

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

U-687 (7)

| | | | |
|--------------------|-------|--------------------|------------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS |
| 2 | OHIO | U-687(7) | POST WAR |

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 4
SUM-5-11.94

THIS IMPROVEMENT HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR OF HIGHWAYS IN ACCORDANCE WITH THE PROVISIONS OF SECTION 1178-21 GENERAL CODE OF OHIO

AKRON EXPRESSWAY SYSTEM

SUM-5-11.94
SUMMIT COUNTY
CITY OF AKRON

PART 4 - EXPRESSWAY - EAST MARKET STREET TO MAIN VIADUCT SOUTH ABUTMENT

INDEX OF SHEETS

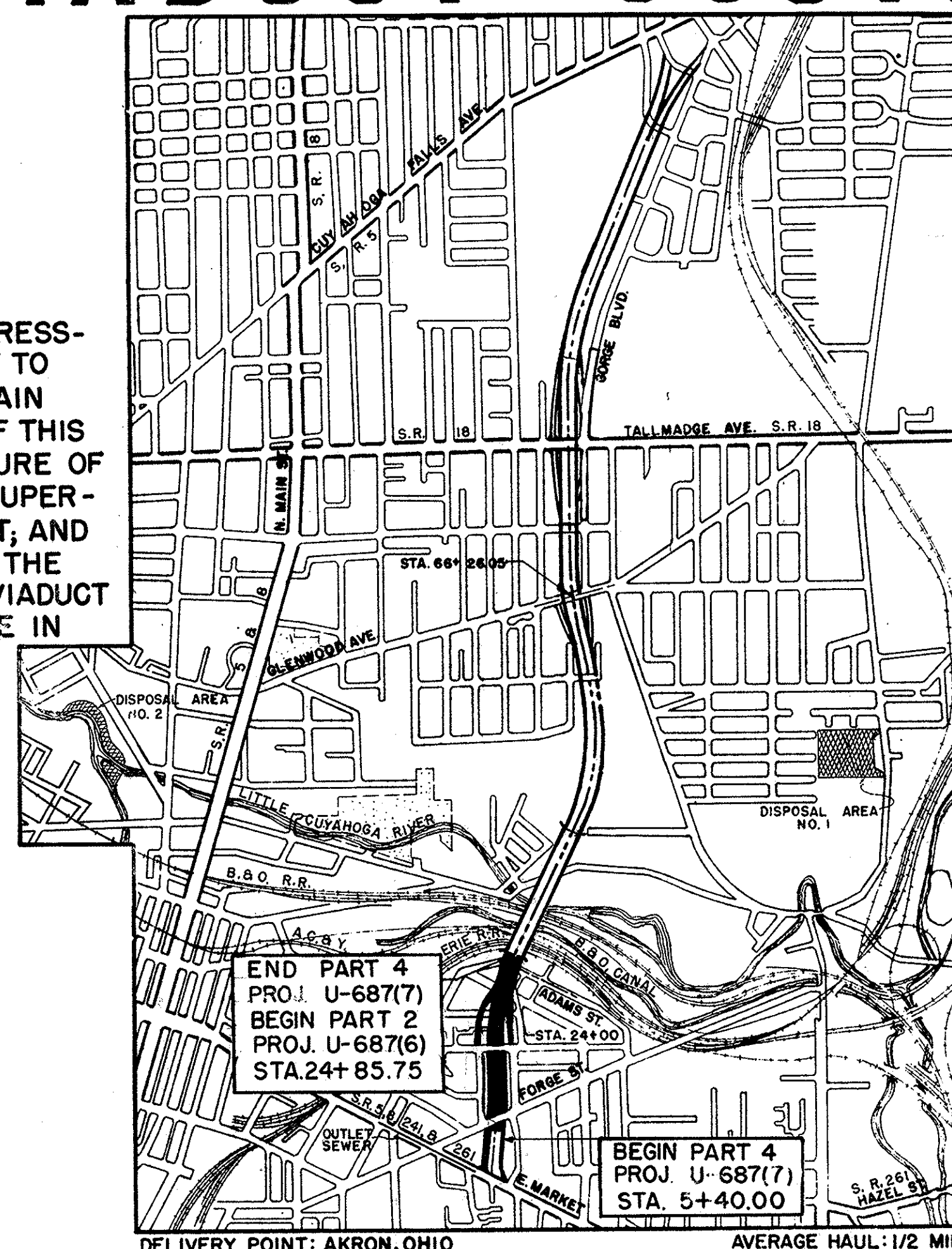
1. TITLE SHEET
2. SCHEMATIC PLAN AND PROFILE
- 3-4. RIGHT OF WAY PLANS
- 5-9. TYPICAL CROSS SECTIONS
10. NOTES
11. QUANTITIES
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26. VIADUCT APPROACH SLAB
- 27-28. RAMP PROFILES
- 29-32. RAMP DETAILS *Sheet 30A added 3-31-52 R.E.B.*
33. PLAN - PROFILE OF FORGE STREET
34. PLAN - PROFILE OF PERKINS STREET
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LINE DATA

BEGIN PART 4 STA. 5+40.00 EXPRESSWAY
END PART 4 STA. 24+85.75 EXPRESSWAY
NET LENGTH PART 4 1945.75 LIN. FT. OR 0.368 MILES
ADD FOR RAMP M APPROACH 568.69 LIN. FT.
ADD FOR RAMP N APPROACH 507.72 LIN. FT.
ADD FOR OUTFALL SEWER 1317.55 LIN. FT.
TOTAL LENGTH OF WORK 4339.71 LIN. FT. OR 0.822 MILES

NOTE:

THIS SET OF PLANS, THE EXPRESSWAY FROM EAST MARKET STREET TO THE SOUTH ABUTMENT OF THE MAIN VIADUCT COVERS ONLY PART 4 OF THIS PROJECT PART 1, THE SUBSTRUCTURE OF THE MAIN VIADUCT, PART 2, THE SUPERSTRUCTURE OF THE MAIN VIADUCT, AND PART 3, THE EXPRESSWAY FROM THE NORTH ABUTMENT OF THE MAIN VIADUCT TO CUYAHOGA FALLS AVENUE, ARE IN EARLIER CONTRACTS.



THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH IN THE PLANS AND ESTIMATE.

THE RIGHT OF WAY FOR THIS IMPROVEMENT WILL BE PROVIDED BY THE STATE OF OHIO.

APPROVED *[Signature]*
DATE 11/13/50 DIRECTOR OF PUBLIC SERVICE, CITY OF AKRON

APPROVED *[Signature]*
DATE 11/10/50 DIVISION DEPUTY DIRECTOR

APPROVED
DATE _____ CHIEF ENGINEER, BUREAU OF MAINTENANCE

APPROVED *[Signature]*
DATE 11-10-50 CHIEF ENGINEER, BUREAU OF BRIDGES & R.R. CROSSINGS

APPROVED *[Signature]*
DATE 11-10-50 CHIEF ENGINEER, BUREAU OF LOCATION & DESIGN

APPROVED *[Signature]*
DATE 11-10-50 FIRST ASSISTANT DIRECTOR & CHIEF ENGINEER

APPROVED *[Signature]*
DATE 11-13-50 DIRECTOR OF HIGHWAYS

CONSTRUCTION BUREAU
OCT 27 1955
GROUND PHOTOGRAPH

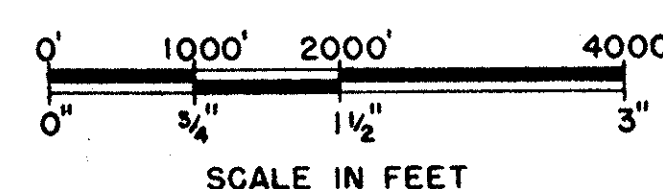
PREPARED AND RECOMMENDED BY
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

[Signature]

Added Revised Sheets 20 & 31 (5-9-52) R.R.

| SUPPLEMENTAL SPECIFICATIONS | | | |
|-----------------------------|-------------|--------|------|
| NUMBER | DATE | NUMBER | DATE |
| L-109.12 | REV 7-15-50 | | |
| T-171.19 | REV 7-31-50 | | |
| 5 | 5-28-48 | | |
| 19 | REV 3-20-50 | | |
| M-110.23 | REV 1-3-47 | | |

LOCATION PLAN



PORTION TO BE IMPROVED
STATE HIGHWAYS
OTHER HIGHWAYS

STANDARD DRAWINGS

| NUMBER | DATE | NUMBER | DATE |
|----------------------|---------|--------------------|----------|
| B.T. 50-70-71E NO. 1 | 10-1-47 | T.J. NO. 1 | 7-1-50 |
| B-T-71R | 5-22-50 | T.J. NO. 2 | 7-1-50 |
| | | T.J. NO. 3 | 7-1-50 |
| | | L.J. NO. 1 | 7-1-50 |
| | | I-1, 2, 3, 4, 8, 5 | 2-20-48 |
| I-8M.H. NO. 1 | 5-1-47 | I-8 C.B. No 3-A | 12-15-41 |
| | | I-8NO.2-2A8B | 12-15-41 |
| I-12 | 3-15-48 | L-3 | 4-1-50 |
| I-15 NO.1 | 3-1-47 | L-3-A | 4-1-50 |
| I-15 NO.2 | 6-17-49 | L-1 | 4-1-50 |
| G-8.07 | 2-7-50 | | |

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS

RECOMMENDED FOR APPROVAL

DISTRICT ENGINEER _____ DATE _____

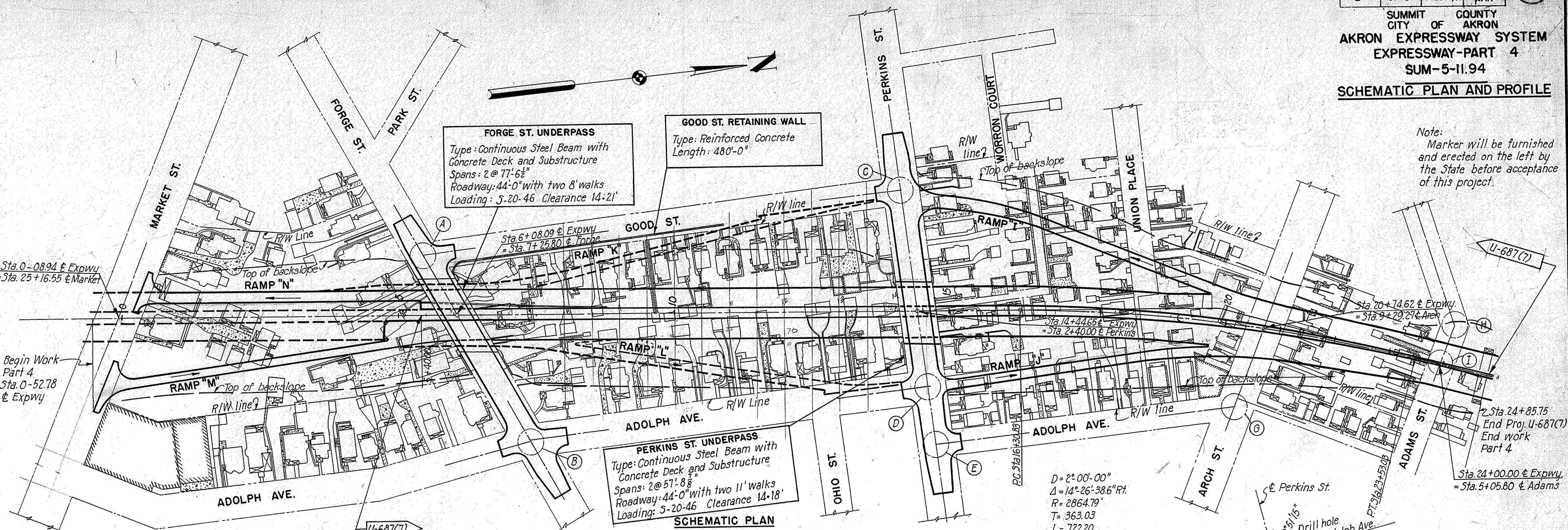
APPROVED

DIVISION ENGINEER _____ DATE _____

| | |
|----------|------------------------------|
| FILE NO. | SUMMIT COUNTY |
| | SEC. SUM-5-11.94, PART 4 |
| | DATE OF LETTING _____, 195__ |
| | CONTRACT NO. _____ |

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11-94
SCHEMATIC PLAN AND PROFILE

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

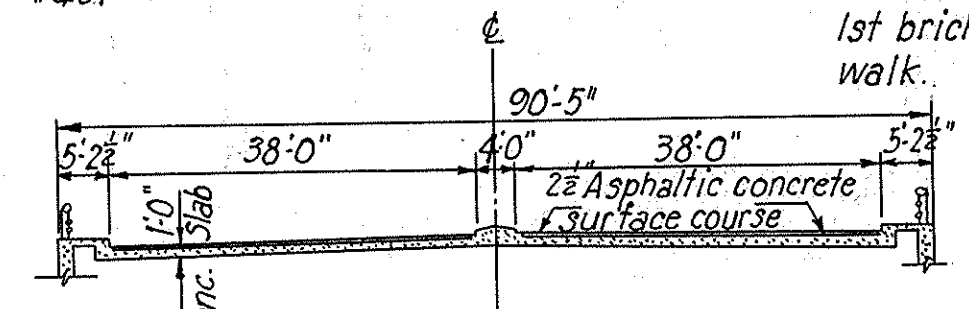


SCHEMATIC PLAN
Scale: 1"=100'

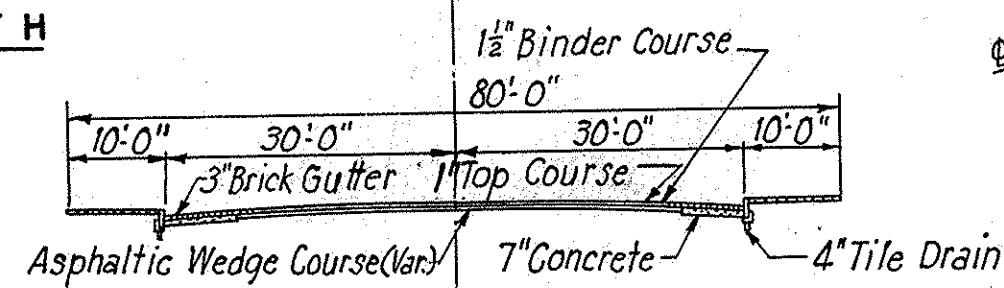
Note:
Marker will be furnished and erected on the right by the State before acceptance of this improvement.

$D = 2^{\circ}00'00''$
 $\Delta = 14^{\circ}26'38.6''$ Rt.
 $R = 2864.79'$
 $T = 363.03$
 $L = 722.20$
 $E = 22.91$

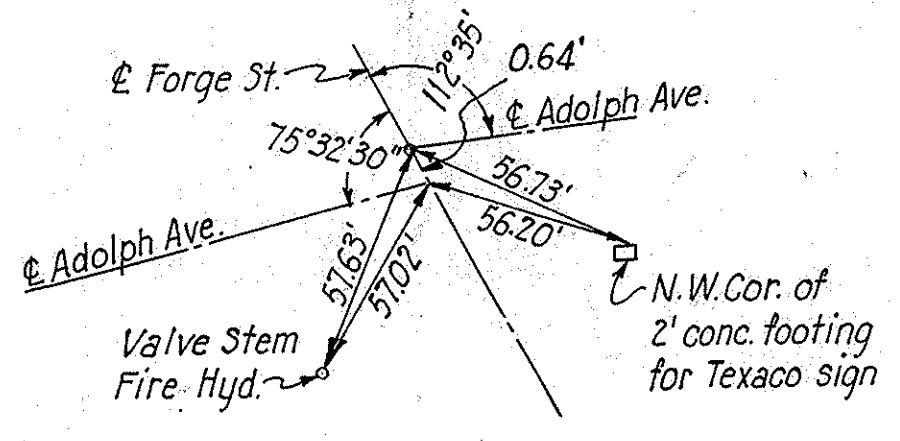
CROSS SECTION OF VIADUCT PAVEMENT AT SOUTH ABUTMENT



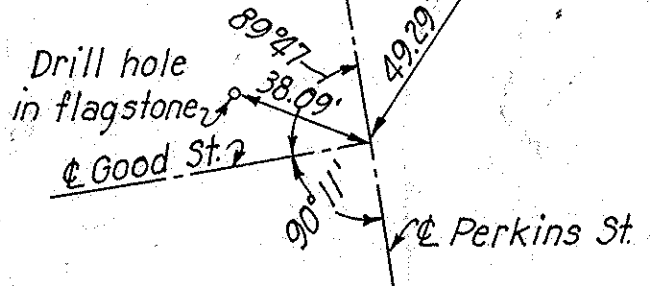
TYPICAL CROSS SECTION OF MARKET ST. AT RAMP TERMINALS
Scale: 1"=20'



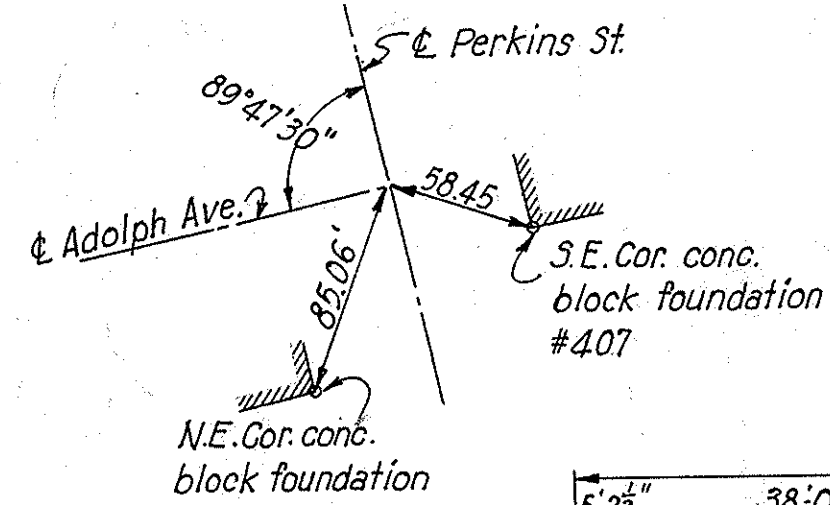
POINT B



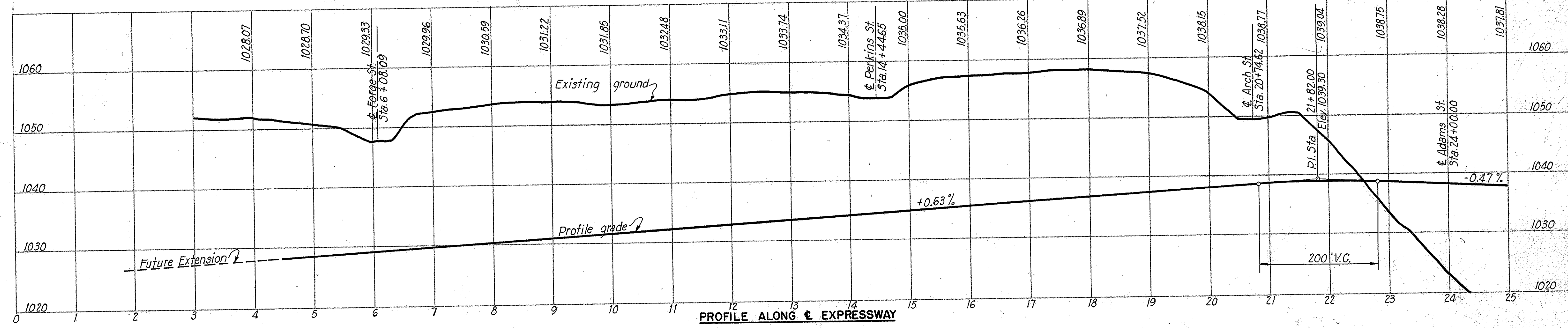
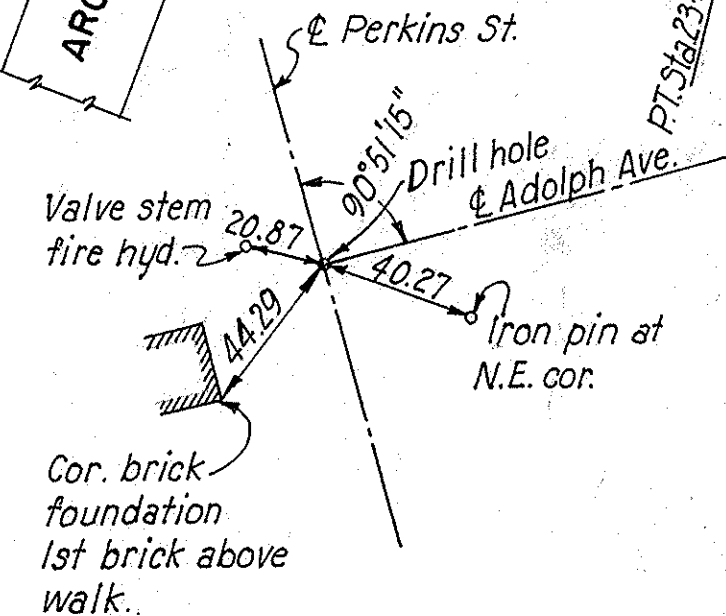
POINT C



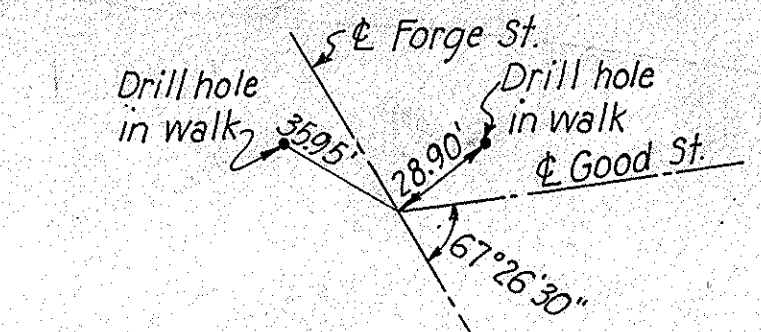
POINT D



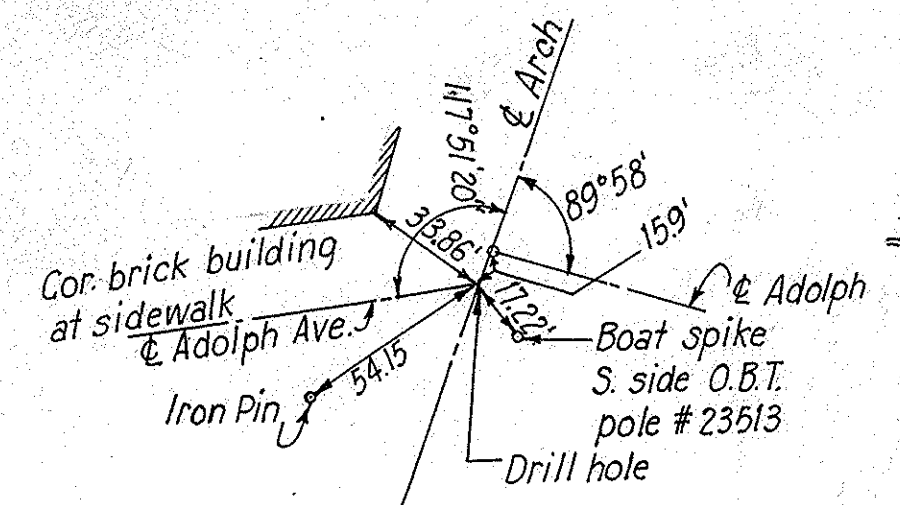
POINT E



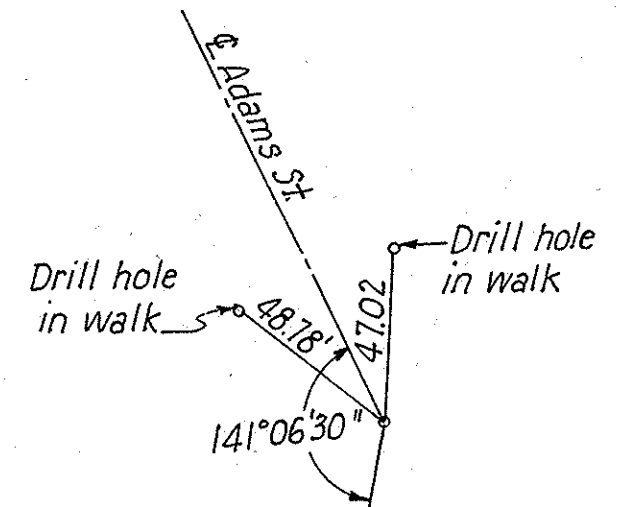
PROFILE ALONG EXPRESSWAY
Scale: 1"=100' Horz.
1"=10' Vert.



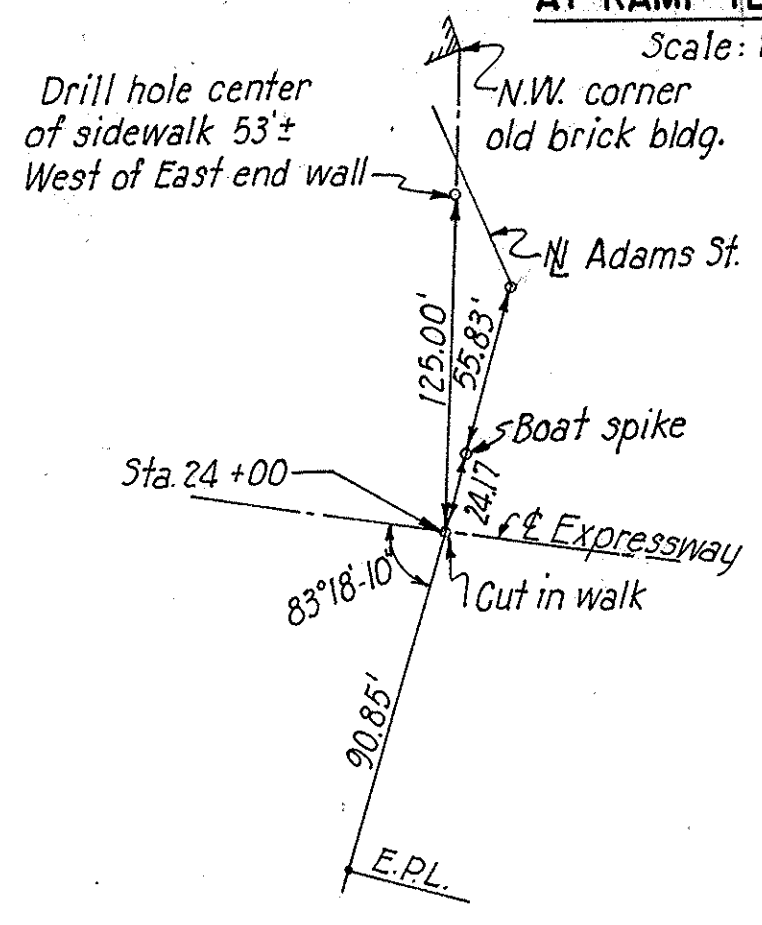
POINT A



POINT G



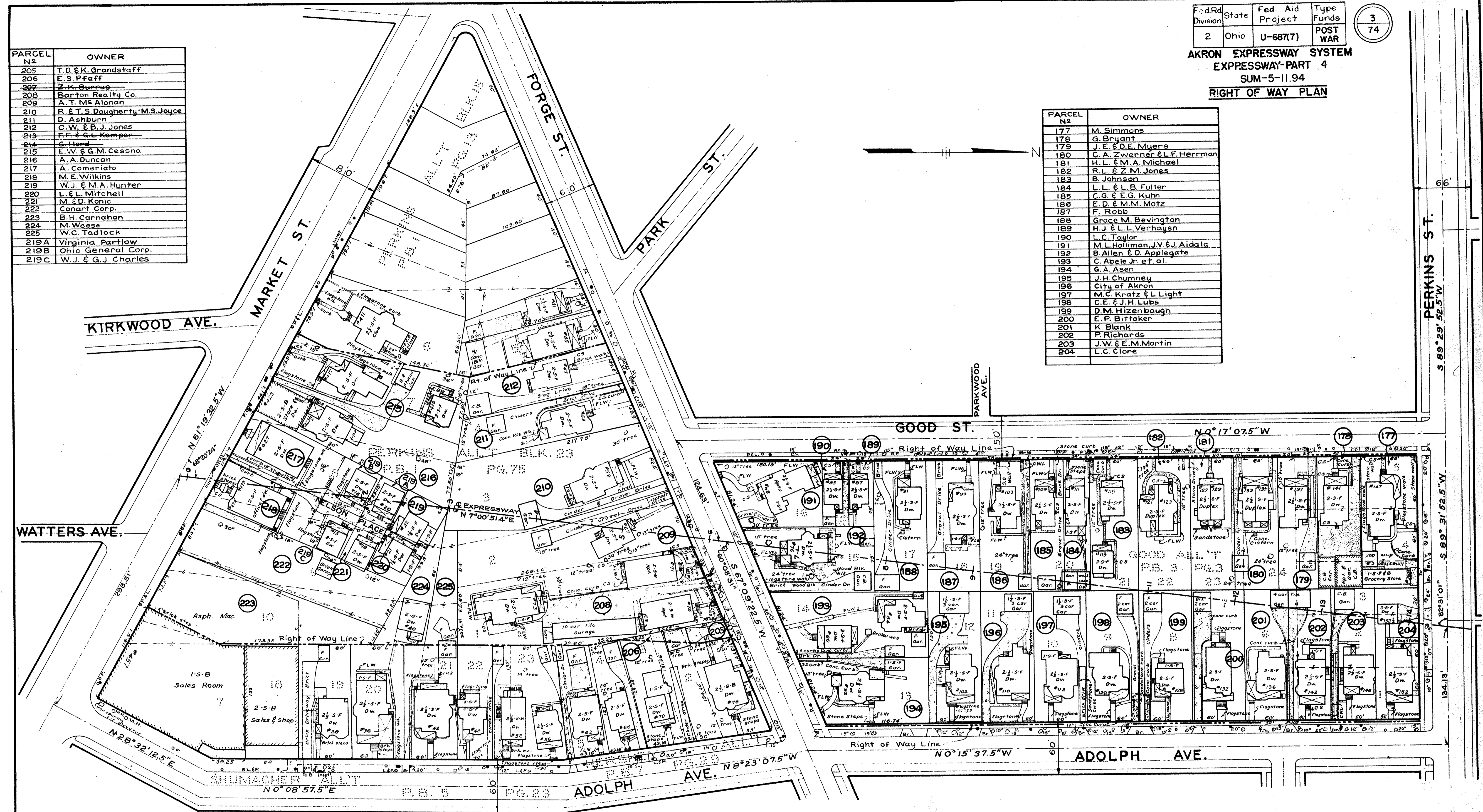
POINT H



POINT I

| PARCEL No | OWNER |
|-----------|--------------------------------|
| 205 | T.D. & K. Grandstaff |
| 206 | E.S. Pfaff |
| 207 | Z.K. Burrus |
| 208 | Barton Realty Co. |
| 209 | A.T. McAlonan |
| 210 | R. & T.S. Daugherty M.S. Joyce |
| 211 | D. Ashburn |
| 212 | C.W. & B.J. Jones |
| 213 | F.F. & G.L. Kemper |
| 214 | G. Hand |
| 215 | E.W. & G.M. Cessna |
| 216 | A.A. Duncan |
| 217 | A. Comeriato |
| 218 | M.E. Wilkins |
| 219 | W.J. & M.A. Hunter |
| 220 | L. & L. Mitchell |
| 221 | M. & D. Konic |
| 222 | Conart Corp. |
| 223 | B.H. Carnahan |
| 224 | M. Weese |
| 225 | W.C. Tadlock |
| 219A | Virginia Partlow |
| 219B | Ohio General Corp. |
| 219C | W.J. & G.J. Charles |

| PARCEL No | OWNER |
|-----------|---------------------------------|
| 177 | M. Simmons |
| 178 | G. Bryant |
| 179 | J.E. & D.E. Myers |
| 180 | C.A. Zwerner & L.F. Herrman |
| 181 | H.L. & M.A. Michael |
| 182 | R.L. & Z.M. Jones |
| 183 | B. Johnson |
| 184 | L.L. & L.B. Fuller |
| 185 | C.G. & E.G. Kuhn |
| 186 | E.D. & M.M. Motz |
| 187 | F. Robb |
| 188 | Grace M. Bevington |
| 189 | H.J. & L.L. Verhaugan |
| 190 | L.C. Taylor |
| 191 | M.L. Halliman, J.V. & J. Aidaia |
| 192 | B. Allen & D. Applegate |
| 193 | C. Abele Jr. et al. |
| 194 | G.A. Asen |
| 195 | J.H. Chumney |
| 196 | City of Akron |
| 197 | M.C. Kratz & L. Light |
| 198 | C.E. & J.H. Lubs |
| 199 | D.M. Hizenbaugh |
| 200 | E.P. Bittaker |
| 201 | K. Blank |
| 202 | P. Richards |
| 203 | J.W. & E.M. Martin |
| 204 | L.C. Clore |



- LEGEND**
- Conc. Walks & Drives
 - CS Conc. Steps
 - CWL Conc. Walls
 - CBW Conc. Block Walls
 - FLW Flagstone Walks
 - P Power
 - L Light
 - T Telephone
 - Tree
 - Water Valve
 - Water Meter
 - Water Hydrant
 - Gas Valve
 - Pole

NOTE:
 Houses outside the limits of the improvement are not shown.

SCALE 1"=50'

| | | | |
|-------------------|-------|------------------|------------|
| Fed. Rd. Division | State | Fed. Aid Project | Type Funds |
| 2 | Ohio | U-6877 | POST WAR |

4
74

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY PART 4
SUM-5-11.94
RIGHT OF WAY PLAN

TRACT 7

BLOCK 86
PERKINS ADDITION
BK. 1 P. 13



| PARCEL NO. | OWNER | TYPE OF ACQUISITION |
|------------|--|---------------------|
| 1 | N.E. Dobbins | Fee Simple |
| 2 | Annie Harris | Fee Simple |
| 3 | I. H. & R. Albert | Fee Simple |
| 4 | Erie R.R. Company | Easement |
| 5 | Penna. Ohio & Detroit R.R. Co. | Easement |
| 5A | Penna. Ohio & Detroit R.R. Co. | Easement |
| 6 | B. & O. R.R. Company | Easement |
| 7 | A.C. & Y. R.R. Co. | Easement |
| 8 | Bd. of Education - Akron City School District. | Easement |

- LEGEND**
- Conc. Walks & Drives
 - CS Conc. Steps
 - CWL Conc. Walls
 - CBW Conc. Block Walls
 - FLW Flagstone Walks
 - P Power
 - L Light
 - T Telephone
 - Tree
 - Water Valve
 - Water Meter
 - Water Hydrant
 - Gas Valve
 - Pole
 - Mon. Leaded iron pipe set in concrete

| PARCEL NO. | OWNER |
|------------|-----------------------|
| 116 | State of Ohio |
| 117 | W.H. & G.M. Rouser |
| 118 | M.C. & V. Wucht |
| 119 | L. & A. Phelps |
| 120 | T.R. & M.C. Swanson |
| 121 | B.D. & S.B. Cornwell |
| 122 | I. & A. Shrzgniarz |
| 123 | S.E. & I.D. Allen |
| 124 | J.W. & A.L. Nuzum |
| 125 | B.L. Henley |
| 126 | L.E. & R.J. Kennell |
| 127 | O.O. & E.L. Mullen |
| 128 | F. N. Bailey |
| 129 | W.K. & L.E. Etter |
| 130 | F. Amodio |
| 131 | D. Perri |
| 132 | M.C. Buckmaster |
| 133 | J.B. & M. Ferguson |
| 134 | E.F. Franks |
| 135 | W.L. Sowers |
| 136 | J. Orsini |
| 137 | T.B. & R.A. Callanan |
| 138 | A.E. & E.L. Crumm |
| 139 | M.E. Hawn |
| 140 | B.A. & D.G. Patterson |
| 141 | E.V. Benkler |
| 142 | J. & H. Quattrochi |
| 143 | M.L. & F. Rosney |
| 144 | M. Cutting |
| 145 | C.C. Deremer |

| PARCEL NO. | OWNER |
|------------|----------------------|
| 121A | J.R. & D.I. Acree |
| 147 | B.R. & D.T. Moore |
| 148 | A.Q. & S.J. Hales |
| 149 | E.A. Kraus |
| 150 | R.M. Kerr |
| 151 | A. Trpkc |
| 152 | E.A. & G.A. Metz |
| 153 | C. Conick |
| 154 | A. Danney |
| 155 | A.S. Adams |
| 156 | R.D. & B.D. Force |
| 157 | W. Stakley |
| 158 | I. Kitzinger |
| 159 | R. Matusek |
| 160 | N.M. Bollos |
| 161 | J.W. & M.S. Sloan |
| 162 | R.G. M.S. Kinney |
| 163 | M. Keener |
| 164 | G.D. & M. Stevens |
| 165 | A. & A. Rizopoulos |
| 166 | E.W. & M.E. Beadling |
| 167 | W.A. Lowrentz |
| 168 | P.E. & C.V. Davis |
| 169 | E.B. Osborn |
| 170 | F. & B.G. Manick |
| 171 | G. & B. Gray |
| 172 | E. & E.V. Baughman |
| 173 | W.D. & J.D. Edwards |
| 174 | M. Enoch |
| 175 | A. Green |
| 176 | F.L. & A.S. Bush |

SCALE - 1"=50'

| | | | |
|--------------------|-------|--------------------|------------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS |
| 2 | OHIO | U-687(7) | POST WAR |

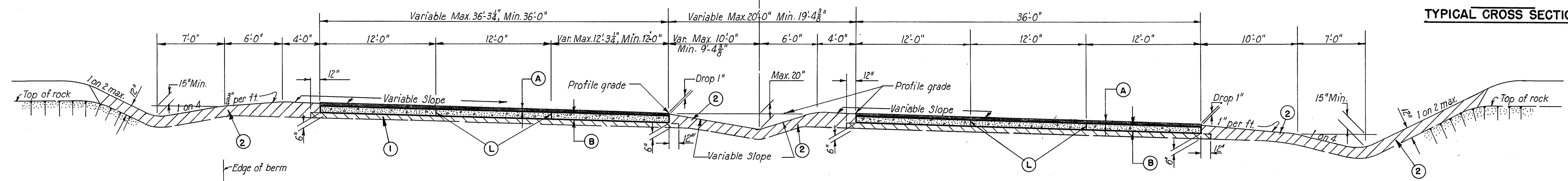
5
74

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
TYPICAL CROSS SECTIONS

TYPE T-50

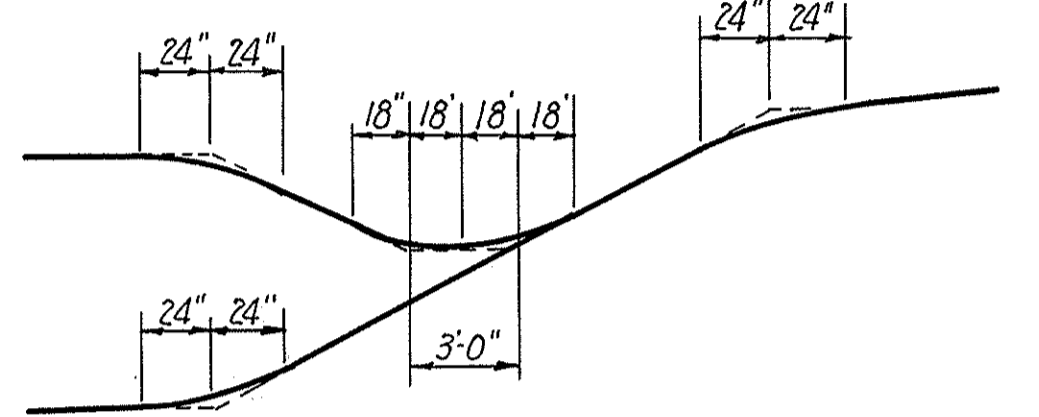
Scale: $\frac{3}{16}''=1'-0''$

Note:
Track Cost will not be required on the concrete base on any of this project.



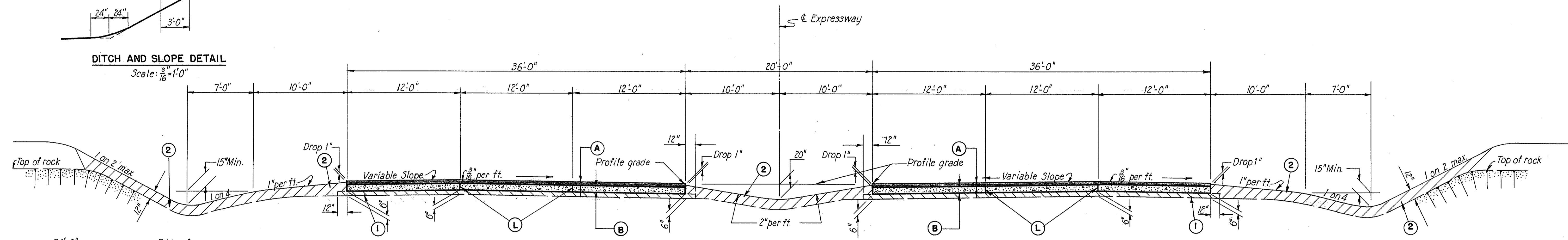
TYPICAL CROSS SECTION

STA. 15+67.70 TO STA. 16+30.83 = 63.13 LIN. FT.



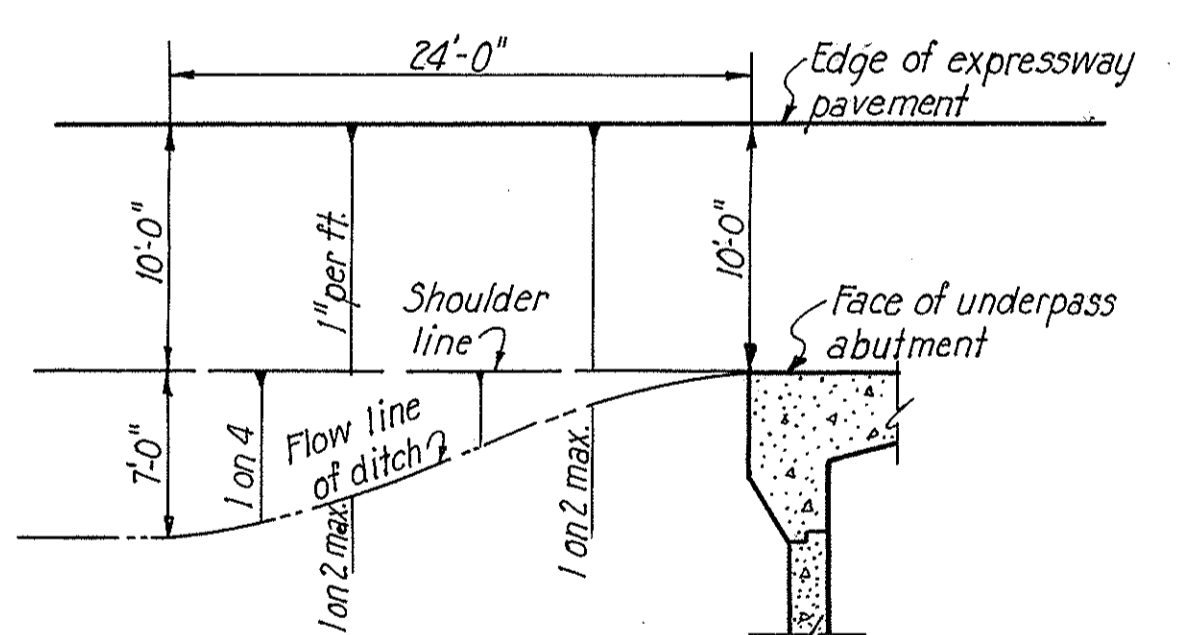
DITCH AND SLOPE DETAIL

Scale: $\frac{3}{16}''=1'-0''$



TYPICAL CROSS SECTION

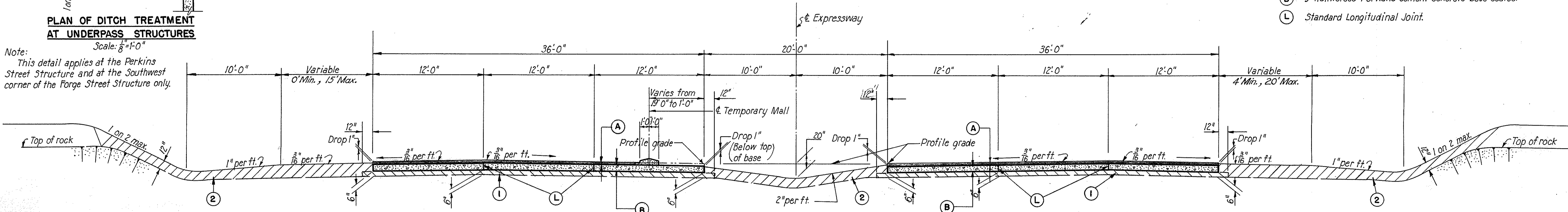
STA. 8+79.36 TO STA. 15+67.70 = 688.34 LIN. FT.



PLAN OF DITCH TREATMENT AT UNDERPASS STRUCTURES

Scale: $\frac{1}{8}''=1'-0''$

Note:
This detail applies at the Perkins Street Structure and at the Southwest corner of the Forge Street Structure only.



TYPICAL CROSS SECTION

STA. 5+40.00 TO STA. 8+79.36 = 339.36 LIN. FT.

Note:
For limits of special ditch shown in this section, see Cross Sections.

Note:
For details of Temporary Mall, see Sheet 38.
For location of Temporary Mall, see Paving Plans.

LEGEND

- ① Classified Embankment Material, SS-5 Modified
- ② Soil Backfill
- Ⓐ 3" Asphaltic Concrete Surface Course.
- Ⓑ 9" Reinforced Portland Cement Concrete Base Course.
- Ⓘ Standard Longitudinal Joint.

SCALE: $\frac{3}{16}''=1'-0''$
 MADE P.M.K. DATE 9.20.50
 TRCD-H.G.B. DATE 10.6.50
 CKD C.M. DATE 10.7.50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY NEW YORK

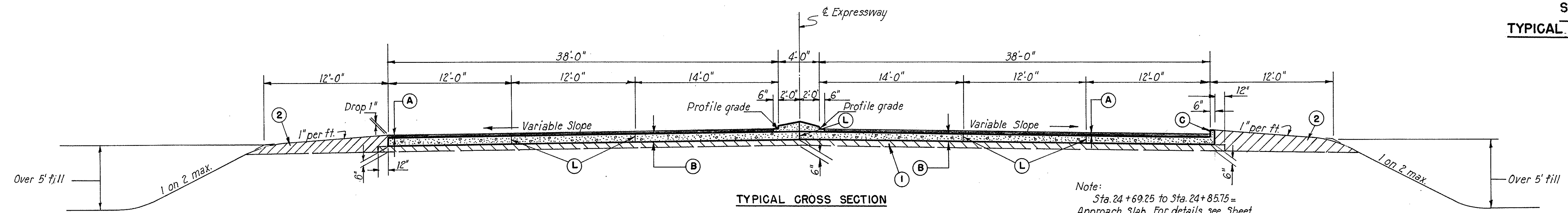
766 SHEET

403

TYPICAL CROSS SECTIONS

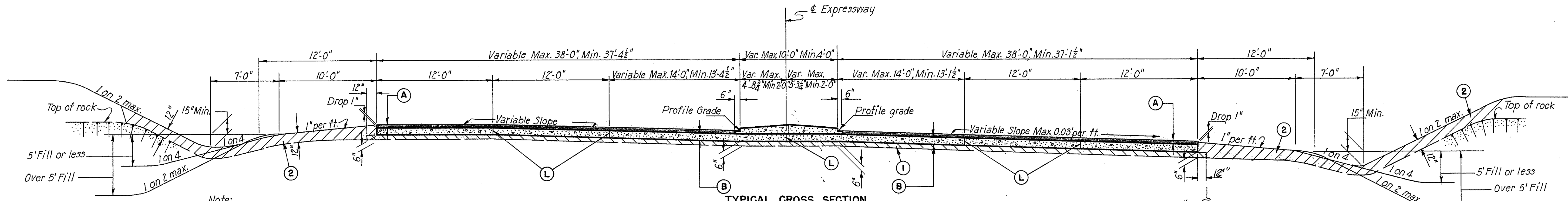
TYPE T-50

Scale: $\frac{3}{16}'' = 1'-0''$



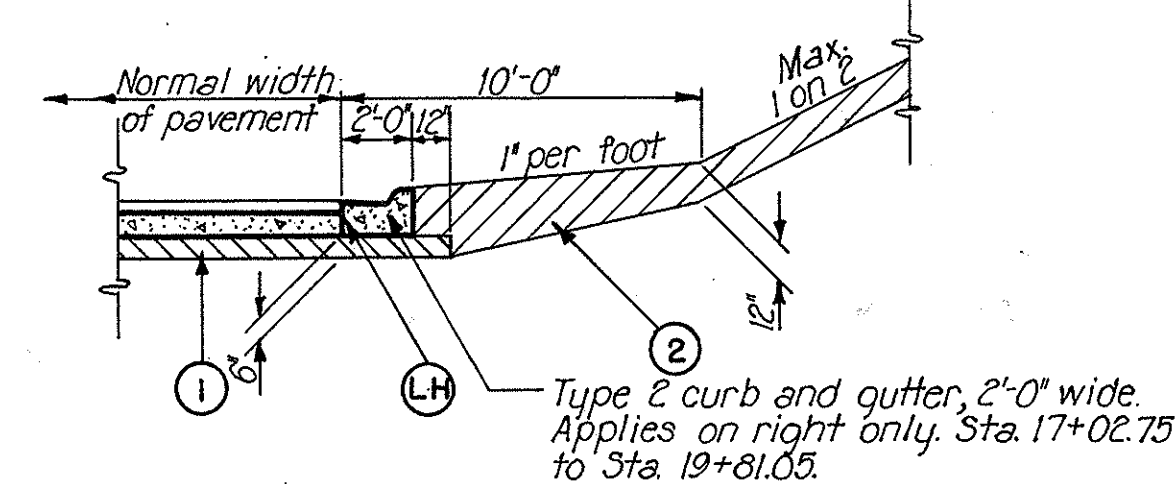
TYPICAL CROSS SECTION
STA. 23+53.03 TO STA. 24+69.25 = 116.22 LIN. FT.

Note:
Sta. 24+69.25 to Sta. 24+85.75 =
Approach Slab. For details, see Sheet
For limits of type 4-A mod. curb,
see Paving Plans.

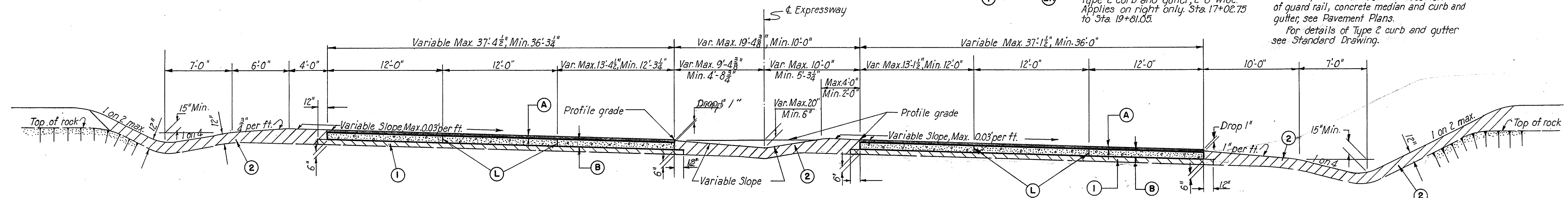


TYPICAL CROSS SECTION
STA. 19+13.50 TO STA. 23+53.03 = 439.53 LIN. FT.

Note:
Concrete median begins Sta. 19+13.50
Blanket course shown in this section
applies to rock cut only. For blanket course
for fill, see section above.



Note:
For shoulder widening at guard rail,
see Sheet 38.
For details of curb, and concrete
median, see Sheet 38. For location
of guard rail, concrete median and curb and
gutter, see Paving Plans.
For details of Type 2 curb and gutter
see Standard Drawing.



TYPICAL CROSS SECTION
STA. 16+30.83 TO STA. 19+13.50 = 282.67 LIN. FT.

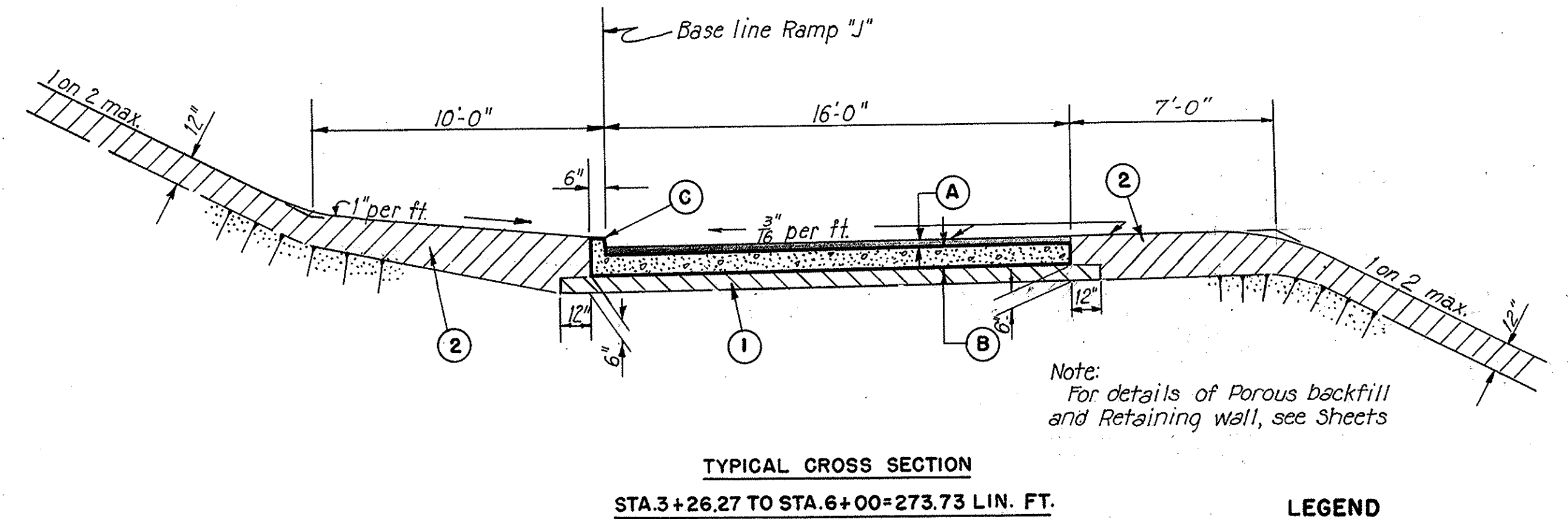
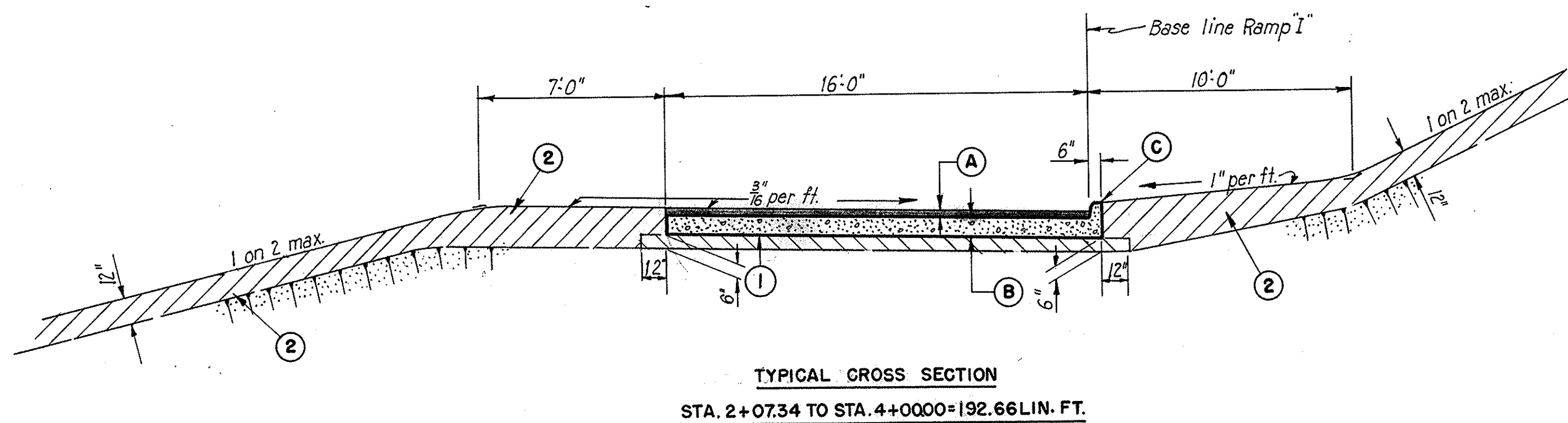
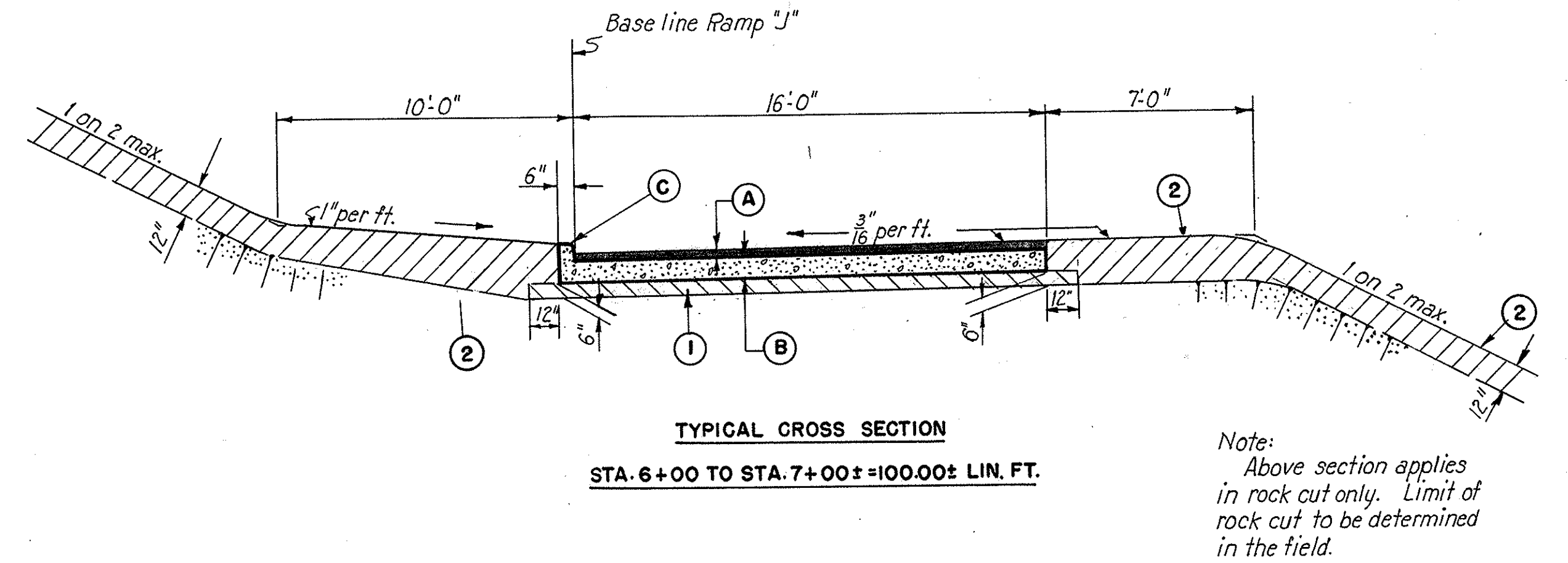
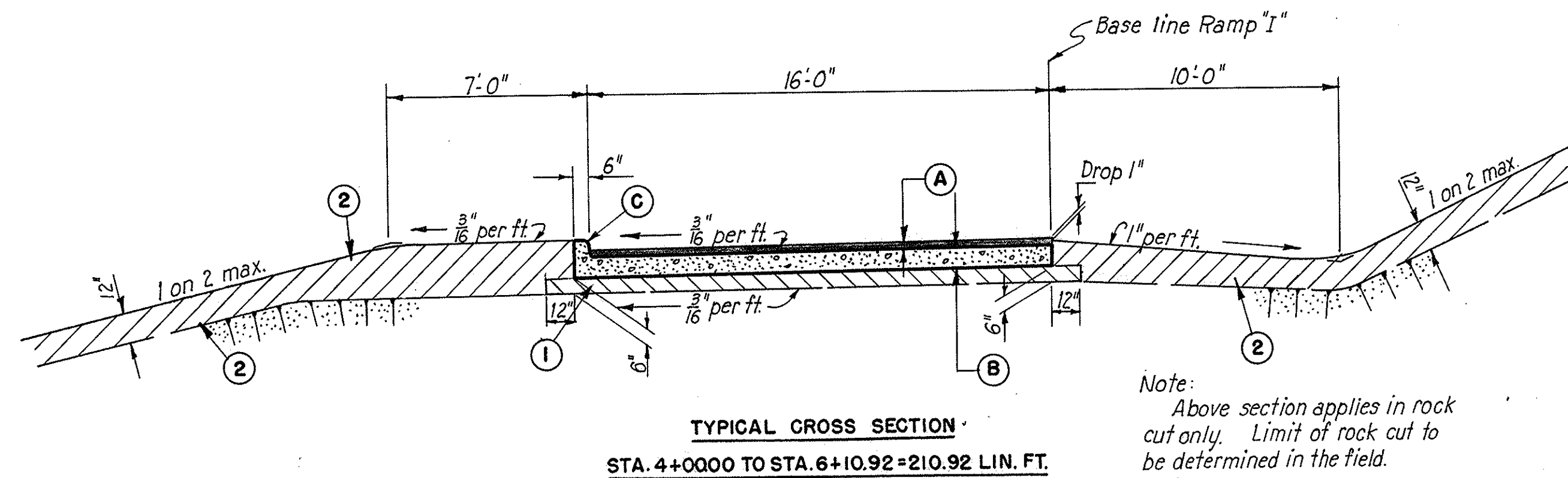
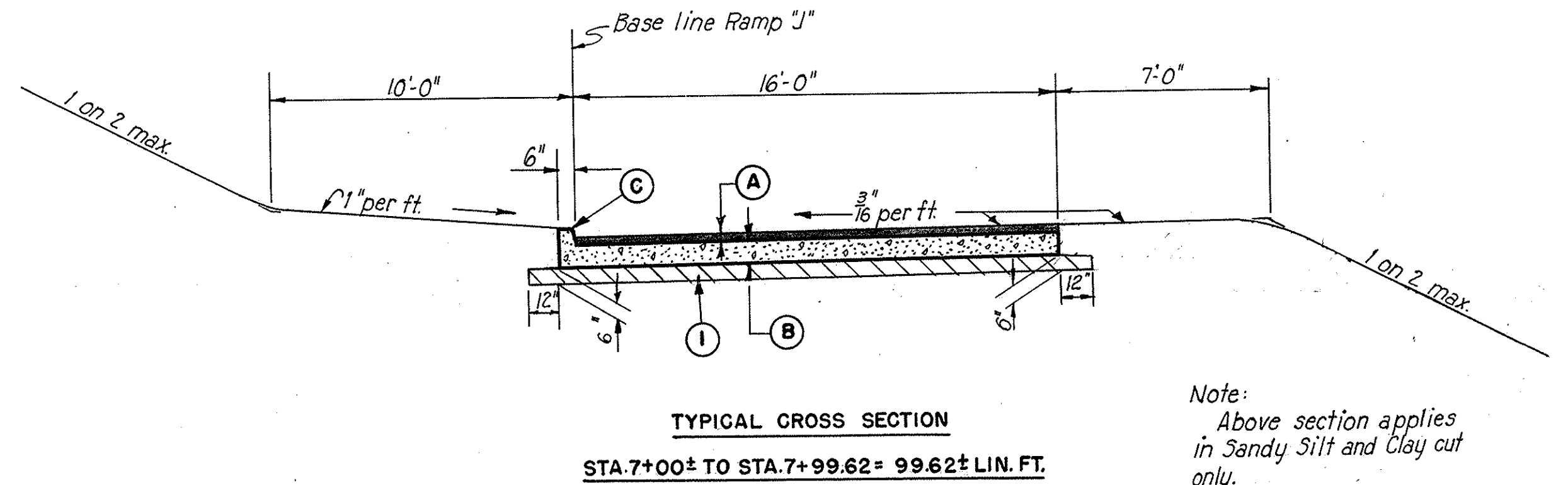
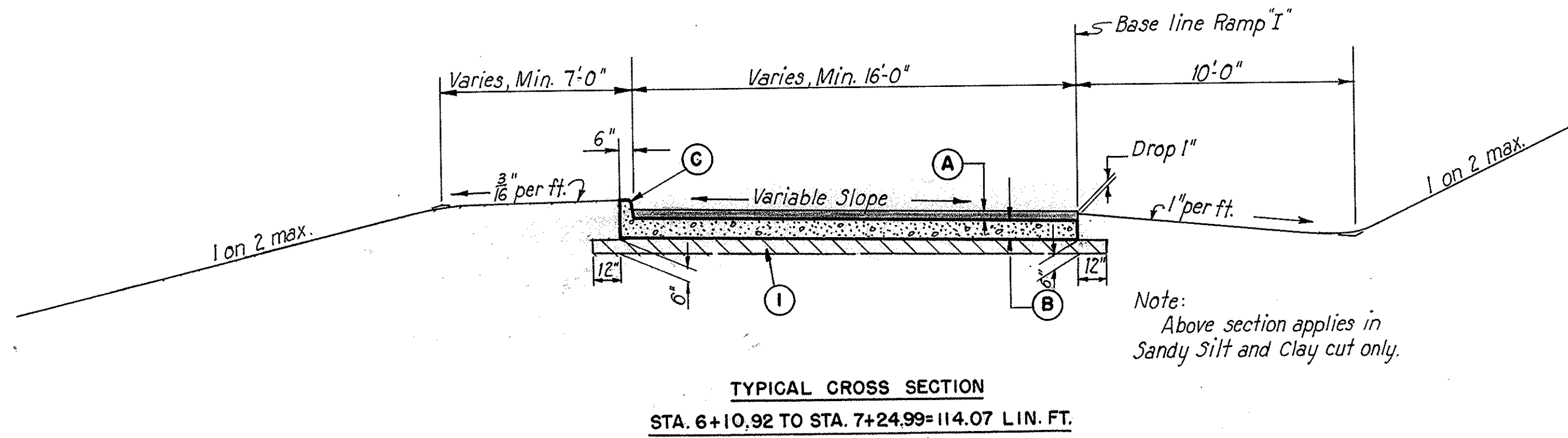
- LEGEND**
- (1) Classified Embankment Material, Item SS-5 Modified.
 - (2) Soil Backfill.
 - (A) 3" Asphaltic Concrete Surface Course.
 - (B) 9" Reinforced Portland Cement Concrete Base Course.
 - (C) Type 4-A Modified Curb.
 - (L) Standard Longitudinal Joint.
 - (LH) Standard Longitudinal Joint with Hook Bolts.

TYPE T-50

Scale: $\frac{1}{4}'' = 1'-0''$

| | | | | |
|--------------------|-------|--------------------|------------|----|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 74 |
| 2 | OHIO | U-687(7) | POST WAR | |

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
TYPICAL CROSS SECTIONS



TYPICAL CROSS SECTIONS - RAMP "I"

Note: From Sta. 0+00 to Sta. 2+07.34 and from Sta. 7+24.99 to Sta. 7+75.37 are the Approaches. For details of Approaches, see Sheet

TYPICAL CROSS SECTIONS - RAMP "J"

Note: From Sta. 0+00 to Sta. 3+26.27 and from Sta. 7+99.62 to Sta. 8+27.65 are the Approaches. For details of Approaches and location of Guard Rail, see Sheet

- LEGEND**
- ① Classified Embankment Material, Item SS-5 Modified Soil Backfill.
 - ② Soil Backfill.
 - Ⓐ 3" Asphaltic Concrete Surface Course.
 - Ⓑ 9" Reinforced Portland Cement Concrete Base Course.
 - Ⓒ Type 4-A modified Curb.

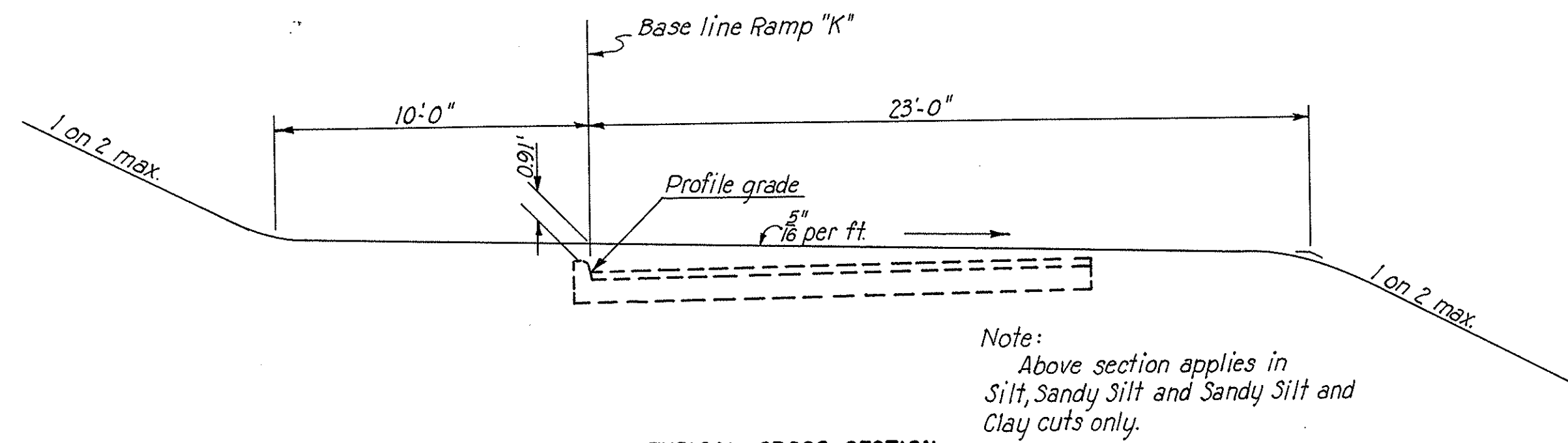
TYPE T-50

Scale: $\frac{1}{4}'' = 1'-0''$

| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 8 |
|--------------------|-------|--------------------|------------|----|
| 2 | OHIO | U-687(7) | POST WAR | 74 |

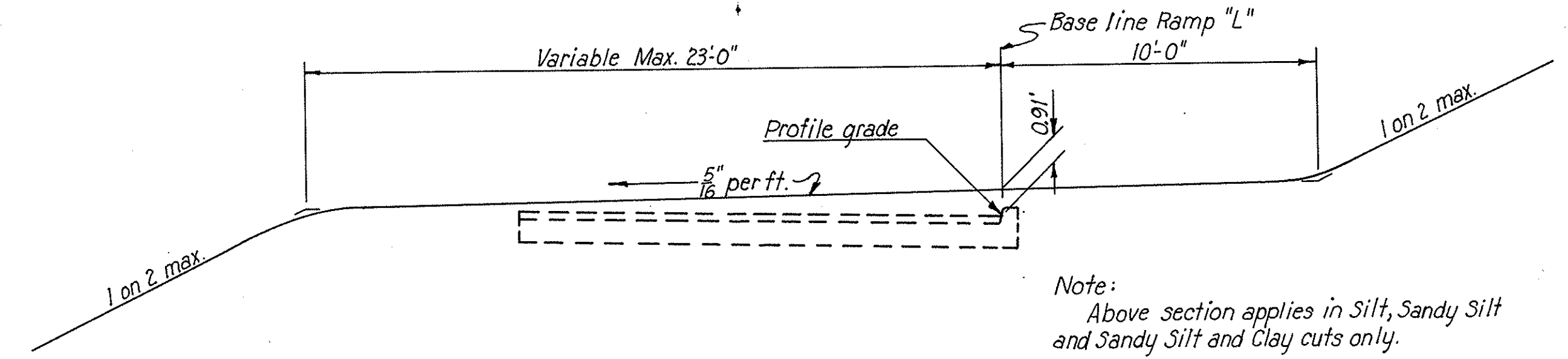
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

TYPICAL CROSS SECTIONS



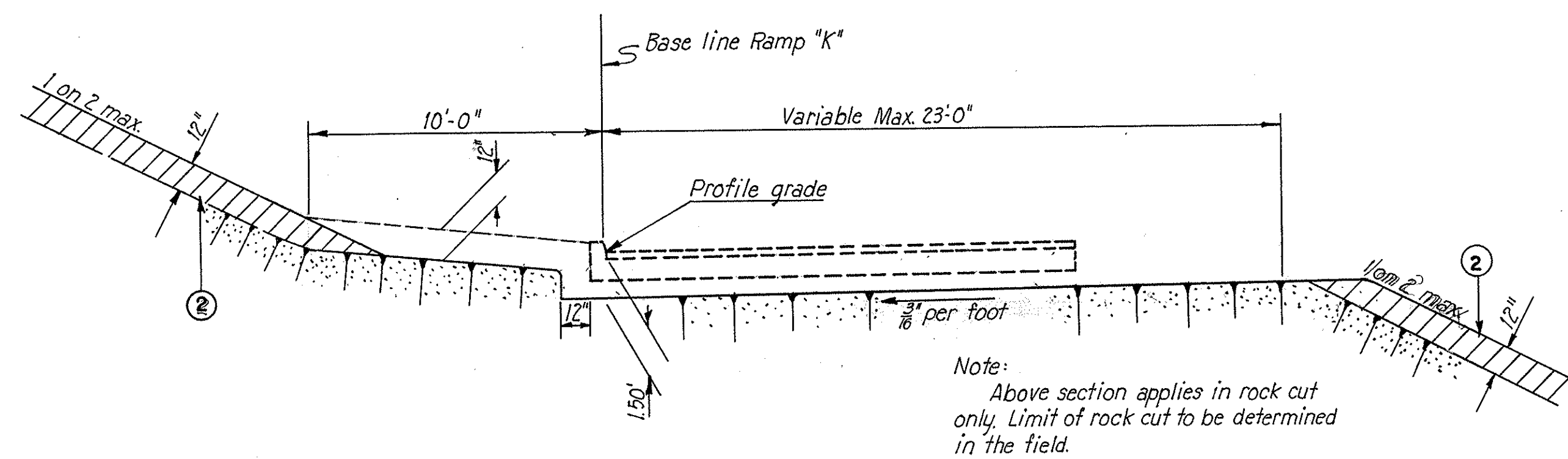
TYPICAL CROSS SECTION

STA. 7+00± TO STA. 8+48.53± = 148.53± LIN. FT.



TYPICAL CROSS SECTION

STA. 4+00± TO STA. 5+85.81± = 185.81± LIN. FT.

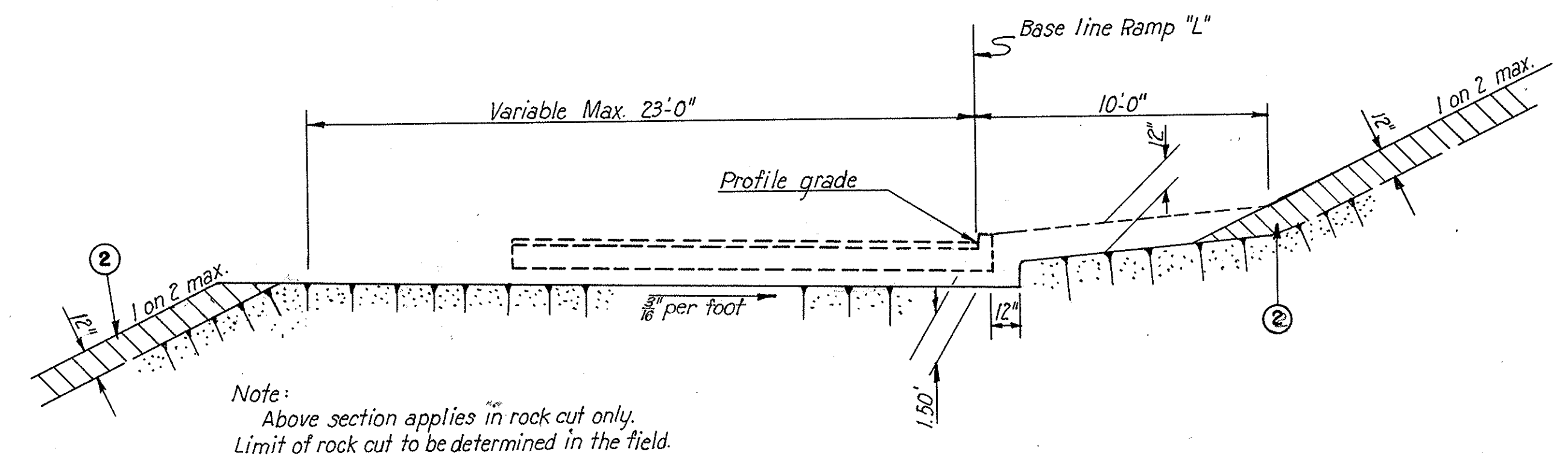


TYPICAL CROSS SECTION

STA. 4+00.13 TO STA. 7+00± = 299.87± LIN. FT.

TYPICAL CROSS SECTIONS-RAMP "K" (FUTURE)

Note:
From Sta. 0+00 to Sta. 4+00.13 and from Sta. 8+48.53 to Sta. 10+60.49 are the Approaches.



TYPICAL CROSS SECTION

STA. 1+41.96 TO STA. 4+00± = 258.04± LIN. FT.

TYPICAL CROSS SECTIONS-RAMP "L" (FUTURE)

Note:
From Sta. 0+00 to Sta. 1+41.96 and from Sta. 5+85.81 to Sta. 7+24.94 are the Approaches.

LEGEND

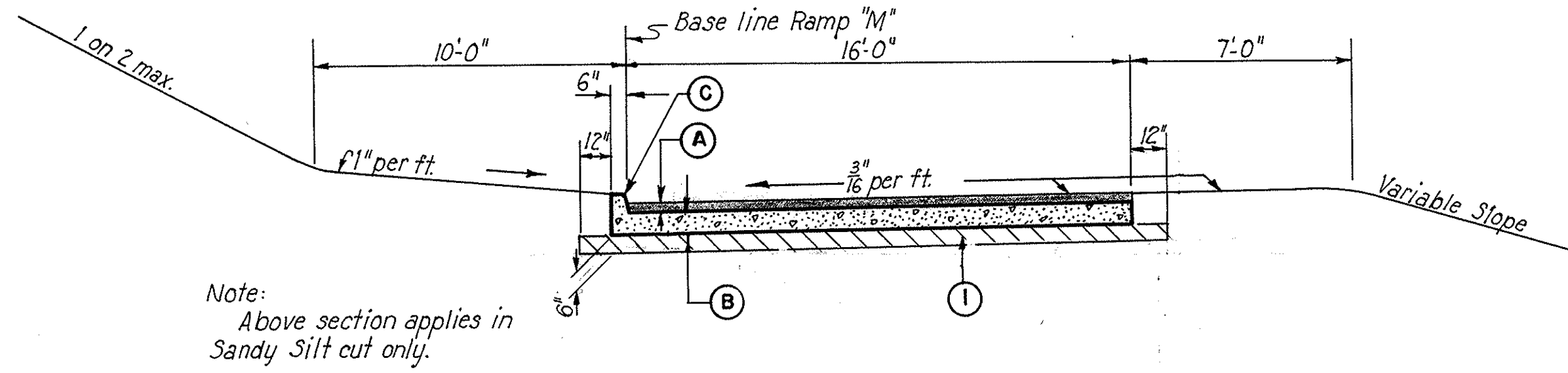
(2) Soil Backfill.

TYPE T-50

Scale: $\frac{1}{4}'' = 1'-0''$

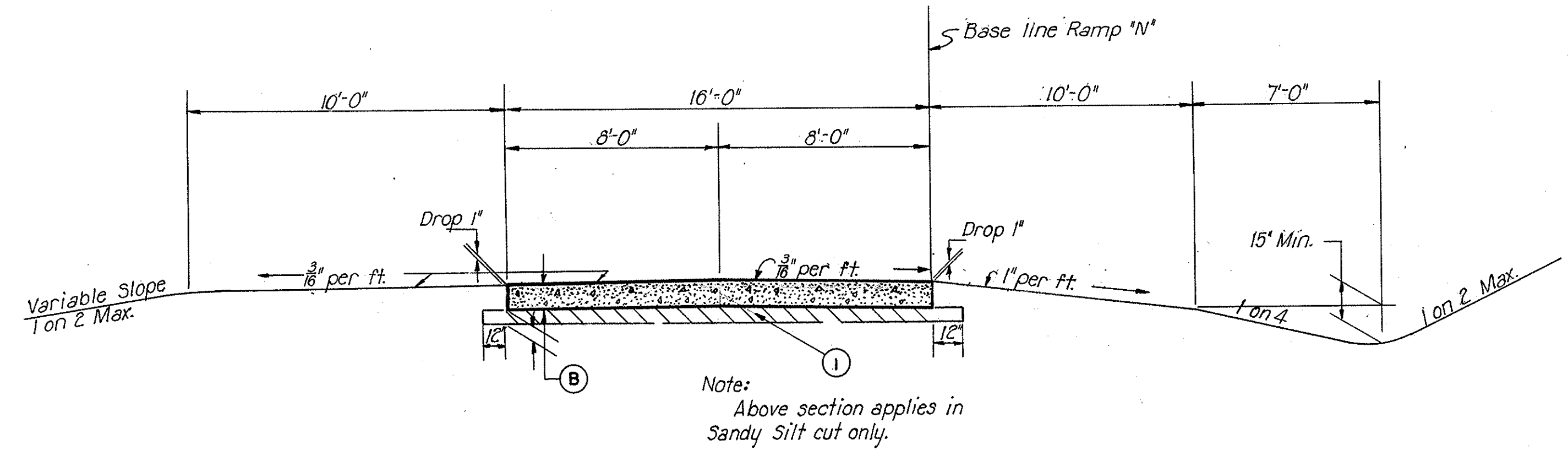
| | | | | |
|--------------------|-------|--------------------|------------|----|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 9 |
| 2 | OHIO | U-687(7) | POST WAR | 74 |

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
TYPICAL CROSS SECTIONS



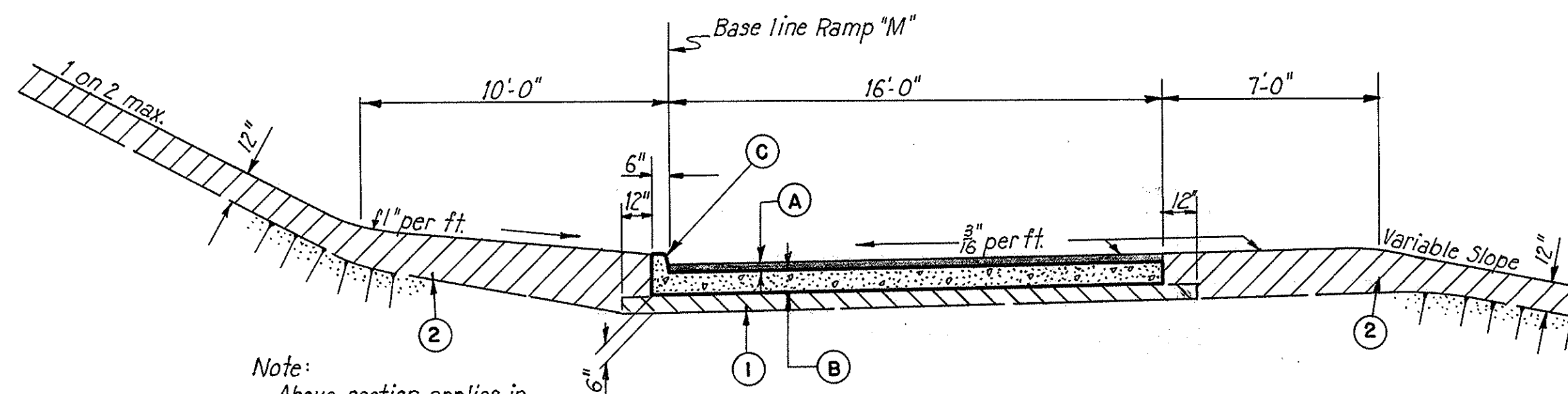
Note:
Above section applies in
Sandy Silt cut only.

TYPICAL CROSS SECTION
STA. 4+50.2 TO STA. 6+50.20=200.20± LIN. FT.



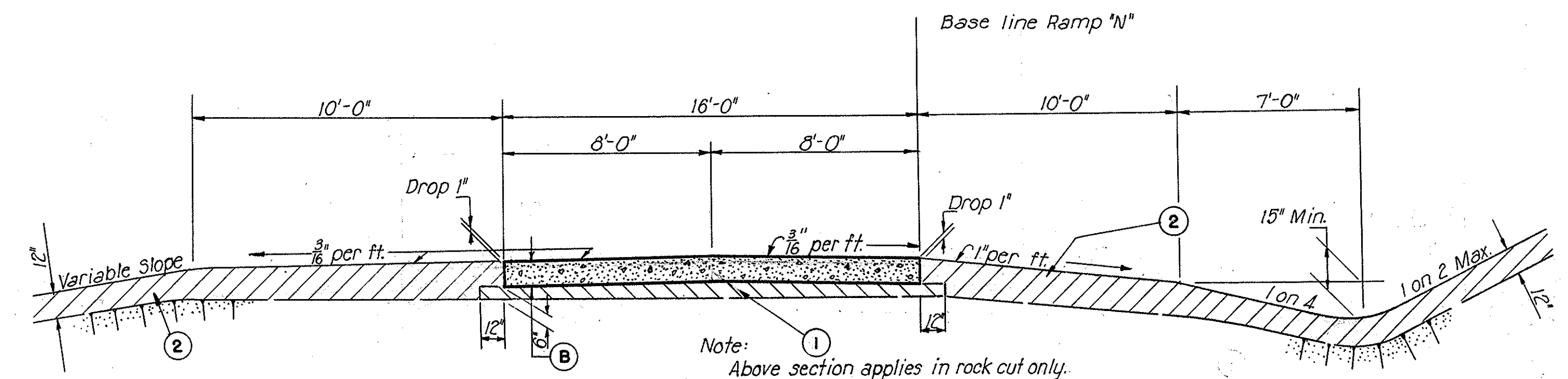
Note:
Above section applies in
Sandy Silt cut only.

TYPICAL CROSS SECTION
STA. 2+75 TO STA. 4+61.56=186.56± LIN. FT.



Note:
Above section applies in
rock cut only. Limit of rock
cut to be determined in the
field.

TYPICAL CROSS SECTION
STA. 2+01.29 TO STA. 4+50.2=248.71± LIN. FT.



Note:
Above section applies in rock cut only.
Limit of rock cut to be determined in the field.

TYPICAL CROSS SECTION
STA. 0+00 TO STA. 2+75=275± LIN. FT.

TYPICAL CROSS SECTIONS-RAMP "M"
Note:
From Sta. 0+00 to Sta. 2+01.29 and from Sta. 6+50.20
to Sta. 7+11.79 are the approaches.
For Variable Slopes, see Cross Sections.

TYPICAL CROSS SECTIONS-RAMP "N"
Note:
From Sta. 4+61.56 to Sta. 5+07.72 is the Approach.
For Variable Slopes, see Cross Sections.

LEGEND

- ① Classified Embankment. Material, Item 33-5 Modified
- ② Soil Backfill
- Ⓐ 3" Asphaltic Concrete Surface Course
- Ⓑ 9" Reinforced Portland Cement Concrete Base Course
- Ⓒ Type 4-A Modified Curb

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

| | | | |
|--------------------|-------|--------------------|------------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS |
| 2 | OHIO | U-687(7) | POST WAR |

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

12
74

SEEDING

Width Area
Lin. Ft. Sq. Yds.

204

1120

199

1092

194

1067

190

1055

0

140 130 120



| VOLUME SS-5 MOD | END AREA | | VOLUME | |
|--------------------|----------|------|--------|------|
| | CUT | FILL | CUT | FILL |
| | 3812 | 56 | | |
| 32 | | | 6390 | 52 |
| 3089 | 0 | | | |
| 34 | | | 5095 | 0 |
| | 2419 | 0 | | |
| 34 | | | 3640 | 0 |
| | 1510 | 0 | | |
| 43 | | | 1820 | 0 |
| | 0 | 0 | | |

DATE _____
BY _____
FINAL SURVEY PLOTTED _____
NOTE BOOK _____
AREAS CHECKED _____

DATE _____
BY _____
ORIGINAL SURVEY PLOTTED _____
NOTE BOOK _____
AREAS CHECKED _____

SCALE 1"=10'
MADE D.S. DATE 10-3-50
TRCD G.M. DATE 12-2-50
CKD D.W.K. DATE 12-16-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

766 SHEET

CUT 0 AT STA. 0+00

PLATE 3 - CROSS SECTION C. P. R. E. PRECISE
CHARLES BRUNING CO. INC. NEW YORK

110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 STA. 0+00 TO STA. 2+50

SEEDING

Width Area
Lim. Ft. Sq. Yds.

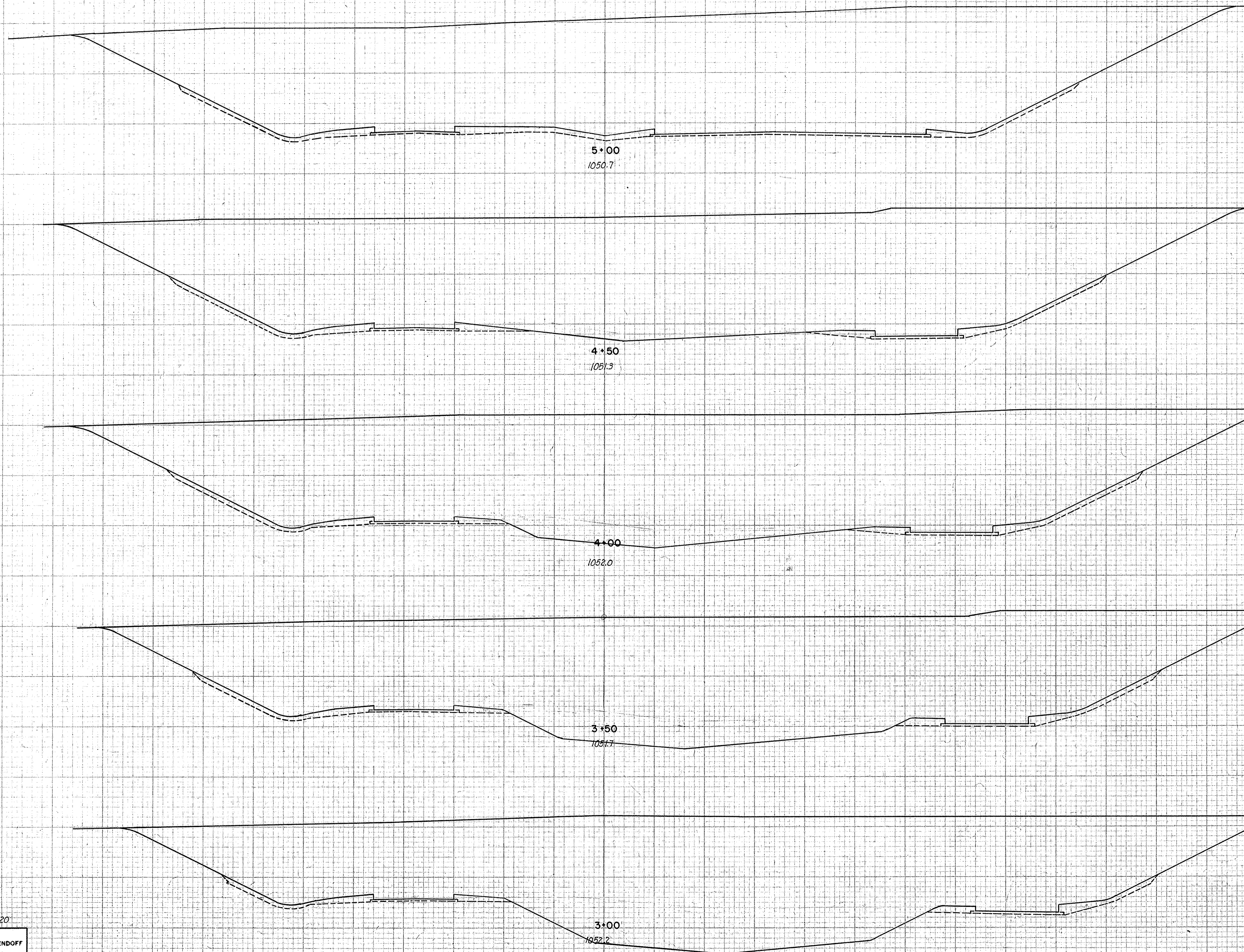
| | | | | | | | | | |
|-----|------|-----|------|-----|------|-----|------|-----|------|
| 173 | 1083 | 217 | 1217 | 221 | 1182 | 205 | 1150 | 209 | 1147 |
|-----|------|-----|------|-----|------|-----|------|-----|------|

DATE: _____ BY: _____

FINAL SURVEY PLOTTED _____
 NOTE BOOK NO. _____
 AREAS CHECKED _____

DATE: _____ BY: _____

ORIGINAL SURVEY PLOTTED _____
 NOTE BOOK NO. _____
 AREAS CHECKED _____



| VOLUME | END AREA | | VOLUME | |
|--------|----------|------|--------|------|
| | CUT | FILL | CUT | FILL |
| 1040 | 4328 | 122 | | |
| 51 | | | 8160 | 214 |
| | 4482 | 109 | | |
| 1040 | | | 8333 | 210 |
| 34 | | | | |
| | 4518 | 118 | | |
| 1040 | | | 8030 | 206 |
| 34 | | | | |
| | 4307 | 105 | | |
| 1040 | | | 7515 | 167 |
| 34 | | | | |
| | 3970 | 75 | | |
| 1040 | | | 7210 | 121 |
| 34 | | | | |

SCALE 1"=10'
 MADE D.S. DATE 10-3-50
 TRCD G.M. DATE 10-2-50
 CKD D.W.K. DATE 10-16-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING-ENGINEERS
 KANSAS CITY NEW YORK

766 SHEET

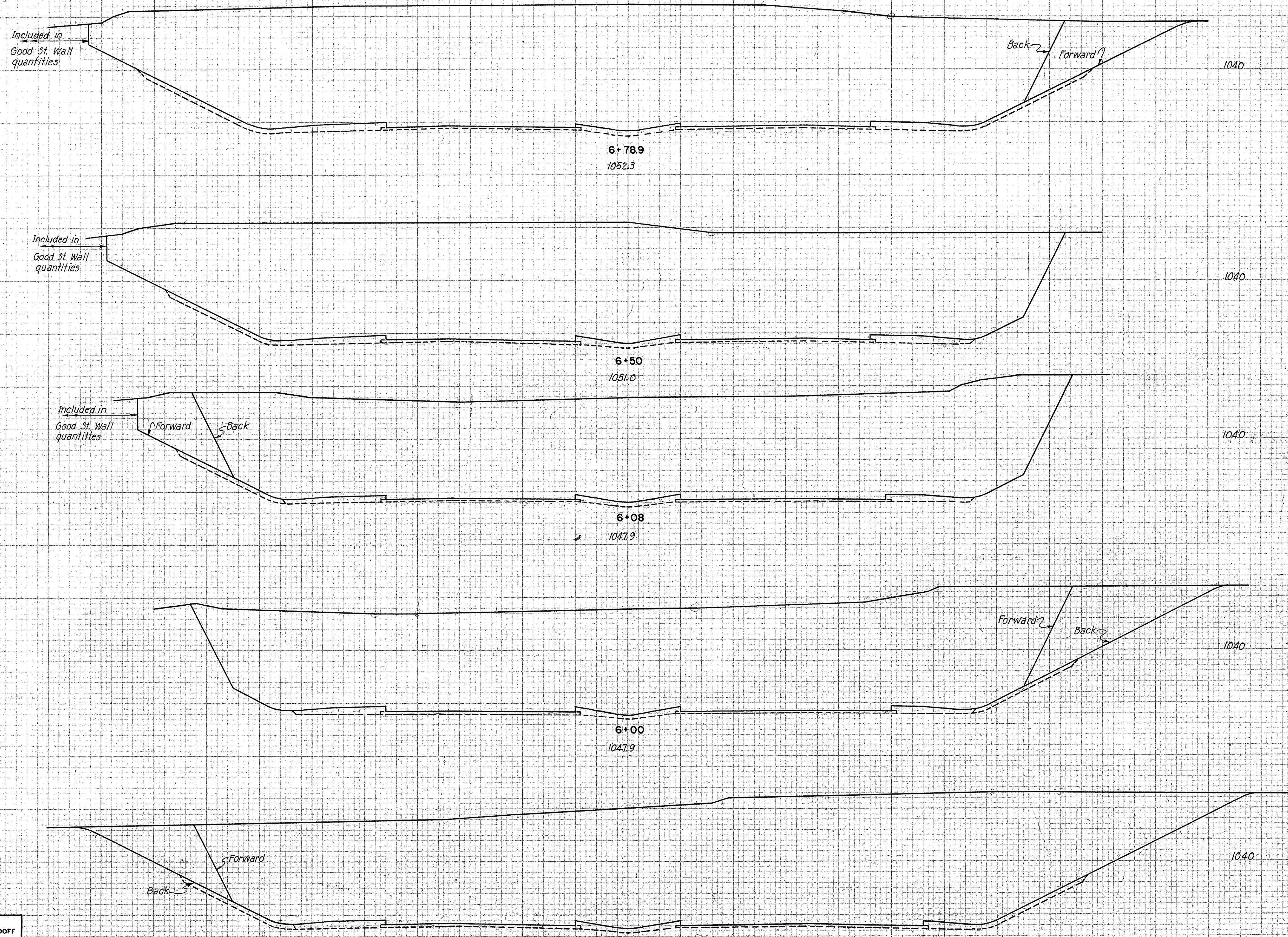
110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110

| | | | |
|--------------------|-------|--------------------|------------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS |
| 2 | OHIO | U-687(7) | POST WAR |

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74

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

| SEEDING | |
|-------------------|------------------|
| Width Lin. Ft. | Area Sq. Yds. |
| 153 | Forward |
| 95 | Back |
| 305 | |
| 95 | |
| 420 | |
| 85 | Forward |
| 55 | Back |
| 49 | |
| 55 | Forward |
| 108 | Back |
| 595 | |
| 106 | Forward |
| 160 | Back |
| 925 | |



| VOLUME SS-5 MOD. | | END AREA | | VOLUME | |
|---------------------|---------|----------|------|--------|------|
| | | CUT | FILL | CUT | FILL |
| | Forward | 3885 | 137 | | |
| | Back | 4090 | 112 | | |
| 41 | | | | 4156 | 117 |
| | | 3678 | 107 | | |
| 60 | | | | 5413 | 126 |
| | Forward | 3280 | 75 | | |
| | Back | 3111 | 55 | | |
| 12 | | | | 931 | 17 |
| | Forward | 3182 | 60 | | |
| | Back | 3464 | 75 | | |
| 77 | | | | 6831 | 162 |
| | Forward | 3913 | 106 | | |
| | Back | 4079 | 127 | | |
| 74 | | | | 7885 | 230 |

DATE _____ BY _____
 ORIGINAL SURVEYED _____
 SURVEY TEMPLATE _____
 NOTE BOOK AREAS _____
 NO. _____ AREAS CHECKED _____

DATE _____ BY _____
 ORIGINAL SURVEYED _____
 SURVEY TEMPLATE _____
 NOTE BOOK AREAS _____
 NO. _____ AREAS CHECKED _____

SCALE 1"=10'
 MADE D.S. DATE 10-2-50
 TRCD G.M. DATE 10-2-50
 CKD Q.H.K. DATE 10-16-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY NEW YORK

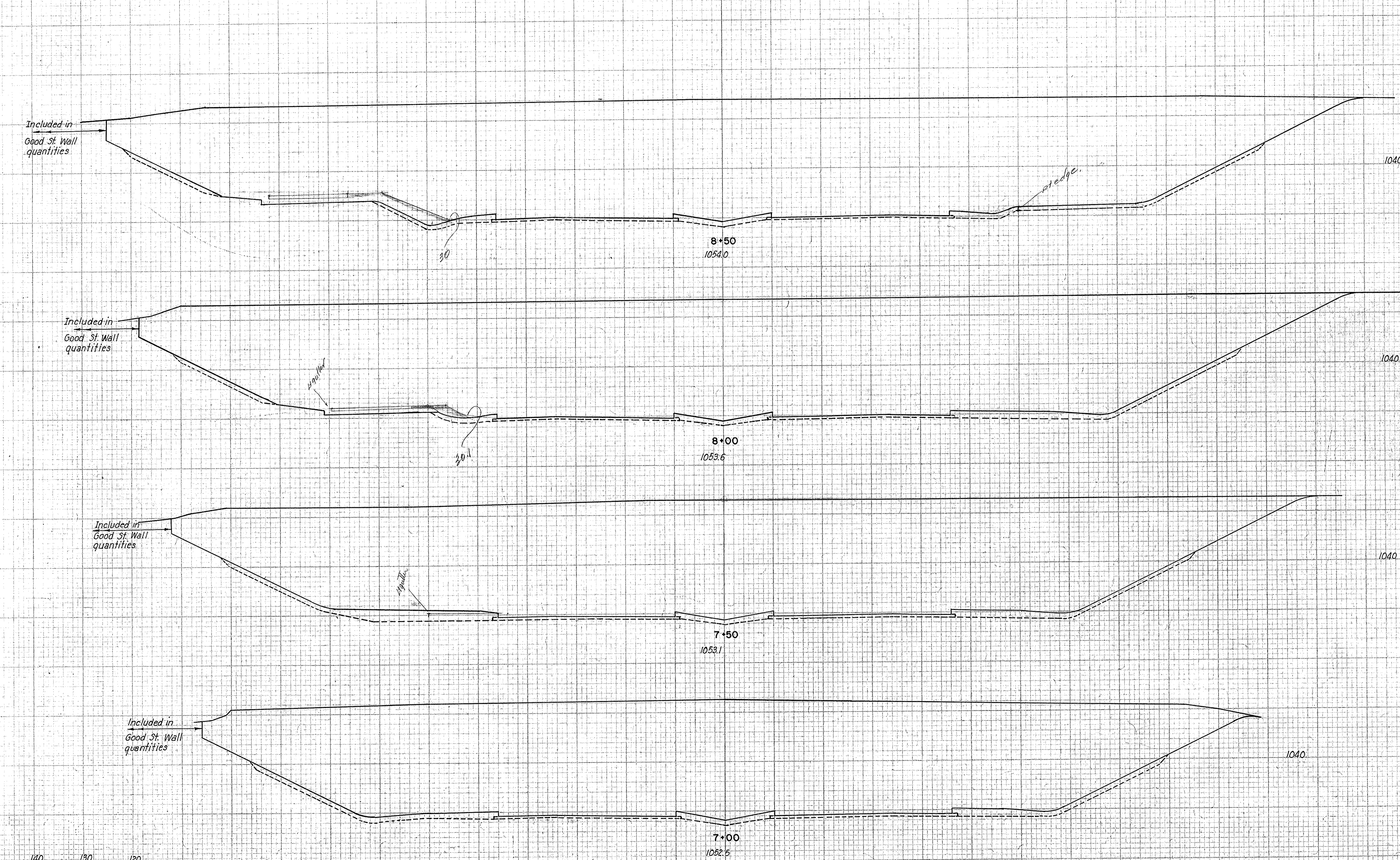
766 SHEET

| | | | | |
|--------------------|-------|--------------------|------------|----------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 15 74 |
| 2 | OHIO | U-687(7) | POST WAR | |

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

| VOLUME SS-5 MOD. | END AREA | | VOLUME | |
|---------------------|----------|------|--------|------|
| | CUT | FILL | CUT | FILL |
| | | | | |
| | | 5095 | 124 | |
| 70 | | | 9370 | 236 |
| | | 5028 | 131 | |
| | | | | |
| | | | | |
| | | 4540 | 176 | |
| 70 | | | 8170 | 278 |
| | | | | |
| | | 4283 | 125 | |
| 30 | | | 3192 | 103 |

| SEEDING | |
|-------------------|------------------|
| Width Lin. Ft. | Area Sq. Yds. |
| 200 | |
| 1091 | |
| 193 | |
| 1028 | |
| 177 | |
| 936 | |
| 160 | |
| 368 | |



DATE _____ BY _____
 ORIGINAL SURVEY PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____

DATE _____ BY _____
 ORIGINAL SURVEY PLOTTED _____
 NOTE BOOK _____
 AREAS CHECKED _____

SCALE: 1" = 10'
 MADE 2.3. DATE 10.5.50
 TRCD DWK. DATE 10.10.50
 CKD G.M. DATE 10.12.50

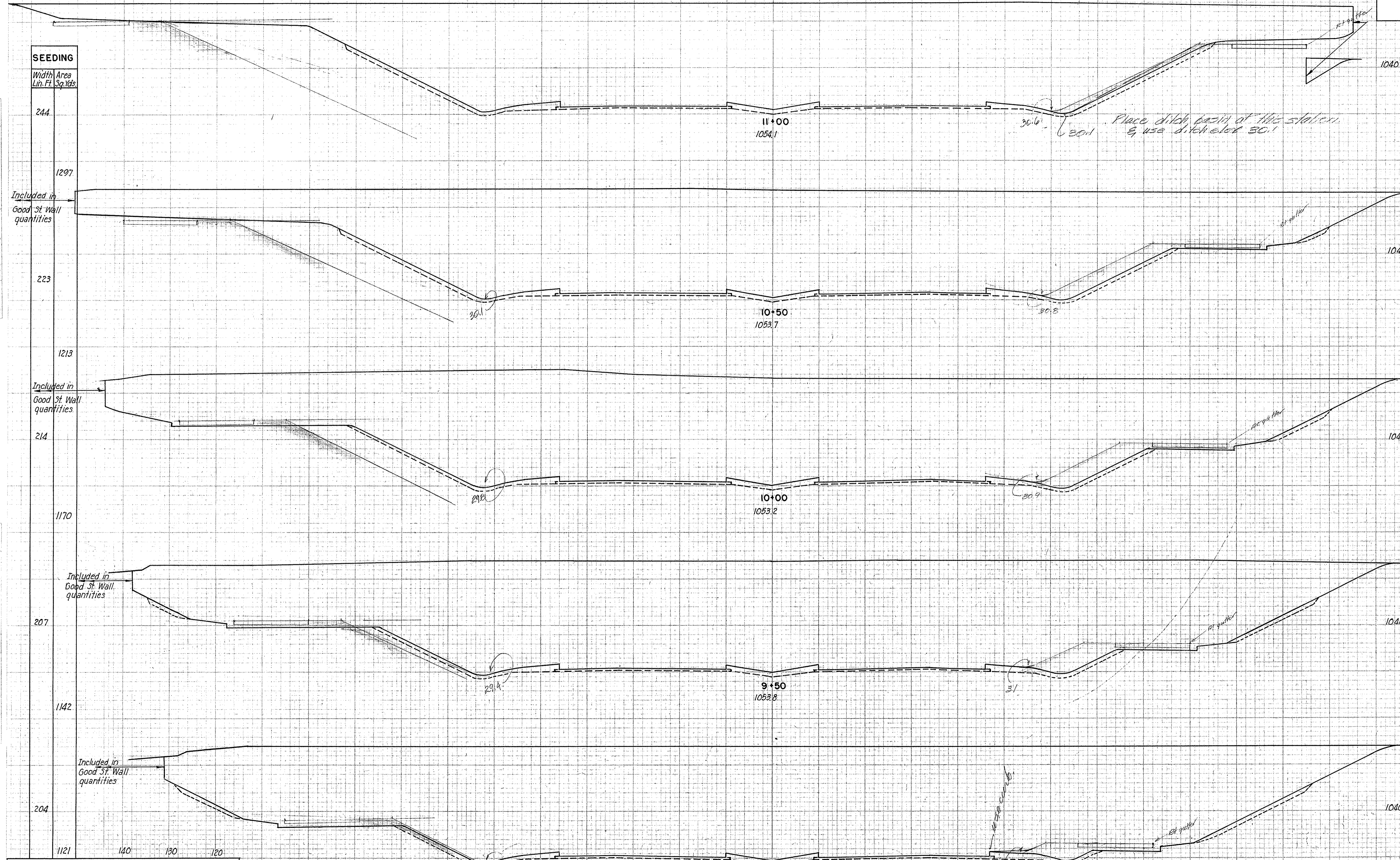
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY NEW YORK
 766 SHEET

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

| | | | |
|--------------------|-------|--------------------|------------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS |
| 2 | OHIO | U-687(7) | POST WAR |

16
74

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94



SEEDING

Width Area
Lin. Ft. Sq. Yds.

244

1297

Included in
Good St. Wall
quantities

223

1213

Included in
Good St. Wall
quantities

214

1170

Included in
Good St. Wall
quantities

207

1142

Included in
Good St. Wall
quantities

204

1121

| VOLUME SS-5 MOD | END AREA | | VOLUME | |
|--------------------|----------|------|--------|------|
| | CUT | FILL | CUT | FILL |
| | 4450 | 121 | | |
| 70 | | | 8380 | 220 |
| | 4619 | 117 | | |
| 70 | | | 8830 | 208 |
| | 4907 | 108 | | |
| 70 | | | 9260 | 202 |
| | 5090 | 110 | | |
| 70 | | | 9580 | 218 |
| | 5259 | 125 | | |
| 70 | | | 9590 | 231 |

DATE
BY
FINAL SURVEY PLOTTED
NOTE BOOK 150-111
NO. AREAS CHECKED

DATE
BY
ORIGINAL SURVEY PLOTTED
NOTE BOOK 150-111
NO. AREAS CHECKED

SCALE 1"=10'
MADE D.S. DATE 10-5-50
TRCD R.W.K. DATE 10-10-50
CRD G.M. DATE 10-17-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

766 SHEET

| SEEDING |
|---------------------------------|
| Width Area Lin. Ft. Sq. Yds. |
| 172 |
| 1045 |
| 204 |
| 1205 |
| 230 |
| 1306 |
| 240 |
| 1381 |
| 257 |
| 1391 |

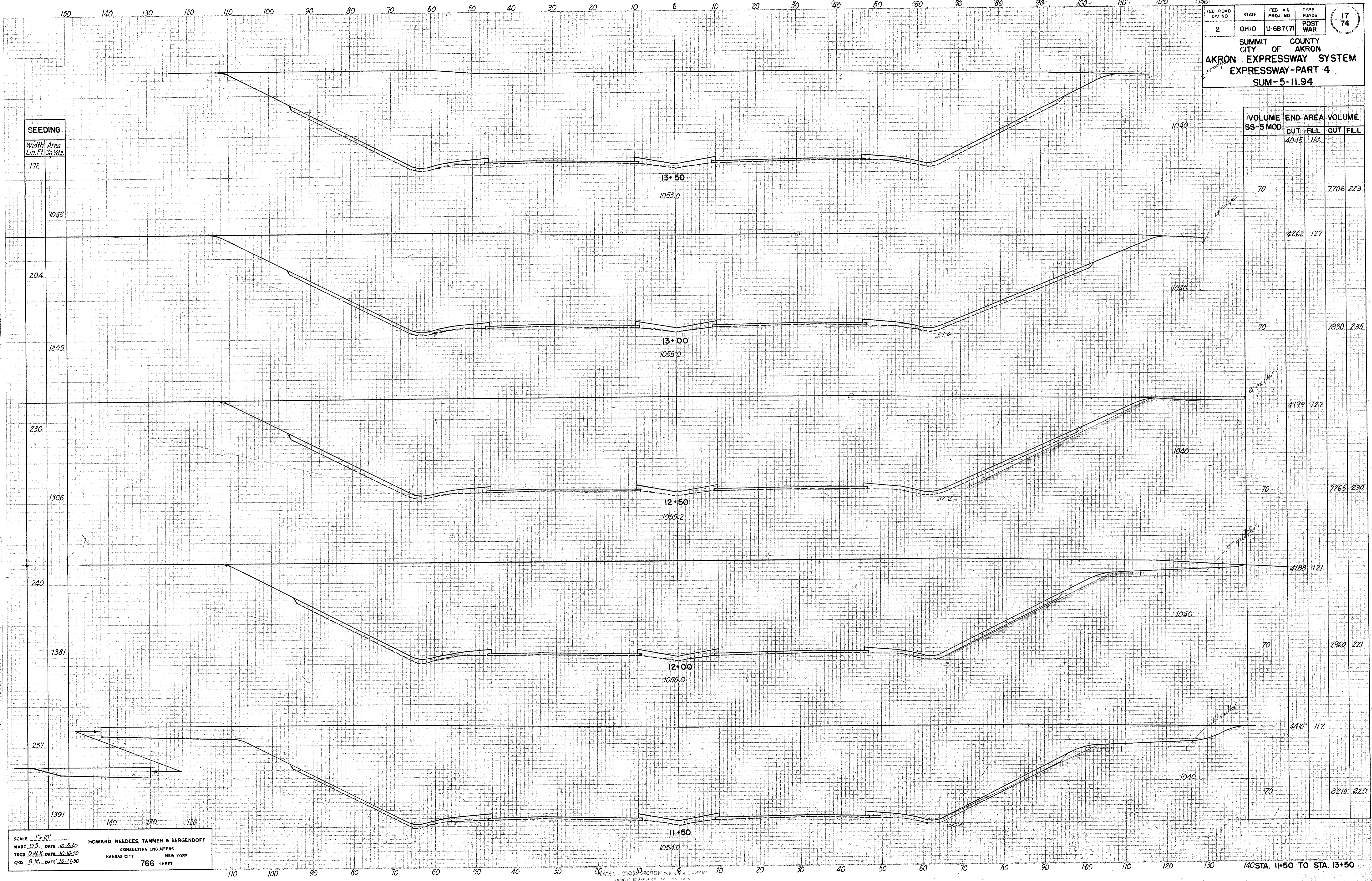
| VOLUME SS-5 MOD. | END AREA | | VOLUME GUT FILL |
|---------------------|----------|------|--------------------|
| | GUT | FILL | |
| | 4045 | 114 | |
| 70 | | | 7706 223 |
| | 4262 | 127 | |
| 70 | | | 7830 235 |
| | 4199 | 127 | |
| 70 | | | 7765 230 |
| | 4188 | 121 | |
| 70 | | | 7960 221 |
| | 4440 | 117 | |
| 70 | | | 8210 220 |

SCALE 1"=10'
 MADE D.S. DATE 10-5-50
 TRCD D.W.K. DATE 10-10-50
 CKD G.M. DATE 10-17-50

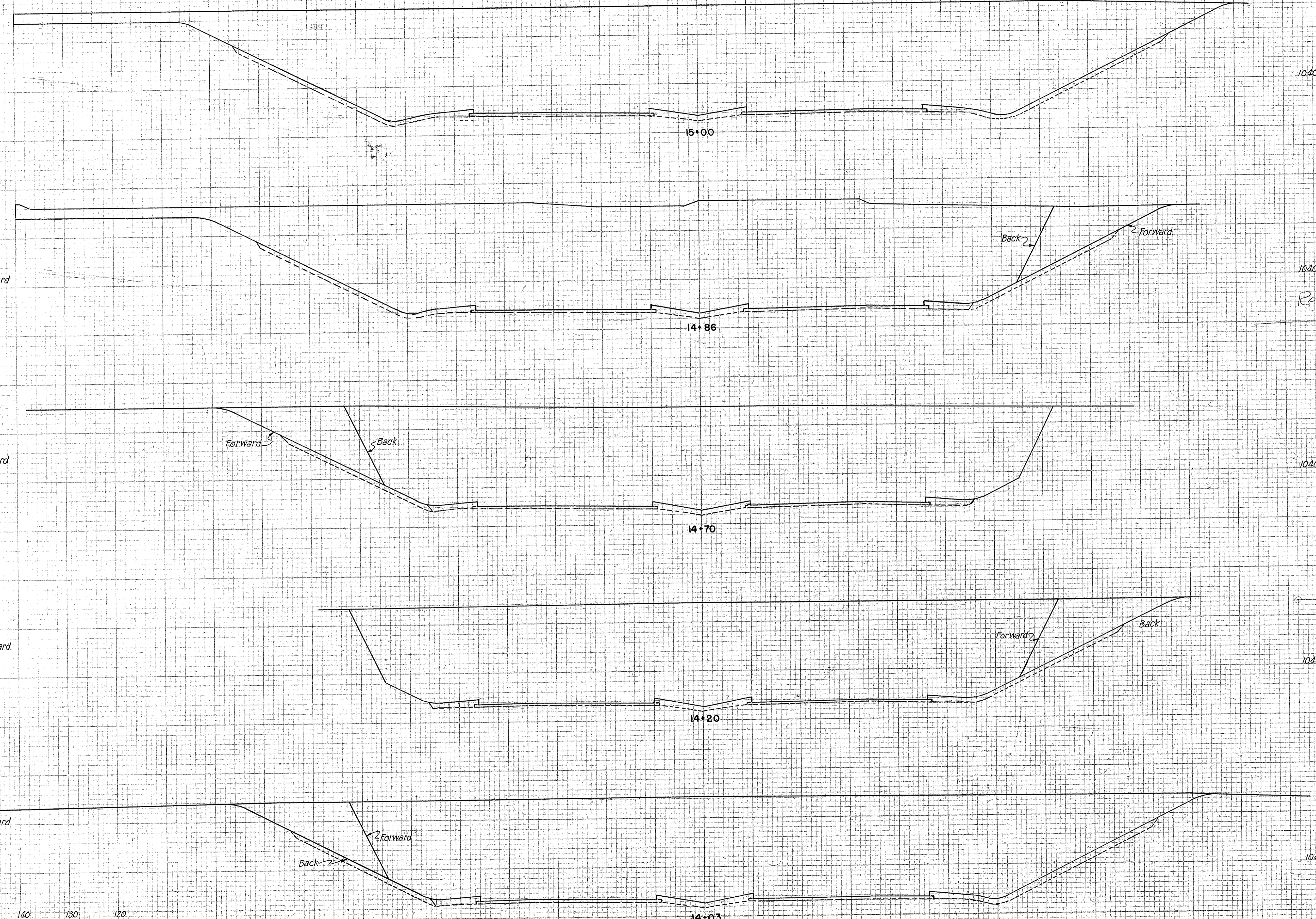
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY NEW YORK
 766 SHEET

FINAL SURVEY PLOTTED
 SURVEY NOTE BOOK AREAS CHECKED

ORIGINAL SURVEY PLOTTED
 SURVEY NOTE BOOK AREAS CHECKED



| SEEDING | |
|-------------------|------------------|
| Width Lin. Ft. | Area Sq. Yds. |
| 184 | |
| 276 | |
| 170 | Forward |
| 116 | Back |
| 183 | |
| 90 | Forward |
| 32 | Back |
| 172 | |
| 30 | Forward |
| 88 | Back |
| 172 | |
| 94 | Forward |
| 150 | Back |
| 949 | |



| VOLUME SS-5 MOD. | END AREA | | VOLUME | |
|---------------------|--------------|------|--------|------|
| | CUT | FILL | CUT | FILL |
| | 4004 | 140 | 1987 | 59 |
| 20 | Forward 3657 | 125 | | |
| | Back 3412 | 90 | | |
| 1040 | | | 1916 | 53 |
| | Forward 3043 | 90 | | |
| | Back 2792 | 65 | | |
| 70 | | | 5183 | 109 |
| | Forward 2805 | 53 | | |
| | Back 3028 | 91 | | |
| 24 | | | 1977 | 64 |
| | Forward 3248 | 113 | | |
| | Back 3438 | 133 | | |
| 75 | | | 7344 | 241 |

FINAL SURVEYED BY DATE
SURVEY PLANNED BY DATE
NOTE BOOK NO. DATE
TEMPLATE NO. DATE
AREAS CHECKED NO.

