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 5511.02 REVISED CODE OF OHIO AND IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC.

MICROFILMED
DEC 1 1954

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY- PART 6
SUM- 18R-12.10

AKRON EXPRESSWAY SYSTEM

SUM-18R-12.10
SUMMIT COUNTY
CITY OF AKRON

LIMITED ACCESS

PART 6 - JOHNSTON ST. TO CHITTENDEN ST.

INDEX OF SHEETS

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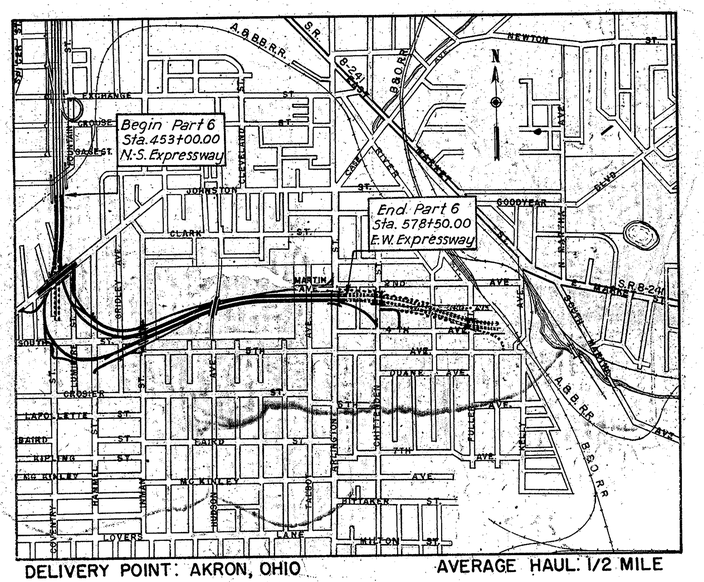
2	GENERAL PLAN	46-47	MISCELLANEOUS DETAILS
3-5	SCHEMATIC PLAN AND PROFILE	48	LIGHTING LAYOUT
6-11	RIGHT OF WAY PLANS 49, 50, 52 ~~51~~	52	APPROACH SLAB DETAILS
12,48,59	GENERAL NOTES	53-55	RETAINING WALL-MARTIN AVENUE
13-15	QUANTITIES	56-68	DRAINAGE DETAILS
16	SUGGESTED SEQUENCE OF CONSTRUCTION	69-71	PLANS OF SITE GRADING
17-24	TYPICAL CROSS SECTIONS	72-130, 133A	CROSS SECTIONS
25-39	PAVEMENT DETAILS	134-138	GENERAL NOTES, QUANTITIES, AND COMMON DETAILS-STRUCTURES
40-42	PROFILE-LANES, RAMPS, AND SERVICE ROADS	139-152	UNDERPASS-JOHNSTON STREET
43	PLAN-PROFILE OF JOHNSTON STREET	153-163	OVERPASS-INMAN STREET
44	PLAN-PROFILE OF INMAN STREET	* ~~164-168~~	UNDERPASS-SCHOOL ROAD
		175-184	OVERPASS-ARLINGTON STREET
		185-194	OVERPASS-CHITTENDEN STREET
		~~163-174~~	~~HAVE BEEN OMITTED FROM THE PLANS~~
		195-204	OVERPASS-FULLER STREET

LINE DATA

* SHEETS 164R TO 172R REPLACE SHEETS 164 TO 168

BEGIN NORTH-SOUTH EXPRESSWAY	STA. 445+85.39
END NORTH-SOUTH EXPRESSWAY	STA. 453+00.00
NET LENGTH OF NORTH-SOUTH EXPRESSWAY	714.61 LIN.FT. OR 0.135 MILES
BEGIN EAST-WEST EXPRESSWAY	STA. 553+43.40
END EAST-WEST EXPRESSWAY	STA. 578+50.00
NET LENGTH OF EAST-WEST EXPRESSWAY	2506.60 LIN.FT. OR 0.475 MILES
NET LENGTH OF EXPRESSWAYS	3221.21 LIN.FT. OR .610 MILES
LANE "S"	2388.99 LIN. FT.
SCHOOL ROAD	1104.00 LIN. FT.
JOHNSTON STREET	695.00 LIN. FT.
INMAN STREET	553.72 LIN. FT.
CHITTENDEN STREET	580.88 LIN. FT.
EXPRESSWAY (LANE-WEST)	2797.14 LIN FT.
TOTAL LENGTH OF ADDITION	8,119.73 LIN.FT.
TOTAL LENGTH OF WORK	11,340.94 LIN.FT. OR 2.147 MILES

NOTE:
THIS SET OF PLANS, THE EXPRESSWAY FROM JOHNSTON STREET TO CHITTENDEN STREET COVERS ONLY PART 6 OF THIS PROJECT. PARTS 1 THROUGH 5 ARE IN EARLIER CONTRACTS.



DELIVERY POINT: AKRON, OHIO AVERAGE HAUL: 1/2 MILE

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, EXCEPT AS NOTED ON SHEET 16, 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 DATE Sept 28 '54	Leo E. Walter — DIRECTOR OF PUBLIC SERVICE, CITY OF AKRON
APPROVED DATE Oct 6TH 1954	W. L. Hamm — DIVISION DEPUTY DIRECTOR
APPROVED DATE 11-3-54	John A. Revier — DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING
APPROVED DATE 11-3-54	Richard Smith — ENGINEER OF BRIDGES
APPROVED DATE	ENGINEER OF LOCATION AND DESIGN
APPROVED DATE	DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION
APPROVED DATE 11/10/54	F. J. Schramm — FIRST ASSISTANT DIRECTOR
APPROVED DATE 11/10/54	J. Bagwell — DIRECTOR OF HIGHWAYS

Reviewed and Approved: _____
Date: _____ Engineer of Traffic & Safety

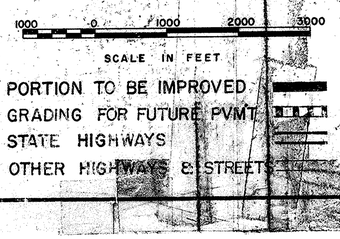
PREPARED AND RECOMMENDED BY
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
K. 21 Bergendoff

O. SUMMIT COUNTY
SEC. SUM-18R-12.10 PART 6
DATE OF LETTING _____, 195__
CONTRACT NO. _____

SUPPLEMENTAL SPECIFICATIONS

NUMBER	DATE	NUMBER	DATE
L 309.12	7-17-54	M-103.14	7-31-50
T 171.19 Rev.	3-15-53	30	5-28-46
CE 107	5-21-53	M-205.5 Rev.	12-7-50
M-101.7	1-26-51		

LOCATION PLAN



STANDARD DRAWINGS

NUMBER	DATE	NUMBER	DATE
L-3	4-1-50	I-8 C.B. NO. 3A	5-1-52
L-3A	4-1-50	I-8 M.H. NO. 1 A	5-1-54
T-35	10-1-52	I-8 M.H. NO. 2	5-1-52
B-T-71 R	3-2-53	I-12	7-1-54
T.J. NO. 1	3-2-53	I-14 G	1-22-52
T.J. NO. 1	3-2-53	I-15 NO. 1	2-2-53
T.J. NO. 2	3-2-53	I-15 NO. 2	2-2-53
T.J. NO. 3	10-1-54	G-7.07	1-2-53
S-27 P.C. 1	5-1-52	BT. 50.70.71 E. NO.	10-1-47
I-1, 2, 3, 4, & 5	2-20-45		
I-8 C.B. 2-2-A&B	5-1-52		
I-8 C.B. NO. 3	5-1-52		

Rev. Sheets 23, 51, 85 6-17-55 168

Rev. 3-16-55

MICROFILMED
DEC 1 1989

Note:
The entire South Street Interchange, as it will be ultimately developed is shown hereon for informational purposes. Only the construction of that portion of the Interchange which is shaded is scheduled for construction under this contract, as indicated by the legend. Bridge No.1 carrying Lane S over the future North-South Expressway is shown for information only and its construction is not included in this contract.

In order to develop these partial plans for the South Street Interchange, final alignment and grade calculations have been made for the entire Interchange. Therefore it is essential that construction features through the Interchange area be built exactly as detailed in these Plans to insure future satisfactory operation of the completed interchange.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

2
204

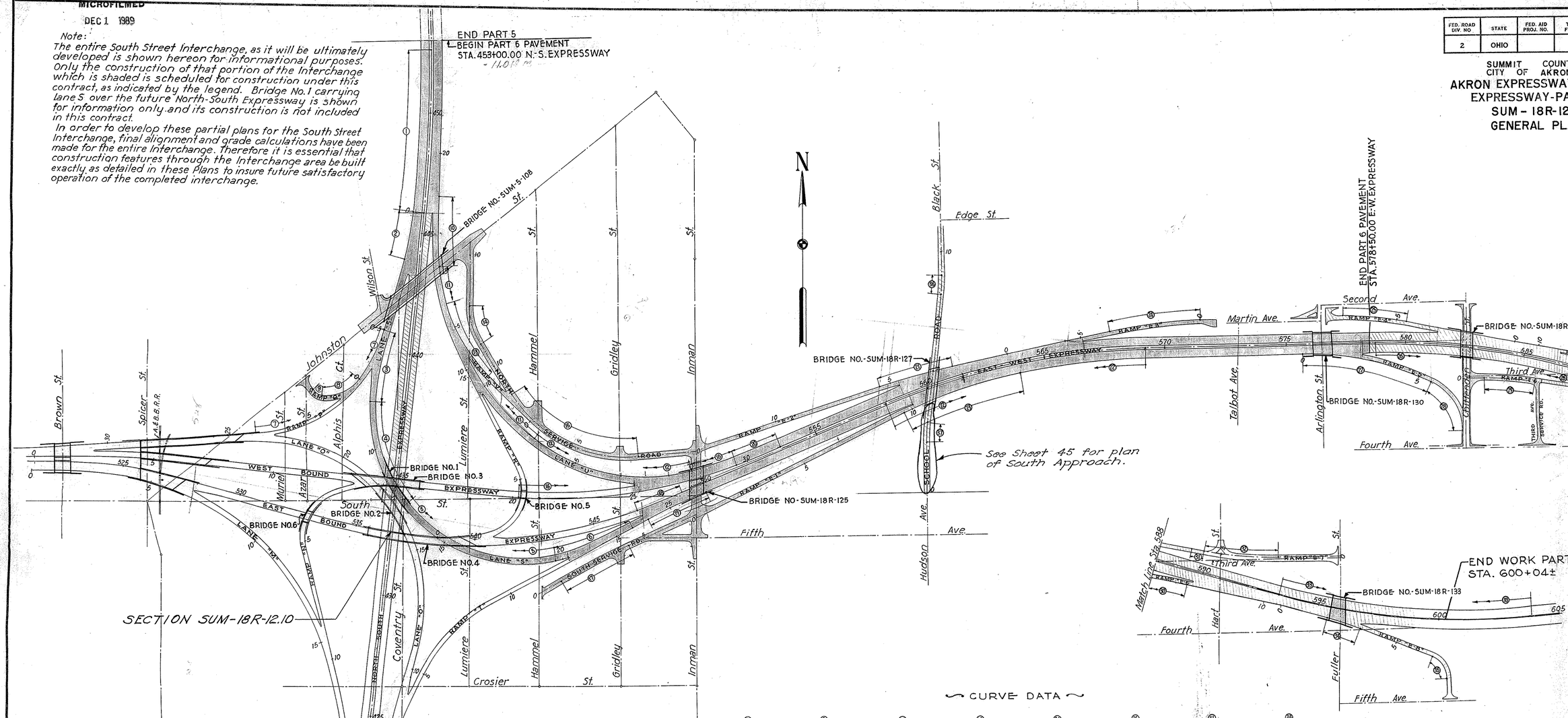
SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM - 18R-12.10
GENERAL PLAN

END PART 5
BEGIN PART 6 PAVEMENT
STA. 453+00.00 N.S. EXPRESSWAY
= 11.018 mi

END PART 6 PAVEMENT
STA. 576+50.00 E.W. EXPRESSWAY

N



SECTION SUM-18R-12.10

LEGEND

- Complete roadway construction under this contract.
- Grading construction only under this contract.
- Future construction.

CURVE DATA

①	②	③	④	⑤
Δ 6°46'00"	Δ 10°00'00"	Θs 13°30'00"	Δ 40°22'30"	Δ 64°19'06"
D 1°00'00"	D 5°00'00"	Ls 300.00'	D 9°00'00"	D 8°56'00"
R 5729.58'	R 1145.92'	L.T. 200.58'	R 636.62'	R 641.37'
T 338.73'	T 100.26'	S.T. 100.53'	T 234.07'	T 403.25'
L 676.67'	L 200.00'		L 448.61'	L 719.98'

⑥	⑦	⑧	⑨	⑩
Θs 15°38'00"	Δ 69°30'07"	Δ 57°18'22"	Δ 45°57'38"	Θs 8°15'00"
Ls 350.00'	D 9°40'00"	D 31°49'52"	D 114°35'30"	Ls 300.00'
L.T. 234.25'	R 592.71'	R 180.00'	R 50.00'	L.T. 200.22'
S.T. 117.50'	T 411.19'	T 98.36'	T 21.20'	S.T. 100.20'
	L 718.98'	L 180.03'	L 40.11'	

⑪	⑫	⑬	⑭	⑮
Δ 45°31'24"	Δ 53°20'24"	Δ 31°54'44"	Δ 32°58'23"	Δ 62°42'09"
D 5°30'00"	D 7°39'21"	D 9°00'00"	D 21°00'00"	D 10°00'00"
R 1041.74'	R 748.39'	R 636.62'	R 272.84'	R 572.96'
T 437.09'	T 375.91'	T 182.02'	T 80.75'	T 349.02'
L 827.70'	L 696.72'	L 354.59'	L 157.01'	L 627.03'

⑯	⑰	⑱	⑲	⑳
Δ 23°10'46"	Δ 5°28'51"	Θs 2°45'00"	Δ 5°25'23"	Θs 2°30'00"
D 2°30'00"	D 1°45'00"	Ls 200.00'	D 2°00'00"	Ls 200.00'
R 2291.83'	R 3274.05'	L.T. 133.35	R 2864.79'	L.T. 133.35'
T 470.02'	T. 156.72'	S.T. 66.68'	T 135.68'	S.T. 66.68'
L 927.18'	L 313.19'		L 271.15'	

㉑	㉒	㉓	㉔	㉕
Δ 6°12'58"	Δ 22°02'05"	Δ 15°07'00"	Δ 11°22'30"	Δ 10°30'15"
D 2°00'00"	D 2°00'00"	D 3°00'00"	D 3°00'00"	D 4°00'00"
R 2864.79'	R 2864.79	R 1909.86'	R 1909.86'	R 1432.40'
T 155.56'	T 557.76'	T 253.42'	T 190.21'	T 131.67'
L 310.81'	L 1101.74'	L 503.89'	L 379.17'	L 262.60'

㉖	㉗	㉘	㉙	㉚
Δ 16°52'36"	Δ 27°39'02"	Δ 63°24'43"	Δ 8°44'24"	Δ 4°00'00"
D 2°00'00"	D 5°00'00"	D 25°08'07"	D 4°00'00"	D 2°00'00"
R 2864.79'	R 1145.92'	R 227.95'	R 1432.40'	R 2864.79'
T 425.00'	T 282.00'	T 140.82'	T 109.46'	T 200.04'
L 843.83'	L 553.01'	L 252.28'	L 218.50'	L 200.00'

㉛	㉜	㉝	㉞	㉟
Δ 00°59'20"	Δ 7°39'20"	Δ 21°08'25"	Δ 5°48'00"	Δ 68°00'00"
D 2°00'00"	D 9°00'00"	D 2°00'00"	D 4°00'00"	D 57°17'45"
R 2864.79'	R 636.62'	R 2864.79'	R 1432.40'	R 100.00'
T 24.72'	T 42.59'	T 534.59'	T 72.56'	T 67.45'
L 49.44'	L 85.06'	L 1057.01'	L 145.00'	L 118.68'

㊱	㊲	㊳
Δ 7°39'20"	Δ 7°00'00"	Δ 12°18'50"
D 9°00'00"	D 9°00'00"	D 4°00'00"
R 636.62'	R 636.62'	R 1432.40'
T 42.59'	T 38.94'	T 154.52'
L 85.06'	L 77.78'	L 307.85'

END WORK PART 6
STA. 600+04±

SCALE	1"=200'
MADE	V.F.D. DATE 7-20-54
TRCD	V.F.D. DATE 7-28-54
CKD	C.R.E. DATE 7-31-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 2

Rev. 3-16-55

CITY OF AKRON
FIELD BOOK NUMBER
1017, 1033,
1034, 1046

MICROFILMED
DEC 1 1989

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

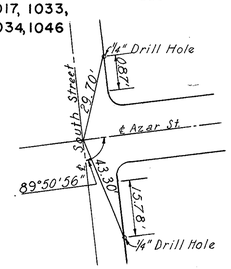
3
204

SUMMIT COUNTY
CITY OF AKRON

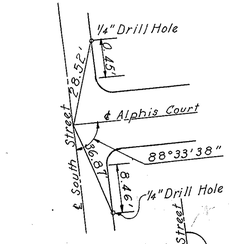
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6

SUM. 18 R-12.10
SCHEMATIC PLAN AND PROFILE

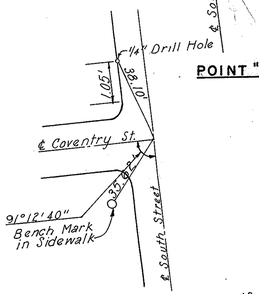
JOHNSTON STREET UNDERPASS
TYPE: Continous steel beam with concrete deck and substructure
SPANS: 68'-5¾", 74'-9⅝", 77'-5⅛", 80'-10⅛" on ℄
ROADWAY: 44'-0" with two 8'-0" sidewalks
LOADING: C F 400
SKEW: 44°30' ℄ North-South Exp.
CLEARANCE: 15'-0" minimum
SURFACE: 2½" Asphaltic Concrete



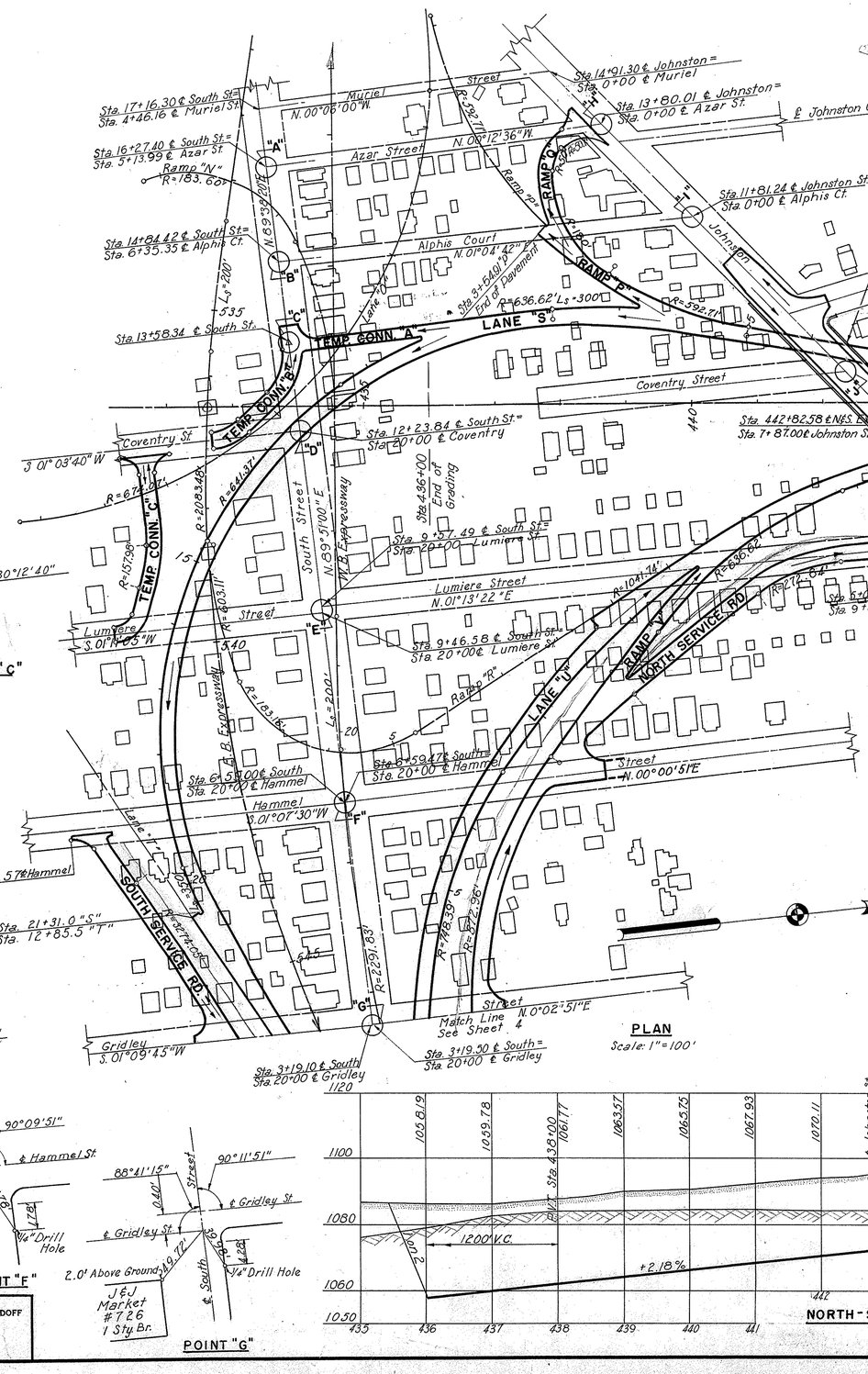
POINT "A"



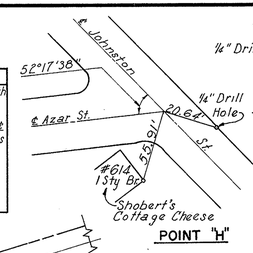
POINT "B"



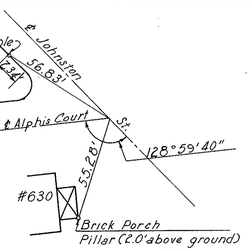
POINT "C"



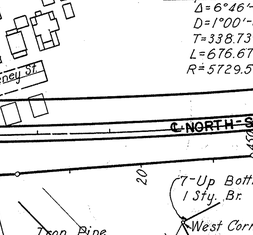
PLAN
Scale: 1" = 100'



POINT "H"



POINT "I"



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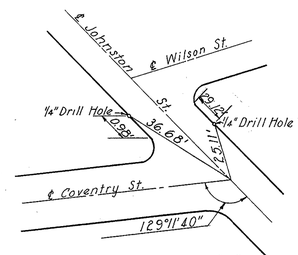
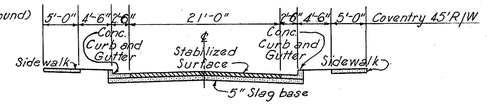
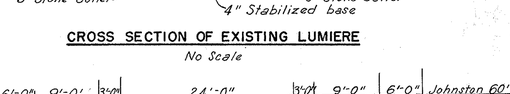


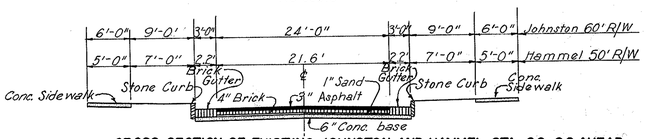
POINT "J"



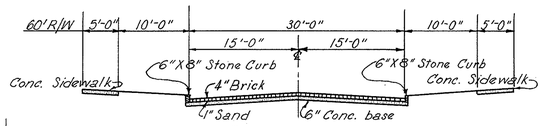
CROSS SECTION OF EXISTING COVENTRY SOUTH TO CROSIER
No Scale



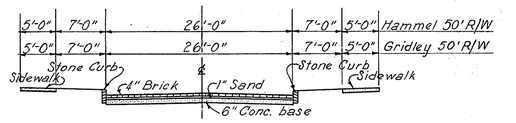
CROSS SECTION OF EXISTING LUMIERE
No Scale



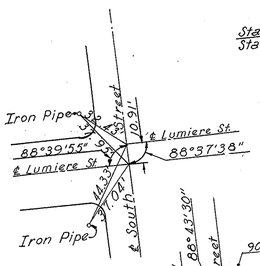
CROSS SECTION OF EXISTING JOHNSTON AND HAMMEL STA. 20+00 AHEAD
No Scale



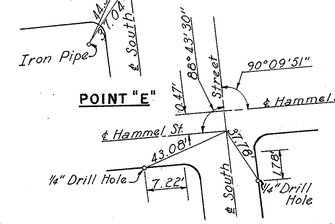
CROSS SECTION OF EXISTING SOUTH ST.
No Scale



CROSS SECTION OF EXISTING HAMMEL AND GRIDLEY STA. 20+00 BACK
No Scale

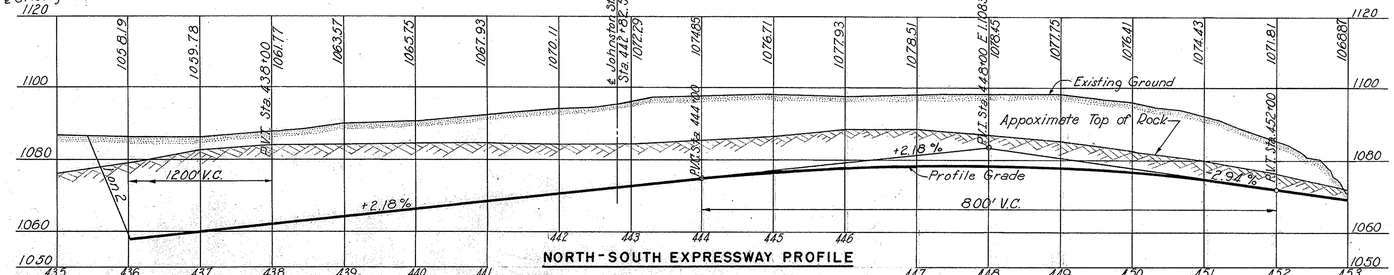


POINT "E"



POINT "F"

POINT "G"



NORTH-SOUTH EXPRESSWAY PROFILE
Scale: 1" = 100' Horiz.
1" = 20' Vert.

SCALE	as shown	HOWARD, NEEDLES, TAMMEN & BERGENDOFF	
MADE	CRC DATE 3-22-54	CONSULTING ENGINEERS	
TRCD	RJR DATE 6-17-54	KANSAS CITY	NEW YORK
CKD.	HKM DATE 7-31-54	901	SHEET- 3.

CITY OF AKRON
FIELD BOOK NUMBER : MICROFILMED
1017, 1033,
1034, 1046
DEC 1 1989

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

4
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
SCHEMATIC PLAN AND PROFILE

INMAN STREET OVERPASS
TYPE: Twin simple span steel beam with reinforced concrete deck
SPANS: Vary
ROADWAY: 52'-0" (Each bridge)
LOADING: CF 2000
SKEW: Varies
CLEARANCE: 15'-0" minimum
SURFACE COURSE: 2½" Asphaltic Concrete

SCHOOL ROAD UNDERPASS
TYPE: SIMPLE END SPANS, CONTINUOUS MID-SPAND STEEL BEAM WITH CONCRETE DECK & SUBSTRUCTURE
SPANS: ~~26'-6", 2 @ 76'-9" AND 26'-6"~~ 1 @ 75'-0", 1 @ 77'-6", 2 @ 24'-0"
ROADWAY: ~~121'-0"~~ 14'-0"
LOADING: CF 130
SKEW: 24°52'41"
CLEARANCE: 15'-0" minimum
SURFACE COURSE: 2½" Asphaltic Concrete

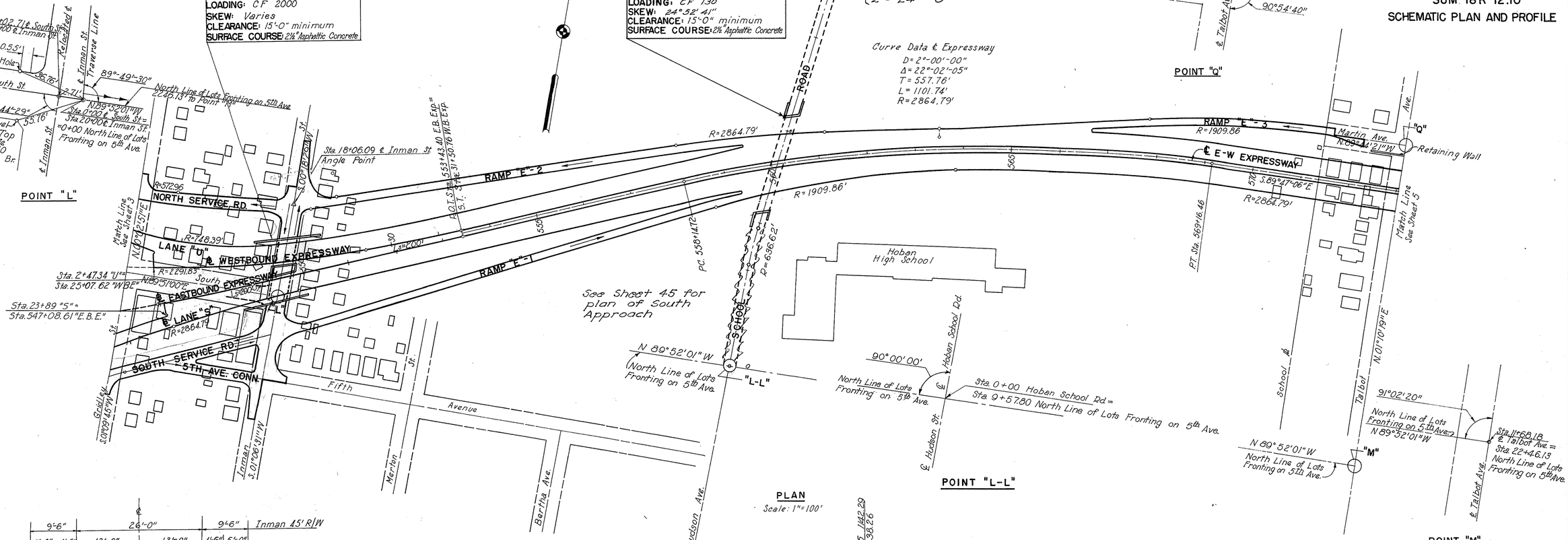
Curve Data ℄ Expressway
D = 2°-00'-00"
Δ = 22°-02'-05"
T = 557.76'
L = 1101.74'
R = 2864.79'

POINT "L"

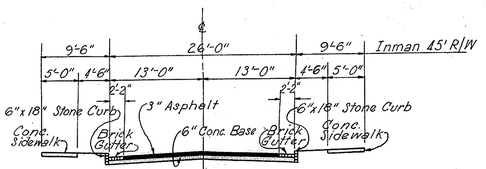
POINT "Q"

POINT "L-L"

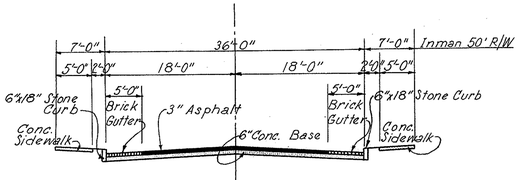
POINT "M"



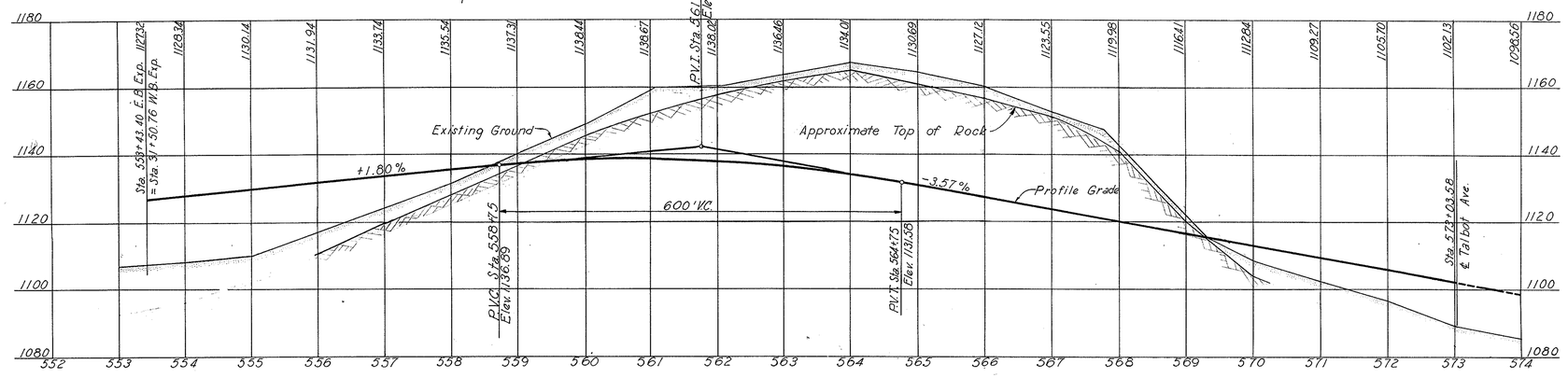
PLAN
Scale: 1"=100'



CROSS SECTION OF EXISTING INMAN STREET
JOHNSTON ST. TO SOUTH ST.
Scale: 1"=10'



CROSS SECTION OF EXISTING INMAN STREET
SOUTH ST. TO FIFTH AVE.
Scale: 1"=10'



EAST - WEST EXPRESSWAY PROFILE
Scale: Horiz. 1"=100'
Vert. 1"=20'

SCALE as shown
MADE E.F.S. DATE 3-31-54
TRCD B.J.R. DATE 6-24-54
CKD J.H.K.M. DATE 8-2-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901 SHEET 4

REV. 3-16-55

CITY OF AKRON
FIELD BOOK NUMBER 1017, 1033, 1034, 1046

MICROFILMED DEC 1 1989
MICROFILMED DEC 1 1989

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

5
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10
SCHEMATIC PLAN AND PROFILE

CHITTENDEN STREET OVERPASS
TYPE: Simple span steel beam with Concrete deck and substructure
SPAN: 52'-9 1/8" C to C bearing
ROADWAY: 1 @ 50'-5" and 1 varies
LOADING: C F - 2000
SKEW: 6°20'06"
CLEARANCE: 15'-0" minimum
SURFACE: 2 1/2" Asphaltic Concrete

FULLER STREET OVERPASS
TYPE: Simple span steel beam with Concrete deck and substructure
SPAN: 53'-10 3/16" C to C bearing
ROADWAY: 1 @ 46' and 1 varies
LOADING: C F - 2000
SKEW: 10°42'11"
CLEARANCE: 15'-0" minimum
SURFACE: 2 1/2" Asphaltic Concrete

ARLINGTON STREET OVERPASS
TYPE: Simple span steel beam with concrete deck and substructure
SPAN: 75'-00" C-C bearing
ROADWAY: 1@50'-05" & 1 varies
LOADING: C F 2000
SKEW: 00°59'45"
CLEARANCE:
SURFACE: 2 1/2" Asphaltic Concrete

Curve Data & Expressway
D=2°00'00"
Δ=16°52'36"
R=2864.79'
T=425.00'
L=843.83'

Curve Data & Expressway
D=2°00'00'
Δ=21°08'25"
R=2,864.79'
T=534.59'
L=1057.01'

POINT "N" · POINT "R" · POINT "T" · POINT "P" · POINT "V" · POINT "W" · POINT "Z" · POINT "AA" · POINT "CC" · POINT "DD" · POINT "BB" · POINT "S" · POINT "U" · POINT "O" · POINT "X" · POINT "Y"

PLAN
Scale: 1" = 100'

CROSS SECTION OF EXISTING CHITTENDEN AND TALBOT STREET
Scale: 1" = 10'

CROSS SECTION OF EXISTING MARTIN STREET ARLINGTON TO WEST END
Scale: 1" = 10'

CROSS SECTION OF EXISTING MILES STREET SECOND TO FOURTH AVENUE
Scale: 1" = 10'

CROSS SECTION OF EXISTING FOURTH AVENUE ARLINGTON TO KELLY STREET
Scale: 1" = 10'

EAST - WEST EXPRESSWAY PROFILE
Scale: Horiz. 1" = 100'
Vert. 1" = 20'

SCALE As Shown
MADE T.B.M. DATE 7-9-54
TRCD. B.J.R. DATE 6-24-54
CKD. H.K.M. DATE 8-2-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 5

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

6
204

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10

PARCEL NO.	OWNER
~~1 LA~~	~~Cook, C.L. + C.E.~~
2 LA	Miller, C.A. — Part
3 LA	Salenday, S.A.
4 LA	Adrian, W.G. + S.L.
5 LA	Berthelemy, J.F.
6 LA	Barringer, W.L. + T.M.
7 LA	Schobert, E.C.
~~8 LA~~	~~Boettcher, L.~~
~~9 LA~~	~~Hildreth, B.F.~~
10 LA	Hill, M.M.
11 LA	Rounis, K. — Part
12 LA	Andrews, B.
13 LA	Kelly, E. + S.
14 LA	Lechot, W.B. + J.D.
15 LA	Mc Queeney, E.C.
16 LA	Mc Queeney, E.C.
17 LA	Capes, E.C.
18 LA	Homerich, E.
19 LA	Hardacre, W.S. + D.M.
20 LA	Elpper, A.C. + E.I.
21 LA	Briggs, R.W. + A.L.
22 LA	Shaw, R.F. + M.
23 LA	Scofield, E.
24 LA	French, R.E. + M.L.
25 LA	Snyder, H. + E.C.
26 LA	Young, J.E.
27 LA	Hutton, R.E. + O.M.
28 LA	Mc Intyre, E.
29 LA	Faulkner, D.W.
30 LA	Schultz, P.
31 LA	Lehner, O + M.
32 LA	Martin, V.
33 LA	Fedor, K.
34 LA	Newton, C.R. + F.
35 LA	Newton, C.R. + F.E.
36 LA	Curry, E.V.
37 LA	Maistros, C.
38 LA	Masters, J.R.
39 LA	West, R.J.
40 LA	West, C.L.
16(A) L.A.	Smalukas, A.& E. — Part
16(B) L.A.	Whalen, L. — Part

PARCEL NO.	OWNER
41 LA	Calabria, L.E. + L.M.
42 LA	Miller, J.E. + M.
43 LA	Baker, L.H.
44 LA	Cueni, R. + F.
45 LA	Schott, C. + L.
46 LA	Gabor, G.J. + D.L.
47 LA	Bulgrin, W.C. + G.M.
48 LA	Rankin, R.C. + L.L.
49 LA	Rankin, R.C. + L.L.
50 LA	Holley, W.J. + I.G.
51 LA	Martin, T.R. + M.J.
52 LA	Rimmer, J.C. + N.B.
53 LA	Bonebrake, S.F. + A.
54 LA	Henckel, W. + M.
55 LA	Myers, L.H. + N.E.
56 LA	Shults, B.
57 LA	Law, S.L.
58 LA	Karl, P.H. + V.
59 LA	Tenpenny
60 LA	Patton, H.C. + H.M.
61 LA	Mc Henry, R. + G.I.
62 LA	Billington, W.
63 LA	Kefterman, G. — Part
64 LA	Ellis, K.W. + E.A. — Part
65 LA	Markov, B. — Part
66 LA	Wells, W.L. + M.M. — Part
67 LA	Bernabei, J.J. + M.L.
68 LA	Monidis, A.
69 LA	Pfaff, H + E.
70 LA	Hall, D.M.
71 LA	Caipen, R.A. + G.
72 LA	Kleft, H.F. + V.
73 LA	Manko, A. + M.
~~74 LA~~	~~Lucas, W.E. + M.H.~~
75 LA	Fischer, A.E. — Part
76 LA	Muffley, W. + J.
77 LA	Doyle, H.J. + H.T.
78 LA	Boston, R.
79 LA	Freeman, T.A.
80 LA	Freeman, T.A.

NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L.A.: PARCEL SHOWN AS (4) IS ACTUALLY E4L.A.

10-1-54

Topography Compiled By Photogrammetric Methods - AERO SERVICE CORPORATION - PHILADELPHIA, PA.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

7

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-

E88,500 E88,750 E89,000 E89,250 E89,500 E89,750 E90,000

N95,250 N95,000 N94,750

MATCH TO SHEET 6

MATCH TO SHEET 8

PARCEL NO.	OWNER
81 L.A.	Scott, C.R. & V.M.
82 L.A.	Abbott, O.
83 L.A.	Athey, C.H. & G.M.
84 L.A.	Hinkle, F.E. & L.P.
85 L.A.	Allshouse, G.G. & E.M.
86 L.A.	Hannig, D.M.
87 L.A.	Hannig, A.M.
88 L.A.	Latsch, L.M. & A.M.
89 L.A.	Latsch, L.M. & A.M.
90 L.A.	Bucher, G.K. & C.J.
91 L.A.	Carlson, C.R. & L.
92 L.A.	Holb, G. & P.
93 L.A.	Hileman, C.I. & E.B.
94 L.A.	Weber, R. & L.
95 L.A.	Slater, A.M.
96 L.A.	Putt, C.M.
97 L.A.	Allen, V.L.
98 L.A.	Heaton, M.E.
99 L.A.	Krahling, H.H. & K.R.
100 L.A.	Radcliff, L.M.
101 L.A.	Seiler, J.J.
102 L.A.	Yost, F.P.
103 L.A.	Mikiylov, L. Jr. & M.A.
104 L.A.	Flory, B.
105 L.A.	Flory, B.M.
106 L.A.	Beckwith, P. & H.E.
107 L.A.	Byrd, M.E. & M.
108 L.A.	Drurey, B.L.
109 L.A.	Full, F.
110 L.A.	Kozielski, C.S. & K.
111 L.A.	Cipcar, M.J. & A.
112 L.A.	Luxeder, A.J. & M.K.
113 L.A.	Stokich, D.E. & J.L.
114 L.A.	Stokich, D.E. & J.L.
115 L.A.	Haque, F.J. & B.M.
116 L.A.	Mc Garr, N.C. & M.
117 L.A.	Farley, C.M.
118 L.A.	Schott, V.V.
115(A) L.A.	Haque, F.J. & B.M.
116(A) L.A.	Stout, J.G & M.L. — Part
132(A) L.A.	~~Moore, L. & B.M.~~ Stroup, S.J. Part
150(A) L.A.	Breckenrich, G.J.
156(A) L.A.	Schneider, E.F.
156(B) L.A.	State of Ohio

PARCEL NO.	OWNER
119 L.A.	Summerford, T.D. & J.E.
120 L.A.	Carroll, D.J. & L.E.
121 L.A.	King, P.J. & M.J.
122 L.A.	Isbell, B.
123 L.A.	DeFrisco, E.
124 L.A.	Marshall, F.R. & O.
125 L.A.	Strawderman, I.M.
126 L.A.	Plavsich, Z.J. & J.J.
127 L.A.	Isner, J.W.
128 L.A.	Pinkos, J. & S.
129 L.A.	Hall, R.G. & C.E.
130 L.A.	Grinder, G.C.
131 L.A.	Veney, H.E. & M.
132 L.A.	Stroup, S.J. Part
~~133 L.A.~~	~~Livers, H.G. & H.E.~~
~~134 L.A.~~	~~Fosiek, J.E. & J.E.~~
135 L.A.	Golya, J.L. & E.A.
136 L.A.	Schmitschulte, H.J., Mrs.
137 L.A.	Whalen, L.
138 L.A.	Kasarda, M. & M.
139 L.A.	Ries, F.H. & F.E.
140 L.A.	Ries, F. et al
141 L.A.	Lammlein, C.J. & F.M.
142 L.A.	Roberts, E.B.
143 L.A.	Disbennett, G.W. & M.E.
144 L.A.	Crosser, I.F.
145 L.A.	Roberts, E.B.
146 L.A.	Kinsey, C.E. & H.
147 L.A.	Davis, W.D. & M.V.
148 L.A.	Pelfrey, A.F.
149 L.A.	Mc Avoy, J. et. al.
150 L.A.	Schneider, W.W.
151 L.A.	Walter, F.A.
152 L.A.	Zeigler, W.A. & M.L.
153 L.A.	Massarelli, F. & M.J.
154 L.A.	First Evang. Cong. Church
155 L.A.	First Evang. Cong. Church
156 L.A.	First Evang. Cong. Church
157 L.A.	Mc Cann, J.J. & G.

NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L.A.: PARCEL SHOWN AS ④ IS ACTUALLY E4LA.

50 0 50 100 150 FT.

10-1-54

Topography Compiled By Photogrammetric Methods - AERO SERVICE CORPORATION - PHILADELPHIA, PA.

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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204

SUMMIT COUNTY
CITY OF AKRON OHIO

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM.-18 R-12.10

PARCEL NO.	OWNER
158 L.A.	Fannin, C.M.
159 L.A.	Taylor, E.R. & M.M.
160 L.A.	Jacobs, S. & I.L.
161 L.A.	Alboreo, M.G.
162 L.A.	Tricaso, E. & B.
163 L.A.	Nimer, N.
164 L.A.	Wolfe, W.G. & L. Part
165 L.A.	Mc Millen, .O.
166 L.A.	Lang, J.B. & E.L.
167 L.A.	Sloan, M.M.
168 L.A.	Donofrio, D.J. & H.
169 L.A.	Hout, G.
170 L.A.	Churchill, J. & M.S.
171 L.A.	Dankanick, C.D. & S.
172 L.A.	Jones, A.
173 L.A.	Douglas, J.R. & M.R.
174 L.A.	Crawford, L.H.
175 L.A.	Anderson, J.E. & H.E. Part
178 L.A.	Hoban, E.F. Bishop
176 L.A.	Corbett, E. Part
~~150(A) L.A.~~	~~Bryan, H.O. & F.~~
163(A) L.A.	Damjanovich, A. & L.
163(B) L.A.	Foti, C. & C.

MATCH TO SHEETS 6 & 7

INMAN ST.

COLONIAL HOMES ALL'T P.B. 15 PG. 14

SOUTH ST.

CENTRAL ALL'T P.B. 15 PG. 20

FIFTH AVE.

MERTON AVE.

Existing Road

Existing Road

Right of Way Line

Slope line

N 78°06'59"E 975.11'

S 89°47'06"E

N 80°08'59"E 506.55'

N 70°29'37"E 615.18'

RAMP "E-2"

EAST-WEST EXPRESSWAY

P.C. Sta. 558+14.72

N 68°10'49"E

Slope line

Right of Way Line

N 66°58'05"E 1026.34'

RAMP "E-1"

Sta. 551+22.88

N 08°03'29"E 186.85'

S 89°52'01"E

R. of W. Line 122.50'

NORTH SERVICE ROAD

SOUTH SERVICE ROAD

Right of Way Line

School Building Under Construction

MATCH TO SHEET 9

50 0 50 100 150 FT.

NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L.A. PARCEL SHOWN AS (4) IS ACTUALLY E4LA.

10-1-54

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

9
204

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10

E91,750 E92,000 E92,250 E92,500 E92,750 E93,000 E93,250

N96,500 N96,250 N96,000 N95,750

MATCH TO SHEET 8

MATCH TO SHEET 10

N 78°06'59"E 975.11'
N 85°55'50"E 409.6'
Right of Way Line
Slope line
RAMP "E-3"
110'
184'
EAST-WEST EXPRESSWAY
Sta. 571+38.58
S89°47'06"E
570
546
163'
P.T. Sta. 569+16.46
83'
Slope Line
S 89°47'06" E 383.73
Right of Way Line
N 80°08'59" W 506.55'

MARTIN AVE.
STINE ALL'T
P.B. 7 PG. 70
WATTS ALL'T
P.B. 7 PG. 5
Right of Way Line
TALBOT AVE.
INGLESIDE ALL'T
P.B. 7 PG. 44
ARLINGTON STREET
2 ND AVE.
C.S. HART ALL'T
P.B. 6 PG. 2
MILES STREET
CHITTENDEN STREET
RAMP "E-4"
P.C. Sta. 578+75
Ramp "E-5"

PARCEL NO.	OWNER
179 L.A.	German, B.L.
180 L.A.	Wolfe, J.S. & T.
181 L.A.	Fielding J.E.
182 L.A.	Ulm, B.A. & M.C.
183 L.A.	Recicar, S. & H.
184 L.A.	Ulm, B.A. & M.C.
185 L.A.	Werner, M.P.
186 L.A.	Everhart, E. & E.E.
187 L.A.	Palmer, B.M.
188 L.A.	Reed, D.V. & C.M.
189 L.A.	Mack, B.
190 L.A.	Mastanievich, S. & Thomas, M.F.
191 L.A.	Timmons, E. & H.D.
192 L.A.	Tritt, N.H. & J.M.
193 L.A.	Vaughan, M.C.
194 L.A.	Caetta, J.
195 L.A.	Tsiloff, L. & G.
196 L.A.	Ward, T.D. & M.J.
197 L.A.	Stiffler, T. & L.
198 L.A.	Mc Cutcheon, I
199 L.A.	Mayton, P. & T.
200 L.A.	Aukney, A.
201 L.A.	Siple, M.M.
202 L.A.	Allen, P.J. Sr. & J.
203 L.A.	Bryan, M.J. & A.C.
204 L.A.	Gilham, E.C. & I.M.
205 L.A.	Walder, A. & M.D.
206 L.A.	Smith, W.B. & M.E.
207 L.A.	Rodgers, M.M.
208 L.A.	Sheets, C.W. & M.R.

PARCEL NO.	OWNER
209 L.A.	Claflin, G. & G.
210 L.A.	Stroupe, F.M. & D.E.
211 L.A.	Stuhldreher, U.
212 L.A.	Young, J.A.
213 L.A.	Beamer, J.G. & E.H.
214 L.A.	Lach, F.A. & F.E.
215 L.A.	~~Popp, J. & H.~~ Wisler, P.C.
203(A) L.A.	Dodson, E.G.
203(B) L.A.	H.H. & F. Thompson Part
203(C) L.A.	J.E. Mc Masters
203(D) L.A.	Bates, R.L. & O.C.
216 L.A.	Butcher, W.E.
217 L.A.	D.A. & Q. Ross
218 L.A.	R.E. & L.E. Starcher
219 L.A.	W.C. & F.P. Rutan
220 L.A.	J.C. & V.A. Fisher
221 L.A.	V.R. Trachsel
188(A) L.A.	L.H. Brazelton

NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L. A.: PARCEL SHOWN AS (4) IS ACTUALLY E4 L. A.

50 0 100 150 200

10-1-54

Topography Compiled By Photogrammetric Methods - AERO SERVICE CORPORATION - PHILADELPHIA, PA.

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM. - 18 R - 12.10

FED ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

10/204

E93,000 E93,250 E93,500 E93,750 E94,000

N95,500 N95,250

SECOND AVE.

THIRD AVE.

FOURTH AVE.

FIFTH AVE.

ARLINGTON ST. MILES ST. CHITTENDEN ST. HART ST.

MATCH TO SHEET 9

MATCH TO SHEET 11

C.S. HART ALL'T P.B. 6 PG. 2

EAST-WEST EXPRESSWAY

Right of Way Line

Slope Line

RAMP E-7

THIRD AVE. SERVICE RD.

PARCEL NO.	OWNER
222 L.A.	Burr, M.J.
223 L.A.	Johnson, E.E. & L.E.
224 L.A.	Simpson, T.W. & E.
225 L.A.	Lemasters, C.M. & L.
226 L.A.	Bauer, C. & C.
227 L.A.	Jones, W.
228 L.A.	Lammlein, E.K. & A.J.
229 L.A.	Messner, R.P. & C.T.R.M.
230 L.A.	Valere, L.
231 L.A.	Mc Cullough, C.E.
232 L.A.	Seventh Day Adventist Church
233 L.A.	Consolidani, A. & A.
234 L.A.	Fricaso, S. & S.
235 L.A.	Fisher, J.G. & V.A.
236 L.A.	Arnold, J.R. & E.P.
237 L.A.	Price, M.E. etal.
238 L.A.	Nipper, G.H.
239 L.A.	Dranginis, J.H. & E.M.
240 L.A.	Pudoki, J. & E.
241 L.A.	Morris, J.E. & P.E.
242 L.A.	Arnold, W.R.
243 L.A.	Clawson, P.E. & E.E.
244 L.A.	Manos, A. & A.
245 L.A.	Snyder, E.P.
246 L.A.	Laughrey, E.L.
247 L.A.	Hughey, H.M.
248 L.A.	Sitko, T. & A.
249 L.A.	Kantorowski, B. & M.
250 L.A.	Kerns, J.W. & C.B.

PARCEL NO.	OWNER
251 L.A.	Giannini, F.
252 L.A.	Waistell, R. & E.
253 L.A.	Cowden, G.T. & P.
254 L.A.	Misenor, E.
255 L.A.	Zehnder, W.
256 L.A.	Long, E.D. & M.A.
257 L.A.	~~Garing, R.~~
258 L.A.	Olegar, J.
259 L.A.	Prunner, B.
260 L.A.	Brand, H.W. & A.R.
261 L.A.	Huber, O.J. etal
262 L.A.	Gurnik, J.M.
263 L.A.	Mitscher, N.V.
264 L.A.	Newman, C.C. & B.B
265 L.A.	Tapovgis, J. & C.
266 L.A.	Cottle, C.E. & J.
267 L.A.	Thompson, C.M.
268 L.A.	Dye, J.E. & B.
269 L.A.	Kelley, H.E.
270 L.A.	Aiken, L.E. & E.F.
271 L.A.	Sears, E.R. & L.B.
272 L.A.	Given, C.D. & H.
273 L.A.	Heatwole, M. & E.E.
274 L.A.	Schubert, S. & R.
275 L.A.	Silcox, R.T.
276 L.A.	Rinker, O.F.
277 L.A.	Hoffman, A.N. & M.E.
278 L.A.	Fox, P. & S.
279 L.A.	Donston, S.L.

PARCEL NO.	OWNER
280 L.A.	Haslet, P.R. & E.F.
281 L.A.	Kreitzer, O. & B.
282 L.A.	Grigsby, E.E.
283 L.A.	Silcox, J.T. & M.
284 L.A.	Gursky, J. & A.
285 L.A.	Demyer, T.F. & A.J.
286 L.A.	Frazier, E.G. & E.A.

NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L. A.: PARCEL SHOWN AS ④ IS ACTUALLY E4 L.A.

50 0 50 100 150 FT.

10-1-54

Compiled By Photogrammetric Methods - AERO SERVICE CORPORATION - PHILADELPHIA, PA.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

11
204

SUMMIT COUNTY
CITY OF AKRON OHIO

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM.-18 R-12.10

E 94,500 E 94,750 E 95,000 E 95,250 E 95,500 E 95,750

N 96,000 N 95,750 N 95,500 N 95,250

THIRD AVE. FOURTH AVE. FIFTH AVE.

ST. FULLER KELLY AVE.

Right of Way Line Slope Line

C.S. HART ALL'T P.B. 6 PG. 2

EAST-WEST EXPRESSWAY

RAMP E-B2

B. & O. R.R.

CUYAHOGA RIVER

LITTLE

Match to Sheet 18

Match to Sheet 19

3 Story Brick. 2 Story Brick. 2 Story Brick. 2 Story Brick. 2 Story Brick. 1329 Fr. Store

PARCEL NO.	OWNER
287 L.A.	Sitko, T. + A.
288 L.A.	Stewart, V.C. + L.M.
289 L.A.	Haidet, C.A.
290 L.A.	Timbs, L.R. + L.D.
291 L.A.	Anderson, J.B.
292 L.A.	Kalafut, J.
293 L.A.	Worrel, S.J.
294 L.A.	Mohawk Rubber Co.
295 L.A.	Fagerlin, A.R. + K.N.
296 L.A.	Valk, A. + H.B.
297 L.A.	Cramer, G.J. + J.
298 L.A.	Conley, B.G.

PARCEL NO.	OWNER
299 L.A.	Johnson, W. + M.
300 L.A.	Hall, R.
301 L.A.	Crawford, R. + G.
302 L.A.	Grigsby, J.B. + N.
303 L.A.	Watson, H.H. + W.A.
304 L.A.	Priest, J.E. + E.M.
305 L.A.	Hale, C.E.
306 L.A.	Nase, J. + D.B.
307 L.A.	Thurmond, R.C. + M.
308 L.A.	Packo, M.
309 L.A.	Spence, R.C.
310 L.A.	Goodyear Tire + Rubber Co.

PARCEL NO.	OWNER
311 L.A.	Goodyear Tire + Rubber Co.
312 L.A.	Kiba, J.
313 L.A.	Hoye, H.V.
314 L.A.	Ginerek, M.J. + R.
315 L.A.	Senter, J.S. Sr. + A.M.
316 L.A.	Bruckert, J. + M.
317 L.A.	Lemke, E.A. etal.
318 L.A.	Nase, L.R. + R.E.
319 L.A.	Crozier, R.G. + G.
320 L.A.	Miller, A.L. + F.D.
321 L.A.	Niestoeckel, H.E. + F.A.
322 L.A.	Juszczak, F.T. + M.K.

PARCEL NO.	OWNER
323 L.A.	Juszczak, T.L. + P.H.
324 L.A.	Cirullo, G.P.
325 L.A.	Dash, W.M. + F.I.
326 L.A.	Detroit Ave. No. 1115 Co.
327 L.A.	~~Milbry, A.C.~~

NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L.A.: PARCEL SHOWN AS ④ IS ACTUALLY E 4 L.A.

50 0 50 100 150 FT.

10-1-54

Compiled By Photogrammetric Methods - AERO SERVICE CORPORATION - PHILADELPHIA, PA.

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
GENERAL NOTES

NOTES

GENERAL

DESIGN STANDARDS

THE GEOMETRIC DESIGN FOR THE ROADWAY AND STRUCTURES WHICH COMPRISE THIS PROJECT IS BASED ON THE FOLLOWING DESIGN SPEEDS AS OUTLINED BY THE A.A.S.H.O. POLICIES ON GEOMETRIC HIGHWAY DESIGN:

EXPRESSWAY	50 mph
RAMPS	35 mph

MINIMUM HORIZONTAL AND VERTICAL SIGHT DISTANCES HAVE BEEN PROVIDED BASED ON THE A.A.S.H.O. POLICIES ON GEOMETRIC HIGHWAY DESIGN, AND CONSISTENT WITH THE DESIGN SPEEDS OF THE VARIOUS ROADWAYS.

FIELD OFFICE

THE CONTRACTOR SHALL PROVIDE A SUITABLE FIELD OFFICE IN ACCORDANCE WITH SEC. S-0.01 (b) HAVING A MINIMUM OF 200 SQ. FT. OF FLOOR SPACE. THE CONTRACTOR SHALL HAVE A TELEPHONE INSTALLED AND MAINTAINED DURING CONSTRUCTION OF THIS PROJECT.

PERMITS, LAWS AND REGULATIONS

THE CONTRACTOR SHALL SECURE, AT HIS OWN EXPENSE, ALL NECESSARY PERMITS FROM THE MUNICIPAL OR OTHER PUBLIC AUTHORITIES, SHALL GIVE ALL NOTICES REQUIRED BY LAW OR MUNICIPAL ORDINANCES, AND SHALL PAY ALL FEES AND CHARGES INCIDENT TO THE DUE AND LAWFUL PROSECUTION OF THE WORK COVERED BY THIS CONTRACT.

UTILITY ADJUSTMENT

ANY AND ALL WORK REQUIRED FOR ADJUSTMENT OF PUBLIC OR PRIVATE UTILITIES, EXCEPT WATER MAINS NOTED BELOW, WILL BE DONE BY AND AT THE EXPENSE OF THEIR RESPECTIVE OWNERS UNLESS OTHERWISE NOTED IN THE PLANS.

SALVAGED MATERIAL PAID FOR UNDER "ITEM E-12, PIPE REMOVED AND STORED" REFERRED TO AFTER EACH STREET HEADING BELOW, SHALL REMAIN THE PROPERTY OF THE CITY AND SHALL BE DELIVERED TO AND STORED AT THE WATER DEPARTMENT STOREYARD LOCATED AT 565 JOHNSTON STREET. PAYMENT WILL BE MADE ONLY FOR SALVAGED MATERIAL STORED IN A USABLE CONDITION. PAYMENT WILL NOT BE MADE FOR SALVAGED MATERIAL DAMAGED BECAUSE OF CARELESS HANDLING ON THE PART OF THE CONTRACTOR.

IN THE INSTALLATION OF NEW WATER MAINS AT JOHNSTON, COVENTRY, HAMMEL, LUMIERE STREETS AND THIRD AVENUE, CLASS "C" CONCRETE ANCHORS SHALL BE PROVIDED AT ALL BENDS AND TEES IN CONFORMANCE WITH DETAILS TO BE FURNISHED BY THE CITY OF AKRON WATER DEPARTMENT. ALL PIPE, FITTINGS, VALVES, ETC., SHALL BE PURCHASED BY THE CONTRACTOR FROM THE CITY OF AKRON WATER DEPARTMENT AND WILL BE AVAILABLE AT THE DEPARTMENT'S STOREYARD AT 565 JOHNSTON STREET. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE CITY OF AKRON SPECIFICATIONS. THE PRICE OF THIS MATERIAL TO THE CONTRACTOR WILL BE THE ACTUAL PURCHASE COST TO THE WATER DEPARTMENT. INSTALLATION OF THE PIPE, INCLUDING EXCAVATION, FURNISHING LEAD AND JUTE, FURNISHING AND PLACING SAND CUSHION, BACKFILLING, ALL FITTINGS, VALVES, ETC., DISPOSAL OF SURPLUS EXCAVATION AND ALL INCIDENTALS WILL BE PAID FOR UNDER "ITEM SPECIAL, INSTALLING WATER MAIN".

IN GENERAL, THE AXIS OF THE PIPE SHALL BE 5'-0" BELOW THE FINISHED GRADE.

JOHNSTON STREET

THE EXISTING 24 IN. AND 16 IN. WATER MAINS WILL BE CUT AND PLUGGED BY OTHERS OUTSIDE THE LIMITS OF UNDERPASS CONSTRUCTION. THE CONTRACTOR SHALL REMOVE THE MAINS WITHIN THE LIMITS OF UNDERPASS CONSTRUCTION, THE WORK TO BE PAID FOR UNDER "ITEM E-12, PIPE REMOVED AND STORED".

THE CONTRACTOR SHALL INSTALL AND TEST A NEW 30 IN. CLASS "3" CEMENT LINED CAST IRON WATER MAIN TO BE LAID UNDER THE EXPRESSWAY SOUTH OF THE JOHNSTON STREET UNDERPASS, TO THE LINE AND PROFILE SHOWN ON SHEET 43 OF THE PLANS. MINIMUM COVER ALLOWED OVER THE PIPE SHALL BE 3.5'. SERVICE SHALL BE MAINTAINED IN THE EXISTING MAINS UNTIL THE 30 IN. MAIN HAS BEEN INSTALLED AND TESTED. CONNECTIONS TO THE EXISTING MAINS WILL BE MADE BY THE CITY OF AKRON WATER DEPARTMENT.

MC QUEENEY AVENUE

THE EXISTING 6 IN. WATER MAIN WILL BE ABANDONED. THE CONTRACTOR SHALL REMOVE THE MAIN, THE WORK TO BE PAID FOR UNDER "ITEM E-12, PIPE REMOVED AND STORED".

SOUTH STREET, MILES STREET, GRIDLEY STREET AND TALBOT AVE.

THE EXISTING 6 IN. WATER MAIN WILL BE CUT AND PLUGGED BY OTHERS OUTSIDE THE LIMITS OF EXPRESSWAY CONSTRUCTION. THE CONTRACTOR SHALL REMOVE THE MAIN WITHIN THE LIMITS OF EXPRESSWAY CONSTRUCTION, THE WORK TO BE PAID FOR UNDER "ITEM E-12, PIPE REMOVED AND STORED".

COVENTRY STREET

THE EXISTING 4 IN. WATER MAIN WILL BE CUT AND PLUGGED BY OTHERS OUTSIDE THE LIMITS OF EXPRESSWAY CONSTRUCTION. THE CONTRACTOR SHALL REMOVE THE MAIN WITHIN THE LIMITS OF EXPRESSWAY CONSTRUCTION, THE WORK TO BE PAID FOR UNDER "ITEM E-12, PIPE REMOVED AND STORED".

THE CONTRACTOR SHALL INSTALL AND TEST A NEW 4 IN. WATER MAIN TO BE LAID ALONG THE SOUTH-WEST SIDE OF TEMPORARY CONNECTION "B" AS SHOWN ON SHEET 27 OF THE PLANS. MINIMUM COVER ALLOWED OVER THE PIPE SHALL BE 3.5'. CONNECTIONS TO THE EXISTING COVENTRY AND SOUTH STREET MAINS WILL BE MADE BY THE CITY OF AKRON WATER DEPARTMENT.

HAMMEL STREET

THE EXISTING 4 IN. WATER MAIN WILL BE CUT AND PLUGGED BY OTHERS OUTSIDE THE LIMITS OF EXPRESSWAY CONSTRUCTION. THE CONTRACTOR SHALL REMOVE THE MAIN WITHIN THE LIMITS OF EXPRESSWAY CONSTRUCTION, THE WORK TO BE PAID FOR UNDER "ITEM E-12, PIPE REMOVED AND STORED".

THE CONTRACTOR SHALL INSTALL AND TEST A NEW 6 IN. WATER MAIN TO BE LAID ALONG THE SOUTH SIDE OF THE SOUTH SERVICE ROAD AS SHOWN ON SHEETS 28 AND 31 OF THE PLANS. MINIMUM COVER ALLOWED OVER THE PIPE SHALL BE 3.5'. CONNECTIONS TO THE EXISTING HAMMEL, GRIDLEY AND INMAN STREET MAINS WILL BE MADE BY THE CITY OF AKRON WATER DEPARTMENT.

LUMIERE STREET

THE EXISTING 4 IN. AND 8 IN. WATER MAINS WILL BE CUT AND PLUGGED BY OTHERS OUTSIDE THE LIMITS OF EXPRESSWAY CONSTRUCTION. THE CONTRACTOR SHALL REMOVE THE MAINS WITHIN THE LIMITS OF EXPRESSWAY CONSTRUCTION, THE WORK TO BE PAID FOR UNDER "ITEM E-12, PIPE REMOVED AND STORED ".

THE CONTRACTOR SHALL INSTALL AND TEST A NEW 6 IN. WATER MAIN TO BE LAID ALONG THE NORTH SIDE OF THE NORTH SERVICE ROAD AS SHOWN ON SHEETS 29, 30, AND 31 OF THE PLANS. MINIMUM COVER ALLOWED OVER THE PIPE SHALL BE 3.5'. CONNECTIONS TO THE EXISTING LUMIERE, HAMMEL, GRIDLEY AND INMAN STREET MAINS WILL BE MADE BY THE CITY OF AKRON WATER DEPARTMENT.

HART STREET

THE EXISTING 6 IN. WATER MAIN BETWEEN THIRD AVENUE AND THE EXPRESSWAY SOUTH LIMITS OF CONSTRUCTION WILL BE CUT AND PLUGGED BY OTHERS. THE CONTRACTOR SHALL REMOVE THE MAIN WITHIN THESE LIMITS, THE WORK TO BE PAID FOR UNDER "ITEM E-12, PIPE REMOVED AND STORED ".

THIRD AVENUE

THE EXISTING 6 IN. WATER MAIN WILL BE CUT AND PLUGGED BY OTHERS BETWEEN THIRD AVENUE SERVICE ROAD AND HART STREET. THE CONTRACTOR SHALL REMOVE THE MAIN WITHIN THE LIMITS OF EXPRESSWAY CONSTRUCTION, THE WORK TO BE PAID FOR UNDER "ITEM E-12, PIPE REMOVED AND STORED".

THE CONTRACTOR SHALL INSTALL AND TEST A NEW 6 IN. WATER MAIN TO BE LAID ALONG RAMP "E-6" AND THE THIRD AVENUE SERVICE ROAD AS SHOWN ON SHEET 37 OF THE PLANS. MINIMUM COVER ALLOWED OVER THE PIPE SHALL BE 3.5'. CONNECTIONS TO THE EXISTING MAINS WILL BE MADE BY THE CITY OF AKRON WATER DEPARTMENT.

FOURTH AVENUE

THE EXISTING 6 IN. WATER MAIN BETWEEN FULLER STREET AND THE BALTIMORE AND OHIO RAILROAD, WILL BE CUT AND PLUGGED BY OTHERS. THE CONTRACTOR SHALL REMOVE THE MAINS WITHIN THESE LIMITS, THE WORK TO BE PAID FOR UNDER "ITEM E-12, PIPE REMOVED AND STORED".

WORK BY THE CITY OF AKRON

WITHIN THE CORPORATE LIMITS OF THE CITY OF AKRON THE CITY WILL PERFORM ANY WORK (NOT INCORPORATED IN THESE PLANS) NECESSARY TO PROPERLY JOIN THE NEW AND EXISTING PAVEMENTS AND WALKS AT THE TERMINI OF THE NEW PAVEMENTS AND WALKS.

THE CITY WILL PROVIDE FOR THE REMOVAL OR DISPOSAL OF ALL EXISTING BUILDINGS WITHIN THE LIMITS OF THE EASEMENT LINES TO THE TOP OF THE EXISTING FOUNDATIONS.

TRAFFIC

THE CONSTRUCTION OF THE PROJECT SHALL BE COMPLETED IN 4 STAGES SO AS TO MAINTAIN TRAFFIC AS OUTLINED ON SHEET 16 "SUGGESTED SEQUENCE OF CONSTRUCTION". THE CONTRACTOR MAY AT HIS OPTION SUBMIT MODIFICATIONS TO THE SEQUENCE FOR APPROVAL BY THE ENGINEER.

TO PERMIT OPENING TO TRAFFIC AT THE EARLIEST POSSIBLE DATE THAT PORTION OF THE EXPRESSWAY NORTH OF STATION 453 + 00, THE CONTRACTOR FOR THIS CONTRACT SHALL FIRST COMMENCE AND PROSECUTE TO THE FULLEST WITHOUT UNDUE DELAY, THE WORK OUTLINED IN STAGES I AND II OF THE "SUGGESTED SEQUENCE OF CONSTRUCTION".

ANY TEMPORARY TRAFFIC LANES NECESSARY FOR THE MAINTENANCE OF TRAFFIC UNDER ANY ACCEPTABLE ALTERNATE SCHEME SHALL BE CONSTRUCTED OF EIGHT INCHES OF T-70, PORTLAND CEMENT CONCRETE PAVEMENT. PAYMENT FOR CONSTRUCTION AND REMOVAL OF ANY SUCH LANES SHALL BE INCLUDED IN THE LUMP SUM BID FOR "MAINTAINING TRAFFIC".

WHERE ANY OF THE WORK CALLED FOR UNDER THIS CONTRACT INVOLVES THE CLOSING OF EXISTING STREETS AND/OR THE RE-ROUTING OF TRAFFIC, THE CONTRACTOR FOR THIS PROJECT SHALL PROSECUTE TO THE FULLEST EXTENT THE WORK INVOLVED SO AS TO REDUCE TO A MINIMUM THE LENGTH OF TIME THAT THE STREETS CONCERNED WILL BE CLOSED TO TRAFFIC.

IN ADDITION TO THE REQUIREMENTS OF SECTION G-7.07 "BARRICADES", "DANGER" AND "WARNING" SIGNS, THE CONTRACTOR SHALL DISPLAY ONE "PLEASE - MEN WORKING ON ROAD" SIGN FURNISHED BY THE STATE AT EACH END OF EACH ZONE WHERE WORK IS IN PROGRESS AND IN SUCH A POSITION AS TO BE VISIBLE TO THE TRAFFIC APPROACHING THE ZONE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF THESE SIGNS, SHALL ADVANCE THE SIGNS AS WORK PROGRESSES AND SHALL RETURN THE SIGNS TO THE STATE AT THE COMPLETION OF THE WORK.

IN ADDITION TO THE ABOVE, SECTION G-4.05 "MAINTENANCE OF LOCAL TRAFFIC" WILL BE IN FORCE DURING THE ENTIRE LIFE OF THE CONTRACT.

IN ADDITION TO THE ABOVE, THE ITEM OF "MAINTAINING TRAFFIC" SHALL INCLUDE FURNISHING LIGHTS, SIGNS (OTHER THAN THOSE MENTIONED ABOVE), BARRICADES, AND WATCHMAN, PLUS THE DISPLAYING AND ADVANCING OF THE "PLEASE-MEN WORKING ON ROAD" SIGNS TO ASSURE THE FLOW OF TRAFFIC TWENTY-FOUR (24) HOURS DAILY.

ALL OF THE ABOVE ARE INCLUDED IN THE LUMP SUM BID FOR "MAINTAINING TRAFFIC".

IN LIEU OF THE LAST SENTENCE IN SECTION G-4.05, THE LUMP SUM BID FOR MAINTAINING TRAFFIC SHALL ALSO INCLUDE THE COST OF LIGHTS, SIGNS, BARRICADES AND WATCHMEN, AND CONSTRUCTING, MAINTAINING, AND REMOVING TEMPORARY RUNAROUNDS AND STRUCTURES REQUIRED FOR THE PURPOSE OF MAINTAIN. LOCAL TRAFFIC. AGGREGATE AND CALCIUM CHLORIDE ARE CARRIED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER.

PAVEMENT

PLACING AND FINISHING CONCRETE PAVEMENT

PAVEMENT IN SUPERELEVATED CURVES SHALL BE PLACED WITHOUT CROWN. THE CROWN SHALL BE TRANSITIONED TO A PLANE SURFACE AS INDICATED ON THE PAVEMENT PLANS.

APPROVED FLEXIBLE FORMS MAY BE USED FOR CONSTRUCTION OF CIRCULAR PAVEMENT EDGES, CIRCULAR CONCRETE CURBS AND CONCRETE CURB TRANSITIONS OF SHORT RADII.

PARTICULAR CARE SHALL BE EXERCIZED BY THE CONTRACTOR IN OBTAINING IN A UNIFORM MANNER THE CURB TRANSITIONS CALLED FOR ON THE PLANS.

HAND-FINISHING WILL BE PERMITTED AS PER SECTION T-71.211 OF THE GENERAL SPECIFICATIONS FOR THE REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT AT THE FOLLOWING LOCATIONS:

APPROACH SLABS
INTERSECTIONS
PAVEMENTS WHERE SHARP CURVATURES PREVENT USE OF A FINISHING MACHINE
VARIABLE WIDTH LANES WHICH IN THE OPINION OF THE ENGINEER REQUIRE HAND FINISHING

BITUMINOUS TACK COAT (SEE NOTE IN PROPOSAL)

A BITUMINOUS TACK COAT CONFORMING TO SECTION M-5.5 (MS-2 OR SS-1) OR SECTION M-5.2 (RC-1 OR RC-2) SHALL BE APPLIED IN ACCORDANCE WITH ITEM T-30 OF THE CONSTRUCTION AND MATERIALS SPECIFICATIONS AT THE RATE OF 0.10 GAL. PER SQUARE YARD.

ASPHALTIC CONCRETE SURFACE COURSE

ASPHALTIC CONCRETE SHALL BE PLACED IN TWO COURSES, EACH PLACED TO THICKNESS SHOWN ON THE PLANS. THE ASPHALTIC CONCRETE LEVELING COURSE (70-80) SHALL BE PLACED IN ACCORDANCE WITH PROVISIONS OF ITEM B-35 OF THE SPECIFICATIONS. THE ASPHALTIC CONCRETE SURFACE COURSE (70-80) SHALL BE OF TYPE "C" COMPOSITION PLACED IN ACCORDANCE WITH PROVISIONS OF ITEM T-35 OF THE SPECIFICATIONS.

SIDEWALK

IN LIEU OF THE SURFACE GROOVING CALLED FOR IN THE SPECIFICATIONS, STEEL PLATES 1/8 INCH IN THICKNESS, SHALL BE USED TO DIVIDE THE WALK FOR ITS FULL WIDTH AND THICKNESS, INTO BLOCKS APPROXIMATELY 5 FEET IN LENGTH UNLESS OTHERWISE ORDERED BY THE ENGINEER. THE STEEL PLATES SHALL BE REMOVED AS SOON AS THE CONCRETE HAS SUFFICIENTLY SET THAT THE REMOVAL OF THE PLATE WILL NOT DISTURB OR DAMAGE THE FORMED JOINT.

THE LIMITS AND QUANTITY OF NEW SIDEWALK AS SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER.

DRIVES

THE NUMBER, LOCATION, TYPE AND GRADE OF DRIVES FRONTING ON IMPROVED SURFACE STREETS OR ACCESS ROADS MAY BE ADJUSTED BY THE ENGINEER DURING CONSTRUCTION.

DRAIN PIPES

NEW DRAIN PIPES AND CURB OPENINGS, AS DETAILED ON THE PLANS, ARE TO BE PROVIDED AT LOCATIONS DESIGNATED BY THE ENGINEER. THE CONTRACT UNIT PRICE PER LINEAR FOOT OF ITEM I-2, "3 1/2" ST'D. WEIGHT WELDED W.I. PIPE SEC. M-6.10 FOR STORM SEWERS" SHALL INCLUDE THE CURB OPENING, FURNISHING AND INSTALLING THE PIPE AND OTHER INCIDENTALS NECESSARY TO SATISFACTORILY COMPLETE THIS ITEM. THE NUMBER OF LINEAR FEET OF DRAIN PIPE SHOWN IN THE ESTIMATE MAY BE ADJUSTED BY THE ENGINEER.

EXISTING DRAIN PIPES ENCOUNTERED DURING CONSTRUCTION ARE TO BE ADJUSTED OR REPLACED AS DIRECTED BY THE ENGINEER. PAYMENT FOR THE ADJUSTMENT OF EXISTING DRAIN PIPES WILL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR LINEAR FEET OF CURB. PAYMENT FOR REPLACEMENT OF DRAIN PIPES WILL BE MADE AS NOTED ABOVE FOR NEW DRAIN PIPES.

PAVEMENT JOINTS

THE LOCATION OF CONSTRUCTION JOINTS NOT INDICATED ON THE PLANS SHALL BE LOCATED BY THE CONTRACTOR SUBJECT TO THE APPROVAL OF THE ENGINEER.

SUBGRADE COMPACTION

IN ADDITION TO THE REQUIREMENTS OF SECTION E-1.09, THE SUBGRADE SHALL BE COMPACTED FOR THE FULL WIDTH OF THE CURB AND GUTTER TO THE DENSITY REQUIREMENTS OF SECTION E-1.09.

ROADWAY

REMOVAL OF TREES AND STUMPS

ALL TREES AND STUMPS WITHIN THE LIMITS OF THE RIGHT OF WAY SHALL BE DISPOSED OF AS SPECIFIED IN SECTION E-1.03 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

TREES SHALL NOT BE REMOVED, REGARDLESS OF SIZE, UNTIL SPECIFICALLY AND CONSPICUOUSLY MARKED BY THE ENGINEER.

PAYMENT FOR THE REMOVAL OF TREES AND STUMPS IS INCLUDED IN THE UNIT PRICE BID FOR ITEM E-1, ROADWAY EXCAVATION.

REMOVAL OF REFUSE AND DEBRIS

ANY EXISTING REFUSE, DEBRIS OR ANY OTHER UNSUITABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR OUTSIDE OF THE LIMITS OF THE RIGHT OF WAY. THE QUANTITY OF REFUSE OR DEBRIS, OR OTHER UNSUITABLE MATERIAL REMOVED AND DISPOSED OF WILL BE DETERMINED BY FINAL CROSS SECTIONS, AND THE YARDAGE SO DETERMINED WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR ROADWAY EXCAVATION, ITEM E-1.

REMOVAL MISCELLANEOUS

REMOVAL AND DISPOSAL OF ANY EXISTING PAVEMENT, SIDEWALK, BUILDING FOUNDATIONS, STEPS, CELLAR FLOORS, WELL COVERS, CISTERN COVERS, SEPTIC TANKS, CONCRETE BASES, WALLS, CURB, CURB AND GUTTER, RAILS, TIES, POLE STUBS, HEADWALLS, PIPES, DRIVEWAYS AND GARAGE FLOORS, OR OTHER MASONRY LYING WITHIN THE LIMITS OF RIGHT OF WAY (AND NOT SPECIFICALLY PAID FOR UNDER A SEPARATE ITEM) ARE CLASSIFIED AS EXCAVATION AND PAID FOR UNDER THE EXCAVATION ITEM OF WHICH THEY ARE A PART. WHERE ANY PAVEMENT OR SIDEWALK LYING WITHIN THE LIMITS OF ROADWAY EXCAVATION, ITEM E-1, OR EXCAVATION FOR STRUCTURES, ITEM E-2, IS PAID FOR UNDER A SEPARATE ITEM, THE PAY LIMITS FOR EXCAVATION, ITEM E-1 OR E-2, SHALL BE THE BOTTOM OF PAVEMENT OR SIDEWALK.

PAVEMENTS, SIDEWALKS, STEPS, CELLAR FLOORS OR OTHER MASONRY SHALL BE REMOVED TO A DEPTH OF THREE (3) FEET BELOW THE PROPOSED PAVEMENT SUBGRADE, IF LOCATED WITHIN THE PROPOSED PAVEMENT AREA, AND TO A DEPTH OF THREE (3) FEET BELOW THE PROPOSED FINISHED SURFACE IF LOCATED WITHOUT THE LIMITS OF THE PROPOSED PAVEMENT AREA.

PAVEMENTS, SIDEWALKS, CELLAR FLOORS OR OTHER MASONRY BELOW THE ABOVE LIMITS SHALL BE BROKEN INTO PORTIONS WHOSE AREA DOES NOT EXCEED ONE (1) SQUARE FOOT, BUT NEED NOT BE REMOVED.

PAYMENT FOR ALL OF THE ABOVE OPERATIONS SHALL BE INCLUDED IN CONTRACT UNIT PRICE BID FOR ROADWAY EXCAVATION, ITEM E-1, AND EXCAVATION FOR STRUCTURES, ITEM E-2.

ADDITIONAL EXCAVATION NECESSARY TO PERFORM ANY OF THE ABOVE OPERATIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER CUBIC YARD FOR ROADWAY EXCAVATION, ITEM E-1, AND EXCAVATION FOR STRUCTURES, ITEM E-2.

BASEMENTS, WELL, CISTERNS, SEPTIC TANKS AND UNNATURAL DEPRESSIONS WITHIN THE AREA BOUNDED BY LANE "U" AND LANE "S" SHALL BE BACKFILLED WITH MATERIAL OTHER THAN BROKEN FOUNDATION MASONRY OR ROCK, PLACED ACCORDING TO THE SPECIFICATIONS OF SECTION E-1.08 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS FOR PLACING THAT MATERIAL. BACKFILLING OF BASEMENTS, WELLS, CISTERNS, SEPTIC TANKS AND UNNATURAL DEPRESSIONS WITHIN LIMITS OF THE RIGHT OF WAY AND EXCLUSIVE OF THE AREA BOUNDED BY LANE "U" AND LANE "S" SHALL BE BACKFILLED WITH BROKEN FOUNDATION MASONRY OR ROCK PLACED AS ROCK EMBANKMENT ACCORDING TO SECTION E-1.08 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

DISPOSAL OF PAVEMENT

PAVEMENT REMOVED UNDER ITEM E-8 MAY BE PLACED IN EMBANKMENT IN ACCORDANCE WITH SECTION E-1.08 AND WILL BE CONSIDERED RANDOM MATERIAL EXCEPT WHERE USED IN THE PART OF THE EMBANKMENT MORE THAN THREE (3) FEET BELOW THE NEW PAVEMENT, IN WHICH CASE IT WILL BE CONSIDERED ROCK. ANY STEEL PROTRUDING FROM THE REMOVED PAVEMENT SHALL BE CUT OR BURNED SO THAT IT WILL NOT PROJECT MORE THAN ONE (1) INCH FROM ANY SIDE. THE QUANTITY OF PAVEMENT REMOVAL MAY BE ADJUSTED BY THE ENGINEER IN THE FIELD.

DISPOSAL OF SURPLUS EXCAVATION

ALL SUITABLE MATERIALS REMOVED FROM ALL CLASSES OF EXCAVATION ON THIS PROJECT WHICH ARE NOT REQUIRED FOR THE FORMATION OF EMBANKMENT, SHOULDERS, SITE GRADING AND OTHER USES WITHIN THE PAVEMENT LIMITS NOTED ON THE PLANS, SHALL BE CONSIDERED AS SURPLUS MATERIAL AND SHALL BE DISPOSED OF AS EMBANKMENT FOR FUTURE PAVEMENT CONSTRUCTION EASTWARD OF THE PROPOSED CHITTENDEN-AREA LIMITS OF EXPRESSWAY PAVEMENT.

ALL SURPLUS MATERIAL INCORPORATED INTO EMBANKMENT SHALL BE PLACED IN ACCORDANCE WITH THE PROVISIONS OF SEC. E-1.08 AND SHALL BE PLACED TO THE TEMPLATE SHOWN IN THE PLANS.

EMBANKMENT AND SILT

EXCAVATED MATERIAL SHALL BE PLACED IN THE EMBANKMENT IN ACCORDANCE WITH ITEM E-1 AND AS DIRECTED BY THE ENGINEER. SILT FROM EXCAVATION OR BORROW IDENTIFIED AS OHIO CLASSIFICATION A-4b AND/OR SHTL CLASS 8 (AS DETERMINED BY THE STATE HIGHWAY TESTING LABORATORY METHOD OF TEST) SHALL BE PLACED AT LEAST 3 FEET BELOW THE SURFACE OF THE SUBGRADE WHEN USED IN EMBANKMENT. PRINCIPAL CHARACTERISTICS OF A-4b AND SHTL CLASS 8 SOILS ARE 50 PER CENT OR MORE SILT SIZES AND P.I. OF NOT MORE THAN 10.

SUB-BASE MATERIAL

MATERIAL USED AS SUB-BASE SHALL CONFORM TO ITEM I-22 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS WITH GRADING RESTRICTED TO C OR D. PERMEABILITY REQUIREMENTS NOTED UNDER THIS ITEM ARE WAIVED.

EXCAVATION OF GRANULAR MATERIAL

MATERIAL OBTAINED FROM THE VARIOUS ITEMS OF EXCAVATION ON THIS PROJECT, WHICH MEET THE REQUIREMENTS FOR SUB-BASE MATERIAL ITEM I-22 (GRADING C OR D) MAY BE USED BY THE CONTRACTOR IN THE CONSTRUCTION OF THE PAVEMENT SUB-BASE IN ACCORDANCE WITH THE PROVISIONS OF SECTION G-4.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

COMPACTION OF SOIL BACKFILL

SPECIAL CARE SHALL BE TAKEN TO PROPERLY COMPACT SOIL BACKFILL PLACED ADJACENT TO AN EXISTING PAVEMENT EDGE.

EXISTING SEWERS

THE LOCATIONS, TYPE, DEPTH AND SIZE OF ALL EXISTING PIPES ARE SHOWN AS ACCURATELY AS THE AVAILABLE INFORMATION WILL PERMIT. THE STATE OF OHIO WILL NOT BE RESPONSIBLE FOR ANY VARIATIONS FOUND DURING CONSTRUCTION.

