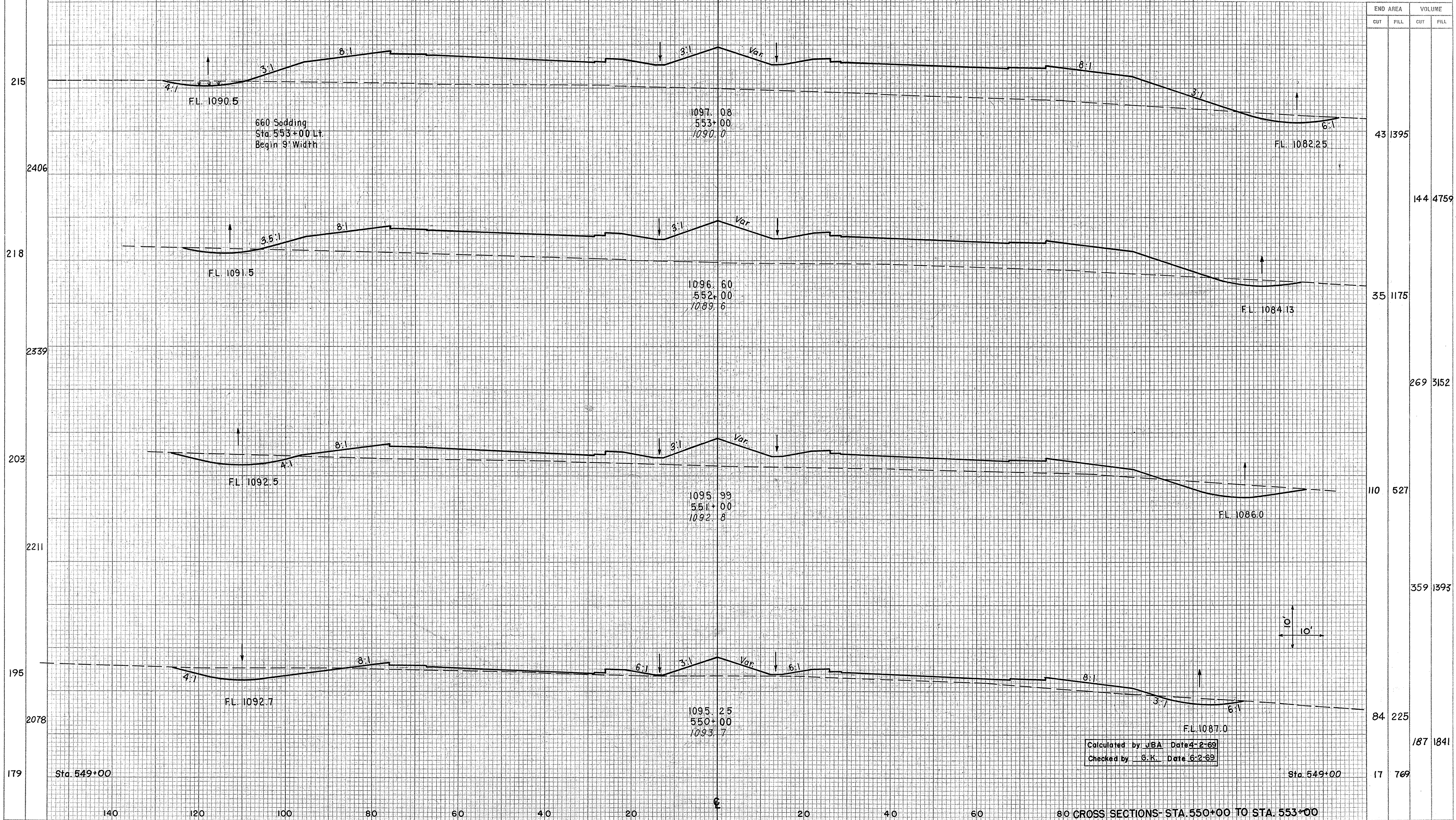
80 CROSS SECTIONS-STA. 546+00 TO STA. 549+00

SEEDING  
END WIDTH SQ YDS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

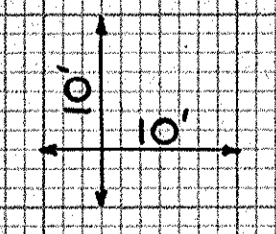
78  
303

MAHONING COUNTY  
MAH-680-9.32



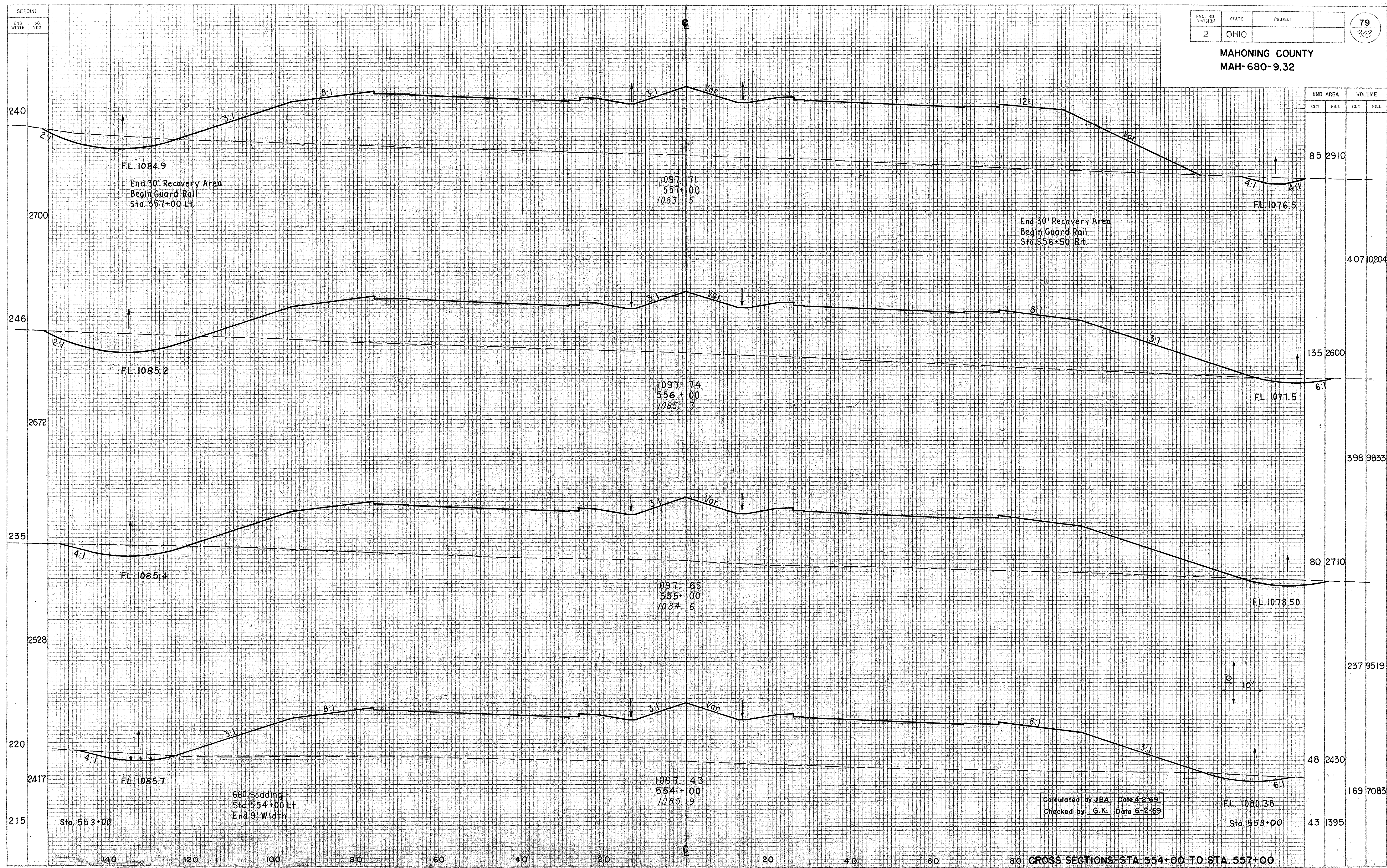
END AREA	VOLUME	
	CUT	FILL
43	1395	
		144 4759
35	1175	
		269 3152
110	527	
		359 1393
84	225	
		187 1841
17	769	

Calculated by JBA Date 4-2-69  
Checked by G.K. Date 6-2-69





MAHONING COUNTY  
MAH-680-9.32



END AREA	VOLUME	
	CUT	FILL
85 2910		
407 10204		
135 2600		
6 1		
398 9833		
80 2710		
237 9519		
48 2430		
169 7083		
43 1395		

FL 1084.9  
End 30' Recovery Area  
Begin Guard Rail  
Sta. 557+00 Lt.

1097. 71  
557+ 00  
1083. 5

End 30' Recovery Area  
Begin Guard Rail  
Sta. 556+50 R.T.

FL 1076.5

FL 1085.2

1097. 74  
556+ 00  
1085. 3

FL 1077.5

FL 1085.4

1097. 85  
555+ 00  
1084. 6

FL 1078.50

FL 1085.7

1097. 43  
554+ 00  
1085. 9

FL 1080.38

Sta. 553+00

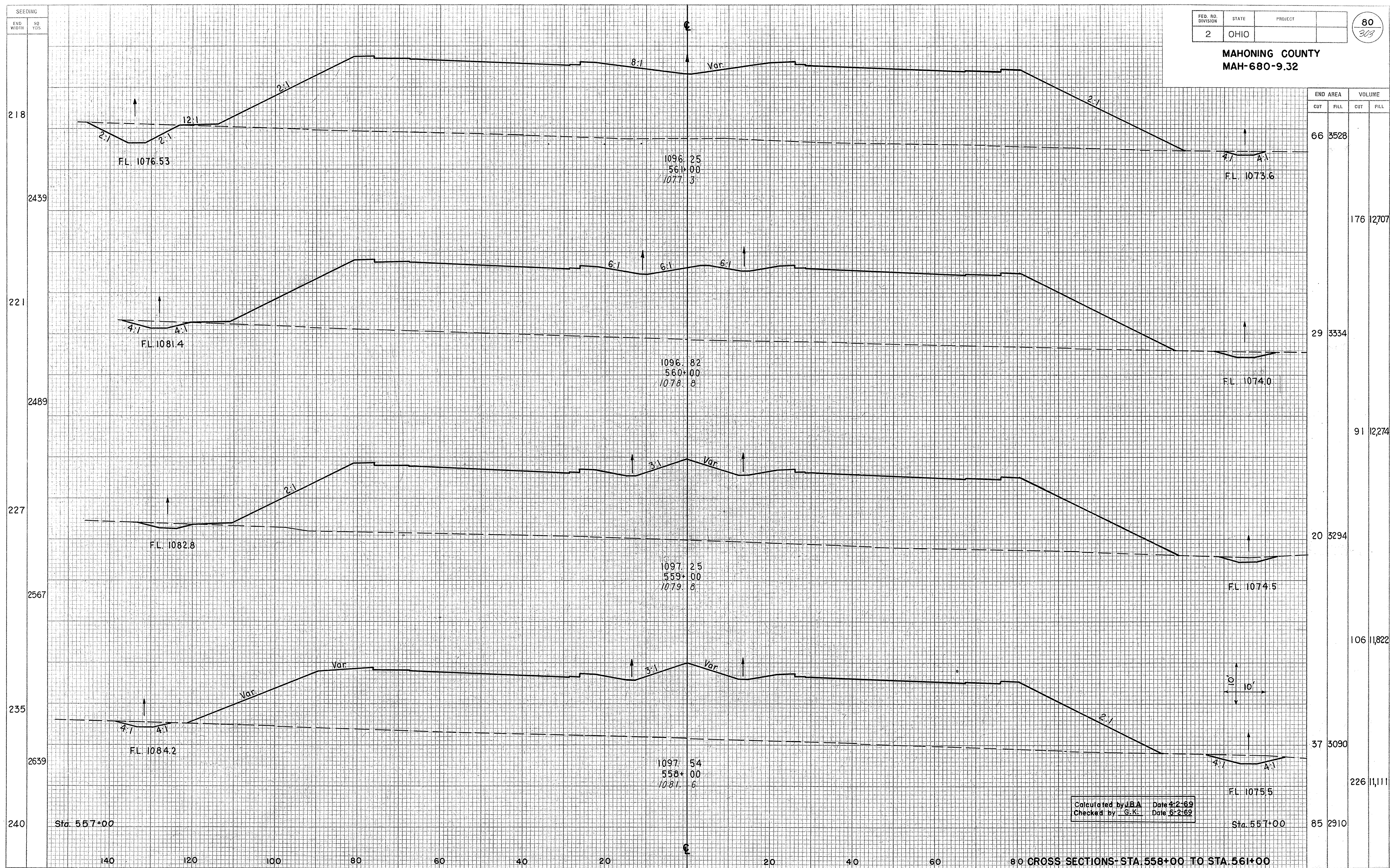
660 Sodding  
Sta. 554+00 Lt.  
End 9' Width

Calculated by JBA Date 4-2-69  
Checked by G.K. Date 6-2-69

Sta. 553+00

80 CROSS SECTIONS-STA. 554+00 TO STA. 557+00

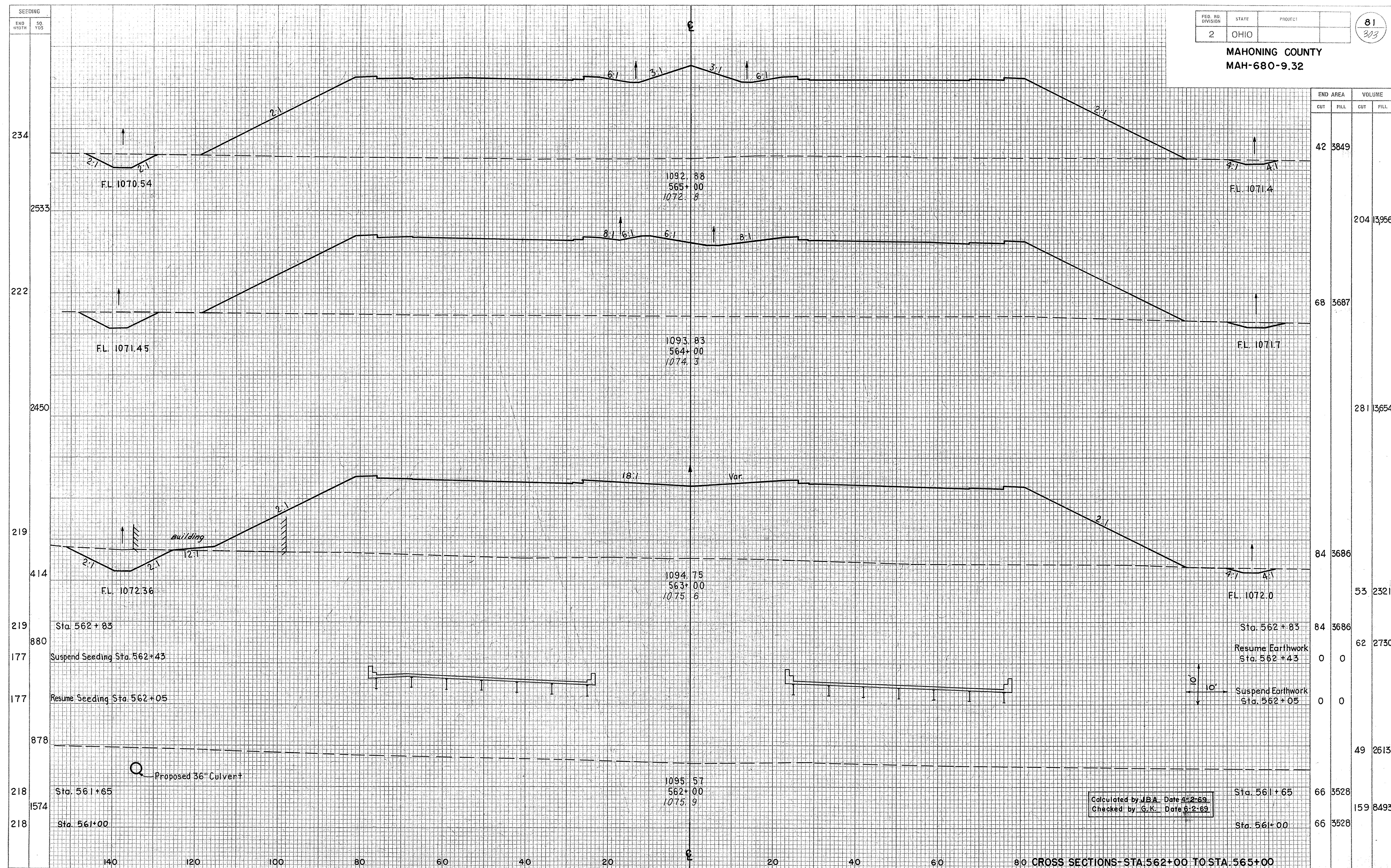
MAHONING COUNTY  
MAH-680-9.32



Calculated by JBA Date 4-2-69  
Checked by G.K. Date 5-2-69

80 CROSS SECTIONS- STA. 558+00 TO STA. 561+00

MAHONING COUNTY  
MAH-680-9.32



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
234	42	3849		
2533			204	13956
222	68	3687		
2450			281	13654
219	84	3686		
414			53	2321
219	84	3686		
880			62	2730
177	0	0	0	0
177	0	0	0	0
878			49	2613
218	66	3528		
1574			159	8493
218	66	3528		

Calculated by J.B.A. Date 4-2-69  
Checked by G.K. Date 6-2-69

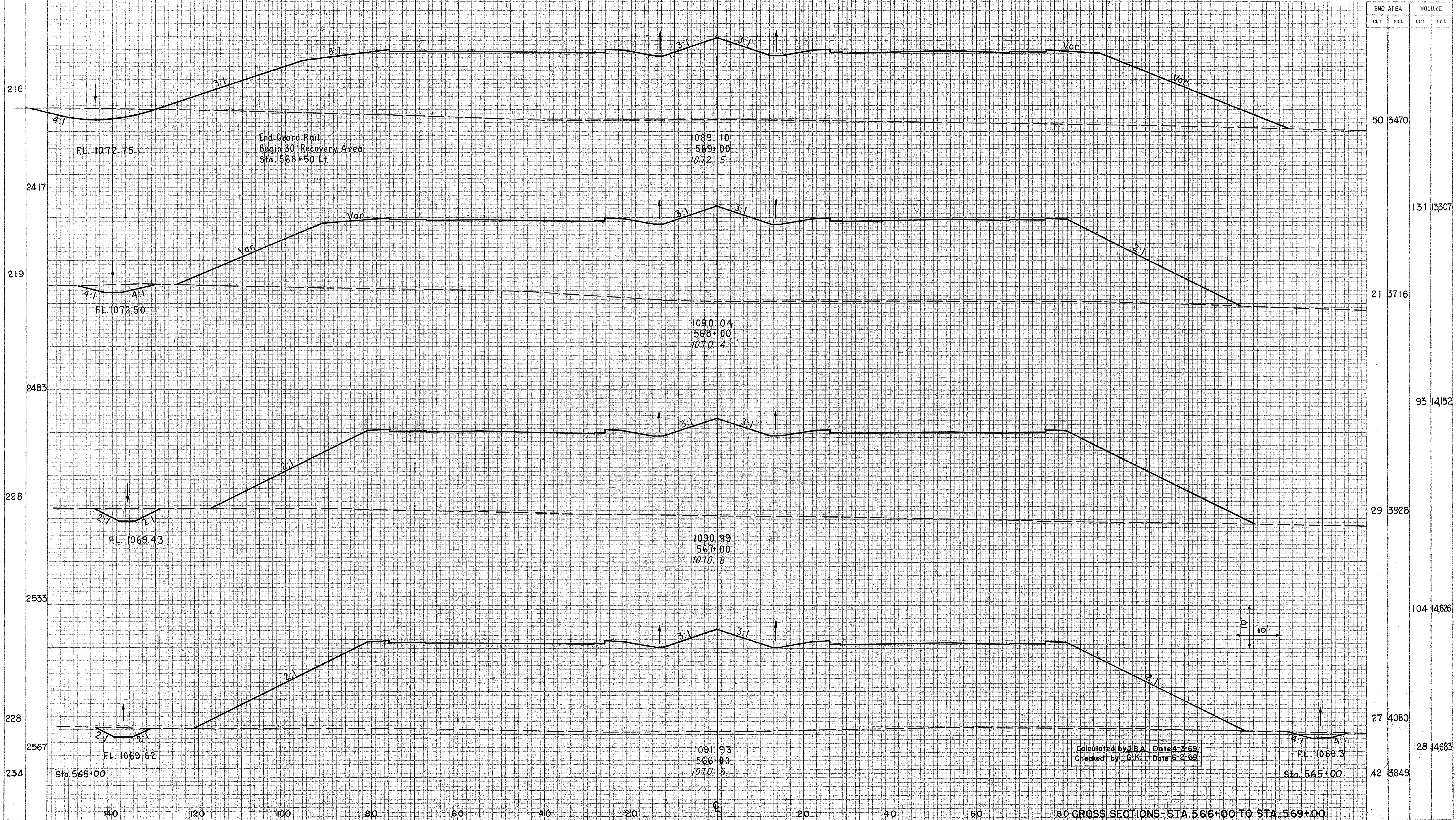
CROSS SECTIONS- STA. 562+00 TO STA. 565+00

SEEDING  
END WIDTH  
50 YDS.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

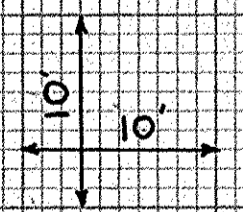
82  
303

MAHONING COUNTY  
MAH-680-9.32



END AREA	VOLUME	
	CUT	FILL
50	3470	
21	3716	131
29	3926	13307
27	4080	93
42	3849	14152
		29
		104
		128

Calculated by J.B.A. Date 4-3-69  
Checked by G.K. Date 6-2-69



End Guard Rail  
Begin 30' Recovery Area  
Sta. 568+50 Lt.

FL. 1072.75

1089.10  
569+00  
1072.5

FL. 1072.50

1090.04  
568+00  
1070.4

FL. 1069.43

1090.99  
567+00  
1070.8

FL. 1069.62

1091.93  
566+00  
1070.6

FL. 1069.3

Sta. 565+00

Sta. 565+00

SEEDING  
END WIDTH SQ YDS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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303

MAHONING COUNTY  
MAH-680-9.32



END AREA	VOLUME	
	CUT	FILL
30	2380	
64	2790	174
28	3136	9574
30	3428	10974
50	3470	12156
		148
		12774

End Guard Rail  
Begin 30' Recovery Area  
Sta 570+00 Rt.  
Calculated by J.B.A. Date 4-3-69  
Checked by G.K.I. Date 6-2-69

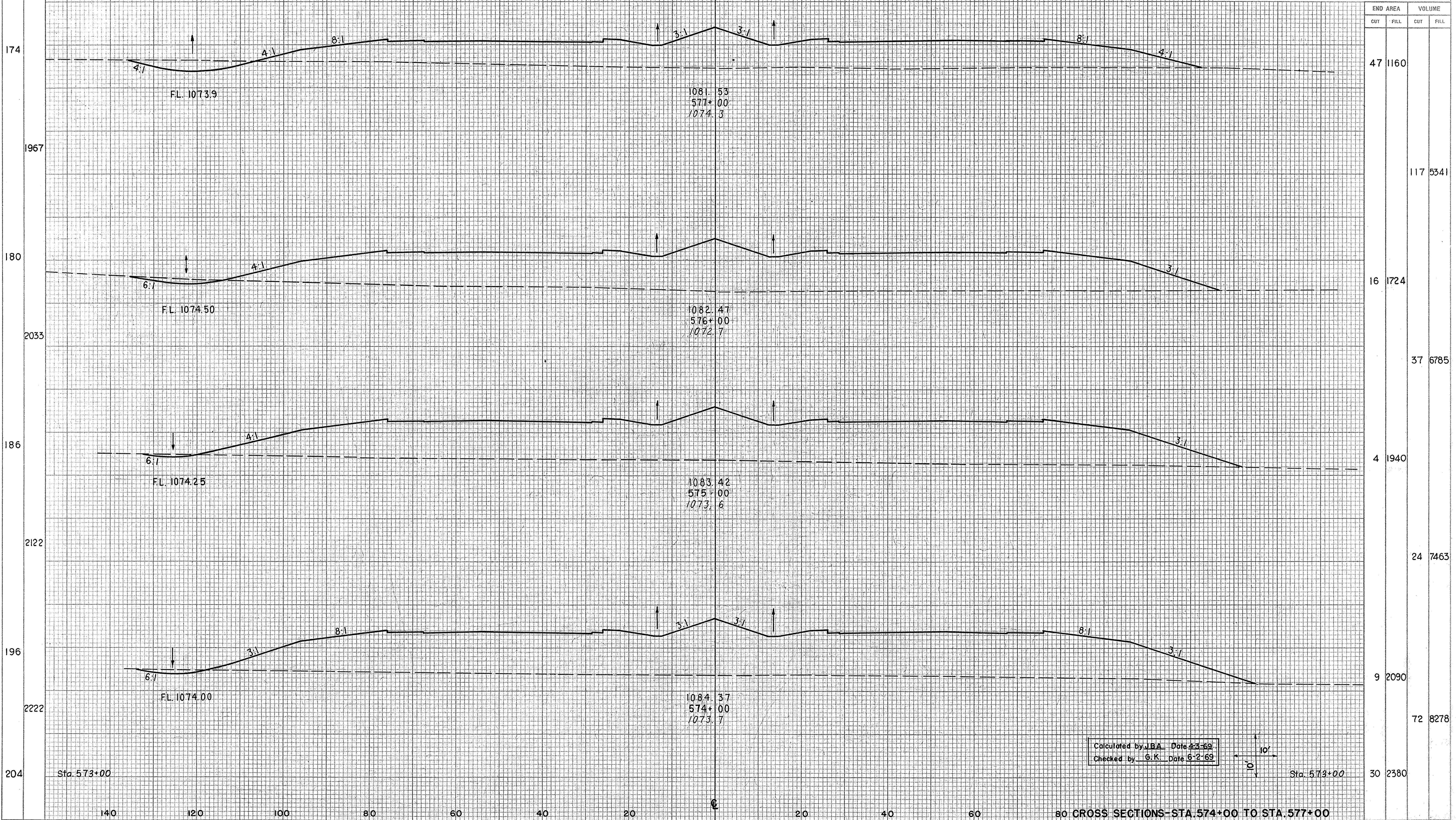
80 CROSS SECTIONS- STA. 570+00 TO STA. 573+00

SEEDING  
END WIDTH SO YDS

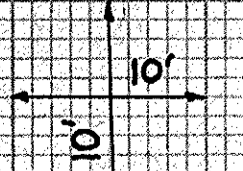
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

84  
303

MAHONING COUNTY  
MAH-680-9.32



Calculated by J.B.A. Date 4-3-69  
Checked by G.K. Date 6-2-69



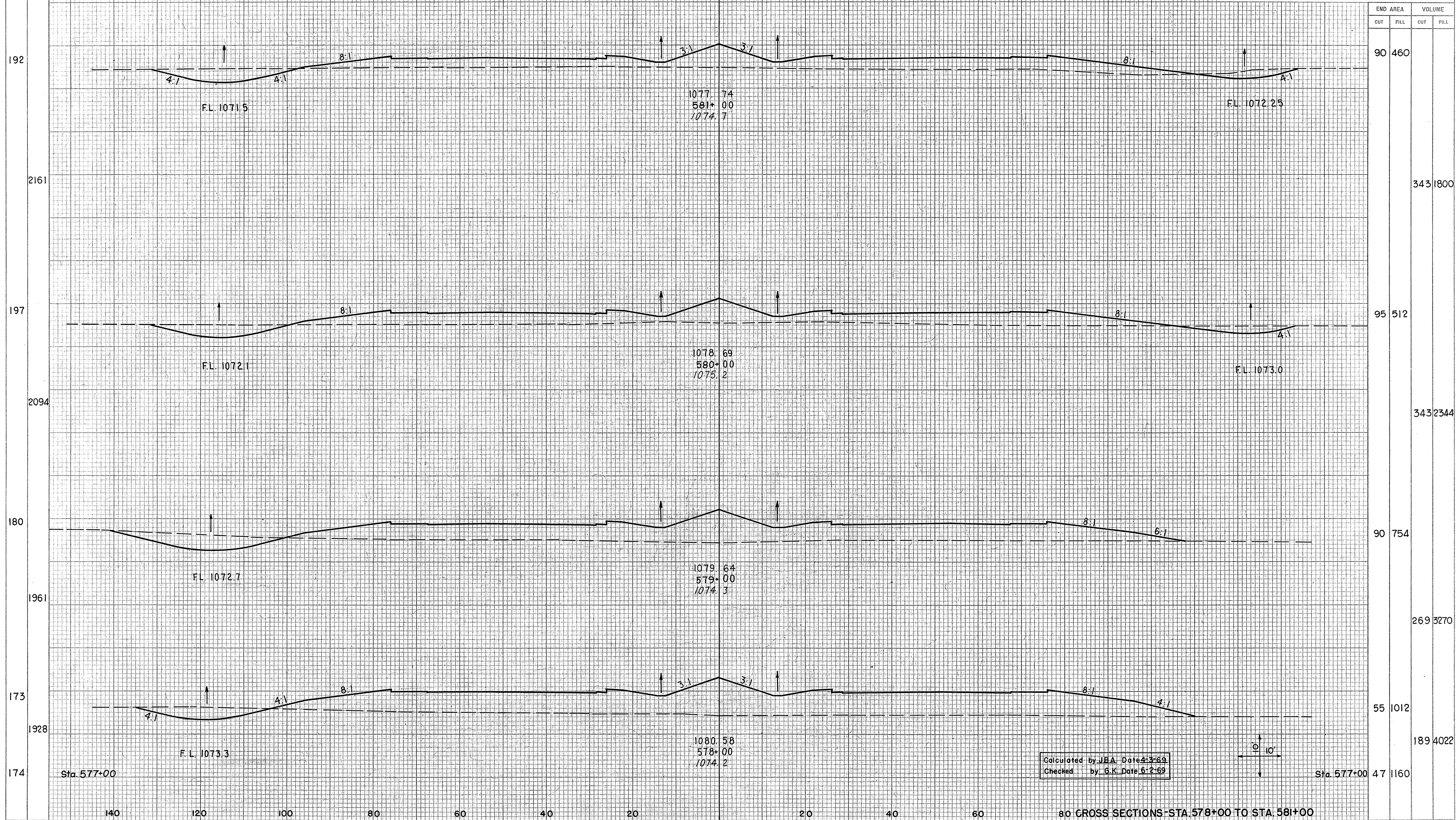
80 CROSS SECTIONS-STA. 574+00 TO STA. 577+00

SEEDING  
END WIDTH SQ YDS

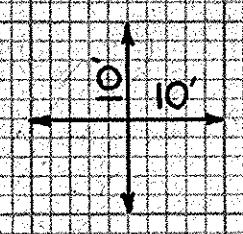
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

85  
303

MAHONING COUNTY  
MAH-680-9.32



Calculated by JBA Date 4-3-69  
Checked by G.K. Date 6-2-69



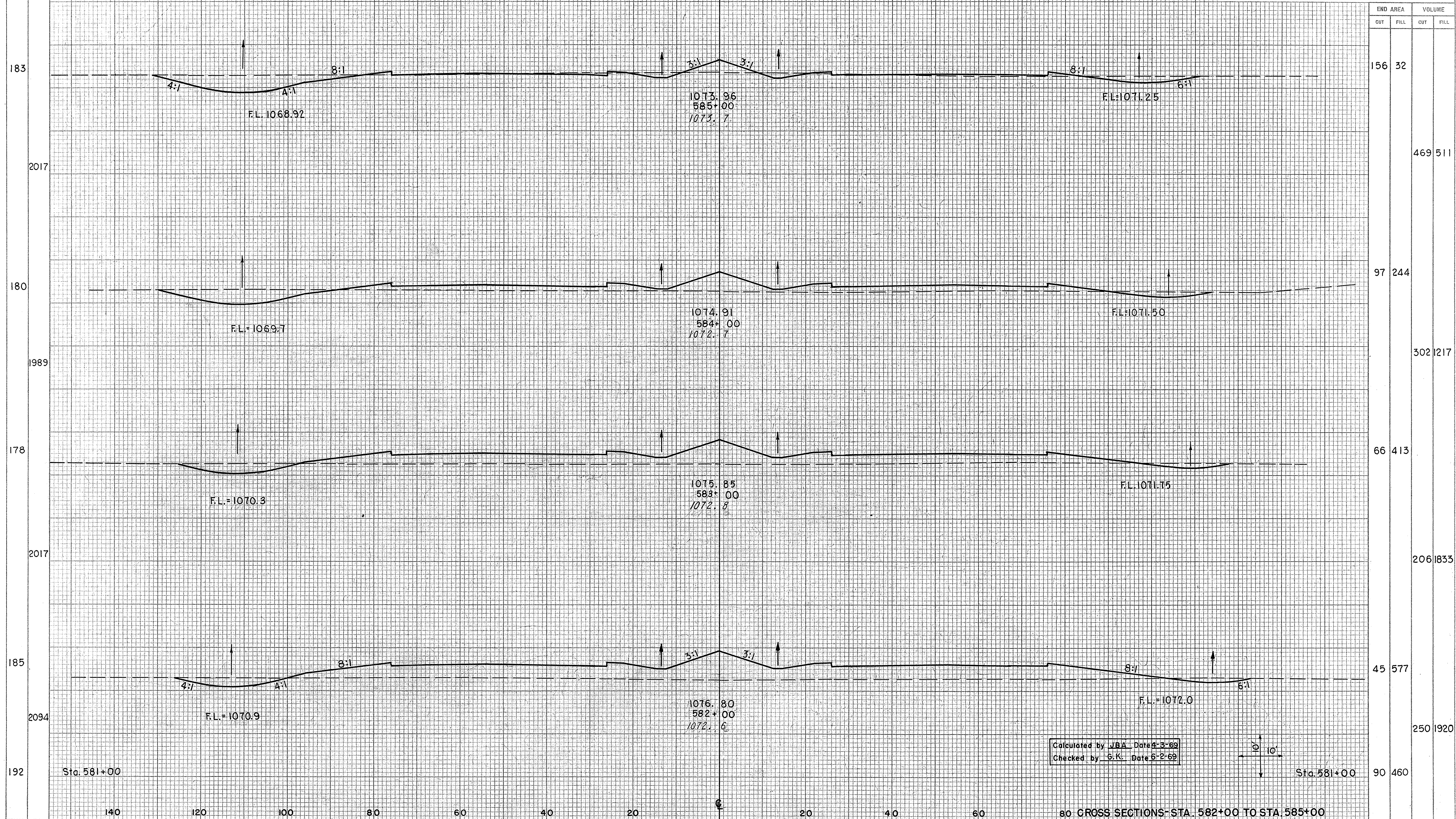
80 CROSS SECTIONS-STA. 578+00 TO STA. 581+00

SEEDING  
END WIDTH  
SQ YDS.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

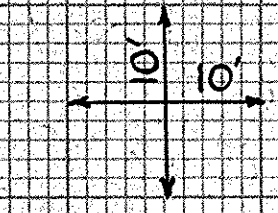
86  
303

MAHONING COUNTY  
MAH-680-9.32



END AREA	VOLUME	
	CUT	FILL
156	32	
		469 511
97	244	
		302 1217
66	413	
		206 1833
45	577	
		250 1920
90	460	

Calculated by JBA Date 4-3-69  
Checked by G.K. Date 6-2-69



80 CROSS SECTIONS-STA. 582+00 TO STA. 585+00

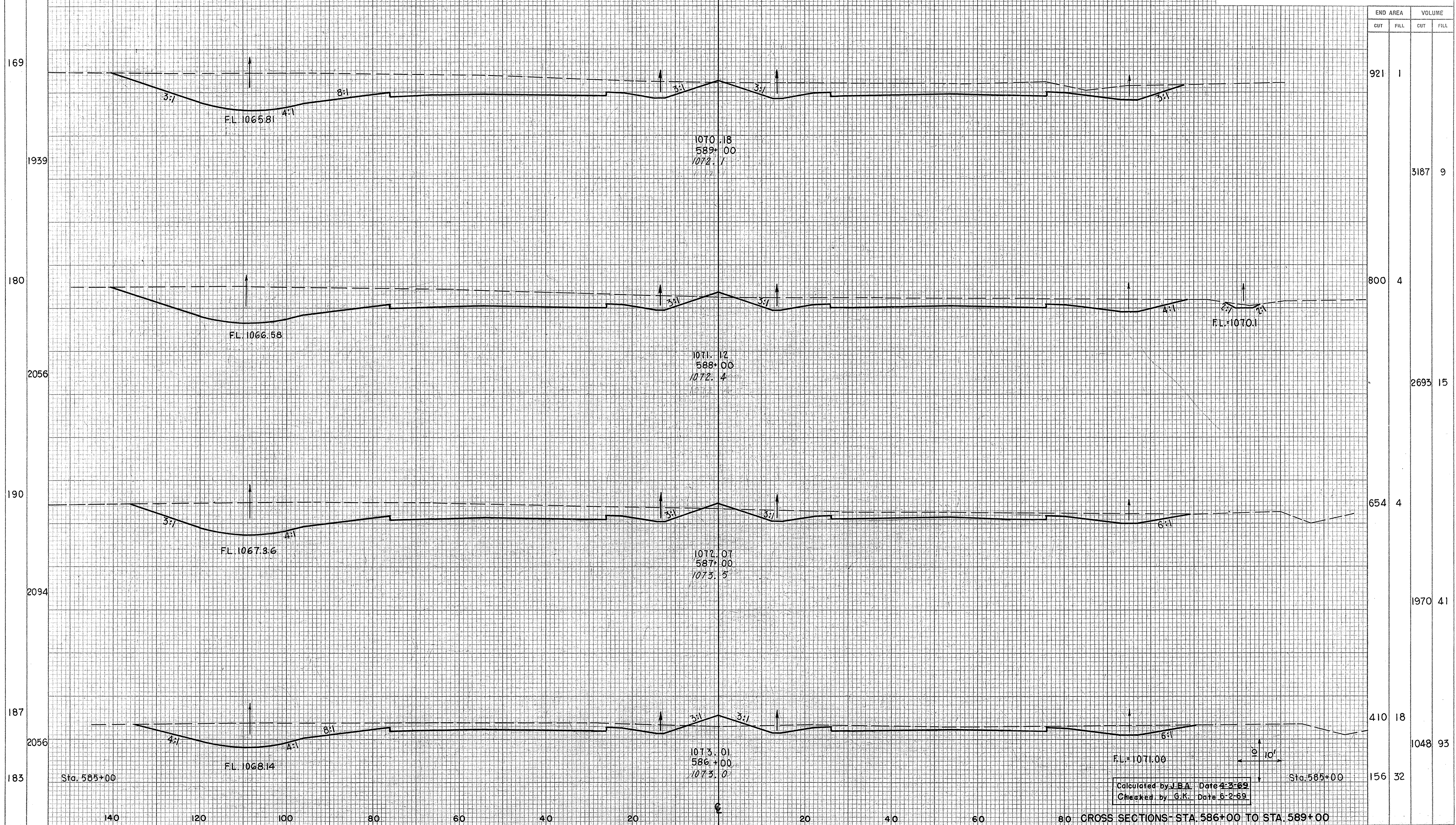


SEEDING  
END WIDTH SQ YDS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

87  
303

MAHONING COUNTY  
MAH-680-9.32



Calculated by J.B.A. Date 4-3-69  
Checked by G.K. Date 6-2-69

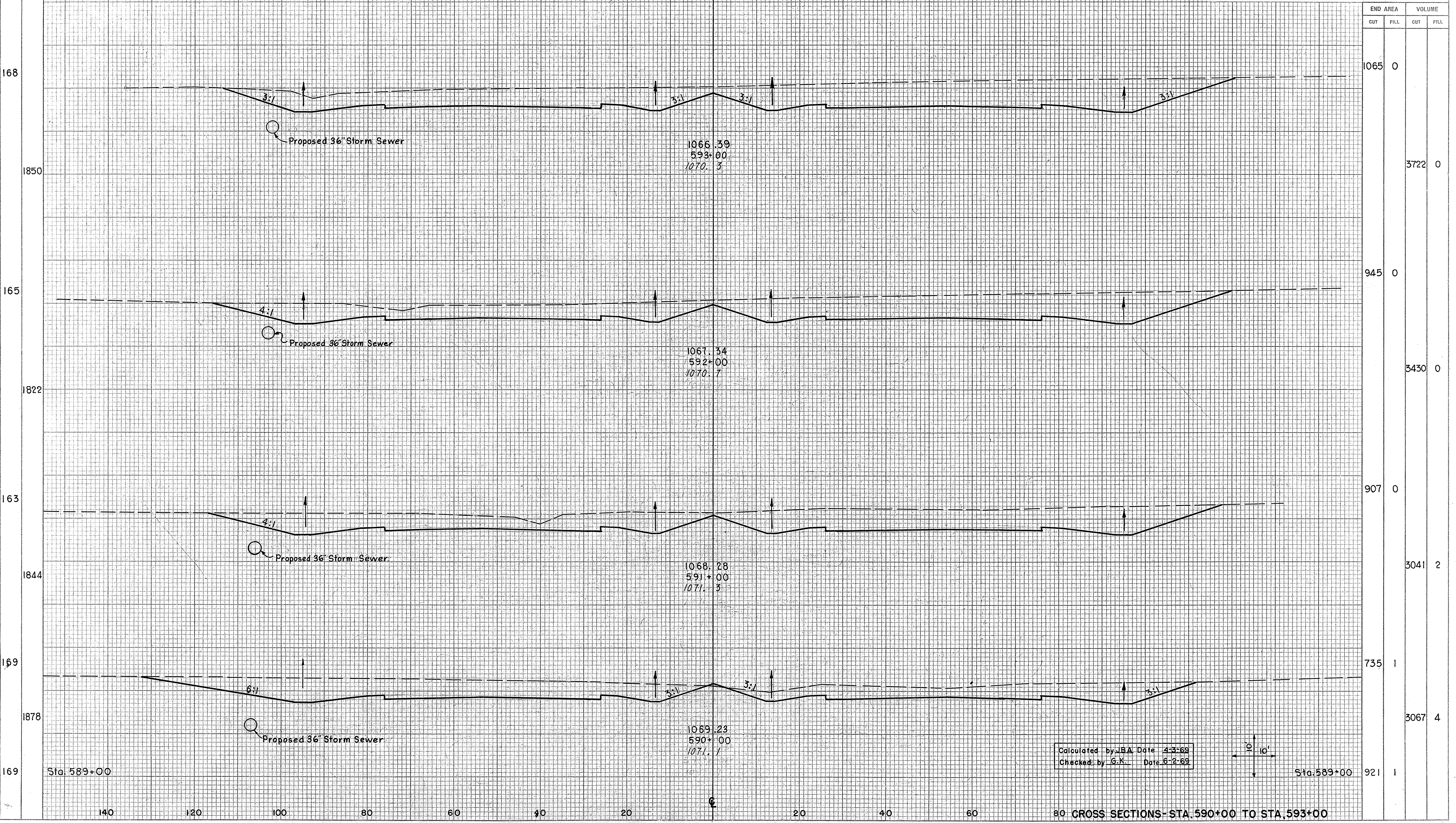
GROSS SECTIONS - STA. 586+00 TO STA. 589+00

SEEDING  
END WIDTH  
SQ YDS.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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303

MAHONING COUNTY  
MAH-680-9.32



END AREA	VOLUME	
	CUT	FILL
1065	0	
		3722
945	0	
		3430
907	0	
		3041
735	1	
		3067
921	1	

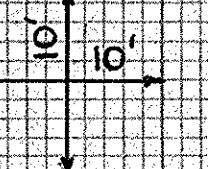
1066.39  
593+00  
1070.3

1061.34  
592+00  
1070.7

1068.28  
591+00  
1071.3

1069.23  
590+00  
1071.1

Calculated by JBA Date 4-3-69  
Checked by G.K. Date 6-2-69



Sta. 589+00

Sta. 589+00

80 CROSS SECTIONS- STA. 590+00 TO STA. 593+00

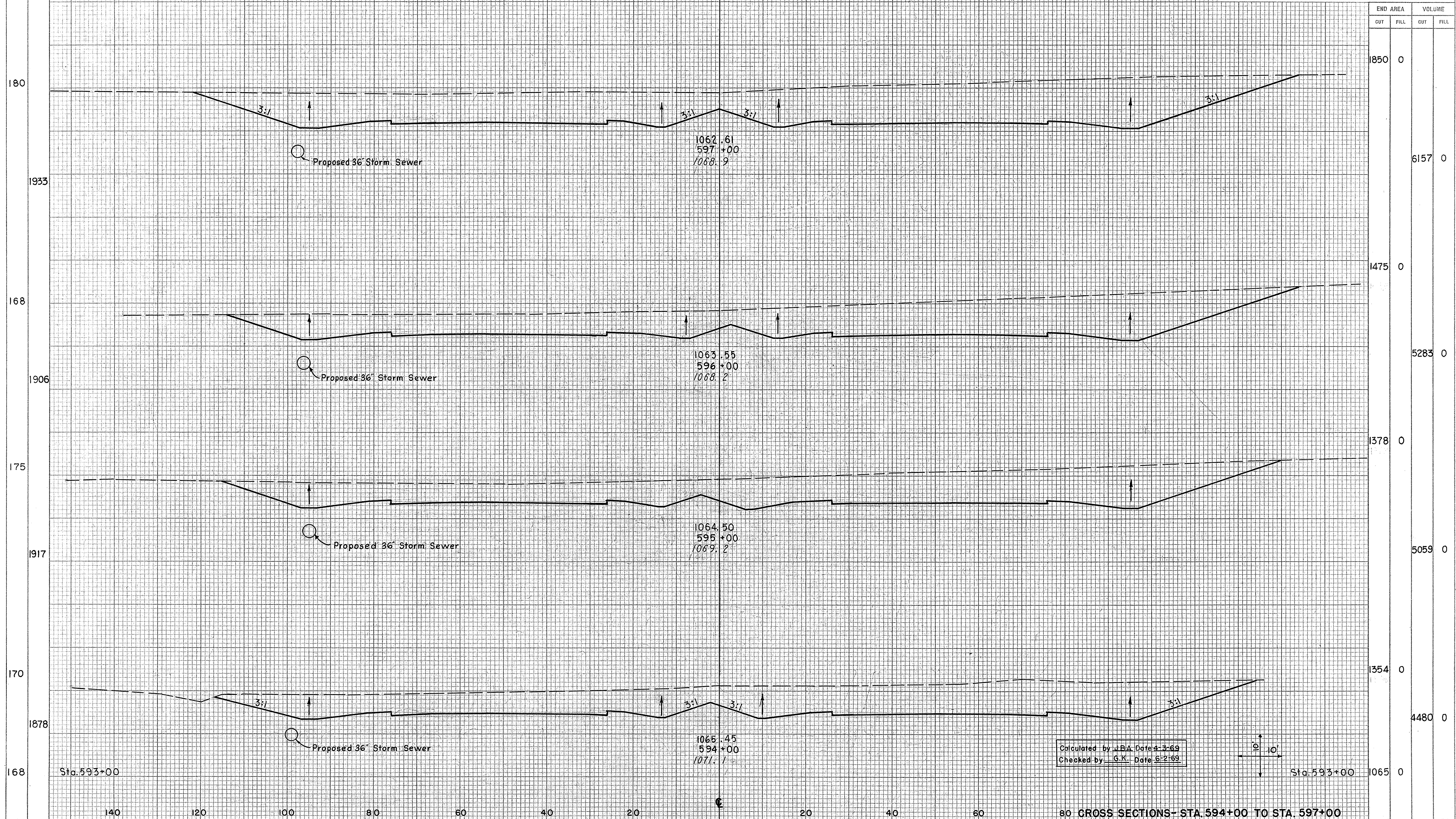
140 120 100 80 60 40 20 20 40 60

SEEDING  
END WIDTH SO  
YDS.

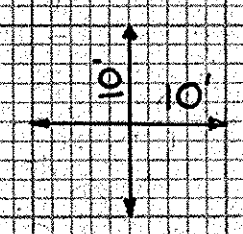
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

89  
303

MAHONING COUNTY  
MAH-680-9.32



Calculated by J.B.A. Date 4-3-69  
Checked by G.K. Date 6-2-69

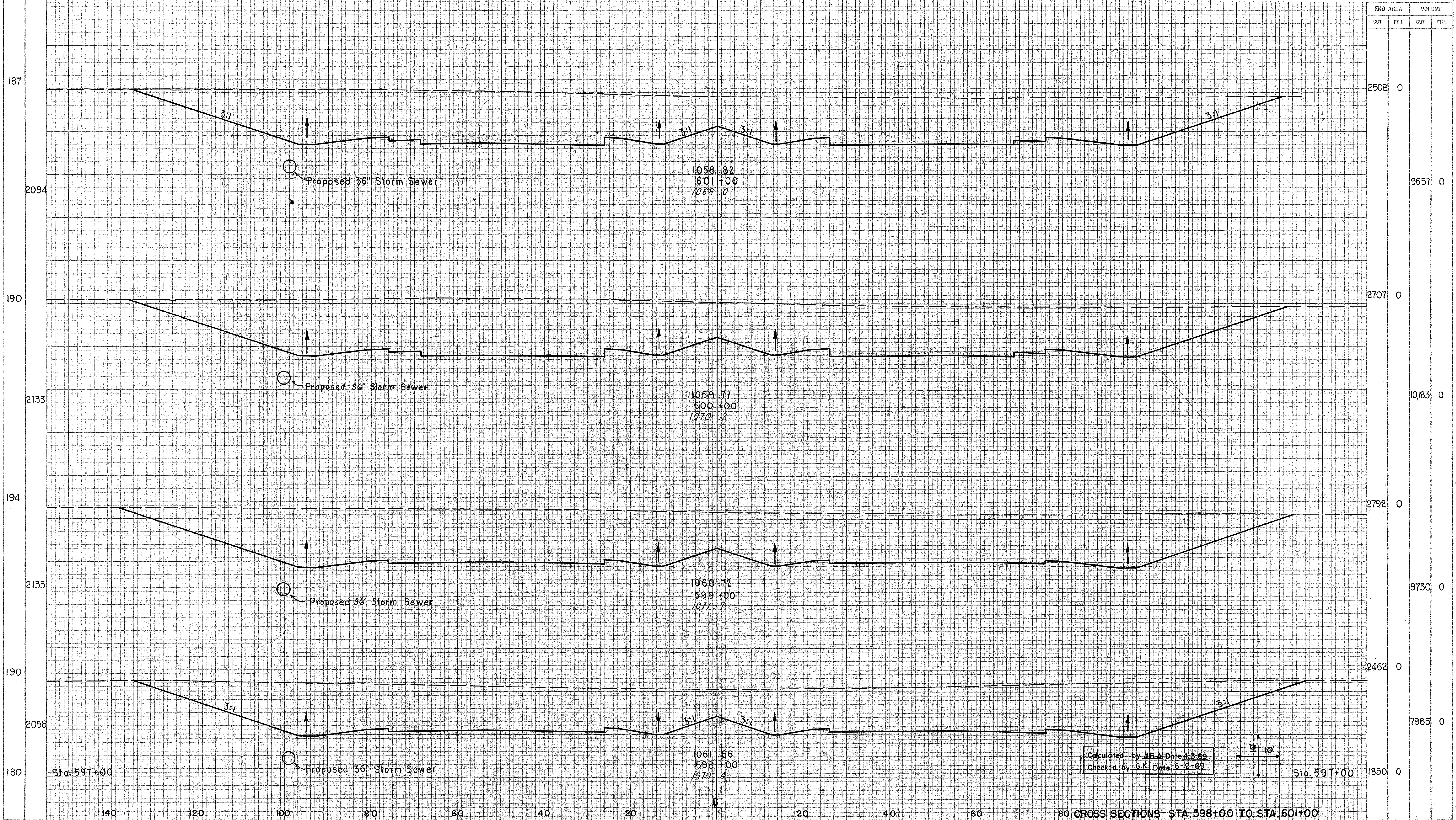


80 CROSS SECTIONS- STA. 594+00 TO STA. 597+00

SEEDING  
END WIDTH SQ YDS

FED. RD. DIVISION	STATE	PROJECT	90
2	OHIO		303

MAHONING COUNTY  
MAH-680-9.32



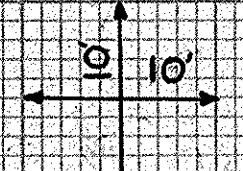
1058.82  
601+00  
1068.0

1059.77  
600+00  
1070.2

1060.72  
599+00  
1071.7

1061.66  
598+00  
1070.4

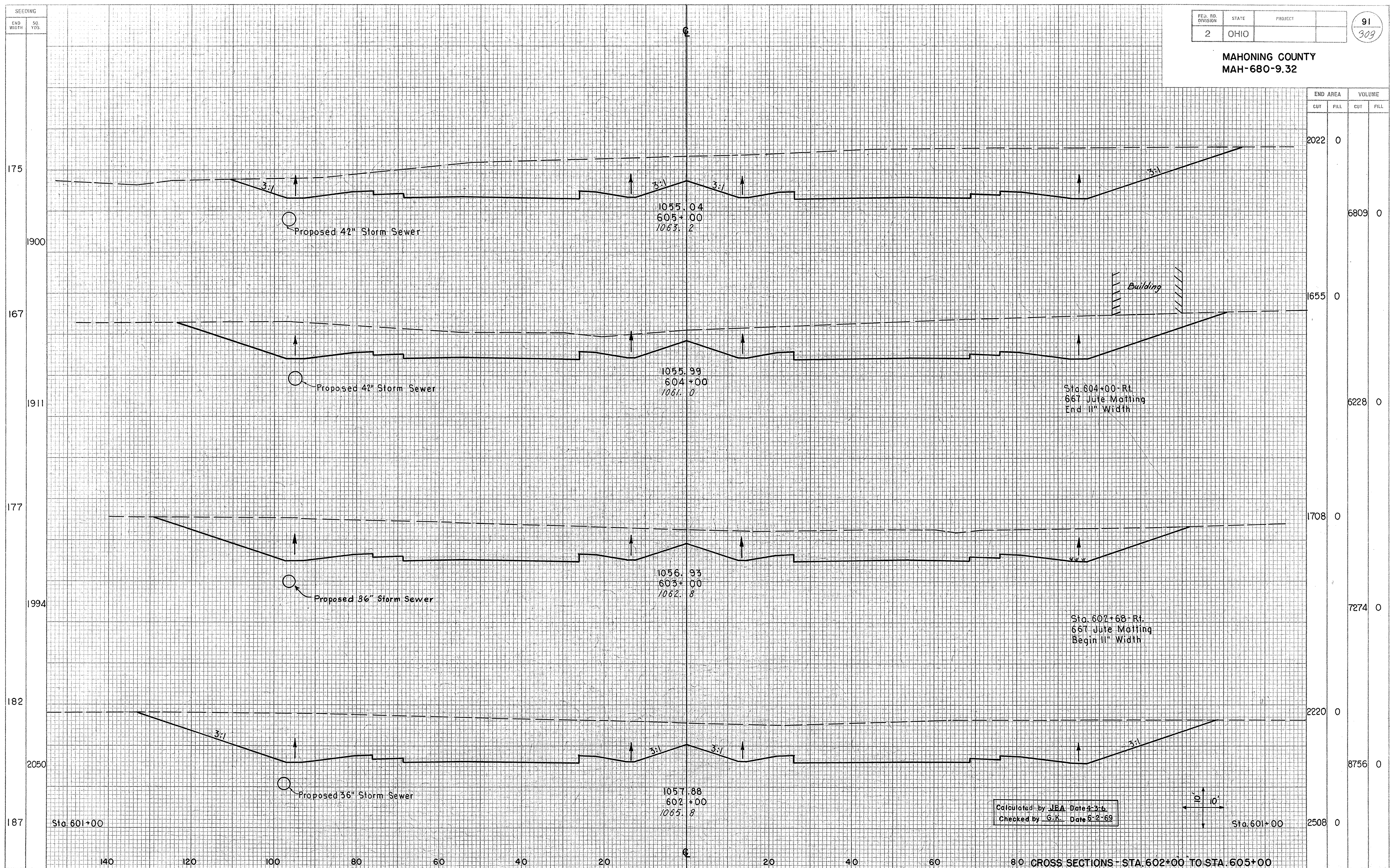
Calculated by J.B.A. Date 4-3-69  
Checked by G.K. Date 5-2-69



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

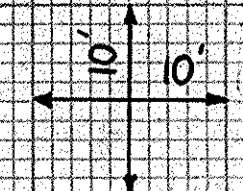
91  
309

MAHONING COUNTY  
MAH-680-9.32



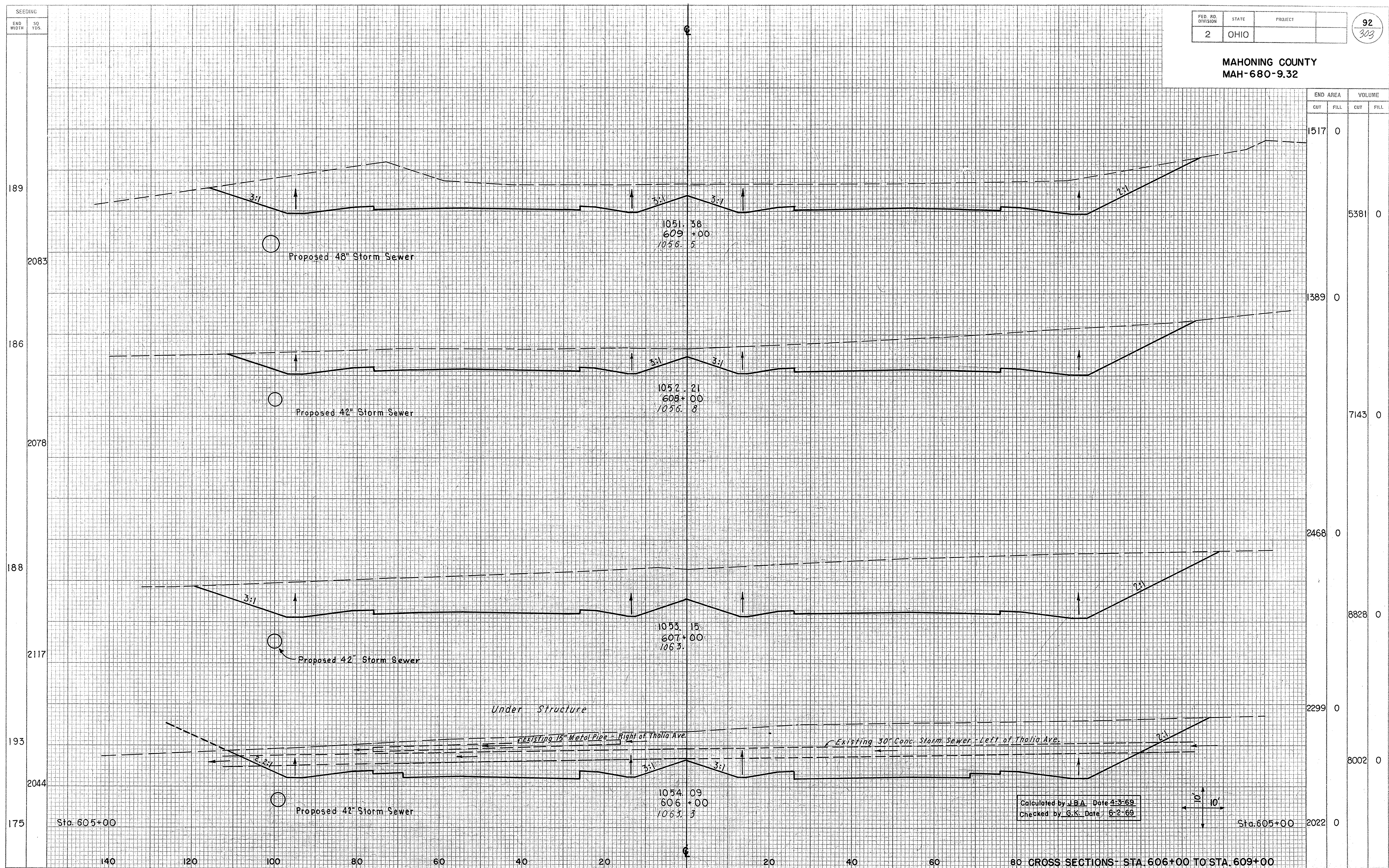
STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
175	2022	0		
1900			6809	0
167				
1911			6228	0
177				
1994			7274	0
182				
2050			8756	0
187	2508	0		

Calculated by JBA Date 4-3-66  
Checked by G.K. Date 6-2-69

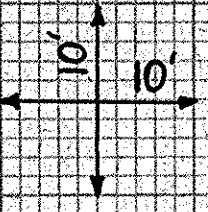


80 CROSS SECTIONS - STA. 602+00 TO STA. 605+00

MAHONING COUNTY  
MAH-680-9.32

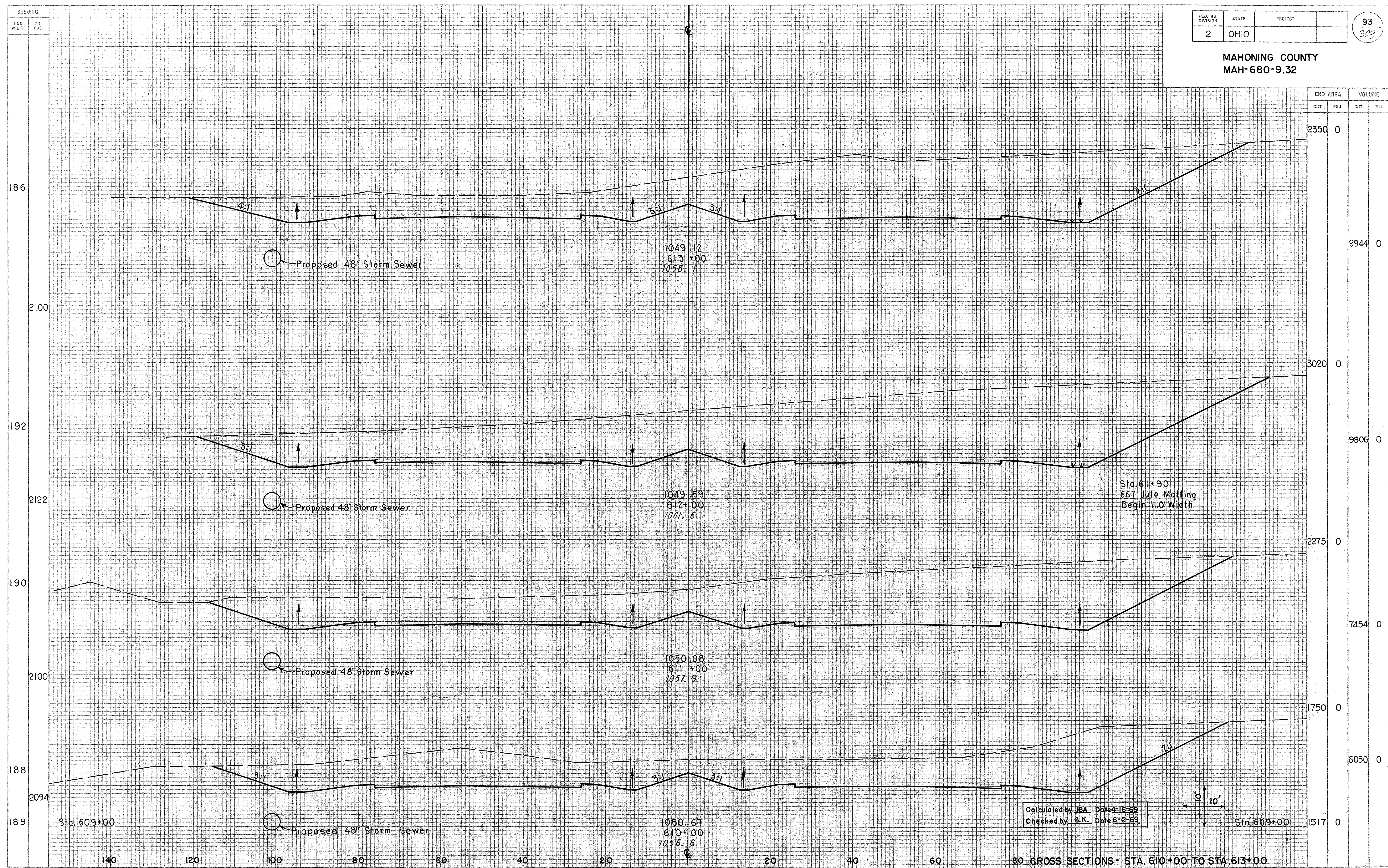


Calculated by J.B.A. Date 4-3-69  
Checked by G.K. Date 6-2-69

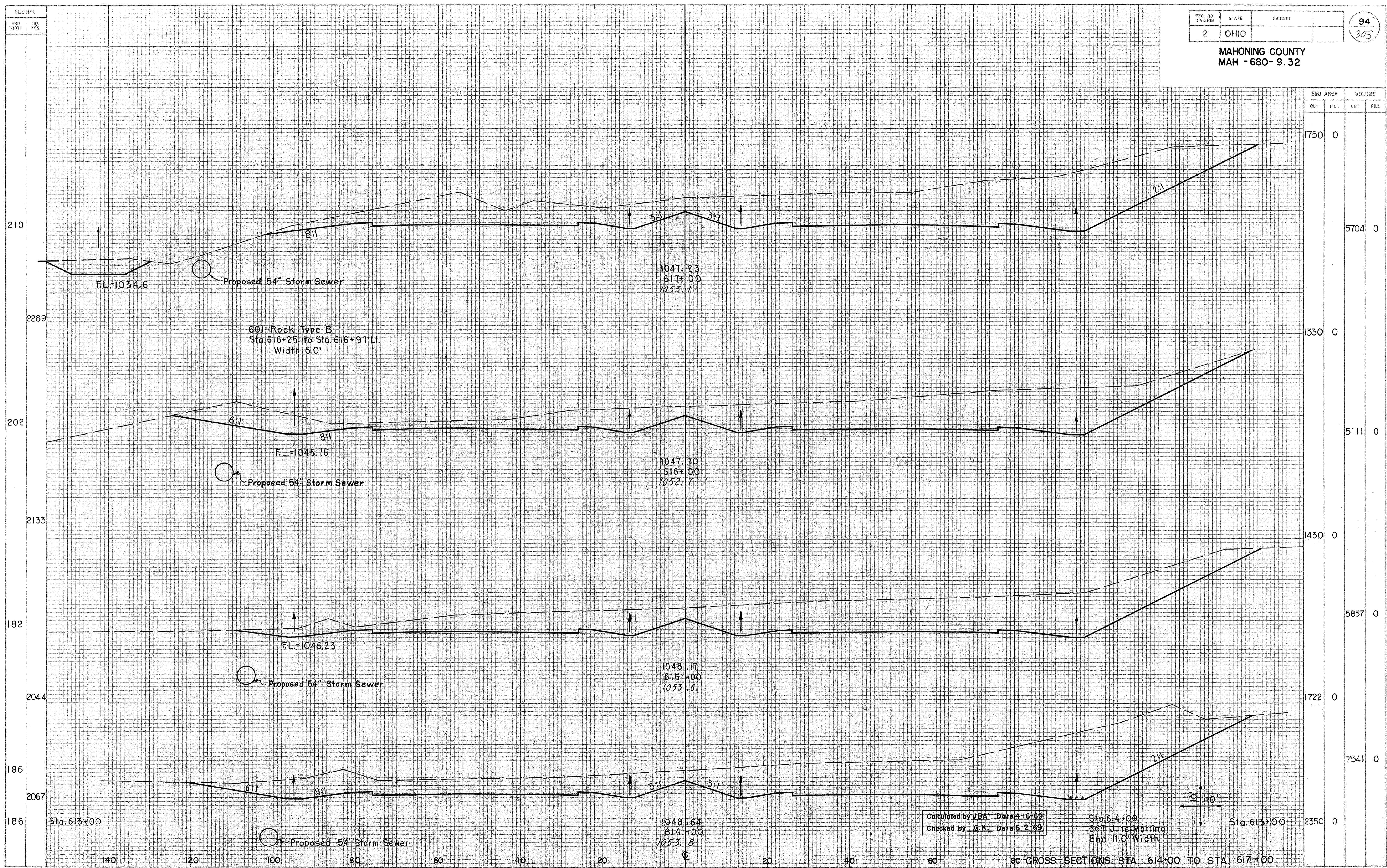


80 CROSS SECTIONS- STA. 606+00 TO STA. 609+00

MAHONING COUNTY  
MAH-680-9.32



MAHONING COUNTY  
MAH -680-9.32



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
1750	0			
5704	0			
1330	0			
5111	0			
1430	0			
5837	0			
1722	0			
7541	0			
2350	0			

Calculated by JBA Date 4-16-69  
Checked by G.K. Date 6-2-69

Sta. 614+00  
667 Jute Matting  
End 11.0' Width

80 CROSS-SECTIONS STA. 614+00 TO STA. 617+00

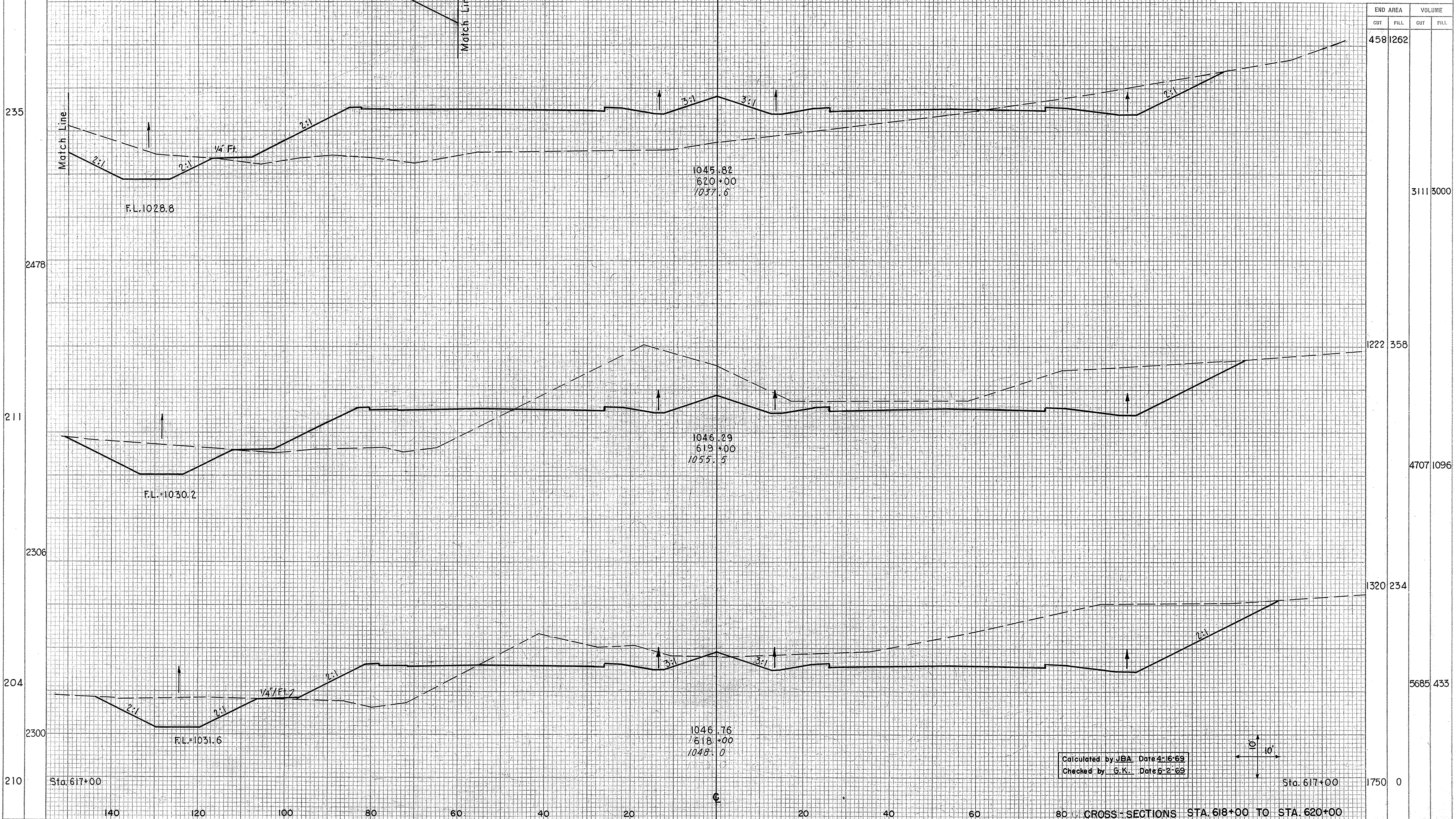


SEEDING  
END WIDTH SQ YDS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

95  
303

MAHONING COUNTY  
MAH-680-9.32



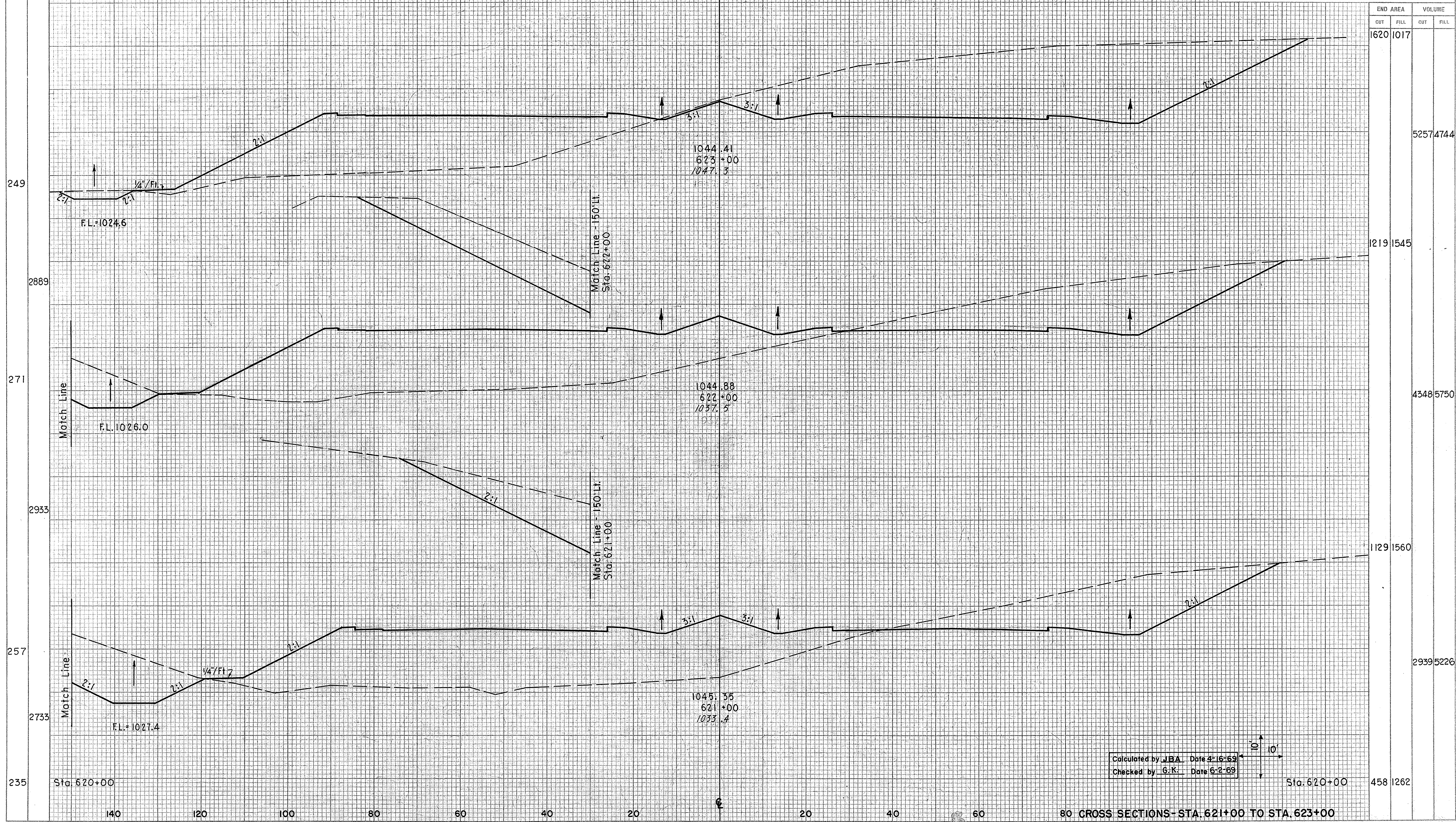
Calculated by JBA Date 4-16-69  
Checked by G.K. Date 6-2-69

SEEDING  
END WIDTH  
SQ YDS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

96  
303

MAHONING COUNTY  
MAH-680-9.32

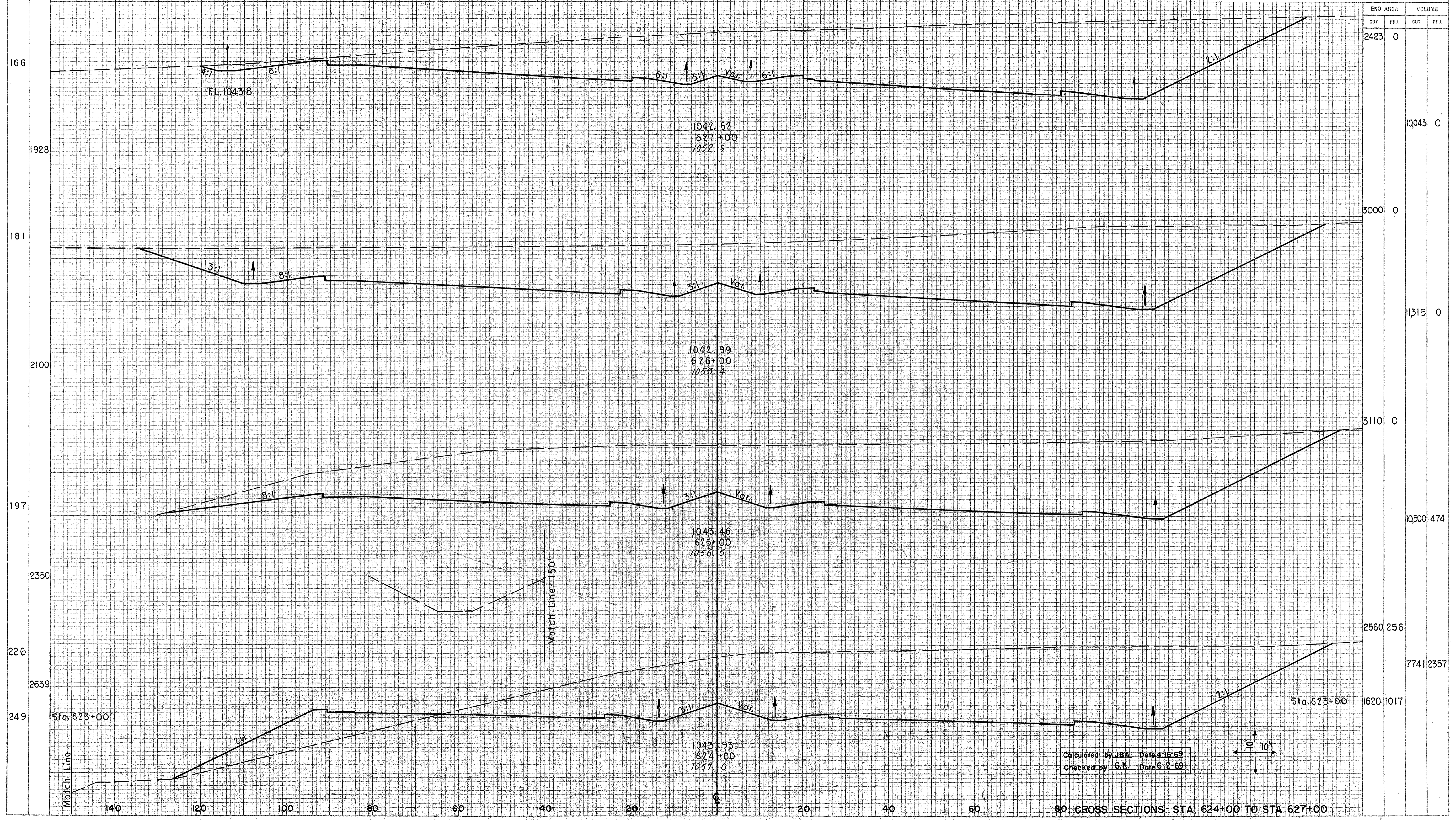


SEEDING  
END WIDTH SQ. YDS.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

97  
308

MAHONING COUNTY  
MAH-680-9,32



END AREA	VOLUME	
	CUT	FILL
2423	0	
1043	0	
3000	0	
11315	0	
3110	0	
10500	474	
2560	256	
7741	2357	
1620	1017	

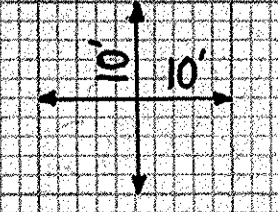
1042.52  
627+00  
1052.9

1042.99  
626+00  
1053.4

1043.46  
625+00  
1056.5

1043.93  
624+00  
1057.0

Calculated by JBA Date 4-16-69  
Checked by G.K. Date 6-2-69



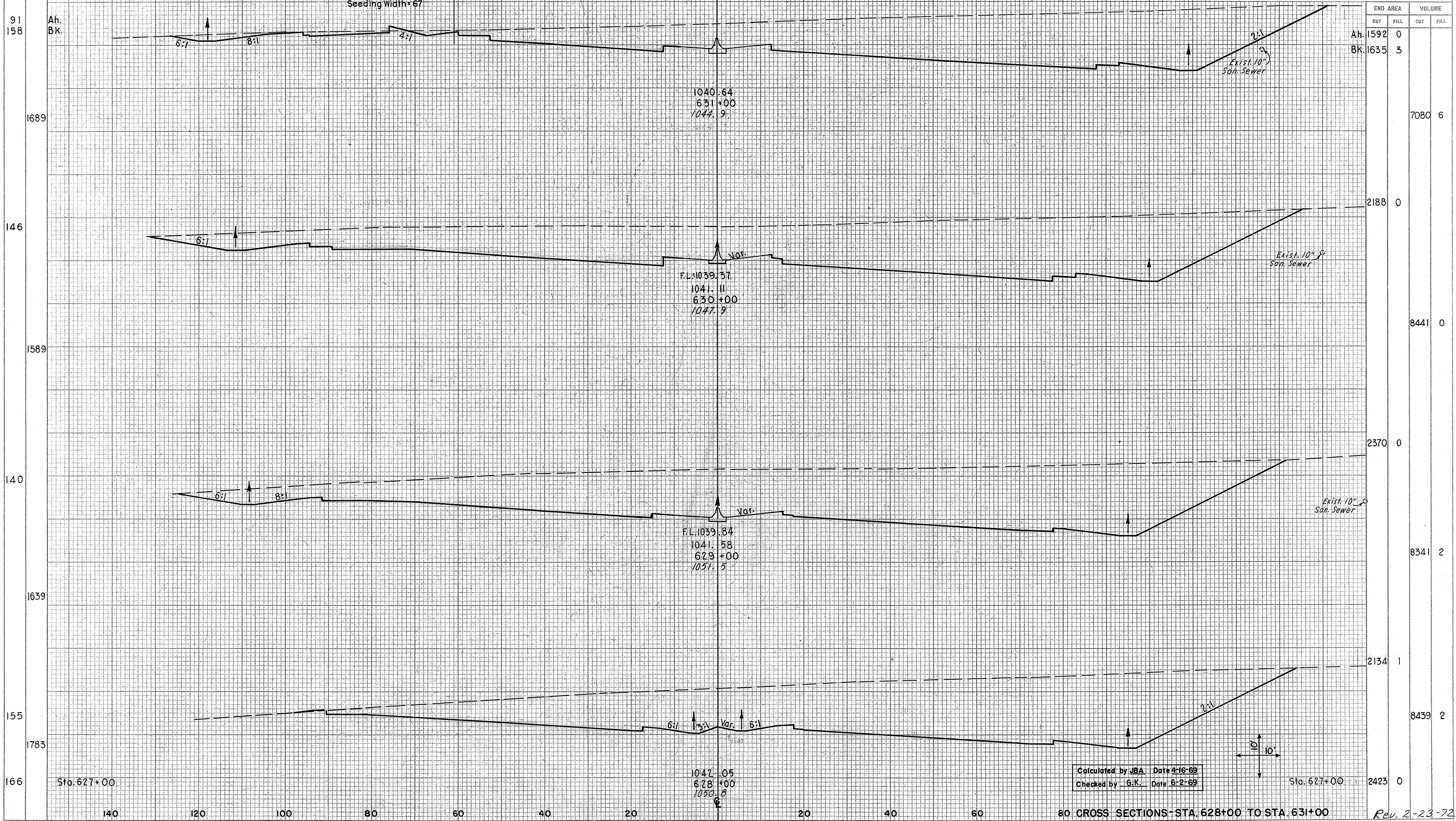
80 CROSS SECTIONS - STA. 624+00 TO STA. 627+00

SEEDING  
END WIDTH SO YDS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

98  
303

MAHONING COUNTY  
MAH-680-9.32



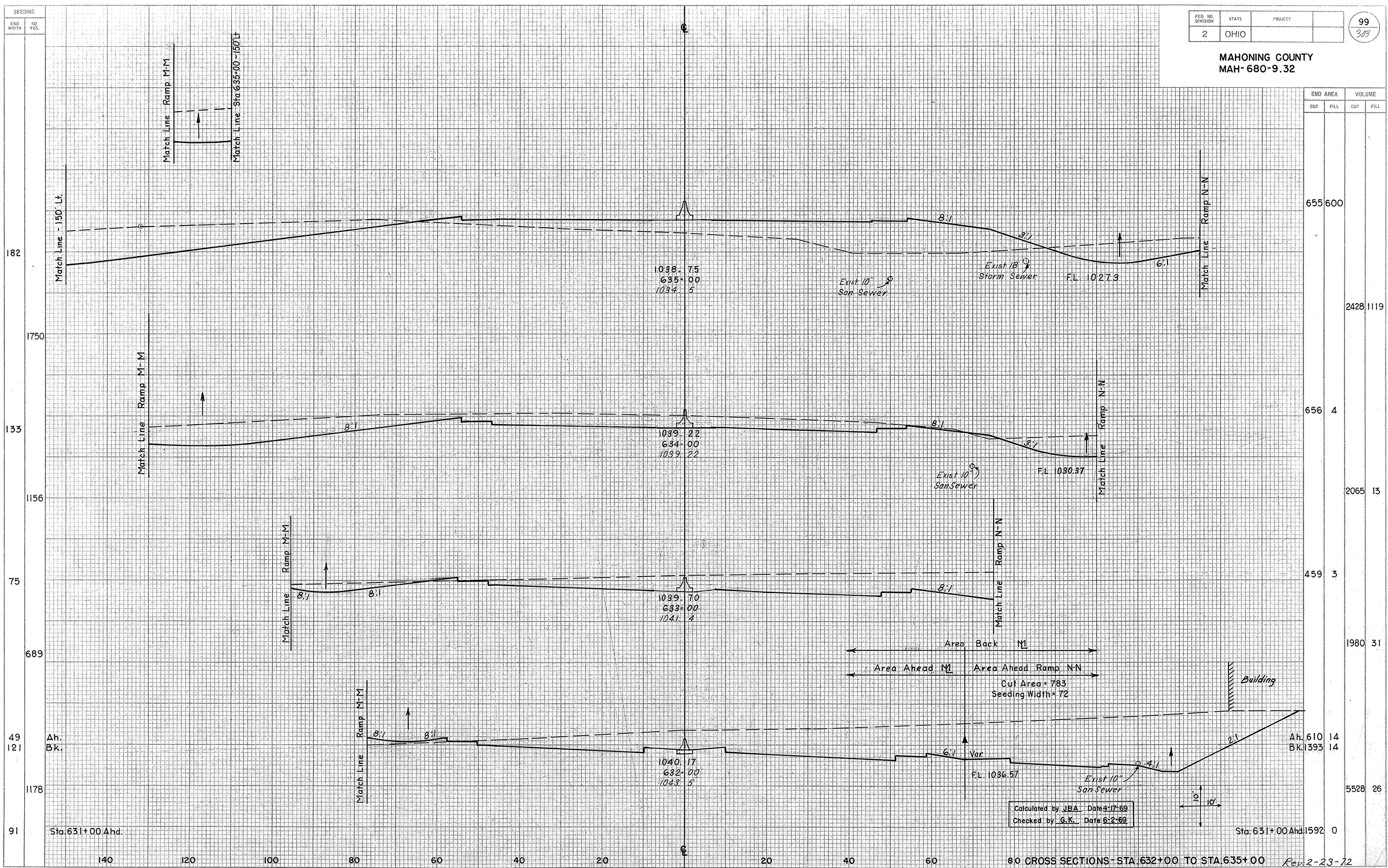
END AREA	VOLUME	
	CUT	FILL
Ah. 1592	0	
Bk. 1635	3	
		7080 6
		2188 0
		8441 0
		2370 0
		8341 2
		2134 1
		8439 2
		2423 0

Calculated by JBA Date 4-16-69  
Checked by G.K. Date 6-2-69

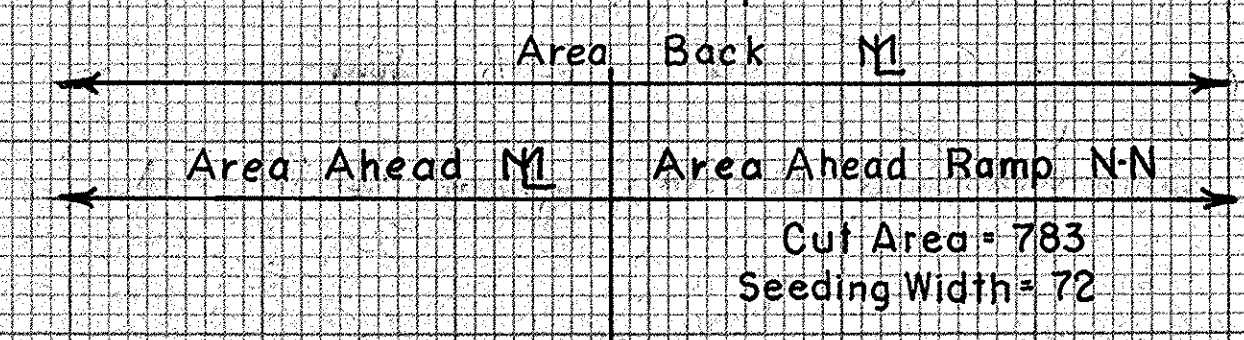
80 CROSS SECTIONS - STA. 627+00 TO STA. 631+00

Rev. 2-23-72

MAHONING COUNTY  
MAH-680-9.32

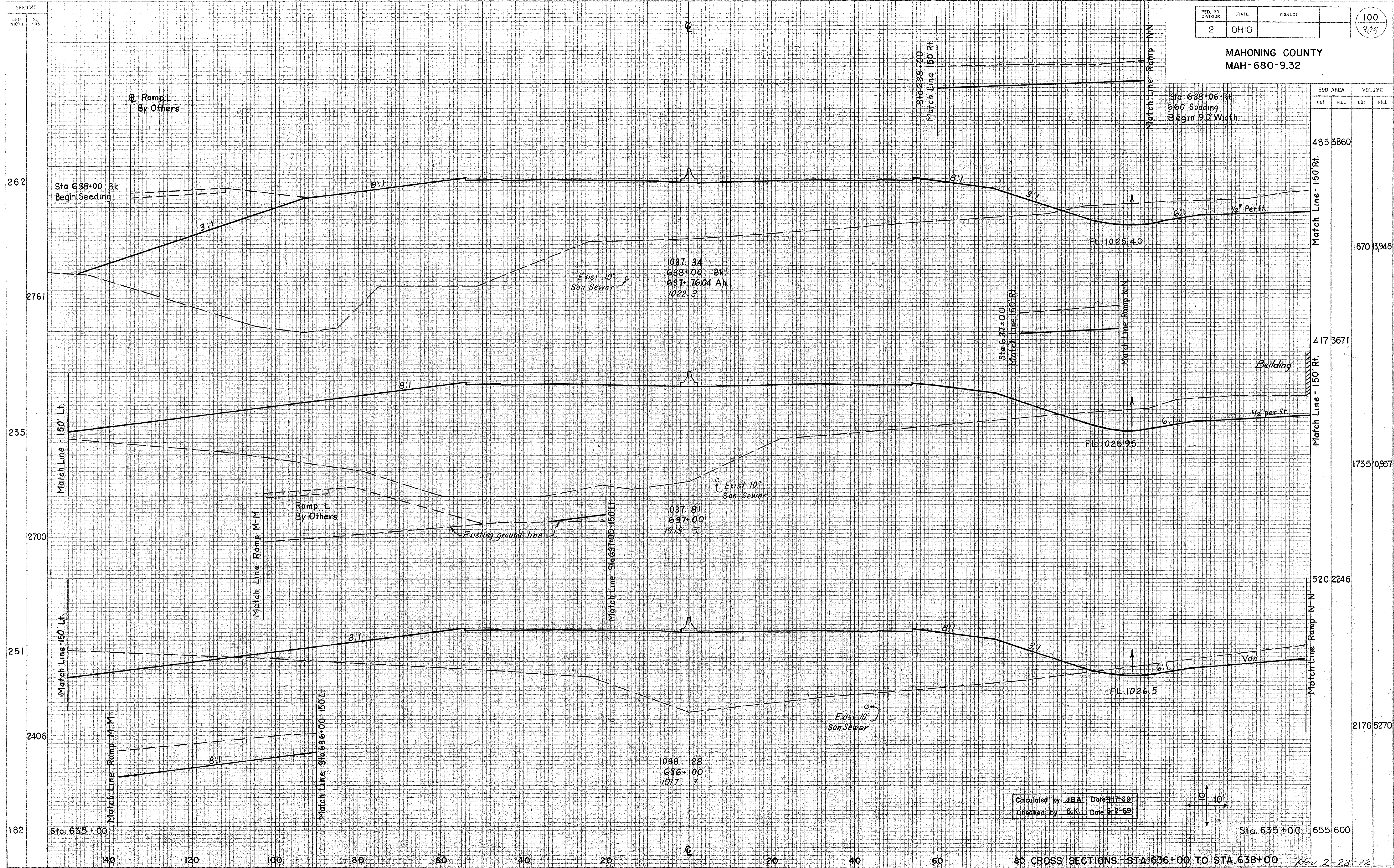


STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
182			655	600
1750			2428	1119
133			656	4
1156			2065	13
75			459	3
689			1980	31
49			610	14
121			1393	14
1178			5528	26
91			1592	0

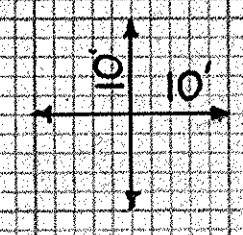


Calculated by JBA Date 4-17-69  
Checked by G.K. Date 6-2-69

MAHONING COUNTY  
MAH-680-9.32



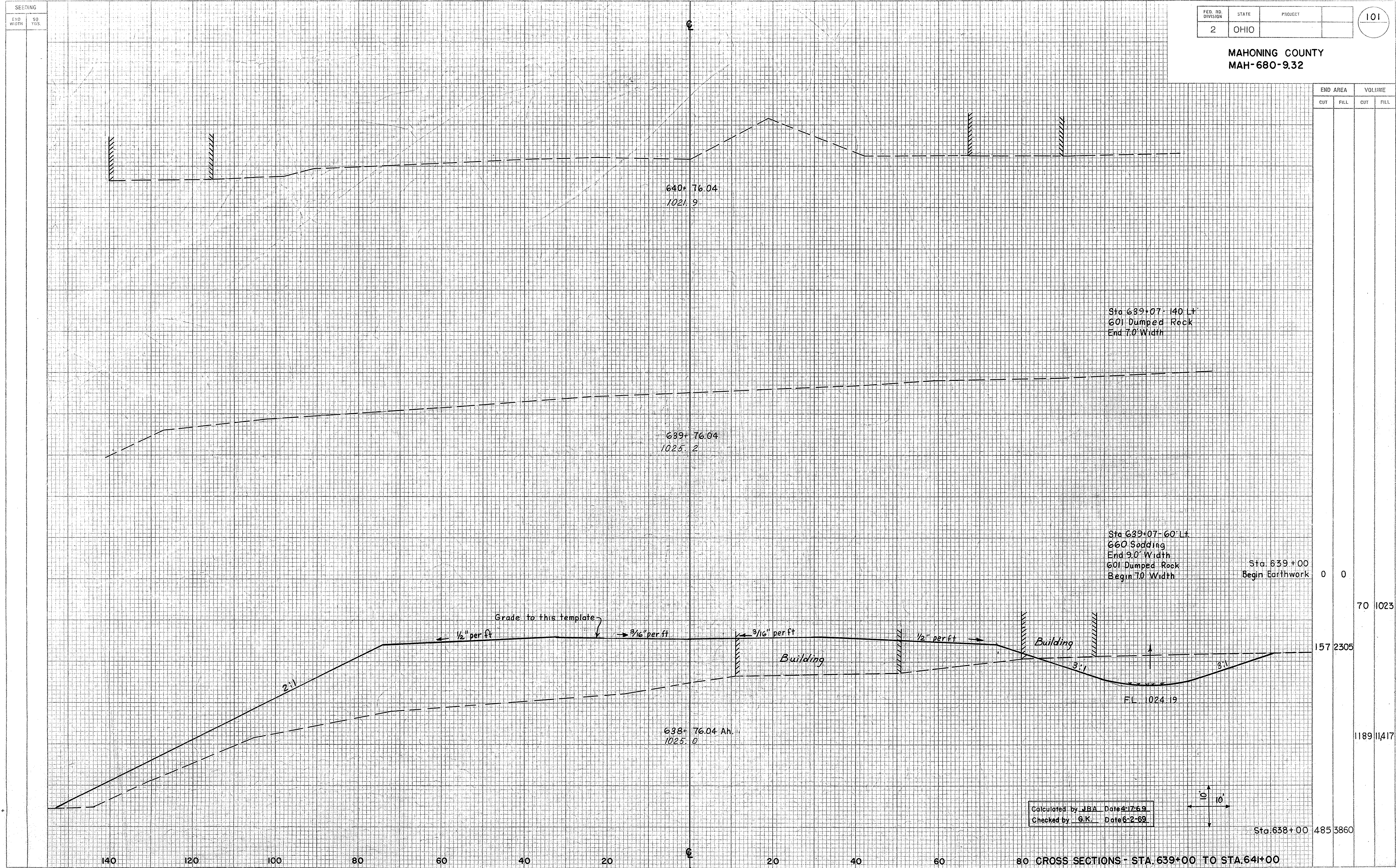
Calculated by JBA, Date 4-17-69  
Checked by G.K., Date 6-2-69



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

101

MAHONING COUNTY  
MAH-680-9.32



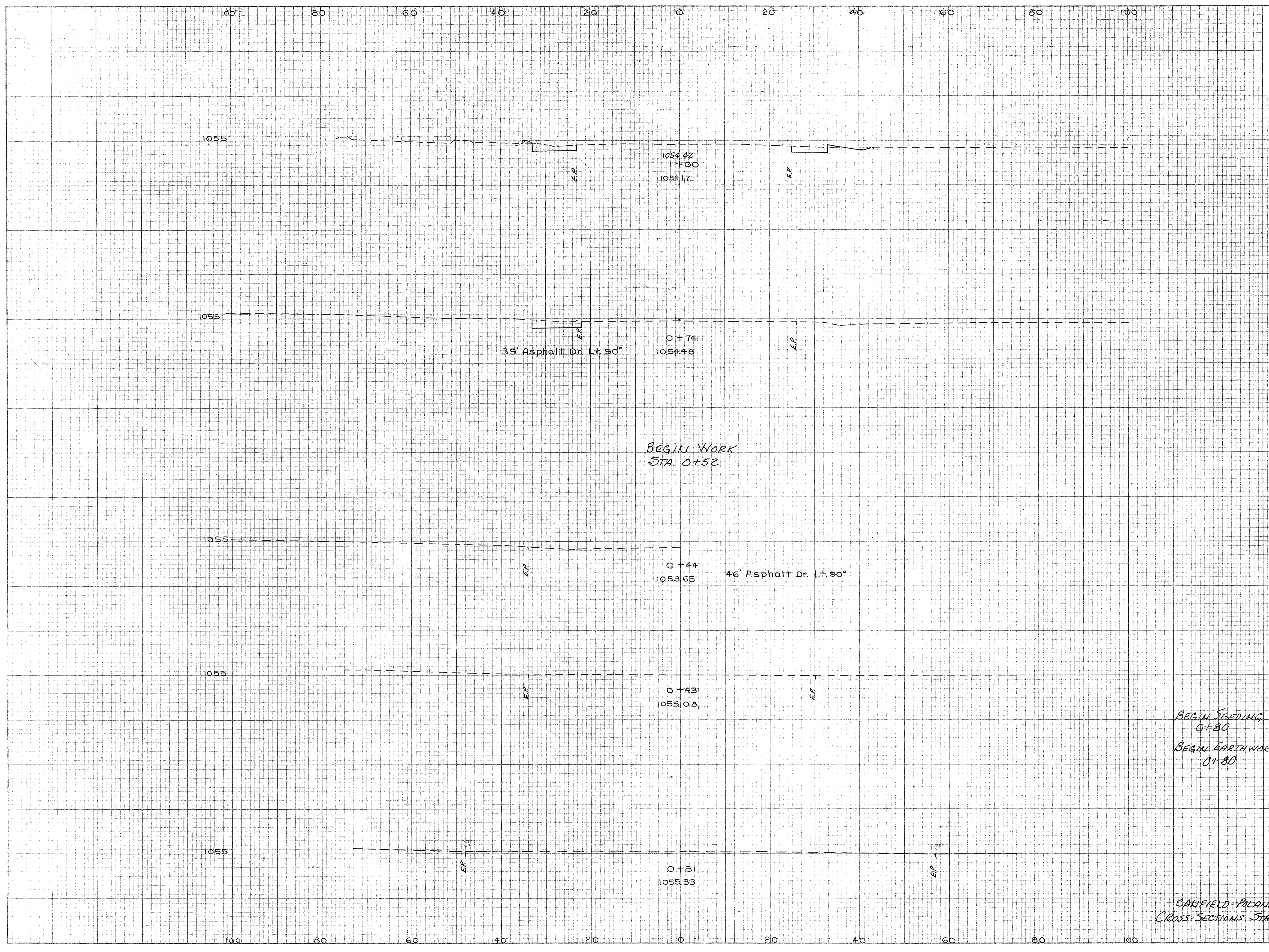
STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
Sta. 639+00	0	0	0	0
70	1023			
157	2305			
1189	11417			
Sta. 638+00	485	3860		

Calculated by JBA Date 4-17-69  
Checked by G.K. Date 6-2-69

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

101-A  
303

MAH-224-9.32  
(1980)



Seeding L.F.	S.Y.	End Area		CU. Yds.	
		Cut	Fill	Exc.	Emb.
10		20	2		
	11			7	1
0		0	0		

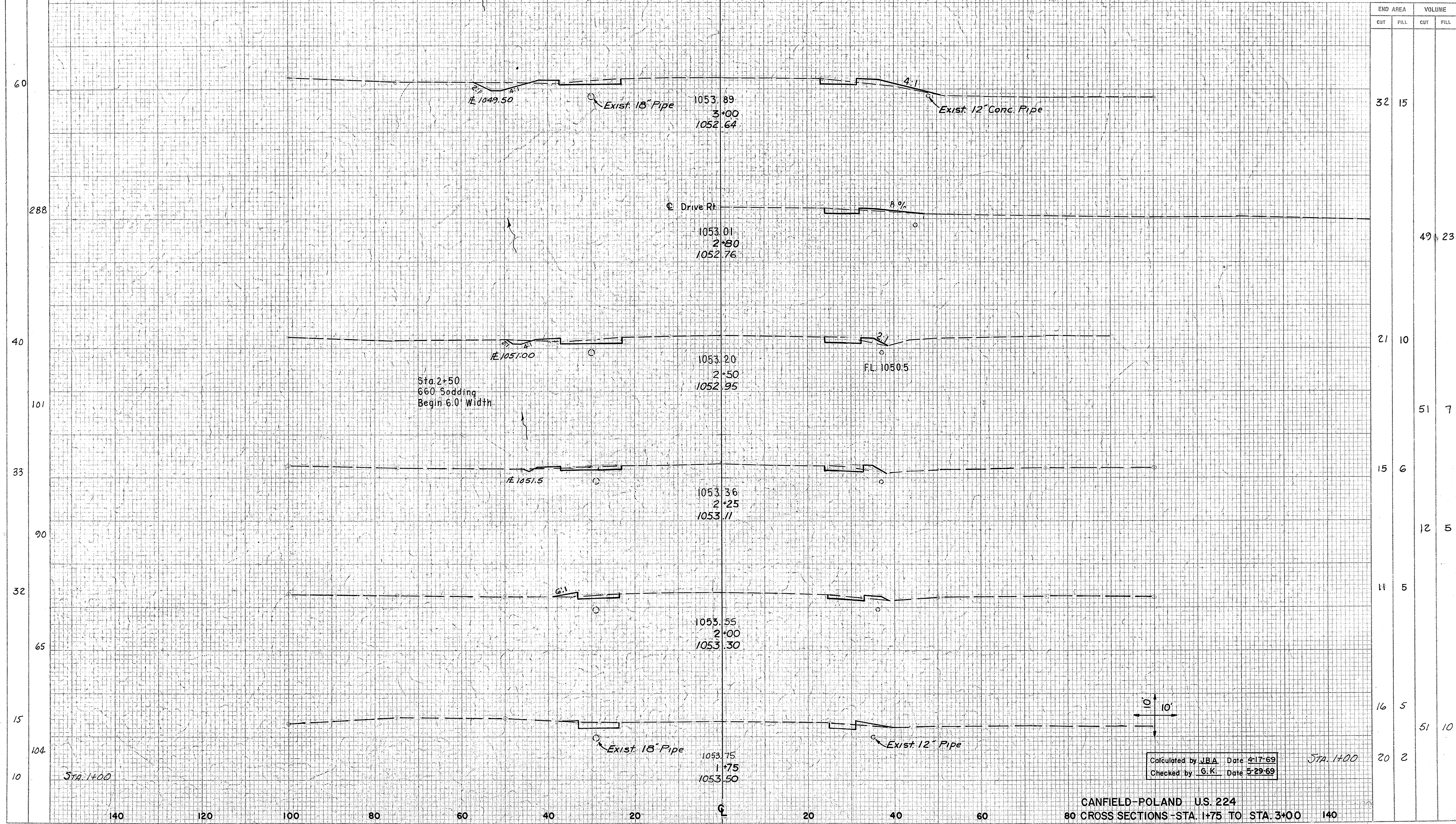


SEEDING  
END WIDTH 30 YDS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

102  
303

MAHONING COUNTY  
MAH-680-932



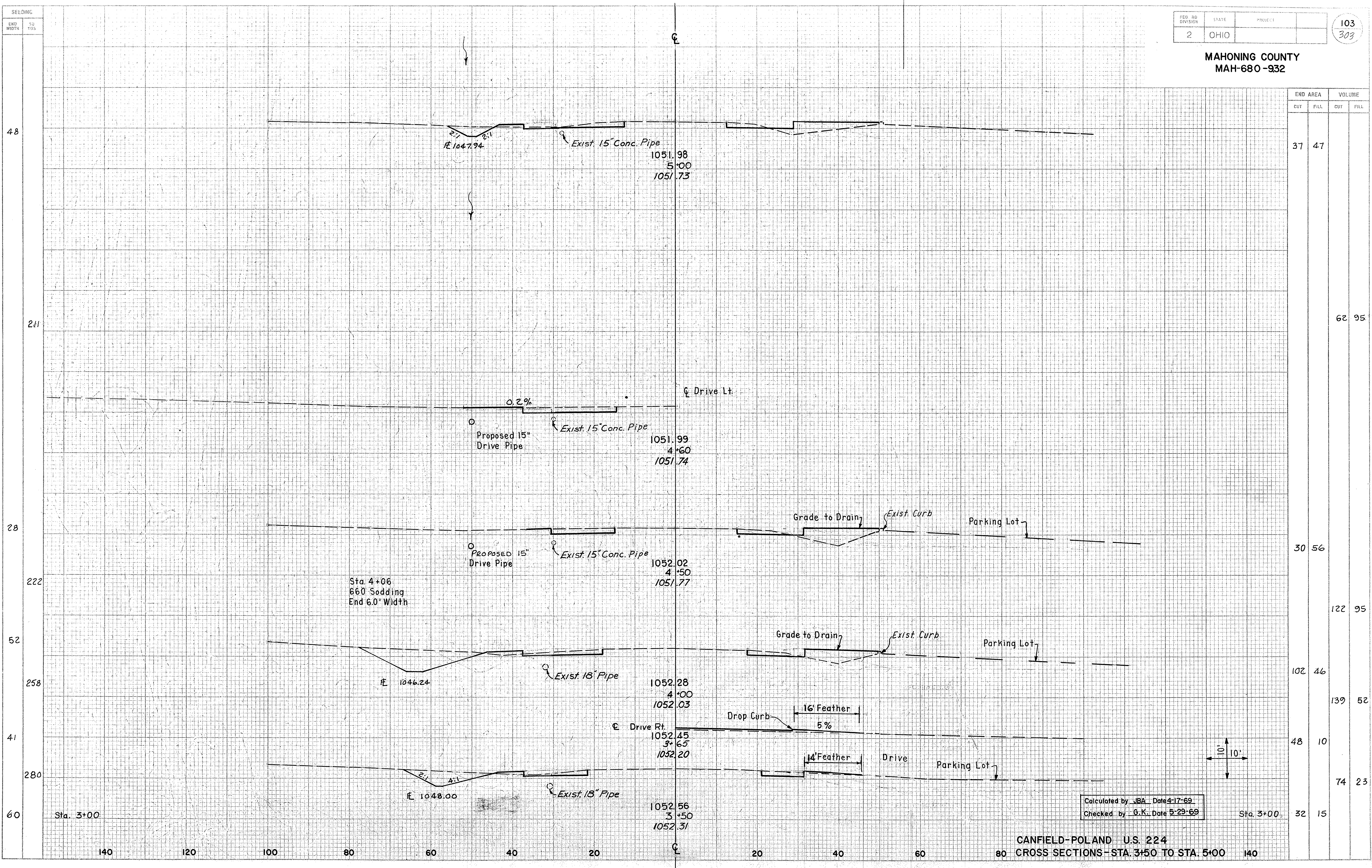
Calculated by JBA Date 4-17-69  
Checked by G.K. Date 5-29-69

STA. 1+00

REG. NO. DIVISION	STATE	PROJECT
2	OHIO	

103  
303

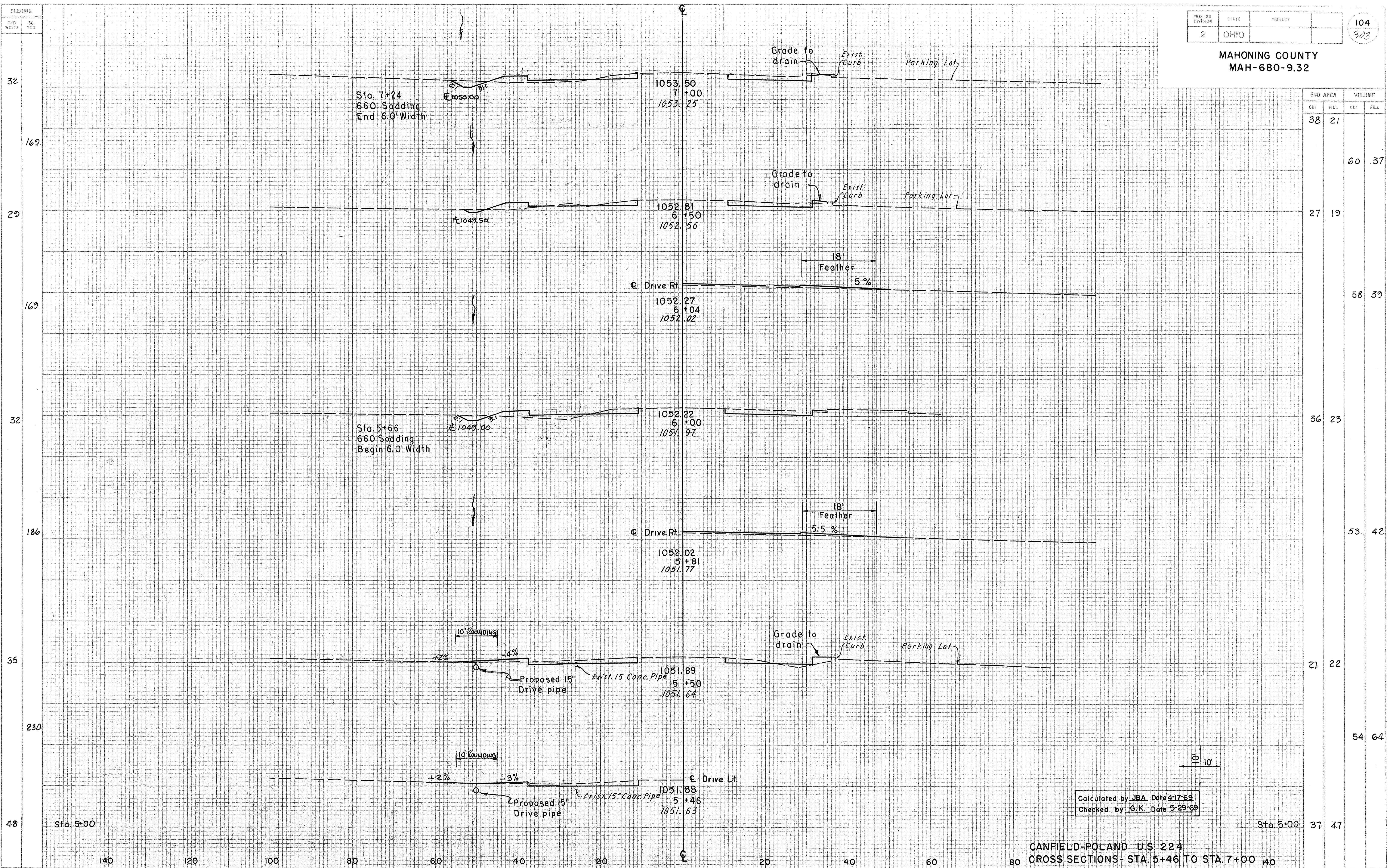
MAHONING COUNTY  
MAH-680-932



END AREA	VOLUME	
	CUT	FILL
37	47	
62	95	
30	56	
122	95	
102	46	
139	52	
48	10	
74	23	
32	15	

Calculated by JBA Date 4-17-69  
Checked by G.K. Date 5-29-69

MAHONING COUNTY  
MAH-680-9.32



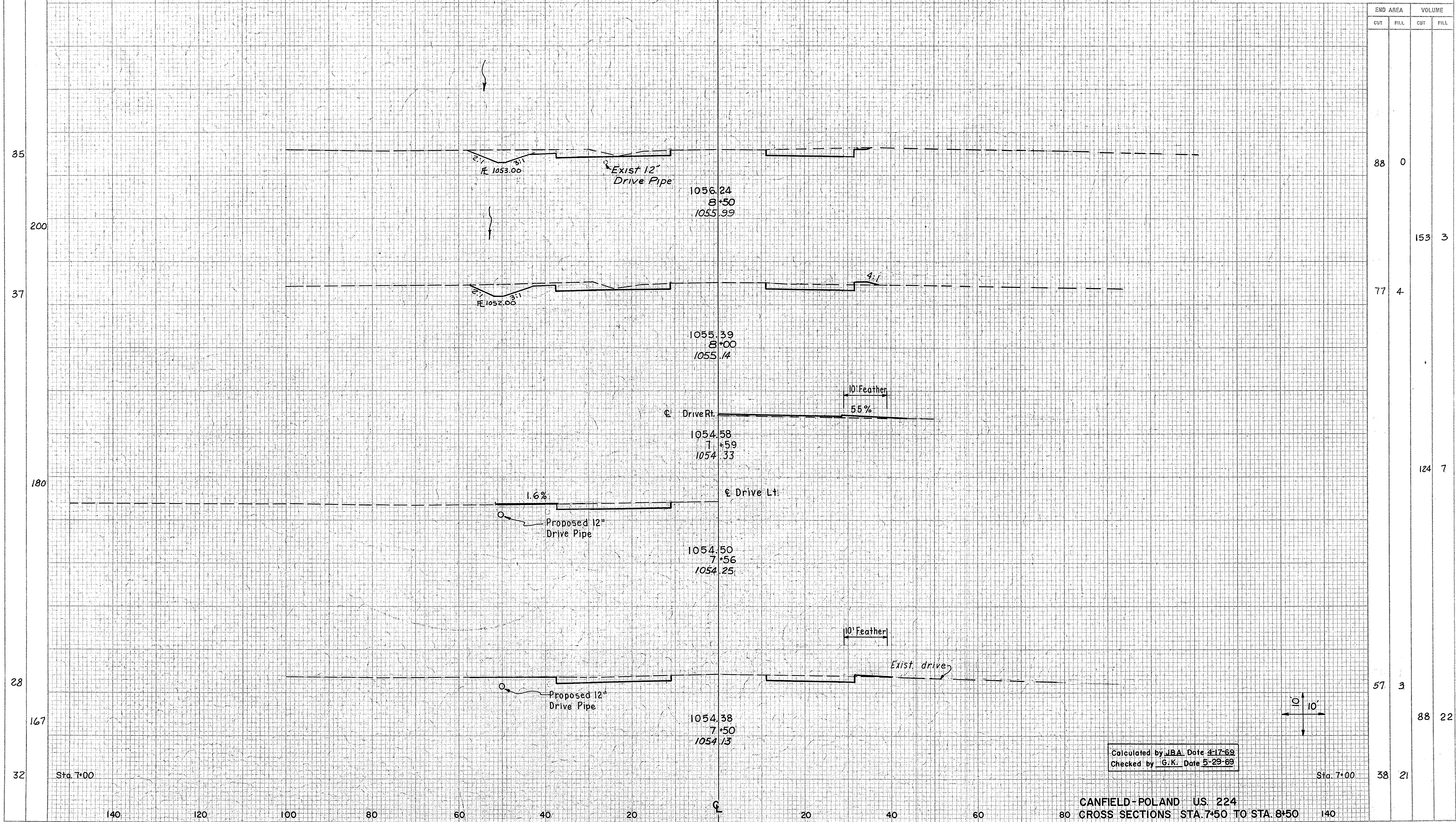
END AREA	VOLUME	
	CUT	FILL
38	21	
		60 37
27	19	
		58 39
36	23	
		53 42
21	22	
		54 64
37	47	

Calculated by JBA Date 4-17-69  
Checked by G.K. Date 5-29-69

SEEDING  
END WIDTH SO YDS.

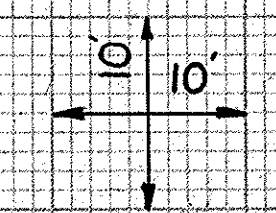
FED. RD. DIVISION	STATE	PROJECT	105
2	OHIO		303

MAHONING COUNTY  
MAH-680-9.32

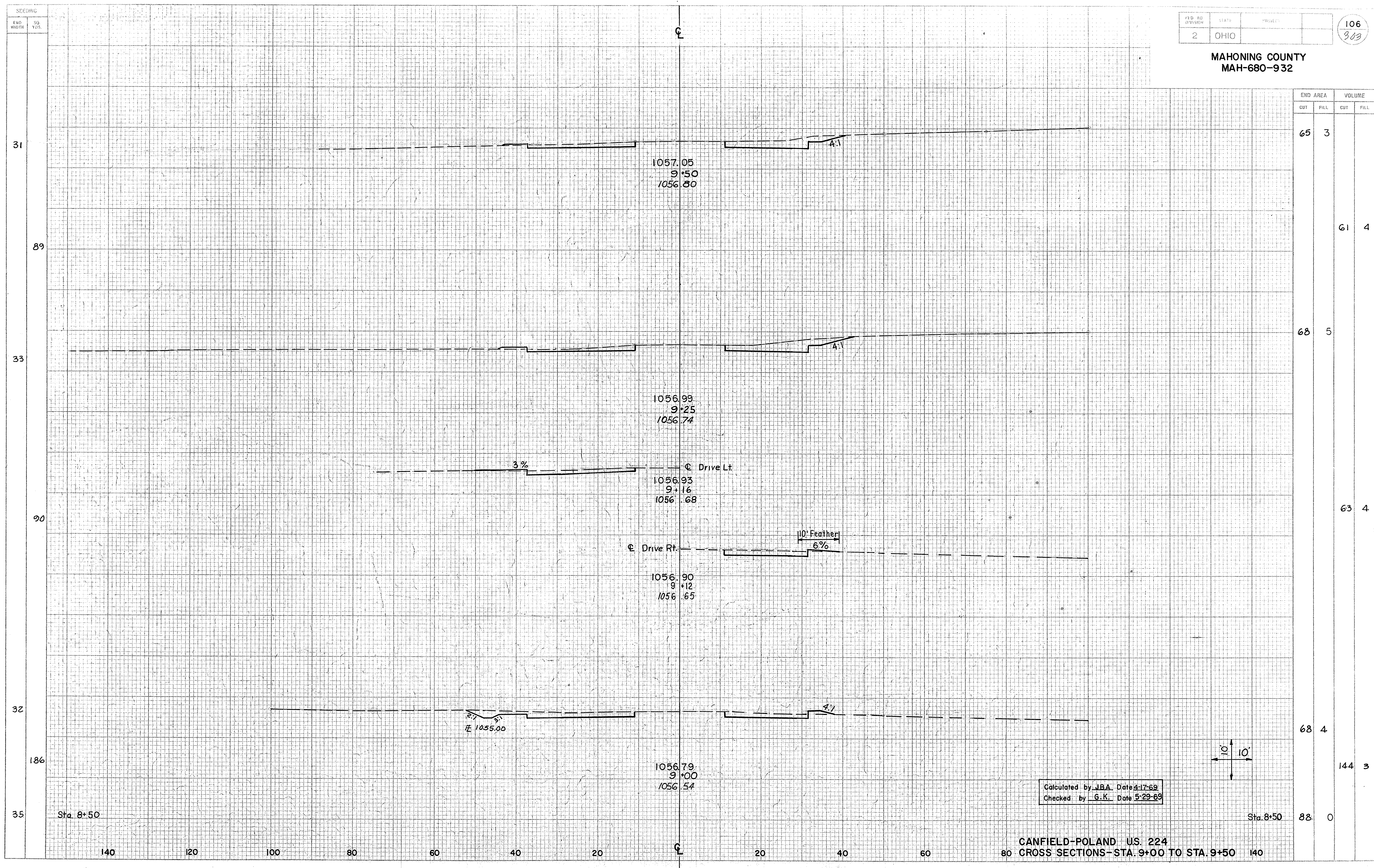


END AREA		VOLUME	
CUT	FILL	CUT	FILL
88	0		
		153	3
77	4		
		124	7
57	3		
		88	22
38	21		

Calculated by JBA. Date 4-17-69  
Checked by G.K. Date 5-29-69



MAHONING COUNTY  
MAH-680-932



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
31		3		
89			61	4
33		5		
90			63	4
32		4		
186			144	3
35		0		

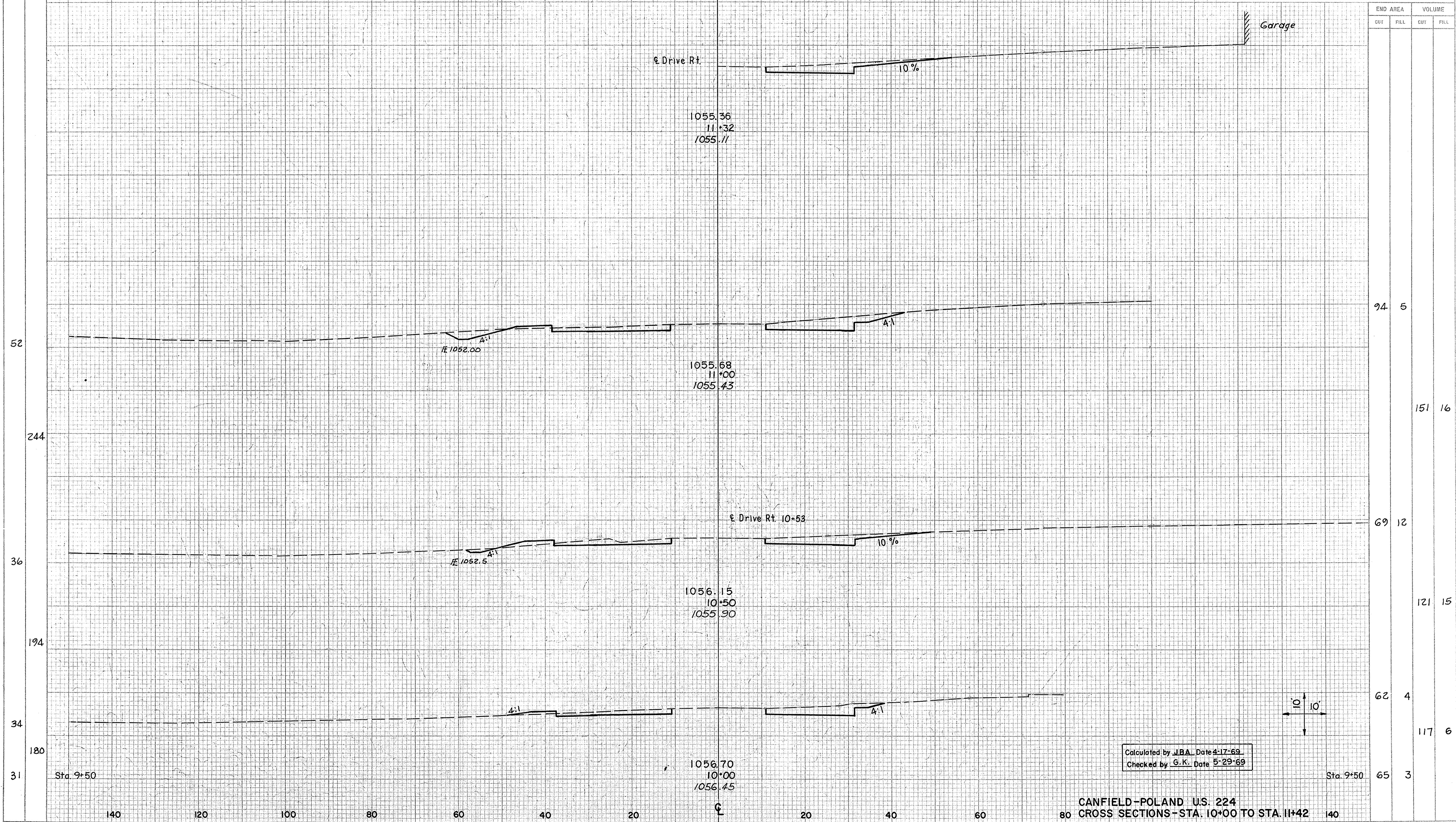
Calculated by JBA Date 4-17-69  
Checked by G.K. Date 5-29-69

SEEDING  
END WIDTH  
SO YDS

FED. NO. DIVISION	STATE	PROJECT
2	OHIO	

107  
303

MAHONING COUNTY  
MAH-680-932



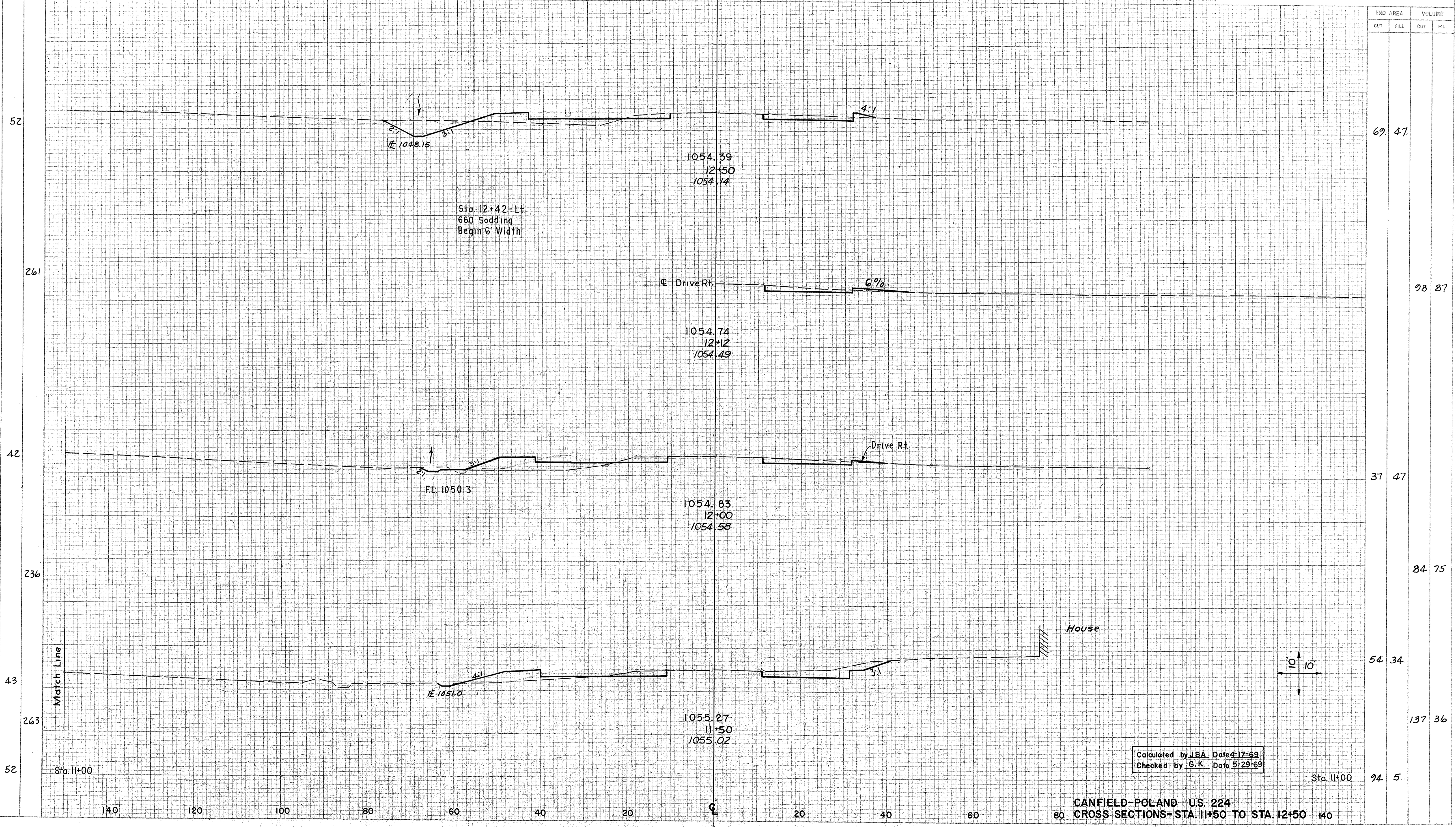
Calculated by J.B.A. Date 4-17-69  
Checked by G.K. Date 5-29-69

SEEDING  
END  
WEEK  
50  
YES

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

108  
303

MAHONING COUNTY  
MAH-680-932



Sta. 12+42-Lt.  
660 Sodding  
Begin 6' Width

Drive Rt.

Drive Rt.

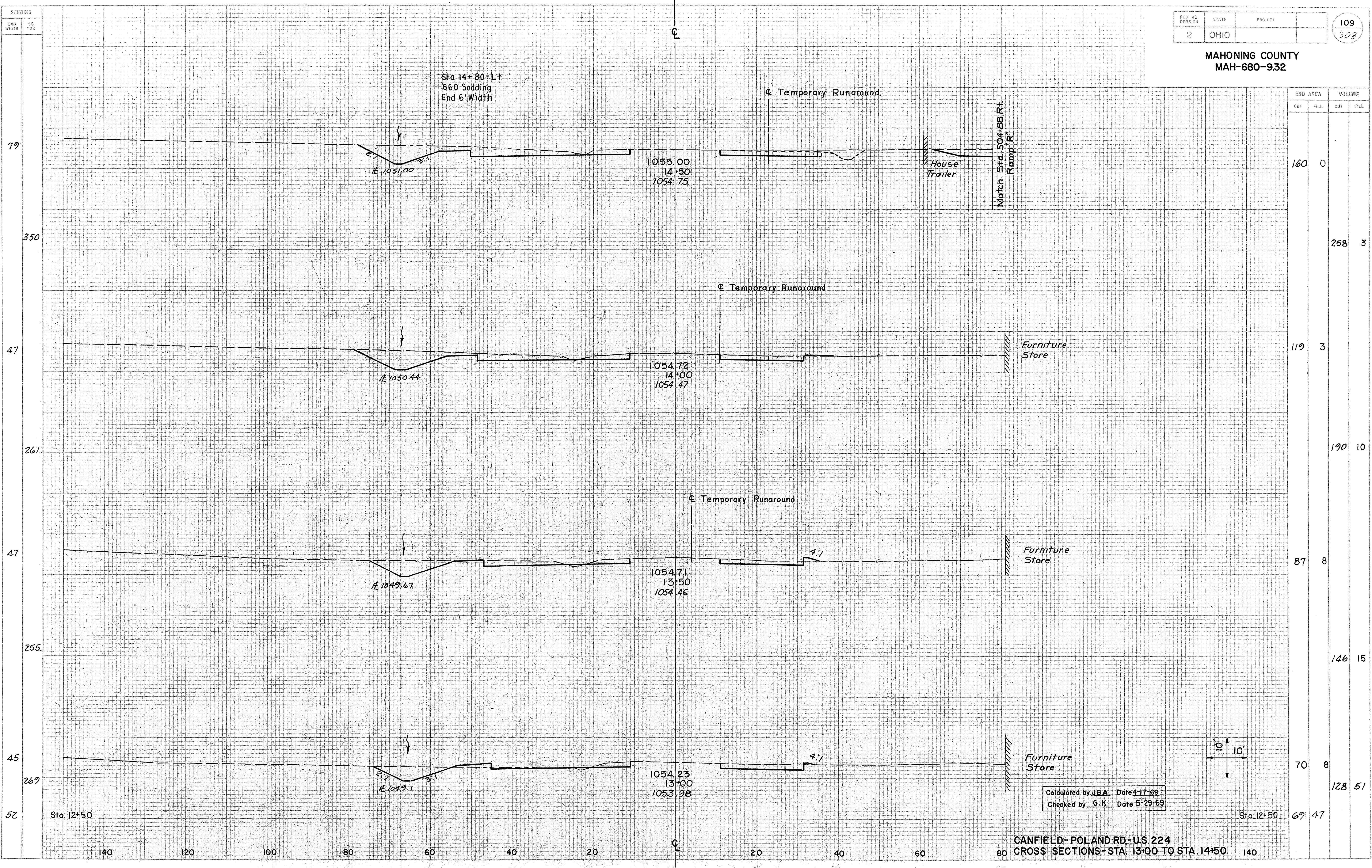
House

Match Line

Calculated by J.B.A. Date 4-17-69  
Checked by G.K. Date 5-29-69

CANFIELD-POLAND U.S. 224  
CROSS SECTIONS-STA. 11+50 TO STA. 12+50

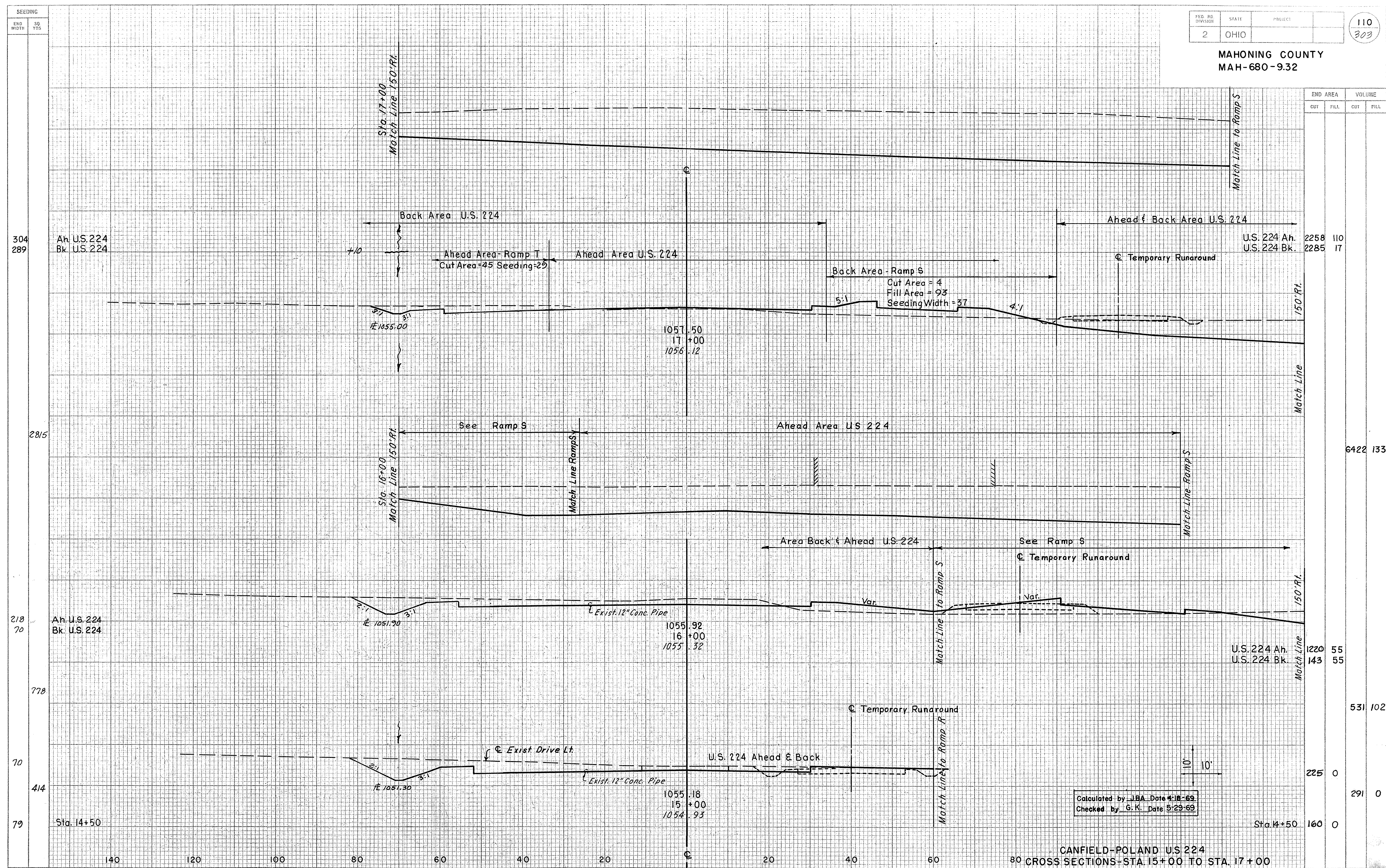
MAHONING COUNTY  
MAH-680-9.32



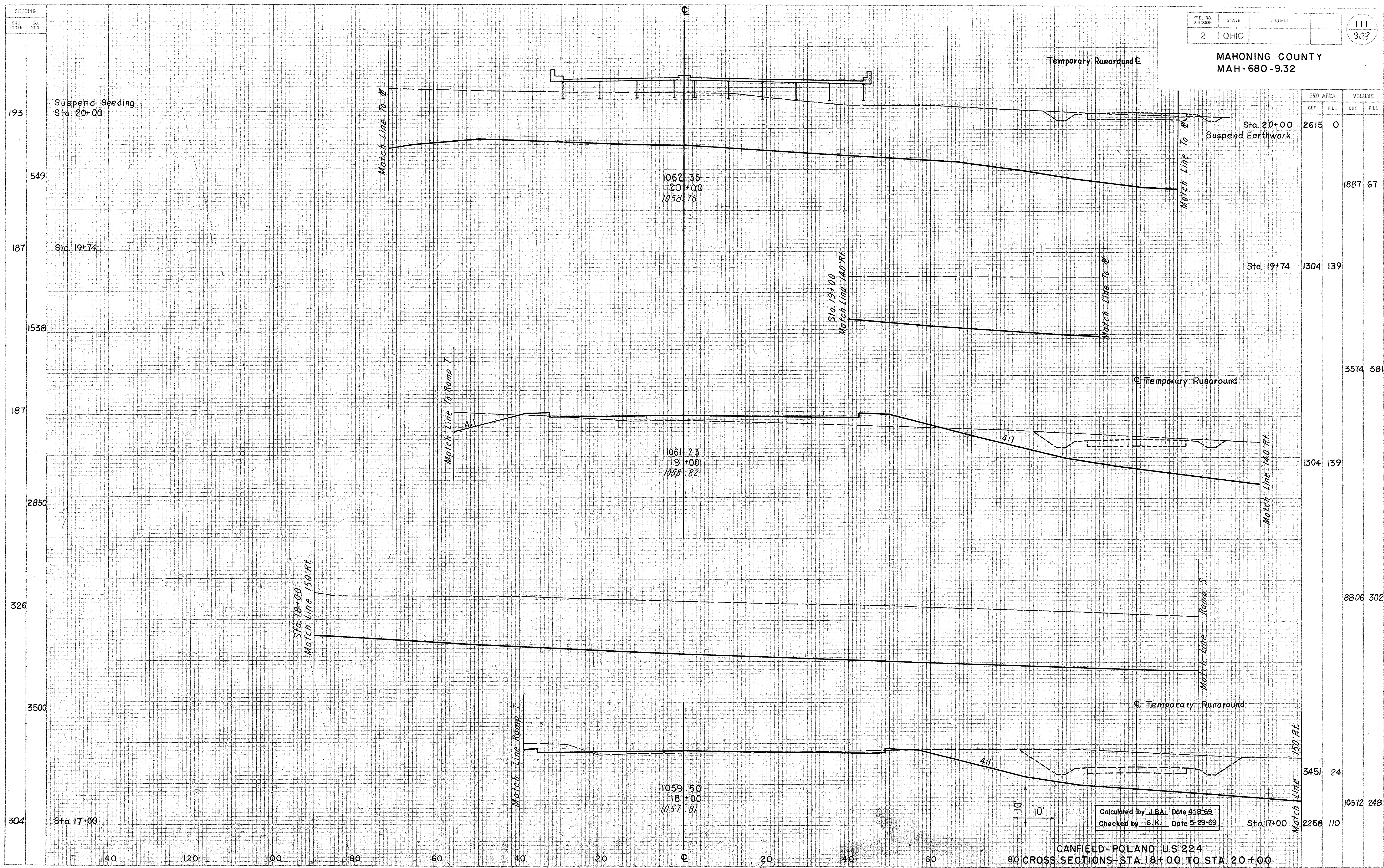
Calculated by J.B.A. Date 4-17-69  
Checked by G.K. Date 5-29-69



MAHONING COUNTY  
MAH-680-9.32



MAHONING COUNTY  
MAH-680-932



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
Sta. 20+00	2615	0		
Suspend Earthwork			1887	67
Sta. 19+74	1304	139		
Temporary Runaround			3574	381
Match Line 140' Rt.	1304	139		
Ramp S			8806	302
Match Line 150' Rt.	3451	24		
Sta. 17+00	2258	110	10572	248

Calculated by J.B.A. Date 4-18-69  
Checked by G.K. Date 5-29-69

SEEDING  
END WIDTH SO YDS

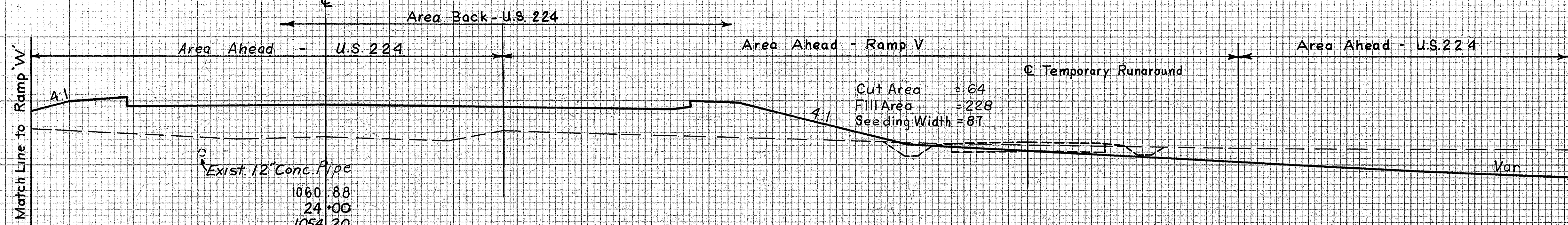
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

112  
303

MAHONING COUNTY  
MAH-680-9.32

252  
339

Ah.  
Bk.



Cut Area = 64  
Fill Area = 228  
Seeding Width = 87

1060.88  
24+00  
1054.20

END AREA	VOLUME	
	CUT	FILL
1295	359	
1359	587	

3967

Sta. 24+00  
Match Line 240' Rt.

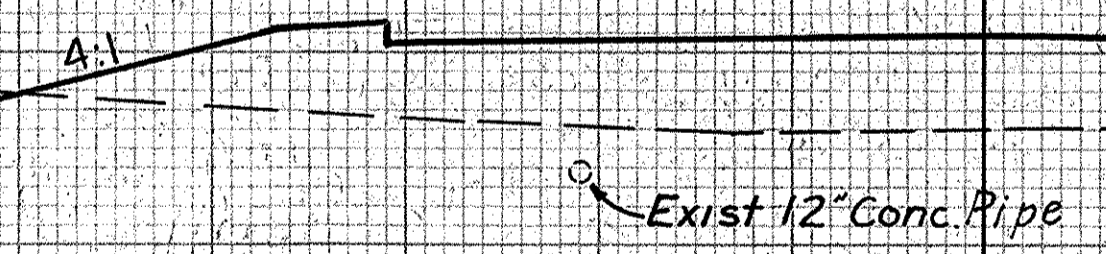
Match Line Ramp V

Match Line 240' Rt.

73441991

Temporary Runaround

Match Line to M



1062.15  
23+00  
1056.10

Match Line 240' Rt.

Resume Seeding  
Sta. 23+00

Match Line 240' Rt.

Match Line Ramp V

Sta. 23+00  
Resume Earthwork

2607488

Calculated by JBA Date 4-18-69  
Checked by G.K. Date 5-29-69

CANFIELD-POLAND U.S. 224  
160 CROSS SECTIONS STA. 23+00 TO STA. 24+00

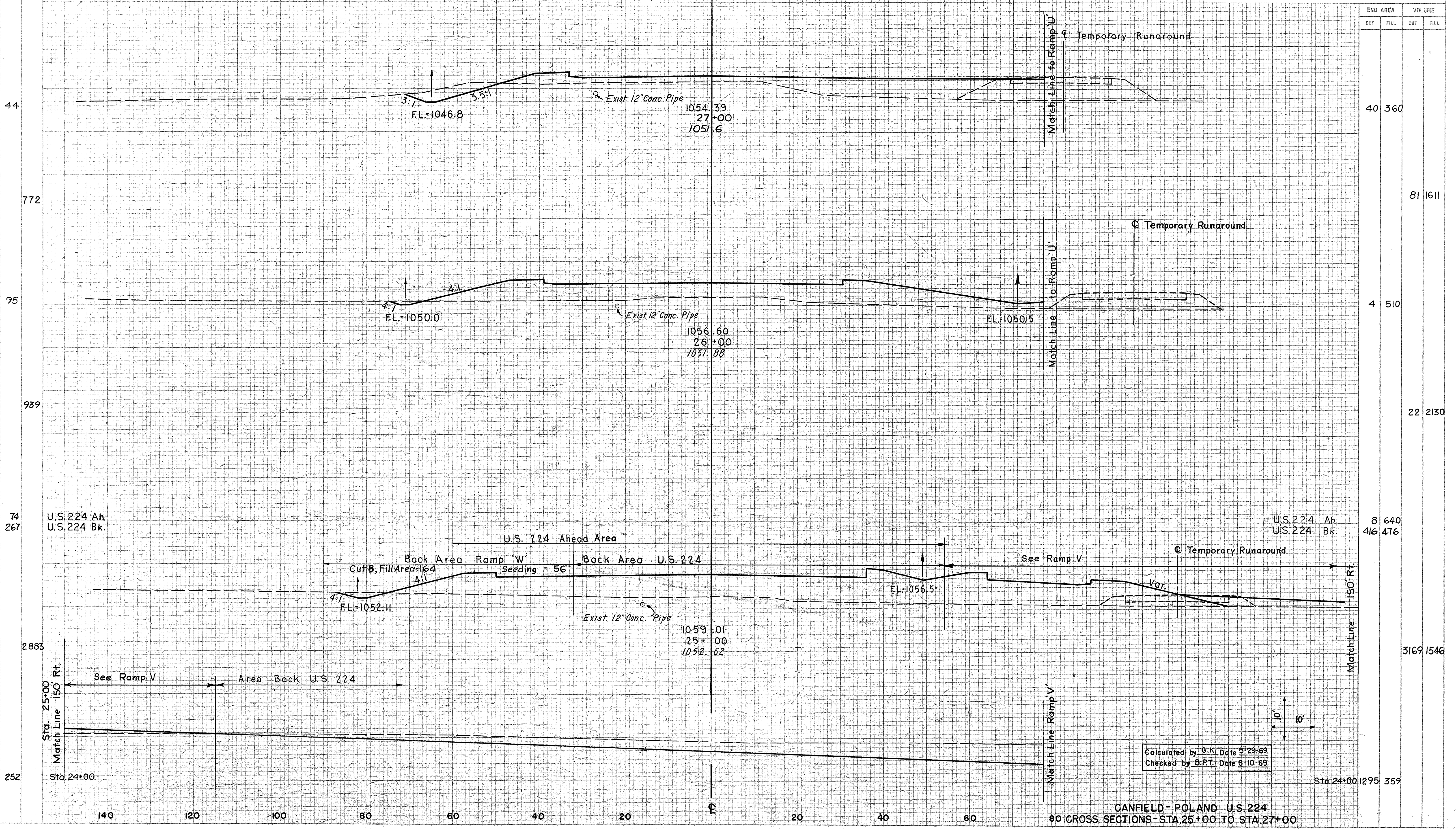
60 40 20 20 40 60 80 100 120 140

SEEDING  
CND WIDTH SE TOL.

FED. RD DIVISION	STATE	PROJECT
2	OHIO	

113  
303

MAHONING COUNTY  
MAH-680-9.32

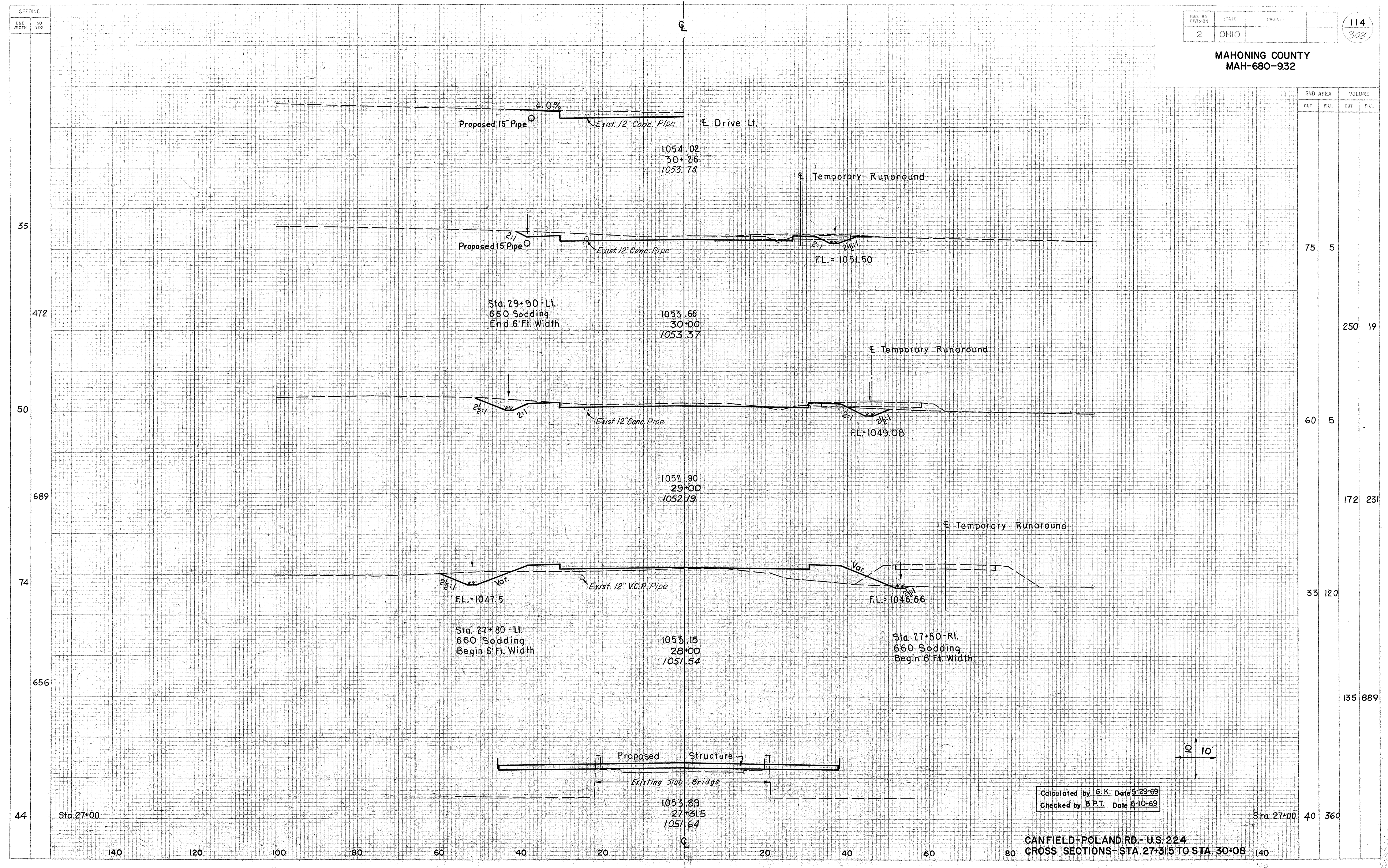


END AREA	VOLUME	
	CUT	FILL
40	360	
81	1611	
4	510	
22	2130	
8	640	
416	476	
3169	1546	
1295	359	

Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69

CANFIELD - POLAND U.S. 224  
80 CROSS SECTIONS - STA. 25+00 TO STA. 27+00

MAHONING COUNTY  
MAH-680-932



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
27+00	40	360		
27+31.5				
28+00				
29+00				
29+90	250	19		
30+00				
30+08				

Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69

SEEDING  
END  
WIDTH

SO.  
YDS.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

115  
303

MAHONING COUNTY  
MAH-680-932

43

228

39

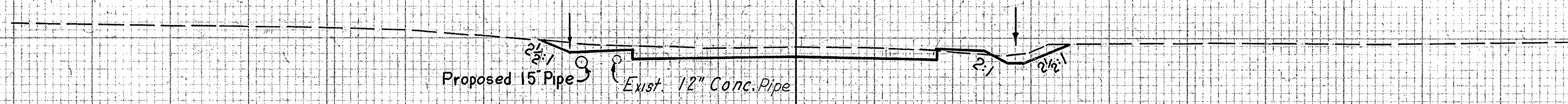
361

26

339

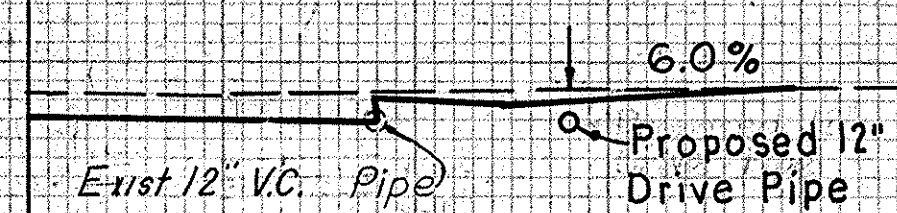
35

END AREA		VOLUME	
CUT	FILL	CUT	FILL
63	2		
		123	2
		70	0
		296	0
		90	0
		306	9
		75	5



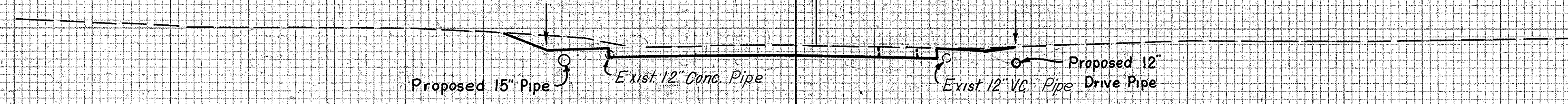
1058.91  
32+50  
1058.95

Drive Rt.



1058.22  
32+21  
1058.33

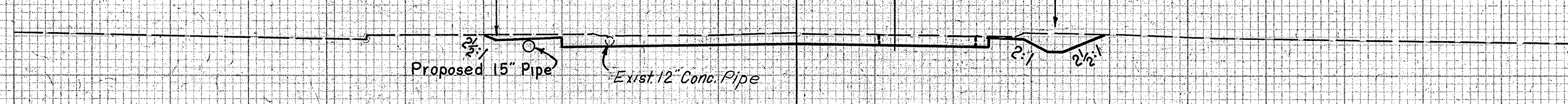
Temporary Runaround



1057.74  
32+00  
1057.88

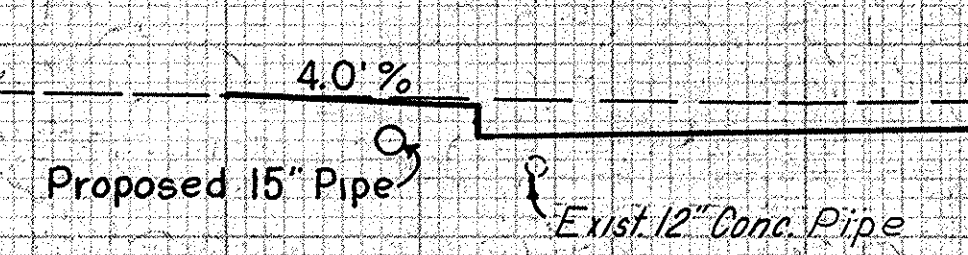
Temporary Runaround

Sta. 31+49 Rt.  
660 Sodding  
End 6.0' Width



1055.42  
31+00  
1055.39

Drive Lt.



1056.85  
31+61  
1057.04

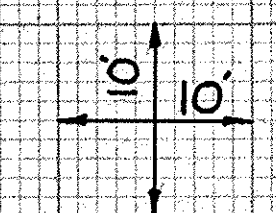
Sta. 30+00

Sta. 30+00

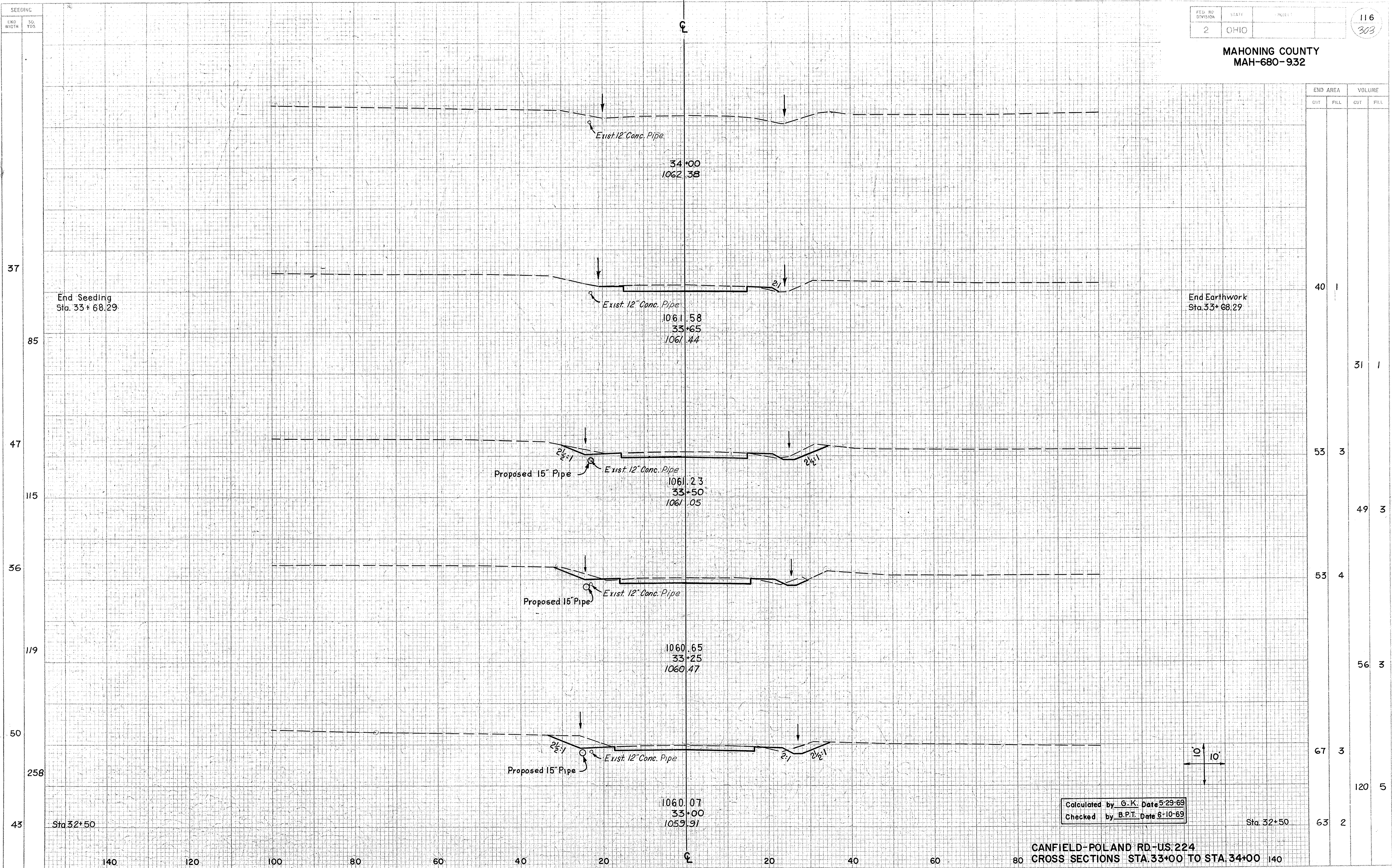
140 120 100 80 60 40 20 20 40 60 80 140

CANFIELD-POLAND RD- U.S. 224  
80 CROSS SECTIONS- STA. 30+62 TO STA. 32+50 140

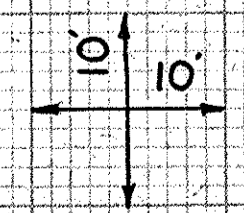
Calculated by G. K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69



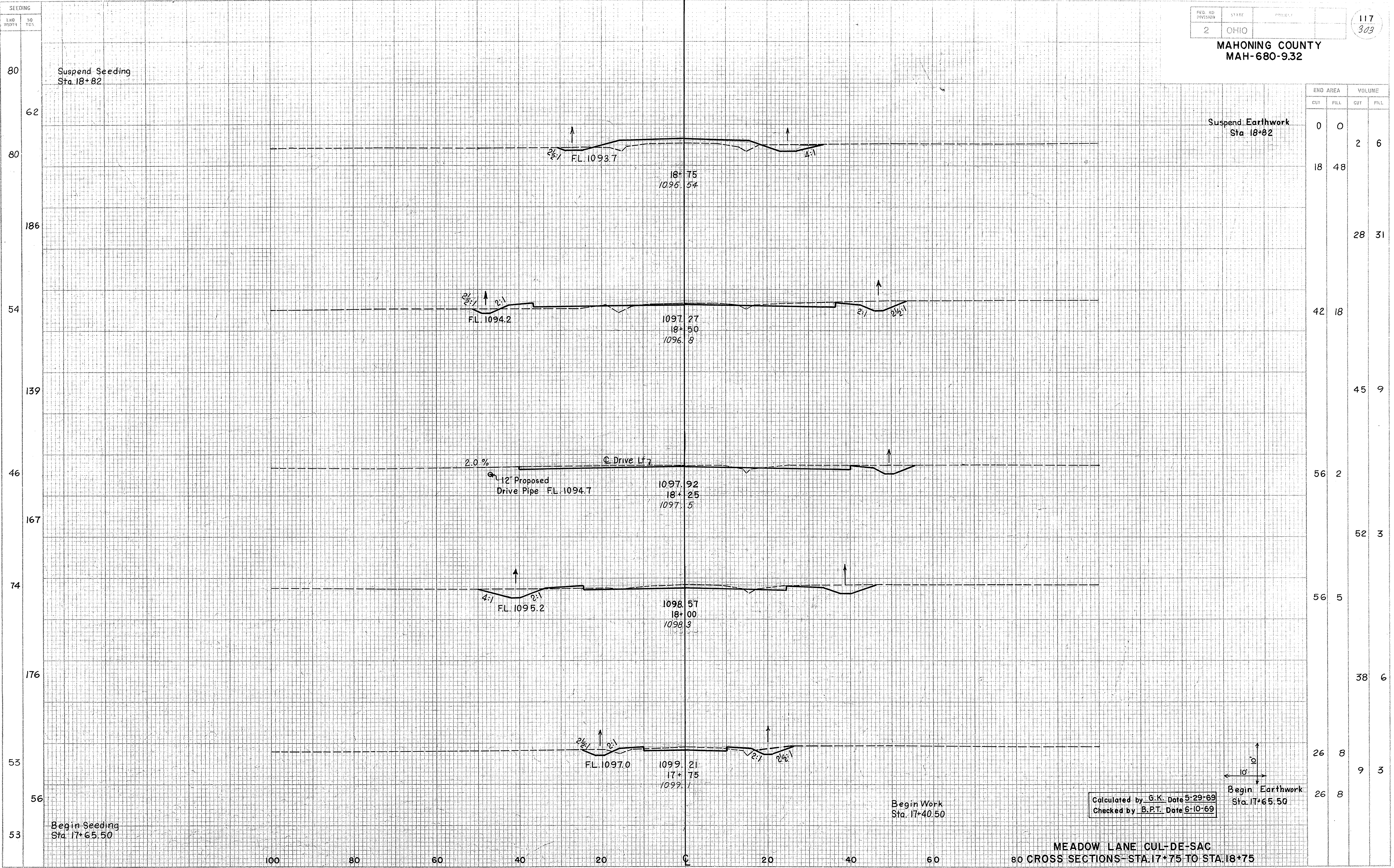
MAHONING COUNTY  
MAH-680-932



Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69



MAHONING COUNTY  
MAH-680-932



END AREA	VOLUME	
	CUT	FILL
0	0	2 6
18	48	
		28 31
42	18	
		45 9
56	2	
		52 3
56	5	
		38 6
26	8	
		9 3
26	8	

Suspend Seeding  
Sta. 18+82

Suspend Earthwork  
Sta. 18+82

Begin Seeding  
Sta. 17+65.50

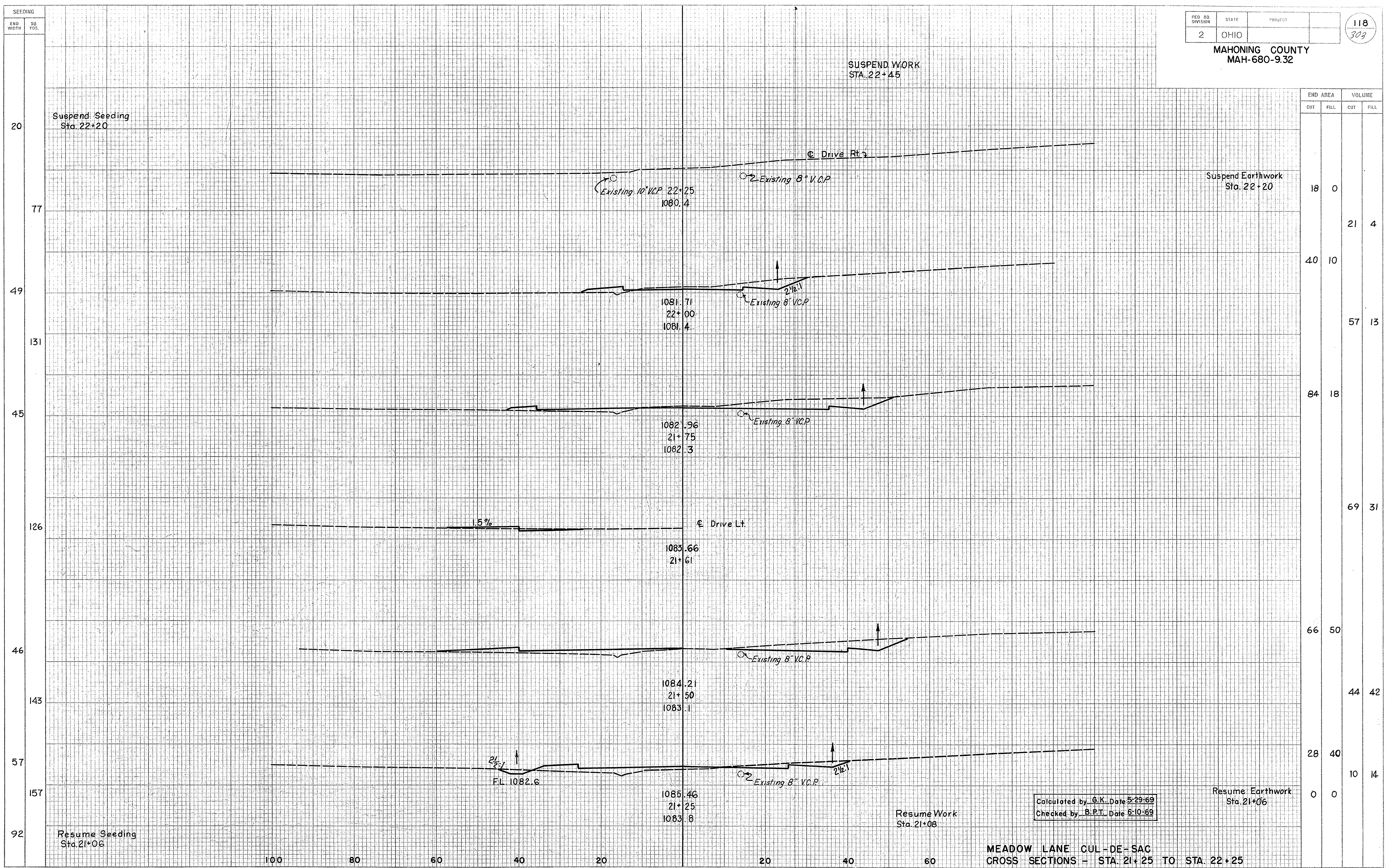
Begin Work  
Sta. 17+40.50

Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69

Begin Earthwork  
Sta. 17+65.50

MEADOW LANE CUL-DE-SAC  
80 CROSS SECTIONS- STA. 17+75 TO STA. 18+75



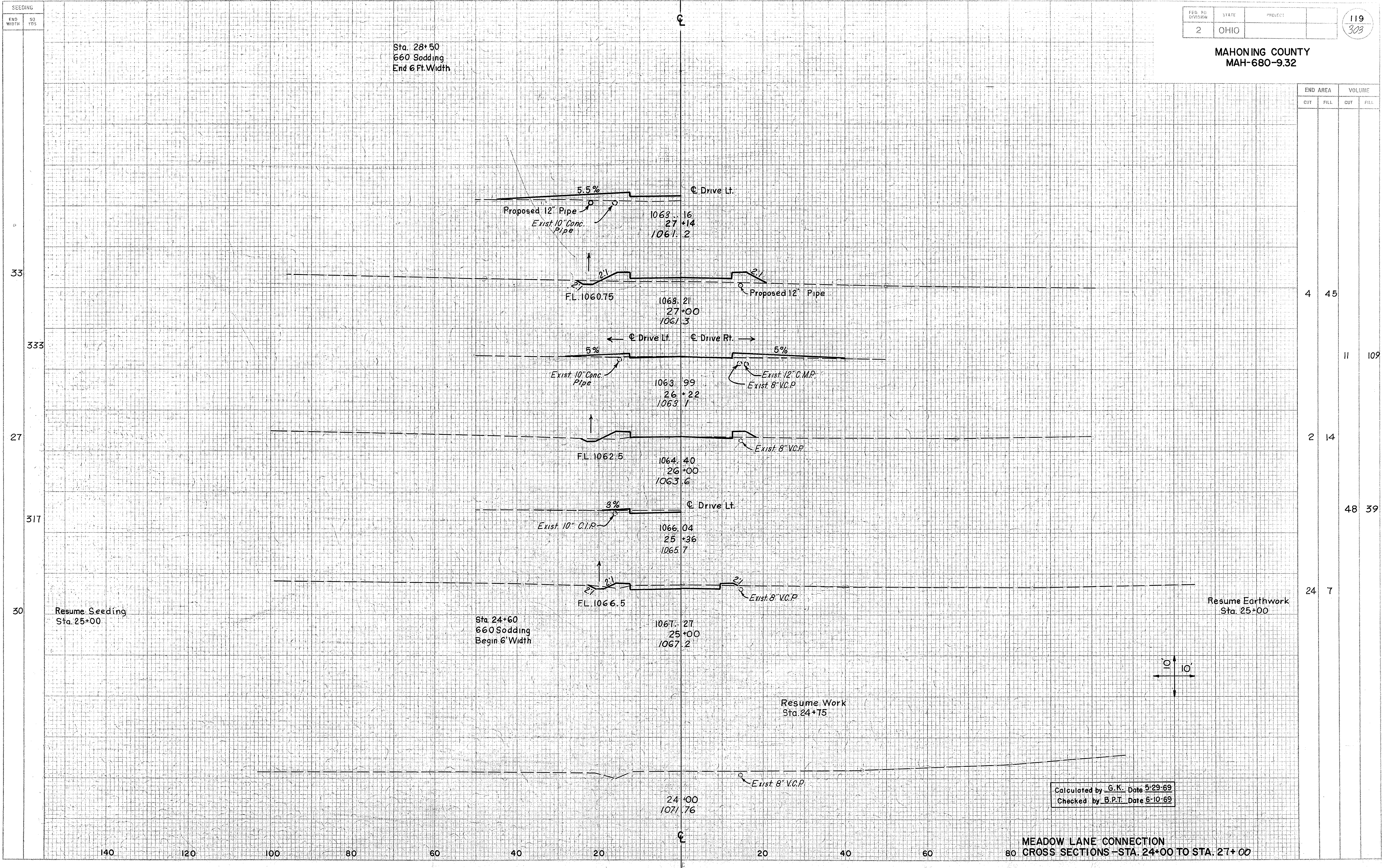


END AREA		VOLUME	
CUT	FILL	CUT	FILL
18	0	21	4
40	10	57	13
84	18	69	31
66	50	44	42
28	40	10	14
0	0		

Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69

MEADOW LANE CUL-DE-SAC  
CROSS SECTIONS - STA. 21+25 TO STA. 22+25

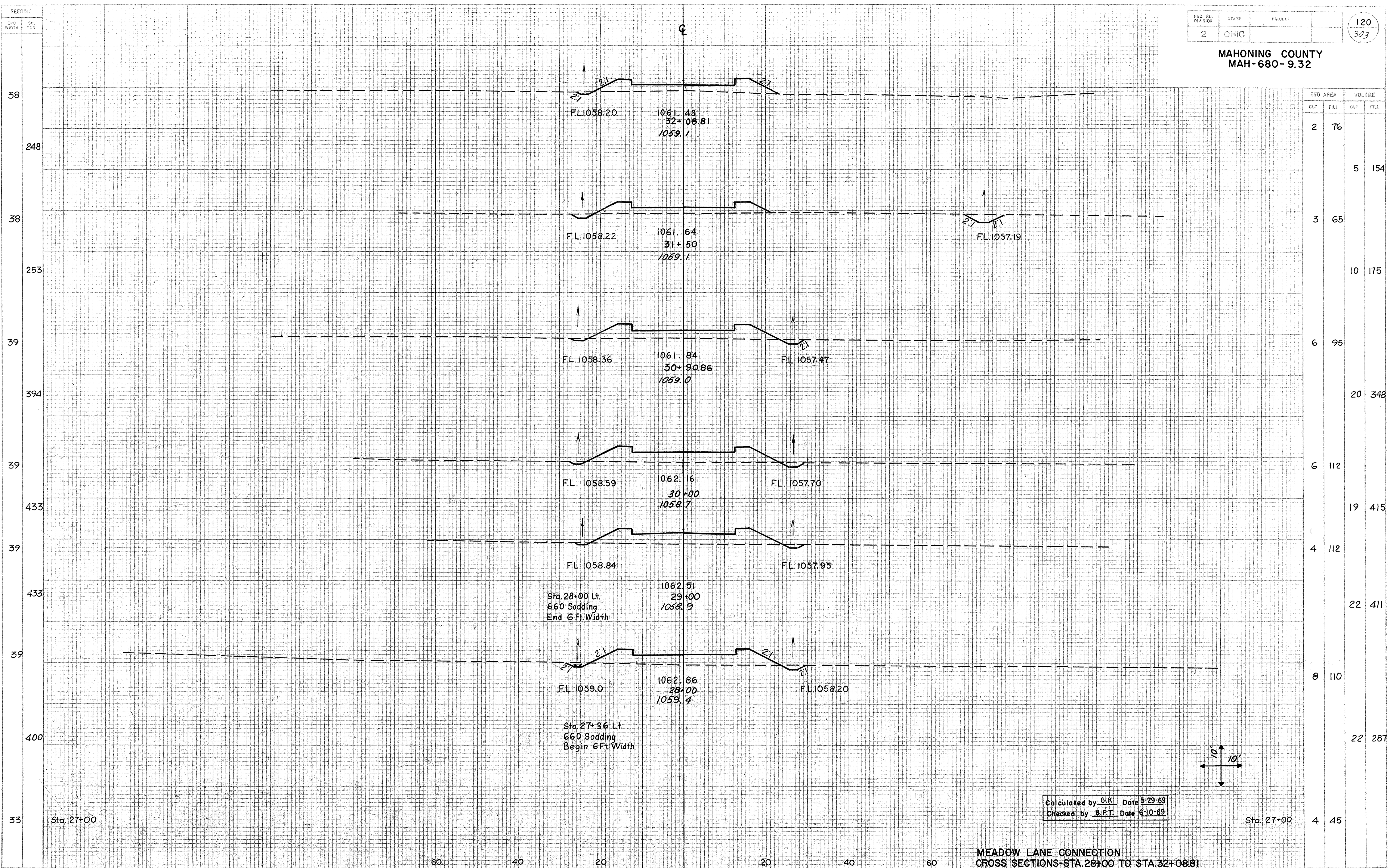
MAHONING COUNTY  
MAH-680-9.32



END AREA		VOLUME	
CUT	FILL	CUT	FILL
4	45		
		11	109
2	14		
		48	39
24	7		

Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69

MAHONING COUNTY  
MAH-680-9.32



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
27+00	4	45		
27+36			22	287
28+00			22	411
29+00	6	112	19	415
30+00	6	95	20	348
31+50	3	65	10	175
32+08.81	2	76	5	154

Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69

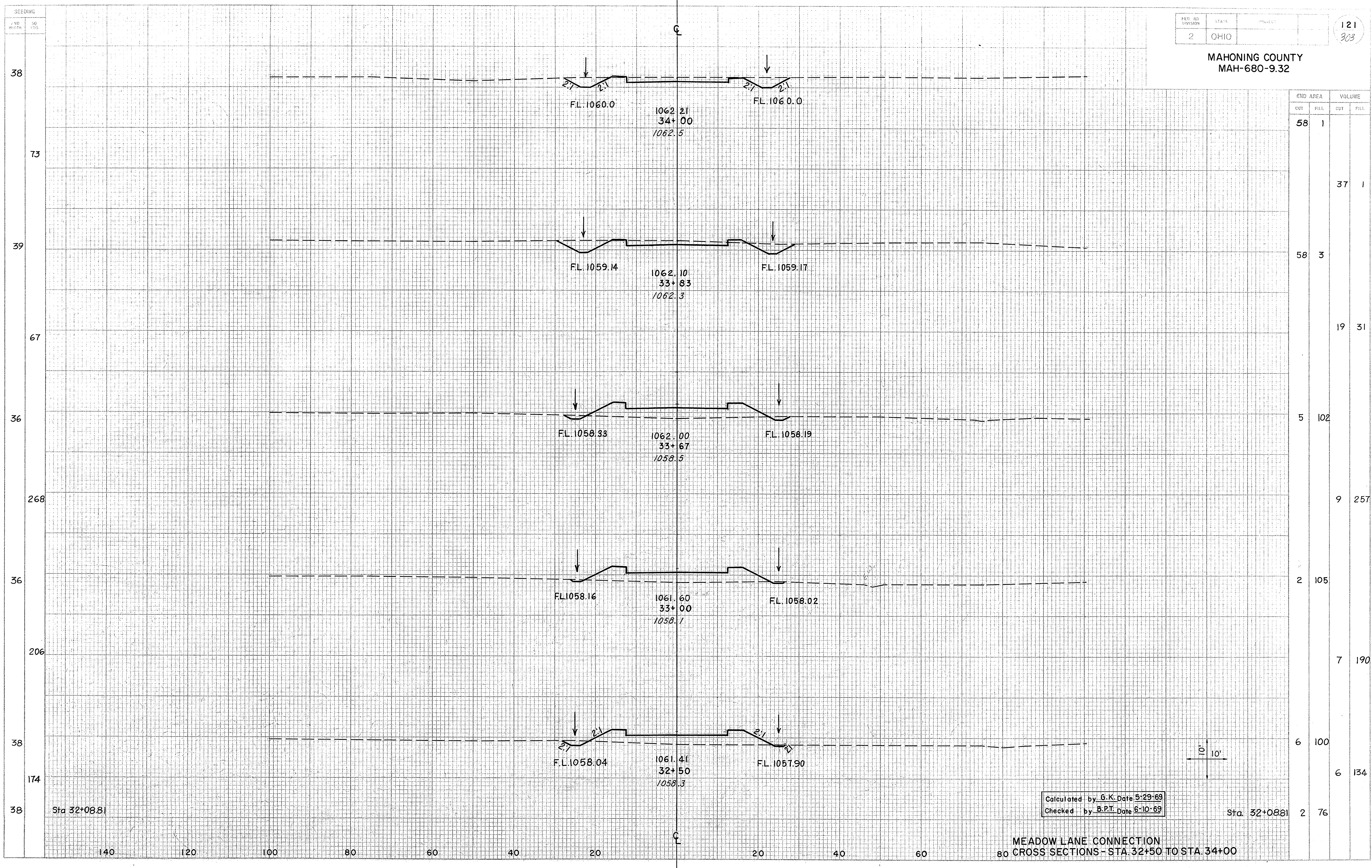
MEADOW LANE CONNECTION  
CROSS SECTIONS-STA.28+00 TO STA.32+08.81

SEEDING  
 1/20  
 1/20

FED. RD. DISTRICT	STATE	COUNTY	PROJECT
2	OHIO		

121  
303

MAHONING COUNTY  
 MAH-680-9.32



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
38	58	1		
73			37	1
39	58	3		
67			19	31
36	5	102		
268			9	257
36	2	105		
206			7	190
38	6	100		
174	6	134		
38	2	76		

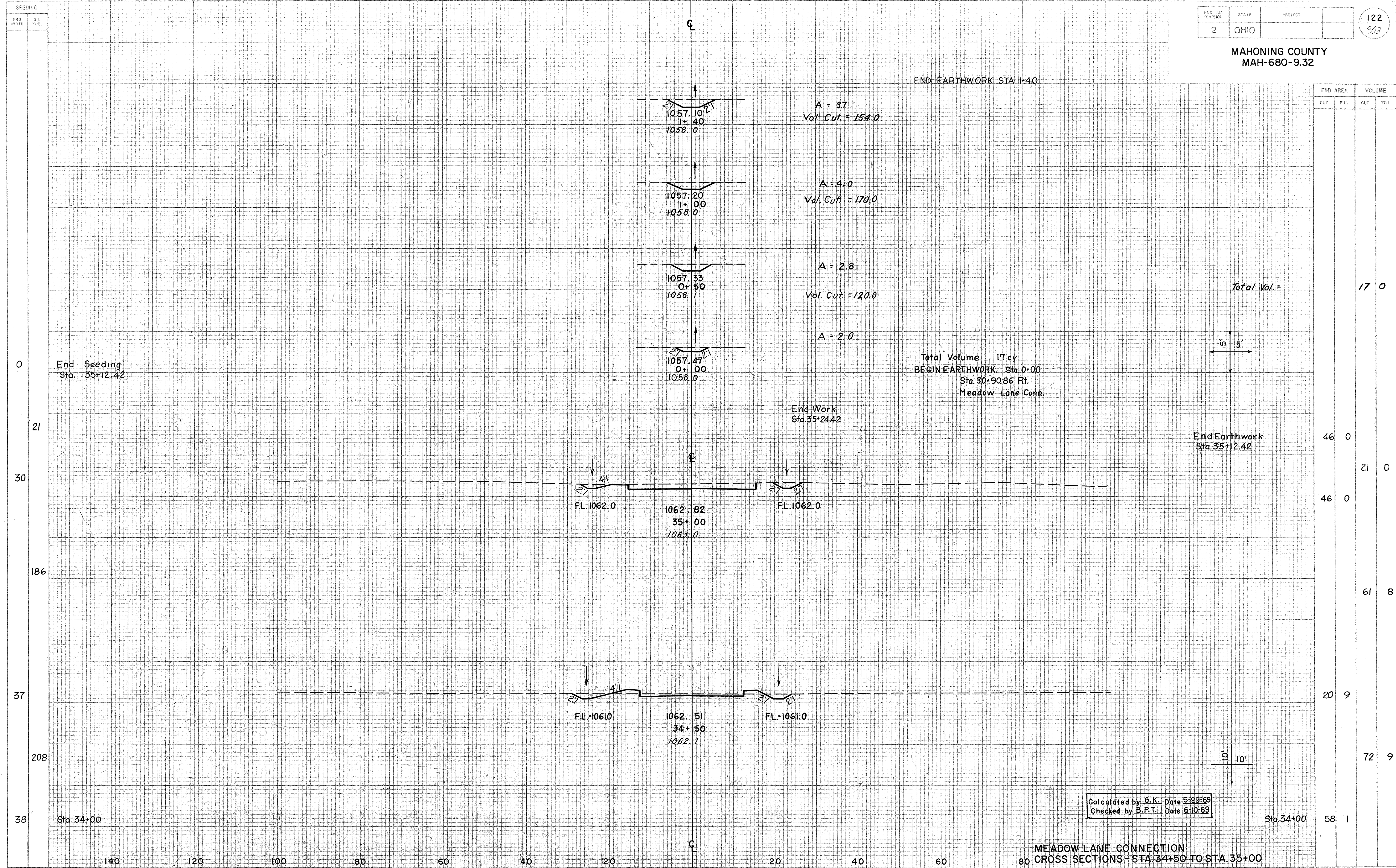
Sta 32+08.81

Calculated by G.K. Date 5-29-69  
 Checked by B.P.T. Date 6-10-69

Sta. 32+08.81

MEADOW LANE CONNECTION  
 80 CROSS SECTIONS - STA. 32+50 TO STA. 34+00

MAHONING COUNTY  
MAH-680-9.32



END EARTHWORK STA 34+00

A = 37  
Vol. Cut = 154.0

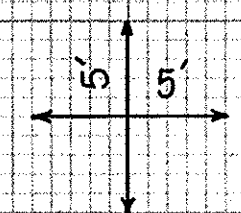
A = 4.0  
Vol. Cut = 170.0

A = 2.8  
Vol. Cut = 120.0

A = 2.0

Total Volume 17 cy  
BEGIN EARTHWORK Sta. 0+00  
Sta. 30+90.86 Rt.  
Meadow Lane Conn.

Total Vol. =



End Work  
Sta. 35+24.42

End Earthwork  
Sta. 35+12.42

FL. 1062.0

1062.82  
35+00  
1063.0

FL. 1062.0

FL. 1061.0

1062.51  
34+50  
1062.1

FL. 1061.0

Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69

Sta. 34+00

MEADOW LANE CONNECTION  
80 CROSS SECTIONS - STA. 34+50 TO STA. 35+00

140 120 100 80 60 40 20 20 40 60

SEEDING  
END WIDTH SQ YDS

FED RD DIVISION	STATE	PROJECT
2	OHIO	

123  
303

MAHONING COUNTY  
MAH-680-9.32

0.2%

DRIVE PROFILE LT

18+32  
1080.1

END AREA		VOLUME	
CUT	FILL	CUT	FILL

20+25  
1076.05

20+00  
1076.52

19+75  
1076.98

19+50  
1077.47

19+25  
1077.97

19+00  
1078.47

18+75  
1079.02

18+50  
1079.62

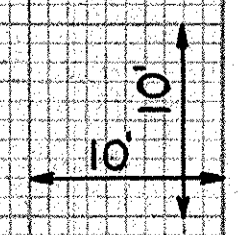
21+50  
1073.92

21+00  
1074.80

20+75  
1075.22

20+50  
1075.63

Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69



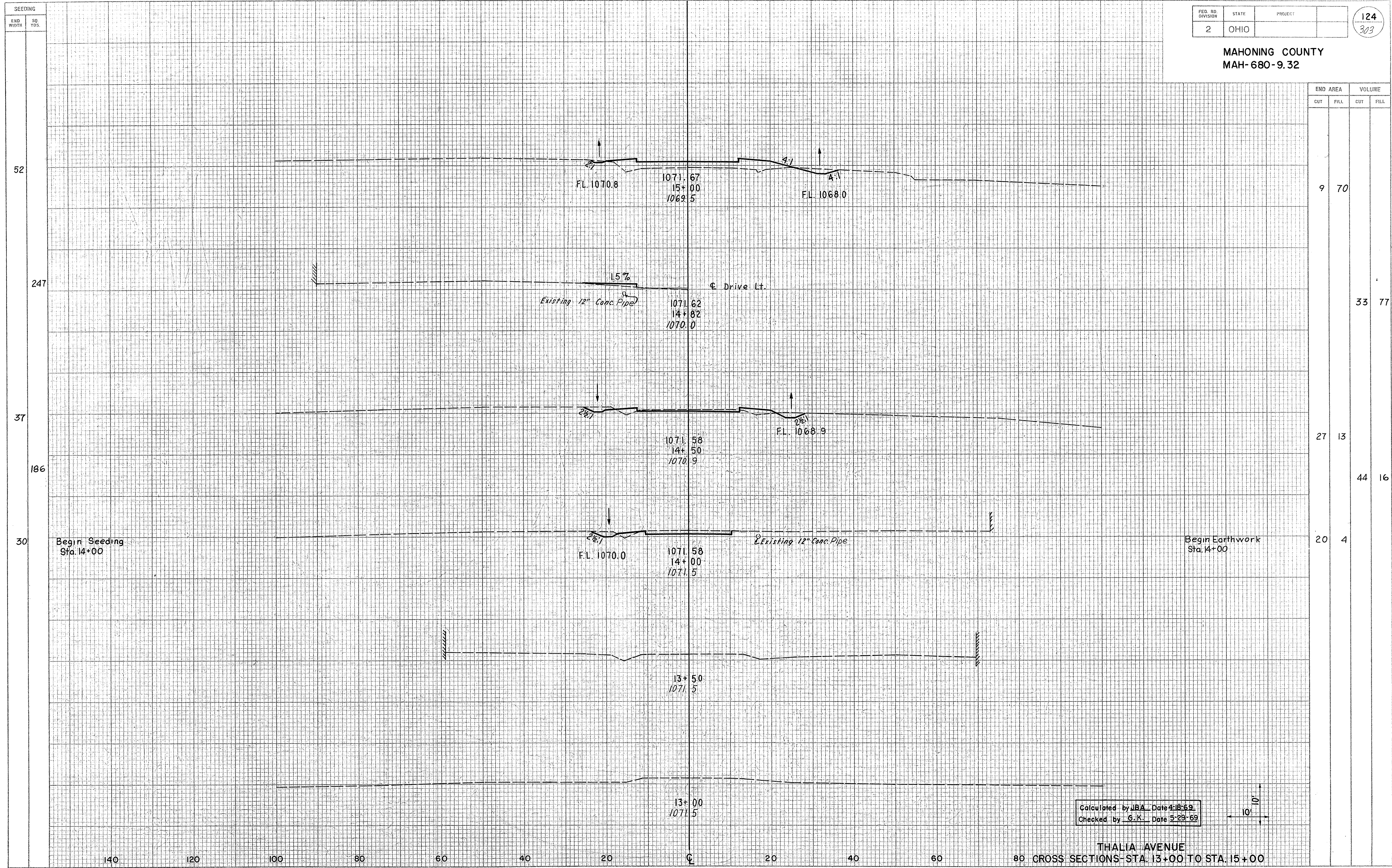
MATHEWS ROAD  
CROSS SECTIONS - STA 18+50 TO STA 21+50

60 40 20 0 20 40 60 60 40 20 0 20 40 60

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

124  
303

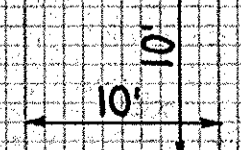
MAHONING COUNTY  
MAH-680-9.32



END AREA		VOLUME	
CUT	FILL	CUT	FILL

9	70	33	77
27	13	44	16
20	4		

Calculated by JBA Date 4-18-69  
Checked by G.K. Date 5-29-69



THALIA AVENUE  
80 CROSS SECTIONS- STA. 13+00 TO STA. 15+00

SEEDING  
END WIDTH 30 YDS.  
52  
247  
37  
186  
30  
140 120 100 80 60 40 20 0 20 40 60 80

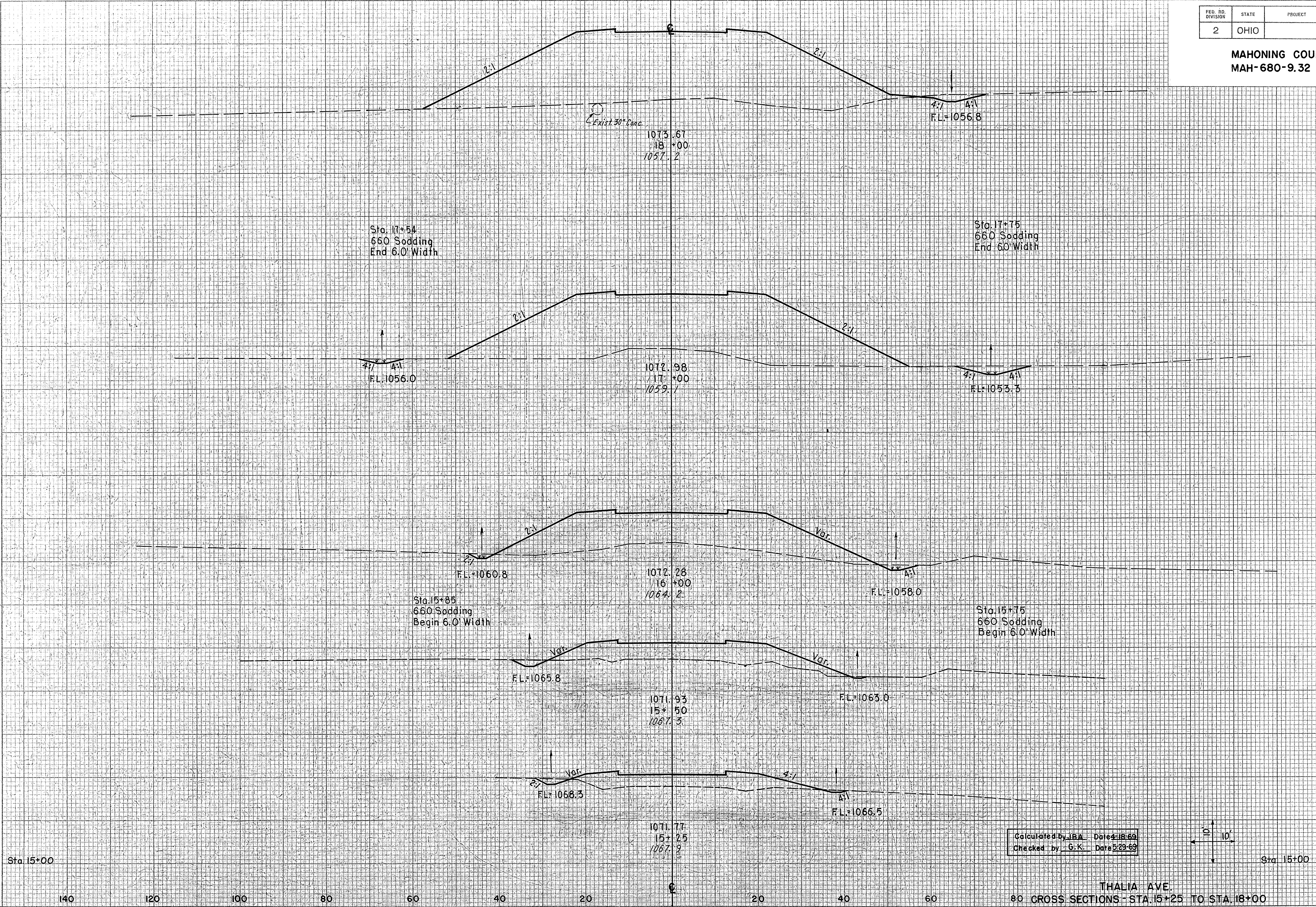
SEEDING  
END WIDTH  
SQ YDS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

125  
303

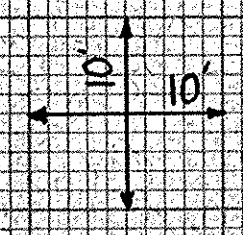
MAHONING COUNTY  
MAH-680-9.32

134  
1589  
152  
1411  
102  
497  
77  
196  
64  
161  
52



END AREA		VOLUME	
CUT	FILL	CUT	FILL
14	1295		
			74 4454
			26 1110
			69 3098
			11 563
			19 741
			9 237
			8 182
			8 157
			8 105
			9 70

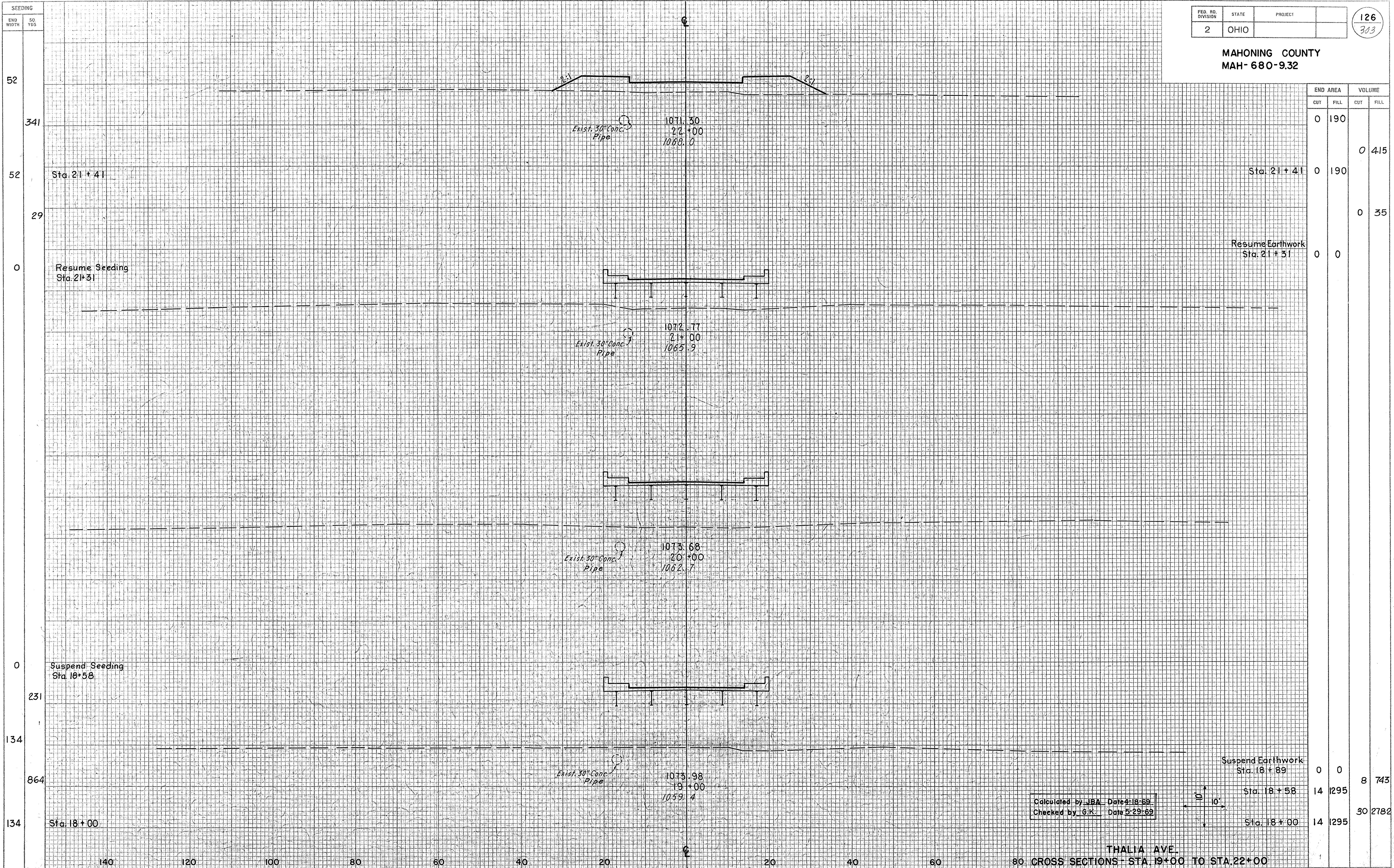
Calculated by JBA Date 4-18-69  
Checked by G.K. Date 2-23-69



THALIA AVE.  
80 CROSS SECTIONS - STA. 15+25 TO STA. 18+00

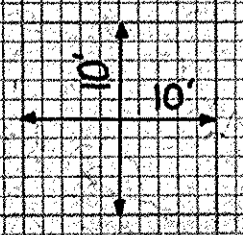


MAHONING COUNTY  
MAH-680-9.32



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
Sta. 21+41	0	190	0	415
Resume Earthwork Sta. 21+31	0	0	0	35
Suspend Earthwork Sta. 18+89	0	0	8	743
Sta. 18+58	14	1295		
Sta. 18+00	14	1295	30	2782

Calculated by JBA Date 4-18-69  
Checked by G.K. Date 5-29-69



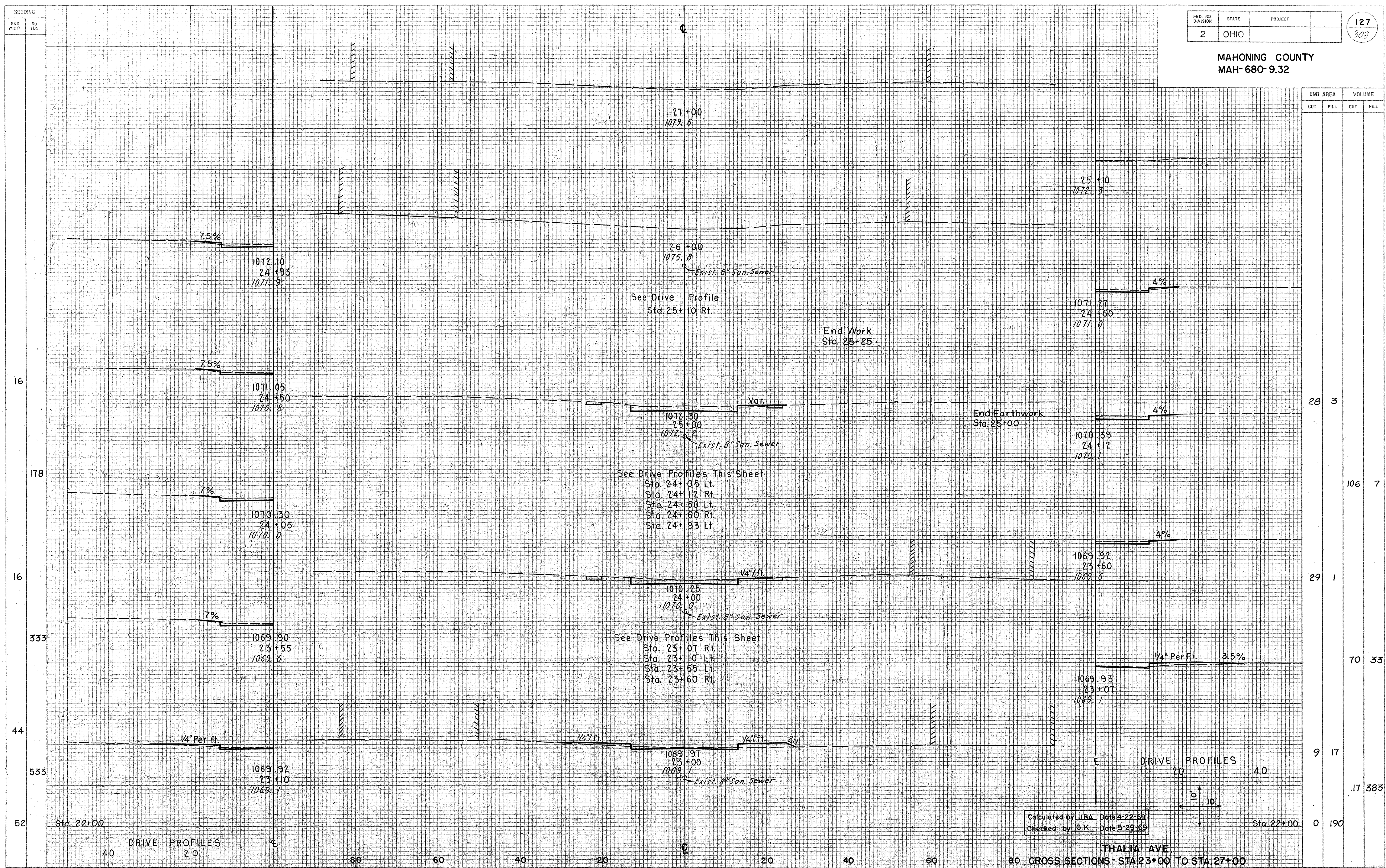
SEEDING  
END WIDTH SO YDS  
52  
341  
52  
29  
0  
0  
231  
134  
864  
134

Resume Seeding Sta. 21+31  
Sta. 21+41  
Suspend Seeding Sta. 18+58  
Sta. 18+00

Exist. 30" Conc. Pipe  
1071.30  
22+00  
1068.0  
Exist. 30" Conc. Pipe  
1072.77  
21+00  
1065.9  
Exist. 30" Conc. Pipe  
1073.68  
20+00  
1062.7  
Exist. 30" Conc. Pipe  
1073.98  
19+00  
1059.4

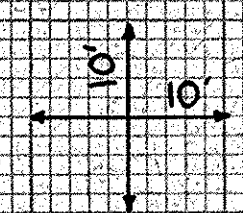
140 120 100 80 60 40 20 20 40 60 80

MAHONING COUNTY  
MAH-680-9.32



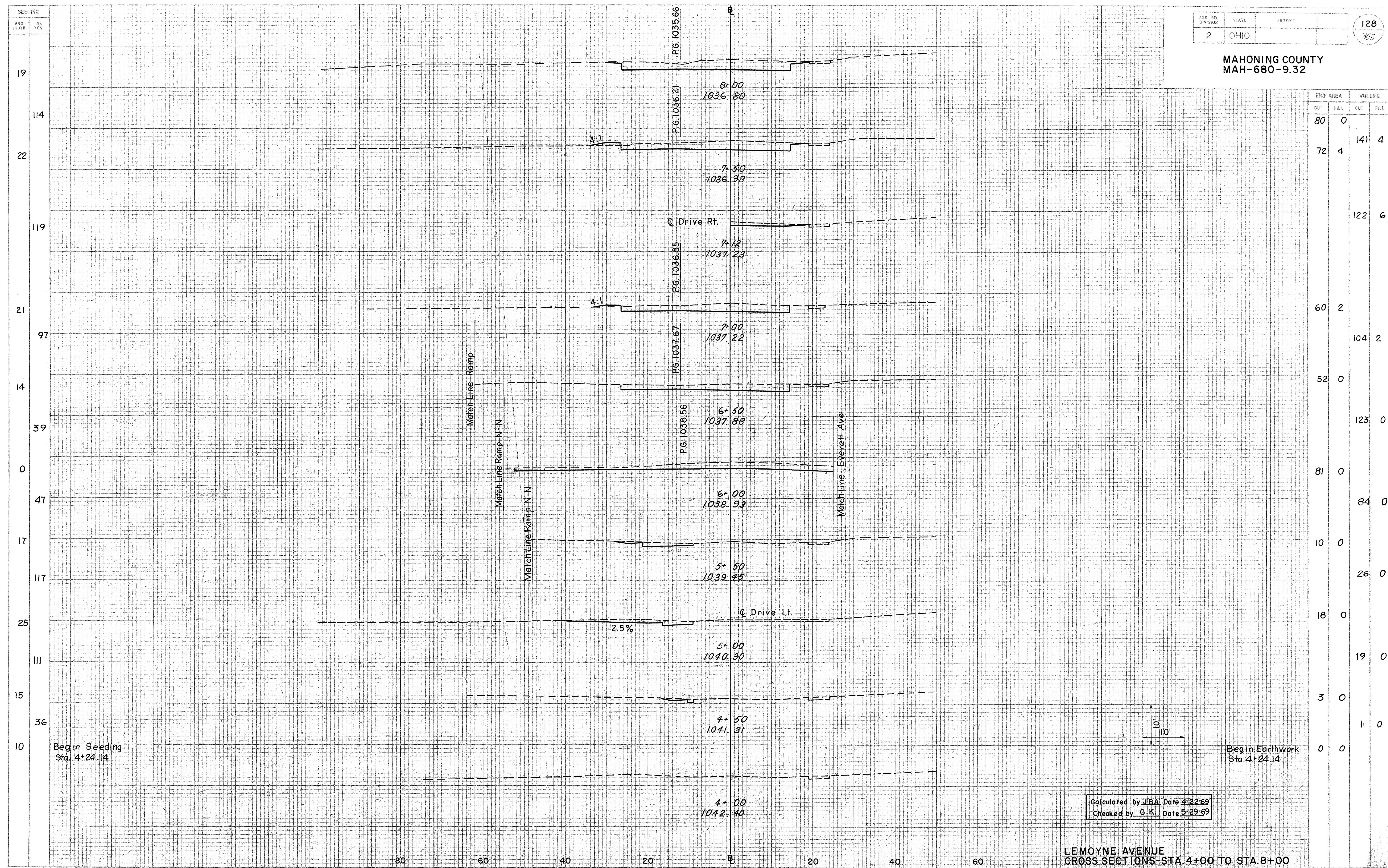
END AREA	VOLUME	
	CUT	FILL
28	3	
106	7	
29	1	
70	33	
9	17	
17	383	
0	190	

Calculated by JBA Date 4-22-69  
Checked by G.K. Date 5-29-69



THALIA AVE.  
CROSS SECTIONS - STA 23+00 TO STA 27+00

MAHONING COUNTY  
MAH-680-9.32



END STA	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
19	80	0		
114			141	4
22	72	4		
119			122	6
21	60	2		
97			104	2
14	52	0		
39			123	0
0	81	0		
47			84	0
17	10	0		
117			26	0
25	18	0		
111			19	0
15	3	0		
36			1	0
10	0	0		

Begin Seeding  
Sta. 4+24.14

Begin Earthwork  
Sta 4+24.14

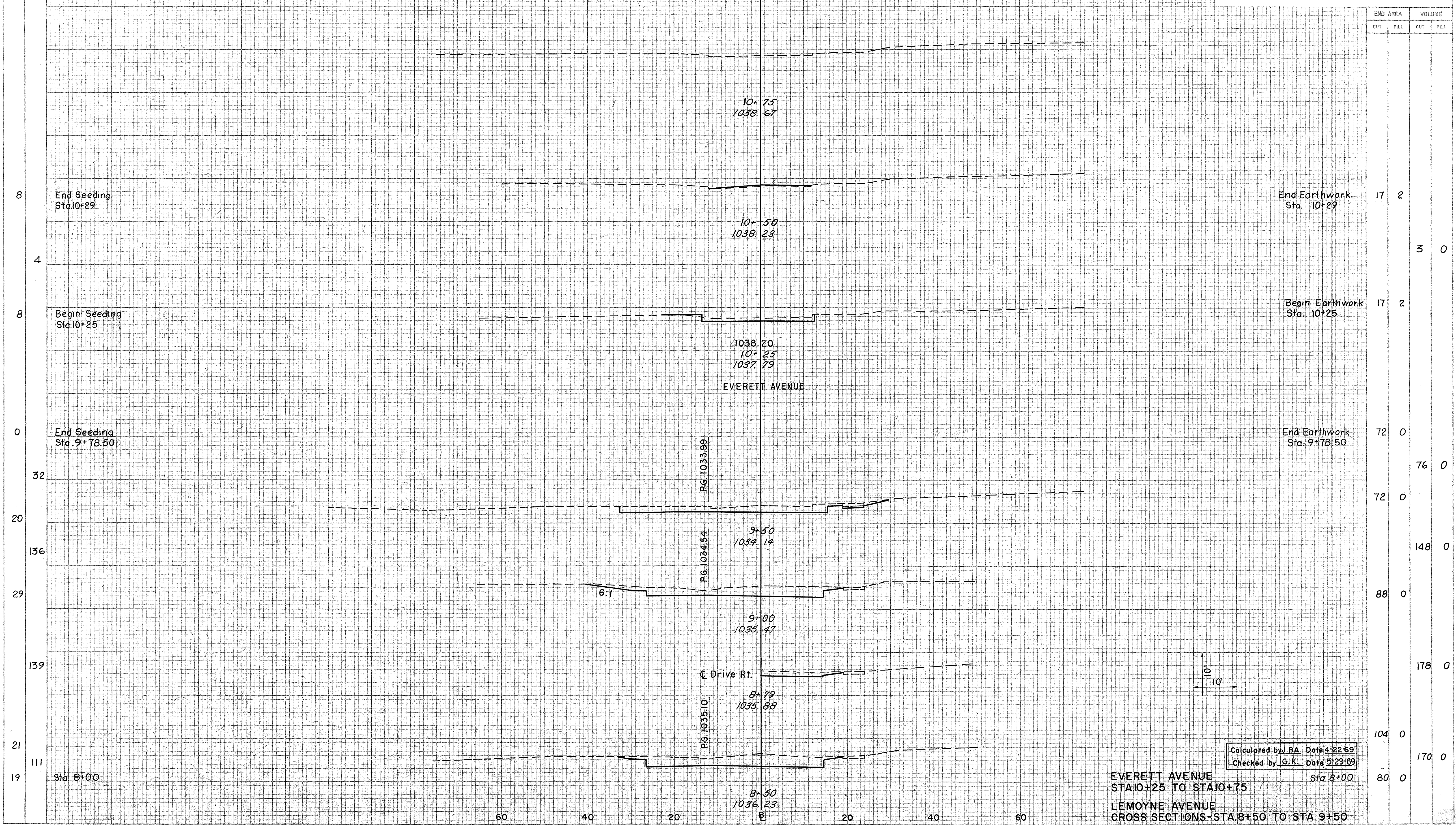
Calculated by J.B.A. Date 4-22-69  
Checked by G.K. Date 5-29-69

SEEDING  
END WIDTH SQ. YDS

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

129  
303

MAHONING COUNTY  
MAH-680-9.32

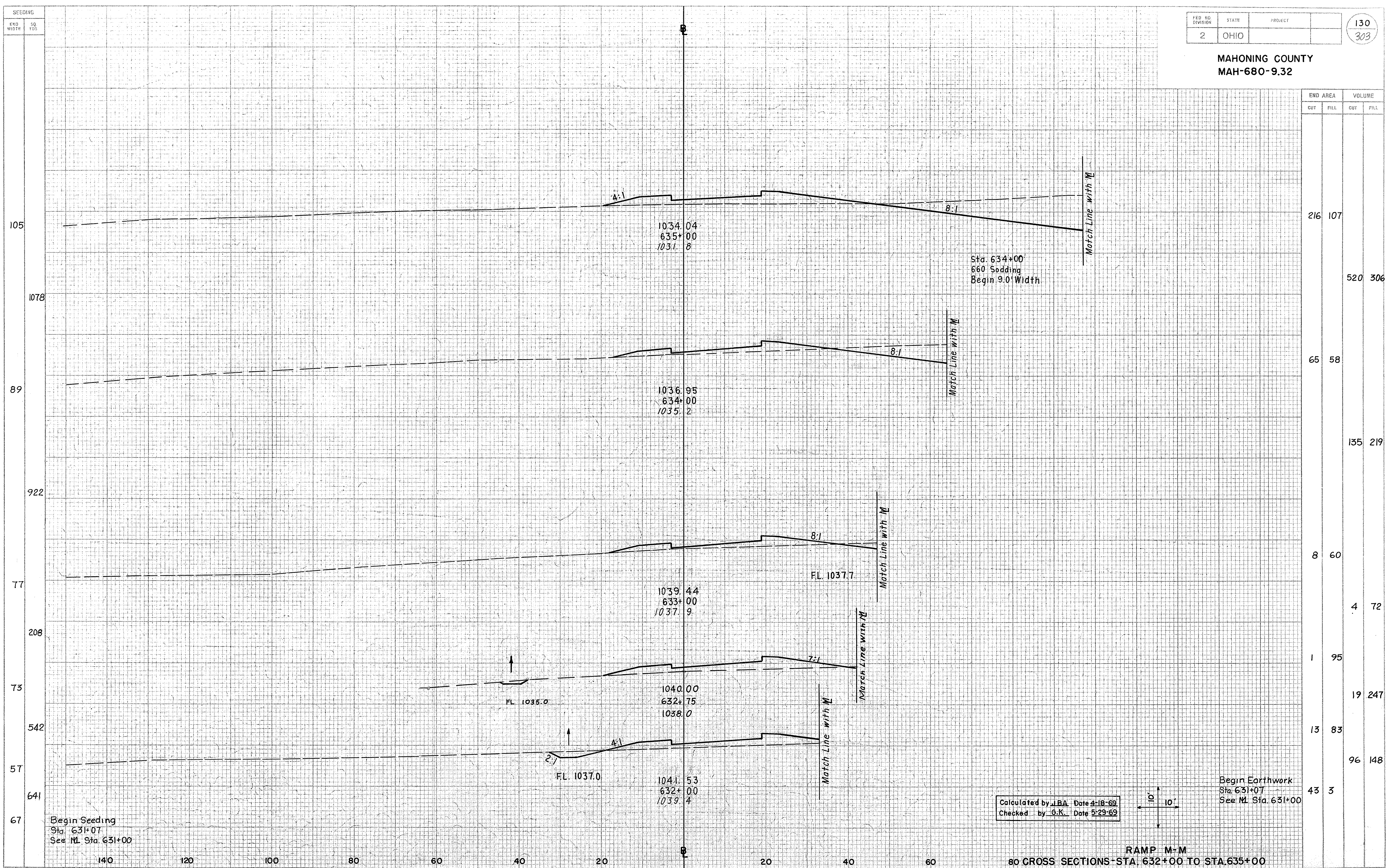


END AREA		VOLUME	
CUT	FILL	CUT	FILL
17	2		
		3	0
17	2		
72	0		
		76	0
72	0		
		148	0
88	0		
		178	0
104	0		
		170	0
80	0		

Calculated by BA Date 4-22-69  
Checked by G.K. Date 5-29-69

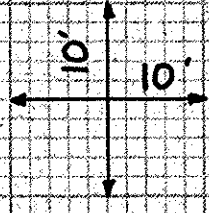
EVERETT AVENUE  
STA. 10+25 TO STA. 10+75  
LIMOYNE AVENUE  
CROSS SECTIONS- STA. 8+50 TO STA. 9+50  
Sta. 8+00

MAHONING COUNTY  
MAH-680-9.32



Begin Seeding  
Sta. 631+07  
See M. Sta. 631+00

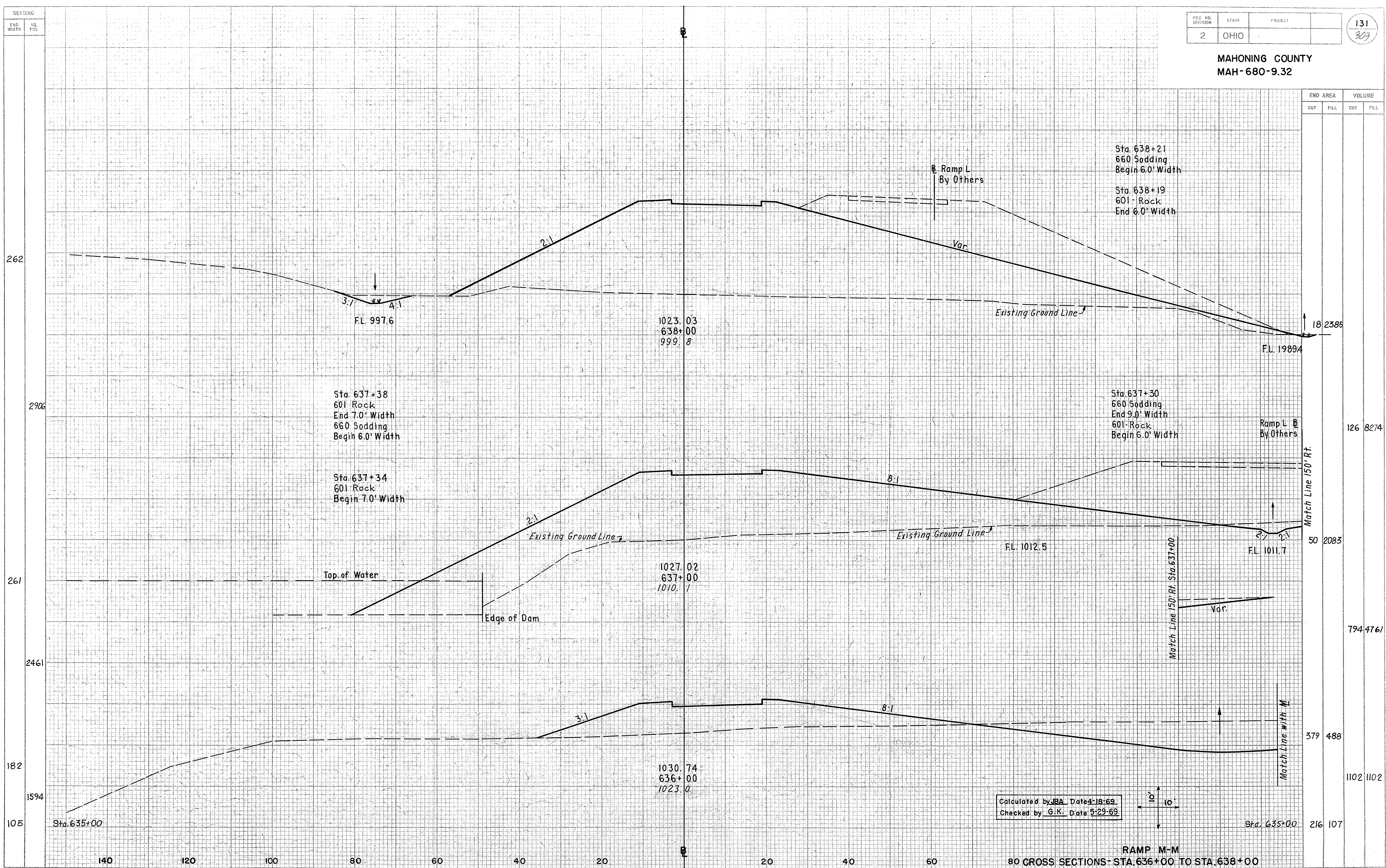
Calculated by J.B.A. Date 4-18-69  
Checked by G.K. Date 5-29-69



Begin Earthwork  
Sta. 631+07  
See M. Sta. 631+00

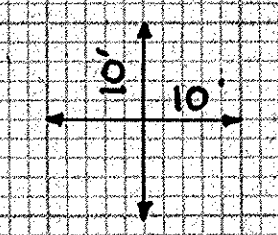
RAMP M-M  
80 CROSS SECTIONS - STA. 632+00 TO STA. 635+00

MAHONING COUNTY  
MAH-680-9.32



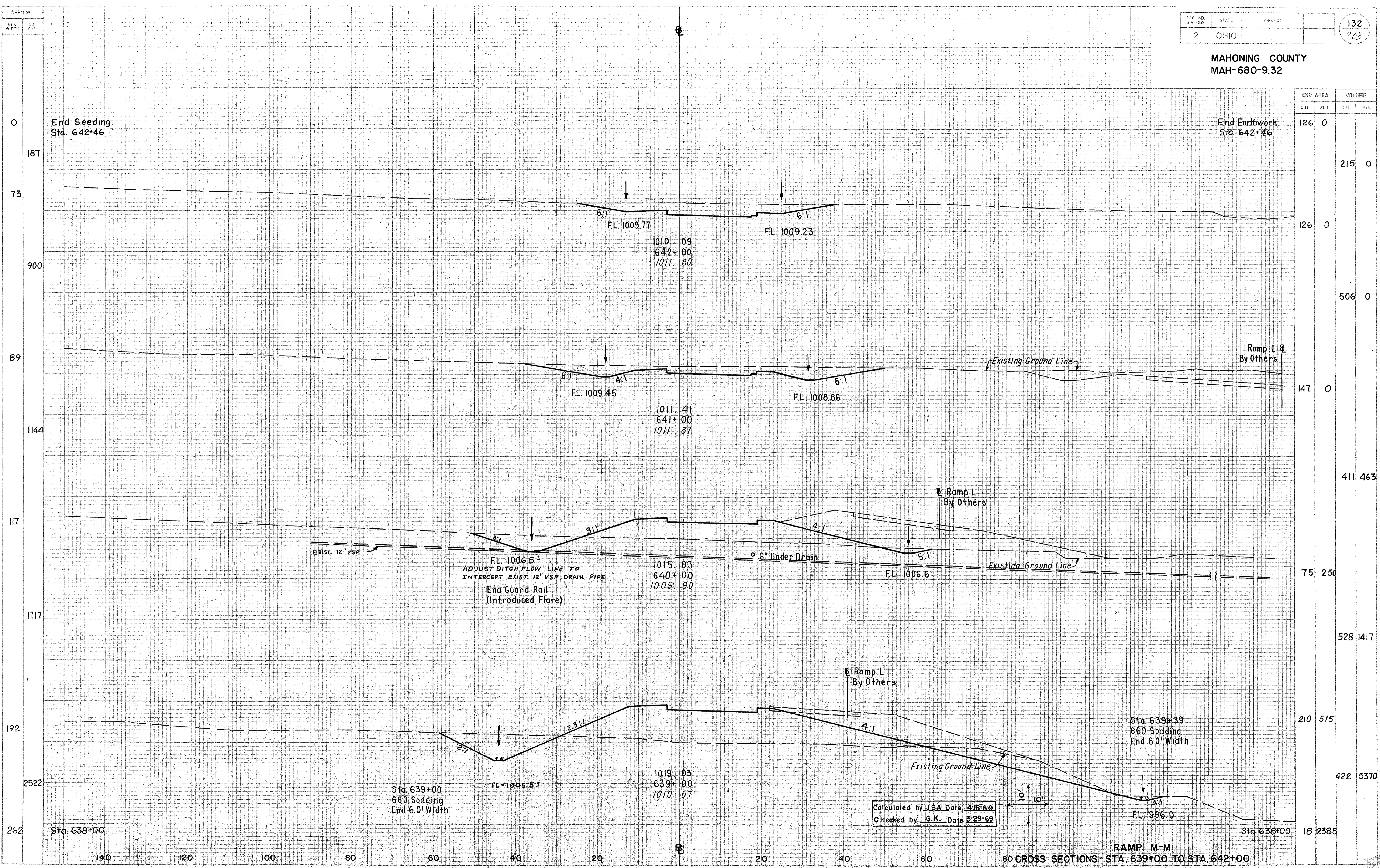
END AREA	VOLUME	
	CUT	FILL
18 2385		
126 8274		
50 2083		
794 4761		
379 488		
1102 1102		
216 107		

Calculated by JBA Date 4-18-69  
Checked by G.K. Date 5-29-69



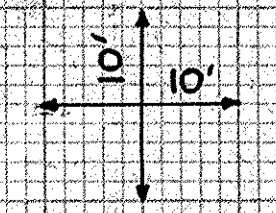
RAMP M-M  
80 CROSS SECTIONS - STA. 636+00 TO STA. 638+00

MAHONING COUNTY  
MAH-680-9.32



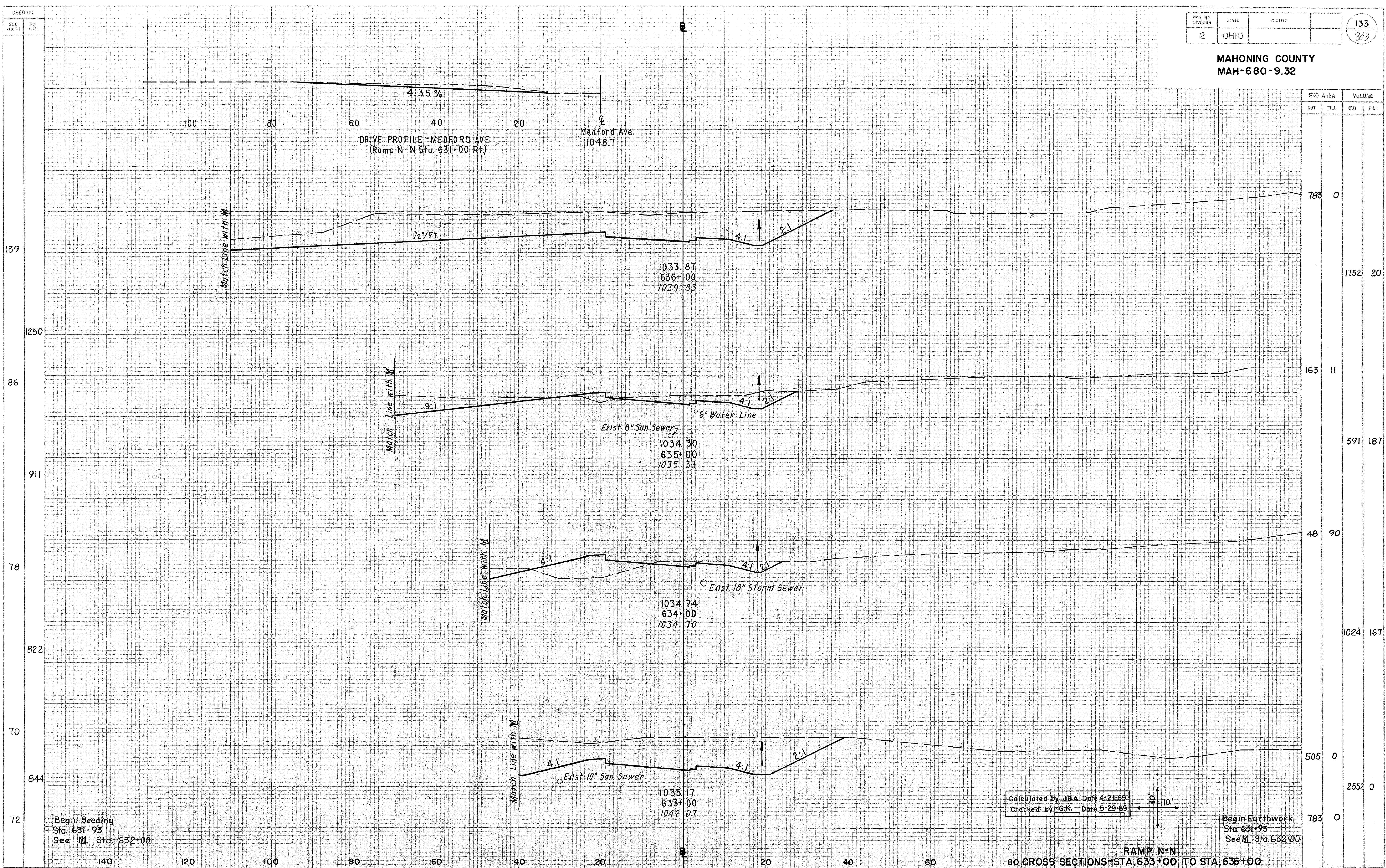
END AREA	VOLUME	
	CUT	FILL
126	0	215
126	0	506
147	0	411
75	250	1417
210	515	515
422	5370	5370
18	2385	2385

Calculated by JBA Date 4-18-69  
Checked by G.K. Date 5-29-69



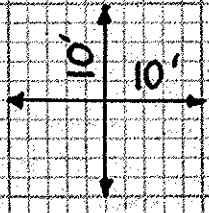
80 CROSS SECTIONS - STA. 639+00 TO STA. 642+00

MAHONING COUNTY  
MAH-680-9.32



Begin Seeding  
Sta. 631+93  
See M Sta. 632+00

Calculated by JBA Date 4-21-69  
Checked by G.K. Date 5-29-69

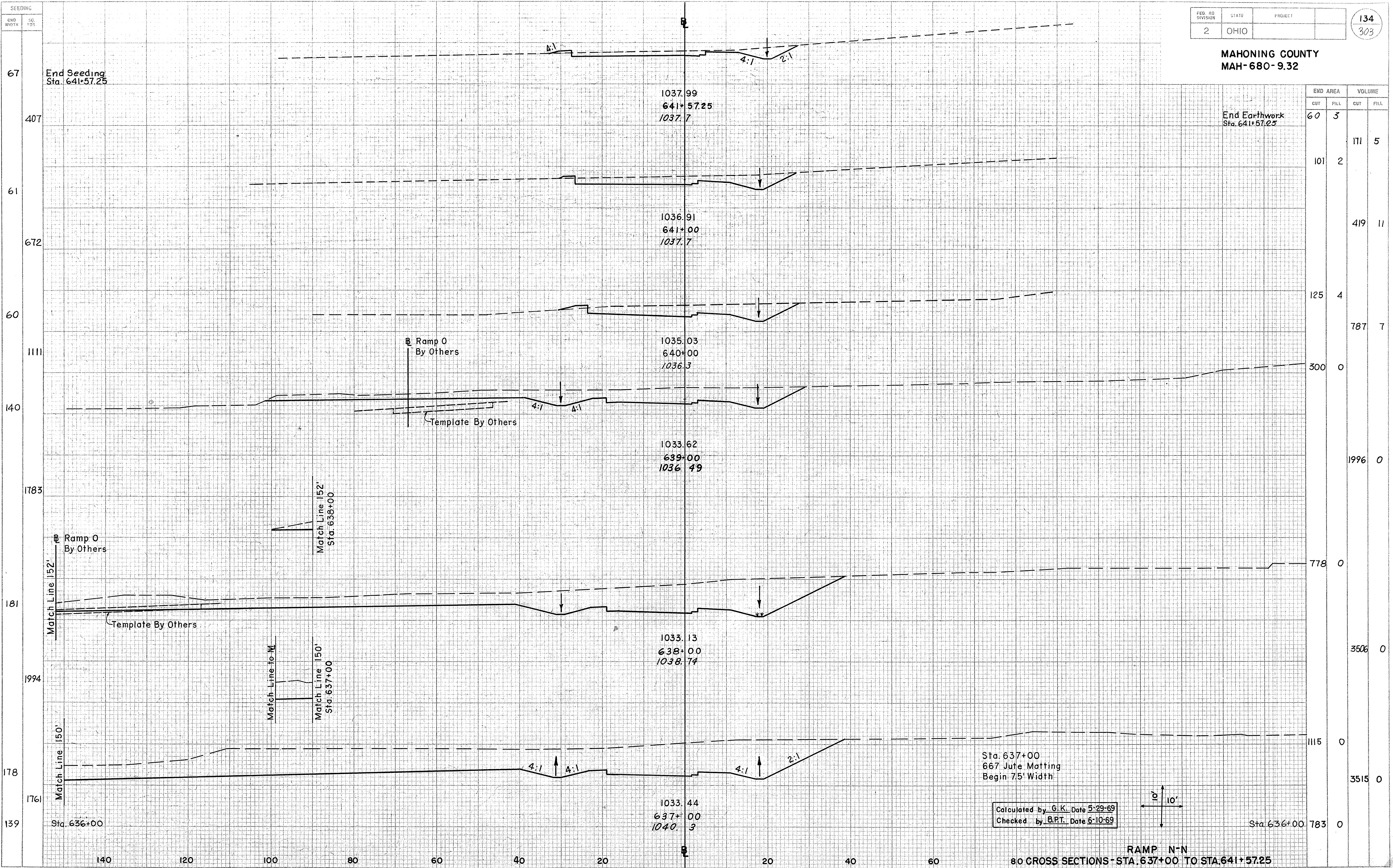


Begin Earthwork  
Sta. 631+93  
See M Sta. 632+00

80 CROSS SECTIONS-STA. 633+00 TO STA. 636+00



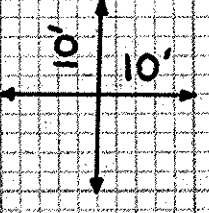
MAHONING COUNTY  
MAH-680-9.32



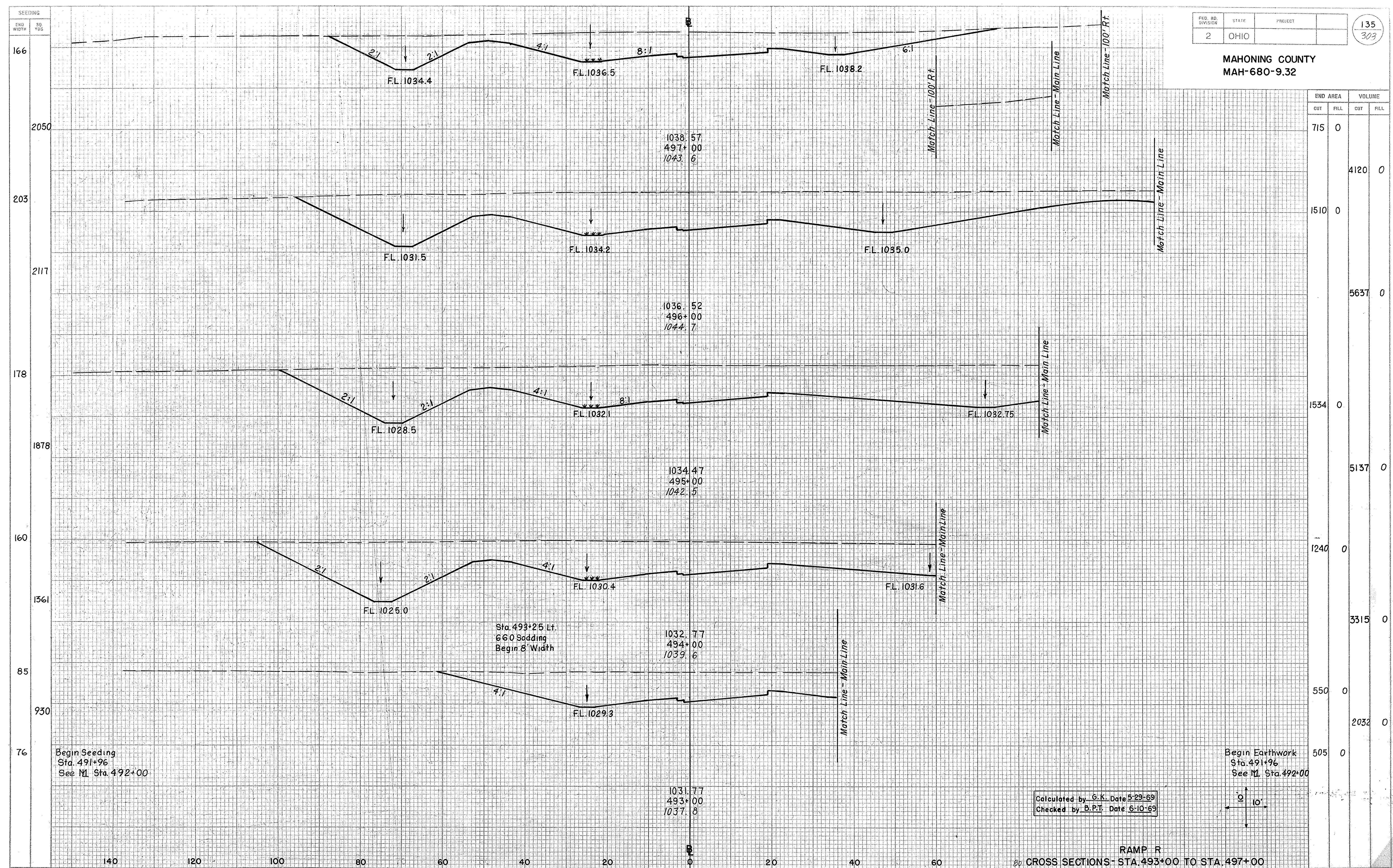
STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
641+57.25	60	3		
			171	5
			101	2
				419
			125	4
				787
			300	0
				1996
			778	0
				3506
			1115	0
				3515
			783	0

Sta. 637+00  
667 Jute Matting  
Begin 75' Width

Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69



MAHONING COUNTY  
MAH-680-9.32



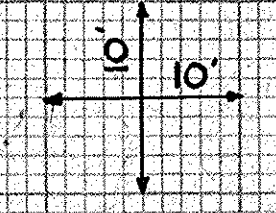
END AREA	VOLUME	
	CUT	FILL
715	0	0
1510	0	4120
2117	0	5637
178	0	1534
1878	0	5137
160	0	1240
1361	0	3315
85	0	550
930	0	2032
76	0	505

Begin Seeding  
Sta. 491+96  
See M Sta. 492+00

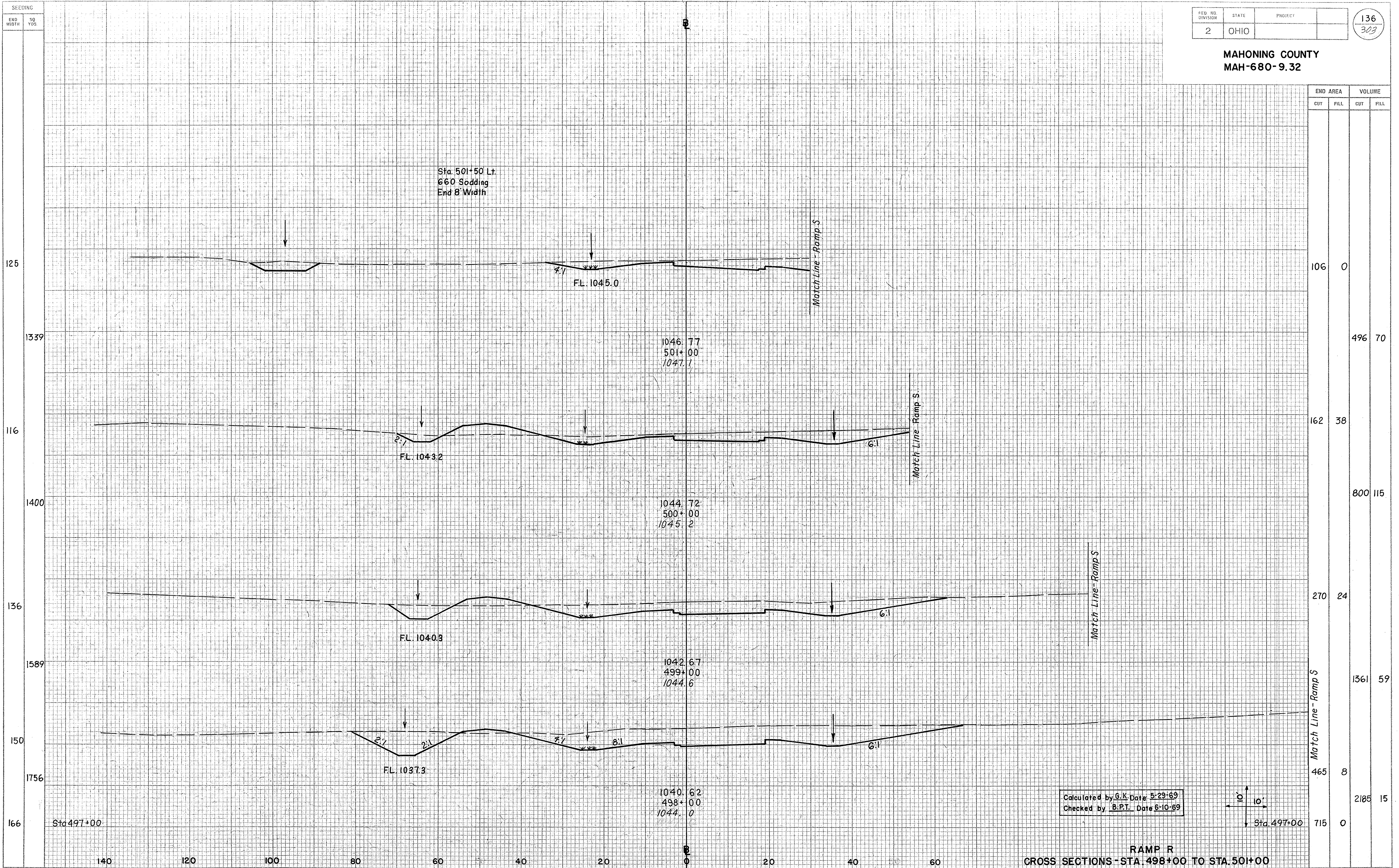
Begin Earthwork  
Sta. 491+96  
See M Sta. 492+00

Sta. 493+25 Lt.  
660 Sodding  
Begin 8' Width

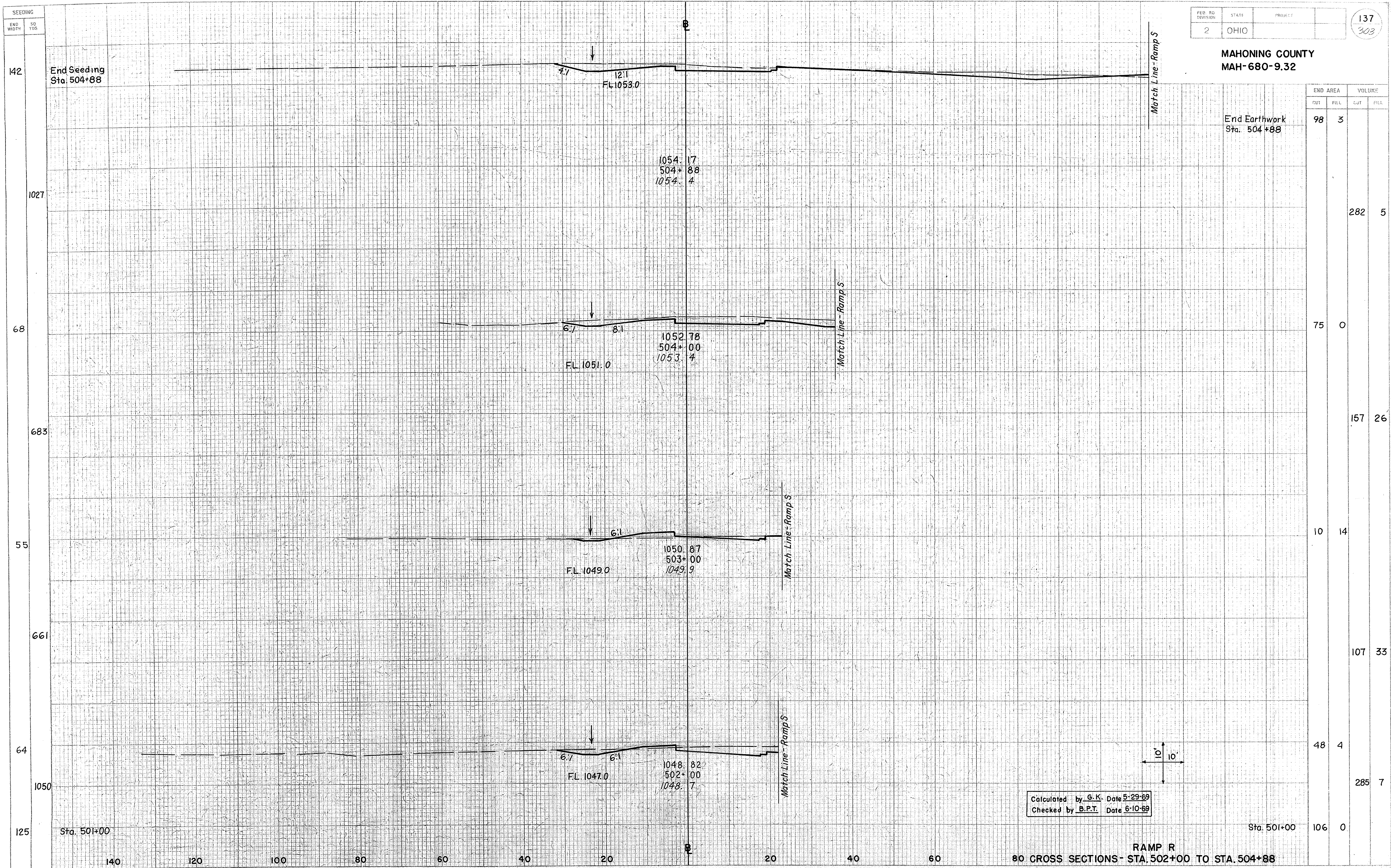
Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69



MAHONING COUNTY  
MAH-680-9.32



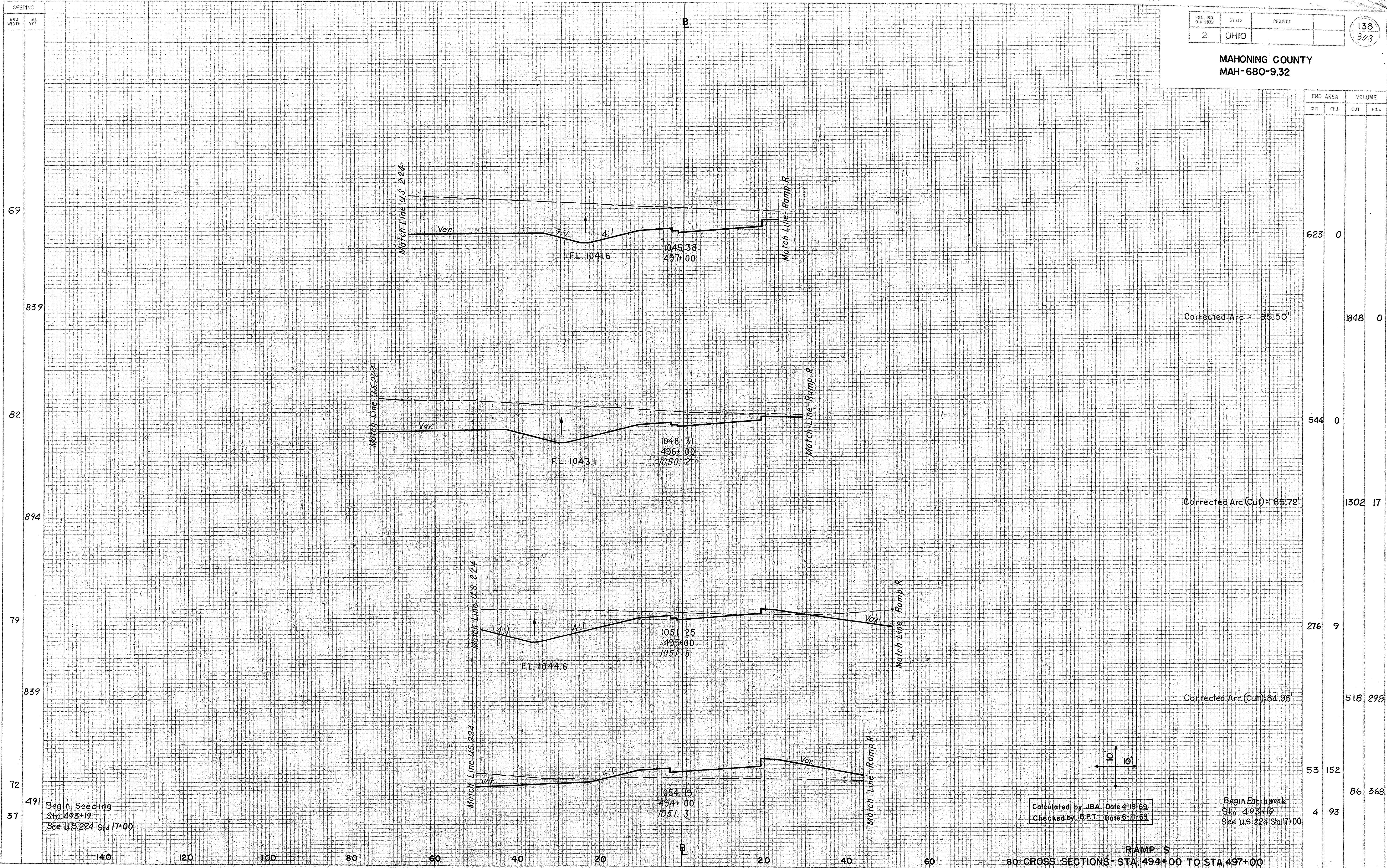
MAHONING COUNTY  
MAH-680-9.32



END AREA	VOLUME	
	CUT	FILL
98	3	
		282
		5
		75
		0
		157
		26
		10
		14
		107
		33
		48
		4
		285
		7
		106
		0

Calculated by G.K. Date 5-29-69  
Checked by B.P.T. Date 6-10-69

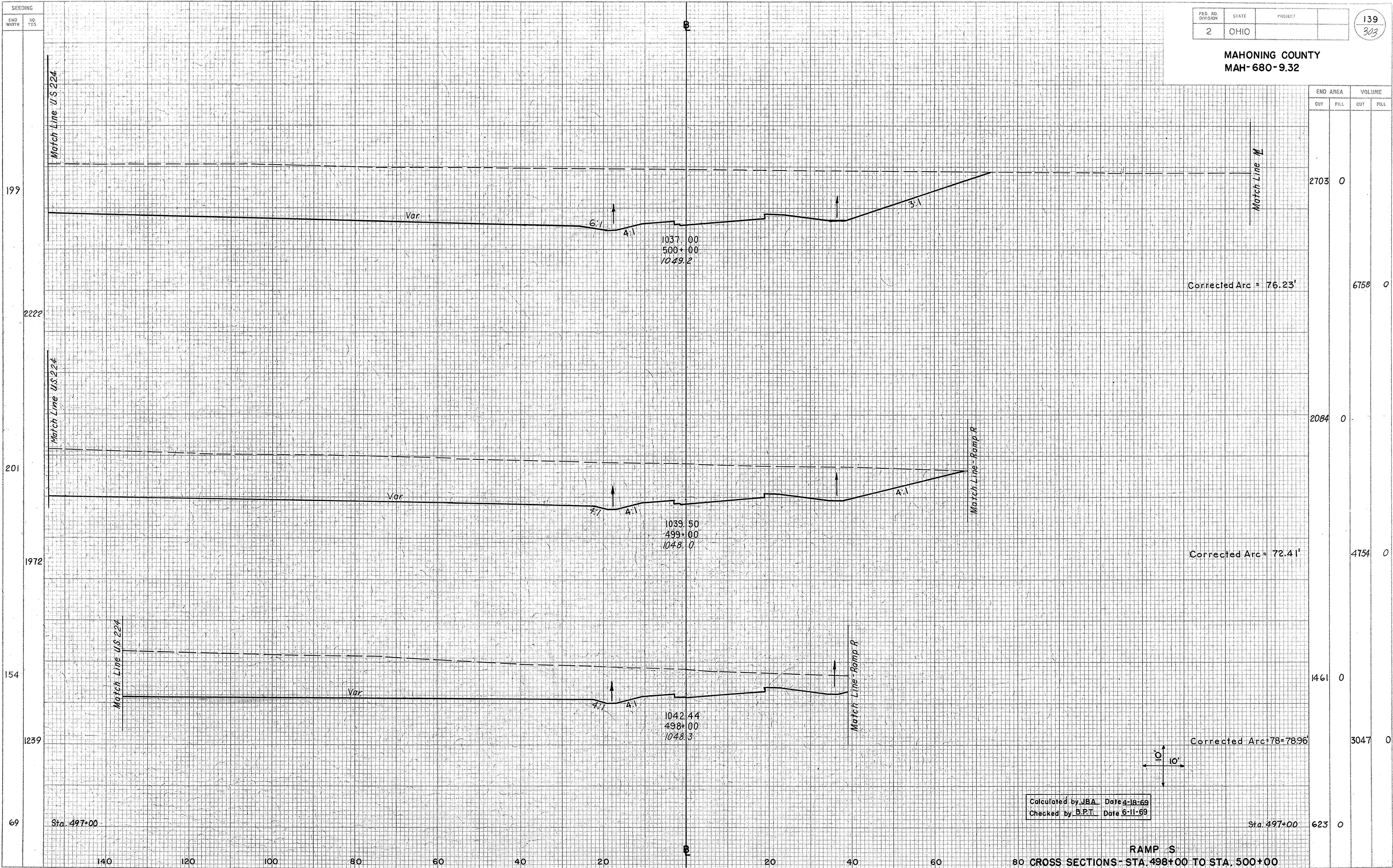
MAHONING COUNTY  
MAH-680-9.32



Calculated by JBA Date 4-18-69  
Checked by B.P.T. Date 6-11-69

Begin Earthwork  
Sta 493+19  
See U.S. 224 Sta 17+00

MAHONING COUNTY  
MAH-680-9.32



1037.00  
500+00  
1049.2

1039.50  
499+00  
1048.0

1042.44  
498+00  
1048.3

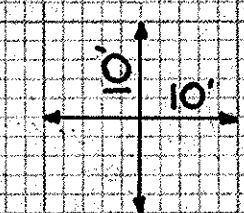
Corrected Arc = 76.23'

Corrected Arc = 72.41'

Corrected Arc = 78.7896'

END AREA	VOLUME	
	CUT	FILL
2703	0	
6758	0	
2084	0	
4754	0	
1461	0	
3047	0	
623	0	

Calculated by JBA Date 4-18-69  
Checked by B.P.T. Date 6-11-69



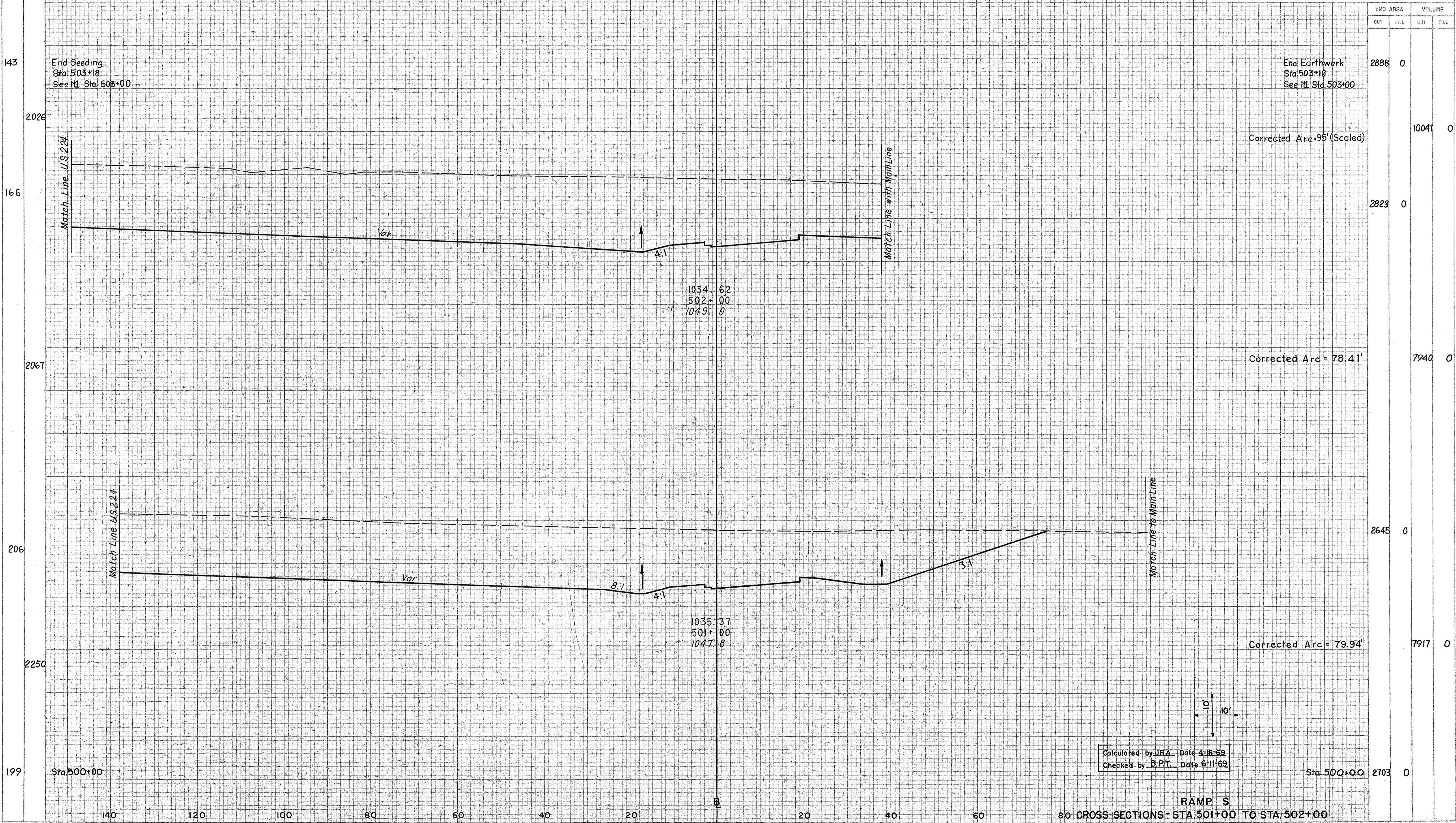
RAMP S  
80 CROSS SECTIONS - STA. 498+00 TO STA. 500+00

SEEDING  
END WIDTH SQ. YDS.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

140  
303

MAHONING COUNTY  
MAH-680-9.32

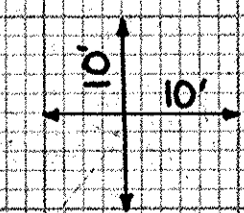


END AREA	VOLUME	
	CUT	FILL
2888	0	
10047	0	
2823	0	
7940	0	
2645	0	
7917	0	
2703	0	

1034.62  
502+00  
1049.0

1035.37  
501+00  
1047.8

Calculated by J.B.A. Date 4-18-69  
Checked by B.P.T. Date 6-11-69



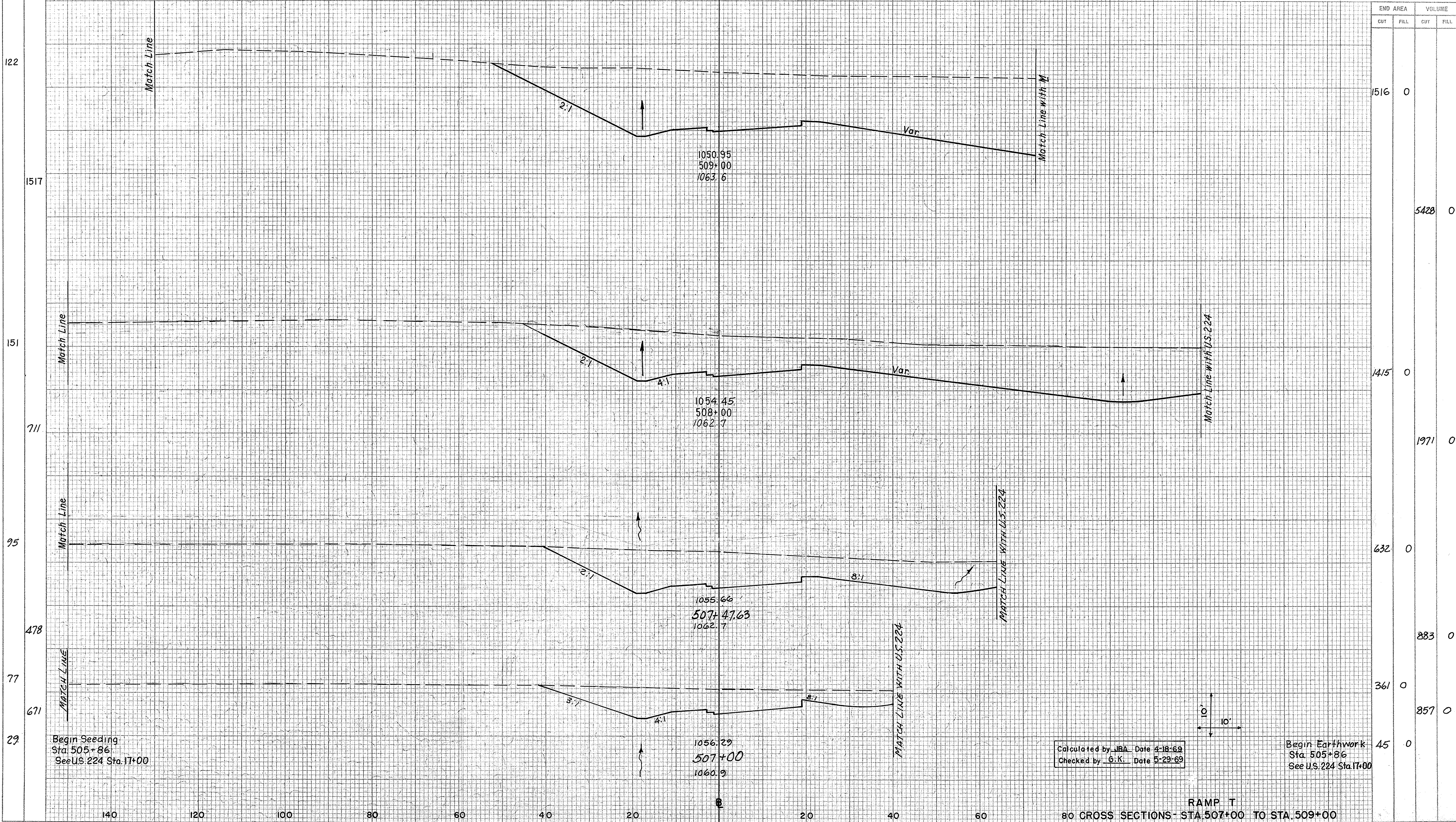
RAMP S  
80 CROSS SECTIONS - STA. 501+00 TO STA. 502+00

SEEDING  
END WIDTH  
SQ YDS

FED. RD DIVISION	STATE	PROJECT	
2	OHIO		

141  
303

MAHONING COUNTY  
MAH-680-9.32



END AREA	VOLUME	
	CUT	FILL
1516	0	
5428	0	
1415	0	
1971	0	
632	0	
883	0	
361	0	
857	0	
45	0	

Begin Seeding  
Sta 505+86  
See U.S. 224 Sta. 17+00

1056.29  
507+00  
1060.9

Calculated by JBA Date 4-18-69  
Checked by G.K. Date 5-29-69

Begin Earthwork  
Sta 505+86  
See U.S. 224 Sta. 17+00

RAMP T  
80 CROSS SECTIONS - STA. 507+00 TO STA. 509+00

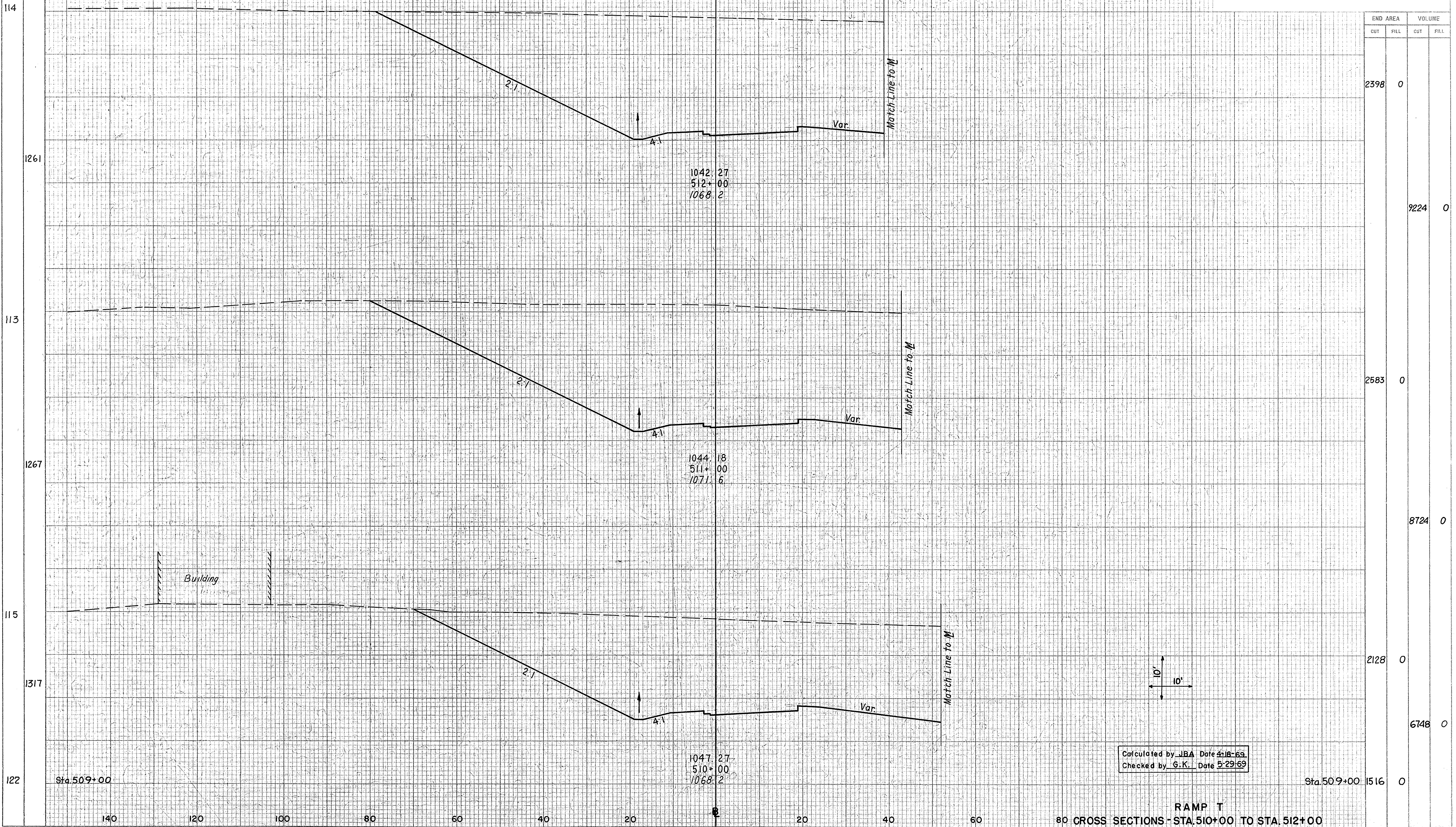


SEEDING  
END WIDTH SO YDS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

142  
303

MAHONING COUNTY  
MAH-680-9.32



1042.27  
512+00  
1068.2

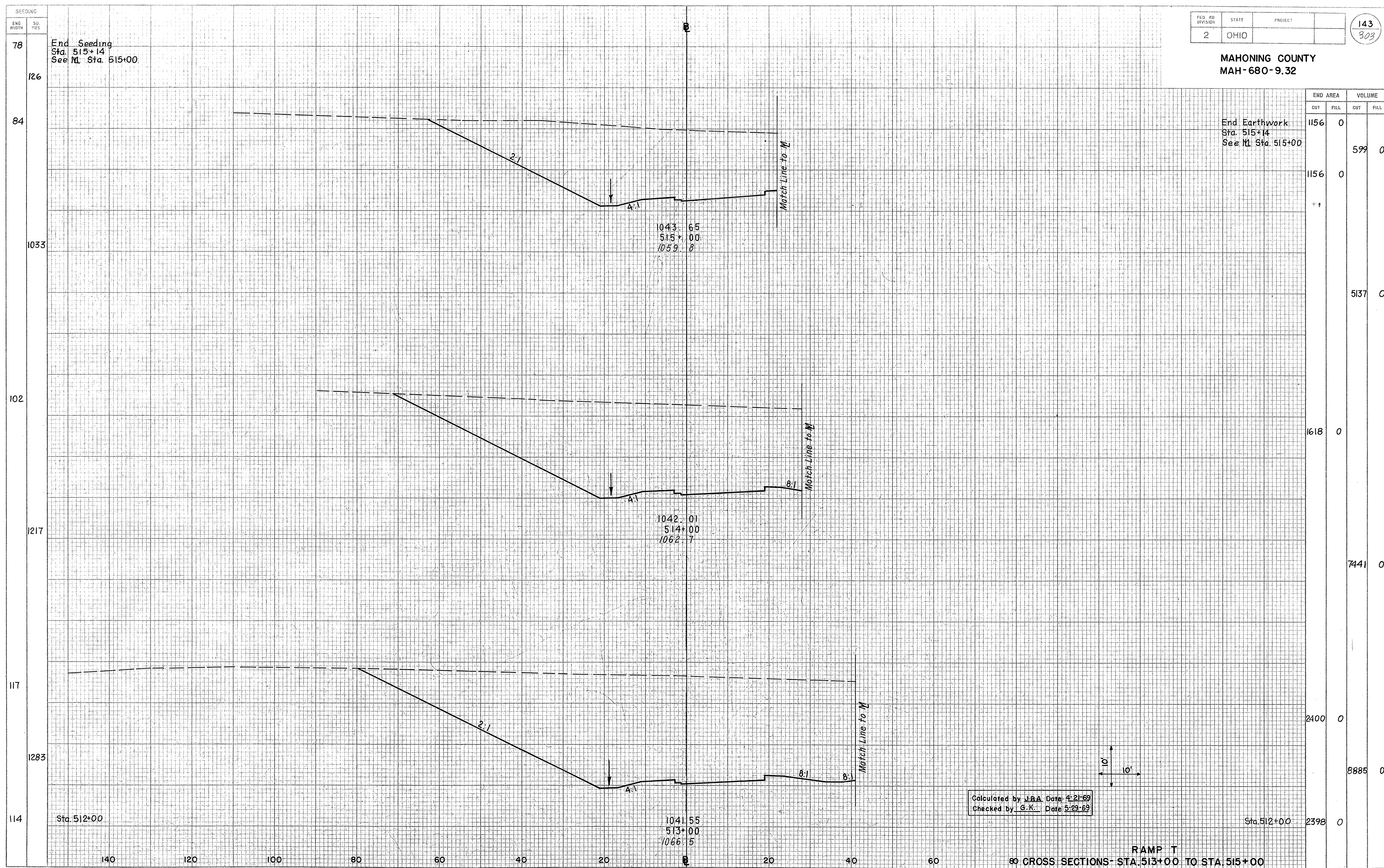
1044.18  
511+00  
1071.6

1047.27  
510+00  
1068.2

Calculated by JBA Date 4-18-69  
Checked by G.K. Date 5-29-69

RAMP T  
80 CROSS SECTIONS - STA. 510+00 TO STA. 512+00

MAHONING COUNTY  
MAH-680-9.32



End Seeding  
Sta. 515+14  
See M. Sta. 515+00

End Earthwork  
Sta. 515+14  
See M. Sta. 515+00

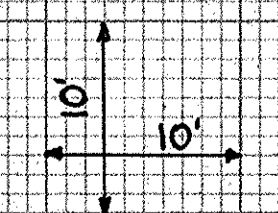
END AREA	VOLUME	
	CUT	FILL
1156	0	599
1156	0	0
1033	0	5137
102	0	1618
1217	0	7441
117	0	2400
1283	0	8885
114	2398	0

1043.65  
515+00  
1059.8

1042.01  
514+00  
1062.7

1041.55  
513+00  
1066.5

Calculated by J.B.A. Date 4-21-69  
Checked by G.K. Date 5-29-69



80 CROSS SECTIONS - STA. 513+00 TO STA. 515+00

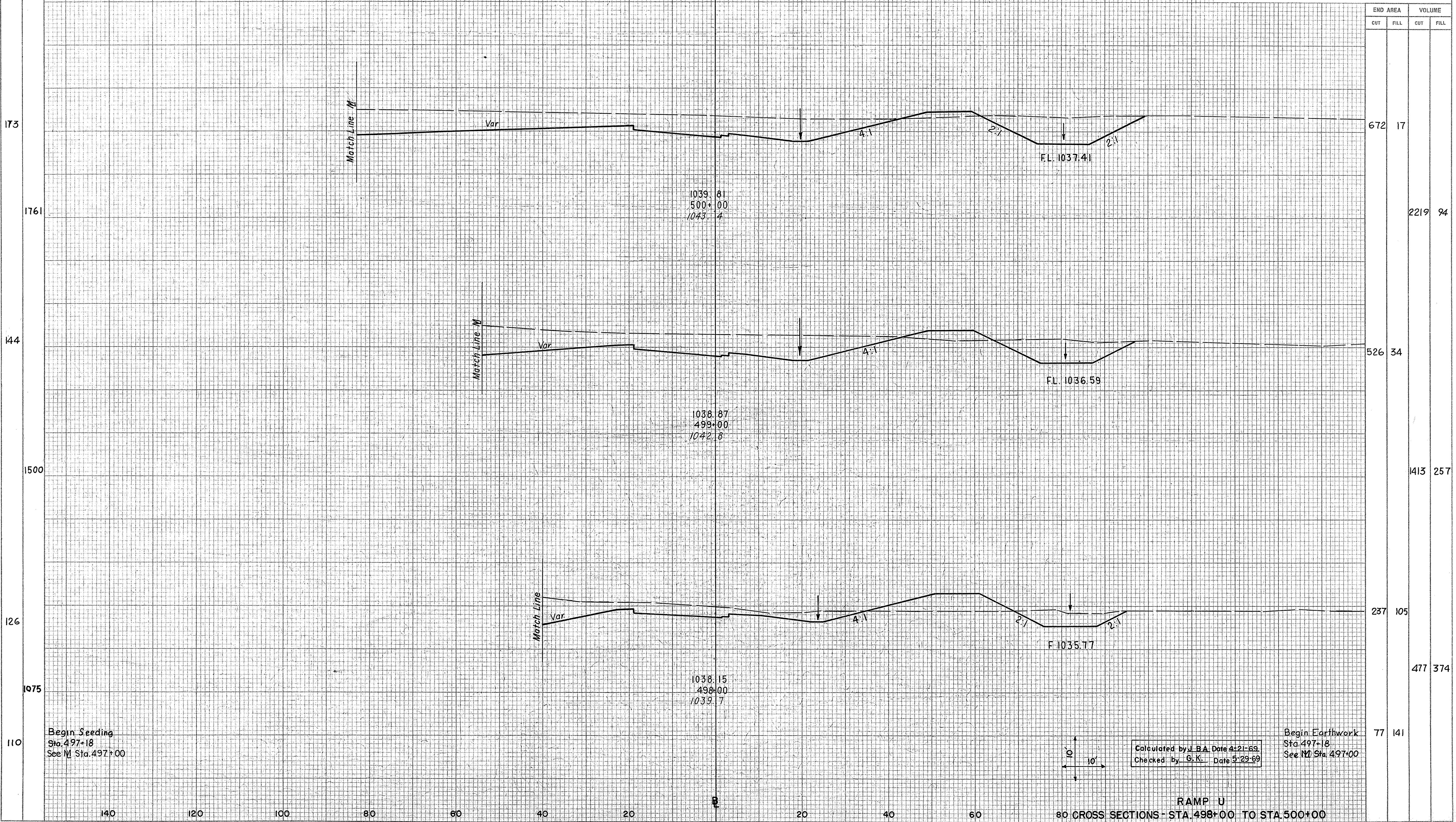
RAMP T

SEEDING  
END WIDTH  
SQ YDS.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

144  
303

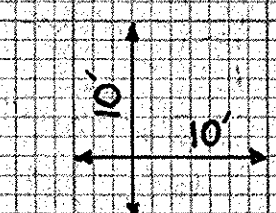
MAHONING COUNTY  
MAH-680-9.32



Begin Seeding  
Sta. 497+18  
See M Sta. 497+00

Calculated by J. B.A. Date 4-21-69  
Checked by G.K. Date 5-29-69

Begin Earthwork  
Sta. 497+18  
See M Sta. 497+00



RAMP U  
80 CROSS SECTIONS - STA. 498+00 TO STA. 500+00

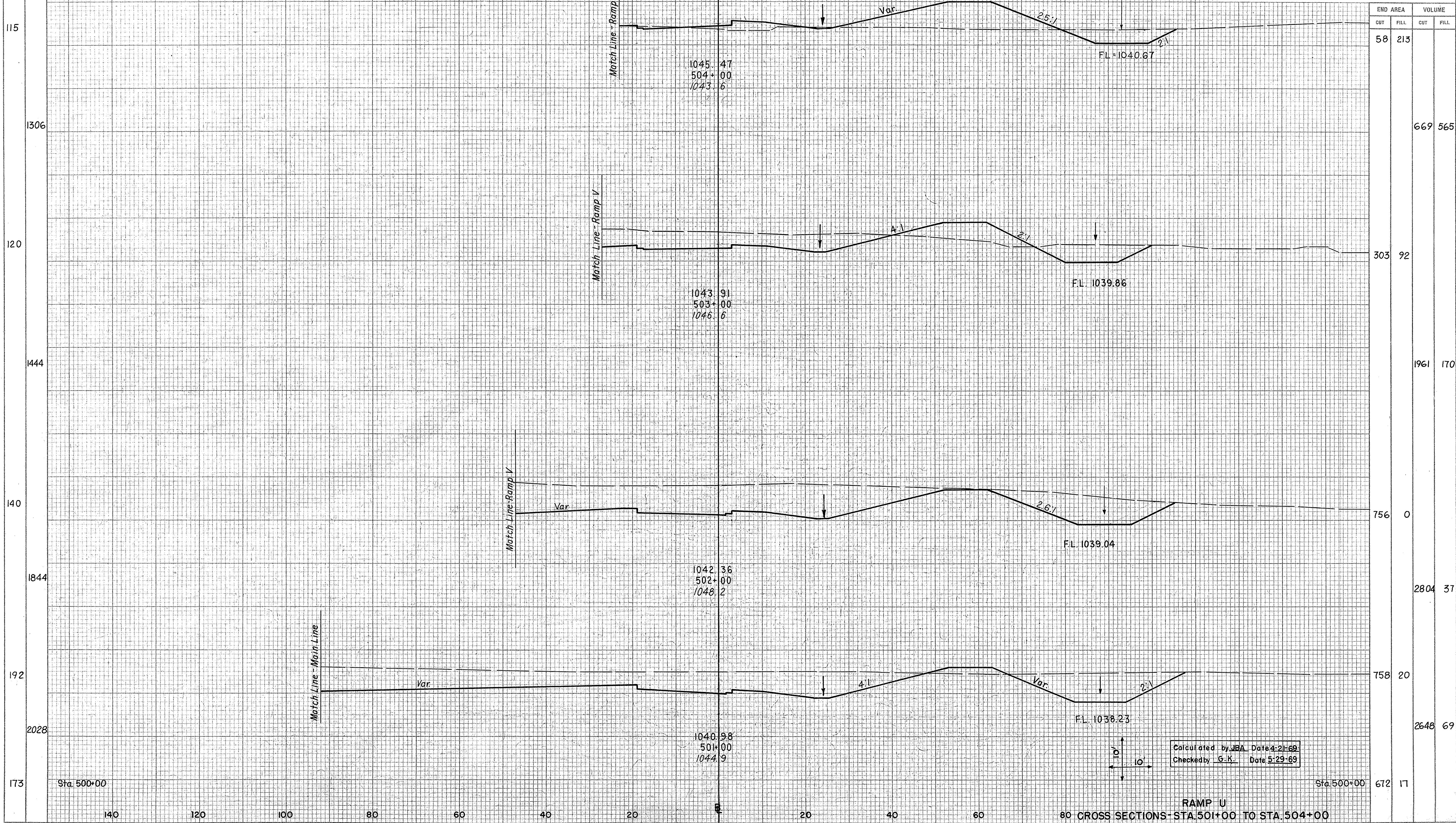
140 120 100 80 60 40 20 0 20 40 60 80

SEEDING  
END WIDTH SQ YDS

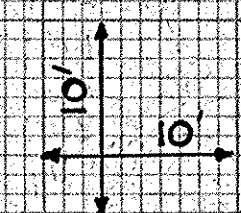
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

145  
303

MAHONING COUNTY  
MAH-680-9.32

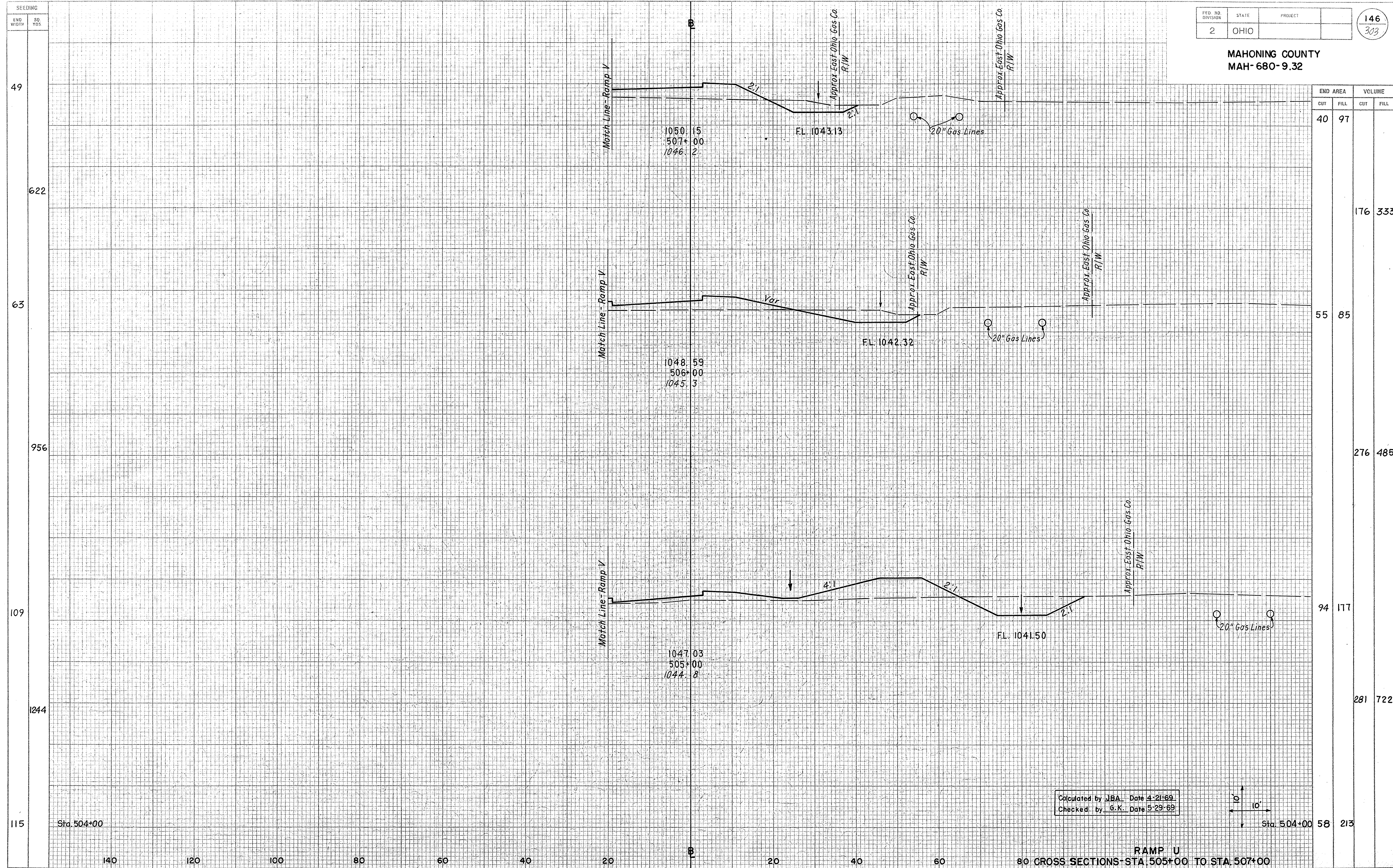


Calculated by JBA Date 4-2-69  
Checked by G.K. Date 5-29-69



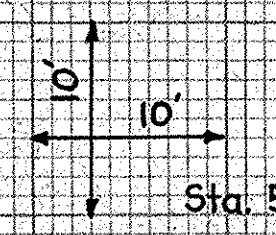
80 CROSS SECTIONS - STA. 501+00 TO STA. 504+00

MAHONING COUNTY  
MAH-680-9.32



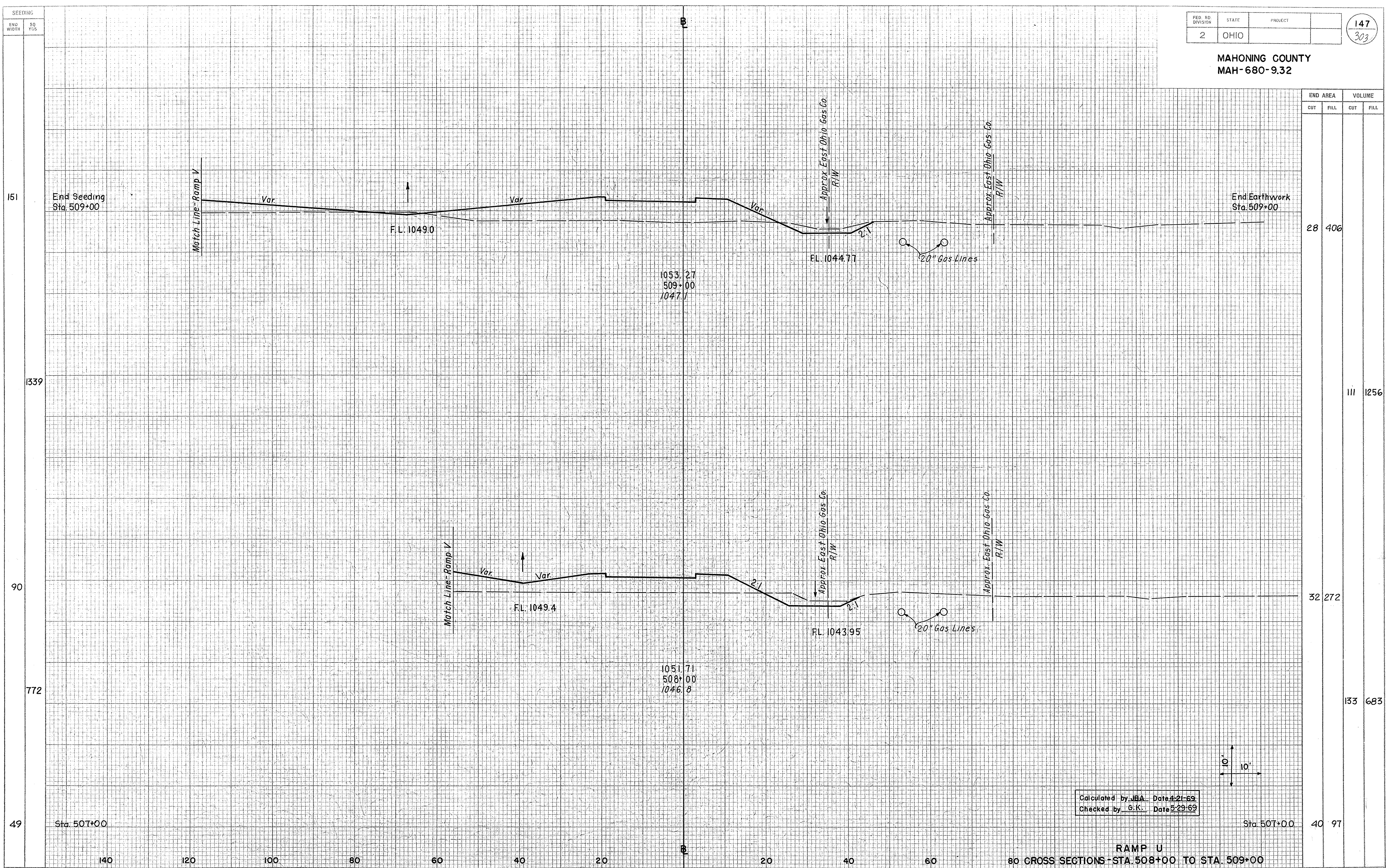
STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
49	40	97		
622			176	333
63	55	85		
956			276	485
109	94	117		
1244			281	722
115	58	213		

Calculated by JBA Date 4-21-69  
Checked by G.K. Date 5-29-69



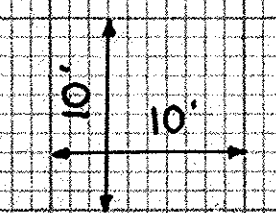
RAMP U  
80 CROSS SECTIONS - STA. 505+00 TO STA. 507+00

MAHONING COUNTY  
MAH-680-9.32



END AREA	VOLUME	
	CUT	FILL
28	406	
1339		1256
90	32	272
772		683
49	40	97

Calculated by JBA Date 4-21-69  
Checked by G.K. Date 5-29-69



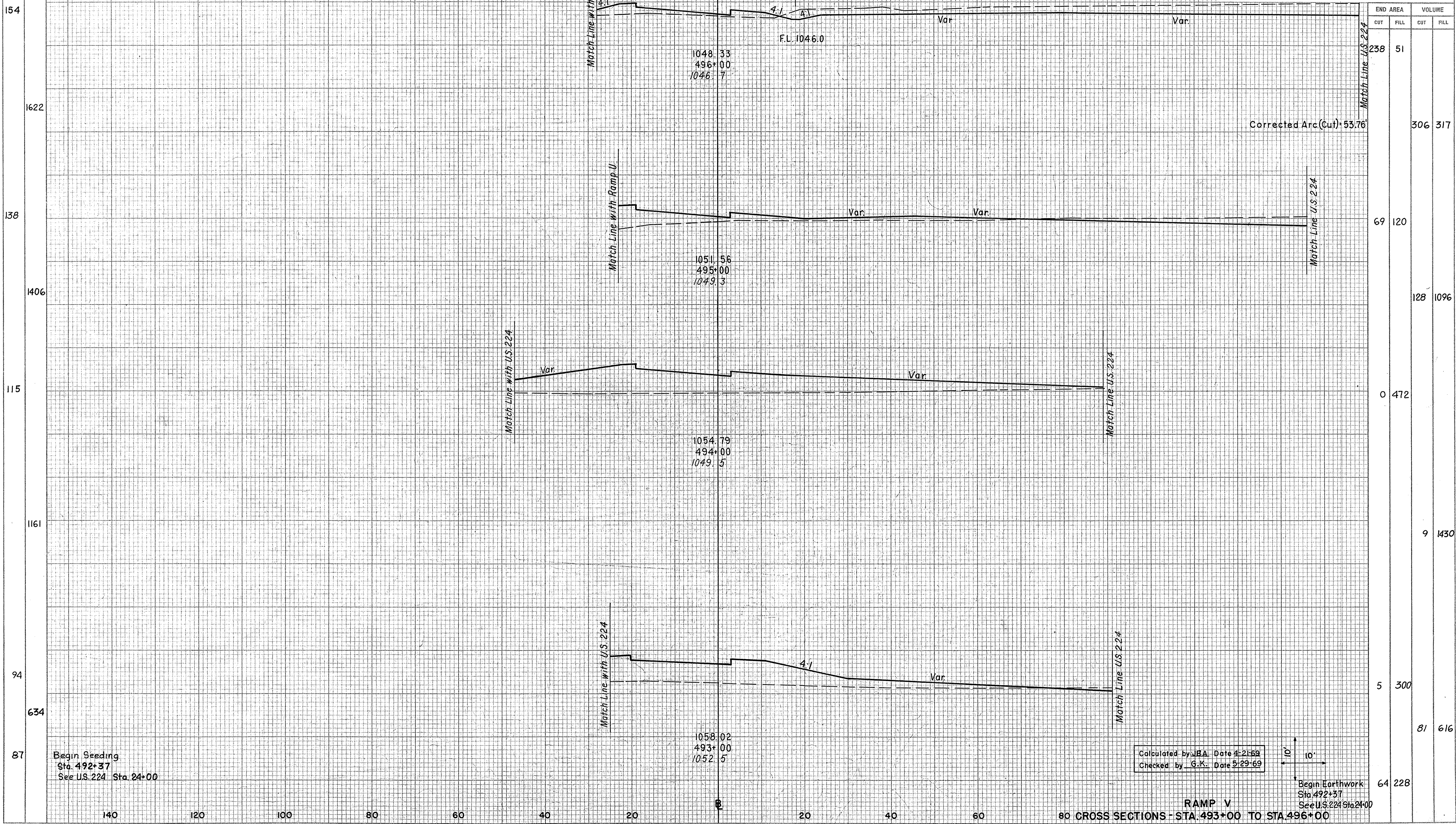
RAMP U  
80 CROSS SECTIONS - STA. 508+00 TO STA. 509+00

SEEDING  
END WIDTH  
SQ YDS.