ORIGINAL SURVEYED BY DATE
SURVEY PLANNED BY DATE
NOTE BOOK NO. DATE
TEMPLATE NO. DATE
AREAS CHECKED NO.

SCALE 1"=10'
MADE D.S. DATE 10-7-50
TRCD D.W. DATE 10-12-50
CKD G.M. DATE 10-18-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

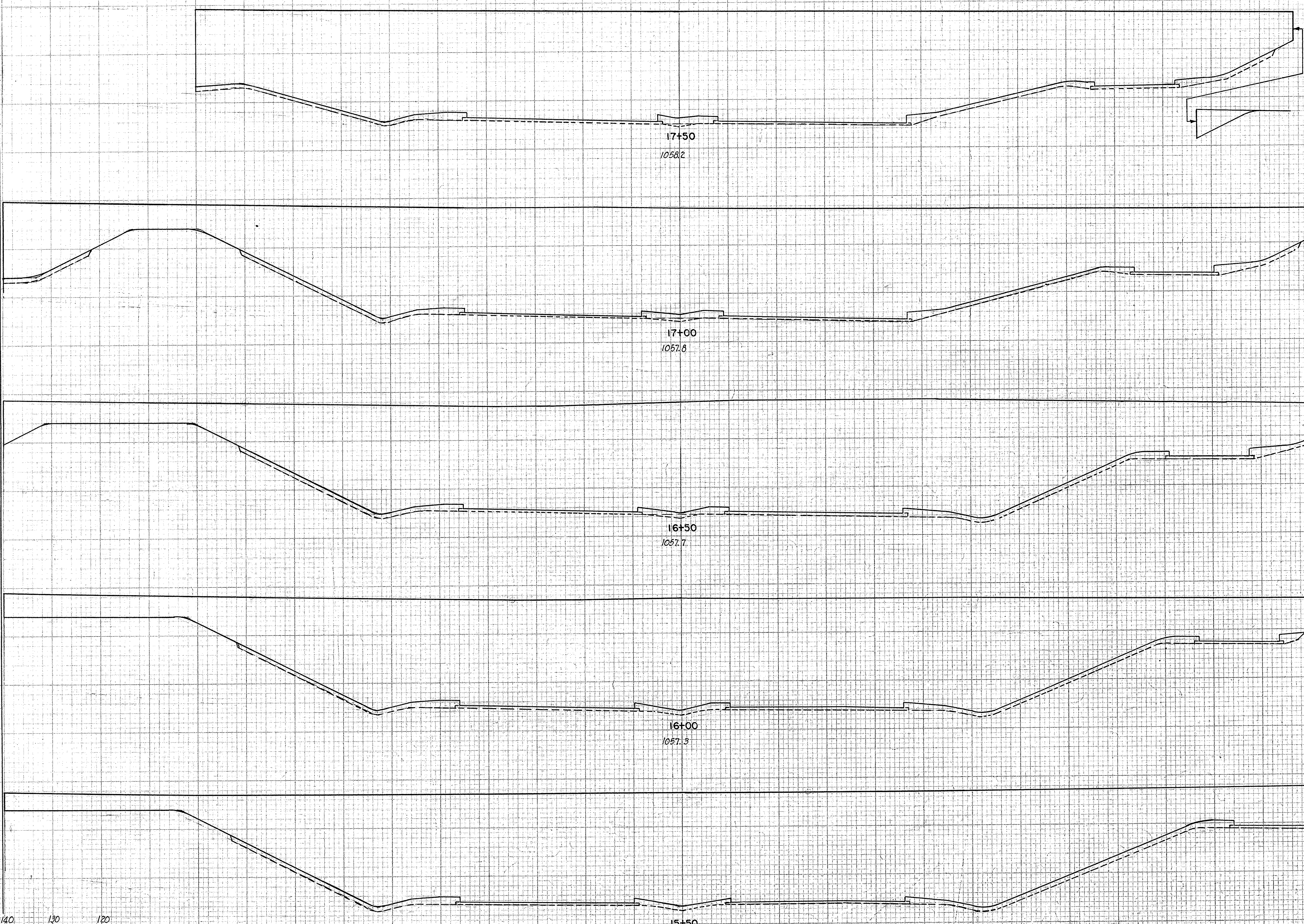
766 SHEET

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

| | | | | |
|--------------------|-------|--------------------|------------|------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 1974 |
| 2 | OHIO | U-687(7) | POST WAR | |

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

| SEEDING |
|---------------------------------|
| Width Area Lin. Ft. Sq. Yds. |
| 191 |
| 1087 |
| 200 |
| 1118 |
| 202 |
| 1129 |
| 204 |
| 1132 |
| 204 |
| 1078 |



| VOLUME SS-5 MOD. | END AREA | | VOLUME | |
|---------------------|----------|------|--------|------|
| | CUT | FILL | CUT | FILL |
| 4318 | 148 | | | |
| 92 | | | 8530 | 274 |
| 4891 | 148 | | | |
| 88 | | | 8890 | 274 |
| 4705 | 148 | | | |
| 87 | | | 8640 | 284 |
| 4625 | 159 | | | |
| 87 | | | 8610 | 295 |
| 4675 | 160 | | | |
| 87 | | | 8040 | 278 |

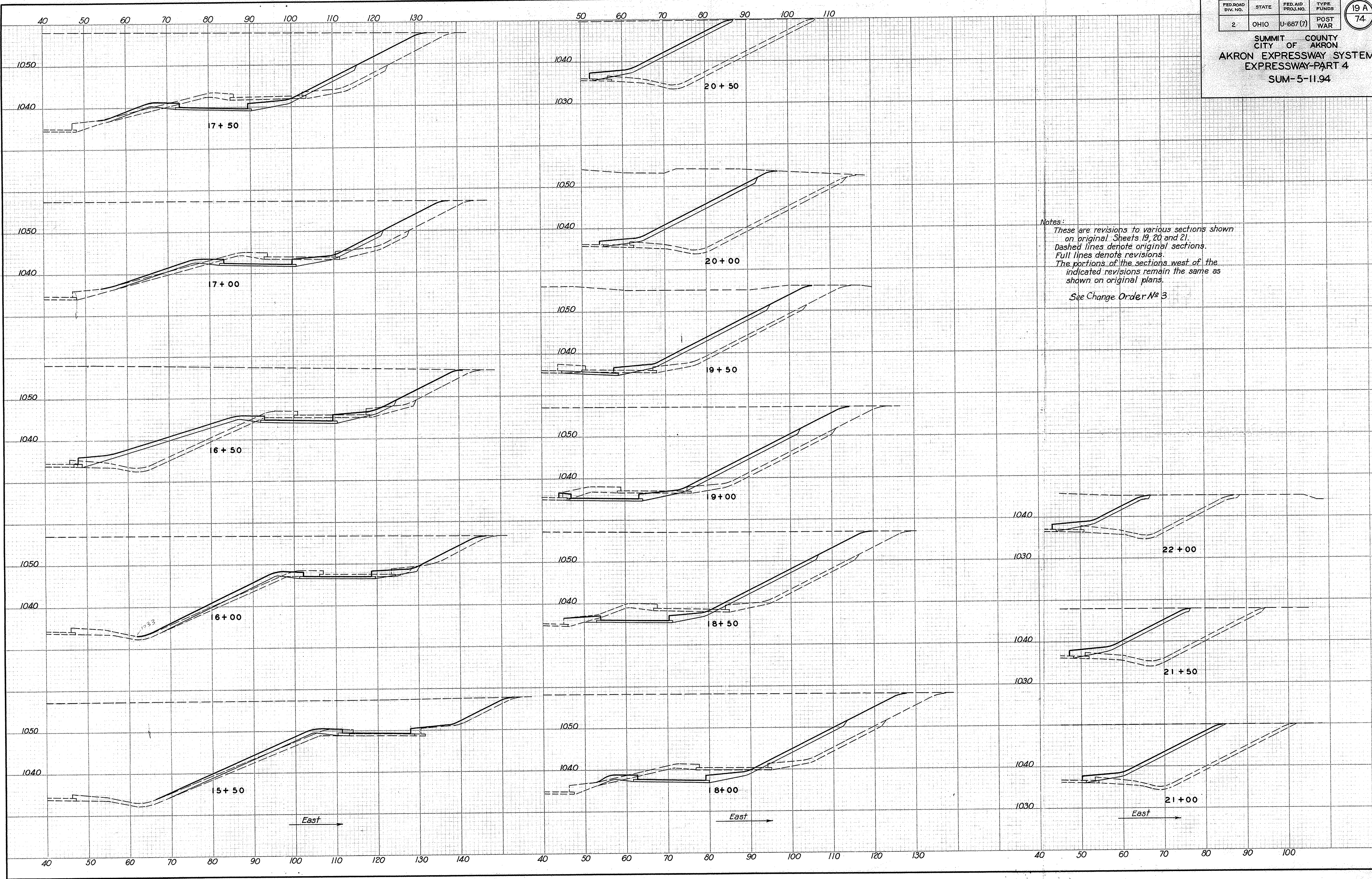
FINAL SURVEYED BY DATE
SURVEY FLUITS PLATE
NOTE BOOK NO. AREAS CHECKED

ORIGINAL SURVEYED BY DATE
SURVEY FLUITS PLATE
NOTE BOOK NO. AREAS CHECKED

SCALE 1" = 10'
MADE P.S. DATE 12-7-50 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
TRCD D.W.K. DATE 12-12-50 CONSULTING ENGINEERS
KANSAS CITY NEW YORK
CND B.M. DATE 12-18-50 766 SHEET

See Sheet 19A for revised cross sections

110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130
DATE 3- CROSS SECTION OF P.R.R. PRECISE
CHARLES BENTON CO., INC., NEW YORK
STA. 15+50 TO STA. 17+50



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

| | | | | |
|--------------------|-------|--------------------|------------|----|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 20 |
| 2 | OHIO | U-687(7) | POST WAR | 74 |

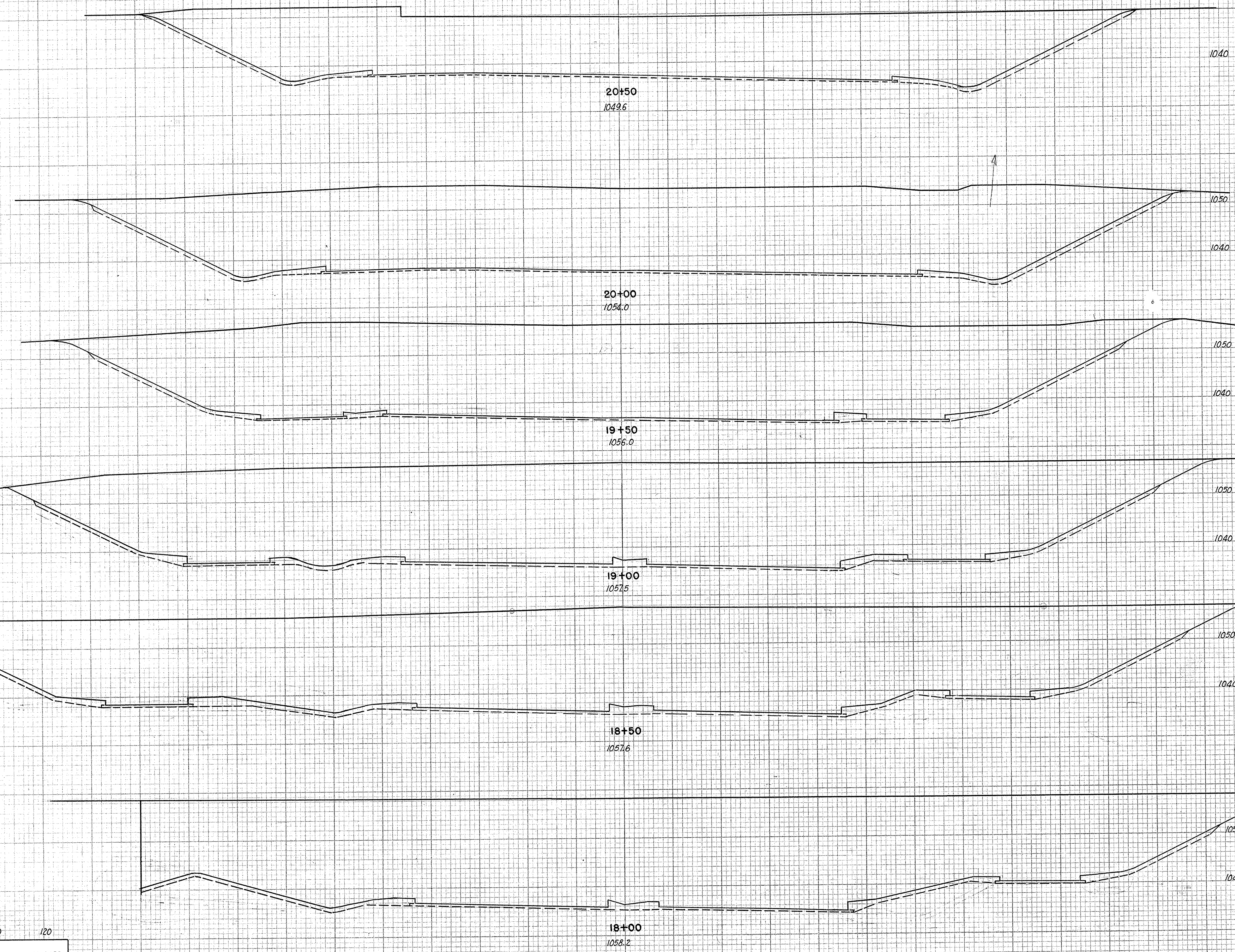
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

SEEDING

| Width Lin. Ft. | Area Sq. Yds. |
|-------------------|------------------|
| 114 | 664 |
| 125 | 700 |
| 127 | 805 |
| 163 | 1008 |
| 200 | 960 |
| 146 | 936 |

FINAL SURVEYED BY DATE
SURVEY PLOTTED BY DATE
NOTE BOOK NO. PLATE NO.
AREAS CHECKED

ORIGINAL SURVEYED BY DATE
SURVEY PLOTTED BY DATE
NOTE BOOK NO. PLATE NO.
AREAS CHECKED



| VOLUME SS-5 MOD | END AREA | | VOLUME | |
|--------------------|----------|------|--------|------|
| | CUT | FILL | CUT | FILL |
| | 2425 | 116 | | |
| 108 | | | 5504 | 217 |
| | 3519 | 118 | | |
| 119 | | | 6759 | 220 |
| | 3780 | 109 | | |
| 121 | | | 7716 | 235 |
| | 4553 | 145 | | |
| 119 | | | 9003 | 313 |
| | 4825 | 193 | | |
| 110 | | | 8680 | 309 |
| | 4562 | 144 | | |
| 97 | | | 8222 | 268 |

SCALE 1"=10'
MADE D.S. DATE 10-7-50
TRCD D.W.K. DATE 10-12-50
CND G.M. DATE 10-18-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
766 SHEET

270 260 250 240 230 220 210 200 190 180 170 160 150 140

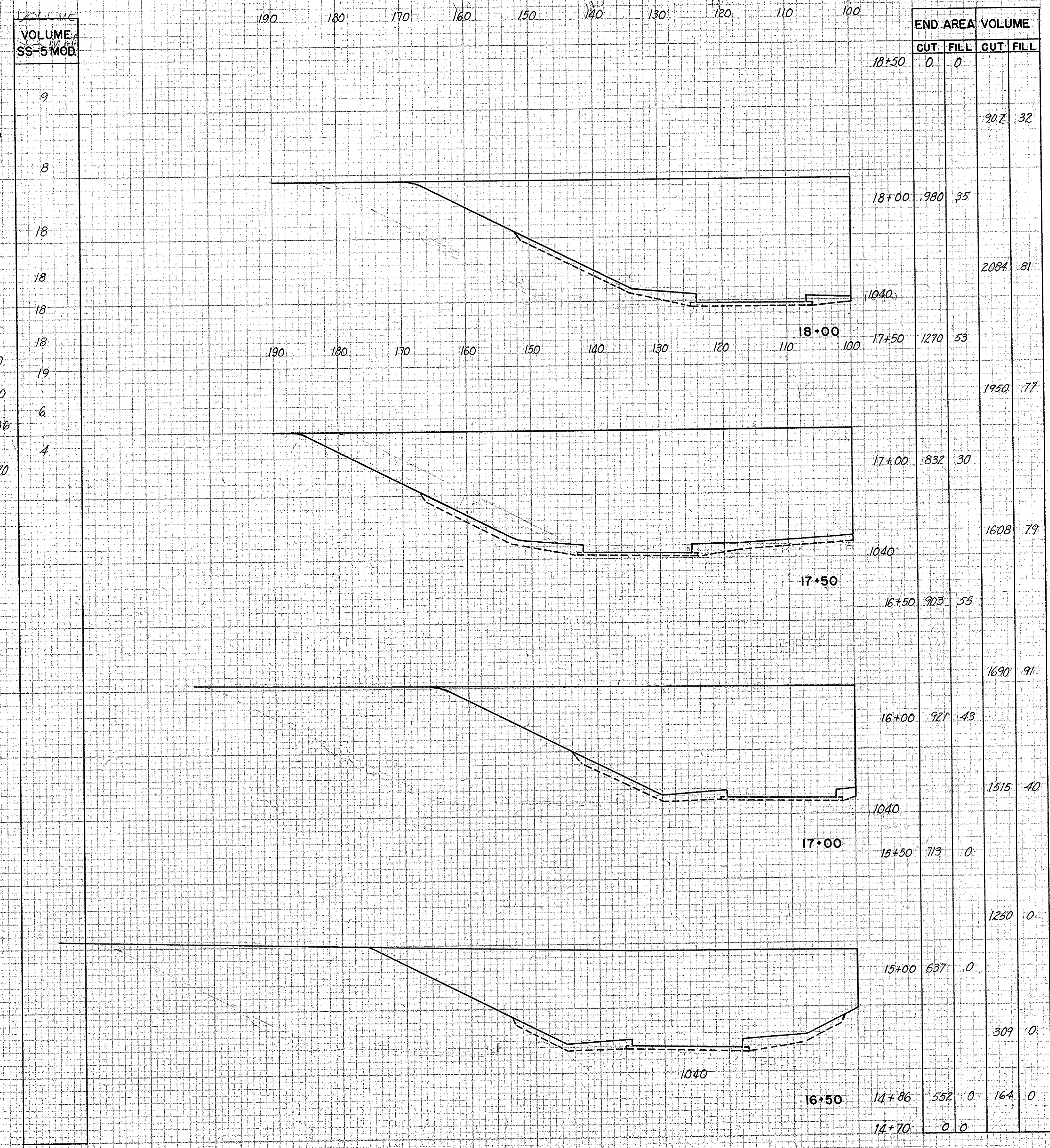
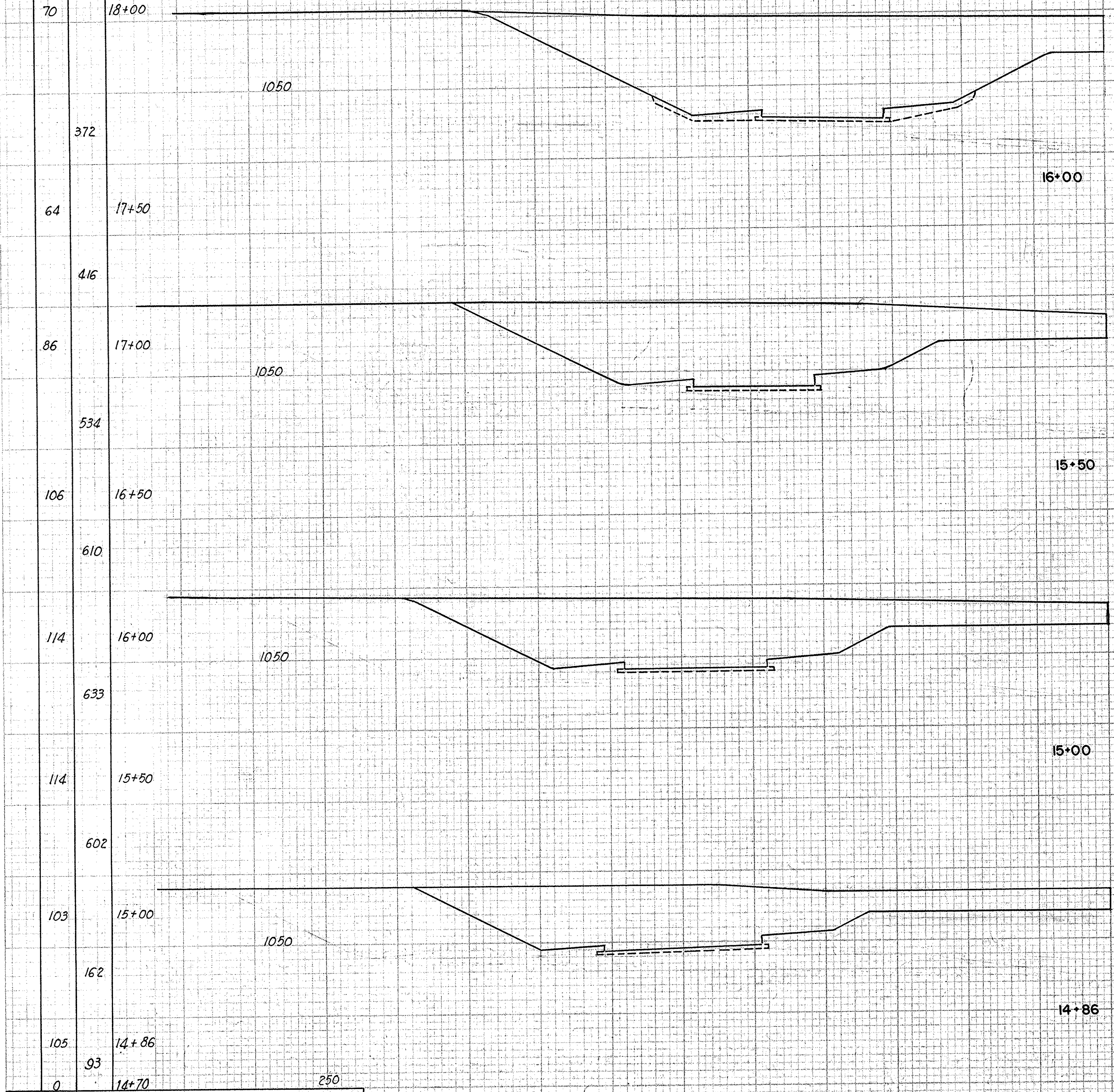
| | | | | |
|--------------------|-------|--------------------|------------|----|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 21 |
| 2 | OHIO | U-687(7) | POST WAR | 74 |

SUMMIT COUNTY CITY OF AKRON EXPRESSWAY SYSTEM EXPRESSWAY-PART 4 SUM-5-11.94

DATE: _____
BY: _____
FINAL SURVEY PLOTTED NOTE BOOK AREAS CHECKED

DATE: _____
BY: _____
ORIGINAL SURVEY PLOTTED NOTE BOOK AREAS CHECKED

| SEEDING | |
|----------------|---------------|
| Width Lin. Ft. | Area Sq. Yds. |
| 0 | 0 |
| 194 | |
| 70 | 18+00 |
| 372 | |
| 64 | 17+50 |
| 416 | |
| 86 | 17+00 |
| 534 | |
| 106 | 16+50 |
| 610 | |
| 114 | 16+00 |
| 633 | |
| 114 | 15+50 |
| 602 | |
| 103 | 15+00 |
| 162 | |
| 105 | 14+86 |
| 93 | |
| 0 | 14+70 |



SCALE 1" = 10'
MADE P.S. DATE 10-9-50
TRCD DWG. DATE 10-13-50
GRD S.M. DATE 10-19-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

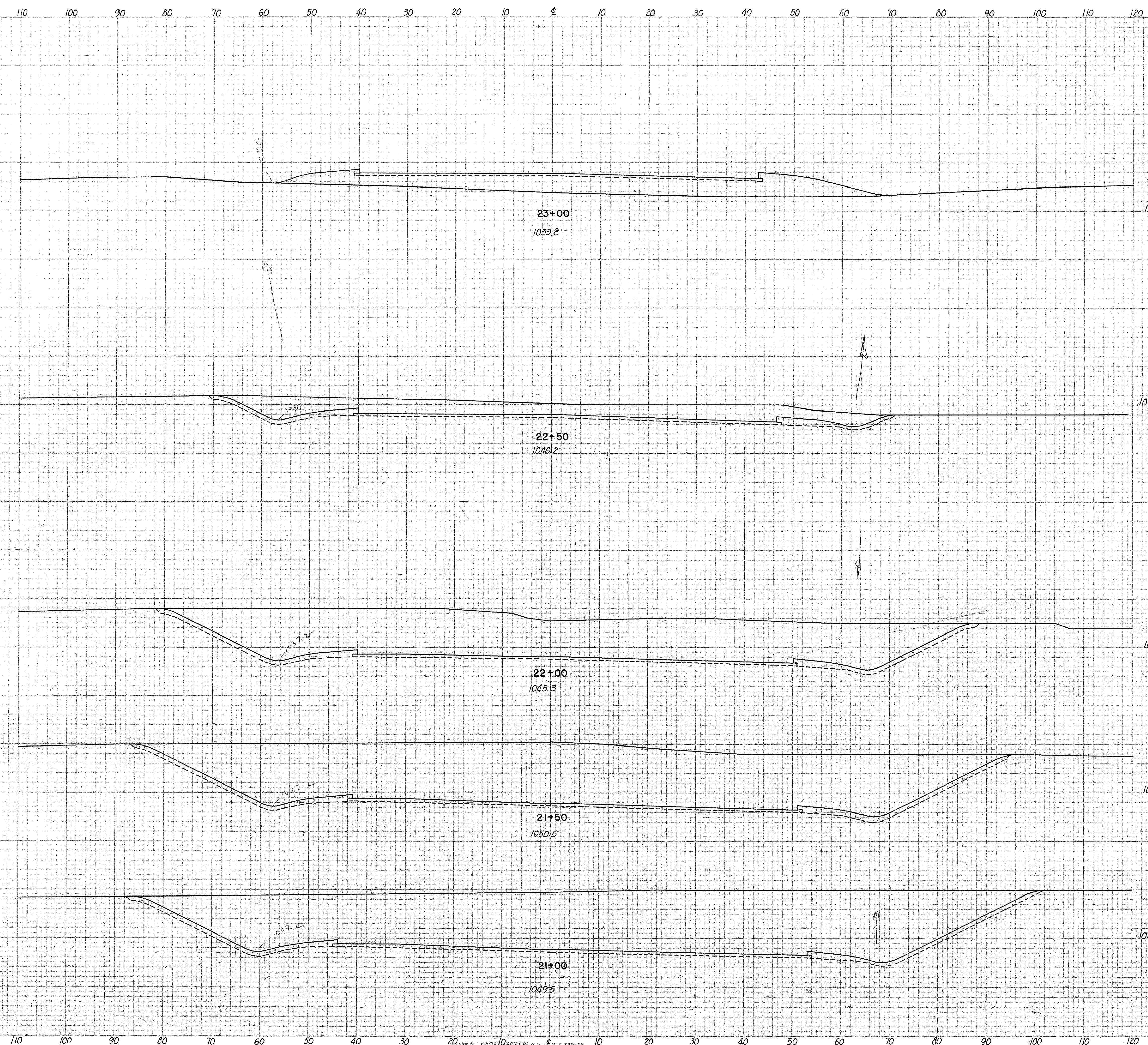
766 SHEET

| END AREA | VOLUME | | | |
|----------|--------|---------|-----|---|
| | CUT | FILL | | |
| 18+50 | 0 | 0 | | |
| | | 902.32 | | |
| 18+00 | .980 | .35 | | |
| | | 2084.81 | | |
| 18+00 | 17+50 | 1270 | 53 | |
| | | 1950.77 | | |
| 17+00 | 832 | 30 | | |
| | | 1608.79 | | |
| 16+50 | 903 | 55 | | |
| | | 1690.91 | | |
| 16+00 | 927 | 43 | | |
| | | 1515.40 | | |
| 15+50 | 713 | 0 | | |
| | | 1250.00 | | |
| 15+00 | 637 | 0 | | |
| | | 309.00 | | |
| 14+86 | 532 | 0 | 164 | 0 |
| 14+70 | 0 | 0 | | |

| | | | |
|--------------------|-------|--------------------|------------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS |
| 2 | OHIO | U-687(7) | POST WAR |

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

| SEEDING | |
|-------------------|------------------|
| Width Lin. Ft. | Area Sq. Yds. |
| 55 | |
| 336 | |
| 66 | |
| 445 | |
| 94 | |
| 553 | |
| 105 | |
| 591 | |
| 108 | |
| 618 | |



| VOLUME SS-5 MOD. | END AREA | | VOLUME | |
|---------------------|----------|------|--------|------|
| | CUT | FILL | CUT | FILL |
| | | 375 | | |
| 39 | | | 0 | 174 |
| +75 | 0 | 0 | | |
| 41 | | | 215 | 30 |
| | 464 | 64 | | |
| 83 | | | 1754 | 143 |
| | 1430 | 90 | | |
| 86 | | | 3150 | 174 |
| | 1972 | 98 | | |
| 90 | | | 3754 | 190 |
| | 2082 | 107 | | |
| 97 | | | 4173 | 206 |

BY: _____ DATE: _____
 ORIGINAL SURVEYED _____
 SURVEY PLOTTED _____
 NOTE BOOK _____
 AREAS _____
 NO. _____ AREAS CHECKED _____

BY: _____ DATE: _____
 ORIGINAL SURVEYED _____
 SURVEY PLOTTED _____
 NOTE BOOK _____
 AREAS _____
 NO. _____ AREAS CHECKED _____

SCALE 1"=10'
 MADE D.S. DATE 10.9.50
 TRCD D.W.K. DATE 10.13.50
 CKD G.M. DATE 10.19.50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY NEW YORK
 766 SHEET

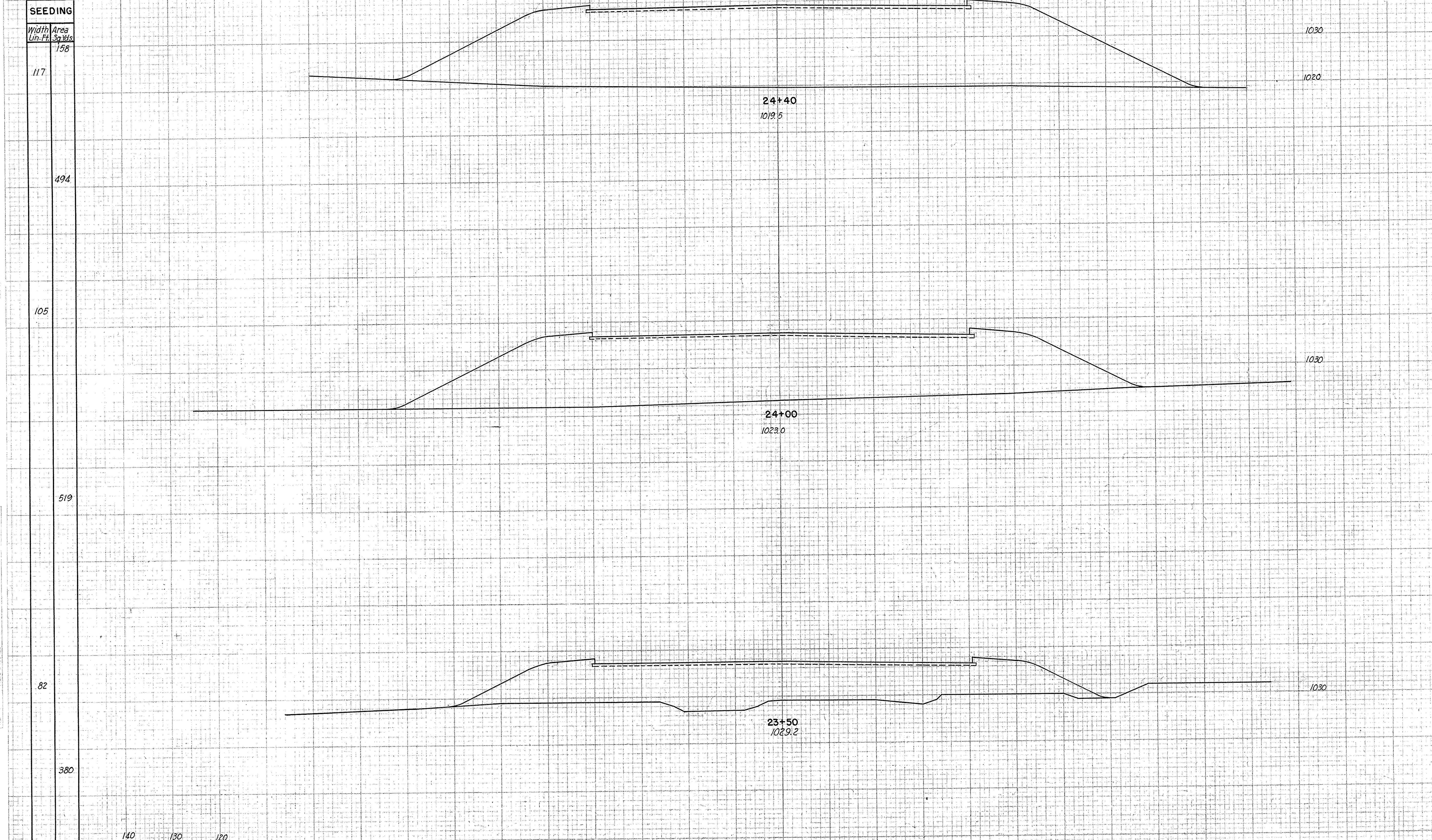
FILL 0 AT STA. 24+64.25

| SEEDING | |
|-------------------|------------------|
| Width Lin. Ft. | Area Sq. Yds. |
| 117 | 156 |
| 494 | |
| 105 | |
| 519 | |
| 82 | |
| 380 | |

FINAL SURVEYED
SURVEY PLOTTED
NOTE BOOK TEMPLATE
AREAS CHECKED

ORIGINAL SURVEYED
SURVEY PLOTTED
NOTE BOOK TEMPLATE
AREAS CHECKED

| VOLUME SS-5 MOD. | END AREA | | VOLUME | |
|---------------------|----------|------|--------|------|
| | CUT | FILL | CUT | FILL |
| 37 | | 0 | | 1017 |
| 61 | | 2348 | | 3068 |
| 76 | | 1874 | | 2608 |
| 77 | | 1026 | | 1259 |



SCALE 1"=10'
MADE D.S. DATE 10-2-50
TRCD. D.W.K. DATE 10-13-50
CKD B.M. DATE 10-19-50

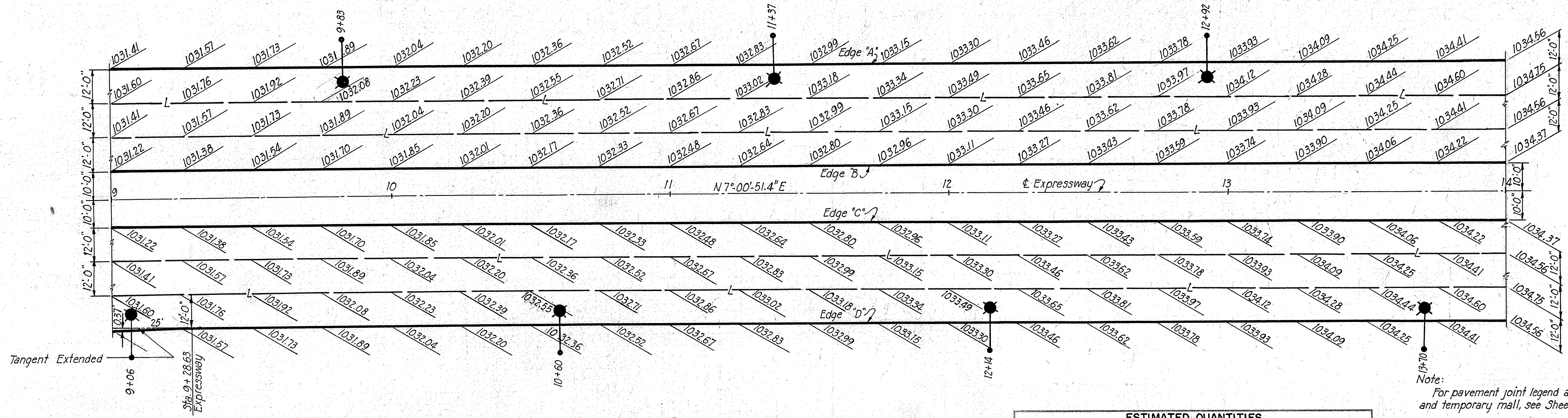
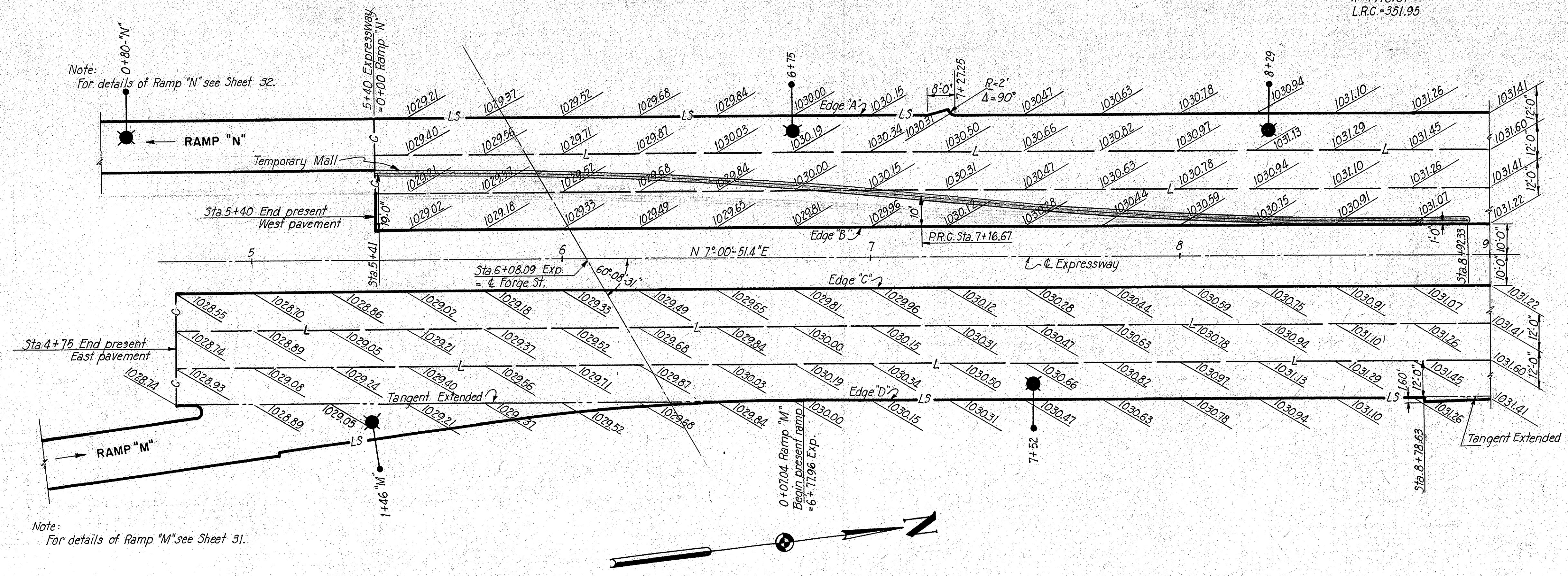
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CONSULTING ENGINEERS
KANSAS CITY NEW YORK

766 SHEET

SUMMIT COUNTY CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

PAVEMENT DETAILS

± MALL CURVE DATA
 D = 3°20'-00"
 Δ = 5°51'-57"
 R = 1718.87
 L.R.C. = 351.95



| ESTIMATED QUANTITIES | |
|---|---------------|
| Reinforced Portland Cement Concrete Base Course | 7144 Sq. Yds. |
| Asphaltic Concrete Surface Course | 6696 Sq. Yds. |
| White Portland Cement Concrete Mall | 99 Sq. Yds. |

SUMMIT COUNTY CITY OF AKRON EXPRESSWAY SYSTEM EXPRESSWAY-PART 4 SUM-5-11.94 PAVEMENT DETAILS

Note: Back of the "Begin Stationing" points and forward of the common P.T. at Sta. 23+53.03 & the elevations shown for Edges "A", "B", "C" and "D" are given each 25' on & Stationing.

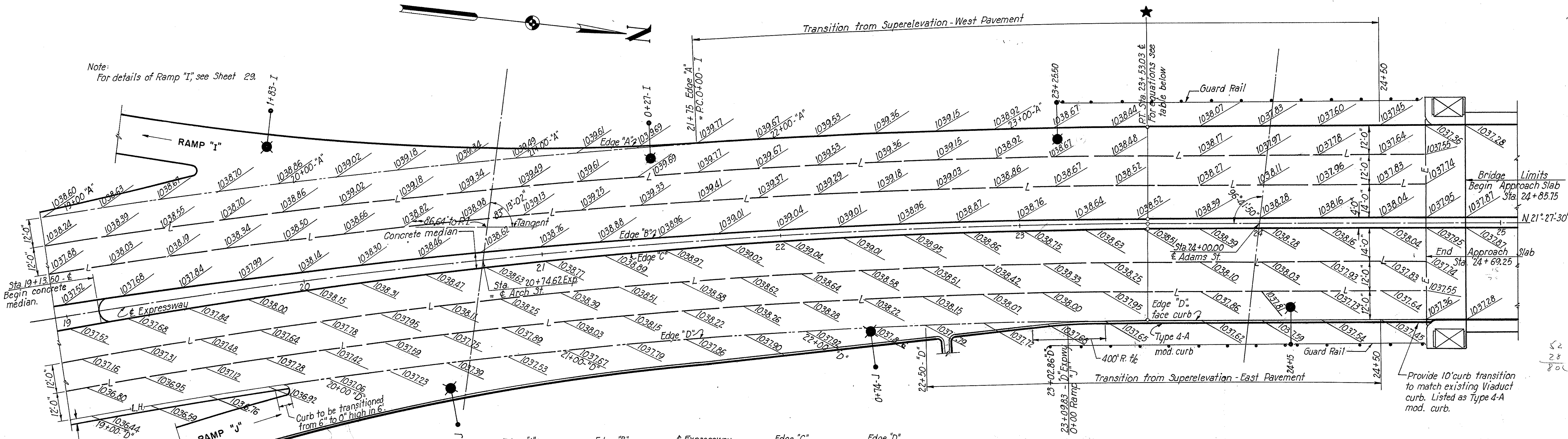
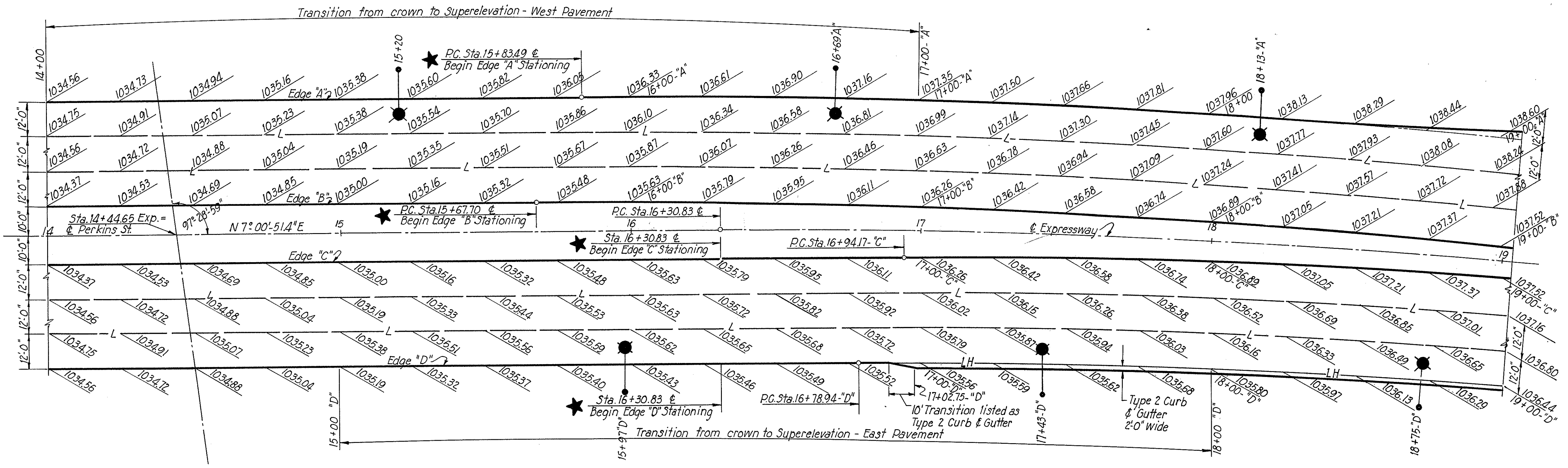
Forward of the "Begin Stationing" points and back of the common P.T. at Sta. 23+53.03 & the elevations shown for Edges "A", "B", "C" and "D" are given each 25' on the corresponding Edge Stationing. Also between these limits the elevations shown on the longitudinal pavement joints for the West and East pavements are given on radial lines of Edges "A" and "D" respectively.

For dimensions of variable width median and pavement and for longitudinal pavement joints not shown, see Typical Sections.

For details of guard rail, lighting, concrete median and pavement joint legend, see Sheet 38.

For details of Approach Slab, see Sheet 26.

For details of Type 2 curb and gutter, see Standard Drawings.

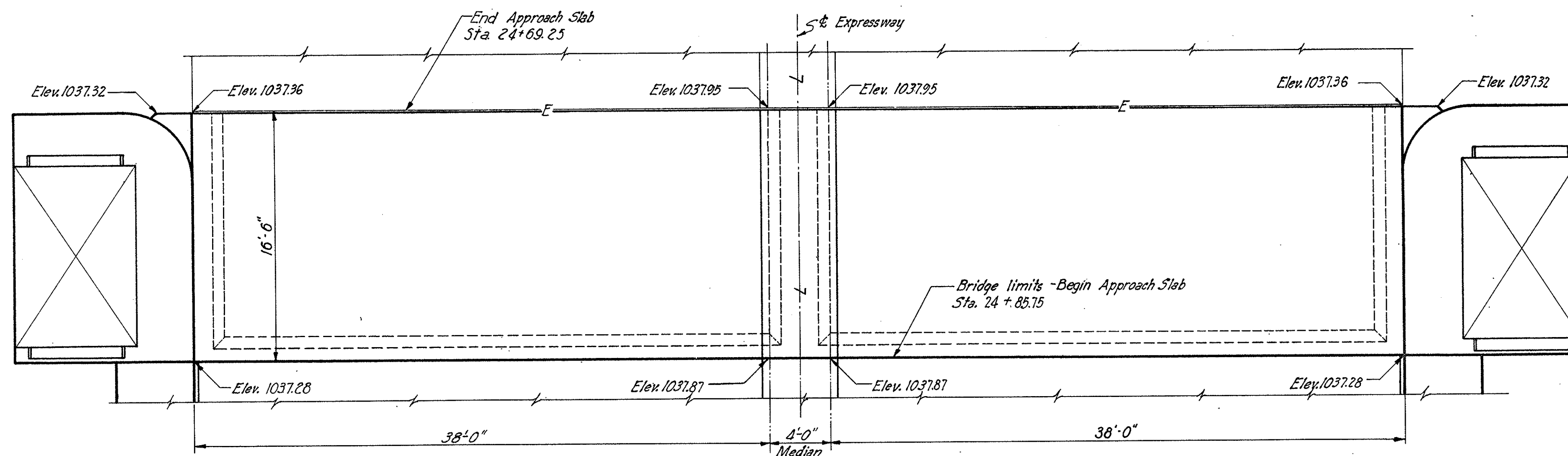


| Edge "A" | Edge "B" | Expressway | Edge "C" | Edge "D" |
|------------------|------------------|------------------|------------------|------------------|
| D=1°51'-05.4" | D=1°50'-11.3" | D=2°00'-00" | D=2°11'-43.8" | D=2°10'-28" |
| Δ=14°26'-38.6"Rt | Δ=14°26'-38.6"Rt | Δ=14°26'-38.6"Rt | Δ=14°26'-38.6"Rt | Δ=14°26'-38.6"Rt |
| P=3094.54' | P=2864.79' | P=2864.79' | P=2609.69' | P=2635.02' |
| T=392.14' | T=395.35' | T=363.03' | T=330.70' | T=333.91' |
| L=780.12' | L=786.51' | L=722.20' | L=657.89' | L=664.28' |
| | | E=22.91' | | |

| ESTIMATED QUANTITIES | |
|---|---------------|
| Reinforced Portland Cement Concrete Base Course | 9175 Sq. Yds. |
| Asphaltic Concrete Surface Course | 8761 Sq. Yds. |
| White Portland Cement Concrete Median | 406 Sq. Yds. |
| Type 2 Concrete Curb and Gutter (2'-0" wide) | 266 Lin. Ft. |
| Type 4-A Modified Curb | 150 Lin. Ft. |
| Guard Rail | 300 Lin. Ft. |
| Reinforced Concrete Approach Slab | 147 Sq. Yds. |

| STATION EQUATIONS | | |
|-------------------|-----------|----------|
| EDGE | EDGE STA. | ± STA. |
| "A" | 23+6361 | 23+53.03 |
| "B" | 23+5421 | 23+53.03 |
| "C" | 23+5206 | 23+53.03 |
| "D" | 23+4322 | 23+53.03 |

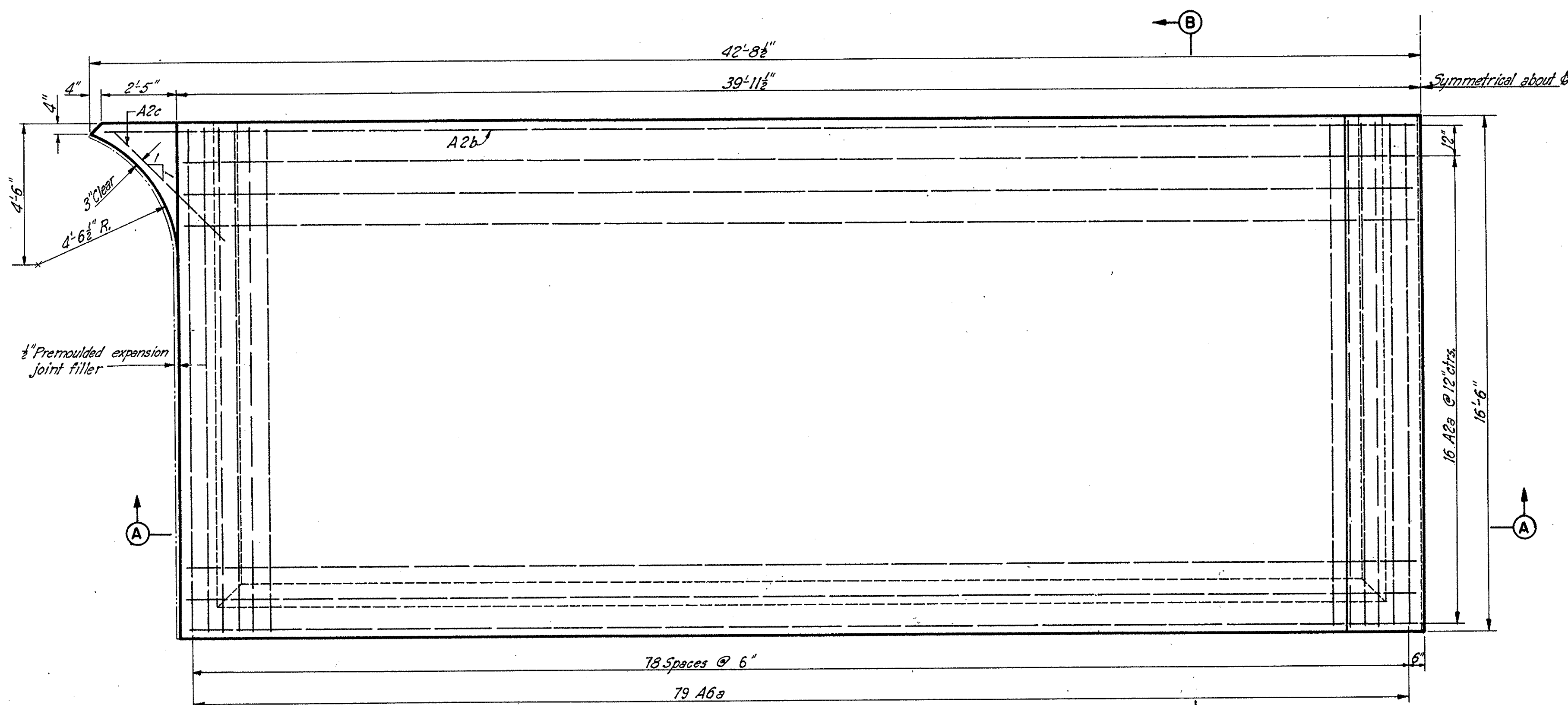
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
VIADUCT APPROACH SLAB



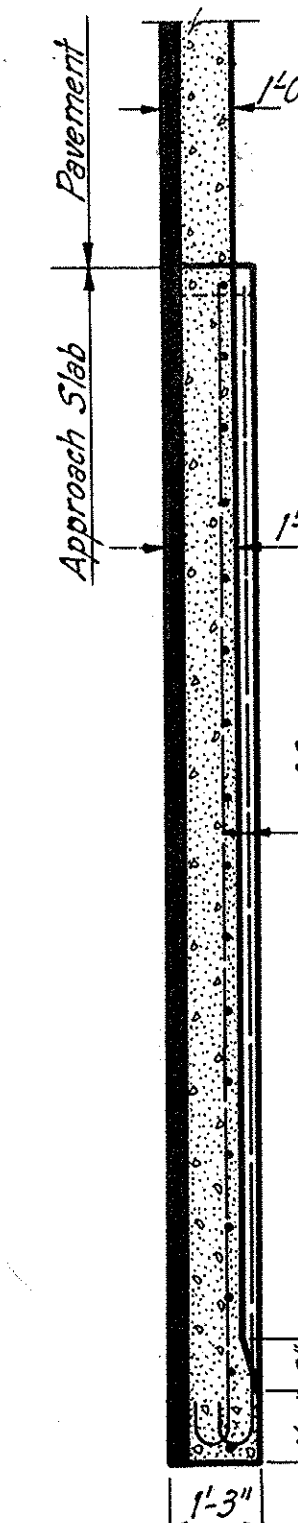
GENERAL PLAN
Scale: $\frac{1}{8}'' = 1'-0''$

| ESTIMATED QUANTITIES | | |
|--|----------|-------|
| Description | Unit | Total |
| Asphaltic concrete surface course | Sq. Yds. | 136 |
| Reinforced portland cement concrete median | Sq. Yds. | 92 |
| Reinforced concrete Approach Slab | Sq. Yds. | 147 |

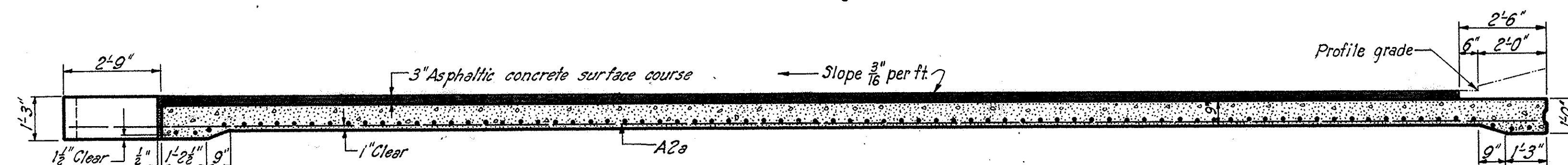
| STEEL LIST | | | | | | |
|------------|-----------------|----------|-----------|-----------|---------|--------|
| Mark | Size | Shape | Spacing | No. Req'd | Length | Weight |
| A2a | $\frac{1}{4}''$ | Straight | 12" ctrs. | 32 | 39'-6" | 84.4 |
| A2b | $\frac{1}{2}''$ | Straight | As shown | 2 | 42'-2" | 56 |
| A2c | $\frac{1}{2}''$ | Straight | As shown | 2 | 5'-0" | 7 |
| A6a | $\frac{3}{8}''$ | C | As shown | 158 | 16'-10" | 54.36 |
| Total | | | | | | 634.3 |



HALF PLAN
Scale: $\frac{3}{8}'' = 1'-0''$



SECTION B-B
Scale: $\frac{3}{8}'' = 1'-0''$

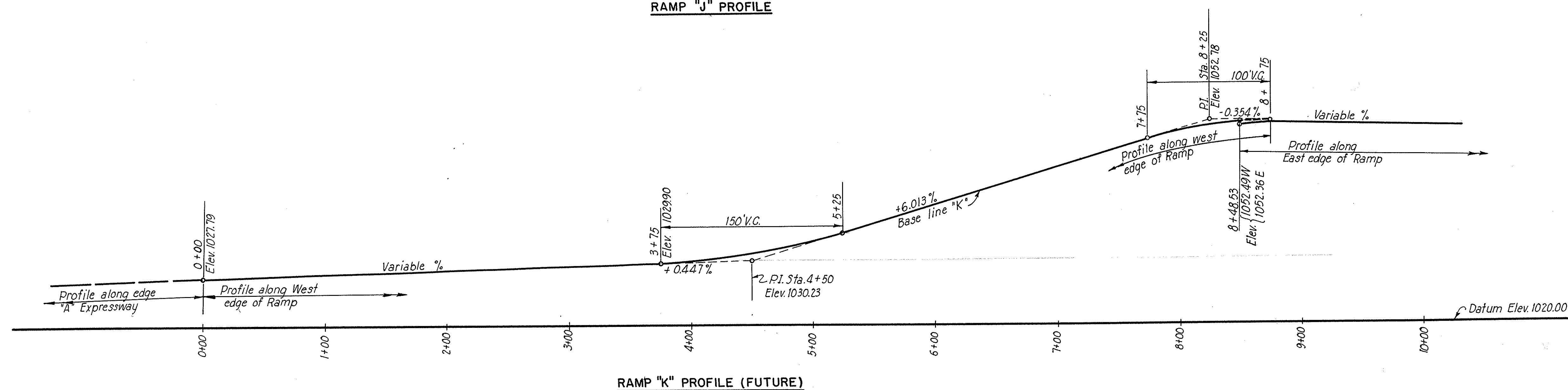
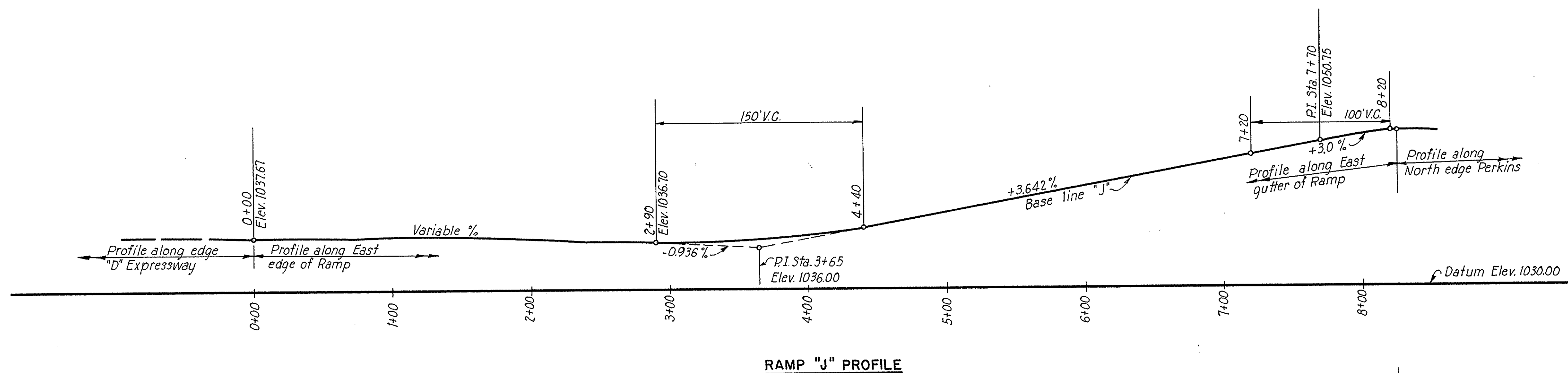
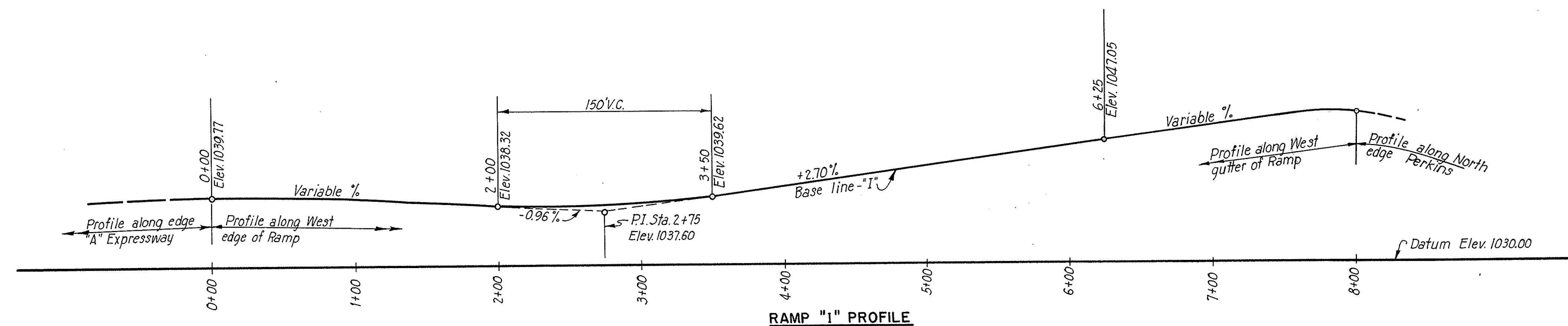


SECTION A-A
Scale: $\frac{3}{8}'' = 1'-0''$

Notes:
Pavement joint dowel bars not shown. For pavement joint legend, see Sheet 30.
Concrete median not shown. For median details see Sheet 30.
Premoulded expansion joint filler, concrete median and reinforcing steel shall be included with the Approach Slab for payment.

| | | | | |
|------------------|-------|------------------|------------|----|
| FED ROAD DIV NO. | STATE | FED AID PROJ NO. | TYPE FUNDS | 27 |
| 2 | OHIO | U-687(7) | POST WAR | 74 |

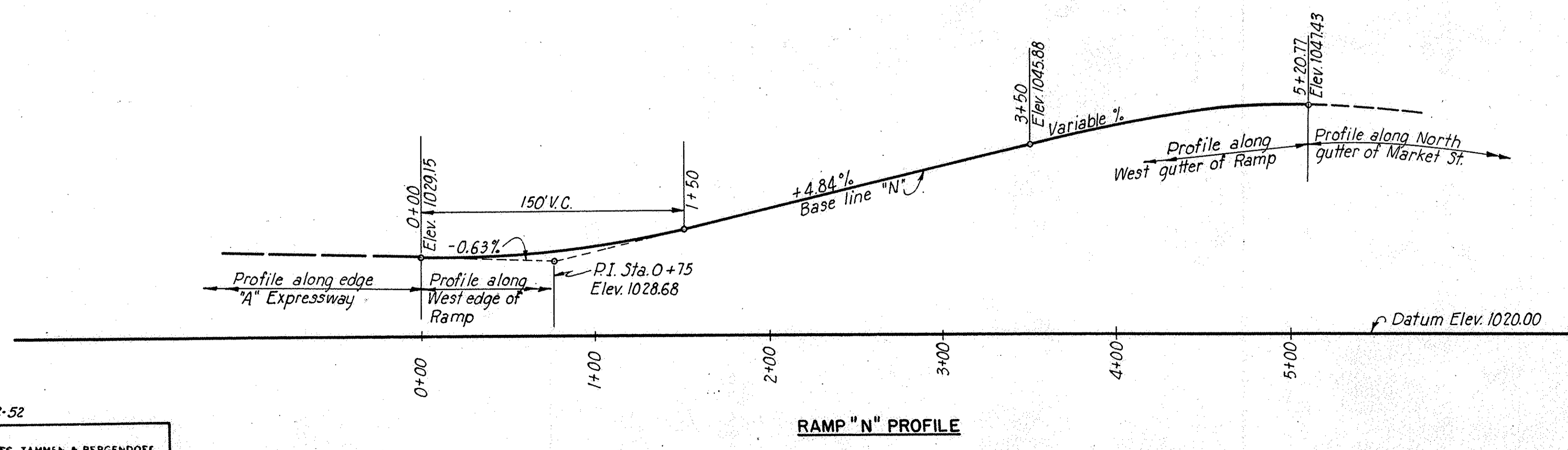
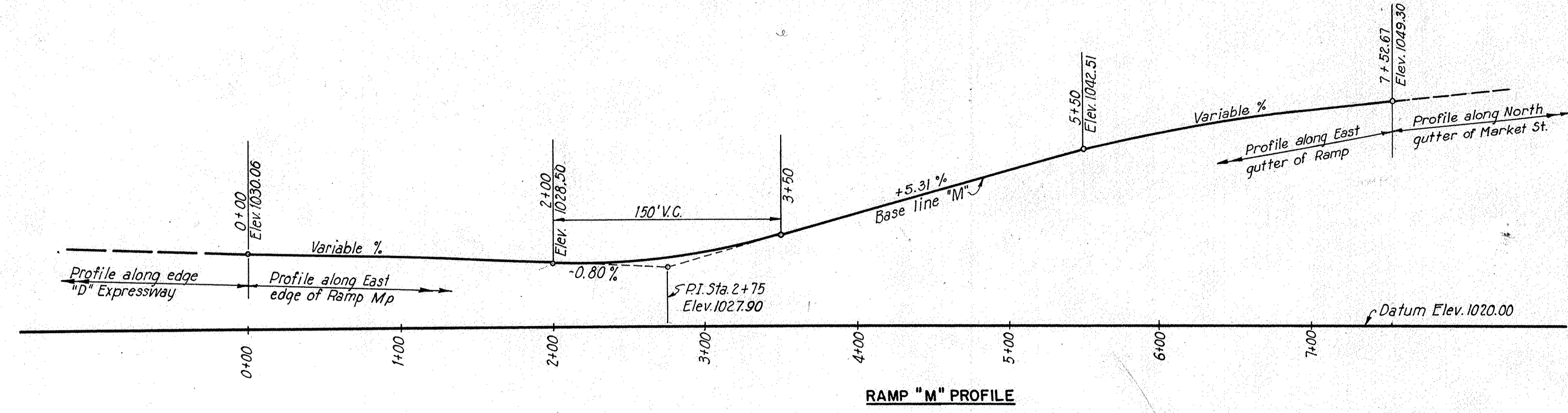
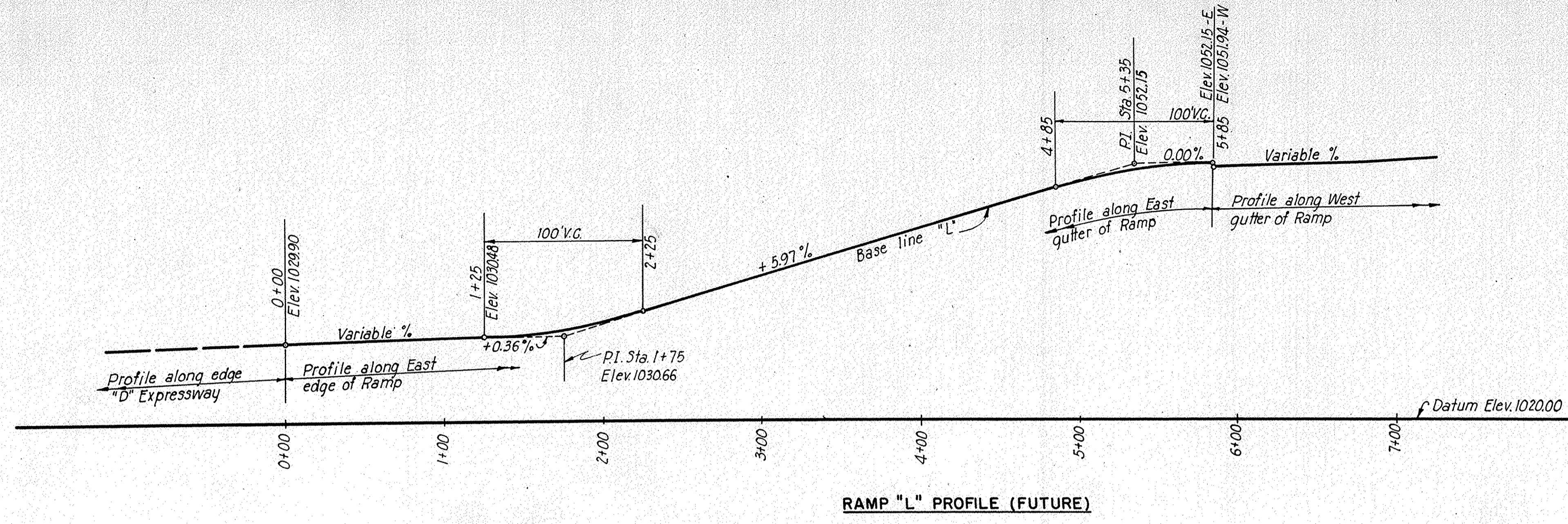
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
RAMP PROFILES



See Suppl. Sheet 30A

| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 28 |
|--------------------|-------|--------------------|------------|----|
| 2 | OHIO | U-687(7) | POST WAR | 74 |

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
RAMP PROFILES



**RAMP "M" PROFILE
REVISED 3-12-52**

Ramp "M" Profile revised 3-12-52

SCALE: Hor. 1" = 50' Vert. 1" = 10'

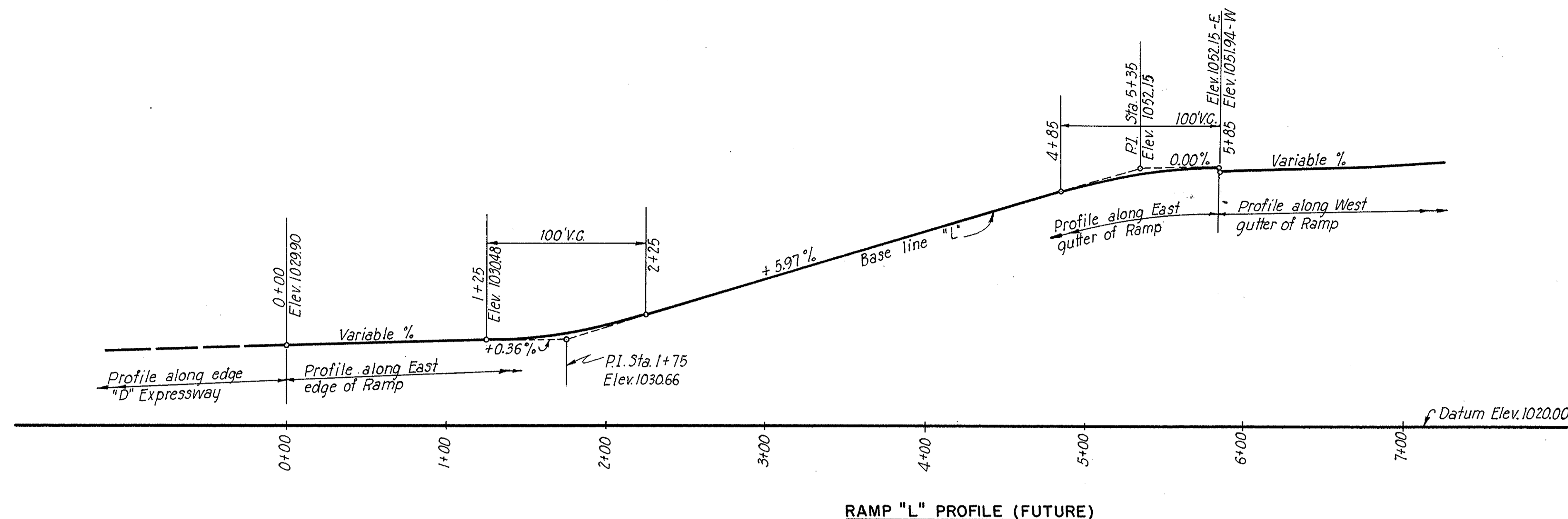
MADE D.G.S. DATE 2-26-50
TRCD R.R. DATE 2-26-50
CND. G.M. DATE 2-27-50

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CONSULTING ENGINEERS
KANSAS CITY NEW YORK

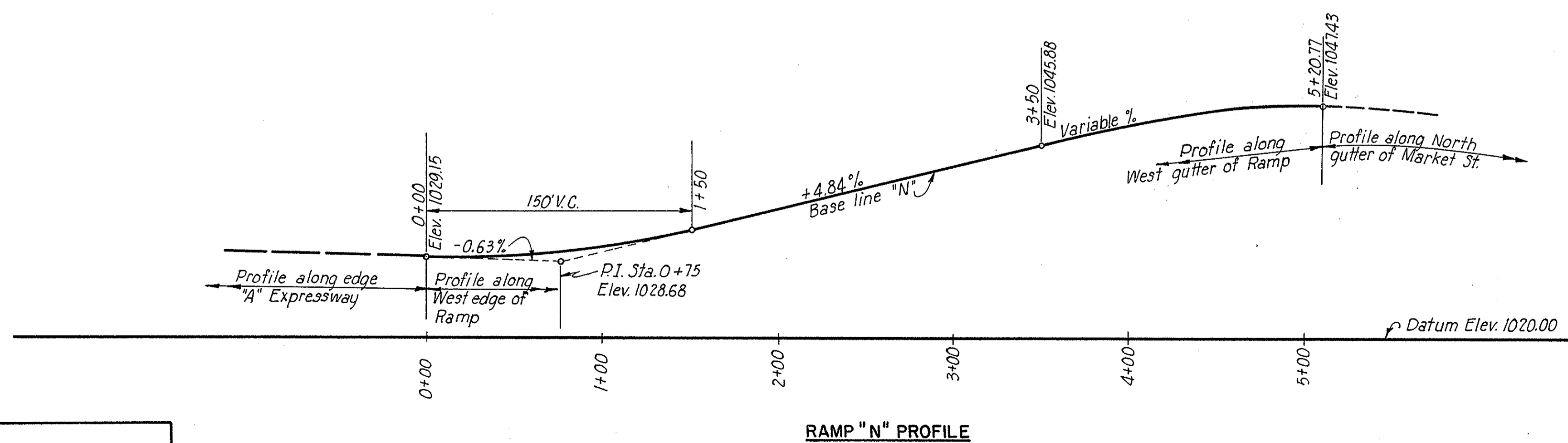
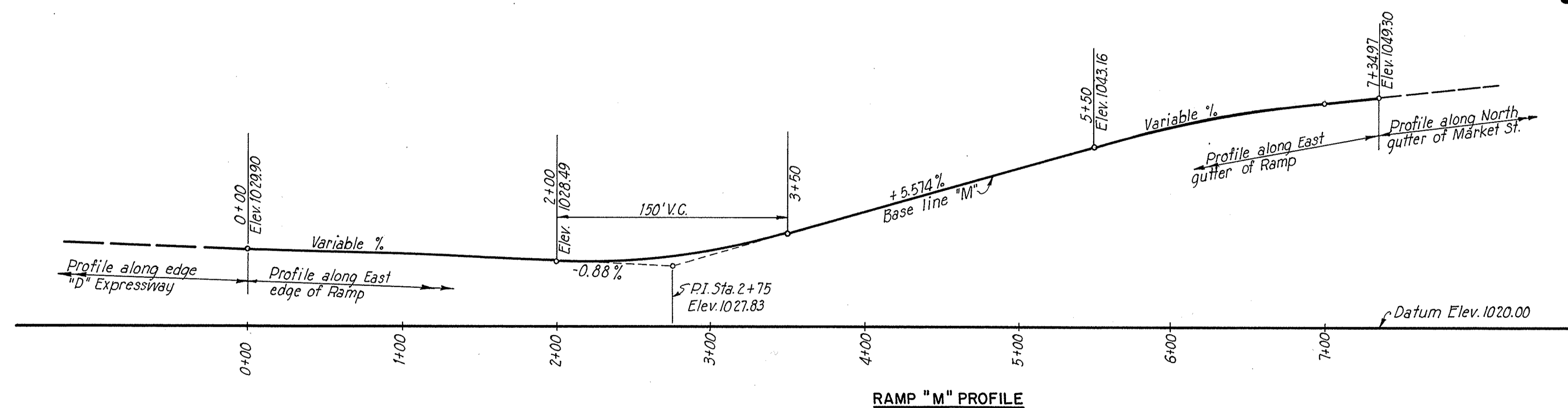
766 SHEET

| | | | | |
|--------------------|-------|--------------------|------------|----|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 28 |
| 2 | OHIO | U-687(7) | POST WAR | 74 |

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
RAMP PROFILES



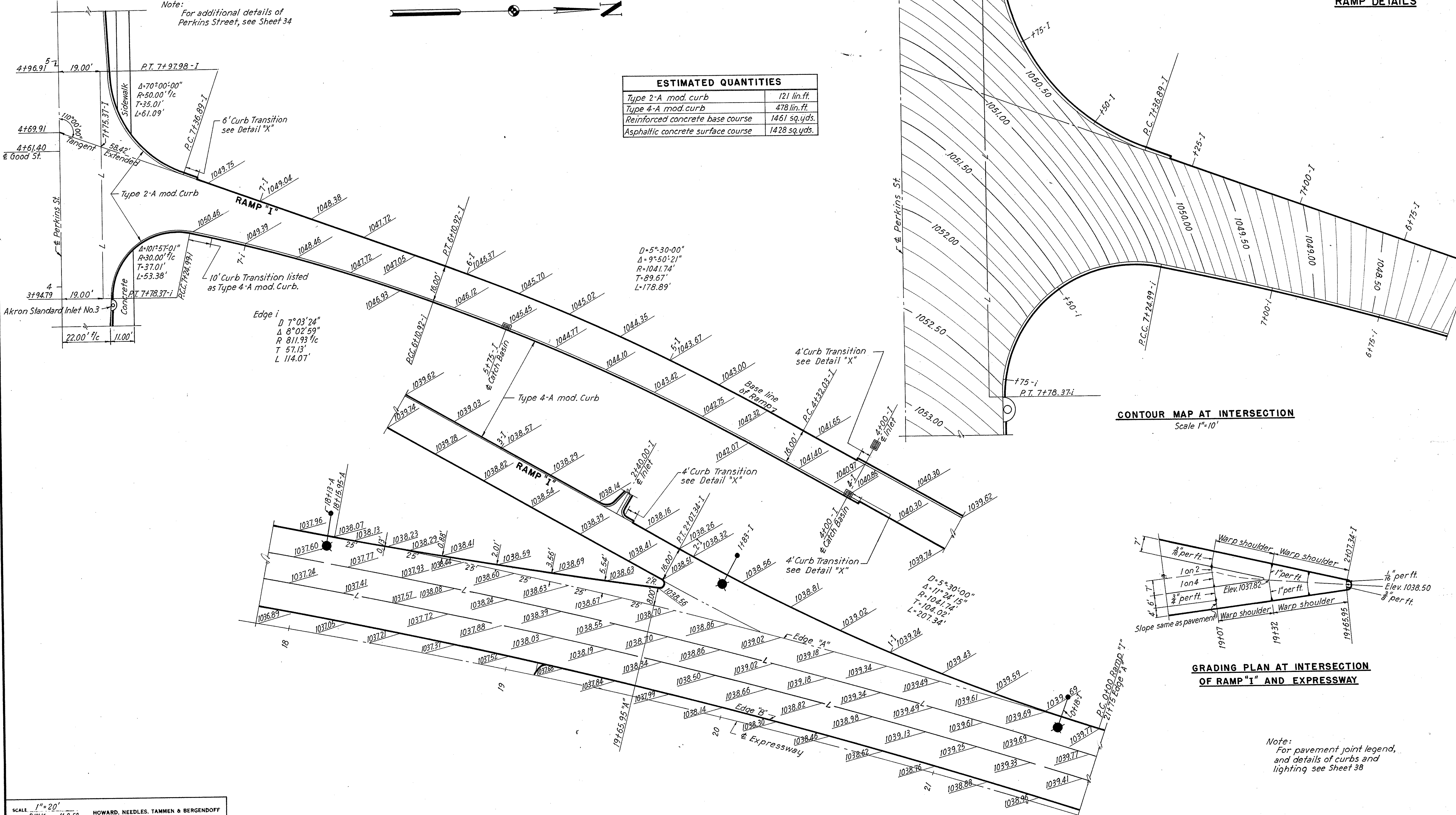
VOID
SEE REVISED SHEET 28



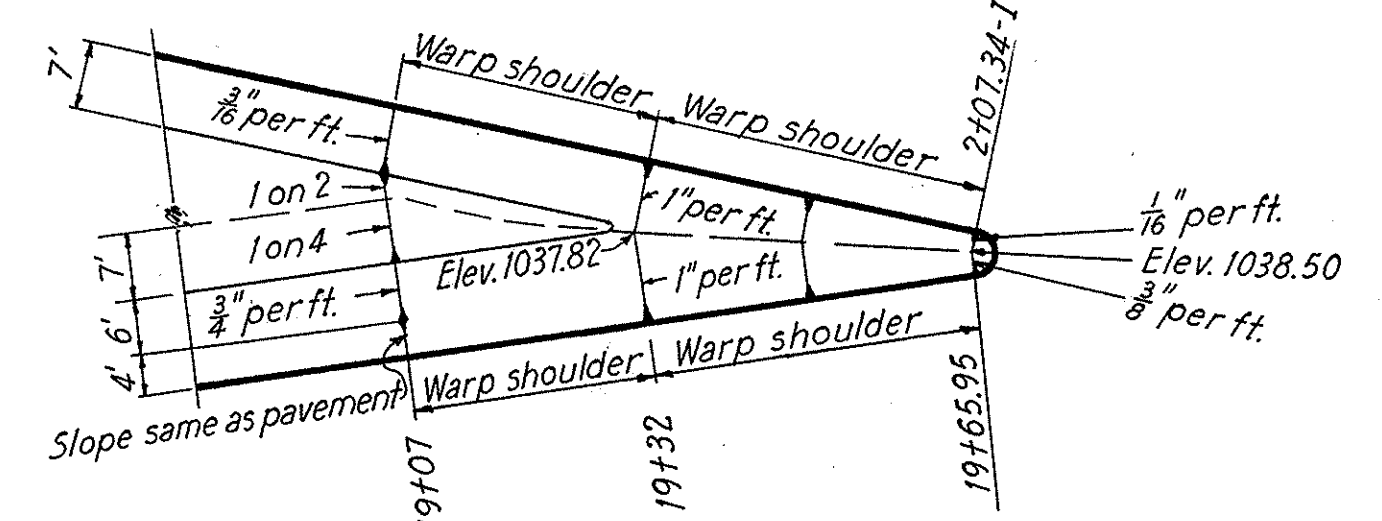
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
RAMP DETAILS

Note:
For additional details of Perkins Street, see Sheet 34

| ESTIMATED QUANTITIES | |
|-----------------------------------|---------------|
| Type 2-A mod. curb | 121 lin. ft. |
| Type 4-A mod. curb | 478 lin. ft. |
| Reinforced concrete base course | 1461 sq. yds. |
| Asphaltic concrete surface course | 1428 sq. yds. |

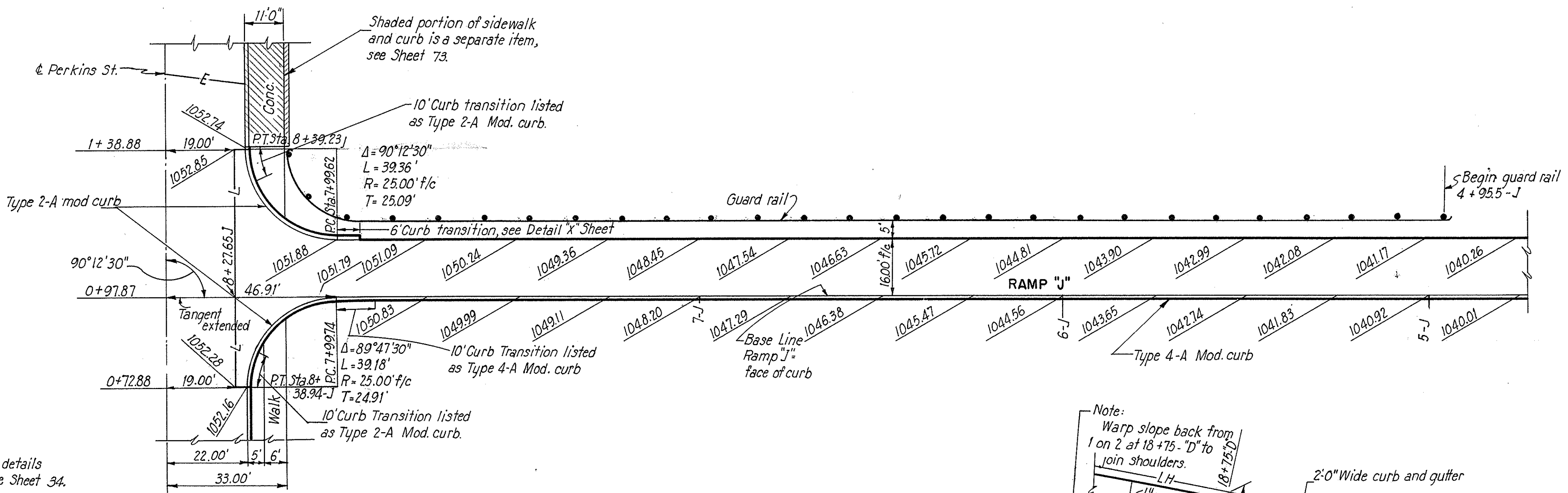
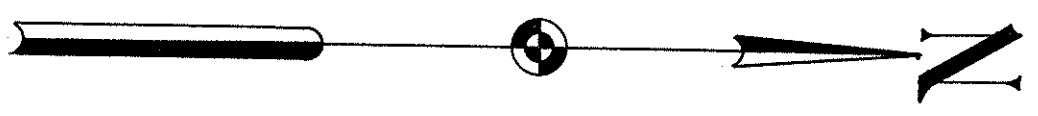


CONTOUR MAP AT INTERSECTION
Scale 1"=10'

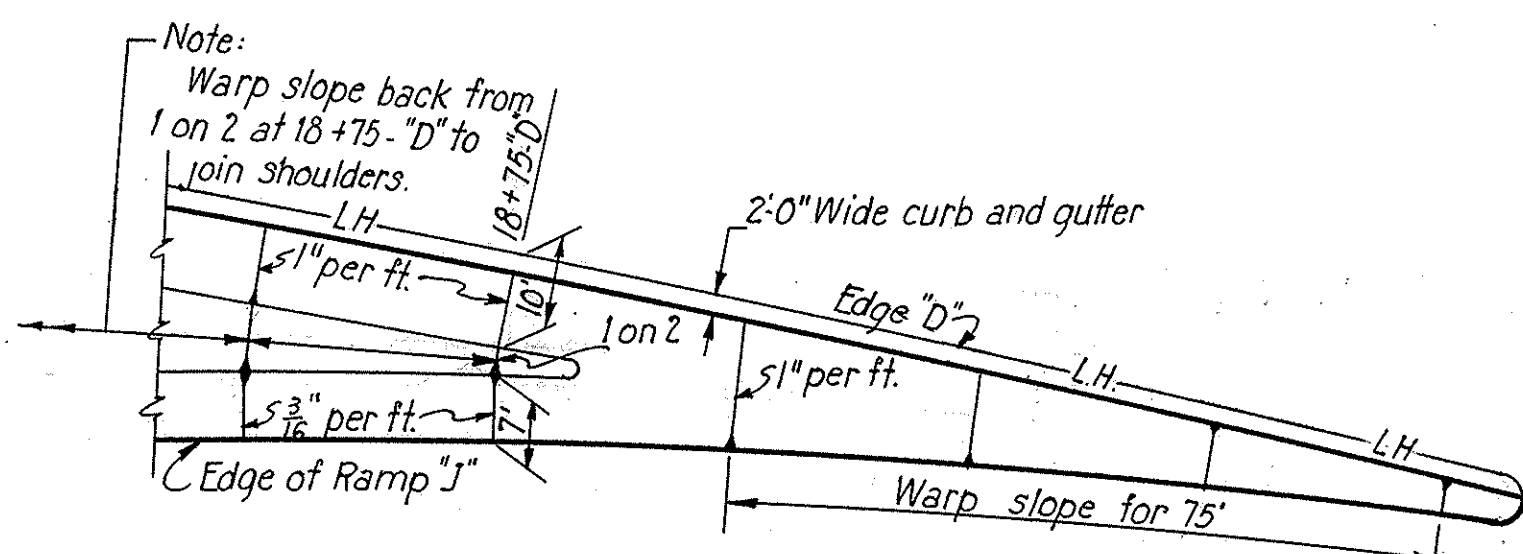


GRADING PLAN AT INTERSECTION OF RAMP 'I' AND EXPRESSWAY

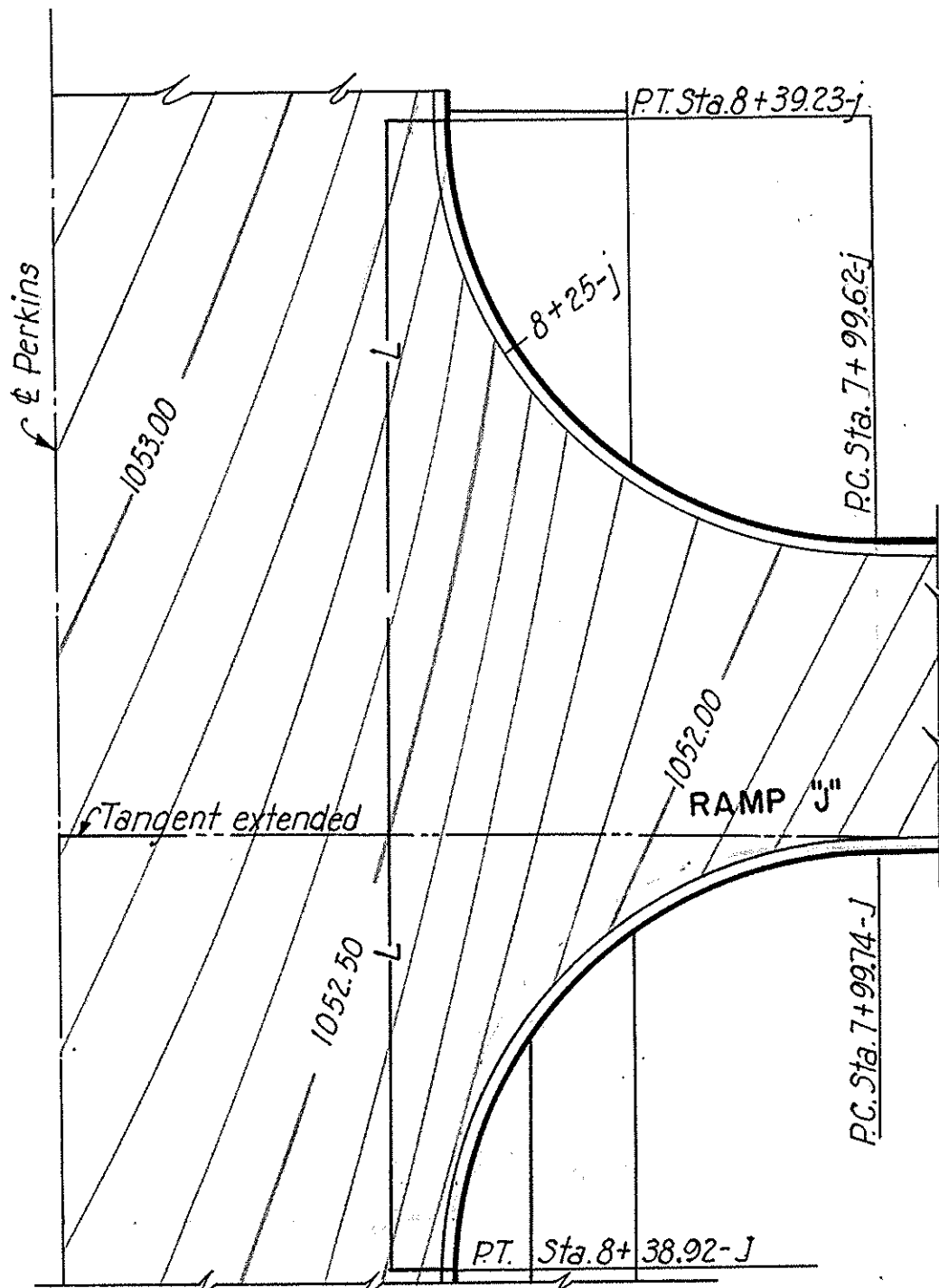
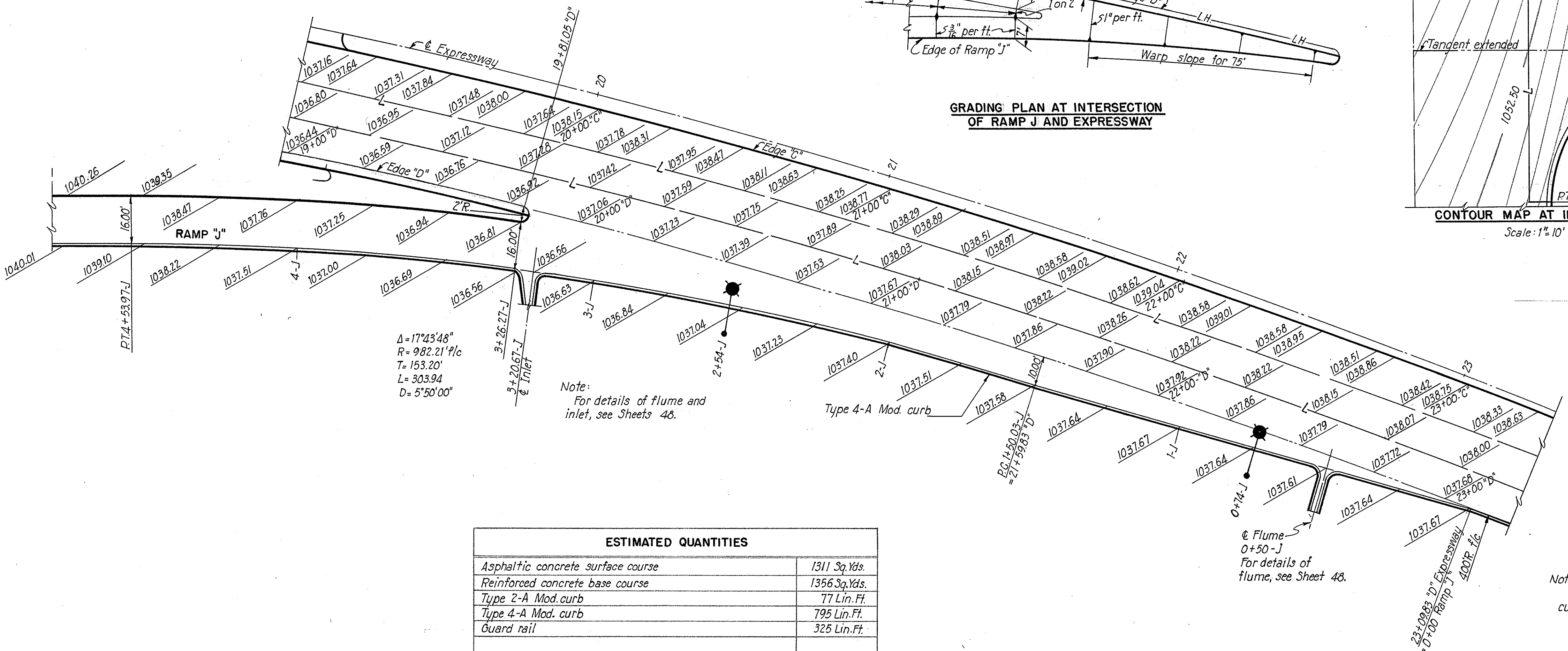
Note:
For pavement joint legend, and details of curbs and lighting see Sheet 38



Note:
For additional details
of Perkins St., see Sheet 34.



**GRADING PLAN AT INTERSECTION
OF RAMP J AND EXPRESSWAY**



CONTOUR MAP AT INTERSECTION
Scale: 1" = 10'

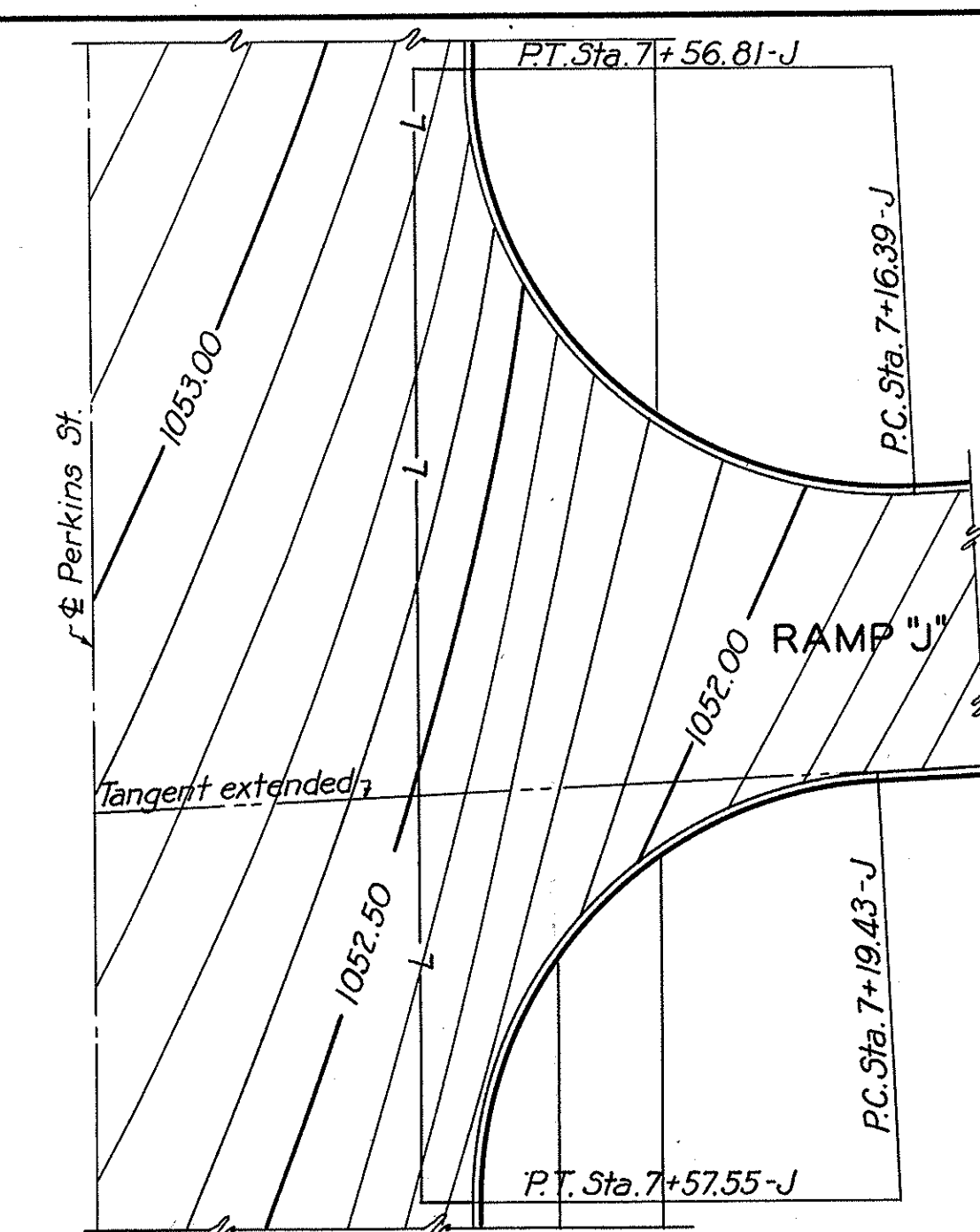
See Suppl. Sheet 30A

| ESTIMATED QUANTITIES | |
|-----------------------------------|--------------|
| Asphaltic concrete surface course | 1311 Sq.Yds. |
| Reinforced concrete base course | 1356 Sq.Yds. |
| Type 2-A Mod. curb | 77 Lin.Ft. |
| Type 4-A Mod. curb | 795 Lin.Ft. |
| Guard rail | 325 Lin.Ft. |

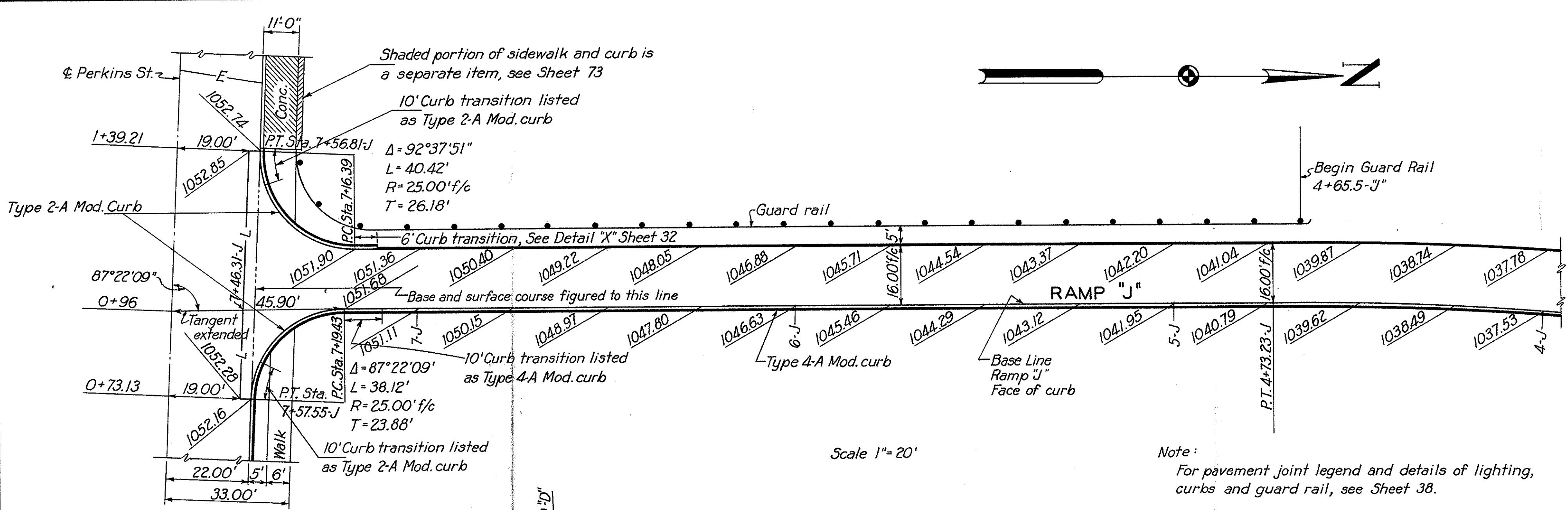
Flume
0+50-J
For details of
flume, see Sheet 48.

Note:
For pavement joint legend and details of lighting,
curbs and guard rail, see Sheet 38.

SUMMIT COUNTY CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
RAMP DETAILS
MISCELLANEOUS

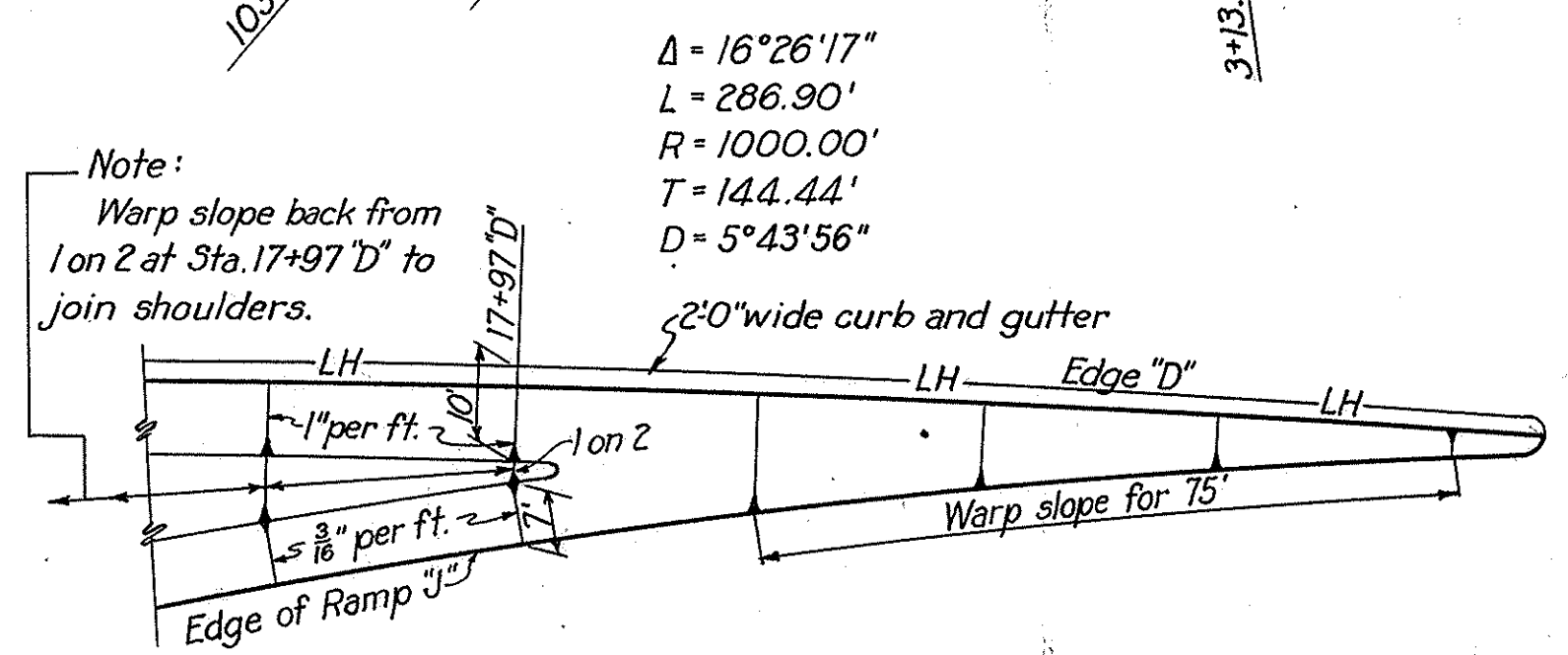
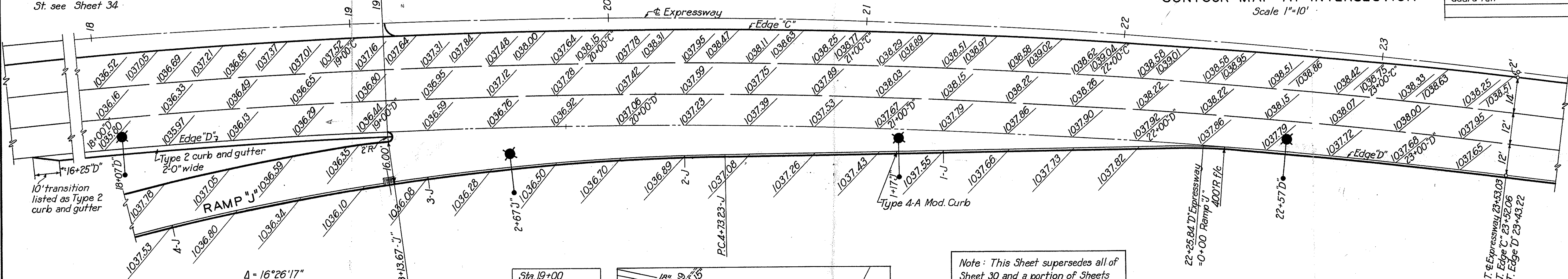


| ESTIMATED QUANTITIES - RAMP "J" | |
|-----------------------------------|--------------|
| Asphaltic Concrete Surface Course | 1129 Sqyds. |
| Reinforced Concrete Base Course | 1174 Sqyds. |
| Type 2-A Mod. curb | 83 Lin. Ft. |
| Type 4-A Mod. curb | 713 Lin. Ft. |
| Guard rail | 275 Lin. Ft. |

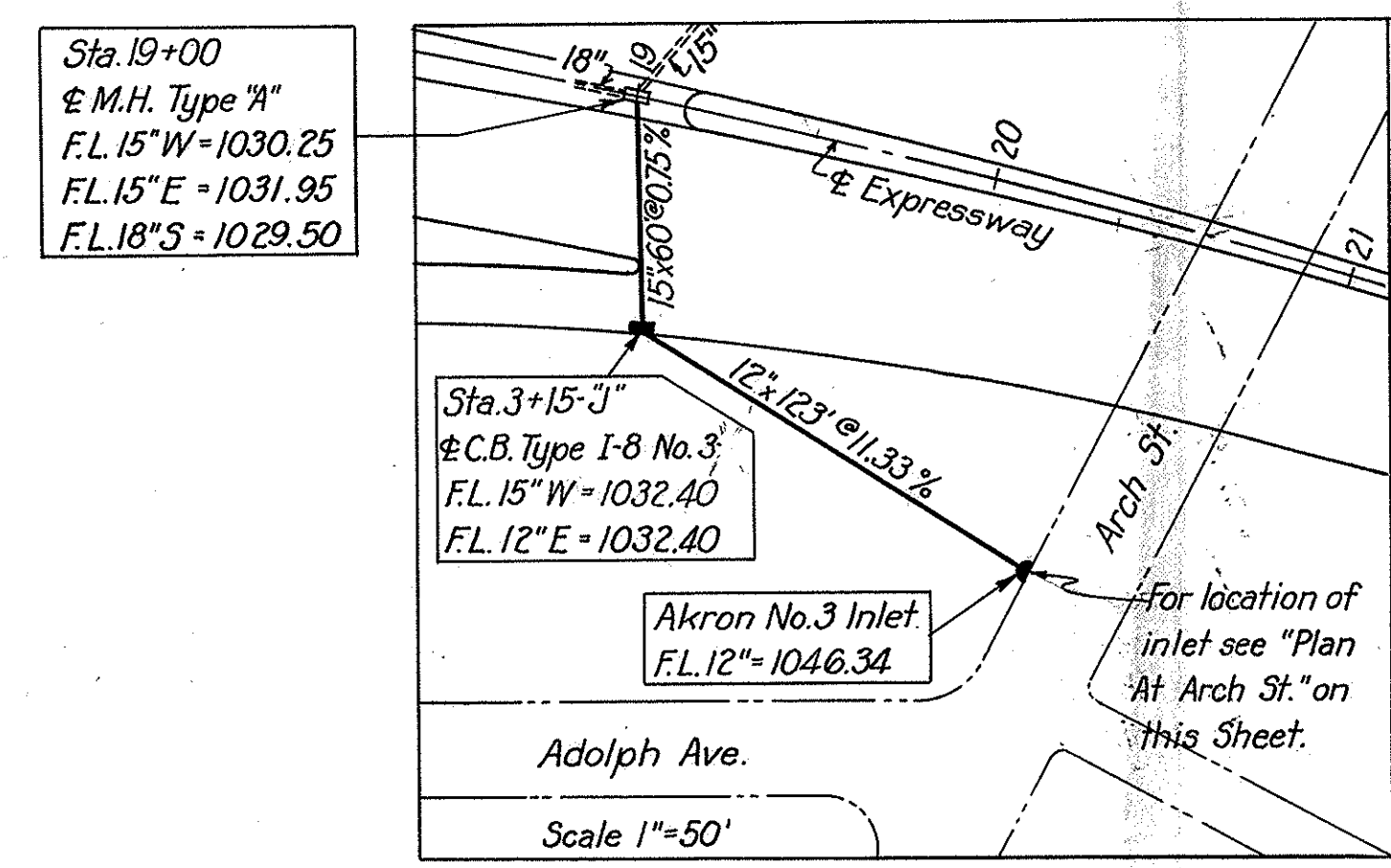


Note:
For additional details of Perkins St. see Sheet 34.

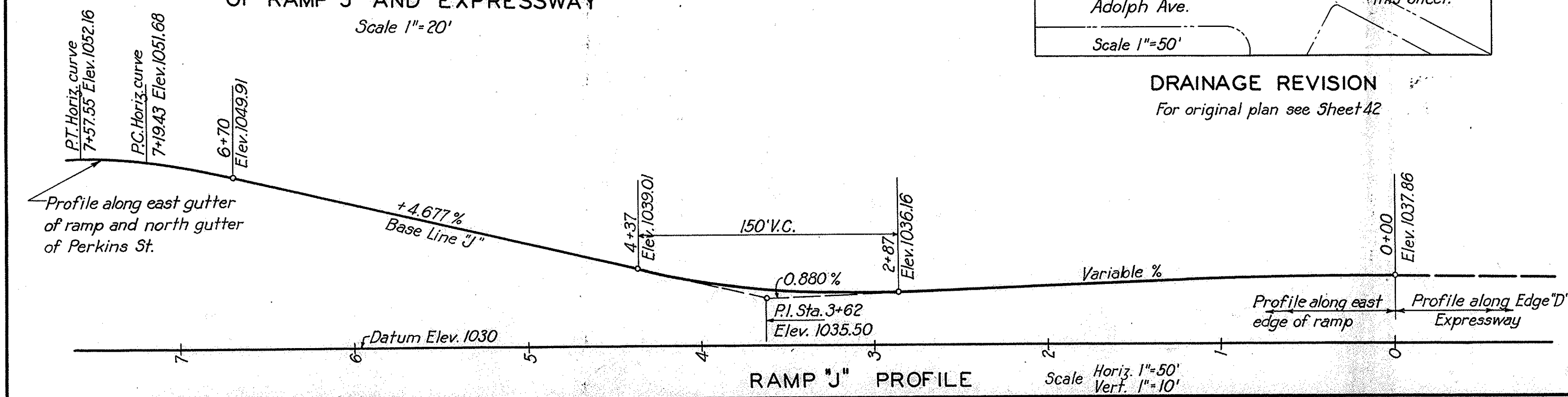
Note:
For pavement joint legend and details of lighting, curbs and guard rail, see Sheet 38.