THE CONTRACTOR SHALL SO CONDUCT HIS OPERATIONS THAT THE FLOW OF ALL EXISTING SEWERS WILL BE MAINTAINED AT ALL TIMES. ANY ADDITIONAL LABOR OR COST INVOLVED IN MAINTAINING THIS FLOW BY PUMPING OR BY ANY OTHER APPROVED METHOD WHICH IS NECESSARY FOR THE COMPLETION OF THIS PROJECT SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FEET OF STORM SEWERS, ITEM I-2.

SEEDING AND PROTECTING, TYPE "A"

QUANTITIES FOR SEEDING ARE CALCULATED FOR THE SOIL AREAS BETWEEN LINES TEN (10) FEET OUTSIDE THE CONSTRUCTION LIMITS AS SHOWN ON THE CROSS SECTIONS OR TO THE R/W LINE IF SUCH LINE IS LESS THAN TEN (10) FEET FROM THE CONSTRUCTION LIMITS. QUANTITIES FOR SEEDING SHALL NOT INCLUDE ANY AREAS OF "ITEM SPECIAL, 9" STABILIZED TURF SHOULDERS".

ALL AREAS OUTSIDE THESE LIMITS WHERE THE VEGETATIVE GROWTH HAS BEEN INDURIOUSLY DISTURBED OR DESTROYED BY THE CONTRACTOR SHALL BE RESTORED AND SEEDED IN ACCORDANCE WITH THE PROVISIONS OF ITEM L-9 BY THE CONTRACTOR AT HIS OWN EXPENSE.

IN LIEU OF THE SEED MIX SPECIFIED UNDER L-9.12 OF THE SPECIFICATIONS THE FOLLOWING SEED MIX WILL BE USED AT THE RATE OF 3 POUNDS PER THOUSAND SQUARE FEET:

20% KENTUCKY BLUE GRASS	5% WHITE DUTCH CLOVER
40% CREEPING RED FESCUE	20% MEADOW FESCUE
15% RED TOP	

ON SLOPES OF 1 ON 2 OR STEEPER OR OVER SIX (6) FEET IN HEIGHT, HAIRY VETCH SHALL BE SUBSTITUTED FOR WHITE DUTCH CLOVER. IF MEADOW FESCUE SEED IS NOT AVAILABLE, KENTUCKY BLUEGRASS MAY BE SUBSTITUTED THEREFOR AT NO ADDITIONAL COST TO THE STATE.

FERTILIZING AREAS TO BE SEEDED OR SODDED

ALL AREAS TO BE SEEDED OR SODDED, ITEM L-9 OR ITEM L-10, SHALL HAVE COMMERCIAL FERTILIZER (10-6-4 MIX) OR ANY EQUAL APPROVED BY THE ENGINEER, APPLIED AT THE RATE OF TWENTY (20) POUNDS PER THOUSAND (1000) SQUARE FEET.

PLASTERING OF MANHOLES AND INLETS

THE PLASTERING OF THE INSIDE OF MANHOLES AND INLETS SHALL BE OMITTED. INSIDE MORTAR JOINTS SHALL BE NEATLY STRUCK.

SCALE None
MADE BHD DATE 5-12-54
TRCD. MLJ DATE 9-9-54
CKD. HHB DATE 9-9-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 12

OTHER NOTES

LIGHTING - SEE SHEET 48
DRAINAGE - SEE SHEET 59 & 60
STRUCTURES - SEE SHEET 134 & 162 164

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS	13 / 204
2	OHIO			

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
QUANTITIES

GENERAL SUMMARY
ESTIMATED QUANTITIES

EARTHWORK QUANTITIES

ITEM	QUANTITY
Total Excavation 442,700	~~442,900~~ Cu.Yds.
Total Embankment ~~402,000~~	~~402,000~~ Cu.Yds.
Total Embankment x ~~1.097~~	~~442,900~~ Cu.Yds.
Total Borrow or Waste	0 Cu.Yds.
CODE TYPE 6708	442,700
1.10±	

Note: Material disposed of as embankment for future construction eastward of Chittenden shall be placed in a manner resulting in progressive complete prisms outlined in the cross sections. Embankment for future construction shall terminate at such point where all excavated material originating on this project and suitable for placement as embankment has been utilized.

If construction indicates existence of excess material over and above that required by the cross sections, such material if suitable for embankment, shall be stockpiled to a maximum of 16,000 cu. yds. as directed by the Engineer on the project right of way between Fuller and B & O Railroad.

ITEM NO.	EXPRESSWAY N-S. 25,26,49	EXPRESSWAY E.-W. 31,39	LANES S. 25,26,28,31	LANES U. 25,29,30,31	RAMPS E-1 32,33	RAMPS E-2 32,33	RAMPS E-3 33,34	RAMPS E-5 35,36	RAMPS E-6 36,37,38	RAMPS P&Q 26	RAMPS V 29,30	SERVICE ROADS NORTH 29,30,31	SERVICE ROADS SOUTH 28,31	TEMPORARY CONNECTION "A" & "B" 27	TEMPORARY CONNECTION "C" 27,28	EXISTING STREETS JOHNSTON 43	EXISTING STREETS INMAN 44	EXISTING STREETS CHITT'DEN 36	GENERAL		TOTAL	ITEM NO.	UNIT	DESCRIPTION
PAVEMENT																								
B-35	238	964	278	224												57	80				1,841	B-35	Cu.Yd.	Asphaltic Concrete Leveling Course (70-80)
B-70	6,473	22,915	6,689	5,384												1,426	2,013				44,900	B-70	Sq.Yd.	9" Portland Cement Concrete Base Course
I-7	152	576																			728	I-7	Sq.Yd.	Reinforced Concrete Approach Slabs
I-12	708	727	2,297	578	1,246	841	452			328	188										7,365	I-12	Lin.Ft.	Standard Type 2 Modified Curb and Gutter
I-12					305	278	260	336	959		161	2,632						975			5,906	I-12	Lin.Ft.	Standard Type 2-A Concrete Curb
I-12													1687			433	708				2828	I-12	Lin.Ft.	Standard Type 2-B Concrete Curb
I-12					83	36	83	115		395	385										1,097	I-12	Lin.Ft.	Standard Type 4 A Concrete Curb
I-12		303	478	355																	1,136	I-12	Lin.Ft.	Standard Type 4 B Concrete Curb
I-12							142							320	351						813	I-12	Lin.Ft.	Standard Type 6 Concrete Curb
I-12																72					72	I-12	Lin.Ft.	9" Concrete Curb, as per plan
I-21		50								15											65	I-21	Sq.Yd.	Portland Cement Concrete Mall Pavement
I-22																			10,100		10,100	I-22	Cu.Yd.	Subbase, Grading "C" or "D"
T-30	595	2,343	666	536										127	95	137	190				4,689	T-30	Gal.	Bituminous Tack Coat, as per plan
T-33														1,245	951						2,196	T-33	Sq.Yd.	3" Bituminous Macadam Surface Course, Type "A" or "B"
T-35	238	964	278	224												57	80				1,841	T-35	Cu.Yd.	Asphaltic Concrete Surface Course, Type "C" (70-80)
T-70									79			117	24			22	24	22			288	T-70	Sq.Yd.	7" Portland Cement Concrete Pavement
T-71			143	44	2,158	2,166	1,367	1,269	1,332	1,116	655	4,762	2,638					627			18,277	T-71	Sq.Yd.	9" Reinforced Portland Cement Concrete Pavement
ROADWAY																			442,700		442,700			
E-1																			~~442,900~~		~~442,900~~	E-1	Cu.Yd.	Roadway Excavation
E-1																			66,125		66,125	E-1	Sq.Yd.	Compacted Subgrade
E-8																	1,459		696		2,155	E-8	Sq.Yd.	Removal and Disposal of Existing Pavement (Asphalt on Concrete)
E-8																			9982		9982	E-8	Sq.Yd.	Removal and Disposal of Existing Pavement (Brick on Concrete)
E-8																2,527					2,527	E-8	Sq.Yd.	Removal and Disposal of Existing Pavement (Asphalt, Brick on Concrete)
E-8																			2,450		2,450	E-8	Sq.Yd.	Removal and Disposal of Existing Pavement (Bituminous Seal on Stabilized Base)
E-8																			342		342	E-8	Sq.Yd.	Removal and Disposal of Existing Pavement (Stabilized Surface on Slag Base)
E-8																			869		869	E-8	Lin.Ft.	Removal and Disposal of Existing Gutter (Stone)
E-8																	339		142		481	E-8	Lin.Ft.	Removal and Disposal of Existing Gutter (Brick on Concrete)
E-8																			346		346	E-8	Lin.Ft.	Removal and Disposal of Existing Curb and Gutter (Concrete)
E-8																1,354	985		7,649		9,988	E-8	Lin.Ft.	Removal and Disposal of Existing Curb (Stone)
E-8																7,350	4,663		70,304		82,317	E-8	Sq.Ft.	Removal and Disposal of Existing Sidewalk (Concrete)
E-11																			2,650		2,650	E-11	M.Gal.	Water
I-2																17	20	10	32		79	I-2	Lin.Ft.	3½" Standard Weight Welded W.I. Pipe (Sec. M-6.10) for Storm Sewers
I-8	3	3																			6	I-8	Each	Monuments, as per plan
I-13							610	1296	2,456			7,190	3,405			3,130	4404	5460			27,951	I-13	Sq.Ft.	4" Portland Cement Concrete Sidewalk, As Per Plan
I-15		2,600	984	1,610	325	633		802						138	139						7,231	I-15	Lin.Ft.	Guard Rail, Steel Beam Type (Deep) as per plan
I-15									15	18			25								58	I-15	Lin.Ft.	Guard Rail, Steel Beam Type (Deep) For Barricade Type "A"
L-9																			113,600		113,600			
L-9																			~~115,200~~		~~115,200~~	L-9	Sq.Yd.	Seeding and Protecting Type "A", As Per Plan
																			10.57		10.57	L-9	Tons	Commercial Fertilizer, (10-6-4)
T-10																			100		100	T-10	Cu.Yds.	Traffic Compacted Surface Course for Maintaining Traffic
M-10																			2		2	M-10	Tons	Calcium Chloride Furnished And Applied for Maintaining Traffic

SCALE None
MADE BHR DATE 7-27-54
TRCD BMO DATE 7-29-54
CKD JLC. DATE 9-7-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET-13

Rev. 3-16-55

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

14
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
QUANTITIES

GENERAL SUMMARY
ESTIMATED QUANTITIES

ITEM NO.	EXPRESSWAY N.-S.	EXPRESSWAY E.-W.	LANES S.	LANES U.	RAMPS E-1	RAMPS E-2	RAMPS E-3	RAMPS E-5	RAMPS E-6	RAMPS P&Q	RAMPS V	SERVICE ROADS NORTH	SERVICE ROADS SOUTH	TEMPORARY CONNECTION "A" & "B"	TEMPORARY CONNECTION "C"	EXISTING STREETS JOHNSTON	EXISTING STREETS INMAN	EXISTING STREETS CHITT'DEN	GENERAL		TOTAL	ITEM NO.	UNIT	DESCRIPTION
ROADWAY																								
L-10																			2,280		2,280	L-10	Sq. Yd.	Sodding
Special																			5,930		5,930	Special	Sq. Yd.	9" Stabilized Turf Shoulder
Special																			470		470	Special	Lin. Ft.	Barricade, Wood, Type "B", as per plan
WATER MAIN * See Note "A"																								
E-12																			755		755	E-12	Lin. Ft.	4" Pipe Removed for Storage
E-12																25			4,399		4,424	E-12	Lin. Ft.	6" Pipe Removed for Storage
E-12																			1,053		1,053	E-12	Lin. Ft.	8" Pipe Removed for Storage
E-12																490					490	E-12	Lin. Ft.	16" Pipe Removed for Storage
E-12																392					392	E-12	Lin. Ft.	24" Pipe Removed for Storage
Special																			143		143	Special	Lin. Ft.	Installing 4" Water Main, as per plan
Special																25	21		2,044		2,090	Special	Lin. Ft.	Installing 6" Water Main, as per plan
Special																10					10	Special	Lin. Ft.	Installing 8" Water Main, as per plan
Special																50					50	Special	Lin. Ft.	Installing 24" Water Main, as per plan
Special																575					575	Special	Lin. Ft.	Installing 30" Water Main, as per plan
S-20																9					9	S-20	Cu. Yds.	Rubble Stone Masonry
I-8																1					1	I-8	Each	Std. No. 1 Manhole
LIGHTING (SEE SHEET 48 FOR QUANTITIES)																								

SCALE No Scale
MADE B.H.P. DATE 7-27-54
TRCD. B.M.O. DATE 7-28-54
CKD. R.G. DATE 9-7-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 14

* NOTE "A"
State funds do not participate in these items

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

15
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
DRAINAGE QUANTITIES

GENERAL SUMMARY
ESTIMATED QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	DRAINAGE	MARTIN ST. WALL	TOTAL
	DRAINAGE				
E-2	Excavation for Structures (Unclassified)	Cu. Yd.	~~21~~ 19	453	~~474~~ 472
E-2	Excavation for Structures (Rock and Shale)	Cu. Yd.		37	37
E-12	8" Pipe Removed	Lin. Ft.	336		336
E-12	12" Pipe Removed	Lin. Ft.	100		100
E-12	15" Pipe Removed	Lin. Ft.	787		787
E-12	18" Pipe Removed	Lin. Ft.	110		110
E-12	24" Pipe Removed	Lin. Ft.	445		445
E-12	48" Pipe Removed	Lin. Ft.	160		160
I-2	12" Pipe for Storm Sewers, Sec. M-6.8(a)	Lin. Ft.	2345		2345
I-2	12" Pipe for Storm Sewers, Sec. M-6.8(b)	Lin. Ft.	32		32
I-2	12" Pipe for Storm Sewers under Pavement, Sec. M-6.8(b)	Lin. Ft.	2830		2830
I-2	15" Pipe for Storm Sewers, Sec. M-6.8(a)	Lin. Ft.	331		331
I-2	15" Pipe for Storm Sewers under Pavement, Sec. M-6.8(b)	Lin. Ft.	~~1051~~ 987		~~1051~~ 987
I-2	18" Pipe for Storm Sewers, Sec. M-6.8(a)	Lin. Ft.	486		486
I-2	18" Pipe for Storm Sewer under Pavement, Sec. M-6.8(b)	Lin. Ft.	263		263
I-2	21" Pipe for Storm Sewers, Sec. M-6.8(a)	Lin. Ft.	100		100
I-3	8" Bituminous Coated Corrugated Metal Pipe (Sec. M-6.4(c)) for Outlets for Roadway Drainage	Lin. Ft.	12		12
I-4	6" Extra Quality Drain Tile (Sec. M-6.7(b)) for Underdrains	Lin. Ft.	775		775
I-5	12" Pipe Special for Storm Sewers	Each	1		1
I-5	12" Pipe Specials for Storm Sewers, Flap Gates As Per Plan	Each	20		20
I-5	15" Pipe Specials for Storm Sewers, Flap Gates As Per Plan	Each	6		6
I-5	18" Pipe Special for Storm Sewers, Flap Gate As Per Plan	Each	1		1
I-8	Std. Nº 1 Manholes	Each	9		9
I-8	Std. Nº 3 Catch Basins	Each	14		14
I-8	Std. Nº 3-A Catch Basins	Each	25		25
I-8	Inlet Manholes, As per plan	Each	~~20~~ 19		~~20~~ 19
I-8	Akron No. 3 Inlets	Each	12		12
I-8	Akron No. 5 Inlets	Each	5		5
I-8	Inlets Adjusted to Grade	Each	1		1
I-14	12" Half-round Gutter, As per plan	Lin. Ft.	264	368	632
I-14	Type 2 Concrete Paved Gutter	Lin. Ft.	450		450
I-16	Manholes Abandoned	Each	21		21
I-16	Inlets Abandoned	Each	36		36

ITEM NO.	DESCRIPTION	UNIT	DRAINAGE	MARTIN ST. WALL	TOTAL
	DRAINAGE (CONT'D)				
S-1	Concrete for Structures Class "C"	Cu. Yd.	~~31~~ 2.2	289.5	~~293.6~~ 291.7
S-3	Type "B" Waterproofing	Sq. Yd.		36	36
S-4	Reinforcing Steel	Lbs.	~~84~~ 60	21,576	~~21,660~~ 21,636
S-9	1" Premolded Bituminous Expansion Joint Filler	Sq. Ft.		44	44
S-9	Copper Waterstop	Lin. Ft.		109	109
S-20	Rubble Stone Masonry	Cu. Yds.	41		41
S-27	12" Pipe for Roadway Culverts, Sec. M-6.4(c)	Lin. Ft.	56		56
S-29	8" Perforated Bituminous Coated Corrugated Metal Pipe, Sec. M-6.4(f)	Lin. Ft.		306	306
S-29	7½" Galvanized Downspouts	Each		1	1
S-29	Porous Backfill	Cu. Yd.		133	133
Special	Median Apron, As per plan	Each	1		1
Special	Abandoning Sewers	Lump Sum			Lump Sum
Special	Concrete Flumes, As per plan	Each	3		3
I-2	21" Pipe for Storm Sewers under Pavement, Sec. M-6.8(b)	Lin. Ft.	28		28
I-2	24" Pipe for Storm Sewers, Sec. M-6.8(a)	Lin. Ft.	547		547
I-2	24" Pipe for Storm Sewers, Sec. M-6.8(b)	Lin. Ft.	132		132
I-2	24" Pipe for Storm Sewers under Pavement, Sec. M-6.8(b)	Lin. Ft.	122		122
I-2	24" Pipe for Storm Sewers, Sec. M-6.8(a), Encased	Lin. Ft.	24		24
I-2	48" Extra Strength Reinforced Concrete Culvert Pipe Sec. M-6.6(c) with Vitrified Half Liner for Storm Sewers	Lin. Ft.	383		383
I-2	48" Heavy Reinforced Concrete Culvert Pipe with Vitrified Half Liner for Storm Sewers	Lin. Ft.	101		101
I-8	Std. Nº 2 Manholes without Drop Pipe	Each	1		1
I-8	Std. Nº 2 Manholes	Each	5		5
I-8	Manholes Adjusted to Grade	Each	9		9
I-8	Manhole Frames and Covers (Heavy) Furnished And Placed	Each	8		8
I-8	Manhole Frames and Covers (Light) Furnished And Placed	Each	1		1
	**** SANITARY SEWERS**				
I-2	12" Pipe for Storm Sewers (Sanitary) Sec. M-6.8(a)	Lin. Ft.	266		266
I-2	12" Pipe for Storm Sewers Under Pavement (Sanitary) Sec. M-6.8(b)	Lin. Ft.	184		184
I-8	Standard Nº 1 Manholes (Sanitary)	Each	2		2

** State Funds Do Not Participate.

Rev. 3-16-55

SCALE No Scale
MADE J.V.H. DATE 8-17-54
TRCD L.B.R. DATE 9-8-54
CKD. R.E.S. DATE 9-9-54

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

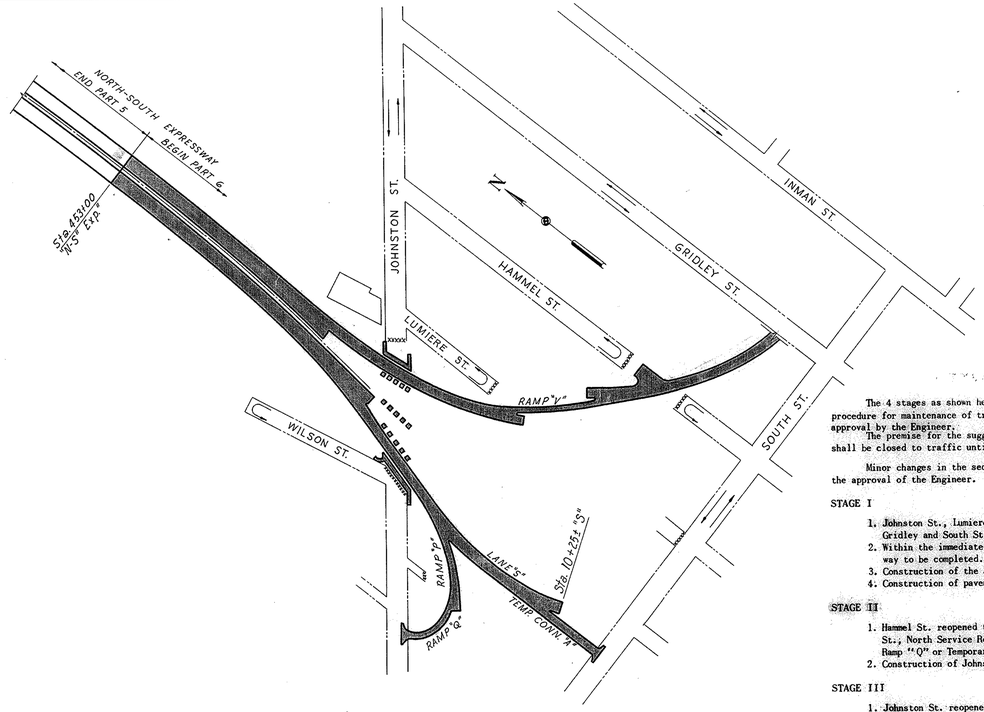
901 SHEET- 15

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

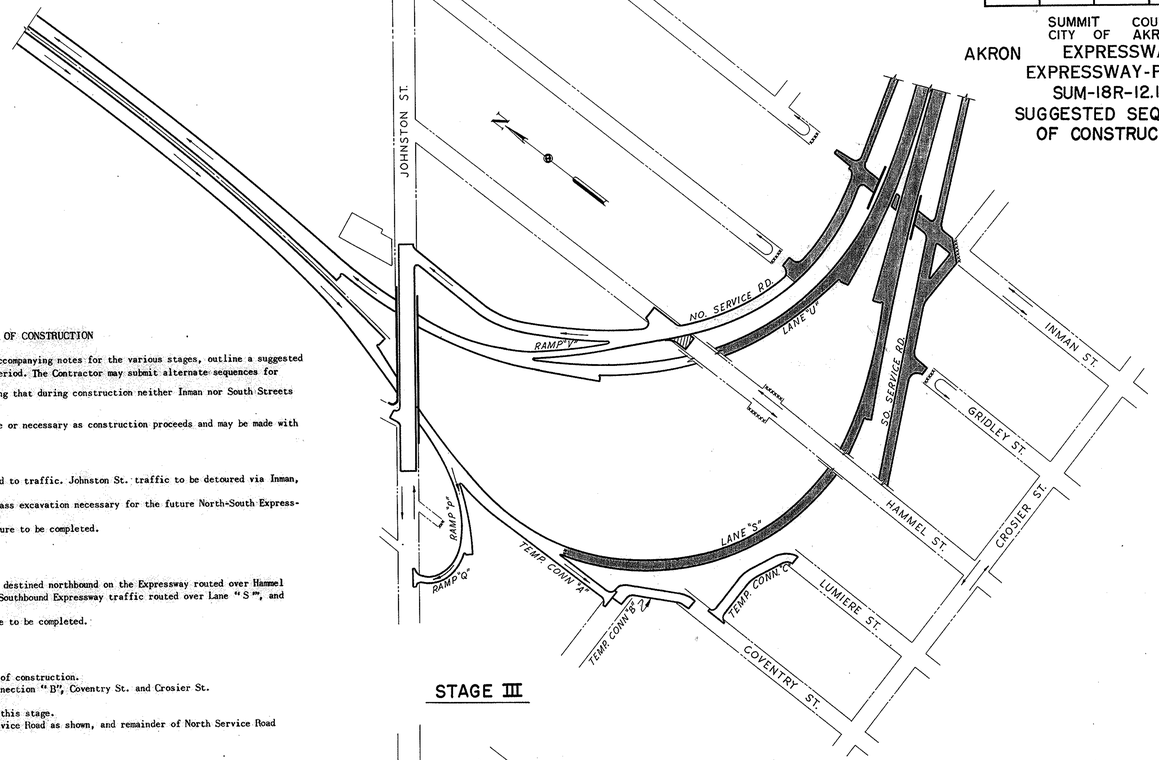
16
204

SUMMIT COUNTY
CITY OF AKRON

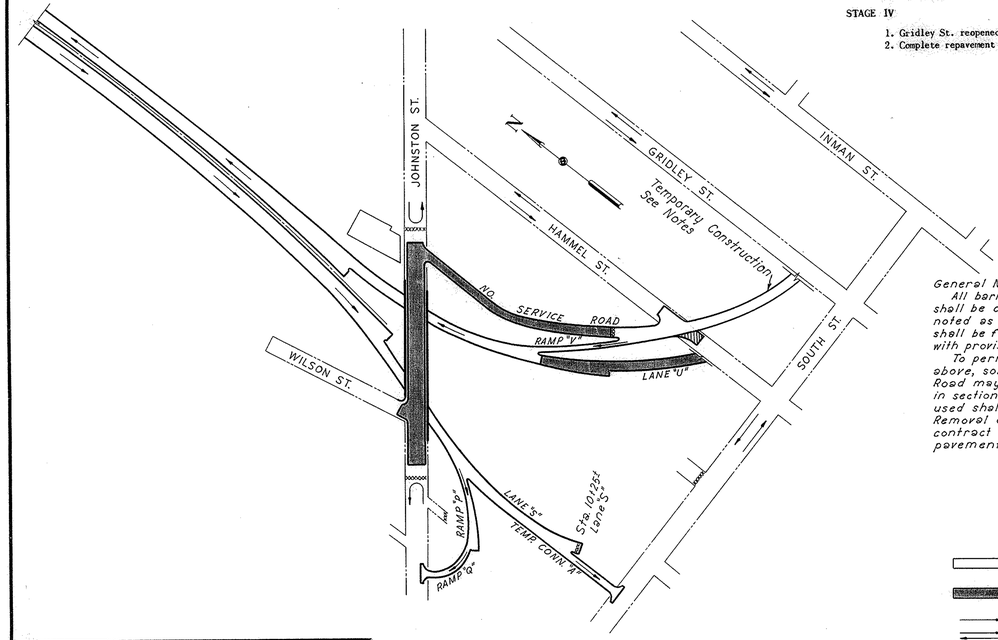
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
SUGGESTED SEQUENCE OF CONSTRUCTION



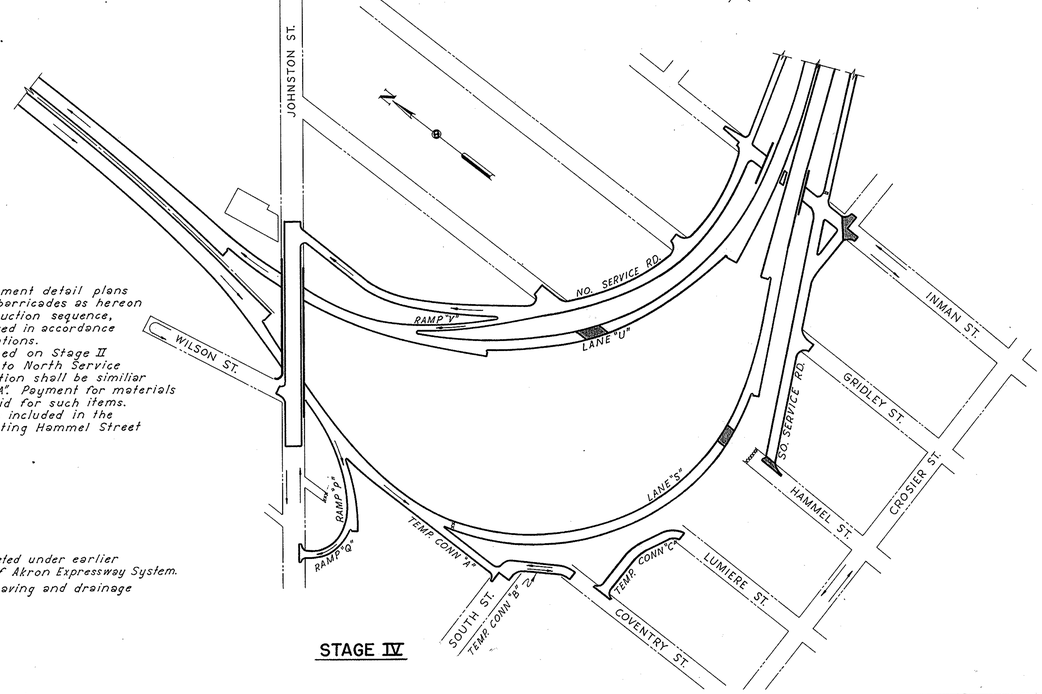
STAGE I



STAGE III



STAGE II



STAGE IV

SUGGESTED SEQUENCE OF CONSTRUCTION

The 4 stages as shown hereon, in conjunction with the accompanying notes for the various stages, outline a suggested procedure for maintenance of traffic during the construction period. The Contractor may submit alternate sequences for approval by the Engineer.

The premise for the suggested procedure as outlined being that during construction neither Inman nor South Streets shall be closed to traffic until Johnston St. is reopened.

Minor changes in the sequence shown may become desirable or necessary as construction proceeds and may be made with the approval of the Engineer.

STAGE I

1. Johnston St., Lumiere St. and Hammel St. to be closed to traffic. Johnston St. traffic to be detoured via Inman, Gridley and South Streets.
2. Within the immediate area of the Johnston St. underpass excavation necessary for the future North-South Expressway to be completed.
3. Construction of the Johnston St. Underpass substructure to be completed.
4. Construction of pavement indicated to be completed.

STAGE II

1. Hammel St. reopened to traffic. Johnston St. traffic destined northbound on the Expressway routed over Hammel St., North Service Road, Ramp "V" and Lane "U". Southbound Expressway traffic routed over Lane "S", and Ramp "Q" or Temporary Connection "A".
2. Construction of Johnston St. Underpass superstructure to be completed.

STAGE III

1. Johnston St. reopened to traffic.
2. South St. to be closed to traffic within the limits of construction.
3. South Street traffic to be routed over Temporary Connection "B", Coventry St. and Crosier St.
4. Inman St. and Gridley St. to be closed to traffic.
5. Construction of the Inman St. Overpass completed in this stage.
6. Construction of Temporary Connection "C", South Service Road as shown, and remainder of North Service Road completed in this stage.

STAGE IV

1. Gridley St. reopened to traffic
2. Complete repavement of Inman and Hammel Streets and reopen these to traffic.

General Notes:

All barricades not located nor shown in the pavement detail plans shall be considered temporary. Such temporary barricades as hereon noted as being necessary for an orderly construction sequence, shall be furnished, placed, maintained, and removed in accordance with provisions of Section G-107 of the Specifications.

To permit reopening of Hammel Street outlined on Stage II above, some temporary construction adjacent to North Service Road may be necessary. Such temporary construction shall be similar in section to that used for Temporary Connection "A". Payment for materials used shall be made at the contract unit price bid for such items. Removal of this temporary construction shall be included in the contract unit price bid for removal of the existing Hammel Street pavement.

LEGEND

- *Existing Expressway Construction - completed under earlier stages or constructed under Part 5 of Akron Expressway System.*
- *Construction work including grading, paving and drainage to be completed in stage shown.*
- *One-way traffic*
- *Two-way traffic*
- xxxx *Barricade-permanent or temporary.*

SCALE 1"=200'
MADE J.C.T. DATE 6-14-54
TRCD. L.B.R. DATE 8-6-54
CKD. J.L.C. DATE 8-13-54

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

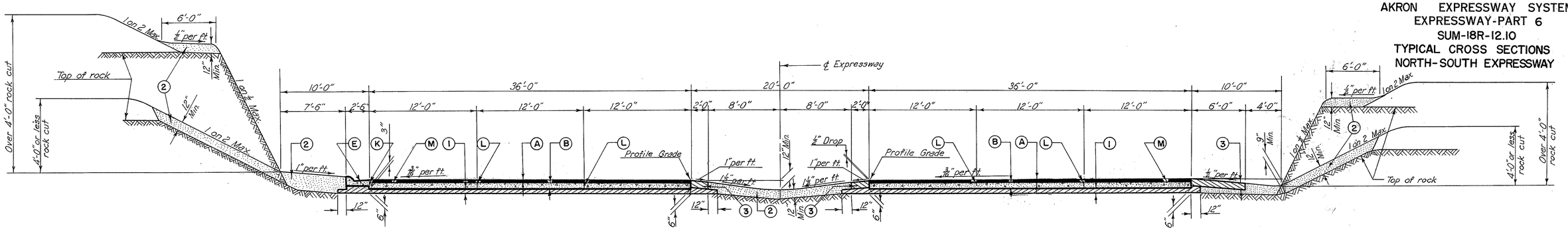
901 SHEET- 16

TYPE T-35 ON B-70

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

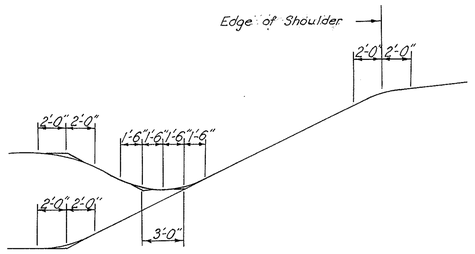
17
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
TYPICAL CROSS SECTIONS
NORTH-SOUTH EXPRESSWAY

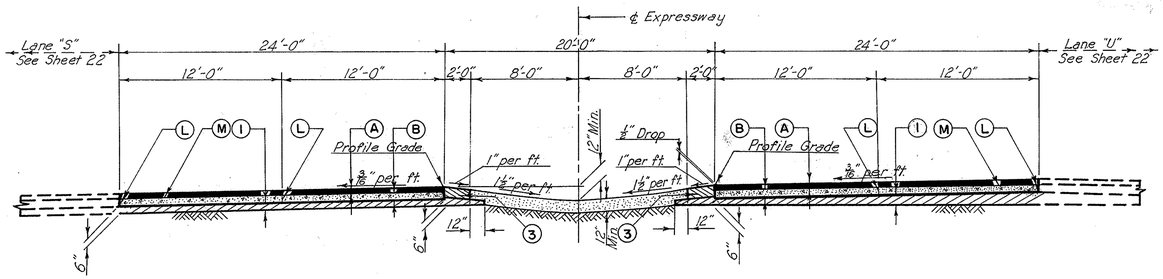


NORTH-SOUTH EXPRESSWAY

STA. 445+85.39 TO STA. 450+00.00=414.61 LIN. FT.-LEFT HALF ONLY
STA. 450+00.00 TO STA. 453+00.00=300.00 LIN. FT.- COMPLETE SECTION

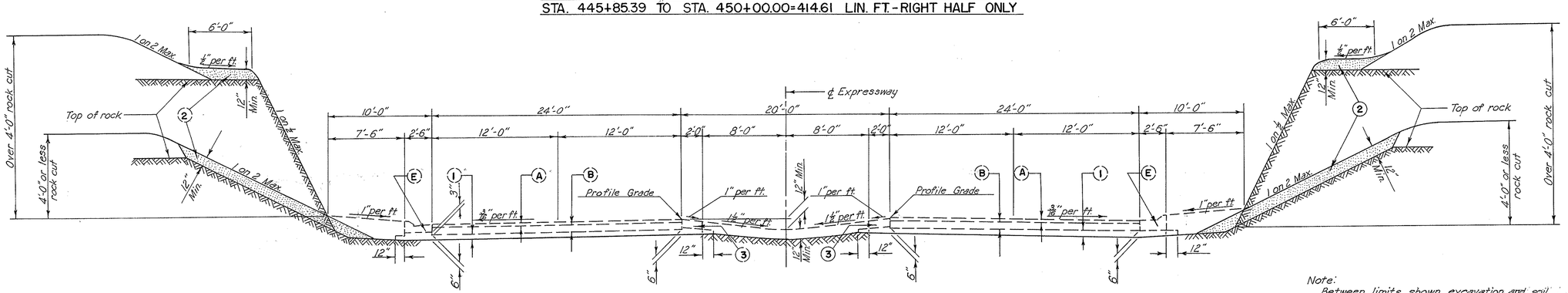


DITCH AND SLOPE DETAIL



NORTH-SOUTH EXPRESSWAY

STA. 443+23.54 TO STA. 445+85.39=261.85 LIN. FT.-LEFT HALF ONLY
STA. 445+85.39 TO STA. 450+00.00=414.61 LIN. FT.-RIGHT HALF ONLY



NORTH-SOUTH EXPRESSWAY

STA. 436+00 TO STA. 443+23.54=723.54 LIN. FT.-COMPLETE SECTION
STA. 443+23.54 TO STA. 445+85.39 = 261.85 LIN. FT.- RIGHT HALF ONLY

LEGEND

- (1) Subbase - Item 1-22 Grading "C" or "D"
- (2) Soil Backfill
- (3) 9" Stabilized Turf Shoulder, Item Special (Placed in two Courses)
- (A) 3" Asphaltic Concrete Surface Course Consisting of 1½" Asphaltic Concrete Surface Course, Type "C", Item T-35 1½ Asphaltic Concrete Leveling Course, Item B-35
- (B) 9" Portland Cement Concrete Base Course, Item B-70
- (E) Type 2 Modified Curb and Gutter
- (K) Butt Joint without Tie Bars
- (L) Standard Longitudinal Joint.
- (M) Bituminous Tack Coat, Item T-30

Note:
Between limits shown, excavation and soil backfill only are required. Pavement to be completed under a later contract.

SCALE ¾"=1'-0"
MADE HFS DATE 3-23-54
TRCD BMO DATE 6-30-54
CKD CRE DATE 7-28-54

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

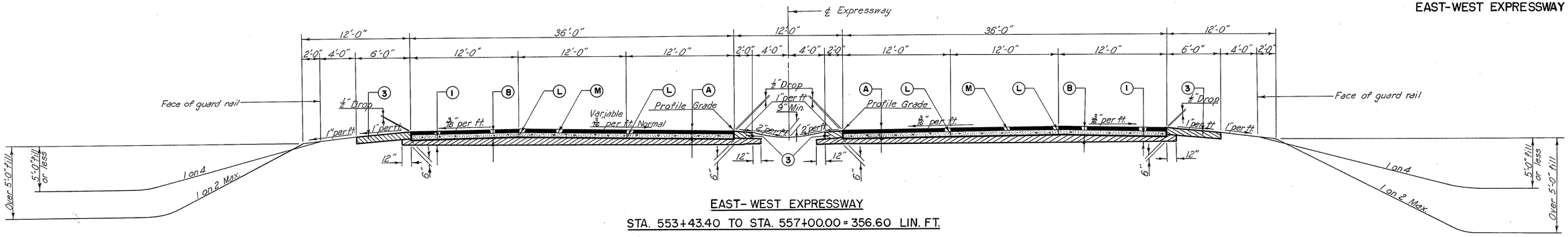
901 SHEET- 17

TYPE T-35 ON B-70

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

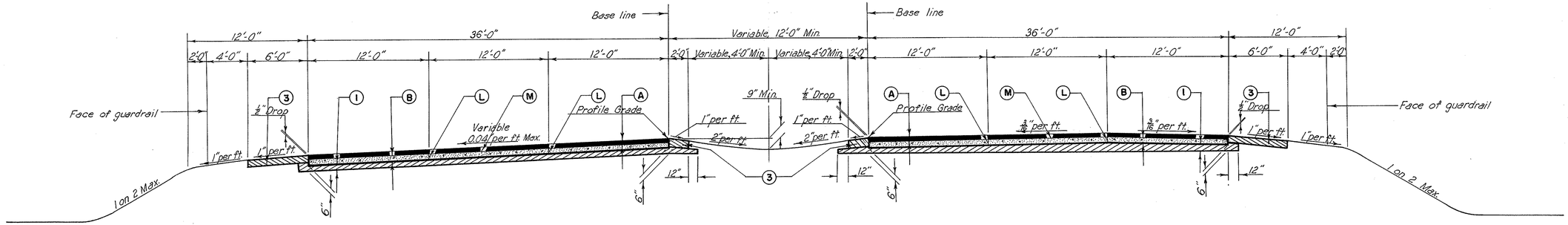
18
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
TYPICAL CROSS SECTIONS
EAST-WEST EXPRESSWAY



EAST- WEST EXPRESSWAY

STA. 553+43.40 TO STA. 557+00.00 = 356.60 LIN. FT.

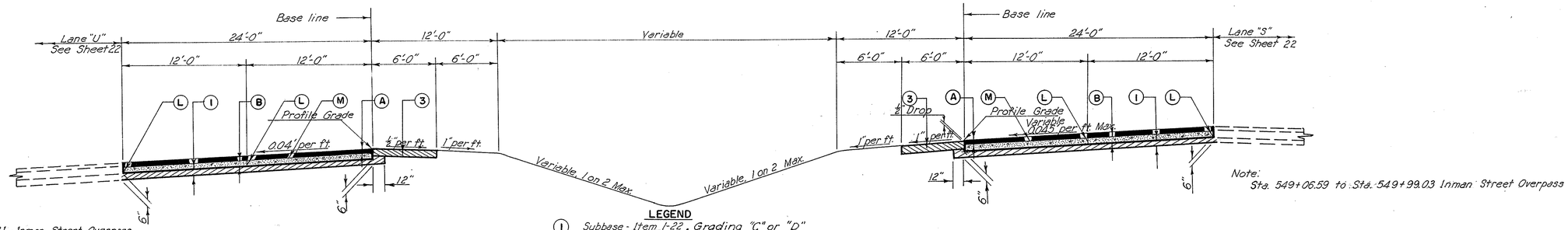


WEST BOUND EXPRESSWAY

STA. 28+18.31 TO STA. 31+50.76=332.45 LIN. FT

EAST BOUND EXPRESSWAY

STA. 549+99.03 TO STA. 553+43.40=344.37 LIN. FT.



Note:
Sta. 27+28.48 to Sta. 28+18.31 - Inman Street Overpass

WEST BOUND EXPRESSWAY

STA. 25+07.62 TO STA. 27+28.48=220.86 LIN. FT.

Note:
Sta. 549+06.59 to Sta. 549+99.03 Inman Street Overpass

EAST BOUND EXPRESSWAY

STA. 547+08.5 TO STA. 549+06.59 = 198.09 LIN. FT.

LEGEND

(I) Subbase - Item I-22, Grading "C" or "D"
(3) 9" Stabilized Turf Shoulder, Item Special. (Placed in two Courses)
(A) 3" Asphaltic Concrete Surface Course consisting of 1½" Asphaltic Concrete Surface Course, Type "C", Item T-35. ½" Asphaltic Concrete Leveling Course, Item B-35
(B) 9" Portland Cement Concrete Base Course, Item B-70.
(L) Standard Longitudinal Joint.
(M) Bituminous Tack Coat, Item T-30.