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

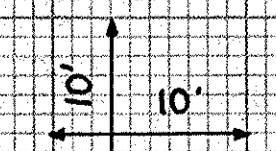
148  
303

MAHONING COUNTY  
MAH-680-9.32



Begin Seeding  
Sta. 492+37  
See U.S. 224 Sta. 24+00

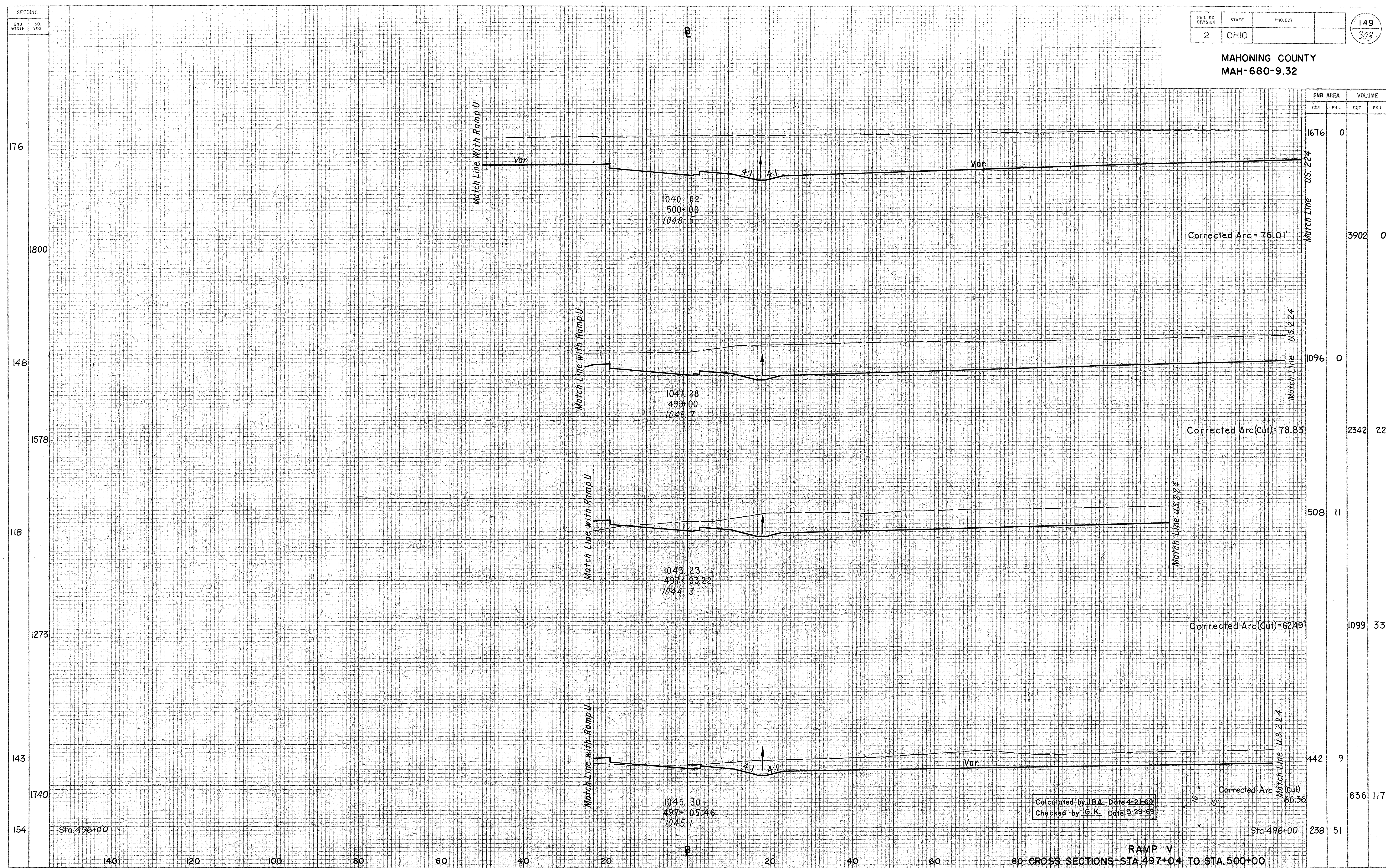
Calculated by J.B.A. Date 4-21-69  
Checked by G.K. Date 5-29-69



Begin Earthwork  
Sta. 492+37  
See U.S. 224 Sta. 24+00

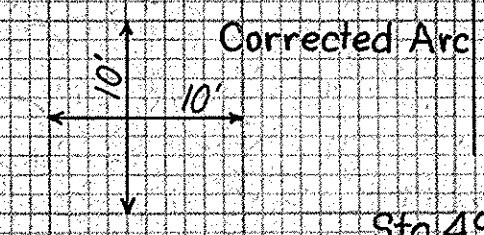
RAMP V  
80 CROSS SECTIONS - STA. 493+00 TO STA. 496+00

MAHONING COUNTY  
MAH-680-9.32



STATION	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
176	1676	0		
1800			3902	0
148	1096	0		
1578			2342	22
118	508	11		
1273			1099	33
143	442	9		
1740			836	117
154	238	51		

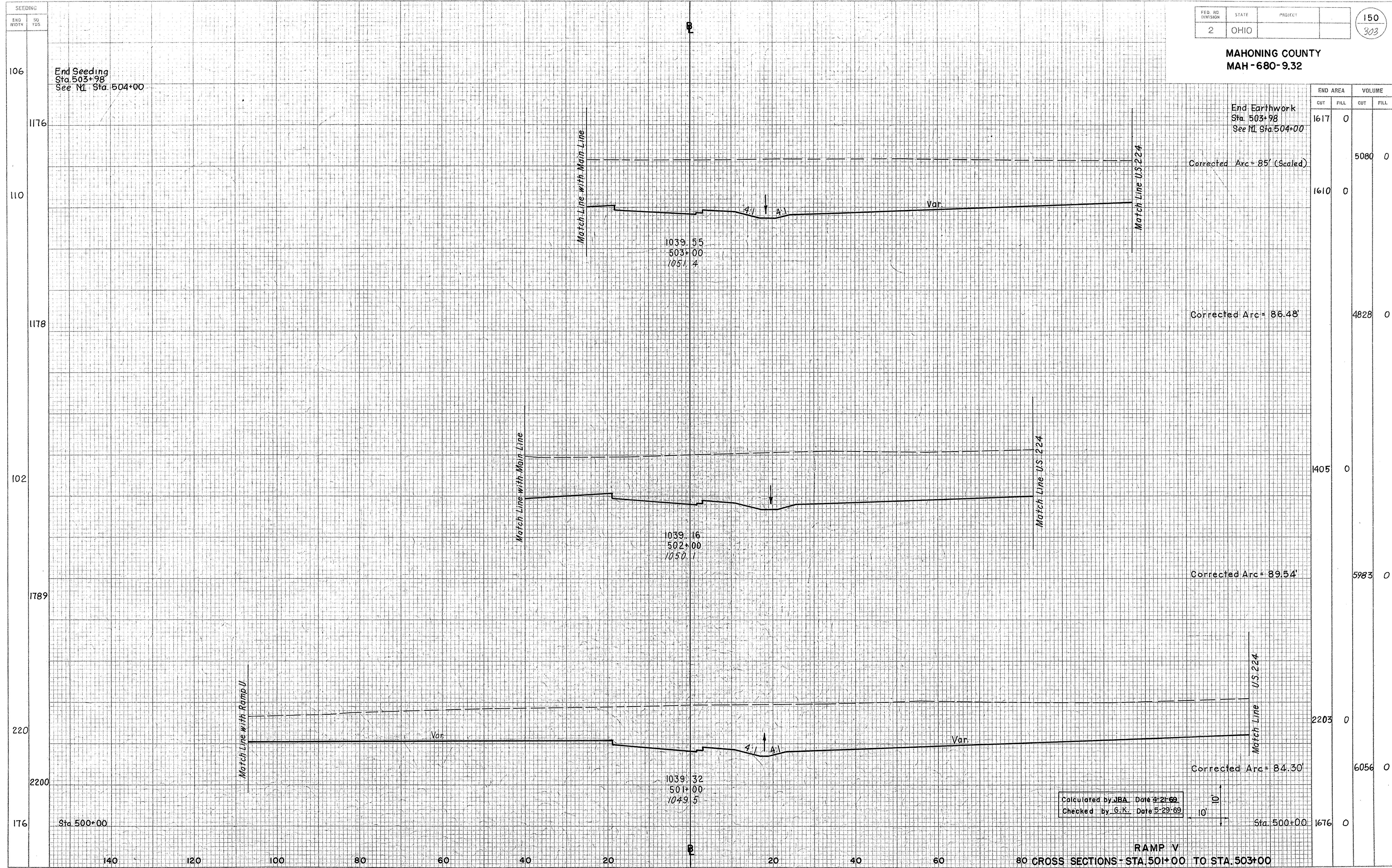
Calculated by J.B.A. Date 4-2-69  
Checked by G.K. Date 5-29-69



RAMP V  
80 CROSS SECTIONS-STA.497+04 TO STA.500+00



**MAHONING COUNTY  
MAH-680-9.32**



End Seeding  
Sta. 503+98  
See RL Sta. 504+00

End Earthwork  
Sta. 503+98  
See RL Sta. 504+00

END AREA	VOLUME	
	CUT	FILL
1617	0	0
1610	0	0
1405	0	0
2203	0	0
1676	0	0

1039.55  
503+00  
1051.4

1039.16  
502+00  
1050.1

1039.32  
501+00  
1049.5

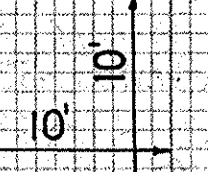
Corrected Arc = 85' (Scaled)

Corrected Arc = 86.48'

Corrected Arc = 89.54'

Corrected Arc = 84.30'

Calculated by JBA Date 4-21-69  
Checked by G.K. Date 5-29-69

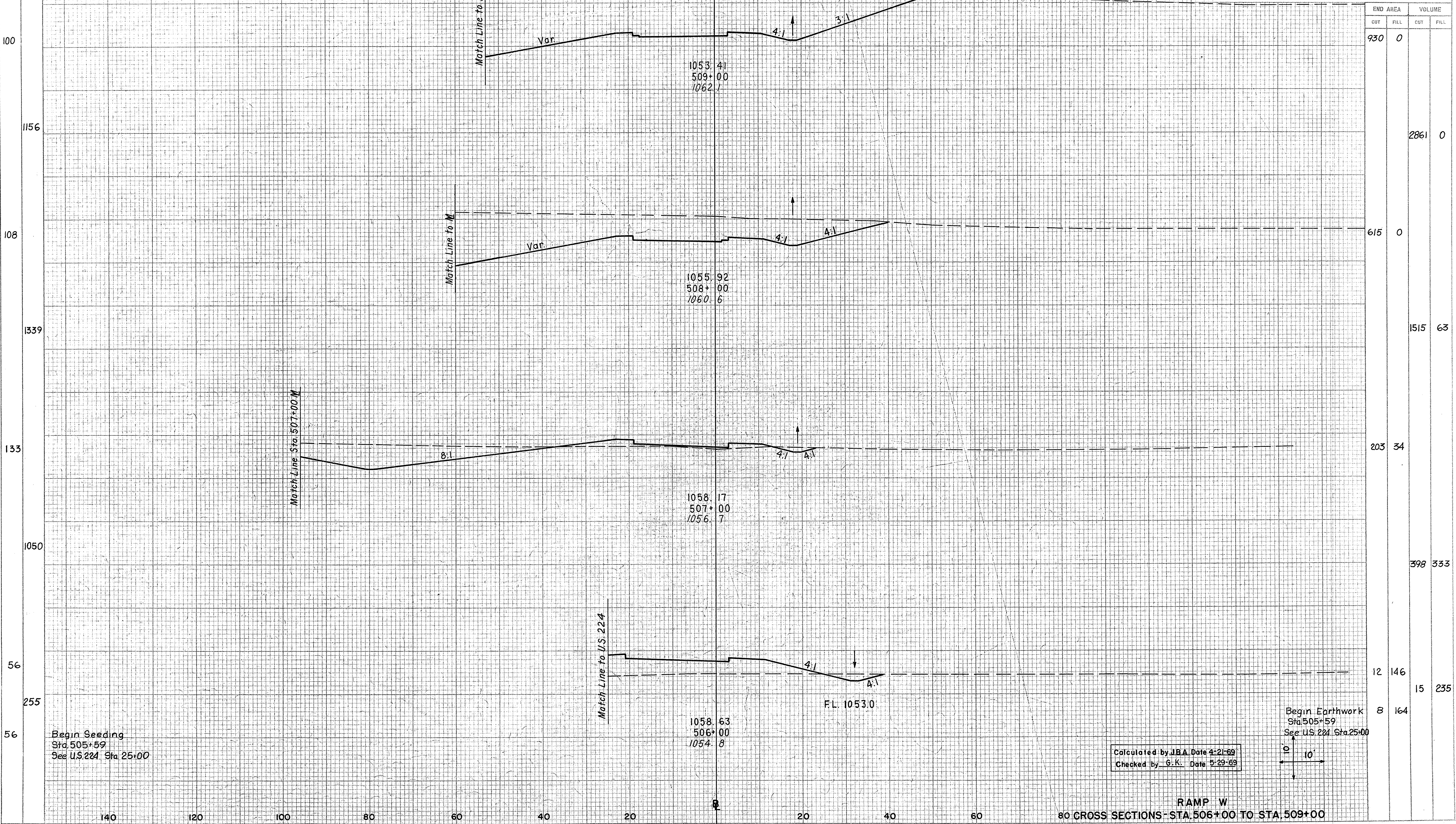


**RAMP V  
80 CROSS SECTIONS - STA. 501+00 TO STA. 503+00**

SEEDING  
END WIDTH SO  
YOS

FED. RD. DIVISION	STATE	PROJECT	151 303
2	OHIO		

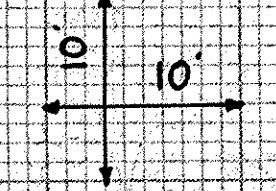
MAHONING COUNTY  
MAH-680-9.32



Begin Seeding  
Sta. 505+59  
See U.S. 224 Sta. 25+00

Calculated by J.B.A. Date 4-21-69  
Checked by G.K. Date 5-29-69

Begin Earthwork  
Sta. 505+59  
See U.S. 224 Sta. 25+00



RAMP W  
80 CROSS SECTIONS - STA. 506+00 TO STA. 509+00

SEEDING

END WIDTH 30 YDS.

63

End Seeding  
Sta. 512+91  
See M.L. Sta. 513+00

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

152  
303

MAHONING COUNTY  
MAH-680-9.32

698

75

889

85

1000

95

1083

100

Sta. 509+00

End Earthwork  
Sta. 512+91  
See M.L. Sta. 513+00

END AREA		VOLUME	
CUT	FILL	CUT	FILL
433	0	2251	0
903	0		
		3883	0
		1194	0
		4230	0
		1090	0
		3741	0
		930	0

Match Line to M

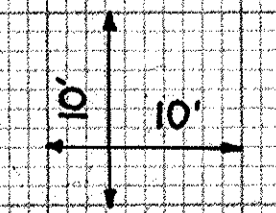
Match Line to M

Match Line to M

1049.94  
512+00  
1061.2

1050.20  
511+00  
1063.6

1051.36  
510+00  
1062.6

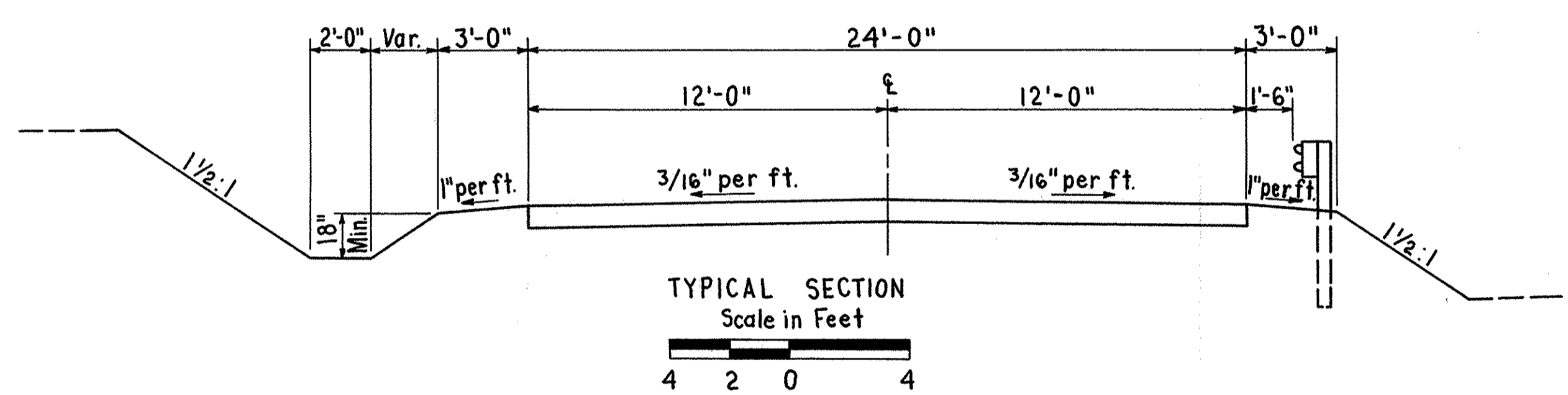
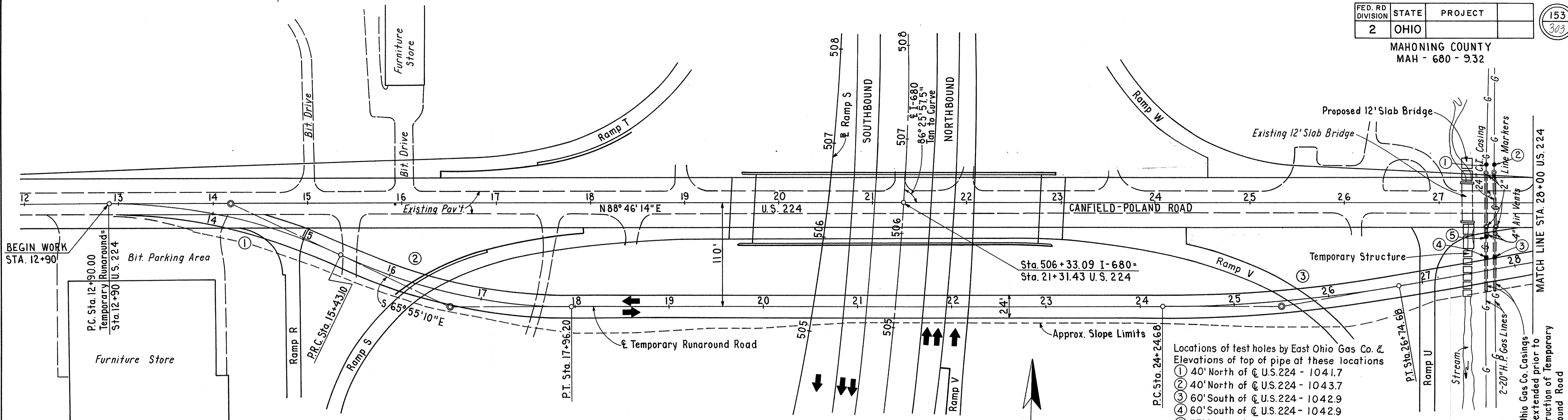


Calculated by JBA Date 4-21-69  
Checked by G.K. Date 5-29-69

Sta. 509+00

RAMP W  
80 CROSS SECTIONS - STA. 510+00 TO STA. 512+00

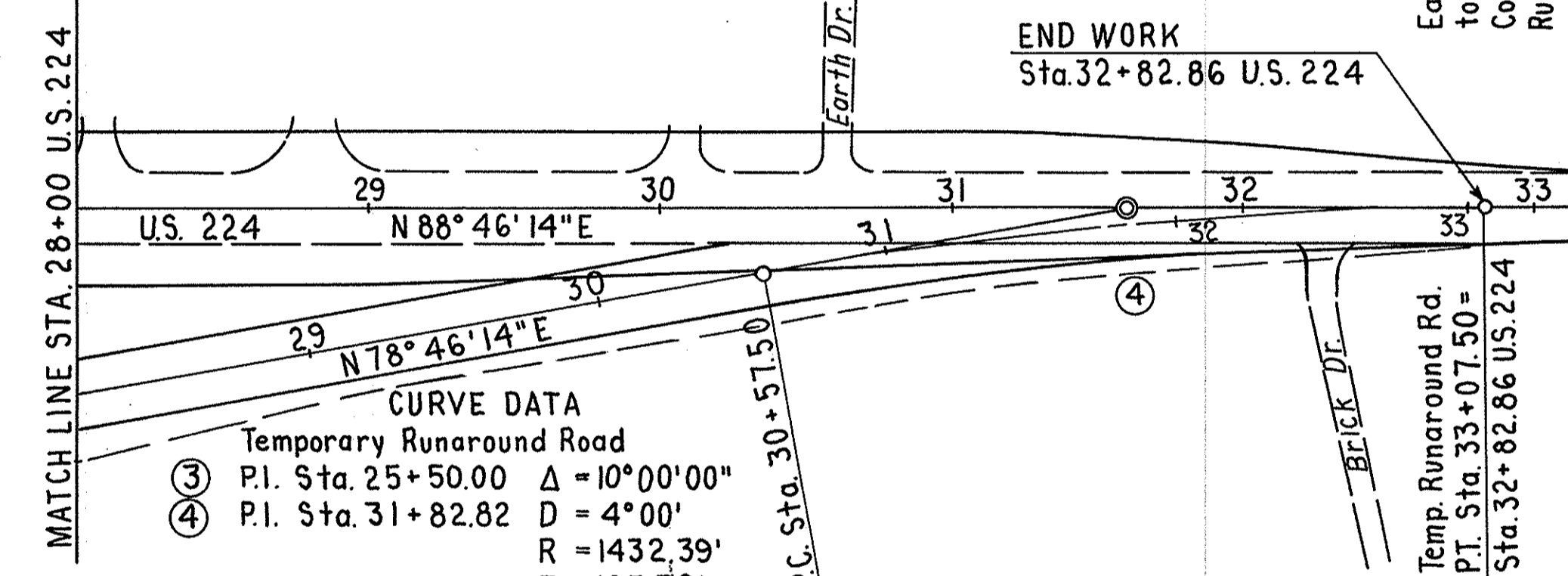
140 120 100 80 60 40 20 0 20 40 60 80



Temporary Runaround Road

① P.I. Sta. 14+18.65 Δ = 25° 18' 36"  
D = 10° 00'

② P.I. Sta. 16+71.75  
R = 572.96'  
T = 128.65'  
L = 253.10'  
E = 14.27'

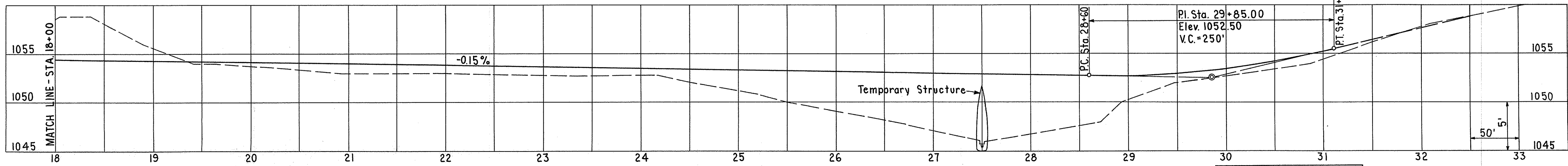
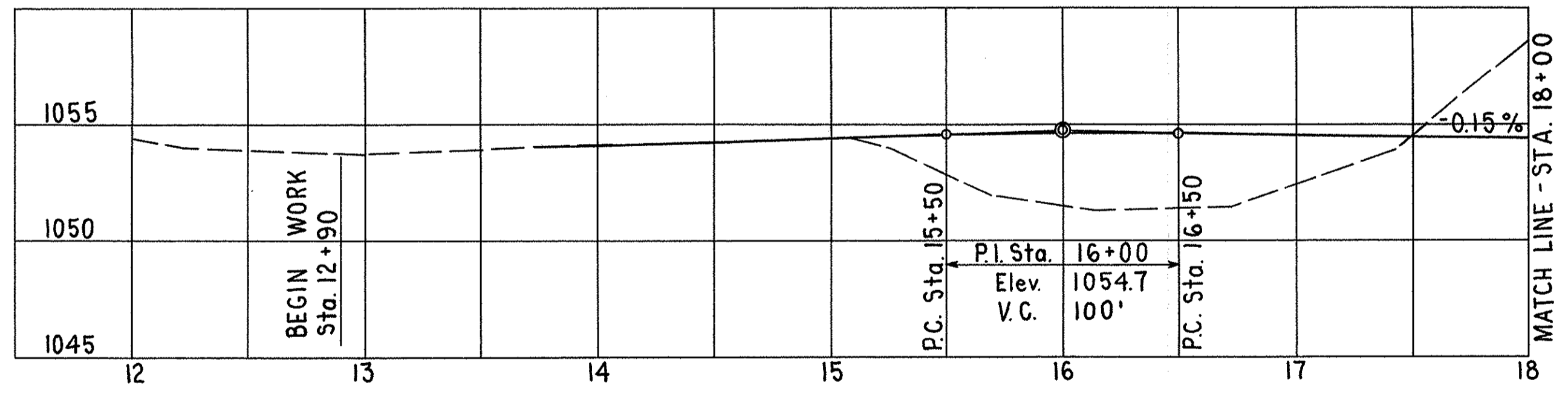


For Plan and Profile of U.S. 224  
See Sheets No. 29, 30 & 31

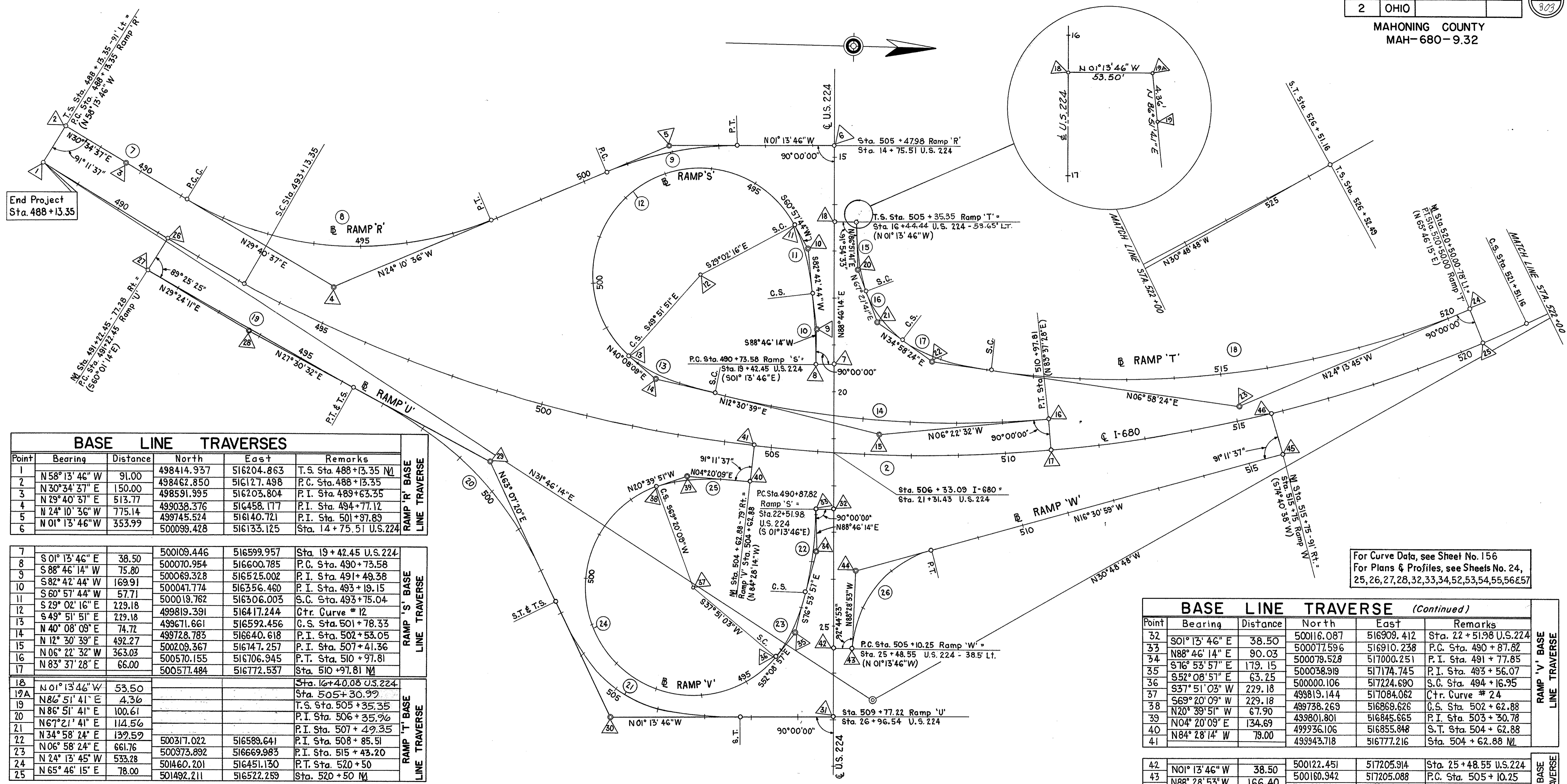
ESTIMATED QUANTITIES		
ITEM	DESCRIPTION	QUANTITY
615	Class A, Temporary Pavement	4,579 Square Yds.
615	Temporary Roads	Lump Sum

NOTES:

- Payment for construction, maintenance and subsequent removal of temporary drainage structure shown is included in the Lump Sum bid for Item 615, Temporary Roads, see 502.02 for requirements.
- Provide ditches as required to permit normal drainage. Any ditches crossing the 20" East Ohio Gas Co. lines must be paved with concrete for 20 Feet on either side perpendicular to these lines.
- Ground within limits of Temporary Runaround Road and outside the limits of permanent embankment shall be returned to original elevation upon removal of Temporary Runaround Road.
- See 20" Gas Pipe Line note - Sheet No. 10.



MAHONING COUNTY  
MAH-680-9.32



For Curve Data, see Sheet No. 156  
For Plans & Profiles, see Sheets No. 24, 25, 26, 27, 28, 32, 33, 34, 52, 53, 54, 55, 56 & 57

BASE LINE TRAVERSES						REMARKS	LINE TRAVERSE
Point	Bearing	Distance	North	East	Remarks		
1			498414.937	516204.863	T.S. Sta. 488+13.35 M	RAMP R' BASE LINE TRAVERSE	
2	N 58° 13' 46" W	91.00	498462.850	516127.498	P.C. Sta. 488+13.35		
3	N 30° 34' 37" E	150.00	498591.995	516203.804	P.I. Sta. 489+63.35		
4	N 29° 40' 37" E	513.77	499038.376	516458.177	P.I. Sta. 494+77.12		
5	N 24° 10' 36" W	775.14	499745.524	516140.721	P.I. Sta. 501+97.89		
6	N 01° 13' 46" W	353.99	500099.428	516133.125	Sta. 14 + 75.51 U.S. 224		

7	S 01° 13' 46" E	38.50	500109.446	516599.957	Sta. 19 + 42.45 U.S. 224	RAMP S' BASE LINE TRAVERSE
8	S 88° 46' 14" W	75.80	500070.954	516600.785	P.C. Sta. 490+73.58	
9	S 82° 42' 44" W	169.91	500069.328	516525.002	P.I. Sta. 491+49.38	
10	S 60° 57' 44" W	57.71	500047.774	516356.460	P.I. Sta. 493+19.15	
11	S 29° 02' 16" E	229.18	500019.762	516306.003	S.C. Sta. 493+75.04	
12	S 49° 51' 51" E	229.18	499819.391	516417.244	Ctr. Curve # 12	
13	N 40° 08' 09" E	74.72	499671.661	516592.456	C.S. Sta. 501+78.33	
14	N 12° 30' 39" E	492.27	499728.783	516640.618	P.I. Sta. 502+53.05	
15	N 06° 22' 32" W	363.03	500209.367	516747.257	P.I. Sta. 507+41.36	
16	N 83° 37' 28" E	66.00	500570.155	516706.945	P.T. Sta. 510+97.81	
17			500571.484	516772.537	Sta. 510+97.81 M	

18	N 01° 13' 46" W	53.50			Sta. 16+40.08 U.S. 224	RAMP T' BASE LINE TRAVERSE
19A	N 86° 51' 41" E	4.36			Sta. 505+30.99	
19	N 86° 51' 41" E	100.61			T.S. Sta. 505+35.35	
20	N 67° 21' 41" E	114.56			P.I. Sta. 506+35.96	
21	N 34° 58' 24" E	139.59			P.I. Sta. 507+49.35	
22	N 06° 58' 24" E	661.76	500317.022	516589.641	P.I. Sta. 508+85.51	
23	N 24° 13' 45" W	533.28	500973.892	516669.983	P.I. Sta. 515+43.20	
24	N 65° 46' 15" E	78.00	501460.201	516451.130	P.T. Sta. 520+50	
25			501492.211	516522.259	Sta. 520+50 M	

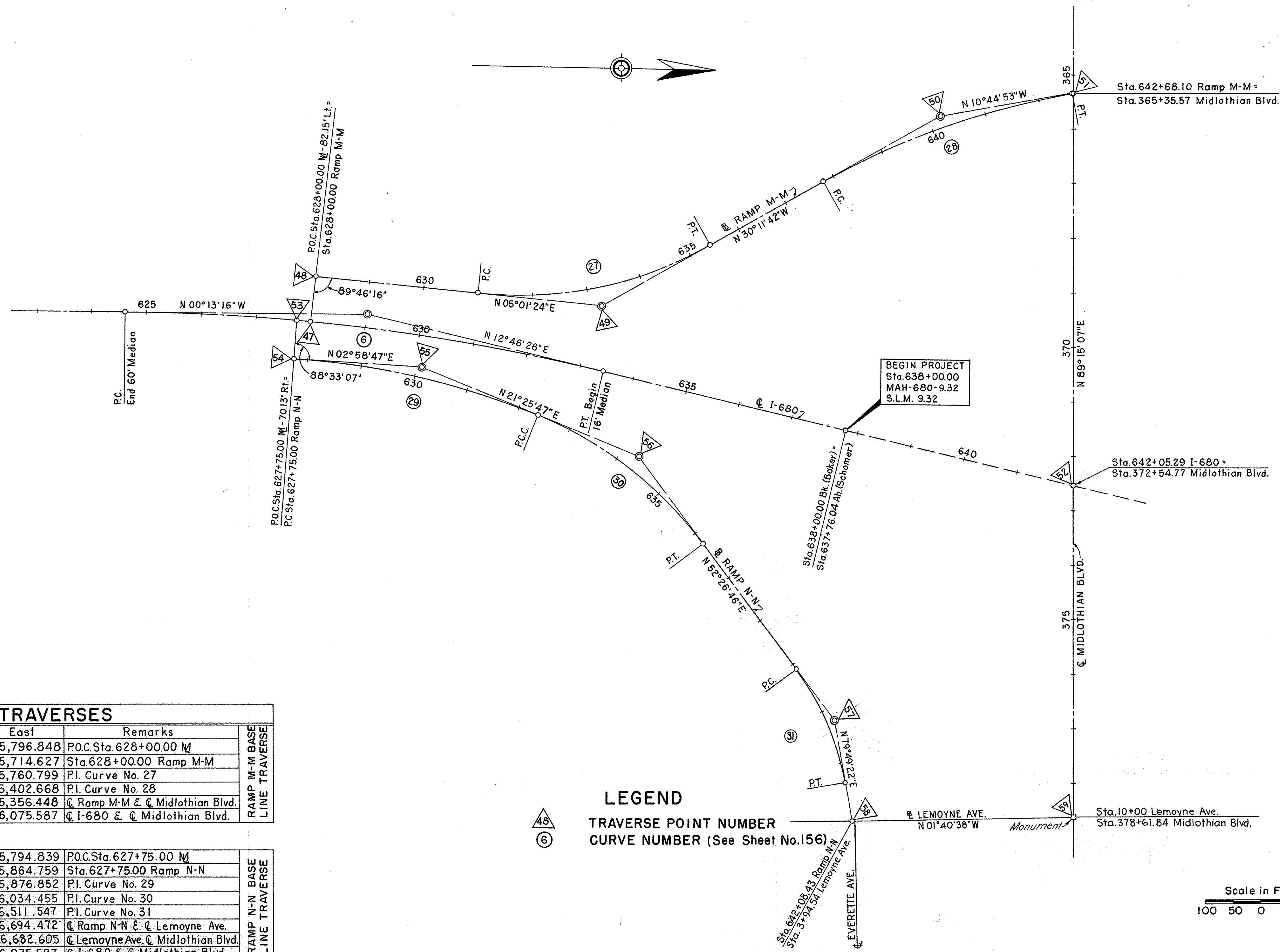
26	S 60° 01' 14" E	77.28	498679.411	516364.857	Sta. 491+22.45 M	RAMP U' BASE LINE TRAVERSE
27	N 29° 24' 11" E	252.56	498640.798	516431.793	P.C. Sta. 491+22.45	
28	N 27° 30' 32" E	583.28	498860.825	516555.788	P.I. Sta. 493+75.01	
29	N 63° 07' 20" E	604.12	499378.155	516825.196	P.I. Sta. 499+58.24	
30	N 01° 13' 46" W	474.48	499651.271	517364.052	P.I. Sta. 505+46.09	
31			500125.626	517353.866	Sta. 26+96.54 U.S. 224	

BASE LINE TRAVERSE (Continued)						REMARKS	LINE TRAVERSE
Point	Bearing	Distance	North	East	Remarks		
32	S 01° 13' 46" E	38.50	500116.087	516909.412	Sta. 22+51.98 U.S. 224	RAMP V' BASE LINE TRAVERSE	
33	N 88° 46' 14" E	90.03	500077.596	516910.238	P.C. Sta. 490+87.82		
34	S 16° 53' 57" E	179.15	500079.528	517000.251	P.I. Sta. 491+77.85		
35	S 52° 08' 51" E	63.25	500038.919	517174.745	P.I. Sta. 493+56.07		
36	S 37° 51' 03" W	229.18	500000.106	517224.690	S.C. Sta. 494+16.95		
37	S 69° 20' 09" W	229.18	499819.144	517084.062	Ctr. Curve # 24		
38	N 20° 39' 51" W	67.90	499738.269	516869.626	C.S. Sta. 502+62.88		
39	N 04° 20' 09" E	134.69	499801.801	516845.665	P.I. Sta. 503+30.78		
40	N 84° 28' 14" W	78.00	499936.106	516855.848	S.T. Sta. 504+62.88		
41			499943.718	516772.216	Sta. 504+62.88 M		
42	N 01° 13' 46" W	38.50	500122.451	517205.914	Sta. 25+48.55 U.S. 224		RAMP W' BASE LINE TRAVERSE
43	N 88° 28' 53" W	166.40	500160.942	517205.088	P.C. Sta. 505+10.25		
44	N 16° 30' 59" W	943.29	500165.352	517038.744	P.I. Sta. 506+76.65		
45	S 74° 40' 38" W	91.00	501069.721	516770.576	Sta. 515+75		
46			501045.674	516682.811	Sta. 515+75 M		

LEGEND

- 5 TRAVERSE POINT NUMBER
- 30 CURVE NUMBER (See Sheet No. 156)





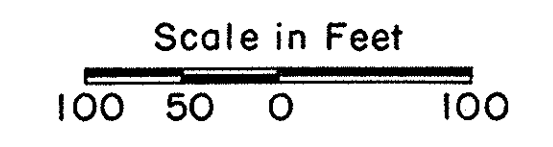
For Curve Data, See Sheet No. 156  
For Plan & Profile, see Sheets No. 47,  
48, 50, 58 & 59

**BASE LINE TRAVERSES**

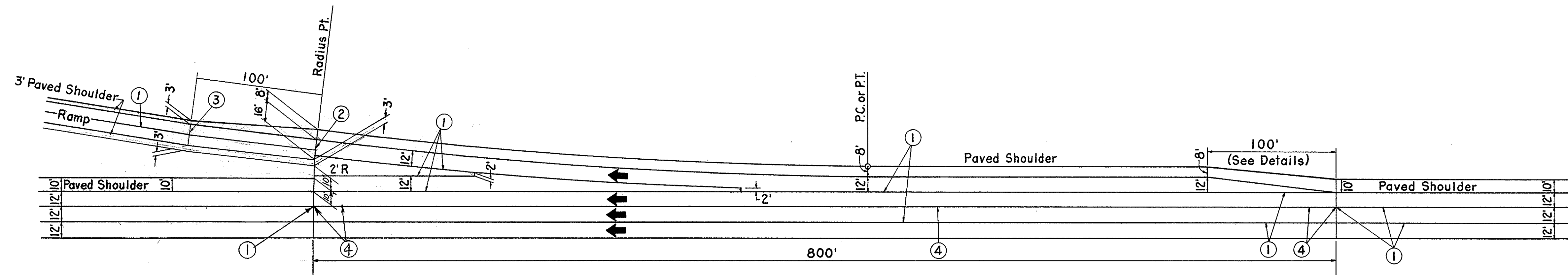
Point	Bearing	Distance	North	East	Remarks	
47	N 85°12'20" W	82.51	511,986.248	515,796.848	P.O.C. Sta. 628+00.00 M	RAMP M-M BASE LINE TRAVERSE
48	N 05°01'24" E	527.32	511,993.144	515,714.627	Sta. 628+00.00 Ramp M-M	
49	N 30°11'42" W	712.08	512,518.437	515,760.799	P.I. Curve No. 27	
50	N 10°44'53" W	247.84	513,133.895	515,402.668	P.I. Curve No. 28	
51	N 89°15'07" E	719.20	513,377.386	515,356.448	☉ Ramp M-M & ☉ Midlothian Blvd.	
52	N 89°15'07" E	719.20	513,386.776	516,075.587	☉ I-680 & ☉ Midlothian Blvd.	

53	S 85°34'20" E	70.13	511,961.331	515,794.839	P.O.C. Sta. 627+75.00 M	RAMP N-N BASE LINE TRAVERSE
54	N 02°58'47" E	232.64	511,955.917	515,864.759	Sta. 627+75.00 Ramp N-N	
55	N 21°25'47" E	431.37	512,188.239	515,876.852	P.I. Curve No. 29	
56	N 52°26'46" E	601.79	512,589.786	516,034.455	P.I. Curve No. 30	
57	N 79°49'22" E	185.85	512,956.583	516,511.547	P.I. Curve No. 31	
58	N 01°40'38" W	405.46	512,989.421	516,694.472	☉ Ramp N-N & ☉ Lemoyne Ave.	
59	S 89°15'07" W	607.07	513,394.702	516,682.605	☉ Lemoyne Ave. ☉ Midlothian Blvd.	
52	S 89°15'07" W	607.07	513,386.776	516,075.587	☉ I-680 & ☉ Midlothian Blvd.	

**LEGEND**  
 TRVERSE POINT NUMBER  
 CURVE NUMBER (See Sheet No. 156)



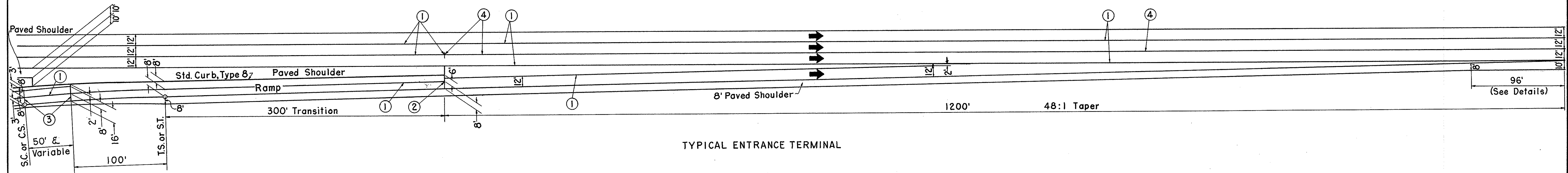




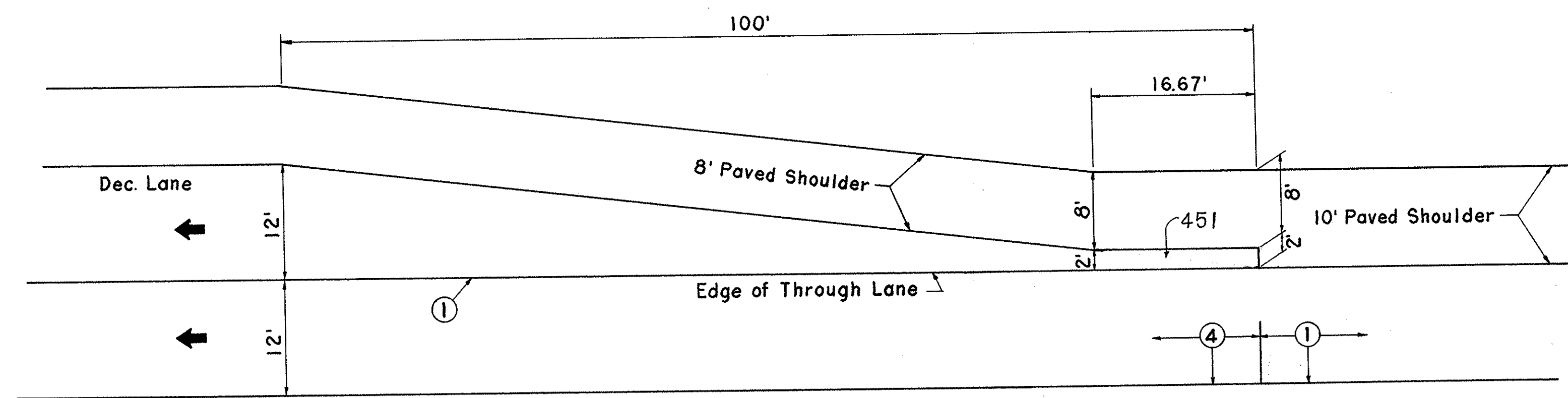
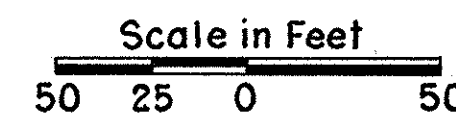
TYPICAL EXIT TERMINAL

LEGEND

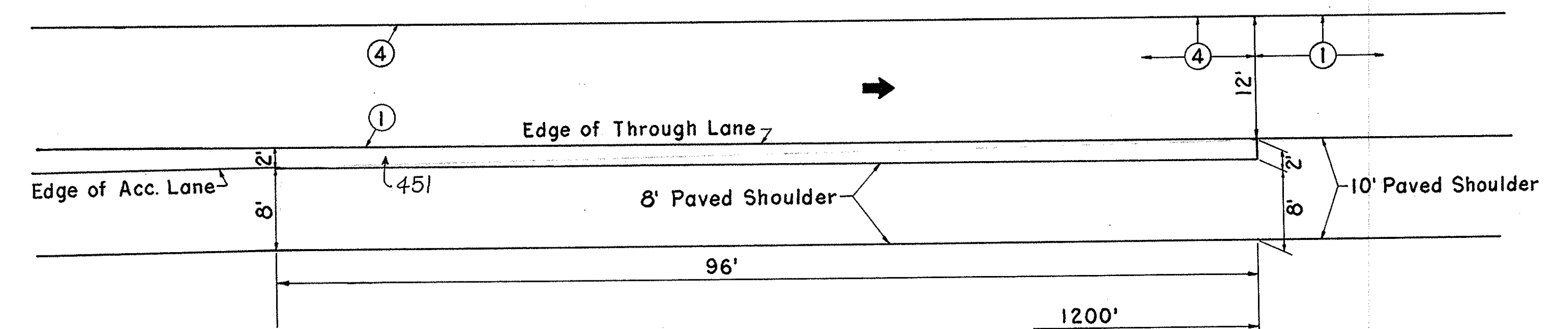
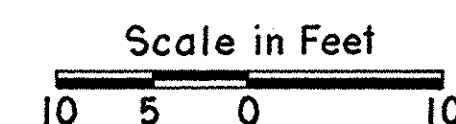
- ① Standard Longitudinal Joint
- ② Standard Expansion Joint
- ③ Standard Contraction Joint
- ④ Key Joint Without Tie Bars



TYPICAL ENTRANCE TERMINAL



TAPER DETAIL FOR EXIT LANE

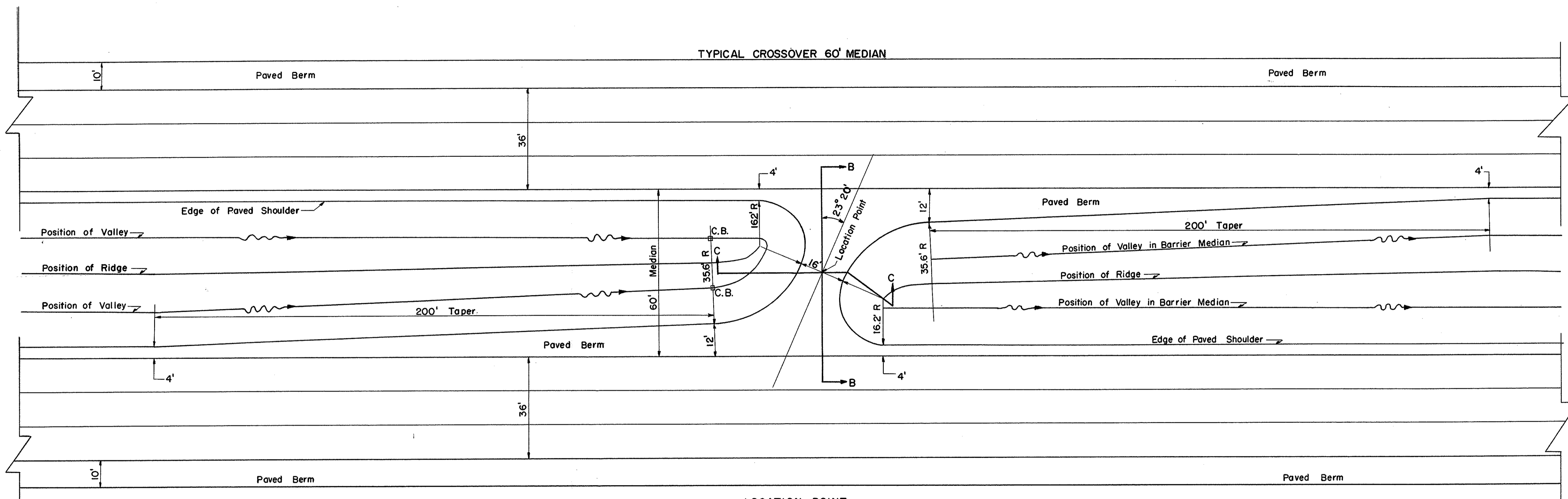


NOTE.

1. The Transverse Joints shown on these drawings are termed "Control Joints". Their locations are fixed in accordance with the dimensions shown on these drawings. In Ramp pavements, transverse joints not shown on these drawings shall be spaced between the "Control Joints" not to exceed the standard spacing. No Transverse Joints shall be used on the continuously reinforced mainline and speed change lane pavements.

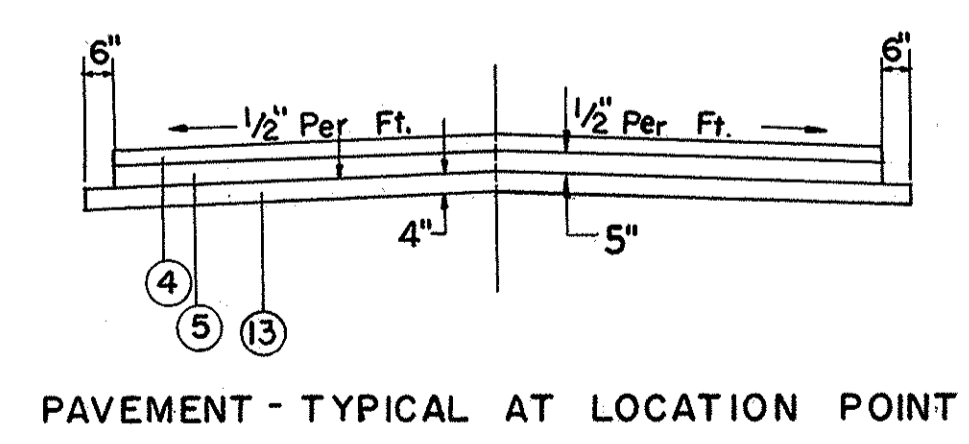
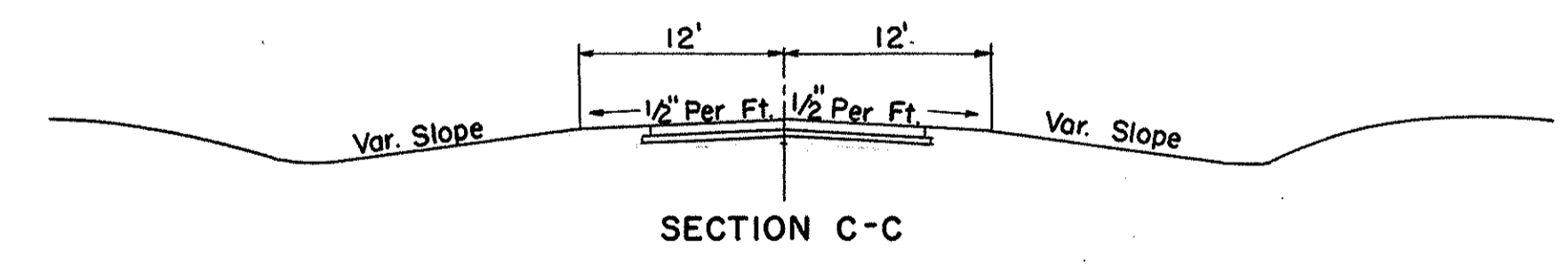
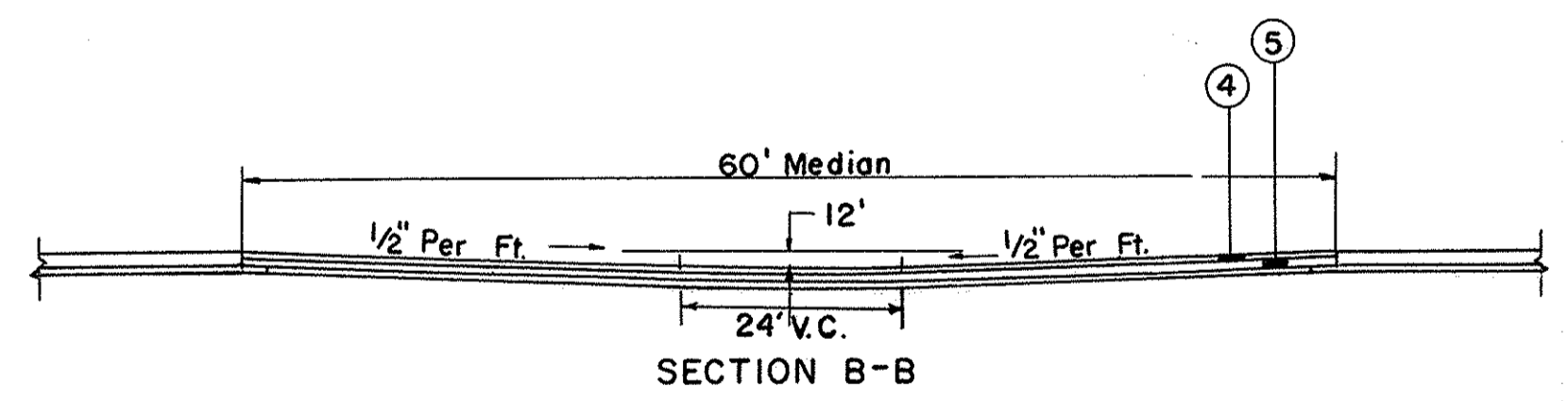
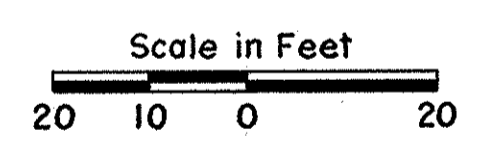


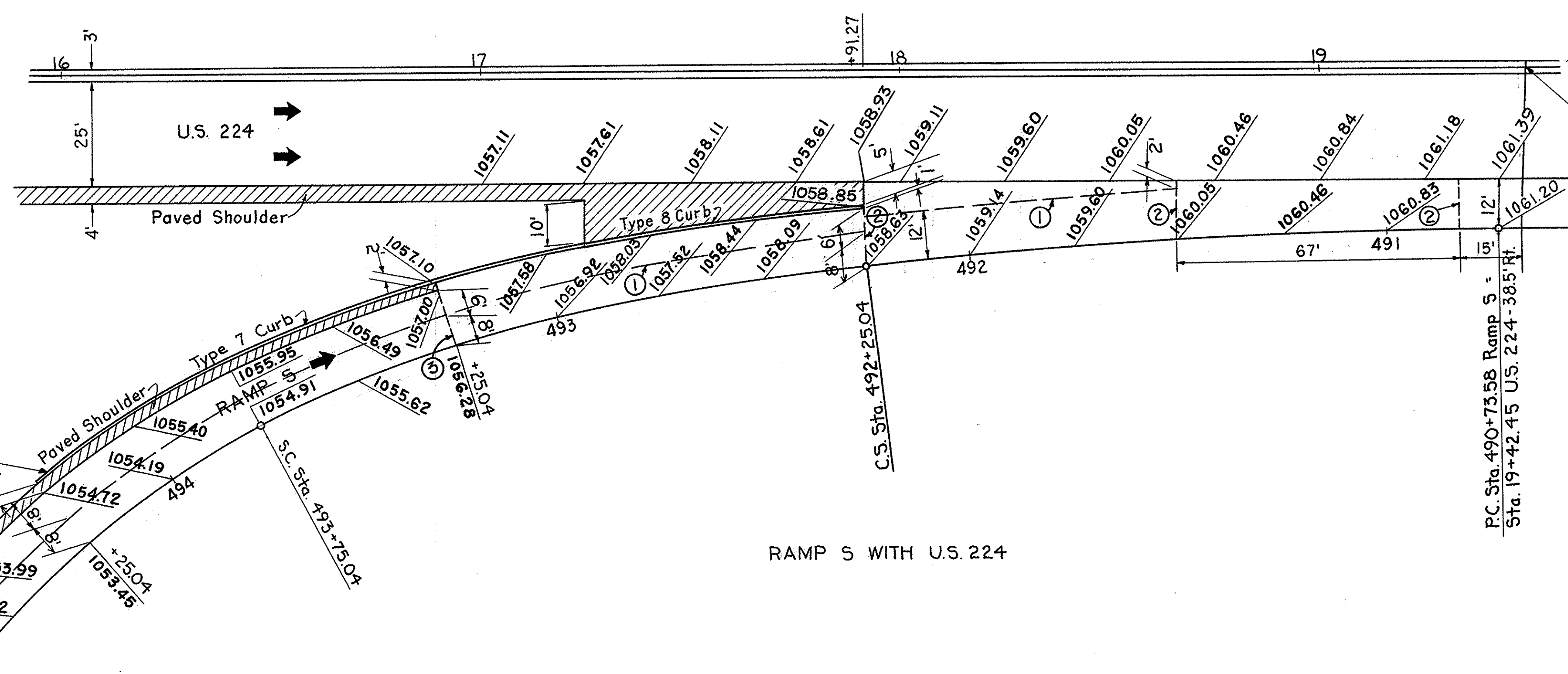
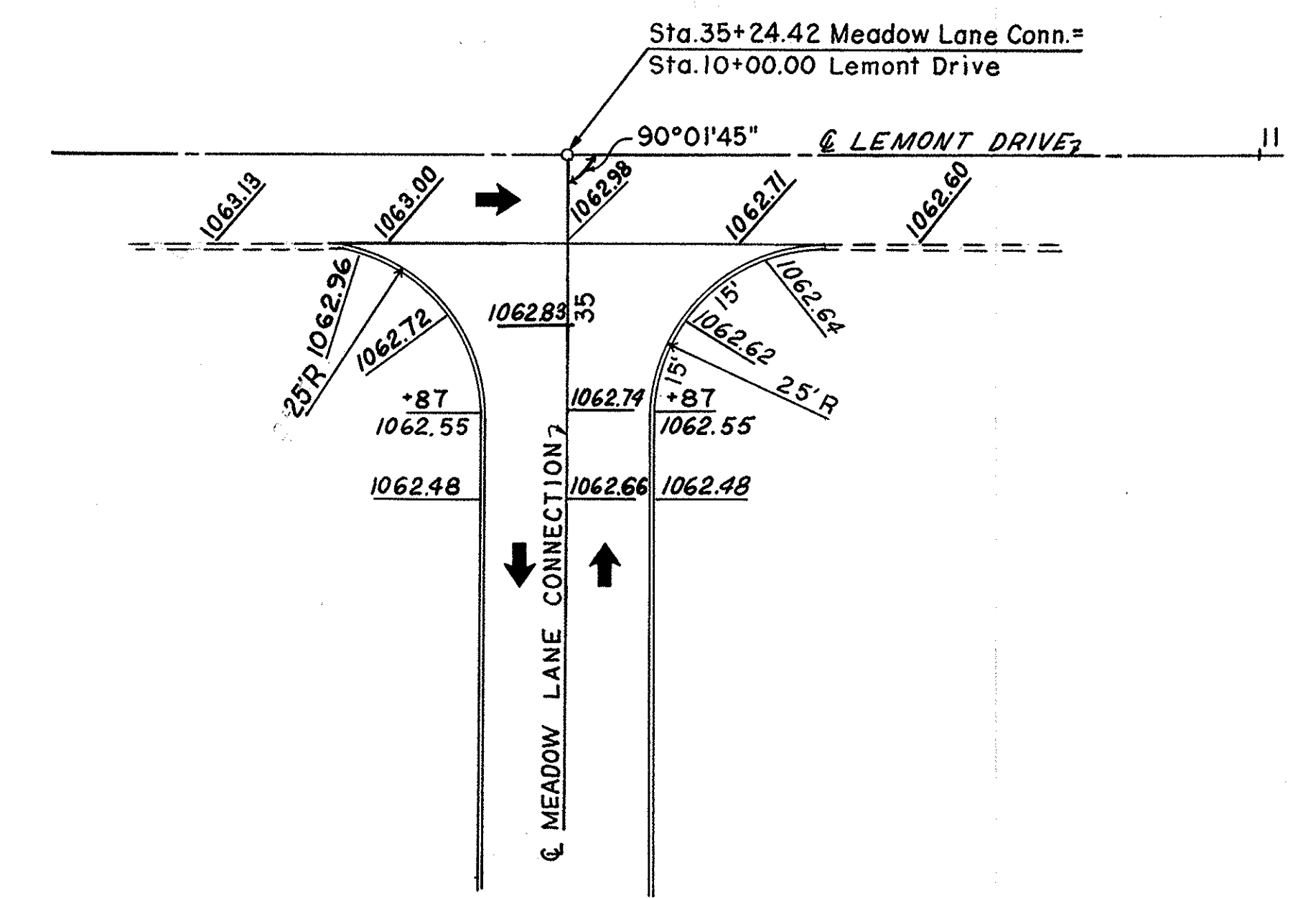
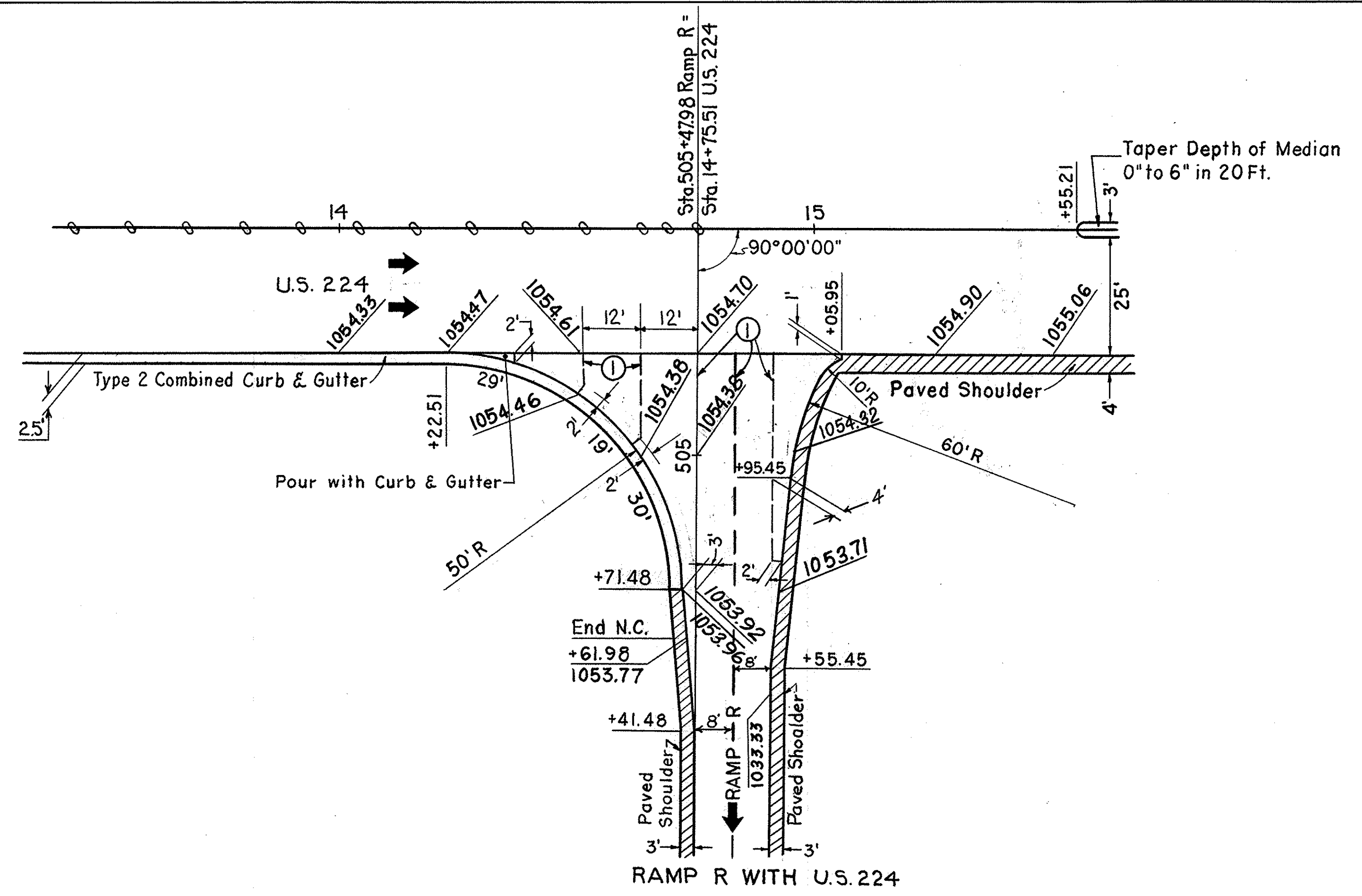
# STANDARD U-TURN MEDIAN OPENINGS



- LEGEND
- ④ 301 3" Bituminous Aggregate Base, 702.01 (85-100) or 702.09 RT-10
  - ⑤ 304 Aggregate Base (Thickness as shown)
  - ⑬ 310 Subbase

LOCATION POINT  
Sta. 535+59  
Sta. 595+41

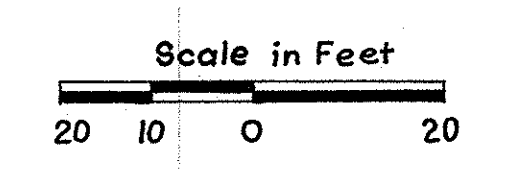




Taper Depth of Curb  
0" to 9" in 20 Ft.

NOTE: All Elevations Are At 25' Intervals  
Unless Otherwise Shown.

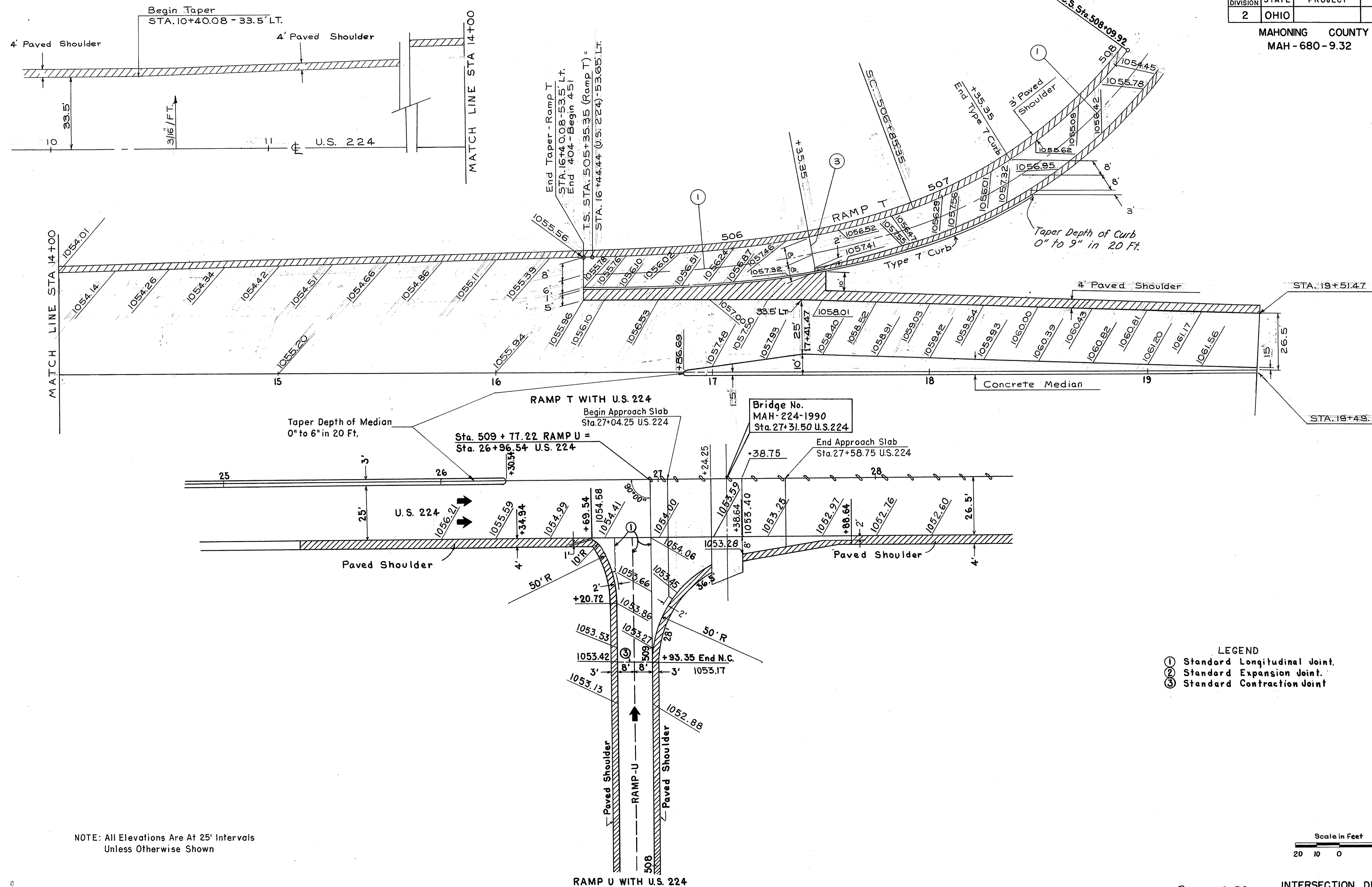
- LEGEND
- ① Standard Longitudinal Joint.
  - ② Standard Expansion Joint.
  - ③ Standard Contraction Joint.



FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

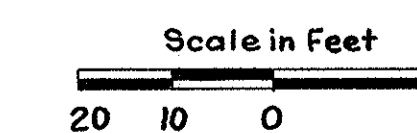
160  
303

MAHONING COUNTY  
MAH-680-9.32



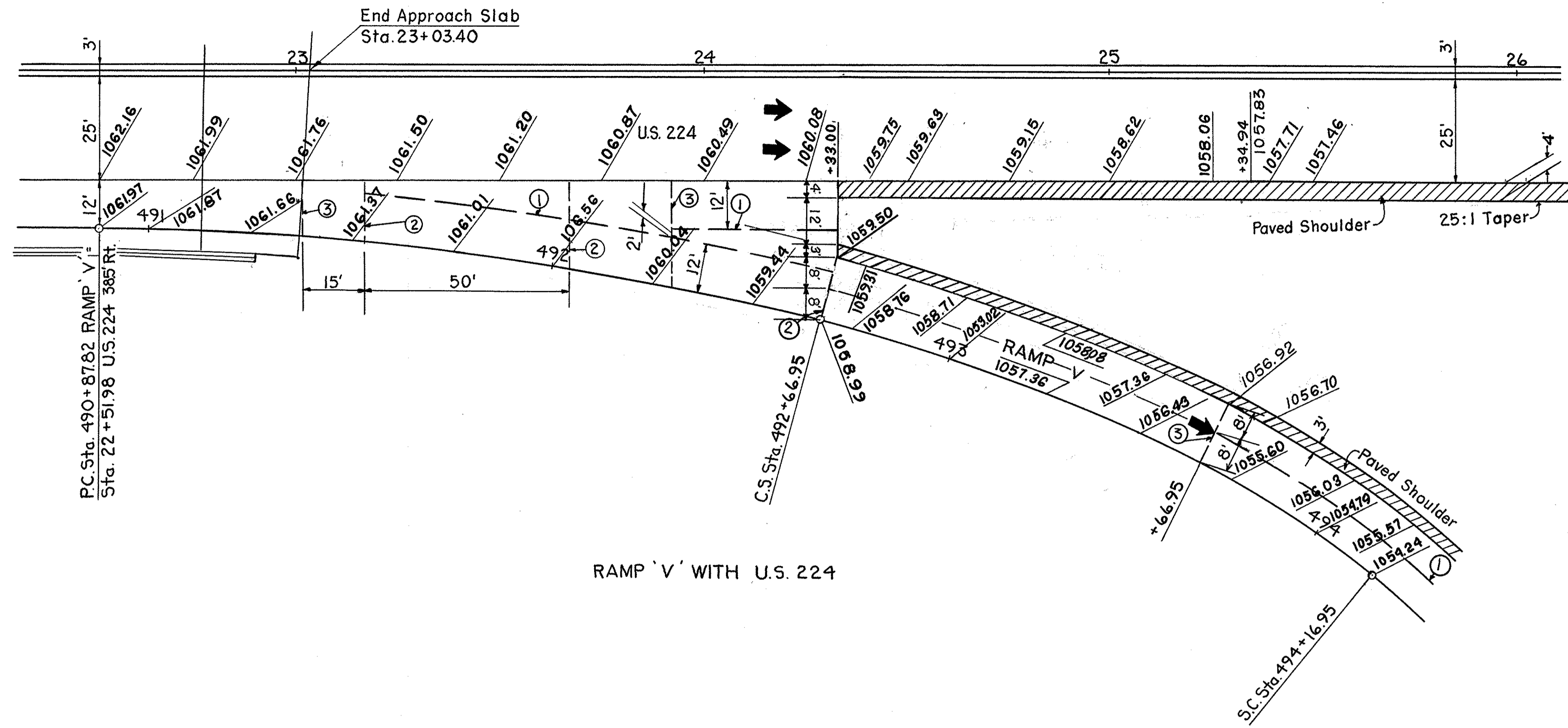
NOTE: All Elevations Are At 25' Intervals  
Unless Otherwise Shown

- LEGEND
- ① Standard Longitudinal Joint.
  - ② Standard Expansion Joint.
  - ③ Standard Contraction Joint

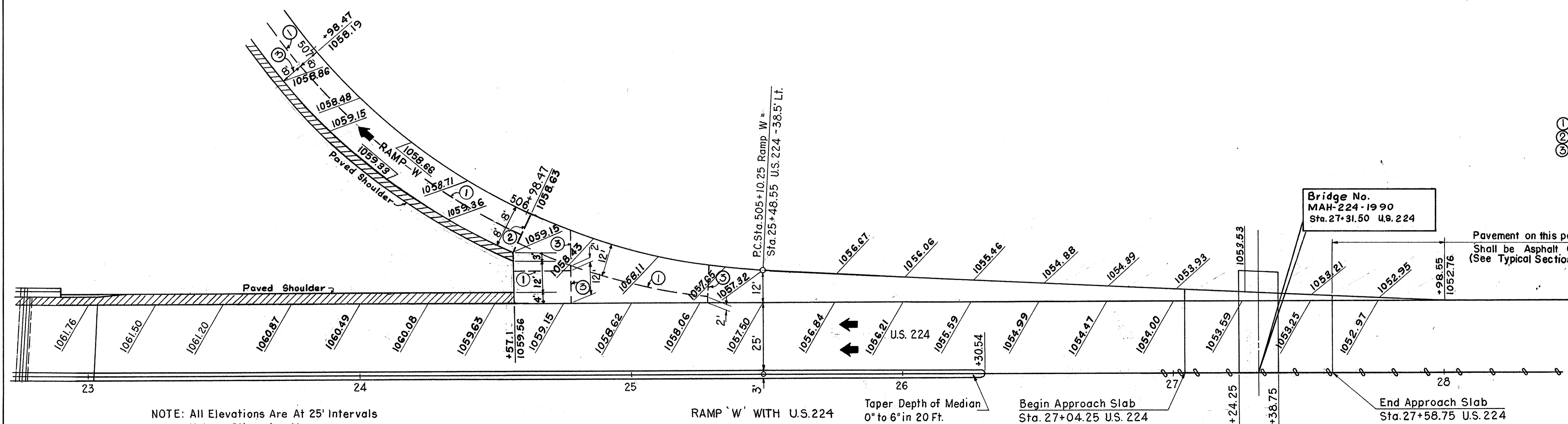


Rev. 2-23-72

INTERSECTION DETAILS



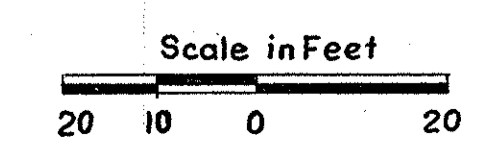
RAMP 'V' WITH U.S. 224

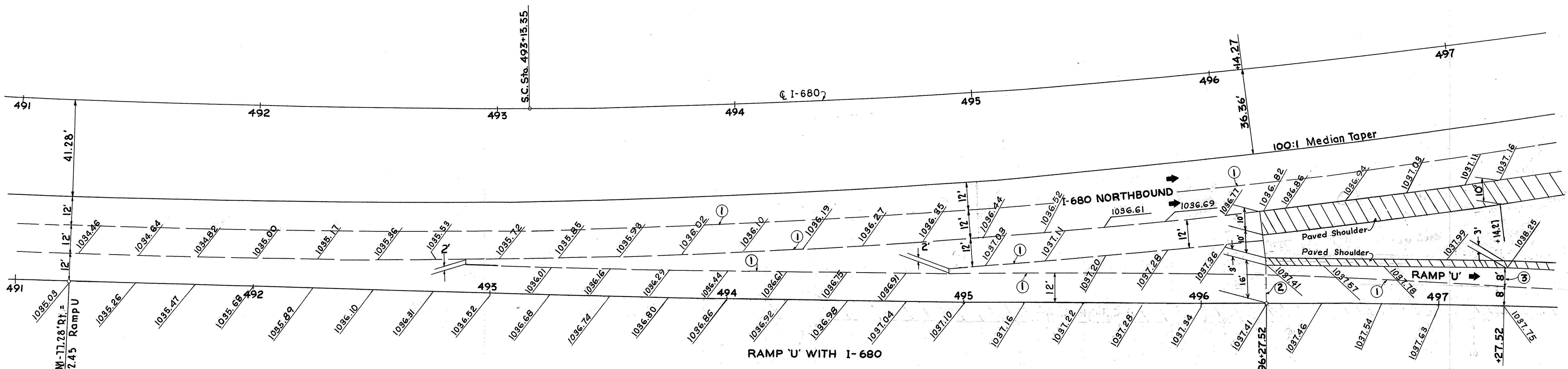
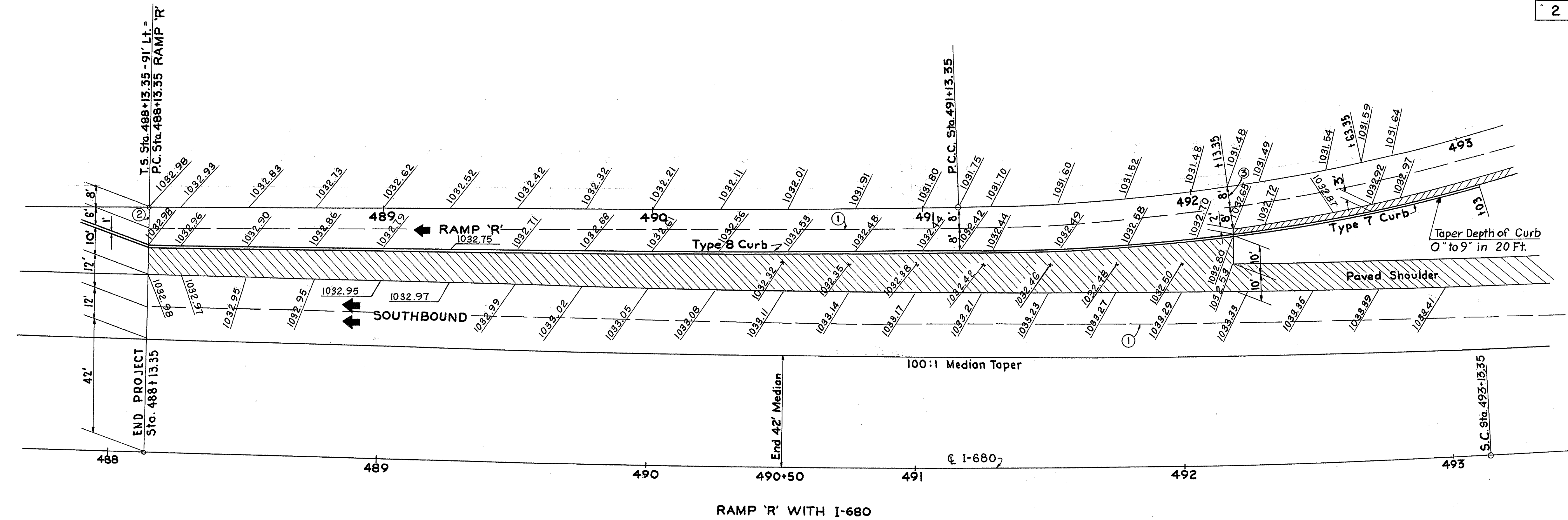


NOTE: All Elevations Are At 25' Intervals Unless Otherwise Shown

- LEGEND
- ① Standard Longitudinal Joint
  - ② Standard Expansion Joint
  - ③ Standard Contraction Joint

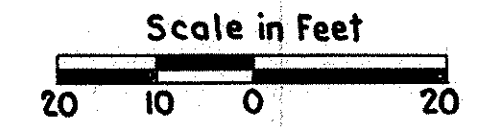
Pavement on this portion of Acceleration Lane Shall be Asphalt Concrete (See Typical Section U.S. 224 for thickness)

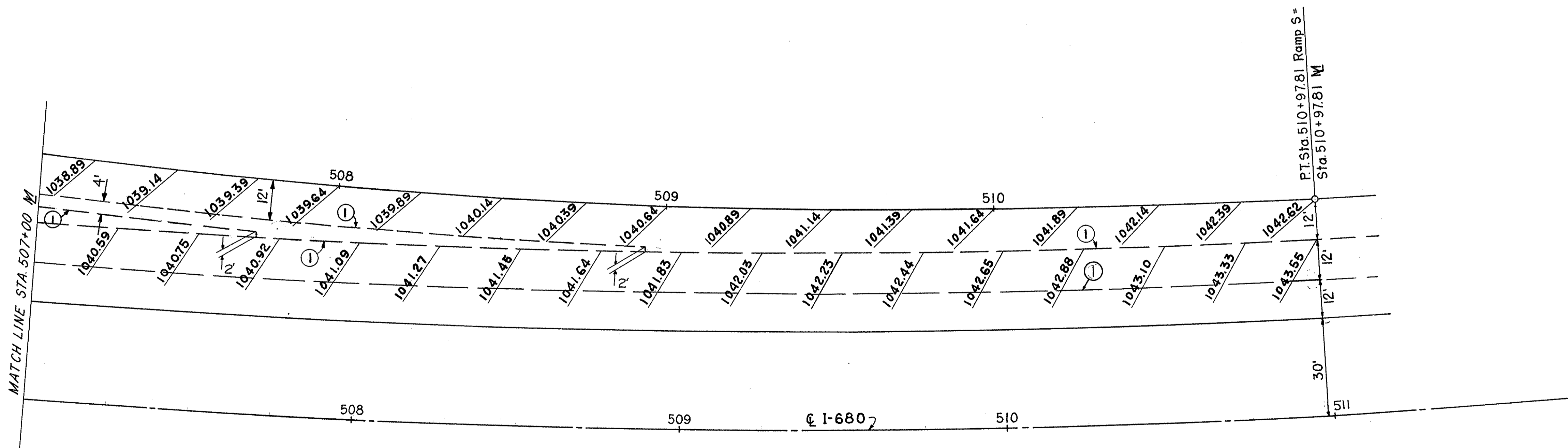
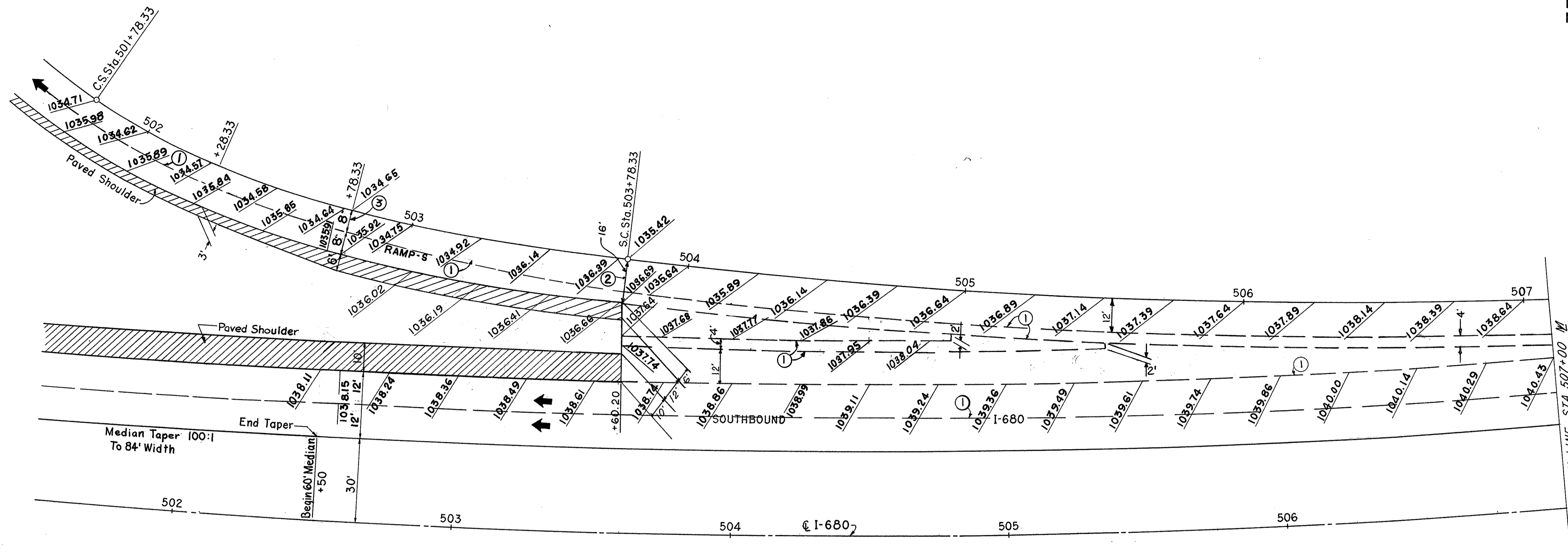




NOTE: All Elevations Are At 25' Intervals Unless Otherwise Shown

- LEGEND
- ① Standard Longitudinal Joint
  - ② Standard Expansion Joint
  - ③ Standard Contraction Joint
  - ④ Key Joint without tie bars

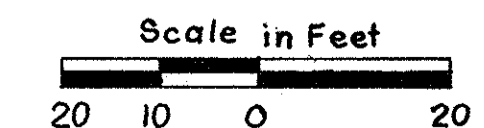




- LEGEND
- ① Standard Longitudinal Joint
  - ② Standard Expansion Joint
  - ③ Standard Contraction Joint

NOTE: All Elevations Are At 25' Intervals Unless Otherwise Shown

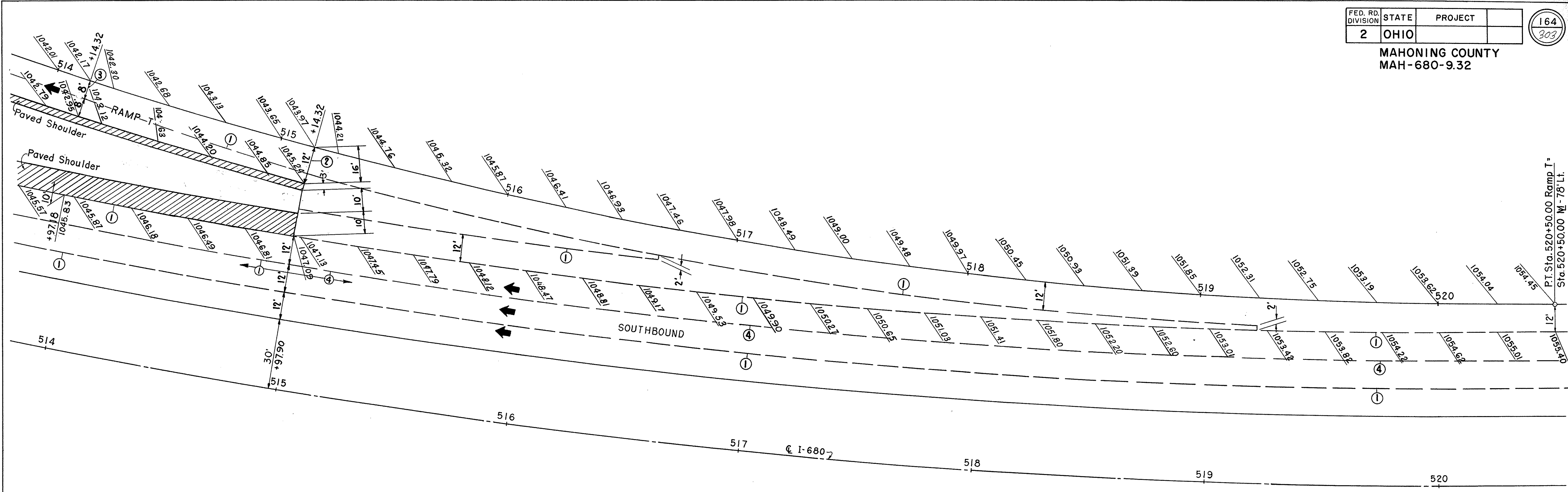
RAMP S WITH I-680



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

164  
303

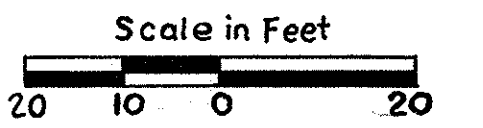
MAHONING COUNTY  
MAH-680-9.32



RAMP T WITH SOUTHBOUND

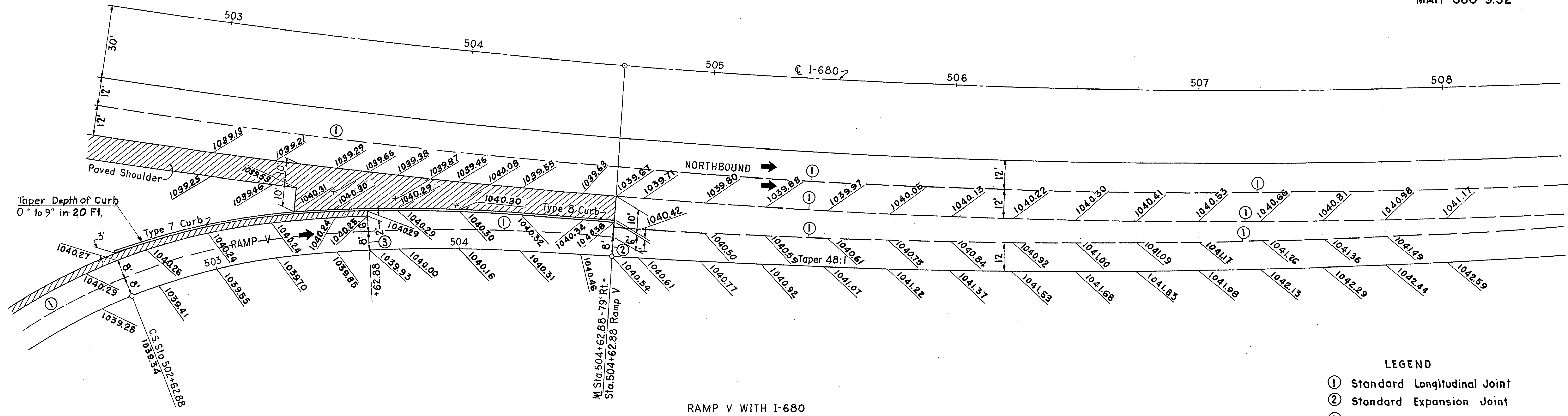
- LEGEND
- ① Standard Longitudinal Joint
  - ② Standard Expansion Joint
  - ③ Standard Contraction Joint
  - ④ Key Joint without tie bars  
(See Sheet No. 157)

NOTE: All Elevations Are At 25' Intervals  
Unless Otherwise Shown

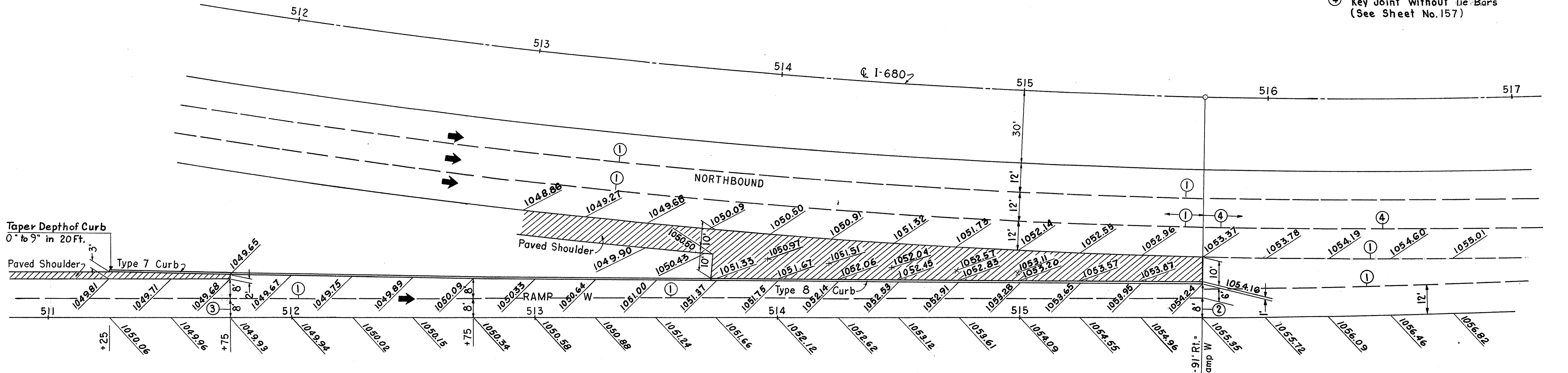


INTERSECTION DETAILS

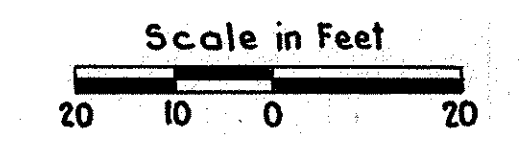
MAHONING COUNTY  
MAH-680-9.32



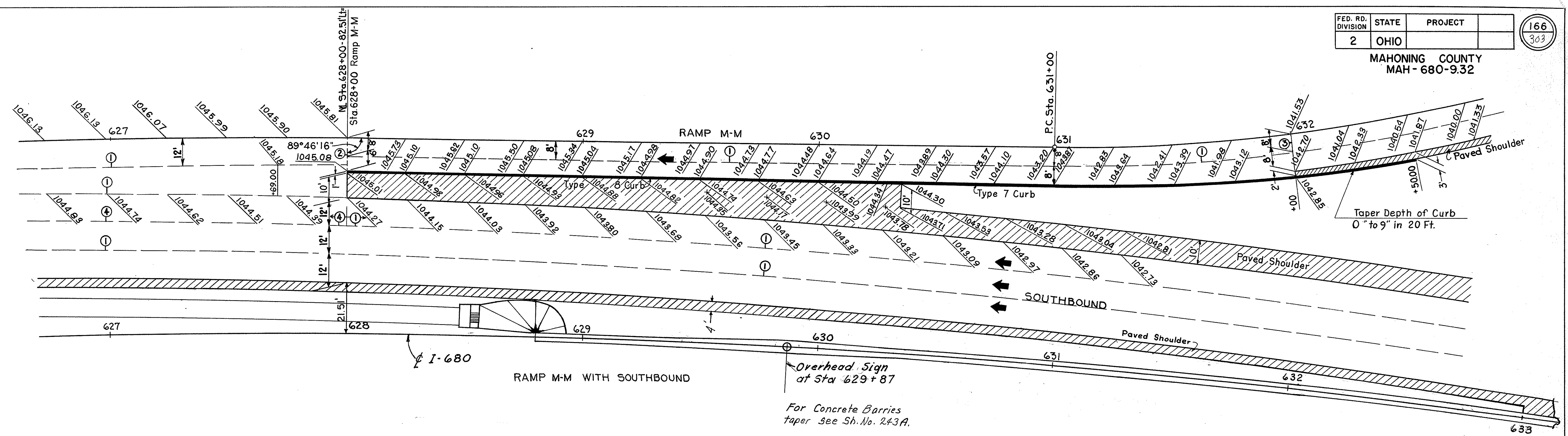
- LEGEND
- ① Standard Longitudinal Joint
  - ② Standard Expansion Joint
  - ③ Standard Contraction Joint
  - ④ Key Joint without Tie-Bars (See Sheet No.157)



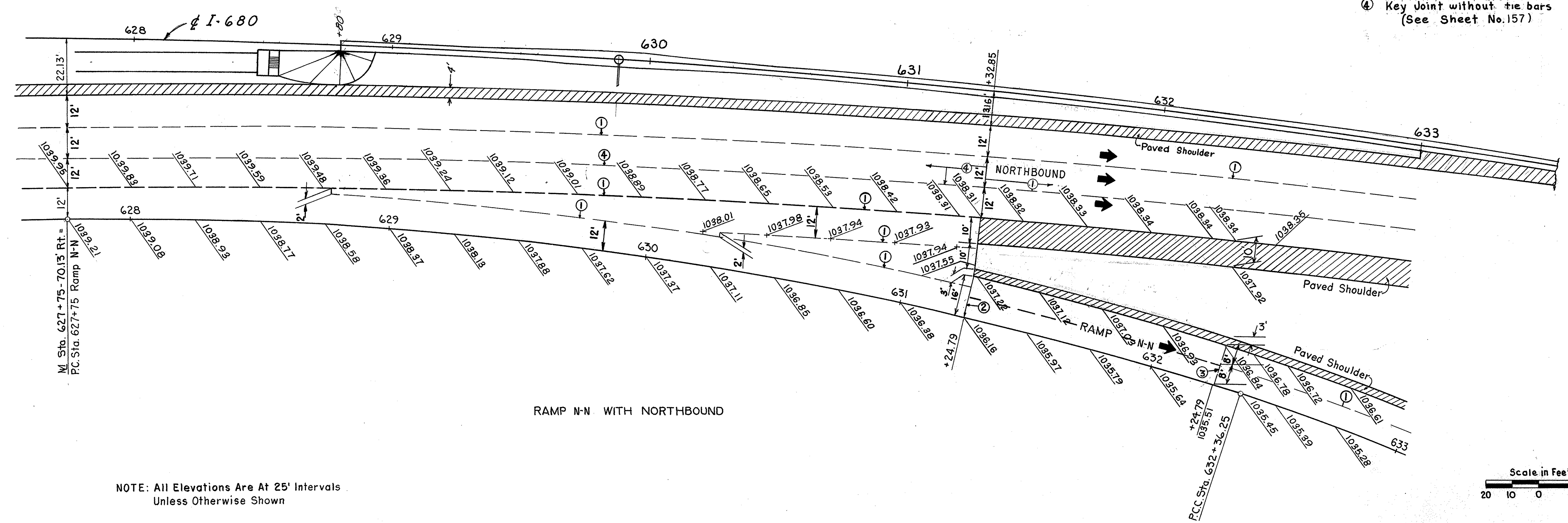
NOTE: All Elevations Are At 25' Intervals Unless Otherwise Shown



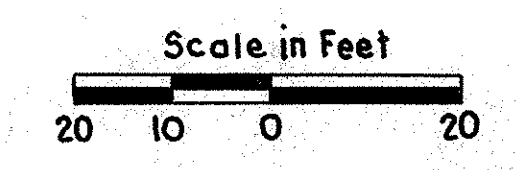




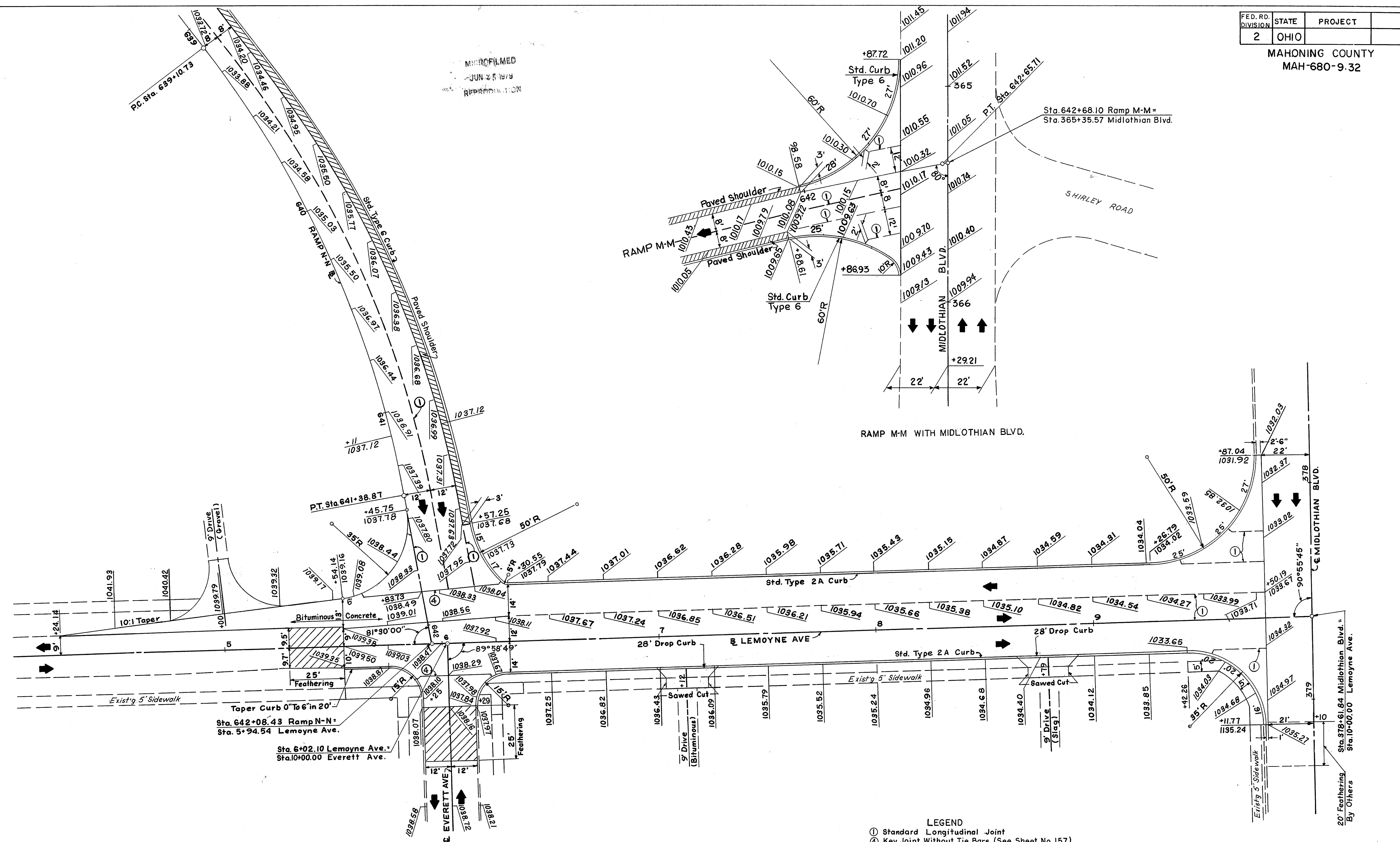
- LEGEND
- ① Standard Longitudinal Joint
  - ② Standard Expansion Joint
  - ③ Standard Contraction Joint
  - ④ Key Joint without tie bars (See Sheet No. 157)



NOTE: All Elevations Are At 25' Intervals Unless Otherwise Shown

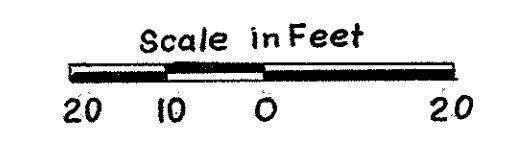


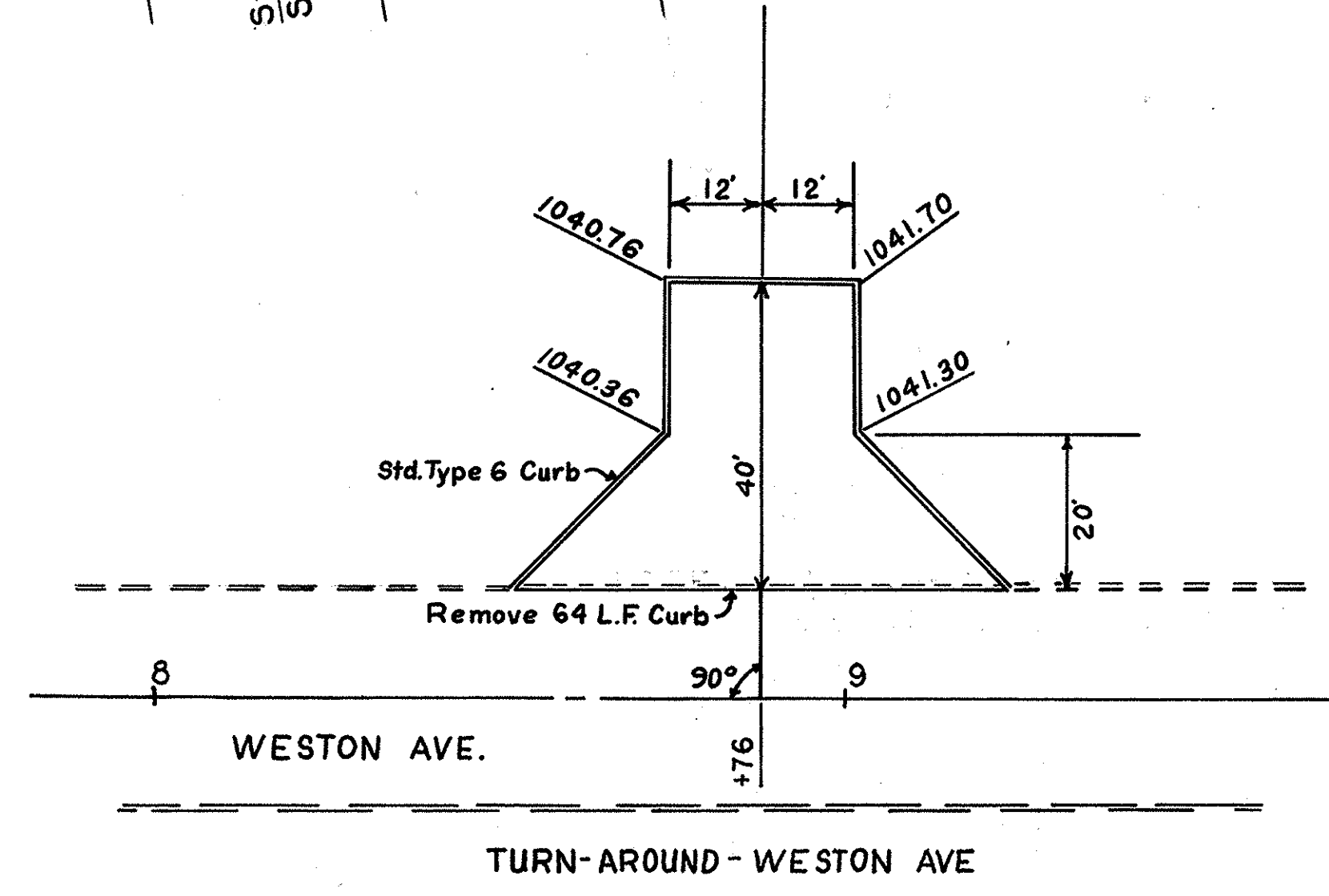
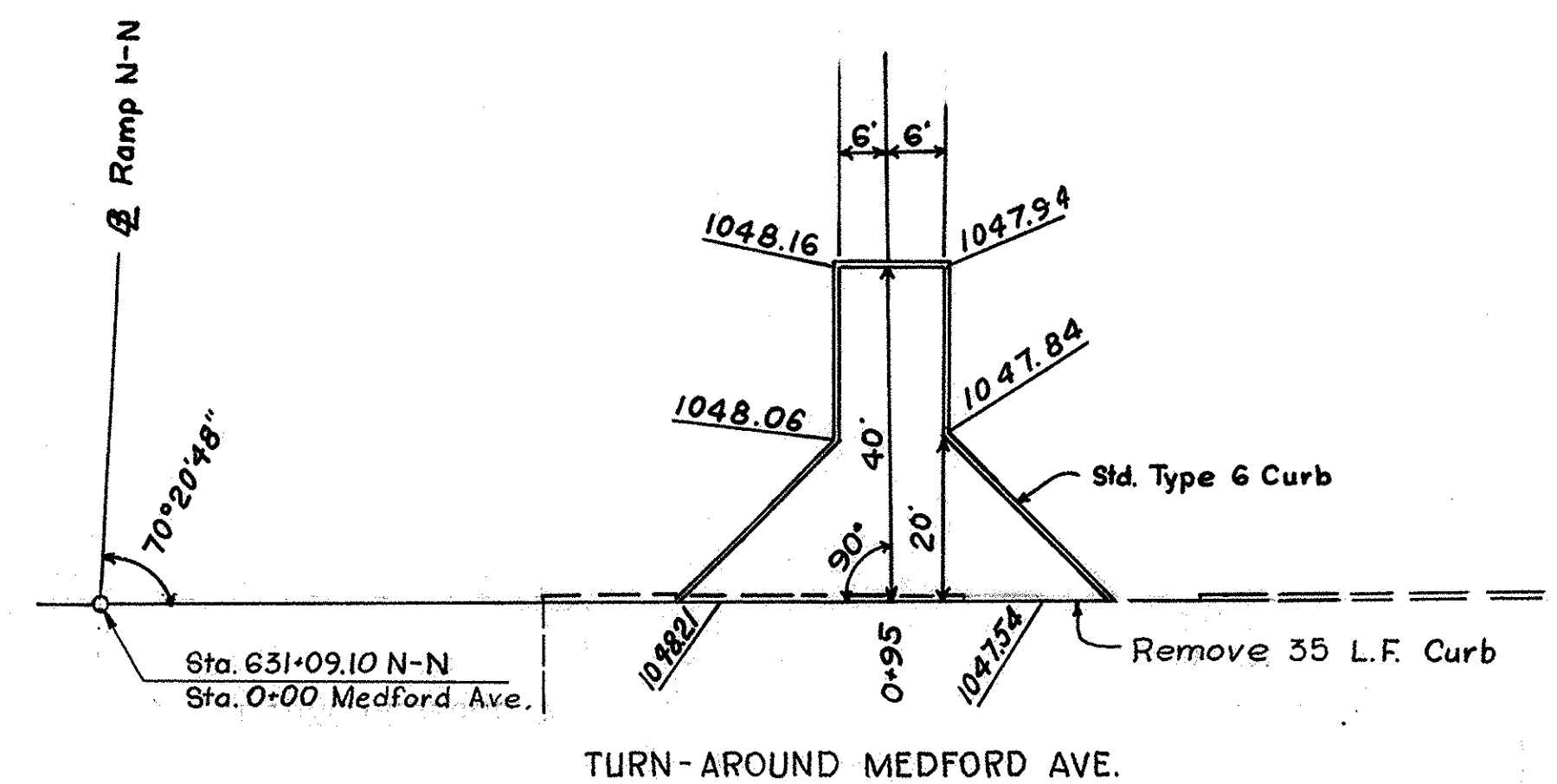
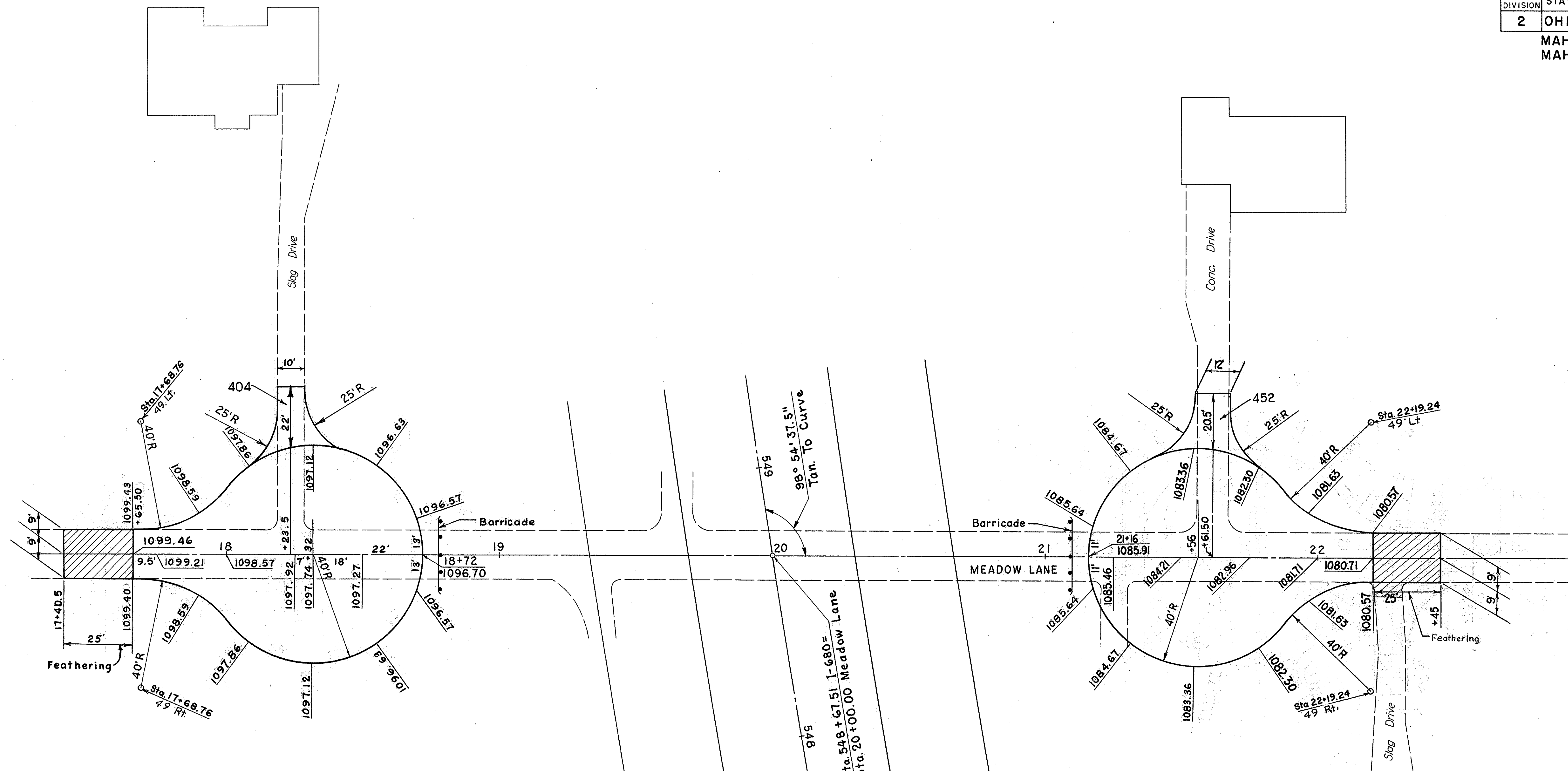
MICROFILMED  
JUN 25 1979  
APPENDIX 110N



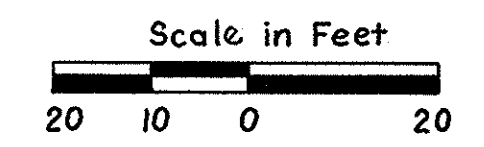
NOTE: All Elevations Are At 25' Intervals  
Unless Otherwise Shown

LEGEND  
 (1) Standard Longitudinal Joint  
 (2) Key Joint Without Tie Bars (See Sheet No. 157)





NOTE: All Elevation Are At 25' Intervals Unless Otherwise Shown.



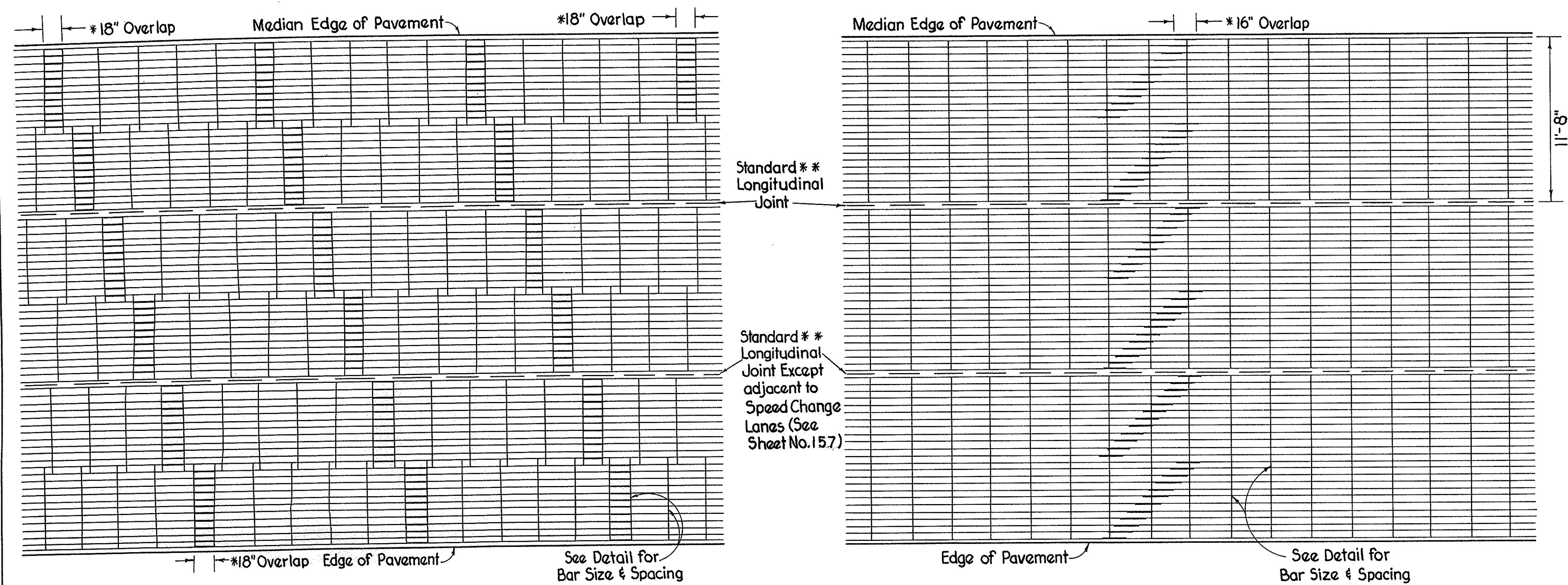
# SPECIAL CONSTRUCTION DETAILS OF CONTINUOUSLY REINFORCED CONCRETE PAVEMENT

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

169  
363

MAHONING COUNTY  
MAH-680-9.32

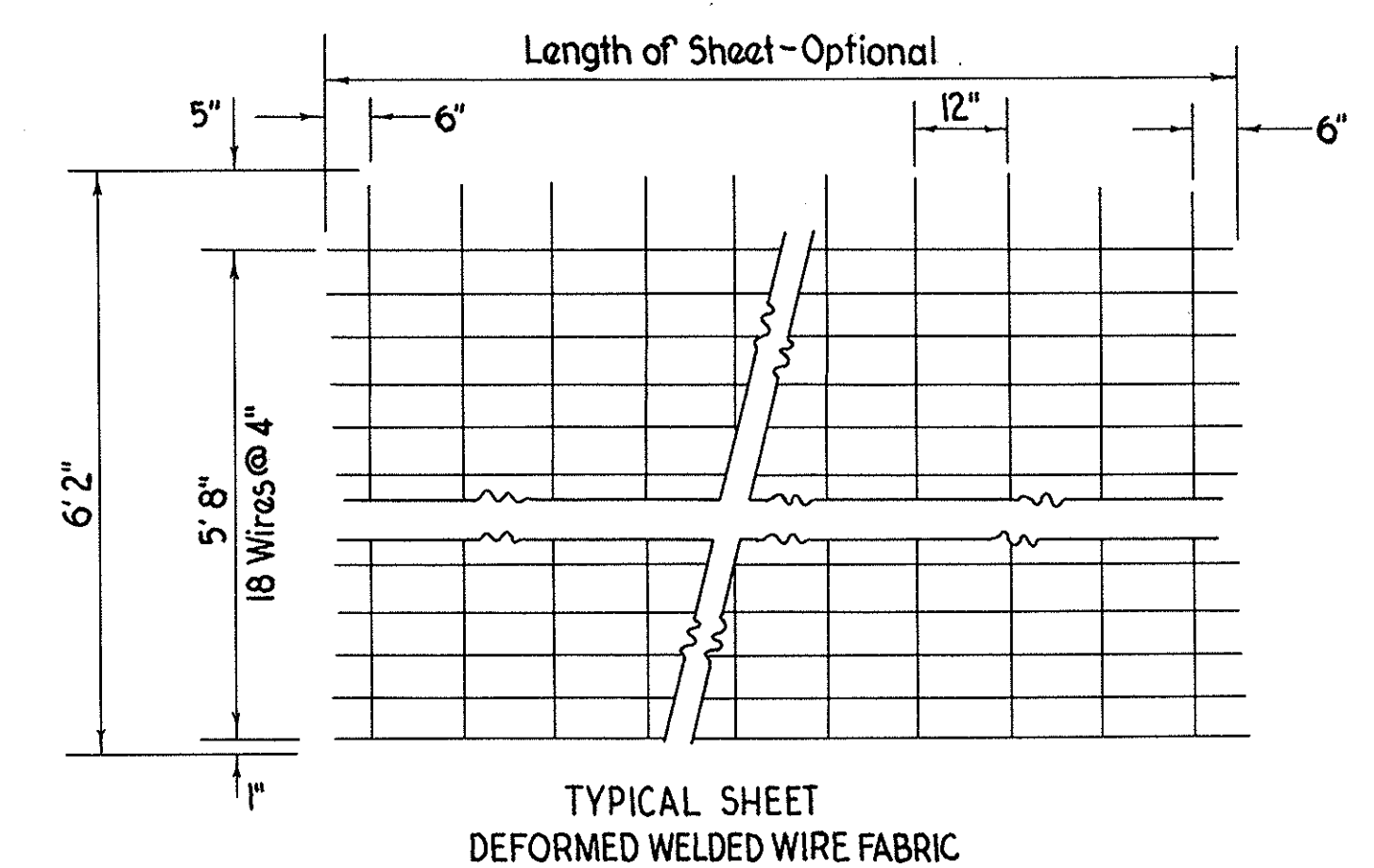
8 INCH PAVEMENT  
D-20 (.504" dia) Deformed Longitudinal Wires at 4" Spacing, 108 Wires for 36' pavement. D-4 (.225" dia) Deformed Transverse Wires at 12" Spacing or D-6 (.276" dia) at 18" Spacing. Overall Mat widths 4'-6" or 6'-2" with a 6" minimum Transverse Lap and an 18" Minimum Longitudinal Lap.



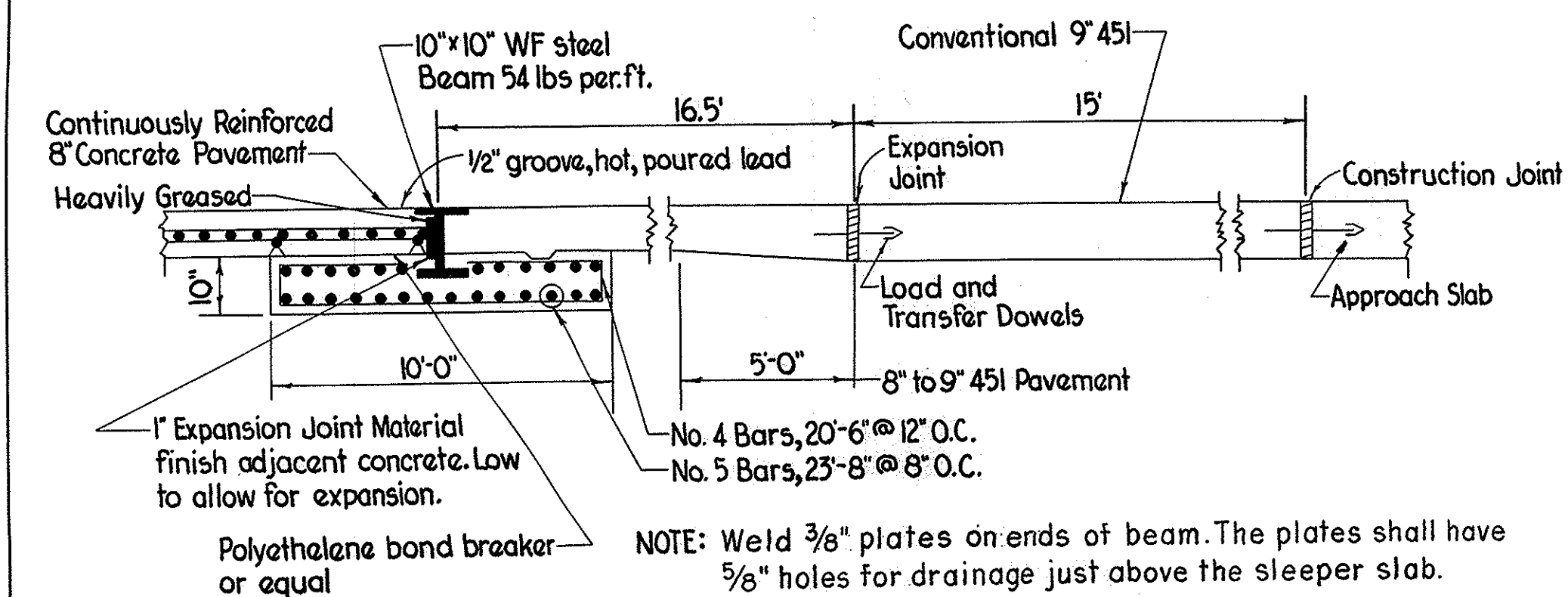
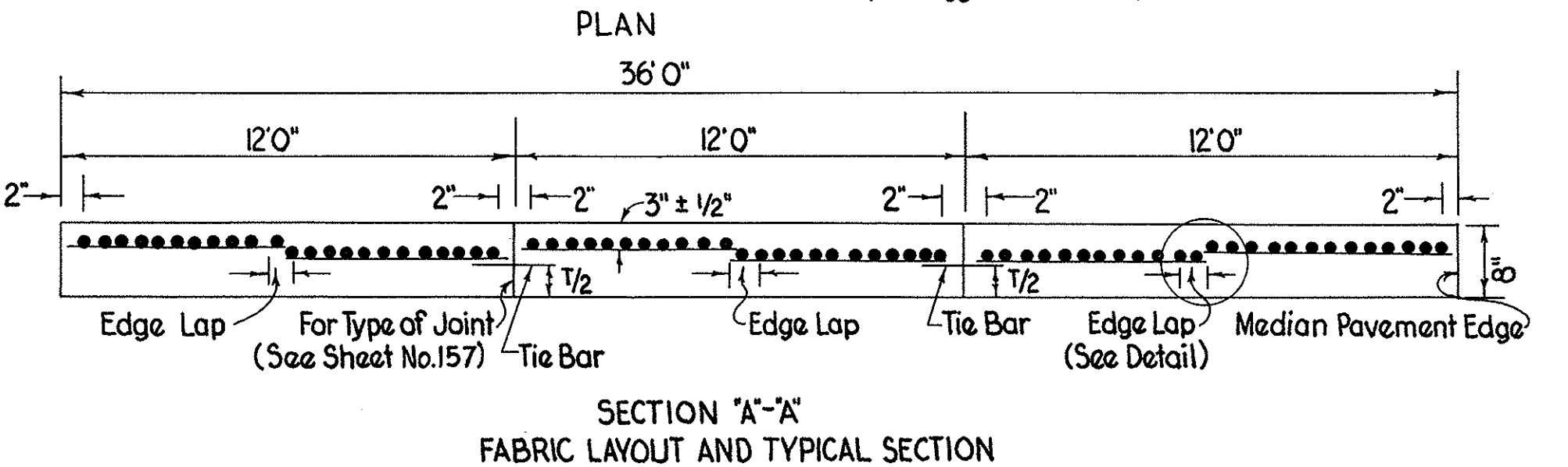
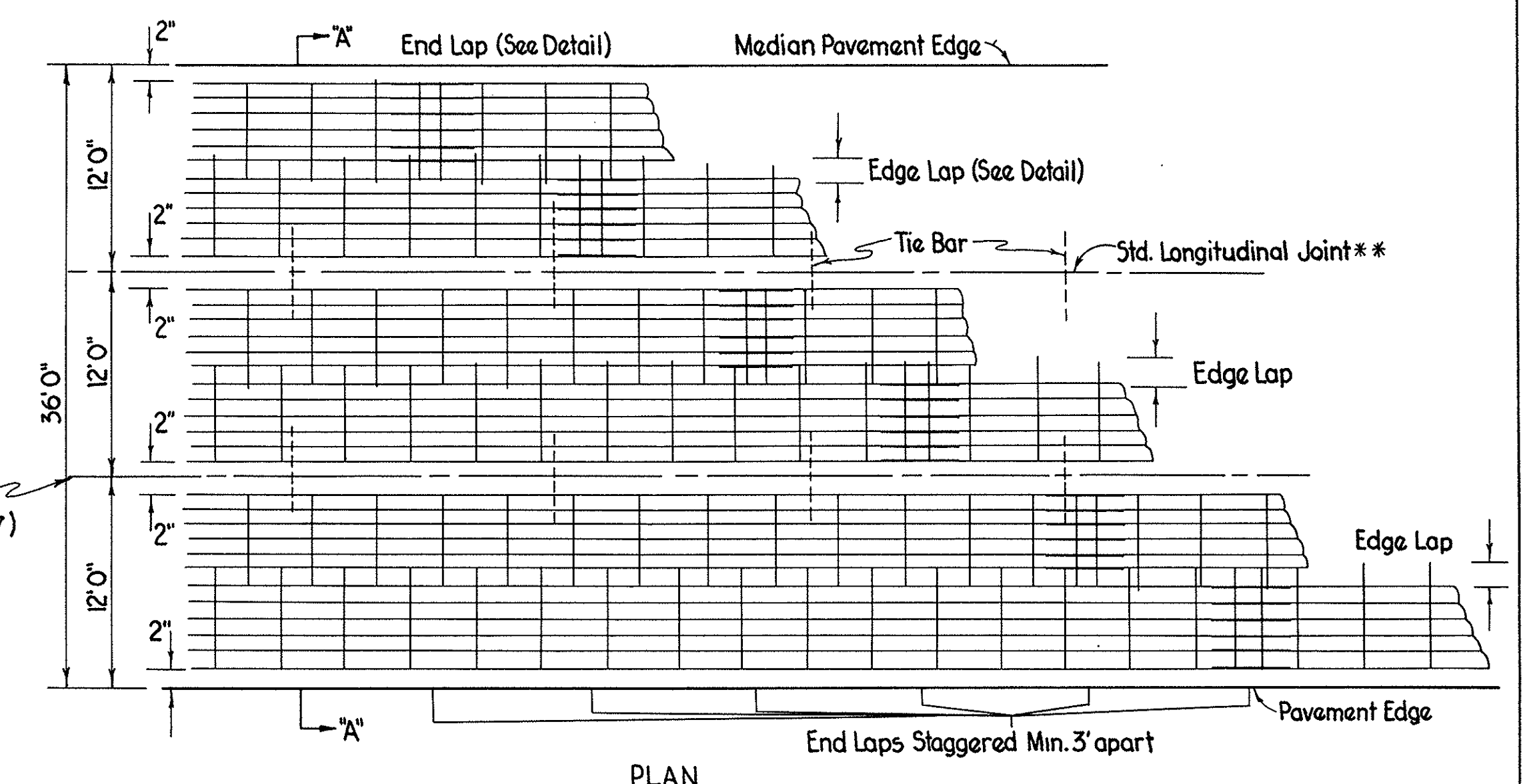
**ARRANGEMENT FOR PREFABRICATED BAR MATS**  
Scale = 3/16" = 1'0"  
NOTE: Minimum longitudinal spacing between laps in adjacent mats shall be 3'

If 1/2 Lane width mats are used as shown here the Transverse bars shall be lapped 6" and Tied to provide continuous Transverse steel for each Lane Width

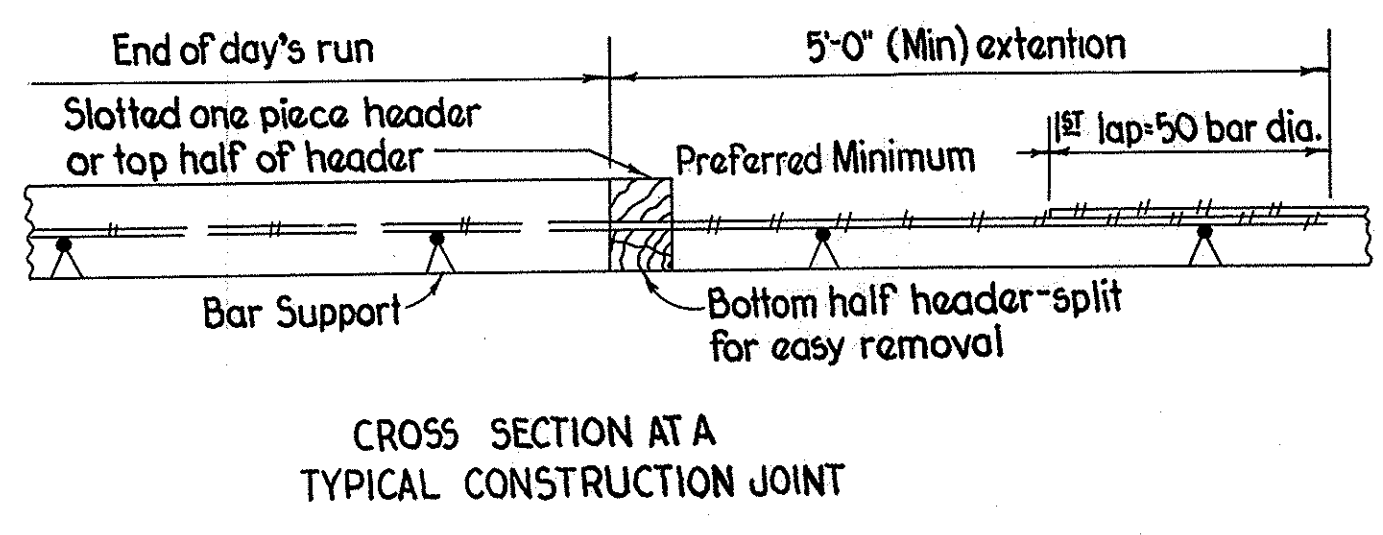
**ARRANGEMENT FOR LOOSE BAR CONSTRUCTION**  
Scale = 3/16" = 1'0"



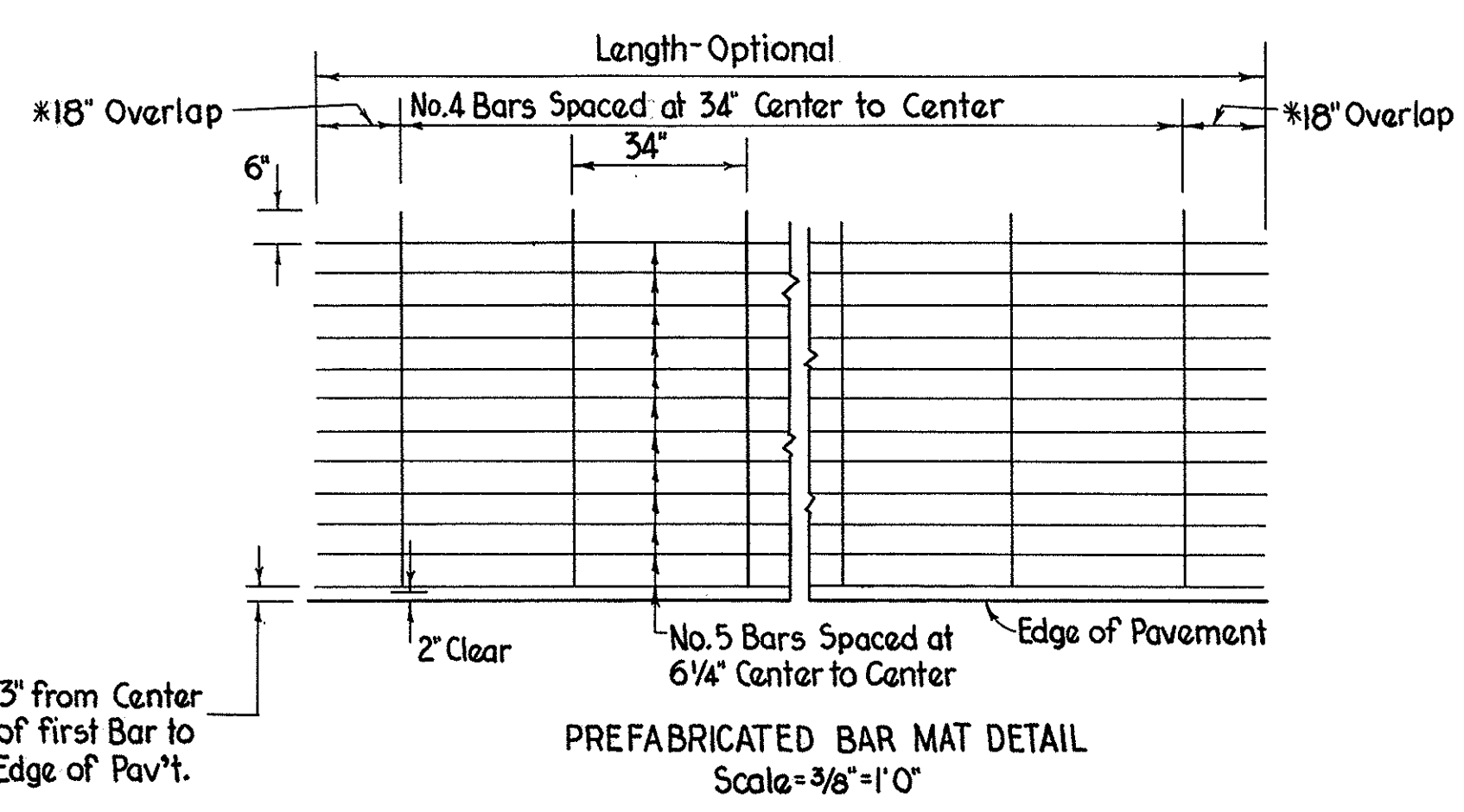
This sheet is void.  
For details see Std.  
Dwg. BP-8.



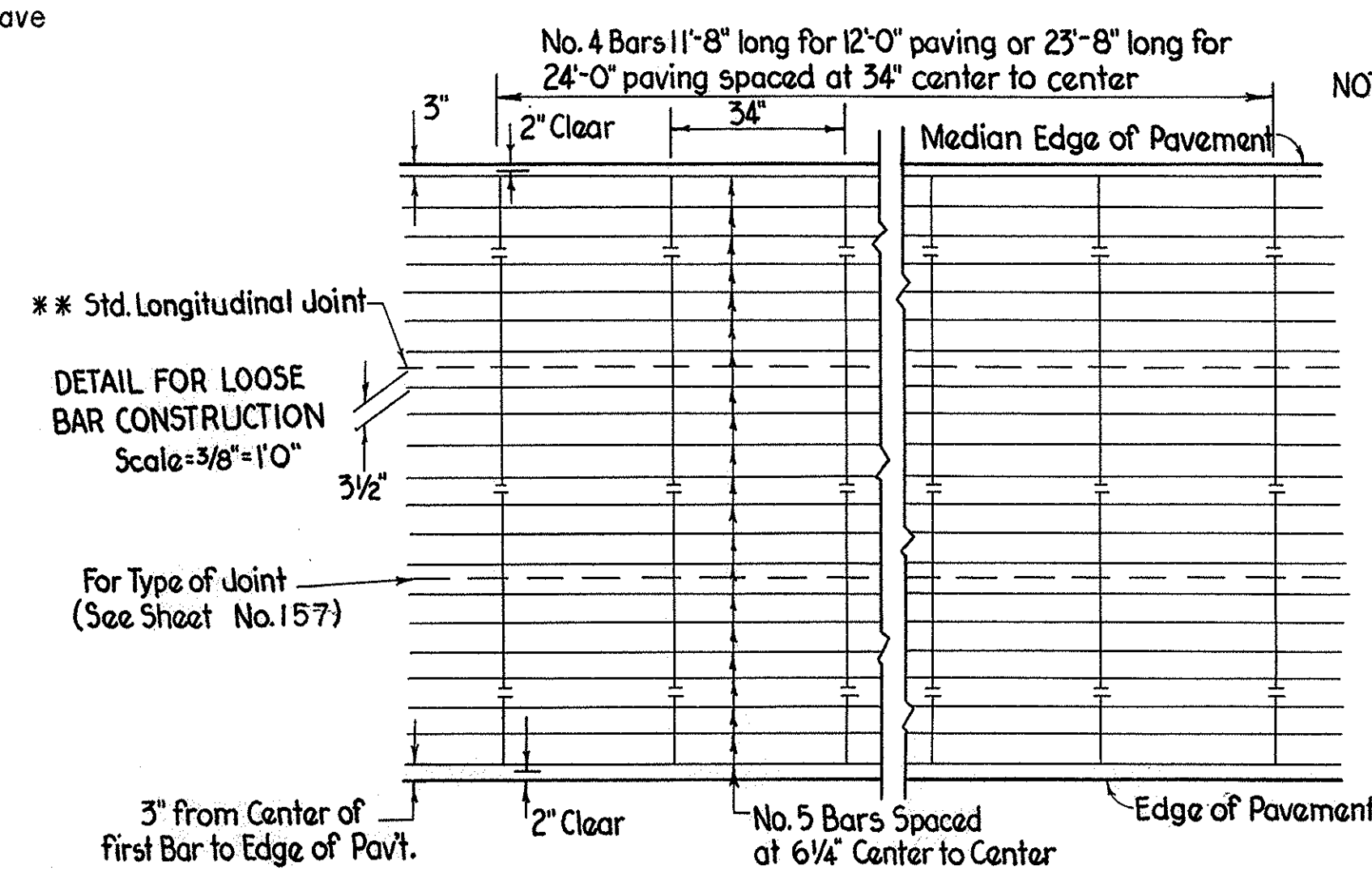
**DETAILS OF WIDE FLANGE BEAM**  
Sta. 488+13.35 - End Project  
Sta. 561+44.45 - Begin Approach Slab  
Sta. 563+02.20 - End Approach Slab  
Sta. 638+00.00 - Begin Project



CROSS SECTION AT A  
TYPICAL CONSTRUCTION JOINT

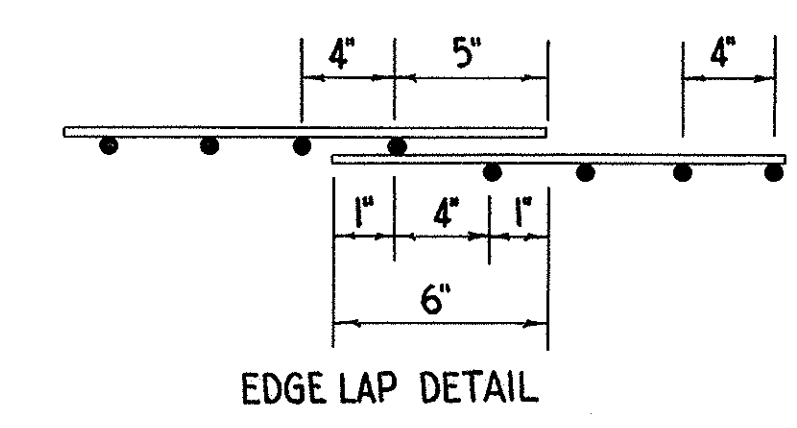


PREFABRICATED BAR MAT DETAIL  
Scale = 3/8" = 1'0"

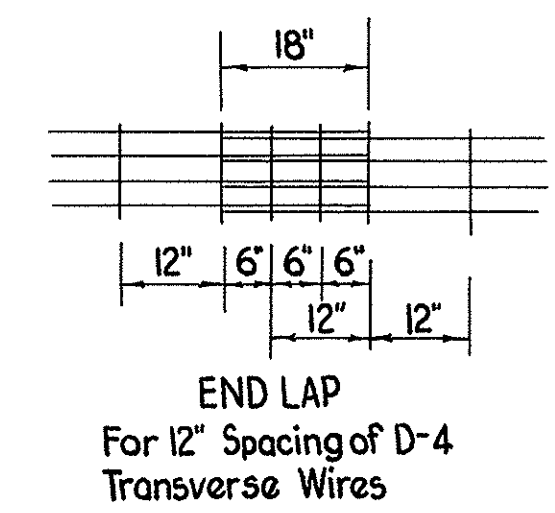


DETAIL FOR LOOSE BAR CONSTRUCTION  
Scale = 3/8" = 1'0"

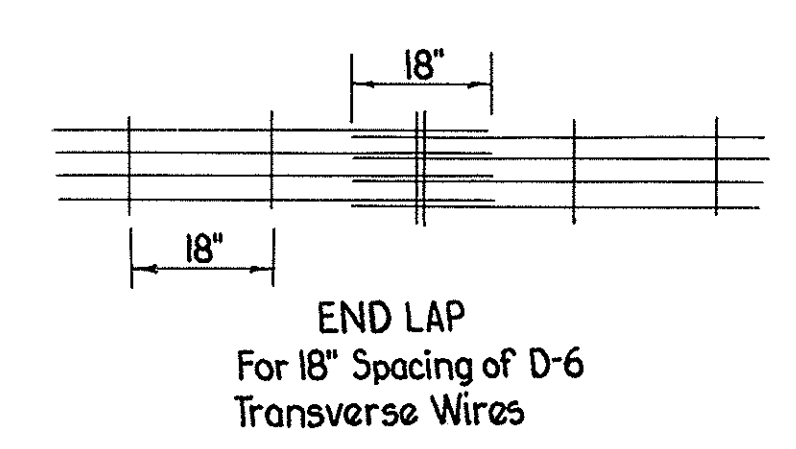
NOTE: \* Overlap 32" if any part of the overlap is within 15' of a construction joint  
\*\* Use Std. longitudinal joint with Tie Bars or Hook Bolts if pavement is placed one lane at a time, or if prefabricated Bar Mats are used. (See Proposal Note)



EDGE LAP DETAIL



END LAP  
For 12" Spacing of D-4 Transverse Wires

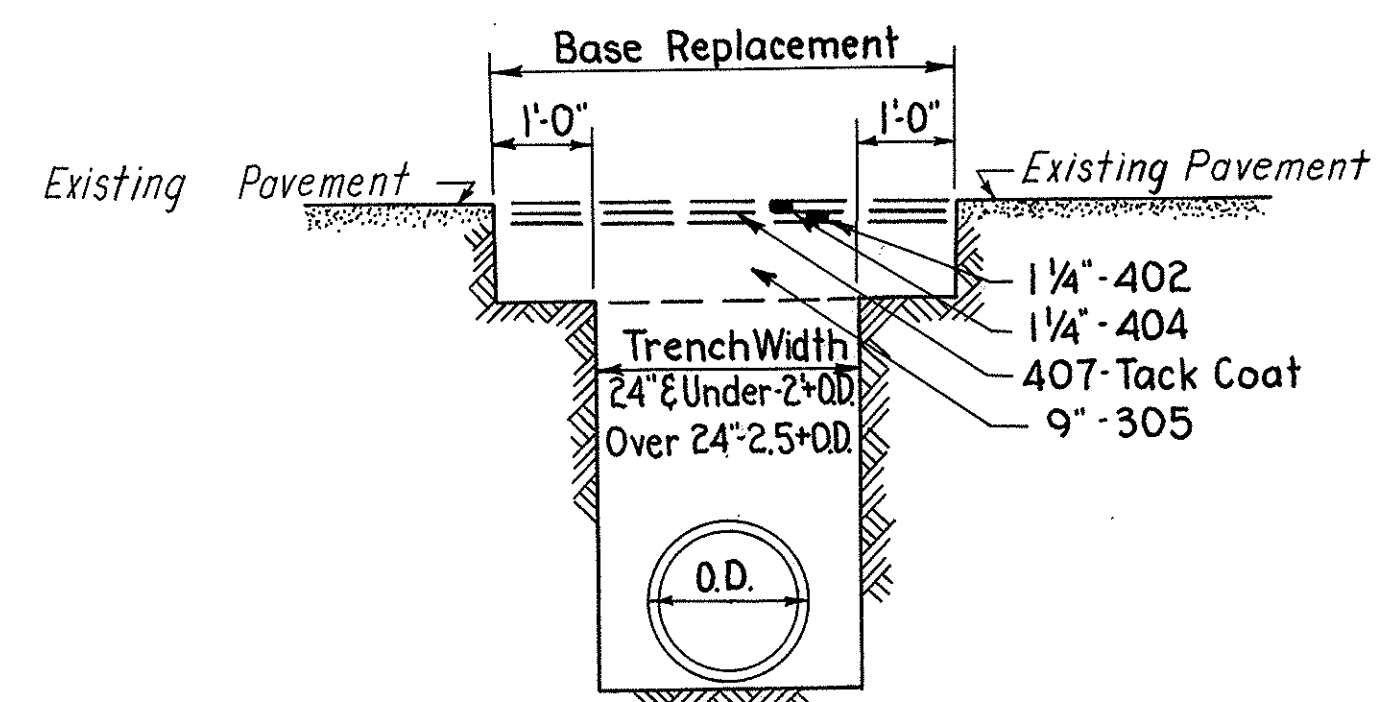


END LAP  
For 18" Spacing of D-6 Transverse Wires

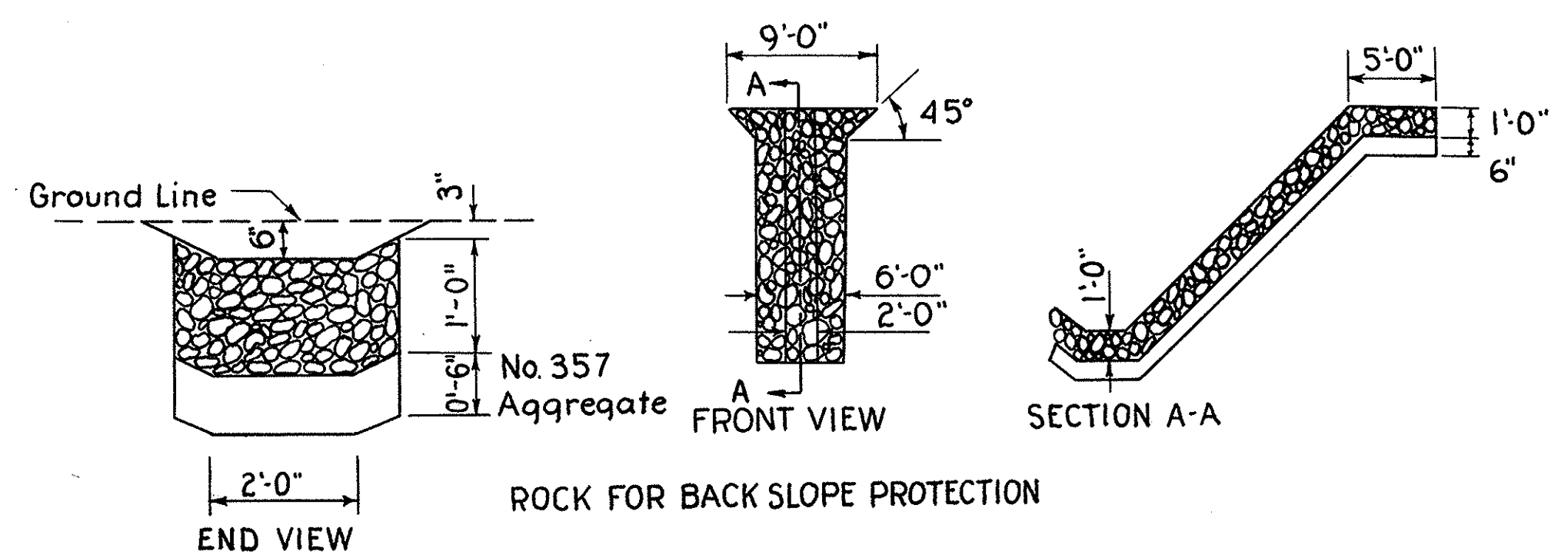
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

170  
309

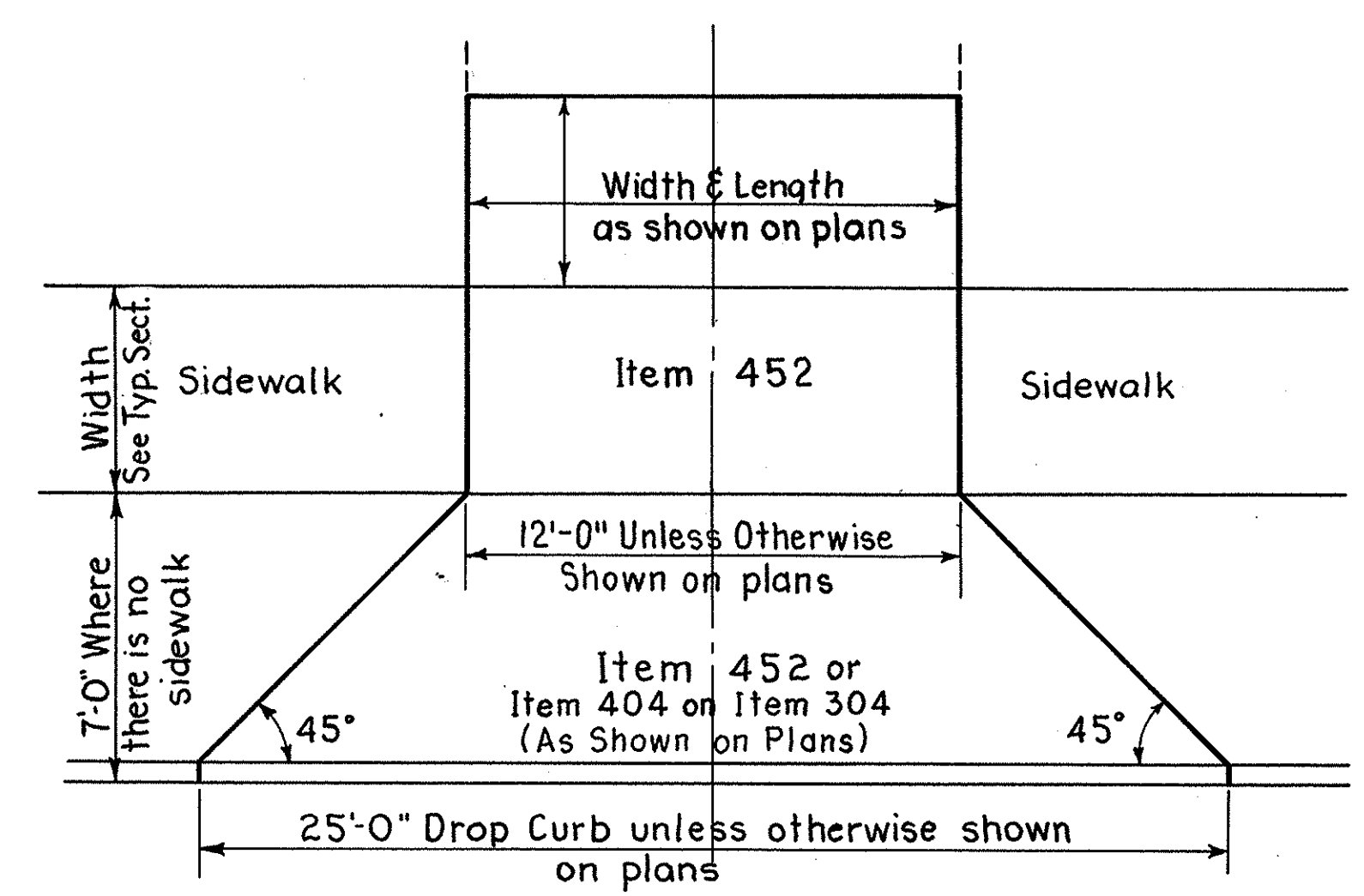
MAHONING COUNTY  
MAH-680-9.32



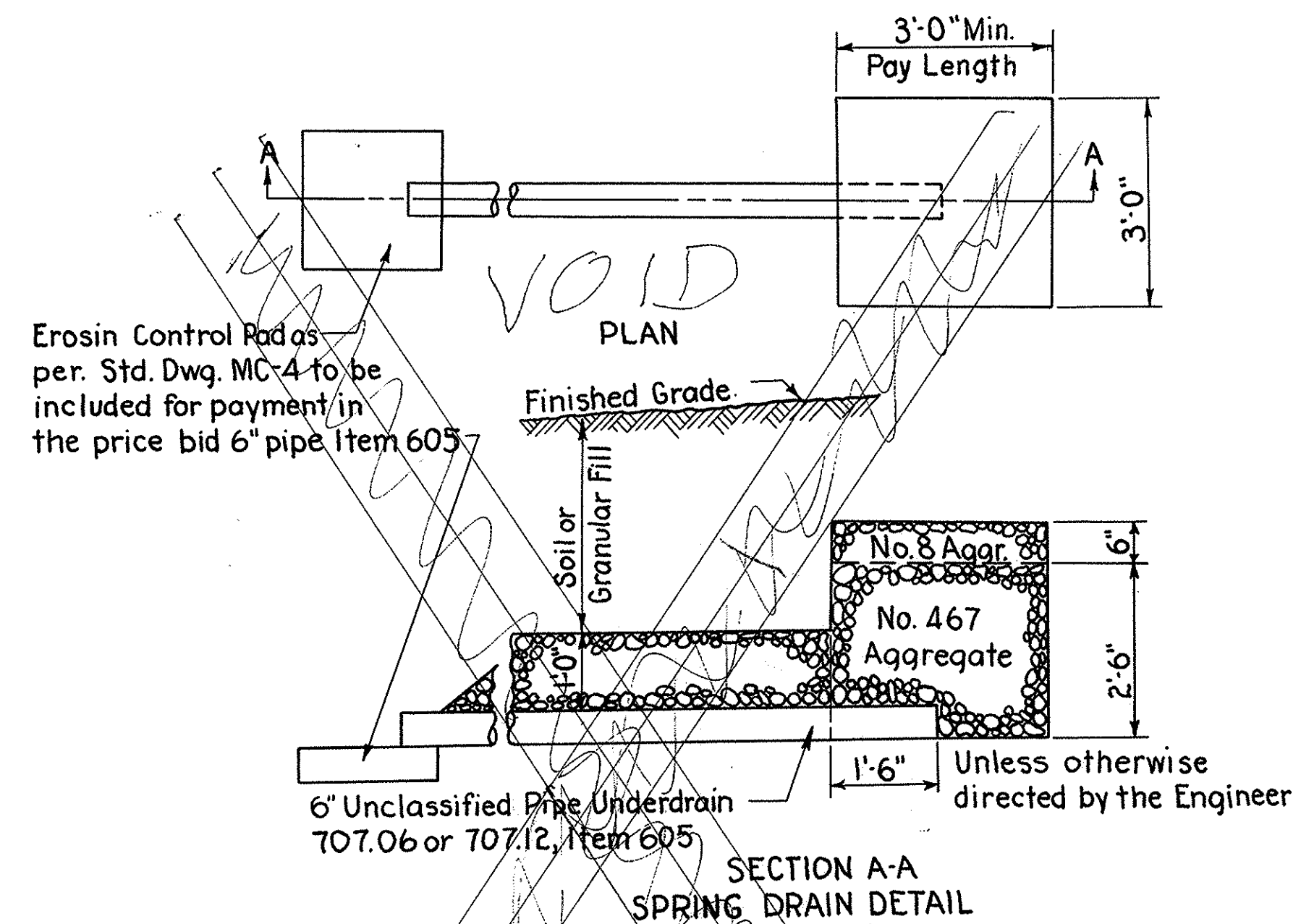
**BASE REPLACEMENT**  
(Sta. 18+67 Mathews Rd.)  
(Sta. 4+14.5 U.S. 224)  
(Sta. 7+83 U.S. 224)  
(Sta. 12+40 U.S. 224)  
(Sta. 7+70 Weston Ave.)  
(Sta. 1+75 Medford Ave.)



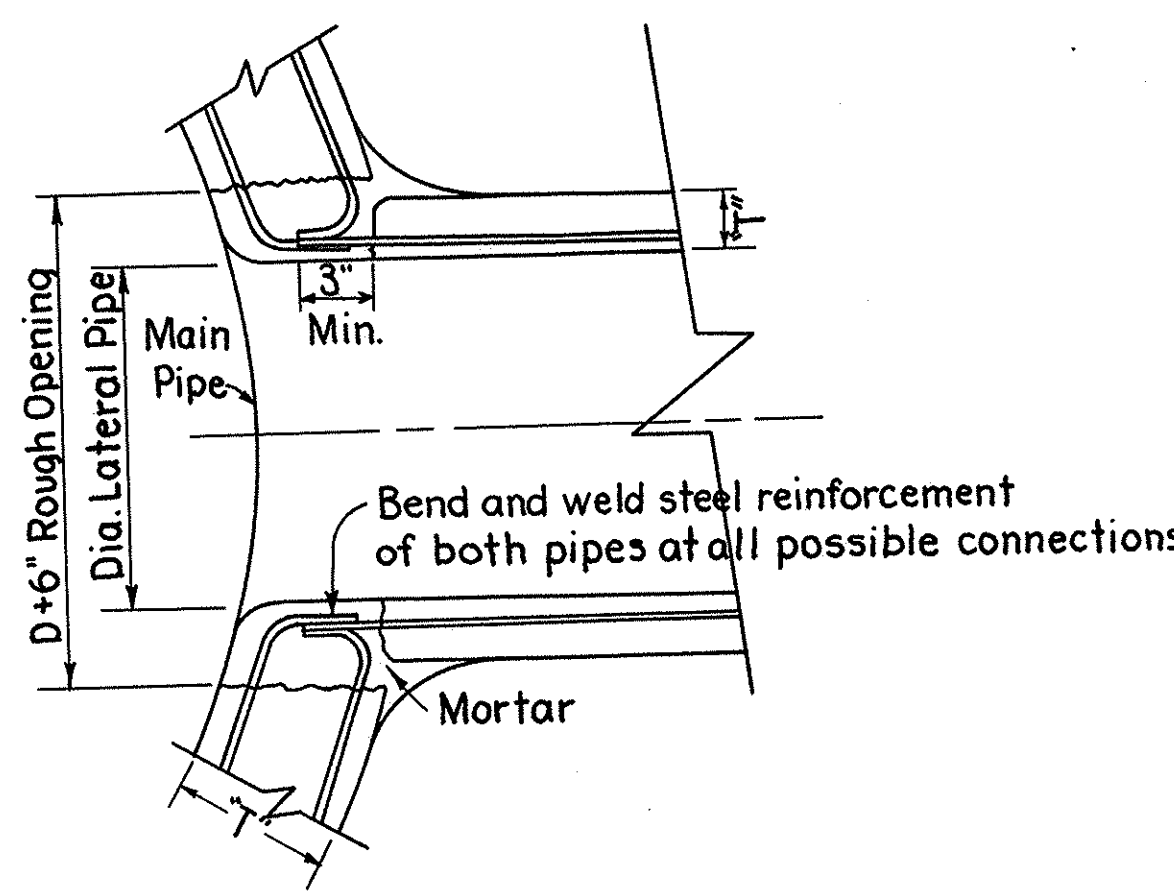
ROCK FOR BACK SLOPE PROTECTION



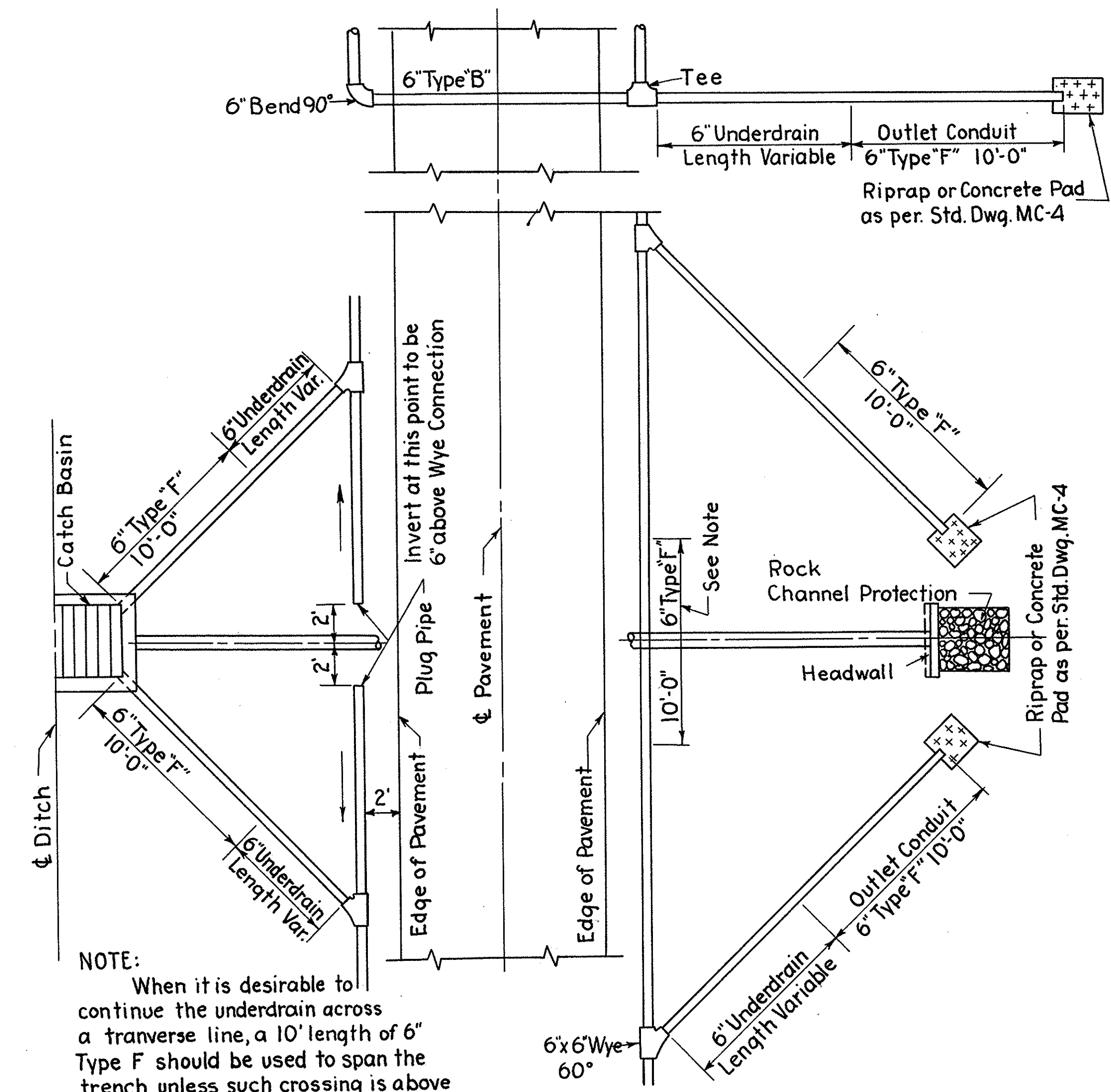
For Details Not Shown See Standard Drawing BP-6  
**CURBED DRIVE APPROACH**  
Sta. 3+00 to Sta. 14+22.51 Rt. U.S. 224  
Sta. 25+00 to Sta. 27+50 Meadow Lane Connection  
Sta. 18+32 Lt. Mathews Road  
Sta. 22+39 to Sta. 25+00 Thalia Avenue



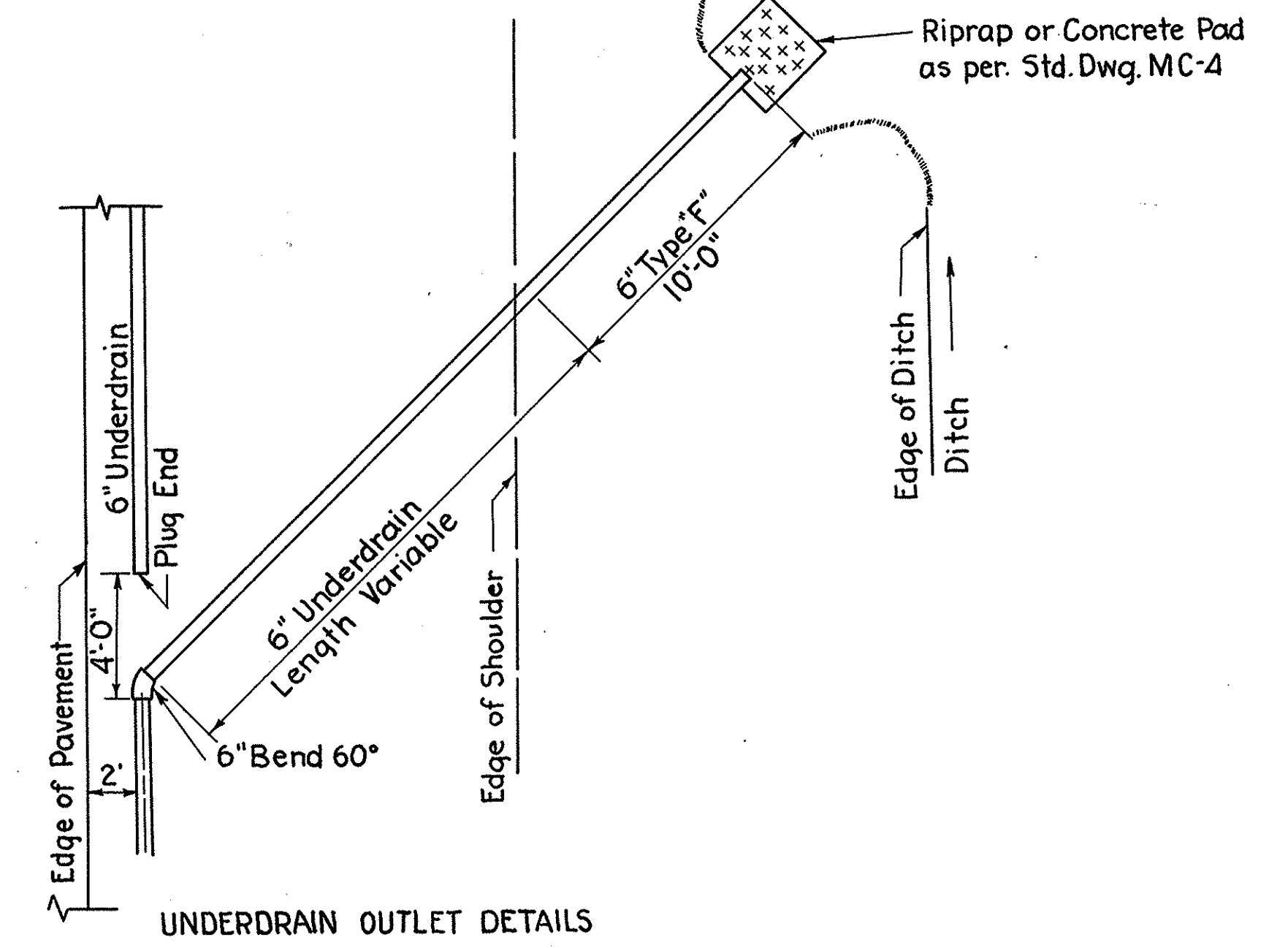
**NOTE:**  
Aggregates, tarred paper or tarred burlap and necessary excavation for spring drains shall be included for payment in the unit price bid per lineal foot for "Item 605, Aggregate Drains for Springs, as per plan." The 6" pipe 707.06 or 707.12 shall be covered with granular filter material [605.05(C)] to a height of one (1) foot above the top of the pipe. The remainder of the backfill for this item shall be soil or granular filter backfill placed in accordance 603.08. Spring drains shall be built in reasonably close conformity with the detail shown above. The lengths and exact location of the drains shall be determined by the Engineer. See note on sheet no. 10



**PRE-FABRICATED T CONNECTION**  
Sta. 493+92-86 Lt. Main Line  
Sta. 4+16-39 Rt. U.S. 224  
**Note:** Concrete for grouting shall be the same as that specified for pertinent pipe.

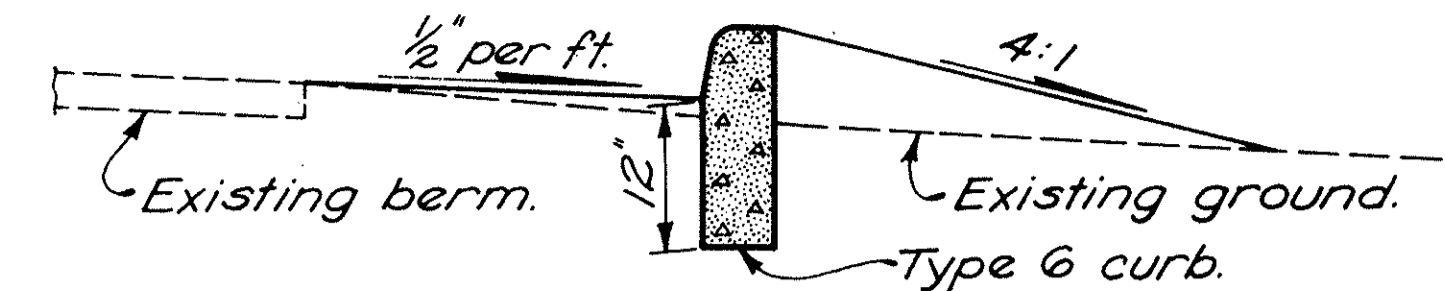


**NOTE:** When it is desirable to continue the underdrain across a transverse line, a 10' length of 6" Type F should be used to span the trench unless such crossing is above the area of granular backfill.

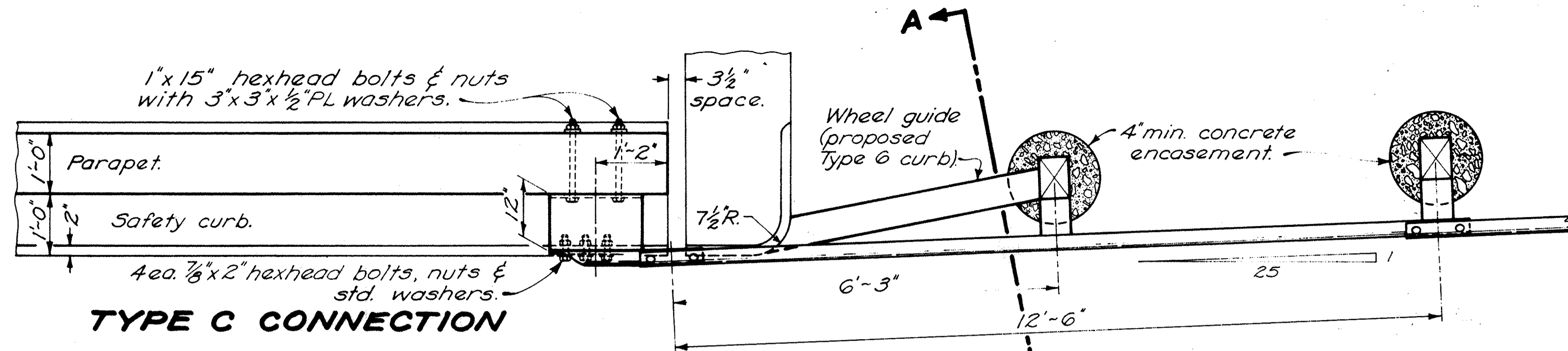


UNDERDRAIN OUTLET DETAILS

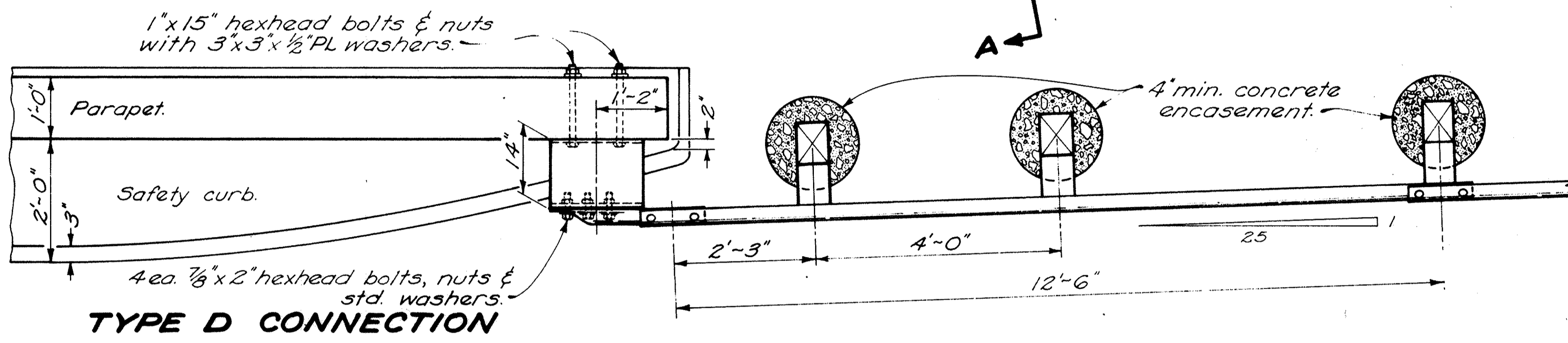
MAH-680-9.32



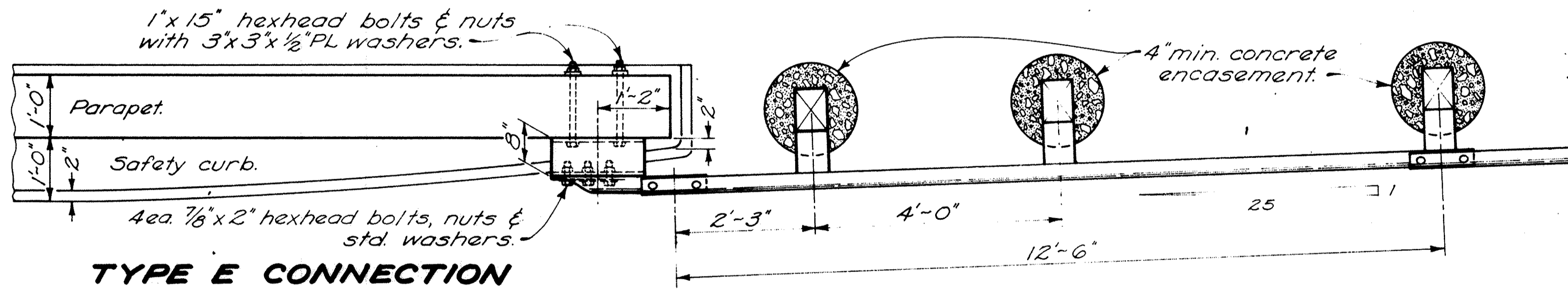
**SECTION A-A**



**TYPE C CONNECTION**

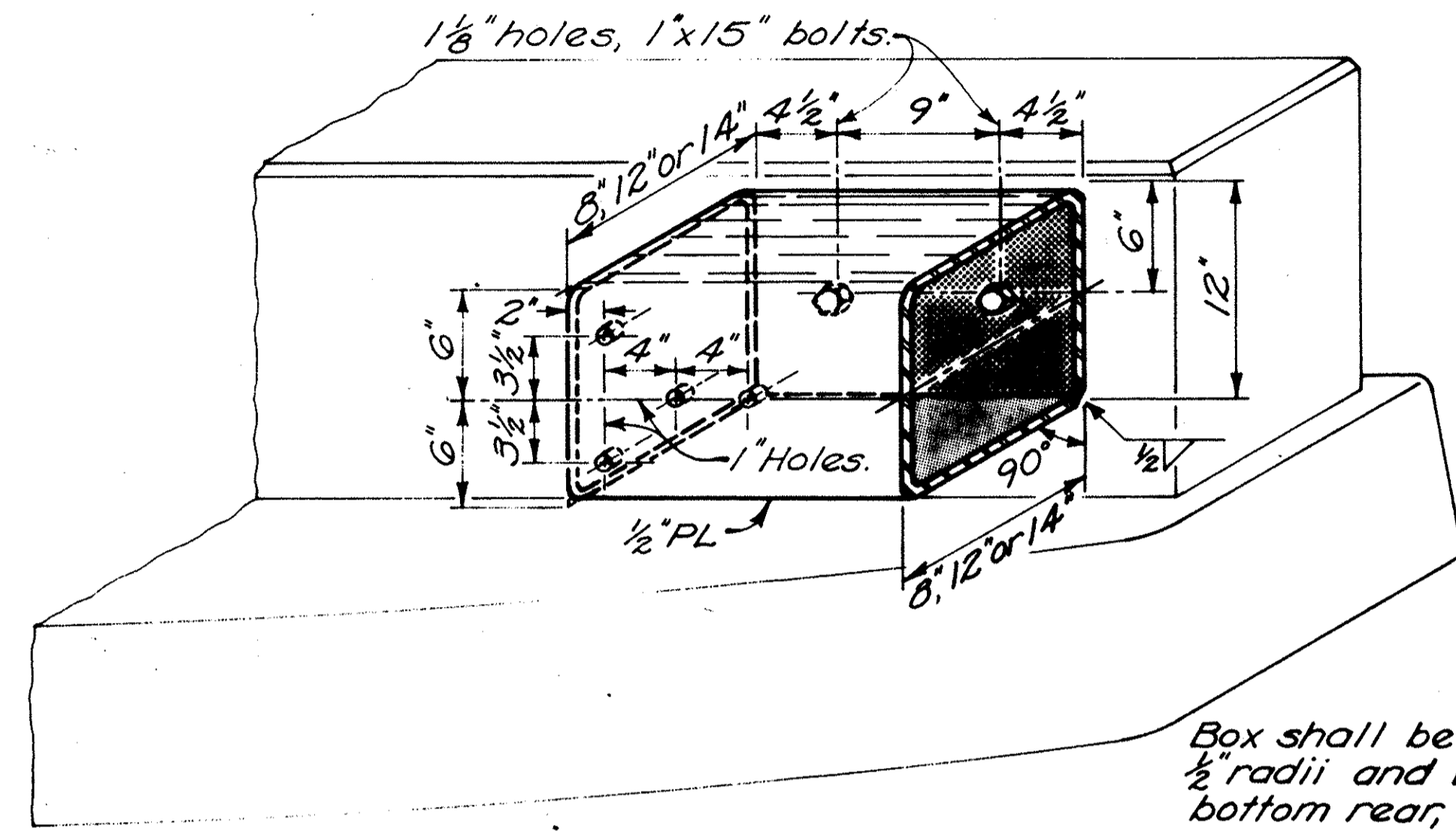


**TYPE D CONNECTION**



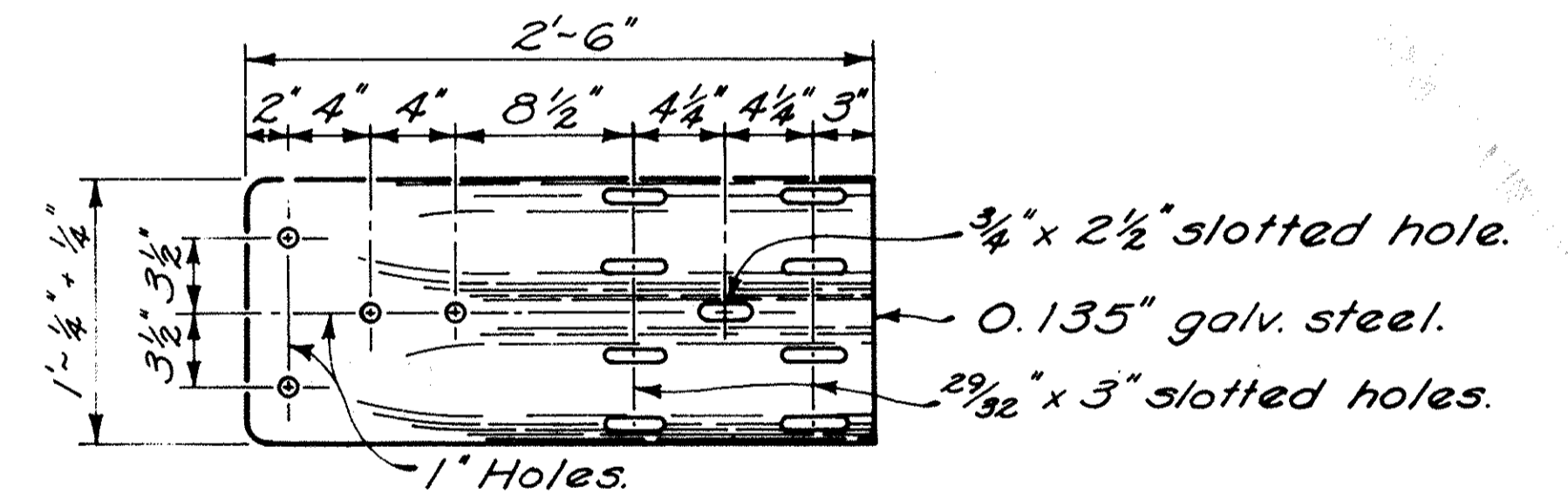
**TYPE E CONNECTION**

**APPROACH ENDS**



**STEEL BOX DETAIL**

A galv. steel box of the appropriate size (see connection type) shall be used on all approaches.



**SPECIAL END SHOE**

**NOTES**

**GENERAL:** This drawing shall govern where a conflict arises. For details not shown, see Standard Drawings GR-2B & GR-7.

All steel parts shall be galvanized in accordance with 710.06 or 710.10, whichever may apply.

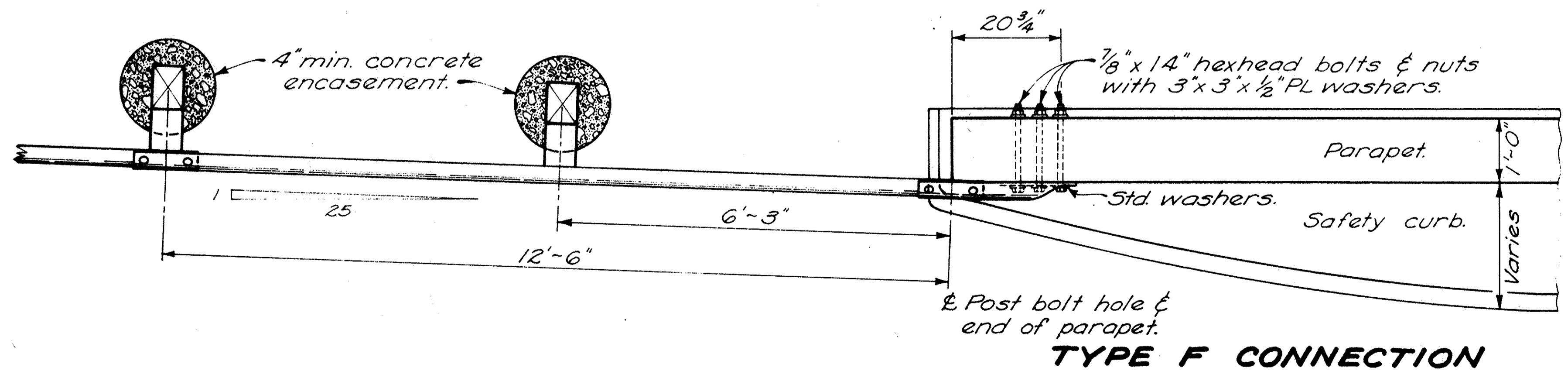
**ANCHORS:** Self-drilling anchors (of the appropriate size) may be substituted for the 1" and 7/8" hexhead bolts shown in the parapets. Anchors may be of the snap-off chuck-end type or of the flush-end type conforming to Federal Specification No. FF-5-325, Group III, Type 1(a) or (c), or Type 2.

Bolts for use with the self-drilling anchors shall be 7/8" x 1 1/2" or 1" x 2", as required.

**GUARDRAIL TERMINATION:** Dimensions locating the horizontal position of the end shoes may be increased either by design or in the field if interference with steel in the parapet requires it.

**PAYMENT:** Price bid for bridge terminal assemblies shall include the additional cost, in excess of normal guardrail cost, for steel posts, concrete encasement, steel boxes, special end shoes, self-drilling anchors, curbing and embankment.

Connections shall be paid for as G06 Bridge terminal assembly.



**TYPE F CONNECTION**

**TRAILING END**

Superseded by sheet 281A 8/15/72

# SUPERELEVATION TABLES

MAHONING COUNTY  
MAH - 680-9.32

SOUTHBOUND							
ACCEL., DECEL. LANE		MEDIAN WIDTH	24' LEFT	12' LEFT	PROFILE GRADE	E STATIONS	REMARKS
ELEVATIONS	DIST.	FEET	ELEVATIONS	ELEVATIONS	ELEVATIONS		
			1032.98	1032.98	1032.98	488+13.35	T.S. & S.T. Begin Proj.
			1032.97	1033.00	1033.02	+ 25	
			1032.95	1033.02	1033.09	+ 50	
			1032.95	1033.07	1033.19	+ 75	
			1032.95	1033.12	1033.28	489+00	
			1032.97	1033.19	1033.40	+ 25	
			1032.99	1033.25	1033.51	+ 50	V.P.T.
			1033.02	1033.33	1033.64	+ 75	
			1033.05	1033.41	1033.76	490+00	
			1033.08	1033.49	1033.89	+ 25	
		42.00	1033.11	1033.56	1034.01	+ 50	End 84' Median *
		41.75	1033.14	1033.64	1034.14	+ 75	
		41.50	1033.17	1033.72	1034.26	491+00	
		41.37	1033.19	1033.76	1034.33	+ 13.35	
		41.25	1033.21	1033.80	1034.39	+ 25	
		41.00	1033.23	1033.87	1034.51	+ 50	
		40.75	1033.27	1033.95	1034.64	+ 75	
		40.50	1033.29	1034.03	1034.76	492+00	
		40.25	1033.33	1034.11	1034.89	+ 25	
		40.00	1033.35	1034.18	1035.01	+ 50	
		39.75	1033.39	1034.26	1035.14	+ 75	
		39.50	1033.41	1034.34	1035.26	493+00	
		39.37	1033.43	1034.38	1035.33	+ 13.35	S.C. Begin F.S. :079/Ft.
		39.25	1033.49	1034.44	1035.39	+ 25	
		39.00	1033.61	1034.56	1035.51	+ 50	
		38.75	1033.74	1034.69	1035.65	+ 75	
		38.50	1033.86	1034.81	1035.76	494+00	
		38.25	1033.99	1034.94	1035.89	+ 25	
		38.00	1034.11	1035.06	1036.01	+ 50	
		37.75	1034.24	1035.19	1036.14	+ 75	
		37.50	1034.36	1035.31	1036.26	495+00	
		37.25	1034.39	1035.44	1036.39	+ 25	
		37.00	1034.61	1035.56	1036.51	+ 50	
		36.75	1034.74	1035.69	1036.64	+ 75	
		36.50	1034.86	1035.81	1036.76	496+00	
		36.25	1034.99	1035.99	1036.89	+ 25	
		36.00	1035.11	1036.06	1037.01	+ 50	
		35.75	1035.24	1036.19	1037.14	+ 75	
		35.50	1035.36	1036.31	1037.26	497+00	
		35.25	1035.49	1036.44	1037.39	+ 25	
		35.00	1035.61	1036.56	1037.51	+ 50	
		34.75	1035.74	1036.69	1037.64	+ 75	
		34.50	1035.86	1036.81	1037.76	498+00	
		34.25	1035.99	1036.94	1037.89	+ 25	
		34.00	1036.11	1037.06	1038.01	+ 50	
		33.75	1036.24	1037.19	1038.14	+ 75	
		33.50	1036.36	1037.31	1038.26	499+00	
		33.25	1036.49	1037.44	1038.39	+ 25	
		33.00	1036.61	1037.56	1038.51	+ 50	
		32.75	1036.74	1037.69	1038.64	+ 75	
		32.50	1036.86	1037.81	1038.76	500+00	
		32.25	1036.99	1037.94	1038.89	+ 25	
		32.00	1037.11	1038.06	1039.01	+ 50	
		31.75	1037.24	1038.19	1039.14	+ 75	
		31.50	1037.36	1038.31	1039.26	501+00	
		31.25	1037.49	1038.44	1039.39	+ 25	
		31.00	1037.61	1038.56	1039.51	+ 50	
		30.75	1037.74	1038.69	1039.64	+ 75	
		30.50	1037.86	1038.81	1039.76	502+00	
		30.25	1037.99	1038.94	1039.89	+ 25	
		30.00	1038.11	1039.06	1040.01	+ 50	Begin 60' Median *
			1038.24	1039.19	1040.14	+ 75	
			1038.36	1039.31	1040.26	503+00	
			1038.49	1039.44	1040.39	+ 25	
			1038.61	1039.56	1040.51	+ 50	
			1038.74	1039.69	1040.64	+ 75	
			1038.86	1039.81	1040.76	504+00	
			1038.99	1039.94	1040.89	+ 25	
			1039.11	1040.06	1041.01	+ 50	

See Intersection Detail Sheet No. 153

NORTHBOUND							
E STATIONS	PROFILE GRADE	12' RIGHT	24' RIGHT	36' RIGHT	ACCEL., DECEL. LANE		REMARKS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	DIST.	
488+13.35	1032.36	1032.36	1032.36				
+14.27	1032.36	1032.36	1032.36		1032.36	0'	T.S. & S.T.
+25	1032.38	1032.40	1032.42		1032.42	1.29'	
+50	1032.42	1032.49	1032.56		1032.58	4.29'	
+75	1032.48	1032.60	1032.71		1032.78	7.29'	
489+00	1032.54	1032.70	1032.87		1033.02	10.29'	
+14.27	1032.58	1032.77	1032.96		1033.15	12.00'	
+25	1032.61	1032.82	1033.03		1033.24		
+50	1032.69	1032.95	1033.21		1033.47		V.P.T.
+75	1032.77	1033.08	1033.08		1033.68		
490+00	1032.86	1033.21	1033.57		1033.93		
+25	1032.94	1033.34	1033.74		1034.14		
+50	1033.03	1033.48	1033.93		1034.38		End 84' Median *
+75	1033.11	1033.61	1034.10		1034.59		
491+00	1033.19	1033.73	1034.28		1034.83		
+22.45	1033.27	1033.86	1034.44		1035.03	12.00'	
+25	1033.28	1033.87	1034.46				
+50	1033.36	1034.00	1034.64				
+75	1033.45	1034.14	1034.82				
492+00	1033.53	1034.26	1035.00				
+25	1033.61	1034.39	1035.17				
+50	1033.70	1034.53	1035.36				
+75	1033.78	1034.66	1035.53				
493+00	1033.87	1034.79	1035.72				
+13.35	1033.91	1034.86	1035.81				
+25	1033.95	1034.90	1035.85				
+50	1034.03	1034.98	1035.93				S.C. Begin F.S. :079/Ft.
+75	1034.12	1035.07	1036.02				
494+00	1034.20	1035.15	1036.10				
+25	1034.29	1035.24	1036.19				
+50	1034.37	1035.32	1036.27				
+75	1034.45	1035.40	1036.35				
495+00	1034.54	1035.49	1036.44				
+25	1034.62	1035.67	1036.52				
+50	1034.71	1035.66	1036.61				
+75	1034.79	1035.74	1036.69				
496+00	1034.87	1035.82	1036.77				
+25	1034.96	1035.91	1036.86				
+50	1035.04	1035.99	1036.96				
+75	1035.13	1036.08	1037.08				
497+00	1035.21	1036.16	1037.11				
+14.27	1035.26	1036.21	1037.16				
+25	1035.29	1036.24	1037.19				
+50	1035.38	1036.33	1037.28				
+75	1035.46	1036.41	1037.36				
498+00	1035.55	1036.50	1037.45				
+25	1035.63	1036.58	1037.53				
+50	1035.71	1036.66	1037.61				
+75	1035.80	1036.75	1037.70				
499+00	1035.88	1036.83	1037.78				
+25	1035.97	1036.92	1037.87				
+50	1036.05	1037.00	1037.95				
+75	1036.13	1037.08	1038.03				
500+00	1036.22	1037.17	1038.12				
+25	1036.30	1037.25	1038.20				
+50	1036.39	1037.34	1038.29				
+75	1036.47	1037.42	1038.37				
501+00	1036.55	1037.50	1038.45				
+25	1036.64	1037.59	1038.54				
+50	1036.72	1037.67	1038.62				
+75	1036.81	1037.76	1038.71				
502+00	1036.89	1037.84	1038.79				
+25	1036.97	1037.92	1038.87				
+50	1037.06	1038.01	1038.96				Begin 60' Median *
+75	1037.14	1038.09	1039.04				
503+00	1037.23	1038.18	1039.13				
+25	1037.31	1038.26	1039.21				
+50	1037.39	1038.34	1039.29				

See Intersection Detail Sheet No. 162

\* For Variable Median Widths see Southbound this Sheet.

SOUTHBOUND & NORTHBOUND  
Superelevation Tables  
Continued on Sheet No. 173

# SUPERELEVATION TABLES

MAHONING COUNTY  
MAH - 680-9.32

SOUTHBOUND						
ACCEL., DECEL. LANE		36' LEFT	24' LEFT	12' LEFT	PROFILE GRADE	REMARKS
ELEVATIONS	DIST.	ELEVATIONS	ELEVATIONS	ELEVATIONS	STATIONS	
			1039.24	1040.19	1041.14	504+75
			1039.36	1040.31	1041.26	505+00
			1039.49	1040.44	1041.39	+25
			1039.61	1040.56	1041.51	+50
			1039.71	1040.66	1041.61	+70 V.P.C.
			1039.74	1040.69	1041.64	+75
			1039.86	1040.81	1041.76	506+00
			1040.00	1040.95	1041.90	+25
			1040.14	1041.09	1042.04	+50
			1040.28	1041.23	1042.18	+73.02
			1040.29	1041.24	1042.19	+75
			1040.43	1041.38	1042.33	507+00
			1040.59	1041.54	1042.49	+25
			1040.75	1041.70	1042.65	+50
			1040.92	1041.87	1042.82	+75
			1041.09	1042.04	1042.99	508+00
			1041.27	1042.22	1043.17	+25
			1041.45	1042.40	1043.35	+50
			1041.64	1042.59	1043.54	+75
			1041.83	1042.78	1043.73	509+00
			1042.03	1042.98	1043.93	+25
			1042.23	1043.18	1044.13	+50
			1042.44	1043.39	1044.34	+75
			1042.65	1043.60	1044.55	510+00
			1042.88	1043.83	1044.78	+25
			1043.10	1044.05	1045.00	+50
			1043.33	1044.28	1045.23	+75
		1042.62	1043.57	1044.52	1045.47	511+00
		1042.86	1043.81	1044.76	1045.71	+25
		1043.10	1044.05	1045.00	1045.95	+50
		1043.36	1044.31	1045.26	1046.21	+75
		1043.61	1044.56	1045.51	1046.46	512+00
		1043.86	1044.83	1045.78	1046.73	+25
		1043.99	1044.94	1045.89	1046.84	+35 V.P.I.
		1044.15	1045.10	1046.05	1047.00	+50
		1044.43	1045.38	1046.33	1047.28	+75
		1044.71	1045.66	1046.61	1047.56	513+00
		1044.99	1045.94	1046.89	1047.84	+25
		1045.28	1046.23	1047.18	1048.13	+50
		1045.57	1046.52	1047.47	1048.42	+75
		1045.87	1046.82	1047.77	1048.72	514+00
		1046.18	1047.13	1048.08	1049.03	+25
		1046.49	1047.44	1048.39	1049.34	+50
		1046.81	1047.76	1048.71	1049.66	+75
		1047.13	1048.08	1049.03	1049.98	515+00
		1047.45	1048.40	1049.35	1050.30	+25
		1047.79	1048.74	1049.69	1050.64	+50
		1048.12	1049.07	1050.02	1050.97	+75
		1048.47	1049.42	1050.37	1051.32	516+00
		1048.81	1049.76	1050.71	1051.66	+25
		1049.17	1050.12	1051.07	1052.02	+50
		1049.53	1050.48	1051.43	1052.38	+75
		1049.90	1050.85	1051.80	1052.75	517+00
		1050.27	1051.22	1052.17	1053.12	+25
		1050.65	1051.60	1052.55	1053.50	+50
		1051.03	1051.98	1052.93	1053.88	+75
		1051.41	1052.36	1053.31	1054.26	518+00
		1051.80	1052.75	1053.70	1054.65	+25
		1052.20	1053.15	1054.10	1055.05	+50
		1052.60	1053.55	1054.50	1055.45	+75
		1053.01	1053.96	1054.91	1055.86	519+00 V.P.T. & V.P.C.

See Intersection Detail Sheet No. 163

See Intersection Detail Sheet No. 164

NORTHBOUND							
STATIONS	PROFILE GRADE	12' RIGHT	24' RIGHT	36' RIGHT	ACCEL., DECEL. LANE		REMARKS
	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	DIST.	
503+75	1037.48	1038.43	1039.38				
504+00	1037.56	1038.51	1039.46				
+25	1037.65	1038.60	1039.55				
+50	1037.73	1038.68	1039.63				
+62.88	1037.77	1038.72	1039.67				
+75	1037.81	1038.76	1039.71				
505+00	1037.90	1038.85	1039.80				
+25	1037.98	1038.93	1039.88				
+50	1038.07	1039.02	1039.97				
+75	1038.15	1039.10	1040.05				
506+00	1038.23	1039.18	1040.13				
+25	1038.32	1039.27	1040.22				
+35	1038.35	1039.30	1040.25				
+50	1038.40	1039.35	1040.30				
+73.02	1038.50	1039.45	1040.40				
+75	1038.51	1039.46	1040.41				
507+00	1038.63	1039.58	1040.53				
+25	1038.76	1039.71	1040.66				
+50	1038.91	1039.86	1040.81				
+75	1039.08	1040.03	1040.98				
508+00	1039.27	1040.22	1041.17				
+25	1039.46	1040.41	1041.36				
+50	1039.67	1040.62	1041.57				
+75	1039.91	1040.86	1041.81				
+85	1040.01	1040.96	1041.91				
509+00	1040.16	1041.11	1042.06				
+25	1040.43	1041.38	1042.33				
+50	1040.71	1041.66	1042.61				
+75	1041.00	1041.95	1042.90				
510+00	1041.32	1042.27	1043.22				
+25	1041.65	1042.60	1043.55				
+50	1041.99	1042.94	1043.89				
+75	1042.36	1043.31	1044.26				
+86.88	1042.48	1043.43	1044.38				
511+00	1042.74	1043.69	1044.64	1045.59			
+25	1043.13	1044.08	1045.03	1045.98			
+35	1043.30	1044.25	1045.20	1046.15			
+50	1043.54	1044.49	1045.44	1046.39			
+75	1043.95	1044.90	1045.85	1046.80			
512+00	1044.37	1045.32	1046.27	1047.22			
+25	1044.78	1045.73	1046.68	1047.63			
+35	1044.94	1045.89	1046.84	1047.79			
+50	1045.19	1046.14	1047.09	1048.04			
+75	1045.60	1046.55	1047.50	1048.45			
513+00	1046.01	1046.96	1047.91	1048.86			
+25	1046.42	1047.37	1048.32	1049.27			
+50	1046.83	1047.78	1048.73	1049.68			
+75	1047.24	1048.19	1049.14	1050.09			
514+00	1047.65	1048.60	1049.55	1050.50			
+25	1048.06	1049.01	1049.96	1050.91			
+50	1048.47	1049.42	1050.37	1051.32			
+75	1048.88	1049.83	1050.78	1051.73			
515+00	1049.29	1050.24	1051.19	1052.14			
+25	1049.70	1050.65	1051.60	1052.55			
+50	1050.11	1051.06	1052.01	1052.96			
+75	1050.52	1051.47	1052.42	1053.37			
516+00	1050.93	1051.88	1052.83	1053.78	1055.35	25.00'	Nose Point
+25	1051.34	1052.29	1053.24	1054.19	1056.09	23.96'	
+50	1051.75	1052.70	1053.65	1054.60	1056.46	23.44'	
+75	1052.16	1053.11	1054.06	1055.01	1056.82	22.92'	
517+00	1052.58	1053.53	1054.48	1055.43	1057.20	22.40'	
+25	1052.99	1053.94	1054.89	1055.84	1057.57	21.88'	
+50	1053.40	1054.35	1055.30	1056.25	1057.94	21.35'	
+75	1053.81	1054.76	1055.71	1056.66	1058.31	20.83'	
518+00	1054.22	1055.17	1056.12	1057.07	1058.68	20.31'	
+25	1054.63	1055.58	1056.53	1057.48	1059.05	19.79'	
+50	1055.04	1055.99	1056.94	1057.89	1059.42	19.27'	
+75	1055.45	1056.40	1057.35	1058.30	1059.78	18.75'	
519+00	1055.86	1056.81	1057.76	1058.71	1060.15	18.23'	V.P.C.

See Intersection Detail Sheet No. 165

SOUTHBOUND & NORTHBOUND  
Superelevation Tables  
Continued on Sheet No. 174



SUPERELEVATION TABLES

Table with columns: SOUTHBOUND (ACCEL., DECEL. LANE, 36' LEFT, 24' LEFT, 12' LEFT, PROFILE GRADE), STATIONS, NORTHBOUND (PROFILE GRADE, 12' RIGHT, 24' RIGHT, 36' RIGHT, ACCEL., DECEL. LANE), REMARKS. Contains elevation data for stations 519+25 to 1079.29.

SOUTHBOUND & NORTHBOUND Superelevation Tables Continued on Sheet No. 175

# SUPERELEVATION TABLES

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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MAHONING COUNTY  
MAH - 680-9.32

SOUTHBOUND						NORTHBOUND					REMARKS		
ACCEL., DECEL. LANE		36' LEFT	24' LEFT	12' LEFT	PROFILE GRADE	℄ STATIONS	PROFILE GRADE	12' RIGHT	24' RIGHT	36' RIGHT		ACCEL., DECEL. LANE	
ELEVATIONS	DIST.	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS		ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS		ELEVATIONS	DIST.
		1079.60	1079.10	1078.60	1078.10	535 + 75	1078.10	1077.60	1077.10	1076.60			
		1079.92	1079.42	1078.92	1078.42	536 + 00	1078.42	1077.92	1077.42	1076.92			
		1080.23	1079.73	1079.23	1078.73	+ 25	1078.73	1077.23	1077.73	1077.23			
		1080.55	1080.05	1079.55	1079.05	+ 50	1079.05	1078.55	1078.05	1077.55			
		1080.86	1080.36	1079.86	1079.36	+ 75	1079.36	1078.86	1078.36	1077.86			
		1081.18	1080.68	1080.18	1079.68	537 + 00	1079.68	1079.18	1078.68	1078.18			
		1081.49	1080.99	1080.49	1079.99	+ 25	1079.99	1079.49	1078.99	1078.49			
		1081.80	1081.30	1080.80	1080.30	+ 50	1080.30	1079.80	1079.30	1078.80			
		1082.12	1081.62	1081.12	1080.62	+ 75	1080.62	1080.12	1079.62	1079.12			
		1082.43	1081.93	1081.43	1080.93	538 + 00	1080.93	1080.43	1079.93	1079.43			
		1082.75	1082.25	1081.75	1081.25	+ 25	1081.25	1080.75	1080.25	1079.75			
		1083.06	1082.56	1082.06	1081.56	+ 50	1081.56	1081.06	1080.56	1080.06			
		1083.38	1082.88	1082.38	1081.88	+ 75	1081.88	1081.38	1080.88	1080.38			
		1083.69	1083.19	1082.69	1082.19	539 + 00	1082.19	1081.69	1081.19	1080.69			
		1084.01	1083.51	1083.01	1082.51	+ 25	1082.51	1082.01	1081.51	1081.01			
		1084.32	1083.82	1083.32	1082.82	+ 50	1082.82	1082.32	1081.82	1081.32			
		1084.64	1084.14	1083.64	1083.14	+ 75	1083.14	1082.64	1082.14	1081.64			
		1084.95	1084.45	1083.95	1083.45	540 + 00	1083.45	1082.95	1082.45	1081.95			
		1085.27	1084.77	1084.27	1083.77	+ 25	1083.77	1083.27	1082.77	1082.27			
		1085.58	1085.08	1084.58	1084.08	+ 50	1084.08	1083.58	1083.08	1082.58			
		1085.90	1085.40	1084.90	1084.40	+ 75	1084.40	1083.90	1083.40	1082.90			
		1086.21	1085.71	1085.21	1084.71	541 + 00	1084.71	1084.21	1083.71	1083.21			
		1086.53	1086.03	1085.53	1085.03	+ 25	1085.03	1084.53	1084.03	1083.53			
		1086.84	1086.34	1085.84	1085.34	+ 50	1085.34	1084.84	1084.34	1083.84			
		1087.16	1086.66	1086.16	1085.66	+ 75	1085.66	1085.16	1084.66	1084.16			
		1087.47	1086.97	1086.47	1085.97	542 + 00	1085.97	1085.47	1084.97	1084.47			
		1087.78	1087.28	1086.78	1086.28	+ 25	1086.28	1085.78	1085.28	1084.78			
		1088.10	1087.60	1087.10	1086.60	+ 50	1086.60	1086.10	1085.60	1085.10			
		1088.41	1087.91	1087.41	1086.91	+ 75	1086.91	1086.41	1085.91	1085.41			
		1088.73	1088.23	1087.73	1087.23	543 + 00	1087.23	1086.73	1086.23	1085.73			
		1089.04	1088.54	1088.04	1087.54	+ 25	1087.54	1087.04	1086.54	1086.04			
		1089.36	1088.86	1088.36	1087.86	+ 50	1087.86	1087.36	1086.86	1086.36			
		1089.67	1089.17	1088.67	1088.17	+ 75	1088.17	1087.67	1087.17	1086.67			
		1089.99	1089.49	1088.99	1088.49	544 + 00	1088.49	1087.99	1087.49	1086.99			
		1090.30	1089.80	1089.30	1088.80	+ 25	1088.80	1088.30	1087.80	1087.30			
		1090.62	1090.12	1089.62	1089.12	+ 50	1089.12	1088.62	1088.12	1087.62			
		1090.93	1090.43	1089.93	1089.43	+ 75	1089.43	1088.93	1088.43	1087.93			
		1091.25	1090.75	1090.25	1089.75	545 + 00	1089.75	1089.25	1088.75	1088.25			
		1091.56	1091.06	1090.56	1090.06	+ 25	1090.06	1089.56	1089.06	1088.56			
		1091.88	1091.38	1090.88	1090.38	+ 50	1090.38	1089.88	1089.38	1088.88			
		1092.19	1091.69	1091.19	1090.69	+ 75	1090.69	1090.19	1089.69	1089.19			
		1092.51	1092.01	1091.51	1091.01	546 + 00	1091.01	1090.51	1090.01	1089.51			
		1092.82	1092.32	1091.82	1091.32	+ 25	1091.32	1090.82	1090.32	1089.82			
		1093.14	1092.64	1092.14	1091.64	+ 50	1091.64	1091.14	1090.64	1090.14		V.P.C. - S.B. & N.B.	
		1093.45	1092.95	1092.45	1091.95	+ 75	1091.95	1091.45	1090.95	1090.45			
		1093.75	1093.25	1092.75	1092.25	547 + 00	1092.25	1091.75	1091.25	1090.75			
		1094.04	1093.54	1093.04	1092.54	+ 25	1092.54	1092.04	1091.54	1091.04			
		1094.33	1093.83	1093.33	1092.83	+ 50	1092.83	1092.33	1091.83	1091.33			
		1094.61	1094.11	1093.61	1093.11	+ 75	1093.11	1092.61	1092.11	1091.61			
		1094.87	1094.37	1093.87	1093.37	548 + 00	1093.37	1092.87	1092.37	1091.87			
		1095.14	1094.64	1094.14	1093.64	+ 25	1093.64	1093.14	1092.64	1092.14			
		1095.39	1094.89	1094.39	1093.89	+ 50	1093.89	1093.39	1092.89	1092.39			
		1095.64	1095.14	1094.64	1094.14	+ 75	1094.14	1093.64	1093.14	1092.64			
		1095.87	1095.37	1094.87	1094.37	549 + 00	1094.37	1093.87	1093.37	1092.87			
		1096.11	1095.61	1095.11	1094.61	+ 25	1094.61	1094.11	1093.61	1093.11			
		1096.33	1095.83	1095.33	1094.83	+ 50	1094.83	1094.33	1093.83	1093.33			
		1096.54	1096.04	1095.54	1095.04	+ 75	1095.04	1094.54	1094.04	1093.54			
		1096.75	1096.25	1095.75	1095.25	550 + 00	1095.25	1094.75	1094.25	1093.75			
		1096.95	1096.45	1095.95	1095.45	+ 25	1095.45	1094.95	1094.45	1093.95			
		1097.13	1096.63	1096.13	1095.63	+ 50	1095.63	1095.13	1094.63	1094.13			
		1097.32	1096.82	1096.32	1095.82	+ 75	1095.82	1095.32	1094.82	1094.32			
		1097.49	1096.99	1096.49	1095.99	551 + 00	1095.99	1095.49	1094.99	1094.49			
		1097.66	1097.16	1096.66	1096.16	+ 25	1096.16	1095.66	1095.16	1094.66			
		1097.81	1097.31	1096.81	1096.31	+ 50	1096.31	1095.81	1095.31	1094.81			
		1097.96	1097.46	1096.96	1096.46	+ 75	1096.46	1095.96	1095.46	1094.96			
		1098.10	1097.60	1097.10	1096.60	552 + 00	1096.60	1096.10	1095.60	1095.10			
		1098.23	1097.73	1097.23	1096.73	+ 25	1096.73	1096.23	1095.73	1095.23			
		1098.36	1097.86	1097.36	1096.86	+ 50	1096.86	1096.36	1095.86	1095.36			
		1098.47	1097.97	1097.47	1096.97	+ 75	1096.97	1096.47	1095.97	1095.47			
		1098.58	1098.08	1097.58	1097.08	553 + 00	1097.08	1096.58	1096.08	1095.58			
		1098.68	1098.18	1097.68	1097.18	+ 25	1097.18	1096.68	1096.18	1095.68			
		1098.77	1098.27	1097.77	1097.27	+ 50	1097.27	1096.77	1096.27	1095.77			
		1098.85	1098.35	1097.85	1097.35	+ 75	1097.35	1096.85	1096.35	1095.85			

SUPERELEVATION TABLES  
 SOUTHBOUND  
 Superelevation  
 No. 119  
 Continued on

# SUPERELEVATION TABLES

FED. RD. DIVISION	STATE	PROJECT	176
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MAHONING COUNTY  
MAH - 680-9.32

SOUTHBOUND					NORTHBOUND								
ACCEL., DECEL. LANE		36' LEFT	24' LEFT	12' LEFT	PROFILE GRADE	± STATIONS	PROFILE GRADE	12' RIGHT	24' RIGHT	36' RIGHT	ACCEL., DECEL. LANE		REMARKS
ELEVATIONS	DIST.	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS		ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	DIST.	
		1098.93	1098.43	1097.93	1097.43	554+00	1097.43	1096.93	1096.43	1095.93			
		1098.99	1098.49	1097.99	1097.49	+25	1097.49	1096.99	1096.49	1095.99			
		1099.06	1098.56	1098.06	1097.56	+50	1097.56	1097.06	1096.56	1096.06			
		1099.11	1098.61	1098.11	1097.61	+75	1097.61	1097.11	1096.61	1096.11			
		1099.15	1098.65	1098.15	1097.65	555+00	1097.65	1097.15	1096.65	1096.15			V.P.I. - S.B. & N.B.
		1099.19	1098.69	1098.19	1097.69	+25	1097.69	1097.19	1096.69	1096.19			
		1099.22	1098.72	1098.22	1097.72	+50	1097.72	1097.22	1096.72	1096.22			
		1099.23	1098.73	1098.23	1097.73	+75	1097.73	1097.23	1096.73	1096.23			
		1099.24	1098.74	1098.24	1097.74	556+00	1097.74	1097.24	1096.74	1096.24			
		1099.25	1098.75	1098.25	1097.75	+25	1097.75	1097.25	1096.75	1096.25			
		1099.24	1098.74	1098.24	1097.74	+50	1097.74	1097.24	1096.74	1096.24			
		1099.23	1098.73	1098.23	1097.73	+75	1097.73	1097.23	1096.73	1096.23			
		1099.21	1098.71	1098.21	1097.71	557+00	1097.71	1097.21	1096.71	1096.21			
		1099.18	1098.68	1098.18	1097.68	+25	1097.68	1097.18	1096.68	1096.18			
		1099.15	1098.65	1098.15	1097.65	+50	1097.65	1097.15	1096.65	1096.15			
		1099.10	1098.60	1098.10	1097.60	+75	1097.60	1097.10	1096.60	1096.10			
		1099.04	1098.54	1098.04	1097.54	558+00	1097.54	1097.04	1096.54	1096.04			
		1099.98	1098.48	1097.98	1097.48	+25	1097.48	1096.98	1096.48	1095.98			
		1098.91	1098.41	1097.91	1097.41	+50	1097.41	1096.91	1096.41	1095.91			
		1098.83	1098.33	1097.83	1097.33	+75	1097.33	1096.83	1096.33	1095.83			
		1098.75	1098.25	1097.75	1097.25	559+00	1097.25	1096.75	1096.25	1095.75			
		1098.65	1098.15	1097.65	1097.15	+25	1097.15	1096.65	1096.15	1095.65			
		1098.54	1098.04	1097.54	1097.04	+50	1097.04	1096.54	1096.04	1095.54			
		1098.44	1097.94	1097.44	1096.94	+75	1096.94	1096.44	1095.94	1095.44			
		1098.32	1097.82	1097.32	1096.82	560+00	1096.82	1096.32	1095.82	1095.32			
		1098.18	1097.68	1097.18	1096.68	+25	1096.68	1096.18	1095.68	1095.18			
		1098.06	1097.56	1097.06	1096.56	+50	1096.56	1096.06	1095.56	1095.06			
		1097.91	1097.41	1096.91	1096.41	+75	1096.41	1095.91	1095.41	1094.91			
		1097.75	1097.25	1096.75	1096.25	561+00	1096.25	1095.75	1095.25	1094.75			
		1097.60	1097.10	1096.60	1096.10	+25	1096.10	1095.60	1095.10	1094.60			
		1097.43	1096.93	1096.43	1095.93	+50	1095.93	1095.43	1094.93	1094.43			
		1097.25	1096.75	1096.25	1095.75	+75	1095.75	1095.25	1094.75	1094.25			
		1097.07	1096.57	1096.07	1095.57	562+00	1095.57	1095.07	1094.57	1094.07			
		1096.90	1096.40	1095.90	1095.40	+22.50	1095.40	1094.90	1094.40	1093.90			
		1096.88	1096.38	1095.88	1095.38	+25	1095.38	1094.88	1094.38	1093.88			
		1096.88	1096.38	1095.88	1095.38	+25.27	1095.38	1094.88	1094.38	1093.88			End F.S. - S.B. & N.B.
		1096.57	1096.11	1095.65	1095.19	+50	1095.19	1094.73	1094.27	1093.81			
		1096.22	1095.80	1095.39	1094.97	+75	1094.97	1094.55	1094.14	1093.72			
		1095.88	1095.50	1095.13	1094.75	563+00	1094.75	1094.37	1094.00	1093.62			
		1095.54	1095.21	1094.87	1094.54	+25	1094.54	1094.21	1093.87	1093.54			
		1095.18	1094.88	1094.59	1094.30	+50	1094.30	1094.01	1093.72	1093.42			V.P.T. - S.B. & N.B.
		1094.81	1094.56	1094.31	1094.06	+75	1094.06	1093.81	1093.56	1093.31			
		1094.81	1094.56	1094.31	1094.06	+75.27	1094.06	1093.81	1093.56	1093.31			H.P.T. - S.B. & N.B.
		1094.46	1094.25	1094.04	1093.83	564+00	1093.83	1093.62	1093.41	1093.20			
		1094.29	1094.10	1093.91	1093.72	+11.27	1093.72	1093.53	1093.34	1093.15			Plane Crown - S.B. & N.B.
		1094.09	1093.97	1093.78	1093.59	+25	1093.59	1093.43	1093.28	1093.09			
		1093.74	1093.74	1093.55	1093.36	+49.27	1093.36	1093.27	1093.17	1092.98			Flat Outside - Southbound
		1093.73	1093.73	1093.54	1093.35	+50	1093.35	1093.26	1093.16	1092.97			
		1093.44	1093.50	1093.31	1093.12	+75	1093.12	1093.09	1093.06	1092.87			
		1093.28	1093.38	1093.19	1093.00	+87.27	1093.00	1093.00	1093.00	1092.81			Flat Inside & Center - Northbound
		1093.13	1093.26	1093.07	1092.88	565+00	1092.88	1092.91	1092.94	1092.75			
		1092.83	1093.02	1092.83	1092.64	+25	1092.64	1092.73	1092.83	1092.64			
		1092.83	1093.02	1092.83	1092.64	+25.27	1092.64	1092.74	1092.83	1092.64			Begin N.C. - Southbound
		1092.60	1092.79	1092.60	1092.41	+50	1092.41	1092.54	1092.66	1092.47			
		1092.36	1092.55	1092.36	1092.17	+75	1092.17	1092.33	1092.48	1092.29			
		1092.12	1092.31	1092.12	1091.93	566+00	1091.93	1092.12	1092.31	1092.12			
		1092.11	1092.30	1092.11	1091.92	+01.27	1091.92	1092.11	1092.30	1092.11			Begin N.C. - Northbound
		1091.89	1092.08	1091.89	1091.70	+25	1091.70	1091.89	1092.08	1091.89			
		1091.65	1091.84	1091.65	1091.46	+50	1091.46	1091.65	1091.84	1091.65			
		1091.41	1091.60	1091.41	1091.22	+75	1091.22	1091.41	1091.60	1091.41			
		1091.18	1091.37	1091.18	1090.99	567+00	1090.99	1091.18	1091.37	1091.18			
1045.38	10.42'	1045.54	1045.73	1045.54	1045.35	621+00	1045.35	1045.54	1045.73	1045.54			
1045.25	10.94'	1045.42	1045.61	1045.42	1045.23	+25	1045.23	1045.42	1045.61	1045.42			
1045.12	11.46'	1045.30	1045.49	1045.30	1045.11	+50	1045.11	1045.30	1045.49	1045.30			
1045.07	11.67'	1045.25	1045.44	1045.25	1045.06	+60.02	1045.06	1045.25	1045.44	1045.25			End N.C. - Northbound
1044.99	11.98'	1045.18	1045.37	1045.18	1044.99	+75	1044.99	1045.16	1045.33	1045.14			
1044.87	12.50'	1045.07	1045.26	1045.07	1044.88	622+00	1044.88	1045.02	1045.16	1044.97			
1044.74	13.02'	1044.95	1045.14	1044.95	1044.76	+25	1044.76	1044.87	1044.98	1044.79			
1044.69	13.25'	1044.90	1045.09	1044.90	1044.71	+36.02	1044.71	1044.81	1044.90	1044.71			End N.C. - Southbound
1044.68	13.54'	1044.86	1045.02	1044.83	1044.64	+50	1044.64	1044.70	1044.76	1044.57			
1044.70	14.04'	1044.81	1044.91	1044.72	1044.53	+74.02	1044.53	1044.53	1044.53	1044.34			Flat Inside & Center - N.B.
1044.70	14.06'	1044.81	1044.90	1044.71	1044.52	+75	1044.52	1044.52	1044.52	1044.33			
1044.73	14.58'	1044.76	1044.79	1044.60	1044.41	623+00	1044.41	1044.35	1044.28	1044.09			

SOUTHBOUND & NORTHBOUND  
Superelevation Tables  
Continued on Sheet No. 177

# SUPERELEVATION TABLES

FED. RD. DIVISION	STATE	PROJECT	177 303
2	OHIO		

MAHONING COUNTY  
MAH - 680-9.32

MEDIAN WIDTH LT. & RT OF C	SOUTHBOUND						NORTHBOUND						REMARKS	
	ACCEL., DECEL. LANE		36' LEFT	24' LEFT	12' LEFT	PROFILE GRADE	C STATIONS	PROFILE GRADE	12' RIGHT	24' RIGHT	36' RIGHT	ACCEL., DECEL. LANE		
FEET	ELEVATIONS	DIST.	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	ELEVATIONS	DIST.	
	1044.73	14.83'	1044.73	1044.73	1044.54	1044.35	623 +12.02							Flat Outside - Southbound
	1044.81	15.10'	1044.73	1044.67	1044.48	1044.29	+ 25	1044.29	1044.16	1044.04	1043.85			
	1044.88	15.29'	1044.74	1044.63	1044.44	1044.25	+ 33.76	1044.25	1044.10	1043.95	1043.76	1043.76	0	
	1044.98	15.62'	1044.74	1044.55	1044.36	1044.17	+ 50	1044.17	1043.98	1043.79	1043.60	1043.57	1.95'	
	1044.99	15.63'	1044.74	1044.55	1044.36	1044.17	+ 50.02	1044.17	1043.98	1043.79	1043.60	1043.57	1.95'	Plane Crown - S.B. & N.B.
	1045.05	16.15'	1044.74	1044.51	1044.28	1044.05	+ 75	1044.05	1043.82	1043.59	1043.36	1043.27	4.95'	
	1045.12	16.67'	1044.75	1044.48	1044.20	1043.93	624 +00	1043.93	1043.66	1043.38	1043.11	1042.93	7.95'	
	1045.20	17.19'	1044.76	1044.45	1044.13	1043.82	+ 25	1043.82	1043.51	1043.19	1042.88	1042.60	10.95'	
	1045.25	17.37'	1044.77	1044.44	1044.11	1043.78	+ 33.76	1043.78	1043.45	1043.12	1042.79	1042.47	12.00'	
	1045.30	17.71'	1044.77	1044.41	1044.06	1043.70	+ 50	1043.70	1043.34	1042.99	1042.63	1042.27		
30.00	1045.32	17.88'	1044.77	1044.40	1044.03	1043.66	+ 58.02	1043.66	1043.29	1042.92	1042.55	1042.18		H.P.C. - S.B. & N.B.
29.58	1045.36	18.23'	1044.77	1044.38	1043.98	1043.58	+ 75	1043.58	1043.18	1042.78	1042.39	1042.00		Sta.624+58.02 End 60' Median *
28.96	1045.47	18.75'	1044.78	1044.34	1043.90	1043.46	625 +00	1043.46	1043.02	1042.58	1042.14	1041.70		
28.34	1045.56	19.27'	1044.79	1044.31	1043.83	1043.35	+ 25	1043.35	1042.87	1042.39	1041.91	1041.43		
27.72	1045.66	19.79'	1044.80	1044.28	1043.75	1043.23	+ 50	1043.23	1042.71	1042.18	1041.66	1041.14		
27.10	1045.75	20.31'	1044.80	1044.24	1043.67	1043.11	+ 75	1043.11	1042.55	1041.98	1041.42	1040.86		
26.47	1045.87	20.83'	1044.81	1044.20	1043.60	1042.99	626 +00	1042.99	1042.38	1041.78	1041.17	1040.56		
25.85	1045.95	21.35'	1044.81	1044.17	1043.52	1042.87	+ 25	1042.87	1042.22	1041.57	1040.93	1040.29		
25.23	1046.09	21.87'	1044.83	1044.14	1043.45	1042.76	+ 50	1042.76	1042.07	1041.38	1040.69	1040.00		
24.61	1046.13	22.39'	1044.83	1044.10	1043.37	1042.64	+ 75	1042.64	1041.91	1041.18	1040.45	1039.72		
24.49	1046.13	22.50'	1044.84	1044.10	1043.36	1042.62	+ 80.02	1042.62	1041.88	1041.14	1040.40	1039.66		Begin F.S. - S.B. & N.B.
23.99	1046.13	22.92'	1044.74	1044.00	1043.26	1042.52	627 +00	1042.52	1041.78	1041.04	1040.30	1039.56		
23.37	1046.07	23.44'	1044.62	1043.88	1043.14	1042.40	+ 25	1042.40	1041.66	1040.92	1040.18	1039.44		
22.75	1045.99	23.96'	1044.51	1043.77	1043.03	1042.29	+ 50	1042.29	1041.55	1040.81	1040.07	1039.33		
22.13	1045.90	24.48'	1044.39	1043.65	1042.91	1042.17	+ 75	1042.17	1041.43	1040.69	1039.95	1039.21	12.00'	
21.51	1045.81	25.00'	1044.27	1043.53	1042.79	1042.05	628 +00	1042.05	1041.31	1040.57	1039.83			
20.89			1044.15	1043.41	1042.67	1041.93	+ 25	1041.93	1041.19	1040.45	1039.71			
20.27			1044.03	1043.29	1042.55	1041.81	+ 50	1041.81	1041.07	1040.33	1039.59			
19.65			1043.92	1043.18	1042.44	1041.70	+ 75	1041.70	1040.96	1040.22	1039.48			
19.03			1043.80	1043.06	1042.32	1041.58	629 +00	1041.58	1040.84	1040.10	1039.36			
18.40			1043.68	1042.94	1042.20	1041.46	+ 25	1041.46	1040.72	1039.98	1039.24			
17.78			1043.56	1042.82	1042.08	1041.34	+ 50	1041.34	1040.60	1039.86	1039.12			
17.16			1043.45	1042.71	1041.97	1041.23	+ 75	1041.23	1040.49	1039.75	1039.01			
16.54			1043.33	1042.59	1041.85	1041.11	630 +00	1041.11	1040.37	1039.63	1038.89			
15.92			1043.21	1042.47	1041.73	1040.99	+ 25	1040.99	1040.25	1039.51	1038.77			
15.30			1043.09	1042.35	1041.61	1040.87	+ 50	1040.87	1040.13	1039.39	1038.65			
14.68			1042.97	1042.23	1041.49	1040.75	+ 75	1040.75	1040.01	1039.27	1038.53			
14.06			1042.86	1042.12	1041.38	1040.64	631 +00	1040.64	1039.90	1039.16	1038.42			
13.51			1042.75	1042.01	1041.27	1040.53	+ 22.04	1040.53	1039.79	1039.05	1038.31			End F.S. - S.B. & N.B.
13.44			1042.73	1041.99	1041.26	1040.52	+ 25	1040.52	1039.78	1039.05	1038.31			
13.24			1042.65	1041.92	1041.20	1040.48	+ 32.85	1040.48	1039.76	1039.04	1038.31			
12.82			1042.48	1041.79	1041.09	1040.40	+ 50	1040.40	1039.71	1039.01	1038.32			
12.20			1042.24	1041.58	1040.93	1040.28	+ 75	1040.28	1039.63	1038.98	1038.33			
11.58			1042.00	1041.39	1040.78	1040.17	632 +00	1040.17	1039.56	1038.95	1038.34			
10.96			1041.76	1041.19	1040.62	1040.05	+ 25	1040.05	1039.48	1038.91	1038.34			
10.34			1041.51	1040.98	1040.46	1039.93	+ 50	1039.93	1039.40	1038.88	1038.35			
9.71			1041.27	1040.78	1040.30	1039.81	+ 75	1039.81	1039.32	1038.84	1038.35			
9.09			1041.03	1040.59	1040.14	1039.70	633 +00	1039.70	1039.26	1038.81	1038.37			
8.47			1040.79	1040.38	1039.98	1039.58	+ 25	1039.58	1039.18	1038.78	1038.37			
8.00			1040.60	1040.23	1039.86	1039.49	+ 44.04	1039.49	1039.12	1038.75	1038.38			H.P.T. - S.B. & N.B.
			1040.54	1040.18	1039.82	1039.46	+ 50	1039.46	1039.10	1038.74	1038.38			Sta.633+44.04 Begin 16' Median*
			1040.30	1039.98	1039.66	1039.34	+ 75	1039.34	1039.02	1038.70	1038.38			
			1040.05	1039.77	1039.50	1039.22	634 +00	1039.22	1038.94	1038.67	1038.39			
			1039.82	1039.58	1039.35	1039.11	+ 25	1039.11	1038.87	1038.64	1038.40			
			1039.57	1039.38	1039.18	1038.99	+ 50	1038.99	1038.80	1038.60	1038.41			
			1039.55	1039.37	1039.17	1038.98	+ 52.04	1038.98	1038.79	1038.60	1038.41			Plane Crown - S.B. & N.B.
			1039.33	1039.25	1039.06	1038.87	+ 75	1038.87	1038.74	1038.60	1038.41			
			1039.18	1039.18	1038.99	1038.80	+ 90.04	1038.80	1038.70	1038.61	1038.42			Flat Outside - Southbound
			1039.11	1039.13	1038.94	1038.75	635 +00	1038.75	1038.69	1038.61	1038.42			
			1038.93	1039.02	1038.83	1038.64	+ 25	1038.64	1038.63	1038.62	1038.43			
			1038.91	1039.00	1038.81	1038.62	+ 28.04	1038.62	1038.62	1038.62	1038.43			Flat Inside & Center - Northbound
			1038.75	1038.90	1038.71	1038.52	+ 50	1038.52	1038.57	1038.63	1038.44			
			1038.63	1038.82	1038.63	1038.44	+ 66.04	1038.44	1038.54	1038.63	1038.44			Begin N.C. - Southbound
			1038.59	1038.78	1038.59	1038.40	+ 75	1038.40	1038.51	1038.61	1038.42			
			1038.47	1038.66	1038.47	1038.28	636 +00	1038.28	1038.42	1038.55	1038.36			
			1038.35	1038.54	1038.35	1038.16	+ 25	1038.16	1038.33	1038.50	1038.31			
			1038.27	1038.46	1038.27	1038.08	+ 42.04	1038.08	1038.27	1038.46	1038.27			Begin N.C. - Northbound
			1038.24	1038.43	1038.24	1038.05	+ 50	1038.05	1038.24	1038.43	1038.24			
			1038.12	1038.31	1038.12	1037.93	+ 75	1037.93	1038.12	1038.31	1038.12			
			1038.00	1038.19	1038.00	1037.81	637 +00	1037.81	1038.00	1038.19	1038.00			
			1037.88	1038.07	1037.88	1037.69	+ 25	1037.69	1037.88	1038.07	1037.8			

# SUPERELEVATION TABLES

RAMP M-M				
STATIONS	PROFILE GRADE	RIGHT EDGE		REMARKS
	ELEVATIONS	DIST. RT.	ELEVATIONS	
See Intersection Detail Sheet No. 166				
632+75	1040.00	16.00	1041.33	S.E. = .083'/Ft.
633+00	1039.44		1040.77	
+25	1038.85		1040.18	
+50	1038.24		1039.57	
+75	1037.61		1038.94	
634+00	1036.95		1038.28	
+07.23	1036.75		1038.08	End F.S. - .083'/Ft.
+25	1036.26		1037.50	
+50	1035.55		1036.67	
+75	1034.81		1035.80	
635+00	1034.04		1034.91	
+25	1033.26		1034.00	
+40.23	1032.76		1033.43	H.P.T.
+50	1032.44		1033.06	
+75	1031.60		1032.10	
636+00	1030.74		1031.11	
+23.23	1029.91		1030.16	Begin N.C.
637+02.54	1026.92		1027.17	End N.C.
+20	1026.23		1026.38	P.V.T.
+25	1026.03		1026.15	
+46.29	1025.18		1025.18	Flat
+50	1025.03		1025.01	
+75	1024.03		1023.87	
+79.54	1023.85		1023.66	H.P.C.
638+00	1023.03		1022.72	
+12.79	1022.52		1022.14	Begin F.S. - .024'/Ft.
+25	1022.03		1021.65	
+50	1021.03		1020.65	
+75	1020.03		1019.65	
639+00	1019.03		1018.65	
+25	1018.03		1017.65	
+50	1017.03		1016.65	
+75	1016.03		1015.65	
640+00	1015.03		1014.65	
+25	1014.03		1013.65	
+45	1013.23		1012.85	V.P.C.
+50	1013.03		1012.65	
+75	1012.14		1011.76	
641+00	1011.41		1011.03	
+25	1010.84		1010.46	
+45	1010.50		1010.12	V.P.I.
+50	1010.43	16.00	1010.05	
See Intersection Detail Sheet No. 167				

RAMP N-N (CONTINUED)				
LEFT EDGE	PROFILE GRADE	STATIONS	REMARKS	
	ELEVATIONS			
1035.25	16.00'	1034.09	635+50	
1035.01		1033.98	+75	
1034.78		1033.87	636+00	
1034.56		1033.77	+23.96	H.P.T.
1034.54		1033.76	+25	
1034.32		1033.66	+50	
1034.08		1033.55	+75	
1033.85		1033.44	637+00	
1033.61		1033.33	+25	
1033.55		1033.30	+31.96	Begin N.C.
1033.47		1033.22	+50	
1033.39		1033.14	+75	
1033.38		1033.13	638+00	
1033.41		1033.16	+25	
1033.51		1033.26	+50	
1033.66		1033.41	+75	
1033.66		1033.41	+76.24	End N.C.
1034.03	16.00	1033.62	639+00	
See Intersection Detail Sheet No. 167				

RAMP R (CONTINUED)				
STATIONS	PROFILE GRADE	RIGHT EDGE		REMARKS
	ELEVATIONS	DIST. RT.	ELEVATIONS	
495+50	1035.49	16.00'	1036.82	
+75	1036.01		1037.34	
496+00	1036.52		1037.85	
+25	1037.03		1038.36	
+50	1037.54		1038.87	
+53.52	1037.61		1038.94	End F.S. - 0.83'/Ft.
+75	1038.06		1039.28	
497+00	1038.57		1039.67	
+25	1039.08		1040.05	
+50	1039.59		1040.44	
+75	1040.11		1040.83	
+86.52	1040.34		1041.00	H.P.T.
498+00	1040.62		1041.22	
+25	1041.13		1041.60	
+50	1041.64		1041.99	
+69.52	1042.04		1042.29	Begin N.C.
+75	1042.16		1042.41	
499+00	1042.67		1042.92	
+19.52	1043.07		1043.32	End N.C.
+25	1043.18		1043.40	
+50	1043.69		1043.77	
+63.27	1043.96		1043.96	Flat
+75	1044.21		1044.14	
500+00	1044.72		1044.51	
+25	1045.23		1044.88	
+50	1045.74		1045.24	
+52.52	1045.79		1045.28	H.P.C.
+75	1046.26		1045.62	
501+00	1046.77		1045.99	
+25	1047.28		1046.36	
+41.77	1047.62		1046.60	Begin F.S. - 0.64'/Ft.
+50	1047.79		1046.77	
+75	1048.31		1047.29	
502+00	1048.82		1047.80	
+14.05	1049.11		1048.09	
+25	1049.33		1048.31	
+50	1049.84		1048.82	
+50.11	1049.84		1048.82	End F.S. - 0.64'/Ft.
+75	1050.36		1049.48	
503+00	1050.87		1050.14	
+25	1051.38		1050.79	V.P.C.
+39.36	1051.66		1051.15	H.P.T.
+50	1051.87		1051.42	
+75	1052.35		1052.04	
+84.86	1052.52	16.00'	1052.27	Begin N.C.
See Intersection Detail Sheet No. 159				

RAMP S (CONTINUED)				
STATIONS	PROFILE GRADE	RIGHT EDGE		REMARKS
	ELEVATIONS	DIST. RT.	ELEVATIONS	
497+75	1043.17	16.00'	1044.44	
498+00	1042.44		1043.71	
+25	1041.70		1042.97	
+50	1040.97		1042.24	
+75	1040.23		1041.50	
499+00	1039.50		1040.77	V.P.C.
+25	1038.79		1040.06	
+50	1038.14		1039.41	
+75	1037.55		1038.82	
500+00	1037.00		1038.27	
+25	1036.51		1037.78	
+50	1036.07		1037.34	
+75	1035.70		1036.97	
501+00	1035.37		1036.64	
+25	1035.11		1036.38	
+50	1034.89		1036.16	
+75	1034.73		1036.00	
+78.33	1034.71		1035.98	C.S.
502+00	1034.62	16.00	1035.89	S.E. = 0.79' / Ft.
See Intersection Detail Sheet No. 163				

RAMP R				
STATIONS	PROFILE GRADE	RIGHT EDGE		REMARKS
	ELEVATIONS	DIST. RT.	ELEVATIONS	
See Intersection Detail Sheet No. 162				
488+13.35	1032.98	14.00'	1032.98	H.P.C. - Flat
+25	1032.93	14.08'	1032.96	
+50	1032.83	14.24'	1032.90	
+75	1032.73	14.41'	1032.86	
489+00	1032.62	14.58'	1032.79	
+25	1032.52	14.74'	1032.75	
+50	1032.42	14.91'	1032.71	
+75	1032.32	15.08'	1032.66	
490+00	1032.21	15.24'	1032.61	
+25	1032.11	15.41'	1032.56	
+50	1032.01	15.58'	1032.53	
+75	1031.91	15.74'	1032.48	
491+00	1031.80	15.91'	1032.44	
+13.35	1031.75	16.00'	1032.42	H.P.C.C.
+25	1031.70	16.23'	1032.44	
+50	1031.60	16.73'	1032.49	V.P.C.
+75	1031.52	17.23'	1032.58	
492+00	1031.48	17.73'	1032.70	
+13.35	1031.48	18.00'	1032.80	Bk.
		16.00'	1032.65	Ah.
+25	1031.49		1032.72	
+45.35	1031.53		1032.86	Begin F.S. - 0.83'/Ft.
+50	1031.54		1032.87	
+75	1031.64		1032.97	
493+00	1031.77		1033.10	
+25	1031.96		1033.29	V.P.I.
+50	1032.18		1033.51	
+75	1032.46		1033.79	
494+00	1032.77		1034.10	
+25	1033.13		1034.46	
+50	1033.53		1034.86	
+75	1033.98		1035.31	
495+00	1034.47		1035.80	V.P.T.
+25	1034.98	16.00'	1036.31	
(CONTINUED)				

RAMP S				
STATIONS	PROFILE GRADE	RIGHT EDGE		REMARKS
	ELEVATIONS	DIST. RT.	ELEVATIONS	
See Intersection Detail Sheet No. 159				
494+50	1052.72	16.00	1053.99	S.E. = .079' / Ft.
+75	1051.99		1053.26	
495+00	1051.25		1052.52	
+25	1050.52		1051.79	
+50	1049.78		1051.05	
+75	1049.05		1050.32	
496+00	1048.31		1049.58	
+25	1047.58		1048.85	
+50	1046.84		1048.11	
+75	1046.11		1047.38	
497+00	1045.38		1046.65	
+25	1044.64		1045.91	
+50	1043.91	16.00'	1045.18	
(CONTINUED)				

RAMP T				
STATIONS	PROFILE GRADE	RIGHT EDGE		REMARKS
	ELEVATIONS	DIST. RT.	ELEVATIONS	
See Intersection Detail Sheet No. 160				
508+00	1054.45	16.00	1055.78	
+09.92	1054.16		1055.50	C.S. End F.S. - 0.83'/Ft.
+25	1053.68		1054.96	
+50	1052.79		1054.01	V.P.T.
+75	1051.87		1053.02	
509+00	1050.95		1052.03	
+25	1050.03		1051.04	
+50	1049.11		1050.05	
+75	1048.19		1049.07	
510+00	1047.27		1048.08	V.P.C.
+09.92	1046.92		1047.70	S.C. Begin F.S. - 0.49'/Ft.
+25	1046.39		1047.17	
+50	1045.58		1046.36	
+75	1044.84		1045.62	
511+00	1044.18		1044.96	
+25	1043.59		1044.37	
+50	1043.08		1043.86	
+75	1042.64		1043.42	
512+00	1042.27		1043.05	
+25	1041.98		1042.76	
+50	1041.76		1042.54	V.P.I.
+75	1041.62		1042.40	
513+00	1041.55		1042.33	
+25	1041.55		1042.33	
+50	1041.63		1042.41	
+75	1041.78		1042.56	
514+00	1042.01	16.00	1042.79	

# SUPERELEVATION TABLES

RAMP U				
LEFT EDGE		PROFILE GRADE	STATIONS	REMARKS
ELEVATIONS	DIST. LT.	ELEVATIONS		
See Intersection Detail Sheet No. 162				
	16.00'	1037.41	496+27.52	P.T. & T.S. - Flat
1037.43		1037.42	+30	V.P.C.
1037.57		1037.46	+50	
1037.78		1037.54	+75	
1037.99		1037.63	497+00	
1038.23		1037.74	+25	
1038.48		1037.87	+50	
1038.74		1038.00	+75	
1039.01		1038.15	498+00	
1039.30		1038.31	+25	
1039.32		1038.32	+27.52	S.C.
1039.59		1038.48	+50	
1039.91		1038.67	+75	
1040.14		1038.81	+93.52	Begin F.S. -.083'/Ft.
1040.20		1038.87	499+00	
1040.42		1039.09	+25	
1040.46		1039.13	+30	V.P.I.
1040.64		1039.31	+50	
1040.88		1039.55	+75	
1041.14		1039.81	500+00	
1041.22		1039.89	+06.69	End F.S. -.083'/Ft.
1041.32		1040.08	+25	
1041.48		1040.37	+50	
1041.64		1040.64	+72.69	C.S.
1041.65		1040.66	+75	
1041.84		1040.98	501+00	
1042.04		1041.30	+25	
1042.25		1041.64	+50	
1042.48		1041.99	+75	
1042.72		1042.36	502+00	
1042.98		1042.74	+25	
1043.03		1042.82	+30	V.P.T.
1043.24		1043.13	+50	
1043.49		1043.49	+72.69	S.T. & T.S. - Flat
1043.51		1043.52	+75	
1043.75		1043.91	503+00	
1044.00		1044.30	+25	
1044.25		1044.69	+50	
1044.50		1045.08	+75	
1044.74		1045.47	504+00	
1044.99		1045.86	+25	
1045.24		1046.25	+50	
1045.47		1046.61	+72.69	S.C.
1045.48		1046.64	+75	
1045.73		1047.03	505+00	
1045.79		1047.12	+05.44	Begin F.S. -.083'/Ft.
1046.09	16.00'	1047.42	+25	

(CONTINUED)

RAMP U (CONTINUED)				
LEFT EDGE		PROFILE GRADE	STATIONS	REMARKS
ELEVATIONS	DIST. LT.	ELEVATIONS		
1046.38	16.00'	1047.71	505+43.39	End F.S. -.083'/Ft.
1046.52		1047.81	+50	
1047.05		1048.20	+75	
1047.08		1048.22	+76.14	C.S.
1047.58		1048.59	506+00	
1048.12		1048.98	+25	
1048.65		1049.37	+50	
1049.18		1049.76	+75	
1049.71		1050.15	507+00	
1050.25		1050.54	+25	
1050.78		1050.93	+50	
1051.31		1051.32	+75	
1051.34		1051.34	+76.14	S.T. - Flat
1051.85		1051.71	508+00	
1052.27	16.00'	1052.02	+19.89	Begin N.C.
See Intersection Detail Sheet No. 160				

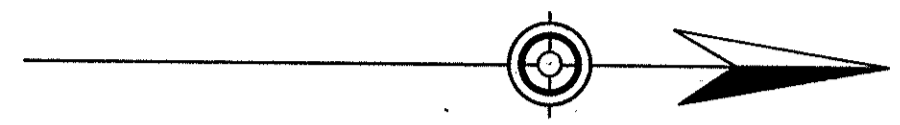
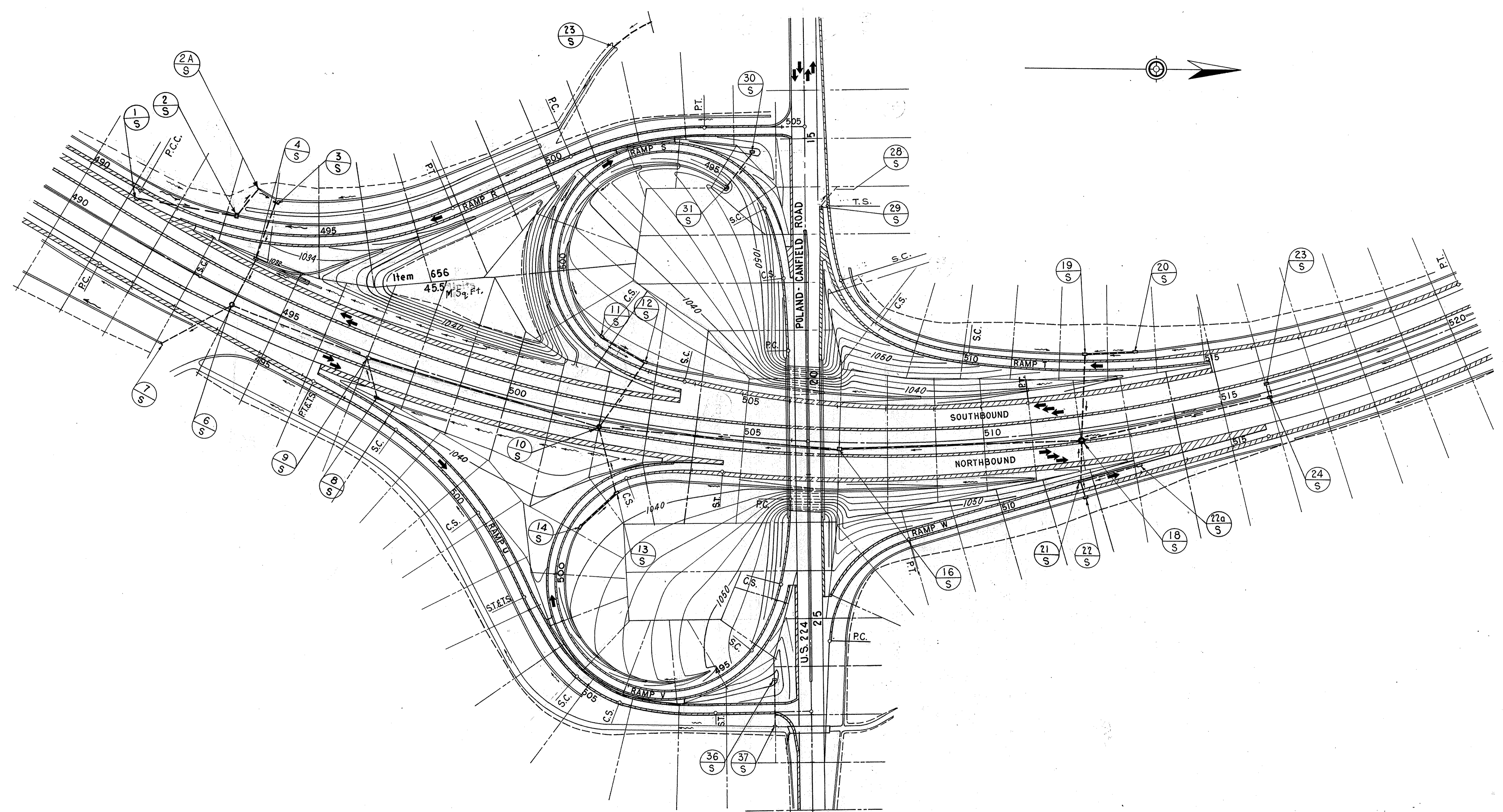
RAMP V				
LEFT EDGE		PROFILE GRADE	STATIONS	REMARKS
ELEVATIONS	DIST. LT.	ELEVATIONS		
See Intersection Detail Sheet No. 161				
1056.03	16.00'	1054.79	494+00	
1055.57		1054.24	+16.95	S.C. Begin F.S. -.083'/Ft.
1055.31		1053.98	+25	
1054.50		1053.17	+50	
1053.70		1052.37	+75	
1052.89		1051.56	495+00	
1052.08		1050.75	+25	
1051.28		1049.95	+50	
1050.47		1049.14	+75	
1049.99		1048.66	+90	V.P.C.
1049.66		1048.33	496+00	
1048.89		1047.56	+25	
1048.15		1046.82	+50	
1047.44		1046.11	+75	
1046.76		1045.43	497+00	
1046.63		1045.30	+05.48	
1046.13		1044.80	+25	
1045.52		1044.19	+50	
1044.95		1043.62	+75	
1044.58		1043.23	+93.22	
1044.42		1043.09	498+00	
1043.91		1042.58	+25	
1043.44		1042.11	+50	
1043.02		1041.69	+75	
1042.61		1041.28	499+00	
1042.24	16.00'	1040.91	+25	

CONTINUED

RAMP V (CONTINUED)				
LEFT EDGE		PROFILE GRADE	STATIONS	REMARKS
ELEVATIONS	DIST. LT.	ELEVATIONS		
1042.05	16.00'	1040.72	499+40	V.P.I.
1041.92		1040.59	+50	
1041.62		1040.29	+75	
1041.35		1040.02	500+00	
1041.13		1039.80	+25	
1040.94		1039.61	+50	
1040.78		1039.45	+75	
1040.65		1039.32	501+00	
1040.56		1039.23	+25	
1040.51		1039.18	+50	End F.S. -.083'/Ft.
1040.45		1039.15	+75	
1040.41		1039.16	+93.38	
1040.40		1039.16	502+00	
1040.34		1039.21	+25	
1040.31		1039.25	+40	
1040.29	16.00'	1039.28	+50	
See Intersection Detail Sheet No. 165				

RAMP W				
LEFT EDGE		PROFILE GRADE	STATIONS	REMARKS
ELEVATIONS	DIST. LT.	ELEVATIONS		
See Intersection Detail Sheet No. 161				
1058.86	16.00'	1058.19	506+98.47	S.E. -.042'/Ft.
1058.84		1058.17	507+00	
1058.41		1057.74	+25	
1058.28		1057.61	+31.11	End F.S. -.042'/Ft.
1057.75		1057.17	+50	V.P.T.
1057.00		1056.55	+75	
1056.31		1055.97	+98.11	H.P.T.
1056.25		1055.92	508+00	
1055.49		1055.29	+25	
1054.75		1054.67	+50	
1054.29		1054.29	+65.11	Flat
1053.99		1054.04	+75	
1053.24		1053.41	509+00	V.P.C.
1052.80		1053.05	+15.11	Begin N.C.
1052.57	16.00'	1052.82	+25	
See Intersection Detail Sheet No. 165				

MAHONING COUNTY  
MAH-680-9.32



**LEGEND**

- New Contours ————
- Index ————
- Intermediate ————
- Paved Shoulders ————
- Limit of Constr. - - - - -
- Cross Sections ————

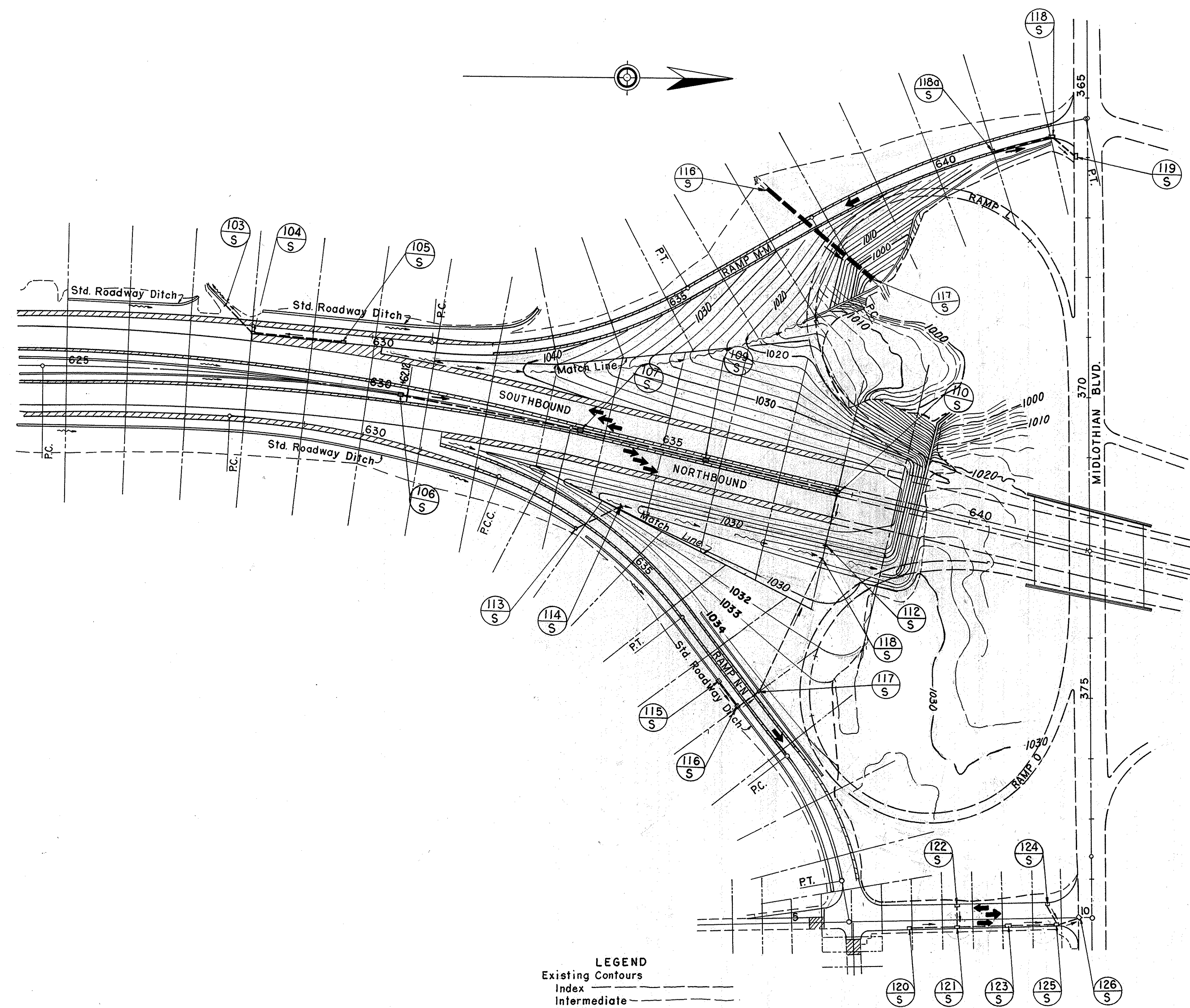
Calculated by R.V.L. Date 5-7-69  
Checked by B.P.T. Date 5-23-69

Scale in Feet  
100 50 0 100

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

181  
303

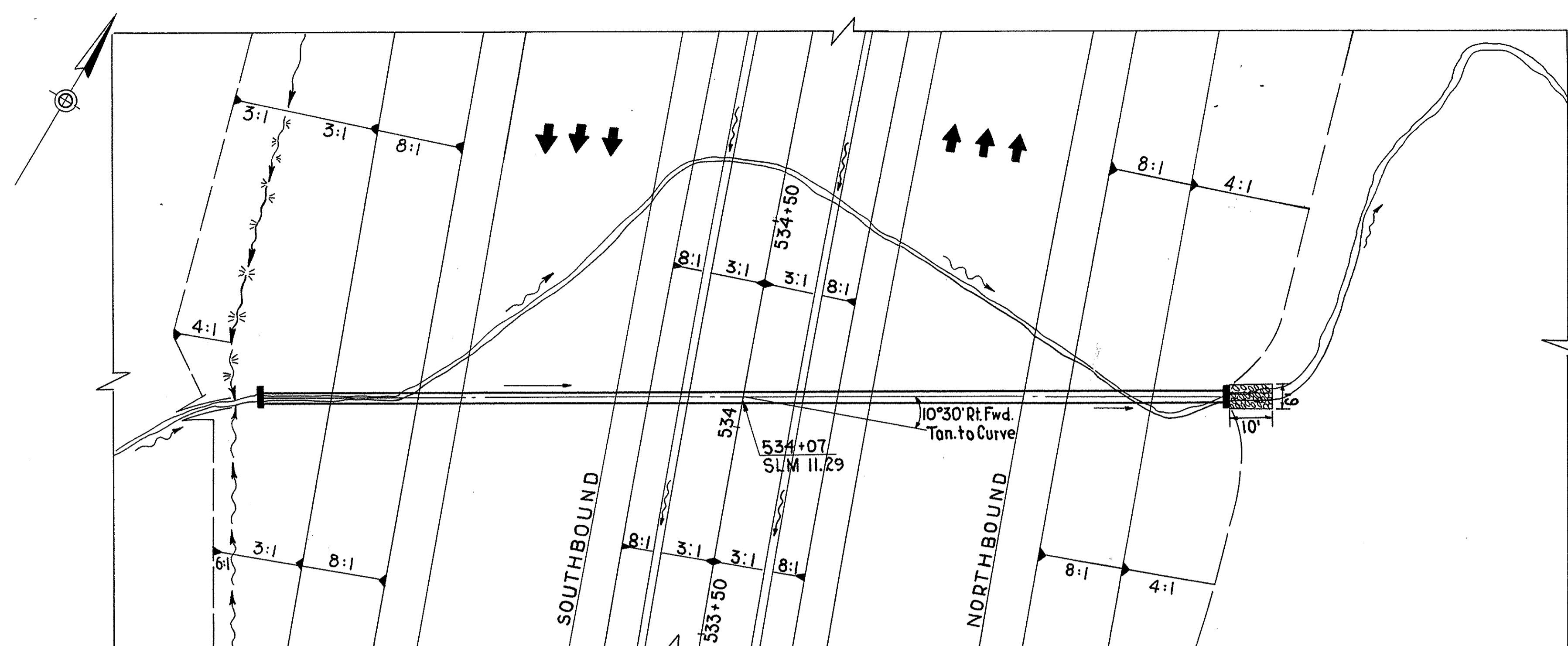
MAHONING COUNTY  
MAH-680-9.32



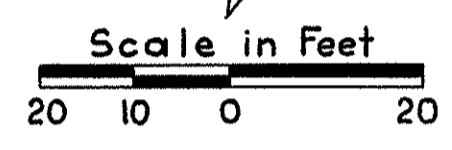
**LEGEND**  
 Existing Contours  
 Index ————  
 Intermediate ————  
 New Contours  
 Index ————  
 Intermediate ————  
 Paved Shoulder ————  
 Limit of Construction ————  
 Cross Sections ————

Scale in Feet  
 100 50 0 100



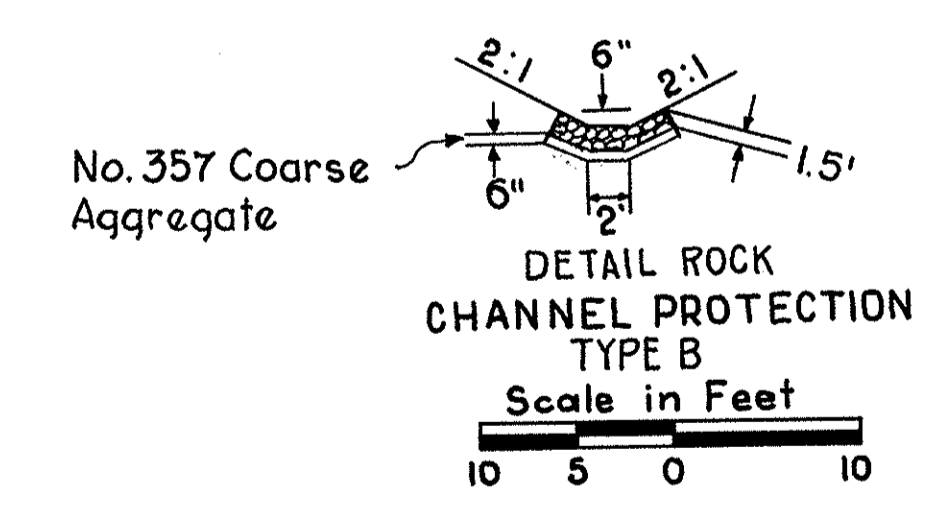
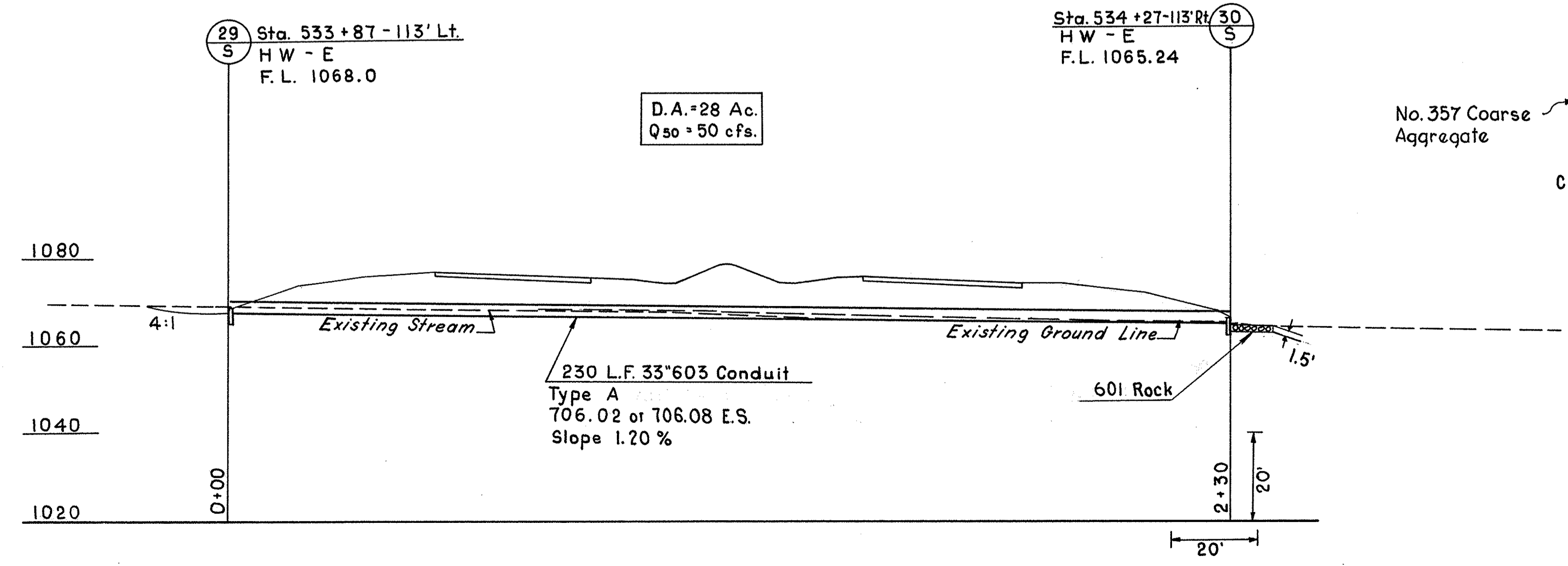


**CULVERT DATA**  
 DRAINAGE AREA : 28 Acres  
 TYPE : Std. Pipe Culvert  
 SIZE : 33" x 230'  
 SKEW : 10° - 30' Rt. Fwd. Tan. to Curve  
 STD. DWGS : MC -4 and HW - E  
 WORK REQ'D : Build New 33" x 230' Standard Pipe Culvert As Shown.