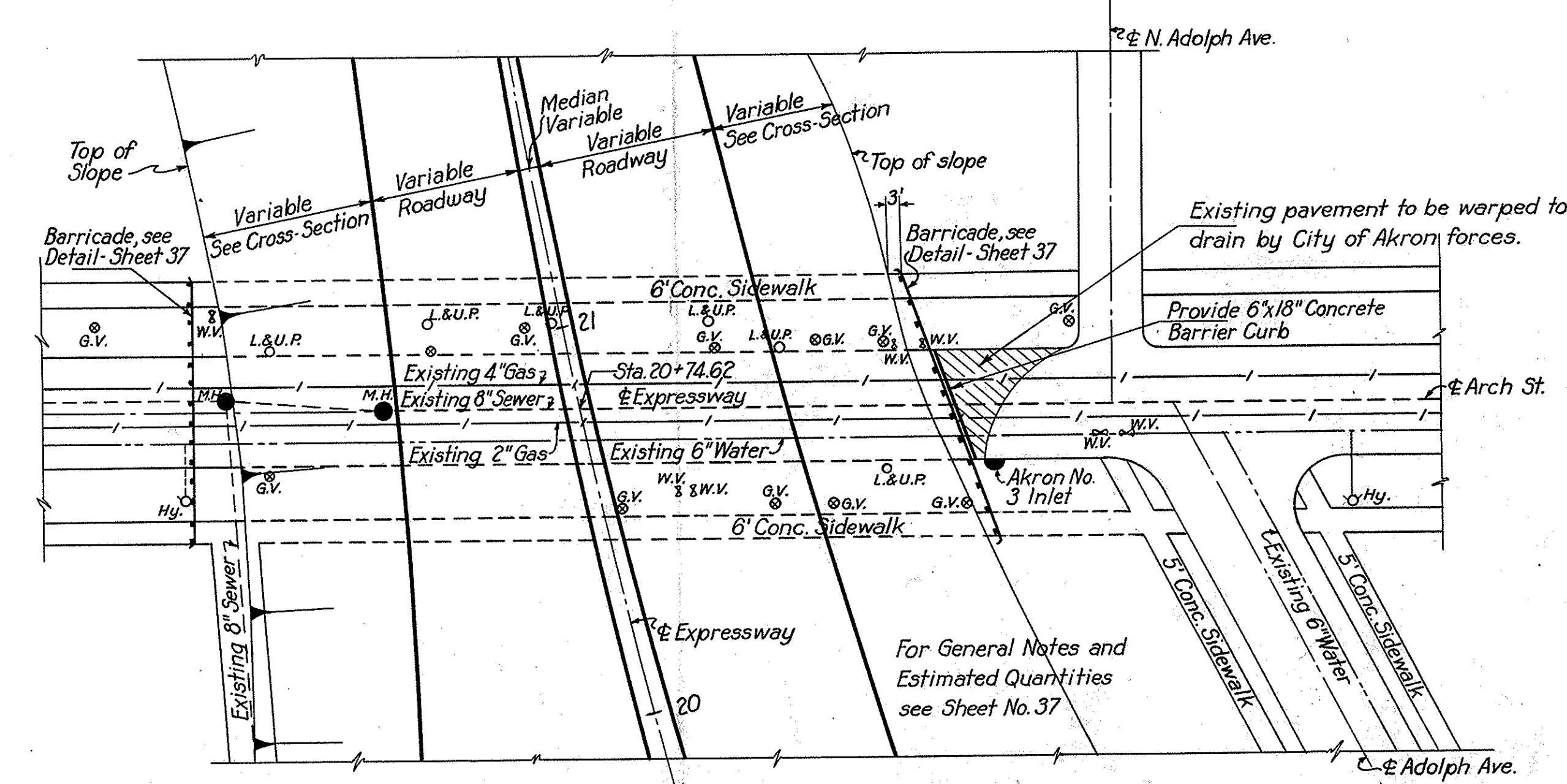
GRADING PLAN AT INTERSECTION OF RAMP "J" AND EXPRESSWAY
 Scale 1"=20'



DRAINAGE REVISION
 For original plan see Sheet 42



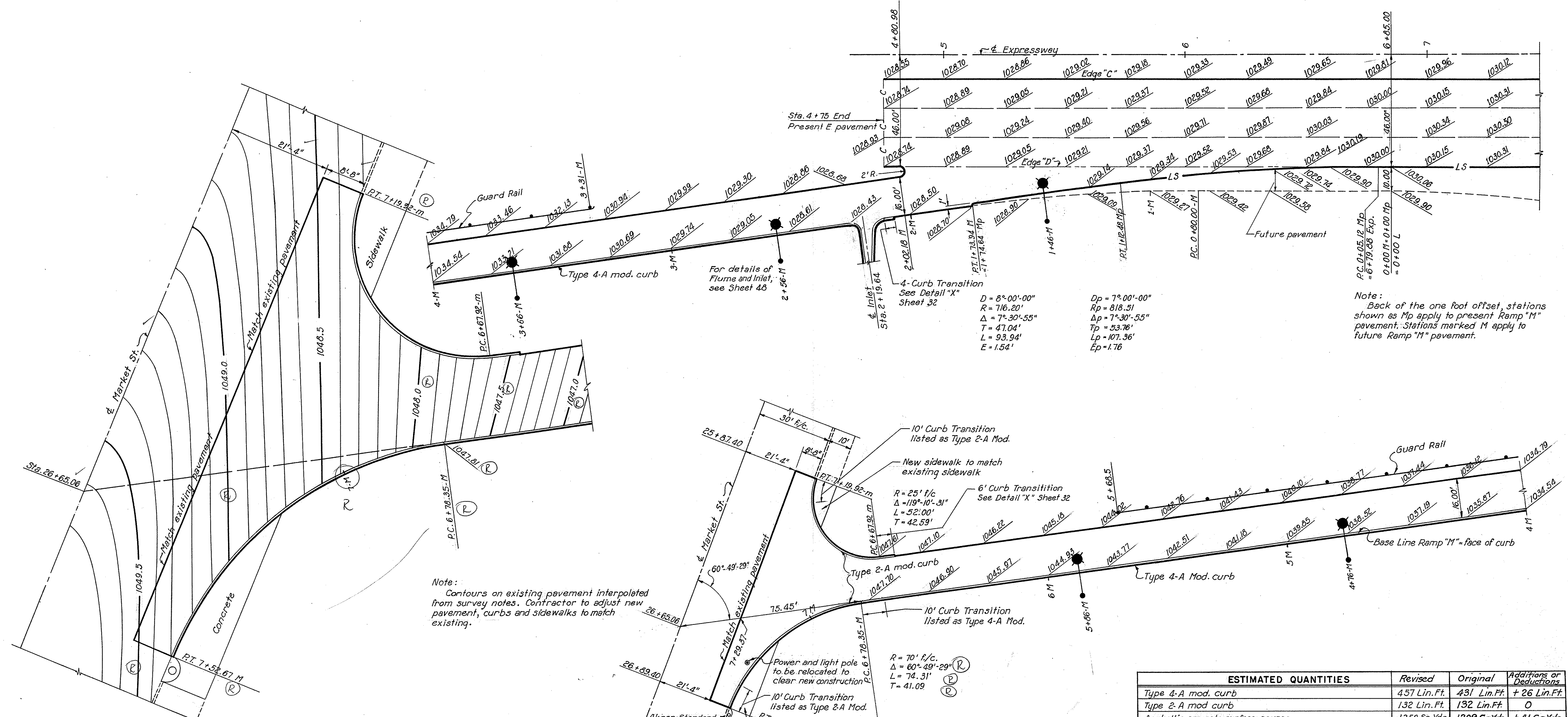
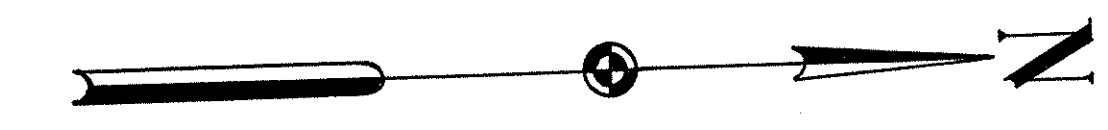
RAMP "J" PROFILE
 Scale Horiz. 1"=50' Vert. 1"=10'



PLAN AT ARCH STREET
 Scale 1"=30'

For General Notes and Estimated Quantities see Sheet No. 37

REVISED 3-13-52



Note:
Back of the one foot offset, stations shown as M'p apply to present Ramp "M" pavement. Stations marked M apply to future Ramp "M" pavement.

Note:
Contours on existing pavement interpolated from survey notes. Contractor to adjust new pavement, curbs and sidewalks to match existing.

CONTOUR MAP OF INTERSECTION
Scale: 1" = 10'

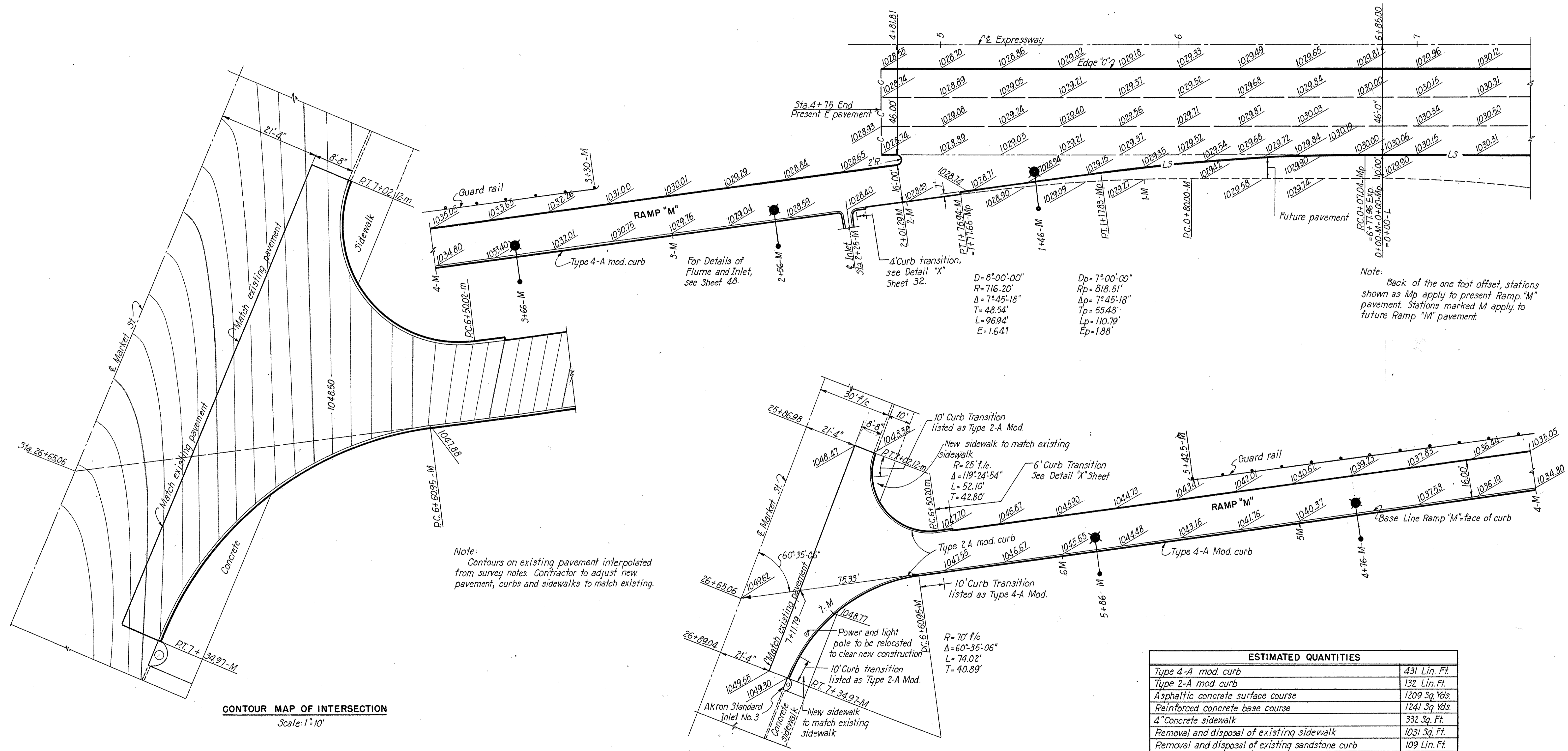
| ESTIMATED QUANTITIES | Revised | Original | Additions or Deductions |
|---|---------------|---------------|-------------------------|
| Type 4-A mod. curb | 457 Lin.Ft. | 431 Lin.Ft. | + 26 Lin.Ft. |
| Type 2-A mod curb | 132 Lin.Ft. | 132 Lin.Ft. | 0 |
| Asphaltic concrete surface course | 1250 Sq.Yds. | 1209 Sq.Yds. | + 41 Sq.Yds. |
| Reinforced concrete base course | 1283 Sq.Yds. | 1241 Sq.Yds. | + 42 Sq.Yds. |
| 4" concrete sidewalk | 332 Sq.Ft. | 332 Sq.Ft. | 0 |
| Removal and disposal of existing sidewalk | 1031 Sq.Ft. | 1031 Sq.Ft. | 0 |
| Removal and disposal of existing sandstone curb | 109 Lin.Ft. | 109 Lin.Ft. | 0 |
| Removal and disposal of existing pavement (brick on conc) | 98 Sq.Yds. | 98 Sq.Yds. | 0 |
| Guard rail | 237.5 Lin.Ft. | 212.5 Lin.Ft. | + 25 Lin.Ft. |

Note:
For pavement joint legend and details of lighting and curb, see Sheet 38.

VOID SEE REVISED SHEET 31

| | | | | |
|--------------------|-------|--------------------|------------|----------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 31 74 |
| 2 | OHIO | U-687(7) | POST WAR | |

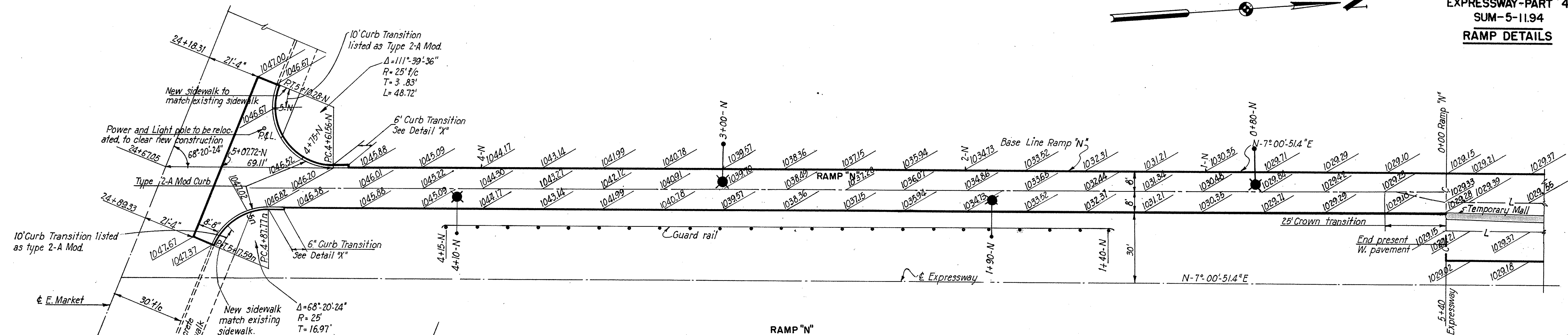
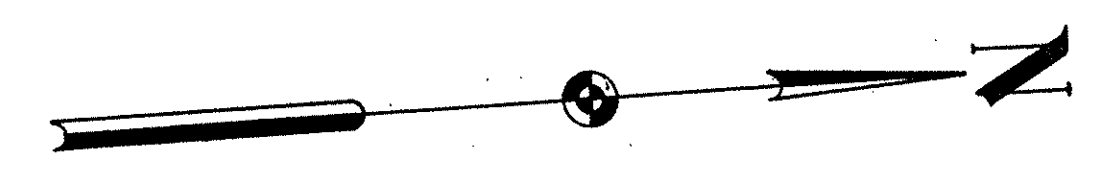
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
RAMP DETAILS



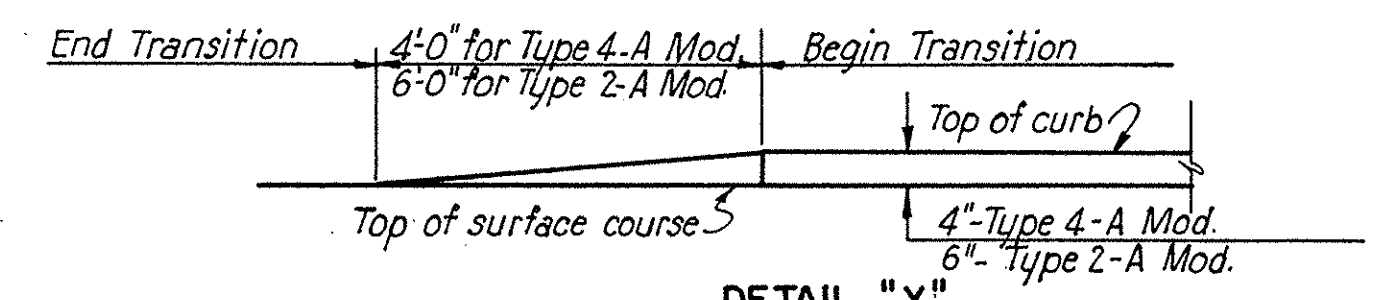
| ESTIMATED QUANTITIES | |
|--|----------------|
| Type 4-A mod curb | 431 Lin. Ft. |
| Type 2-A mod curb | 132 Lin. Ft. |
| Asphaltic concrete surface course | 1209 Sq. Yds. |
| Reinforced concrete base course | 1241 Sq. Yds. |
| 4" Concrete sidewalk | 332 Sq. Ft. |
| Removal and disposal of existing sidewalk | 1031 Sq. Ft. |
| Removal and disposal of existing sandstone curb | 109 Lin. Ft. |
| Removal and disposal of existing pavement (brick on conc.) | 98 Sq. Yds. |
| Guard rail | 212.5 Lin. Ft. |

Note:
 For pavement joint legend and details of lighting and curb, see Sheet 38.

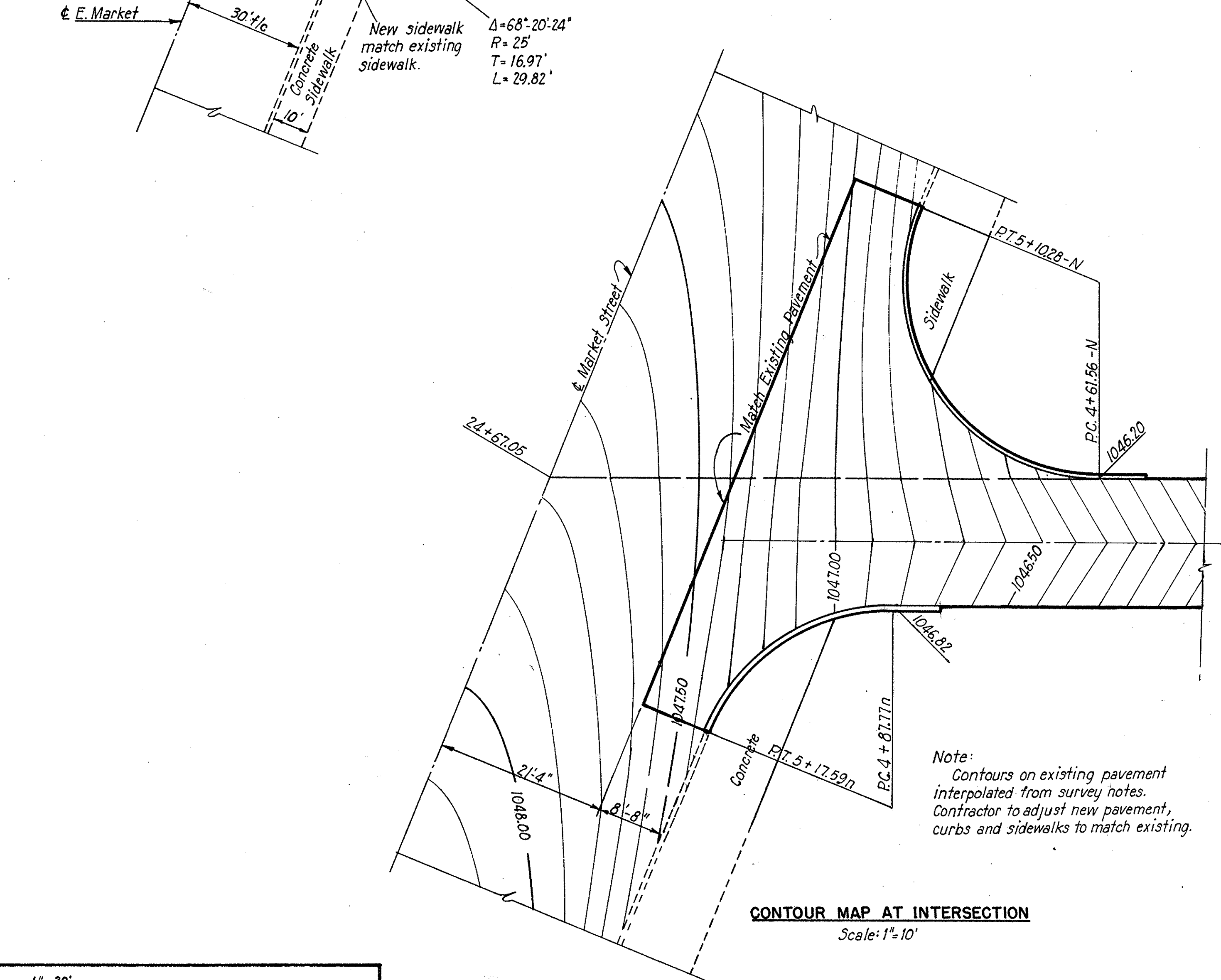
SUMMIT COUNTY CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
RAMP DETAILS



RAMP "N"
Scale: 1"=20'-0"



DETAIL "X"
SHOWING CURB TRANSITION
Scale: 1"=2'-0"



CONTOUR MAP AT INTERSECTION
Scale: 1"=10'

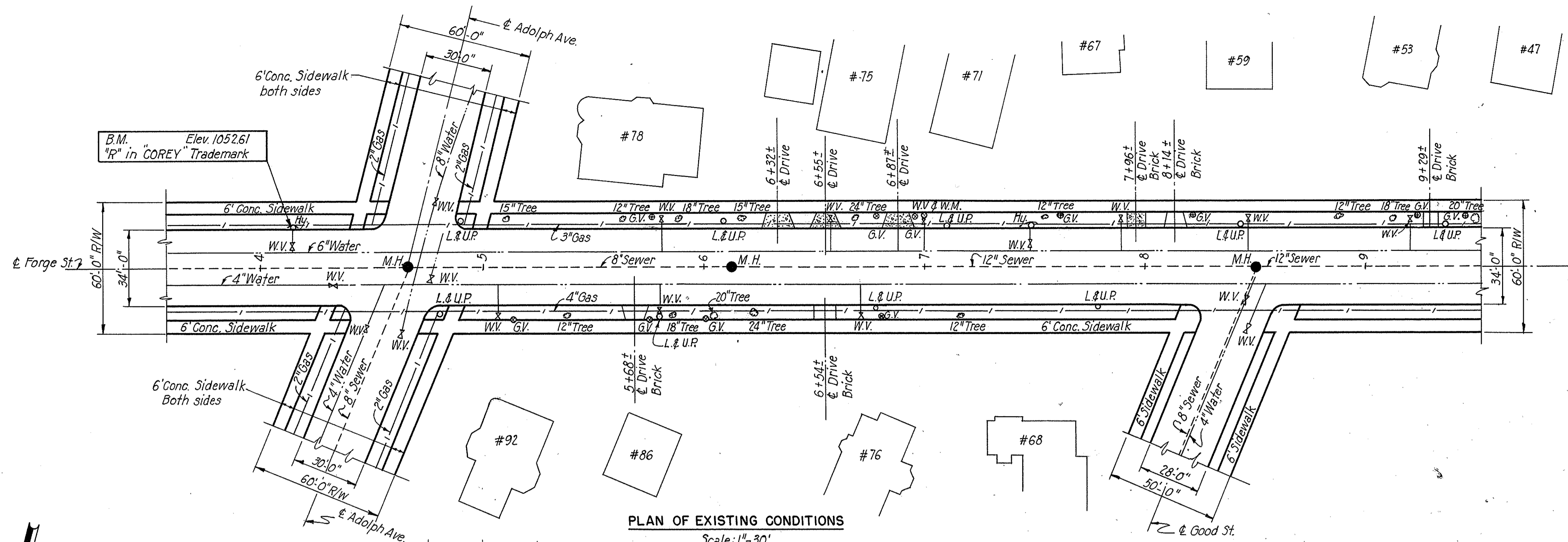
Note:
Contours on existing pavement interpolated from survey notes.
Contractor to adjust new pavement, curbs and sidewalks to match existing.

| ESTIMATED QUANTITIES | |
|--|---------------|
| Type 2-A mod. curb | 91 Lin. Ft. |
| 9" Reinforced Concrete Base Course | 1000 Sq. Yds. |
| Guard rail | 275 Lin. Ft. |
| 4" Concrete sidewalk | 200 Sq. Ft. |
| Removal and disposal of existing sidewalk | 676 Sq. Ft. |
| Removal and disposal of existing sandstone curb | 71 Ft. |
| Removal and disposal of existing pavement (brick on conc.) | 69 Sq. Yds. |

Note:
For pavement joint legend and details of curb and lighting, see Sheet 38.

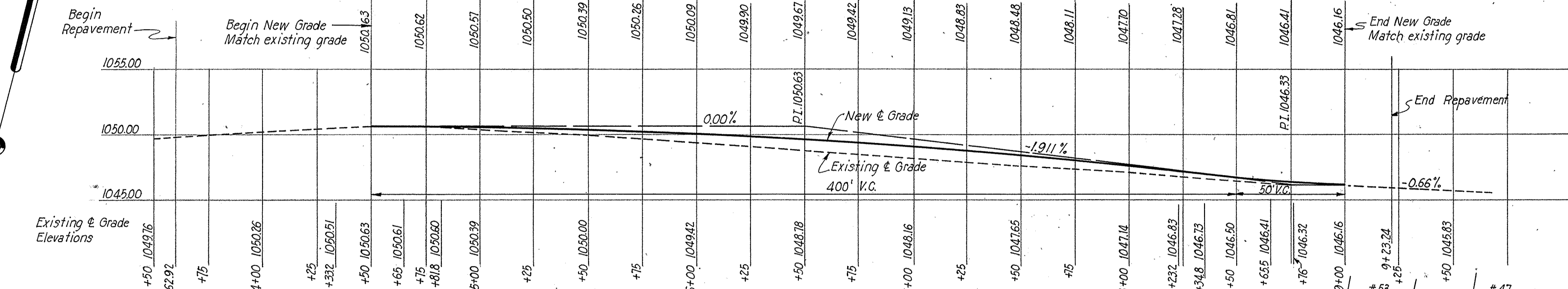
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

PLAN-PROFILE OF FORGE STREET



| ESTIMATED QUANTITIES | |
|---|----------------|
| Type 2A mod. curb | 667 Lin. Ft. |
| Asphaltic concrete surface course | 2,182 Sq. Yds. |
| Reinforced concrete base course | 2,233 Sq. Yds. |
| 4" concrete sidewalk | 2077 Sq. Ft. |
| Removal and disposal of existing sidewalk | 5808 Sq. Ft. |
| Removal and disposal of existing sandstone curb | 1247 Lin. Ft. |
| Removal and disposal of existing brick pavement | 2505 Sq. Yds. |

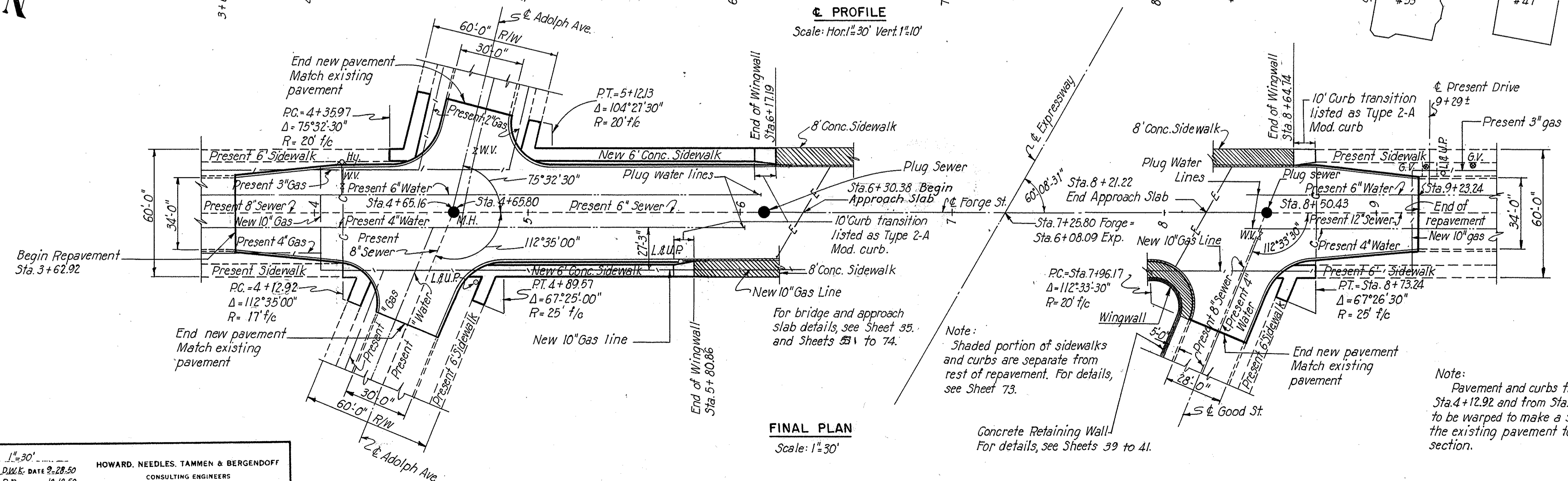
PLAN OF EXISTING CONDITIONS
Scale: 1"=30'



PROFILE
Scale: Hor. 1"=30' Vert. 1"=10'

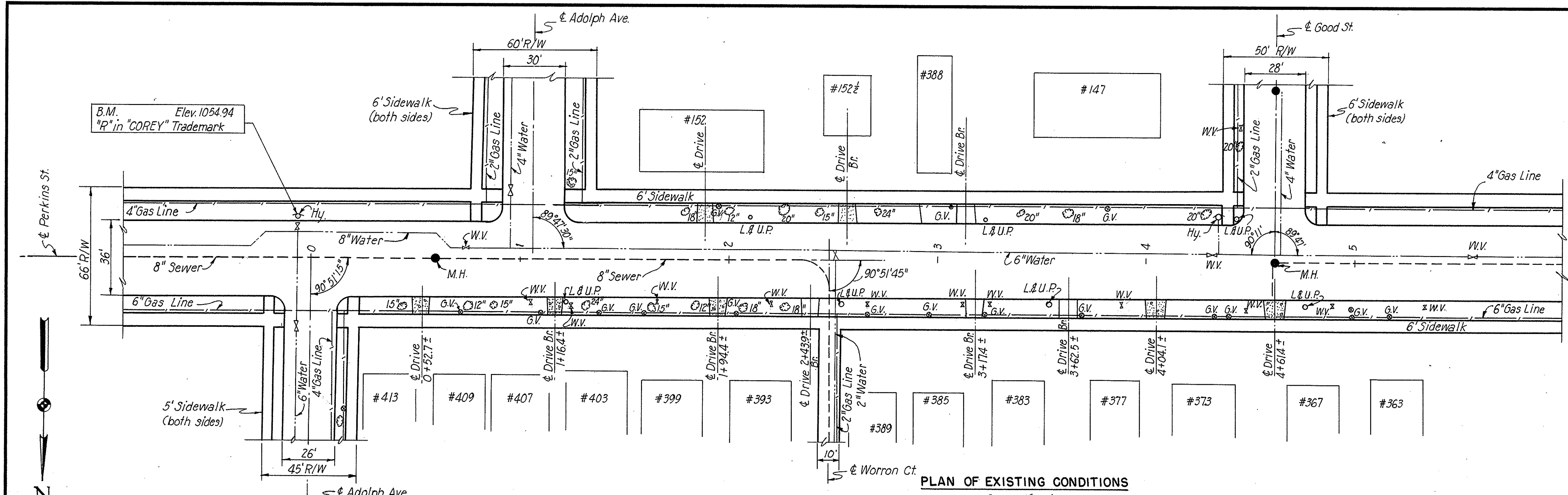
- LEGEND**
- G.V. = Gas Valve
 - W.V. = Water Valve
 - W.M. = Water Meter
 - Hy. = Hydrant
 - L & U.P. = Light and Utilities Pole
 - M.H. = Sewer Manhole

Notes:
 For pavement Cross Sections, see Sheet 36.
 All existing valve boxes, meter boxes etc. on present water and gas lines shown on Final Plan to be made flush with new pavement.
 All existing sewer manholes to be made flush with new pavement.
 Hydrants to be relocated as shown on Final Plan.
 Light and Utilities poles to be relocated as shown on Final Plan.
 For longitudinal pavement joints not shown, see Typical Sections

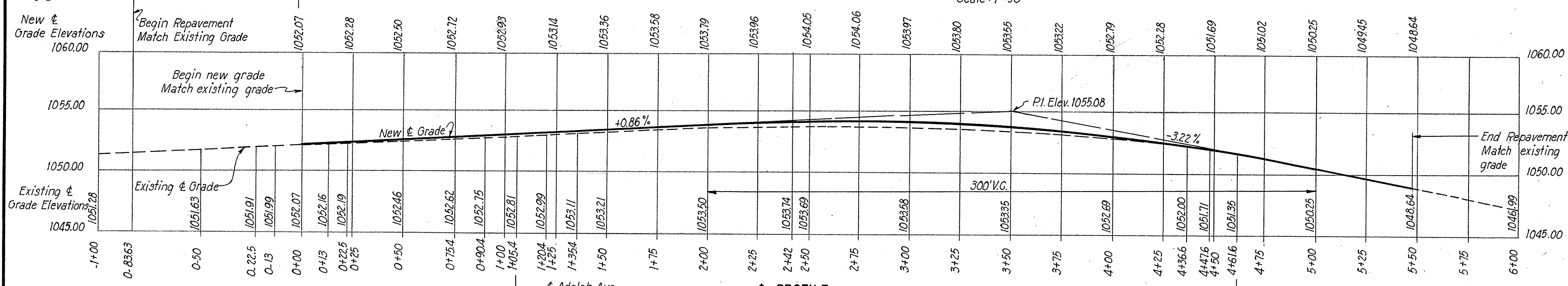


FINAL PLAN
Scale: 1"=30'

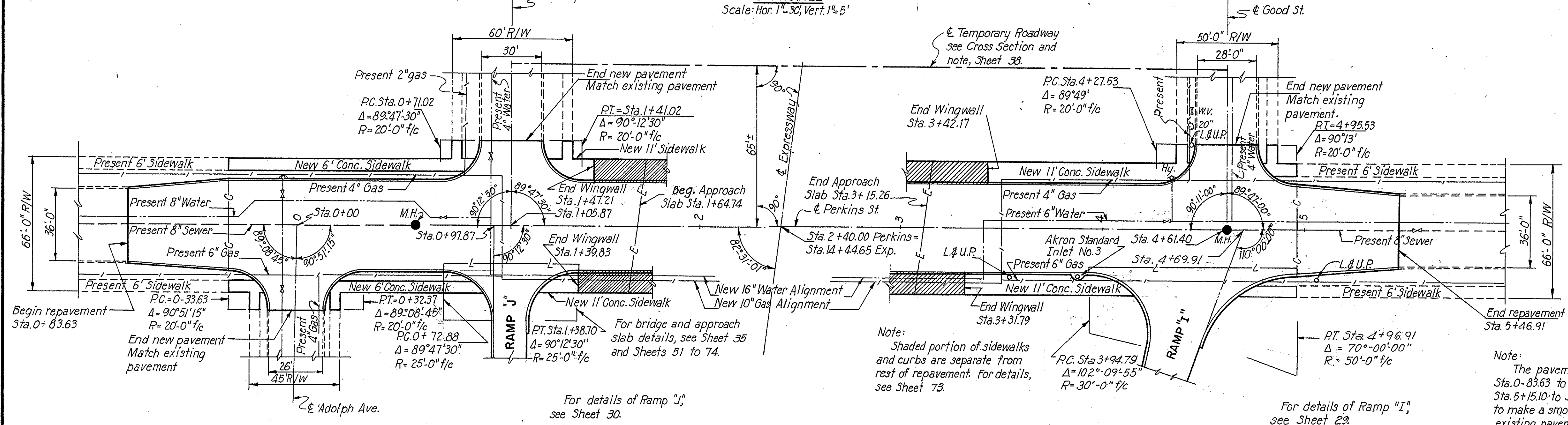
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
PLAN-PROFILE OF PERKINS STREET



| ESTIMATED QUANTITIES | |
|--|-------------|
| Type 2A mod. curb | 684 Lin.Ft. |
| Asphaltic concrete surface course | 2509Sq.Yds. |
| Reinforced concrete base course | 2555Sq.Yds. |
| 4" Concrete sidewalk | 4220.Sq.Ft. |
| Removal and disposal of existing sidewalk | 6413 Sq.Ft. |
| Removal and disposal of existing sandstone curb | 1340Lin.Ft. |
| Removal and disposal of existing brick pavement | 2752Sq.Yds. |
| Traffic bound surface course for maintaining traffic | 180 Cu.Yds. |
| Calcium chloride for maintaining traffic | 4 tons |



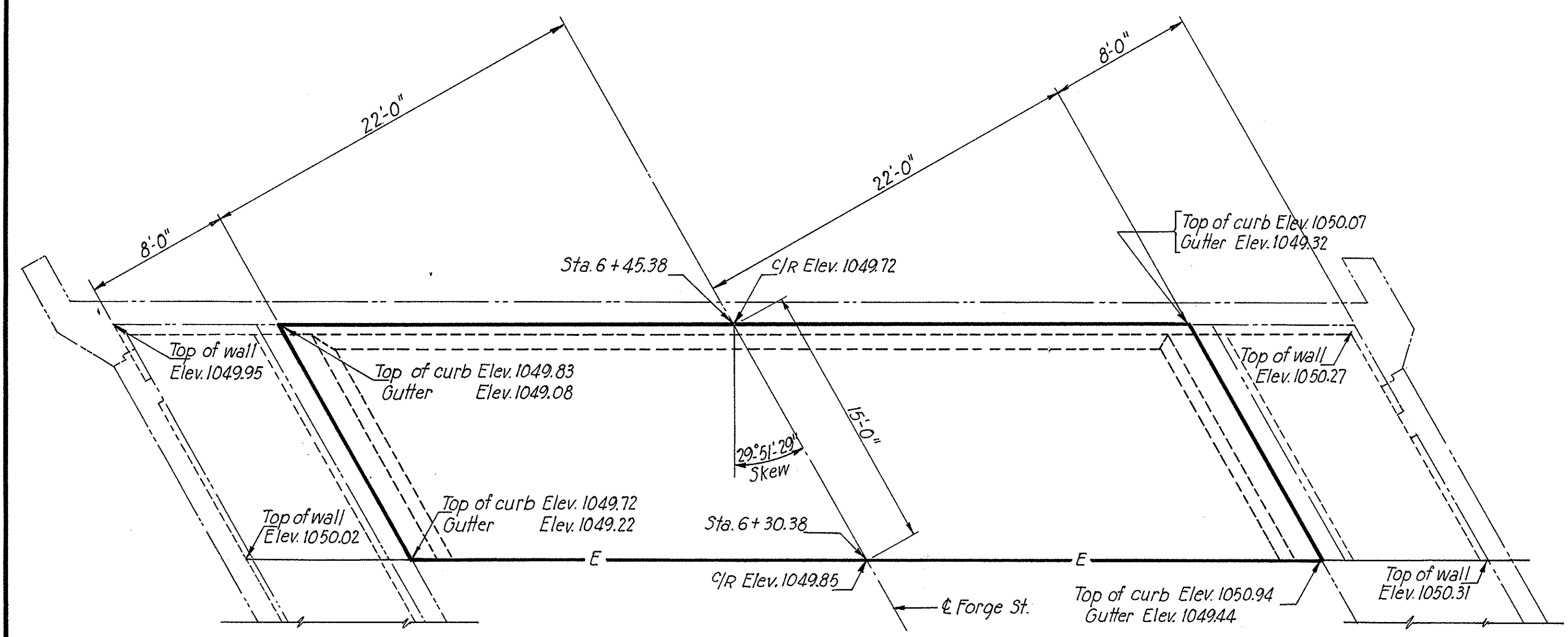
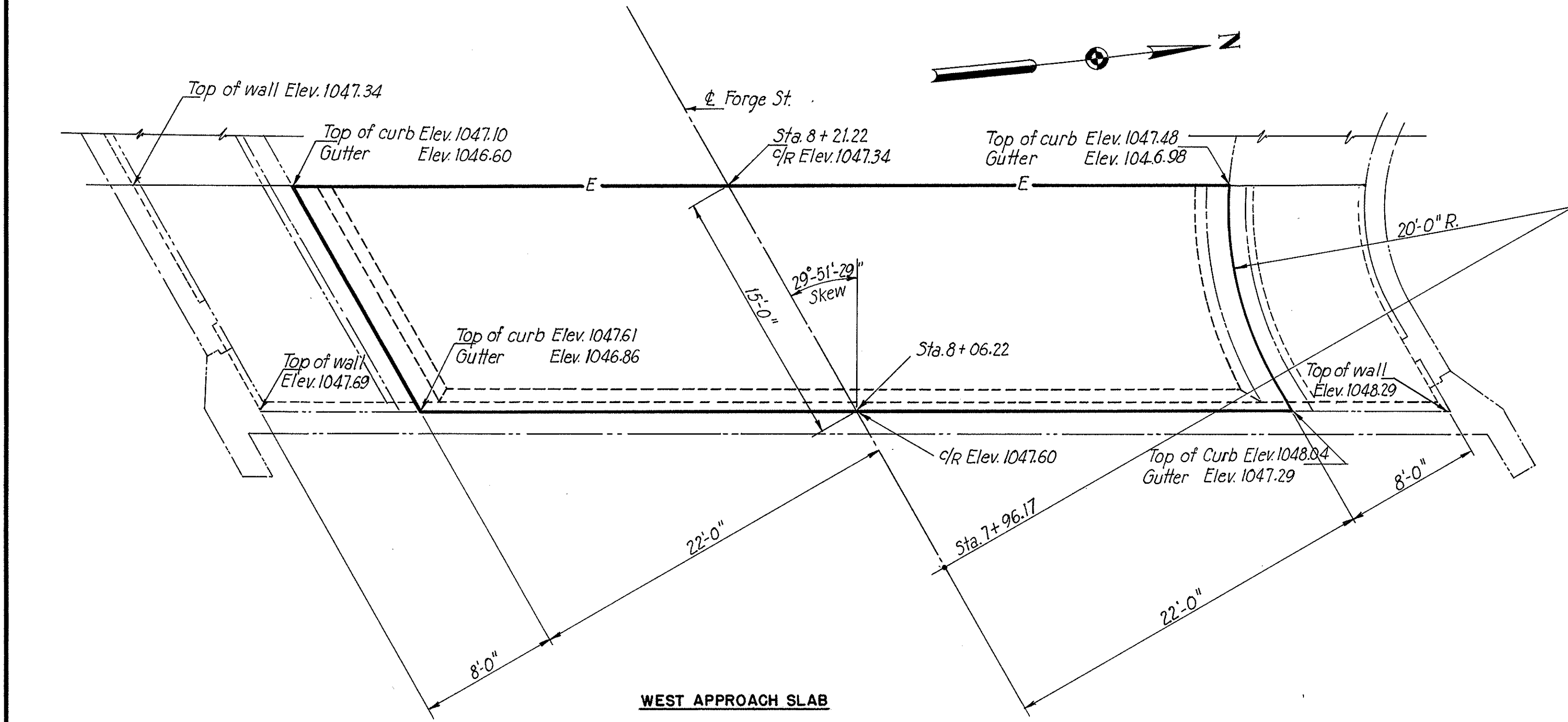
- LEGEND**
- = Gas Valve
 - = Water Valve
 - = Water Meter
 - = Hydrant
 - = Light and Utilities Pole
 - = Sewer Manhole
 - = Inlet



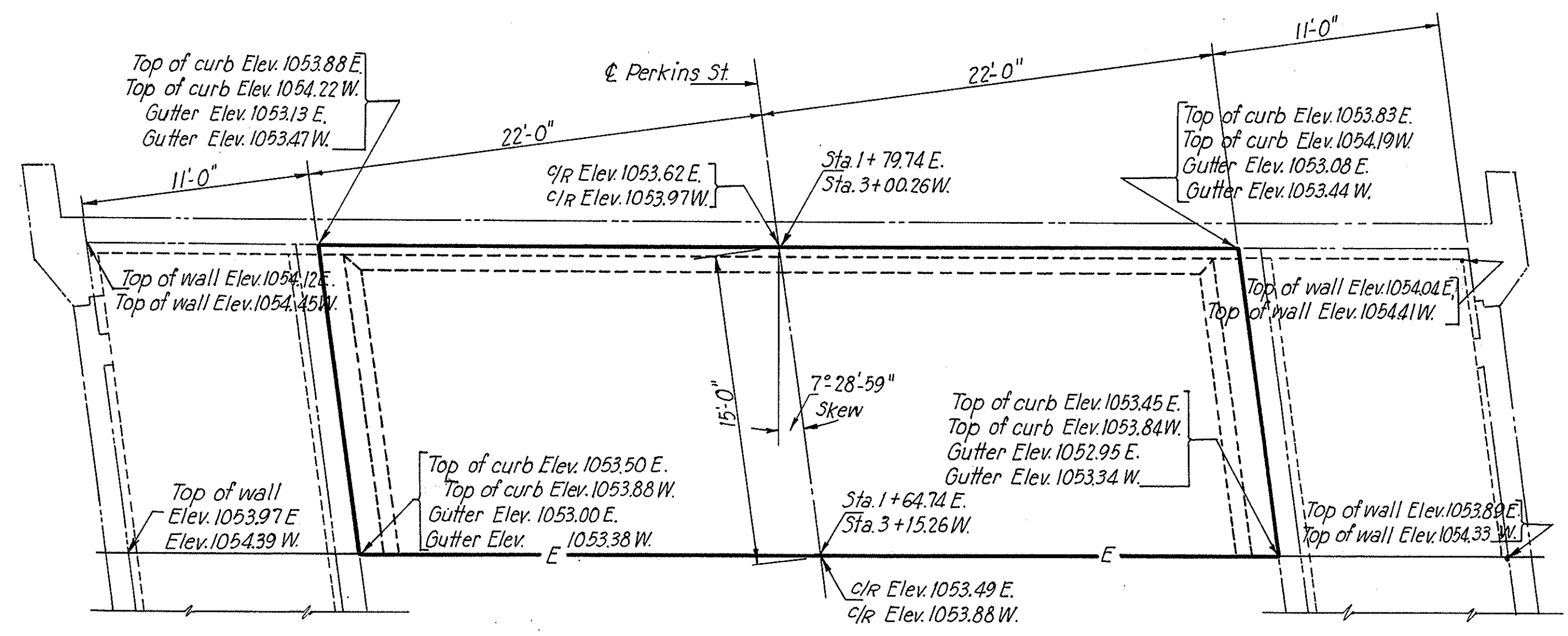
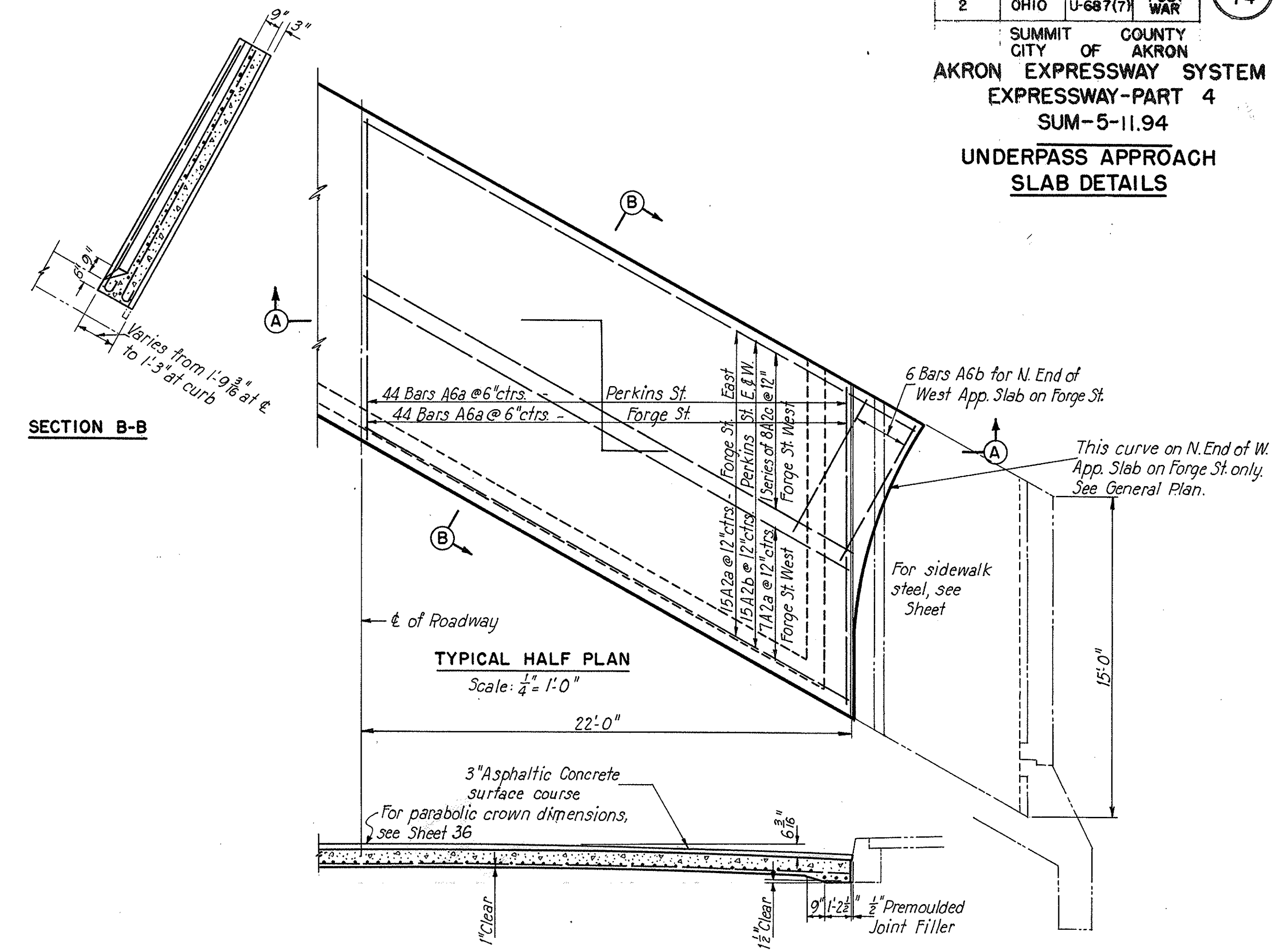
Notes:
 For pavement Cross Sections, see Sheet 36.
 All existing valve boxes, meter boxes, etc. on present water and gas lines shown on Final Plan to be made flush with new pavement.
 All existing sewer manholes to be made flush with new pavement.
 Hydrants to be relocated as shown on Final Plan.
 Light and Utilities poles to be relocated as shown on Final Plan.
 For longitudinal pavement joints not shown and for pavement widths, See Typical Sections, Sheet 36.

FINAL PLAN
 Scale: 1"=30'

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
UNDERPASS APPROACH
SLAB DETAILS



GENERAL PLAN - FORGE ST.
Scale: $\frac{3}{16}'' = 1'-0''$



GENERAL PLAN - PERKINS ST.
Scale: $\frac{3}{16}'' = 1'-0''$

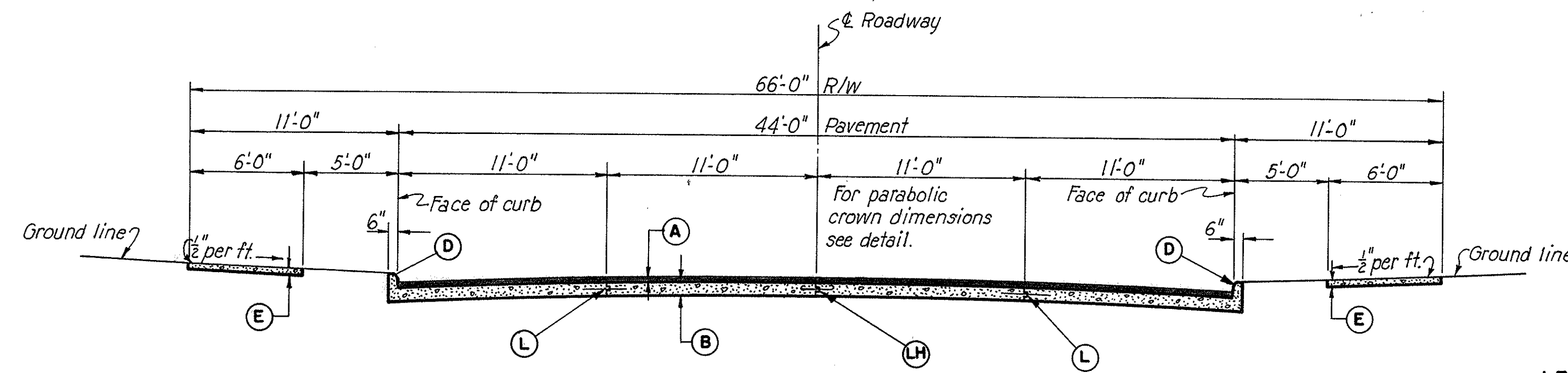
Notes:
Pavement joint dowel bars not shown. For pavement joint legend, see Sheet 38.
Premoulded expansion joint filler and reinforcing steel shall be included with Approach Slab for payment.

| ESTIMATED QUANTITIES | | | |
|-----------------------------------|---------|-------|---------|
| Description | Unit | FORGE | PERKINS |
| Asphaltic concrete surface course | Sq. Yd. | 149 | 147 |
| Reinforced concrete approach slab | Sq. Yd. | 149 | 147 |

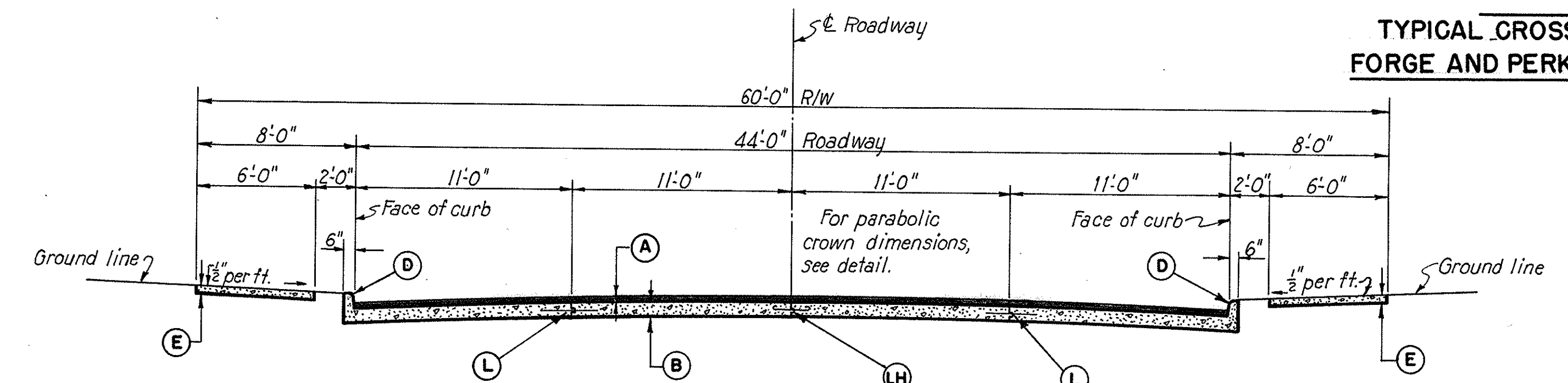
| STEEL LIST | | | | | | FORGE | PERKINS |
|-----------------------|------|-------|-----------|--------------------|------------------|--------|---------|
| Mark | Size | Shape | Spacing | No. Req. | Length | Weight | Weight |
| A2a | 1/2" | Str. | 12" ctrs. | 22 | 50'-0" | 735 | |
| A2b | 1/2" | Str. | 12" ctrs. | 15 | 44'-0" | | 441 |
| A2c | 1/2" | Str. | 12" ctrs. | 1 series of 8 bars | 50'-6" to 53'-0" | 277 | |
| A6a | 3/8" | Str. | 6" ctrs. | 88 | 15'-4" | 2757 | 2757 |
| A6b | 3/8" | Str. | 6" ctrs. | 6 | 7'-0" | 86 | |
| East Approach | | | | | | 3258 | 3198 |
| West Approach | | | | | | 3354 | 3198 |
| Total both Approaches | | | | | | 6612 | 6396 |

TYPE T-50

Scale: $\frac{3}{16}'' = 1'-0''$

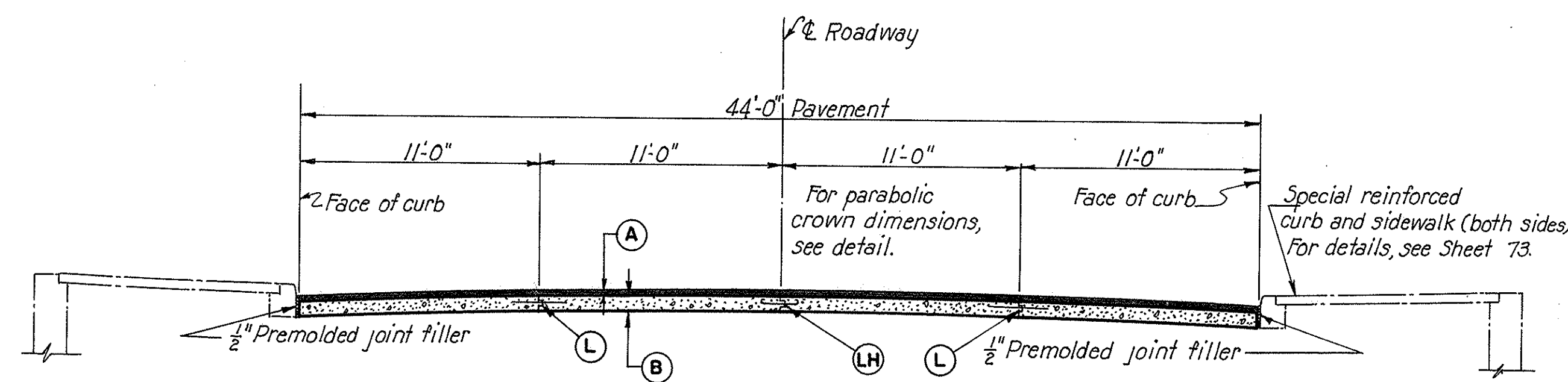


**TYPICAL CROSS SECTION
PERKINS STREET**
Scale: $\frac{3}{16}'' = 1'-0''$

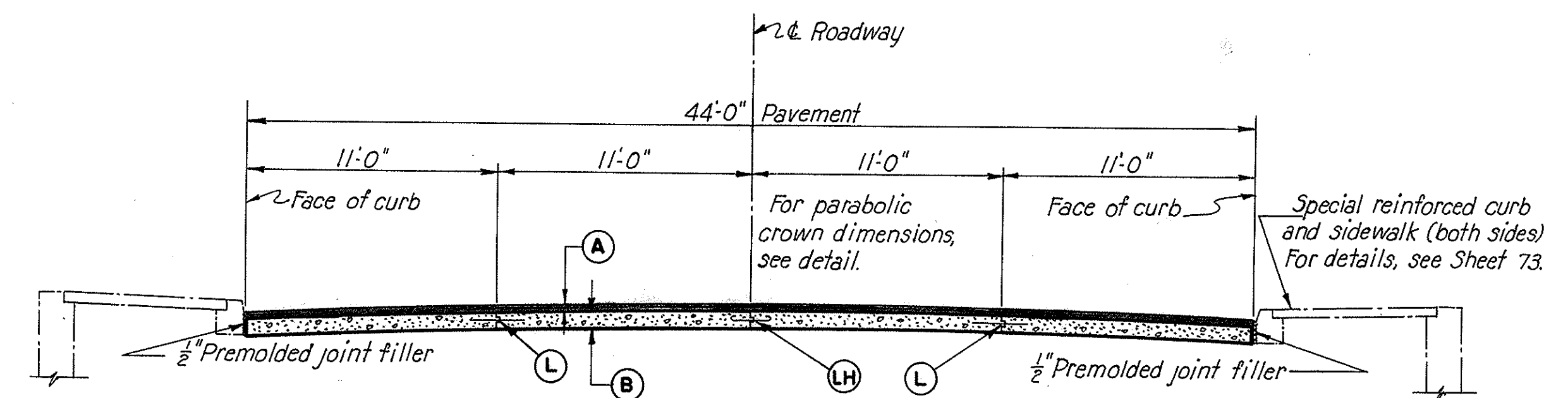


**TYPICAL CROSS SECTION
FORGE STREET**
Scale: $\frac{3}{16}'' = 1'-0''$

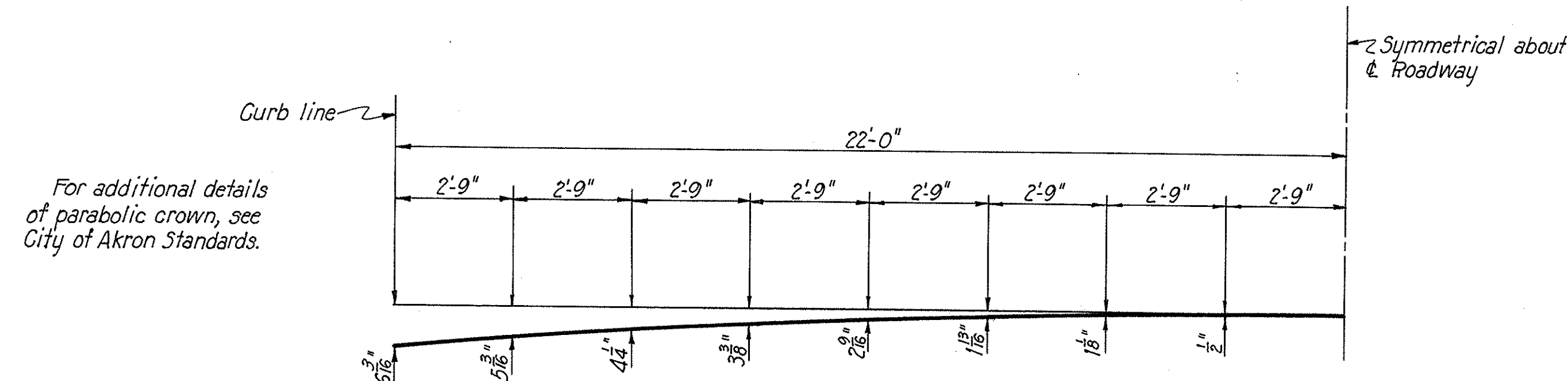
- LEGEND**
- (A) 3" Asphaltic Concrete Surface Course.
 - (B) 9" Reinforced Portland Cement Concrete Base Course.
 - (D) Type 2-A Modified Curb.
 - (E) 4" Portland Cement Concrete Sidewalk.
 - (L) Standard Longitudinal Joint.
 - (LH) Standard Longitudinal Joint with hook bolts.



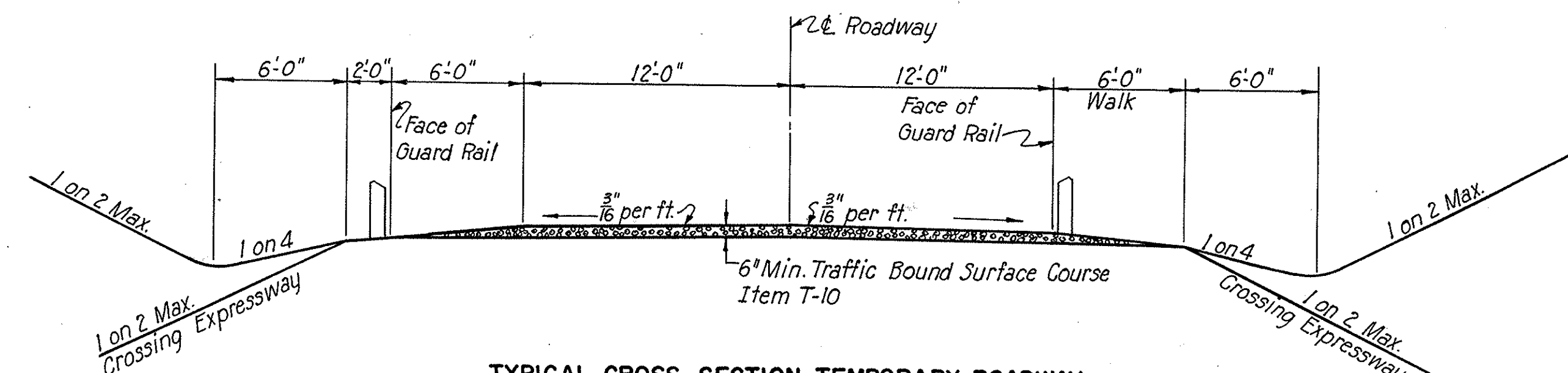
**CROSS SECTION AT WINGWALLS
PERKINS STREET**
Scale: $\frac{3}{16}'' = 1'-0''$



**CROSS SECTION AT WINGWALLS
FORGE STREET**
Scale: $\frac{3}{16}'' = 1'-0''$



PARABOLIC CROWN DETAIL
No Scale

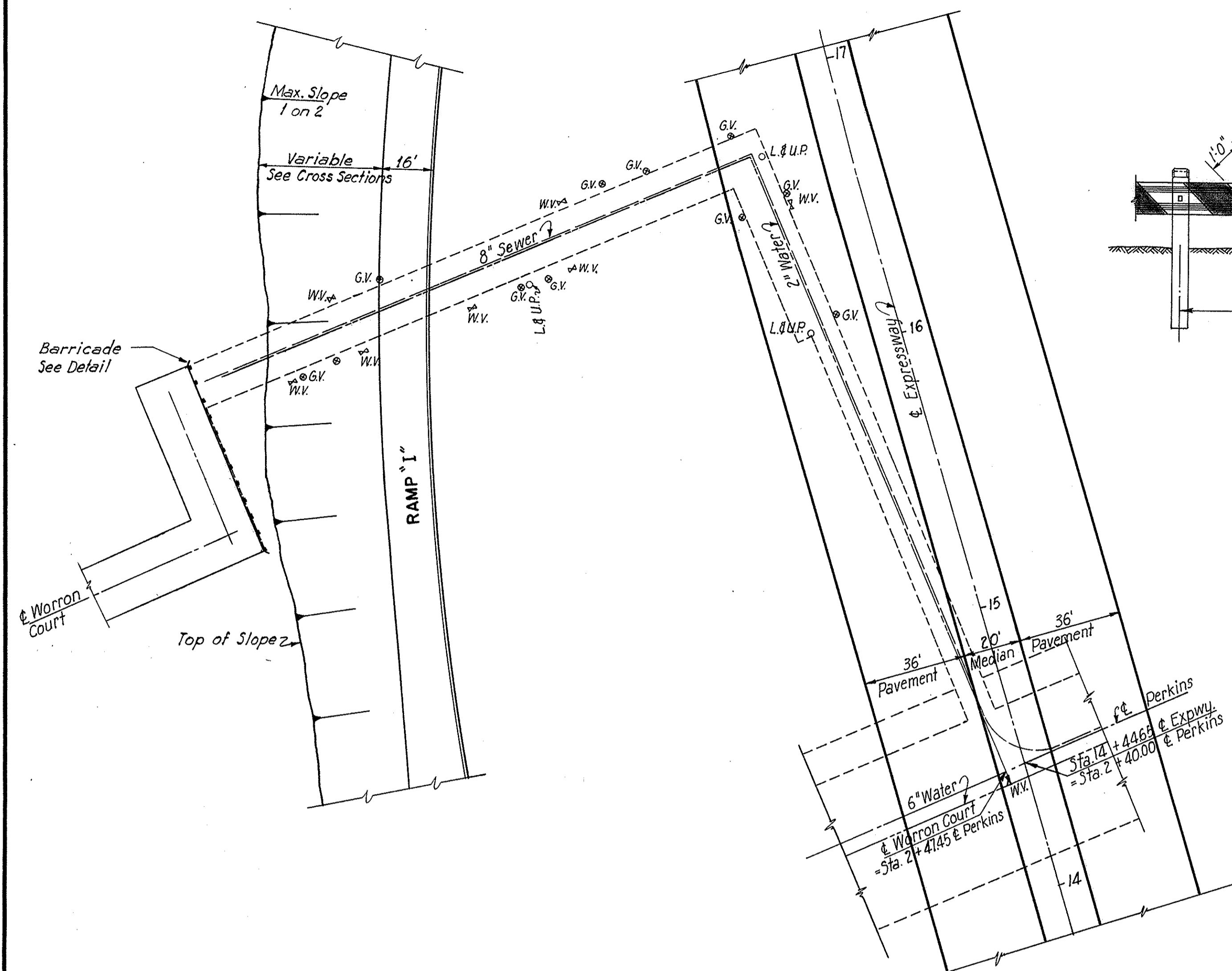


TYPICAL CROSS SECTION-TEMPORARY ROADWAY
Scale: $\frac{3}{16}'' = 1'-0''$

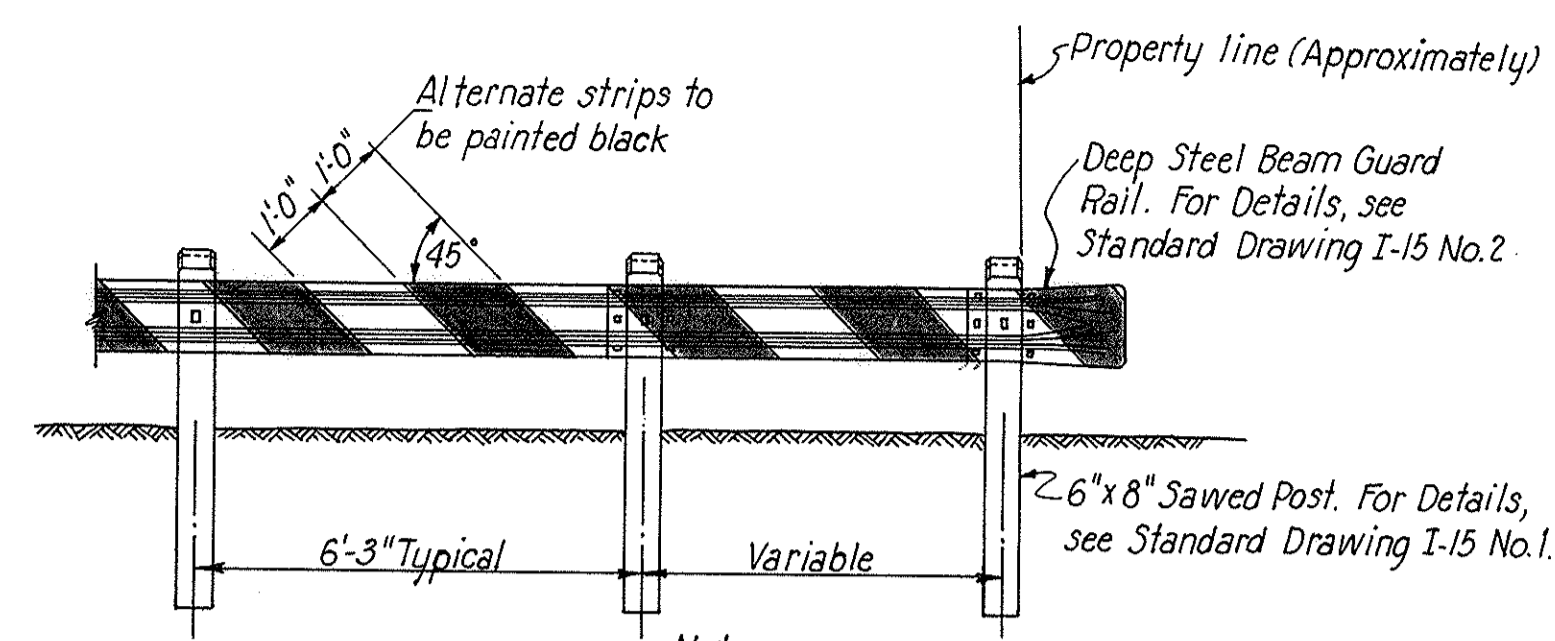
Note:
The cost of materials for Temporary Roadway except Items T-10 and M-10 shall be paid for as "Maintaining Traffic."

Note:
Expressway and ramp guard rail to be used temporarily.
The maximum allowable grade shall be 5%.

**SUMMIT COUNTY
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AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
ABANDONED STREETS**

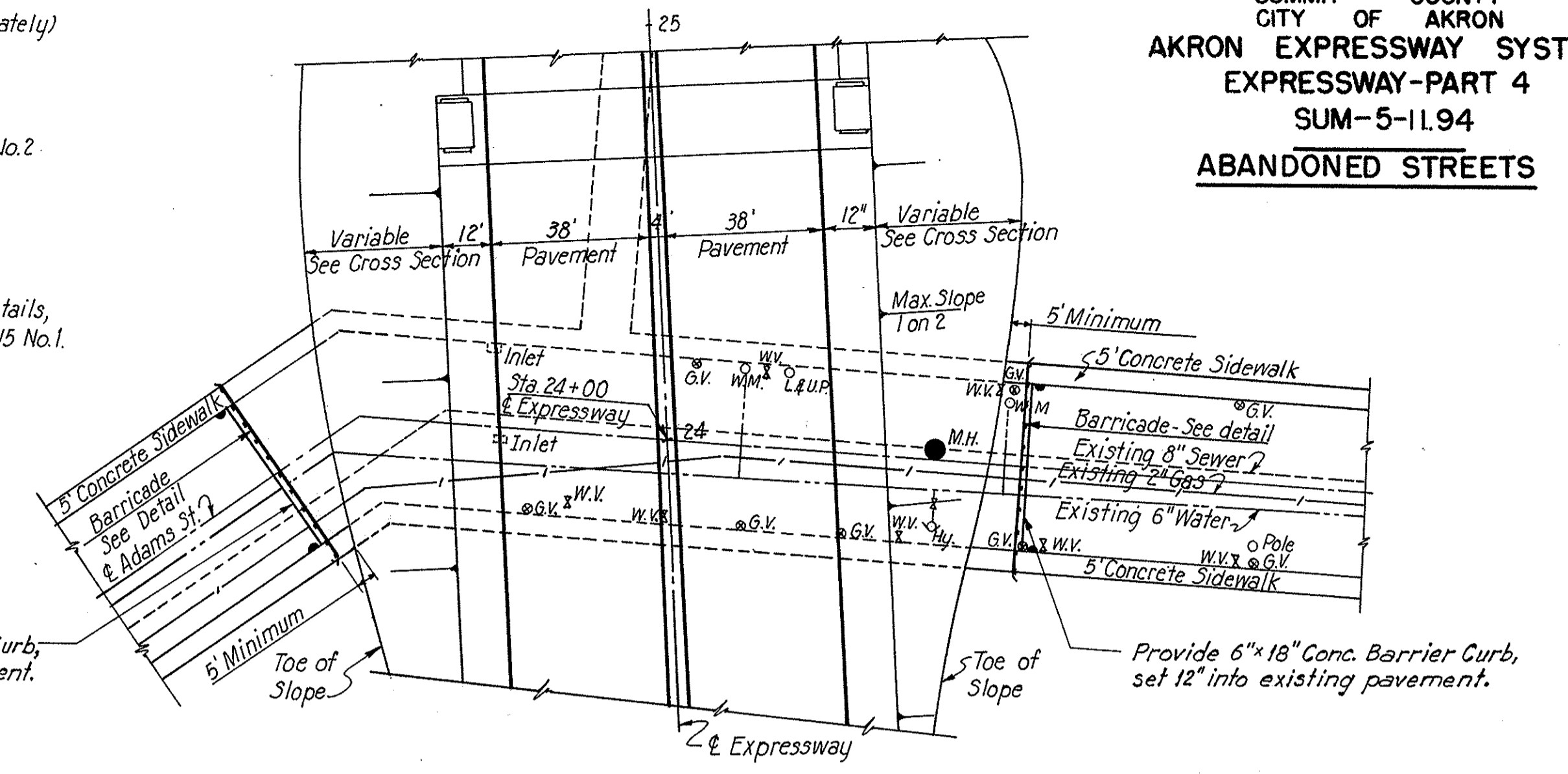


PLAN AT WORRON COURT

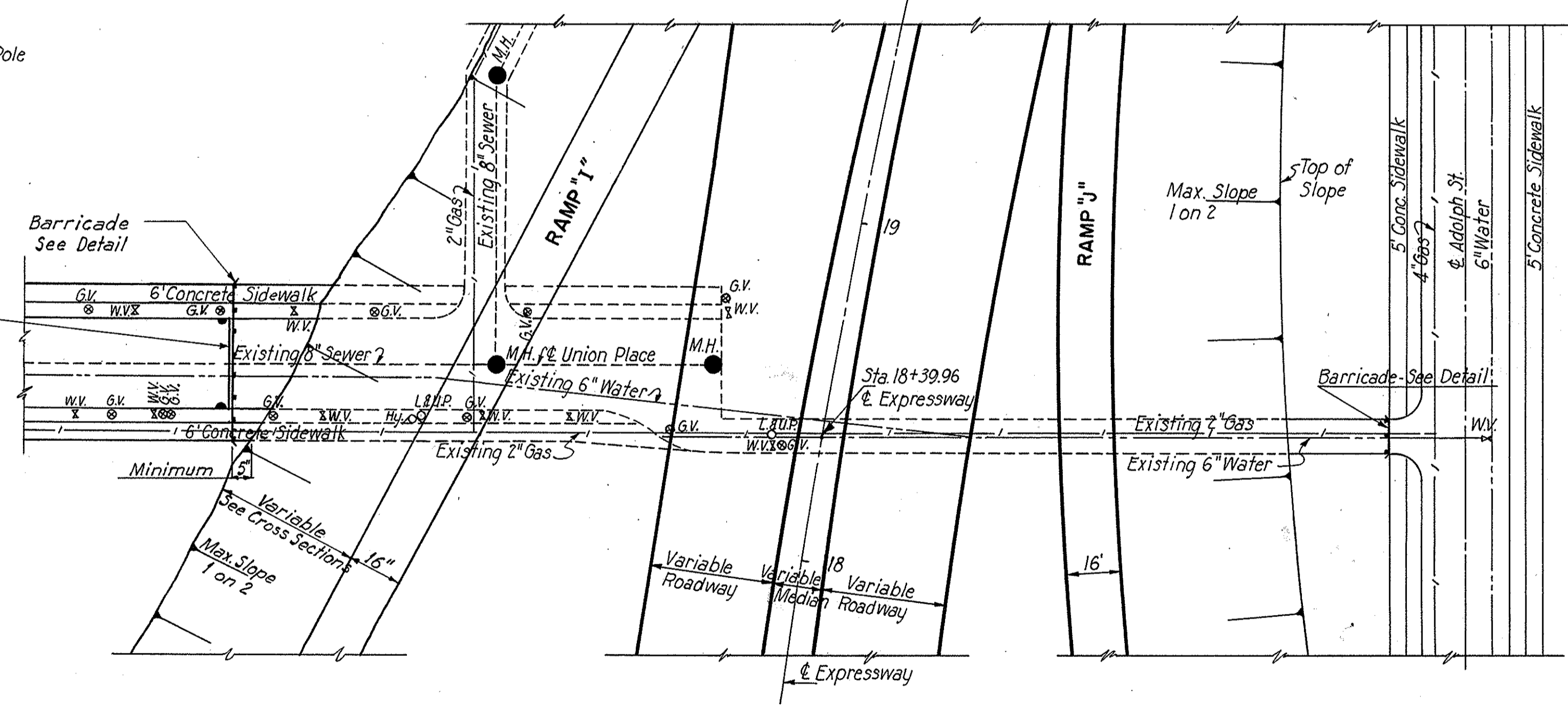


**BARRICADE
Scale: 3/8" = 1'-0"**

- LEGEND**
- Gas Valve
 - Water Valve
 - W— Water Meter
 - H— Hydrant
 - L.U.P.— Light and Utilities Pole
 - M.H.— Sewer Manhole
 - Akron No. 3 Inlet

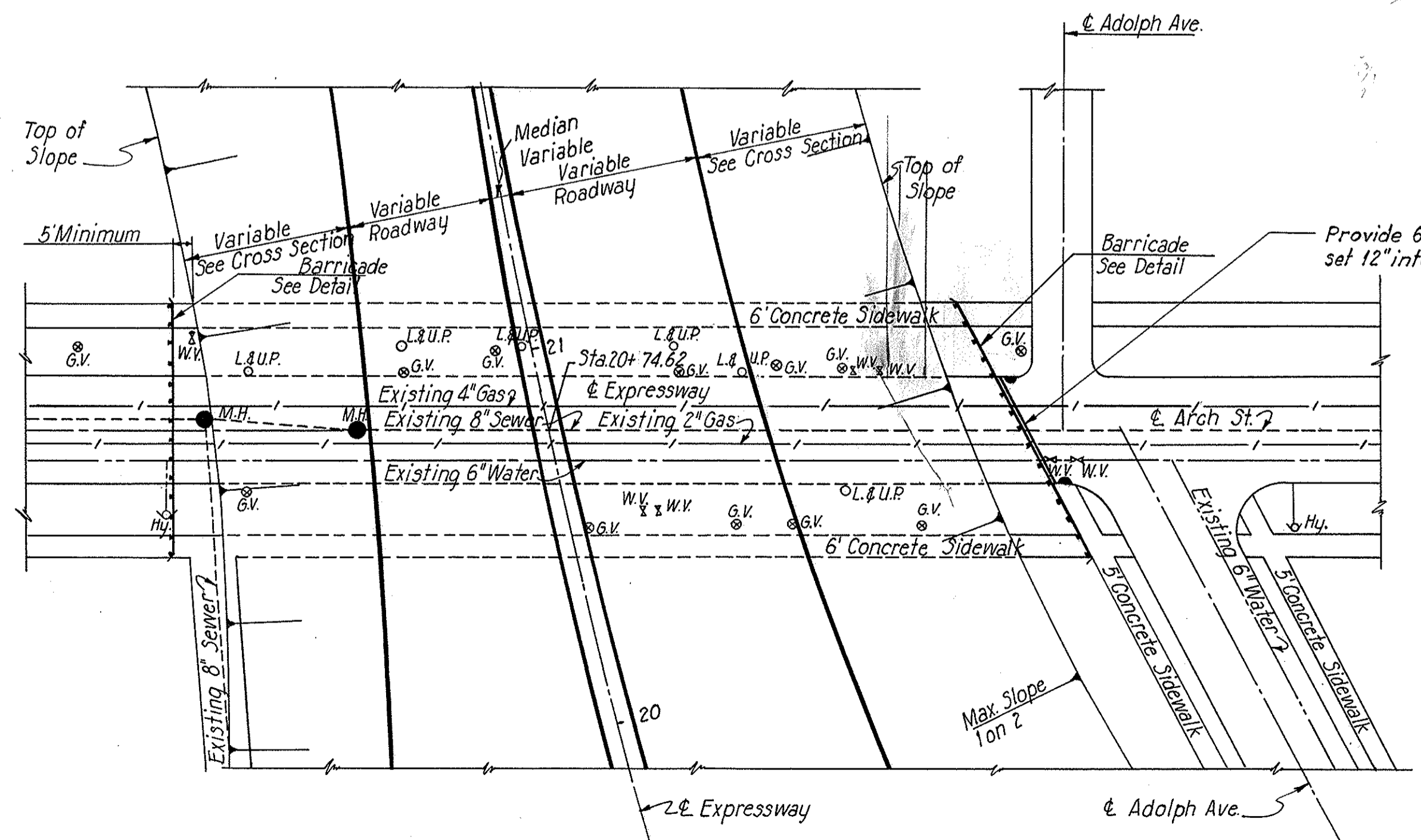


PLAN AT ADAMS STREET



PLAN AT UNION PLACE

See Suppl. Sheet 30A

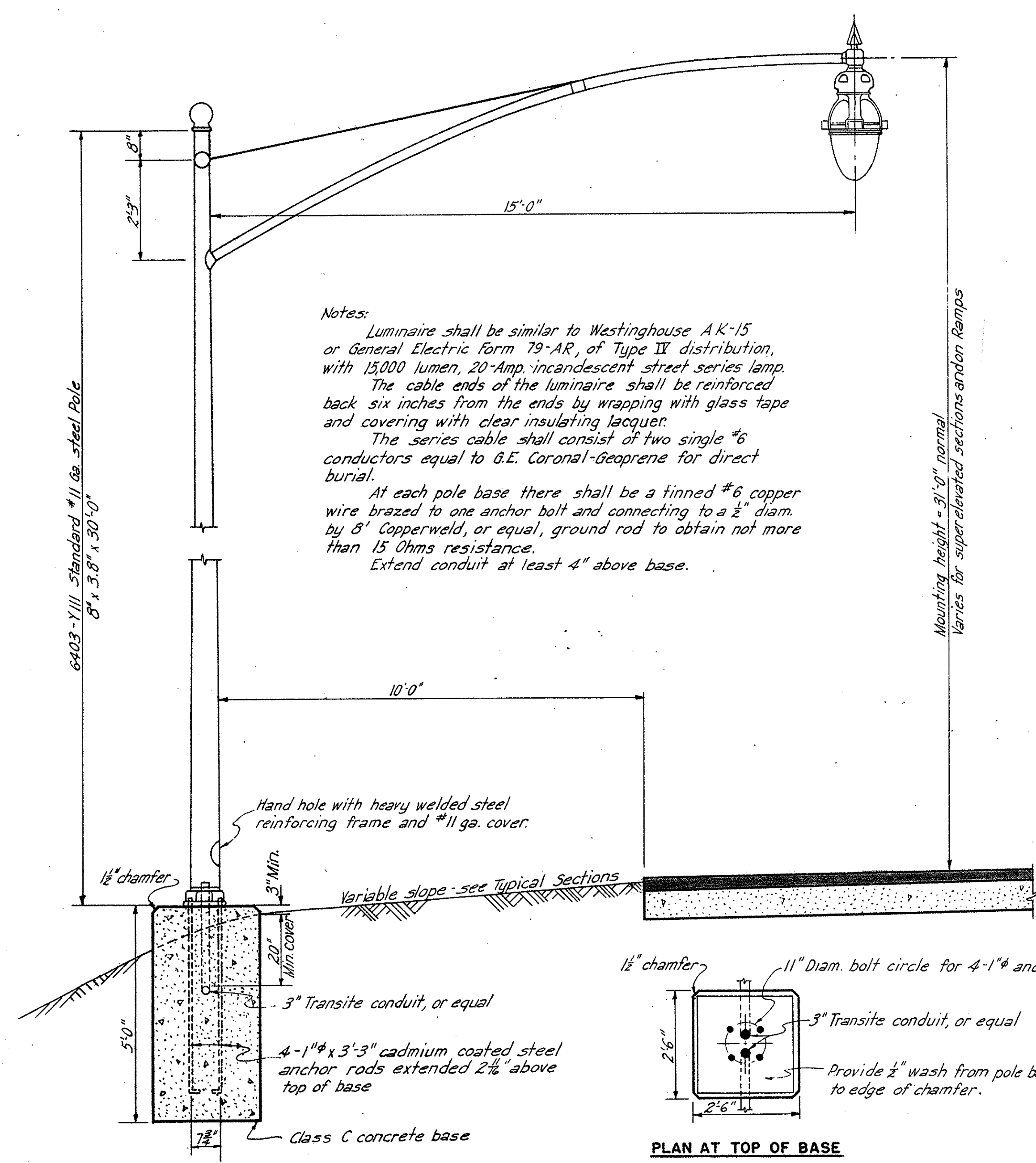


PLAN AT ARCH STREET

| ESTIMATED QUANTITIES | | | | |
|---|--------------|-------------|--------------|--------------|
| ITEM | WORRON COURT | UNION PLACE | ARCH STREET | ADAMS STREET |
| Removal and disposal of existing concrete sidewalk | 1120 Sq.Ft. | 1400 Sq.Ft. | 2400 Sq.Ft. | |
| Removal and disposal of existing stone gutter | 365 Lin.Ft. | | | |
| Removal and disposal of existing concrete gutter | | 254 Lin.Ft. | | |
| Removal and disposal of existing sandstone curb | | 254 Lin.Ft. | 400 Lin.Ft. | |
| Removal and disposal of existing pavement (brick on concrete) | | 530 Sq.Yds. | | |
| Removal and disposal of existing brick pavement | 740 Sq.Yds. | | 620 Sq.Yds. | |
| Guard rail (Used as barricade) | | 50 Lin.Ft. | 1375 Lin.Ft. | 100 Lin.Ft. |
| 2" Pipe removed and stored (water main) | 435 Lin.Ft. | | | |
| 6" Pipe removed and stored (water main) | | 365 Lin.Ft. | 225 Lin.Ft. | |
| 6" x 18" Conc. Barrier Curb | | 26 Lin.Ft. | 32 Lin.Ft. | 80 Lin.Ft. |

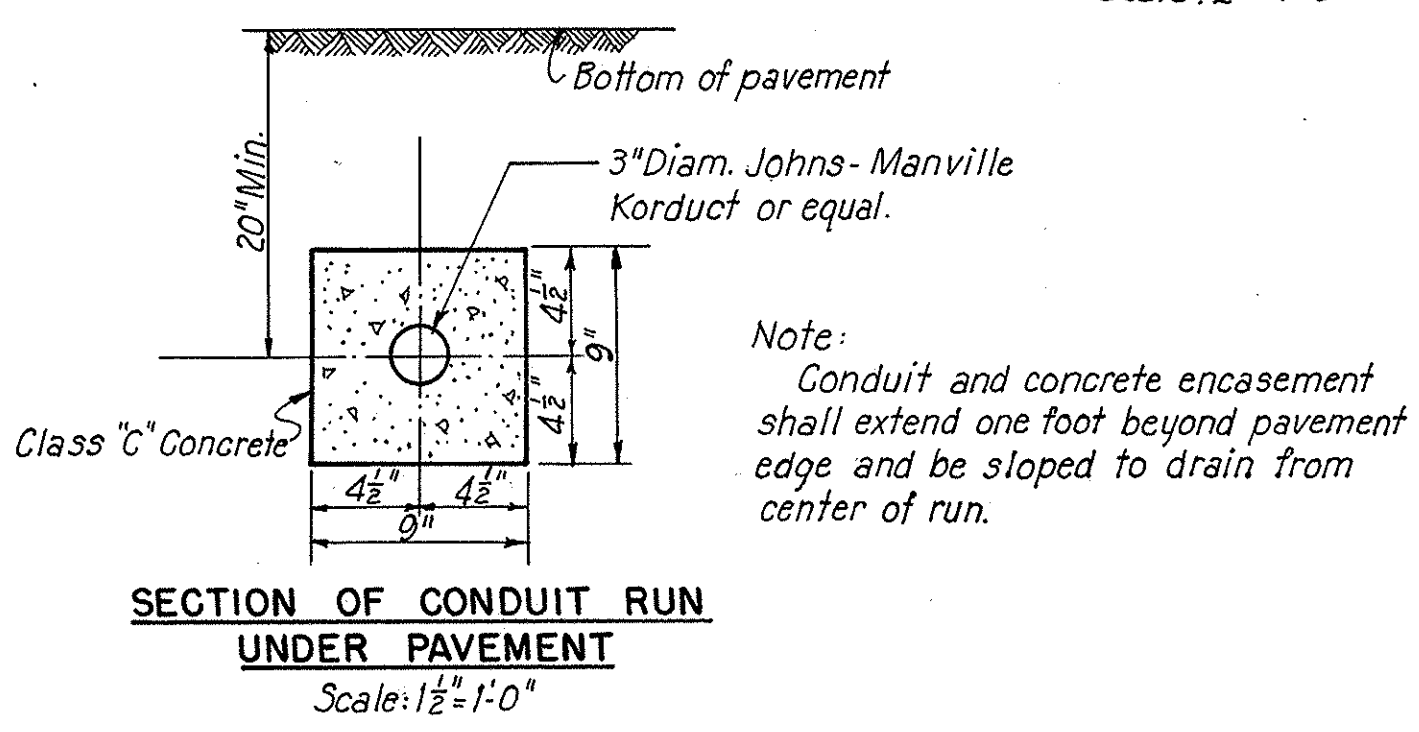
Note:
The water mains shall be cut and plugged outside of the limits of the R/W by the City of Akron Water Dept. The Contractor shall remove the mains across the Expressway. Pipe removed shall remain the property of the City and shall be stored on the R/W as directed by the Engineer. The 6" water main on Adams Street shall remain. All gas lines between the R/W limits of Expressway will be moved, removed or cut, plugged and abandoned by others. All poles between the R/W limits of the Expressway will be moved by others. Sewers shall be removed or abandoned in accordance with the Drainage Plans. For location and details of new sewers, see Drainage Plans.

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
MISCELLANEOUS DETAILS



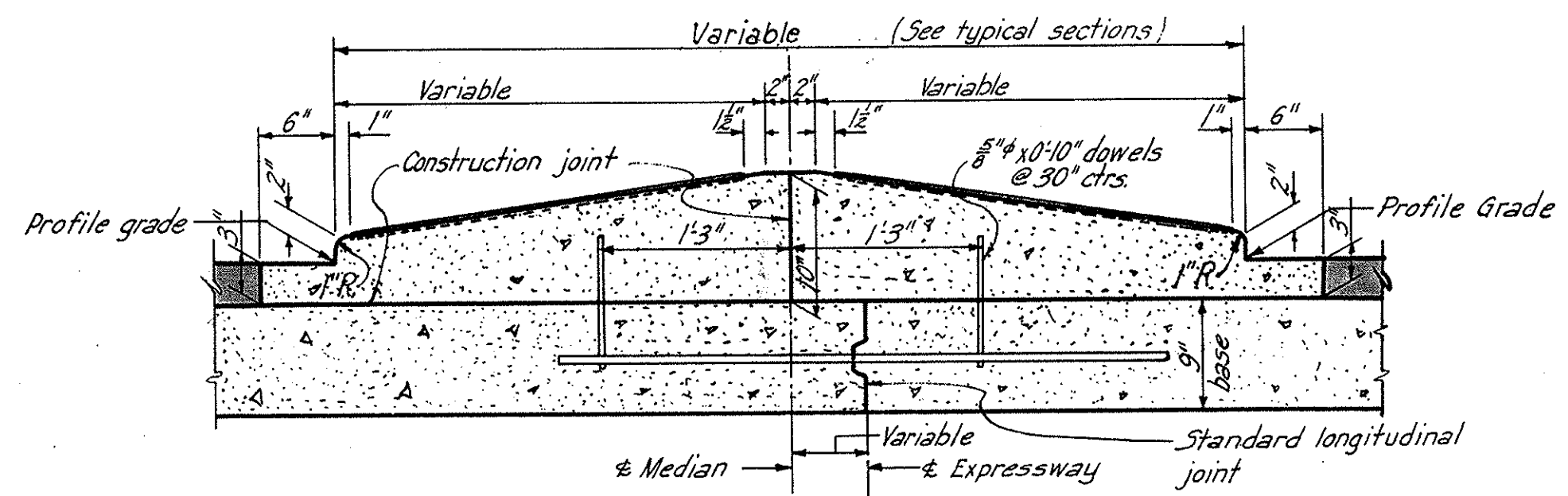
Notes:
Luminaire shall be similar to Westinghouse AK-15 or General Electric Form 79-AR, of Type II distribution, with 15,000 lumen, 20-Amp. incandescent street series lamp. The cable ends of the luminaire shall be reinforced back six inches from the ends by wrapping with glass tape and covering with clear insulating lacquer. The series cable shall consist of two single #6 conductors equal to G.E. Coronal-Geoprene for direct burial. At each pole base there shall be a tinned #6 copper wire brazed to one anchor bolt and connecting to a 1/2" diam. by 8' Copperweld, or equal, ground rod to obtain not more than 15 Ohms resistance. Extend conduit at least 4" above base.

TYPICAL ROADWAY LIGHTING UNIT
Scale: 1/2" = 1'-0"

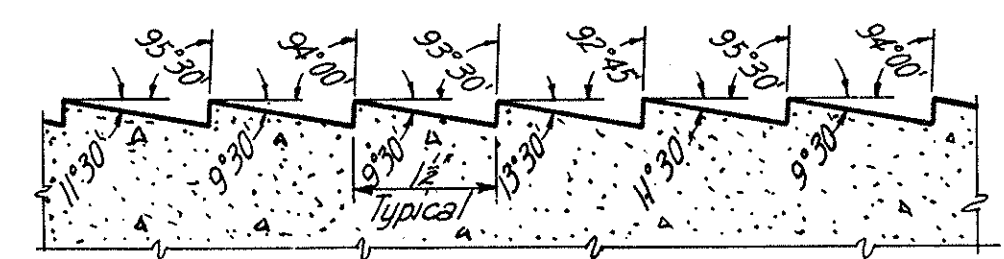


Note:
Conduit and concrete encasement shall extend one foot beyond pavement edge and be sloped to drain from center of run.

SECTION OF CONDUIT RUN UNDER PAVEMENT
Scale: 1/2" = 1'-0"

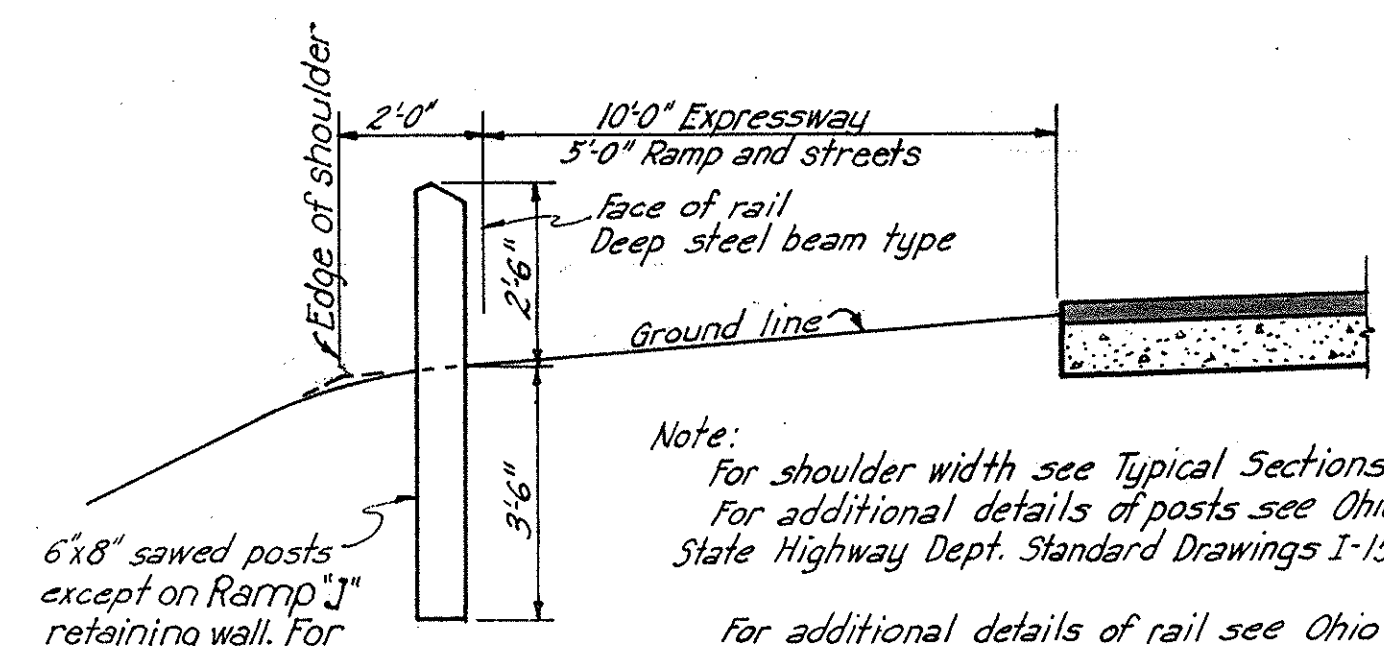


TYPICAL SECTION
Scale: 1" = 1'-0"



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

REFLECTORIZED MEDIAN DETAILS

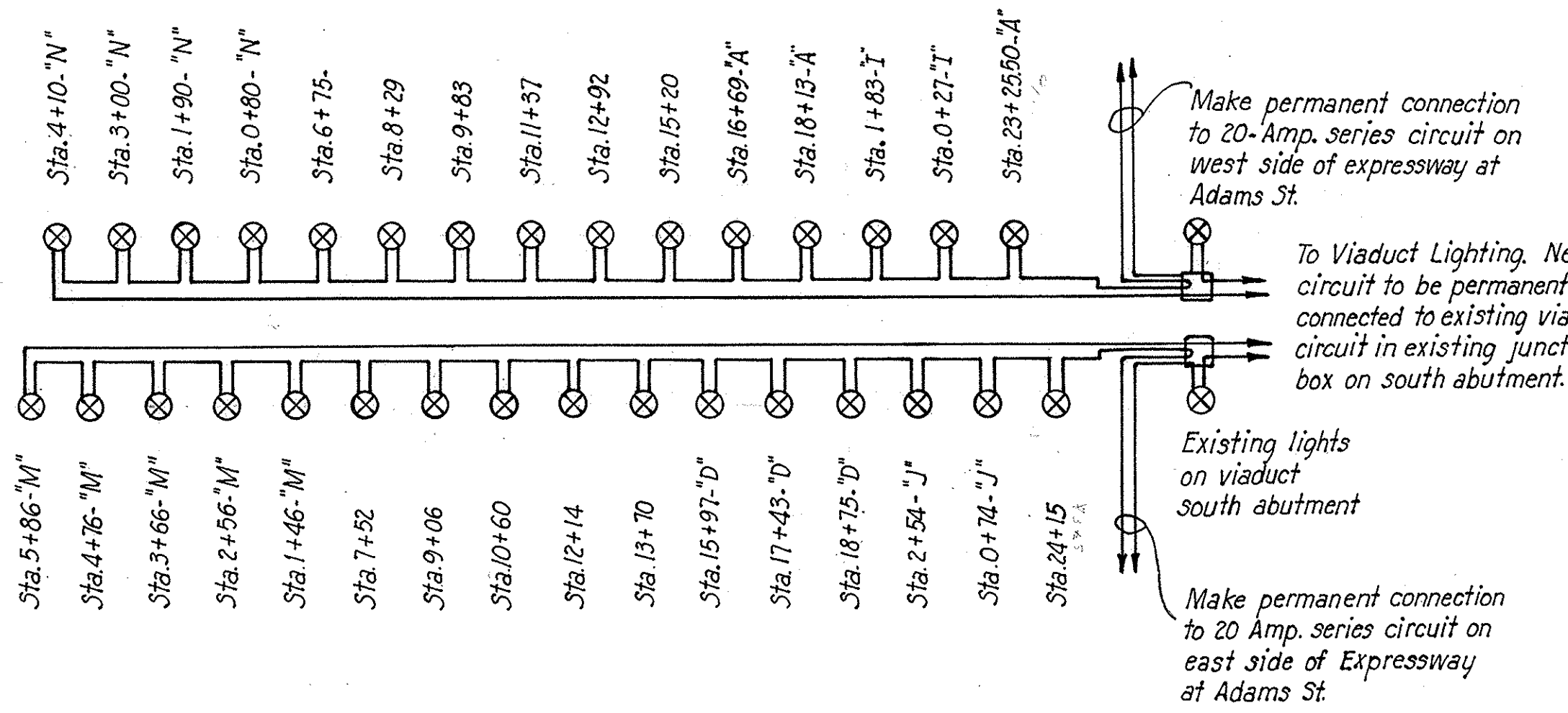


Note:
For shoulder width see Typical Sections
For additional details of posts see Ohio State Highway Dept. Standard Drawings I-15 No. 1

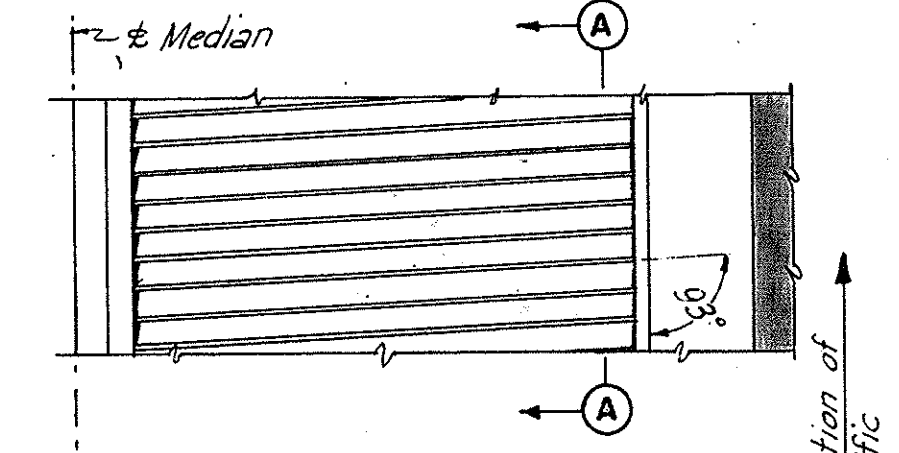
For additional details of rail see Ohio State Highway Dept. Standard Drawing I-15 No. 2.

GUARD RAIL SECTION
Scale: 3/8" = 1'-0"

For location see pavement and ramp details.

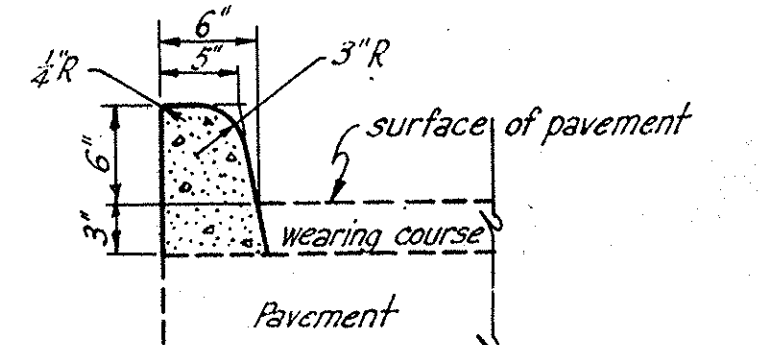


LIGHTING DIAGRAM
No Scale

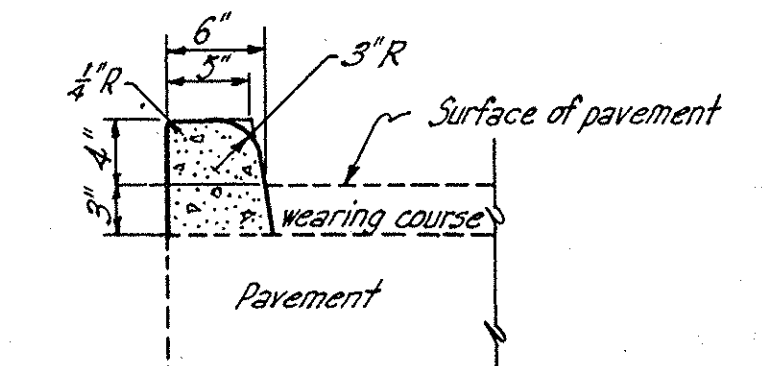


HALF PLAN
Scale: 1" = 1'-0"

Notes:
For location of median see Pavement Details. The 1/2" of present concrete median shall be centered between edges 'B' and 'C'. The circular nose at the median terminus shall be a smooth surface.



TYPE 2-A MODIFIED



TYPE 4-A MODIFIED

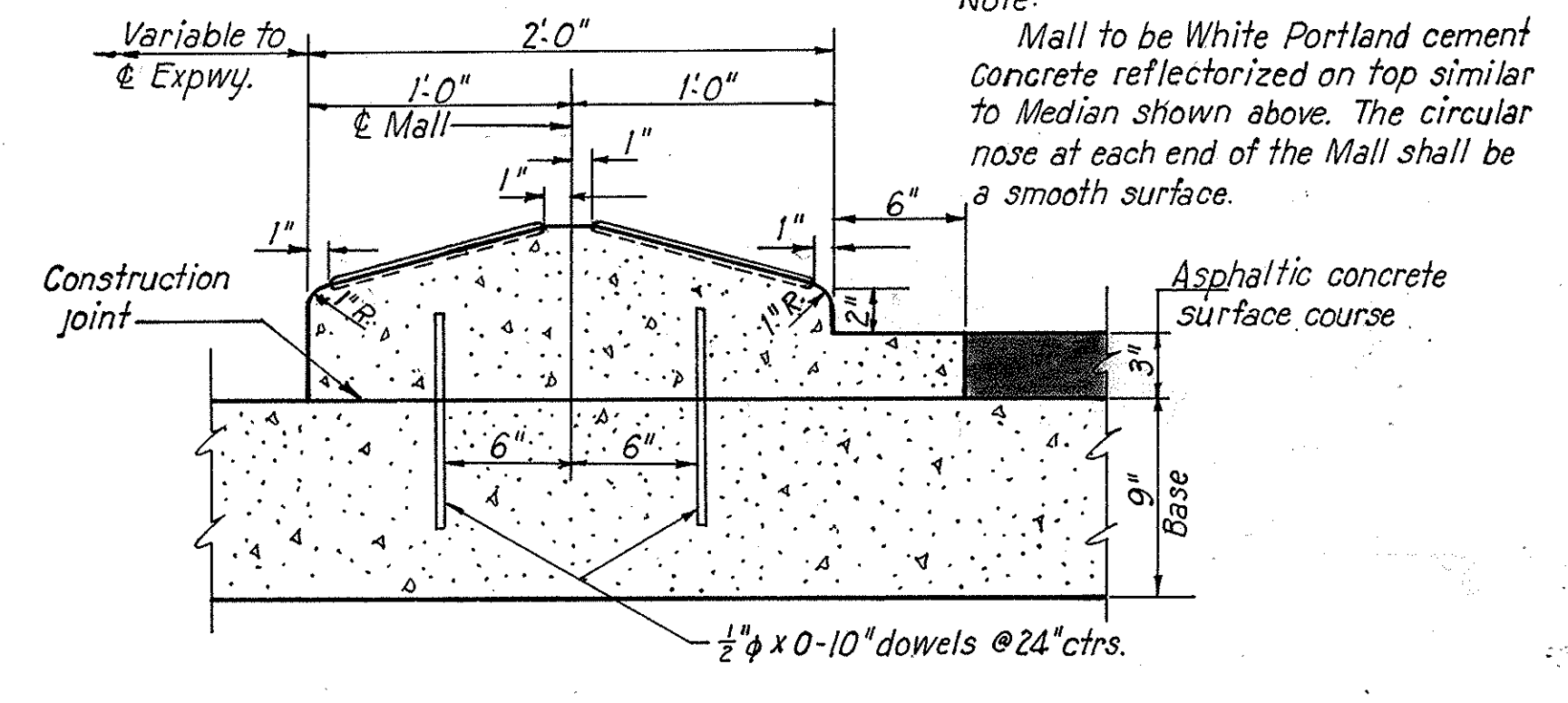
CURB DETAILS

Scale: 1" = 1'-0"

PAVEMENT JOINT LEGEND

- Longitudinal key joint with tie bar _____ L _____
- Longitudinal key joint with hook bolts _____ LH _____
- Longitudinal key joint with cap stud _____ LS _____
- Transverse expansion joint _____ E _____
- Transverse construction joint _____ C _____

Note: For details of joints see Standard Drawings.



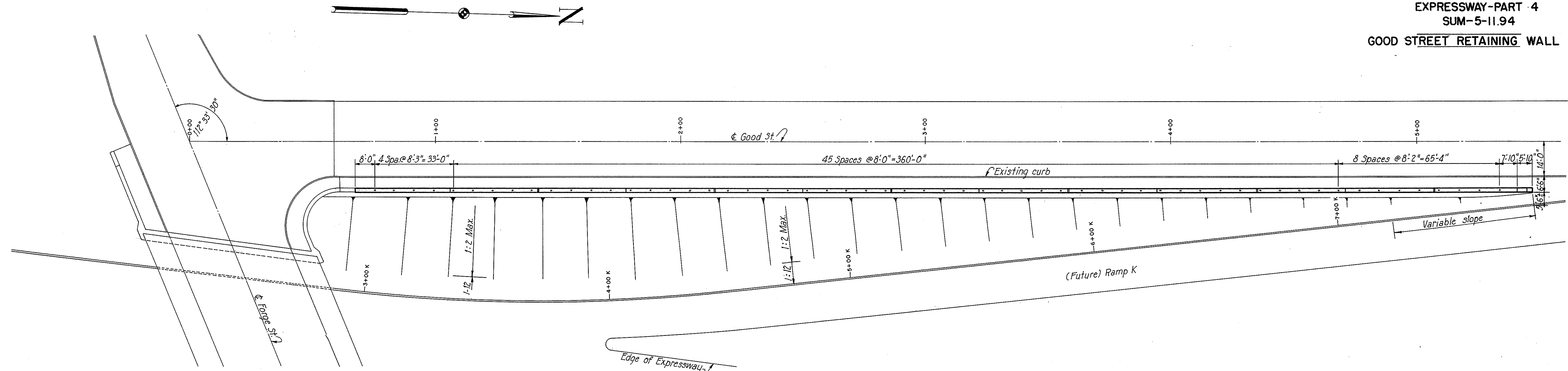
DETAILS OF TEMPORARY MALL
Scale: 1 1/2" = 1'-0"

| | | | |
|--------------------|-------|--------------------|------------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS |
| 2 | OHIO | U-687(7) | POST WAR |

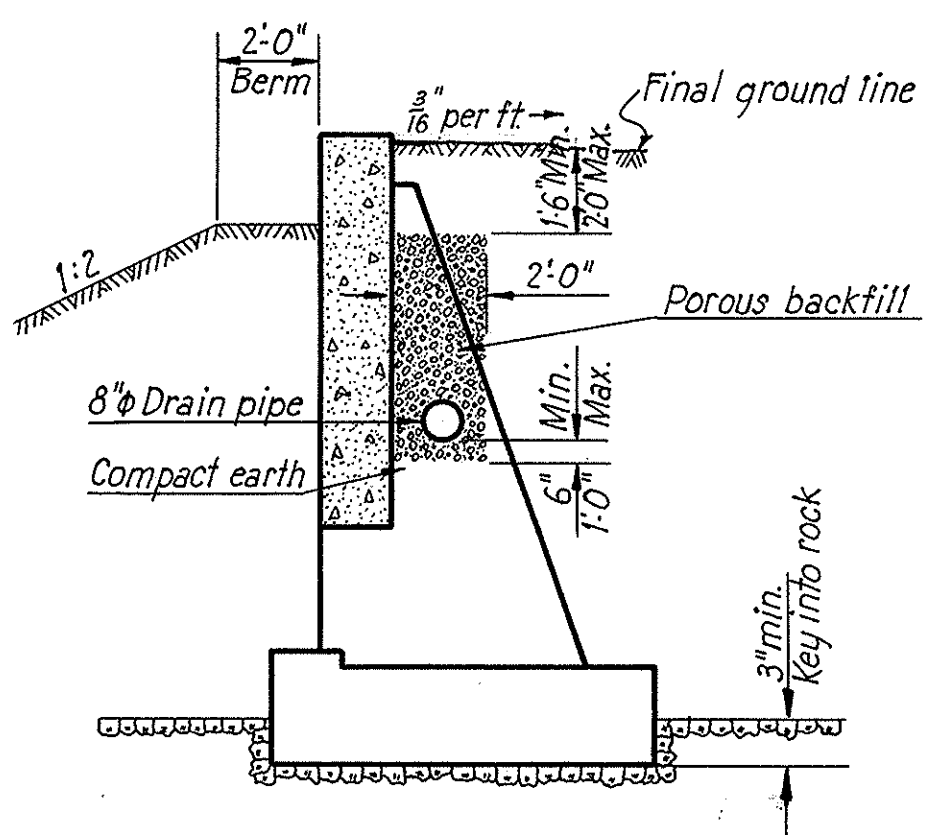
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74

SUMMIT COUNTY
CITY OF AKRON
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EXPRESSWAY-PART 4
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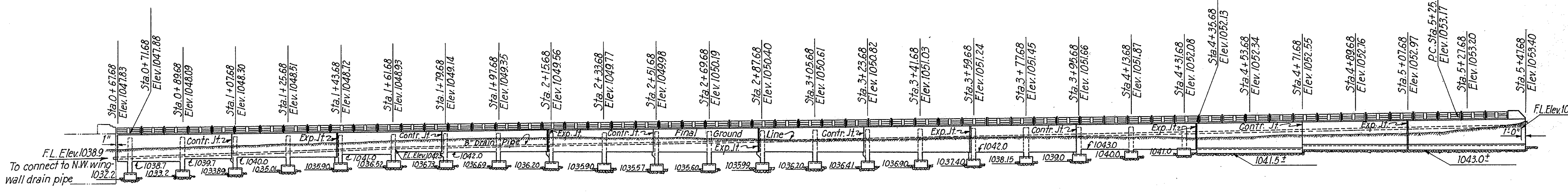
GOOD STREET RETAINING WALL



PLAN

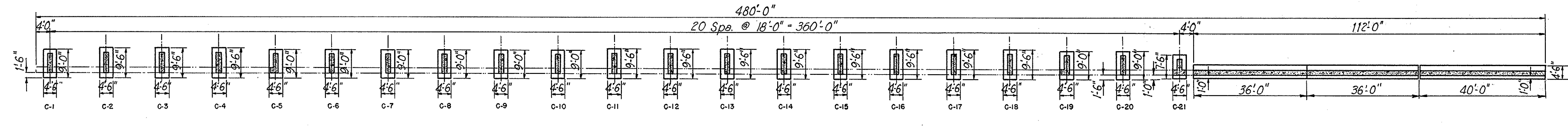


WALL SECTION
Not to scale



ELEVATION
Scale: 1" = 20'

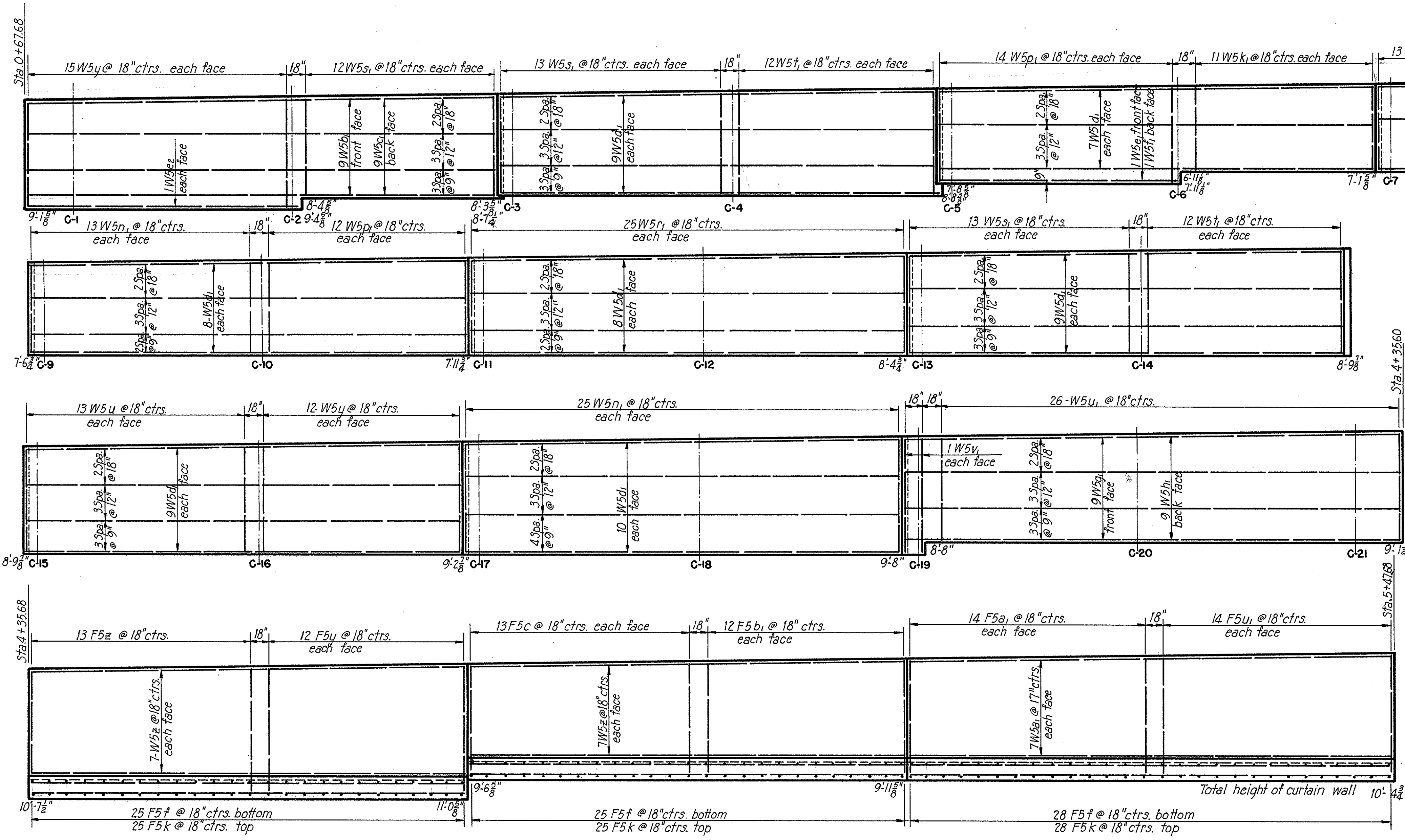
Note: Porous backfill shall conform to Items S-29.02 and S-29.04.
Pipe shall be 8" bituminous coated perforated C.M.P. conforming to Sec.M-6A (F) with necessary fittings. At south end of wall, the pipe shall project so as to permit connection to the 8" drain pipe in the northwest wingwall of Forge St underpass. Upper end of the pipe shall be tightly closed with permanent header made of No.16 gauge sheet metal.
Grade of pipe shall be 1/4" per ft. minimum.