SCALE 3/16" = 1'-0"
MADE RG DATE 6-17-54
TRCD. BMO DATE 7-6-54
CKD. CRE DATE 7-29-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 18

TYPE T-35 ON B-70

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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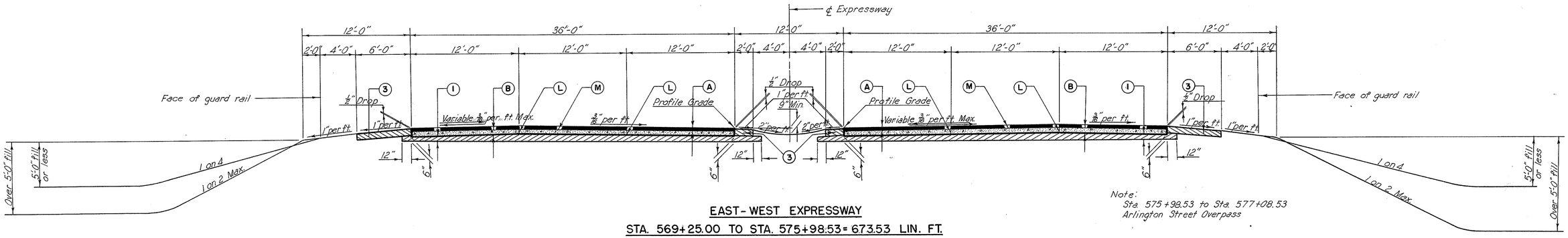
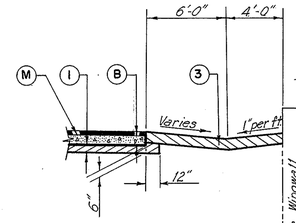
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
TYPICAL CROSS SECTIONS
EAST-WEST EXPRESSWAY

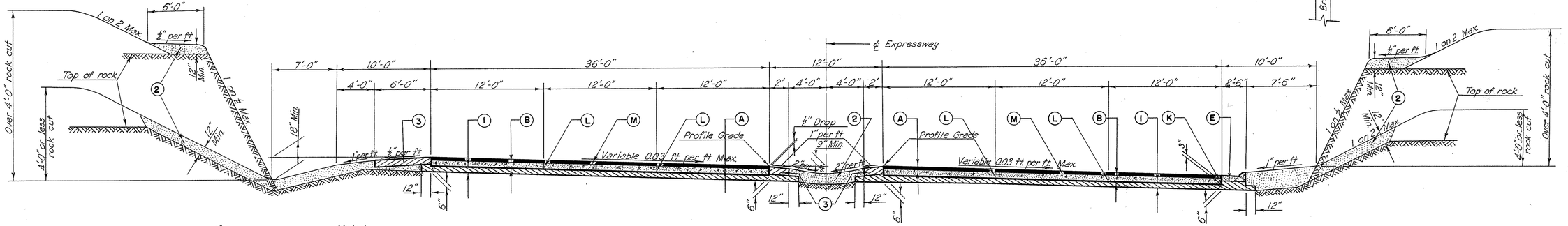


EAST-WEST EXPRESSWAY
STA. 569+25.00 TO STA. 575+98.53 = 673.53 LIN. FT.
STA. 577+08.53 TO STA. 578+50.00 = 141.47 LIN. FT.

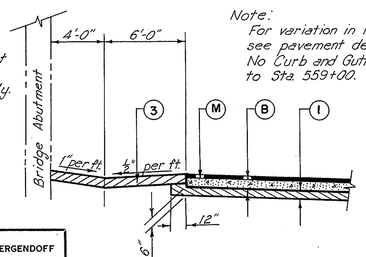
Note:
Sta. 575+98.53 to Sta. 577+08.53
Arlington Street Overpass



Note:
Stabilized Turf Shoulder Treatment Adjacent to Wingwalls of Arlington St. and Inman St. Overpass. On upgrade ends section will be warped so as to provide drainage on to the bridge. For plan veiw see Sheets No. 31, 32, 34 and 35.



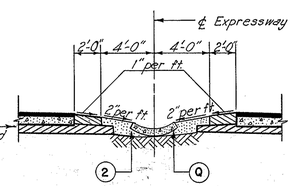
Note:
Stabilized Turf Shoulder Treatment Adjacent to Hoban School Road Underpass Abutment Left Side Only. Section will be warped to meet proposed drainage ditches.
For plan view see sheet No. 33



Note:
For variation in right half Typical Section see pavement detail, Sheet 34.
No Curb and Gutter required Sta. 557+00 to Sta. 559+00.

EAST-WEST EXPRESSWAY
STA. 557+00.00 TO STA. 569+25.00 = 1225.00 LIN. FT.

Note:
Median treatment
Sta. 565+00 to Sta. 569+50
Surface between stabilized shoulder and paved gutter to be sodded



LEGEND

- (1) Subbase-Item 1-22, Grading "C" or "D"
- (2) Soil Backfill
- (3) 9" Stabilized Turf Shoulder, Item Special (Placed in two Courses)
- (A) 3" Asphaltic Concrete Surface Course consisting of 1 1/2" Asphaltic Concrete Surface Course, Type "C", Item T-35 and 1 1/2" Asphaltic Concrete Leveling Course, Item B-35
- (B) 9" Portland Cement Concrete Base Course.
- (E) Type 2 Modified Curb and Gutter
- (K) Butt Joint, without Tie Bars.
- (L) Standard Longitudinal Joint.
- (M) Bituminous Tack Coat, Item T-30.
- (Q) Type 2 Concrete Paved Gutter.

SCALE 3/8" = 1'-0"
MADE RG DATE 6-17-54
TRCD. BMO DATE 7-8-54
CKD. CRE DATE 7-29-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 19

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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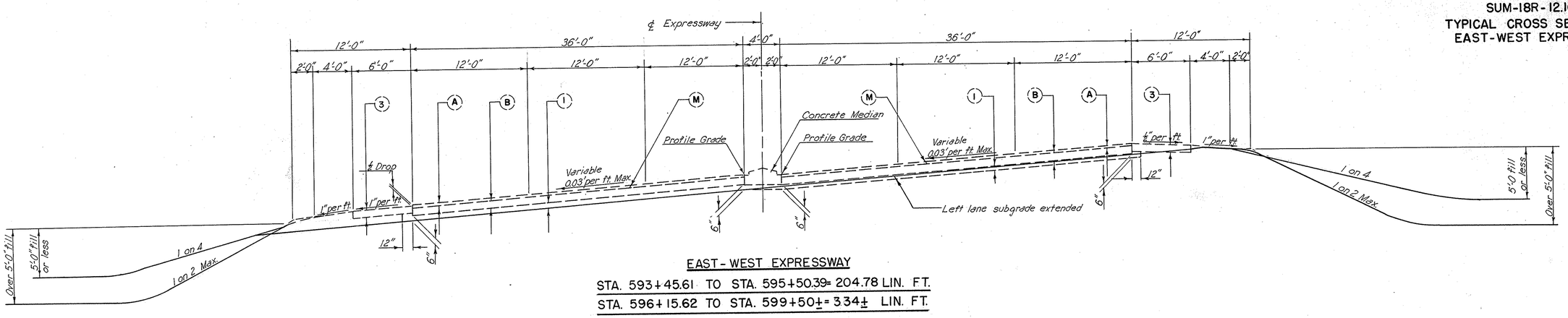
204

SUMMIT COUNTY
CITY OF AKRON

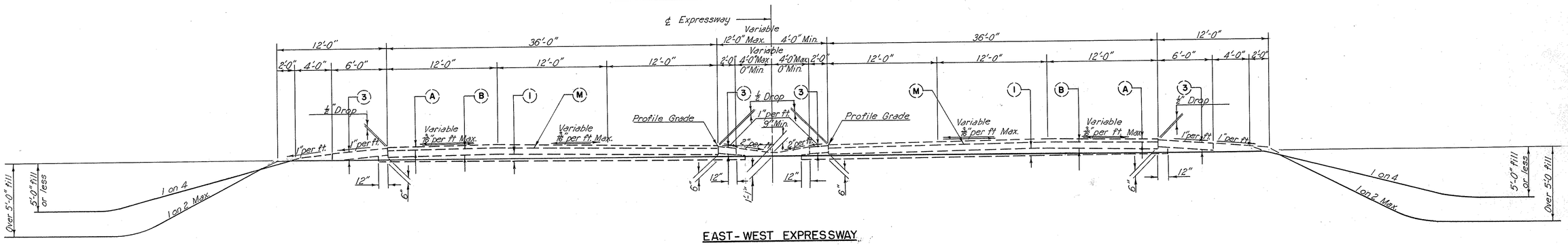
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
TYPICAL CROSS SECTIONS
EAST-WEST EXPRESSWAY



EAST-WEST EXPRESSWAY

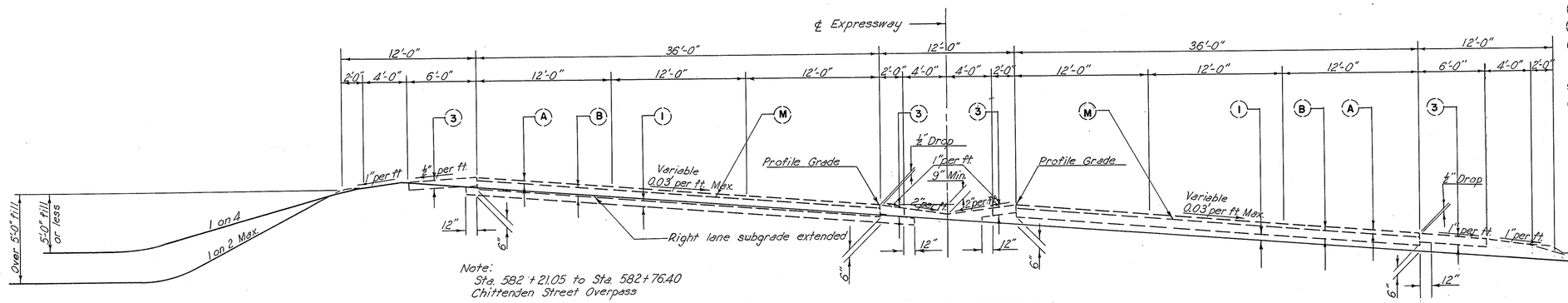
STA. 593+45.61 TO STA. 595+50.39 = 204.78 LIN. FT.

STA. 596+15.62 TO STA. 599+50± = 334± LIN. FT.



EAST-WEST EXPRESSWAY

STA. 587+00.47 TO STA. 593+45.61 = 645.14 LIN. FT.



Note:
Sta. 582+21.05 to Sta. 582+76.40
Chittenden Street Overpass

EAST-WEST EXPRESSWAY

STA. 578+50.00 TO STA. 582+21.05 = 371.05 LIN. FT.

STA. 582+76.40 TO STA. 587+00.47 = 424.07 LIN. FT.

LEGEND

(I) Subbase - Item 1-22, Grading "C" or "D"
(3) 9" Stabilized Turf Shoulder, Item Special (Placed in two Courses)
(A) 3" Asphaltic Concrete Surface Course consisting of 1½" Asphaltic Concrete Surface Course, Type "C", Item T-35 and 1½" Asphaltic Concrete Leveling Course, Item B-35
(B) 9" Portland Cement Concrete Base Course, Item B-70
(M) Bituminous Tack Coat, Item-30.

SCALE ⅜" = 1'-0"
MADE R.G. DATE 6-16-54
TRCD. BMO DATE 7-22-54
CKD. CRE DATE 7-29-54

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

901 SHEET- 20

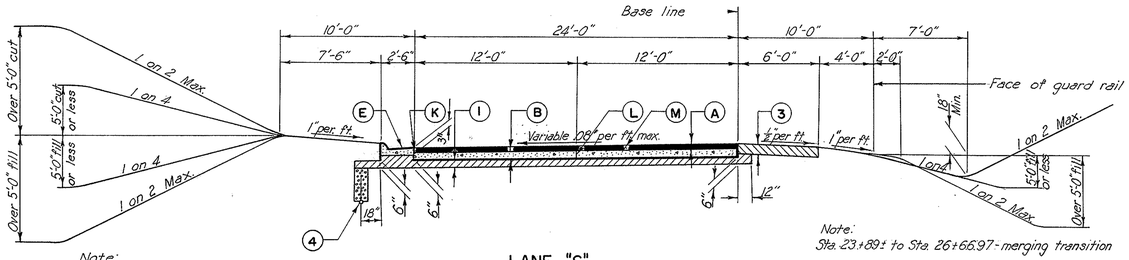
TYPE T-35 ON B-70

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

21
204

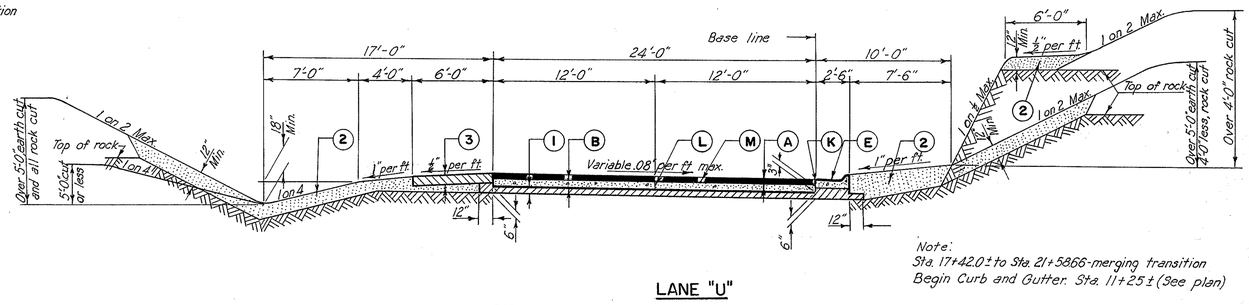
SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10
TYPICAL CROSS SECTIONS
LANE "S" AND LANE "U"



LANE "S"

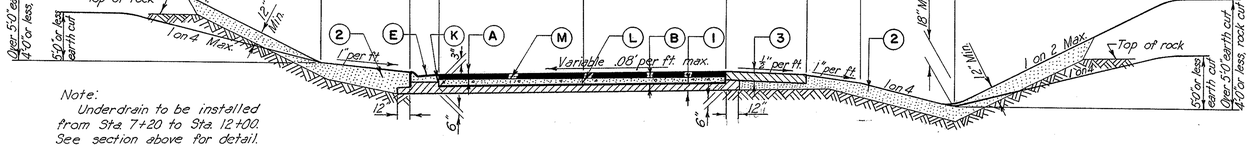
STA. 18+00± TO STA. 23+89± =589± LIN. FT.



Note:
Sta. 17+42.0± to Sta. 21+58.66- merging transition
Begin Curb and Gutter. Sta. 11+25± (See plan)

LANE "U"

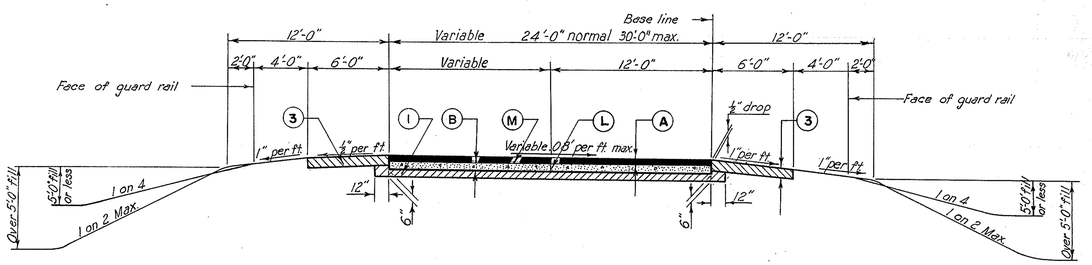
STA. 10+50± TO STA. 17+42.0± = 692.0± LIN. FT.



Note:
Underdrain to be installed from Sta. 7+20 to Sta. 12+00. See section above for detail.

LANE "S"

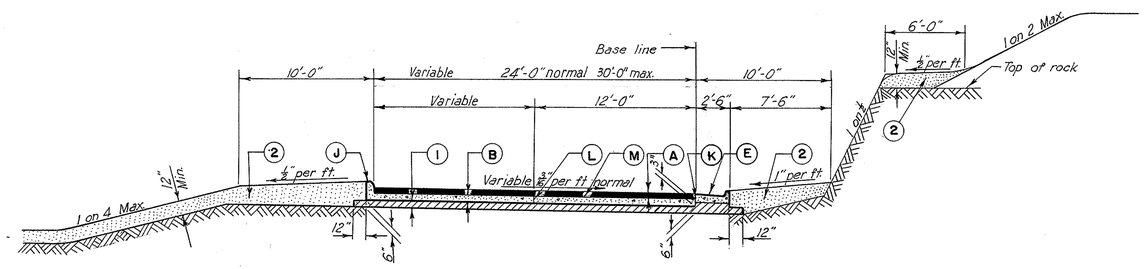
STA. 5+03.04 TO STA. 18+00± =1296.96± LIN. FT.



LANE "U"

STA. 2+47.34 TO STA. 10+50± =802.66± LIN. FT.

Note:
Sta. 0+00 to Sta. 2+47.34- diverging transition



Note:
Sta. 0+00 to Sta. 2+58.19- diverging transition

LANE "S"

STA. 2+58.19 TO STA. 5+03.04 =244.85 LIN. FT.

LEGEND

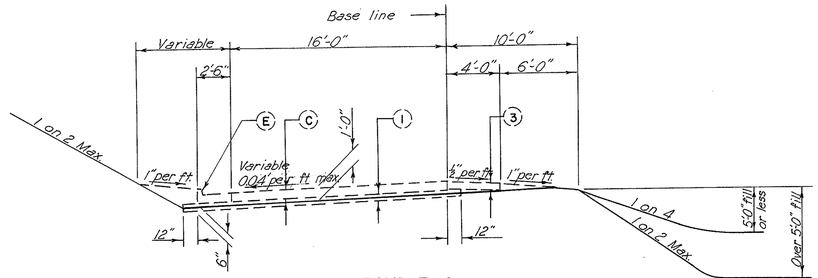
(I) Subbase - Item 1-22, Grading "C" or "D"
(2) Soil Backfill
(3) 9" Stabilized Turf Shoulder, Item Special (Placed in two Courses)
(4) Underdrain, Item 1-4
(A) 3" Asphaltic Concrete Surface Course consisting of
1½" Asphaltic Concrete Surface Course, Type "C", Item T-35
1½" Asphaltic Concrete Leveling Course, Item B-35
(B) 9" Portland Cement Concrete Base Course, Item B-70
(E) Type 2 Modified Curb and Gutter
(J) Type 4-B Curb
(K) Butt Joint without Tie Bars.
(L) Standard Longitudinal Joint.
(M) Bituminous Tack Coat, Item T-30.

SCALE 3/16" = 1'-0"
MADE H.F.S DATE 3-23-54
TRCD. BMO DATE 6-24-54
CKD. CRE DATE 7-30-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 21

110

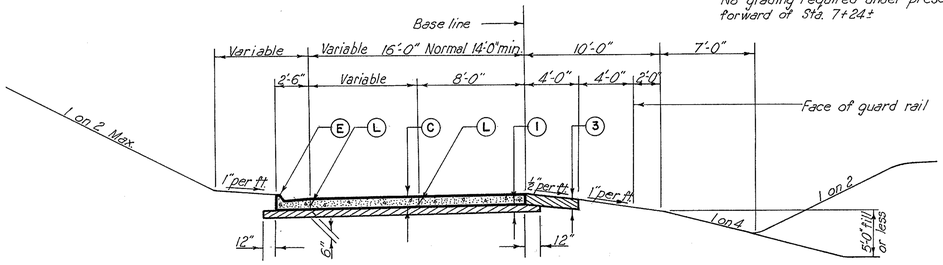
TYPE T-71



RAMP E-4

STA. 3+27.5± TO STA. 7+24± = 396.5 LIN. FT.

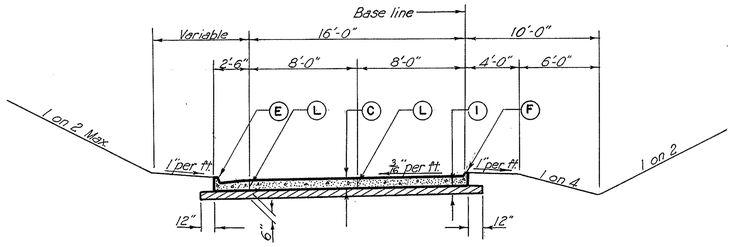
Note:
Sta. 0+00 to Sta. 3+27.5± - diverging transition
Sta. 7+24± to Sta. 8+12.16 - approach.
No grading required under present contract forward of Sta. 7+24±



RAMP E-3

STA 0+00.00 TO STA. 4+92± = 492.± LIN. FT.

Note:
Sta. 4+92 ± to Sta. 8+16.15 - merging transition



Note:
Sta. 0+00 to Sta. 0+89.17 - approach

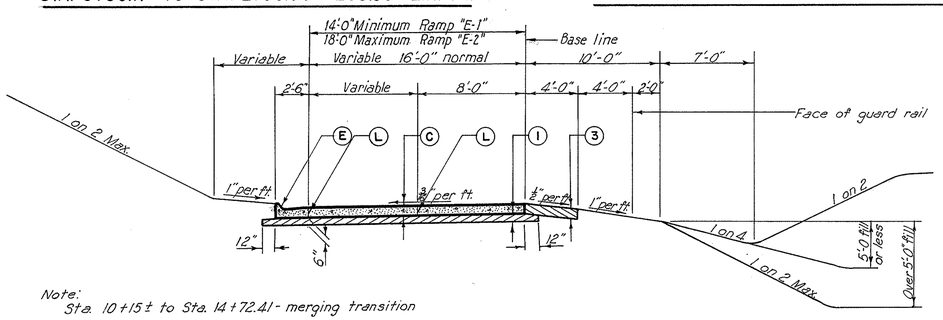
RAMP E-1

STA. 0+89.17 TO STA. 2+90.00 = 200.83 LIN. FT.

Note:
Sta. 12+89.12 to Sta. 13+49.11 - approach

RAMP E-2

STA. 10+90.00 TO STA. 12+89.12 = 199.12 LIN. FT.



Note:
Sta. 10+15± to Sta. 14+72.41 - merging transition

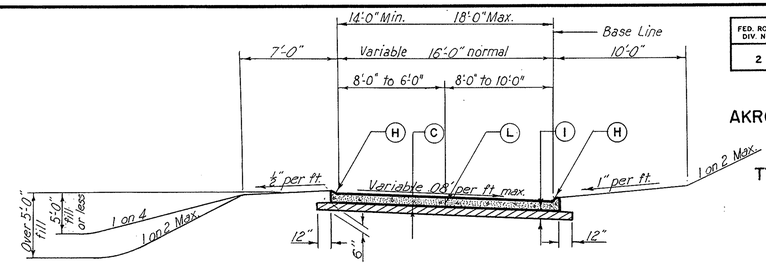
RAMP E-1

STA. 2+90.00 TO STA. 10+15± = 725± LIN. FT.

RAMP E-2

STA. 4+68± TO STA. 10+90.00 = 622± LIN. FT.

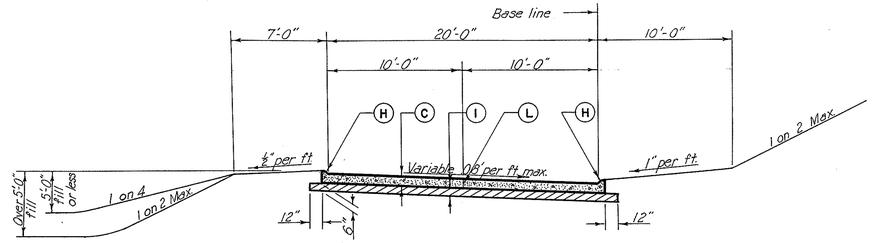
Note:
Sta. 0+0000 to Sta. 4+68± - diverging transition



RAMP "V"

STA. 1+59± TO STA. 3+63± = 204± LIN. FT.

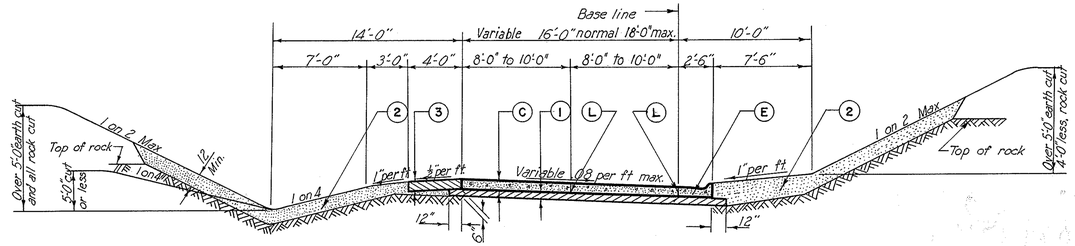
Note:
Sta. 0+00 to Sta. 1+59± diverging transition
Sta. 3+63± to Sta. 6+03.59 - merging transition



Note:
Sta. 0+00 to Sta. 1+12.07 - diverging transition
Sta. 2+20.14 to Sta. 2+90.24 approach

RAMP "Q"

STA. 1+12.07 TO STA. 2+20.14 = 128.17 LIN. FT.



RAMP "P"

STA. 1+66.50 TO STA. 3+54.91 = 188.41 LIN. FT.

Note:
Sta. 0+00 to Sta. 1+66.50 - diverging transition

LEGEND

- (1) Subbase - Item 1-22, Grading "C" or "D"
- (2) Soil Backfill
- (3) 9" Stabilized Turf Shoulder, Item Special (Placed in two Courses)
- (C) 9" Reinforced Portland Cement Concrete Pavement, Item T-71
- (E) Type 2 Modified Curb and Gutter
- (F) Type 2-A Curb
- (H) Type 4-A Curb
- (L) Standard Longitudinal Joint

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

22
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
TYPICAL CROSS SECTIONS
RAMPS

SCALE 3/32" = 1'-0"
MADE HFS DATE 3-19-54
TRCD. RMO DATE 7-12-54
CKD. CRE DATE 7-30-54

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

901 SHEET- 22

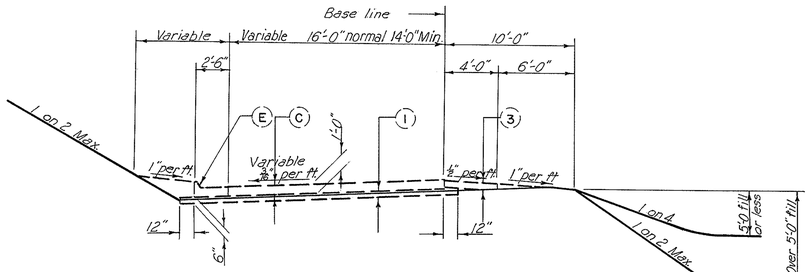
TYPE T-71, T-33

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

23
204

SUMMIT COUNTY
CITY OF AKRON

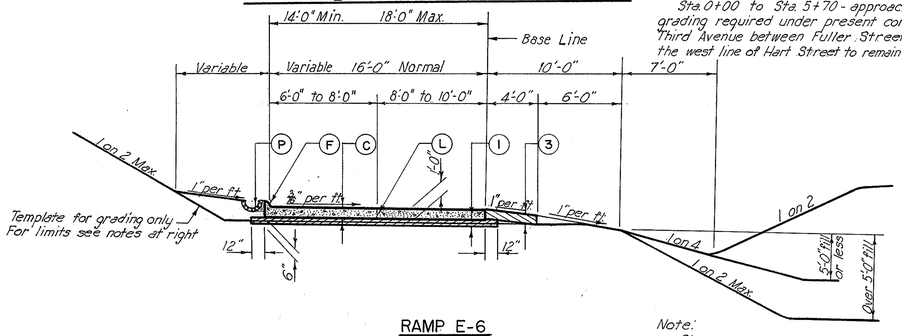
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
TYPICAL CROSS SECTIONS
RAMPS & TEMPORARY CONNECTIONS



RAMP E-7

STA. 5+70± TO STA. 8+90.5±= 320.5± LIN. FT.

Note:
Sta. 0+00 to Sta. 5+70 - approach. No grading required under present contract. Third Avenue between Fuller Street and the west line of Hart Street to remain undisturbed.

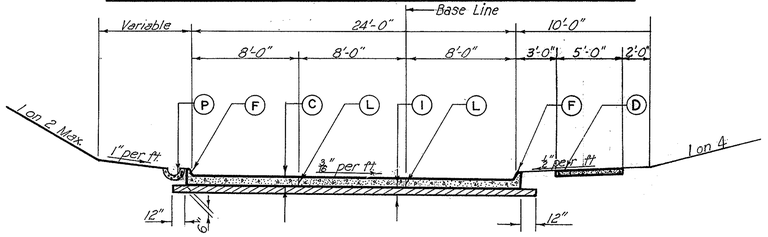


RAMP E-6

STA. 2+70.80 TO STA. 3+09.5± = 38.7± LIN. FT.

Note:
Sta. 3+09.5 to Sta. 6+89.29 - grading only.
Sta. 6+89.29 to Sta. 10+70.09 - merging transition.

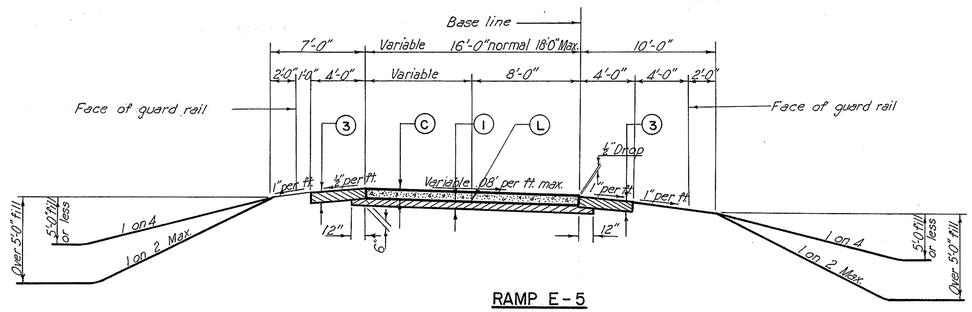
STA. 3+09.50± TO STA. 6+89.29=379± LIN. FT. GRADING ONLY



Note:
Sta. 0+00 to Sta. 0+57.00 - approach

RAMP E-6

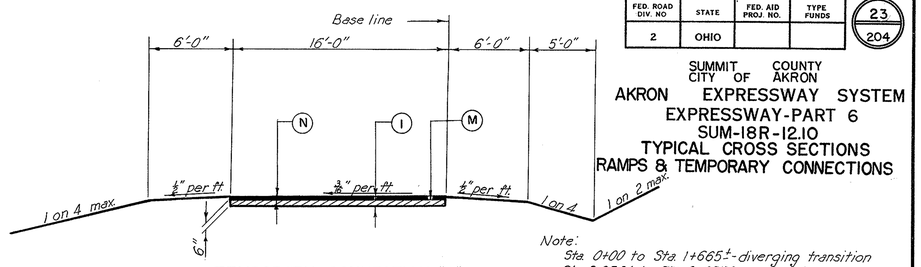
STA. 0+57.00 TO STA. 2+70.80-213.80 LIN. FT.



RAMP E-5

STA. 2+51.64 TO STA. 7+00.18=448.54 LIN. FT.

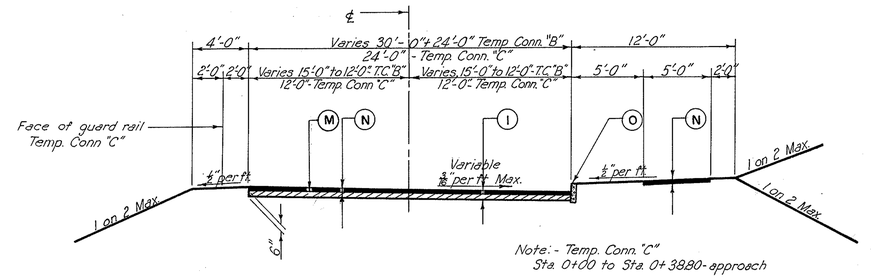
Note:
Sta. 0+00 to Sta. 2+51.64 - diverging transition.
Sta. 7+00.18 to Sta. 8+05.29 - merging transition.



Note:
Sta. 0+00 to Sta. 1+665± - diverging transition
Sta. 3+25.82 to Sta. 3+65.82 - approach

TEMPORARY CONNECTION "A"

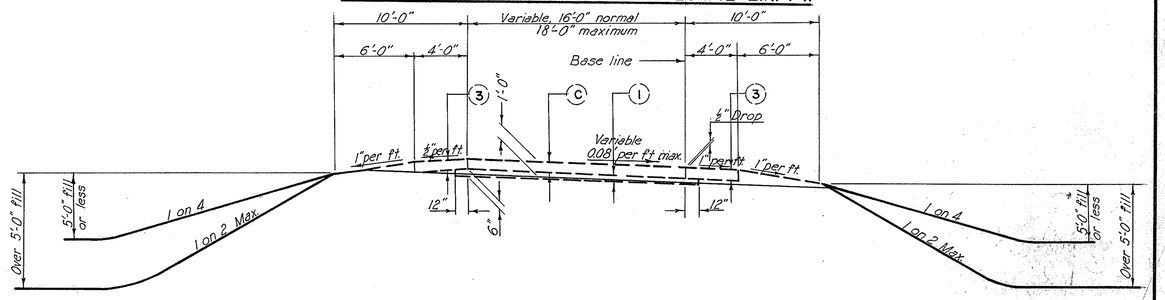
STA. 1+65.5± TO STA. 3+25.82=160.32± LIN. FT.



Note: - Temp. Conn. "C"
Sta. 0+00 to Sta. 0+38.80 - approach

TEMPORARY CONNECTIONS "B" & "C"

"B" STA. 13+85.27 ℄ SOUTH STREET TO STA. 21+40.08 ℄ COVENTRY STREET-214±LIN. FT.
"C" STA. 0+38.80 TO STA. 3+03.22 - 264.42 LIN. FT.



RAMP E-8

STA. 3+45.00 TO STA. 8+00± = 455± LIN. FT.

Note:
Sta. 0+00 to Sta. 3+45.00 - diverging transition
Sta. 8+00 to ℄ Fifth Avenue - approach. No grading required under present contract ahead of Station 8+00±.

LEGEND

- (I) Subbase - Item 1-22, Grading "C" or "D"
- (3) 9" Stabilized Turf Shoulder, Item Special. (Placed in two Courses)
- (C) 9" Reinforced Portland Cement Concrete Pavement, Item T-71.
- (D) 4" Portland Cement Concrete Sidewalk.
- (E) Type 2 Modified Curb and Gutter.
- (F) Type 2-A Curb
- (L) Standard Longitudinal Joint
- (M) Bituminous Tack Coat, Item T-30.
- (N) 3" Bituminous Macadam Surface Course, Item T-33.
- (O) Type 6 Curb.
- (P) 12" Half-Round Gutter, as per plan.

SCALE 3/32" = 1'-0"
MADE R.G. DATE 6-19-54
TRCD. BMO DATE 7-16-54
CKD. CRE DATE 7-30-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 23

TYPE T-35 ON B-70, T-71

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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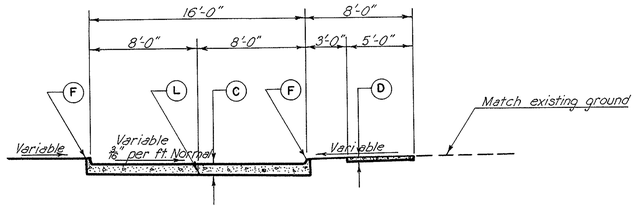
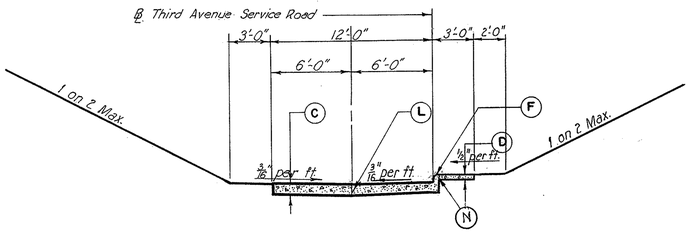
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
TYPICAL CROSS SECTIONS
MISCELLANEOUS PAVEMENT



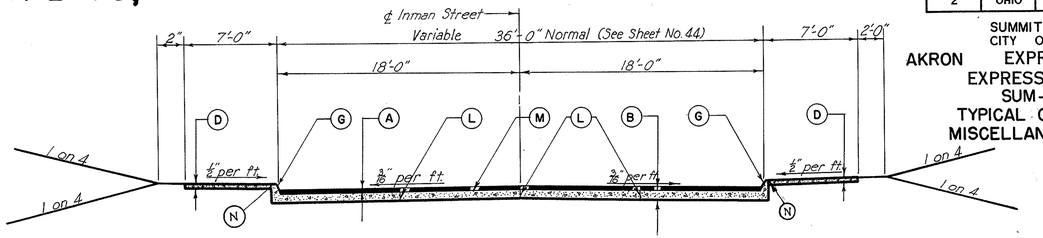
ARLINGTON TO MARTIN CONNECTION
LENGTH OF TYPICAL SECTION = 22 ± LIN. FT.

Note:
Approaches = 100 ± Lin. Ft.

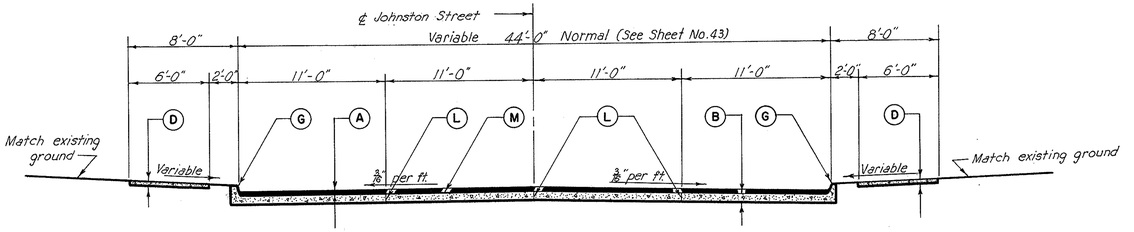


THIRD AVENUE SERVICE ROAD
STA. 0+35.54 TO STA. 2+29.50 = 193.96 LIN. FT.

Note:
Sta. 0+00 to Sta. 0+35.54 - diverging transition
Sta. 2+29.50 to Sta. 2+79.50 - approach

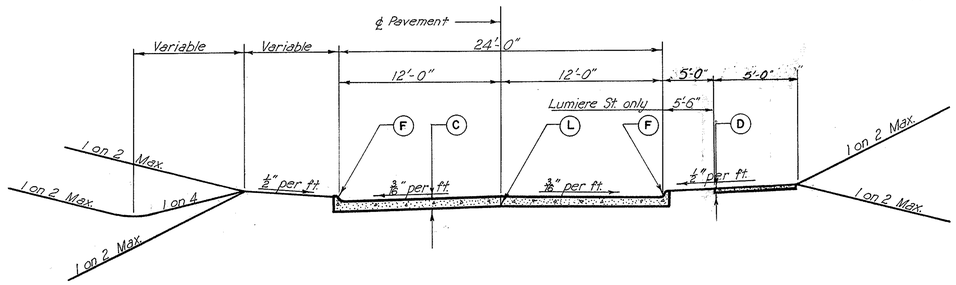


INMAN STREET
STA. 17+06.30 TO STA. 22+60.02 = 553.72 LIN. FT.



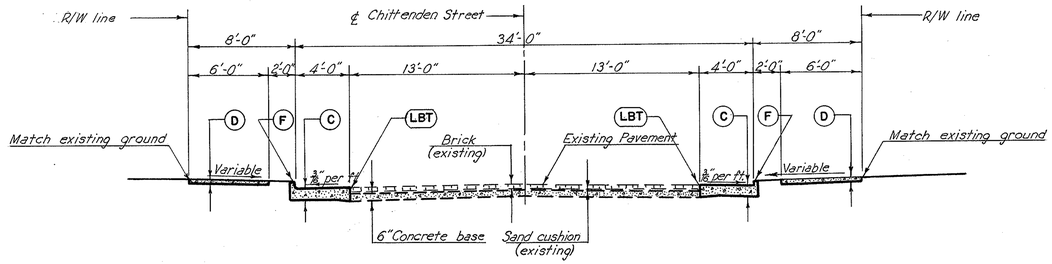
JOHNSTON STREET
STA. 4+25.00 TO STA. 6+26.47 = 201.47 LIN. FT.
STA. 9+65.11 TO STA. 10+85.00 = 119.89 LIN. FT.

Note:
Sta. 6+26.47 to Sta. 9+65.11 - Johnston Street Underpass



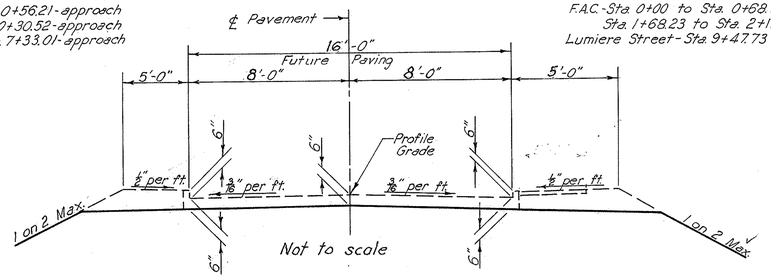
NORTH & SOUTH SERVICE ROADS
N.S.R.-STA. 0+56.21 TO STA. 12+68.16 = 1211.95 LIN. FT.
S.S.R.-STA. 0+30.52 TO STA. 6+86.46 = 655.94 LIN. FT.

Note:
N.S.R.-Sta. 0+00 to Sta. 0+56.21-approach
S.S.R.-Sta. 0+00 to Sta. 0+30.52-approach
-Sta. 6+86.46 to Sta. 7+33.01-approach



CHITTENDEN ST. WIDENING
STA. 5+66± TO STA. 10+73 ± = 507 ± LIN. FT.

Note:
Sta. 5+00 to Sta. 5+41.1 = approach
Sta. 10+73.1± to Sta. 11+05.88 = approach



~~5+58.36~~ SCHOOL ROAD 389.64
STA. ~~0+00.00~~ TO STA. ~~3+10.86~~ = ~~310.86~~ LIN. FT.
STA. ~~5+60.12~~ TO STA. 11+08± = ~~547.8~~ ± LIN. FT.
9+68 ± 140.0 ±

~~Note:~~
~~Sta. 3+10.86 to Sta. 5+60.12 - School Road Underpass~~

FIFTH AVENUE CONNECTION, LUMIERE STREET
F.A.C.- STA. 0+68.76 TO STA. 1+68.23 = 99.47 LIN. FT.
LUMIERE STREET - STA. 10+62.65 TO STA. 12+06.88 = 144.23 LIN. FT.

Note:
F.A.C.-Sta. 0+00 to Sta. 0+68.76-approach
Sta. 1+68.23 to Sta. 2+11.62-approach
Lumiere Street-Sta. 9+47.73 to Sta. 10+62.65-approach

LEGEND

- (A) 3" Asphaltic Concrete Surface Course consisting of 1½" Asphaltic Concrete Surface Course, Type "C", Item T-35 and 1½" Asphaltic Concrete Leveling Course, Item B-35
- (B) 9" Portland Cement Concrete Base Course, Item B-70
- (C) 9" Reinforced Portland Cement Concrete Pavement, Item T-71
- (D) 4" Portland Cement Concrete Sidewalk
- (F) Type 2-A Curb
- (G) Type 2-B Curb
- (L) Standard Longitudinal Joint.
- (LBT) Standard Expansion Bolt Joint-Thickened Edge.
- (M) Bituminous Tack Coat, Item T-30.
- (N) ¼" Premoulded Expansion Joint Material (Cost included with I-13, Sidewalk for payment)

SCALE 3/16" = 1'-0"
MADE RO DATE 6-19-54
TRCD. BMO DATE 7-20-54
CKD. CRE DATE 7-30-54
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 24

Rev. 3-16-55

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10
PAVEMENT DETAILS

Match Line Sta. 2+58.19 "S"
See Sheet No. 26

Sta. 2+58.19 "S" =
Sta. 443+23.54 "N-S Exp."

P.T. Sta. 2+00.00 "S"

Curve Data "S"
Δ = 10° 00' 00"
D = 5° 00' 00"
R = 1145.92'
T = 100.26'
L = 200.00'

Begin Concrete Mall and Barricade Type "B"

LANE "S"

Base Line

Sta. 445+00 End Concrete Mall and Barricade Type "B"

Sta. 0+00 "S" = P.C. Sta. 445+85.39 ℄ N.-S. Exp.