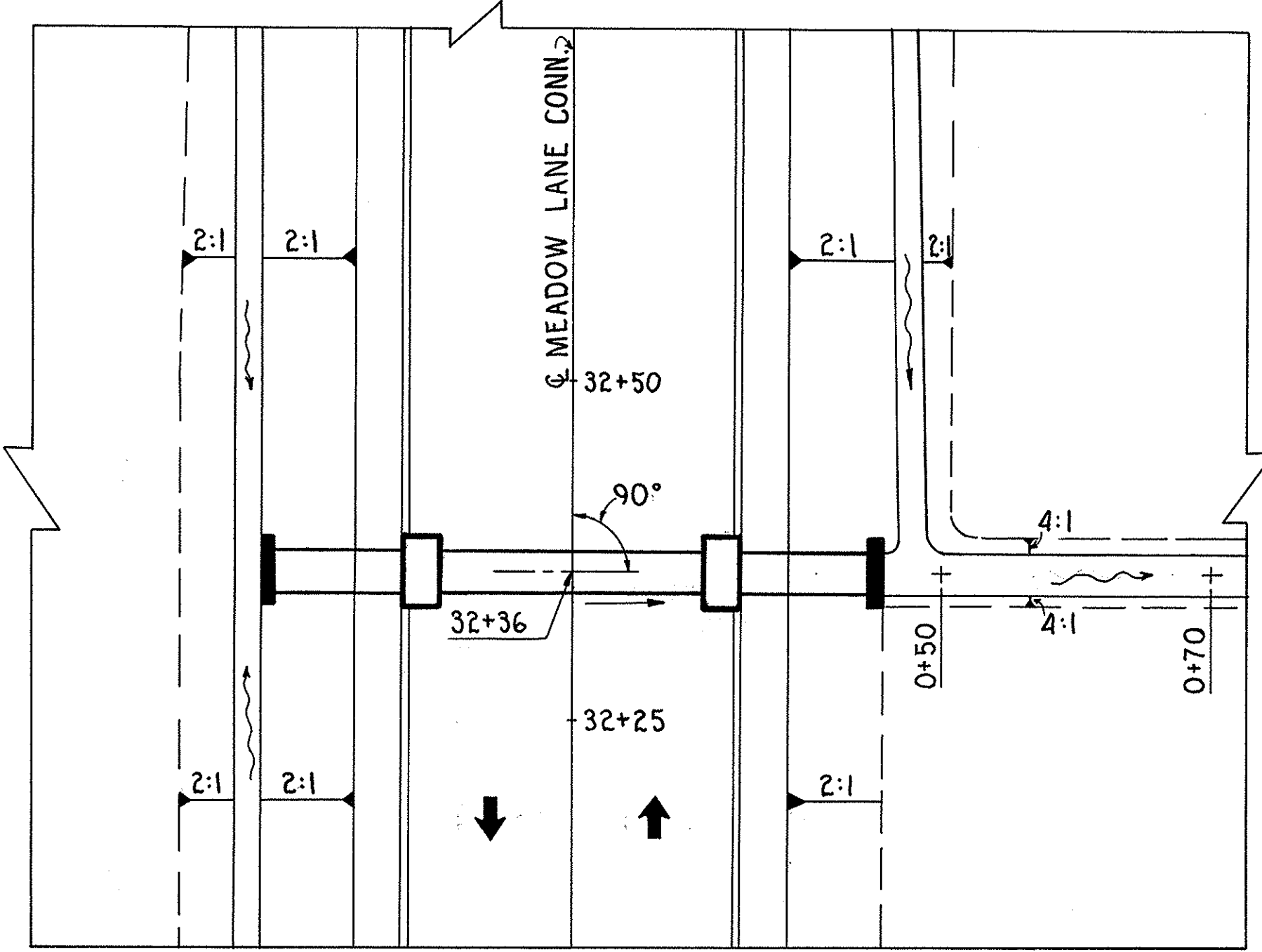
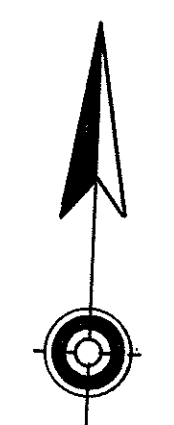
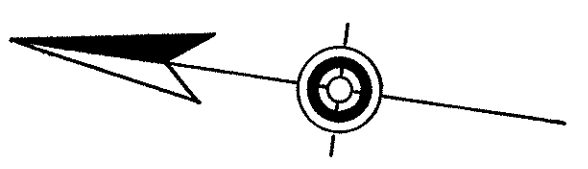
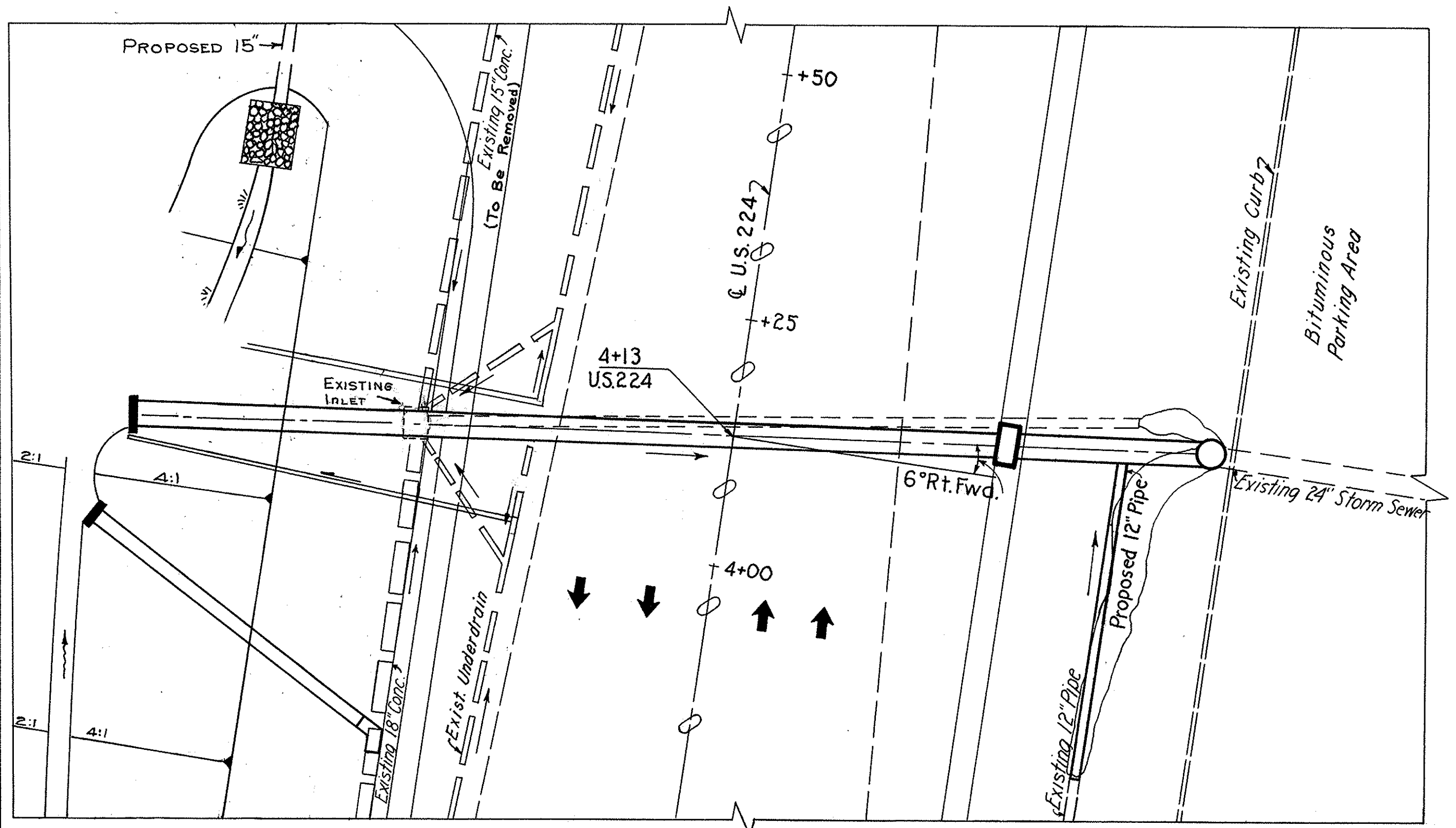


**ESTIMATED QUANTITIES**  
 603 Conduit 33" Type A 706.02 or 706.08 E.S.  
 602 Concrete Masonry  
 601 Rock Channel Protection, Type B

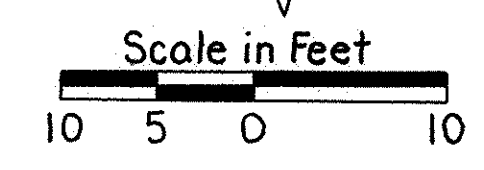
230 L.F.  
 1.10 C.Y.  
 5 C.Y.



Calculated by J.D.F. Date 1-23-67  
 Checked by R.J.B. Date 5-12-69

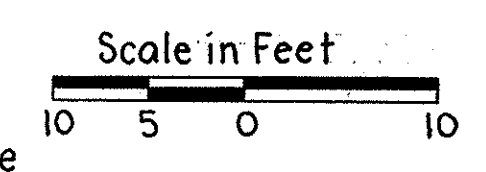


**CULVERT DATA**  
 DRAINAGE AREA = 21 Acres  
 TYPE = Std. Pipe Culvert  
 SIZE = 33" x 112"  
 SKEW = 8°14'40" Rt. Fwd.  
 STD. DWGS. = MC-4, HW-E, MH & C.B.-3  
 WORK REQ'D. = Build New 33" x 94' Std. Pipe  
 Culvert as Shown  
 Existing Inlet  
 Removal Included With Cost of Pipe.



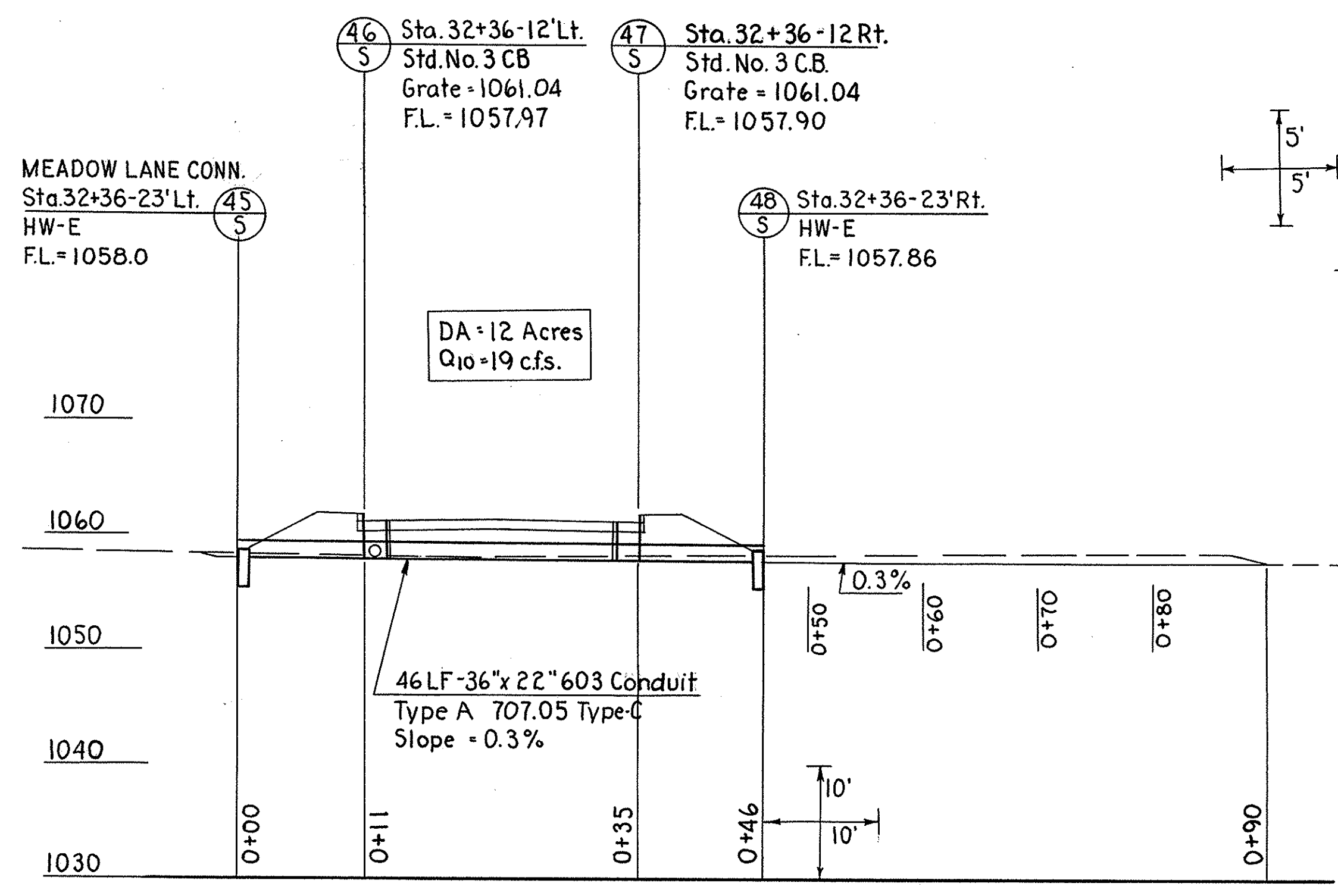
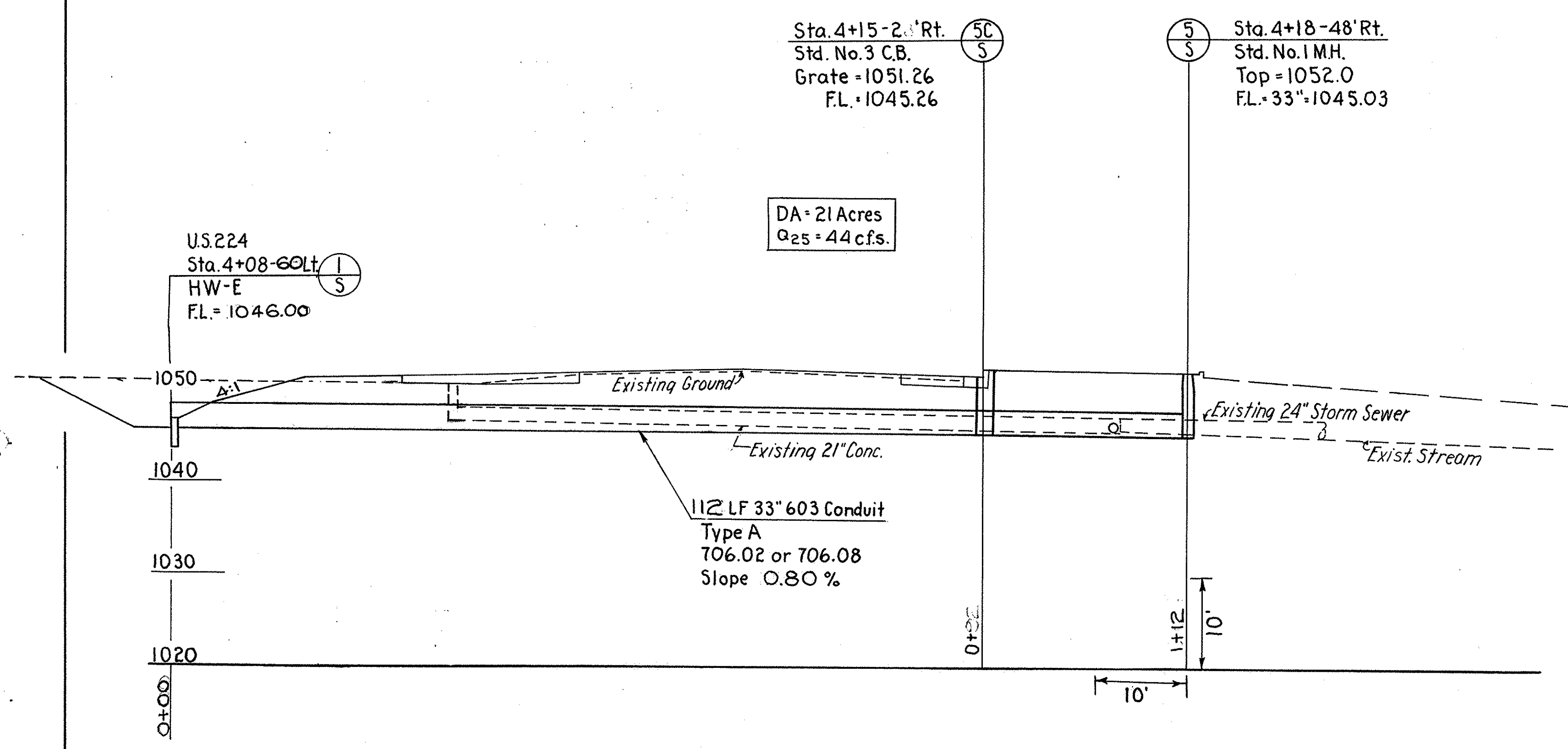
**ESTIMATED QUANTITIES**  
 603 Conduit 33" Type A 112 L.F. 706.02 or 706.08  
 602 Concrete Masonry 0.55 C.Y.  
 604 Std. No. 1 Manhole 1 Ea.  
 604 Std. No. 3 Catch Basin 1 Ea.

**CULVERT DATA**  
 DRAINAGE AREA = 12 Acres  
 TYPE = Std. Pipe Culvert  
 SIZE = 36" x 22" x 46' Pipe Arch  
 SKEW = None  
 STD. DWGS. = MC-4; HW-E; CB-3  
 WORK REQ'D. = Build New 36" x 22" x 46' Std. Pipe Culvert as Shown



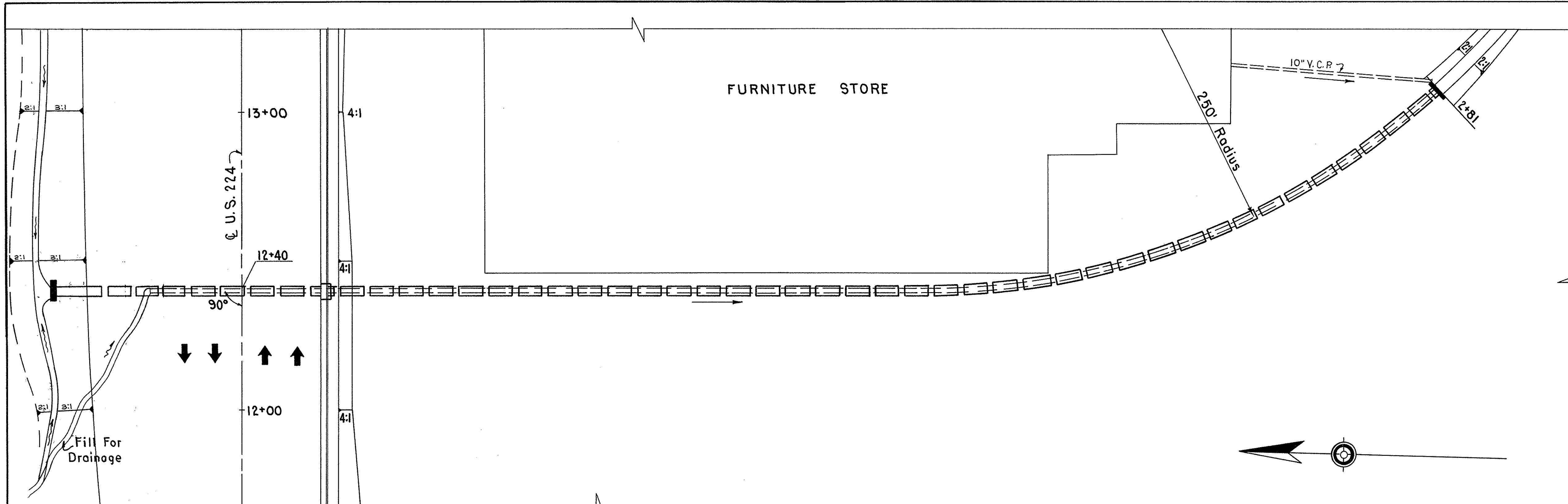
**ESTIMATED QUANTITIES**  
 603 Conduit 36" x 22" Type A 46 L.F. 707.05 Type C  
 604 Std. No. 3 Catch Basin 2 Ea.  
 602 Concrete Masonry 102 C.Y.  
 203 Excavation Not Including Embankment Construction 1.0 C.Y.

1057.8	End Earthwork
0+90	Sta. 0+90
A=0	A=0
1057.7	Vol. Cut = 3.5
1057.76	
0+80	A=0.7
1058.0	Vol. Cut = 6.5
1057.79	
0+70	A=0.6
1058.0	Vol. Cut = 5.0
1057.82	
0+60	A=0.4
1058.0	Vol. Cut = 4.5
1057.85	
0+50	A=0.5
1058.0	Begin Earthwork
	Sta. 0+46
	Total = 1.0 C.Y.

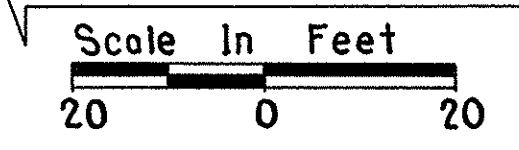


Calculated by J.D.F. Date 1-25-67  
 Checked by P.J.B. Date 5-12-69

P.G.



**CULVERT DATA**  
 DRAINAGE AREA: 46 Acres  
 TYPE: Std. Pipe Culvert  
 SIZE: 36" x 456'  
 STD. DWG: MC-4, HW-E, & CB-3  
 WORK REQ'D: Build New 36" x 456'  
 Pipe Culvert As Shown



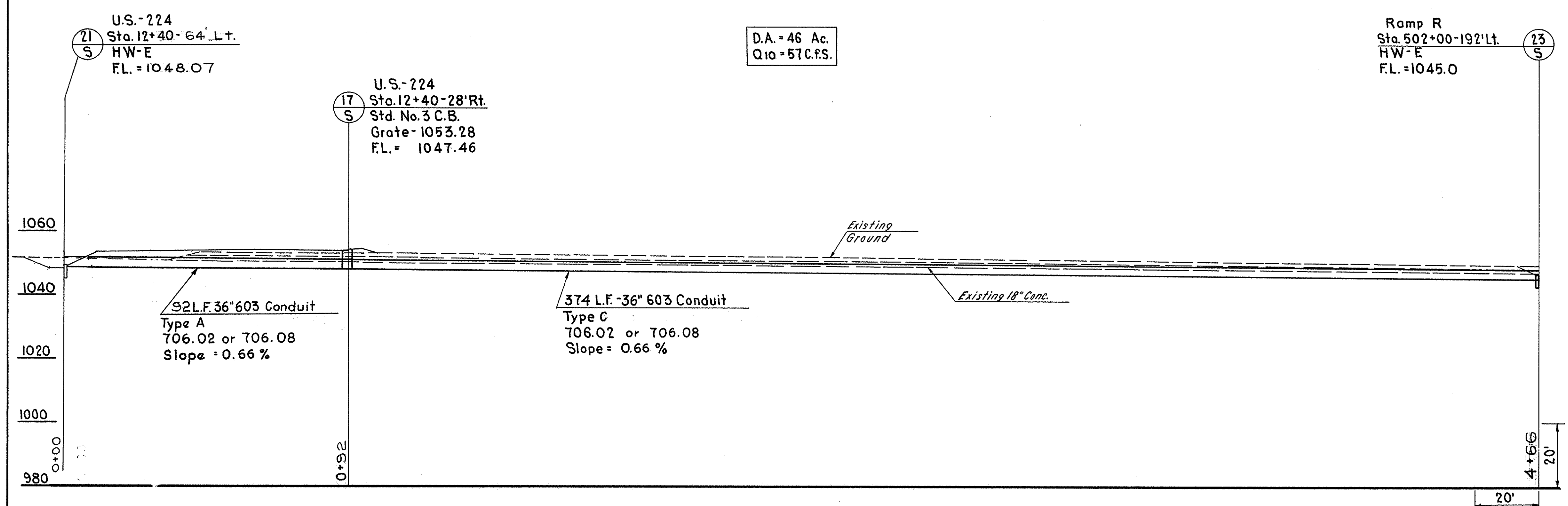
**ESTIMATED QUANTITIES**

603	36" Conduit Type A 706.02 or 706.08	92 L.F.
602	Concrete Masonry	1.18 Cu.Yds.
604	Std. No. 3 Catch Basin	1 Ea.
203	Excavation Not Including Embankment Construction	246 Cu.Yds.
603	36" Conduit Type C 706.02 or 706.08	374 L.F.

END EARTHWORK STA. 2+81	END AREA		VOLUME	
	CUT	FILL	CUT	FILL
1045.00 2+81 1046.8	32	0	868	0
1044.79 2+50 1046.5	24	0	1025	0
1044.46 2+00 1046.0	17	0	1575	0
1044.13 1+50 1048.0	46	0	1750	0
1043.80 1+00 1046.3	24	0	500	0
1043.64 0+75 1045.9	16	0	0	0
1043.22 0+10 1045.0	12	0	910	0

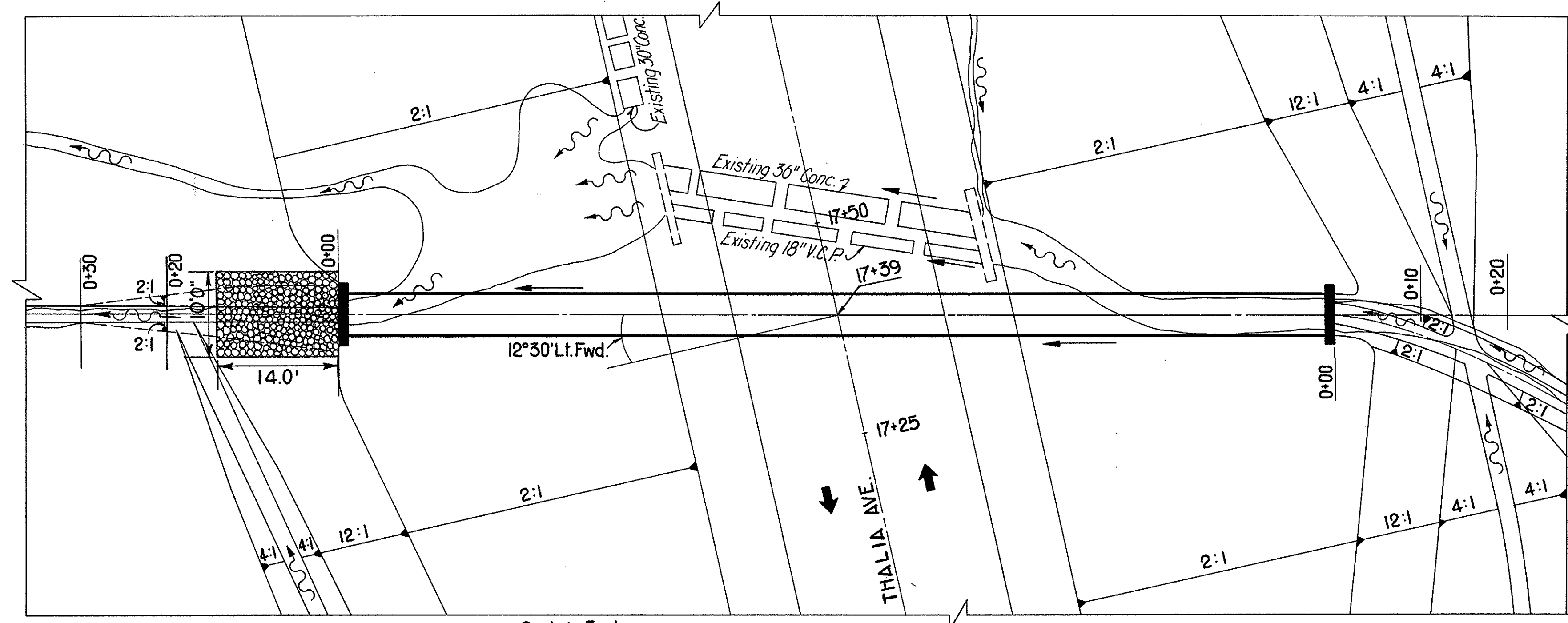
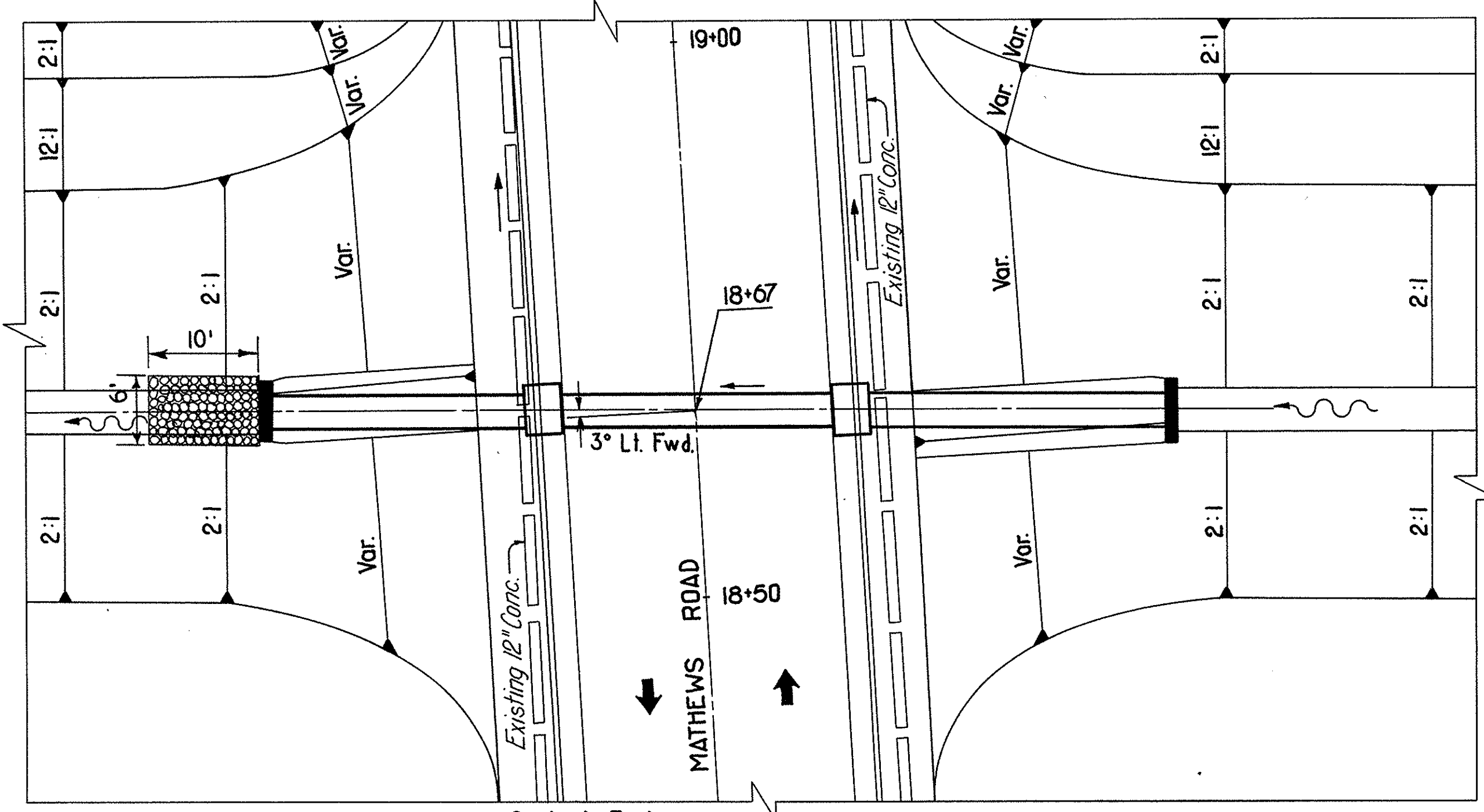
BEGIN EARTHWORK  
STA. 0+10

Total Vol. = 246 C.Y.



Calculated by J.D.F. Date 1-26-67  
 Checked by R.J.B. Date 5-12-69

CULVERT DETAIL

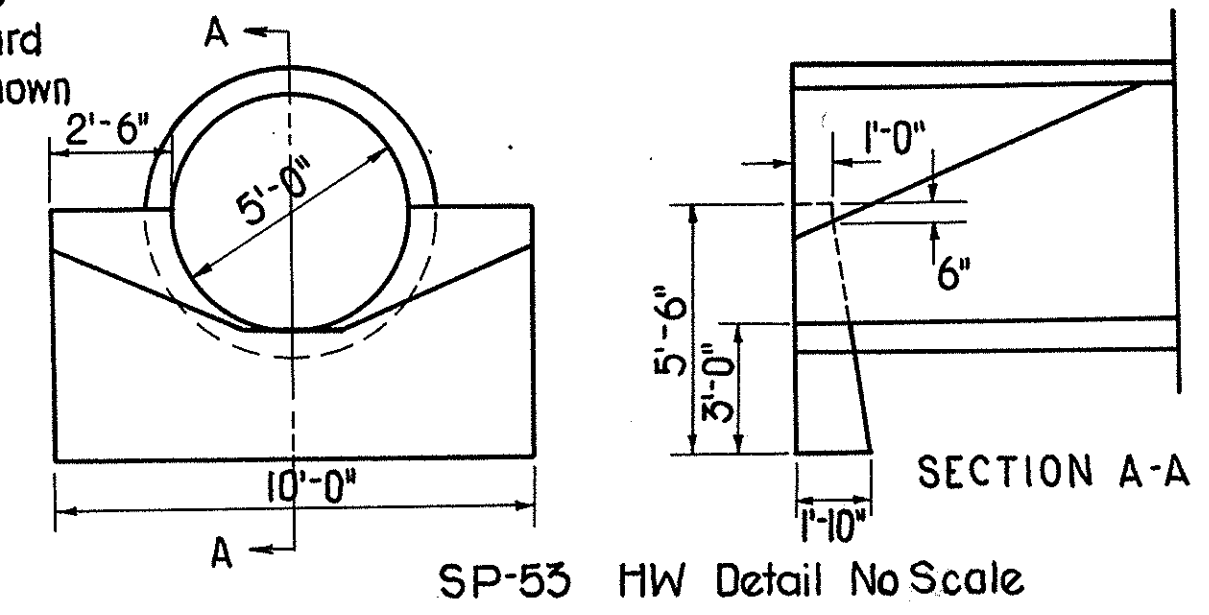


**CULVERT DATA**  
DRAINAGE AREA = 35 Acres  
TYPE: Std. Pipe Culvert  
SIZE: 36"x82"  
SKEW: 3° Lt. Fwd.  
Std. DWGS. = MC-4, HW-E and CB-3  
WORK REQ'D: Build New Standard Pipe Culvert as Shown. Bend Existing Pipe Into Proposed Catch Basins.

**ESTIMATED QUANTITIES**  
603 Conduit 36" Type A 706.02 or 706.08 82 L.F. 118 C.Y.  
602 Concrete Masonry 2 Ea. 5 C.Y.  
604 Std. No. 3 Catch Basins 2 Ea. 5 C.Y.  
601 Rock Channel Protection, Type B

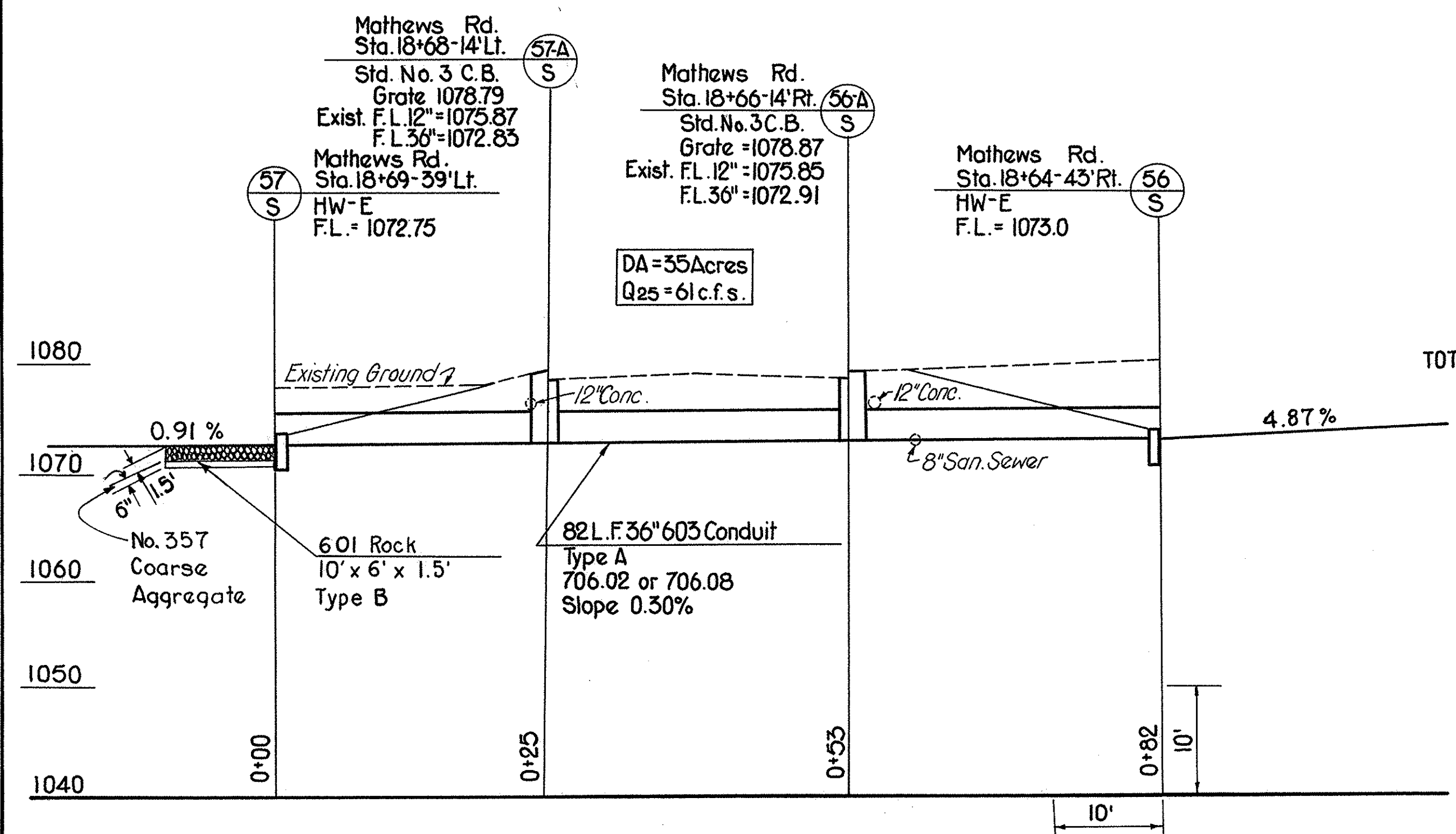
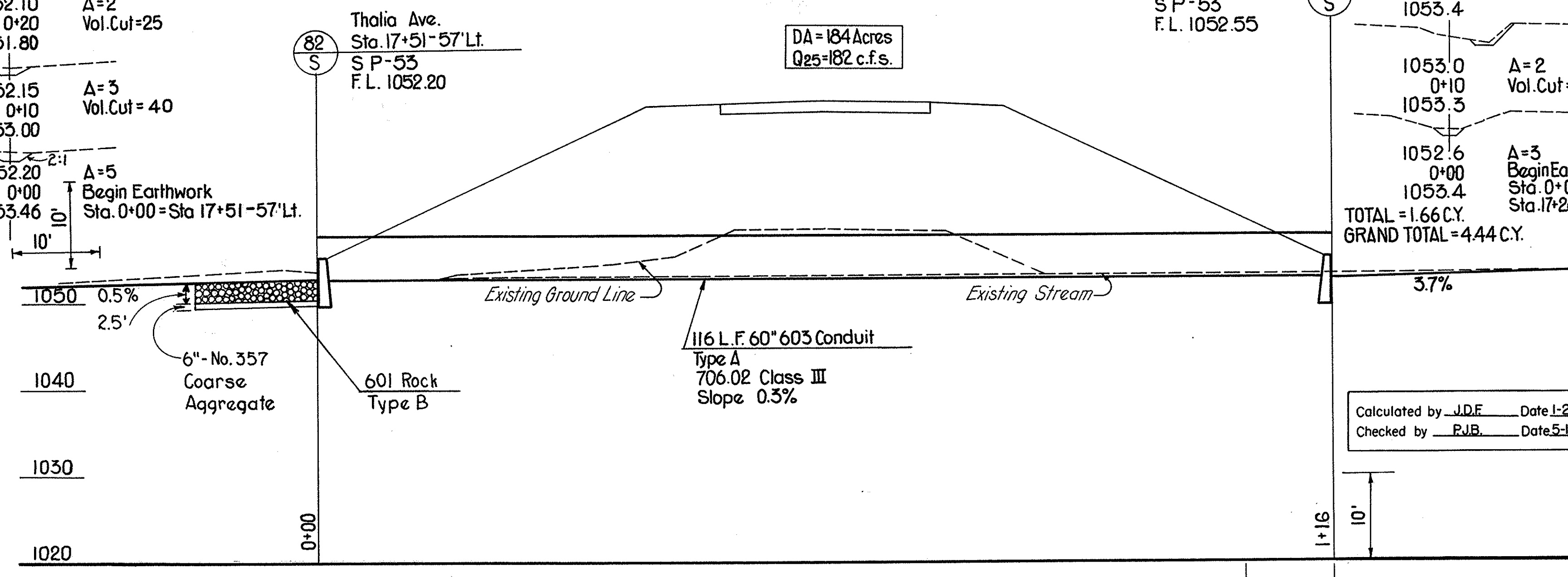
**CULVERT DATA**  
DRAINAGE AREA = 184 Acres  
TYPE: Std. Pipe Culvert.  
SIZE: 60" x 116"  
SKEW: 12°30' Lt. Fwd.  
Std. DWGS.: MC-4 and SP-53  
WORK REQ'D: Build New Standard Pipe Culvert as Shown

**ESTIMATED QUANTITIES**  
603 Conduit 60" Type A 706.02 Class III 116 L.F.  
602 Concrete Masonry 4.40 C.Y.  
203 Excavation Not Including Embankment Construction 5 C.Y.  
601 Rock Channel Protection, Type B 16 C.Y.

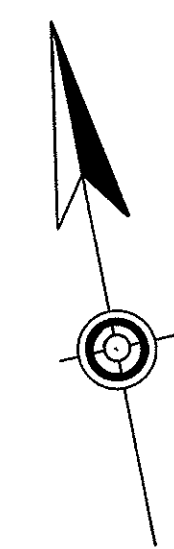
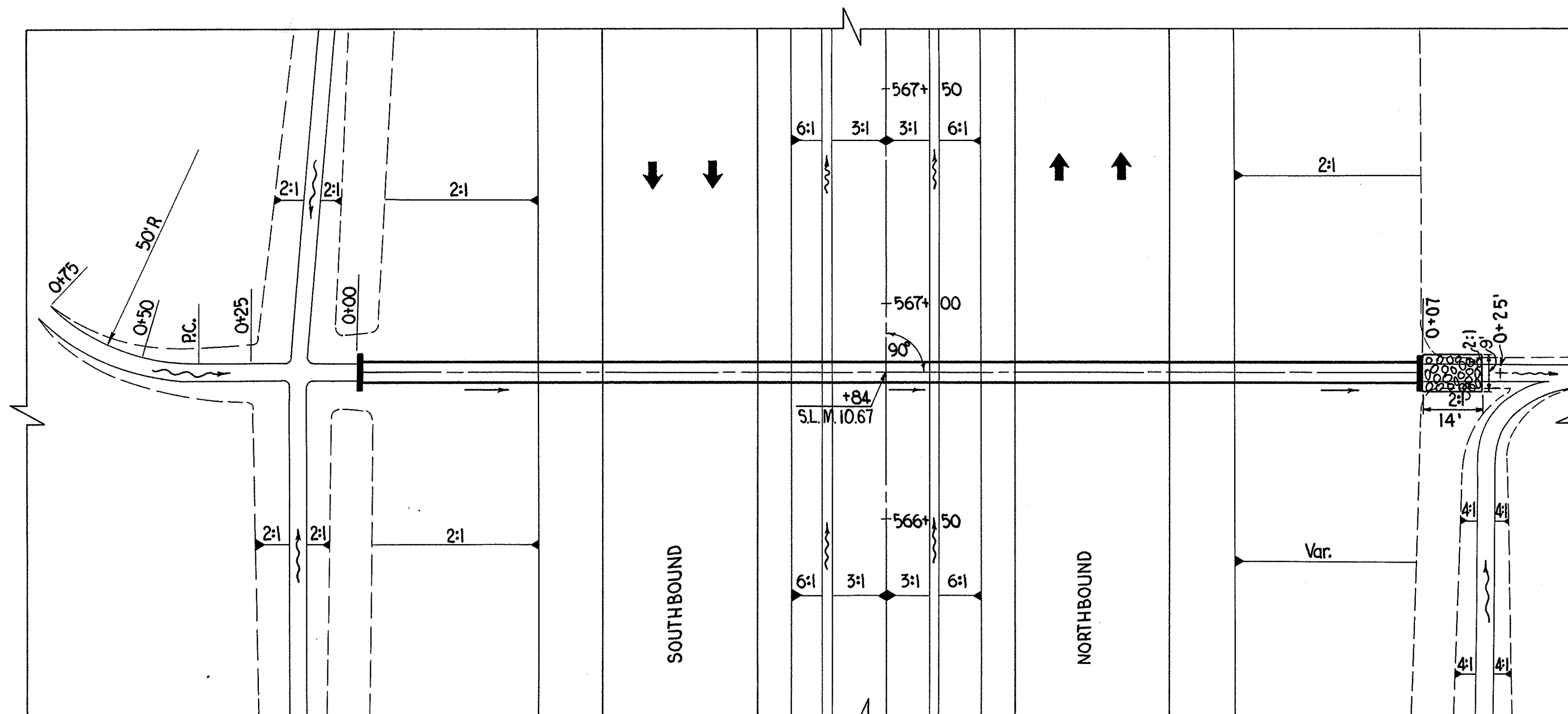


Station	Elevation	Area (A)	Volume Cut
End Earthwork Sta. 0+30	1052.05	Δ=0	Vol. Cut=10
0+30	1052.05		
0+20	1052.10	A=2	Vol. Cut=25
0+10	1051.80		
0+10	1052.15	A=5	Vol. Cut=40
0+00	1053.00		
0+00	1052.20	A=5	Vol. Cut=25
0+00	1053.46		
TOTAL = 2.78 C.Y.			

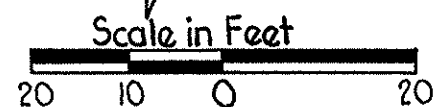
Station	Elevation	Area (A)	Volume Cut
End Earthwork Sta. 0+30	1053.6	Δ=0	Vol. Cut=5
0+30	1053.6		
0+20	1053.4	Δ=1	Vol. Cut=15
0+20	1053.4		
0+10	1053.0	A=2	Vol. Cut=25
0+10	1053.3		
0+00	1052.6	A=3	Vol. Cut=25
0+00	1053.4		
TOTAL = 1.66 C.Y.			
GRAND TOTAL = 4.44 C.Y.			



Calculated by J.D.F. Date 1-23-67  
Checked by P.J.B. Date 5-12-69



**CULVERT DATA**  
 DRAINAGE AREA=105 Acres  
 TYPE=Std. Pipe Culvert  
 SIZE=54" x 248"  
 SKEW=None  
 STD. DWGS=MC-4 & HW-E  
 WORK REQ'D=Build New 54"x248" Standard Pipe Culvert As Shown



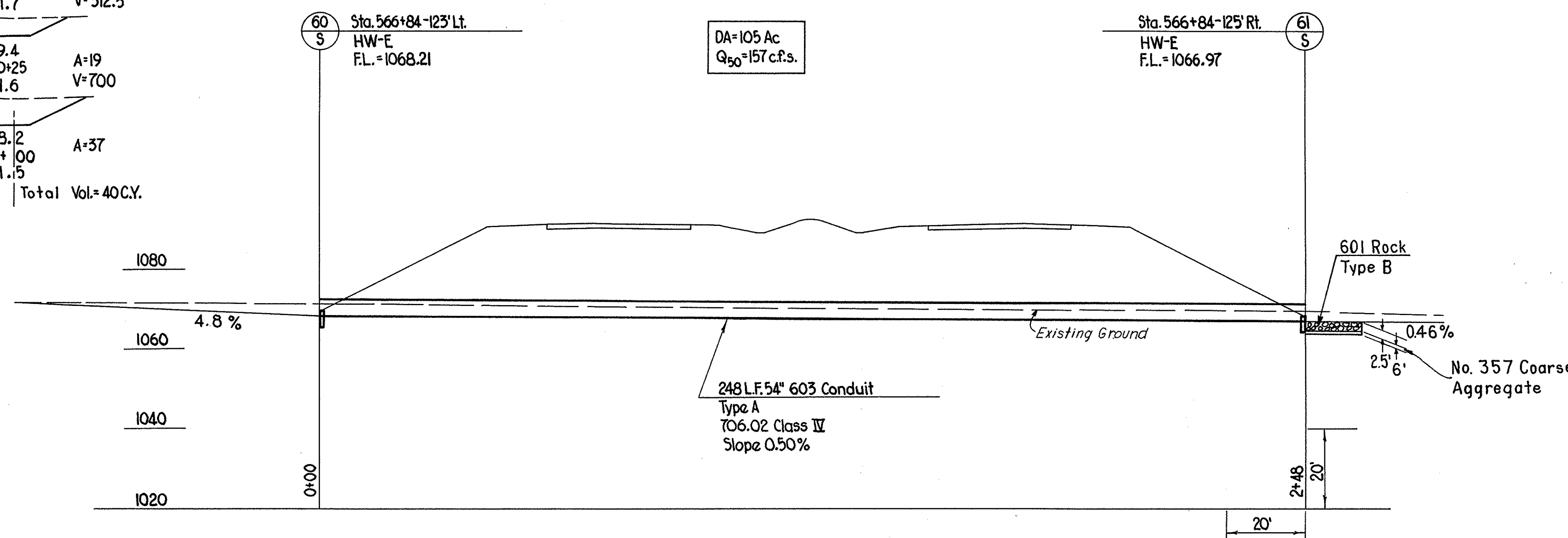
**ESTIMATED QUANTITIES**  
 603 Conduit 54" Type A 706.02 Class IV  
 602 Concrete Masonry  
 203 Excavation not including Embankment Construction  
 601 Rock Channel Protection, Type B

248 L.F.  
 192 C.Y.  
 115 C.Y.  
 14 C.Y.

End Earthwork  
 Sta. 0+75=Sta.566+98-196'Lt.

1071.8	A=0
0+75	V=75
1071.8	
1070.6	A=6
0+50	V=312.5
1071.7	
1069.4	A=19
0+25	V=700
1071.6	
1068.2	A=37
0+00	
1071.5	
Total Vol.=40 C.Y.	

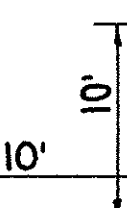
Begin Earthwork  
 Sta. 0+00=Sta.566+84-123'Lt.



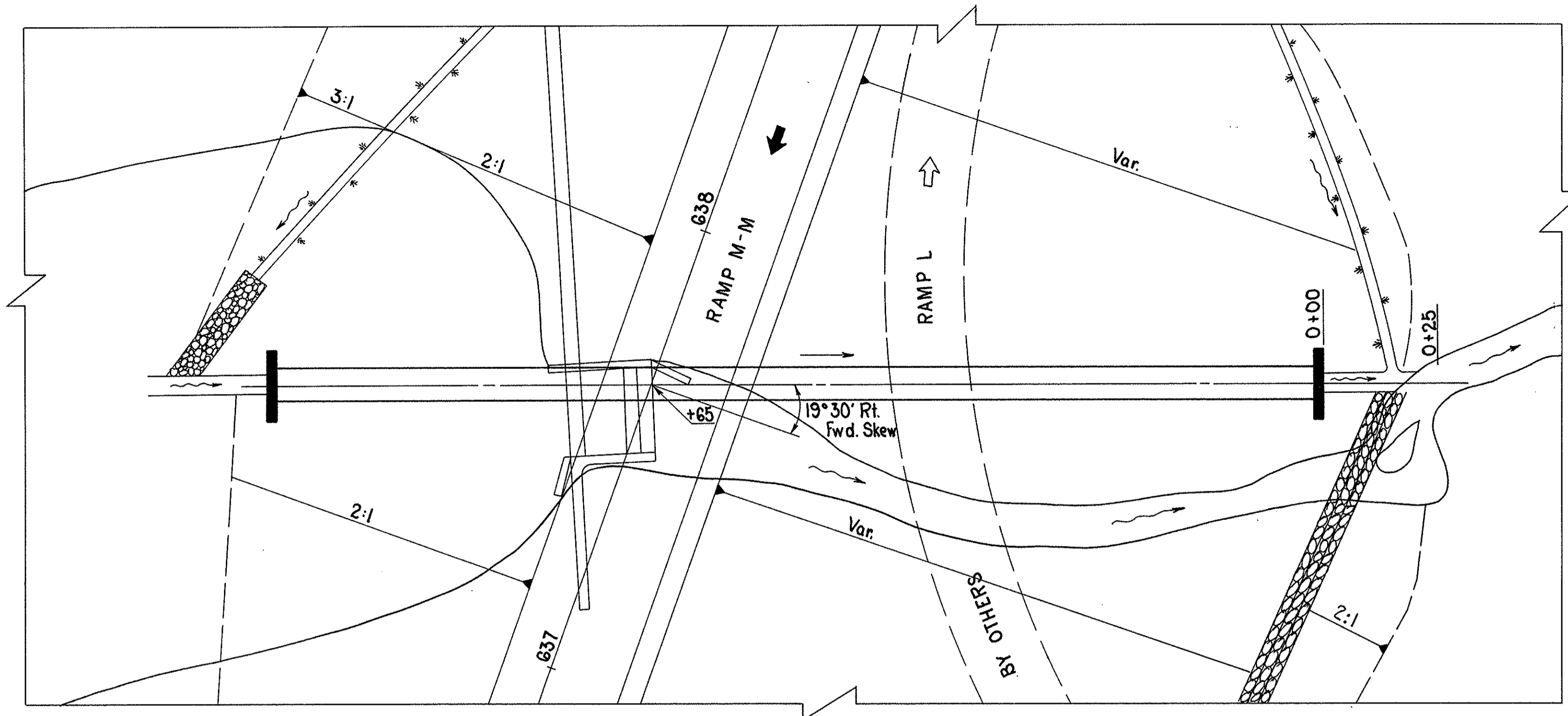
End Earthwork  
 Sta. 2+20=Sta.566+52-333' Rt.

1066.00	A=0
2+20	V=80
1066.0	
1066.09	A=8
2+00	V=212.5
1067.4	
1066.20	A=9
1+75	V=187.5
1067.7	
1066.32	A=6
1+50	V=137.5
1067.4	
1066.43	A=5
1+25	V=150
1067.3	
1066.55	A=7
1+00	V=200
1067.5	
1066.66	A=9
0+75	V=287.5
1068.0	
1066.77	A=14
0+50	V=400
1068.5	
1066.89	A=18
0+25	V=560
1069.0	
1066.97	A=22
0+07	
1069.4	
Total Vol.=75 C.Y.	
Grand Total Vol.=115 C.Y.	

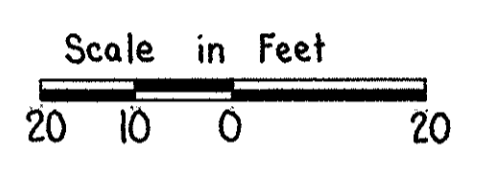
Begin Earthwork  
 Sta. 0+07=Sta.566+84-125' Rt.



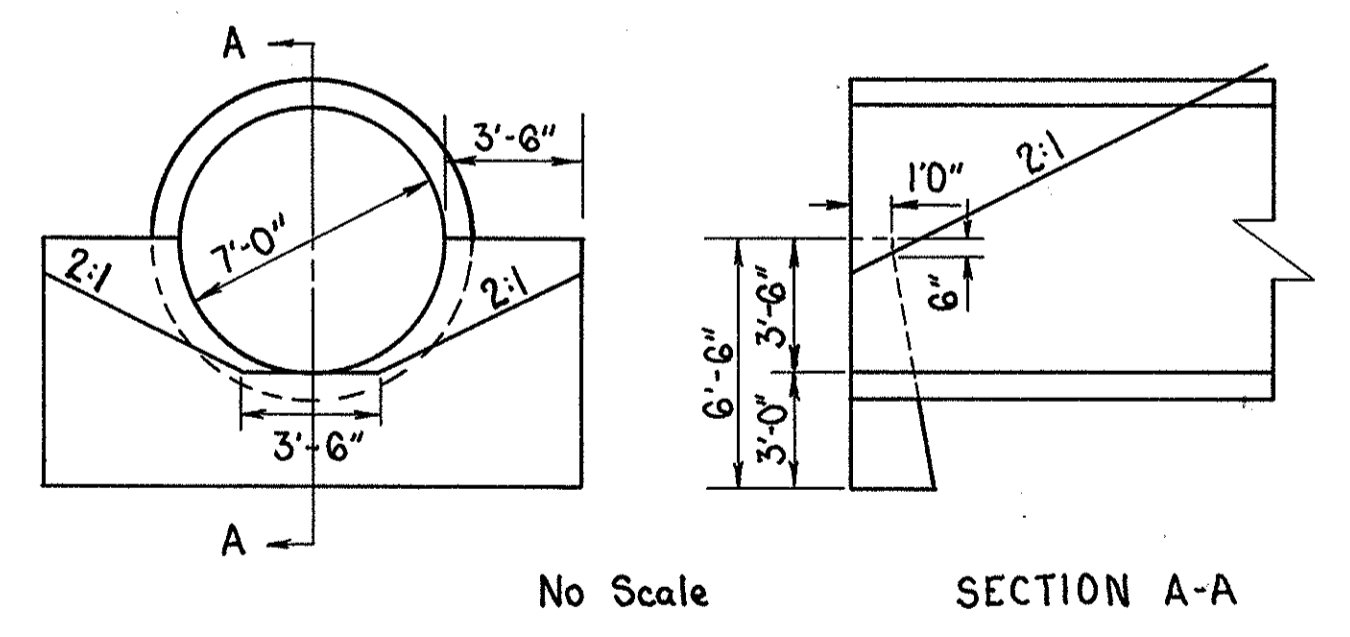
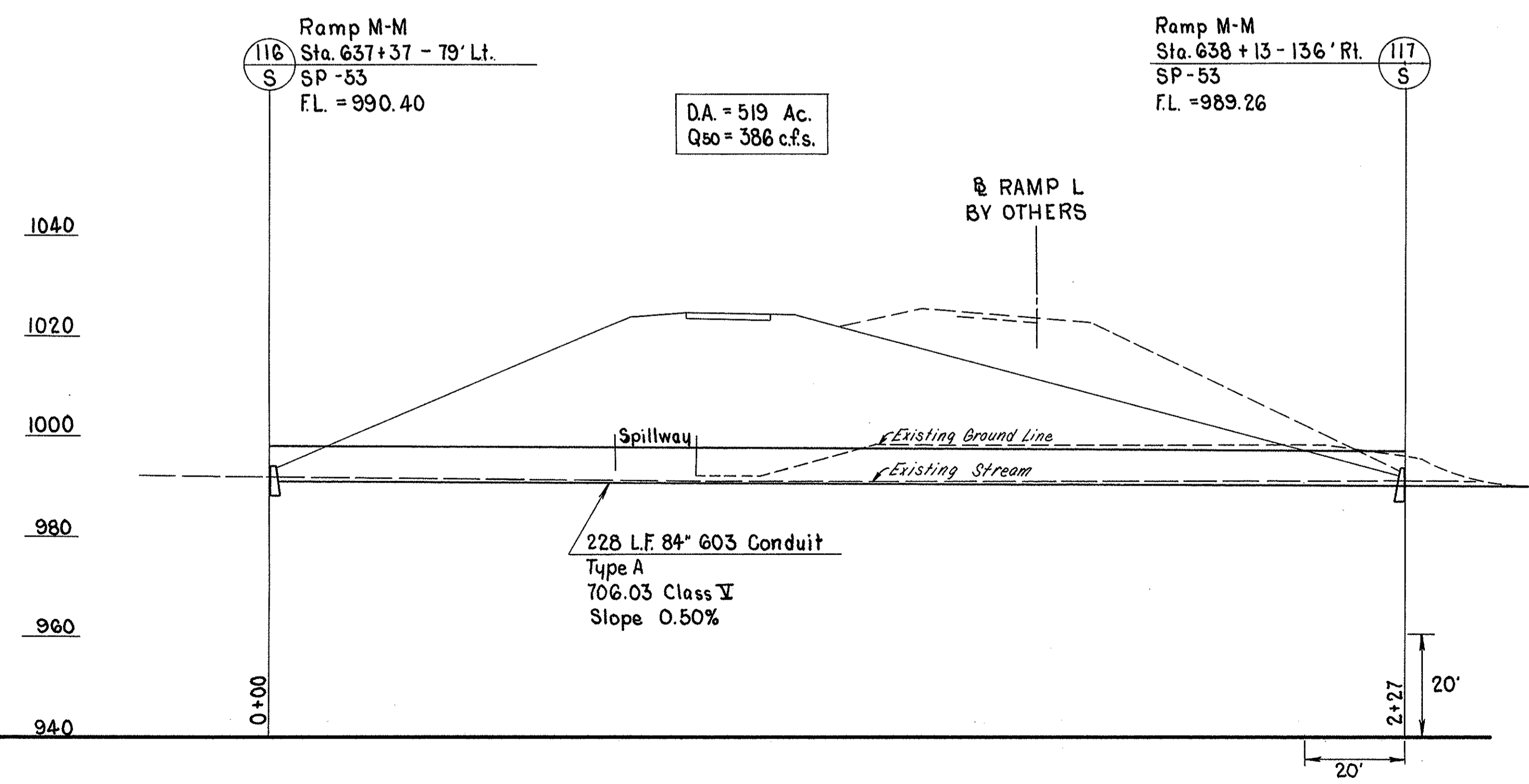
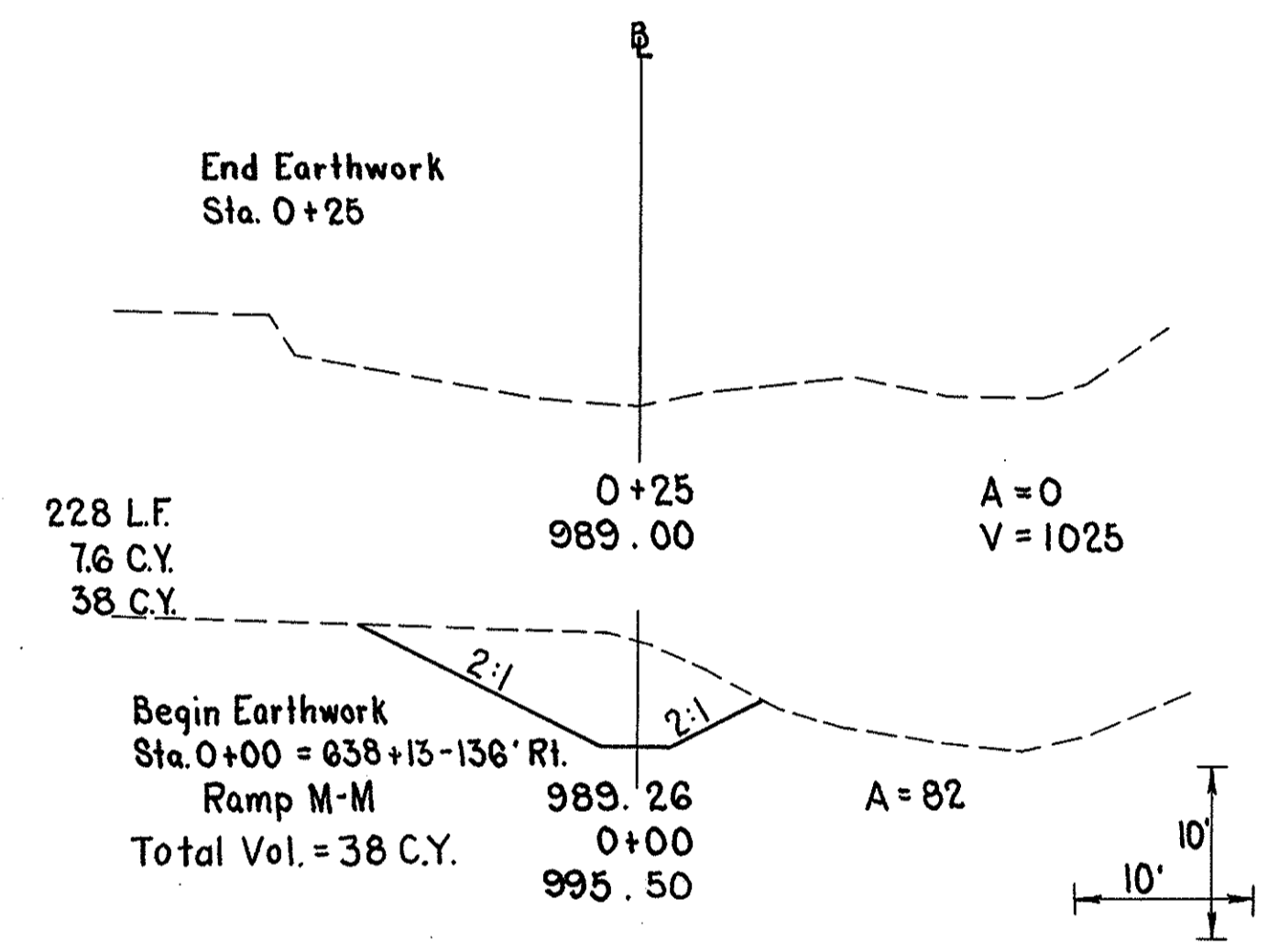
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 Checked by P.J.B. Date 5-12-69



**CULVERT DATA**  
 DRAINAGE AREA : 519 Acres  
 TYPE : Std. Pipe Culvert  
 SIZE : 84" x 228'  
 SKEW : 19° 30' Rt. Fwd.  
 STD. DWGS. : MC-4 & SP-53  
 WORK REQ'D : Build New 84" x 228' Std. Pipe Culvert

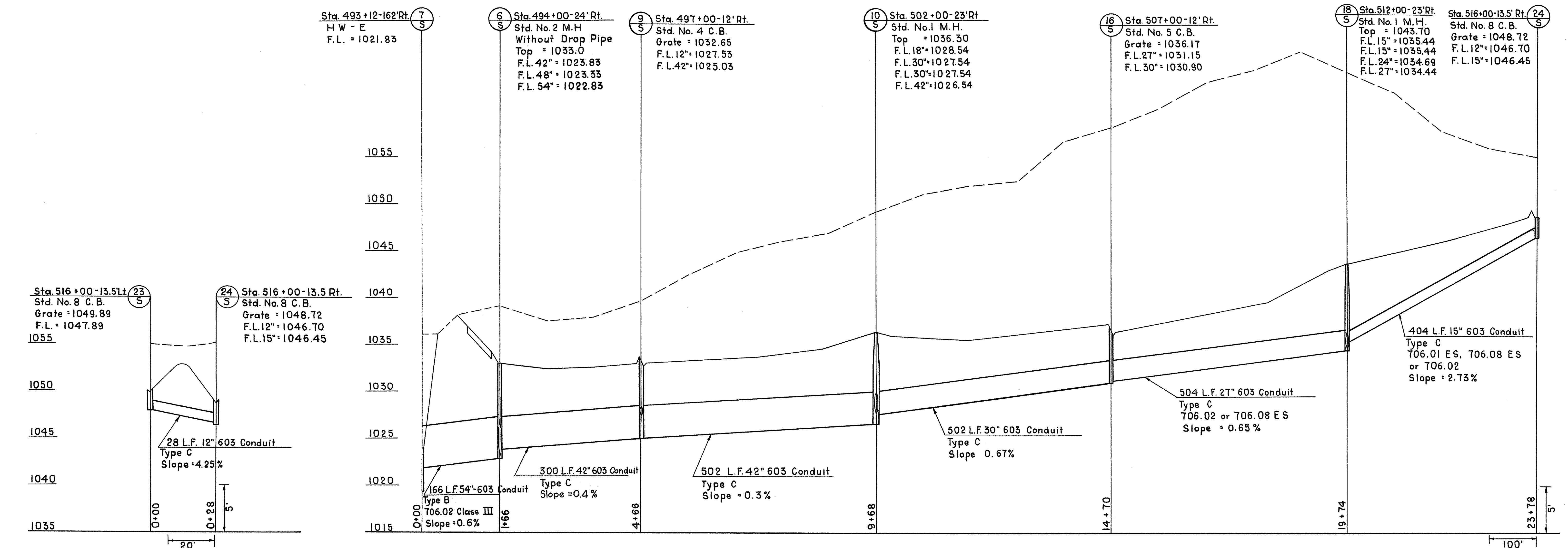
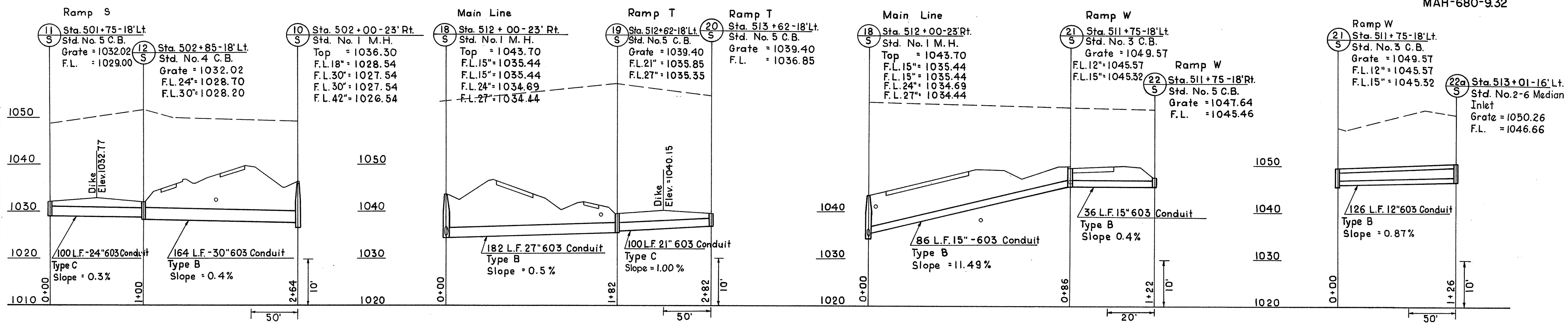


**ESTIMATED QUANTITIES**  
 603 Conduit 84" Type A 706.03 Class V  
 602 Concrete Masonry  
 203 Excavation Not Including Embankment Construction

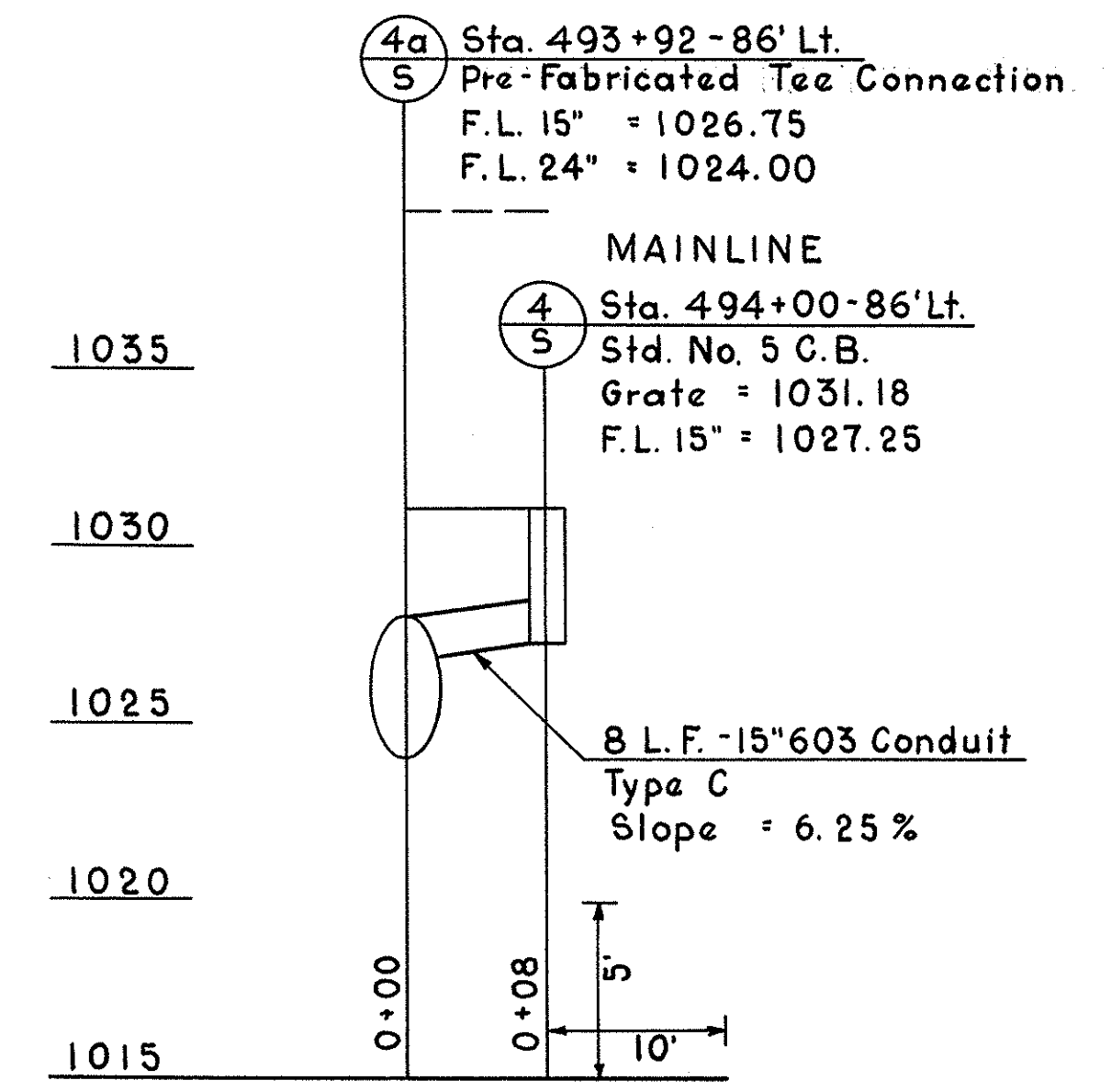
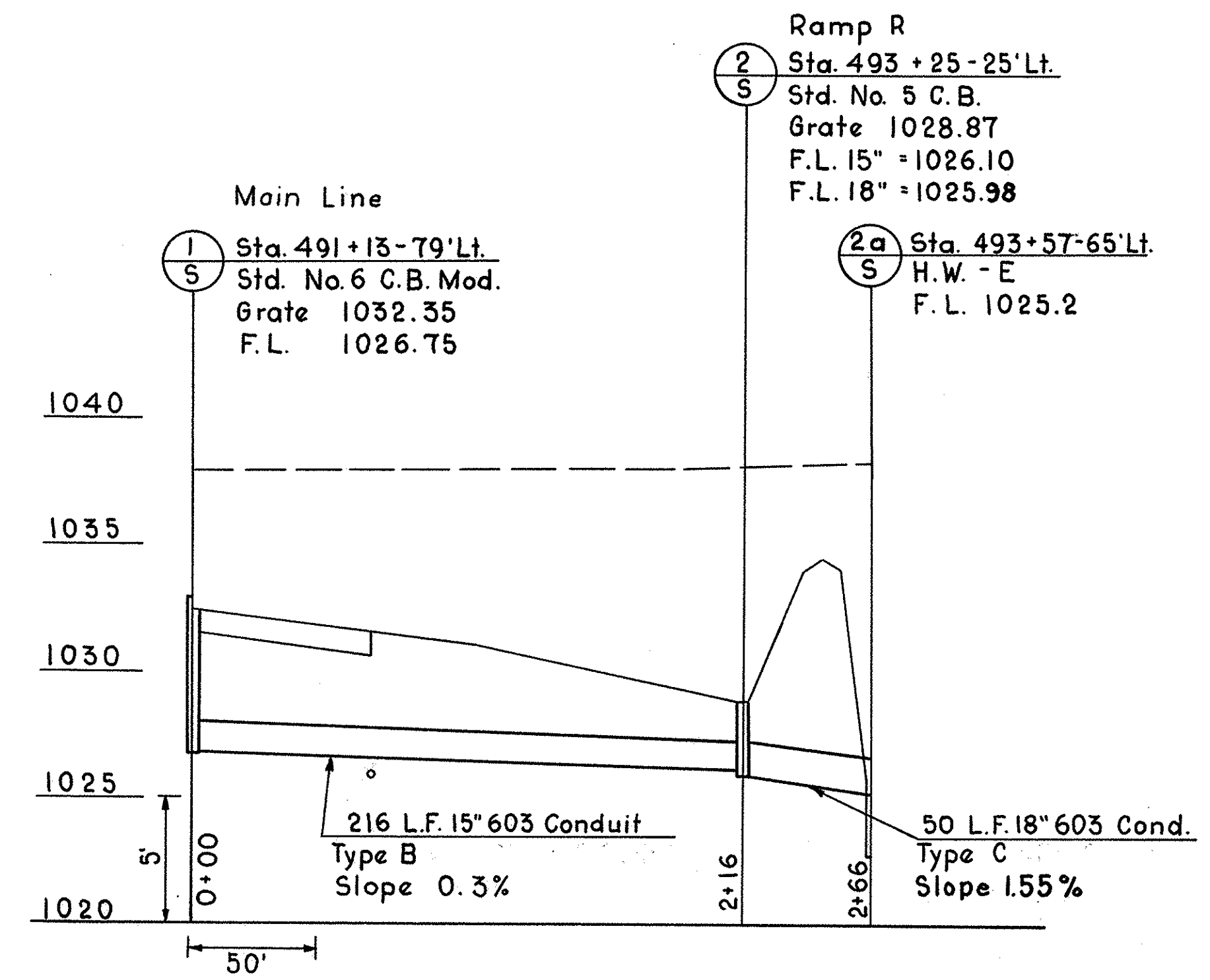
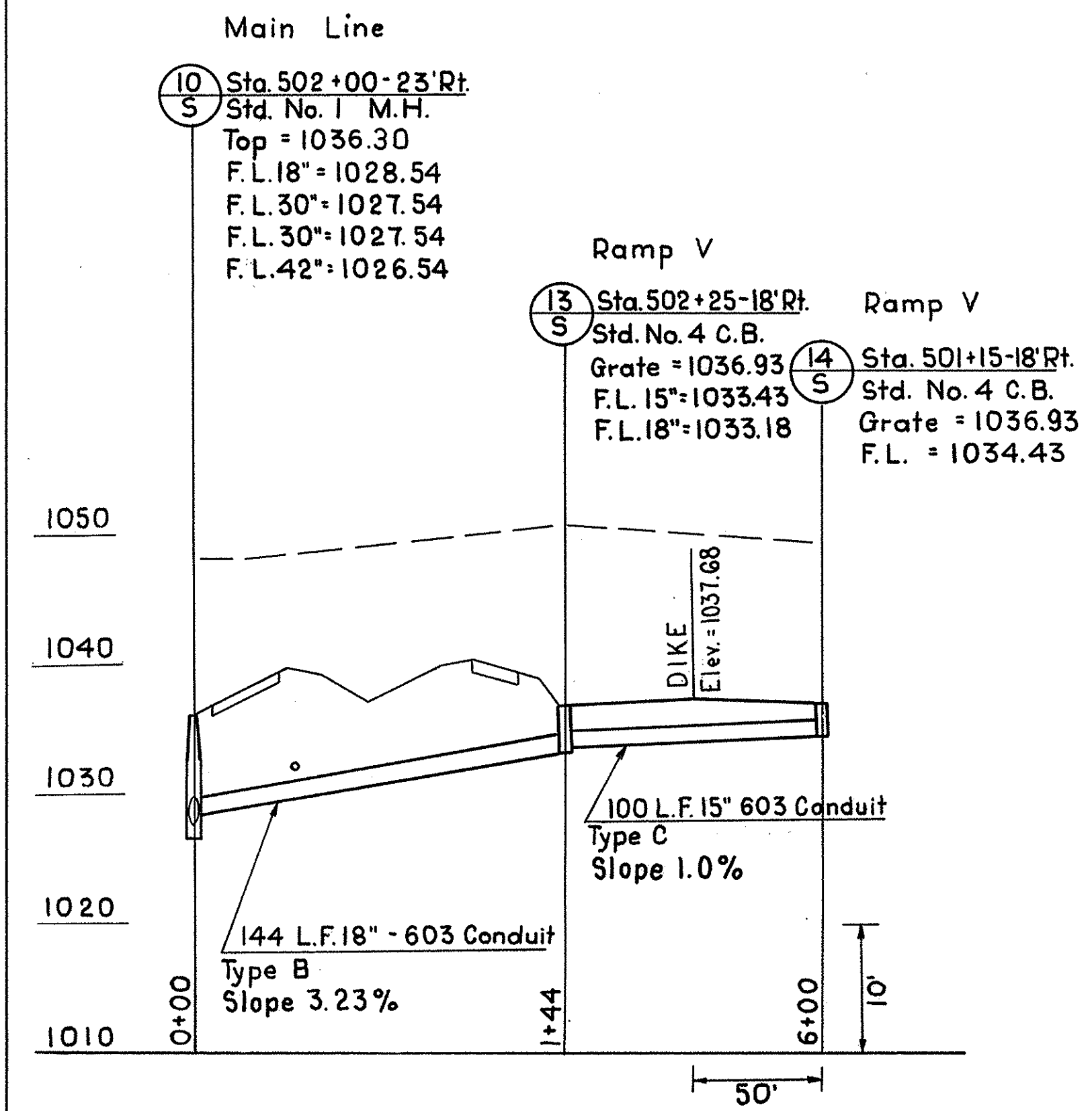
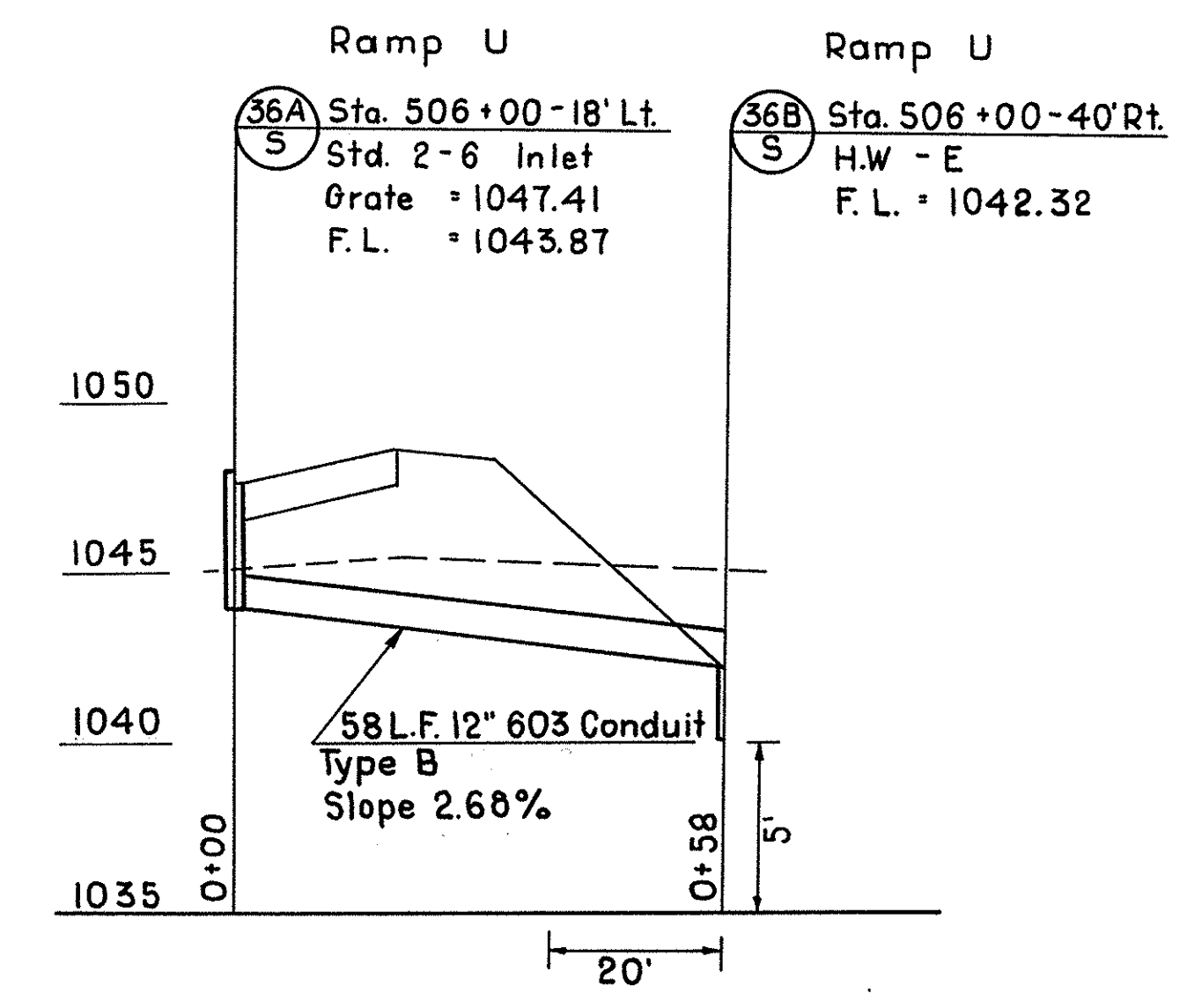
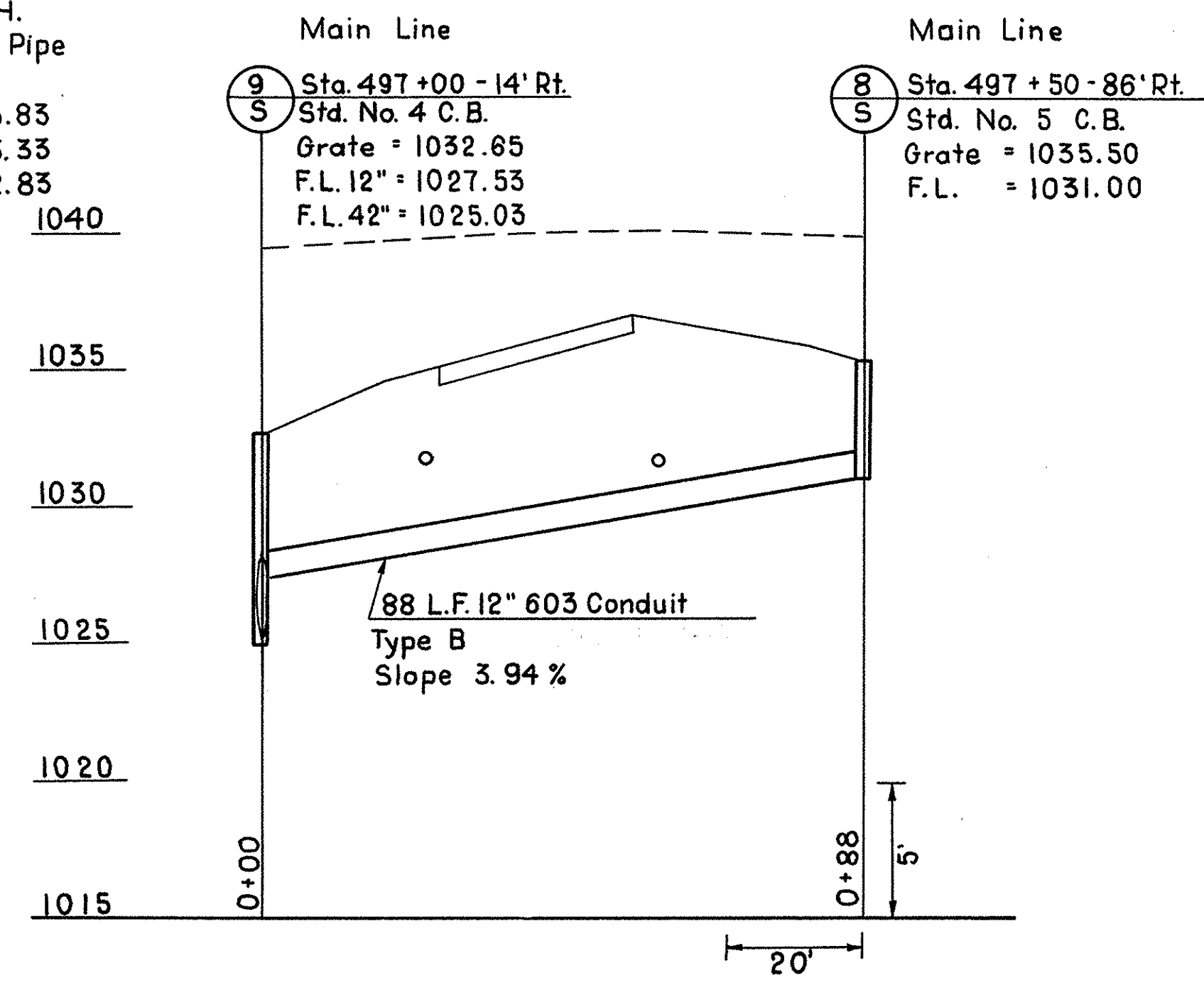
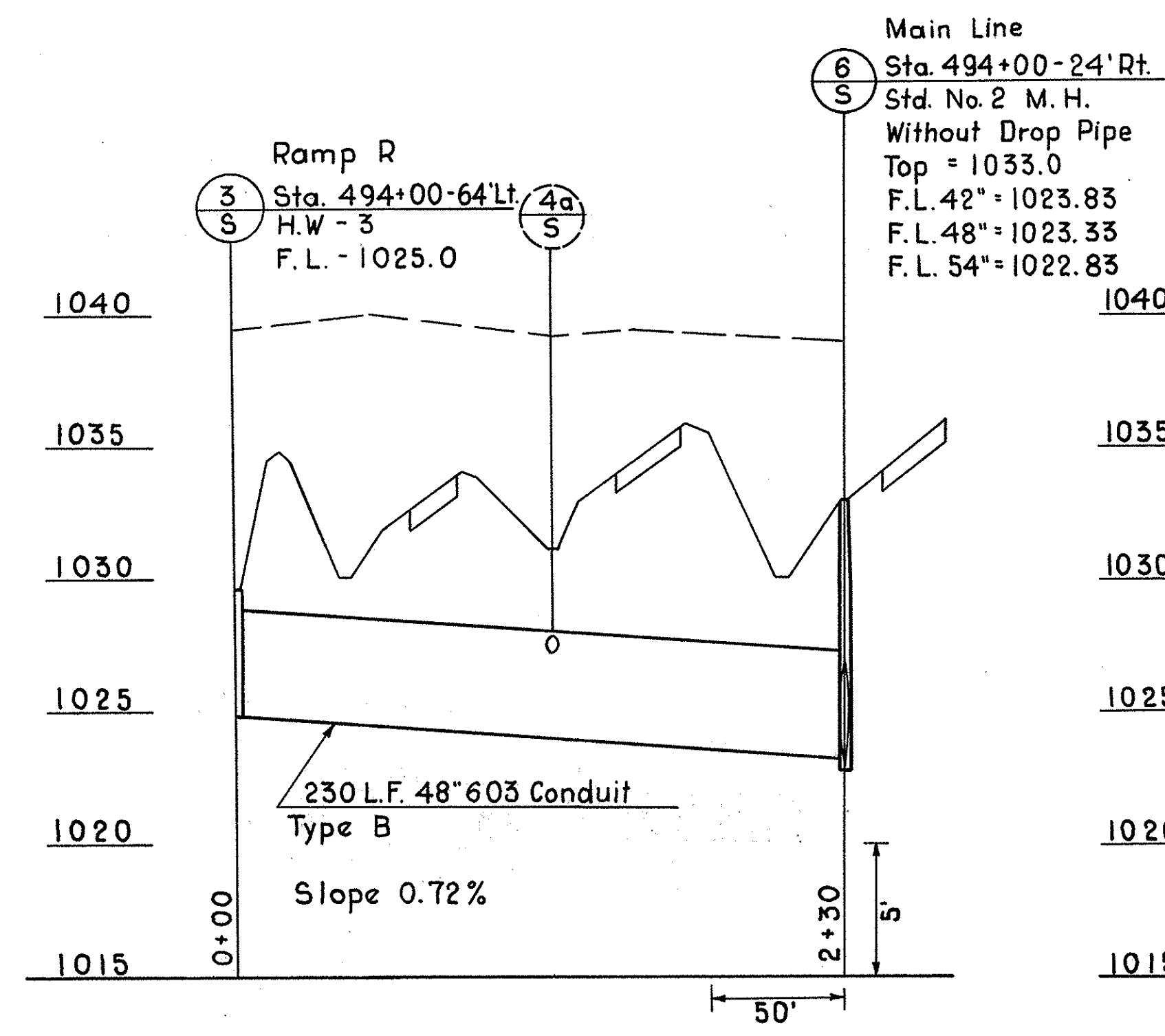


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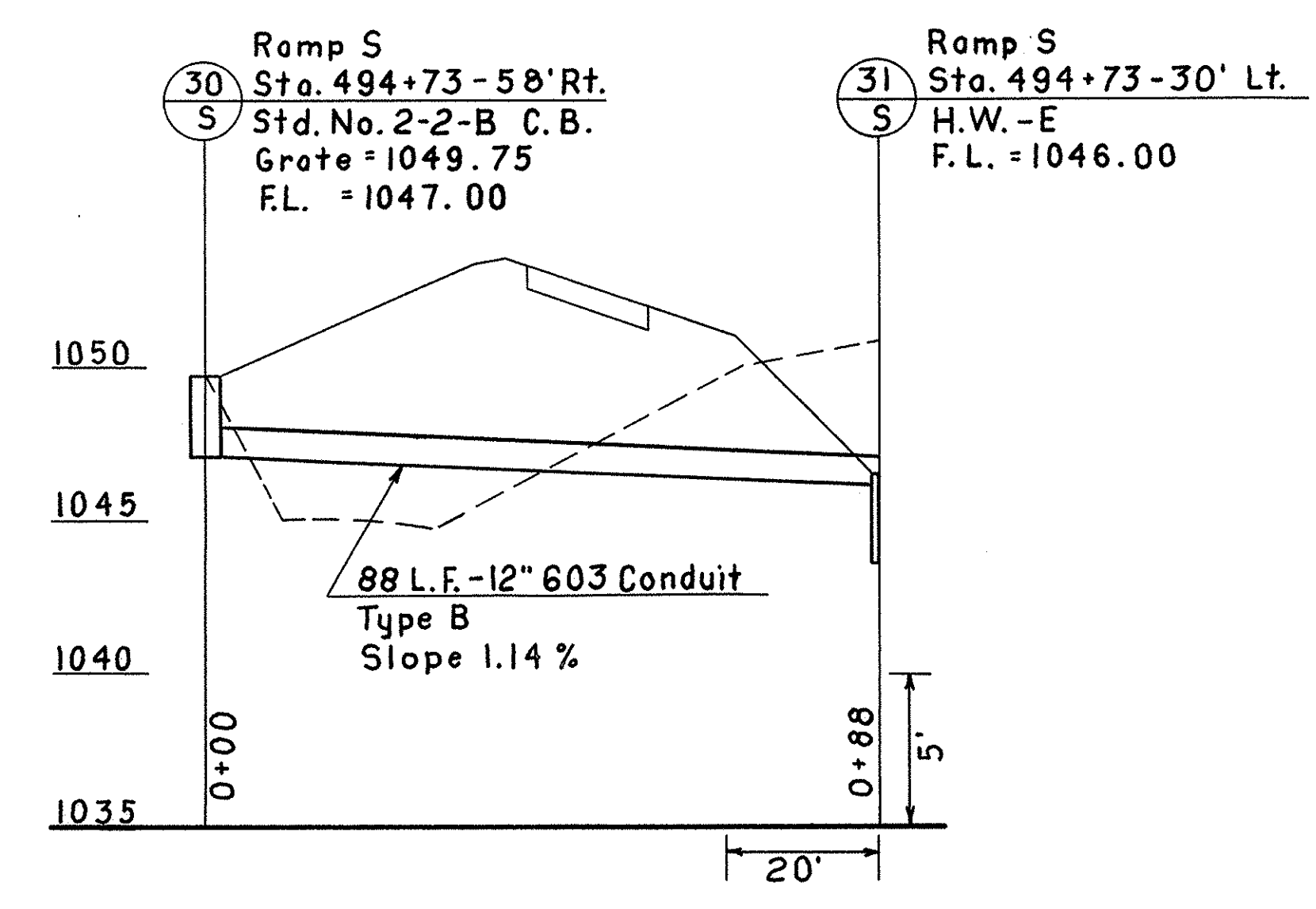
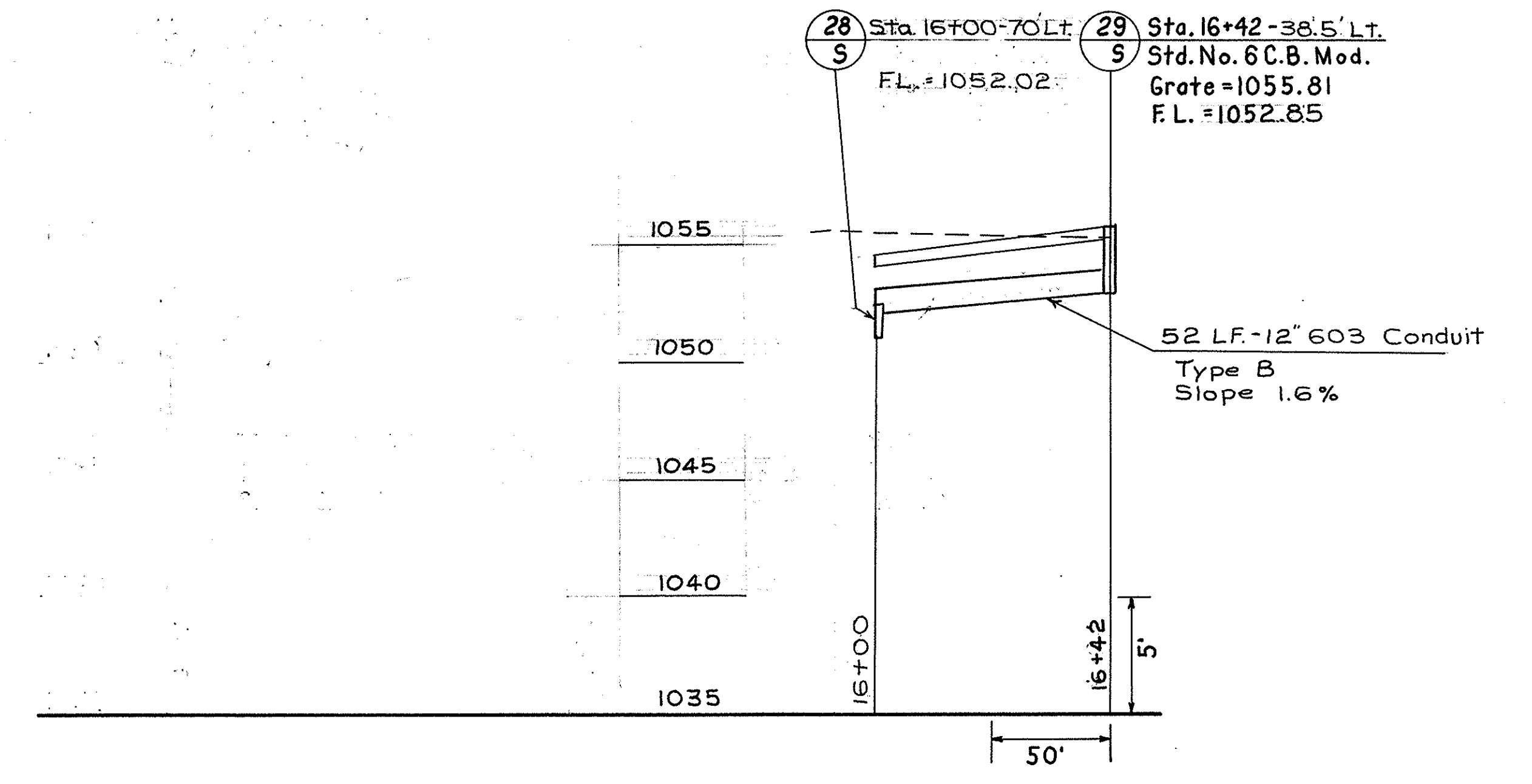
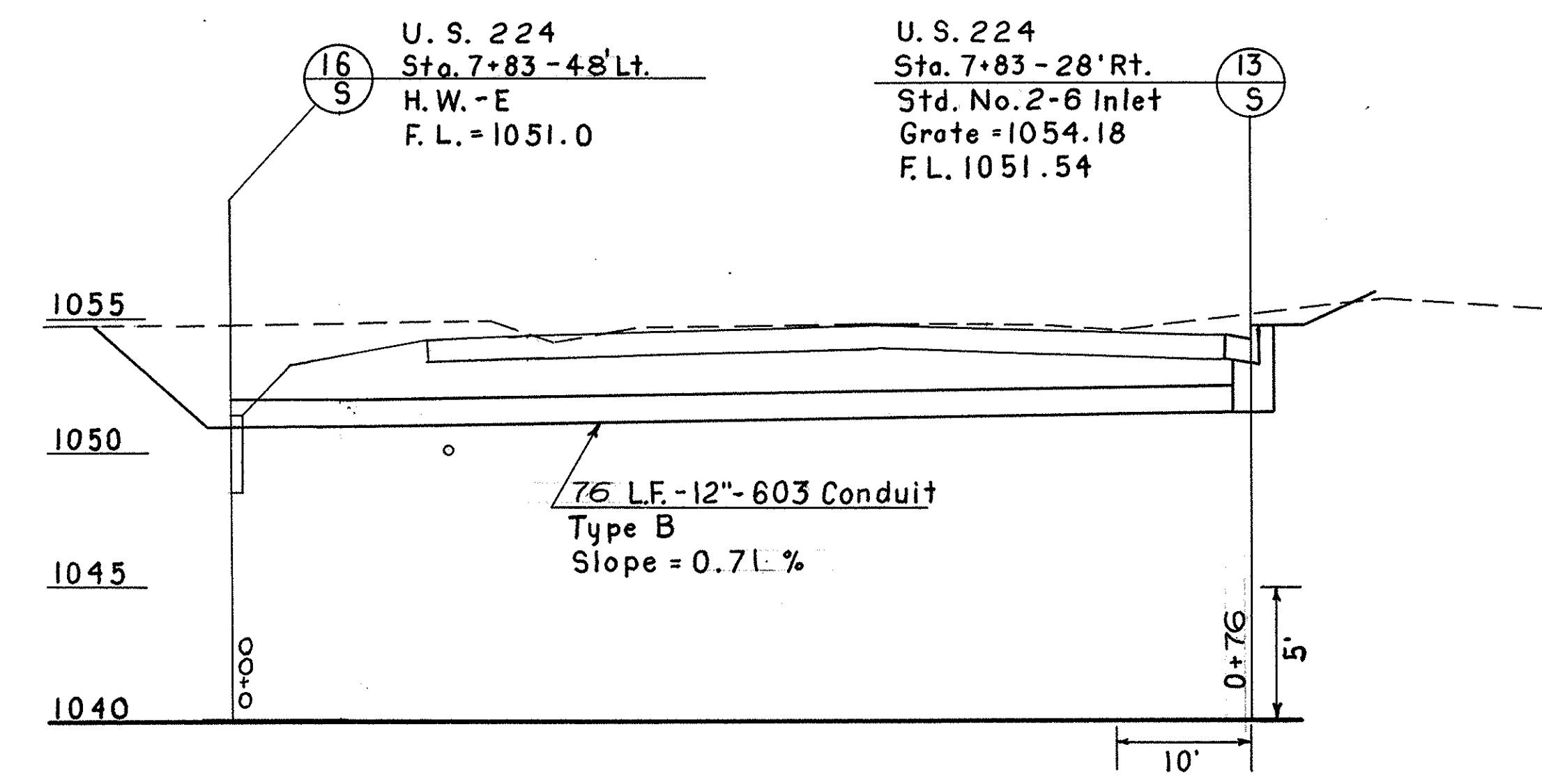




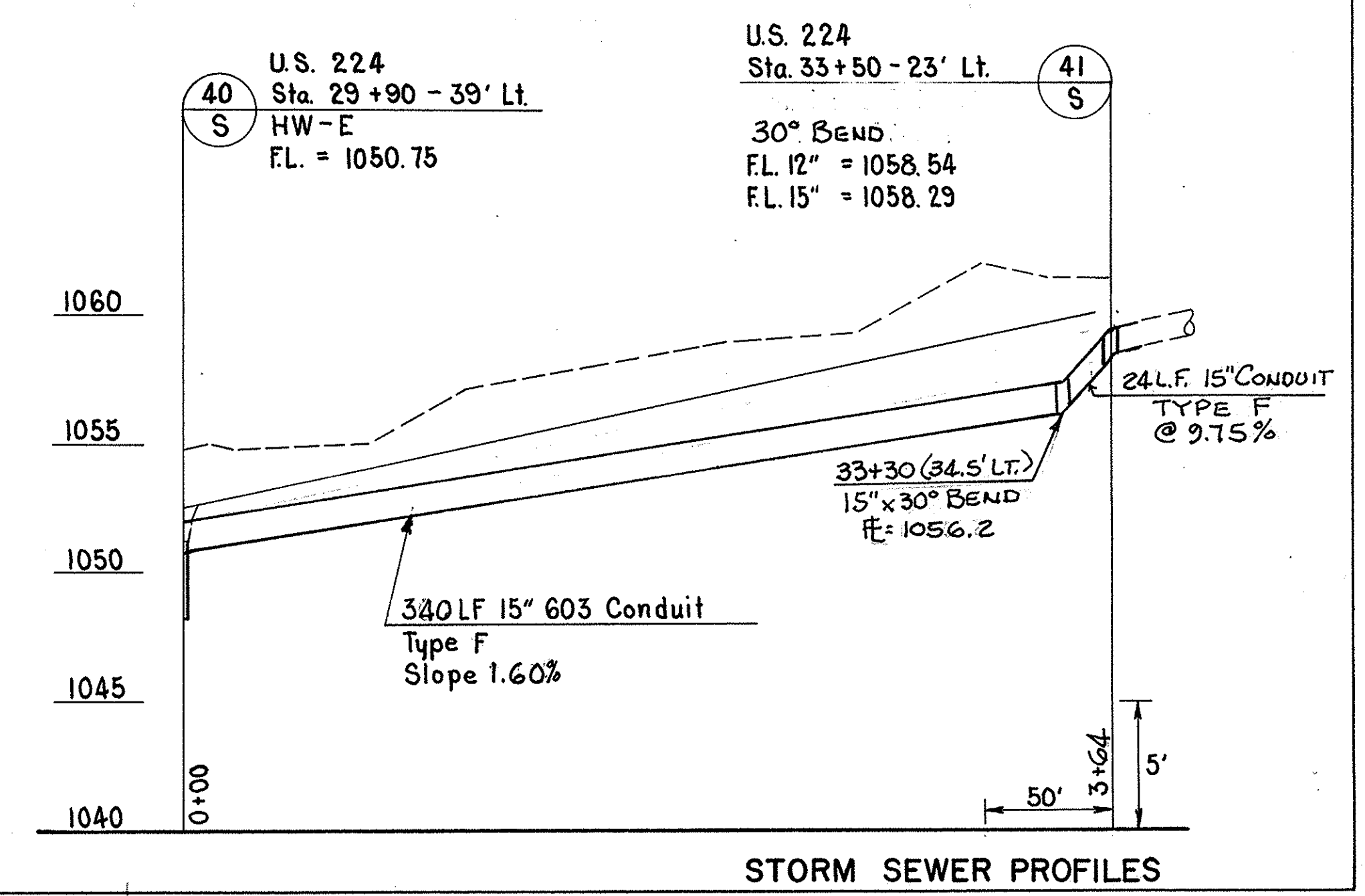
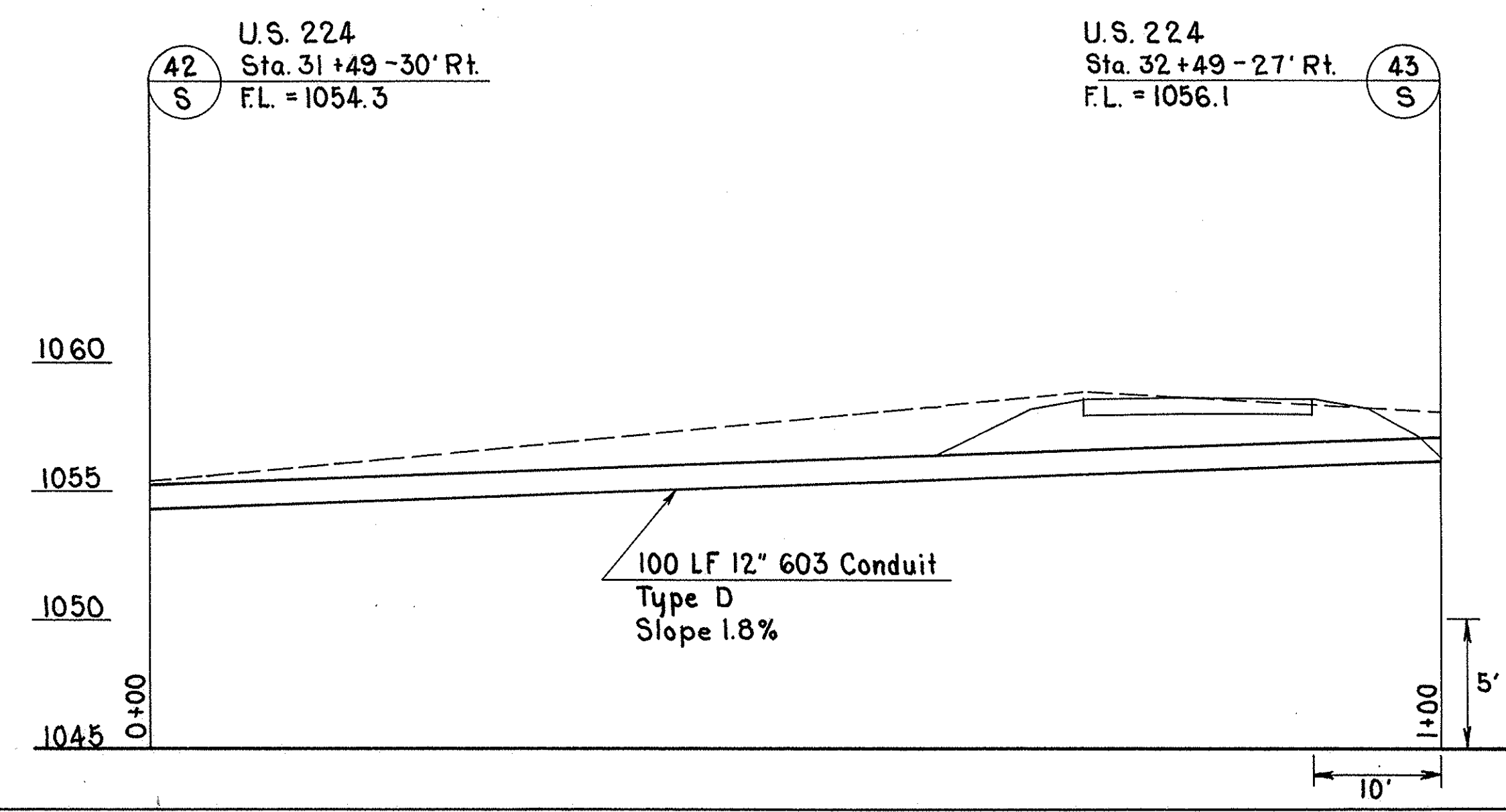
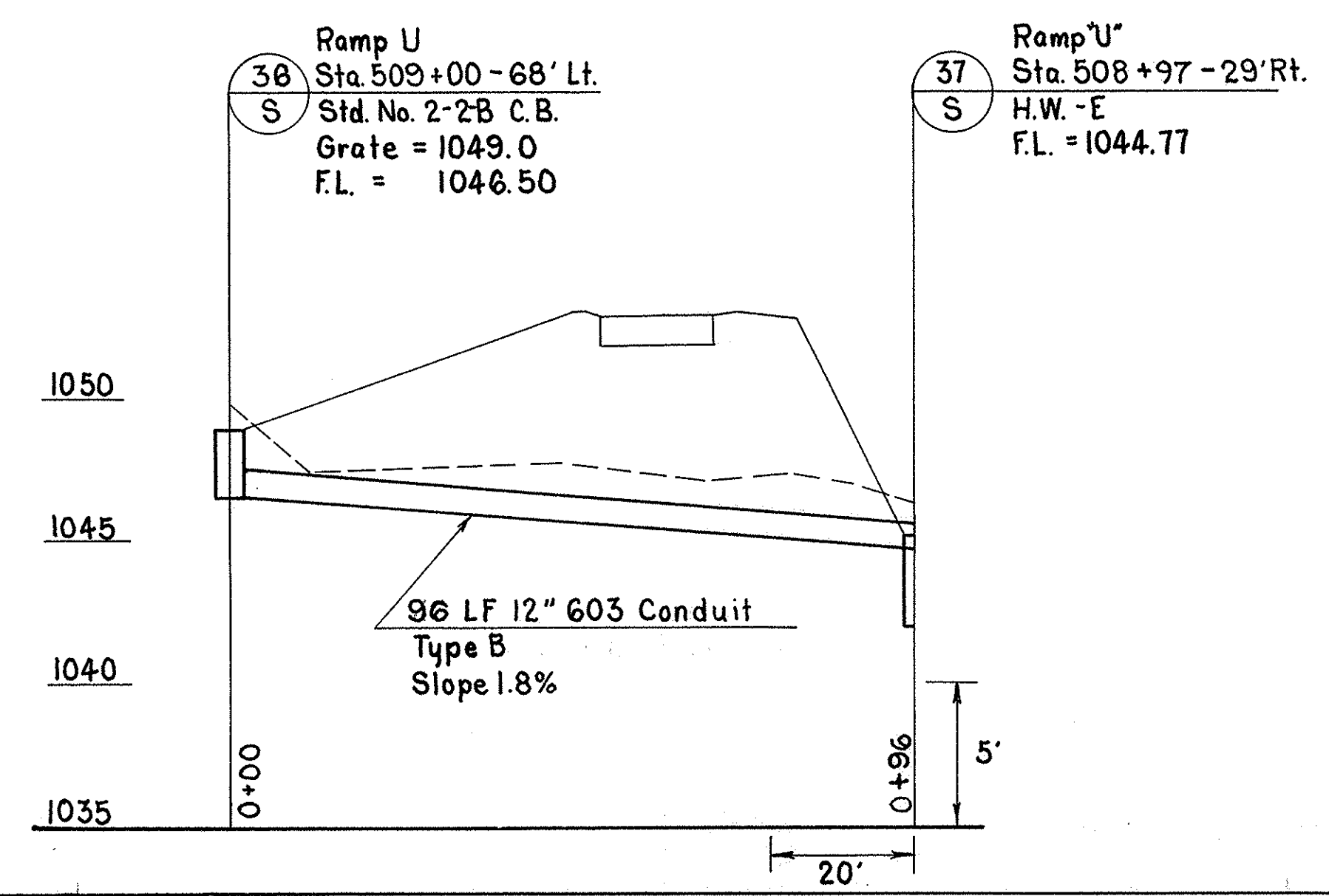
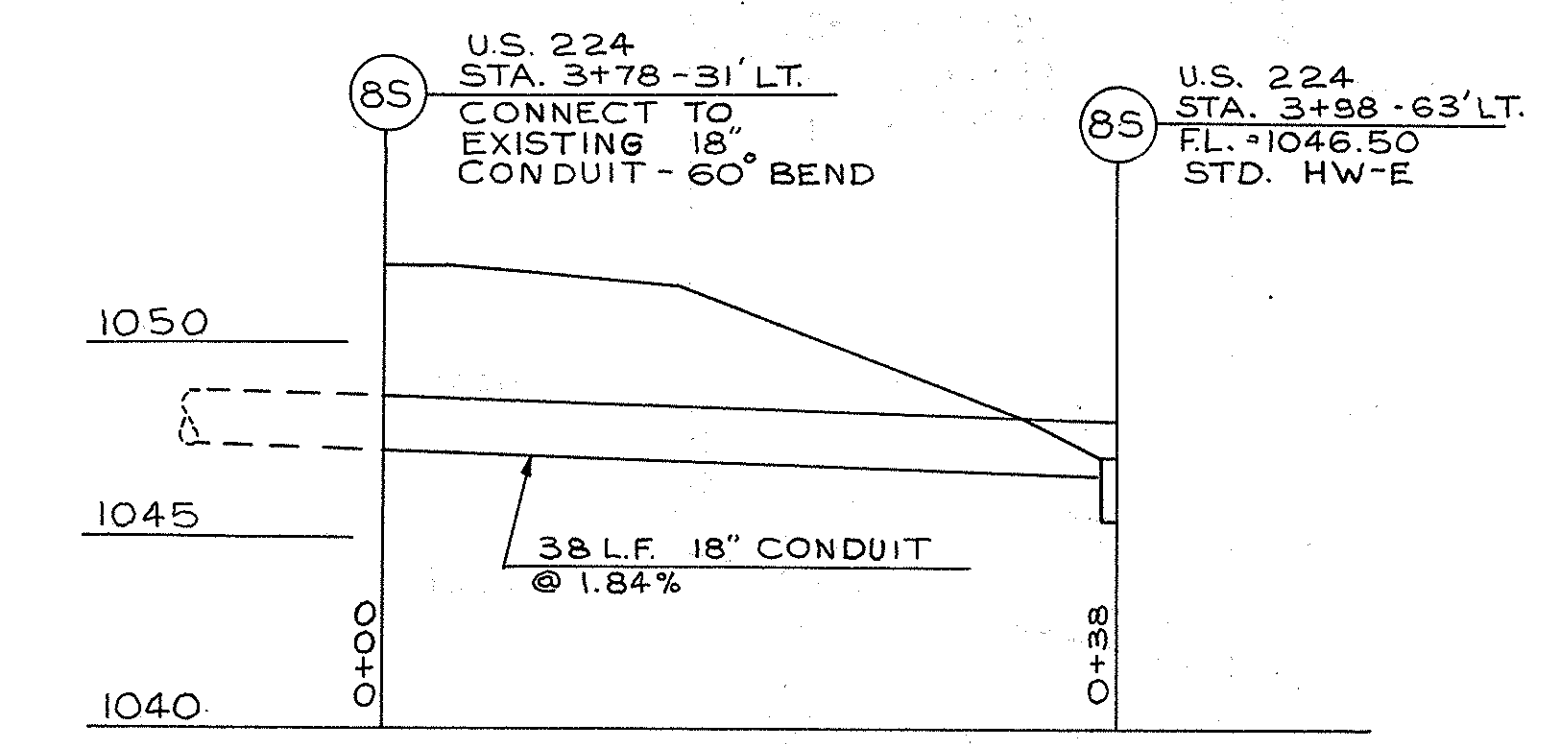
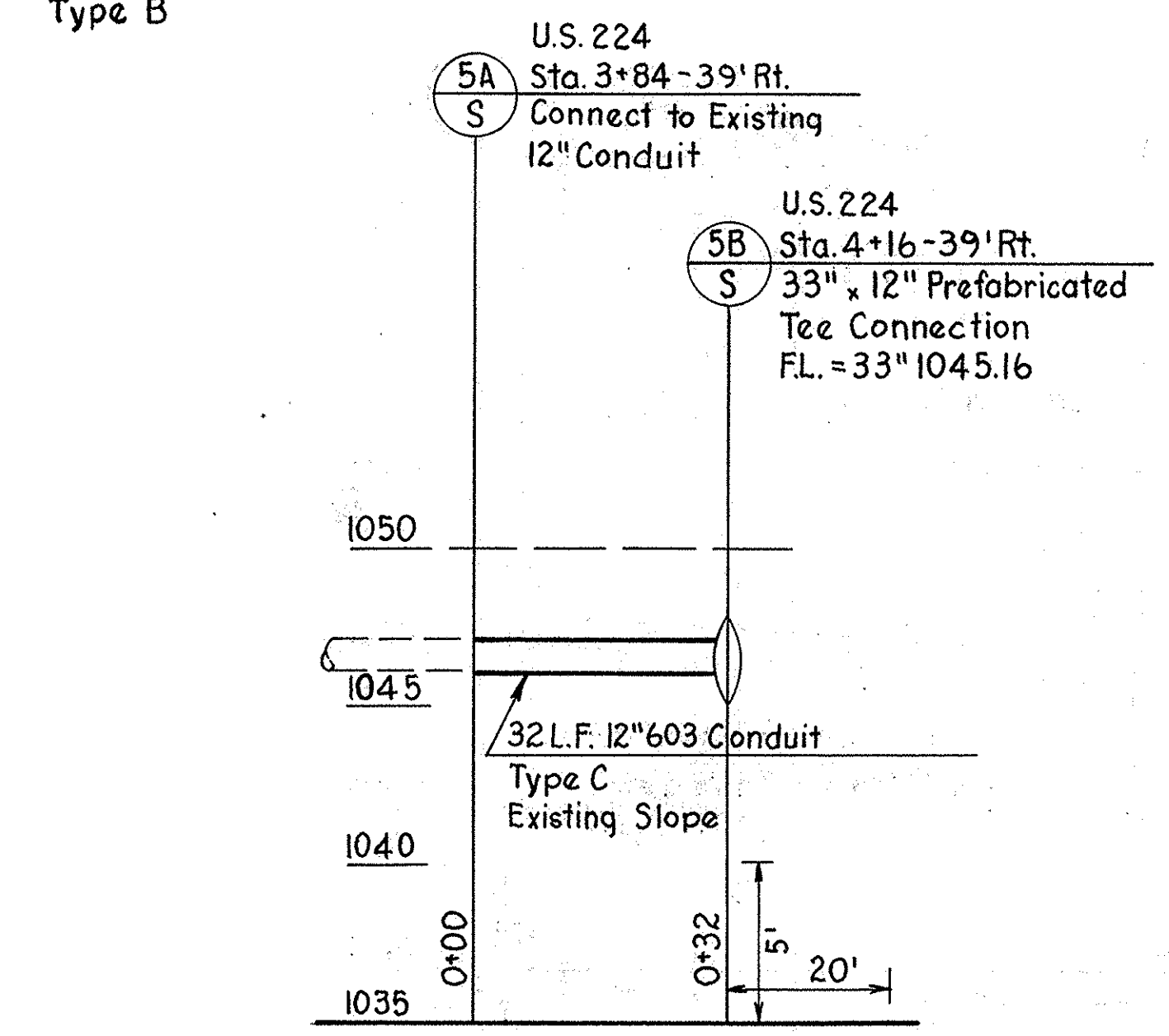
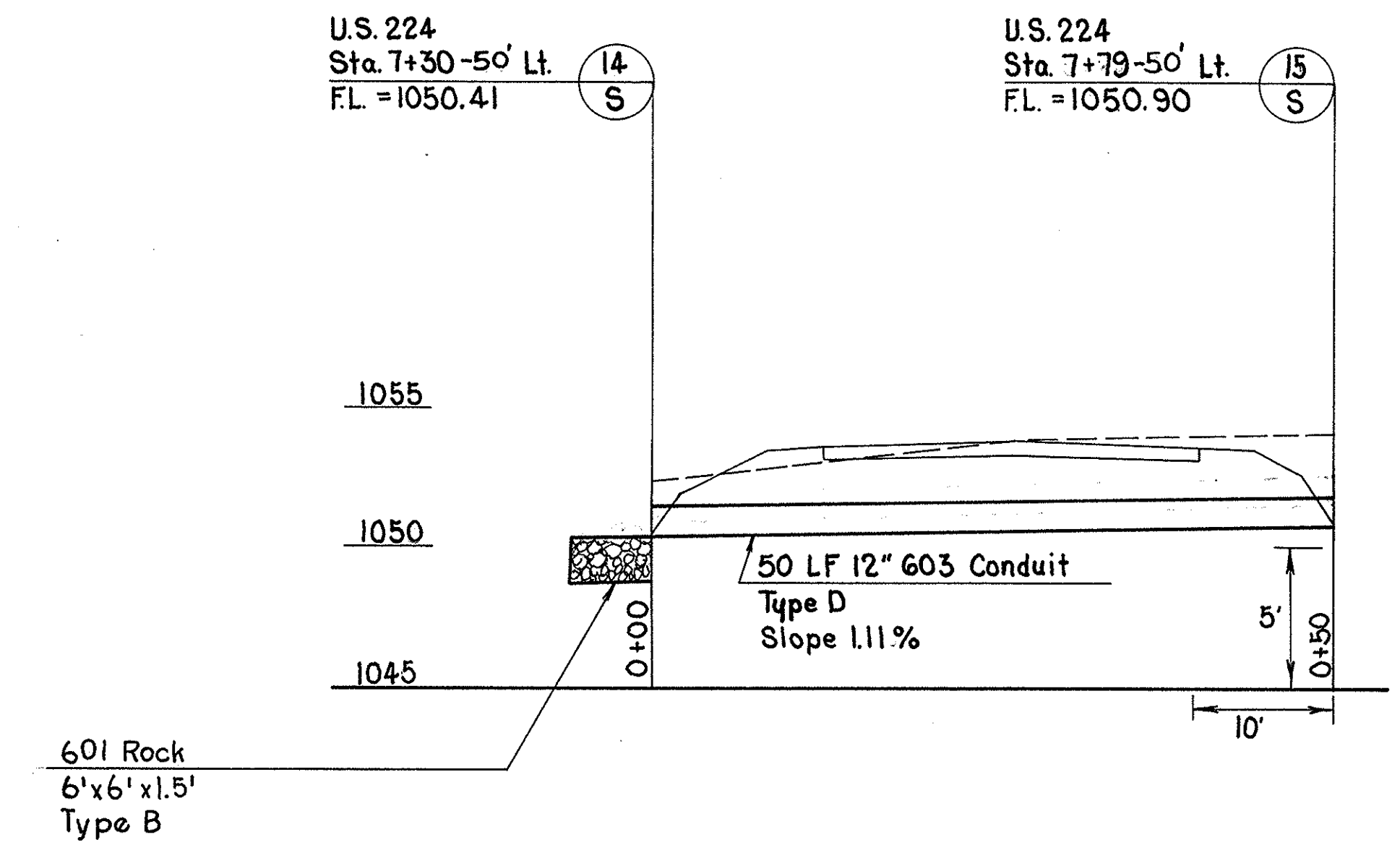
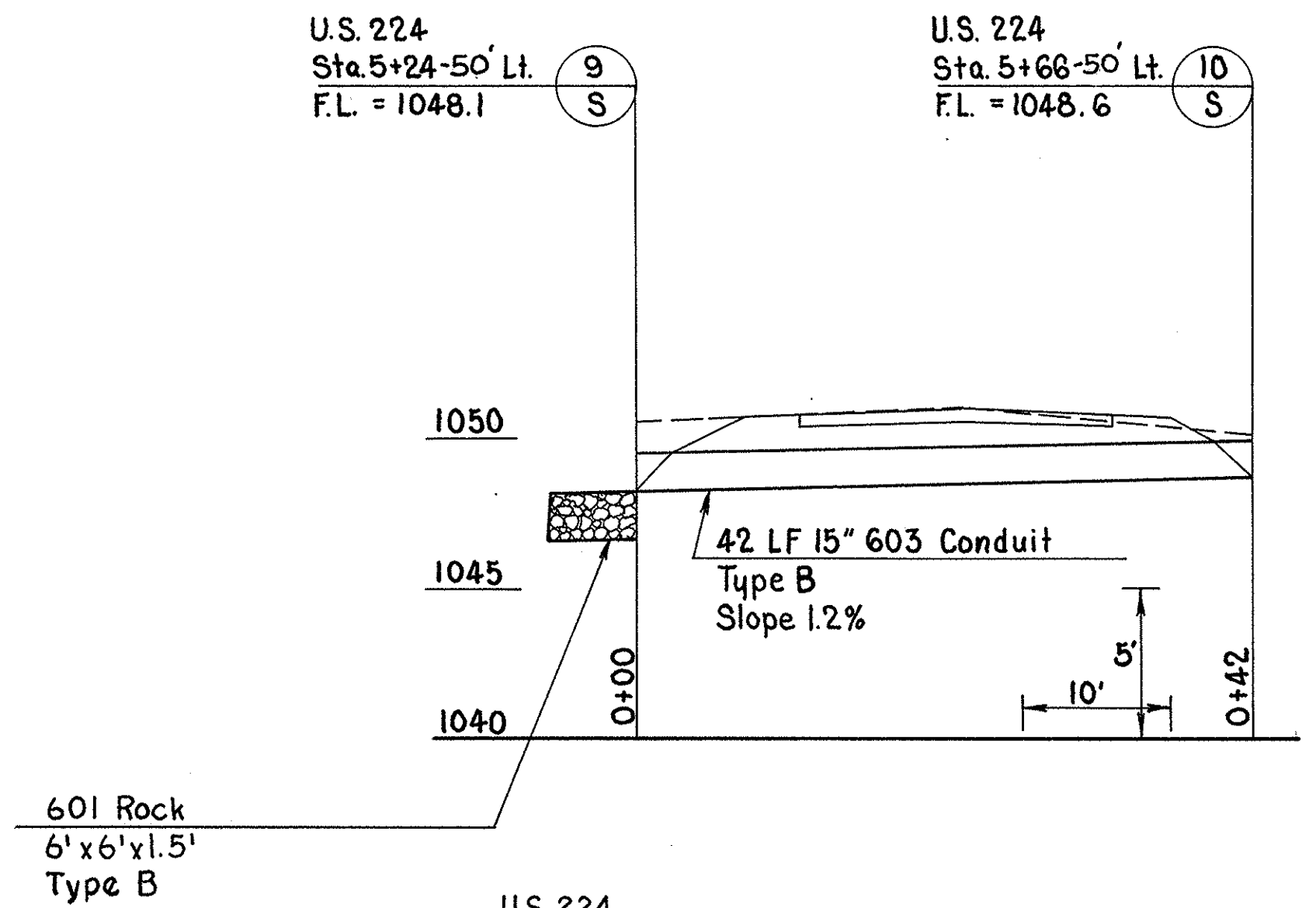
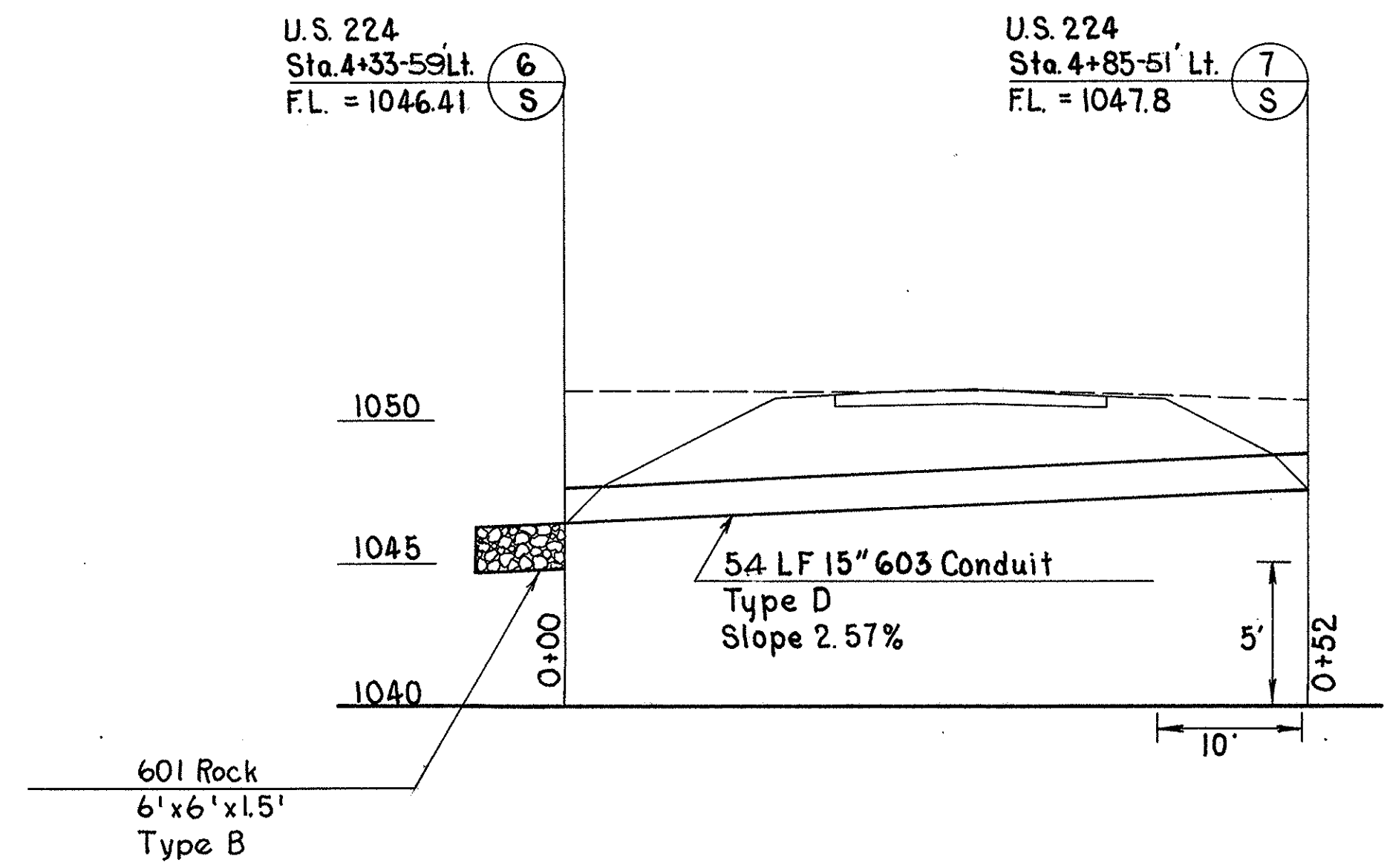
FED. RD. DIVISION	STATE	PROJECT	
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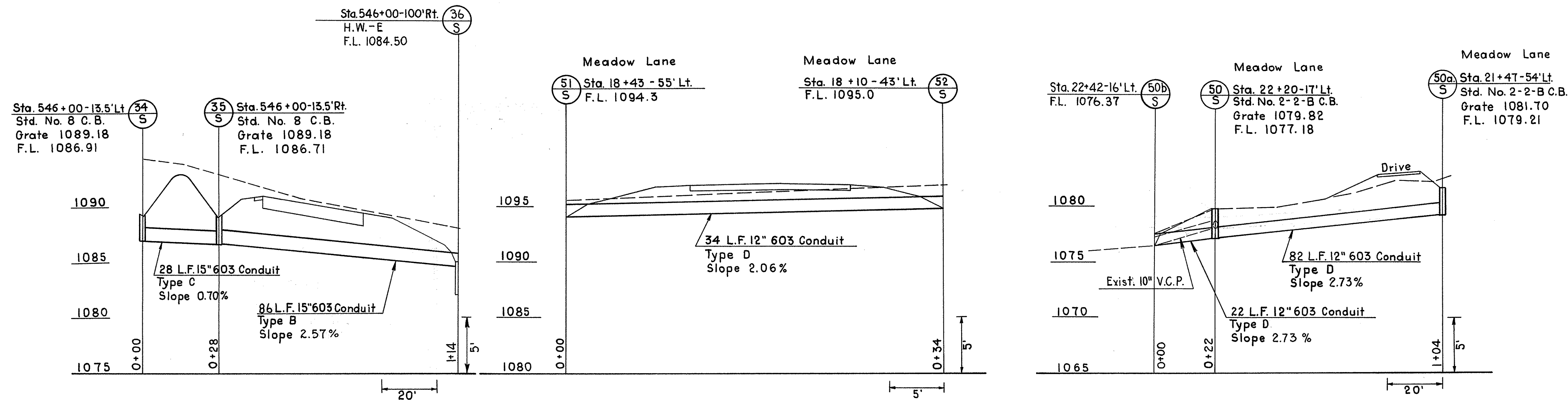
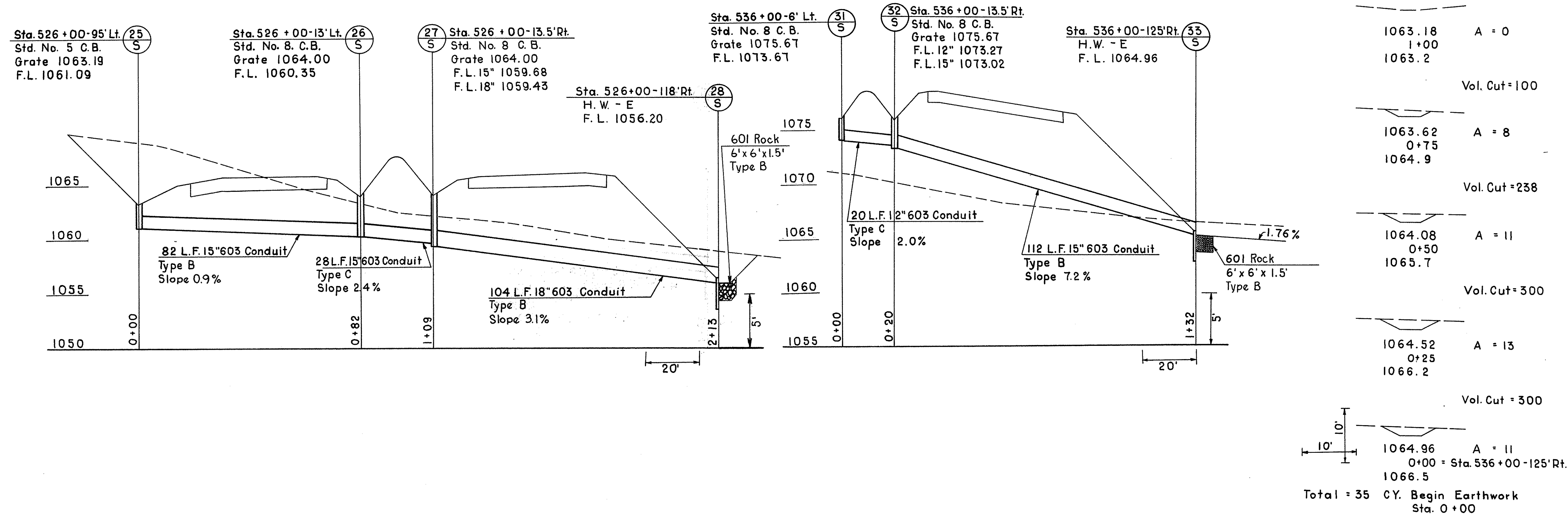


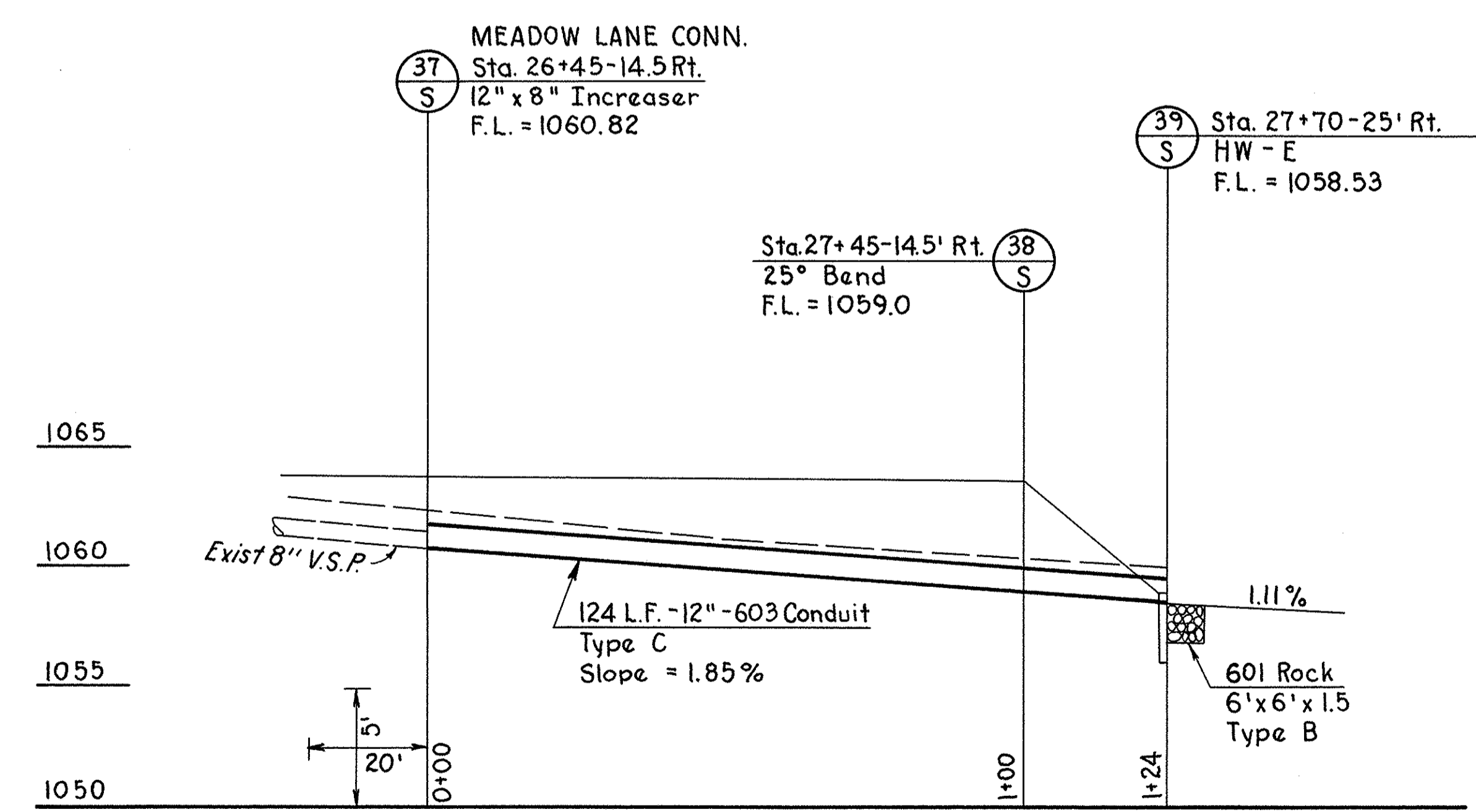
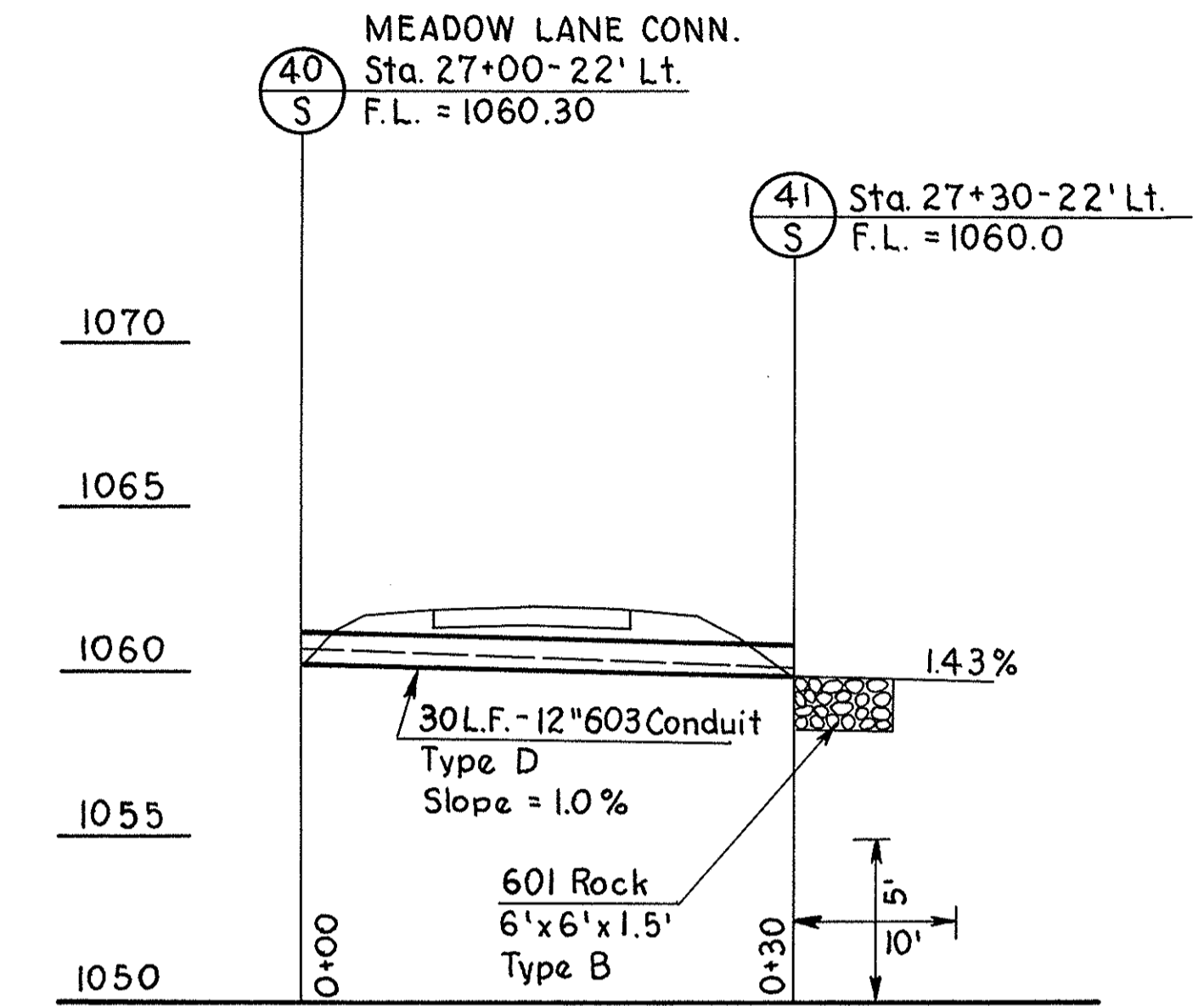
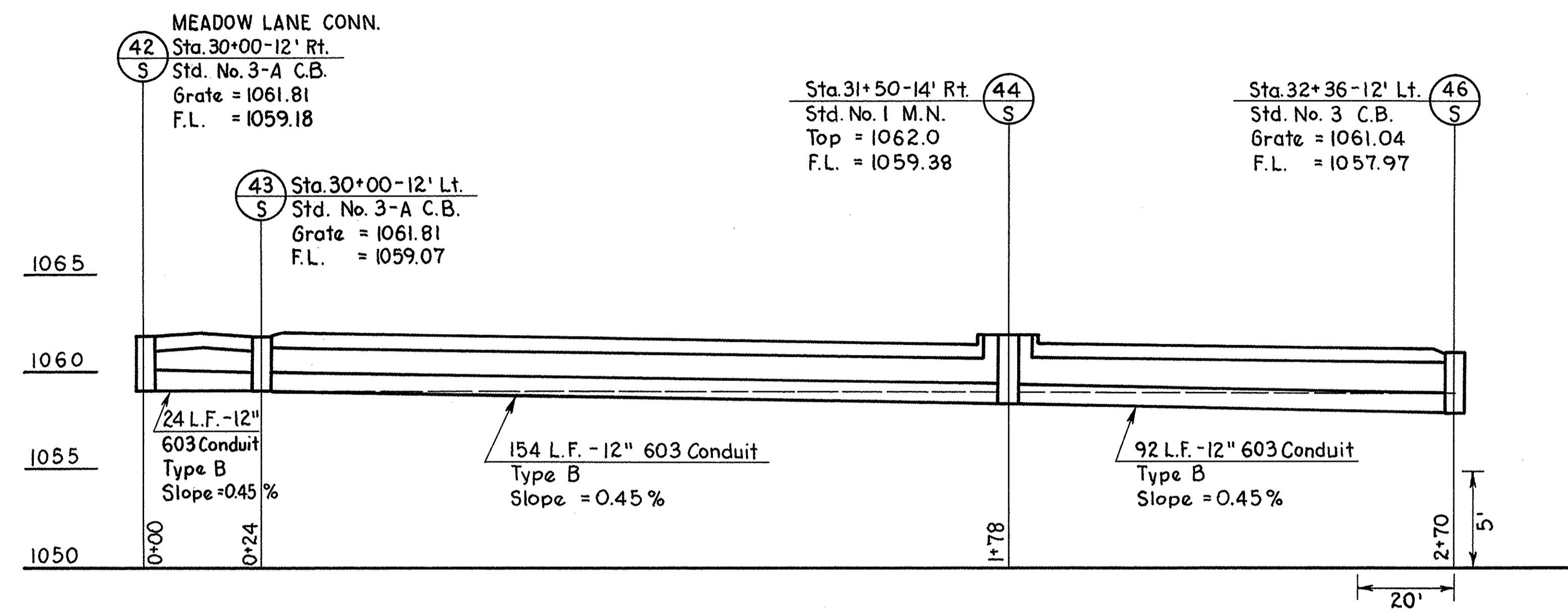
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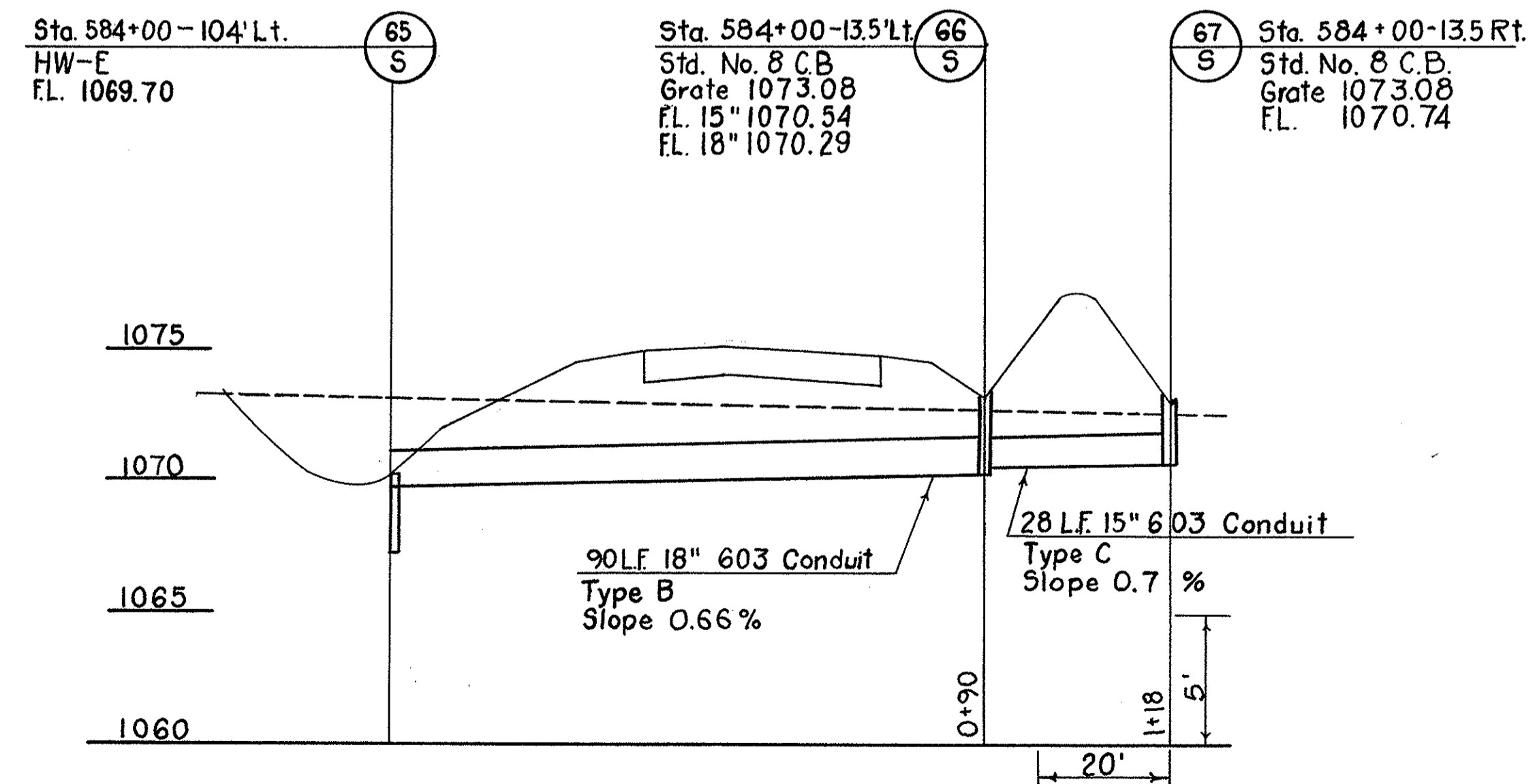
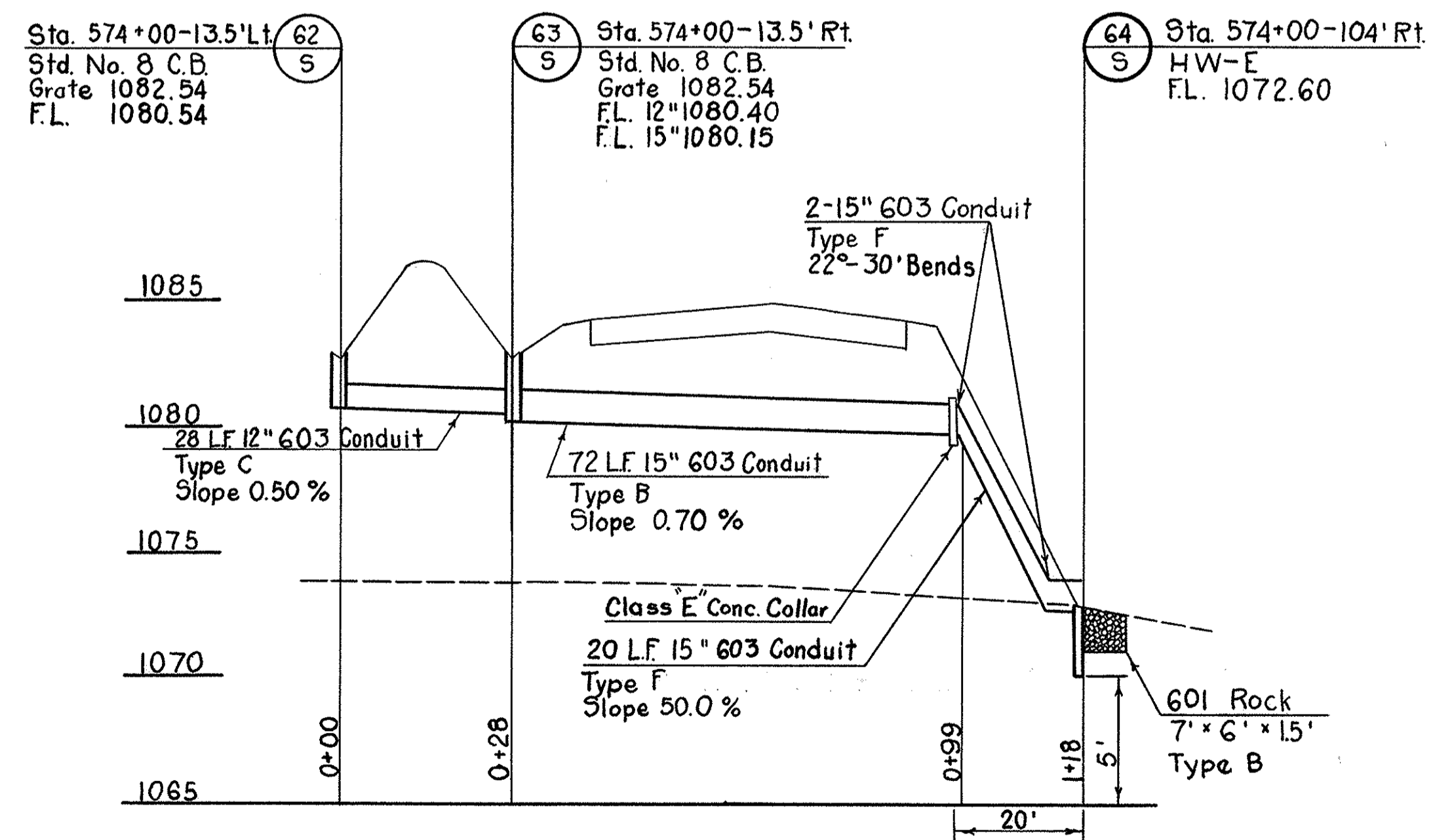
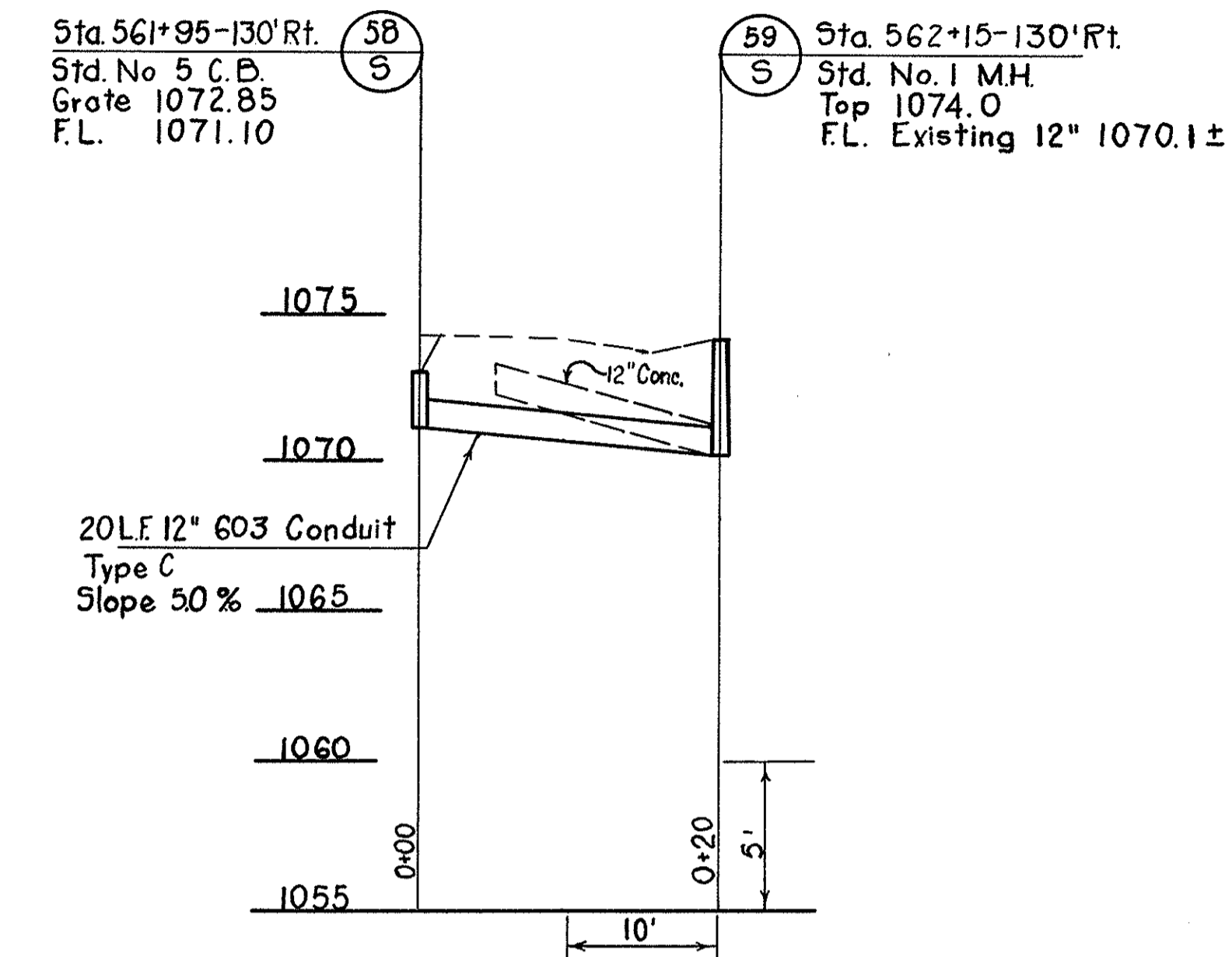
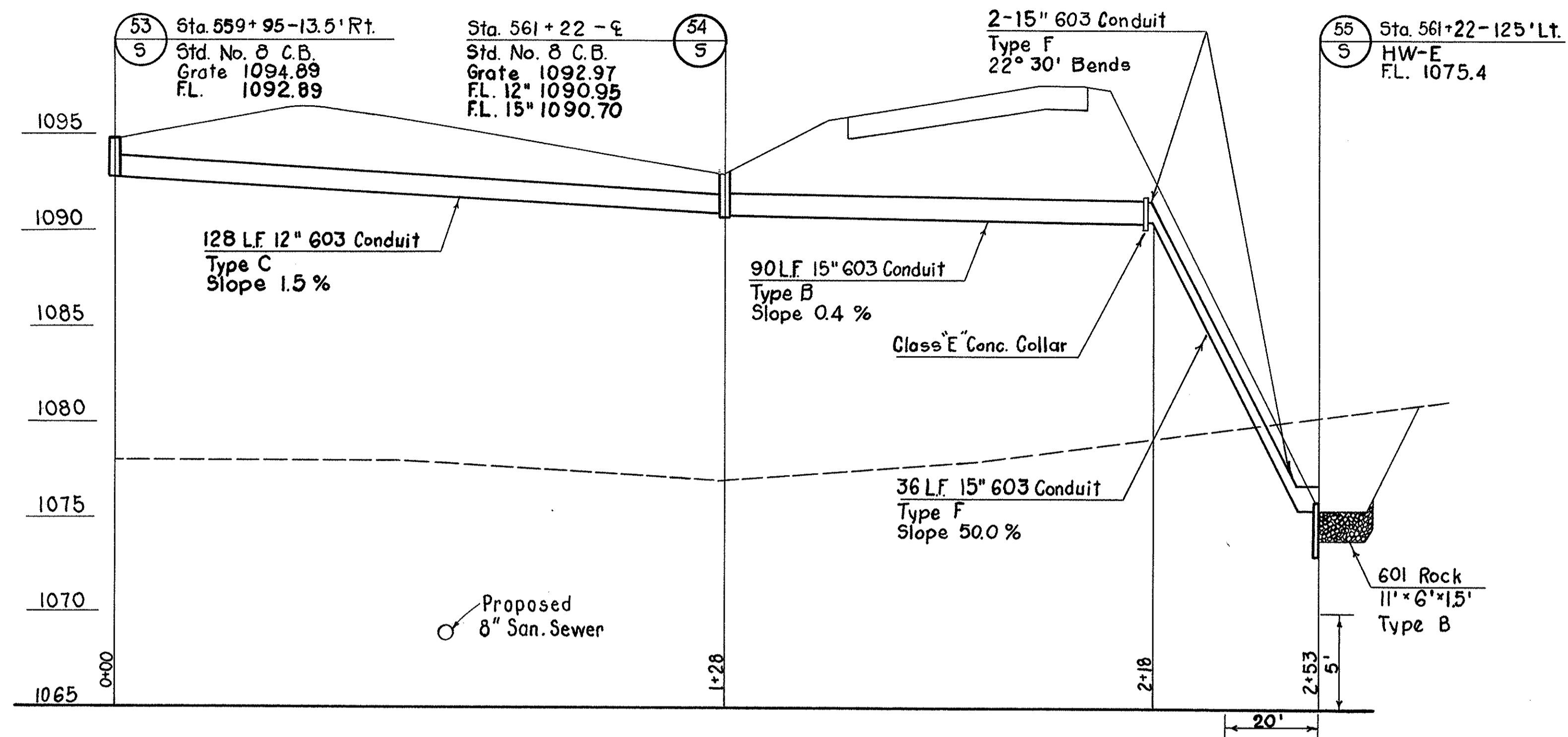


STORM SEWER PROFILES

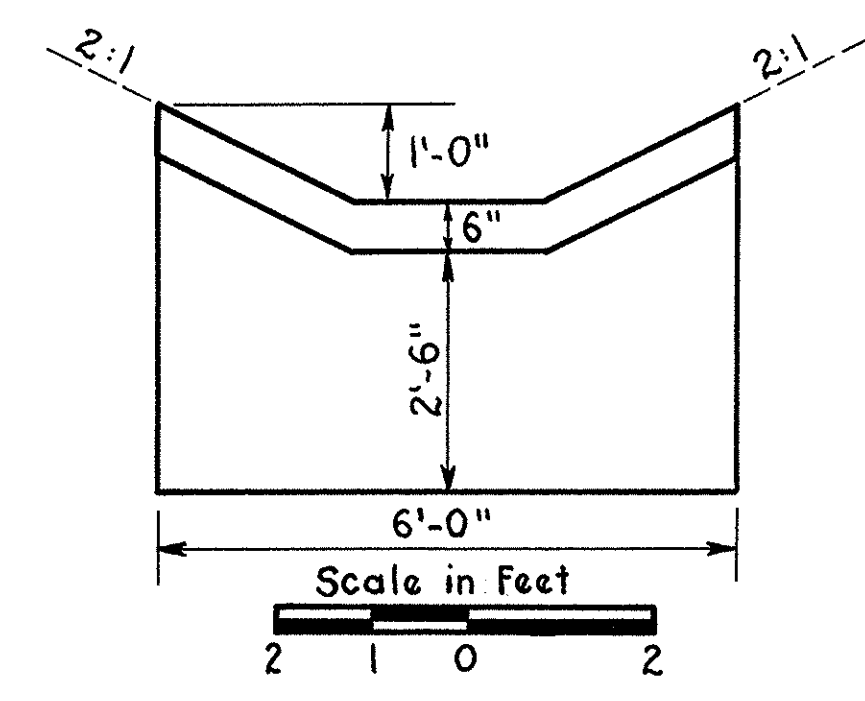
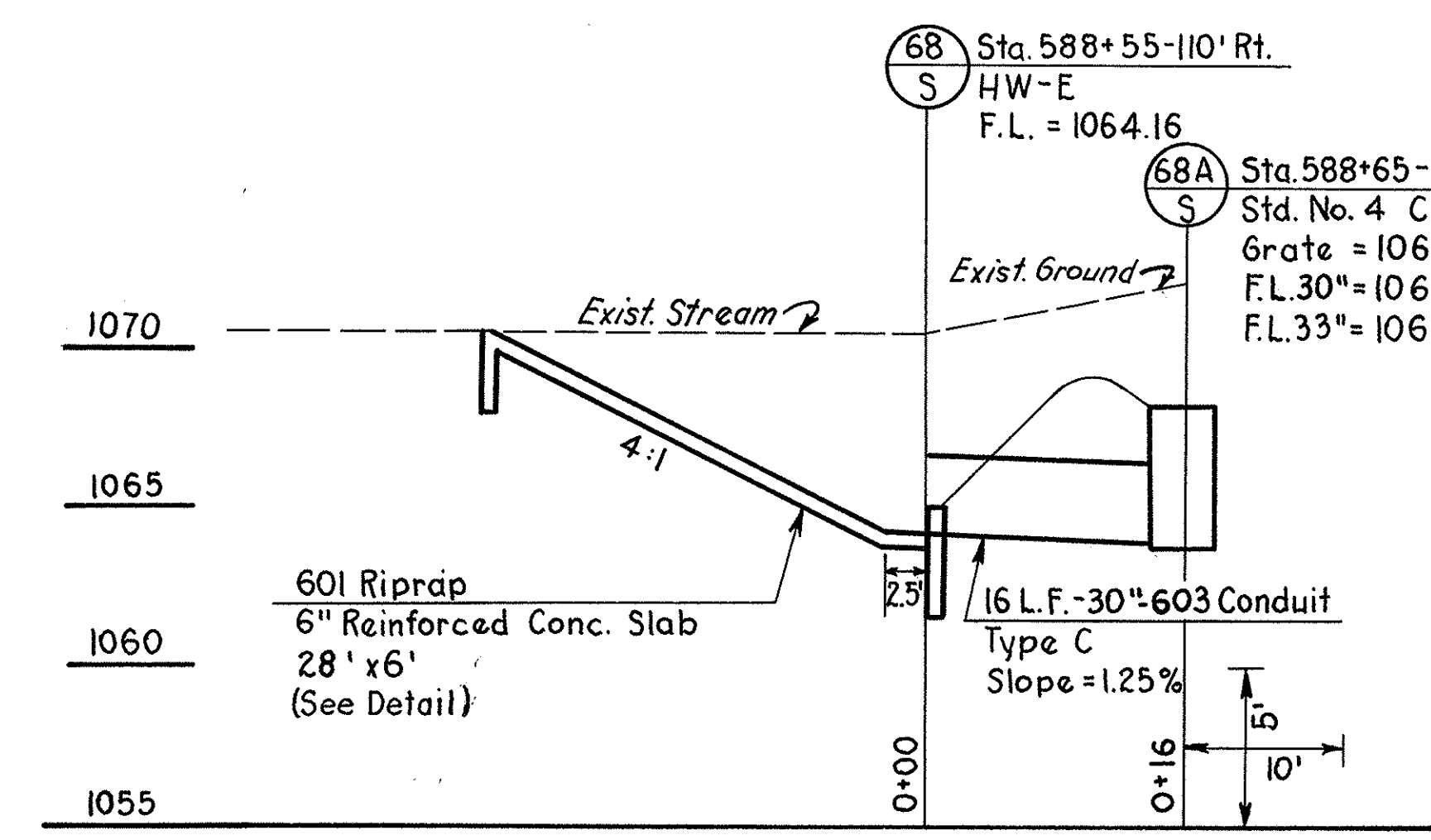
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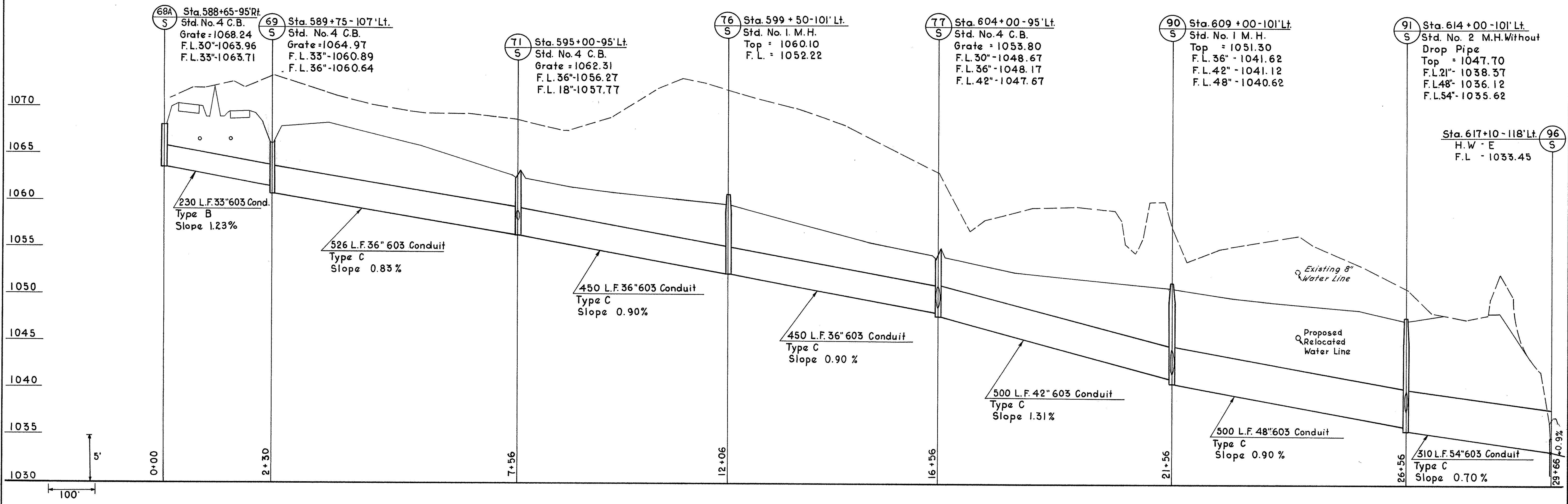




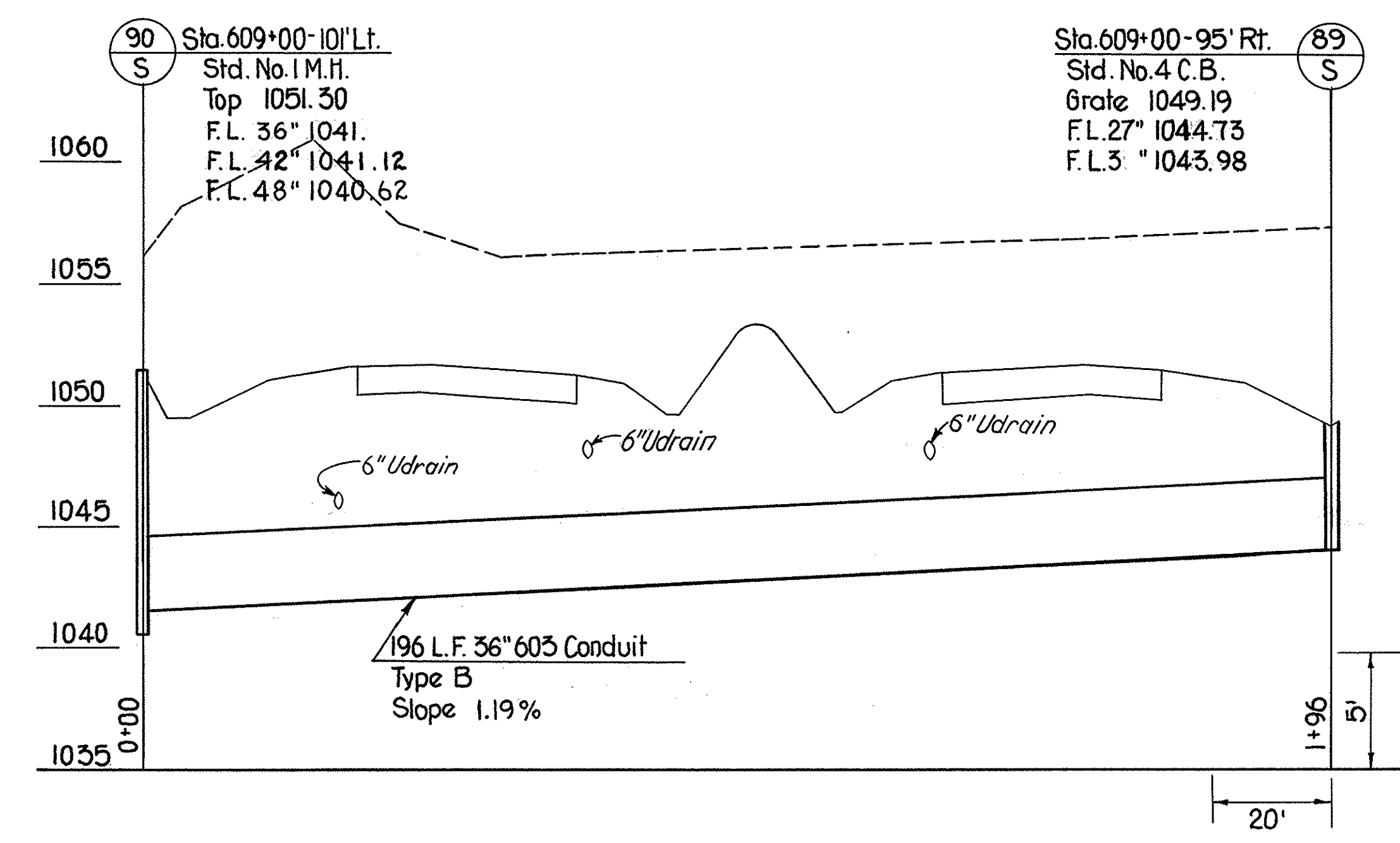
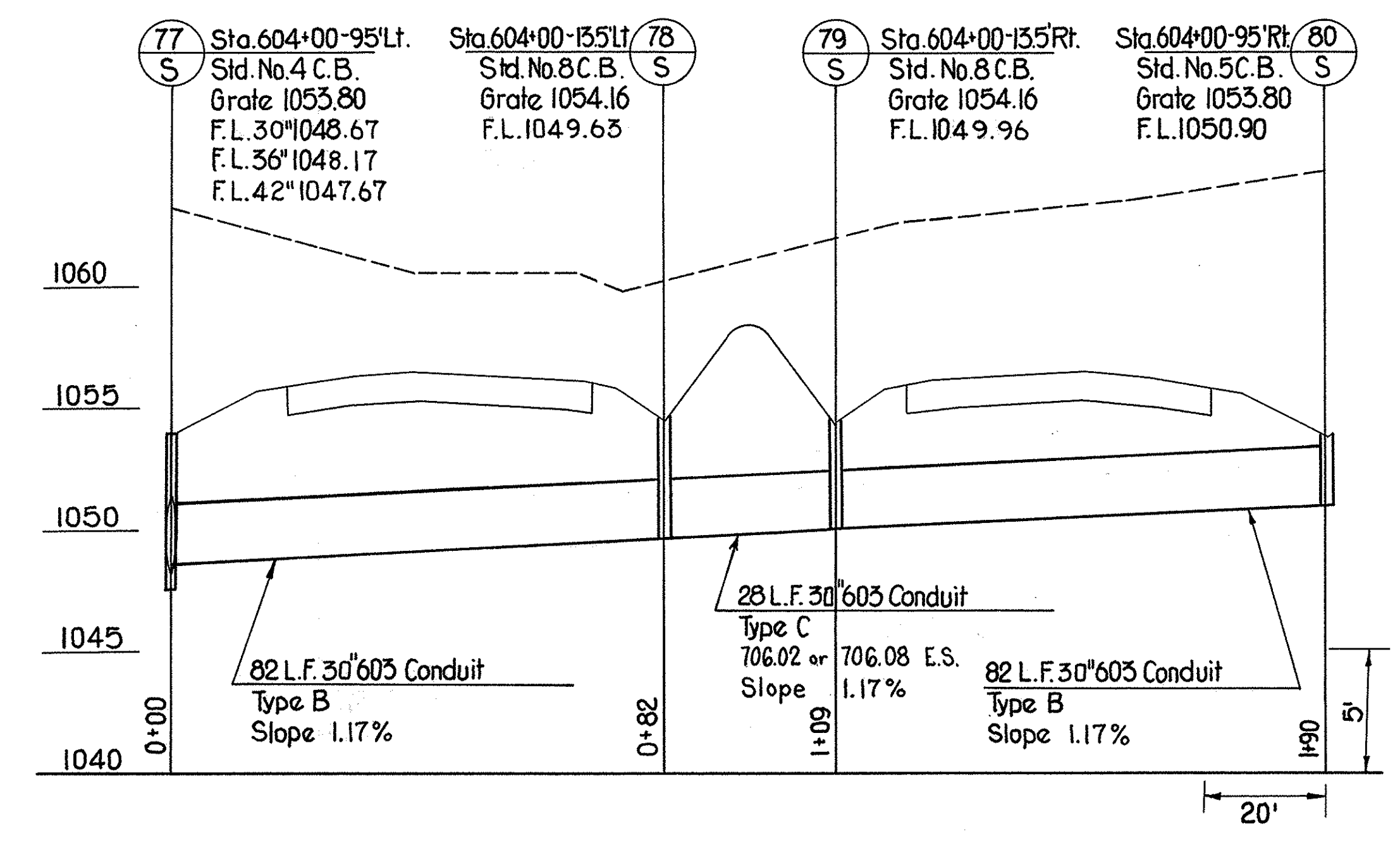
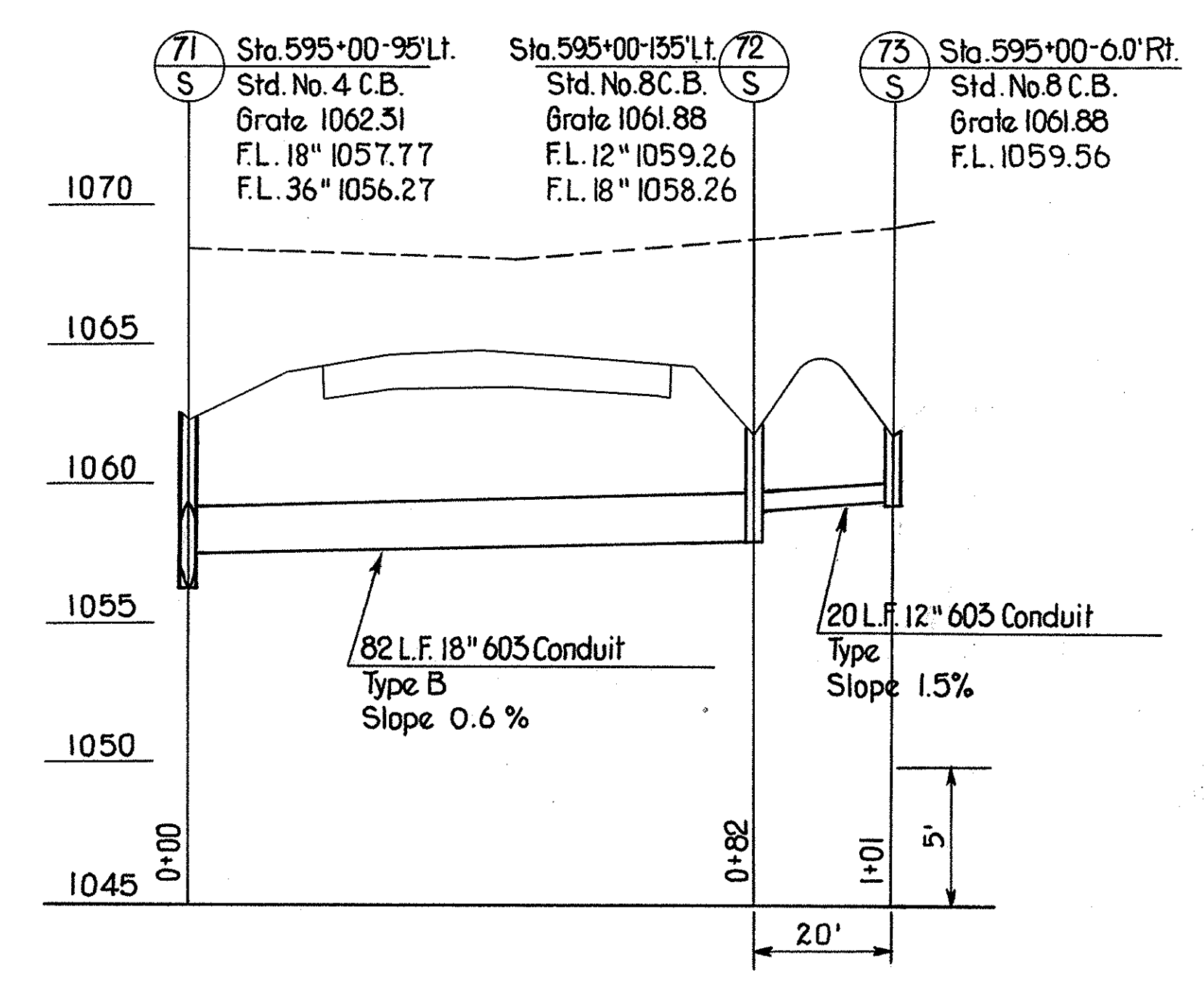
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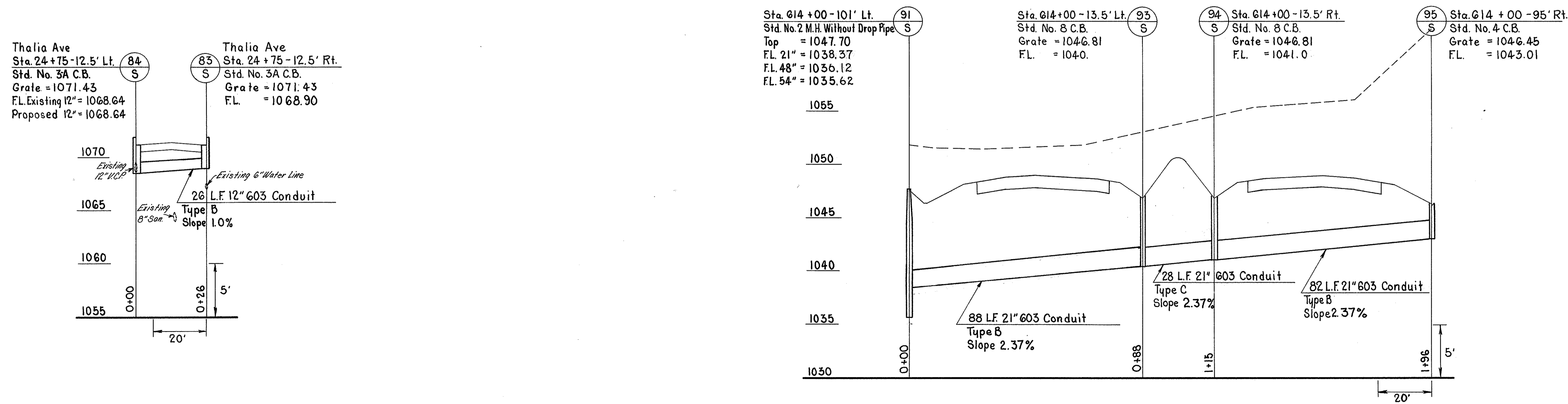
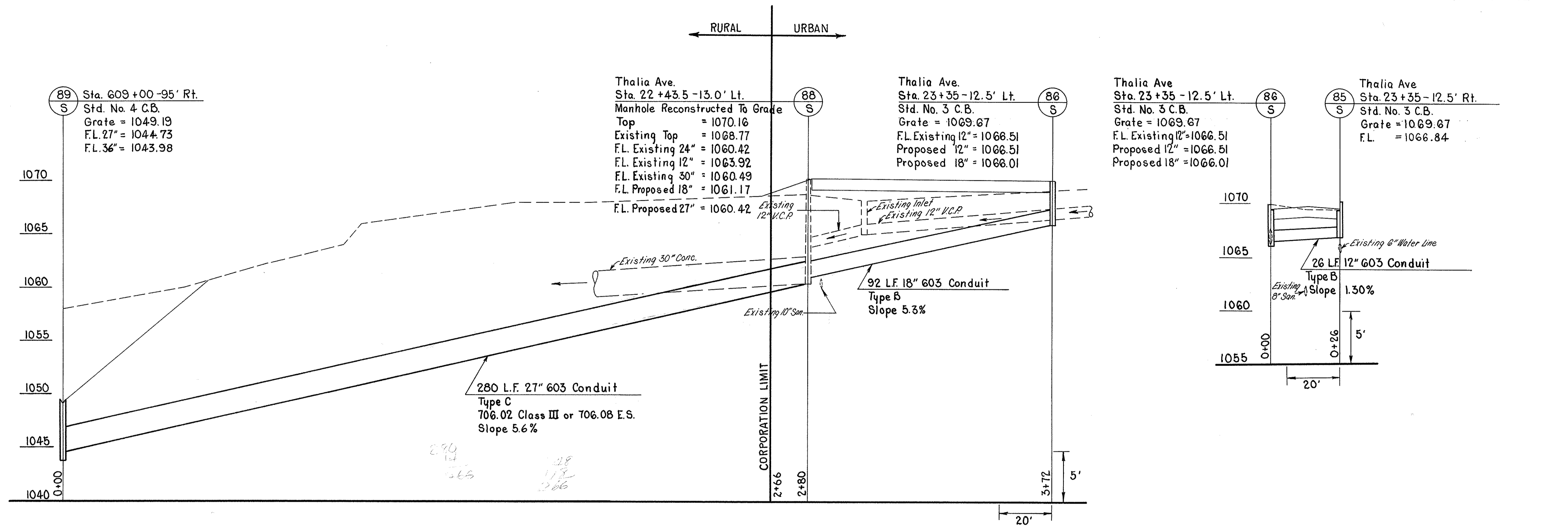


DETAIL 601 RIPRAP  
USING 6\"/>



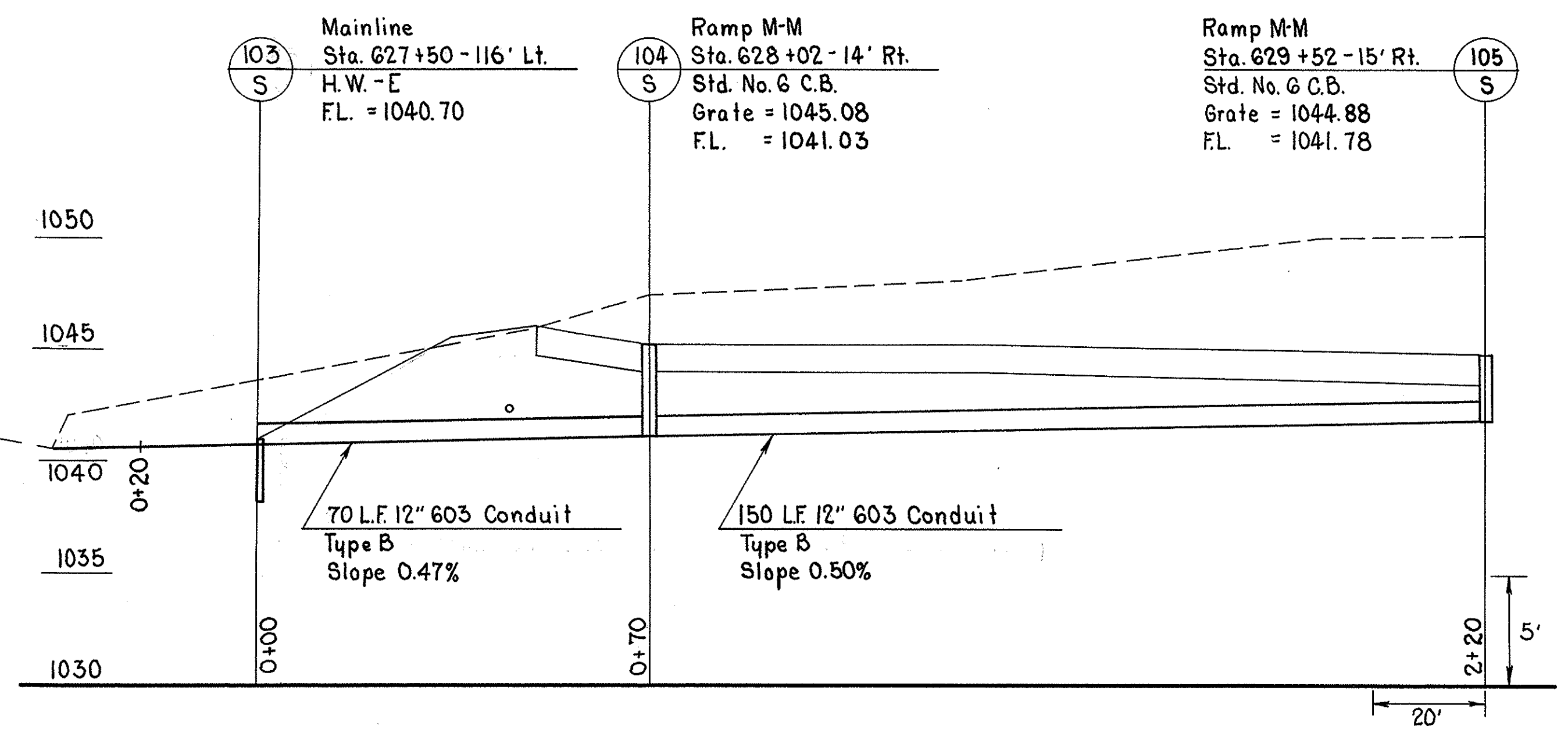
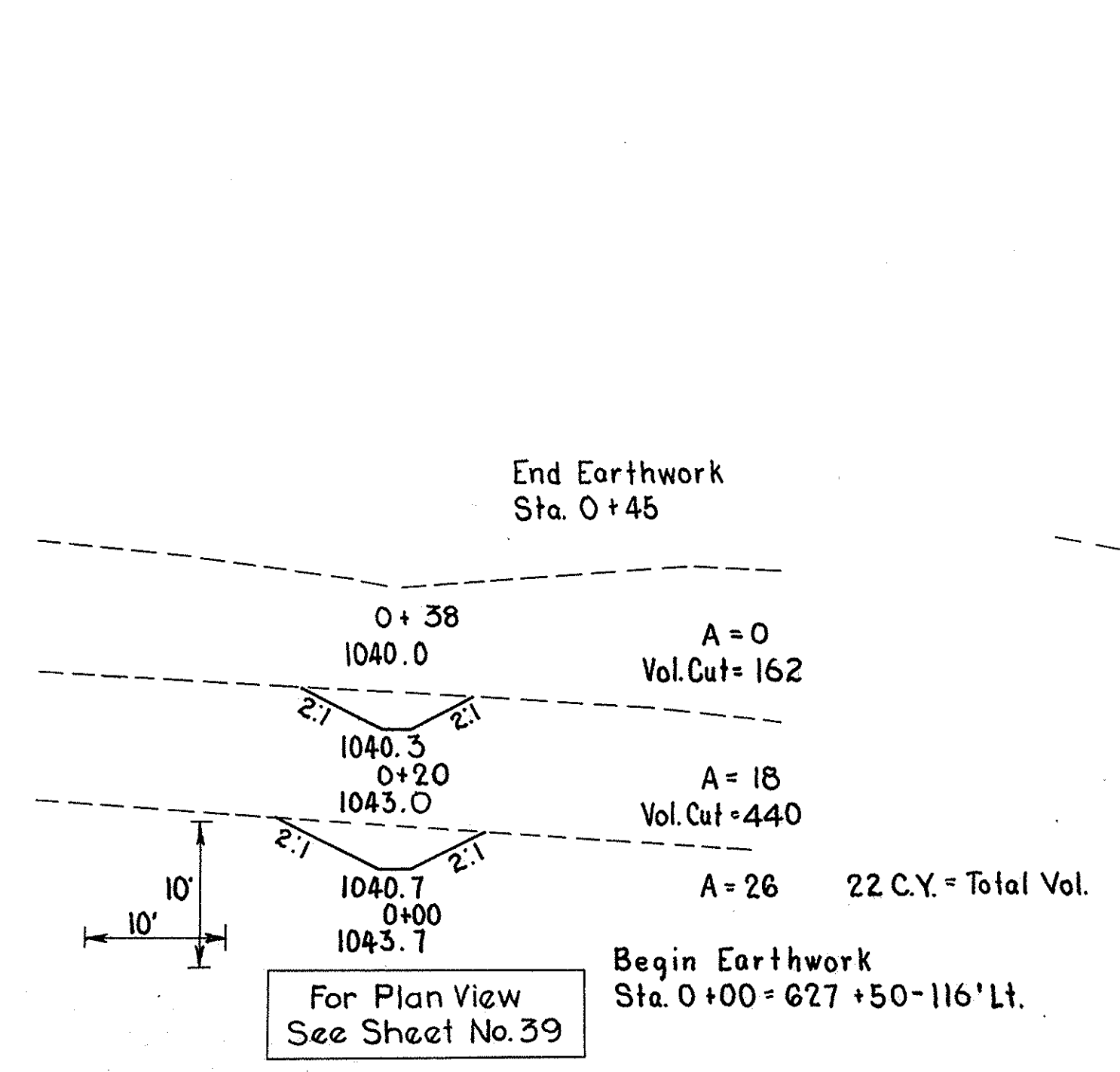
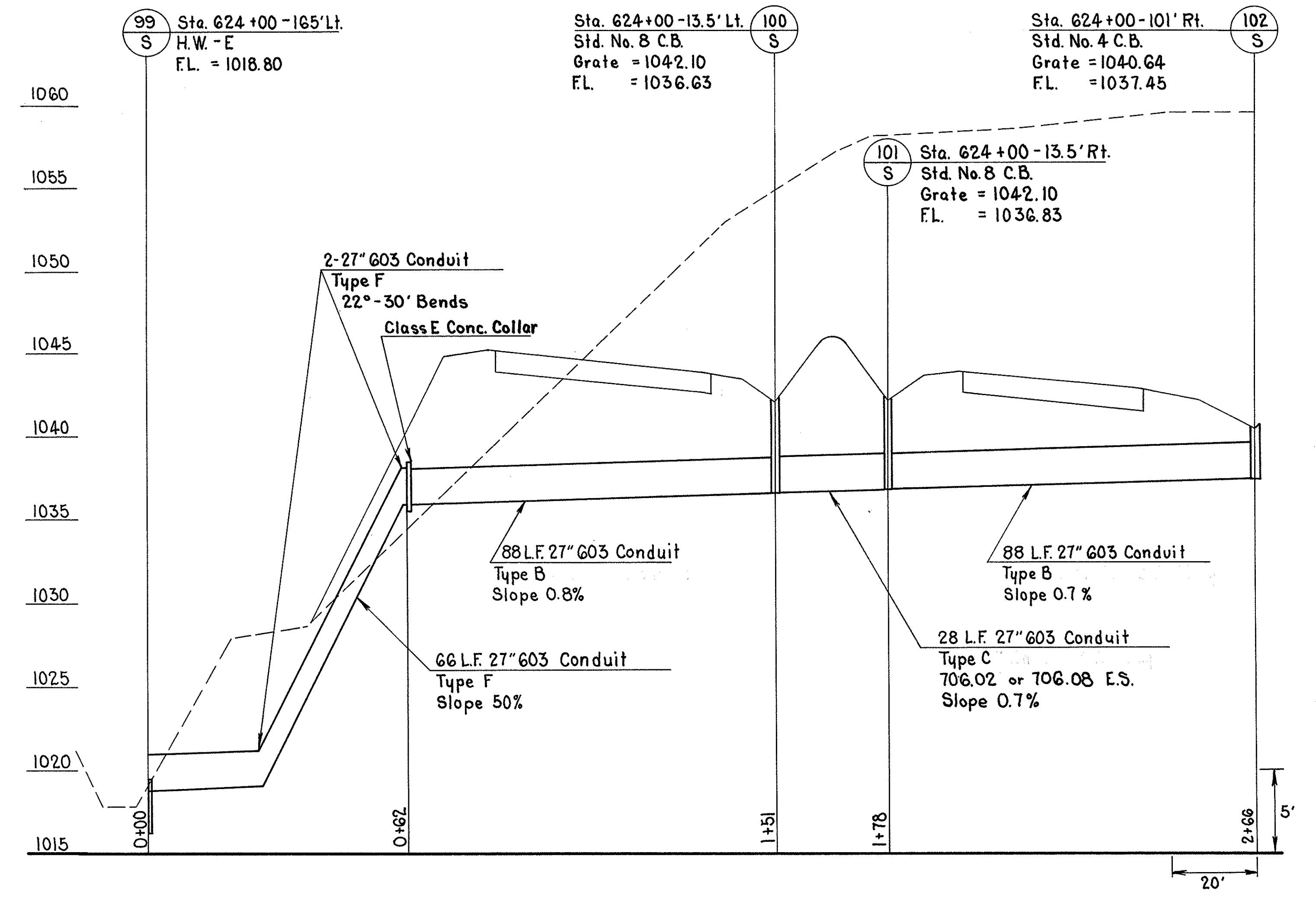
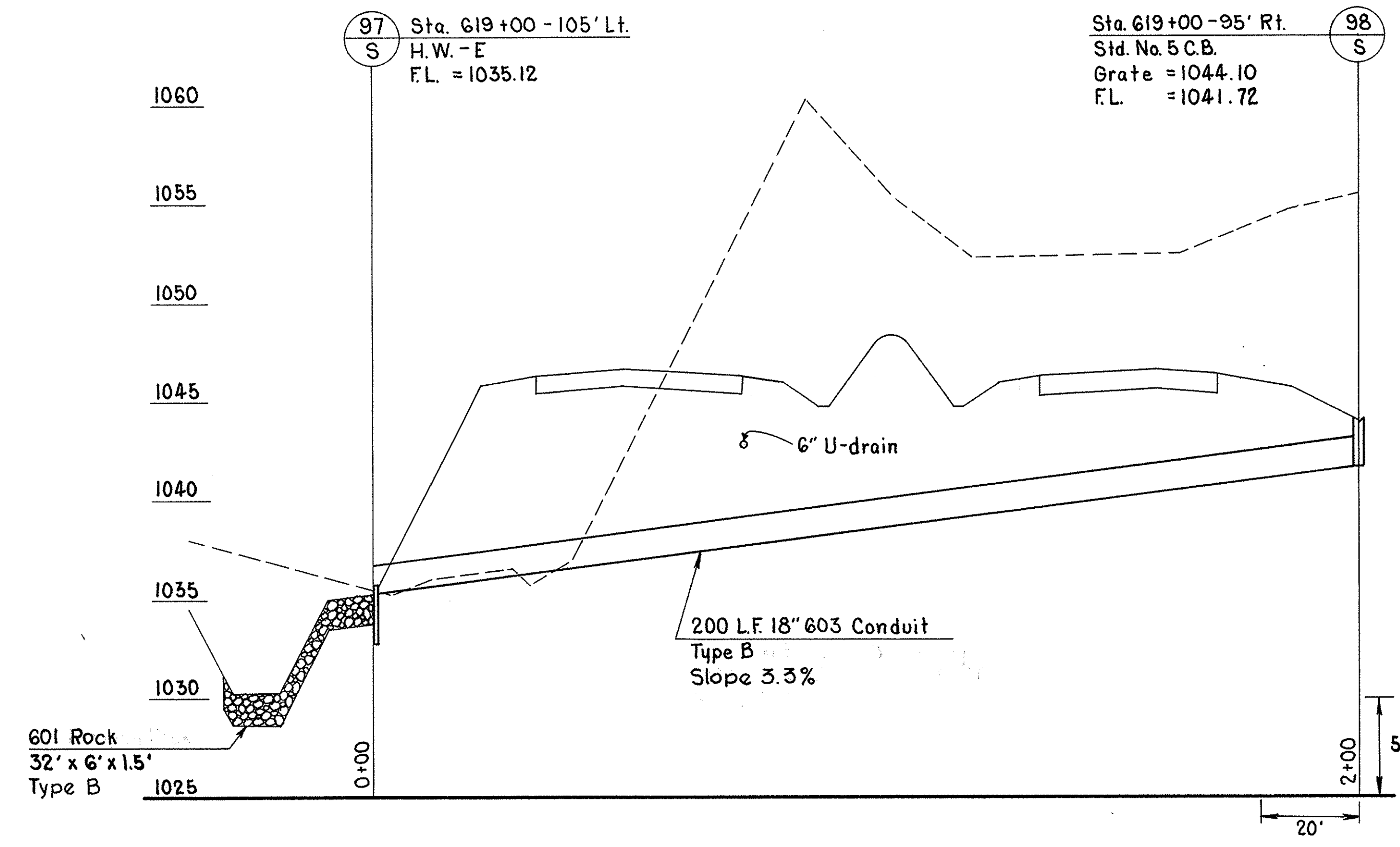
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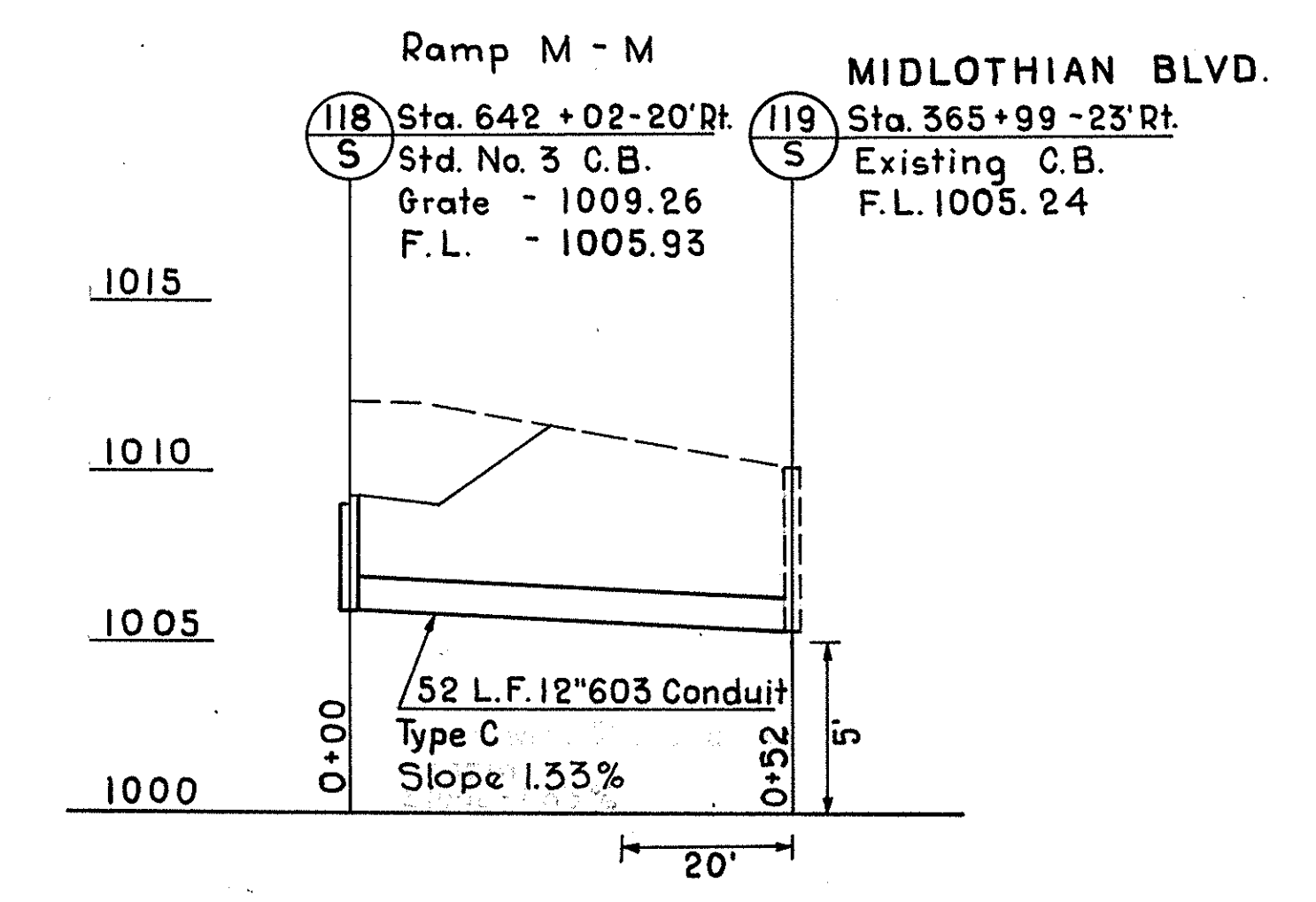
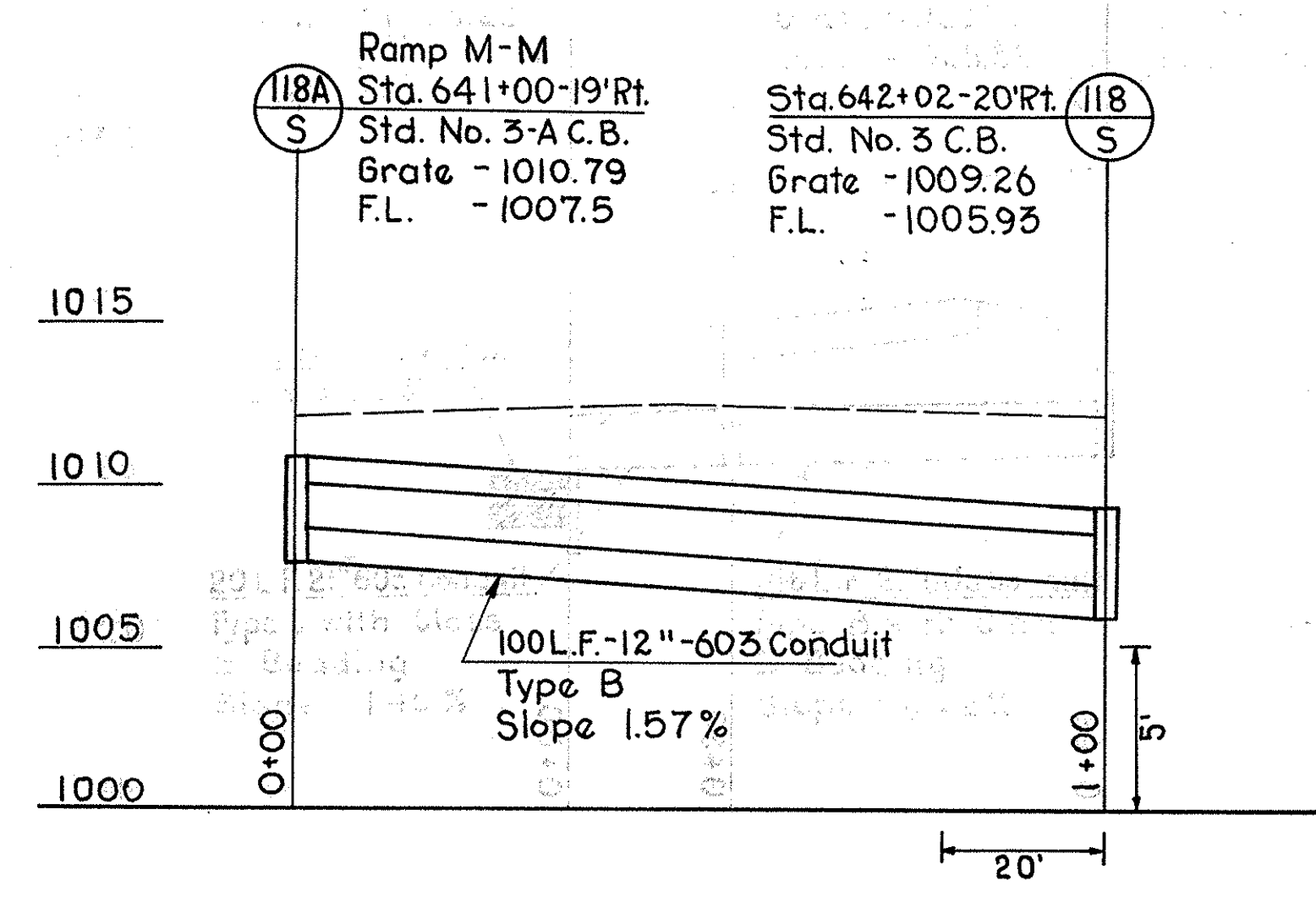
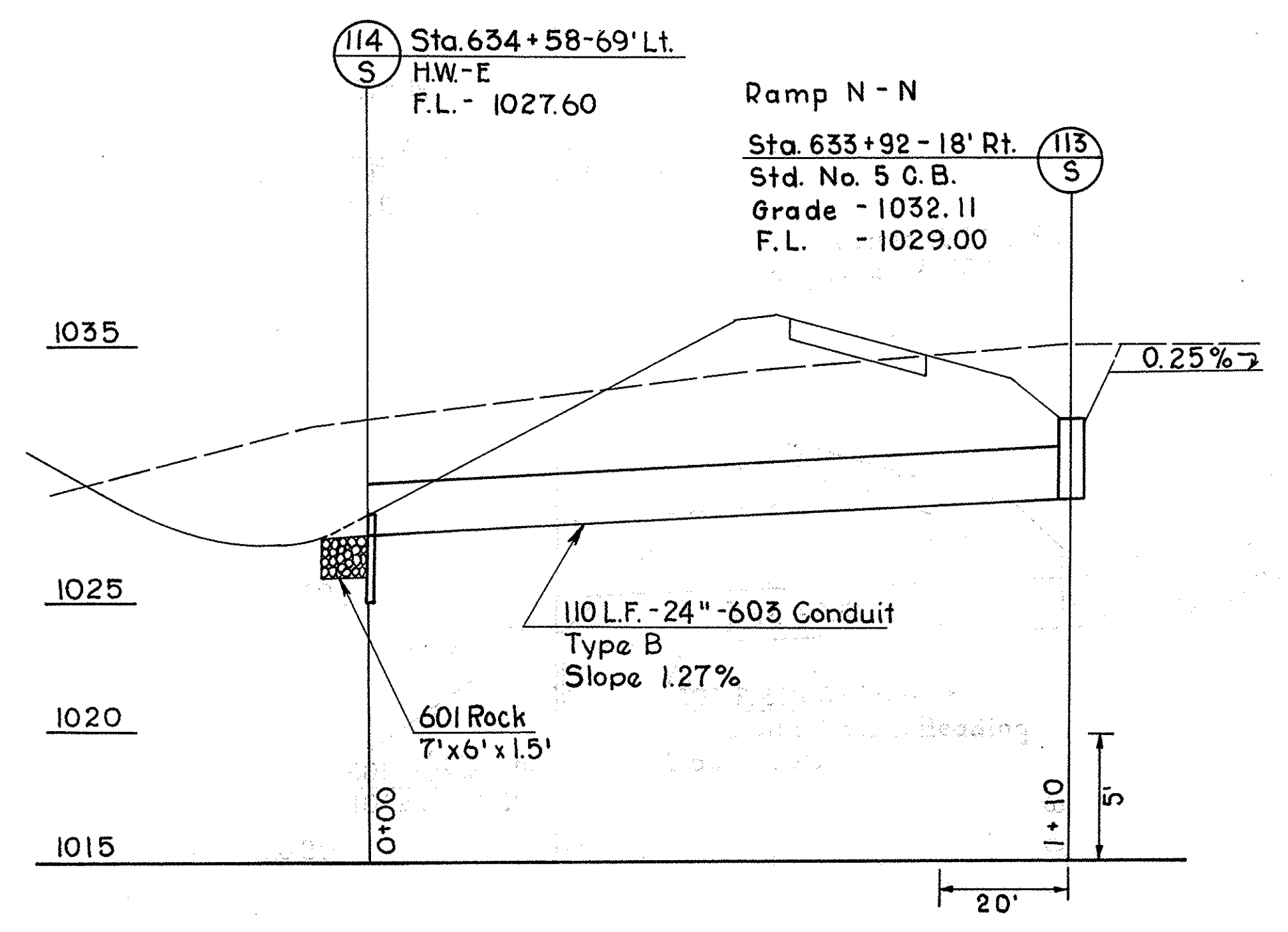
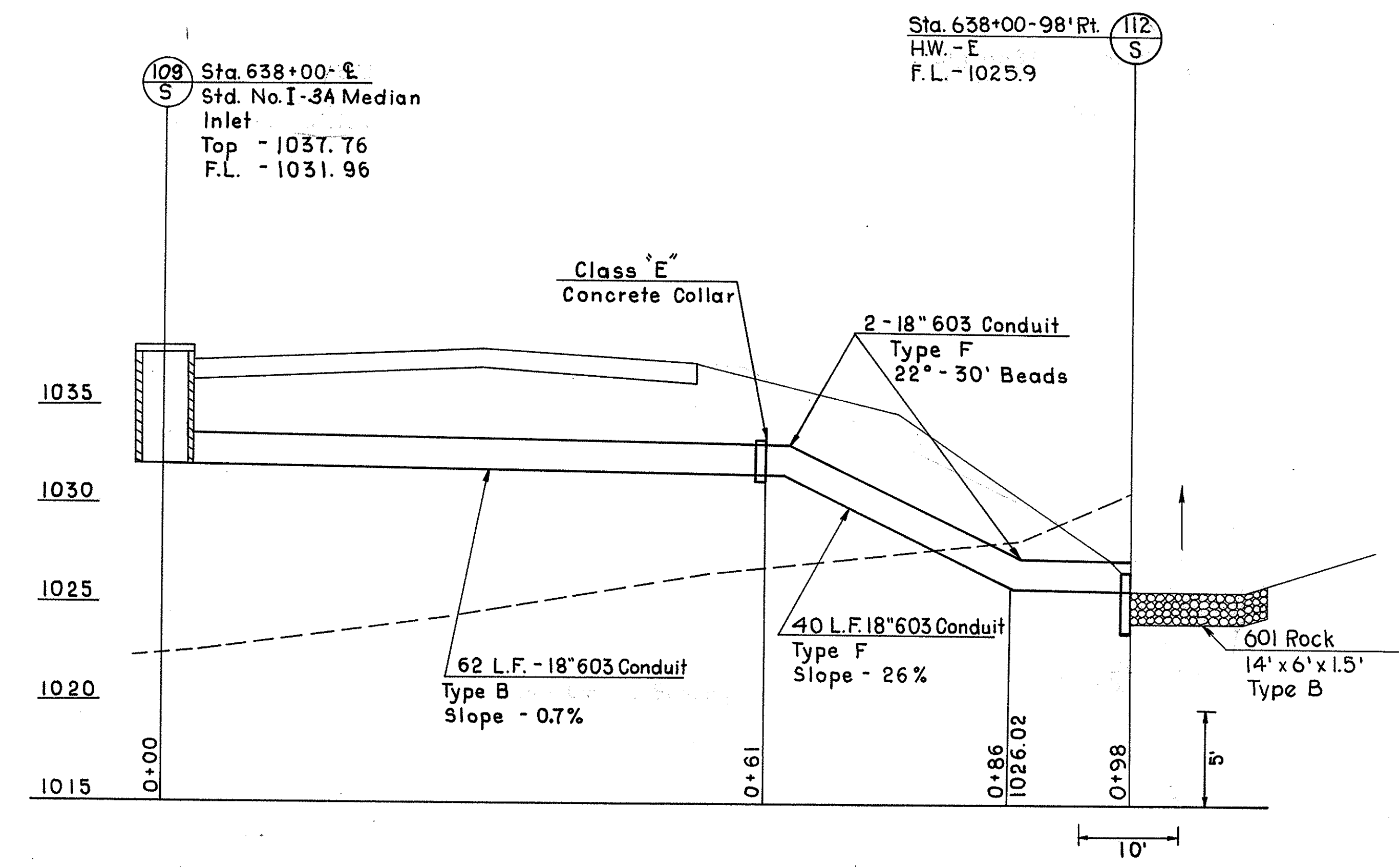
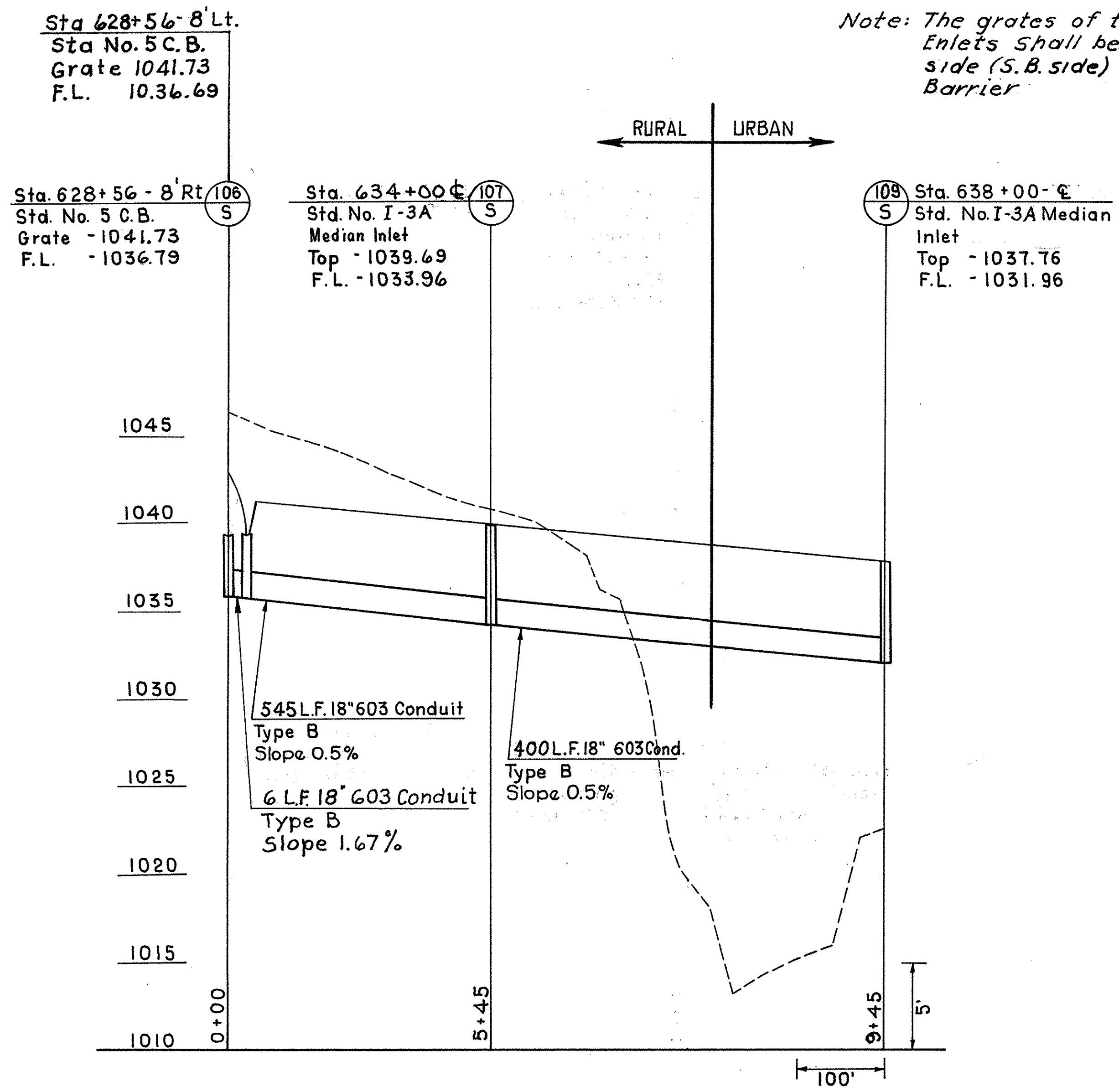


FED. RD. DIVISION	STATE	PROJECT	
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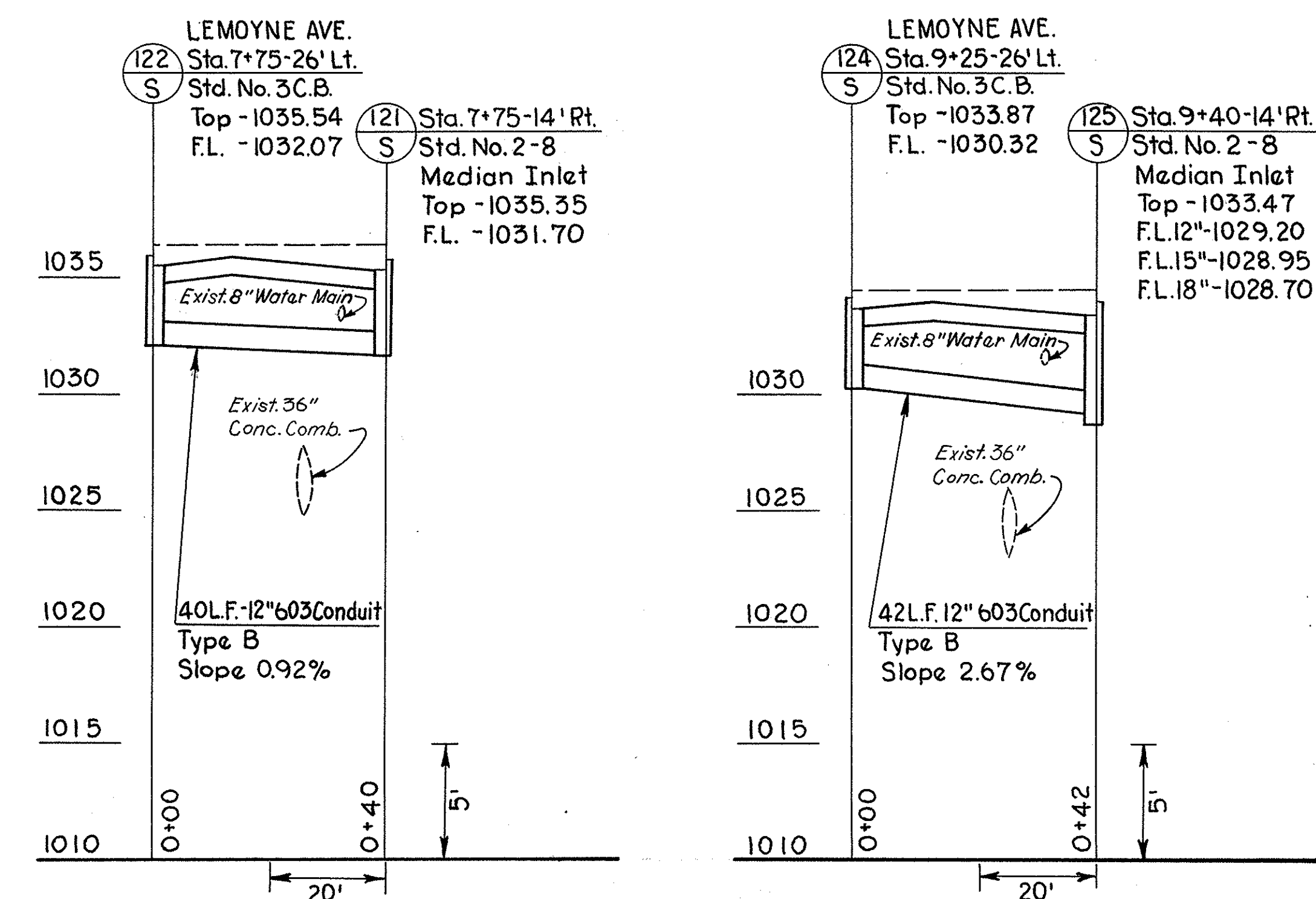
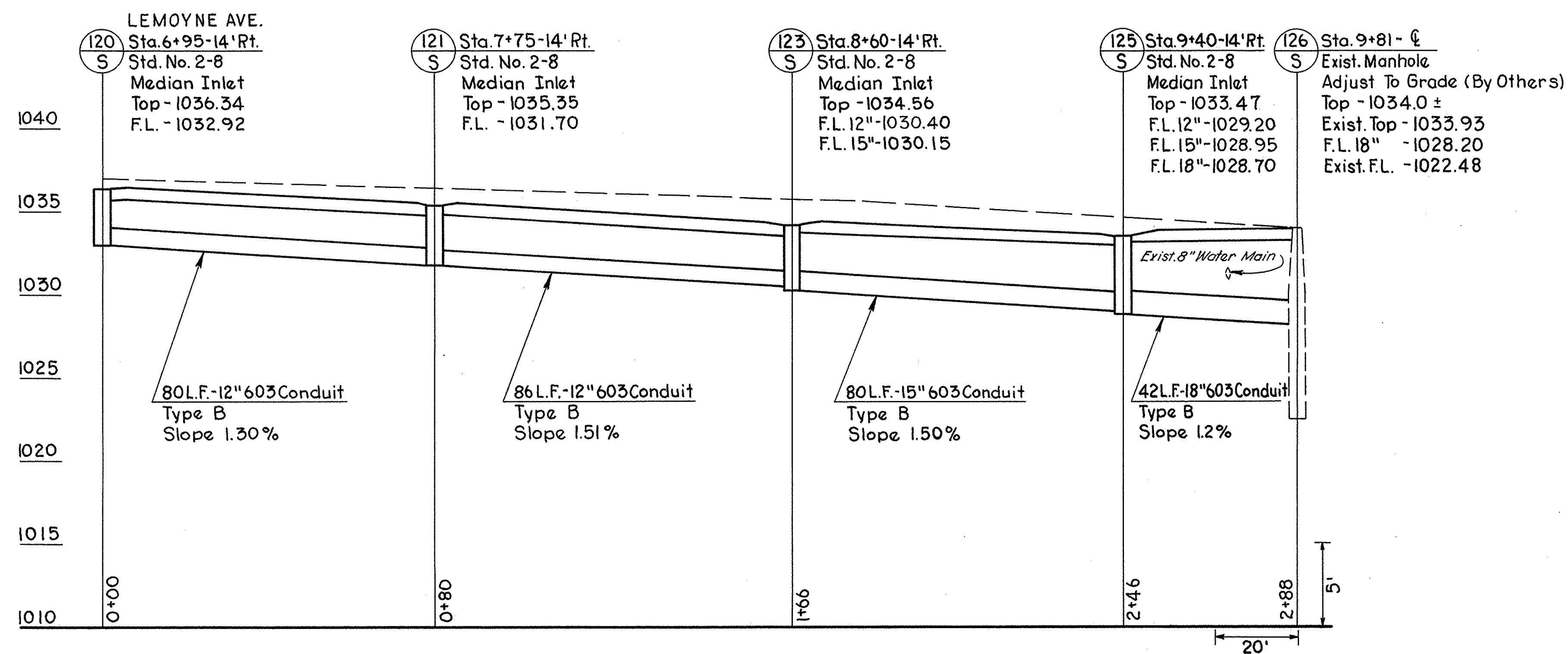
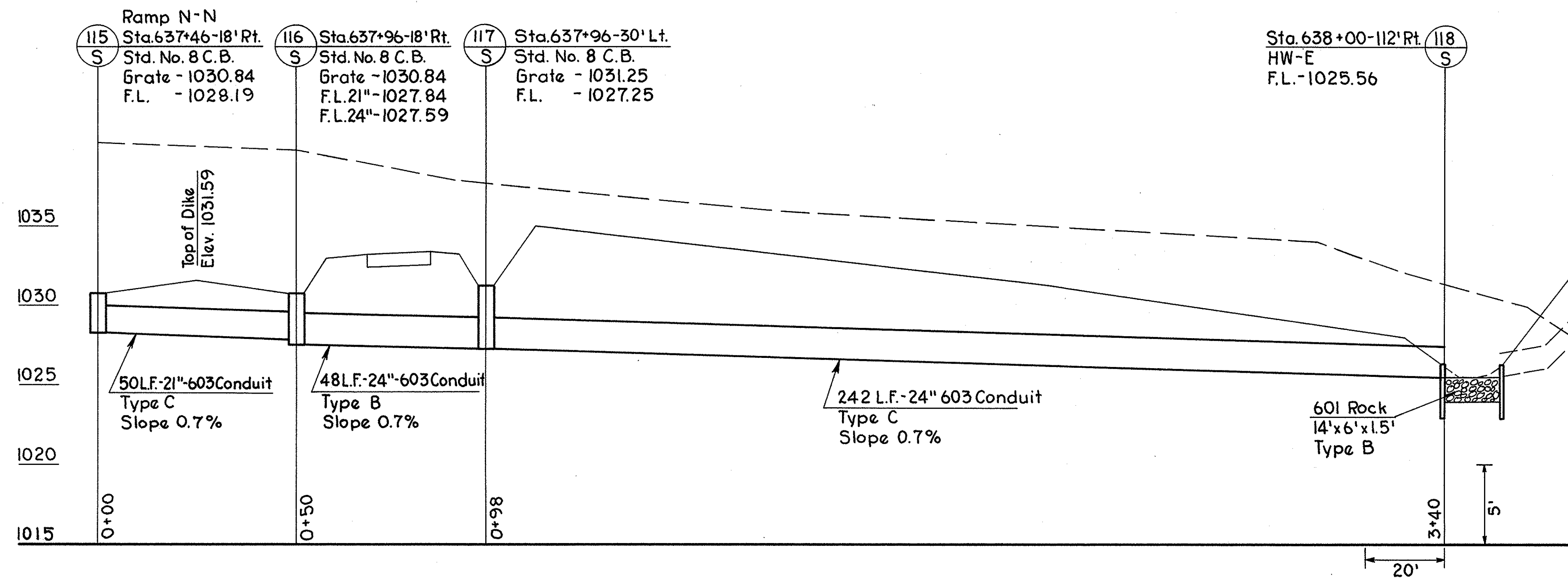
Note: The grates of the I-3A Median Inlets shall be on the left side (S.B. side) of the concrete Barrier

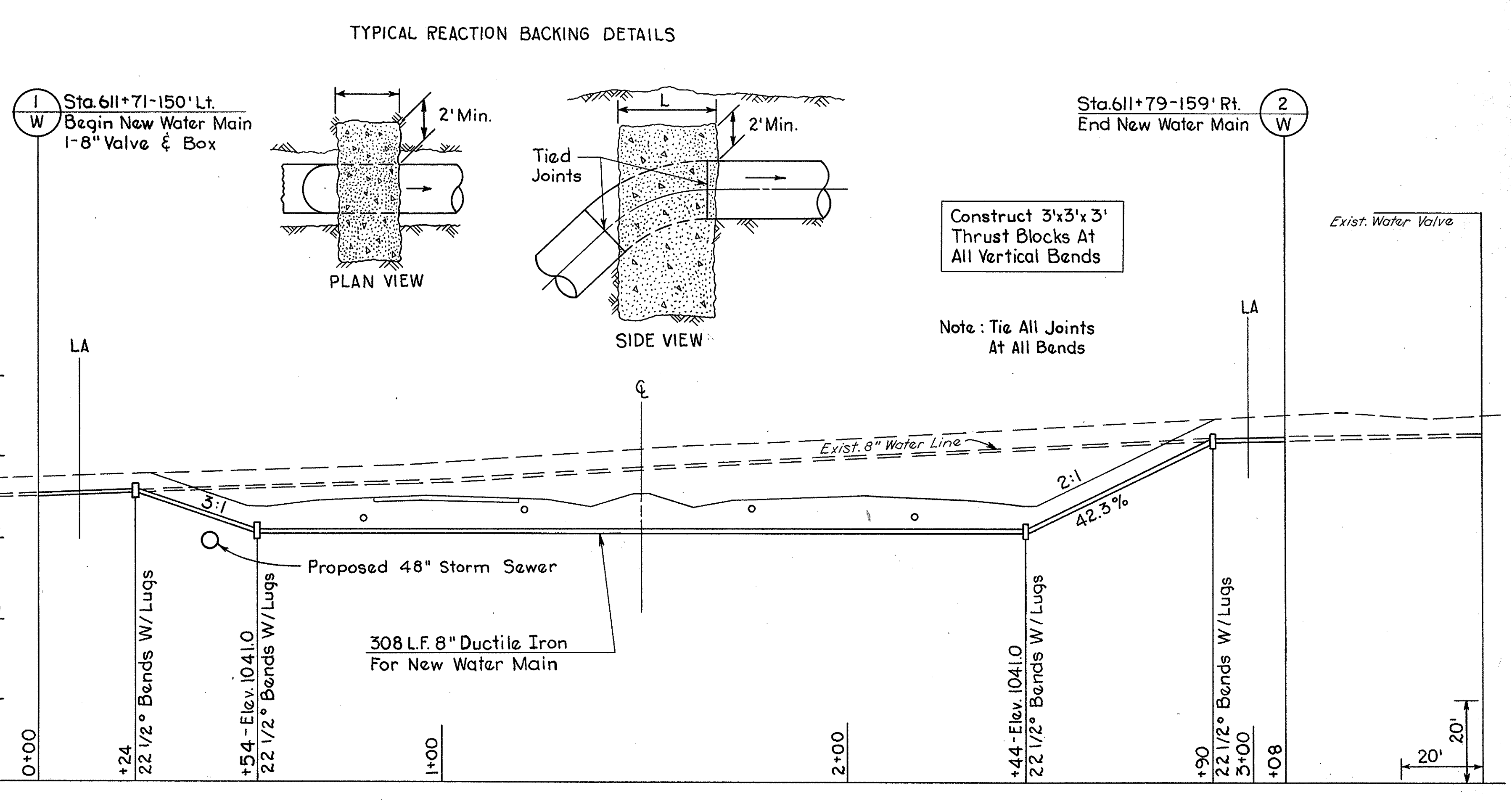
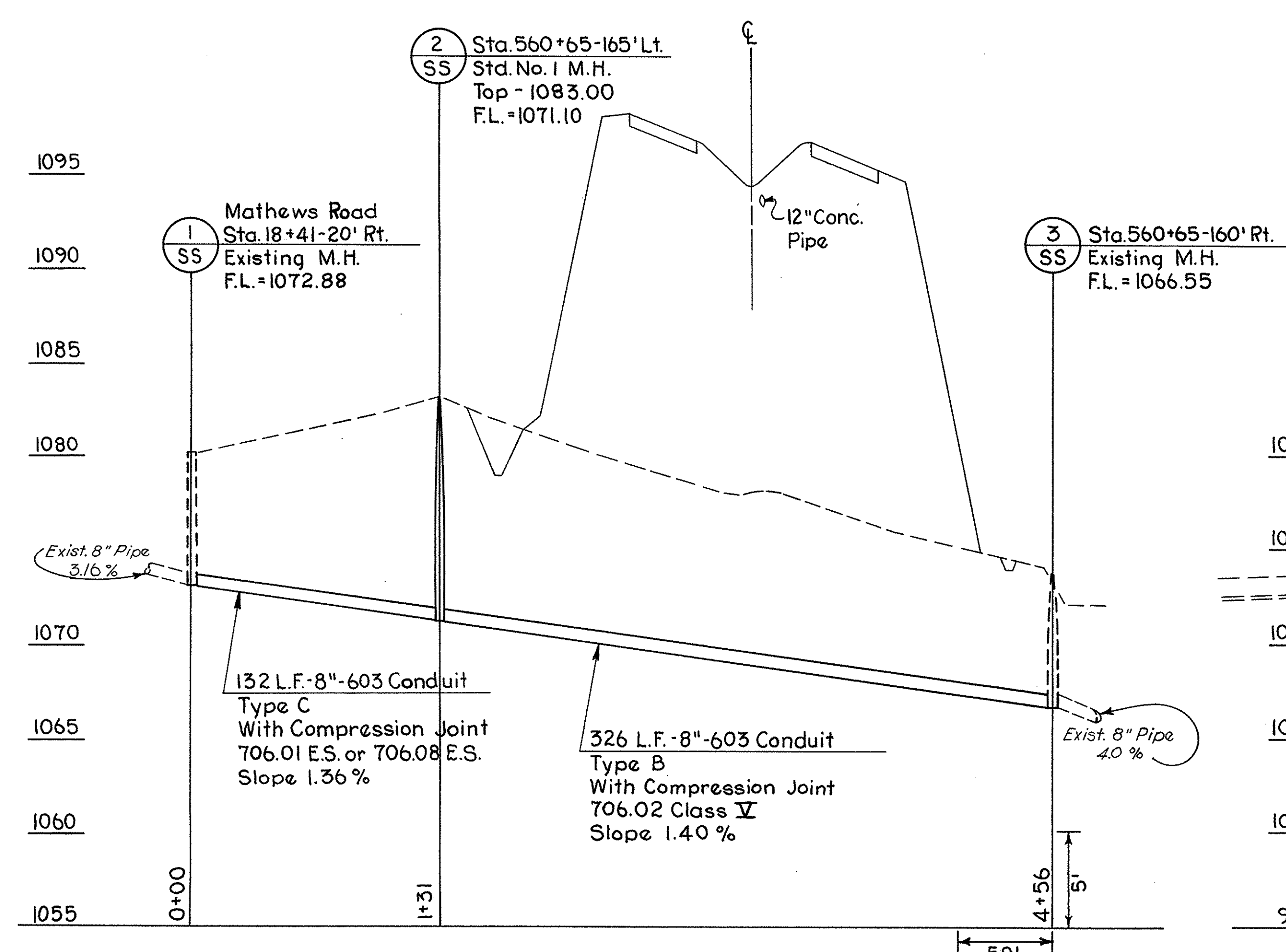
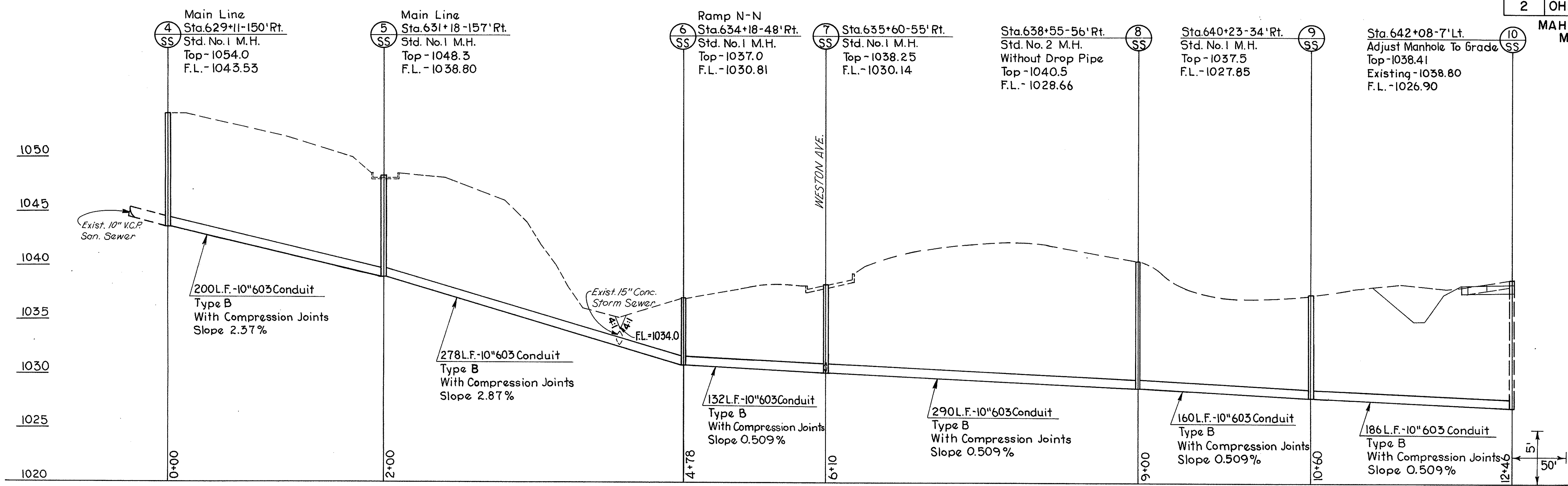


FED. RD. DIVISION	STATE	PROJECT	
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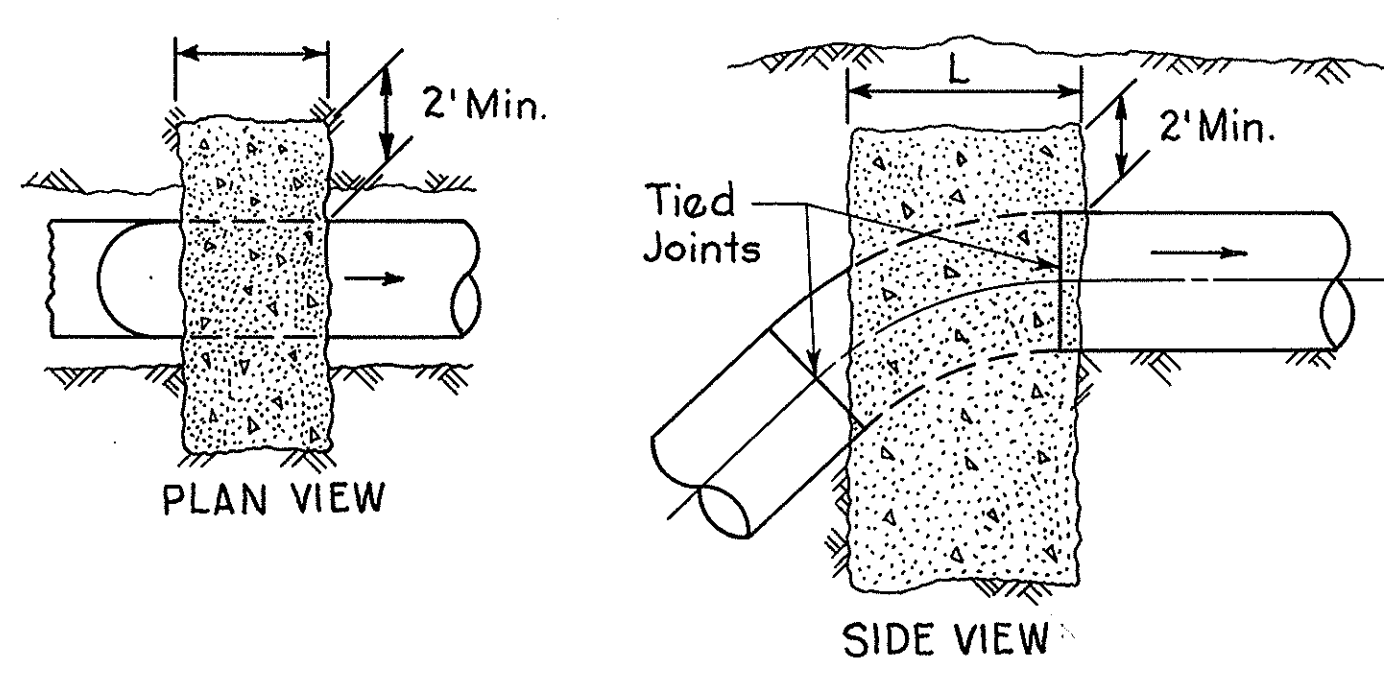
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TYPICAL REACTION BACKING DETAILS



Construct 3'x3'x3' Thrust Blocks At All Vertical Bends

Note: Tie All Joints At All Bends

# LIGHTING GENERAL NOTES

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## SPECIFICATIONS

These notes are supplemental to Items 625 and 713 of the State of Ohio Department of Highways Construction and Material Specifications dated January 1, 1971.

Reference shall be made to Standard Construction Drawings HL-1, HL-2, HL-3, and HL-4.

In lieu of pertinent details shown on the standard construction drawings, the tops of light pole foundations and of pull boxes shall not exceed 1 inch above the surrounding ground elevation at the high point of the surrounding ground.

## 713.01 STEEL LIGHT POLES

HAND HOLES FOR ANCHOR BASE POLES SHALL CONFORM TO THE DETAILS SHOWN ON STANDARD DRAWING HL-2, OR ALTERNATE HAND HOLE DETAILED ON SHEET NO. 210. *Hand holes are not required on transformer base poles.*

## 625.07 - 713.11 LUMINAIRES EXCEPT UNDERPASS LUMINAIRES

- 400-watt luminaires shall have dual rated 240/480 volt integral regulator ballasts and shall be General Electric M-400, Westinghouse OV-25, McGraw-Edison "Unistyle" or equal approved by the Engineer.
- 700-watt luminaires shall have single rated 480-volt 700-watt integral regulator ballasts and shall be General Electric M-1000, Westinghouse OV-50, McGraw-Edison "Unistyle" or equal approved by the Engineer.
- Each 400 watt luminaire provided for an adaptation lighting unit shall have a dual rated 250/400 watt integral regulator ballast and a porcelain socket adapter for a 250 watt lamp.

## 625.08 - 713.14 LAMPS

Mercury lamps shall be General Electric "Bonus Line," Westinghouse "LifeGuard," Sylvania "Rough Service" or equal approved by the Engineer.

## 625.11 PULL BOXES

Air bells of the following approximate sizes shall be employed in pull boxes:

- 18" pull box 16-3/4" diameter x 20-1/2" high
- 24" pull box 20-1/2" diameter x 28-1/2" high

Where applicable

## 625.03 - GENERAL

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:  
OHIO EDISON COMPANY

ENERGY SUPPLIED SHALL BE 2 WIRE, 480 VOLT GROUNDING NEUTRAL, SINGLE PHASE.

## LIGHT POLE ANCHOR BOLTS FOR BRIDGES AND RETAINING WALLS

Anchor bolts for mounting light poles on bridges and retaining walls shall conform to the requirements of 713.01 and details shown on the plans and standard drawings for the respective poles to be placed thereon. Payment shall be made at the unit price bid for each U bolt of the size specified and this payment shall constitute full compensation for furnishing and placing the bolts.

## CONDUIT ON STRUCTURES

Expansion fittings for conduit on structures shall be OZ Type AX, Spring City Type AF, Appleton Type XJ-4, or equal approved by the Engineer.

## ELECTRICAL SERVICE FOR ILLUMINATED SIGNS

The pay items in the Lighting General Summary include the pull box or junction box adjacent to each lighter sign and the electrical service connections leading into the box, including connector kits in the pull box or junction box. Quantities for electrical service from the connector kits in the pull box or junction box to the sign are included in the Traffic Control General Summary.

## ITEM 625 - SERVICE TO UNDERDECK LIGHTING, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING COMPLETE ELECTRICAL SERVICE, EXCEPT FOR LUMINAIRES, LAMPS, AND GROUNDING SYSTEMS, FOR AN UNDERDECK LIGHTING SYSTEM ON THE BRIDGE No. 1184 OVER I-680. THE INSTALLATION WORK SHALL INCLUDE CONDUITS, MOUNTINGS, FITTINGS, JUNCTION BOXES, CABLES, AND ALL INCIDENTALS NECESSARY TO COMPLETE, READY FOR USE, THE SERVICE AS DETAILED ON SHEET 210.

THE LUMP SUM PRICE BID FOR "ITEM 625 - SERVICE TO UNDERDECK LIGHTING, AS PER PLAN" SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE FURNISHED AND CONSIDERED PAID FOR AS PART OF THE ITEM.

## 625.07 - 713.13 UNDERPASS LUMINAIRES

250-WATT UNDERPASS LUMINAIRES SHALL BE HOLOPHANE "UNDERPASS WALLPACK", OR EQUAL WESTINGHOUSE, MCGRAW-EDISON, OR GENERAL ELECTRIC UNDERPASS UNIT APPROVED BY THE ENGINEER, AND SHALL BE FURNISHED WITH AN INTEGRAL FUSE HOLDER AND FUSE. THE INTEGRAL BALLAST SHALL BE OF A REGULAR TYPE RATED FOR 480 VOLTS.

## HIGH VOLTAGE DIRECT CURRENT TEST (Supplemental Spec. 839)

A high voltage test shall be performed on all (secondary feeder cable), (distribution cable) and (duct-cable) systems to be installed on this project after all construction is completed, including guard rail, fences, delineator posts, signs, etc.

## 713.17 STRUCTURE GROUND CABLE

Structure ground cable shall be size 1/0 AWG bare cable.

## REVISION OF LIGHT POLE OFFSETS

In lieu of the respective details shown on Standard Construction Drawings HL-1 and HL-3 and elsewhere on this plan, the normal trench alignment on this project shall be parallel to the controlling pavement edge or base line and direct from pole to pole. The special conduit elbows in the pole foundations shall be in a vertical plane along the pole alignment, and the normal offset distance of the poles from face of guard rail shall be 36 inches.

## TRANSFORMER BASE POLES

For pole designs with a base type letter designation of AT, the transformer base shall be cast aluminum as detailed on this plan. Where the base type letter designation is T, the transformer bases furnished may, at the option of the contractor, be either of cast aluminum or of steel materials meeting the requirements of this plan and the Standard Construction Drawings.

## 625.17 - 713.15 CABLE CONNECTORS AND CONNECTOR KITS

In lieu of the fuse amperage rating shown on Standard Construction Drawing HL-2, the following shall apply to this project:

No. of Lamps Served	Lamp Rating (Watts)	Fuse Rating (Amps)
1	400	6
1	700	10
1	250	6

POLE TYPE	POLE DESIGN NO.	MECHANICAL PROPERTIES - LIGHT POLES														TRANS. BASE STYLE				
		POLE SHAFT				FOUNDATION ANCHOR BOLTS				AT 2/3 YIELD STRESS				AT YIELD STRESS						
		BOTTOM O. D.	TOP O. D.	LENGTH	GAUGE	TAPER/FT.	SIZE	BOLT CIRCLE DIAMETER	PROJECTION ABOVE FOUND.	ARM LENGTH	NOMINAL MOUNTING HEIGHT	ELASTIC DEF'L. RATE/100 L.B.	LOAD 18" DOWN FROM TOP	TOTAL DEFLECTION	PERM. SET		LOAD 18" DOWN FROM TOP	TOTAL DEFLECTION	PERM. SET	
G	11AT18B	41.7	9.0	5.65	33.5	11	.10	1x40	17 1/4	3 1/2	18	41.7	2.92	600	18.0	0.5	900	29.4	3.1	AT-C
H	11AT20B	41.7	9.0	5.65	33.5	11	.10	1x40	17 1/4	3 1/2	20	41.7	2.92	600	18.0	0.5	900	29.4	3.1	AFC
K	11AT25B	41.7	9.5	6.15	33.5	11	.10	1x40	17 1/4	3 1/2	25	41.7	2.42	670	16.7	0.5	1005	27.3	2.9	AFC
L	11ST10B	34.2	8.0	3.87	29.5	11	.14	1x40	15	3 1/2	10	34.2	3.32	540	18.4	0.5	810	30.0	3.2	Steel
A	11 AT 10B	34.2	8.0	3.87	29.5	11	.14	1x40	15.0	3 1/2	10	34.2	3.32	540	18.4	.50	810	30.0	3.2	AT-A
B	11 AT 12B	34.2	9.0	4.87	29.5	11	.14	1x40	15.0	3 1/2	12	34.2	2.15	686	15.2	.50	1029	24.8	2.7	AT-A
C	7 A 10B	32.5	9.0	4.87	29.5	7	.14	1 1/4 x 76 1/2	12.5	3	10	32.5	1.45	1020	15.3	.50	1530	24.9	2.7	-
D	11 AT 15B	41.7	9.0	5.65	33.5	11	.10	1x40	17.25	3 1/2	15	41.7	2.92	600	18.00	.50	900	29.40	3.10	AT-C
E	11 T 10-B3#	2	8.0	3.87	29.5	11	.14	1x40	15.0	3 1/2	10	34.2	3.32	540	18.4	.50	810	30.0	3.2	T
F	11 T 15B	41.7	9.0	5.65	33.5	11	.10	1x40	17.25	3 1/2	15	41.7	2.92	600	18.00	.50	900	29.40	3.10	T

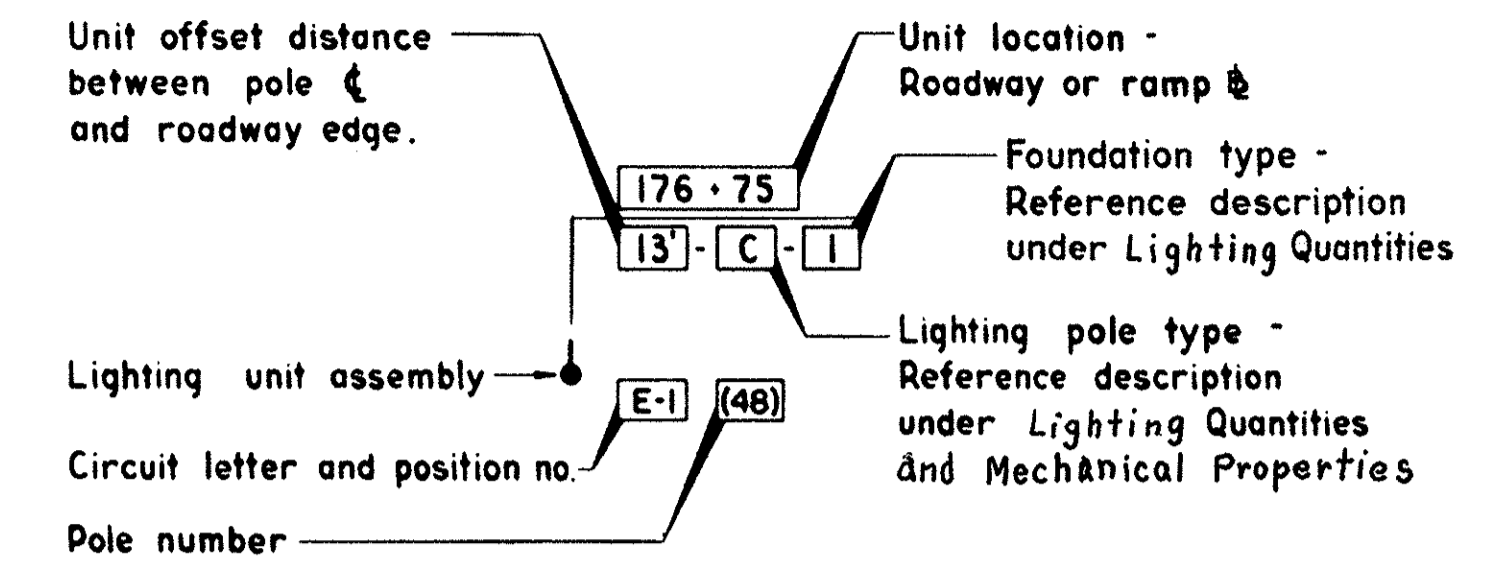
## GENERAL SUMMARY - LIGHTING QUANTITIES

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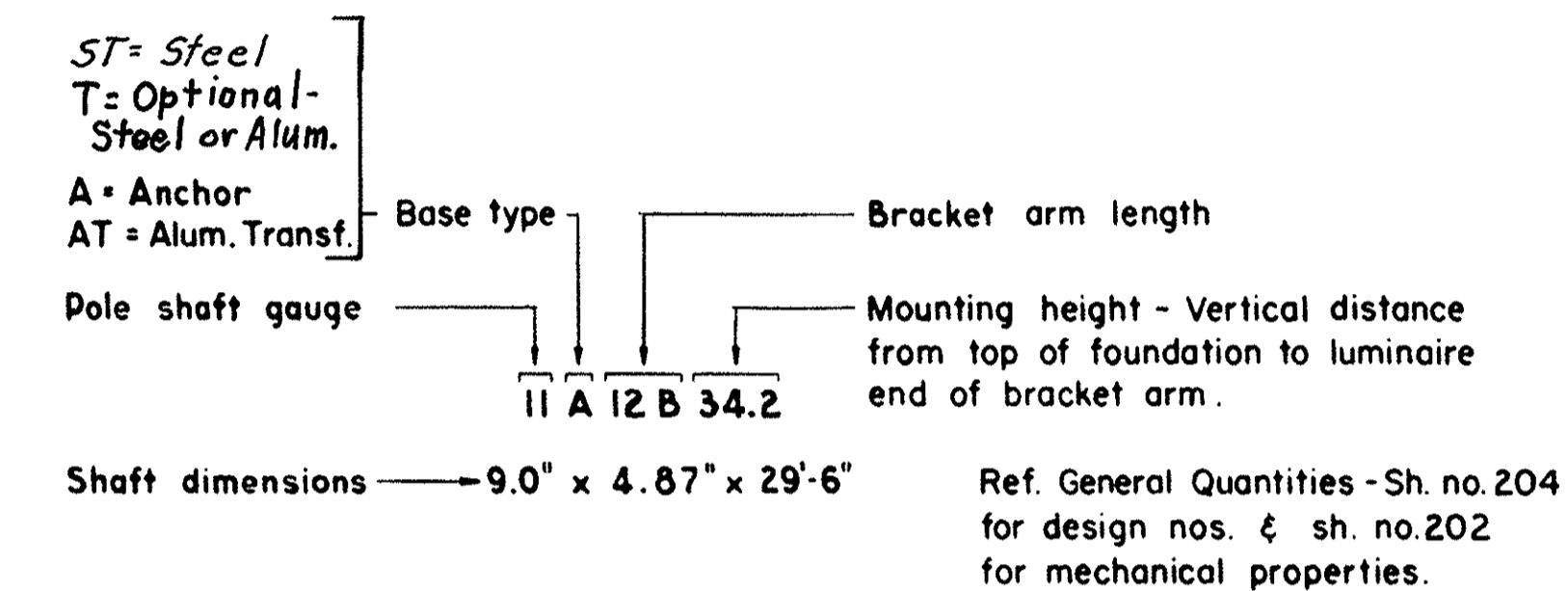
LINE NO.	INTERSTATE				RURAL			URBAN		RURAL TOTAL	URBAN TOTAL	GRAND TOTAL	UNIT	ITEM	DESCRIPTION	LINE NO.	
	STRUCTURES				ROADWAY			ROADWAY									
	MAH-680-1078 L SH. NO. 207	MAH-680-1078 R SH. NO. 207	MAH-680-1184 SH. NO. 206	MAH-224-1990 SH. NO. 206	SH. NO. 206	SH. NO. 207	SH. NO. 208	SH. NO. 208									
1					32		3		5	35	5	40	Ea.	625	Light Pole - Type A - Design No. 11 AT 10B 34.2	1	
2					2		2			4		4	Ea.	625	Light Pole - Type E - Design No. 11 T 10B 34.2	2	
3					11				3	11	3	14	Ea.	625	Light Pole - Type B - Design No. 11 AT 12B 34.2	3	
4					2		2			4		4	Ea.	625	Light Pole - Type G - Design No. 11 AT 18B 41.7	4	
5			3							3		3	Ea.	625	Light Pole - Type C - Design No. 7 A 10B 32.5	5	
6					1					1		1	Ea.	625	Light Pole - Type H - Design No. 11 AT 20B 41.7	6	
7					33		25		1	58	1	59	Ea.	625	Light Pole - Type D - Design No. 11 AT 15B 41.7	7	
8							4			4		4	Ea.	625	Light Pole - Type F - Design No. 11 T 15B 41.7	8	
9					46		6		8	52	8	60	Ea.	625	Light Pole Foundation - Type 1 - (24" x 24" x 6' - 0")	9	
10					37		30		1	67	1	68	Ea.	625	Light Pole Foundation - Type 2 - (24" x 24" x 8' - 0")	10	
11					1					1		1	Ea.	625	Light Pole - Type K - Design No. 11 AT 25B 41.7	11	
12					1					1		1	Ea.	625	Light Pole - Type L - Design No. 11 ST 10B 34.2	12	
13					37		17		1	54	1	55	Ea.	625	Luminaire - Type III, 700 Watt Mercury - 713.11	13	
14					31		6		5	37	5	42	Ea.	625	Luminaire - Type II, 400 Watt Mercury - 713.11	14	
15			3		15		13		3	31	3	34	Ea.	625	Luminaire - Type III, 400 Watt Mercury - 713.11	15	
16			6							6		6	Ea.	625	Luminaire - Underpass, 250 Watt Mercury - 713.13	16	
17																	17
18					37		17		1	54	1	55	Ea.	625	Lamp - Mercury Vapor, 700 Watt - 713.14	18	
19			3		46		19		8	68	8	76	Ea.	625	Lamp - Mercury Vapor, 400 Watt - 713.14	19	
20			6				13			19		19	Ea.	625	Lamp - Mercury Vapor, 250 Watt - 713.14	20	
21					2					2		2	Ea.	625	Glare Shield - (700 W. Luminaire) - 713.11	21	
22							2			2		2	Ea.	625	Glare Shield - (400 W. Luminaire) - 713.11	22	
23																	23
24					83		36		9	119	9	128	Ea.	625	Ground Rod	24	
25					35	13	8		4	56	4	60	Ea.	625	Pull Box - 18" Circular - 713.09	25	
26					2		1			3		3	Ea.	625	Pull Box - 24" Circular - 713.09	26	
27																	27
28					15,475	3,200	8,200		1,525	26,875	1,525	28,400	L.F.	625	Trench - 24" Depth	28	
29																	29
30																	30
31		130	130	660	15	225	60	80		1,300		1,300	L.F.	625	Conduit - 2" - 713.04 - Type III	31	
32						771	116	170	70	1,057	70	1,127	L.F.	625	Conduit - 3" - 713.04 - Type III	32	
33																	33
34		270		1,375	30	2,625	425	900	175	5,625	175	5,800	L.F.	625	Circuit Cable - 1/c No. 4, 600 V.	34	
35																	35
36				270		8,200		3,600	830	12,070	830	12,900	L.F.	625	Pole and Bracket Cable - 1/c No. 10, 600 V.	36	
37						15,900	3,250	8,500	1,600	27,650	1,600	29,250	L.F.	625	Duct - Cable - 2 - 1/c No. 4, 600 V.	37	
38																	38
39						58	22	26	4	106	4	110	Ea.	625	Connector Kit - Type I	39	
40						83		36	9	128	9	137	Ea.	625	Connector Kit - Type II (Fused)	40	
41						83		36	9	128	9	137	Ea.	625	Connector Kit - Type III	41	
42						36	4	2	4	46	4	50	Ea.	625	Connector Kit - Type VII B	42	
43																	43
44							LUMP			LUMP		LUMP	L.S.	625	Service and Control Equipment Pole No. 1	44	
45							LUMP			LUMP		LUMP	L.S.	625	Service and Control Equipment Pole No. 2	45	
46						LUMP				LUMP		LUMP	L.S.	625	Service and Control Equipment Pole No. 3	46	
47						LUMP				LUMP		LUMP	L.S.	625	Service and Control Equipment Pole No. 4	47	
48						Lump				Lump		Lump	Lump	625	Service To Underdeck Lighting, as per plan	48	
49										Lump	Lump	Lump	Lump	625	High Voltage Test	49	
50										1		1	Ea.	625	Structure Grounding System - Br. No. 1990	50	
51										1		1	Ea.	625	Structure Grounding System - Br. No. 1184	51	
52										1		1	Ea.	625	Structure Grounding System - Br. No. 1078 R	52	
53										1		1	Ea.	625	Structure Grounding System - Br. No. 1078 L	53	
54										5		5	Ea.	625	Structure Junction Box	54	
55										6		6	Ea.	625	Light Pole Anchor "U" Bolt for Structure - (1 1/4" x 76 1/2" L.) 713.01	55	
56																	56

**LEGEND**

- ⊖ Lighting Unit Assembly - Type II Luminaire - 400 W. Alum. Transf. Base
- ⊙ Lighting Unit Assembly - Type III Luminaire - 400 W. Alum. Transf. Base
- ⊕ Bridge Lighting Unit Assembly - Type III Luminaire - 400 W. Anchor Base
  
- ⊖ Lighting Unit Assembly - Type III Luminaire - 700 W. Alum. Transf. Base
- ⊖ Understructure Lighting Unit - 250 W.
  