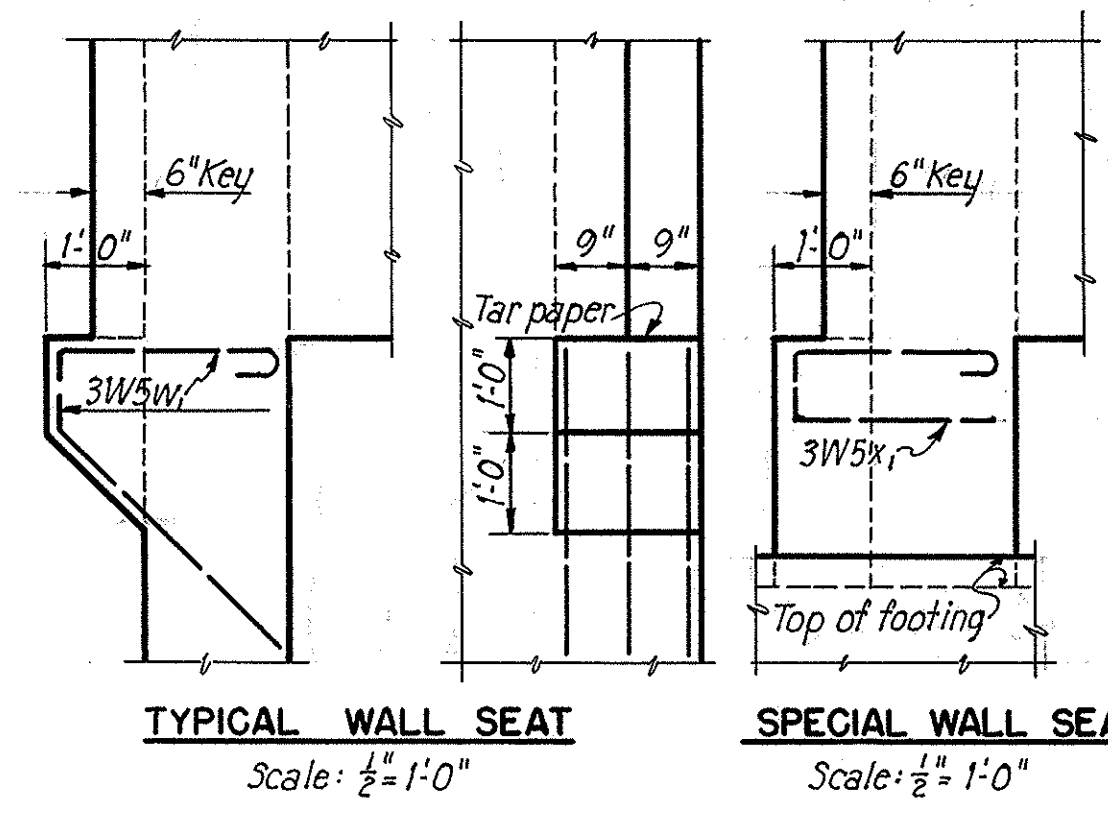
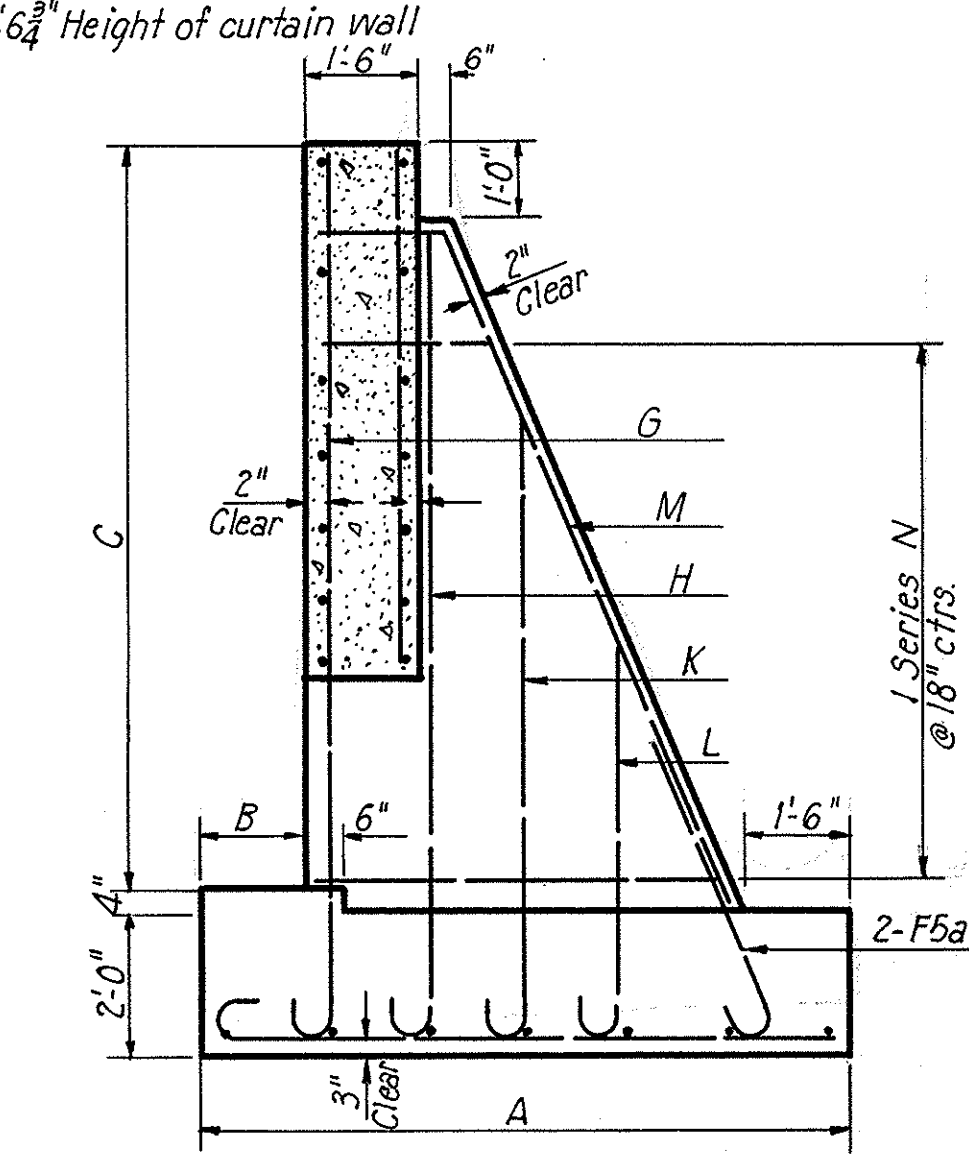
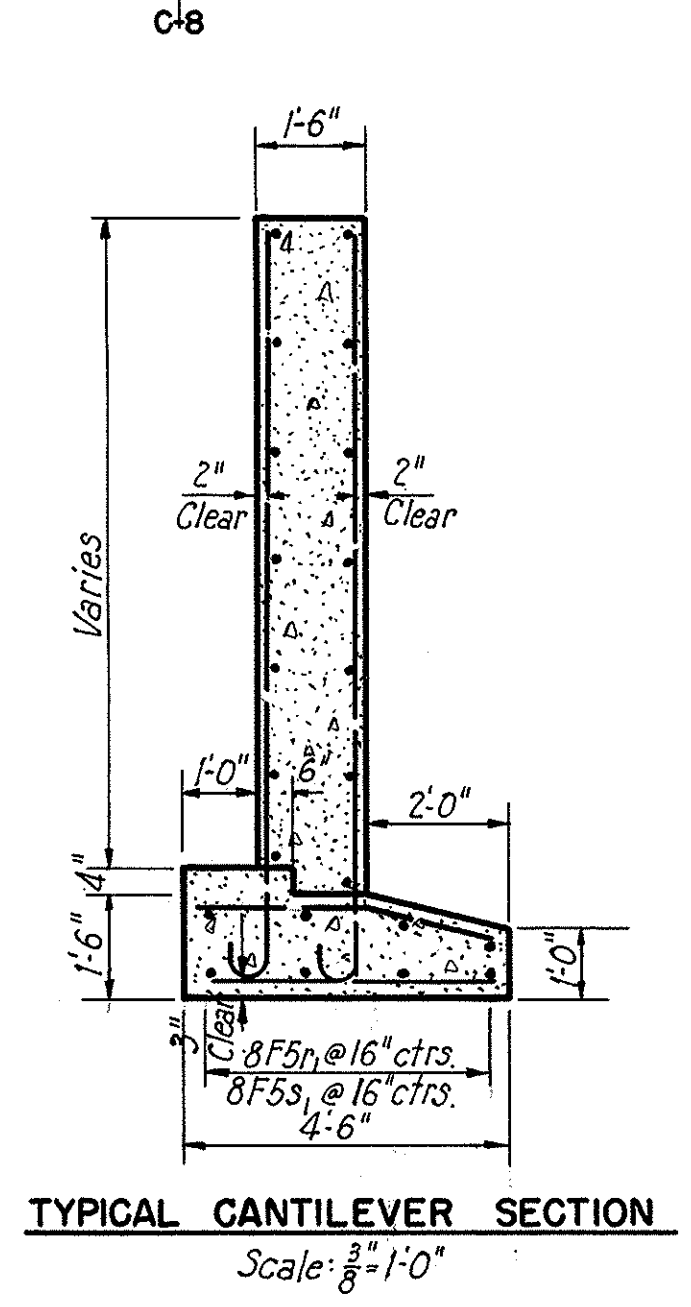
FOOTING PLAN
Scale: 1" = 20'

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SUMMIT COUNTY CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
GOOD STREET RETAINING WALL

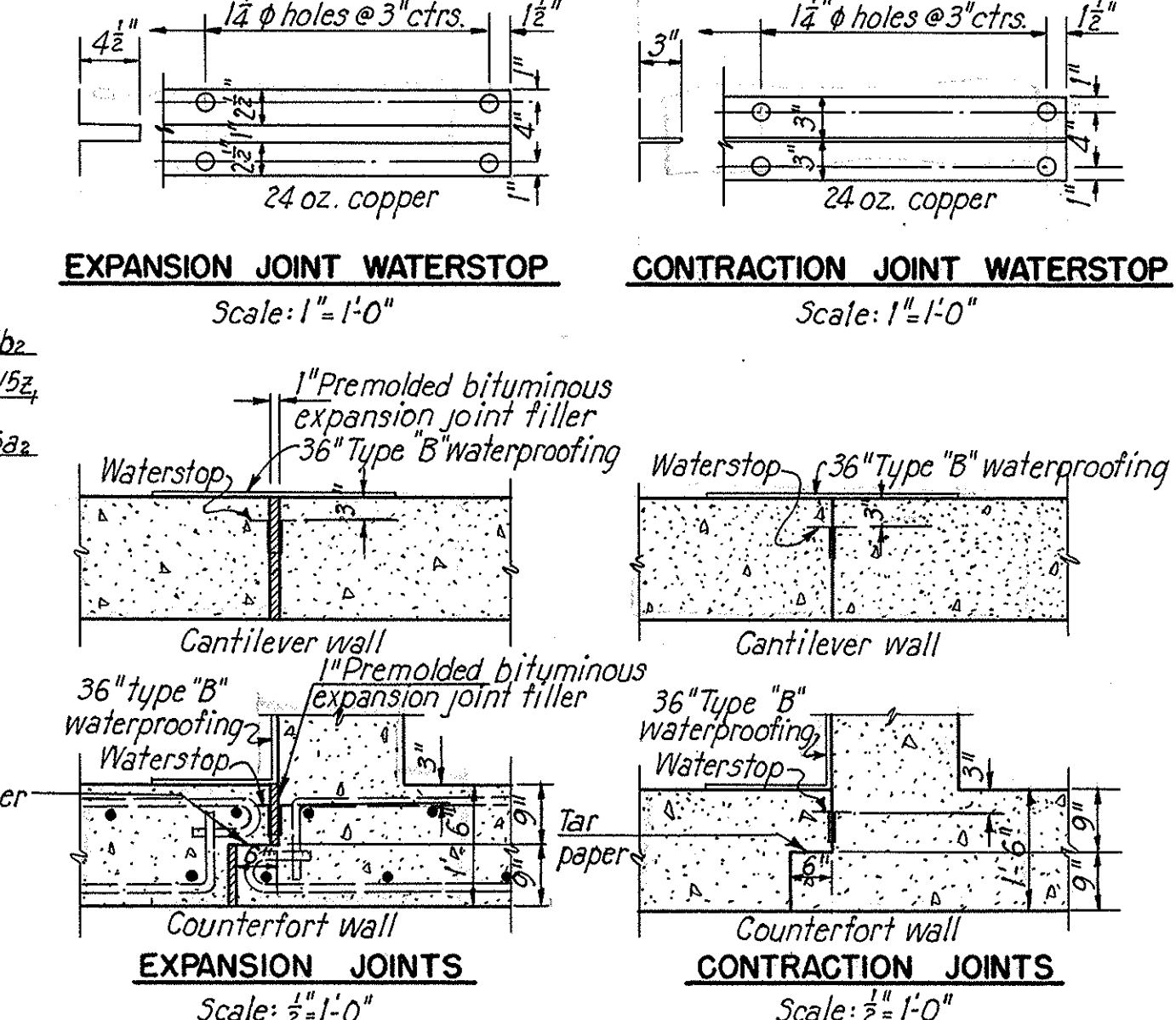
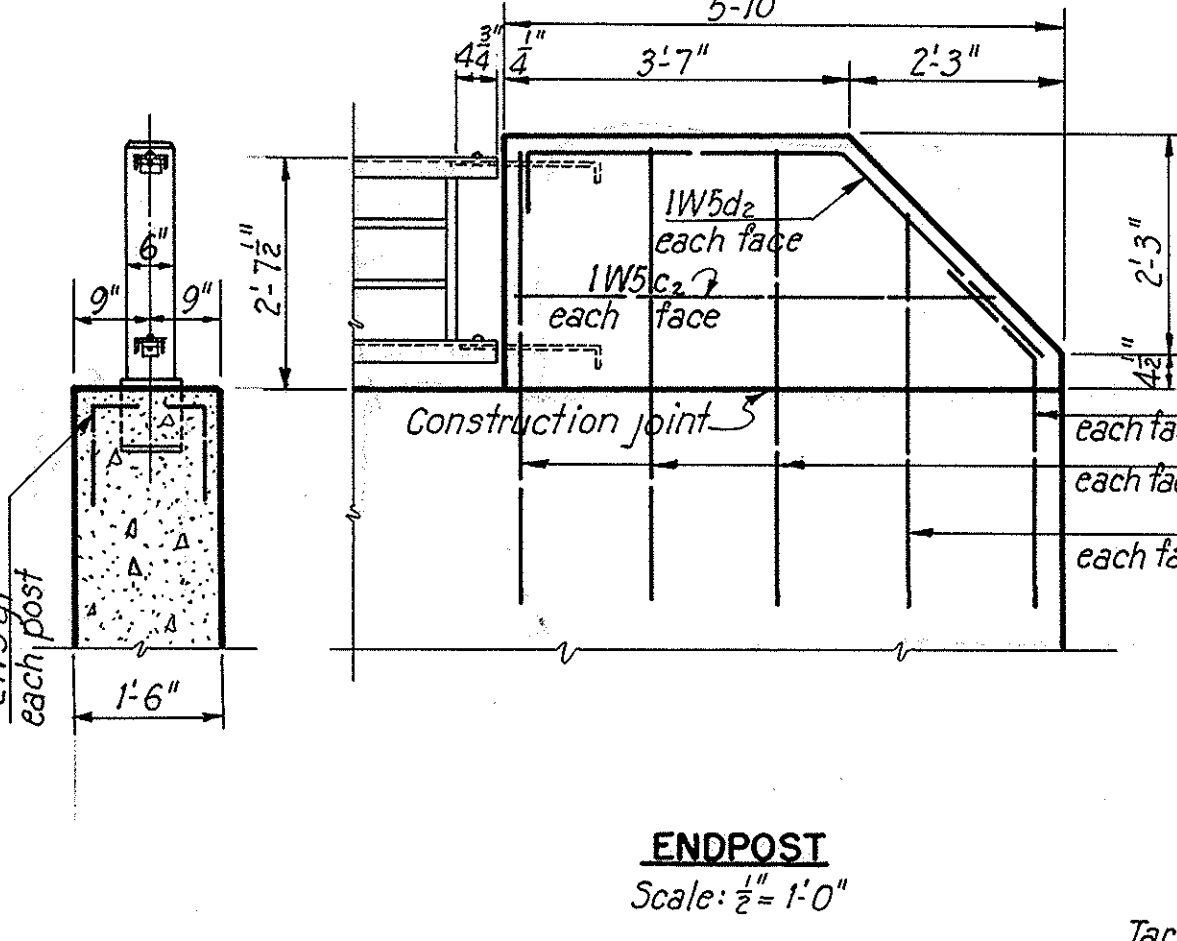
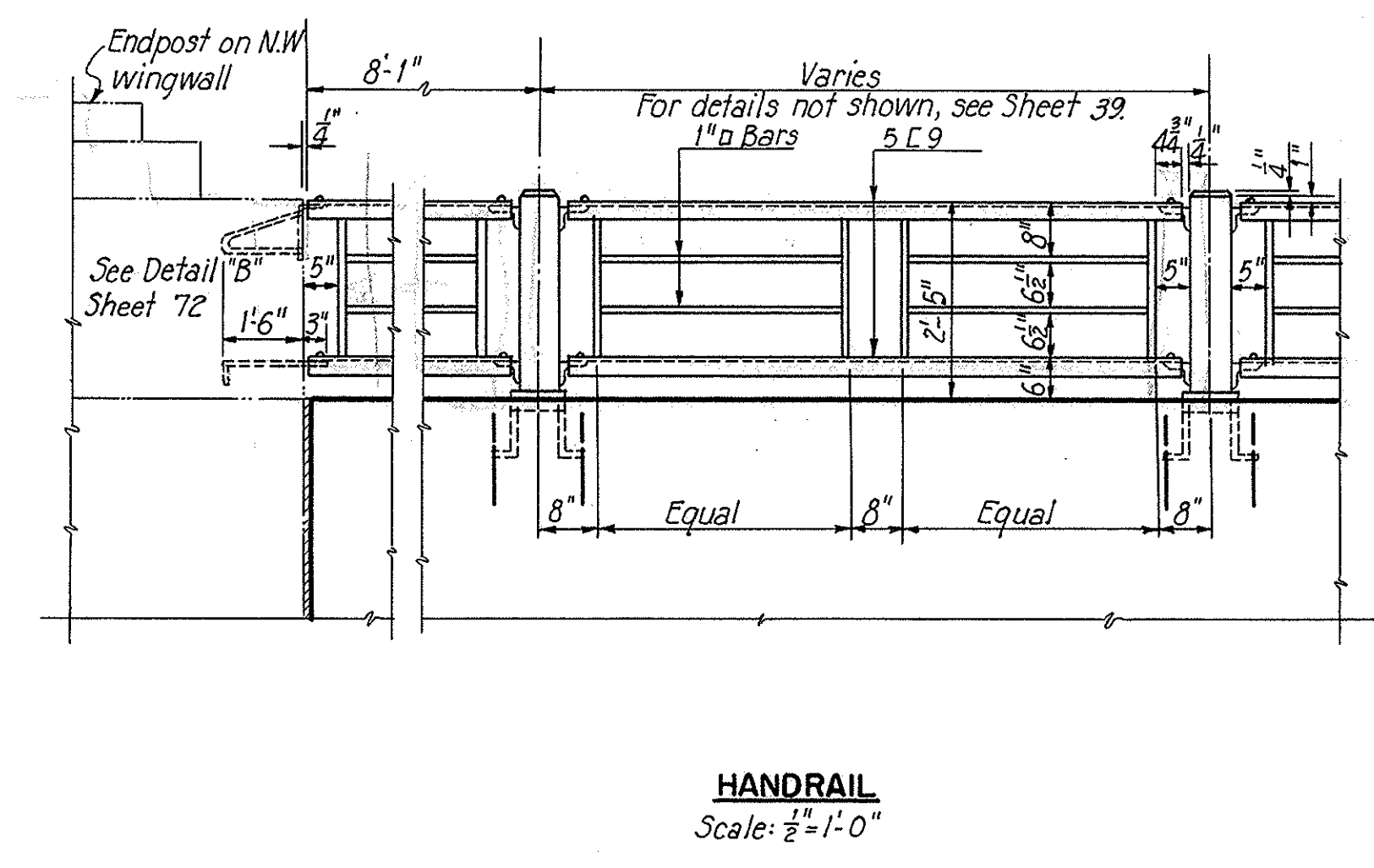


ELEVATIONS
 Scale: $\frac{3}{16}'' = 1'-0''$



Note: Special wall seats are used at counterforts 5, 11 and 19.

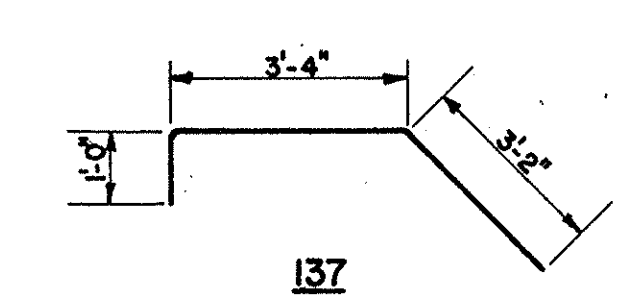
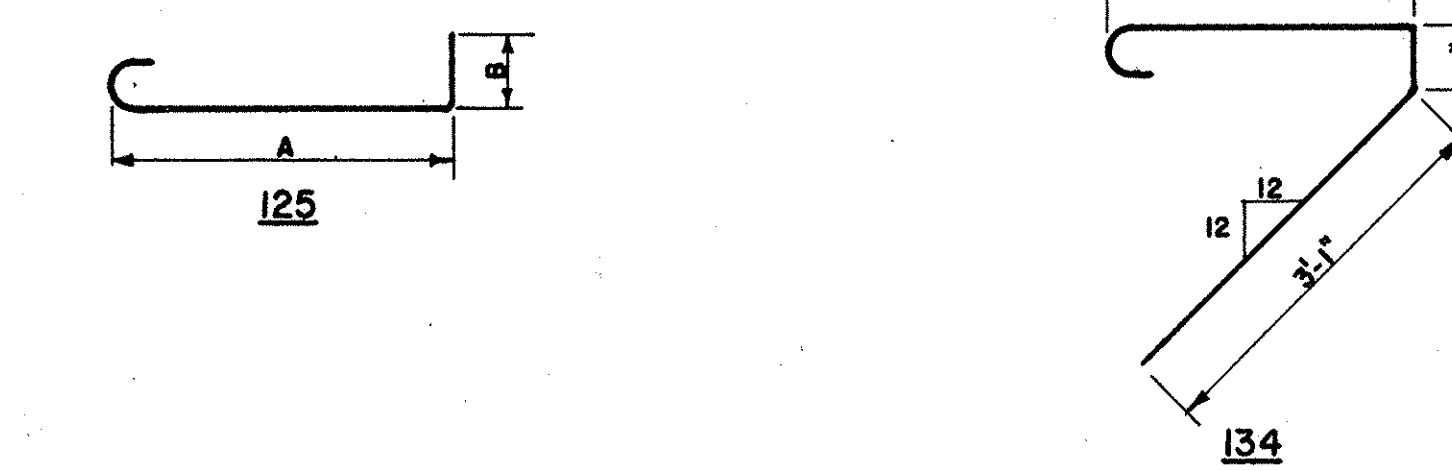
| COUNTERFORT | TABLE FOR COUNTERFORTS | | | | | | | | | | | |
|-------------|------------------------|-------|------------|------|------|------|------|-------|-------|-------|------|------|
| | A | B | C | D | E | F | G | H | K | L | M | N |
| 1 | 9'-0" | 1'-6" | 13'-4 1/2" | 4F5b | 3F5f | 7F5q | 2F5h | 2F5v | 2F5e1 | 2F5h1 | 2W5a | 8W5p |
| 2 | 9'-6" | 1'-6" | 12'-6 3/4" | 4F5e | 3F5f | 7F5q | 2F5k | 2F5w | 2F5d1 | 2F5n1 | 2W5b | 7W5r |
| 3 | 9'-6" | 1'-6" | 12'-1" | 4F5e | 3F5f | 7F5q | 2F5m | 2F5n | 2F5d1 | 2F5n1 | 2W5m | 7W5s |
| 4 | 9'-6" | 1'-6" | 11'-2" | 4F5e | 3F5f | 7F5q | 2F5n | 2F5s | 2F5e | 2F5m1 | 2W5c | 6W5v |
| 5 | 9'-0" | 1'-6" | 10'-5 1/8" | 4F5b | 3F5f | 7F5q | 2F5t | 2F5x | 2F5c1 | 2F5m1 | 2W5d | 6W5v |
| 6 | 9'-0" | 1'-6" | 10'-1" | 4F5b | 3F5f | 7F5q | 2F5r | 2F5e1 | 2F5n1 | 2F5m1 | 2W5e | 5W5t |
| 7 | 9'-0" | 1'-6" | 10'-1" | 4F5b | 3F5f | 7F5q | 2F5s | 2F5f1 | 2F5g1 | 2F5m1 | 2W5e | 5W5t |
| 8 | 9'-0" | 1'-6" | 10'-4" | 4F5b | 3F5f | 7F5q | 2F5t | 2F5x | 2F5c1 | 2F5m1 | 2W5d | 6W5v |
| 9 | 9'-0" | 1'-6" | 11'-0 3/8" | 4F5b | 3F5f | 7F5q | 2F5n | 2F5f1 | 2F5d1 | 2F5m1 | 2W5h | 6W5w |
| 10 | 9'-0" | 1'-6" | 11'-6 1/2" | 4F5b | 3F5f | 7F5q | 2F5w | 2F5t | 2F5a1 | 2F5m1 | 2W5c | 7W5x |
| 11 | 9'-6" | 1'-6" | 12'-1" | 4F5e | 3F5f | 7F5q | 2F5m | 2F5n | 2F5d1 | 2F5n1 | 2W5m | 7W5s |
| 12 | 9'-6" | 1'-6" | 12'-3 3/8" | 4F5e | 3F5f | 7F5q | 2F5v | 2F5n | 2F5d1 | 2F5n1 | 2W5m | 7W5s |
| 13 | 9'-6" | 1'-6" | 12'-1" | 4F5e | 3F5f | 7F5q | 2F5m | 2F5n | 2F5d1 | 2F5n1 | 2W5m | 7W5s |
| 14 | 9'-6" | 1'-6" | 12'-1" | 4F5e | 3F5f | 7F5q | 2F5m | 2F5n | 2F5d1 | 2F5n1 | 2W5m | 7W5s |
| 15 | 9'-6" | 1'-6" | 12'-1" | 4F5e | 3F5f | 7F5q | 2F5m | 2F5n | 2F5d1 | 2F5n1 | 2W5m | 7W5s |
| 16 | 9'-6" | 1'-6" | 11'-9 3/8" | 4F5e | 3F5f | 7F5q | 2F5u | 2F5p | 2F5d1 | 2F5m1 | 2W5k | 7W5s |
| 17 | 9'-6" | 1'-6" | 11'-6 1/2" | 4F5e | 3F5f | 7F5q | 2F5w | 2F5t | 2F5d1 | 2F5m1 | 2W5f | 7W5s |
| 18 | 9'-6" | 1'-6" | 11'-2" | 4F5e | 3F5f | 7F5q | 2F5n | 2F5s | 2F5d1 | 2F5m1 | 2W5c | 6W5v |
| 19 | 9'-0" | 1'-6" | 10'-4" | 4F5b | 3F5f | 7F5q | 2F5t | 2F5x | 2F5c1 | 2F5m1 | 2W5d | 6W5v |
| 20 | 9'-0" | 1'-6" | 9'-6 1/2" | 4F5b | 3F5f | 7F5q | 2F5x | 2F5z | 2F5c1 | 2F5p1 | 2W5g | 5W5t |
| 21 | 7'-6" | 1'-0" | 8'-9" | 4F5d | — | 6F5g | 2F5y | 2F5a1 | — | 2F5n1 | 2W5n | 5W5u |



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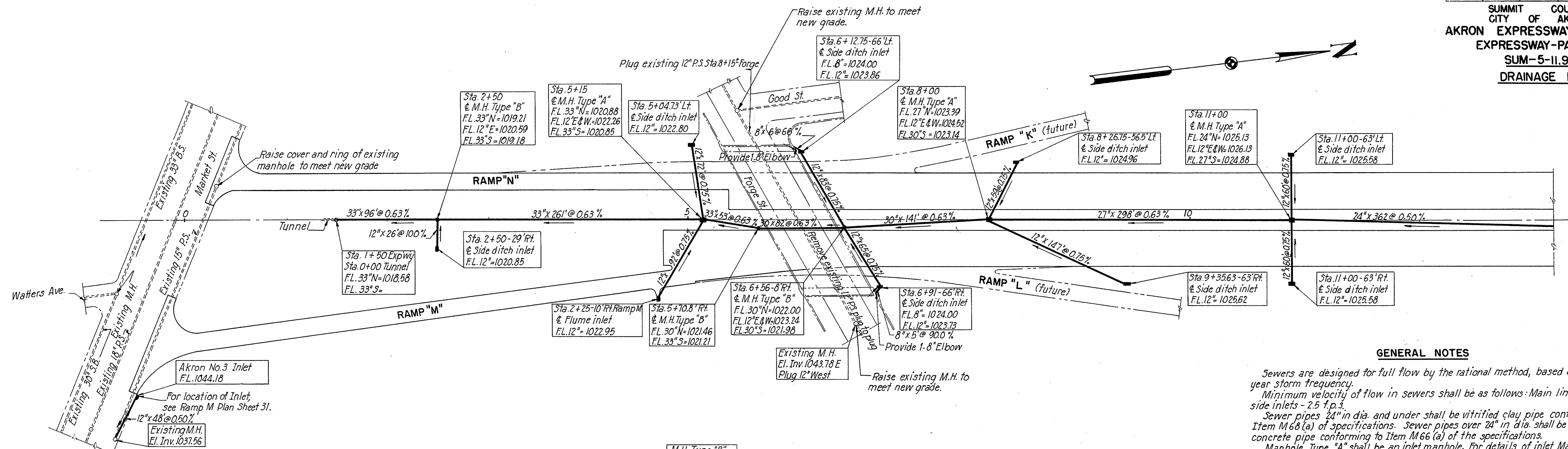
GOOD STREET RETAINING WALL

| GOOD STREET RETAINING WALL | | | | | | | GOOD STREET RETAINING WALL | | | | | | | | | | | | |
|----------------------------|------|-----|---------|------|------------|---------|----------------------------|----|---------------|------|------|------|-------------------|------|----------------|--------|--------|----|---------------|
| MARK | SIZE | NO. | LENGTH | TYPE | DIMENSIONS | | | | WEIGHT POUNDS | MARK | SIZE | NO. | LENGTH | TYPE | DIMENSIONS | | | | WEIGHT POUNDS |
| | | | | | A | B | C | D | | | | | | | A | B | C | D | |
| F5a | 1/2" | 42 | 51'-3" | 101 | 4'-7" | | | | 331 | WS9 | 1/2" | 2 | 11'-0" | 108 | 1'-6" | 9'-6" | 5 | 12 | 33 |
| F5b | 1/2" | 36 | 91'-3" | 101 | 8'-7" | | | | 501 | WS0 | 1/2" | 2 | 12'-3" | 108 | 1'-6" | 10'-9" | 5 | 12 | 37 |
| F5c | 1/2" | 26 | 91'-3" | 101 | 9'-1" | | | | 391 | WSK | 1/2" | 2 | 13'-3" | 108 | 1'-6" | 11'-9" | 5 | 12 | 40 |
| F5d | 1/2" | 4 | 71'-9" | 101 | 7'-1" | | | | 47 | WSM | 1/2" | 12 | 13'-6" | 108 | 1'-6" | 12'-0" | 5 | 12 | 243 |
| F5e | 1/2" | 148 | 91'-9" | 101 | 9'-1" | | | | 704 | WSN | 1/2" | 2 | 91'-9" | 108 | 1'-6" | 81'-3" | 5 | 12 | 29 |
| F5f | 1/2" | 138 | 41'-9" | 101 | 4'-1" | | | | 987 | WSO | 1/2" | 1078 | 71'-0" to 131'-9" | 110 | 21'-3" to 547" | 11'-2" | | | 125 |
| F5g | 1/2" | 145 | 51'-3" | 100 | 4'-0" | | | | 1,152 | WS1 | 1/2" | 1077 | 71'-0" to 141'-0" | 110 | 21'-3" to 547" | 11'-2" | | | 110 |
| F5h | 1/2" | 2 | 151'-9" | 101 | 15'-1" | | | | 47 | WS2 | 1/2" | 8077 | 71'-0" to 141'-6" | 110 | 21'-3" to 640" | 11'-2" | | | 904 |
| F5k | 1/2" | 2 | 151'-0" | 101 | 14'-4" | | | | 45 | WS3 | 1/2" | 3073 | 71'-0" to 121'-6" | 110 | 21'-3" to 540" | 11'-2" | | | 220 |
| F5m | 1/2" | 10 | 14'-6" | 101 | 13'-10" | | | | 218 | WS4 | 1/2" | 1075 | 71'-0" to 111'-6" | 110 | 21'-3" to 464" | 11'-2" | | | 69 |
| F5n | 1/2" | 18 | 13'-6" | 101 | 12'-10" | | | | 365 | WS5 | 1/2" | 5076 | 71'-0" to 131'-6" | 110 | 21'-3" to 546" | 11'-2" | | | 462 |
| F5p | 1/2" | 2 | 13'-3" | 101 | 12'-7" | | | | 40 | WS6 | 1/2" | 1078 | 71'-0" to 131'-0" | 110 | 21'-3" to 543" | 11'-2" | | | 90 |
| F5r | 1/2" | 4 | 12'-6" | 101 | 11'-10" | | | | 75 | WSX | 1/2" | 1077 | 71'-0" to 131'-6" | 110 | 21'-3" to 546" | 11'-2" | | | 108 |
| F5s | 1/2" | 6 | 12'-9" | 101 | 12'-1" | | | | 115 | WSY | 1/2" | 54 | 81'-9" | Str. | | | | | 709 |
| F5t | 1/2" | 10 | 13'-0" | 101 | 12'-4" | | | | 195 | WSZ | 1/2" | 28 | 35'-6" | Str. | | | | | 1,498 |
| F5u | 1/2" | 2 | 14'-3" | 101 | 13'-7" | | | | 43 | WS0 | 1/2" | 14 | 391'-6" | Str. | | | | | 828 |
| F5v | 1/2" | 4 | 14'-9" | 101 | 14'-1" | | | | 89 | WS0 | 1/2" | 9 | 391'-3" | 104 | 381'-3" | 11'-0" | | | 531 |
| F5w | 1/2" | 6 | 14'-0" | 101 | 13'-4" | | | | 126 | WS0 | 1/2" | 9 | 391'-6" | 101 | 381'-10" | | | | 534 |
| F5x | 1/2" | 8 | 12'-0" | 101 | 11'-4" | | | | 144 | WS0 | 1/2" | 134 | 371'-3" | 125 | 351'-7" | 11'-0" | | | 7,510 |
| F5y | 1/2" | 26 | 11'-3" | 101 | 10'-7" | | | | 440 | WS0 | 1/2" | 1 | 201'-3" | 101 | 191'-7" | | | | 30 |
| F5z | 1/2" | 28 | 11'-0" | 101 | 10'-4" | | | | 463 | WS1 | 1/2" | 1 | 201'-0" | 104 | 191'-0" | 11'-0" | | | 30 |
| F5a1 | 1/2" | 32 | 10'-3" | 101 | 10'-7" | | | | 493 | WS0 | 1/2" | 9 | 411'-6" | 101 | 401'-10" | | | | 561 |
| F5b1 | 1/2" | 42 | 10'-0" | 101 | 9'-4" | | | | 632 | WS0 | 1/2" | 9 | 411'-3" | 104 | 401'-3" | 11'-0" | | | 558 |
| F5c1 | 1/2" | 6 | 9'-6" | 101 | 8'-10" | | | | 88 | WSA | 1/2" | 48 | 61'-9" | Str. | | | | | 486 |
| F5d1 | 1/2" | 30 | 10'-6" | 101 | 9'-10" | | | | 473 | WSA | 1/2" | 24 | 71'-0" | Str. | | | | | 252 |
| F5e1 | 1/2" | 4 | 11'-6" | 101 | 10'-10" | | | | 69 | WSA | 1/2" | 26 | 71'-3" | Str. | | | | | 283 |
| F5f1 | 1/2" | 2 | 11'-9" | 101 | 11'-1" | | | | 35 | WS0 | 1/2" | 52 | 71'-6" | Str. | | | | | 586 |
| F5g1 | 1/2" | 6 | 8'-9" | 101 | 8'-1" | | | | 79 | WS0 | 1/2" | 50 | 71'-9" | Str. | | | | | 583 |
| F5h1 | 1/2" | 2 | 7'-0" | 101 | 6'-4" | | | | 21 | WS0 | 1/2" | 76 | 81'-0" | Str. | | | | | 913 |
| F5k1 | 1/2" | 78 | 4'-0" | 108 | 2'-0" | 2'-0" | 12 | 3 | 459 | WS1 | 1/2" | 48 | 81'-3" | Str. | | | | | 595 |
| F5m1 | 1/2" | 22 | 6'-0" | 101 | 5'-4" | | | | 199 | WS0 | 1/2" | 78 | 81'-6" | Str. | | | | | 997 |
| F5n1 | 1/2" | 16 | 6'-6" | 101 | 5'-10" | | | | 156 | WSV | 1/2" | 54 | 91'-0" | Str. | | | | | 730 |
| F5p1 | 1/2" | 2 | 5'-6" | 101 | 4'-10" | | | | 17 | WSW | 1/2" | 18 | 61'-9" | 131 | | | | | 183 |
| F5r1 | 1/2" | 16 | 35'-6" | Str. | | | | | 853 | WSX | 1/2" | 9 | 51'-6" | 135 | | | | | 74 |
| F5s1 | 1/2" | 8 | 39'-6" | Str. | | | | | 474 | WSY | 1/2" | 116 | 31'-3" | 105 | 11'-2" | 11'-0" | 11'-0" | | 567 |
| WSa | 1/2" | 2 | 14'-6" | 108 | 1'-6" | 13'-0" | 5 | 12 | 44 | WSZ | 1/2" | 6 | 41'-6" | Str. | | | | | 41 |
| WSb | 1/2" | 2 | 14'-0" | 108 | 1'-6" | 12'-6" | 5 | 12 | 42 | WSA | 1/2" | 2 | 31'-9" | Str. | | | | | 11 |
| WSc | 1/2" | 6 | 12'-9" | 108 | 1'-6" | 11'-3" | 5 | 12 | 115 | WS0 | 1/2" | 2 | 31'-9" | 108 | 11'-6" | 21'-3" | 12 | 12 | 11 |
| WSD | 1/2" | 6 | 11'-9" | 108 | 1'-6" | 101'-3" | 5 | 12 | 106 | WS0 | 1/2" | 2 | 41'-9" | Str. | | | | | 14 |
| WSe | 1/2" | 4 | 11'-6" | 108 | 1'-6" | 101'-0" | 5 | 12 | 69 | WS0 | 1/2" | 2 | 71'-6" | 137 | | | | | 23 |
| WSf | 1/2" | 2 | 13'-0" | 108 | 1'-6" | 111'-6" | 5 | 12 | 39 | WS0 | 1/2" | 2 | 221'-3" | Str. | | | | | 67 |



| ESTIMATED QUANTITIES | | | | |
|----------------------|--|----------------------------|--|----------|
| ITEM | DESCRIPTION | GOOD STREET RETAINING WALL | | UNIT |
| E2 | COFFERDAMS, CRIBS AND SHEETING | LUMP SUM | | LUMP SUM |
| E2 | EXCAVATION FOR STRUCTURES - UNCLASSIFIED | 1,374 | | CU. YDS. |
| E2 | EXCAVATION FOR STRUCTURES - ROCK AND SHALE | 60 | | CU. YDS. |
| E8 | REMOVAL AND DISPOSAL OF EXISTING SIDEWALK | 2,880 | | SO. FT. |
| S1 | CLASS "C" CONCRETE | 330 | | CU. YDS. |
| S3 | TYPE "B" WATERPROOFING | 38 | | SO. YDS. |
| S4 | REINFORCING STEEL | 32,657 | | LBS. |
| | | | | LBS. |
| S9 | PREMOLDED BITUMINOUS EXPANSION JOINT FILLER | 93 | | SO. FT. |
| S9 | COPPER WATERSTOPS | 112 | | LIN. FT. |
| S14 | HANDRAIL (STEEL) | 474.25 | | LIN. FT. |
| S29 | POROUS BACKFILL | 151 | | CU. YDS. |
| S29 | 8" PERFORATED BITUMINOUS-COATED CORRUGATED METAL PIPE, SEC. M-64 (F) | 480 | | LIN. FT. |

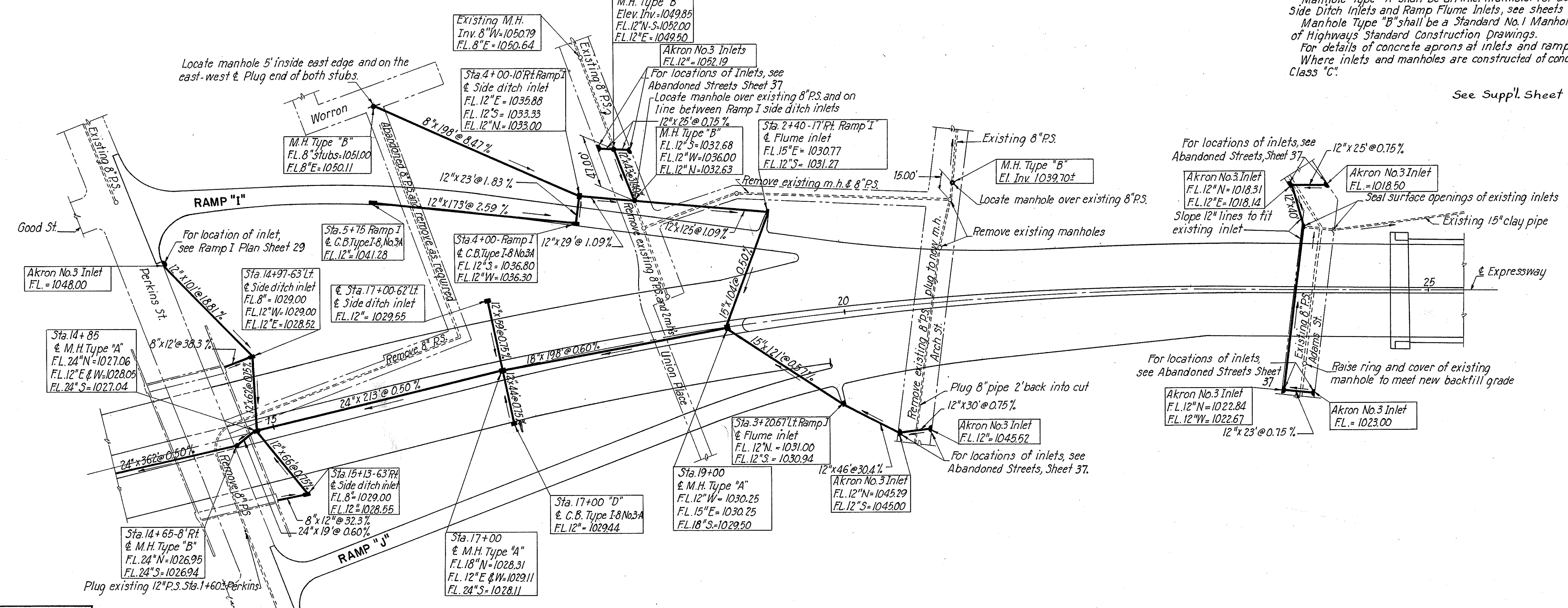
SUMMIT COUNTY CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
DRAINAGE PLAN



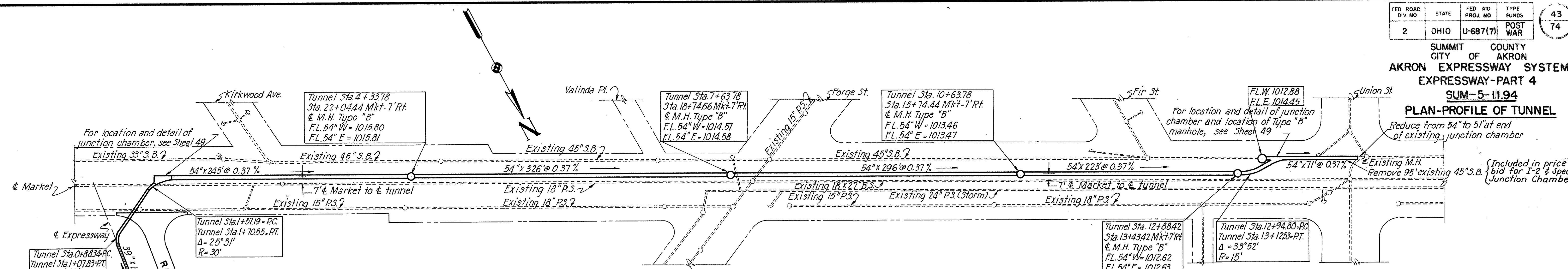
GENERAL NOTES

Sewers are designed for full flow by the rational method, based on a 15 year storm frequency.
 Minimum velocity of flow in sewers shall be as follows: Main lines-3 f.p.s, side inlets-2.5 f.p.s.
 Sewer pipes 24" in dia. and under shall be vitrified clay pipe conforming to Item M68 (a) of specifications. Sewer pipes over 24" in dia. shall be reinforced concrete pipe conforming to Item M66 (a) of the specifications.
 Manhole Type "A" shall be an inlet manhole. For details of inlet Manhole Side Ditch Inlets and Ramp Flume Inlets, see sheets 47 and 48.
 Manhole Type "B" shall be a Standard No.1 Manhole as per Ohio Department of Highways Standard Construction Drawings.
 For details of concrete aprons at inlets and ramp flumes, see sheets 47 and 48.
 Where inlets and manholes are constructed of concrete, the concrete shall be Class "C".

See Suppl. Sheet 30A

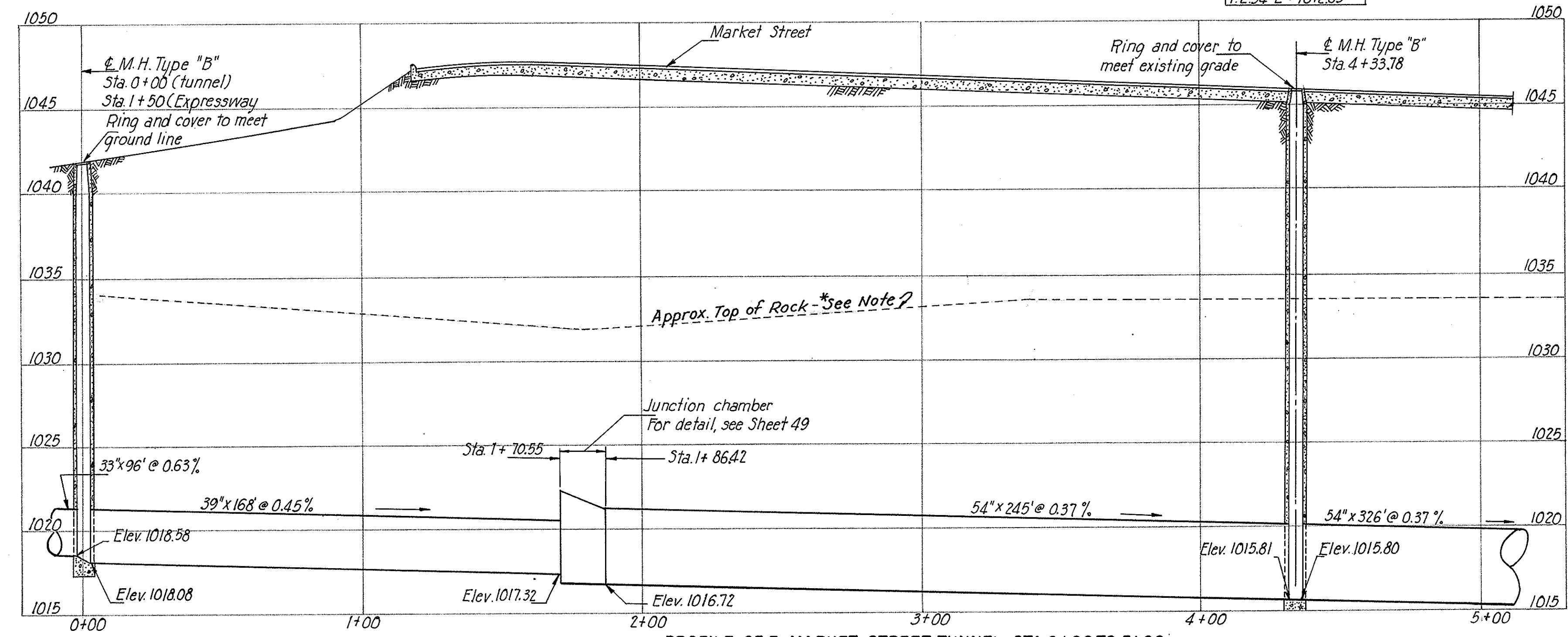


SUMMIT COUNTY
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SUM-5-11.94
PLAN-PROFILE OF TUNNEL

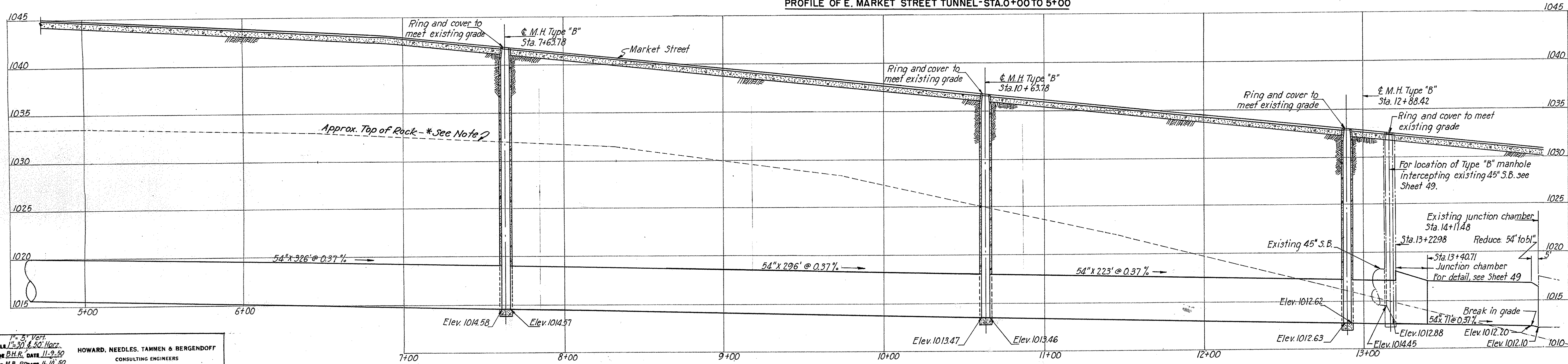


Note: For typical tunnel section, see Sheet 49.

*NOTE:- The rock line shown is only approximate and the State does not guarantee the correctness thereof.

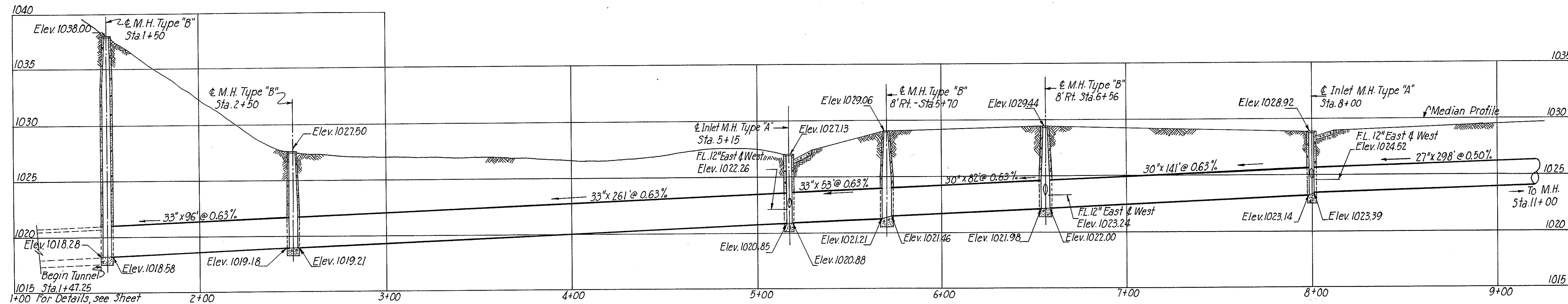


PROFILE OF E. MARKET STREET TUNNEL - STA. 0+00 TO 5+00

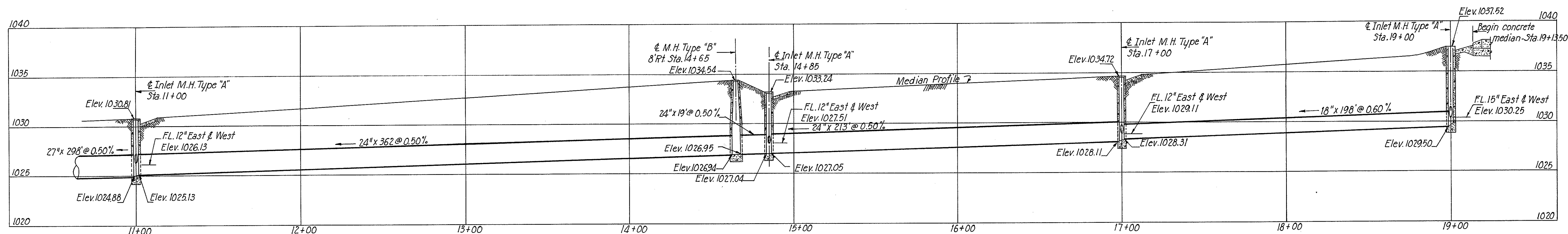


PROFILE OF E. MARKET STREET TUNNEL - STA. 5+00 TO EXISTING JUNCTION CHAMBER

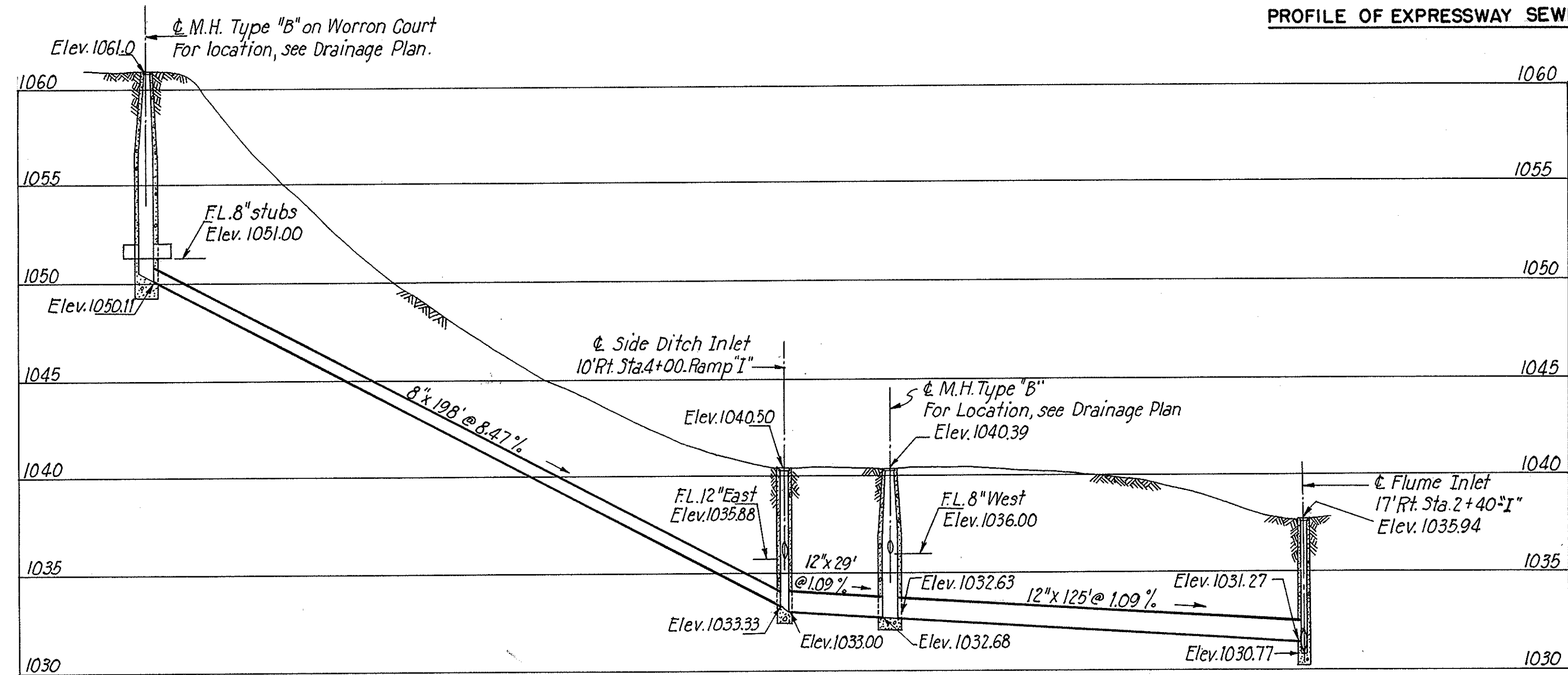
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-II.94
SEWER PROFILES



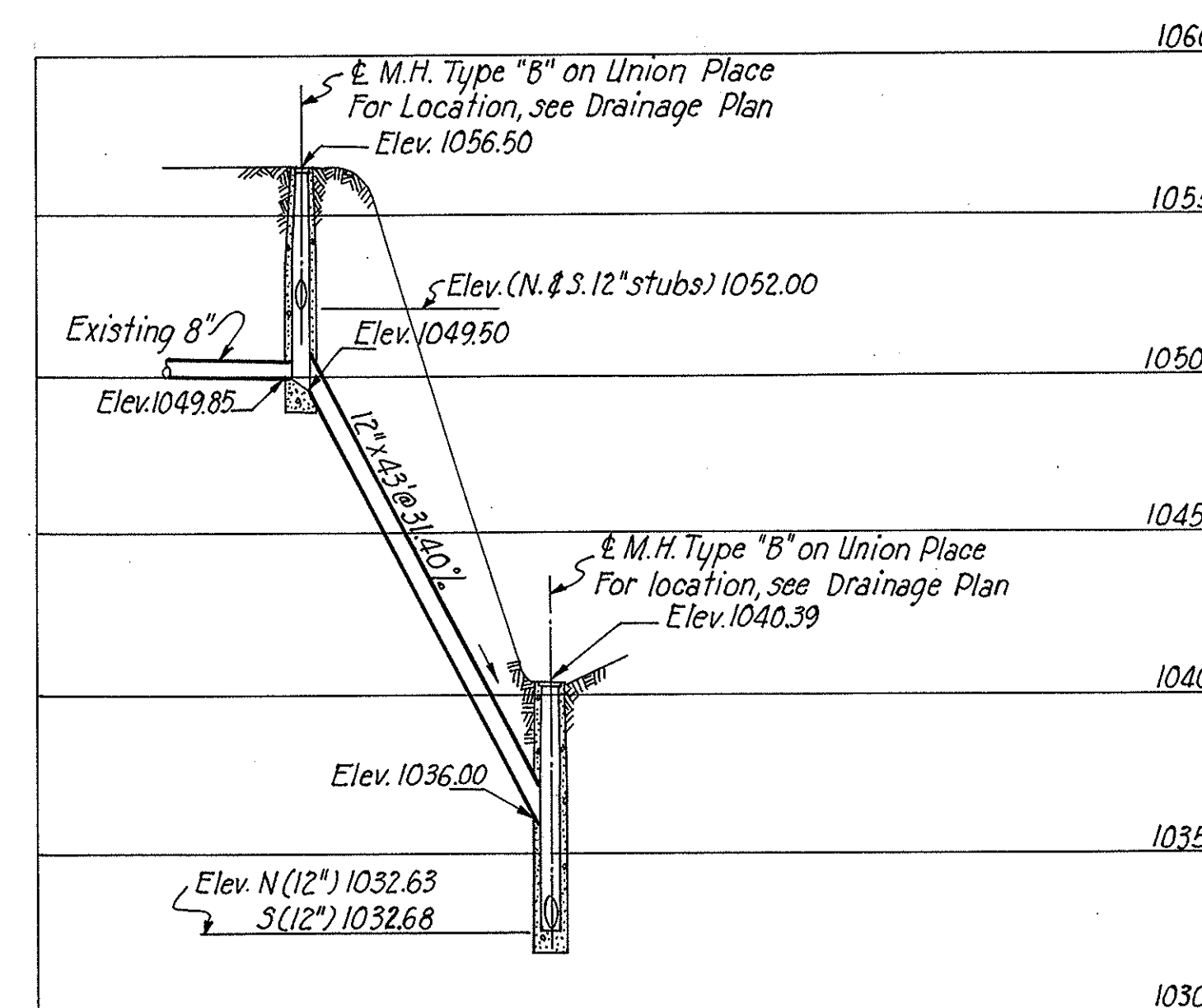
PROFILE OF EXPRESSWAY SEWER-STA. 4+00 TO STA. 8+00



PROFILE OF EXPRESSWAY SEWER - STA. 11+00 TO STA. 19+00

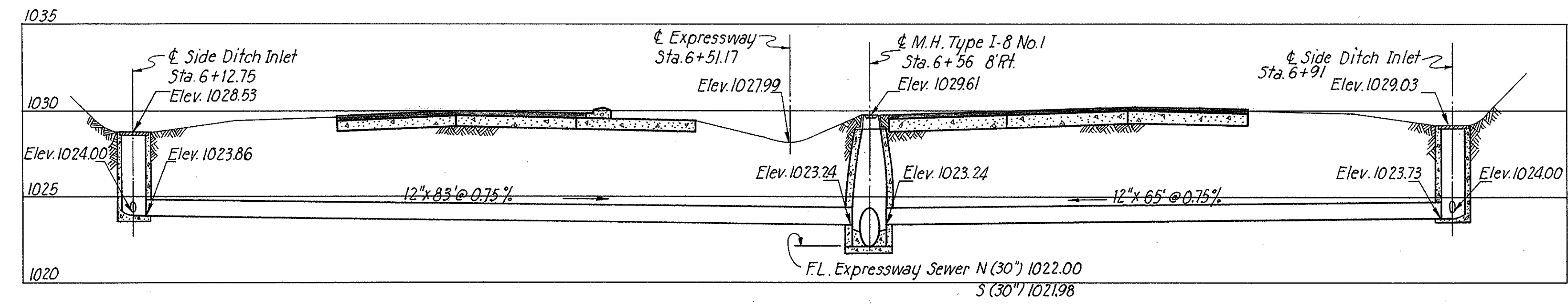


PROFILE OF SEWER FROM WORRTON COURT TO
RAMP I FLUME INLET

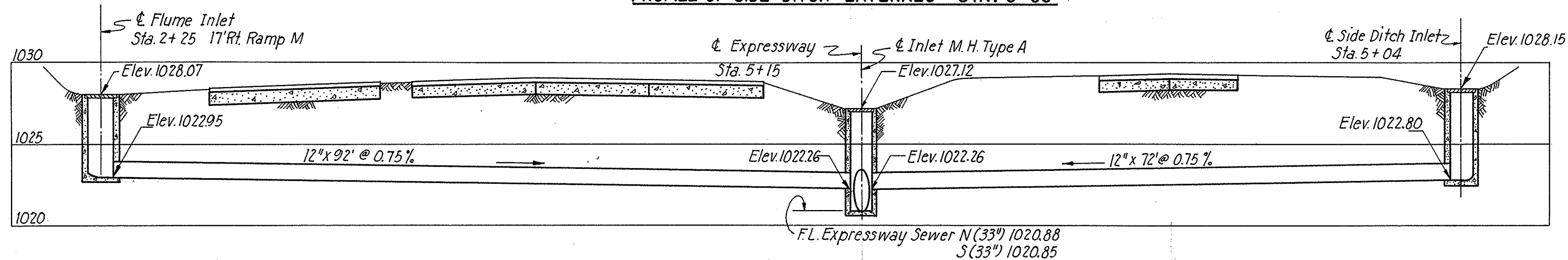


PROFILE OF NEW 12" SEWER
ALONG UNION PLACE

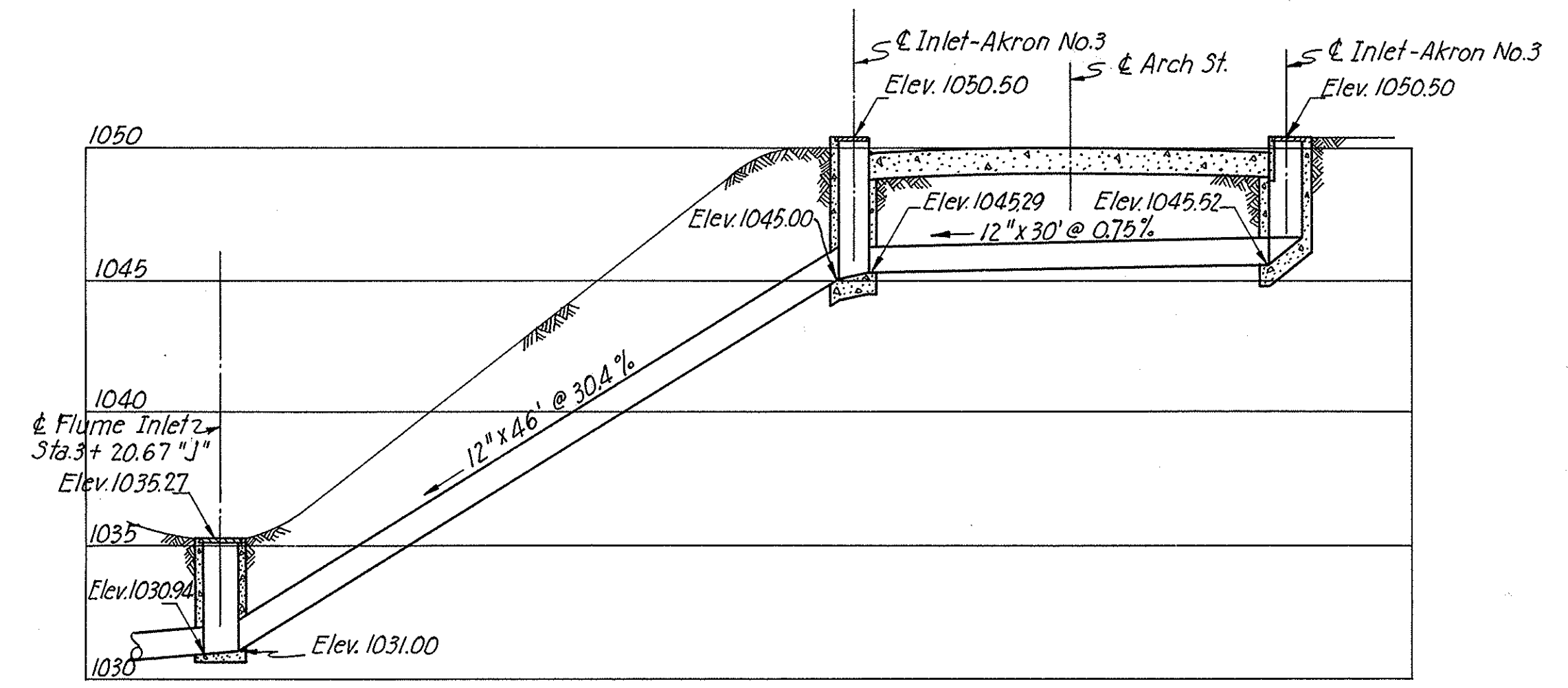
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
SEWER PROFILES



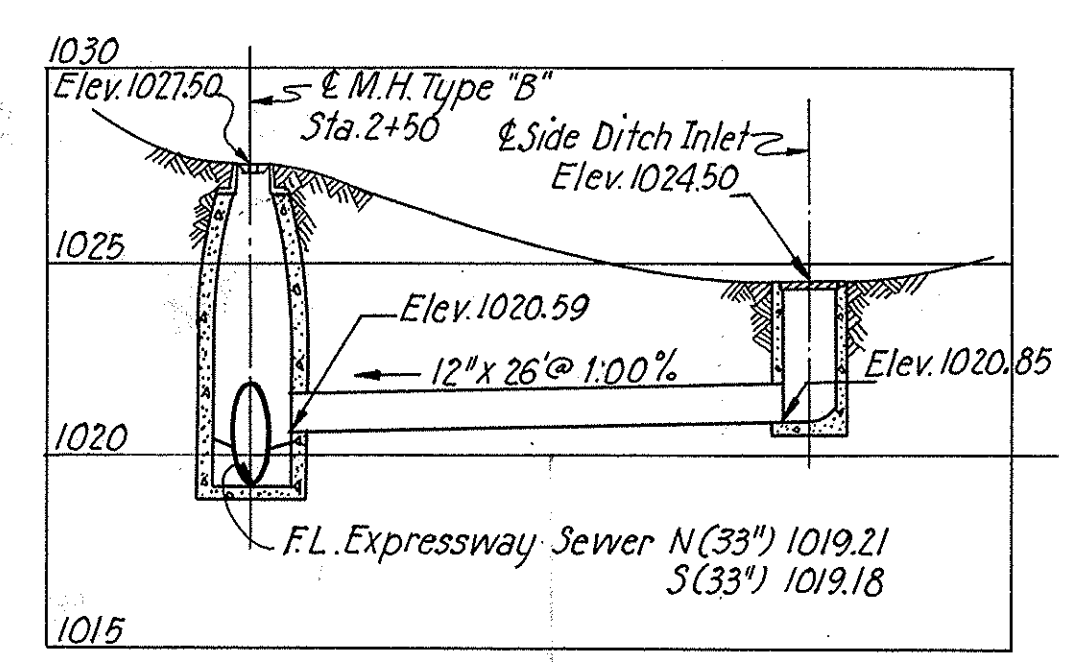
PROFILE OF SIDE DITCH LATERALS - STA. 6+56



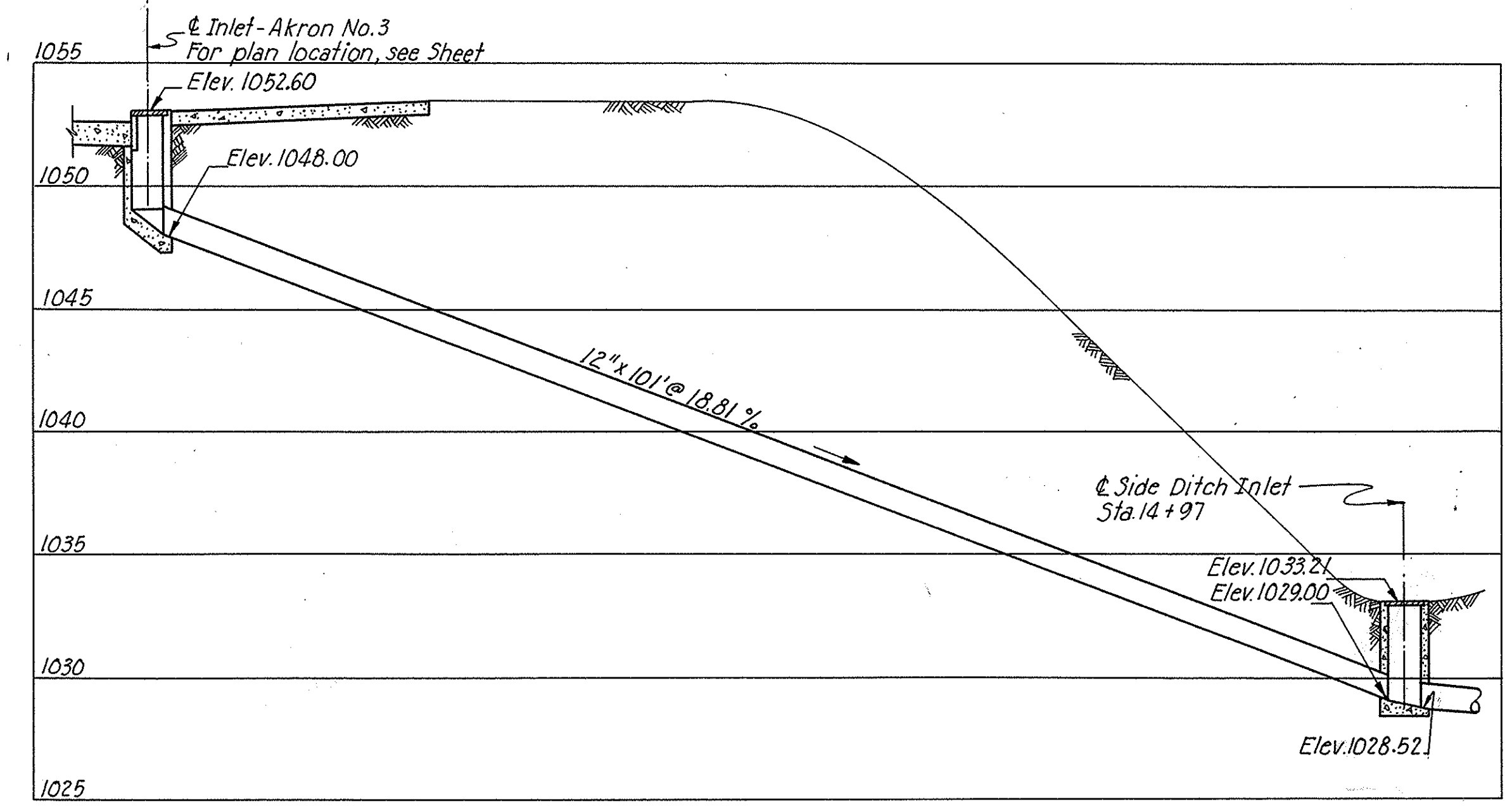
PROFILE OF SIDE DITCH LATERALS - STA. 5+15



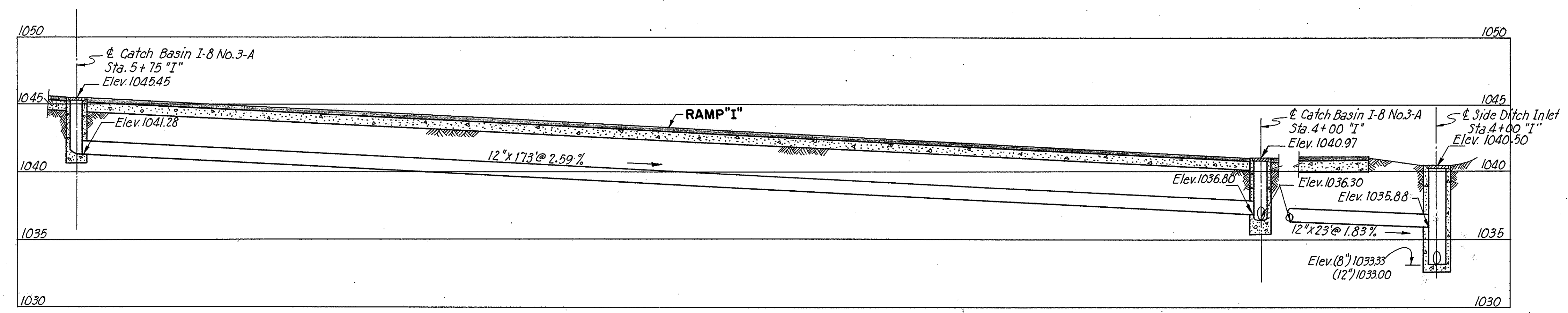
PROFILE OF SEWER LATERAL FROM ARCH STREET TO FLUME INLET RAMP "J"



PROFILE OF SIDE DITCH LATERALS - STA. 2+50



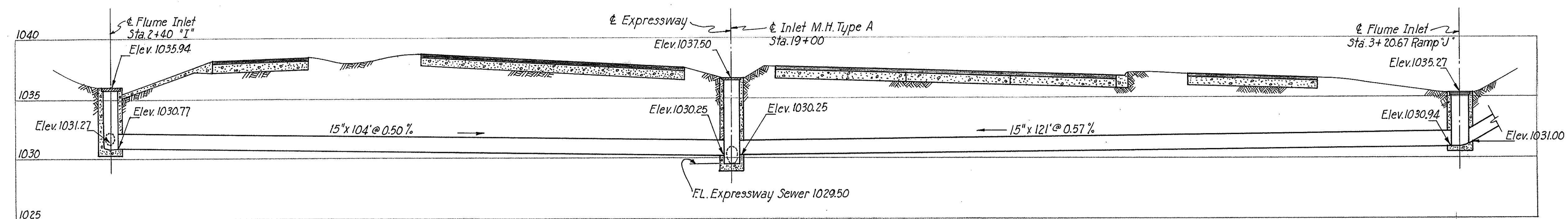
PROFILE SEWER FROM PERKINS STREET TO SIDE DITCH INLET-STA. 14+97



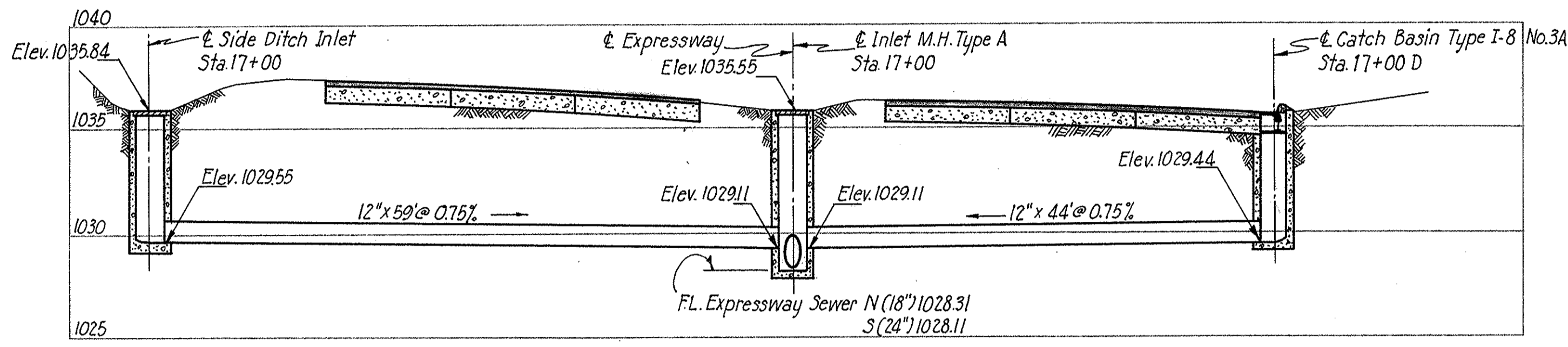
PROFILE SEWER RAMP "I" STA. 5+75 TO 4+00

| | | | | |
|--------------------|-------|--------------------|------------|----------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 46 74 |
| 2 | OHIO | U-687(7) | POST WAR | |

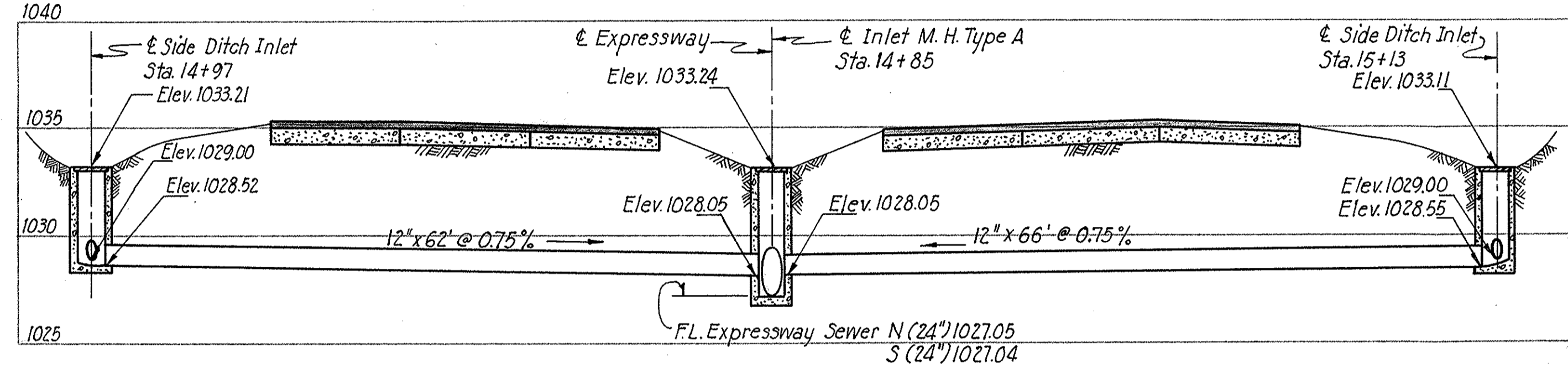
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
SEWER PROFILES



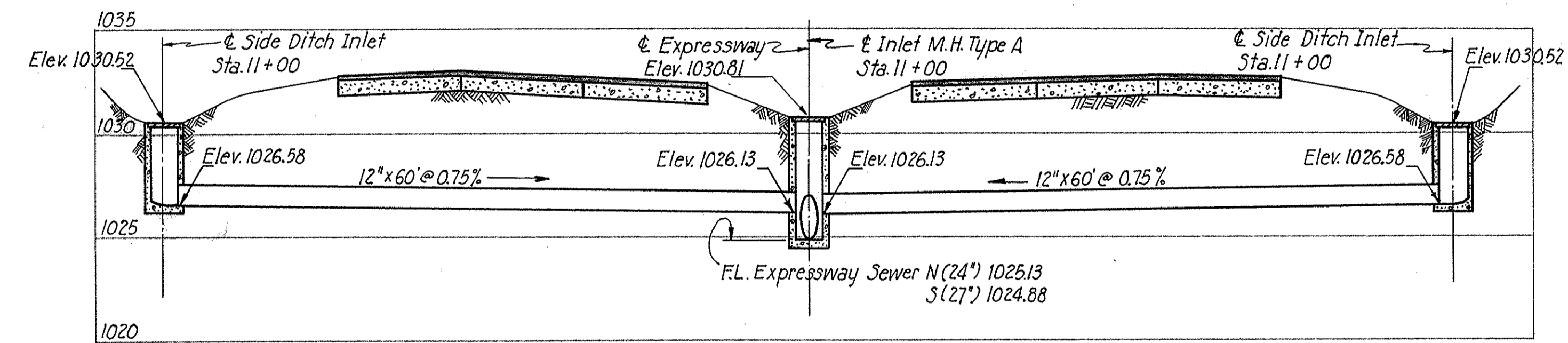
PROFILE OF SIDE DITCH LATERALS-STA.19+00



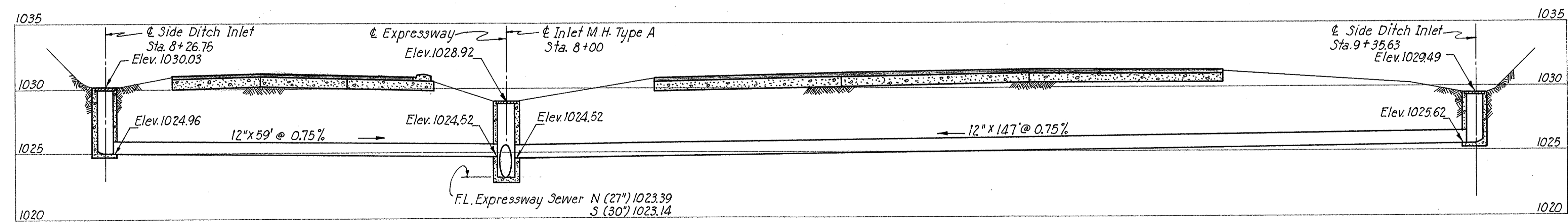
PROFILE OF SIDE DITCH LATERALS-STA.17+00



PROFILE OF SIDE DITCH LATERALS STA.14+85



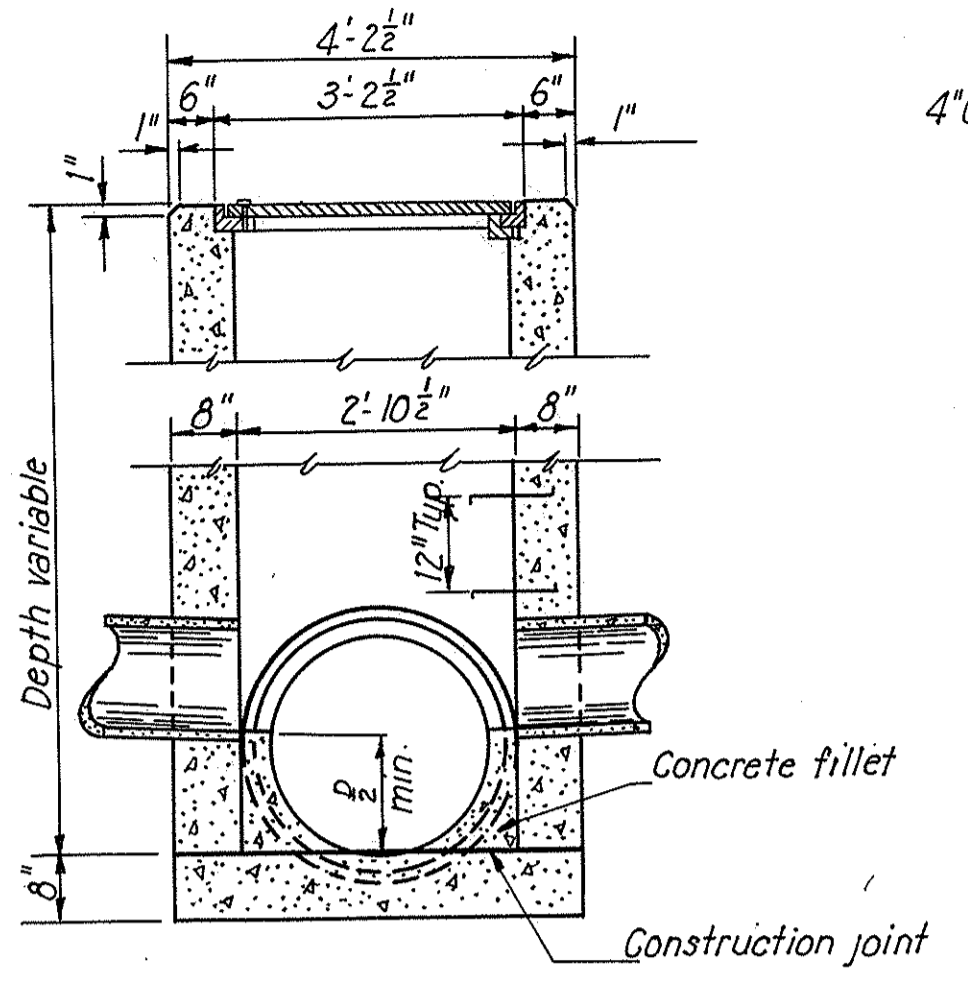
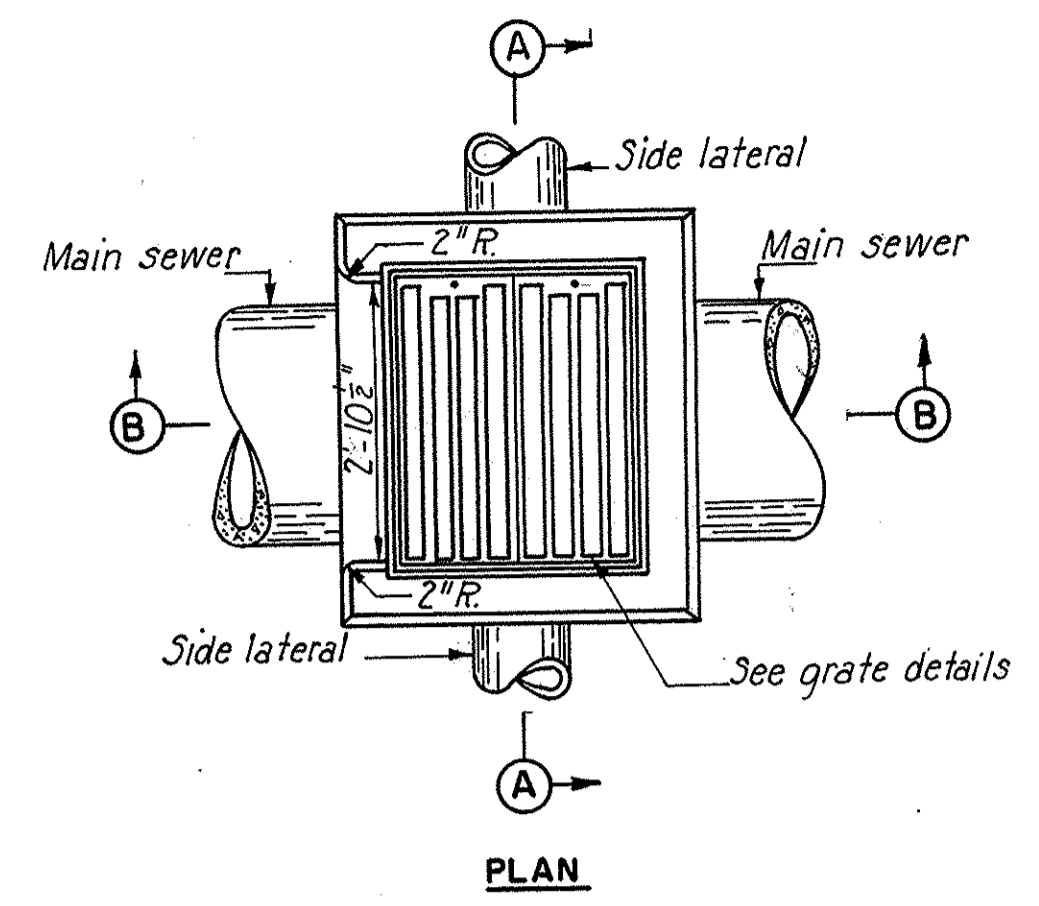
PROFILE OF SIDE DITCH LATERALS- STA.11+00



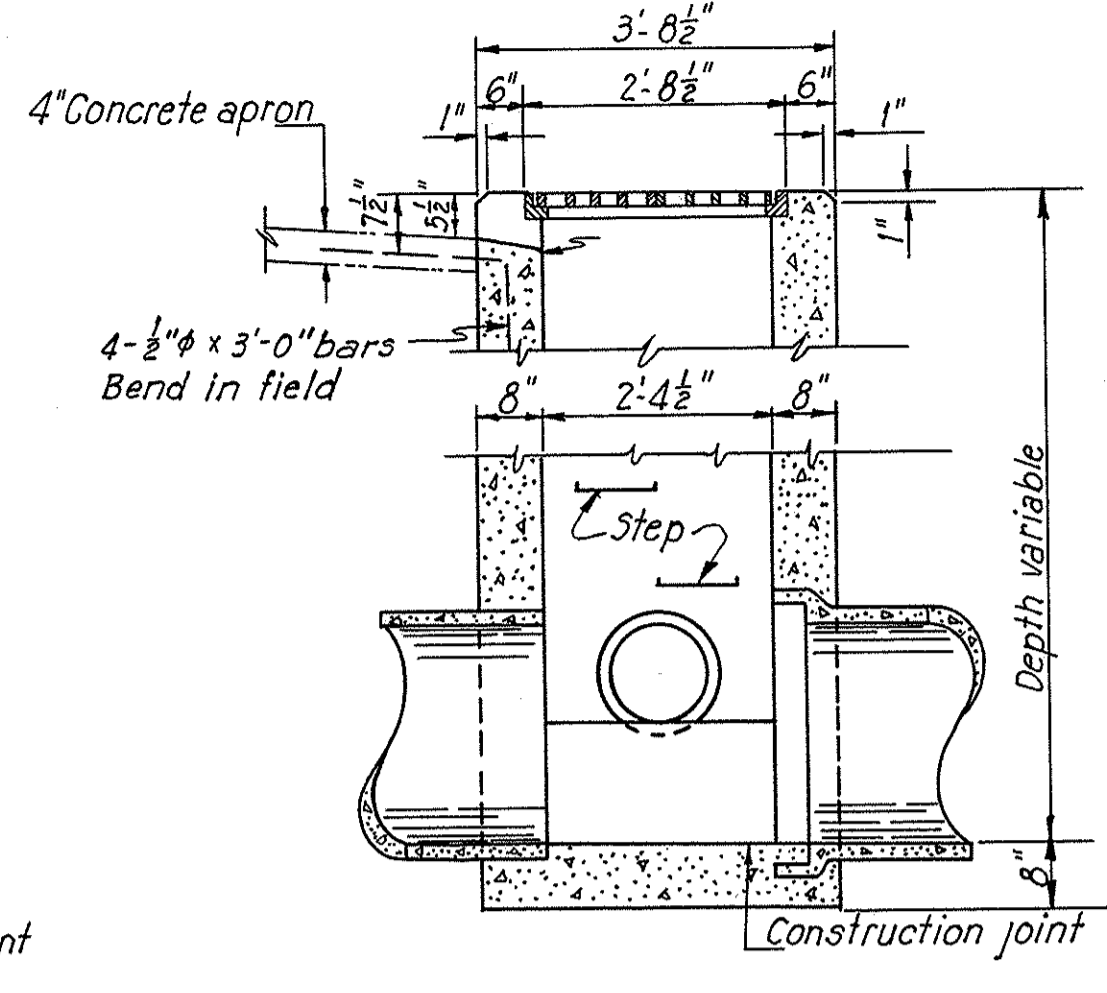
PROFILE OF SIDE DITCH LATERALS-STA.8+00

443

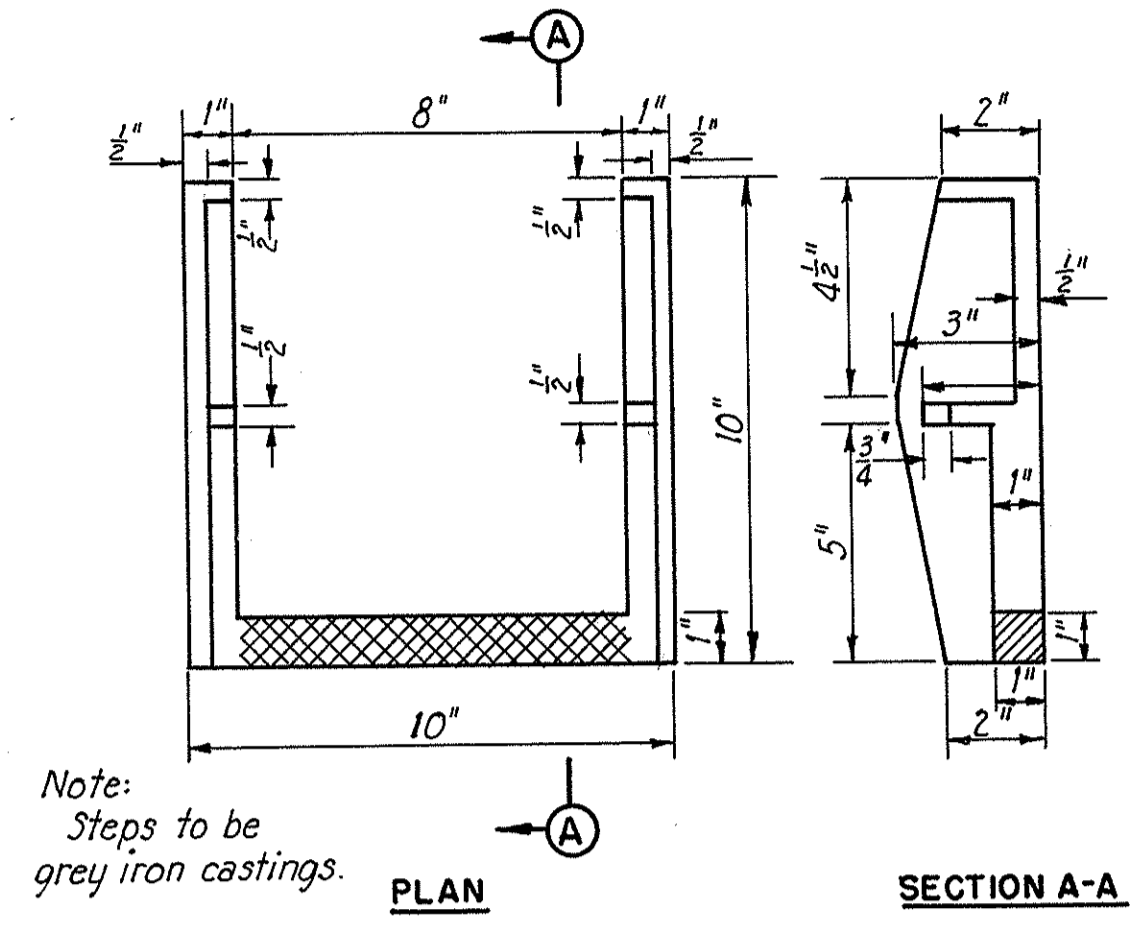
SUMMIT COUNTY CITY OF AKRON EXPRESSWAY SYSTEM EXPRESSWAY-PART SUM-5-11.94 INLET AND APRON DETAILS



SECTION A-A
TYPE A INLET MANHOLE STANDARD 2-2-A MODIFIED
Scale: 1/2" = 1'-0"

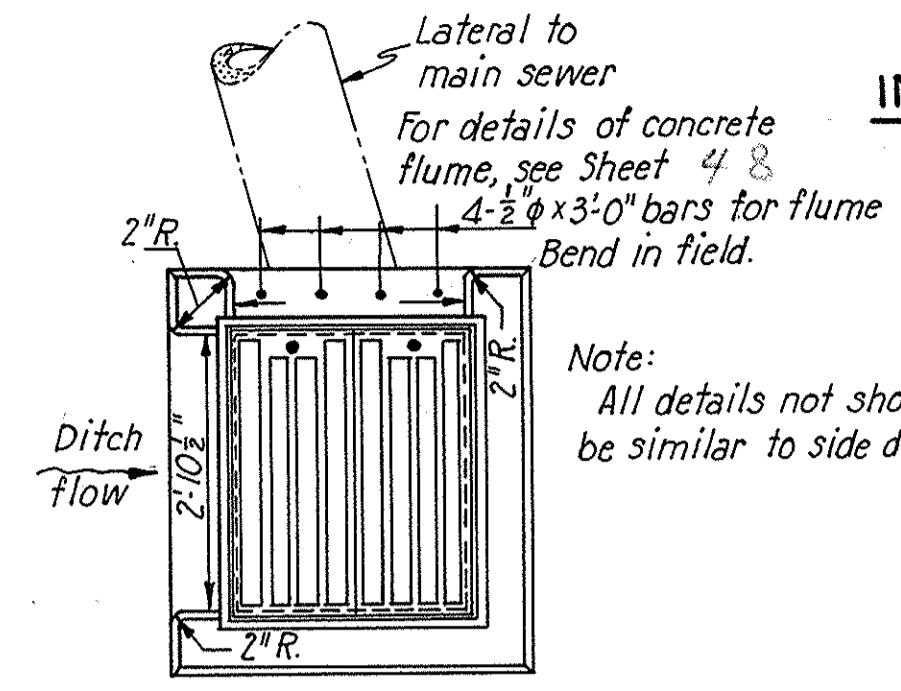


SECTION B-B



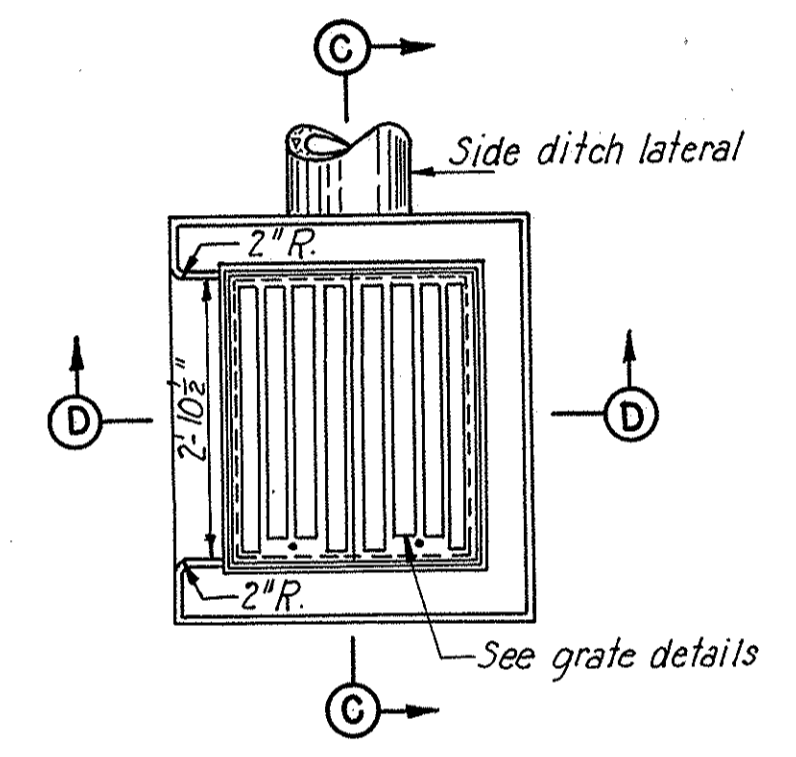
Note: Steps to be grey iron castings.

PLAN **SECTION A-A**
STEP DETAILS

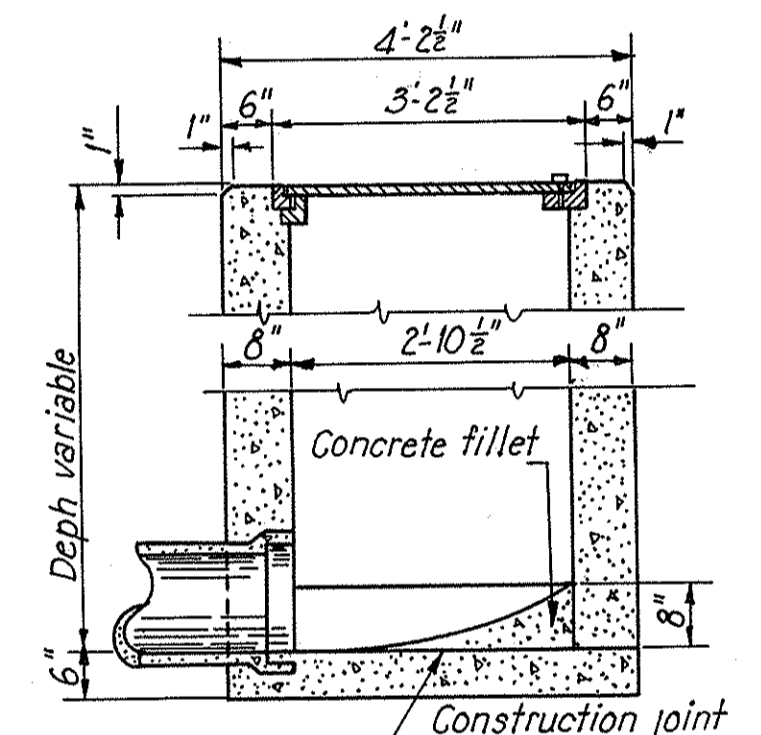


FLUME INLET
Scale: 1/2" = 1'-0"

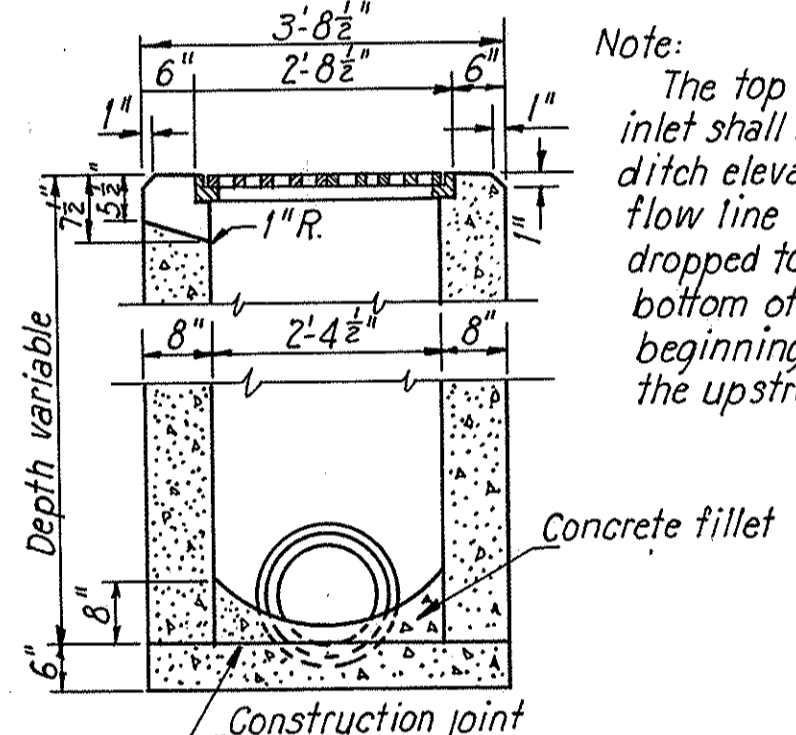
Note: All details not shown to be similar to side ditch inlet.



PLAN

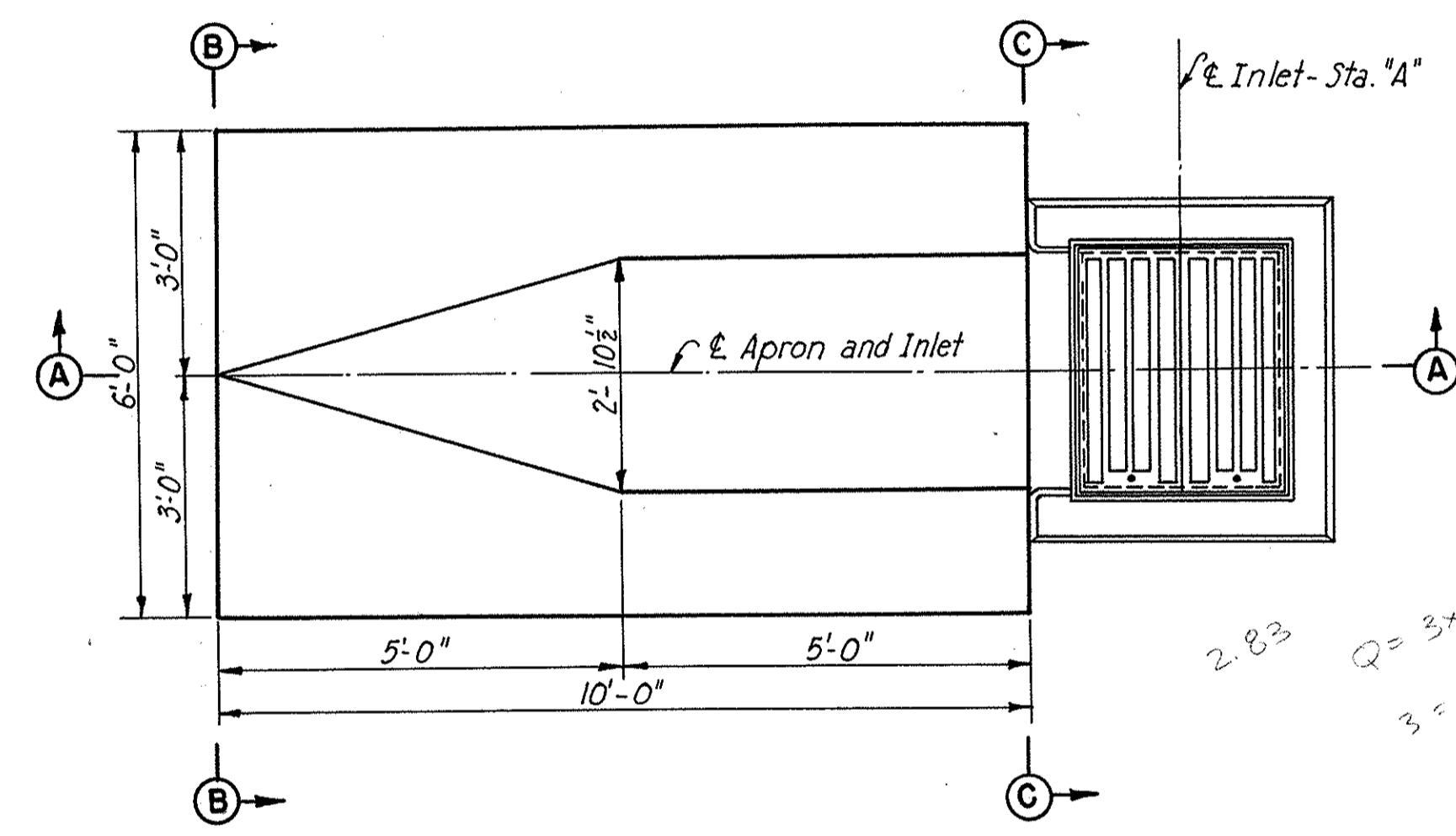


SECTION C-C
SIDE DITCH INLET-STANDARD 2-2-A MODIFIED
Scale: 1/2" = 1'-0"

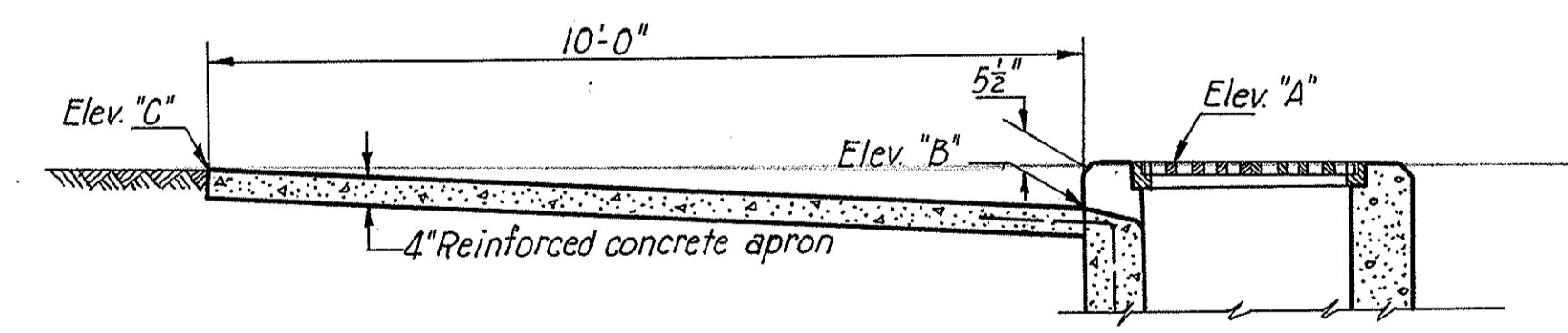


SECTION D-D

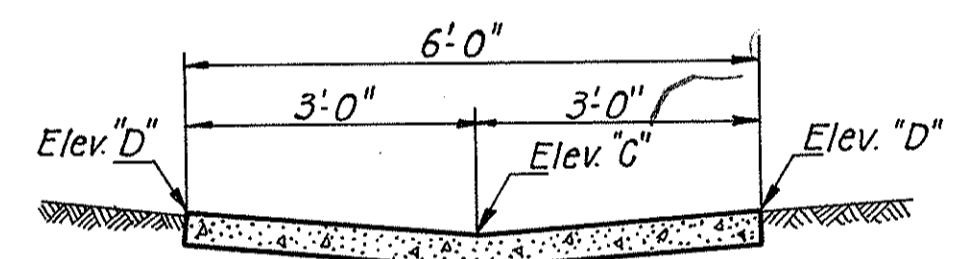
Note: The top of the side ditch inlet shall be set at normal ditch elevation and the actual flow line of the ditch shall be dropped to the elevation of the bottom of the vertical opening beginning 10' upstream from the upstream face of the inlet.