Sta. 0+50 "S" Type 3A Catch Basin

Curve Data ℄ N.-S. Expressway
Δ = G° 46' 00"
D = 1° 00' 00"
R = 5729.58'
T = 338.73'
L = 676.67'

BEGIN BITUMINOUS PAVING

Type 2 modified curb and gutter

BEGIN CONCRETE PAVEMENT
Sta. 443+23.54

Match Line Sta. 443+23.54
See Sheet No. 26

6' Stabilized turf shoulder

Detail "R"

℄ N-S EXPRESSWAY

2' Stabilized turf shoulder

Type 4B Curb

Detail "D"

LANE "U"

Sta. 445+85.39 BEGIN PAVEMENT

P.C. Monument N.S. Exp.

P.T. Monument "N.S. Exp."
Sta. 449+23.54

Detail "F"

6' Stabilized turf shoulder

Match Line
Sta. 16+00.00 Lane "U"
See Sheet No. 30

Curve Data ℄ N.-S. Expressway
Δ = G° 46' 00"
D = 1° 00' 00"
R = 5729.58'
T = 338.73'
L = 676.67'

Spiral Data "U"
Θs = 8° 15' 00"
Ls = 300.00'
L.T. = 200.22'
S.T. = 100.20'

Sta. 16+75 "U" Type 3A Catch Basin

Sta. 17+42.02± "U" =
Sta. 445+85.39 N.-S. Exp.

P.T. Sta. 452+62.06
℄ N.-S. Exp.

S.T. Sta. 18+24.42 "U"

Sta. 449+50 Type 3A Catch Basin

Type 2 modified curb and gutter

BEGIN PART 6
END PART 5

Sta. 454+00 N.-S. Exp.
Existing Catch Basin

P.T. Monument N.S. Exp.

℄ N-S EXPRESSWAY

2' stabilized turf shoulder

6' Stabilized turf shoulder

Sta. 21+58.66 "U" =
Sta. 450+00.00 N.-S. Exp.

Sta. 453+00
END NEW PAVEMENT
Match Existing

NOTES
For Additional details, see the following sheets:

Profiles	Sheets 4, 40
Drainage Plans	Sheets 56
Miscellaneous Details	Sheets 46, 47
Lighting Details	Sheets 48
Typical Cross Sections	Sheets 17, 21

ESTIMATED QUANTITIES

Item	Description	Unit	No.-So. Exp.	Lane "U"	Lane "S"	Total
B-35	Asphaltic Concrete Leveling Course (70-80)	Cu.Yd.	232	49	26	307
B-70	9" Portland Cement Concrete Base Course	Sq.Yd.	6473	1174	628	8275
I-8	Monuments	Each	3			3
I-12	Type 4B Concrete Curb	Lin.Ft.		85	5	90
I-12	Type 2 Modified Conc. Curb & Gutter.	Lin.Ft.	708	277	257	1242
T-30	Bituminous Tack Coat, (as per plan)	Gal.	580	117	63	760
T-35	Asphaltic Concrete Surface Course, Type "C" (70-80)	Cu.Yd.	232	49	26	307
Special	9" Stabilized Turf Shoulder	Sq.Yd.	537	254		820
Special	Barricade Type "B" (as per plan)	Lin.Ft.	175			175
I-21	Temporary Portland Cement Concrete Mall	Sq.Yd.	28			28

SCALE 1"=20'
MADE V.F.D. DATE 4-15-54
TRCD. DATE 7-9-54
CKD. RG DATE 8-3-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 25

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PAVEMENT DETAILS

ESTIMATED QUANTITIES

Item	Description	Unit	Lane "S"	Ramps P & Q	Total
B-35	Asphaltic Concrete Leveling Course (70-80)	Cu. Yd.	72		72
B-70	9" Portland Cement Concrete Base Course	Sq. Yd.	1738		1738
I-12	Type 4A Concrete Curb	Lin. Ft.		395	395
I-12	Type 4B Concrete Curb	Lin. Ft.	303		303
I-12	Type 2 Modified Concrete Curb & Gutter	Lin. Ft.	678	328	1006
I-12	Type 2A Concrete Curb	Lin. Ft.	678	110	110
I-21	Portland Cement Concrete Mall Pvt.	Sq. Yd.		15	15
T-50	Bituminous Tack Coat	Gal.	172		172
T-35	Asphaltic Concrete Surface Course, Type "C" (70-80)	Cu. Yd.	72		72
T-71	9" Reinforced Portland Concrete Pavement	Sq. Yd.		1116	1116
Special	9" Stabilized Turf Shoulder	Sq. Yd.		57	57
I-15	Barricade, Type A, as per plan	Lin. Ft.		18	18
Special	Barricade, Type B, as per plan	Lin. Ft.		70	70

Note: Quantities for Ramps "P" and "Q" combined
Barricade for Alphis Court included
in Ramp "P"

Note: For additional details, see following sheets:

Profiles	Sheet 40
Typical Cross Sections	Sheets 21 and 22
Drainage Plans	Sheet 56
Miscellaneous Details	Sheets 46 and 47
Lighting Details	Sheet 48
Johnston St. Plan Profile	Sheet 43

SCALE 1" = 20'
MADE V.F.D. DATE 4-16-54
TRCD. CHECKED DATE 7-23-54
CKD. J.L.H. DATE 8-17-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 26

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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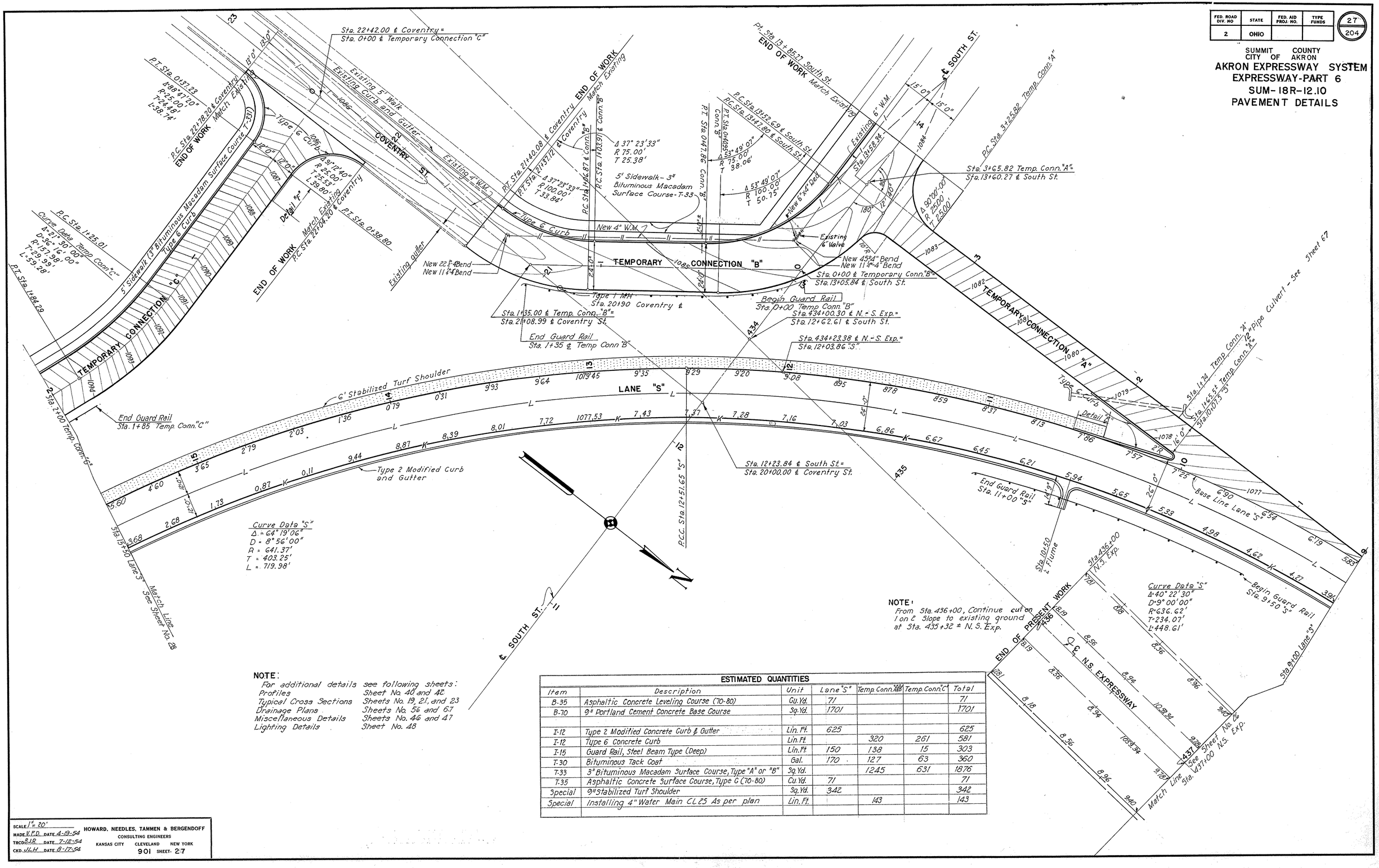
SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PAVEMENT DETAILS



Curve Data "S"
Δ = 64° 19' 06"
D = 8° 56' 00"
R = 641.37'
T = 403.25'
L = 719.98'

Curve Data "S"
Δ = 40° 22' 30"
D = 9° 00' 00"
R = 636.62'
T = 234.07'
L = 448.61'

NOTE:
From Sta. 436+00, Continue cut on ℓ on ℓ Slope to existing ground at Sta. 435+32 ± N.S. Exp.

NOTE:
For additional details see following sheets:

Profiles	Sheet No. 40 and 42
Typical Cross Sections	Sheets No. 19, 21, and 23
Drainage Plans	Sheets No. 56 and 67
Miscellaneous Details	Sheets No. 46 and 47
Lighting Details	Sheet No. 48

ESTIMATED QUANTITIES

Item	Description	Unit	Lane "S"	Temp. Conn. "A"	Temp. Conn. "C"	Total
B-35	Asphaltic Concrete Leveling Course (70-80)	Cu. Yd.	71			71
B-70	9" Portland Cement Concrete Base Course	Sq. Yd.	1701			1701
I-12	Type 2 Modified Concrete Curb & Gutter	Lin. Ft.	625			625
I-12	Type 6 Concrete Curb	Lin. Ft.		320	261	581
I-15	Guard Rail, Steel Beam Type (Deep)	Lin. Ft.	150	138	15	303
T-30	Bituminous Tack Coat	Gal.	170	127	63	360
T-33	3" Bituminous Macadam Surface Course, Type "A" or "B"	Sq. Yd.		1245	631	1876
T-35	Asphaltic Concrete Surface Course, Type G (70-80)	Cu. Yd.	71			71
Special	9" Stabilized Turf Shoulder	Sq. Yd.	342			342
Special	Installing 4" Water Main CL 25 As per plan	Lin. Ft.		143		143

SCALE 1" = 20'
MADE V.F.D. DATE 4-19-54
TRCD B.I.P. DATE 7-12-54
CKD. W.L.H. DATE 8-17-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 27

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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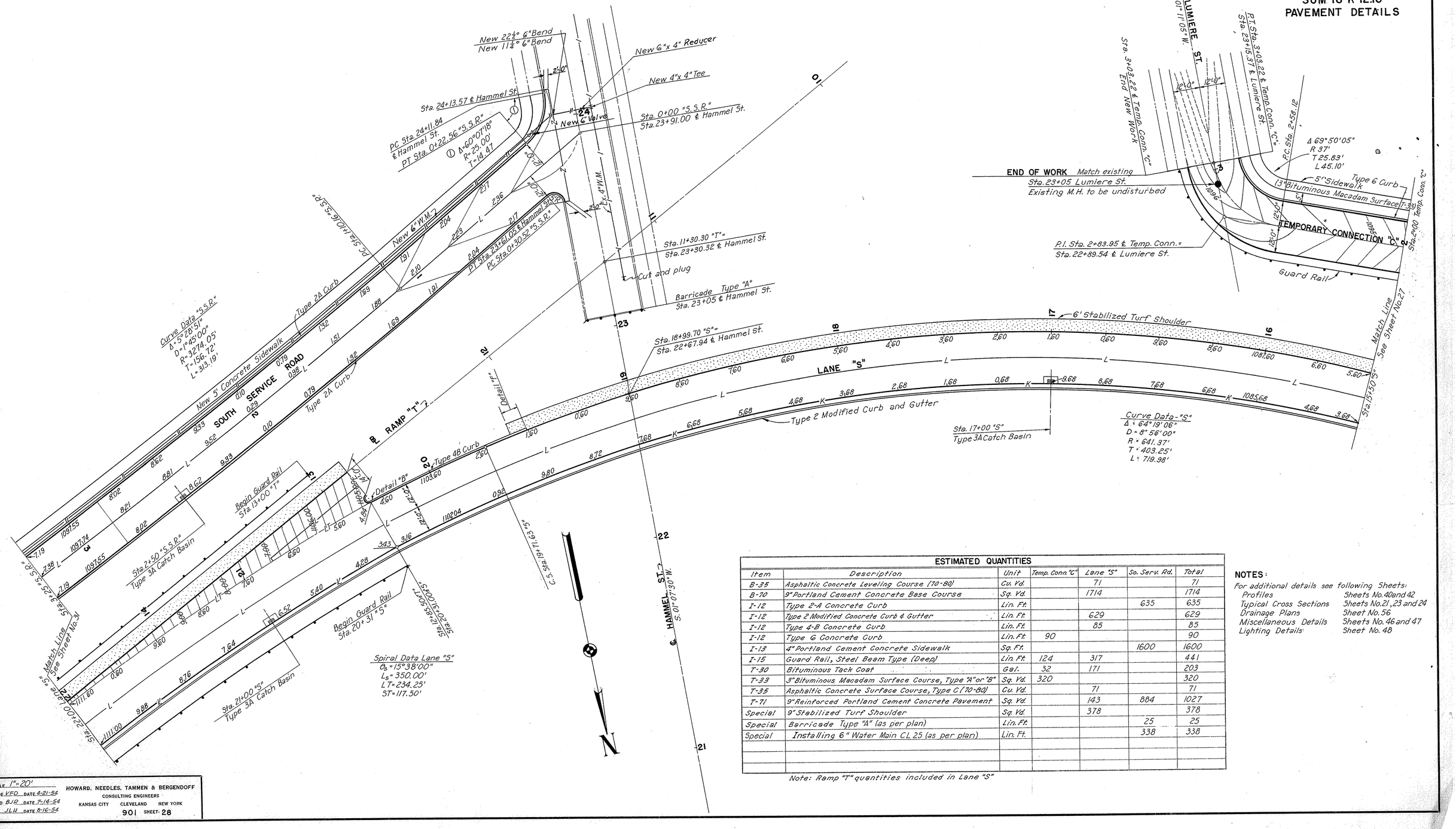
SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10
PAVEMENT DETAILS



ESTIMATED QUANTITIES

Item	Description	Unit	Temp. Conn. "C"	Lane "S"	So. Serv. Rd.	Total
B-35	Asphaltic Concrete Leveling Course (70-80)	Cu. Yd.		71		71
B-70	9" Portland Cement Concrete Base Course	Sq. Yd.		1714		1714
I-12	Type 2-A Concrete Curb	Lin. Ft.			635	635
I-12	Type 2 Modified Concrete Curb & Gutter	Lin. Ft.		629		629
I-12	Type 4-B Concrete Curb	Lin. Ft.		85		85
I-12	Type 6 Concrete Curb	Lin. Ft.	90			90
I-13	4" Portland Cement Concrete Sidewalk	Sq. Ft.			1600	1600
I-15	Guard Rail, Steel Beam Type (Deep)	Lin. Ft.	124	317		441
T-30	Bituminous Tack Coat	Gal.	32	171		203
T-33	3" Bituminous Macadam Surface Course, Type "A" or "B"	Sq. Yd.	320			320
T-35	Asphaltic Concrete Surface Course, Type C (70-80)	Cu. Yd.		71		71
T-71	9" Reinforced Portland Cement Concrete Pavement	Sq. Yd.		143	884	1027
Special	9" Stabilized Turf Shoulder	Sq. Yd.		378		378
Special	Barricade Type "A" (as per plan)	Lin. Ft.			25	25
Special	Installing 6" Water Main CL 25 (as per plan)	Lin. Ft.			338	338

Note: Ramp "T" quantities included in Lane "S"

NOTES:

For additional details see following Sheets:

Profiles	Sheets No. 40 and 42
Typical Cross Sections	Sheets No. 21, 23 and 24
Drainage Plans	Sheet No. 56
Miscellaneous Details	Sheets No. 46 and 47
Lighting Details	Sheet No. 48

SCALE 1"= 20'
MADE VFD DATE 4-21-54
TRCD BJR DATE 7-14-54
CKD JLH DATE 8-16-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 28

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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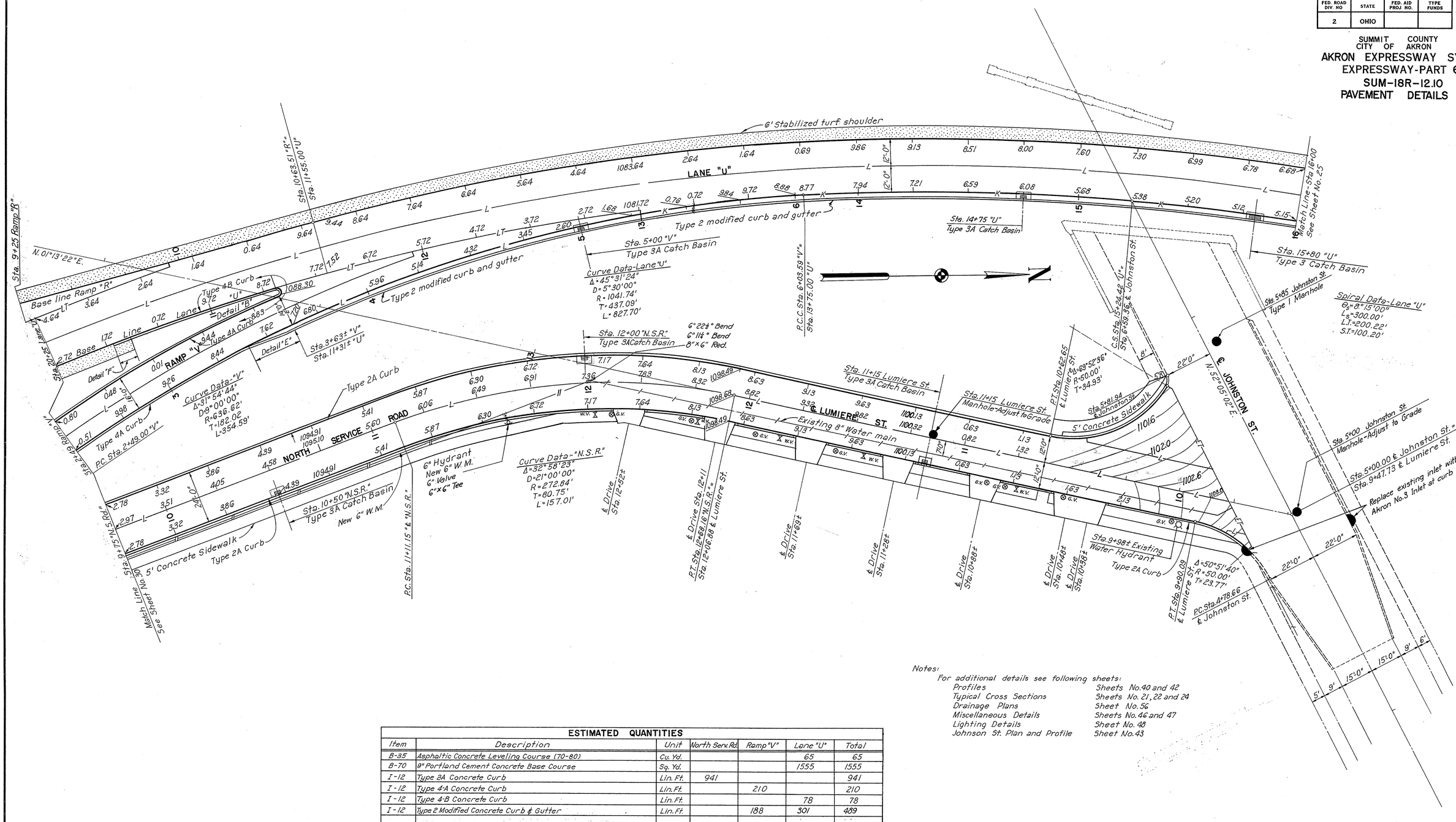
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PAVEMENT DETAILS



Notes:

For additional details see following sheets:

Profiles	Sheets No. 40 and 42
Typical Cross Sections	Sheets No. 21, 22 and 24
Drainage Plans	Sheet No. 56
Miscellaneous Details	Sheets No. 46 and 47
Lighting Details	Sheet No. 48
Johnson St. Plan and Profile	Sheet No. 43

ESTIMATED QUANTITIES

Item	Description	Unit	North Serv. Rd.	Ramp "V"	Lane "U"	Total
B-35	Asphaltic Concrete Leveling Course (70-80)	Cu. Yd.			65	65
B-70	9" Portland Cement Concrete Base Course	Sq. Yd.			1555	1555
I-12	Type 2A Concrete Curb	Lin. Ft.	941			941
I-12	Type 4-A Concrete Curb	Lin. Ft.		210		210
I-12	Type 4-B Concrete Curb	Lin. Ft.			78	78
I-12	Type 2 Modified Concrete Curb & Gutter	Lin. Ft.		188	301	489
I-13	4" Portland Cement Concrete Sidewalk	Sq. Ft.	2530			2530
T-30	Bituminous Tack Coat	Gal.			155	155
T-35	Asphaltic Concrete Surface Course, Type "C" (70-80)	Cu. Yd.			65	65
T-71	9" Reinforced Portland Cement Concrete Pavement	Sq. Yd.	1554	372	44	1970
T-70	7" Portland Cement Concrete Pavement (Drives)	Sq. Yd.	86			86
Special	9" Stabilized Turf Shoulder	Sq. Yd.			418	418
Special	Installing 6" Water Main Class 24 as per plan	Lin. Ft.	187			187

Note: Quantities for Lumerie St. included in "N.S.R."
Quantities for Ramp "R" included in Lane "U".

SCALE 1"=20'
MADE VFD DATE 4-23-54
TRCD. RJWEB DATE 7-20-54
CKD. JLH DATE 8-9-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 29

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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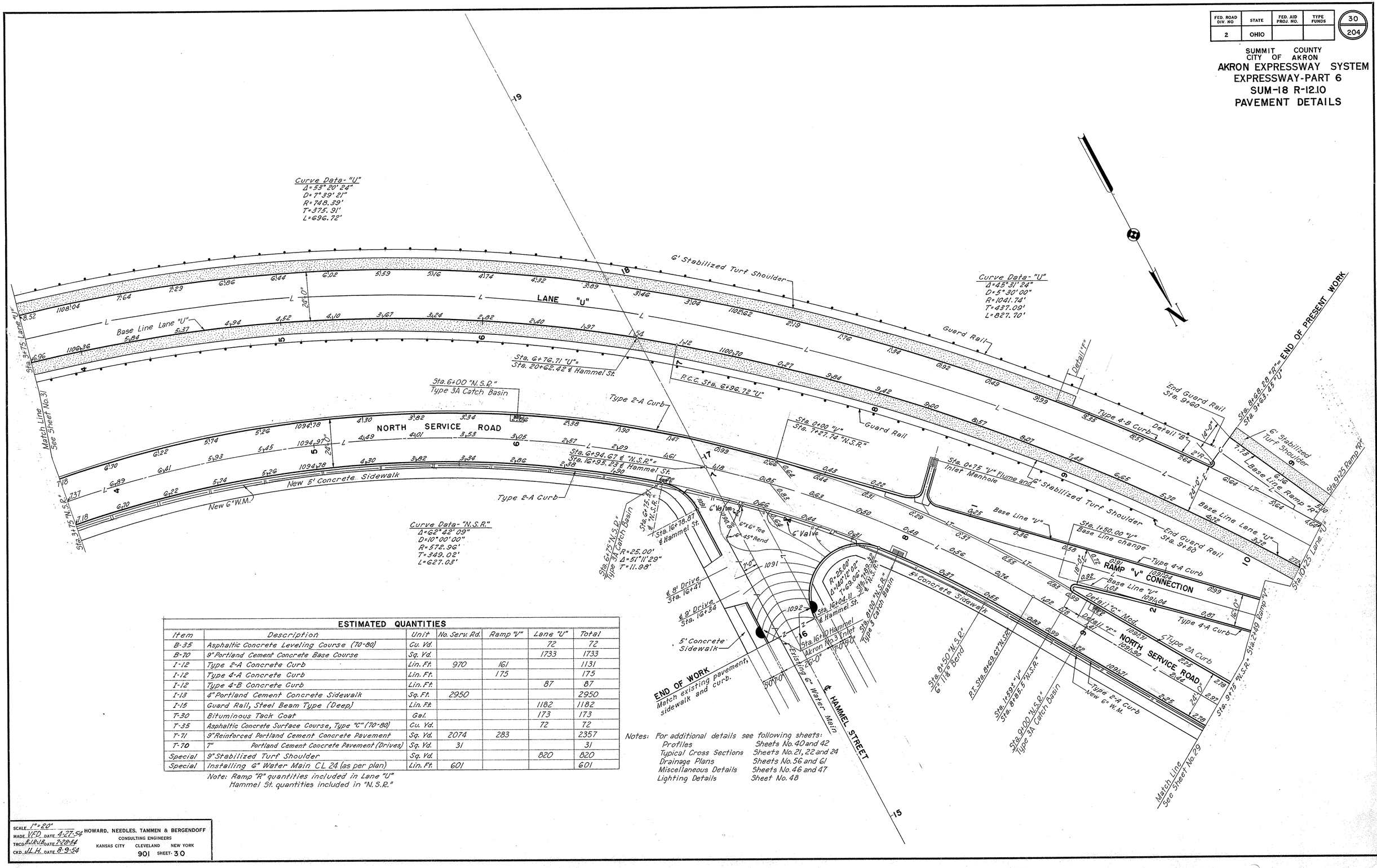
SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10
PAVEMENT DETAILS


Curve Data- "U"
Δ=53°20' 24"
D=7°39' 21"
R=748.39'
T=375.91'
L=696.72'
Curve Data- "U"
Δ=45°31' 24"
D=5°30' 00"
R=1041.74'
T=437.09'
L=827.70'
Curve Data- "N.S.R."
Δ=62°42' 09"
D=10°00' 00"
R=572.96'
T=349.02'
L=627.03'
LANE "U"
Base Line Lane "U"
NORTH SERVICE ROAD
Base Line Lane "V"
RAMP "V" CONNECTION
Base Line "V"
Base Line "U"
Base Line "R"
Base Line "N.S.R."
Sta. 3+75 Lane "U"
Match Line See Sheet No. 31
Match Line See Sheet No. 29
24'-0"
16'-0"
18'-0"
14'-0"
New 5' Concrete Sidewalk
New 6" W.M.
Type 2-A Curb
Type 4-A Curb
Type 4-B Curb
Type 2A Curb
Type 2-A Curb New 6" W.M.
6' Stabilized Turf Shoulder
G' Stabilized Turf Shoulder
Guard Rail
End Guard Rail Sta. 9+60
End Guard Rail Sta. 9+50
Detail "F"
Detail "B"
Detail "C" Mod.
Sta. 0+00 "U" Sta. 7+27.74 "N.S.R."
Sta. 6+00 "N.S.R." Type 3A Catch Basin
Sta. 6+76.71 "U" + Sta. 20+62.42 ℄ Hammel St.
P.C.C. Sta. 6+96.72 "U"
Sta. 6+94.67 ℄ "N.S.R." = Sta. 16+95.23 ℄ Hammel St.
Sta. 6+75 "N.S.R." Type 3A Catch Basin
Sta. 6+75 "V" Inlet Manhole
Sta. 8+68.28 "R" = Sta. 9+63.43 "U"
Sta. 9+25 Ramp "R"
Sta. 10+25 Lane "U"
Sta. 1+50.00 "V" Base Line change
Sta. 16+78.87 ℄ Hammel St.
Sta. 16+04.11 ℄ Hammel St.
Sta. 16+10 Hammel Akron No. 3 Inlet
Sta. 8+00 "N.S.R." Type 3 Catch Basin
Sta. 8+50 "N.S.R." 6" 11¼° Bend
Sta. 8+68.5 "N.S.R."
Sta. 1+59 "V" Sta. 8+85.5 "N.S.R."
Sta. 9+00 N.S.R." Type 3A Catch Basin
Sta. 9+15 "N.S.R." Sta. 2+49 Ramp "V"
℄ 8" Drive Sta. 16+47
℄ 9' Drive Sta. 16+34
5' Concrete Sidewalk
5' Concrete Sidewalk
6" Valve
6"x6" Tee
6"x45° Bend
Existing 6" Water Main
℄ HAMMEL STREET
END OF WORK
Match existing pavement, sidewalk and curb.
50'-0"
26'-0"
R=25.00'
Δ=140°12' 02"
T=69.06'
L=61.18'
R=25.00'
Δ=51°11' 29"
T=11.98'
1100.36
1100.70
1094.97
1094.78
1091
1092
1094.04
1094.17
1094.30
1094.37
1094.57
1094.64
1094.72
1094.77
1094.82
1094.87
1094.92
1094.97
1095.02
1095.07
1095.12
1095.17
1095.22
1095.27
1095.32
1095.37
1095.42
1095.47
1095.52
1095.57
1095.62
1095.67
1095.72
1095.77
1095.82
1095.87
1095.92
1095.97
1096.02
1096.07
1096.12
1096.17
1096.22
1096.27
1096.32
1096.37
1096.42
1096.47
1096.52
1096.57
1096.62
1096.67

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PAVEMENT DETAILS

END NEW PAVEMENT Sta 22+70 & Gridley St. Akron #5 Inlet

P.T. Sta 22+76.00 & Gridley St.

Type 2A curb

Sta 3+25 "S.S.R."

Match Line See Sheet No. 28

Sta 22+00 Lane "S"

Type 2 modified curb and gutter

Spiral Data Lane "S" $\theta_s = 15°38'00"$, $L_s = 350.00'$, $L_T = 234.25'$, $ST = 117.50'$

P.C. Sta 3+25.19 - ℄ S.S.R.

R 25.00' Δ 116°09'10" T 40.13'

Sidewalk

New 6"x6" Tee 6"x6" Valve

6" 22½° Bend (New)

Ex. 6" W.M.

Stone curb

Sta 3+90 "S.S.R."

Type 3 Catch Basin

Sta 22+40 Gridley St. Akron #5 Inlet and Type 1A M.H.

96.86

10.96 BV

Match existing curb and pavement

Type 2A curb

R 25.00' Δ 65°20'11" T 16.03'

P.C. Sta 22+39.90 ℄ Gridley St.

P.T. Sta 44+10.29 ℄ S.S.R.

P.T. Sta 41+23.35 ℄ S.S.R.

Curve Data SSR Δ = 5° 28'51" D = 1°45'00" R = 3274.05 T = 156.72 L = 313.19

℄ SOUTH SERVICE ROAD

Sta 3+36.40 "S.S.R." Sta 22+16.75 ℄ Gridley St.

16' drive Sta 22+68.5 ℄ Gridley St.

P.C. Sta 41+77.39 ℄ S.S.R.

Δ = 23°29'47" R = 100.00' T = 20.80'

6" 22½° Bend

P.T. Sta 0+23.28 ℄ 5th Ave. Conn.

Pt. Sta 5+00.70 ℄ S.S.R. Sta 0+00 ℄ 5th Ave. Connection

Sta 23+89± "S"

P.C. Sta 23+95.82 "S.S.R."

Sta 5+50 "S.S.R." Type 3A Catch Basin

6' Stabilized Turf Shoulder

6' Base Line Lane "S"

Type 2A curb

Curve Data "S" Δ = 5° 25' 23" D = 2° 00' 00" R = 2,864.79' T = 135.68' L = 271.15'

Begin Guard Rail

Sta 3+19.50 ℄ South St. = Sta 20+00.00 ℄ Gridley St.

℄ GRIDLEY ST. S.01°09'45"W.

Sta 3+19.10 ℄ South St. = Sta 20+00.00 ℄ Gridley St.

Base Line "E.B. Exp."

Detail "F"

Detail "A"

Detail "B"

Detail "C"

Detail "E"

ST. Sta 23+21.63 Sta 151+75.38 "S" ℄ Gridley St.

Type 4B curb

END OF PRESENT WORK Sta 25+07.62 "W.B.E."

C.S. Sta 546+92.95 "E.B.E."

Sta 547+08.62± "E.B.E."

END OF PRESENT WORK

Spiral Data "E.B.E." $\theta_s = 2°45'00"$, $L_s = 200.00'$, $L_T = 133.35'$, $ST = 66.68'$

End Concrete Mall and Barricade Type "B"

6' Stabilized Turf Shoulder

24'0"

℄ SOUTH ST.

EASTBOUND EXPRESSWAY

WESTBOUND EXPRESSWAY

Sta 3+75 Lane "U"

Match Line See Sheet No. 30

Begin Concrete Mall and Barricade Type "B"

Begin Guard Rail Sta 2+75

Type 4B curb

6' Base Line Lane "U"

6' Stabilized Turf Shoulder

LANE "U"

LANE "S"

Curve Data Lane "U" Δ = 53°20'24" D = 7°39'21" R = 748.39' T = 375.91' L = 696.72

Sta 2+47.34 "U" = Sta 25+07.62 "W.B.E."

Curve Data "W.B.E" Δ = 23°10'46" D = 2°30'00" R = 2291.83' T = 470.02' L = 927.18'

Sta 1+75 "N.S.R." Type 3 Catch Basin

Sta 3+75 "N.S.R."

Sta 17+93.23 ℄ Gridley St. END NEW PAVEMENT

R = 25.00' Δ = 97°39'11" T = 29.61'

Sta 3+64.18 "N.S.R."

Sta 17+95 ℄ Gridley St. Akron #3 Inlet

Type 2A curb

6"x6" Tee 6" Valve 6" Hydrant 6" Main

New

Existing 6" water main

℄ GRIDLEY ST.

New 6" Valve New 6"x6" Tee

Sta 3+21.02 "N.S.R." = Sta 18+34.05 ℄ Gridley St.

Sta 18+10 ℄ Gridley St. Akron #5 Inlet

R = 25.00' Δ = 90°30'41" T = 25.22'

Sta 17+98.04 ℄ Gridley St.

P.C. Sta 2+82.68 "N.S.R."

P.C. Sta 2+42.64 "N.S.R."

Curve Data "N.S.R." Δ = 62°42'03" D = 10°00'00" R = 572.96' T = 349.02' L = 627.03'

5' sidewalk

5' concrete sidewalk

NORTH SERVICE ROAD

Sta 1+75 "N.S.R." Type 3 Catch Basin

New 6" W.M.

Type 2A curb

R = 30.00' Δ = 85°14'21" T = 27.61'

P.T. Sta 0+39.53 "N.S.R."

P.C. Sta 7+76.77 ℄ Inman St.

P.T. Sta 0+56.27 "N.S.R." R = 50.00' Δ = 42°24'56" T = 19.40'

P.C.C. Sta 0+00.00 "U" = Sta 27+63.00 "W.B.E."

Sta 0+00.00 "N.S.R." = Sta 181+5.31 ℄ Rel. Inman St.

27'-0" ℄ Rel. Inman St.

5'R.

ET

10990

Sta 549+23.66 "E.B.E." = Sta 191+60.89 ℄ Inman St.

R = 50.00' Δ = 65°37'08" T = 32.23'

P.T. Sta 20+42.76 ℄ Inman St.

P.C. Sta 6+86.46 ℄ S.S. Rd.

5'R.

ET

36'-0"

Sta 7+33.01 "S.S.Rd." = Sta 20+80.00 ℄ Inman St.

Sta 0+02.71 ℄ South St. = Sta 20+00.00 ℄ Inman St.

Sta 549+23 "E.B.T." End Guard Rail

Sta 27+72.84 "W.B.E." = Sta 191+28.81 ℄ Rel. Inman St.

℄ INMAN ST.

Existing 8" W.M.

New 8"x6" Sleeve and Valve

Sta 13+49.11 "E-2" = Sta 18+03.32 ℄ Inman St.

S 00°18'29" W

8"x6" Sleeve and Valve

Ex. 8" W.M.

P.T. Sta 22+10.02 ℄ Inman St.

New 6" Water Main

5TH AVE. CONNECTION

R = 25.00' Δ = 90°53'05" T = 25.39'

P.C. Sta 1+68.23

Type 2A curb

5' Concrete Sidewalk

Note: For additional details see following Sheets:

Profiles	Sheets No. 40 and 42
Typical Cross Sections	Sheets No. 18, 21, and 24
Drainage Plans	Sheet No. 56
Miscellaneous Details	Sheets No. 46 and 47
Approach Slabs	Sheet No. 50
Inman St. Plan and Profile	Sheet No. 44
Lighting Details	Sheet No. 48

ESTIMATED QUANTITIES

Item	Description	So. Serv. Rd.	No. Serv. Rd.	E-W Exp.	Lane "S"	Lane "U"	Total
B-35	Asphaltic Concrete Levelling Course (70-80)	Cu. Yd.		39	38	38	115
B-70	9" Portland Cement Concrete Base Course	Sq. Yd.		1006	908	922	2836
T-21	Portland Cement Concrete Mall (as per plan)	Sq. Yd.		21	108		108
T-12	Type 2 Modified Concrete Curb & Gutter	Lin. Ft.	1052	721	1773		
T-12	Type 2A Concrete Curb	Lin. Ft.			85	105	190
T-12	Type 4B Concrete Curb	Lin. Ft.	1805	1710			3515
T-13	4" Portland Cement Concrete Sidewalk	Sq. Ft.			517	428	1045
T-15	Guard Rail, Steel Beam Type (Deep)	Lin. Ft.			90	91	275
T-30	Bituminous Tack Coat	Gal.			38	38	115
T-35	Asphaltic Concrete Surface Course, Type C (70-80)	Cu. Yd.					2888
T-71	9" Reinforced Portland Cement Concrete Pavement	Sq. Yd.	1754	1134		297	855
T-70	7" Portland Cement Concrete Pavement (Drives)	Sq. Yd.	24				24
Special	9" Stabilized Turf Shoulder	Sq. Yd.			294	297	855
Special	Barricade Type "B" (as per plan)	Lin. Ft.			95	95	95
Special	Installing 6" Water Main CL 2.4 (as per plan)	Lin. Ft.	280	276			556

Note: Quantities for South Service Rd. includes Fifth Ave. connection.

SCALE 1" = 20'
MADE VFD DATE 5-3-54
TRCD. DATE 7-16-54
CKD. JLH DATE 8-9-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 31

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PAVEMENT DETAILS

Sta. 17+58 Inman Street
Type 3A Catch Basin

Sta. 17+80 Inman Street
Manhole Adjust to Grade

Sta. 13+49.11 E-2" =
Sta. 18+03.32 ℄ New Inman

Sta. 17+56.30
℄ Inman St.
Δ=107°38'18"
R=30.00'
T=41.02'
Type 2A Curb
PC Sta. 12+69.12 "E-2"

Base Line "E-2"

Type 2A Curb

Detail "E"

Sta. 10+90 "E-2"

Detail "F"

End Guard Rail Sta. 10+58.± "E-2"

4' Stabilized turf shoulder

RAMP E-2

Sta. 10+75 "E-2"
Type 3A Catch Basin

Type 2 modified curb and gutter

Sta. 8+75 "E-2"
Type 3A Catch Basin

Sta. 8+00 Ramp "E-2"

Sta. 12+83 "E-2"
Type 3 Catch Basin

Sta. 18+20.23
℄ Inman St.

PC Sta. 13+18.40 "E-2"

Δ=18°26'39"
R=50.00'
T=17.07'

Curve Data "W.B.E."
Δ = 23° 10'46"
D = 2° 30'00"
R = 2291.83
T = 470.02'
L = 927.18'

Spiral Data "W.B.E."
θ = 2° 30'00"
Ls 200.00'
LT. 133.35'
ST. 66.68'

C.S. Sta. 29+50.76 "W.B.E."

Begin Guard Rail

S.T. Sta. 31+50.76 "W.B.E." = P.O.T. Sta. 553+43.40 "E.B.E."
Monument ℄ "E.W. Exp."

6' Stabilized turf shoulder

Sta. 27+72.84 "W.B.E." =
Sta. 19+28.81 ℄ Inman St.

WEST BOUND EXPRESSWAY

℄ West Bound Exp.

Sta. 549+53.66 "E.B.E." =
Sta. 19+60.89 ℄ Inman St.

℄ NEW INMAN ST.

Sta. 19+80 Inman St.
Manhole Adjust to Grade

℄ East Bound Exp.

2' Stabilized Turf Shoulder

℄ EAST-WEST EXPRESSWAY

Sta. 555+50 E.W. Exp.

EAST BOUND EXPRESSWAY

Begin Guard Rail
P.T. Sta. 26+66.97 "S" =
Sta. 549+87.42 "E.B. Exp."

6' Stabilized Turf Shoulder

Sta. 5+75 "E-1"
Type 3A Catch Basin

Type 2 modified curb and gutter

Sta. 6+50 Ramp "E-1"

Sta. 2+75 "E-1"
Type 3A Catch Basin

Curve Data "S"
Δ = 5° 25'23"
D = 2° 00'00"
R = 2864.79'
T = 135.68'
L = 271.15

P.T. Sta. 20+29.91 Inman
Δ=63°34'18"
R=50.00'
T=30.98'

Detail "E"

P.C. Sta. 0+83.17 "E-1"

RAMP E-1

Begin Guard Rail Sta. 3+75 "E-1"

4' Stabilized turf shoulder

Detail "F"

Sta. 2+90.00 "E-1"

Match Line
See Sheet 33

Sta. 0+00 "E-1" =
Sta. 20+93.00 ℄ New Inman

Type 2A curb
Δ=63°17'54"
R=50.00'
T=30.82'

P.C. Sta. 21+14.77
℄ Inman St.

P.T. Sta. 0+50.97 "E-1"

Sta. 0+66 "E-1"
Type 3 Catch Basin

℄ "E-1"

N

Note: For additional details see following sheets:

Profile	Sheets	No. 4 and 41
Typical Cross Sections	Sheets	No. 18, 22 and 24
Drainage Plans	Sheet	No. 57
Miscellaneous Details	Sheets	No. 46 and 47
Approach Slab	Sheet	No. 50
Inman St. Plan and Profile	Sheet	No. 44
Lighting Details	Sheet	No. 48

ESTIMATED QUANTITIES

Item	Description	Unit	Ramp "E-1"	Ramp "E-2"	E.-W. Exp.	Total
B-35	Asphaltic Concrete Leveling Course (70-80)	Cu. Yd.			182	182
B-70	9" Portland Cement Concrete Base Course	Sq. Yd.			4361	4361
I-8	Monuments	Each			1	1
I-12	Type 2 Modified Concrete Curb & Gutter	Lin. Ft.	598	507		1105
I-12	Type 2A Concrete Curb	Lin. Ft.	305	278		583
I-15	Guard Rail, Steel Beam Type (Deep)	Lin. Ft.	275	258	1044	1577
T-30	Bituminous Tack Coat-	Gal.			436	436
T-35	Asphaltic Concrete Surface Course, Type "C" (70-80)	Cu. Yd.			182	182
T-71	9" Reinforced Portland Cement Concrete Pavement	Sq. Yd.	1193	990		2183
Special	9" Stabilized Turf Shoulder	Sq. Yd.	167	136	1030	1333

Note: Quantities for East Bound and West Bound Expressways combined under E.W. Expressway.