- Pre-assembled Duct - Cable, 2-1/2 No. 4, 600 V., in 1 1/2" Polyeth. Duct
  
- Conduit - 2" Steel - Bridge and Roadway
- ⊖ Conduit - 3" Steel - Roadway
- **Disregard this Symbol**
- Pull Box - 18" I.D. unless otherwise noted - Corrugated metal
- ◻ Bridge Junction Box in Parapet
- ▬ Support for Illuminated Sign (not in contract)
  
- ⊖ Service and Control Equipment Pole w/Guy and Anchor
- ⊖ Existing Utility Company Pole
- A-1 Unit Circuit Letter and Position Number
- (57) Pole Number
- ⊖ Guardrail



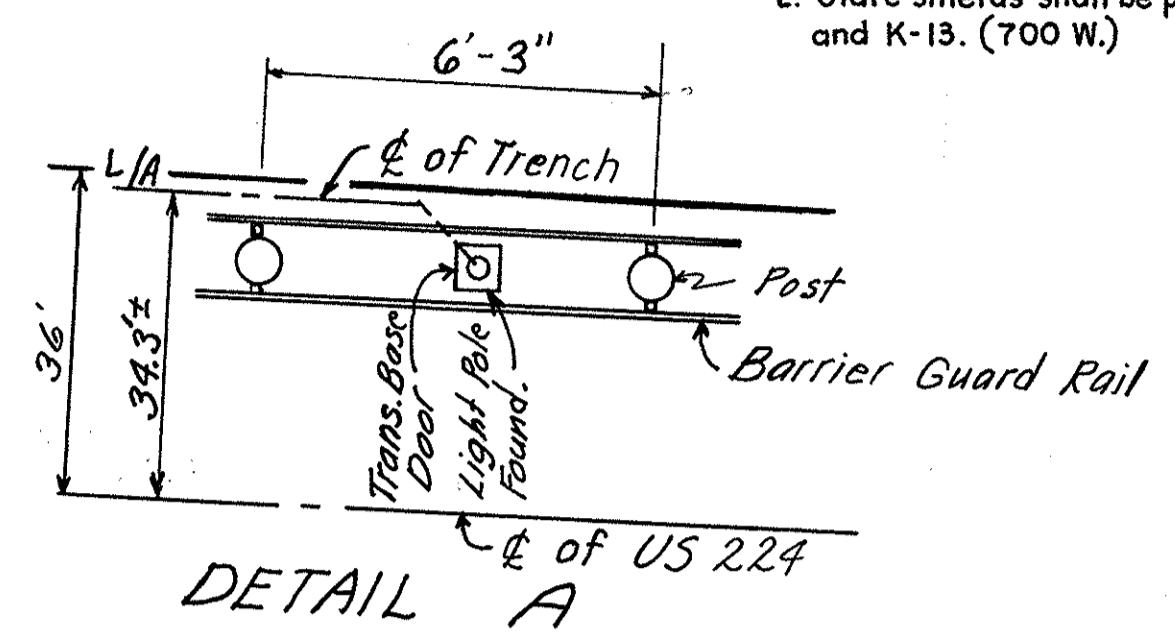
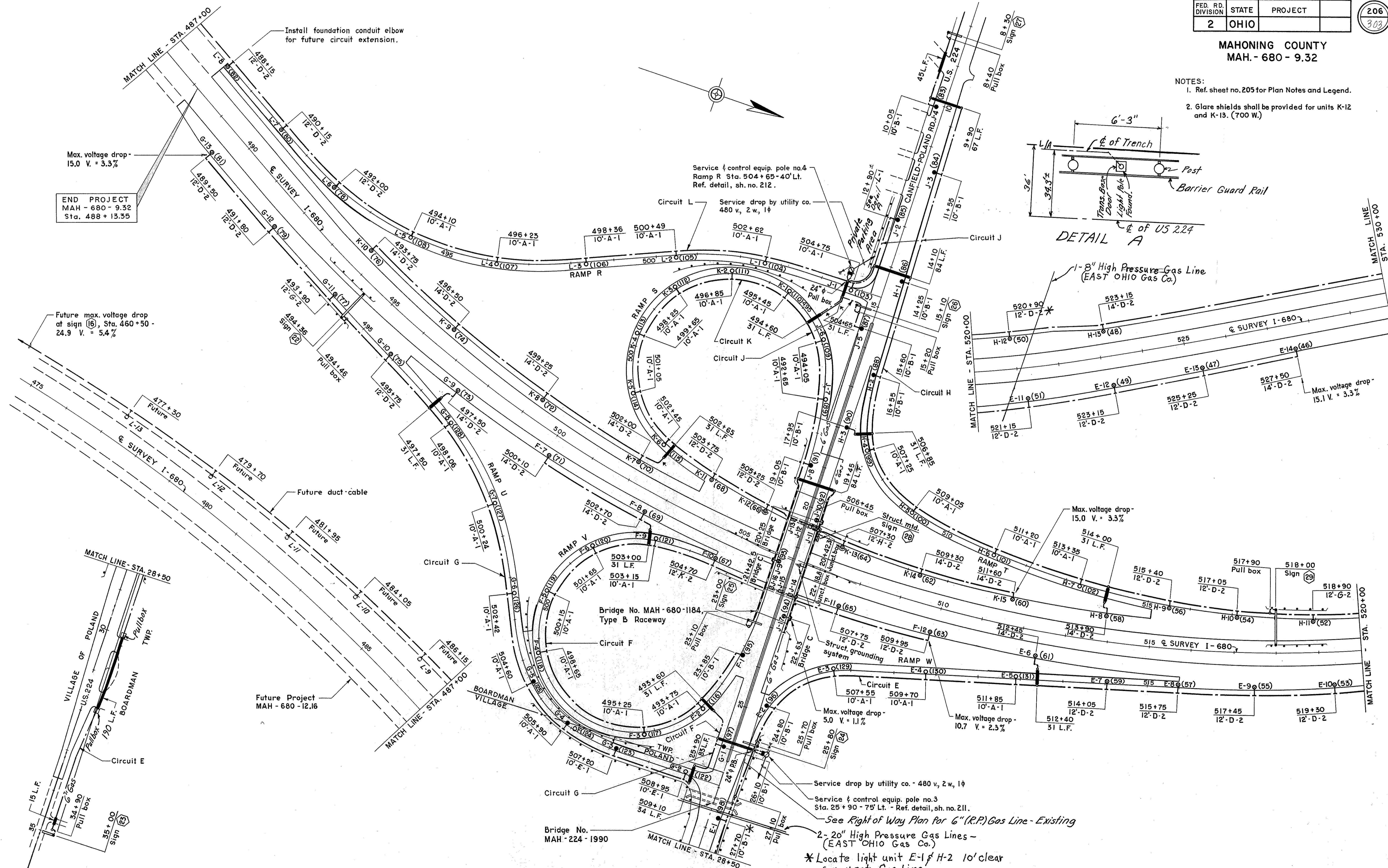
**UNIT PLAN INFORMATION KEY**



**LIGHTING POLE DESIGN NO. KEY**

MAHONING COUNTY  
MAH - 680 - 9.32

- NOTES:
1. Ref. sheet no. 205 for Plan Notes and Legend.
  2. Glare shields shall be provided for units K-12 and K-13. (700 W.)



Max. voltage drop -  
15.0 V = 3.3%

END PROJECT  
MAH - 680 - 9.32  
Sta. 488 + 13.35

Future max. voltage drop  
of sign (16), Sta. 460 + 50 -  
24.9 V = 5.4%

DETAIL A

Max. voltage drop -  
15.1 V = 3.3%

Max. voltage drop -  
15.0 V = 3.3%

Max. voltage drop -  
5.0 V = 1.1%

Max. voltage drop -  
10.7 V = 2.3%

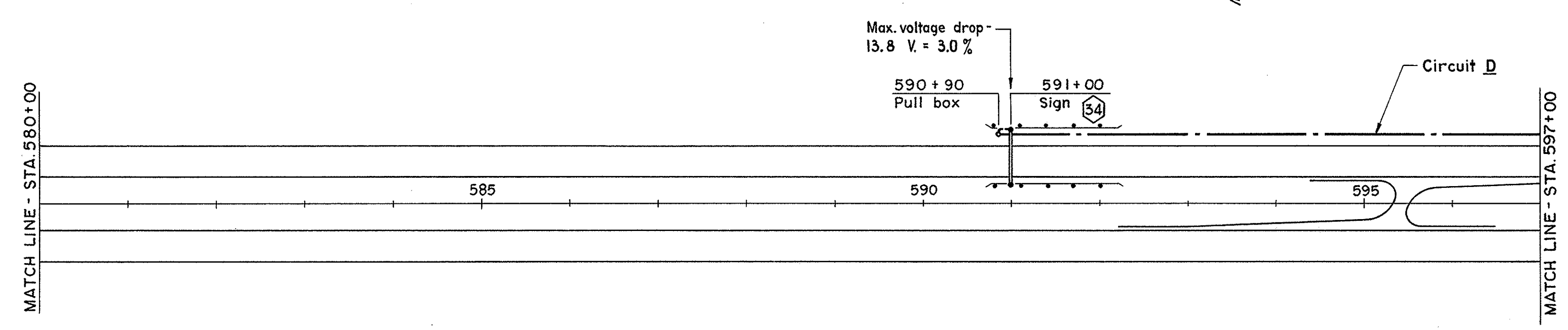
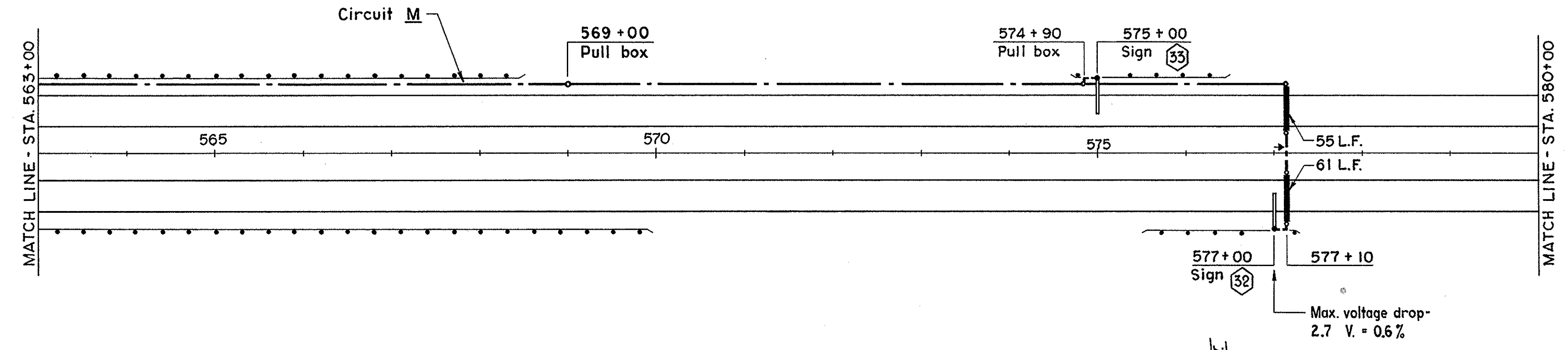
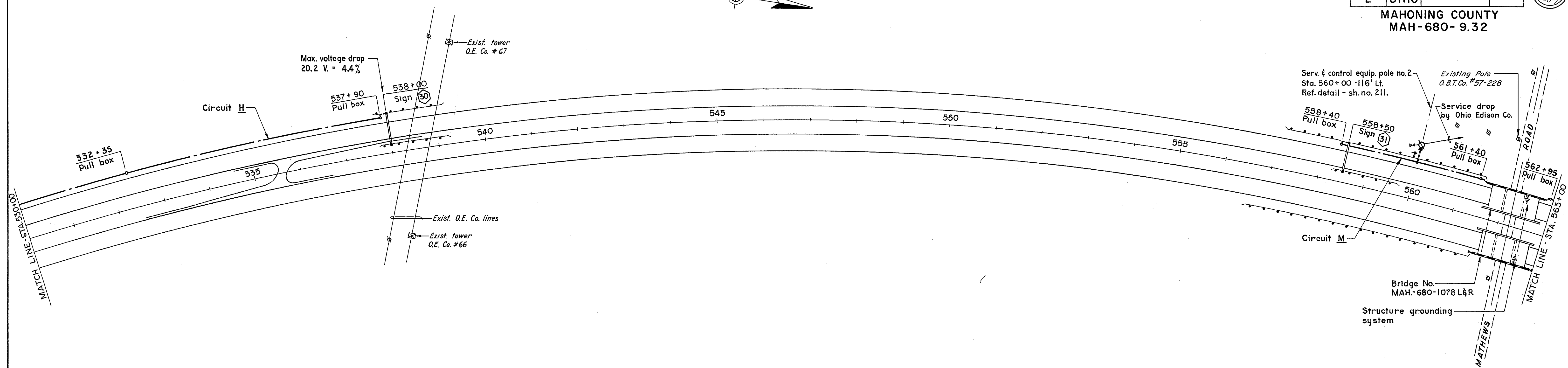
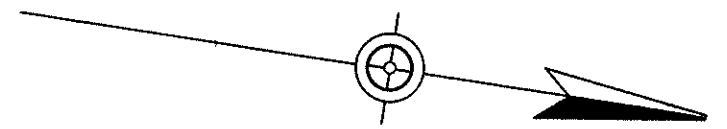
\* Locate light unit E-1 & H-2 10' clear  
of nearest Gas Line



FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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303

MAHONING COUNTY  
MAH-680-9.32

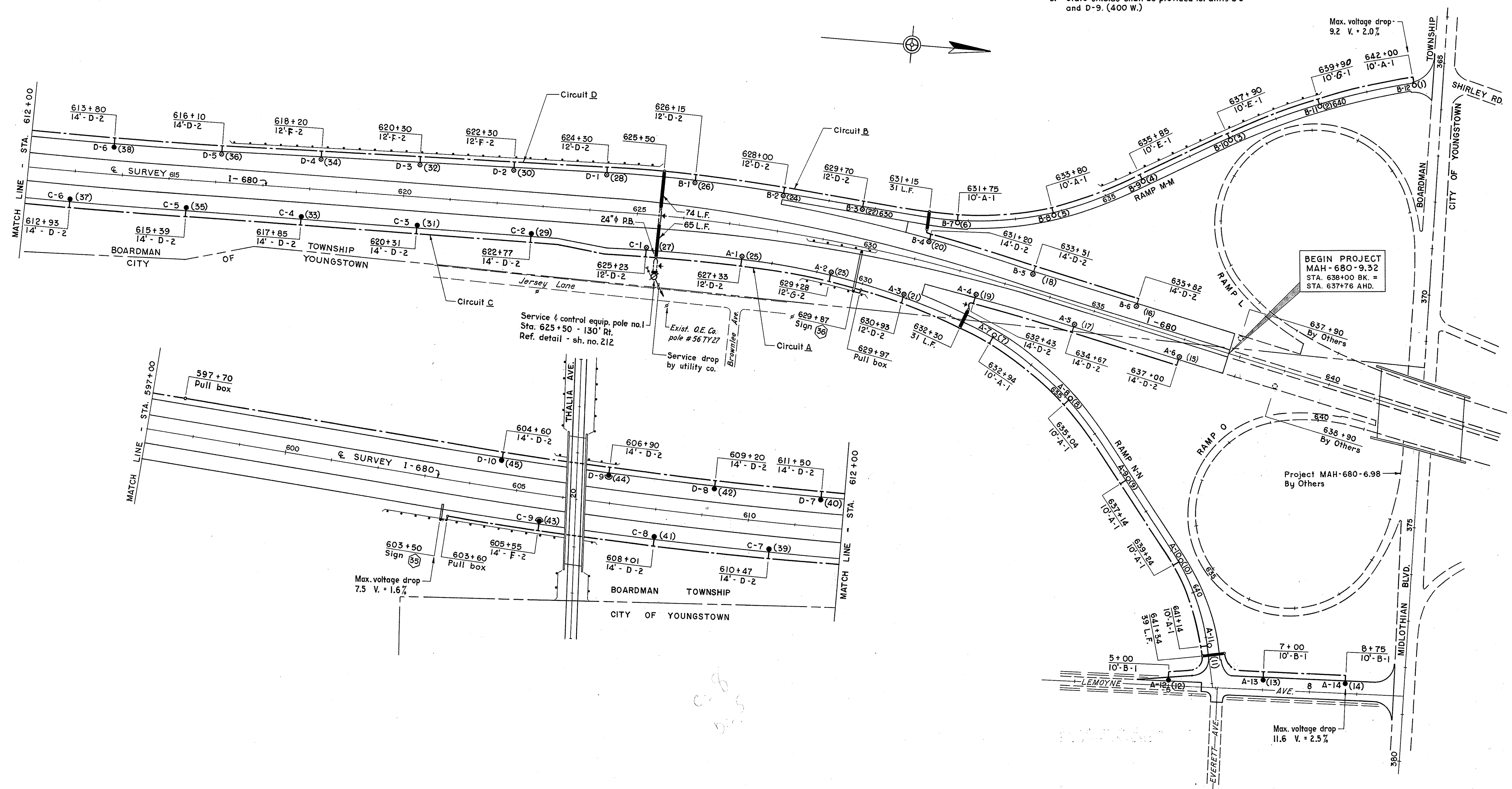
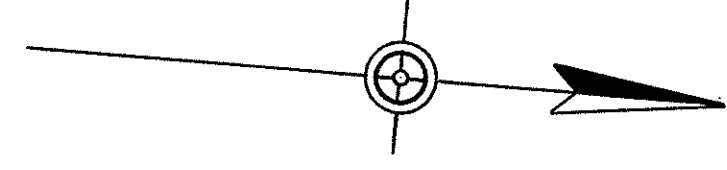


FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

208  
303

**MAHONING COUNTY  
MAH- 680 - 9.32**

- NOTES:**
1. Ref. sheet no.205 for Plan Notes and Legend.
  2. Adaptation lighting units C-2 thru C-9 and D-6 thru D-10 shall be provided w/ 400 watt luminaire.
  3. Glare shields shall be provided for units C-9 and D-9. (400 W.)



BEGIN PROJECT  
MAH-680-9.32  
STA. 638+00 BK. =  
STA. 637+76 AHD.

Project MAH-680-6.98  
By Others

Max. voltage drop  
11.6 V = 2.5%

C-8  
D-5

### NOTES

**ANCHOR BOLTS:** For anchor bolt sizes see drawing HL-3.

**FOUNDATION:** Foundations for light poles shall be poured-in-place concrete (vibrated and spaded 5/11/09). Each foundation must meet minimum depths as specified, but additional depth may be required by the Engineer because of existing soil conditions. The 30" foundation (detailed hereon) shall be used for light poles having a bottom shaft diameter of more than 10" through 12". The 24" foundation (detailed on Standard Drawing HL-1) shall be used for all light poles having a bottom shaft diameter of 6.0" through 10". See HL-1 for Foundation depth. Rotate reinforcing bars to clear conduit.

Drainage grooves on foundation top, as detailed hereon, shall be required on all foundations even though they do not appear on Standard Drawing HL-1.

**ALUMINUM TRANSFORMER BASES:** All bases shall be cast from ASTM B-26 or B-108 Alloy 5G 70A-T6.

Base AT-A shall be used with anchor base poles of 6" through 9.2" dia. inclusive, thru 34' 6" Mtg. Hgt.

Base AT-B shall be used for anchor base poles above 10" through 12" diameter. Base AT-C shall be used for anchor base poles with bottom diameter 9" through 10".\*

The transformer bases shall be capable of resisting the following moments in foot pounds with load applied at a distance of 20' feet above the top of the base without collapsing or rupturing.

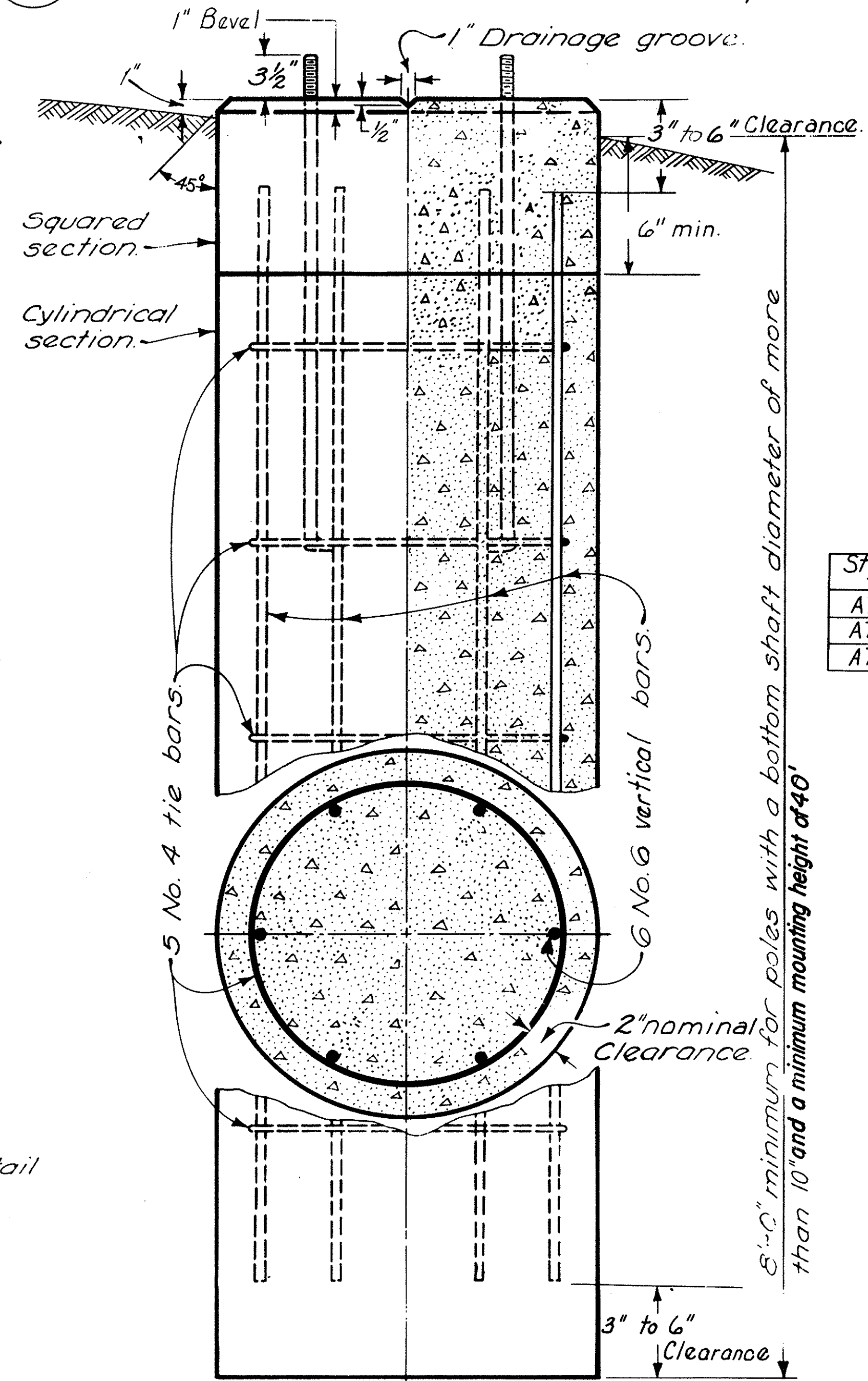
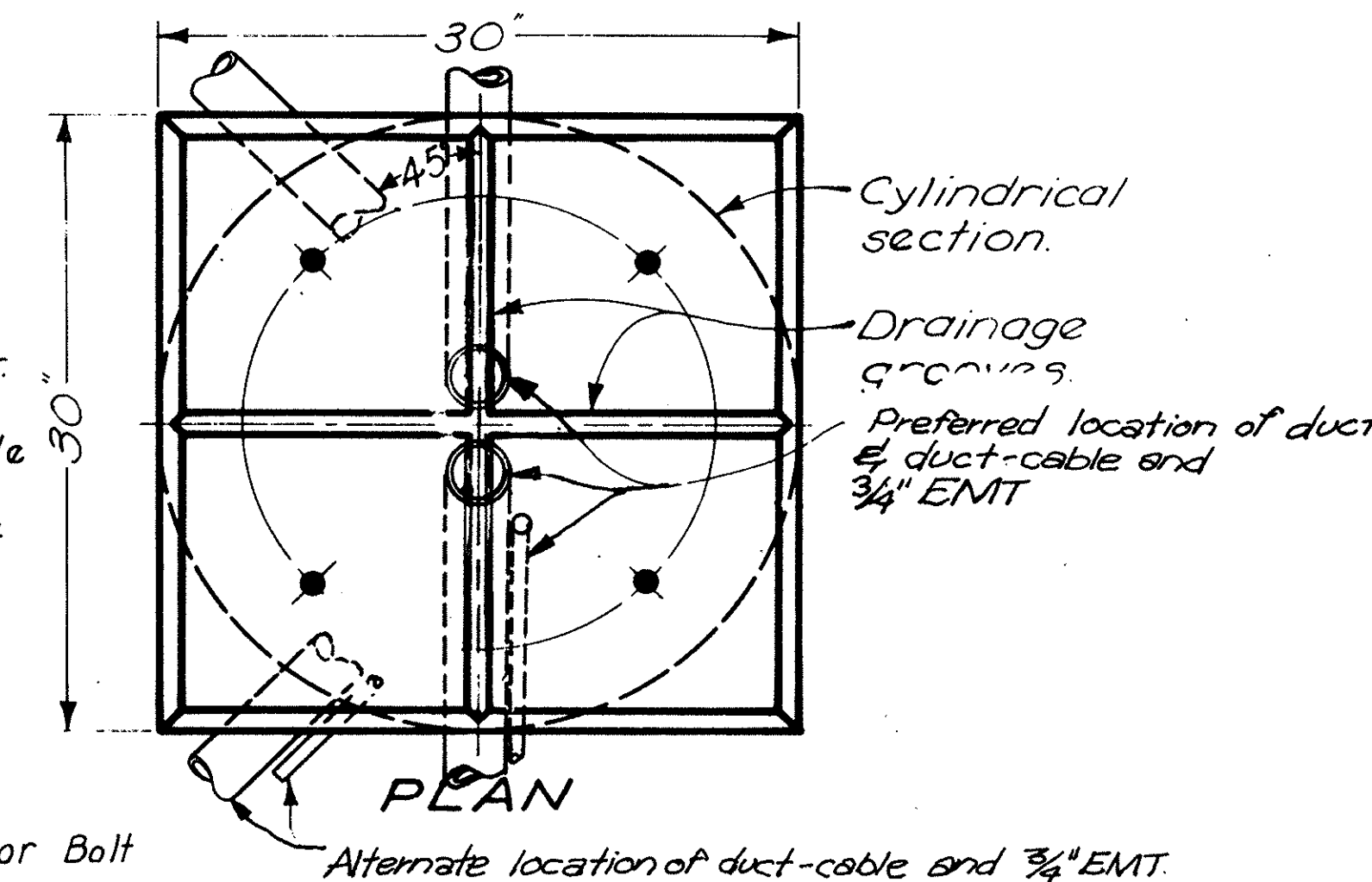
Style	Bolt Circle	Base Height	Moment-Foot Pounds	Arm Length
AT-A	15"	20"	37,000	15' Max.
AT-C	17 1/4"	20"	56,000	10' to 25'
AT-B	22"	24"	52,000	10' to 25'

Both the bottom of the cast steel pole base and the top of the aluminum transformer base shall be coated or painted with a heavy film of zinc rich paint (Federal Specification TT-P-641-Type II) to reduce galvanic action between the two dissimilar metals.

**PAYMENT:** 30" Light Pole Foundations shall be paid for at the unit price bid per each foundation.

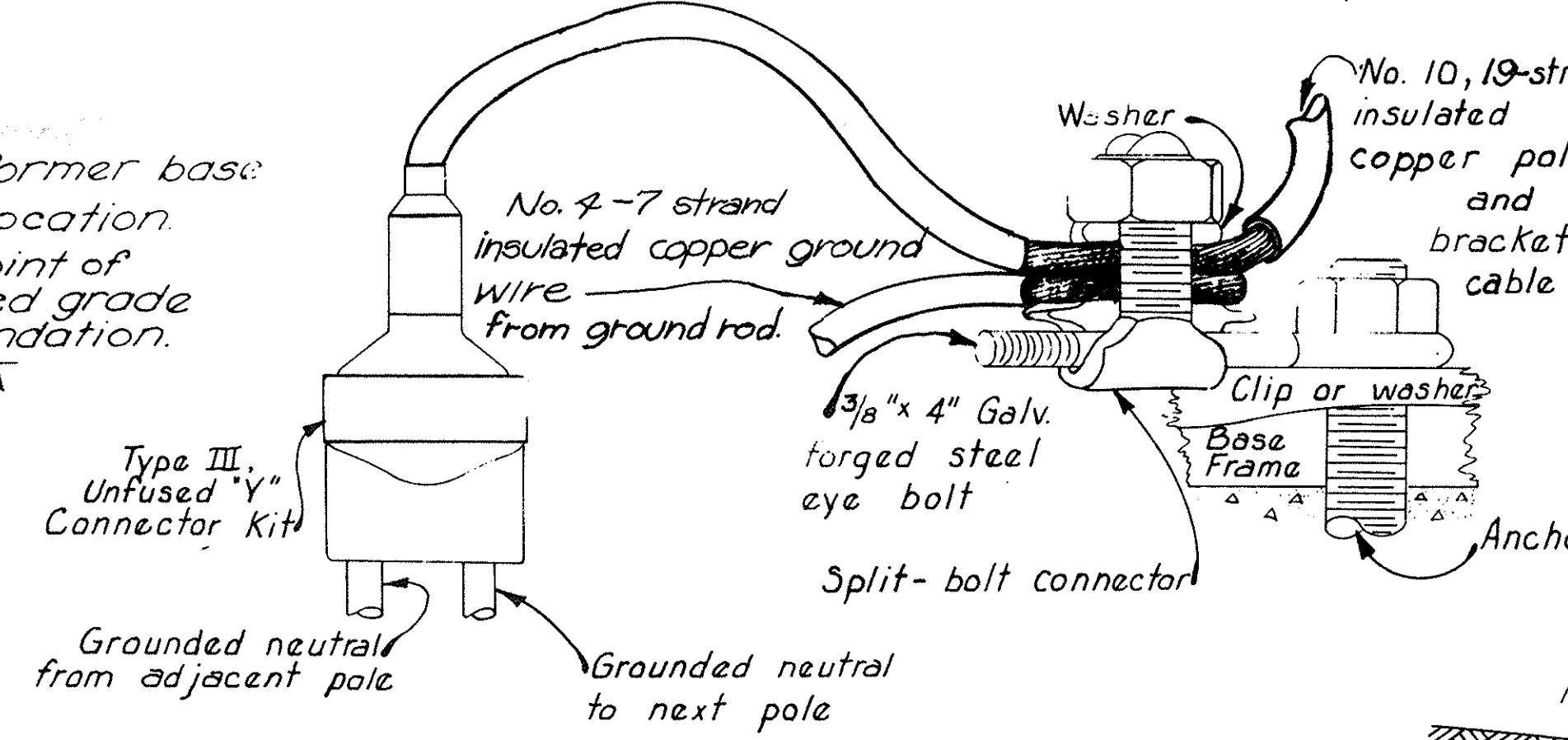
Aluminum base complete with hardware, bolts, lugs, washers, etc, zinc rich paint, and installation shall be included with ground-mounted poles for payment.

\* AT-C Base can be used with 8" or 8 1/2" dia. base poles, if desired, in order to reduce maintenance items.

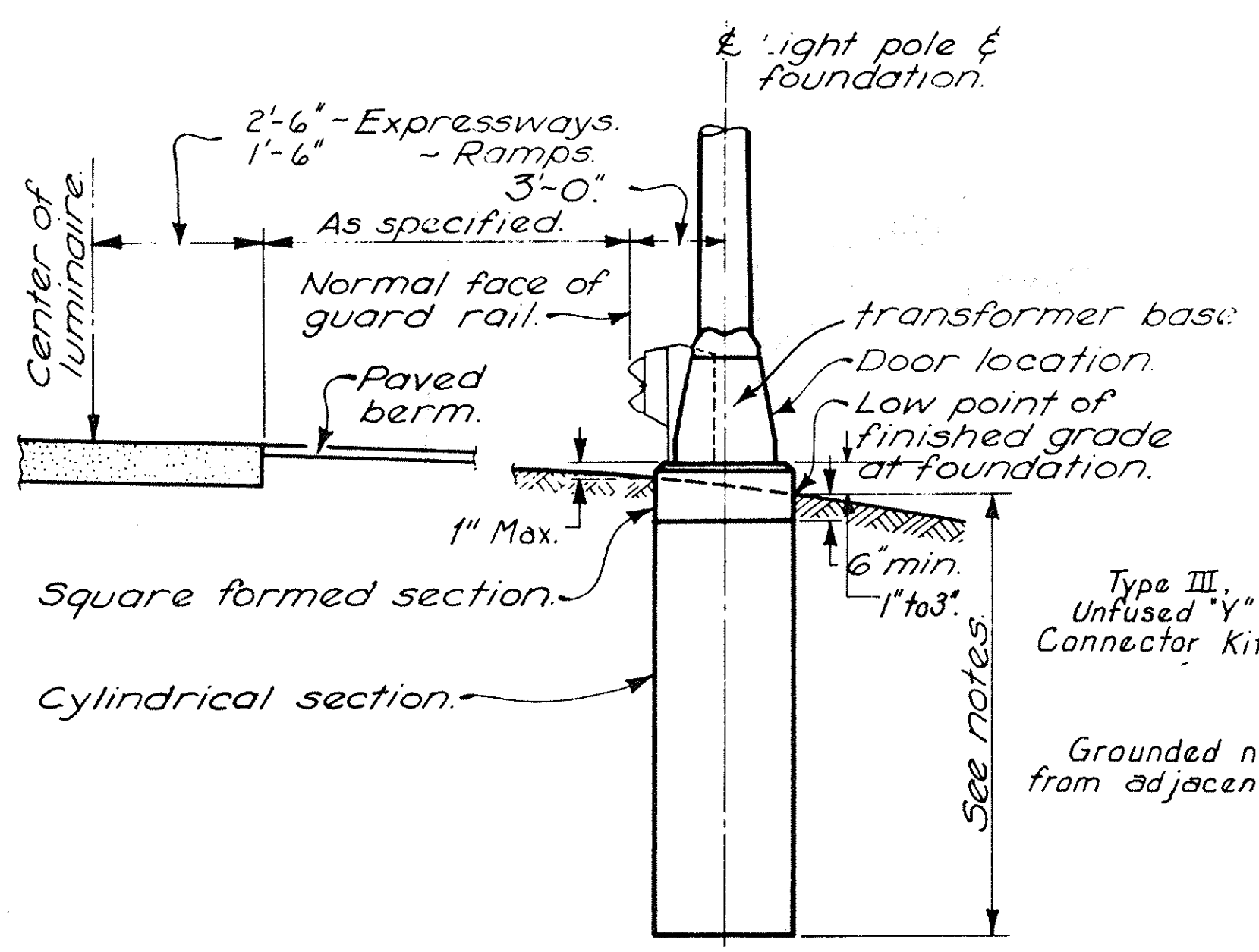


ELEVATION  
30" FOUNDATION

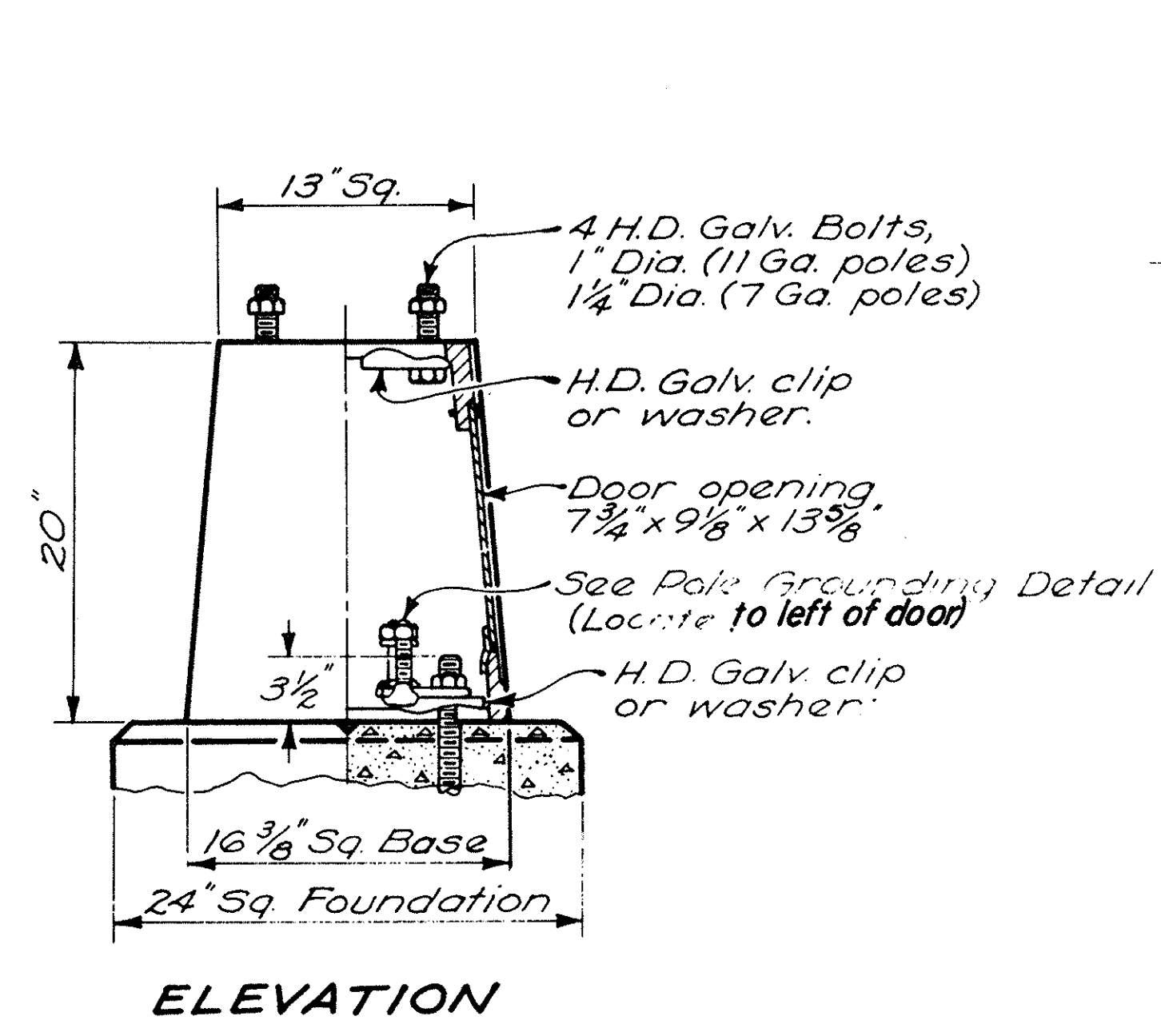
NOTE: Split-bolt Connector shall be made of tin plated copper alloy with tin plated spacer. Acceptable models are: Blackburn #10HPS, Burndy #KSU-25, Line Material #DK-5B-10, Kearney #118109-02, Penn Union # 3W7 or an approved equal.



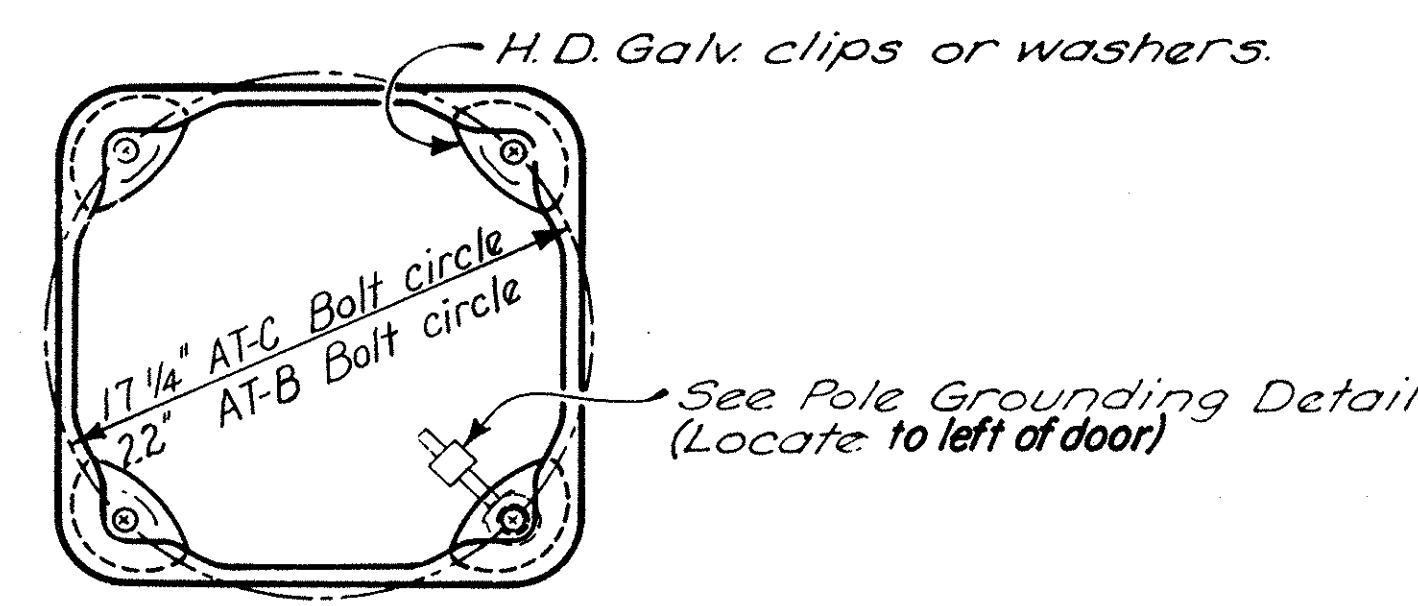
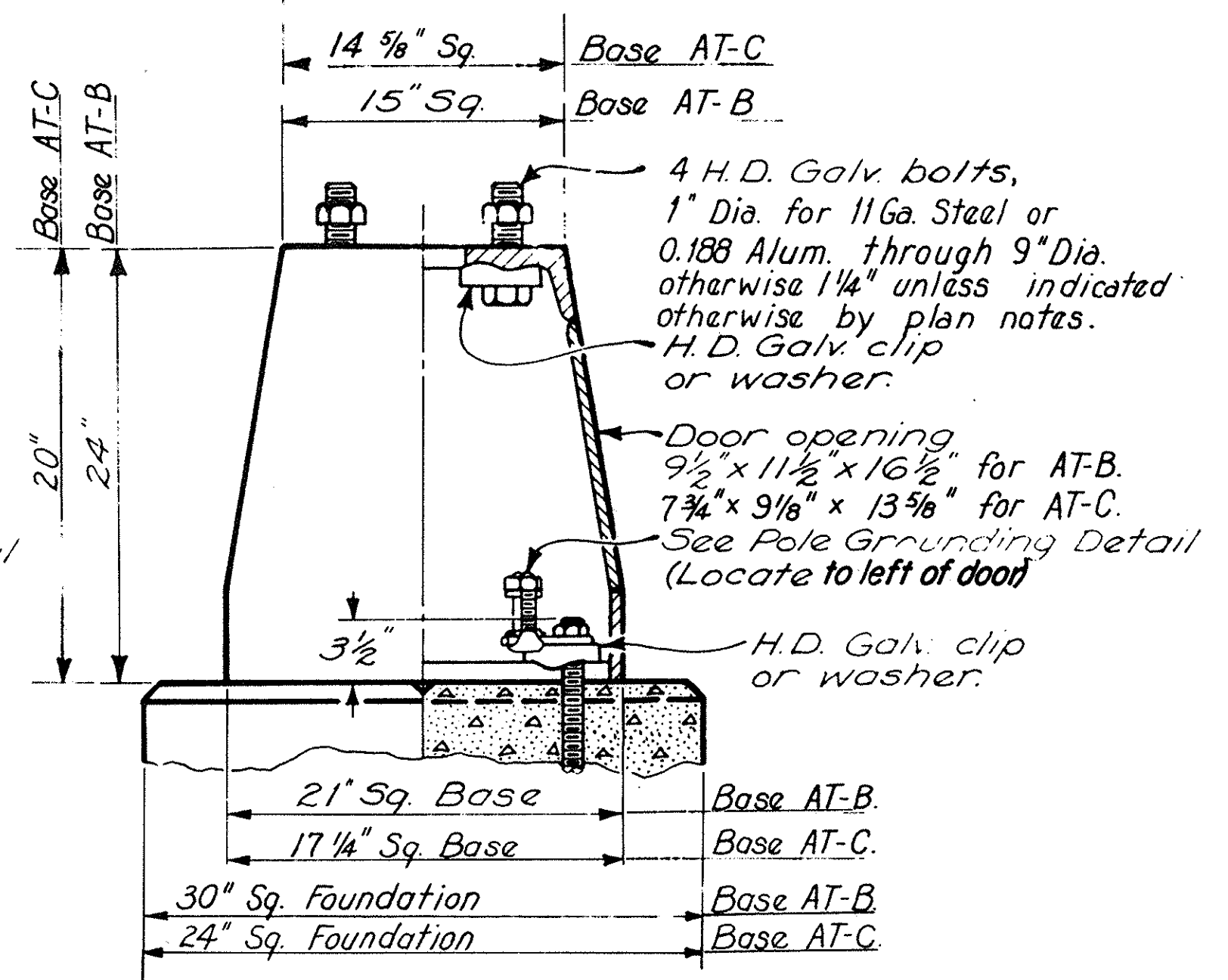
POLE GROUNDING DETAIL  
(2-Wire Grounded Neutral System Only)



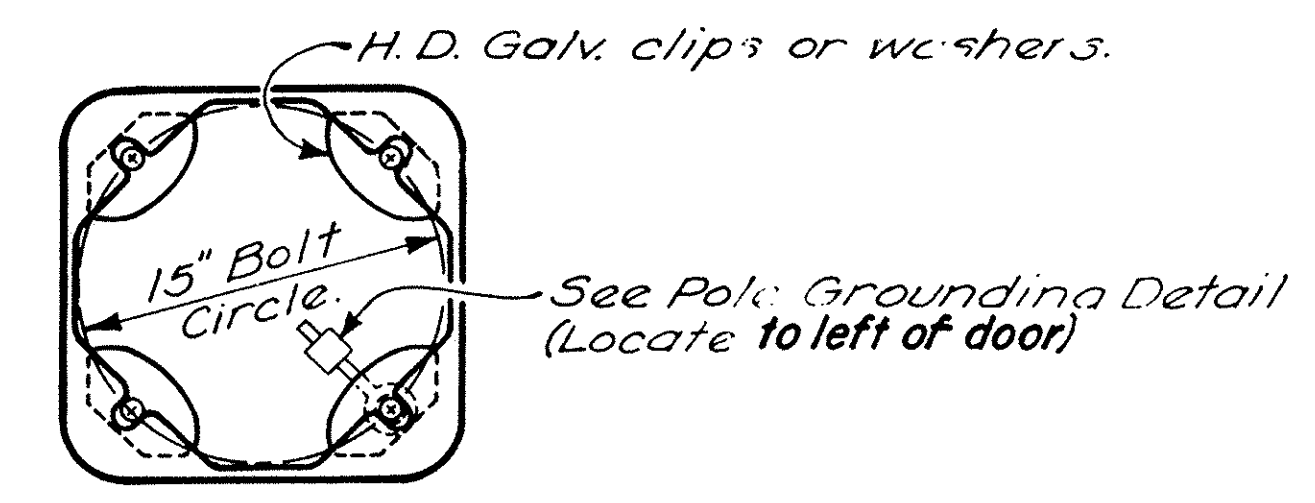
LOCATION OF POLE WITH TRANSFORMER BASE  
(Supersedes "Location of Light Pole Foundation" shown on Standard Drawing HL-1)



ELEVATION



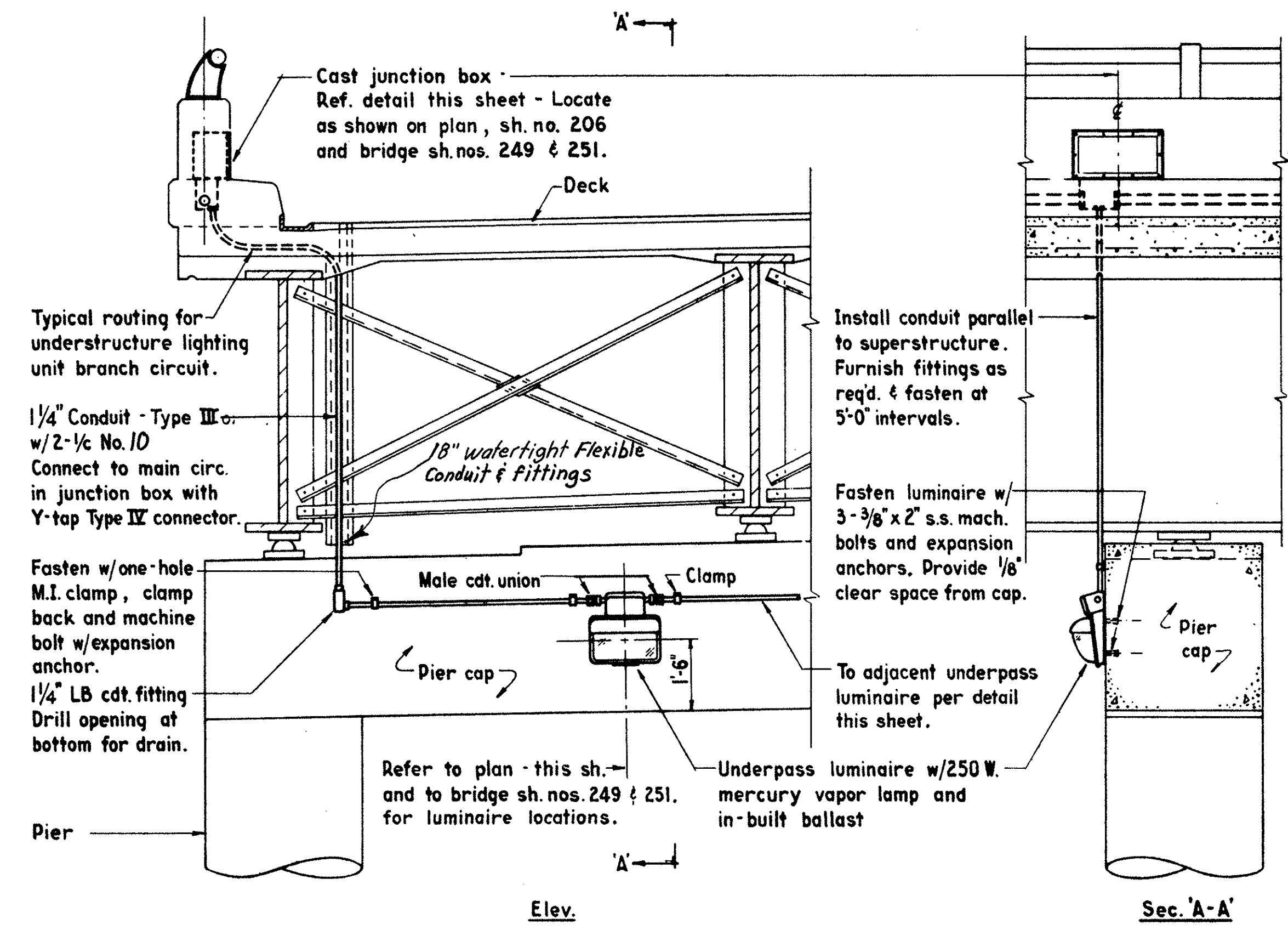
BASE FRAME  
BASES AT-B AND AT-C



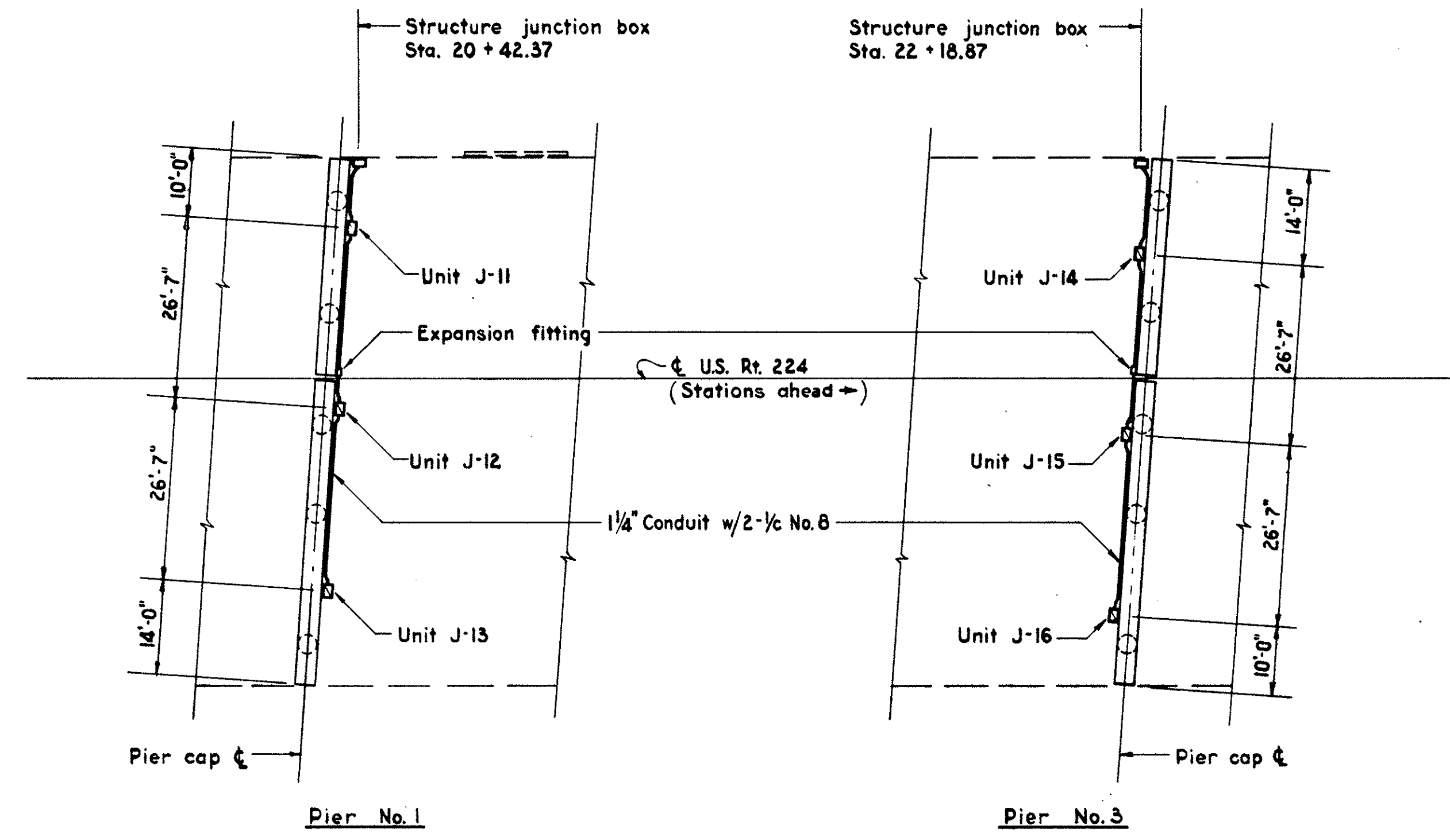
BASE FRAME  
BASE AT-A

## CAST ALUMINUM TRANSFORMER BASES

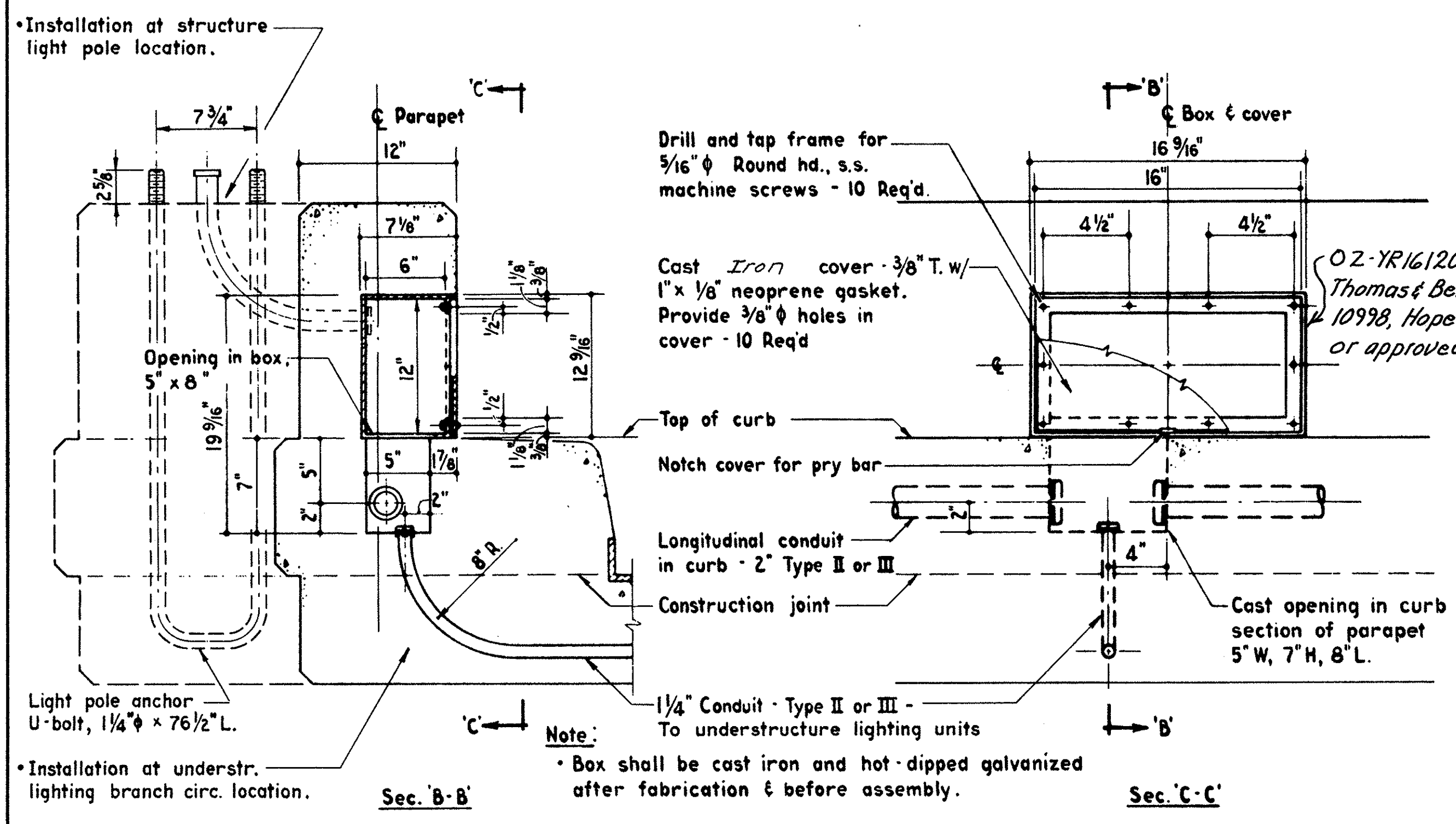
Revised: 11-10-69 Revised: 7-1-70  
 Revised: 1-24-69 Revised: 2-10-70  
 Revised: 5-14-68 Revised: 5-19-70  
 Issued: 11-6-67 Revised: 6-1-70



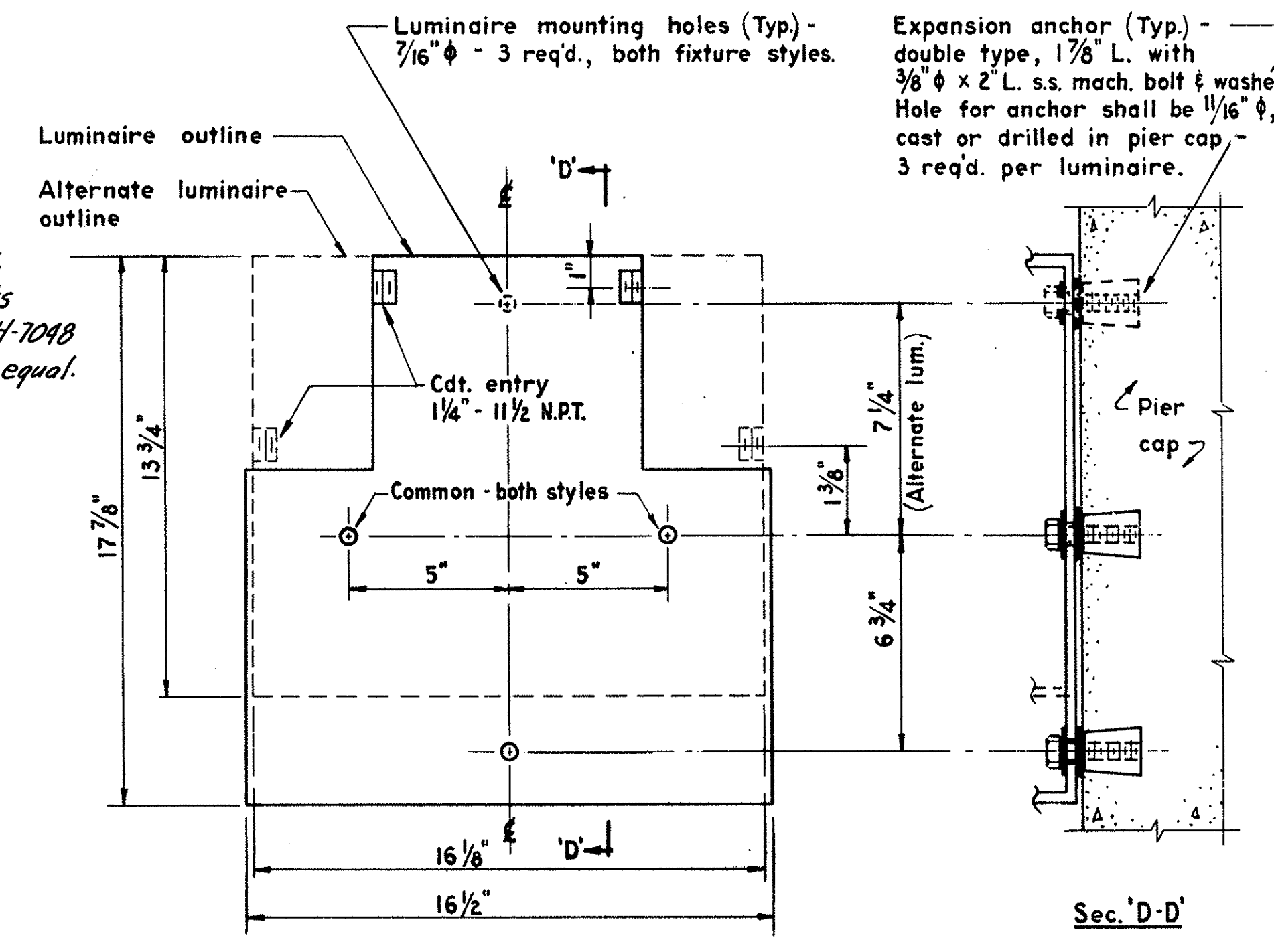
BRIDGE UNDERSTRUCTURE LIGHTING UNIT INSTALLATION DETAIL  
PIER CAP MOUNTING



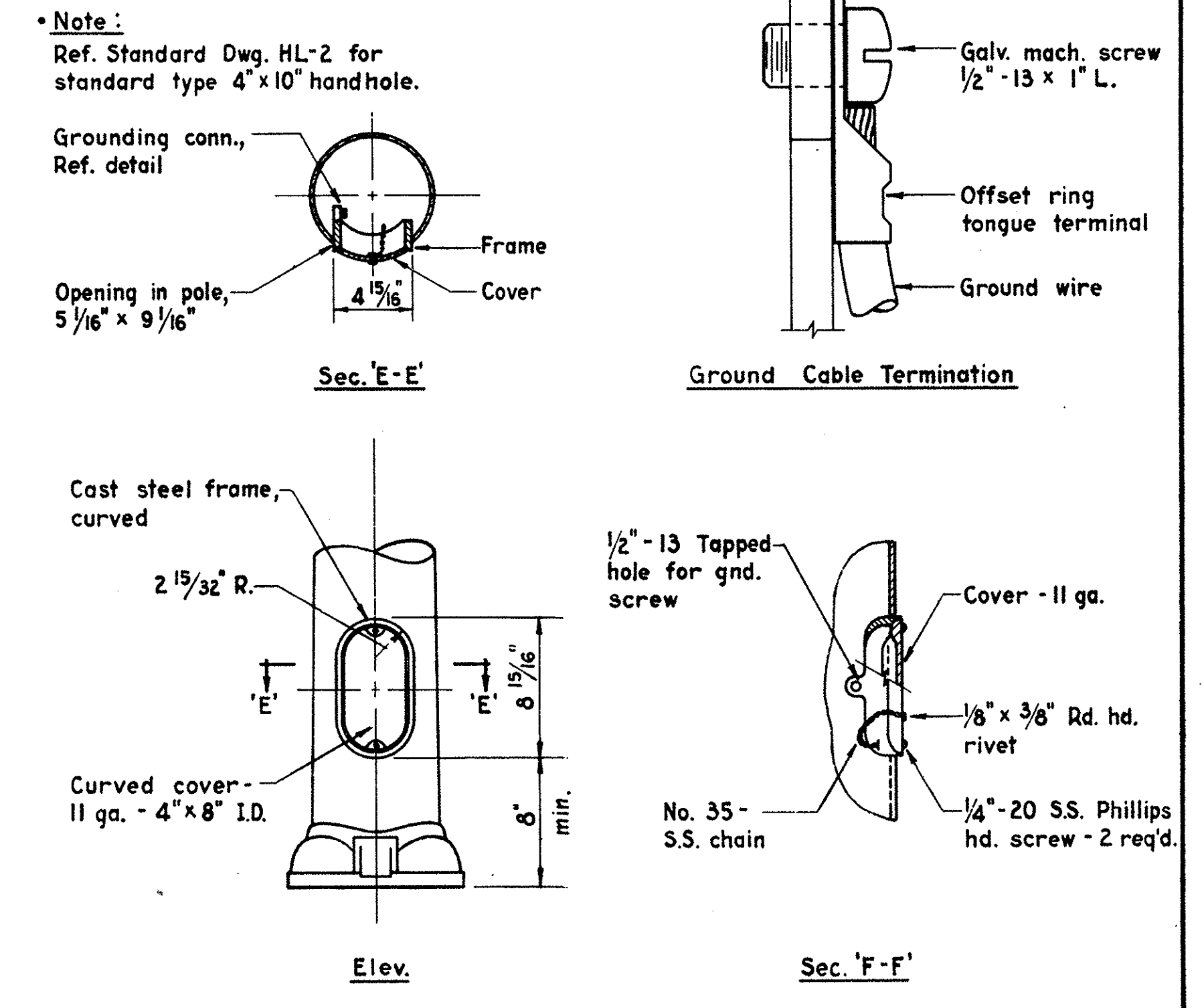
UNDERSTRUCTURE LIGHTING PLAN AND DETAILS  
BRIDGE NO. MAH - 680 - 11 84



STRUCTURE JUNCTION BOX DETAIL



UNDERPASS LUMINAIRE MOUNTING DETAIL



ALTERNATE 4" x 8" CURVED HANDHOLE DETAIL  
ANCHOR BASE POLES ONLY

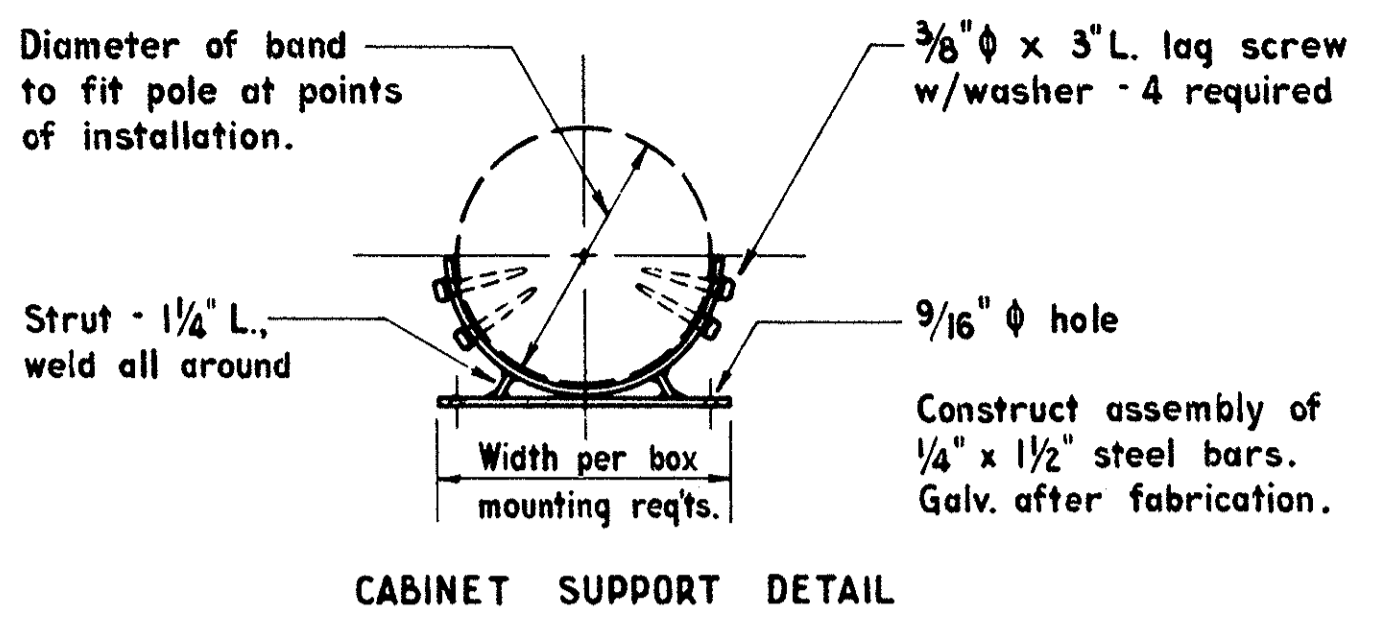
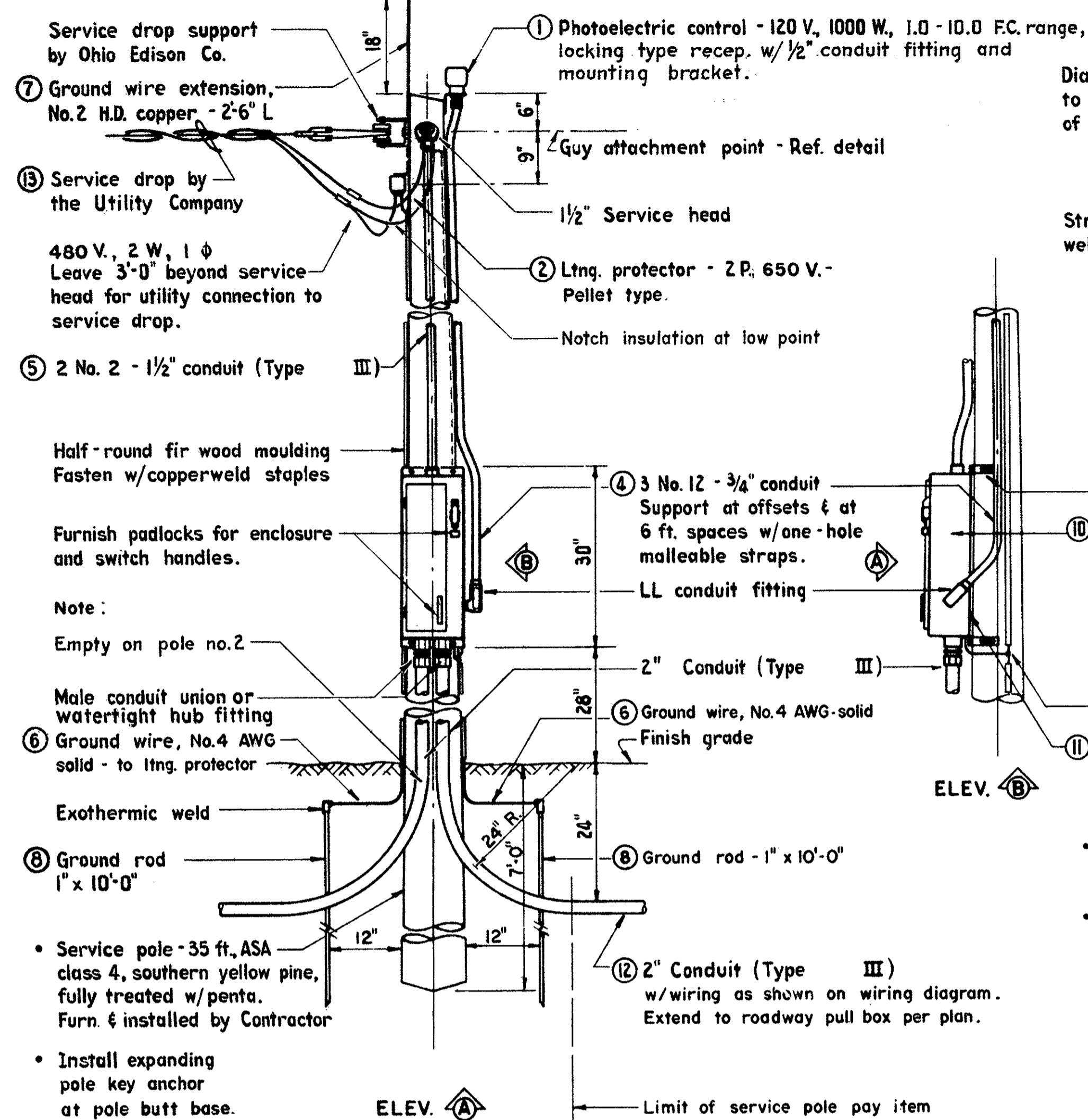
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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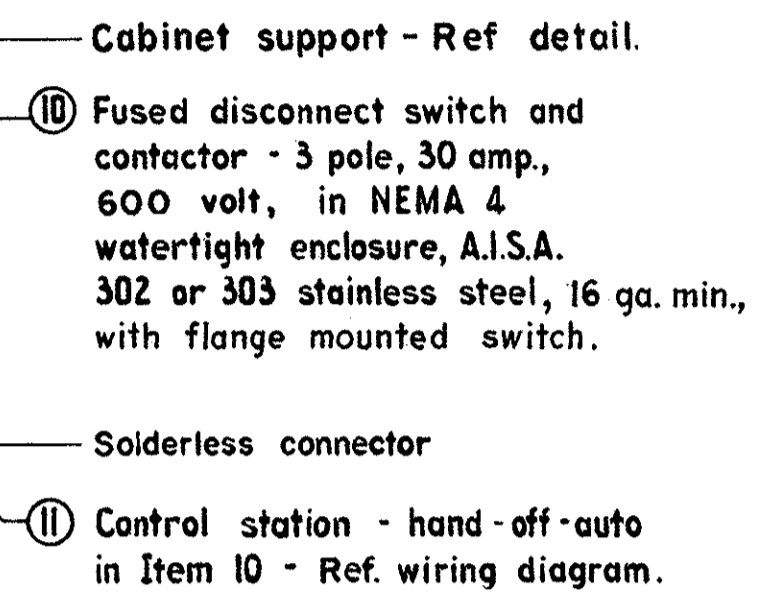
MAHONING COUNTY  
MAH - 680 - 9.32

**NOTE**

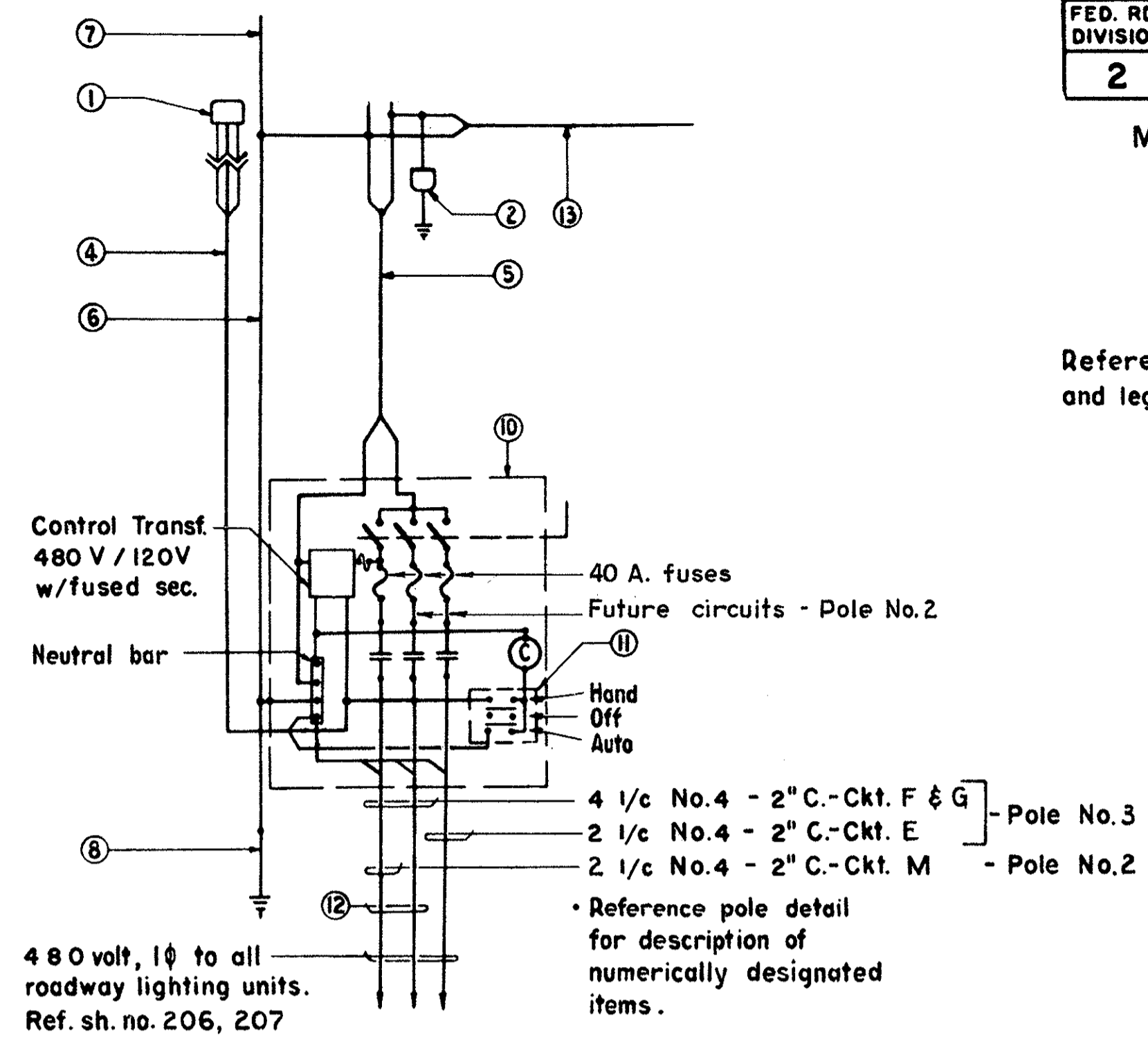
Reference sheet no. 205 for plan notes and legend.



CABINET SUPPORT DETAIL



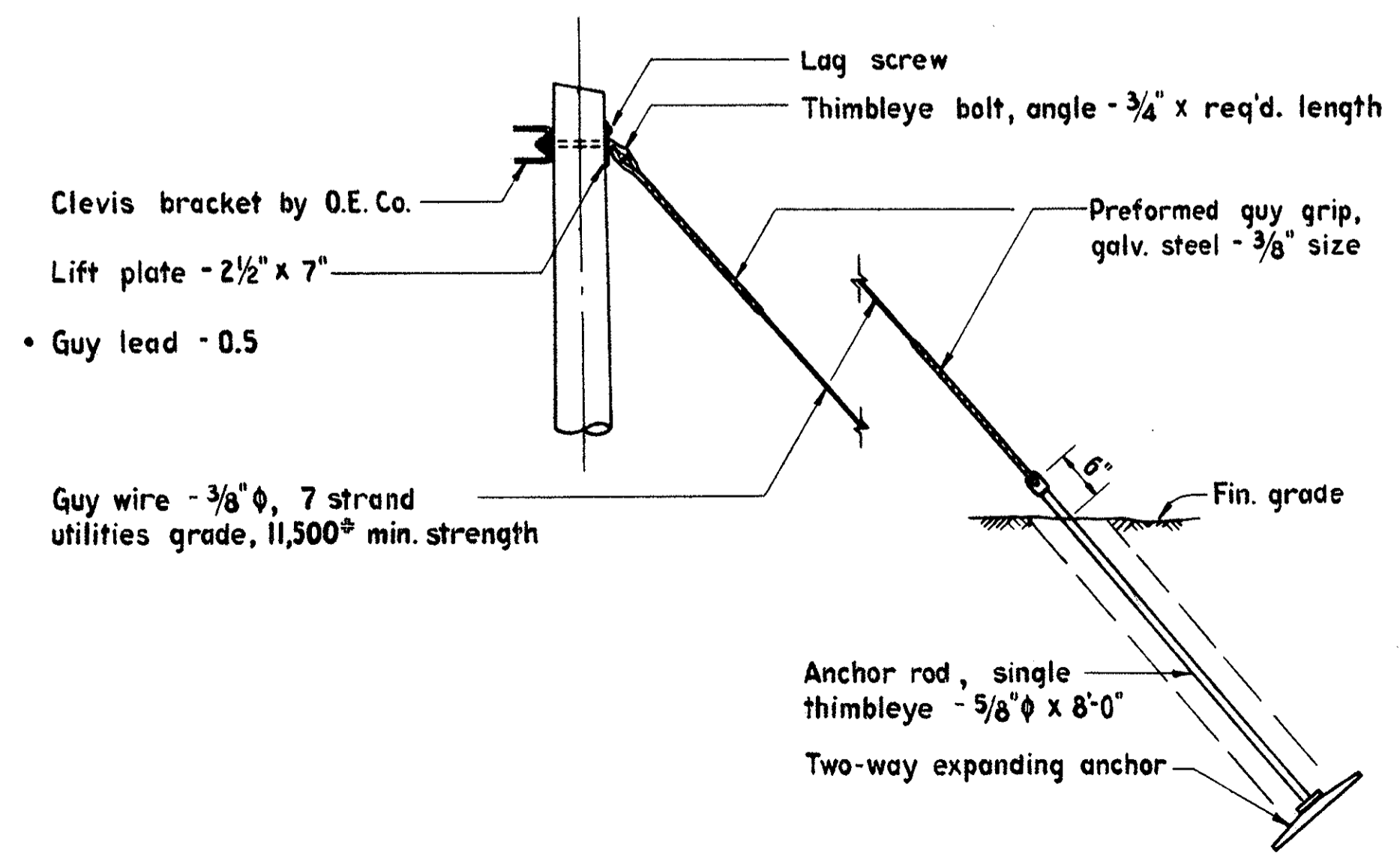
- Meter and disconnect switch shall face roadway.
- Contractor shall install all metering equipment as required in accordance with requirements of Ohio Edison Co.



WIRING DIAGRAM  
SERVICE AND CONTROL EQUIPMENT POLE - NO. 2 & NO. 3

SERVICE AND CONTROL EQUIPMENT POLE - NO. 2 & NO. 3

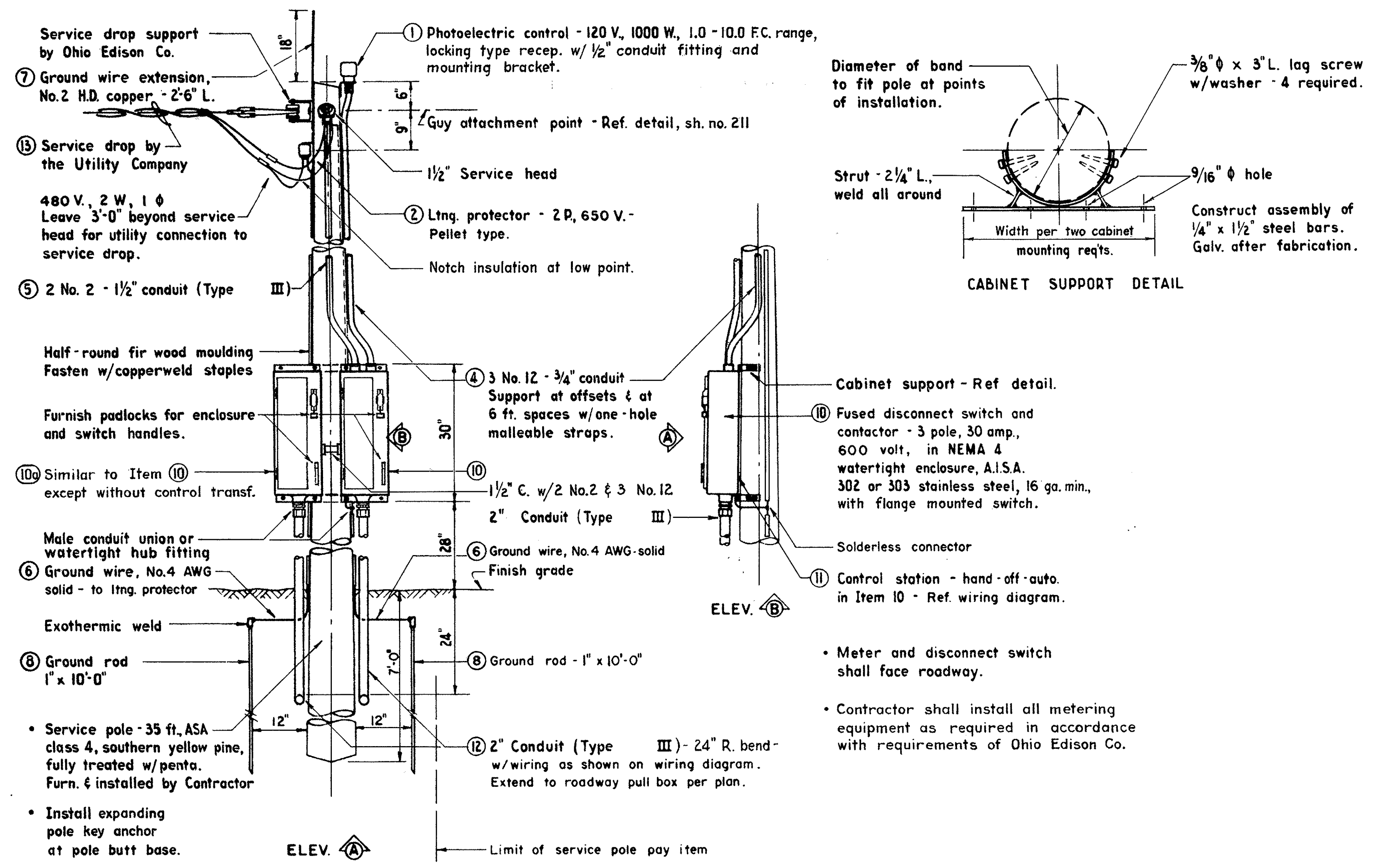
For SINGLE ENCLOSURE and typical SERVICE POLE HEAD Details-- see Sheet 212A



GUY & ANCHOR DETAIL

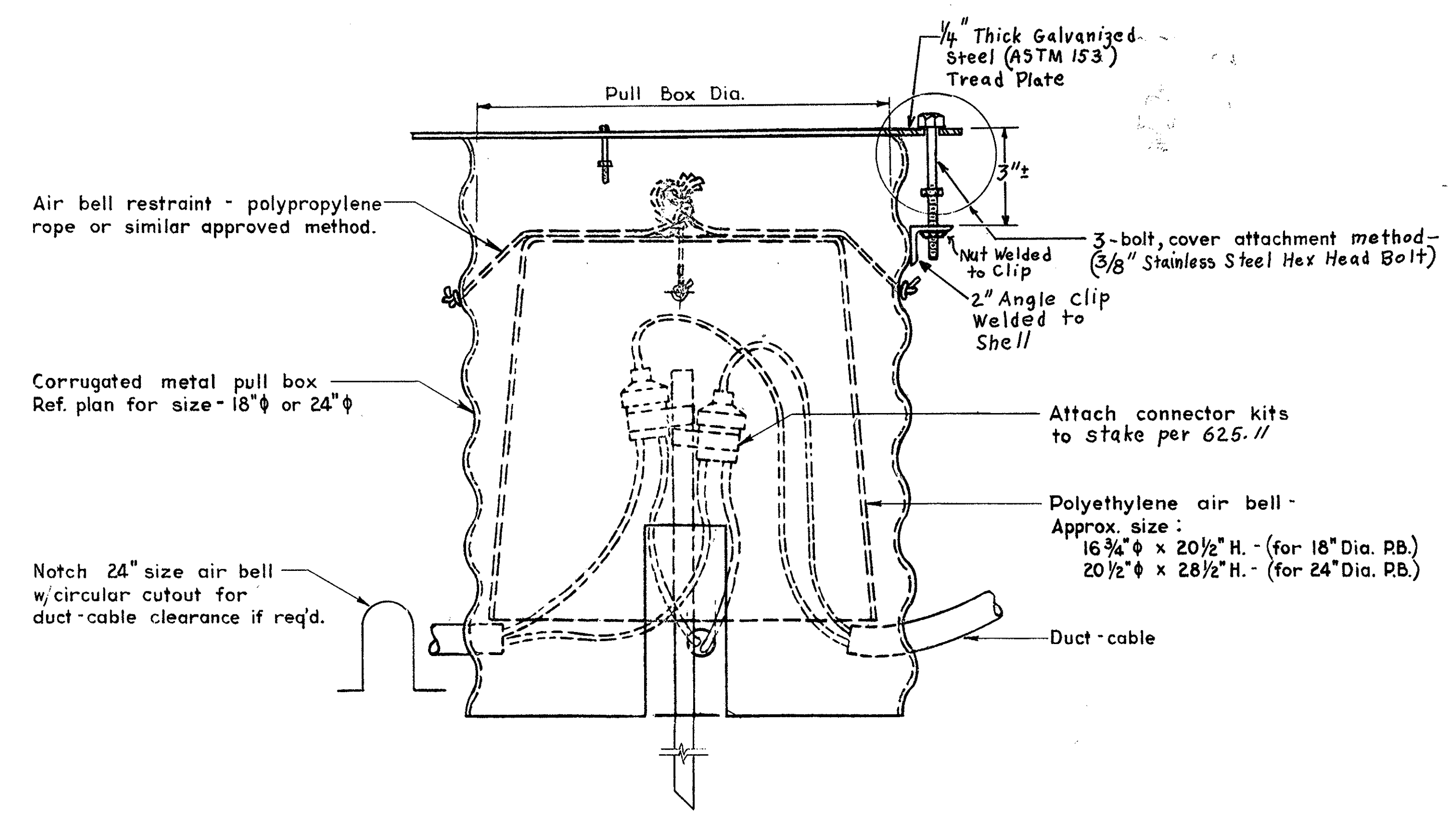
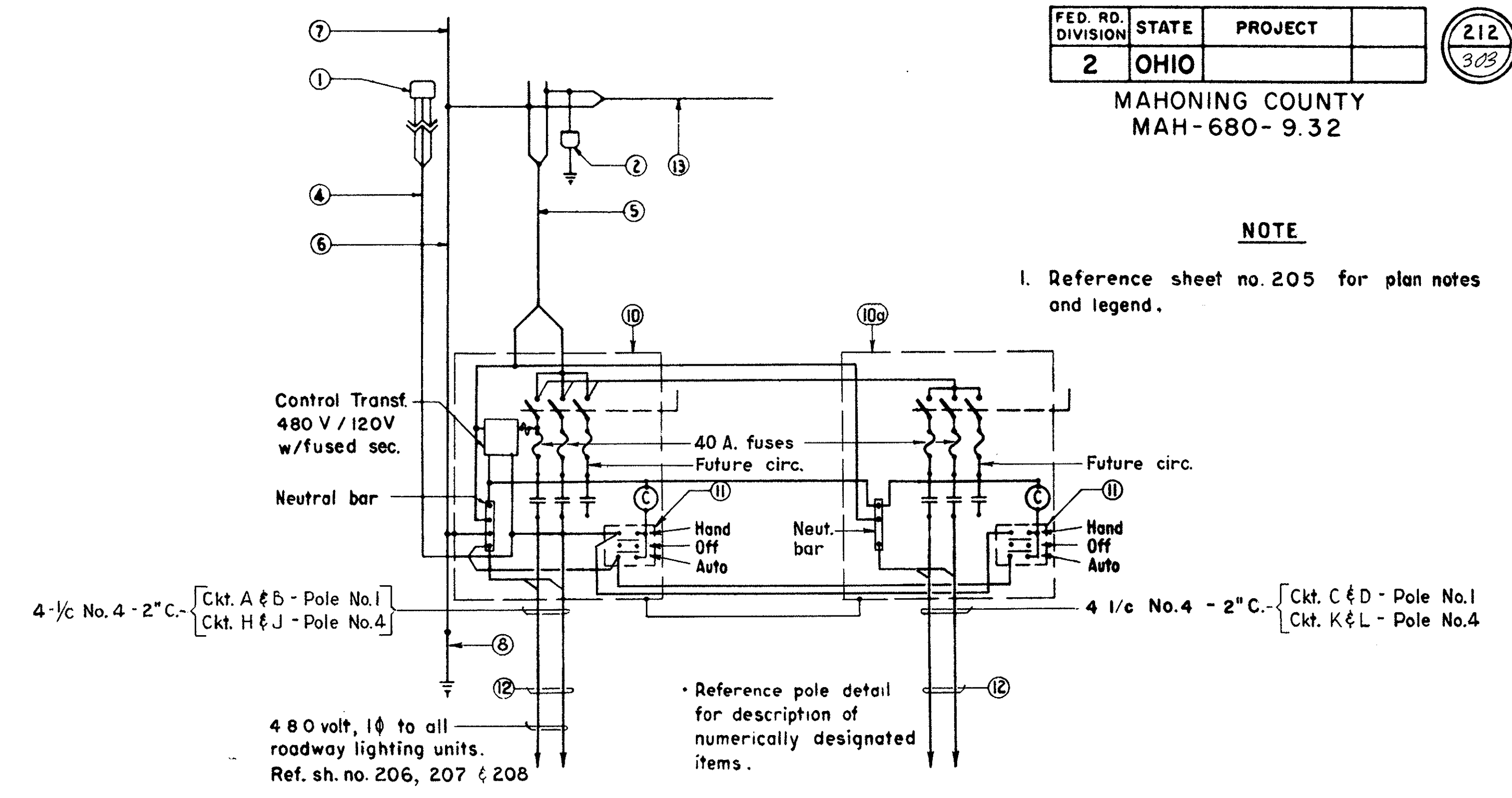
**NOTE**

I. Reference sheet no. 205 for plan notes and legend.



SERVICE AND CONTROL EQUIPMENT POLE - NO. 1 & NO. 4

For DOUBLE ENCLOSURE and typical SERVICE POLE HEAD Details -- see Sheet 212A.



ROADWAY PULL BOX DETAIL

# SERVICE POLES AND CONTROL CENTERS

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

212A  
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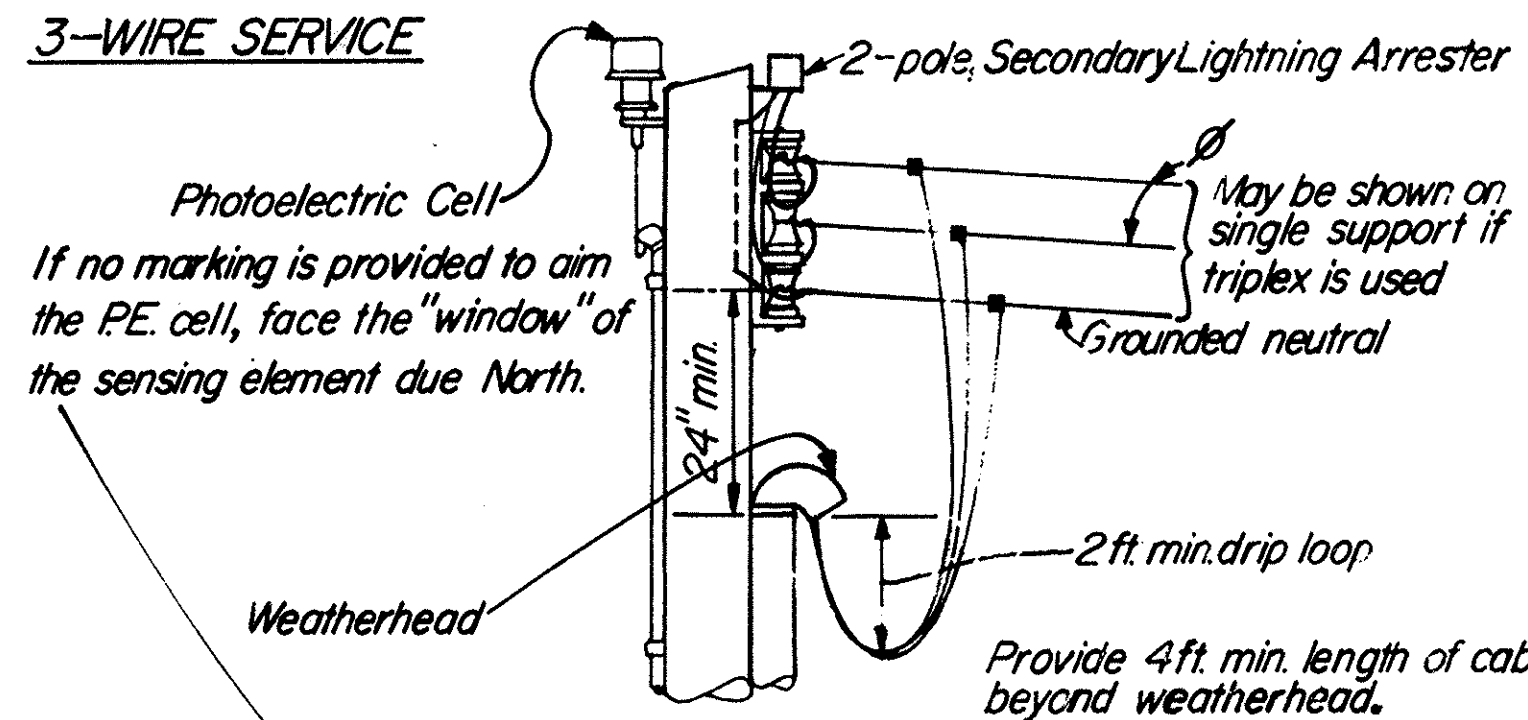
MAHONING COUNTY  
MAH-680-9.32

## NOTES

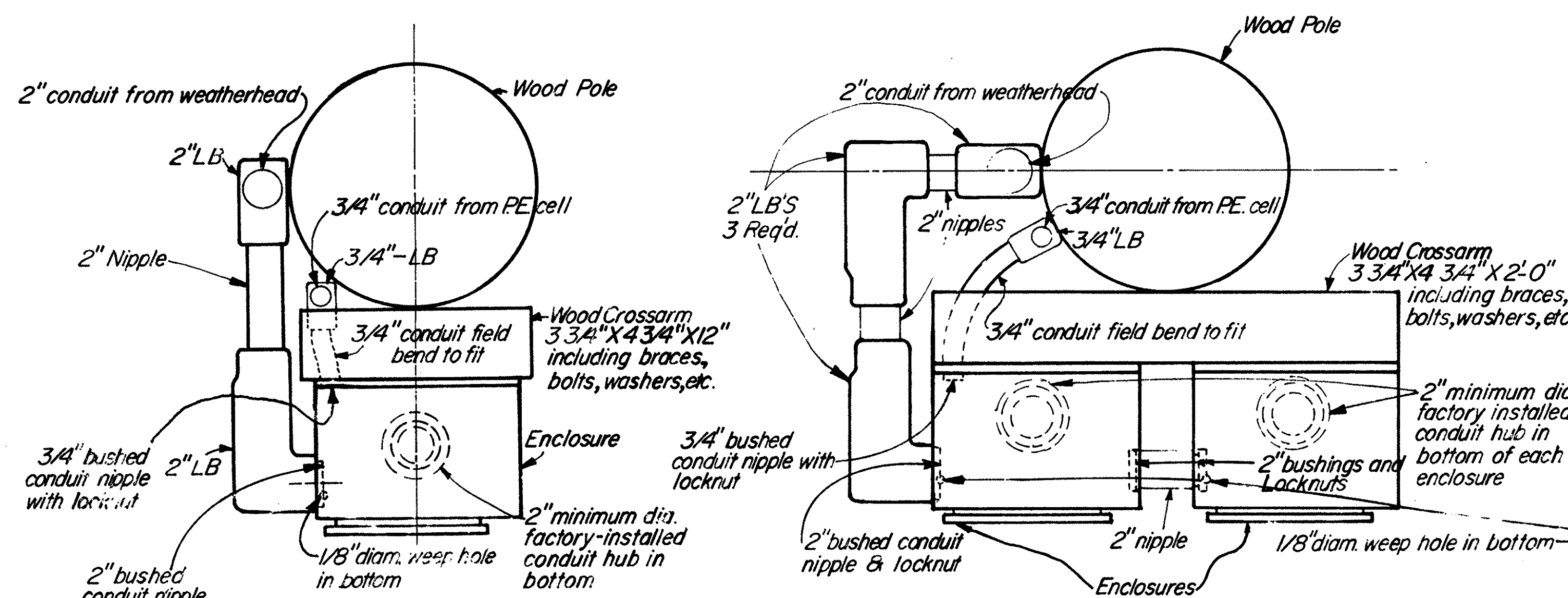
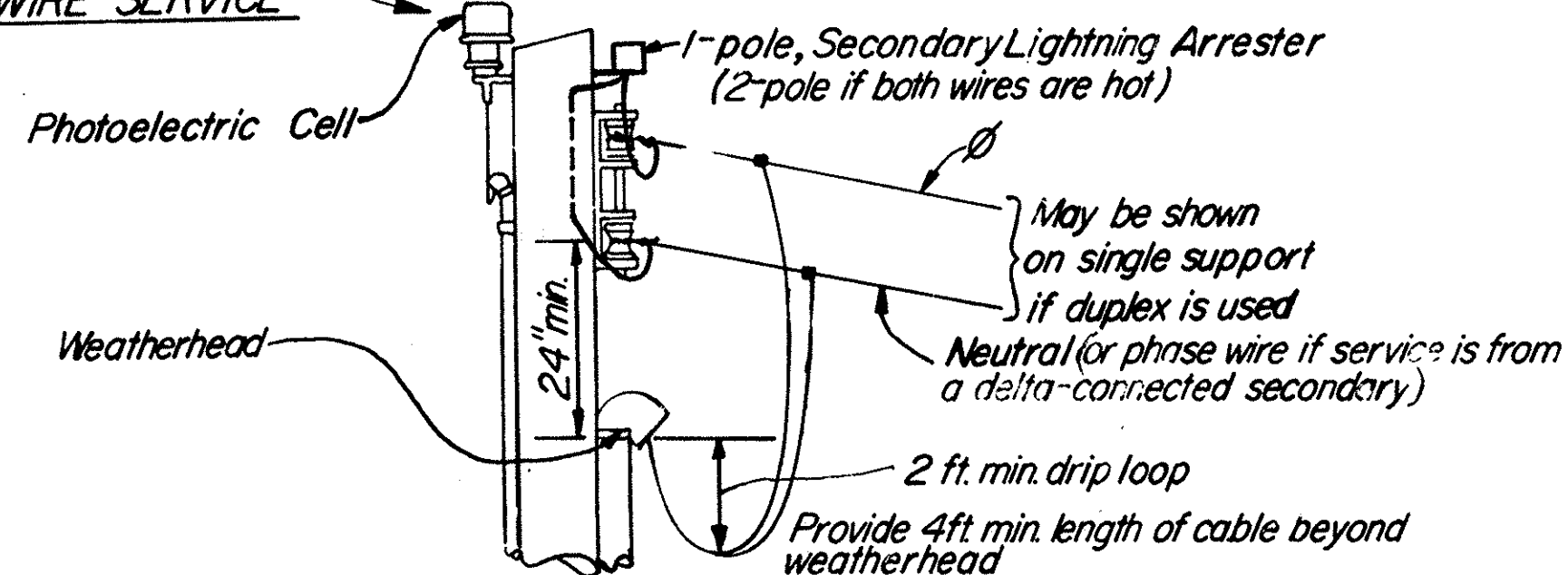
- All openings in enclosures shall be made by fabricator.
- Contractor may eliminate any L.B. conduit fittings by field bending conduit to achieve the same results provided the work is approved by the Engineer.

### TYPICAL SERVICE POLE HEADS

#### 3-WIRE SERVICE

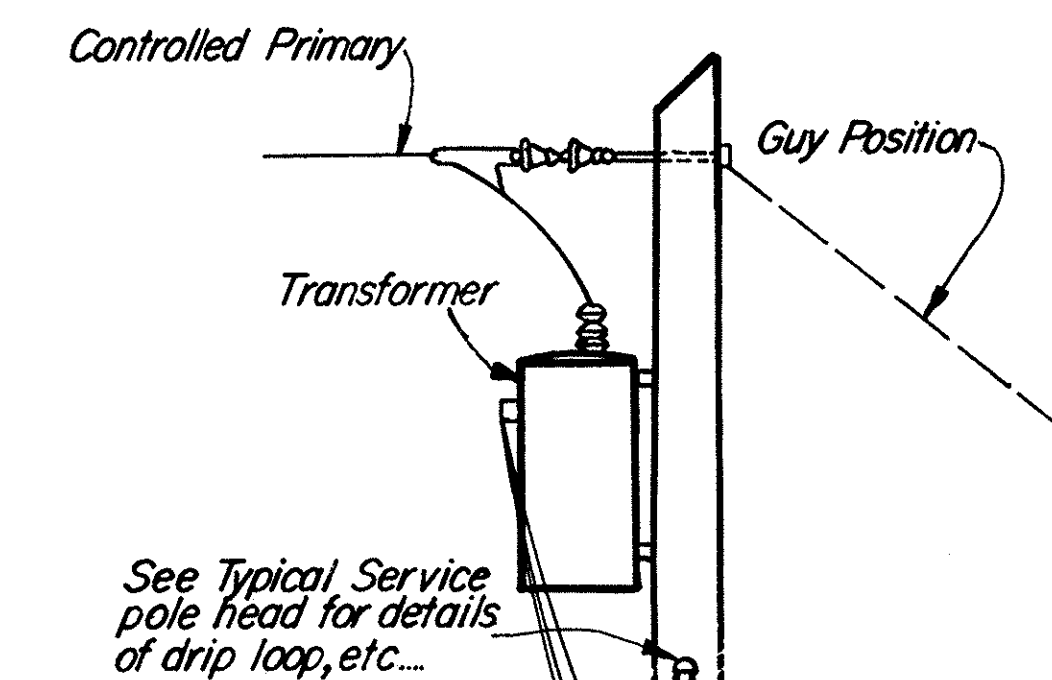


#### 2-WIRE SERVICE

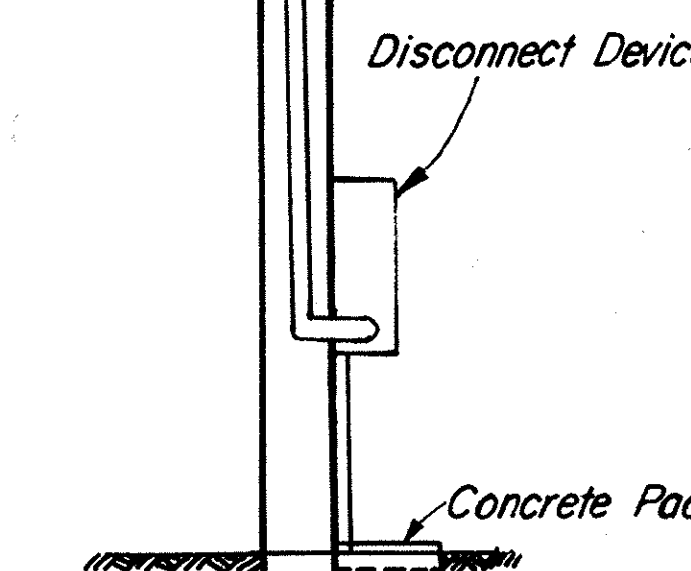
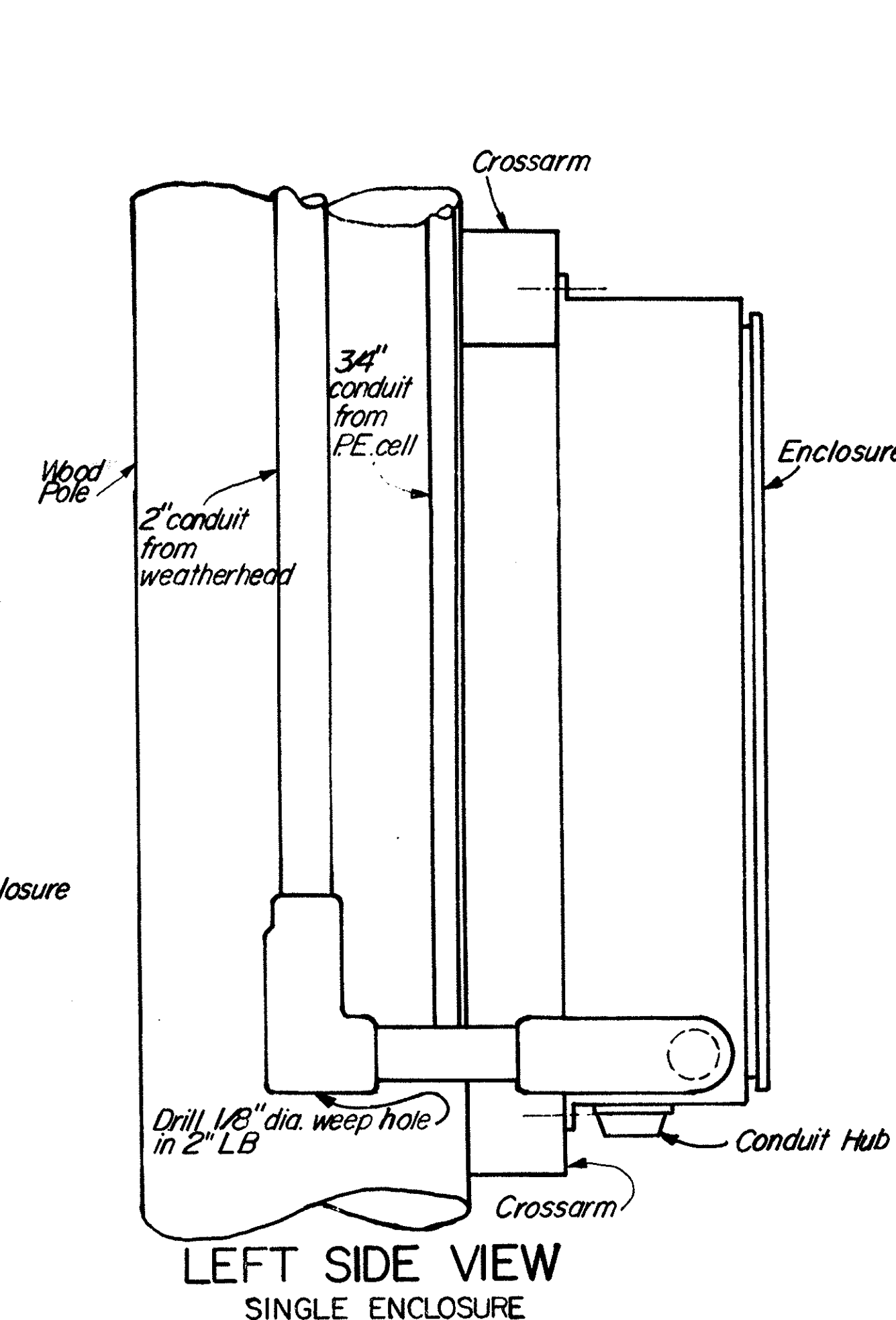
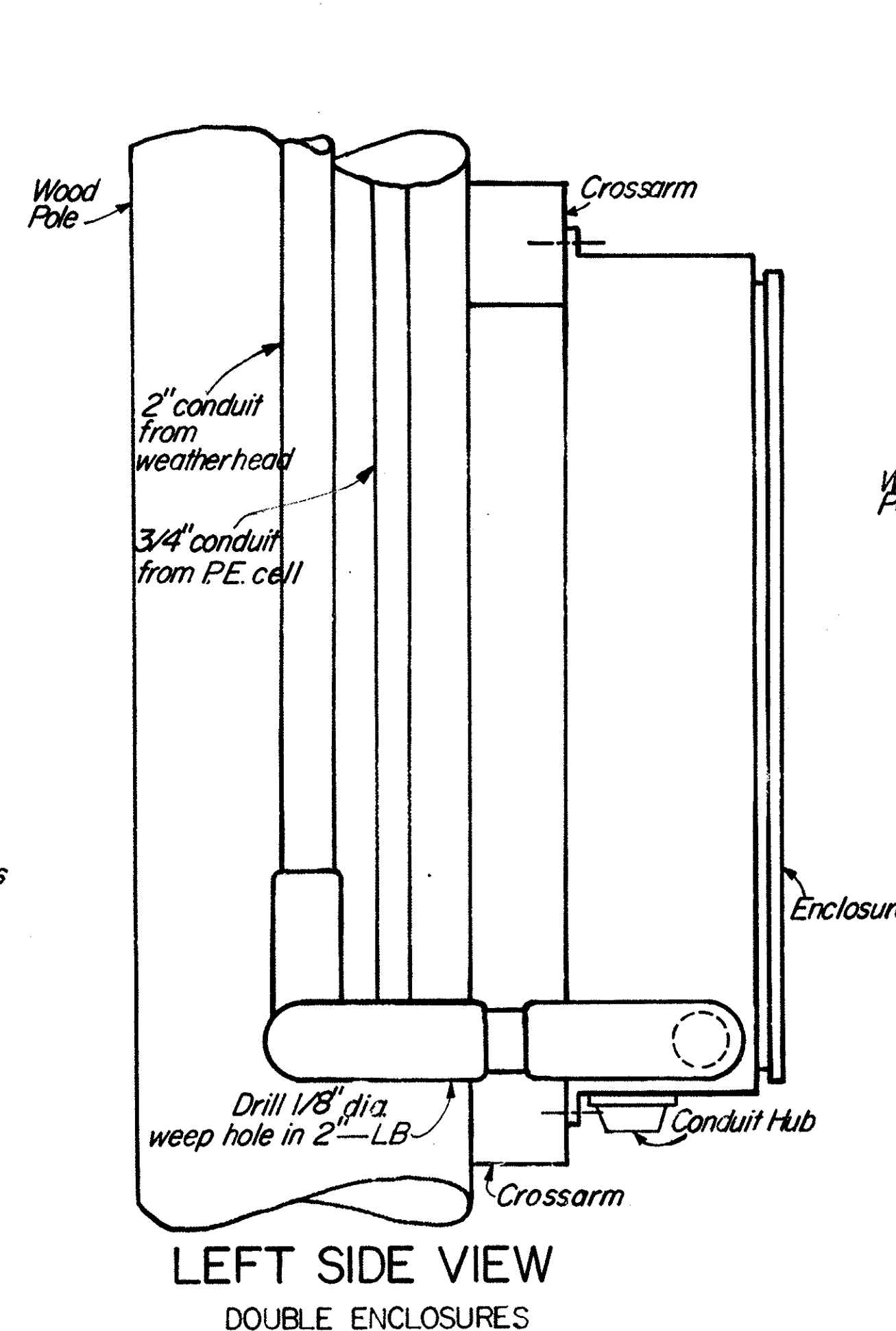
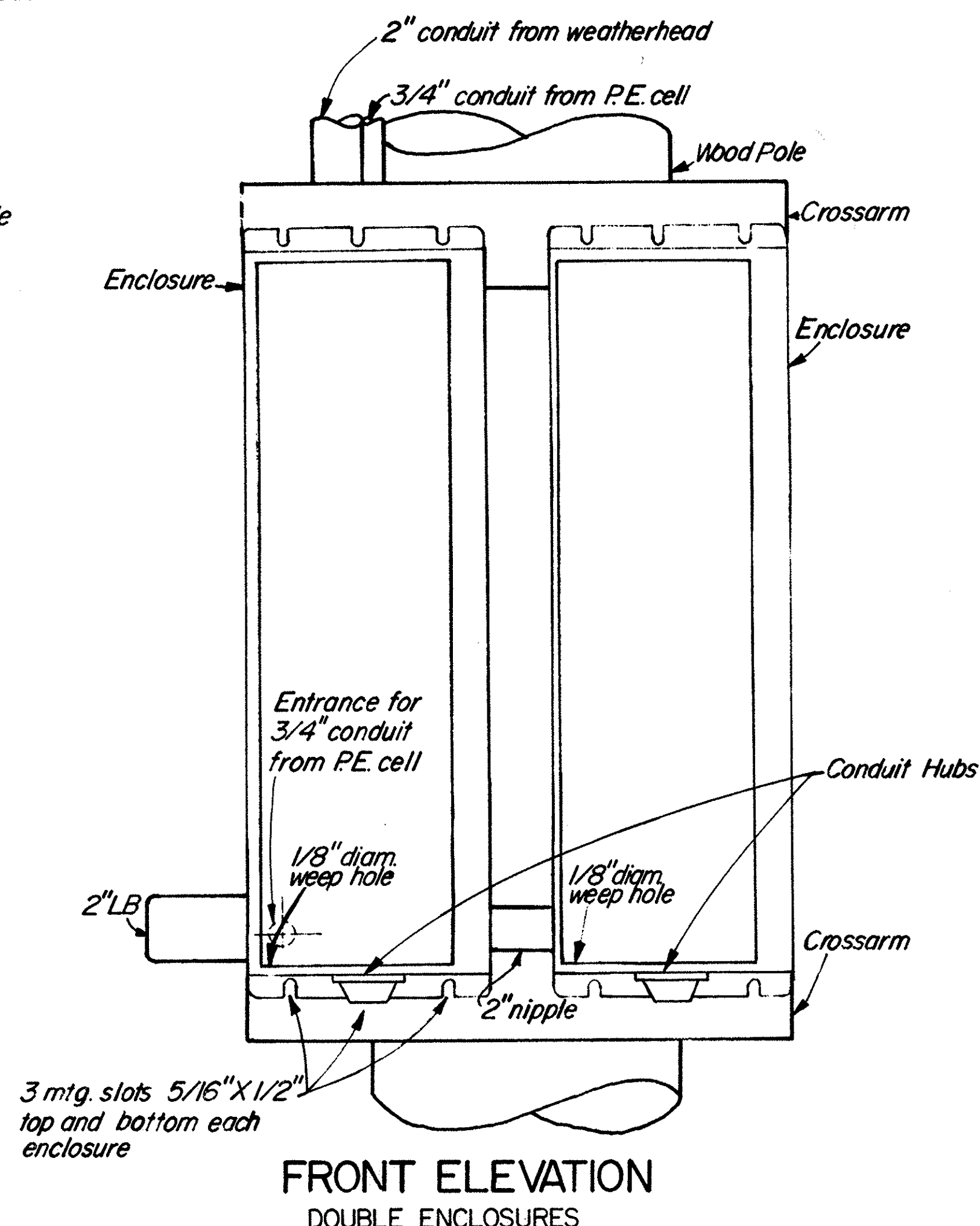
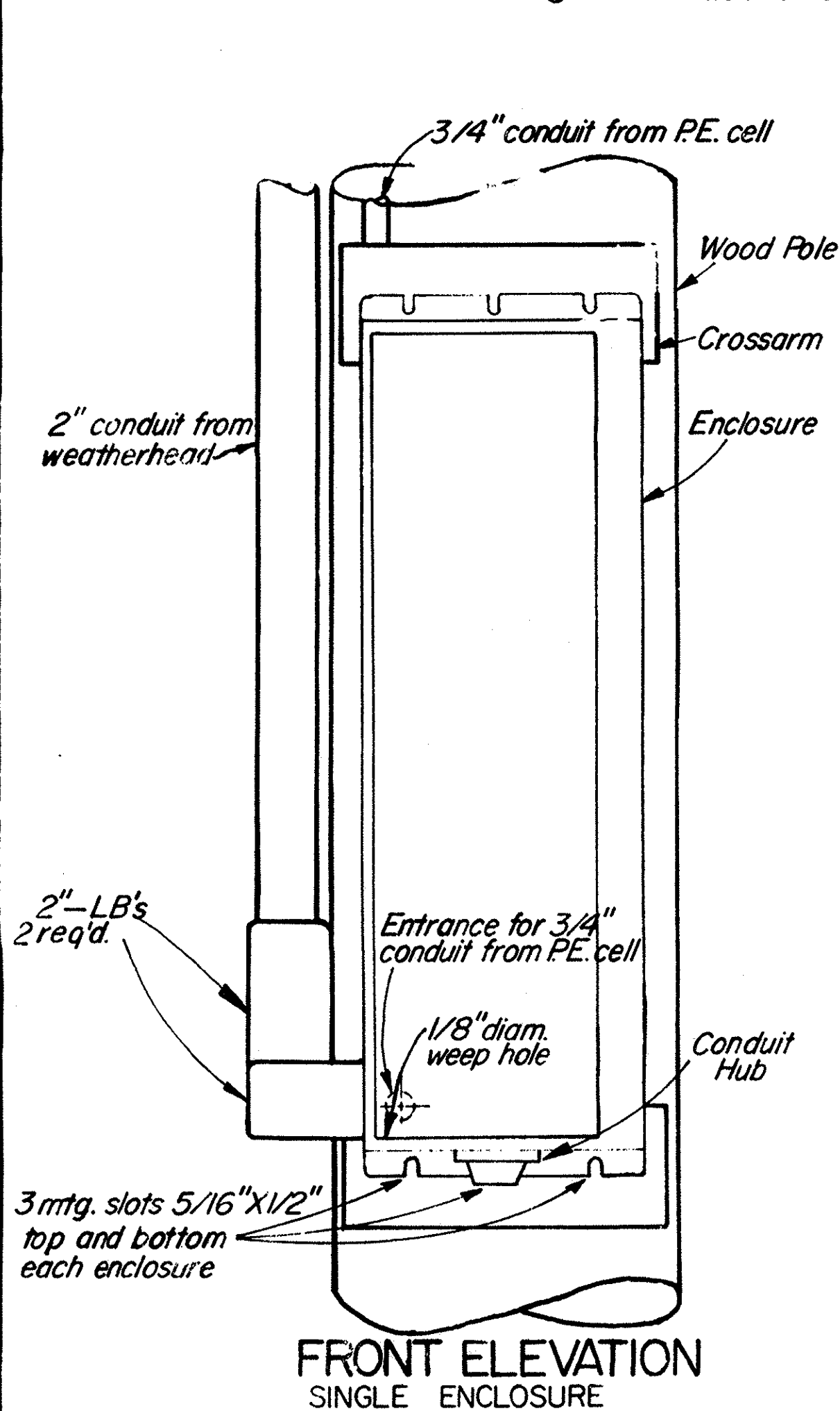


PLAN  
SINGLE ENCLOSURE

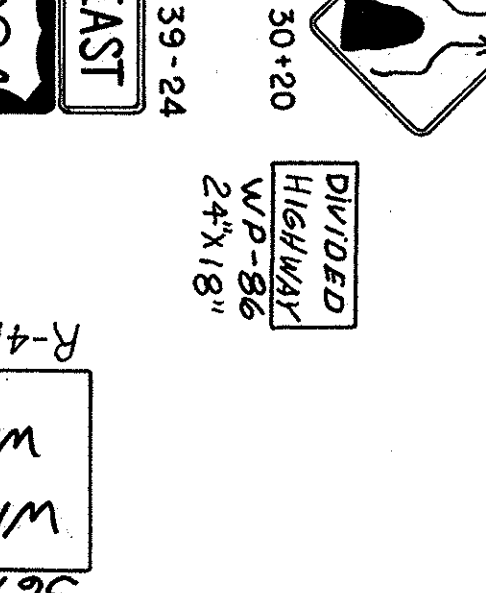
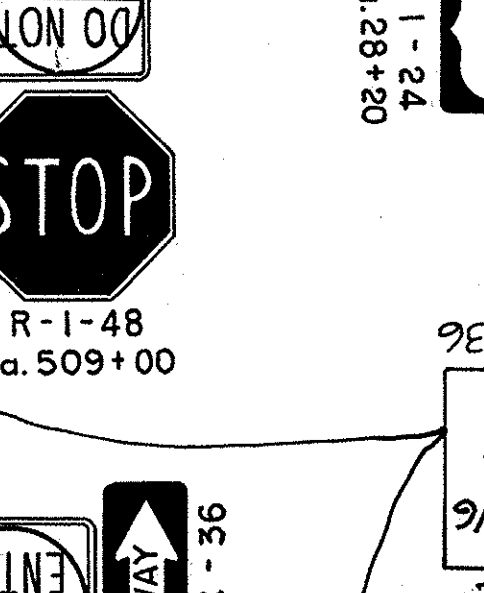
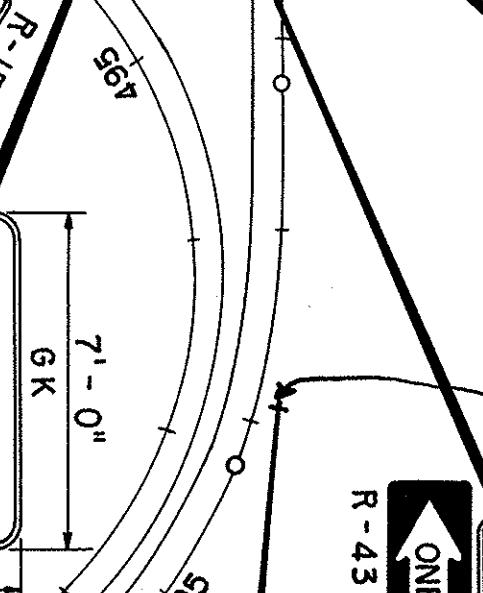
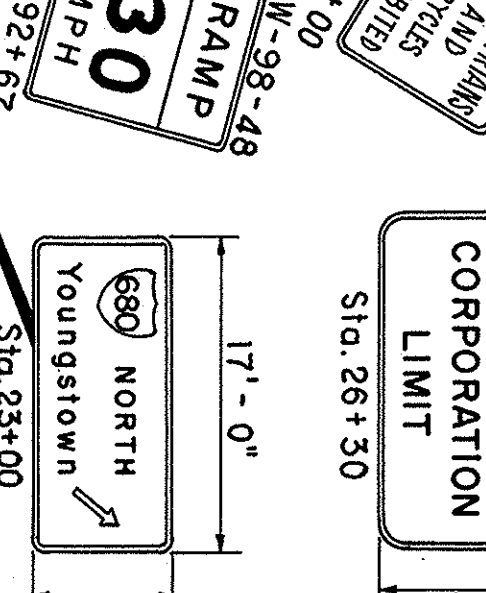
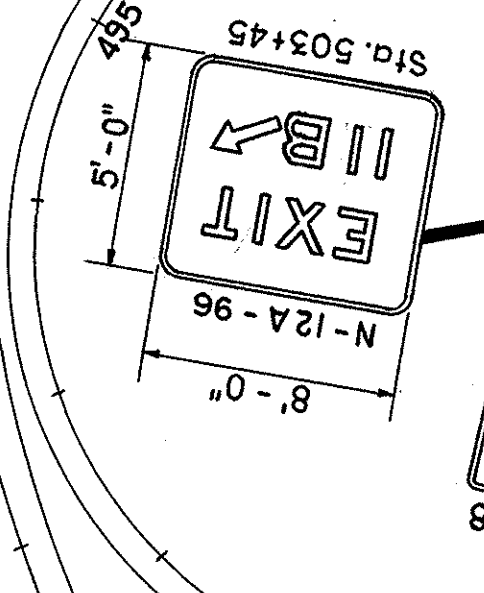
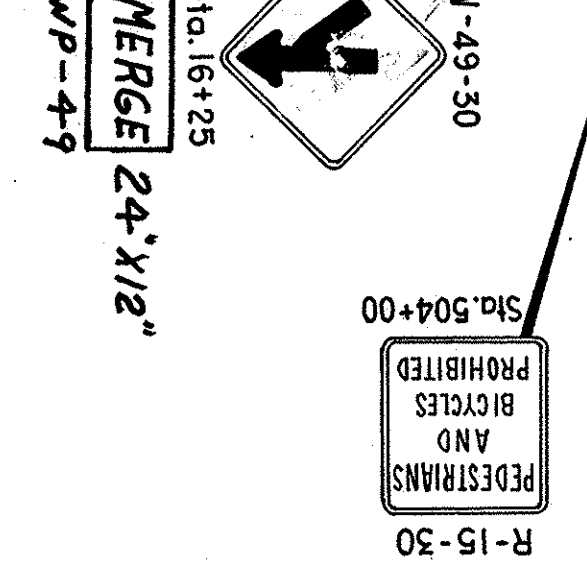
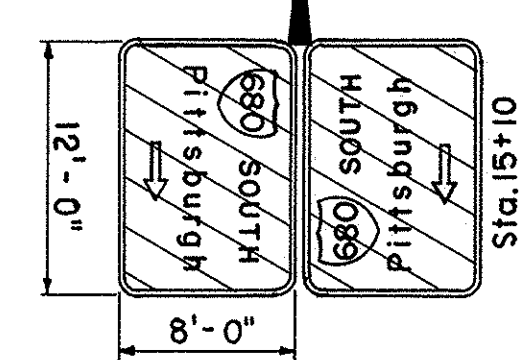
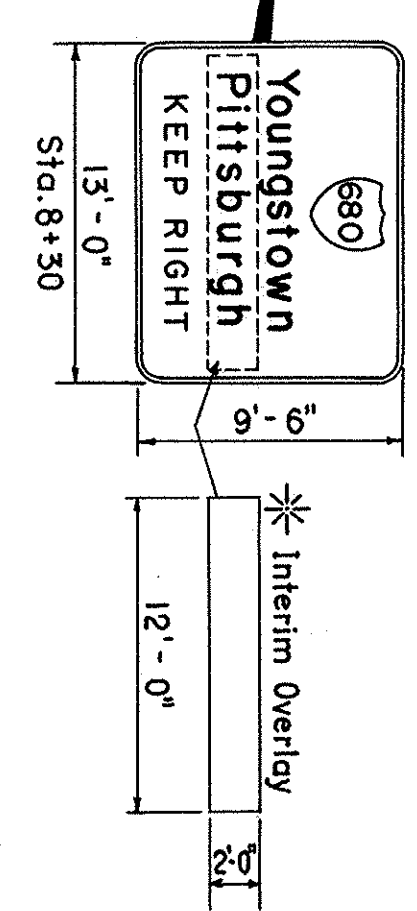
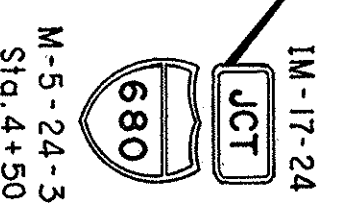
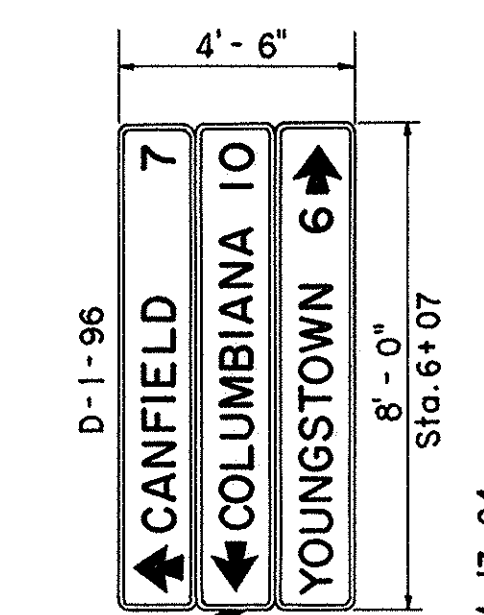
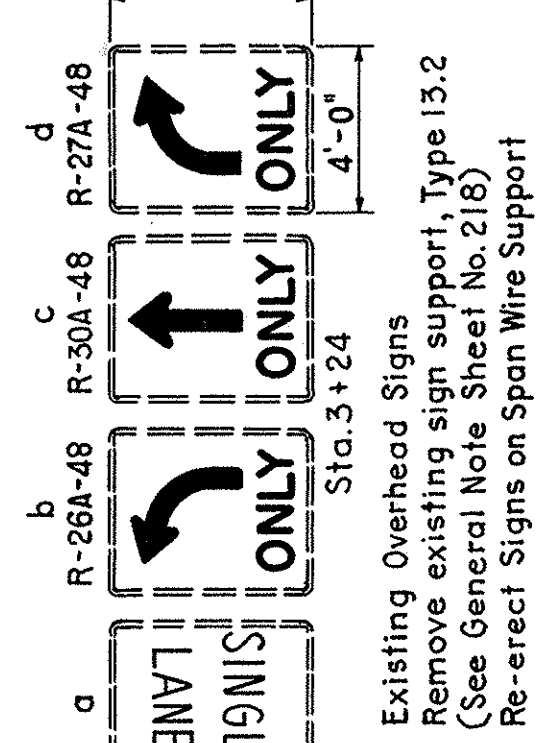
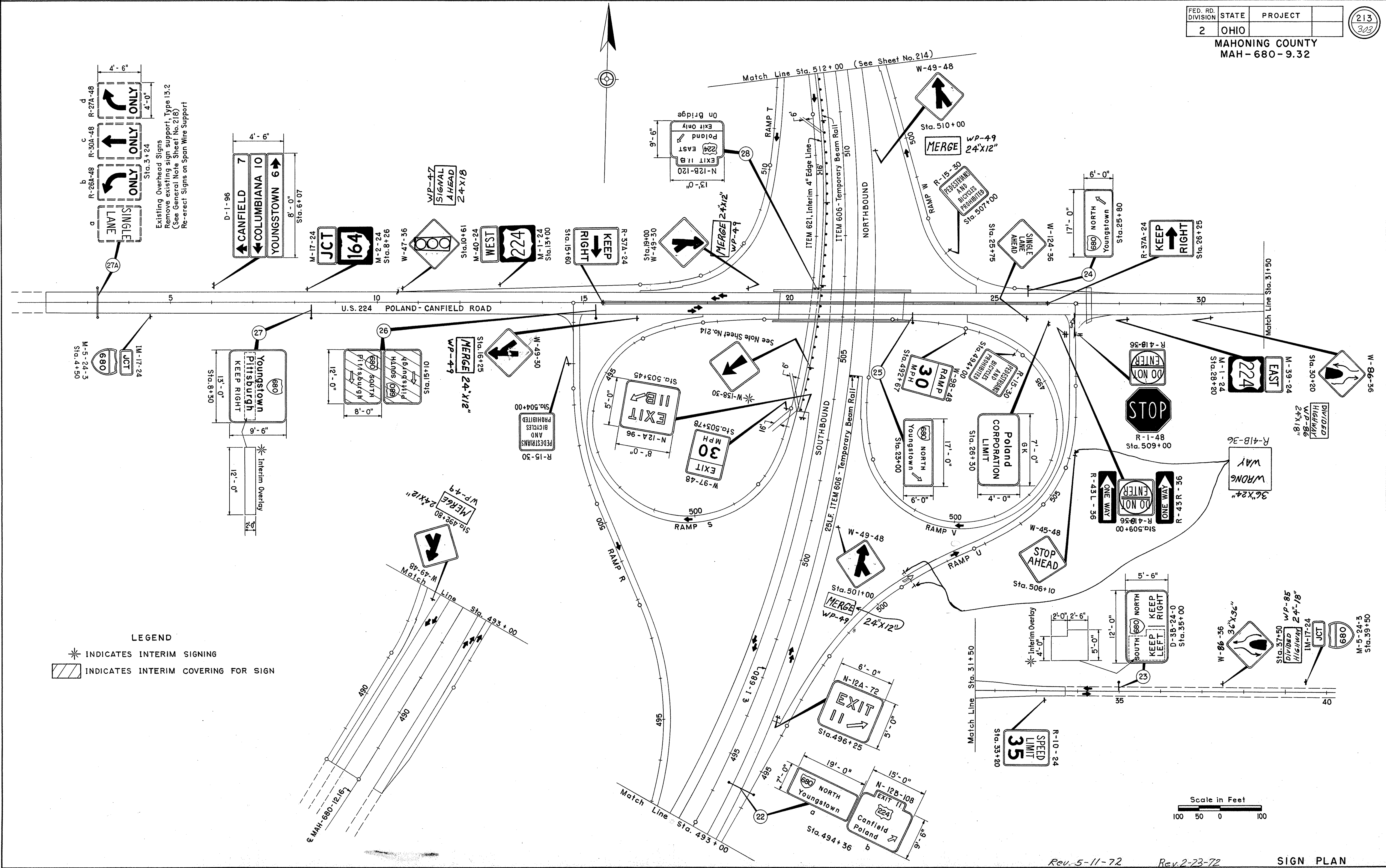
PLAN  
DOUBLE ENCLOSURES



SECONDARY SERVICE FROM CONTROLLED PRIMARY. SECONDARY P.E. CELL NOT REQ'D.

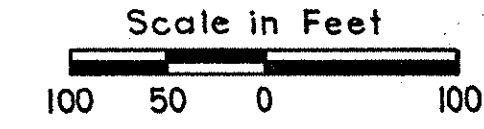


6-16 71



LEGEND

- \* INDICATES INTERIM SIGNING
- INDICATES INTERIM COVERING FOR SIGN





**ITEM 606. TEMPORARY BEAM RAIL**

Sta. to Sta.	Lin. Ft.
504+62.88 N.B.	25.0
503+60 - 550+00 S.B.	4650.0
597+00 - 631+32 N.B.	3437.5
628+00 S.B.	57.5
<b>TOTAL</b>	<b>8150.0</b>

**ITEM 620. INTERIM DELINEATORS, AS PER PLAN**

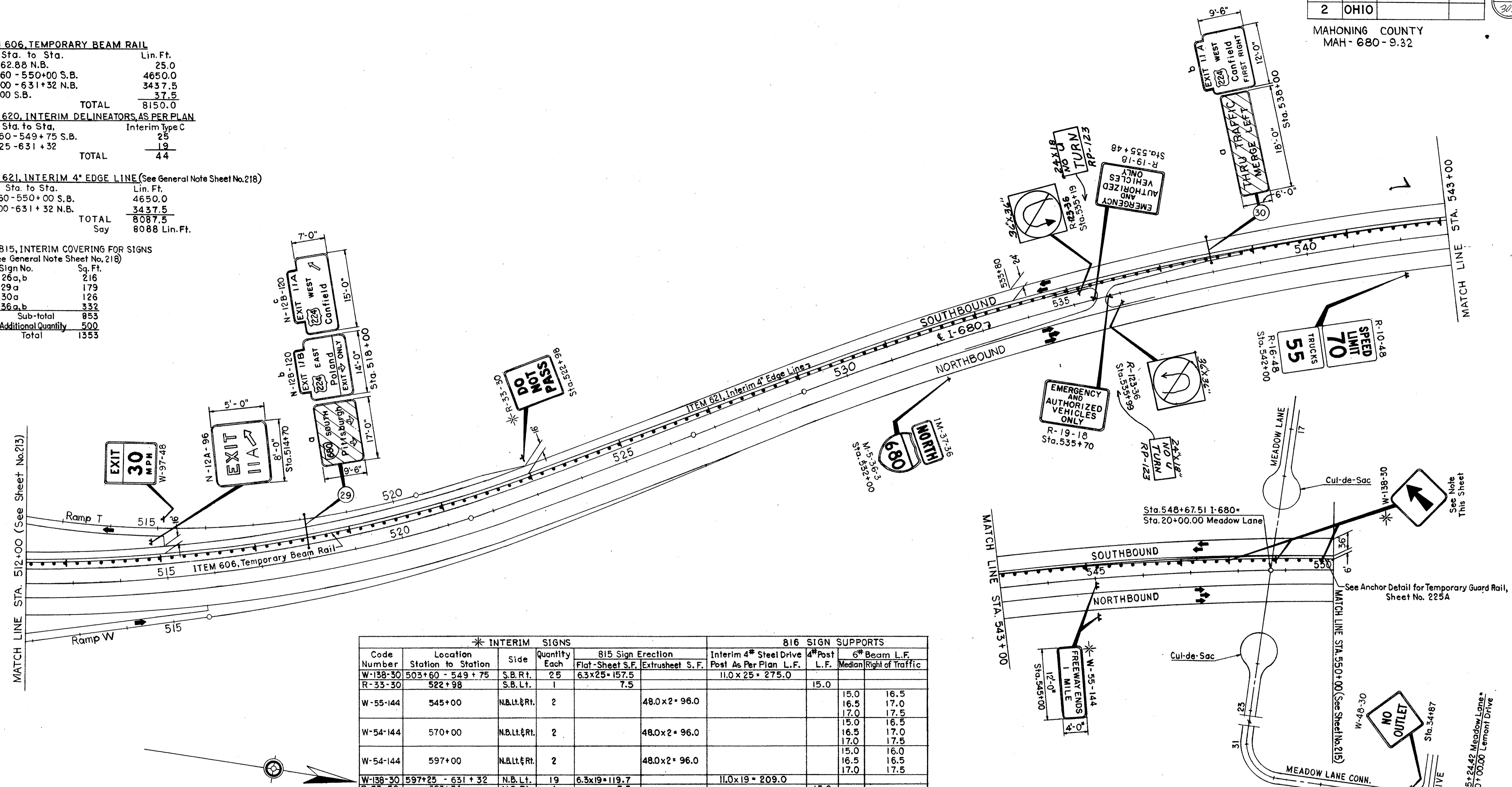
Sta. to Sta.	Interim Type C
503+60 - 549+75 S.B.	25
597+25 - 631+32	19
<b>TOTAL</b>	<b>44</b>

**ITEM 621. INTERIM 4" EDGE LINE (See General Note Sheet No. 218)**

Sta. to Sta.	Lin. Ft.
503+60 - 550+00 S.B.	4650.0
597+00 - 631+32 N.B.	3437.5
<b>TOTAL</b>	<b>8087.5</b>
Say	8088 Lin. Ft.

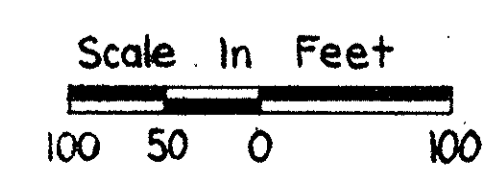
**ITEM 815. INTERIM COVERING FOR SIGNS (See General Note Sheet No. 218)**

Sign No.	Sq. Ft.
26a,b	216
29a	179
30a	126
36a,b	332
Sub-total	853
Additional Quantity	500
<b>Total</b>	<b>1353</b>



Code Number	Location Station to Station	Side	Quantity Each	815 Sign Erection		816 SIGN SUPPORTS		
				Flat-Sheet S.F.	Extrusheet S.F.	Interim 4" Steel Drive Post As Per Plan L.F.	4" Post L.F.	6" Beam L.F. Median/Right of Traffic
W-138-30	503+60 - 549+75	S.B. Rt.	25	6.3x25 = 157.5		11.0 x 25 = 275.0	15.0	
R-33-30	522+98	S.B. Lt.	1		7.5			
W-55-144	545+00	N.B. Lt. & Rt.	2			48.0 x 2 = 96.0	15.0	16.5 17.0
W-54-144	570+00	N.B. Lt. & Rt.	2			48.0 x 2 = 96.0	15.0	16.5 17.0
W-54-144	597+00	N.B. Lt. & Rt.	2			48.0 x 2 = 96.0	15.0	16.5 17.0
W-138-30	597+25 - 631+32	N.B. Lt.	19	6.3x19 = 119.7		11.0 x 19 = 209.0	15.0	
R-33-30	623+34	N.B. Rt.	1		7.5			
<b>Rural Totals</b>				<b>292.2</b>	<b>288.0</b>	<b>484.0</b>	<b>30.0</b>	<b>297.5</b>
IM-17-24	355+00 Midlothian Blvd.	Rt.	1		2.0		15.5	
IM-38-24	355+00 Midlothian Blvd.	Rt.	1		2.0			
M-5-24-3	355+00 Midlothian Blvd.	Rt.	1		5.0			
M-45-42	364+85 Midlothian Blvd.	Rt.	1		17.5			16.0
M-45-42	366+00 Midlothian Blvd.	Lt.	1		17.5			16.0
IM-17-24	375+00 Midlothian Blvd.	Lt.	1		2.0		15.5	
IM-38-24	375+00 Midlothian Blvd.	Lt.	1		2.0			
M-5-24-3	375+00 Midlothian Blvd.	Lt.	1		5.0			
<b>Urban Totals</b>				<b>53.0</b>			<b>31.0</b>	<b>32.0</b>

Note: Erect W-138-30 signs on first barrel (Sta. 549+75), then every 100' for 300', then every 200' thereafter, See Detail Sheet No. 225A.  
Erect amber delineators approximately midway between signs on barrels.  
W-138-30 signs required = 25 Ea.  
Interim Delineators required = 25 Ea.



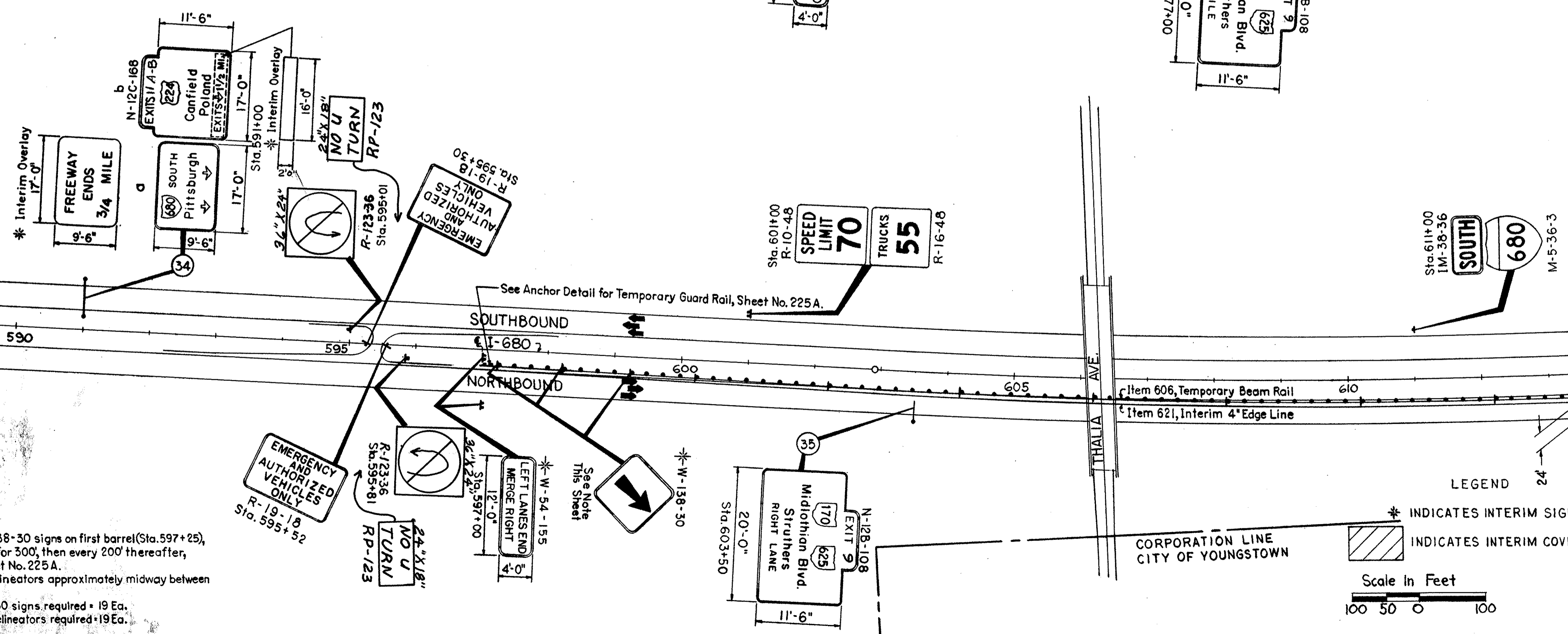
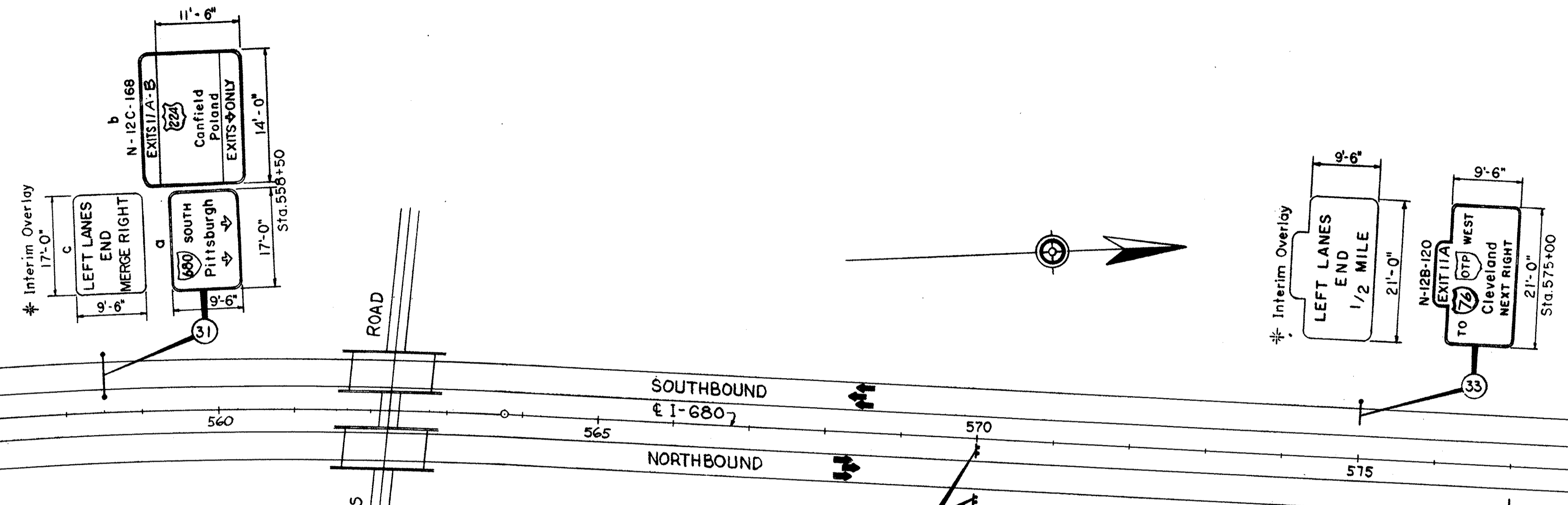
**LEGEND**  
\* INDICATES INTERIM SIGNING  
[Hatched Box] INDICATES INTERIM COVERING FOR SIGNS

Match Line Sta. 550+00 (See Sheet No. 21A)

Match Line Sta. 582+00

Match Line Sta. 582+00

Match Line Sta. 615+00 (See Sheet No. 216)



Note: Erect W-138-30 signs on first barrel (Sta. 597+25), then every 100' for 300', then every 200' thereafter, See Detail Sheet No. 225 A.  
Erect amber delineators approximately midway between signs on barrels.  
W-138-30 signs required - 19 Ea.  
Interim Delineators required - 19 Ea.

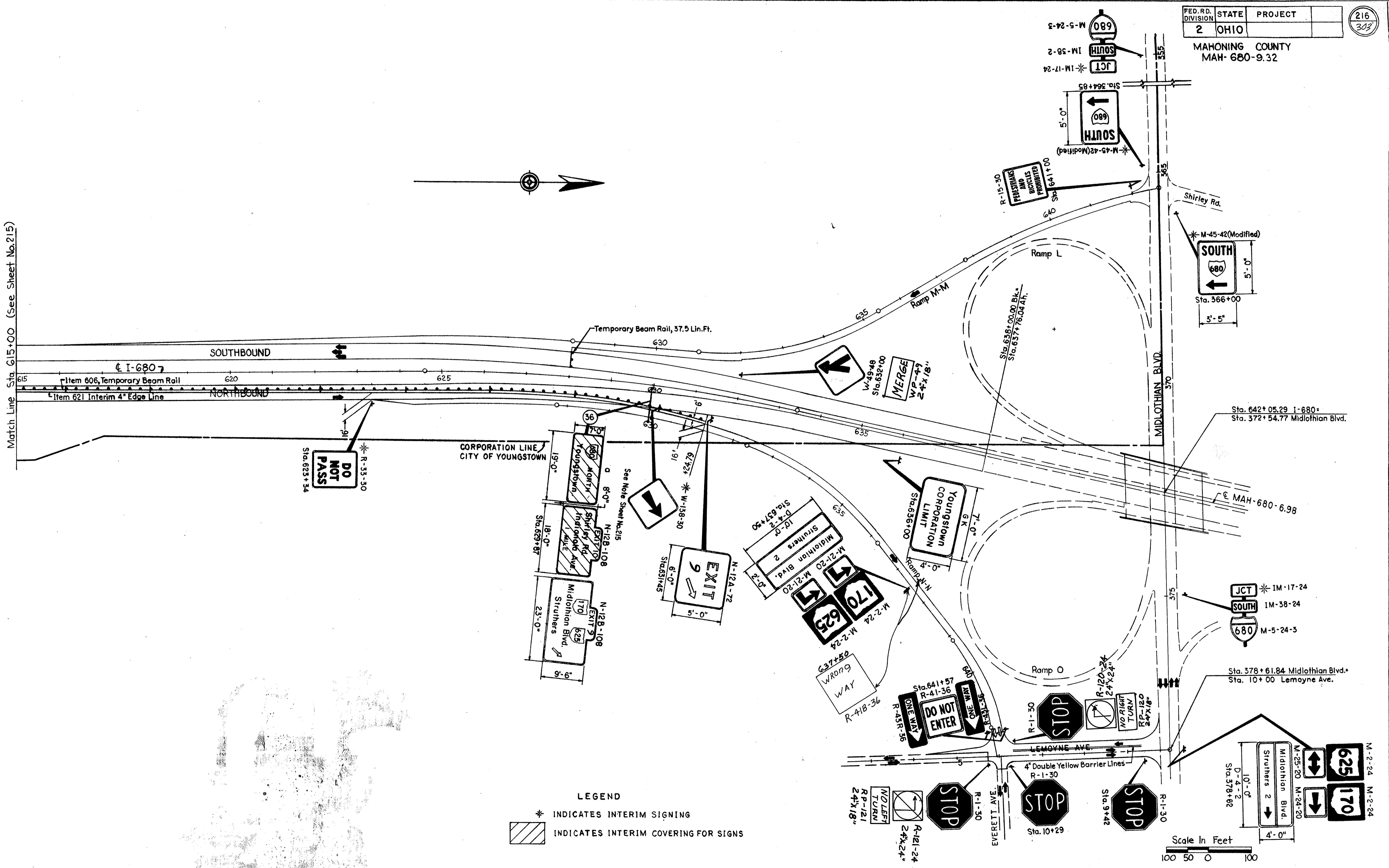
LEGEND

- \* INDICATES INTERIM SIGNING
- ▨ INDICATES INTERIM COVERING FOR SIGNS

Scale in Feet  
100 50 0 100

MAHONING COUNTY  
MAH-680-9.32

Match Line Sta. 615+00 (See Sheet No. 215)



**LEGEND**  
 \* INDICATES INTERIM SIGNING  
 [Hatched Box] INDICATES INTERIM COVERING FOR SIGNS



# GENERAL NOTES

## TRAFFIC CONTROL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

217  
303

MAHONING COUNTY  
MAH-680-9.32

### MATERIALS - GENERAL

MATERIALS TO BE FURNISHED MAY BE SPECIFIED IN THE PLANS BY A GIVEN MANUFACTURER'S CATALOG NUMBER OR TYPE. THIS IS FOR DESCRIPTIVE PURPOSES ONLY AND THE CONTRACTOR MAY ASSUME THAT APPROVED EQUAL MATERIALS MAY BE FURNISHED.

### SIGN LOCATIONS

ALL SIGNS SHALL BE PLACED NORMAL TO THE ROADWAY ON WHICH THEY ARE STATIONED UNLESS OTHERWISE NOTED ON THE PLANS.

### 816 STRUCTURAL SUPPORTS, STEEL BEAM (TYPE)

THE STRUCTURAL STEEL BEAM SUPPORTS INCLUDING 6 POUND BEAMS, 4 POUND DRIVE POST AND HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 AND A-153 RESPECTIVELY.

QUANTITIES FOR ITEM 816 "STRUCTURAL SUPPORTS, STEEL BEAM (TYPE)", APPEARING IN THE QUANTITY TABLES ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT SUPPORT LENGTHS PRIOR TO FABRICATION AND GALVANIZING OF SUPPORTS. PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE BID PER LIN. FT. WHICH PRICE AND PAYMENT SHALL INCLUDE ALL COSTS IN CONNECTION WITH THE EMBEDMENT OF THE SUPPORTS.

### 816 BREAKAWAY SIGN SUPPORT CONNECTION

THIS ITEM CONSISTS OF CUTTING AND DRILLING THE STRUCTURAL SUPPORT: FURNISHING AND ATTACHING THE FUSE PLATE; AND FURNISHING AND ATTACHING THE BASE PLATES FOR EACH STRUCTURAL SIGN SUPPORT AS INDICATED ON THE PLANS.

ALL MATERIALS, LABOR AND EQUIPMENT REQUIRED TO FABRICATE AND INSTALL THIS ITEM FOR EACH SIGN SUPPORT (EXCLUSIVE OF THE STRUCTURAL SIGN SUPPORT) WILL BE MEASURED AND PAID FOR AT THE UNIT PRICE BID FOR ITEM 816 EACH BREAKAWAY SIGN SUPPORT CONNECTION.

### 816 STRUCTURAL SUPPORTS, 6 LB. BEAM, AS PER PLAN

THIS ITEM SHALL CONSIST OF THE FURNISHING, ASSEMBLY, AND INSTALLATION OF TWO (2) 3 LB. PER FOOT DRIVE POSTS (6 LB. BEAM) IN COMBINATION WITH A SQUARE SEAMLESS TUBULAR POST EXTENSION SPLICED TO THE TOP OF THE 6 LB. BEAM. DETAILS ARE SHOWN ON SHEET 240.

SQUARE SEAMLESS TUBULAR POST MATERIAL SHALL BE MILD STEEL CONFORMING TO ASA 1020 STEEL. MINIMUM YIELD STRENGTH 35,000 PSI, ULTIMATE YIELD 55,000 PSI.

WORK SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, AND HARDWARE NECESSARY TO PERFORM THE REQUIRED ITEM OF WORK.

BASIS OF PAYMENT SHALL BE FOR STRUCTURAL SUPPORTS, 6 LB. BEAM, AS PER PLAN PER LINEAR FOOT MEASURED BY TOTAL LENGTH OF COMBINATION BEAM FROM END TO END.

### 816 OVERHEAD SIGN SUPPORT, BY TYPE

ALL COMPONENT PARTS OF THE OVERHEAD SIGN SUPPORTS SHALL BE STEEL, EXCEPT FOR THE TRUSS AND COMPONENTS FOR THE NUMBER 7 SERIES WHICH SHALL BE ALUMINUM. FOR SPECIFIC DETAILS AND MATERIALS, SEE SHEET NUMBERS 225 THROUGH 232.

COST OF FURNISHING AND INSTALLING THE SIGN BRACKETS AND THE FIXTURE SUPPORT ARM. LENGTH "6", WITH MOUNTING HOLES AND HARDWARE SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

MODIFYING SUPPLEMENTAL SPECIFICATION 816 SWITCH ENCLOSURE MOUNTING BRACKETS INCLUDING MOUNTING BOLTS AND DRILLED HOLES SHALL BE FURNISHED AND INSTALLED UNDER PAYMENT FOR 816 OVERHEAD SIGN SUPPORT STRUCTURES AT THE CONTRACT PRICE PER OVERHEAD SIGN SUPPORT, BY TYPE.

PAYMENT FOR THIS ITEM SHALL BE MADE AT THE CONTRACT UNIT PRICE BID FOR EACH OVERHEAD SIGN SUPPORT, BY TYPE, INSTALLED IN PLACE AND ACCEPTED. WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL ANCHOR BOLTS, 2-INCH AND 3/4 INCH EMT CONDUIT ELLS (FOR INSTALLATION UNDER 816 CONCRETE FOR OVERHEAD SIGN SUPPORT FOUNDATIONS), AND FOR FURNISHING AND INSTALLING EACH OVERHEAD SIGN SUPPORT STRUCTURE SHOWN ON SHEETS 222 THROUGH 224 INCLUDING FIXTURE SUPPORT ARMS, SWITCH ENCLOSURE MOUNTING BRACKET, SIGN BRACKETS AND ALL COMPONENT PARTS NECESSARY TO MAKE A COMPLETE WORKABLE INSTALLATION READY FOR SIGN ERECTION, INSTALLATION OF DISCONNECT SWITCH AND ENCLOSURE, GROUND ROD AND WIRE CONNECTIONS AND SIGN WIRING.

ERECTION OF THESE SUPPORTS SHALL BE ACCOMPLISHED IN A MANNER MEETING THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 816.

### 816 ALTERNATE DESIGNS FOR OVERHEAD SIGN SUPPORTS

IF THE CONTRACTOR DESIRES TO FURNISH AN ALTERNATE DESIGN FOR OVERHEAD SIGN SUPPORTS. THE ALTERNATE DESIGNS MUST BE SUBMITTED TO THE STATE AT LEAST 21 DAYS PRIOR TO OPENING OF BIDS. THE BIDDER WILL BE NOTIFIED AS TO ACCEPTANCE OR REJECTION OF ALTERNATE DESIGN AT LEAST 7 DAYS BEFORE BIDS ARE TO BE OPENED. ALTERNATE DESIGNS MUST UTILIZE TUBULAR STRUCTURAL MEMBERS. SUBMISSIONS SHALL BE MADE TO OHIO DEPARTMENT OF HIGHWAYS, *Office of Design Services, 25 S. Front Street, Columbus Ohio, 43215.*

### ERECTION OF OVERHEAD SPAN TYPE SIGN SUPPORTS (7 SERIES)

IN ALL CASES, SPAN TYPE OVERHEAD SIGN SUPPORTS AND SIGNS SHALL BE ERECTED CONCURRENTLY. AT NO TIME SHALL THE BOX TRUSSES BE ERECTED WITHOUT THE SIGN BEING IN PLACE WITHIN EIGHT (8) HOURS.

### 816 CONCRETE FOUNDATIONS, FOR SIGN SUPPORTS

PAYMENT FOR THIS ITEM SHALL BE BASED ON PLAN DIMENSIONS (OR DIMENSIONS AS MODIFIED BY THE ENGINEER IN LIEU OF PLAN QUANTITIES) AS REQUIRED IN SUPPLEMENTAL SPECIFICATION 816.

PAYMENT FOR REINFORCING STEEL AND INSTALLATION ONLY OF 2" AND 3/4" CONDUIT ELLS SHALL BE INCLUDED IN THE COST OF CONCRETE FOUNDATIONS FOR SIGN SUPPORTS. CONCRETE SHALL BE CLASS "C".

BASIS OF PAYMENT SHALL BE AS FOLLOWS:

1. CONCRETE FOUNDATIONS FOR OVERHEAD SIGN SUPPORTS, PER CUBIC YARD.

### 815 SIGN ERECTION, BY TYPE

THE CONTRACTOR SHALL ERECT SIGN PANELS FURNISHED BY OTHERS AS NOTED ON THE SCHEMATIC SIGNING LAYOUT SHEET NUMBERS 213-216. THE PANELS SHALL BE MOUNTED ON THE BRACKETS OR BEAM SUPPORTS PROVIDED IN THE PLANS.

ALL SIGN MATERIAL AND ACCESSORIES WILL BE FURNISHED AND TRANSPORTED TO A DESIGNATED DELIVERY POINT, ON OR NEAR THE SUBJECT PROJECT BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HANDLING AND STORAGE OF THE SIGN PANELS AND ACCESSORIES FROM THE TIME OF ARRIVAL AT THE DELIVERY POINT.

*Large guide signs (over 8' in height) may be delivered in two pieces. Work shall also consist of assembly of these panels including attachment of demountable sign legend, where necessary and erection of signs in conformance with the schematic sign plan. The Contractor shall submit 3 copies, a schedule for sign erection to the Engineer at least 120 calendar days prior to the start of any scheduled erection work. The schedule shall include proposed dates, sign numbers, and delivery point. The Engineer will furnish copies of the schedule to the Division Traffic Engineer and to the Engineer of Design Services, 25 South Front Street, Columbus, Ohio 43215.*

THE PRICE BID PER SQUARE FOOT FOR "ITEM 815, SIGN ERECTION, BY TYPE", SHALL INCLUDE ALL NECESSARY EQUIPMENT, MANPOWER AND TOOLS TO STORE, ASSEMBLE AND ERECT THE SIGNS NOTED.

### 625 SIGN SERVICE

THIS ITEM SHALL CONSIST OF THE COMPLETION OF THE ELECTRICAL SYSTEM AND COMPONENTS CONNECTING THE CONNECTORS IN THE PULL BOX (INCLUDED WITHIN THE ROADWAY LIGHTING QUANTITIES) WITH THE PRIMARY SIDE OF THE DISCONNECTING SWITCH.

WORK WILL INCLUDE THE FURNISHING AND INSTALLING (INCLUDING TRENCHING AND BACK-FILLING) OF THE 2-INCH GALVANIZED STEEL CONDUIT AND COUPLINGS FROM THE PULL BOX TO THE CONDUIT ELL IN THE SIGN SUPPORT FOUNDATION.

THIS ITEM WILL ALSO INCLUDE THE FURNISHING AND INSTALLING OF THE 1/2" 600 VOLT SERVICE WIRE FROM THE CONNECTORS TO THE DISCONNECT SWITCH.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH, WHICH SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

### CONSTRUCTION LAYOUT STAKES

THE CONTRACTOR SHALL STAKE OUT ALL SIGN SUPPORTS IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 816 PRIOR TO INSTALLATION OF ANY FOUNDATIONS OR SUPPORTS.

AFTER STAKEOUT THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF SEVEN (7) DAYS IN ADVANCE OF SCHEDULED WORK. SUPPORT LOCATIONS FOR EACH SUPPORT WILL BE FIELD CHECKED AND APPROVED BY THE ENGINEER AND DIVISION TRAFFIC ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION WORK REQUIRED.

IF BOTH MAJOR AND MINOR TYPE SUPPORTS ARE INCLUDED WITHIN THE PROJECT, IT WILL BE PERMISSIBLE TO PERFORM THE CONSTRUCTION STAKEOUT AND FIELD INSPECTION IN TWO (2) STAGES, ONE FOR MAJOR SUPPORTS AND ONE FOR MINOR SUPPORTS.

COST FOR THIS ITEM OF WORK *SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION LAYOUT STAKES.*

### ELECTRICAL - GENERAL

THIS ITEM SHALL CONSIST OF FURNISHING ALL NECESSARY MATERIAL, LABOR AND FACILITIES REQUIRED TO COMPLETE THE ELECTRICAL INSTALLATION IN ACCORDANCE WITH THE DESIGNS, DIMENSIONS AND DETAILS SHOWN IN THE PLANS AND DESCRIBED IN THE SPECIFICATIONS.

### 625 DISCONNECT SWITCH WITH TYPE "Y" OR "Z" ENCLOSURE

THIS ITEM SHALL INCLUDE FURNISHING OF A 30 AMP, 600 VOLT FUSED DISCONNECT SWITCH OF TYPE AND MAKE AS INDICATED ON SHEET 237 AND SHALL BE MOUNTED IN A NEMA 4 STAINLESS STEEL ENCLOSURE TYPE "Y" OR "Z" AND ATTACHED TO EACH SIGN SUPPORT BY MEANS OF A MOUNTING BRACKET AS DESCRIBED IN DETAIL ON THE ABOVE SHEET.

EACH SWITCH ENCLOSURE SHALL BE FURNISHED WITH ONE PADLOCK. PADLOCKS SHALL HAVE A BRASS BODY AND WROUGHT IRON SHACKLE EQUAL TO RUSSWIN NO. 2882 KA OR MASTER NO. 4 KA OR APPROVED EQUAL.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE PER EACH AT CONTRACT UNIT PRICE, WHICH SHALL INCLUDE ALL LABOR, MATERIAL, AND EQUIPMENT TO COMPLETE THIS ITEM AT WORK.

### 625 TRANSFORMER BY TYPE

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING TRANSFORMERS AS DETAILED AND SPECIFIED ON SHEET 237.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH, WHICH SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED FOR THIS COMPLETE ITEM OF WORK.

### 625 BALLAST BY TYPE

BALLAST FOR FIXTURES SHALL BE WEATHER-PROOF OUTDOOR TYPE FOR A 120 VOLT 60 CYCLE SYSTEM AND SHALL PROVIDE LAMP STARTING AT AN AMBIENT TEMPERATURE OF -20 DEGREES F.

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING ALL BALLAST TYPES "A" THROUGH "D" AS DETAILED AND SPECIFIED ON SHEET 236.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT PRICE PER EACH, FURNISHED TO THE JOB FOR INSTALLATION UNDER ITEM 625 "SIGNS WIRED, COMPLETE"

### 625 LIGHT FIXTURE WITH LAMP, BY TYPE AND SIZE

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING ALL LIGHT FIXTURES AND LAMPS, TYPES AND SIZES AS SPECIFIED ON SHEET 221.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH, FURNISHED TO THE JOB FOR INSTALLATION UNDER ITEM 625 "SIGNS WIRED, COMPLETE."

### 625 GROUND ROD

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING GROUND ROD AND CABLE AS DETAILED AND SPECIFIED ON SHEET 237.

BASIS OF PAYMENT FOR THIS ITEM SHALL BE AT CONTRACT UNIT PRICE PER EACH, WHICH SHALL INCLUDE ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO COMPLETE THIS ITEM OF WORK.

# GENERAL NOTES

## TRAFFIC CONTROL

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

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303

MAHONING COUNTY  
MAH-680-9.32

### 815 INTERIM COVERING FOR SIGNS

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN INTERIM COVER AND ATTACHMENT MATERIALS FOR SIGNS REFERRED TO IN THE PLANS OR AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL ALSO INCLUDE THE SUBSEQUENT REMOVAL OF COVERS WHEN DIRECTED BY THE ENGINEER.

MATERIAL FOR COVERING SHALL BE PLASTIC COATED BURLAP BLANKETS IN CONFORMANCE WITH 705.09.

THE ENGINEER SHALL APPROVE THE METHOD PROPOSED FOR ATTACHING INTERIM COVERS TO SIGNS PRIOR TO INSTALLATION OF COVERS.

WORK SHALL INCLUDE ALL NECESSARY MATERIAL, HARDWARE, LABOR, AND EQUIPMENT REQUIRED TO PERFORM THE REQUIRED ITEM OF WORK.

BASIS OF PAYMENT SHALL BE INTERIM COVERING FOR SIGNS, PER SQUARE FOOT.

IN ADDITION TO THE 1450 SQUARE FEET REFERRED TO IN THE PLANS, AN ADDITIONAL QUANTITY OF 500 SQUARE FEET FOR ITEM 815, INTERIM COVERING FOR SIGNS, HAVE BEEN INCLUDED TO COVER SIGNS AS DIRECTED BY THE ENGINEER.

### 816 INTERIM STEEL DRIVE POSTS, 4 POUNDS PER FOOT, AS PER PLAN

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING 4 POUNDS PER LINEAR FOOT STEEL DRIVE POSTS AS SPECIFIED FOR INTERIM LANE WIDTH TRANSITIONS.

THIS ITEM SHALL INCLUDE 4 POUNDS PER FOOT STEEL DRIVE POSTS 11'-0" LONG BOLTED TO THE INSIDE OF INTERIM BARRELS FURNISHED UNDER 606 USING A MINIMUM OF THREE 5/16" STEEL BOLTS SPACED ON 12" CENTERS.

POST FLANGES SHALL BE 90 DEGREES TO INTERIM EDGE LINES FACING APPROACHING TRAFFIC. STEEL BEARING PLATES 3" X 2" SHALL BE USED AT EACH BOLT OUTSIDE THE BARREL TO PREVENT PULL THROUGH. MOUNTING OF SIGNS ON THE DRIVE POSTS WITH THE BOTTOM OF THE SIGNS 7' ABOVE THE PAVEMENT SHALL BE INCLUDED IN ITEM 815.

THE QUANTITY FURNISHED AND INSTALLED WILL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING AND INSTALLING DRIVE POSTS INCLUDING NECESSARY HARDWARE, LABOR AND EQUIPMENT.

### 620 INTERIM DELINEATORS, AS PER PLAN

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING INTERIM DELINEATORS AS SPECIFIED ON PLAN SHEETS.

THIS ITEM SHALL INCLUDE 2 POUNDS PER FOOT STEEL DRIVE POSTS 4'-0" LONG BOLTED TO INSIDE OF INTERIM BARRELS FURNISHED UNDER 606 USING A MINIMUM OF THREE 5/16" STEEL BOLTS SPACED ON 12" CENTERS. POST FLANGES SHALL BE 90 DEGREES TO INTERIM EDGE LINES FACING APPROACHING TRAFFIC. TYPE C2 DELINEATORS SHALL BE MOUNTED ON THE DRIVE POST FLANGES WITH THE TOP OF THE DELINEATOR 4' ABOVE THE PAVEMENT.

THE QUANTITY FURNISHED AND INSTALLED WILL BE PAID FOR AT THE PRICE BID PER EACH WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING AND INSTALLING DRIVE POSTS AND DELINEATORS INCLUDING NECESSARY HARDWARE, LABOR AND EQUIPMENT.

### INTERIM PAVEMENT MARKING, BY TYPE

THIS WORK SHALL CONSIST OF THE FURNISHING AND INSTALLATION OF INTERIM REMOVABLE MARKINGS AS SPECIFIED HEREIN AND SHOWN ON THE PLANS.

### 1. MATERIAL

MATERIAL SHALL CONSIST OF A BACKING COATED WITH A PRESSURE-SENSITIVE ADHESIVE AND A WEATHER AND TRAFFIC RESISTANT REFLECTIVE WHITE OR YELLOW COLORED SURFACE AND ADDITIONAL REQUIREMENTS AS FOLLOWS:

- A. REFLECTION - THE WHITE AND YELLOW STRIPING MATERIAL SHALL BE REFLEX-REFLECTIVE, REFLECTING WHITE OR YELLOW RESPECTIVELY AND SHALL BE READILY VISIBLE WHEN VIEWED WITH AUTOMOBILE HEADLIGHTS AT NIGHT.
- B. ADHESIVE - THE STRIPING MATERIAL SHALL HAVE A PRECOATED PRESSURE-SENSITIVE ADHESIVE WHICH SHALL NOT REQUIRE A LINER FOR PROTECTION FROM CONTAMINATION, PREADHESION, OR BLOCKING WITHIN THE ROLL AS DELIVERED.
- C. CONFORMABILITY - THE STRIPING MATERIAL SHALL BE THIN, FLEXIBLE, FORMABLE, AND FOLLOWING APPLICATION, SHALL REMAIN CONFORMED TO THE TEXTURE OF THE PAVEMENT SURFACE.
- D. REMOVABILITY - THE STRIPING MATERIAL BACKING SHALL PERMIT REMOVAL WITHOUT REQUIRING SANDBLAST, SOLVENT, OR GRINDING METHODS.
- E. DURABILITY - THE STRIPING MATERIAL APPLIED IN ACCORDANCE WITH RECOMMENDED PROCEDURES SHALL BE WEATHER RESISTANT AND SHOW NO APPRECIABLE FADING, LIFTING OR SHRINKAGE, PRIOR TO COMPLETION OF THIS PROJECT.
- F. GENERAL - THE STRIPING MATERIAL AS SUPPLIED SHALL BE OF GOOD APPEARANCE, FREE FROM CRACKS, AND EDGES SHALL BE TRUE, STRAIGHT, AND UNBROKEN. THE STRIPING MATERIAL SHALL BE SUPPLIED IN ROLLS AND THERE SHALL BE NO MORE THAN 3 SPLICES PER 60 YARDS OF LENGTH.

THE STRIPING MATERIAL SHALL BE PREPARED FOR DELIVERY IN STANDARD COMMERCIAL CONTAINERS SO CONSTRUCTED AS TO INSURE ACCEPTANCE BY THE CARRIER AND PREVENT DAMAGE DURING PROPER SHIPMENT AND STORAGE.

THE CONTRACTOR SHALL STORE THE MATERIAL IN A COOL, DRY LOCATION WHERE TEMPERATURE WILL NOT EXCEED 100 DEGREES F. PRIOR TO APPLICATION OF MARKING ON ROADWAY SURFACES.

### 2. ROAD SURFACE PREPARATION

THE ROAD SURFACE MUST BE CLEAN AND DRY, FREE OF OILS AND GREASE, DUST OR DIRT. ALL SURFACES MUST BE PRIMED.

CONCRETE PAVEMENT SHALL BE SURFACE TREATED IN ACCORDANCE WITH SECTION 621.04. SURFACE SHALL THEN BE GENEROUSLY FLUSHED WITH CLEAN WATER AND ALLOWED TO DRY THOROUGHLY PRIOR TO APPLICATION OF PRIMER AND INTERIM MARKINGS.

### 3. PRIMING

METHOD OF PRIMING SHALL BE AS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL SUBMIT A PROPOSAL FOR TYPE OF PRIMING TO BE USED. COST FOR PRIMING SURFACES SHALL BE INCIDENTAL TO THE COST OF VARIOUS ITEMS INCLUDED IN ITEM 615, TEMPORARY ROADS, AS PER PLAN.

### 4. APPLICATION

INTERIM LINES SHALL BE APPLIED TO THE ROAD SURFACE WITH A ROLLER TYPE APPLICATOR AND ROLLED IMMEDIATELY AFTERWARDS BY RUBBER-TIRED ROLLER WITH APPROXIMATE SINGLE WHEEL LOAD BETWEEN ONE THOUSAND (1000) AND TWO THOUSAND (2000) POUNDS.

### 5. SPECIAL PLAN DETAILS

DETAILS FOR LOCATION OF INTERIM MARKINGS ARE SHOWN ON SIGN LOCATION PLAN SHEETS.

### 6. BASIS OF PAYMENT

COST OF FURNISHING AND INSTALLATION OF INTERIM PAVEMENT MARKING SHALL BE INCLUDED AT THE CONTRACT UNIT PRICE PER LINEAR FOOT.

### 625 SIGNS WIRED, COMPLETE

THIS ITEM SHALL CONSIST OF THE COMPLETION OF THE ELECTRICAL SIGN LIGHTING SYSTEM FOR EACH ILLUMINATED SIGN.

WORK SHALL INCLUDE INSTALLATION OF LIGHT FIXTURES AND BALLASTS, AND FURNISHING AND INSTALLATION OF ALL RIGID AND FLEXIBLE CONDUIT, CONDULETS, JUNCTION BOXES, CABLE, FASTENERS, HARDWARE, AND ALL OTHER ITEMS REQUIRED TO ENERGIZE THE SIGN LIGHTING SYSTEM. SEE DETAILS ON SHEETS 235-237.

THE COST OF FURNISHING AND INSTALLING CABLE, CABLE GRIPS, CABLE SPLICE UNITS, AND NECESSARY FASTENERS FROM THE DISCONNECT SWITCH TO THE SIGNS (OR BETWEEN SIGNS) WITHIN SIGN SUPPORT MEMBERS SHALL BE INCLUDED IN THIS ITEM OR WORK.

BASIS OF PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE PER EACH SIGN WIRED WHICH PRICE SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, AND OTHER INCIDENTALS TO PROVIDE A COMPLETE AND ACCEPTED ITEM OF WORK.

ILLUMINATED SIGNS REQUIRING TWO (2) BALLASTS SHALL BE CONSIDERED AS AN EQUIVALENT OF TWO (2) SEPARATE SIGNS FOR DETERMINATION OF PAYMENT QUANTITIES.

### 625 INSPECTION AND TESTING OF SIGN LIGHTING

THE CONTRACTOR SHALL FURNISH ALL LABOR, ELECTRICAL POWER, AND EQUIPMENT NECESSARY TO DEMONSTRATE TO THE ENGINEER THAT NO SHORT CIRCUITS AND UNSPECIFIED GROUNDS EXIST AND THAT THE SIGN CIRCUITS ARE PROPERLY CONNECTED AND OPERABLE PRIOR TO ACCEPTANCE.

THIS DEMONSTRATION SHALL INCLUDE A MEGGARING TEST TO SHOW THAT THE POWER CONDUCTORS ARE NOT GROUNDED AND THAT THE RESISTANCE TO GROUND FOR THE GROUND CONDUCTOR IS NOT MORE THAN 25 OHMS. WHERE RESISTANCE EXCEEDS 25 OHMS, ADDITIONAL LENGTH AND/OR NUMBERS OF RODS SHALL BE INSTALLED PER REQUIREMENTS OF 625.10.

A VOLTAGE AND AMPERAGE MEASUREMENT SHALL BE MADE AT THE SIGN SUPPORT SWITCH.

WHERE A LOW VOLTAGE TAP TRANSFORMER IS USED THE VOLTAGE MEASUREMENT SHALL BE USED TO DETERMINE THE APPLICABLE TAP.

AFTER THE SIGN LIGHTING SYSTEM IS COMPLETED THE ENTIRE SYSTEM SHALL BE OPERATED CONTINUOUSLY EACH NIGHT UNTIL 10 TEN CONSECUTIVE DAYS ELAPSE WITHOUT FAILURE OR DEFECT. THE CONTRACTOR SHALL RECORD AND SUBSEQUENTLY CORRECT ANY DEFECTS WHICH MAY DEVELOP AT NO EXTRA COST TO THE STATE.

DURING THE TEST PERIOD, ADJUSTMENTS TO FIXTURE ARMING ANGLES SHALL BE MADE TO OBTAIN MAXIMUM UNIFORMITY AS DIRECTED BY THE ENGINEER.

THE ABOVE MEASUREMENTS, VOLTAGE TAP SELECTION NOTATIONS, AND METHODS OF DEFECT CORRECTION SHALL BE RECORDED AND DELIVERED TO THE ENGINEER FOR INCLUSION IN THE PROJECT RECORDS.

INSPECTION AND TESTING OF THE SIGN LIGHTING SYSTEM SHALL BE CONSIDERED A SUBSIDIARY WORK ITEM AND PAYMENT THEREFOR SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE RESPECTIVE ITEMS TESTED.

### CERTIFICATION AND APPROVAL OF SIGN SUPPORT AND SIGN LIGHTING ITEMS

THE CONTRACTOR SHALL SUBMIT THROUGH PROPER CHANNELS THE DRAWINGS, INFORMATION AND SAMPLES AS REQUIRED BELOW:

- A. EIGHT (8) COPIES OF SHOP DRAWINGS AND MATERIAL LISTS FOR APPROVAL
  - 1. OVERHEAD SIGN SUPPORTS.
  - 2. SIGN FACE LAYOUT PLANS
  - 3. SIGN PANELS AND ACCESSORIES
  - 4. SIGN LIGHTING LAYOUT PLAN AND DETAILS FOR WIRING, CONDUIT SIZE AND PLACEMENT FROM SIGN DISCONNECT SWITCH TO FIXTURE.
- B. EIGHT (8) COPIES OF CATALOG CUTS DESCRIPTIONS OF SAMPLES OF FABRICATORS STANDARD ITEMS AS SHOWN IN THE PLANS OR THEIR EQUALS FOR APPROVAL OF THEIR USE.
- C. CERTIFICATIONS AND/OR SAMPLES FOR ALL MATERIAL WHICH HAVE BEEN APPROVED ABOVE UNDER "A" AND "B".
- D. APPROVAL OF ITEMS UNDER "A" AND "B" SHALL BE IN THE HAND OF THE CONTRACTOR PRIOR TO ANY PURCHASE OR INSTALLATION.
- E. CERTIFICATIONS OF SAMPLES UNDER "C" MUST BE IN HAND AND APPROVED PRIOR TO CONTRACT COMPLETION.

### 202 REMOVAL OF EXISTING OVERHEAD SIGN SUPPORT TYPE 13.2 AS PER PLAN

THIS WORK SHALL CONSIST OF THE REMOVAL AND DISMANTLING OF THE EXISTING OVERHEAD SIGN SUPPORT SHOWN IN THE PLANS.

WORK SHALL ALSO INCLUDE REMOVAL OF SIGN SUPPORT FOUNDATIONS AS REQUIRED IN SECTION 202.

THE SUPPORT, AND ACCESSORIES REMOVED SHALL BE STORED NEATLY WITHIN THE LIMITS OF THE PROJECT AT LOCATIONS APPROVED BY THE ENGINEER FOR REMOVAL BY STATE FORCES. THIS WORK SHALL INCLUDE DISPOSAL OF ALL WASTE MATERIAL.

TO ASSURE MAINTENANCE OF ADEQUATE TRAFFIC CONTROL AT ALL TIMES, NO SIGNS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

PAYMENT FOR REMOVAL OF THE EXISTING SIGN SUPPORT SHALL INCLUDE ALL NECESSARY LABOR AND EQUIPMENT REQUIRED TO PERFORM THE REQUIRED WORK AS INDICATED ABOVE.

BASIS OF PAYMENT SHALL BE AT THE CONTRACT PRICE PER EACH FOR REMOVAL OF EXISTING OVERHEAD SIGN SUPPORT TYPE 13.2

### 816 STRUCTURAL SUPPORTS DRIVEN TYPE

*Driven type structural supports will be driven to a depth of five (5'0") minimum below ground line in such a manner that no deformation within the length of the support, or damage to the support, will occur.*

*Prior to installation each support shall be significantly marked with paint at a location on the support 5'-6" from the embedded end, and approved by the Engineer. "Structural Supports 6lb. Beam, Driven and 6lb. Beam, Driven as per plan" will include the 10"x12"x1/4" soil plate detailed in the plans.*

*Payment for installation of sign supports by the above method shall be included in the cost of the various support types specified including all labor, equipment and materials required.*

# CALCULATIONS TRAFFIC CONTROL

ITEM 621 - TRAFFIC ZONE PAINT MARKING

STATION TO STATION	SIDE	4" EDGE LINES LIN. FT.	4" LANE LINES LIN. FT.	6" LANE LINES LIN. FT.	4" YELLOW BARRIER LINES Lin.Ft.	4" WHITE BARRIER LINES Lin.Ft.	8" CHANNEL LINES LIN. FT.	24" STOP LINES LIN. FT.	BROAD TRANSVERSE STRIPES L.F.	CURB MARKING LIN. FT.	STATION TO STATION	SIDE	4" EDGE LINES LIN. FT.	4" LANE LINES LIN. FT.	6" LANE LINES LIN. FT.	4" YELLOW BARRIER LINES Lin.Ft.	4" WHITE BARRIER LINES Lin.Ft.	8" CHANNEL LINES LIN. FT.	24" STOP LINES LIN. FT.	BROAD TRANSVERSE STRIPES L.F.	CURB MARKING LIN. FT.
MAINLINE											U.S. 224										
504+62.88	636+00	NBLt, 12Rt	13,137								1+70	3+00	€ (2)			260					
550+00	636+00	SB Rt, 12Lt	8,600								3+00	14+75.51	Med. Lt, Rt	2,352							
509+90.88	636+00	NB 24 Rt		8,600							15+55.21	26+30.54	Med. Lt, Rt	2,150							
533+80	636+00	SB 24 Lt		10,220							26+96.54	29+00	Med. Lt, Rt	408							
504+62.88	509+90.88	NB Rt	528								29+00	33+93.29	€ (2)			986					
510+86.88	521+03	NB Rt	1,016								1+70	14+75.51	14.5 Rt	1,306							
527+75	623+32.85	NB Rt	9,558								15+55.21	26+30.54	14.5 Rt	1,075							
631+32.85	636+00	NB Rt	467								26+96.54	29+00	14.5 Rt	204							
510+97.81	514+97.90	SB Lt	400								1+70	10+40.08	Lt	870							
522+97.90	616+00	SB Lt	9,302								14+60	24+57.10	Lt	997							
622+72	636+00	SB Lt	1,328								27+98.55	33+93.29	Lt	595							
SPEED CHANGE LANES- MAINLINE											1+70	14+22.51	Rt	1,253							
504+62.88	507+02.88	NB Rt					240				15+05.95	19+11	Rt	405							
507+02.88	509+90.88	NB Rt		288							19+11	23+25	Rt	414							
504+62.88	510+86.88	NB Rt	624								24+33.00	26+69.54	Rt	237							
515+75	518+15	NB Rt					240				27+88.64	33+93.29	Rt	605							
518+15	521+03	NB Rt		288							1+70	30+80	14.5 Lt	2,910							
515+75	527+75	NB Rt	1,200								THALIA AVENUE										
623+32.85	627+75	NB Rt	442								13+75	22+39	€ , Lt, & Rt	1,728	864						
626+74	629+16	NB Rt		242							SUBTOTALS		72,798	8,235	44,566	1,246		2,322	493	1,534	
629+16	631+32.85	NB Rt					432		144		RURAL TOTALS		13.788 Mi.	0.585 Mi.	3.165 Mi.	0.236 Mi.		2,322 L.F.	493 L.F.	1,534 L.F.	
514+97.90	518+46	SB Lt					700		233		URBAN										
518+46	520+22	SB Lt		176							MAINLINE										
520+50	522+97.90	SB Lt	248								636+00	638+00	NBLt, Rt, €	400	400						
616+00	628+00	SB Lt	1,200								636+00	638+00	SBLt, Rt, €	400	400						
622+72	625+60	SB Lt		288							RAMP N-N										
625+60	628+00	SB Lt					240				627+75	641+80	Rt	1405							
RAMP S											631+24.79	641+57.25	Lt	1033							
490+73.58	510+97.81	Lt	2,024								641+39	641+79	€	40							
492+25.04	494+25.04	Rt							212		THALIA AVENUE										
493+25.04	503+78.33	Rt	1,053								22+39	25+25	€	286							
RAMP T											LEMOYNE AVENUE										
505+27.37	520+50	Lt	1,523								6+32	9+46	€ & 12' Lt	314		628					
505+27.37	507+27.37	Rt							209		6+30		Lt								14
506+27.37	515+14.32	Rt	887								9+48		Rt								27
RAMP V											5+75		Rt								12
490+87.82	504+62.88	Rt	1,375								4+25	5+75	€		150	150					
492+66.95	503+62.88	Lt	1,096								EVERETT AVENUE										
502+62.88	504+62.88	Lt							208		10+29		Rt								12
RAMP W											SUBTOTALS		3,238	640	800	778	150				
505+10.25	515+75	Rt	1,065								URBAN TOTALS		0.613 Mi.	0.045 Mi.	0.057 Mi.	0.147 Mi.	150 L.F.				65 L.F.
505+98.47	511+75	Lt	577								SUBTOTALS			x 15/40	x 15/40						
511+25	515+75	Lt							451		URBAN TOTALS		0.613 Mi.	0.045 Mi.	0.057 Mi.	0.147 Mi.	150 L.F.				65 L.F.
RAMP M-M																					
628+00	641+98.58	Lt	1,399																		
628+00	632+50	Rt								454											
632+00	641+88.61	Rt	989																		
SPEED CHANGE LANES- U.S. 224																					
14+60	16+40.08	Lt		180																	
10+40.08	16+40.08	Lt	600																		
17+91.27	19+11	Rt					120														
19+42.45	22+51.98	Rt	310																		
23+25	24+33.00	Rt					220		73												
24+57.10	25+20	Lt					130		43												
25+48.55	27+98.55	Lt	250																		

# CALCULATIONS TRAFFIC CONTROL

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

220  
303

MAHONING COUNTY  
MAH - 680 - 9.32

GROUND MOUNTED SIGNS

\* As Per Plan

GROUND MOUNTED SIGNS - Continued

DELINEATORS - Continued

\*\* Urban

SHEET NO.	CODE NUMBER	LOCATIONS	SIDE	815 SIGN ERECTION		816 SIGN SUPPORTS		REMARKS	SHEET NO.	CODE NUMBER	LOCATIONS	SIDE	815 SIGN ERECTION		816 SIGN SUPPORTS		REMARKS	STATION TO STATION		SIDE (WITH TRAFFIC)	INTERVAL	TYPE A - 1 BRACKET	TYPE A - 1 POST	TYPE C - 2 POST																	
				FLAT SHEET S.F.	EXTRUSHEET S.F.	4 LB. POST L.F.	6 LB. BEAM L.F.						FLAT SHEET S.F.	EXTRUSHEET S.F.	4 LB. POST L.F.	6 LB. BEAM L.F.																									
213	<del>W-49-48</del> WP-49	492+80	Lt.	18.0			18.5	Mainline	213	W-98-48	492+67	Rt.	20.0				Ramp V																								
213	N-12A-72	496+25	Rt.		30.0		16.5 + 17.0		213	R-15-30	494+00	Rt.	7.5	15.0			RAMP R																								
213	<del>W-49-48</del> WP-49	501+00	Rt.	16.0			18.5		213	R-15-30	507+00	Rt.	7.5	15.0			Ramp W	504+35		Rt.	80			1																	
213	N-12A-96	503+45	Lt.		40.0		18.5 + 19.0		216	R-15-30	641+00	Rt.	7.5	15.0			Ramp M-M	503+55	500+55	Rt.	50			7																	
213	<del>W-49-48</del> WP-49	510+00	Rt.	16.0			17.5		RURAL TOTALS				548.2	140.0	2.67.0	587.0		499+75	498+75	Rt.	100			2																	
214	N-12A-96	514+70	Lt.		40.0		18.5 + 19.0									* 16.5		497+95		Rt.	80			1																	
214	IM-37-36	532+00	Rt.	4.5					URBAN									497+95	492+45	Lt.	50			12																	
214	M-5-36-3	"	Rt.	10.5			17.0		216	G.K.	636+00	Rt.	28.0			16.5 + 18.0	Mainline	492+45	490+95	Rt.	50			4																	
214	R-10-48	542+00	Rt.	20.0					216	<del>M-2-24</del> <del>R-41B-36</del>	637+50	Rt.	13.0		14.0		Ramp N-N	490+15	489+15	Rt.	100			2																	
214	R-16-48	"	Rt.	16.0			19.5 + 20.0		216	<del>M-2-24</del> <del>R-41B-36</del>	"	Rt.	13.0		14.0																										
214	<del>R-123-36</del> RP-123	535+19	Lt.	14.5			20.0		216	M-21-20	"	Rt.	2.1				RAMP S																								
214	R-19-18	535+48	€	1.5		8.5			216	M-21-20	"	Rt.	2.1					510+95	503+95	Rt.	100			8																	
214	<del>R-123-36</del> RP-123	535+99	Rt.	14.5			20.0		216	D-4-2	"	Rt.		20.0		14.0 + 15.0		503+35		Rt.	60			1																	
214	R-19-18	535+70	€	1.5		8.5			216	R-43 R-36	641+57	Rt.	3.0					503+35	493+75	Lt.	30			33																	
215	<del>R-123-36</del> RP-123	595+01	Lt.	14.5			20.0		216	R-43 L-36	"	Rt.	3.0					493+15		Lt.	60			1																	
215	R-19-18	595+30	€	1.5		8.5			216	R-41-36	"	Rt.	9.0			* 16.5		493+15	490+75	Rt.	80			4																	
215	<del>R-123-36</del> RP-123	595+81	Rt.	14.5			20.0		216	R-43 R-36	641+57	Lt.	3.0																												
215	R-19-18	595+52	€	1.5		8.5			216	R-43 L-36	"	Lt.	3.0				RAMP T																								
215	R-10-48	601+00	Lt.	20.0					216	R-41-36	"	Lt.	9.0			* 16.0		519+95	509+95	Rt.	100			11																	
215	R-16-48	"	Lt.	16.0			19.5 + 20.0		216	<del>R-1-30</del> <del>R-21-24</del> <del>R-121-24</del> RP-121	637+50	Rt.	9.5		14.0		Lemoyne Ave.	509+95		Lt.	60			1																	
215	IM-38-36	611+00	Lt.	4.5					216	<del>R-1-30</del> <del>R-21-24</del> <del>R-121-24</del> RP-121	"	Rt.	5.5					509+35	506+65	Lt.	30			10																	
215	M-5-36-3	"	Lt.	10.5			17.0		216	<del>R-1-30</del> <del>R-21-24</del> <del>R-121-24</del> RP-121	"	Lt.	6.0		14.0			506+65	506+05	Rt.	60			2																	
216	N-12A-72	631+45	Rt.		30.0		18.5 + 19.0		216	<del>R-1-30</del> <del>R-21-24</del> <del>R-121-24</del> RP-121	"	Lt.	5.5		14.0			505+25		Rt.	80			1																	
216	<del>W-49-48</del> WP-49	632+00	Lt.	18.0			18.0 + 2.0		216	R-1-30	9+42	Rt.	7.5																												
213	IM-17-24	4+50	Rt.	2.0				U.S. 224	216	R-1-30	10+29	Lt.	7.5		14.0		Everett Ave.	RAMP U																							
213	M-5-24-3	"	Rt.	5.0		14.5			216	M-2-24	378+62	Lt.	4.0					492+15	497+15	Rt.	100			6																	
213	D-1-96	6+07	Lt.	36.0			18.5 + 19.5		216	M-2-24	"	Lt.	4.0					497+95	500+95	Lt.	50			7																	
213	M-17-24	8+26	Lt.	2.0					216	M-25-20	"	Lt.	2.1					501+75	502+75	Lt.	100			2																	
213	M-2-24	"	Lt.	4.0		16.0			216	M-24-20	"	Lt.	2.1					502+75	503+75	Rt.	100			2																	
213	<del>W-47-36</del> WP-47	10+61	Lt.	11.0			15.0		216	D-4-2	"	Lt.		20.0		13.0 + 13.0	Midlothian	504+35	506+15	Rt.	30			7																	
213	M-40-24	13+00	Lt.	2.0					URBAN TOTALS				141.9	40.0	2.8	144.5		506+75	508+75	Rt.	100			3																	
213	M-1-24	"	Lt.	4.0		14.0										* 32.5		RAMP V																							
213	R-37A-24	15+60	€	5.0		13.0			ITEM 620 DELINEATORS								**Urban	491+55	493+05	Rt.	50			4																	
213	<del>W-47-48</del> WP-47	16+25	Rt.	8.3		15.0			STATION TO STATION									493+05	503+25	Lt.	30			35																	
213	<del>W-49-48</del> WP-49	19+00	Lt.	8.3		15.5			NORTHBOUND									503+25	503+85	Rt.	60			2																	
213	W-124-36	25+75	Rt.	9.0			17.0			488+15	491+15	Rt.	100					RAMP W																							
213	R-37A-24	26+25	€	5.0		13.0				496+25	502+25	Rt.	200		4			505+15	506+35	Rt.	30			5																	
213	GK	26+30	Rt.	28.0			19.0 + 19.5			504+85	509+85	Rt.	100					506+35	508+15	Lt.	30			7																	
213	M-39-24	28+20	Rt.	2.0						511+75	513+75	Rt.	200		2			508+75		Lt.	60			1																	
213	M-1-24	"	Rt.	4.0		15.0				515+75	527+75	Rt.	100					508+75	514+75	Rt.	100			7																	
213	<del>W-86-36</del> WP-86	30+20	Rt.	11.0			17.5			529+50	621+50	Rt.	200		47			RAMP M-M																							
213	R-10-24	33+20	Rt.	5.0		15.0				623+35	627+35	Rt.	100					641+90	637+90	Rt.	80			6																	
213	W-58-36	37+50	Lt.	9.0			16.0			631+35	635+35	Rt.	200					637+10	636+10	Rt.	100			2																	
213	IM-17-24	39+50	Lt.	2.0						637+35		Rt.	200					636+10	635+30	Rt.	80			1																	
213	M-5-24-3	"	Lt.	5.0		15.0						Rt.	200			** 1		635+30	632+80	Lt.	50			6																	
214	R-1-30	34+87	Rt.	6.3		13.0		Meadow Lane	SOUTHBOUND									632+80	630+80	Rt.	50			5																	
214	W-48-30	34+87	Lt.	6.3		14.0				637+00		Rt.	200			** 1		630+00	629+00	Rt.	100			2																	
213	R-15-30	504+00	Rt.	7.5		15.0		Ramp R		635+00	631+00	Rt.	200					RAMP N-N																							
213	W-97-48	503+78	Rt.	20.0			18.0	Ramp S		628+00	616+00	Rt.	100					628+15	630+55	Rt.	80			4																	
213	W-97-48	515+14	Rt.	20.0			18.5	Ramp T		614+00	564+00	Rt.	200		26			631+35		Rt.	80			** 1																	
213	R-1-48	509+00	Rt.	16.0			16.0	Ramp U		562+00		Rt.	200		1			631+35	636+35	Lt.	50			** 11																	
213	R-41-36	"	Rt.	9.0						560+00	524+00	Rt.	200		19			636+35	638+35	Rt.	100			** 3																	
213	R-41-36	509+00	Lt.	9.0			* 16.5			522+95	520+95	Rt.	100					639+05		Rt.	70			** 1																	
213	R-43R-36	"	Lt.	3.0						515+95	513+95	Rt.	200		2			639+05	641+45	Lt.	40			** 7																	
213	R-43L-36	"	Lt.	3.0						503+50	493+50	Rt.	200		6																										
2 with each R-19-18 Sign (For locations, see Ground Mounted Signs)																																									
RURAL TOTALS																				1	112	267																			
URBAN TOTALS																				0	** 2	** 23																			

# GENERAL SUMMARY TRAFFIC CONTROL

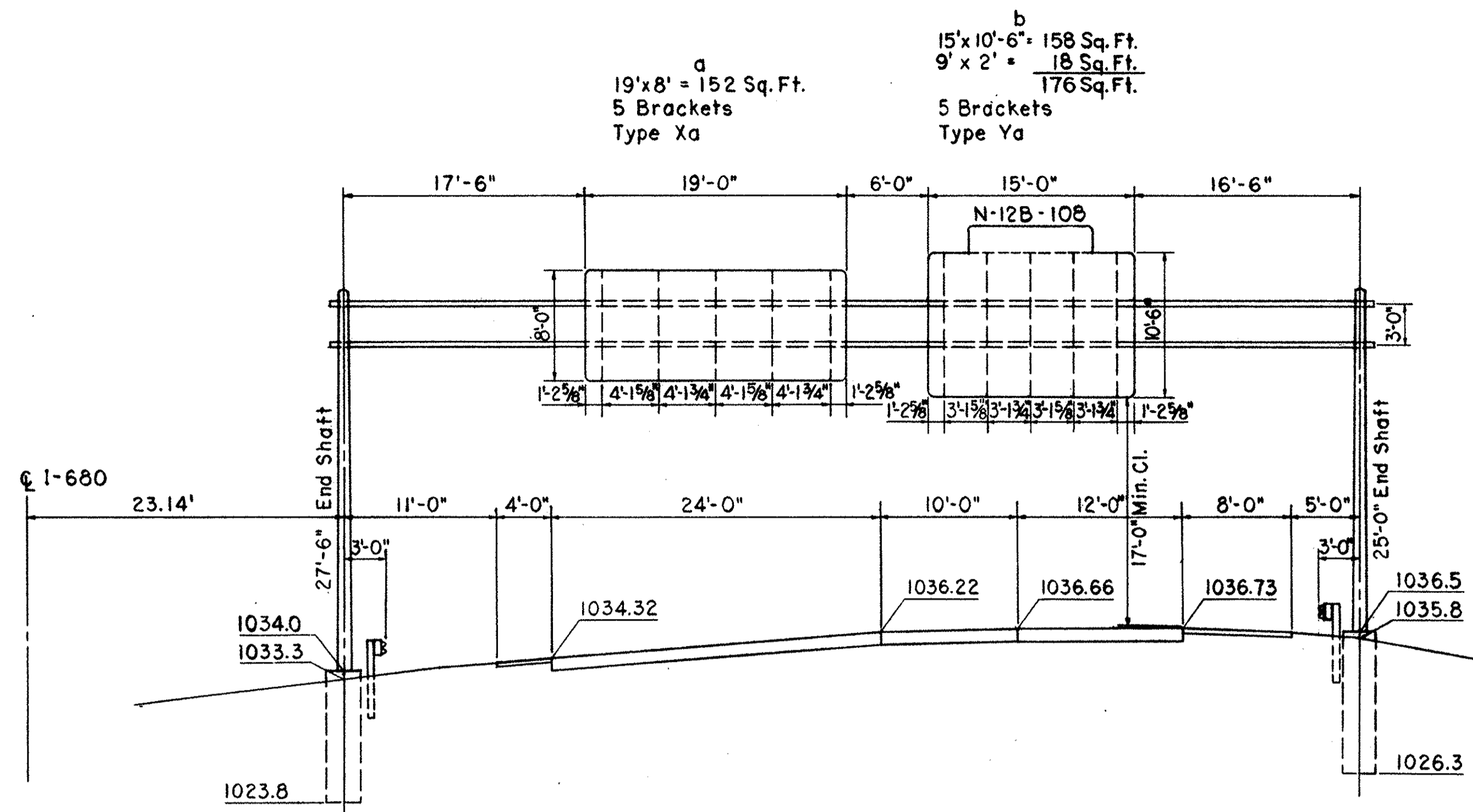
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

(221)

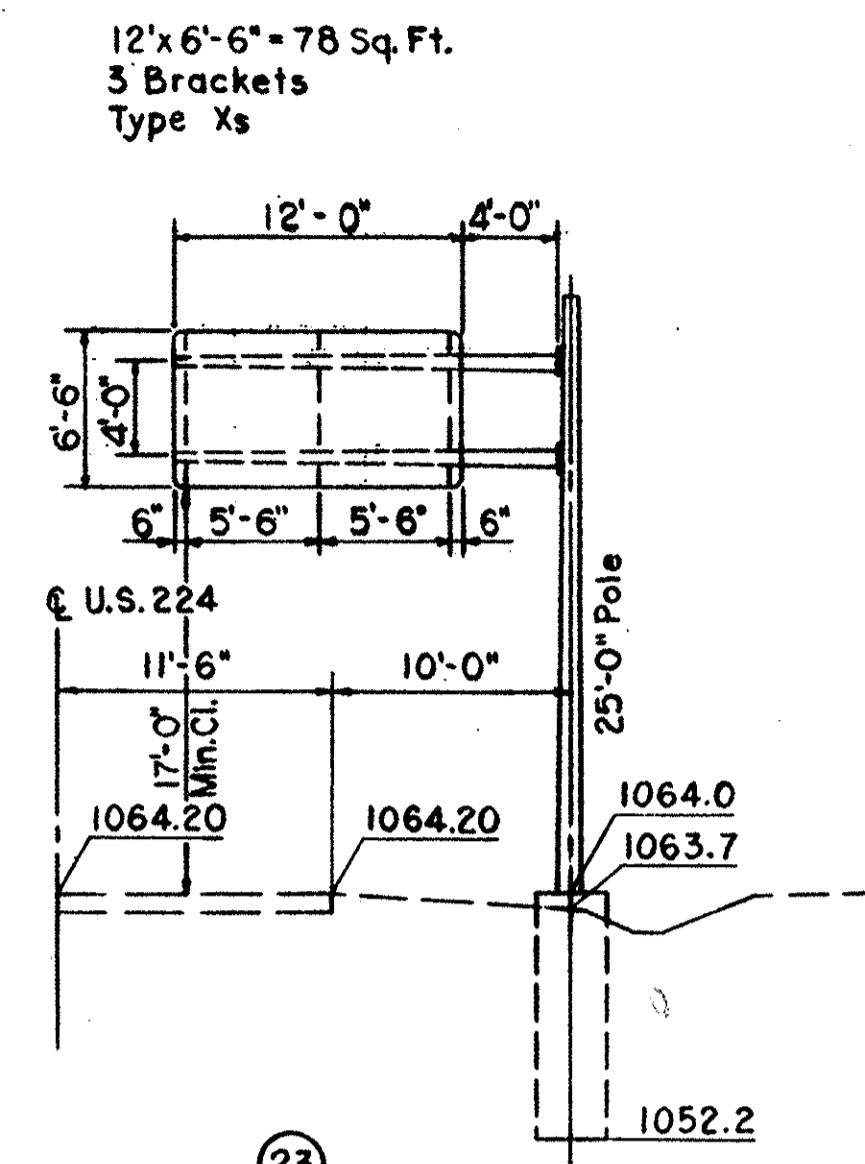
MAHONING COUNTY  
MAH - 680 - 9.32

ITEM	RURAL																SHEET NUMBER				RURAL TOTAL				URBAN				URBAN TOTAL			GRAND TOTAL			DESCRIPTION	
	INSTALLATION NUMBER																214	219	220	SHEET NUMBER			214	219	220	URBAN TOTAL			ITEM	QUANT.	UNIT					
	22	23	24	25	26	27	27A	28	29	30	31	32	33	34	35	36																				
202																																	202	1	Each	Removal of Existing Overhead Sign Support Type 13.2, As Per Plan
606																		8150															606	8150	L.F.	Guard Rail, Type 6
620																												112				620	114	Each	Delineators, Type A-1, Post Mounted	
620																												267				620	290	Each	Delineators, Type C-2, Post Mounted	
620																												1				620	1	Each	Delineators, Type A-1, Bracket Mounted	
620																		44														620	44	Each	Interim Delineators, As Per Plan	
621																			13.788													621	14.401	Miles	4" Edge Lines	
621																			0.585													621	0.630	Miles	4" Lane Lines	
621																			3.165													621	3.222	Miles	6" Lane Lines	
621																			0.236													621	0.383	Miles	4" Yellow Barrier Lines	
621																												150				621	150	L.F.	4" White Barrier Lines	
621																			2322													621	2322	L.F.	8" Channelizing Lines	
621																													65			621	65	L.F.	24" Stop Lines	
621																			493													621	493	L.F.	Broad Transverse Lines	
621																			1534													621	1534	L.F.	Curb Marking	
621																		8088														621	8088	L.F.	Interim 4" Edge Lines	
625																																625	15	Each	Sign Service	
625																																625	5	Each	Disconnect Switch with Type Y Enclosure	
625																																625	10	Each	Disconnect Switch with Type Z Enclosure	
625																																625	3	Each	Transformer Type II	
625																																625	2	Each	Transformer Type III	
625																																625	4	Each	Transformer Type IV	
625																																625	4	Each	Transformer Type V	
625																																625	2	Each	Transformer Type VI	
625																																625	4	Each	Ballasts Type B	
625																																625	4	Each	Ballasts Type C	
625																																625	20	Each	Ballasts Type D	
625																																625	33	Each	72" Fixture with SHQ Lamp	
625																																625	11	Each	96" Fixture with SHQ Lamp	
625																																625	4	Each	72" Fixture with HO Lamp	
625																																625	4	Each	96" Fixture with HO Lamp	
625																																625	15	Each	Ground Rod	
625																																625	23	Each	Signs Wired Complete	
815	328	78	119	119	216	137		157	486	272	382	258	241	420	258	592	288.0		140.0		4491.0							40.0	40.0	815	4531.0	Sq.Ft.	Sign Erection Extrusheet Type			
815																		292		542		834		53.0		150	203	815	1037.0	Sq.Ft.	Sign Erection Flat Sheet Type					
815																		1353				1353									815	1353	Sq.Ft.	Interim Covering for Signs		
815																																815	4	Each	Remove and Re-Erect Existing Overhead Illuminated Signs	
816																		30.0		267.0		297.0		31.0		28	59.0	816	356.0	L.F.	Structural Support 4 Lb. Drive Post					
816																		297.5		587.0		884.5		32.0		144.5	176.5	816	1061.0	L.F.	Structural Support 6 Lb. Beam					
816																				16.5		16.5						32.5	816	49.0	L.F.	Structural Support 6 Lb. Beam, as per plan				
816																		484.0				484.0									816	484.0	L.F.	Interim 4 Lb. Steel Drive Post, As Per Plan		
816																																816	1	Each	Span Wire Sign Support	
816																																816	1	Each	Overhead Sign Support No. 7.4 Des. 1 Modified, 74' Span	
816																																816	1	Each	Overhead Sign Support No. 7.4 Des. 1 Modified, 64' Span	
816																																816	2	Each	Overhead Sign Support No. 7.5 Des. 1 Modified, 64' Span	
816																																816	1	Each	Overhead Sign Support No. 7.6 Des. 3 Modified, 80' Span	
816																																816	1	Each	Overhead Sign Support No. 12.24 Des. 3, 16' Arm	
816																																816	3	Each	Overhead Sign Support No. 12.24 Des. 4, 20' Arm	
816																																816	1	Each	Overhead Sign Support No. 12.24 Des. 5, 22' Arm	
816																																816	3	Each	Overhead Sign Support No. 12.24 Des. 8, Modified, 23' Arm	
816																																816	1	Each	Overhead Sign Support No. 15.8 Des. 3, Modified, 88' Span	
816																																816	1	Each	Overpass Structure Mounted Sign Support	
816	8.8	3.1	3.1	3.1	3.2	3.6	6.8		11.4	8.6	8.9	4.4	4.2	9.1	4.4	17.5															816	100.2	Cu.Yd.	Concrete For Overhead Sign Support Foundations		
																																625	1	Each	Structure Mounted Sign Wiring, Complete	
																																625	1	Each	Special Switch Enclosure Mounting Bracket, As Per Plan	

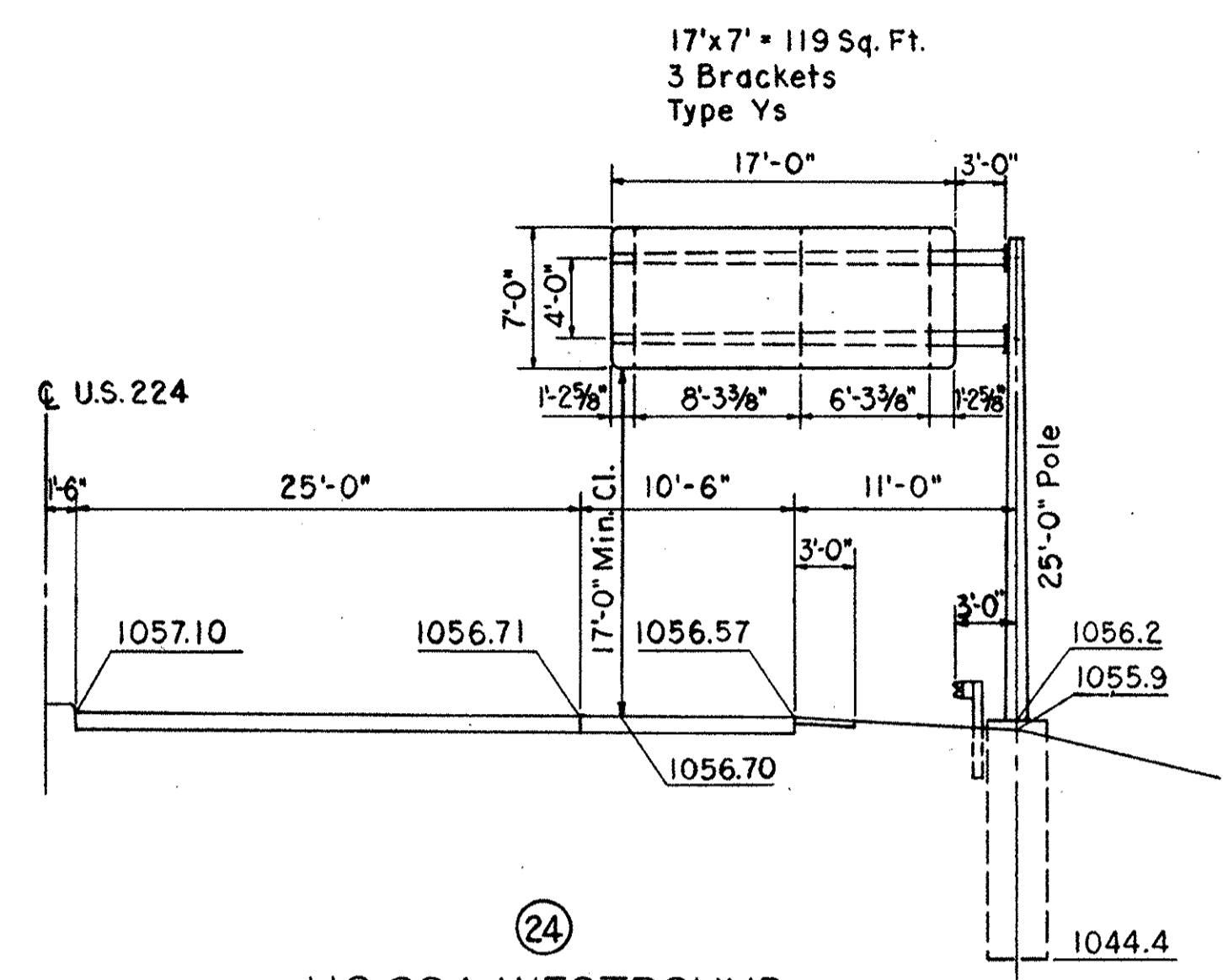




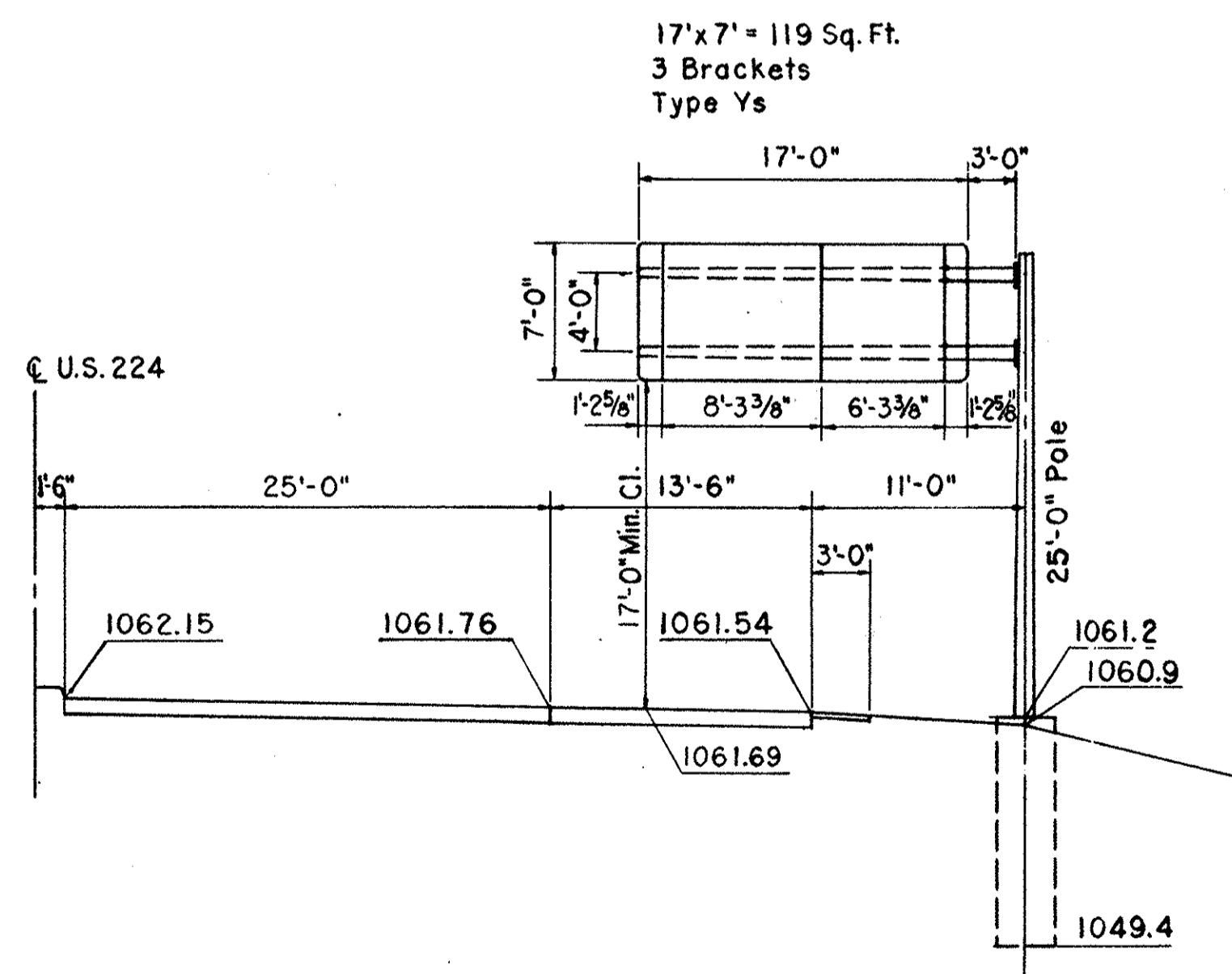
(22)  
I-680 NORTHBOUND  
STA. 494+36  
816 NO. 74 DESIGN NO. 1 MODIFIED  
74' SPAN



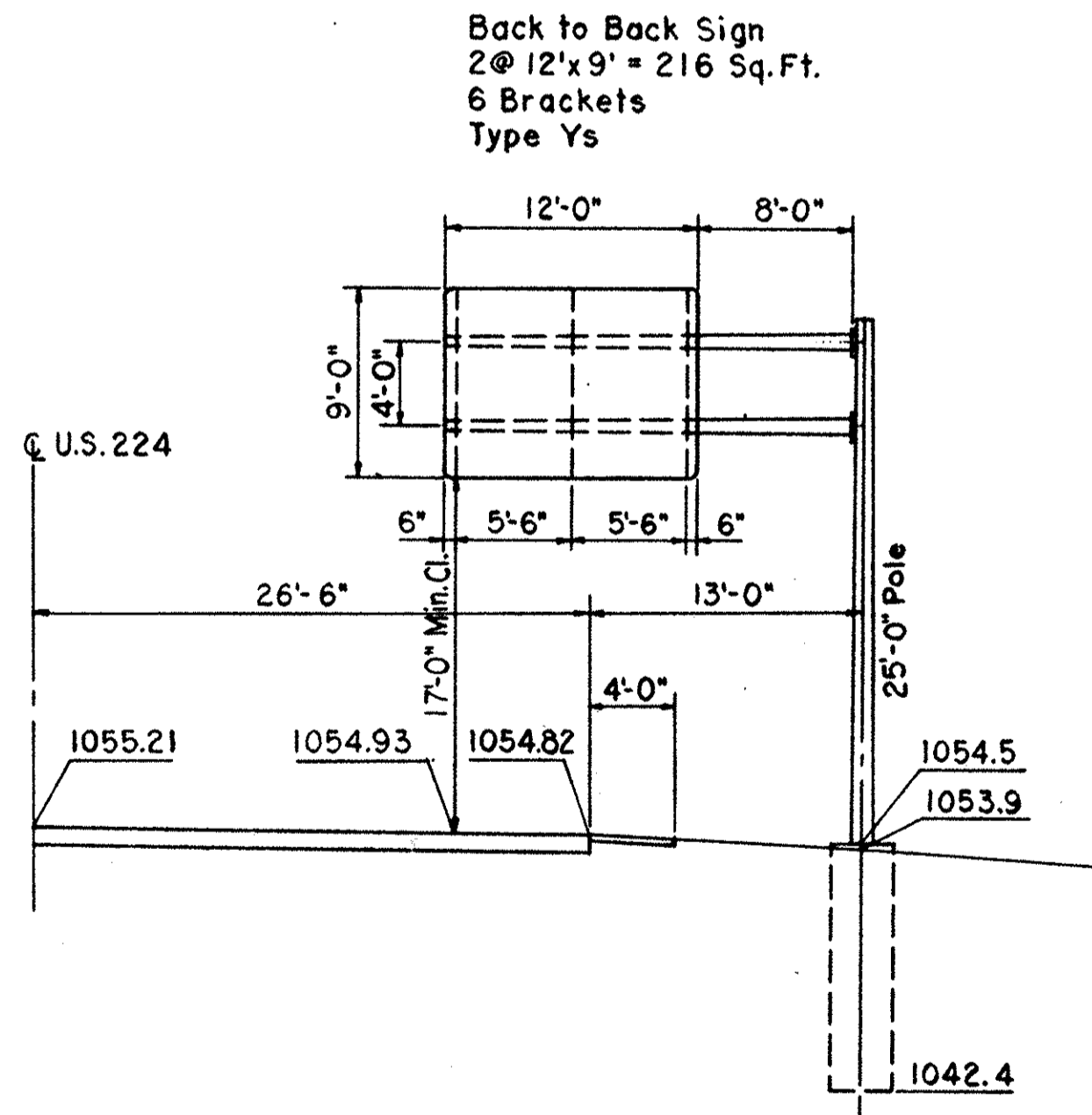
(23)  
U.S. 224 WESTBOUND  
STA. 35+00  
816 NO. 12.24 DESIGN NO. 3  
16' ARM



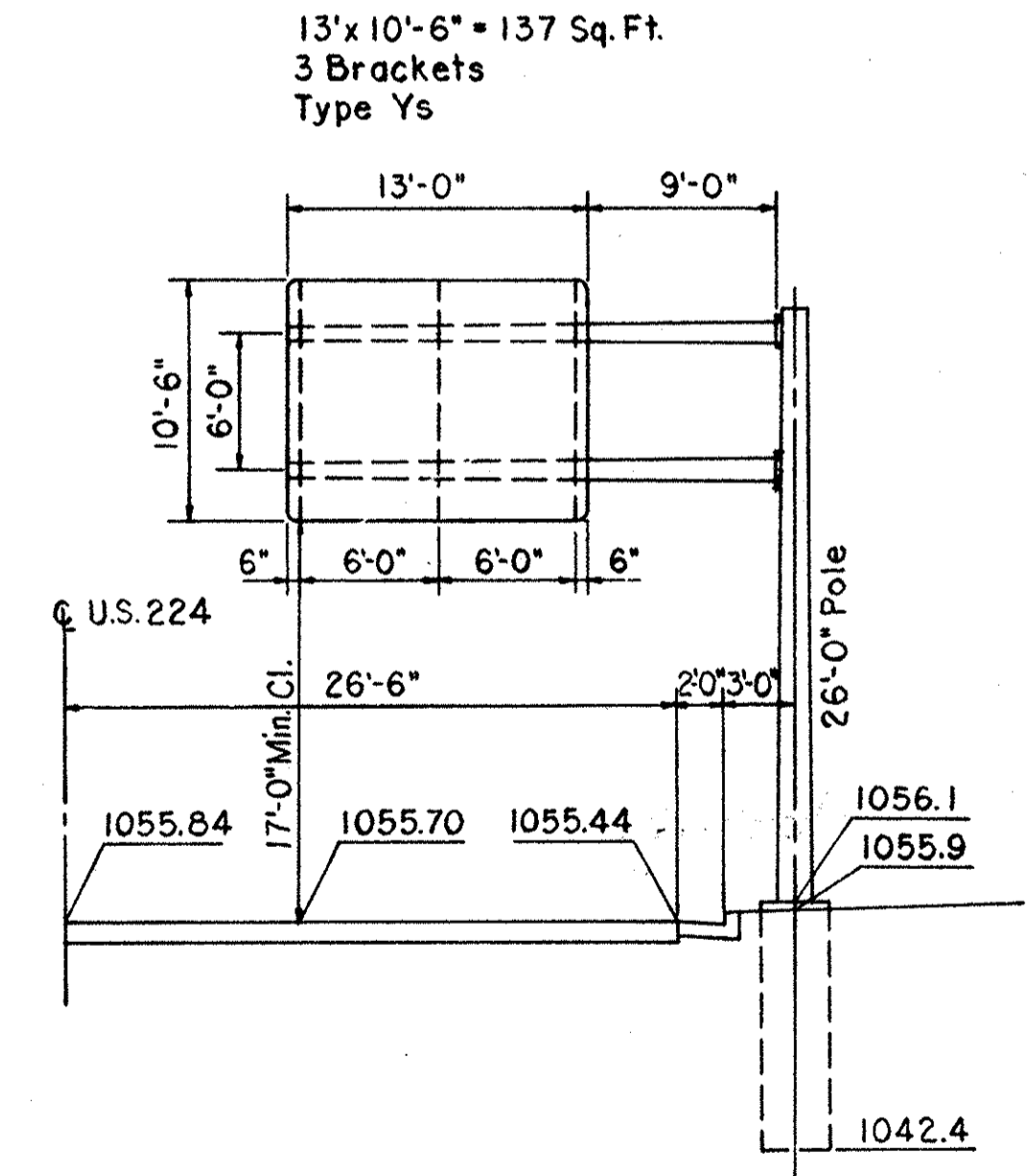
(24)  
U.S. 224 WESTBOUND  
STA. 25+80  
816 NO. 12.24 DESIGN NO. 4  
20' ARM



(25)  
U.S. 224 EASTBOUND  
STA. 23+00  
816 NO. 12.24 DESIGN NO. 4  
20' ARM

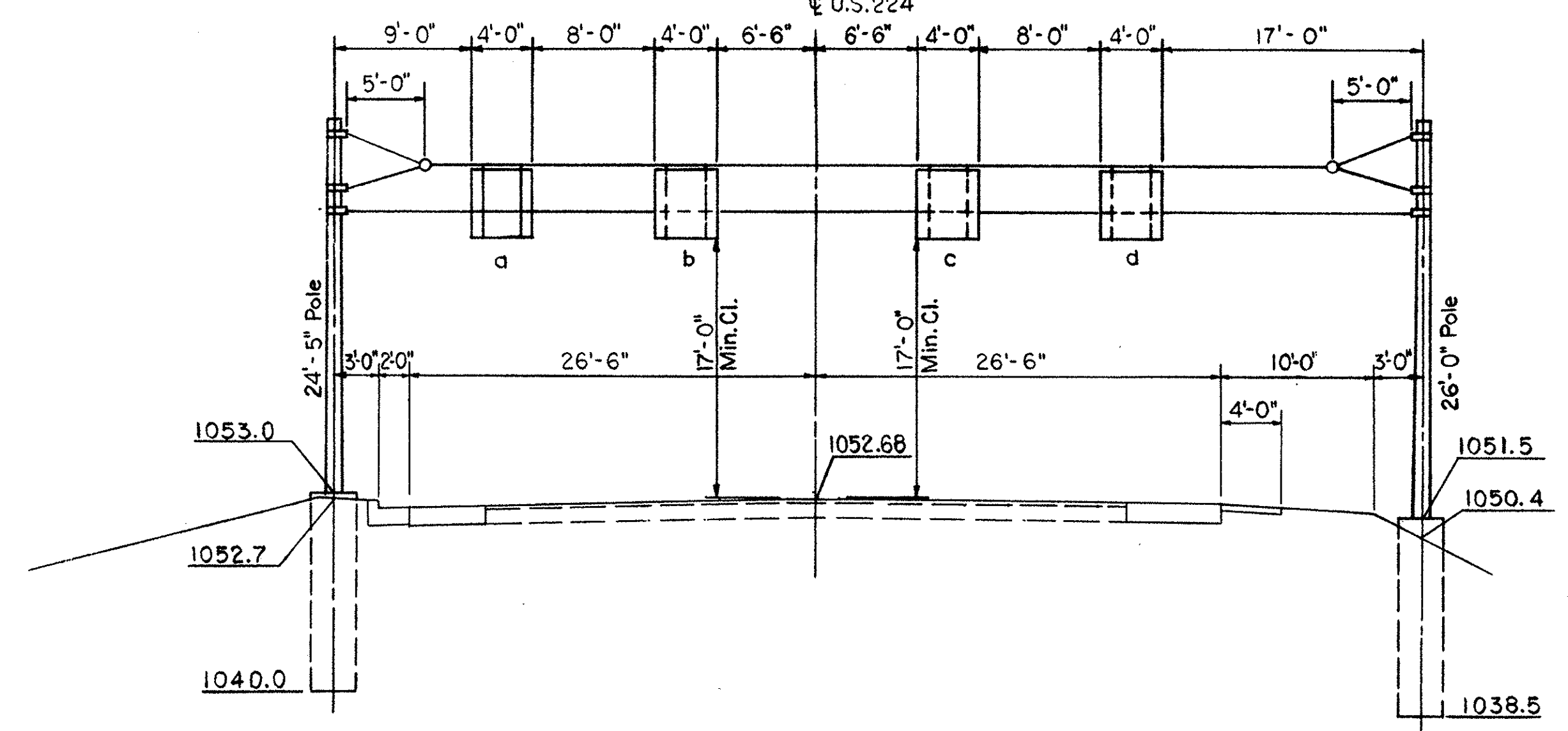


(26)  
U.S. 224 EASTBOUND  
STA. 15+10  
816 NO. 12.24 DESIGN NO. 4  
20' ARM

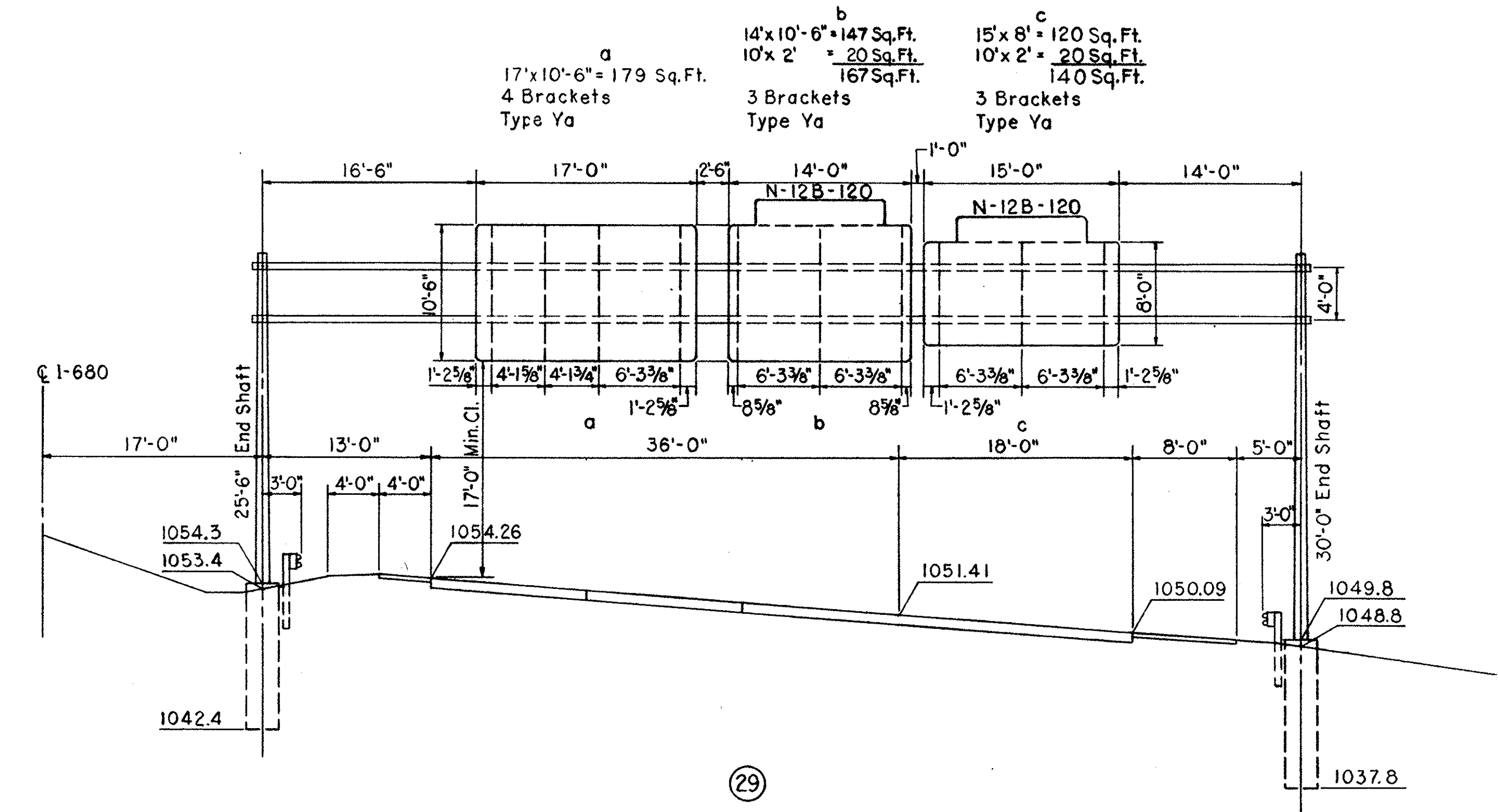


(27)  
U.S. 224 EASTBOUND  
STA. 8+30  
816 NO. 12.24 DESIGN NO. 5  
22' ARM

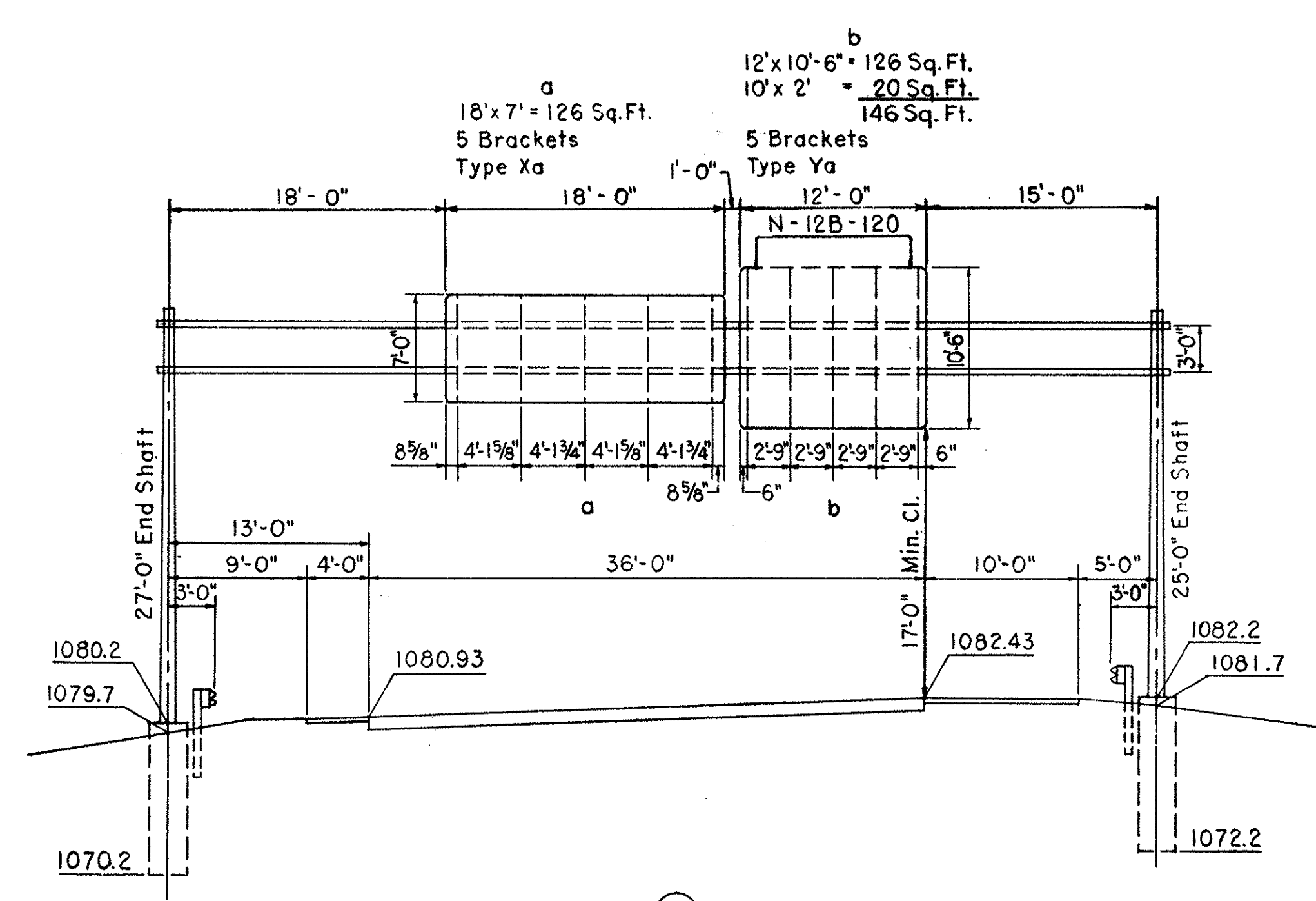
Existing Signs  
Remove & Re-erect  
a. = 18 Sq. Ft.  
b. R-26A-48 = 18 Sq. Ft.  
c. R-30A-48 = 18 Sq. Ft.  
d. R-27A-48 = 18 Sq. Ft.  
72 Sq. Ft.  
@ U.S.224



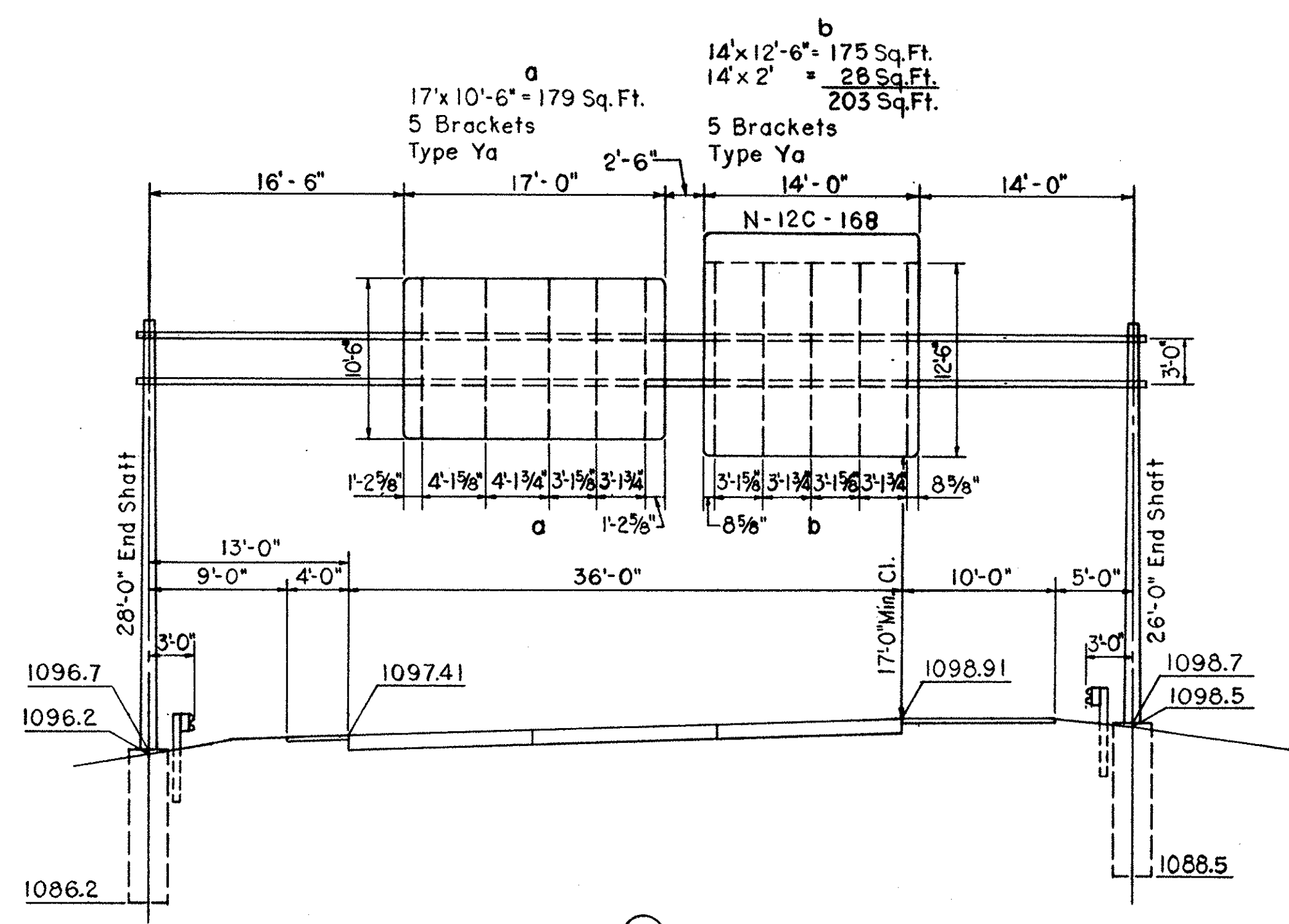
27A  
US 224  
STA. 3+24  
816 SPAN WIRE  
71' SPAN



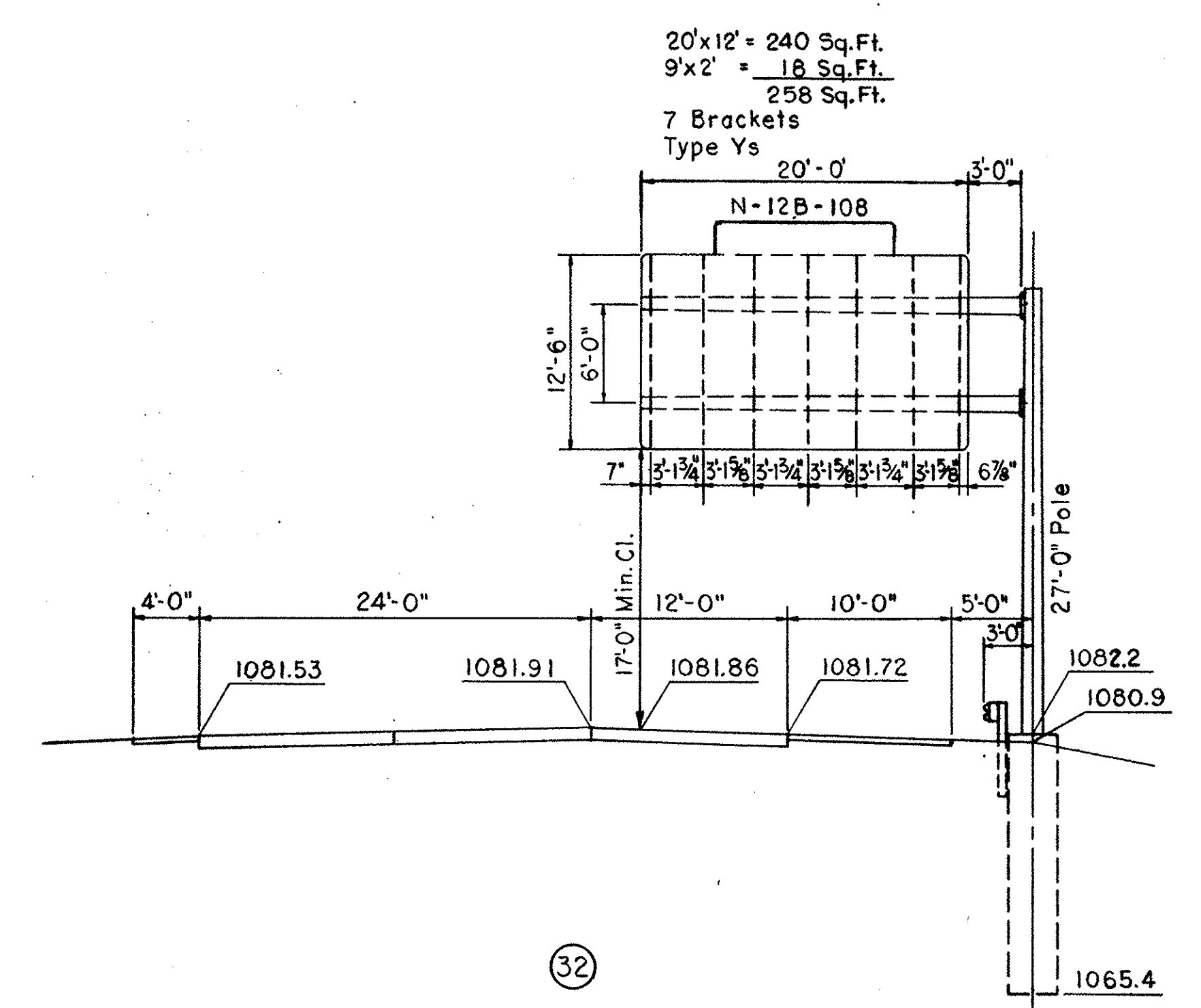
29  
I-680 SOUTHBOUND  
STA. 518+00  
816 NO. 76 DESIGN NO. 3 MODIFIED  
80' SPAN



30  
I-680 SOUTHBOUND  
STA. 538+00  
816 NO. 74 DESIGN NO. 1 MODIFIED  
64' SPAN



31  
I-680 SOUTHBOUND  
STA. 558+50  
816 NO. 75 DESIGN NO. 1 MODIFIED  
64' SPAN

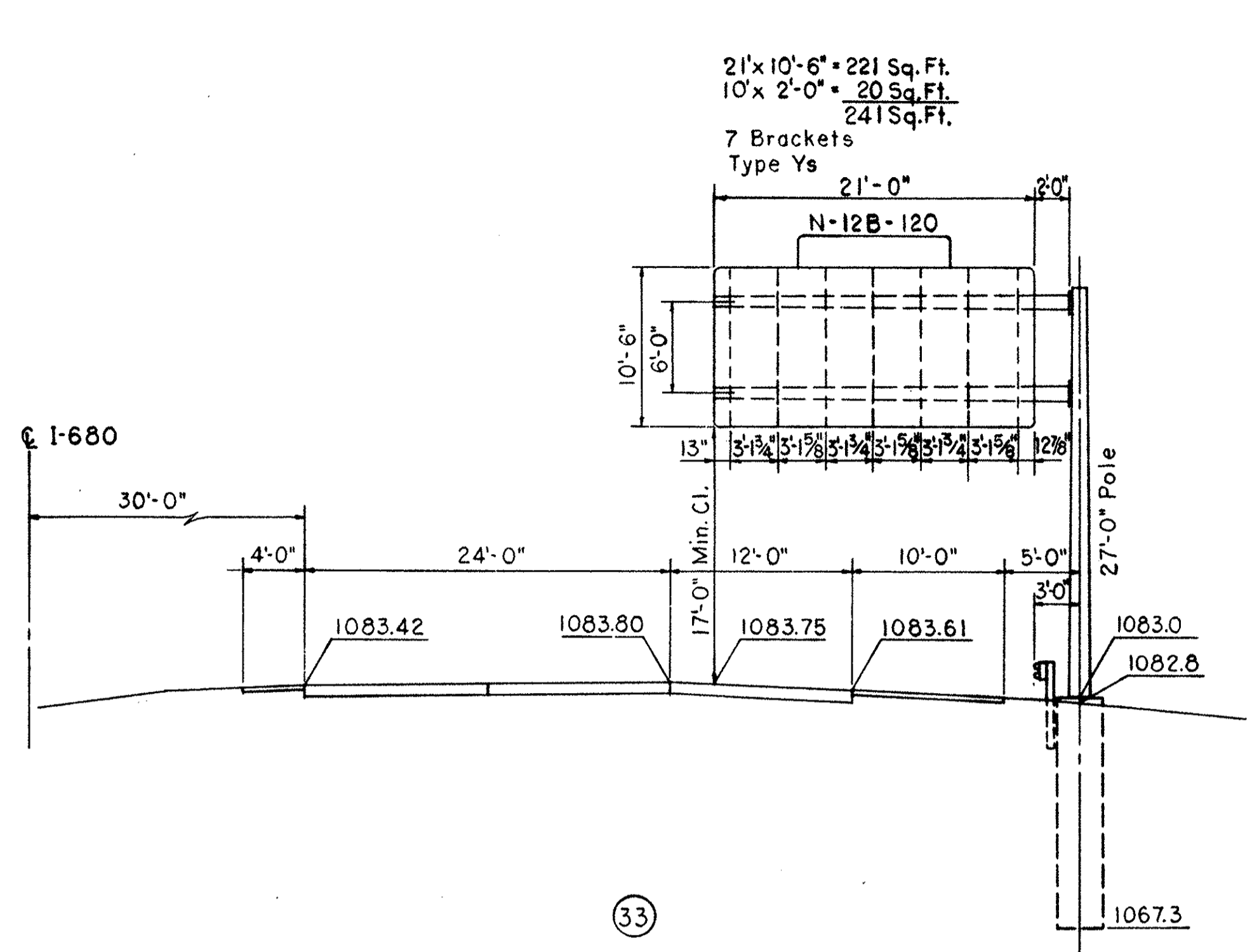


32  
I-680 NORTHBOUND  
STA. 577+00  
816 NO. 12.24 DESIGN NO. 8 MODIFIED  
23' ARM

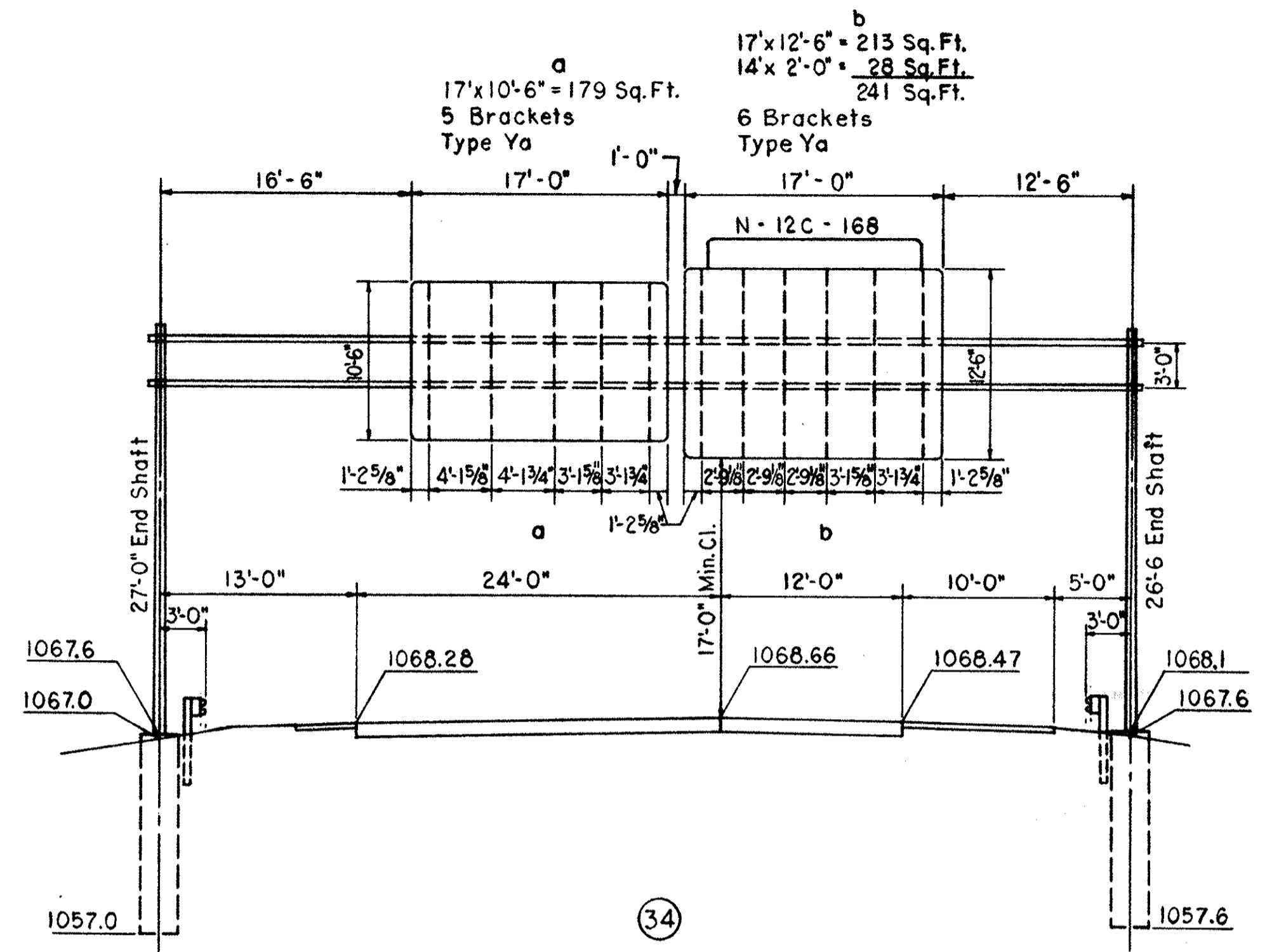
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

22A  
303

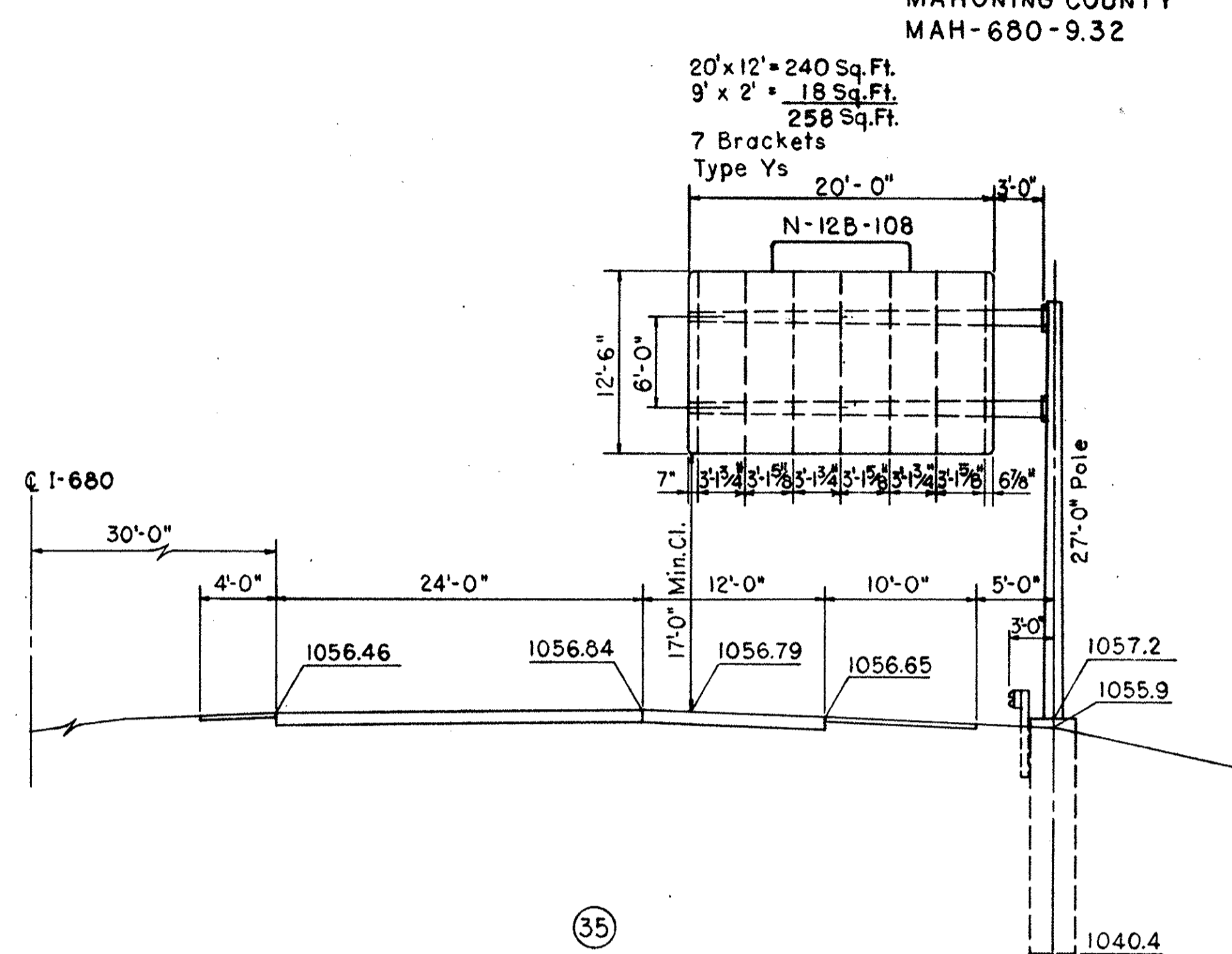
MAHONING COUNTY  
MAH-680-9.32



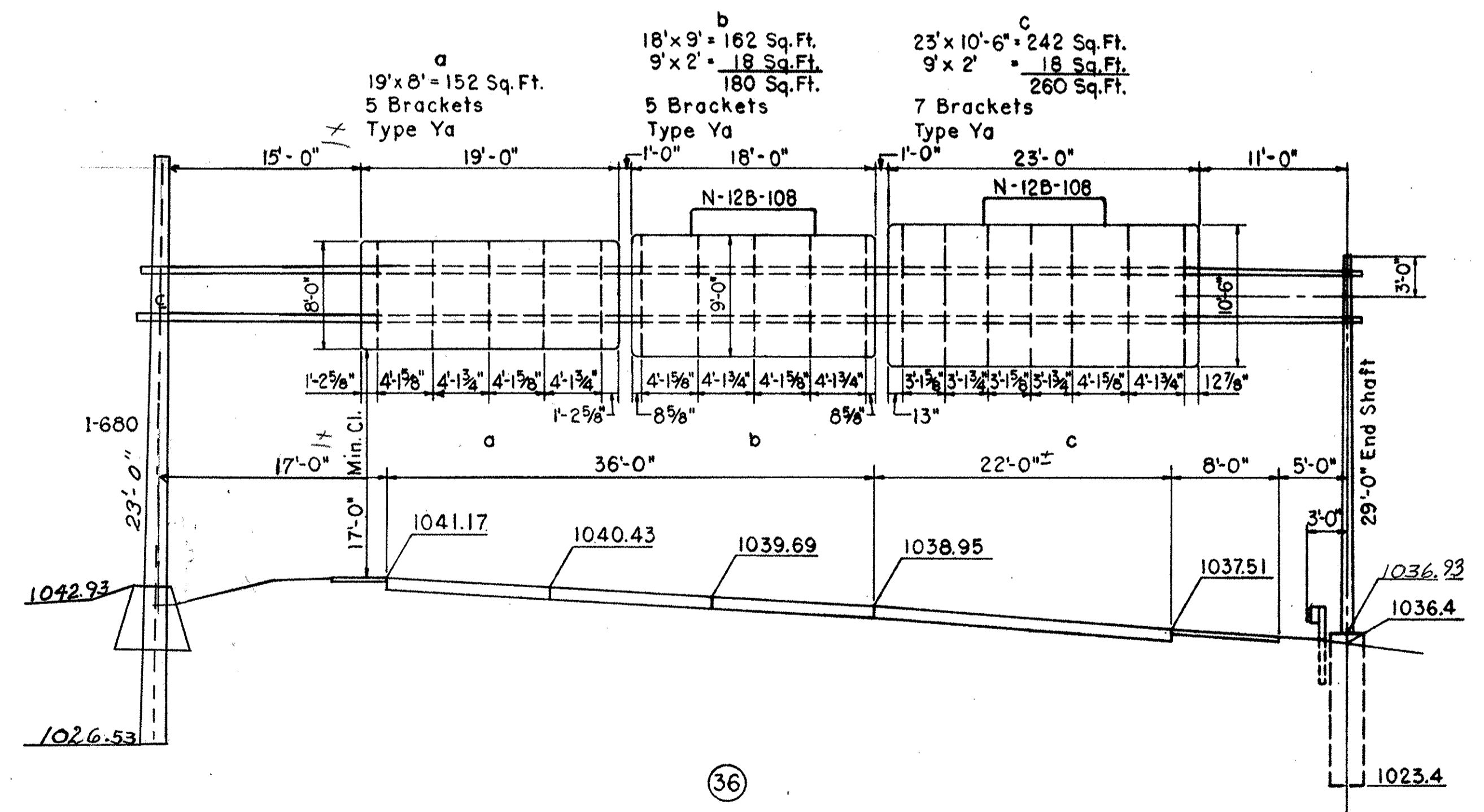
33  
I-680 SOUTHBOUND  
STA. 575+00  
816 NO. 12.24 DESIGN NO. 8 MODIFIED  
23' ARM



34  
I-680 SOUTHBOUND  
STA. 591+00  
816 NO. 7.5 DESIGN NO. 1 MODIFIED  
64' SPAN



35  
I-680 NORTHBOUND  
STA. 603+50  
816 NO. 12.24 DESIGN NO. 8 MODIFIED  
23' ARM



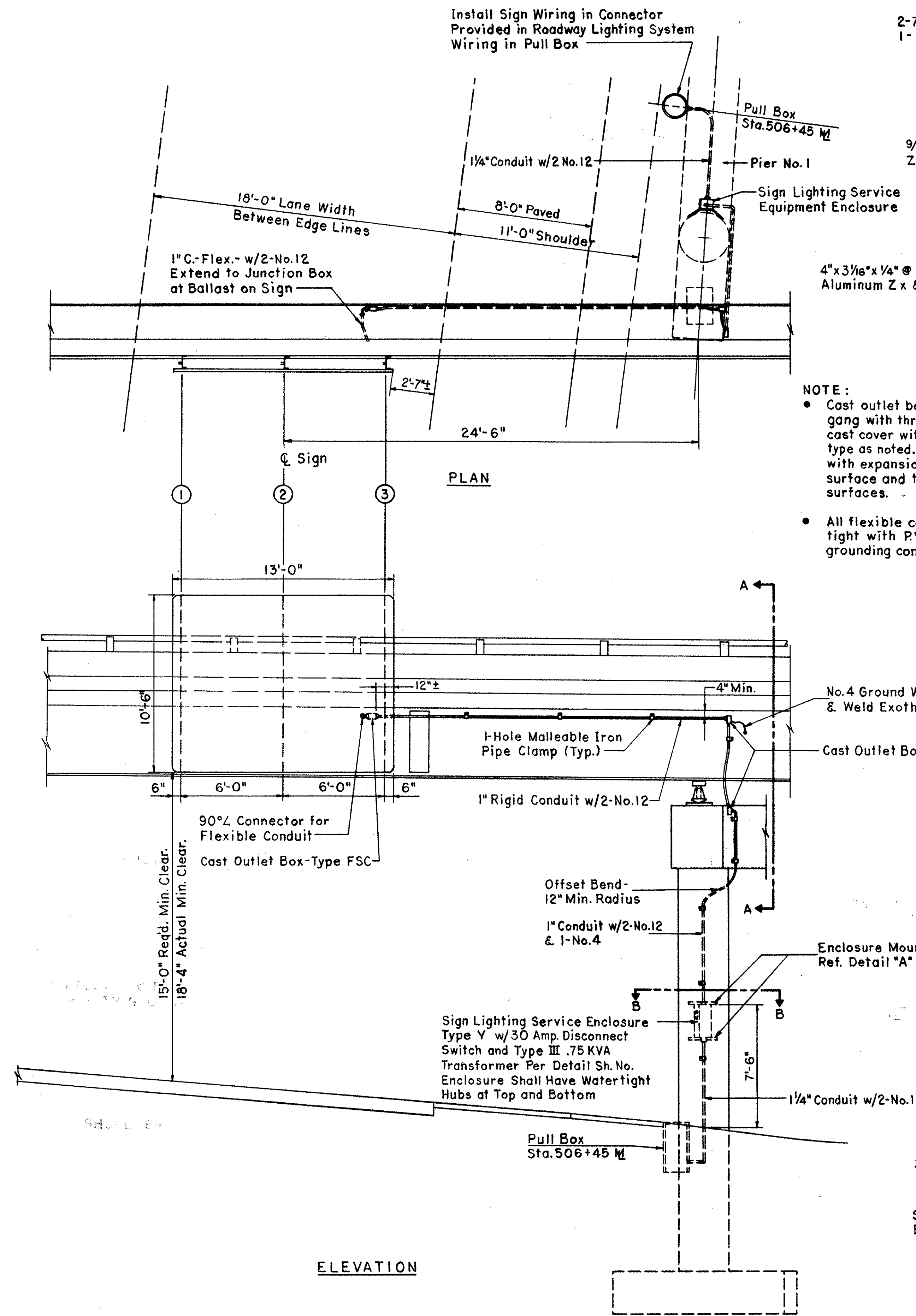
36  
I-680 NORTHBOUND  
STA. 629+87  
816 NO. 15.8 DESIGN NO. 3 MODIFIED  
88' SPAN

**BASIS OF PAYMENT FOR**  
The pay items of work required for the construction of this illuminated sign mounted on Structure No. MAH-680-1184, are listed separately under the Traffic Control Items, these pay items are described as follows:

- SIGN ERECTION**  
(Same as described in the General Notes on Sheet No.217)
- SPECIAL STRUCTURAL CONNECTION**  
Payment for this item shall be made at the contract unit price bid, for bid item "Overpass Structure Mounted Sign Support" per each, and payment shall constitute full compensation for furnishing and installing the aluminum fixture support arms, aluminum Z-bar sign brackets, Z-bar structure connections, aluminum and steel angle connections to the structure, together with the required anchor bolts and bolted and welded connections.
- 30 AMPERE FUSED DISCONNECT SWITCH WITH TYPE Y or Z ENCLOSURE**  
(Same as described in General Notes on Sheet No. 217, except mounted on special brackets)
- STRUCTURE MOUNTED SIGN WIRING COMPLETE**  
This item shall consist of the furnishing and/or installing the electrical sign lighting system components from the disconnect switch to the light fixtures.

Work shall include installation of light fixtures and ballast, and the furnishing and installation of the #4 ground wire leading from the disconnect switch to the structure beam (the balance of structure grounding system included with lighting quantities), the furnishing and installation of all other items beyond the switch enclosure including rigid and flexible conduit, condulets, junction boxes, pull boxes, wire, fasteners, and all other items required to energize the sign lighting system. Basis of payment shall be at the contract unit price per each type sign wired, which price shall include all labor, materials, tools, equipment and other incidentals to provide a complete and accepted item of work.