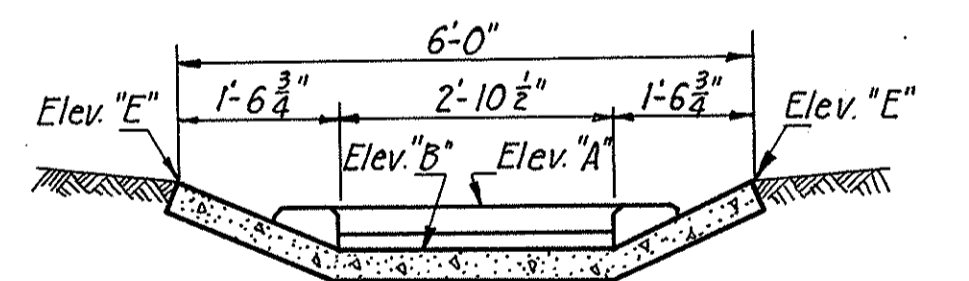
PLAN



SECTION A-A

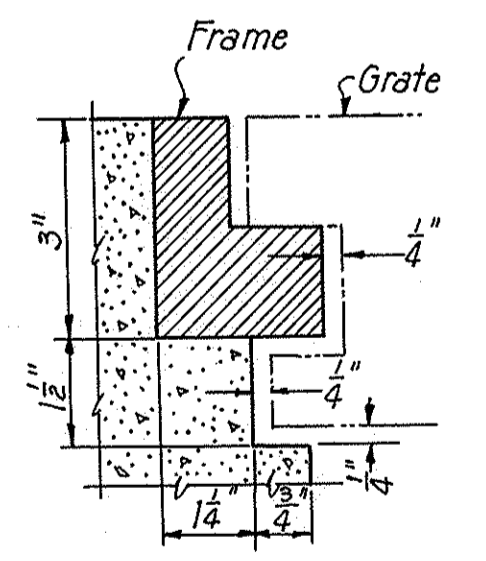
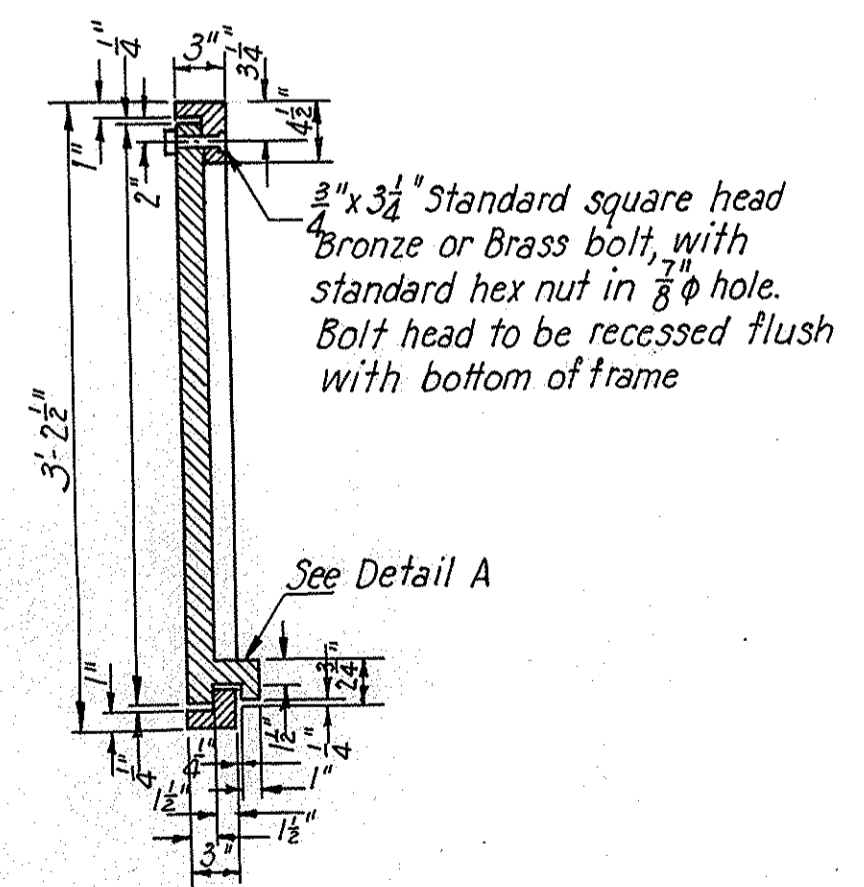
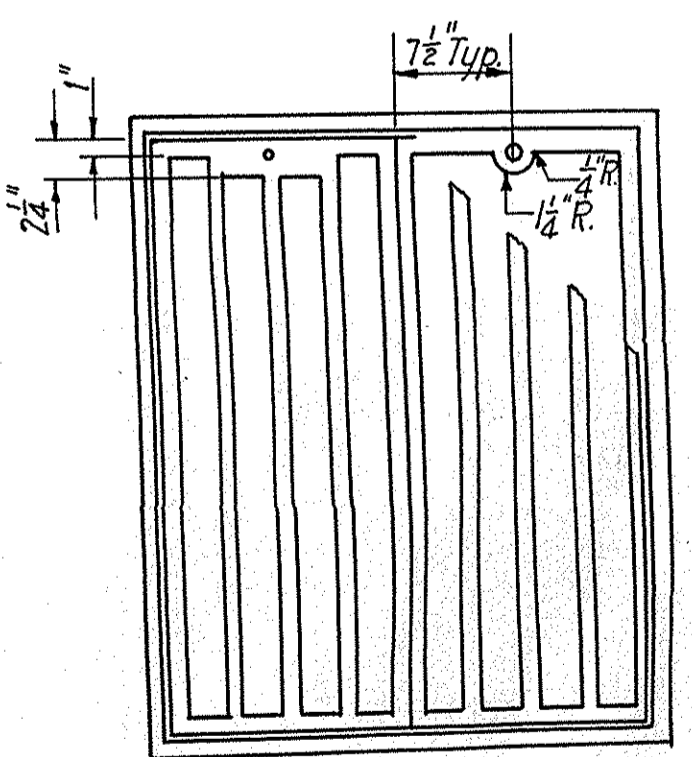


SECTION B-B



SECTION C-C

2.83
Q = 3 x 2.9 = 8.7
3 = 4.2 = 3/8



DETAIL A
Scale: 3/8" = 1'-0"

| TYPE OF INLET OR MANHOLE | FRAME NUMBER | NUMBER OF GRATINGS | WT. OF FRAME IN LBS. | WT. OF GRATINGS IN LBS. | TOTAL WT. IN LBS. |
|--------------------------|--------------|--------------------|----------------------|-------------------------|-------------------|
| Type B M.H. | No. 2 | 2 | 170 | 156 | 326 |
| Side ditch inlet | No. 2 | 2 | 170 | 156 | 326 |
| Ramp flume inlet | No. 2 | 2 | 170 | 156 | 326 |

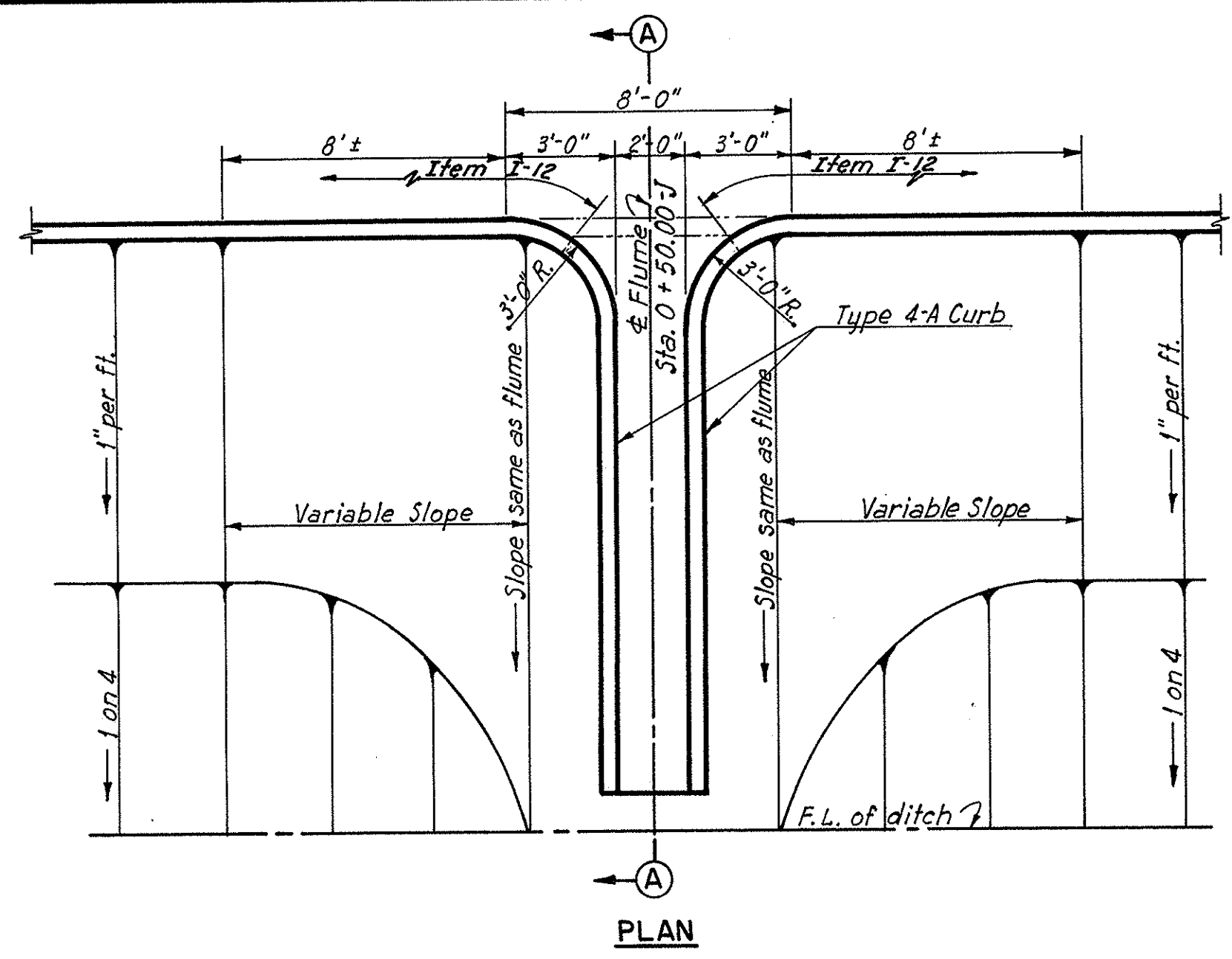
FRAME AND GRATE DETAILS
Scale: 1" = 1'-0"

| STATION "A" | ELEV."A" | ELEV."B" | ELEV."C" | ELEV."D" | ELEV."E" |
|-------------|----------|----------|----------|----------|----------|
| 5+15.00 | 1027.13 | 1026.67 | 1027.19 | 1027.61 | 1027.55 |
| 8+00.00 | 1028.92 | 1029.38 | 1028.98 | 1029.40 | 1029.34 |
| 11+00.00 | 1033.81 | 1031.27 | 1030.87 | 1031.29 | 1031.23 |
| 14+85.00 | 1033.24 | 1032.78 | 1033.30 | 1033.72 | 1033.66 |
| 17+00.00 | 1034.91 | 1034.37 | 1035.03 | 1035.45 | 1035.39 |

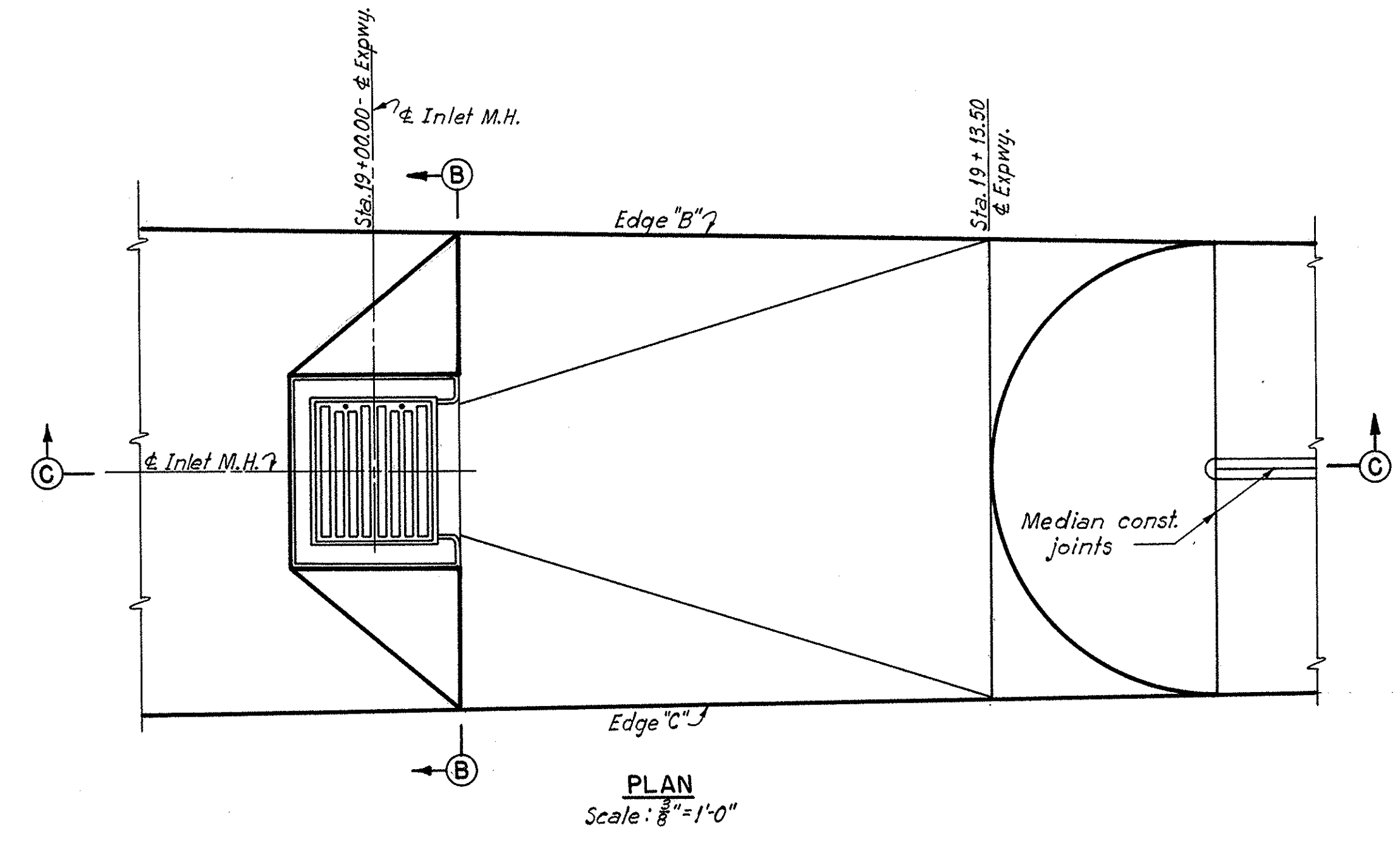
MEDIAN APRON
Scale: 1/2" = 1'-0"

Notes:
The apron details shown above apply to the Inlet Manholes at the following Stations: 5+15.00, 8+00.00, 11+00.00, 14+85.00 and 17+00.00.
For details of aprons for Inlet Manhole at Sta. 19+00.00, see Sheet 48.
For reinforcement of 4" apron, see Type "A" Standard Drawing B-T-71-R.

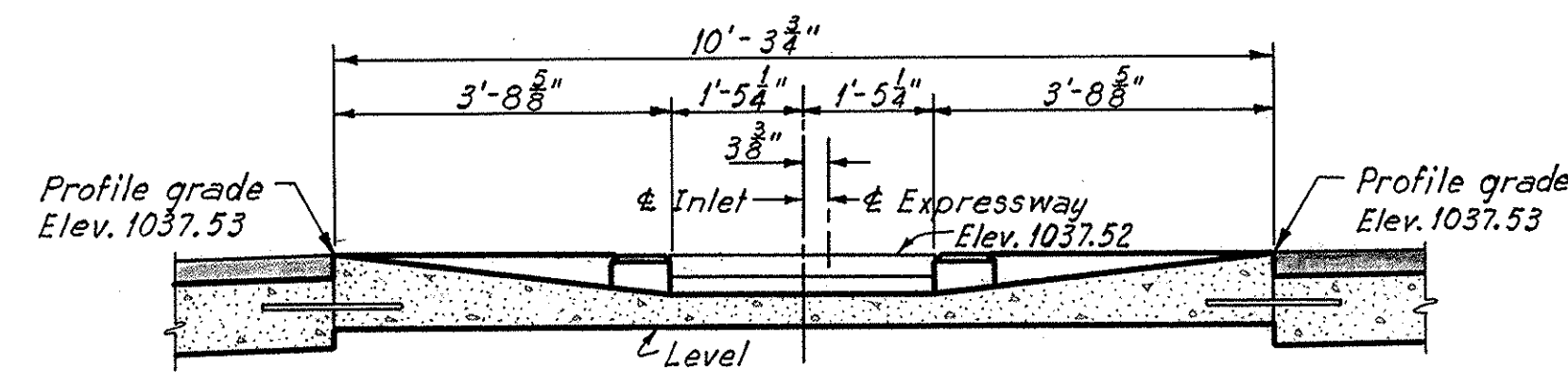
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
APRONS AND FLUME



PLAN



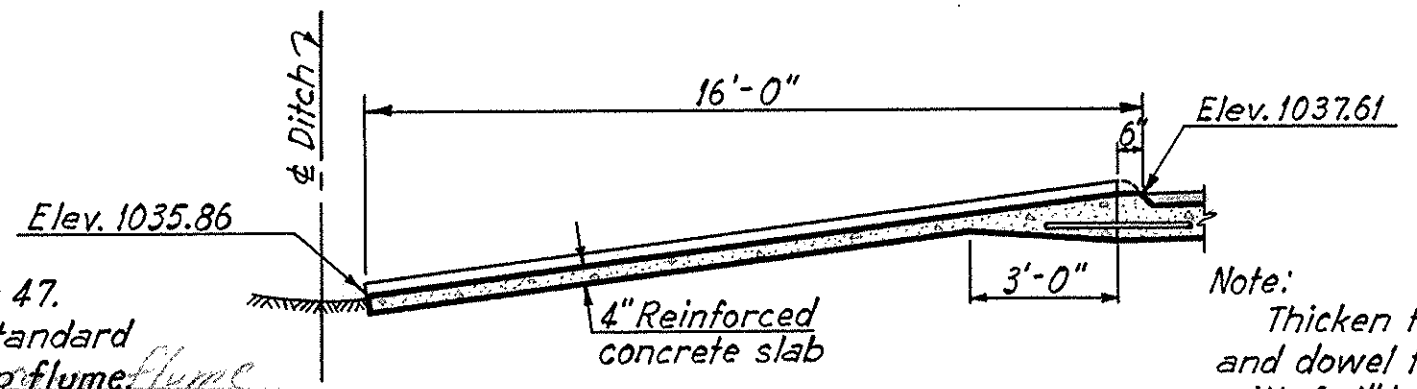
PLAN
Scale: 3/8" = 1'-0"



Note:
Thicken apron slab as shown and dowel to Expressway pavement with 1" x 1'-6" smooth dowels @ 18" ctrs.

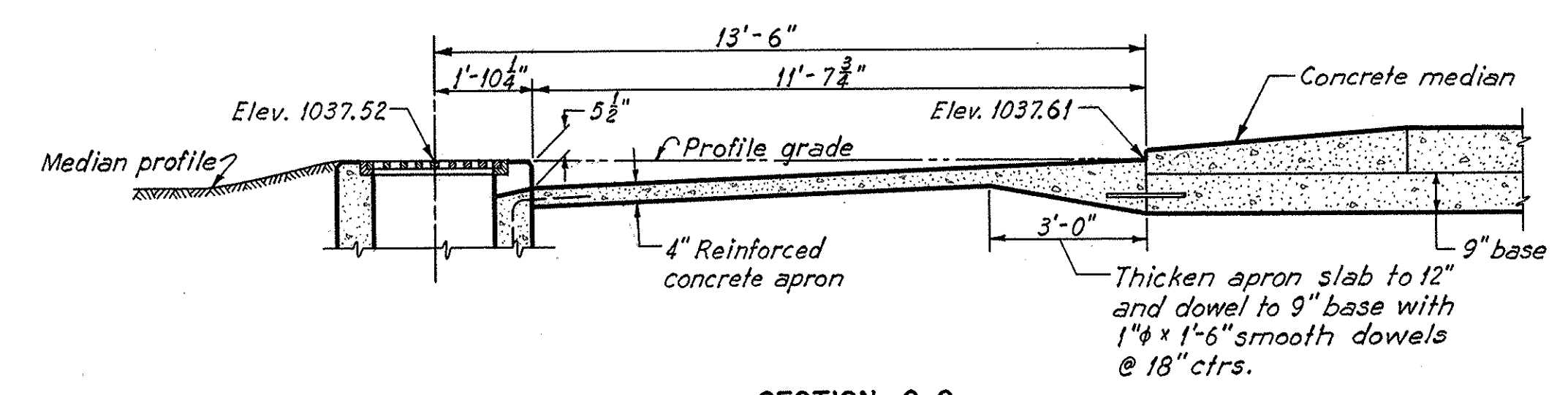
SECTION B-B
Scale: 1/2" = 1'-0"

Notes:
For details of Inlet, see Sheet 47.
For details of 4-A Curb, see Standard Drawing I-12. Included with ramp flume.
For reinforcement of 4" slab see Type "D" Standard Drawing B-T-71R.



SECTION A-A

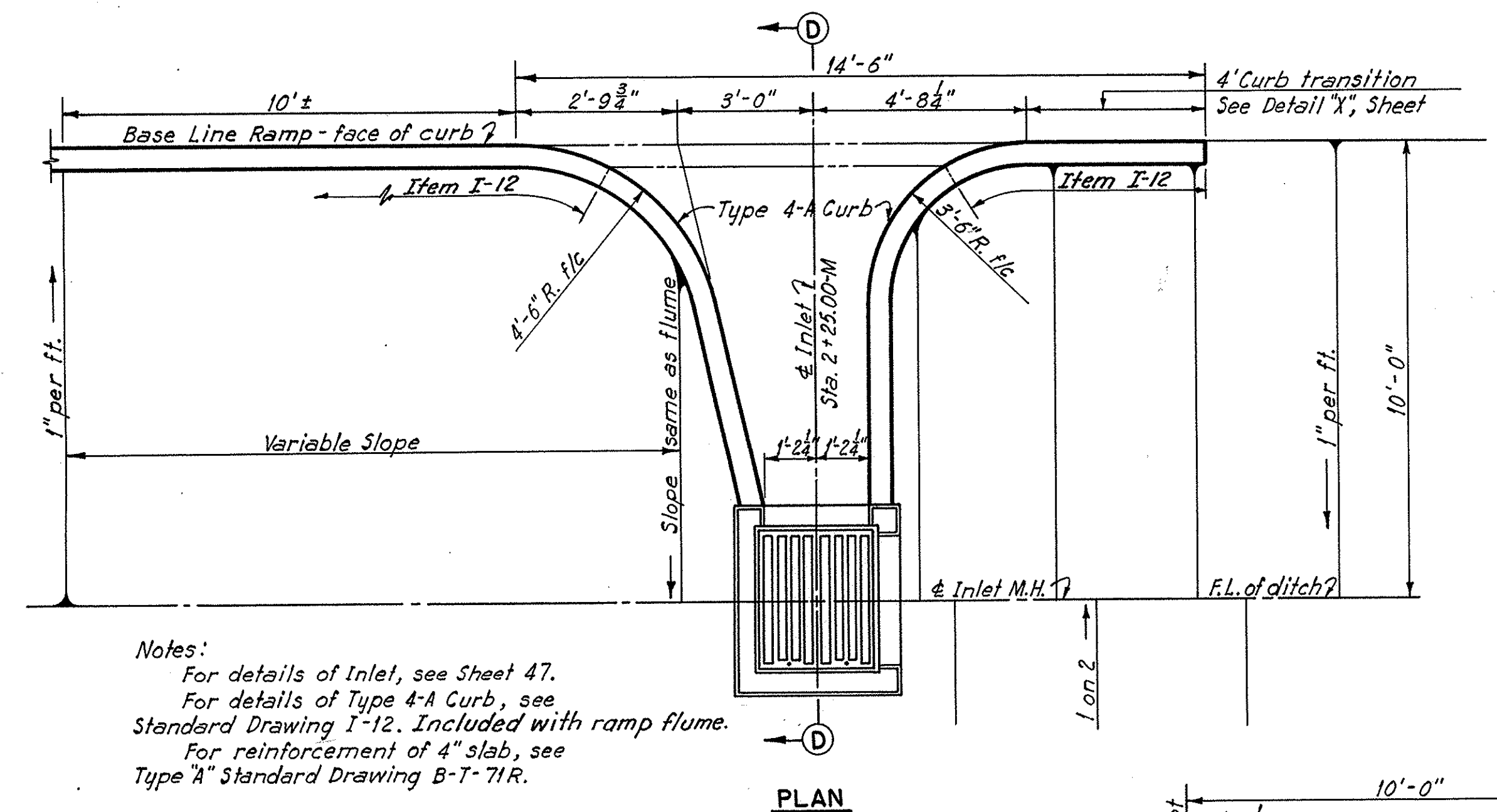
RAMP "J" FLUME AT STA. 0+50.00 J
Scale: 1/4" = 1'-0"



SECTION C-C
Scale: 3/8" = 1'-0"

Notes:
For details of Inlet M.H., see Sheet 47.
For apron reinforcement, see Type "A" Standard Drawing B-T-71R.
For details of concrete median, see Sheet 38.

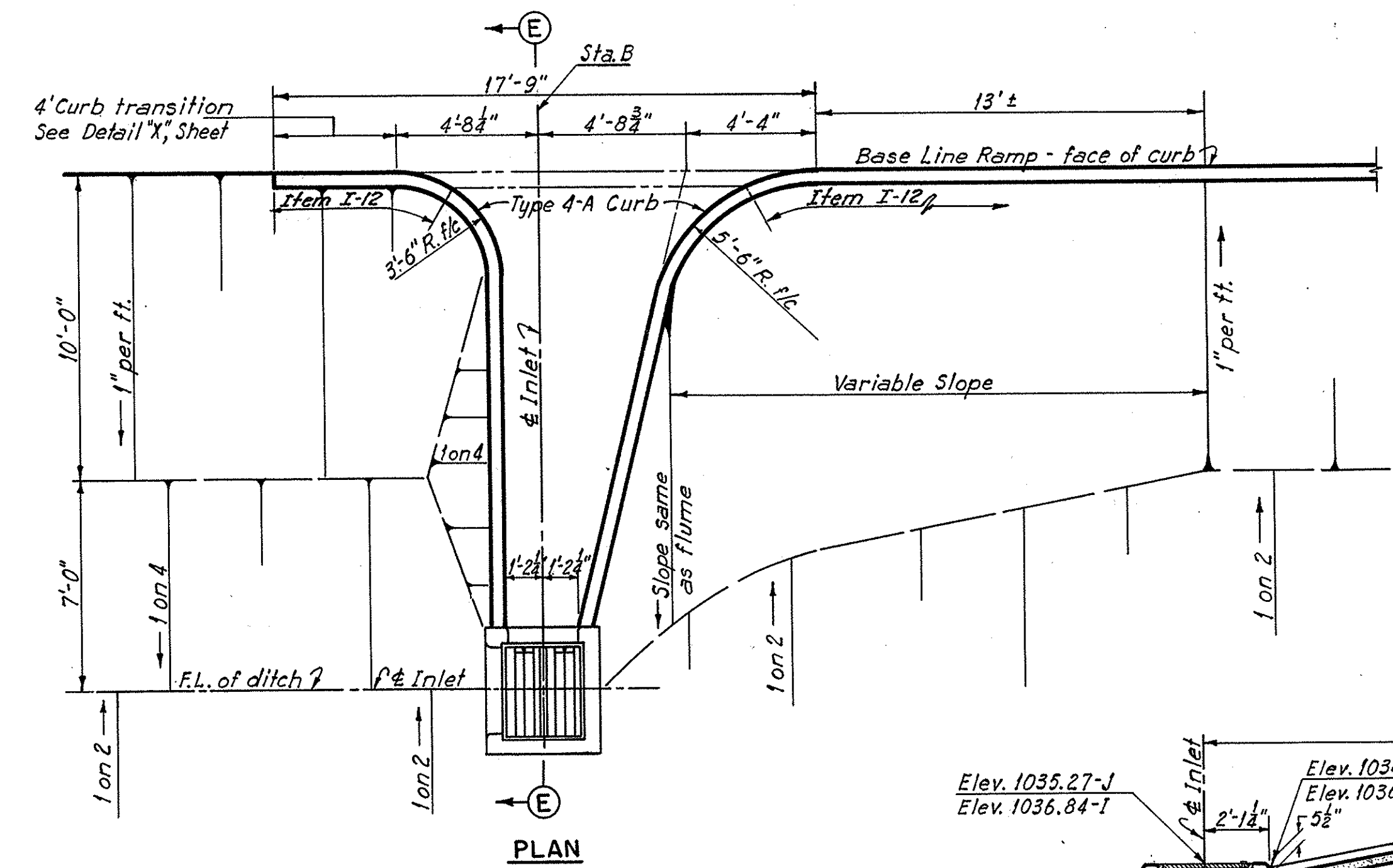
DETAILS OF CONCRETE APRON FOR MEDIAN INLET



PLAN

Notes:
For details of Inlet, see Sheet 47.
For details of Type 4-A Curb, see Standard Drawing I-12. Included with ramp flume.
For reinforcement of 4" slab, see Type "A" Standard Drawing B-T-71R.

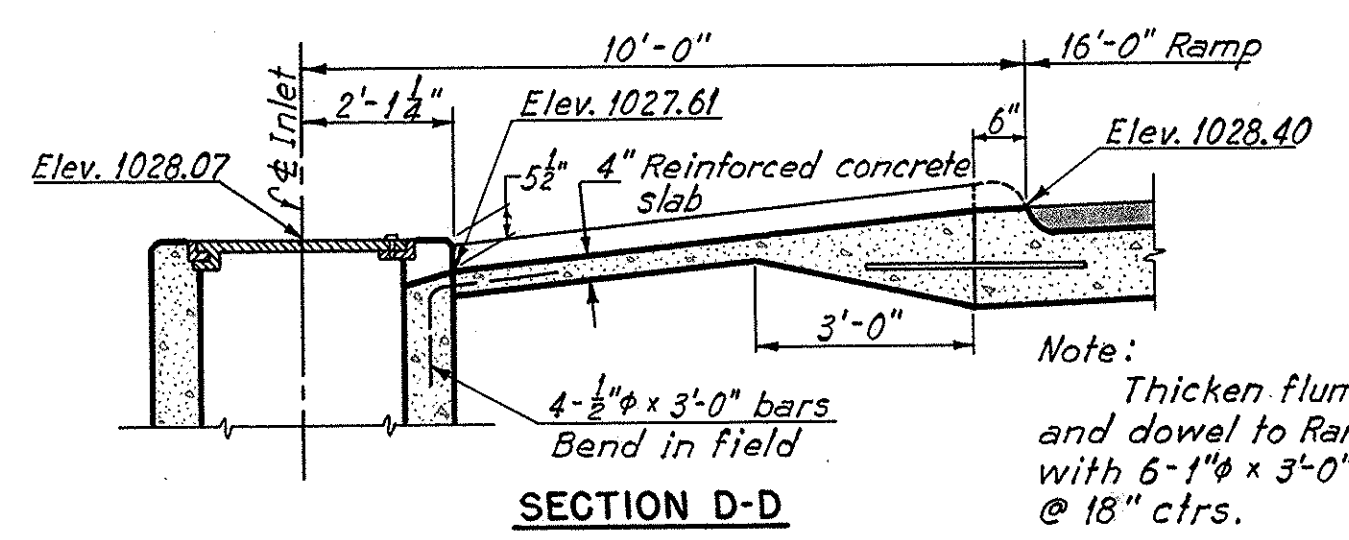
RAMP "M" FLUME
Scale: 3/8" = 1'-0"



PLAN

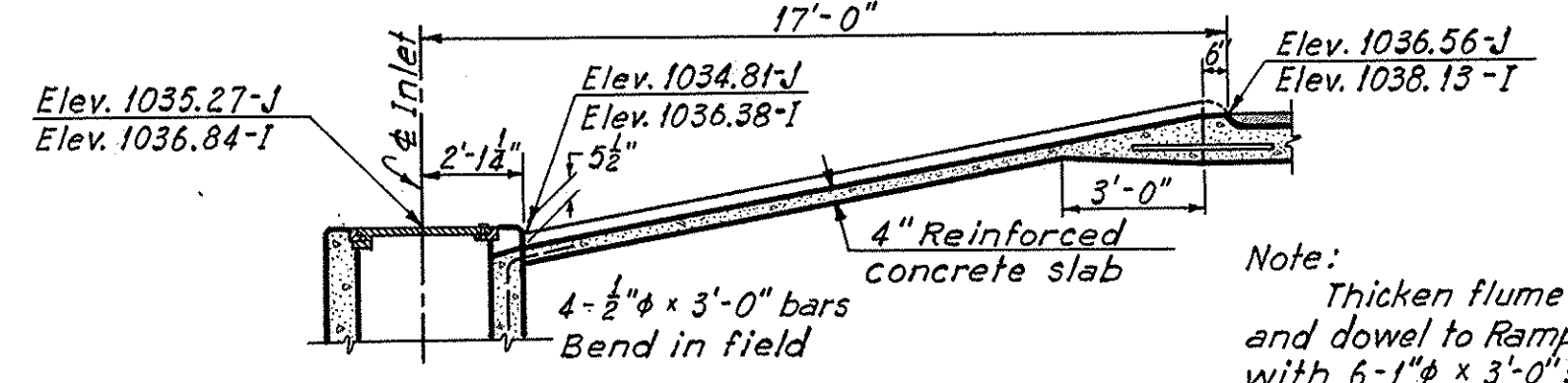
Note:
For details of Inlet, see Sheet 47.
For details of Type 4-A Curb, see Standard Drawing I-12. Included with ramp flume.
For reinforcement of 4" slab, see Type "A" Standard Drawing B-T-71R.

FLUMES FOR RAMPS "I" AND "J"
Scale: 1/4" = 1'-0"



SECTION D-D

Note:
Thicken flume slab to 12" and dowel to Ramp pavement with 6-1" x 3'-0" smooth dowels @ 18" ctrs.



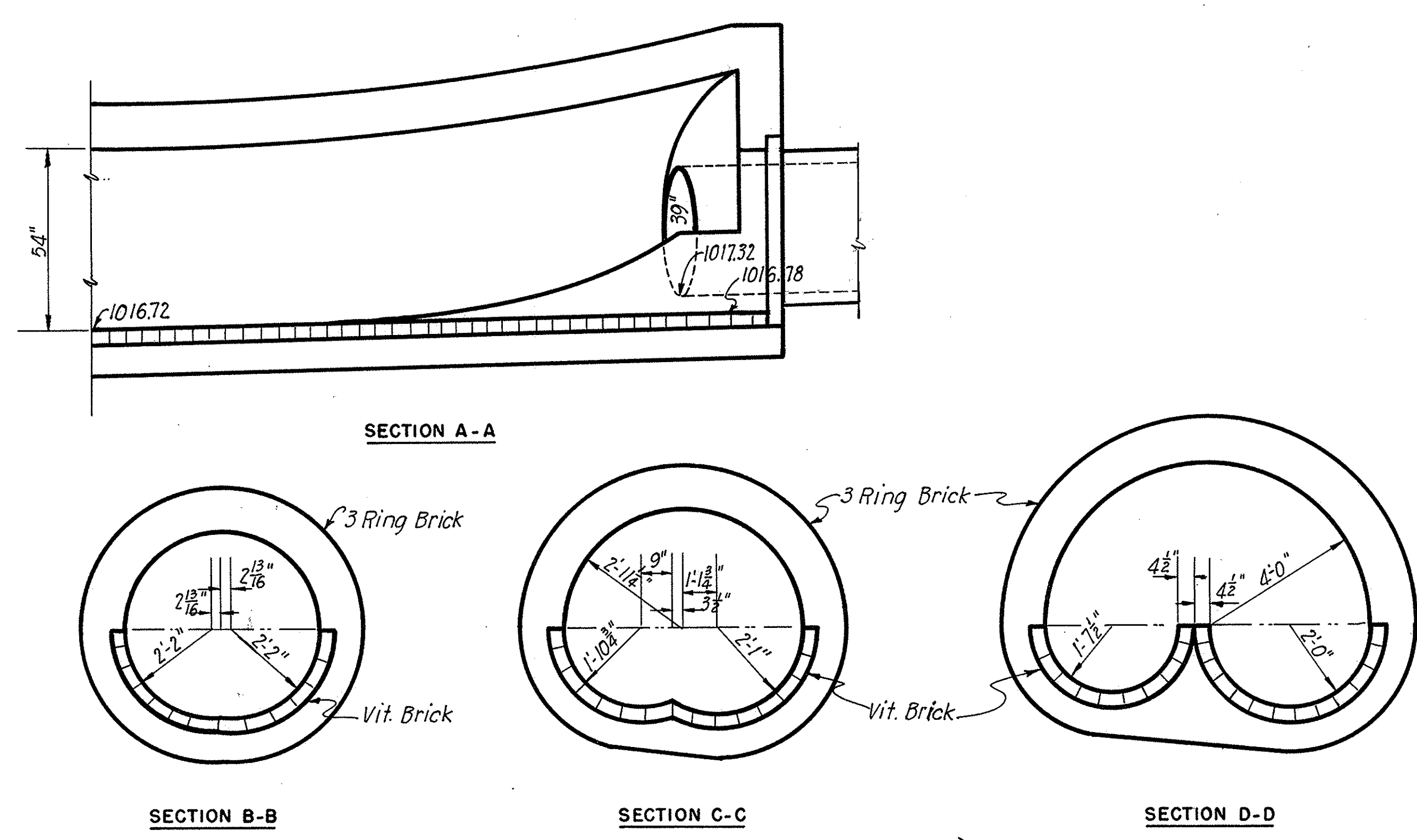
SECTION E-E

Note:
Thicken flume slab to 12" and dowel to Ramp pavement with 6-1" x 3'-0" smooth dowels @ 18" ctrs.

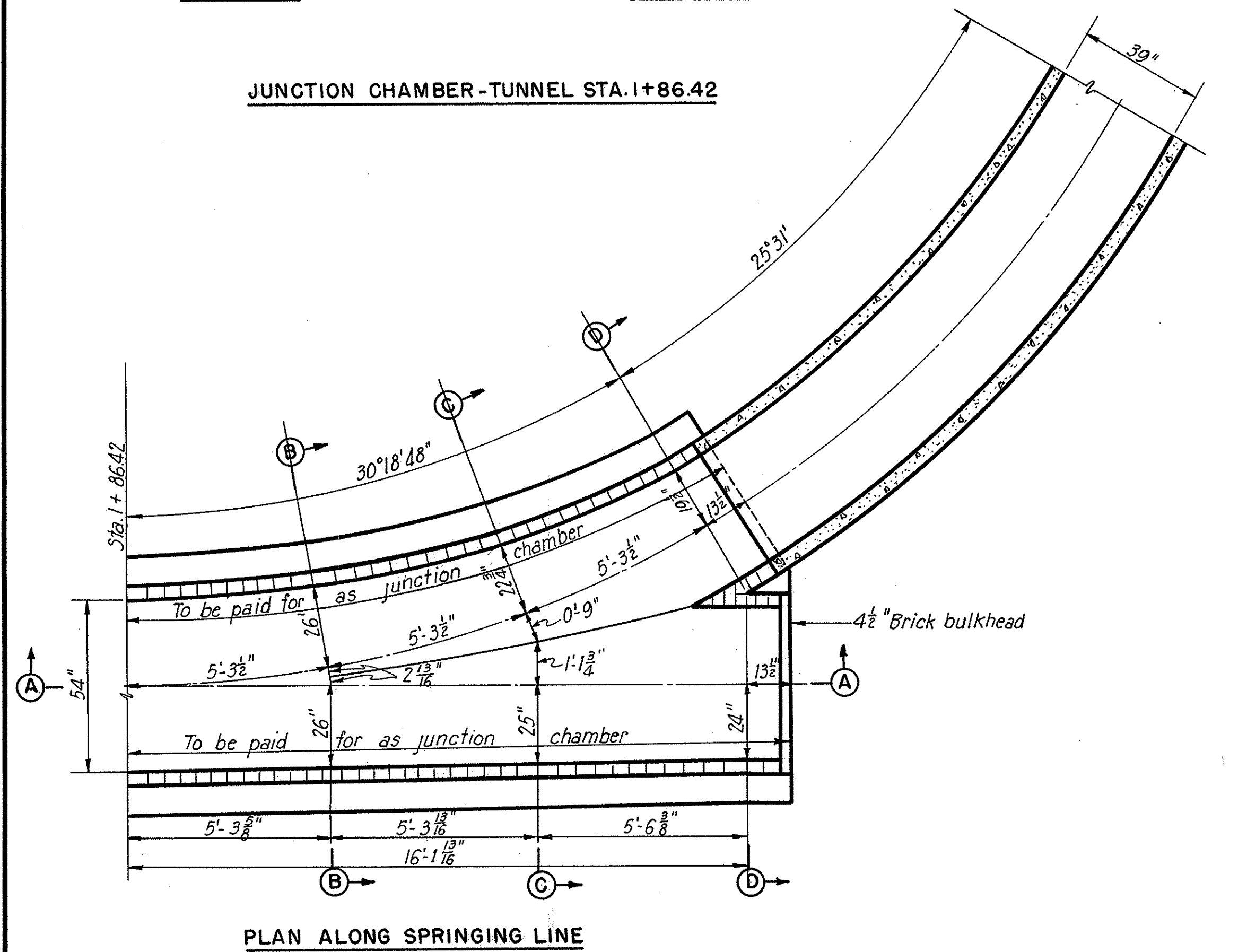
| | | | |
|--------------------|-------|--------------------|------------|
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| 2 | OHIO | U-687(7) | POST WAR |

49
74

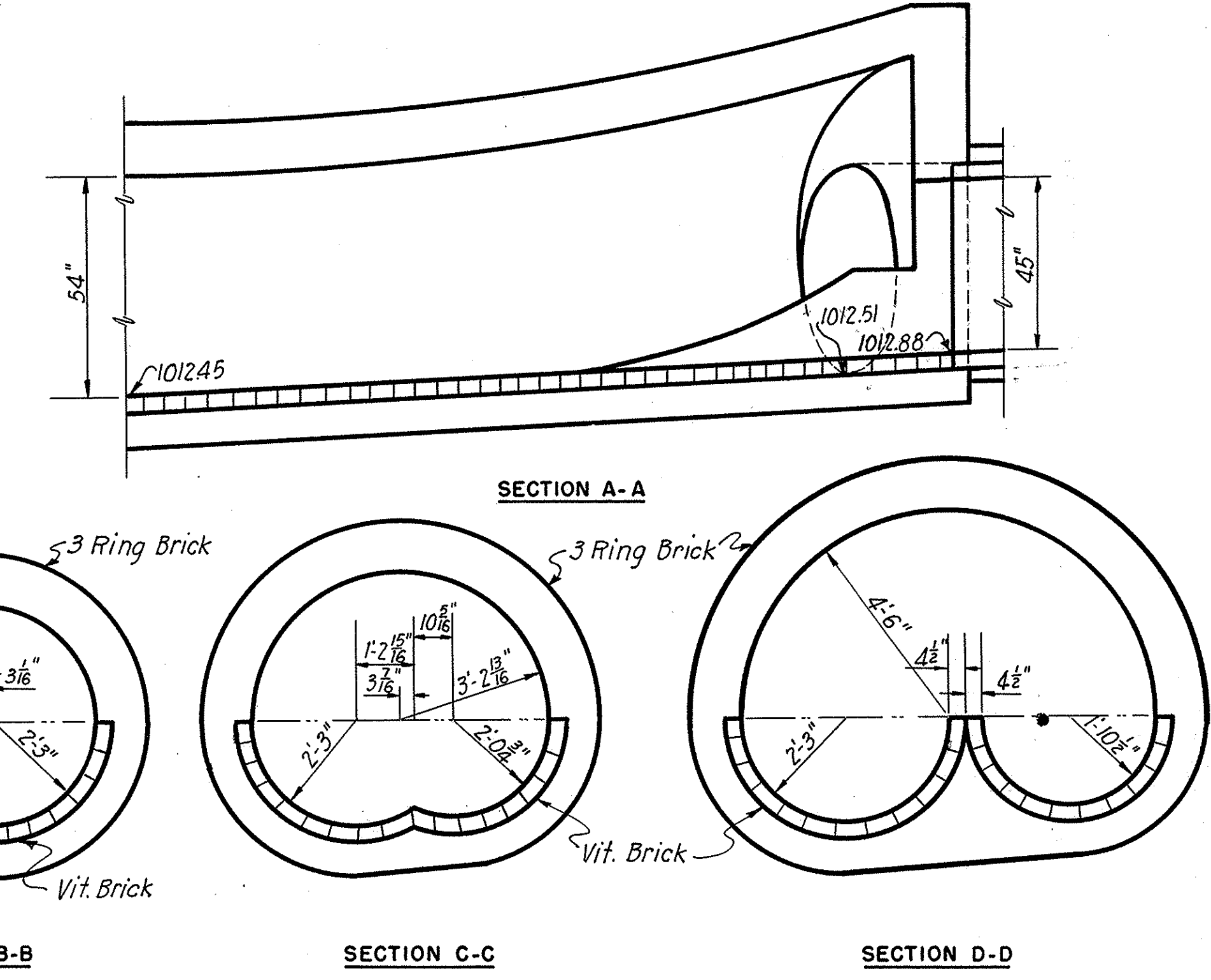
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94
JUNCTION CHAMBERS



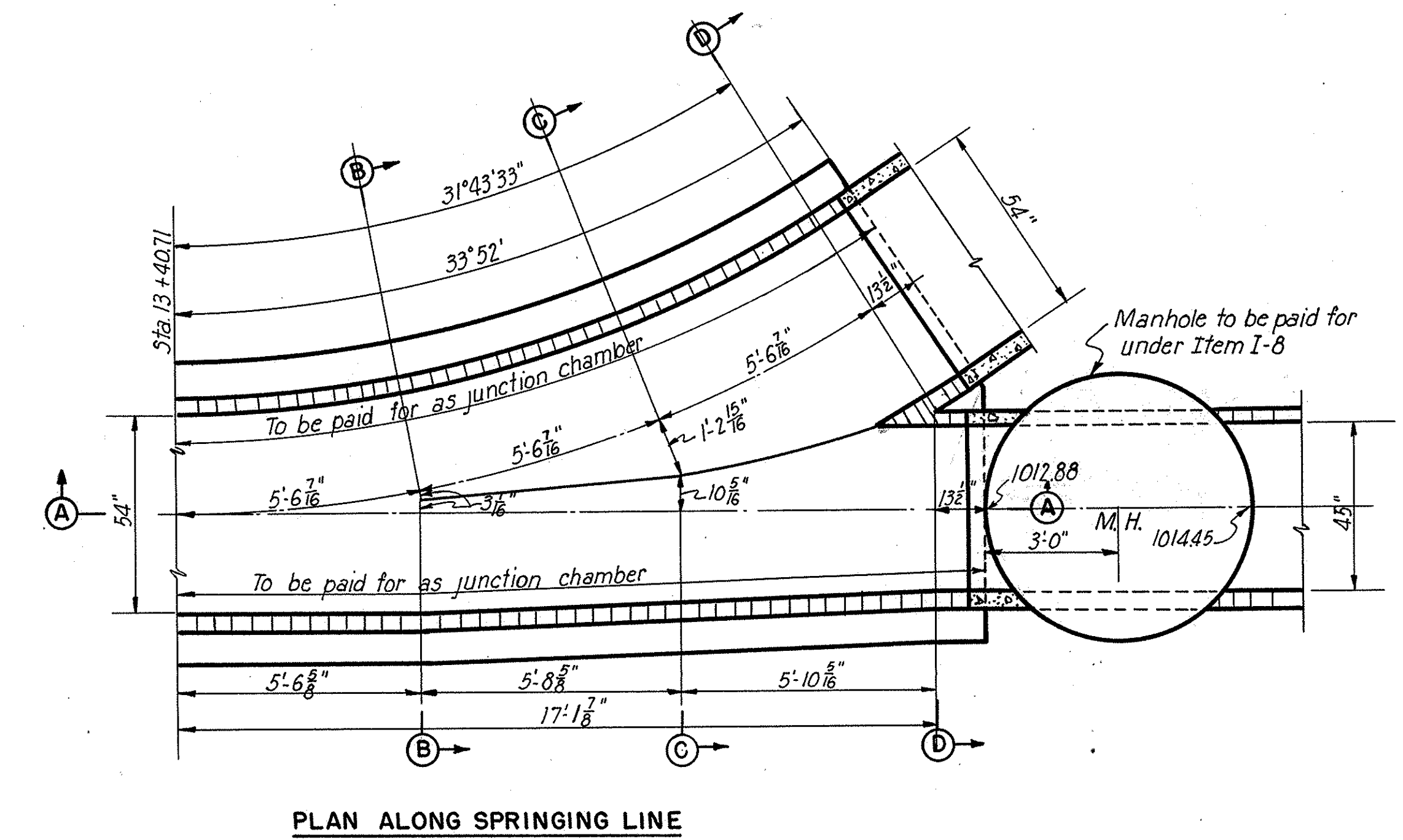
JUNCTION CHAMBER-TUNNEL STA. 1+86.42



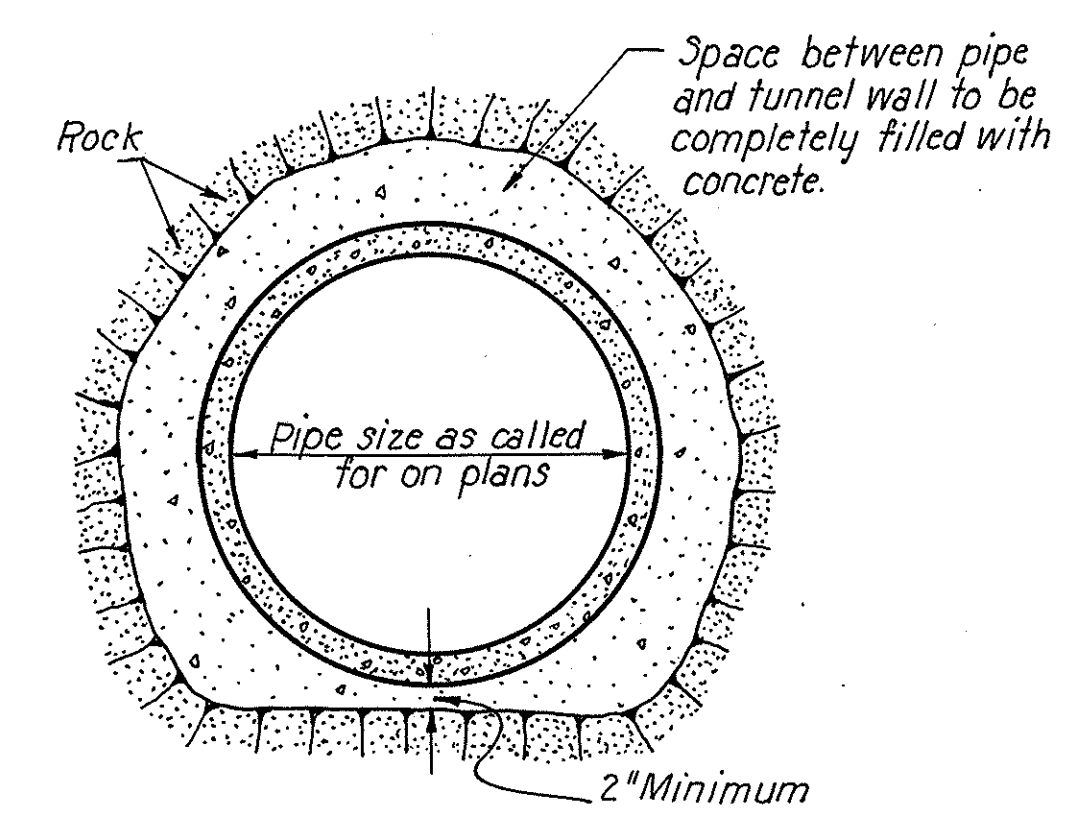
PLAN ALONG SPRINGING LINE



JUNCTION CHAMBER-TUNNEL STA. 13+40.71



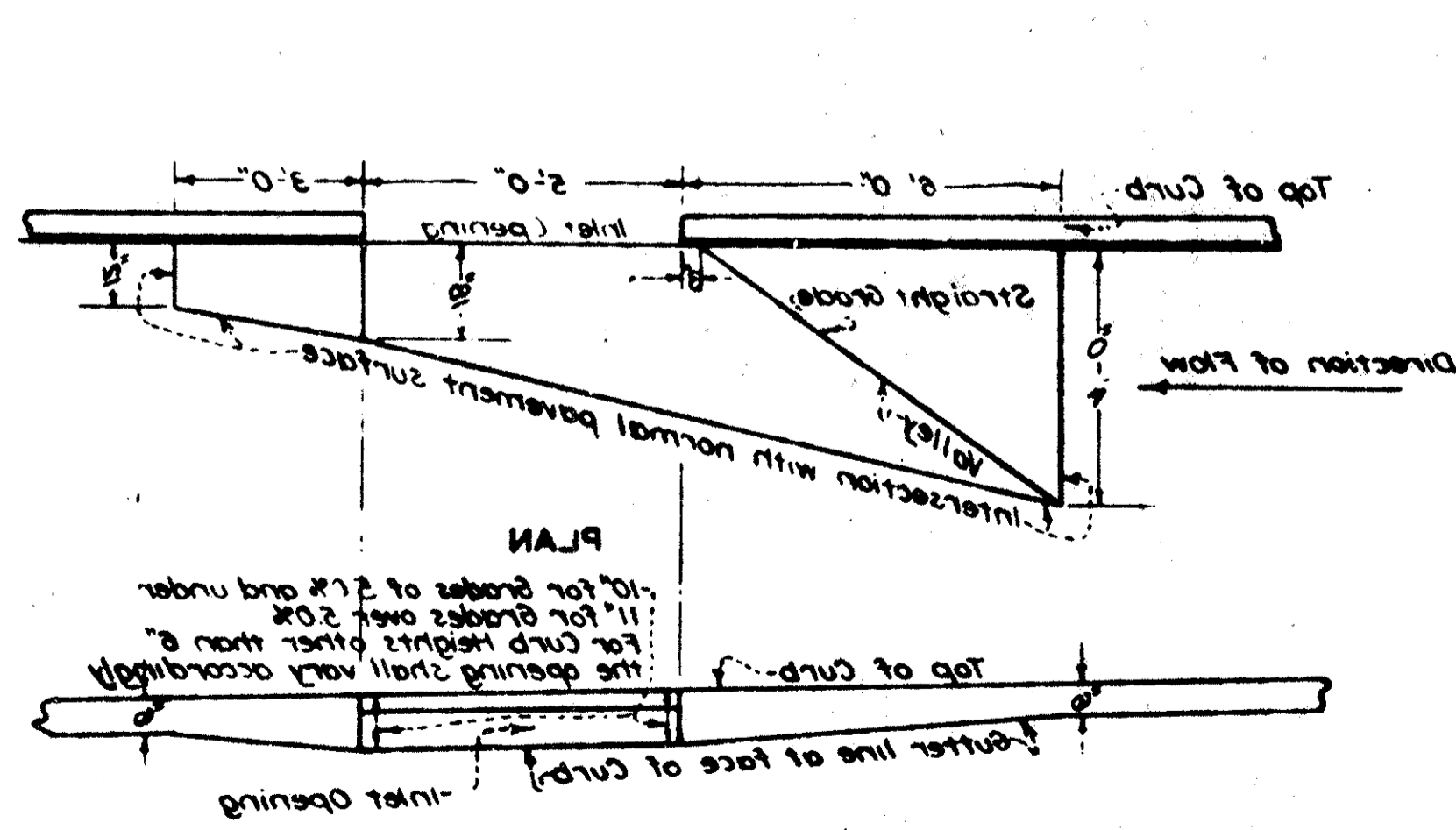
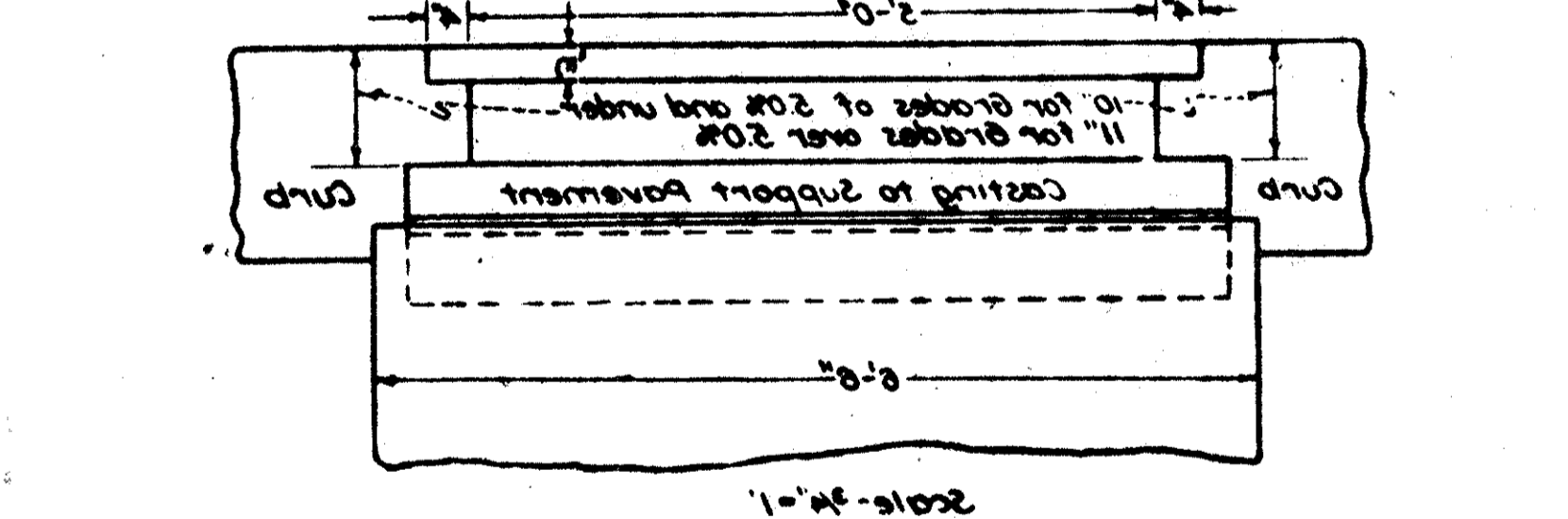
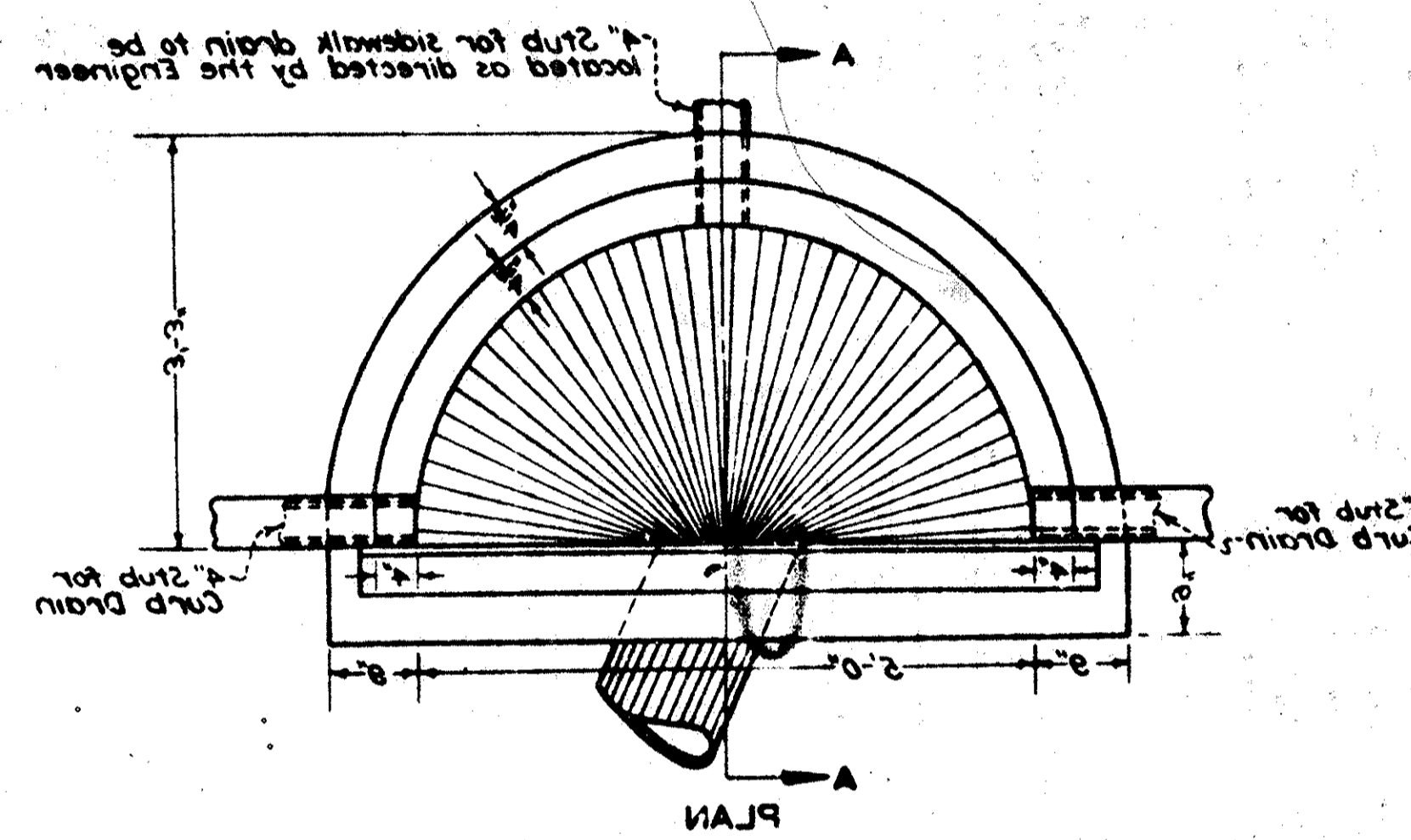
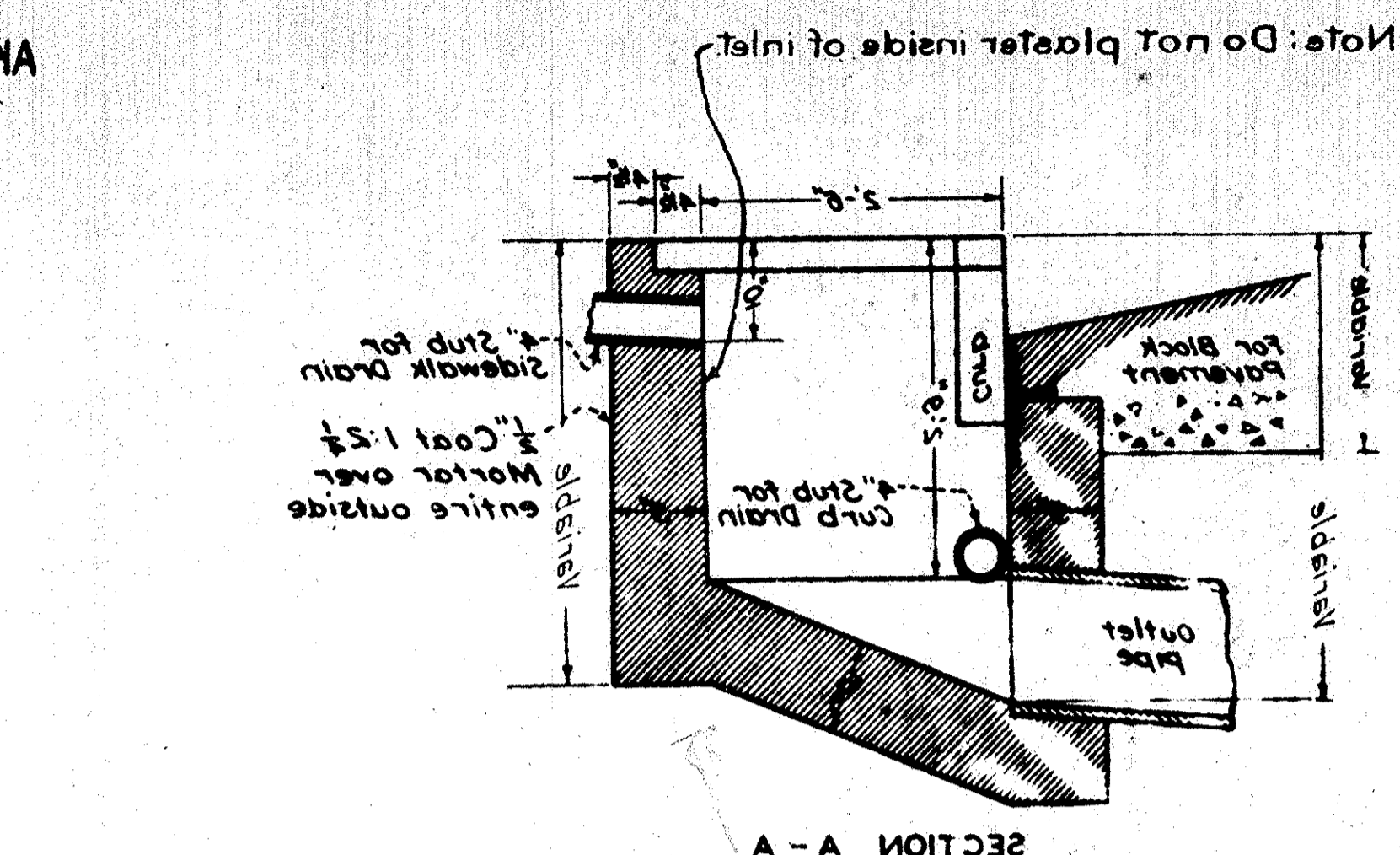
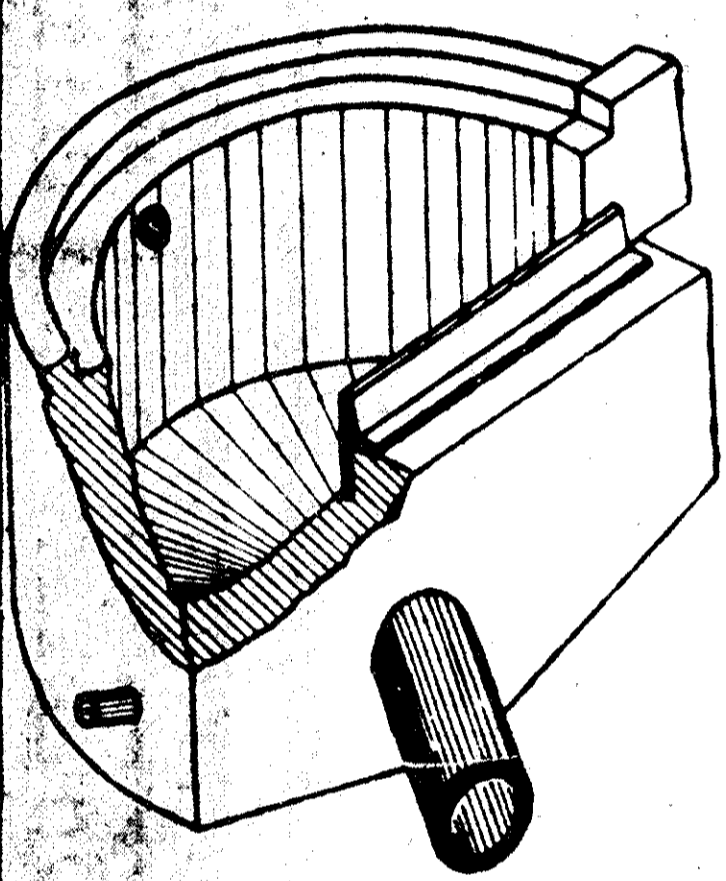
PLAN ALONG SPRINGING LINE



TYPICAL TUNNEL SECTION

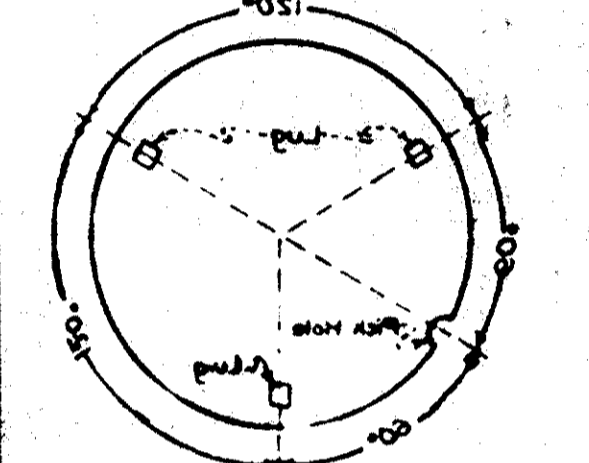
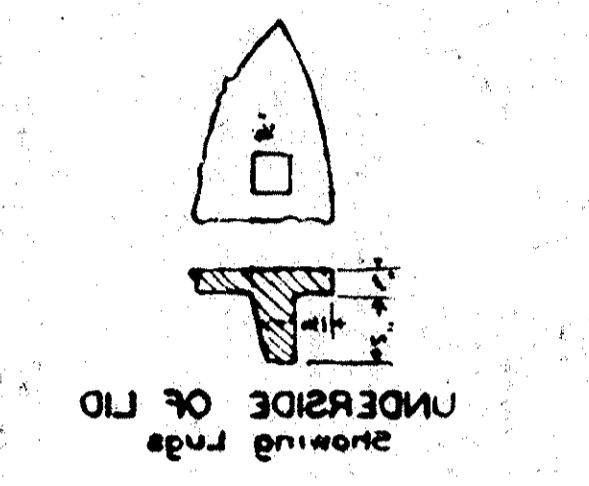
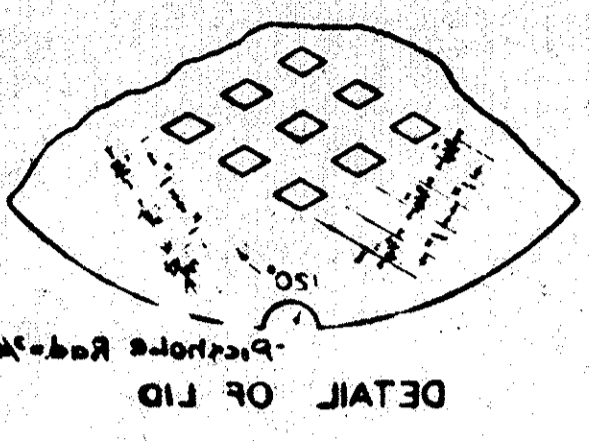
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|------|--------|---------|------|-------|
| POST | U-8873 | STATE | OHIO | NO. 5 |
| TYPE | WARR | ED. NO. | | |
| | | STATE | | |
| | | NO. 1 | | |

AKRON EXPRESSWAY SYSTEM
 EXPRESSWAY-PART 3
 SUM-5-11-94
 AKRON NO. 3 INLET

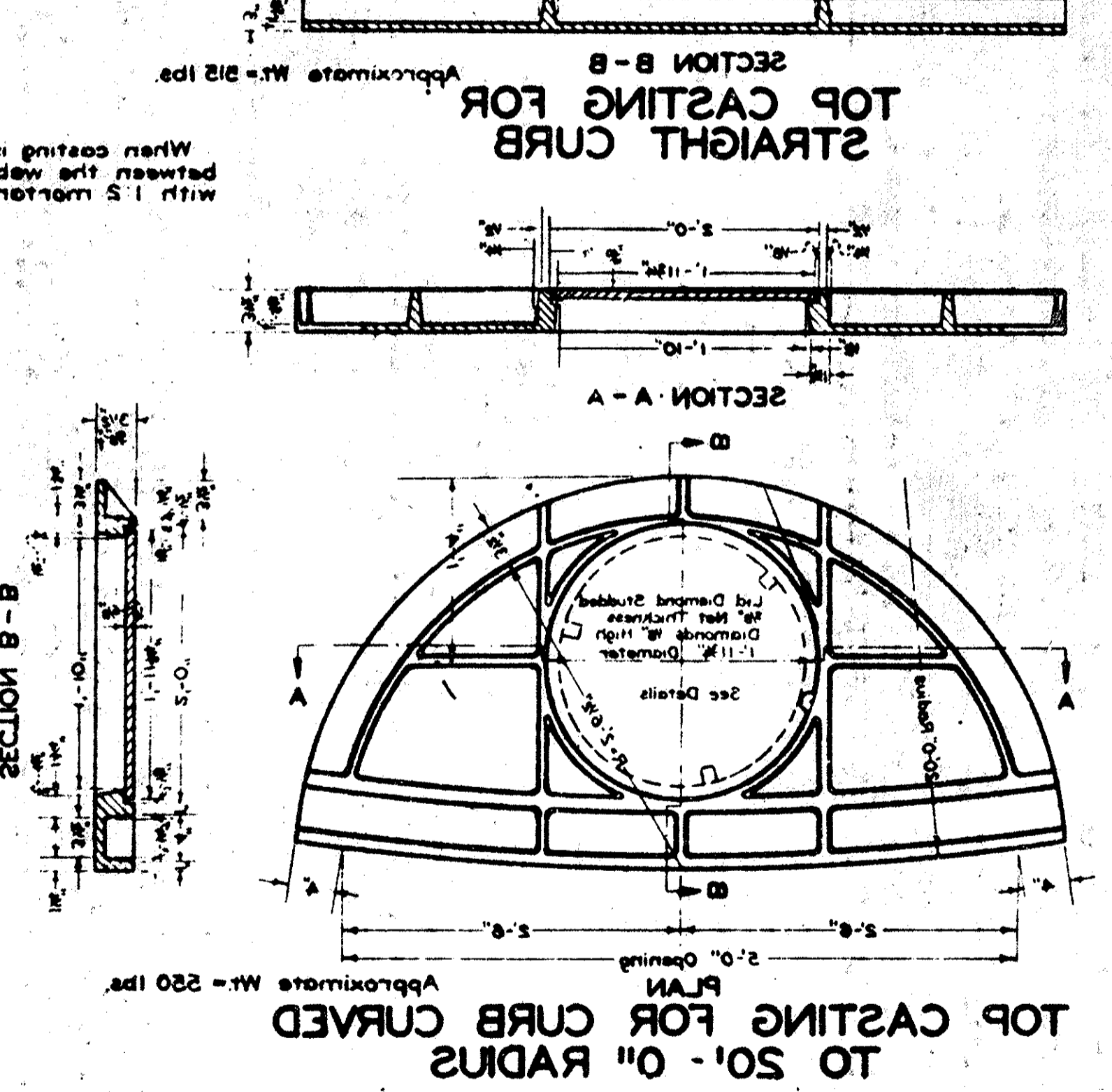
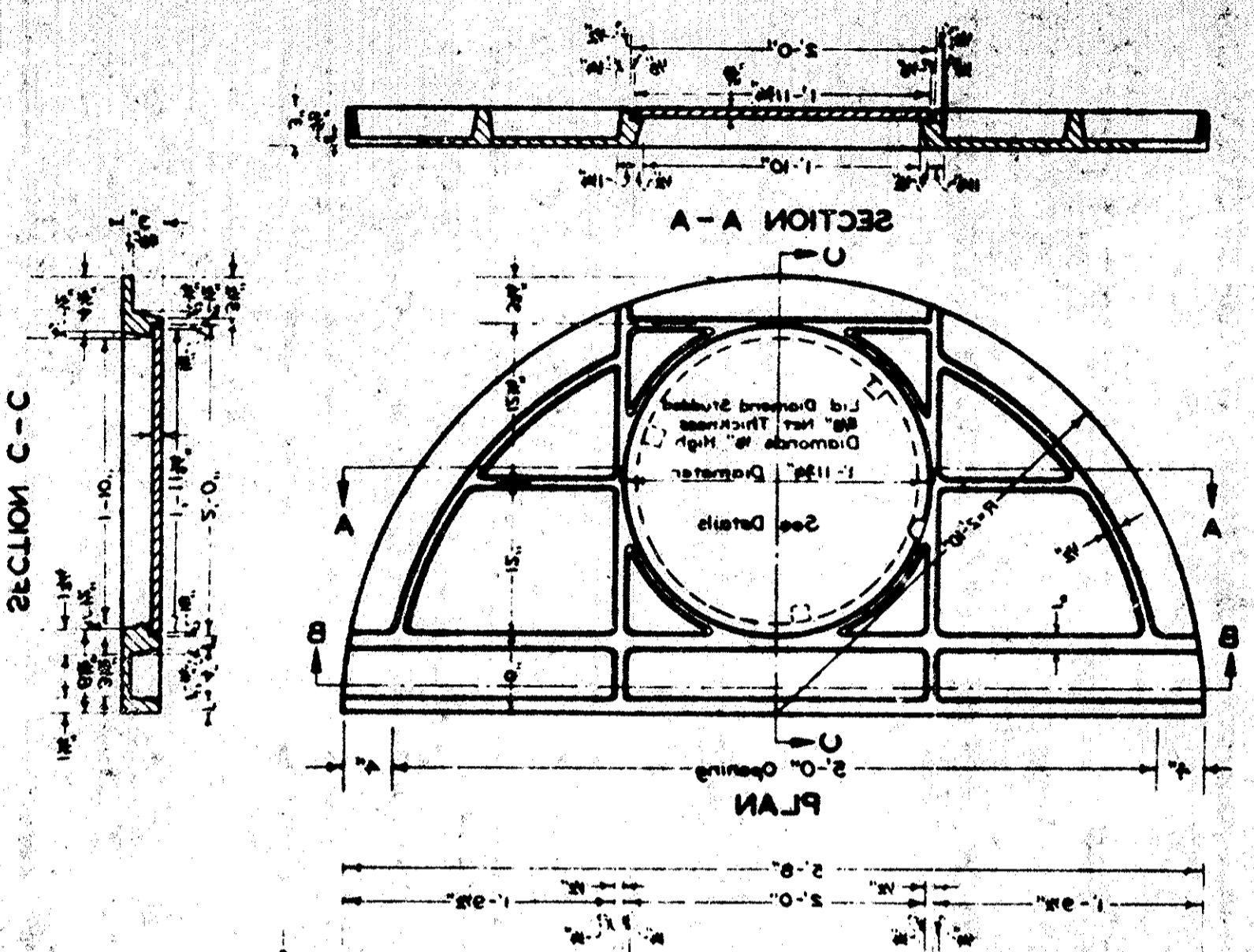
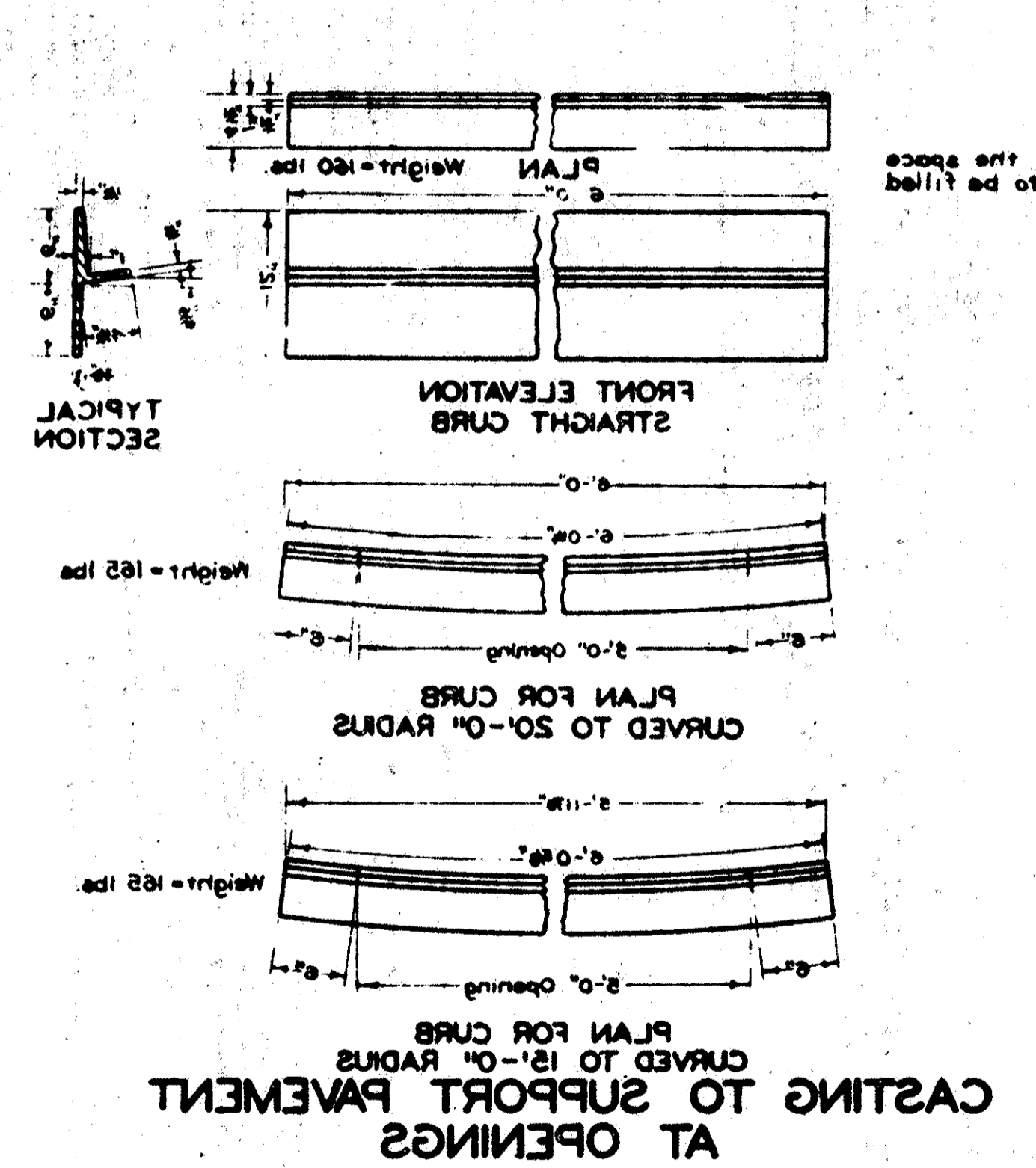
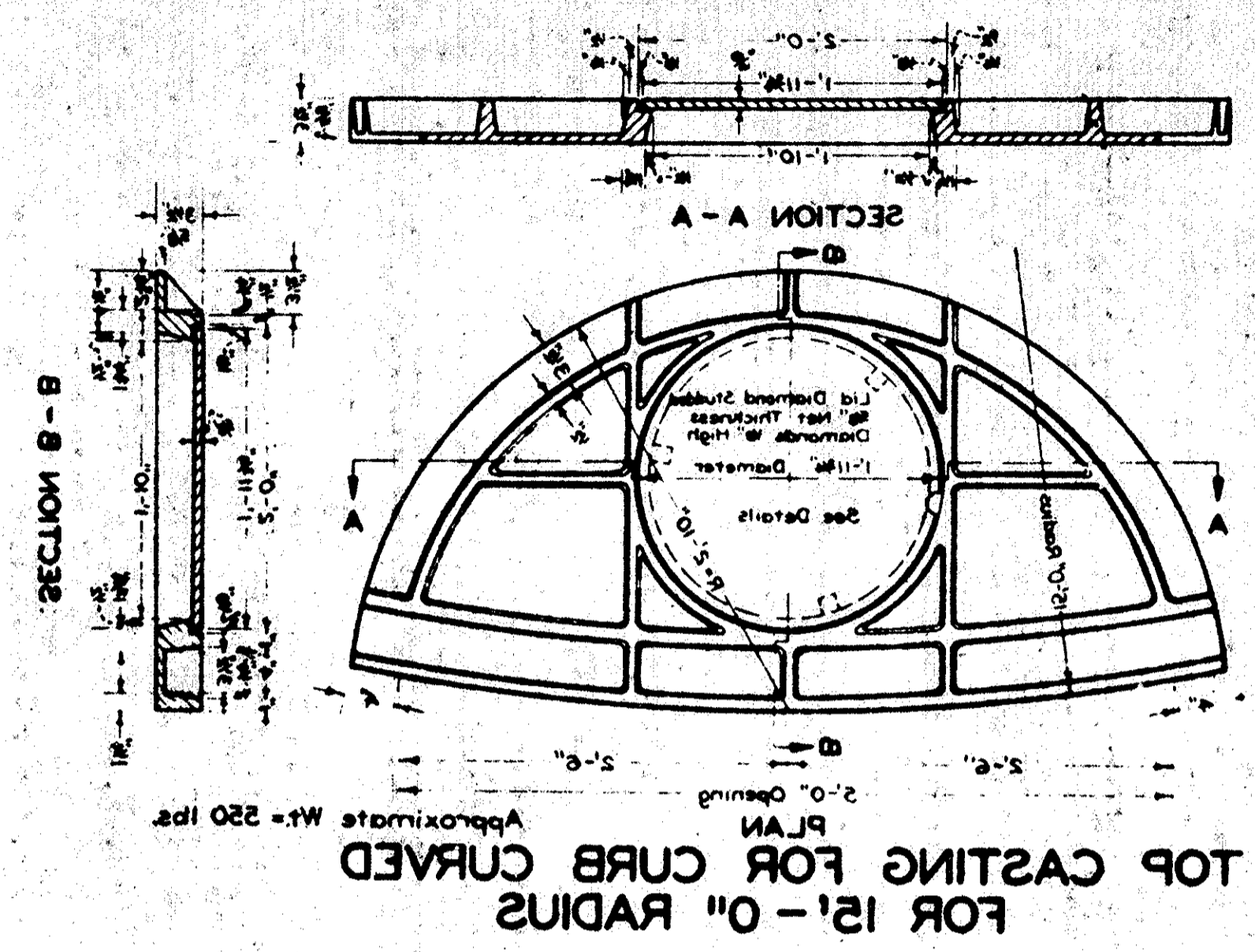


ELEV. SHOWING GUTTER DEPRESSION IN PAVEMENT FOR INLET
 Scale - 3/4" = 1'

Note: Do not plaster inside of inlet.



Note: Material shall be cast men of good quality. Castings shall be free from blowholes and other defects. They shall be cleaned of all scale and grease and receive two coats of bituminous paint.



Notes -
 Inlet is to be built of brick laid up in Portland Cement Mortar corners rounded, and with every fifth course a straight course. The studs to be placed in inlets as indicated on the plan and spaced with 4" centers. The studs shall be paid for as 'Inlet Castings'.
 On rounded streets wherever there is no existing curb, standard curbs of a minimum height of 4" (to be furnished on each side of inlet, notched as shown and where that is no bid price on curb, the curb shall be paid for as 'Inlet Casting'.
 Where inlet is constructed in existing pavement all reslapping of pavement within the limits shown on the plan, shall be paid for as 'Inlet Casting'.

GENERAL NOTES FOR STRUCTURES

DESIGN SPECIFICATIONS
 SPECIFICATIONS FOR DESIGN OF HIGHWAY STRUCTURES OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, JANUARY 1, 1946.

BORINGS
 RECORDS OF BORINGS AND SOUNDINGS FROM WHICH FOOTING ELEVATIONS HAVE BEEN ESTABLISHED ARE ON FILE AT THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS AND MAY BE EXAMINED BY BIDDER.

FOOTING ELEVATIONS
 ELEVATIONS OF BOTTOMS OF FOOTINGS RESTING ON ROCK ARE SUBJECT TO CHANGE WHEN EXCAVATIONS ARE MADE AND ACTUAL ELEVATIONS OF TOP OF SOUND ROCK DETERMINED. ALL SUCH FOOTINGS SHALL EXTEND AT LEAST THREE INCHES INTO SOUND ROCK.

PILING
 PILING SHALL BE DRIVEN TO BEARING OF 25 TONS AND PREFERABLY TO REFUSAL.

WATERPROOFING
 ALL EXPANSION, CONTRACTION AND CONSTRUCTION JOINTS IN ABUTMENTS AND RETAINING WALLS SHALL BE WATERPROOFED WITH 36-IN. TYPE "B" WATERPROOFING.
 ALL SURFACES IN CONTACT WITH BITUMINOUS ROADWAY SURFACING SHALL BE WATERPROOFED WITH TYPE "C" WATERPROOFING.

UTILITIES
 EXCEPT AS HEREFTER PROVIDED, ANY UTILITY FACILITIES ENCOUNTERED AT THE SITE OF THE WORK WHICH WILL INTERFERE WITH PORTIONS OF THE FINISHED EXPRESSWAY OR STRUCTURES WILL BE REMOVED OR RELOCATED BY OTHERS. THE CONTRACTOR SHALL COORDINATE HIS OPERATIONS WITH THE WORK OF THE UTILITY OWNERS OR OTHERS WHO MAY BE MAKING THE RELOCATIONS AND SHALL NOTIFY THE OWNERS OF THE UTILITIES OF HIS SCHEDULE SUFFICIENTLY IN ADVANCE TO PERMIT THEM TO MAKE THE NECESSARY ALTERATIONS. IN ADDITION THE CONTRACTOR SHALL PERFORM THE FOLLOWING WORK ON THE UTILITIES:

- PERKINS ST.**
- THE EXISTING 6-IN. WATER MAIN WILL BE CUT AND PLUGGED OUTSIDE THE LIMITS OF THE EXPRESSWAY BY OTHERS. THE CONTRACTOR SHALL REMOVE THE MAIN ACROSS THE EXPRESSWAY, THE WORK TO BE PAID FOR UNDER ITEM E-12, PIPE REMOVED AND STORED. PIPE REMOVED SHALL REMAIN THE PROPERTY OF THE CITY AND SHALL BE STORED ON THE RIGHT-OF-WAY AS DIRECTED BY THE ENGINEER.
 - THE CONTRACTOR SHALL INSTALL A NEW 16-IN. CAST IRON WATER MAIN UNDER THE NORTH SIDEWALK ON THE STRUCTURE. THE 16-IN. CAST IRON PIPE WILL BE FURNISHED IN 18-FT. LENGTHS COMPLETE WITH ALL JOINT MATERIALS BY THE CITY OF AKRON, AND SHALL BE INSTALLED BY THE CONTRACTOR TO A POINT APPROXIMATELY 5 FT. BACK OF EACH ABUTMENT BACKWALL, THE WORK TO BE PAID FOR UNDER THE SPECIAL ITEM, INSTALLING 16-IN. WATER MAIN. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL PIPE SLEEVES, CHANNEL SUPPORTS AND HANGERS, THE WORK TO BE PAID FOR UNDER ITEM S-7, STRUCTURAL STEEL.
 - THE EXISTING GAS MAINS WILL BE REMOVED AND RELOCATED, AS REQUIRED, BY THE EAST OHIO GAS COMPANY. A 10-IN. LOW PRESSURE GAS MAIN WILL BE CARRIED UNDER THE NORTH SIDEWALK. THE PIPE AND PIPE HANGERS WILL BE FURNISHED AND INSTALLED BY THE GAS COMPANY. THE CONTRACTOR SHALL PROVIDE AND INSTALL OPEN HOLES, CHANNEL SUPPORTS AND CLIP ANGLES, THE WORK TO BE PAID FOR UNDER ITEM S-7, STRUCTURAL STEEL.
- FORGE ST.**
- THE EXISTING 4-IN. AND 6-IN. WATER MAINS WILL BE CUT AND PLUGGED AT ADOLPH AVENUE AND GOOD STREET BY OTHERS. THE CONTRACTOR SHALL REMOVE THE MAINS ACROSS THE EXPRESSWAY, THE WORK TO BE PAID FOR UNDER ITEM E-12, PIPE REMOVED AND STORED. PIPE REMOVED SHALL REMAIN THE PROPERTY OF THE CITY AND SHALL BE STORED ON THE RIGHT-OF-WAY AS DIRECTED BY THE ENGINEER.
 - THE EXISTING GAS MAINS WILL BE REMOVED AND RELOCATED, AS REQUIRED, BY THE EAST OHIO GAS COMPANY. A 10-IN. LOW PRESSURE GAS MAIN WILL BE CARRIED UNDER THE NORTH SIDEWALK. THE PIPE AND PIPE HANGERS WILL BE FURNISHED AND INSTALLED BY THE GAS COMPANY. THE CONTRACTOR SHALL PROVIDE AND INSTALL OPEN HOLES, CHANNEL SUPPORTS AND CLIP ANGLES, THE WORK TO BE PAID FOR UNDER ITEM S-7, STRUCTURAL STEEL.

CLASS OF CONCRETE
 ALL CONCRETE SHALL BE CLASS "C".

VIBRATION
 ALL CONCRETE SHALL BE MECHANICALLY VIBRATED.

BAR CLEARANCES
 BARS SHALL, UNLESS OTHERWISE SHOWN, BE AT LEAST 3 IN. CLEAR FROM THE FACE OF CONCRETE IN FOOTINGS AND 2 IN. CLEAR ELSEWHERE EXCEPT IN SLABS WHERE BARS SHALL BE 1 IN. CLEAR.

JOINT FILLER AND TAR PAPER
 EXPANSION JOINTS SHALL HAVE 1-IN. BITUMINOUS PREMOLDED JOINT FILLER AT THE ENDS OF WALLS. EXPANSION AND CONTRACTION JOINTS IN WALLS SHALL HAVE TAR PAPER ON THE SIDES, TOPS AND BOTTOMS OF WALL SURFACES IN CONTACT WITH THE ABUTMENTS AND FOOTINGS. THE TAR PAPER SHALL CONFORM TO THE REQUIREMENTS OF ASHO SPECIFICATIONS FOR SUBGRADE PAPER, DESIGNATION M 74-38. THE JOINT FILLER AND TAR PAPER SHALL BE SECURELY FASTENED TO THE CONCRETE AND SHALL BE PROTECTED FROM DAMAGE DURING PLACING OF CONCRETE. PAYMENT FOR THE TAR PAPER WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE.

DRAINAGE TUBES
 DRAINAGE TUBES SHALL BE PLACED THROUGH THE SPAN SLABS ALONG THE CURBS AS DESCRIBED IN SEC. 29.07 TO PROVIDE SUB-DRAINAGE FOR THE ASPHALTIC CONCRETE SURFACE COURSE.

CONCRETE FINISH
 ALL EXPOSED SURFACES OF CONCRETE, EXCEPT THE UNDERNEATH SIDE OF SUPER-STRUCTURE SLABS, THE TOPS OF PIER AND ABUTMENT BRIDGE SEATS AND THE FACES OF BACK-WALLS, SHALL BE GIVEN A RUBBED SURFACE FINISH. SUCH SURFACES ALSO PREFERABLY SHALL BE FORMED WITH FORM LINER TO REDUCE THE AMOUNT OF RUBBING REQUIRED.
 THE CONCRETE FLOOR SLABS SHALL BE SO CONSTRUCTED THAT AFTER COMPLETION AND AFTER REMOVAL OF FORMS AND ANY FALSEWORK, AND AFTER THE STEEL GIRDERS HAVE DEFLECTED UNDER THE WEIGHT OF THE CONCRETE, THE SURFACE OF THE CONCRETE FLOOR SLABS SHALL CONFORM IN GRADE AND ELEVATION AS NEARLY AS PRACTICABLE TO THE GRADES AND ELEVATIONS STIPULATED IN THE PLANS, WITHOUT SAGS, HUMPS OR OTHER IRREGULARITIES, TO COMPENSATE FOR DEFLECTIONS OF THE SPANS WHICH WILL RESULT FROM THE DEAD LOAD OF CONCRETE. THE SCREEDS USED TO STRIKE OFF THE SURFACE OF THE CONCRETE SLAB SHALL BE SET UP WITH CAMBER ABOVE THE FINAL DESIRED GRADE LINE BY AMOUNTS EQUAL TO DEFLECTIONS SHOWN ON THE PLANS FOR DEAD LOAD OF CONCRETE. THE CONCRETE FLOOR SLABS SHALL BE OF

UNIFORM THICKNESS AS SHOWN BETWEEN GIRDERS AND SHALL BE SET UP TO THE DESIRED CAMBERED POSITION BY INCREASING THE THICKNESS OF SLAB HAUNCHES AT THE GIRDERS.

COPPER BEARING STEEL
 EXPANSION JOINT METAL SHALL BE COPPER BEARING STEEL CONFORMING TO SECTION M-7.4(b) OF THE SPECIFICATIONS.

DIMENSIONS
 DIMENSIONS GIVEN ARE MEASURED HORIZONTALLY AND AT 60° F. UNLESS OTHERWISE NOTED.

RIVETS
 UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL RIVETS ARE TO BE 7/8 IN. DIAMETER. WHERE NOT SHOWN ON DESIGN DRAWINGS, RIVET SPACING SHALL CONFORM TO THE REQUIREMENTS OF THE DESIGN SPECIFICATIONS.

WELDING
 ALL WELDING SHALL BE CLASS "A".

CAMBER
 THE CONTINUOUS I-BEAM GIRDERS NEED NOT BE CAMBERED TO COMPENSATE FOR DEFLECTIONS, BUT SHALL BE FABRICATED SO THAT VARIATION IN ALIGNMENT DUE TO MILL TOLERANCES SHALL BE IN THE DIRECTION OF CAMBER.

EXPANSION JOINTS
 ROADWAY, SIDEWALK AND CURB JOINTS SHALL BE SHOP ASSEMBLED, CORRECTED TO PROVIDE UNIFORM CLOSE CONTACT BETWEEN THE TWO MATING PARTS OF EACH JOINT, MATCH-MARKED AND ERECTED TO REQUIRED LINES AND GRADES.

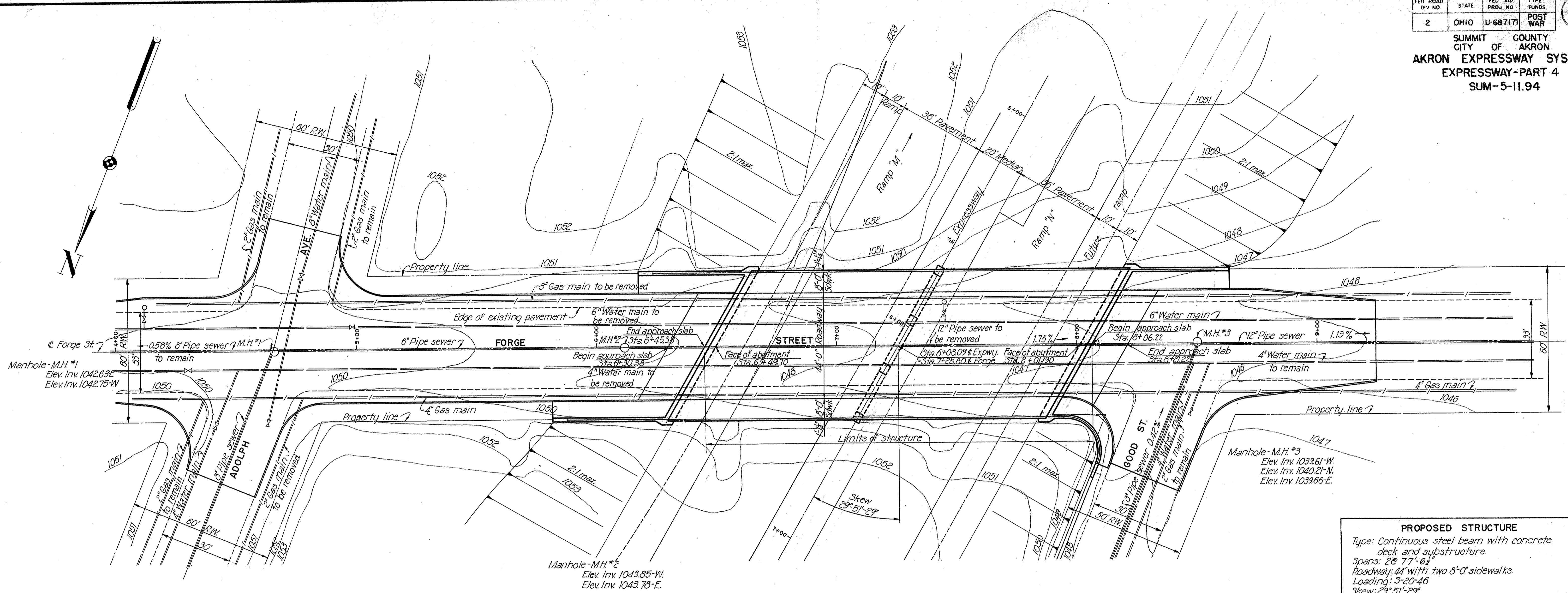
HANDRAIL
 HANDRAIL SHALL BE FABRICATED IN SINGLE PANEL LENGTHS AND FINISHED HANDRAIL SHALL BE FREE OF BURRS, SHARP CORNERS AND ROUGH SURFACES. AFTER HANDRAILS HAVE BEEN SET IN PLACE, THEY SHALL BE ADJUSTED BY MOVING THE POSTS INWARD OR OUTWARD UNTIL THE TOP RAIL SHALL CONFORM TO A STRAIGHT LINE PARALLEL TO CENTERLINE OF ROADWAY. ALL HANDRAIL POSTS SHALL BE SET VERTICAL. POSTS SHALL BE WEDGED IN SOCKETS UNTIL WELDED SUFFICIENTLY TO ASSURE CORRECT ALIGNMENT. THE ADJUSTMENT OF THE HANDRAIL SHALL BE SUCH THAT THE TOPS OF POSTS SHALL NOT DEPART MORE THAN 1/8 IN. FROM CORRECT LINE OR GRADE.
 PAYMENT FOR HANDRAIL WILL BE MADE AT THE CONTRACT UNIT PRICE PER LINEAL FOOT FOR ITEM S-14, HANDRAIL (STEEL), AND SHALL BE MEASURED BETWEEN ENDS OF THE STEEL RAILING, NOT INCLUDING CONCRETE END POSTS.

ESTIMATED QUANTITIES

| ITEM | DESCRIPTION | As Built | UNIT | FORGE STREET UNDERPASS BRIDGE NO. SU-5-120 | | | | | | | | | PERKINS STREET UNDERPASS BRIDGE NO. SU-5-122 | | | | | | | | | As Built | | | |
|----------|--|----------|----------|--|---------------|---------------|--------------------|--------------------|--------------------|--------------------|-----------------|----------------------------|--|-------------|---------------|---------------|--------------------|--------------------|--------------------|--------------------|-----------------|----------|----------------------------|-------|----------|
| | | | | CENTER PIER | EAST ABUTMENT | WEST ABUTMENT | NORTHEAST WINGWALL | SOUTHEAST WINGWALL | NORTHWEST WINGWALL | SOUTHWEST WINGWALL | SUPER-STRUCTURE | APPROACH CURBS & SIDEWALKS | TOTAL | CENTER PIER | EAST ABUTMENT | WEST ABUTMENT | NORTHEAST WINGWALL | SOUTHEAST WINGWALL | NORTHWEST WINGWALL | SOUTHWEST WINGWALL | SUPER-STRUCTURE | | APPROACH CURBS & SIDEWALKS | TOTAL | |
| | | | | | | | | | | | | | | | | | | | | | | | | | LUMP SUM |
| E2 | COFFERDAMS, CRIBS AND SHEETING | | LUMP SUM | | | | | | | | | | | | | | | | | | | | | | |
| E2 | EXCAVATION FOR STRUCTURES - UNCLASSIFIED | 336 | CU YDS | | | 3 | 78 | 63 | 199 | 78 | | | | | 47 | 54 | 46 | 37 | | | | | | | |
| E2 | EXCAVATION FOR STRUCTURES - ROCK AND SHALE | 338 | CU YDS | 42 | 115 | 85 | 19 | 24 | 14 | 11 | | | | 30 | 96 | 85 | 22 | 21 | 23 | 31 | | | | | |
| E12* | PIPE TO BE REMOVED AND STORED | | LIN FT | | | | | | | | | | | | | | | | | | | | | | |
| S1 | CLASS "C" CONCRETE | 979.79 | CU YDS | 105 | 226 | 204 | 39 | 38 | 49 | 34 | | | 242 | 38 | 86 | 194 | 191 | 28 | 30 | 28 | 29 | 195 | 24 | | |
| S3 | TYPE "B" WATERPROOFING | | SO YDS | | | 22 | 20 | | | | | | | | | | 22 | 22 | | | | | | | |
| S3 | TYPE "C" WATERPROOFING | | SO YDS | | | | | | | | | | 748 | | | | | | | | | 557 | | | |
| S4 | REINFORCING STEEL | 137,339 | LBS | 16,892 | 18,843 | 15,373 | 3,740 | 3,919 | 6,410 | 3,449 | | | 58,892 | 6,032 | 14,664 | 15,758 | 15,508 | 2,627 | 2,957 | 2,736 | 2,874 | 51,692 | 6,461 | | |
| S7 | STRUCTURAL STEEL | 409,316 | LBS | | | | | | | | | | 408,192 | | | | | | | | | 232,592 | | | |
| S8 | FIELD PAINTING STRUCTURAL STEEL | 409,316 | LBS | | | | | | | | | | 408,192 | | | | | | | | | 232,592 | | | |
| S9 | PREMOLDED BITUMINOUS EXPANSION JOINT FILLER, 1" THICK | | SO FT | | | | 34 | 34 | 31 | 31 | | | 23 | | | | | | 32 | 33 | 32 | 33 | | | |
| S9 | COPPER WATERSTOPS | | LIN FT | | 62 | 57 | | | | | | | 119 | | | 61 | 60 | | | | | | | | |
| S14 | HANDRAIL (STEEL) | | LIN FT | | | | | | | | | | 470.92 | | | | | | | | | 364.33 | | | |
| S18 | STEEL PILES, 8 BP 36 | 276.58 | LIN FT | | | | | | | | | | 209 | | | | | | | | | 97 | | | |
| S29 | POROUS BACKFILL | | CU YDS | | 103 | 92 | 31 | 30 | 34 | 25 | | | 315 | | 103 | 98 | 19 | 22 | 19 | 21 | | | | | |
| S29 | 8" PERFORATED BITUMINOUS-COATED CORRUGATED METAL PIPE, SEC M-64(b) & (c) | | LIN FT | | 77 | 77 | 14 | 17 | 41 | 14 | | | 240 | | 73 | 73 | 12 | 14 | 12 | 15 | | | | | |
| S29 | SUBDRAINAGE FOR WEARING SURFACE COURSE | 313 | LIN FT | | | | | | | | | | 311 | | | | | | | | | 231 | | | |
| S16 | FIRST TEST PILE | | LUMP SUM | | | | | | | | | | | | | | | | | | | | | | |
| T50 | 2 1/2" HOT-MIXED, HOT-LAID ASPHALTIC CONCRETE SURFACE COURSE, TYPE B (60-70) | | SO YDS | | | | | | | | | | 749 | | | | | | | | | 557 | | | |
| Special* | INSTALLING 16" WATER MAINS | | LIN FT | | | | | | | | | | | | | | | | | | | | | | |

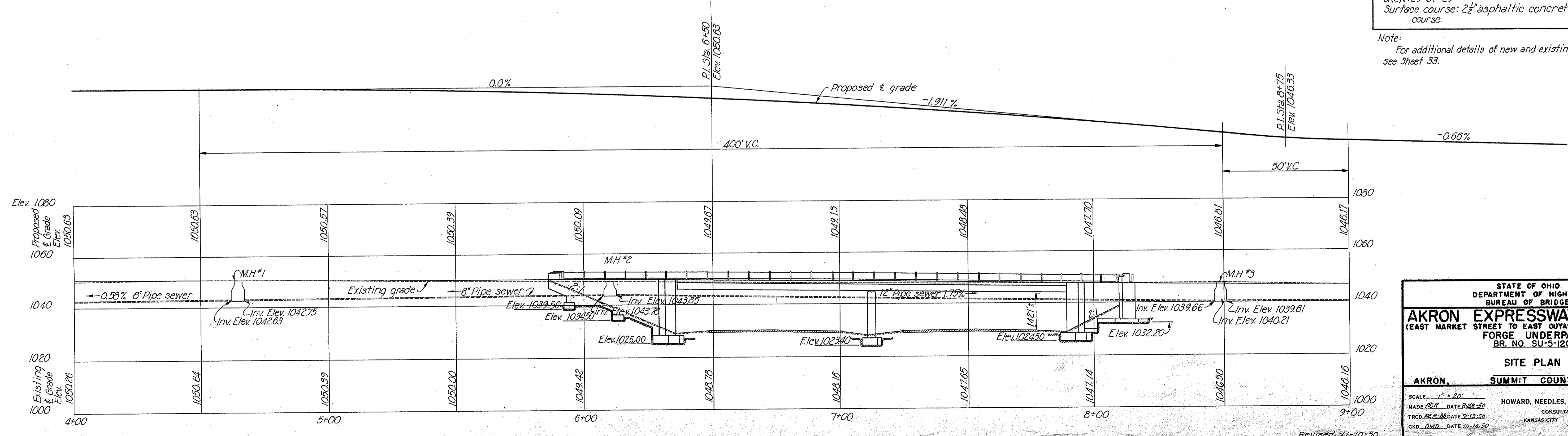
Federal and State funds do not participate in these items.

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94



PROPOSED STRUCTURE
 Type: Continuous steel beam with concrete deck and substructure.
 Spans: 2 @ 77'-6 1/2"
 Roadway: 44' with two 8'-0" sidewalks.
 Loading: 5-20-46
 Skew: 29° 51' 29"
 Surface course: 2 1/2" asphaltic concrete surface course.

Note:
 For additional details of new and existing utilities, see Sheet 33.