SCALE 1" = 20'
MADE V.F.D. DATE 5-10-54
TRCD B.J.R. DATE 7-19-54
CKD. J.L.H. DATE 8-6-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 32

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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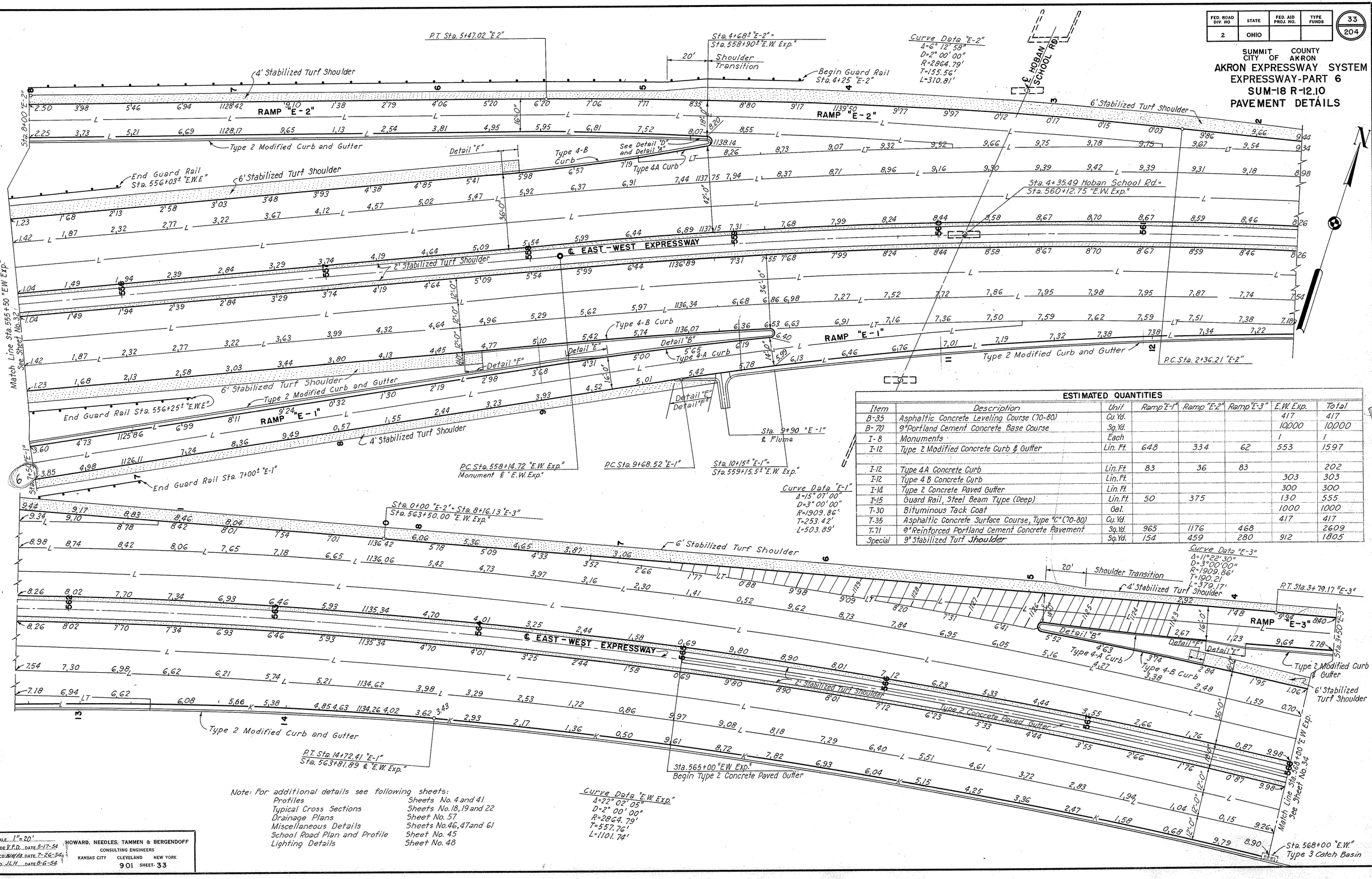
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10
PAVEMENT DETAILS



ESTIMATED QUANTITIES

Item	Description	Unit	Ramp "E-1"	Ramp "E-2"	Ramp "E-3"	E.W. Exp.	Total
B-35	Asphaltic Concrete Leveling Course (70-80)	Cu.Yd.				417	417
B-70	9" Portland Cement Concrete Base Course	Sq.Yd.				10,000	10,000
I-8	Monuments	Each				1	1
I-12	Type 2 Modified Concrete Curb & Gutter	Lin. Ft.	648	334	62	553	1597
I-12	Type 4A Concrete Curb	Lin.Ft.	83	36	83		202
I-12	Type 4 B Concrete Curb	Lin.Ft.				303	303
I-14	Type 2 Concrete Paved Gutter	Lin.Ft.				300	300
I-15	Guard Rail, Steel Beam Type (Deep)	Lin.Ft.	50	375		130	555
T-30	Bituminous Tack Coat	Gal.				1000	1000
T-35	Asphaltic Concrete Surface Course, Type "C" (70-80)	Cu.Yd.				417	417
T-71	9" Reinforced Portland Cement Concrete Pavement	Sq.Yd.	965	1176	468		2609
Special	9" Stabilized Turf Shoulder	Sq.Yd.	154	459	280	912	1805

Note: For additional details see following sheets:

Profiles	Sheets No. 4 and 41
Typical Cross Sections	Sheets No. 18, 19 and 22
Drainage Plans	Sheet No. 57
Miscellaneous Details	Sheets No. 46, 47 and 61
School Road Plan and Profile	Sheet No. 45
Lighting Details	Sheet No. 48

Curve Data "E.W. Exp."
Δ=22° 02' 05"
D=2° 00' 00"
R=2864.79'
T=557.76'
L=1101.74'

SCALE 1"=20'
MADE V.F.D. DATE 5-17-54
TRCD. DATE 7-26-54
CKD. J.L.H. DATE 8-6-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 33

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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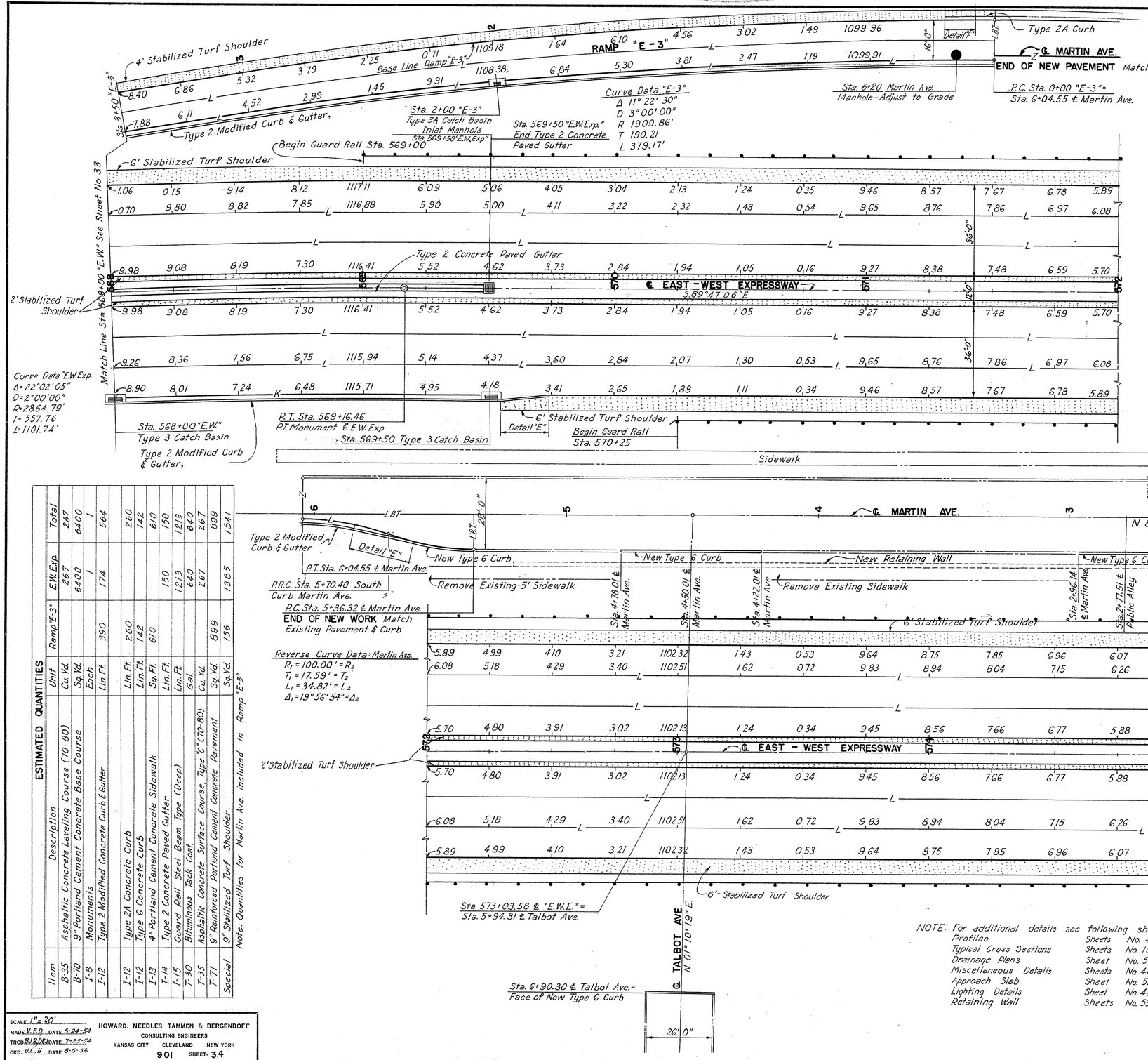
SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PAVEMENT DETAILS



ESTIMATED QUANTITIES

Item	Description	Unit	Ramp "E-3"	E.W.Exp.	Total
B-35	Asphaltic Concrete Leveling Course (70-80)	Cu. Yd.		267	267
B-70	9" Portland Cement Concrete Base Course	Sq. Yd.		6400	6400
I-8	Monuments	Each		1	1
I-12	Type 2 Modified Concrete Curb & Gutter	Lin. Ft.	390	174	564
I-12	Type 2A Concrete Curb	Lin. Ft.	260		260
I-12	Type 6 Concrete Curb	Lin. Ft.	142		142
I-13	4" Portland Cement Concrete Sidewalk	Sq. Ft.	610		610
I-14	Type 2 Concrete Paved Gutter	Lin. Ft.		150	150
F-15	Guard Rail Steel Beam Type (Ozap)	Lin. Ft.		1213	1213
T-30	Bituminous Tack Coat.	Gal.		640	640
T-35	Asphaltic Concrete Surface Course, Type "C" (70-80)	Cu. Yd.		267	267
T-71	9" Reinforced Portland Cement Concrete Pavement	Sq. Yd.	899		899
Special	9" Stabilized Turf Shoulder	Sq. Yd.	156	1385	1541

Note: Quantities for Martin Ave. included in Ramp "E-3"

NOTE: For additional details see following sheets:

Profiles	Sheets No. 4, 5, and 41
Typical Cross Sections	Sheets No. 19, 22 and 24
Drainage Plans	Sheet No. 57
Miscellaneous Details	Sheets No. 46 and 47
Approach Slab	Sheet No. 52
Lighting Details	Sheet No. 48
Retaining Wall	Sheets No. 53, 54, and 55

SCALE 1"= 20'
MADE V.F.D. DATE 5-24-54
TRCD. B.J.D.E. DATE 7-23-54
CKD. W.L.H. DATE 8-5-54

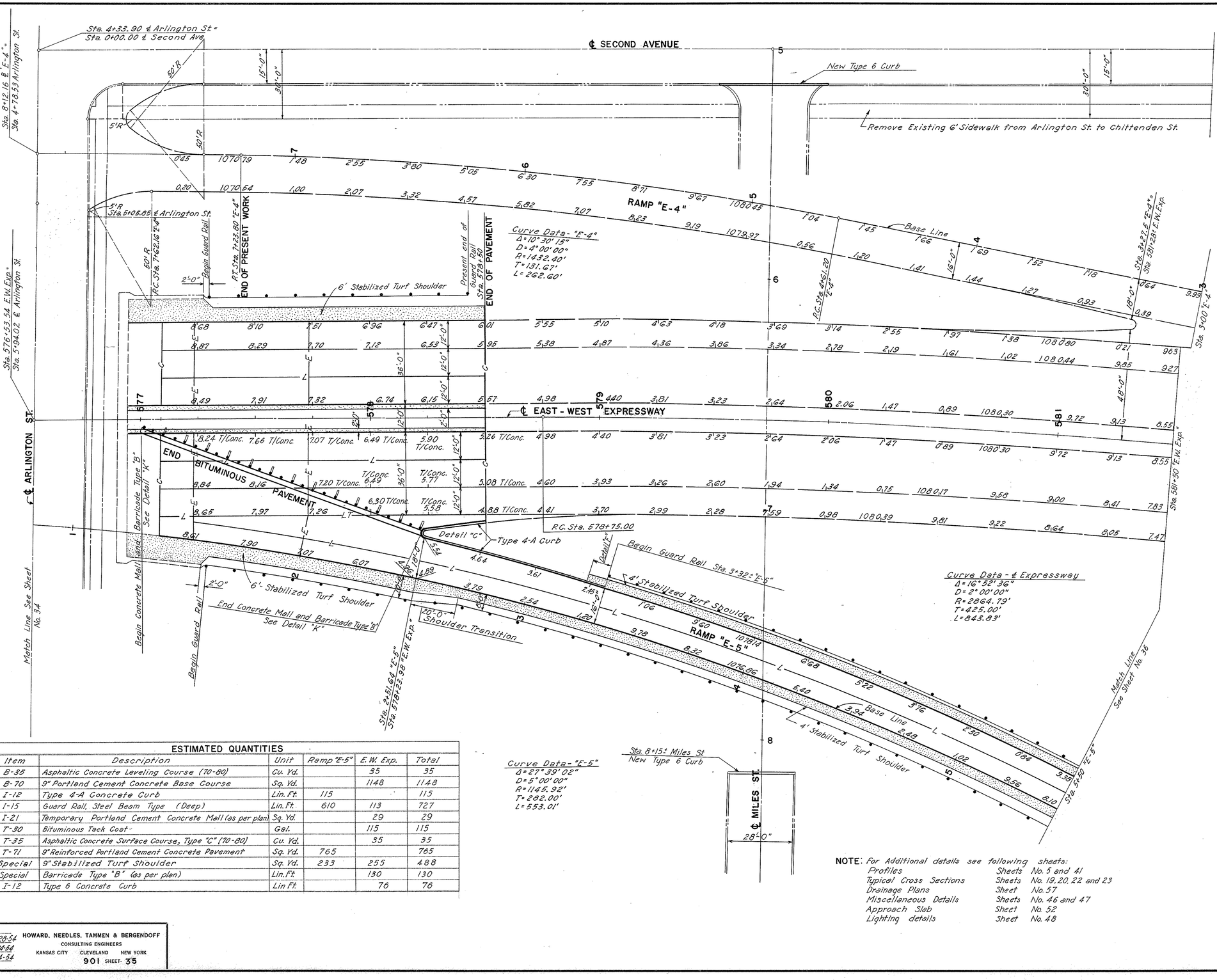
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 34

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

35
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PAVEMENT DETAILS



Note: Elevations noted hereon for that area beyond limits of proposed pavement construction denote top of future pavement.

ESTIMATED QUANTITIES

Item	Description	Unit	Ramp "E-5"	E.W. Exp.	Total
B-35	Asphaltic Concrete Leveling Course (70-80)	Cu. Yd.		35	35
B-70	9" Portland Cement Concrete Base Course	Sq. Yd.		1148	1148
I-12	Type 4-A Concrete Curb	Lin. Ft.	115		115
I-15	Guard Rail, Steel Beam Type (Deep)	Lin. Ft.	610	113	727
I-21	Temporary Portland Cement Concrete Mall (as per plan)	Sq. Yd.		29	29
T-30	Bituminous Tack Coat	Gal.		115	115
T-35	Asphaltic Concrete Surface Course, Type "C" (70-80)	Cu. Yd.		35	35
T-71	9" Reinforced Portland Cement Concrete Pavement	Sq. Yd.	765		765
Special	9" Stabilized Turf Shoulder	Sq. Yd.	233	255	488
Special	Barricade Type "B" (as per plan)	Lin. Ft.		130	130
I-12	Type 6 Concrete Curb	Lin Ft.		76	76

NOTE: For Additional details see following sheets:

Profiles	Sheets No. 5 and 41
Typical Cross Sections	Sheets No. 19, 20, 22 and 23
Drainage Plans	Sheet No. 57
Miscellaneous Details	Sheets No. 46 and 47
Approach Slab	Sheet No. 52
Lighting details	Sheet No. 48

SCALE 1"=20'
MADE V.F.D. DATE 5-28-54
TRCD M.R.P. DATE 7-28-54
CKD. J.L.H. DATE 8-4-54

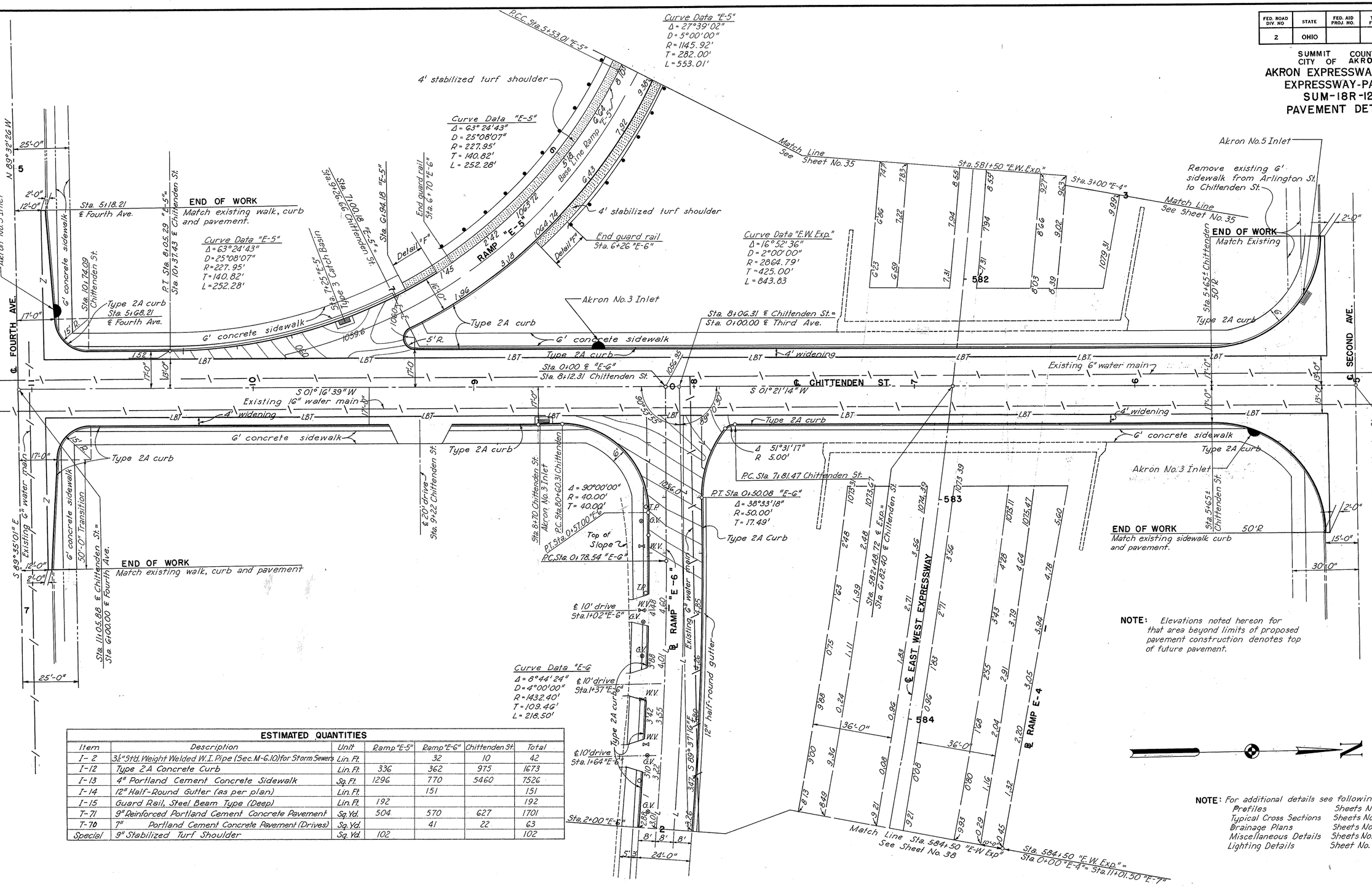
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 35

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

36
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PAVEMENT DETAILS



ESTIMATED QUANTITIES

Item	Description	Unit	Ramp "E-5"	Ramp "E-6"	Chittenden St.	Total
I-2	3½" Std. Weight Welded W.I. Pipe (Sec. M-6.10) for Storm Sewers	Lin. Ft.		32	10	42
I-12	Type 2A Concrete Curb	Lin. Ft.	336	362	975	1673
I-13	4" Portland Cement Concrete Sidewalk	Sq. Ft.	1296	770	5460	7526
I-14	12" Half-Round Gutter (as per plan)	Lin. Ft.		151		151
I-15	Guard Rail, Steel Beam Type (Deep)	Lin. Ft.	192			192
T-71	9" Reinforced Portland Cement Concrete Pavement	Sq. Yd.	504	570	627	1701
T-70	7" Portland Cement Concrete Pavement (Drives)	Sq. Yd.		41	22	63
Special	9" Stabilized Turf Shoulder	Sq. Yd.	102			102

NOTE: For additional details see following sheets:

Profiles	Sheets No. 5 and 41
Typical Cross Sections	Sheets No. 20, 23 and 24
Drainage Plans	Sheets No. 57 and 58
Miscellaneous Details	Sheets No. 46 and 47
Lighting Details	Sheet No. 48

SCALE 1" = 20'
MADE V.F.D. DATE 6-4-54
TRCD. T.B. DATE 7-13-54
CKD. J.L.H. DATE 8-4-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 36

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

37
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PAVEMENT DETAILS

Curve Data "E-7"
Δ = 0°59'20"
D = 2°00'00"
R = 2864.79'
T = 24.72'
L = 49.44'

Sta. 584+50 E.W. Exp. = Sta. 0+00 "E-4" = Sta. 11+20.60 "E-7"

Sta. 8+90.5 "E-7" = Sta. 585+58.5 ± "E.W. Exp."

Sta. 6+00 "E-7"

P.T. Sta. 6+17.29 "E-7"

RAMP "E-7"

℄ EAST - WEST EXPRESSWAY

Sta. 588+09.89 ℄ Exp. = Sta. 5+48.63 ℄ Third Ave.

Sta. 590+00 "E.W. Exp."

℄ THIRD AVE.

S 89° 37' 16" E.

Existing 6" Water Main to be removed to Hart St.

Existing 6" W.M.

6"-11¼° Bend

Sta. 2+230.5 E-6 Inlet Manhole 18.5' Lt.

Type 2A Curb

END PAVEMENT, CURB AND GUTTER
Sta. 3+09.50 ± "E-6"

New 6" W.M.

12" Halfround Gutter

℄ 90° Bend

RAMP "E-6"

W.V. ± W.V.

5'R

Face of Barricade Sta. 3+11.5 "E-6"

6"-11¼° Bend

6" Valve

Inlet

Top of Slope

5' Concrete

Sidewalk
Δ 81°20'54"
R 25.00'
T 21.52'
L 35.54

Sta. 0+32 ℄ Type "A" Inlet

10' Drive Sta. 2+48

Type 2A Curb

3rd Ave. Service Road

P.T. Sta. 0+35.54

Match Line See Sheet No. 36

P.C.C. Sta. 0+00 - 3rd Ave. Service Rd. "E-6"
Sta. 2+70.00 "E-6"

P.T. Sta. 2+97.04 "E-6"

Base Line

3' Concrete Sidewalk

Match Line

THIRD AVE. SERVICE ROAD

3' Concrete Sidewalk

5' Min.

New 6" Water Main to Tee

P.T. Sta. 8+29.50 - 4th Ave.

P.T. Sta. 2+17.27 - 4th Ave.

Detail "A"

P.C. Sta. 2+29.50 - 3rd Ave. Service Rd.

Δ 38°28'43"
R 50.00'
T 17.45'

Akron No. 3 Inlet

Δ 51°31'17"
R 5.00'
T 2.41'

Sta. 9+23 4th Ave

Sta. 9+71.27 - 4th Ave.

END OF WORK

Existing 6'-0" Walk

New 6" Concrete Walk

T.R.

W.V.

25'-0"

12'-0"

2'-0"

P.C. Sta. 2+37.50 - 3rd Ave. Service Rd.

Δ 90°00'00"
R 25.00'
T 25.00'

Type 2A Curb

℄ 10' Drive Sta. 8+49±

Concrete Walk

Sta. 8+19.50 - 4th Ave.

END OF WORK

Existing 6'-0" Walk

Match existing curb

New 6" W.V.

6"-11¼° Bend

6" Valve

℄ FOURTH AVE.

S 89° 35' 01" E

Sta. 2+79.50 - ℄ 3rd Ave. Service Rd.
Sta. 8+94.50 - ℄ 4th Ave.

Existing 6" Water Main

Curve Data "E.W.Exp."
Δ 16°52'36"
D 2°00'00"
R 2864.79'
T 425.00'
L 843.83'

P.C. Sta. 4+76.40 "E-6"

P.T. Sta. 6+76.40 "E-6"

Sta. 6+89.29 "E-6"

Sta. 589+64.9 ± Exp.

Match Line See Sheet No. 38

℄ Ramp "E-6"

℄ Fourth St.

12'-0" 13'-0" Varies 6'-0"

9"

4" Brick

1" Cushion

4" Conc. Base

Conc. Sidewalk

Standard Expansion Joint without tie bars

SECTION A-A
Scale 1"=10'

Curve Data "E-6"
Δ = 4°00'00"
D = 2°00'00"
R = 2864.79'
T = 100.04'
L = 200.00'

Curve Data "E-6"
Δ 9°44'24"
D 4°00'00"
R 1432.40'
T 109.46'
L 218.50'

N

NOTE:
Elevations noted hereon for that area beyond limits of proposed pavement construction denote top of future pavement

NOTE:
For Elevations Along Third Ave. Service Rd. See Profile Sheet No. 42.

NOTE:
For Pertinent Details See Following Sheets:

Profiles	Sheets No. 5, 41 and 42
Typical Cross Sections	Sheets No. 20, 23, and 24
Drainage Plans	Sheet No. 58
Miscellaneous Details	Sheets No. 46 and 47

ESTIMATED QUANTITES

Item	Description	Unit	Ramp "E-6"
I-12	Type 2A Concrete Curb.	Lin. Ft.	597
I-13	4" Portland Cement Concrete Sidewalk.	Sq. Ft.	1686
I-14	12" Half-round Concrete Gutter (as per plan).	Lin. Ft.	113
T-71	9" Reinforced Portland Cement Conc. Pavement.	Sq. Yd.	762
T-70	7" Portland Cement Conc. Pavement (Drives)	Sq. Yd.	38
I-15	Barricade Type A (as per plan)	Lin. Ft.	15
Special	Installing New 6" Water Main, CL. 24 (as per plan)	Lin. Ft.	362
E-12	Pipe removed and stored	Lin. Ft.	405

Note: 3rd Ave. Service Rd. Quantities Included in Ramp "E-6"

SCALE 1"=20'
MADE V.F.D. DATE 6-11-54
TRCD. B.T.R. DATE 7-15-54
CKD. J.L.H. DATE 8-3-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 37

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PAVEMENT DETAILS

N

Curve Data "E-7"
Δ=0°59'20"
D=2°00'00"
R=2864.79'
T=24.72'
L=49.44'

℄ HART ST. S. 01° 28' 14" W.

Sta. 7+29.65 Hart "E-7"
Δ=101° 14' 00"
R=44.73'
T=54.93'
L=79.03'

Sta. 7+34.79 Hart
Δ=83° 45' 04"
R=50.00'
T=44.82'
L=93.09'

P.R.C. Sta. 5+67.85 "E-7"
P.C.C. Sta. 4+43.24 "E-7"
26'-0"
20'-0"
20'-0"
2'R
8'-0"
16'-0"

Curve Data "E-7"
Δ=12° 18' 50"
D=4° 00' 00"
R=1432.40'
T=154.52'
L=307.85'

P.C. Sta. 2+60.00

℄ RAMP "E-7"

Sta. 0+41.41 "E-7"
Δ=89° 06' 35"
R=30.00'
T=29.54'
13'-0"

Sta. 0+00 "E-7"
Sta. 8+01.17 Fuller

Sta. 12+99.58 & 3rd Ave.
Sta. 8+05.17 Fuller

Sta. 8+37.18 Fuller

Sta. 0+50.92 "E-7"
Δ=47° 57' 25"
R=50.00'
T=22.24'

Δ=42° 50' 00"
R=5.00'
T=1.96'
26'-0"

Sta. 6+00 "E-7"
9.81
8.26
9.68
8.20
Sta. 5+70.00 "E-7"
BEGIN NEW WORK

℄ THIRD AVE.

Sta. 5+00.40 ℄ Ramp "E-7"
Sta. 7+81.11 ℄ Hart St.

Sta. 590+71.06 ℄ Exp.=
Sta. 8+80.33 ℄ Hart St.

P.C. Sta. 593+07.84 "Exp"
P.C. Sta. 593+27.25 ℄ Exp.
P.C. Sta. 593+45.61 "Exp"

Curve Data "℄ Exp"
Δ=21° 08' 25"
D=2° 00' 00"
R=2864.79
T=534.59
L=1057.01

Sta. 595+87.67 ℄ Exp.=
Sta. 10+17.31 ℄ Fuller St.

FULLER ST. S. 10° 46' W.

0.15	9'27	8'40	7'52	6'65	5'77	4'93	4'12	1043'31	2'54	1'83	1'17	0'61	0'08	9'63	9'24	12'-0"	8'92	8'69	8'59	8'59	1038'65	8'78
0.34	9.46	8.59	7.71	6.84	5.96	5.12	4.31	1043.50	2.73	2.02	1.36	0.80	0.27	9.86	9.51		9.24	9.04	8.95	8.95	1039.01	9.14
9.96	9.08	8.21	7.33	6.46	5.58	4.74	3.96	1043.25	2.60	2.02	1.49	1.05	0.65	0.33	0.06	9.87	9.74	9.67	9.67	9.67	1039.73	9.86
9.96	9'08	8'21	7'33	6'46	5'58	4'74	3'96	1043'25	2'60	2'02	1'49	1'05	0'65	0'33	0'06	9'87	9'74	9'67	9'67	9'67	1039'73	9'86
0.34	9.46	8.59	7.71	6.84	5.96	5.12	4.34	1043.63	2.98	2.40	1.87	1.43	1.06	0.80	0.61		0.50	0.43	0.39	0.39	1040.45	0.58
0.15	9.27	8.40	7.52	6.65	5.77	4.93	4.15	1043.44	2.79	2.24	1.81	1.49	1.22	1.03	0.88	12'-0"	0.82	0.79	0.75	0.75	1040.81	0.94
9.89	8.98	8.14	7.25	6.42	5.58	4.74	3.98	3.28	2.64	2.13	1.74	1.42	1.19	1041 05	0.93		0.84	0.77	0.75	0.78	0.86	

590 591 592 593 594 595

Sta. 590+00 "E-W Exp."
Sta. 7+25 "E-6"

℄ EAST-WEST EXPRESSWAY

35'-0"
36'-0"
4'-0"

8 9 10

℄ RAMP "E-6"

Match Line
See Sheet No. 37

S. 01° 14' 29" W.

Sta. 10+70.09 "E-6"=
Sta. 593+45.61 ℄ Exp.= Sta. 0+00 "E-8"

℄ RAMP "E-8"

P.C. Sta. 2+00 "E-8"

Curve Data "E-8"
Δ=5° 48' 00"
D=4° 00' 00"
R=1432.40'
T=72.56
L=145.00'

NOTE:
For additional details see following sheets:

Profiles	Sheets No. 5, 41 and 43
Typical Cross Sections	Sheets No. 20 and 23
Drainage Plans	Sheet No. 58

℄ FOURTH AVE.
S. 89° 37' 41" E.

SCALE 1"=20'
MADE VFO DATE 6-18-54
TRCD DJR DATE 7-18-54
CKD JLH DATE 8-2-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 38

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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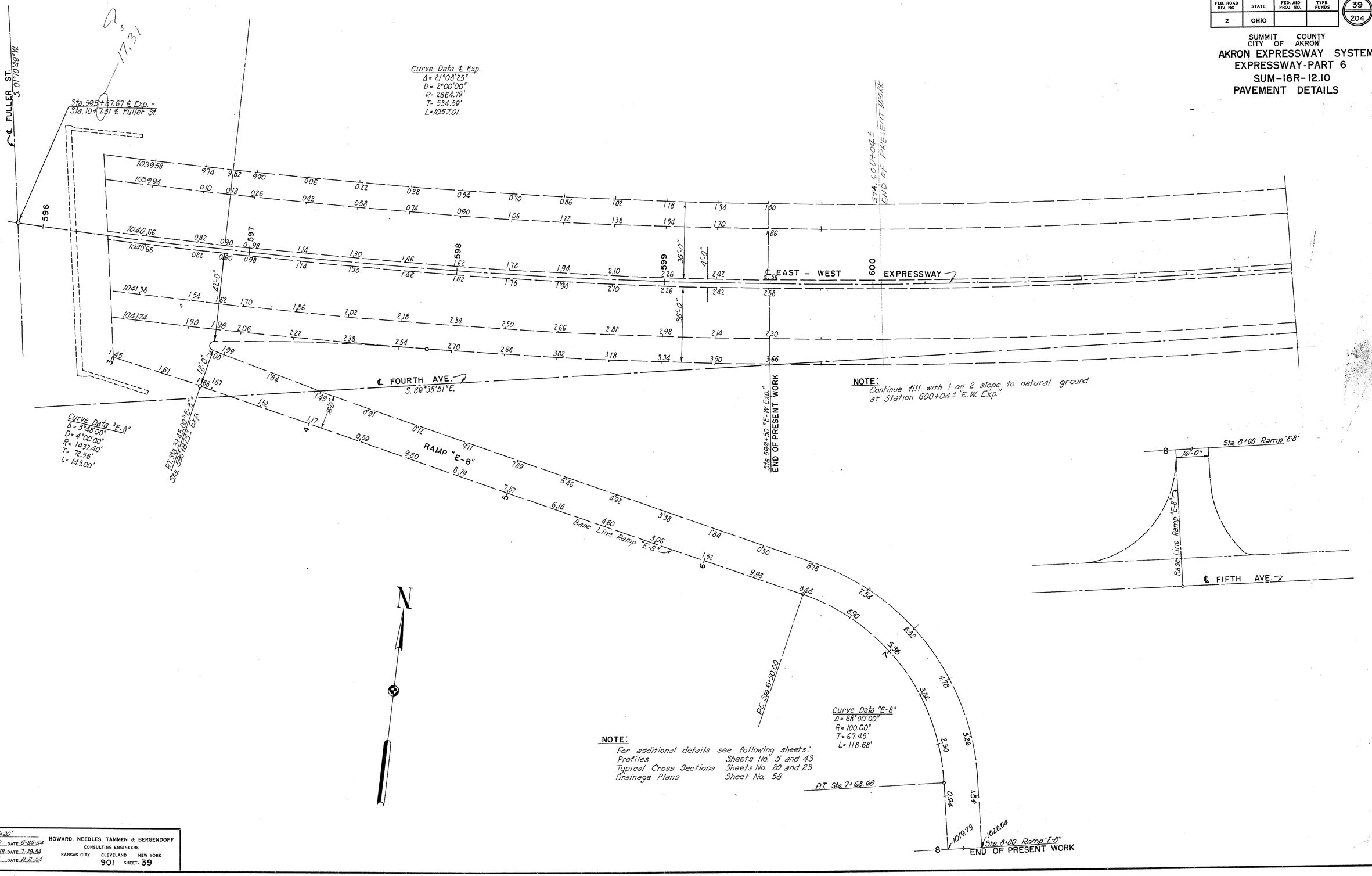
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PAVEMENT DETAILS



NOTE:
For additional details see following sheets:

Profiles	Sheets No. 5 and 43
Typical Cross Sections	Sheets No. 20 and 23
Drainage Plans	Sheet No. 58

SCALE 1"=20'
MADE VFD DATE 6-25-54
TRCD. RB DATE 7-29-54
CKD. JLH DATE 8-2-54

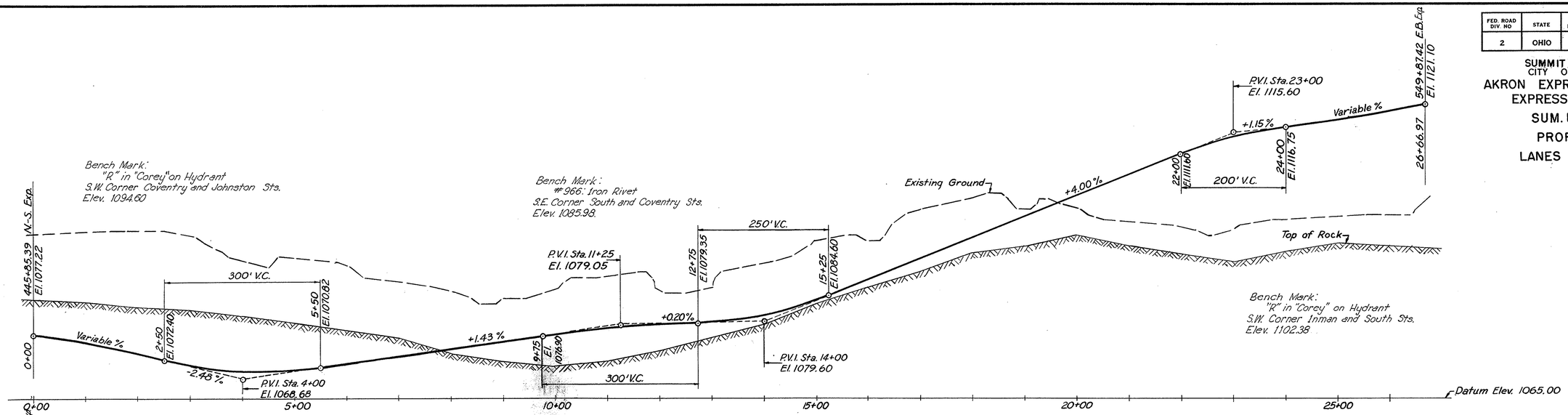
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 39

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

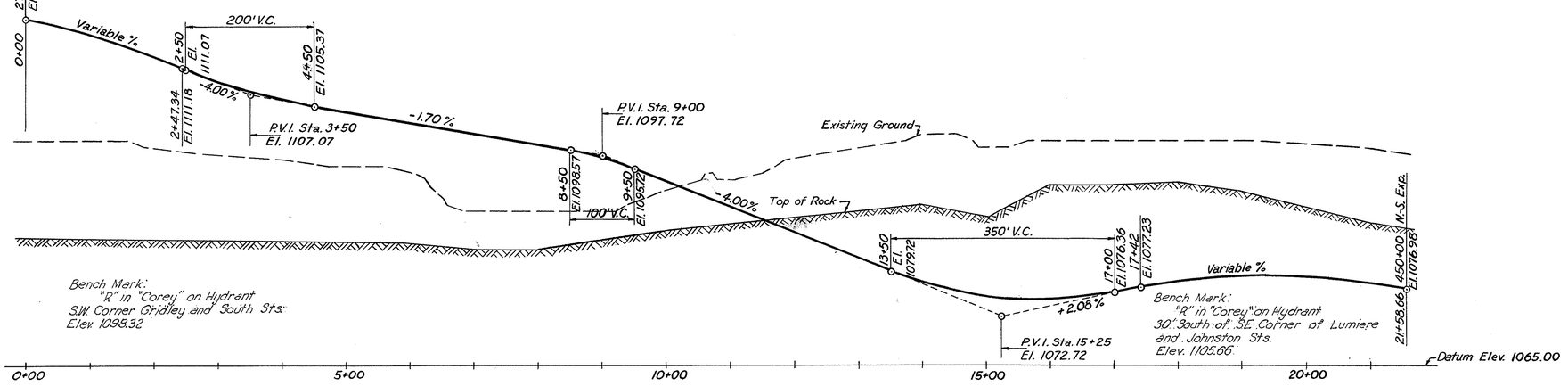
40
204

SUMMIT COUNTY
CITY OF AKRON

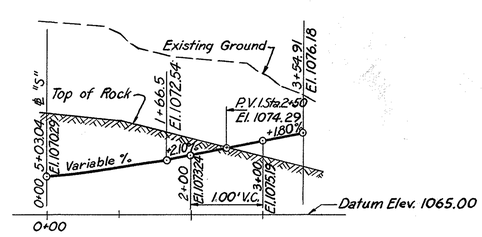
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM. 18 R-12.10
PROFILES OF LANES AND RAMPS



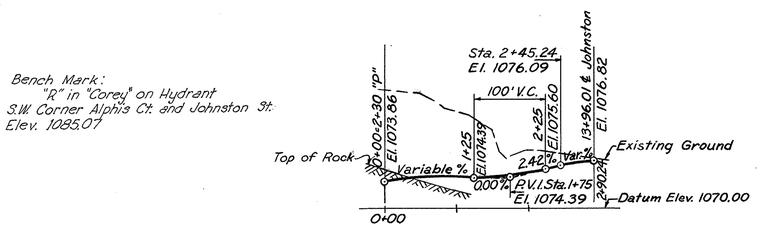
LANE "S" PROFILE



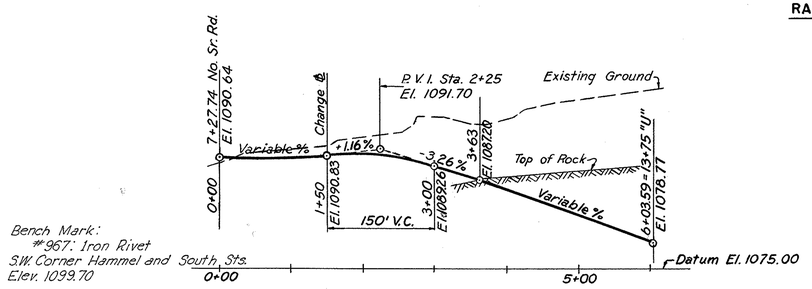
LANE "U" PROFILE



RAMP "P" PROFILE



RAMP "Q" PROFILE



RAMP "V" PROFILE

Note:
Profile shown along base line of all lanes and ramps.
All stationing is computed along base lines.
Ground profile shown is along base lines.