- SPECIAL SWITCH ENCLOSURE MOUNTING BRACKET, AS PER PLAN**  
This item of work shall consist of furnishing and installing the special bracket as detailed on this sheet. Basis of payment shall be at the contract unit price per each which shall be full compensation for all labor, material and equipment required for this complete item of work.
- SIGN BALLAST, TYPE**  
(Same as described in General Notes on Sheet No. 217)
- LIGHT FIXTURE WITH LAMPS**  
(Same as described in General Notes on Sheet No. 217)
- TRANSFORMER**  
(Same as described in General Notes on Sheet No. 217)
- SIGN SERVICE**  
(Same as described in General Notes on Sheet No. 217)



2-75<sup>3</sup>/<sub>8</sub>" Fixtures SHO  
I-D Ballast 425 Wattage

9/16"  $\phi$  Holes - 1/2" Bolts for Z to Z Connection

4" x 3 1/16" x 1/4" @ 2.85#/ft. Aluminum Z x 8" Long - Z-Bar B

**NOTE:**  
• Cast outlet boxes shall be single gang with threaded hubs, 1" size, cast cover with neoprene gasket and type as noted. Fasten with 1/4" bolts with expansion anchor on concrete surface and threaded hole on steel surfaces.  
• All flexible conduit shall be liquid tight with P.V.C. jacket and internal grounding conductor U.L. approved.

Flexible Conduit Connector 1" Size - Watertight (Typ.)

No. 4 Ground Wire - Extend from Box & Weld Exothermically to Beam

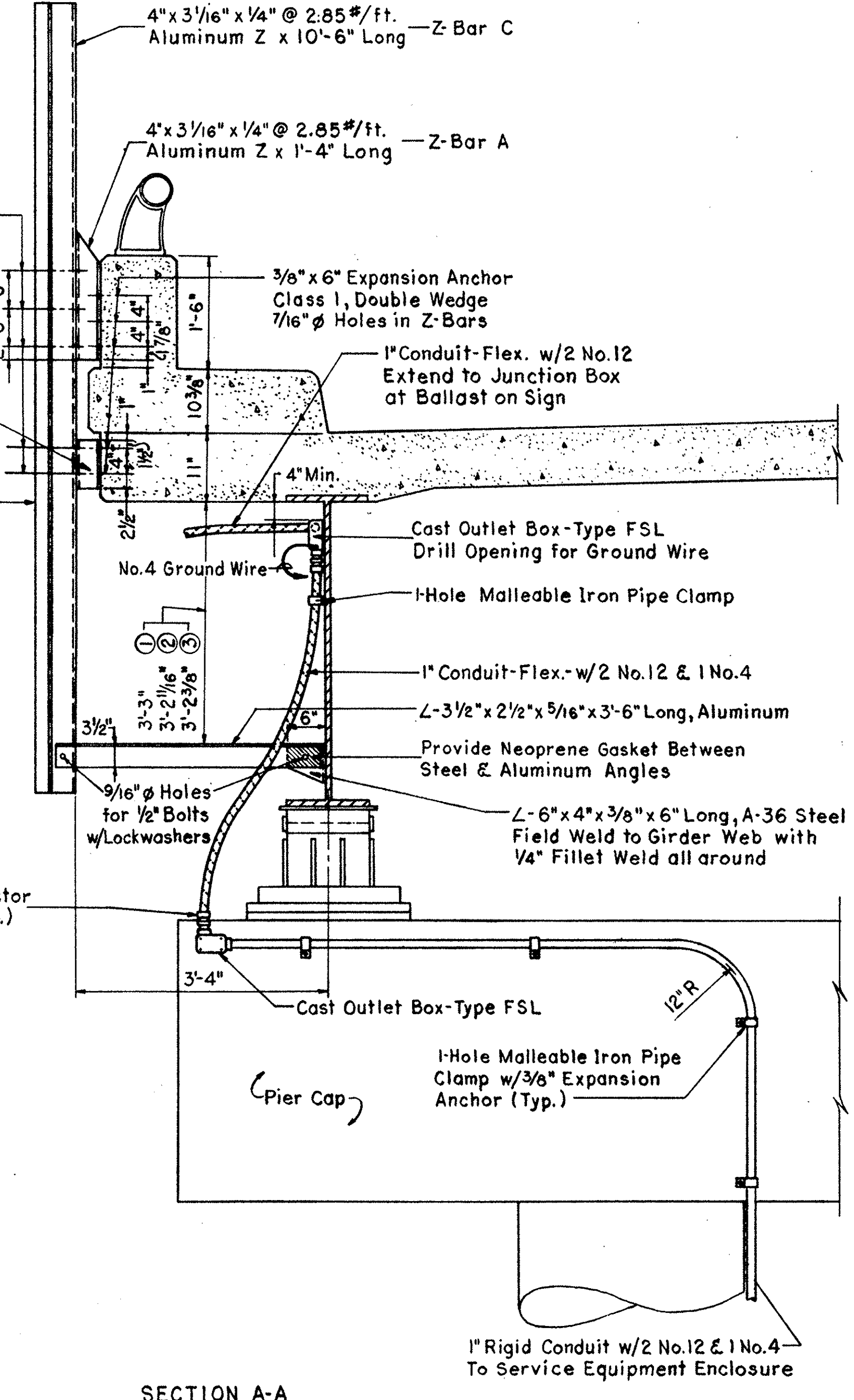
Cast Outlet Box-Type FSL

Enclosure Mounting Brackets Ref. Detail "A"

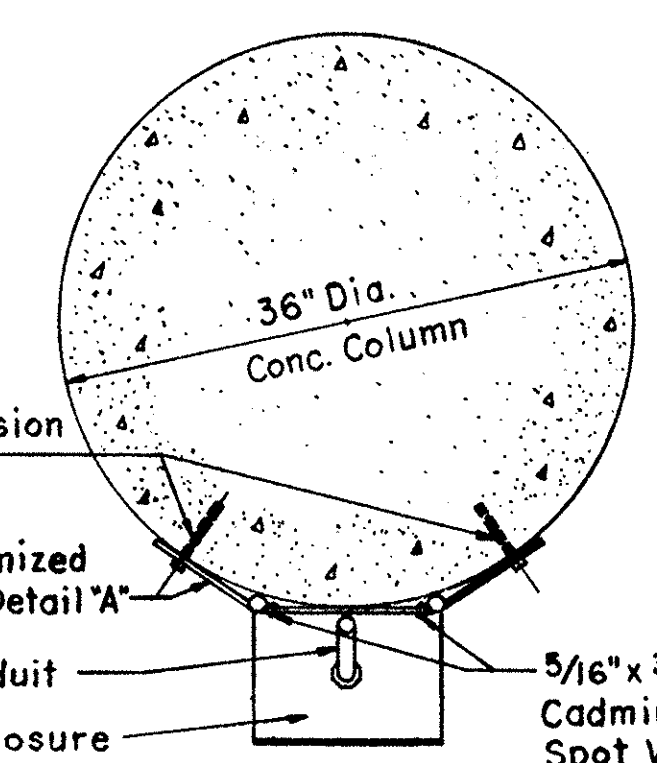
3/8" x 4" Expansion Bolts

Special Galvanized Bracket - See Detail "A"

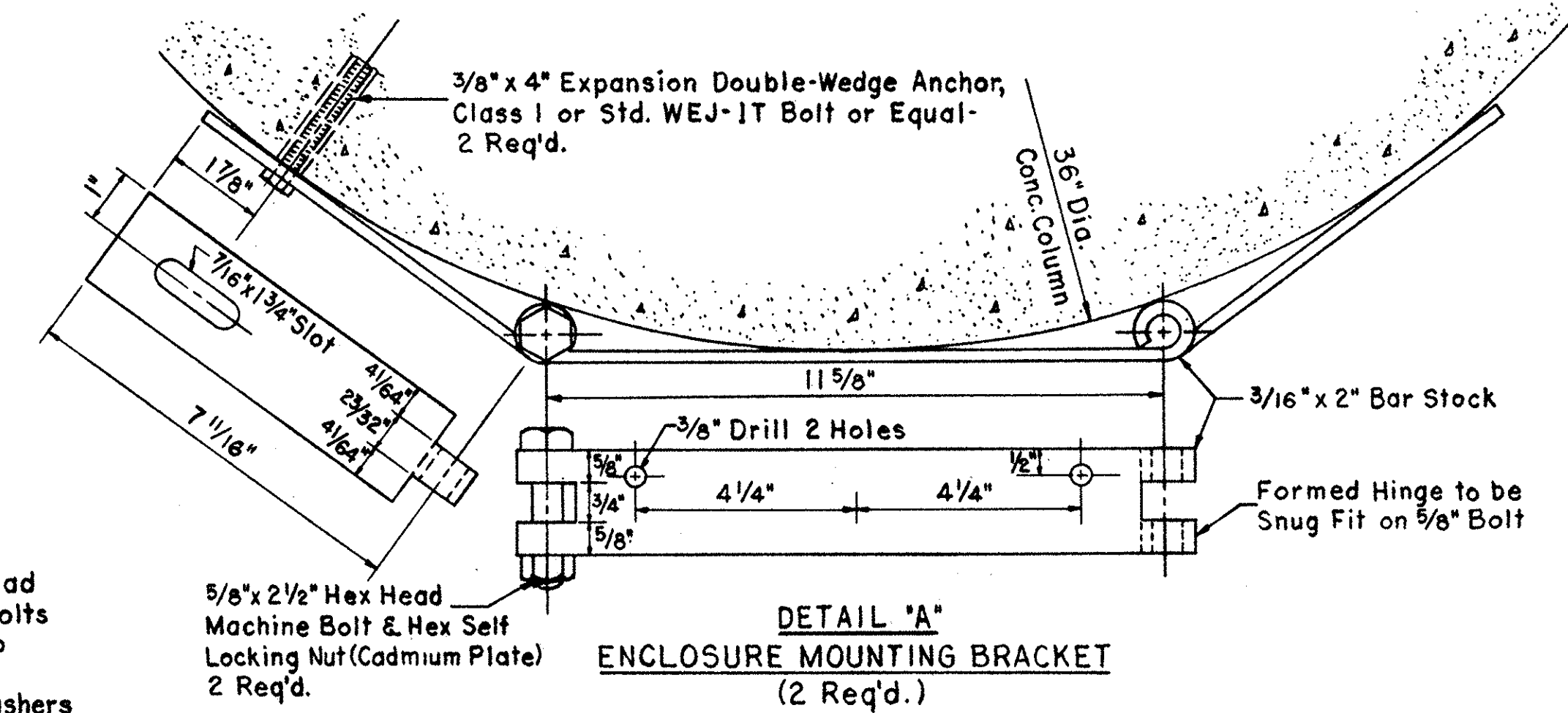
1" Conduit Enclosure



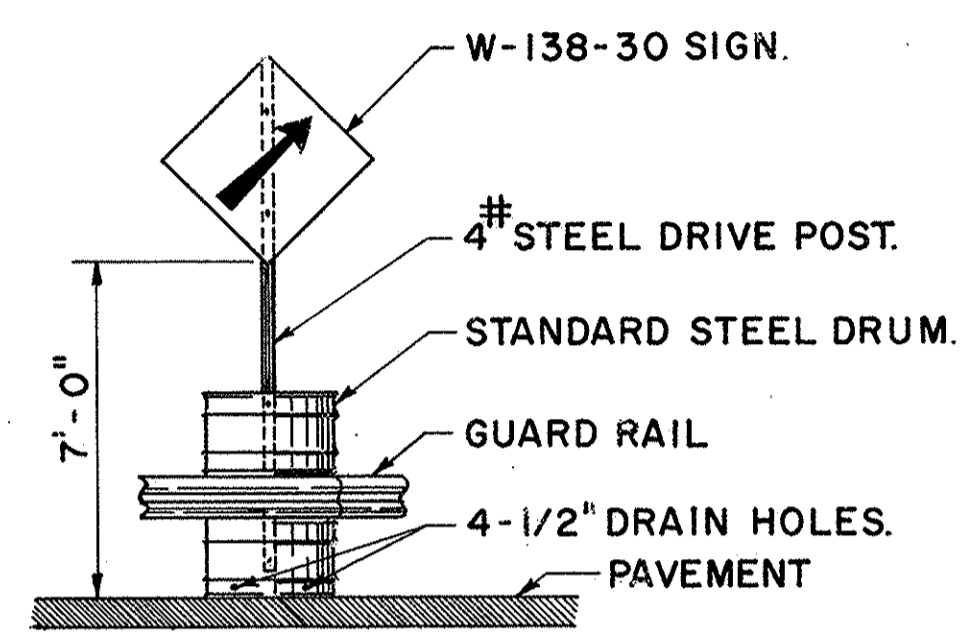
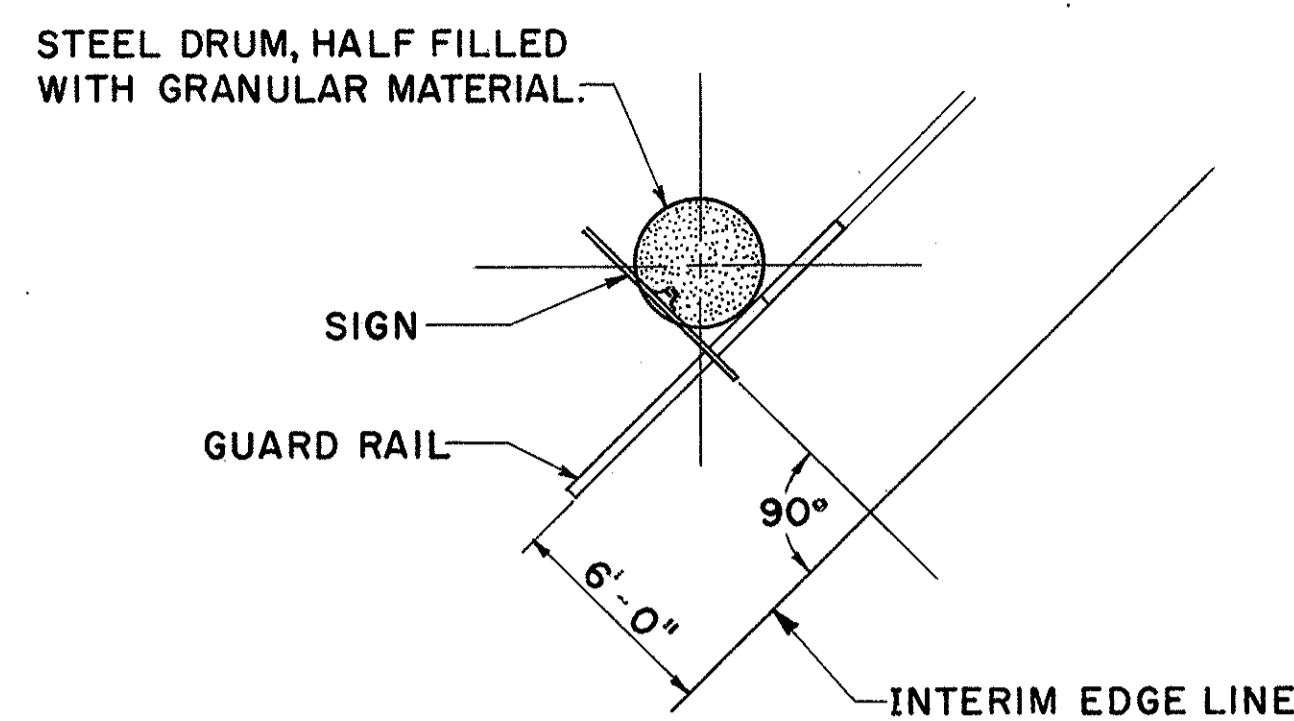
SECTION A-A



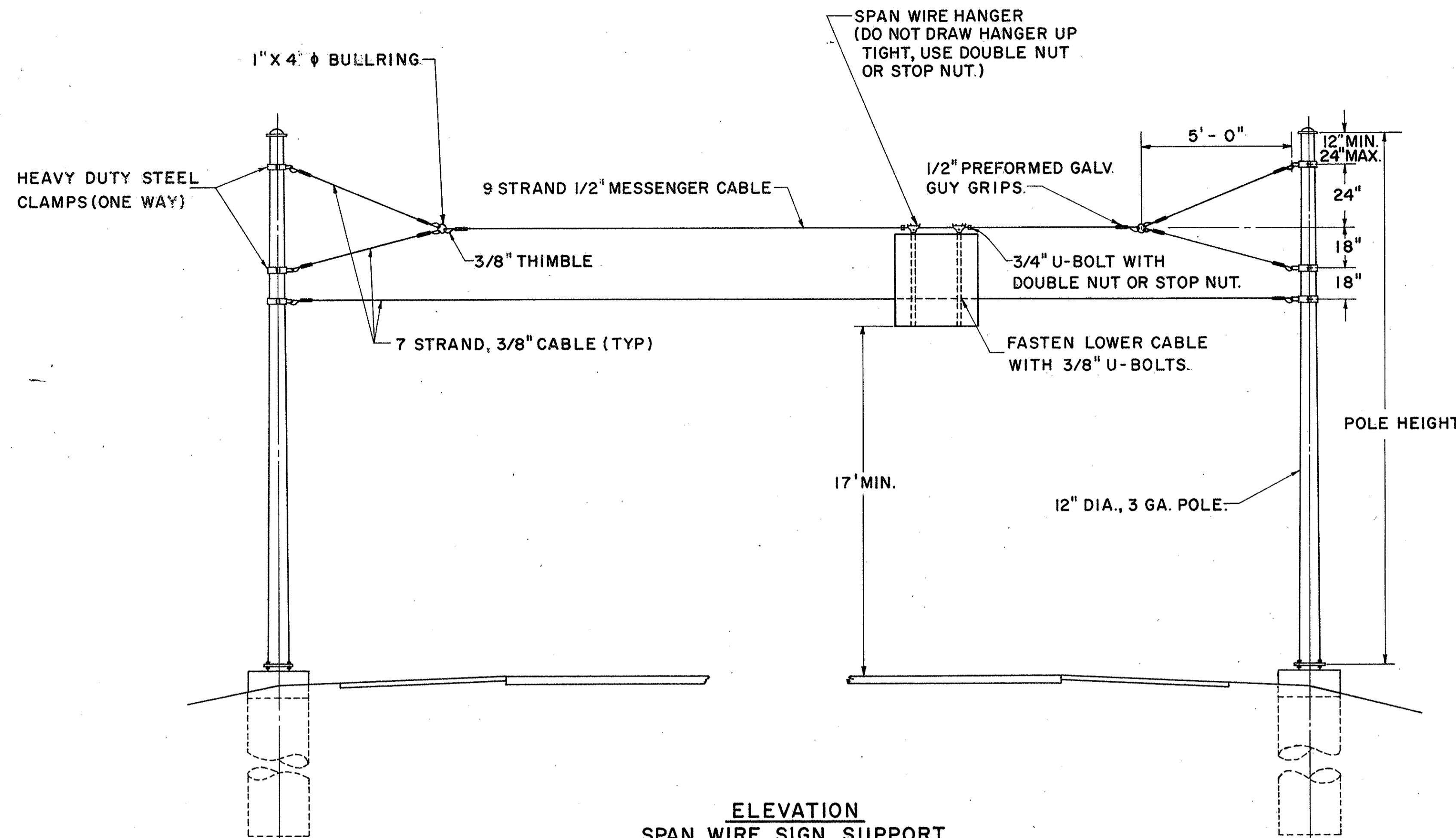
SECTION B-B



DETAIL "A"  
ENCLOSURE MOUNTING BRACKET  
(2 Req'd.)



**NOTE:**  
ERECT W-138-30 SIGNS ON FIRST BARREL THEN EVERY 100' FOR 300' THEN EVERY 200' THEREAFTER FOR ADDITIONAL INFORMATION SEE SHEET 78, FIGURE WS-4 OF THE "OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES"



**ELEVATION  
SPAN WIRE SIGN SUPPORT**

**NOTES**

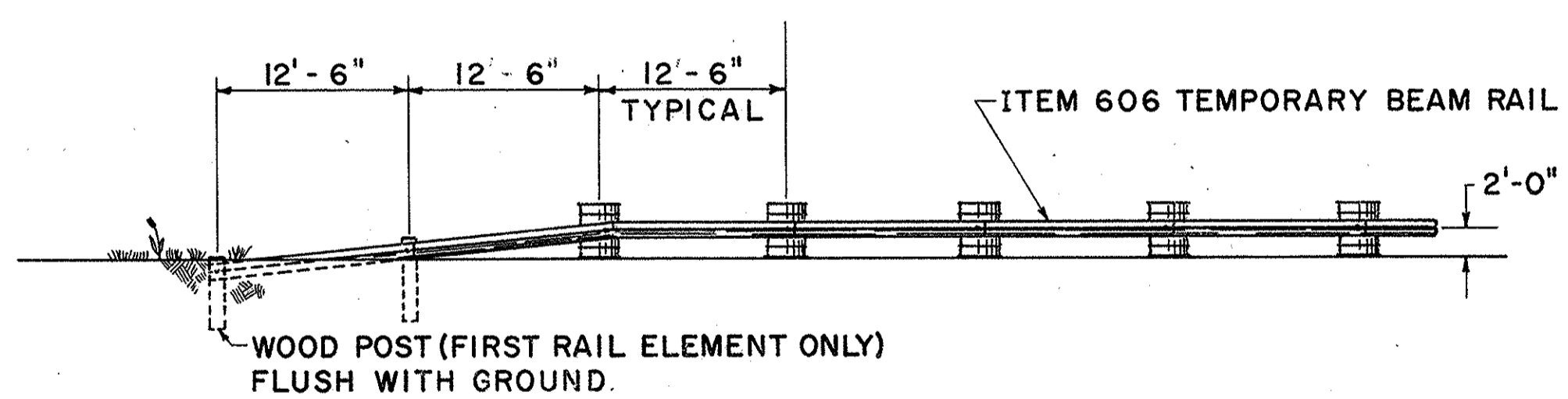
**SOILS**  
THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE DEPTH TO 18' IN DRY OR WET SAND, 19' IN SILTY CLAY, 24' IN SOFT CLAY AND 21' TO 30' IN WET SILT DEPENDING ON QUICKSAND ACTION.

**REINFORCING STEEL**  
REINFORCING STEEL SHALL BE INSTALLED AS SHOWN. THE COST OF PLACEMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 816 CONCRETE FOR OVERHEAD SIGN SUPPORT FOUNDATIONS.

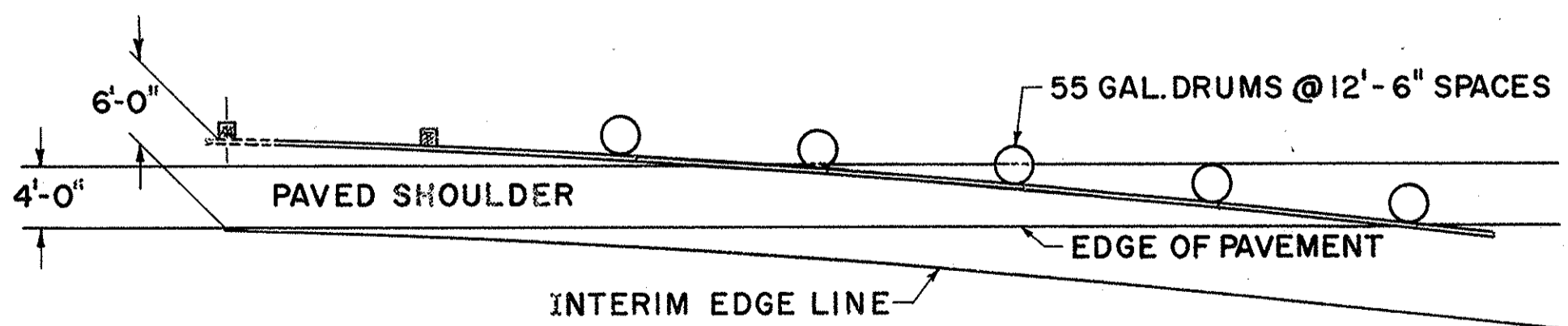
**816 SPAN WIRE OVERHEAD SIGN SUPPORTS**  
THIS ITEM SHALL INCLUDE THE FURNISHING AND INSTALLATION OF STRAIN POLES, MESSANGER CABLE, HEAVY DUTY STEEL CLAMPS, GUY GRIPS, BULLRINGS, THIMBLES, HANGERS AND SIGN BRACES AND FURNISHING OF ANCHOR BOLTS FOR THE SIGN SUPPORT AS DETAILED ON THE PLANS.

CABLE SHALL BE GALVANIZED OR COPPERWELD. POLES SHALL BE GALVANIZED. PAYMENT SHALL BE AT THE CONTRACT UNIT PRICE BID FOR EACH SPAN WIRE OVERHEAD SIGN SUPPORT BY TYPE AND SPAN LENGTH, WHICH SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED TO COMPLETE THE ITEM OF WORK.

**SIGN ATTACHMENT TO  
TEMPORARY GUARD RAIL**

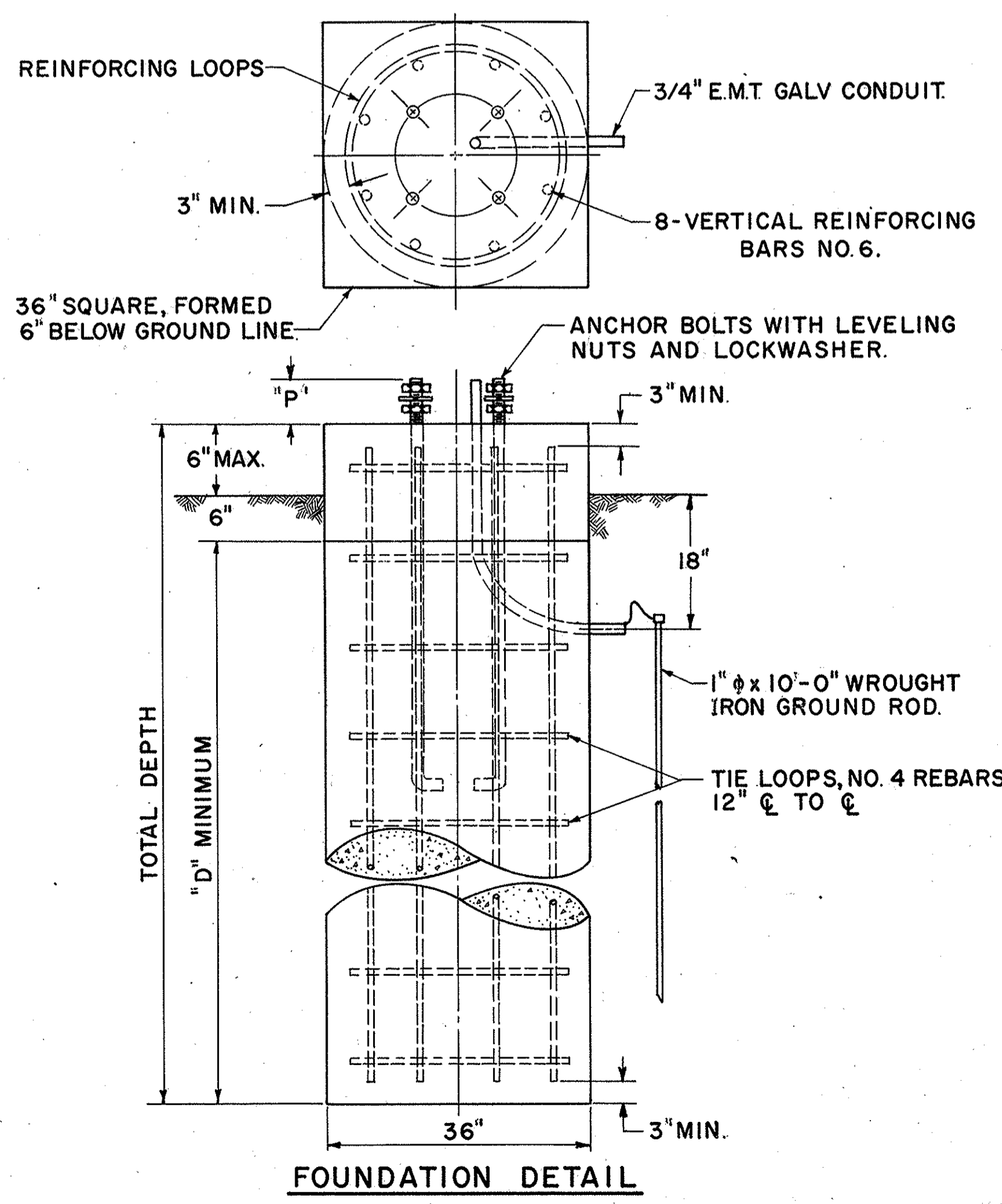


**ELEVATION**

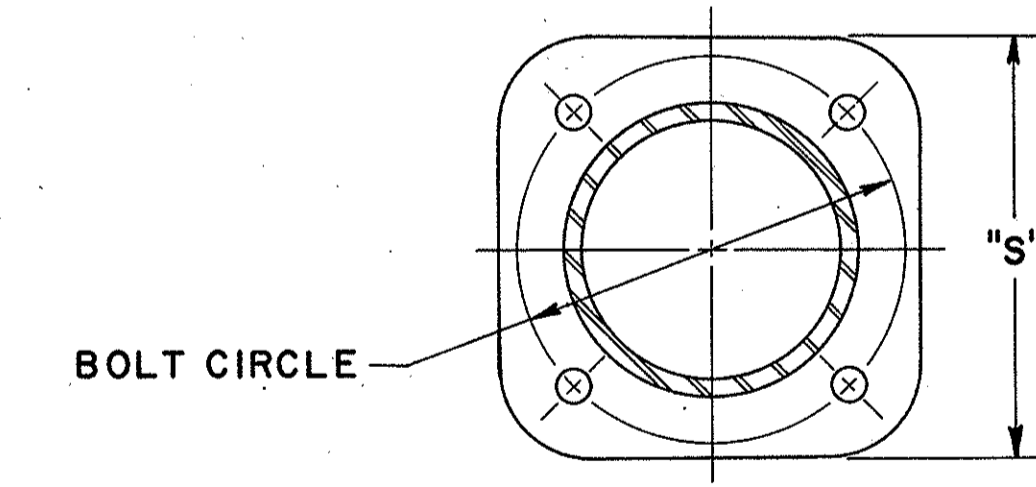


**PLAN**

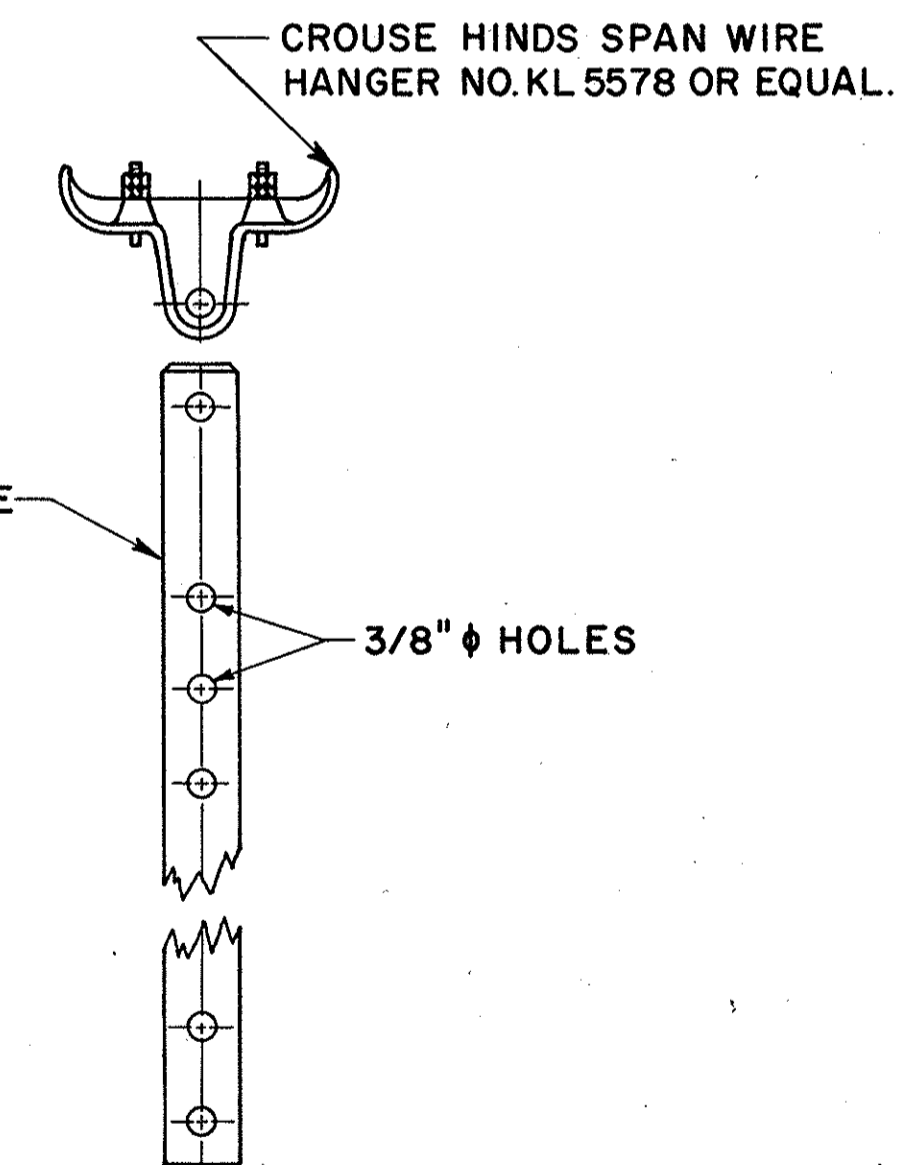
**ANCHOR DETAIL FOR TEMPORARY  
GUARD RAIL**



**FOUNDATION DETAIL**



**BASE PLATE DETAIL**



**SIGN ATTACHMENT BRACKET**

NO.	STRAIN POLE	BOLT CIRCLE	"D" MIN.	"P"	"S"	ANCHOR BOLT
27A	3 GA 12" X 24'-6"	16"	12'	7"	17"	1 3/4" X 90"
27A	3 GA. 12" X 26'-0"	16"	12'	7"	17"	1 3/4" X 90"

**SPAN WIRE SIGN SUPPORT DETAILS  
TEMPORARY GUARD RAIL DETAILS**

MAHONING COUNTY  
MAH-680-932

**NOTES**

**MATERIALS**  
THE OVERHEAD SPAN TRUSS SHALL BE ALUMINUM AND THE END FRAMES SHALL BE STEEL.  
SPAN TRUSS AND END FRAMES, INCLUDING HARDWARE, SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 816 UNLESS OTHERWISE NOTED.  
STEEL POLE BASES AND GUSSETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A-373.  
AFTER FABRICATION THE TAPERED POLES SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

**FABRICATION**  
THE ENTIRE STEEL END FRAME SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SEC. 711.02. MAXIMUM LENGTH OF SPAN SECTIONS IS 30 FT.

**ERECTION**  
USE A MINIMUM OF 1" CAMBER IN SPAN TRUSS MEMBER FOR A 50' SPAN; ADD 1/4" OF CAMBER FOR EACH 5' OF INCREASE IN SPAN OVER 50'.

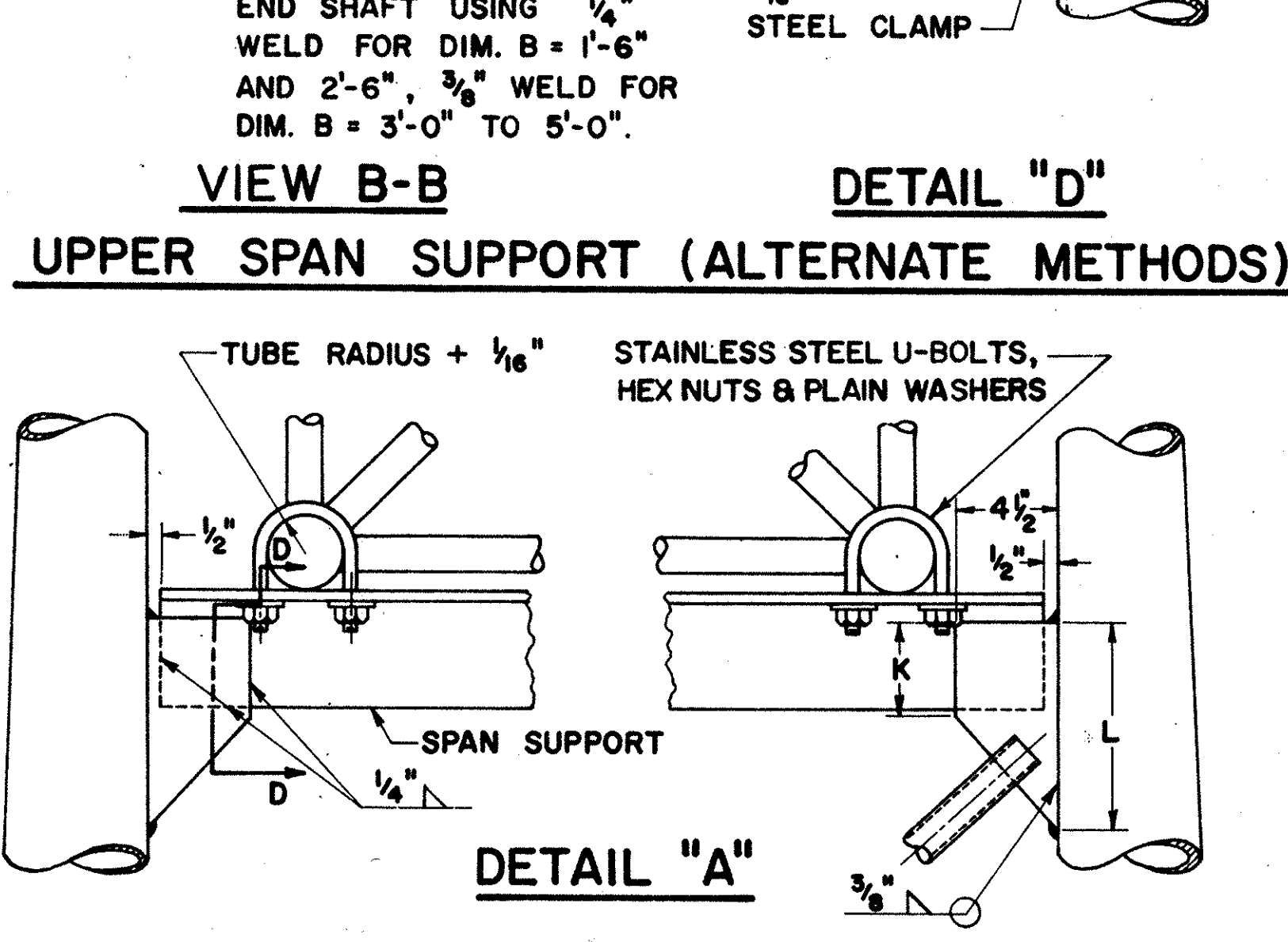
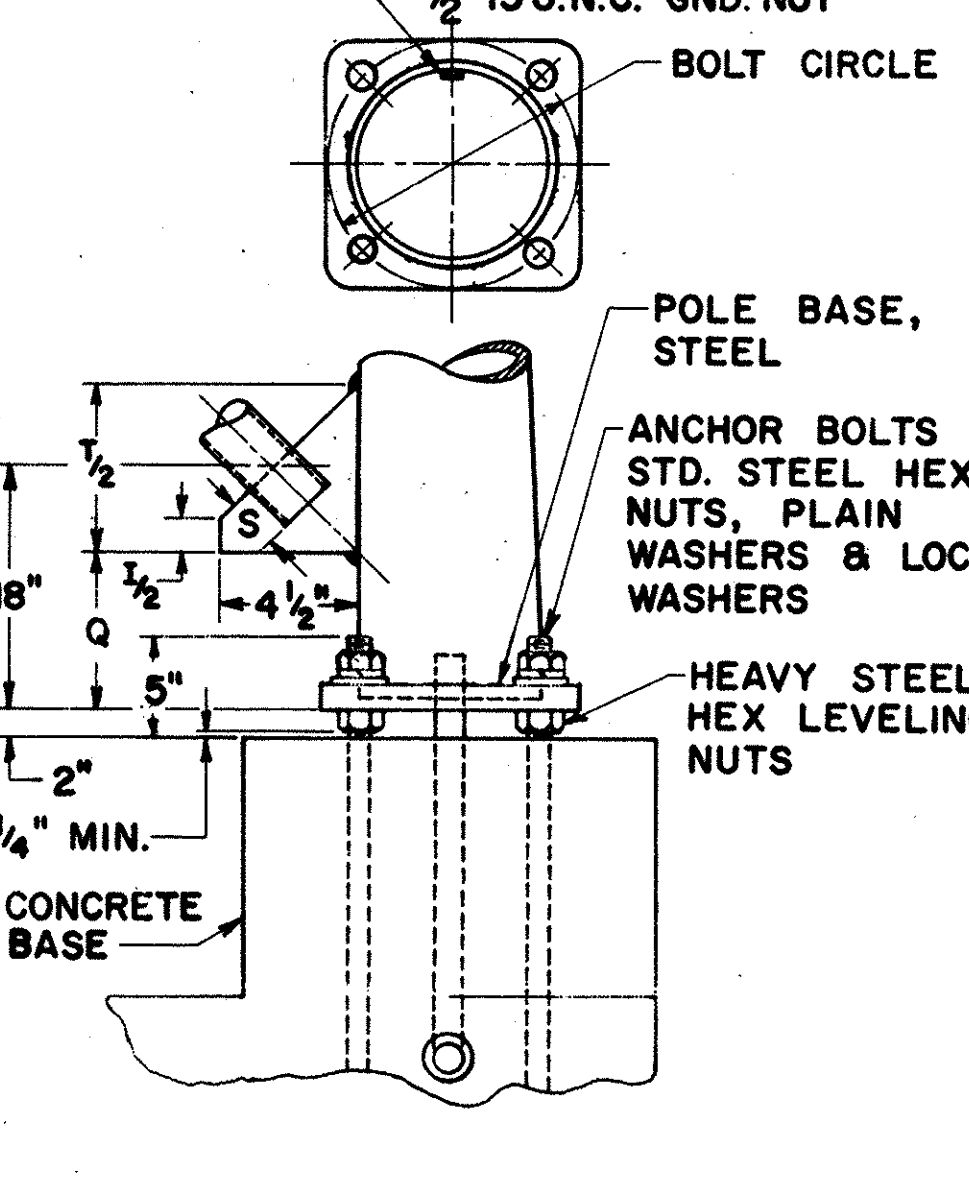
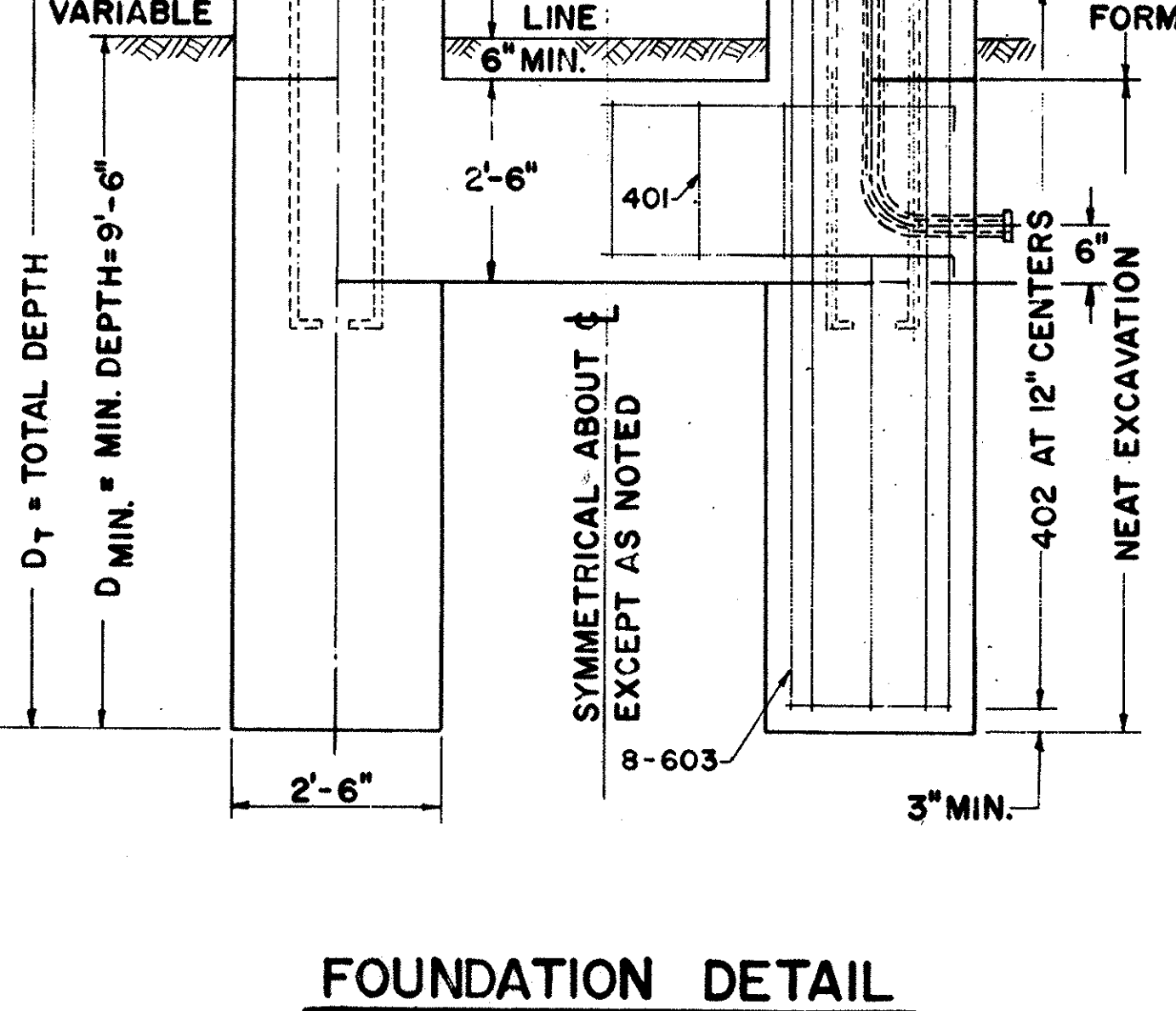
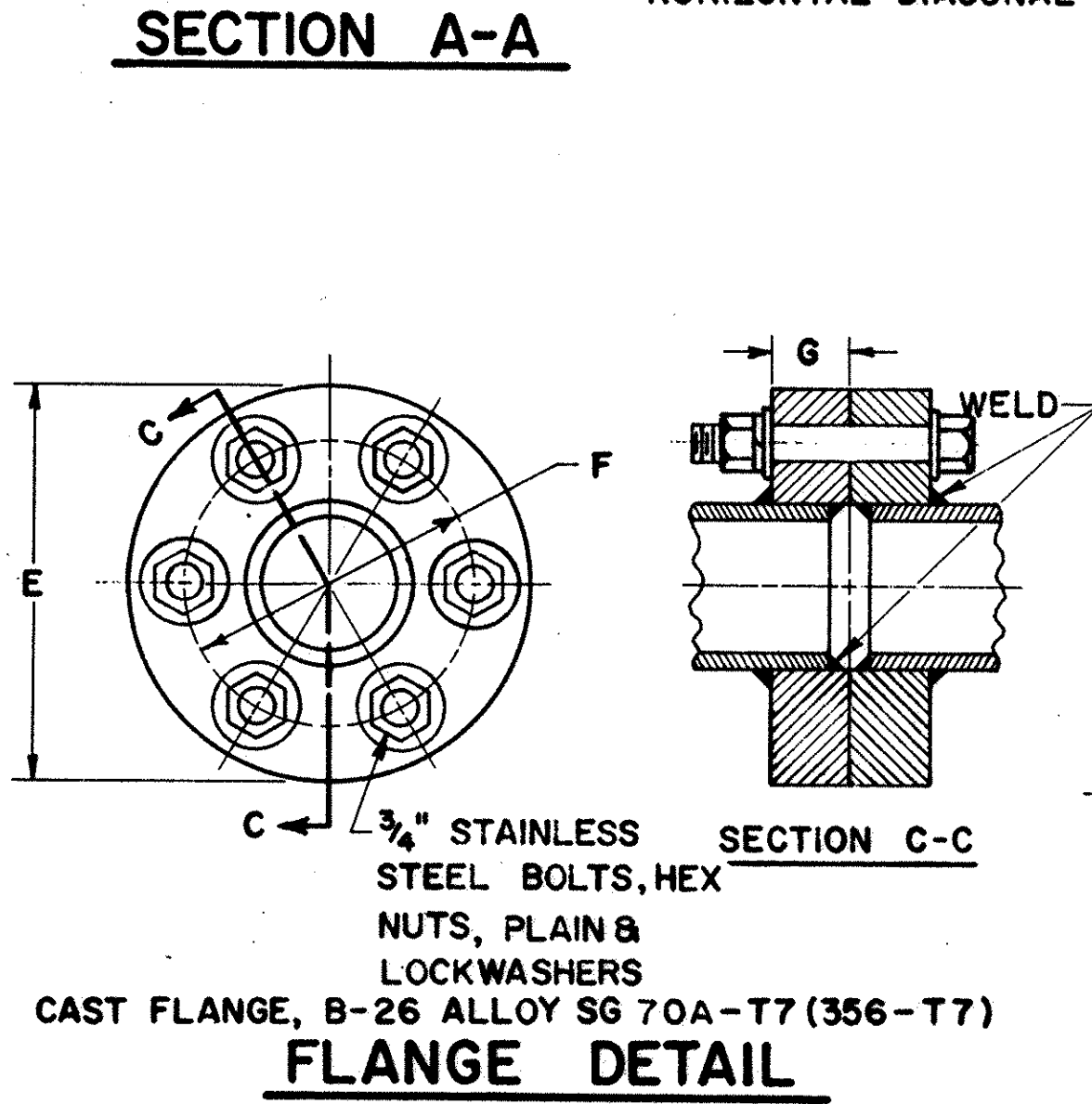
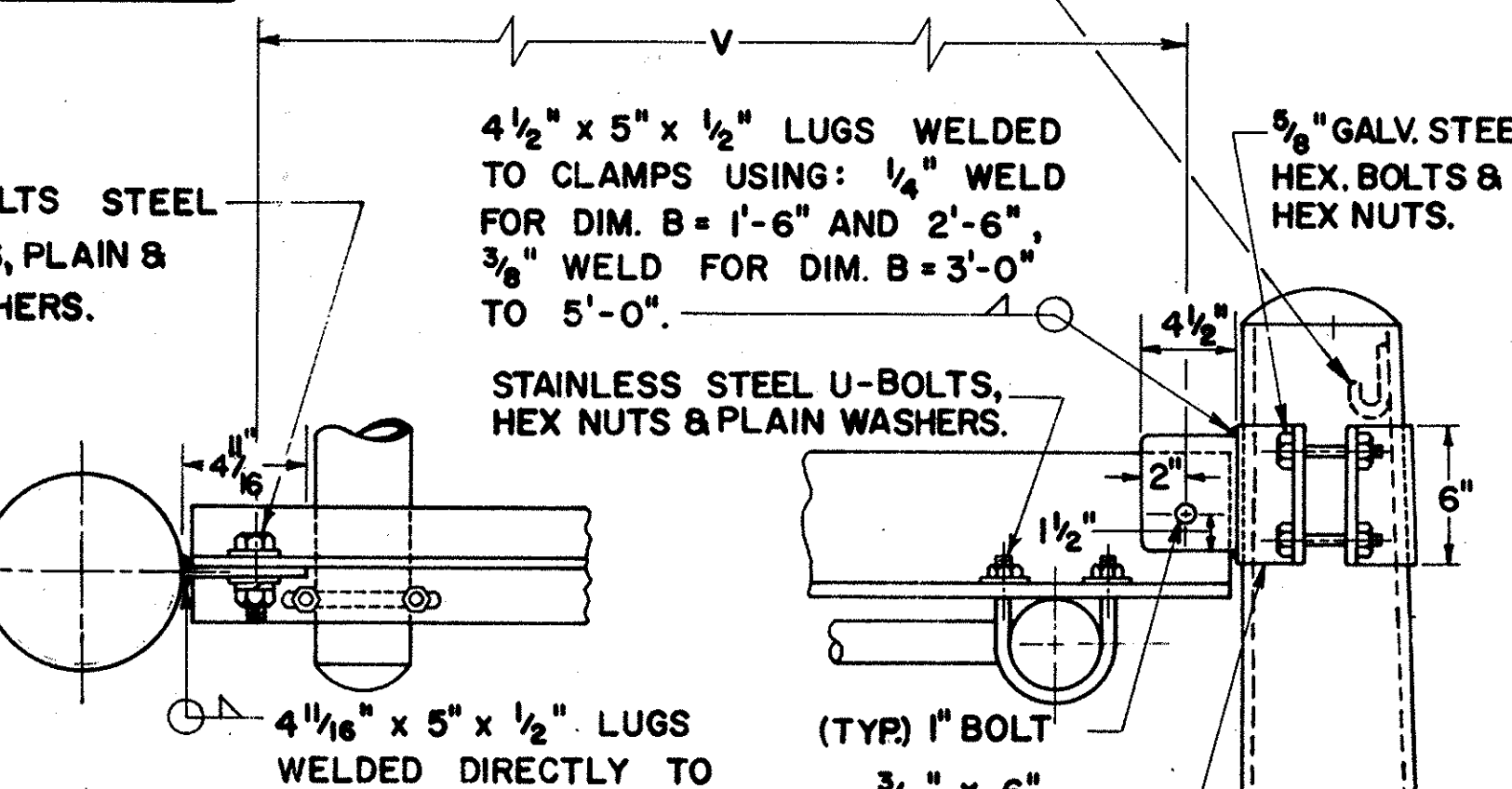
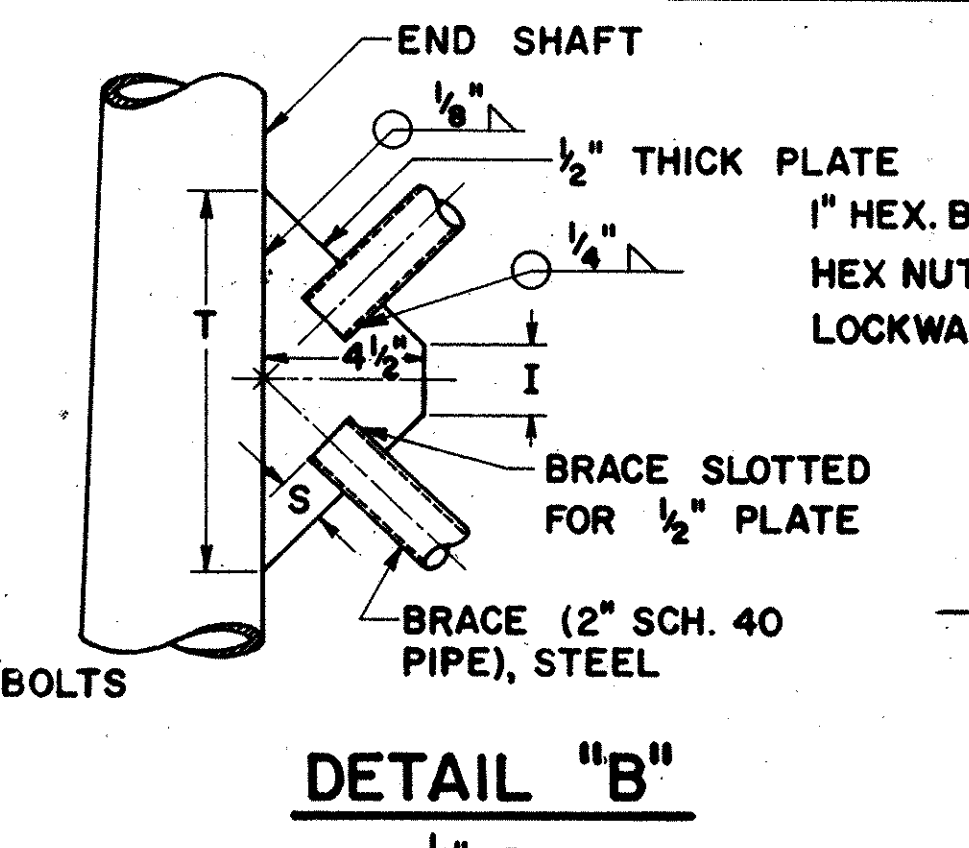
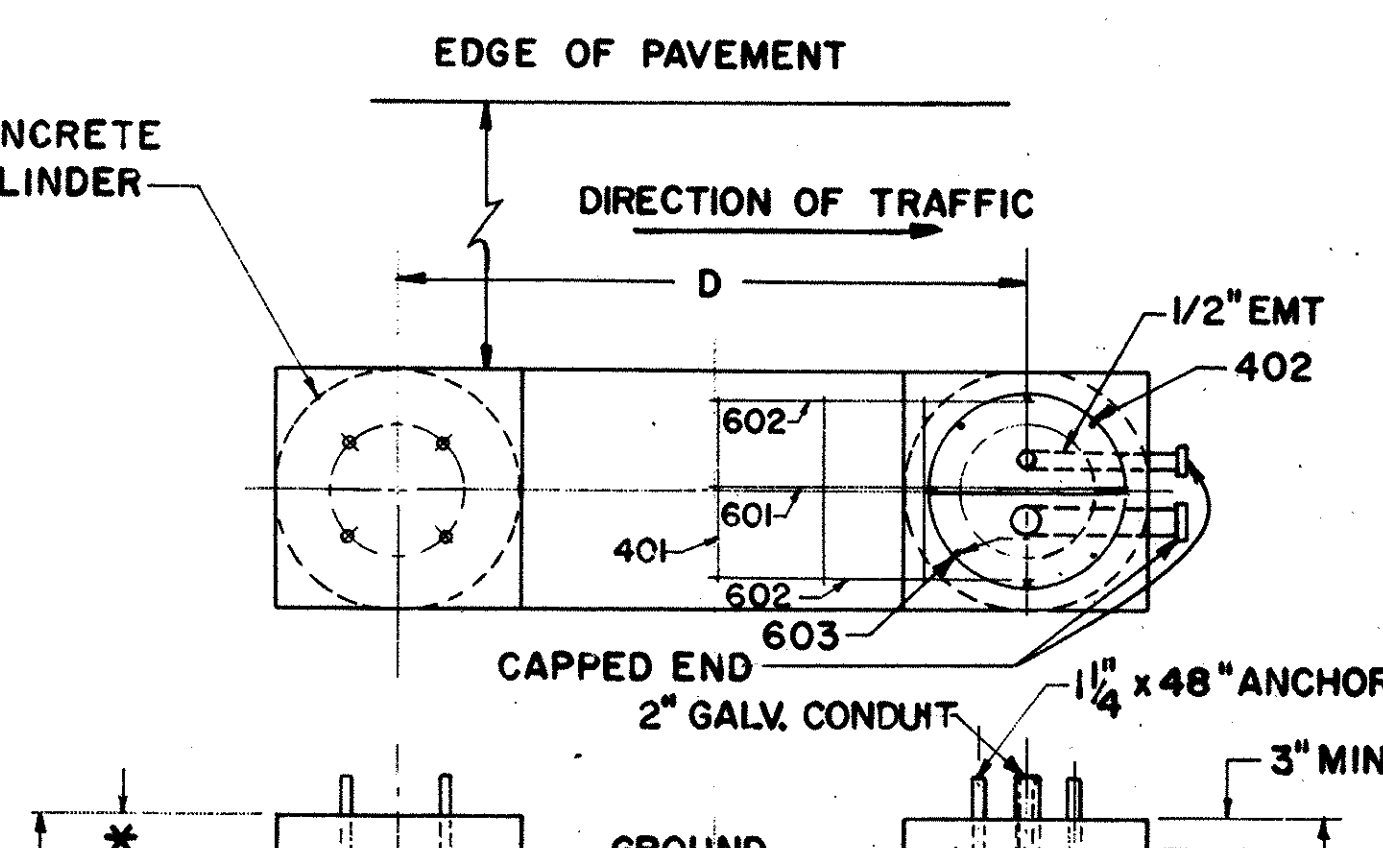
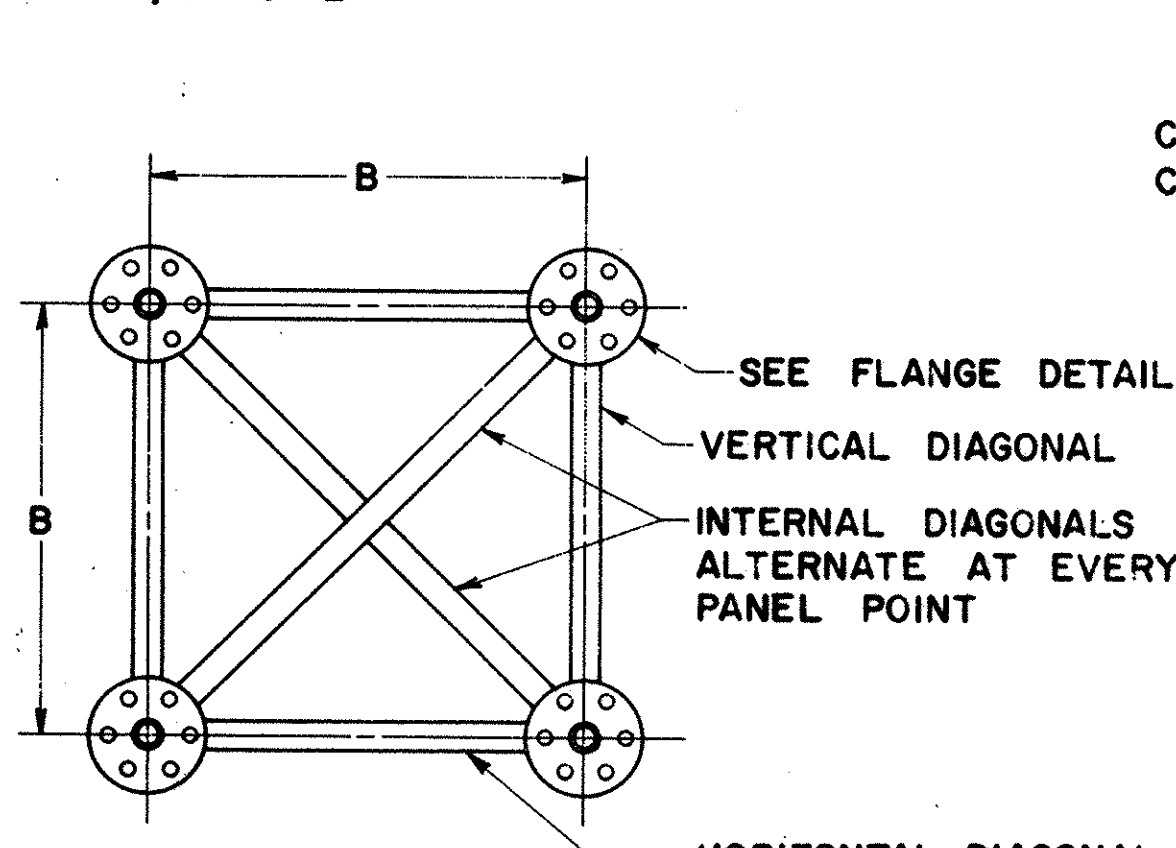
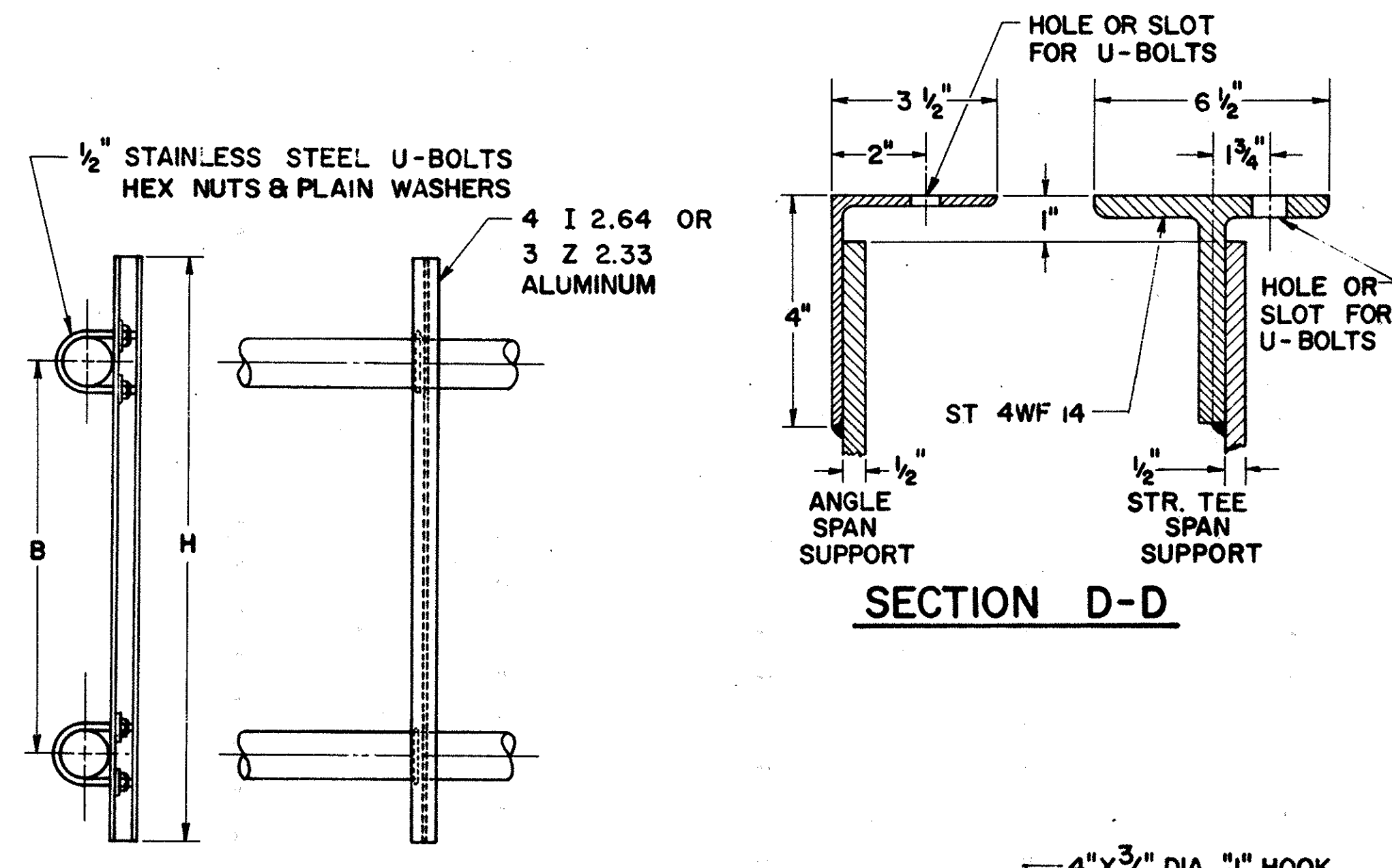
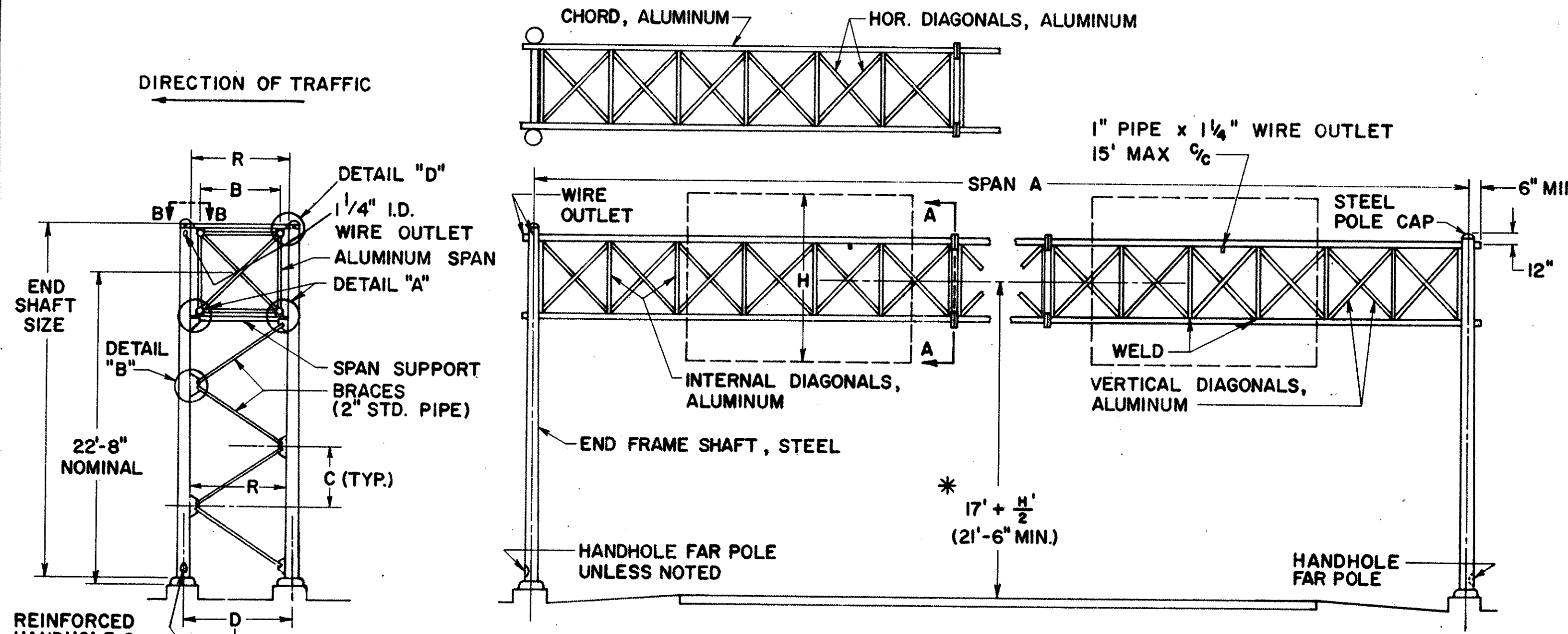
**PAYMENT**  
PAYMENT FOR THE GALVANIZED CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

**SOILS**  
THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

**REINFORCING STEEL**  
COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS. BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER.

**FOUNDATION ELEVATION**  
ELEVATION OF TOPS OF FOUNDATIONS SHALL BE BUILT UP SO THAT 17' CLEARANCE IS MAINTAINED OVER THE ENTIRE WIDTH OF THE PAVEMENT AND SHOULDERS.

**DESIGN**  
THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.



DESIGN NO.	SPAN A	B	C	D	E	END SHAFT	BRACE LENGTH	F	G	I	K	L	P	Q	R	S	T	U BOLTS	V	BOLT CIRCLE	SPAN SUPPORT SECTION D-D	CHORDS	HORIZONTAL AND INTERNAL DIAGONAL	VERTICAL DIAGONAL
1	50' thru 75'	3'-0"	4'-11 3/4"	4'-5"	9 1/4"	2" x 4.5" x 25'-0", 3 GA.	5'-10 13/16"	7 7/16"	1 3/8"	3 1/2"	4 3/4"	8"	12"	6 5/8"	3'-9"	1 1/2"	10"	5 7/8"	3'-3 5/8"	11"	SPLIT TEE 3'-8"	4 3/4" x .188"	1.900" x .145"	1.660" x .140"
2	76' thru 85'	4'-0"	4'-10 1/4"	5'-7"	9 1/4"	8" x 6.22" x 25'-6", 3 GA.	6'-7 1/8"	7 7/16"	1 3/8"	5 5/8"	4 3/8"	7 3/4"	12"	6 1/4"	4'-10"	1 1/2"	9 1/2"	5 7/8"	4'-4 3/8"	11"	SPLIT TEE 4'-10"	4 3/4" x .188"	2" x .188"	1.900" x .145"
3	86' thru 90'	4'-0"	4'-10 1/4"	5'-7"	11"	8" x 6.22" x 25'-6", 3 GA.	6'-7 1/8"	8 1/2"	1 1/2"	5 5/8"	4 3/8"	7 3/4"	12"	6 1/4"	4'-10"	1 1/2"	9 1/2"	5 7/8"	4'-4 3/8"	11"	SPLIT TEE 4'-10"	5 1/2" x .250"	2" x .188"	1.900" x .145"
4	91' thru 110'	5'-0"	4'-8 1/2"	6'-7"	11"	8" x 6.18" x 26'-0", 3 GA.	7'-3 1/4"	8 1/2"	1 1/2"	-	3 1/2"	7 3/4"	12"	7 1/4"	5'-10"	1 3/4"	11 1/4"	3 3/4"	5'-4 5/8"	11"	SPLIT TEE 5'-10"	5 1/2" x .250"	2 1/2" x .188"	2 1/2" x .188"

REINFORCEMENT SCHEDULE			
MARK	NO.	LENGTH	TYPE
401	12"C/C	8'-6"	102
402	12"C/C	7'-6"	103
601	4	D+4'-0"	101
602	8	D+2'-0"	101
603	32	D <sub>T</sub> - 6"	STR.

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

**OVERHEAD SIGN SUPPORTS No. 7.4**

APPROVED *Robert E. Lerner*  
ENGINEER OF TRAFFIC

DATE  
5-2-62  
7-25-62  
5-6-64  
6-20-66

MAHONING COUNTY  
MAH-680-932

**NOTES**

**MATERIALS**  
THE OVERHEAD SPAN TRUSS SHALL BE ALUMINUM AND THE END FRAMES SHALL BE STEEL.  
SPAN TRUSS AND END FRAMES, INCLUDING HARDWARE, SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 816 UNLESS OTHERWISE NOTED.  
STEEL POLE BASES AND GUSSETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A-373.  
AFTER FABRICATION THE TAPERED POLES SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

**FABRICATION**  
THE ENTIRE STEEL END FRAME SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SEC. 711.02 MAXIMUM LENGTH OF SPAN SECTIONS IS 30 FT.

**ERECTION**  
USE A MINIMUM OF 1" CAMBER IN SPAN TRUSS MEMBER FOR A 50' SPAN; ADD 1/4" OF CAMBER FOR EACH 5' OF INCREASE IN SPAN OVER 50'.

**PAYMENT**  
PAYMENT FOR THE GALVANIZED CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

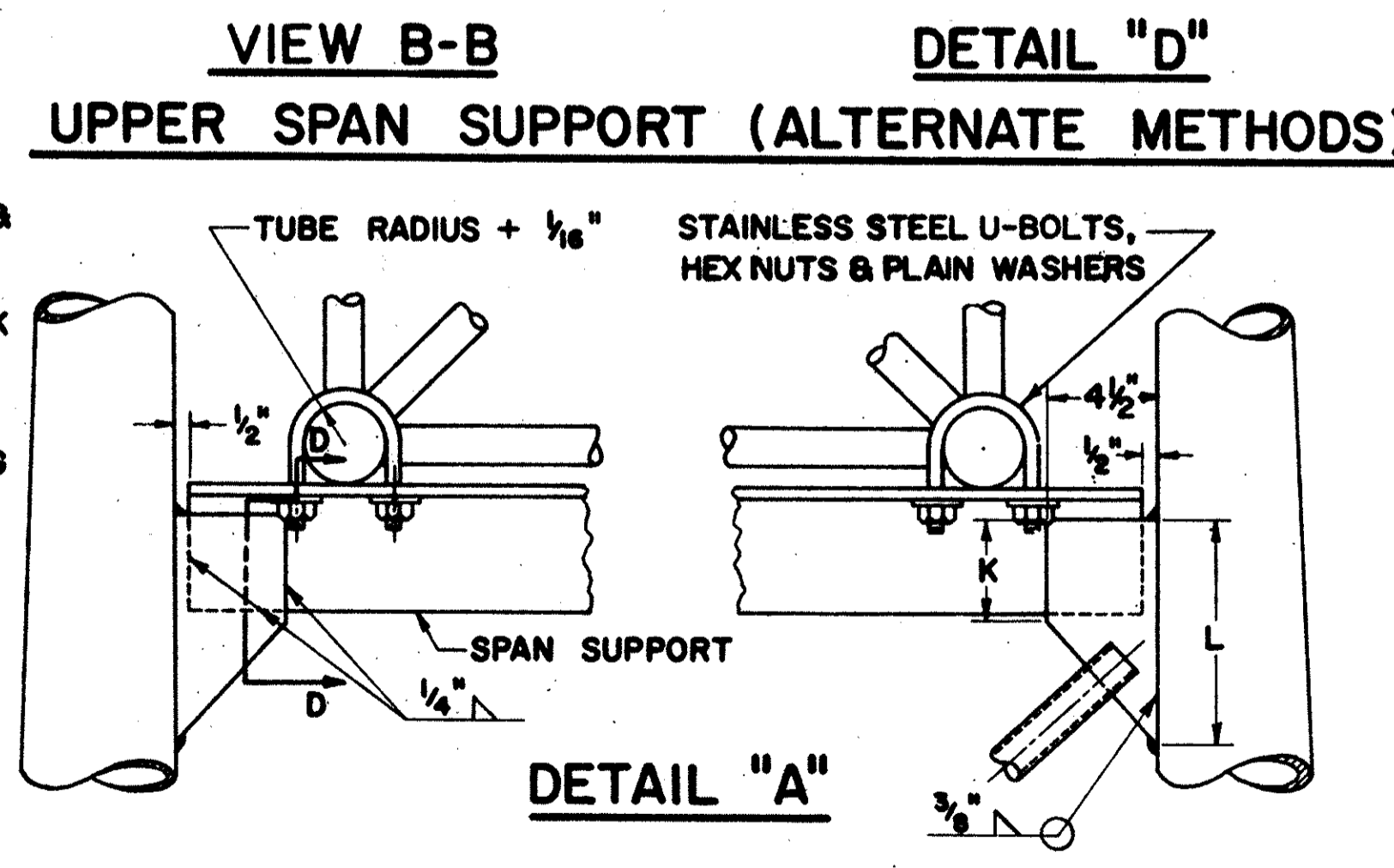
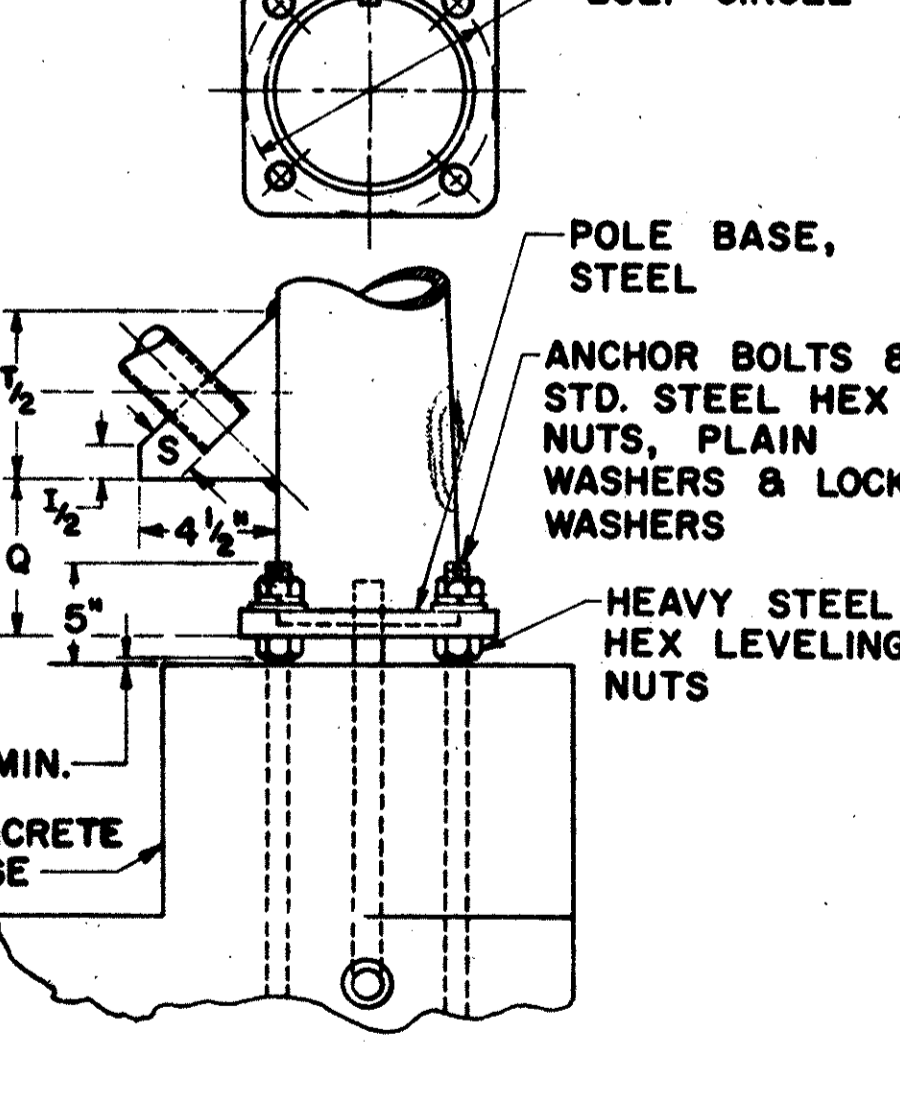
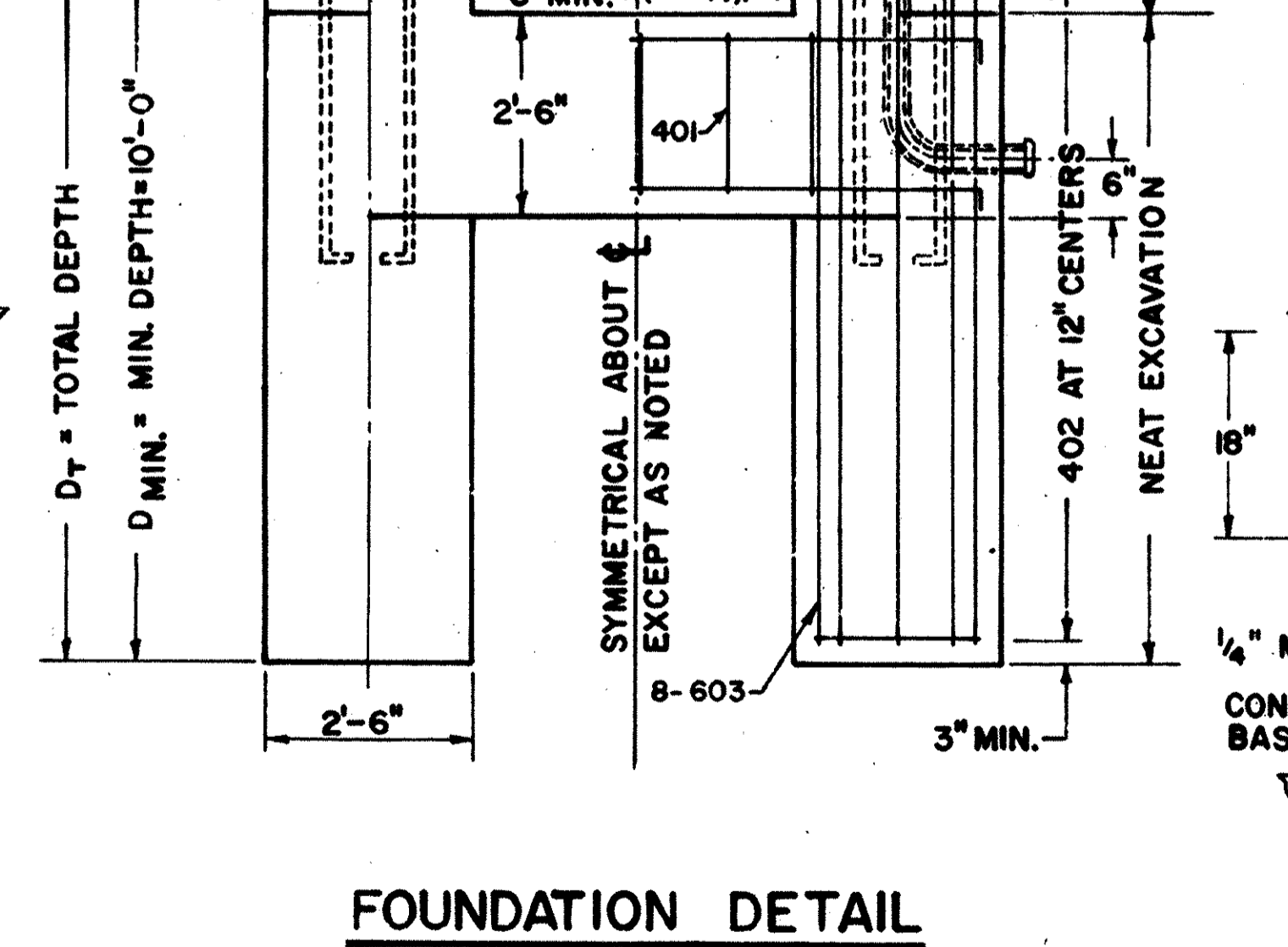
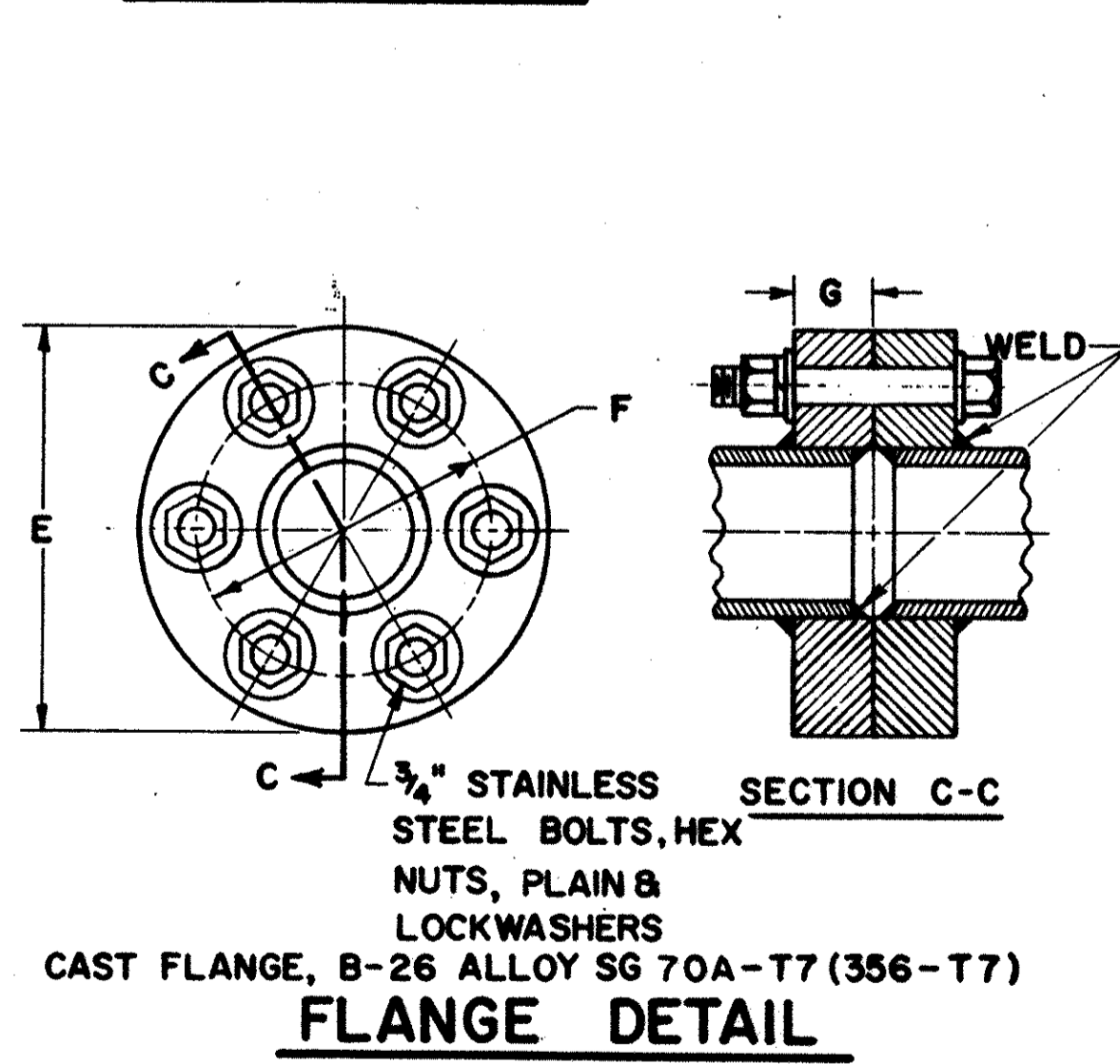
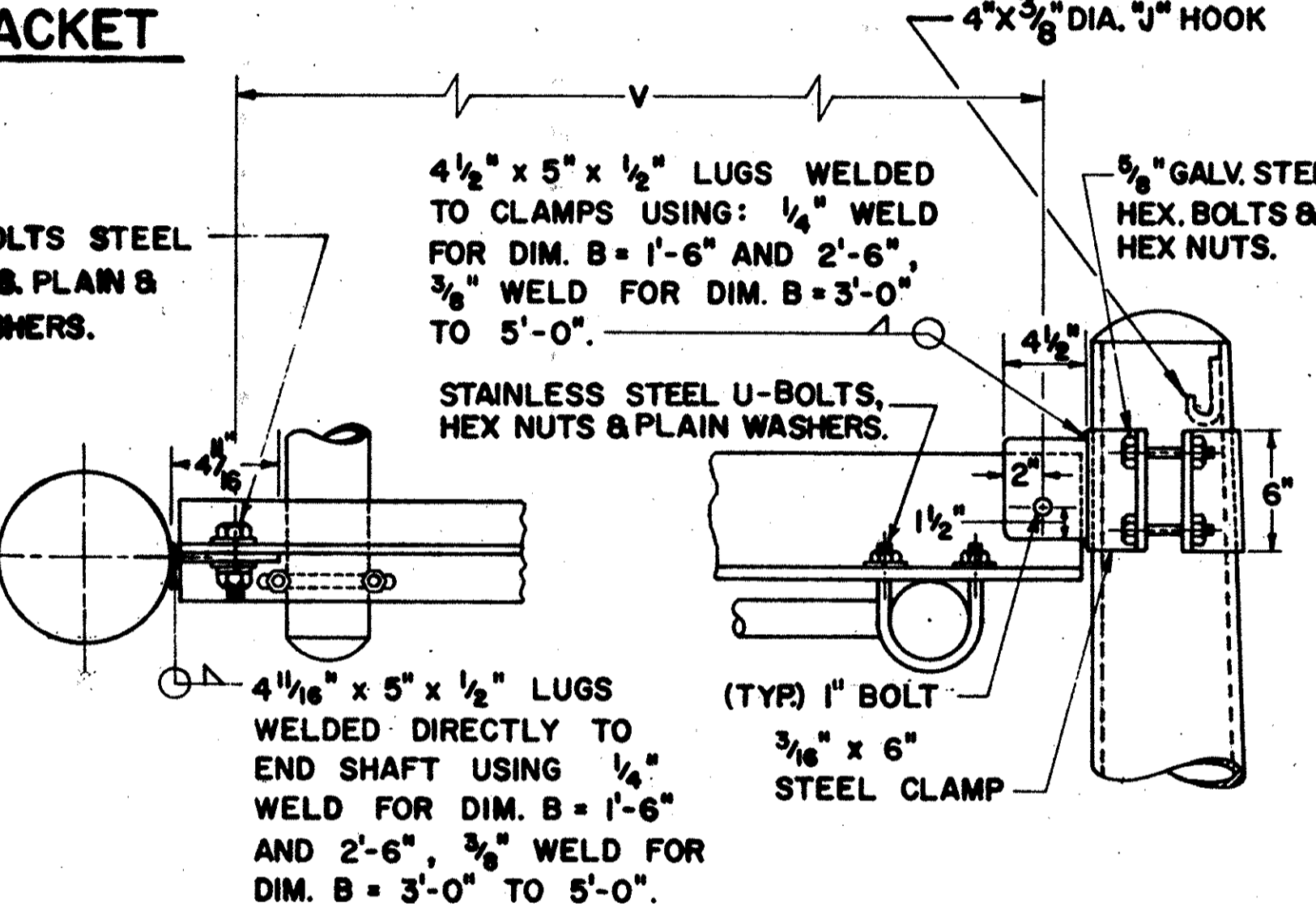
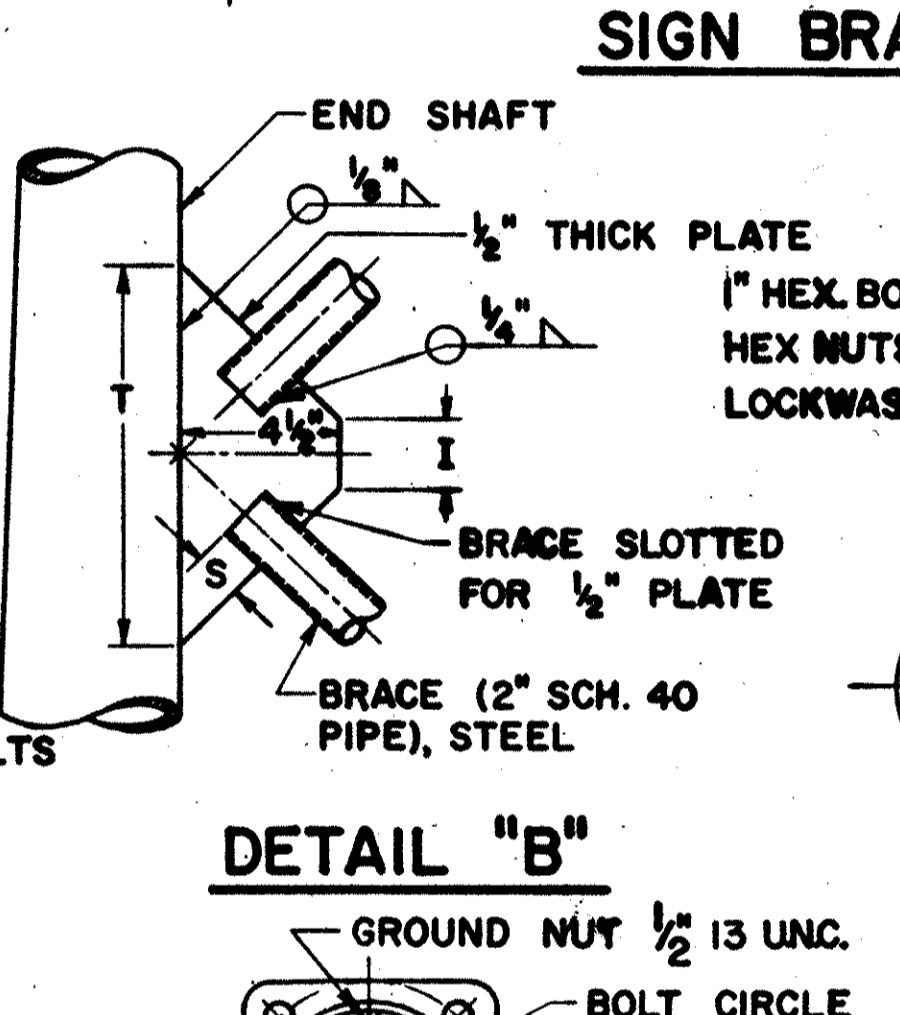
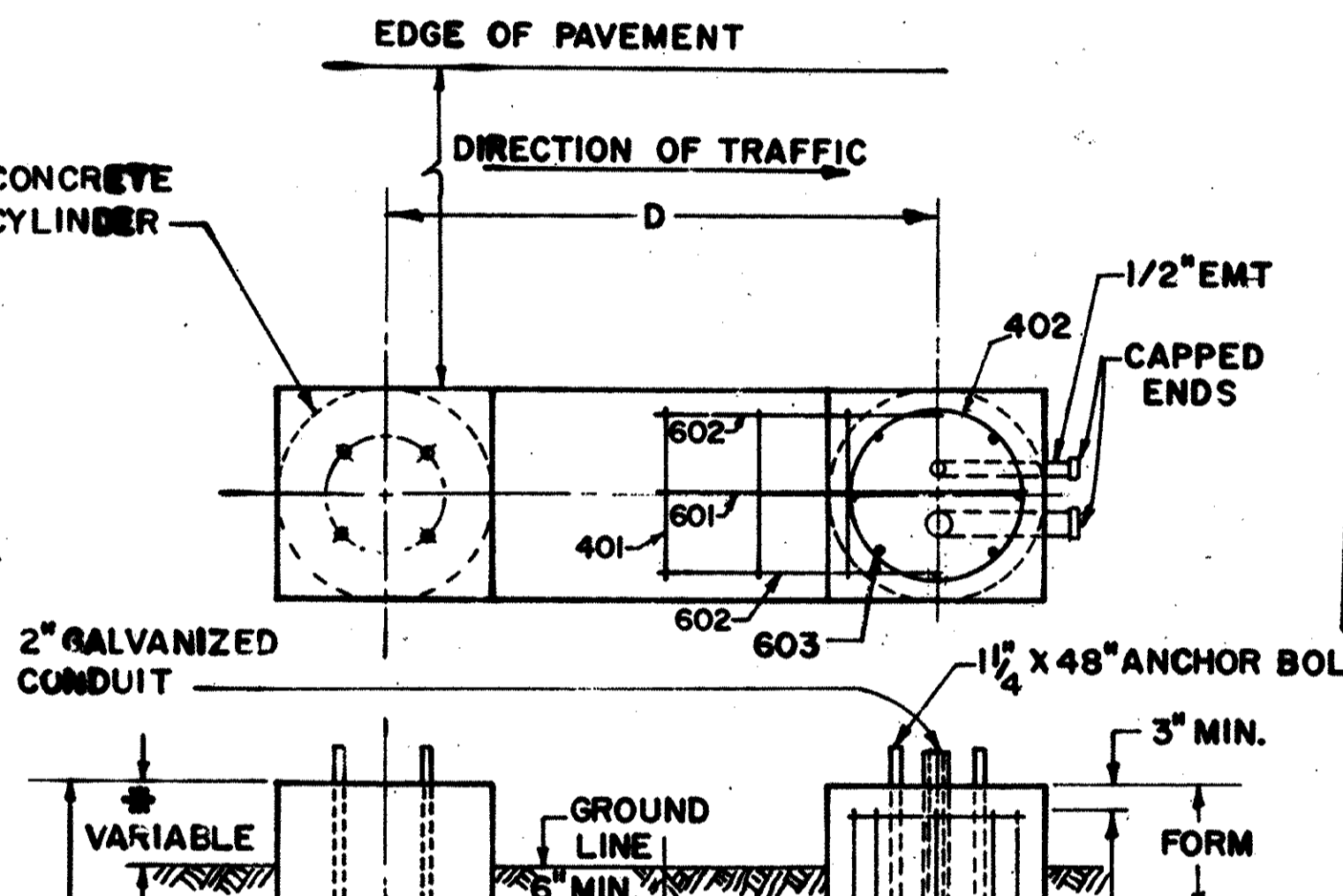
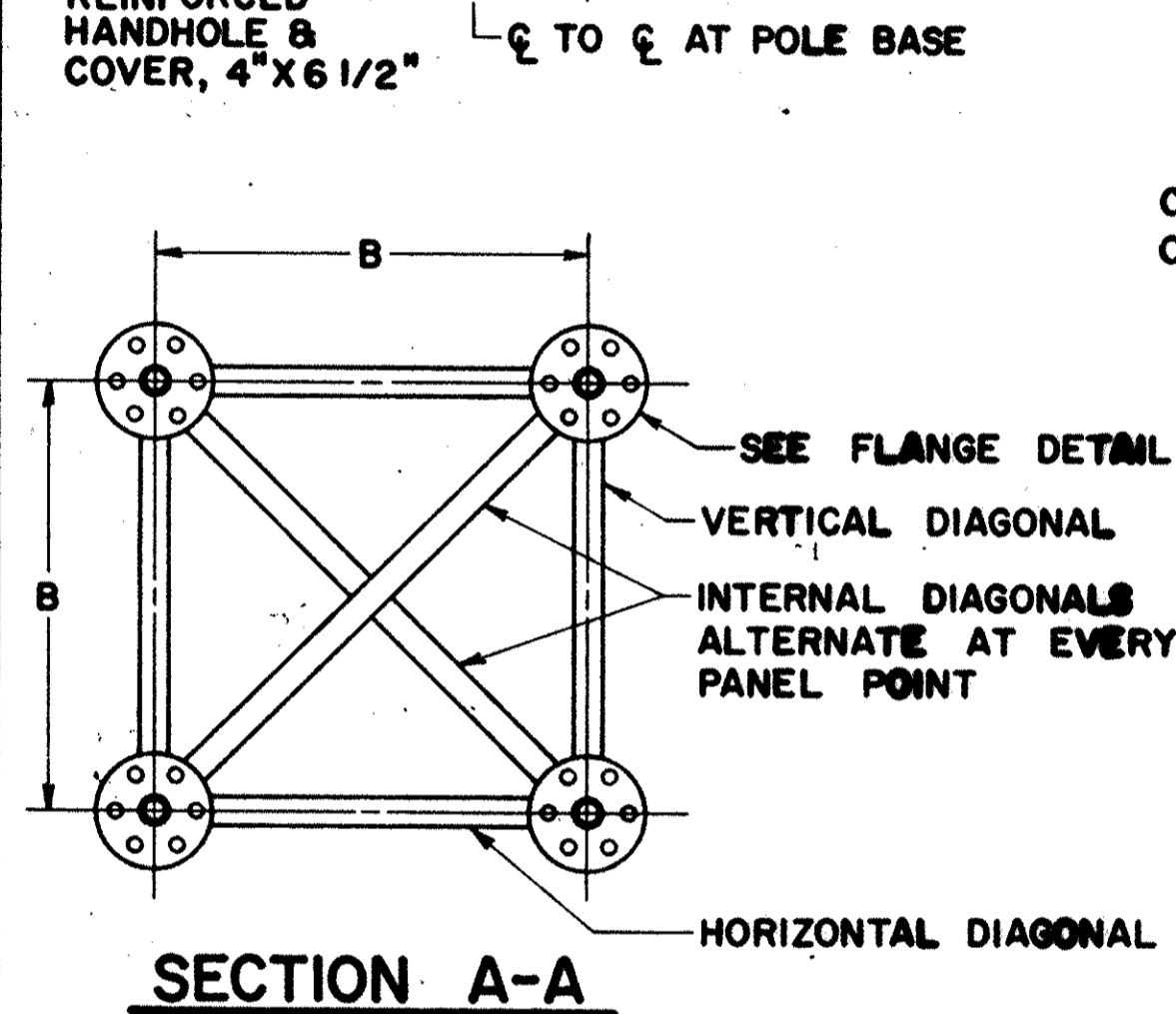
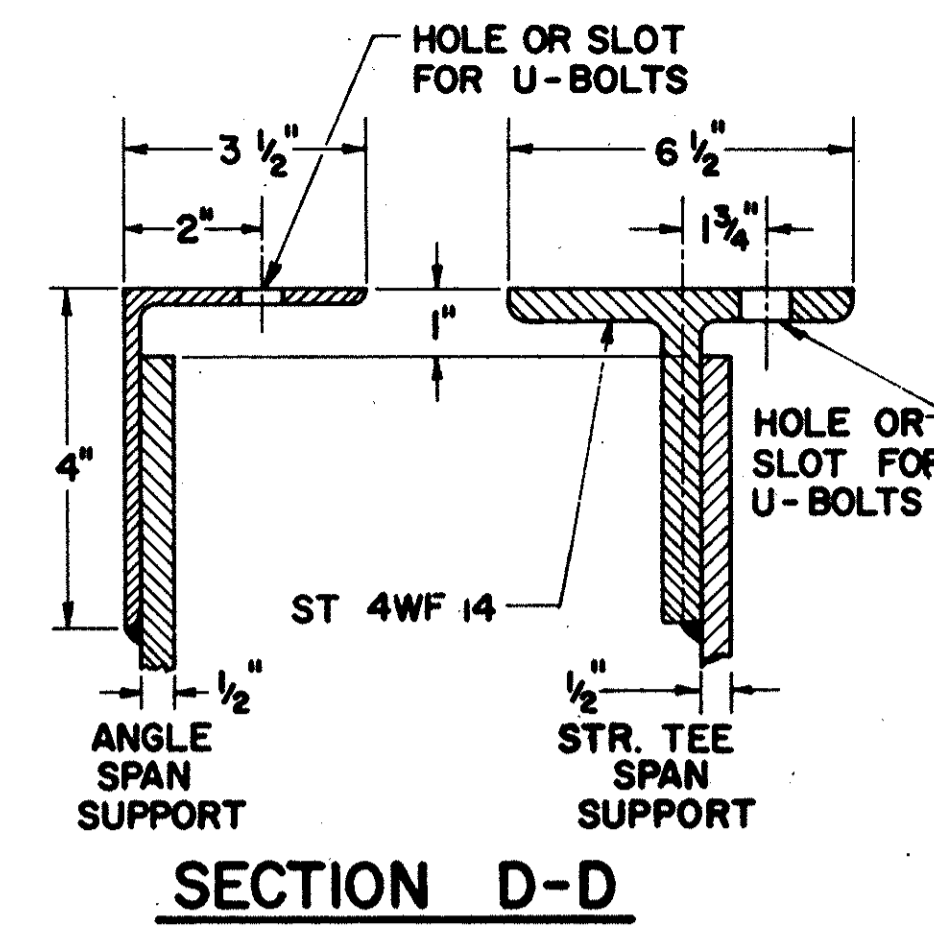
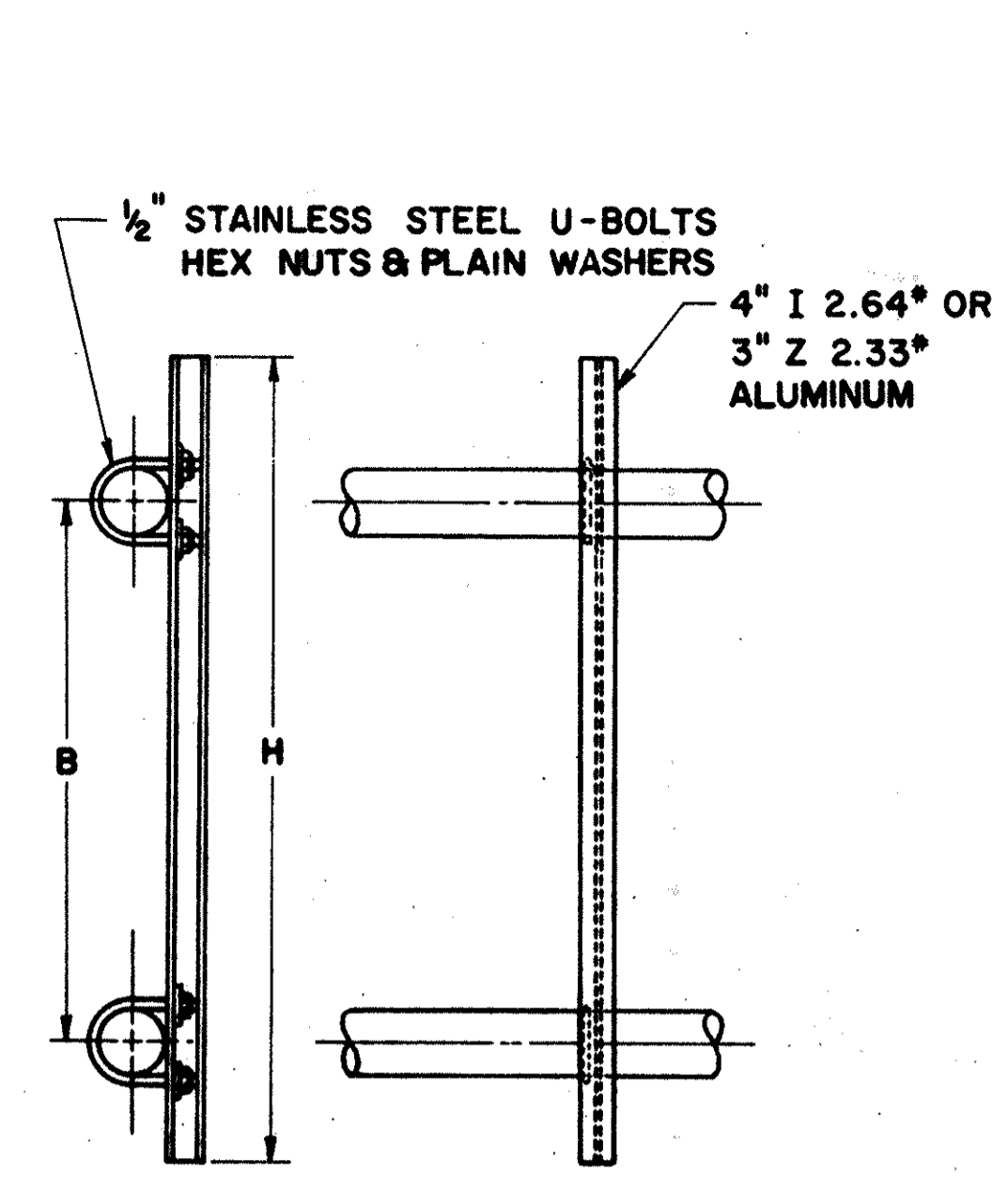
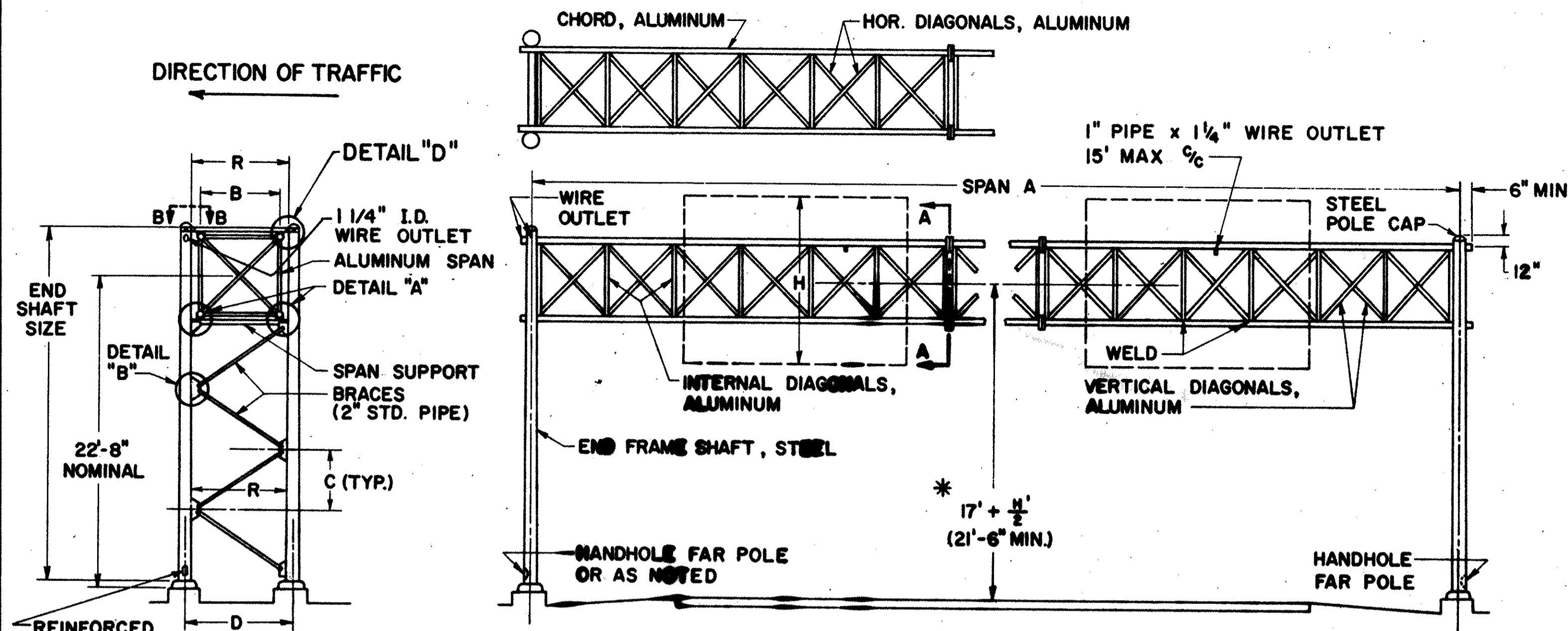
**SOILS**  
THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY).  
FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

**REINFORCING STEEL**  
COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER.

**\*FOUNDATION ELEVATION**  
ELEVATION OF TOPS OF FOUNDATIONS SHALL BE BUILT UP SO THAT 17" CLEARANCE IS MAINTAINED OVER THE ENTIRE WIDTH OF PAVEMENT AND SHOULDERS.

**DESIGN**  
THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.



DESIGN NO.	SPAN A	B	C	D	E	END SHAFT	BRACE LENGTH	F	G	I	K	L	P	Q	R	S	T	U BOLTS	V	BOLT CIRC.	SPAN SUPPORT SECTION D-D	CHORDS	HORIZONTAL AND INTERNAL DIAGONAL	VERTICAL DIAGONAL
1	50' THRU 70'	3'-0"	4'-1 3/4"	4'-5"	9 1/4"	8" X 4.5" X 25'-0", 3GA	5'-10 3/16"	7 7/16"	1 3/8"	3 1/2"	4 3/4"	8"	12"	6 5/8"	3'-9"	1 1/2"	10"	5 5/8"	3'-3 5/8"	11"	SPLIT TEE 3'-8"	4 3/4" X .188"	1.900" X .145"	1.660" X .140"
2	71' THRU 80'	4'-0"	4'-10 1/4"	5'-7"	9 1/4"	8" X 6.22" X 25'-6", 3GA	6'-7 7/8"	7 7/16"	1 3/8"	5 5/8"	4 3/8"	7 3/4"	12"	6 1/4"	4'-11"	1 1/2"	9 1/2"	5 5/8"	4'-5 5/8"	11"	SPLIT TEE 4'-10"	4 3/4" X .188"	2" X .188"	1.900" X .145"
3	81' THRU 86'	4'-0"	4'-10 1/4"	5'-7"	11"	8" X 6.22" X 25'-6", 3GA	6'-7 7/8"	8 1/2"	1 1/2"	5 5/8"	4 3/8"	7 3/4"	12"	6 1/4"	4'-11"	1 1/2"	9 1/2"	5 5/8"	4'-5 5/8"	11"	SPLIT TEE 4'-10"	5 1/2" X .250"	2" X .188"	1.900" X .145"
4	86' THRU 110'	5'-0"	4'-8 1/2"	6'-7"	11"	8" X 6.18" X 26'-0", 3GA	7'-3 1/4"	8 1/2"	1 1/2"	-	3 1/2"	7 3/4"	12"	7 1/2"	5'-11"	1 3/4"	11 1/4"	5 5/8"	5'-5 5/8"	11"	SPLIT TEE 5'-10"	5 1/2" X .250"	2 1/2" X .188"	2 1/2" X .188"

REINFORCEMENT SCHEDULE			
MARK	NO.	LENGTH	TYPE
401	12" C/C	8'-6"	102
402	12" C/C	7'-6"	103
601	4	D+4'-0"	101
602	8	D+2'-0"	101
603	32	D+7'-6"	STR.

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

**OVERHEAD SIGN SUPPORTS No. 7.5**

DATE: 5-2-62  
7-25-62  
4-20-64  
6-20-64

APPROVED: *Robert E. Comer*  
ENGINEER OF TRAFFIC

MAHONING COUNTY  
MAH-680-932

**NOTES**

**MATERIALS**  
THE OVERHEAD SPAN TRUSS SHALL BE ALUMINUM AND THE END FRAMES SHALL BE STEEL.  
SPAN TRUSS AND END FRAMES, INCLUDING HARDWARE, SHALL BE IN ACCORDANCE WITH SUPPLEMENTAL SPECIFICATION 816 UNLESS OTHERWISE NOTED.  
STEEL POLE BASES AND GUSSETS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A-373.  
AFTER FABRICATION THE TAPERED POLES SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

**FABRICATION**  
THE ENTIRE STEEL END FRAME SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH SEC. 711.02. MAXIMUM LENGTH OF SPAN SECTIONS IS 30 FT.

**ERECTION**  
USE A MINIMUM OF 1" CAMBER IN SPAN TRUSS MEMBER FOR A 50' SPAN; ADD 1/4" OF CAMBER FOR EACH 5' OF INCREASE IN SPAN OVER 50'.

**PAYMENT**  
PAYMENT FOR THE GALVANIZED CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.

**SOILS**  
THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

**REINFORCING STEEL**  
COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.

BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR DIGITS ARE USED, INDICATE THE BAR SIZE NUMBER.

**\*FOUNDATION ELEVATION**  
ELEVATION OF TOPS OF FOUNDATIONS SHALL BE BUILT UP SO THAT 17' CLEARANCE IS MAINTAINED OVER THE ENTIRE WIDTH OF THE PAVEMENT AND SHOULDERS.

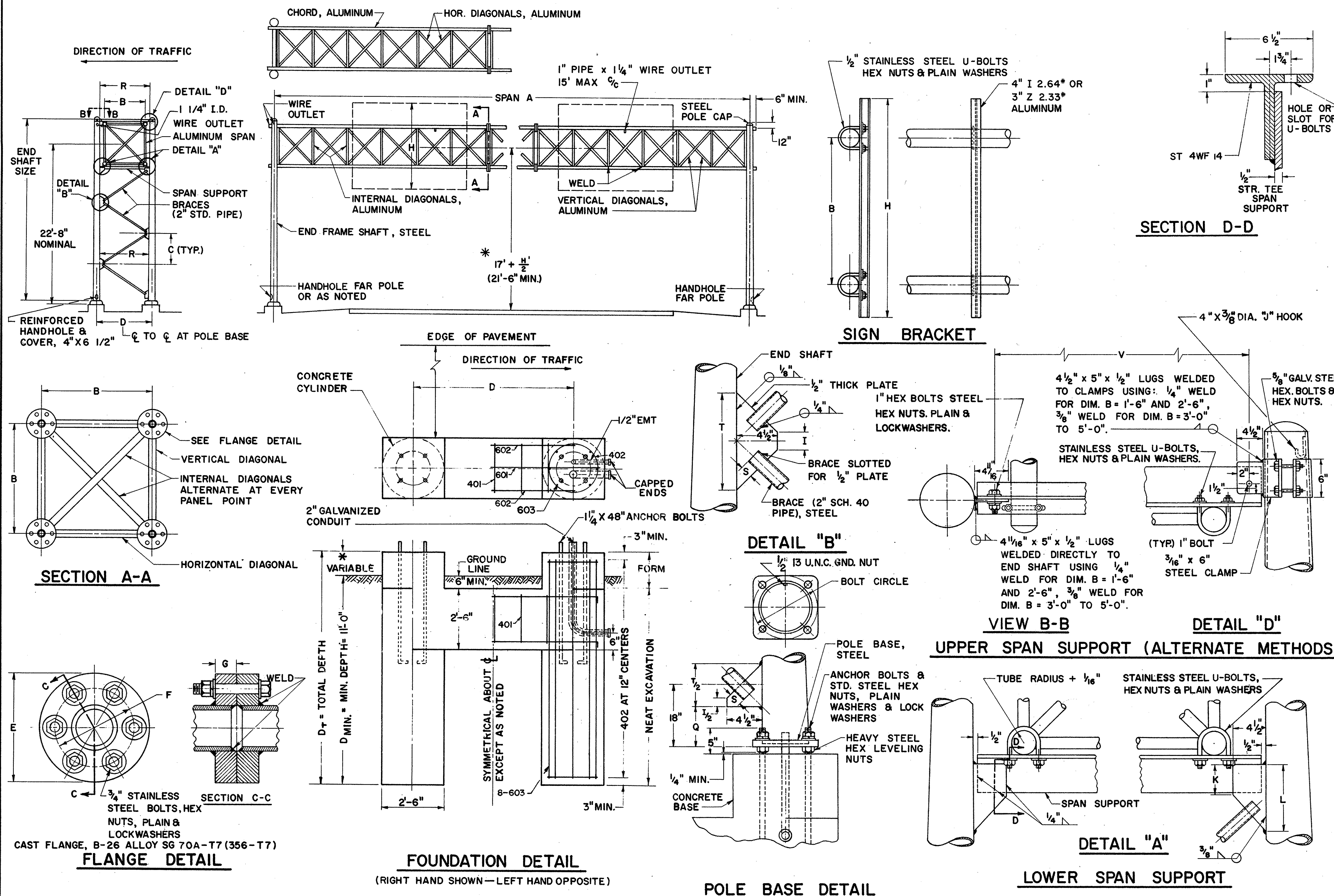
**DESIGN**  
THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

**OVERHEAD SIGN SUPPORTS** **816 No.7.6**

DATE: 5-6-64, 5-5-64, 6-20-64

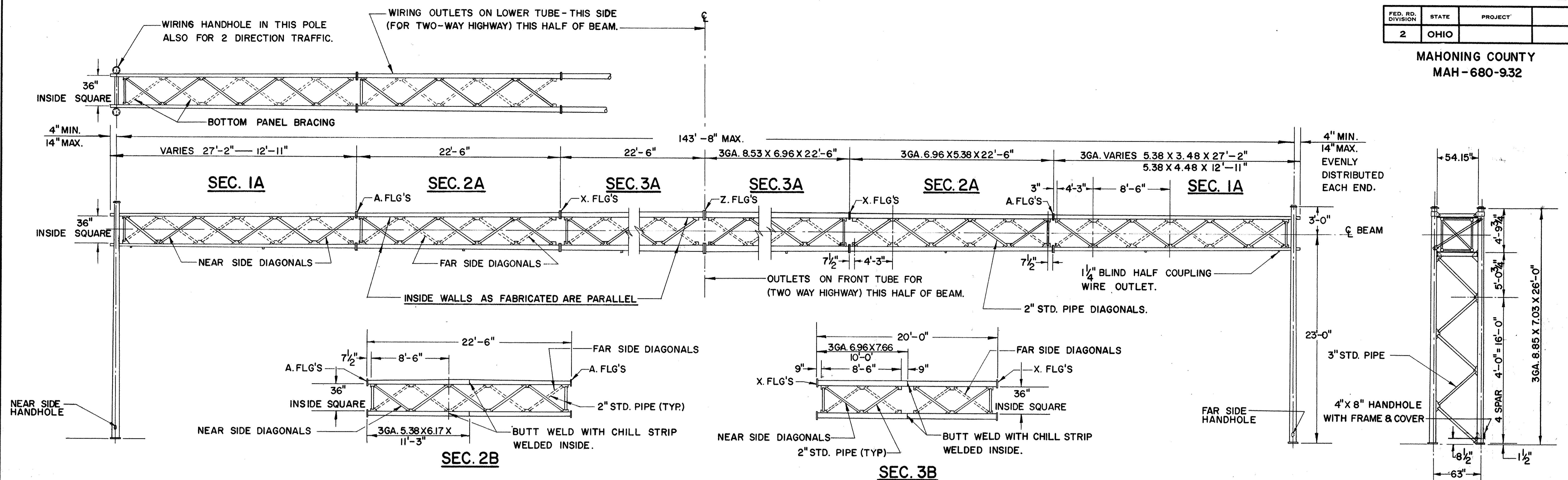
APPROVED \_\_\_\_\_ ENGINEER OF TRAFFIC



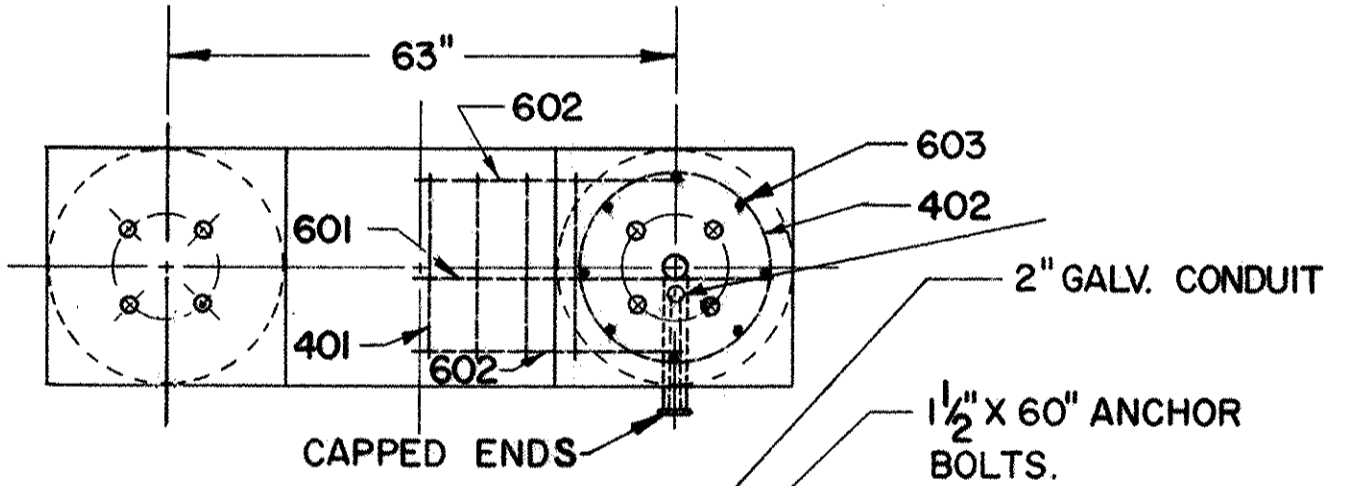
DESIGN NO.	SPAN A	B	C	D	E	END SHAFT	BRACE LENGTH	F	G	I	K	L	P	Q	R	S	T	U BOLTS	V	BOLT CIRCLE	SPAN SUPPORT SECTION D-D	CHORDS	HORIZONTAL AND INTERNAL DIAGONAL	VERTICAL DIAGONAL	REINFORCEMENT SCHEDULE
1.	50' thru 65'	3'-0"	4'-11 3/4"	4'-5"	9 1/4"	8" X 4.5 X 25'-0", 3GA	5'-10 5/16"	7 7/16"	3 3/8"	3 1/2"	4 3/4"	8"	12"	6 5/8"	3'-9"	1 1/2"	10"	5 1/8"	3'-3 5/8"	11"	Split Tee 3'-8"	4 3/4" X .188"	2" X .188"	1.660" X .140"	MARK NO. LENGTH TYPE
2.	70' thru 75'	4'-0"	4'-10 1/4"	5'-7"	9 1/4"	8" X 6.22 X 25'-6", 3GA	6'-7 1/8"	7 1/16"	1 3/8"	5 1/8"	4 3/4"	7 3/4"	12"	6 1/4"	4'-11"	1 1/2"	9 1/2"	5 1/8"	4'-5 5/8"	11"	Split Tee 4'-10"	4 3/4" X .188"	2" X .188"	1.900" X .145"	401 12"C/C 8'-6" 102
3.	76' thru 80'	4'-0"	4'-10 1/4"	5'-7"	11"	8" X 6.22 X 25'-6", 3GA	6'-7 1/8"	8 1/2"	1 1/2"	5 1/8"	4 3/8"	7 3/4"	12"	6 1/4"	4'-11"	1 1/2"	9 1/2"	5 1/8"	4'-5 5/8"	11"	Split Tee 4'-10"	5 1/2" X .250	2 1/2" X .188"	1.900" X .145"	402 12"C/C 7'-6" 103
4.	81' thru 110'	5'-0"	4'-8 1/2"	6'-7"	11"	8" X 6.18 X 26'-0", 3GA	7'-3 1/4"	8 1/2"	1 1/2"	—	3 1/2"	7 3/4"	12"	7 1/4"	5'-11"	1 3/4"	11 1/4"	3 3/4"	5'-5 5/8"	11"	Split Tee 5'-10"	5 1/2" X .250	2 1/2" X .188"	2 1/2" X .188"	601 4 D+4'-0" 101



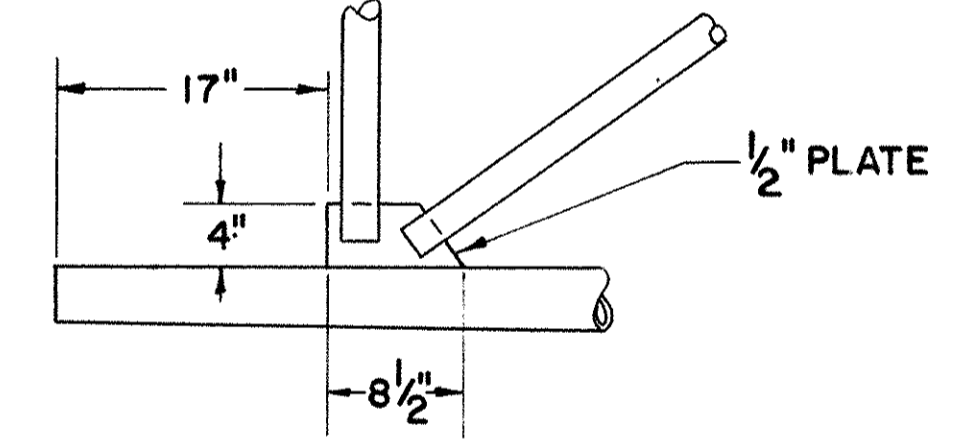
MAHONING COUNTY  
MAH-680-932



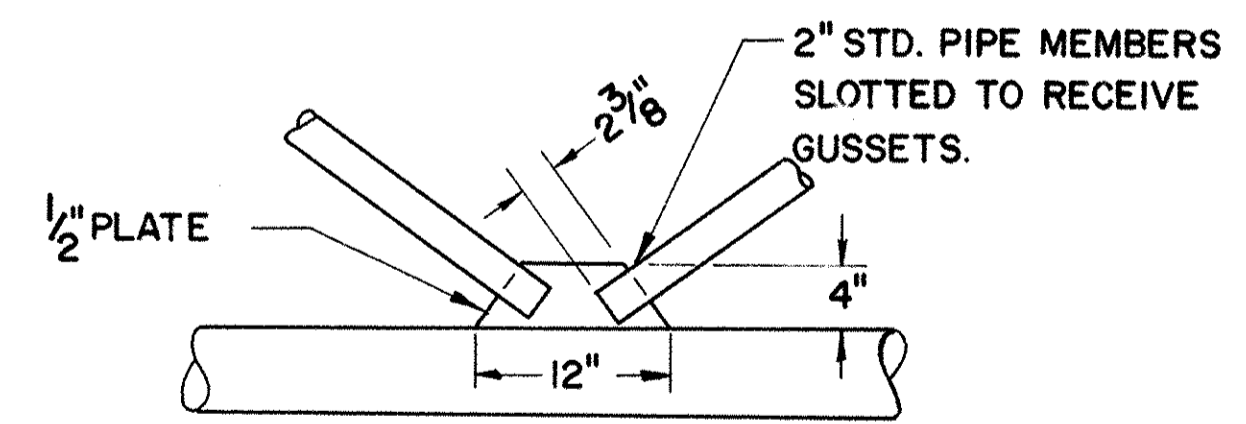
BOTH END FRAMES ALIKE  
UNLESS OTHERWISE NOTED



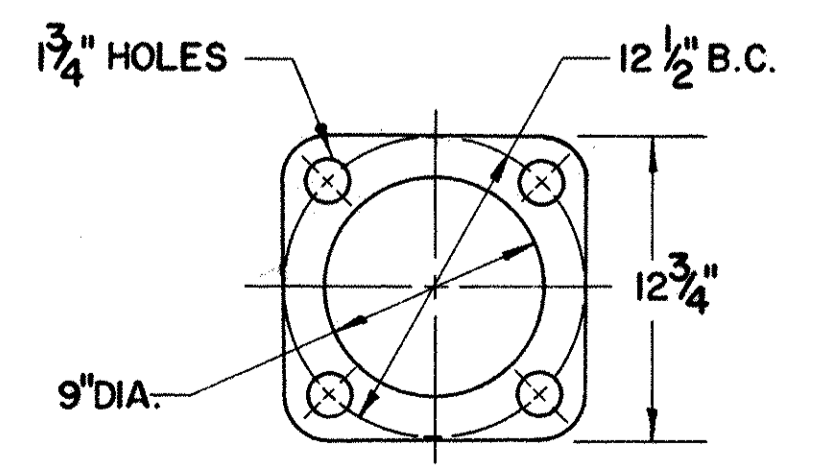
FOUNDATION DETAIL



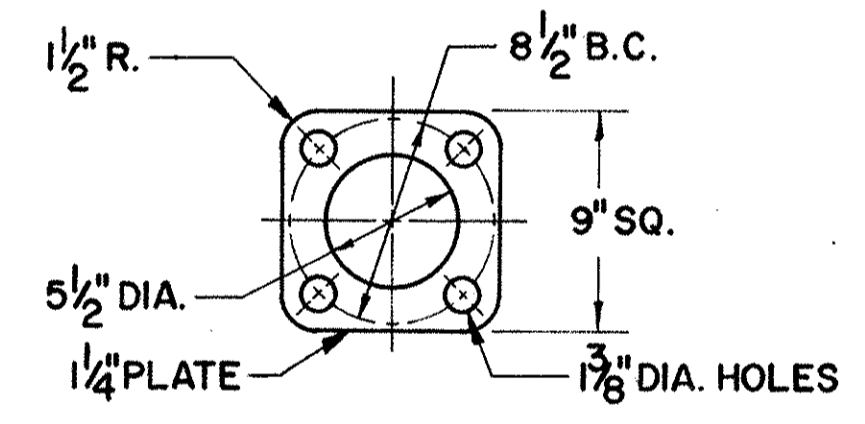
END JOINT DETAIL



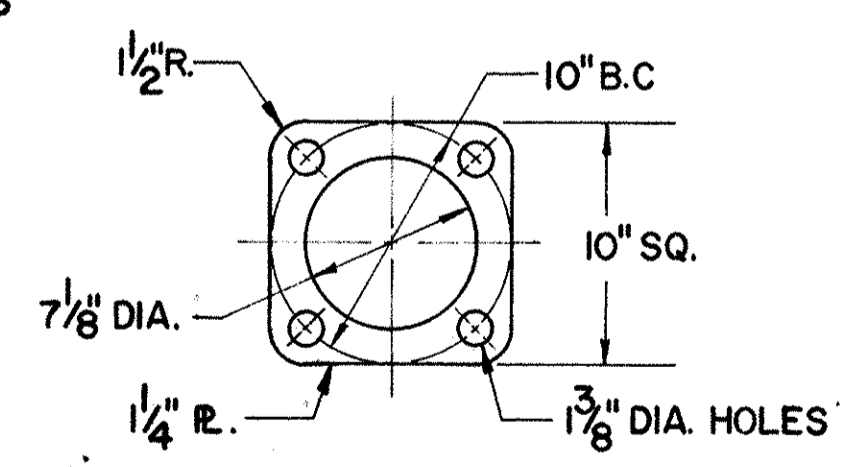
TYPICAL JOINT  
DIAGONAL TRUSS MEMBER



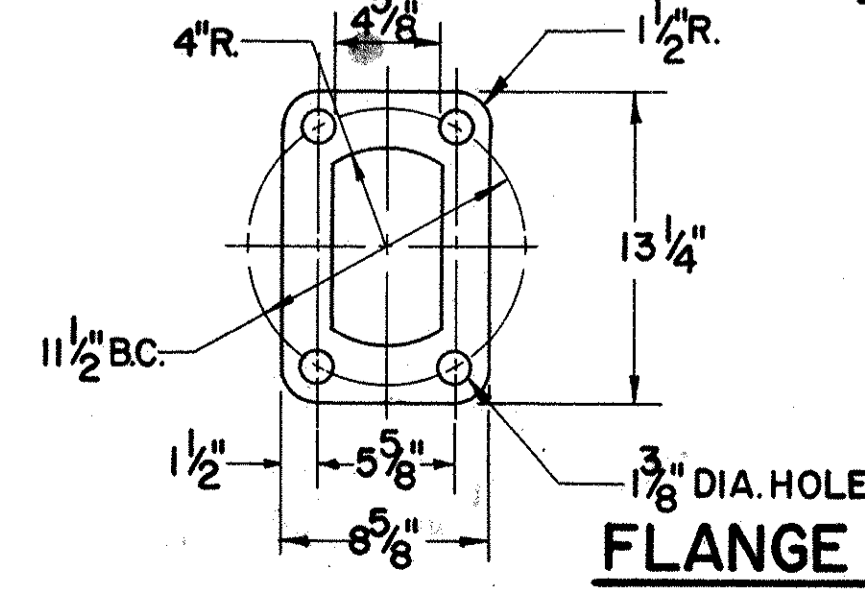
POLE BASE DETAIL



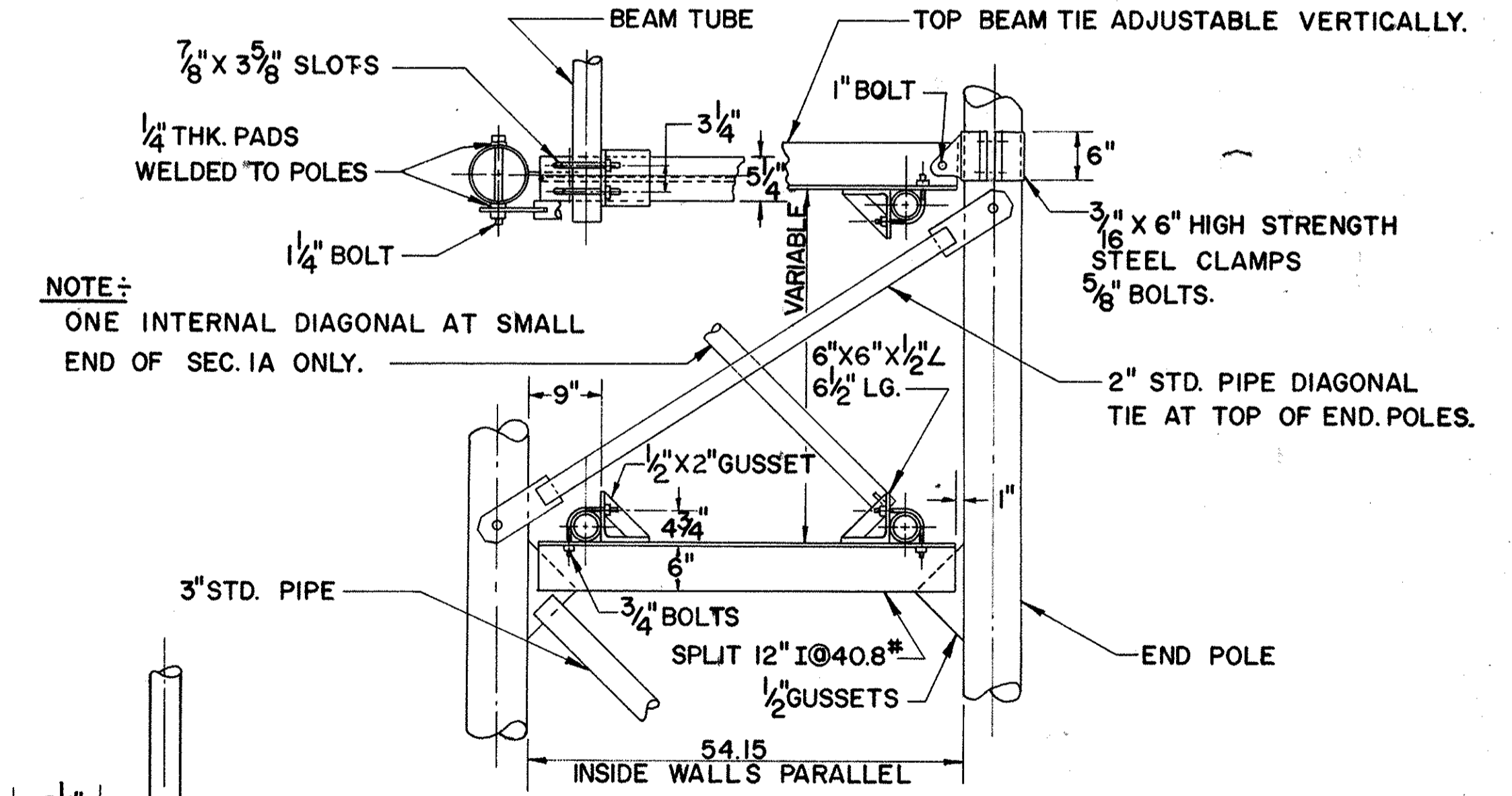
FLANGE TYPE A.  
FOR SEC. 1-A, 2-A, & 2-B



FLANGE TYPE X.  
FOR SEC. 2-A, 3-A & 3-B



FLANGE TYPE Z.  
FOR SEC. 3-A



BOTTOM BEAM SUPPORT &  
END POLE FRAME TIE.

BUREAU OF TRAFFIC OHIO DEPARTMENT OF HIGHWAYS		
OVERHEAD SIGN SUPPORT	816 15.8	DATE 6-24-64 7-1-66
APPROVED _____ ENGINEER OF TRAFFIC		

**NOTES**

SUPPORT						ACTUAL SIGN AREA	SIGN AREA SPREAD	ALLOWABLE DESIGN SIGN AREA	ACTUAL MAX. SIGN HEIGHT	END SECTION				INTERNAL SECTION				CENTER SECTION				END OVER-HANG	LEFT END FRAME				RIGHT END FRAME				
NO.	STATION	LOCATION	TYPE	DESIGN	SPAN					NO.	GA.	SIZE	LENGTH	NO.	GA.	SIZE	LENGTH	NO.	GA.	SIZE	LENGTH		NO.	GA.	SIZE	LENGTH	NO.	GA.	SIZE	LENGTH	
36	629 + 87	N B	15.8	3	88	592	62'	730 S.F.	12.5'	2	3	5.38 x 3.80	22'-6"	2	3	6.96 x 5.38	22'-6"					1'-0"	1	3	8.85 x 7.03	26'-0"	1	3	8.85 x 7.03	29'-0"	

**DESIGN**  
THE DESIGN OF OVERHEAD SUPPORTS SHALL BE IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 13, 1961.

**FOUNDATION**  
THE TOP ELEVATION OF FOUNDATIONS SHALL BE VARIED SO AS TO MAINTAIN A MINIMUM CLEARANCE OF 17' BETWEEN THE BOTTOM OF THE SIGN AND THE HIGHWAY CROWN.

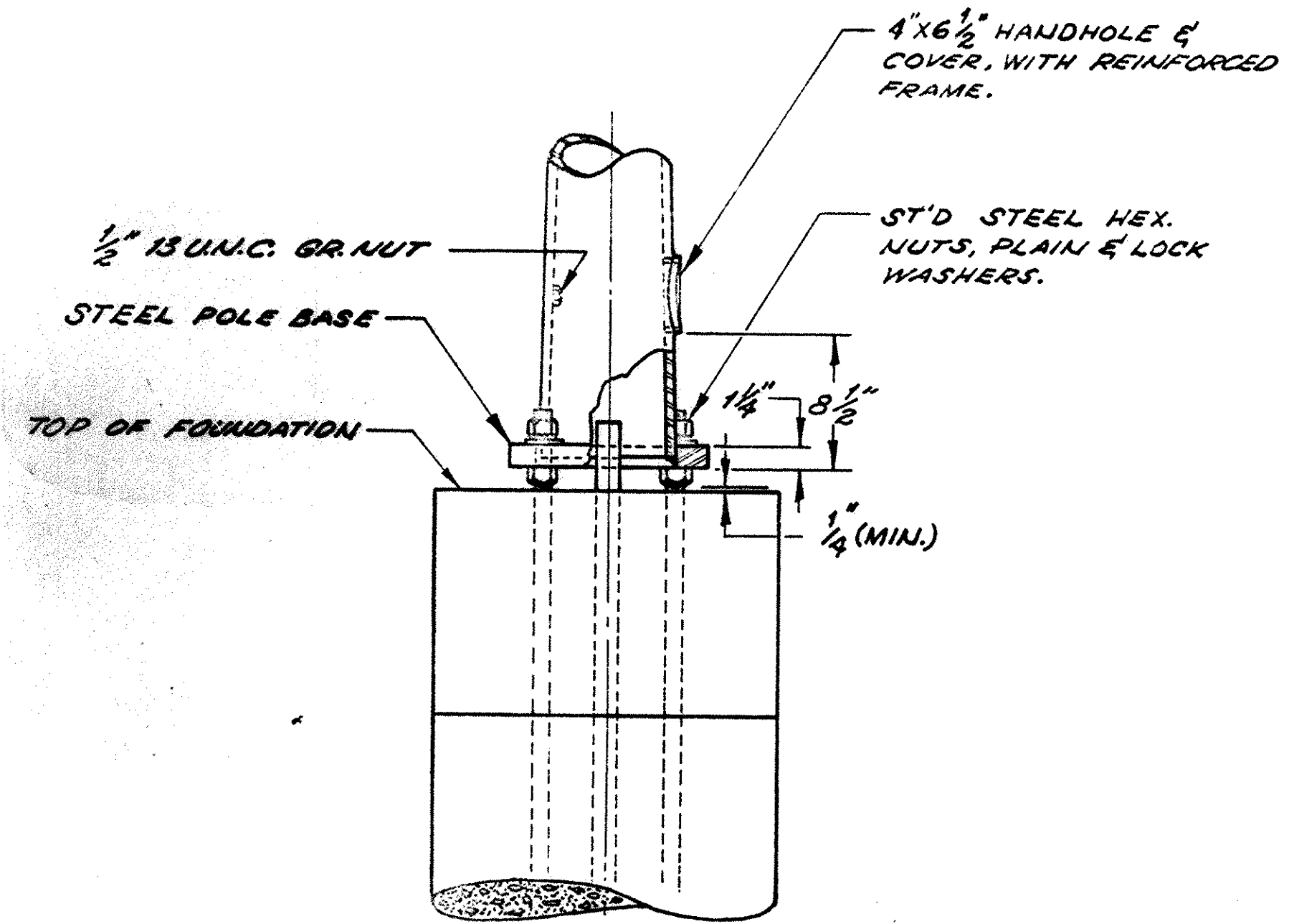
**SOILS**  
THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY: 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

**FINISH**  
ALL STRUCTURAL PORTIONS OF THE SIGN SUPPORTS, SIGN BRACKETS, HARDWARE AND CONDUIT SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH S.S. 816 (EXCEPT AS OTHERWISE SHOWN).

**MATERIALS**  
ALL MATERIALS TO BE FURNISHED SHALL BE IN ACCORDANCE WITH S.S. 816 WITH THE FOLLOWING ADDITIONS:  
TAPERED TUBES SHALL BE STEEL, SAE 1015 AND COLD ROLLED TO OBTAIN A MINIMUM YIELD STRENGTH OF 48,000 PSI.  
STEEL PIPE: 4" DIAMETER AND UNDER SHALL BE STEEL-ASTM-A120. OVER 4" DIAMETER SHALL BE ASTM-A53, GRADE B.  
ANCHOR BOLTS SHALL BE HIGH STRENGTH STEEL-ASTM-A107, GRADE C-1035.  
HIGH STRENGTH CLAMPS SHALL BE STEEL ASTM-A242.

**REINFORCING STEEL**  
COST OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM I-129 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.  
BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED AND THE FIRST TWO DIGITS WHERE FOUR ARE USED, INDICATE THE BAR SIZE NUMBER.

**PAYMENT FOR CONDUIT**  
PAYMENT FOR THE GALVANIZED CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS.



REINFORCEMENT SCHEDULE				
MARK	NO.	LENGTH	TYPE	
401	12" 9/16	8'-6"	102	
402	12" 9/16	7'-6"	103	
601	4	0+4'-0"	101	
602	8	0+2'-0"	101	
603	32	0+6"	STR.	

MAHONING COUNTY  
MAH-680-932

**NOTES**

**FABRICATION**- ALL PORTIONS OF THE SIGN SUPPORT, INCLUDING SIGN ATTACHMENTS, SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF A.S.T.M. DESIGNATIONS A-123 AND A-153. THE CONDUIT SHALL BE GALVANIZED IN ACCORDANCE WITH SEC. 625.13 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR OVERHEAD SIGN SUPPORTS FOR PAYMENT.

\* **FOUNDATION**- THE TOP ELEVATION OF FOUNDATIONS SHALL BE VARIED SO AS TO MAINTAIN A MINIMUM CLEARANCE OF 17' BETWEEN THE BOTTOM OF THE SIGN AND THE HIGHWAY CROWN.

\* **ERECTION**- VALUES OF "B" MAY BE EXCEEDED PROVIDED THE PRODUCT OF ACTUAL SIGN AREA TIMES THE DISTANCE FROM C OF POLE TO C OF SIGN DOES NOT EXCEED THE MAX. SIGN AREA TIMES "B".

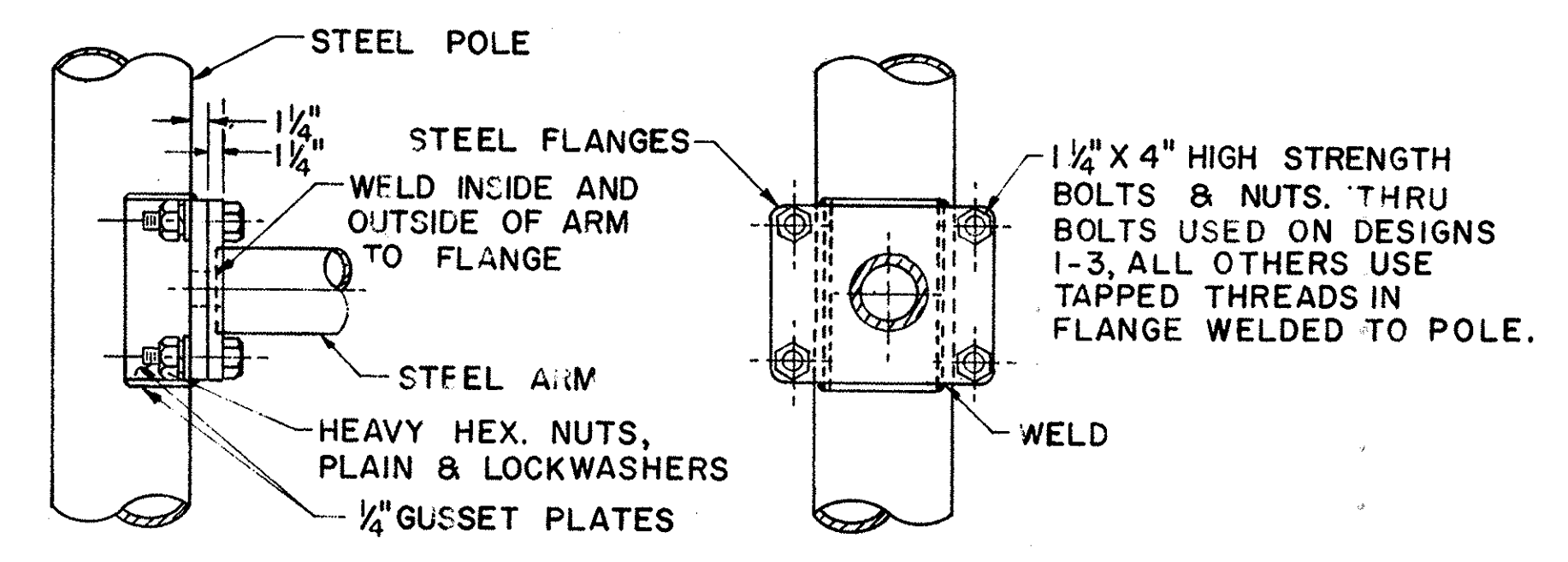
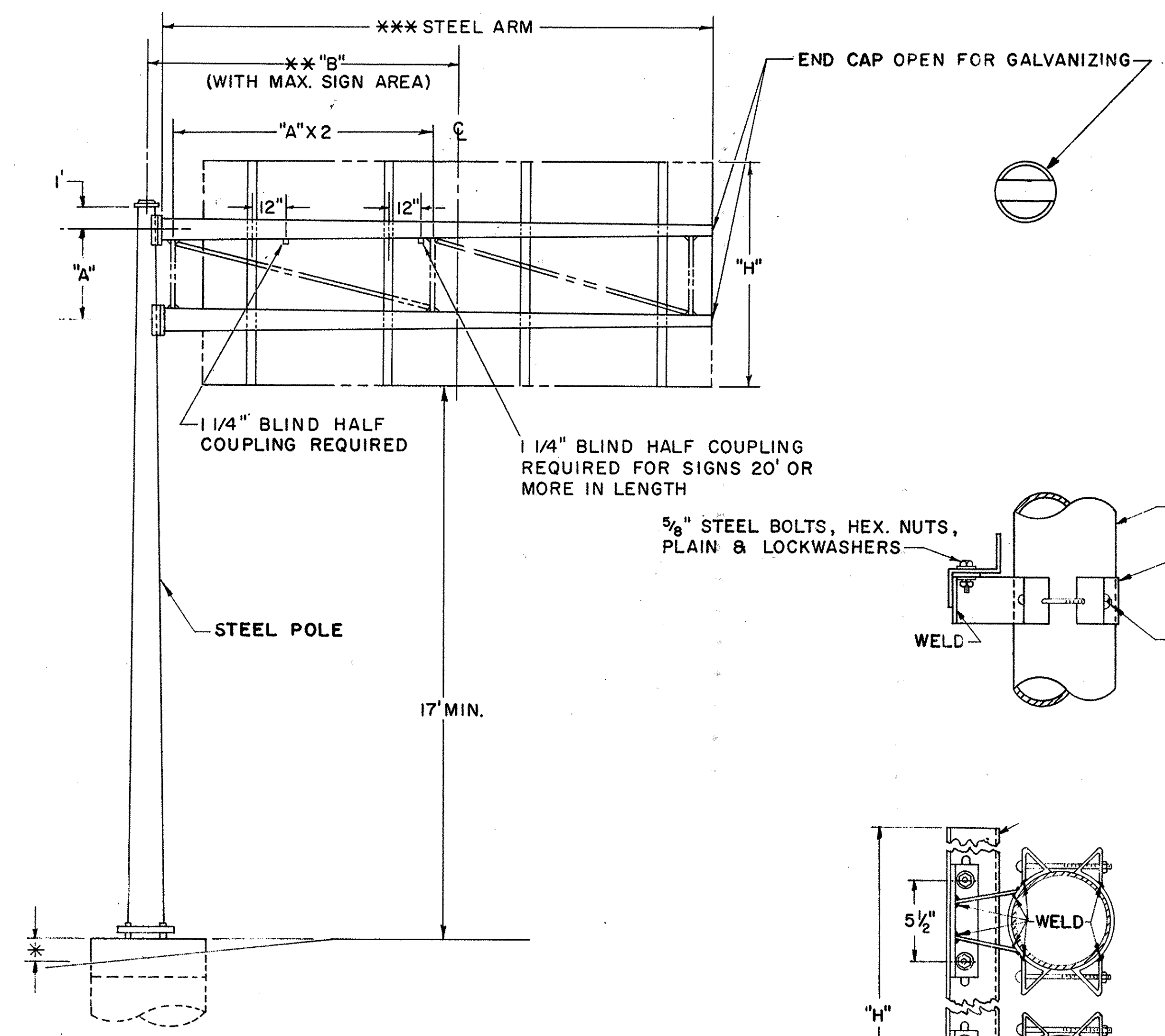
\* **ARMS** 20' LONG OR LONGER ARE TO BE TRUSS TYPE WITH 3" X 3" X 3/8" ANGLES WELDED TO GUSSET PLATES.

**MATERIAL**- STEEL POLE BASES, FLANGES, AND END CAPS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 30 GRADE B. HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO ASTM SPECIFICATION A193 GRADE B7 AFTER FABRICATION TAPERED POLES AND ARMS SHALL HAVE A MINIMUM YIELD STRENGTH OF 48,000 PSI.

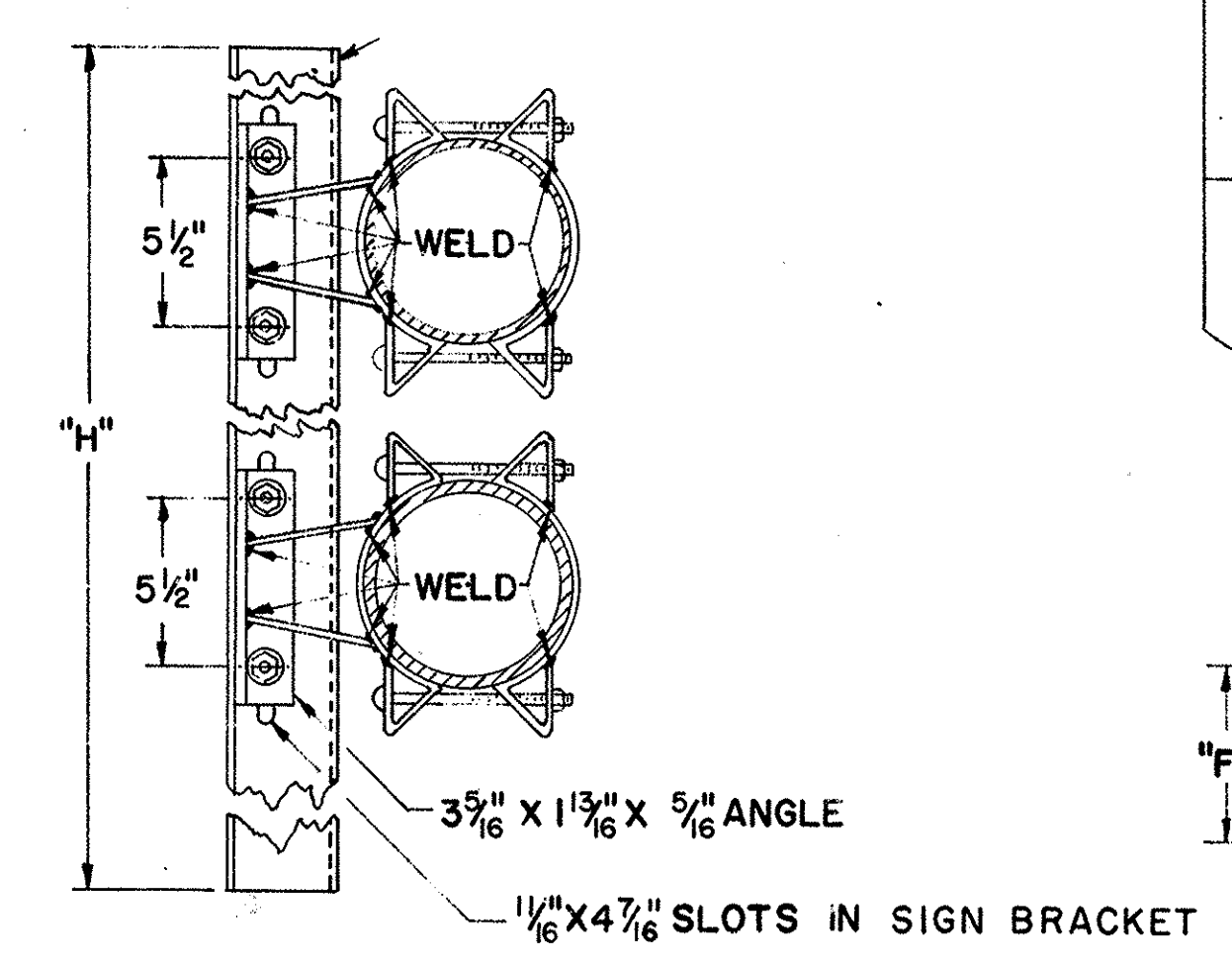
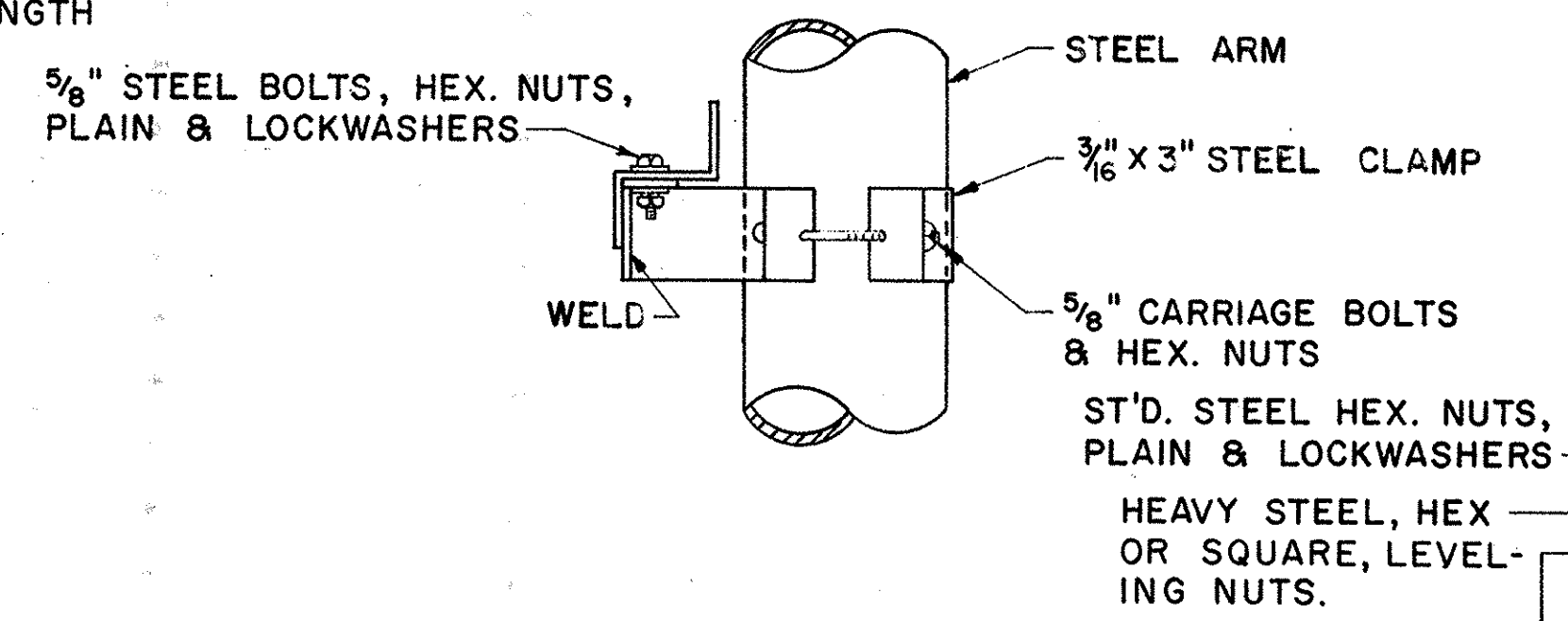
**SOILS**- THE FOUNDATION DETAILS SHOWN ARE FOR AVERAGE SOIL CONDITIONS (MEDIUM CLAY, CEMENTED SAND AND GRAVEL, SANDY CLAY, OR STIFF CLAY). FOR POOR SOIL CONDITIONS, INCREASE "D" MIN. BY 50% IN DRY OR WET SAND, 60% IN SILTY CLAY, 100% IN SOFT CLAY, AND FROM 75% TO 150% IN WET SILT, DEPENDING ON QUICKSAND ACTION.

**REINFORCING STEEL**- REINFORCING STEEL AS SHOWN IN TABLE SHALL BE INSTALLED WHEN "D<sub>T</sub>" EXCEEDS THE ANCHOR BOLT LENGTH BY MORE THAN 3 FT. THE COST AND PLACEMENT OF REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE FOR ITEM 816 CONCRETE FOR SIGN SUPPORT FOUNDATIONS.

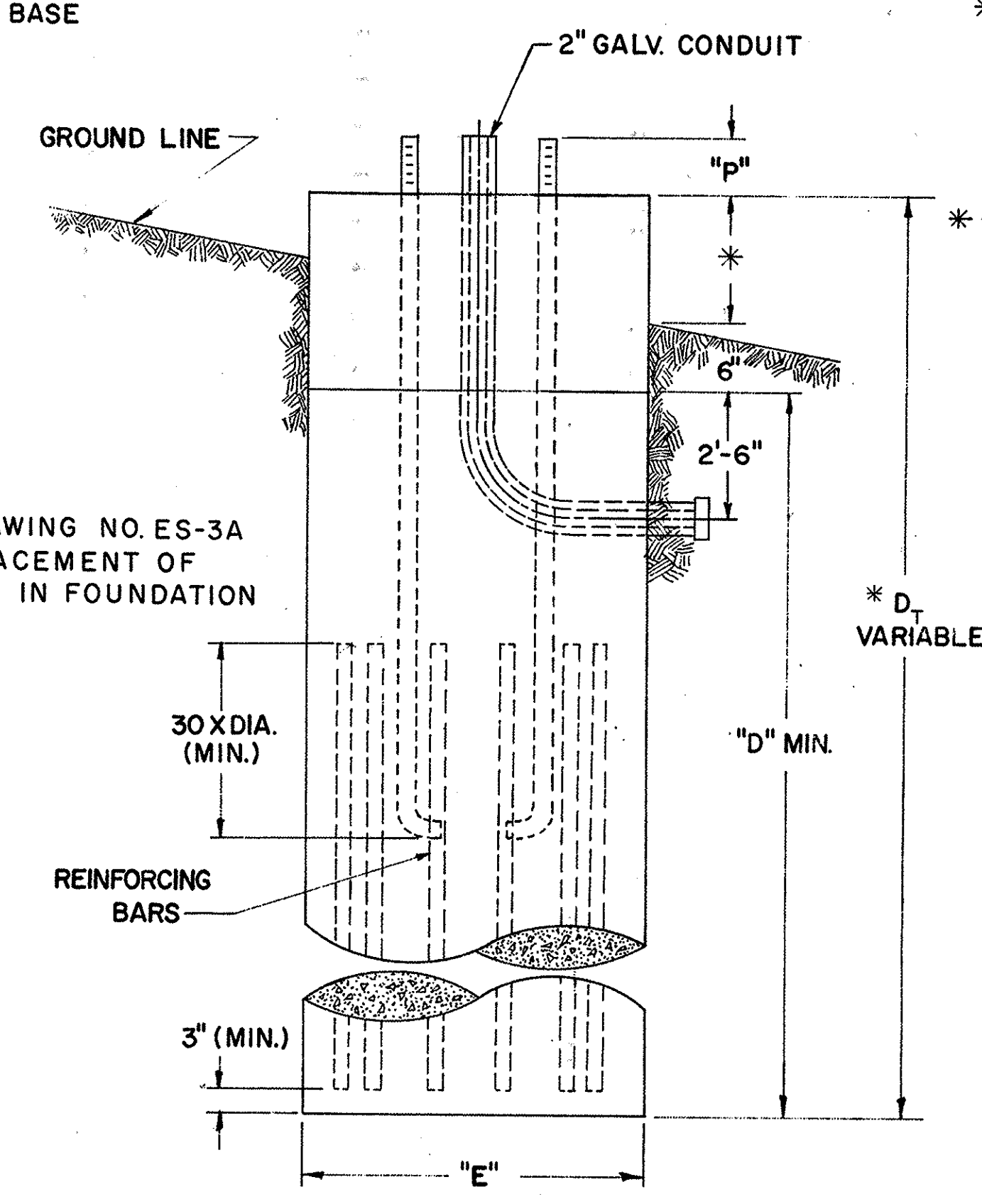
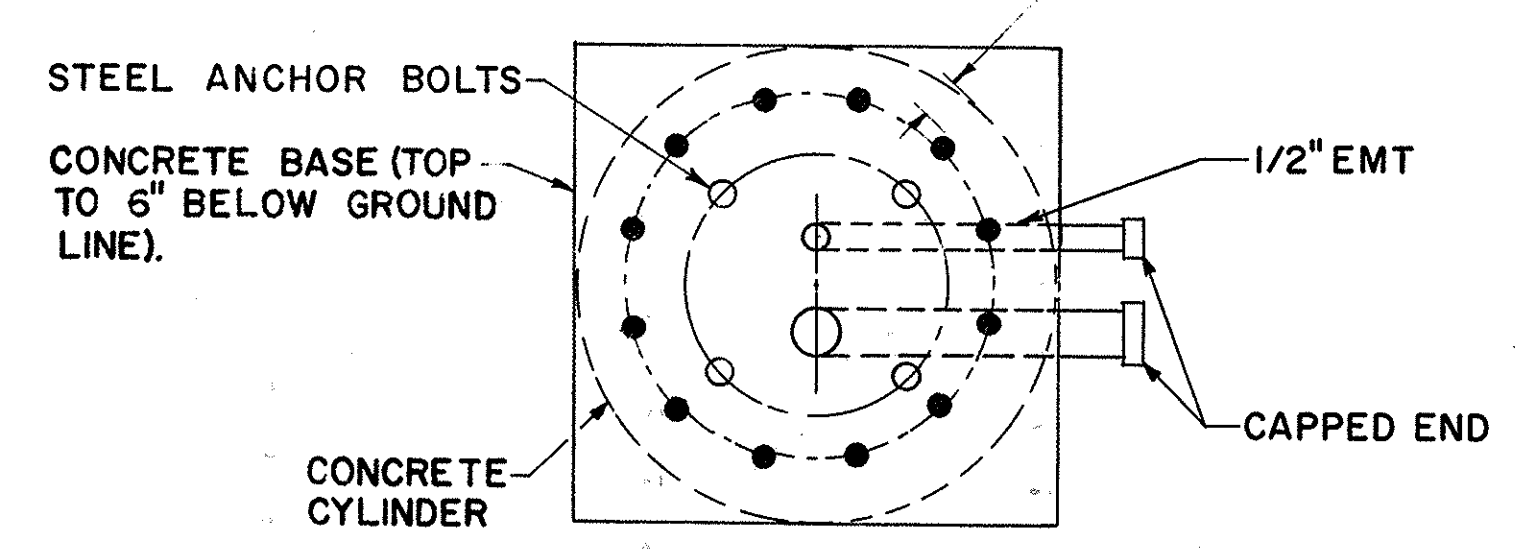
**DESIGN**  
THE DESIGN OF OVERHEAD SUPPORTS IS IN ACCORDANCE WITH A.A.S.H.O. SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, ADOPTED JUNE 12, 1961.



**ARM ATTACHMENT**



**POLE BASE DETAIL**



**FOUNDATION DETAIL**

**NOTE:**  
THE 12" DIMENSION SHOWN FOR BLIND HALF COUPLINGS MAY BE INCREASED OR DECREASED WHEN NECESSARY TO PREVENT INTERFERENCE WITH OTHER MEMBERS.

**SIGN ATTACHMENT DETAIL**

DESIGN NO.	POLE SIZE	*** ARM SIZE	DIM A	DIM **B	DIM "D" MIN.	DIM F	DIM F	DIM P	DIM S	DIM T	BOLT CIRCLE	ANCHOR BOLT SIZE	MAX SIGN AREA	REINF BARS	
														SIZE	# REQ'D
1	3 Ga, 12" X 8.78" X 23'-0"	7 Ga, 6.9" X 4.66" X 16'-0"	4'	12'	9'	3'-0"	11 5/16"	7 3/4"	17"	2"	16"	1 3/4" X 90"	80	3/4"	12
2	3 Ga, 12" X 8.78" X 23'-0"	7 Ga, 8" X 5.2" X 20'-0"	4'	16'	9'	3'-0"	11 5/16"	7 3/4"	17"	2"	16"	1 3/4" X 90"	80	3/4"	12
3	3 Ga, 15" X 11.5" X 25'-0"	7 Ga, 8.3" X 6.06" X 16'-0"	4'	12'	11'	3'-0"	15 1/2"	8 3/8"	23"	2"	22"	2" X 96"	120	1"	12
4	3 Ga, 16" X 12.5" X 25'-0"	3 Ga, 9.2" X 6.40" X 20'-0"	4'	16'	11'	3'-0"	16 5/16"	8 3/8"	24 1/2"	2"	23 1/2"	2" X 96"	120	1"	12
5	0 Ga, 18" X 14.36" X 26'-0"	7 Ga, 11" X 7.92" X 22'-0"	6'	14'	13'	3'-0"	18"	9 3/8"	26 1/2"	2 1/2"	25 1/2"	2 1/4" X 120"	180	1 1/8"	12
6	0 Ga, 18" X 14.36" X 26'-0"	7 Ga, 12.5" X 8.86" X 26'-0"	6'	18'	13'	3'-0"	18"	9 3/8"	26 1/2"	2 1/2"	25 1/2"	2 1/4" X 120"	180	1 1/8"	12
7	2 PLY 7 Ga, 18" X 14.36" X 26'-0"	7 Ga, 12.5" X 9.14" X 24'-0"	6'	14'	15'	3'-0"	18"	9 3/4"	26 1/2"	2 1/2"	25 1/2"	2 1/2" X 144"	240	1 1/4"	12
8	2 PLY 1/4", 18" X 14.36" X 26'-0"	3 Ga, 12.5" X 8.58" X 28'-0"	6'	18'	15'	3'-0"	18"	11 1/4"	26 1/2"	3"	25 1/2"	3" X 144"	240	1 1/4"	12

BUREAU OF TRAFFIC OHIO DEPARTMENT OF HIGHWAYS		
<b>OVERHEAD SIGN SUPPORT</b>	<b>816</b>	DATE 8-18-61
	<b>No. 12.24</b>	4-11-62
APPROVED <i>Robert E. Loman</i> ENGINEER OF TRAFFIC		4-18-67
		7-23-69

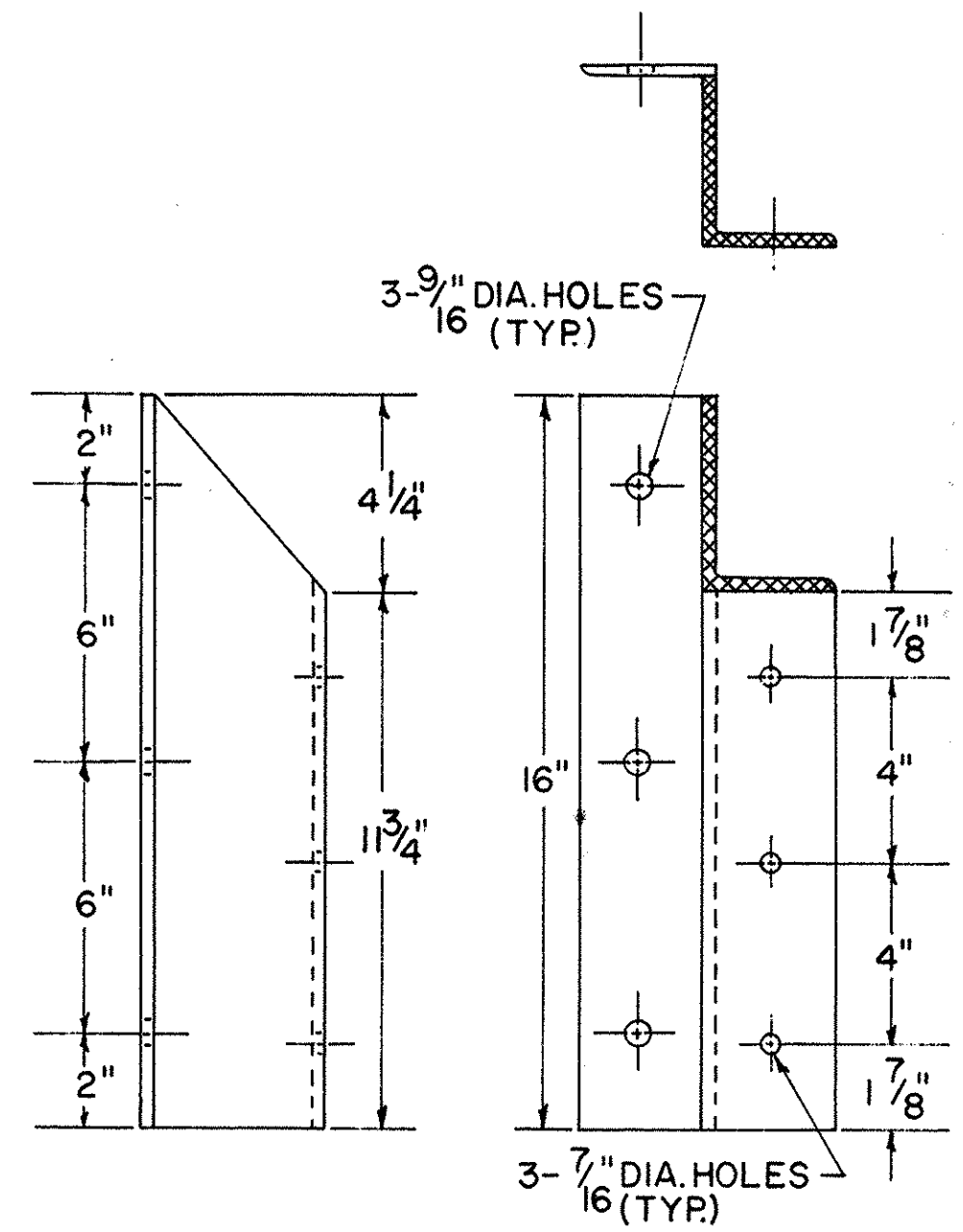
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

232  
303

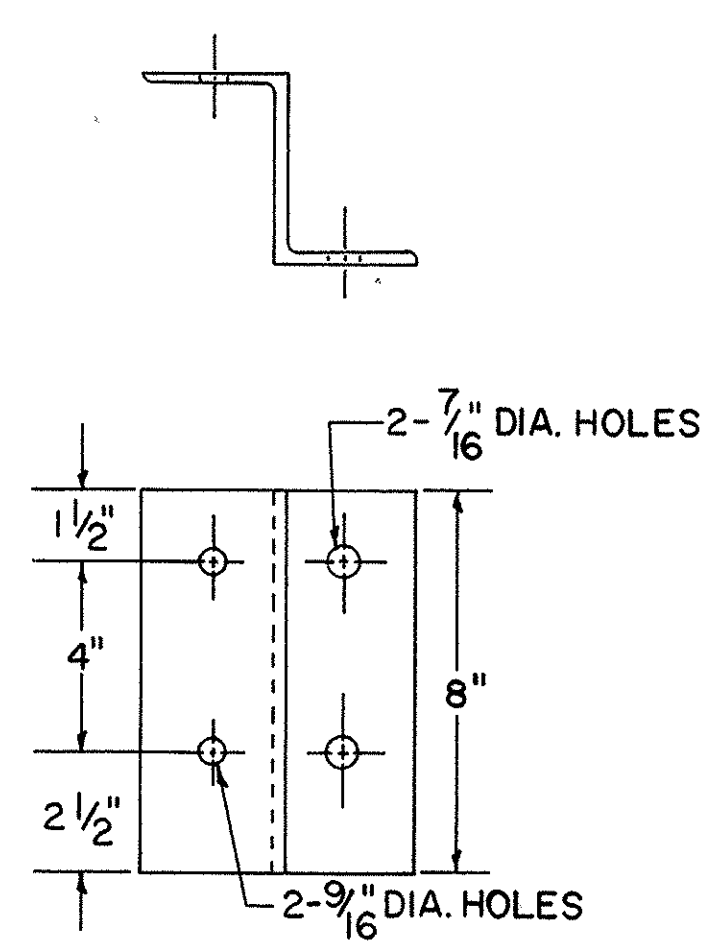
MAHONING COUNTY  
MAH-680-9.32

**NOTES**

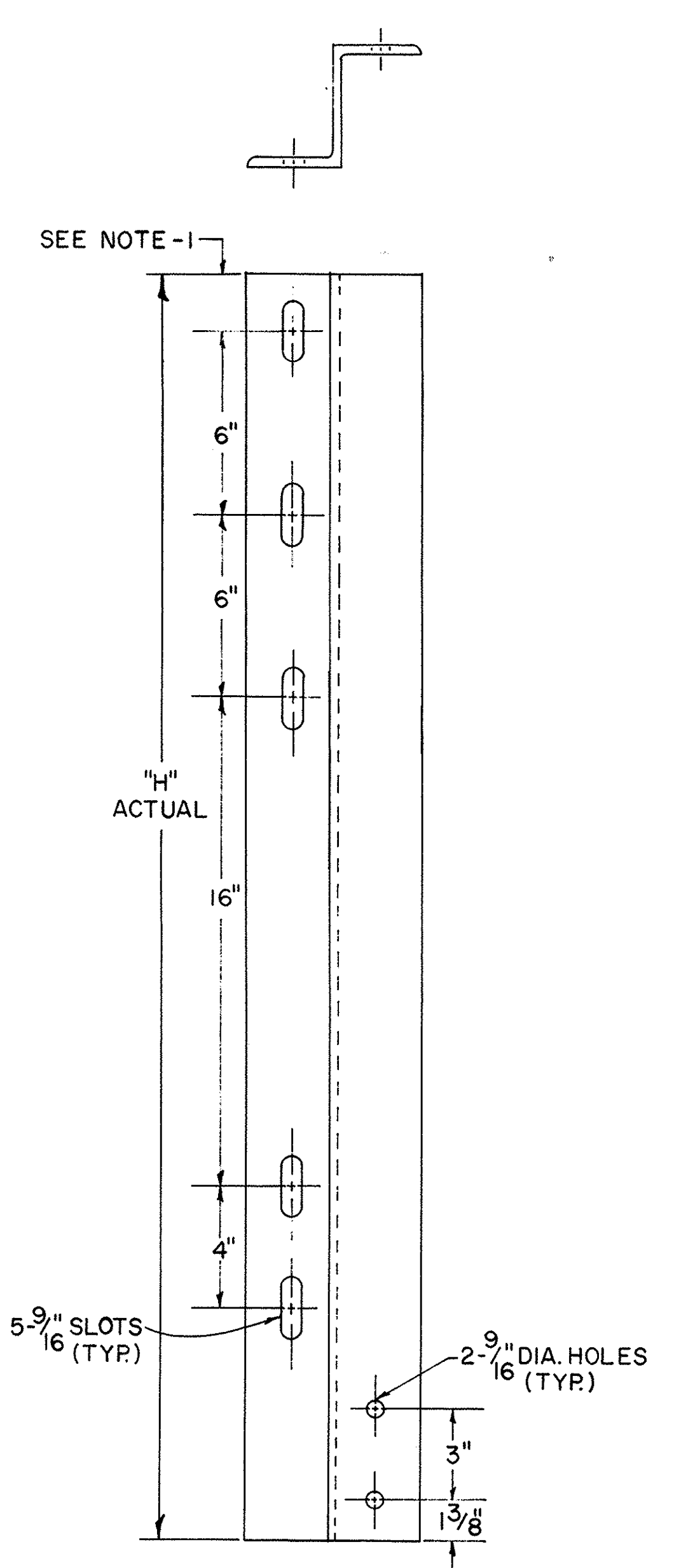
- ALL STRUCTURAL SHAPES TO BE ALUMINUM, EXCEPT AS NOTED.  
 EXPANSION BOLTS TO BE GALVANIZED STEEL.  
 (1) THIS DIMENSION VARIES FOR SIGNS OVER 4'-6" ON SLAB TYPE BRIDGES AND SIGNS OVER 5'-6" ON STEEL GIRDER TYPE BRIDGES.  
 (2) FOR ELECTRICAL DETAIL SEE DRAWINGS, E1-1 PAGE 235, E1-2 PAGE 236.  
 (3) ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO, CONSTRUCTION & MATERIALS SPECIFICATIONS, AND THE SUPPLEMENTAL SPECIFICATIONS 816, OR AS OTHER-WISE SPECIFIED.



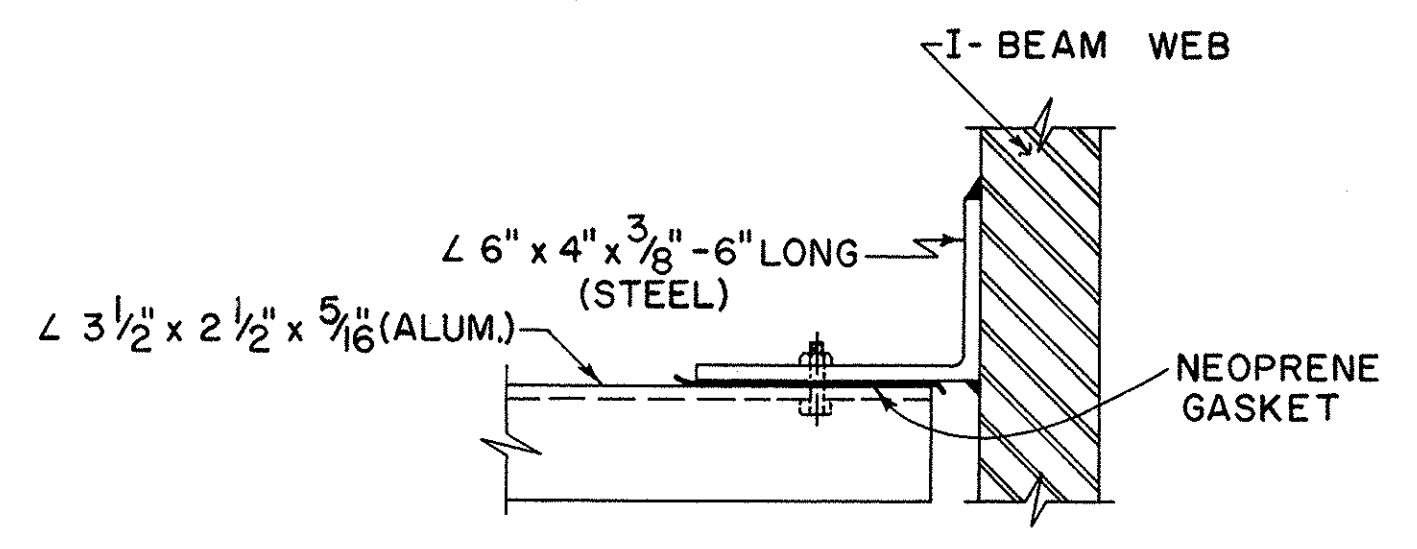
**"Z" BAR-A**  
(4" x 3 1/16" x 1/4" @ 2.85 LB.)



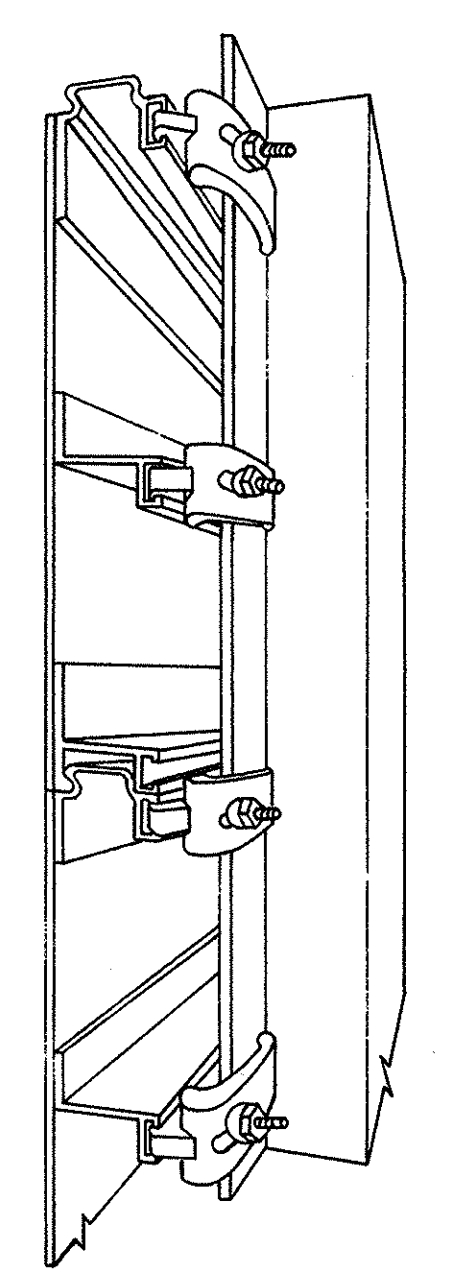
**"Z" BAR-B**  
(4" x 3 1/16" x 1/4" @ 2.85 LB.)



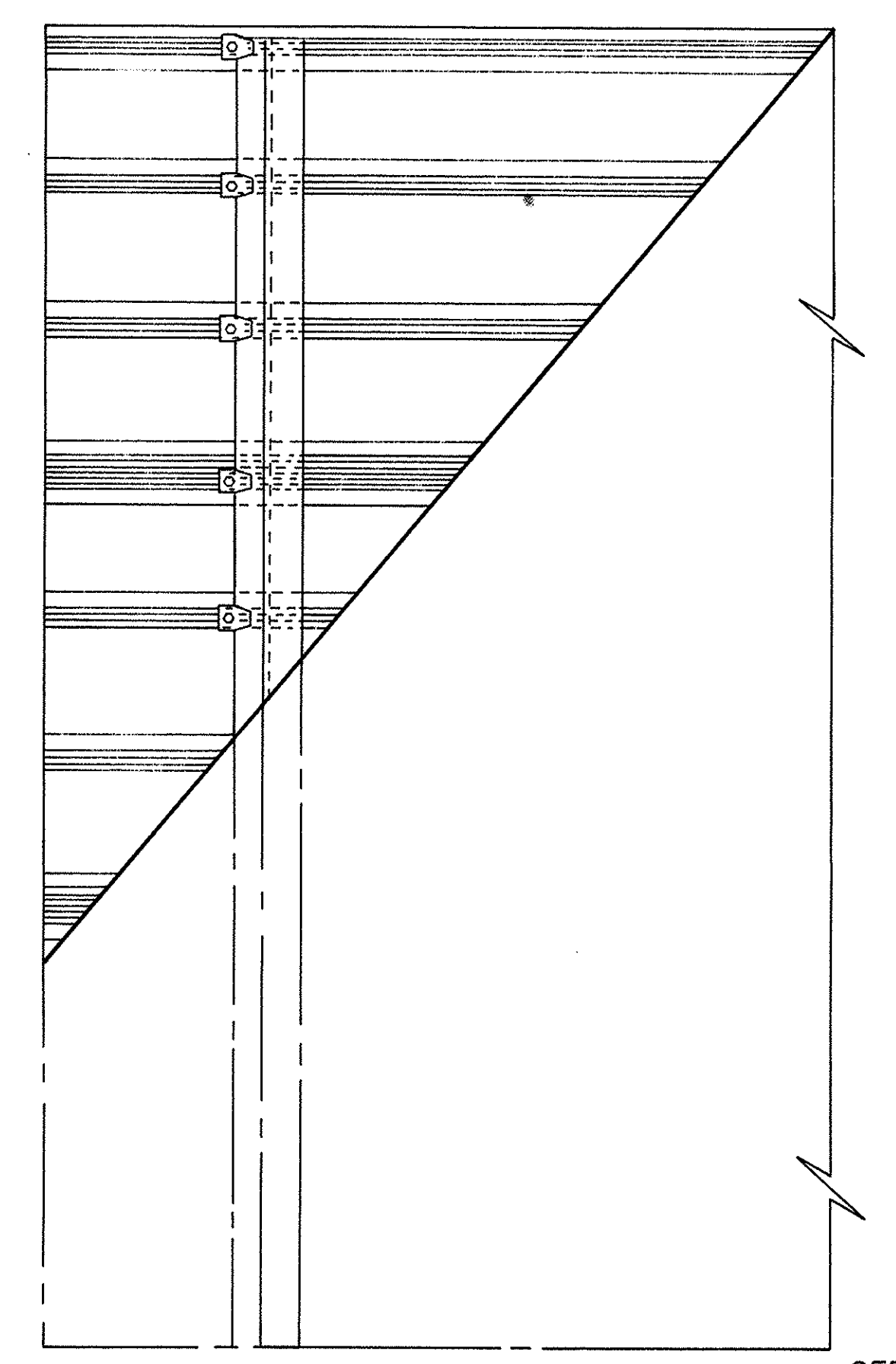
**"Z" BAR-C**  
(4" x 3 1/16" x 1/4" @ 2.85 LB.)



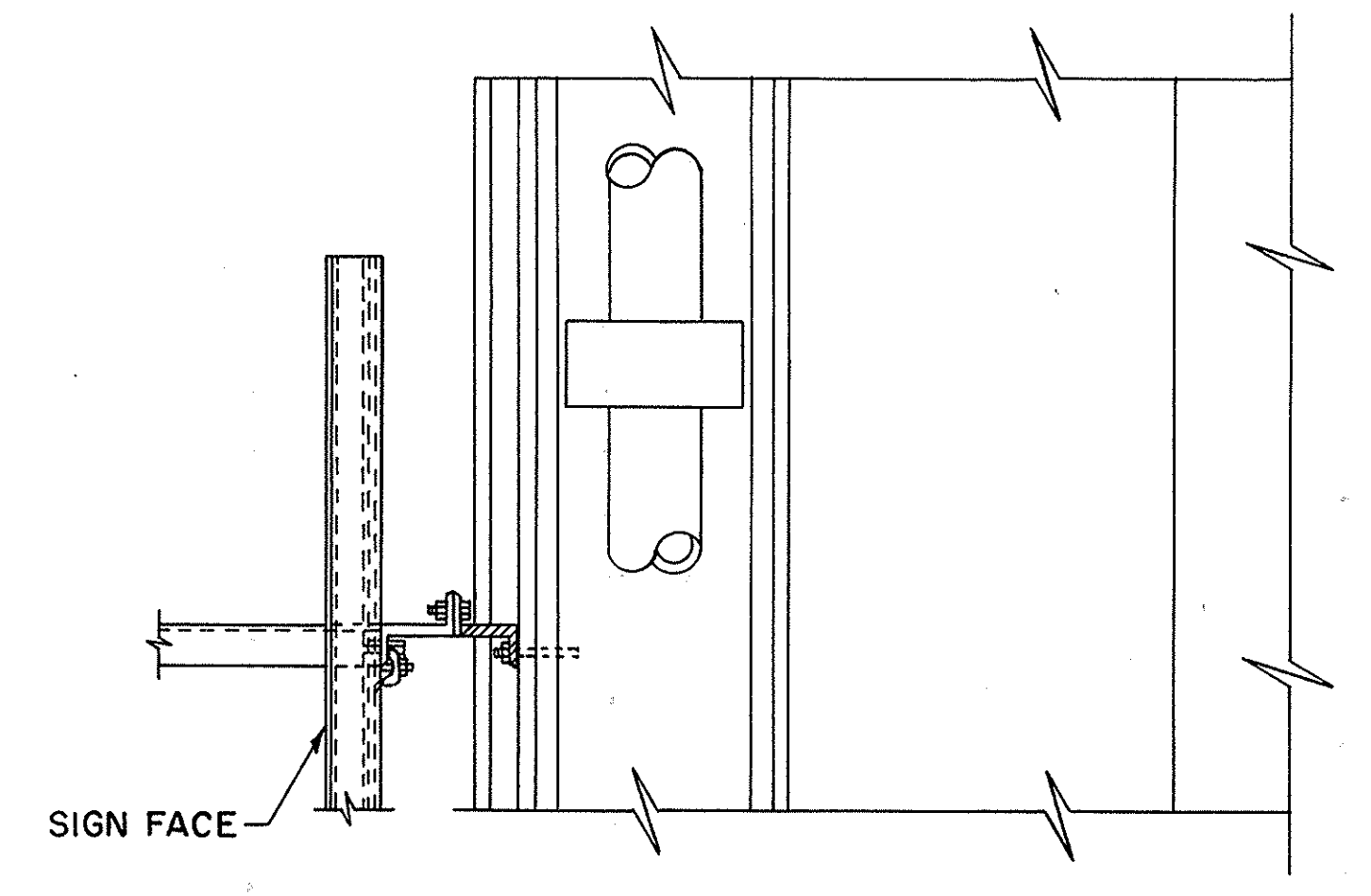
**SECTION A-A**



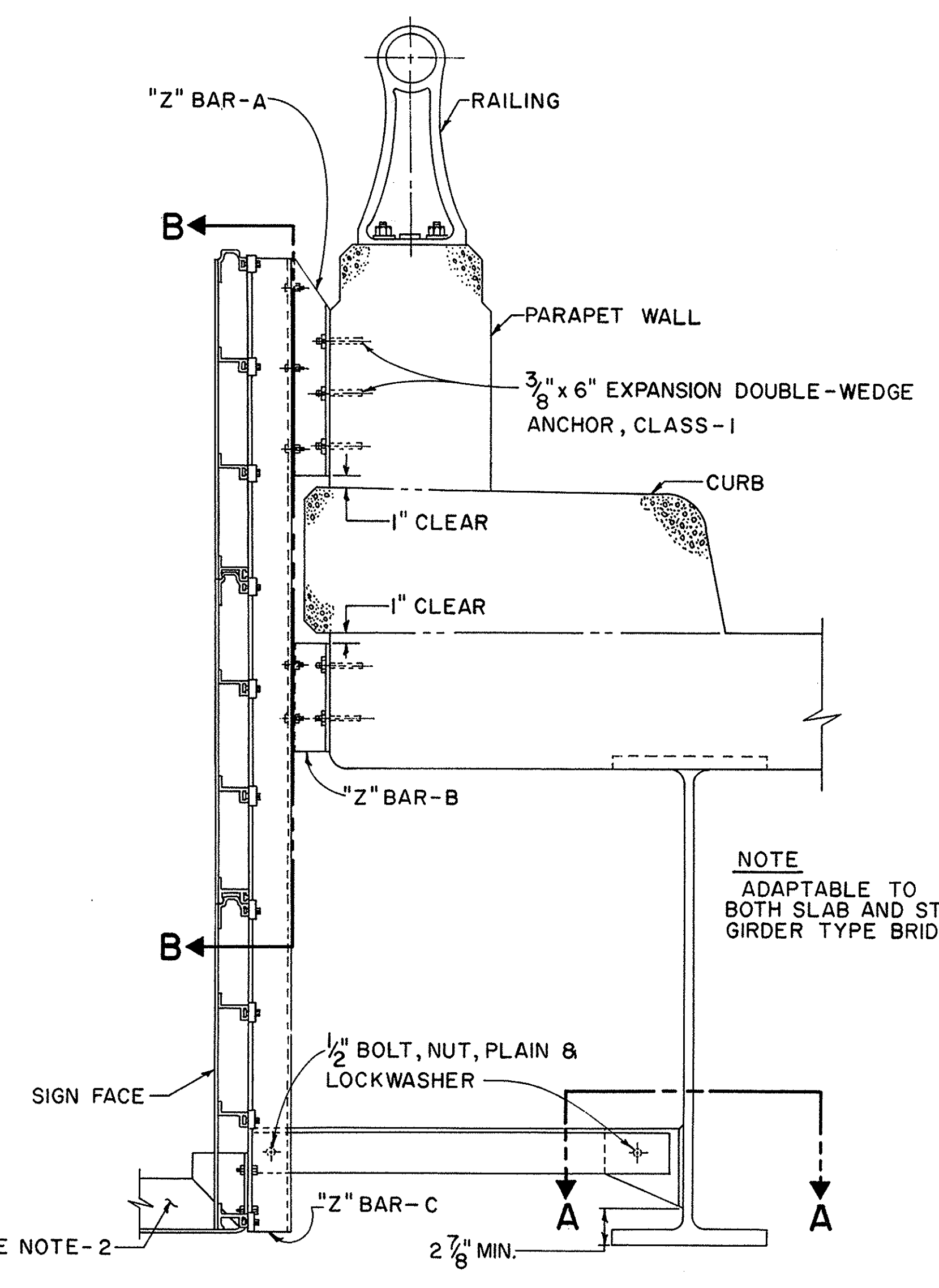
**CLAMP ASSEMBLY**



**SECTION B-B**



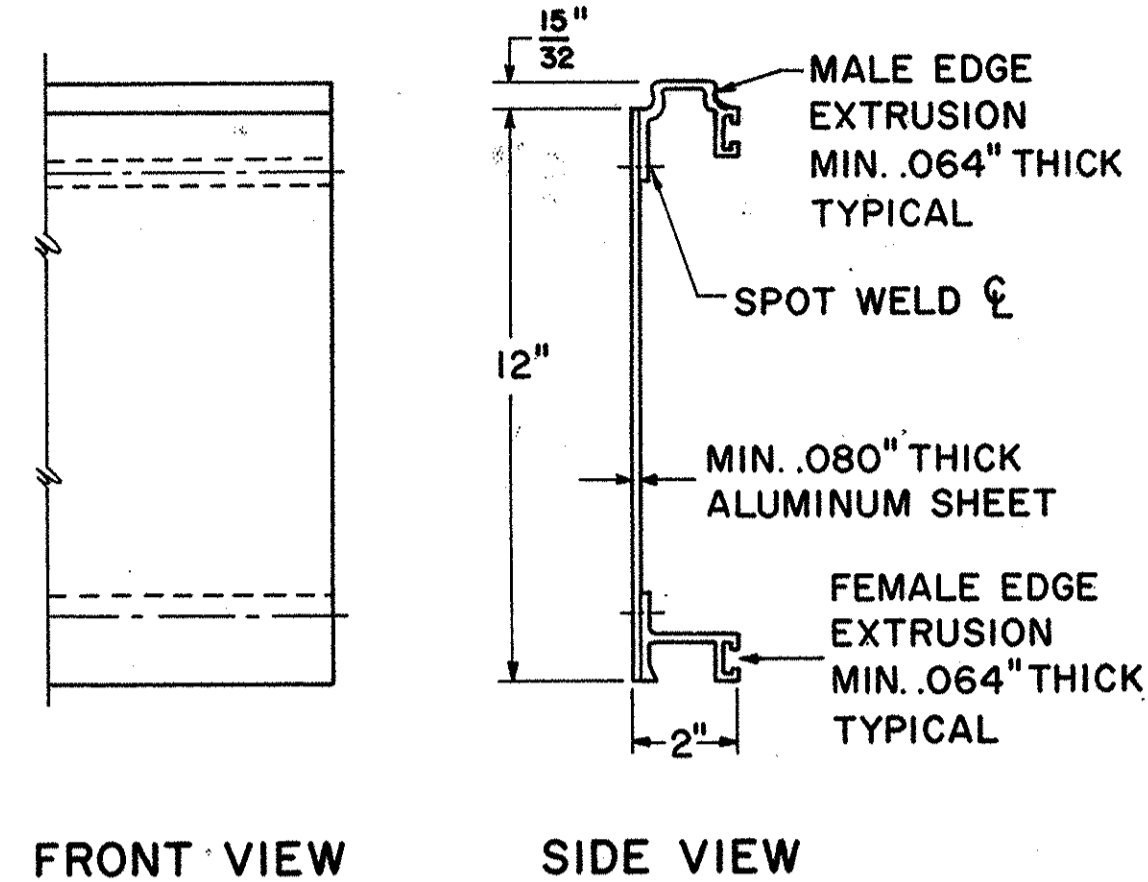
**TOP VIEW**



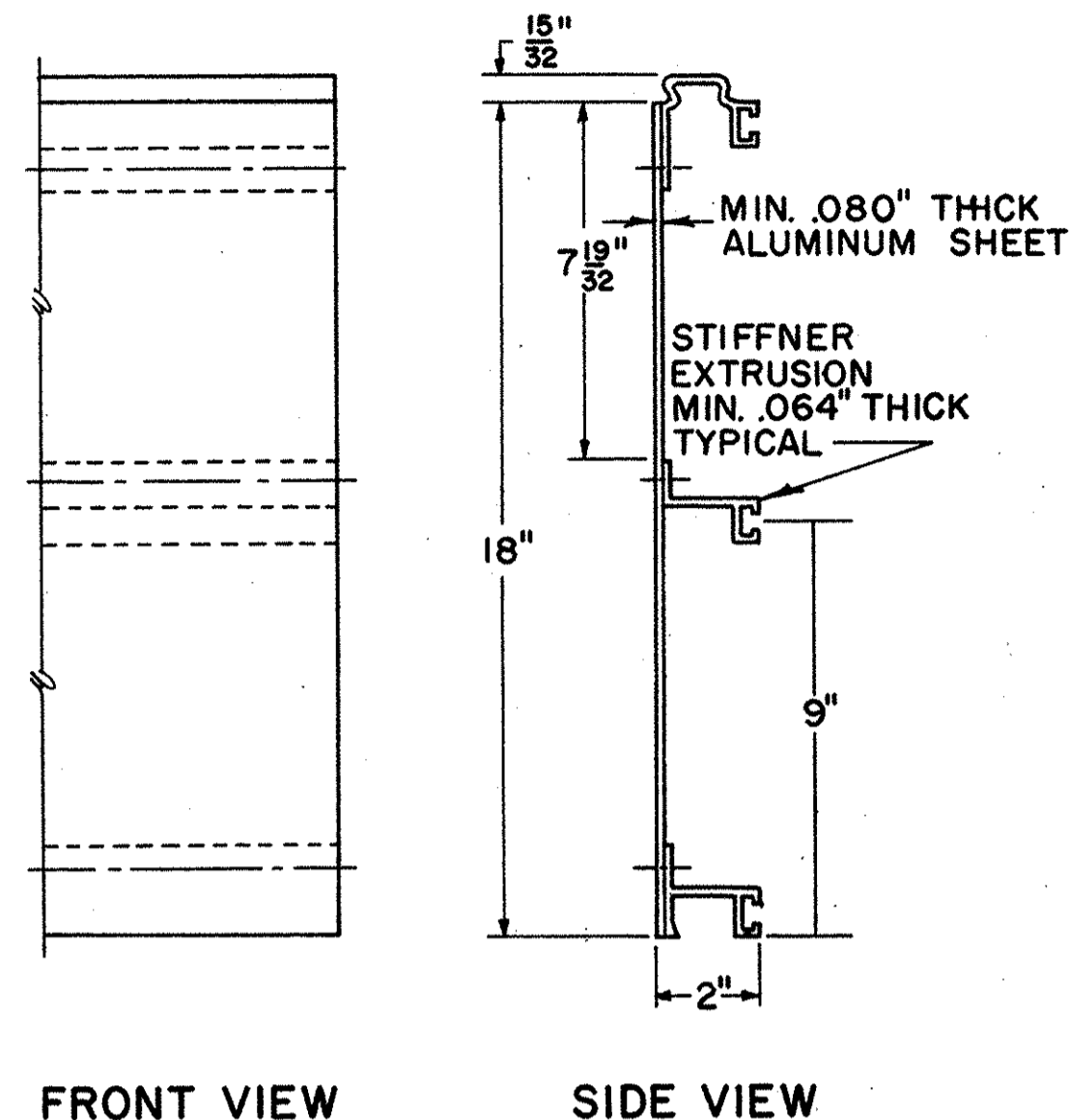
**SIDE VIEW BRIDGE MOUNT**

BUREAU OF TRAFFIC OHIO DEPARTMENT OF HIGHWAYS	
<b>SPECIAL SIGN SUPPORT</b>	DATE 1-24-68
<b>SPL-816</b>	
APPROVED _____ ENGINEER OF TRAFFIC	

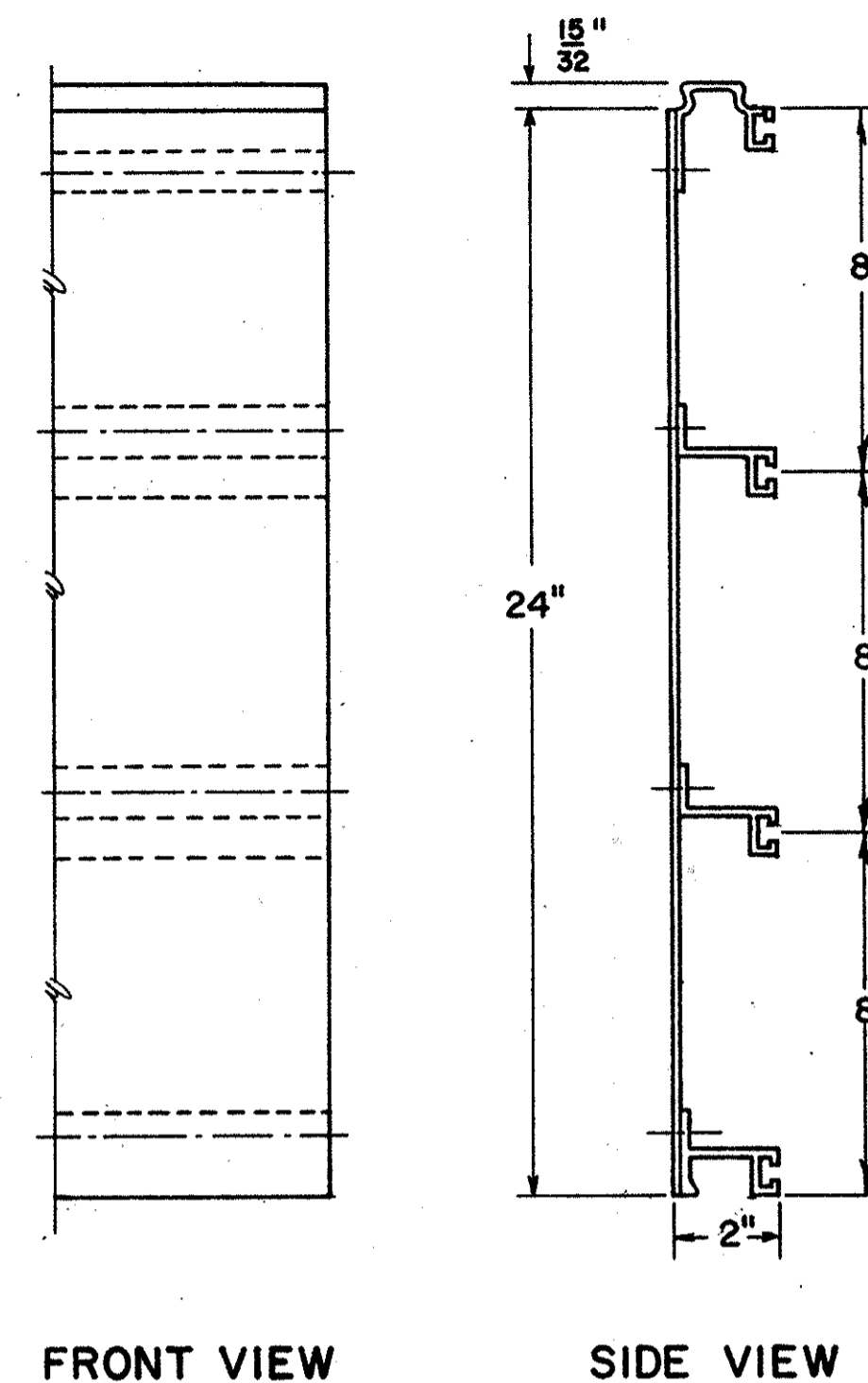
12" EXTRUSHEET PANEL



18" EXTRUSHEET PANEL



24" EXTRUSHEET PANEL



NOTES:

EXTRUSHEET PANELS SHALL BE ALUMINUM; SPOT WELDING AND ALL MATERIALS SHALL CONFORM WITH SUPPLEMENTAL SPECIFICATION 815.

COMBINATIONS OF 12", 18", AND 24" PANELS ARE USED TO ATTAIN REQUIRED SIGN HEIGHT.

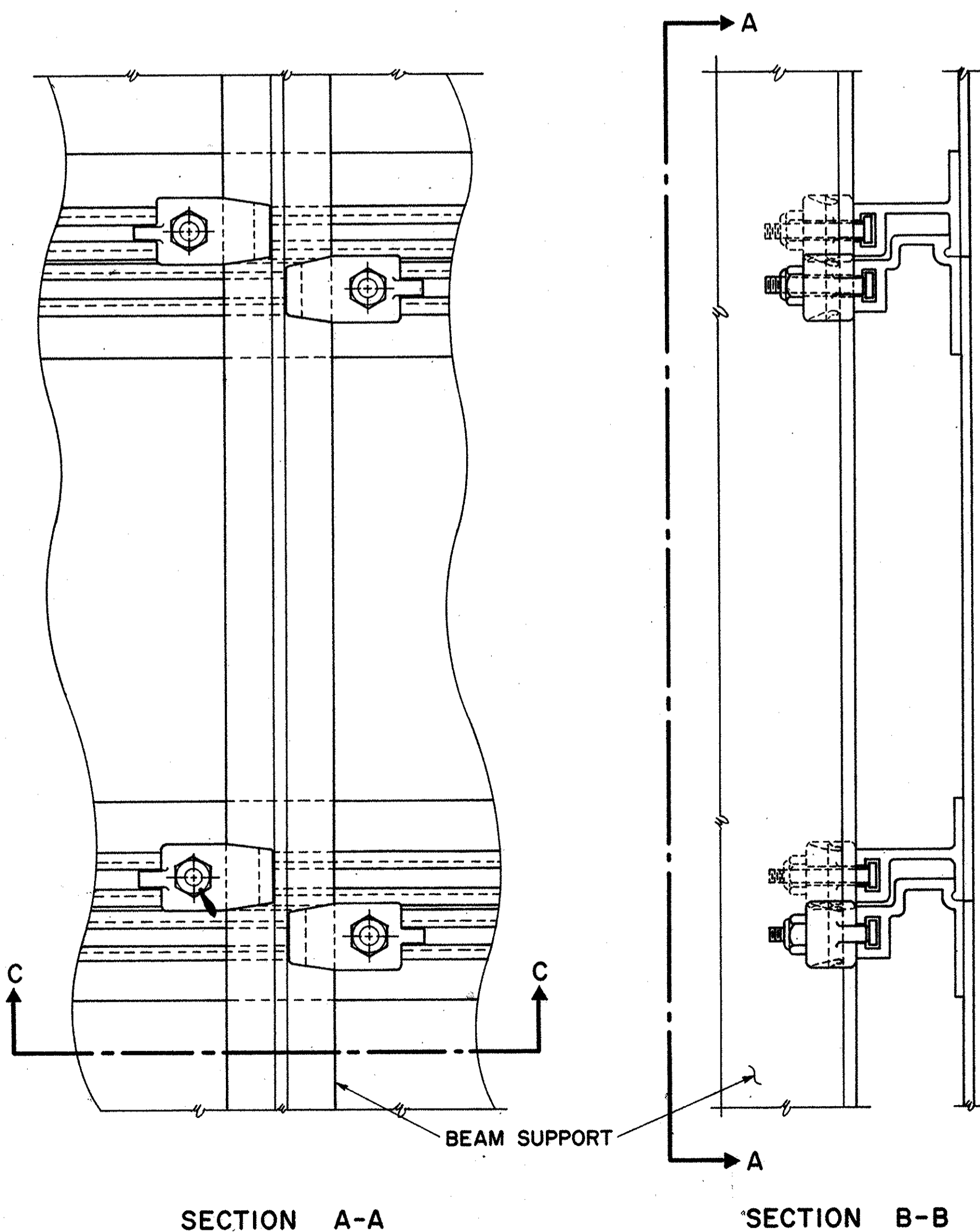
INDIVIDUAL PANELS SHALL BE THE SAME LENGTH AS THE HORIZONTAL LENGTH OF SIGN WITH NO SPLICES.

PANELS SHALL BE INTERLOCKED AND ERECTED WITH THE MALE EXTRUSION LOCATED AT THE TOP EDGE OF THE SIGN.

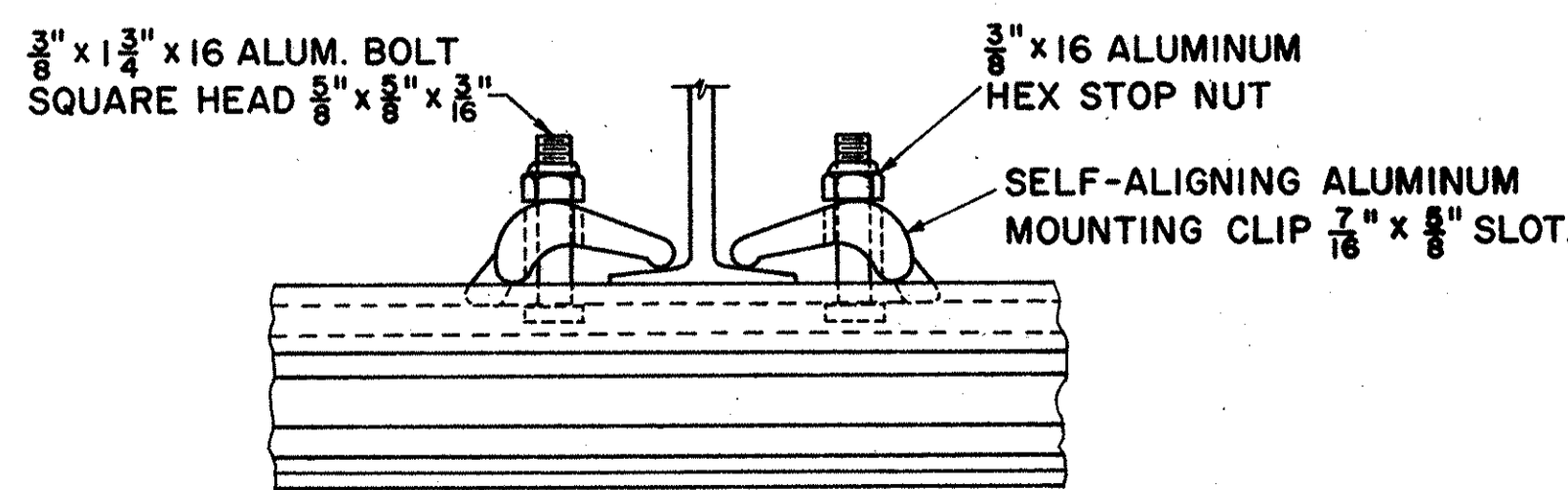
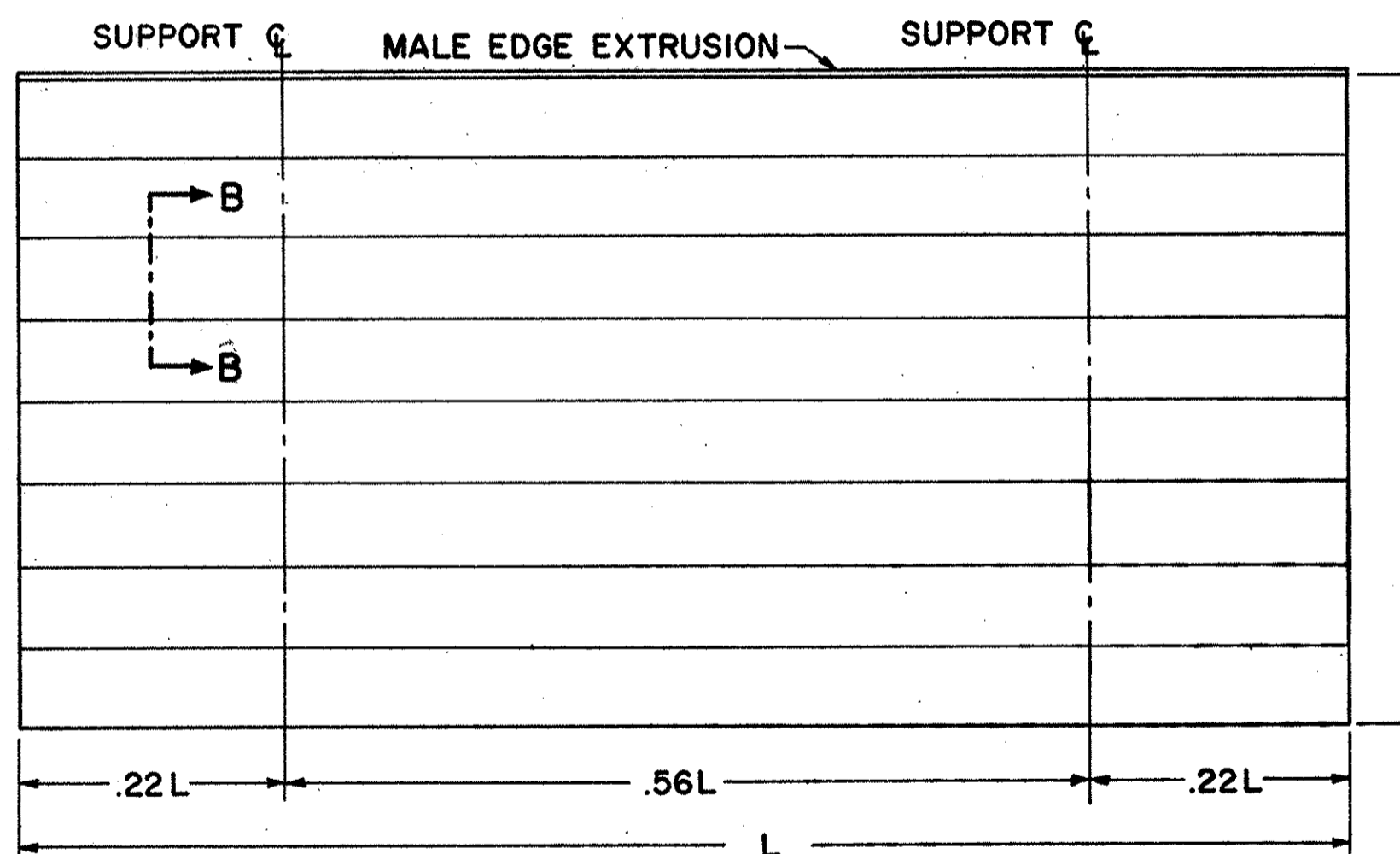
EXTRUSHEET PANELS SHALL BE FASTENED TO EACH VERTICAL SUPPORT MEMBER WITH MOUNTING CLIPS; ALTERNATELY AT EACH HORIZONTAL EXTRUSION; BOTH SIDES AT EACH JOINT, AND ON BOTH SIDES AT TOP AND BOTTOM EDGE OF SIGN.

THE PANELS SHALL BE DESIGNED TO WITHSTAND A WIND LOAD OF 35 POUNDS PER SQUARE FOOT, IN ACCORDANCE WITH THE A.A.S.H.O. SPECIFICATION FOR DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS.

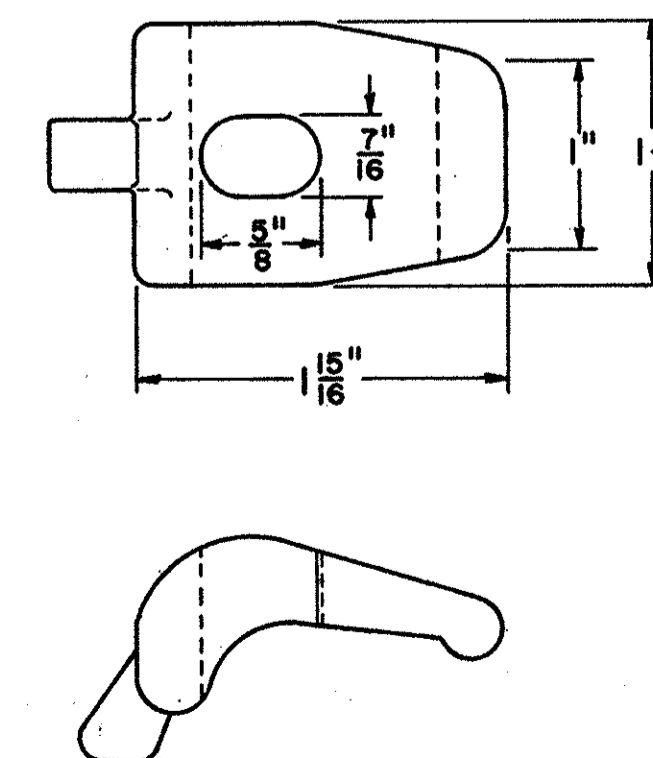
THE MAXIMUM SIGN LENGTH FOR TWO SUPPORTS IS 19'-0".  
THE MAXIMUM SIGN LENGTH FOR THREE SUPPORTS IS 29'-0".



GENERAL ARRANGEMENT



CLIP DETAIL



SPOT WELDS

PANEL SIZE	MAXIMUM SPOT WELD SPACING CENTER TO CENTER BETWEEN ROWS	
12 INCH	4 INCH	10 INCH
18 & 24 INCH	4 INCH	8 INCH

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

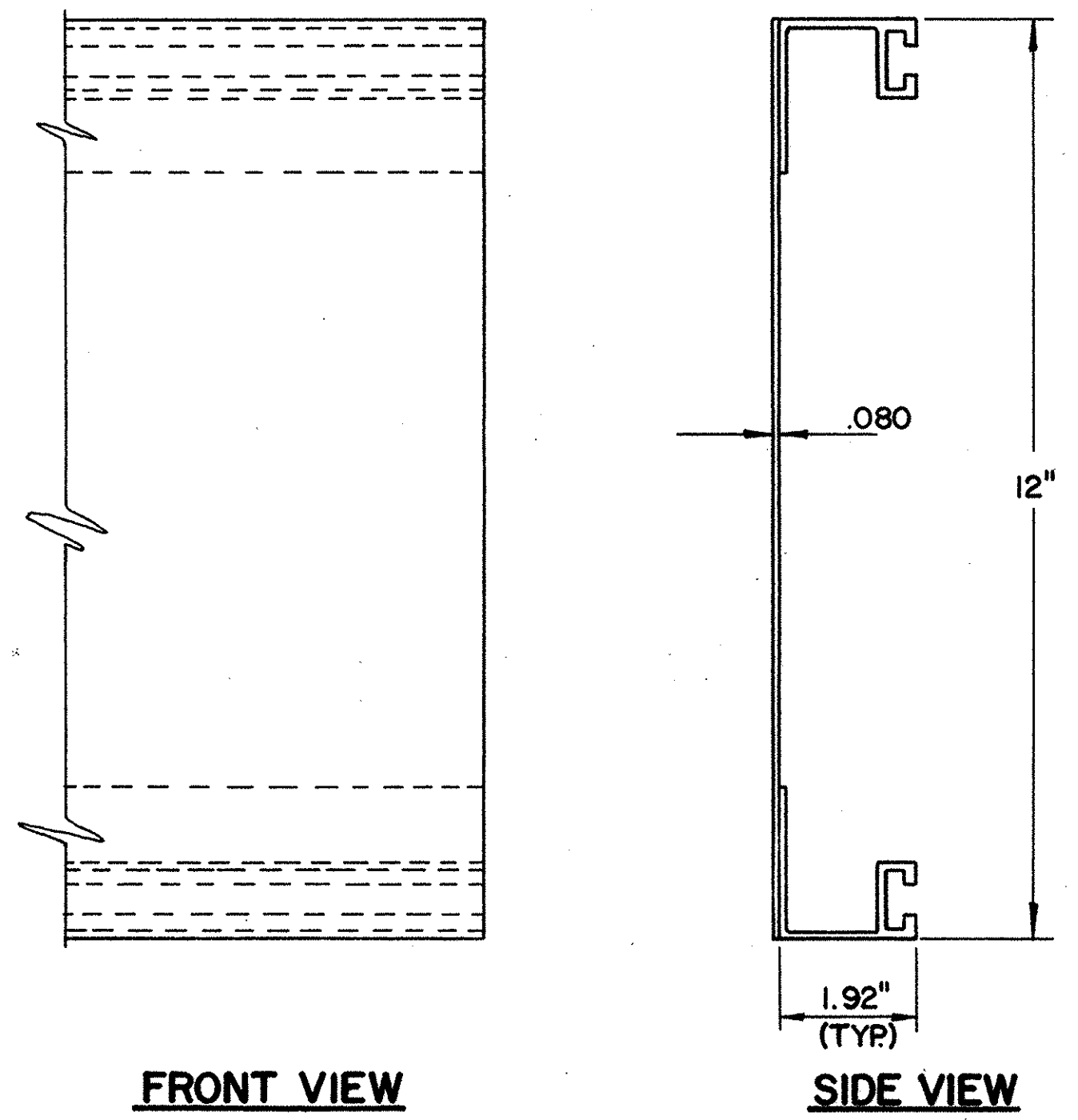
ALUMINUM  
EXTRUSHEET  
PANEL SIGN

ECD  
I

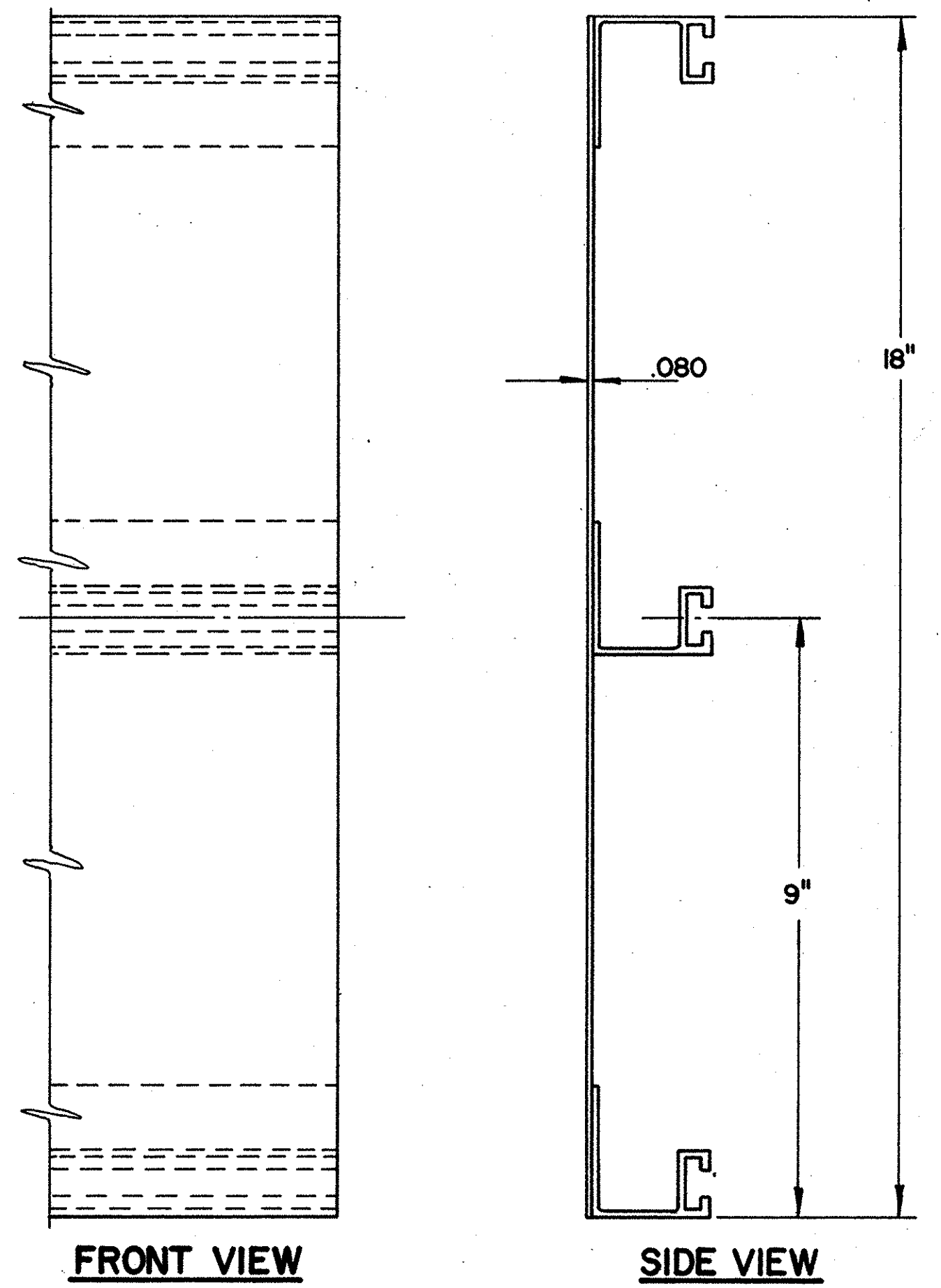
DATE  
9-25-63  
5-19-64  
10-21-65

APPROVED *Frank C. Taylor*  
ENGINEER OF TRAFFIC

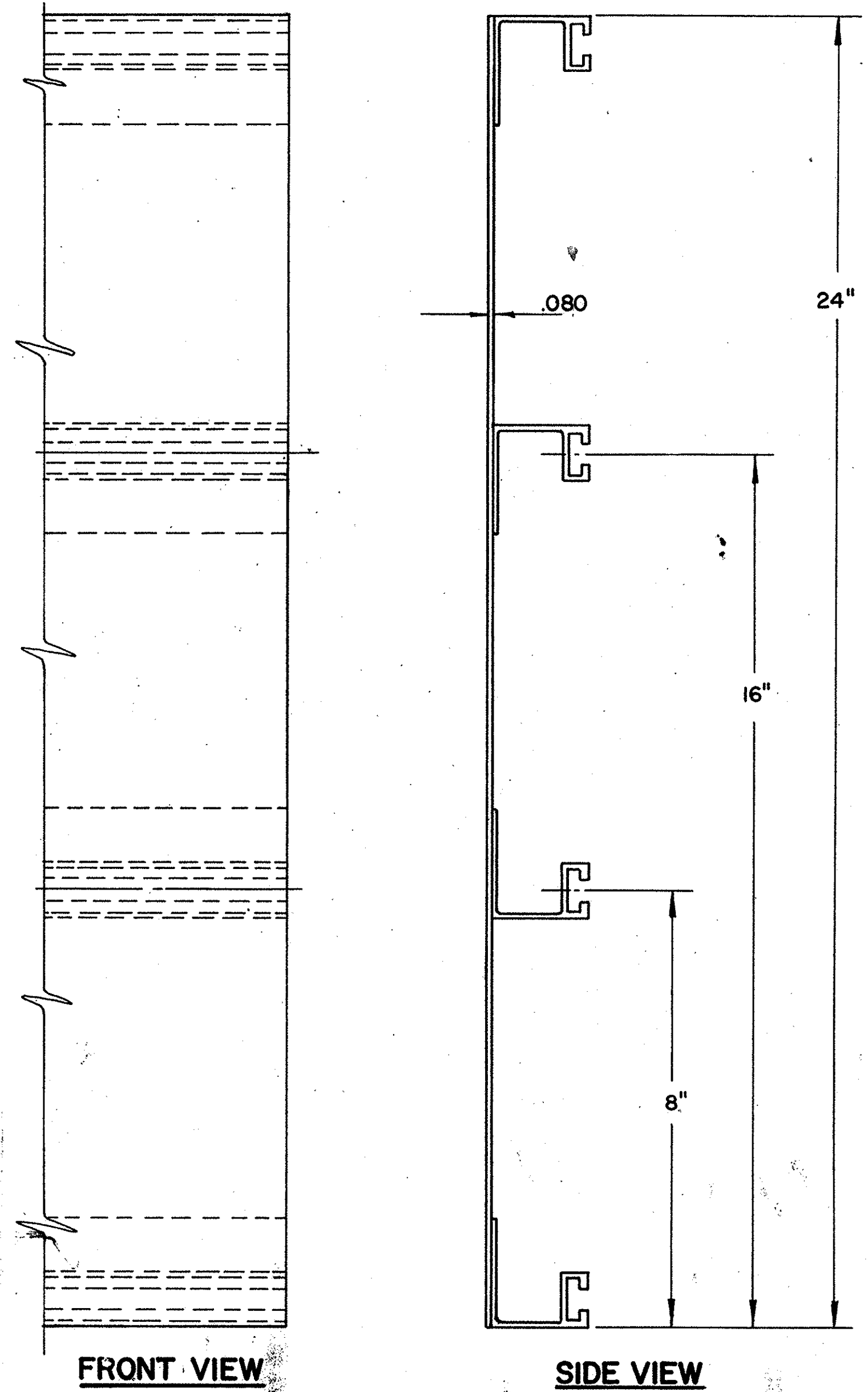
12" BOLTED-EXTRUSHEET PANEL



18" BOLTED-EXTRUSHEET PANEL



24" BOLTED-EXTRUSHEET PANEL



**NOTES**

EXTRU-SHEET PANELS SHALL BE ALUMINUM; SPOT WELDING, MATERIALS AND HARDWARE SHALL CONFORM WITH SPECIFICATION NO. 815.

COMBINATIONS OF 12", 18" AND 24" PANELS ARE TO BE USED TO ATTAIN REQUIRED SIGN HEIGHT.

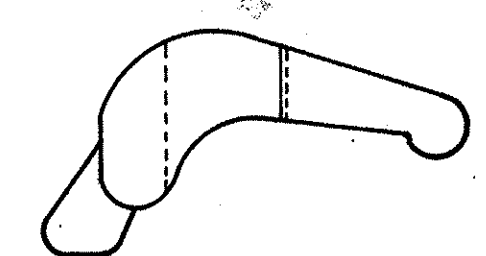
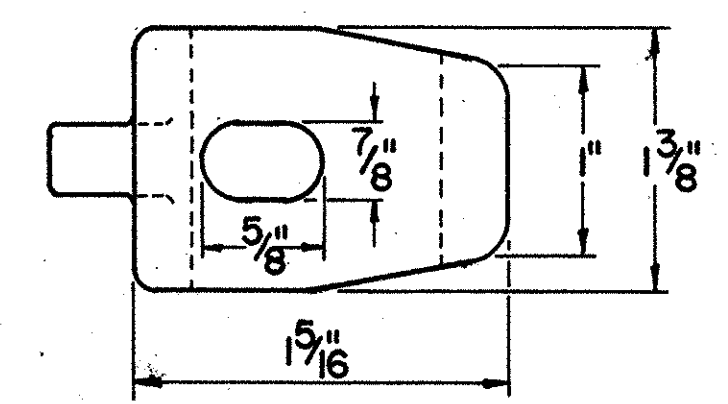
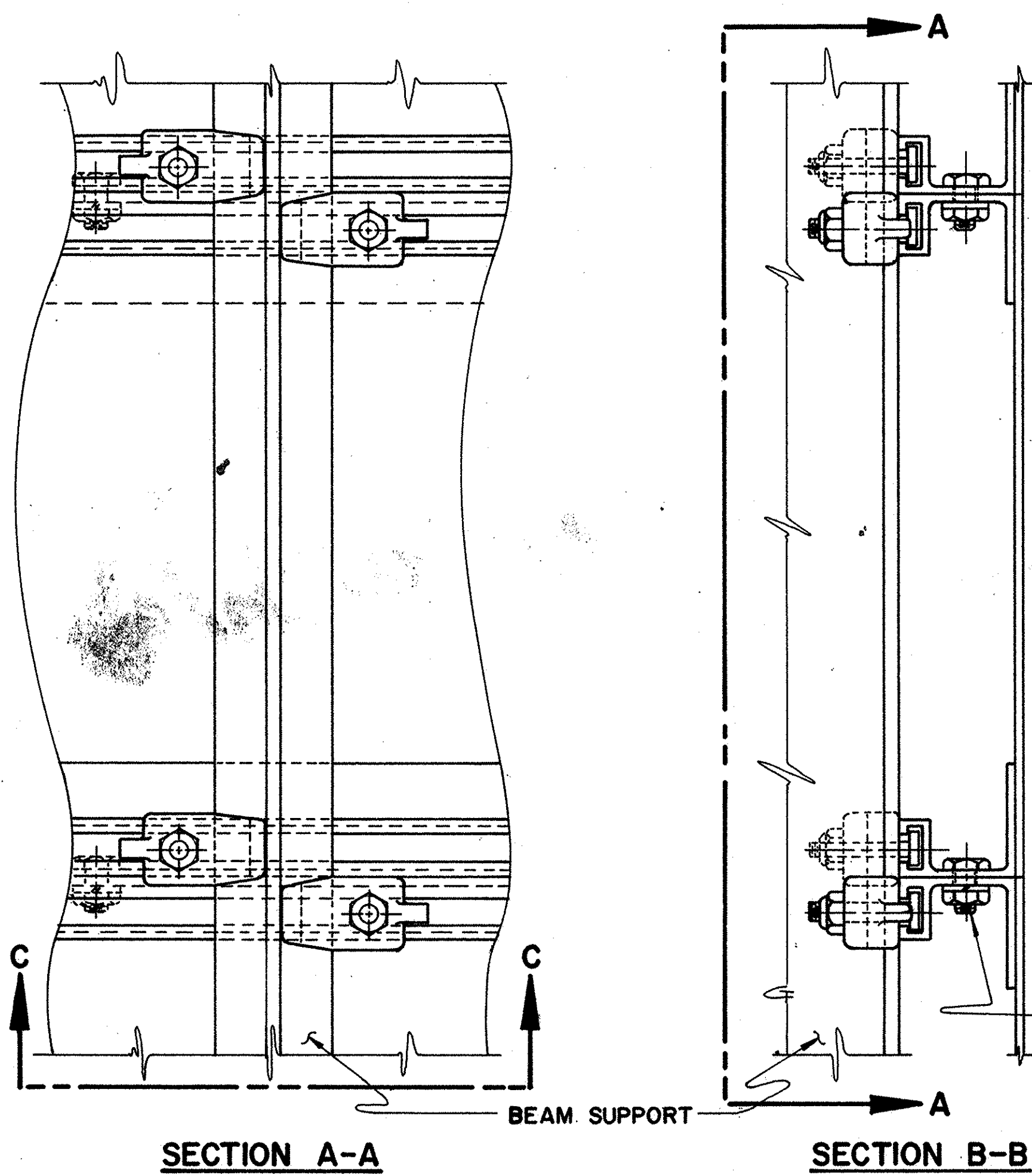
INDIVIDUAL PANELS SHALL BE THE SAME LENGTH AS THE HORIZONTAL LENGTH OF SIGN, WITH NO SPLICES.

THE PANELS SHALL BE ERECTED HORIZONTALLY AND BOLTED ON 24" CENTERS.

THE PANELS SHALL BE FASTENED TO EACH VERTICAL SUPPORT MEMBER WITH MOUNTING CLIPS; ALTERNATELY AT EACH HORIZONTAL EXTRUSION; BOTH SIDES AT EACH JOINT, AND BOTH SIDES AT TOP AND BOTTOM EDGES OF SIGN.

THE PANELS SHALL BE DESIGNED IN ACCORDANCE WITH THE A.A.S.H.O SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, BASE ON A WIND LOAD OF 35#/SQ. FT.

THE MAXIMUM SIGN LENGTH FOR TWO SUPPORTS IS 19'-0".  
THE MAXIMUM SIGN LENGTH FOR THREE SUPPORTS IS 29'-0".

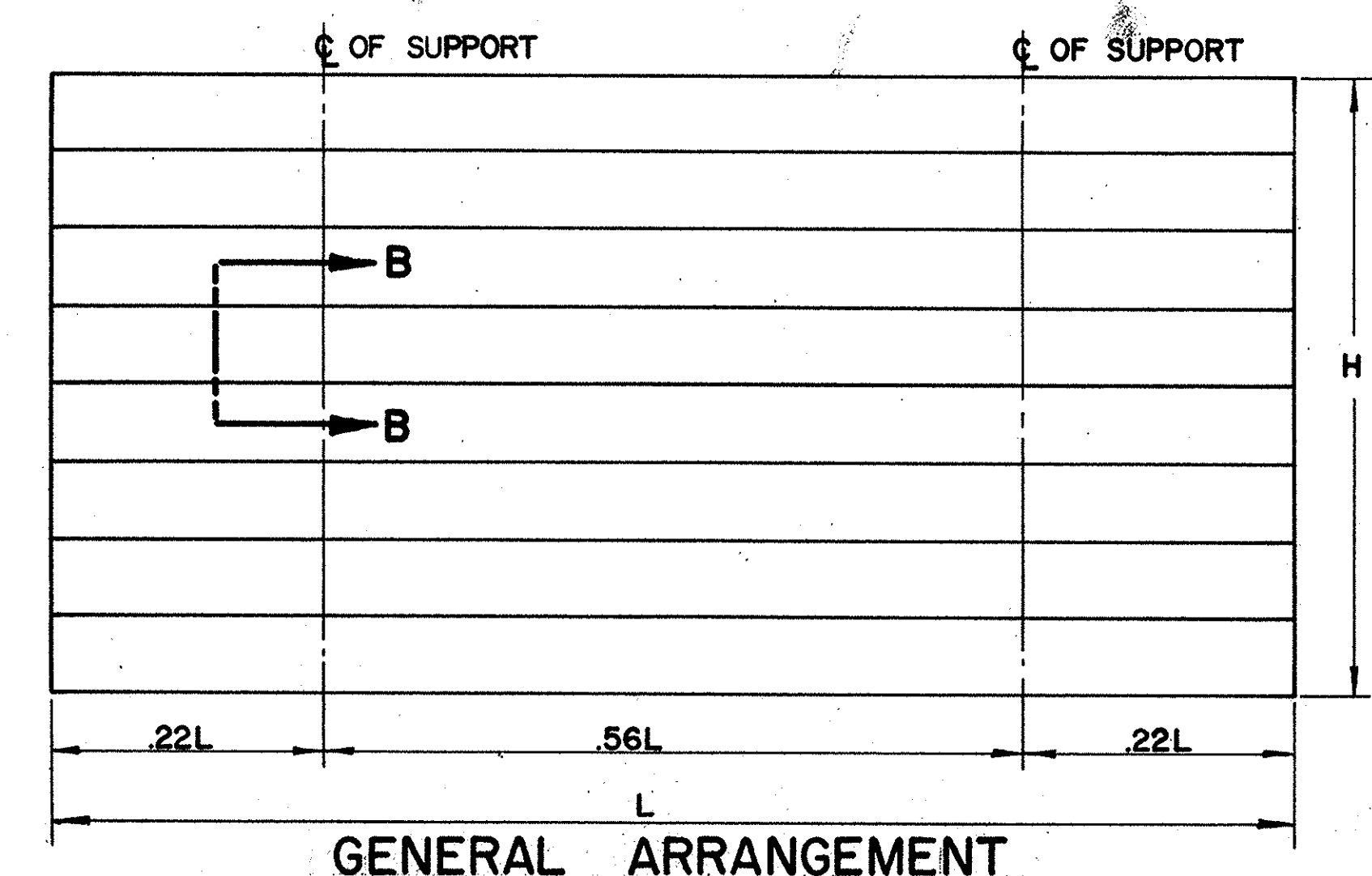
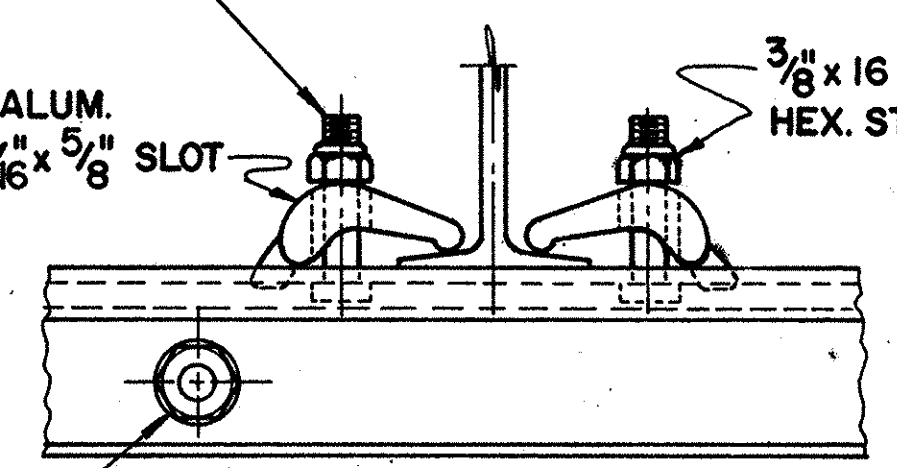


$\frac{3}{8}$ " x  $\frac{1}{4}$ " - 16 ALUM. BOLT  
SQUARE HEAD  $\frac{5}{8}$ " x  $\frac{5}{8}$ " x  $\frac{3}{16}$ "

SELF-ALIGNING ALUM.  
MOUNTING CLIP  $\frac{7}{16}$ " x  $\frac{5}{8}$ " SLOT

$\frac{3}{8}$ " x 16 ALUM.  
HEX. STOP NUT.

$\frac{3}{8}$ " - 16 x  $\frac{3}{4}$ " LONG  
ALUM. BOLT, NUT  
& LOCKWASHER



**SPOT WELDS**

PANEL SIZE	MAXIMUM SPOT WELD SPACING CENTER TO CENTER BETWEEN ROWS	
12 INCH	4 INCH	10 INCH
18 & 24 INCH	4 INCH	8 INCH

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

**ALUMINUM BOLTED EXTRUSHEET PANEL SIGN**

APPROVED *Fred C. Taylor*  
ENGINEER OF TRAFFIC

ECD  
2

DATE  
10-14-65

**ALUMINUM BOLTED-EXTRUSHEET PANEL SIGN**

MAHONING COUNTY  
MAH-680-932

TABLE I.

"L" SIGN LENGTH	FIXTURES OF NUMBER	"M" EDGE DISTANCE				NO. BALLAST	Sn=Nominal Fixture Length, 72" & 96" respectively. Sa=Actual Fixture Length, for mounting purposes, 75 3/8" and 99 3/8" res- pectively. (Slight vari- ation for different manufacturers.) M= Distance from edge of sign to C of notch, min. 6". When the length of the sign minus 1'-0" is less than the sum of the actual fixture lengths, an offset "K" is used. For additional details see detail A and table III.
		A	B	LT.	RT.		
6'-0"	75	6"	6"	6"	6"	1	
8'-0"	9'-0"	1	10 3/8"	10 1/4"	16 3/8"	16 1/4"	1
10'-0"	11'-0"	1	10 3/8"	10 1/4"	16 3/8"	16 1/4"	1
12'-0"	13'-0"	2	6"	6"	6"	6"	1
14'-0"	15'-0"	2	8 5/8"	8 5/8"	14 5/8"	14 5/8"	1
16'-0"	17'-0"	1	8 5/8"	8 5/8"	14 5/8"	14 5/8"	1
18'-0"	19'-0"	2	8 5/8"	8 5/8"	14 5/8"	14 5/8"	1
20'-0"	21'-0"	3	7"	6 7/8"	13"	12 7/8"	2
22'-0"	23'-0"	2	7"	6 7/8"	13"	12 7/8"	2
24'-0"	25'-0"	1	7"	6 7/8"	13"	12 7/8"	2
26'-0"	27'-0"	3	7"	6 7/8"	13"	12 7/8"	2

TABLE II

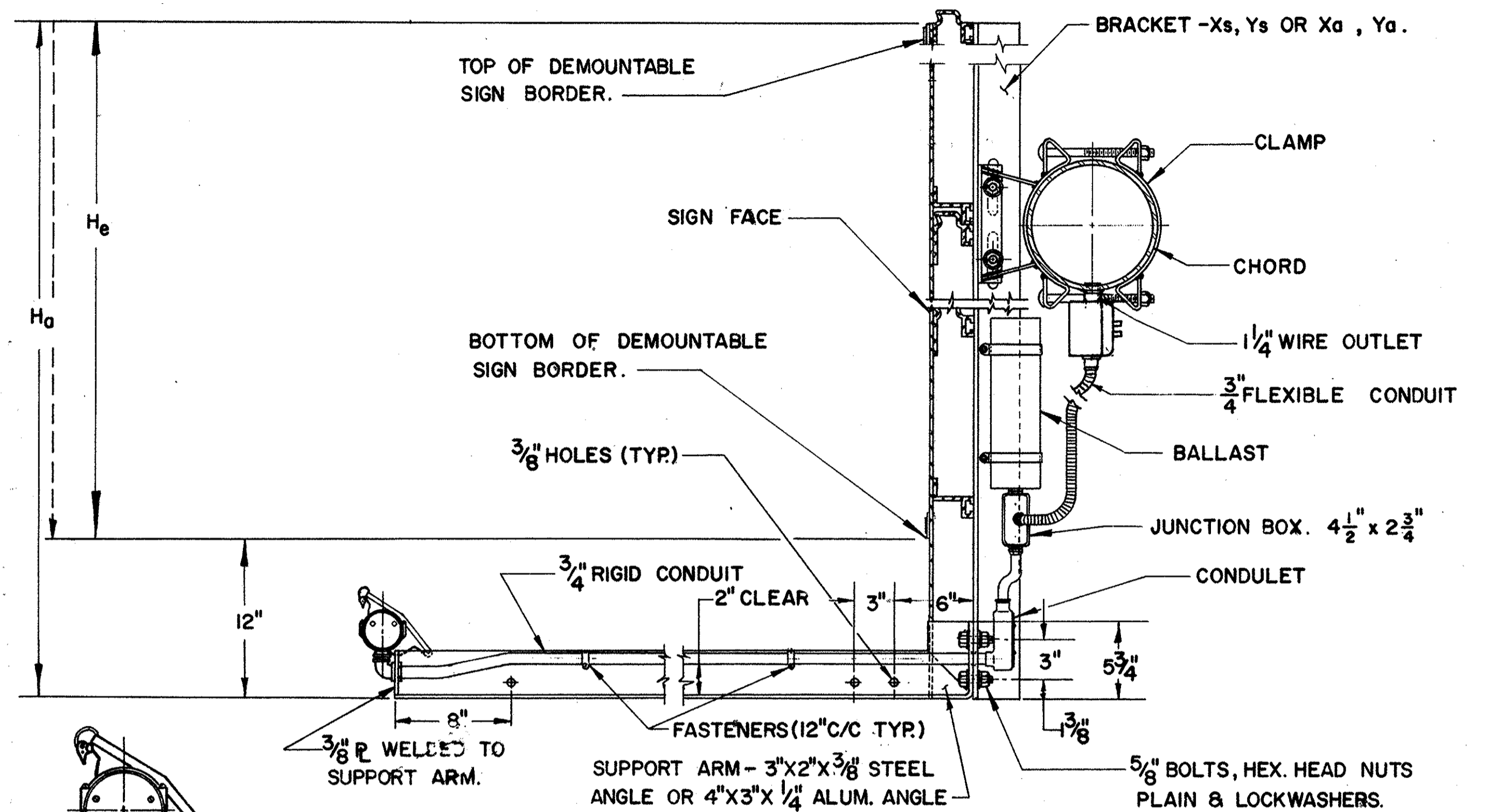
MAX. BRACKET SPACING FOR EXTERNALLY ILLUMINATED SIGNS

ACTUAL SIGN HEIGHT "Ha"	SUPPORT TYPES		
	9,12, 11,08, 13,2, 7,2	9,24,10,48,12,24,14,5,15,8,7,2 to 7,6	
	SINGLE TUBE	DOUBLE TUBE	
	DOUBLE TUBE LESS 36" C/C	C/C 36"-42"	C/C 48"-54" C/C 60"-72"
to 5'-0"	MAXIMUM BRACKET SPACING		
	8'-4" with X 8'-4" with Y	8'-4" with X	8'-4" with X 8'-4" with Y
5'-6" to 8'-0"	6'-4" with Y	4'-2" with X 6'-4" with Y	6'-4" with X 8'-4" with Y
8'-6" to 10'-0"	3'-2" with X 4'-2" with Y	6'-4" with Y	6'-4" with Y 8'-4" with Y
10'-6" to 12'-0"		4'-2" with Y	6'-4" with Y 6'-4" with Y
12'-6" to 14'-0"		3'-2" with Y	3'-2" with Y 4'-2" with Y

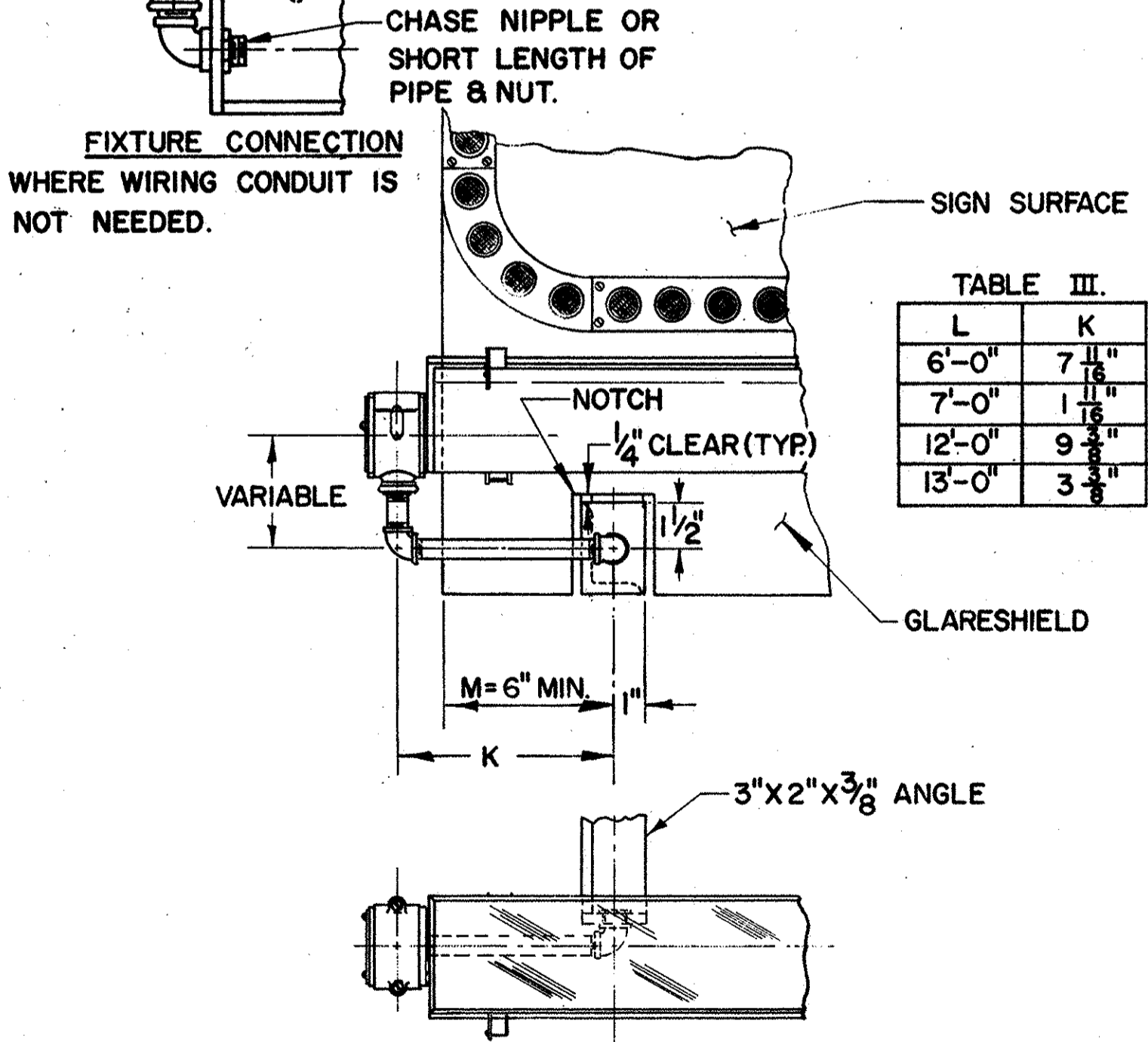
Ha= ACTUAL SIGN HEIGHT  
He= EFFECTIVE SIGN HEIGHT  
BRACKET SIZE: Xs=3 1/2" x 2 1/2" x 5/16" - L @ 6.1 LB. STEEL } 9,12,10,48,11,08,  
Ys=4" x 3 1/4" x 1/4" - Z @ 8.2 LB. STEEL } 12,24,14,5 & 15,8  
Xa= 3" x 2 1/16" x 1/4" - Z @ 2.33 LB. ALUM. } 7,2 Thru 7,6  
Ya= 4" x 2 2/32" x 3/16" - I @ 2.64 LB. ALUM. }

WHEN MAX. ALLOWABLE SPACING IS LESS THAN ACTUAL FIXTURE LENGTHS, Sa, ADDITIONAL STANDARD BRACKETS MUST BE FURNISHED EQUAL IN HEIGHT TO "Ha".

SUPPORTS 7.2 THROUGH 7.6 SHALL HAVE AN ALUMINUM FIXTURE ARM, 4" x 3" x 1/4" ANGLE. SEE DETAIL B. BOLTS AND ACCESSORIES SHALL BE STAINLESS STEEL.



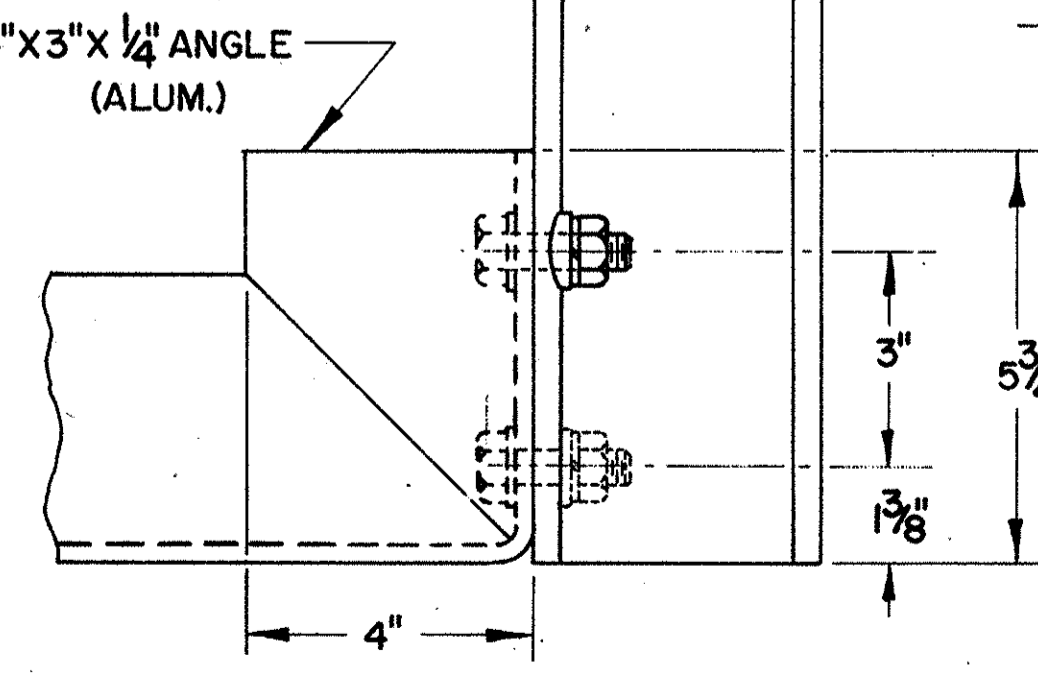
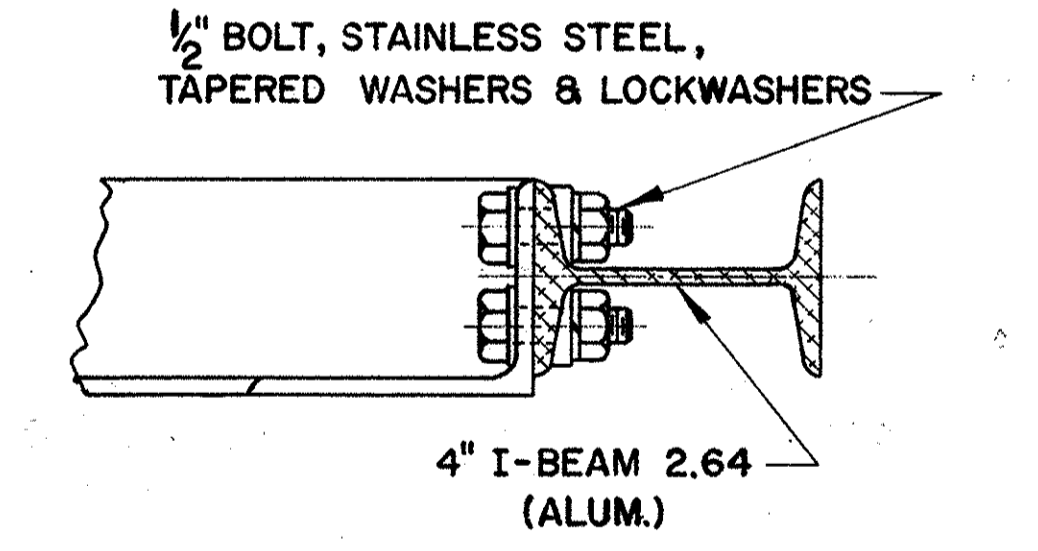
STANDARD FIXTURE LOCATION (BELOW)



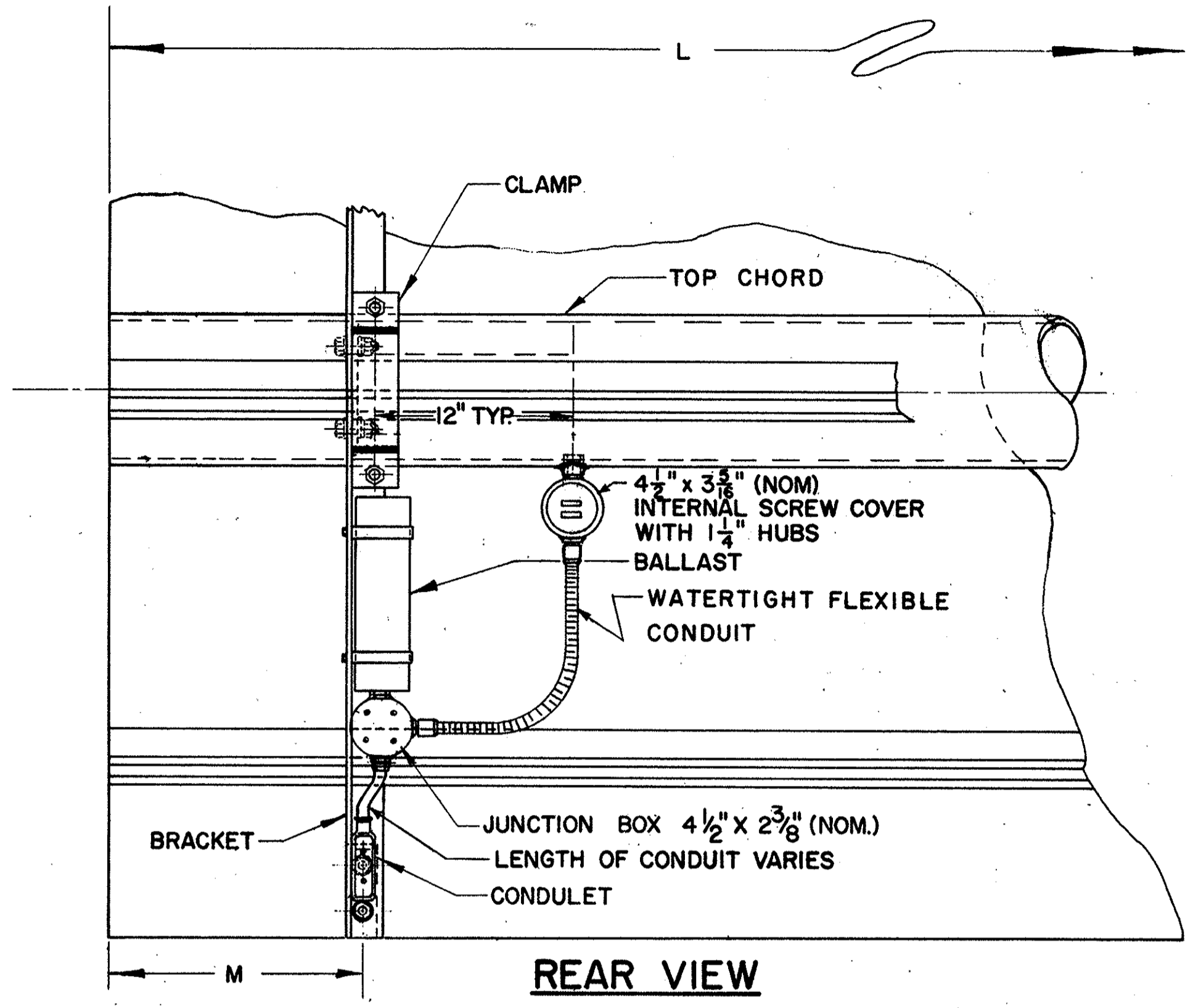
DETAIL A.

TABLE III.

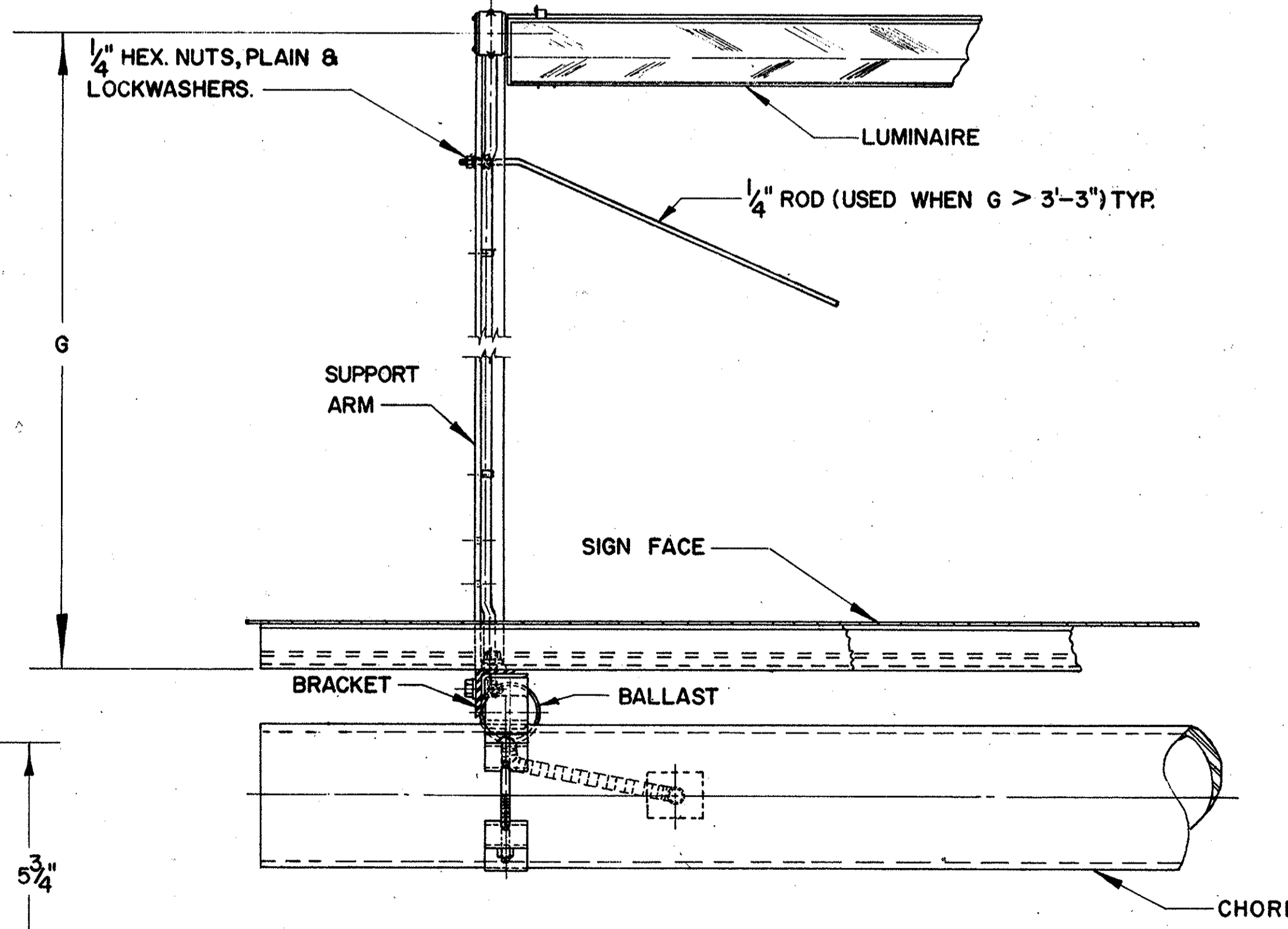
L	K
6'-0"	7 1/8"
7'-0"	1 1/8"
12'-0"	9 3/4"
13'-0"	3 3/8"



DETAIL B.



REAR VIEW



TOP VIEW

FABRICATION— ALL STRUCTURAL COMPONENTS SHOWN ON THIS SHEET SHALL CONFORM TO SUPPLEMENT SPECIFICATIONS 816.  
MATERIALS— THE MATERIALS USED IN THE COMPONENTS SHOWN ON THIS SHEET SHALL BE IN CONFORMANCE WITH THE MATERIALS USED IN THE SIGN SUPPORT.

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

STRUCTURAL DETAILS  
FOR EXTERNALLY  
ILLUMINATED SIGNS

APPROVED *Del C. Taylor*  
ENGINEER OF TRAFFIC

EI-1

MAHONING COUNTY

MAH-680-932

SIGN LIGHTING NOTES

SIGN ILLUMINATION

SIGN ILLUMINATION SHALL BE BY ATTACHED FLUORESCENT FIXTURES AS SHOWN ON ILLUMINATED SIGN DETAIL SHEETS.

LAMPS

LAMPS SHALL BE TYPE F72 OR F96-T12/CW/HO AS MANUFACTURED BY WESTINGHOUSE, GENERAL ELECTRIC OR APPROVED EQUAL FOR SIGNS TO A MAXIMUM HEIGHT OF 6'-6". LAMP TYPE SHALL BE F72 OR F96-T12/CW/SHO AS MANUFACTURED BY WESTINGHOUSE, F72 OR F96-P617/CW AS MANUFACTURED BY GENERAL ELECTRIC, OR APPROVED EQUAL FOR SIGNS THAT ARE 7'-0" OR GREATER IN HEIGHT.

LAMP FIXTURES

LIGHTING FIXTURES SHALL BE CONSTRUCTED OF CORROSION RESISTANT MATERIALS OR WITH HIGH QUALITY CORROSION RESISTANT FINISH. ALL FIXTURES SHALL BE SPECIFICALLY DESIGNED FOR OUTDOOR SIGN LIGHTING SERVICE. MAJOR COMPONENTS SHALL INCLUDE WEATHERPROOF CAST ALUMINUM MOUNTING HUBS DESIGNED TO SECURELY LOCK THE FIXTURES AT ANY ANGLE THROUGH 360 DEGREES. INDICATORS IN 10 DEGREE INCREMENTS SHALL BE STAMPED OR CAST INTO THE HUB TO FACILITATE PROPER AIMING OF THE FIXTURE. FINAL ADJUSTMENT OF FIXTURE SHALL BE DONE AT NIGHT UNDER THE PROJECT ENGINEER'S DIRECTION.

THE BODY DESIGN OF THE FIXTURE SHALL PROVIDE AN-ASYMMETRIC SPECULAR ALZAK REFLECTOR TO GIVE A HIGH LEVEL OF UNIFORM ILLUMINATION AND SHALL PROVIDE A WIREWAY FROM END TO END. WHEN ADJACENT FIXTURES ARE WIRED TOGETHER THROUGH THE WIREWAY, WIRE BETWEEN FIXTURES SHALL BE ENTIRELY ENCLOSED.

EXTERIOR FINISH OF THE FIXTURE BODY SHALL BE INTERSTATE GREEN COLOR, HEAT RESISTANT BAKED ENAMEL AS #8950 UNIVERSAL PAINT AND VARNISH INC., OR MIDWESTERN COLOR WORKS, OR APPROVED EQUAL. REFLECTOR, LAMP AND SOCKETS SHALL BE PROTECTED BY A HINGED DOOR OF CLEAR ACRYLIC PLASTIC WITH ALUMINUM OR STAINLESS STEEL FRAME AND NEOPRENE GASKETING.

BALLASTS

BALLASTS FOR FIXTURES SHALL BE WEATHER-PROOF/OUTDOOR TYPE FOR A 120 VOLT 60 CYCLE SYSTEM AND SHALL PROVIDE LAMP STARTING AT AN AMBIENT TEMPERATURE OF -20°F. BALLASTS SHALL BE MOUNTED ON SIGN BRACKET ONLY. WIRING SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT THE SIGN MAY BE REMOVED WITHOUT DISTURBING THE ELECTRICAL WIRING.