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST OUYAHOGA FALLS AVENUE)
FORGE UNDERPASS
BR. NO. SU-5-120

SITE PLAN

AKRON, SUMMIT COUNTY, OHIO

SCALE: 1" = 20'
 MADE: 8-22-50
 TRCD: 8-22-50
 CKD: 10-18-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY, NEW YORK

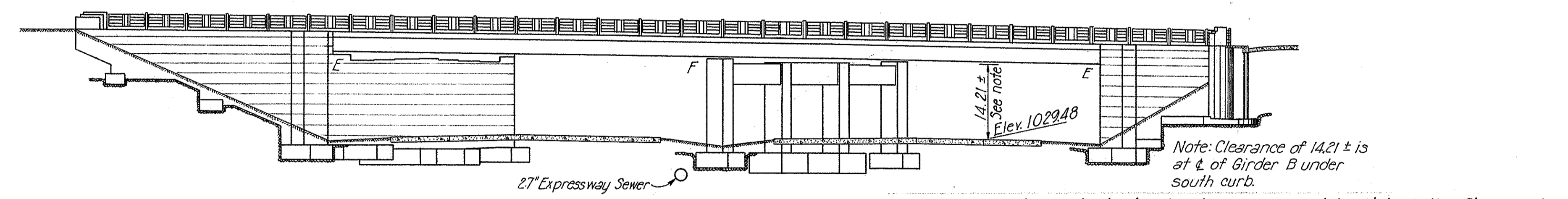
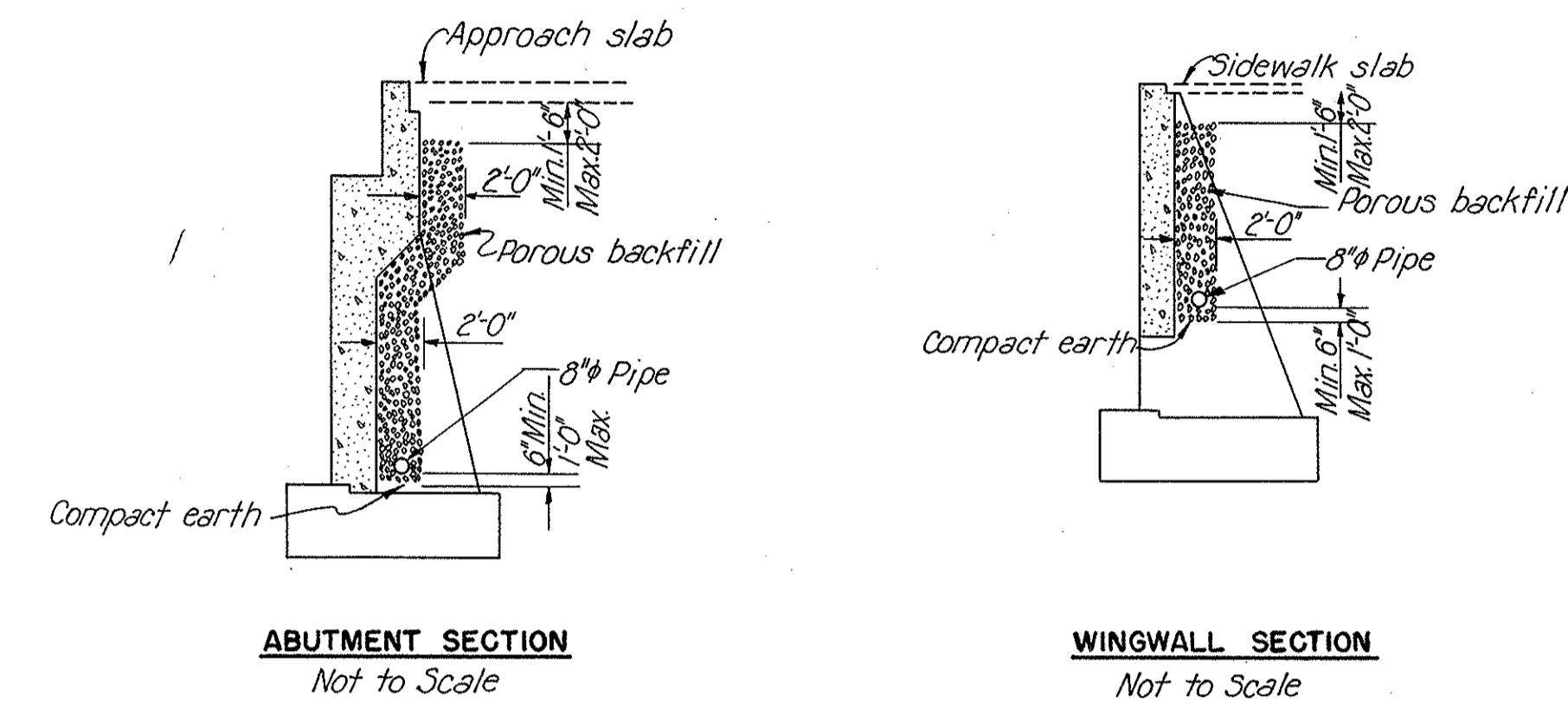
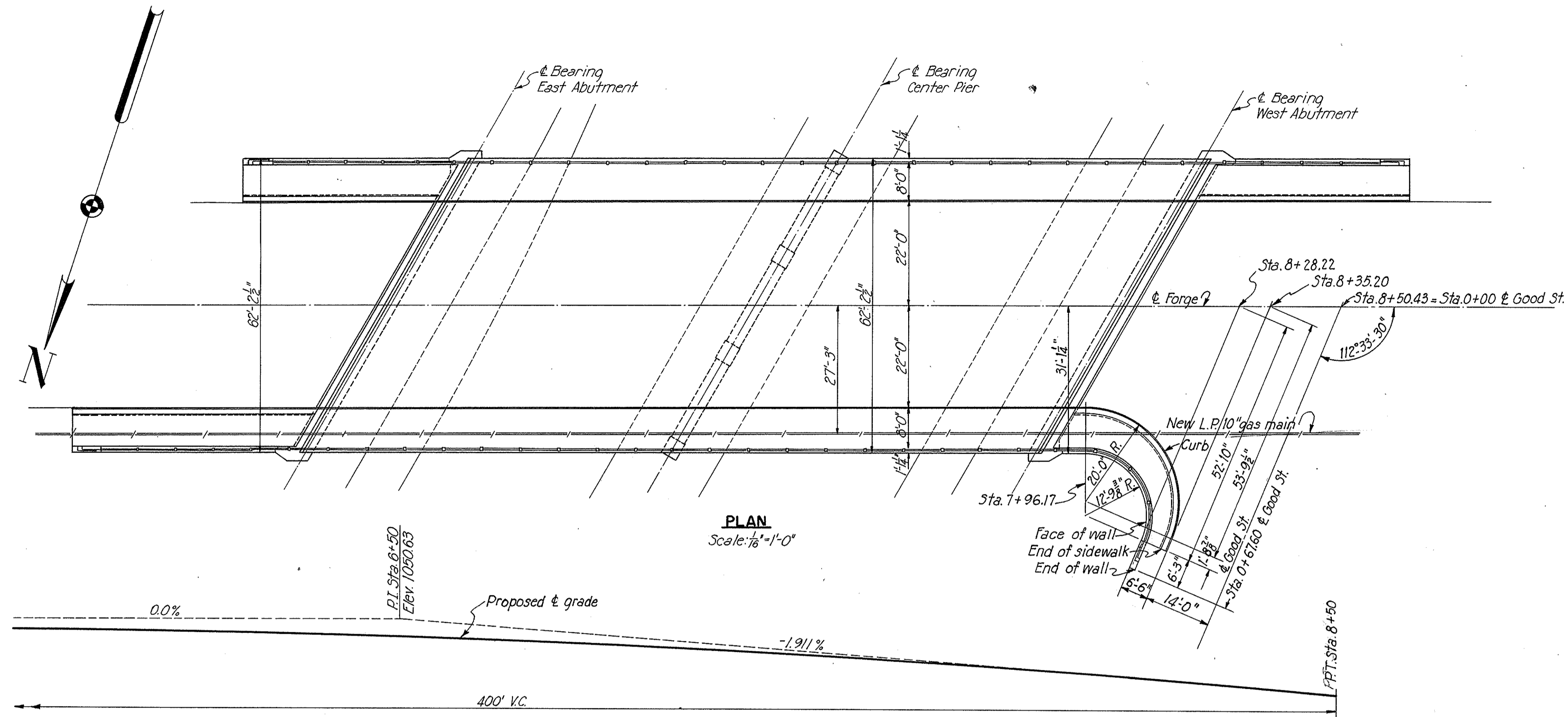
766 SHEET 52

713

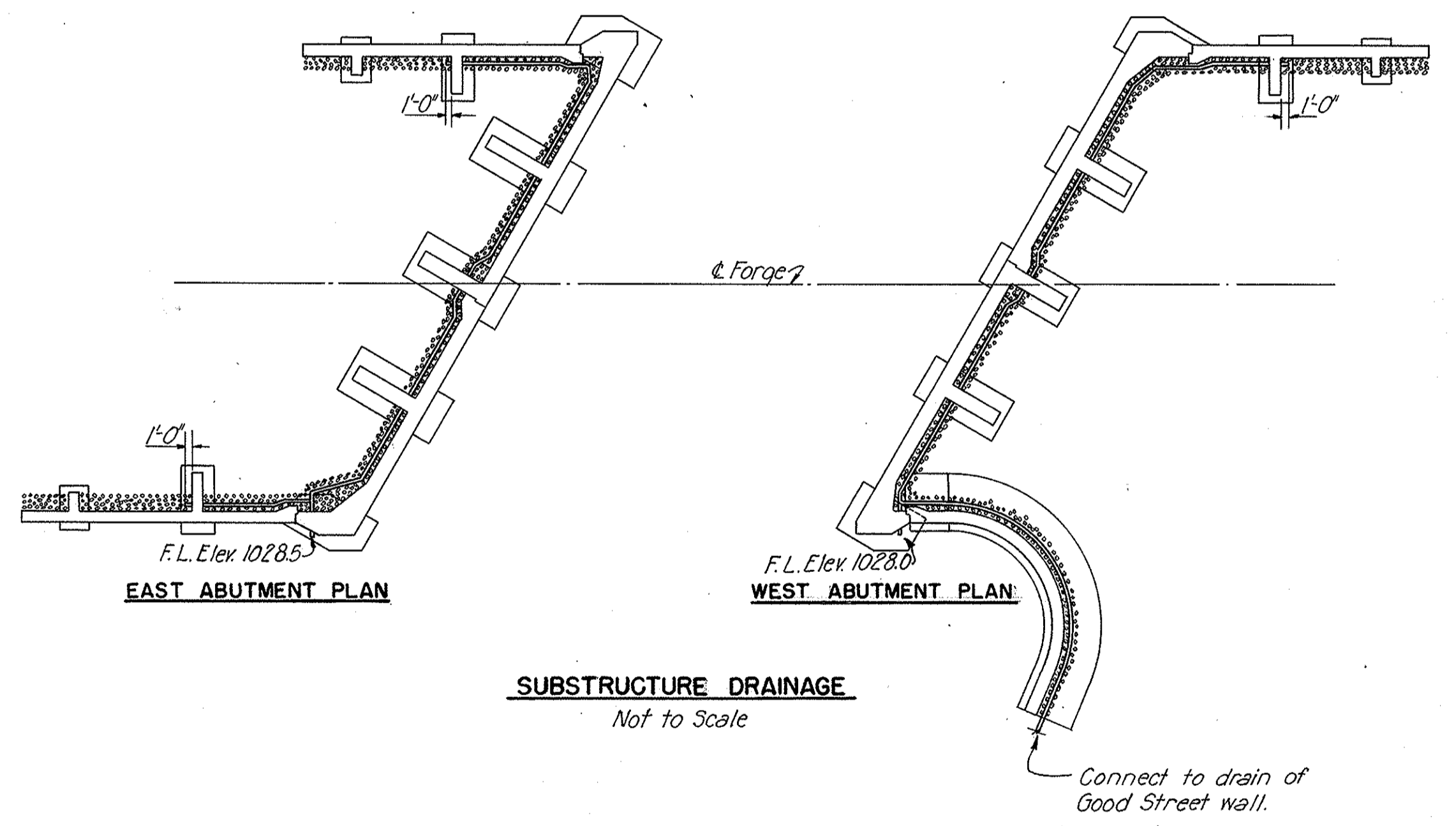
Revised 11-10-50

| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | POST WAR | 53 74 |
|--------------------|-------|--------------------|------------|----------|----------|
| 2 | OHIO | U-687(7) | POST WAR | | |

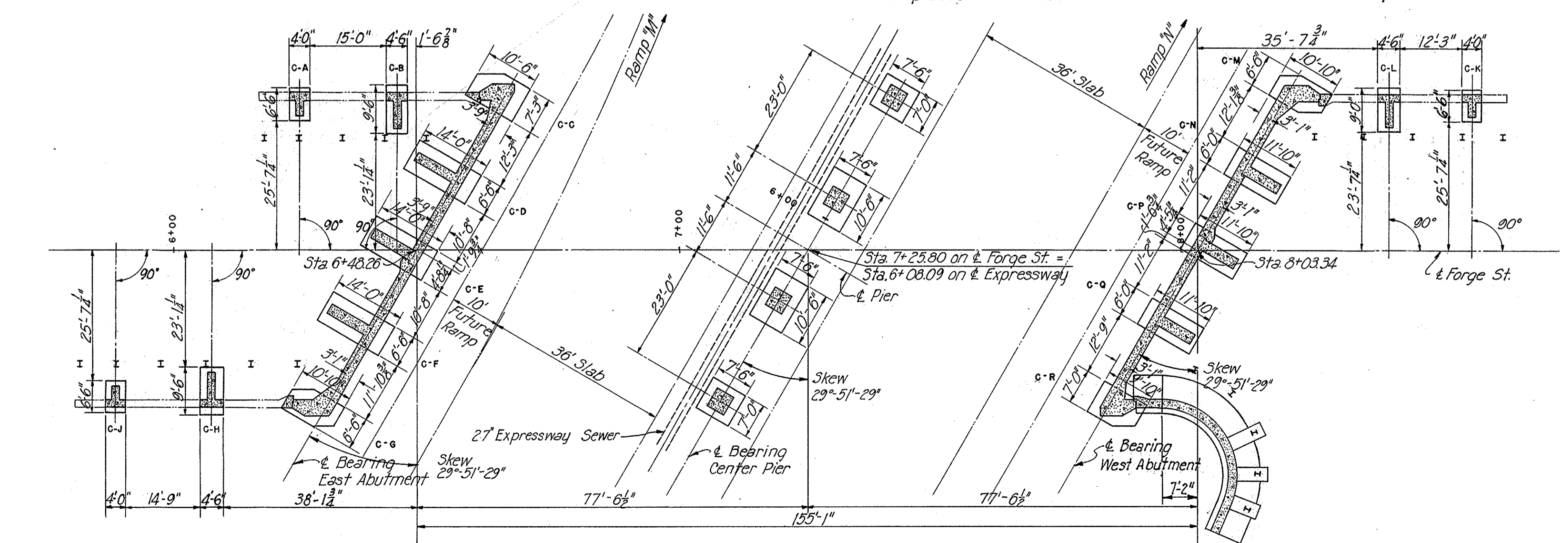
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94



Care shall be taken in installing the sewer, not to disturb the firm rock bearing required for the pier footings. Any rock thus disturbed shall be replaced with Class 'C' concrete at the Contractors expense.



Note: Porous backfill shall conform to Items S-29.02 and S-29.04.
Pipe shall be 8" bituminous coated perforated c.p.p. conforming to Sec. M6.4(b)(c), with necessary fittings. At one end of each abutment where shown on the Abutment Plans, the pipe shall project 1'-0" to permit connecting 8" vitrified sewer pipe of the Expressway sewer system. See Drainage Plans. Upper ends of pipes shall be tightly closed with permanent headers made of No. 16 gauge sheet metal.



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
FORGE UNDERPASS
BR. NO. SU-5-120

GENERAL PLAN AND ELEVATION

AKRON, SUMMIT COUNTY, OHIO

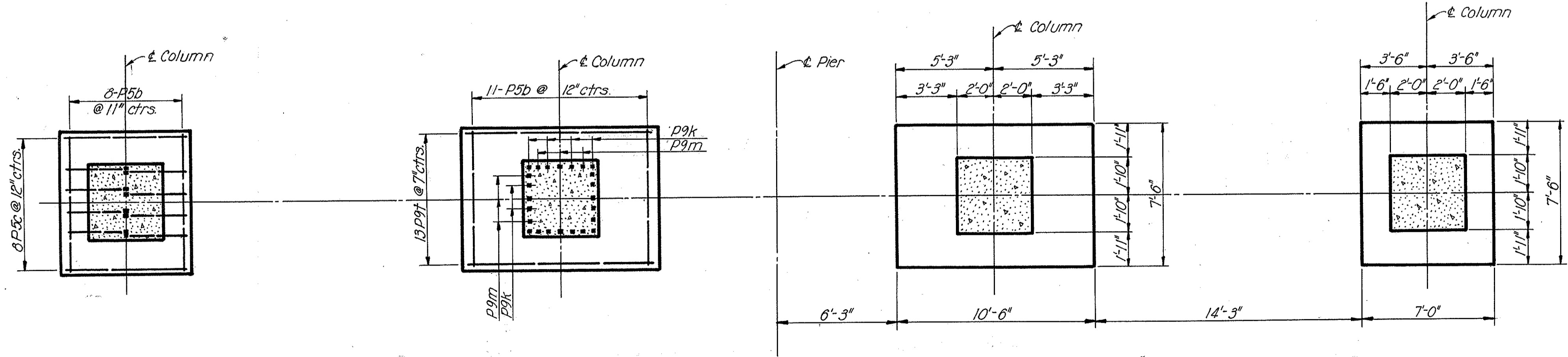
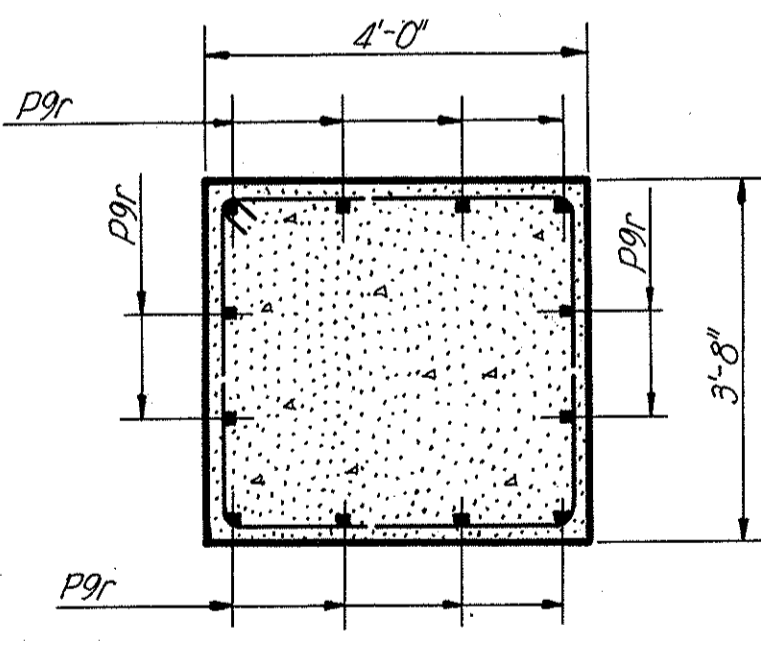
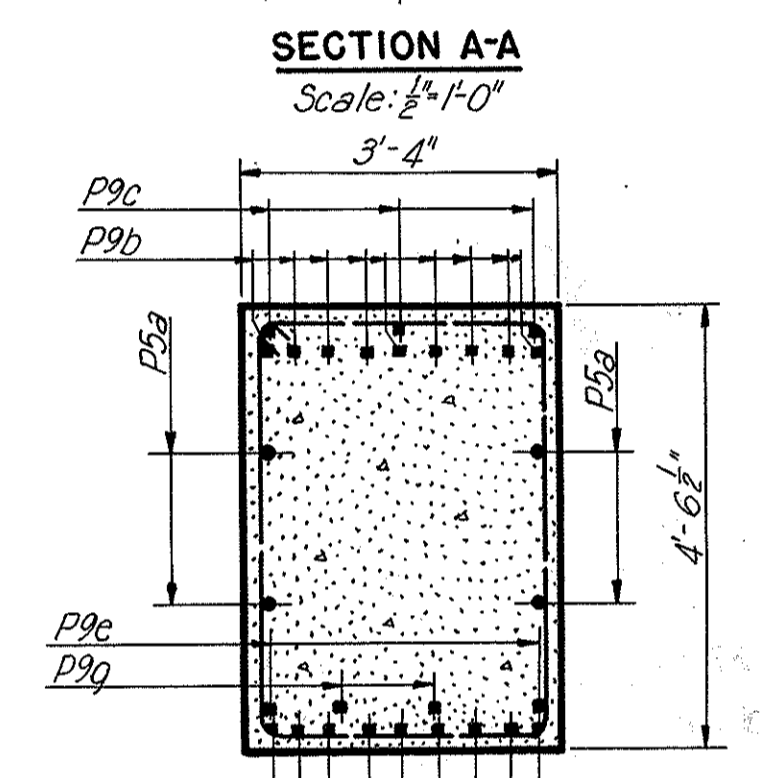
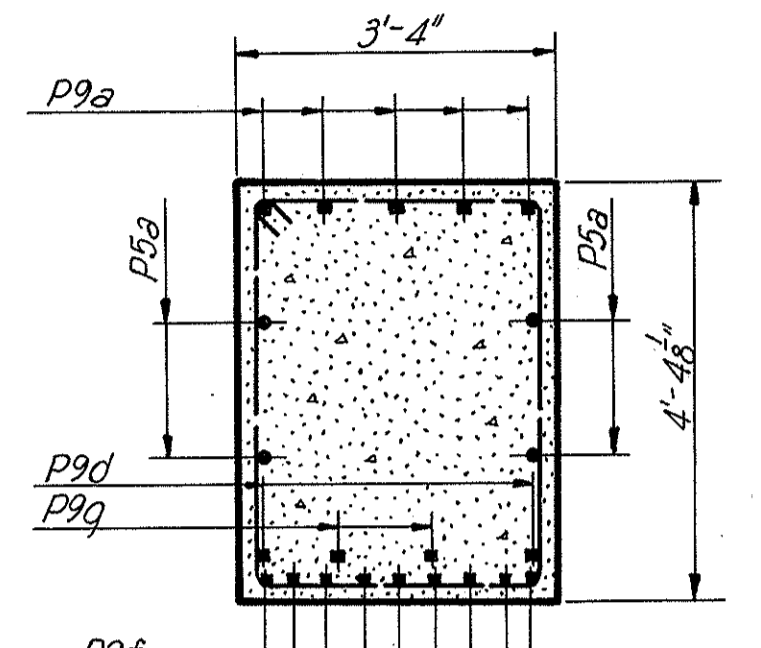
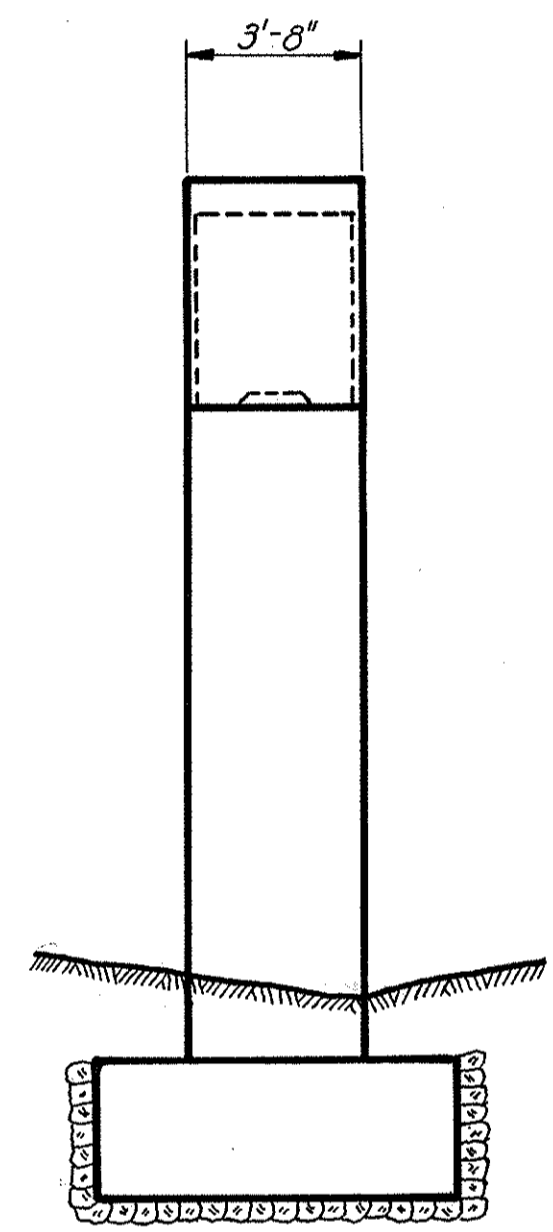
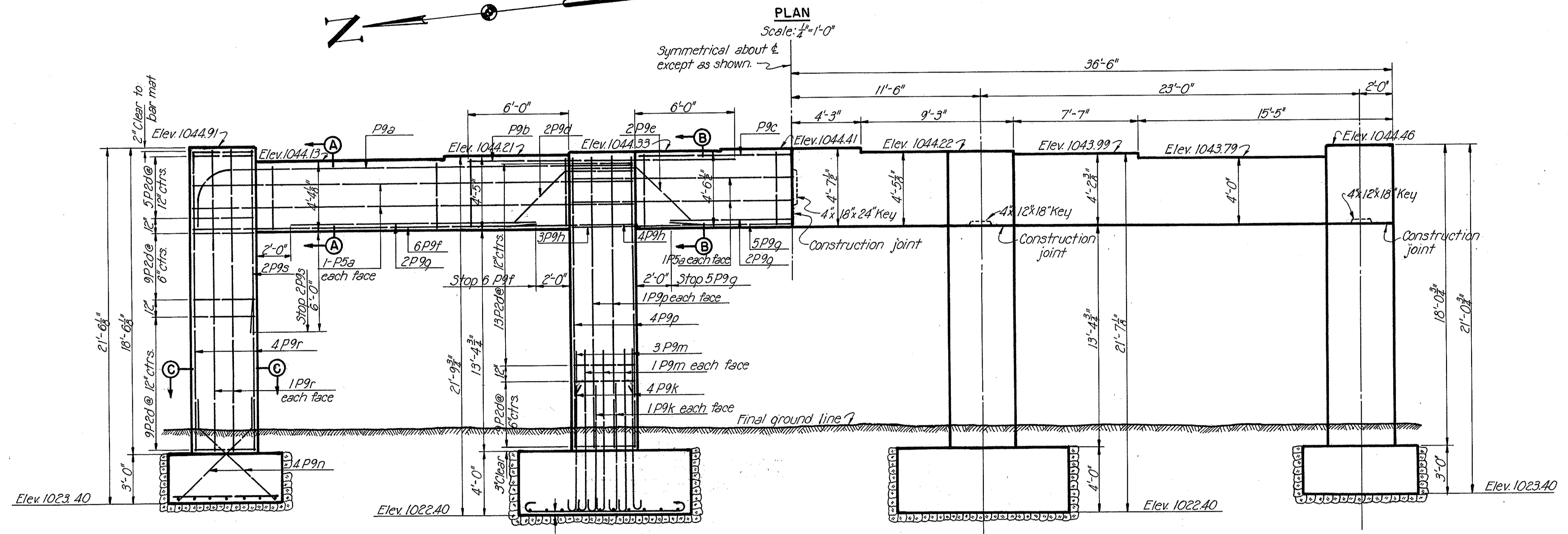
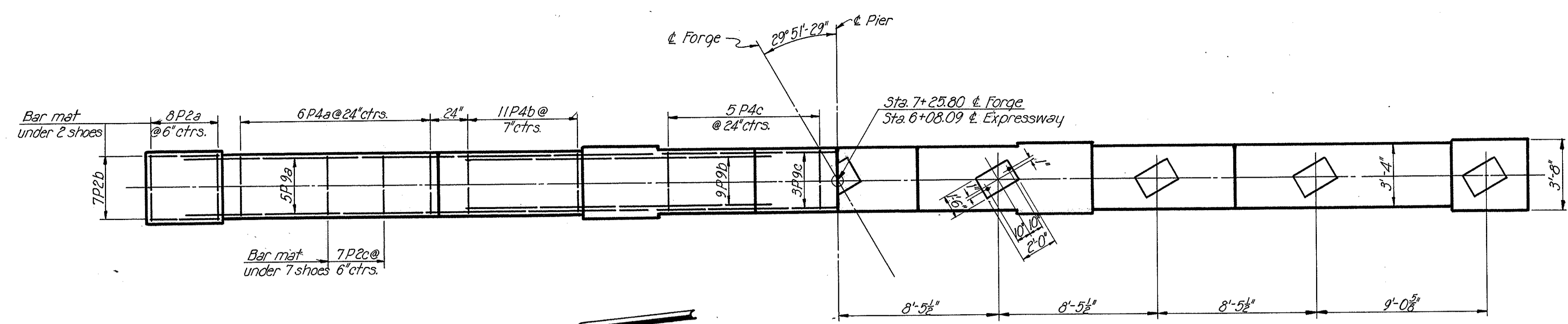
SCALE: $\frac{1}{16}'' = 1'-0''$
MADE, REC. DATE 8-25-50
TRCD, REC. DATE 2-14-50
CKD, DMD DATE 10-8-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

766 SHEET-53

SUMMIT COUNTY CITY OF AKRON AKRON EXPRESSWAY SYSTEM
SUM-5-11.94

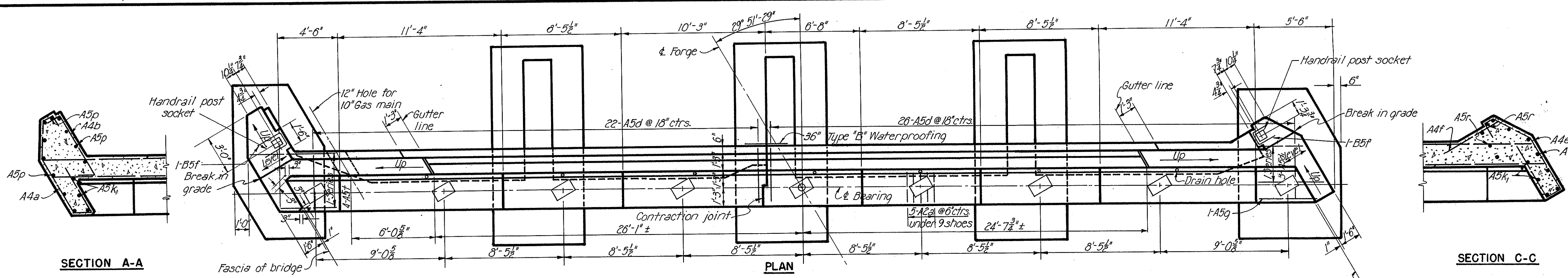
Note: Special care shall be taken in placing top reinforcing steel so that it will not interfere with drilling for anchor bolt holes.



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES
AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST GUYAHOGA FALLS AVENUE)
FORGE UNDERPASS
BR. NO. SU-5-120
CENTER PIER
AKRON, SUMMIT COUNTY, OHIO
SCALE: 1/4"=1'-0"
MADE H.A.M. DATE 8-16-50 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
TRCD L.W.C. DATE 9-15-50 CONSULTING ENGINEERS
CKD L.W.C. DATE 2-14-50 KANSAS CITY NEW YORK
766 SHEET-54

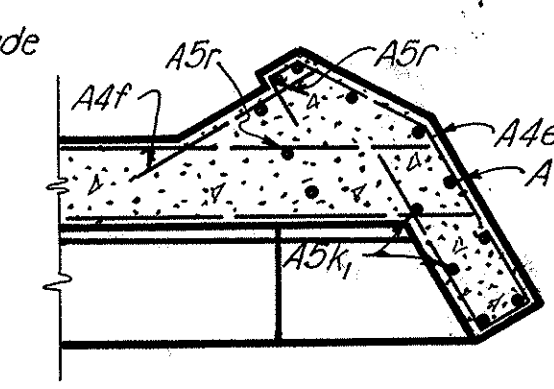
| | | | | |
|--------------------|-------|--------------------|------------|----------|
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | 55 74 |
| 2 | OHIO | U-687(7) | POST WAR | |

**SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94**

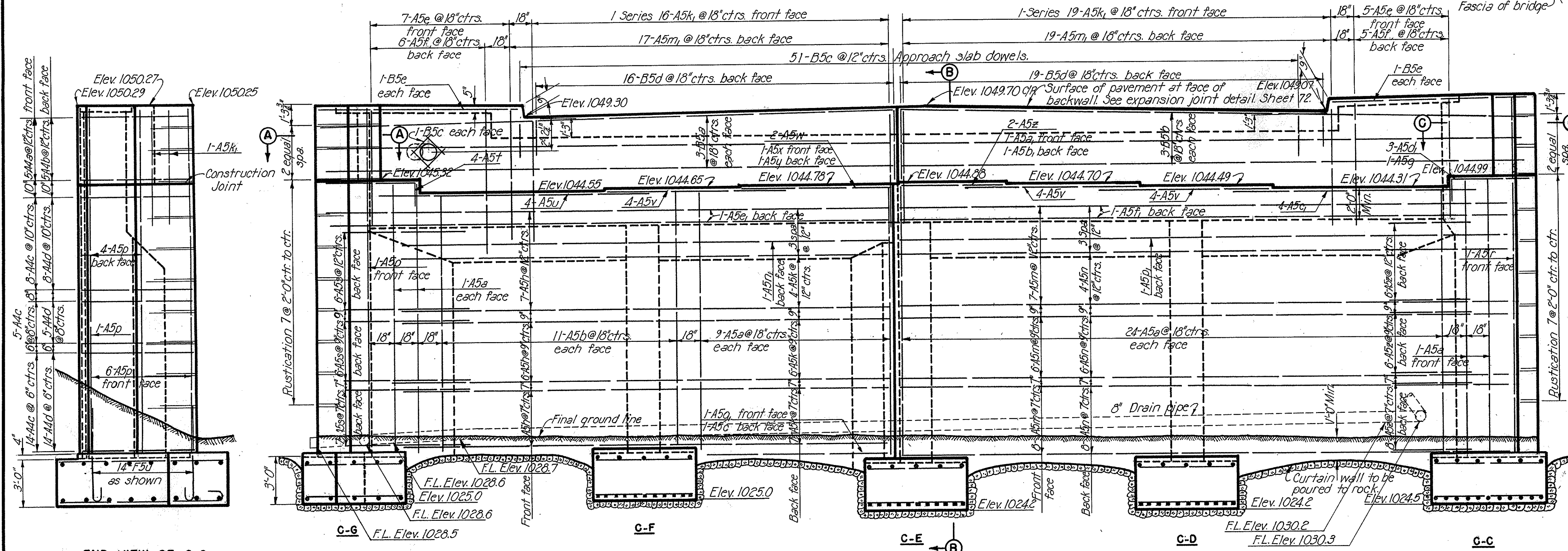


SECTION A-A

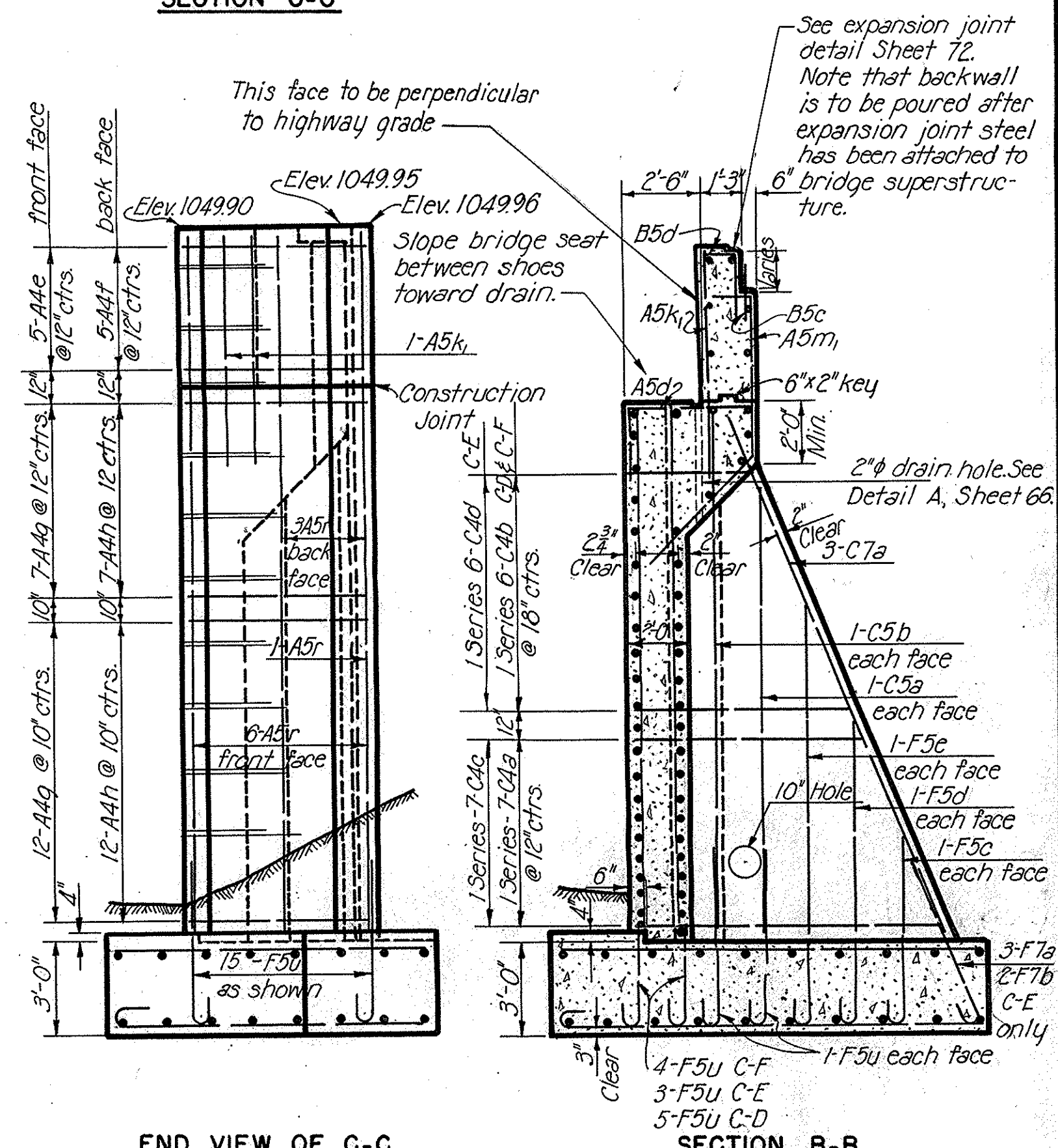
PLAN



SECTION C-C

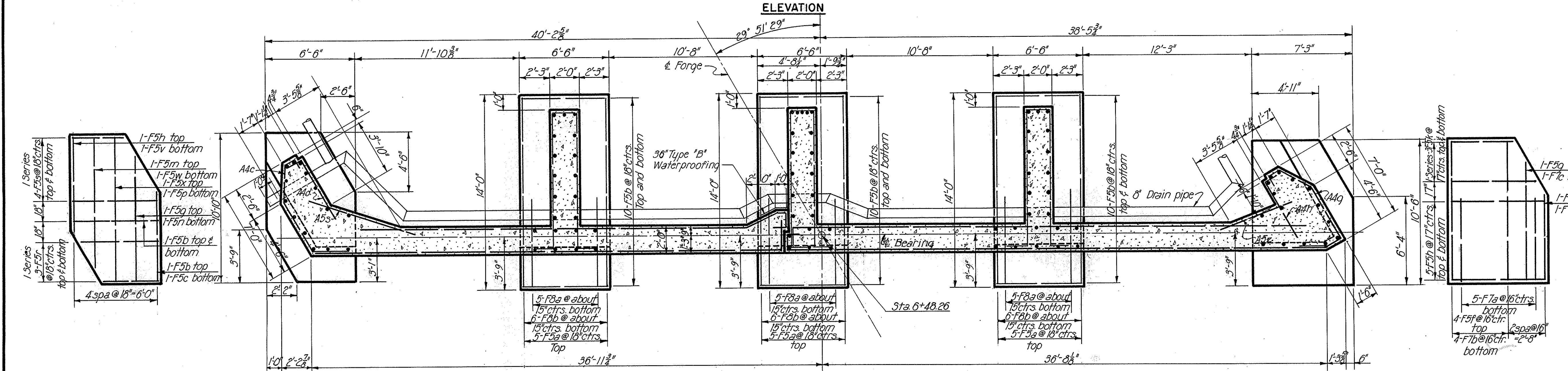


ELEVATION



END VIEW OF C-C

SECTION B-B



FOOTING PLAN

Note: For details of contraction joint, rustication, and drain on bridge seat see Sheet 66.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

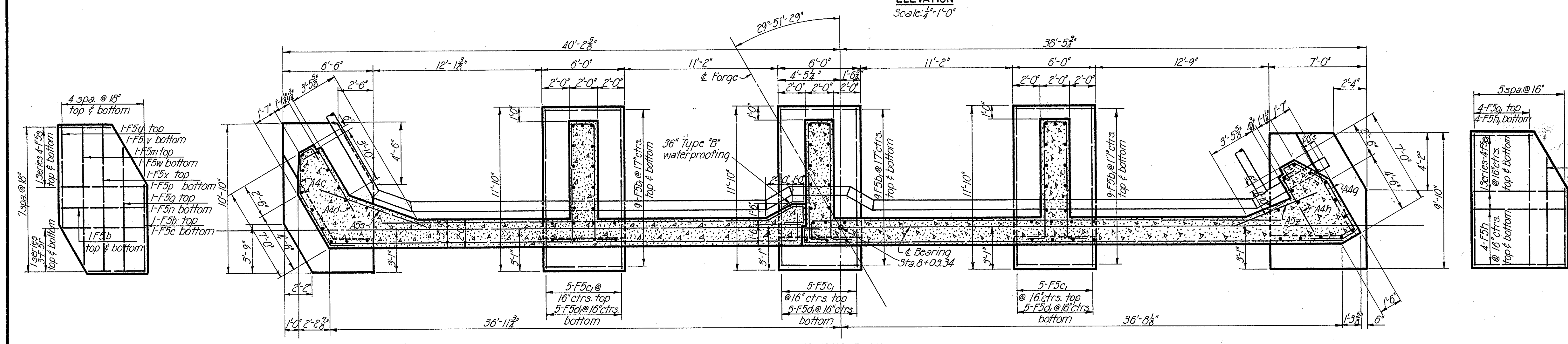
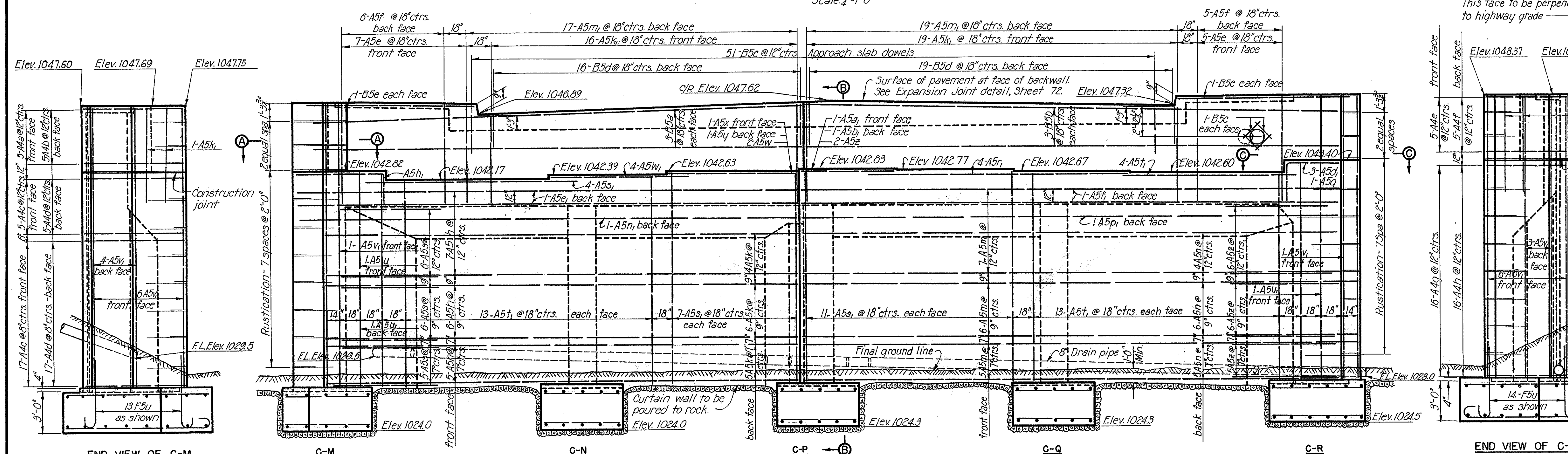
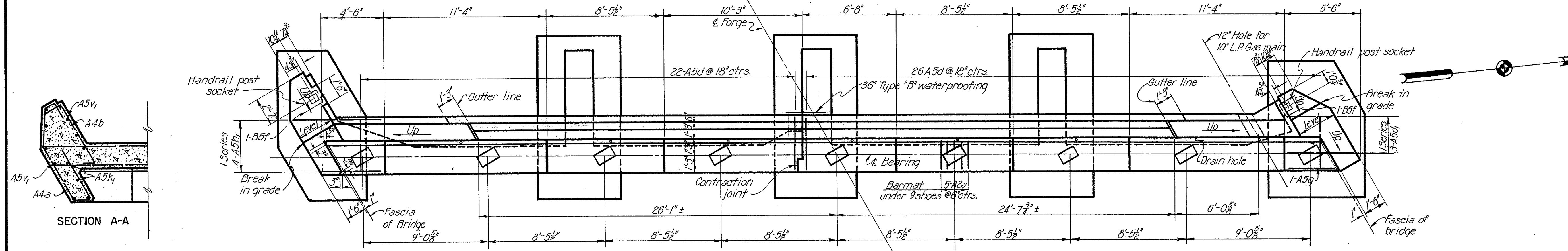
AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
FORGE UNDERPASS
BR. NO. SU-5-120

EAST ABUTMENT
AKRON, SUMMIT COUNTY, OHIO

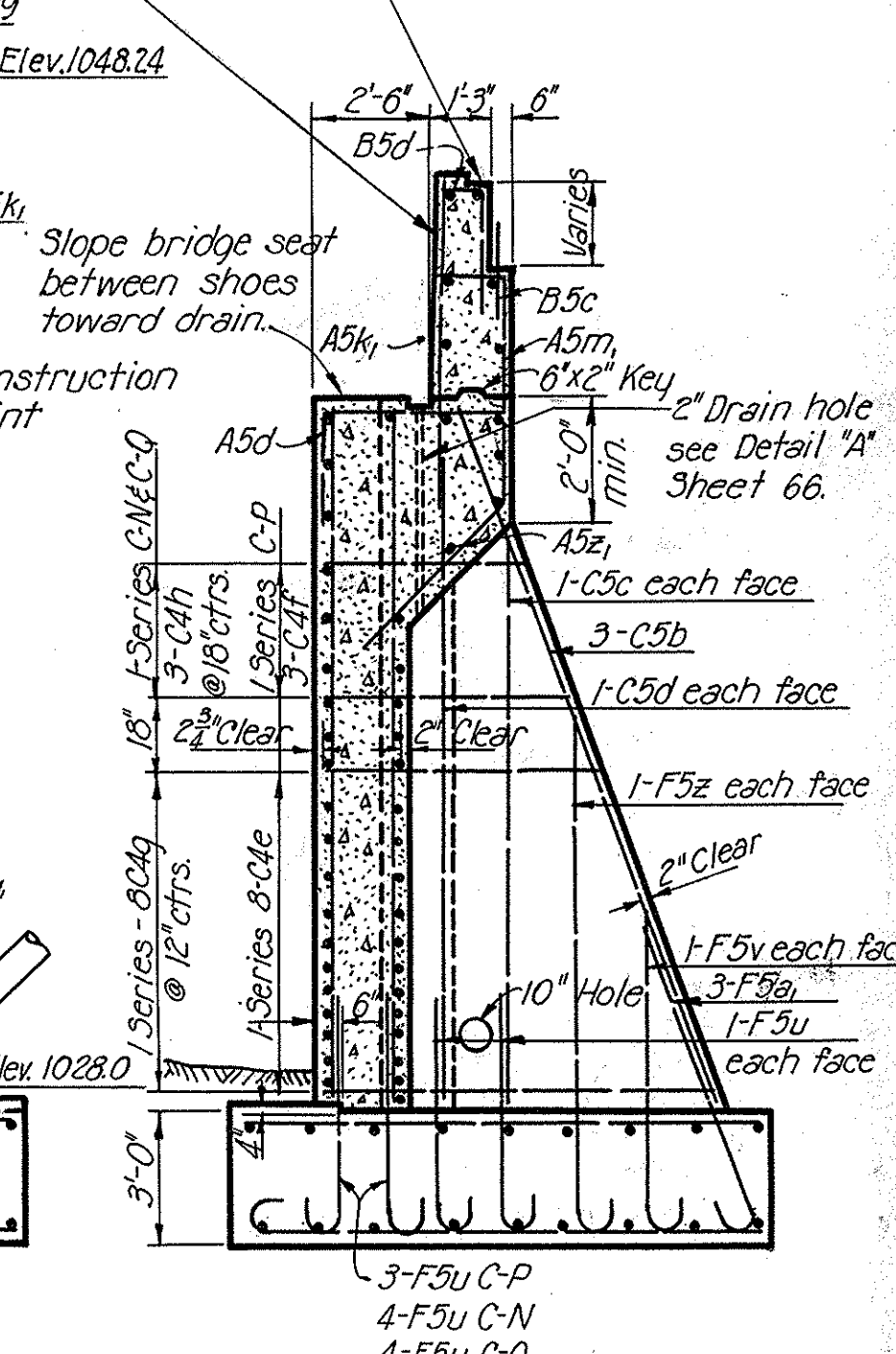
SCALE 1" = 1'-0"
MADE HBA DATE 8-22-50
TRCD HBA DATE 8-18-50
CKD Date DATE 8-5-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
766 SHEET-55

SUMMIT COUNTY CITY OF AKRON EXPRESSWAY SYSTEM EXPRESSWAY-PART 4 SUM-5-11.94



See Expansion Joint detail Sheet 7 & Note that backwall is to be poured after expansion joint steel has been attached to bridge super-structure.



Note: For details of contraction joint, rustication and drain on bridge seat see Sheet 66.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
FORGE UNDERPASS
BR. NO. SU-5-120

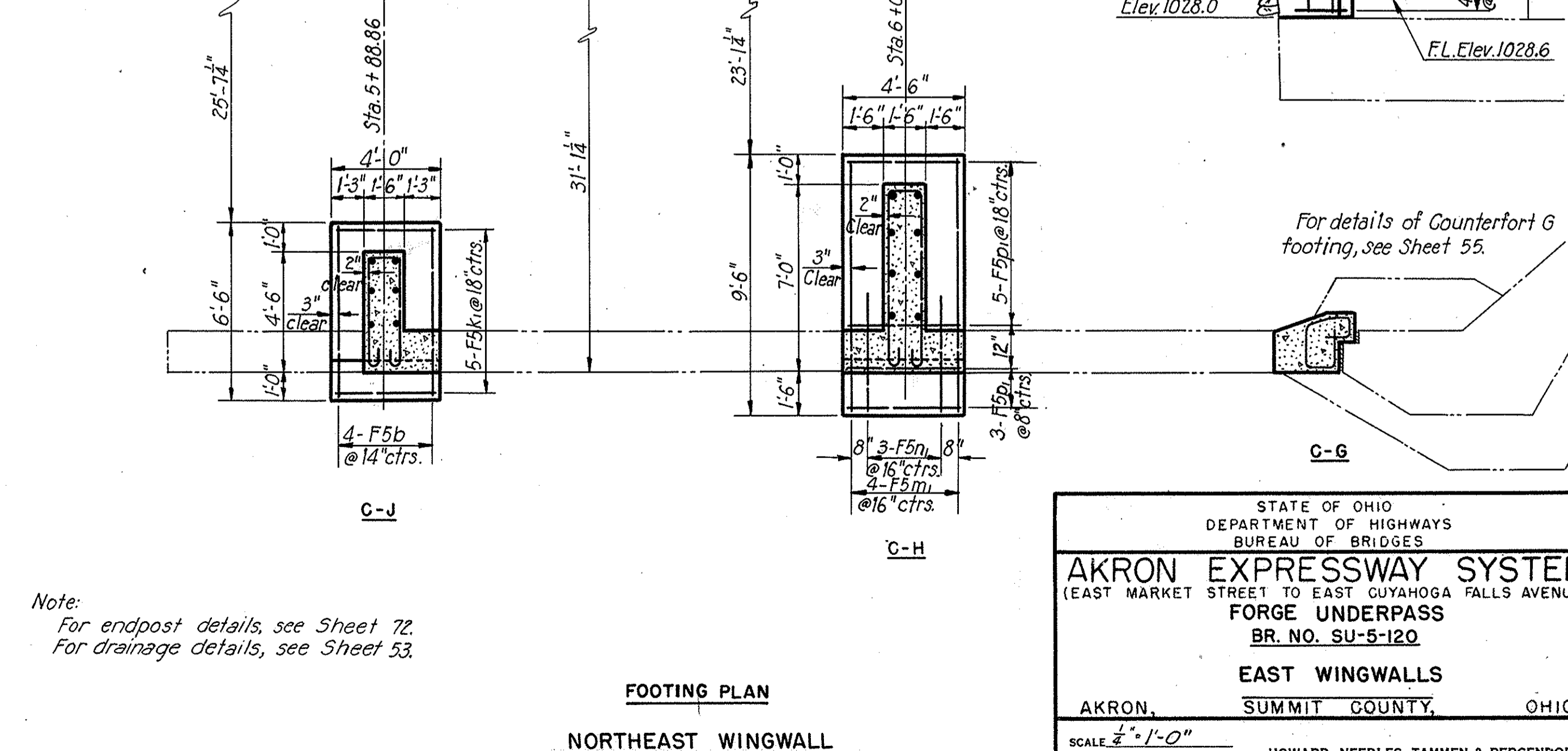
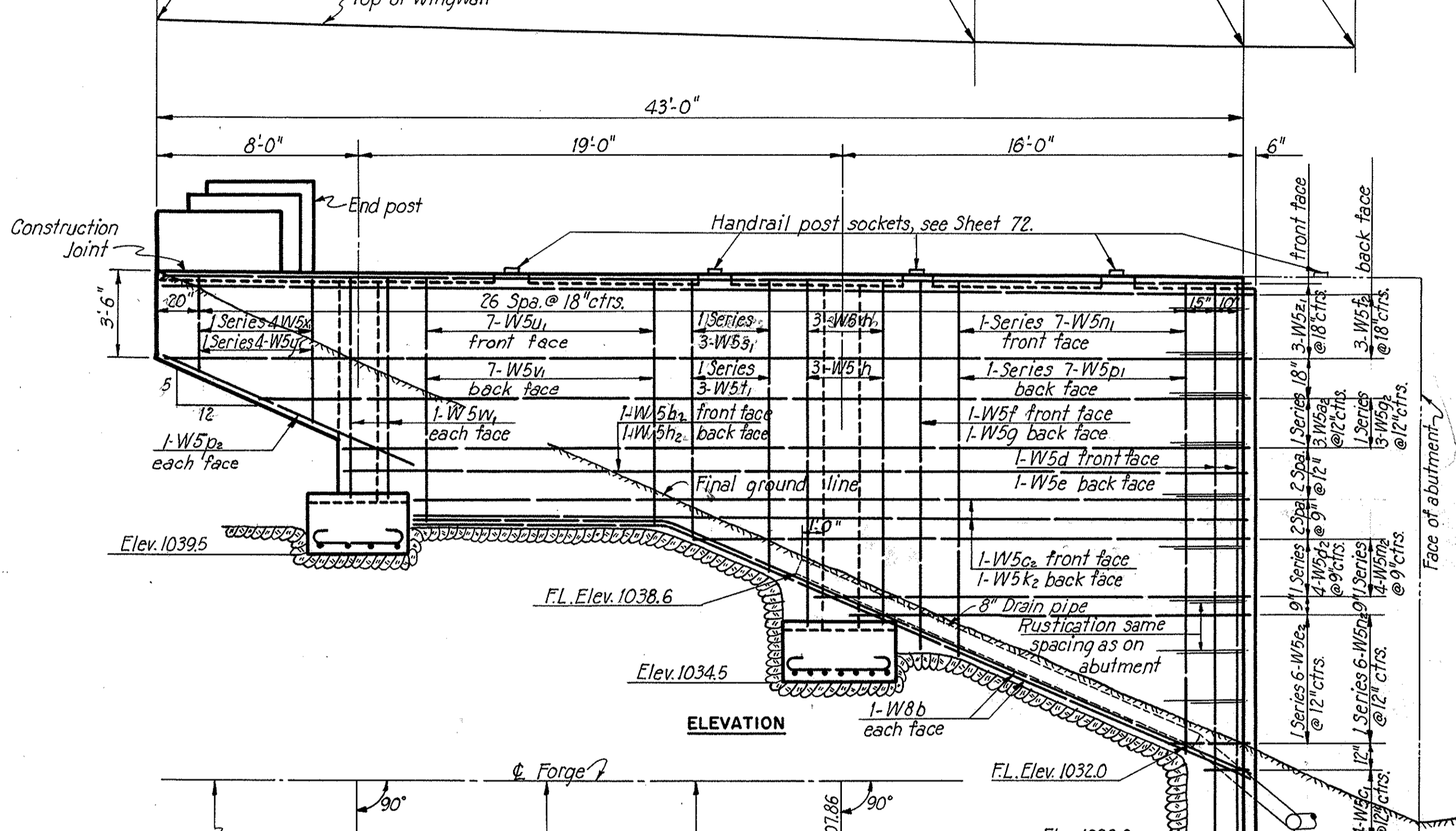
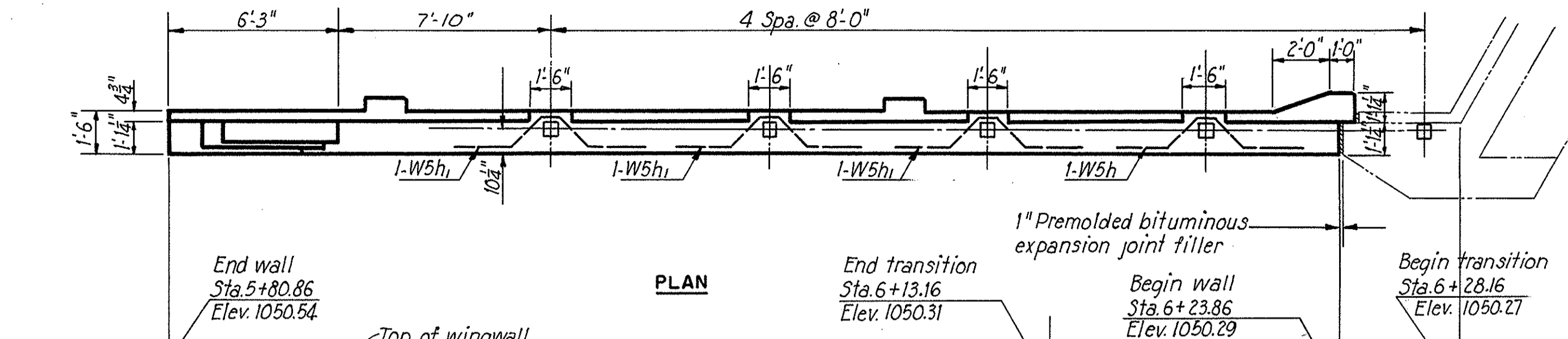
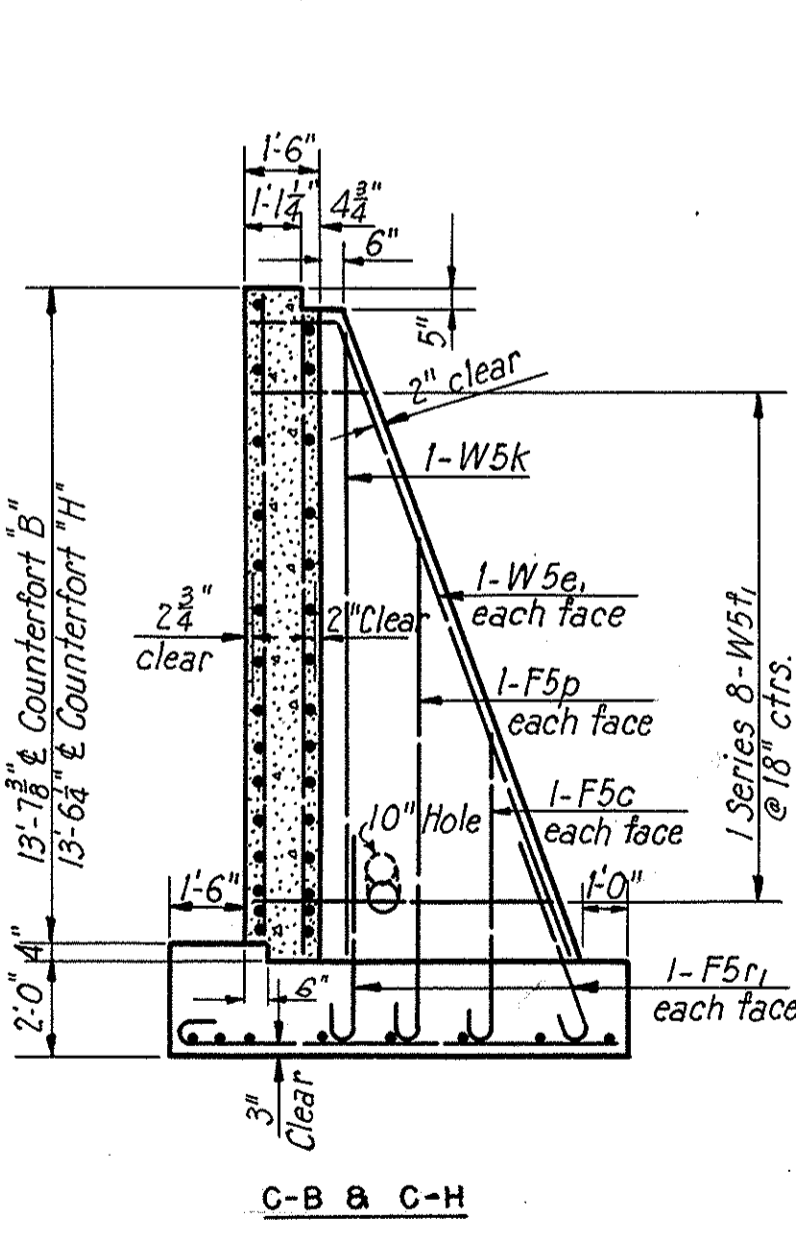
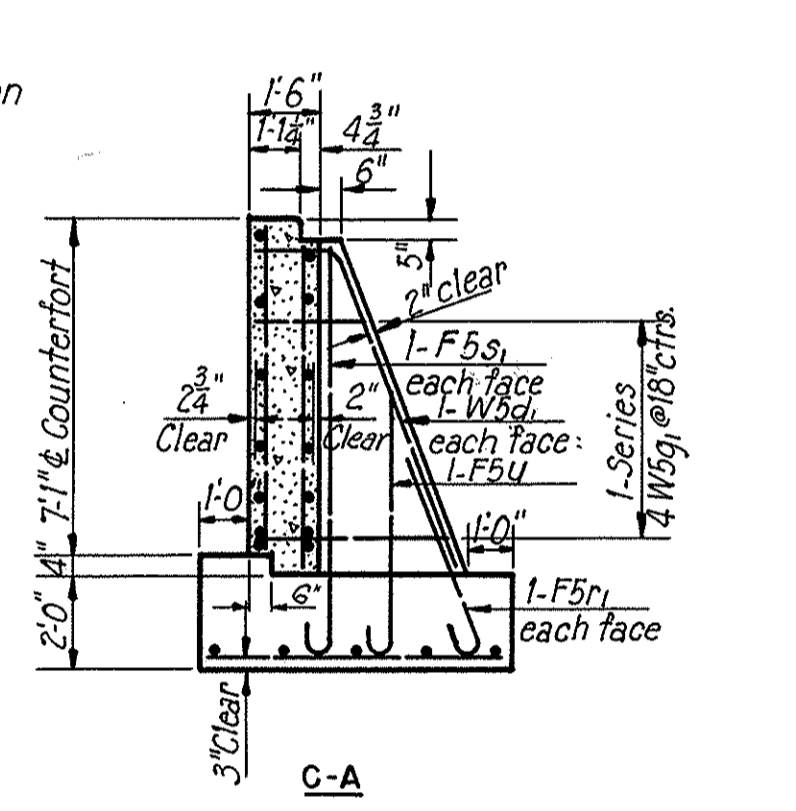
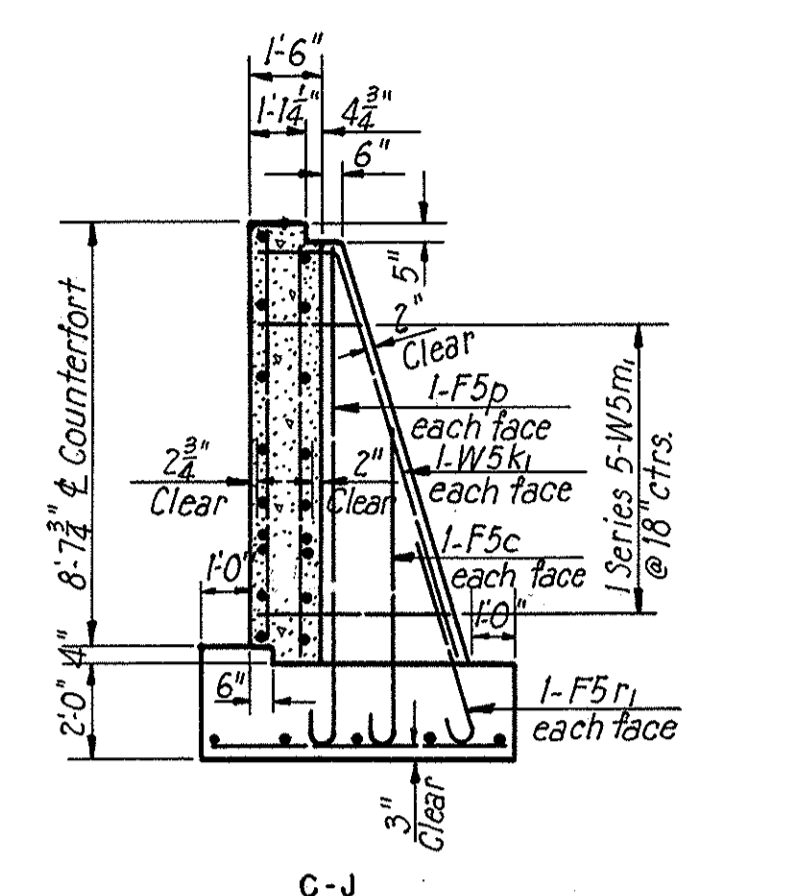
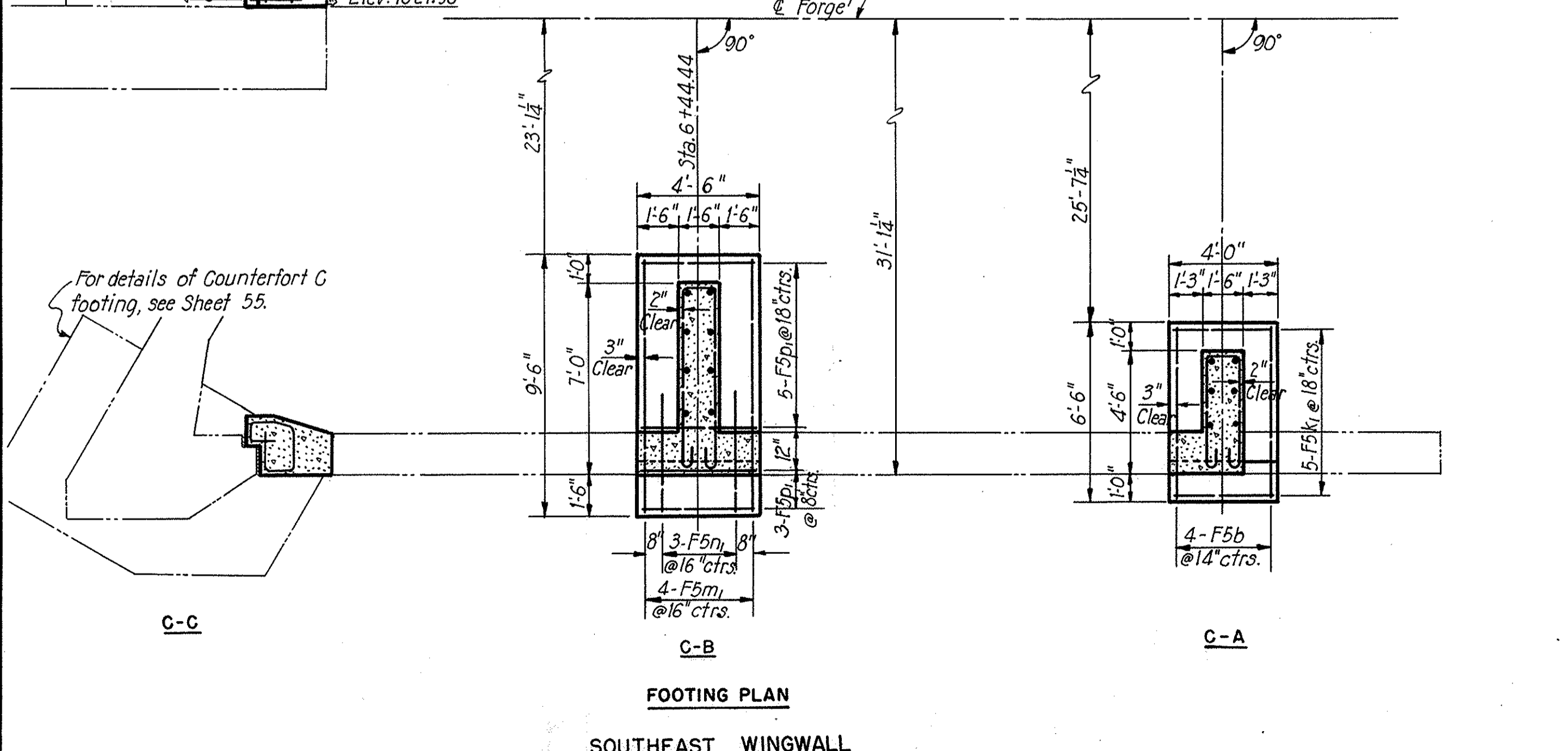
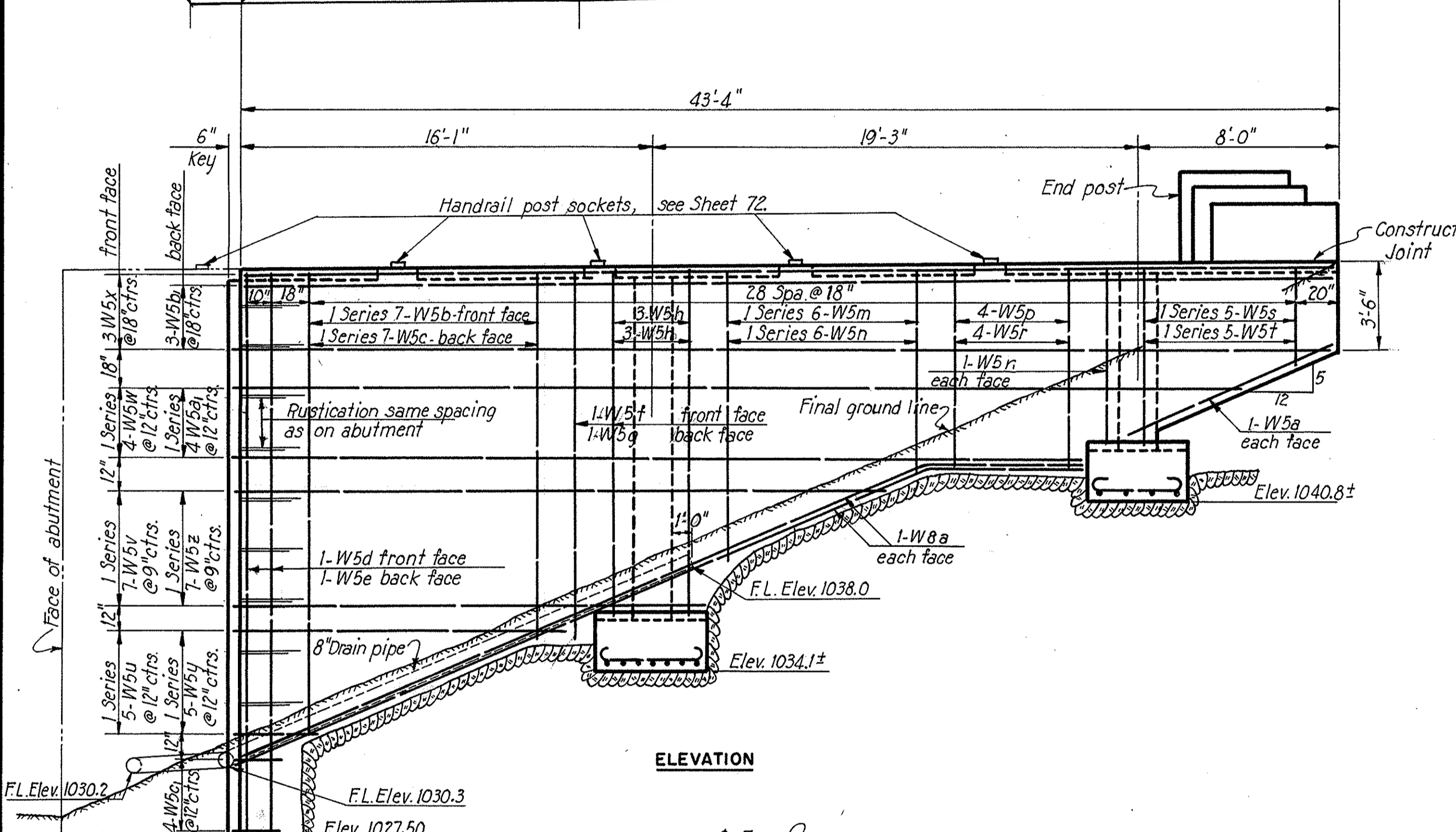
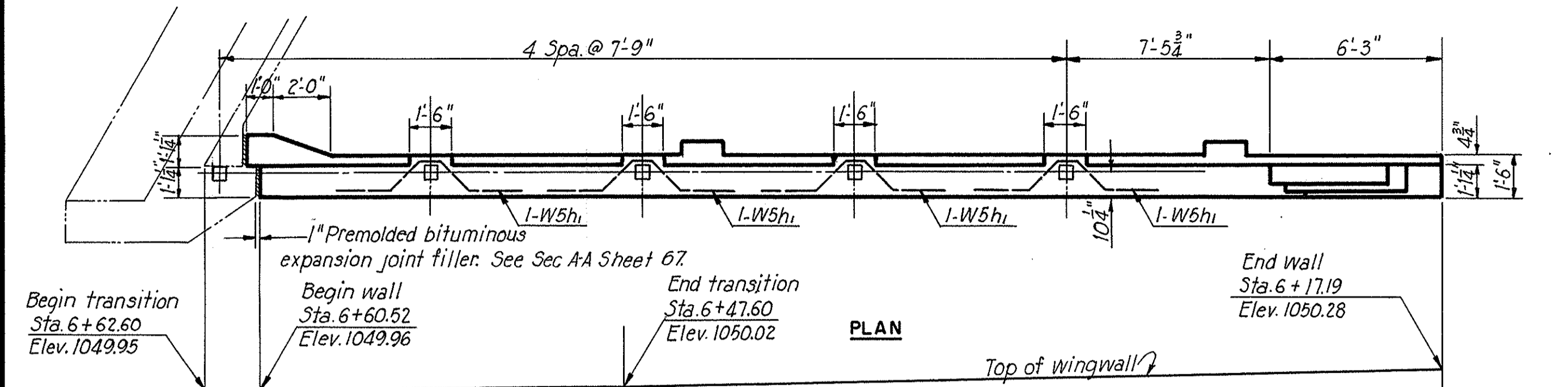
WEST ABUTMENT

| | | |
|--------|----------------|------|
| AKRON, | SUMMIT COUNTY, | OHIO |
|--------|----------------|------|

SCALE: $\frac{1}{4}''=1'-0''$
MADE: *HAM* DATE: 8-24-50
TRC/DIAM/B: DATE: 9-22-50
CKD: *D.M.P.* DATE: 9-21-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
766 SHEET-56

SUMMIT COUNTY CITY OF AKRON EXPRESSWAY SYSTEM EXPRESSWAY-PART 4 SUM-5-11.94



Note:
For endpost details, see Sheet 72.
For drainage details, see Sheet 53.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST GUYAHOGA FALLS AVENUE)
FORGE UNDERPASS
BR. NO. SU-5-120

EAST WINGWALLS
AKRON, SUMMIT COUNTY, OHIO

SCALE 1/4" = 1'-0"
MADE H.B.A. DATE 10-17-50
TRCD, W.C.R. DATE 10-24-50
CKD, D.M.D. DATE 10-20-50

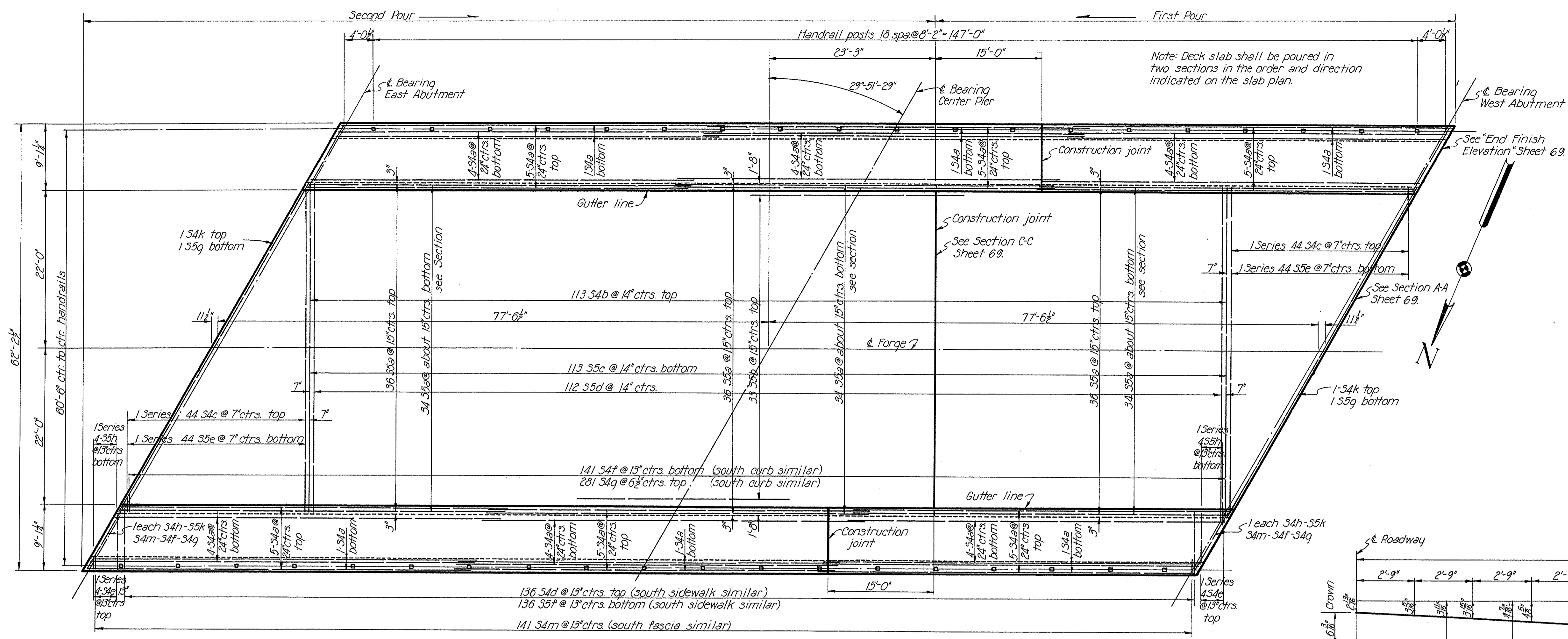
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

766 SHEET-57

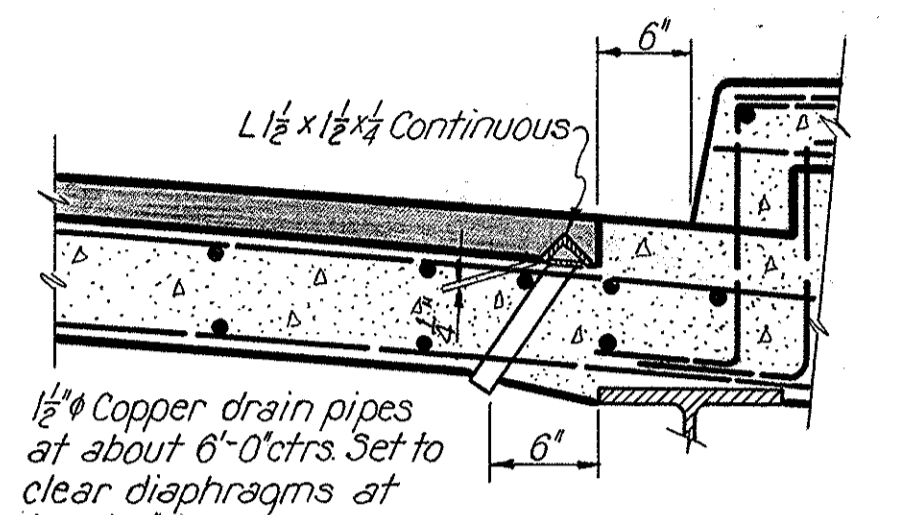
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS |
|--------------------|-------|--------------------|------------|
| 2 | OHIO | U-687(7) | POST WAR |

59
74

SUMMIT COUNTY CITY OF AKRON EXPRESSWAY SYSTEM EXPRESSWAY-PART 4 SUM-5-11.94

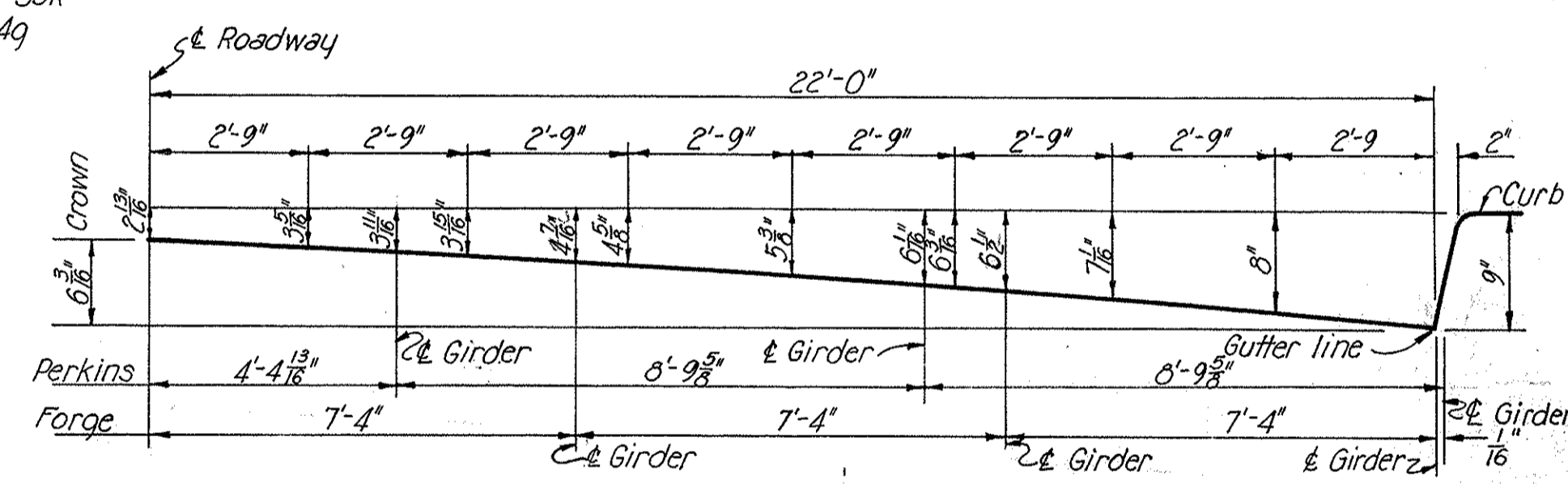


SLAB PLAN
Scale: 3/8" = 1'-0"



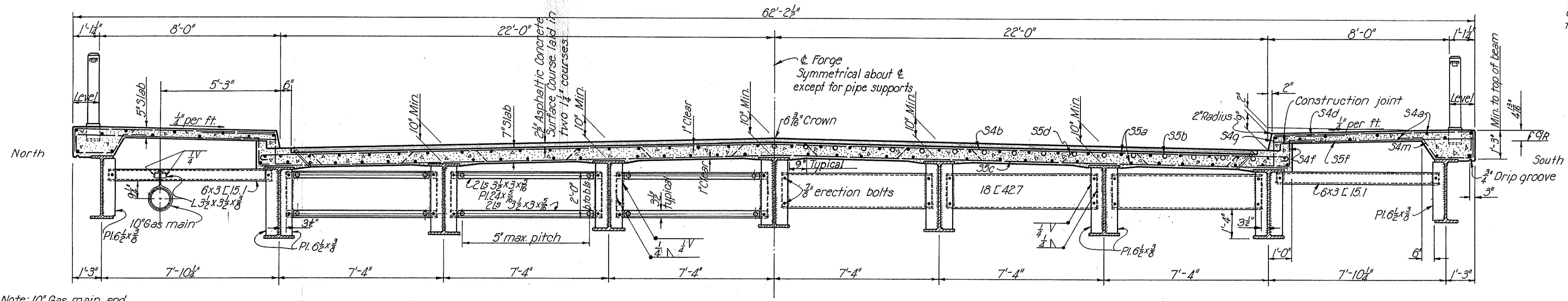
DRAIN PIPE DETAIL
Scale: 1" = 1'-0"

Note:
End drain pipes should be provided not more than 1'-0" from the expansion joint.



ROADWAY CROWN DIAGRAM
Not to Scale

Note: Information taken from City of Akron, Ohio, Division of Highways Standard Crowns for Pavements File Number A5401 Date 7-23-45.
Ordinates at 2'-9" intervals were taken from table 'Standard Crown for All Types of Pavement.'
Ordinates at girders were calculated by the Akron formulas.



HALF SECTION AT INTERMEDIATE DIAPHRAGMS
Scale: 3/8" = 1'-0"

HALF SECTION AT BEARINGS
Scale: 3/8" = 1'-0"
Bars marked o are located over center pier only.

Note: 10" Gas main and hangers will be furnished and placed by others.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
FORGE UNDERPASS
BR. NO. SU-5-120

SLAB PLAN & CROSS SECTION

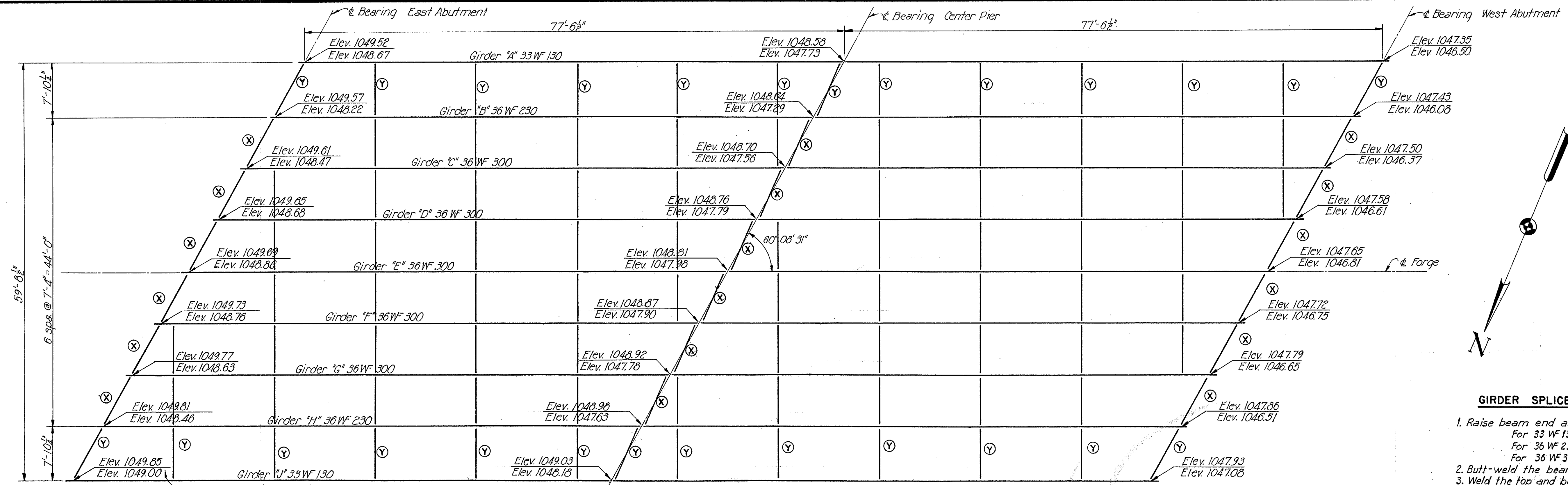
AKRON, SUMMIT COUNTY, OHIO

SCALE: 3/8" = 1'-0"
MADE E.H.B. DATE 8-12-50
TRCD E.H.B. DATE 2-27-50
CKD D.M.D. DATE 3-20-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

766 SHEET-59

Revised 11-10-50

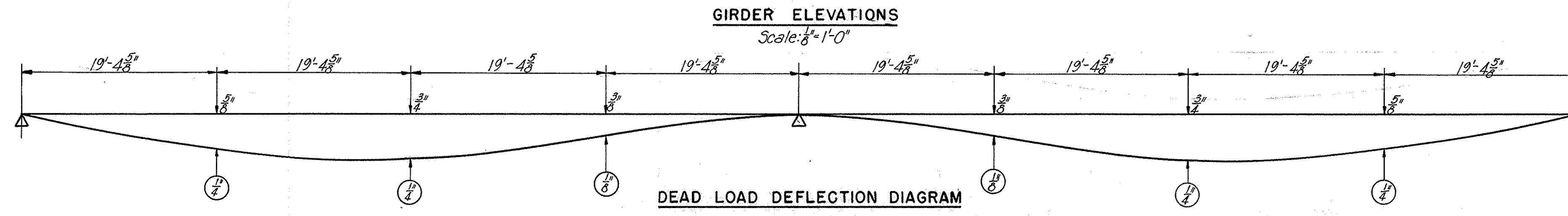
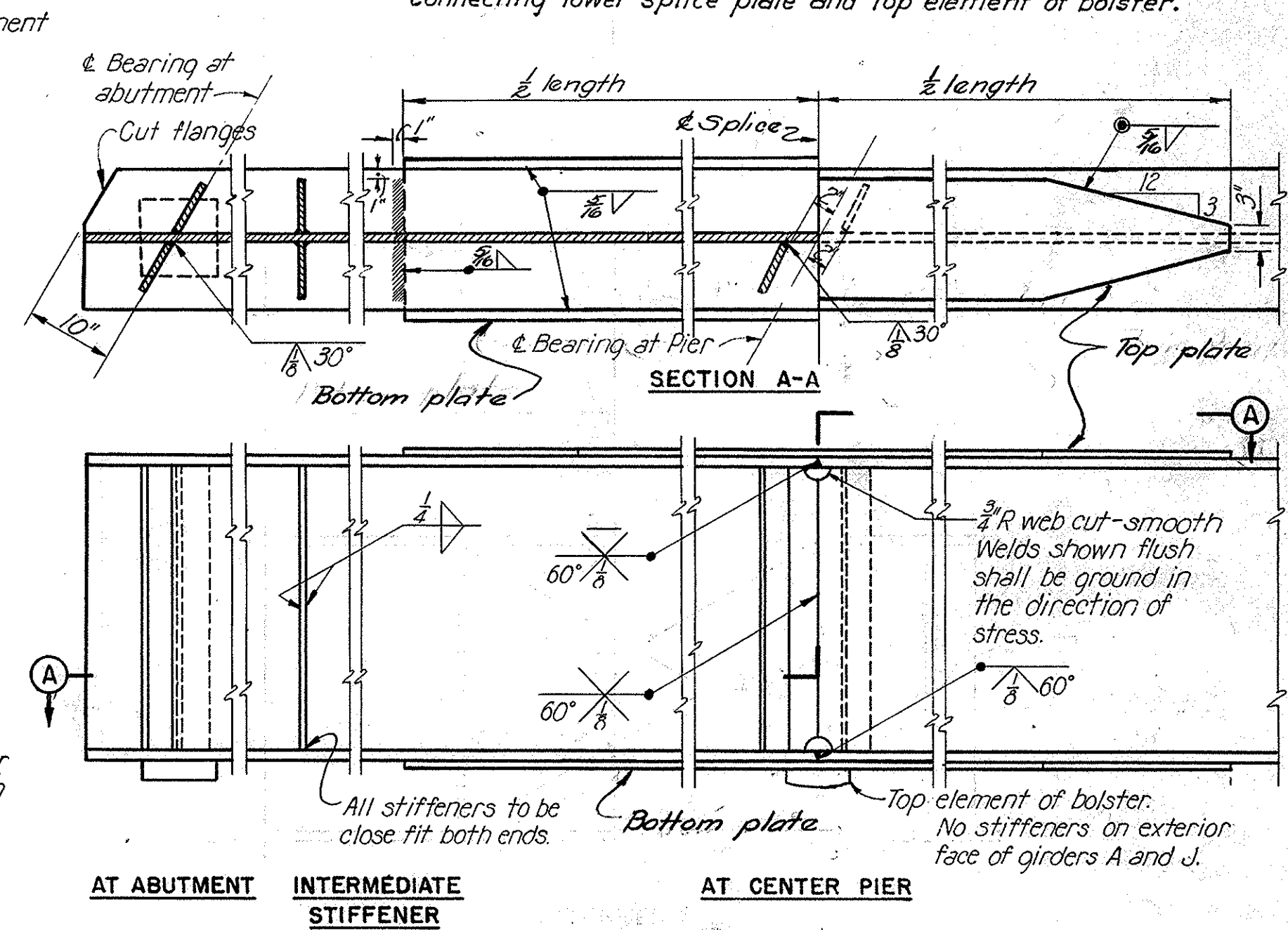
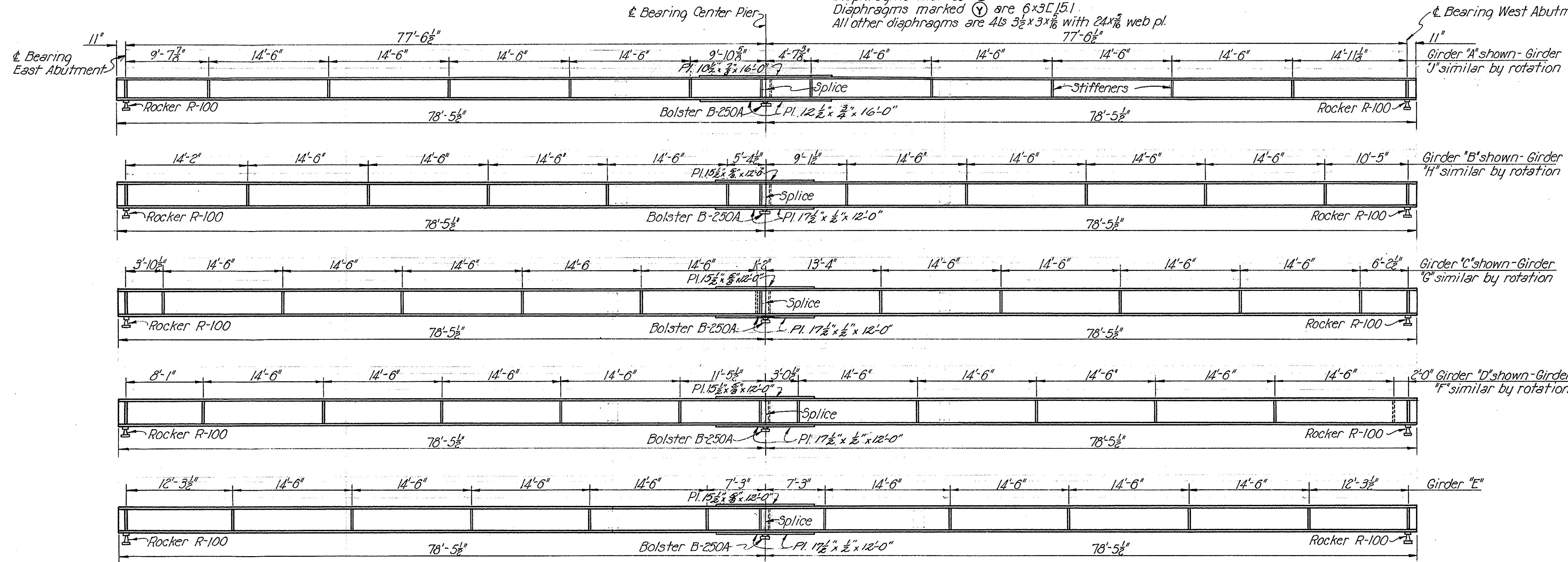


Top elevation given for 1/2".
Bottom elevation given for top of W (not cover plate)

GIRDER SPLICE WELDING PROCEDURE

1. Raise beam end at one abutment the following amount:
For 33 W 130 1 inches
For 36 W 230 3/8 inches
For 36 W 300 1 inches
2. Butt-weld the beam flanges and web.
3. Weld the top and bottom splice plates.
4. Lower the beam end to final position.

Note: Contractor may submit alternate scheme for weld connecting lower splice plate and top element of bolster.



Note:
Dimensions in () are deflections which may be expected in the steel beams when in place.
Dimensions above base line are additional deflections to be expected when concrete is in place.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)

FORGE UNDERPASS
BR. NO. SU-5-120

FRAMING PLAN AND GIRDER ELEVATIONS
AKRON, SUMMIT COUNTY, OHIO

SCALE: 1/4" = 1'-0"
MADE: J.W.C. DATE: 0-14-50
TRCD: J.W.C. DATE: 8-28-50
CKD: D.M.D. DATE: 9-21-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY, NEW YORK

766 SHEET-60

Revised 12-22-50

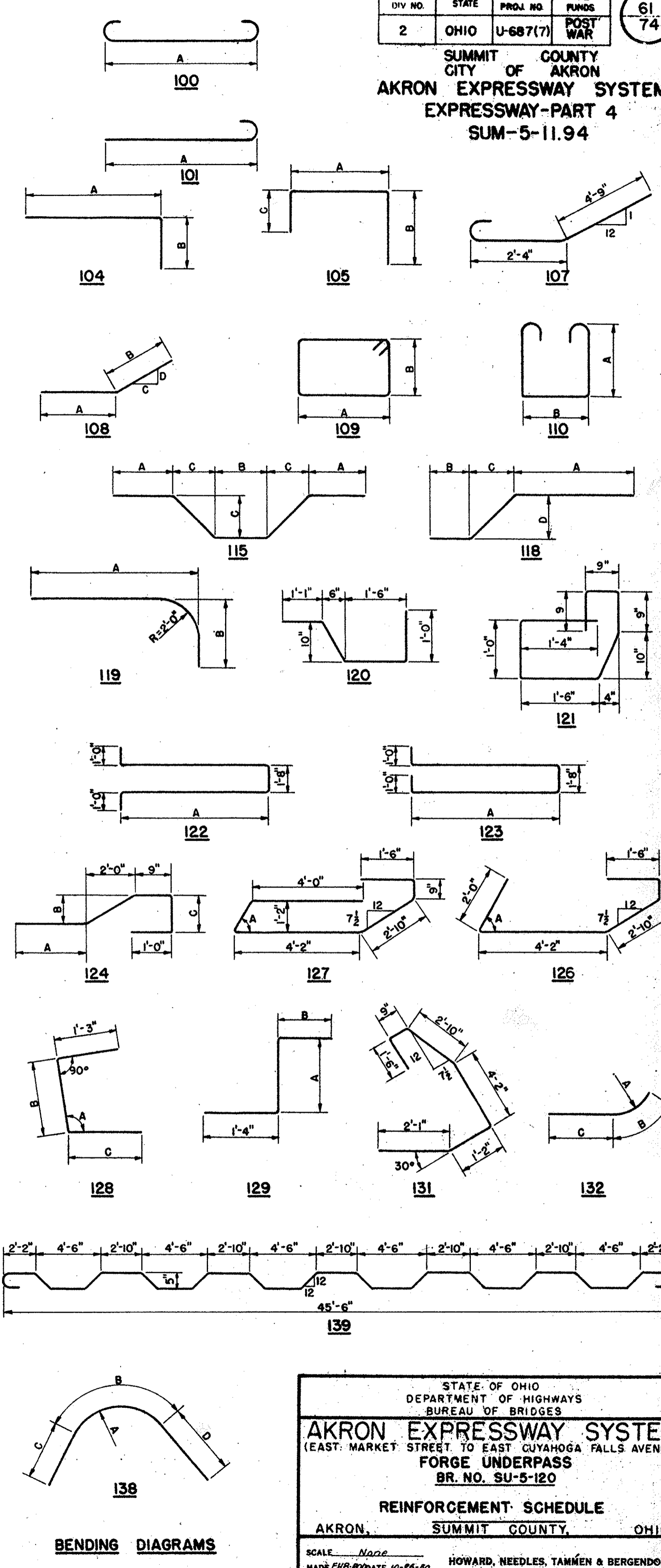
SUMMIT COUNTY CITY OF AKRON EXPRESSWAY SYSTEM EXPRESSWAY-PART 4 SUM-5-11.94

Table with 9 columns: MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), WEIGHT POUNDS. Includes sections for CENTER PIER, EAST ABUTMENT, WEST ABUTMENT, and SUPERSTRUCTURE SLAB.

Table with 9 columns: MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), WEIGHT POUNDS. Includes sections for NORTHWEST WINGWALL, WEST ABUTMENT, SOUTHWEST WINGWALL, and SUPERSTRUCTURE SLAB.

Table with 9 columns: MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), WEIGHT POUNDS. Includes sections for NORTHWEST WINGWALL, SOUTHWEST WINGWALL, SOUTHEAST WINGWALL, and SUPERSTRUCTURE SLAB.

Table with 9 columns: MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), WEIGHT POUNDS. Includes sections for NORTHWEST WINGWALL, SOUTHWEST WINGWALL, SOUTHEAST WINGWALL, and SUPERSTRUCTURE SLAB.

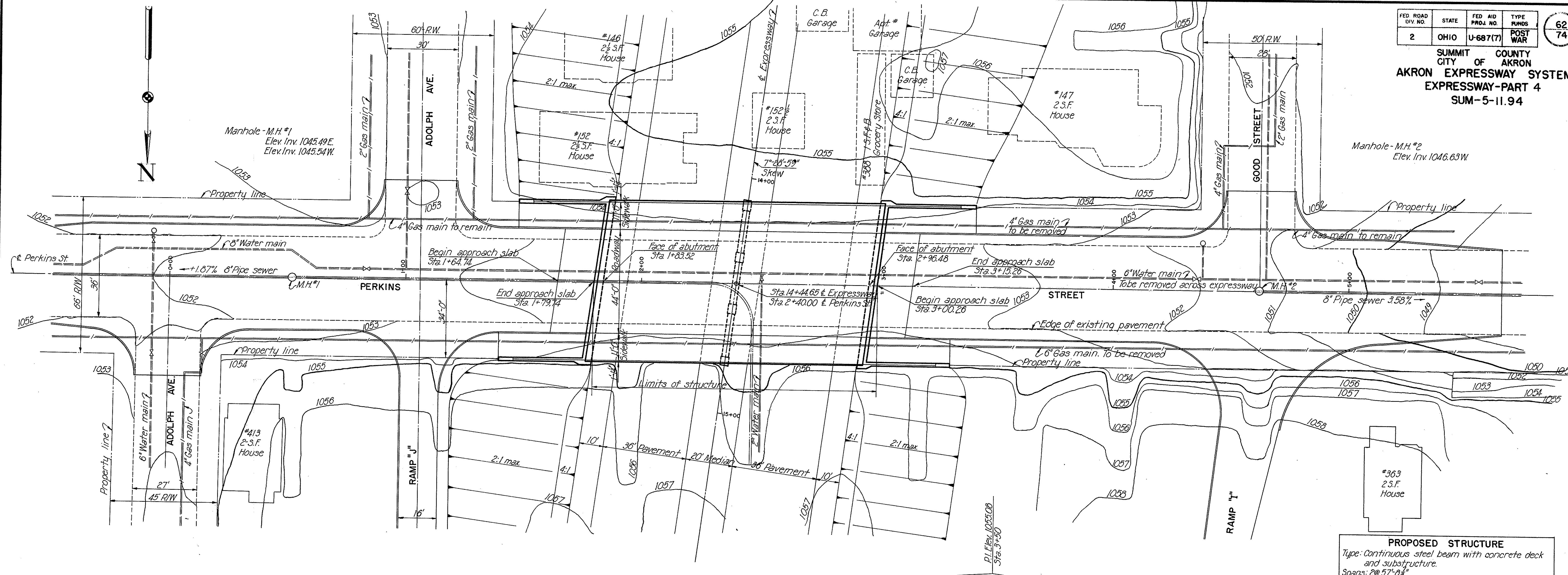


STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES AKRON EXPRESSWAY SYSTEM (EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE) FORGE UNDERPASS BR. NO. SU-5-120 REINFORCEMENT SCHEDULE SUMMIT COUNTY, OHIO

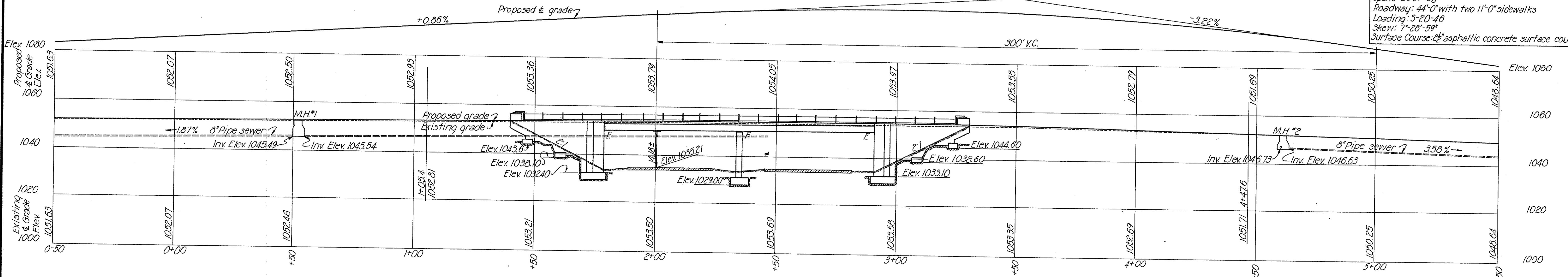
| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS |
|--------------------|-------|--------------------|------------|
| 2 | OHIO | U-687(7) | POST WAR |

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74

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94



PROPOSED STRUCTURE
Type: Continuous steel beam with concrete deck and substructure.
Spans: 2 @ 57'-8 1/2"
Roadway: 44'-0" with two 11'-0" sidewalks
Loading: S-20-46
Skew: 7°-28'-59"
Surface Course: 2 1/2" asphaltic concrete surface course.



Note:
For additional details of new and existing utilities, see Sheet 34.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
PERKINS UNDERPASS
BR. NO. SU-5-122

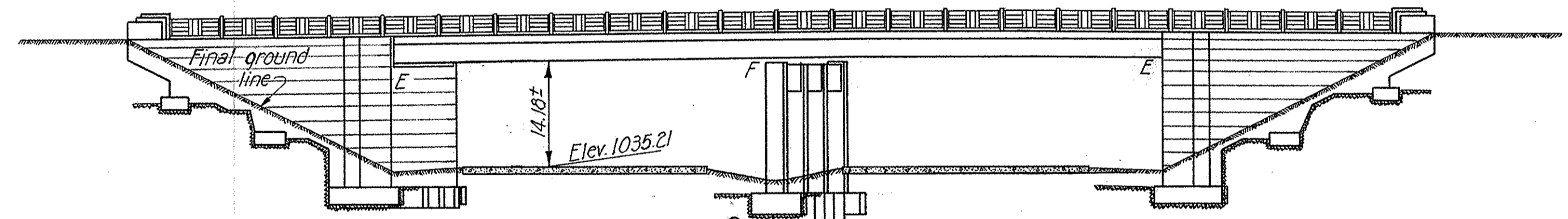
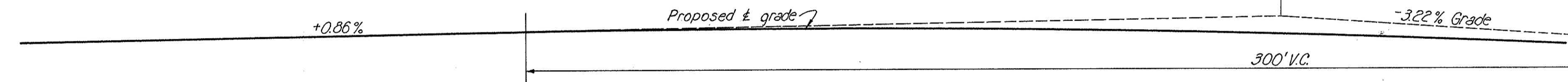
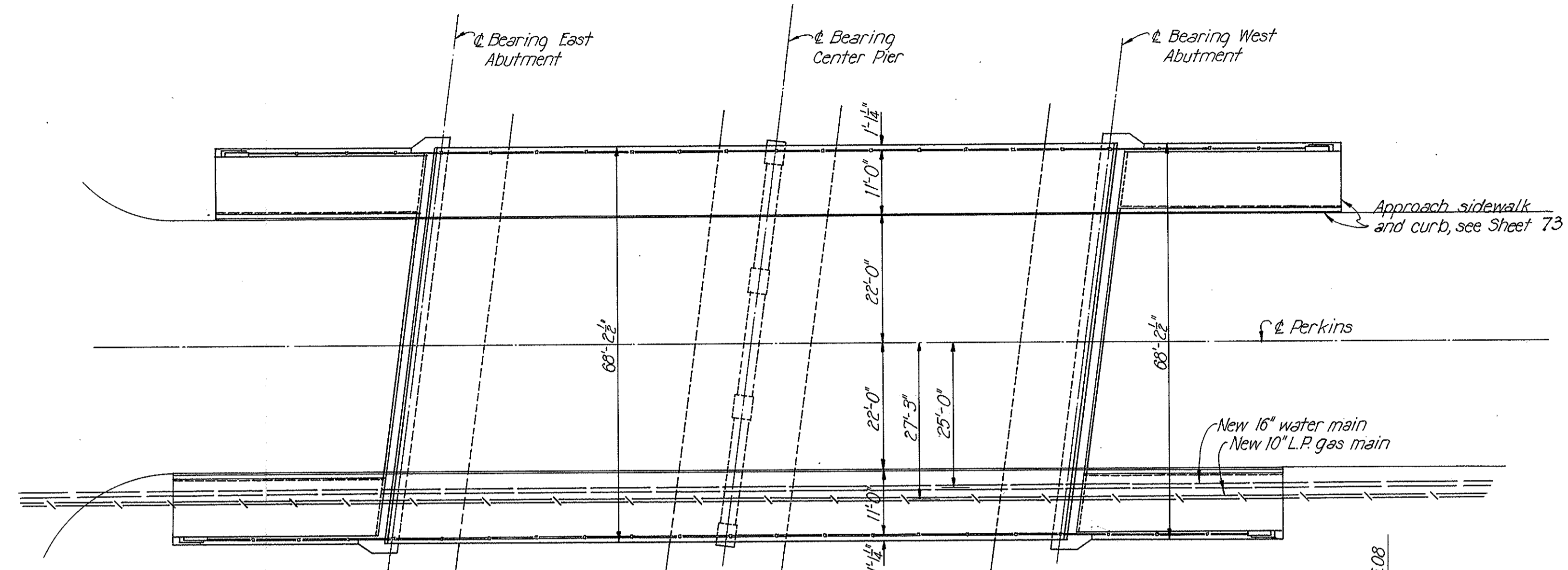
SITE PLAN
AKRON, SUMMIT COUNTY, OHIO

SCALE: 1" = 20'
MADE PER DATE 9-1-50
TRC/BER:BB DATE 10-5-50
CKD: DMD DATE 10-7-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY, NEW YORK

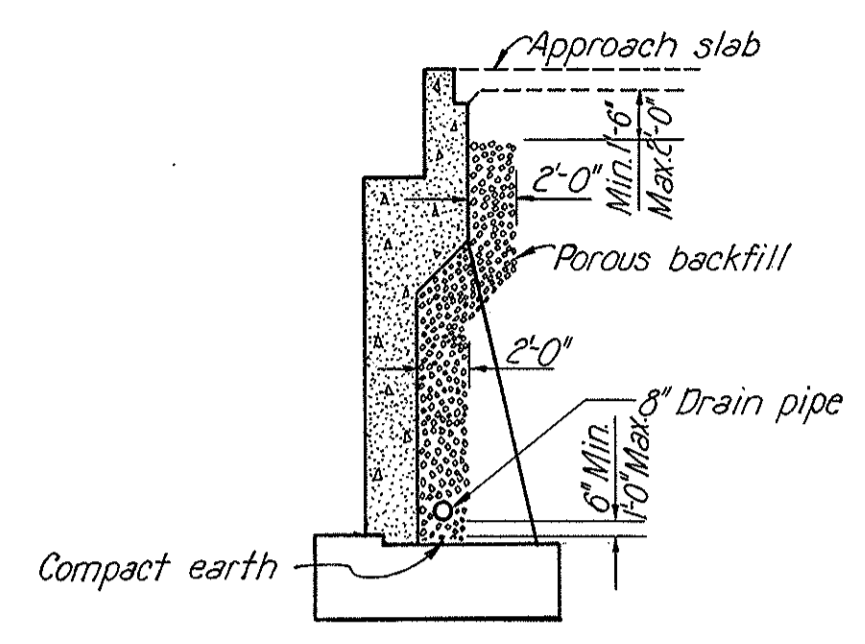
766 SHEET-62

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

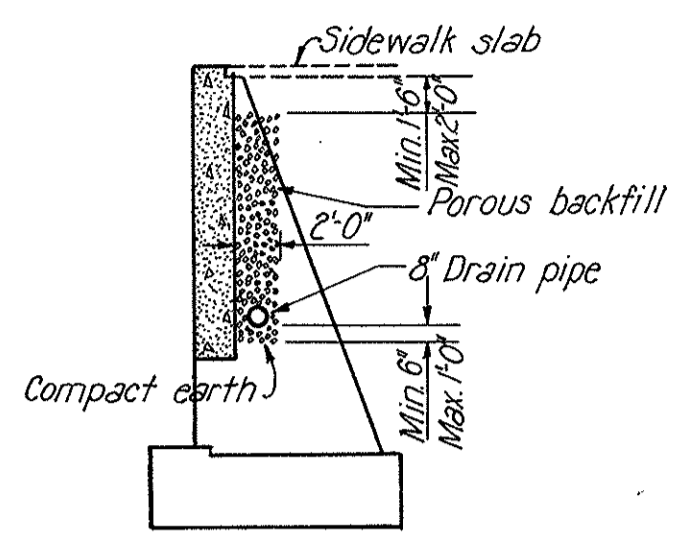


Note: Clearance of 14.18± is at ± of Girder G under north curb.

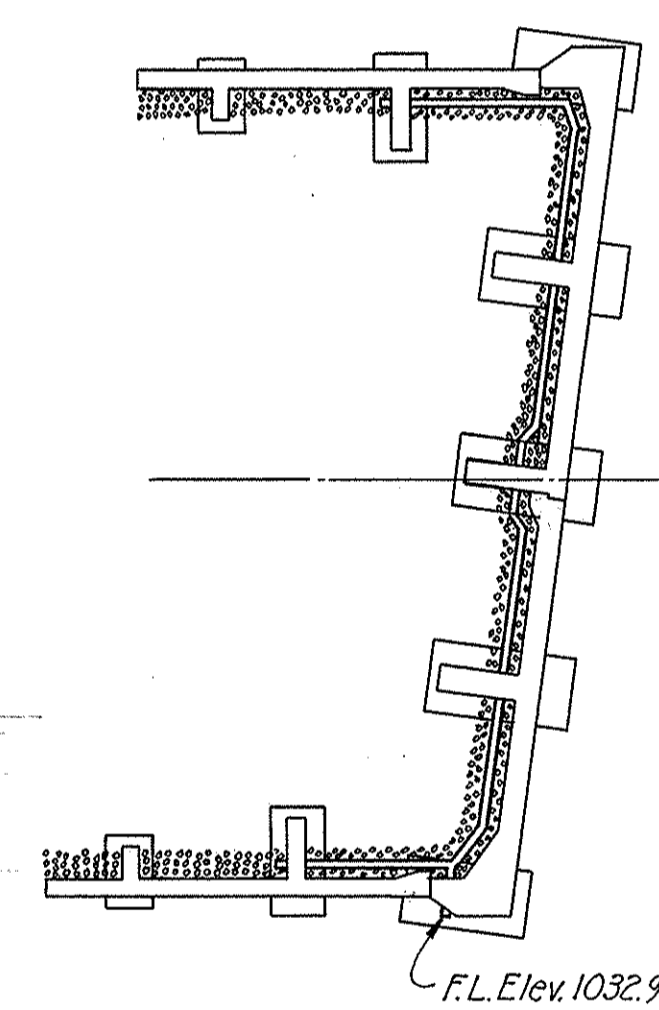
Care shall be taken, in installing the sewer, not to disturb the firm rock bearing required for the pier footings. Any rock thus disturbed shall be replaced with Class "C" concrete at the Contractor's expense.



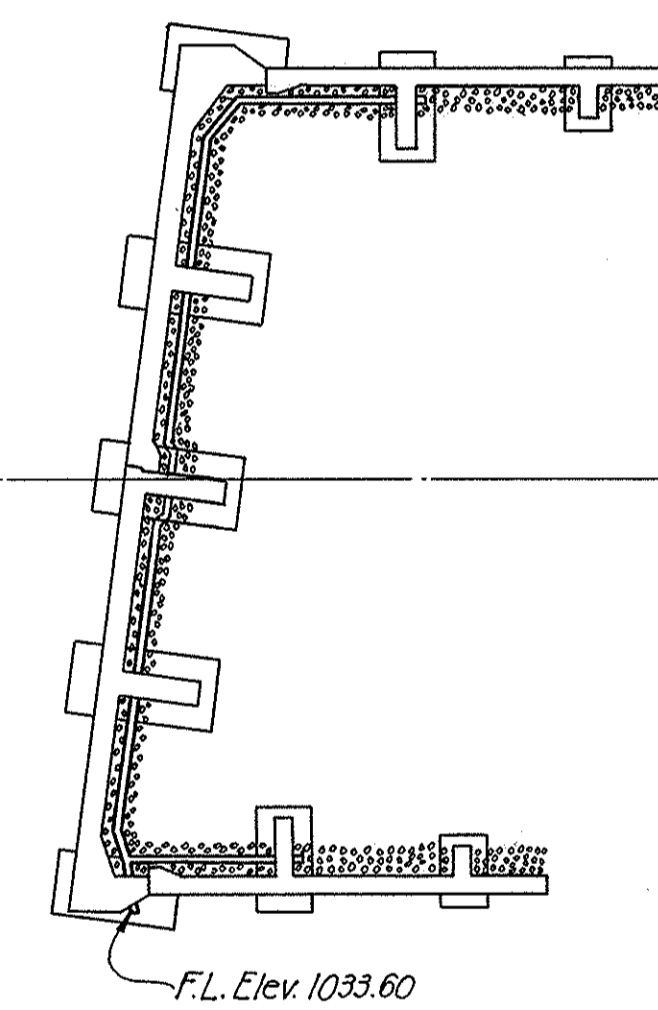
ABUTMENT SECTION
Not to Scale



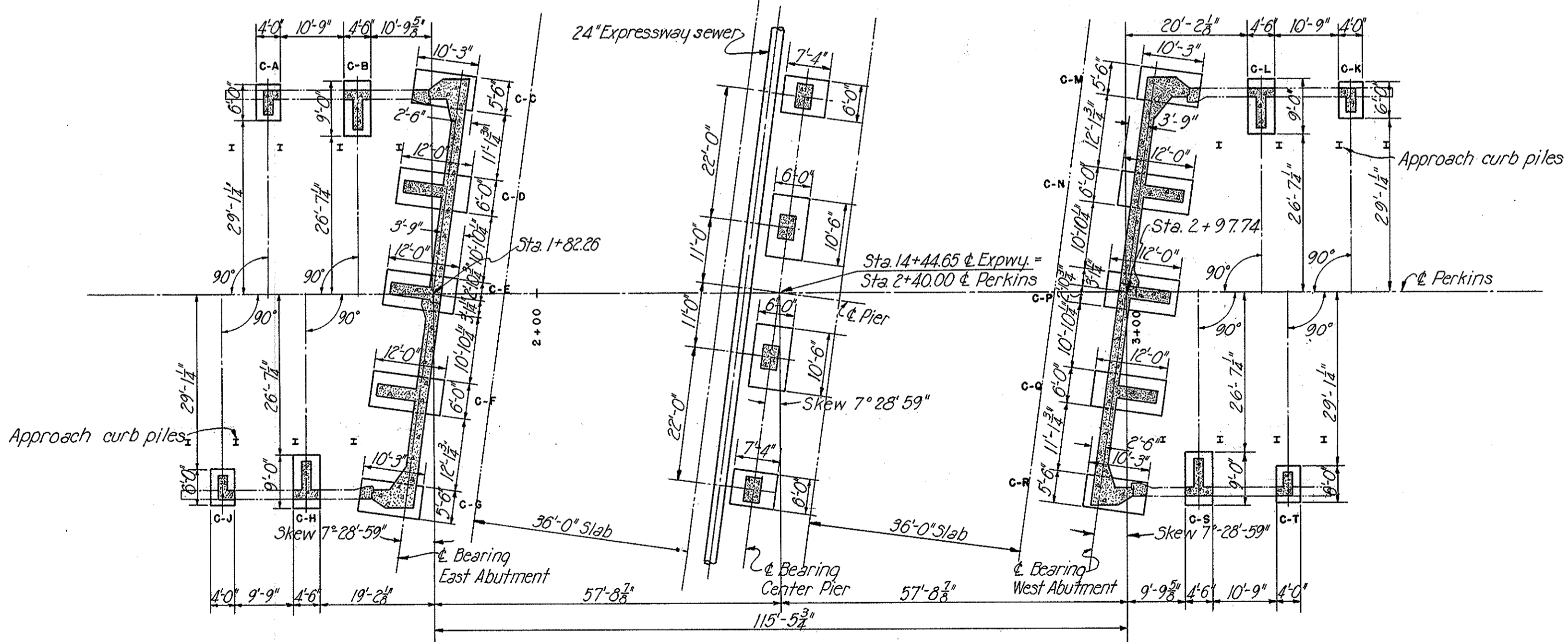
WINGWALL SECTION
Not to Scale



EAST ABUTMENT PLAN
Not to Scale



WEST ABUTMENT PLAN
Not to Scale



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

SUBSTRUCTURE DRAINAGE
Not to Scale

Note: Porous backfill shall conform to Items 5-29.02 and 5-29.04.
Pipe shall be 8" bituminous coated perforated c.m.p. conforming to Sec M6.4(b)(c), with necessary fittings. At one end of each abutment where shown on the Abutment Plans, the pipe shall project 1'-0"± to permit connecting 8" vitrified sewer pipe of the Expressway sewer system. See Drainage Plans. Upper ends of pipes shall be tightly closed with permanent headers made of No. 10 gauge sheet metal.