SCALE 1"=10' Vert, 1"=100' Hor.
MADE M.E.G. DATE 6-24-54
TRCD. J.D.B. DATE 7-14-54
CKD. M.E.G. DATE 7-16-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 40

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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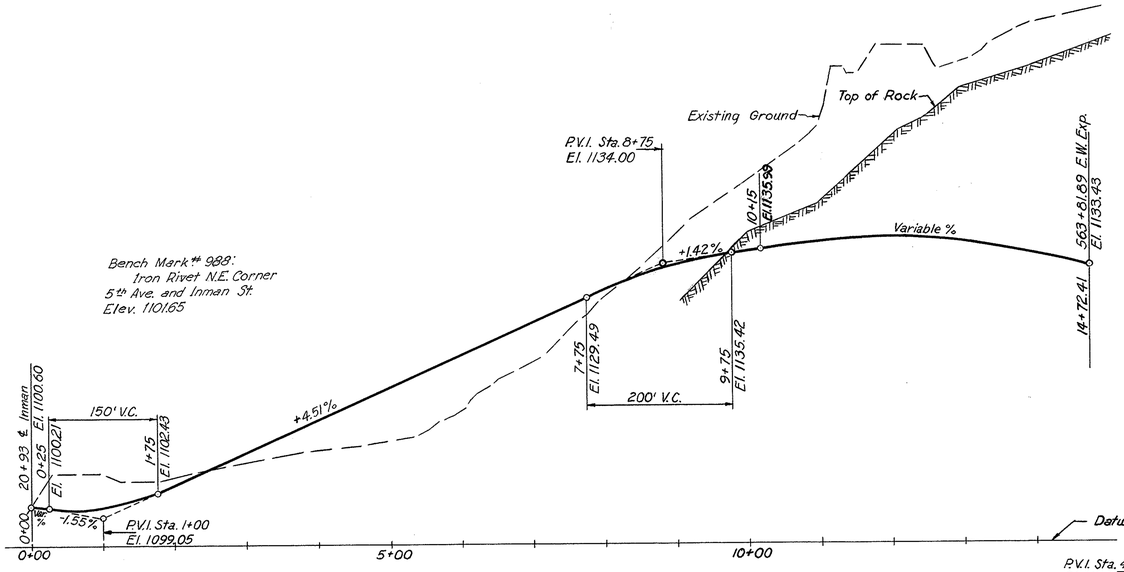
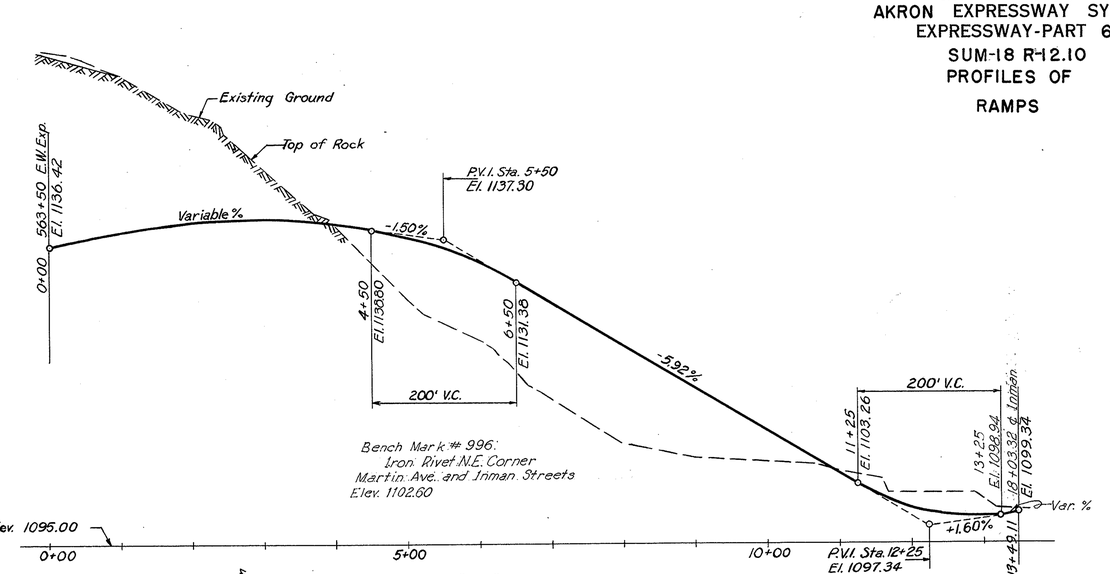
204

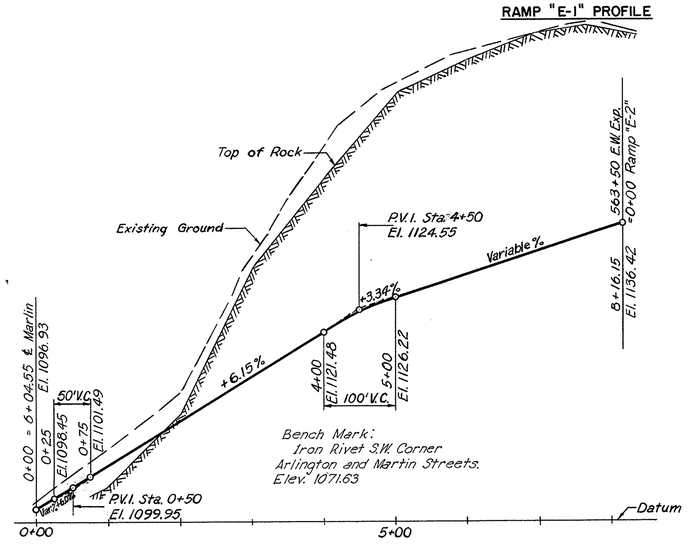
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10
PROFILES OF
RAMPS



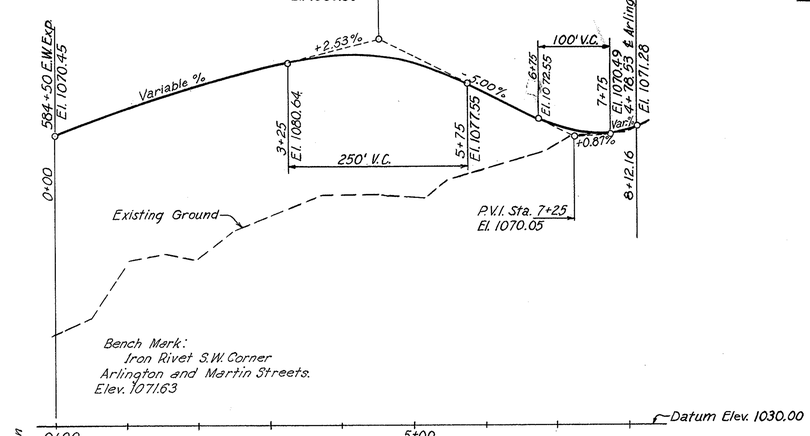
RAMP "E-1" PROFILE



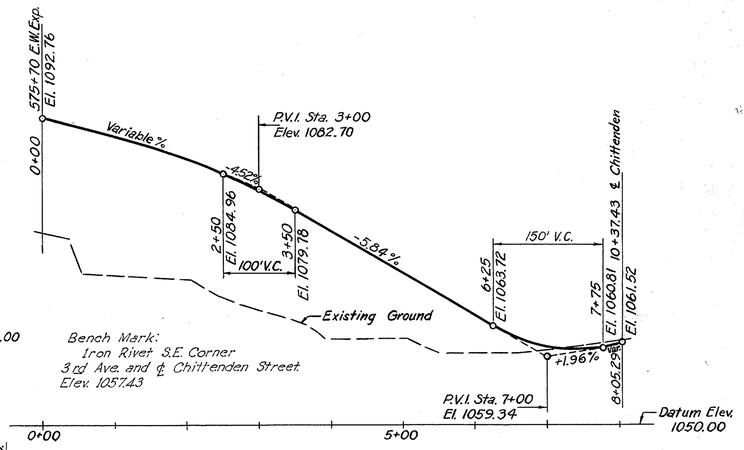
RAMP "E-2" PROFILE



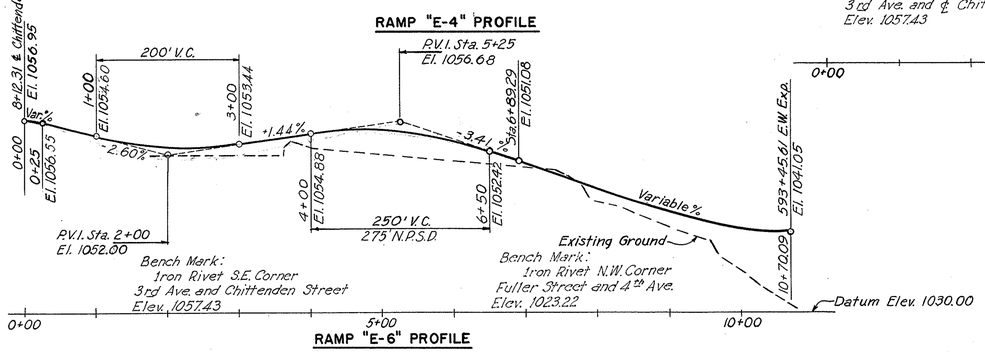
RAMP "E-3" PROFILE



RAMP "E-4" PROFILE



RAMP "E-5" PROFILE



RAMP "E-6" PROFILE

Note:
Profile shown along base line of all ramps.
All stationing is computed along base line.
Ground profile shown is along base line.

SCALE 1"=10' Vertical, 1"=100' Hor.
MADE M.E.G. DATE 6-25-54
TRCD. J.D.B. DATE 7-15-54
CKD. C.R.E. DATE 8-13-54

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

901 SHEET- 41

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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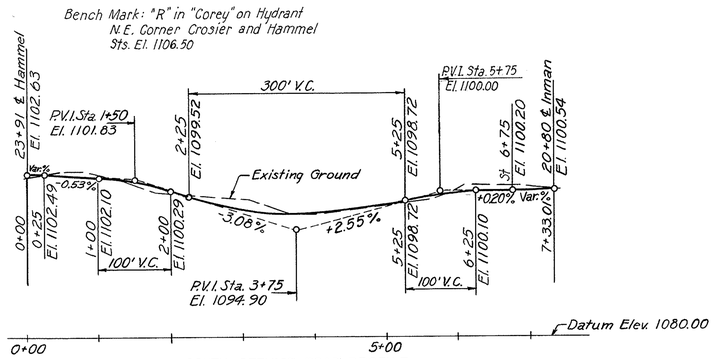
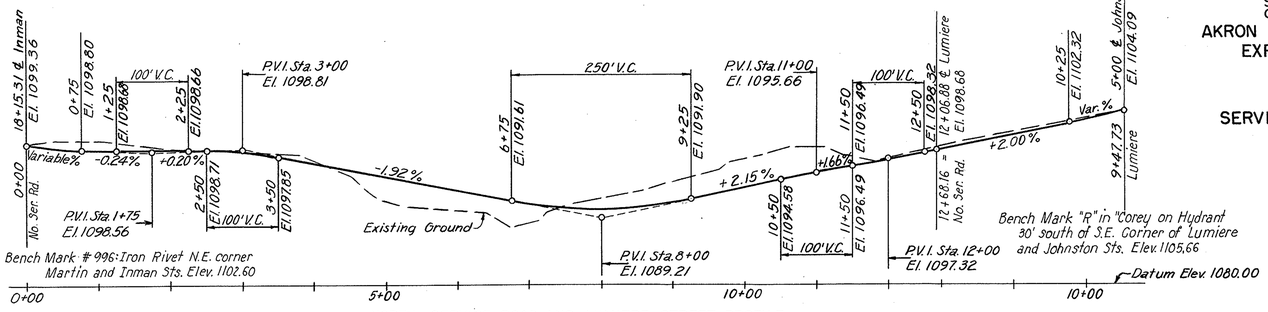
204

SUMMIT COUNTY
CITY OF AKRON

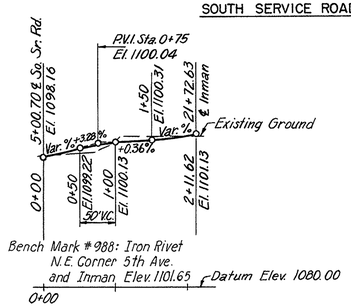
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PROFILES OF SERVICE ROADS AND RAMPS



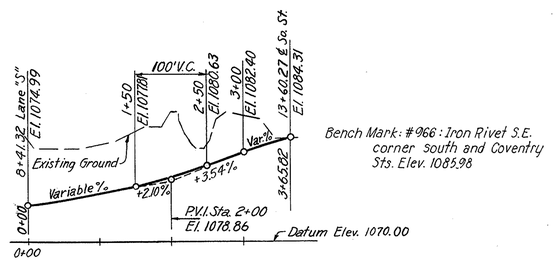
SOUTH SERVICE ROAD PROFILE



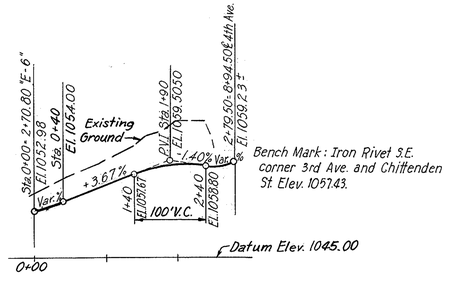
NORTH SERVICE ROAD AND LUMIERE STREET PROFILE



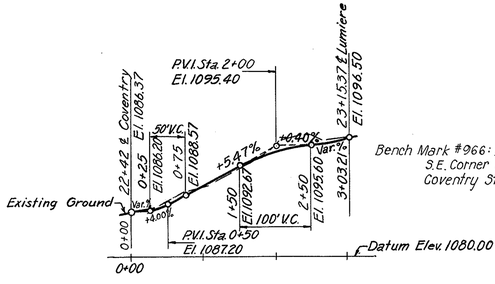
5TH AVENUE CONNECTION PROFILE



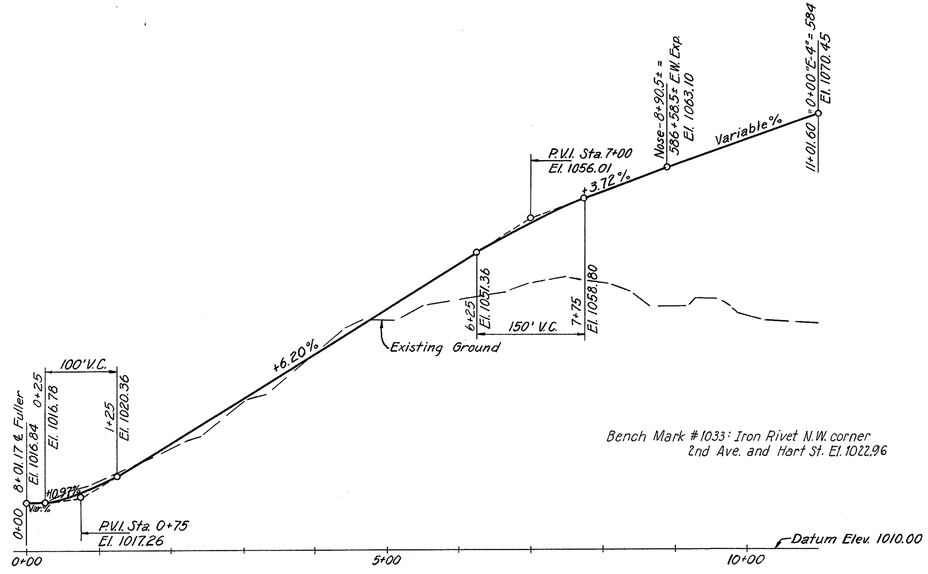
TEMPORARY CONNECTION "A" PROFILE



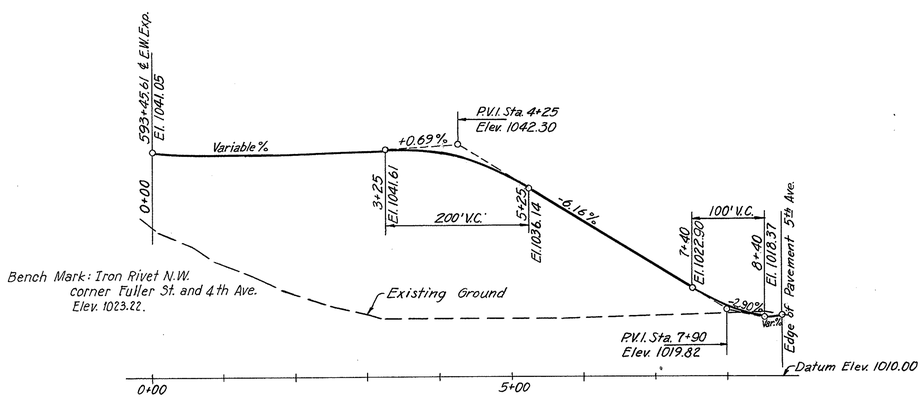
3 RD AVENUE SERVICE ROAD PROFILE



TEMPORARY CONNECTION "C" PROFILE



RAMP "E-7" PROFILE



RAMP "E-8" PROFILE

SCALE 1"=10' Vert. 1"=100' Hor.
MADE M.E.G. DATE 6-26-54
TRCD. J.D.B. DATE 7-23-54
CKD. C.R.E. DATE 8-12-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 42

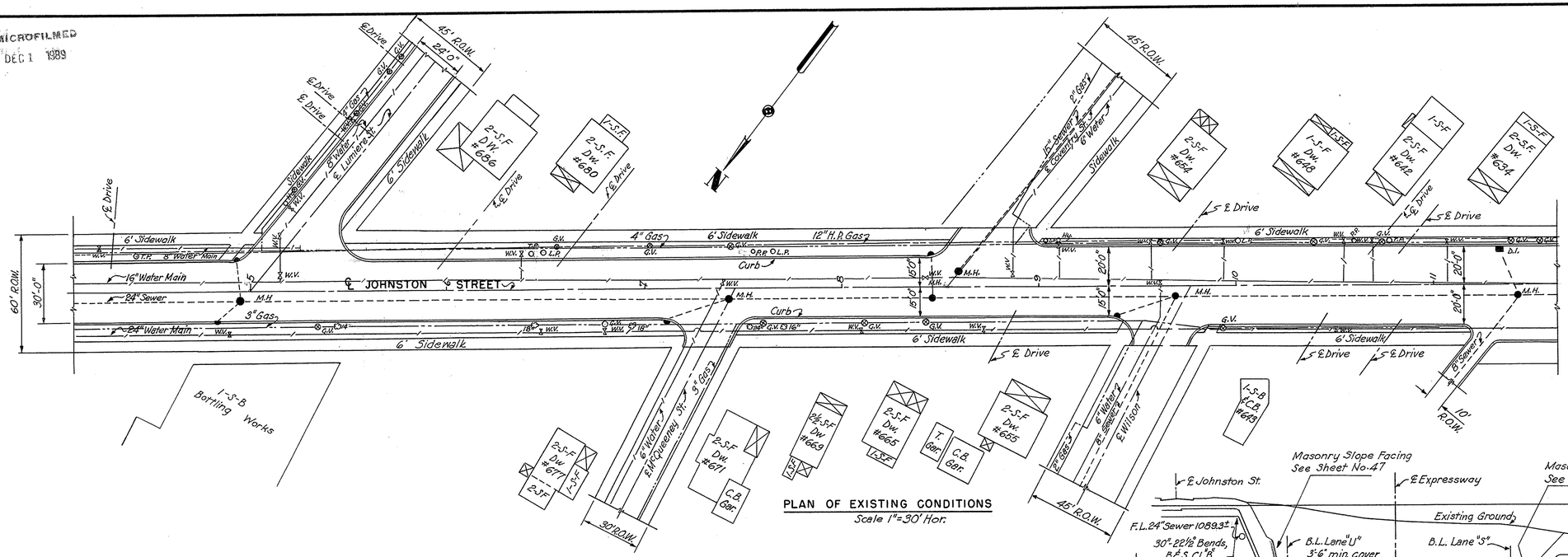
MICROFILMED
DEC 1 1989

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

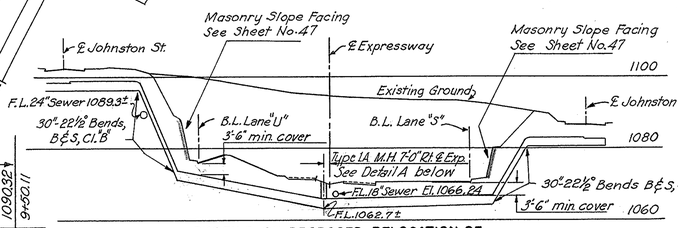
43
204

SUMMIT COUNTY
CITY OF AKRON

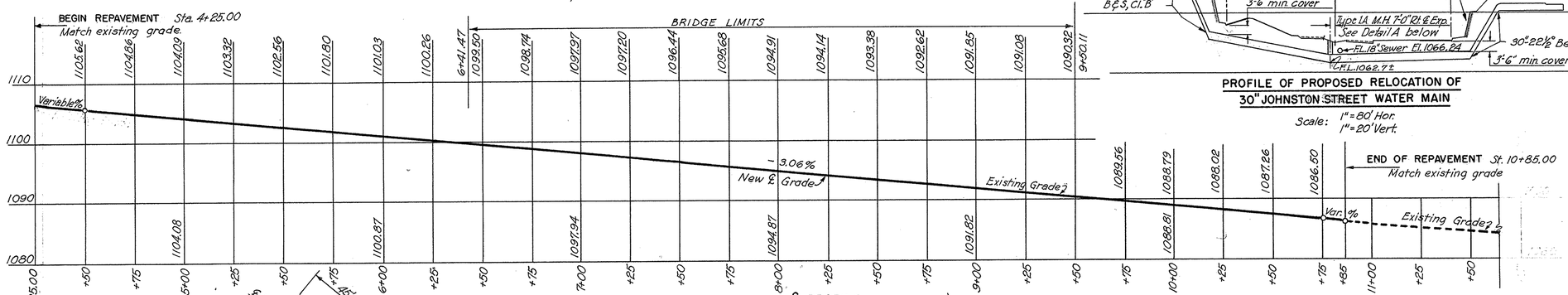
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PLAN-PROFILE OF JOHNSTON STREET

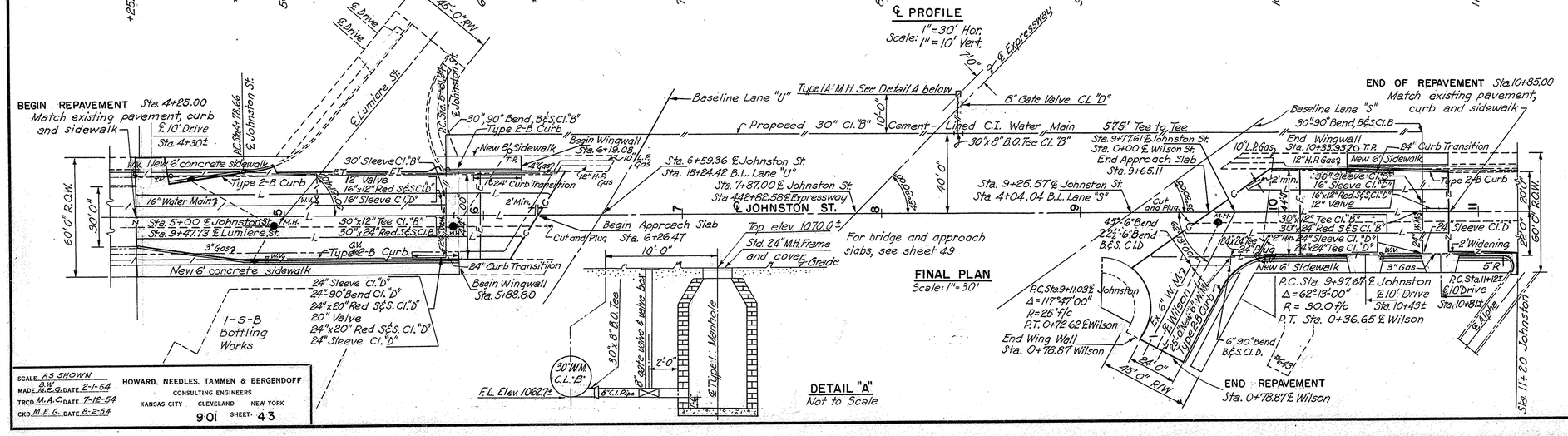


PLAN OF EXISTING CONDITIONS
Scale 1"=30' Hor.



PROFILE OF PROPOSED RELOCATION OF
30" JOHNSTON STREET WATER MAIN
Scale: 1"=80' Hor.
1"=20' Vert.





DETAIL "A"
Not to Scale

SCALE AS SHOWN
MADE M.E.G. DATE 2-1-54
TRCD. M.A.C. DATE 7-12-54
CKD. M.E.G. DATE 8-2-54

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

901 SHEET 43

LEGEND

- Gas Valve
- Water Valve
- Existing Water Main
- New Water Main
- Hydrant
- T.P. Telephone Pole
- L.P. Light Pole
- P.P. Power Pole
- Tree
- M.H. Sewer Manhole
- Sewer Inlet
- D.I. Drop Inlet

NOTES:

All existing valve boxes, meter boxes, etc. on present water and gas lines shown on Final Plan to be made flush with new pavement, walk, or curb.
Existing sewer manholes in new pavement area to be made flush with new pavement. Hydrants, light poles and utility poles to be relocated as shown on Final Plan, with deviations permitted as deemed necessary by the Engineer.
The number and location of new drives shown on Final Plan may be adjusted where necessary by the Engineer.

New curb adjacent to the structure wingwalls, shall be transitioned uniformly, from 9" in height to Type 2-B at the rate of ½" per ft. Curb is listed as "9" Concrete Curb, as per plan."

Bench Mark located on a hydrant at the Southwest corner of Alphis Court and Johnston Street. Elevation of "R" on Corey trademark 1085.07.

For details of provisions made in abutment back wall and underpass superstructure to carry gas mains see sheets 134, 142, 144 and 148.

For additional details see following sheets:

Typical Cross Sections	Sheet No. 24
Drainage Plans	Sheet No. 56
Miscellaneous Details	Sheet No. 46 & 47
Approach Slabs	Sheet No. 49
Paving plan Lumerie St.	Sheet No. 26

ESTIMATED QUANTITIES

Item	Description	Quantity
B-35	1½" Asphaltic Concrete Leveling Course	57 Cu. yd.
B-70	9" Portland Cement Concrete Base Course	1426 Sq. yd.
E-8	Removal and Disposal of Existing Sidewalk (Concrete)	7,350 Sq. Ft.
E-8	Removal and Disposal of Existing Curb (Sandstone)	1,354 Lin. Ft.
E-8	Removal and Disposal of Existing Pavement (Asphalt, Brick or Concrete)	2,527 Sq. yd.
E-12	6" Pipe removed and Stored (Water Main)	25 Lin. Ft.
E-12	16" Pipe removed and Stored (Water Main)	490 Lin. Ft.
E-12	24" Pipe removed and Stored (Water Main)	392 Lin. Ft.
I-2	3½" Std. Weight Welded W.I. Pipe, Sec. M-6.10 for Storm Sewers	17 Lin. Ft.
I-12	Standard Type 2-B Concrete Curb	433 Lin. Ft.
I-12	9" Concrete Curb, as per plan.	72 Lin. Ft.
I-13	4" Portland Cement Concrete Sidewalk	3130 Sq. Ft.
T-30	Bituminous Tack Coat	137 Gal.
T-35	1½" Asphaltic Concrete (Surface Course)	57 Cu. yd.
T-70	7" Portland Cement Concrete Pavement	22 Sq. yd.
Special	Installing 6" Water Main as per plan	25 Lin. Ft.
Special	Installing 24" Water Main as per plan	50 Lin. Ft.
Special	Installing 30" Water Main as per plan	575 Lin. Ft.
Special	Installing 8" Water Main as per plan	10 Lin. Ft.
I-8	Standard Type 1 Manhole	1 each
S-20	Rubble Stone Masonry	9 Cu. Yds.

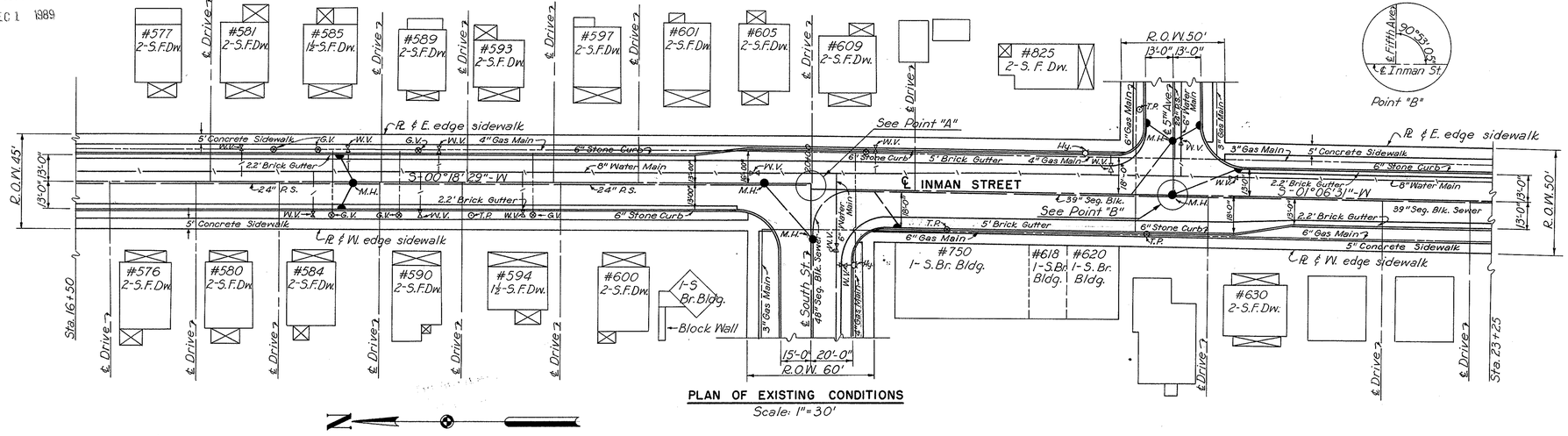
MICROFILMED
DEC 1 1989

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

44
204

SUMMIT COUNTY
CITY OF AKRON

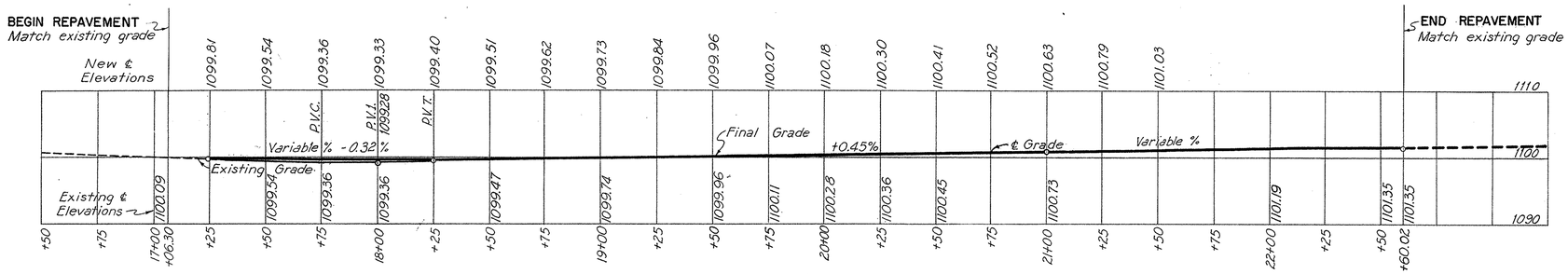
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PLAN PROFILE OF INMAN STREET



PLAN OF EXISTING CONDITIONS
Scale: 1"=30'

LEGEND

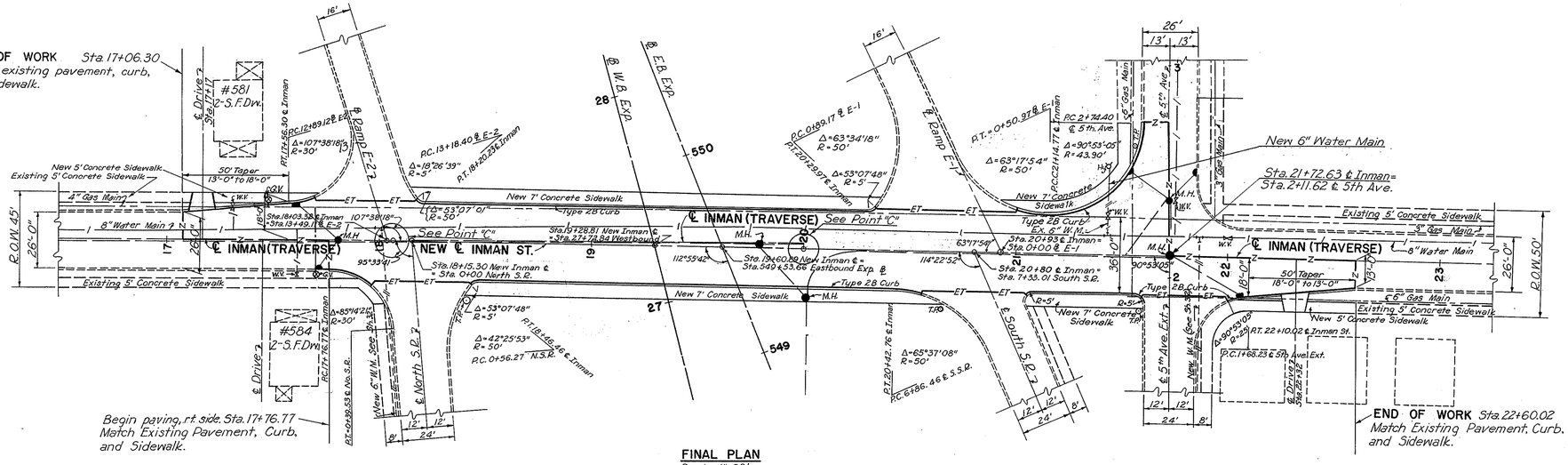
- W.V. — Water Valve
- M.H. — Sewer Manhole
- Sewer Inlet
- Hy. — Water Hydrant
- Sewer Line
- Water Line
- Gas Line
- New Water Main
- T.P. — Telephone Pole
- G.V. — Gas Valve



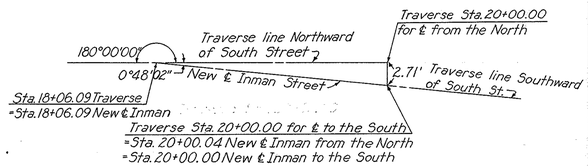
℄ PROFILE
Scale: 1"=30' Hor.
1"=10' Vert.

ESTIMATED QUANTITIES		
Item	Description	Quantity
B-35	Asphaltic Concrete Leveling Course (70-80)	80 Cu.Yd.
B-70	9" Portland Cement Concrete Base Course	2013 Sq.Yd.
E-8	Removal & Disposal of Existing Pavement (Asphalt on Concrete)	1459 Sq.Yd.
E-8	Removal & Disposal of Existing Brick Gutter (on Concrete)	339 Sq.Yd.
E-8	Removal & Disposal of Existing Curb (Stone)	985 Lin.Ft.
E-8	Removal & Disposal of Existing Sidewalk (Concrete)	4663 Sq.Ft.
I-2	3½" Std. Weight Welded W.I. Pipe Sec. M 6.10 for Storm Sewers	20 Lin.Ft.
I-12	Type 2-B Concrete Curb	708 Lin.Ft.
I-13	4" Portland Cement Concrete Sidewalk	4404 Sq.Ft.
T-30	Bituminous Tack Coat	190 Gal.
T-35	Asphaltic Concrete Surface Course, Type "C" (70-80)	80 Cu.Yd.
T-70	7" Portland Cement Concrete (Drives)	24 Sq. Yd.
Spec.	Installing 6" Water Main CL 24 (as per plan)	21 Lin. Ft.

Notes:
For pavement joint legend see sheet 46
For pavement cross-section, see sheet 24
All existing valve boxes, meter boxes, etc. on present water and gas lines shown on Final Plan to be made flush with new pavement, walk, or curb.
Existing sewer manholes in new pavement area to be made flush with new pavement. Hydrants, light poles and utility poles to be relocated as shown on Final Plan, with deviations permitted as deemed necessary by the Engineer.
The number and location of new drives shown on Final Plan may be adjusted where necessary by the Engineer. For details of drive apron, see sheet 47
Bench Marks:
#988-Iron rivet at Northeast corner Fifth Avenue and Inman St.
-Elev. 1101.65
#996-Iron rivet @ Northeast corner Martin Avenue and Inman St.
-Elev. 1102.66



FINAL PLAN
Scale: 1"=30'



Sheet 106

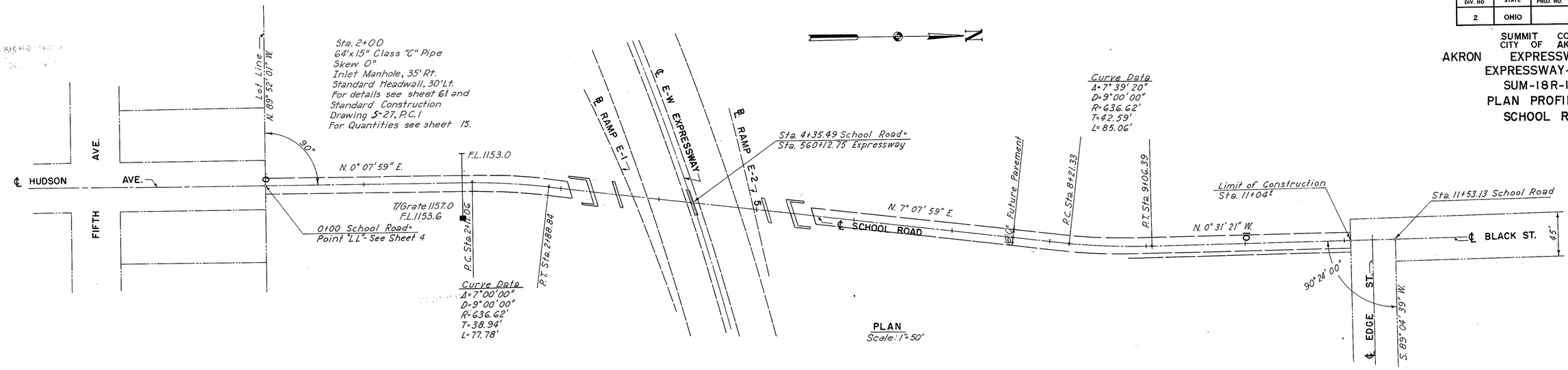
SCALE As Shown	HOWARD, NEEDLES, TAMMEN & BERGENDOFF
MADE JBP DATE 5-19-54	CONSULTING ENGINEERS
TRCD JAV DATE 7-19-54	KANSAS CITY CLEVELAND NEW YORK
CKD CRE DATE 8-30-54	901 SHEET 44

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

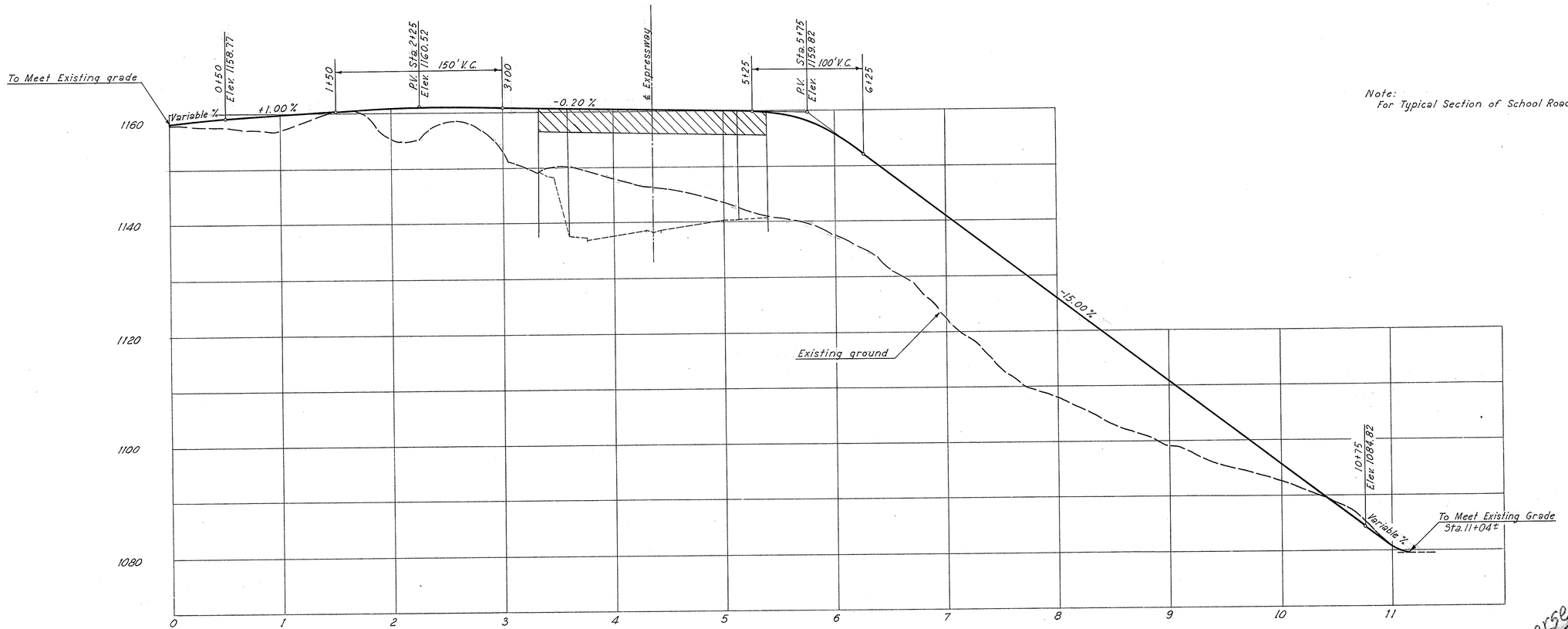
45
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PLAN PROFILE OF SCHOOL ROAD



PLAN
Scale: 1"=50'



℄ PROFILE
Scale: Hor. 1"=50'
Vert. 1"=10'