TRANSFORMERS

TYPE	MANUFACTURERS	OUTPUT K.V.A.	SWITCH TRANSFORMER ENCLOSURE
	G.E. JEFFERSON		
I	9T51Y7 211-041	.25	Y
II	9T51Y8 211-051	.50	Y
III	9T51Y9 211-061	.75	Y
IV	9T51Y10 211-071	1.00	Z
V	9T51Y11 211-081	1.50	Z
VI	9T51Y12 211-091	2.00	Z
VII	9T51Y13 211-102	3.00	Z

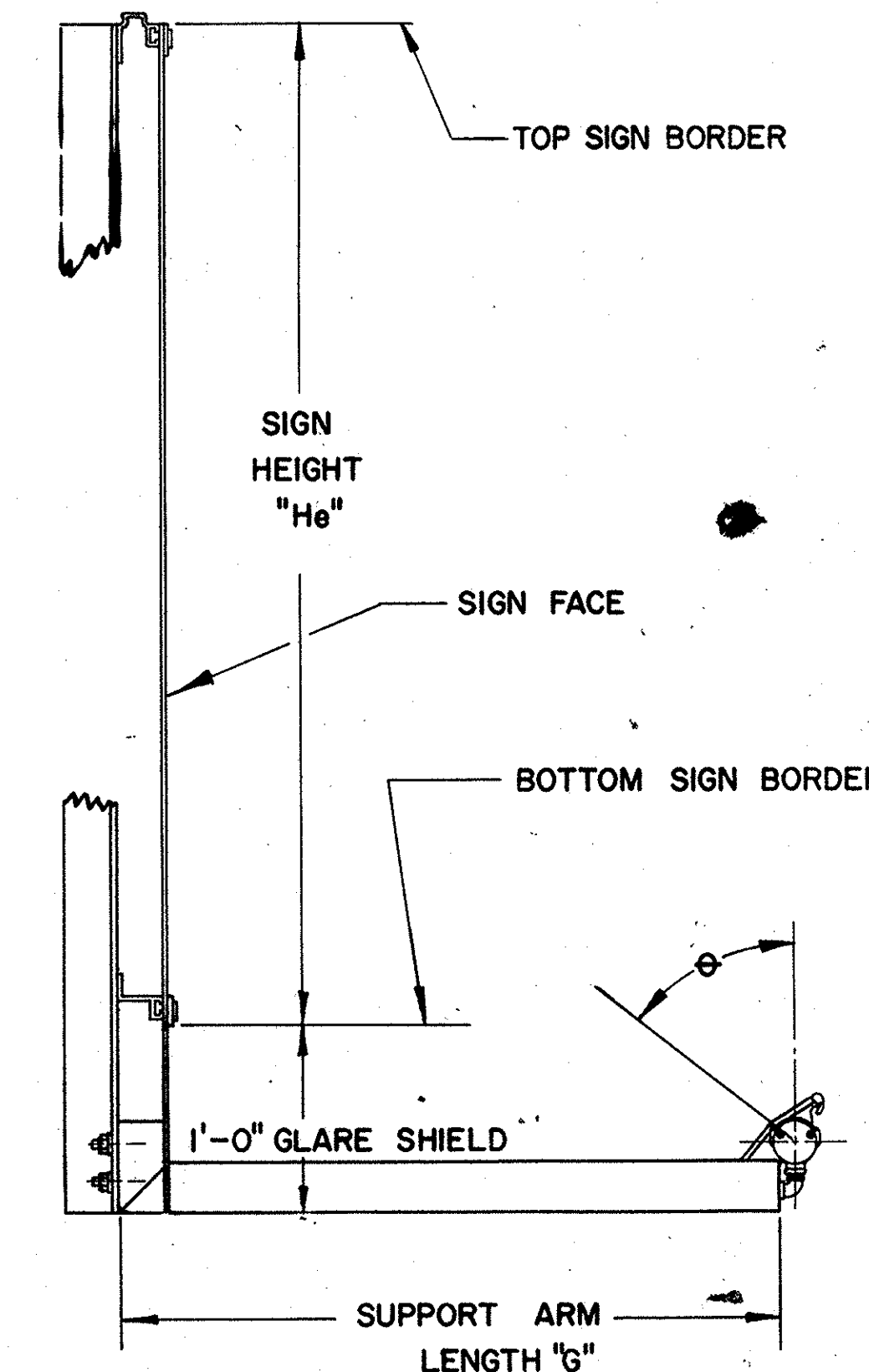
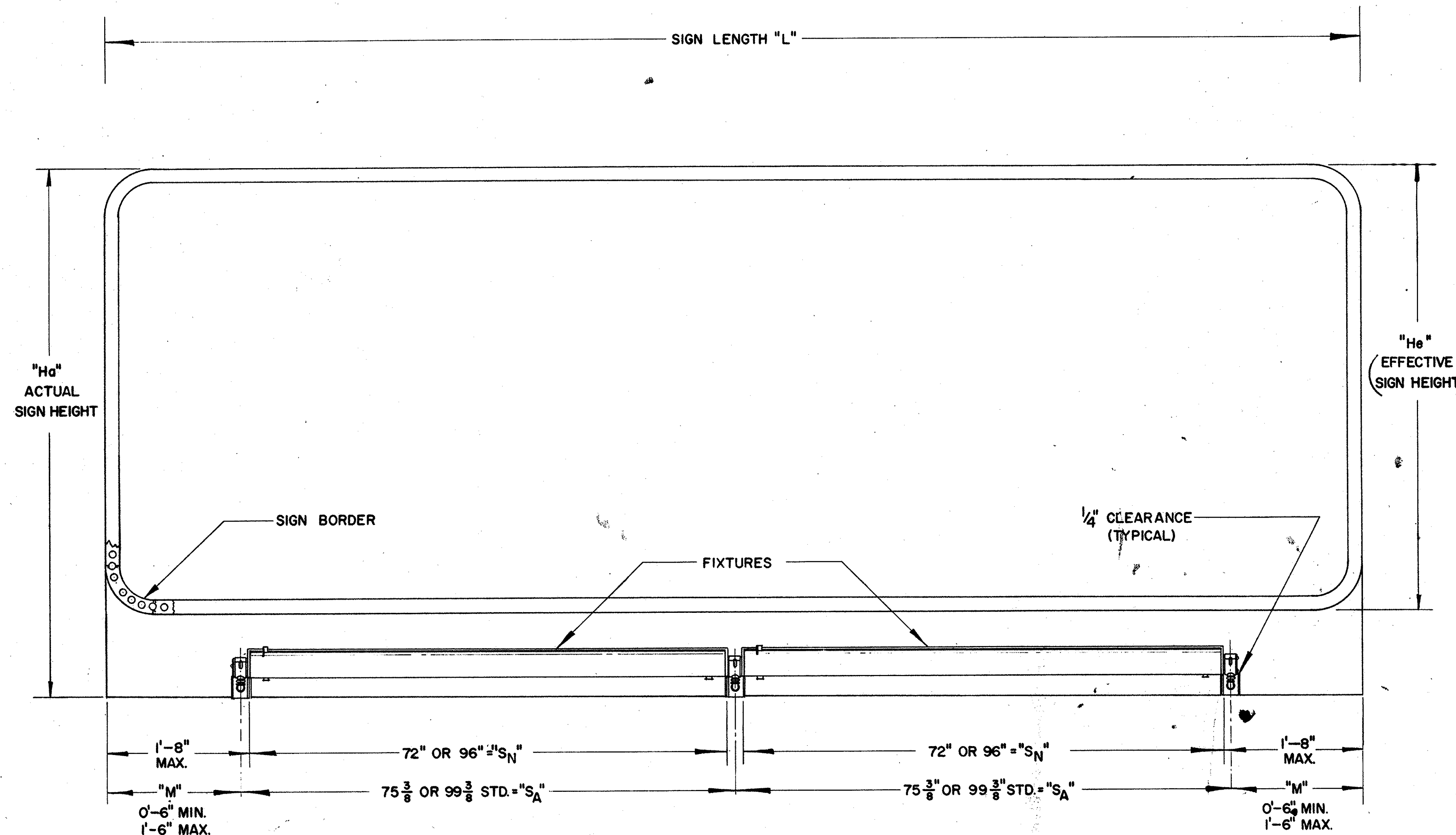
BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL DETAILS  
FOR EXTERNALLY  
ILLUMINATED SIGNS

EI-2

DATE  
10-31-63  
5-6-64  
10-29-64  
03-29-67

APPROVED *Jack Taylor*  
ENGINEER OF TRAFFIC



EFFECTIVE SIGN HEIGHT "H"	SUPPORT ARM LENGTH "G"	APPROX. AIMING ANGLE $\phi$
3'-0" to 5'-0"	2'-9"	25°
5'-0" to 6'-6"	3'-3"	25°
7'-0" to 10'-0"	4'-3"	17°
10'-6" to 13'-0"	5'-9"	23°

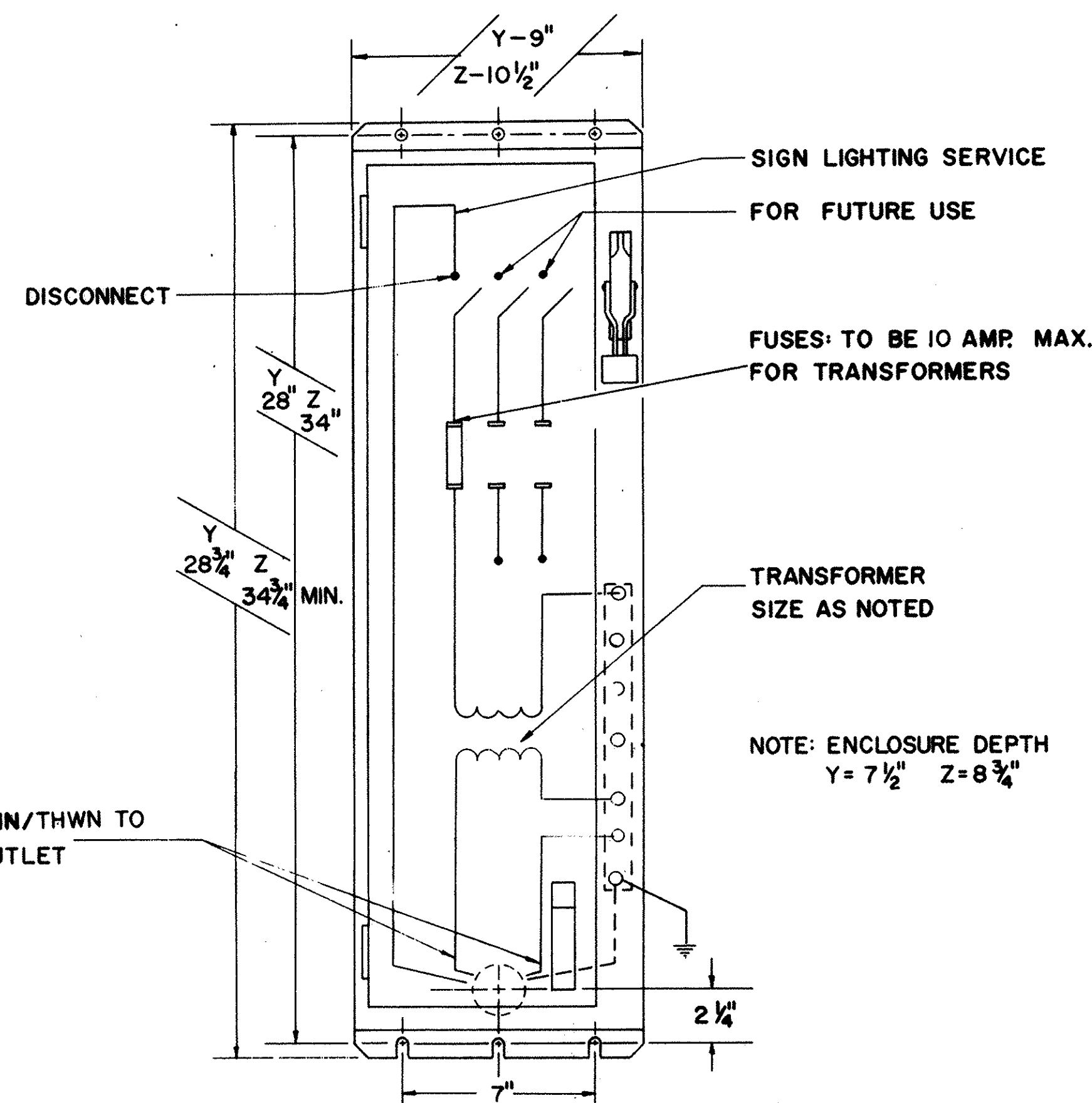
"L" SIGN LENGTH	NO. OF FIXTURES		He=3'-0" to 6'-6" LAMP= T12/cw/ho			He=7'-0" to 13'-0" LAMP= T12/cw/sho		
	72	96	BALLAST		WATTAGE	BALLAST		WATTAGE
			NO.	TYPE	PER SIGN	NO.	TYPE	PER SIGN
6'-0" to 7'-0"	1	1	1	A	190	1	C	250
8'-0" to 9'-0"	1	1	1	A	190	1	C	250
10'-0" to 11'-0"		1	1	A	190	1	C	250
12'-0" to 13'-0"	2		1	B	250	1	D	425
14'-0" to 15'-0"	2		1	B	250	1	D	425
16'-0" to 17'-0"	1	1	1	B	250	1	D	425
18'-0" to 19'-0"		2	1	B	250	1	D	425
20'-0" to 21'-0"	3		2	A & B	440	2	C & D	675
22'-0" to 23'-0"	2	1	2	A & B	440	2	C & D	675
24'-0" to 25'-0"	1	2	2	A & B	440	2	C & D	675
26'-0" to 27'-0"		3	2	A & B	440	2	C & D	675

BALLASTS

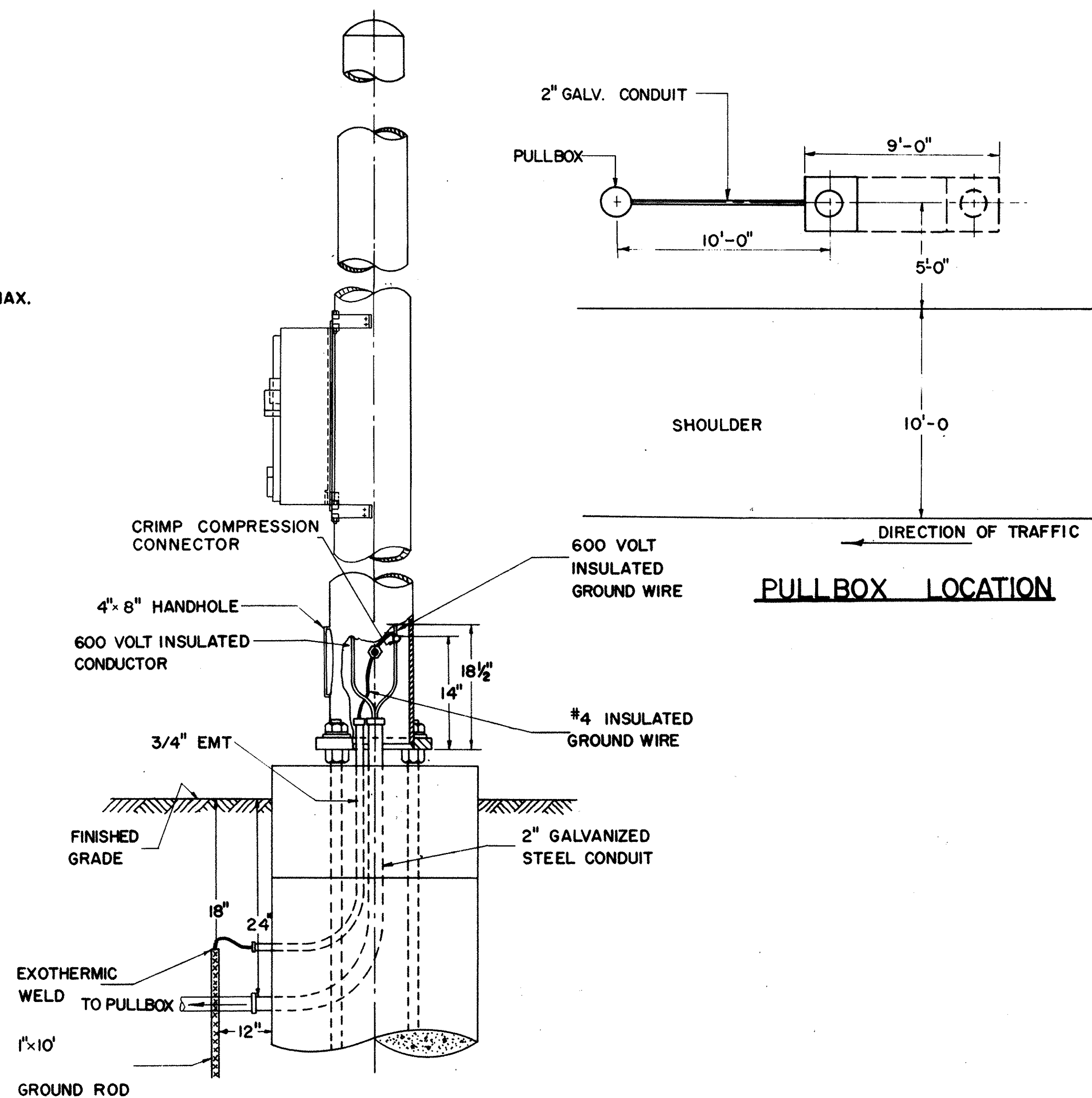
TYPE	MANUFACTURERS		WATTAGE
	G.E.	JEFFERSON	
A	GG 3583	257-321	190
B	GG 3535	257-331	250
C	GG 3585	257-361	250
D	GG 3588	257-371	425

BALLASTS SHALL BE GENERAL ELECTRIC, JEFFERSON AS SPECIFIED ABOVE OR EQUAL.

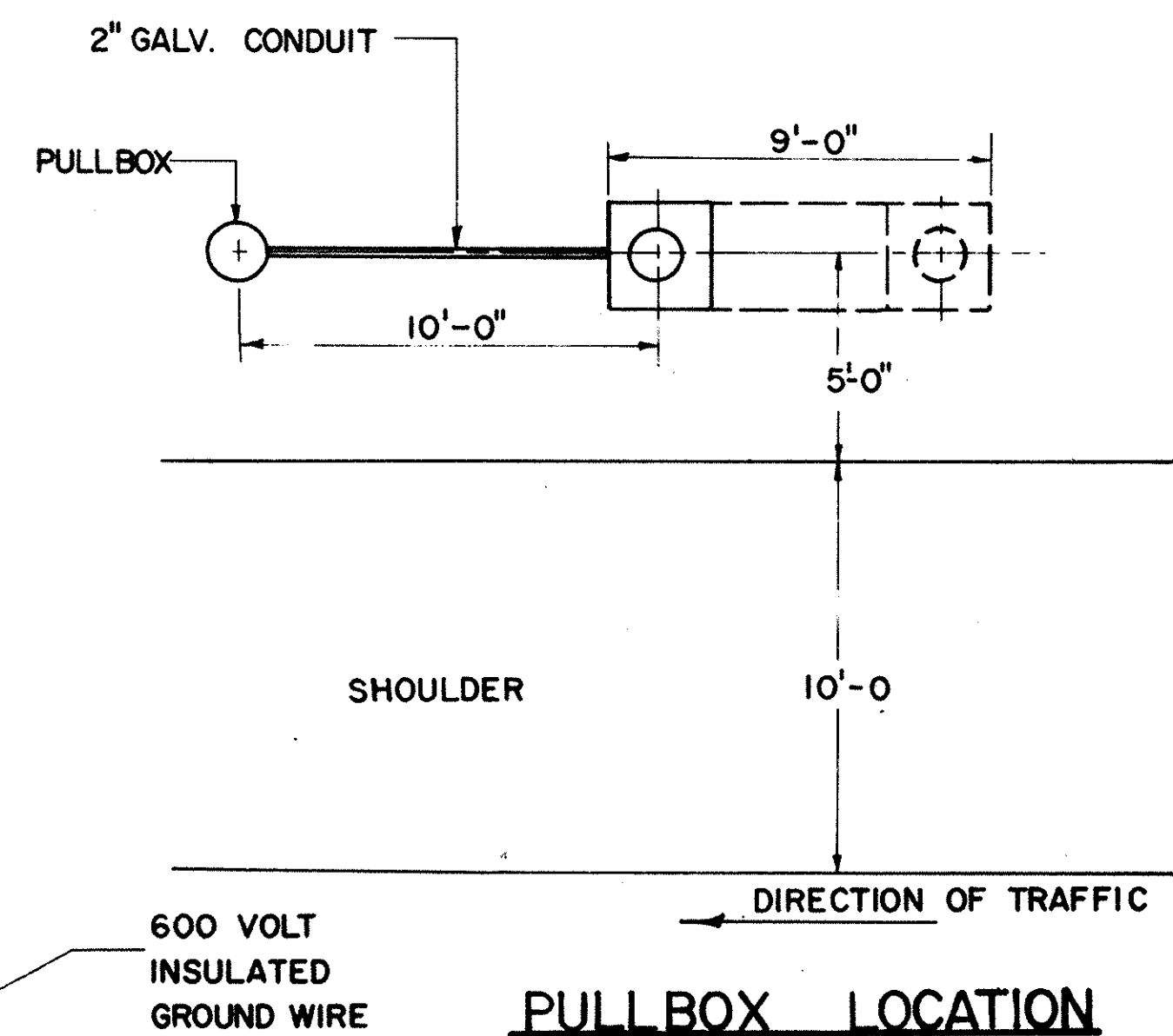




**TYPICAL ENCLOSURE DETAIL**  
480 VOLT SIGN LIGHTING SERVICE



**SIGN SUPPORT DETAIL FOR ILLUMINATED SIGNS**



**PULL BOX LOCATION**

**NOTES**

**GENERAL**

DETAILS OF THIS SHEET SHALL APPLY TO EACH OVERHEAD SIGN STRUCTURE TO SUPPORT EXTERNALLY ILLUMINATED SIGNS.

**SERVICE**

ELECTRIC SERVICE SHALL ENTER THROUGH A 2" GALVANIZED RIGID STEEL CONDUIT INSTALLED IN STRUCTURE FOUNDATION AS PER DETAIL. SIGN SERVICE OR CIRCUITRY SHALL BE CONTROLLED AS REQUIRED BY THE SYSTEM DESIGN AT THE PRIMARY SOURCE.

SERVICE CONDUCTORS SHALL BE THE SIZE AND TYPE AS SPECIFIED.

**COMBINATION SWITCH AND TRANSFORMER**

(TYPE Y OR Z ENCLOSURE REQUIRED AS PER SCHEDULE ON THIS SHEET)

THIS COMBINATION SHALL BE A 30 OR 60 AMPERE 600 VOLT SWITCH WITH A .25 TO 3.0 KVA TRANSFORMER. THE COMBINATION AND ENCLOSURE SHALL BE AS SQUARE D CLASS 9421, COLUMBUS ELECTRIC WORKS CLASS 101, PANALS INCORPORATED-CLASS 9400, OR APPROVED EQUAL.

**TRANSFORMER**

THE TRANSFORMER SHALL BE DRY TYPE SINGLE PHASE 240/480 VOLT PRIMARY 120/240 VOLT SECONDARY, THE TYPE AND CAPACITY AS SPECIFIED IN DETAILED SCHEDULE ON THIS SHEET.

**ENCLOSURE**

THE ENCLOSURE SHALL BE NEMA #4 WATER TIGHT .063 GAGE STAINLESS STEEL ASTA 302-303. A DISCONNECT HANDLE SHALL BE FLANGE MOUNTED AND CAPABLE OF BEING LOCKED IN EITHER POSITION. THE ENCLOSURE SHALL BE EQUIPPED WITH A DOOR LOCKING MECHANISM WITH A DEFEATER THAT NECESSITATES TWO HANDS TO OPERATE MECHANISM WITH THE SWITCH IN OFF POSITION. SPACE FOR A 2" INSULATED CHASE NIPPLE SHALL BE PROVIDED APPROXIMATELY 2 1/4" ABOVE THE CENTER LINE OF THE LOWER MOUNTING SLOT. THIS ENCLOSURE AND STRUCTURE SHALL BE FIELD DRILLED AND TAPPED FOR THE REQUIRED NIPPLE AS SHOWN ON THE DETAIL ON THIS SHEET.

THIS ENCLOSURE SHALL BE FLANGE MOUNTED ON BRACKETS WITH 5/16"-18x3/4" HEX HEAD CADMIUM PLATED MACHINE BOLTS. ENCLOSURES SHALL BE TYPE Y OR Z AS SPECIFIED AND DIMENSIONED ON THIS SHEET.

**ENCLOSURE MOUNTING BRACKET**

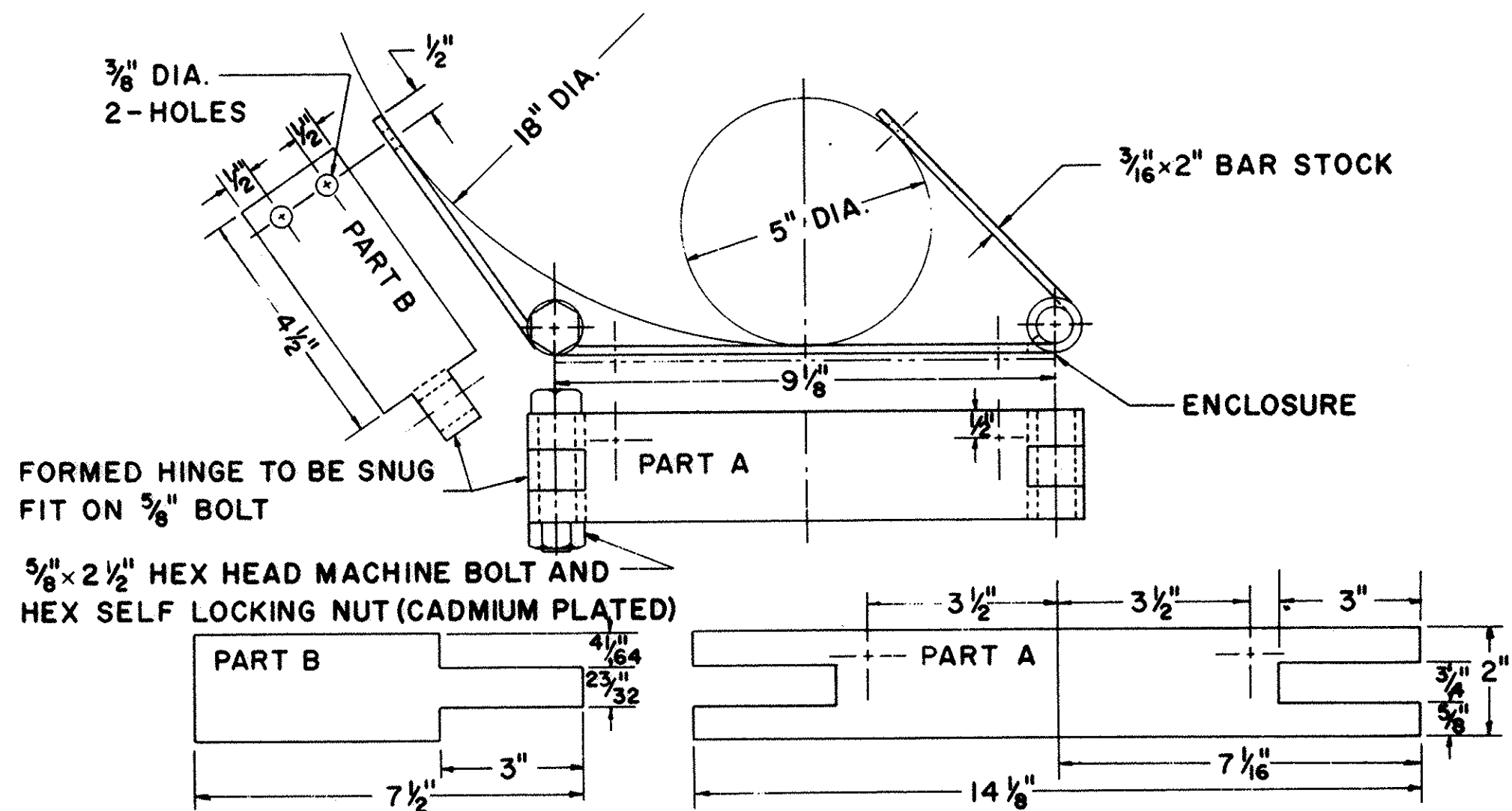
THE ENCLOSURE MOUNTING BRACKET SHALL BE FABRICATED THEN GALVANIZED BEFORE ASSEMBLY. THE BRACKET SHALL BE FIELD MOUNTED WITH 5/16" HEX HEAD SELF TAPPING CADMIUM PLATED SCREWS. THE SIGN SUPPORT SHALL BE FIELD DRILLED, AS PER DETAIL.

**WIRE AND CABLE**

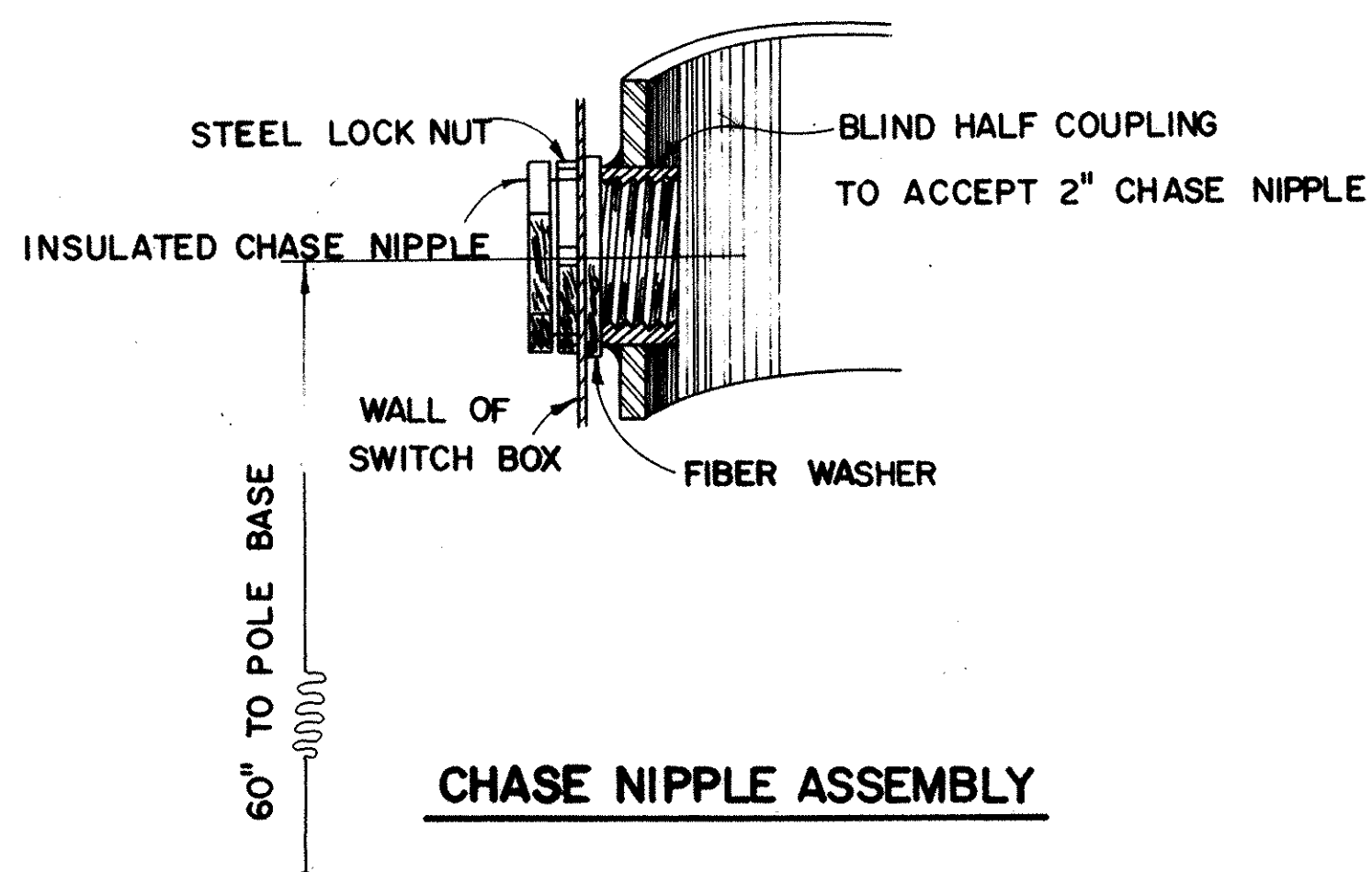
ALL WIRE AND CABLE SHALL BE 600 VOLT AND CONFORM TO SECTION 713.02

**GROUNDING**

EACH SIGN SUPPORT OR STRUCTURE SHALL BE GROUNDING WITH A #4 INSULATED CONDUCTOR. THE GROUNDING CONDUCTOR SHALL BE CONNECTED TO THE SWITCH THEN TO THE COMPRESSION CONNECTOR IN THE SIGN SUPPORT THEN TO A 1" x 10" GROUND ROD. GROUND CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO GROUND ROD AND THEN TAPED WITH PLASTIC ELECTRICAL TAPE AT EACH EXPOSED PORTION OF CONDUCTOR. THE WELDED CONNECTION AND TAPED PORTION SHALL BE PAINTED 2 COATS OF INSULATING ENAMEL.



**ENCLOSURE MOUNTING BRACKET**



**CHASE NIPPLE ASSEMBLY**

**TRANSFORMERS**

TYPE	MANUFACTURERS	OUTPUT K.V.A.	SWITCH TRANSFORMER ENCLOSURE
	G.E.	JEFFERSON	
I	9T51Y7	220-241	.25 Y
II	9T51Y8	220-251	.50 Y
III	9T51Y9	220-261	.75 Y
IV	9T51Y10	220-071-100	1.00 Z
V	9T51Y11	220-081-100	1.50 Z
VI	9T51Y12	220-091-100	2.00 Z
VII	9T51Y13	221-102	3.00 Z

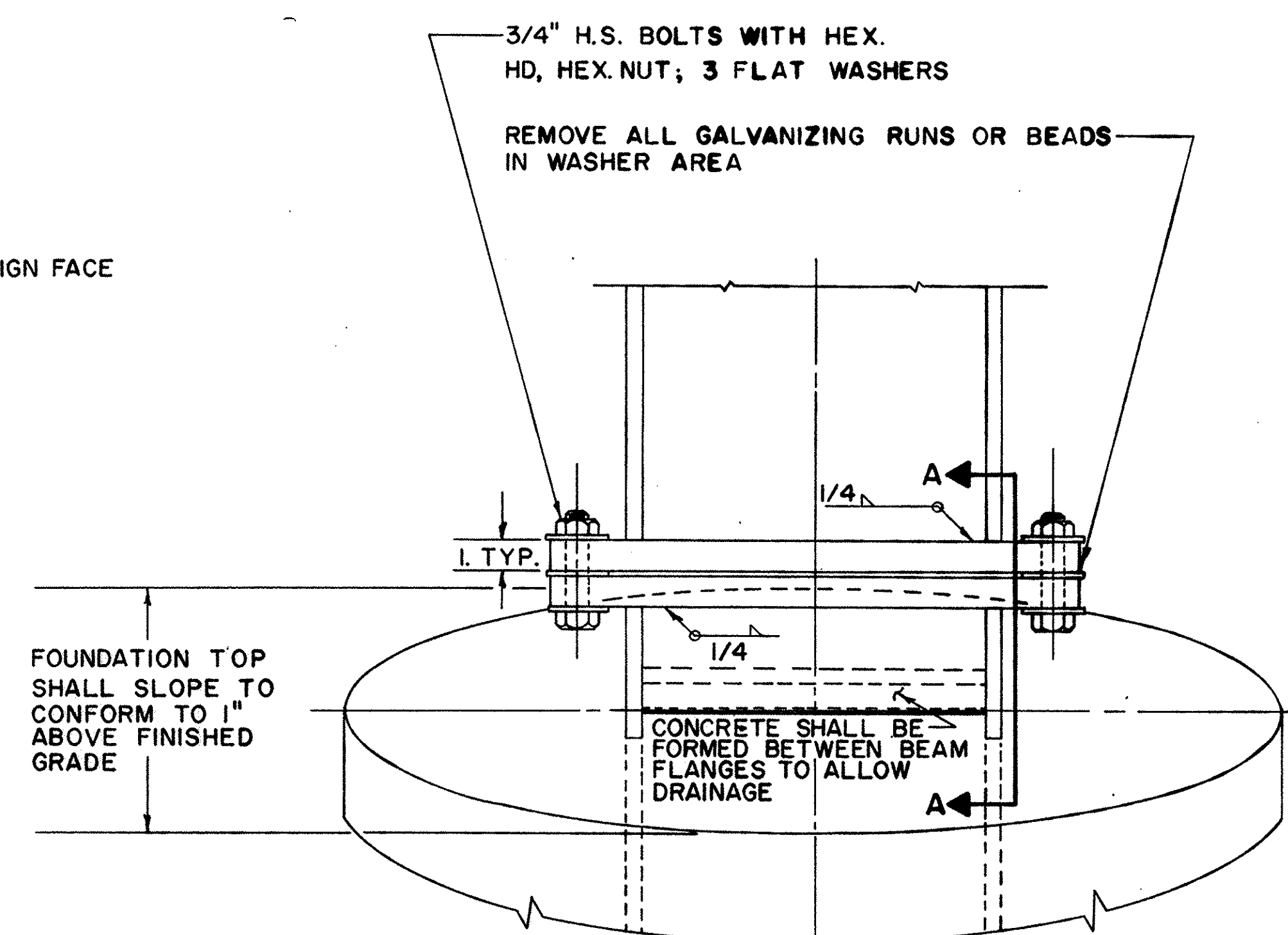
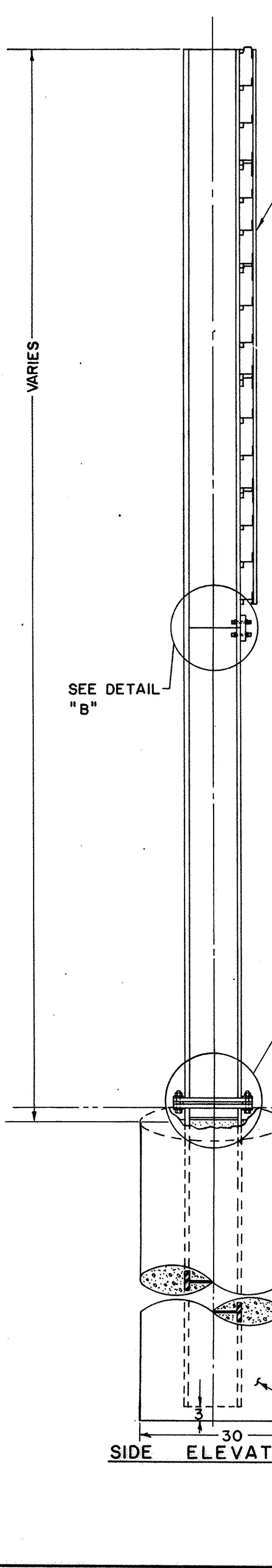
BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

ELECTRICAL SIGN  
SERVICE DETAILS  
480 VOLT SYSTEM

ES-3A

DATE  
6-18-64  
9-14  
7-31-70

APPROVED \_\_\_\_\_  
ENGINEER OF TRAFFIC

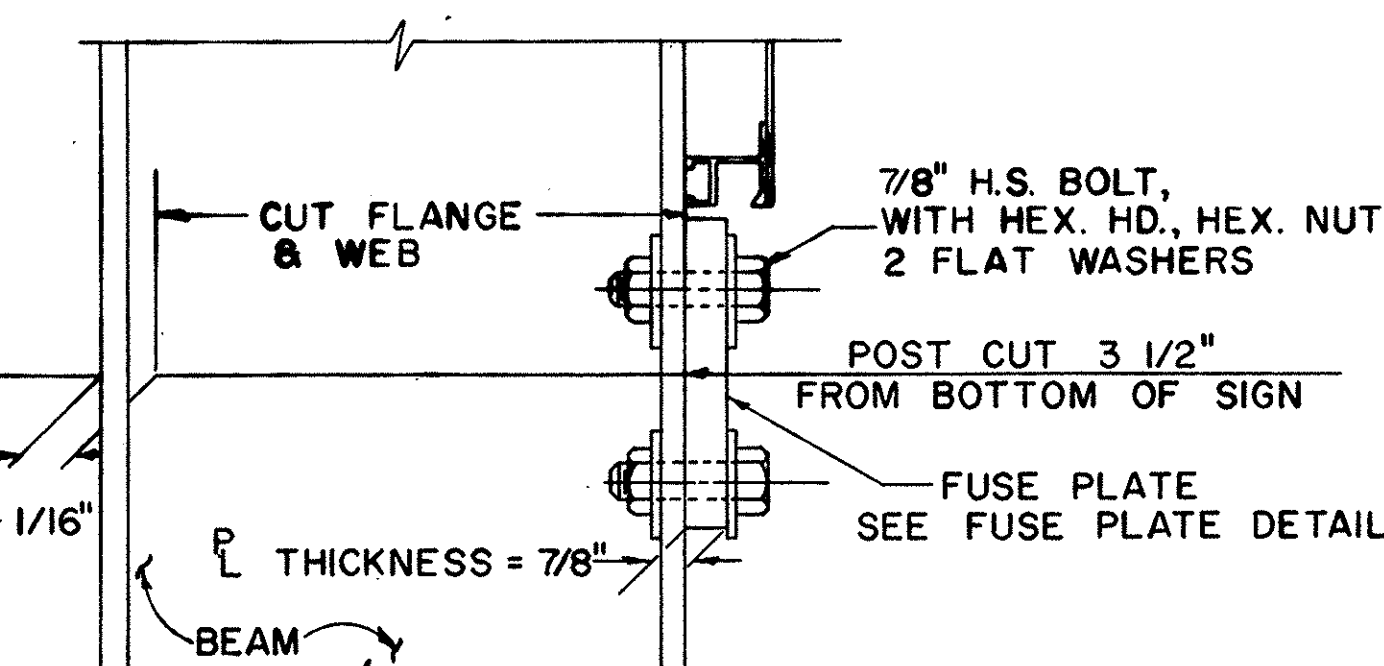


**BOLTING PROCEDURE**

1. ASSEMBLE POST TO STUB W/BOLTS & ONE FLAT WASHER ON EACH BOLT BETWEEN PLATES.
2. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE W/12" TO 15" WRENCH TO BED & TO CLEAN BOLT THREADS. LOOSEN EACH BOLT IN TURN & RETIGHTEN BOLTS IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE OF 750 IN. LBS.
3. BURR THREADS AT JUNCTION W/NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE: TIGHTEN THE H.S. BOLTS IN THE BASE CONNECTION ONLY TO GIVEN TORQUE DO NOT OVER TIGHTEN

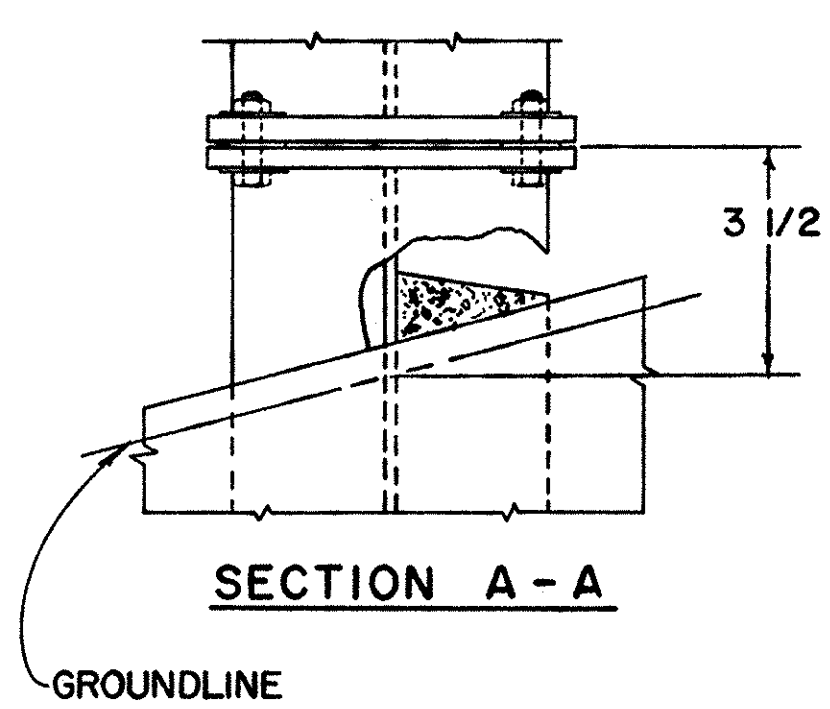
VIEW "A" ROTATED 180°



FABRICATOR NOTE: ALL FRICTION FUSE BOLTS SHALL BE TIGHTENED IN THE SHOP FOLLOWING A METHOD APPROVED BY THE ENGINEER. TIGHTENING SHALL BE TO SUCH A DEGREE AS TO OBTAIN MINIMUM RESIDUAL TENSION IN EACH BOLT OF 36,050 LBS.

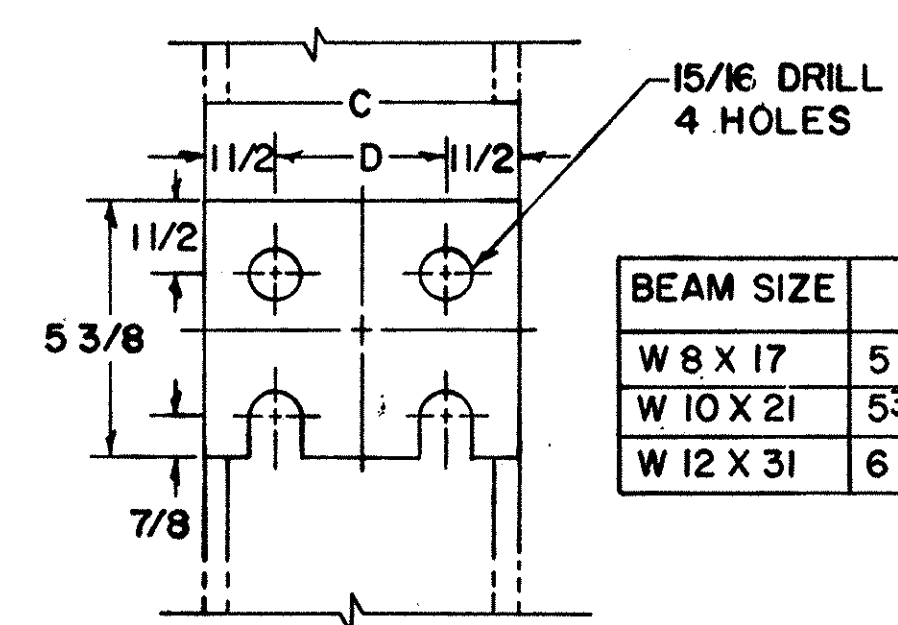
NOTE: INSTALL FUSE PLATE WITH NOTCHES TOWARD BASE

DETAIL "B"



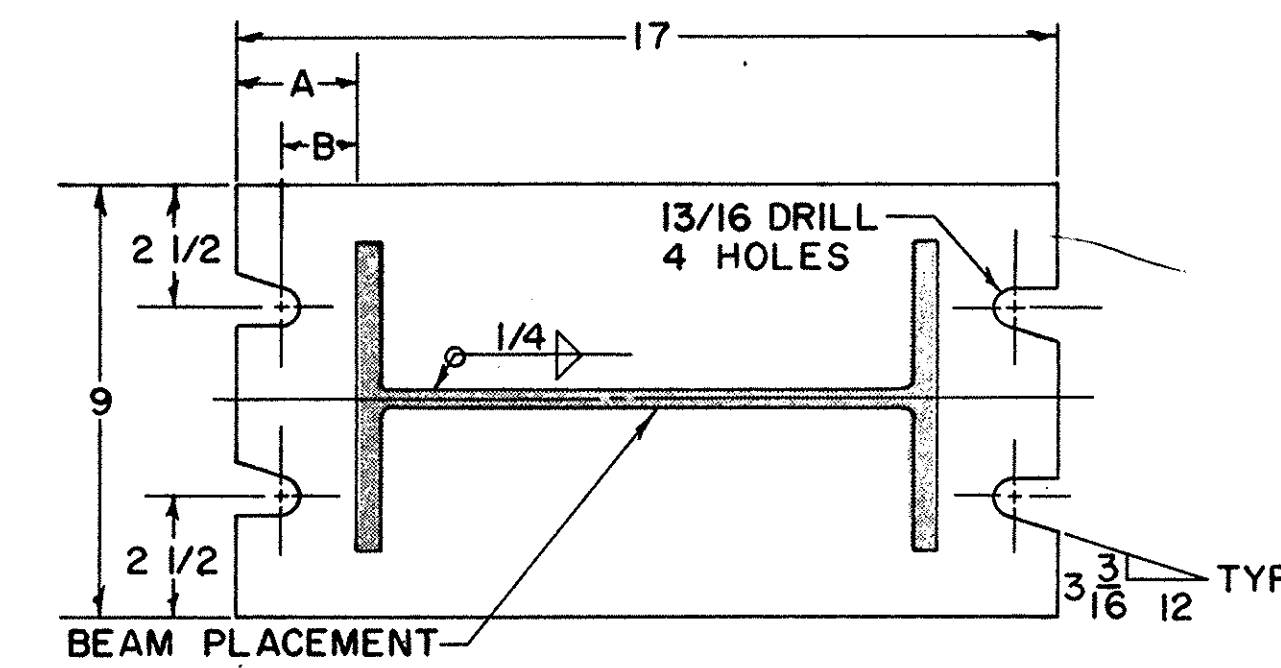
SECTION A - A

GROUNDLINE



FUSE PLATE DETAIL

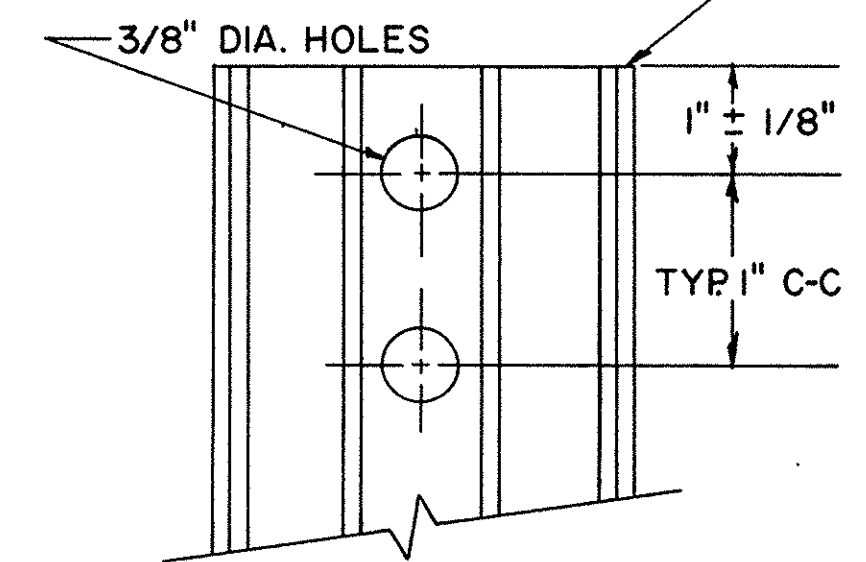
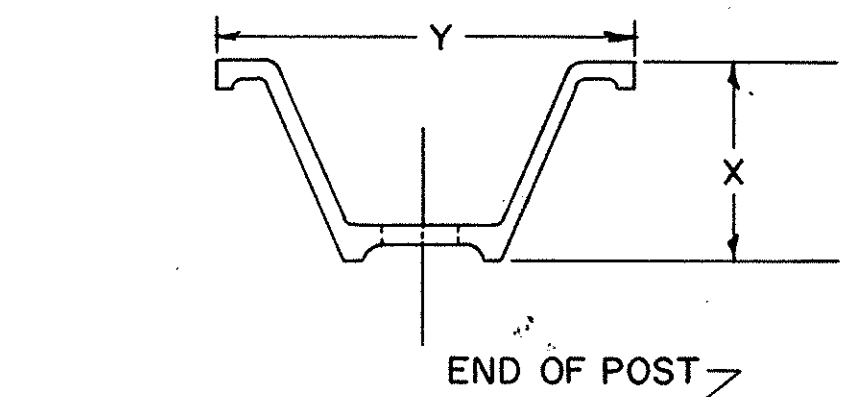
BEAM SIZE	C	D
W 8 X 17	5 1/4"	2 1/4"
W 10 X 21	5 3/4"	2 3/4"
W 12 X 31	6 1/2"	3 1/2"



BASE PLATE DETAIL

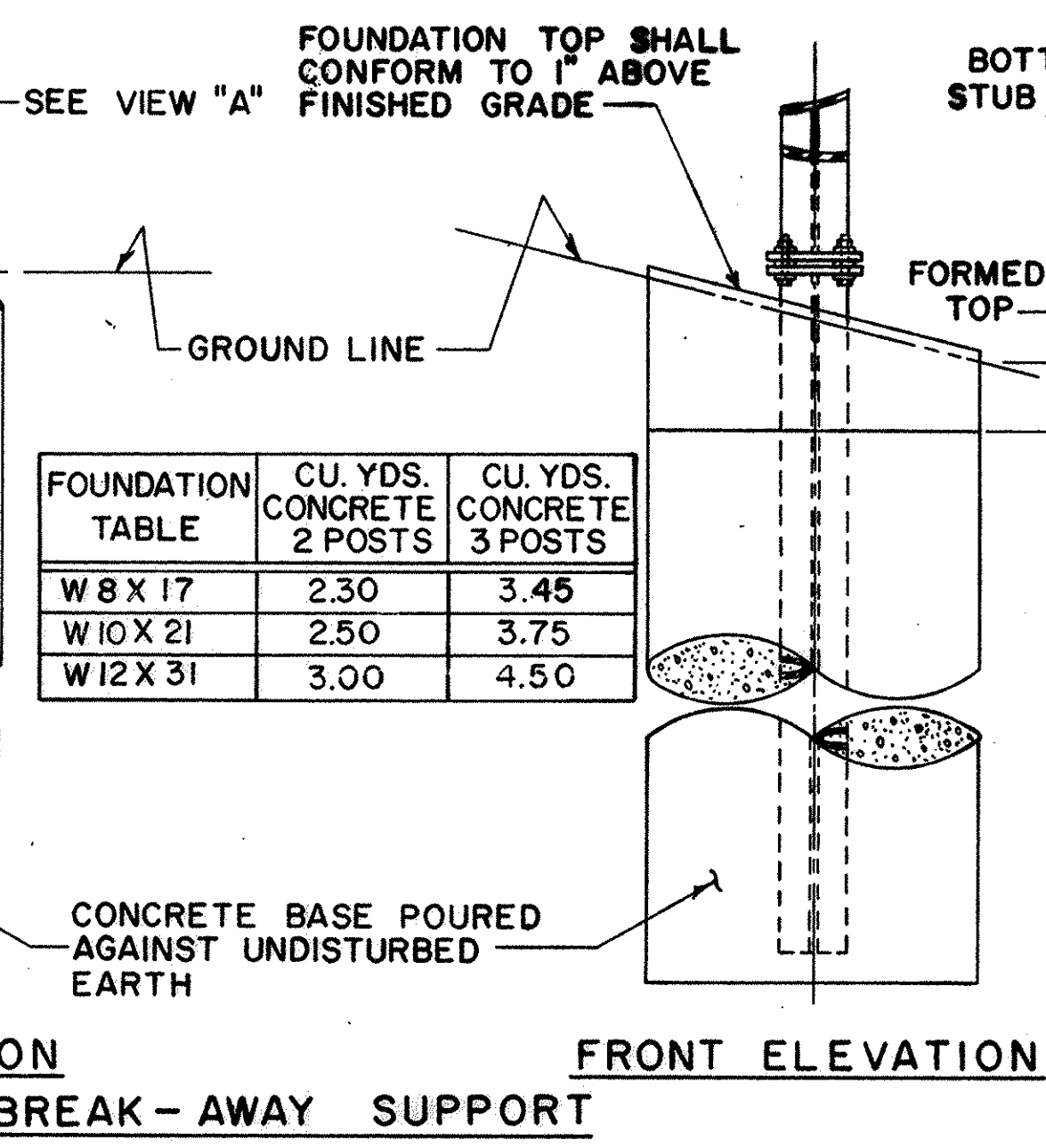
(TOP VIEW)

BEAM SIZE	A	B
W 8 X 17	4 1/2"	3 5/8"
W 10 X 21	3 1/2"	2 5/8"
W 12 X 31	2 1/2"	1 5/8"

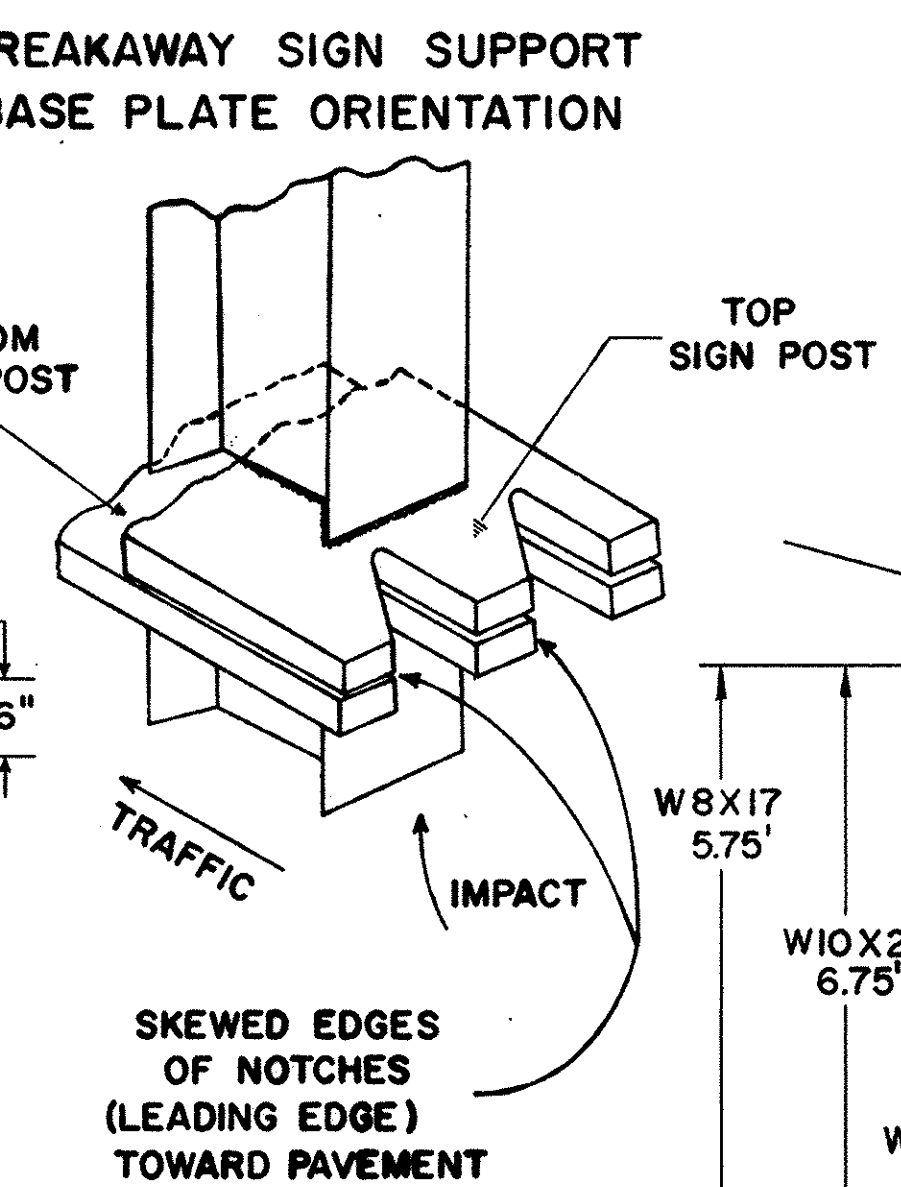


WEIGHT PER FOOT	X ± 3/32"	Y ± 1/8"
2.00 #	1 15/32"	3 1/16"
3.00 #	1 7/8"	3 1/2"
4.00 #	2"	3 5/8"

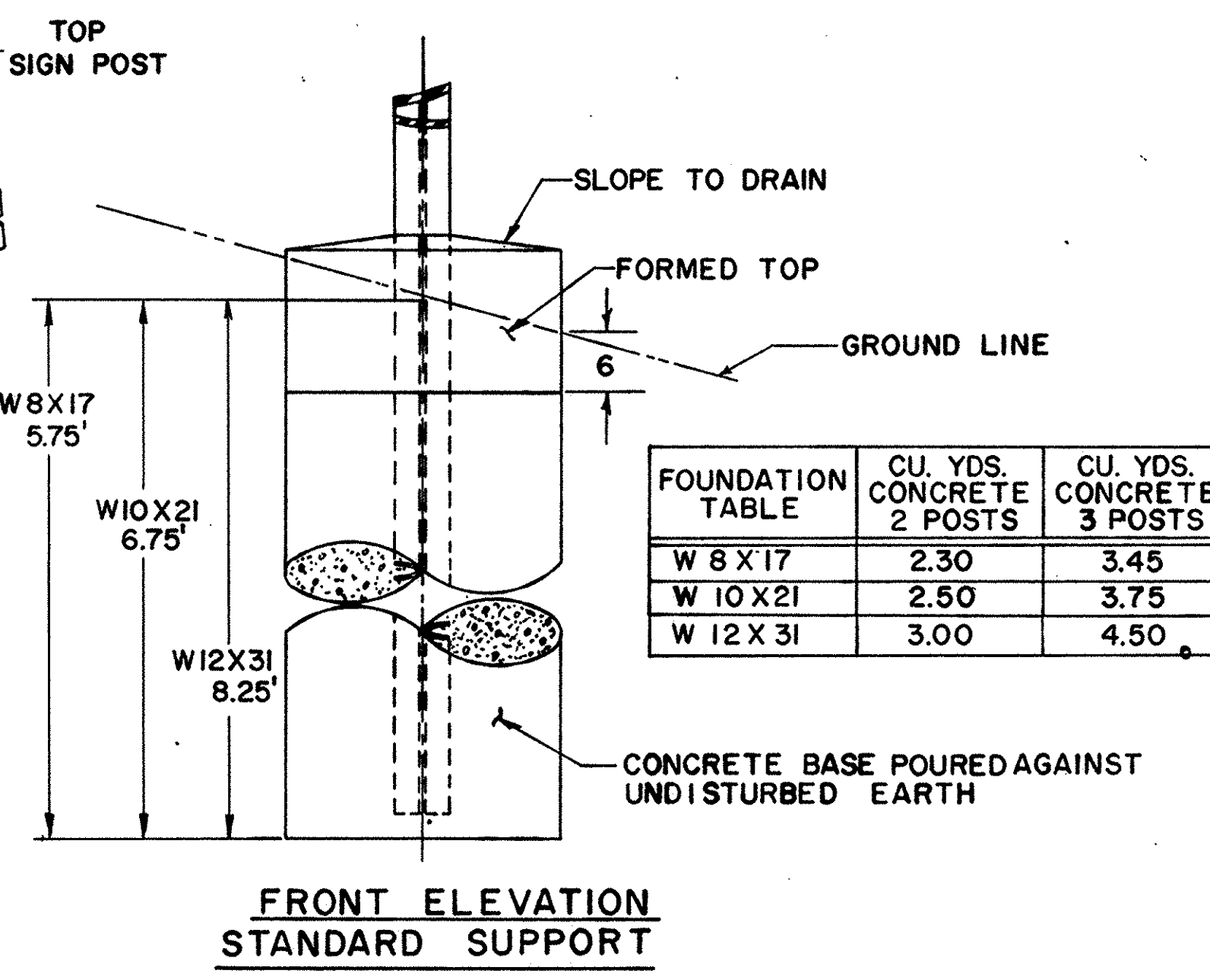
DRIVE POST DETAIL



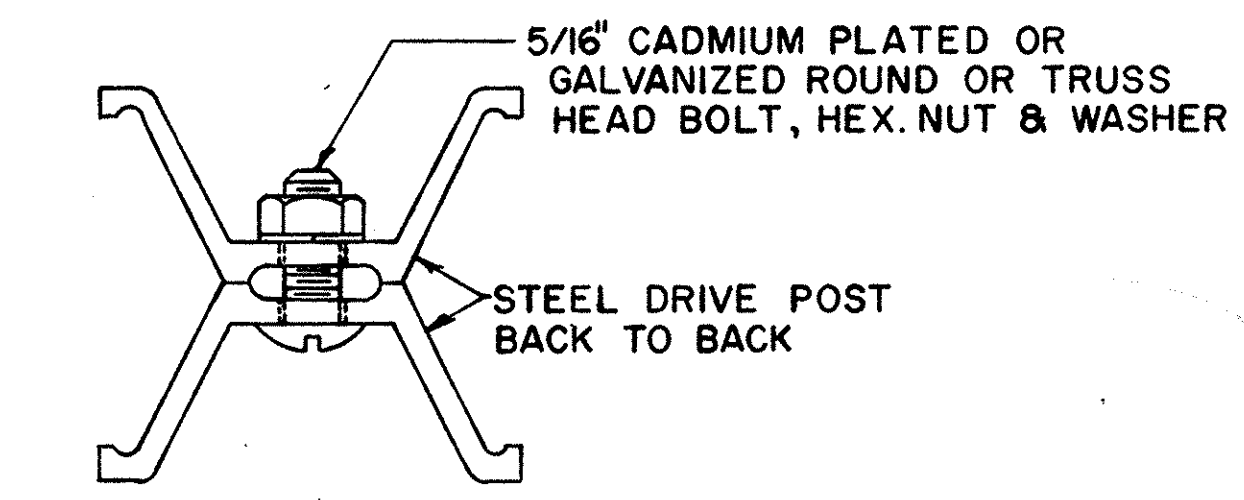
BREAK-AWAY SUPPORT



BREAKAWAY SIGN SUPPORT  
BASE PLATE ORIENTATION



FRONT ELEVATION  
STANDARD SUPPORT



6# BEAM DETAIL

NOTES: ALL MATERIALS SHALL CONFORM TO THE STATE OF OHIO, CONSTRUCTION & MATERIALS SPECIFICATIONS OR AS OTHERWISE SPECIFIED

- 1) 5# FOUNDATIONS
- 2) 7# 1.01 STRUCTURAL STEEL SHAPES & PLATES
- 3) 7# 1.09 H.S. STEEL BOLTS, NUTS & WASHERS

ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SHOWN

FOUNDATION TABLE	CU. YDS. CONCRETE 2 POSTS	CU. YDS. CONCRETE 3 POSTS
W 8 X 17	2.30	3.45
W 10 X 21	2.50	3.75
W 12 X 31	3.00	4.50

FOUNDATION TABLE	CU. YDS. CONCRETE 2 POSTS	CU. YDS. CONCRETE 3 POSTS
W 8 X 17	2.30	3.45
W 10 X 21	2.50	3.75
W 12 X 31	3.00	4.50

REV 2/23/72

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

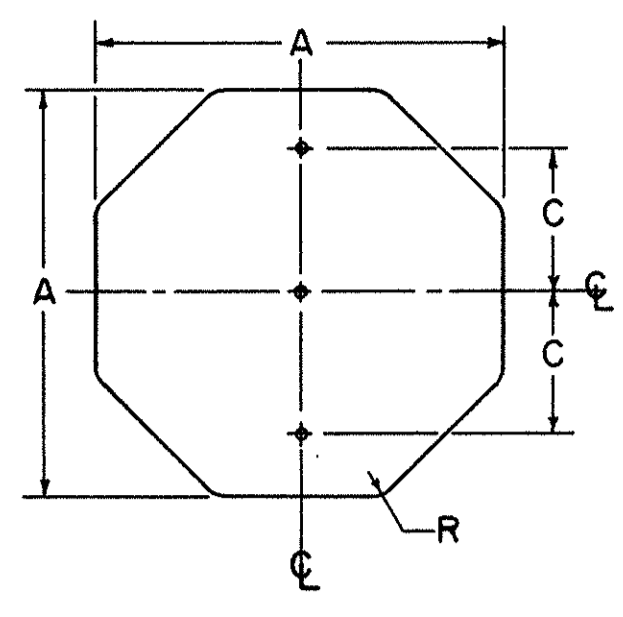
**GROUND MOUNTED  
SIGN SUPPORTS**

DATE  
5-10-68  
7-12-68  
5-23-69  
9-16-69  
12-20-71

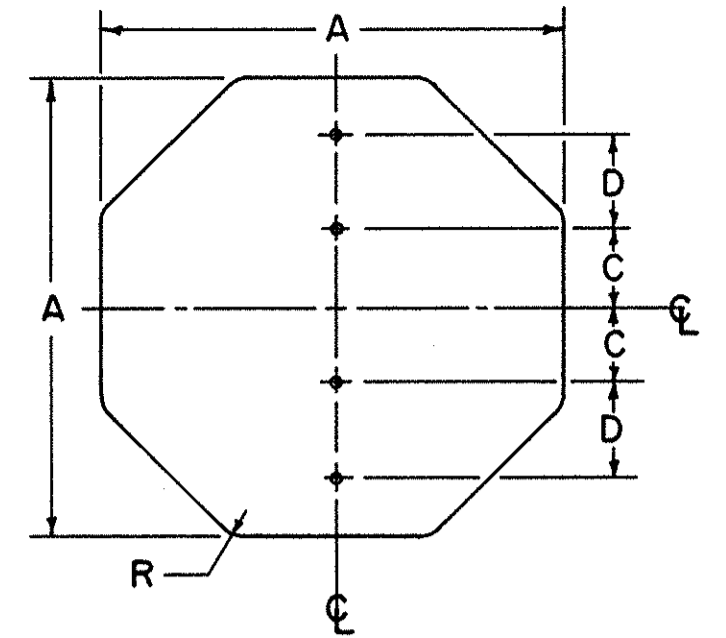
GMSS

APPROVED \_\_\_\_\_  
ENGINEER OF TRAFFIC

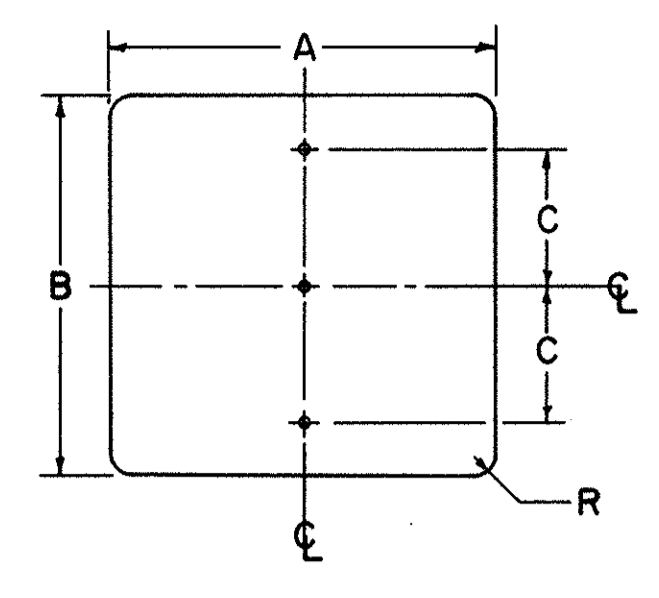
MAHONING COUNTY  
MAH-680-932



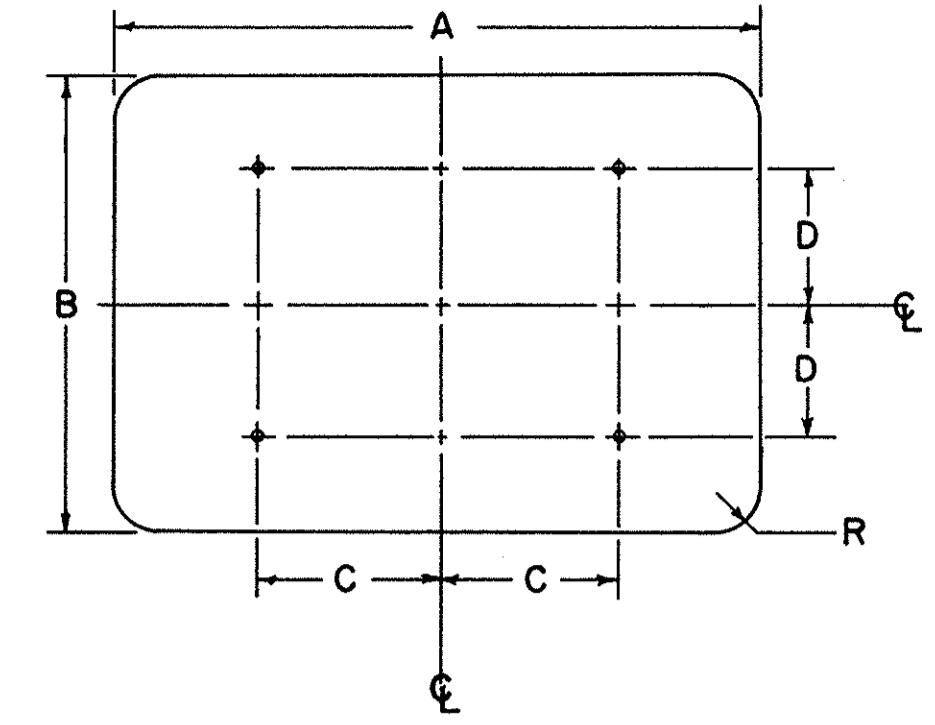
A	C	R	GAUGE
30	8	1 1/2	.080
36	8	1 1/2	.080



A	C	D	R	GAUGE
48	8	10	1 1/2	.100

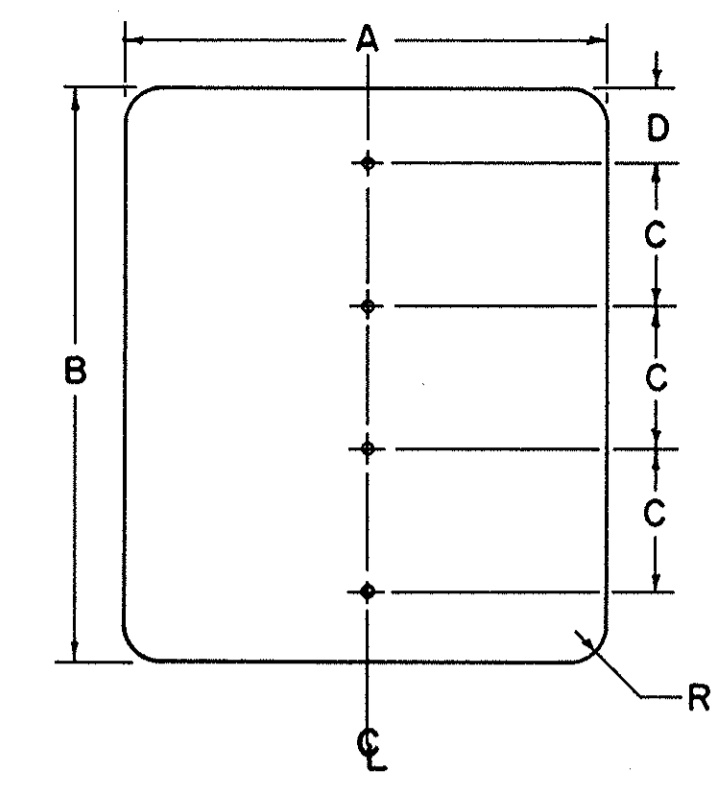


A	B	C	R	GAUGE
30	42	12	1 1/2	.080
36	36	11	1 1/2	.080
36	42	15	1 1/2	.080
36	48	15	1 1/2	.080
48	24	10	3	.100
48	36	13	3	.100

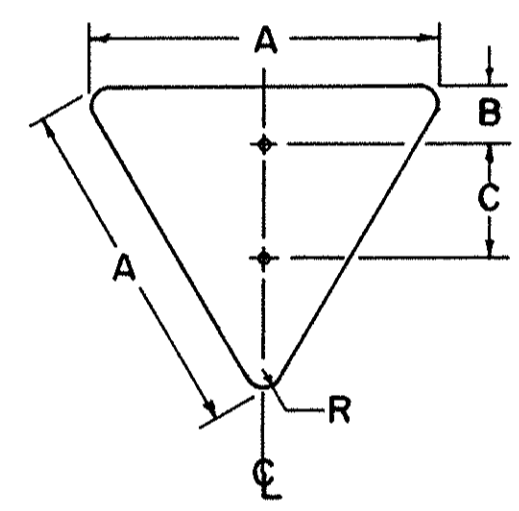


A	B	C	D	R	GAUGE
48	48	22	16	3	.100
48	60	22	22	3	.100

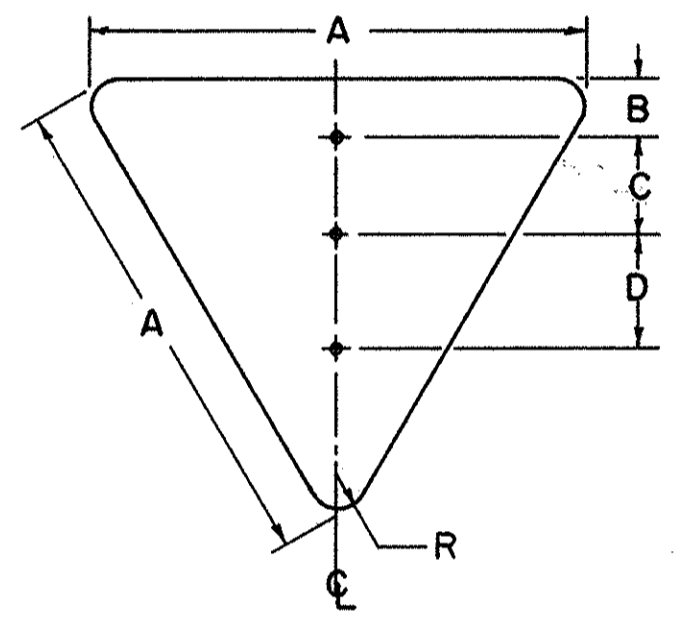
SPEED LIMIT SIGNS ON TWO SUPPORTS



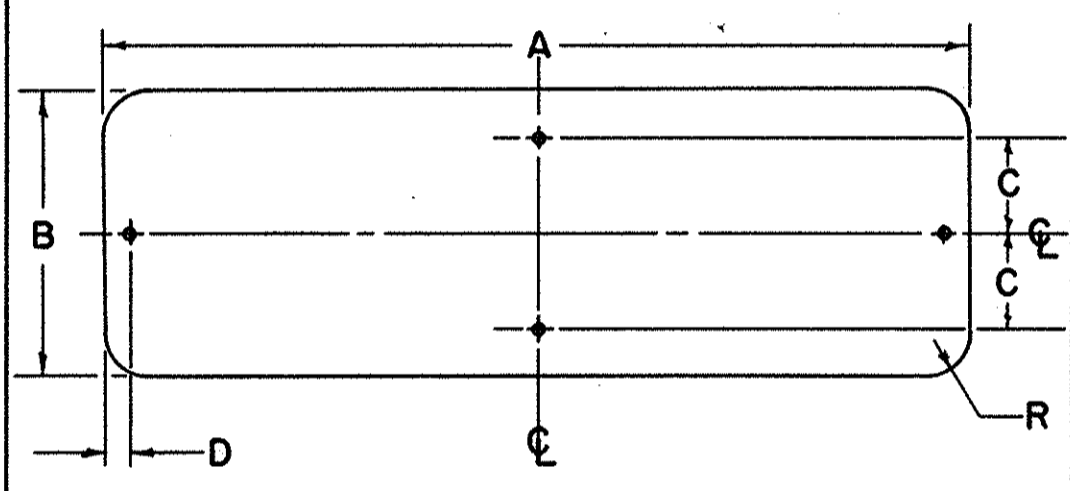
A	B	C	D	R	GAUGE
48	48	12	6	3	.100
48	60	15	7 1/2	3	.100



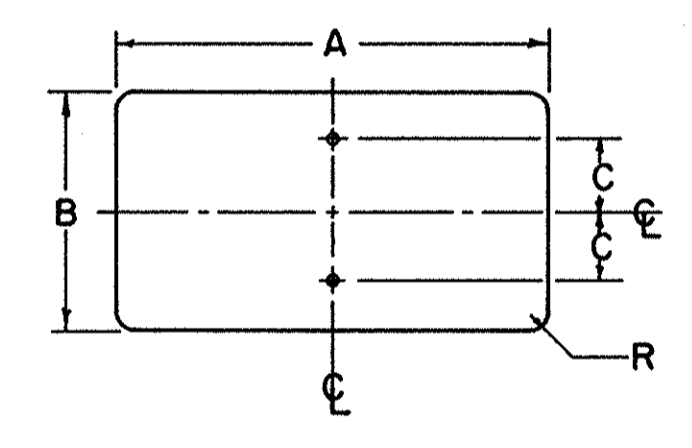
A	B	C	R	GAUGE
36	3	16	2 1/2	.080



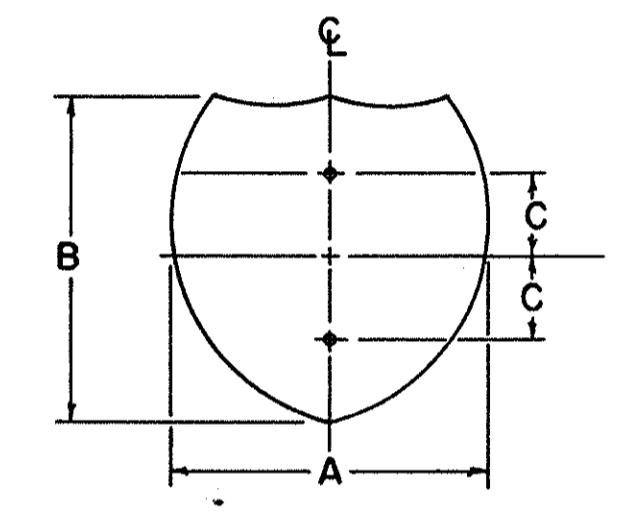
A	B	C	D	R	GAUGE
48	4	10	15	3	.100
60	5	10	15	4	.100



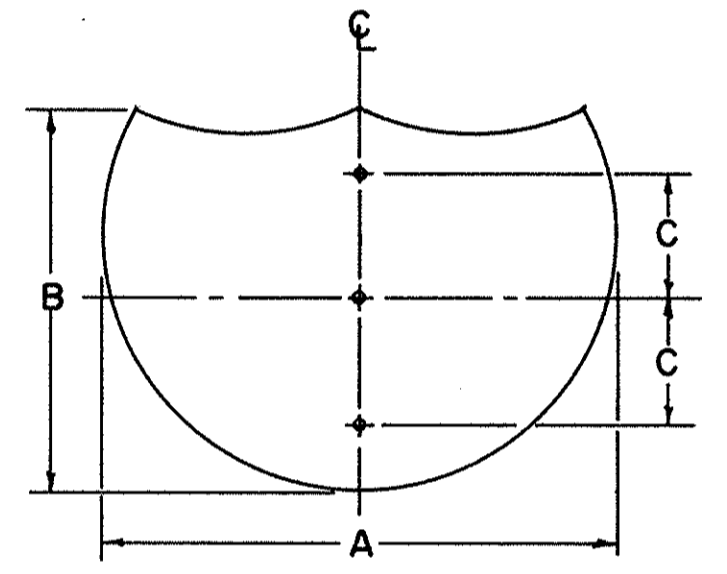
A	B	C	D	R	GAUGE
36	12	4	1	1 1/2	.080



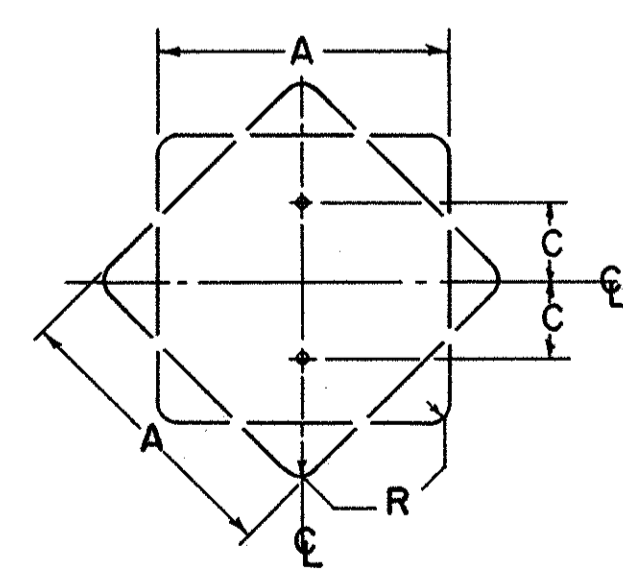
A	B	C	R	GAUGE
12	6	3	1 1/2	.063
20	15	6	1 1/2	.063
24	12	4 1/2	1 1/2	.063
24	18	15	1 1/2	.063
24	30	8	1 1/2	.063
24	48	10	1 1/2	.100
30	36	10 1/2	1 1/2	.080
36	18	7 1/2	1 1/2	.080



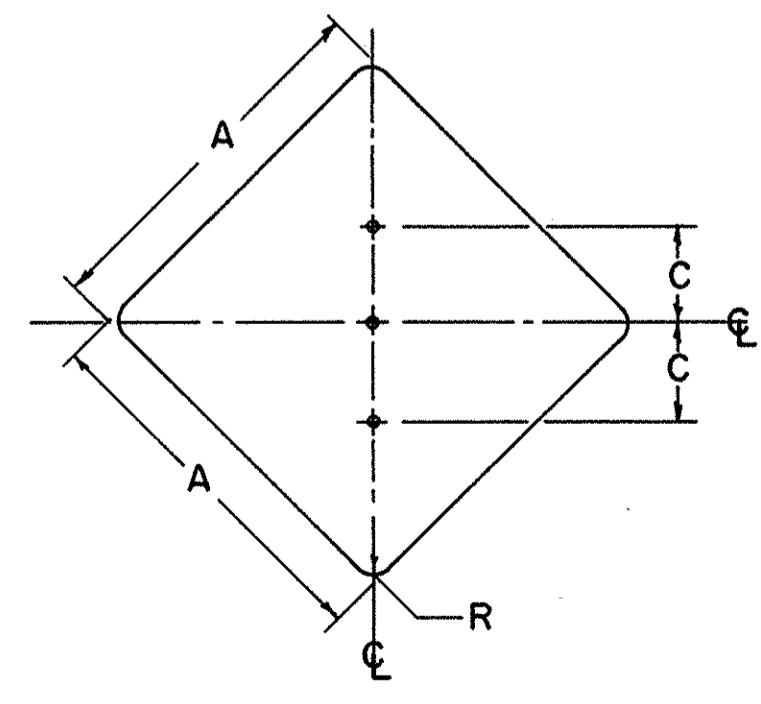
A	B	C	GAUGE
24	24	8	.063
30	24	8	.080



A	B	C	GAUGE
36	36	11	.080
48	36	11	.100

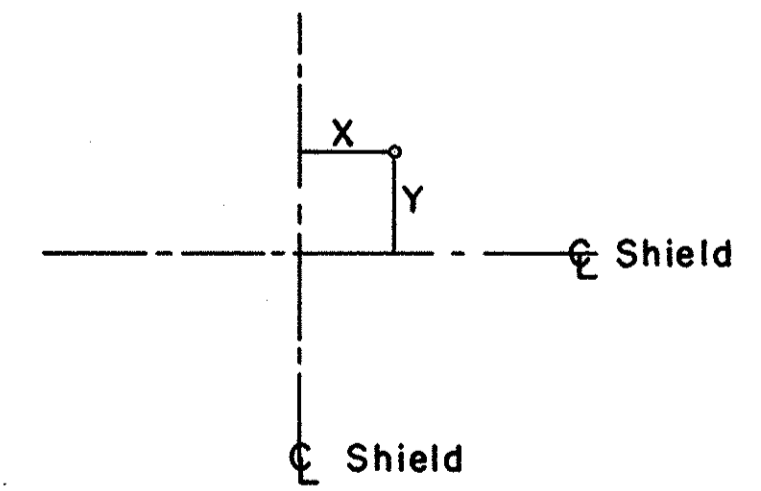


A	C	R	GAUGE
18	7 1/2	1 1/2	.063
24	8	1 1/2	.063
30	8	1 1/2	.080



A	C	R	GAUGE
36	12	3	.080
48	14	3	.100

Location of holes on "Demountable Shields"  
(attached to guide signs)



SIZE	NO. HOLES	X	Y
(26) 24X24	4	7	7
30X24	4	8	8
(39) 36X36	4	10	10
		0	10
48X36	6	15	10

For notes on fastening see drawing for miscellaneous "Signing Items" sheet.

NOTES:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.

MATERIAL

FLAT SIGN BLANKS SHALL BE FURNISHED IN ALUMINUM ALLOY 6061-T6, (ASTM-B209, GS11A-T6) WITH MILL FINISH.

BOLT HOLES

THE BOLT HOLES SHALL BE 3/8" IN DIAMETER, AND MAY BE DRILLED, BLANKED OR PUNCHED TO FINISHED SIZE.

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

SIGN BLANK  
DETAILS

SBD

DATE  
4-14-67

APPROVED \_\_\_\_\_  
ENGINEER OF TRAFFIC

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

240  
303

MAHONING COUNTY  
MAH-680-932

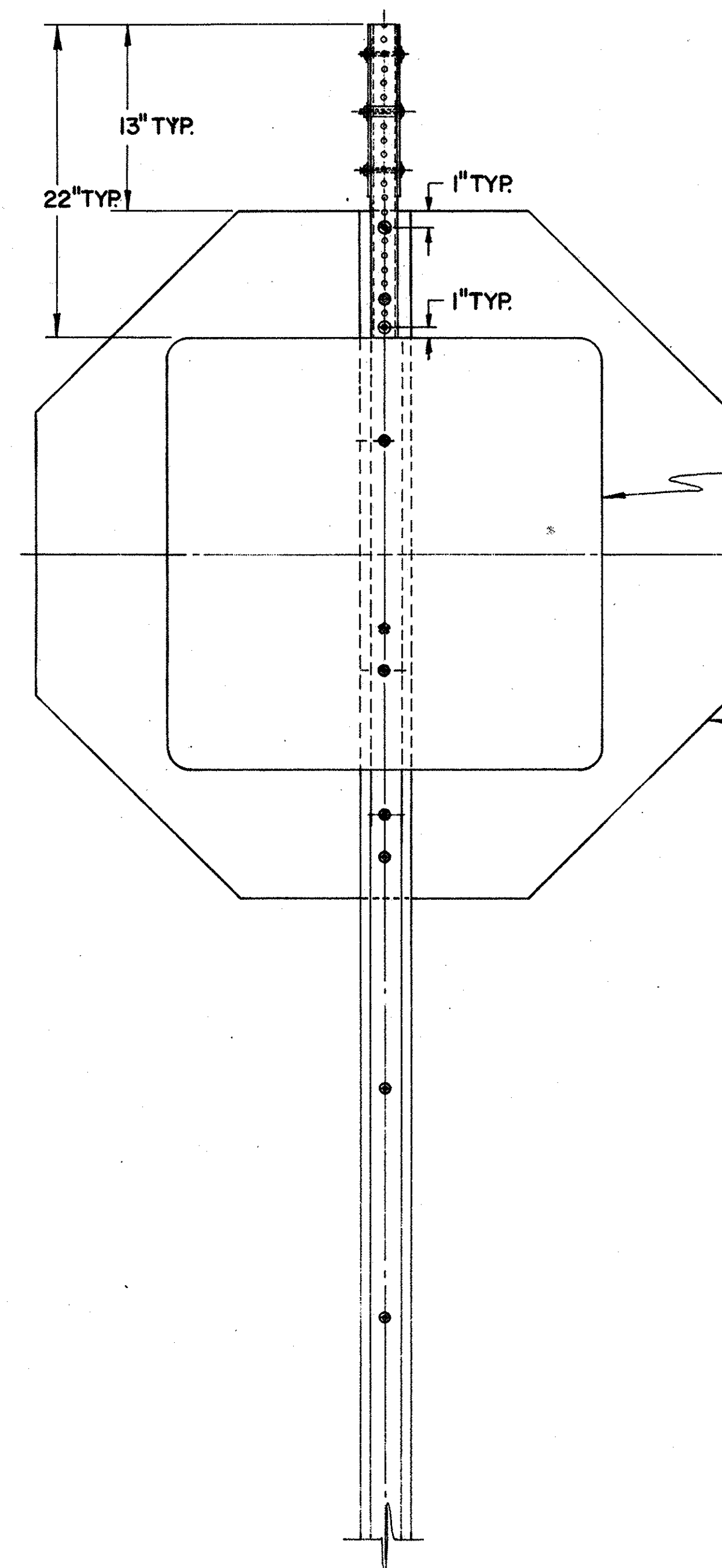
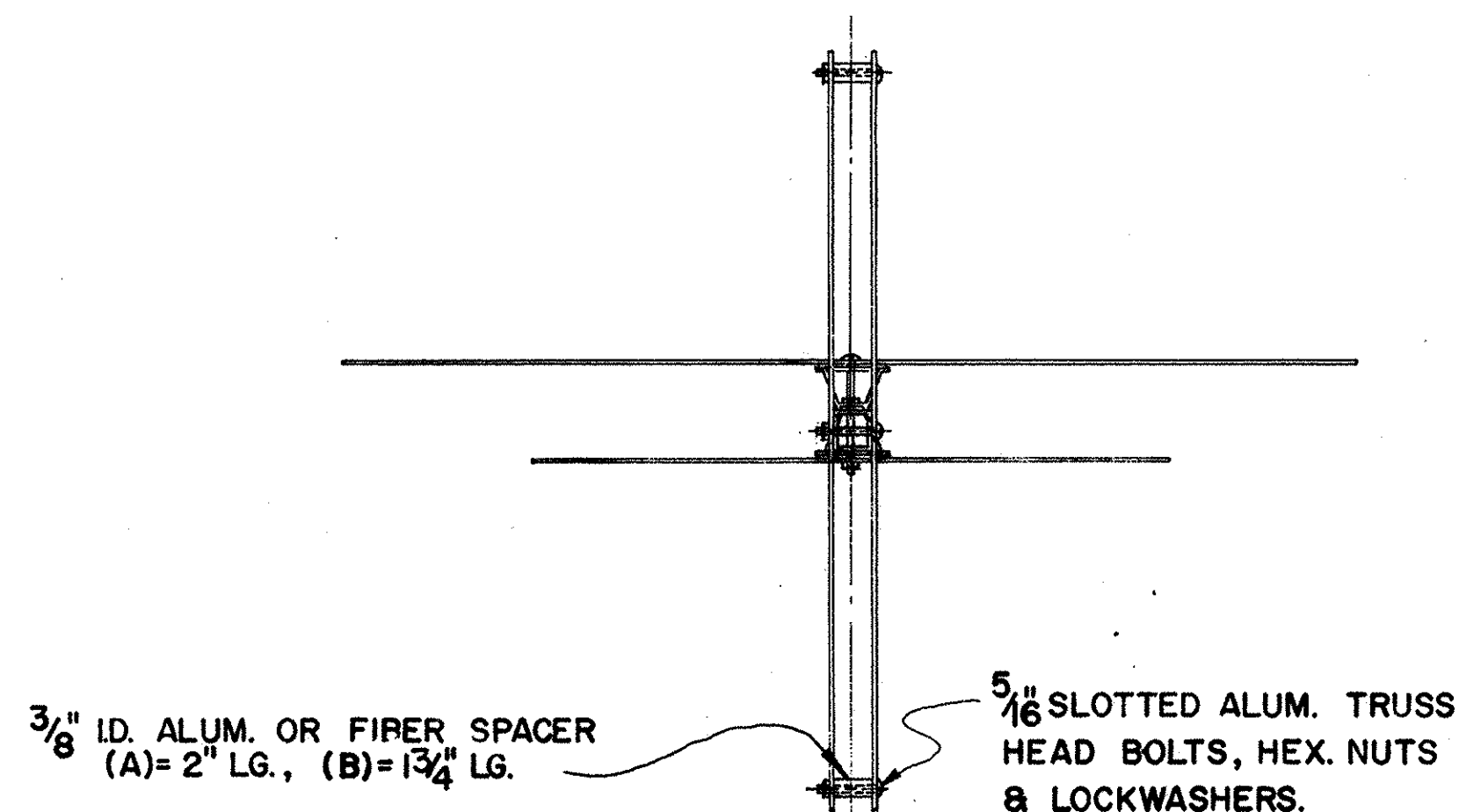
**NOTES**

**MATERIALS**

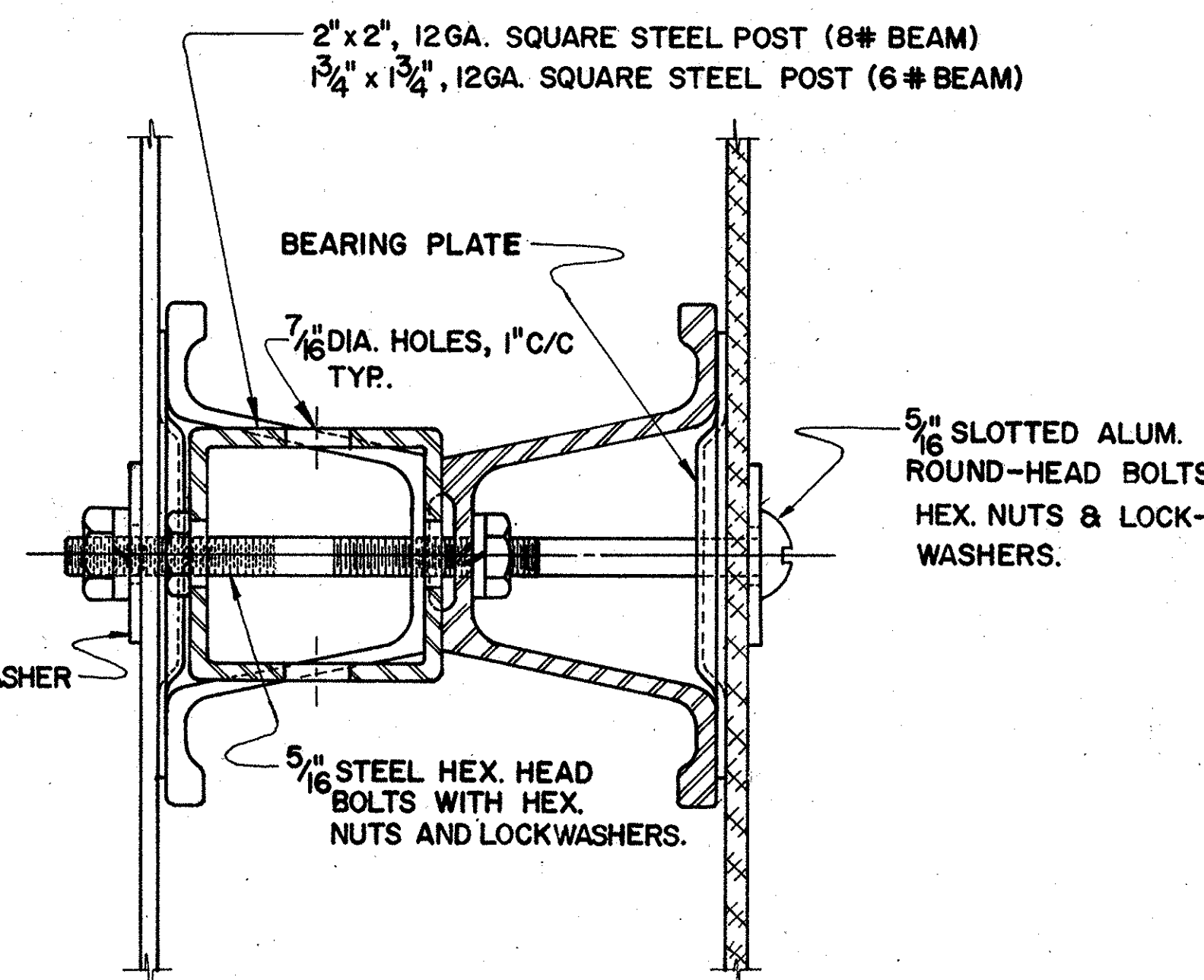
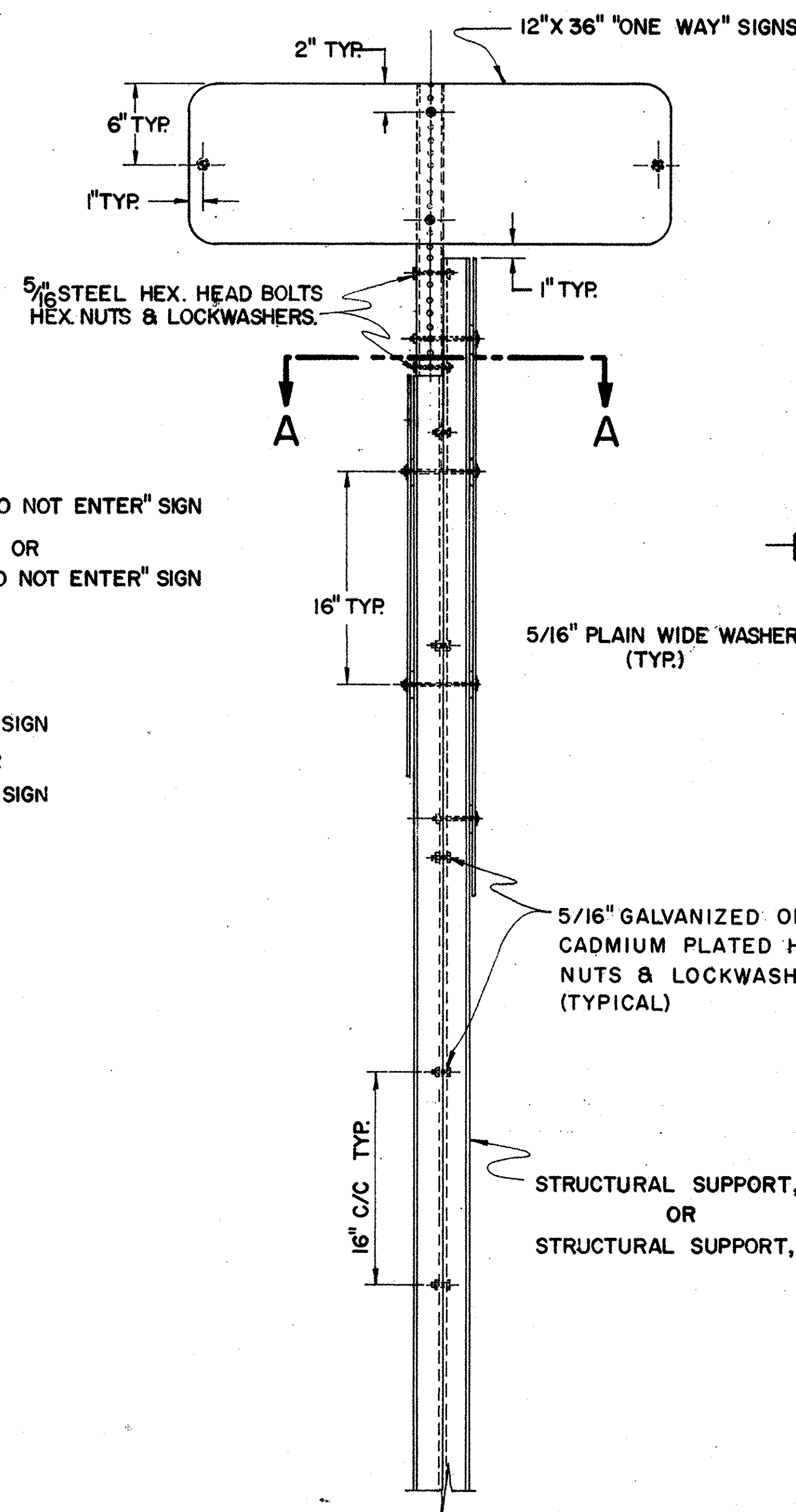
ALL SIGN MATERIALS SHALL BE IN ACCORDANCE WITH SUPPLEMENT SPECIFICATION 815.

ALL STRUCTURAL MATERIALS SHALL BE IN ACCORDANCE WITH SUPPLEMENT SPECIFICATION 816.

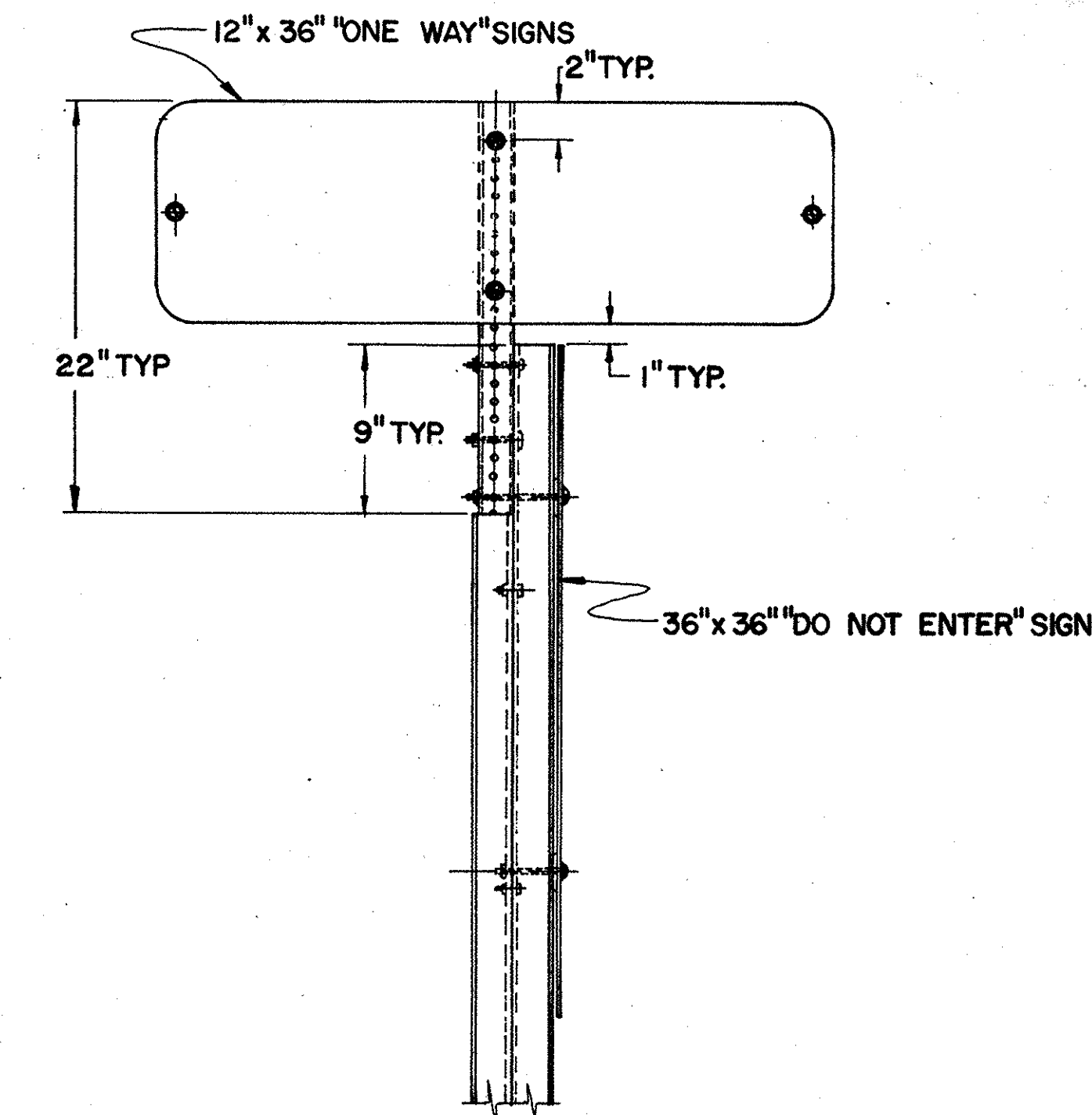
FOR SPECIFICATIONS FOR THE 2" & 1 3/4" SQUARE STEEL POST SEE GENERAL NOTES, SHEET NO. 217.



**"ONE WAY", "STOP", "DO NOT ENTER",  
SIGN INSTALLATION.**



**SECTION A-A**



**"ONE WAY", "DO NOT ENTER"  
SIGN INSTALLATION**

BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

**SPECIAL  
"ONE WAY" SIGN  
SUPPORT DETAILS**

DATE  
2-7-66  
4-18-67

APPROVED \_\_\_\_\_  
ENGINEER OF TRAFFIC

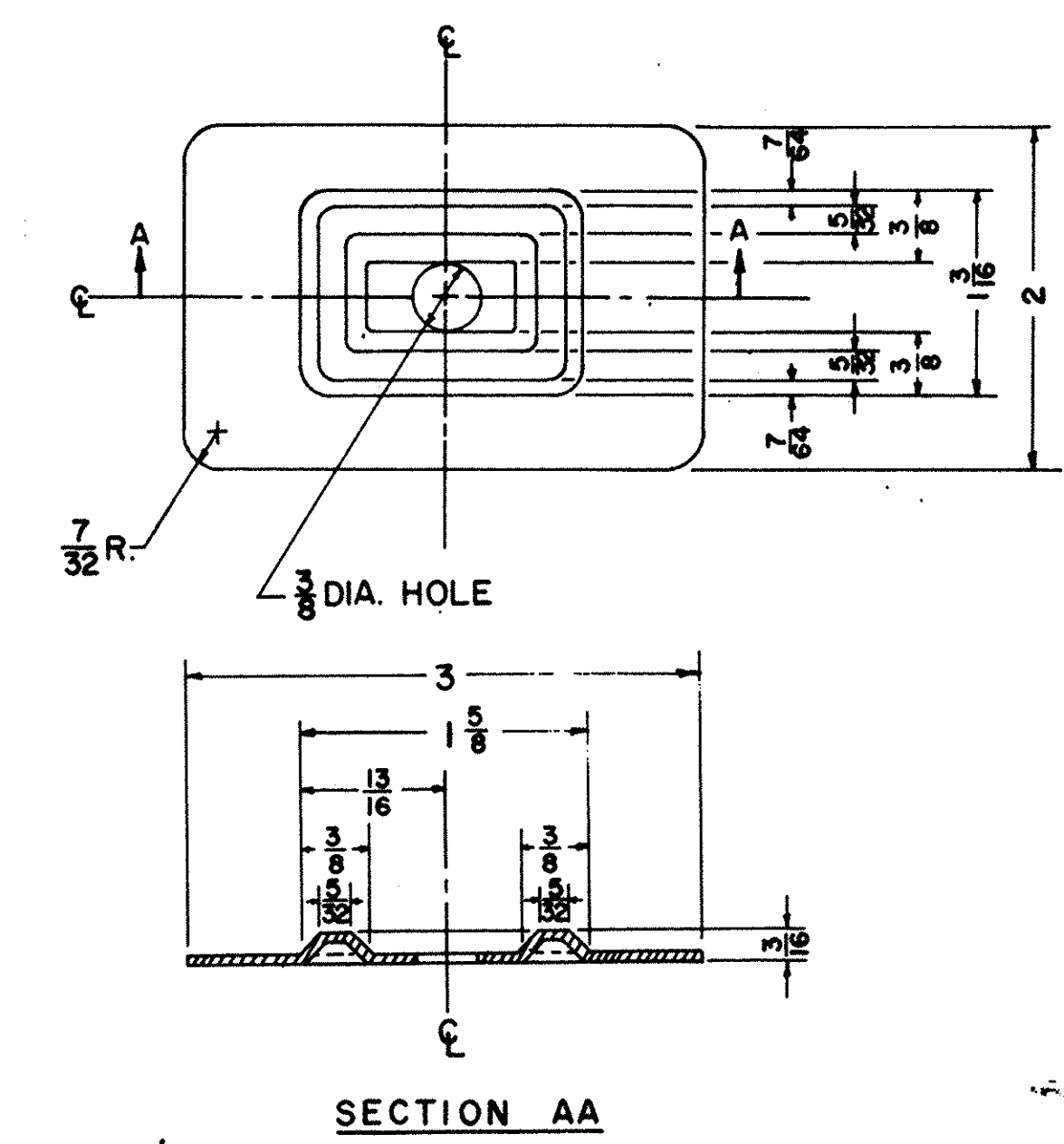
Rev. 2-23-72

**NOTES**

- THE NEAR EDGE OF ALL MAIN LINE SIGNS, EXCEPT GORE INSTALLATIONS, SHALL BE LOCATED TWO FOOT (2') BACK OF GUARD RAIL FACE. THIS DIMENSION SHALL BE DETERMINED BY ROADWAY TYPICAL SECTION & USED WHETHER OR NOT GUARD RAIL IS PRESENT.  
ON RAMPs THE NEAR EDGE OF SIGNS SHALL BE LOCATED TWO FOOT (2') BACK OF GUARD RAIL FACE. THIS DIMENSION WILL BE DETERMINED AND USED AS FOR MAIN LINE ABOVE.  
ON APPROACHES THE NEAR EDGE OF SIGNS SHALL BE  
(A) TWO FOOT (2') BEHIND EXISTING GUARD RAIL  
(B) TWO FEET (2') FROM THE EDGE OF PAVED OR TRAVELED SHOULDER WITH A MINIMUM OF 6' FROM EDGE OF ROADWAY PAVEMENT.
- POSTS PLACED IN CONCRETE MEDIANS SHALL BE INSTALLED BY DRIVING THROUGH A 6" SLEEVE OR CORE DRILLED HOLE. THE HOLE SHALL BE FILLED WITH ASPHALTIC CONCRETE AFTER THE POST IS IN THE PROPER POSITION.
- HORIZONTAL BACK BRACING SHALL ALWAYS BE MOUNTED ON THE FRONT FLANGE OF THE SUPPORT EXCEPT WHERE SIGNS ARE MOUNTED BACK TO BACK. BACK BRACING SHALL NEVER EXTEND ABOVE TOP EDGE OF UPPERMOST SIGN PLATE AND SHALL BE ATTACHED TO SUPPORTS USING 5/16" GALVANIZED STEEL BOLTS.
- SCREWS, NUTS, AND WASHERS FOR SIGN ERECTION SHALL BE ALUMINUM EXCEPT AS NOTED ABOVE. 5/16" TRUSS HEAD SLOTTED MACHINE SCREWS WITH HEX. NUTS PLAIN AND LOCKWASHERS SHALL BE USED. PLAIN WASHERS SHALL BE 5/16" WIDE, USED ON SIGN FACE ONLY.
- SIGN INSTALLATIONS SHALL BE PLACED SO THAT SUPPORTS ARE NOT PLACED IN DRAINAGE DITCHES.
- HORIZONTAL CLEARANCES SHOWN PERTAIN TO NON-CURBED SECTIONS. SECTIONS WITH UNMOUNTABLE CURB SHALL HAVE A HORIZONTAL CLEARANCE OF 2'-0" MINIMUM FROM THE CURB FACE TO THE SIGN EDGE.
- VERTICAL AND HORIZONTAL CLEARANCE BETWEEN SIGNS ON ONE ASSEMBLY SHALL BE A MAXIMUM OF 2" AND A MINIMUM OF 1".
- GALVANIZED STEEL BEARING PLATES SHALL BE INCLUDED BETWEEN ALL SHEET ALUMINUM SIGNS ATTACHED TO VERTICAL SUPPORTS AT EACH SIGN BOLT LOCATION.
- SOIL PLATES SHALL BE ATTACHED TO ALL 6 LB. BEAMS AS DETAILED ON THIS SHEET, EXCEPT WHERE POSTS ARE PLACED IN CONCRETE MEDIANS AS COVERED IN NOTE 2.

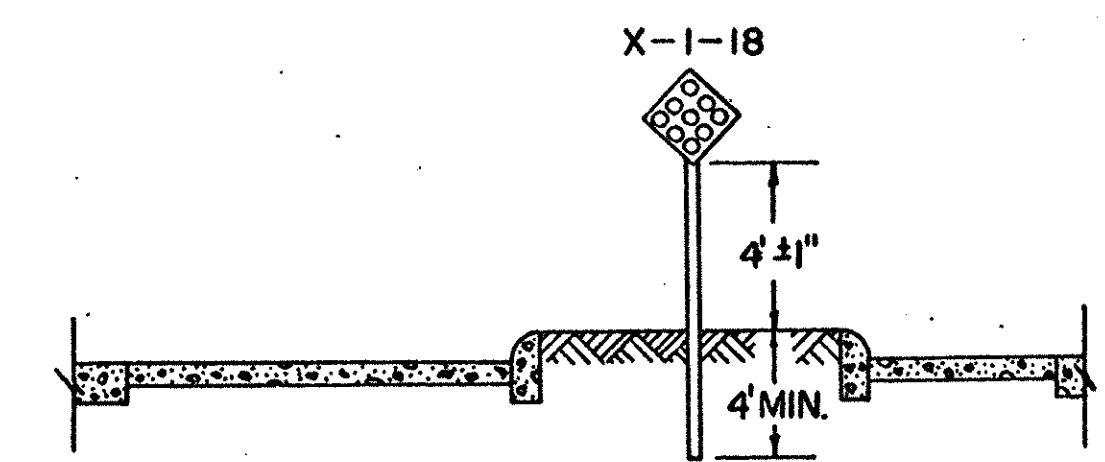
REV 2/23/72

BUREAU OF TRAFFIC OHIO DEPARTMENT OF HIGHWAYS	
TYPICAL PLACEMENT OF SIGNS	DATE 9-27-67 7-12-68 5-13-69 3-5-71 12-21-71
APPROVED _____ ENGINEER OF TRAFFIC	TPS-1



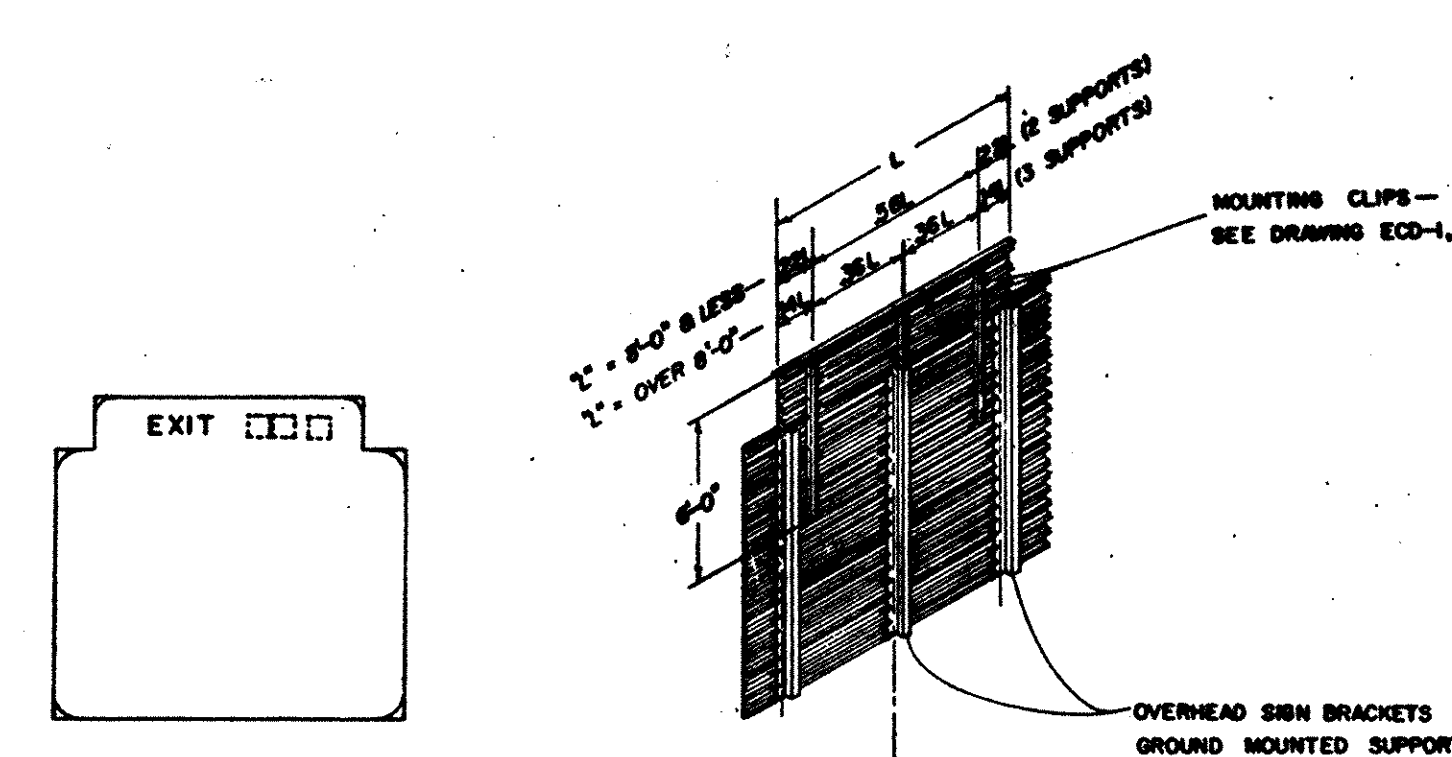
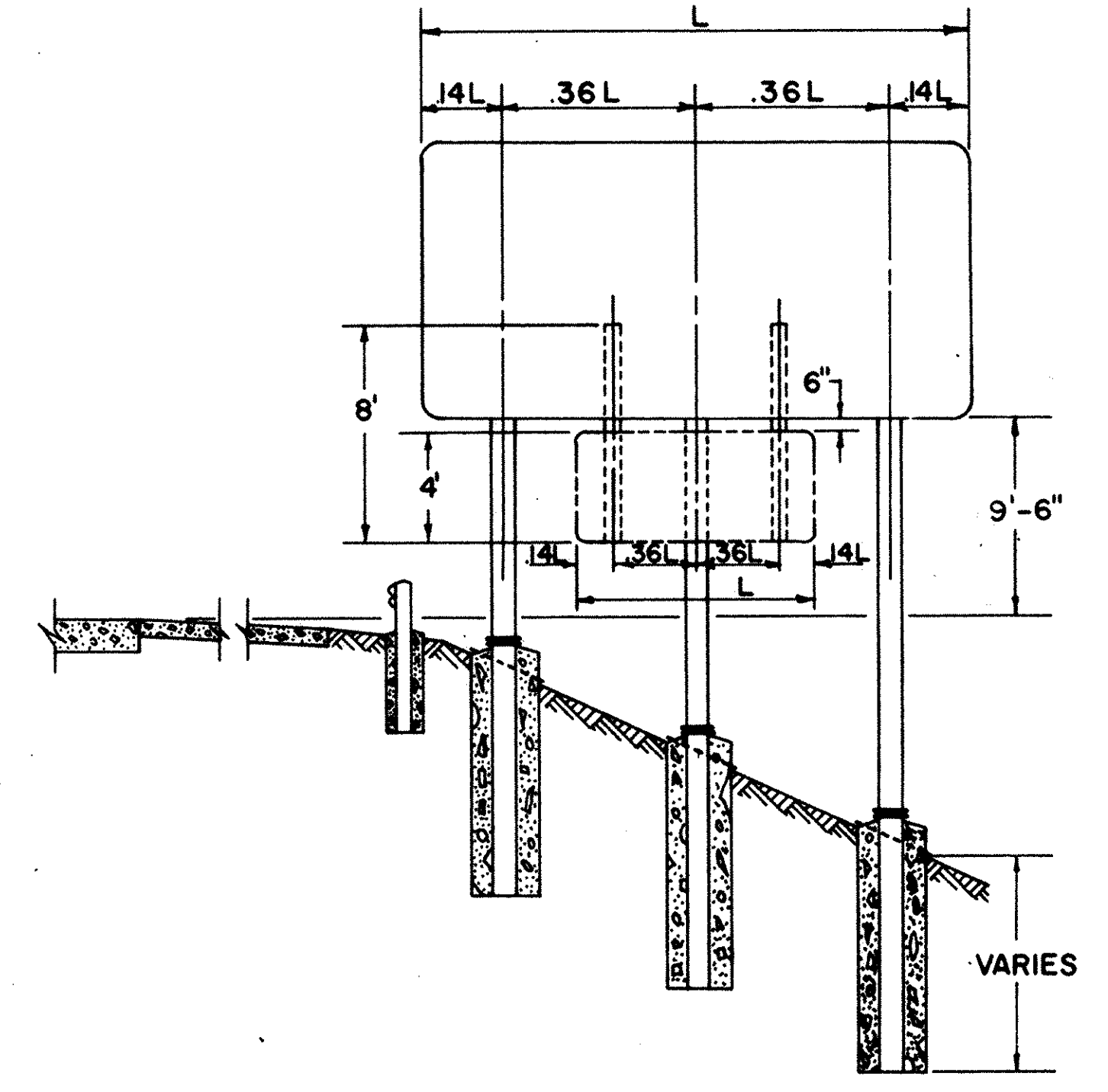
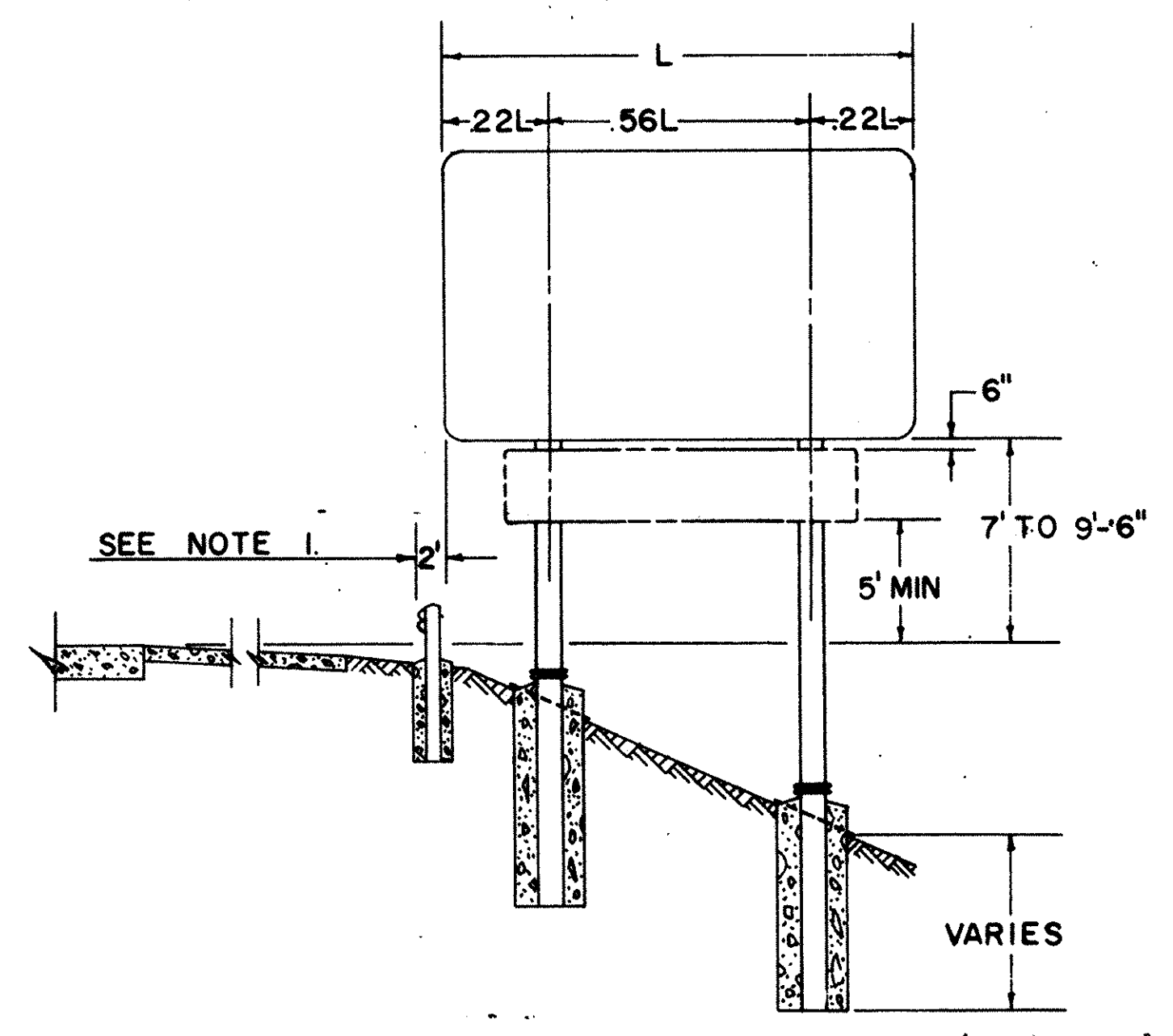
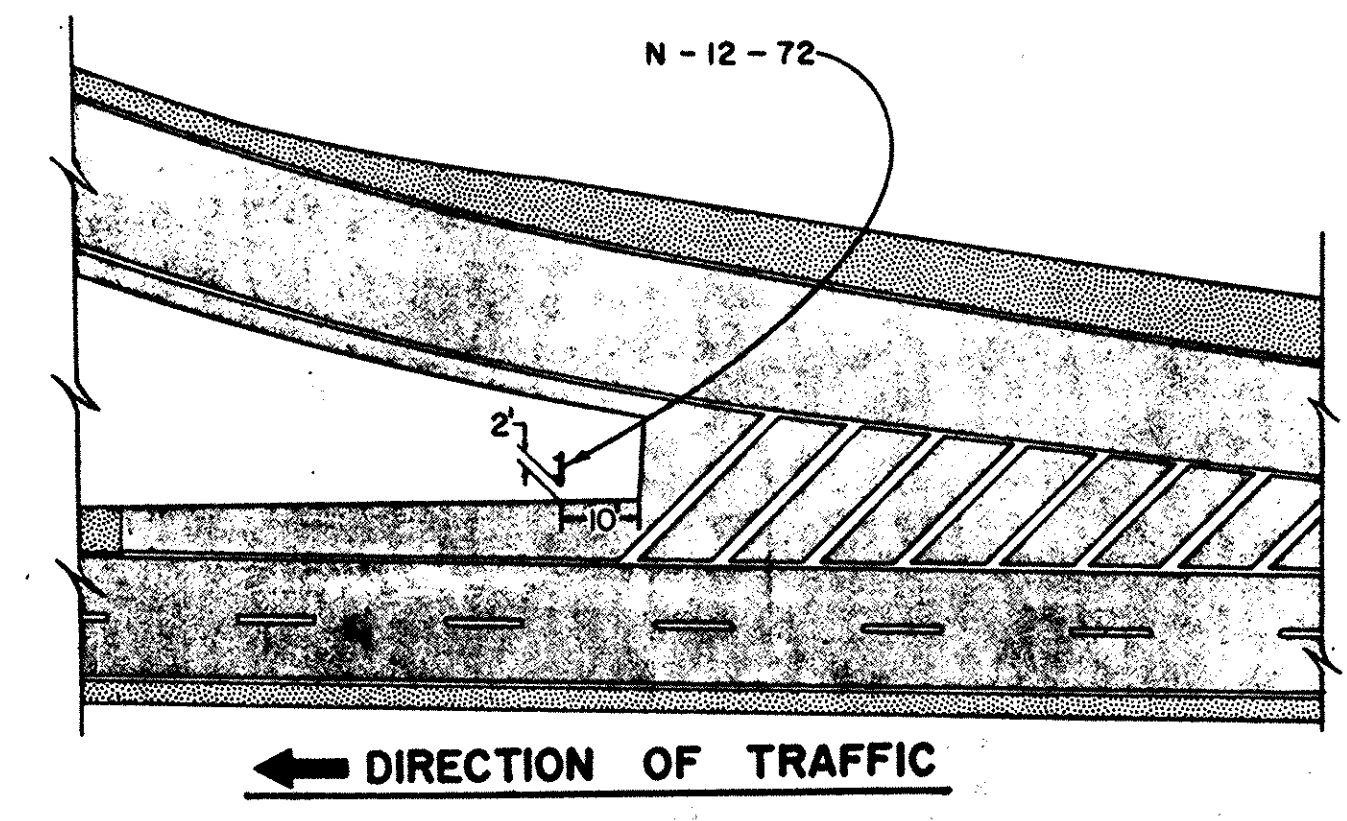
NOTE:  
THE PLATE IS SYMMETRICAL ABOUT EITHER CENTERLINE.  
METAL SHALL BE 16 GAUGE STEEL.  
ALL DIMENSIONS ARE IN INCHES.

**BEARING PLATE DETAIL**

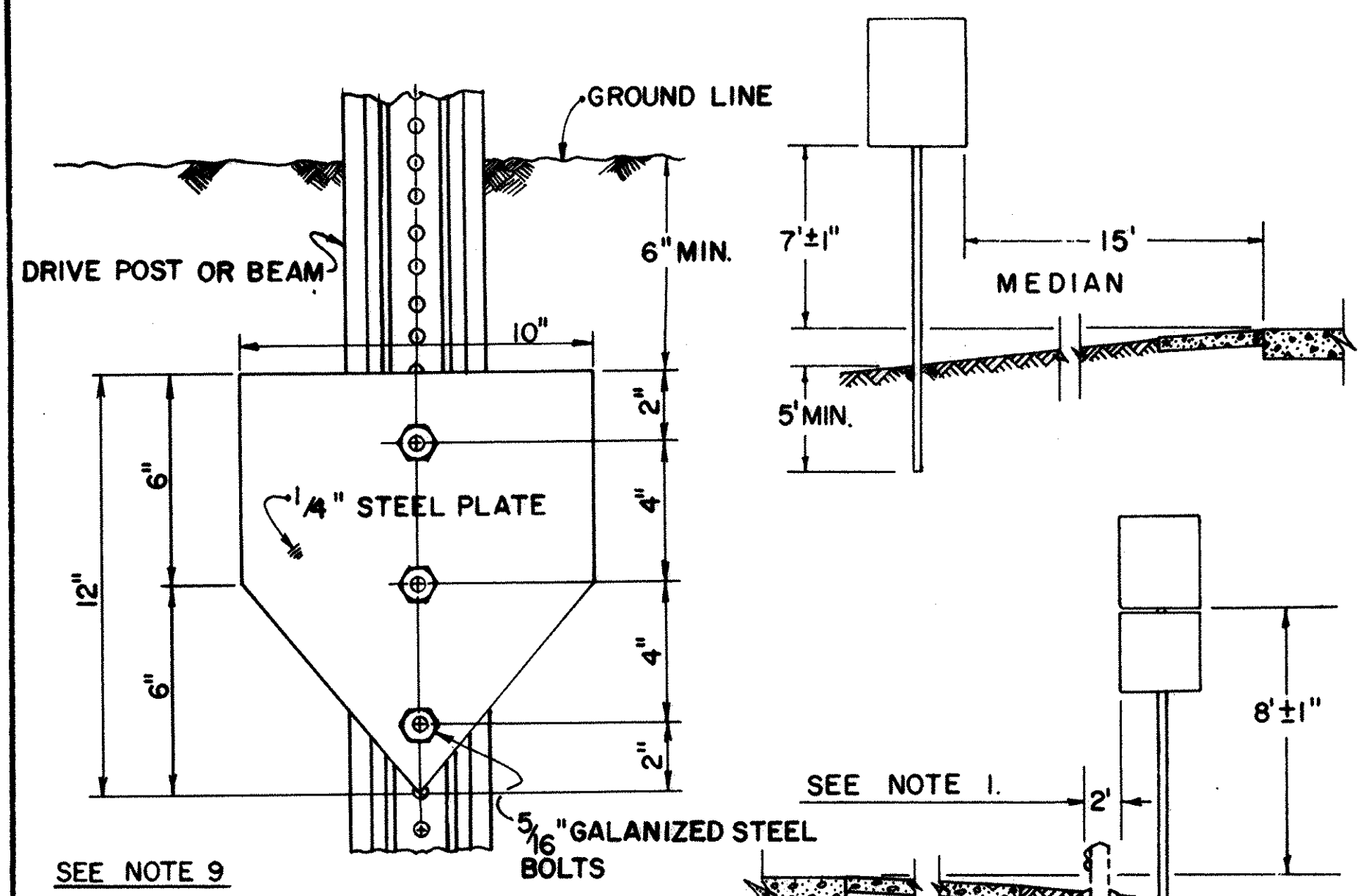


**SIGN SUPPORT SPACING**

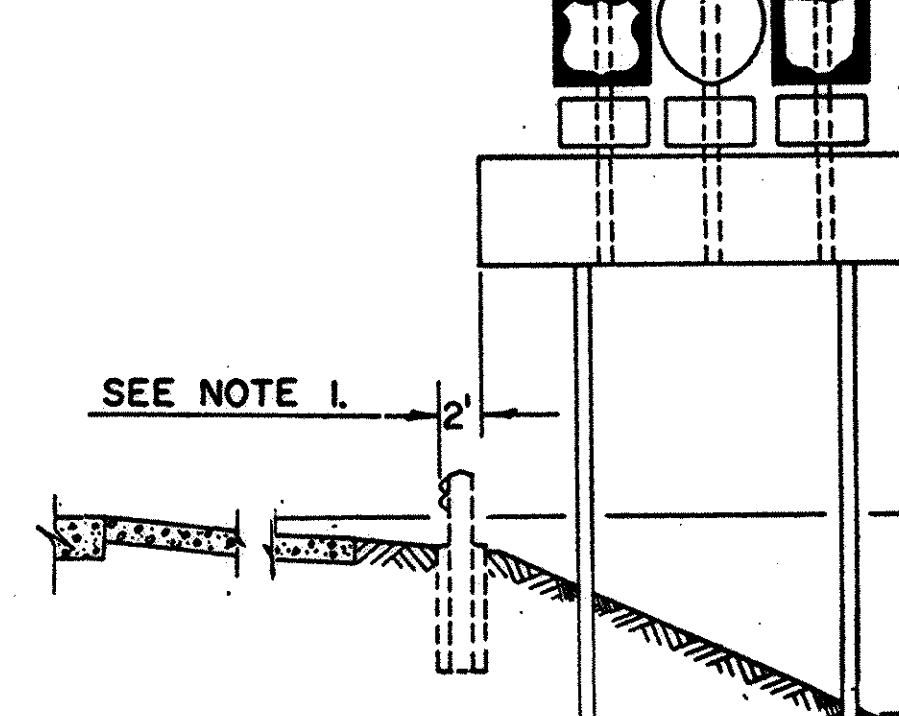
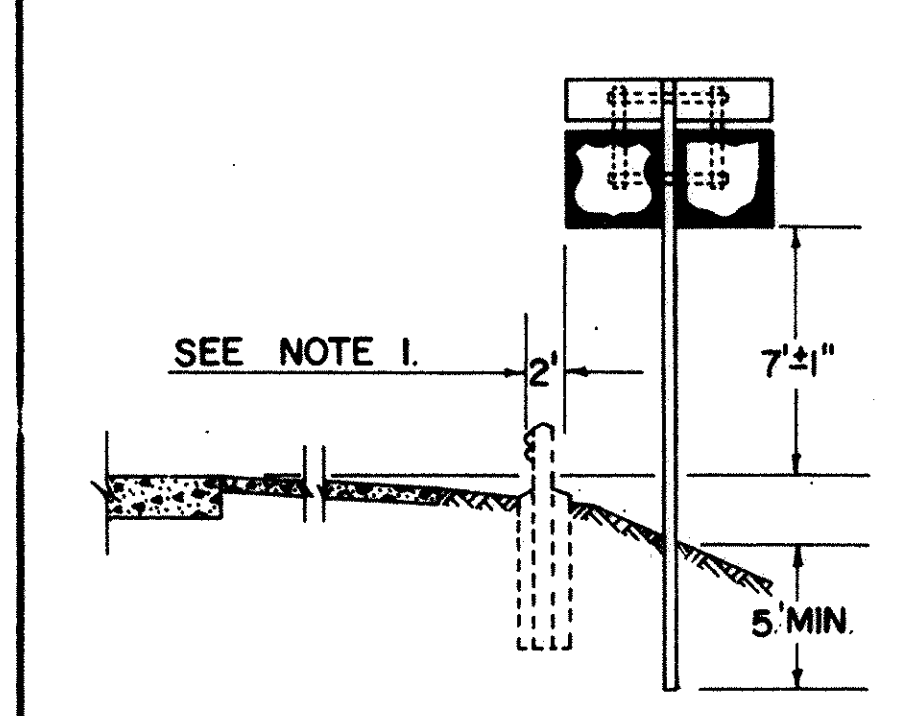
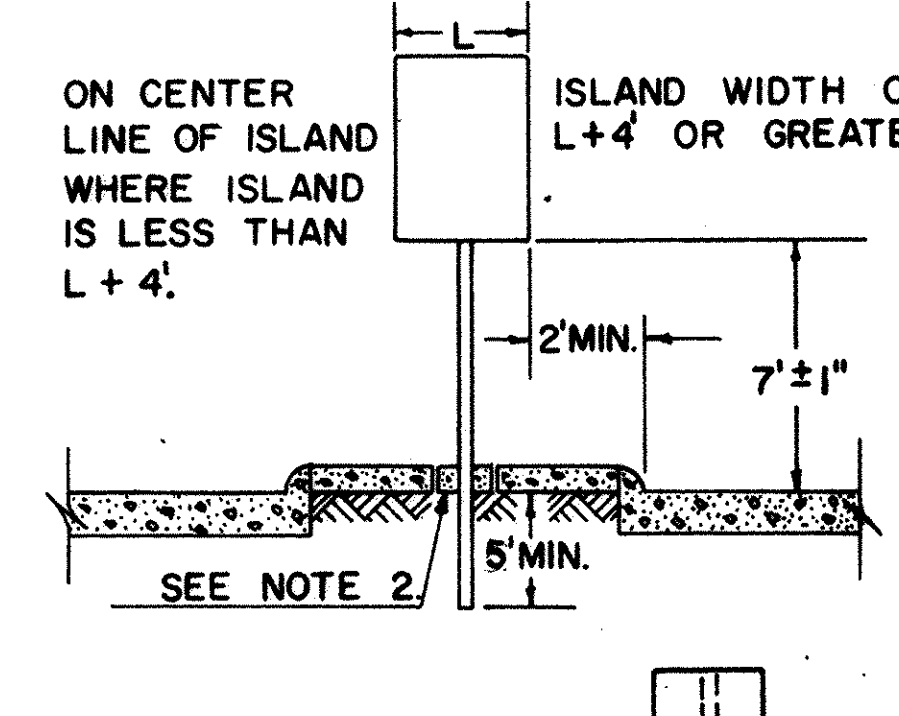
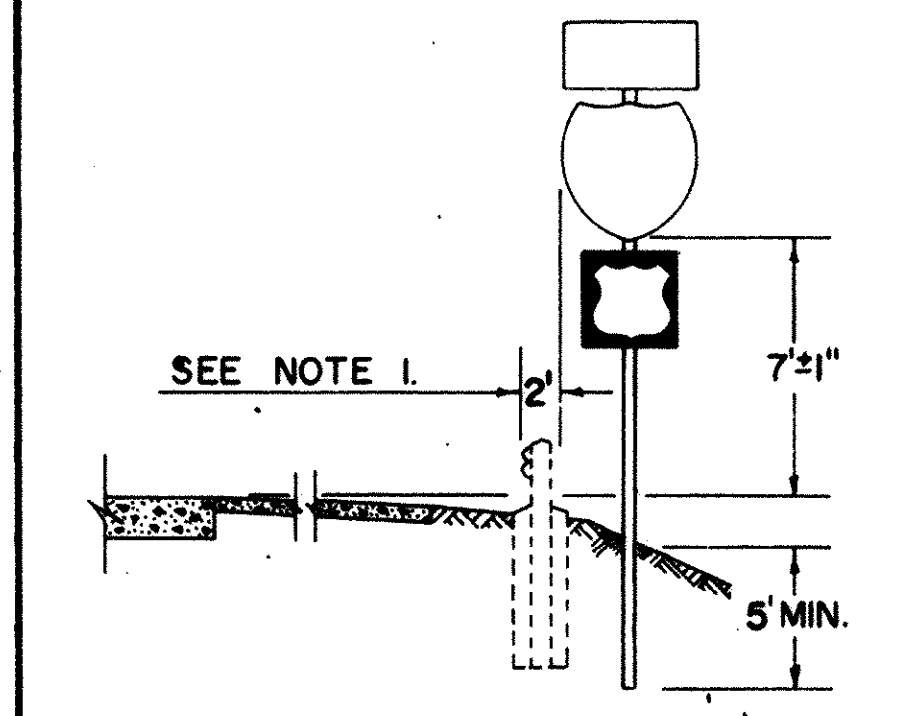
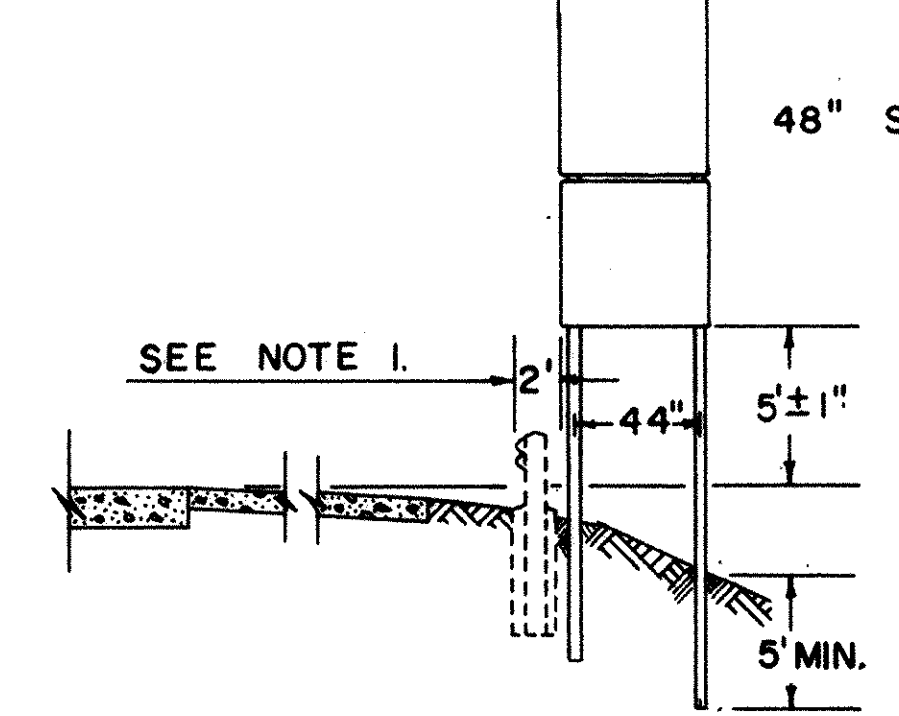
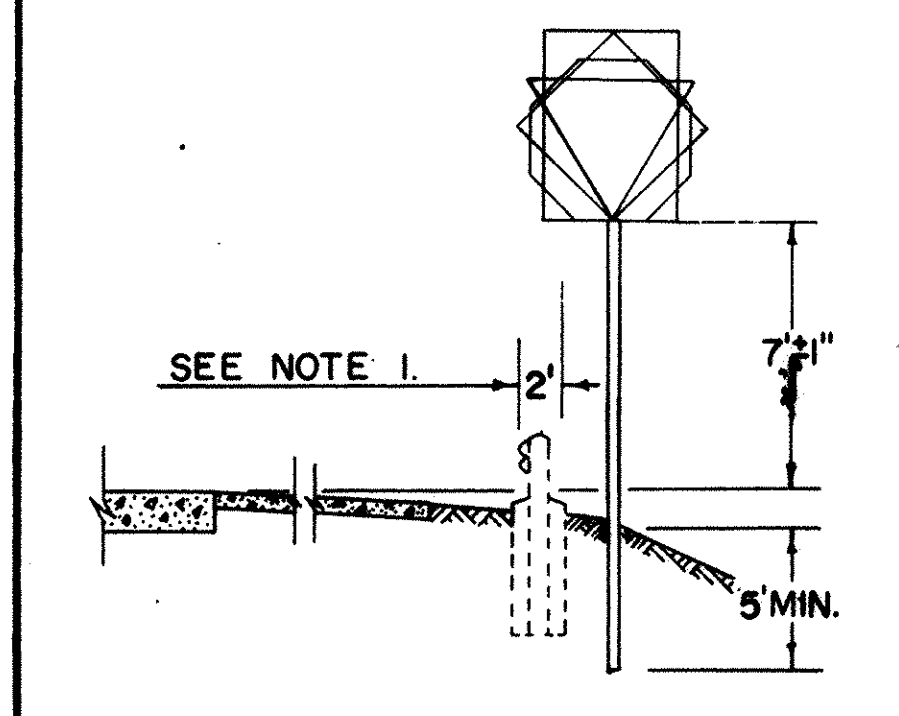
L=FT	2 SUPPORTS				3 SUPPORTS				
	.22	.56	.14	.36	L=FT	.22	.56	.14	.36
5.0	1.10	2.80	0.70	1.80	17.0	3.74	9.52	2.38	6.12
6.0	1.32	3.36	0.84	2.16	18.0	3.96	10.08	2.52	6.48
7.0	1.54	3.92	0.98	2.52	19.0	4.18	10.64	2.66	6.84
8.0	1.76	4.48	1.12	2.88	20.0			2.80	7.20
9.0	1.98	5.04	1.26	3.24	21.0			2.94	7.56
10.0	2.20	5.60	1.40	3.60	22.0			3.08	7.92
11.0	2.42	6.16	1.54	3.96	23.0			3.22	8.28
12.0	2.64	6.72	1.68	4.32	24.0			3.36	8.64
13.0	2.86	7.28	1.82	4.68	25.0			3.50	9.00
14.0	3.08	7.84	1.96	5.04	26.0			3.64	9.36
15.0	3.30	8.40	2.10	5.40	27.0			3.78	9.72
16.0	3.52	8.96	2.24	5.76	28.0			3.92	10.08



"EXIT" SIGN ATTACHMENT DETAIL



**SOIL PLATE DETAIL**



SEE NOTE 1

**48" SPEED LIMIT SIGNS**

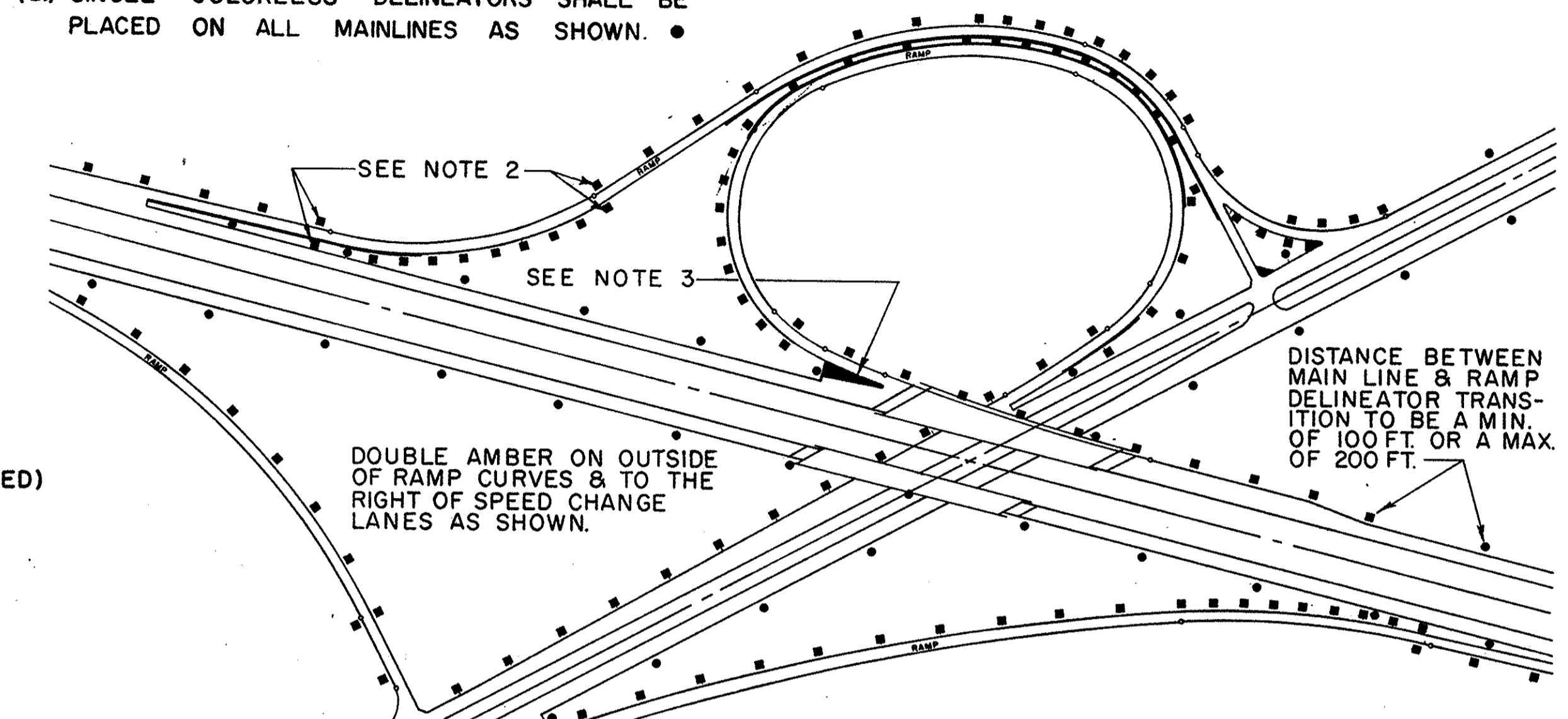
ON CENTER LINE OF ISLAND WHERE ISLAND IS LESS THAN L + 4'

ISLAND WIDTH OF L + 4' OR GREATER.

DIRECTION OF TRAFFIC

MAHONING COUNTY  
MAH-680-932

NOTE:  
(A) DOUBLE AMBER DELINEATORS SHALL BE PLACED ON ALL RAMPS AS SHOWN. ■  
(B) SINGLE COLORLESS DELINEATORS SHALL BE PLACED ON ALL MAINLINES AS SHOWN. ●



DISTANCE BETWEEN MAIN LINE & RAMP DELINEATOR TRANSITION TO BE A MIN. OF 100 FT. OR A MAX. OF 200 FT.

TYPICAL DELINEATOR PLACEMENT

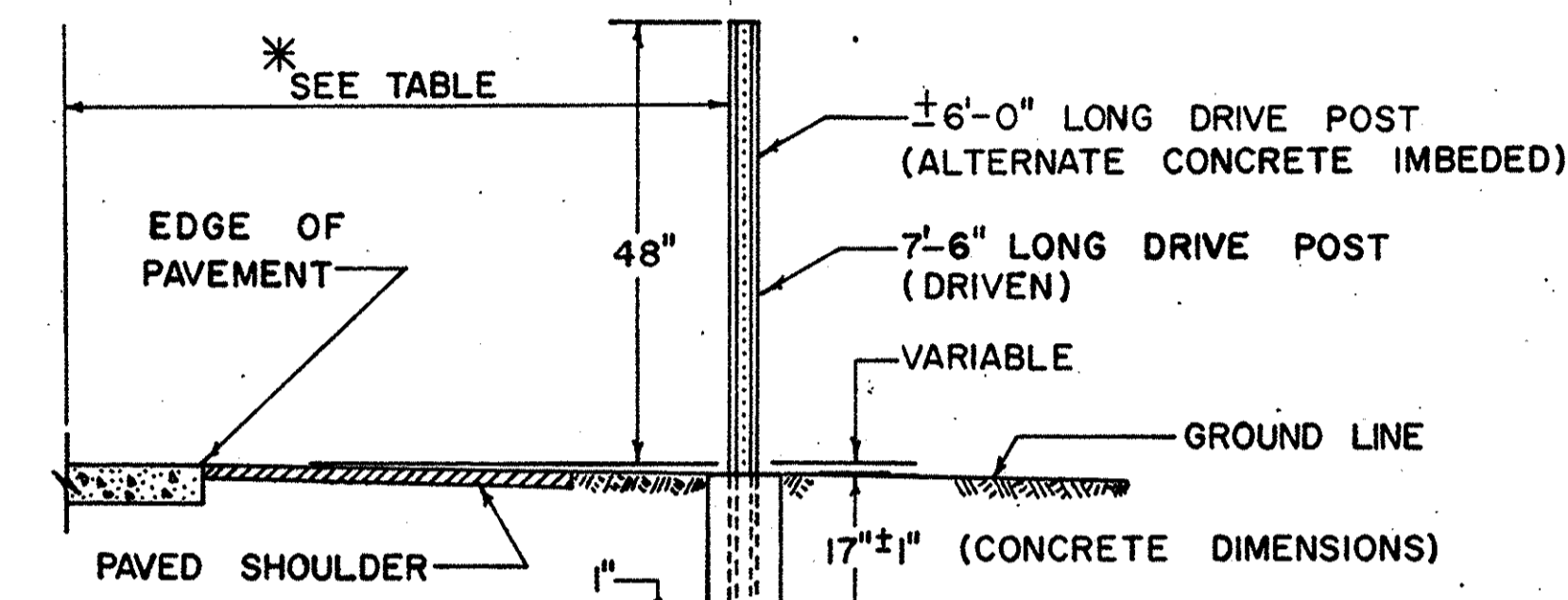
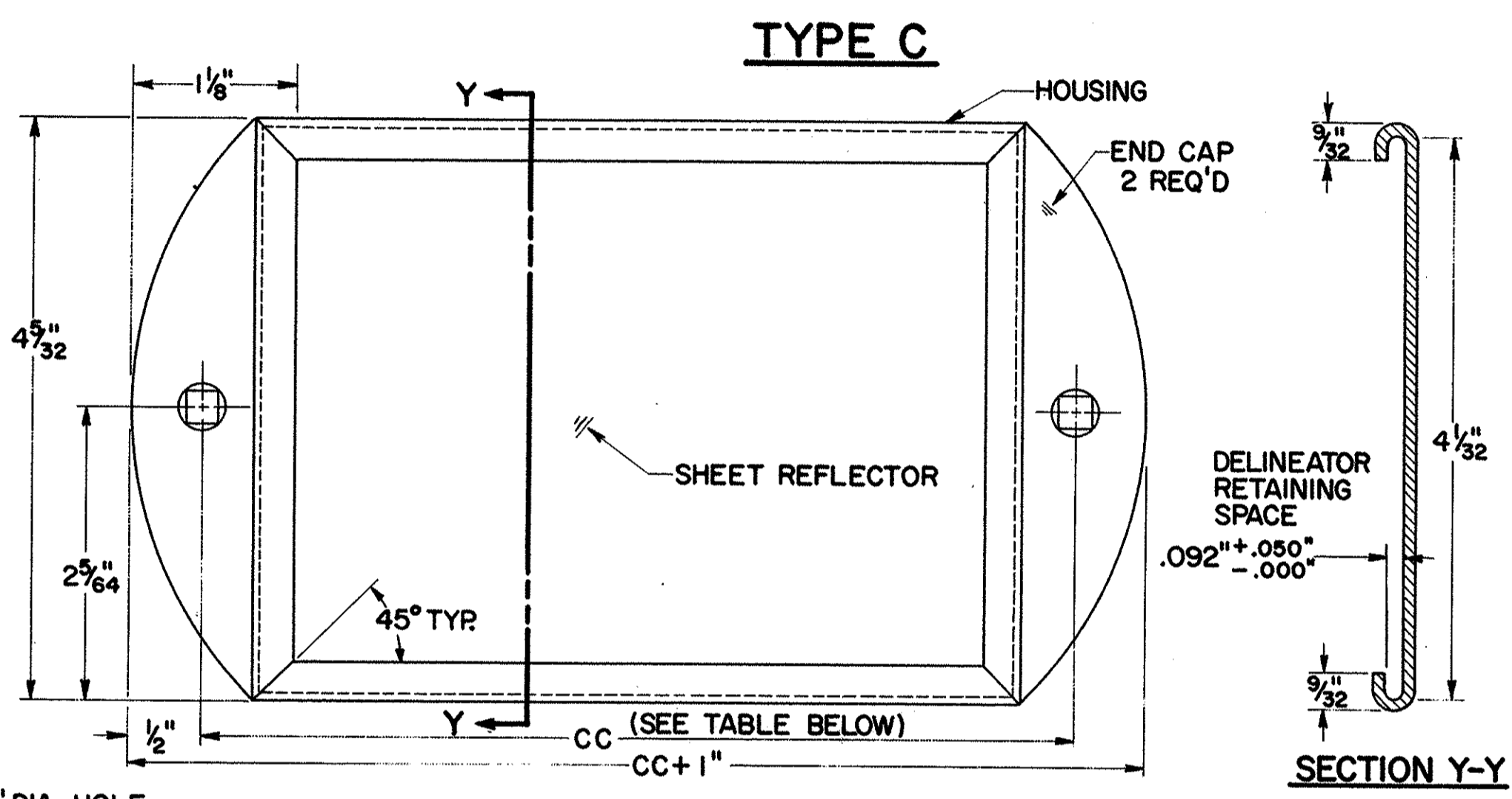
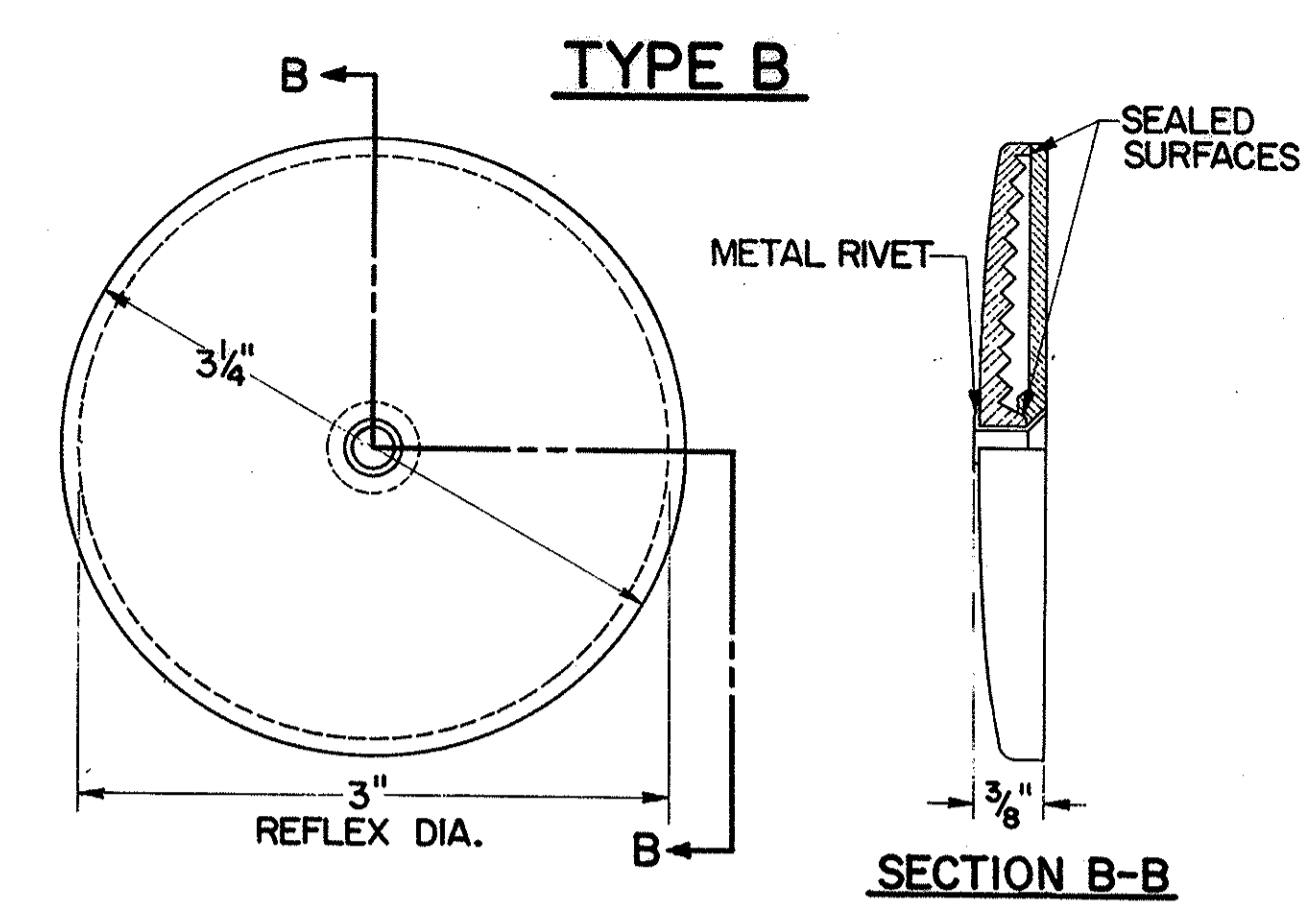
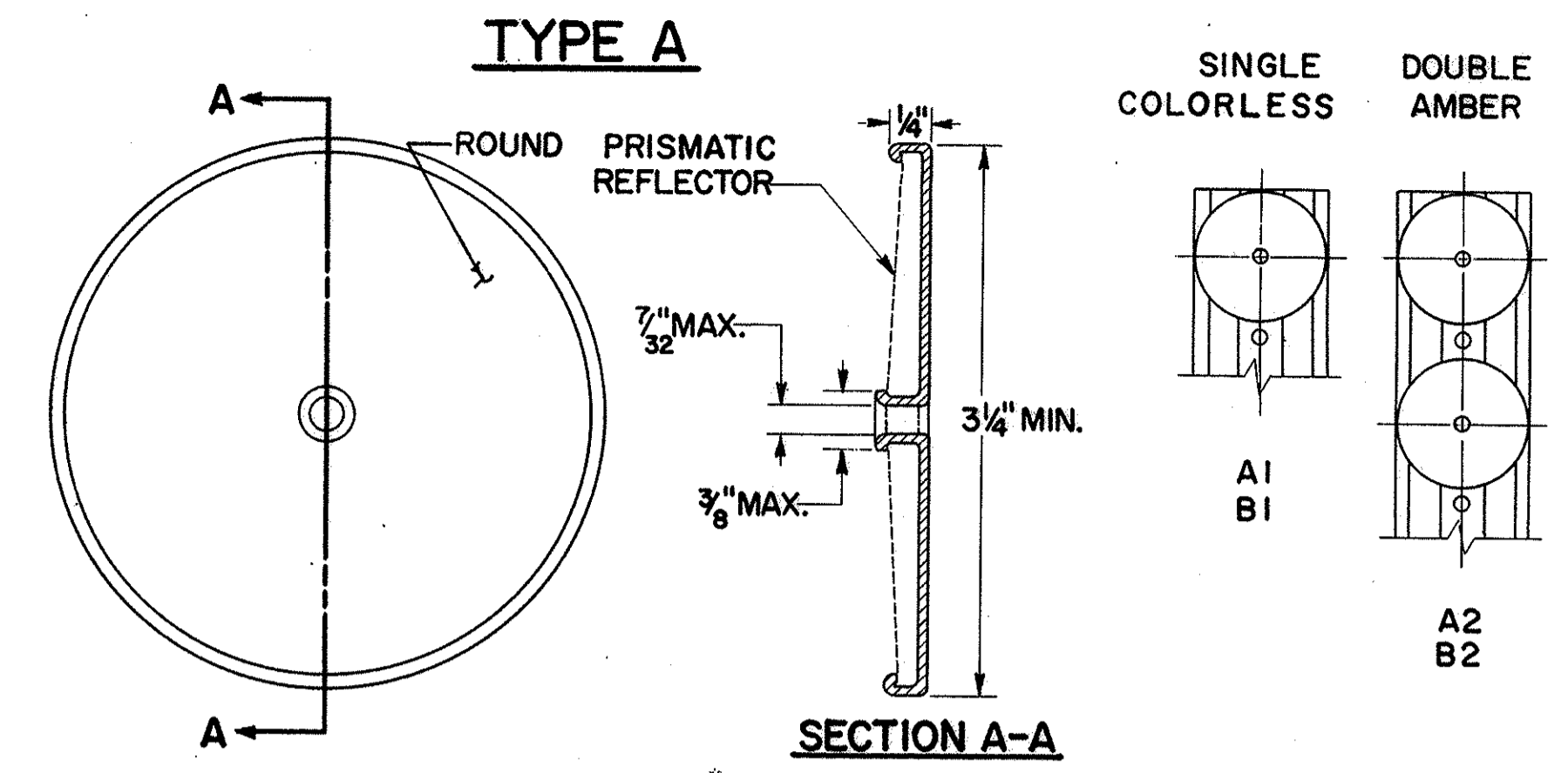
DELINEATOR SPACING ON RAMP HORIZONTAL CURVES

RADI, FT.	SPACING		
	FROM	TO	* TRANSITION SPACING
TANGENT	1,801	100'	100'
1,800	1,401	80'	100'
1,400	1,001	70'	100'
1,000	751	60'	100'
750	551	50'	80'
550	326	40'	70'
325		30'	60'

\* SUCH AS 40' TO 70' TO 100' OR 100' TO 80' TO 50' OR ANY OTHER COMBINATION SHOWN ABOVE.

NOTES

- TYPE A1 OR B1 DELINEATORS ON THE RIGHT OF THE THROUGH ROADWAY ARE TO BE SPACED AT 200 FT. INTERVALS THROUGHOUT, REGARDLESS OF CURVES.
- WHEN CROSSING FROM LEFT TO RIGHT OR FROM RIGHT TO LEFT ON THE RAMPS, THE DELINEATORS AT THE POINT OF CROSSOVER ARE TO BE AT THE SAME STATION ON EACH SIDE.
- NO DELINEATORS ARE TO BE PLACED IN PAVED BERM
- WHEN RADII OF CURVE ON RAMPS REQUIRE 100' SPACING THE DELINEATORS SHALL BE PLACED ON THE RIGHT IN RELATION TO THE FLOW OF TRAFFIC.



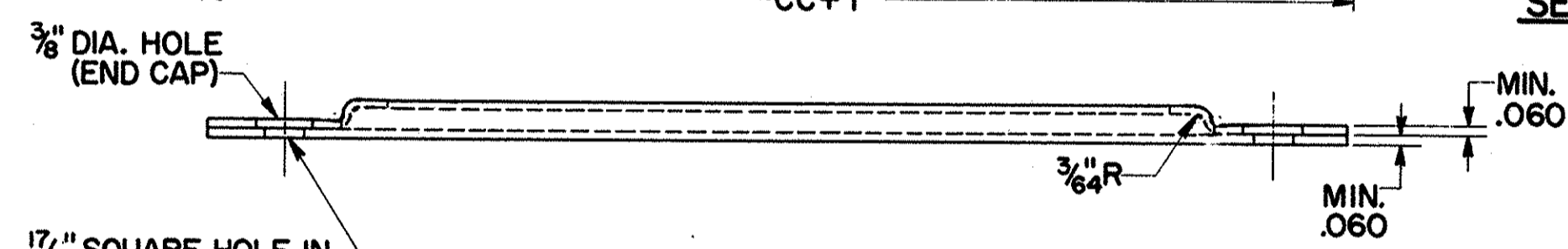
LATERAL PLACEMENT OF DELINEATORS

\* TABLE

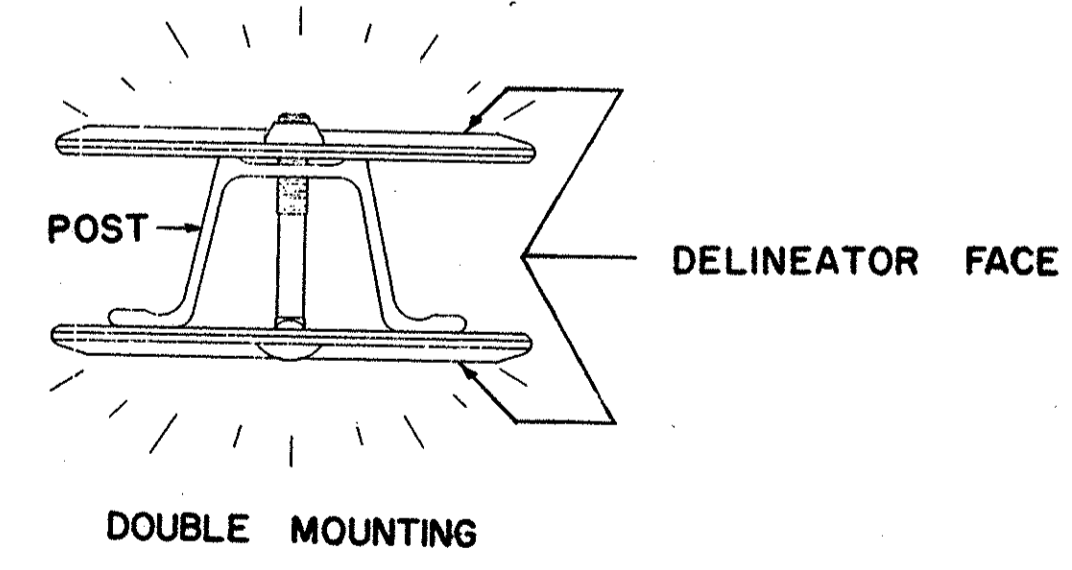
TYPE DELINEATOR	NO GUARDRAIL	GUARDRAIL
SINGLE COLORLESS	12'-6"	6" OUTSIDE
DOUBLE AMBER RIGHT SIDE	** 8'-6"	6" OUTSIDE
DOUBLE AMBER LEFT SIDE	4'-6"	6" OUTSIDE

\*\* THIS DIMENSION SHALL VARY ON SPEED CHANGE LANES TO MAINTAIN MINIMUM DISTANCE OF 2'-6" FROM EDGE OF PAVED SHOULDER.

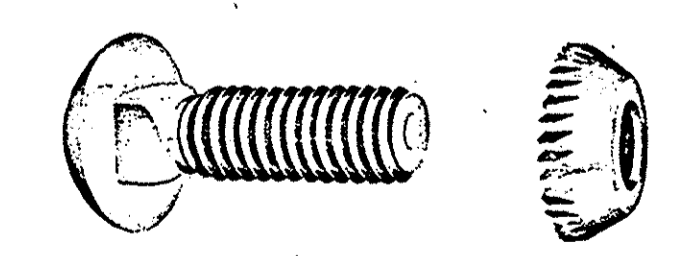
TYPE	DIM. CC
C1 - SINGLE COLORLESS	6"
C2 - DOUBLE AMBER	11"



BRIDGE RAIL BRACKET

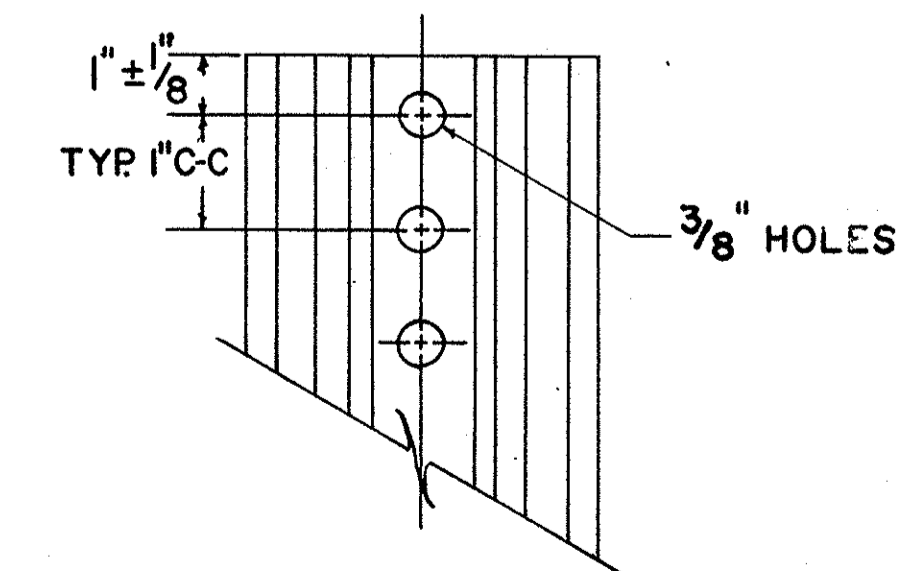
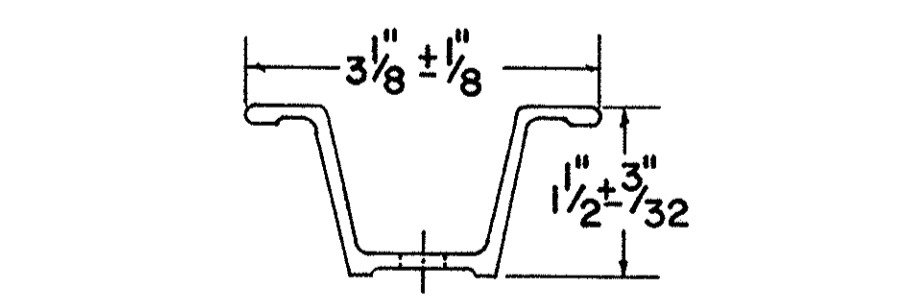


DELINEATOR MOUNTING

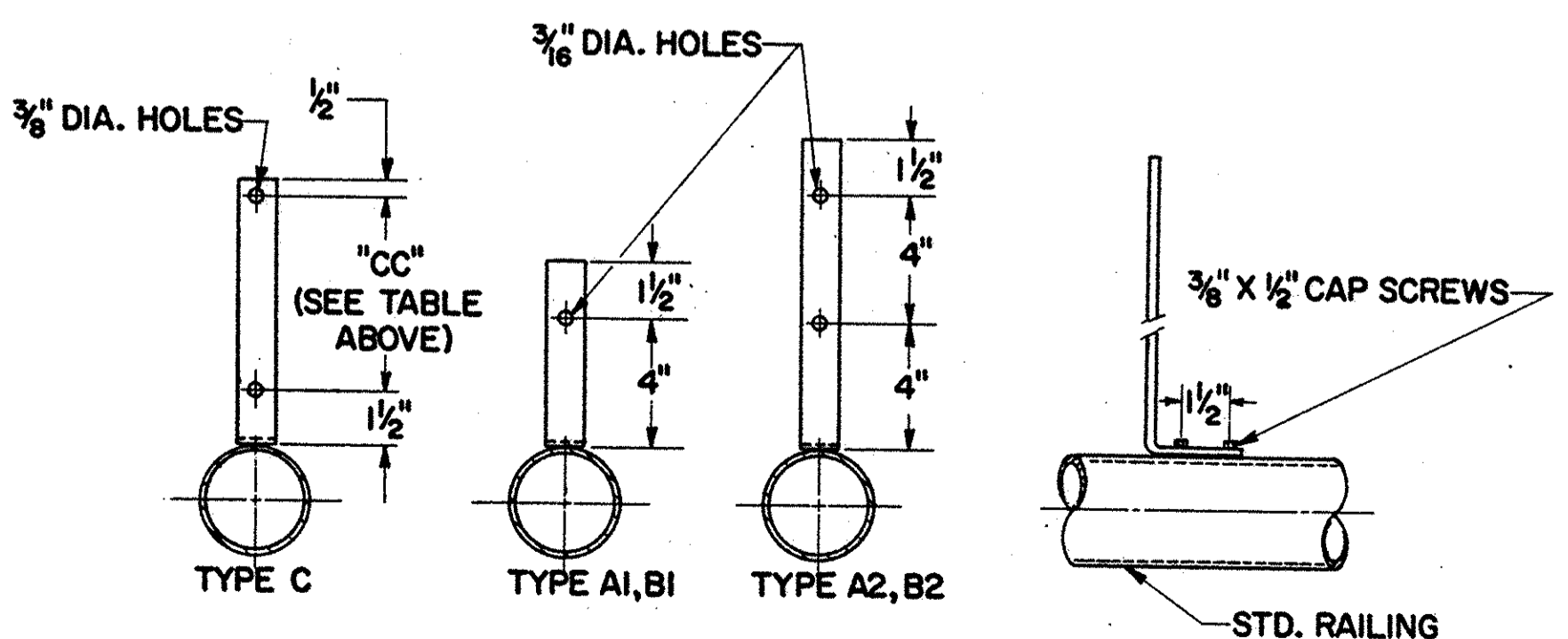


TAMPER RESISTANT FASTENERS SHALL BE USED TO FASTEN DELINEATORS TO POST AS/OR SIMILAR TO ONE SHOWN ABOVE.

TAMPER RESISTANT FASTENERS



2LB./FT. DELINEATOR DRIVE POST



BUREAU OF TRAFFIC  
OHIO DEPARTMENT OF HIGHWAYS

DELINEATOR DETAILS

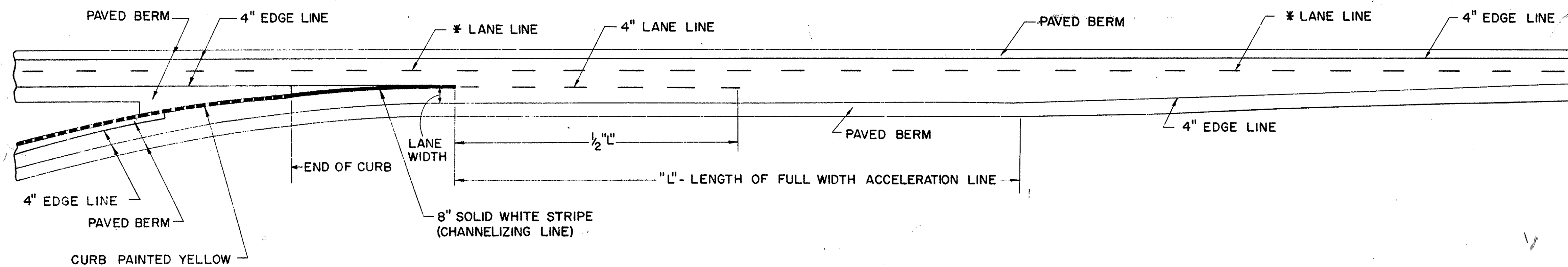
620

APPROVED *Robert Blomer*  
ENGINEER OF TRAFFIC

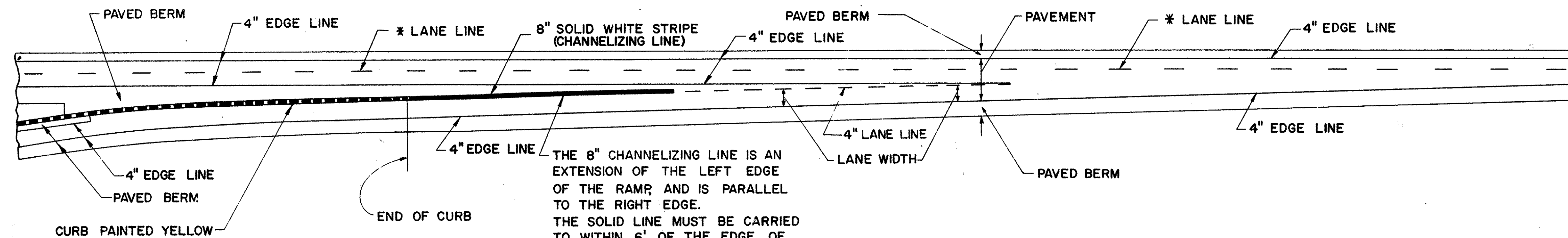
DATE  
9-25-62  
5-24-65  
9-12-67

MAHONING COUNTY  
MAH-680-932

**ENTRANCE TERMINAL - PARALLEL ACCELERATION LANE**

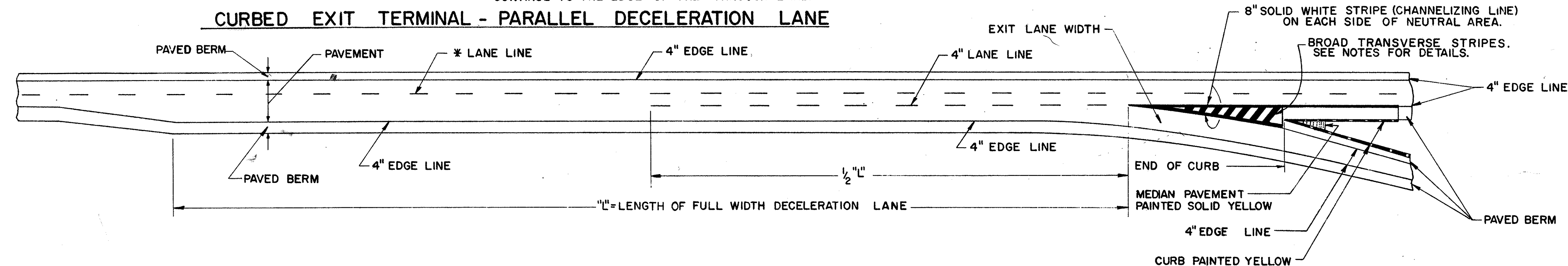


**ENTRANCE TERMINAL - TAPERED ACCELERATION LANE**

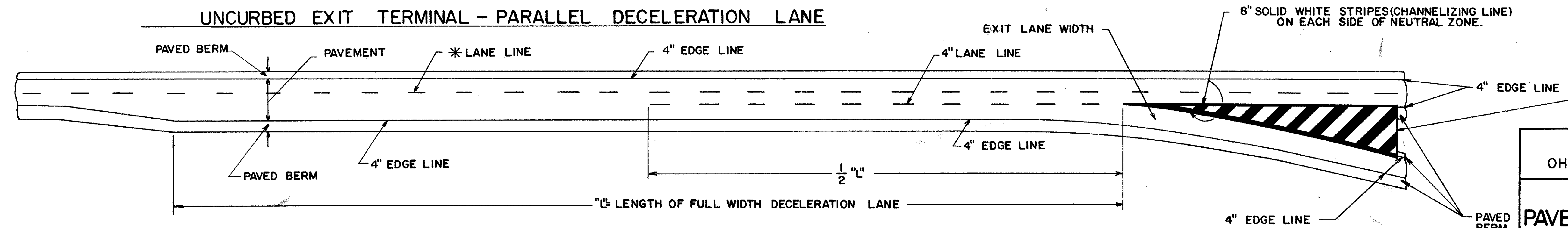


THE 8" CHANNELIZING LINE IS AN EXTENSION OF THE LEFT EDGE OF THE RAMP AND IS PARALLEL TO THE RIGHT EDGE. THE SOLID LINE MUST BE CARRIED TO WITHIN 6' OF THE EDGE OF THE THROUGH LANE, OR TO THE END OF THE RAMP CURVE IF CLOSER. THE 4" DASHED LINE SHOULD CONTINUE TO THE EDGE OF THE THROUGH LANE.

**CURBED EXIT TERMINAL - PARALLEL DECELERATION LANE**

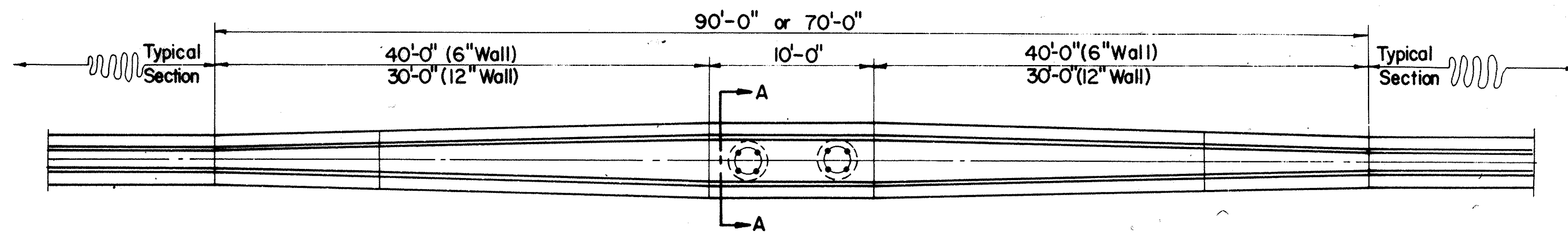


**UNCURBED EXIT TERMINAL - PARALLEL DECELERATION LANE**

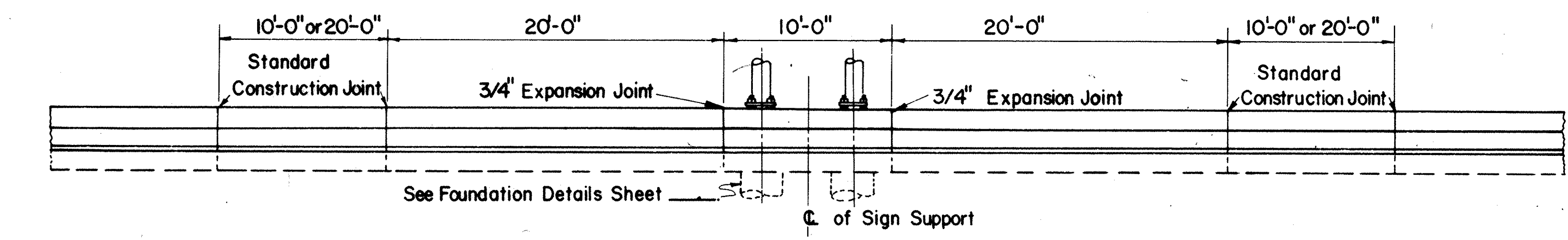
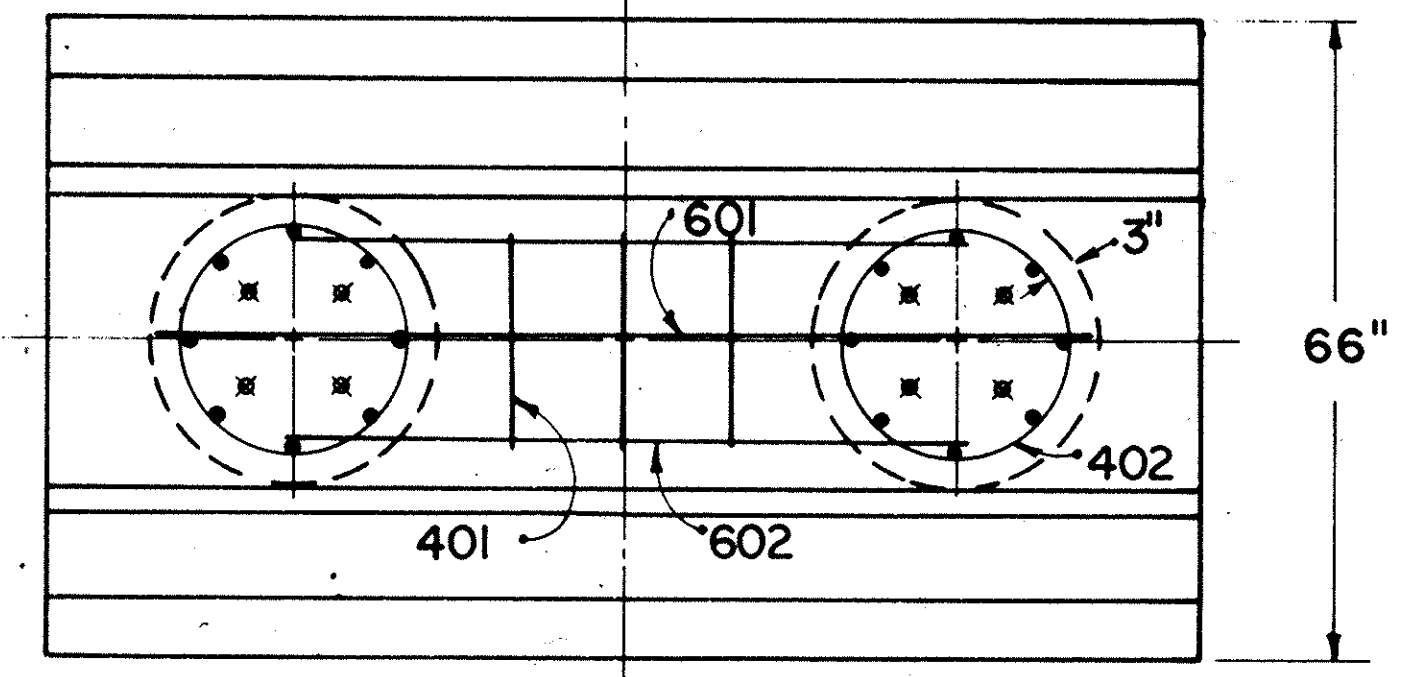


**NOTES**  
DIAGONAL STRIPES AT EXIT RAMP SHALL BE 24" BROAD TRANSVERSE STRIPES, 621.11, WITH A 6' SPACE BETWEEN STRIPES.  
\* 6" LANE LINE ON INTERSTATE HIGHWAYS ONLY.  
4" LANE LINE ON ALL OTHER HIGHWAYS.

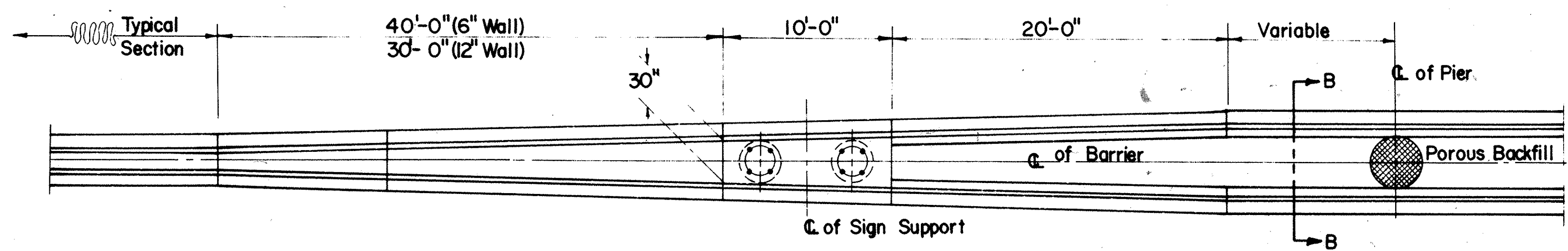
BUREAU OF TRAFFIC OHIO DEPARTMENT OF HIGHWAYS	
<b>PAVEMENT MARKING 621</b>	DATE 7-17-61 4-6-62 5-24-65 9-23-67 4-17-68
APPROVED <i>Robert E. Lower</i> ENGINEER OF TRAFFIC	



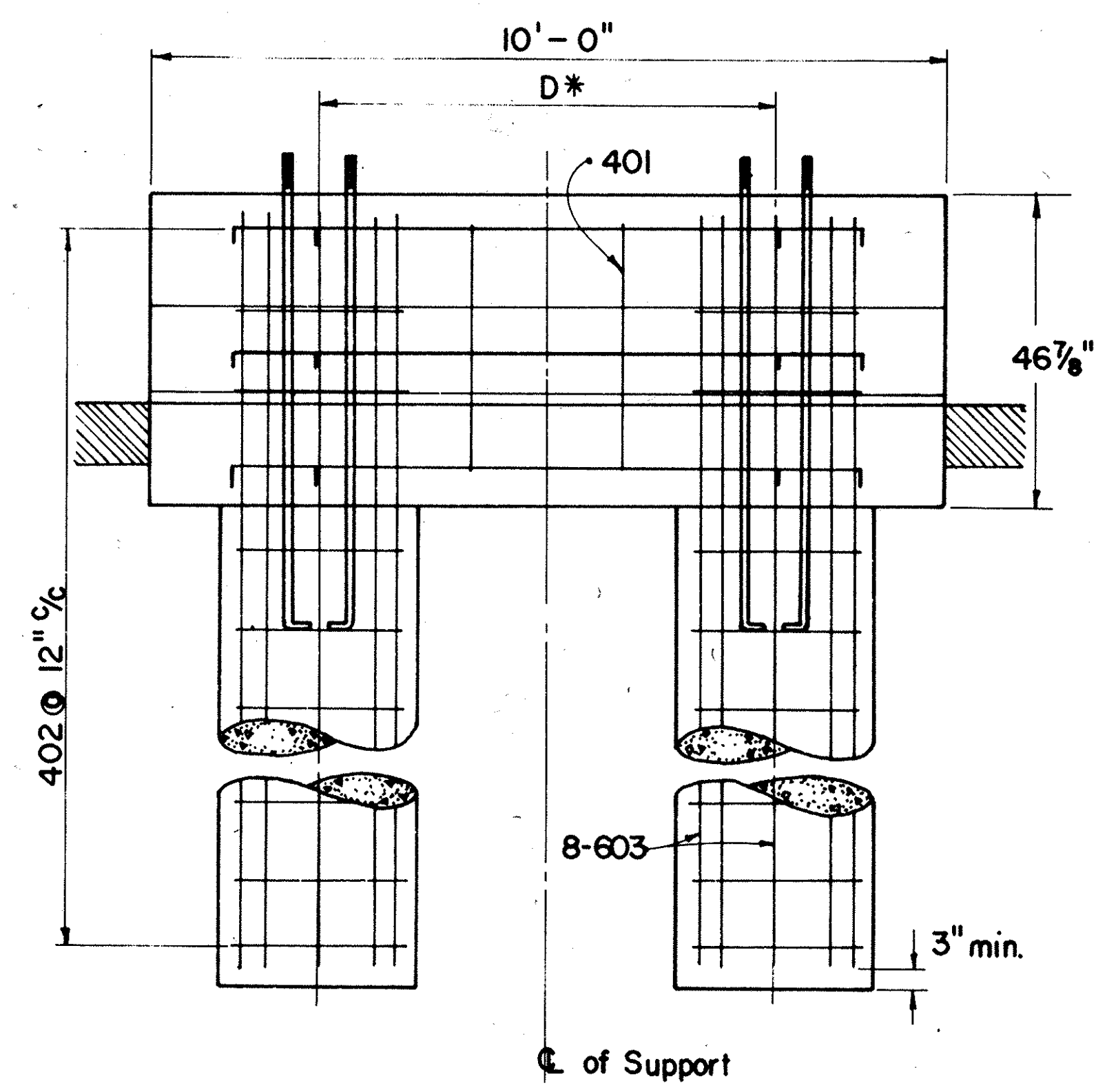
**STANDARD BARRIER MEDIAN FLARE**  
(Flare shall be 40:1 taper)



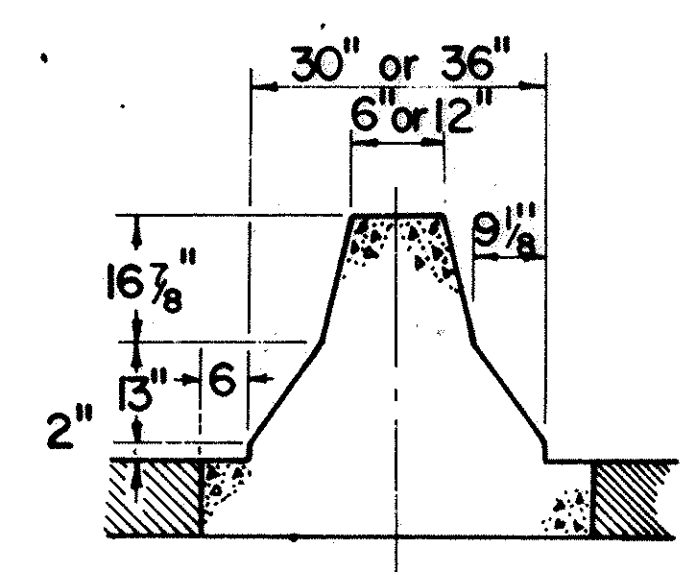
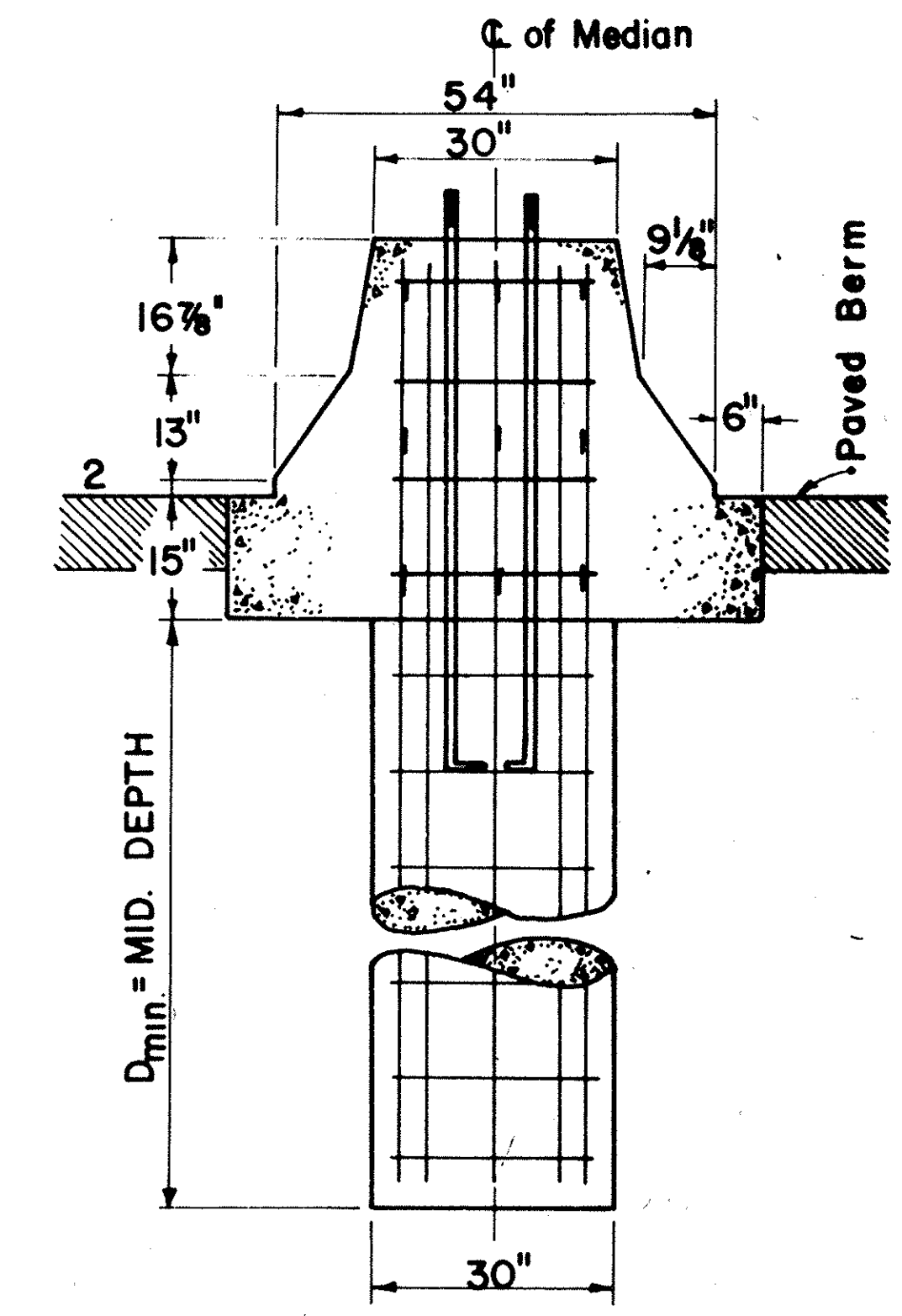
**CONSTRUCTION JOINT LOCATIONS**



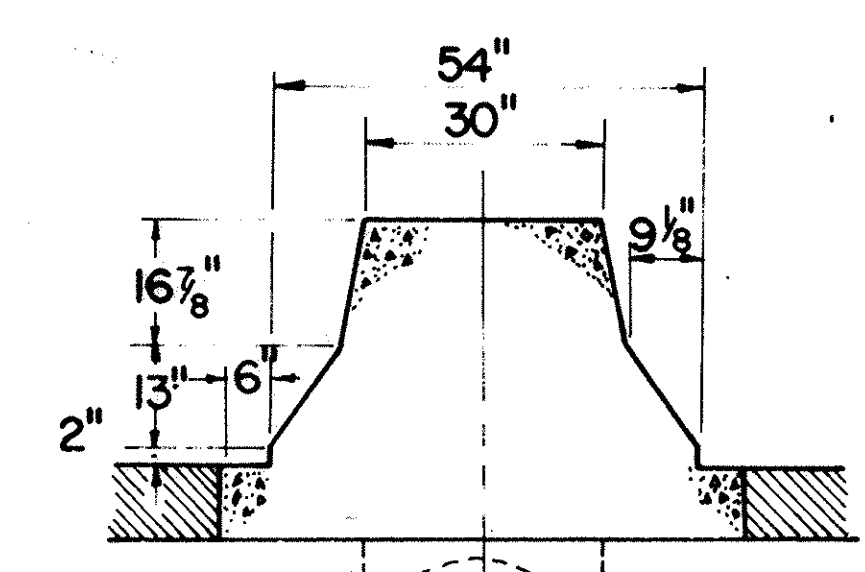
**BRIDGE PIER APPROACH FLARE**  
(Flare shall be 40:1 Taper)



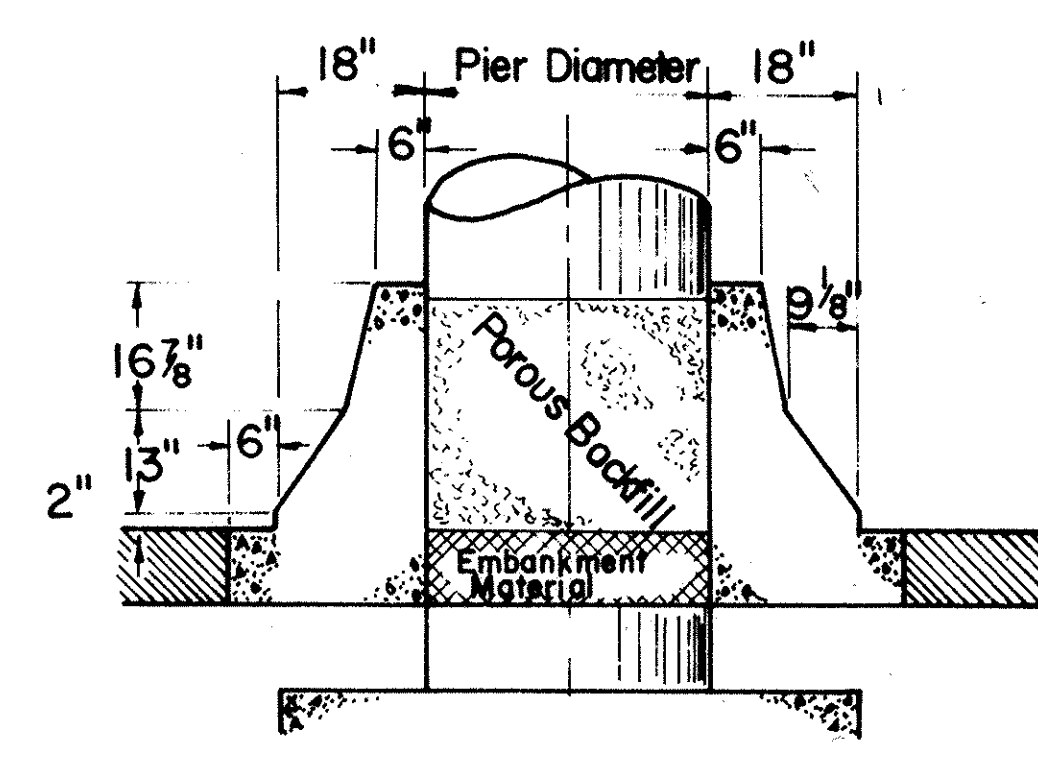
\* For dimension "D" see 7series overhead sign support drawing



TYPICAL SECTION

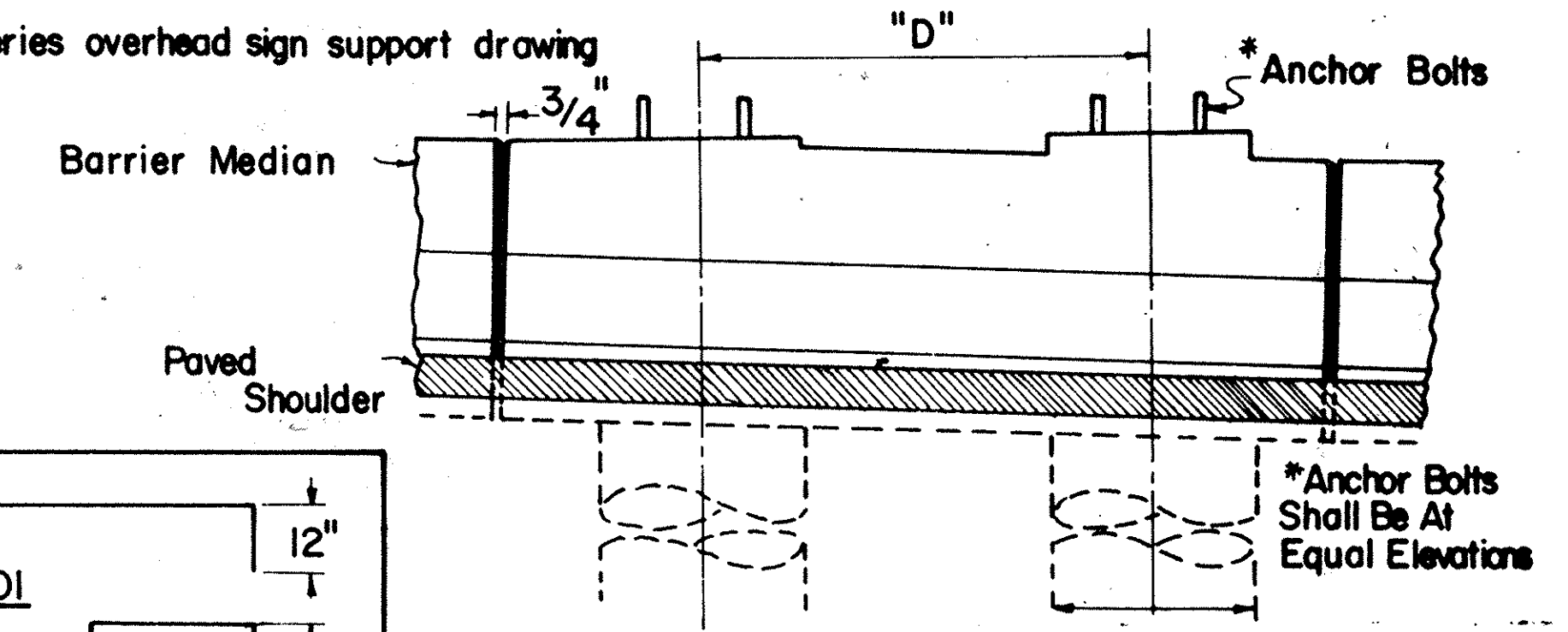
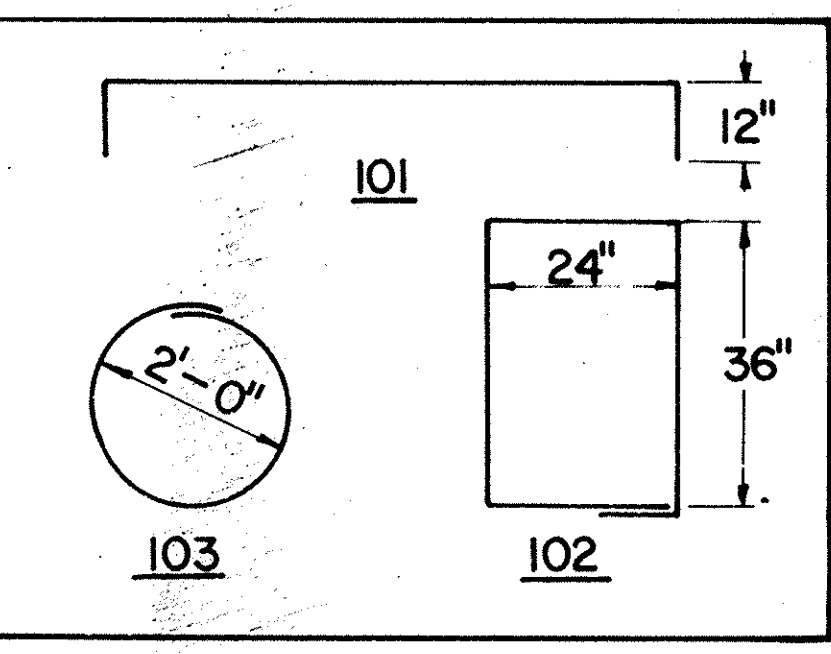


SECTION A-A



SECTION B-B

REINFORCEMENT		SCHEDULE	
MARK	NO.	LENGTH	TYPE
401	12" $\phi$	10'-6"	102
402	12" $\phi$	7'-6"	103
601	3	D+48"	101
602	6	D+24"	101
603	16	D <sub>min</sub> +38"	Str.



\*Anchor Bolts Shall Be At Equal Elevations

OFFICE OF HIGHWAY DESIGN SERVICES  
OHIO DEPARTMENT OF HIGHWAYS

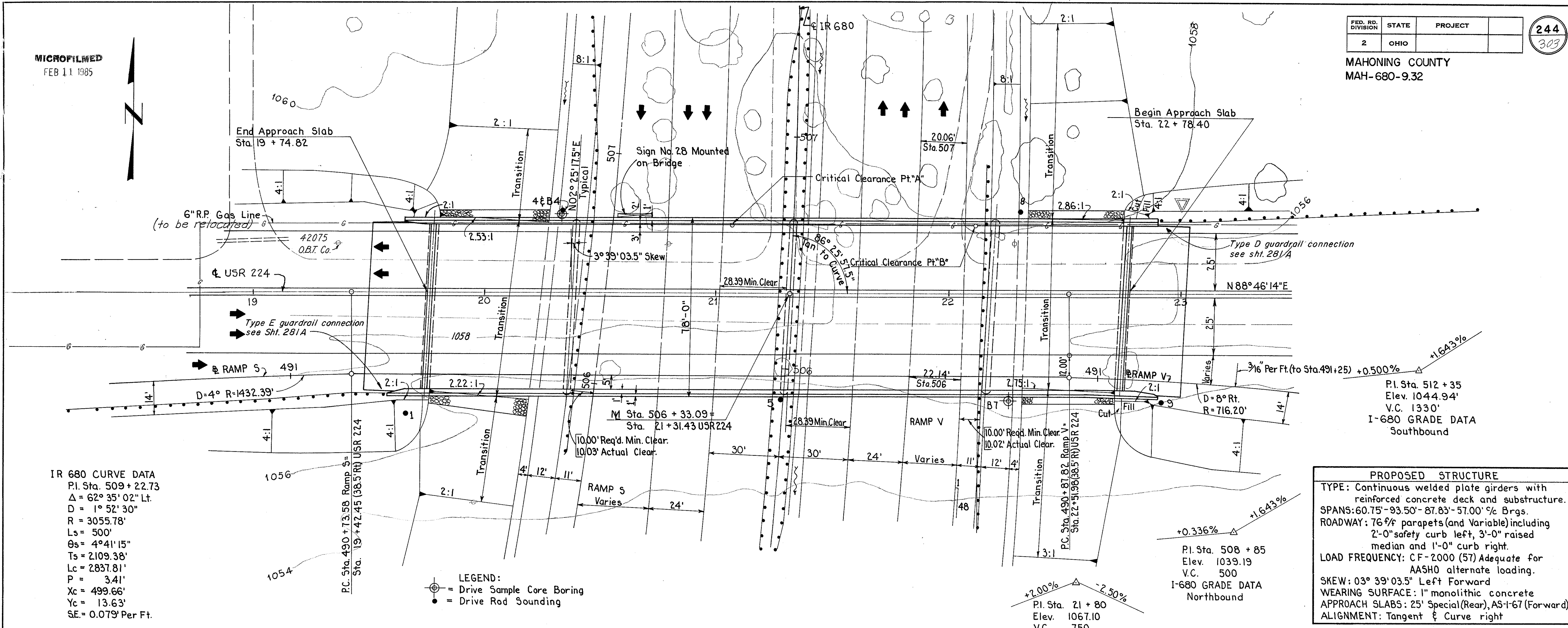
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
ENGINEER OF DESIGN SERVICES



MICROFILMED  
FEB 11 1985

FED. RD. DIVISION	STATE	PROJECT	244 303
2	OHIO		

MAHONING COUNTY  
MAH-680-9.32



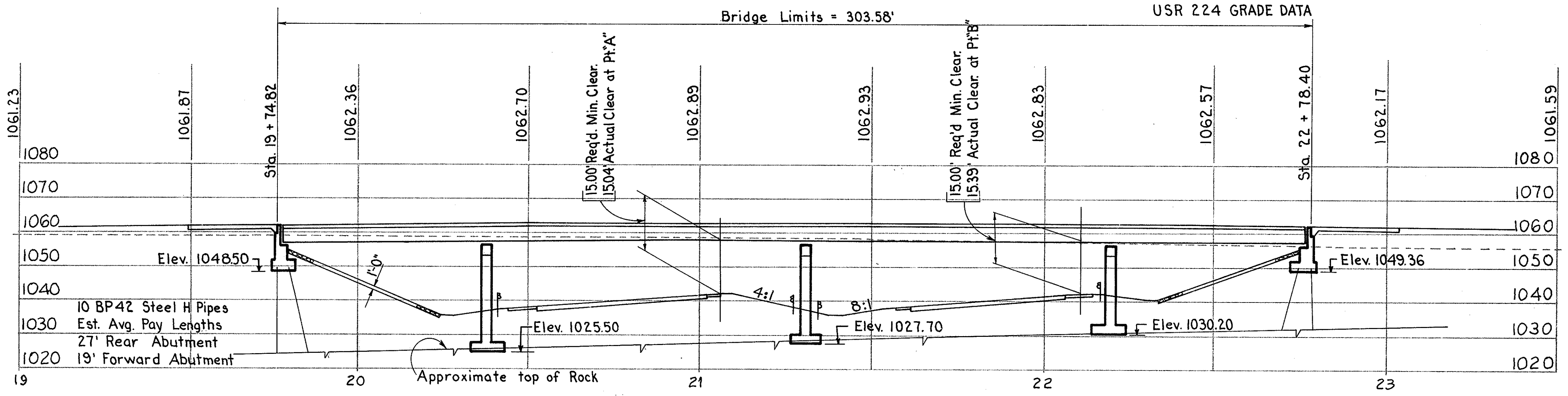
IR 680 CURVE DATA  
P.I. Sta. 509 + 22.73  
 $\Delta = 62^\circ 35' 02''$  Lt.  
D = 1° 52' 30"  
R = 3055.78'  
Ls = 500'  
 $\Theta_s = 4^\circ 41' 15''$   
Ts = 2109.38'  
Lc = 2837.81'  
P = 3.41'  
Xc = 499.66'  
Yc = 13.63'  
SE = 0.079' Per Ft.

RAMP S CURVE DATA  
P.T. 510 + 97.81 (66' Lt.)  
D = 2° 37' 30"  
R = 2182.70'

LEGEND:  
⊕ = Drive Sample Core Boring  
● = Drive Rod Sounding

P.I. Sta. 512 + 35  
Elev. 1044.94'  
V.C. 1330'  
I-680 GRADE DATA  
Southbound

PROPOSED STRUCTURE  
TYPE: Continuous welded plate girders with reinforced concrete deck and substructure.  
SPANS: 60.75'-93.50'-87.83'-57.00' % Brgs.  
ROADWAY: 76% parapets (and Variable) including 2'-0" safety curb left, 3'-0" raised median and 1'-0" curb right.  
LOAD FREQUENCY: CF-2000 (57) Adequate for AASHTO alternate loading.  
SKEW: 03° 39' 03.5" Left Forward  
WEARING SURFACE: 1" monolithic concrete  
APPROACH SLABS: 25' Special (Rear), AS-1-67 (Forward)  
ALIGNMENT: Tangent & Curve right



PROFILE ON  $\epsilon$  USR 224

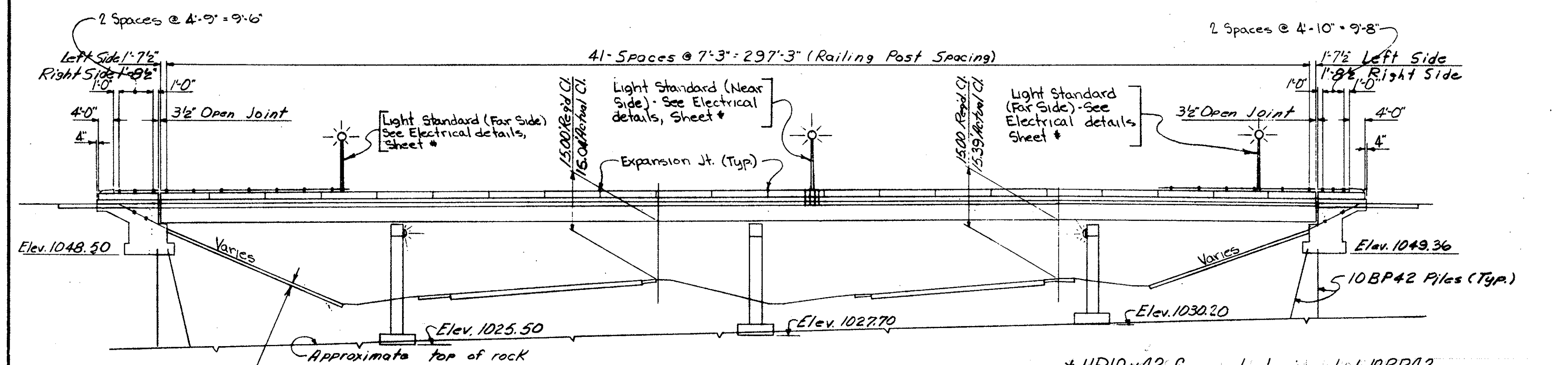
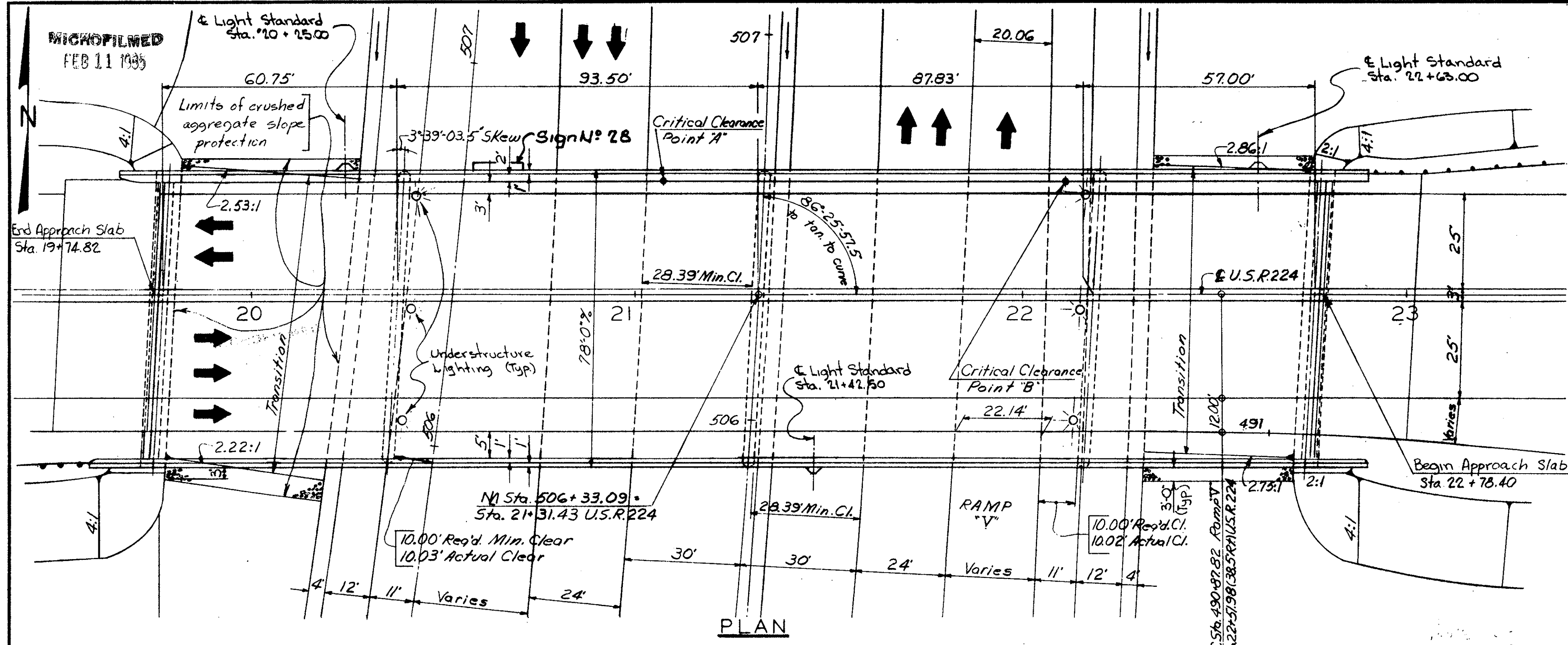
1985 A.D.T. 36063

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

SITE PLAN  
BRIDGE NO. MAH-680-1184  
UNDER U.S.R. 224

Sta. 506 + 33.09

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Bim	D.W.P.	D.W.P.	H.J.B.	L.H.H.



- Reference shall be made to Std. Dwg. RB-1-55, revised 2-2-59, BR-1-65 sheet 1 of 2, revised 11-24-65, SD-1-69 dated 6-12-69, AS-1-67 revised 6-12-69, and to Supplemental Specifications 808 dated 1-1-71 and 836
- Design Specifications: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with revisions thereof.
- Design Data:  
Design Loading - CF 2000(57)  
Concrete Class "C" - Basic Unit Stress 1700 P.S.I. - Superstructure  
- Basic Unit Stress 1355 P.S.I. - Substructure  
Structural Steel - A.S.T.M. A36 - Basic Unit Stress 20,000 P.S.I.  
Reinforcing Steel: ASTM A615, A616 or A617 - unit stress 20,000 p.s.i. If bars in accordance with ASTM A616 are provided they shall be subject to bend tests as per AASHTO Designation M42-70. Spiral reinforcement may be plain bars ASTM A82, A306, A499 or A615.
- Piles shall be driven with a hammer of not less than 11,000 ft. lbs. to firm contact with rock. If the length of penetration is approximately equal to the depth of rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 507.05 is not less than the following value for a pile hammer of the indicated energy rating:  
40 Tons per pile using an 11,000 Ft. lb. hammer.  
35 Tons per pile using an 15,000 Ft. lb. hammer.  
If the energy rating of the hammer is between the ratings shown above the required formula capacity shall be determined by interpolation. The design load is 31 Tons per pile.
- Foundation Bearing Pressure: Pier footings are designed for a maximum bearing pressure of 3.3 Tons per sq. Ft. at Pier #1, 3.3 Tons per sq. Ft. at Pier #2, and 2.7 Tons per sq. Ft. at Pier #3.
- Machine Finish: The concrete bridge deck shall be finished by the use of a finishing machine.
- Welds on non-stress carrying members are shown thus:

• Utility Lines: All expense involved in relocating (or installing) the affected utility lines shall be borne by the Owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.

\* HP10x42 formerly designated 10BP42

ESTIMATED QUANTITIES						
Item	Total	Unit	Description	Superstr.	Abut's.	Piers
503	12.10	Cu.Yds.	Unclassified excavation		480	730
503	72	Cu.Yds.	Rock excavation			72
505	Lump Sum	Lump Sum	Test pile			Lump Sum
507	1,010	Lin.Ft.	Steel piles, HP10x42*		1010	
509	276,813	Lbs.	Reinforcing steel	103,534	19,017	54,261
511	744	Cu.Yds.	Class "C" concrete, superstructure	744		
511	183	Cu.Yds.	Class "C" concrete, piers above footing			183
511	297	Cu.Yds.	Class "C" concrete, abutments		297	
511	123	Cu.Yds.	Class "C" concrete, pier footings			123
512	19	Lin.Ft.	Pneumatically applied sealing strip		19	
513	655,600	Lbs.	Structural steel	655,600		
514	655,600	Lbs.	Field painting of structural steel	655,600		
516	54	Sq.Ft.	Preformed expansion joint filler, A.A.S.H.O. M-153			54
517	663.51	Lin.Ft.	Bridge railing type 1	601.17	62.34	
518	70	Cu.Yds.	Porous backfill		70	
518	140	Lin.Ft.	Perforated helical C.M.P. including specials		140	
518	100	Lin.Ft.	Non-perforated helical C.M.P.		100	
518	22	Each	Scuppers including supports	22		
601	89.5	Sq.Yds.	Crushed aggregate slope protection			89.5
808	744	Units	Chemical admixture for concrete, Type A, Bor D	744		
503	Lump Sum	L.S.	Cofferdams, cribs and sheeting			Lump Sum
625			See Sheet 204 for Electrical Quantities			

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

GENERAL PLAN & ELEVATION  
BRIDGE NO. MAH-680-118.4  
UNDER U.S.R.22.4

STA 506+33.09

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JCH	RJP		JCH	2/28/69	

Computed by: D.N.D. 6/23/67  
Checked by: H.J.B. 8/1/67

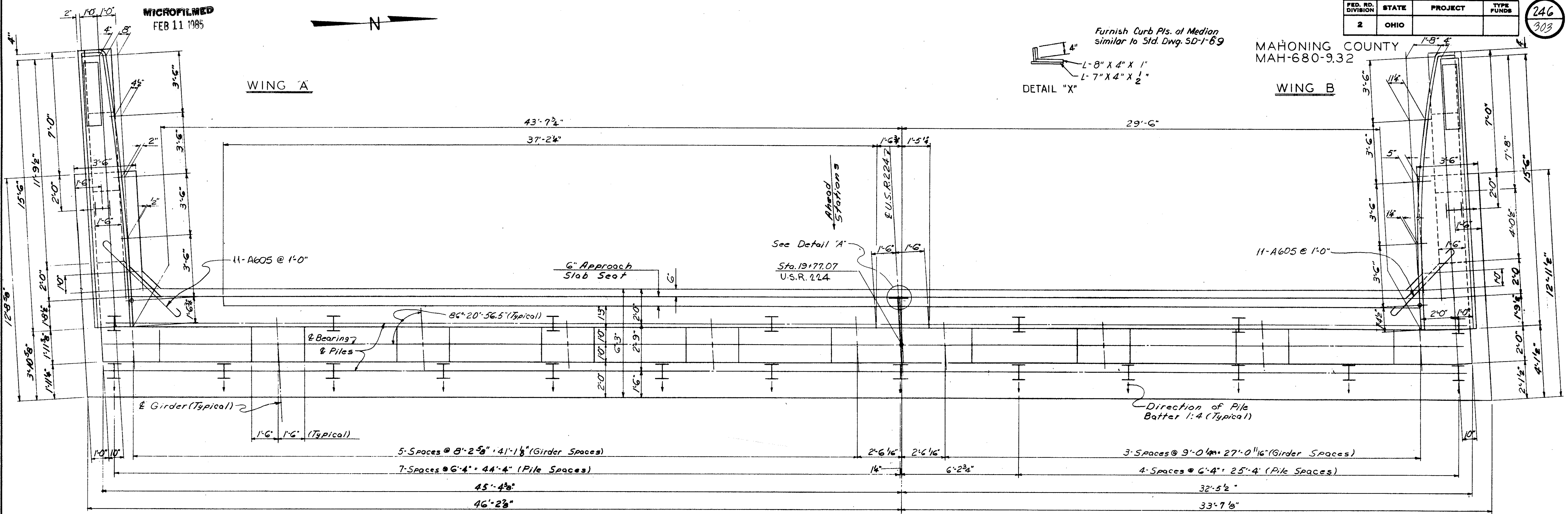
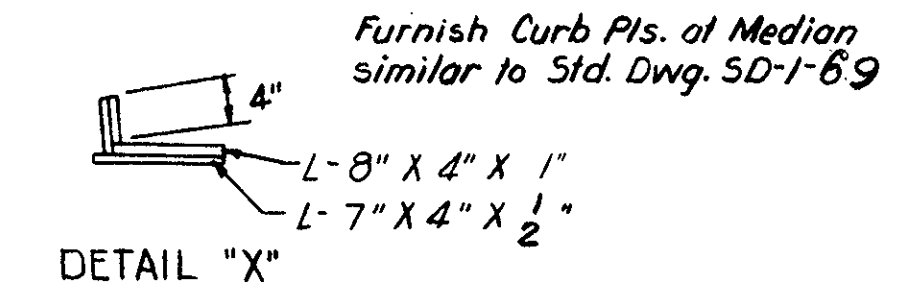
MICROFILMED  
FEB 11 1985



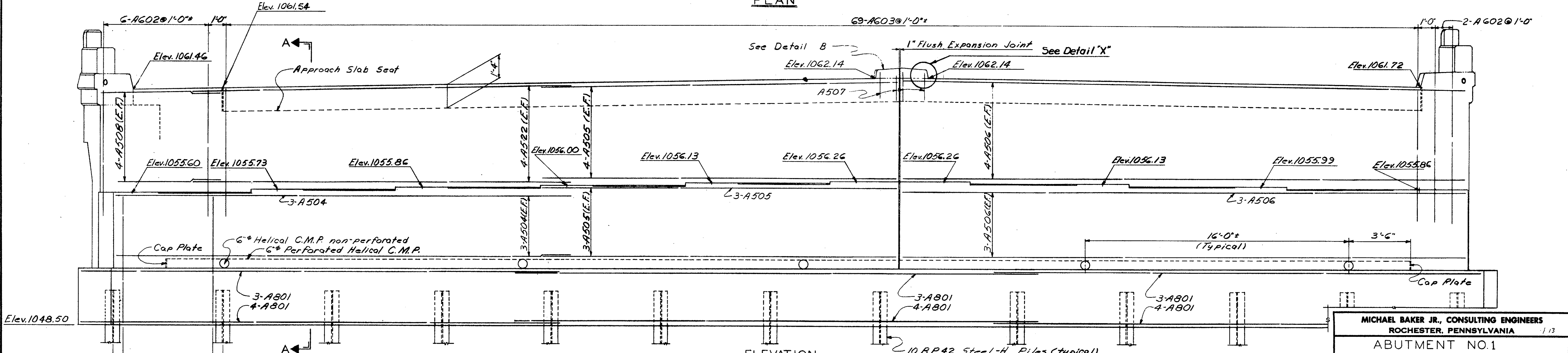
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

246  
303

MAHONING COUNTY  
MAH-680-9.32



PLAN



ELEVATION

(See Section A-A for location)

- NOTES:**
- All Abutment Concrete shall be class "C"
  - For Detail A, Detail B, Wing Details & Section "A-A" see sheet # 248
  - For Reinforcing Bar Schedule see sheet # 255
  - E.F. = Each Face

All Parapet Concrete shall be class "C"

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

ABUTMENT NO. 1  
BRIDGE NO. MAH-680-1184  
UNDER U.S.R. 224

STA. 506+33.09

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HJB	RJP		HJB	2/28/64	

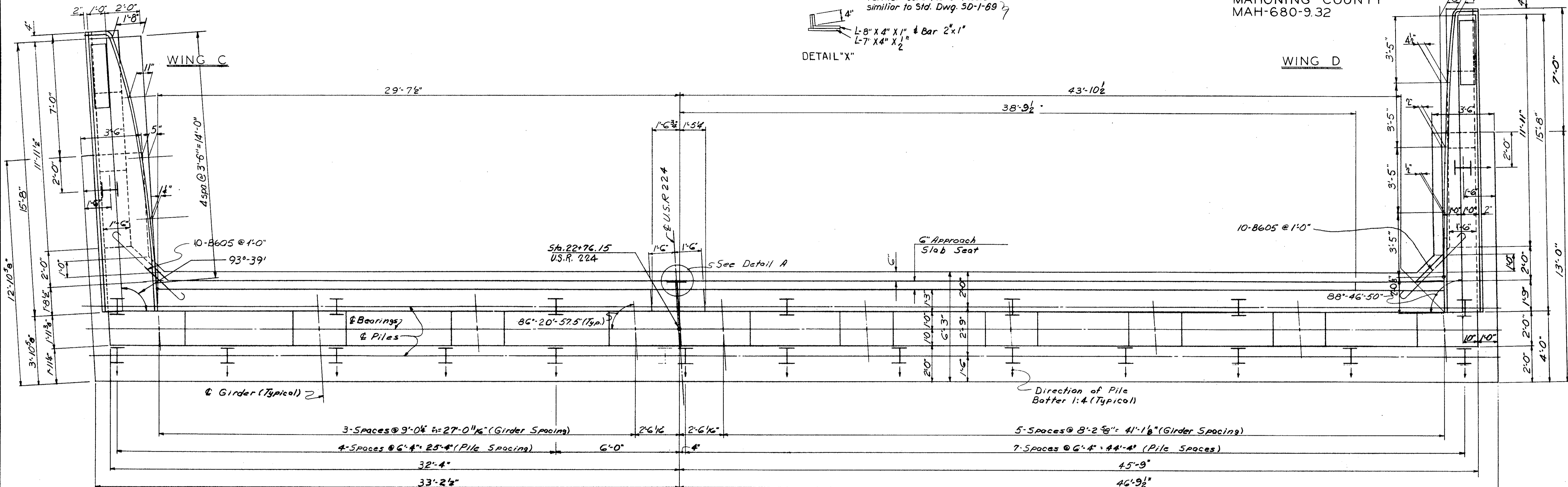
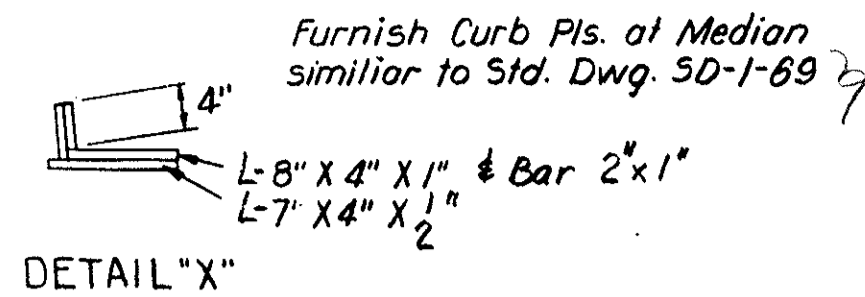
MICROFILMED  
FEB 11 1985



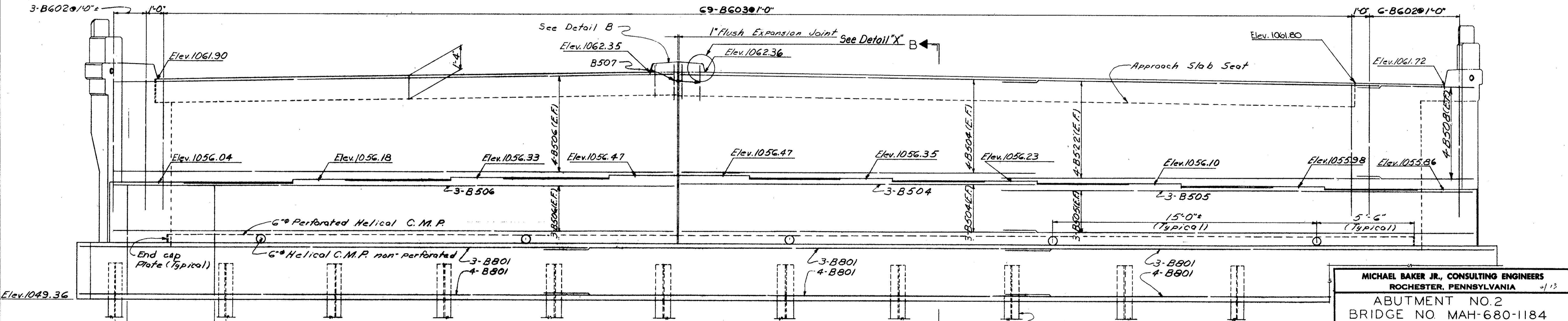
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

247  
303

MAHONING COUNTY  
MAH-680-9.32



PLAN



ELEVATION

4-B601, 4-B501  
4-B502, 4-B503 (See Section B-B for location)  
3-Spaces @ 1'-6" x 4'-6" (Typical)

- NOTES:**
- For Notes see Sheets # 245 & 246
  - For Detail A, Detail B, Wing Details & Section B-B see sheet # 248
  - For Reinforcing Bar Schedule see sheet # 255
  - E.F. = Each Face

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

ABUTMENT NO. 2  
BRIDGE NO. MAH-680-1184  
UNDER U.S.R. 224

STA. 506+33.09

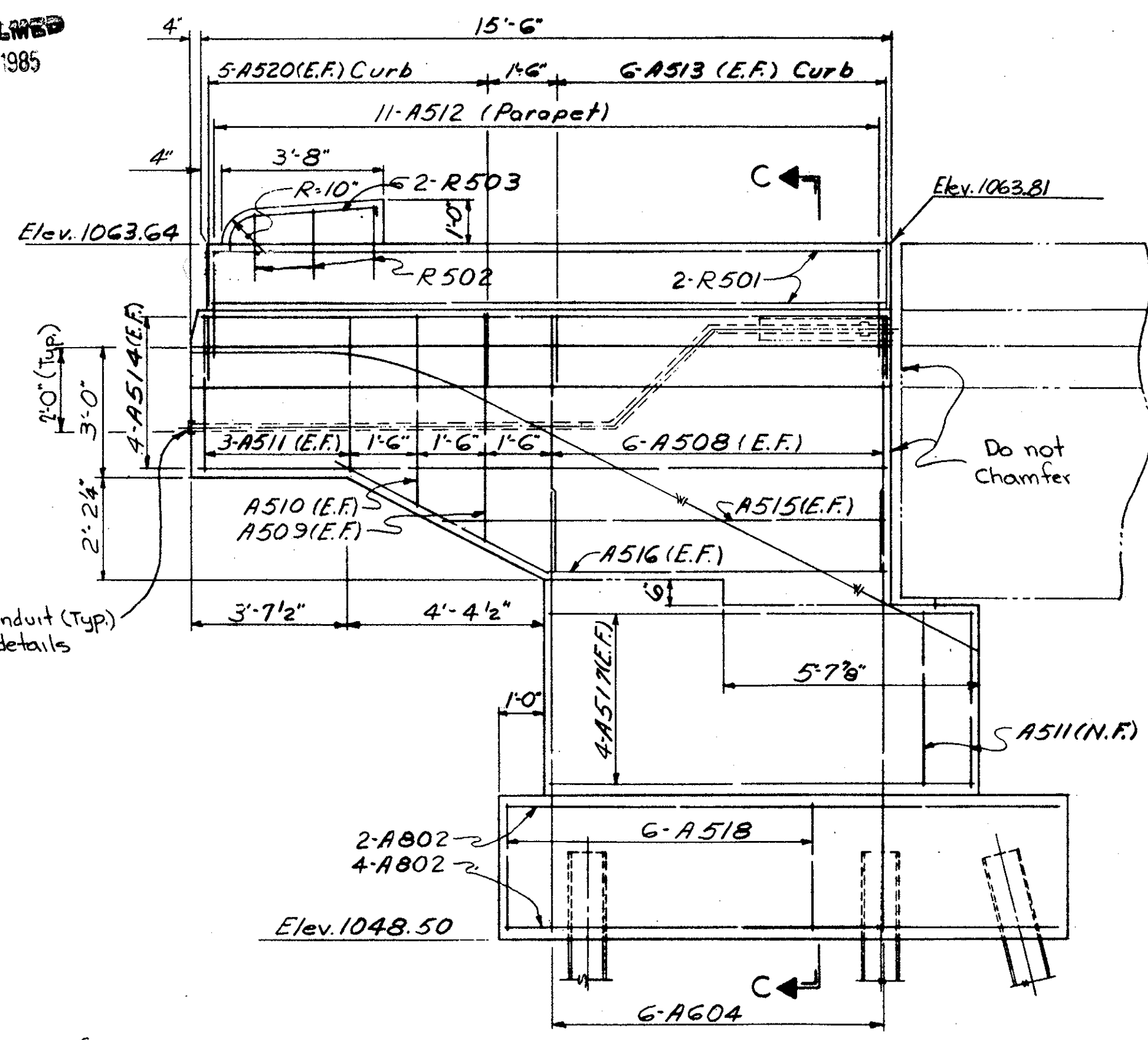
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HJB	RJP		HJB	6/28/69	

MICROFILMED  
FEB 11 1985

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

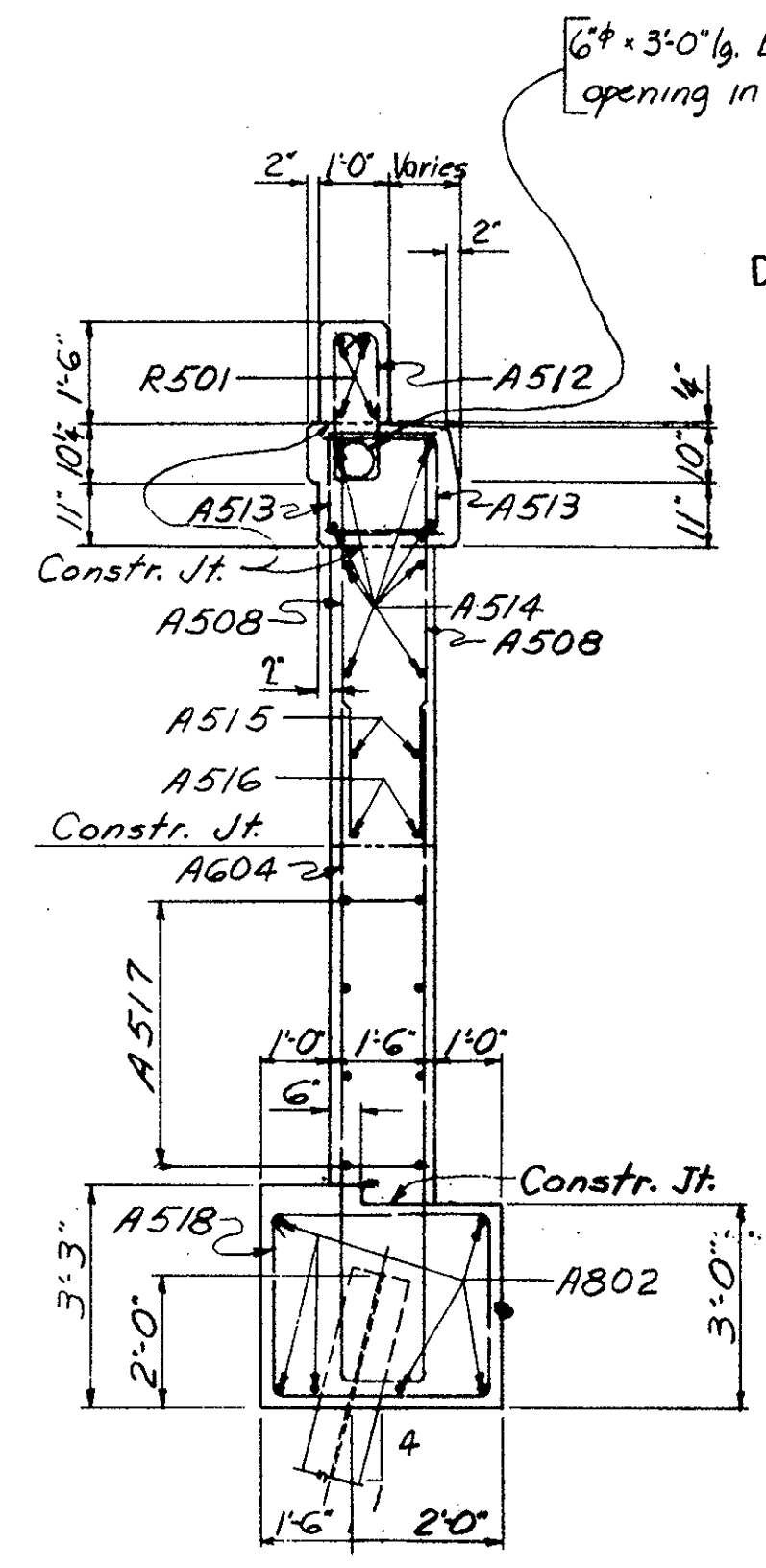
248  
303

MAHONING COUNTY  
MAH-680-932

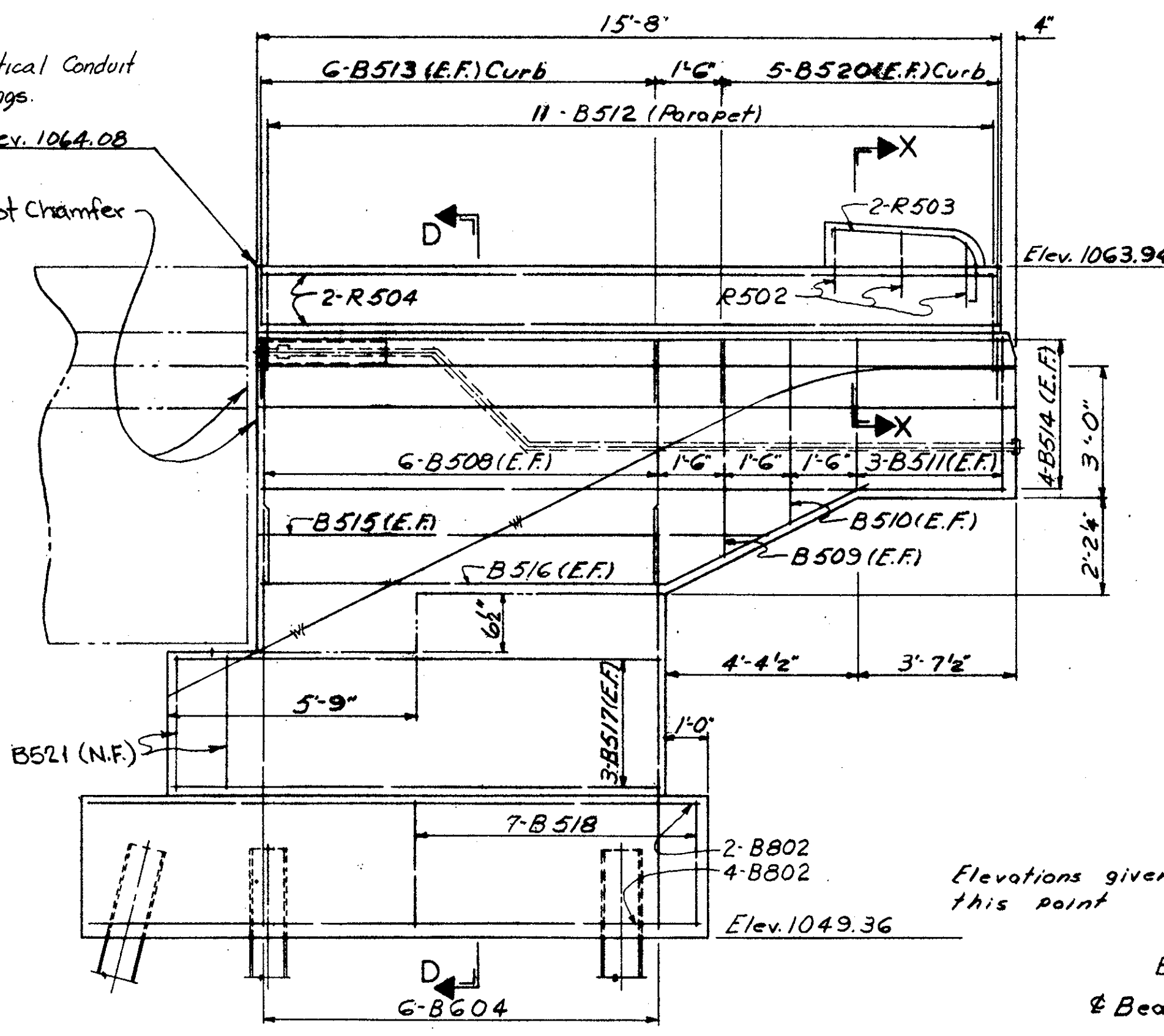


ELEVATION WING A

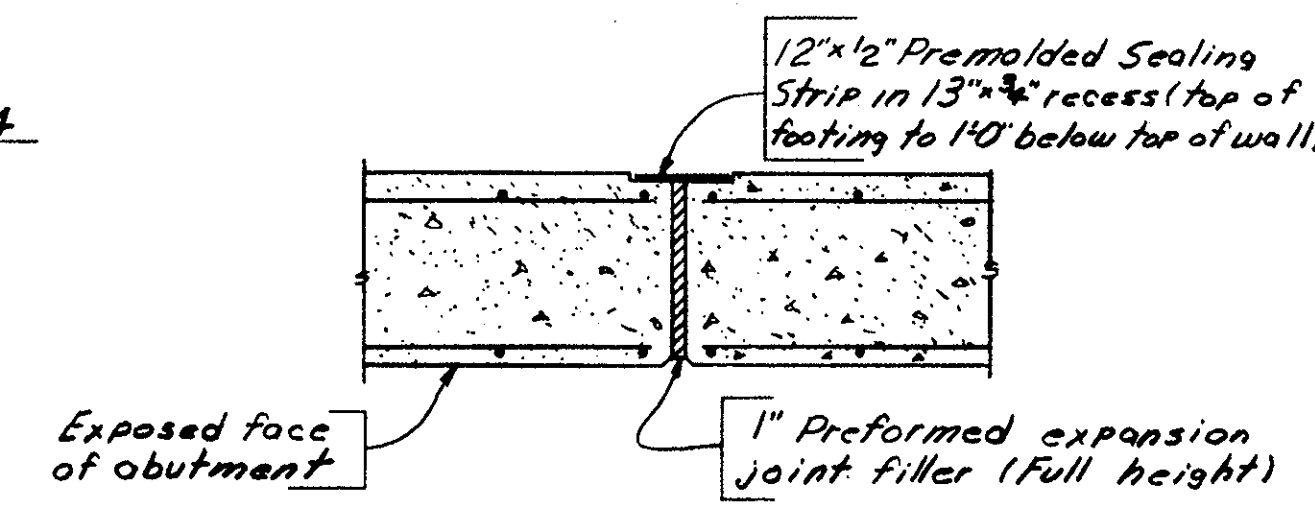
Concrete and reinforcing steel above parapet construction jt. shall be included with Railing, Item 517, for payment.



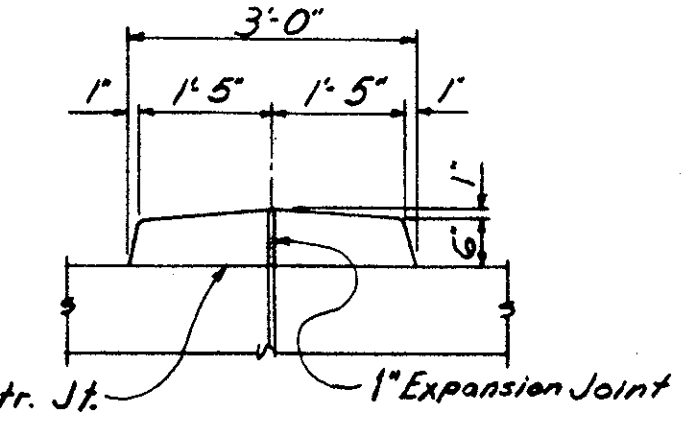
SECTION C-C (SHOWN)  
SECTION D-D (SIMILAR)



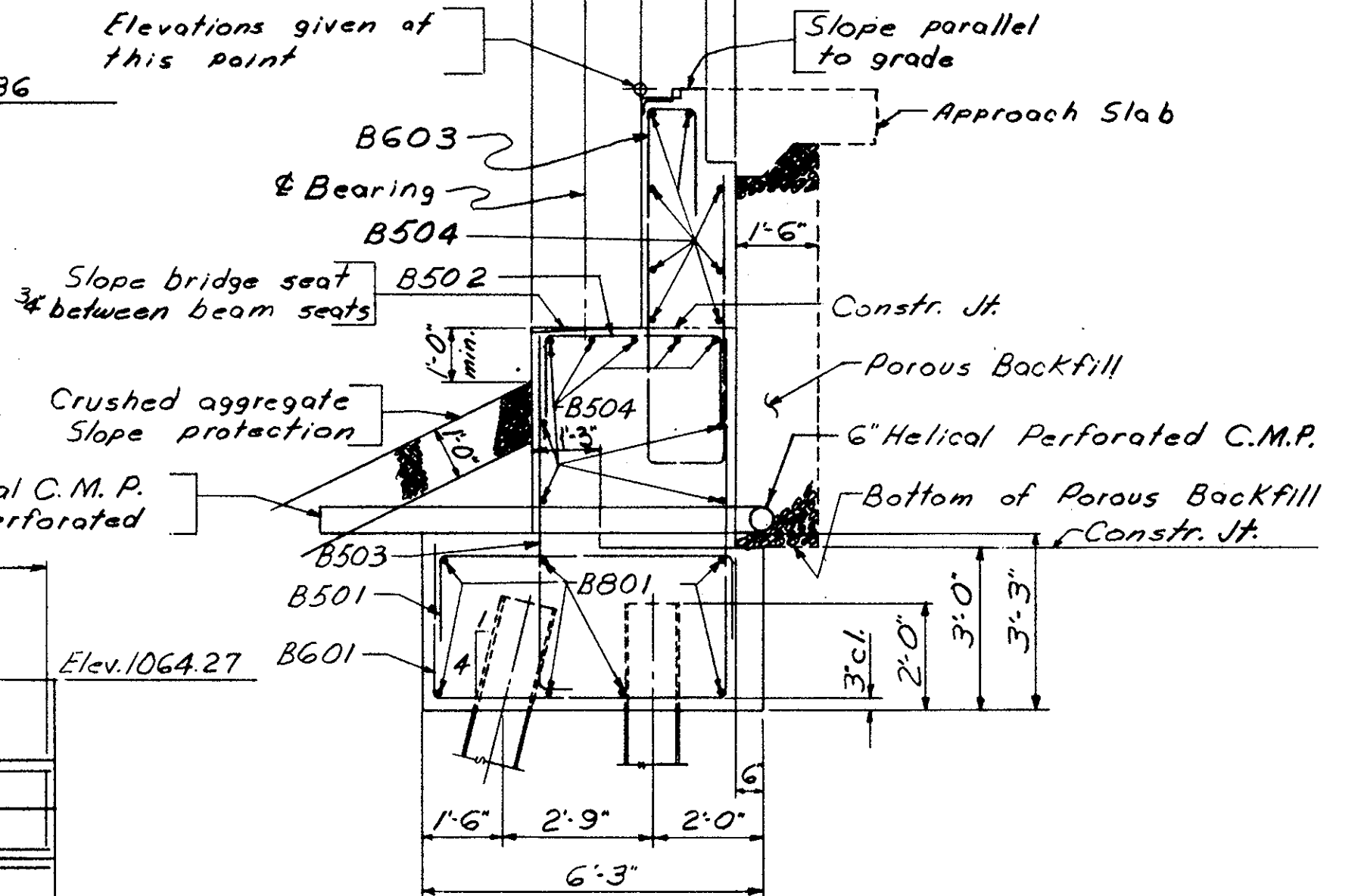
ELEVATION WING D



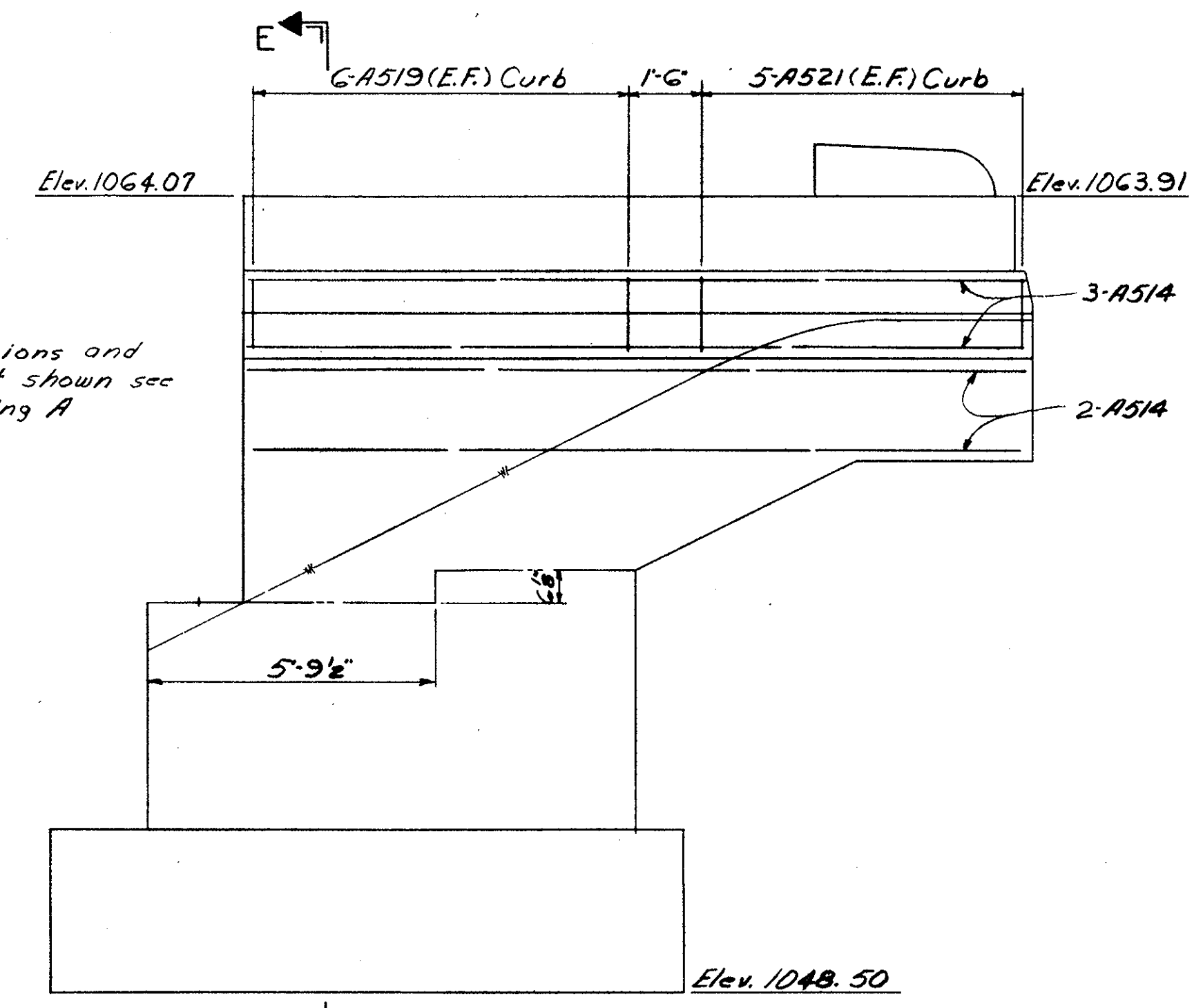
DETAIL A



DETAIL B

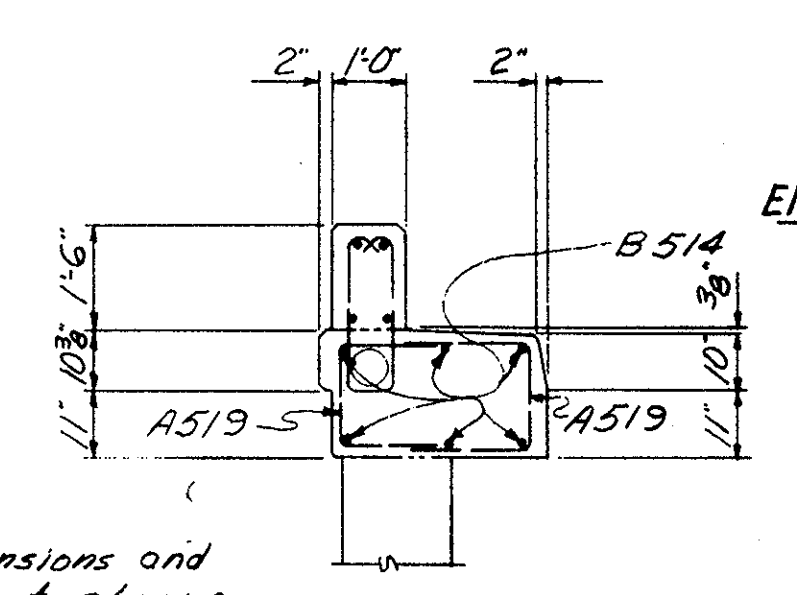


SECTION B-B (SHOWN)  
SECTION A-A (SIMILAR)



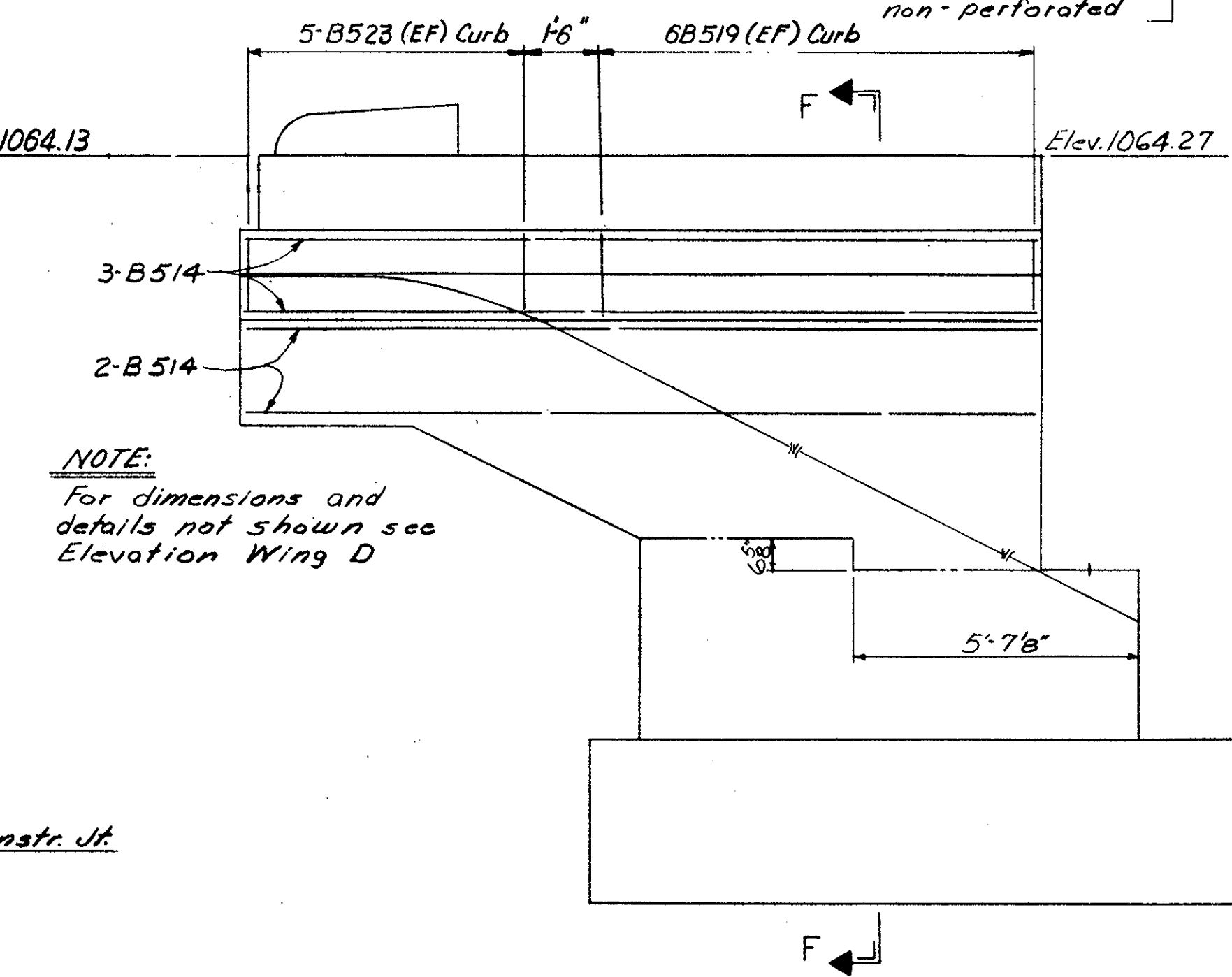
ELEVATION WING B

NOTE:  
For dimensions and details not shown see Elevation Wing A



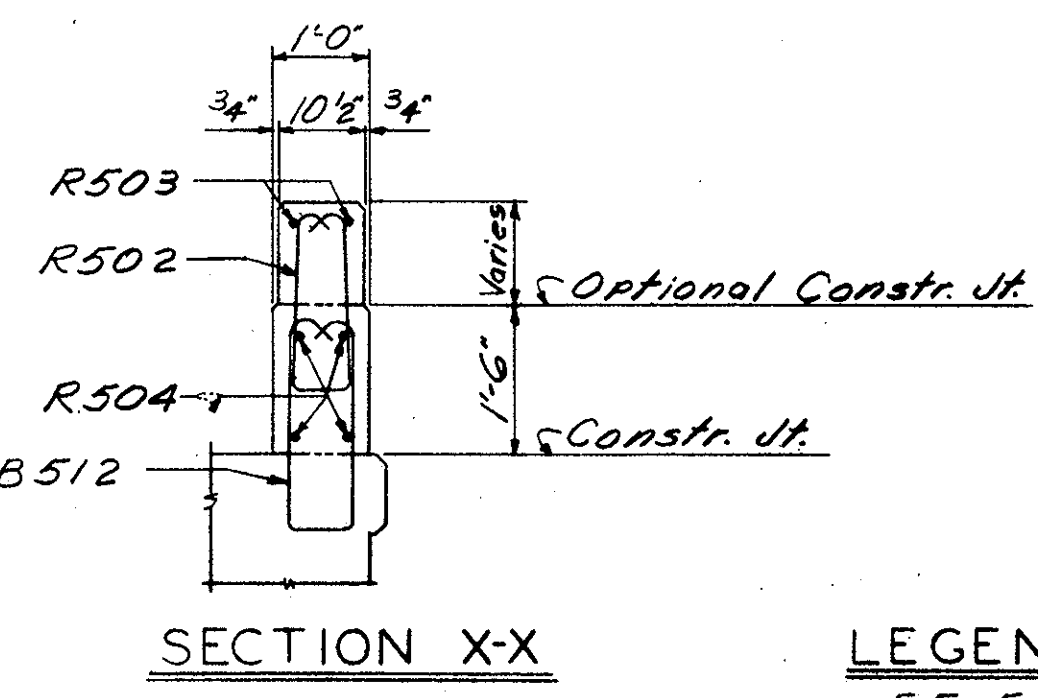
SECTION E-E (SHOWN)  
SECTION F-F (SIMILAR)

NOTE:  
For dimensions and parts not shown see Section C-C.