STATE OF OHIO
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BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
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PERKINS UNDERPASS
BR. NO. SU-5-122

GENERAL PLAN AND ELEVATION

AKRON, SUMMIT COUNTY, OHIO

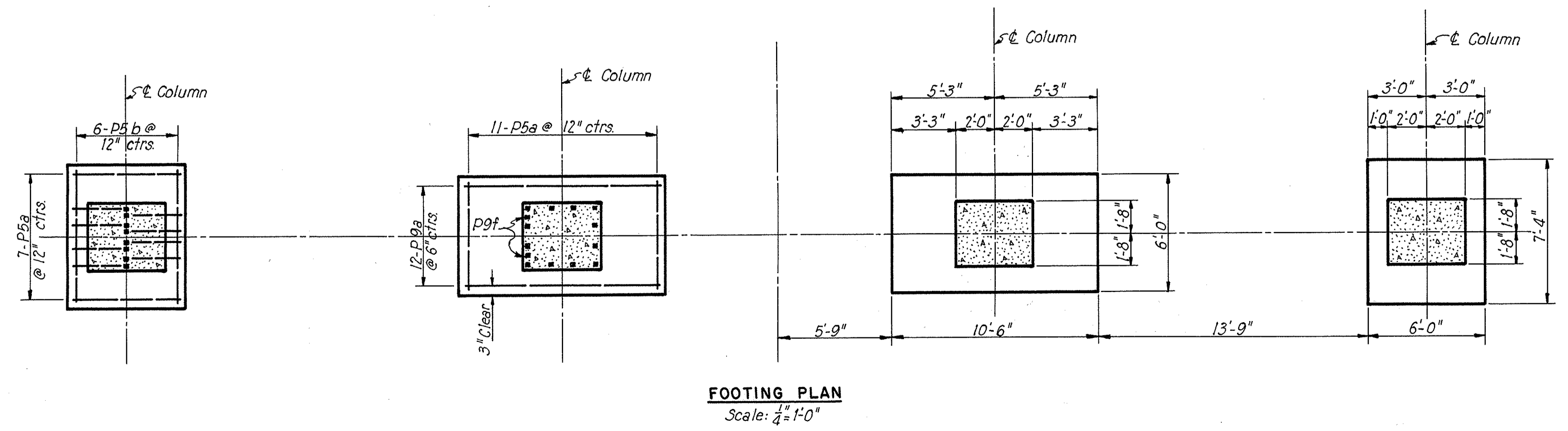
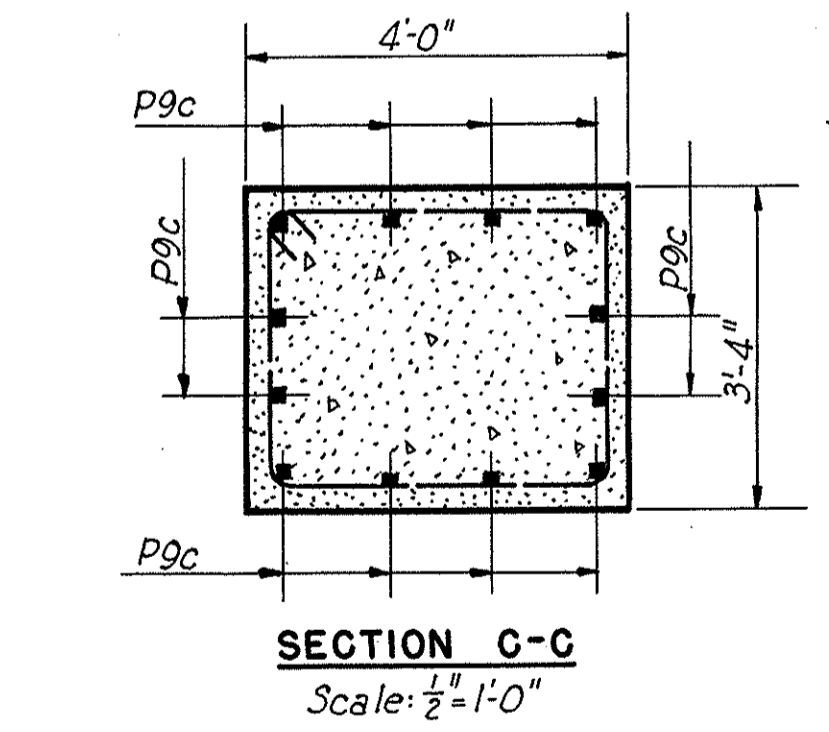
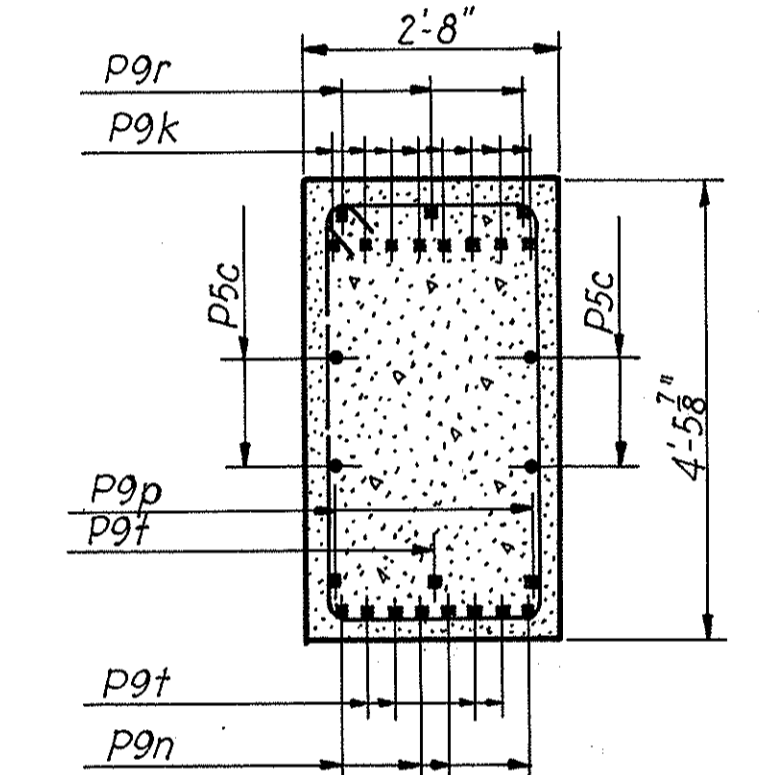
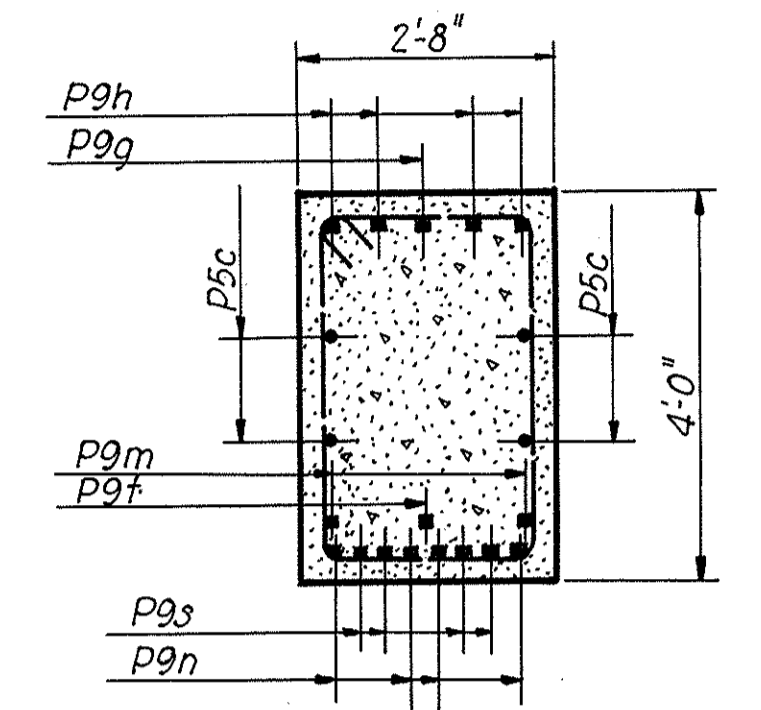
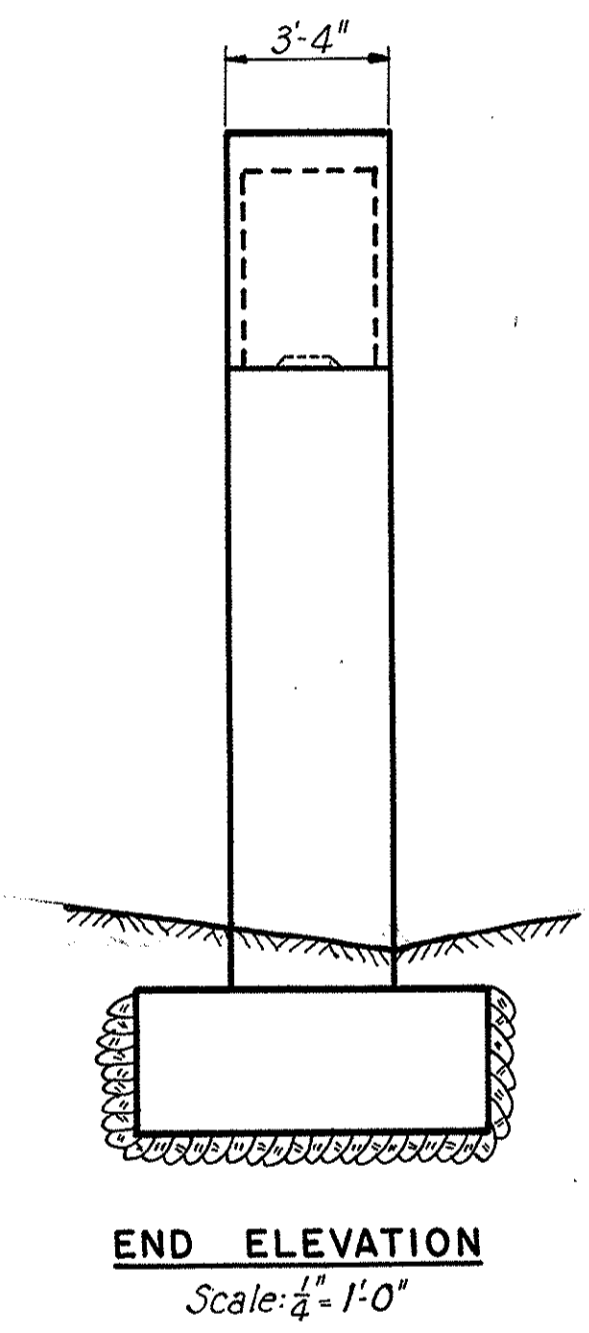
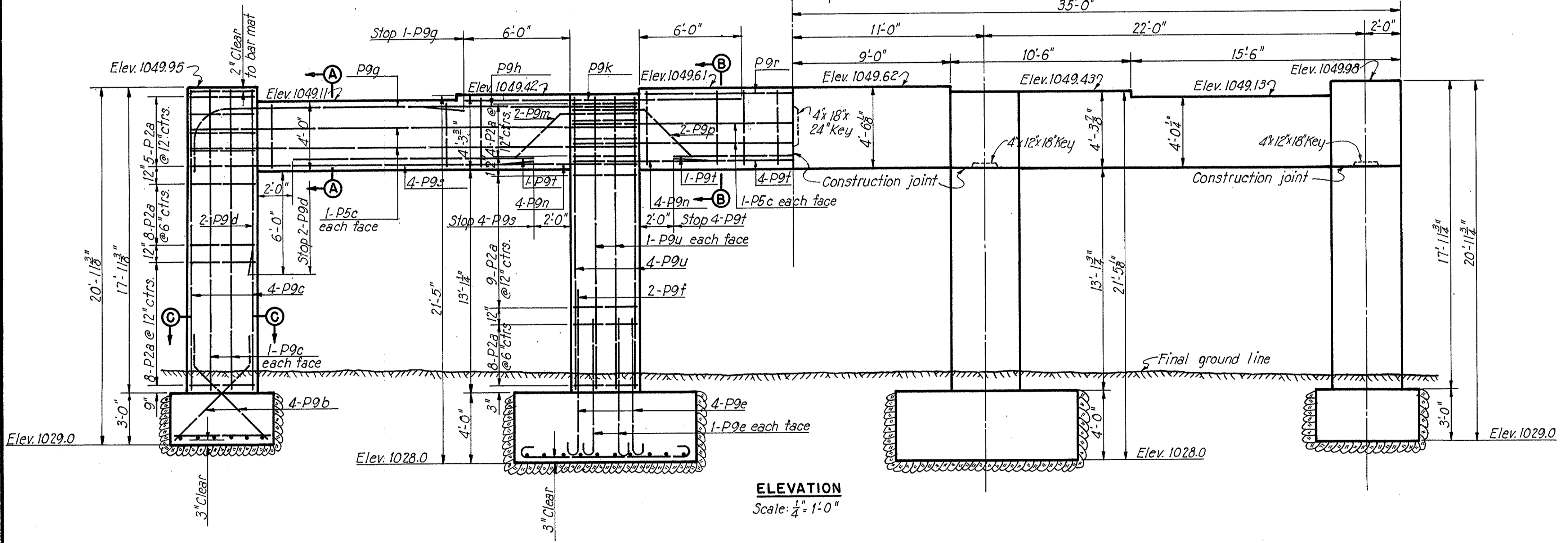
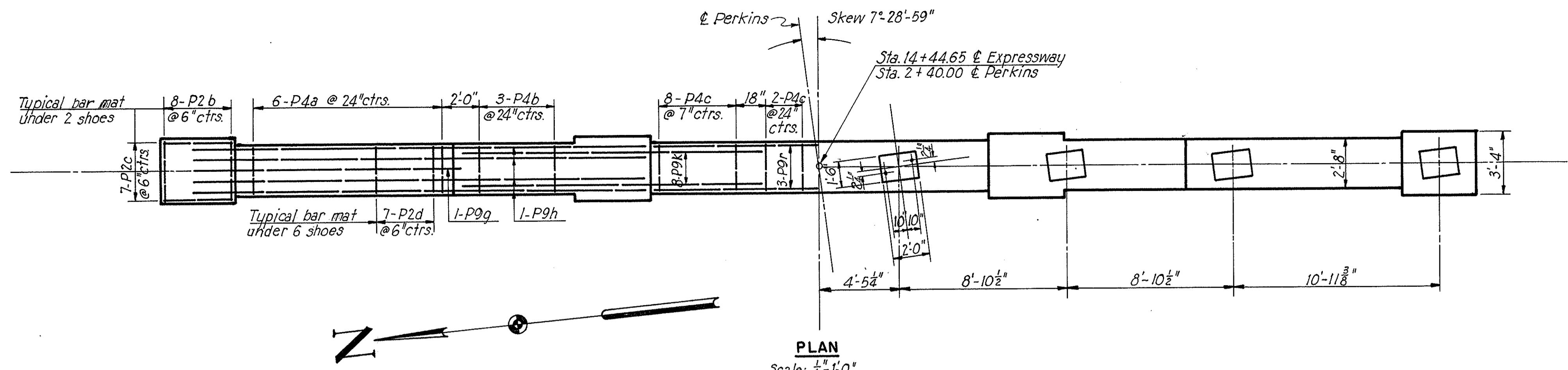
SCALE: 1/8" = 1'-0"
MADE PER DATE 8-10-50
TRCD PER-BB DATE 8-10-50
CKD DMD DATE 10-6-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
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Revised 11-10-50

SUMMIT COUNTY CITY OF AKRON
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Note:
Special care shall be taken in placing top reinforcing steel so that it will not interfere with drilling for anchor bolt holes.



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(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
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BR. NO. SU-5-122

CENTER PIER

AKRON, SUMMIT COUNTY, OHIO

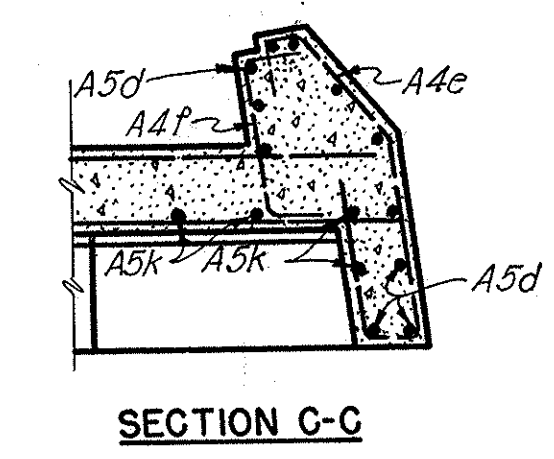
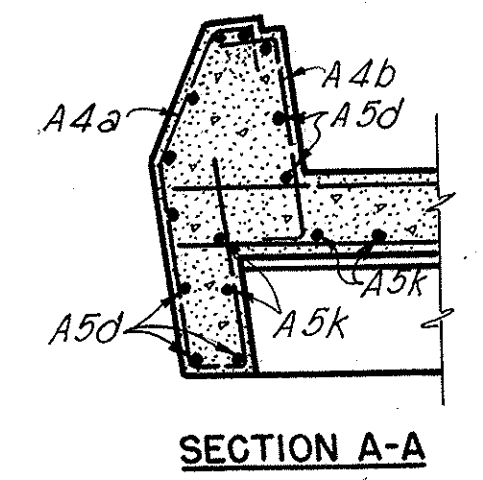
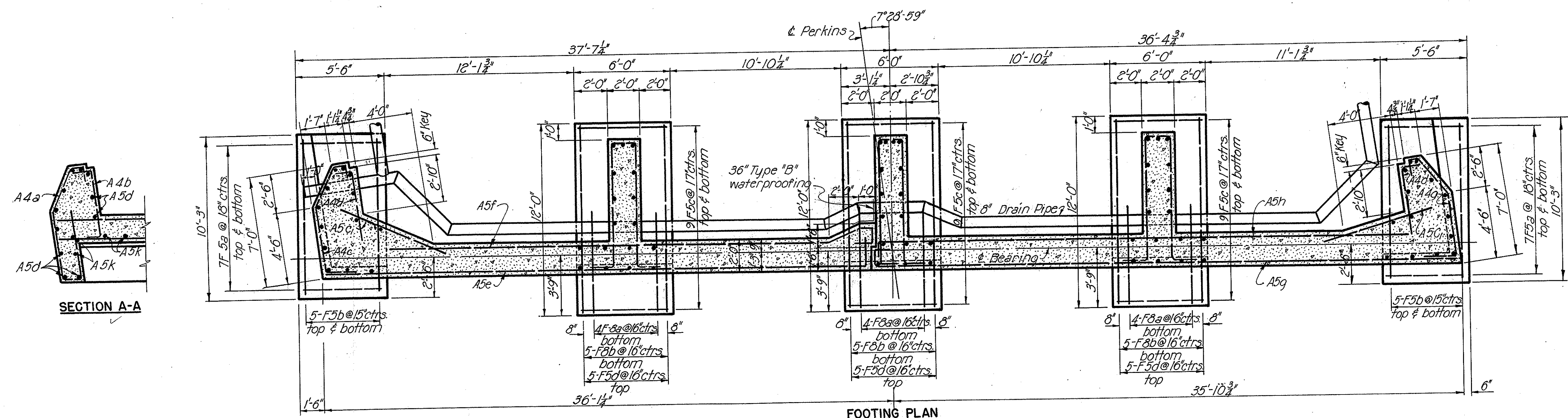
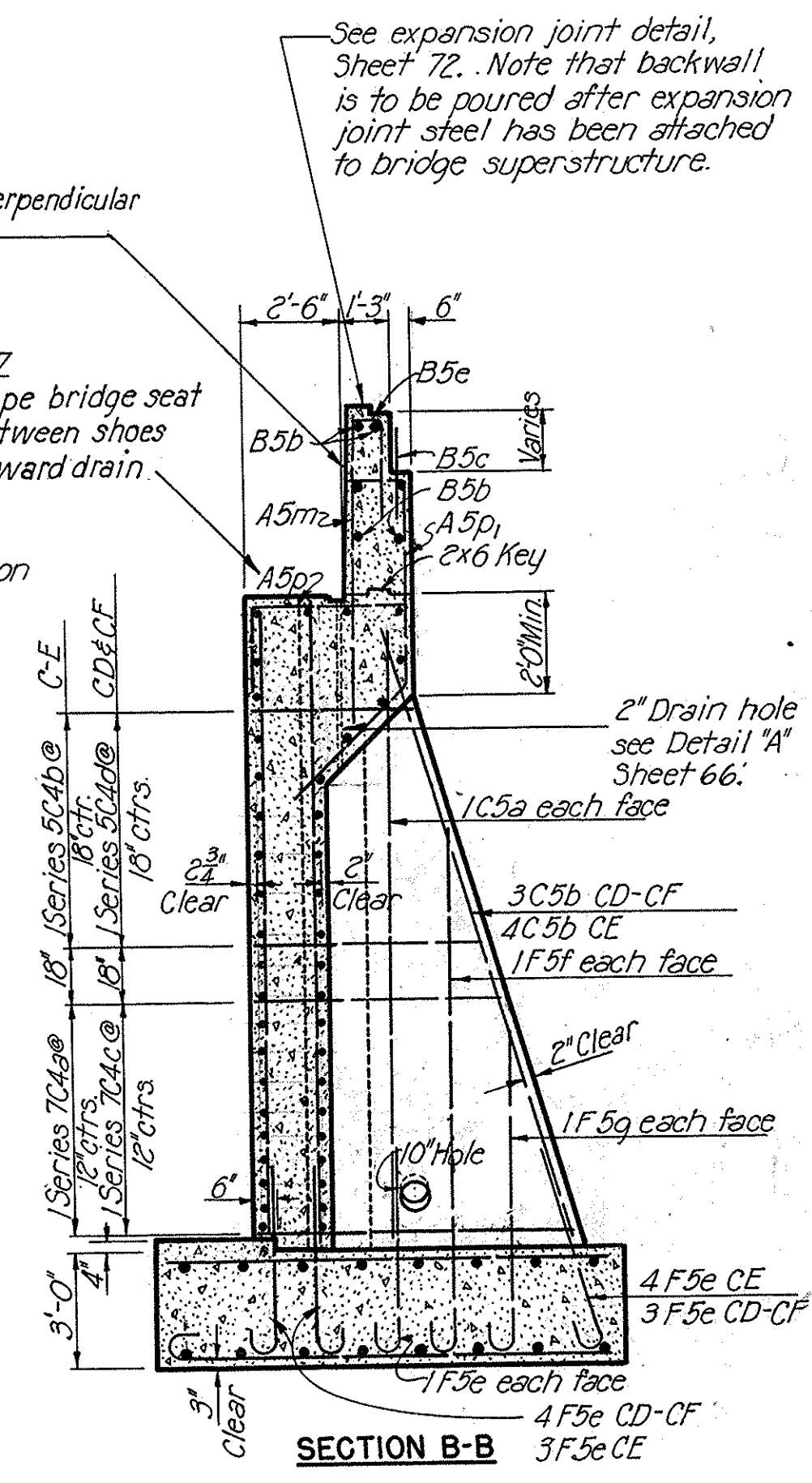
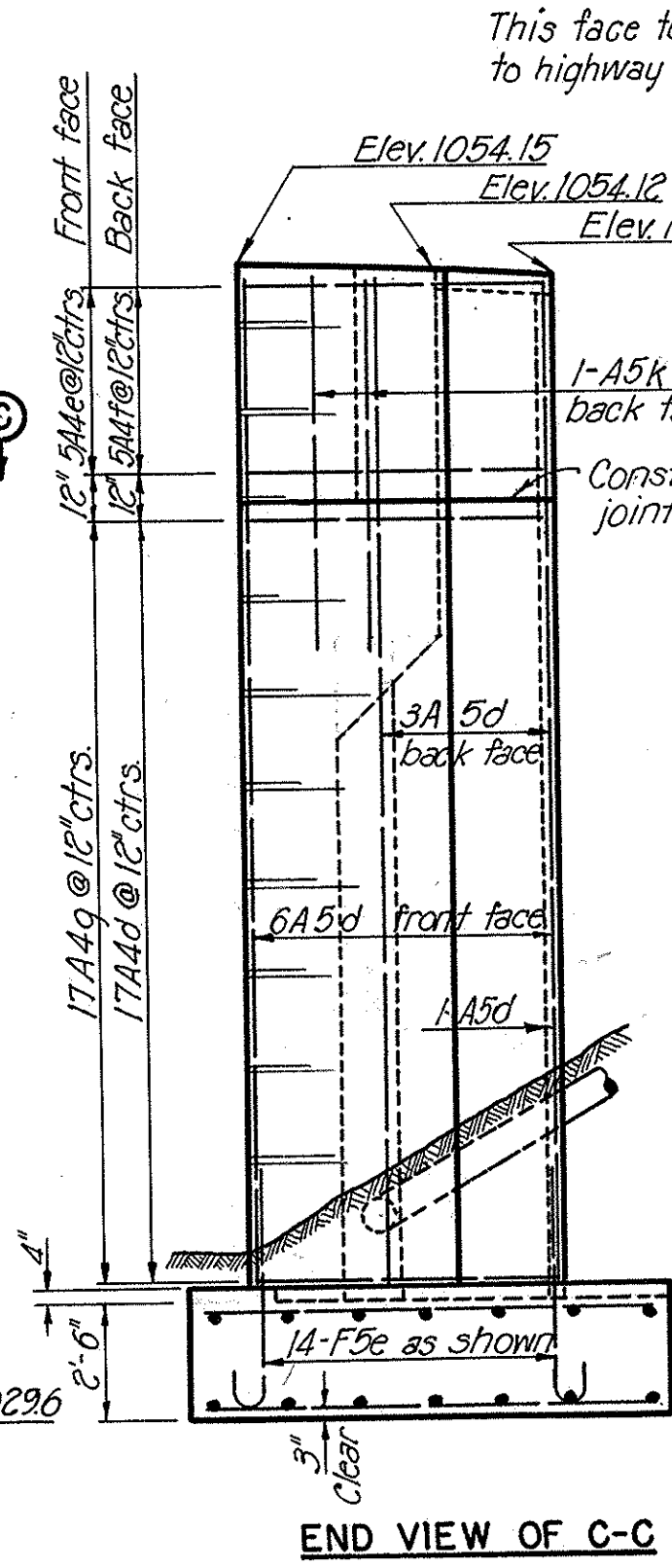
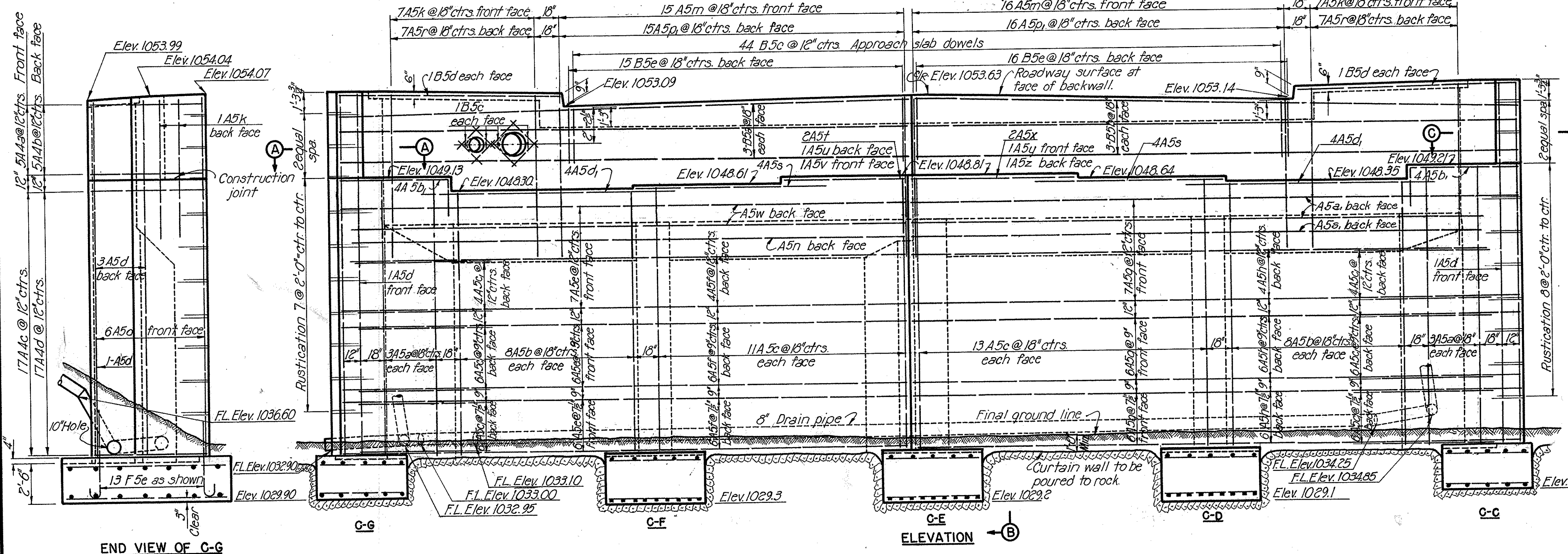
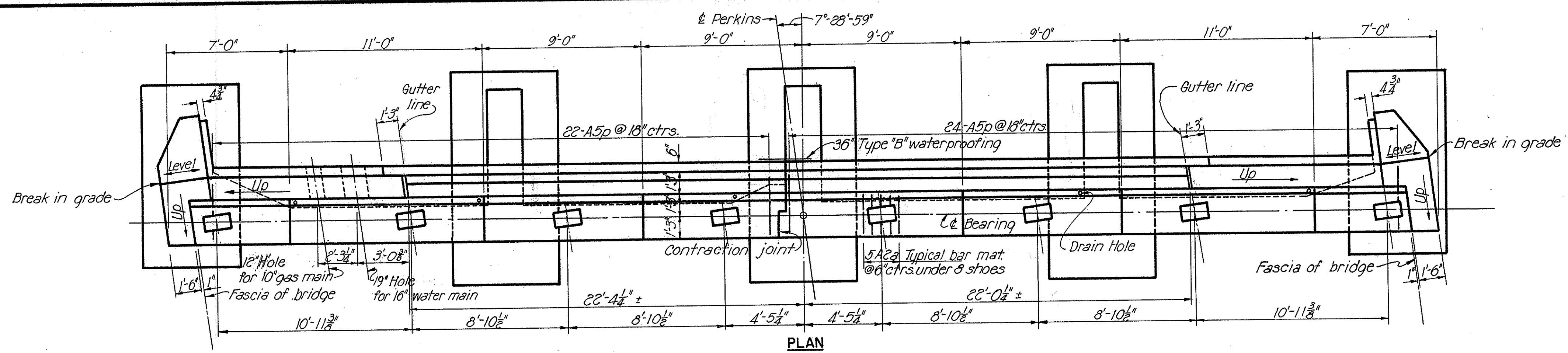
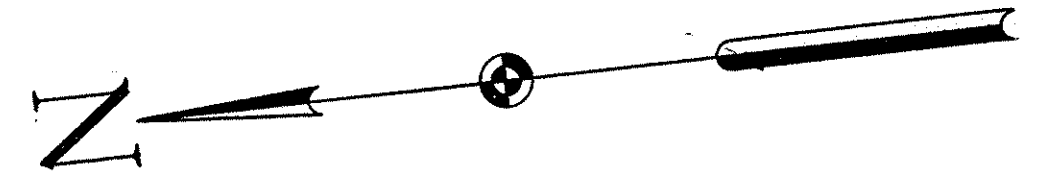
SCALE: 1/4" = 1'-0"
MADE J.W.C. DATE 8-7-50
TRCD J.W.C. DATE 8-24-50
CKD A.E.P. DATE 8-18-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
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**SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
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STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
PERKINS UNDERPASS
BR. NO. SU-5-122

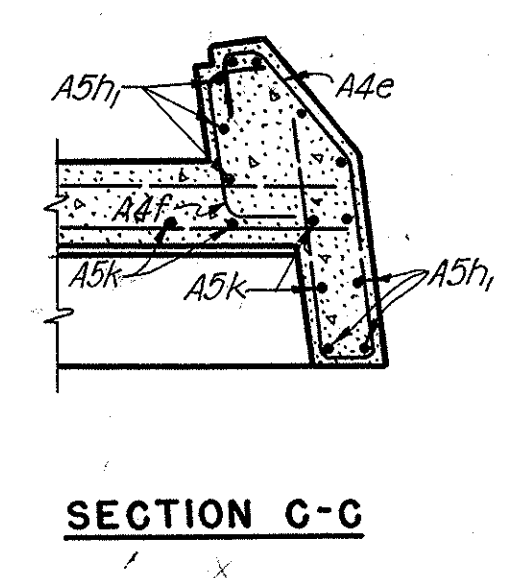
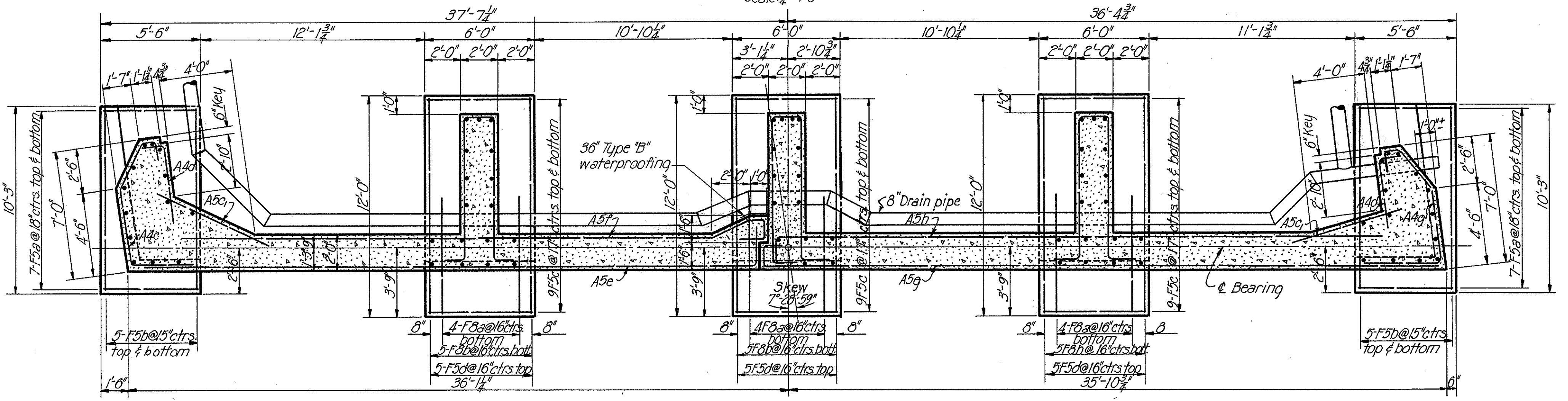
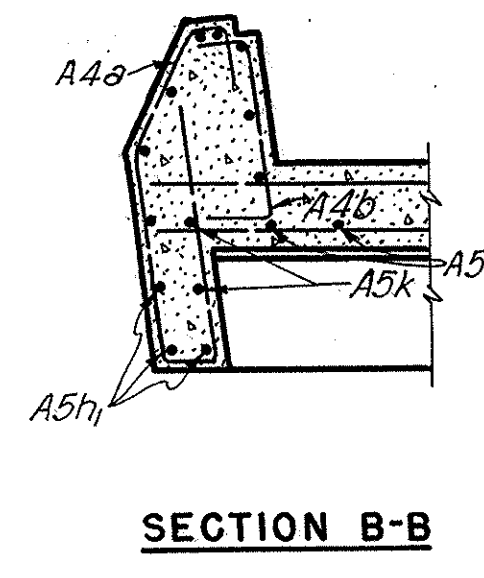
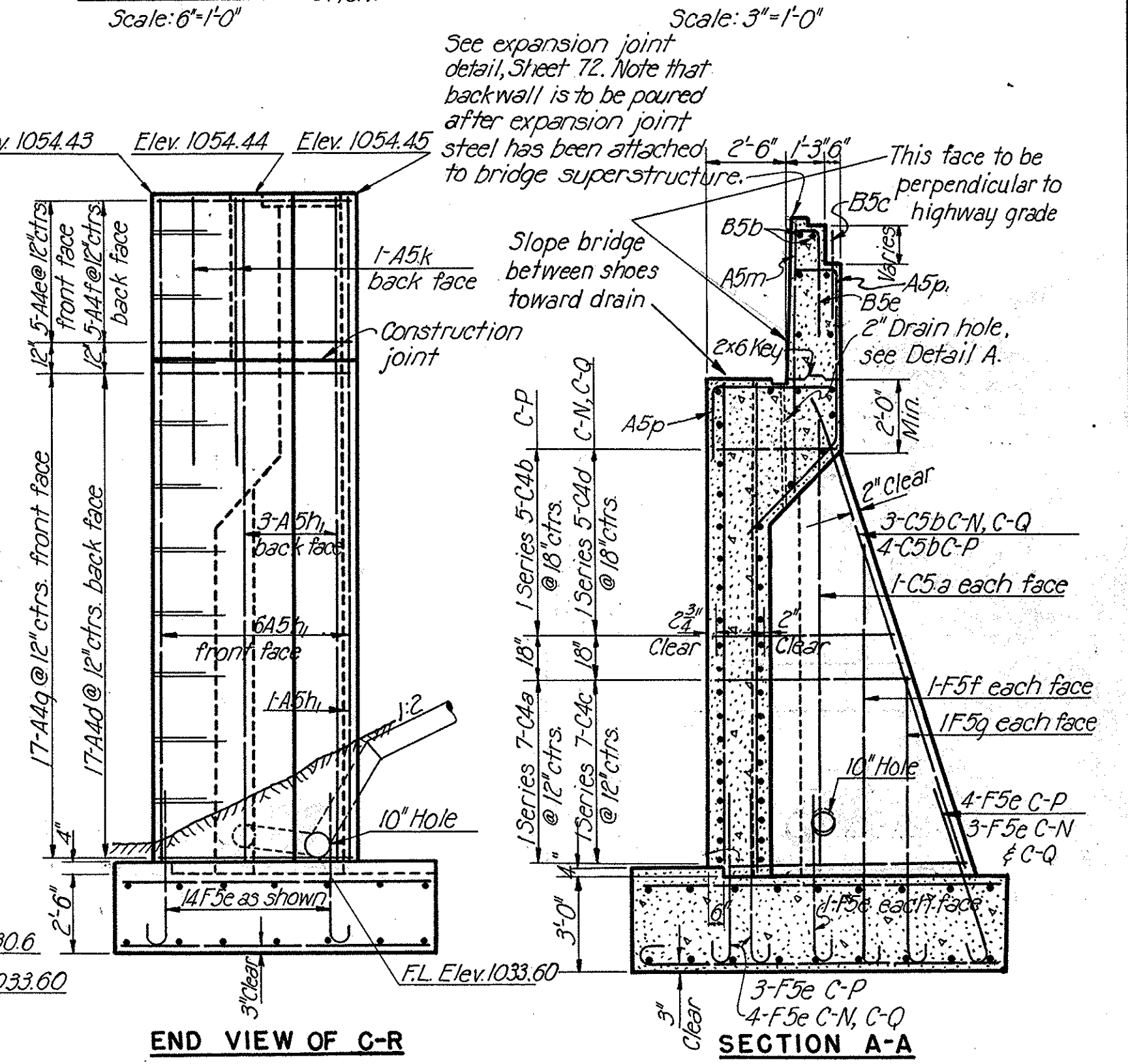
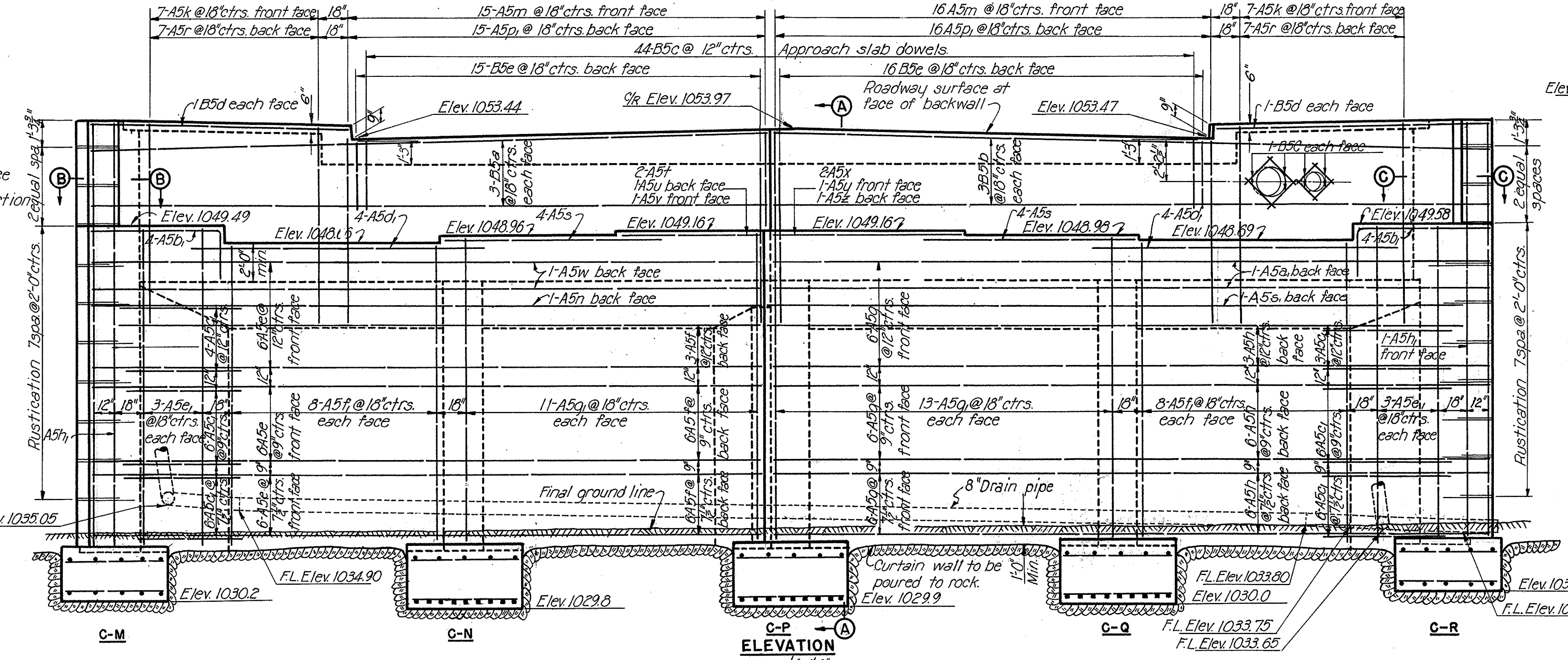
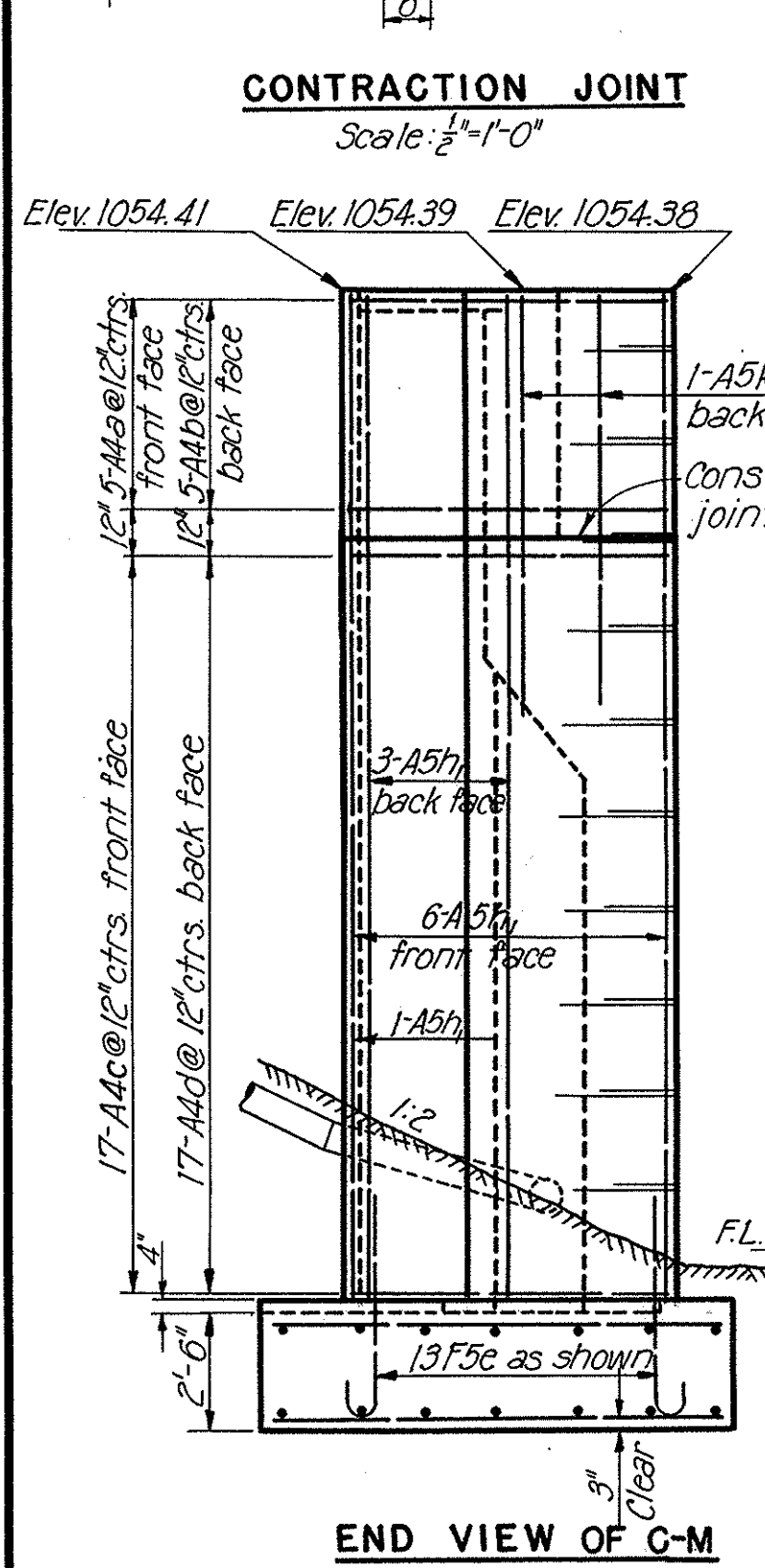
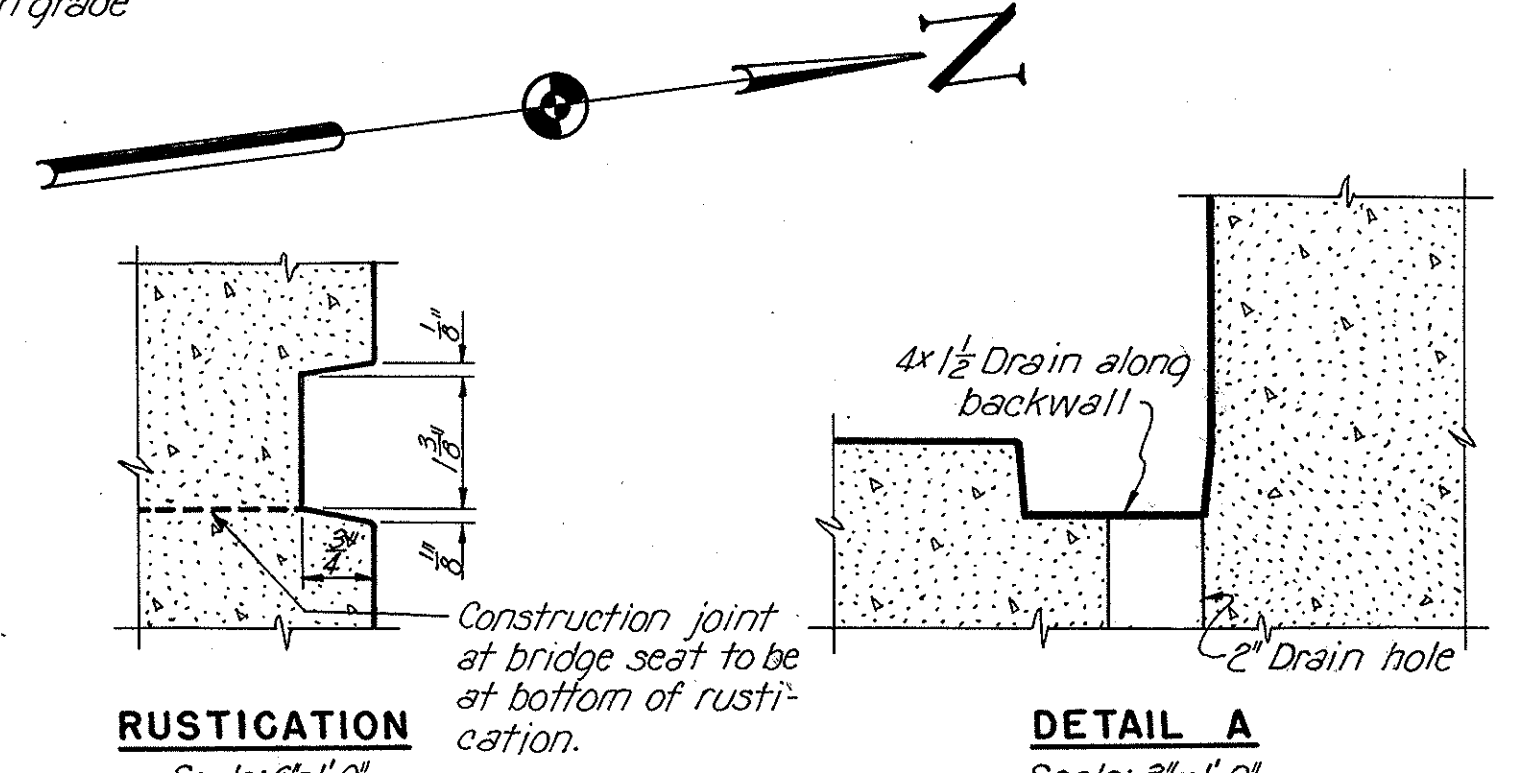
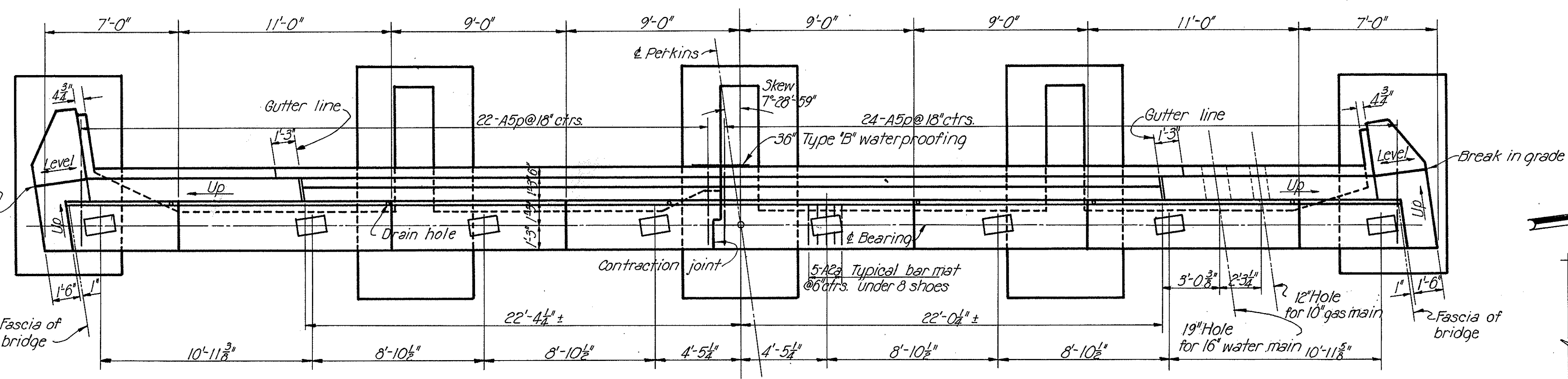
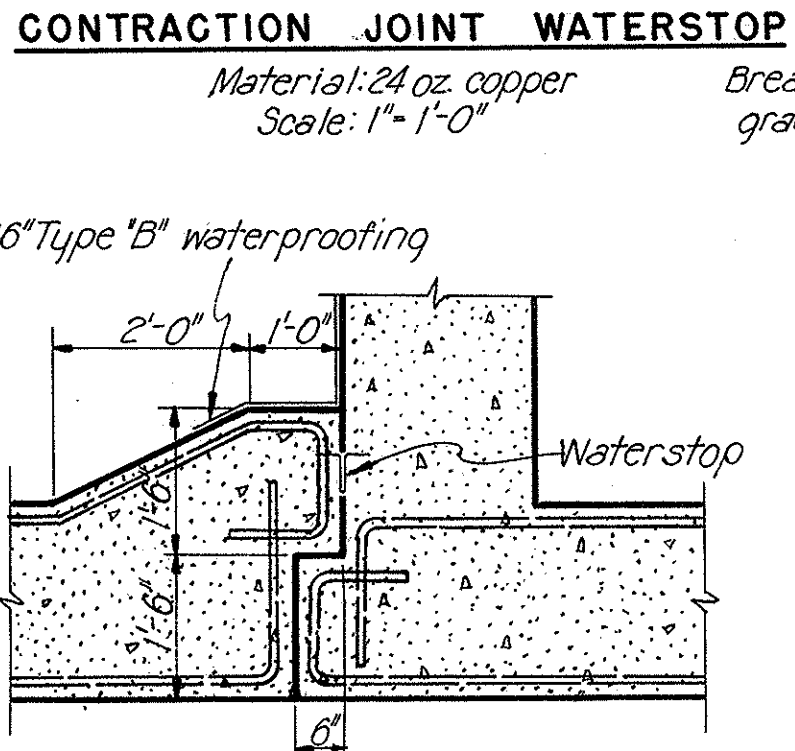
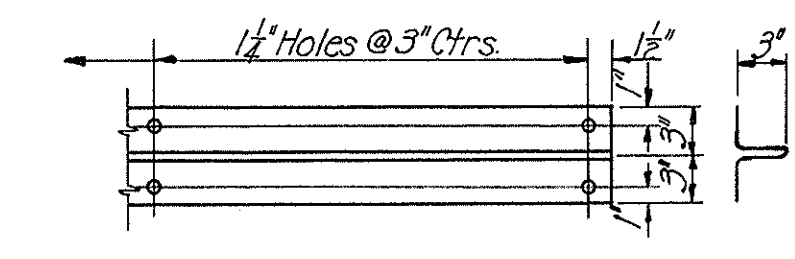
EAST ABUTMENT

AKRON, SUMMIT COUNTY, OHIO

SCALE 3/4" = 1'-0"
MADE E.H.B. DATE 8-10-50
TRCD E.H.B. DATE 8-18-50
CKD A.E.R. DATE 8-18-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
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SUMMIT COUNTY CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
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SUM-5-11.94



STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
 (EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
 PERKINS UNDERPASS
 BR. NO. SU-5-122

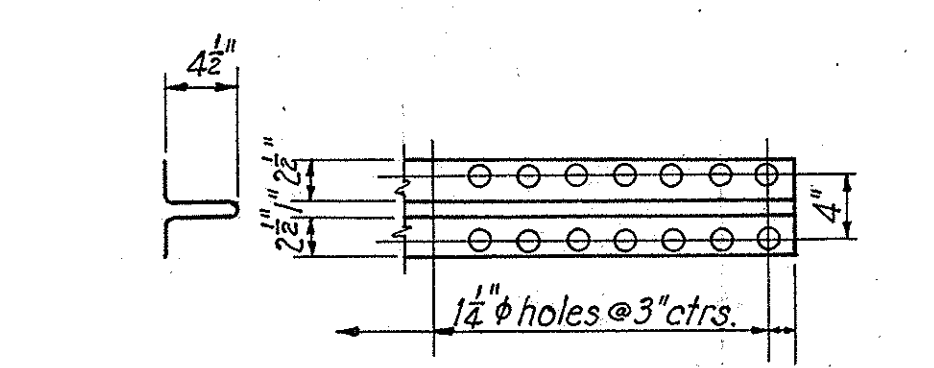
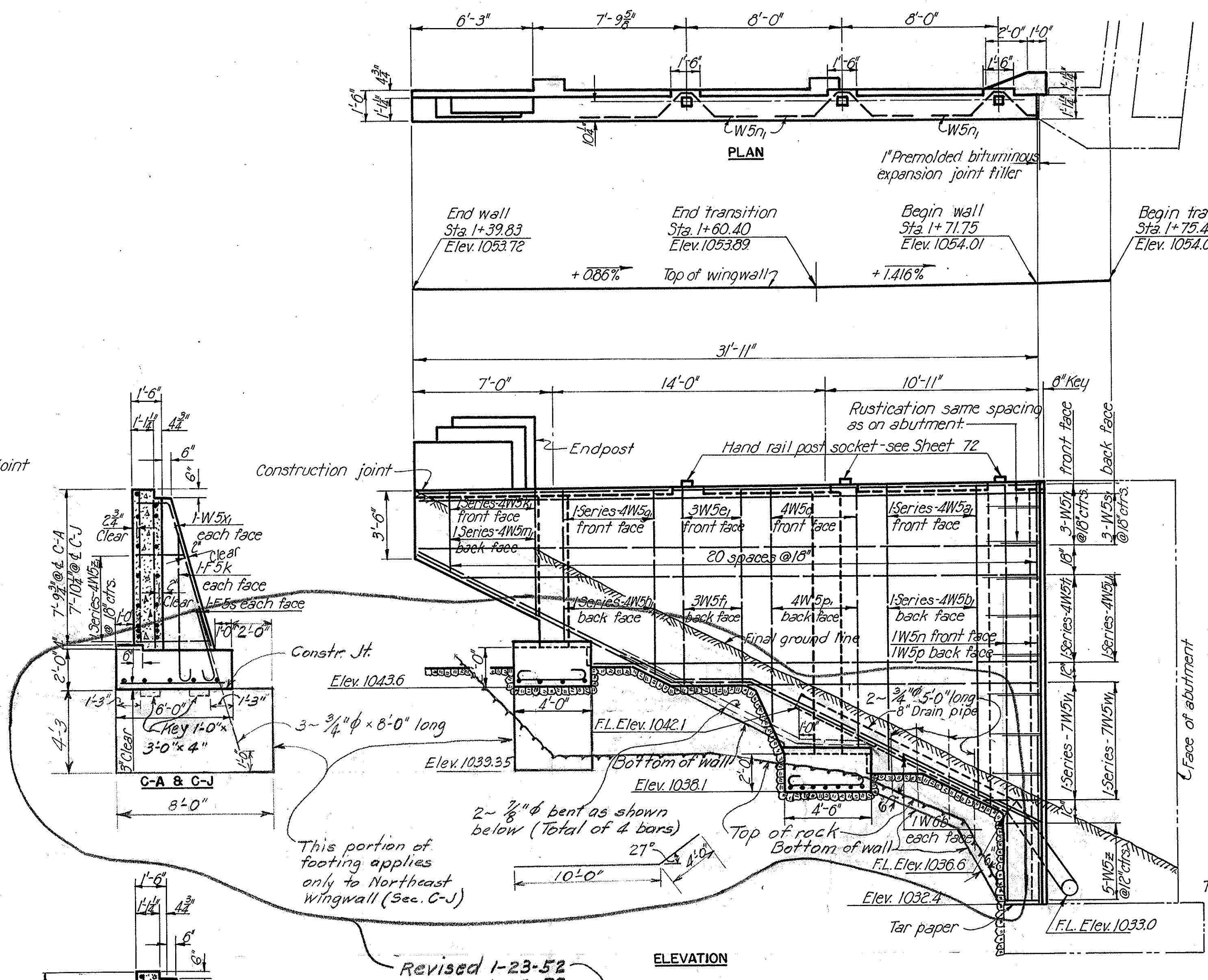
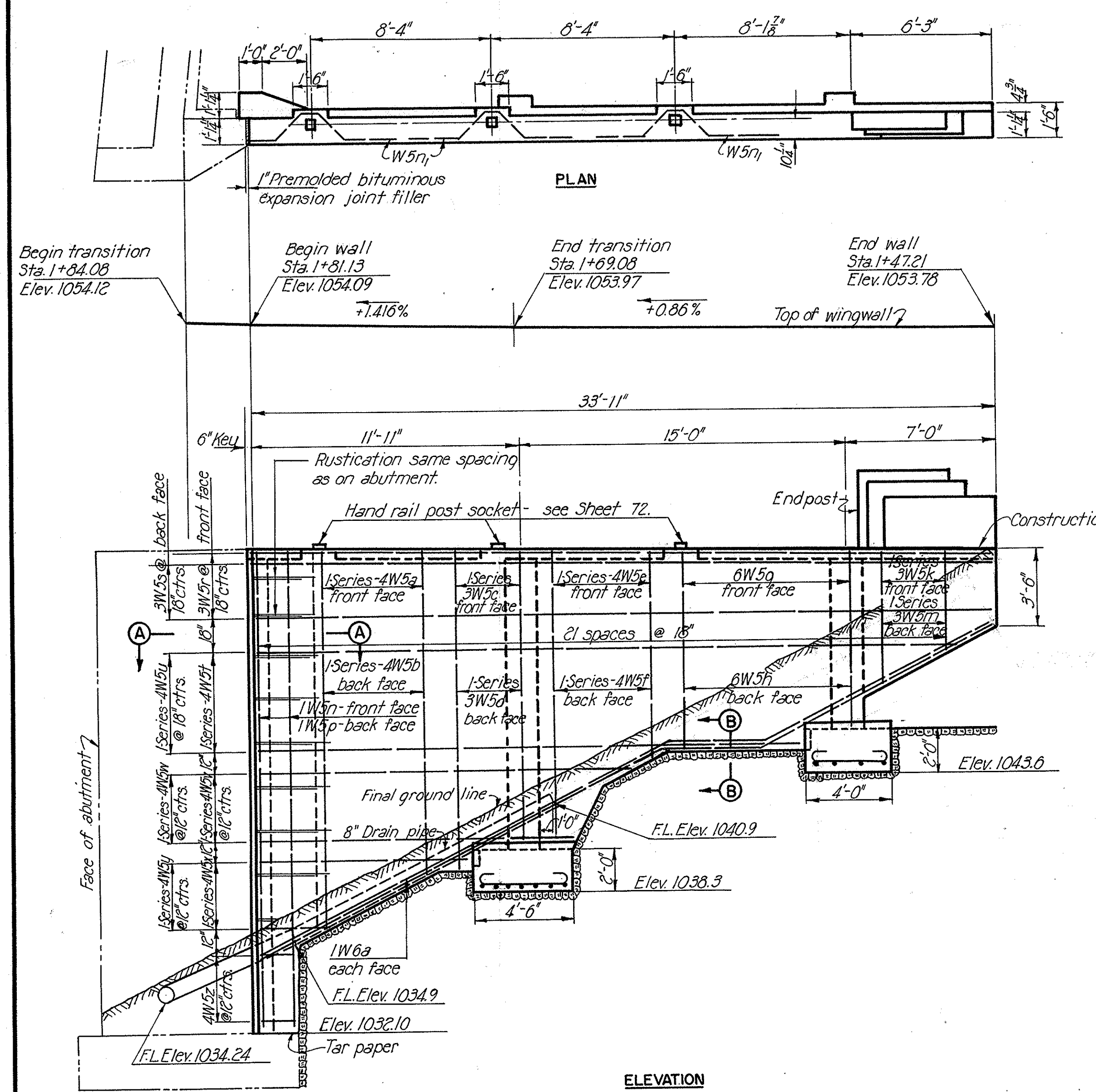
WEST ABUTMENT
 AKRON, SUMMIT COUNTY, OHIO

SCALE: 1/4"=1'-0"
 MADE: 11/11/50 DATE: 8-3-50
 TRCD: 11/11/50 DATE: 8-16-50
 CKD: A.C.R. DATE: 8-16-50

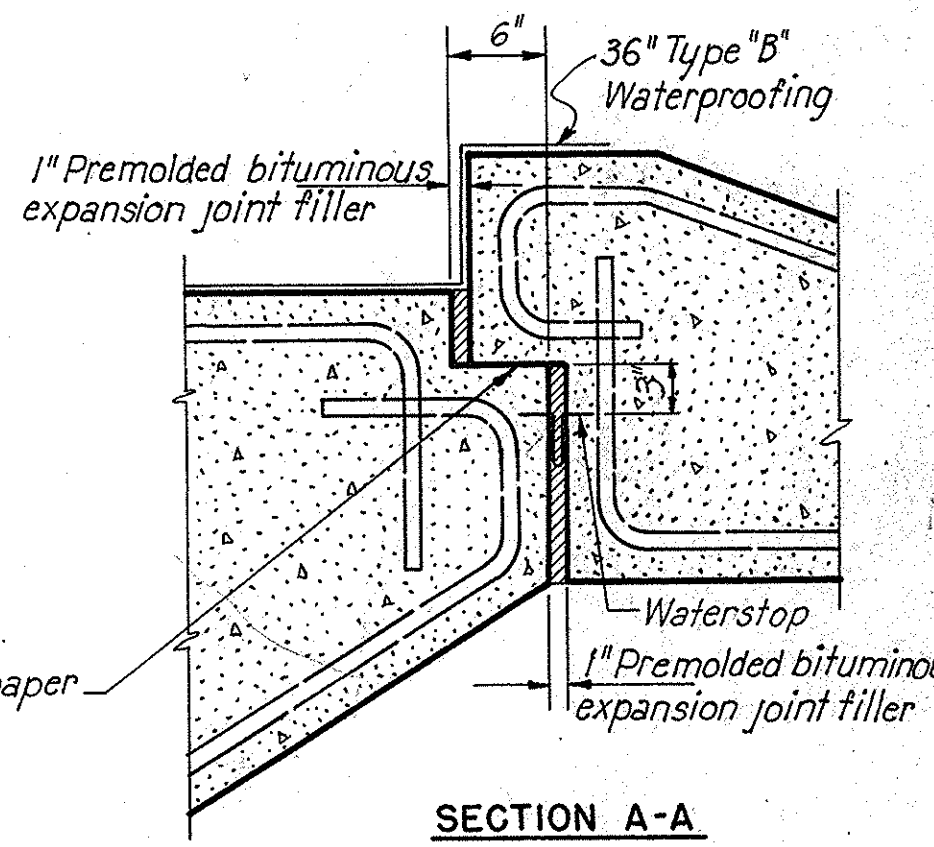
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY NEW YORK
 766 SHEET-66

| FED. ROAD DIV. NO. | STATE | FED. AID PROJ. NO. | TYPE FUNDS | POST WAR |
|--------------------|-------|--------------------|------------|----------|
| 2 | OHIO | U-687(7) | | 67 74 |

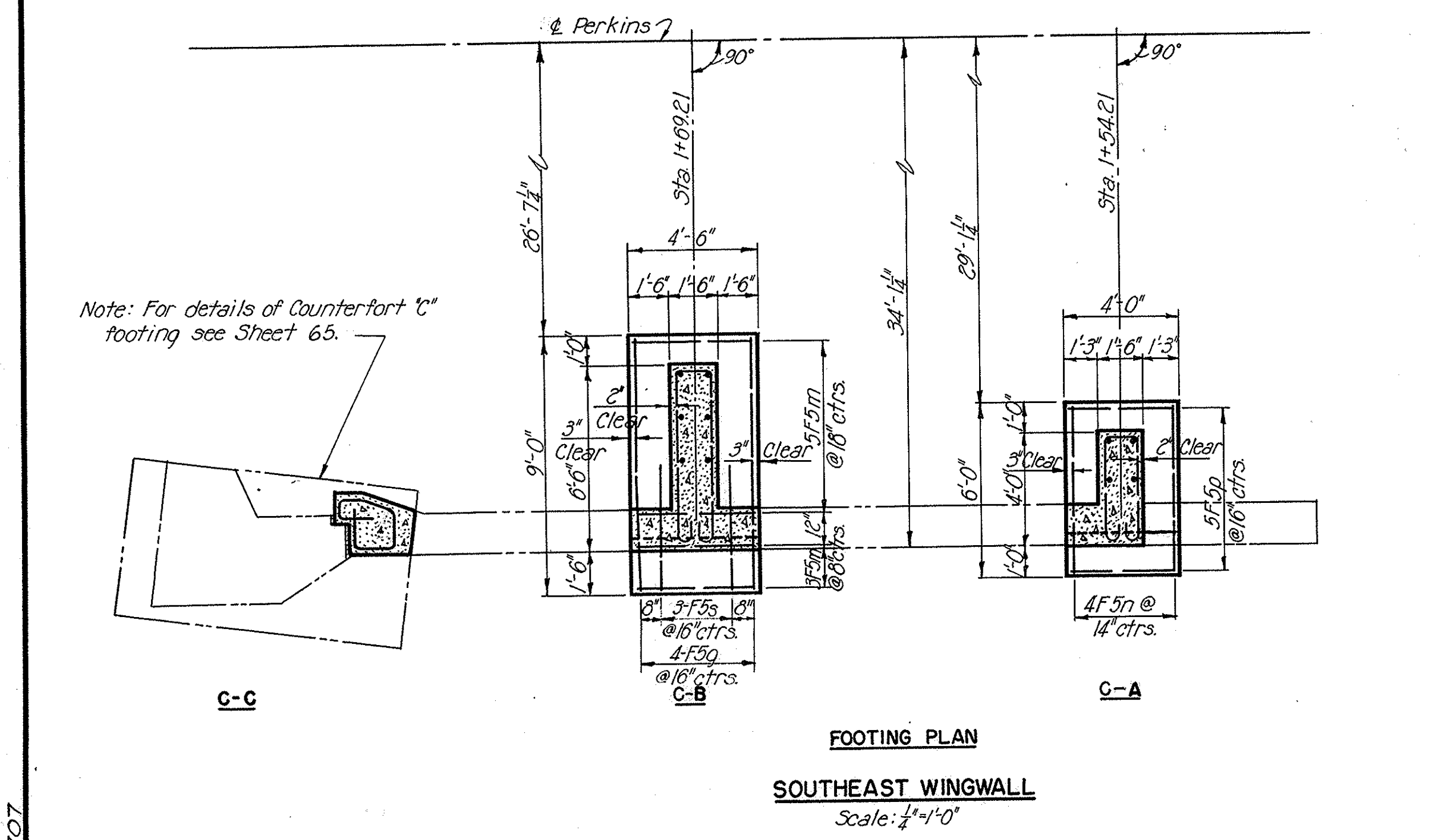
**SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94**



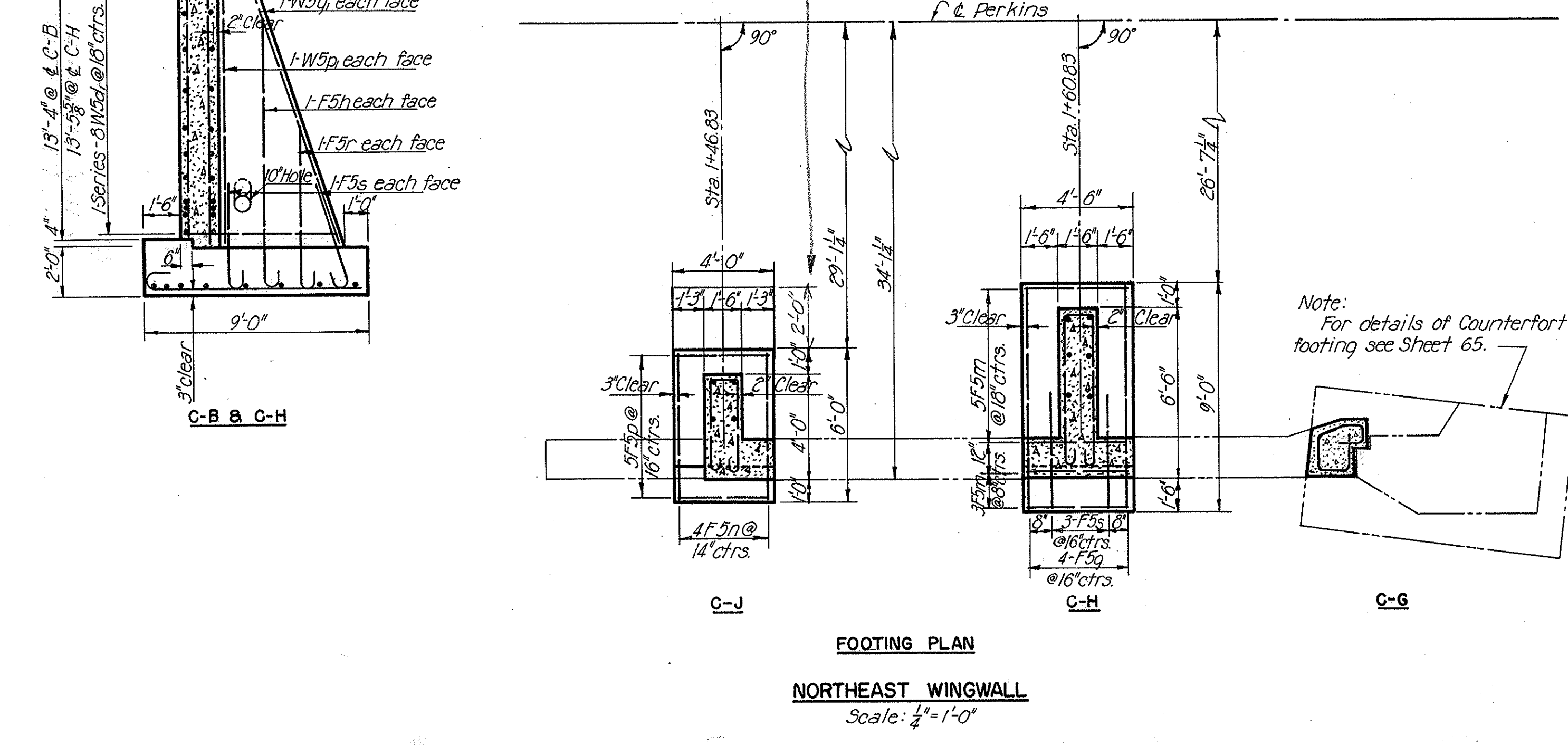
EXPANSION JOINT WATERSTOP
Scale: 1/4"=1'-0"
Material: 24 oz. copper



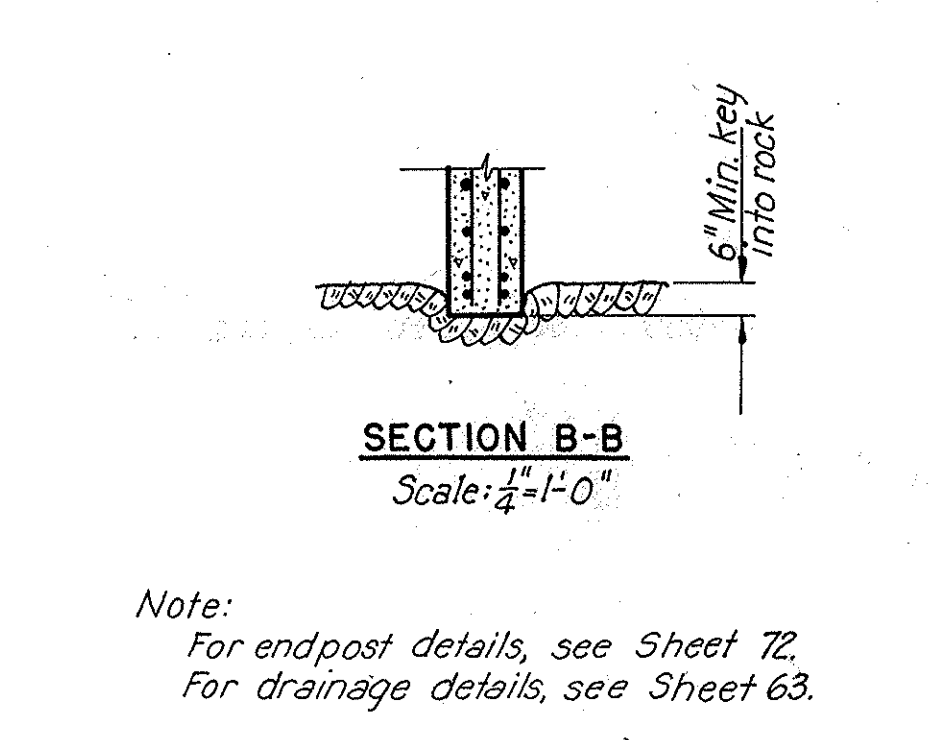
SECTION A-A
Scale: 1"=1'-0"



**FOOTING PLAN
SOUTHEAST WINGWALL**
Scale: 1/4"=1'-0"



**FOOTING PLAN
NORTHEAST WINGWALL**
Scale: 1/4"=1'-0"



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

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
PERKINS UNDERPASS
BR. NO. SU-5-122

EAST WINGWALLS

AKRON, SUMMIT COUNTY, OHIO

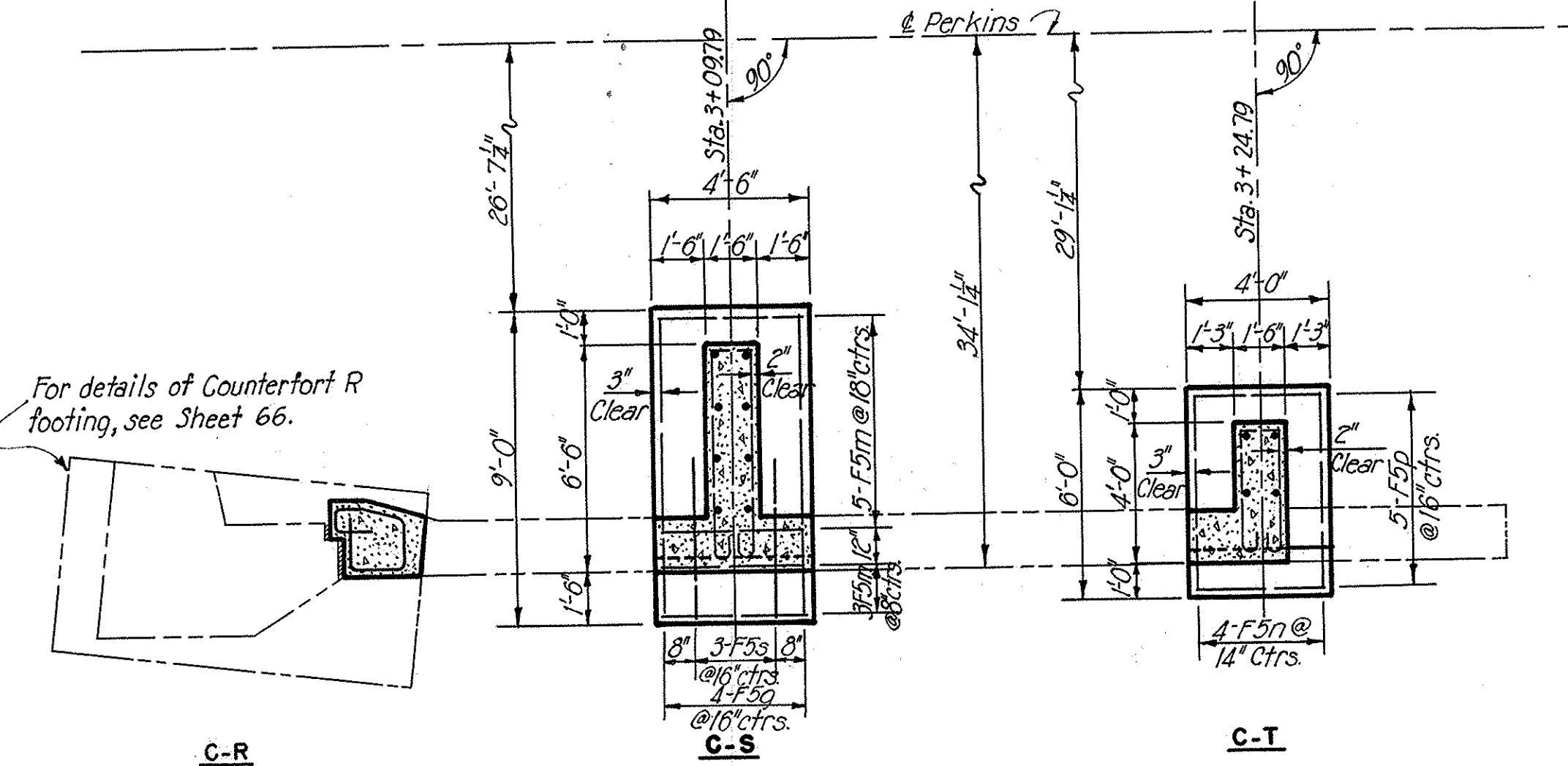
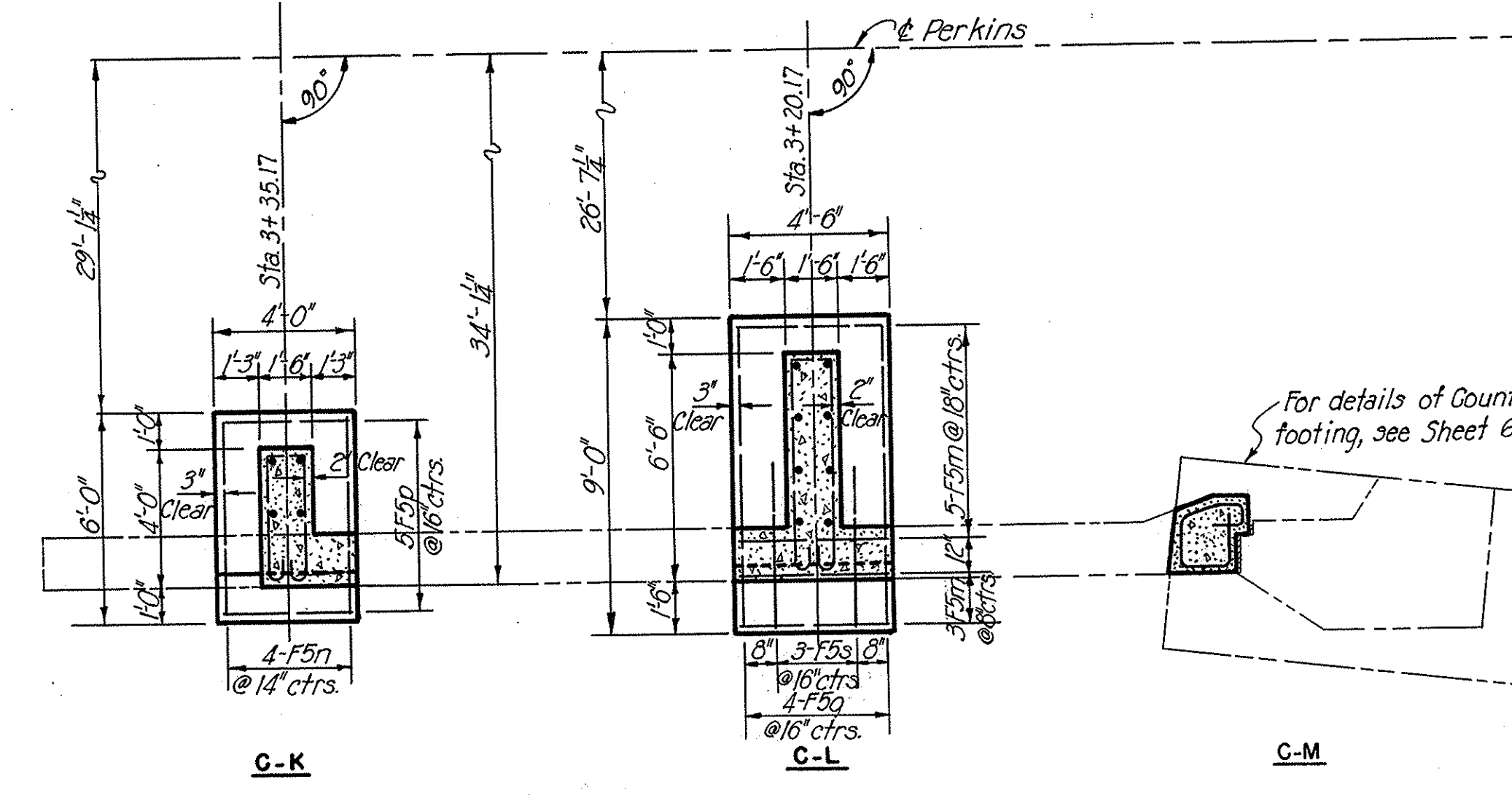
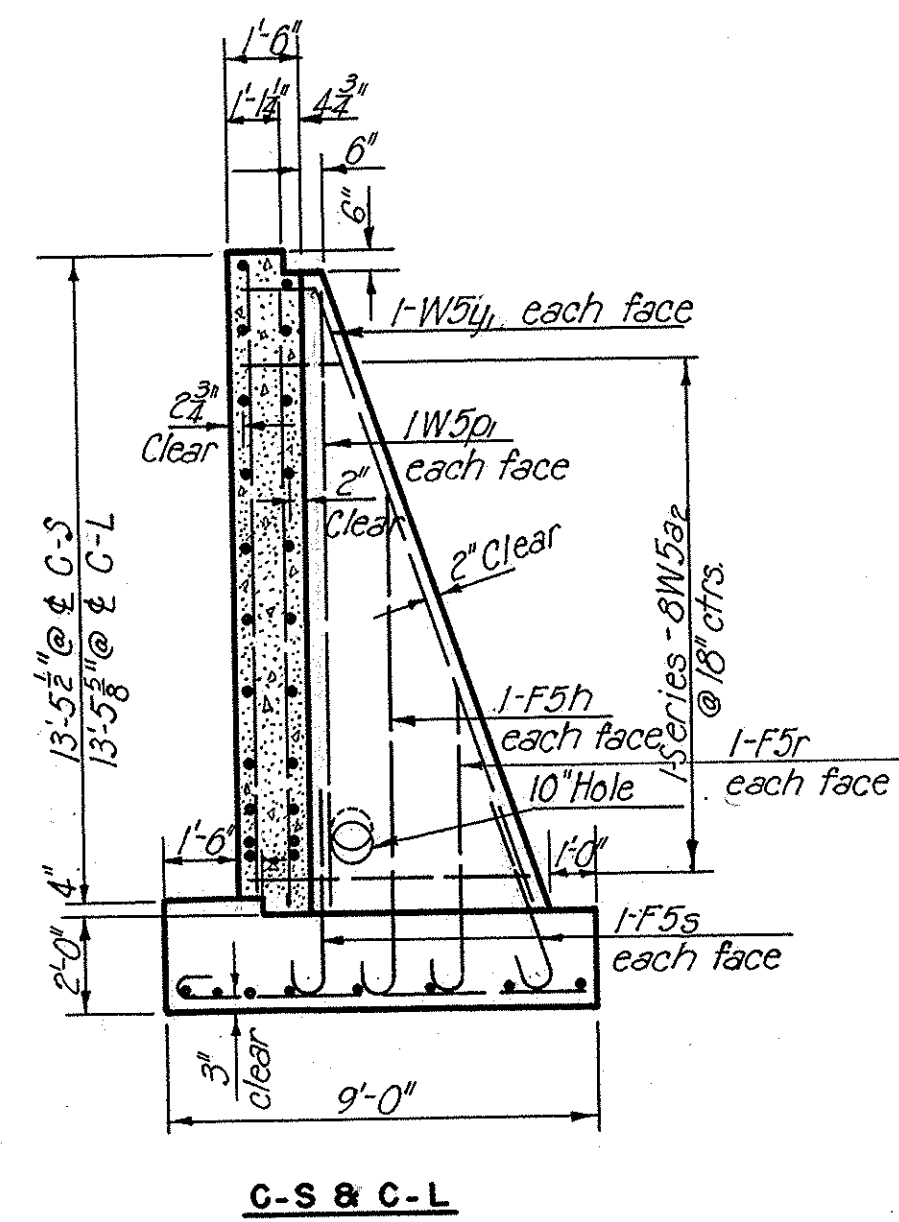
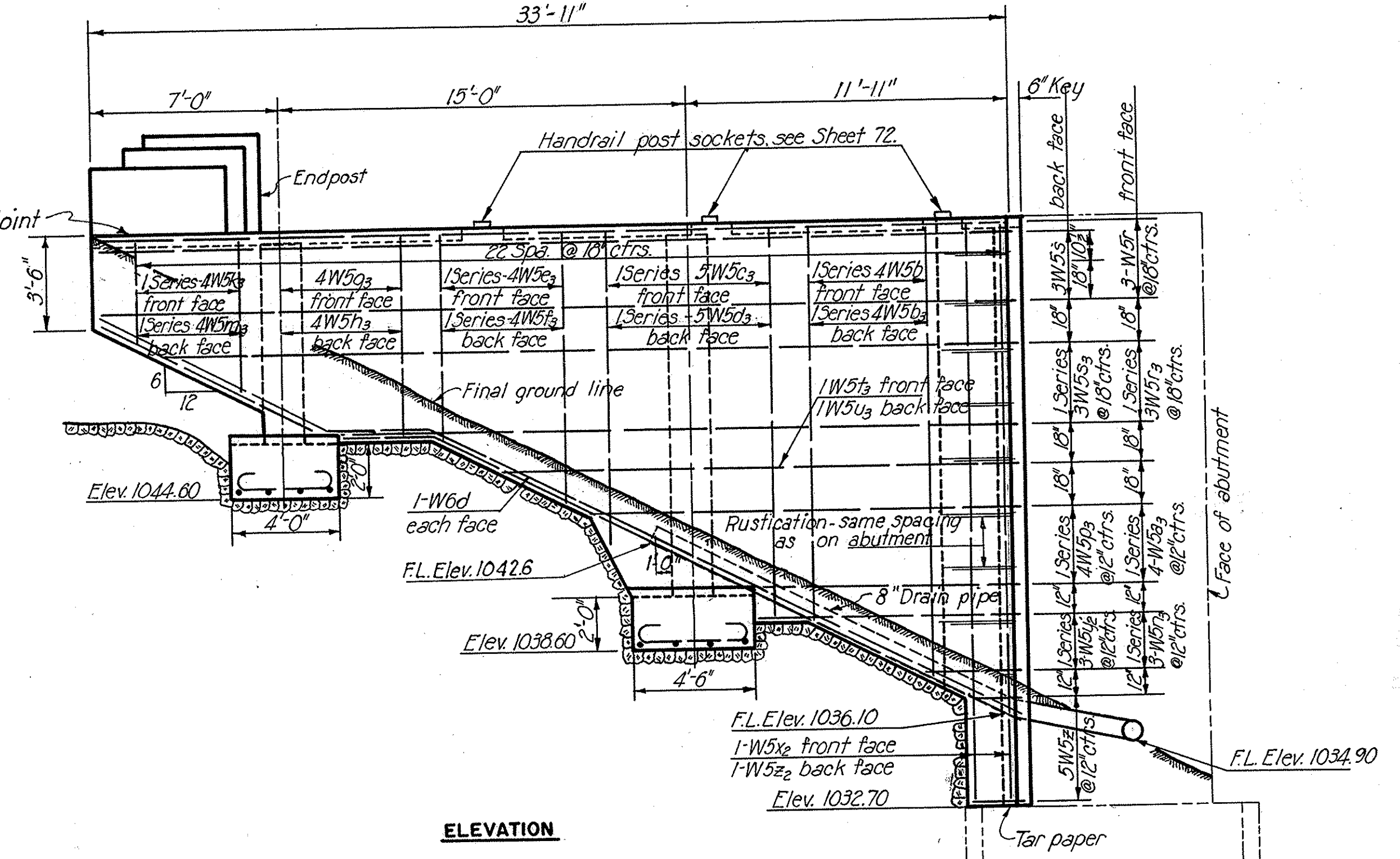
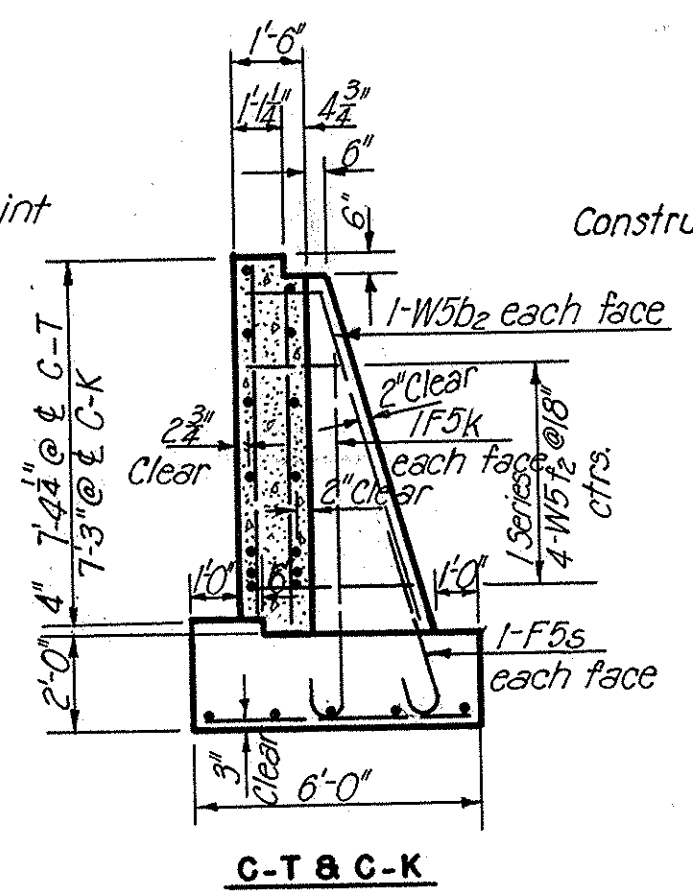
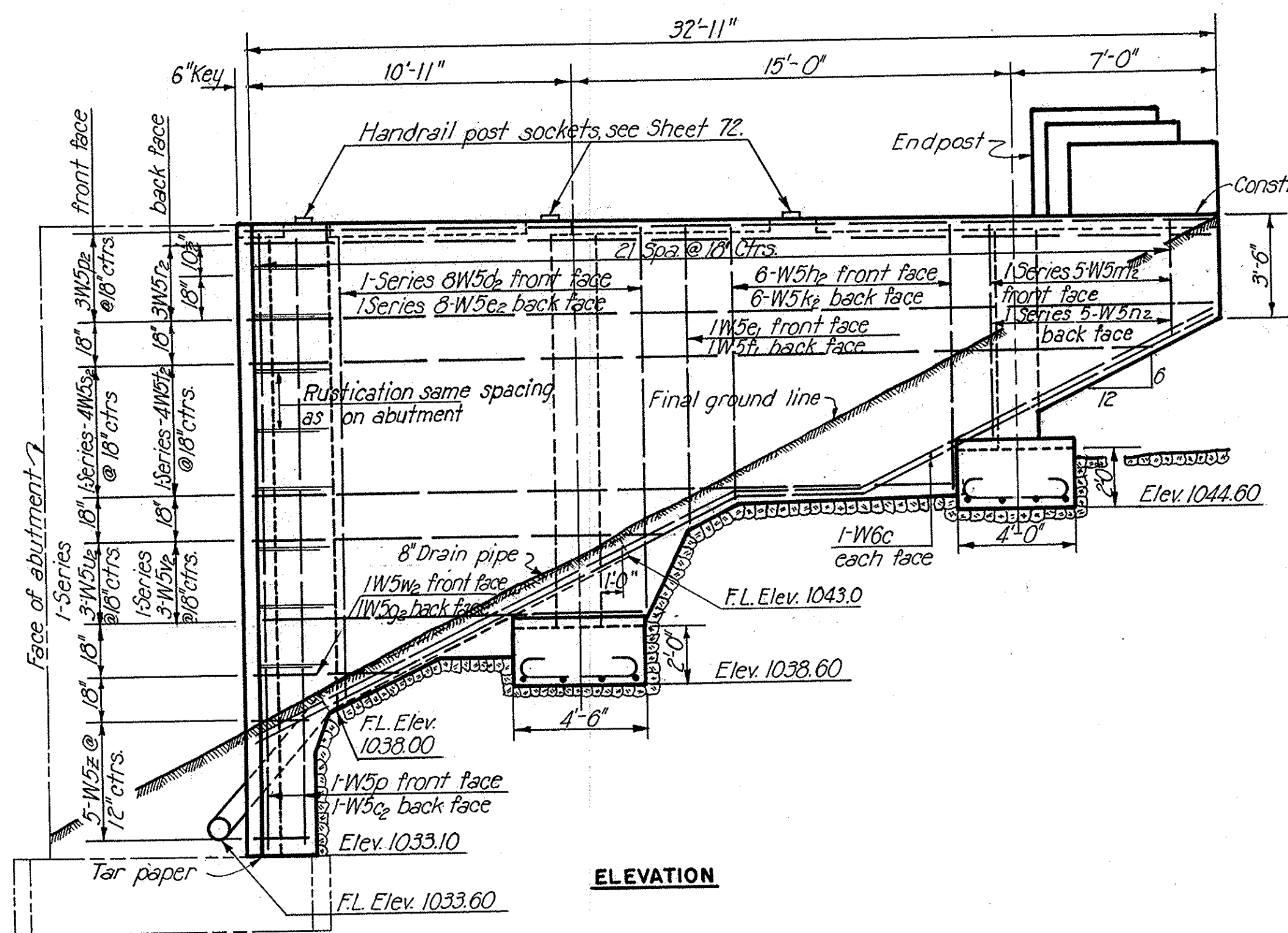
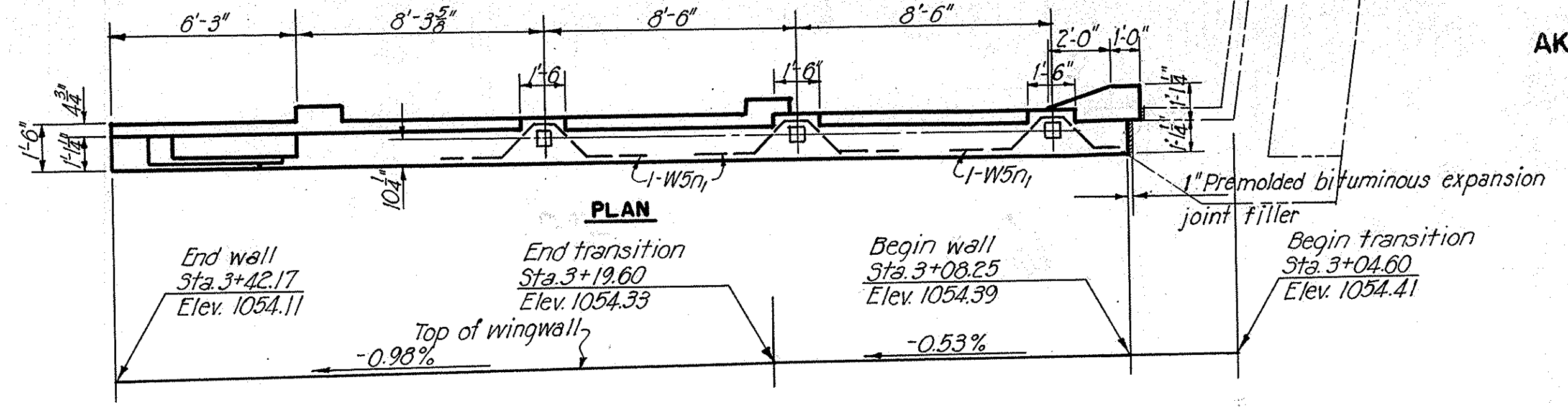
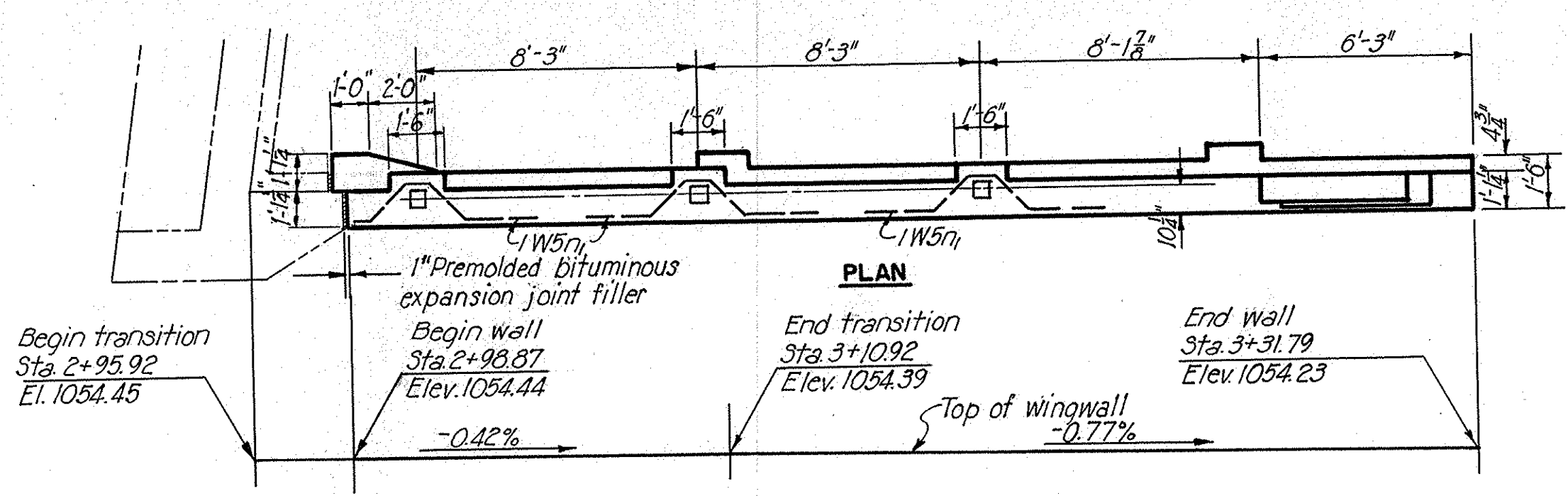
SCALE: 1/4"=1'-0"
MADE DRAWING DATE: 8-11-50
TRCD: HAN: RB: DATE: 8-29-50
CKD: AER: DATE: 8-17-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
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| FED ROAD DIST NO. | STATE | FED AID PROJ NO. | TYPE FUNDS |
|-------------------|-------|------------------|------------|
| 2 | OHIO | U-687(7) | POST WAR |

68
74

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94



Note:
For end post details, see Sheet 72.
For drainage details, see Sheet 63.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
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AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
PERKINS UNDERPASS
BR. NO. SU-5-122

WEST WINGWALLS

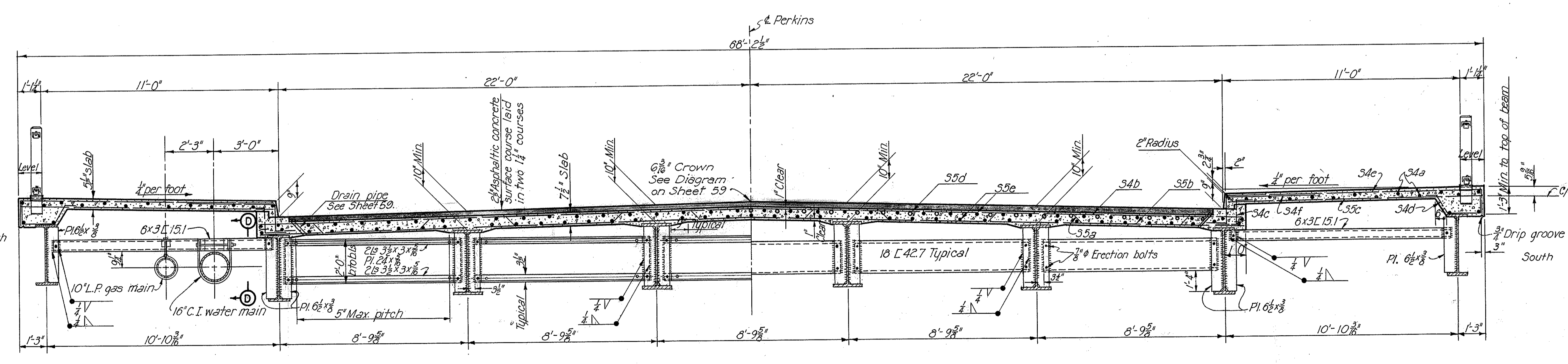
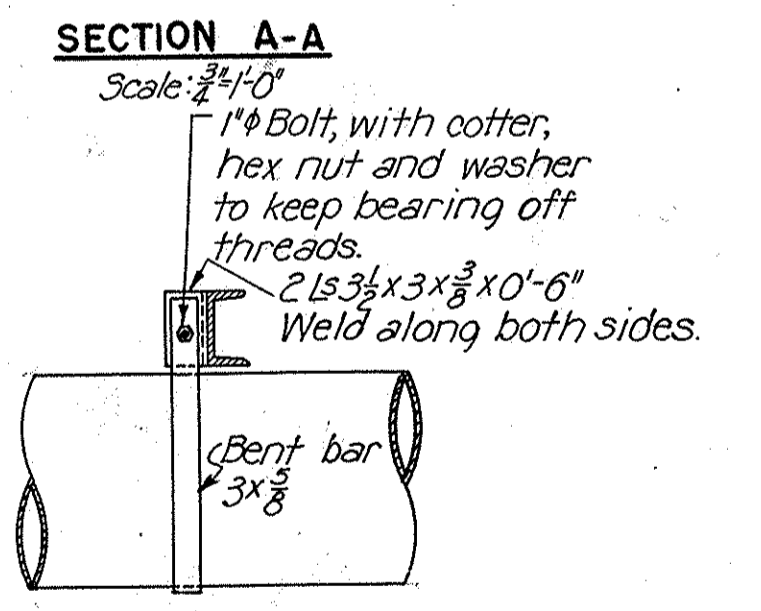
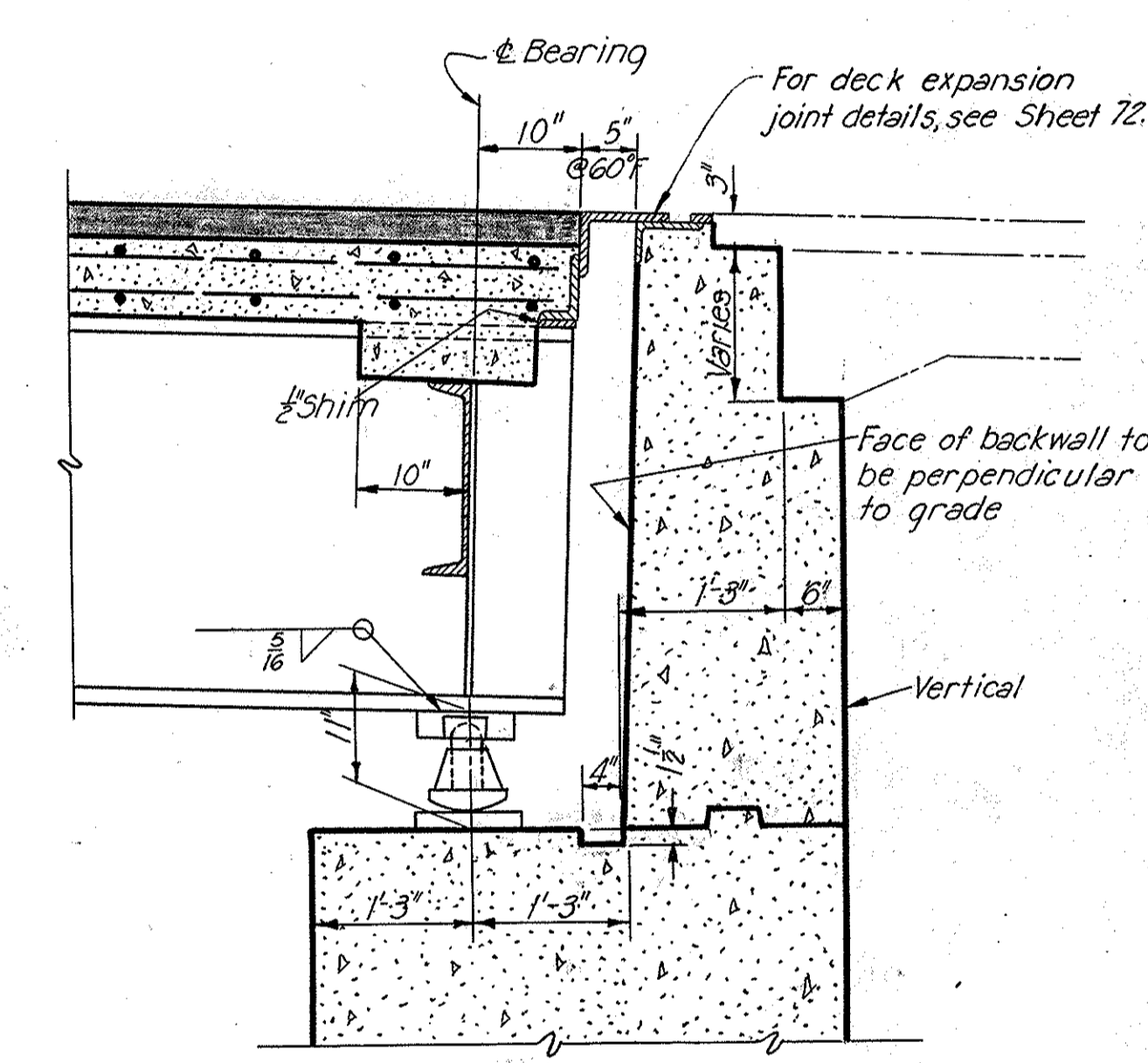
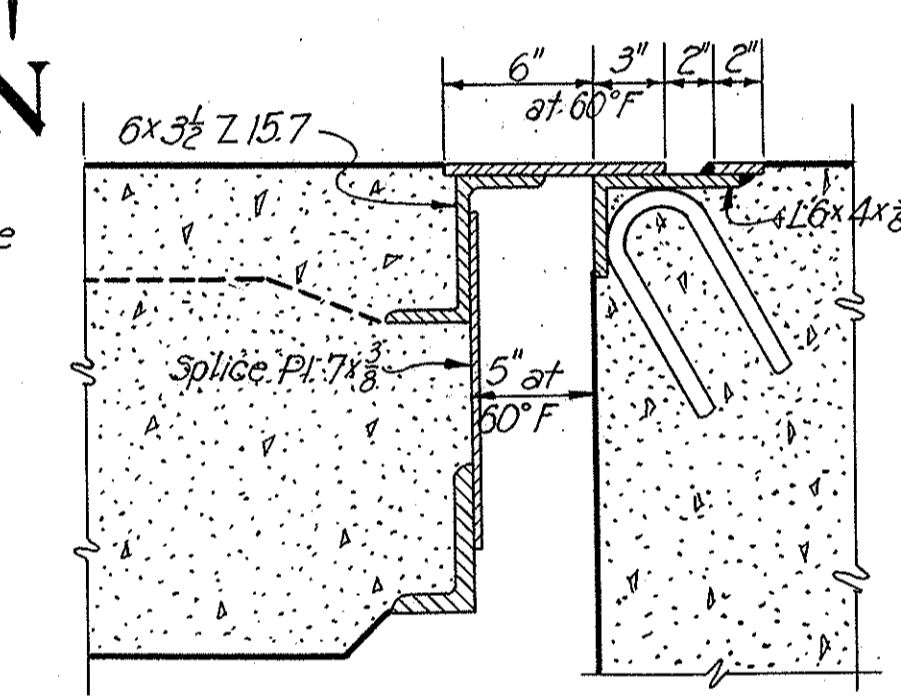
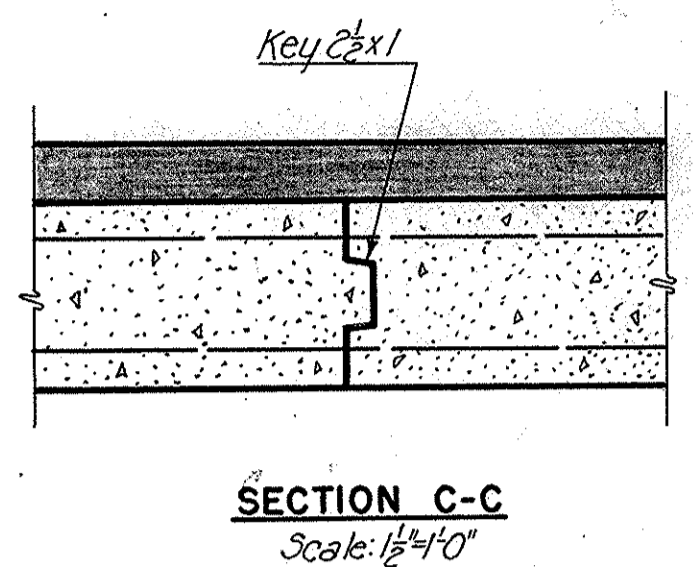
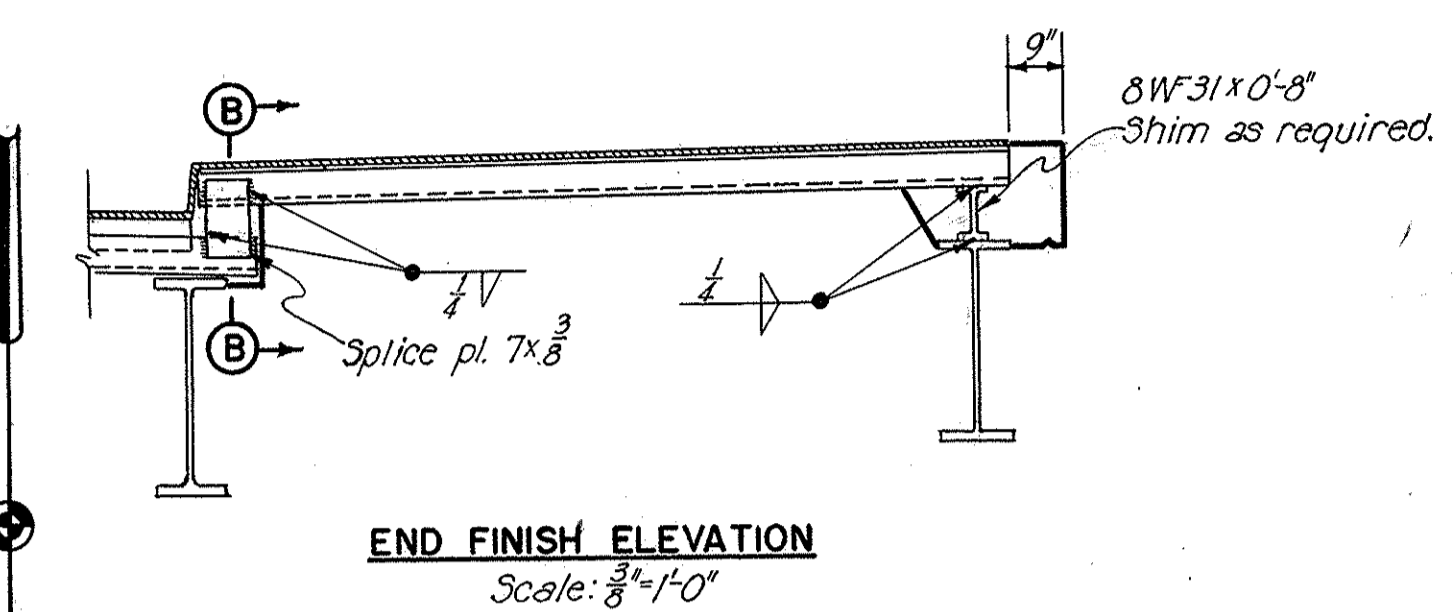
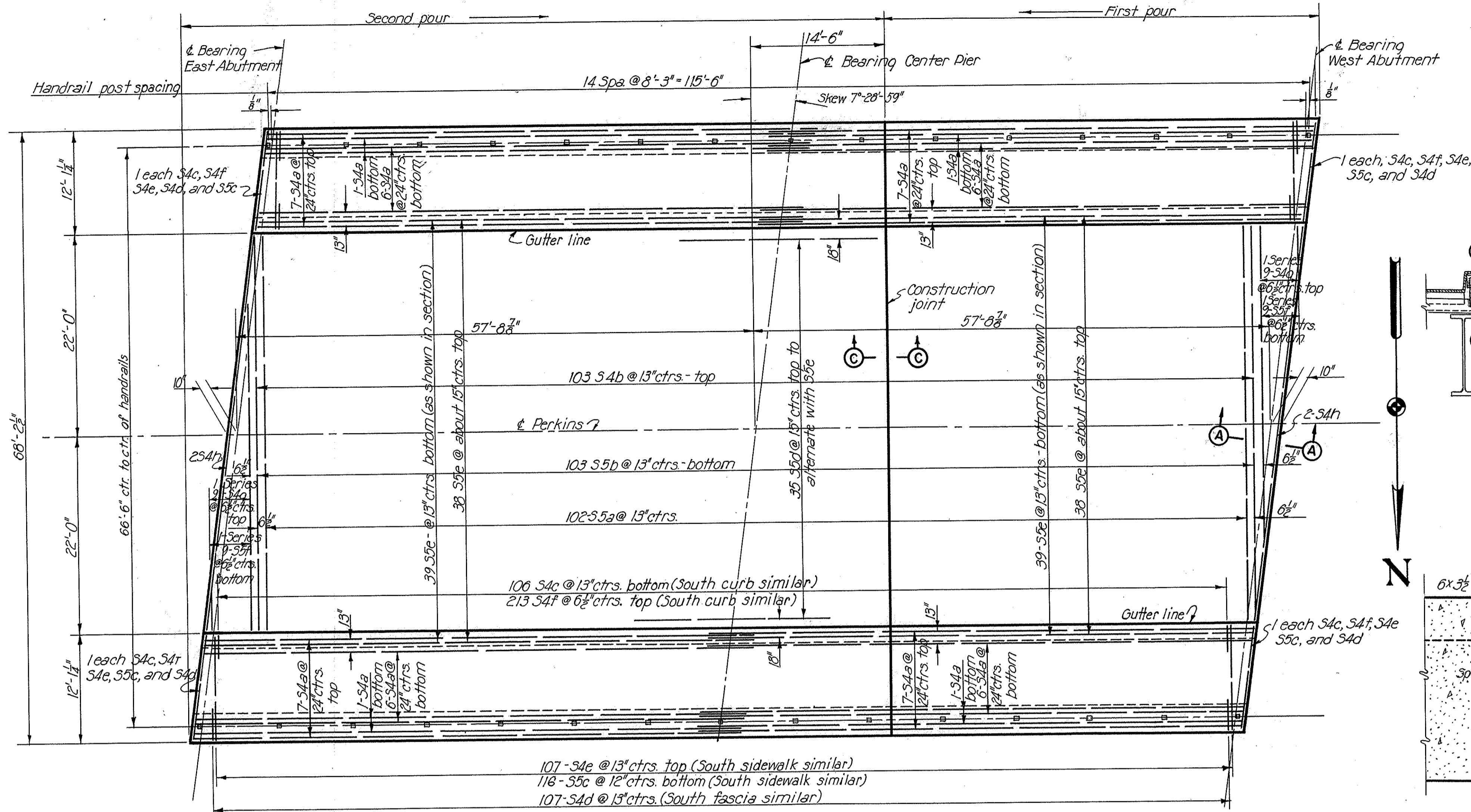
AKRON, SUMMIT COUNTY, OHIO

SCALE: 1/4" = 1'-0"
MADE H.B.A. DATE 8-11-50
TRCD H.B.A. DATE 8-25-50
CRD A.E.R. DATE 8-17-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

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SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94



Note: The 10" gas main and hangers will be furnished and placed by others.