ELEVATION WING C

NOTE:  
For dimensions and details not shown see Elevation Wing D



SECTION X-X

LEGEND  
E.F. = Each Face  
N.F. = Near Face

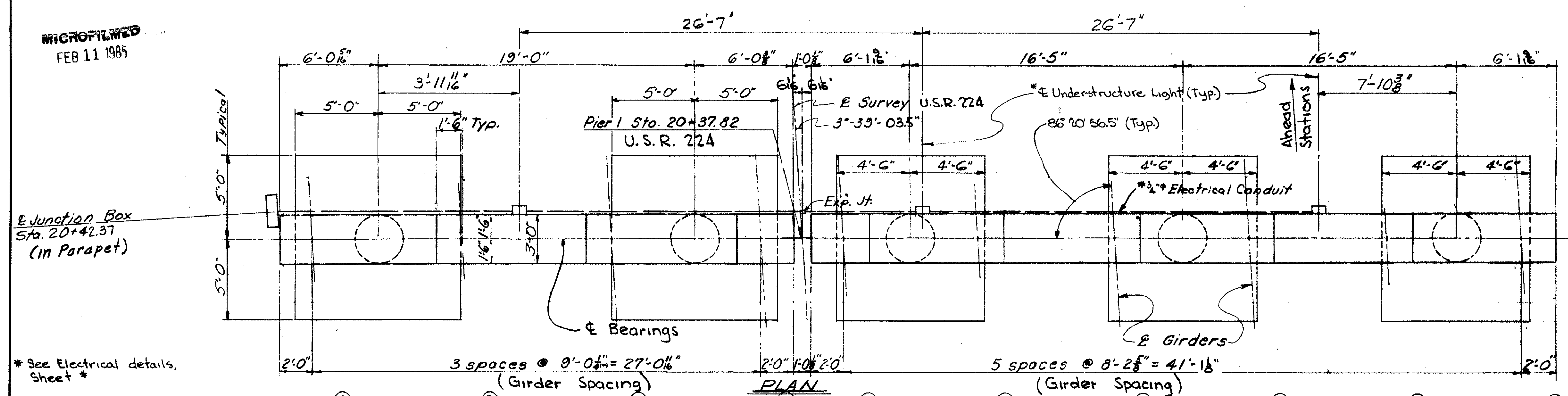
MICHAEL BAKER JR., CONSULTING ENGINEERS ROCHESTER, PENNSYLVANIA					
ABUTMENT DETAILS BRIDGE NO. MAH-680-1184 UNDER U.S.R.224					
STA. 506+33.09					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HJB	RJP		HJB	6/28/69	

MICROFILMED  
FEB 11 1985

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

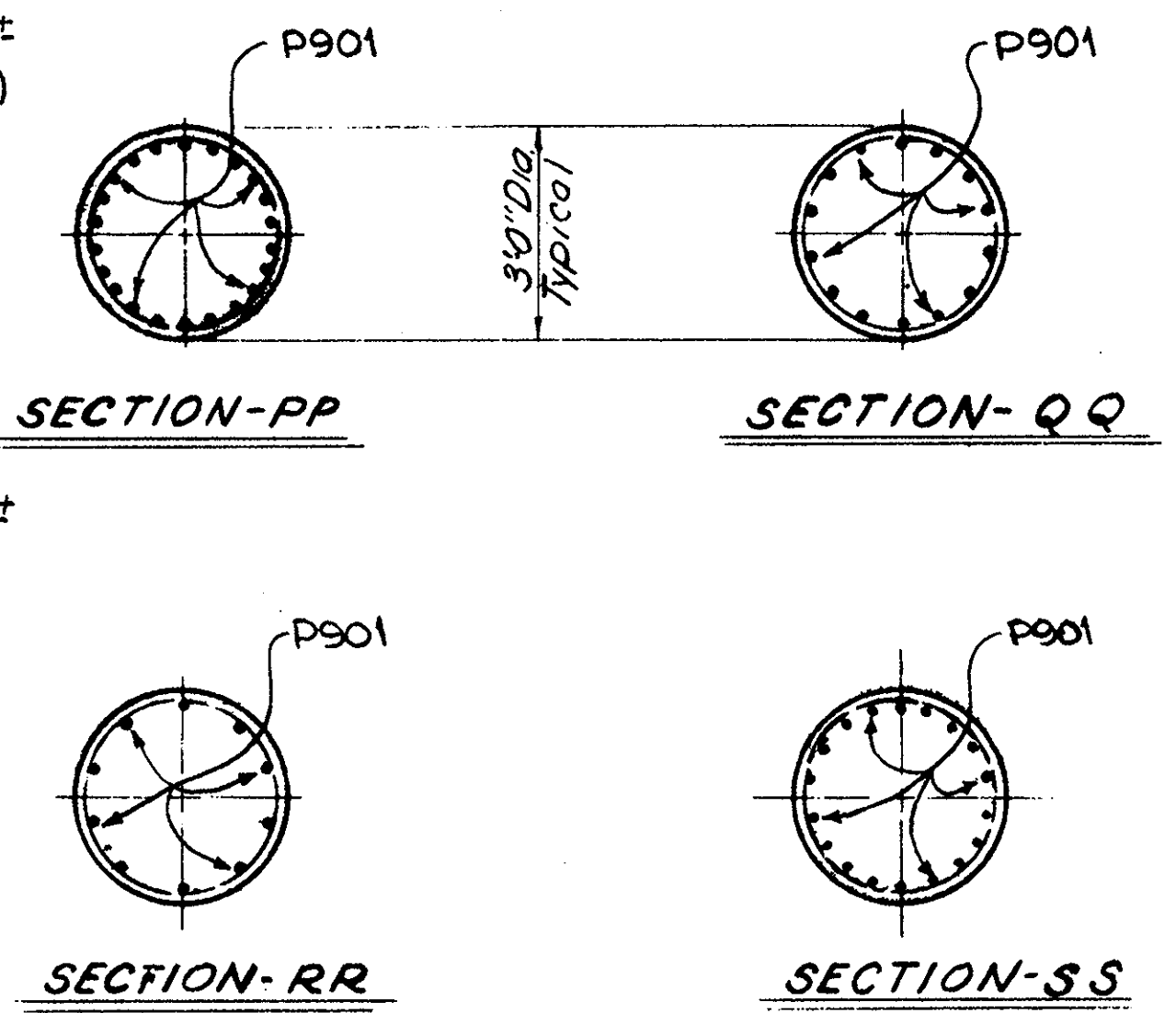
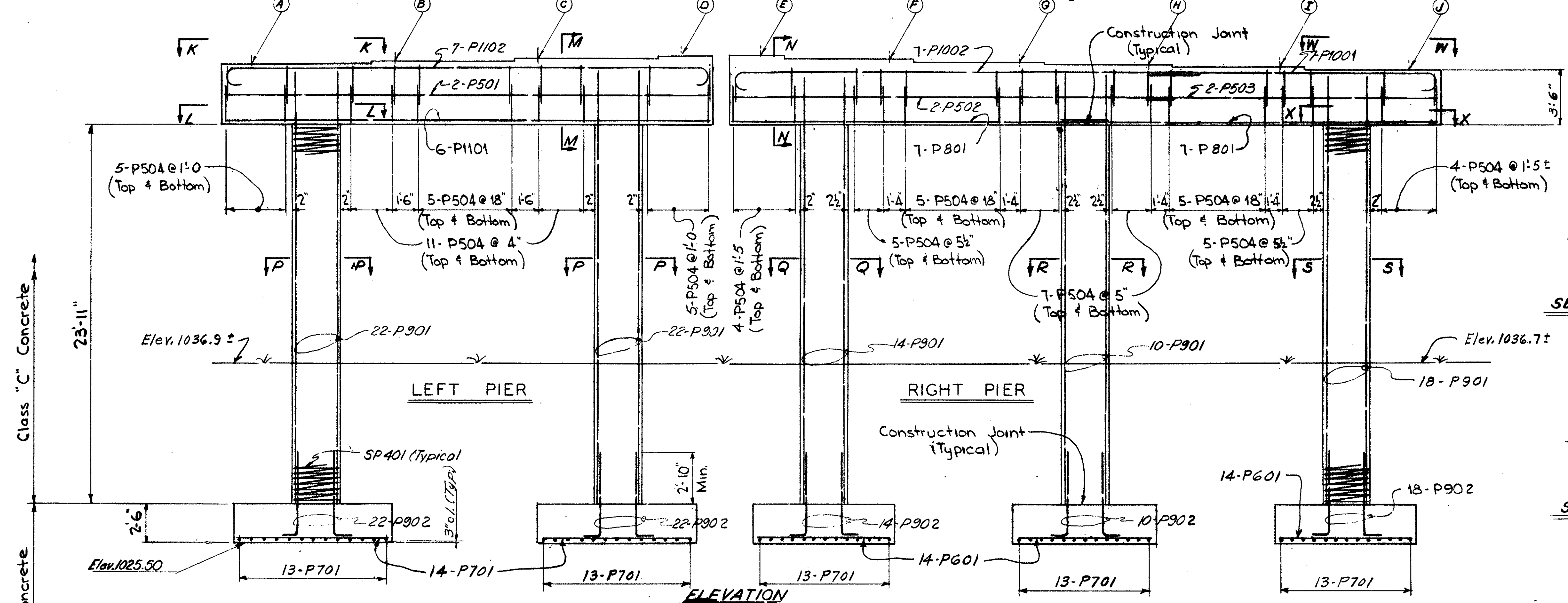
249  
303

MAHONING COUNTY  
MAH - 680-9.32

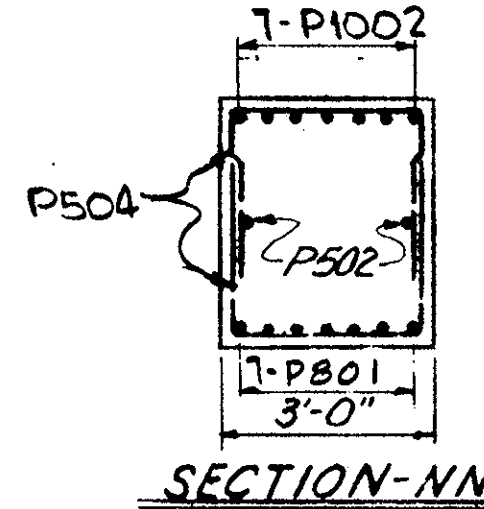
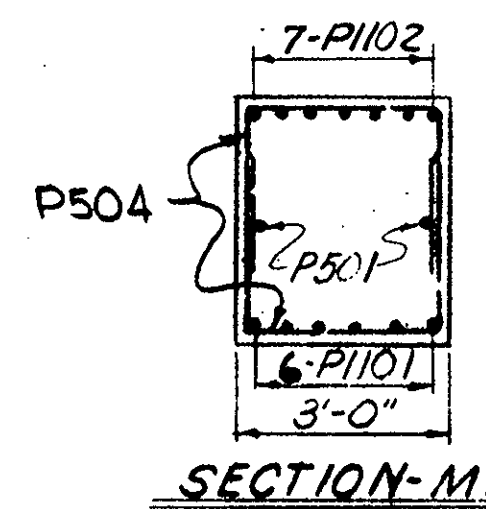
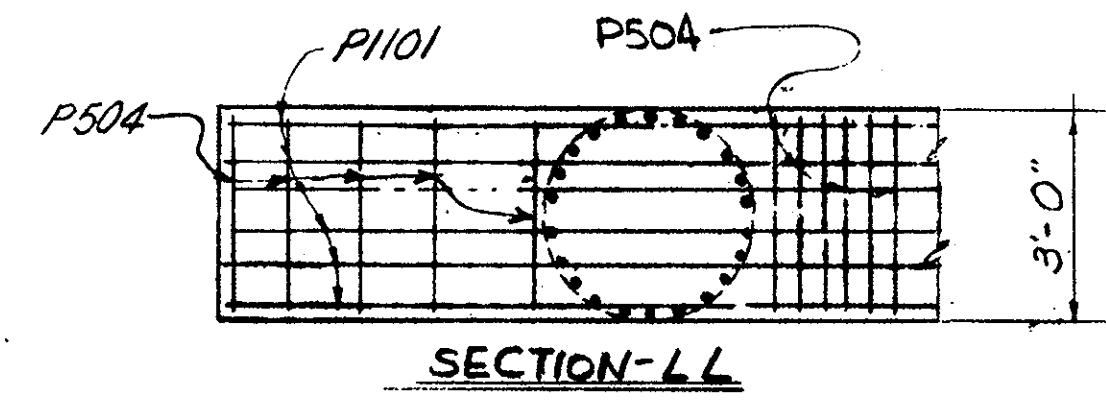
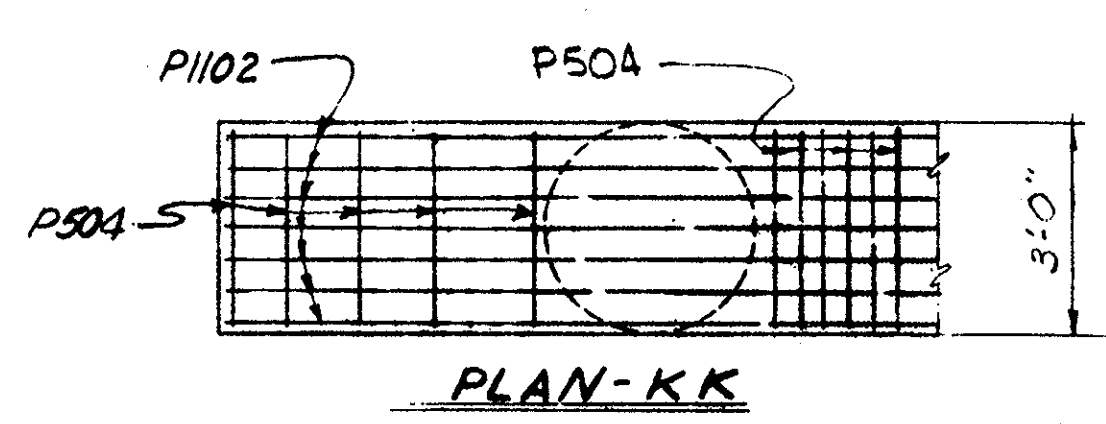
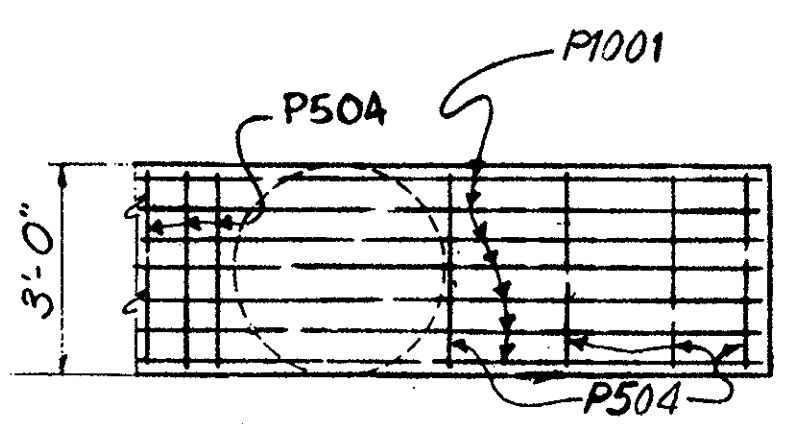


\* See Electrical details, Sheet \*

• For Reinforcing Bar Schedule, see Sheet No. 255



Sign No. 28 Lighting Circuits are mounted on this pier. See Traffic Control Plans - Sheet No. 225.



A	B	C	D	E	F	G	H	I	J
1055.66	1055.80	1055.94	1056.07	1056.07	1055.94	1055.81	1055.68	1055.55	1055.42

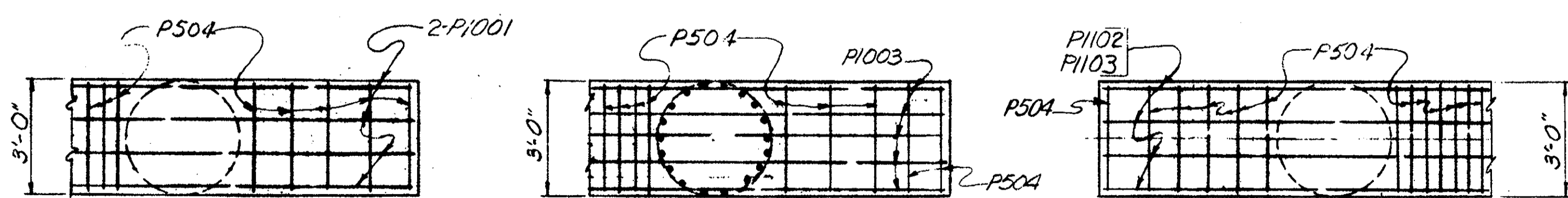
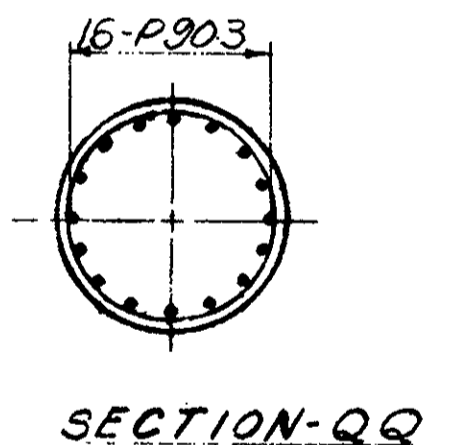
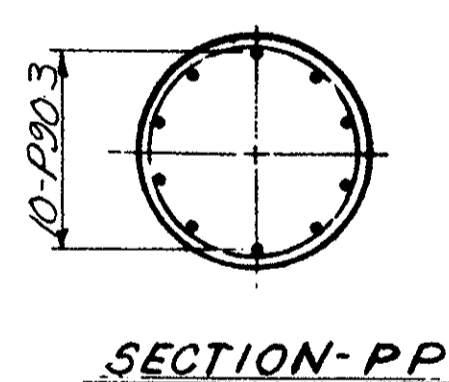
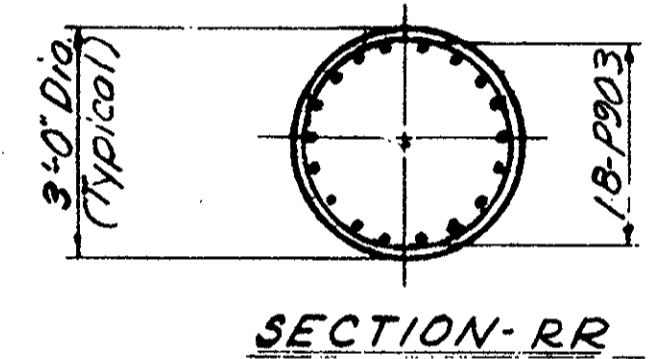
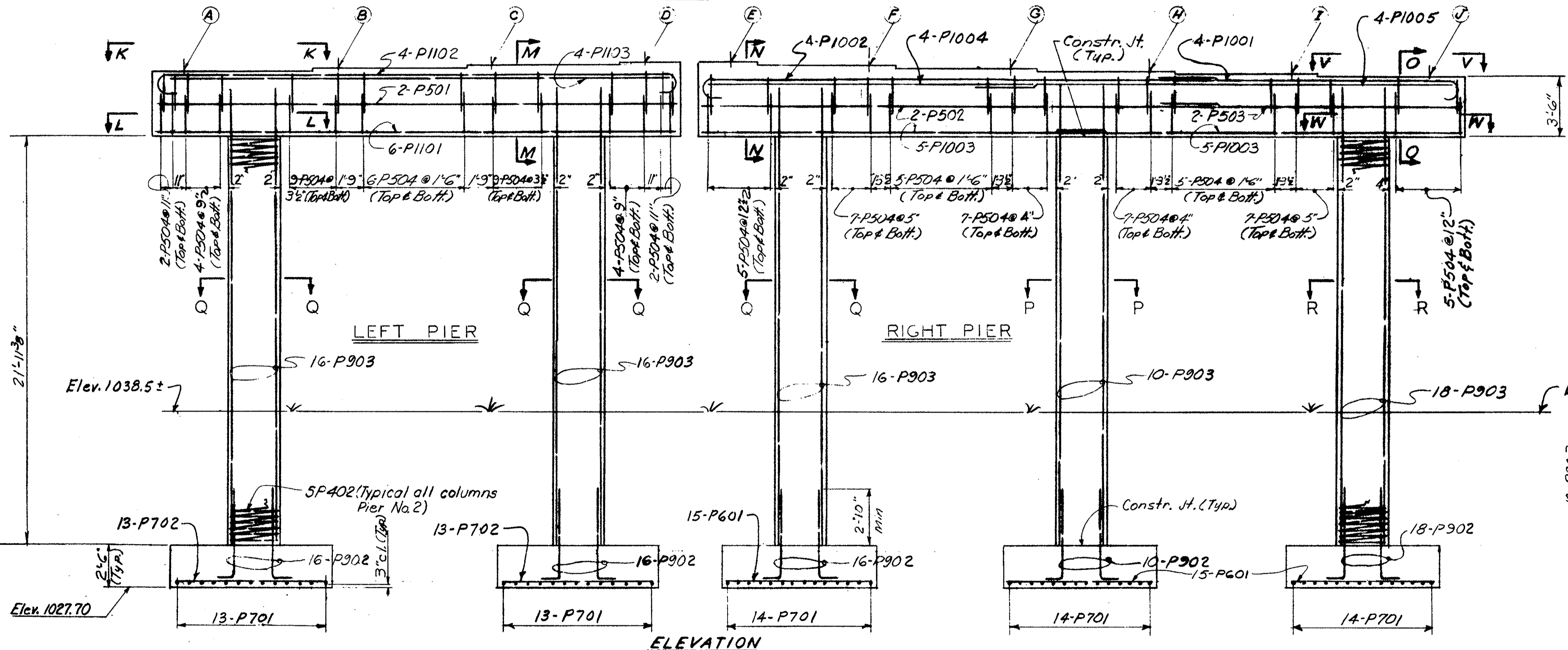
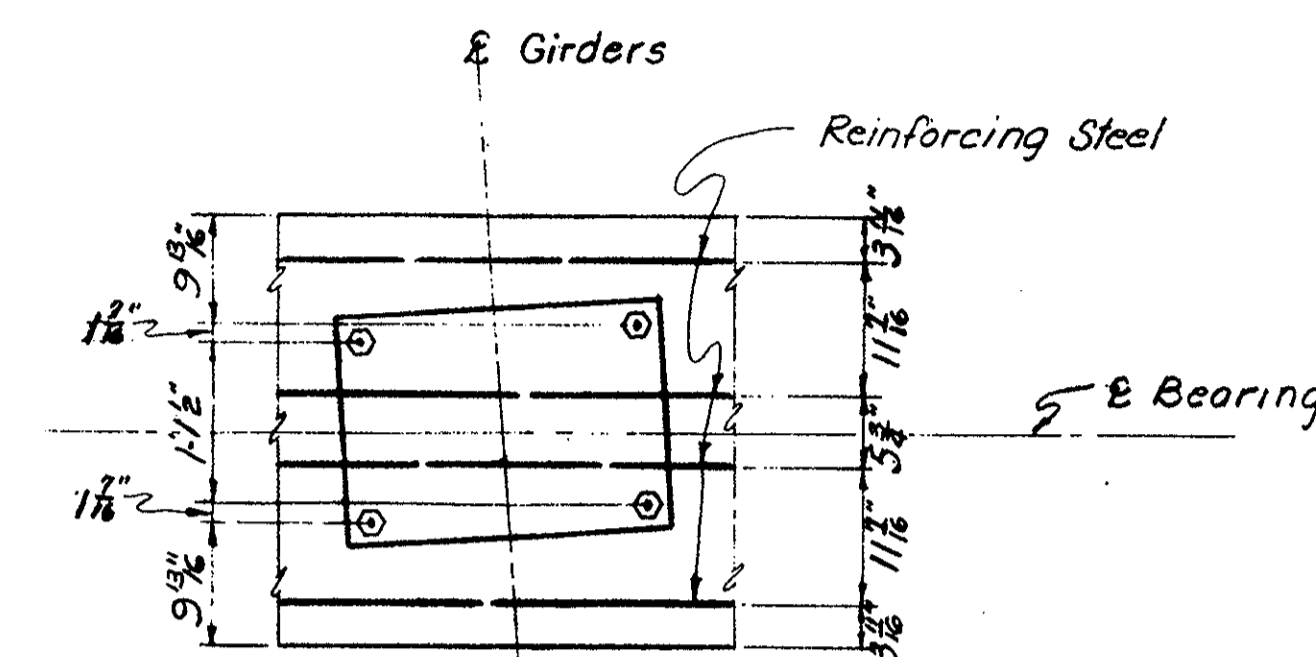
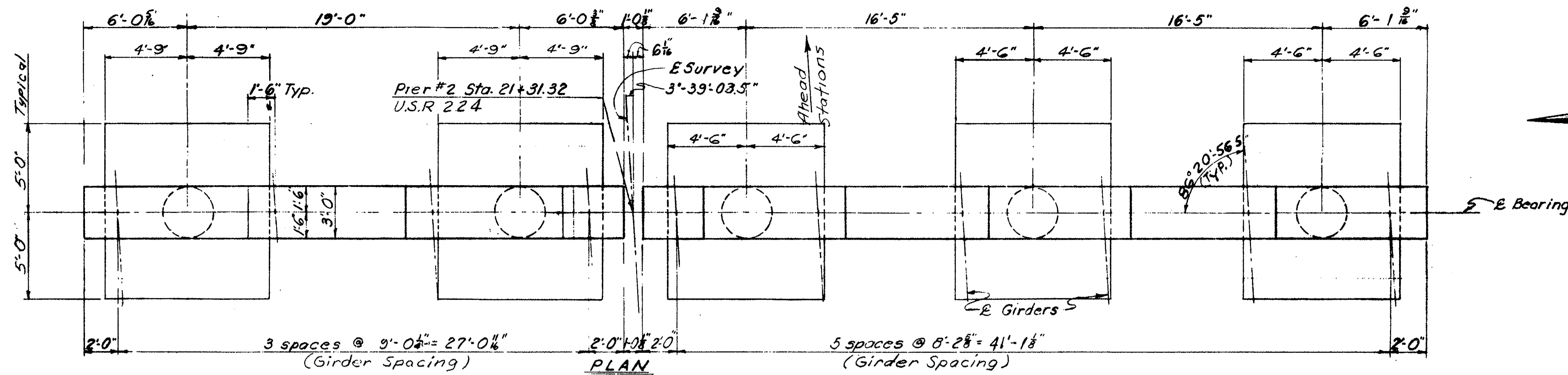
MICHAEL BAKER JR., CONSULTING ENGINEERS ROCHESTER, PENNSYLVANIA					
PIER NO. 1 BRIDGE NO. MAH-680-1184 UNDER U.S.R. 224 STA. 506 + 33.06					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JCH	L.Z. RJP		HJB	1.6.84 6/28/69	

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FEB 11 1985

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

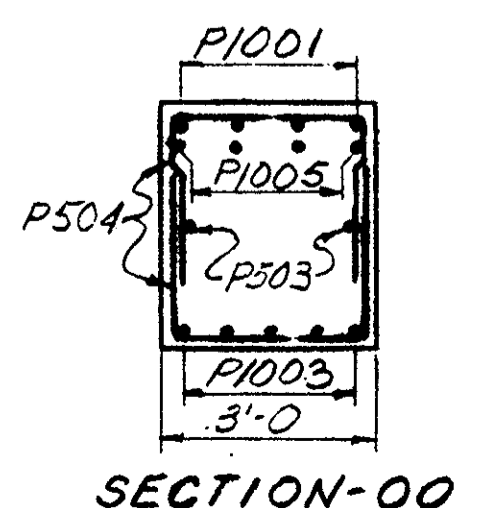
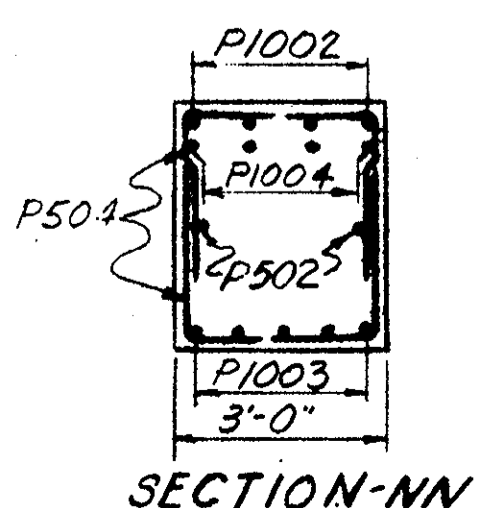
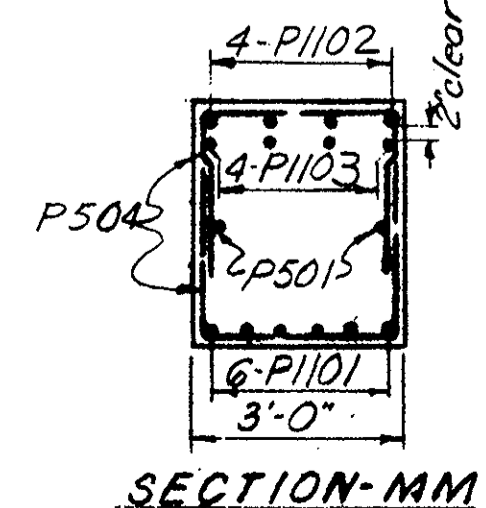
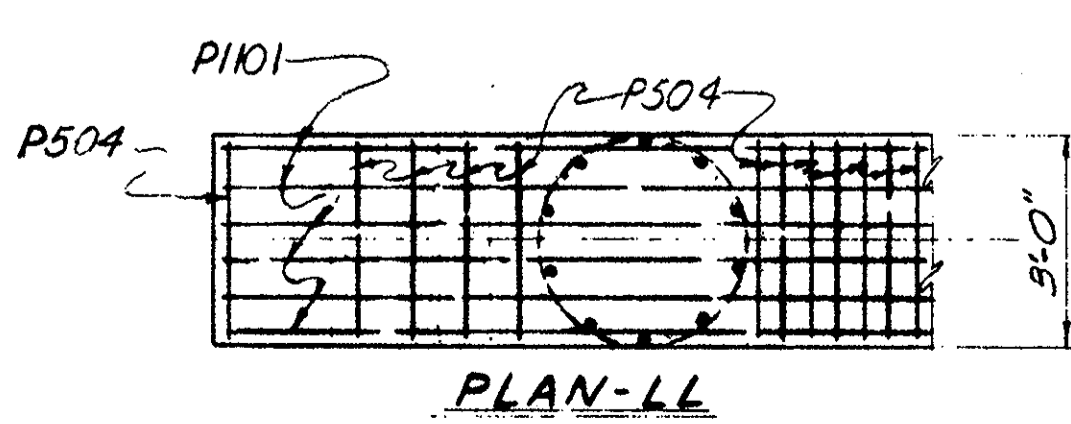
250  
303

MAHONING COUNTY  
MAH - 680 - 932



PIER NO. 2 ELEVATION

A	B	C	D	E	F	G	H	I	J
1055.87	1056.01	1056.15	1056.29	1056.29	1056.16	1056.03	1055.91	1055.78	1055.65



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ROCHESTER, PENNSYLVANIA

PIER NO. 2  
BRIDGE NO. MAH - 680 - 1184  
UNDER U.S.R. 224  
STA. 506+33.09

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JCH	L.Z. RJP		HJB	6/28/64	



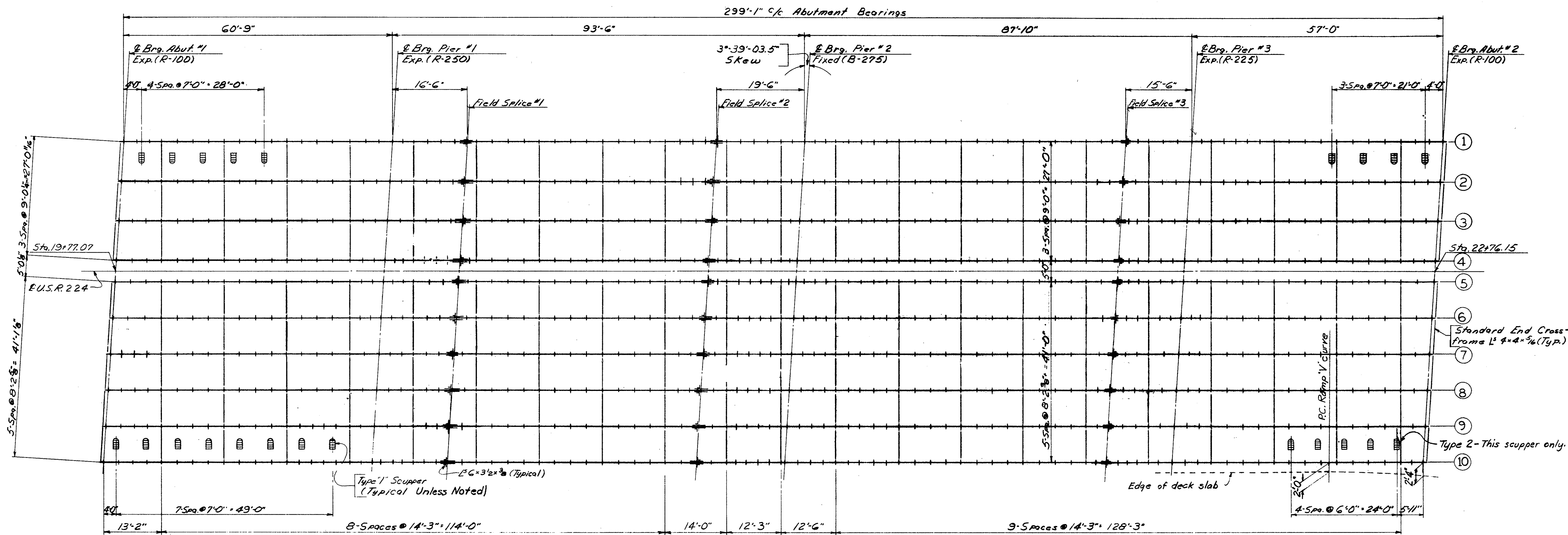


MICROFILMED  
FEB 11 1985

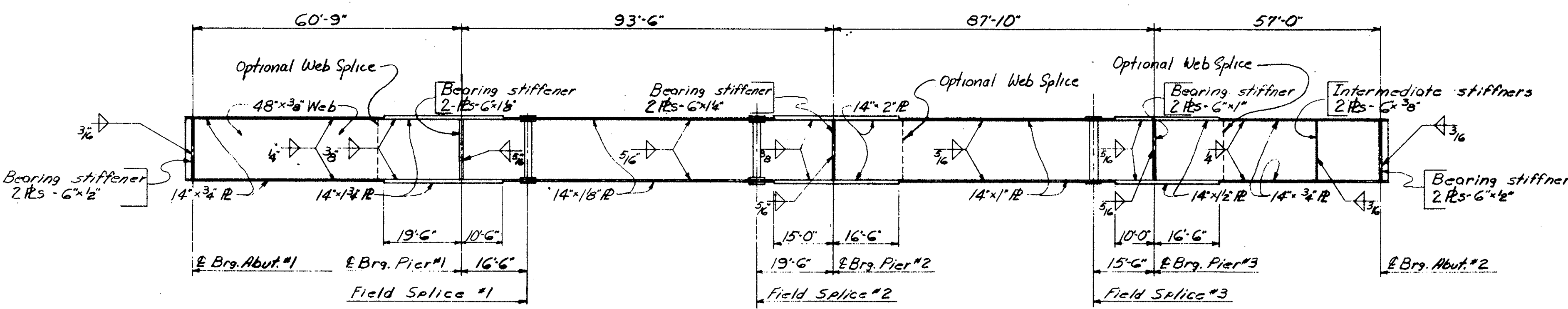
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

252  
303

MAHONING COUNTY  
MAH-680-9.32



STEEL FRAMING PLAN



GIRDER ELEVATION

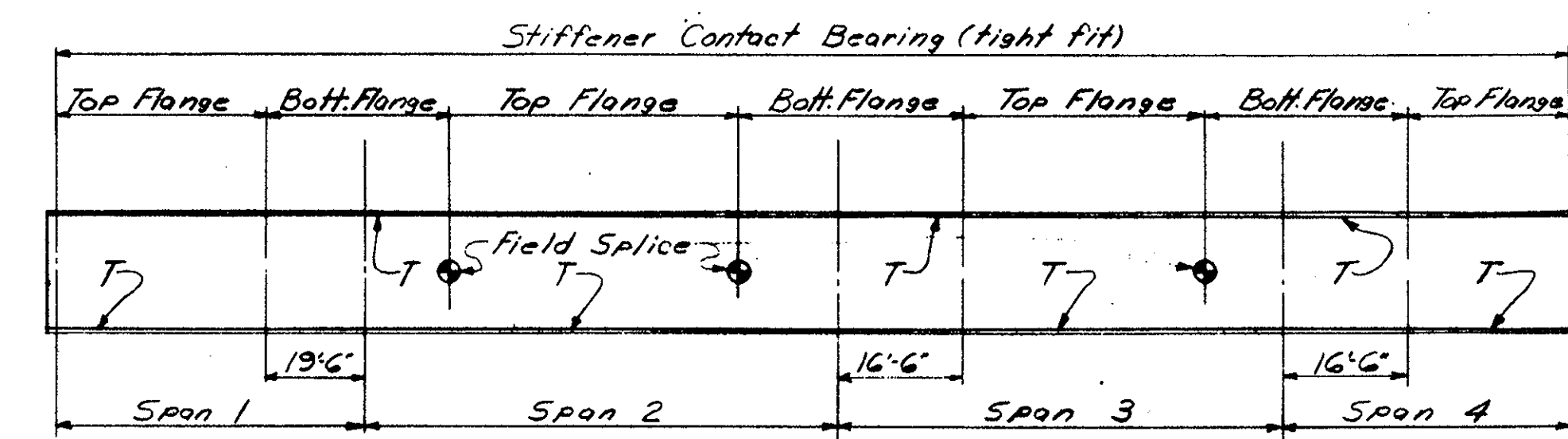


DIAGRAM FOR FIT OF INTERMEDIATE STIFFENER PLATES TO GIRDER FLANGES

Intermediate stiffeners shall clear the tension flange by 1/4"

END DAM PAINTING: Portions of the end dams which will be in contact with steel or with concrete shall not be painted. All other portions shall be cleaned and painted in accordance with 514.

For Girder Field Splice Details, Butt Welds, Blocking and Camber See Sheet # 254.  
For Scuppers, end dams, and curb R details refer to Std. Dwg. SD-1-69 Use bevel fill plates 1/2" thick at E of girders.  
For Bearing details refer to Std. Dwg. RB-1-55 revised 2-2-59.

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA 11/13

FRAMING PLAN  
BRIDGE NO MAH-680-1184  
UNDER U.S.R. 224

STA 506+33.09

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
DWP	RJP		JCH	6/28/69	

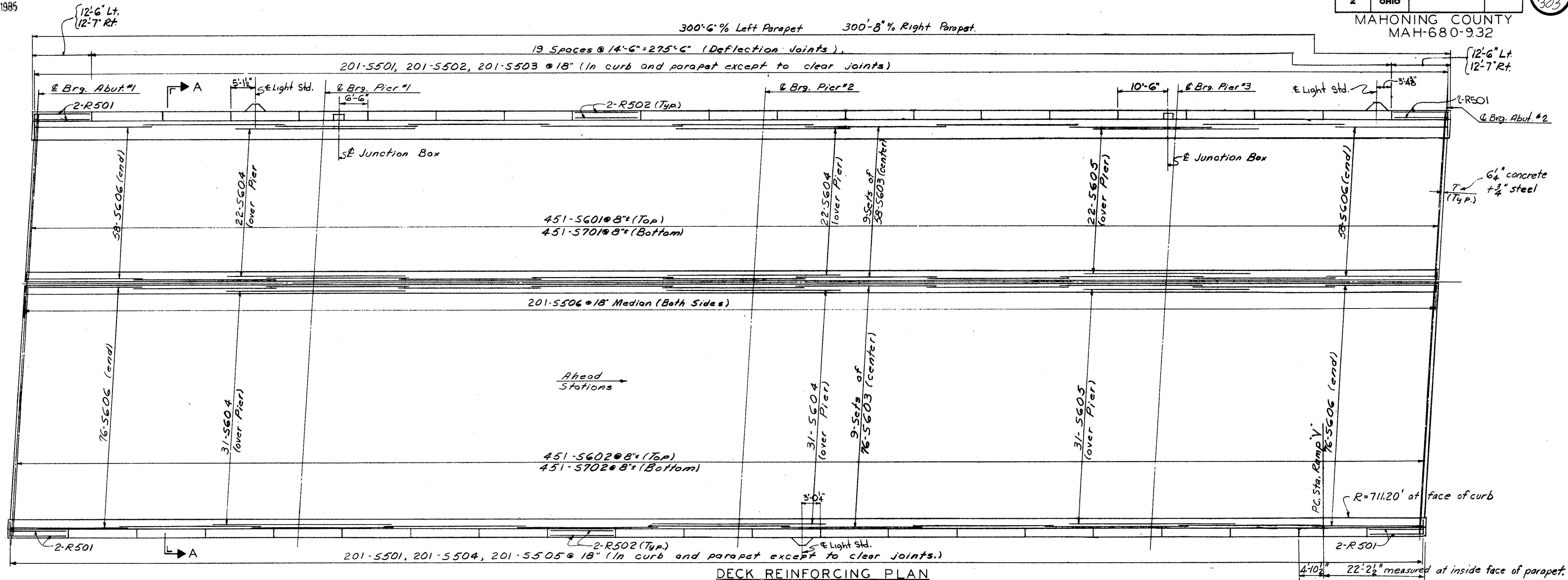
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FEB 11 1985

• For details of parapet at light standards see Sheet # 254.  
• See sheet # for electrical details.

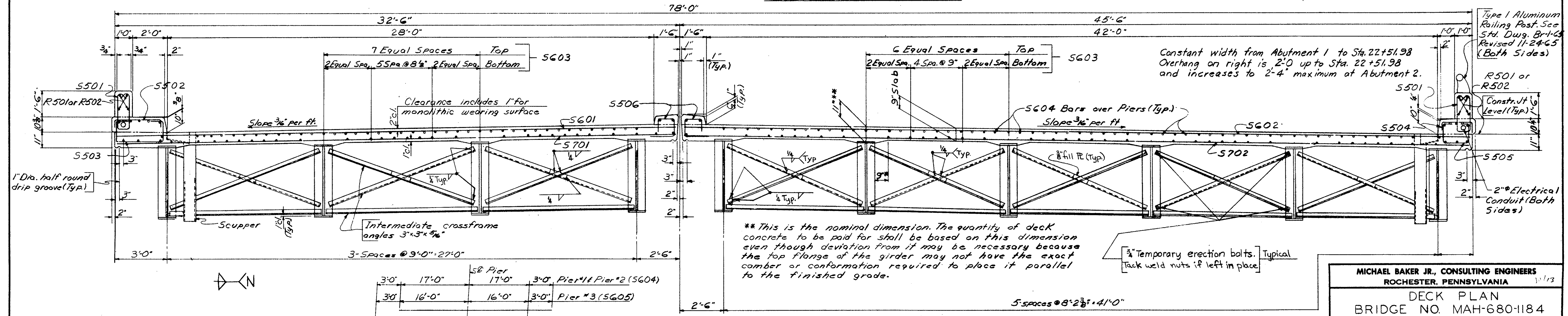
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

253  
303

MAHONING COUNTY  
MAH-680-932



DECK REINFORCING PLAN



SECTION A-A

Scuppers shall be in accordance with Standard Drawing SD-1-69 except that scupper pipes shall extend 8" below the bottom of the beams instead of 2".

STAGGER OF S604 & S605 BARS

\*\* This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade.

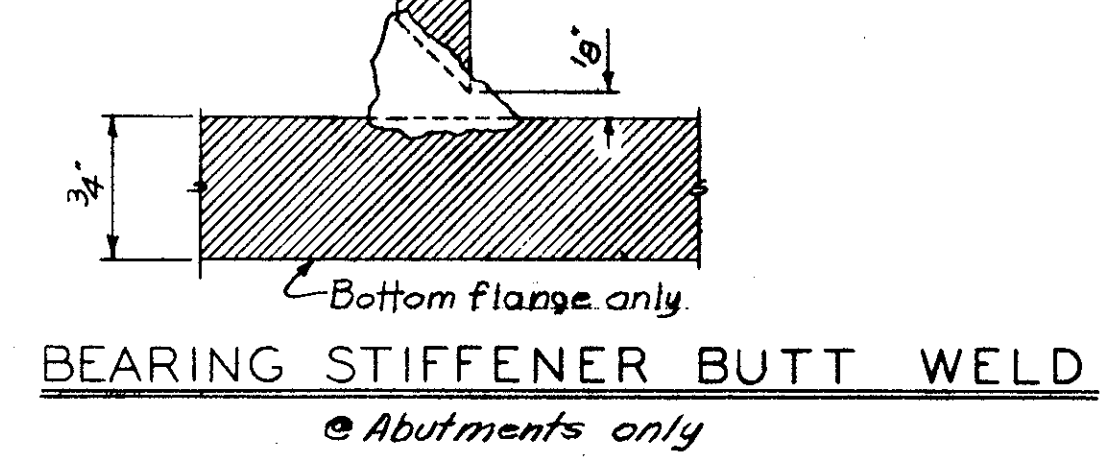
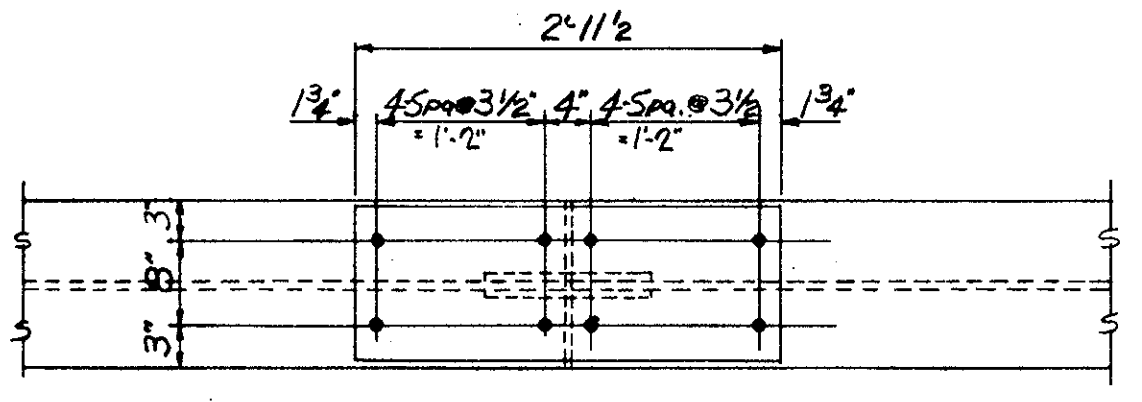
\* A haunch width of 9" shall be used for computing the quantity of concrete. However the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

Field Welding for curb plates is considered to be non-stressed and prequalification of welder is not required.

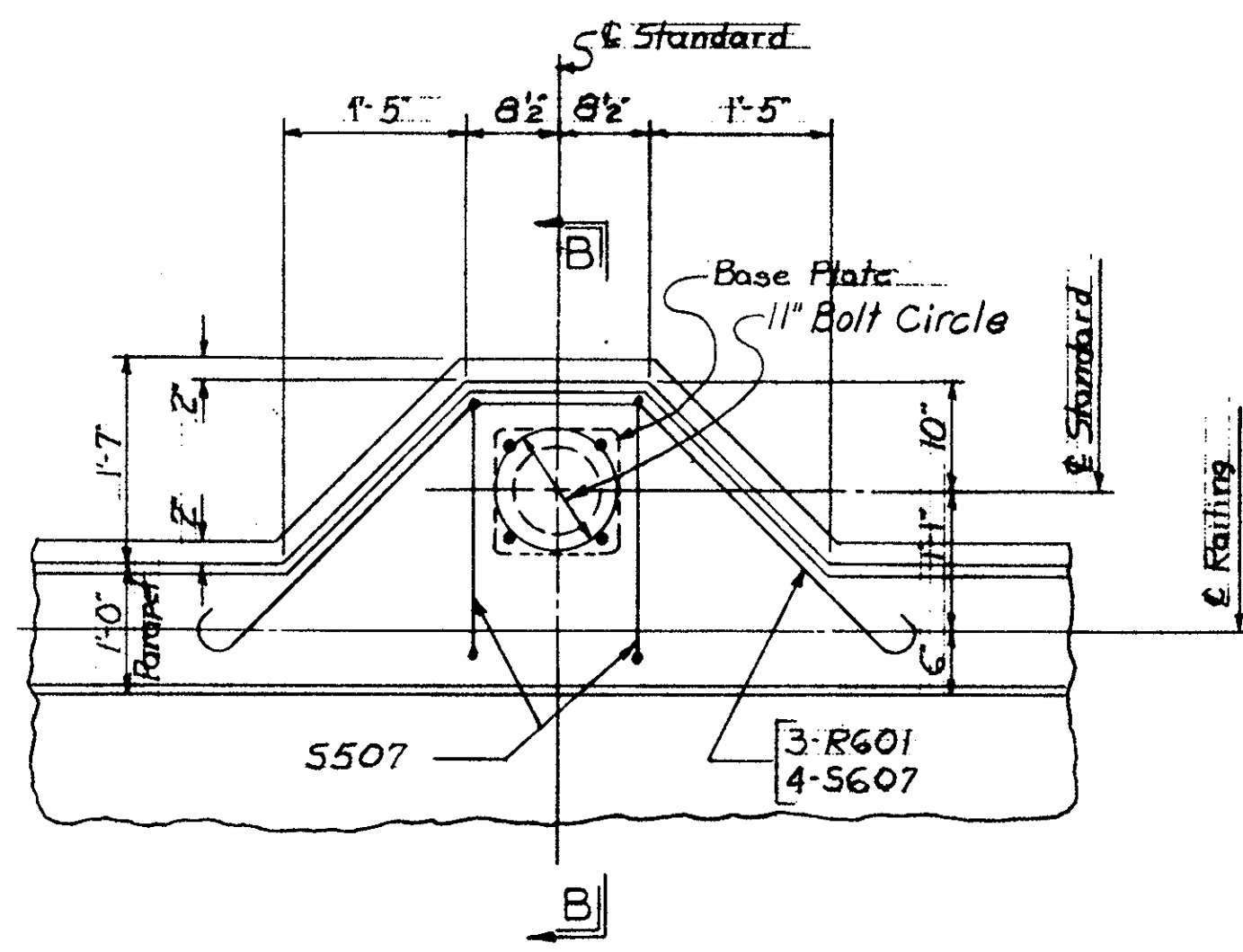
MICHAEL BAKER JR., CONSULTING ENGINEERS ROCHESTER, PENNSYLVANIA					
DECK PLAN BRIDGE NO. MAH-680-1184 UNDER U.S.R. 224					
STA. 506+33.09					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JCH	RJP		J.C.H.	2/6/74 6/28/69	2-23-72

Rev. 2-23-72

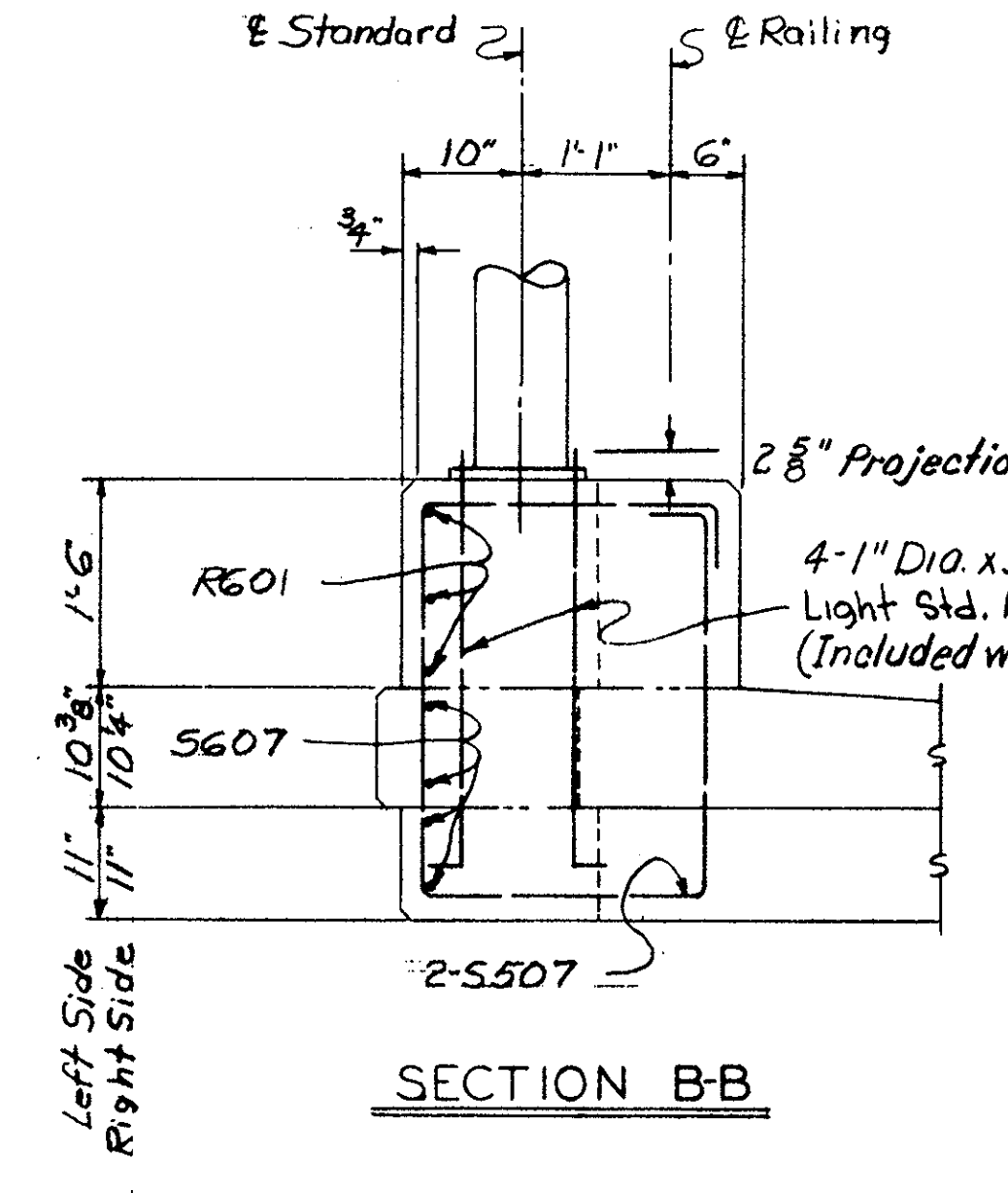
All full penetration welds shall be back gouged and welded after welding far side.  
Flange R butt welds shall be ground flush, with finish grinding parallel to the direction of stress.



BEARING STIFFENER BUTT WELD  
@ Abutments only

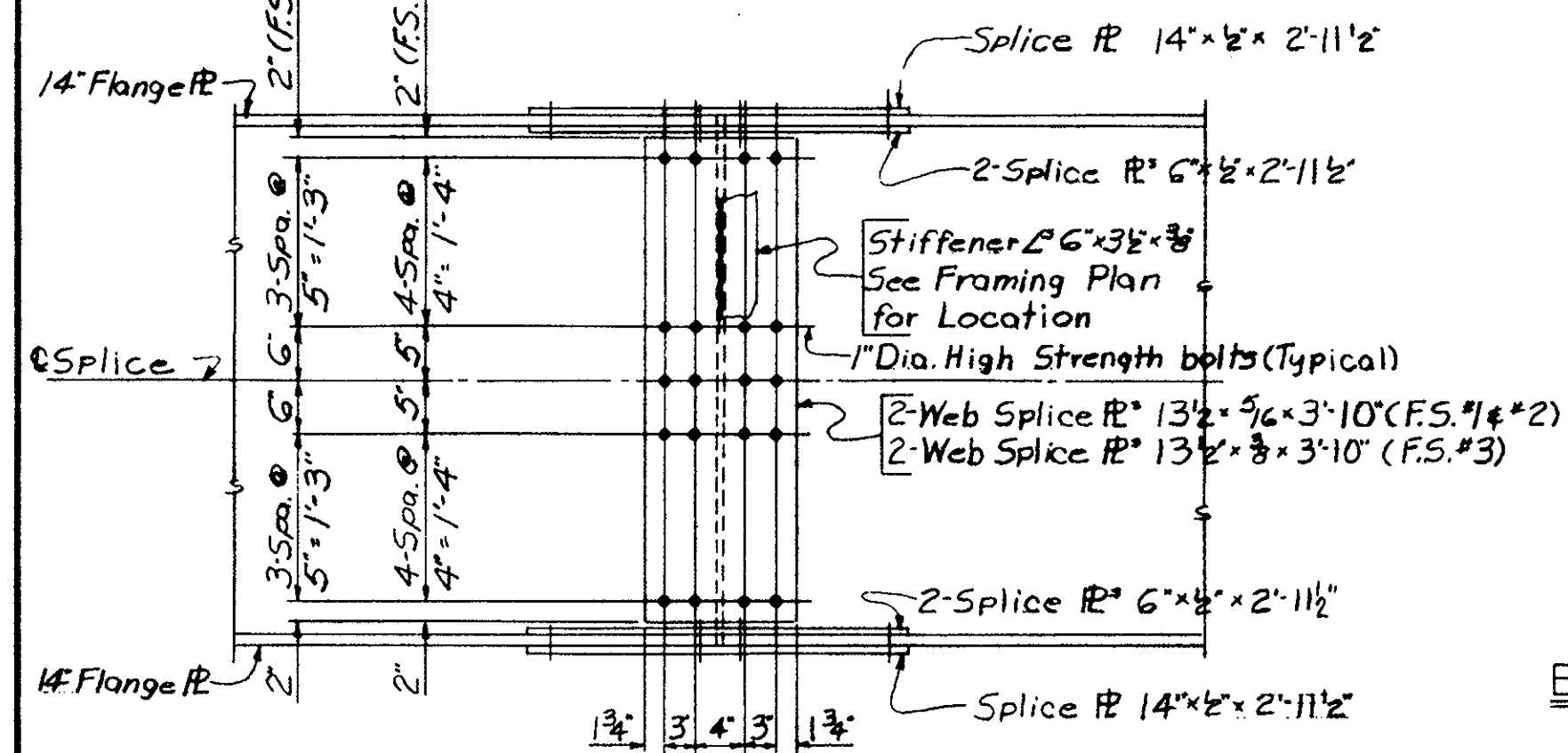


DETAIL OF PARAPET  
AT LIGHT STANDARD

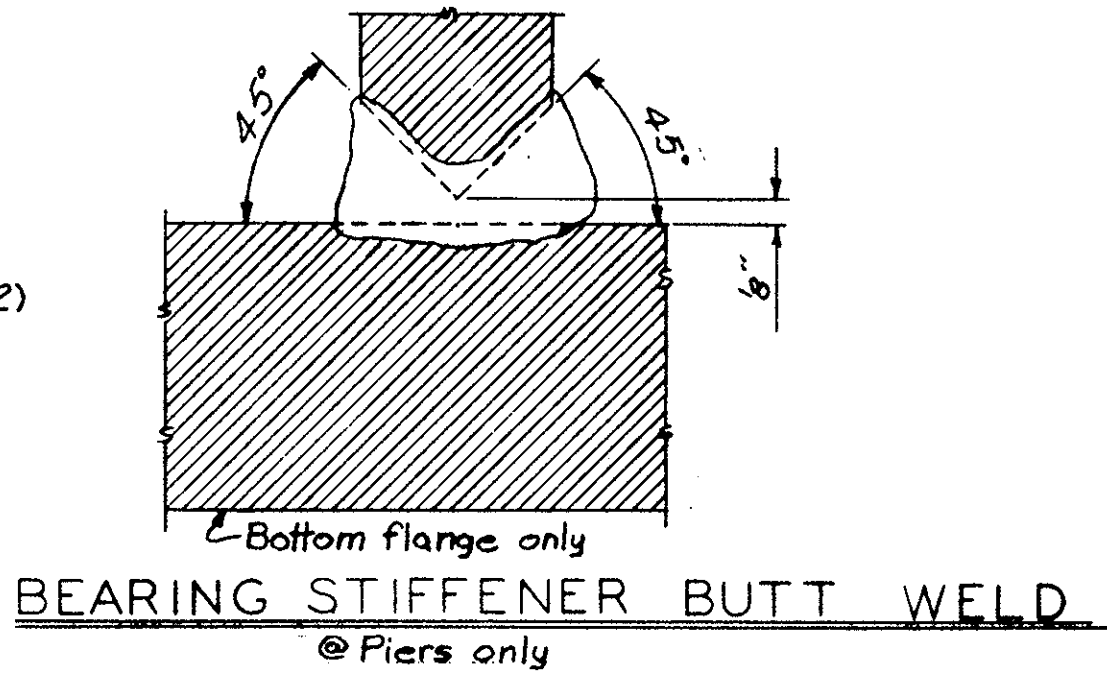


SECTION B-B

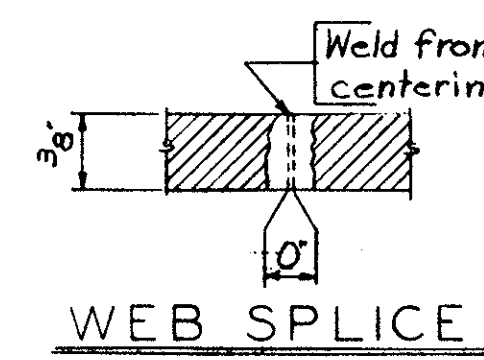
Junction box (not shown) to be provided at light standards. See Electrical Details Sheet # 210



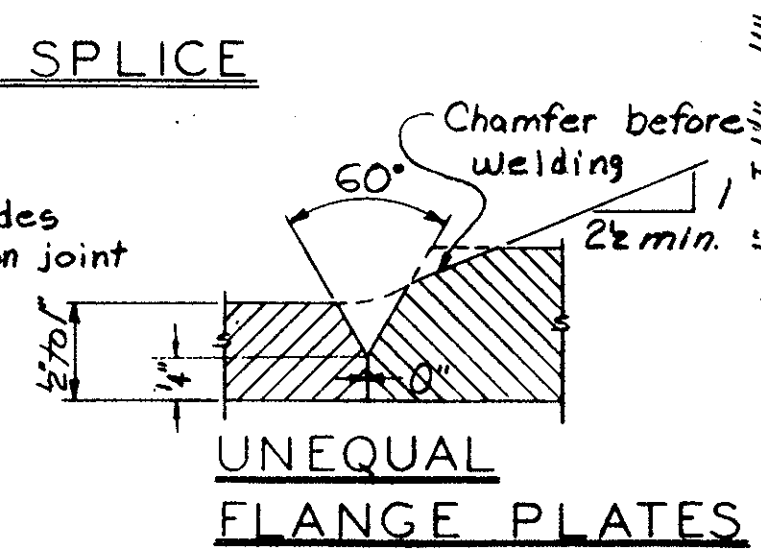
FIELD SPLICE



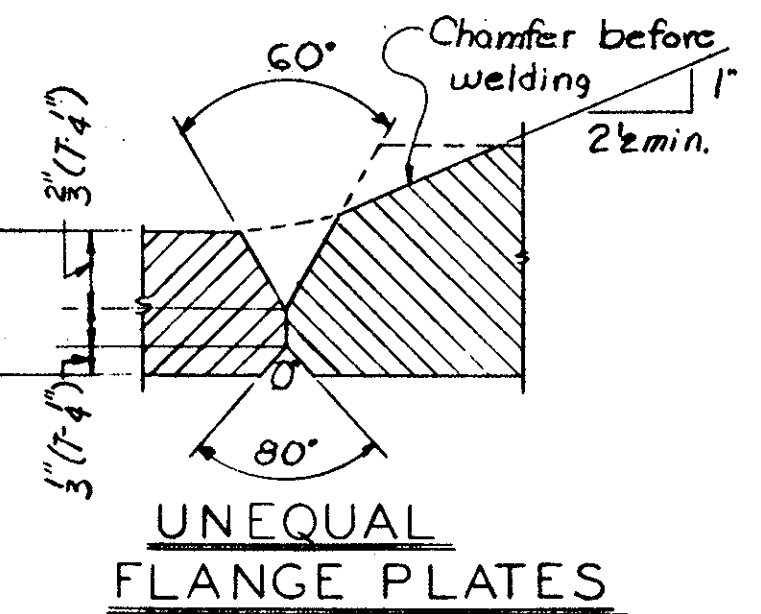
BEARING STIFFENER BUTT WELD  
@ Piers only



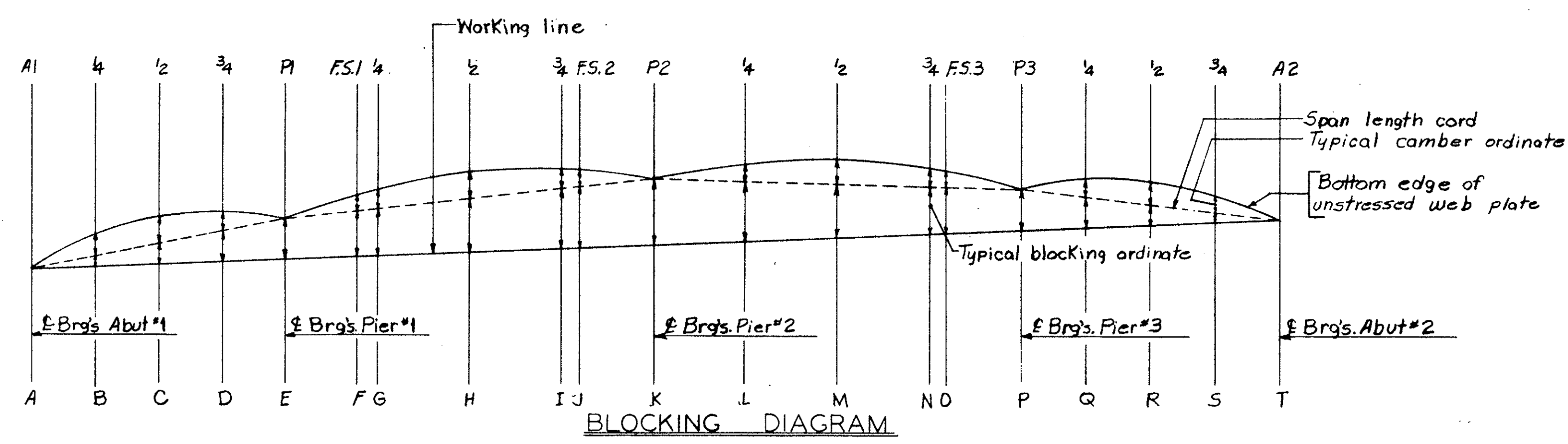
WEB SPLICE



UNEQUAL FLANGE PLATES



UNEQUAL FLANGE PLATES



BLOCKING DIAGRAM

DESCRIPTION	DEFLECTION AND CAMBER																			
	Span # 1				Span # 2					Span # 3					Span # 4					
LOCATION	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Deflection due to weight of steel	0	1/16	1/16	0	0	1/16	1/16	1/8	1/16	1/16	0	1/16	1/16	1/16	1/16	0	0	1/16	1/16	0
Deflection due to remaining dead load	0	3/8	1/8	1/16	0	1/4	3/8	5/8	3/8	1/2	0	1/2	1	5/16	3/16	0	1/16	1/8	1/8	0
Adjustment required for vertical curve	0	1/4	5/16	1/4	0	3/16	9/16	3/4	9/16	1/2	0	1/2	1 1/16	1/2	3/8	0	3/16	1/4	3/16	0
Required shop Camber	0	3/16	1/2	5/16	0	3/4	1	1 1/2	1	1 3/16	0	1 3/16	1 1/4	3/8	5/8	0	1/4	3/16	3/8	0
Blocking ordinate	0	1 1/16	2 1/8	3 1/8	5 1/16	5 5/16	6 3/8	6 3/4	7 1/8	7 1/16	8 1/8	7 5/16	6 1/2	5 1/16	5 1/2	4 5/16	3 3/4	2 1/2	1 1/4	0

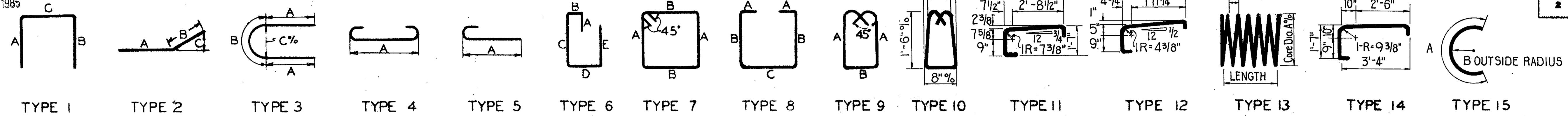
MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

MISCELLANEOUS DETAILS  
BRIDGE NO. MAH-680-1184  
UNDER U.S.R. 224

STA. 506+33.09

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
DWP	RJP		HJB	2.6.64 6/28/64	

MICROFILMED  
FEB 11 1985



FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

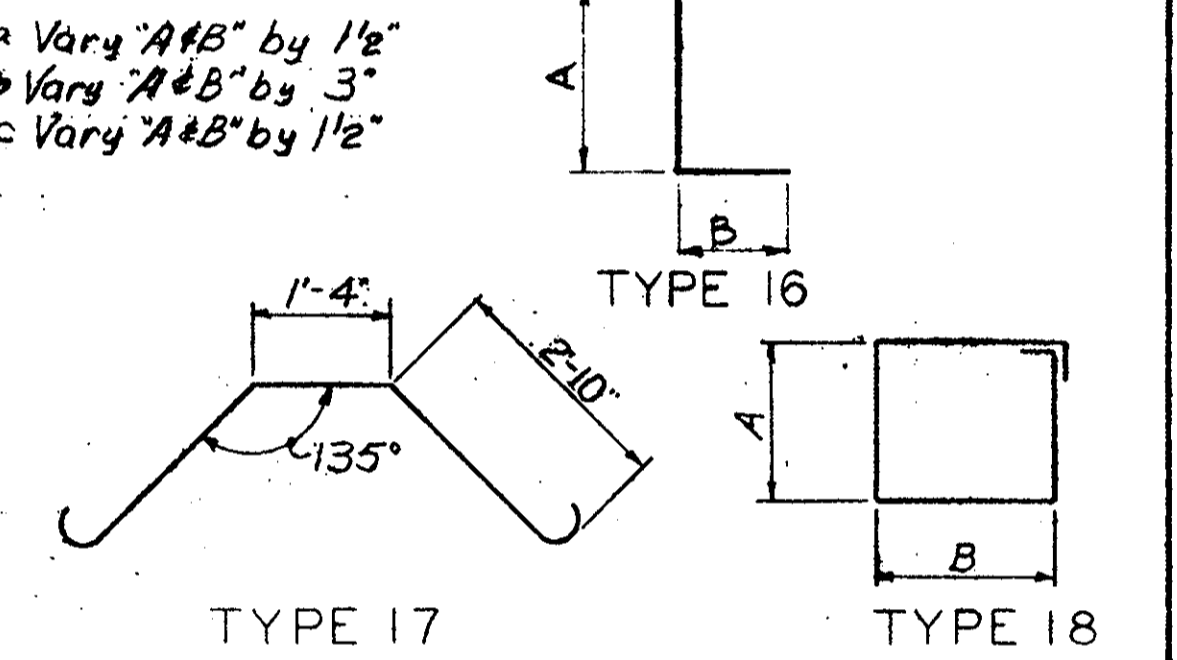
MAHONING COUNTY  
MAH-680-932

255  
303

ABUTMENT NO. 1										SUPERSTRUCTURE										ABUTMENT NO. 2										PIERS										REPLACEMENT BARS																																																																																																			
MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT	MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT	MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT	MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT	MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT																																																																																										
A801	21	28'-2"	Str.						1579	B517	12	9'-8"	Str.						121	SP401	5	23'-11"	13	32"	4"	61			2171	B518	14	12'-10"	7	2'-7"	3'-8"				187	SP402	5	21'-11"	13	32"	4"	62			2006	B519	12	5'-4"	1	2'-1"	2'-1"	1'-5"			67	SP403	5	19'-5 1/2"	13	32"	4"	55			1779	B520	25#5	4'-2" to 3'-2"	1	1'-6" to 1'-0"	1'-6" to 1'-0"	1'-5"			38	B521	4	3'-1"	Str.						13	B522	8	21'-0"	Str.						175	B523	25#5	5'-2" to 3'-2"	1	2'-0" to 1'-0"	2'-0" to 1'-0"	1'-5"			43	R502	6	4'-2"	10						*	R503	4	5'-2"	11						*	R504	8	15'-4"	Str.						*

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used indicates the bar size number. For example A601 is a No. 6 size bar and P1101 is a No. 11 size bar.

**SPIRAL REINFORCING BARS.** The "Length" shown in the steel list for the spiral bars is the length of the spiral along the axis of the spiral. The "No. of Turns" shown is the length divided by the pitch plus 3 turns (total number of closed coils). Spiral reinforcing bars may have deformations and shall in other respects conform to Item 509. 1/2 Closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers based on 0.68 lbs per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantities of spiral bars.



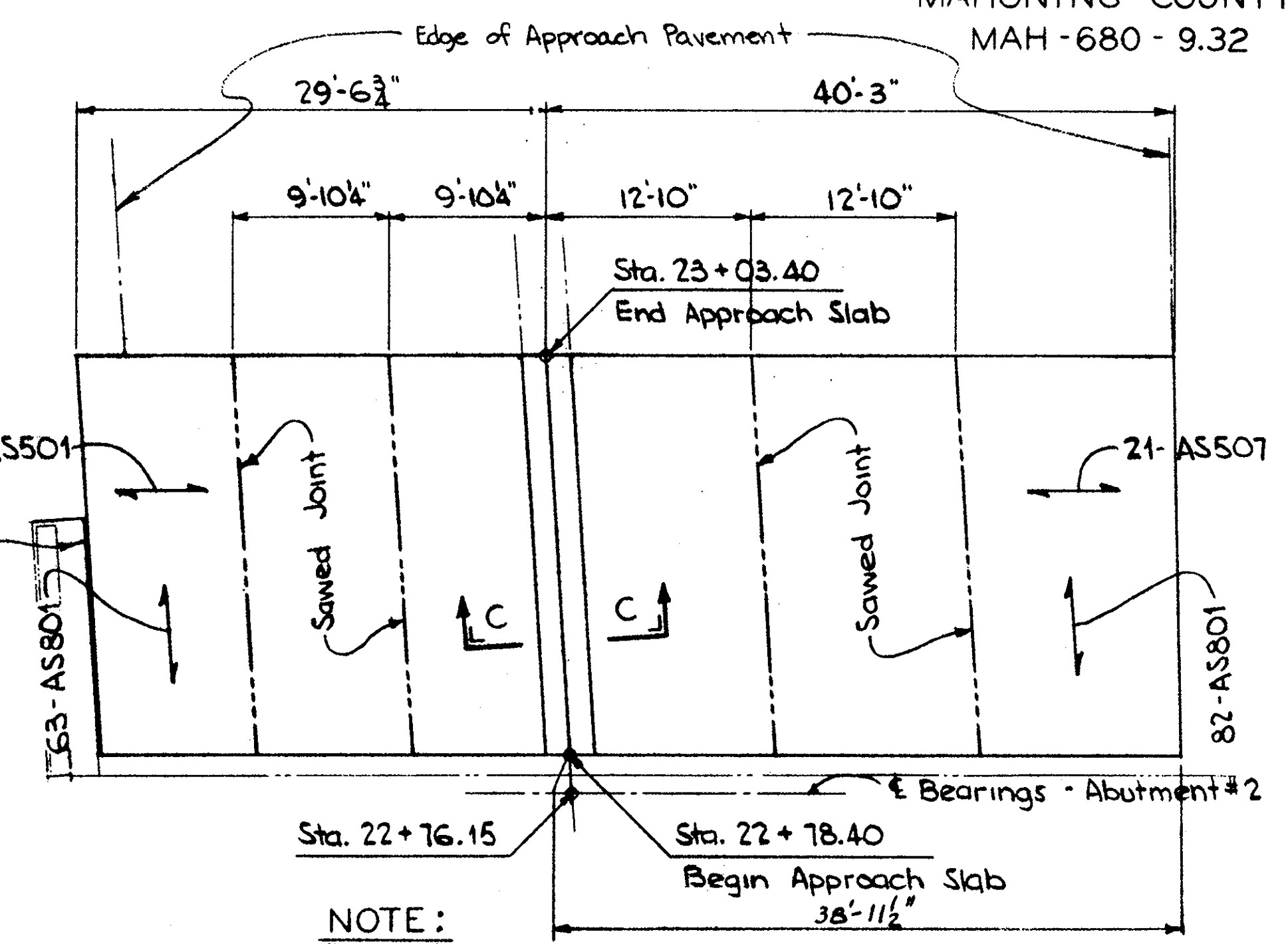
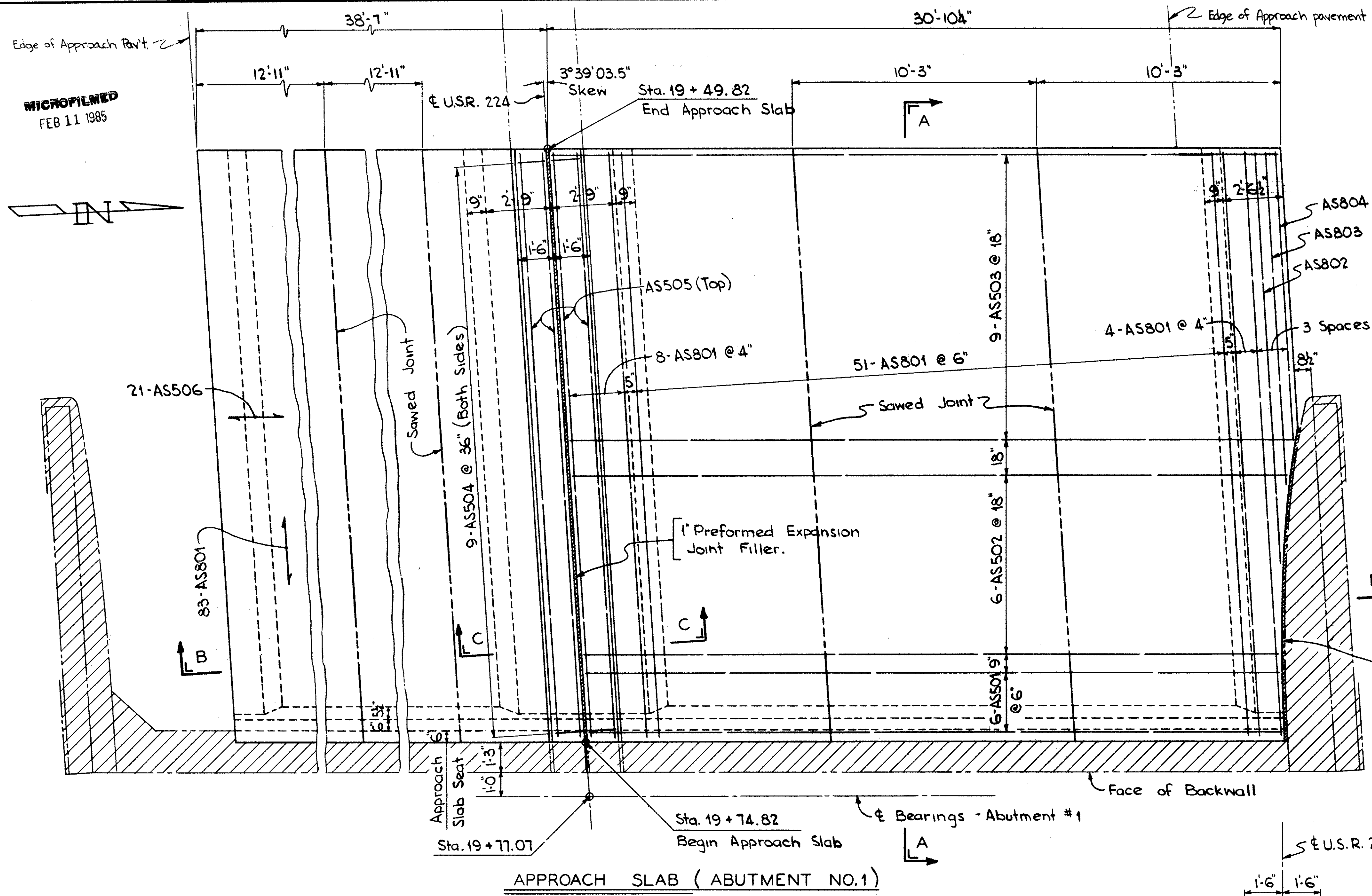
\*Included with railing, Item 517, for payment.

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

REINFORCING STEEL LIST  
BRIDGE NO. MAH-680-1184  
UNDER U.S.R. 224

STA. 506+33.09

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JAS	JAS	RJP	H.J.E.	6/28/69	

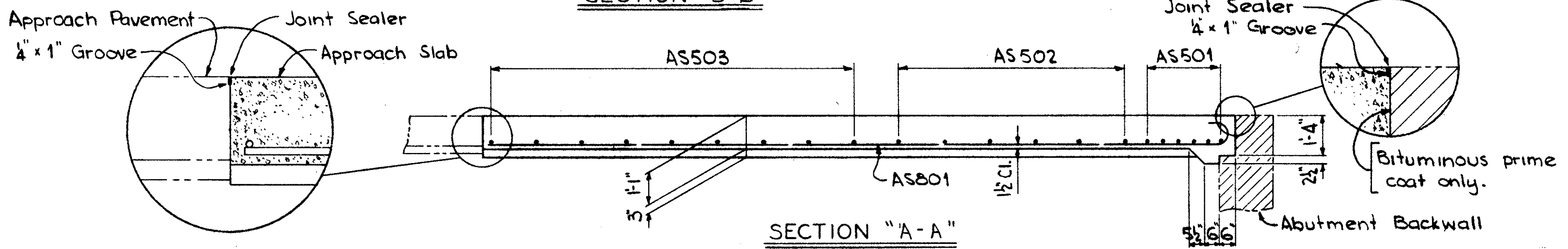
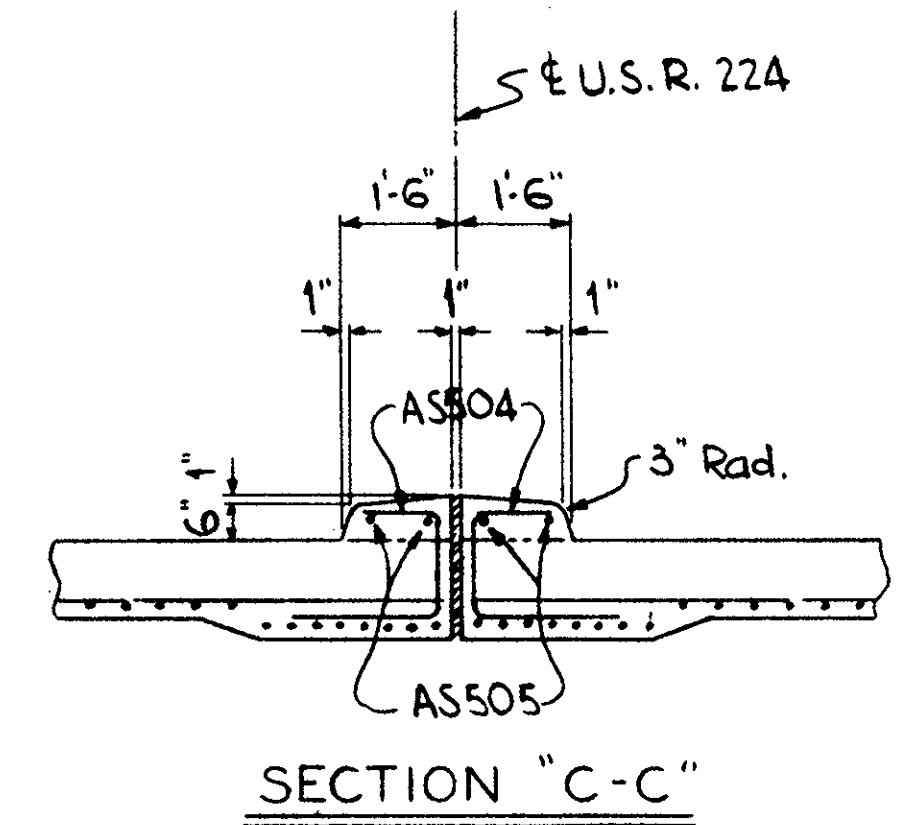
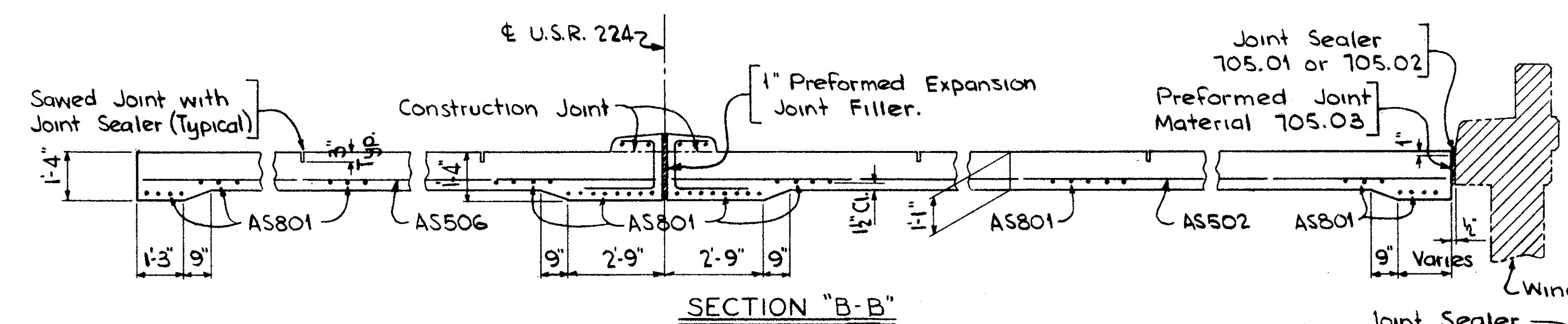


NOTE:  
Refer to Standard Drawing AS-1-54 for placement of reinforcing steel and details.  
APPROACH SLAB (ABUTMENT NO. 2)

BAR SCHEDULE

1 5/8 means 1 Set of 6 Bars.  
All dimensions given out to out of bars.

Mark	No.	Length	Type	A	B	C	Remarks	Weights
AS801	291	25'-7"	1	24'-6"	1'-1"	9"		
AS802	1	18'-0"	Str.					
AS803	1	14'-8"	Str.					
AS804	1	12'-0"	Str.					
AS501	27	29'-2"	Str.					
AS502	1 5/6	30'-3" to 29'-4"	Str.				Vary ea. bar by 2 1/2"	
AS503	9	30'-6"	Str.					
AS504	36	4'-2"	2	1'-5"	2'-0"	1'-0"		
AS505	8	24'-6"	Str.					
AS506	21	38'-3"	Str.					
AS507	1 5/21	39'-9" to 38'-2"	Str.				Vary ea. bar by 3"	



- NOTES:
- Concrete shall be Class "C"
  - Payment for the Construction Joints is included in the price per square yard bid for the approach pavement.
  - Payment for the Preformed Expansion Joint Filler and Expansion Joint Sealer shall be included with the Approach Slab.

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

APPROACH SLABS  
BRIDGE NO. MAH-680-1184  
UNDER U.S.R. 224  
Sta. 506 + 33.09

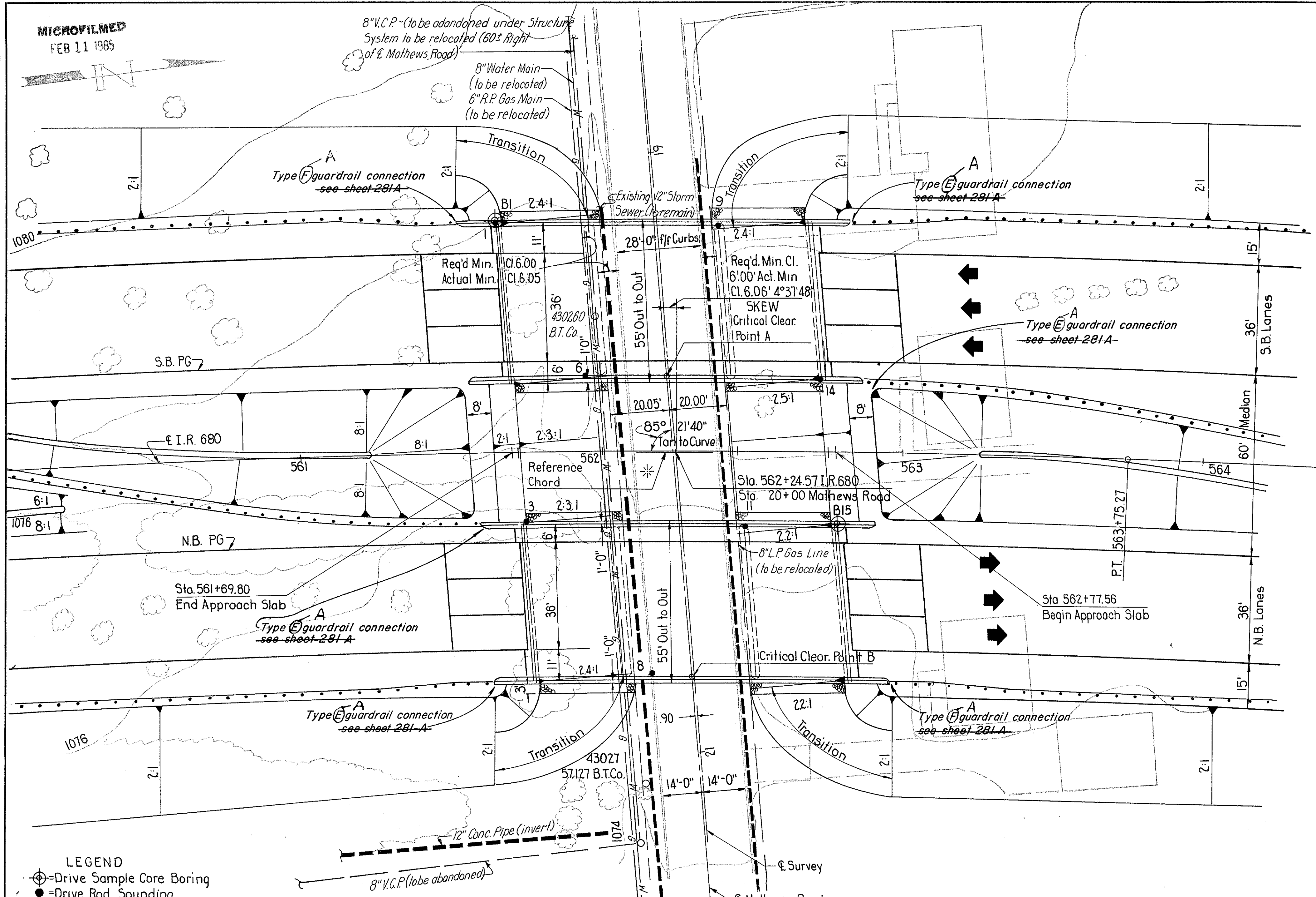
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
FWM	FWM		R.E.B.	2/6/64 6/28/64	

MICROFILMED  
FEB 11 1985

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

257  
309

MAHONING COUNTY  
MAH-680-9.32



I.R. 680 CURVE DATA  
 P.I. Sta. 546+94.07  
 $\Delta = 34^\circ 43' 40''$  Rt.  
 $D = 1^\circ 00' 00''$   
 $R = 5729.58'$   
 $T = 1791.58'$   
 $L = 3472.78'$   
 $E = 273.57'$   
 P.C. Sta. 529+02.49  
 P.T. Sta. 563+75.27

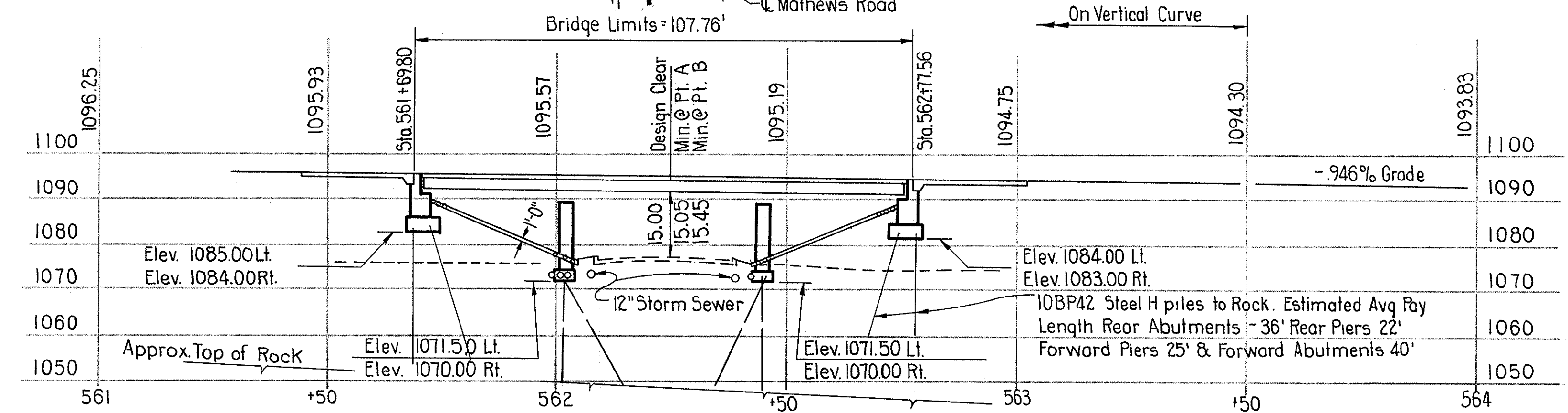
GRADE DATA  
 I.R. 680  
 P.I. Sta. 555+00  
 Elev. 1102.34  
 V.C. 1700'

GRADE DATA  
 MATHEWS ROAD (Existing)  
 19+00 1078.45  
 19+50 1077.43  
 20+00 1078.46  
 20+50 1075.60  
 21+00 1074.77

PROPOSED STRUCTURE  
 TYPE: Continuous steel beams with reinforced concrete deck and substructure.  
 SPANS: 30'-43.25'-30' % Bearings.  
 ROADWAY: 51' f/f of 1'-0" Curbs  
 LOAD FREQUENCY: CF-2000 (57) adequate for A.A.S.H.O. alternate loading.  
 SKEW: 4° 37' 48" Rt. Fwd.  
 WEARING SURFACE: 1" Monolithic Concrete  
 APPROACH SLABS: AS-1-67 (25' Long)  
 ALIGNMENT: 1° Curve Rt.  
 SUPERELEVATION: 0.032' Per Ft.

\* Measured along Reference Chord connecting Abutments @ I.R. 680  
 \*\* Measured to Reference Chord

LEGEND  
 ⊕ = Drive Sample Core Boring  
 ● = Drive Rod Sounding



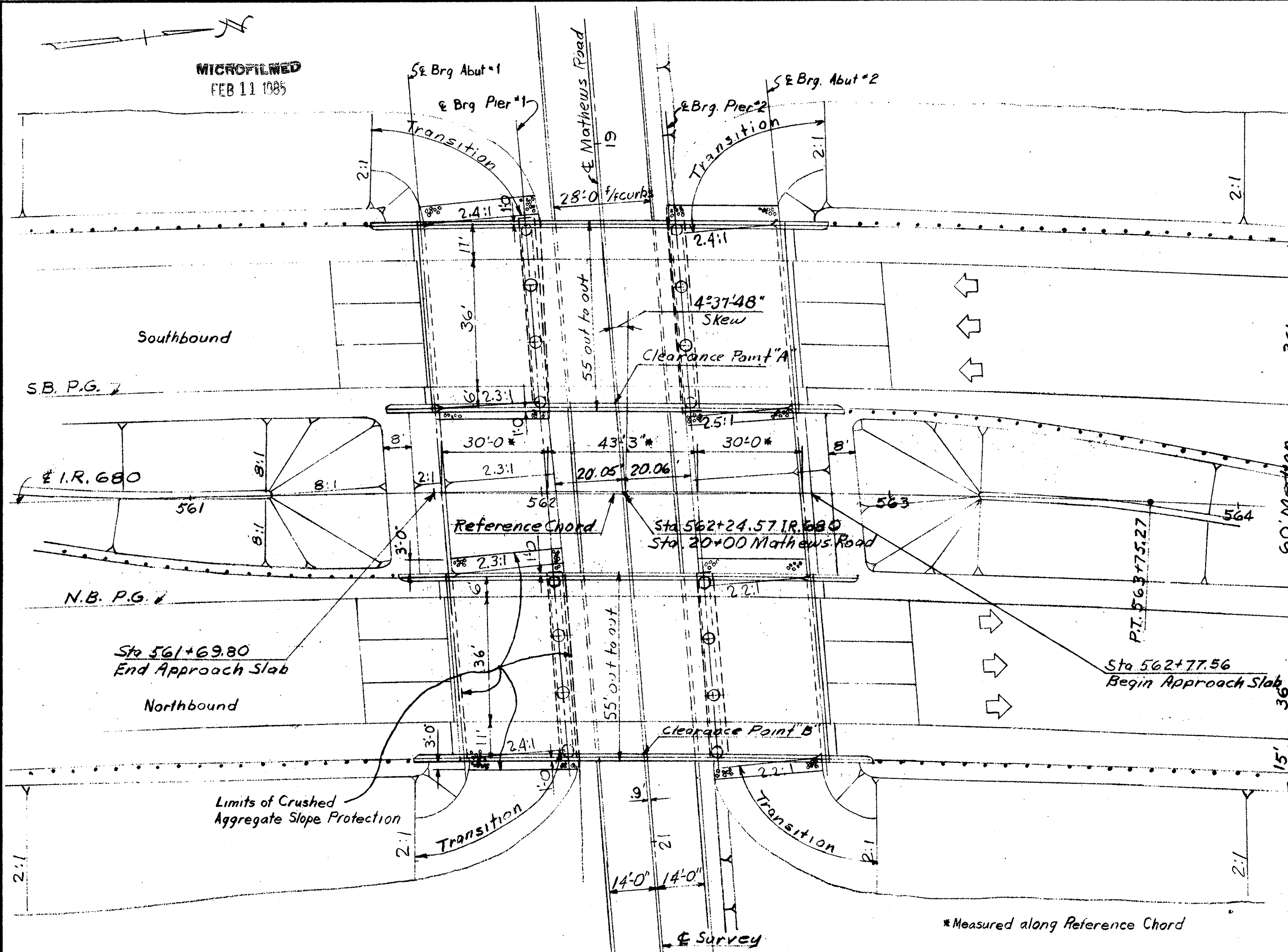
PROFILE OF I.R. 680

Estimated 1985 A.D.T. 51,560

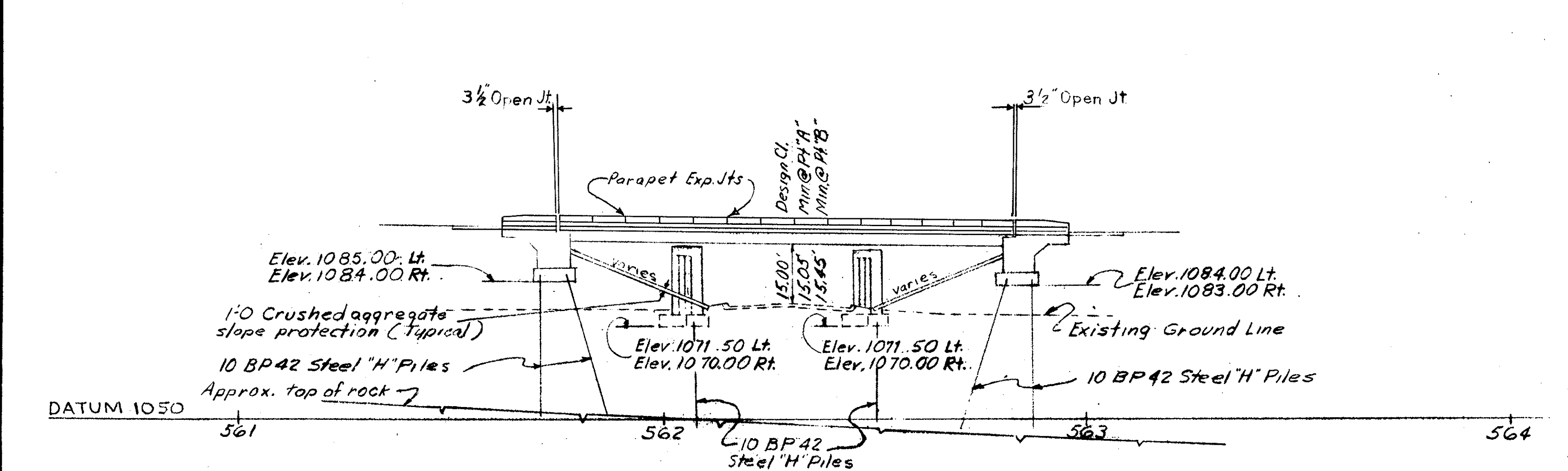
MICHAEL BAKER JR., CONSULTING ENGINEERS ROCHESTER, PENNSYLVANIA					
<b>SITE PLAN</b>					
BRIDGE NO. MAH-680-1078 L&R OVER MATHEWS ROAD MAHONING COUNTY					
Sta. 561+69.80			Sta. 562+77.56		
PRESENT TOPOGRAPHY	PROPOSED WORK				
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	bim	A.A	A.A	D.W.P.	6/29/69

Revised 8/15/72





GENERAL PLAN



ELEVATION

GENERAL NOTES

- REFERENCE shall be made to Std. Dwg's BR-1-67 sheet 1 of 2 revised 10-15-71, 5D-1-69 shts. 1 thru 4 dated 6-12-69, AS-1-67 revised 6-12-69, and to Supplemental Specifications 808 dated 1-1-71, 836 dated 1-1-71.
- DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures of the State of Ohio, Department of Highways, dated 9-1-57 together with revisions hereof."
- DESIGN DATA:
  - Design loading - CF 2000 (57)
  - Concrete class "C" - basic unit stress 1200 p.s.i. - superstructure
  - Concrete class "C" - basic unit stress 1333 p.s.i. - superstructure
  - Structural steel - A.S.T.M. A36 - basic unit stress 20,000 p.s.i.
  - Reinforcing steel - ASTM A615, A616 or A617 - unit stress 20,000 p.s.i. If bars in accordance with ASTM A616 are provided they shall be subject to bend tests as per AASHTO Designation M42-70. Spiral reinforcement may be plain bars ASTM A82, A306, A999, A65.
- PILES shall be driven with a hammer of not less than 11,000 ft. lbs. to firm contact with rock. If the length of penetration is approximately equal to the depth of rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 507.05 is not less than the following value for a pile hammer of the indicated energy rating:
  - 40 tons per pile using an 11,000 ft. lb. hammer
  - 35 tons per pile using a 15,000 ft. lb. or greater hammer
- If the energy rating of the hammer is between the ratings shown above, the required formula capacity shall be determined by interpolation. The design load is 32 tons per pile for the abutment piles and 28 tons per pile for the pier piles.
- MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.
- PROCEDURE: The embankment shall be placed and compacted up to the level of the finished spill-thru slope and to the level of the subgrade for a distance of 200 feet back of the abutments, after which excavation shall be made for the abutments and piers and piles then driven.
- UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the Owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.
- \*\* HP10x42 formerly designated 10BP42.

ESTIMATED QUANTITIES

Item	Total	Unit	Description	RIGHT BRIDGE				LEFT BRIDGE			
				Superstr.	Abut's.	Piers	Gen'l.	Superstr.	Abut's.	Piers	Gen'l.
503	937	Cu. Yds.	Unclassified excavation		319	140			329	149	
505		L.S.	Test pile #				*				*
507	3440	Lin. Ft.	Steel piles HP10x42 **		1060	660			1060	660	
509	183,205	Lbs.	Reinforcing steel	52,357	12,513	26,820		52,357	13,038	26,820	
511	376	Cu. Yds.	Class "C" concrete, superstructure	188				188			
511	145	Cu. Yds.	Class "C" concrete, piers above footings			73				72	
511	402	Cu. Yds.	Class "C" concrete, abutments		199				203		
511	110	Cu. Yds.	Class "C" concrete, pier footings			55				55	
513	212,000	Lbs.	Structural steel	106,000				106,000			
514	212,000	Lbs.	Field painting of structural steel	106,000				106,000			
518	77	Cu. Yds.	Porous backfill		38				38		
518	184	Lin. Ft.	6" Perforated helical C.M.P. including specials, 207.06		92				92		
518	174	Lin. Ft.	6" Non-perforated helical C.M.P. 207.06		83				91		
518	10	Each	Scuppers including supports	5				5			
601	936	Sq. Yds.	Crushed aggregate slope protection			466				470	
808	376	Units	Chemical admixture for concrete Type A, B or D	188				188			
625	See Sheet 204 for Electrical Items										

Computed by: SJM 4/15/67  
Checked by: H.J.B. 7/25/67

\* Payment will be made for only one first test pile. It may be driven for either the right or the left bridge.

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

GENERAL PLAN & ELEVATION  
BRIDGE NO. MAH-680-1078L&R.  
OVER MATHEWS ROAD  
STA. 561+69.80 STA. 562+77.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D.W.		H.J.B.	2/27/69	

Supersedes sheet 258 8/15/72



FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

259  
303

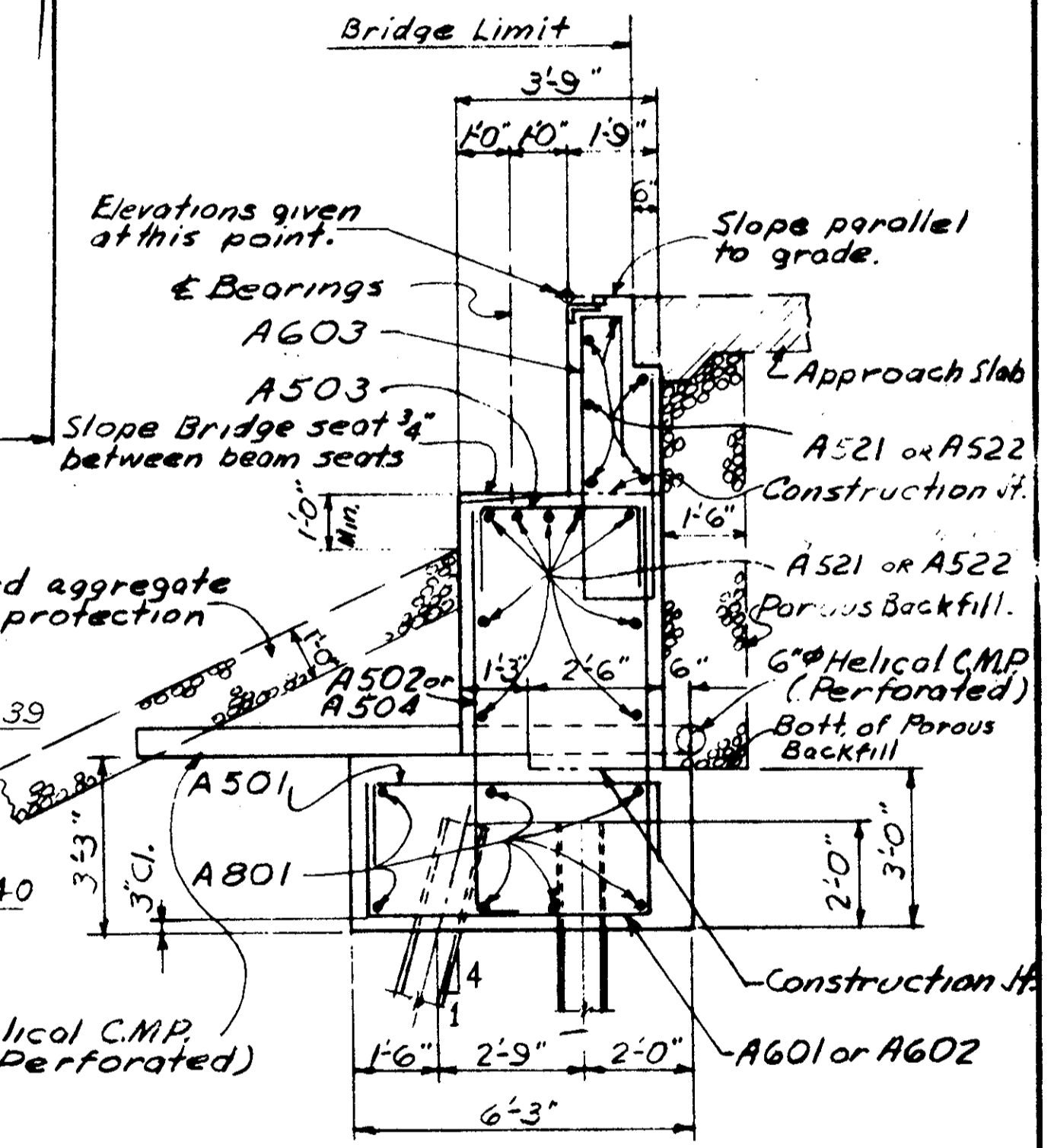
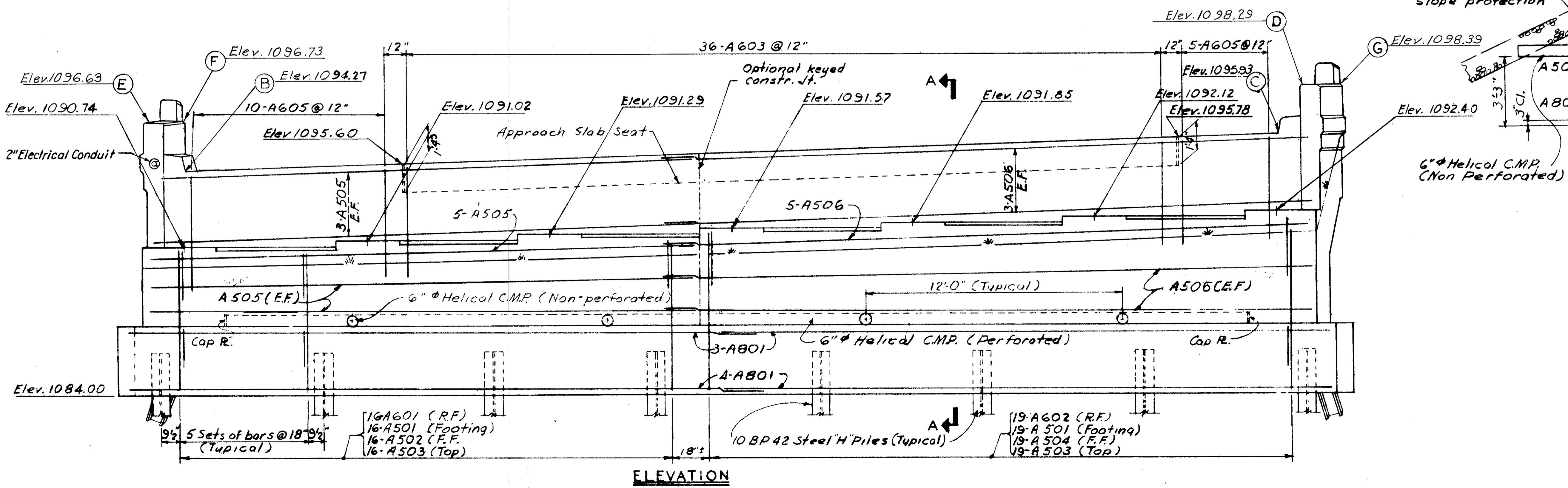
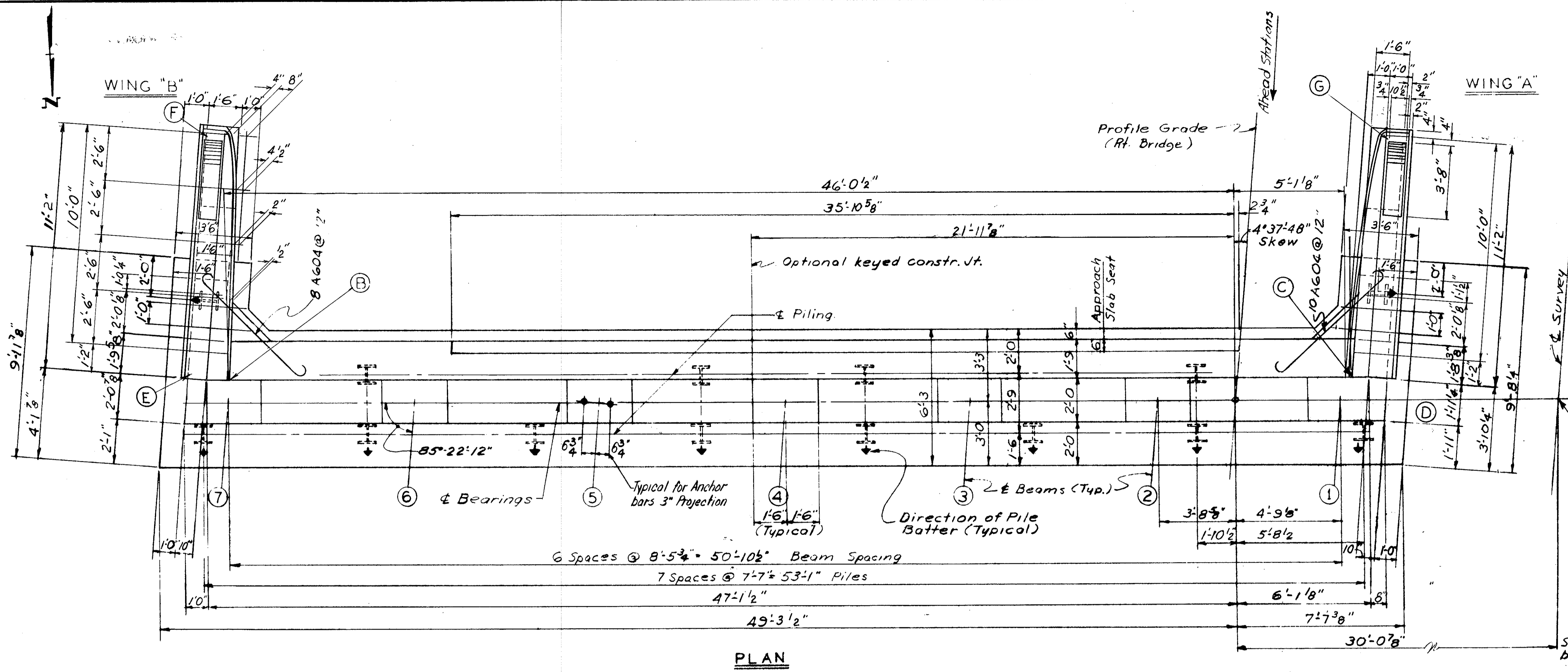
MAHONING COUNTY  
MAH-680-932

**NOTES:**

- All Abutment concrete shall be class "C"
- All Parapet concrete shall be class "C"
- See Sheet 263 for wing details.
- Special care shall be taken in placing reinforcing steel in bearing seat so as to avoid interference with the drilling of anchor bar holes.

**LEGEND**

- F.F. - Front Face
- R.F. - Rear Face
- E.F. - Each Face



Supersedes 1977 Plans 259, 303, 304

**MICHAEL BAKER JR., CONSULTING ENGINEERS**  
ROCHESTER, PENNSYLVANIA

ABUTMENT NO. 1  
BRIDGE NO. MAH-680-1078 RT.  
OVER MATHEWS ROAD  
Sta. 561+69.80 to Sta. 562+77.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVIEWED
H.J.B.	OW		H.C.B.	2/28/64	

MICROFILMED  
FEB 11 1985

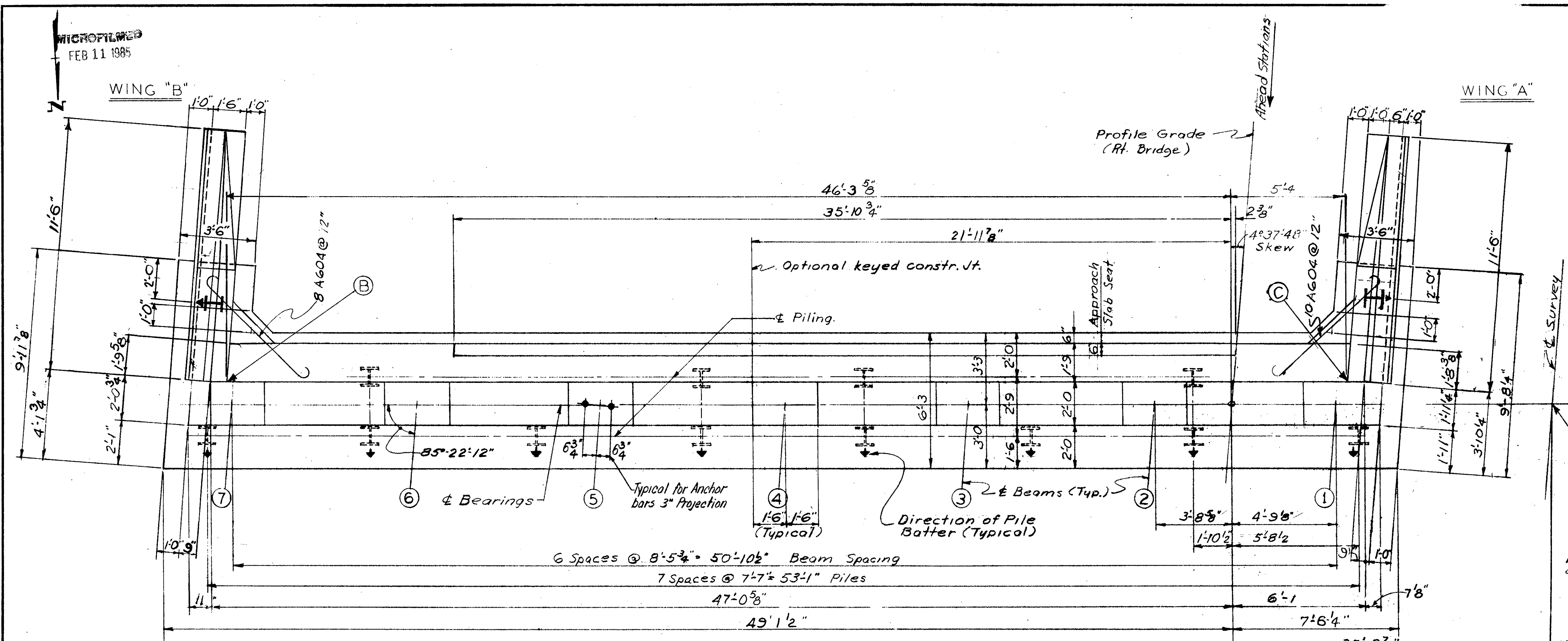
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

259A  
303

MAHONING COUNTY  
MAH-680-9.32

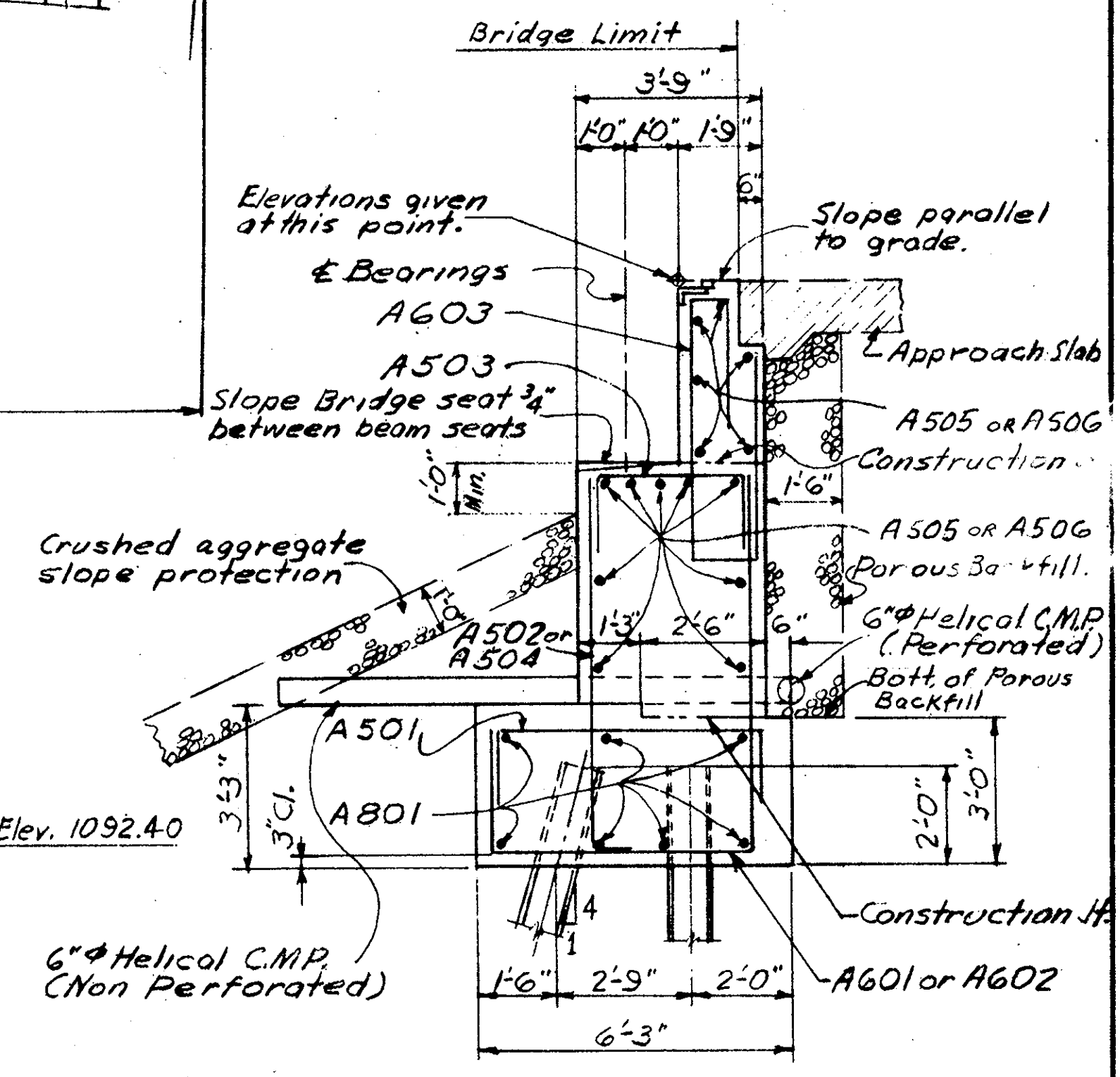
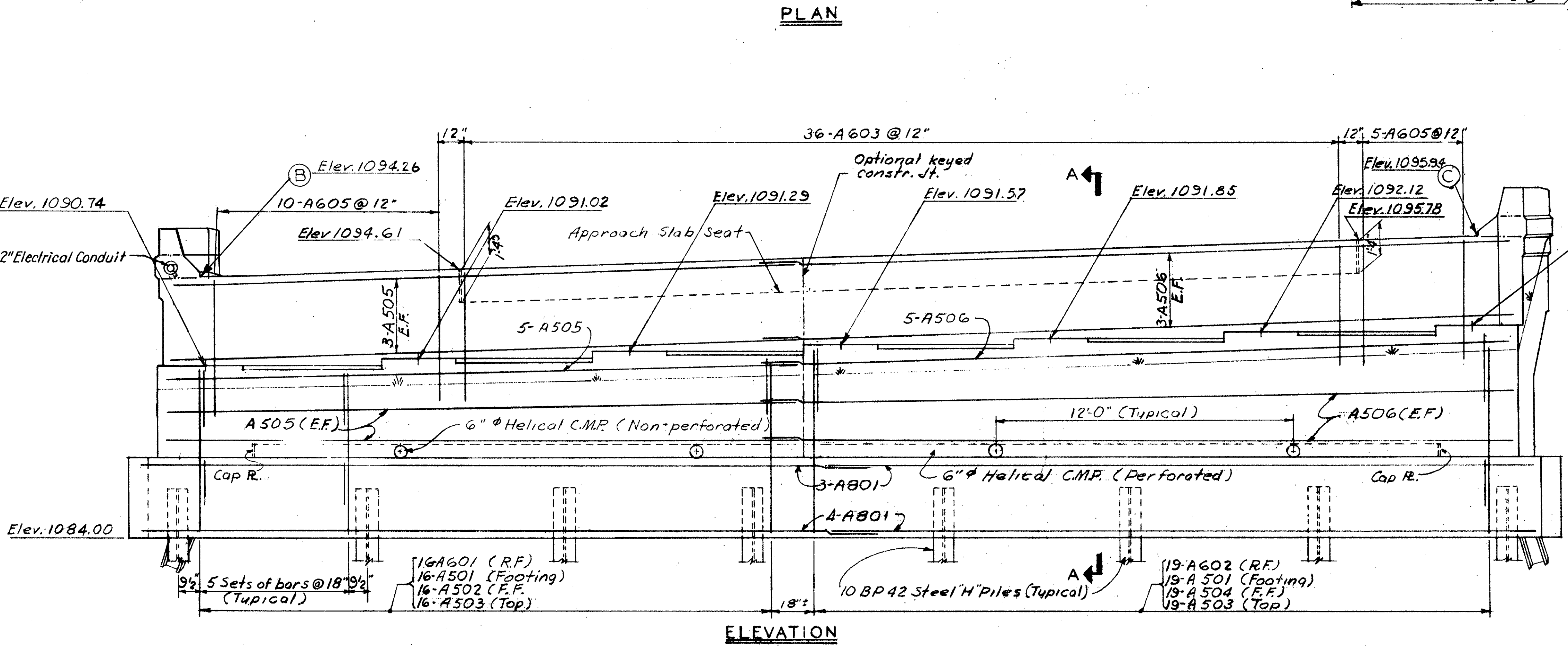
**NOTES:**

- All Abutment concrete shall be class "C"
- All Parapet concrete shall be class "C"
- See Sheet 263A for wing details.
- Special care shall be taken in placing reinforcing steel in bearing seat so as to avoid interference with the drilling of anchor bar holes.



**LEGEND**

- F.F. - Front Face
- R.F. - Rear Face
- E.F. - Each Face

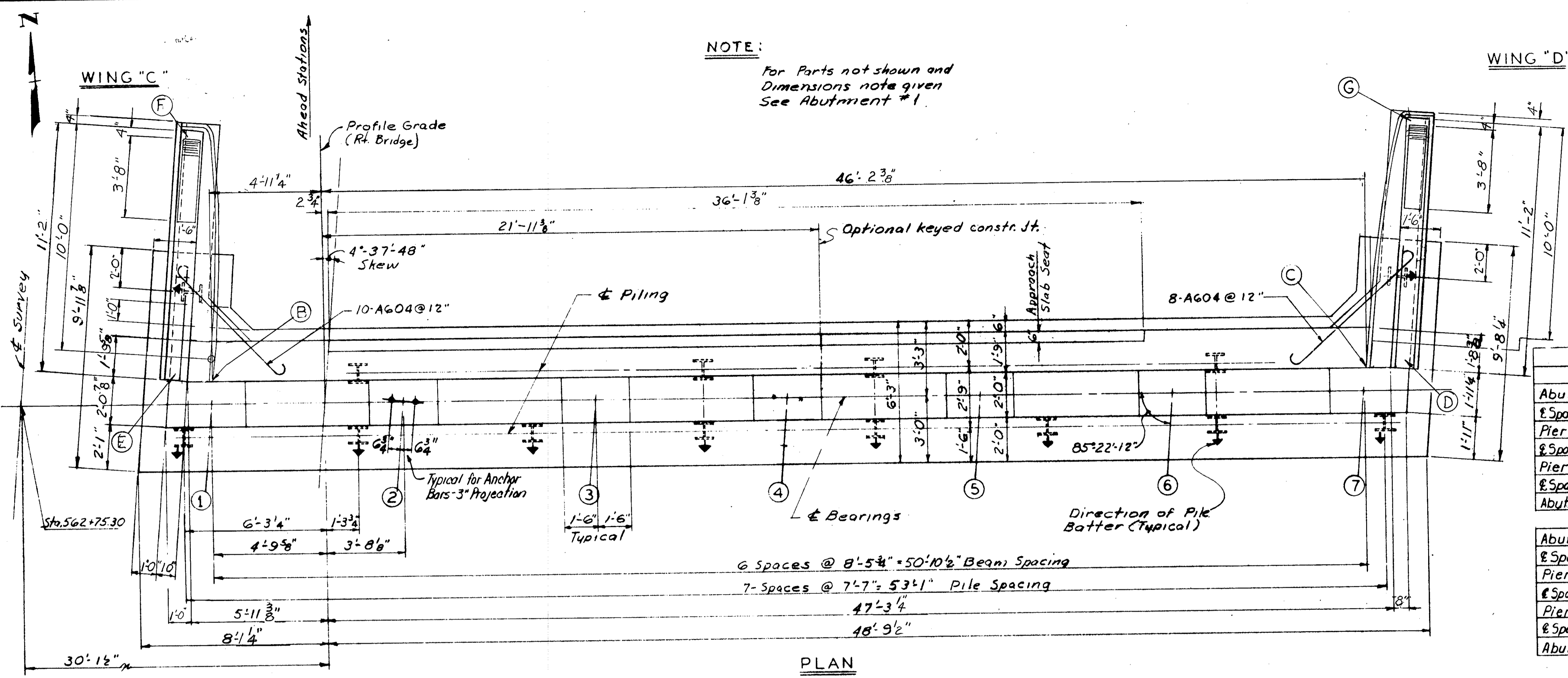


**SECTION A-A**

Supersedes sheet 259 3/15/72

MICHAEL BAKER JR., CONSULTING ENGINEERS ROCHESTER, PENNSYLVANIA					
ABUTMENT NO. 1 BRIDGE NO. MAH-680-1078 RT. OVER MATHEWS ROAD Sta. 561+69.80 to Sta. 562+77.56					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
H.J.B.	OW		H.J.B.	2/6/74 6/28/69	

NOTE:  
For Parts not shown and  
Dimensions note given  
See Abutment #1.



• For Section "A-A" and Notes, See Sheet 259

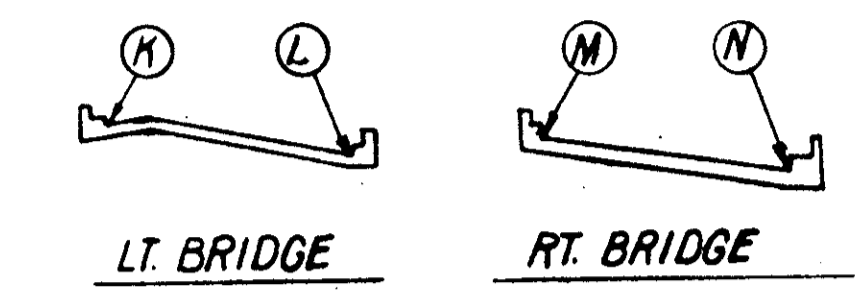


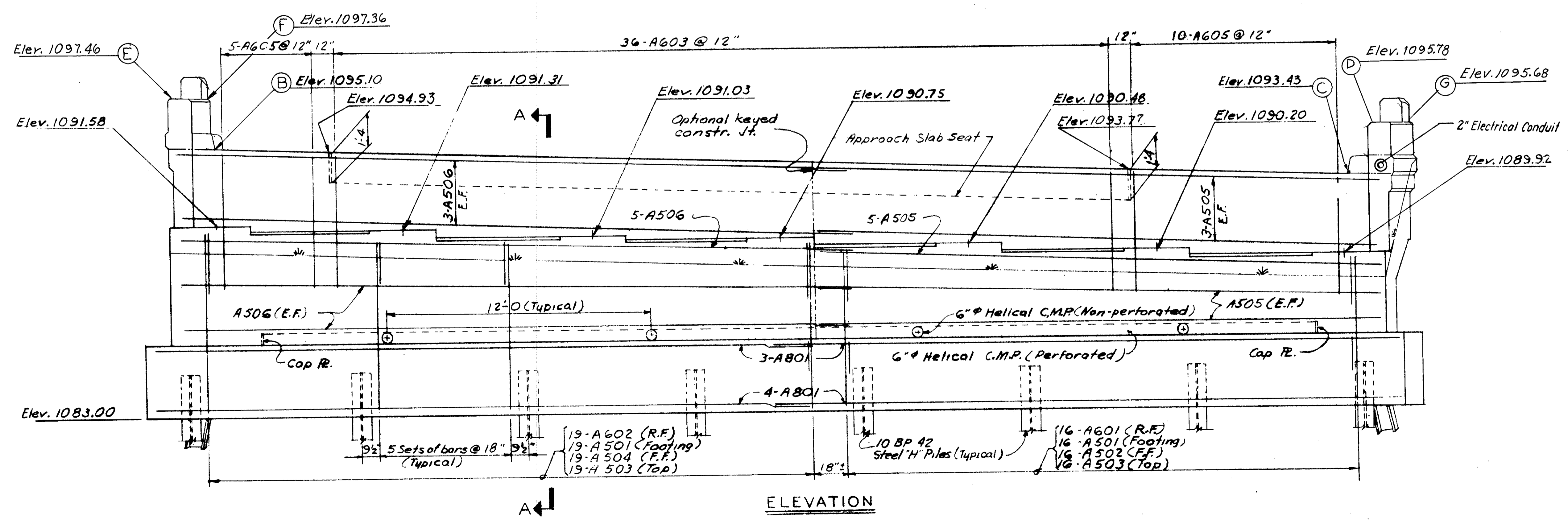
TABLE OF GUTTER ELEVATIONS

	Sta	Final Elev.	*	Sta	Final Elev.	*
Abut 1	561+66.66	1096.73		561+70.26	1095.63	
Span 1	+81.46	1096.63		+85.19	1095.52	
Pier 1	+96.26	1096.52		562+00.13	1095.41	
Span 2	562+17.60	1096.36	1096.38	+21.66	1095.25	1095.27
Pier 2	+38.94	1096.19		+43.19	1095.08	
Span 3	+53.74	1096.07		+58.12	1094.95	
Abut 2	+68.55	1095.95		+73.06	1094.83	

	Sta	Final Elev.	*	Sta	Final Elev.	*
Abut 1	561+73.86	1095.92		561+77.69	1094.27	
Span 1	+88.92	1095.81		+92.79	1094.15	
Pier 1	562+03.99	1095.70		562+08.00	1094.04	
Span 2	+25.71	1095.53	1095.55	+29.91	1093.87	1093.89
Pier 2	+47.43	1095.36		+51.83	1093.69	
Span 3	+62.50	1095.24		+67.03	1093.57	
Abut 2	+77.56	1095.11		+82.24	1093.44	

\* Construction elevation is adjusted for deflection of deck slab concrete, and is the same as the final elevation unless noted.

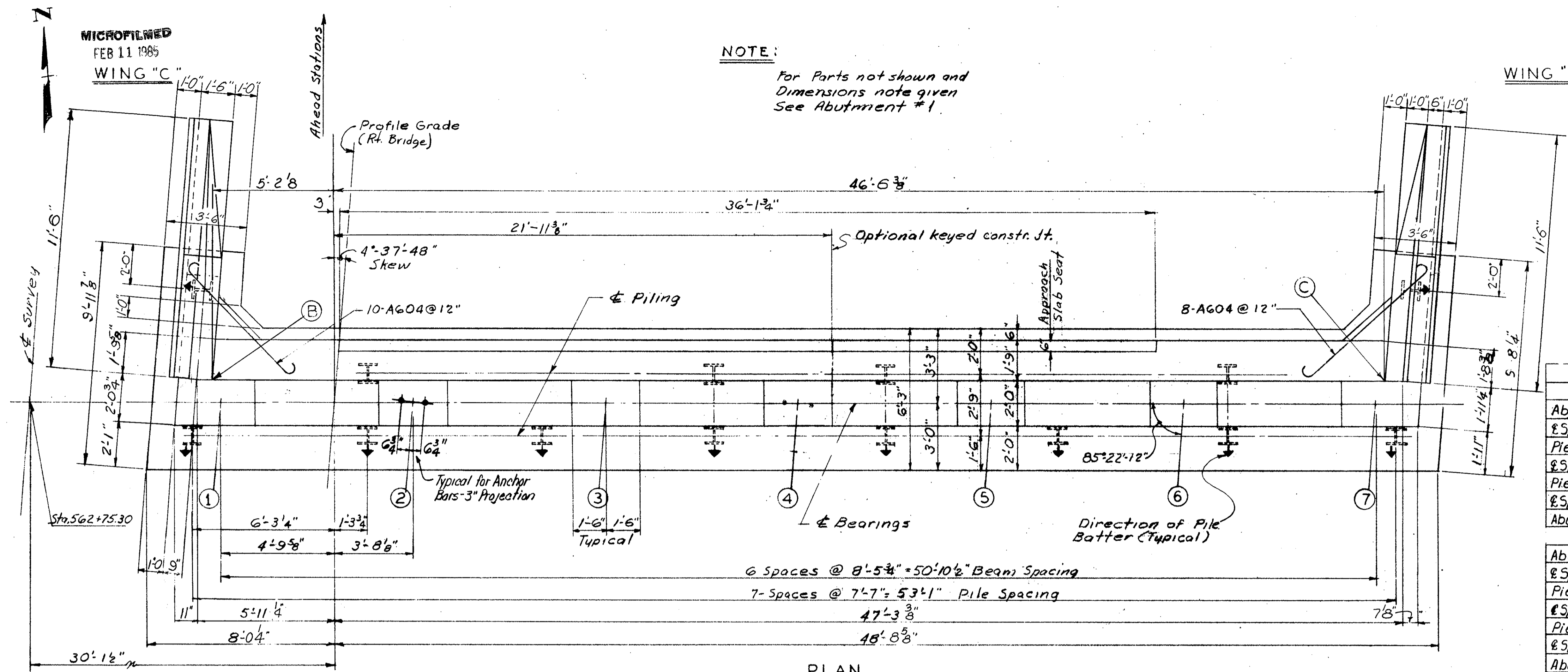


Supervised by  
MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

ABUTMENT NO.2  
BRIDGE NO. MAH-680-1078 RT.  
OVER MATHEWS ROAD  
Sta. 561+69.80 to Sta. 562+77.56

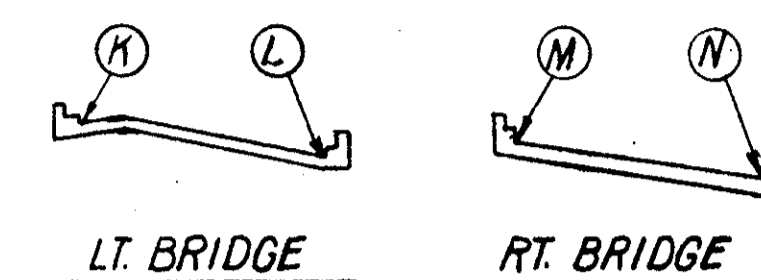
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
H.J.B.	Qu.		H.J.B.	6/28/69	264

**NOTE:**  
For Parts not shown and  
Dimensions note given  
See Abutment #1.



**PLAN**

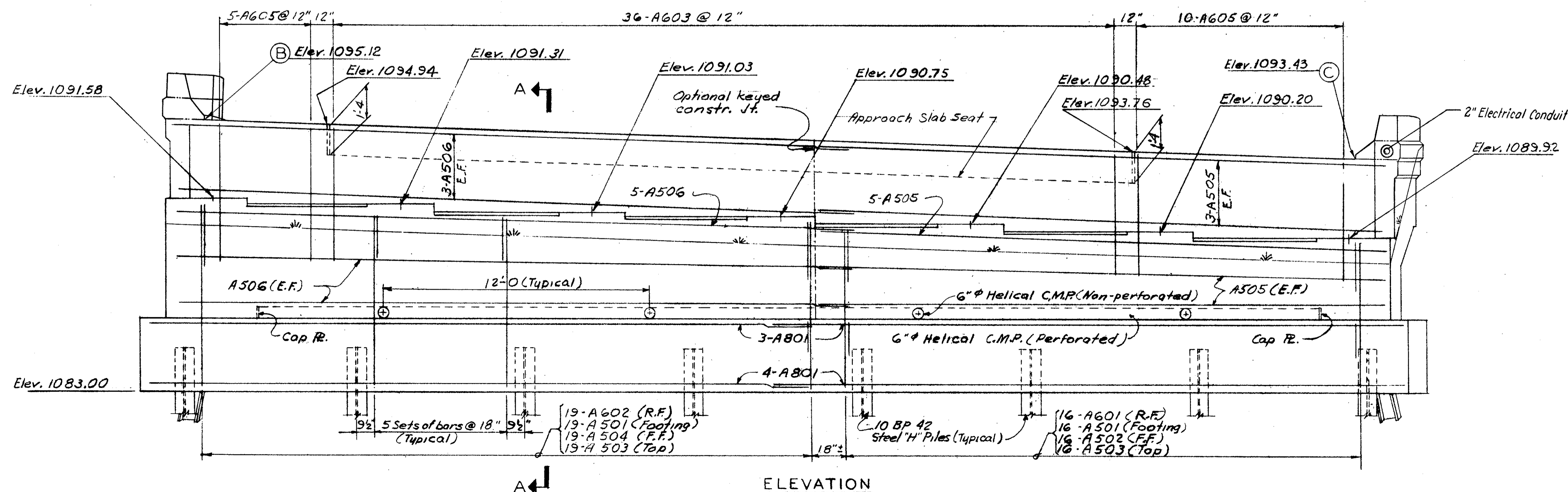
• For Section "A-A" and Notes, See Sheet 259A



**TABLE OF GUTTER ELEVATIONS**

	Sta.	Final Elev.	*	Sta.	Final Elev.	*
Abut 1	561+66.64	1096.72		561+70.28	1095.62	
Span 1	+81.44	1096.62		+85.21	1095.51	
Pier 1	+96.24	1096.51		+100.15	1095.40	
Span 2	562+17.58	1096.34	1096.36	+21.68	1095.24	1095.26
Pier 2	+38.92	1096.18		+43.21	1095.07	
Span 3	+53.72	1096.06		+58.15	1094.95	
Abut. 2	+68.52	1095.93		+73.08	1094.82	
Abut 1	561+73.84	1095.93		561+77.61	1094.26	
Span 1	+88.90	1095.82		+92.81	1094.14	
Pier 1	562+03.97	1095.71		562+08.02	1094.03	
Span 2	+25.69	1095.54	1095.56	+29.93	1093.86	1093.88
Pier 2	+47.41	1095.37		+51.85	1093.69	
Span 3	+62.47	1095.25		+67.06	1093.56	
Abut 2	+77.54	1095.12		+82.26	1093.43	

\* Construction elevation is adjusted for deflection of deck slab concrete, and is the same as the final elevation unless noted.



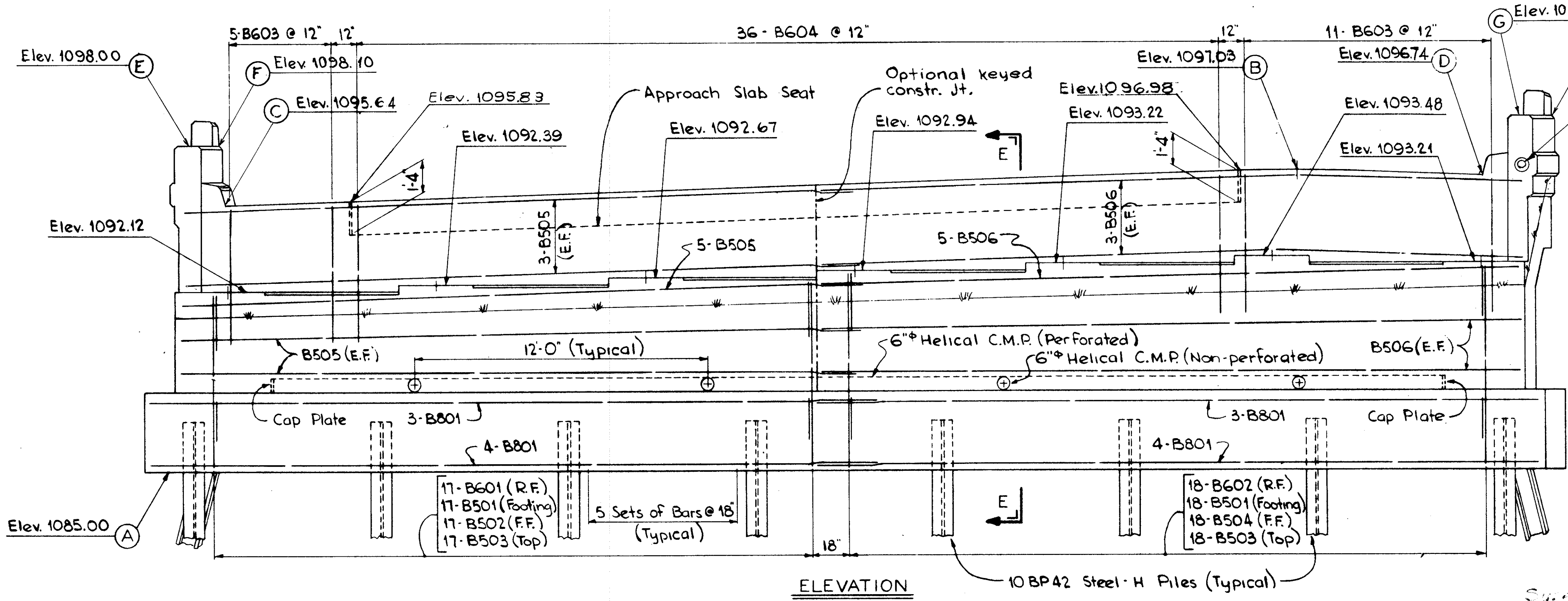
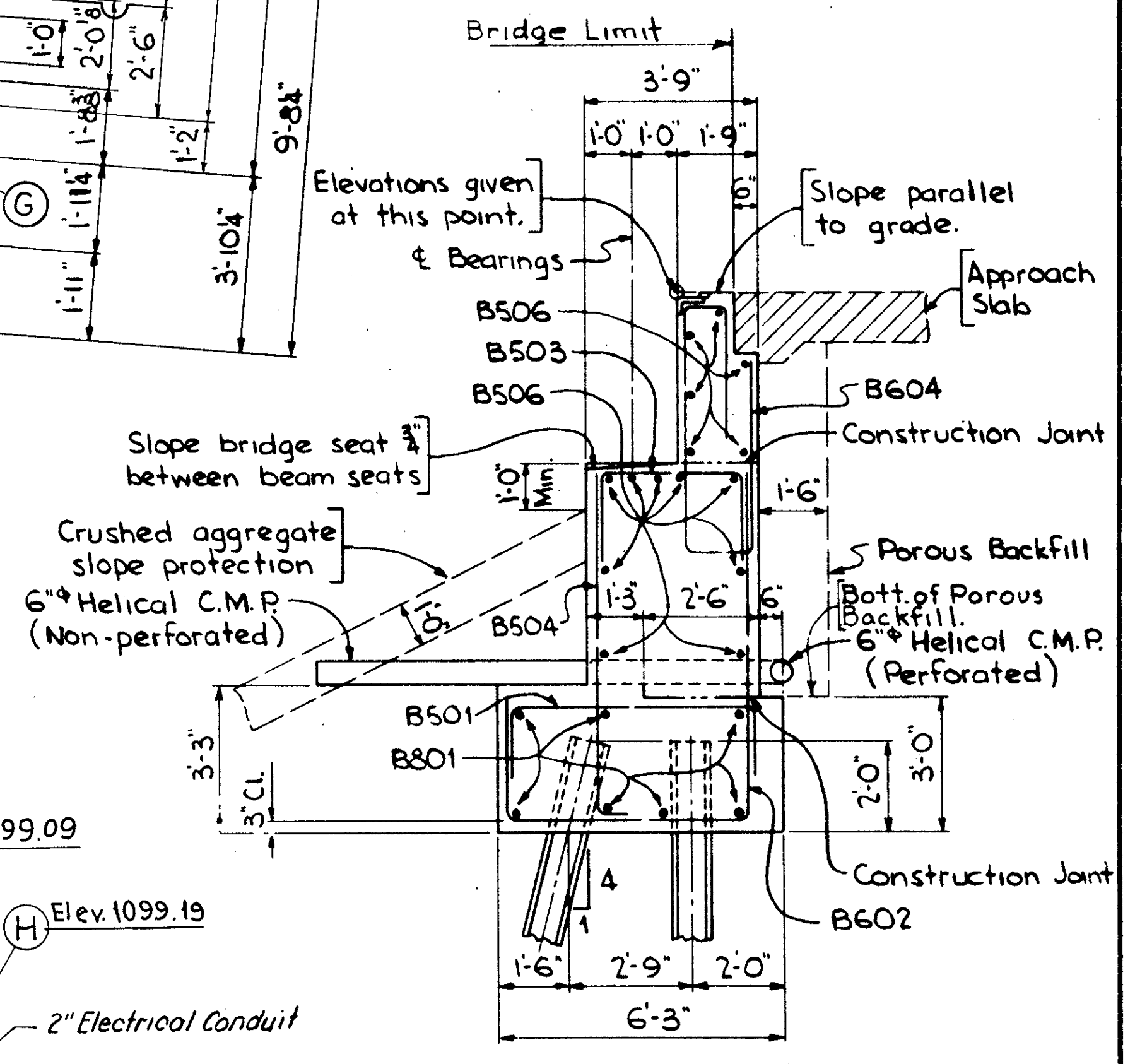
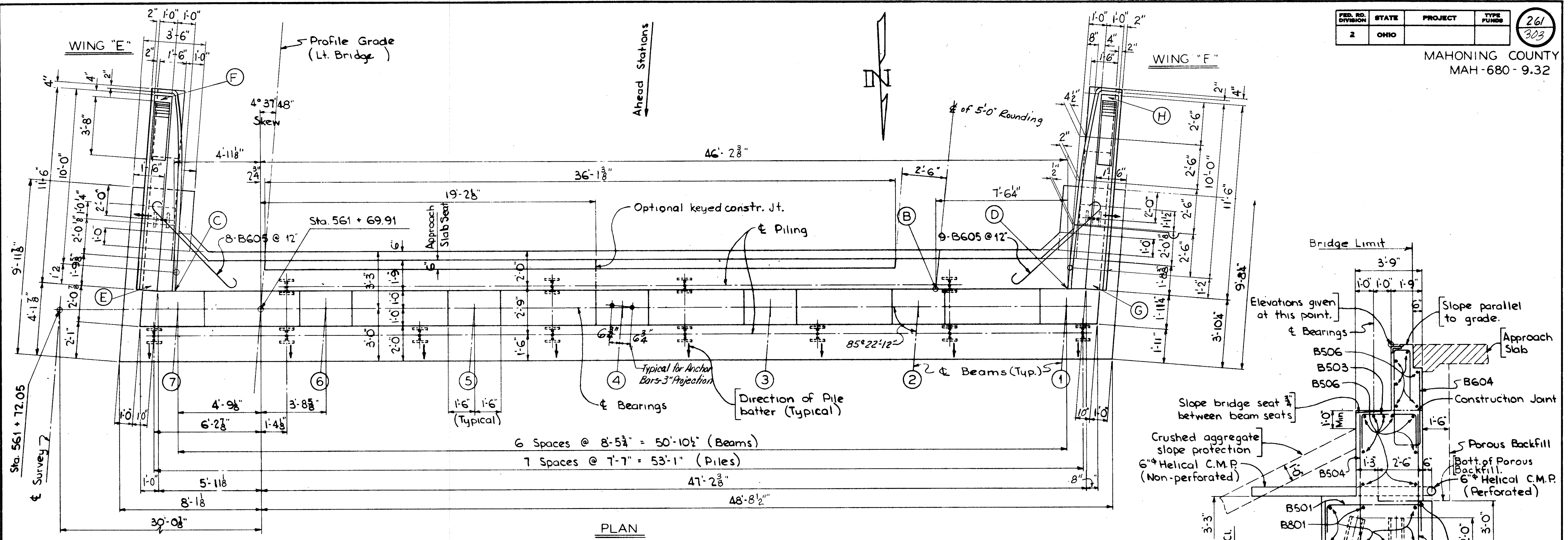
**ELEVATION**

Supersedes sheet 260 3/15/72

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

ABUTMENT NO.2  
BRIDGE NO. MAH-680-1078 RT.  
OVER MATHEWS ROAD  
Sta. 561+69.80 to Sta. 562+77.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
H.J.B.	ou		H.J.B.	6/28/69	264



- NOTES:**
- All Abutment concrete shall be Class "C".
  - All Parapet concrete shall be Class "C".
  - Special care shall be taken in placing reinforcing steel in bearing seat so as to avoid interference with the drilling of anchor bar holes.
  - See Sheet 263 for Wing Details.

**LEGEND**  
R.F. = Rear Face  
F.F. = Front Face  
E.F. = Each Face

MICHAEL BAKER JR., CONSULTING ENGINEERS ROCHESTER, PENNSYLVANIA					
ABUTMENT NO. 1 BRIDGE NO. MAH-680-1078 LT. OVER MATHEWS ROAD Sta. 561 + 69.80 to Sta. 562 + 77.56					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HJB	FWM		HJB	2/6/69	6/28/69

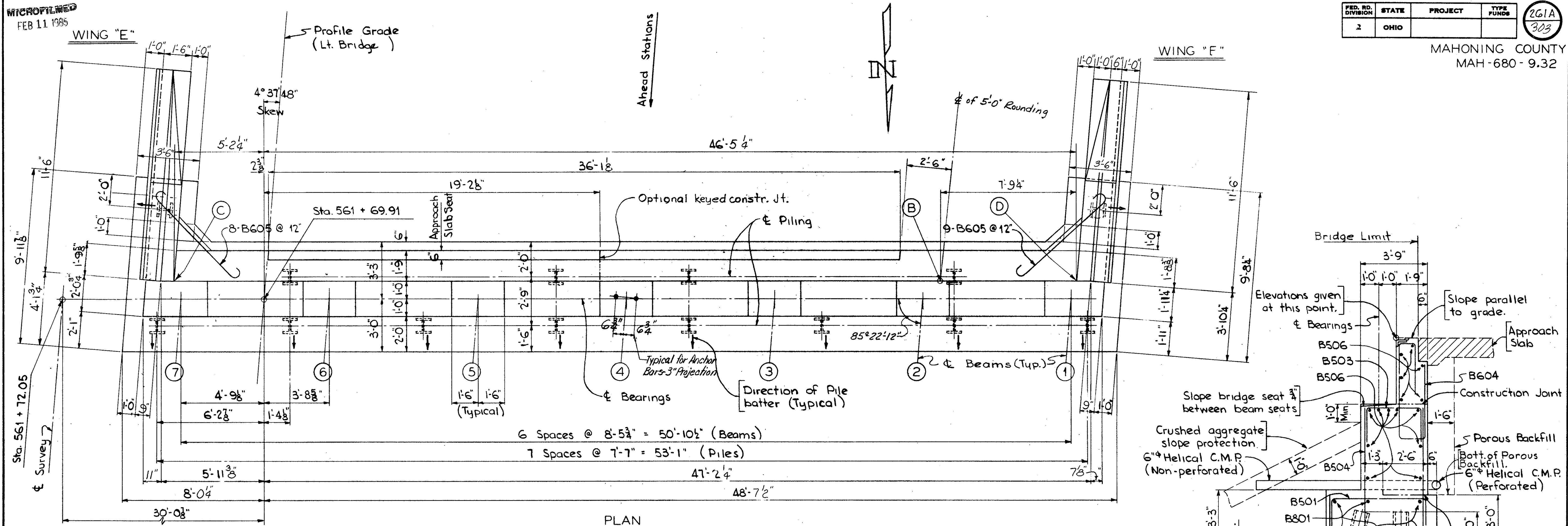
Supervisors: J. J. Christ 2216 3/5/70

MICROFILMED  
FEB 11 1985

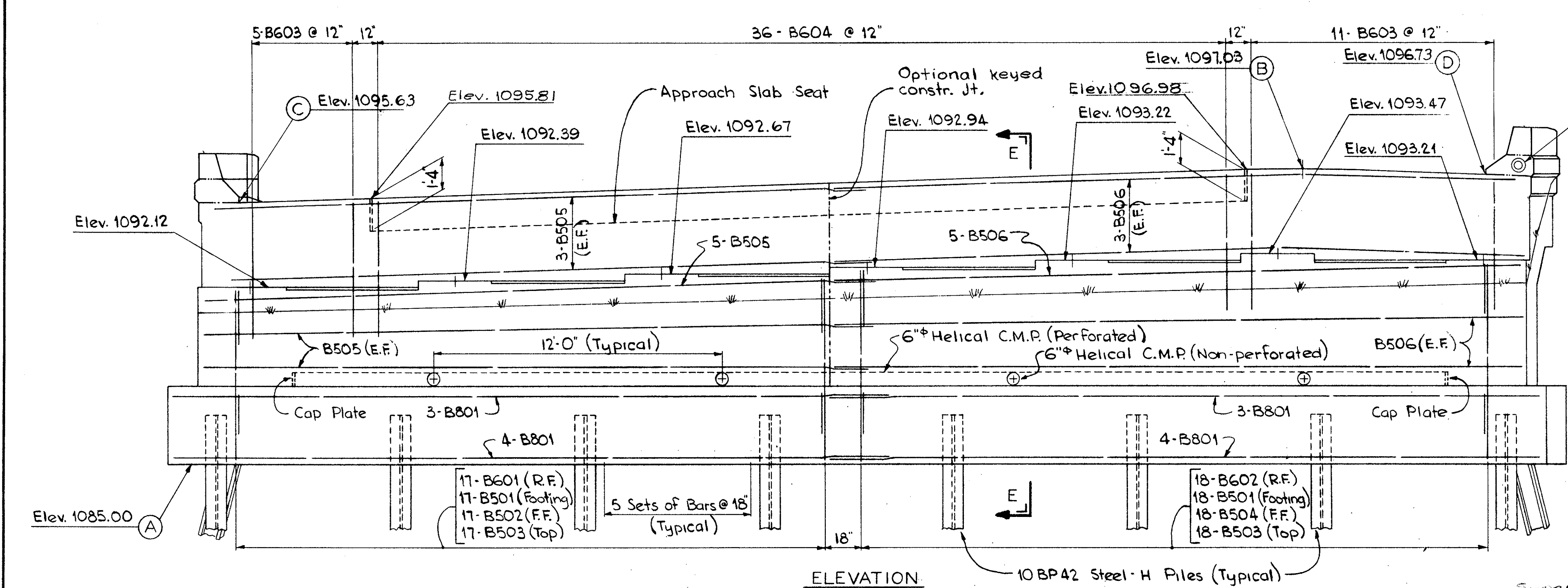
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

261A  
303

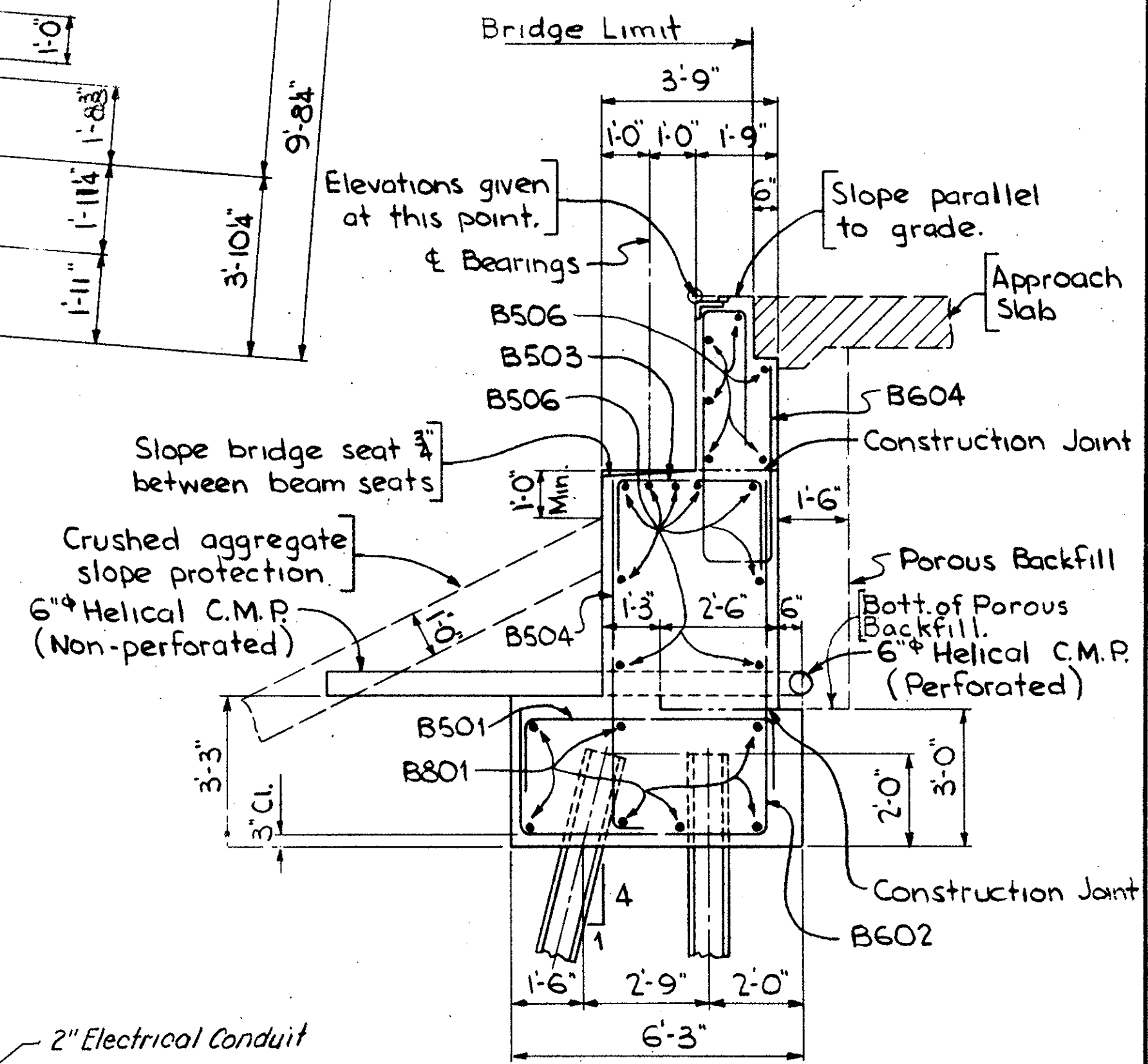
MAHONING COUNTY  
MAH-680-9.32



PLAN



ELEVATION



SECTION "E-E"  
SECTION "F-F" (SIMILAR)

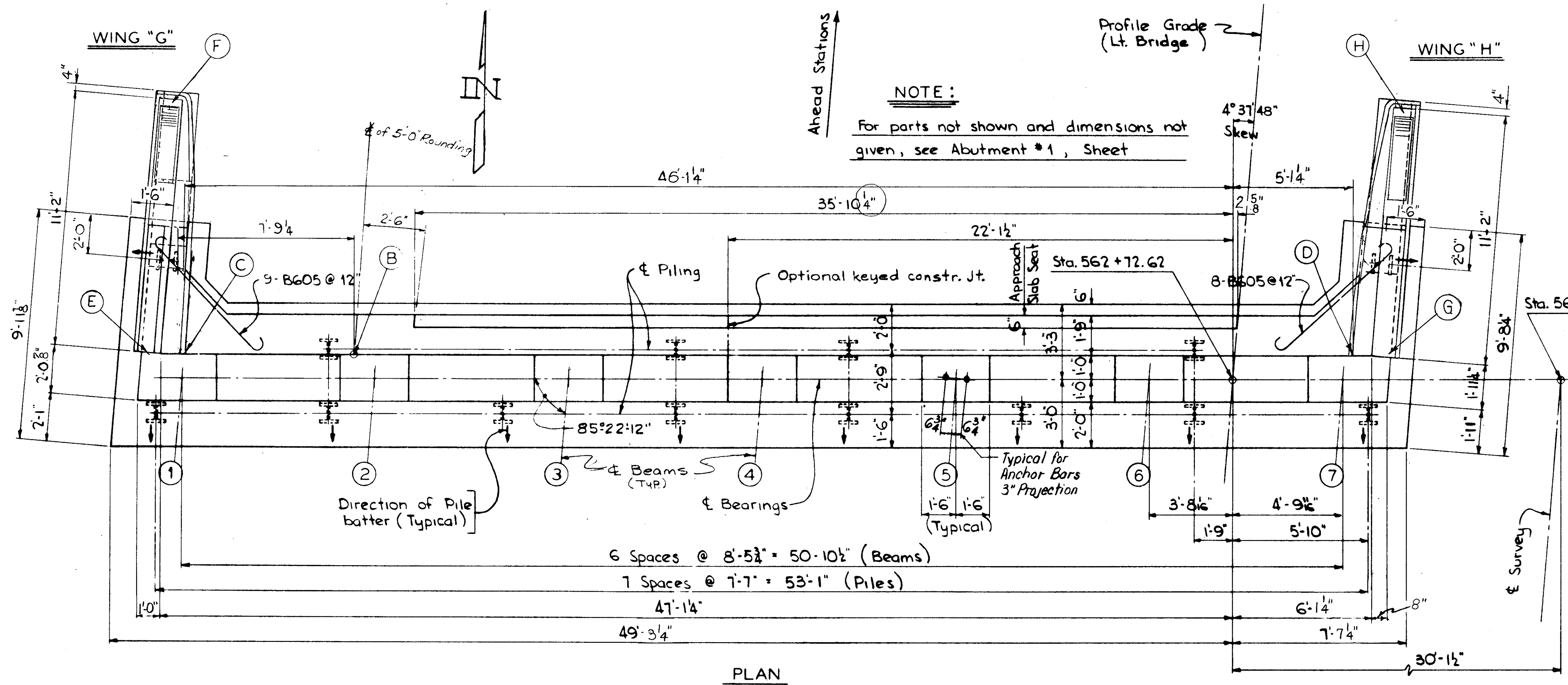
- NOTES:
- All Abutment concrete shall be Class "C".
  - All Parapet concrete shall be Class "C".
  - Special care shall be taken in placing reinforcing steel in bearing seat so as to avoid interference with the drilling of anchor bar holes.
  - See Sheet 263A for Wing Details.

LEGEND  
R.F. = Rear Face  
F.F. = Front Face  
E.F. = Each Face

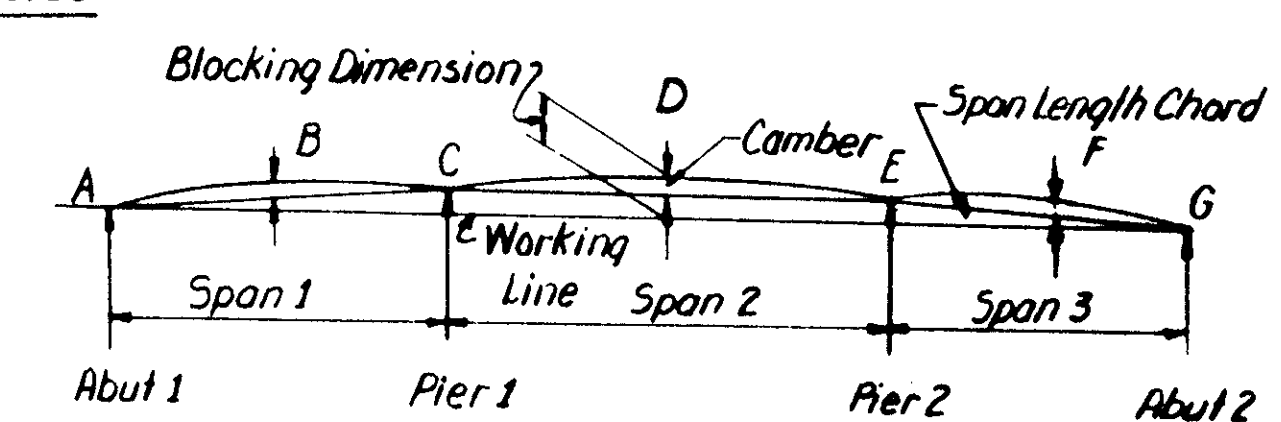
MICHAEL BAKER JR., CONSULTING ENGINEERS ROCHESTER, PENNSYLVANIA					
ABUTMENT NO. 1 BRIDGE NO. MAH-680-1078 LT. OVER MATHEWS ROAD Sta. 561 + 69.80 to Sta. 562 + 77.56					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HJB	FWM		HJB	2/28/69	

Supersedes sheet 261 8/15/70

**NOTE:**  
For parts not shown and dimensions not given, see Abutment #1, Sheet



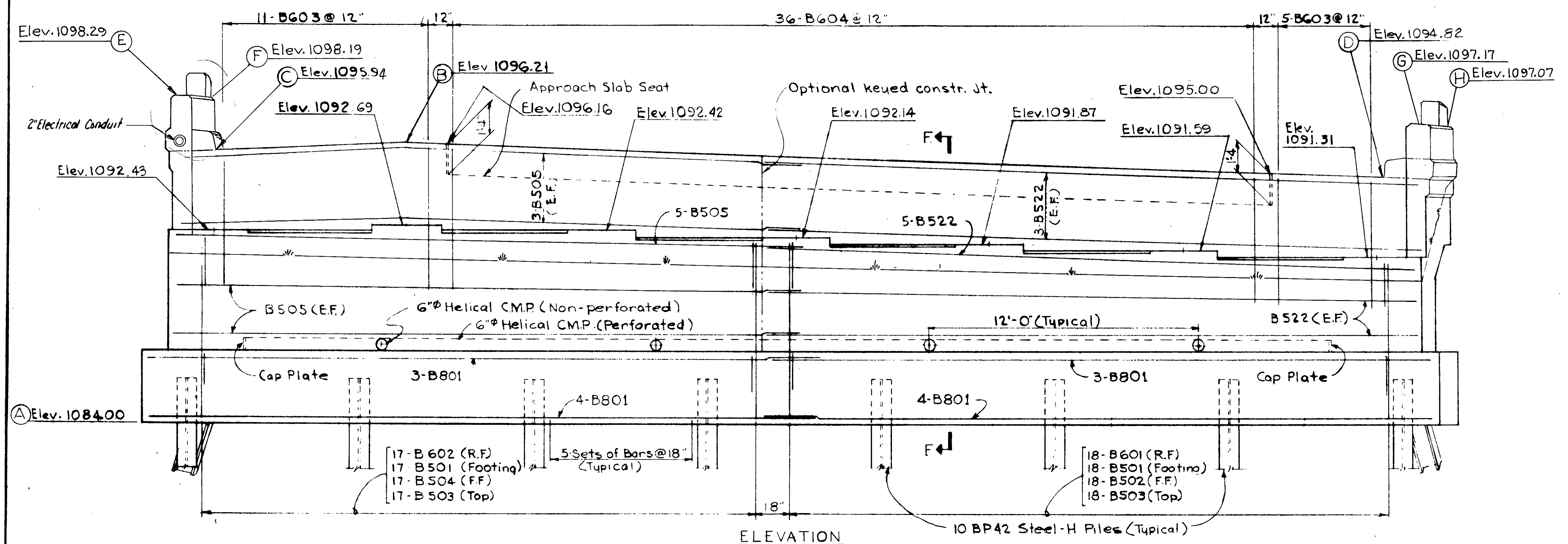
• For Section "FF" and Notes, See Sheet 261



ALL BEAMS

	A	B	C	D	E	F	G
Deflection due to Weight of Steel	0	0	0	0	0	0	0
Deflection due to other dead load	0	1/16"	0	3/16"	0	1/16"	0
Convexity due to Vertical Curve	0	0	0	0	0	0	0
Total = Required Camber	0	1/16"	0	3/16"	0	1/16"	0
Blocking Dimension	0	1/8"	1/8"	5/16"	1/8"	1/8"	0

DEFLECTION, CAMBER & BLOCKING



ELEVATION

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

ABUTMENT NO.2  
BRIDGE NO. MAH-680-1078 LT.  
OVER MATHEWS ROAD  
Sta. 561+69.80 to Sta. 562+77.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
H.J.B.	O.W. F.W.M.		H.J.B.	6/20/68	

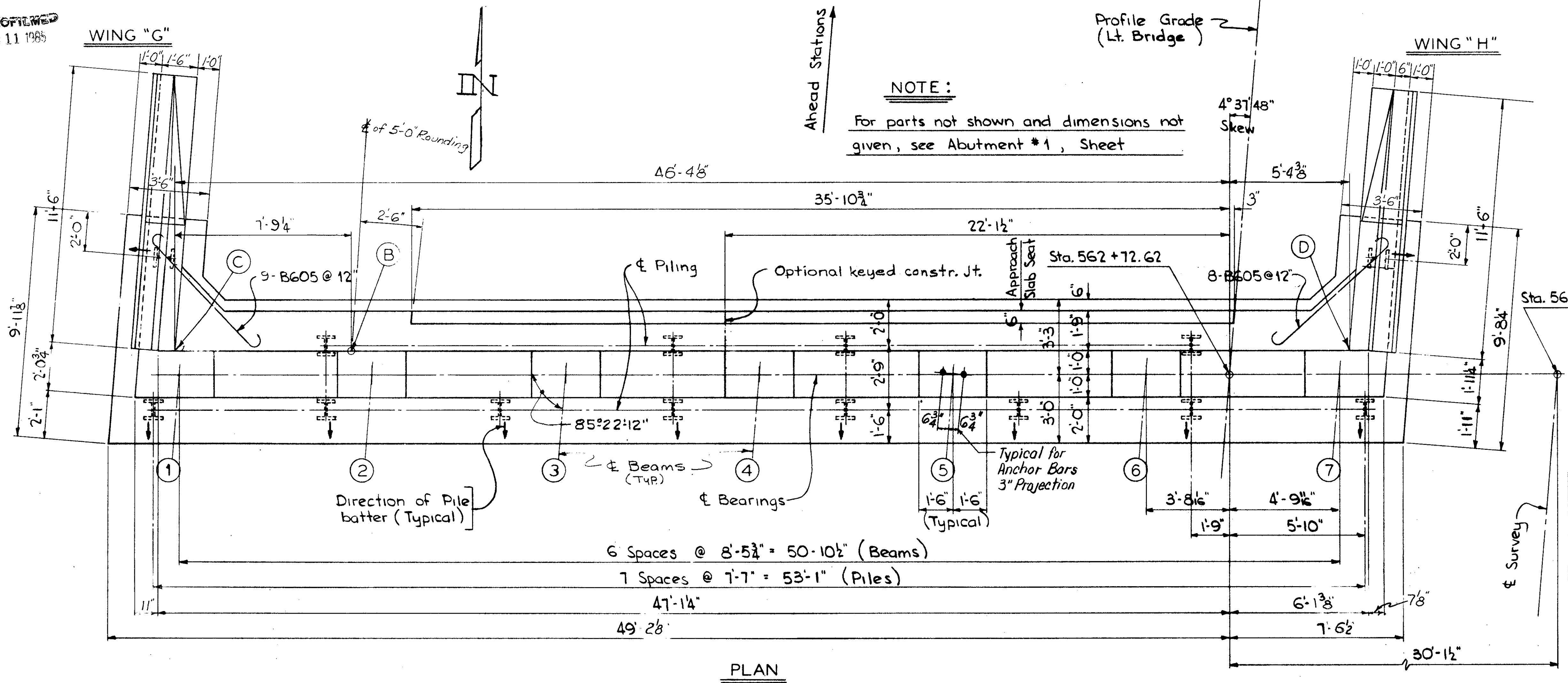
MICROFILMED  
FEB 11 1985

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

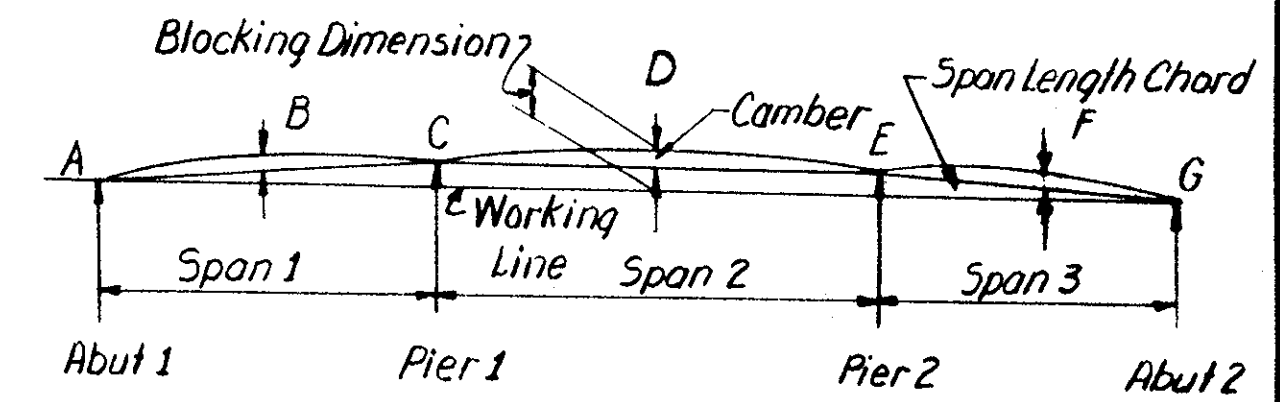
MAHONING COUNTY  
MAH-680-9.32

262A  
303

**NOTE:**  
For parts not shown and dimensions not given, see Abutment #1, Sheet



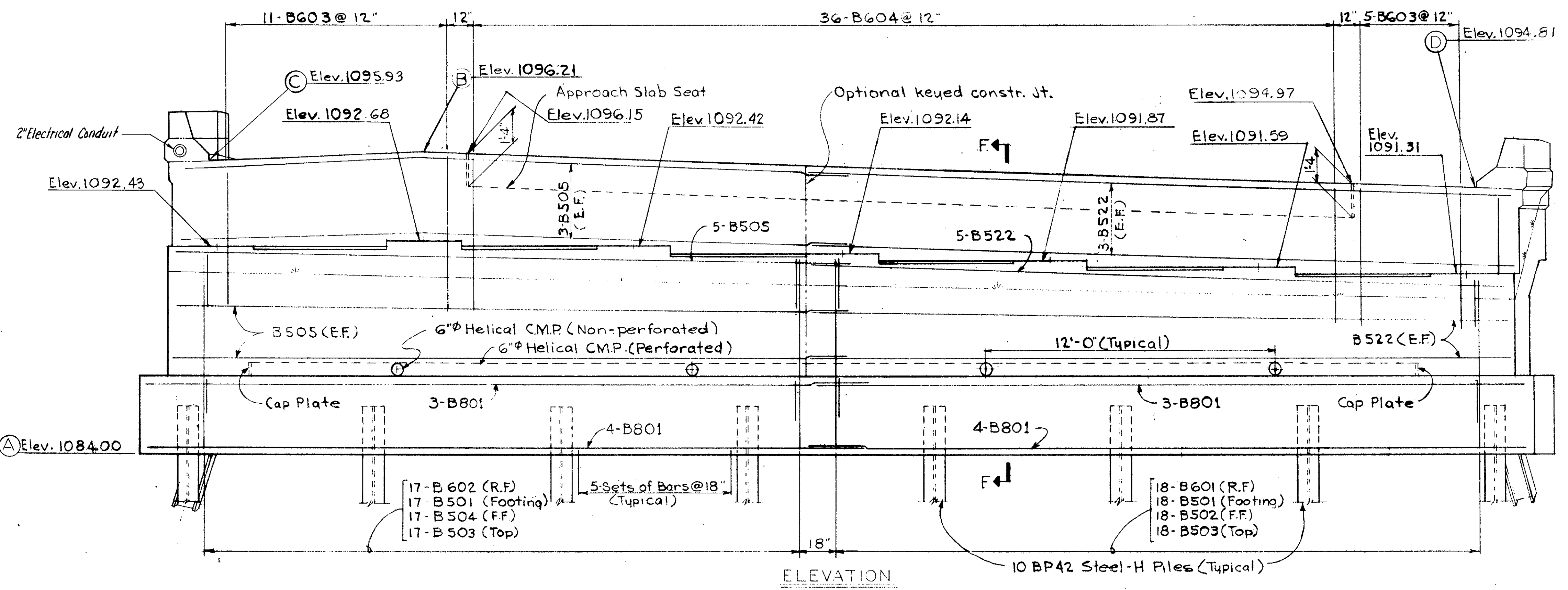
• For Section "FF" and Notes, See Sheet 261A



ALL BEAMS

	A	B	C	D	E	F	G
Deflection due to Weight of Steel	0	0	0	0	0	0	0
Deflection due to other dead load	0	1/16"	0	3/16"	0	1/16"	0
Convexity due to Vertical Curve	0	0	0	0	0	0	0
Total = Required Camber	0	1/16"	0	3/16"	0	1/16"	0
Blocking Dimension	0	1/8"	1/8"	5/16"	1/8"	1/8"	0

DEFLECTION, CAMBER & BLOCKING



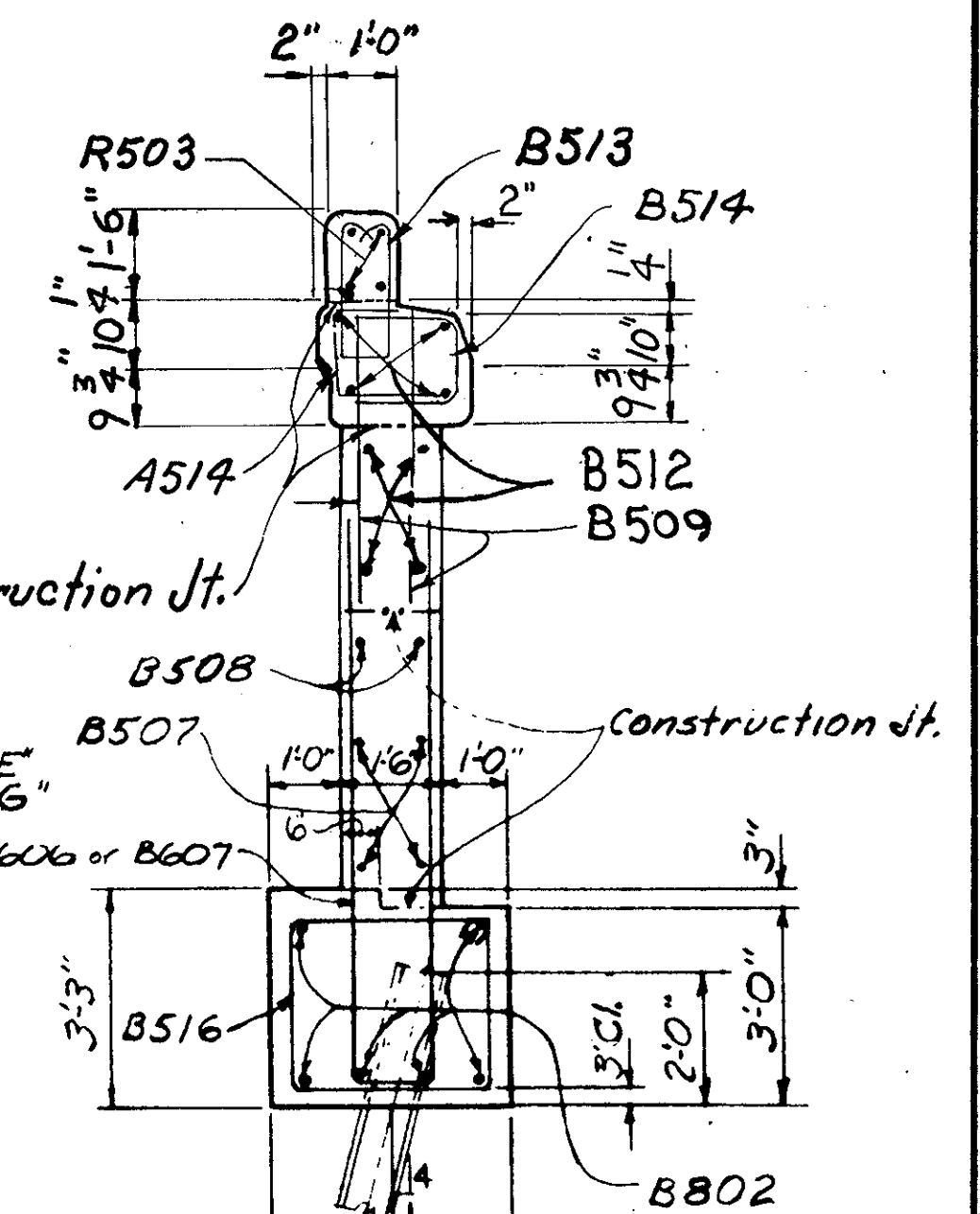
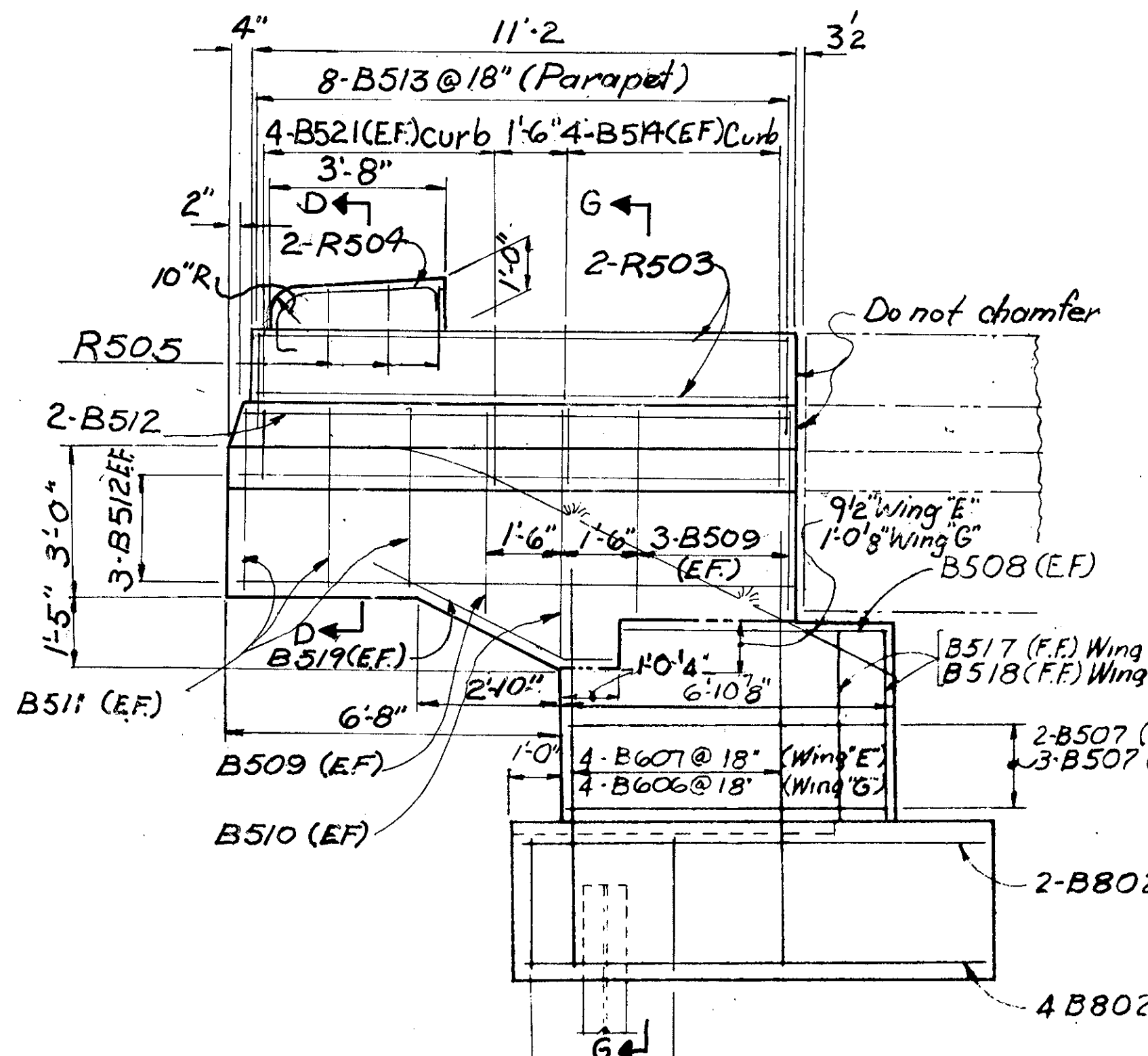
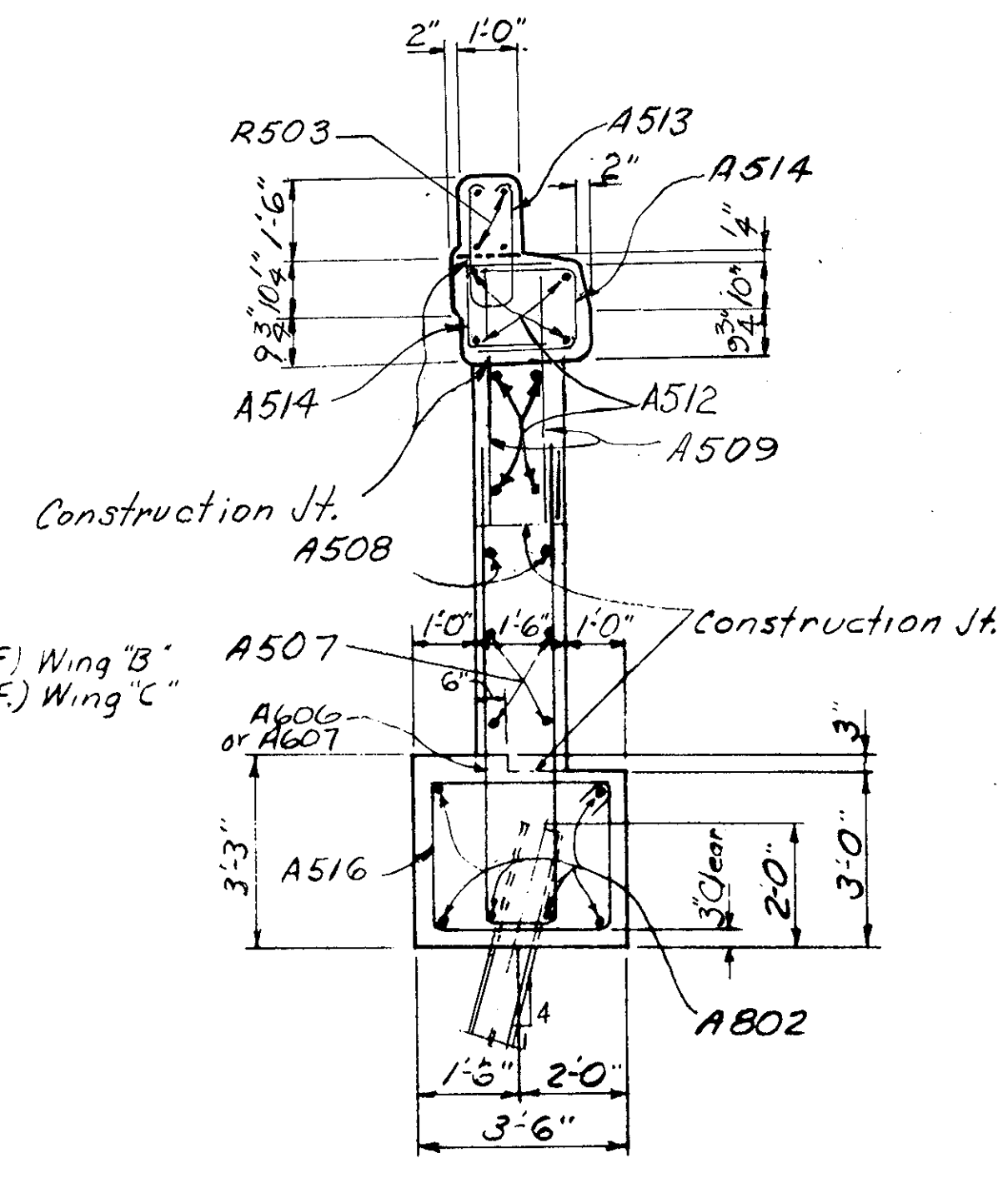
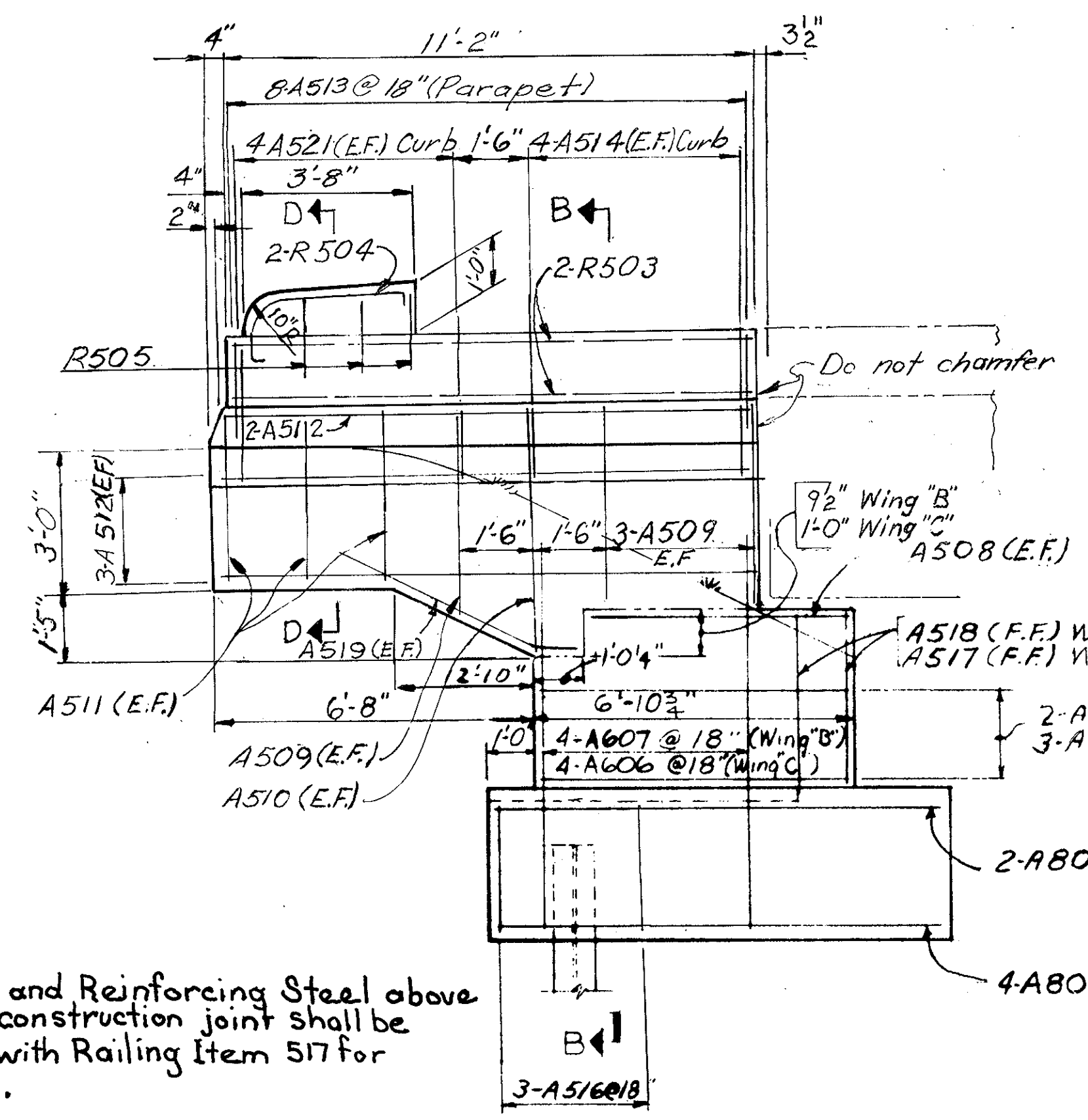
MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

ABUTMENT NO.2  
BRIDGE NO. MAH-680-1078 LT.  
OVER MATHEWS ROAD  
Sta. 561+69.80 to Sta. 562+77.56

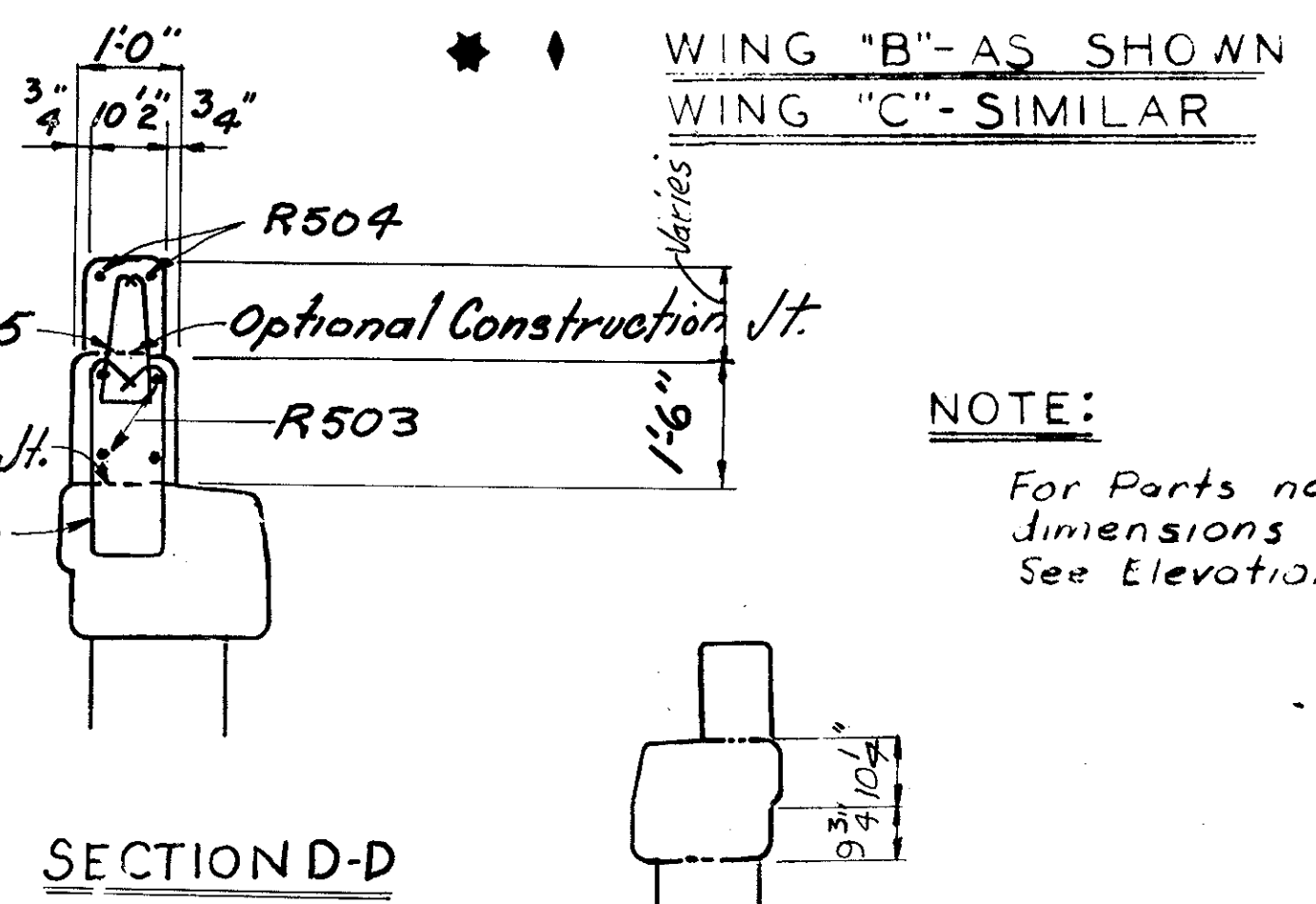
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
H.J.B.	O.W. F.W.M.		H.J.B.	2/23/69	



MAHONING COUNTY  
MAH-680-9.32

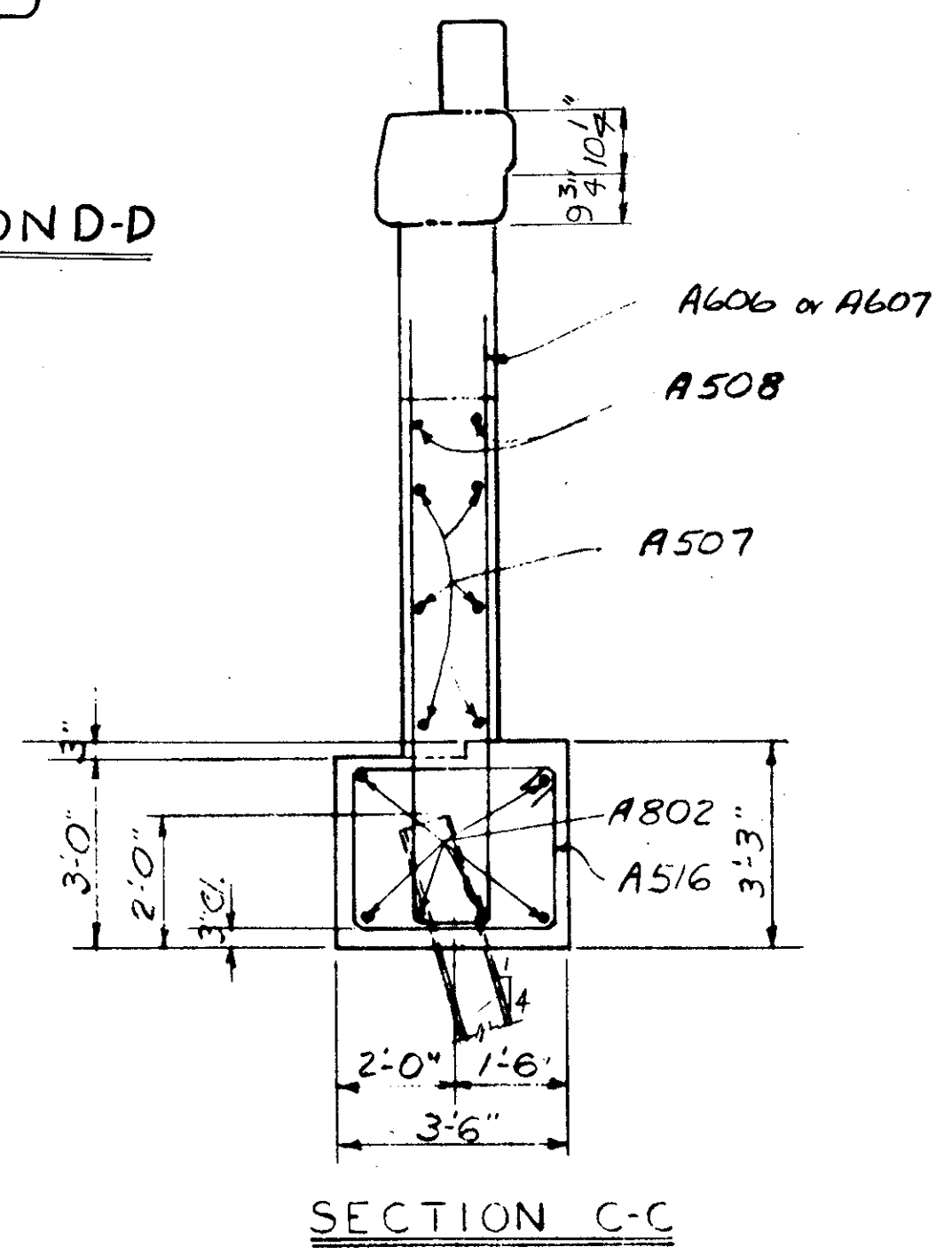


**NOTE:**  
Concrete and Reinforcing Steel above parapet construction joint shall be included with Railing Item 517 for payment.

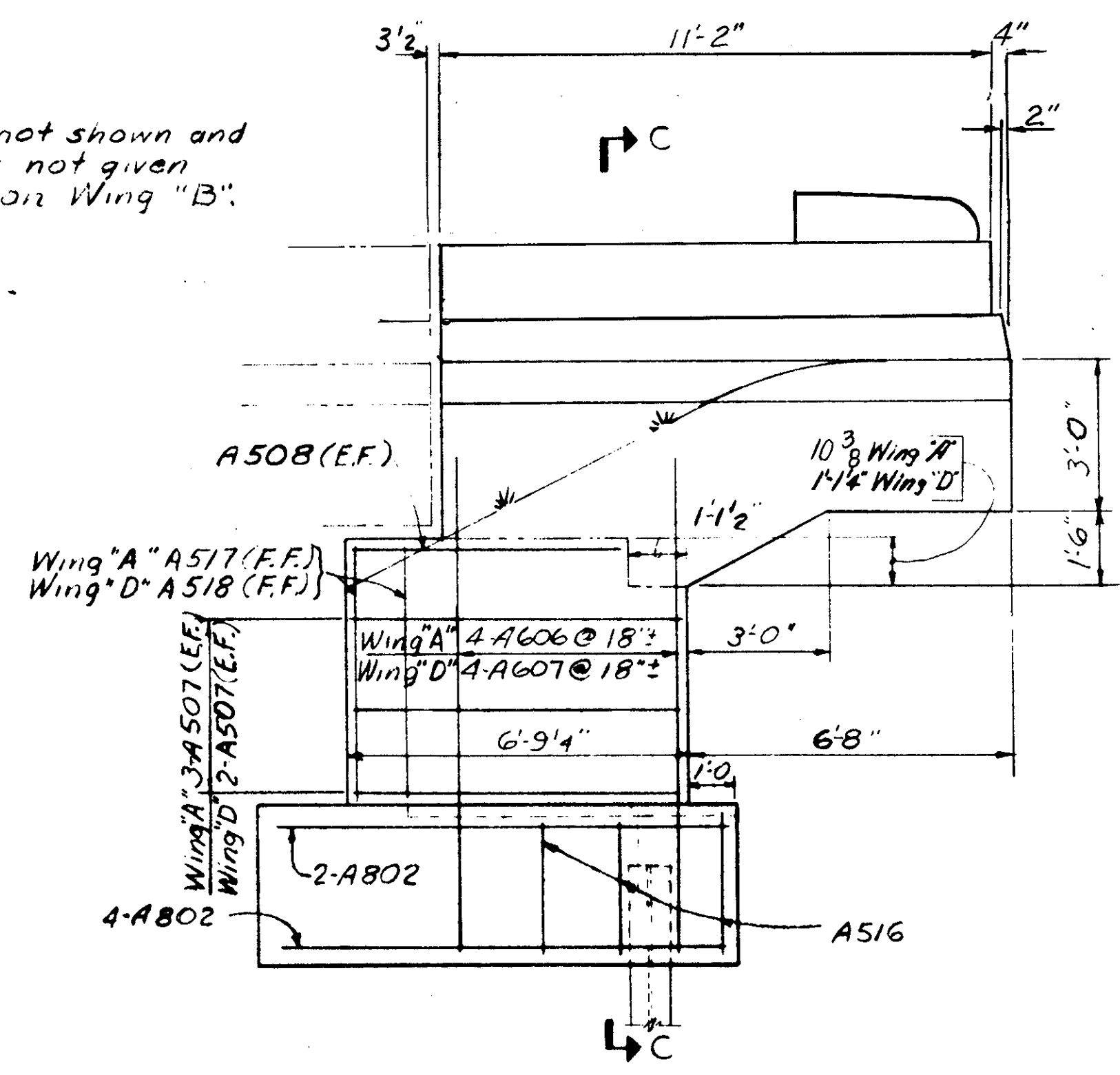


WING "B" AS SHOWN  
WING "C" - SIMILAR

**NOTE:**  
For Parts not shown and dimensions not given See Elevation Wing "B".



WING "A" AS SHOWN  
WING "D" SIMILAR

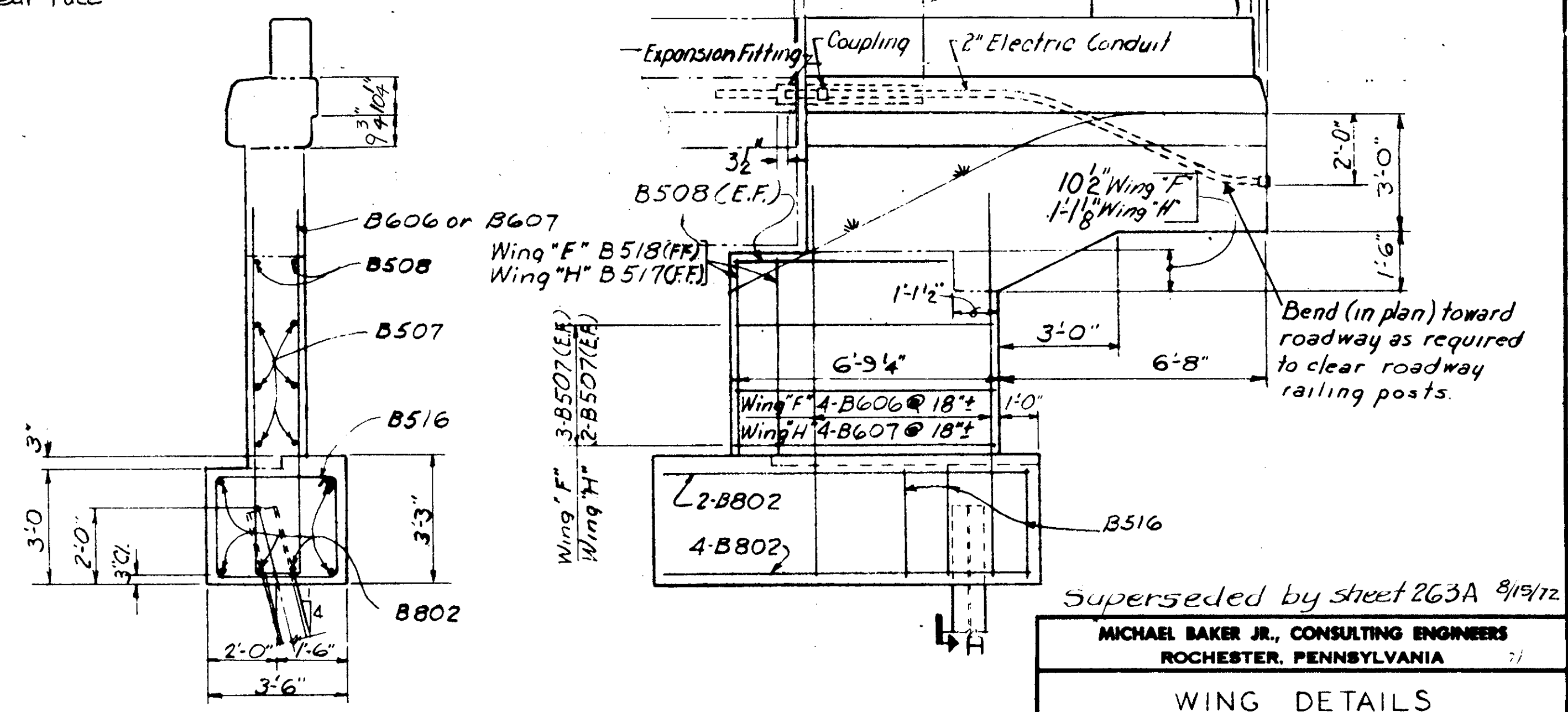


WING "F" AS SHOWN  
WING "H" SIMILAR

Electric Conduit as shown to be furnished at Wings B, D, F & G only.

**LEGEND**  
E.F. = Each Face  
F.F. = Front Face  
R.F. = Rear Face

**NOTE:**  
For Parts not shown and dimensions not given See Elevation Wing "E"



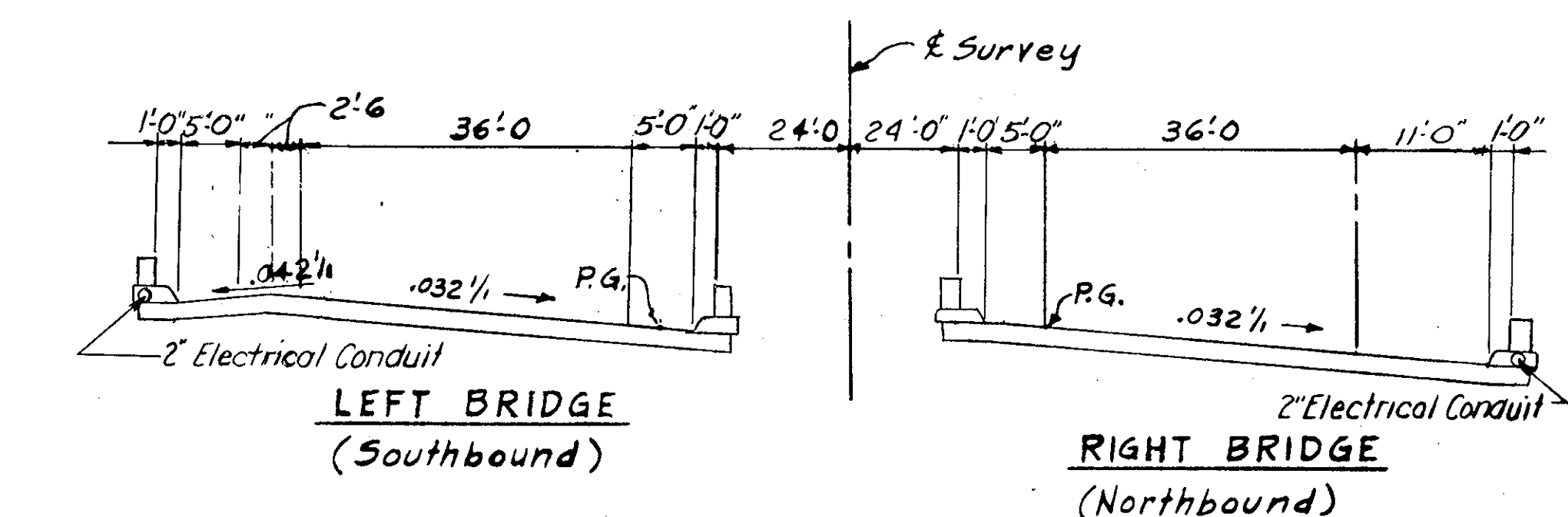
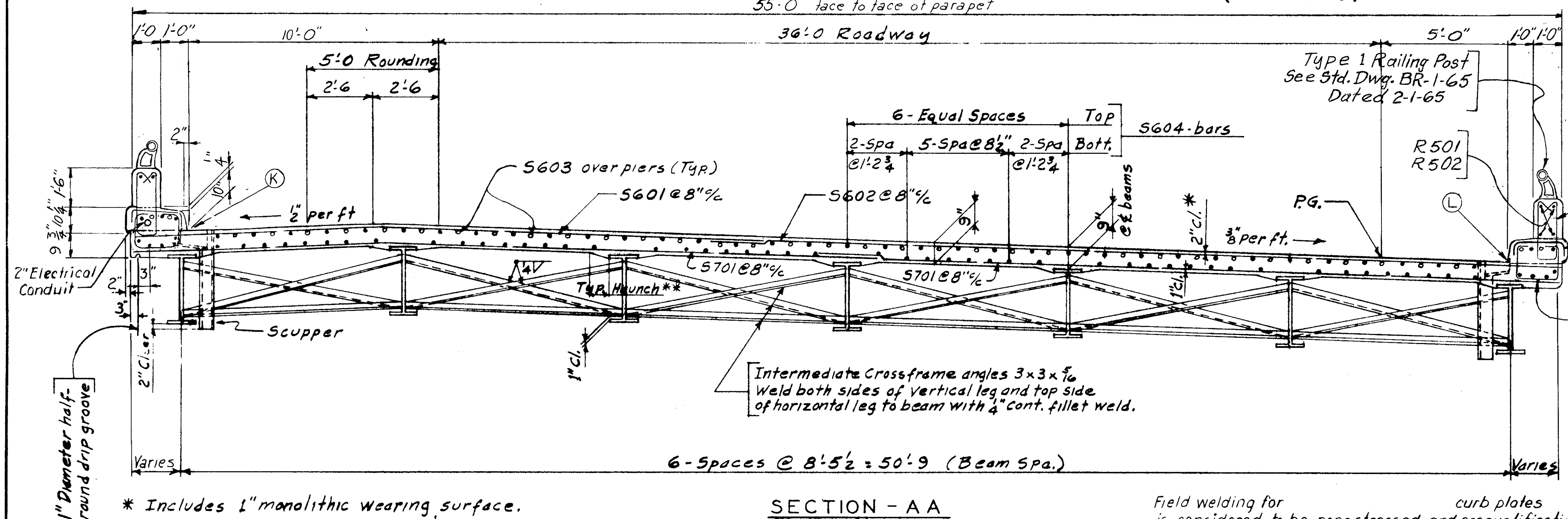
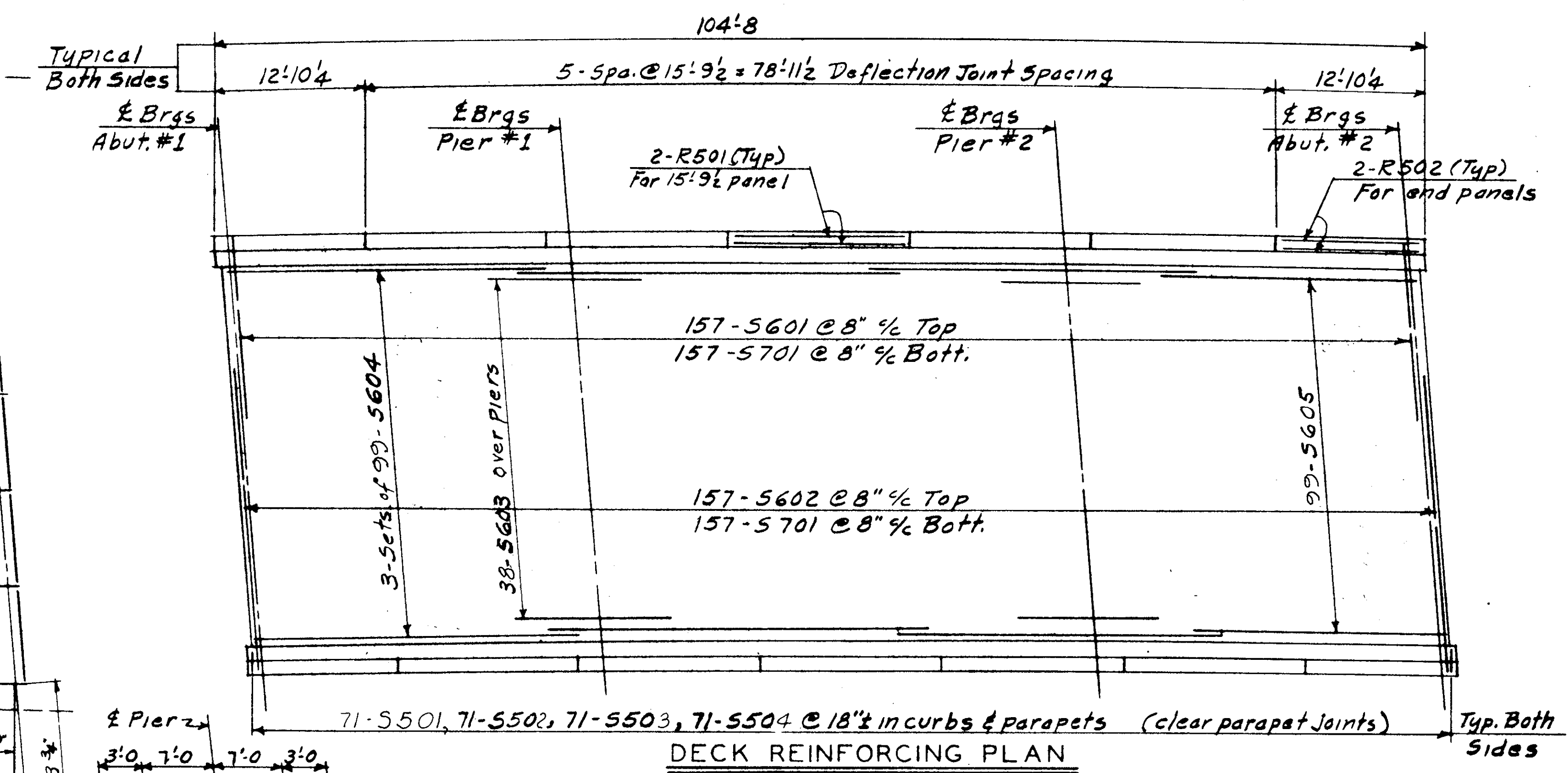
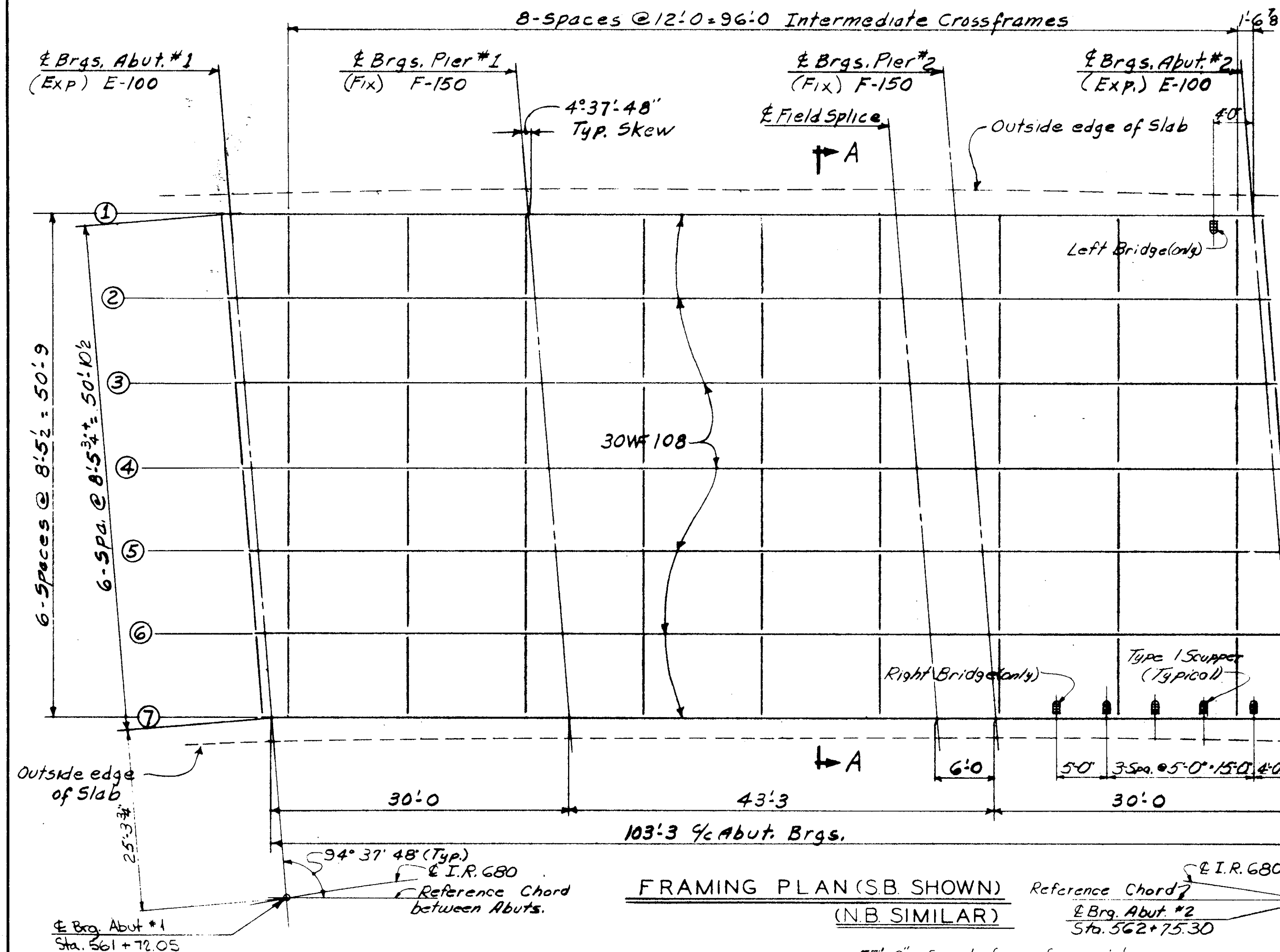
Superseded by sheet 263A 8/13/72

MICHAEL BAKER JR., CONSULTING ENGINEERS ROCHESTER, PENNSYLVANIA					
WING DETAILS					
BRIDGE NO. MAH-680-1078 L & R					
OVER MATHEWS ROAD					
Sta. 561+69.80 to Sta. 562+77.56					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
H.J.B.	OW		H.J.B.	2/6/69	6/28/69





NOTE:  
 • For end dam, beam splice, scupper & curb R details see Std. dwg. SD-1-69  
 • For bearing details see Sheet #264.



Location	NORTHBOUND		SOUTHBOUND	
	Left Side	Right Side	Left Side	Right Side
Abut. #1	2'-3"	2'-0 1/2"	2'-1 3/8"	2'-2 1/2"
1/2 Pt. Span 1	2'-4 1/2"	1'-10 3/8"	2'-2 1/2"	2'-1 1/4"
Pier 1	2'-5 1/2"	1'-10 3/8"	2'-3 1/4"	2'-0 3/8"
1/2 Pt. Span 2	2'-5 1/2"	1'-9 3/8"	2'-3 3/8"	2'-0"
Pier 2	2'-5"	1'-10 3/8"	2'-2 3/8"	2'-0 3/8"
1/2 Pt. Span 3	2'-4"	1'-11 3/8"	2'-1 1/2"	2'-1 1/2"
Abut. #2	2'-2 1/2"	2'-1 3/8"	2'-0"	2'-3"

END DAM PAINTING: Portions of the enddams which will be in contact with steel or with concrete shall not be painted. All other portions shall be cleaned and painted in accordance with 814

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

SUPERSTRUCTURE  
BRIDGE NO. MAH-680-1078 1/2  
OVER MATHEWS ROAD  
MAHONING COUNTY  
Sta. 561+69.80 Sta. 562+77.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
J.C.H.	TP		J.C.H.	1/6/72	2-23-72

\* Includes 1" monolithic wearing surface.  
 \*\* A typical haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

Field welding for curb plates is considered to be non-stressed, and prequalification of welder is not required.  
 See Sheet 260 for Table of Deck elevations  
 See Sheet 262 for comber and blocking dimensions

MICROFILMED

FEB 11 1985

£ Brgs. Abut. #1 (Exp.) E-100

8-Spaces @ 12'-0" = 96'-0" Intermediate Crossframes

£ Brgs. Pier #1 (Fix) F-150

£ Brgs. Pier #2 (Fix) F-150

£ Brgs. Abut. #2 (Exp.) E-100

4°37'48" Typ. Skew

£ Field Splice

Outside edge of Slab

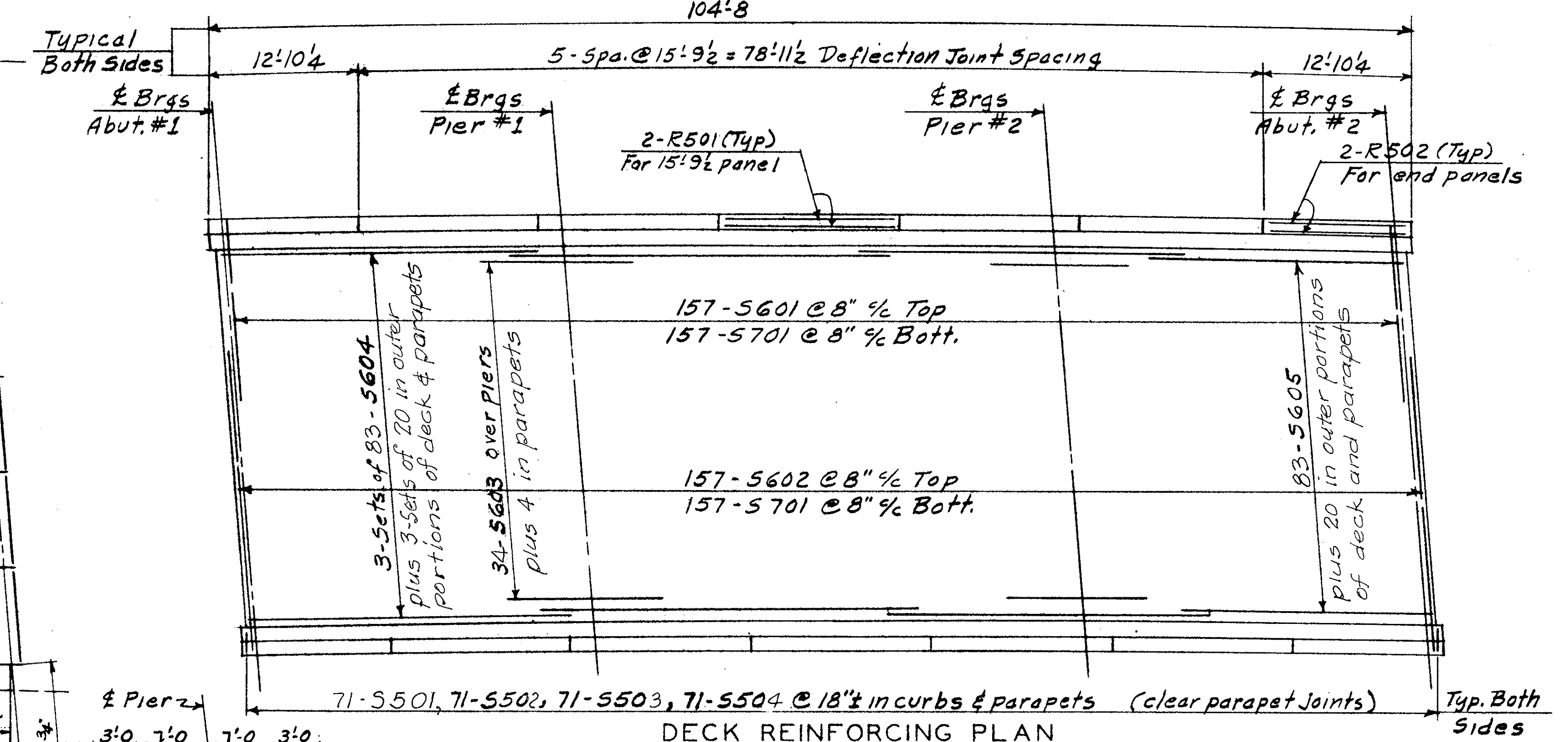
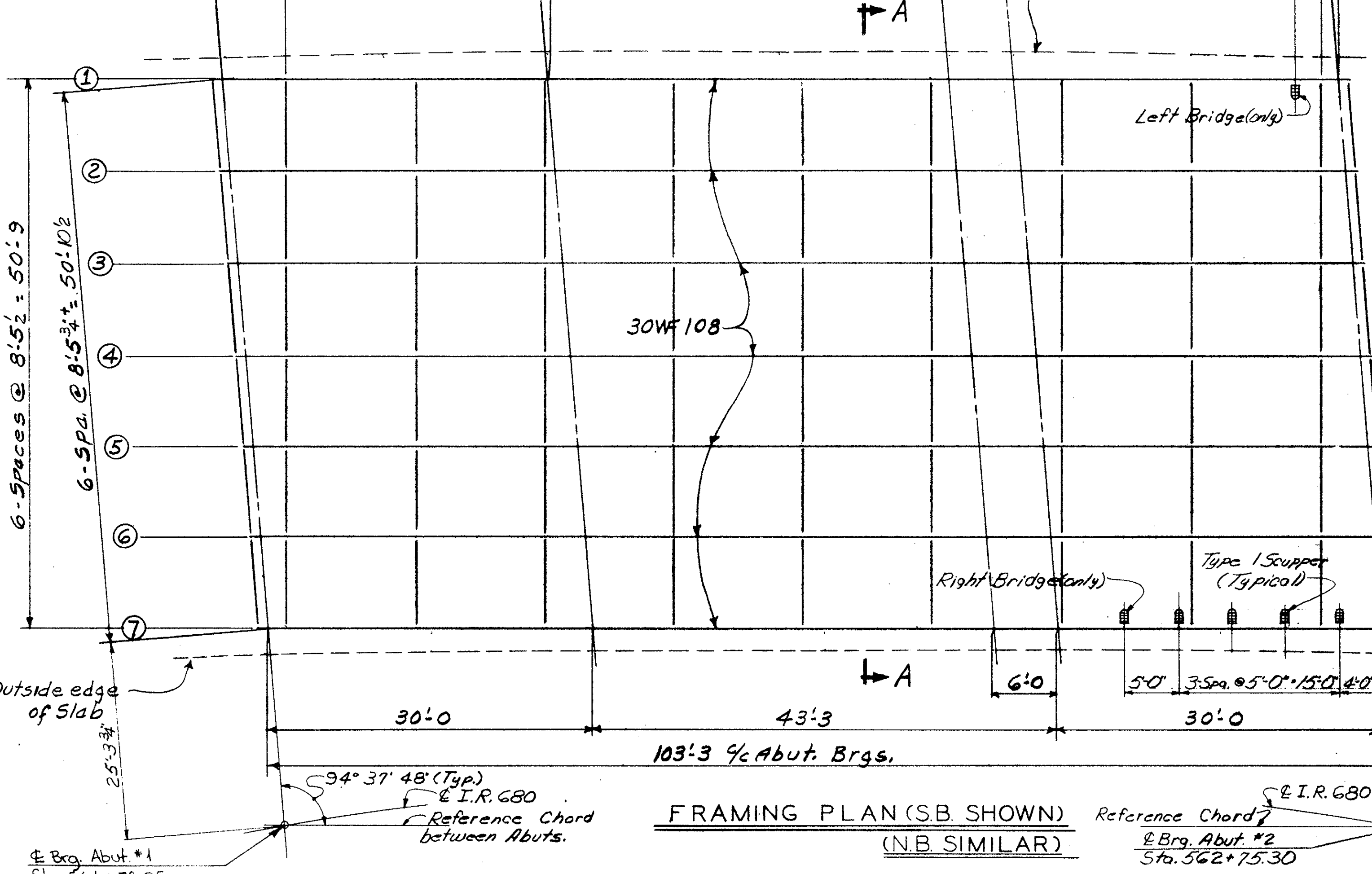
NOTE:

- For end dam, beam splice, scupper & curb IR details see Std. dwg. SD-1-69
- For bearing details see Sheet #264.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

265A  
303

MAHONING COUNTY  
MAH-680-9.32



STAGGER OF S603 BARS (Over Piers)

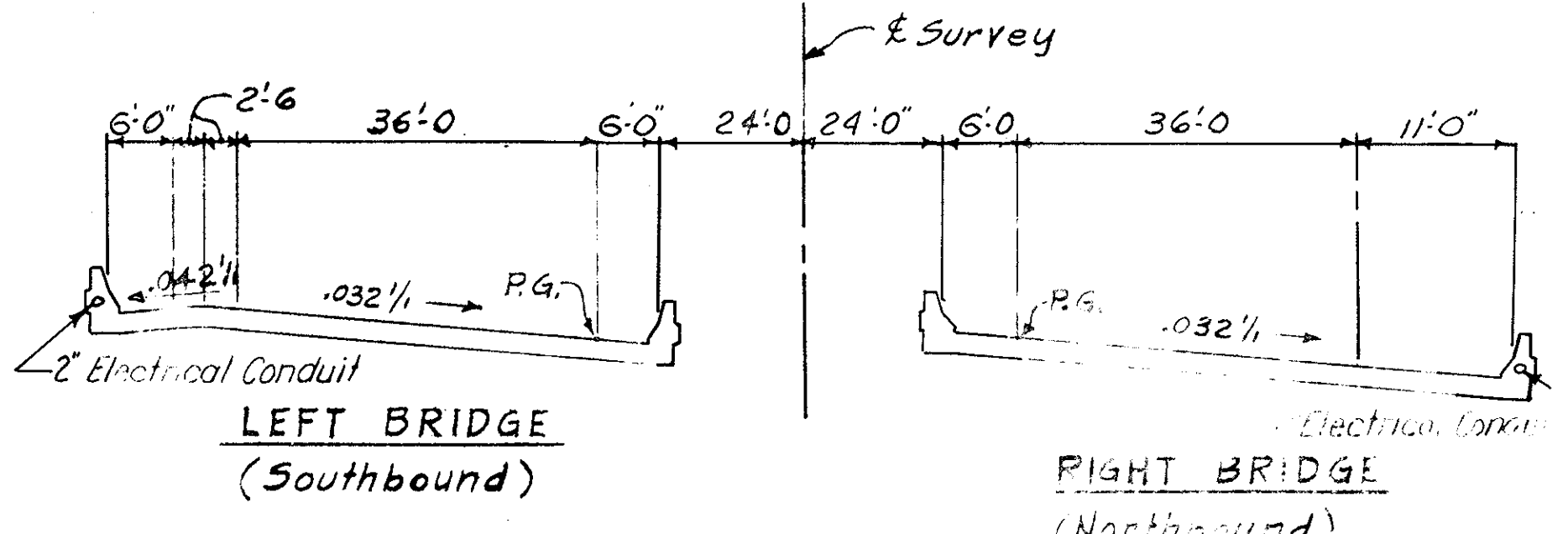


TABLE OF OVERHANGS

Location	NORTHBOUND		SOUTHBOUND	
	Left Side	Right Side	Left Side	Right Side
£ Abut. #1	2'-3"	2'-0 1/2"	2'-1 3/8"	2'-2 1/2"
1/2 Pt. Span 1	2'-4 1/4"	1'-10 3/8"	2'-2 1/2"	2'-1 1/4"
£ Pier 1	2'-5 1/8"	1'-10 1/8"	2'-3 1/4"	2'-0 3/8"
1/2 Pt. Span 2	2'-5 1/2"	1'-9 3/8"	2'-3 3/8"	2'-0"
£ Pier 2	2'-5"	1'-10 3/4"	2'-2 3/4"	2'-0 5/8"
1/2 Pt. Span 3	2'-4"	1'-11 3/8"	2'-1 5/8"	2'-1 1/2"
£ Abut. #2	2'-2 1/4"	2'-1 3/8"	2'-0"	2'-3"

END DAM PAINTING: Portions of the enddams which will be in contact with steel or with concrete shall not be painted. All other portions shall be cleaned and painted in accordance with 814

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

SUPERSTRUCTURE  
BRIDGE NO. MAH-680-1078 1/2  
OVER MATHEWS ROAD  
MAHONING COUNTY  
Sta. 561+69.80 Sta. 562+77.56

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.C.H.	TP		J.C.H.	L.B.H.	6/28/68	2-23-72

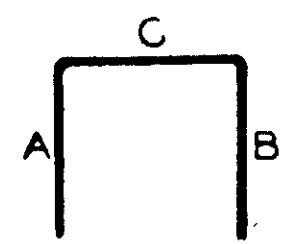
Field welding for curb plates is considered to be non-stressed, and prequalification of welder is not required.

See Sheet 260A for Table of Deck elevations  
See Sheet 262A for camber and blocking dimensions

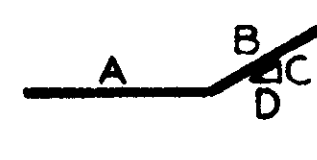
Supplemental Structural 8/9/72  
Rev. 2-23-72

\* Includes 1" monolithic wearing surface.

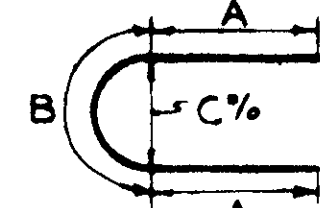
\*\* A typical haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.



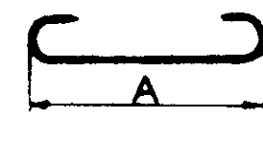
TYPE 1



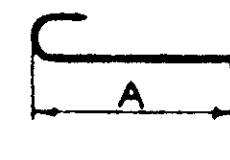
TYPE 2



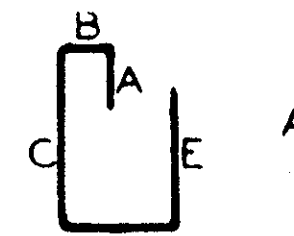
TYPE 3



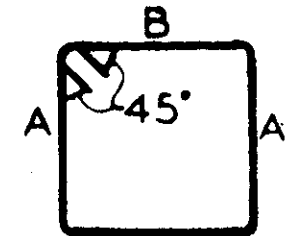
TYPE 4



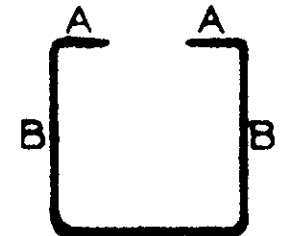
TYPE 5



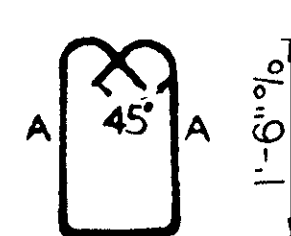
TYPE 6



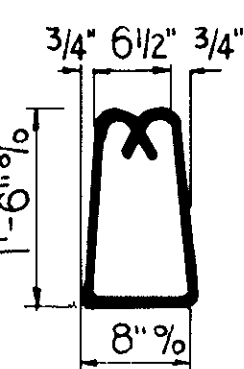
TYPE 7



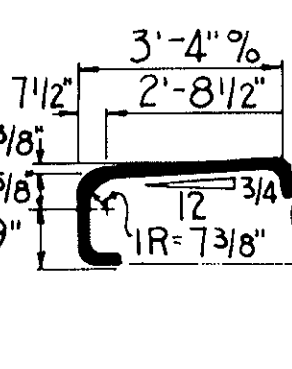
TYPE 8



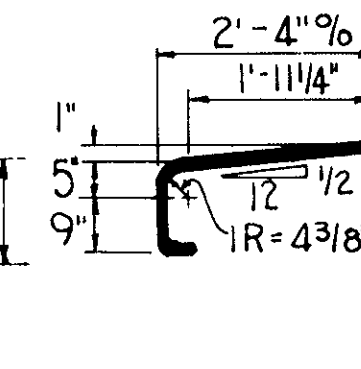
TYPE 9



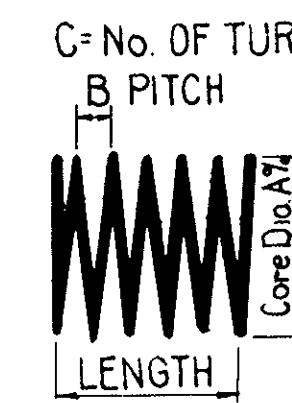
TYPE 10



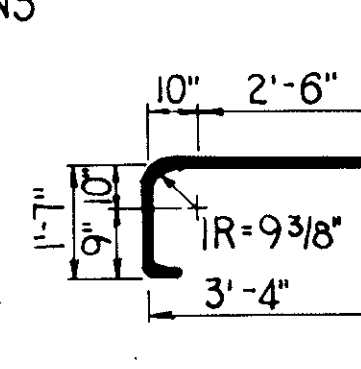
TYPE 11



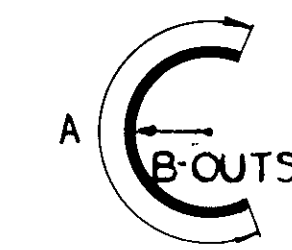
TYPE 12



TYPE 13



TYPE 14



TYPE 15

FED. RD. DIVISION	STATE	PROJECT	TYPE PUMBS
2	OHIO		

MAHONING COUNTY  
MAH-680-9.32

266  
303

ABUTMENTS (N.B.)

MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
A801	28	29'-9"	Str.						2224
A802	24	9'-4"	Str.						598
A601	32	14'-3"	1	6'-4"	2'-10"	5'-5"			685
A602	38	15'-1"	1	7'-2"	2'-10"	5'-5"			861
A603	72	14'-4"	6	3'-0"	11"	5'-6"	1'-5"	4'-2"	1550
A604	36	7'-1"	4	6'-7"					428
A605	30	12'-7"	1	5'-6"	5'-6"	1'-5"			544
A606	8	20'-2"	1	9'-8"	9'-8"	1'-2"			242
A607	8	17'-0"	1	8'-1"	8'-1"	1'-2"			204
A501	70	8'-4"	1	1'-7"	1'-7"	5'-5"			608
A502	32	6'-10"	18	6'-4"	8"				228
A503	70	6'-4"	1	2'-5"	2'-5"	3'-5"			462
A504	38	7'-8"	18	7'-2"	8"				304
A505	30	23'-7"	Str.						801
A506	30	30'-5"	Str.						952
A507	20	6'-6"	Str.						136
A508	8	5'-5"	Str.						45
A509	32	4'-2"	Str.						139
A510	8	5'-0"	Str.						42
A511	24	3'-5"	Str.						86
A512	32	11'-2"	9						373
A513	32	5'-7"	1	2'-2"	8"				186
A514	32	4'-1"	1	1'-6"	1'-6"	1'-4"			136
A516	12	11'-11"	7	2'-7"	3'-2"				149
A517	4	5'-0"	Str.						21
A518	4	3'-2"	Str.						13
A519	8	5'-4"	2	10"	4'-6"	2'-0"	4'-0"		45
A521	85	4'-2" to 3'-2"	1	1'-6" to 1'-0"	1'-6" to 1'-0"	1'-5"			122
R503	16	10'-10"	Str.						*
R504	8	5'-4"	11						*
R505	12	4'-2"	10						*

ABUTMENTS (S.B.) CONT.

MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
B519	8	5'-4"	2	10"	4'-6"	2'-0"	4'-0"		45
B521	85	4'-2" to 3'-2"	1	1'-6" to 1'-0"	1'-6" to 1'-0"	1'-5"			122
B522	15	28'-7"	Str.						447
R503	16	10'-10"	Str.						*
R504	8	5'-4"	11						*
R505	12	4'-2"	10						*

PIERS

MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
P1101	16	33'-4"	5	31'-9"					2834
P1102	64	21'-6"	Str.						7311
P1103	32	24'-1"	Str.						4096
P1001	24	36'-10"	Str.						3884
P1002	16	13'-3"	3	4'-9"	3'-9"	2'-4 1/2"			912
P1003	24	19'-5"	Str.						2048
P901	104	16'-9"	Str.						5923
P902	104	16'-5"	Str.						5805
P903	208	7'-5"	18	6'-1"	7'-7"				5244
P904	16	32'-1"	18	28'-1"	4'-2"				1744
P905	8	8'-6"	18	6'-0"	2'-8"				231
P906	8	10'-0"	18	6'-0"	4'-2"				272
P907	16	30'-7"	18	28'-1"	2'-8"				1664
P501	32	30'-8"	Str.						1024
P502	344	7'-11"	1	2'-6"	2'-6"	3'-2"			2840
P503	224	6'-3"	1	2'-6"	2'-6"	1'-6"			1460
P504	16	26'-1"	Str.						435
P505	45	6'-5" to 8'-1"	1	2'-0" to 2'-10"	2'-0" to 2'-10"	2'-8"			1815
SP401	8	14'-1/2"	13	32"	42"	41"			2114
SP402	8	13'-9 3/8"	13	32"	42"	40"			2064

ABUTMENTS (S.B.)

MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
B801	28	29'-6"	Str.						2205
B802	24	9'-4"	Str.						598
B601	35	14'-8"	1	6'-9"	2'-10"	5'-5"			771
B602	35	15'-6"	1	7'-7"	2'-10"	5'-5"			815
B603	32	13'-11"	1	6'-5"	6'-5"	1'-5"			669
B604	72	16'-3"	6	3'-1"	11"	6'-5"	1'-5"	5'-1"	1757
B605	34	7'-11"	4	6'-7"					404
B606	8	21'-10"	1	10'-6"	10'-6"	1'-2"			262
B607	8	17'-8"	1	8'-5"	8'-5"	1'-2"			212
B501	70	8'-4"	1	1'-7"	1'-7"	5'-5"			608
B502	35	7'-3"	18	6'-9"	8"				265
B503	70	7'-6"	1	2'-2"	2'-2"	3'-5"			548
B504	35	8'-1"	18	7'-7"	8"				295
B505	30	27'-5"	Str.						858
B506	15	28'-4"	Str.						443
B507	20	6'-6"	Str.						136
B508	8	5'-5"	Str.						45
B509	32	4'-2"	Str.						139
B510	8	5'-0"	Str.						42
B511	24	3'-5"	Str.						86
B512	32	11'-2"	Str.						373
B513	32	5'-7"	9	2'-2"	8"				186
B514	32	4'-1"	1	1'-6"	1'-6"	1'-4"			136
B516	12	11'-11"	7	2'-7"	3'-2"				149
B517	4	3'-0"	Str.						15
B518	4	4'-8"	Str.						19

SUPERSTRUCTURE

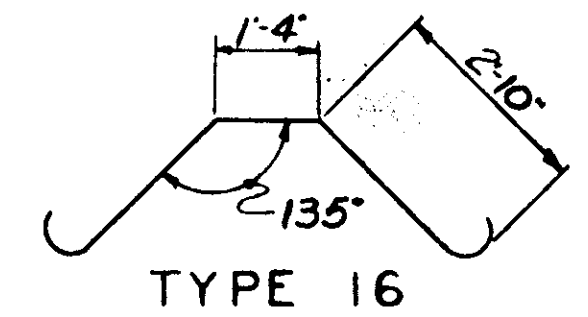
MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
S701	628	28'-4"	Str.						34375
S601	314	24'-2"	Str.						11398
S602	314	32'-6"	Str.						13328
S603	152	17'-0"	Str.						3881
S604	594	30'-0"	Str.						26766
S605	198	20'-6"	Str.						6097
S501	284	4'-11"	8	9"	1'-4"	1'-6"			1456
S502	284	2'-6"	1	9"	9"	1'-6"			741
S503	284	5'-7"	9	2'-2"	8"				1654
R501	80	15'-6"	Str.						*
R502	32	12'-8"	Str.						*

REPLACEMENT BARS

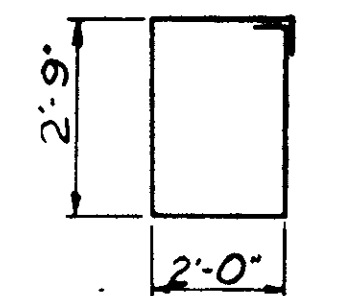
MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
RE1101	1	8'-7"	Str.						
RE1101	1	8'-3"	Str.						
RE901	2	7'-10"	Str.						
RE801	1	7'-6"	Str.						
RE101	2	7'-3"	Str.						
RE601	4	6'-11"	Str.						
RE501	2	6'-7"	Str.						
READ1	1	6'-3"	15	6'-3"	1'-4"				

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used indicates the bar size number. For example A601 is a No. 6 size bar and P1101 is a No. 11 size bar.

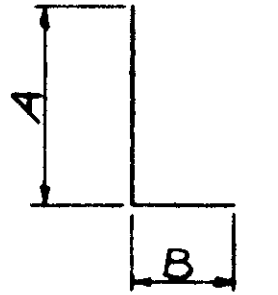
SPIRAL REINFORCING BARS. The "Length" shown in the steel list for the spiral bars is the length of the spiral along the axis of the spiral. The No. of Turns shown is the length divided by the pitch plus 3 turns (total number of closed coils). Spiral reinforcing bars may have deformations and shall in other respects conform to Item 509. 1/2 Closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lbs. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantities of spiral bars.



TYPE 16



TYPE 17



TYPE 18

\* Included with railing for payment

ⓐ Vary A & B by 2"  
 ⓑ Vary A & B by 8"

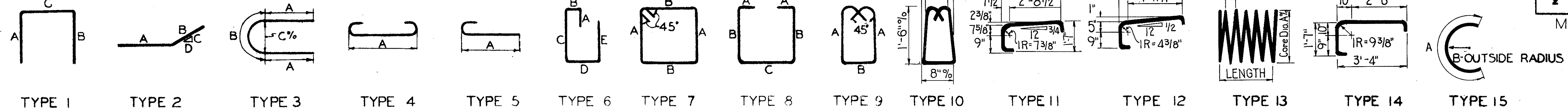
Superseded by sheet 266A 8/15/72

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

REINFORCING STEEL LIST  
BRIDGE NO. MAH-680-1078L&R  
OVER MATHEWS ROAD

STA. 561+69.80 TO STA. 562+77.56

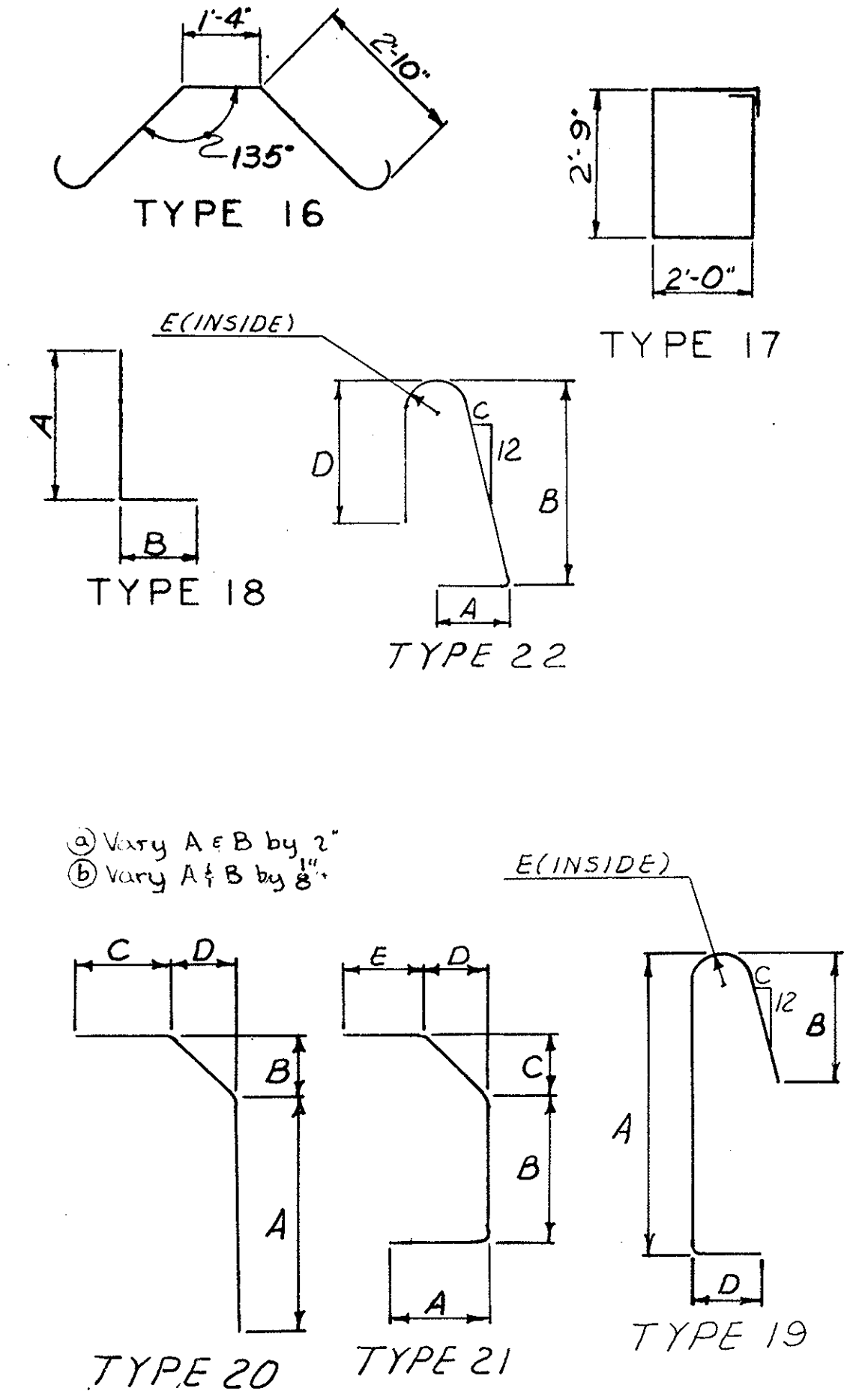
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HJB	RJP		HJB	6/28/64	



ABUTMENTS (N.B.)										ABUTMENTS (S.B.)									
MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT	MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
A801	28	29'-9"	Str.						2224	B801	28	29'-6"	Str.						2205
A802	24	9'-4"	Str.						591	B802	24	9'-4"	Str.						598
A601	32	14'-3"	1	6'-4"	2'-10"	5'-5"			685	B601	35	14'-8"	1	6'-9"	2'-10"	5'-5"			771
A602	39	7'-1"	1	7'-2"	2'-10"	5'-5"			861	B602	35	15'-6"	1	7'-7"	2'-10"	5'-5"			815
A603	72	14'-4"	6	3'-0"	11'	5'-6"	1'-5"	4'-2"	1550	B603	32	13'-11"	1	6'-5"	6'-5"	1'-5"			669
A604	36	7'-1"	4	6'-7"					428	B604	72	16'-3"	6	3'-7"	11'	6'-5"	1'-5"	5'-1"	1757
A605	30	12'-1"	1	5'-6"	5'-6"	1'-5"			544	B605	34	7'-11"	4	6'-7"					404
A606	8	20'-2"	1	9'-8"	9'-8"	1'-2"			242	B606	8	21'-10"	1	10'-6"	10'-6"	1'-2"			262
A607	8	17'-0"	1	8'-1"	8'-1"	1'-2"			204	B607	8	19'-4"	1	9'-3"	9'-3"	1'-2"			232
A608	12	5'-2"	20	3'-5"	11'-2"	9"			65	B608	12	5'-2"	20	3'-5"	11'-2"	9"			93
A609	4	6'-2"	20	4'-5"	11'-2"	9"			26	B609	4	6'-2"	20	4'-5"	11'-2"	9"			37
A501	70	8'-4"	1	1'-7"	11'-7"	5'-5"			608	P1101	16	33'-4"	5	31'-9"					2834
A502	32	6'-10"	18	6'-4"	8'				228	P1102	64	21'-6"	Str.						7311
A503	70	6'-4"	1	2'-5"	2'-5"	3'-5"			462	P1103	32	24'-1"	Str.						4096
A504	38	7'-8"	18	7'-2"	8'				304	P1001	24	36'-10"	Str.						3804
A505	30	25'-7"	Str.						801	P1002	16	13'-3"	3	4'-9"	3'-9"	2'-4"			912
A506	30	30'-5"	Str.						952	P1003	24	19'-5"	Str.						2048
A507	20	6'-6"	Str.						136	P901	104	16'-9"	Str.						5923
A508	8	5'-5"	Str.						45	P902	104	16'-5"	Str.						5805
A509	16	4'-5"	Str.						74	P903	208	7'-5"	18	6'-1"	7'-7"				5244
A510	4	4'-8"	Str.						19	P904	16	32'-1"	18	28'-1"	4'-2"				1744
A511	12	3'-11"	Str.						49	P905	8	8'-6"	18	6'-0"	2'-8"				231
A512	8	5'-2"	Str.						43	P906	8	10'-0"	18	6'-0"	4'-2"				272
A513	4	5'-4"	Str.						22	P907	16	30'-7"	18	28'-1"	2'-8"				1664
A514	8	7'-7"	Str.						63	P501	32	30'-8"	Str.						1024
A516	12	11'-5"	7	2'-6"	3'-0"				143	P502	344	7'-11"	1	2'-6"	2'-6"	3'-2"			2840
A517	4	5'-0"	Str.						21	P503	224	6'-3"	1	2'-6"	2'-6"	1'-6"			7460
A518	4	3'-4"	Str.						14	P504	16	26'-1"	Str.						435
A519	8	5'-4"	2	10'	4'-6"	2'-0"	4'-0"		45	SP505	45	65'-6.8-11"	1	2'-0"	2'-10"	2'-0"	2'-10"	2'-8"	7815
R503	48	11'-2"	Str.						559	SP401	8	14'-1/2"	13	32"	4'-2"	41			2114
R504	36	2'-0"	1	Std.	Std.	1'-0"			75	SP402	8	13'-9-3/8"	13	32"	4'-2"	40			2064
R505	16	6'-3"	19	3'-1"	2'-5"	2'-8"	Std.	2'-4"	104	S701	628	28'-4"	Str.						36370
R506	40	2'-10"	Str.						118	S601	314	24'-2"	Str.						11398
R701	4	4'-9"	5	3'-11"					39	S602	314	32'-6"	Str.						15328
R702	4	4'-6"	20	3'-0"	11'-2"	7'-2"	2		37	S603	152	17'-0"	Str.						3881
R703	4	4'-7"	20	3'-0"	11'-2"	7'-2"	4		37	S604	618	30'-0"	Str.						26766
R704	4	5'-0"	20	3'-3"	11'-2"	7'-2"	6		41	S605	206	20'-6"	Str.						6097
R705	4	5'-9"	20	4'-0"	11'-2"	7'-2"	9		47	S501	280	2'-0"	1	Std.	Std.	1'-0"			584
										S502	280	4'-2"	21	Std.	9"	11'-2"	9"	9"	1217
										S503	280	2'-3"	18	1'-9"	Std.				657
										S504	280	2'-5"	22	Std.	2'-5"	2'-8"	2'-4"	2'-4"	706
										R501	80	15'-6"	Str.						1293
										R502	32	12'-6"	Str.						417

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used indicates the bar size number. For example A 601 is a No. 6 size bar and P1101 is a No. 11 size bar.

**SPIRAL REINFORCING BARS.** The "Length" shown in the steel list for the spiral bars is the length of the spiral along the axis of the spiral. The "No. of Turns" shown is the length divided by the pitch plus 3 turns (total number of closed coils). Spiral reinforcing bars may have deformations and shall in other respects conform to Item 509. 1/2 Closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lbs. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantities of spiral bars.



REPLACEMENT BARS									
MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
RE110	1	8'-7"	Str.						
RE100	1	8'-3"	Str.						
RE201	2	7'-10"	Str.						
RE801	1	7'-6"	Str.						
RE101	2	7'-3"	Str.						
RE601	2	6'-11"	Str.						
RE501	2	6'-7"	Str.						
RE401	1	6'-3"	15	6'-3"	1'-4"				

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

REINFORCING STEEL LIST  
BRIDGE NO. MAH-680-1078L&R  
OVER MATHEWS ROAD

STA. 561+69.80 TO STA. 562+77.56

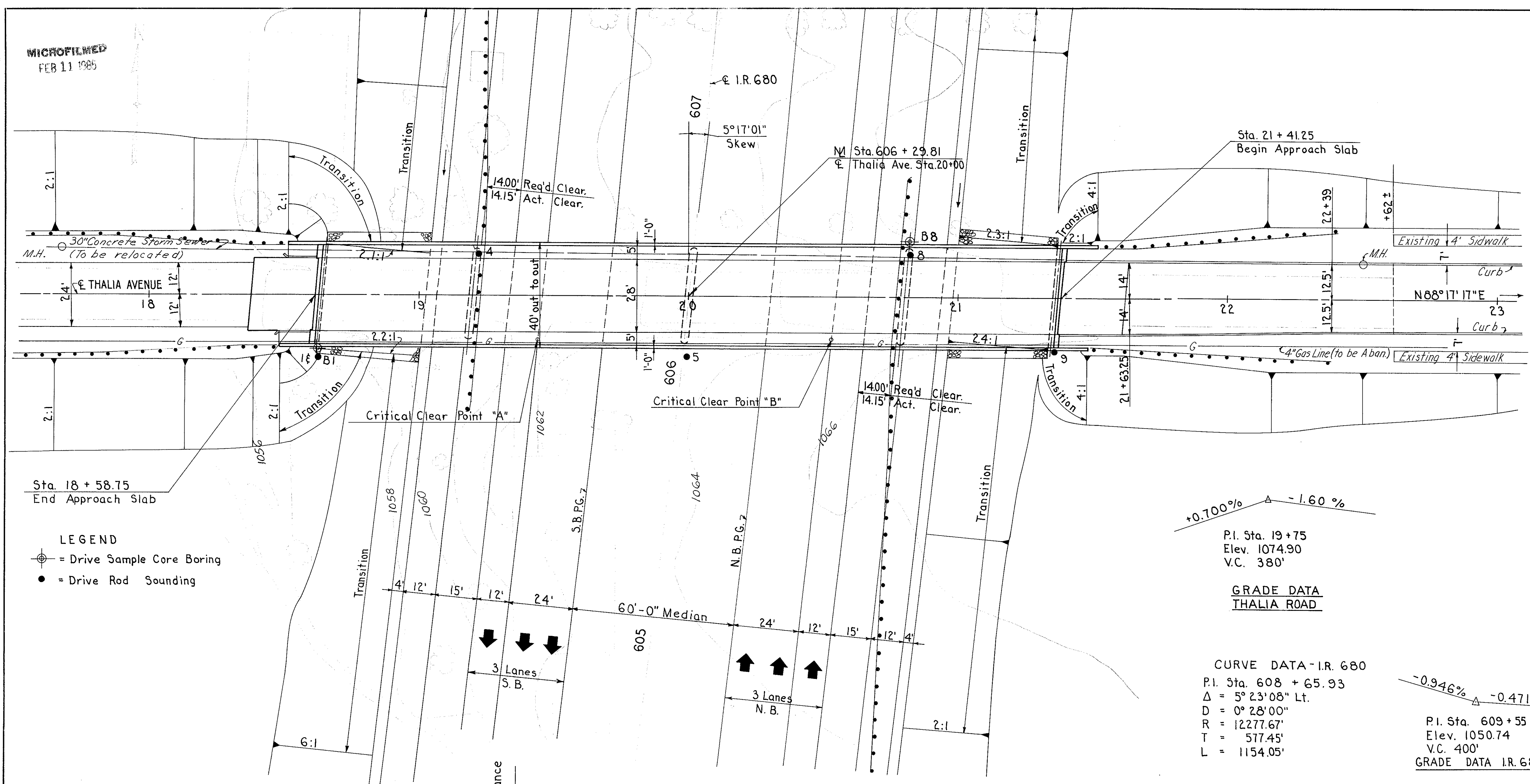
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HJB	RJP		HJB	6/25/69	

MICROFILMED  
FEB 11 1985

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

267  
303

MAHONING COUNTY  
MAH-680-9.32



Sta. 18 + 58.75  
End Approach Slab

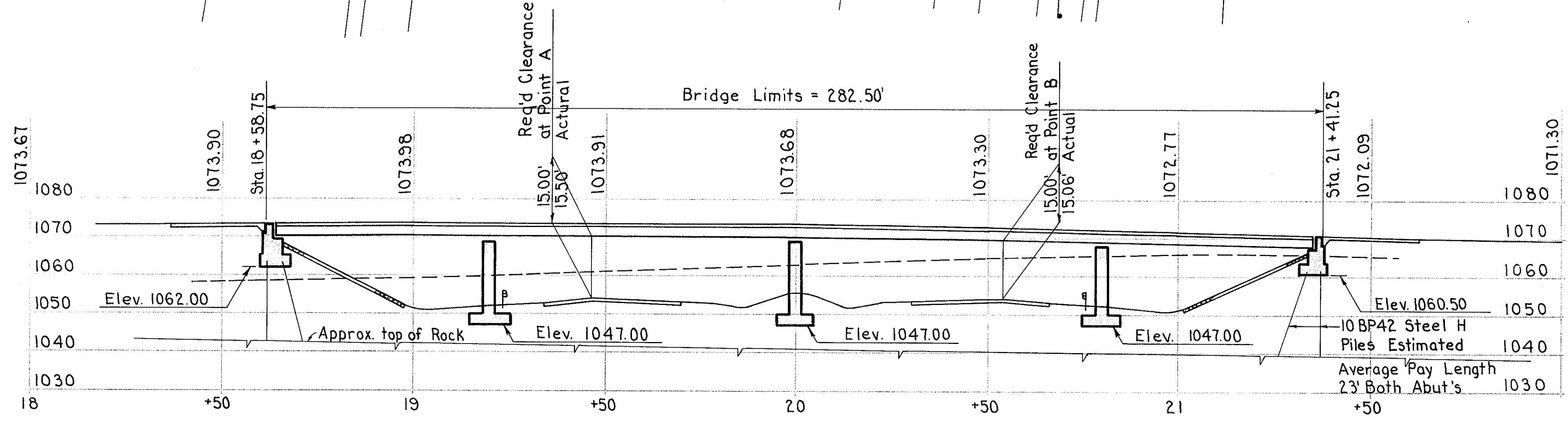
LEGEND  
 ⊕ = Drive Sample Core Boring  
 ● = Drive Rod Sounding

GRADE DATA  
 THALIA ROAD  
 P.I. Sta. 19 + 75  
 Elev. 1074.90  
 V.C. 380'

CURVE DATA - I.R. 680  
 P.I. Sta. 608 + 65.93  
 Δ = 5° 23' 08" Lt.  
 D = 0° 28' 00"  
 R = 12277.67'  
 T = 577.45'  
 L = 1154.05'

GRADE DATA I.R. 680  
 P.I. Sta. 609 + 55  
 Elev. 1050.74  
 V.C. 400'

PROPOSED STRUCTURE  
 TYPE: Continuous steel beams with reinforced concrete deck and substructure.  
 SPANS: 57'-82'-82'-57' @ bearings  
 ROADWAY: 28' f/ft curbs plus 5' sidewalks  
 LOAD FREQUENCY: C.F. 400 (57)  
 SKEW: 5° 17' 01" Lt. Fwd.  
 WEARING SURFACE: 1" Monolithic concrete  
 APPROACH SLABS: AS-1-67 (25' Long)  
 ALIGNMENT: Tangent



PROFILE OF THALIA AVENUE

Estimated 1985 A.D.T.: 6000  
 MICHAEL BAKER JR., CONSULTING ENGINEERS  
 ROCHESTER, PENNSYLVANIA  
 SITE PLAN  
 BRIDGE NO. MAH-680-0995  
 UNDER THALIA AVE.  
 MAHONING COUNTY  
 STA. Sta. 606+29.81

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Bim.	A.A.	A.A.	RE.B.	2/8/85

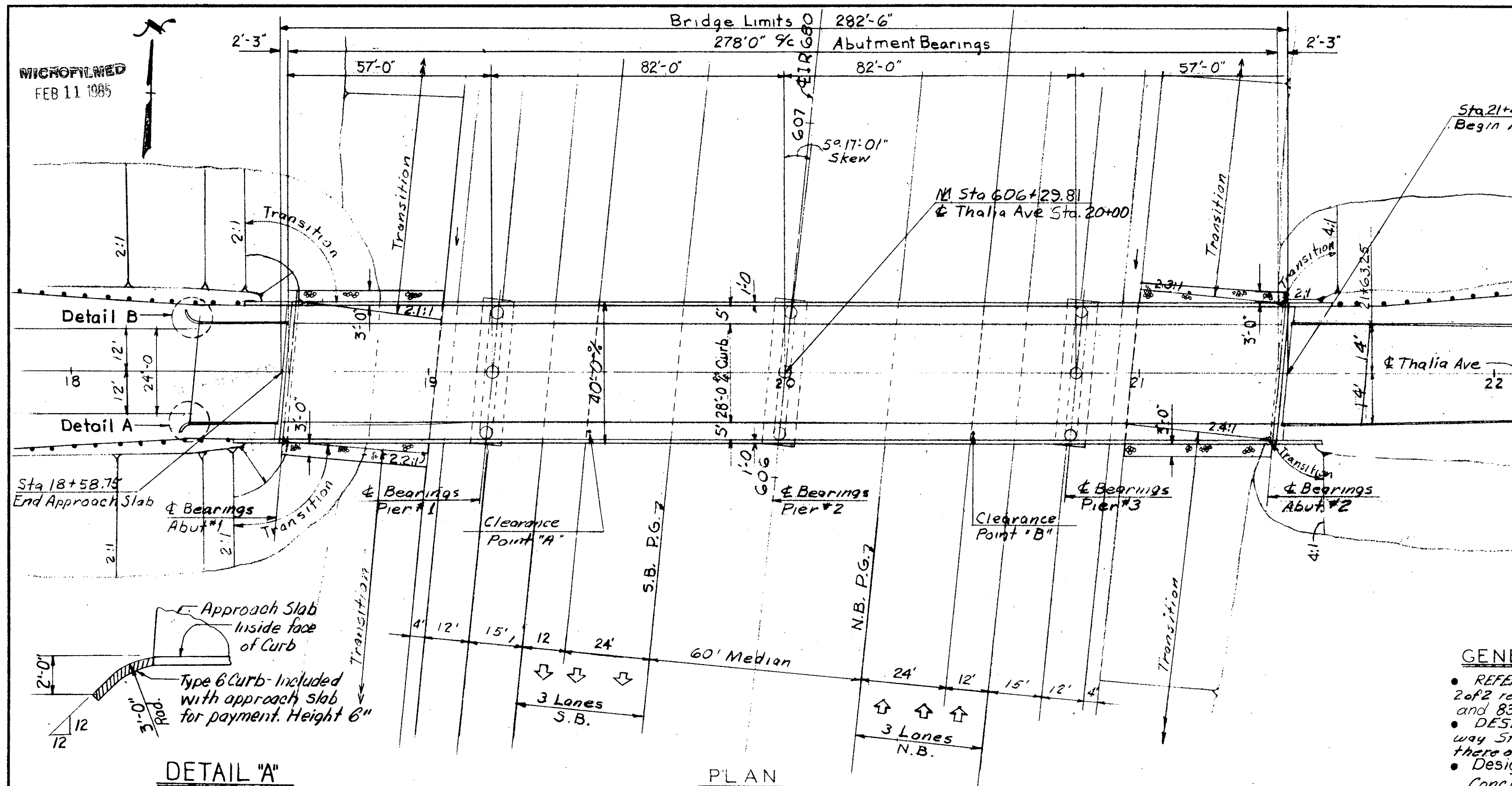


MICROFILMED  
FEB 11 1985

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

MAHONING COUNTY  
MAH-680-9.32

268  
303



ESTIMATED QUANTITIES

Item	Total	Unit	Description	Superstr.	Abutts.	Piers	Gen.
503	528	Cu Yds	Unclassified Excavation		236	292	
505	L.S.	L.S.	Test Pile				L.S.
507	640	Lin. ft.	Steel Piles HPI0X42 *		640		
509	133,857	Lbs.	Reinforcing Steel	94,508	10,783	28,566	
511	413	Cu Yds	Class "C" Concrete, Superstructure	413			
511	79	Cu Yds	Class "C" Concrete, Piers above footing			79	
511	133	Cu Yds	Class "C" Concrete, Abutments		133		
511	71	Cu Yds	Class "C" Concrete, Pier Footings			71	
513	341,000	Lbs.	Structural Steel	341,000			
514	341,000	Lbs.	Field Painting of Structural Steel	341,000			
517	612	Lin. ft.	Bridge Railing Type 2		539	53	
518	29	Cu Yds	Porous Backfill			29	
518	14	Each	Scuppers including Supports		14		
518	60	Lin. Ft.	Helical C.M.P. 101.06 non-perforated			60	
518	66	Lin. Ft.	Helical C.M.P. 101.06 perforated incl. specials			66	
601	388	Sq Yd	Crushed Aggregate Slope Protection				388
808	413	Units	Chemical admixture for concrete, Type A, B or D	413			

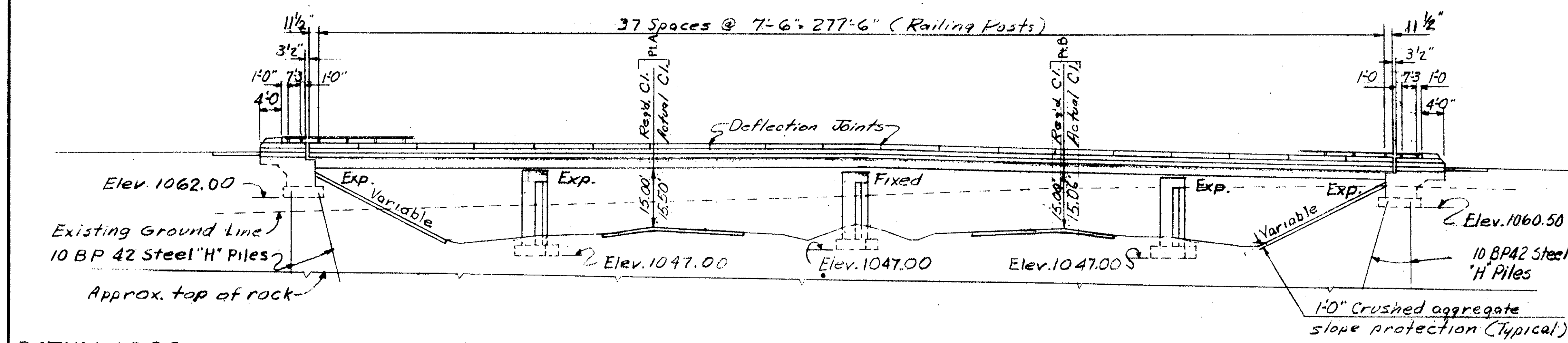
computed by: JCH 5-10-67  
checked by: HJB 5-16-67

**GENERAL NOTES:**

- REFERENCE shall be made to Standard Drawings AS-1-67 revised 6-12-69, RB-1-55 revised 2-2-59, BR-1-65 Sheet 2 of 2 revised 11-24-65, SD-1-69 dated 6-12-69 and to Supplemental Specifications 808 dated 1-1-71 and 836 dated 1-1-71.
- DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with revisions thereof.
- Design Data: Design Loading C.F. 400 (57)  
Concrete Class C - basic unit stress 1,200 p.s.i. Substructure  
basic unit stress 1,333 p.s.i. Superstructure  
Structural Steel ASTM, A36 basic unit stress 20,000 p.s.i.  
Reinforcing Steel: ASTM A615, A616 or A617 unit stress 20,000 p.s.i. If bars in accordance with ASTM A616 are provided they shall be subject to bend tests as per AASHTO Designation M42-70. Spiral reinforcement may be plain bars ASTM A82, A306, A499 or A615.
- PILES at abutments shall be driven with a hammer of not less than 11,000 ft. lbs. to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec. 507.05 is not less than the following value for a pile hammer of the indicated energy rating:  
40 tons per pile using an 11000 ft. lb. hammer  
35 tons per pile using an 15000 ft. lb. or greater hammer  
If the energy rating of the hammer is between the rating as shown above, the required formula capacity shall be determined by interpolation. The design load is 30 tons per pile.
- FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 2.5 tons per sq. ft.
- MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.
- UTILITY LINES: All expenses involved in relocating the affected utility lines shall be borne by the Owners. The Contractor and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either will be held to a minimum.
- EMBANKMENT CONSTRUCTION: The embankments shall be constructed to the level of the subgrade for minimum distance of 200 feet back of the abutments. Excavation shall then be made for the abutments and piles then driven.

**DETAIL "A"**  
Detail "B" is opposite hand

**PLAN**

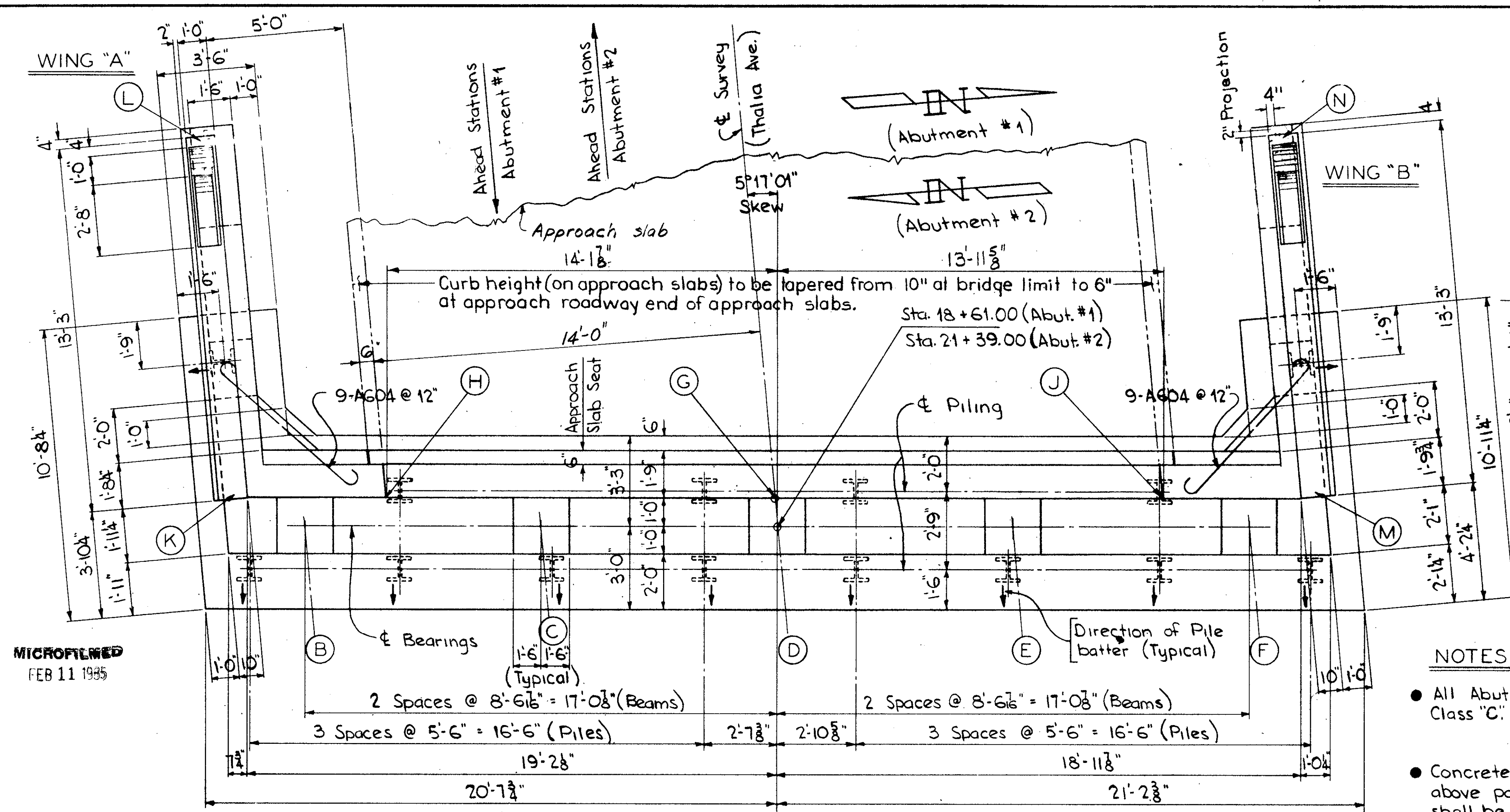


**ELEVATION**

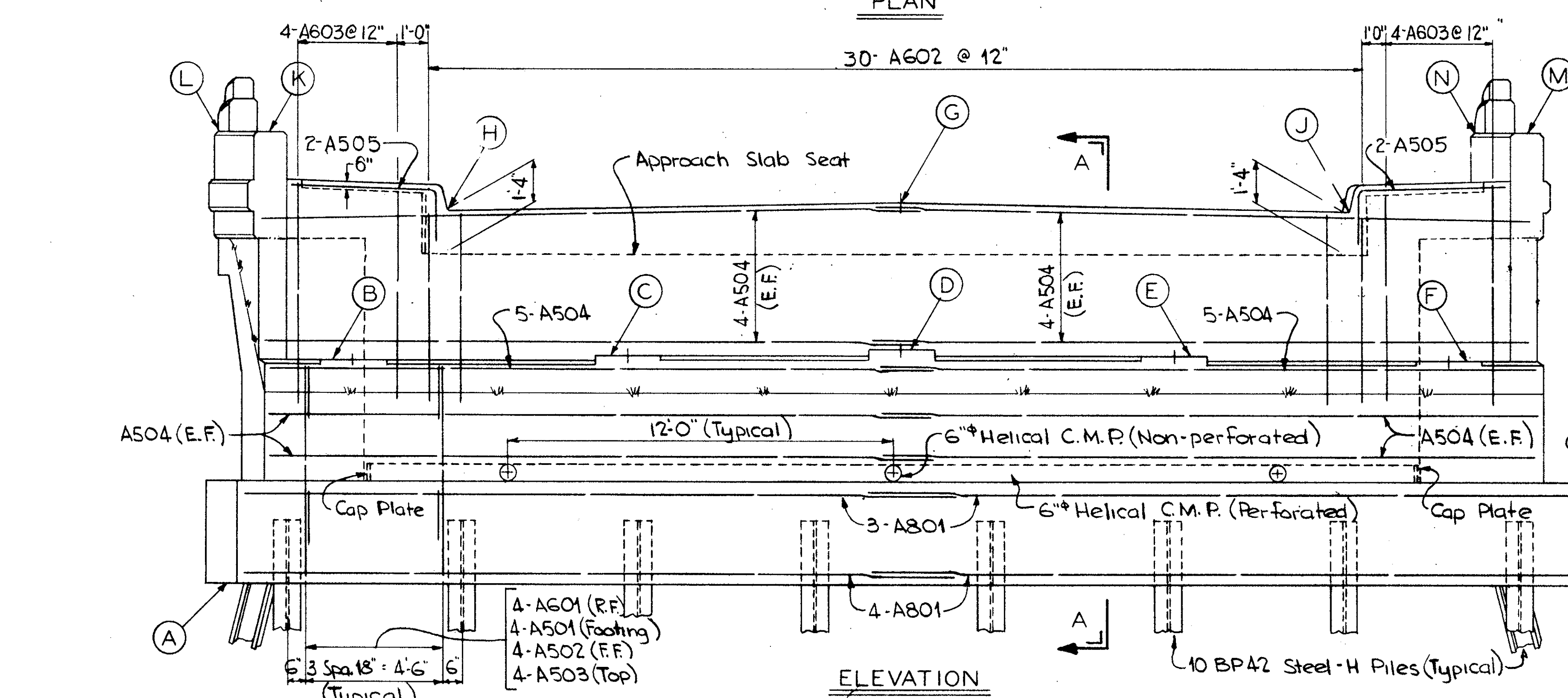
**MICHAEL BAKER JR., CONSULTING ENGINEERS**  
ROCHESTER, PENNSYLVANIA

GENERAL PLAN  
BRIDGE NO. MAH-680-099.5  
UNDER THALIA AVE.  
MAHONING COUNTY  
STA. 606 + 29.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
REB	aw		HJB	6/28/69	

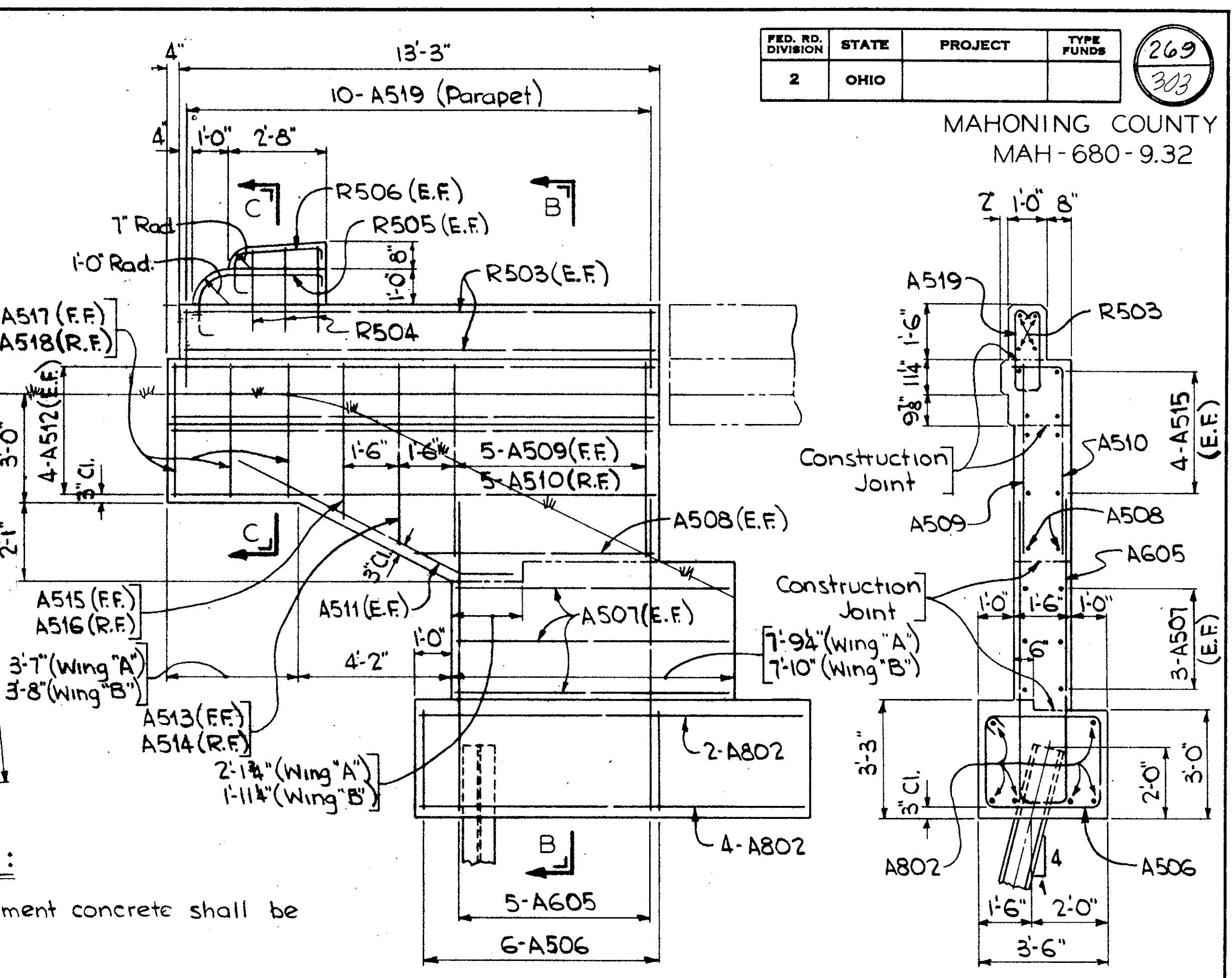


PLAN



ELEVATION

Elevations	A	B	C	D	E	F	G	H	J	K	L	M	N
ABUT. NO. 1	1062.00	1069.09	1069.18	1069.31	1069.48	1069.10	1073.93	1073.70	1073.71	1076.14	1076.10	1076.15	1076.11
ABUT. NO. 2	1060.50	1061.40	1061.50	1061.64	1061.52	1061.45	1072.24	1072.00	1072.04	1074.44	1074.24	1074.48	1074.28



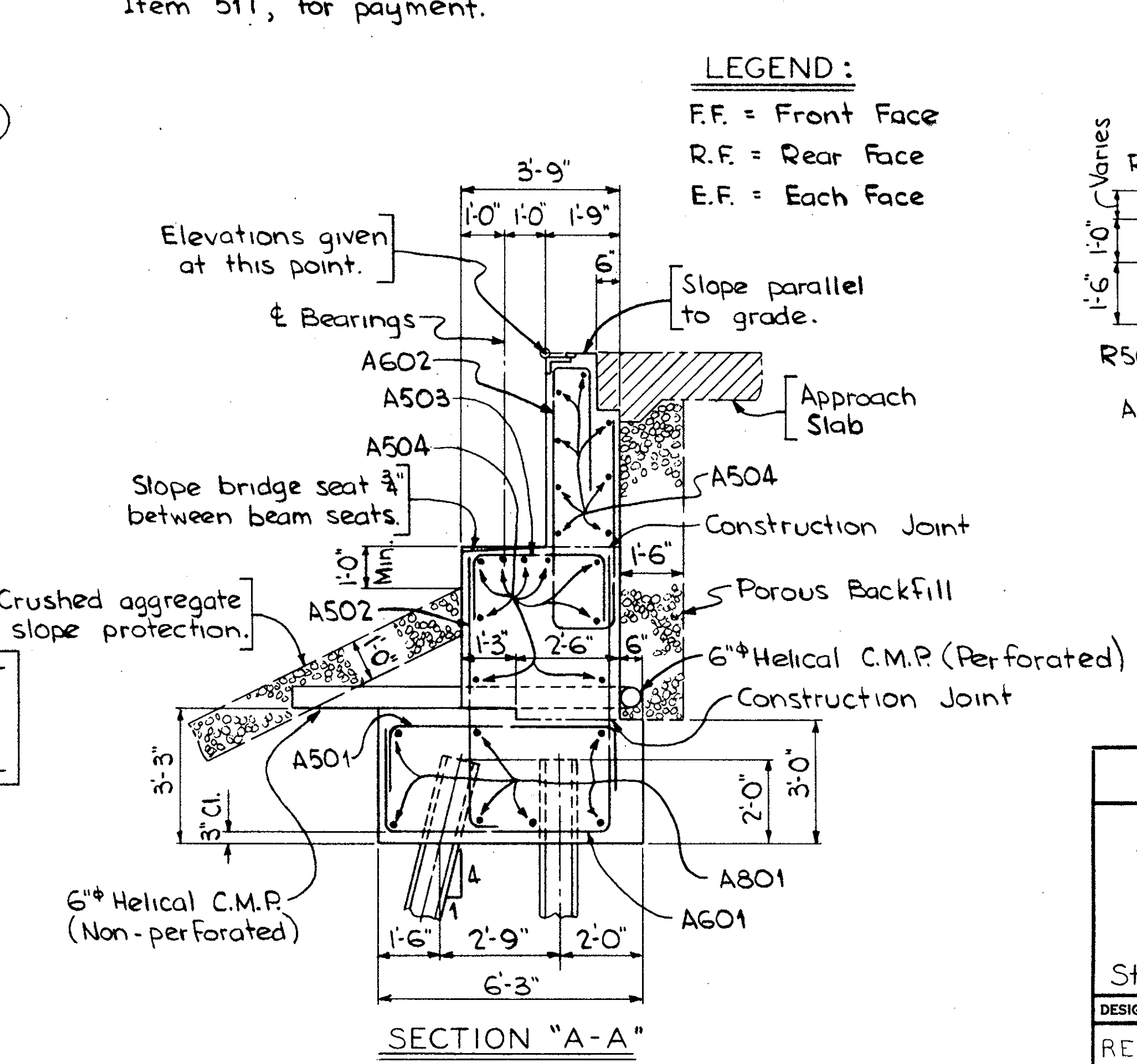
ELEVATION WING "A" (SHOWN)  
ELEVATION WING "B" (SIMILAR)

NOTES:

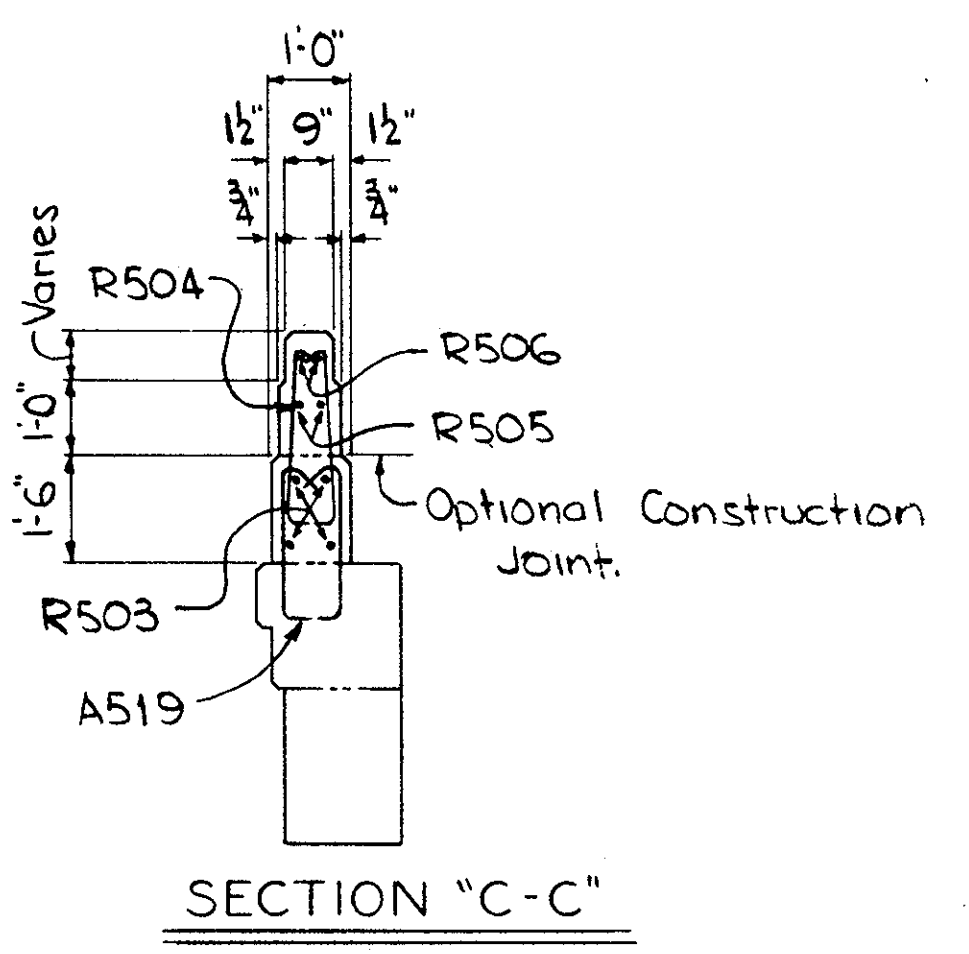
- All Abutment concrete shall be Class "C".
- Concrete and reinforcing steel above parapet construction joint shall be included with Railing, Item 517, for payment.

LEGEND:

- F.F. = Front Face
- R.F. = Rear Face
- E.F. = Each Face



SECTION "A-A"



SECTION "B-B"

SECTION "C-C"

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

ABUTMENT NO.1 & NO.2  
BRIDGE NO. MAH-680-0995  
UNDER THALIA AVE.  
Sta. 606 + 29.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
REB	FWM		H.J.B. REB	2/5/64 6/28/64	

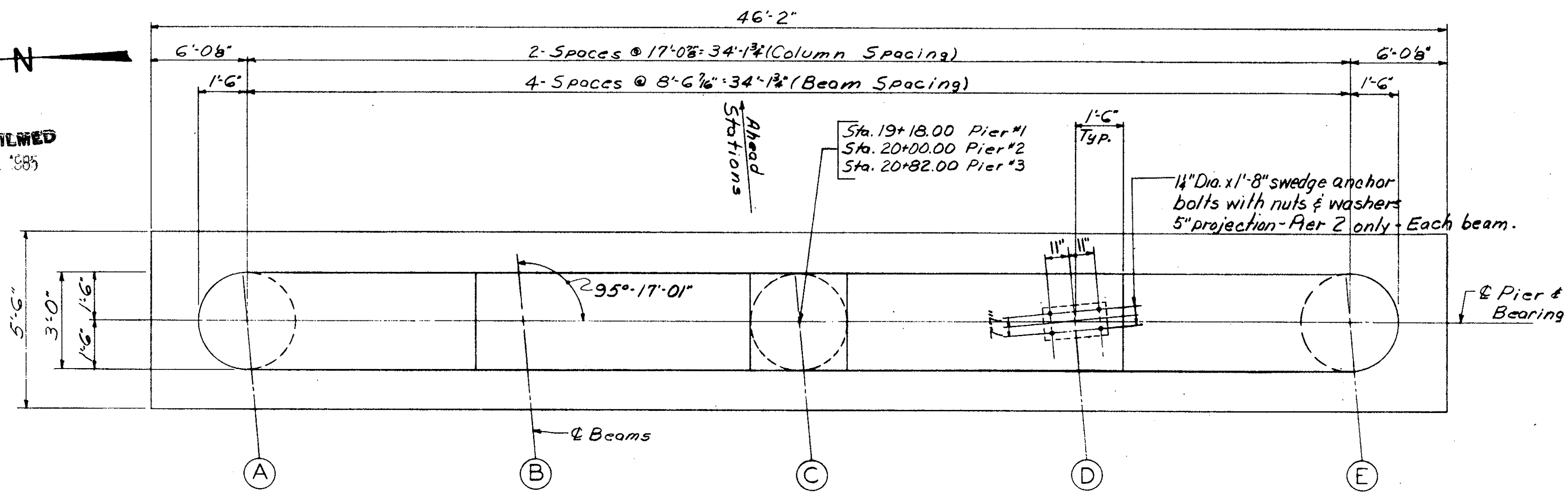
MICROFILMED  
FEB 11 1985

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

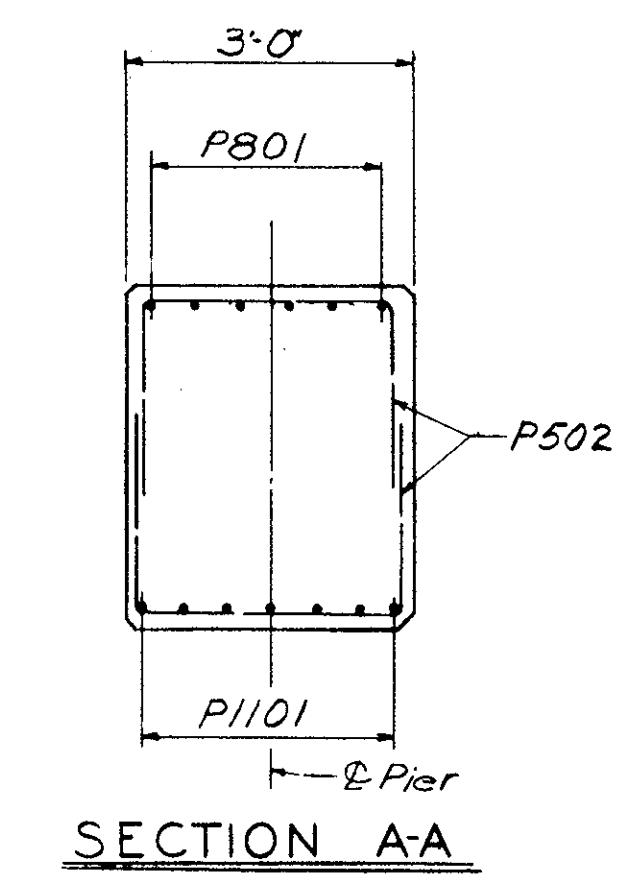
270  
303

MAHONING COUNTY  
MAH-680-932

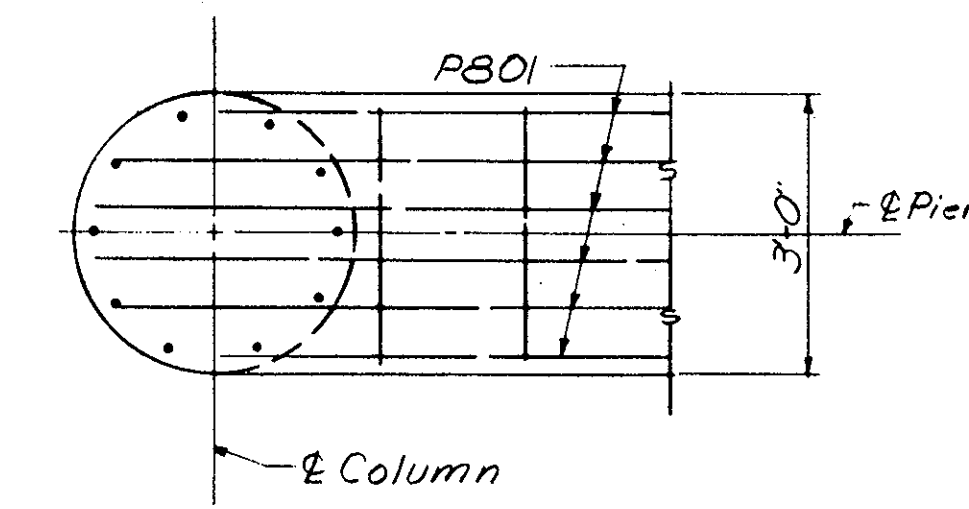
MICROFILMED  
FEB 11 1985



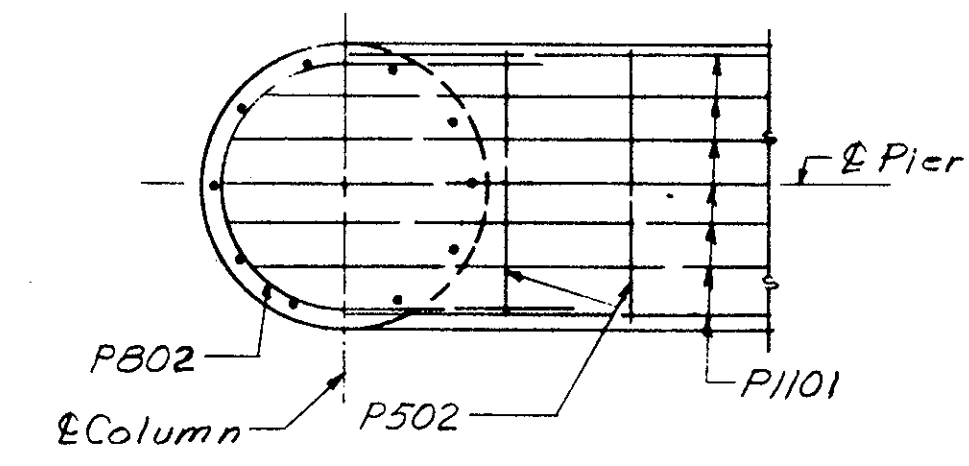
TYPICAL PIER PLAN



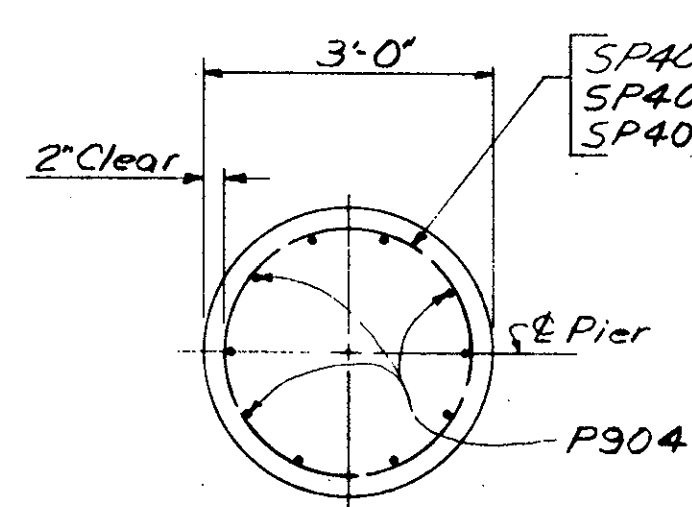
SECTION A-A



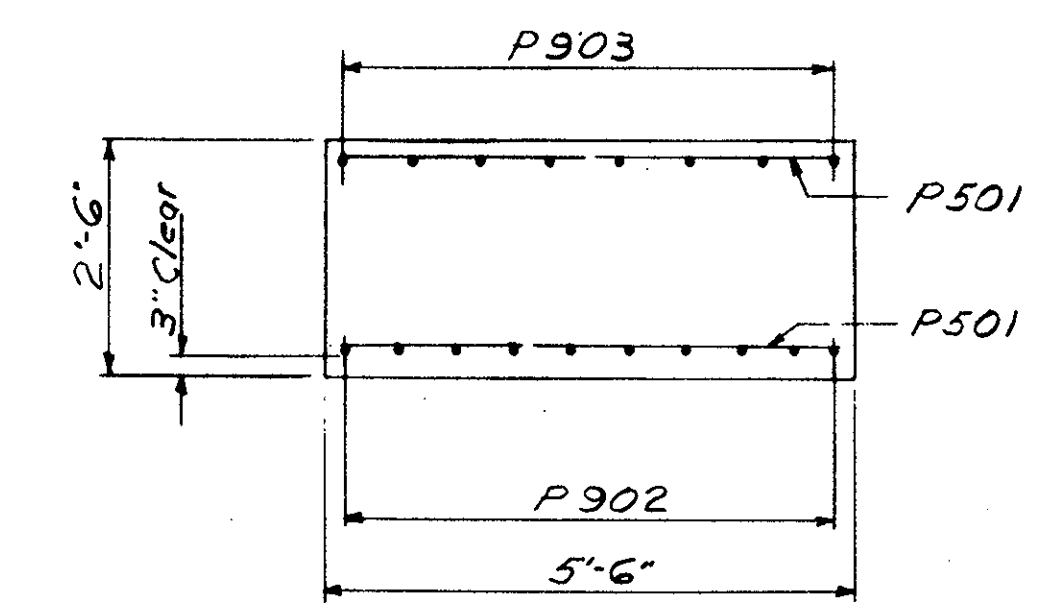
SECTION B-B



SECTION C-C

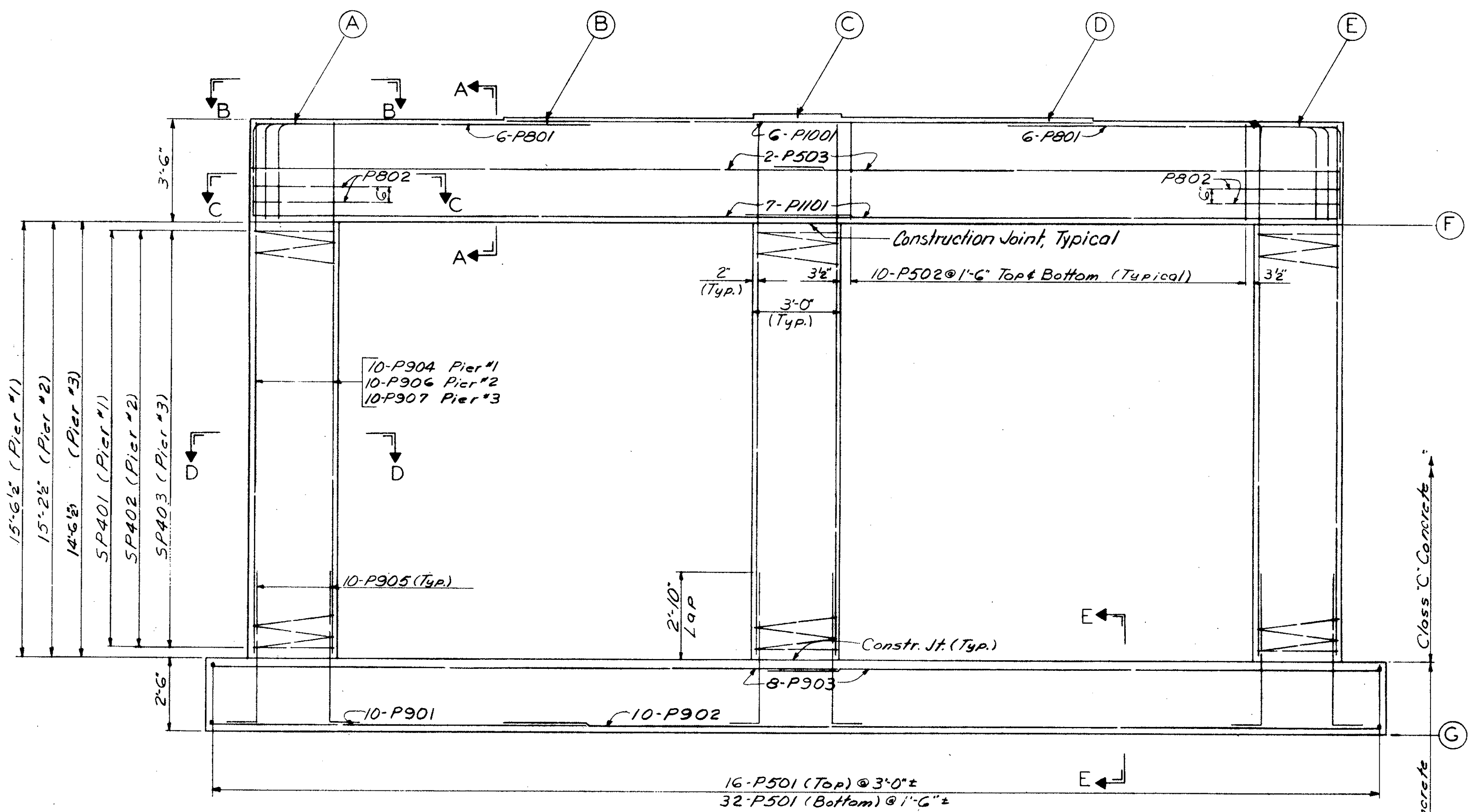


SECTION D-D



SECTION E-E

- NOTES:**
- For Location Plan see Framing Plan
  - Special care shall be taken in placing of the reinforcing bars in Pier cap #2 so they will not interfere with the placing of the bearing anchor bolts



ELEVATION

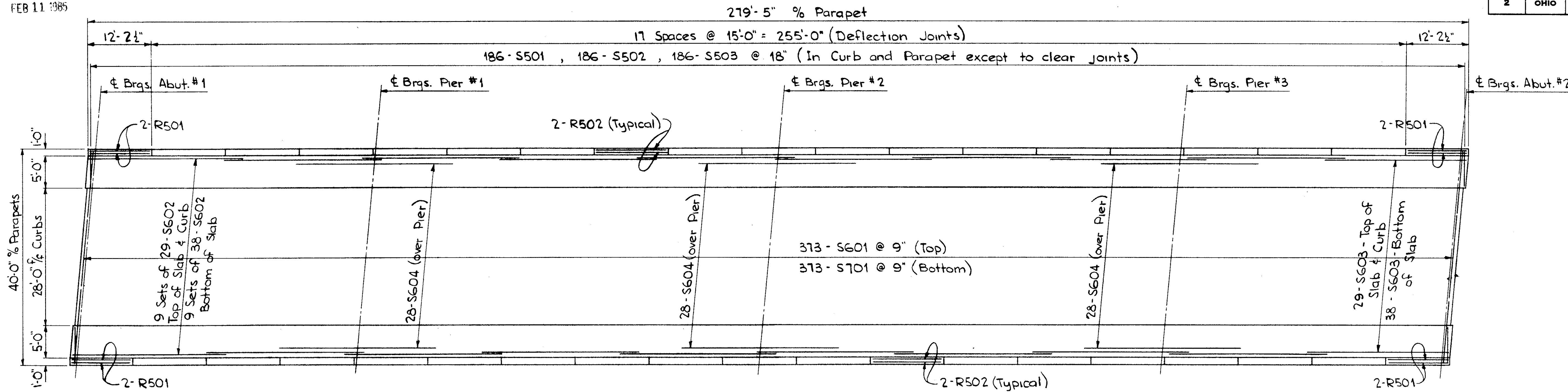
ELEVATIONS							
PIER NO	A	B	C	D	E	F	G
Pier #1	1068.54	1068.62	1068.76	1068.62	1068.54	1065.04	1047.00
Pier #2	1068.20	1068.29	1068.43	1068.30	1068.22	1064.70	1047.00
Pier #3	1067.54	1067.63	1067.77	1067.65	1067.57	1064.04	1047.00

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

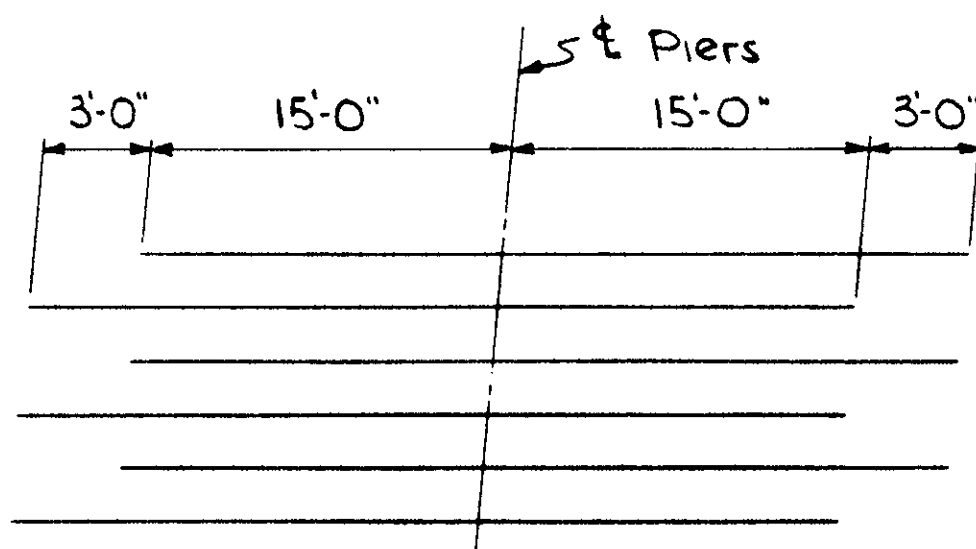
PIER DETAILS  
BRIDGE NO. MAH-680-0995  
UNDER THALIA AVE

STA. 606+29.81

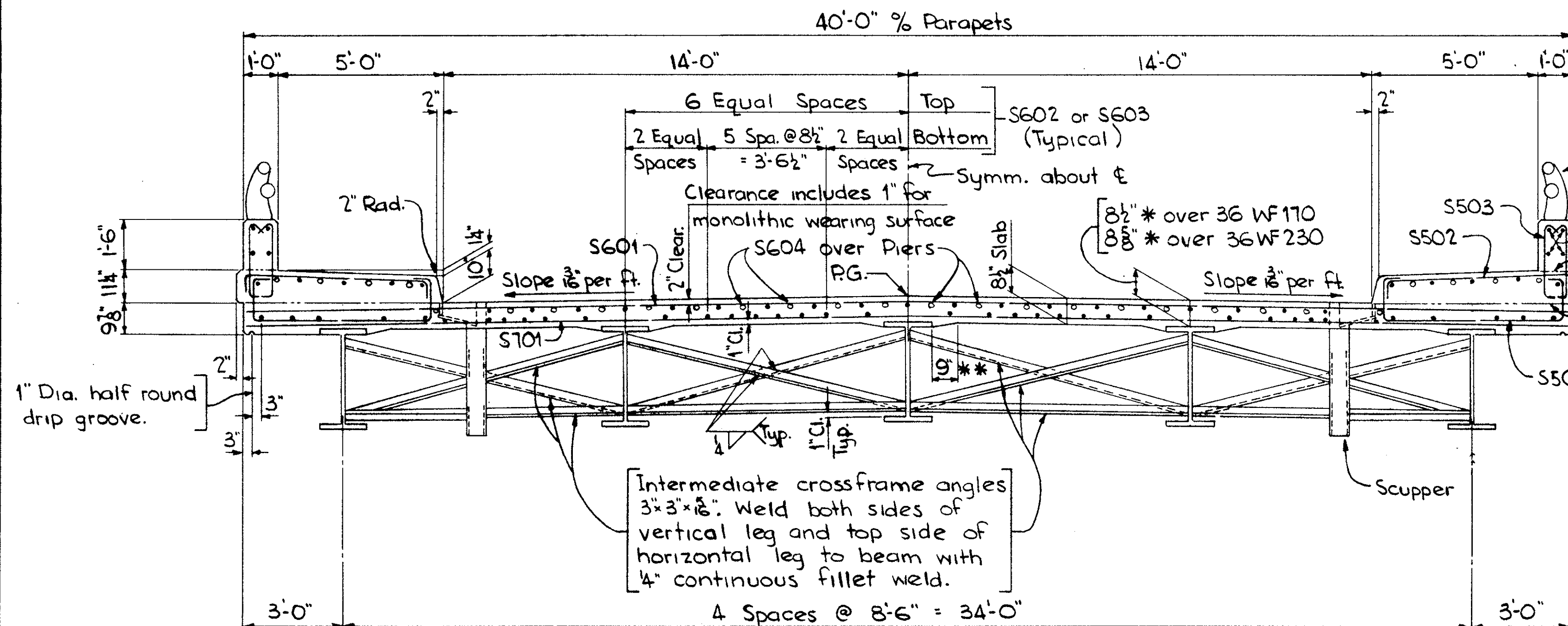
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
REB	RJP		H.J.B. REB	6/28/64	



DECK REINFORCING PLAN



STAGGER OF S604 BARS



TYPICAL CROSS SECTION

\*\* A haunch width of 9" shall be used for computing quantity of concrete. However the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

Type 2 Aluminum Railing Post.  
See Standard Dwg. BR-1-65  
Revised 11-24-65

Construction Joint, Level.

NOTE:

All longitudinal bars are S602 or S603 (at one end) unless otherwise noted.

\* This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

NOTES:

- Field welding for connection of curb plates is considered to be non-stressed and prequalification of welder is not required.
- All concrete shall be Class "C"
- Concrete and reinforcing steel above parapet construction joint shall be included with railing for payment.
- For scupper location, see Framing Plan, Sheet 272

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

DECK PLAN  
BRIDGE NO. MAH-680-0995  
UNDER THALIA AVE.

Sta. 606 + 29.81

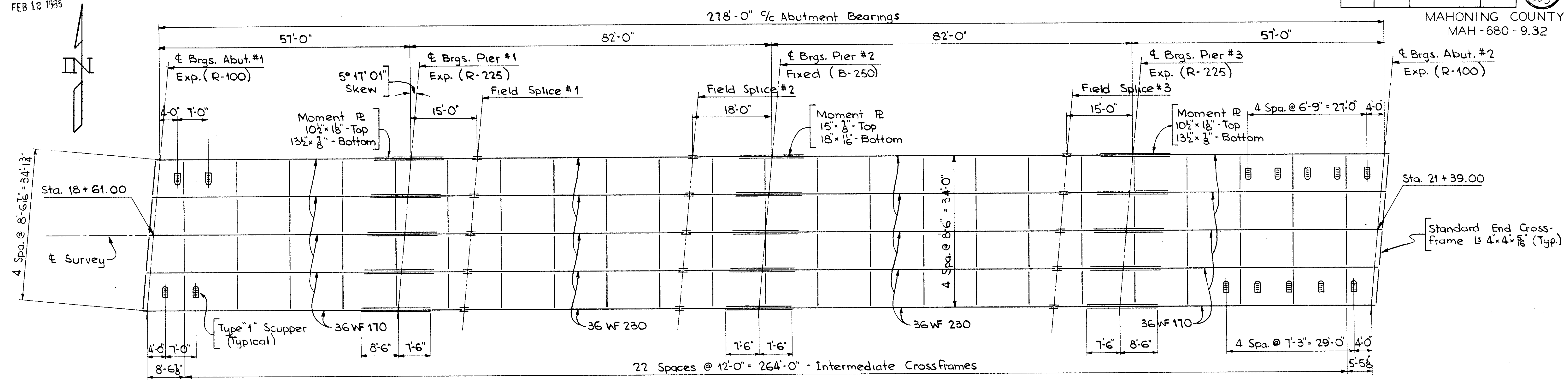
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REB	FWM		JCH REB	6/28/69	2-23-72

Rev. 2-23-72

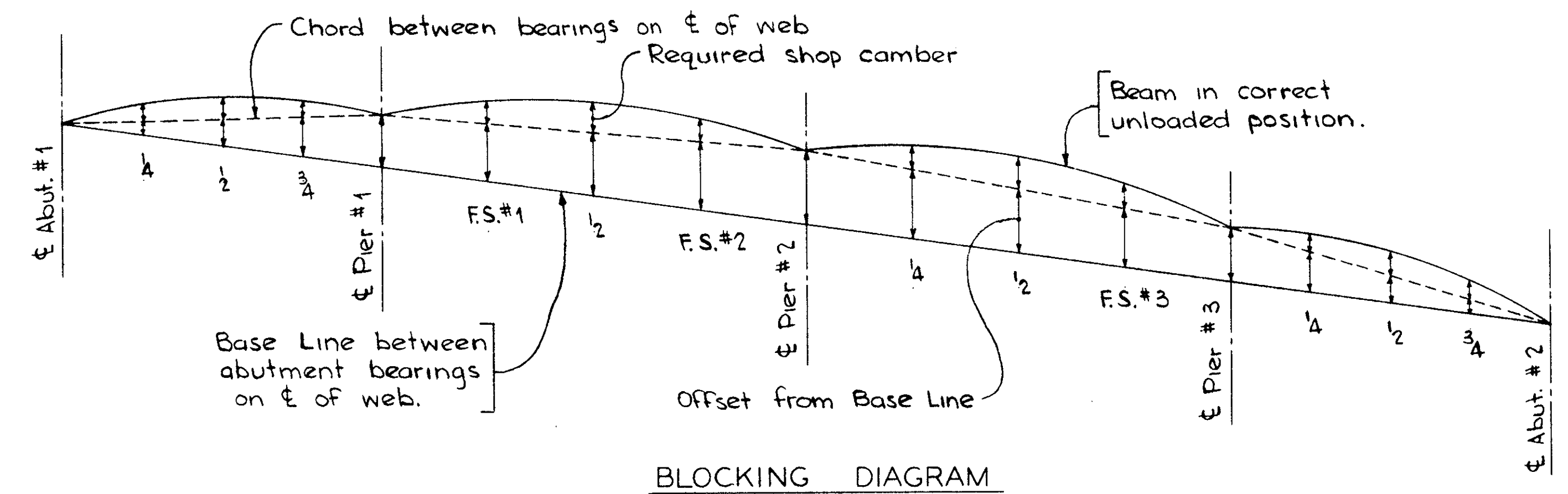
MICROFILMED  
FEB 12 1985

MAHONING COUNTY  
MAH-680-9.32

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303



FRAMING PLAN



BLOCKING DIAGRAM

- NOTES:
- Refer to Standard Drawing RB-1-55 for bearing details.
  - Refer to Standard Drawing SD-1-69 for end crossframes (Beam spans 8'-0" to 12'-0"), roadway end dams for monolithic wearing surface, curb plate details, beam splices, moment plate welding and scupper details.
  - End Dam Painting: Portion of the end dams which will be in contact with steel or concrete shall not be painted. All other portions shall be cleaned and painted in accordance with Item 514.

GUTTER ELEVATIONS						
Location	LEFT CURB			RIGHT CURB		
	Station	Final Elev.	Constr. Elev. *	Station	Final Elev.	Constr. Elev. *
¢ Abut. #1	18+62.29	1073.71	1073.71	18+59.71	1073.71	1073.71
Span 1 - 1/2 pt.	18+90.79	1073.75	1073.77	18+88.21	1073.75	1073.77
¢ Pier #1	19+19.29	1073.75	1073.75	19+16.71	1073.75	1073.75
Field Splice #1	19+34.29	1073.72	1073.74	19+31.71	1073.73	1073.75
Span 2 - 1/2 pt.	19+60.29	1073.65	1073.69	19+57.71	1073.66	1073.70
Field Splice #2	19+83.29	1073.55	1073.57	19+80.71	1073.56	1073.58
¢ Pier #2	20+01.29	1073.45	1073.45	19+98.71	1073.47	1073.47
Span 3 - 1/4 pt.	20+21.79	1073.31	1073.33	20+19.21	1073.33	1073.35
Span 3 - 1/2 pt.	20+42.29	1073.15	1073.19	20+39.71	1073.17	1073.21
Field Splice #3	20+68.29	1072.91	1072.93	20+65.71	1072.93	1072.95
¢ Pier #3	20+83.29	1072.75	1072.75	20+80.71	1072.78	1072.78
Span 4 - 1/2 pt.	21+11.79	1072.41	1072.43	21+09.21	1072.44	1072.46
¢ Abut. #2	21+40.29	1072.02	1072.02	21+37.71	1072.06	1072.06

\* Construction Elevations adjusted for deflection due to dead load of concrete.

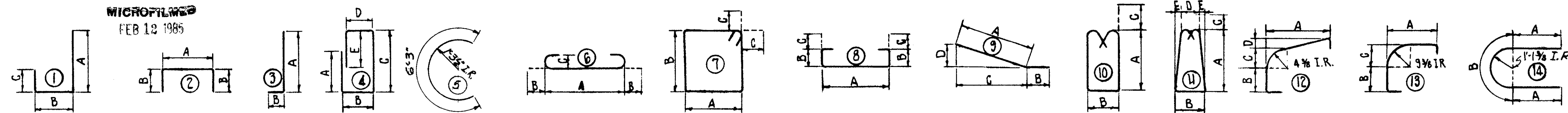
Location	Span #1			Pier #1	Span #2			Pier #2	Span #3			Pier #3	Span #4		
	1/4	1/2	3/4		FS.#1	1/2	FS.#2		1/4	1/2	FS.#3		1/4	1/2	3/4
Deflection due to weight of steel	1/16"	1/16"	0"		1/16"	8"	1/16"		1/16"	8"	1/16"		0"	1/16"	1/16"
Deflection due to remaining dead load	3/16"	1/4"	1/16"		1/16"	1/16"	3/16"		1/4"	1/16"	3/16"		1/16"	1/4"	3/16"
Adjustment required for vertical curve	1/4"	5/16"	1/4"		3/8"	5/8"	1/16"		1/16"	5/8"	3/8"		1/4"	5/16"	1/4"
Required shop camber	1/2"	5/8"	1/16"		5/8"	1 1/16"	1/16"		3/4"	1 1/16"	5/8"		5/16"	5/8"	1/2"
Offset from Base Line	1 1/8"	2 1/16"	3 1/16"	4 1/8"	5"	5 1/16"	6 1/2"	7"	6 1/16"	5 1/16"	5"	4 1/8"	3 1/16"	2 1/8"	1 1/8"

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

FRAMING PLAN  
BRIDGE NO. MAH-680-0995  
UNDER THALIA AVE.  
Sta. 606 + 29.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
REB	FWM		JCH	6/23/64	

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FEB 12 1985



All dimensions out to out unless noted.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

MAHONING COUNTY  
MAH - 680 - 9.32

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303

BAR SCHEDULE

Mark	No.	Length	Type	A	B	C	D	E	Weight	Mark	No.	Length	Type	A	B	C	D	E	Weight
PIERS										SUPERSTRUCTURE									
P1101	42	20'-3"	Str.						4519	S701	373	39'-8"	Str.						30,245
P1001	18	20'-0"	Str.						1549	S601	373	39'-8"	Str.						22,225
P901	30	15'-10"	Str.						1615	S602	603	30'-0"	Str.						27,171
P902	30	32'-10"	Str.						3349	S603	67	27'-0"	Str.						2,717
P903	48	24'-4"	Str.						3,972	S604	84	33'-0"	Str.						4,164
P904	30	18'-7"	Str.						1,895	S501	372	8'-3"	8	5'-6"	1'-3"	6"			3,395
P905	90	6'-2"	3	5'-2"	1'-3"				1,887	S502	372	6'-3"	2	5'-6"	6"				2,425
P906	30	18'-3"	Str.						1,862	S503	372	5'-7"	10	2'-2"	8"	5"			2,166
P907	30	17'-7"	Str.						1,794	R501	16	11'-11"	Str.						*
P801	36	14'-3"	3	11'-4"	3'-2"				1,371	R502	136	14'-8"	Str.						*
P802	12	8'-7"	14	2'-6"	3'-7"				276										
P501	144	5'-2"	Str.						777										
P502	120	7'-3"	2	2'-8"	2'-5"	2'-5"			909										
P503	12	17'-10"	Str.						223										

NOTES:  
Bar size is indicated in the bar mark. The first digit where three digits are used and the first two digits where four are used, indicate the bar size number. For example, S701 is a No 7 size bar and P1101 is a No 11 size bar.

Spiral Reinforcing Bars: The "Length shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap. The "No of Turns" shown is the "Length divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars may have deformations and shall in other respects conform to Item 509. 1 1/2 closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lbs. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of lbs of these spacers based on 0.68 lbs. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

\* = Included in Item 517 for payment

ABUTMENTS

A801	28	22'-0"	Str.						1,645
A802	24	10'-4"	Str.						662
A601	56	14'-1"	1	6'-5"	5'-5"	2'-7"			1,184
A602	60	16'-3"	4	5'-1"	1'-5"	6'-5"	11"	3'-1"	1,484
A603	16	15'-7"	2	1'-5"	7'-3"				314
A604	36	7'-10"	6	6'-6"	8"	6"			424
A605	20	18'-8"	2	8'-11"	1'-2"				561
A501	56	8'-4"	2	5'-5"	1'-7"				487
A502	56	6'-9"	3	6'-5"	6"				394
A503	56	6'-4"	2	3'-5"	1'-7"				370
A504	68	20'-7"	Str.						1,460
A505	8	5'-11"	3	4'-6"	1'-7"				49
A506	24	12'-0"	7	3'-2"	2'-7"	5"			300
A507	24	7'-2"	Str.						179
A508	8	6'-8"	Str.						56
A509	20	5'-2"	Str.						108
A510	20	6'-4"	3	5'-2"	1'-4"				132
A511	8	8'-6"	9	6'-11"	1'-7"	6'-2"	3'-1"		71
A512	32	13'-3"	Str.						442
A513	4	5'-0"	Str.						21
A514	4	6'-2"	3	5'-0"	1'-4"				26
A515	4	4'-3"	Str.						18
A516	4	5'-5"	3	4'-3"	1'-4"				23
A517	12	3'-5"	Str.						43
A518	12	4'-7"	3	3'-5"	1'-4"				57
A519	40	5'-7"	10	2'-2"	8"	5"			233
R503	16	12'-11"	Str.						*
R504	12	6'-1"	11	2'-5"	8"	5"	5"	1 1/2"	*
R505	8	5'-5"	13	3'-4"	9"	10"			*
R506	8	4'-2"	12	2'-4"	9"	5"	1"		*

SPIRAL REINFORCING LIST

Mark	No.	Length	Size	Pitch	Core Dia	No. Turns	Weight
SP401	3	15'-6 1/2"	4	4 1/2"	32"	45	882
SP402	3	15'-2 1/2"	4	4 1/2"	32"	44	862
SP403	3	14'-6 1/2"	4	4 1/2"	32"	42	824

REPLACEMENT BARS

Mark	No.	Length	Weight	Shape
RE101	1	8'-7"	—	Str.
RE1001	1	8'-3"	—	Str.
RE901	1	7'-10"	—	Str.
RE801	1	7'-6"	—	Str.
RE701	2	7'-3"	—	Str.
RE601	4	6'-11"	—	Str.
RE501	1	6'-7"	—	Str.
RE401	1	6'-3"	—	5

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

REINFORCING STEEL LIST  
BRIDGE NO. MAH-680-0995  
UNDER THALIA AVE.  
STA. 606 + 29.81

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
REB	J		H.J.B.	6/22/64	

MAHONING COUNTY  
MAH- 680- 932

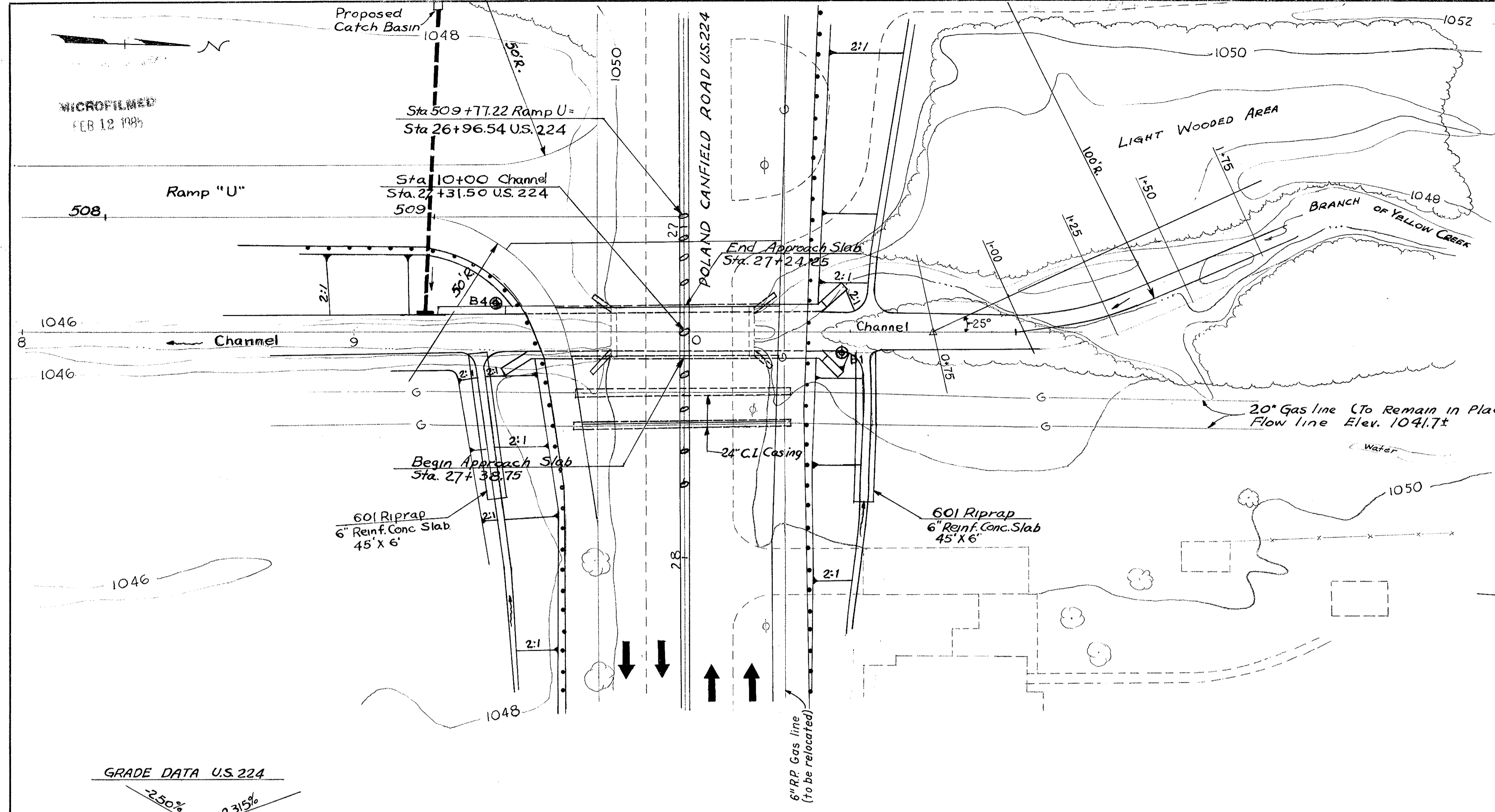
End Earthwork  
Sta. 1+90

Station	End Area		Volume	
	Cut	Fill	Cut	Fill
18		0	135	
26		5	550	63
32		7	725	75
30		5	775	75
39		24	1615	363
36		20	938	550

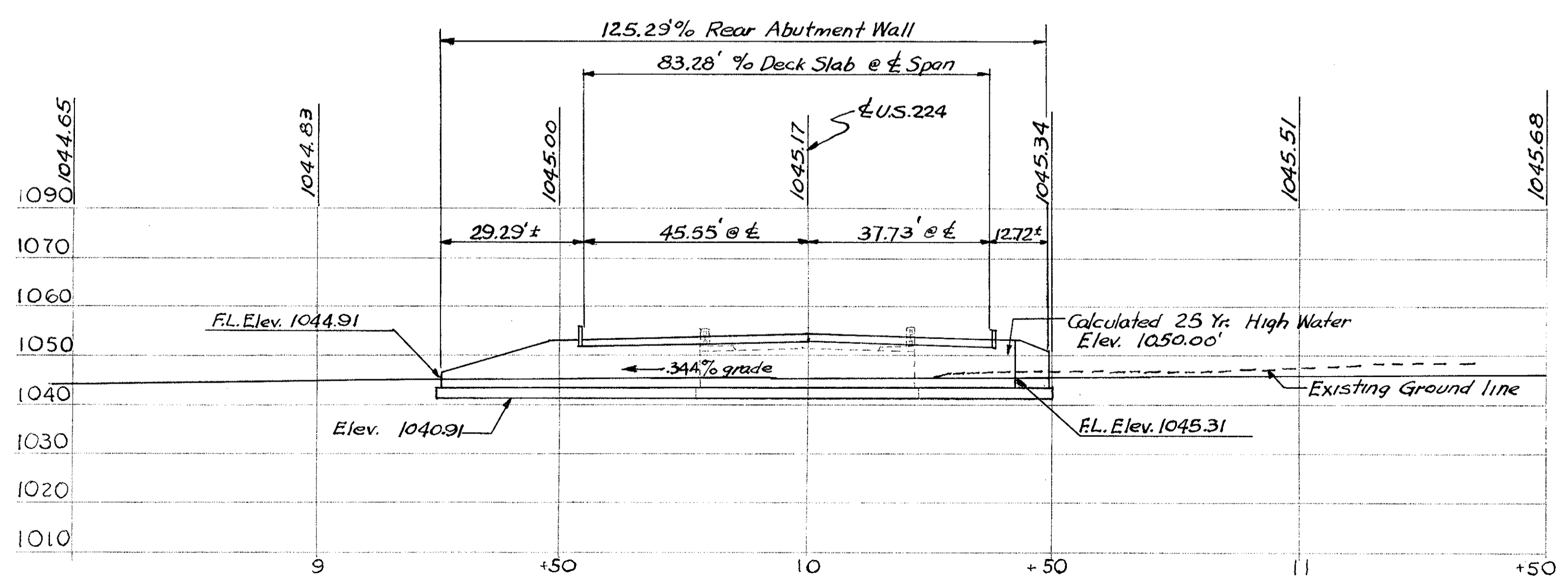
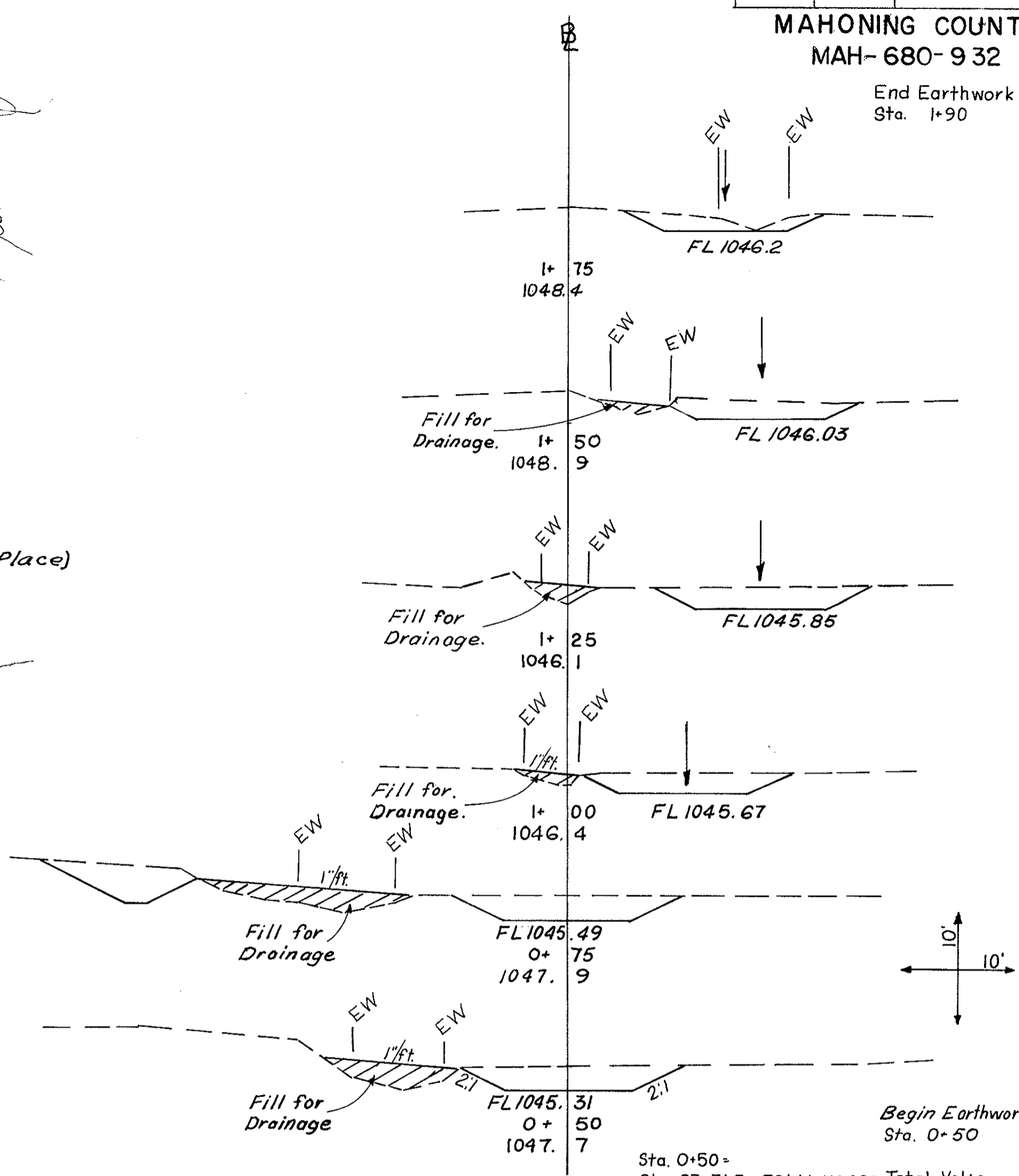
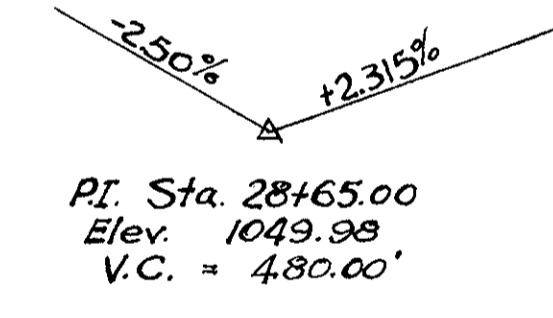
Begin Earthwork  
Sta. 0+50  
Calc. by R.J.B. Date 5-2-69  
Checked by R.L. Date 5-2-69  
Sta. 0+50 - Sta. 27+31.5 - 50' Lt. US224 Total Vol. = 175 Cy - Cut  
Total Vol. = 42 Cy - Fill  
For Plan View See Sheet No 31 For Quantities see Plan+Profile Sheet.

DRAINAGE AREA 0.9 Sq. MI.

Clears Calculated 25 Year High Water 23'



GRADE DATA U.S.224



PROFILE- NORTH BRANCH OF YELLOW CREEK

**EXISTING STRUCTURE**  
(To be removed)  
Type: Slab top culvert with reinforced concrete deck and substructure and bituminous surface course.  
Span: 12'-0" clear face to face of abutments  
Roadway: 30'-0" f/p curb + 5'-0" sidewalks  
Load Frequency: Std. Drwg. SB-31  
Skew: None  
Date Built: 1932  
Condition: Fair

**PROPOSED STRUCTURE**  
Type: Slab top Culvert with reinforced concrete deck and substructure  
Span: 12'-0" clear f/p abutments  
Roadway: Variable - Approach roadway + 8'-0" right and left of 1/2 - 83.28 f/p guardrails at 1/2 bridge  
Load Frequency: C.F-2000 (ST)  
Skew: None  
Wearing Surface: 1' Monolithic Concrete  
Approach Slabs: Special (20'-0 long)  
Alignment: Tangent

1985 A.D.T. { 16377 E.B.  
75518 W.B.

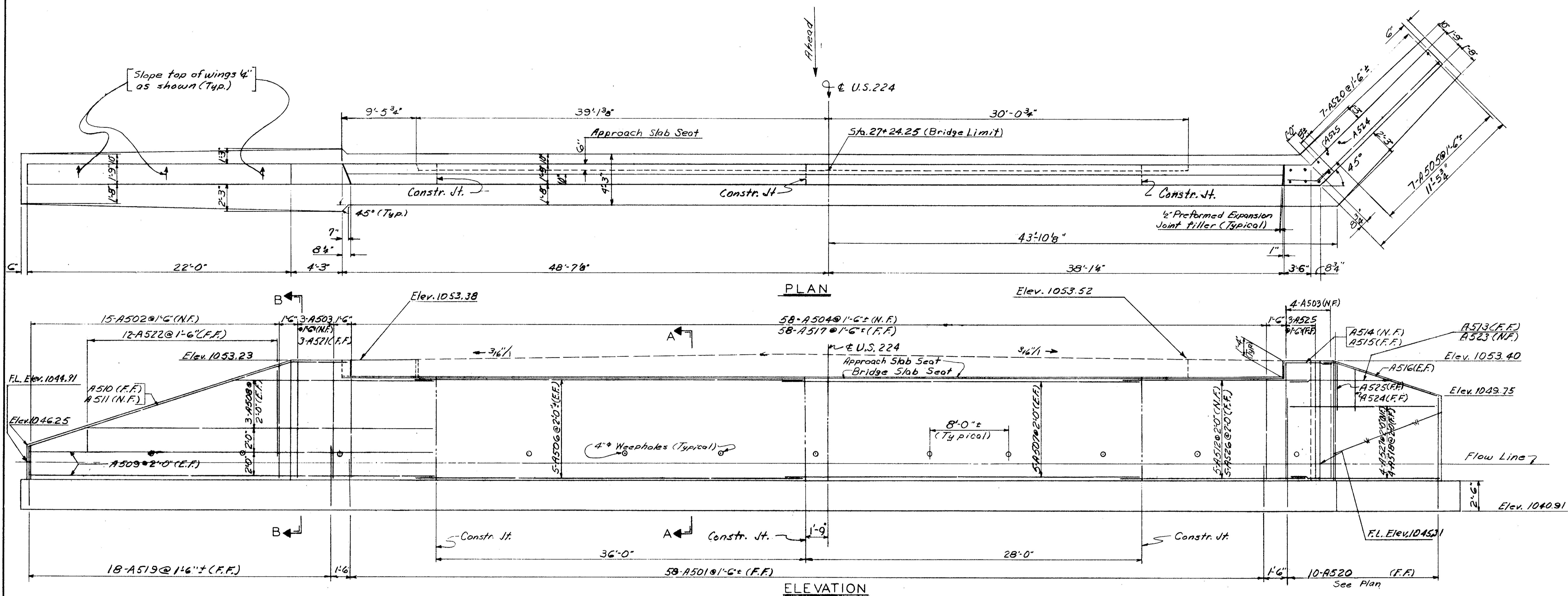
MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA  
**SITE PLAN**  
BRIDGE NO. MAH- 224-1990  
over Branch of Yellow Creek  
Sta. 27 + 31.50 U.S.R. 224

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	JLB	MBJ	MBJ	HJB	JLB 6/23/69

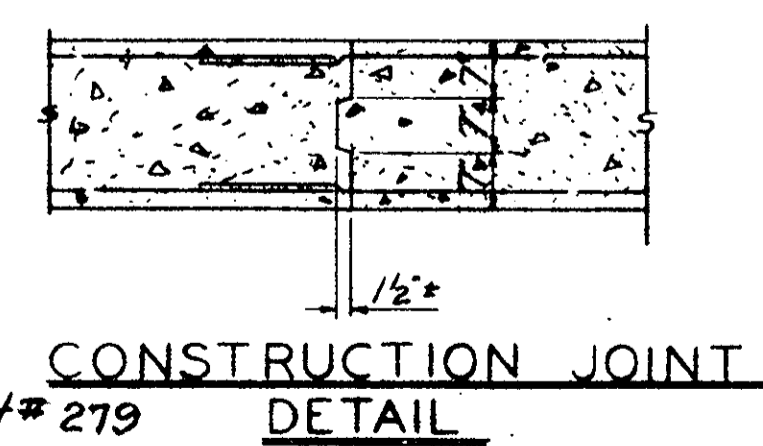




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- NOTES:**
- For Sections A-A and B-B see sheet 277
  - E.F. - Each Face
  - F.F. - For Face
  - N.F. - Near Face
  - For Bar Schedule See sheet # 279



MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

ABUTMENT NO. 1  
BRIDGE NO. MAH-224-1990  
OVER  
BRANCH OF YELLOW CREEK

STA. 27+31.50 U.S.R. 224

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
JWL	RJP		HJB	6/29/69	

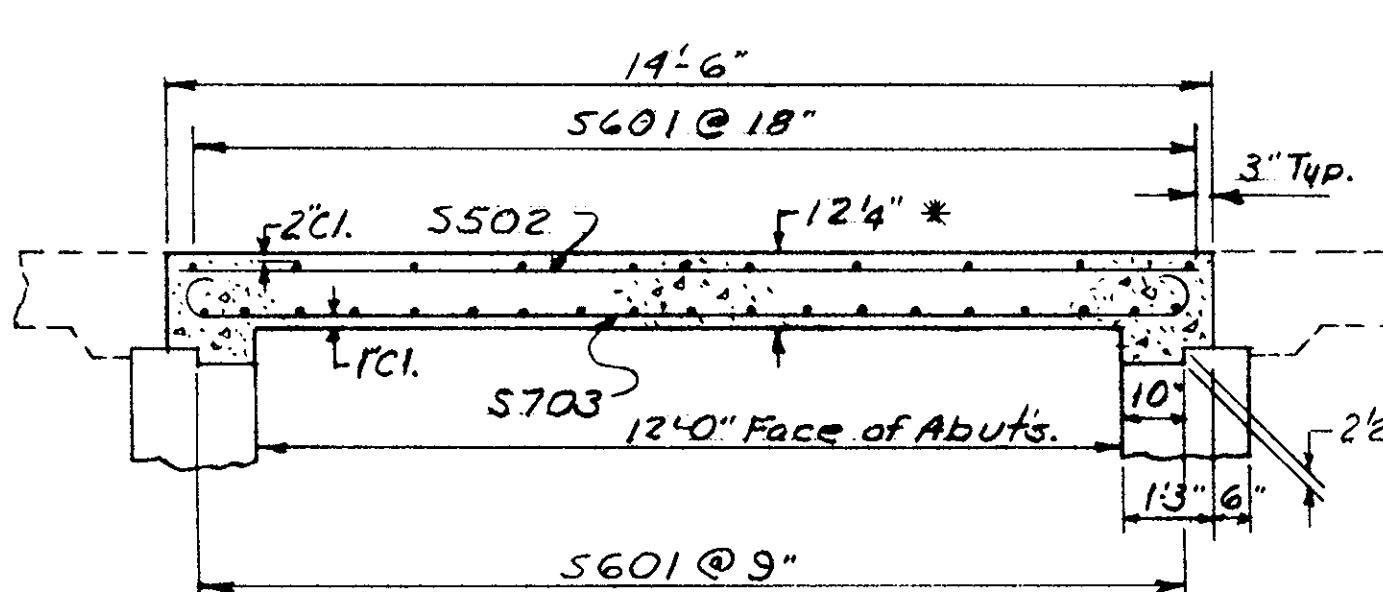
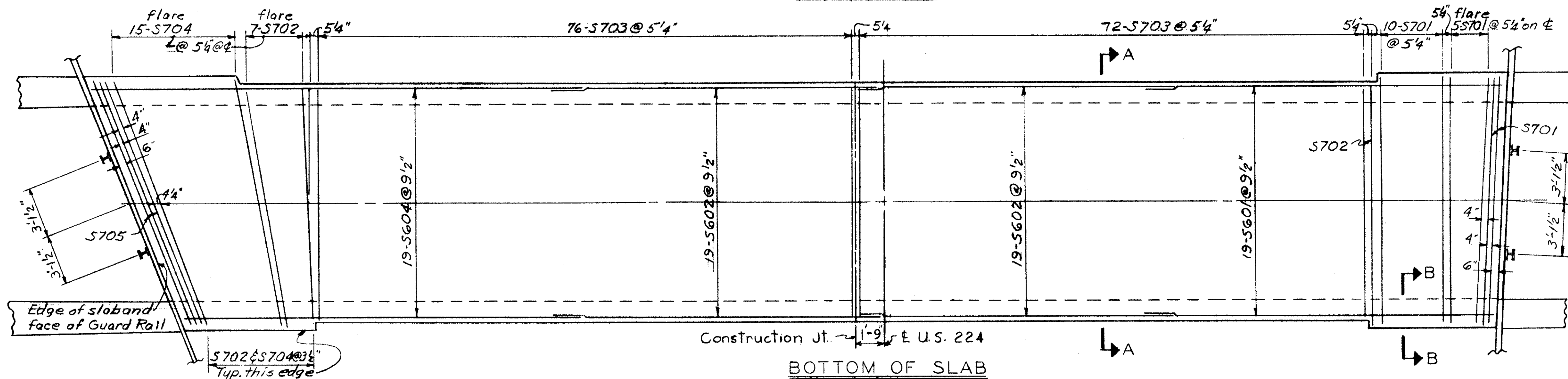
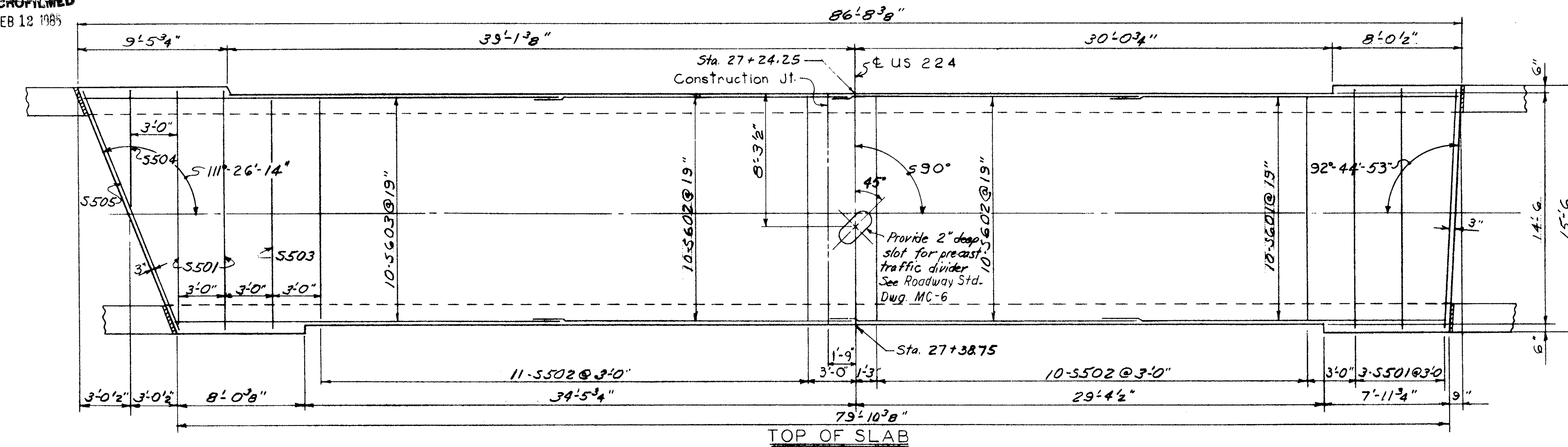


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FEB 12 1985

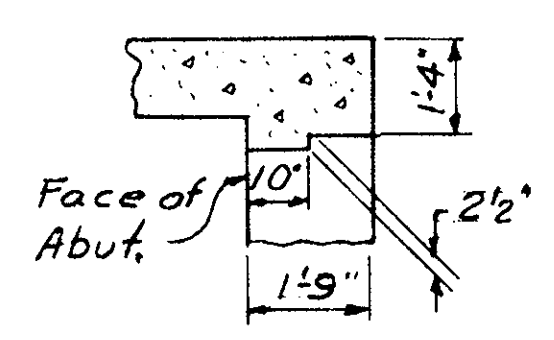
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

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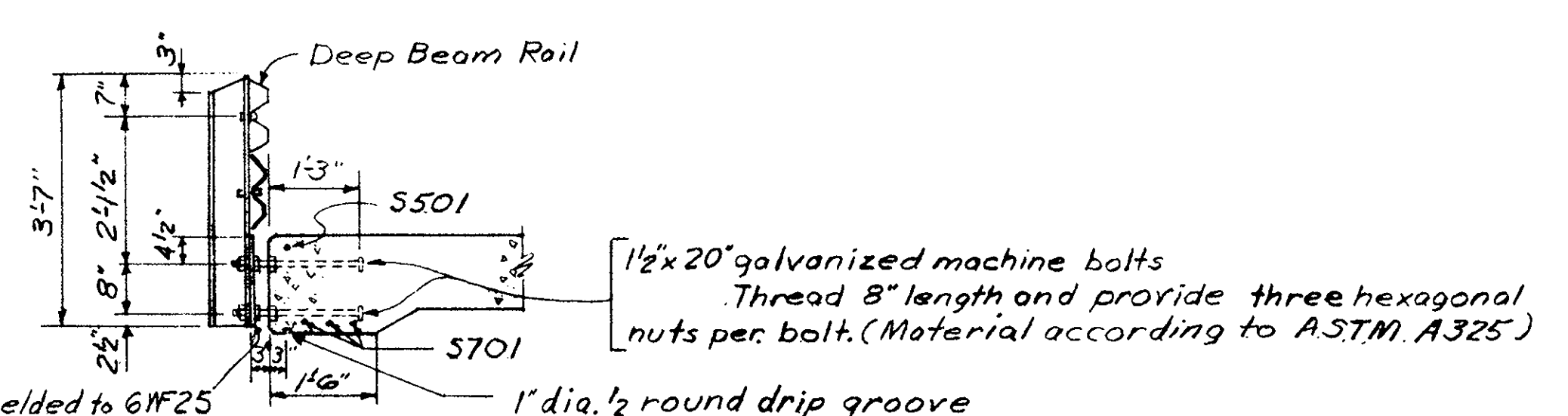
MAHONING COUNTY  
MAH-680-9.32



SECTION A-A

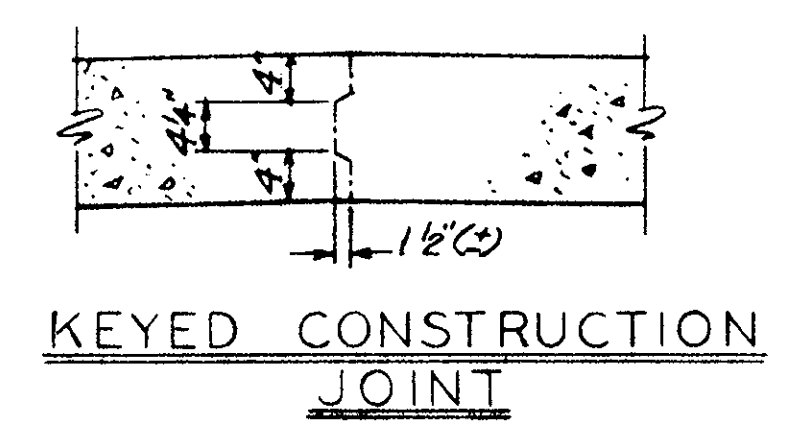


SECTION B-B

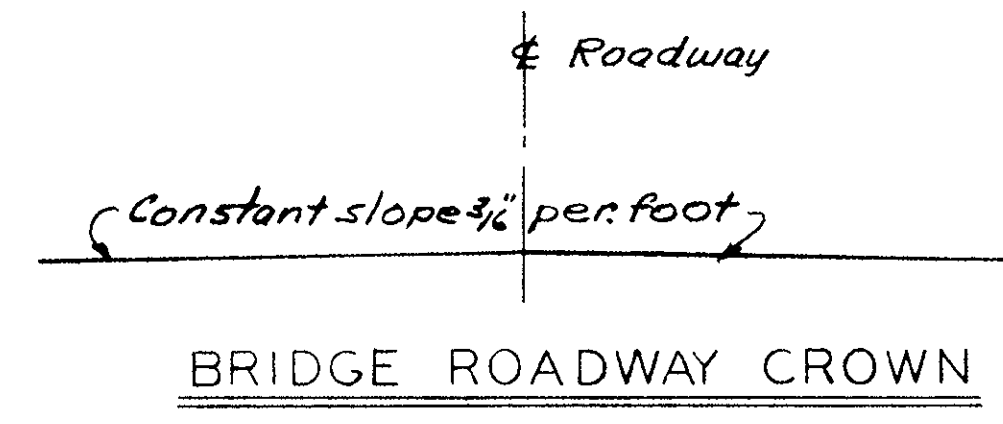


SECTION C-C

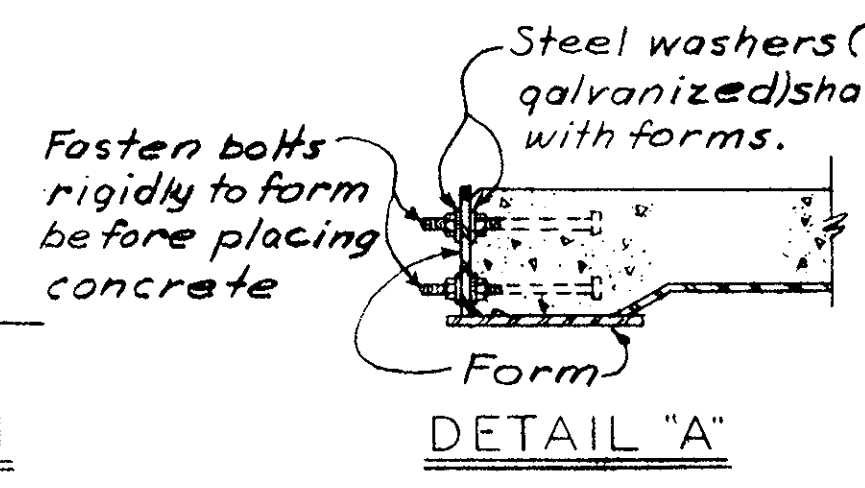
\* Slab thickness shown includes 1" for monolithic wearing surface.



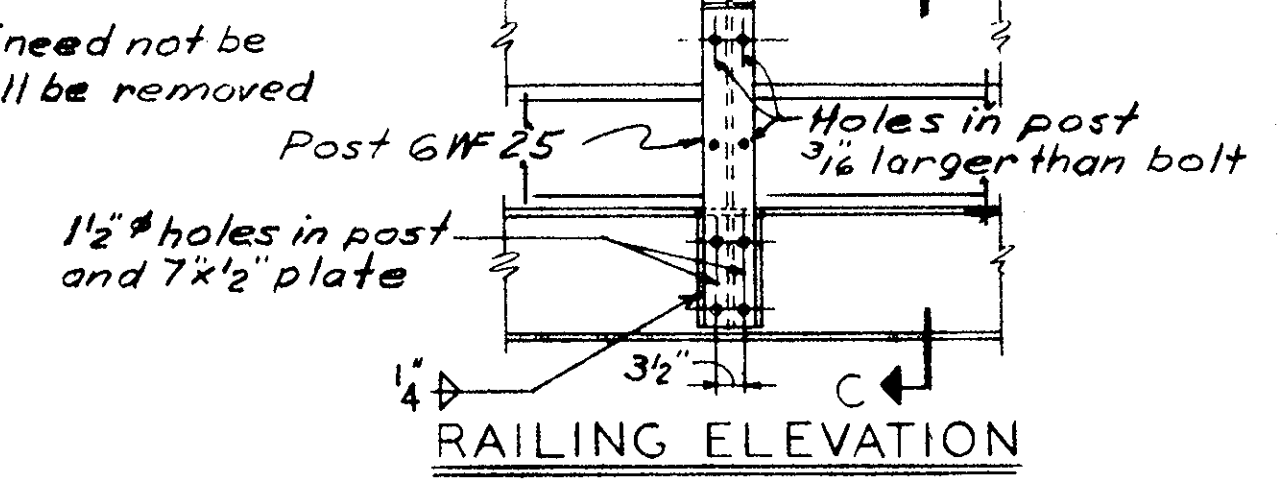
KEYED CONSTRUCTION JOINT



BRIDGE ROADWAY CROWN



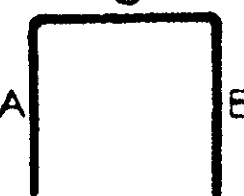
DETAIL "A"



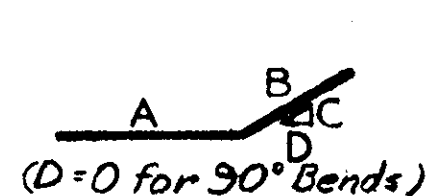
RAILING ELEVATION

MICHAEL BAKER JR., CONSULTING ENGINEERS ROCHESTER, PENNSYLVANIA					
DECK PLAN BRIDGE NO. MAH-224-1990 OVER BRANCH OF YELLOW CREEK STA. 27+31.50					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWL	O.W.		DWP	2/28/64	2-23-72

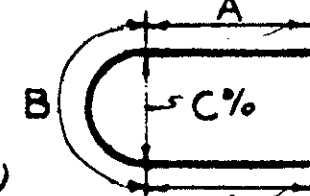
Rev. 2-23-73



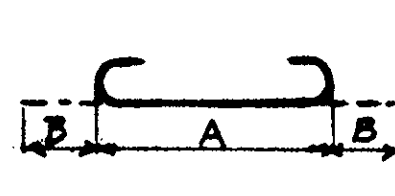
TYPE 1



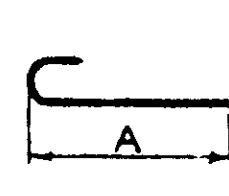
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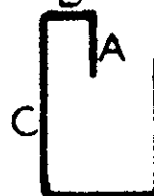
TYPE 3



TYPE 4



TYPE 5



TYPE 6



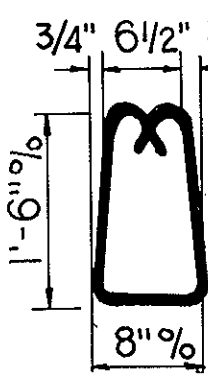
TYPE 7



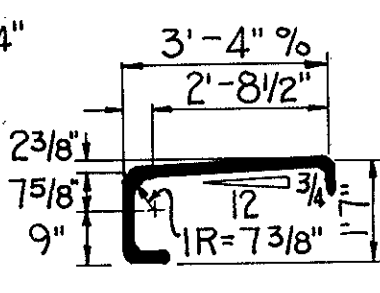
TYPE 8



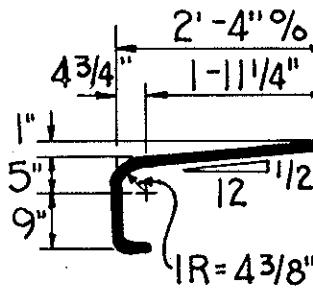
TYPE 9



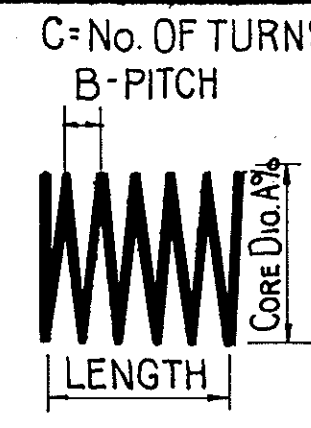
TYPE 10



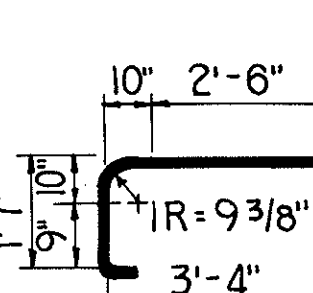
TYPE 11



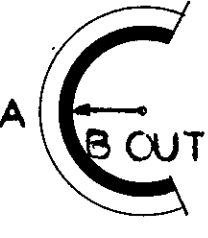
TYPE 12



TYPE 13



TYPE 14



TYPE 15

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

MAHONING COUNTY  
MAH - 680 - 9.32

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303

ABUTMENT NO. 1										ABUTMENT NO. 2										DECK											
MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT	MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT	MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT		
A 501	58	4'-1"	2	3'-7"	6"	12"	0		247	B 501	54	4'-1"	2	3'-7"	6"	12"	0		230	S 701	17	16'-8"	4	15'-0"	10"				579		
A 502	150f15	2'-8" to 9'-7"	Str						96	B 502	17	9'-7"	Str						170	S 702	8	16'-2"	4	14'-6"	10"				264		
A 503	7	9'-9"	Str						71	B 503	54	8'-0"	Str						451	S 703	147	15'-8"	4	14'-0"	10"				4707		
A 504	58	8'-5"	Str						509	B 504	54	8'-5"	Str						474	S 704	150f16	17'-7"	4	16'-3" to 15'-5"	10"				279		
A 505	150f7	6'-2" to 9'-7"	Str						58	B 505	150f6	4'-11" to 9'-4"	Str						44	S 705	3	17'-10"	4	16'-2"	10"				109		
A 506	10	37'-8"	Str						393	B 506	150f7	4'-11" to 9'-2"	Str						51												
A 507	10	29'-7"	Str						309	B 507	10	37'-7"	Str						392												
A 508	250f3	32'-0" to 19'-6"	Str						161	B 508	10	29'-7"	Str						309												
A 509	4	36'-11"	Str						154	B 509	10	17'-6"	Str						183	S 601	33	21'-3"	Str							1053	
A 510	1	26'-11"	2	3'-11"	23'-0"	12"	4"		28	B 510	3	12'-10"	2	11'-3"	1'-7"	12"	7"		40	S 602	66	20'-0"	Str							1983	
A 511	1	27'-7"	2	4'-7"	23'-0"	12"	4"		29	B 511	1	10'-7"	2	9'-0"	1'-7"	12"	7"		11	S 603	150f6	25'-6" to 29'-11"	Str							246	
A 512	5	17'-8"	Str						92	B 512	1	6'-1"	2	4'-6"	1'-7"	12"	7"		6	S 604	150f11	25'-8" to 28'-11"	Str							451	
A 513	1	6'-0"	2	4'-5"	1'-7"	12"	12"		6	B 513	1	3'-8"	2	2'-10"	10"	12"	7"		4	S 605	8	30'-4"	Str							364	
A 514	1	5'-6"	2	3'-10"	1'-8"	12"	12"		6	B 514	1	3'-9"	2	2'-6"	1'-3"	12"	7"		4	S 606	8	25'-1"	Str							301	
A 515	1	4'-2"	2	3'-2"	1'-0"	12"	12"		4	B 515	10	14'-8"	Str						153												
A 516	2	12'-9"	2	11'-2"	1'-7"				27	B 516	3	11'-11"	2	10'-4"	1'-7"	12"	12"		37												
A 517	58	8'-8"	Str						524	B 517	1	10'-0"	2	8'-5"	1'-7"	12"	12"		10												
A 518	4	12'-4"	2						51	B 518	1	6'-2"	2	4'-7"	1'-7"	12"	12"		6	S 501	5	15'-0"	Str							78	
A 519	18	5'-5"	2	4'-11"	6"	12"	0		102	B 519	2	11'-5"	2	9'-10"	1'-7"	6'-6"	12"		24	S 502	22	14'-0"	Str							321	
A 520	10	8'-11"	2	8'-5"	6"	12"	0		93	B 520	1	3'-11"	2	3'-1"	10"	12"	12"		4	S 503	1	14'-6"	Str							15	
A 521	3	8'-7"	Str						27	B 521	1	5'-2"	2	3'-9"	1'-5"	12"	12"		5	S 504	1	7'-4"	Str							8	
A 522	150f12	3'-2" to 8'-4"	Str						72	B 522	19	7'-8"	2	7'-2"	6"	12"	0		152	S 505	1	16'-2"	Str							17	
A 523	1	6'-8"	2	5'-1"	1'-7"	12"	12"		7	B 523	6	6'-2"	Str						39												
A 524	1	4'-9"	Str						5	B 524	2	5'-8"	Str						12												
A 525	4	5'-3"	Str						22	B 525	2	5'-1"	Str						11												
A 526	5	17'-0"	Str						89	B 526	2	4'-6"	Str						9												
A 527	4	13'-0"	2	11'-5"	1'-7"	12"	12"		54	B 527	2	12'-4"	2	11'-1"	1'-3"	12"	5'-4"		26												
										B 528	2	3'-11"	Str						8												
										B 529	3	11'-7"	2	10'-0"	1'-7"	12"	12"		36												
										B 530	1	9'-8"	2	8'-1"	1'-7"	12"	12"		10												
										B 531	1	5'-9"	2	4'-2"	1'-7"	12"	12"		6												
										B 532	3	12'-6"	2	10'-11"	1'-7"	12"	7"		39												
										B 533	1	10'-3"	2	8'-8"	1'-7"	12"	7"		11												
										B 534	1	5'-9"	2	4'-2"	1'-7"	12"	7"		6												

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used indicates the bar size number. For example A 601 is a No 6 size bar and P101 is a No 11 size bar.

**SPIRAL REINFORCING BARS.** The "Length" shown in the steel list for the spiral bars is the length of the spiral along the axis of the spiral. The "No. of Turns" shown is the length divided by the pitch plus 3 turns (total number of closed coils). Spiral reinforcing bars may have deformations and shall in other respects conform to Item 509. 1/2 Closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantities of spiral bars.

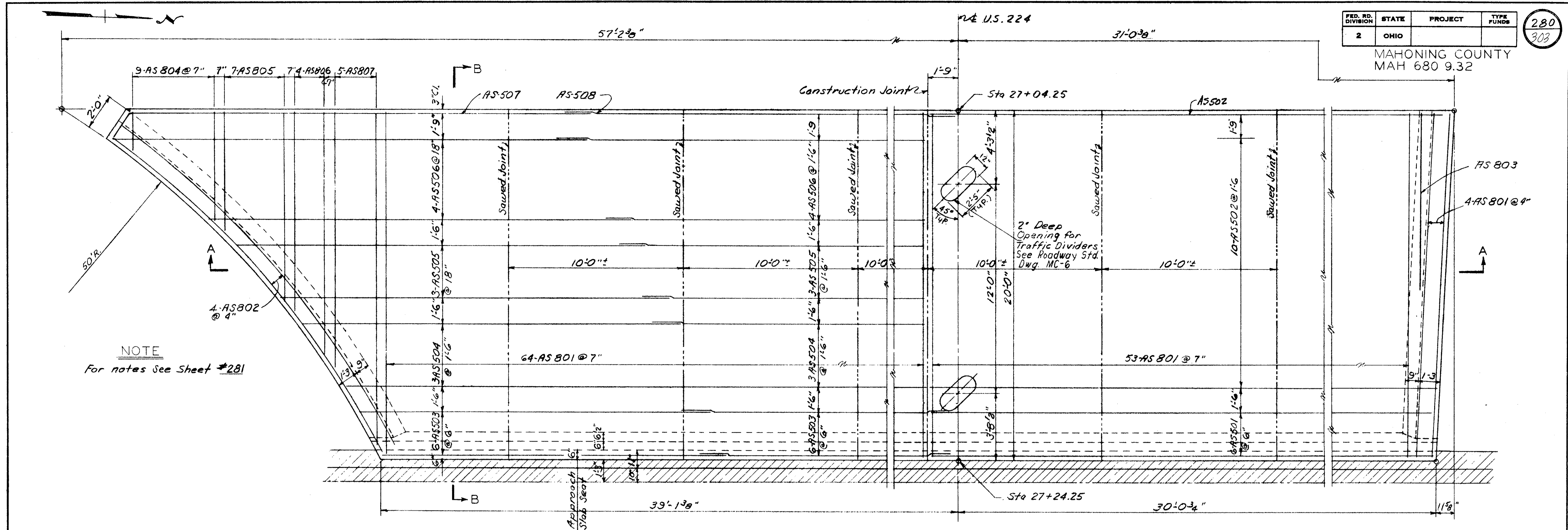
- ① Vary each bar by 5/8" (+)
- ② " " " " 6/8" (-)
- ③ " " " " 6'-3"
- ④ " " " " 5 5/8" (+)
- ⑤ " " " " 10"
- ⑥ " " " " 8 1/2" (-)
- ⑦ " " " " 5 1/2" (-)
- ⑧ " " " " 8 3/8" (-)
- ⑨ " " " " 3 3/8" (-)

REPLACEMENT BARS									
MARK	NO	LENGTH	TYPE	A	B	C	D	E	WEIGHT
RE 701	1	8-3	5	7-5					-
RE 601	1	6-10	Str						-
RE 501	1	6-7	Str						-

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

REINFORCING STEEL LIST  
BRIDGE NO. MAH. 224 - 1990  
OVER  
BRANCH OF YELLOW CREEK  
STA. 27+31.50 USR 224

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWL	DW		HJB	2/12/69	6/28/69

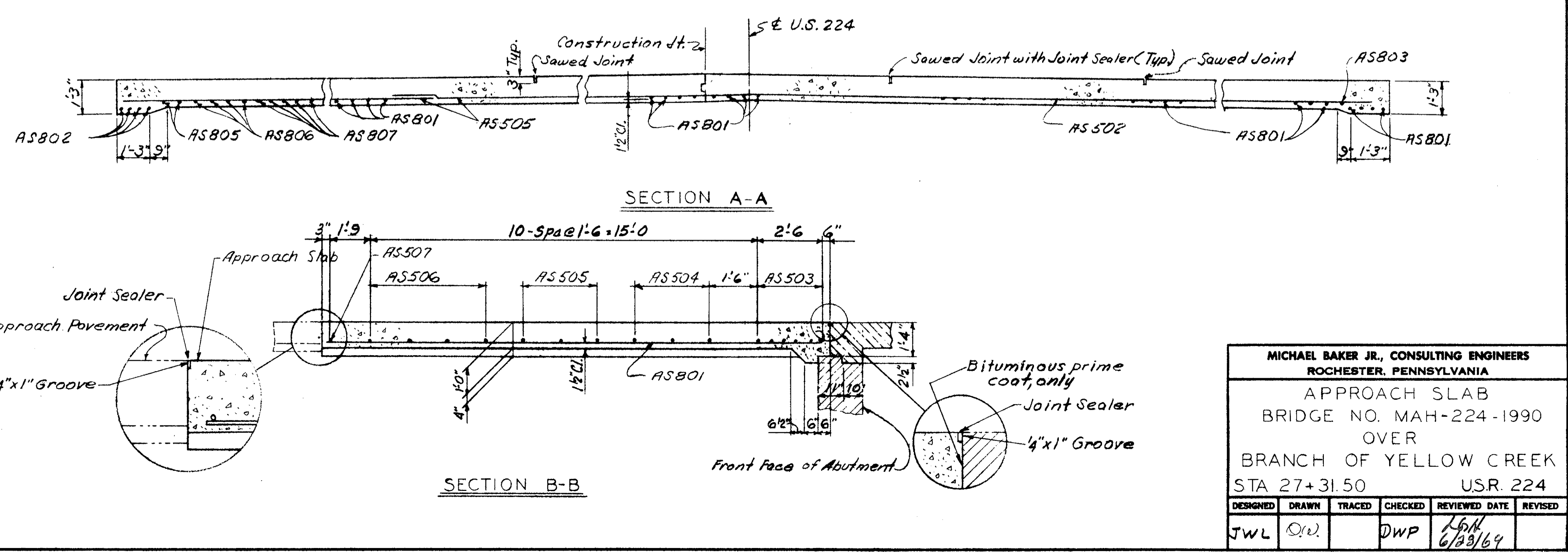


NOTE  
For notes See Sheet #281

APPROACH SLAB (REAR ABUTMENT)

BAR SCHEDULE

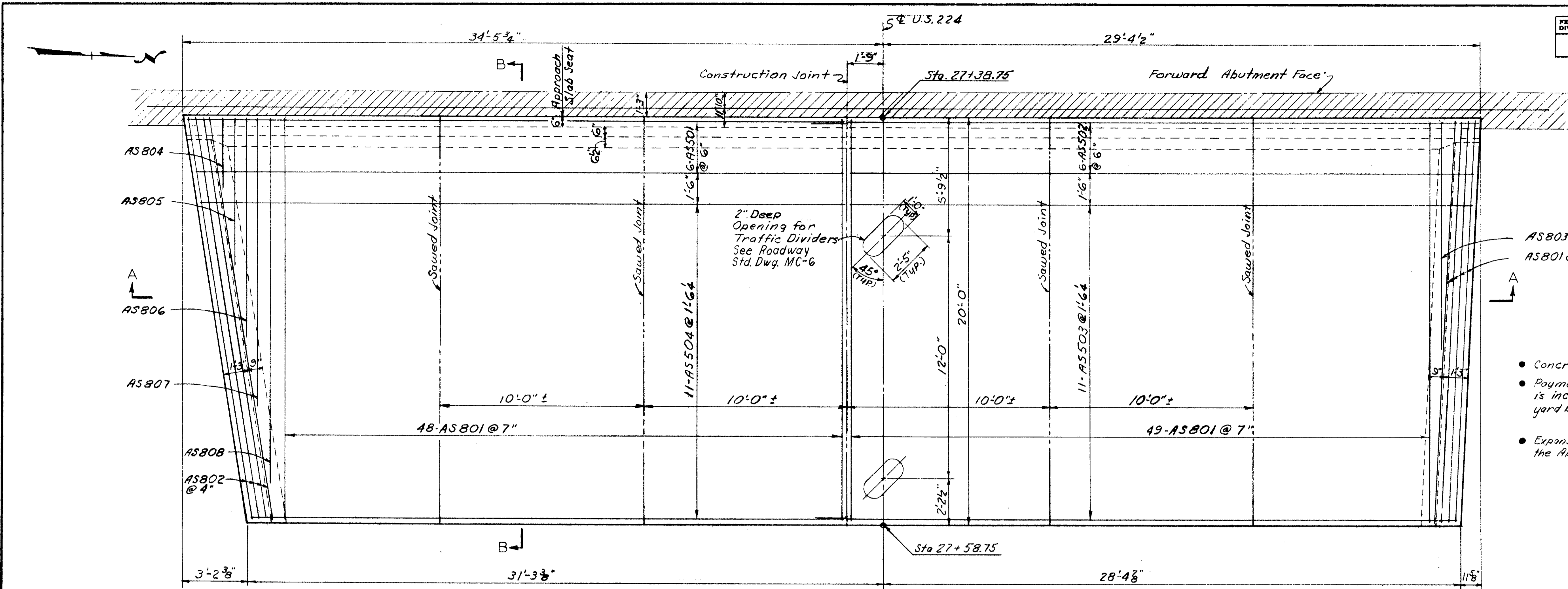
Mark	NO.	Length	Type	A	B	C	D	Remarks	Weights
AS 801	121	20'-7"	1	19'-6"	1'-4"	9"			
AS 802	4	24'-0"	2	50'-7"					
AS 803	1	11'-0"	Str.						
AS 804	15 of 9	2'-6" to 6'-4"	Str.					Vary ea. bar by 5"	
AS 805	15 of 7	6'-10" to 10'-9"	Str.					Vary ea. bar by 7"	
AS 806	15 of 4	11'-6" to 14'-0"	Str.					Vary ea. bar by 10"	
AS 807	15 of 5	14'-11" to 19'-4"	Str.					Vary ea. bar by 12"	
AS 501	6	31'-5"	Str.						
AS 502	15 of 11	3'-6" to 32'-4"	Str.					Vary ea. bar by 1"	
AS 503	25 of 6	19'-6" to 28'-7"	Str.					Vary ea. bar by 2 1/2"	
AS 504	25 of 3	21'-3" to 23'-0"	Str.					Vary ea. bar by 10"	
AS 505	25 of 3	23'-4" to 25'-11"	Str.					Vary ea. bar by 10"	
AS 506	25 of 4	25'-6" to 27'-3"	Str.					Vary ea. bar by 5 1/2"	
AS 507	1	28'-7"	3;	26'-10"	1'-9"	1'-6"			
AS 508	1	27'-6"	Str.						



MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

APPROACH SLAB  
BRIDGE NO. MAH-224-1990  
OVER  
BRANCH OF YELLOW CREEK  
STA 27+31.50 USR 224

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWL	DW		DWP	2/6/64	6/23/64

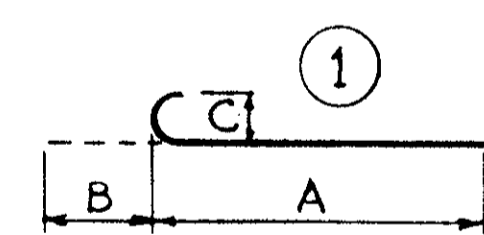


NOTES

- Concrete shall be class "C"
- Payment for the Construction Joints is included in the price per square yard bid for the approach payment
- Expansion Joint Sealer shall be included with the Approach Slab for payment

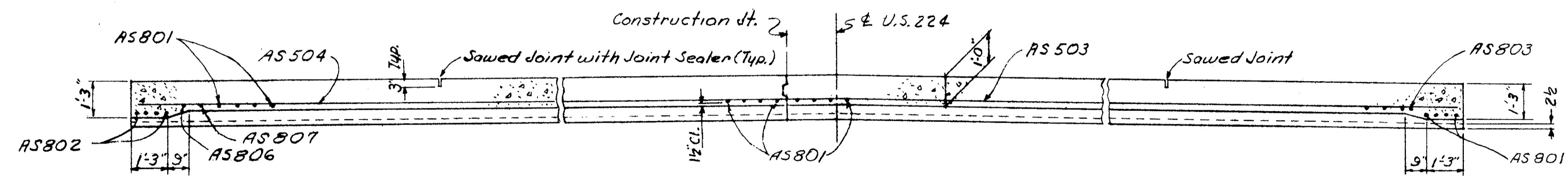
APPROACH SLAB (FORWARD ABUTMENT)

BAR SCHEDULE

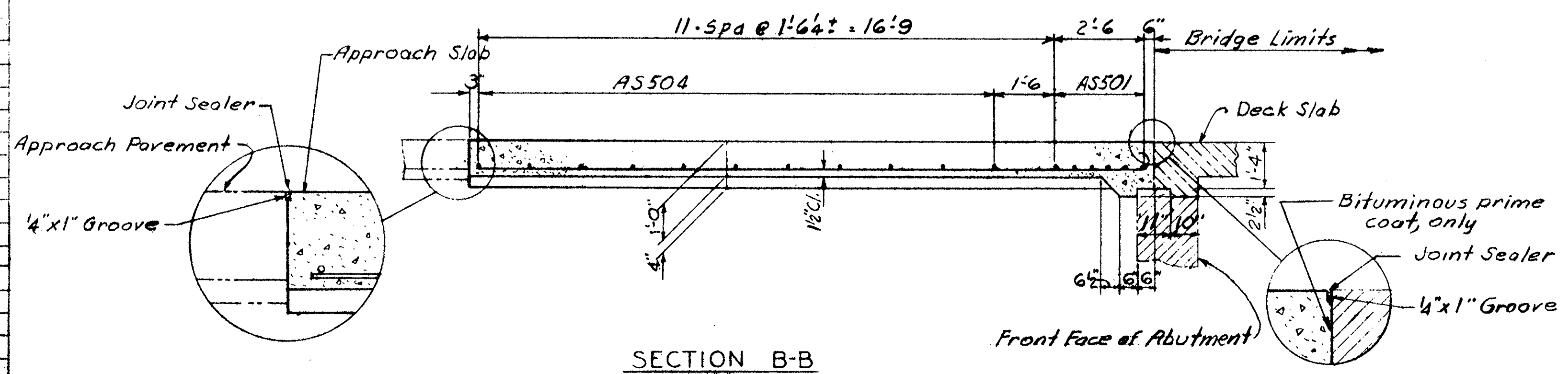


1 Set of 6 means 1 Set of 6 Bars. All dimensions given out to out of bars.

Mark	NO.	Length	Type	A	B	C	D	Remarks	Weights
AS 801	101	20'-7"	1	19'-6"	14"	9"			
AS 802	4	20'-10"	1	19'-9"	1'-1"	9"			
AS 803	1	12'-1"	1	11'-0"	1'-1"	9"			
AS 804	1	4'-5"	1	3'-4"	1'-1"	9"			
AS 805	1	8'-1"	1	7'-0"	1'-1"	9"			
AS 806	1	11'-9"	1	10'-8"	1'-1"	9"			
AS 807	1	15'-5"	1	14'-4"	1'-1"	9"			
AS 808	1	19'-1"	1	18'-0"	1'-1"	9"			
AS 501	1 Set of 6	31'-9" To 32'-5"	Str.					Vary ea. bar by 16"	
AS 502	6	32'-6"	Str.					Vary ea. bar by 3/4"	
AS 503	1 Set of 11	31'-9" To 32'-5"	Str.					Vary ea. bar by 26"	
AS 504	1 Set of 11	29'-2" To 31'-7"	Str.					Vary ea. bar by 26"	



SECTION A-A



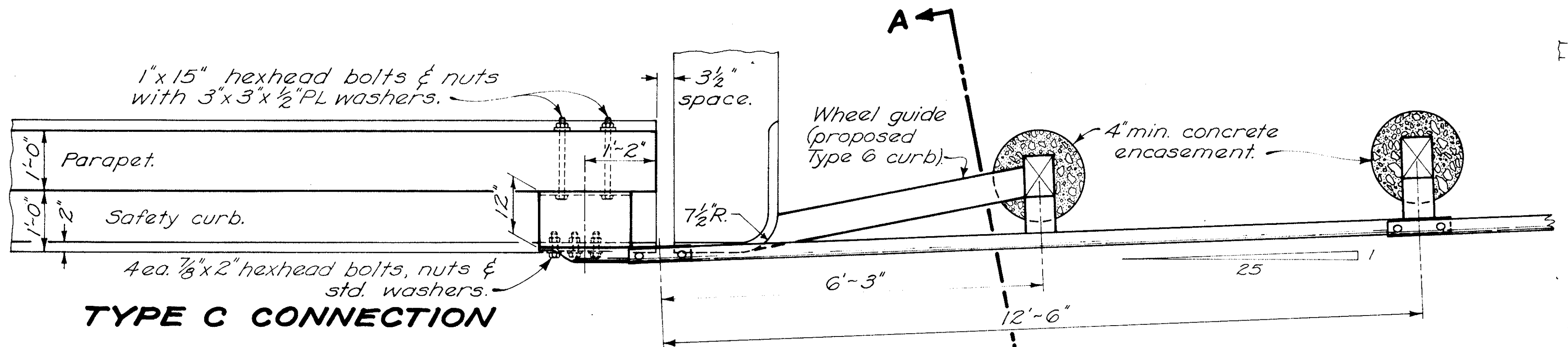
SECTION B-B

MICHAEL BAKER JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

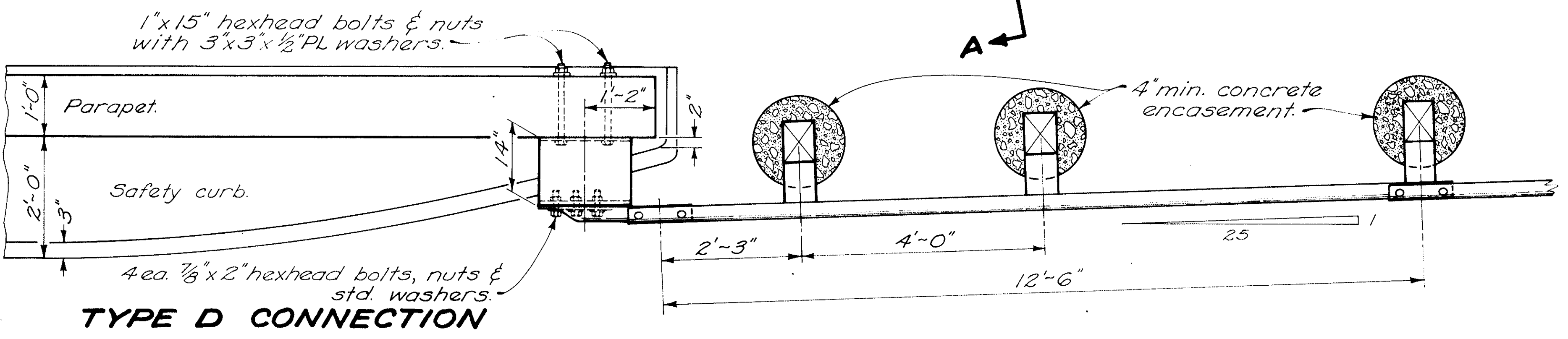
APPROACH SLAB  
BRIDGE NO. MAH-224-1990  
OVER  
BRANCH OF YELLOW CREEK  
STA. 27+31.50 USR. 224

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWL	EW		HJB	LDH 6/28/69	

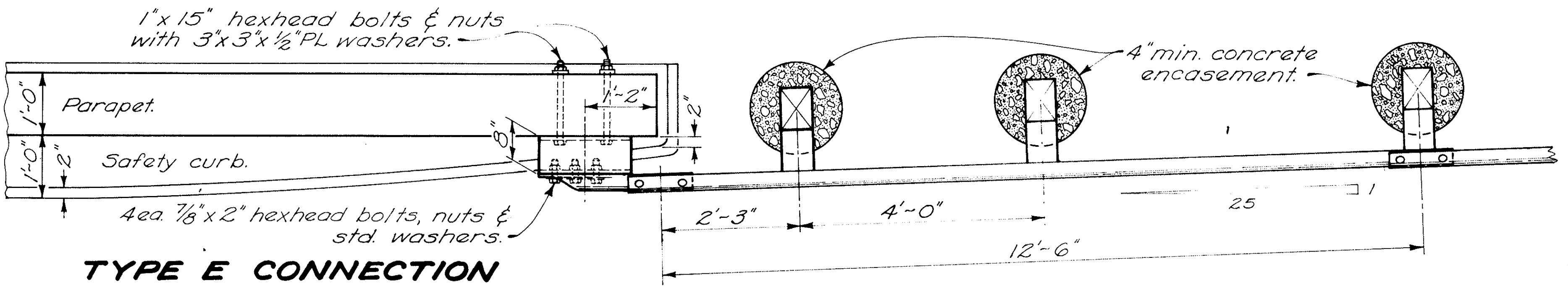
MAH-680-9.32



**TYPE C CONNECTION**

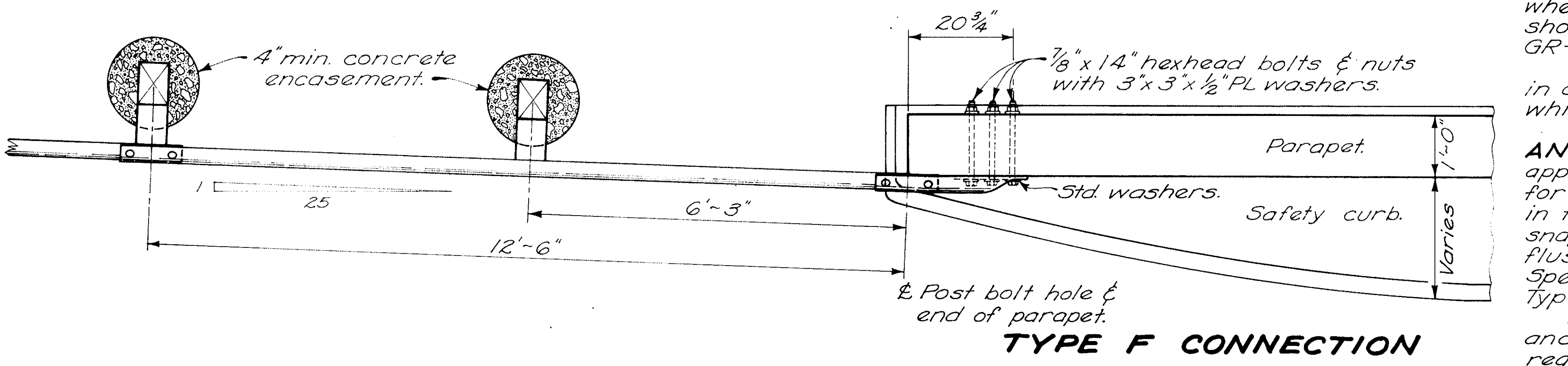


**TYPE D CONNECTION**



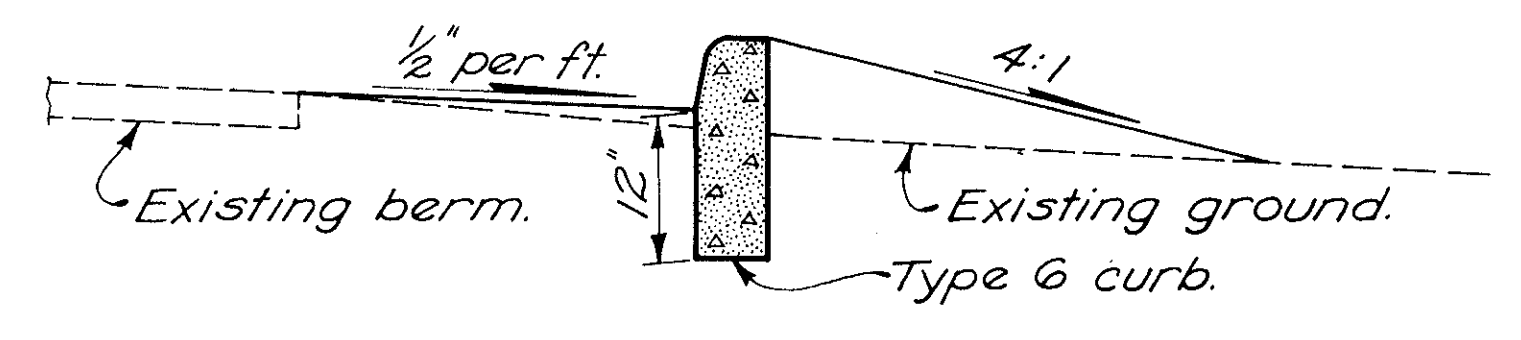
**TYPE E CONNECTION**

**APPROACH ENDS**

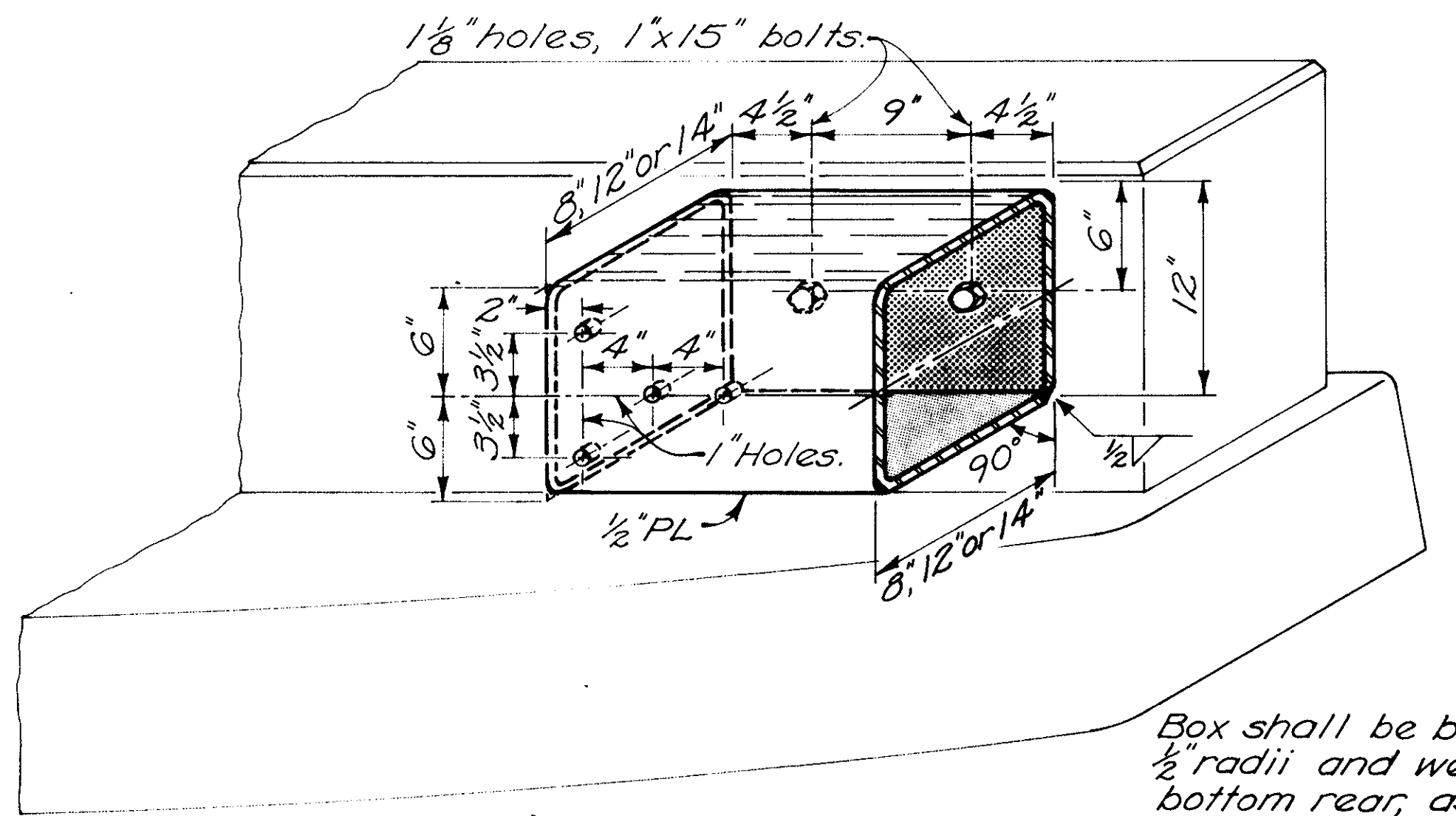


**TYPE F CONNECTION**

**TRAILING END**

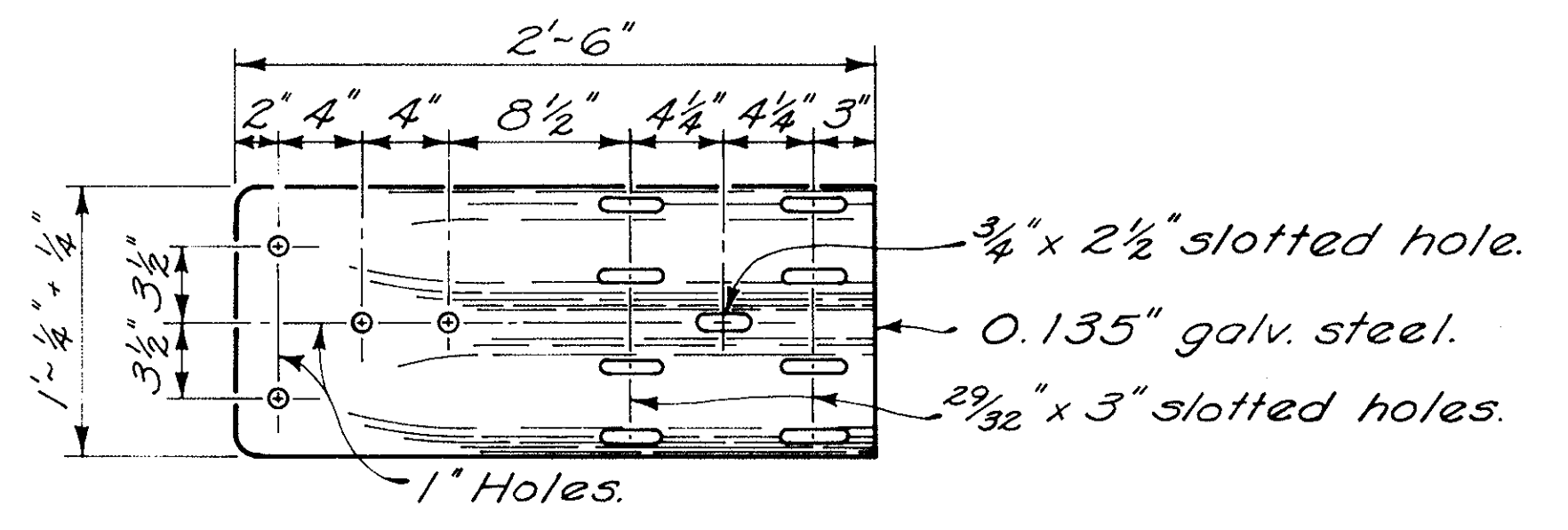


**SECTION A-A**



**STEEL BOX DETAIL**

A galv. steel box of the appropriate size (see connection type) shall be used on all approaches.



**SPECIAL END SHOE**

**NOTES**

**GENERAL:** This drawing shall govern where a conflict arises. For details not shown, see Standard Drawings GR-2B & GR-7.

All steel parts shall be galvanized in accordance with 710.06 or 710.10, whichever may apply.

**ANCHORS:** Self-drilling anchors (of the appropriate size) may be substituted for the 1" and 7/8" hexhead bolts shown in the parapets. Anchors may be of the snap-off chuck-end type or of the flush-end type conforming to Federal Specification No. FF-5-325, Group III, Type 1(a) or (c), or Type 2.

Bolts for use with the self-drilling anchors shall be 7/8" x 1 1/2" or 1" x 2", as required.

**GUARDRAIL TERMINATION:** Dimensions locating the horizontal position of the end shoes may be increased either by design or in the field if interference with steel in the parapet requires it.

**PAYMENT:** Price bid for bridge terminal assemblies shall include the additional cost, in excess of normal guardrail cost, for steel posts, concrete encasement, steel boxes, special end shoes, self-drilling anchors, curbing and embankment.

Connections shall be paid for as 606 Bridge terminal assembly.

DATE
6-8-70
1-1-71

This sheet supersedes sheet 17: A 5/15/70

# CENTER LINE SURVEY PLAT

## INTERSTATE ROUTE 680 MAH-680-9.32

CITY OF YOUNGSTOWN  
VILLAGE OF POLAND  
MAHONING COUNTY  
BOARDMAN TWP. T-1 R-2  
GREAT LOTS 29,30,31,32 3RD. DIVISION  
GREAT LOTS 18,20,22,24,26 4TH. DIVISION

CERTIFICATE OF APPROVAL  
APPROVED: *[Signature]*  
DATE: 7-22-66 Division Deputy Director

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	I-680-9 (10)

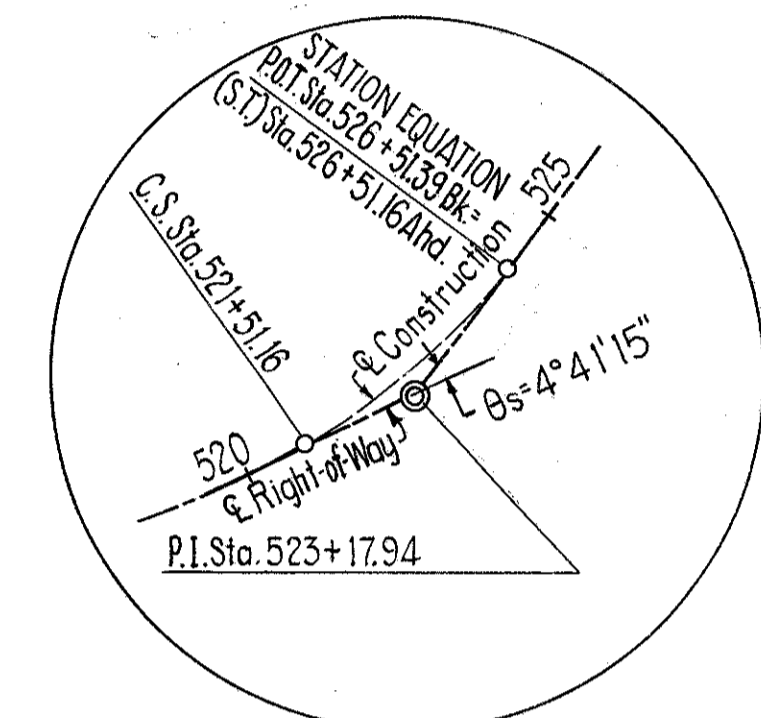
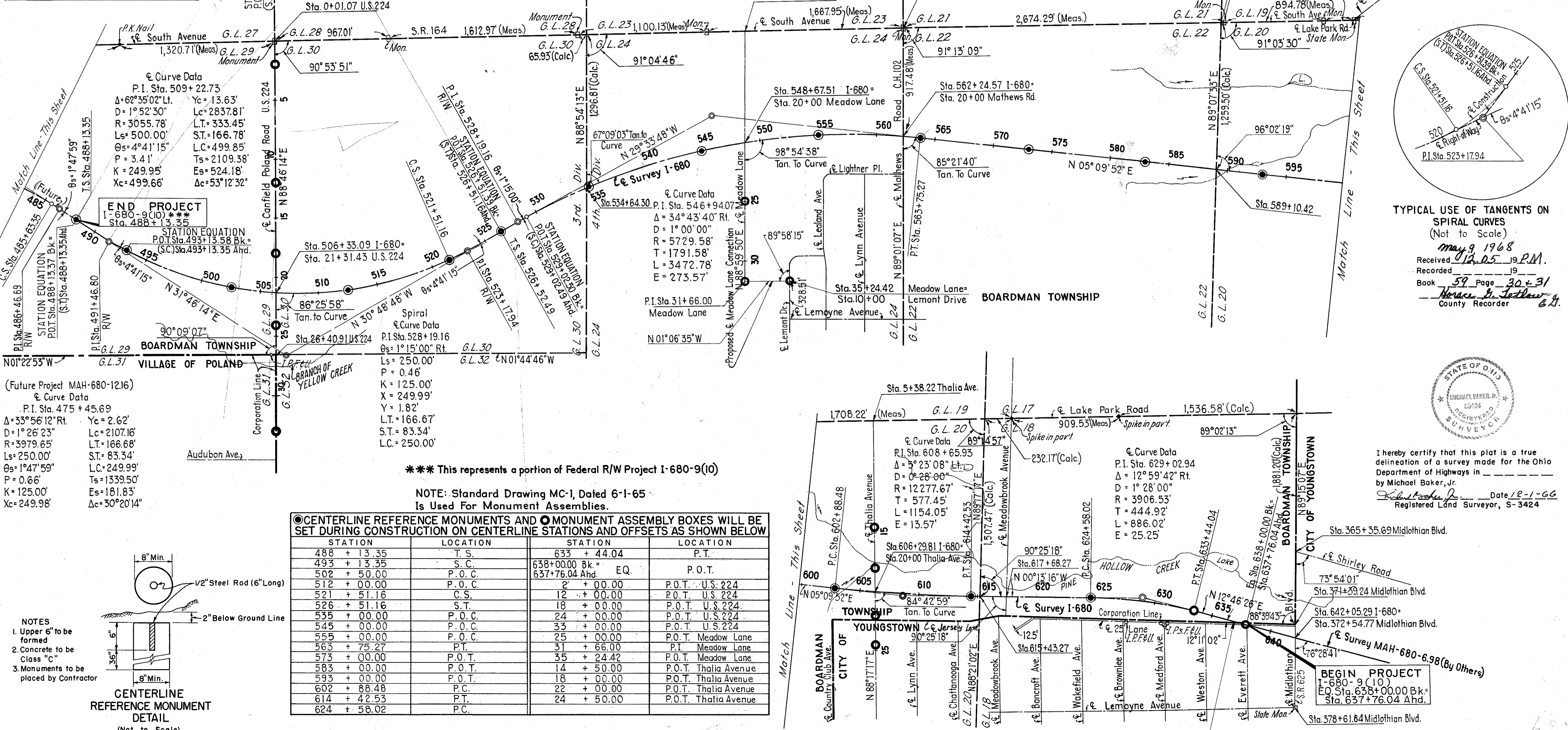
MAHONING COUNTY  
MAH-680-9.32  
LIMITED ACCESS HIGHWAY

(282)  
1  
22  
R/W

This improvement has been declared a Limited Access Highway from Station 638+00.00 to Station 488+13.35 by action of the Director of Highways and recorded in Volume Page of the Director's Journal pursuant to Law, dated  
\*First Hearing. \*\*Second Hearing recorded in Director's Journal, dated recorded in Volume Page Spiralled Curves indicated on this Plan are Developed as Outlined in "Transition Curves For Highways" by Joseph Barnett, Published in 1940 by U.S. Government Printing Office. Offsets will be from Tangents on Spiral Curve.  
The Bearings established from observation on Polaris.

HEARING DATA

HELD	RECORDED	DIR. VOL.	JRNL. PAGE
*1st. 9-17-57	10-23-57	42	967
*2nd. 12-6-62	1-2-63	48	1



TYPICAL USE OF TANGENTS ON SPIRAL CURVES  
(Not to Scale)  
May 9 1968  
Received 7-25-66 19 P.M.  
Recorded \_\_\_\_\_ 19\_\_\_\_  
Book 59 Page 30-31  
*[Signature]*  
County Recorder

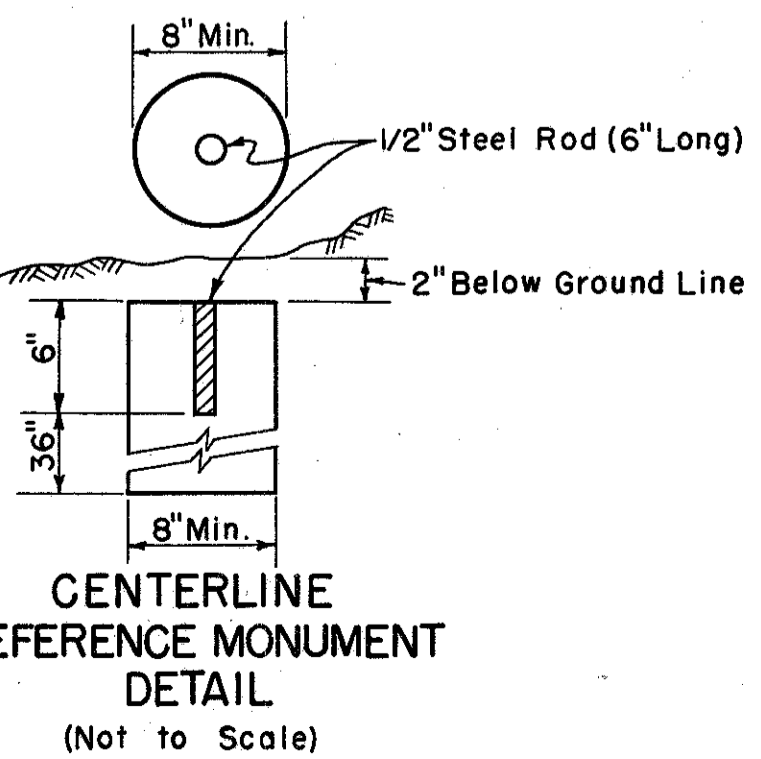


I hereby certify that this plat is a true delineation of a survey made for the Ohio Department of Highways in \_\_\_\_\_ by Michael Baker, Jr. \_\_\_\_\_ Date 12-1-66  
Registered Land Surveyor, S-3424

\*\*\* This represents a portion of Federal R/W Project I-680-9(10)

NOTE: Standard Drawing MC-1, Dated 6-1-65  
Is Used For Monument Assemblies.

● CENTERLINE REFERENCE MONUMENTS AND ○ MONUMENT ASSEMBLY BOXES WILL BE SET DURING CONSTRUCTION ON CENTERLINE STATIONS AND OFFSETS AS SHOWN BELOW			
STATION	LOCATION	STATION	LOCATION
488 + 13.35	T.S.	633 + 44.04	P.T.
493 + 13.35	S.C.	638+00.00 Bk =	P.O.T.
502 + 50.00	P.O.C.	637+76.04 Ahd.	EQ.
512 + 00.00	P.O.C.	2 + 00.00	P.O.T. U.S. 224
521 + 51.16	C.S.	12 + 00.00	P.O.T. U.S. 224
526 + 51.16	S.T.	18 + 00.00	P.O.T. U.S. 224
535 + 00.00	P.O.C.	24 + 00.00	P.O.T. U.S. 224
545 + 00.00	P.O.C.	33 + 00.00	P.O.T. U.S. 224
555 + 00.00	P.O.C.	25 + 00.00	P.O.T. Meadow Lane
563 + 75.27	P.T.	31 + 66.00	P.T. Meadow Lane
573 + 00.00	P.O.T.	35 + 24.42	P.O.T. Meadow Lane
583 + 00.00	P.O.T.	14 + 50.00	P.O.T. Thalia Avenue
593 + 00.00	P.O.T.	18 + 00.00	P.O.T. Thalia Avenue
602 + 88.48	P.C.	22 + 00.00	P.O.T. Thalia Avenue
614 + 42.53	P.T.	24 + 50.00	P.O.T. Thalia Avenue
624 + 58.02	P.C.		



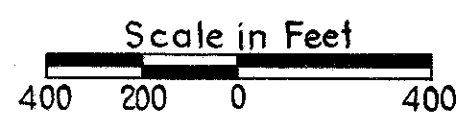
- NOTES
- Upper 6" to be formed
  - Concrete to be Class "C"
  - Monuments to be placed by Contractor

State Highway Dept., Div. 2  
P.O. Box 1000  
Columbus, Ohio 43261  
JUL 3 1968  
LOGGED  
Cros



UTILITY OWNERS  
 The Ohio Bell Telephone Co. 2405 Market Street, Youngstown, Ohio  
 The East Ohio Gas Co. 101 East Boardman Street, Youngstown, Ohio  
 Ohio Edison Company 730 South Avenue, Youngstown, Ohio  
 Ohio Water Service Company 235 State Street, Struthers, Ohio

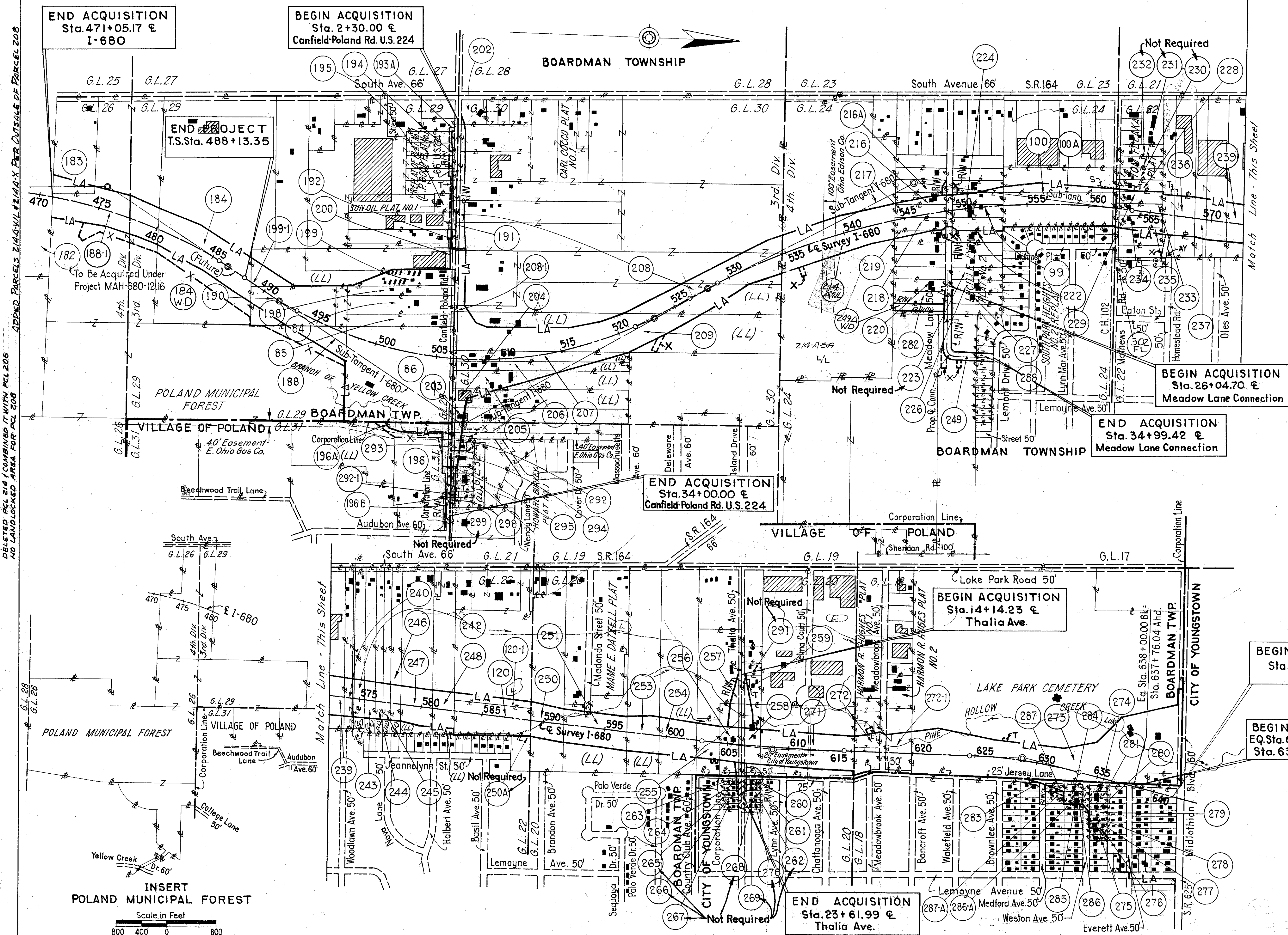
# PROPERTY MAP



FED. RD. DIVISION	STATE	PROJECT	(283)
2	OHIO	I-680-9(10)	

MAHONING COUNTY  
 MAH-680-9.32  
 LIMITED ACCESS HIGHWAY

(2)  
 22  
 R/W



LANDLOCKED PARCELS				
PARCEL NO.	NAME	AREA LEFT	AREA RIGHT	
184	M-K CONSTRUCTION COMPANY, a Corporation	-	-	
196-A	GRACE H. BUTLER (Presently Landlocked)	-	7.300	
199	L.VERNE HARDEN ET AL.	160,516"	-	
204	HENRY McCRONE	-	194,331"	
205	EDWARD W. LUDT & JENNIE M. LUDT	-	2,892	
206	HAZEL WATSON fka HAZEL W. HOLL	-	0.732	
207	HARRY G. NIGGEL & MURIEL M. NIGGEL	-	0.257	
208		-	-	
209	HILDA O. JOHNSON, SOPHIA O. WILLSON & HELEN L. OLSON	3,004	6,632	
214-A	B. RICHARD BURDMAN, TRUSTEE	-	20,934 LL	
242	CHARLES H. BEST & IVY BEST	-	0.203	
243	QUINTINO PIZZOFRERATO & MARIA PIZZOFRERATO	-	0.229	
244	EARL W. FEATSENT & VIRGINIA E. FEATSENT	-	0.184	
245	EDWARD G. LARSON & LORENA MAE LARSON	-	0.177	
246	BRUNO AMENDOLEA & BARBARA AMENDOLEA	-	0.217	
247	HAROLD L. BAKER aka H. BAKER & HAZEL R. BAKER	-	0.462	
248	ANTHONY VIVO & PATRICIA A. VIVO	-	0.234	
251	THE MOST REVEREND AMBROSE SENYSHYN ET AL.	-	109,811"	
253	MARY E. DUBEC & JULIA DUBEC	-	0.999	
255	GEORGE W. STELLAR & ANNABELLA STELLAR	0.281	-	
208	JOHN L. MAYO aka JACK MAYO fka LEONARD CRAVER	-	2,691 LL	
293	HOWARD G. BURKEY & STELLA BURKEY	-	52,429"	
294	JIM GARDNER	-	0.344	

DELETED PCL 214 (COMBINED IT WITH PCL 208 AND LANDLOCKED AREA FOR PCL 208)

JUL 3 1959

LOGGED

BILL BK

Cada

Cada

Cada

Cada

Cada

Cada

Cada

Cada

Cada

Cada

Sheet Completed  
 Date: 6-24-69  
 Revised

Date:  
 PCLs 201 & 215  
 DELETED AREA  
 ADDED TO PCL 208  
 NAME REVISED PCL's  
 199, 253, 254, 249  
 PCLs 208, 216, 249  
 4/21/70

PCL's 302, 303, 304  
 & 300 DELETED  
 5-6-70  
 REVISED LA LINE  
 PARCEL 208W-1 P  
 REVISED R/W LINE  
 PARCEL 208W0 SMITH  
 ADDED PCL 249 AND  
 5-4-71  
 Extended west pl.  
 PCL 211 - 5-28-71

ADDED PCL 184-WD 6-25-71  
 Name Change PCL 251 7-1-71  
 Added PCL 236 Y 9-17-73  
 REVISE PCL 236 Y to 236 AY  
 PER NEW OWNER 11-15-73  
 05060 PCL 302 PCL 11-22-73





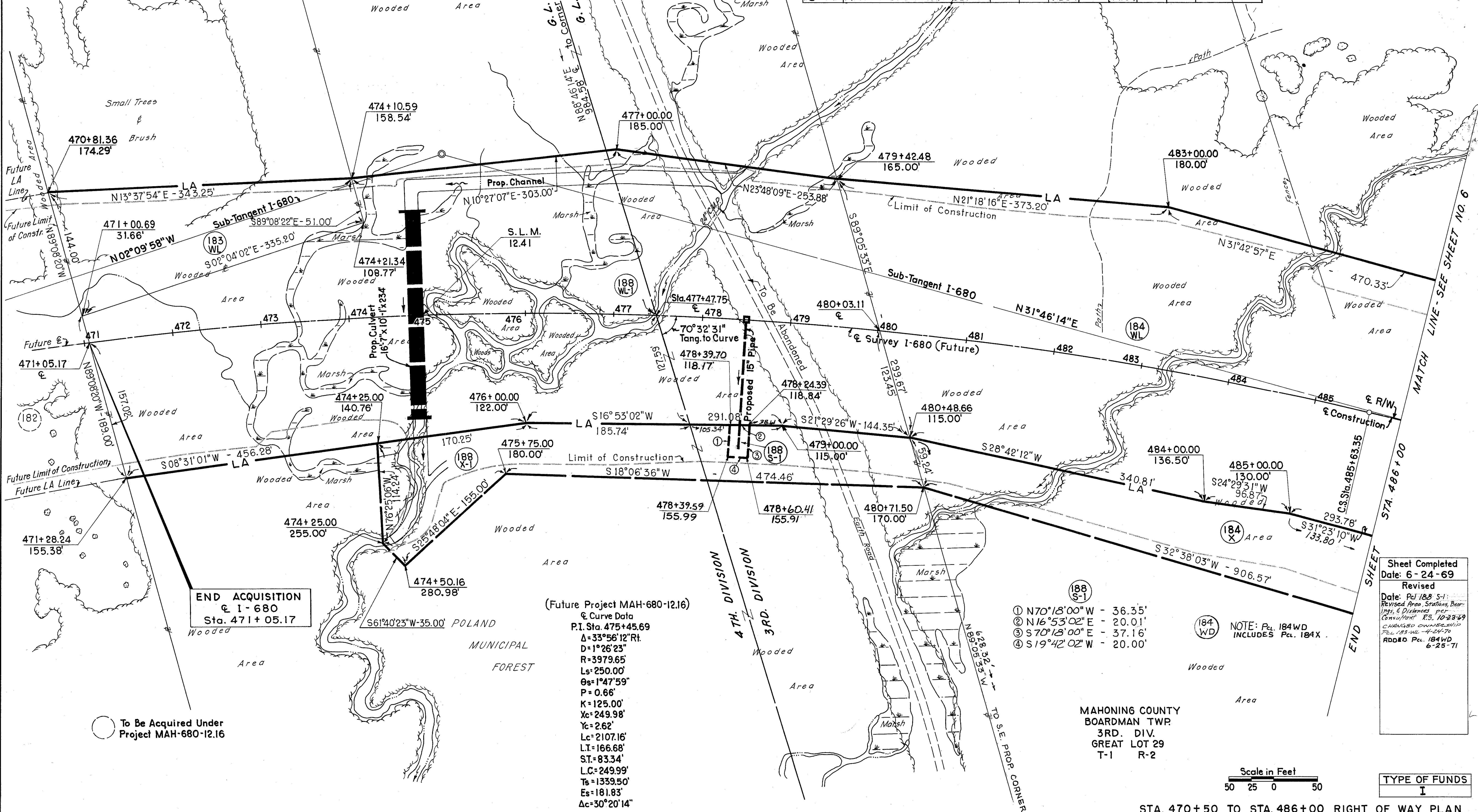
MAHONING COUNTY  
BOARDMAN TWP.  
4TH. DIV.  
GREAT LOT 29  
T-1 R-2

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	I-680-9(10)	

MAHONING COUNTY  
MAH-680-9.32  
LIMITED ACCESS HIGHWAY

(286)  
5  
22  
R/W

PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	PRO.in TAKE	NET TAKE	NET RES. LI.	NET RES. RI.	REMARKS
183 WL	Ohio Edison Company	6.000	0.254	0.749	-	0.749	4.997	-	
184 WL	M-K Construction Company	36.926	0.686	5.865	-	5.865	23.171		
184 X	An Ohio Corporation			1.622	-	1.622			Channel Reloc.
188 WL-1	Village of Poland, Ohio			5.433	-	5.433			
188 X-1	" " " "			0.998	-	0.998			Channel Reloc.
188 S-1	" " " "			0.018	-	0.018			Storm Sewer
184 WD	M-K CONSTRUCTION CO.			7.204	-	7.204			



END ACQUISITION  
of I-680  
Sta. 471+05.17

(Future Project MAH-680-12.16)  
Curve Data  
P.I. Sta. 475+45.69  
Δ=33°56'12" Rt.  
D=1°26'23"  
R=3979.65'  
Ls=250.00'  
Os=1°47'59"  
P=0.66'  
K=125.00'  
Xc=249.98'  
Yc=2.62'  
Lc=2107.16'  
L.T.=166.68'  
S.T.=83.34'  
L.C.=249.99'  
Tb=1339.50'  
Es=181.83'  
Δc=30°20'14"

- ① N70°18'00" W - 36.35'
- ② N16°53'02" E - 20.01'
- ③ S70°18'00" E - 37.16'
- ④ S19°42'02" W - 20.00'

NOTE: Pcl. 184WD  
INCLUDES Pcl. 184X

Sheet Completed  
Date: 6-24-69  
Revised  
Date: Pcl. 188 S-1  
Revised Area, Stations, Bearings, & Distances per Consultant R.S. 10-23-69  
CHANGED OWNERSHIP  
Pcl. 183 WL-4-24-70  
ADDED Pcl. 184WD  
6-25-71

MAHONING COUNTY  
BOARDMAN TWP.  
3RD. DIV.  
GREAT LOT 29  
T-1 R-2

Scale in Feet  
50 25 0 50

TYPE OF FUNDS  
I

STA. 470+50 TO STA. 486+00 RIGHT OF WAY PLAN

State Highway Dept. Div. 2  
R/W - ENGINEERING SECT.  
MAHONING COUNTY  
JUL 3 1969  
LOADED  
Cris Bill Bl.

MAHONING COUNTY  
BOARDMAN TWP.  
3 RD. DIV.  
GREAT LOT 29  
T-1 R-2

Curve Data  
P.I. Sta. 509+22.73  
 $\Delta = 62^\circ 35' 02''$  Lt.  
 $D = 1^\circ 52' 30''$   
 $R = 3055.78'$   
 $L_s = 500.00'$   
 $\theta_s = 4^\circ 41' 15''$   
 $P = 3.41'$   
 $K = 249.95'$   
 $X_c = 499.66'$   
 $Y_c = 13.63'$   
 $L_c = 2837.81'$   
 $L.T. = 333.45'$   
 $S.T. = 166.78'$   
 $L.C. = 499.85'$   
 $T_s = 2109.38'$   
 $E_s = 524.18'$   
 $A_c = 53^\circ 12' 32''$

PARCEL NO.	OWNER	DEED TOTAL AREA P.R.O.	TOTAL TAKE	PROJ. TAKE	NET TAKE	NET RES. LI.	NET RES. RT.	REMARKS
84 WL	James T. DeBartolo	3.545	0.112	3.545	0.112	3.433	-	
85 WL	James T. DeBartolo	2.000	0.076	2.000	0.076	1.924	-	
86 WL	James T. DeBartolo	15.137	0.585	15.137	0.585	14.552	-	
184 WL	M-K Construction Company, An Ohio Corporation	36.926	0.686	36.926	0.686	36.240	-	
188 WL	Village of Poland, Ohio	241.79	0.405	1.612	1.612	9.3594	224.946	Channel Reloc.
188 S	"	"	"	1.012	1.012	"	"	Storm Sewer
190 WL	Antoinette M. Rich	5.000	"	0.019	0.019	"	"	Storm Sewer
198 WL	Carl G. Port & Eva M. Port	1.500	0.057	1.500	0.057	1.443	-	
199 WL	LAVERNE HARBOY ET AL.	27.925	4.184	80.426	4.184	76.242	160.516	Residue LL
199 WL-1	"	"	"	36.983	"	36.983	"	Storm Sewer
184 S	M-K Construction Company, An Ohio Corporation	"	"	0.018	0.018	"	7.204	
184 WD	"	"	"	7.204	"	7.204	"	

Location	Station to Station	Side	Lin. Ft.	
I-680	488+1335	498+00	Left	1020
I-680	488+00	498+00	Right	1050
Total			2070	

Sheet Completed Date: 6-24-69  
Revised Date:  
REVISED NAME  
P.L. 184 S, WL, ALY/10  
ADDED P.L. 184 WD  
ADDED P.L. 184 X  
6-25-71  
REVISED DEED AREA  
& RESIDUE P.L.S. 188 etc.  
(RIGHT)  
10-8-71

(Future Project MAH-680-12.16)  
Curve Data  
P.I. Sta. 475+45.69  
 $\Delta = 33^\circ 56' 12''$  Rt.  
 $D = 1^\circ 26' 23''$   
 $R = 3979.65'$   
 $L_s = 250.00'$   
 $\theta_s = 1^\circ 47' 59''$   
 $P = 0.66'$   
 $K = 125.00'$   
 $X_c = 249.98'$   
 $Y_c = 2.62'$   
 $L_c = 2107.16'$   
 $L.T. = 166.68'$   
 $S.T. = 83.34'$   
 $L.C. = 249.99'$   
 $T_s = 1339.50'$   
 $E_s = 181.83'$   
 $A_c = 30^\circ 20' 14''$

NOTE: P.L. 184 WD INCLUDES P.L. 184 X.

- ① S 31° 46' 14" W - 20.00'
- ② N 58° 13' 46" W - 39.93'
- ③ N 31° 23' 10" E - 20.00'
- ④ S 58° 13' 46" E - 40.06'
- ① S 59° 35' 32" W - 20.00'
- ② N 30° 24' 23" W - 36.44'
- ③ N 29° 12' 34" E - 23.18'
- ④ S 30° 24' 23" E - 48.16'

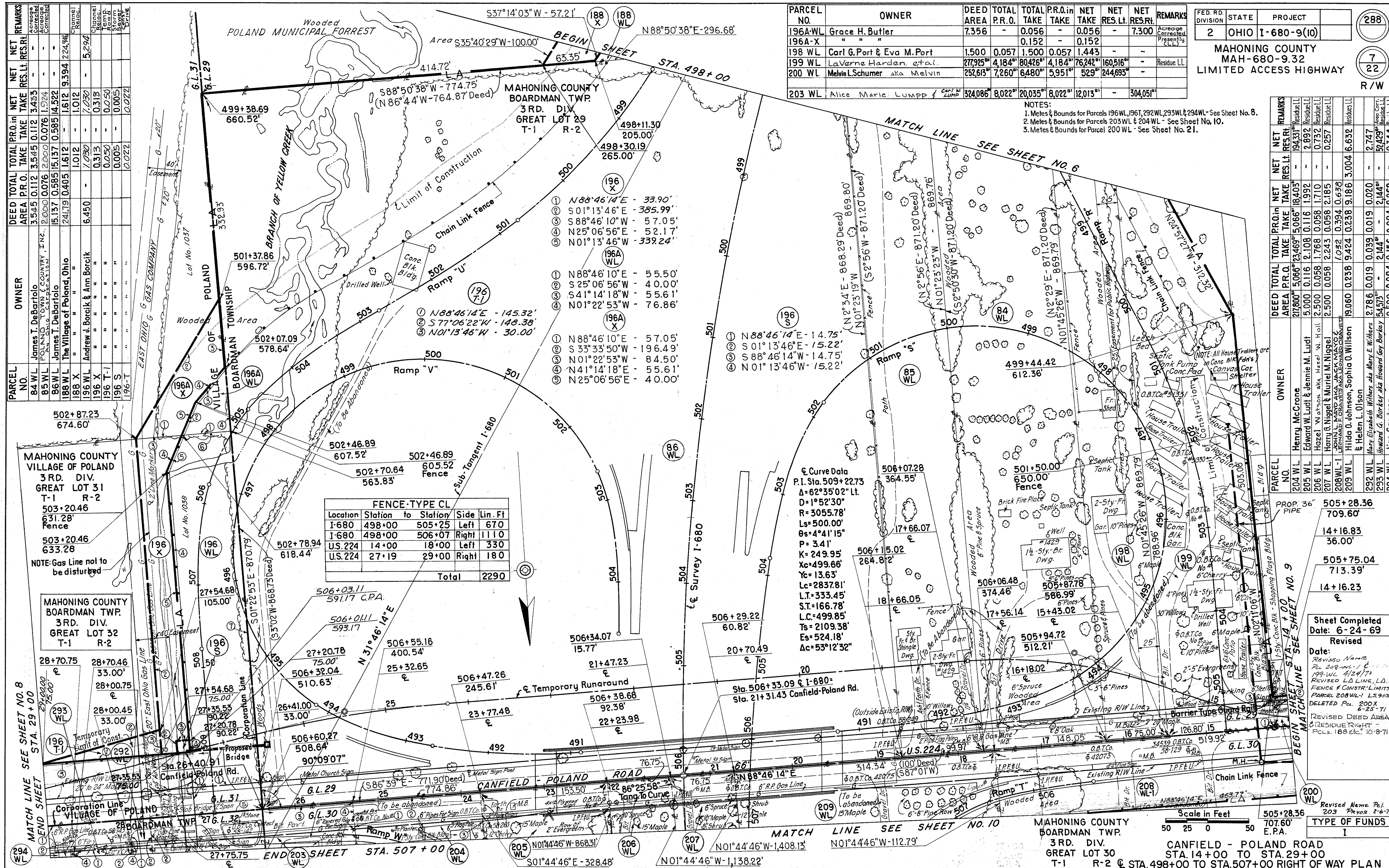
Scale in Feet  
50 25 0 50

TYPE OF FUNDS  
I

State Highway Dept. Div. 2  
PLN., ENGR. & ADMIN. BLDG.  
COLUMBUS, OHIO  
JUL 3 1969  
LOGGED  
CMB

Added Additional Right of Way and Easements  
To Parcel 196 From The Mah. 224-1987 Plan 1-20-71

JUL 3 1969  
LOGGED  
DATE: B.H.H.



PARCEL NO.	OWNER	DEED AREA	TOTAL TAKE	TOTAL P.R.O.	NET TAKE	NET RES. LI.	NET RES. RI.	REMARKS
84 WL	James T. DeBartolo	3.545	0.112	3.545	0.112	3.433	-	-
85 WL	POLAND TOWN & COUNTY, INC.	2.000	0.076	2.000	0.076	1.924	-	Acres Corrected
86 WL	James T. DeBartolo	15.137	0.585	15.137	0.585	14.522	-	Presently C.L.L.
188 WL	The Village of Poland, Ohio	24.179	0.405	24.179	0.405	23.774	-	Residue L.L.
188 X	"	6.450	1.012	6.450	1.012	5.438	-	-
196 WL	Andrew J. Borcik & Ann Borcik	6.450	1.012	6.450	1.012	5.438	-	-
196 X	"	0.313	0.050	0.313	0.050	0.263	-	-
196 S	"	0.005	0.005	0.005	0.005	0.000	-	-
196-T	"	0.022	0.022	0.022	0.022	0.000	-	-

PARCEL NO.	OWNER	DEED AREA	TOTAL TAKE	TOTAL P.R.O.	NET TAKE	NET RES. LI.	NET RES. RI.	REMARKS
196A-WL	Grace H. Butler	7.356	0.056	7.356	0.056	7.300	-	Acres Corrected
196A-X	"	0.152	0.152	0.152	0.152	0.000	-	Presently C.L.L.
198 WL	Carl G. Port & Eva M. Port	1.500	0.057	1.500	0.057	1.443	-	-
199 WL	LaVerne Harden et al.	277.925	4.184	277.925	4.184	273.741	-	-
200 WL	Melvin L. Schumer aka Melvin	252.615	7.260	252.615	7.260	245.355	-	-
203 WL	Alice Marie Lumpp & Carl M. Lumpp	324.086	8.022	324.086	8.022	316.064	-	-

FED. RD. DIVISION: 2  
STATE: OHIO  
PROJECT: I-680-9(10)  
MAHONING COUNTY  
MAH-680-9.32  
LIMITED ACCESS HIGHWAY

NOTES:  
1. Metes & Bounds for Parcels 196 WL, 196 T, 292 WL, 293 WL & 294 WL - See Sheet No. 8.  
2. Metes & Bounds for Parcels 203 WL & 204 WL - See Sheet No. 10.  
3. Metes & Bounds for Parcel 200 WL - See Sheet No. 21.

Location	Station	Station to Station	Side	Lin. Ft
I-680	498+00	505+25	Left	670
I-680	498+00	506+07	Right	1110
U.S. 224	14+00	18+00	Left	330
U.S. 224	27+19	29+00	Right	180
Total				2290

Curve Data  
P.I. Sta. 509+22.73  
Δ=62°35'02" Lt.  
D=1°52'30"  
R=3055.78'  
Ls=500.00'  
Ps=4°41'15"  
P=3.41'  
K=249.95'  
Xc=499.66'  
Yc=13.63'  
Lc=2837.81'  
L.T.=333.45'  
L.C.=499.85'  
Ts=2109.38'  
Es=524.18'  
Ac=53°12'32"

PARCEL NO.	OWNER	DEED AREA	TOTAL TAKE	TOTAL P.R.O.	NET TAKE	NET RES. LI.	NET RES. RI.	REMARKS
196A WL	James T. DeBartolo	3.545	0.112	3.545	0.112	3.433	-	-
196 WL	Andrew J. Borcik & Ann Borcik	6.450	1.012	6.450	1.012	5.438	-	-
196 X	"	0.313	0.050	0.313	0.050	0.263	-	-
196 S	"	0.005	0.005	0.005	0.005	0.000	-	-
196-T	"	0.022	0.022	0.022	0.022	0.000	-	-

PARCEL NO.	OWNER	DEED AREA	TOTAL TAKE	TOTAL P.R.O.	NET TAKE	NET RES. LI.	NET RES. RI.	REMARKS
204 WL	Henry McCrone	27.800	5.066	27.800	5.066	22.734	-	-
205 WL	Edward W. Ludt & Jennie M. Ludt	5.000	0.116	5.000	0.116	4.884	-	-
206 WL	Hazel W. Atkinson aka Hazel M. Hall	2.500	0.058	2.500	0.058	2.442	-	-
207 WL	Harry G. Niggel & Muriel M. Niggel	2.500	0.058	2.500	0.058	2.442	-	-
208 WL-1	JOHN L. MARGAKA, JAMES K. MARGAKA, EDWARD J. MARGAKA, EDWARD J. MARGAKA, EDWARD J. MARGAKA	19.060	0.238	19.060	0.238	18.822	-	-
209 WL	Hilda O. Johnson, Sophia O. Willson & Helen L. Olsson	2.786	0.019	2.786	0.019	2.767	-	-
293 WL	Mary Elizabeth Wilbers aka Mary E. Wilbers	54.575	2.144	54.575	2.144	52.431	-	-
294 WL	Howard G. Burkey aka Howard Guy Burkey	0.500	0.094	0.500	0.094	0.406	-	-

Sheet Completed Date: 6-24-69  
Revised Date:  
Date:  
Revised Name Pol. 203  
Type of Funds: I

Scale in Feet: 50 25 0 25 50  
E.P.A.

HOWARD BURKEY PLAT NO.1  
 A Subdivision in G. L. 32  
 3RD. DIVISION  
 Twp. 1 (Boardman) Range 2  
 MAHONING COUNTY  
 Lots 1 & 2 Plat 56, Pg. 68

FED. RD. DIVISION	STATE	PROJECT	289
2	OHIO	I-680-9(10)	
MAHONING COUNTY MAH-680-9.32			8 22 R/W
LIMITED ACCESS HIGHWAY			

MAHONING COUNTY  
 VILLAGE OF POLAND  
 3RD. DIV.  
 GREAT LOT 31  
 T-1 R-2

- (196 WL)
- N 88° 46' 14" E - 353.59'
  - S 01° 13' 46" E - 42.00'
  - S 88° 46' 14" W - 273.72'
  - S 01° 13' 46" E - 339.24'
  - S 25° 06' 56" W - 52.17'
  - S 88° 46' 10" W - 55.50'
  - N 01° 22' 53" W - 428.00'

- (196 WD)
- N 88° 46' 14" E - 256.72'
  - S 11° 24' 27" E - 12.19'
  - S 88° 46' 14" W - 178.36'
  - S 01° 13' 46" E - 30.00'

- (196 T)
- N 88° 46' 14" E - 54.38'
  - S 11° 24' 27" E - 5.08'
  - S 36° 08' 38" W - 25.17'
  - S 88° 46' 14" W - 20.00'
  - N 39° 53' 21" W - 32.02'

- (196B WD)
- N 88° 46' 14" E - 248.90'
  - S 01° 13' 46" E - 7.00'
  - S 88° 46' 14" W - 247.62'
  - N 11° 24' 27" W - 7.11'

- (196B T)
- N 88° 46' 14" E - 247.62'
  - S 01° 06' 46" E - 45.00'
  - N 56° 50' 55" W - 61.79'
  - S 88° 46' 14" W - 194.72'
  - N 11° 24' 27" W - 10.16'

- (298 WD)
- S 88° 46' 14" W - 73.81'
  - N 01° 44' 46" W - 7.00'
  - N 88° 46' 14" E - 73.81'
  - S 01° 44' 46" E - 7.00'

- (292-1 WD)
- S 88° 46' 14" W - 50.00'
  - N 01° 44' 46" W - 40.00'
  - N 88° 46' 14" E - 50.00'
  - S 01° 44' 46" E - 40.00'

- (292-1 T)
- S 88° 46' 14" W - 50.00'
  - N 01° 44' 46" W - 20.00'
  - S 88° 46' 14" E - 50.00'
  - S 01° 44' 46" E - 20.00'

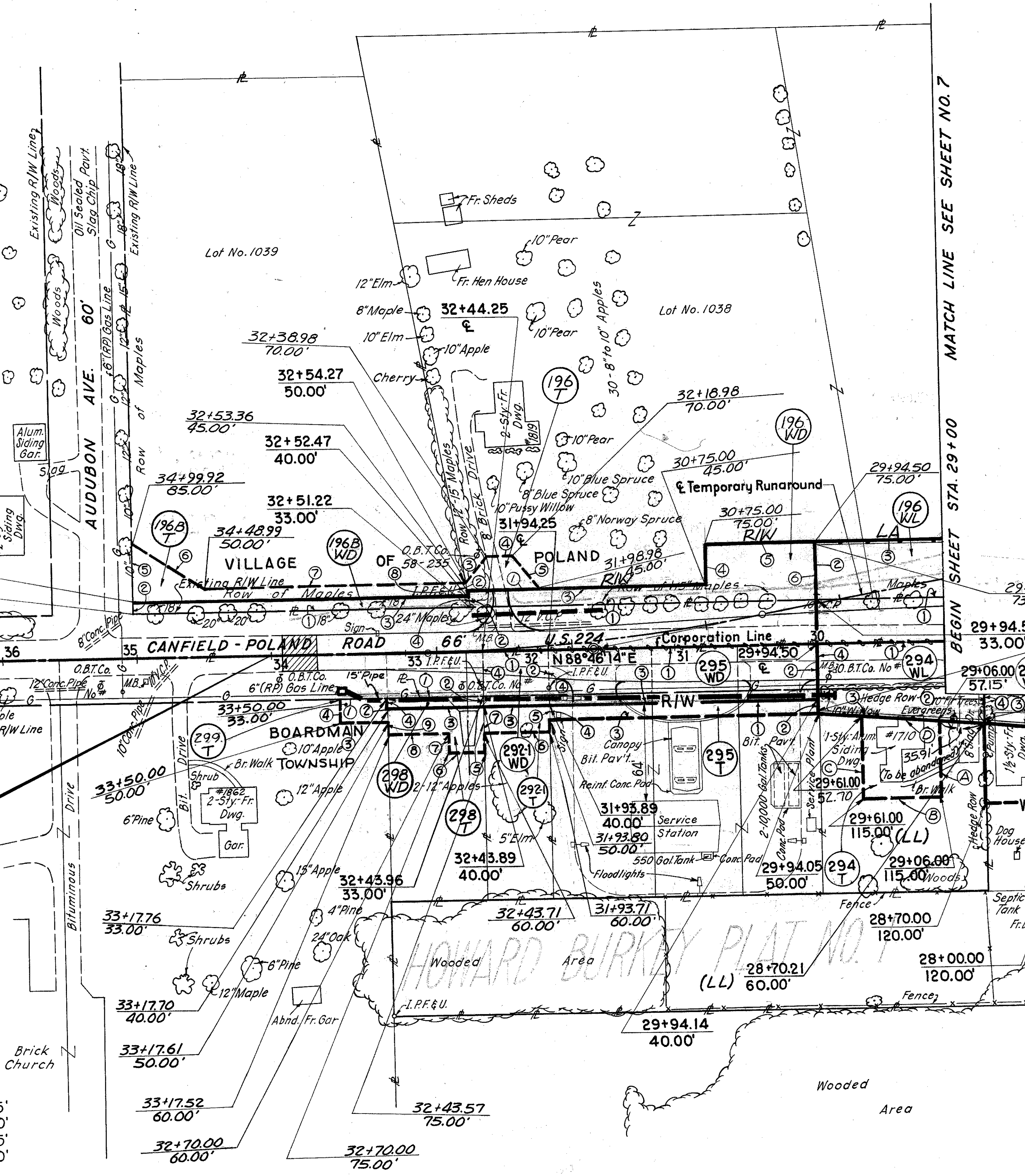
- (196B WD)
- S 88° 46' 14" W - 80.50'
  - N 01° 13' 46" W - 42.00'

- (298 T)
- S 88° 46' 14" W - 73.81'
  - N 01° 44' 46" W - 35.00'
  - N 88° 46' 14" E - 26.43'
  - S 01° 13' 46" E - 15.00'
  - N 88° 46' 14" E - 47.52'
  - S 01° 44' 46" E - 20.00'

- (295 WD)
- N 88° 46' 14" E - 199.75'
  - N 01° 44' 46" W - 40.00'
  - S 88° 46' 14" W - 199.75'
  - S 01° 44' 46" E - 40.00'

- (295 T)
- S 88° 46' 14" E - 199.75'
  - N 01° 44' 46" W - 10.00'
  - N 88° 46' 14" W - 199.75'
  - S 01° 44' 46" E - 10.00'

- (299 T)
- S 88° 46' 14" W - 32.24'
  - N 01° 44' 46" W - 17.00'
  - N 88° 46' 14" E - 32.39'
  - S 01° 13' 46" E - 17.00'



PARCEL NO.	OWNER	DEED TOTAL AREA	TOTAL P.R.O.	TOTAL TAKE	PR.O. in TAKE	NET TAKE	NET RES. Lt.	NET RES. Rt.	REMARKS
* 294-T	Jim Gardner			0.076		0.076			Remo. Dwg.
* 196B-WD	James C. Millard & Frances A.			0.040		0.040			
* 292-1-T	Mary Elizabeth Withers aka Mary E.			0.023		0.023			Drive
* 298-T	Samuel J. Pusateri			0.043		0.043			Drive
* 299-T	The Memorial Methodist Church of Poland	See Summary		549#		549#			Reloc. Pipe
196 WL	Andrew J. Borcik & Ann Borcik	6450	-	1.030	-	1.030	-	5.294	
196 WD	" " " " " "			0.126		0.126			
196 T	" " " " " "			0.022		0.022			DRIVE
* 196B-T	James C. Millard & Frances A. Millard			0.078		0.078			Slope
292 WL	Mary Elizabeth Withers aka Mary E. Withers	2.786	0.019	0.039	0.019	0.020	-	2.747	
* 292-1WD	" " " " " "	0.214	0.038	0.046	0.038	0.008	-	0.168	Acreege Corrected
293 WL	Howard G. Burkey aka Howard Guy Burkey	54,573"	-	2144"	-	2144"	-	52429"	Area Calc. Residue Lt. Remove Dwg.
293 WA	" " " " " "								
* 294 WL	Jim Gardner	0.500	0.094	0.156	0.094	0.062	-	0.344	Residue LL
295 WD	SIXTY-EIGHT SCARTEEN CORPORATION	37,184"	6,592"	7990"	6,592"	1,398"	-	29,194"	Area Calc.
295 T	A Delaware Corporation			1997"		1997"			Drives
* 298 WD	Samuel J. Pusateri	0.260	-	0.012	-	0.012	-	0.248	Slope & Sewer

FENCE - TYPE CL			
Station	to Station	Side	Lin. Ft.
27+75	29+94.50	Left	220
29+00	29+94.50	Right	100
Total			320

END ACQUISITION  
 Canfield-Poland Road - U.S. 224  
 @ Sta. 34 + 00.00

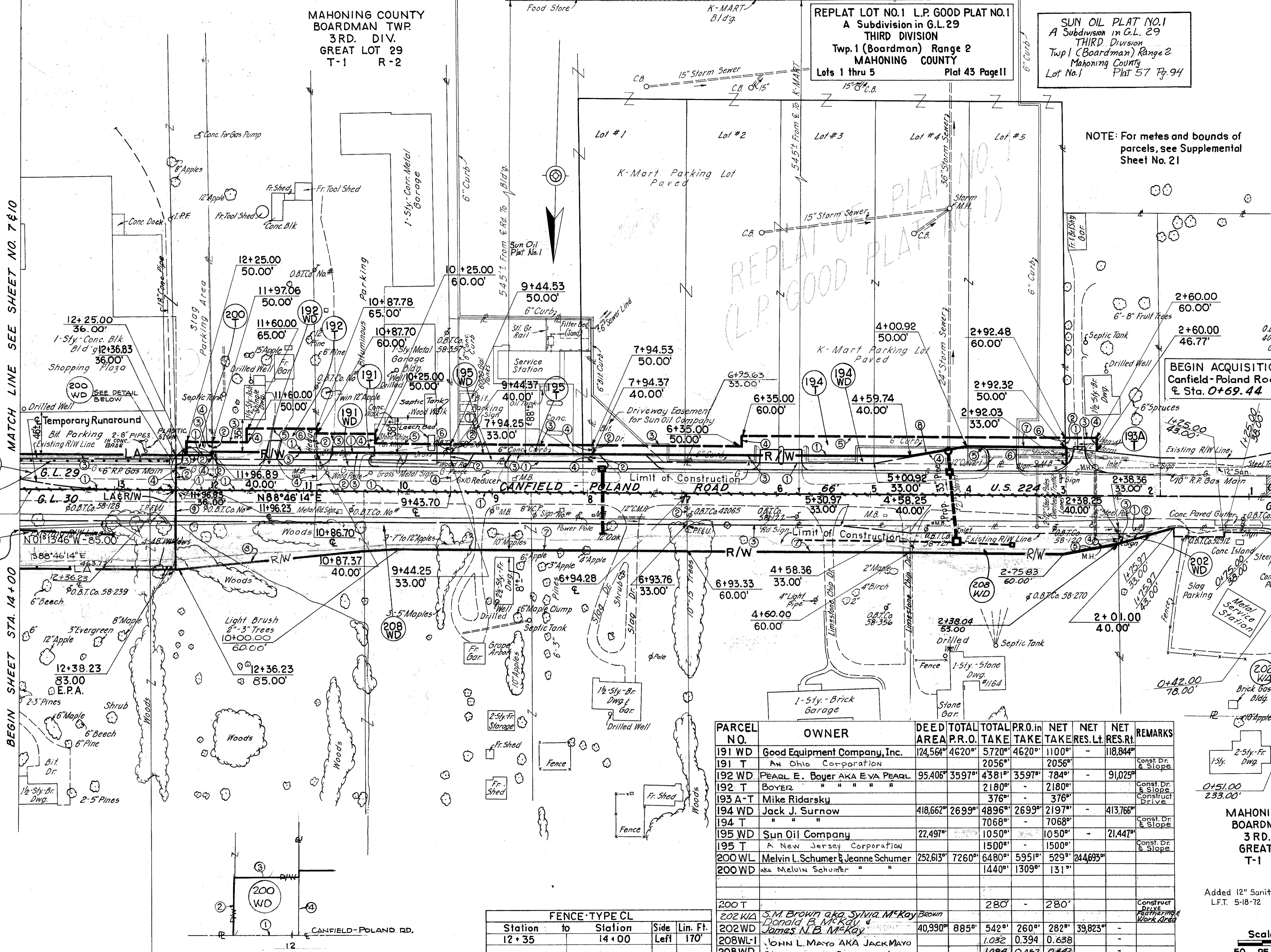
MAHONING COUNTY  
 BOARDMAN TWP.  
 3RD. DIV.  
 GREAT LOT 32  
 T-1 R-2

- (294 T)
- N 01° 13' 46" W - 57.85'
  - N 88° 46' 14" E - 55.00'
  - S 01° 13' 46" E - 62.30'
  - N 86° 36' 46" W - 55.18'

Scale in Feet  
 50 25 0 50

Sheet Completed  
 Date: 6-24-69  
 Revised  
 Date:  
 CHANGED OWNERSHIP  
 F.L. 295-WD 4/24/70  
 CONVERTED 294-WA  
 TO A TEMPORARY  
 4-22-71

TYPE OF FUNDS  
 I



PARCEL NO.	OWNER	DEED TOTAL AREA P.R.O.	TOTAL TAKE	P.R.O. in TAKE	NET TAKE	NET RES. LT.	NET RES. RT.	REMARKS
191 WD	Good Equipment Company, Inc.	124,564' 4620"	5720'	4620"	1100"	-	118,844'	
191 T	An Ohio Corporation	2056'	2056'	-	-	-	-	Const. Dr. & Slope
192 WD	PEARL E. BOYER AKA E VA PEARL BOYER	95,406' 3597"	4381'	3597"	784'	-	91,025'	Const. Dr. & Slope
193 A-T	Mike Ridarsky	376'	376'	-	376'	-	-	Construct Drive
194 WD	Jack J. Surnow	418,662' 2699"	4896'	2699"	2197"	-	413,766'	Const. Dr. & Slope
194 T	"	7068'	7068'	-	7068'	-	-	
195 WD	Sun Oil Company	22,497'	1050'	1050"	1050"	-	21,447'	
195 T	A New Jersey Corporation	1500'	1500'	-	1500"	-	-	Const. Dr. & Slope
200 WL	Melvin L. Schumer & Jeanne Schumer	252,613' 7260"	6480'	5951"	529'	244,693'		
200 WD	aka Melvin Schumer	1440'	1309'	131"	-	-	-	
200 T	"	280'	280'	-	280'	-	-	Construct Drive
202 KIA	S.M. Brown aka Sylvia M. Kay Brown	40,990'	885'	542'	260'	282'	39,823'	Construct Drive
202 WD	Donald B. McKay James N.B. McKay	1,032'	0.394'	0.638'	-	-	-	Work Area
208 WL-1	JOHN L. MAYO AKA JACK MAYO	1,089'	0.452'	0.442'	-	-	-	
208 WD	LEONARD F. ORAVETS AKA LEONARD ORAVETS							

FENCE TYPE CL			
Station	to Station	Side	Lin. Ft.
12+35	14+00	Left	170'
Total			170'

Sheet Completed Date: 6-24-69  
 Revised Date: Added Sun Oil Plat No.1 per Consultant RS. 10-23-69  
 Name Change Parcel 215 WD J.R.T. 3-25-70  
 DELETED P.O.s 20-WD & 215-WD AND REVISED NAME, DEED AREA, TAKE RESIDUES AND 18'S P.C. 208-WD & DELETED 208-T 4-24-70  
 Extend 4' P.C. 194-6-2071

MAHONING COUNTY BOARDMAN TWP. 3RD. DIV. GREAT LOT 30 T-1 R-2

Added 12" Sanitary Sewer L.F.T. 5-18-72

DELETED P.C.'s 200X & 200S 6-25-71  
 REVISED NAME P.C. 192 11-12-71  
 REVISED STA. OFFSETS NW CORNER LOT 1 in P.C. 194-WD 2-14-72

Scale in Feet  
 50 25 0 50

CANFIELD - POLAND ROAD STA. 0+00 TO STA. 14+00 RIGHT OF WAY PLAN

TYPE OF FUNDS  
 I

REVISED LOCATION OF LEACH BED 1. SEPTIC TANK P.L. 191-1-11-72  
 ADDED P.C. 202-WD 5-23-71  
 REVISED R/W LINE, CONSTRUCTION LIMITS, ADDED L-SHIRT 6-12-70  
 REVISED TOTAL TAKE FOR P.C. 208-WD  
 NEW STATIONS, AND REVISED TOTAL TAKE FOR P.C. 208-WD

REPLAT LOT NO. 1 L.P. GOOD PLAT NO. 1 A Subdivision in G.L. 29 THIRD DIVISION Twp. 1 (Boardman) Range 2 MAHONING COUNTY Lots 1 thru 5 Plat 43 Page 11

SUN OIL PLAT NO. 1 A Subdivision in G.L. 29 THIRD DIVISION Twp. 1 (Boardman) Range 2 Mahoning County Lot No. 1 Plat 57 Pg. 94

NOTE: For metes and bounds of parcels, see Supplemental Sheet No. 21

BEGIN ACQUISITION Canfield-Poland Road Sta. 0+69.44

Canfield-Poland Road

U.S. 224

South Avenue

MAHONING COUNTY BOARDMAN TWP. 3RD. DIV. GREAT LOT 30 T-1 R-2

Added 12" Sanitary Sewer L.F.T. 5-18-72

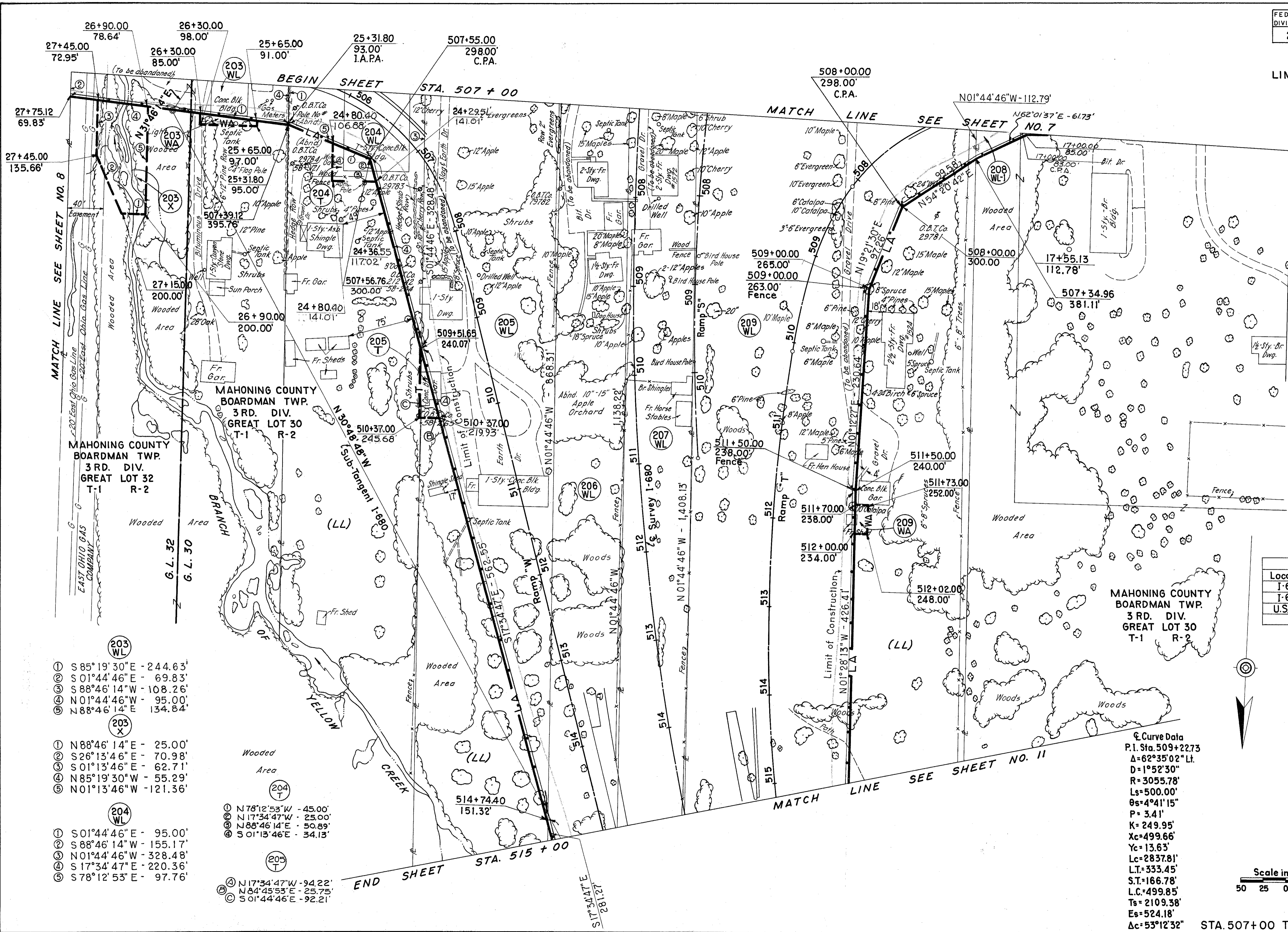
DELETED P.C.'s 200X & 200S 6-25-71  
 REVISED NAME P.C. 192 11-12-71  
 REVISED STA. OFFSETS NW CORNER LOT 1 in P.C. 194-WD 2-14-72

Scale in Feet  
 50 25 0 50

CANFIELD - POLAND ROAD STA. 0+00 TO STA. 14+00 RIGHT OF WAY PLAN

TYPE OF FUNDS  
 I



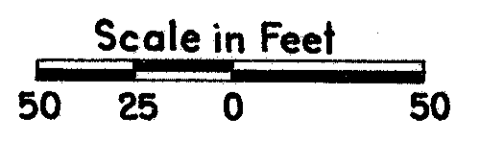


- 203 WL
- ① S 85°19'30"E - 244.63'
  - ② S 01°44'46"E - 69.83'
  - ③ S 88°46'14"W - 108.26'
  - ④ N 01°44'46"W - 95.00'
  - ⑤ N 88°46'14"E - 134.84'
- 203 X
- ① N 88°46'14"E - 25.00'
  - ② S 26°13'46"E - 70.98'
  - ③ S 01°13'46"E - 62.71'
  - ④ N 85°19'30"W - 55.29'
  - ⑤ N 01°13'46"W - 121.36'
- 204 WL
- ① S 01°44'46"E - 95.00'
  - ② S 88°46'14"W - 155.17'
  - ③ N 01°44'46"W - 328.48'
  - ④ S 17°34'47"E - 220.36'
  - ⑤ S 78°12'53"E - 97.76'
- 204 T
- ① N 78°12'53"W - 45.00'
  - ② N 17°34'47"W - 25.00'
  - ③ N 88°46'14"E - 50.89'
  - ④ S 01°13'46"E - 34.13'
- 205 T
- ① N 17°34'47"W - 94.22'
  - ② N 84°45'53"E - 25.75'
  - ③ S 01°44'46"E - 92.21'

PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O. TAKE	NET TAKE	NET RES. LI.	REMARKS
203 WL	Alice Marie Loupp & Loupp	324,086'	8,022'	8,022'	304,051'	Remove Shed
203 X	"	"	"	5,866'	"	Remove Bldg.
203 WA	"	"	"	"	"	Remove Bldg.
204 WL	Henry McCrone	217,800'	5,066'	5,066'	194,331'	Remove Bldg.
205 WL	Edward W. Ludt & Jennie M. Ludt	5,000'	0.116'	0.116'	2,892'	Remove Bldg.
206 WL	Hazel Notson fka. Hazel W. Hall	2,500'	0.058'	0.058'	0.732'	Remove Garage
207 WL	Harry G. Niggel & Muriel M. Niggel	2,500'	0.058'	0.058'	0.257'	Remove Bldg.
208 WL-1	John L. McCaskey, Jack W. McCaskey & Cecelia McCaskey	19,060'	0.238'	0.238'	6,632'	Remove Shed
209 WL	Hilda O. Johnson, Sophia O. Willson & Helen L. Olson	"	"	"	"	"
209 WA	"	"	"	"	"	"

FENCE TYPE CL				
Location	Station	to Station	Side	Lin. Ft.
I-680	507+00	513+00	Left	820
I-680	507+00	513+00	Right	810
U.S. 224	27+75	24+36	Right	350
			Total	1980

Curve Data  
P.I. Sta. 509+22.73  
Δ=62°35'02" Lt.  
D=1°52'30"  
R=3055.78'  
Ls=500.00'  
Es=4°41'15"  
P=3.41'  
K=249.95'  
Xc=499.66'  
Yc=13.63'  
Lc=2837.81'  
L.T.=333.45'  
S.T.=166.78'  
L.C.=499.85'  
Ts=2109.38'  
Es=524.18'  
Δc=53°12'32"

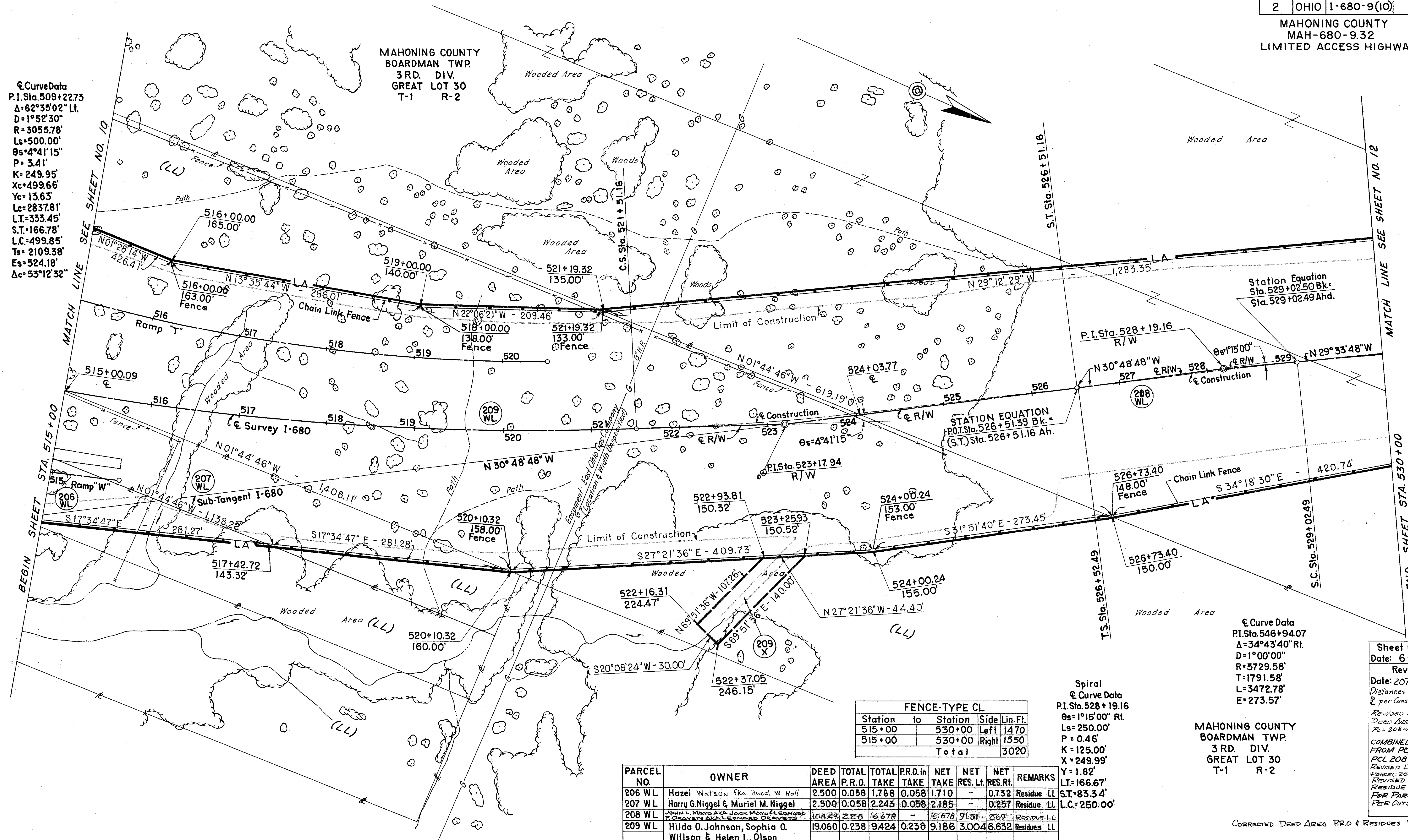


Sheet Completed  
Date: 6-24-69  
Revised  
Date:  
REVISED NAME P.L. 208-WL-1 4/24/70  
REVISED LA LINE, LA FENCE & CONST. LIMITS PARCEL 208WL-1 L.S. 9-1-70  
CHANGED 204WA TO A  
TEMPORARY L.S. 10-16-70  
CHANGED 205WA TO A  
TEMPORARY L.S. 10-24-70

Revised Name P.L. 203  
P.L. 203  
TYPE OF FUNDS  
I

MAHONING COUNTY  
BOARDMAN TWP.  
3RD. DIV.  
GREAT LOT 30  
T-1 R-2

Curve Data  
P.I. Sta. 509+22.73  
 $\Delta=62^{\circ}35'02''$  Lt.  
D=1°52'30"  
R=3055.78'  
Ls=500.00'  
 $\theta_s=4^{\circ}41'15''$   
P=3.41'  
K=249.95'  
Xc=499.66'  
Yc=13.63'  
Lc=2837.81'  
L.T.=333.45'  
S.T.=166.78'  
L.C.=499.85'  
Ts=2109.38'  
Es=524.18'  
 $\Delta c=53^{\circ}12'32''$



Station	to Station	Side	Lin. Ft.
515+00	530+00	Left	1470
515+00	530+00	Right	1550
Total			3020

PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. in TAKE	NET TAKE	NET RES. Lt.	NET RES. Rt.	REMARKS
206 WL	Hazel Watson fka Hazel W. Hall	2.500	0.058	1.768	0.058	1.710	-	0.732	Residue LL
207 WL	Harry G. Niggel & Muriel M. Niggel	2.500	0.058	2.243	0.058	2.185	-	0.257	Residue LL
208 WL	JOHN L. MARYO AKA JACK MARYO & LEONARD F. ORAVETS AKA LEONARD ORAVETS	10.449	2.226	16.678	-	16.678	91.51	2.69	Residue LL
209 WL	Hilda O. Johnson, Sophia O. Willson & Helen L. Olson	19.060	0.238	9.424	0.238	9.186	3.004	6.632	Residue LL
209 X	" " " "			0.085	-	0.085			Channel Relocation

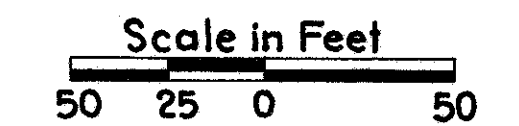
Spiral  
Curve Data  
P.I. Sta. 528+19.16  
 $\theta_s=1^{\circ}15'00''$  Rt.  
Ls=250.00'  
P=0.46'  
K=125.00'  
X=249.99'  
Y=1.82'  
L.T.=166.67'  
S.T.=83.34'  
L.C.=250.00'

Curve Data  
P.I. Sta. 546+94.07  
 $\Delta=34^{\circ}43'40''$  Rt.  
D=1°00'00"  
R=5729.58'  
T=1791.58'  
L=3472.78'  
E=273.57'

MAHONING COUNTY  
BOARDMAN TWP.  
3RD. DIV.  
GREAT LOT 30  
T-1 R-2

Sheet Completed  
Date: 6-24-69  
Revised  
Date: 207 WL Revised  
Distances East & West  
per Consultant R.S. 10-2-70  
REVISED NAME  
DEED AREA C. REVISED  
PCL 208 WL - 4/24/70  
COMBINED AREA  
FROM PCL 214 WITH  
PCL 208 SMITH 6-15-70  
REVISED LEFT RESIDUE  
PARCEL 208 WL L.S. 9-17-70  
REVISED DEED AREA  
RESIDUE & TAKE  
FOR PARCEL 208 WL  
PER OUTSALE 11-10-70

Corrected Deed Area P.R.O. & Residues PCL 208 12-7-70



TYPE OF FUNDS  
I

State Highway Dept. Div. of  
P.W. Planning & Admin. Serv.  
Columbus, Ohio  
JUL 3 1969  
LOGGED  
Date: \_\_\_\_\_  
By: \_\_\_\_\_

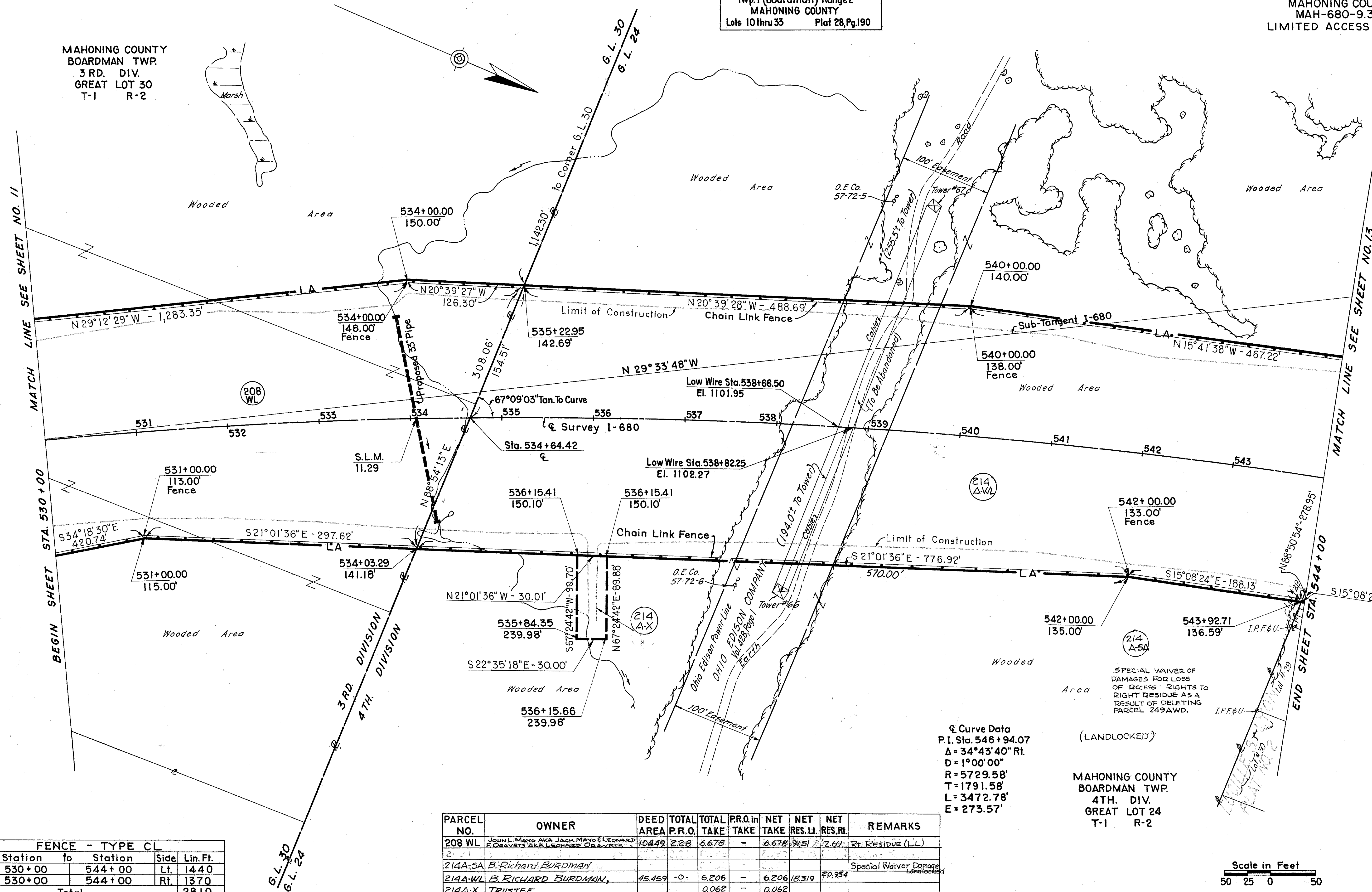
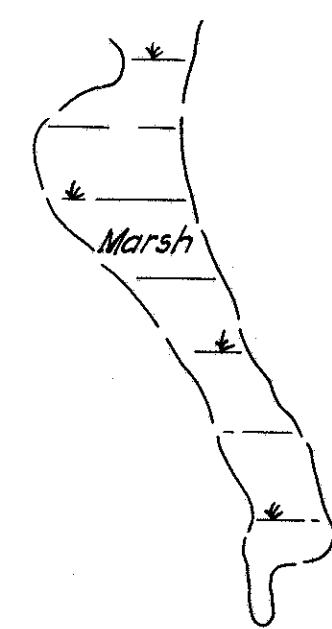
LUCILLE S. LYON PLAT NO. 2  
 A Subdivision in G.L. 24  
 4TH. DIVISION  
 Twp. 1 (Boardman) Range 2  
 MAHONING COUNTY  
 Lots 10 thru 33 Plat 28, Pg. 190

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	I-680-9(10)

MAHONING COUNTY  
 MAH-680-9.32  
 LIMITED ACCESS HIGHWAY

293  
 12  
 22  
 R/W

MAHONING COUNTY  
 BOARDMAN TWP.  
 3 RD. DIV.  
 GREAT LOT 30  
 T-1 R-2



DELETED PCL 214, COMBINED WITH PCL 208 SHOWN 6-22-70

State Highway Dept. Div. 5  
 R/W, E, Survey, & Admin. Sect.  
 JUL 3 1968  
 LOGGED  
 B.H. BL.

Curve Data  
 P.I. Sta. 546+94.07  
 $\Delta = 34^{\circ}43'40''$  Rt.  
 $D = 1^{\circ}00'00''$   
 $R = 5729.58'$   
 $T = 1791.58'$   
 $L = 3472.78'$   
 $E = 273.57'$

SPECIAL WAIVER OF DAMAGES FOR LOSS OF ACCESS RIGHTS TO RIGHT RESIDUE AS A RESULT OF DELETING PARCEL 249AWD.

(LANDLOCKED)  
 MAHONING COUNTY  
 BOARDMAN TWP.  
 4TH. DIV.  
 GREAT LOT 24  
 T-1 R-2

Scale in Feet  
 50 25 0 50

Sheet Completed  
 Date: 6-24-69  
 Revised  
 Date:  
 REVISION NAME,  
 DATED DATE & RESIDUE  
 PCL 208-WL 824-70  
 REVISED LEFT RESIDUE  
 PARCEL 208WL 9-270  
 ADDED PARCELS  
 214A-WL #214AX  
 PER OUTSIDE OF  
 PARCEL 208 11-10-70  
 CORRECTED DEED DREN  
 P.R.O. # RESIDUES  
 12-7-70  
 Added Pcl. 214A-SA  
 12-9-71

FENCE - TYPE CL			
Station to	Station	Side	Lin. Ft.
530+00	544+00	Lt.	1440
530+00	544+00	Rt.	1370
Total			2810

PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. in TAKE	NET TAKE	NET RES. LI.	NET RES. RI.	REMARKS
208 WL	JOHN L. MAYO AKA JACK MAYO & LEONARD F. ORAVETS AKA LEONARD ORAVETS	104.49	2.28	6.678	-	6.678	91.51	7.69	Rt. RESIDUE (LL)
214A-SA	B. RICHARD BURDMAN								Special Waiver Damage Landlocked
214A-WL	B. RICHARD BURDMAN	45.459	0	6.206	-	6.206	183.19	20.954	
214A-X	TRUSTEE			0.062	-	0.062			

TYPE OF FUNDS  
 I

STA. 530+00 TO STA. 544+00 RIGHT OF WAY PLAN

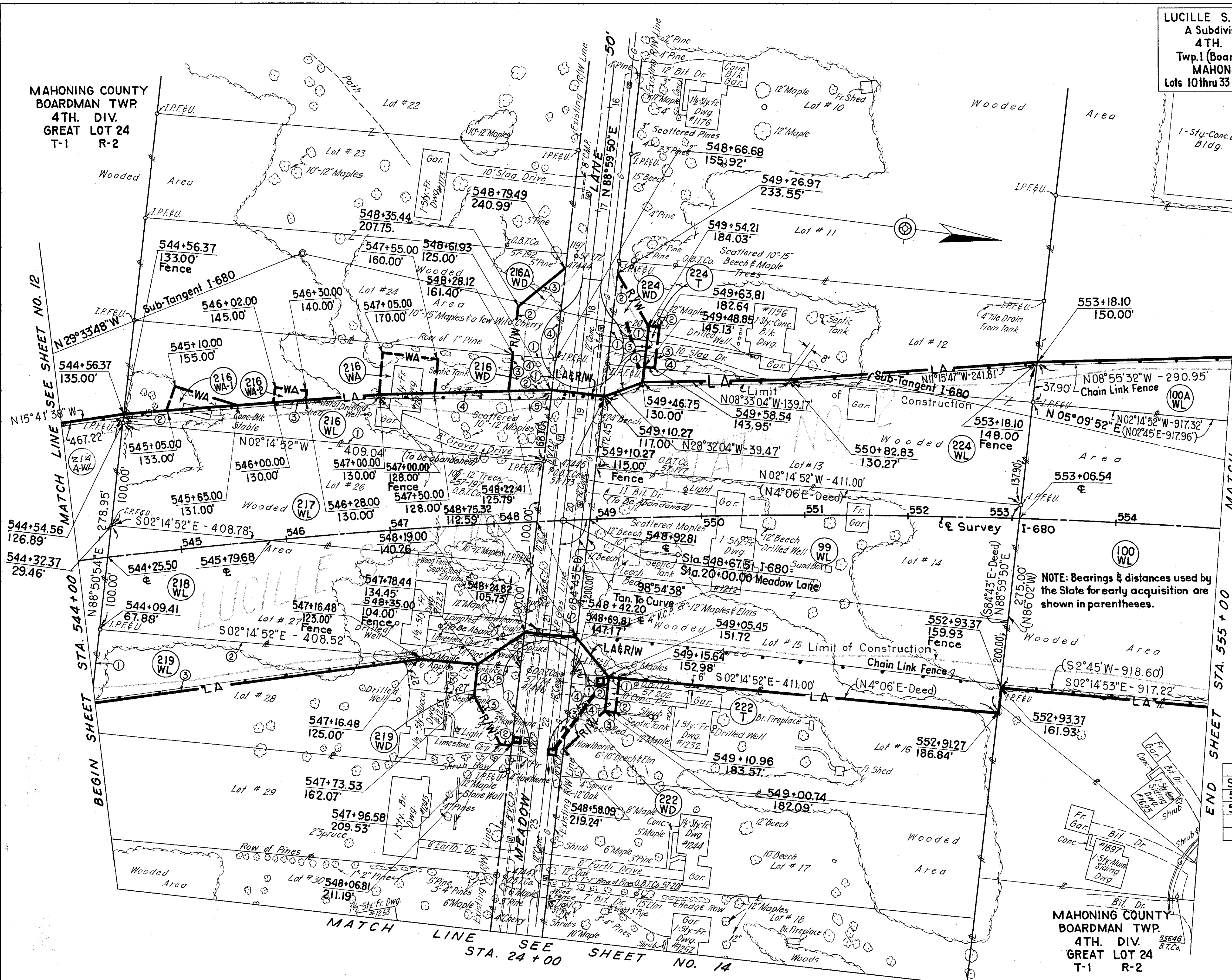
MAHONING COUNTY  
BOARDMAN TWP.  
4TH. DIV.  
GREAT LOT 24  
T-1 R-2

LUCILLE S. LYON PLAT NO. 2  
A Subdivision in G.L. 24  
4TH. DIVISION  
Twp. 1 (Boardman) Range 2  
MAHONING COUNTY  
Lots 10 thru 33 Plat 28, Pg. 190

FED. RD. DIVISION	STATE	PROJECT	294
2	OHIO	I-680-9(10)	

MAHONING COUNTY  
MAH-680-9.32  
LIMITED ACCESS HIGHWAY

13  
22  
R/W



- ① S 88°59'50"W - 117.82'
- ② N 51°07'19"E - 57.01'
- ③ N 88°59'50"E - 54.57'
- ④ S 28°32'04"E - 39.47'
- ① S 88°59'50"W - 39.29'
- ② N 01°00'10"W - 10.00'
- ③ N 88°59'50"E - 39.07'
- ④ S 02°14'52"E - 10.00'

\* NOTE: Parcel 100WL was acquired as an advanced acquisition. The residue was subsequently sold and is now shown as parcel 100A.

PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. in TAKE	NET TAKE	NET RES. LI.	NET RES. RI.	REMARKS
99 WL	Shirley M. Latane	82180"	-	82180"	-	82180"	-	-	
100 WL	Bishop Emmet M. Walsh	10.000	0.272	5.790	0.158	4.096	-	-	
100A-WL	James A. Trofiant	4.210	0.114	1.061	0.014	1.047	3.049	-	
216 WL	Paul G. Graff	40,908"	-	16,688"	-	16,688"	22,872"	-	
216 WD	" " "			1,348"	-	1,348"			
216 WA	" " "								Remove Dwg.
216 WA-1	" " "								Remove Stable
216 WA-2	" " "								Remove Shed
216A-WD	PAUL R. CARLSON & ANGELA CARLSON AKA ANGELA A. CARLSON	13,248"	-	2,661"	-	2,661"	12,858"	-	
217 WL	Margaret L. Graff	40,882"	-	40,882"	-	40,882"	-	-	
218 WL	Eugene Thomas	40,855"	-	40,855"	-	40,855"	-	-	
219 WL	Raymond A. Baldwin & Letha Baldwin	40,830"	-	10,849"	-	10,849"	-	27,767"	
219 WD	" " "			2,214"	-	2,214"			
222 WD	Charles E. Finley & Elma E. Finley	41,090"	-	1,814"	-	1,814"	-	39,276"	
222 T	" " "			308"	-	308"			Const. Drive
224 WL	James W. Allen & Mildred Harriette Allen	82,180"	-	43,704"	-	43,704"	35,459"	-	
224 WD	AKA MILDRED ALLEN			3,017"	-	3,017"			
224 T	" " "			392"	-	392"			Const. Drive

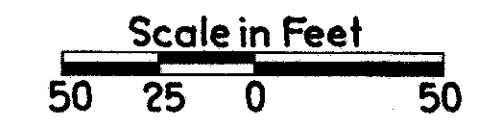
FENCE-TYPE CL			
Station	to Station	Side	Lin. Ft.
544+00	555+00	Left	1140
544+00	555+00	Right	1090
Total			2230

Curve Data  
P.I. Sta. 546+94.07  
Δ = 34°43'40" Rt.  
D = 1°00'00"  
R = 5729.58'  
T = 1791.58'  
L = 3472.78'  
E = 273.57'

Sheet Completed  
Date: 6-24-69  
Revised

Date:  
REVISED NAMES  
PLS 216 AND 224 WD  
REVISED DEED DECS  
RESIDUE PL. 216 AND  
4/28/70  
Added Pl. 214-A-WL  
11-10-70 Smith

- ① S 02°14'52"E - 409.04'
- ② S 88°50'54"W - 8.32'
- ③ N 11°39'26"W - 249.30'
- ④ N 09°02'55"W - 165.60'
- ⑤ N 88°59'50"E - 68.70'
- ① N 88°59'50"E - 31.30'
- ② S 09°02'55"E - 40.40'
- ③ S 88°59'50"W - 36.09'
- ④ N 02°14'52"W - 40.01'
- ① S 02°14'52"E - 40.01'
- ② S 88°59'50"W - 46.96'
- ③ N 46°00'12"W - 56.57'
- ④ N 88°59'50"E - 86.09'
- ① S 88°50'54"W - 70.64'
- ② N 02°14'52"W - 307.22'
- ③ S 15°08'24"E - 316.55'
- ① N 88°59'50"E - 71.91'
- ② S 01°00'10"E - 10.00'
- ③ S 54°05'40"W - 52.43'
- ④ S 88°59'50"W - 28.04'
- ⑤ N 02°14'52"W - 40.01'
- ① N 02°14'52"W - 35.01'
- ② N 88°59'50"E - 30.71'
- ③ S 51°51'29"E - 55.44'
- ④ S 88°59'50"W - 72.95'
- ① N 02°14'52"W - 10.00'
- ② N 88°59'50"E - 30.93'
- ③ S 01°00'10"E - 10.00'
- ④ S 88°59'50"W - 30.71'

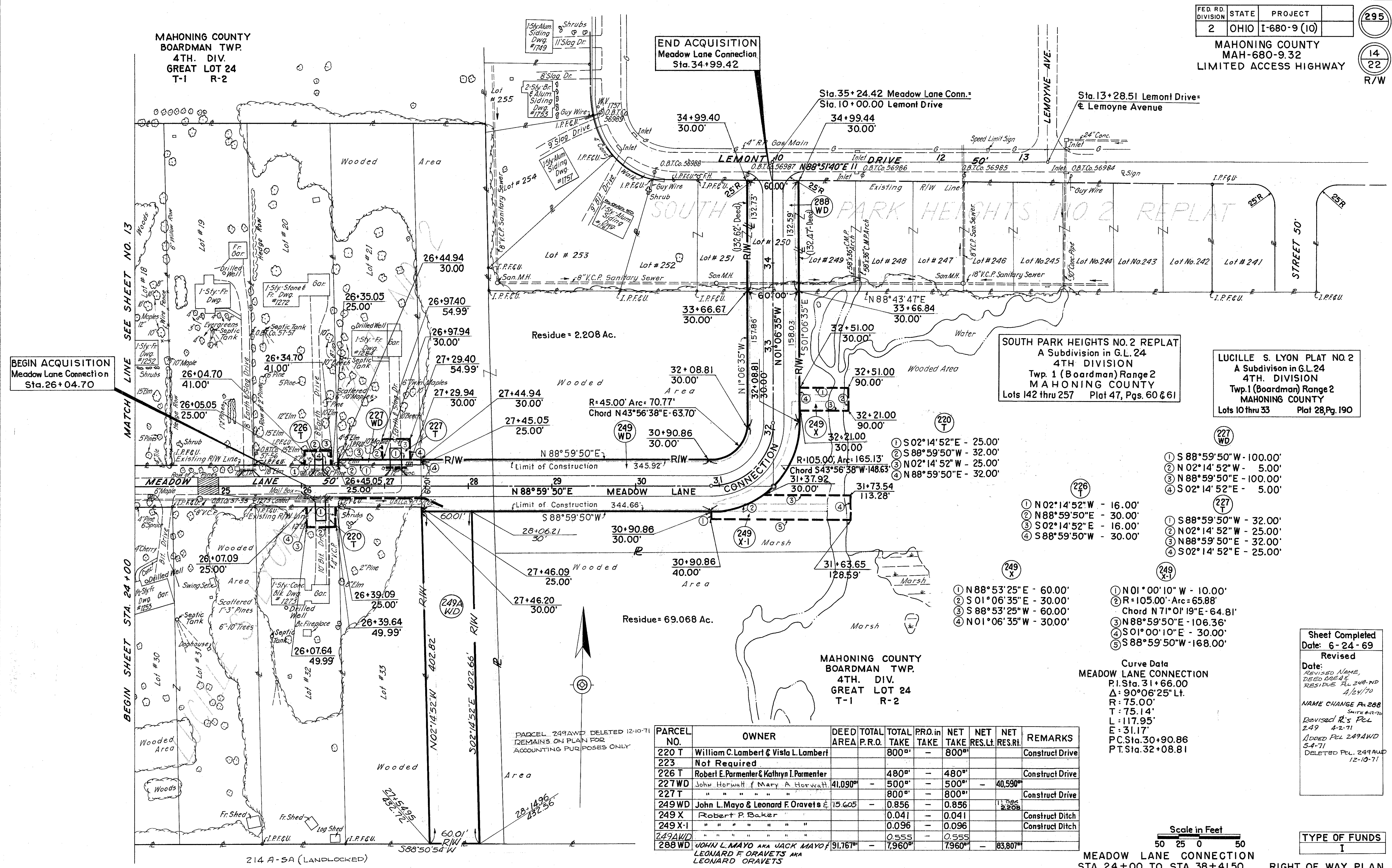


TYPE OF FUNDS  
I

STA. 544+00 TO STA. 555+00 RIGHT OF WAY PLAN

MAHONING COUNTY  
BOARDMAN TWP.  
4TH. DIV.  
GREAT LOT 24  
T-1 R-2

MAHONING COUNTY  
MAH-680-9.32  
LIMITED ACCESS HIGHWAY



**SOUTH PARK HEIGHTS NO. 2 REPLAT**  
A Subdivision in G.L. 24  
4TH DIVISION  
MAHONING COUNTY  
Lots 142 thru 257 Plat 47, Pgs. 60 & 61

**LUCILLE S. LYON PLAT NO. 2**  
A Subdivision in G.L. 24  
4TH DIVISION  
MAHONING COUNTY  
Lots 10 thru 33 Plat 28, Pg. 190

- ① S 88°59'50"W - 100.00'
  - ② N 02°14'52"W - 5.00'
  - ③ N 88°59'50"E - 100.00'
  - ④ S 02°14'52"E - 5.00'
- ① S 88°59'50"W - 32.00'
  - ② N 02°14'52"W - 25.00'
  - ③ N 88°59'50"E - 32.00'
  - ④ S 02°14'52"E - 25.00'
- ① N 02°14'52"W - 16.00'
  - ② N 88°59'50"E - 30.00'
  - ③ S 02°14'52"E - 16.00'
  - ④ S 88°59'50"W - 30.00'
- ① N 88°53'25"E - 60.00'
  - ② S 01°06'35"E - 30.00'
  - ③ S 88°53'25"W - 60.00'
  - ④ N 01°06'35"W - 30.00'
- ① N 01°00'10"W - 10.00'
  - ② R=105.00' Arc=65.88'  
Chord N 71°01'19"E - 64.81'
  - ③ N 88°59'50"E - 106.36'
  - ④ S 01°00'10"E - 30.00'
  - ⑤ S 88°59'50"W - 168.00'

Curve Data  
MEADOW LANE CONNECTION  
P.I. Sta. 31+66.00  
Δ: 90°06'25" Lt.  
R: 75.00'  
T: 75.14'  
L: 117.95'  
E: 31.17'  
P.C. Sta. 30+90.86  
P.T. Sta. 32+08.81

PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	PRO. in TAKE	NET TAKE	NET RES. Lt.	NET RES. Rt.	REMARKS
220 T	William C. Lambert & Vista L. Lambert			800"	-	800"			Construct Drive
223	Not Required								
226 T	Robert E. Parmenter & Kathryn I. Parmenter			480"	-	480"			Construct Drive
227 WD	John Horwath & Mary A. Horwath	41,090"		500"	-	500"		40,590"	
227 T	" " " "			800"	-	800"			Construct Drive
249 WD	John L. Mayo & Leonard F. Oravets &	15,605"		0.856	-	0.856		11,999"	2,208"
249 X	Robert P. Baker			0.041	-	0.041			Construct Ditch
249 X-1	" " " "			0.096	-	0.096			Construct Ditch
249 AWD	" " " "			0.555	-	0.555			
288 WD	JOHN L. MAYO AKA JACK MAYO & LEONARD F. ORAVETS AKA LEONARD ORAVETS	91,767"		7,960"	-	7,960"		83,807"	

Sheet Completed  
Date: 6-24-69  
Revised  
Date:  
REVISED NAME, DEED AREA & RESIDUE P.L. 249-WD 4/24/70  
NAME CHANGE P.L. 288 5/11/70  
REVISED R's P.L. 249 4-2-71  
ADDED P.L. 249 AWD 5-4-71  
DELETED P.L. 249 AWD 12-10-71

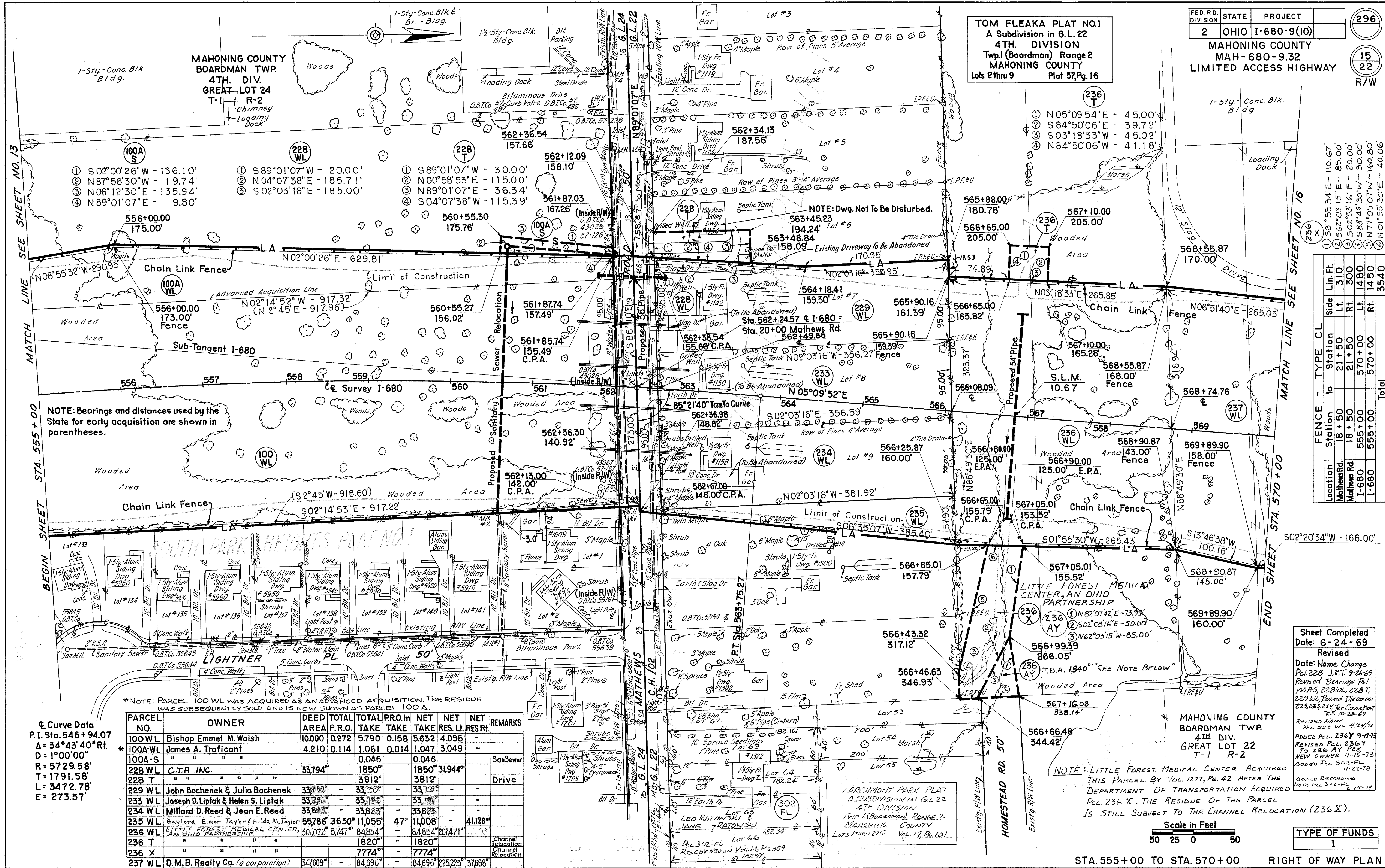
Scale in Feet  
50 25 0 50

MEADOW LANE CONNECTION  
STA. 24+00 TO STA. 38+41.50  
RIGHT OF WAY PLAN

TYPE OF FUNDS  
I

214 A-SA (LANDLOCKED)

**TOM FLEAKA PLAT NO.1**  
A Subdivision in G.L. 22  
4TH. DIVISION  
Twp.1 (Boardman) Range 2  
MAHONING COUNTY  
Lots 2 thru 9 Plat 37, Pg. 16



Location	Fence - Station	Type	CL	Station	Side	Lin. Ft.
Mathews Rd.	18 + 50	21 + 50	Lt.	310		85.00'
Mathews Rd.	18 + 50	21 + 50	Rt.	300		20.00'
I-680	555 + 00	570 + 00	Lt.	1480		30.00'
I-680	555 + 00	570 + 00	Rt.	1450		160.80'
					Total	3540

NOTE: Bearings and distances used by the State for early acquisition are shown in parentheses.

Curve Data  
P.I. Sta. 546 + 94.07  
Δ = 34°43'40" Rt.  
D = 1°00'00"  
R = 5729.58'  
T = 1791.58'  
L = 3472.78'  
E = 273.57'

\* NOTE: PARCEL 100-WL WAS ACQUIRED AS AN EARLY ACQUISITION. THE RESIDUE WAS SUBSEQUENTLY SOLD AND IS NOW SHOWN AS PARCEL 100-A.

PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. in TAKE	NET TAKE	NET RES. LI.	NET RES. RI.	REMARKS
100-WL	Bishop Emmet M. Walsh	10.000	0.272	5.790	0.158	5.632	4.096	-	
100A-WL	James A. Traficant	4.210	0.114	1.061	0.014	1.047	3.049	-	
100A-S	"	"	"	0.046	"	0.046	"	-	San Sewer
228-WL	C.T.P. INC.	33,794	"	1850	"	1850	31,944	-	Drive
229-WL	John Bochenek & Julia Bochenek	33,759	"	33,759	"	33,759	-	-	
233-WL	Joseph D. Liptak & Helen S. Liptak	33,791	"	33,791	"	33,791	-	-	
234-WL	Millard D. Reed & Jean E. Reed	33,823	"	33,823	"	33,823	-	-	
235-WL	Baylor Elmer Taylor & Hilda M. Taylor	55,786	3,650	11,055	47	11,008	-	41,288	
236-WL	LITTLE FOREST MEDICAL CENTER, AN OHIO PARTNERSHIP	50,072	8,747	84,854	"	84,854	207,471	"	
236-X	"	"	"	1,820	"	1,820	"	"	Channel Relocation
237-WL	D.M.B. Realty Co. (a corporation)	347,609	"	84,696	"	84,696	225,225	37,608	Channel Relocation

Sheet Completed Date: 6-24-69  
Revised Date: Name Change  
P.L. 228 J.R.T. 9-26-69  
Revised Bearings P.L. 100-A-S, 228-WL, 228-T, 229-WL, Revised Distances 229, 233, 234, Per Consultant R.S. 10-23-69  
Revised Name P.L. 228-WL 4/25/70  
Added P.L. 236-Y 9-17-73  
Revised P.L. 236-Y To 236 AY PER NEW OWNER 11-15-73  
Added P.L. 302-FL 11-22-78  
Added Recording 10/28 P.L. 302-FL 3-25-79

NOTE: LITTLE FOREST MEDICAL CENTER ACQUIRED THIS PARCEL BY VOL. 1277, Pg. 42 AFTER THE DEPARTMENT OF TRANSPORTATION ACQUIRED P.L. 236 X. THE RESIDUE OF THE PARCEL IS STILL SUBJECT TO THE CHANNEL RELOCATION (236 X).

Scale in Feet  
50 25 0 50

TYPE OF FUNDS  
1

MAHONING COUNTY  
BOARDMAN TWP.  
4TH. DIV.  
GREAT LOT 22  
T-1 R-2

FENCE - TYPE CL			
Station	to Station	Side	Lin. Ft.
570 + 00	584 + 00	Lt.	1410
570 + 00	584 + 00	Rt.	1410
Total			2820

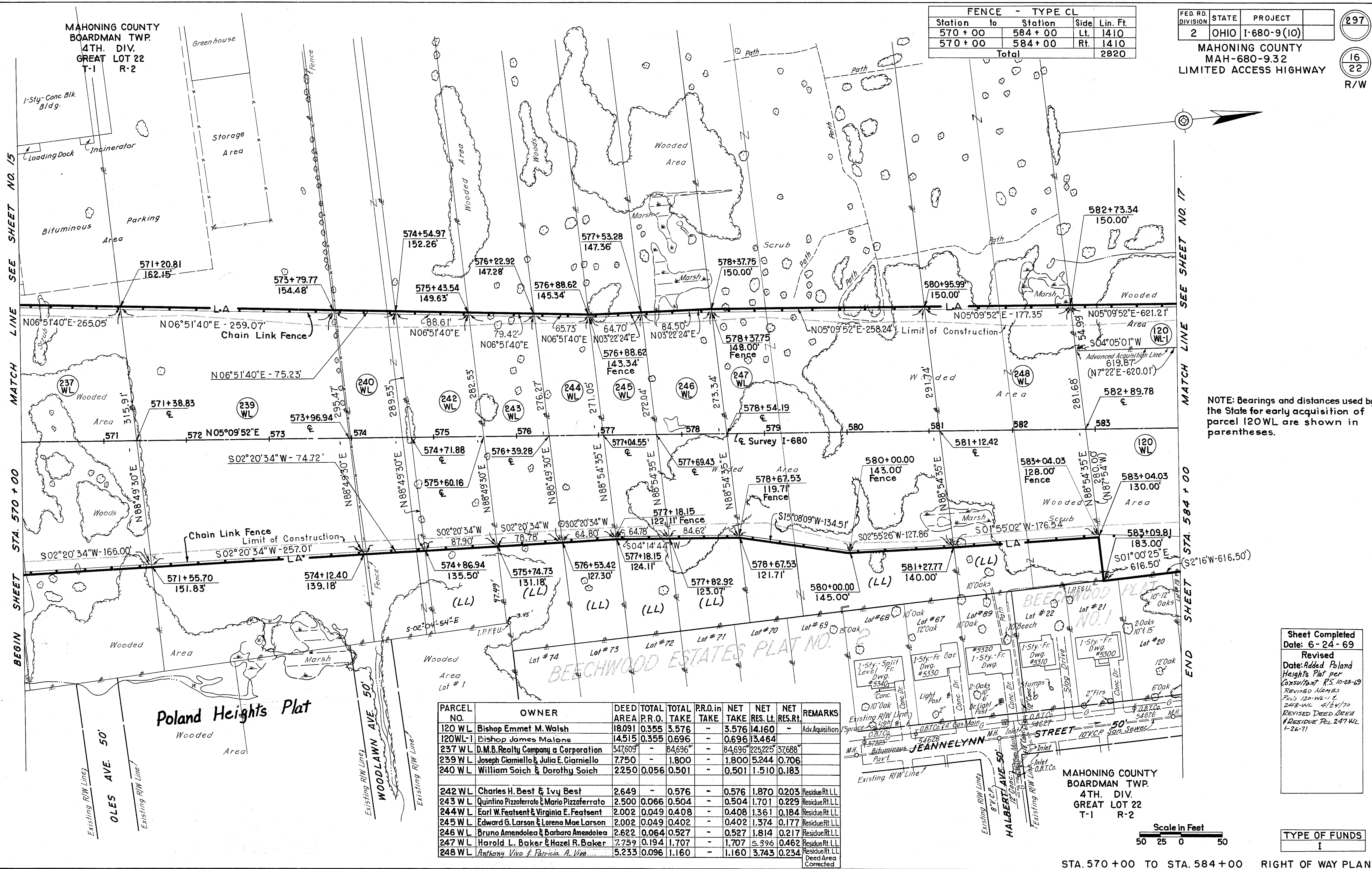
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	I-680-9(10)

MAHONING COUNTY  
MAH-680-9.32  
LIMITED ACCESS HIGHWAY

(297)  
(16)  
(22)  
R/W

SEE SHEET NO. 15  
MATCH LINE  
STA. 570 + 00  
BEGIN SHEET

MATCH LINE  
SEE SHEET NO. 17  
STA. 584 + 00  
END SHEET



NOTE: Bearings and distances used by the State for early acquisition of parcel 120WL are shown in parentheses.

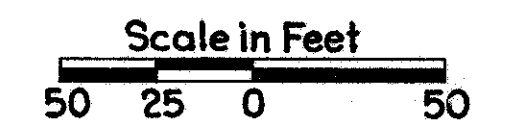
PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. in TAKE	NET TAKE	NET RES. Lt.	NET RES. Rt.	REMARKS
120 WL	Bishop Emmet M. Walsh	18.091	0.355	3.576	-	3.576	14.160	-	Adv. Acquisition
120WL-1	Bishop James Malone	14.515	0.355	0.696	-	0.696	13.464	-	
237 WL	D.M.B. Realty Company a Corporation	347.609	-	84.696	-	84.696	225.225	37.688	
239 WL	Joseph Ciarniello & Julia E. Ciarniello	7.750	-	1.800	-	1.800	5.244	0.706	
240 WL	William Soich & Dorothy Soich	2.250	0.056	0.501	-	0.501	1.510	0.183	
242 WL	Charles H. Best & Ivy Best	2.649	-	0.576	-	0.576	1.870	0.203	Residue Rt. LL
243 WL	Quintino Pizzoferrato & Mario Pizzoferrato	2.500	0.066	0.504	-	0.504	1.701	0.229	Residue Rt. LL
244 WL	Earl W. Featsent & Virginia E. Featsent	2.002	0.049	0.408	-	0.408	1.361	0.184	Residue Rt. LL
245 WL	Edward G. Larson & Lorena Mae Larson	2.002	0.049	0.402	-	0.402	1.374	0.177	Residue Rt. LL
246 WL	Bruno Amendolea & Barbara Amendolea	2.622	0.064	0.527	-	0.527	1.814	0.217	Residue Rt. LL
247 WL	Harold L. Baker & Hazel R. Baker	7.759	0.194	1.707	-	1.707	5.396	0.462	Residue Rt. LL
248 WL	Anthony Vivo & Patricia A. Vivo	5.233	0.096	1.160	-	1.160	3.743	0.234	Residue Rt. LL Deed Area Corrected

**Poland Heights Plat**

**BEECHWOOD ESTATES PLAT NO. 2**

MAHONING COUNTY  
BOARDMAN TWP.  
4TH. DIV.  
GREAT LOT 22  
T-1 R-2

Sheet Completed  
Date: 6-24-69  
Revised  
Date: Added Poland Heights Plat per Consultant R.S. 10-23-69  
Revised NAMES  
Pols 120-WL-1  
248-WL 4/24/70  
REVISED DEED AREA  
# RESIDUE REL 247 WL 1-26-71



TYPE OF FUNDS  
I

MAHONING COUNTY  
BOARDMAN TWP.  
4TH. DIV.  
GREAT LOT 22  
T-1 R-2

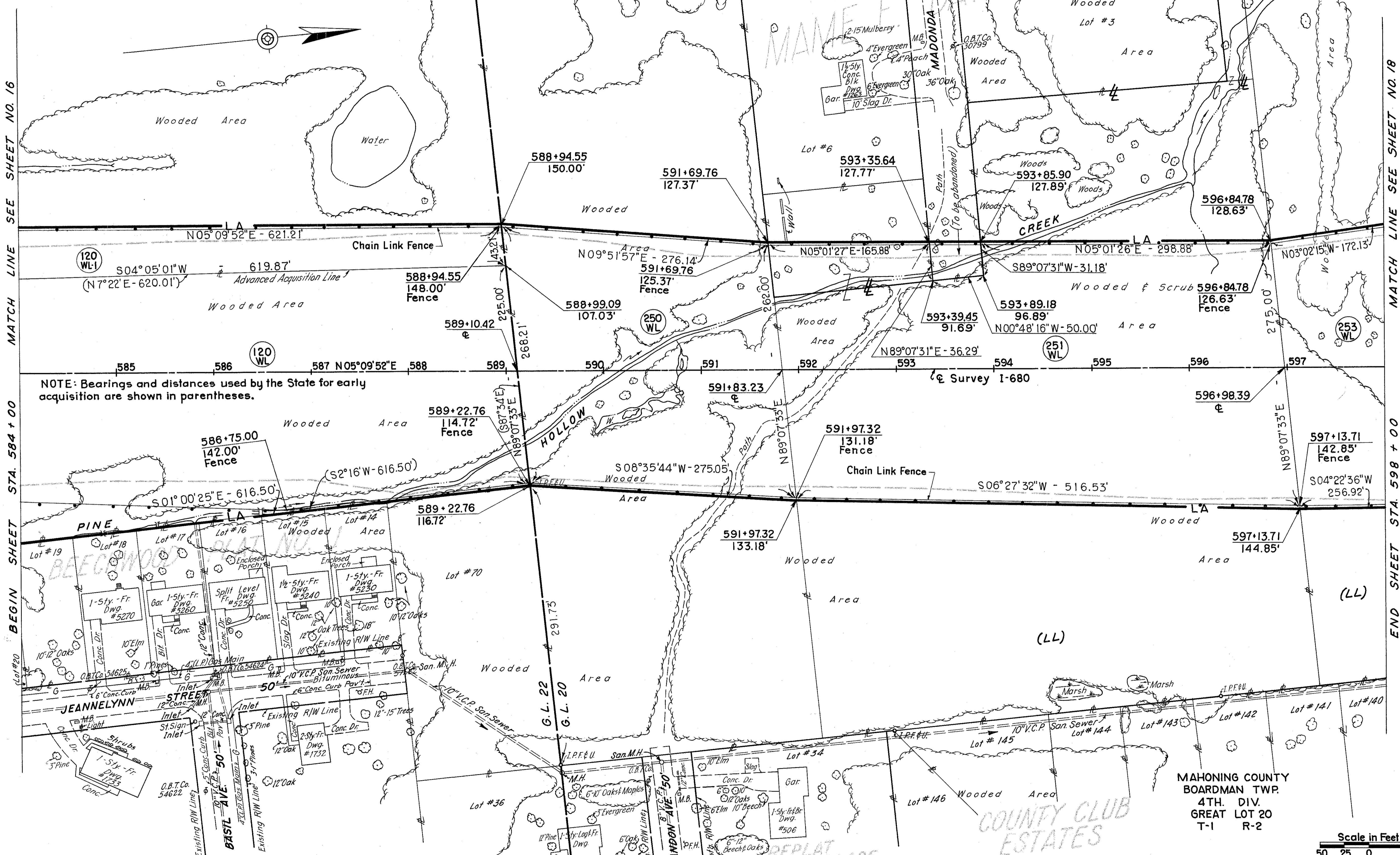
MAME E. DATZELL PLAT  
A Subdivision in G.L. 20  
4TH. DIVISION  
Twp. 1 (Boardman) Range 2  
MAHONING COUNTY  
Lots 1 thru 6 Plat 26, Pg. 275

FENCE-TYPE CL			
Station to Station	Side	Lin. Ft.	
584+00	598+00	Left	1410
584+00	598+00	Right	1410
Total			2820

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	I-680-9 (10)

MAHONING COUNTY  
MAH-680-932  
LIMITED ACCESS HIGHWAY

298  
17  
22  
R/W



PARCEL NO.	OWNER	DEED TOTAL AREA P.R.O.	TOTAL TAKE	PRO. IN TAKE	NET TAKE	NET RES. LI.	REMARKS
120 WL	Bishop Emmet M. Walsh	18.091	0.355	3.576	14.160	-	Adv. Acquisition
120 WL-1	Bishop James Malone	14.515	0.355	0.696	13.464	-	
250 WL	William Vincent Paul Balla & Mary Ann Balla	9.880	0.131	1.651	6.420	1.678	
251 WL	Most Rev. Archbishop SENYSHYN	312.518	-	135.866	66.841	109.811	Residue Rt. L.L.
253 WL	Julia Dubec & Mary E. Dubec	9.875	0.193	1.700	6.953	0.999	Residue Rt. L.L.

Sheet Completed  
Date: 6-24-69  
Revised  
Date:  
REVISED NAMES  
PLS 120-WL-1 &  
253-WL  
4/24/70  
Added Plat 36 Page 276  
for Replat Elmwood Place  
REVISED NAME PL 251  
7-1-71

TYPE OF FUNDS  
I



MAHONING COUNTY  
BOARDMAN TWP.  
4TH. DIV.  
GREAT LOT 20  
T-1 R-2

PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. in TAKE	NET TAKE	NET RES. Lt.	NET RES. Rt.	REMARKS
253 WL	Julia Dubec & Mary E. Dubec	9.875	0.193	1.700	-	1.700	6.983	0.999	Res. Rt. LL
254 WL	ALFRED A. ROBERTS	12.130	0.209	2.026	-	2.026	8.876	1.019	
255 WL	George W. Stellar & Annabelle Stellar	2.000	-	1.207	-	1.207	0.281	0.512	Res. Lt. LL
255 WA	" " " "	"	"	"	"	"	"	"	Remove Acreage Corrected
256 WL	John Glenn Evans & Betty Evans	2.376	0.426	1.144	0.164	0.980	0.373	0.236	
256 WD	" " " "	"	"	"	"	"	"	"	
256 WD-1	" " " "	"	"	"	"	"	"	"	
257 WD	MARGARET LOUISE DEELEY & MARGARET LOUISE FRANKEN	5.000	0.346	0.295	0.134	0.161	4.493	-	
258 WL	Wilbur E. Wagner & Agnes Ruth Wagner	2.051	0.408	0.984	0.164	0.820	0.355	0.162	Acreage Corrected
258 WD	" " " "	"	"	"	"	"	"	"	
258 WD-1	" " " "	"	"	"	"	"	"	"	
258 WA	" " " "	"	"	"	"	"	"	"	Remove Divg. Reloc. Storm Sewer
258 S	" " " "	"	"	0.040	-	0.040	"	"	

LAKE PARK INDUSTRIAL PLAT NO. 2  
A Subdivision in G.L. 20  
4TH. DIVISION  
Twp. 1 (Boardman) Range 2  
MAHONING COUNTY  
Lots 1 thru 5 Plat 34, Page 52

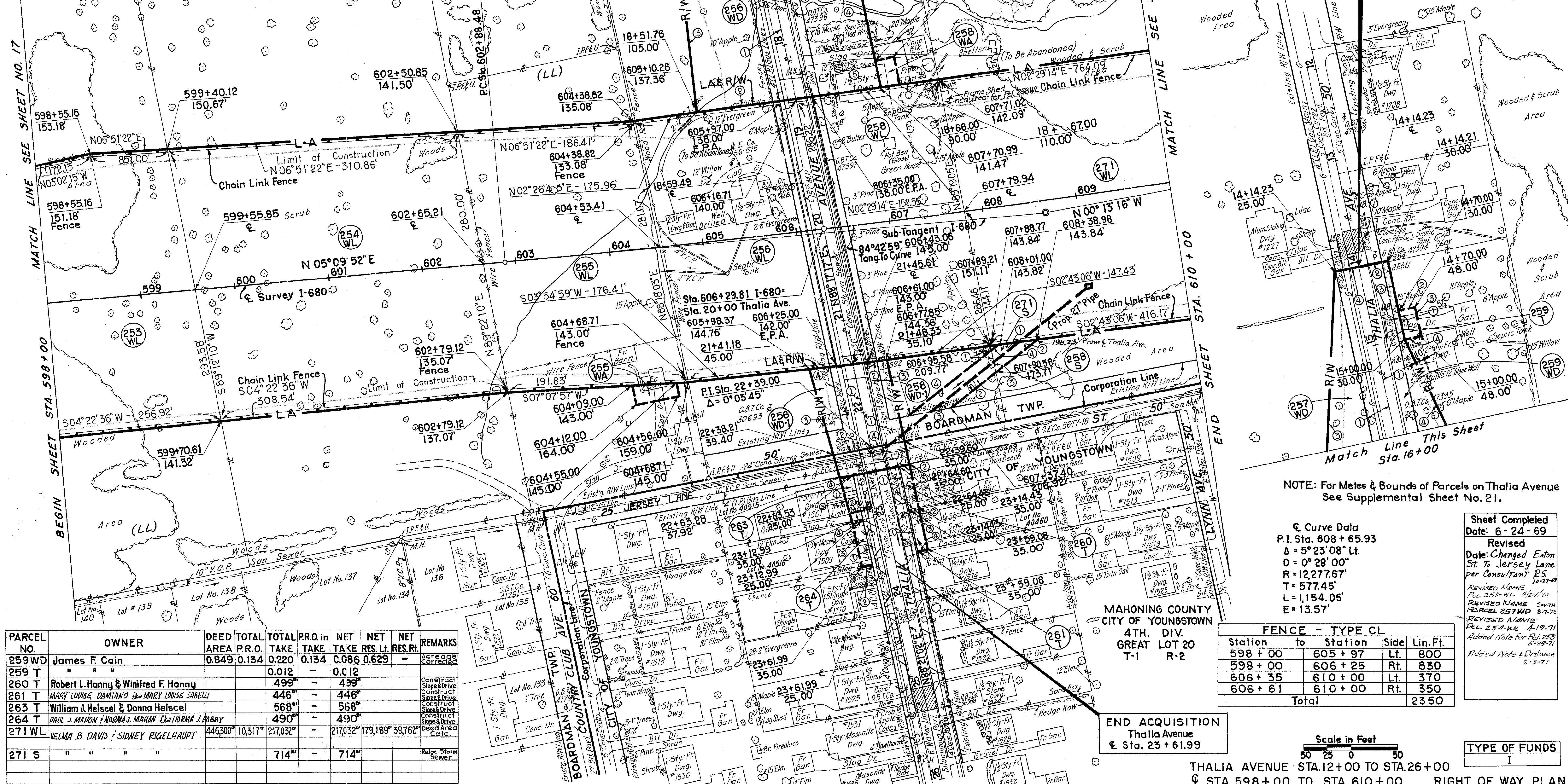
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	I-680-9(10)

MAHONING COUNTY  
MAH-680-9.32  
LIMITED ACCESS HIGHWAY

299  
18  
22  
R/W

BEGIN ACQUISITION  
Thalia Avenue  
Sta. 14 + 14.23

MAHONING COUNTY  
BOARDMAN TWP.  
4TH. DIV.  
GREAT LOT 20  
T-1 R-2



PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. in TAKE	NET TAKE	NET RES. Lt.	NET RES. Rt.	REMARKS
259 WD	James F. Cain	0.849	0.134	0.220	0.134	0.086	0.629	-	Acreage Corrected
259 T	" " " "	"	"	0.012	-	0.012	"	"	
260 T	Robert L. Hannu & Winifred F. Hannu	499"	-	499"	-	499"	-	-	Construct Slope Drive
261 T	MARY LOUISE DAMIANO & MARY LOUISE SABELLI	446"	-	446"	-	446"	-	-	Construct Slope Drive
263 T	William J. Hessel & Donna Hessel	568"	-	568"	-	568"	-	-	Construct Slope Drive
264 T	PAUL J. MAHON & NORMA J. MAHON & NORMA J. ROBBY	490"	-	490"	-	490"	-	-	Construct Slope Drive
271 WL	VELMA B. DAVIS & SIDNEY RIGELHaupt	446,300"	10,317"	217,032"	-	217,032"	179,189"	39,762"	Releg. Storm Sewer
271 S	" " " "	"	"	714"	-	714"	"	"	

NOTE: For Metes & Bounds of Parcels on Thalia Avenue See Supplemental Sheet No. 21.

Curve Data  
P.I. Sta. 608 + 65.93  
Δ = 5° 23' 08" Lt.  
D = 0° 28' 00"  
R = 12,277.67'  
T = 577.45'  
L = 1,154.05'  
E = 13.57'

Station	to Station	Side	Lin. Ft.
598 + 00	605 + 97	Lt.	800
598 + 00	606 + 25	Rt.	830
606 + 35	610 + 00	Lt.	370
606 + 61	610 + 00	Rt.	350
Total			2350

Sheet Completed  
Date: 6-24-69  
Revised  
Date: Changed Eaton St. to Jersey Lane per Consultant's  
Revised Name  
Parcel 253-WL 4/24/70  
Revised Name Smith Parcel 257-WD 8-7-70  
Revised Name  
Parcel 254-WL 4-19-71  
Added Note for Parcel 258 5-28-71  
Added Note to Distance 6-3-71

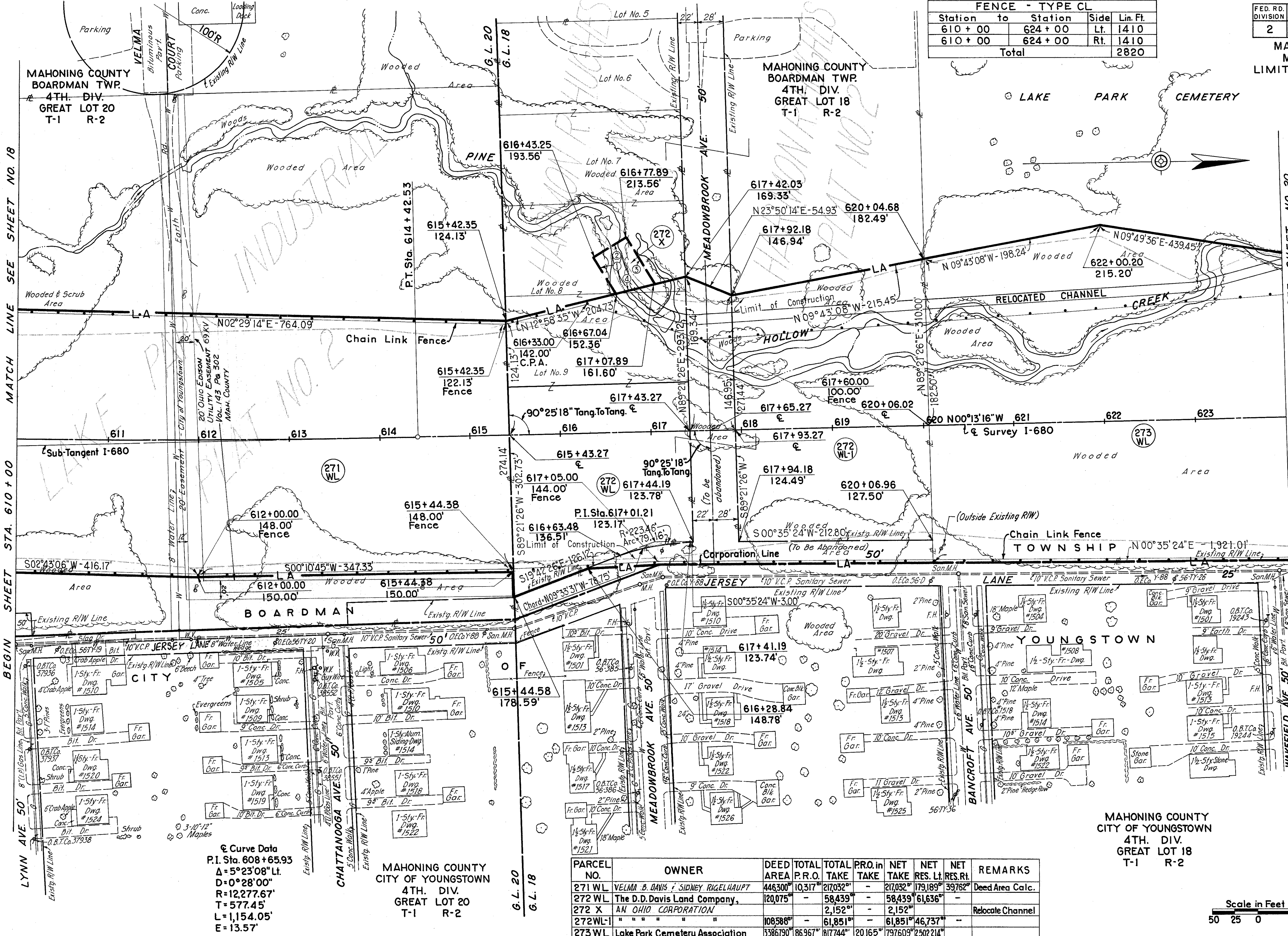
Scale in Feet  
0 25 50  
THALIA AVENUE STA. 12+00 TO STA. 26+00  
Sta. 598+00 TO STA. 610+00  
RIGHT OF WAY PLAN  
TYPE OF FUNDS  
I

FENCE - TYPE CL			
Station to	Station	Side	Lin. Ft.
610 + 00	624 + 00	Lt.	1410
610 + 00	624 + 00	Rt.	1410
Total			2820

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	I-680-9(10)

MAHONING COUNTY  
MAH-680-9.32  
LIMITED ACCESS HIGHWAY

300  
19  
22  
R/W



- 272 X
- ① S 59°46' 25" W - 47.58'
  - ② N 30°13' 35" W - 40.00'
  - ③ N 59°46' 25" E - 60.00'
  - ④ S 12°58' 35" E - 41.88'

HARMON R. HUGHES PLAT NO. 1  
A Subdivision in G.L. 18  
4TH. DIVISION  
Twp. 1 (Boardman) Range 2  
MAHONING COUNTY  
Lots 1 thru 10 Plat 31, Page 13

HARMON R. HUGHES PLAT NO. 2  
A Subdivision in G.L. 18  
4TH. DIVISION  
Twp. 1 (Boardman) Range 2  
MAHONING COUNTY  
Lots 1 thru 3 Plat 49, Page 258

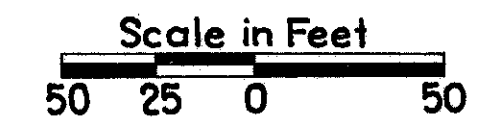
LAKE PARK INDUSTRIAL PLAT NO. 2  
A Subdivision in G.L. 20  
4TH. DIVISION  
Twp. 1 (Boardman) Range 2  
MAHONING COUNTY  
Lots 1 thru 5 Plat 34, Page 52

Curve Data  
P.I. Sta. 608+65.93  
Δ = 5°23'08" Lt.  
D = 0°28'00"  
R = 12,277.67'  
T = 577.45'  
L = 1,154.05'  
E = 13.57'

MAHONING COUNTY  
CITY OF YOUNGSTOWN  
4TH. DIV.  
GREAT LOT 20  
T-1 R-2

PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	PRO. in TAKE	NET TAKE	NET RES. Lt.	NET RES. Rt.	REMARKS
271 WL	VELMA B. DAVIS & SIDNEY RIGELHAUPT	446,300	10,317	217,032	-	217,032	179,189	39,782	Deed Area Calc.
272 WL	The D.D. Davis Land Company,	120,075	-	58,439	-	58,439	61,636	-	
272 X	AN OHIO CORPORATION	108,588	-	2,152	-	2,152	-	-	Relocate Channel
272 WL-1	" " " " " " " "	108,588	-	61,851	-	61,851	46,737	-	
273 WL	Lake Park Cemetery Association	3,386,790	86,967	817,744	20,165	797,609	2,502,214	-	

Sheet Completed  
Date: 6-24-69  
Revised  
Date: Changed East  
St. to Jersey Lane  
per Consultant's  
Added Utility  
Easement to R/271  
SMITH-T-10



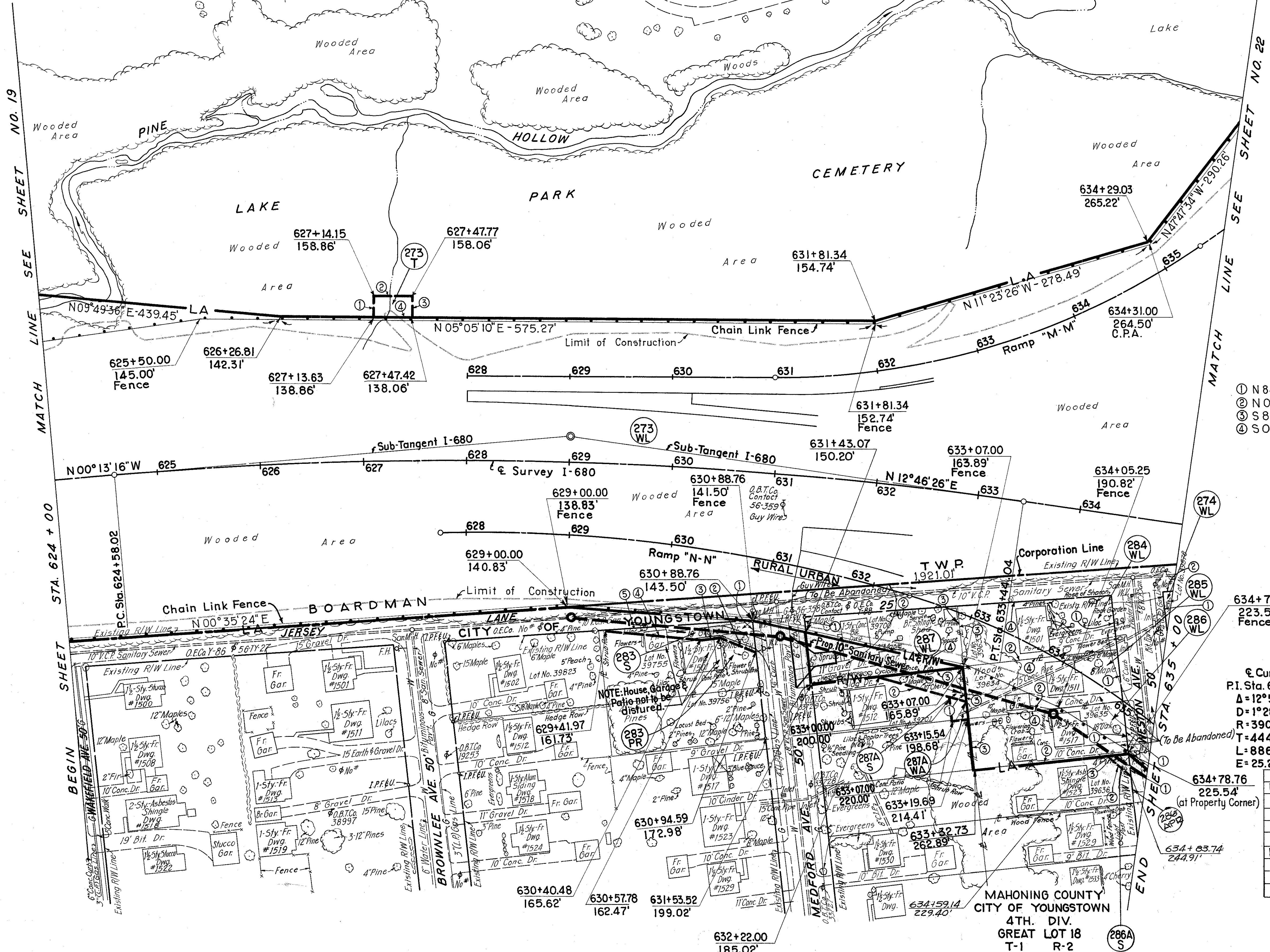
TYPE OF FUNDS  
1

MAHONING COUNTY  
BOARDMAN TWP.  
4TH. DIV.  
GREAT LOT 18  
T-1 R-2

FED. RD. DIVISION	STATE	PROJECT	301
2	OHIO	I-680-9(10)	

MAHONING COUNTY  
MAH-680-9.32  
LIMITED ACCESS HIGHWAY

20  
22  
R/W



- ① N 84°54'50" W - 20.00'  
 ② N 05°05'10" E - 35.00'  
 ③ S 84°54'50" E - 20.00'  
 ④ S 05°05'10" W - 35.00'

Curve Data  
 P.I. Sta. 629+02.94  
 $\Delta = 12^\circ 59' 42''$  Rt.  
 $D = 1^\circ 28' 00''$   
 $R = 3906.53'$   
 $T = 444.92'$   
 $L = 886.02'$   
 $E = 25.25'$

NOTE: For metes and bounds of parcels in the City of Youngstown, See Supplemental Sheet No. 21.

URBAN				
Station	to Station	Side	Lin. Ft.	
631+20	635+00	Rt.	390	
Total Urban				390
RURAL				
624+00	635+00	Lt.	1240	
624+00	631+20	Rt.	700	
Total Rural				1940

Scale in Feet  
 50 25 0 50

Sheet Completed  
 Date: 6-24-69

Revised  
 Date: Changed Name  
 Pcl. 287-A Sands  
 1-14-70  
 Added Deed  
 Area for Pcl. 283-22-71  
 Added Pcl. 286-A-PR  
 4-8-71  
 REVISED LOCATION  
 OF PROD 10" SANITARY  
 SEWER, LA LINE &  
 SEWER EASEMENT  
 PARCEL 286A-S  
 1-11-72

TYPE OF FUNDS  
 I

STA. 624+00 TO STA. 635+00 RIGHT OF WAY PLAN

PARCEL NO.	OWNER	DEED AREA	TOTAL TAKE	PROFIT TAKE	NET TAKE	NET RES. LI.	REMARKS
273 WL	Lake Park Cemetery Association	86,967	81,774	20,165	197,609	2,902	Construct ditch
273 T	"	10,405	1693	-	700	-	Const. San. Sewer & Drive
283 S	Roy N. Plunkett & Thelma Plunkett	8353	1693	-	1693	-	
285 WL	Robert Lossan	7489	7489	-	7489	-	
285 WL	Ernest Milano & Katherine Milano	7489	7489	-	7489	-	
286 WL	William Bilos & Barbara A. Bowman	7489	7489	-	7489	-	
286A-S	Angelo A. Petite & Margaret L. Petite	200	200	-	200	-	Const. San. Sewer Loss of some rights to existing street
286A-PR	"	200	200	-	200	-	
287 WL	Mabel Hurney	9233	9233	-	9233	-	
287A-S	Frank G. Durnace & Colina K. Durnace	1409	1409	-	1409	-	Const. San. Sewer Remove Pipe & Grade
287A-WA	"	1409	1409	-	1409	-	
283 PR	Roy N. Plunkett & Thelma Plunkett	-	-	-	-	-	Loss of rights to Jersey Lane

MAHONING COUNTY ENGINEER & SURVEYOR  
 JOHN W. BROWN  
 REGISTERED PROFESSIONAL ENGINEER  
 NO. 10,405  
 STATE OF OHIO  
 EXPIRES 12-31-70

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO	1-680-9(10)	

302

MAHONING COUNTY  
MAH-680-9.32  
LIMITED ACCESS HIGHWAY

21  
22  
R/W

191  
WD  
① N88°46'14"E - 143.00'  
② S02°11'06"E - 40.01'  
③ S88°46'14"W - 143.00'  
④ N02°11'06"W - 40.01'

195  
WD  
① N88°46'14"E - 150.00'  
② S02°11'06"E - 7.00'  
③ S88°46'14"W - 150.00'  
④ N02°11'06"W - 7.00'

202  
WD  
① S88°46'14"E - 62.39'  
② N73°08'34"W - 64.50'  
③ S02°08'16"E - 17.38'

258  
WD  
① S88°17'17"W - 211.42'  
② N01°41'59"W - 64.82'  
③ N75°02'51"E - 109.93'  
④ N88°17'17"E - 111.00'  
⑤ S02°29'14"W - 90.24'

263  
T  
① N88°21'02"E - 49.46'  
② S01°39'04"E - 10.00'  
③ S84°58'59"W - 49.79'  
④ N00°33'23"W - 12.93'

276  
S  
① N52°26'46"E - 61.73'  
② S01°39'04"E - 20.10'  
③ S52°07'24"W - 61.98'  
④ N01°39'04"W - 20.54'

281  
WL  
① S88°20'34"W - 100.00'  
② N01°39'04"W - 150.00'  
③ N88°20'34"E - 100.00'  
④ S01°39'04"E - 150.00'

191  
T  
① N88°46'14"E - 143.00'  
② S02°11'06"E - 20.00'  
③ S88°46'14"W - 62.70'  
④ N01°13'46"W - 10.00'  
⑤ S88°46'14"W - 80.47'  
⑥ N02°11'06"W - 10.00'

195  
T  
① N88°46'14"E - 150.00'  
② S02°11'06"E - 10.00'  
③ S88°46'14"W - 150.00'  
④ N02°11'06"W - 10.00'

208  
WD  
① S88°46'14"W - 541.95'  
② N2°08'16"W - 33.00'  
③ S88°46'14"W - 455.40'  
④ N2°08'16"W - 17.38'  
⑤ N78°16'02"E - 38.43'  
⑦ N88°46'14"E - 724.17'  
⑧ N82°43'46"E - 237.55'  
⑨ S01°13'46"E - 85.00'

258  
WD-1  
① S88°17'17"W - 93.39'  
② N02°43'06"E - 35.20'  
③ N88°21'02"E - 91.31'  
④ S00°39'45"E - 35.00'

264  
T  
① N88°21'02"E - 49.00'  
② S01°39'04"E - 10.00'  
③ S88°21'02"W - 49.00'  
④ N01°39'04"W - 10.00'

277  
WL  
① N88°20'34"E - 50.00'  
② S01°39'04"E - 150.00'  
③ S88°20'34"W - 50.00'  
④ N01°39'04"W - 150.00'

283  
S  
① N88°20'34"E - 30.00'  
② S25°27'30"W - 36.76'  
③ S02°19'18"E - 16.87'  
④ S09°57'22"W - 94.46'  
⑤ N00°35'24"E - 142.23'

287  
WL  
① S88°20'34"W - 64.49'  
② N00°35'24"E - 150.12'  
③ N88°20'34"E - 58.62'  
④ S01°39'04"W - 150.00'

192  
WD  
① N88°46'14"E - 109.53'  
② S02°11'06"E - 40.01'  
③ S88°46'14"W - 109.53'  
④ N02°11'06"W - 40.01'

200  
WL  
① N88°46'14"E - 180.00'  
② S02°11'06"E - 36.01'  
③ S88°46'14"W - 180.00'  
④ N01°13'46"W - 36.01'

724.17

258  
S  
① N89°19'05"E - 22.64'  
② S28°38'43"E - 63.40'  
③ S00°39'45"E - 42.62'  
④ N28°38'43"W - 111.65'

271  
S  
① N02°43'06"E - 38.42'  
② S28°38'43"E - 57.41'  
③ S89°19'05"W - 22.64'  
④ N28°38'43"W - 13.98'

284  
WL  
① N88°20'34"E - 52.75'  
② S01°39'04"E - 150.00'  
③ S88°20'34"W - 58.62'  
④ N00°35'24"E - 150.12'

192  
T  
① N88°46'14"E - 109.53'  
② S02°11'06"E - 10.00'  
③ S88°46'14"W - 37.06'  
④ S01°13'46"E - 15.00'  
⑤ S88°46'14"W - 72.22'  
⑥ N02°11'06"W - 25.00'

200  
WD  
① N88°46'14"E - 40.00'  
② S01°13'46"E - 36.01'  
③ S88°46'14"W - 40.00'  
④ N02°11'06"W - 36.01'

259  
WD  
① S88°17'17"W - 233.75'  
② N01°44'49"W - 30.00'  
③ N88°17'17"E - 85.79'  
④ N75°02'51"E - 152.03'  
⑤ S01°41'59"E - 64.82'

274  
WL  
① S88°20'34"W - 51.37'  
② N00°35'24"E - 150.12'  
③ N88°20'34"E - 45.50'  
④ S01°39'04"E - 150.00'

278  
WL  
① N88°20'34"E - 50.00'  
② S01°39'04"E - 150.00'  
③ S88°20'34"W - 50.00'  
④ N01°39'04"W - 150.00'

285  
WL  
① N88°20'34"E - 50.00'  
② S01°39'04"E - 150.00'  
③ S88°20'34"W - 50.00'  
④ N01°39'04"W - 150.00'

287A  
S  
① N88°20'34"E - 33.78'  
② S20°24'06"W - 89.98'  
③ N01°39'04"W - 83.40'

193A  
T  
① S85°31'47"E - 32.48'  
② S02°11'56"E - 10.00'  
③ S88°46'14"W - 32.48'  
④ N01°13'46"W - 13.23'

256  
WD  
① N88°17'17"E - 211.24'  
② S02°26'45"W - 105.27'  
③ N86°07'00"W - 205.09'  
④ N01°22'20"W - 85.00'

259  
T  
① S88°17'17"W - 30.00'  
② N01°42'43"W - 18.00'  
③ N88°17'17"E - 30.00'  
④ S01°42'43"E - 18.00'

275  
WL  
① N88°20'34"E - 32.65'  
② S52°26'46"W - 40.30'  
③ N01°39'04"W - 23.63'

286  
WL  
① N88°20'34"E - 50.00'  
② S01°39'04"W - 150.00'  
③ S88°20'34"W - 50.00'  
④ N01°39'04"W - 150.00'

194  
WD  
① N88°46'14"E - 502.22'  
② S02°11'06"E - 7.00'  
③ S88°46'14"W - 334.63'  
④ S79°07'22"W - 59.66'  
⑤ S88°46'14"W - 108.60'  
⑥ N02°11'56"W - 17.00'

200  
T  
① N88°46'14"E - 28.17'  
② S01°13'46"E - 14.00'  
③ S88°46'14"W - 27.94'  
④ N02°11'06"W - 14.00'

256  
WD-1  
① N88°17'17"E - 93.39'  
② S00°33'23"E - 39.40'  
③ S84°58'59"W - 97.19'  
④ N03°54'59"E - 45.22'

260  
T  
① S88°21'02"W - 50.00'  
② N00°39'45"W - 10.00'  
③ N88°21'02"E - 49.83'  
④ S01°39'04"E - 10.00'

275  
S  
① N88°20'34"E - 17.34'  
② S01°39'04"E - 7.12'  
③ S52°07'24"W - 61.97'  
④ N01°39'04"W - 20.10'  
⑤ N52°26'46"E - 40.30'

279  
WL  
① S88°20'34"W - 50.00'  
② N01°39'04"W - 150.00'  
③ N88°20'34"E - 50.00'  
④ S01°39'04"E - 150.00'

280  
WL  
① S88°20'34"E - 50.00'  
② N01°39'04"W - 150.00'  
③ N88°20'34"E - 50.00'  
④ S01°39'04"E - 150.00'

194  
T  
① N88°46'14"E - 334.63'  
② S02°11'06"E - 10.00'  
③ S88°46'14"W - 159.54'  
④ S01°13'46"E - 10.00'  
⑤ S88°46'14"W - 342.52'  
⑥ N02°11'56"W - 10.00'  
⑦ N88°46'14"E - 108.60'  
⑧ N79°07'22"E - 59.66'

257  
WD  
① N88°17'17"E - 233.92'  
② S01°22'20"E - 85.00'  
③ N77°17'46"W - 241.01'  
④ N01°42'43"W - 25.00'

261  
T  
① S88°21'02"W - 44.65'  
② N01°39'04"W - 10.00'  
③ N88°21'02"E - 44.65'  
④ S01°39'04"E - 10.00'

276  
WL  
① N88°20'34"E - 50.00'  
② S01°39'04"E - 23.63'  
③ S52°26'46"W - 61.73'  
④ N01°39'04"W - 59.82'

280  
WL  
① S88°20'34"W - 50.00'  
② N01°39'04"W - 150.00'  
③ N88°20'34"E - 50.00'  
④ S01°39'04"E - 150.00'

286A  
S  
① N88°20'34"E - 20.00'  
② S43°20'45"W - 28.28'  
③ N01°39'04"W - 20.00'

Sheet Completed  
Date: 6-24-69  
Revised  
Date:  
DELETED PLS 204-WD  
L25-WD REVISED  
PL 208-WD E  
DELETED 208-T  
4/24/70  
DELETED PLS  
302-WL, 302-T  
308-WL 5-6-70  
REVISED BEARINGS &  
DISTANCES PLS 208-WD  
SMITH 6-11-70  
REVISED BEARINGS &  
DISTANCES PARCEL 208-WD  
L25 9-1-70  
DELETED PLS 200-S  
6-25-71

Revised Bas f Dist. P.L. 206.4.5 1-11-72  
Revised Dist. P.L. 208.WD 9-14-72

Ohio Highway Dept. Div. 5  
R.W. RIVER & ADMIN. SECT.  
COLUMBUS, OHIO  
JUL 3 1969  
LOGGED  
BILL BK.

MAHONING COUNTY  
CITY OF YOUNGSTOWN  
4TH. DIV.  
GREAT LOT 18  
T-1 R-2

PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. in NET TAKE	NET RES. LI.	NET RES. RI.	REMARKS
273 WL	Lake Park Cemetery Association	5386.790	86.967	817.774	20.165	797.609	2502.214	
274 WL	Edna M. Gaudet a.k.a. Edna Gaudet	7265	-	7265	-	7265	-	
275 WL	Stephen Szabo & Henrietta Szabo	7500	-	386	-	386	-	71.14
275 S	"	"	-	885	-	885	-	Reloc. San. Sewer
276 WL	Sigmund Sheron & Helen L. Sheron	7500	-	2086	-	2086	-	54.14
276 S	"	"	-	1016	-	1016	-	Reloc. San. Sewer

FED. RD. DIVISION	STATE	PROJECT	303
2	OHIO	I-680-9(10)	22

MAHONING COUNTY  
MAH-680-9.32  
LIMITED ACCESS HIGHWAY



PARCEL NO.	OWNER	DEED AREA	TOTAL P.R.O.	TOTAL TAKE	P.R.O. in NET TAKE	NET RES. LI.	NET RES. RI.	REMARKS
277 WL	Michael J. Felisko Jr. & Marij Helen Felisko	7499	-	7499	-	7499	-	
278 WL	Ethel E. O'Keefe	7499	-	7499	-	7499	-	
279 WL	Catherine Russell	7499	-	7499	-	7499	-	
280 WL	Katherine E. Russell	7499	-	7499	-	7499	-	
281 WL	Steve Kiddon & Ann Kiddon	14998	-	14998	-	14998	-	

Location	Station	Side	Lin. Ft.
URBAN-N	635 + 00	Rt.	620
RAMP-N	9 + 30	Lt.	300
Lemoyne Ave	6 + 35	Total Urban	920
RURAL			
Ramp M-M	636 + 30	642 + 45	Lt. 650
			650

MAHONING COUNTY  
BOARDMAN TWP.  
4TH. DIV.  
GREAT LOT 18  
T-1 R-2

NOTE: Indicates Right-of-Way to be acquired under Project MAH-680-6.98

NOTE: For metes & bounds of parcels in the City of Youngstown, See Supplemental Sheet No. 21.

Sheet Completed  
Date: 6-24-69  
Revised  
Date:  
REVISED NAMES  
P.L.S. 280-WL, 274-WL  
& 304-WL  
4/24/70  
DELETED P.L.S.  
302-WL, 302-T, 303-LA  
304-WL, 304-LA, 304-DA  
& 303-LA THESE  
PARCELS WILL BE  
ACQUIRED ON  
MAH 680-6.98.  
ADDED END OF BEGIN  
ACQUISITION FLAG  
5-6-70

TYPE OF FUNDS  
I

Scale in Feet  
50 25 0 50

STA. 635+00 TO STA. 644+00 RIGHT OF WAY PLAN