Note: Bars marked with a circle are located over center pier only.

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
PERKINS UNDERPASS
BR. NO. SU-5-122

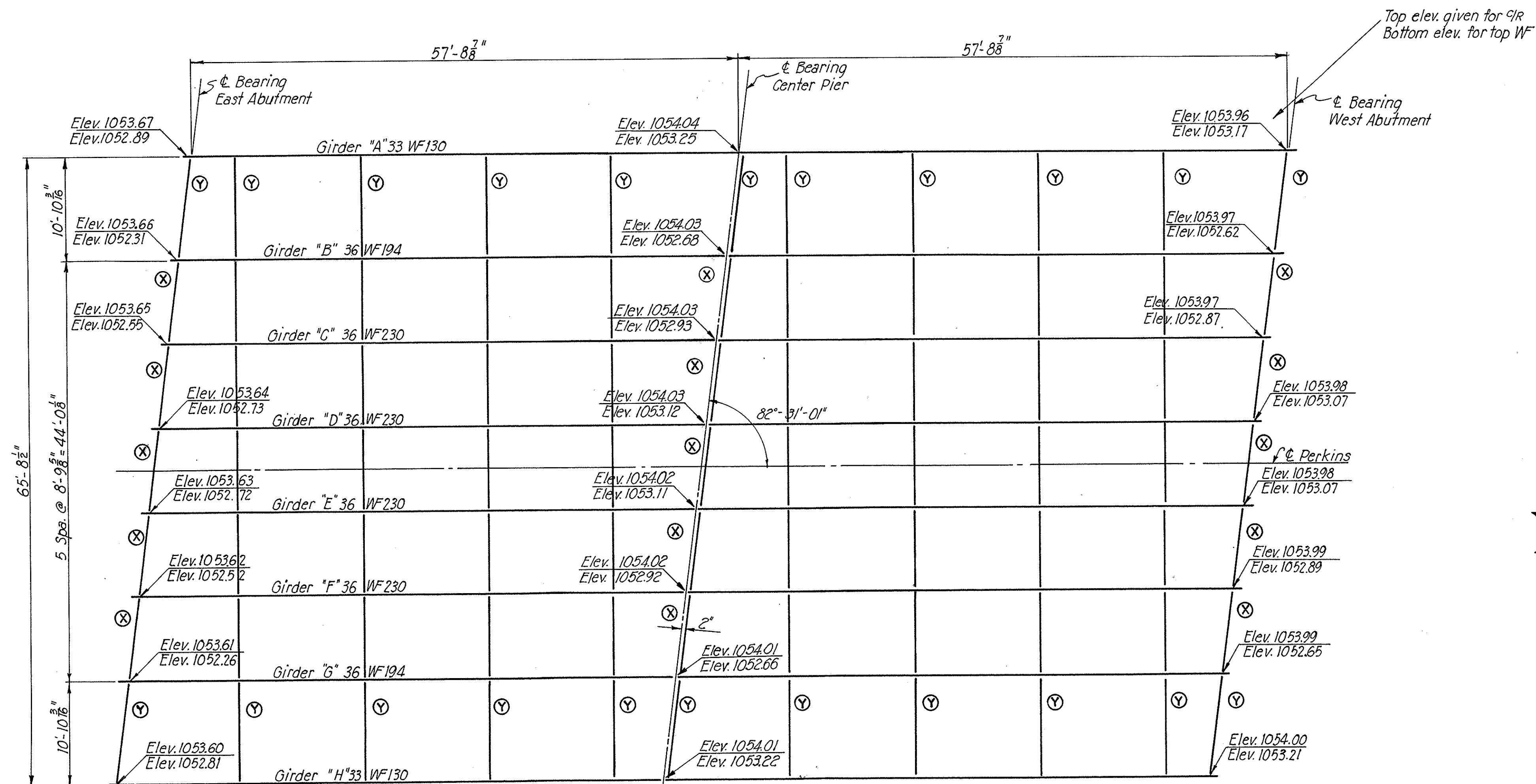
SLAB PLAN AND CROSS SECTIONS
AKRON, SUMMIT COUNTY, OHIO

SCALE: 3/8" = 1'-0"
MADE BY A.A. DATE: 8-7-50
TRCD BY S.B. DATE: 9-18-50
CHKD BY E.R. DATE: 8-21-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

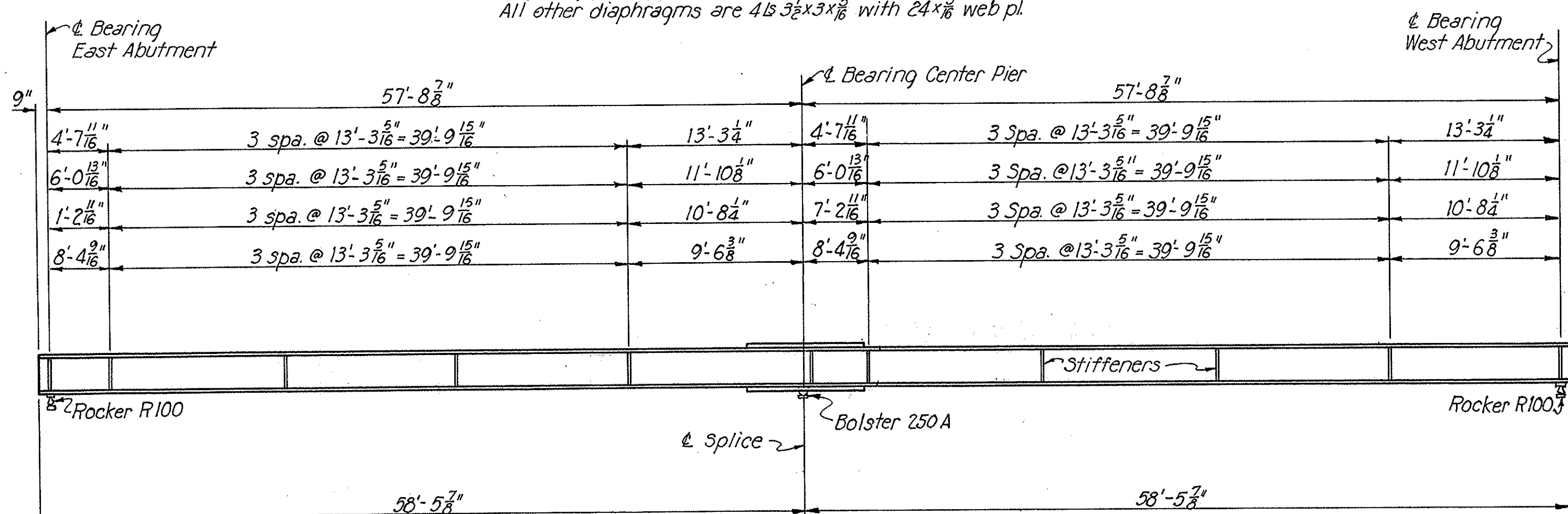
766 SHEET-69

**SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94**



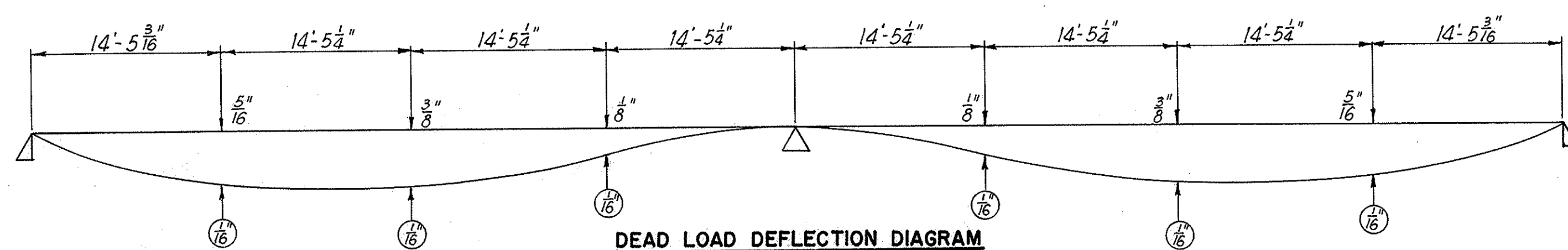
FRAMING PLAN

Scale: $\frac{1}{8}'' = 1'-0''$
 Diaphragms marked (X) are 18L42.7.
 Diaphragms marked (Y) are 6x3L15.
 All other diaphragms are 4L3 3/2 x 3 x 3/8 with 24 x 3/8 web pl.



GIRDER ELEVATION

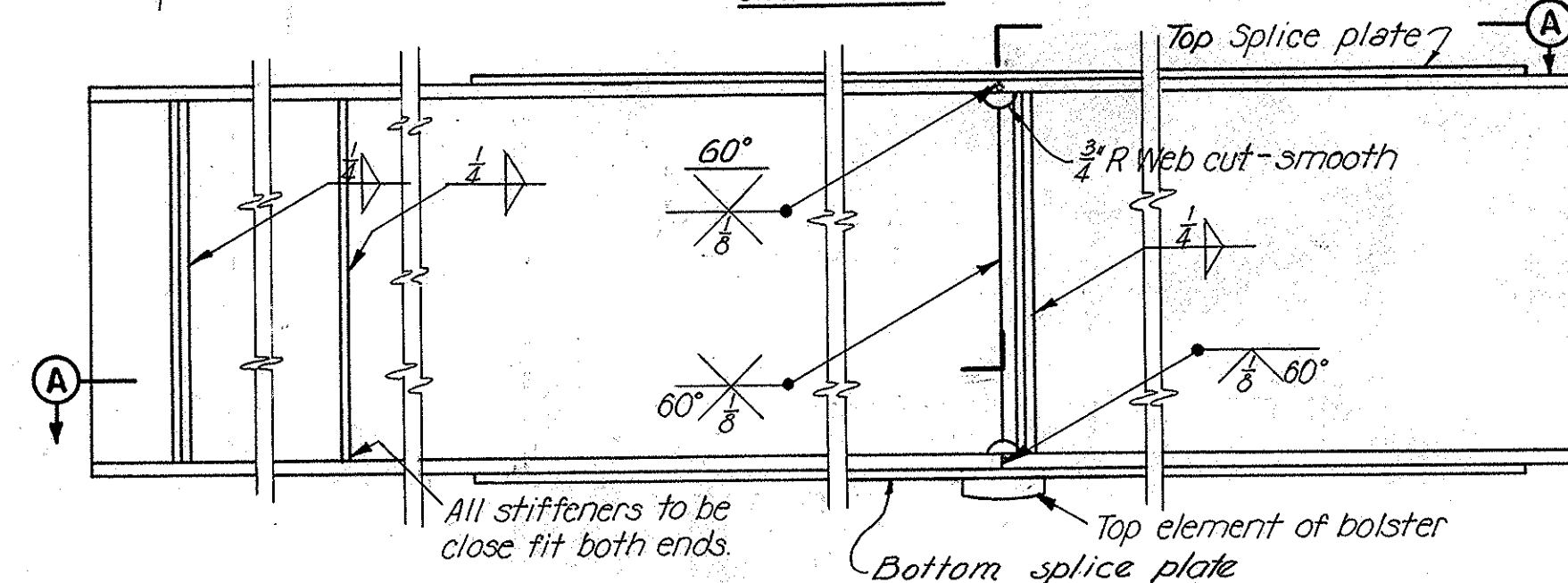
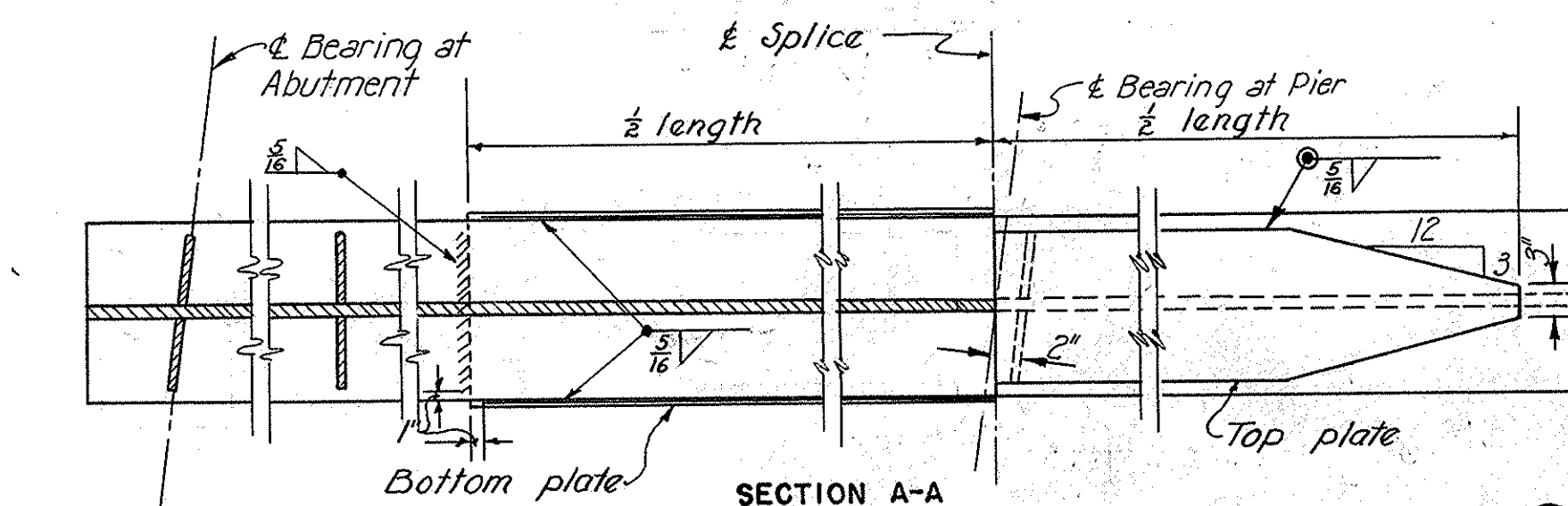
Scale: $\frac{1}{8}'' = 1'-0''$



DEAD LOAD DEFLECTION DIAGRAM

Note:
 Dimensions in (O) are deflections which may be expected in the steel beams when in place.
 Dimensions above base line are additional deflections to be expected when concrete is in place.

| Beam | Top Splice Plate | Bottom Splice Plate |
|-----------|------------------------|------------------------|
| 36 WF 230 | 15 1/2" x 3/8" x 5'-0" | 17 1/2" x 3/8" x 4'-0" |
| 36 WF 194 | 11" x 1/2" x 9'-0" | 13" x 1/2" x 9'-0" |
| 33 WF 130 | 10 1/2" x 3/8" x 9'-0" | 12 1/2" x 3/8" x 9'-0" |



GIRDER DETAILS

GIRDER SPLICE WELDING PROCEDURE

1. Raise beam end at one abutment the following amount:
 For 33 WF 130 1 inches
 For 36 WF 194 2/8 inches
 For 36 WF 230 3/8 inches
2. Butt-weld the beam flanges and web.
3. Weld the top and bottom splice plates.
4. Lower the beam end to final position.

Note: Contractor may submit alternate scheme for weld connecting lower splice plate and top element of bolster.

Note:
 Welds shown flush shall be ground in the direction of stress. No stiffeners on exterior face of girders A & H.

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 BR. NO. SU-5-122

FRAMING PLAN AND GIRDER ELEVATIONS
 AKRON, SUMMIT COUNTY, OHIO

SCALE: $\frac{1}{8}'' = 1'-0''$
 MADE *HAM* DATE 8-7-50
 TRCD *HAM-EP* DATE 8-26-50
 CND *AGR* DATE 9-21-50

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY NEW YORK

Revised 12-22-50
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SUMMIT COUNTY CITY OF AKRON EXPRESSWAY SYSTEM EXPRESSWAY-PART 4 SUM-5-11.94

Table for CENTER PIER reinforcement details, including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.

Table for WEST ABUTMENT reinforcement details, including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.

Table for SOUTHWEST WINGWALL reinforcement details, including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.

Table for SOUTHEAST WINGWALL reinforcement details, including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.

Table for EAST ABUTMENT reinforcement details, including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.

Table for NORTHWEST WINGWALL reinforcement details, including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.

Table for SUPERSTRUCTURE SLAB reinforcement details, including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.

Table for NORTHEAST WINGWALL reinforcement details, including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.

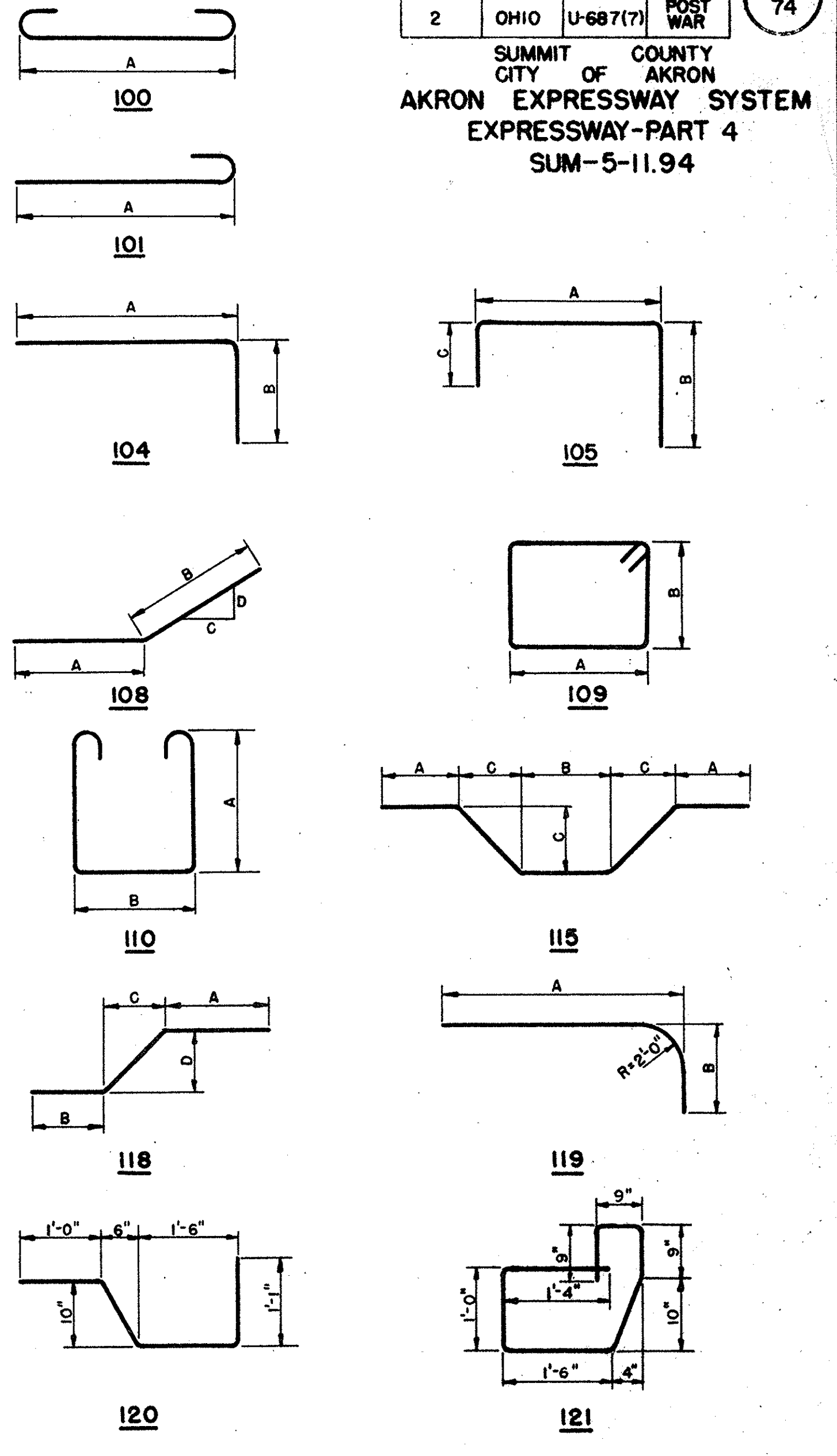
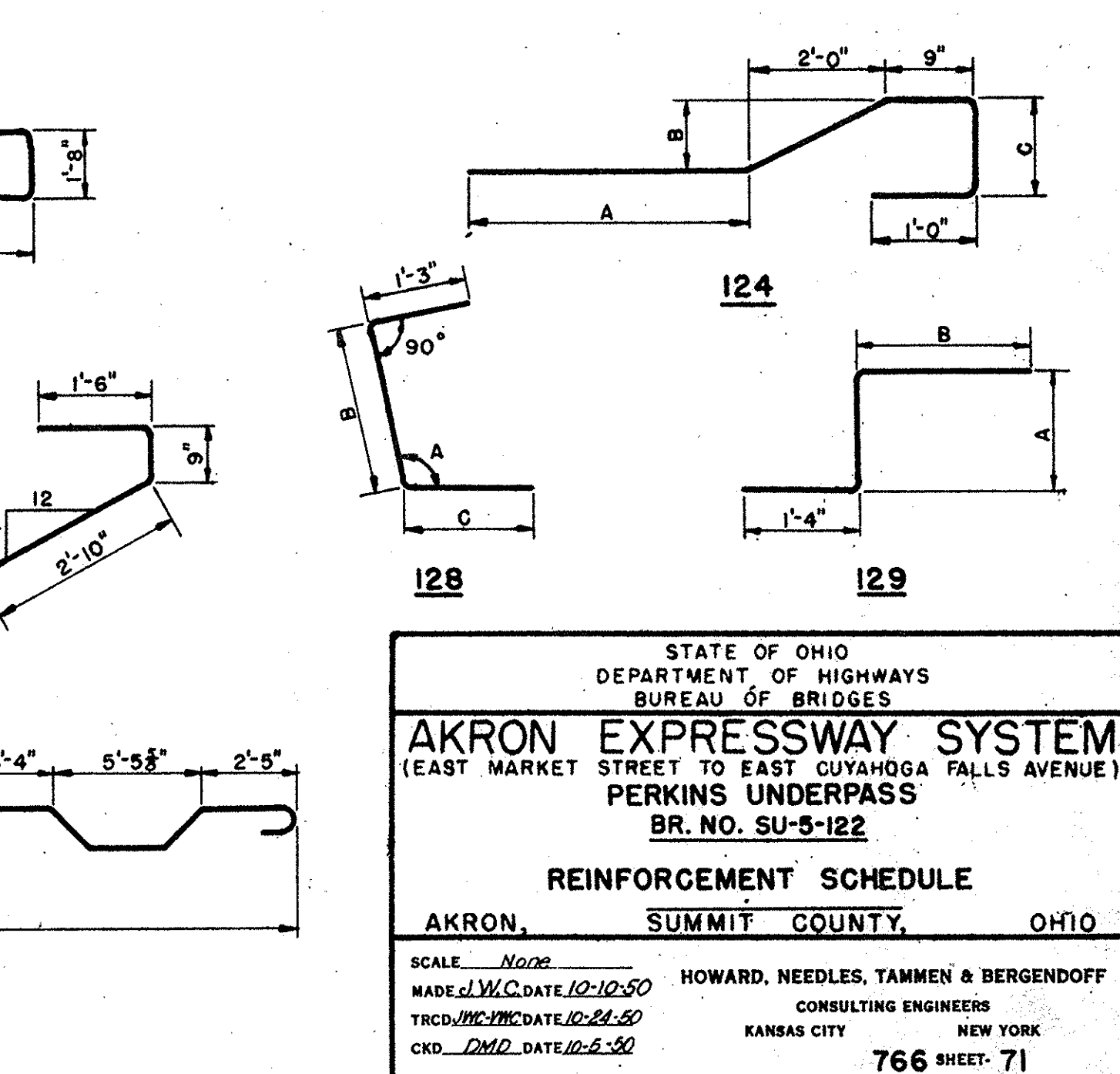


Table for CENTER PIER reinforcement details (continued), including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.

Table for WEST ABUTMENT reinforcement details (continued), including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.

Table for SOUTHWEST WINGWALL reinforcement details (continued), including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.

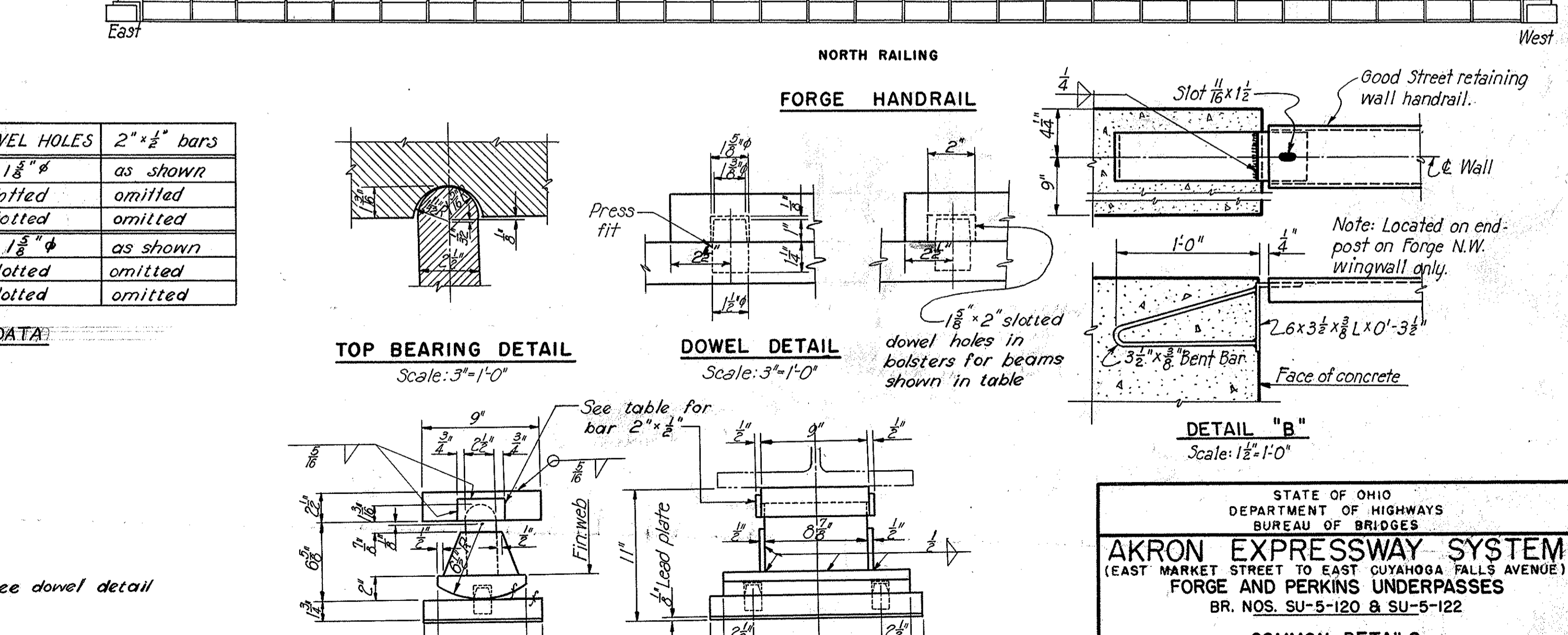
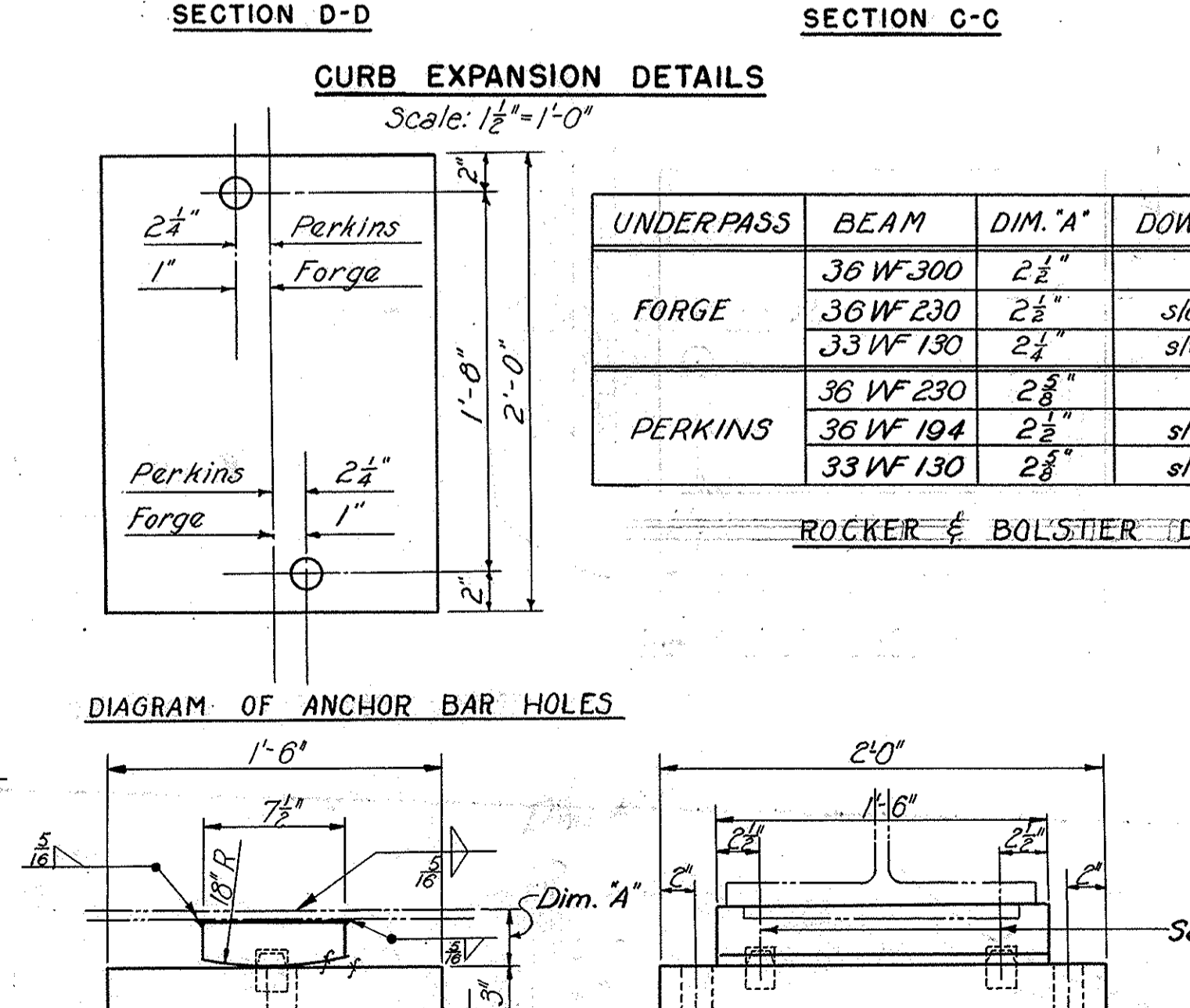
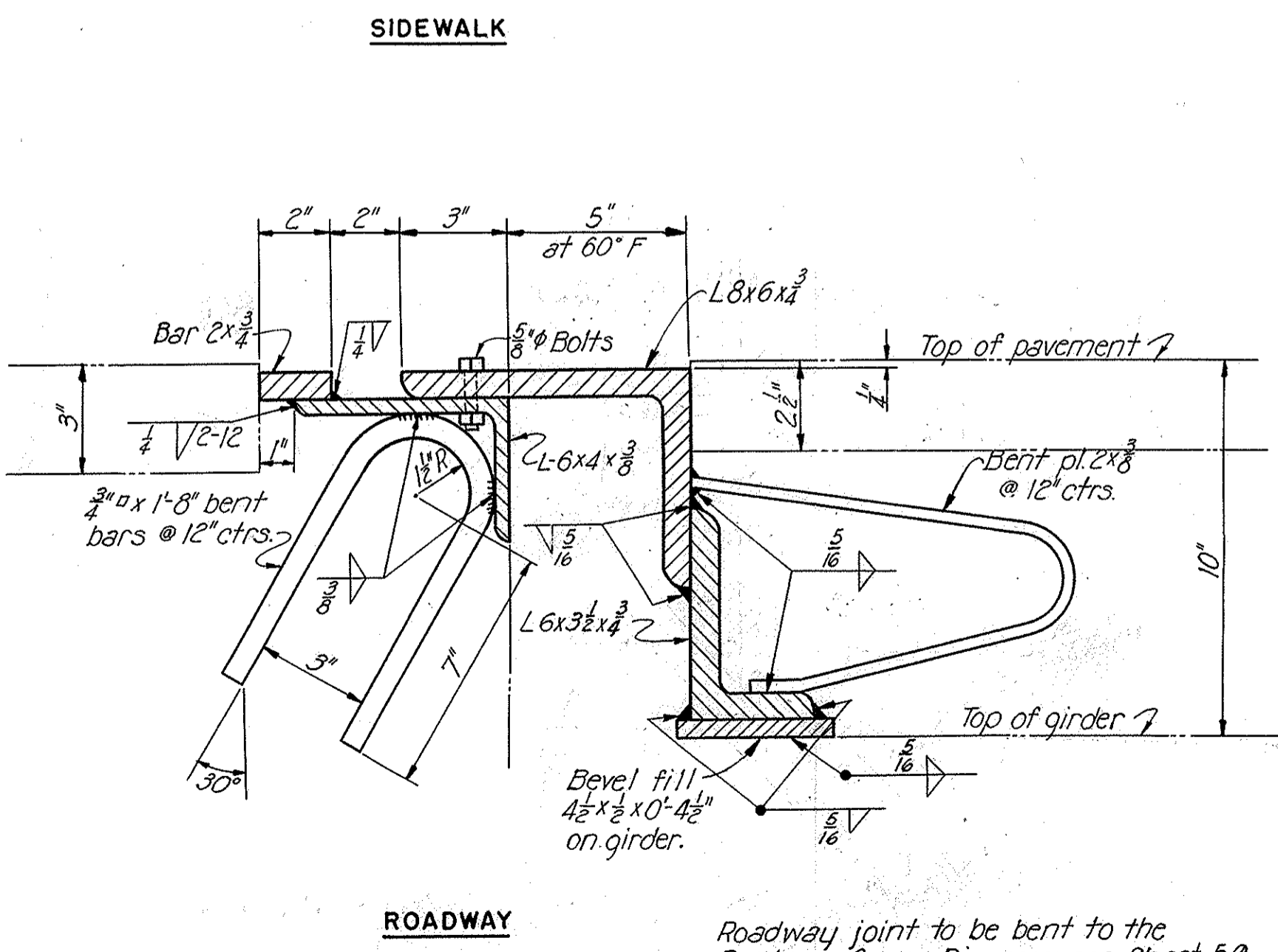
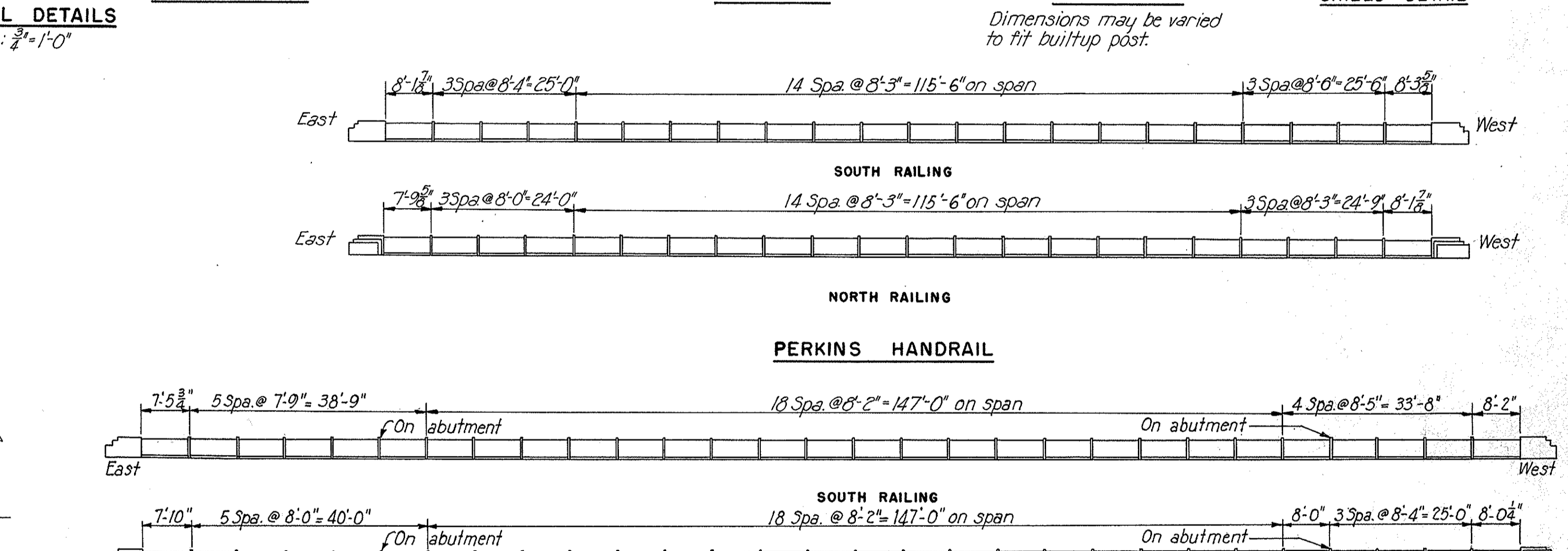
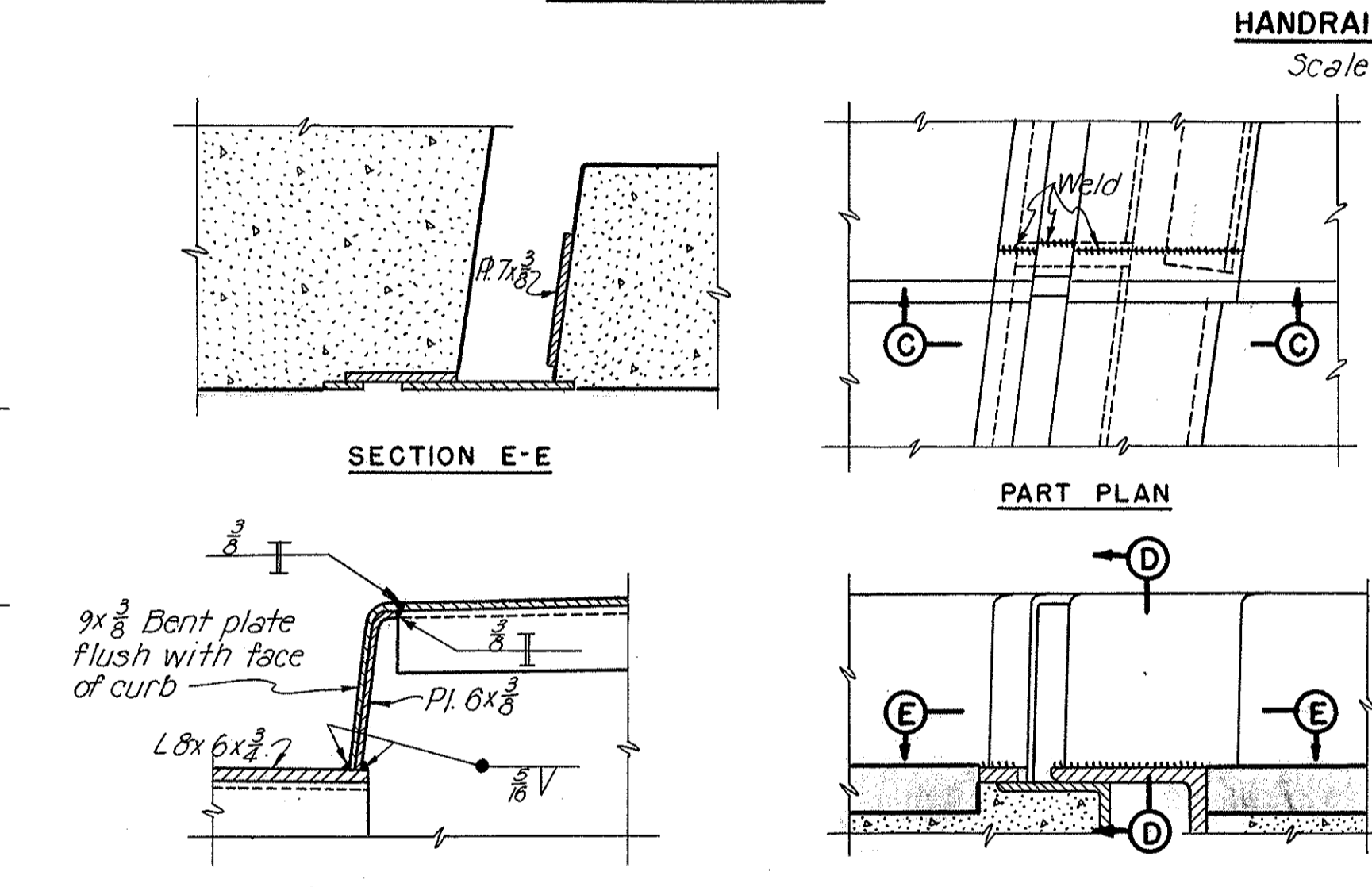
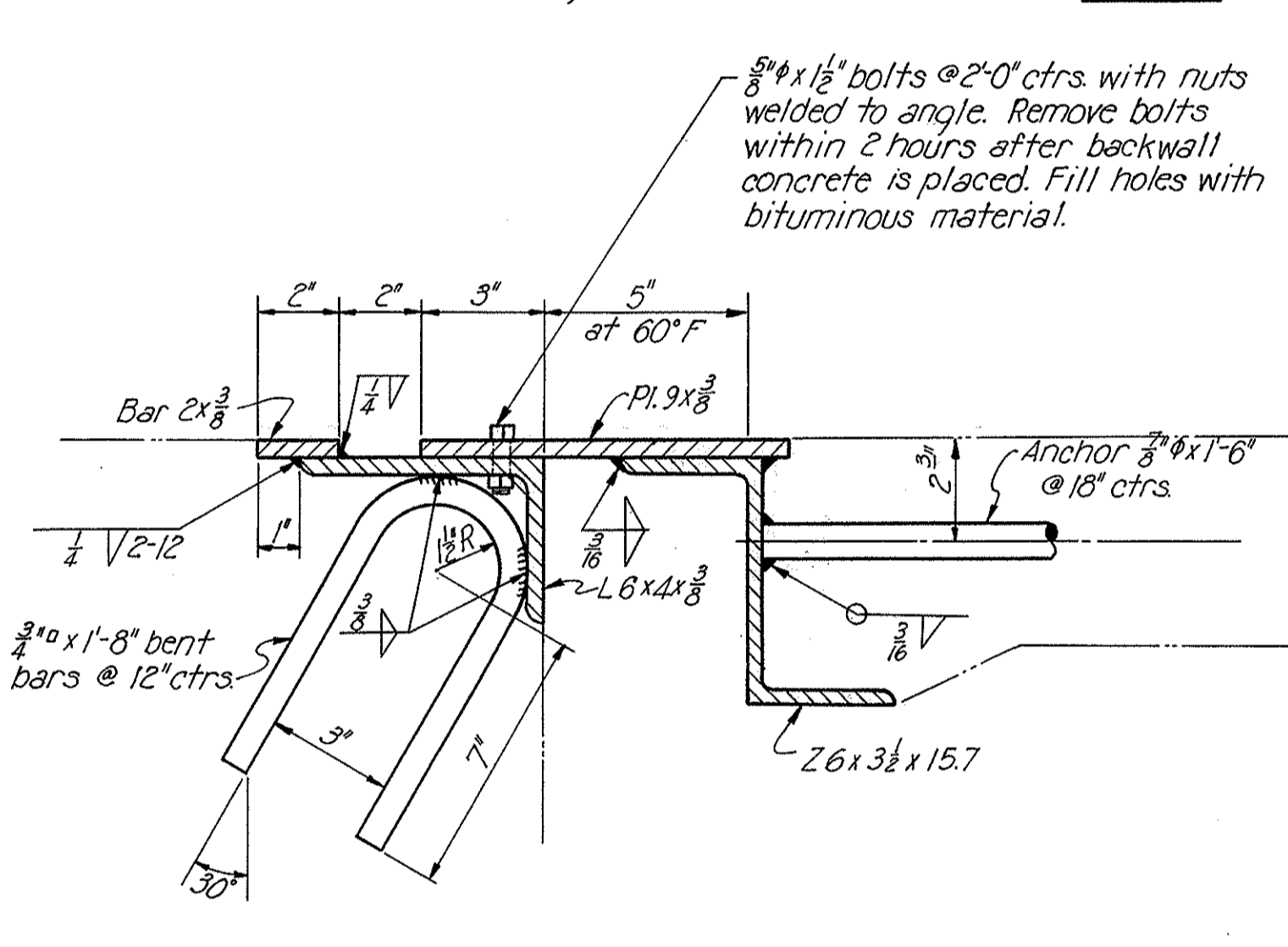
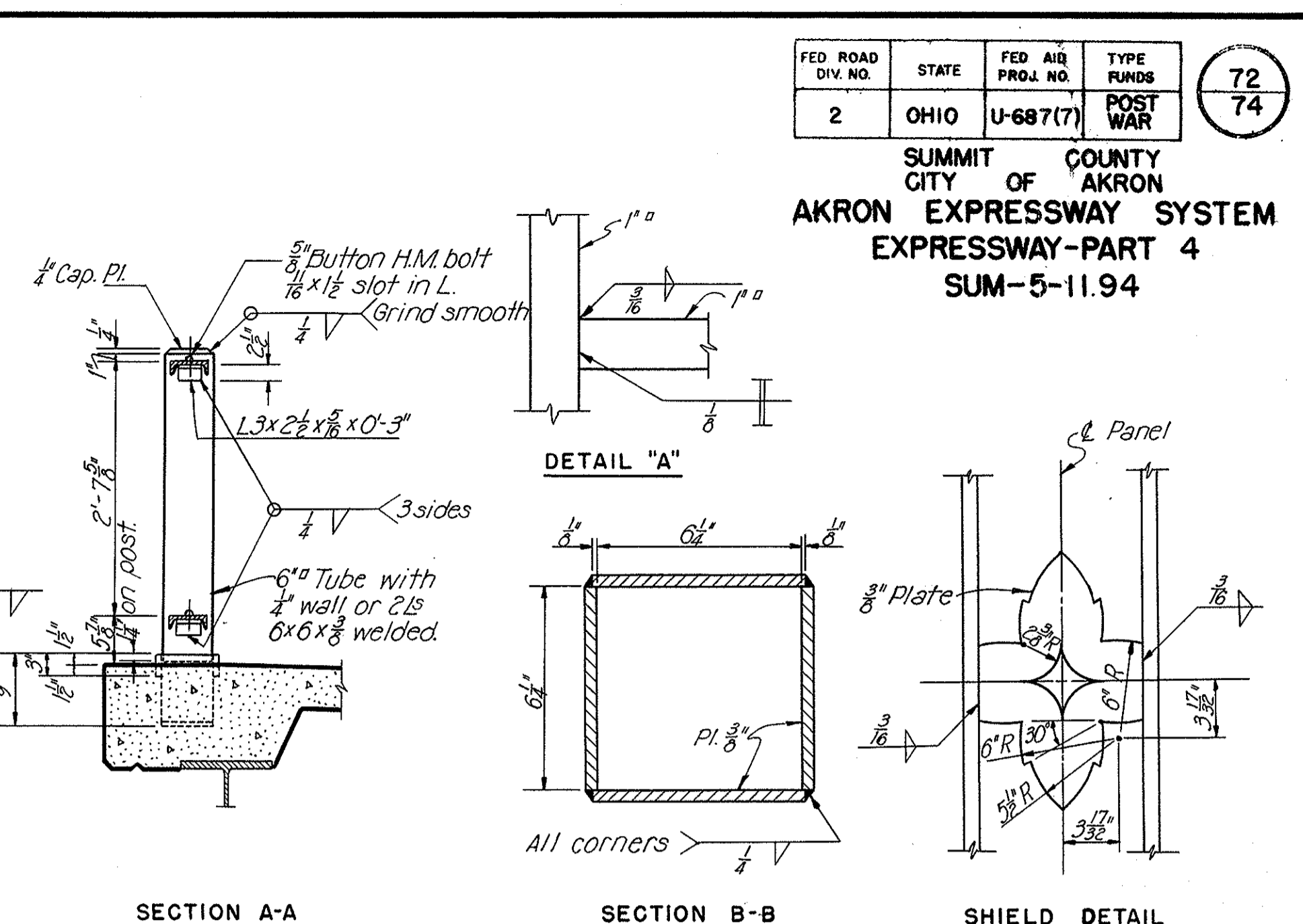
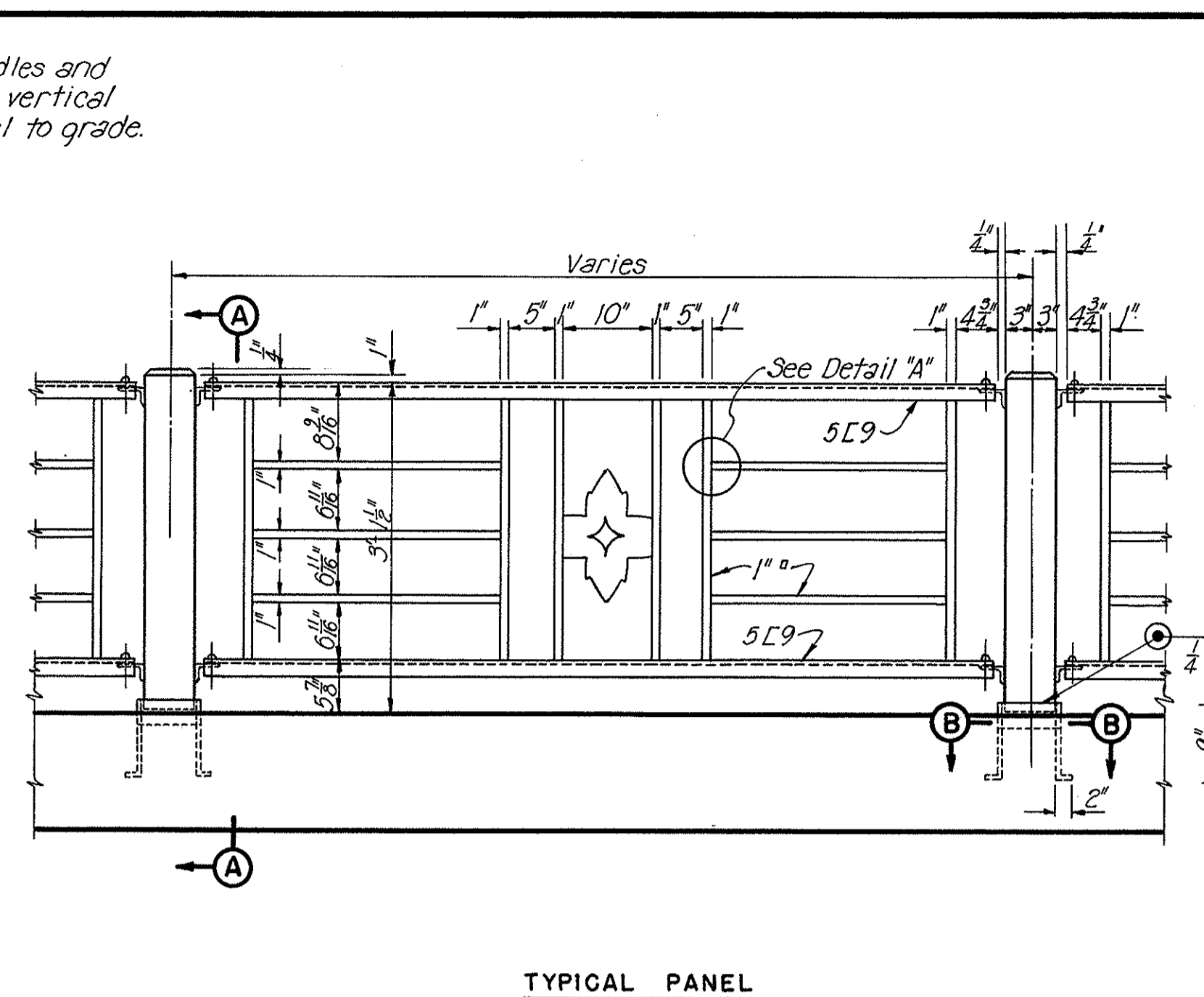
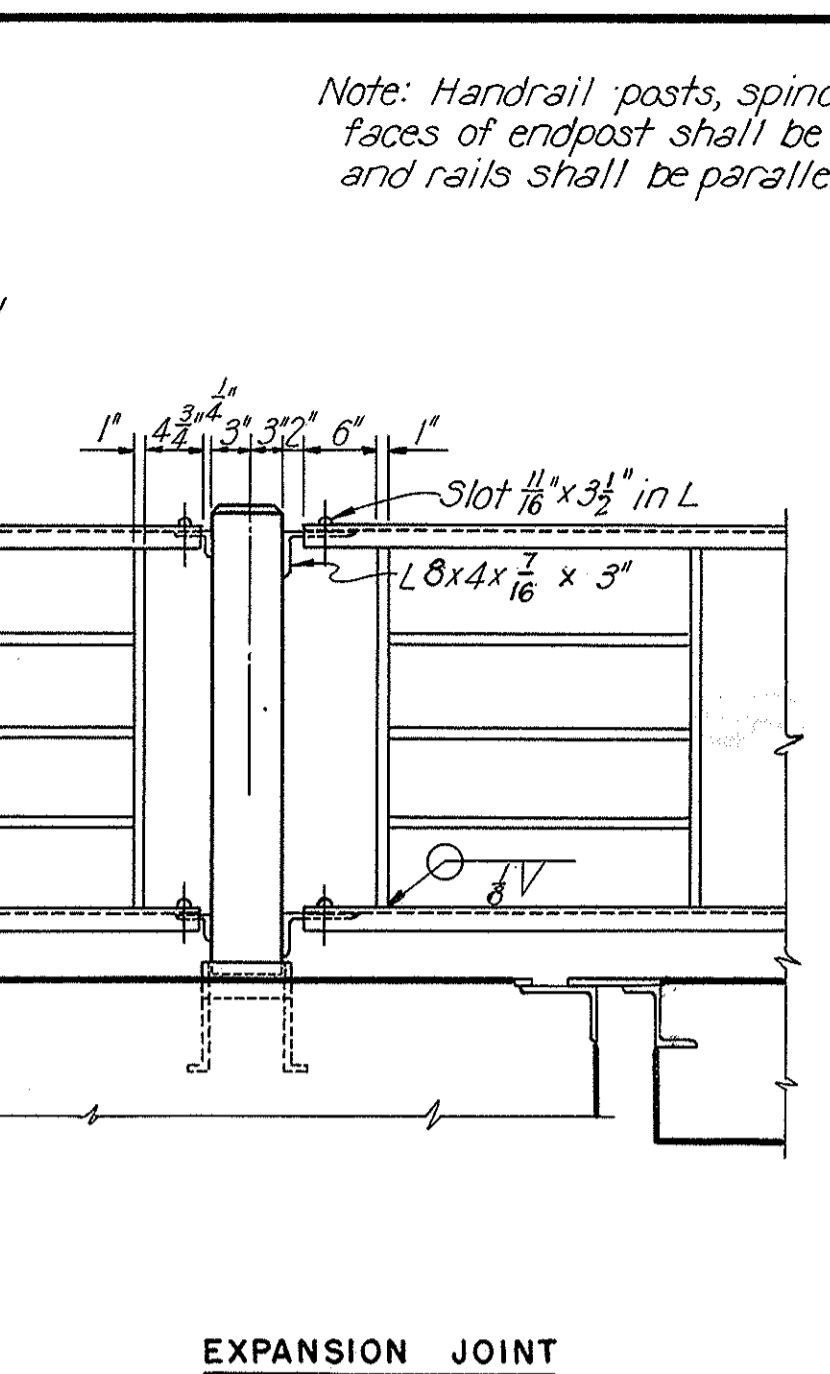
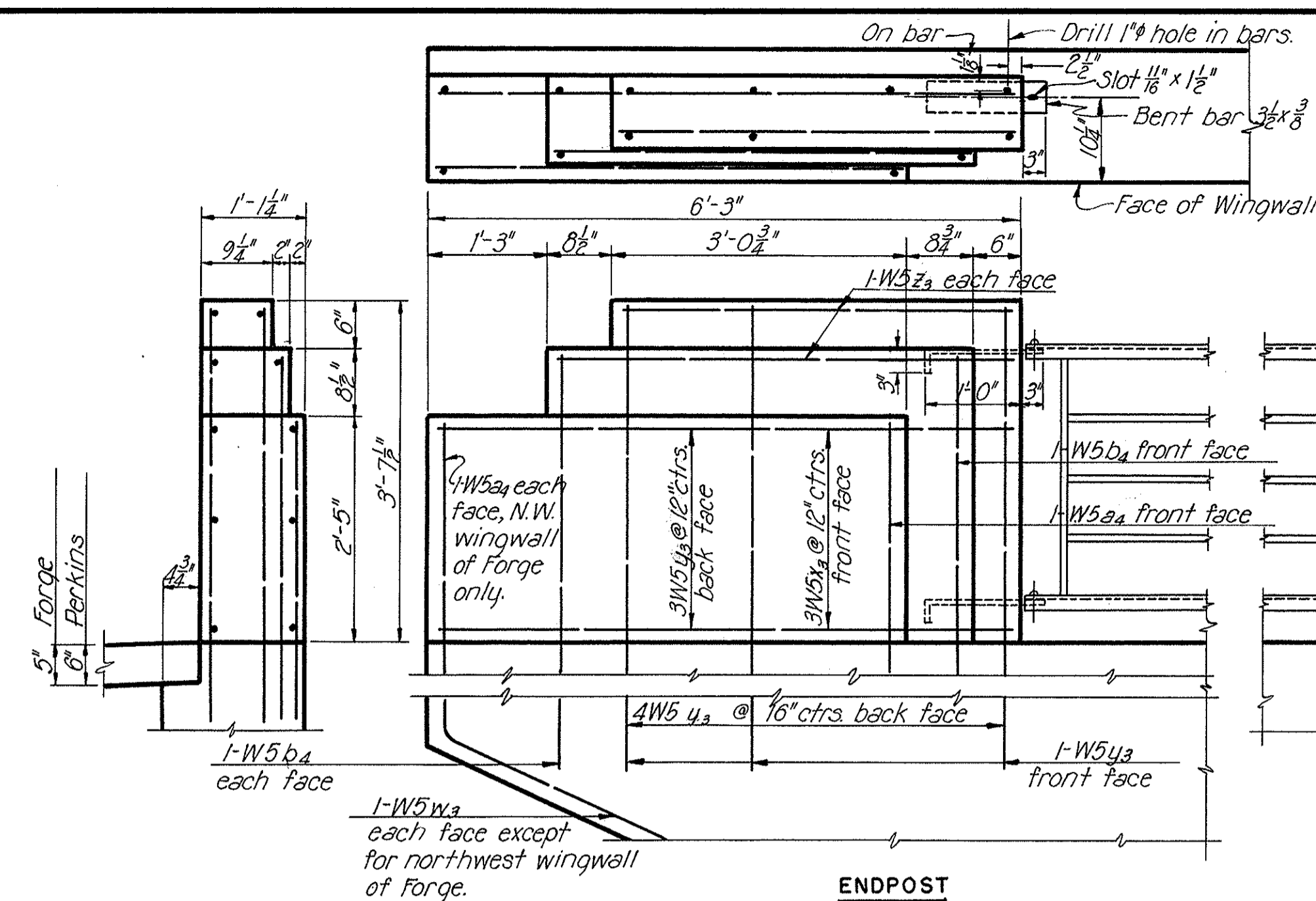
Table for SOUTHEAST WINGWALL reinforcement details (continued), including columns for MARK, SIZE, NO., LENGTH, TYPE, DIMENSIONS (A, B, C, D), and WEIGHT POUNDS.



AKRON EXPRESSWAY SYSTEM (EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE) PERKINS UNDERPASS BR. NO. SU-5-122 REINFORCEMENT SCHEDULE SUMMIT COUNTY, OHIO

BENDING DIAGRAMS

Summit County
City of Akron
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94



STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
FORGE AND PERKINS UNDERPASSES
BR. NOS. SU-5-120 & SU-5-122

COMMON DETAILS

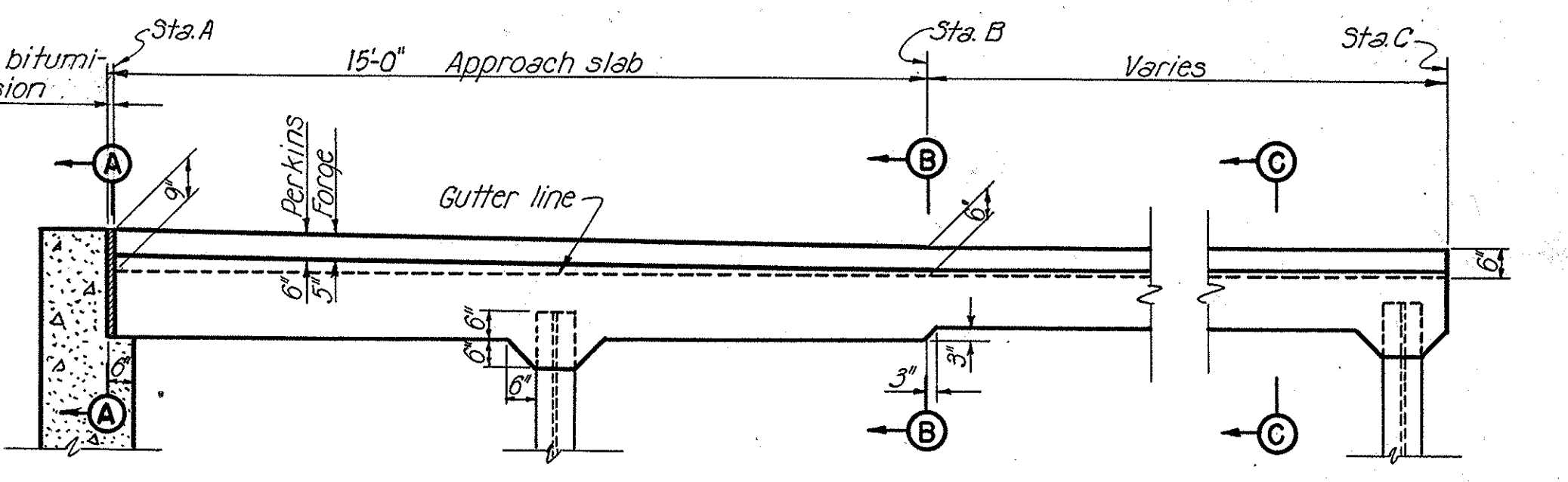
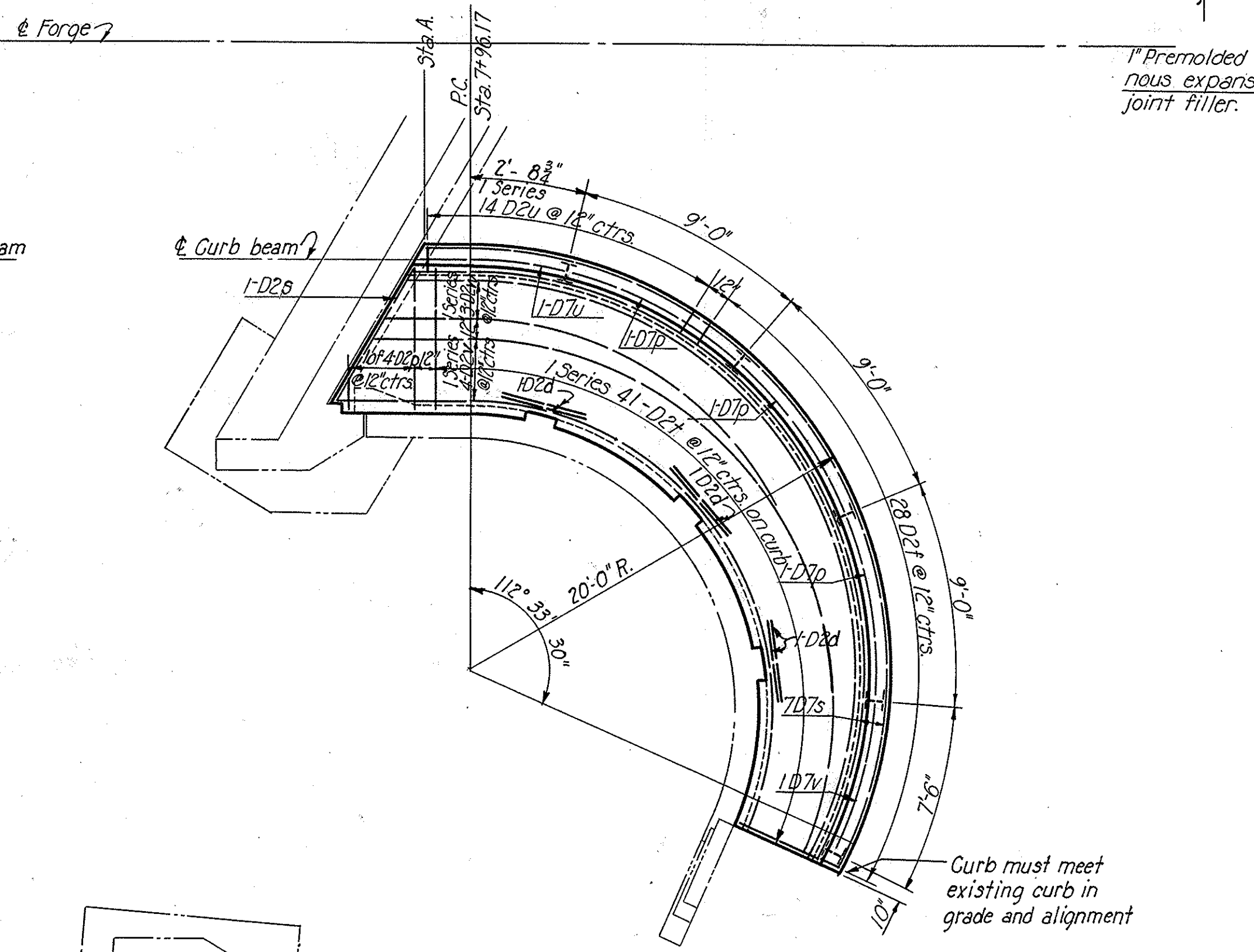
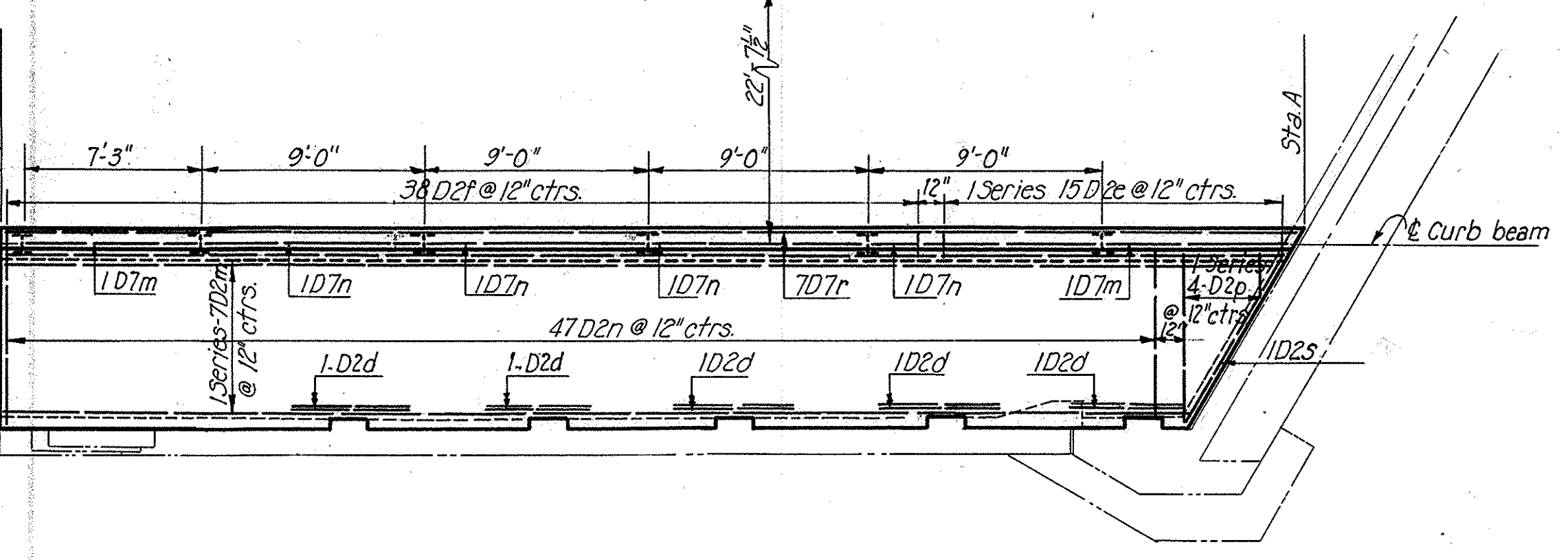
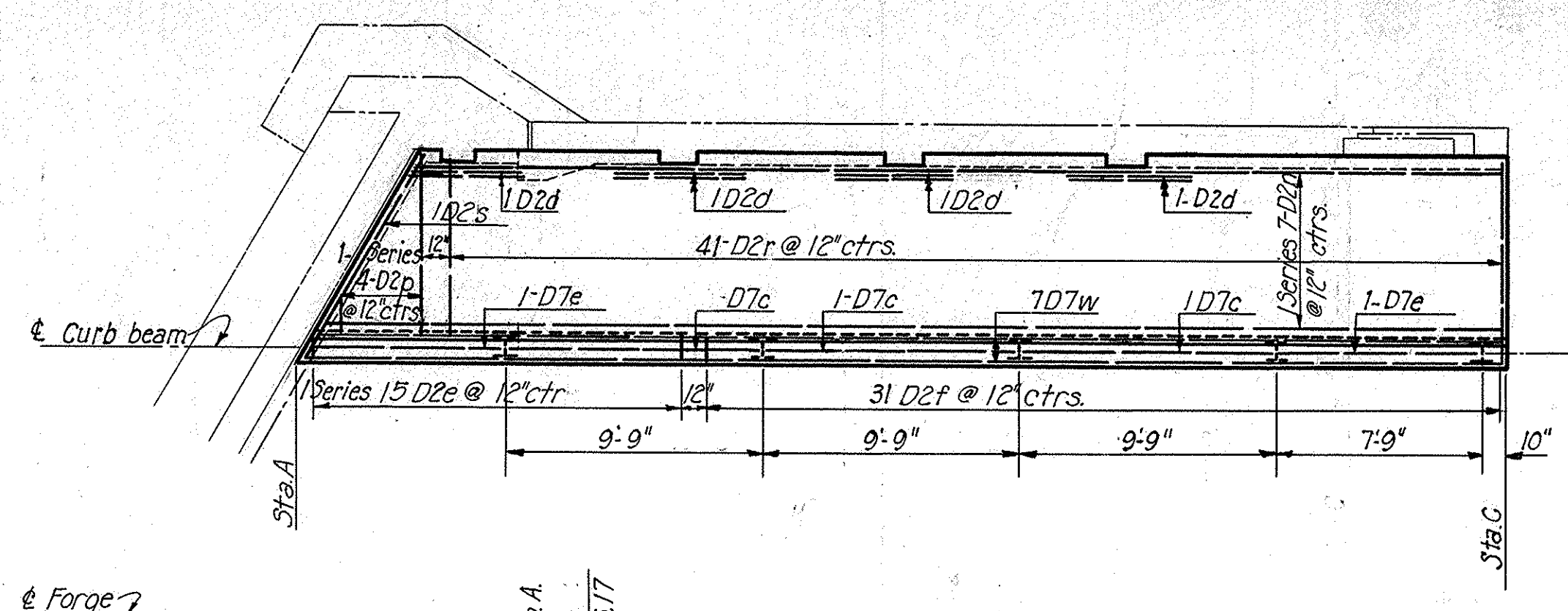
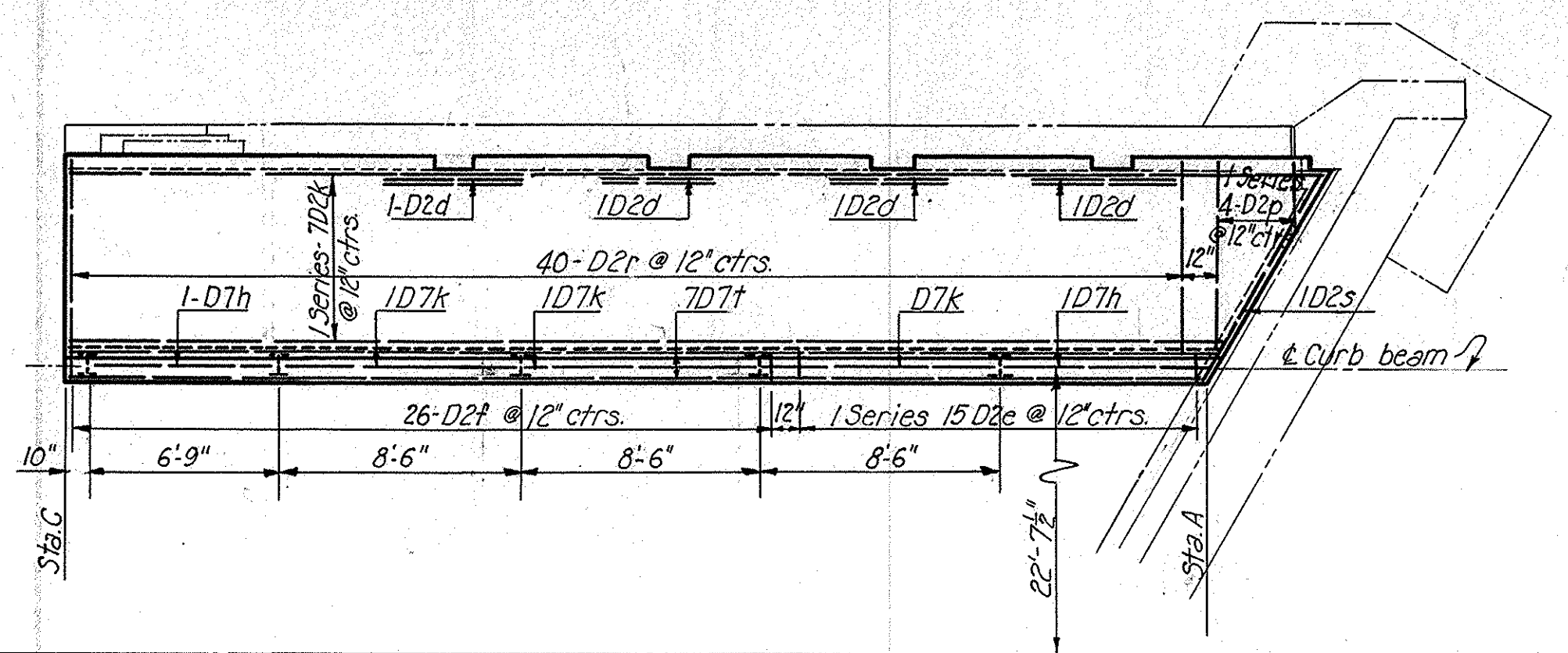
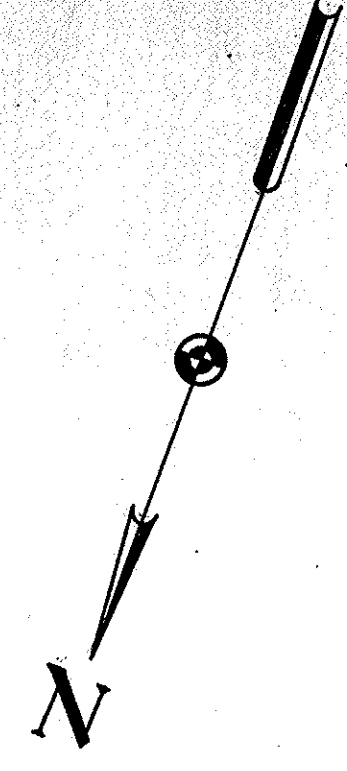
AKRON, SUMMIT COUNTY, OHIO

SCALE: 3/4" = 1'-0" HOWARD, NEEDLES, TAMMEN & BERGENDOFF
MADE: J.H.G. DATE: 5-24-50 CONSULTING ENGINEERS
TRCD: J.W.C. DATE: 9-23-50 KANSAS CITY NEW YORK
CKD: D.M.D. DATE: 10-31-50

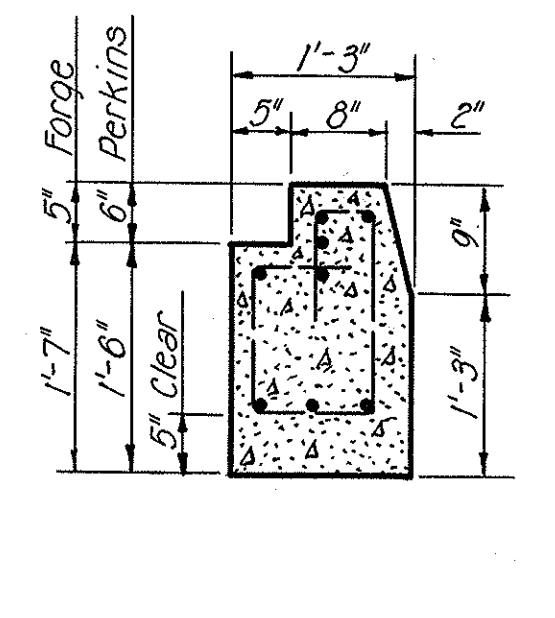
Revised 12-22-50
Revised 11-10-50

766 SHEET-72

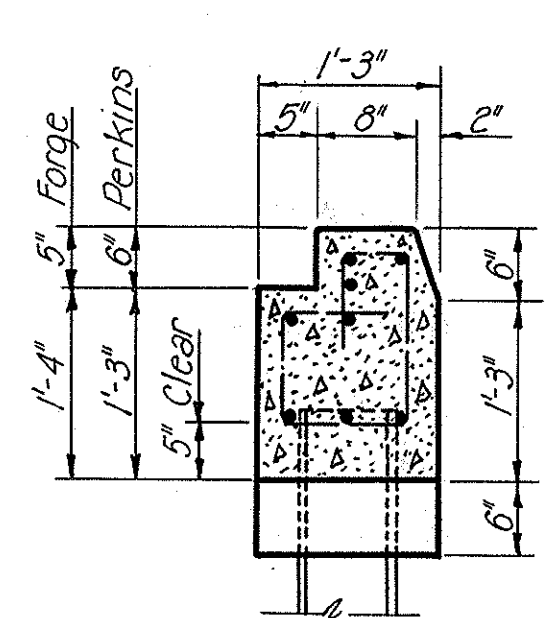
SUMMIT COUNTY
 CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
 EXPRESSWAY-PART 4
 SUM-5-11.94



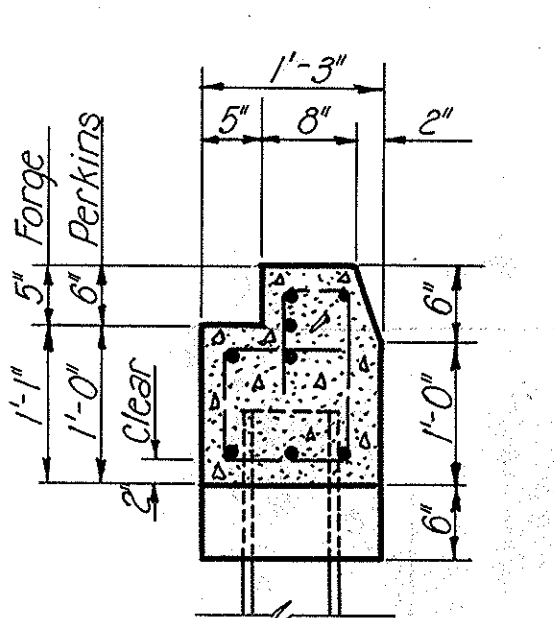
TYPICAL ELEVATION
Scale: 3/8"=1'-0"



SECTION A-A
Scale: 3/4"=1'-0"

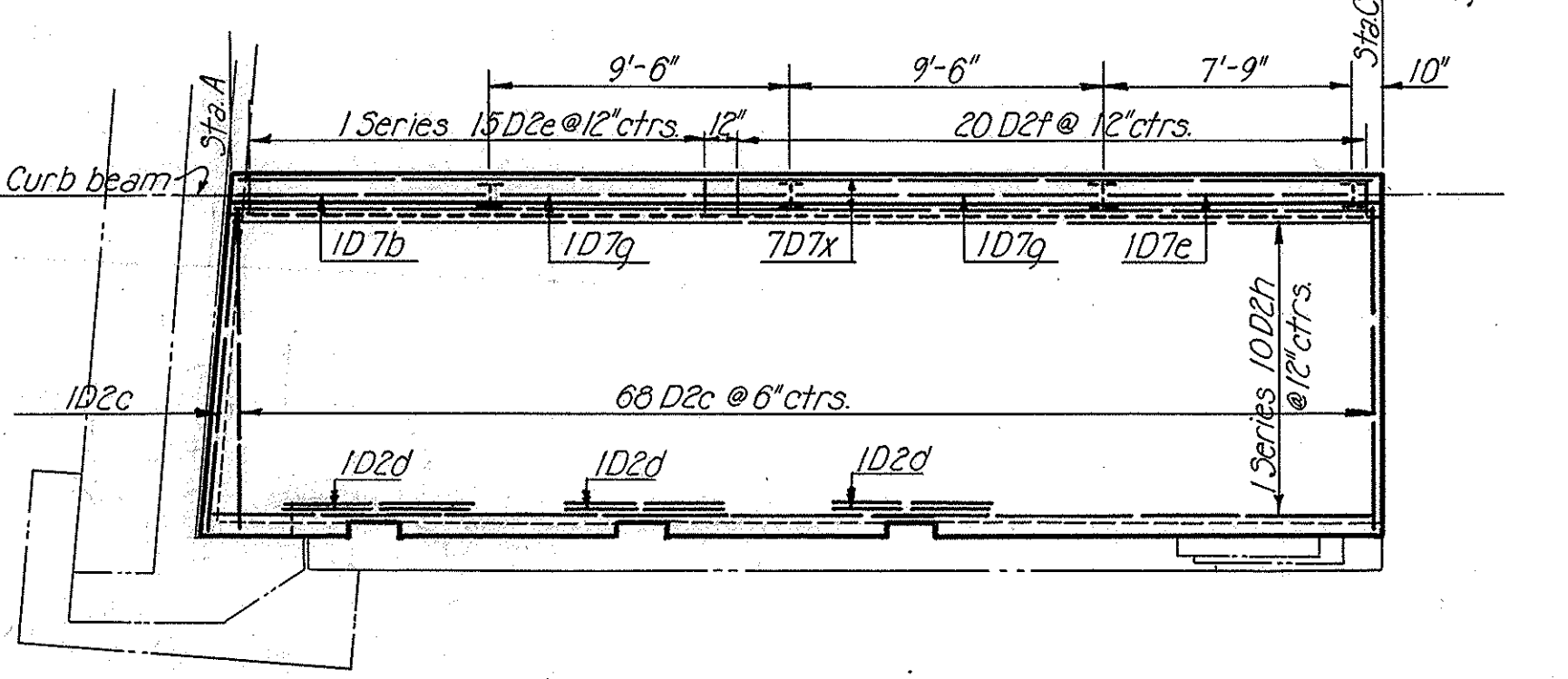
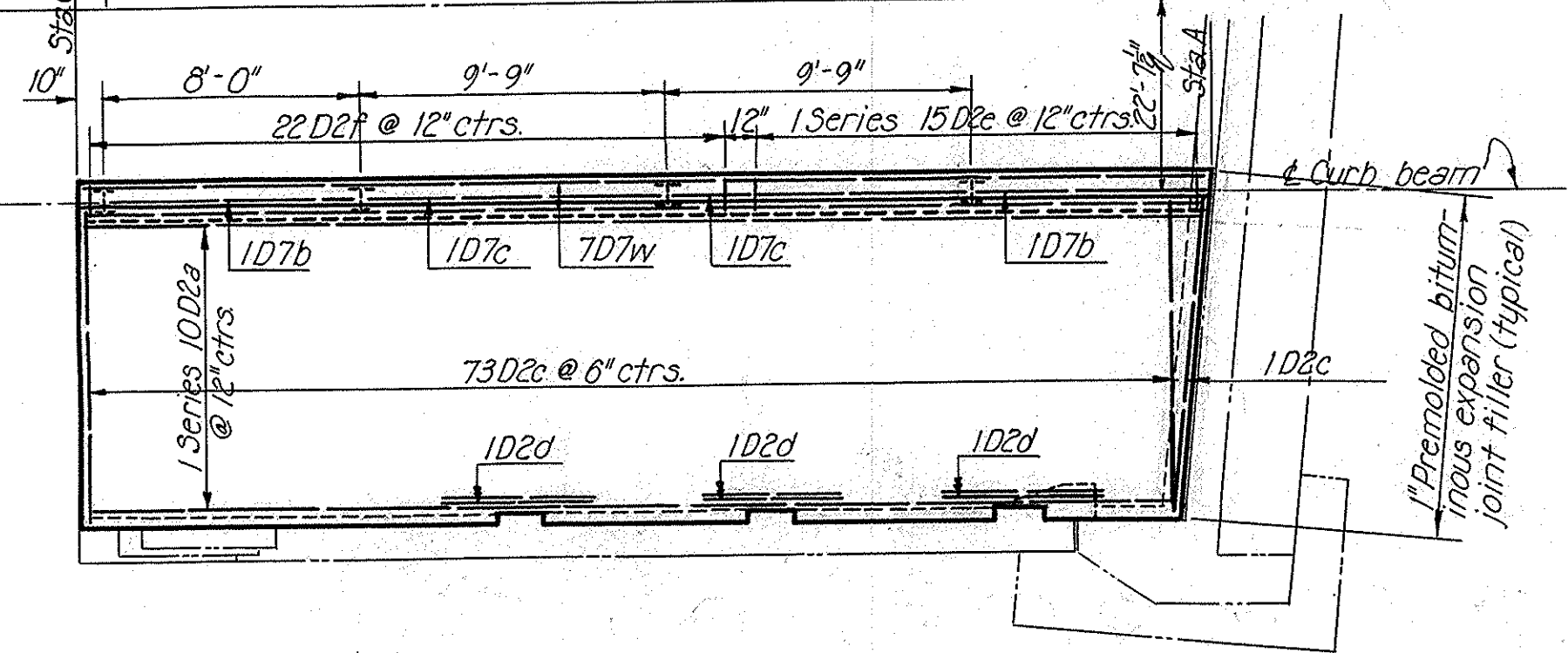
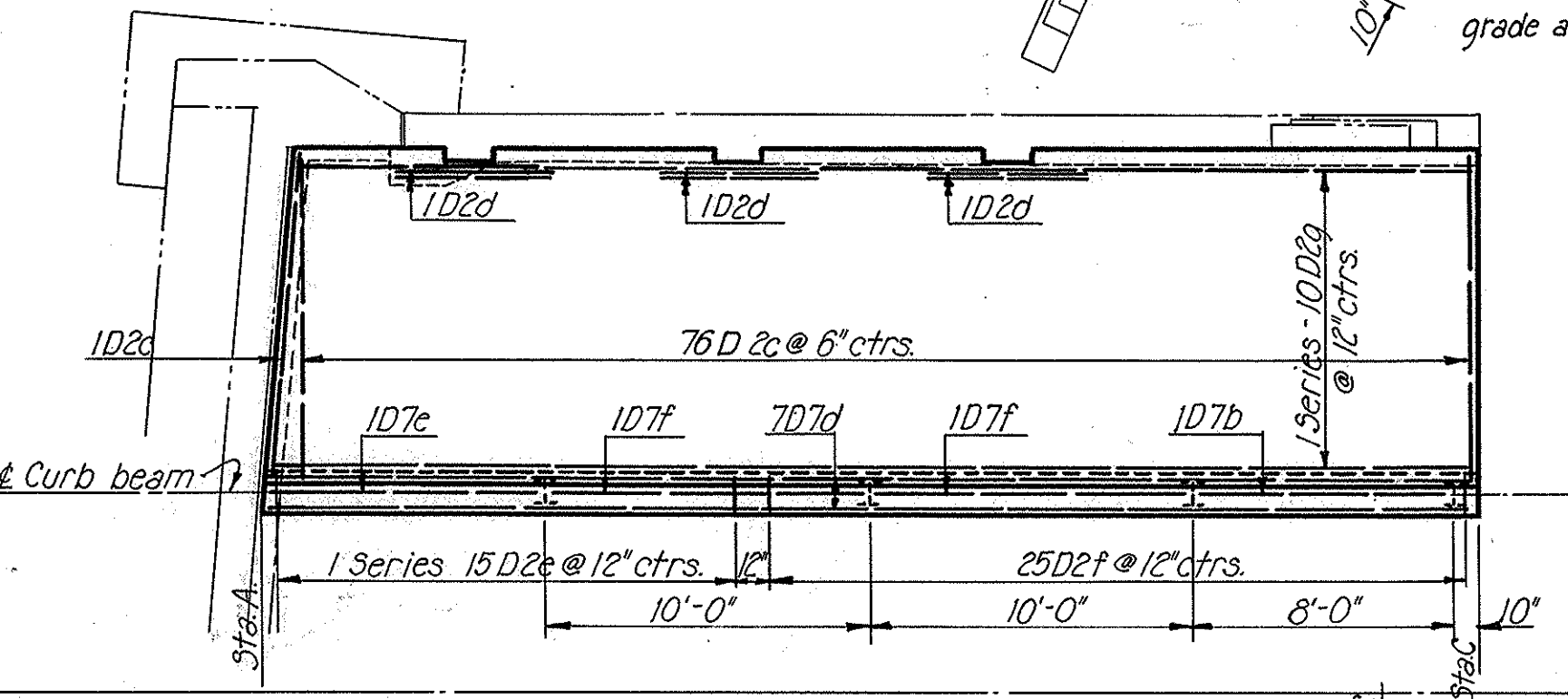
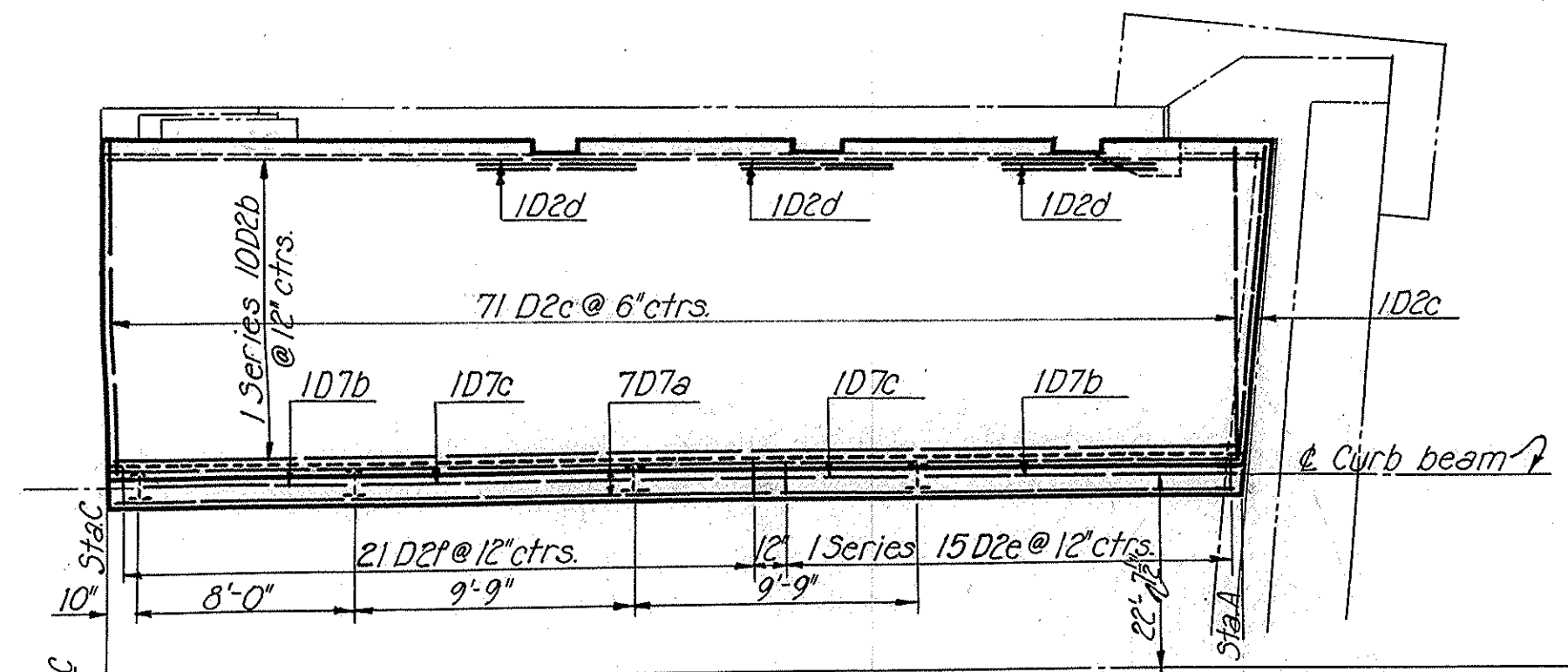


SECTION B-B
Scale: 3/4"=1'-0"



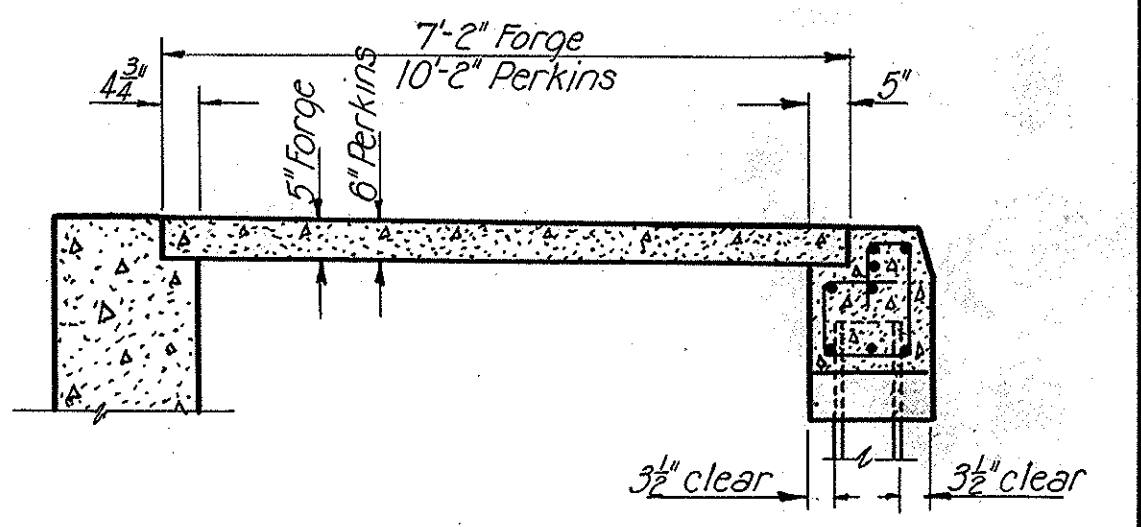
SECTION C-C
Scale: 3/4"=1'-0"

FORGE PLAN
Scale: 3/8"=1'-0"



PERKINS PLAN
Scale: 3/8"=1'-0"

| TOP OF CURB ELEVATIONS | | | | | | |
|------------------------|---------|---------|---------|---------|---------|---------|
| Wall | Sta. A | Sta. B | Sta. C | Elev. A | Elev. B | Elev. C |
| Perkins | | | | | | |
| N.E. | 1+76.74 | 1+61.83 | 1+39.83 | 1053.82 | 1053.45 | 1053.28 |
| S.E. | 1+82.57 | 1+67.65 | 1+47.21 | 1053.87 | 1053.50 | 1053.32 |
| N.W. | 2+97.43 | 3+12.35 | 3+31.79 | 1054.22 | 1053.88 | 1053.72 |
| S.W. | 3+03.28 | 3+18.17 | 3+42.17 | 1054.19 | 1053.86 | 1053.63 |
| Forge | | | | | | |
| N.E. | 6+32.56 | 6+17.66 | 5+80.86 | 1050.07 | 1049.94 | 1050.21 |
| S.E. | 6+38.00 | 6+43.10 | 6+17.19 | 1049.83 | 1049.72 | 1049.95 |
| N.W. | 7+93.60 | 8+08.74 | — | 1048.05 | 1047.48 | — |
| S.W. | 8+19.05 | 8+33.95 | 8+64.74 | 1047.61 | 1047.09 | 1046.51 |



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

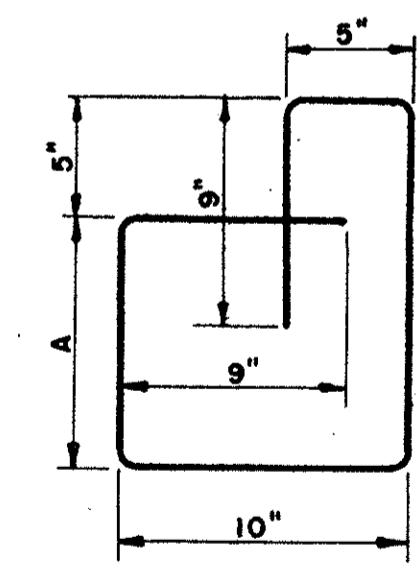
Notes: All piles are 8BP36 driven to rock.
 Use tar paper between sidewalk slab and supporting members.
 Three piles in Forge northwest curb are to bear on concrete lugs poured with the wall footing and care shall be taken not to break the concrete by overdriving these piles, or these piles may be placed by casting them in the footing concrete or by other approved means.

STATE OF OHIO
 DEPARTMENT OF HIGHWAYS
 BUREAU OF BRIDGES
AKRON EXPRESSWAY SYSTEM
 (EAST MARKET STREET TO EAST GUYAHOGA FALLS AVENUE)
FORGE AND PERKINS UNDERPASSES
 BR. NOS. SU-5-120 & SU-5-122
APPROACH SIDEWALKS AND CURBS
 AKRON, SUMMIT COUNTY, OHIO
 SCALE: 3/8"=1'-0" MADE: E.H.B. DATE: 9-20-60 TRCD: H.M.B. DATE: 10-10-60 CKD: J.W.C. DATE: 10-21-60
 HOWARD, NEEDLES, TAMMEN & BERGENDOFF
 CONSULTING ENGINEERS
 KANSAS CITY NEW YORK
 766 SHEET-73

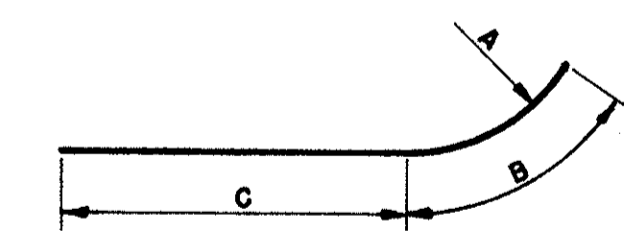
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 4
SUM-5-11.94

| FORGE APPROACH SIDEWALKS & CURBS | | | | | | | | | |
|----------------------------------|------|-------|------------------|------|------------------|--------|--------|-------|---------------|
| MARK | SIZE | NO. | LENGTH | TYPE | DIMENSIONS | | | | WEIGHT POUNDS |
| | | | | | A | B | C | D | |
| D7c | 1# | 3 | 9'-3" | Str. | | | | | 74 |
| D7e | 1# | 2 | 7'-3" | Str. | | | | | 39 |
| D7h | 1# | 2 | 6'-3" | Str. | | | | | 33 |
| D7k | 1# | 3 | 8'-0" | Str. | | | | | 64 |
| D7m | 1# | 2 | 6'-9" | Str. | | | | | 36 |
| D7n | 1# | 4 | 8'-6" | Str. | | | | | 91 |
| D7p | 1# | 3 | 8'-6" | 133 | 19'-6" | 8'-6" | | | 68 |
| D7r | 1# | 7 | 51'-3" | Str. | | | | | 961 |
| D7s | 1# | 7 | 42'-0" | 138 | 19'-6" | 38'-3" | 11'-3" | 2'-6" | 785 |
| D7t | 1# | 7 | 40'-3" | Str. | | | | | 752 |
| D7u | 1# | 1 | 5'-9" | 132 | 19'-6" | 31'-3" | 2'-6" | | 15 |
| D7v | 1# | 1 | 7'-0" | 133 | 19'-6" | 7'-0" | | | 19 |
| D7w | 1# | 7 | 45'-3" | Str. | | | | | 846 |
| D2d | 1/2# | 32 | 5'-0" | Str. | | | | | 107 |
| D2e | 1/2# | 30f15 | 4'-6" to 4'-9" | 112 | 8" to 11" | | | | 139 |
| D2f | 1/2# | 123 | 4'-6" | 112 | 8" | | | | 370 |
| D2k | 1/2# | 107f | 40'-6" to 44'-0" | Str. | | | | | 198 |
| D2m | 1/2# | 107f | 47'-6" to 51'-0" | Str. | | | | | 230 |
| D2n | 1/2# | 107f | 41'-0" to 44'-6" | Str. | | | | | 200 |
| D2p | 1/2# | 40fd | 1'-9" to 6'-9" | Str. | | | | | 45 |
| D2r | 1/2# | 128 | 6'-9" | Str. | | | | | 577 |
| D2s | 1/2# | 4 | 8'-0" | Str. | | | | | 21 |
| D2t | 1/2# | 10fd1 | 4'-0" to 6'-9" | Str. | | | | | 148 |
| D2u | 1/2# | 10fd1 | 4'-6" to 4'-9" | 112 | 8" to 11" | | | | 43 |
| D2v | 1/2# | 10fd1 | 34'-9" to 39'-3" | 132 | 14'-6" to 17'-6" | 28'-6" | 6'-3" | | 99 |
| D2w | 1/2# | 10f3 | 32'-6" to 39'-3" | 132 | 16'-6" to 18'-6" | 18'-6" | 4'-0" | | 72 |

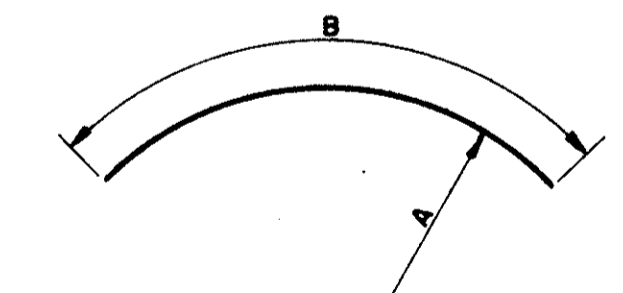
| PERKINS APPROACH SIDEWALKS & CURBS | | | | | | | | | |
|------------------------------------|------|-------|------------------|------|------------|---|---|---|---------------|
| MARK | SIZE | NO. | LENGTH | TYPE | DIMENSIONS | | | | WEIGHT POUNDS |
| | | | | | A | B | C | D | |
| D7a | 1# | 7 | 35'-0" | Str. | | | | | 654 |
| D7b | 1# | 6 | 7'-6" | Str. | | | | | 120 |
| D7c | 1# | 4 | 9'-3" | Str. | | | | | 99 |
| D7d | 1# | 7 | 39'-6" | Str. | | | | | 738 |
| D7e | 1# | 2 | 7'-3" | Str. | | | | | 37 |
| D7f | 1# | 2 | 9'-6" | Str. | | | | | 50.7 |
| D7g | 1# | 2 | 9'-0" | Str. | | | | | 48.1 |
| D7w | 1# | 7 | 36'-6" | Str. | | | | | 684 |
| D7x | 1# | 7 | 33'-9" | Str. | | | | | 633 |
| D2a | 1/2# | 10f10 | 35'-6" to 36'-6" | Str. | | | | | 240.5 |
| D2b | 1/2# | 10f10 | 35'-0" to 36'-0" | Str. | | | | | 237 |
| D2c | 1/2# | 292 | 9'-9" | Str. | | | | | 1903 |
| D2d | 1/2# | 24 | 5'-0" | Str. | | | | | 80.1 |
| D2e | 1/2# | 40f15 | 4'-6" to 4'-9" | 112 | 8" to 11" | | | | 185.5 |
| D2f | 1/2# | 88 | 4'-6" | 112 | 8" | | | | 264.4 |
| D2g | 1/2# | 10f10 | 38'-6" to 39'-6" | Str. | | | | | 260.5 |
| D2h | 1/2# | 10f10 | 33'-9" to 34'-9" | Str. | | | | | 229.0 |



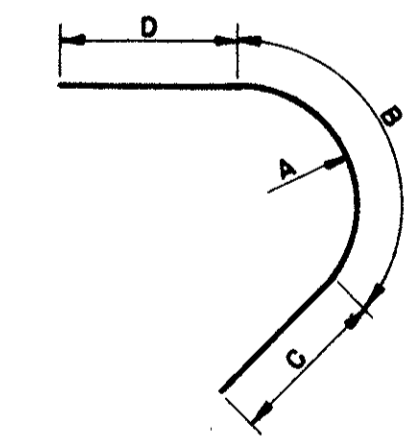
112



132



133



138

BENDING DIAGRAMS

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

AKRON EXPRESSWAY SYSTEM
(EAST MARKET STREET TO EAST CUYAHOGA FALLS AVENUE)
FORGE AND PERKINS UNDERPASSES
BR. NOS. SU-5-120 & SU-5-122

REINFORCEMENT SCHEDULE

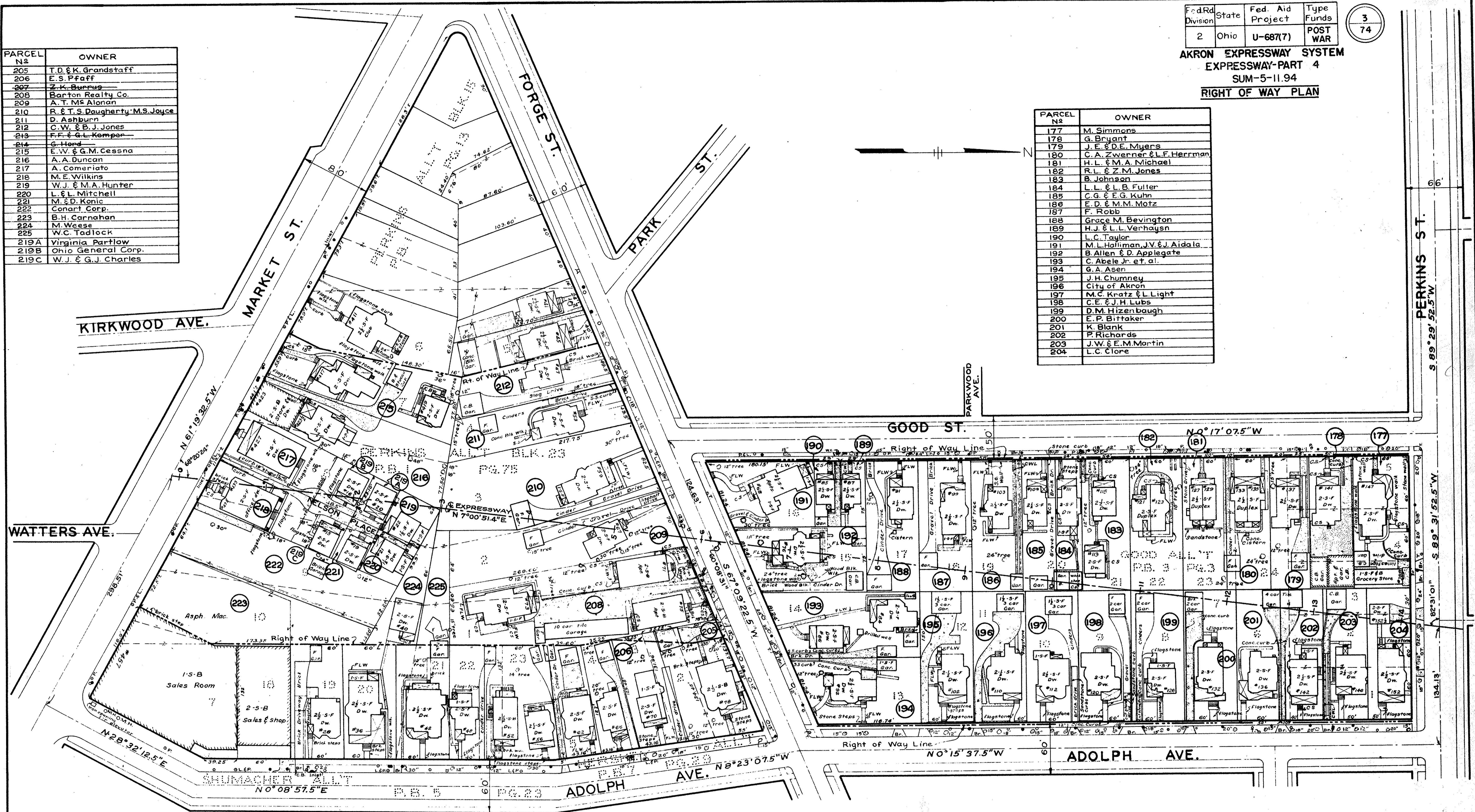
AKRON, SUMMIT COUNTY, OHIO

SCALE _____ HOWARD, NEEDLES, TAMMEN & BERGENOFF
MADE I.W.C. DATE 10-11-50 CONSULTING ENGINEERS
TRCD I.W.C. DATE 10-22-50 KANSAS CITY NEW YORK
CKD _____ DATE _____

766 SHEET- 74

| PARCEL No | OWNER |
|-----------|--------------------------------|
| 205 | T.D. & K. Grandstaff |
| 206 | E.S. Pfaff |
| 207 | Z.K. Burrus |
| 208 | Barton Realty Co. |
| 209 | A.T. McAlonan |
| 210 | R. & T.S. Daugherty M.S. Joyce |
| 211 | D. Ashburn |
| 212 | C.W. & B.J. Jones |
| 213 | F.F. & G.L. Kemper |
| 214 | G. Hand |
| 215 | E.W. & G.M. Cessna |
| 216 | A.A. Duncan |
| 217 | A. Comerio |
| 218 | M.E. Wilkins |
| 219 | W.J. & M.A. Hunter |
| 220 | L. & L. Mitchell |
| 221 | M. & D. Konic |
| 222 | Conart Corp. |
| 223 | B.H. Carnahan |
| 224 | M. Weese |
| 225 | W.C. Tadlock |
| 219A | Virginia Partlow |
| 219B | Ohio General Corp. |
| 219C | W.J. & G.J. Charles |

| PARCEL No | OWNER |
|-----------|---------------------------------|
| 177 | M. Simmons |
| 178 | G. Bryant |
| 179 | J.E. & D.E. Myers |
| 180 | C.A. Zwerner & L.F. Herrman |
| 181 | H.L. & M.A. Michael |
| 182 | R.L. & Z.M. Jones |
| 183 | B. Johnson |
| 184 | L.L. & L.B. Fuller |
| 185 | C.G. & E.G. Kuhn |
| 186 | E.D. & M.M. Motz |
| 187 | F. Robb |
| 188 | Grace M. Bevington |
| 189 | H.J. & L.L. Verhaugan |
| 190 | L.C. Taylor |
| 191 | M.L. Halliman, J.V. & J. Aidaia |
| 192 | B. Allen & D. Applegate |
| 193 | C. Abele Jr. et al. |
| 194 | G.A. Asen |
| 195 | J.H. Chumney |
| 196 | City of Akron |
| 197 | M.C. Kratz & L. Light |
| 198 | C.E. & J.H. Lubs |
| 199 | D.M. Hizenbaugh |
| 200 | E.P. Bittaker |
| 201 | K. Blank |
| 202 | P. Richards |
| 203 | J.W. & E.M. Martin |
| 204 | L.C. Clore |



- LEGEND**
- ▭ Conc. Walks & Drives
 - CS Conc. Steps
 - CWL Conc. Walls
 - CBW Conc. Block Walls
 - FLW Flagstone Walks
 - P Power
 - L Light
 - T Telephone
 - Tree
 - Water Valve
 - Water Meter
 - Water Hydrant
 - Gas Valve
 - Pole

NOTE:
 Houses outside the limits of the improvement are not shown.

SCALE 1"=50'

| | | | |
|-------------------|-------|------------------|------------|
| Fed. Rd. Division | State | Fed. Aid Project | Type Funds |
| 2 | Ohio | U-6877 | POST WAR |

4
74

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY PART 4
SUM-5-11.94
RIGHT OF WAY PLAN

TRACT 7

BLOCK 86
PERKINS ADDITION
BK. 1 P. 13



| PARCEL NO. | OWNER | TYPE OF ACQUISITION |
|------------|--|---------------------|
| 1 | N.E. Dobbins | Fee Simple |
| 2 | Annie Harris | Fee Simple |
| 3 | I. H. & R. Albert | Fee Simple |
| 4 | Erie R.R. Company | Easement |
| 5 | Penna. Ohio & Detroit R.R. Co. | Easement |
| 5A | Penna. Ohio & Detroit R.R. Co. | Easement |
| 6 | B. & O. R.R. Company | Easement |
| 7 | A.C. & Y. R.R. Co. | Easement |
| 8 | Bd. of Education - Akron City School District. | Easement |

- LEGEND**
- Conc. Walks & Drives
 - CS Conc. Steps
 - CWL Conc. Walls
 - CBW Conc. Block Walls
 - FLW Flagstone Walks
 - P Power
 - L Light
 - T Telephone
 - Tree
 - Water Valve
 - Water Meter
 - Water Hydrant
 - Gas Valve
 - Pole
 - Mon. Leaded iron pipe set in concrete

| PARCEL NO. | OWNER |
|------------|-----------------------|
| 116 | State of Ohio |
| 117 | W.H. & G.M. Rouser |
| 118 | M.C. & V. Wucht |
| 119 | L. & A. Phelps |
| 120 | T.R. & M.C. Swanson |
| 121 | B.D. & S.B. Cornwell |
| 122 | I. & A. Shrzgniarz |
| 123 | S.E. & I.D. Allen |
| 124 | J.W. & A.L. Nuzum |
| 125 | B.L. Henley |
| 126 | L.E. & R.J. Kennell |
| 127 | O.O. & E.L. Mullen |
| 128 | F.N. Bailey |
| 129 | W.K. & L.E. Etter |
| 130 | F. Amodio |
| 131 | D. Perri |
| 132 | M.C. Buckmaster |
| 133 | J.B. & M. Ferguson |
| 134 | E.F. Franks |
| 135 | W.L. Sowers |
| 136 | J. Orsini |
| 137 | T.B. & R.A. Callanan |
| 138 | A.E. & E.L. Crumm |
| 139 | M.E. Hawn |
| 140 | B.A. & D.G. Patterson |
| 141 | E.V. Benkler |
| 142 | J. & H. Quattrochi |
| 143 | M.L. & F. Rosney |
| 144 | M. Cutting |
| 145 | C.C. Deremer |

| PARCEL NO. | OWNER |
|------------|----------------------|
| 121A | J.R. & D.I. Acree |
| 147 | B.R. & D.T. Moore |
| 148 | A.Q. & S.J. Hales |
| 149 | E.A. Kraus |
| 150 | R.M. Kerr |
| 151 | A. Trpkc |
| 152 | E.A. & G.A. Metz |
| 153 | C. Conick |
| 154 | A. Danney |
| 155 | A.S. Adams |
| 156 | R.D. & B.D. Force |
| 157 | W. Stakley |
| 158 | I. Kitzinger |
| 159 | R. Matusek |
| 160 | N.M. Bollos |
| 161 | J.W. & M.S. Sloan |
| 162 | R.G. M.S. Kinney |
| 163 | M. Keener |
| 164 | G.D. & M. Stevens |
| 165 | A. & A. Rizopoulos |
| 166 | E.W. & M.E. Beadling |
| 167 | W.A. Lowrentz |
| 168 | P.E. & C.V. Davis |
| 169 | E.B. Osborn |
| 170 | F. & B.G. Manick |
| 171 | G. & B. Gray |
| 172 | E. & E.V. Baughman |
| 173 | W.D. & J.D. Edwards |
| 174 | M. Enoch |
| 175 | A. Green |
| 176 | F.L. & A.S. Bush |

SCALE - 1"=50'