Note:
For Typical Section of School Road See Sheet 24

Superseded
3-16-55

SCALE Hor. 1"=50' Vert 1"=10'
MADE R.G. DATE 7-20-54
TRCD. L. & P. DATE 7-29-54
CKD. C.R.E. DATE 8-19-54

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

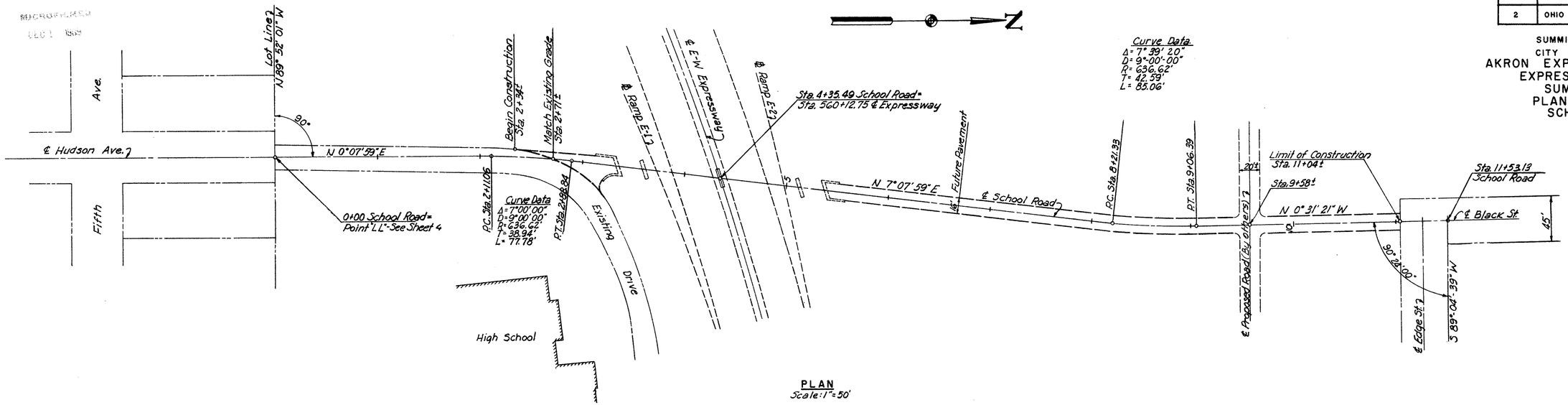
901 SHEET- 45

MICROFILMED
DEC 1 1955

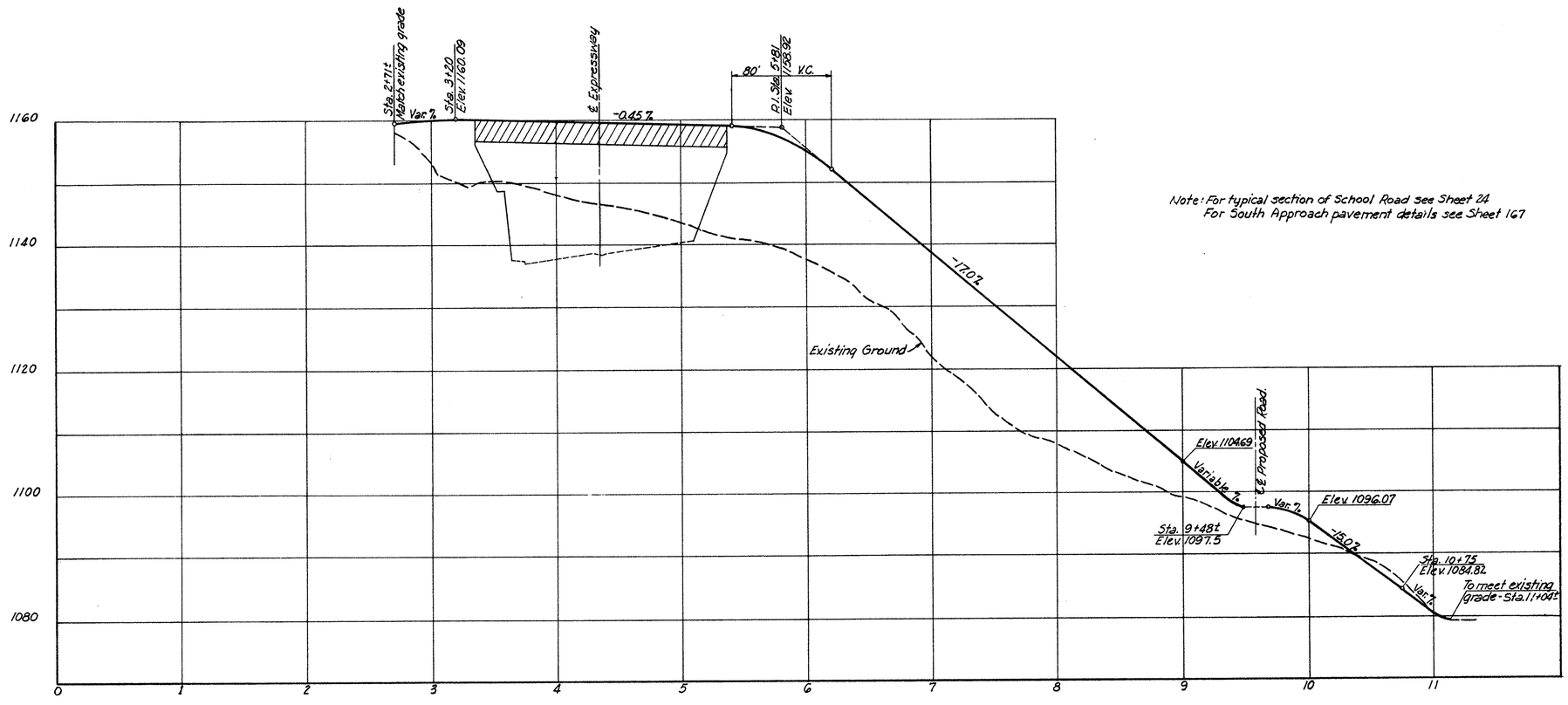
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

45R
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
PLAN PROFILE OF
SCHOOL ROAD



PLAN
Scale: 1" = 50'



℄ PROFILE
Scale: Hor. 1" = 50'
Vert. 1" = 10'

Note: For typical section of School Road see Sheet 24
For South Approach pavement details see Sheet 167

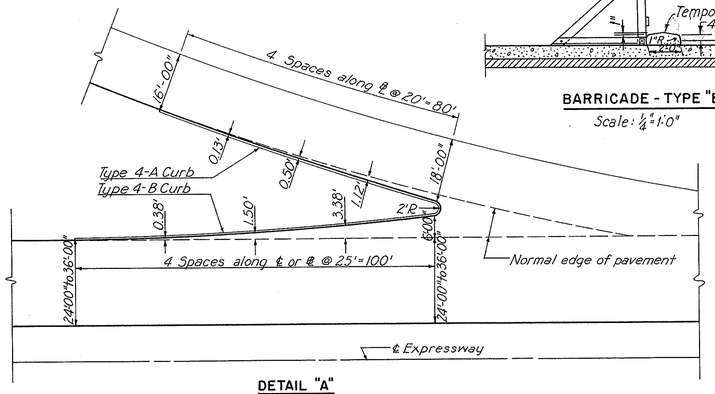
SCALE Hor. 1"=50' Vert. 1"=10'	HOWARD, NEEDLES, TAMMEN & BERGENDOFF		
MADE JCT DATE 2-28-55	CONSULTING ENGINEERS		
TRCD ____ DATE ____	KANSAS CITY	CLEVELAND	NEW YORK
CKD JMS DATE 3-3-55	901 SHEET - 45		

Sheet 45R replaces Sheet 45.
3-16-55
Revised: 2-28-55

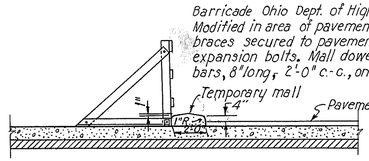
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

46
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
MISCELLANEOUS DETAILS

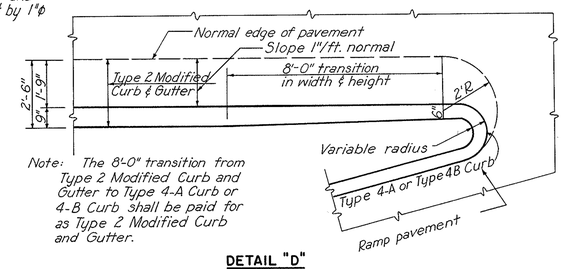


DETAIL "A"
TYPICAL NOSE AND THROAT DETAILS
EXIT RAMP
Scale: 1"=20'



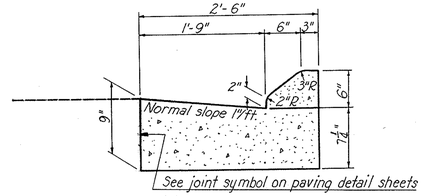
Barricade Ohio Dept. of Highways Standard G-7.07 Modified in area of pavement as shown. Posts and braces secured to pavement by clip angles and expansion bolts. Mall doweled to pavement by 1"ϕ bars, 8' long, 2'-0" c-c., on Ramps only.

BARRICADE - TYPE "B"
Scale: ¼"=1'-0"

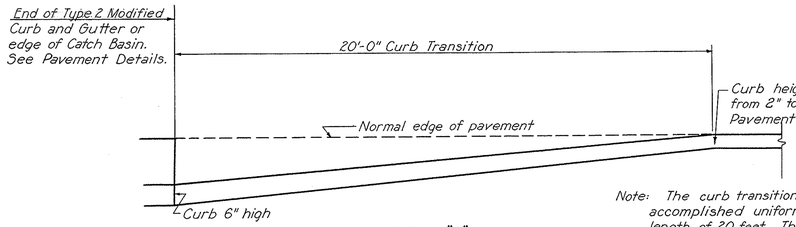


Note: The 8'-0" transition from Type 2 Modified Curb and Gutter to Type 4-A Curb or 4-B Curb shall be paid for as Type 2 Modified Curb and Gutter.

DETAIL "D"
PLAN OF CURB AND GUTTER TRANSITION
Scale: ⅜"=1'-0"

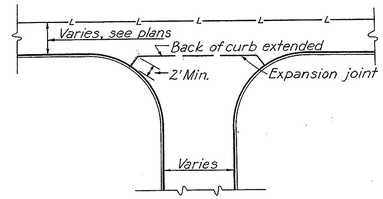


DETAIL "H"
TYPE 2 MODIFIED CURB AND GUTTER
Not to Scale

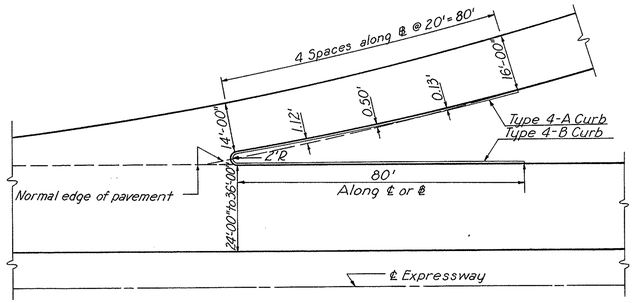


DETAIL "E"
PLAN OF CURB AND GUTTER TRANSITION
Scale: ⅜"=1'-0"

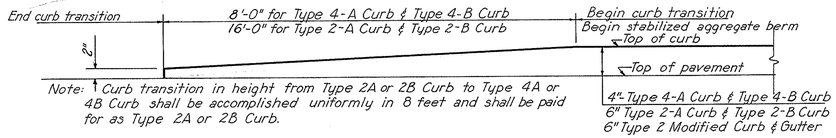
Note: The curb transition in height shall be accomplished uniformly over the entire length of 20 feet. The transition from Type 2A Curb or Type 4A Curb or Curb Termination shall be paid for as Type 2 Modified Curb and Gutter.



DETAIL "I"
TYPICAL INTERSECTION
SHOWING JOINT LOCATION
Not to Scale

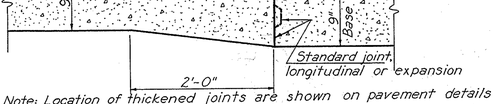


DETAIL "B"
TYPICAL NOSE AND THROAT DETAILS
ENTRANCE RAMP
Scale: 1"=20'



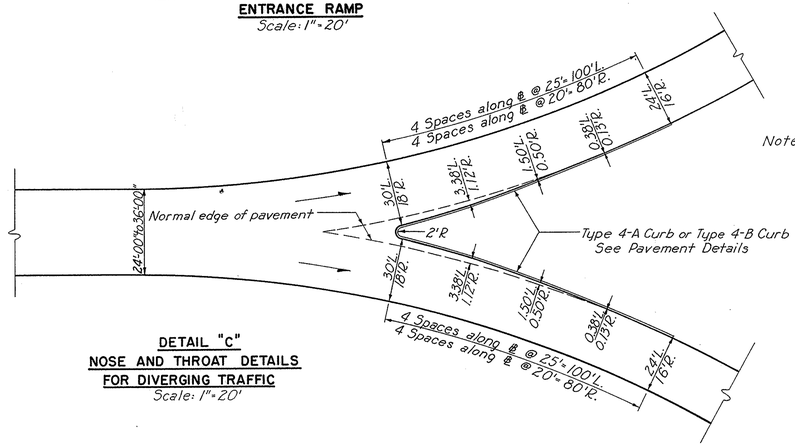
Note: Curb transition in height from Type 2A or 2B Curb to Type 4A or 4B Curb shall be accomplished uniformly in 8 feet and shall be paid for as Type 2A or 2B Curb.

DETAIL "F"
CURB TRANSITION
Not to Scale



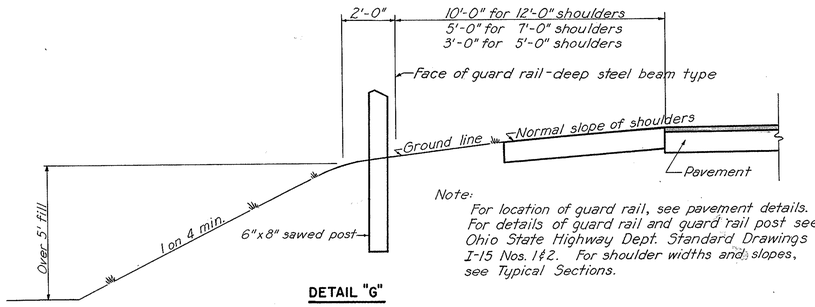
Note: Location of thickened joints are shown on pavement details by symbols "LT" and "ET".

DETAIL "J"
THICKENED JOINT DETAIL
Scale: 1"=1'-0"



Note: L. denotes lane dimension
R. denotes ramp dimension

DETAIL "C"
NOSE AND THROAT DETAILS
FOR DIVERGING TRAFFIC
Scale: 1"=20'



Note: For location of guard rail, see pavement details. For details of guard rail and guard rail post see Ohio State Highway Dept. Standard Drawings I-15 Nos. 1&2. For shoulder widths and slopes, see Typical Sections.

DETAIL "G"
GUARD RAIL DETAILS
Scale: ⅜"=1'-0"

PAVEMENT JOINT LEGEND

Transverse construction joint	C
Transverse expansion joint	E
Transverse expansion joint - thickened edge	ET
Expansion joint without tie bars	Z
Standard longitudinal joint	L
5't'd. longitudinal key joint with tie bar-thickened edge	LT
Standard expansion bolt joint	LB
Standard expansion bolt joint- thickened edge	LBT
Butt joint without tie bars.	K

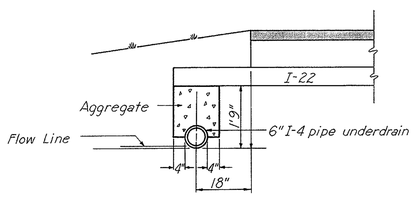
Note: For details of joints, see Ohio State Highway Dept. Standard Drawings.

SCALE: As shown
MADE: JBP DATE: 2-22-54
TRCD: JAV DATE: 7-27-54
CKD: JLC DATE: 8-11-54
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901
SHEET: 46

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

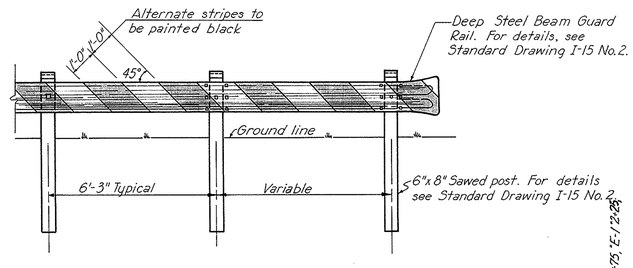
47
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
MISCELLANEOUS DETAILS

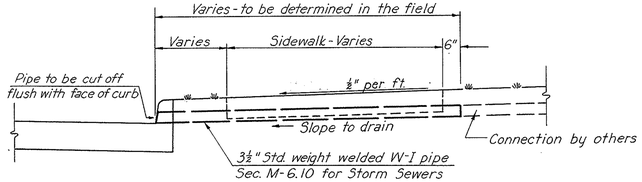


Note: For location of underdrains see drainage plans.

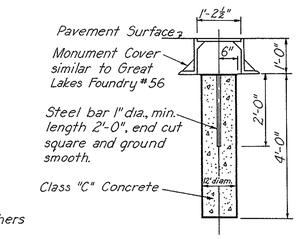
DETAIL OF PIPE UNDERDRAIN
Scale: ½"=1'-0"



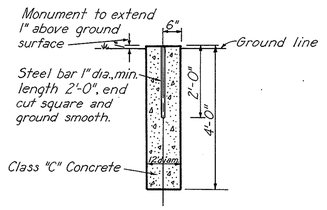
BARRICADE TYPE "A"
Scale: ⅜"=1'-0"



DETAIL OF DRAIN PIPE
Scale: ½"=1'-0"

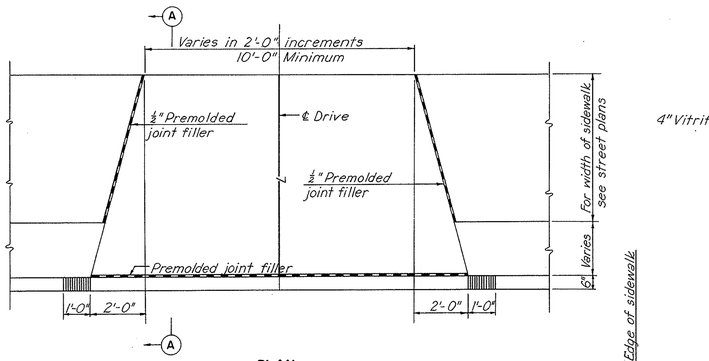


PAVED AREA MONUMENT



UNPAVED AREA MONUMENT

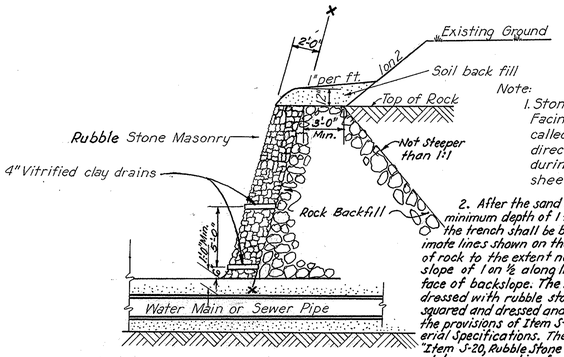
MONUMENT DETAILS
Scale: ½"=1'-0"



PLAN

SECTION A-A

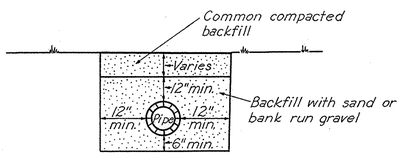
DETAILS OF DRIVE APRON
Scale: ⅜"=1'-0"



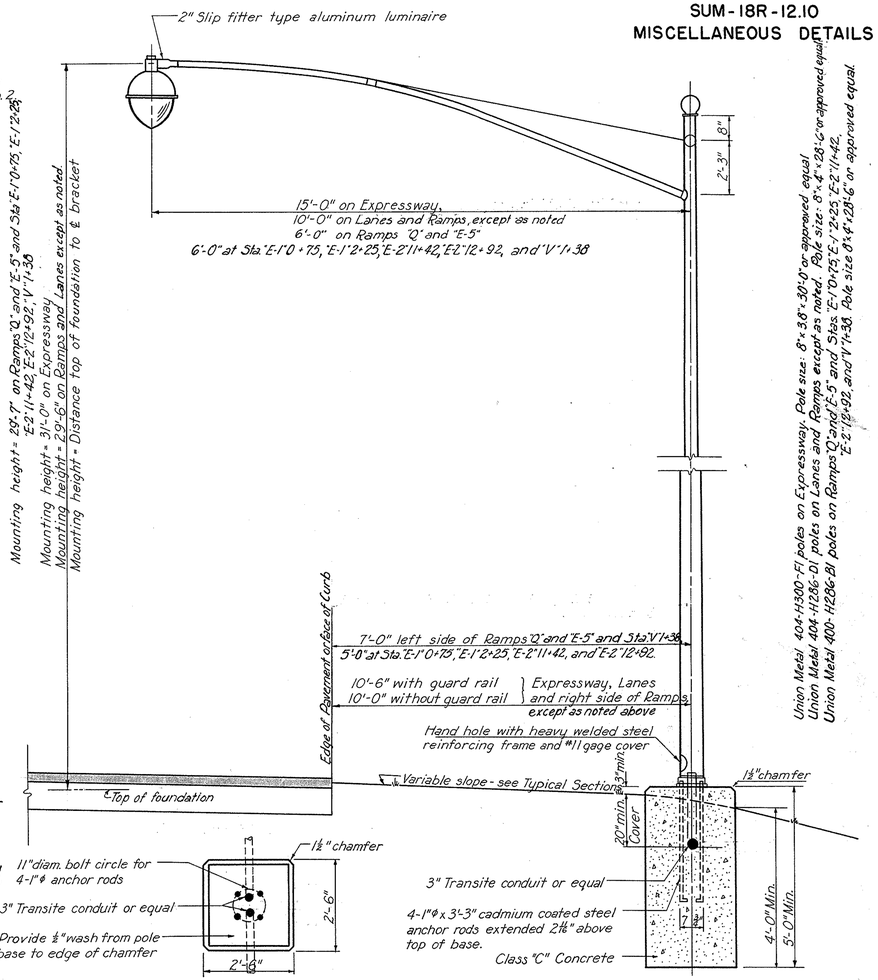
Note:
1. Stone Masonry Slope Facing to be provided as called for in plans, or as directed by the Engineer during construction. See sheets No. 43, 65, and 68.

2. After the sand cushion has been placed to a minimum depth of 1 ft. above the crown of the pipe, the trench shall be backfilled with rock to the approximate lines shown on the sketch, using hand placement of rock to the extent necessary to assure a stable slope of 1 on ½ along line X-X about 2 ft. min. from face of backslope. The face of the slope shall then be dressed with rubble stone masonry with stones roughly squared and dressed and constructed in accordance with the provisions of Item S-20 of the Construction and Material Specifications. The unit price bid per cu. yd. for Item J-20, Rubble Stone Masonry" shall include complete compensation for furnishing and placing the stone facing 2 ft. thick. Trench excavation, sand backfill and rock backfill shall be included in the unit price bid per lin. ft. of pipe.

TYPICAL SECTION STONE MASONRY SLOPE FACING
Not to Scale

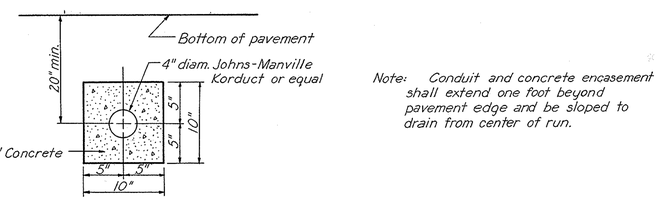


TYPICAL BEDDING DETAILS
WATER MAINS
Not to Scale



PLAN AT TOP OF BASE

TYPICAL ROADWAY LIGHTING UNIT
Scale: ½"=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: 1½"=1'-0"

SCALE As shown
MADE JBP DATE 2-25-54
TRCD. JAV DATE 7-29-54
CKD. JLC DATE 8-12-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901
SHEET- 47

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

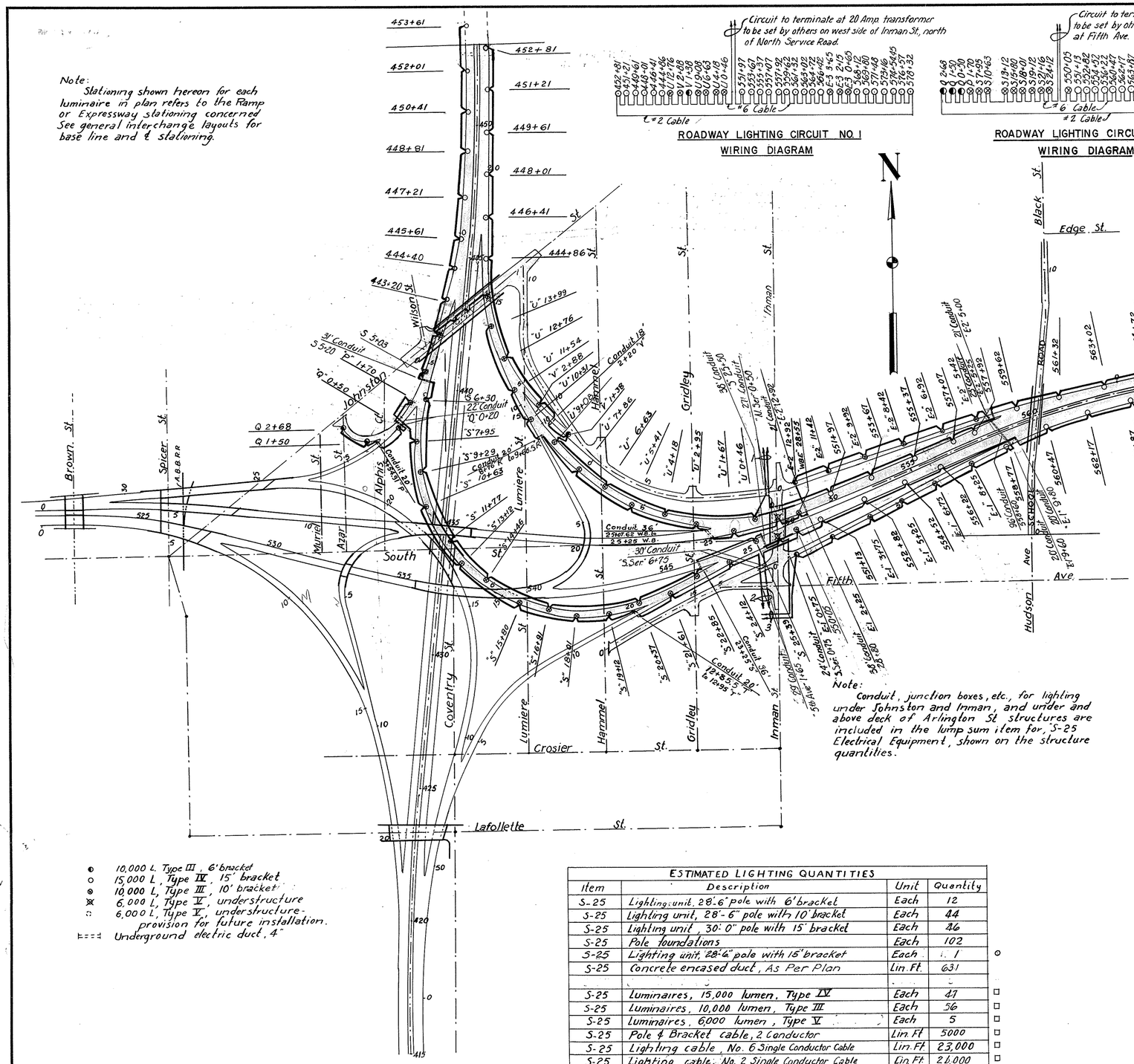
48
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6

SUM-18 R-12.10
LIGHTING LAYOUT

Note:
Stationing shown hereon for each luminaire in plan refers to the Ramp or Expressway stationing concerned See general interchange layouts for base line and ℄ stationing.


Circuit to terminate at 20 Amp. transformer to be set by others on west side of Inman St, north of North Service Road.
℄ #2 Cable
℄ #6 Cable
ROADWAY LIGHTING CIRCUIT NO. 1
WIRING DIAGRAM
Circuit to terminate at 20 Amp. transformer to be set by others on west side of Inman St at Fifth Ave.
℄ #6 Cable
℄ #2 Cable
ROADWAY LIGHTING CIRCUIT NO. 2
WIRING DIAGRAM
Circuit to terminate at 20 Amp. transformer to be set by others on west side of Inman St. at Fifth Ave.
Johnson St Underpass
Inman St. Overpass
℄ #6 Cable
℄ #2 Cable
ROADWAY LIGHTING CIRCUIT NO. 3
WIRING DIAGRAM
N
Brown St.
Spicer St.
Johnston
Wilson
Alpha's Statuary
Gridley
Inman
Black
Edge
Road
Second Ave
Martin Ave.
Talbot Ave.
Arlington St.
Fourth Ave.
Chittenden
Fifth Ave.
Hudson
South St.
Muriel
Lumiere
Coventry St.
Crosier St.
Hammel
Lafollette St.
Conduit 36 2907.62 W.B. to 2948.28 W.B.
Conduit 20' 5'Ser. 6+75 to 5+66.54
Conduit 30' 5'Ser. 6+75 to 5+28
Conduit 30' 5'Ser. 6+75 to 5+28
Conduit 20' 5'Ser. 6+75 to 5+66.54
Conduit 36' 5'Ser. 6+75 to 5+28
Conduit 20' 5'Ser. 6+75 to 5+66.54
Conduit 20' 12+85 to 13+95
Conduit 21' or 60 E-3
Conduit 18" 2'-60
Conduit 24" 5'-13
Conduit 30" 5'-13
Conduit 36" 5'-13
Conduit 20" 5'-13
Conduit 30" 5'-13
Conduit 24" 5'-13
Conduit 30

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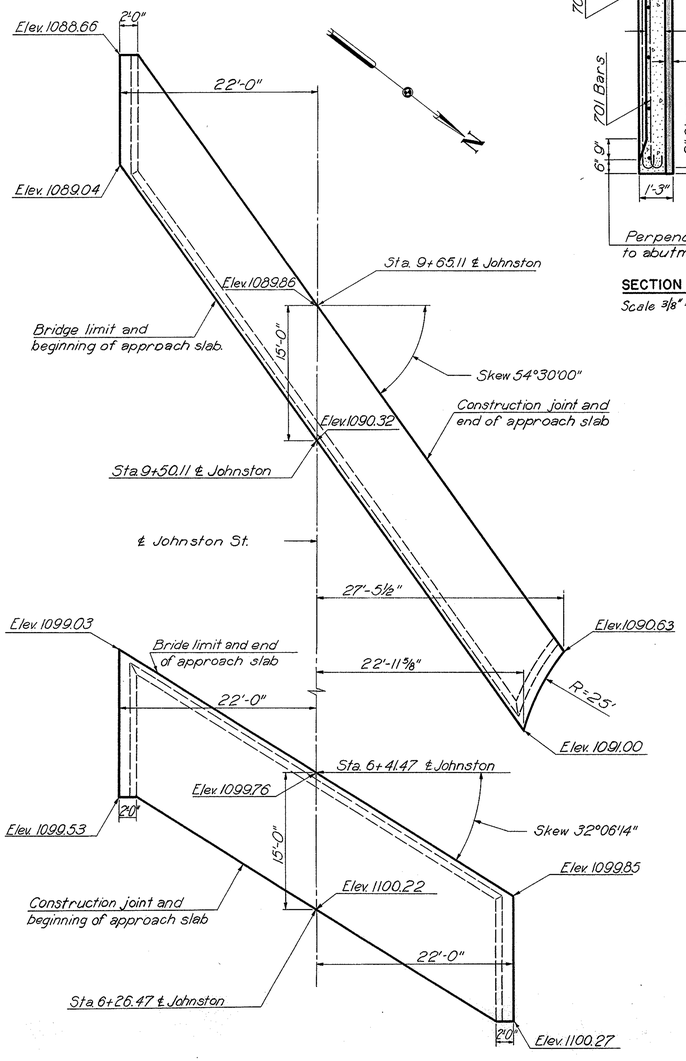
DEC 1 1989

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

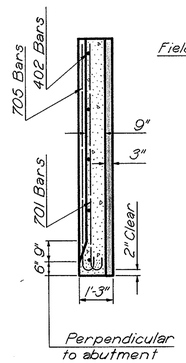
49
204

SUMMIT COUNTY
CITY OF AKRON

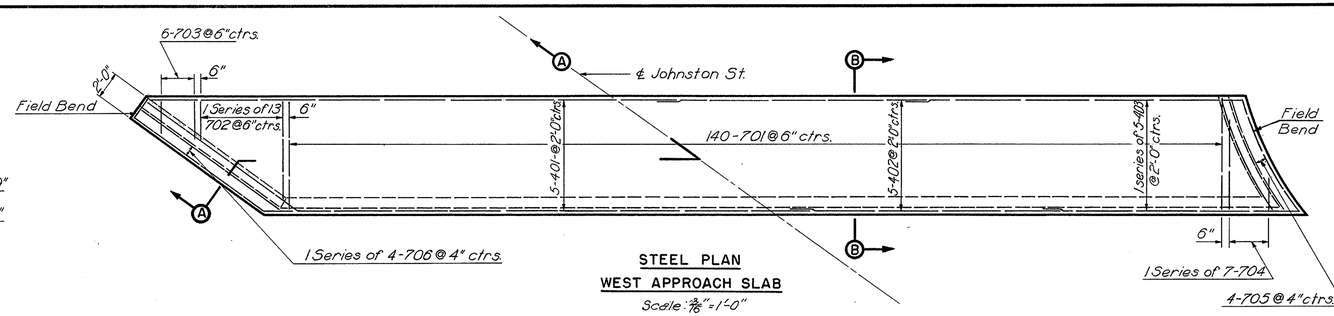
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
APPROACH SLAB DETAILS
JOHNSTON STREET UNDERPASS



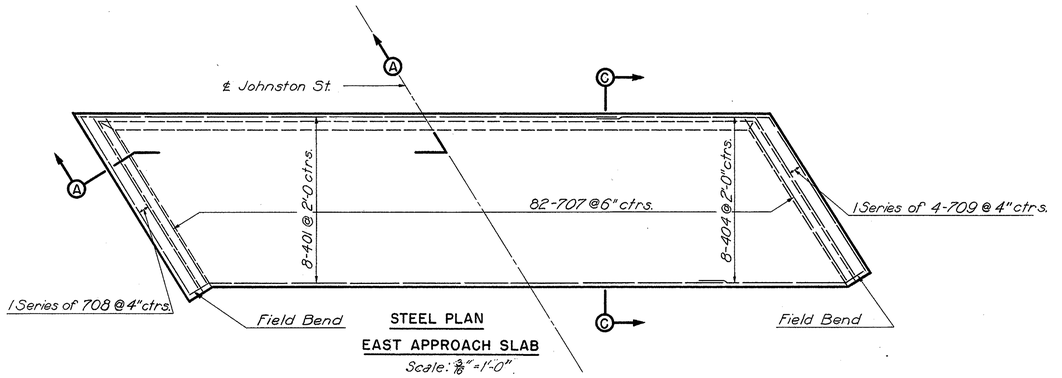
PLAN
Scale: 1/8"=1'-0"



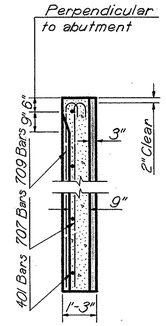
SECTION B-B
Scale 3/16"-1'-0"



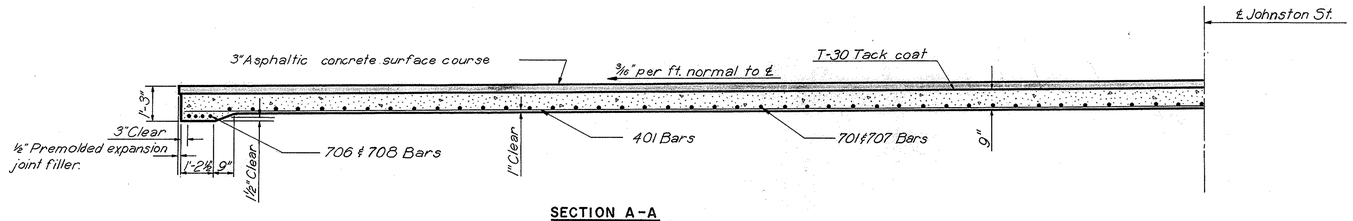
STEEL PLAN
WEST APPROACH SLAB
Scale: 3/16"=1'-0"



STEEL PLAN
EAST APPROACH SLAB
Scale: 3/16"=1'-0"



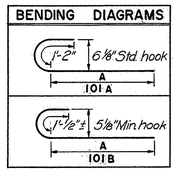
SECTION C-C
Scale 3/16"-1'-0"



SECTION A-A
Scale: 3/16"=1'-0"

Note:
The 3" Asphaltic Concrete Surface Course includes 1½" T-35 Asphaltic Concrete Surface Course Type "C" and 1½" B-35 Asphaltic Concrete Leveling Course.

BENDING DIAGRAMS



ESTIMATED QUANTITIES

Item	Description	Quantity
T-35	1½" Asphaltic Concrete Surface Course	6 Cu Yds.
B-35	1½" Asphaltic Concrete Leveling Course	6 Cu Yds.
I-7	Reinforced Concrete Approach Slab	152 Sq Yds.
*	Premolded Expansion Joint Filler Sec. M1001	52 Lin. Ft.
T-30	Bituminous Tack Coat	15 Gals.

* Included in price bid per Sq. Yd. of Item I-7

STEEL LIST

Mark	Size	No	Length	Type	A	Weight
401	4	13	40'-0"	Str.		347
402	4	5	20'-0"	Str.		67
403	4	1 Series of 5	19'-6" to 27'-3"	Str.		78
404	4	8	12'-8"	Str.		68
701	7	140	9'-0"	101-B	8'-0"	2575
702	7	1 Series of 13	3'-0" to 7'-3"	Str.		135
703	7	6	2'-6"	Str.		31
704	7	1 Series of 7	3'-6" to 7'-6"	101-B	2'-6" to 6'-6"	79
705	7	4	10'-2"	101-A	9'-0"	83
706	7	1 Series of 4	12'-11" to 14'-3"	101-A	11'-9" to 13'-1"	111
707	7	82	15'-4"	101-B	14'-4"	2569
708	7	1 Series of 4	15'-11" to 16'-8"	101-A	14'-9" to 15'-6"	133
709	7	1 Series of 4	14'-4" to 15'-0"	101-A	13'-2" to 13'-10"	120
					Total	6396*

SCALE: As shown
MADE: H.K.M. DATE: 7-20-54
TRCD: R.A.W. DATE: 8-6-54
CKD: C.R.E. DATE: 8-9-54

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

901 SHEET: 49

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FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

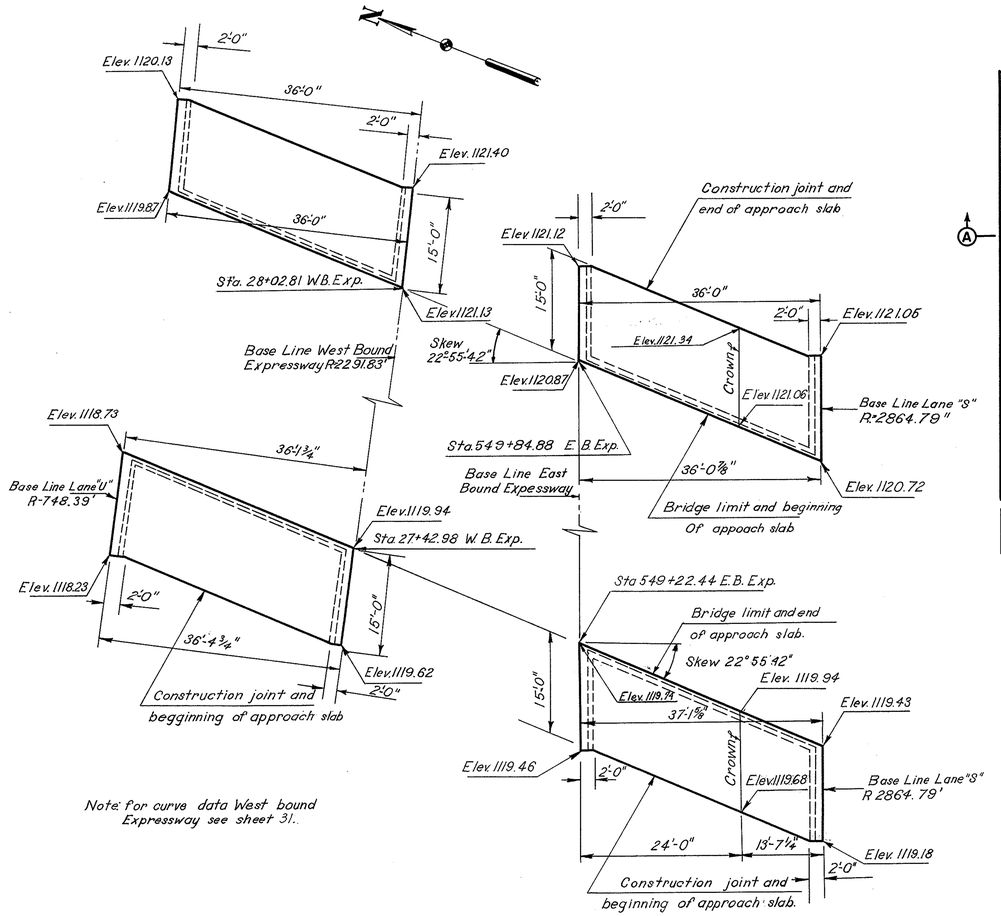
50
204

SUMMIT COUNTY
CITY OF AKRON

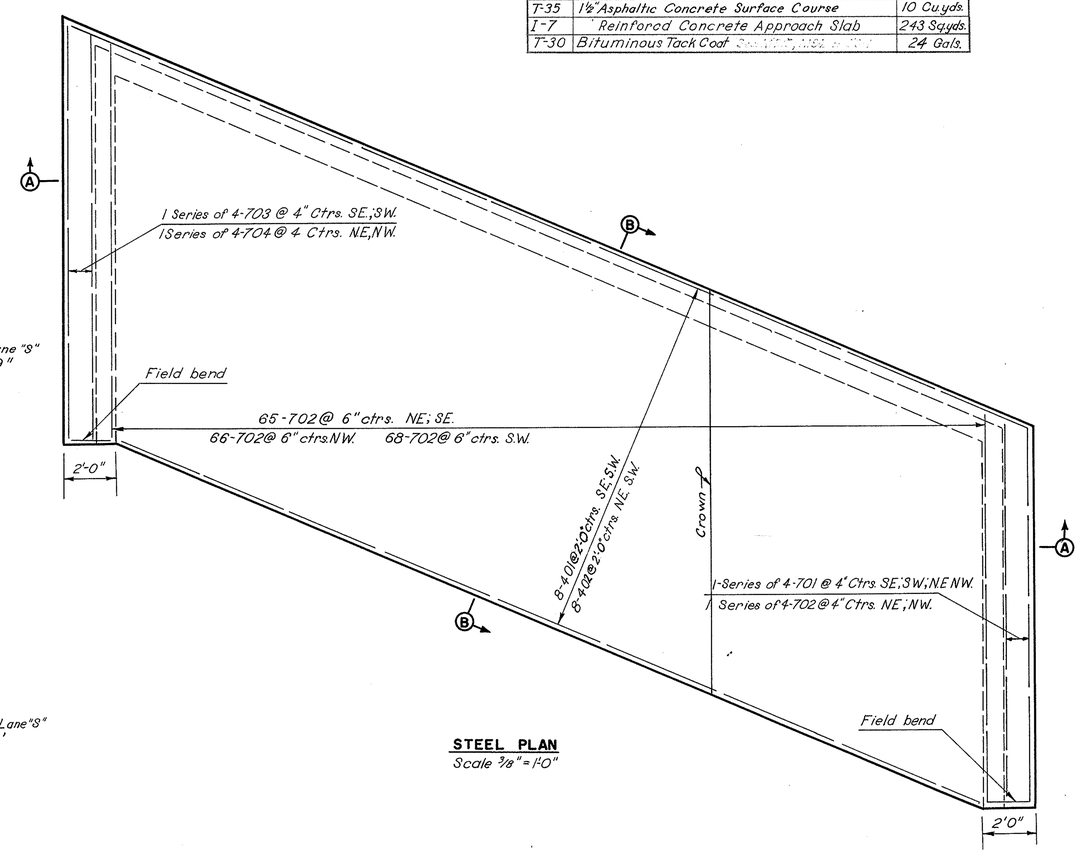
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
APPROACH SLAB DETAILS
INMAN STREET OVERPASS

ESTIMATED QUANTITIES

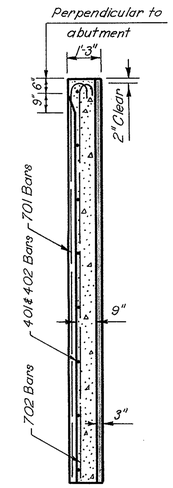
Item	Description	Quantity
B-35	1½" Aspholtic Concrete Leveling Course	10 Cu.yds.
T-35	1½" Asphaltic Concrete Surface Course	10 Cu.yds.
I-7	Reinforced Concrete Approach Slab	243 Sq.yds.
T-30	Bituminous Tack Coat	24 Gals.



PLAN
Scale 3/32" = 1'0"



STEEL PLAN
Scale ⅜" = 1'0"

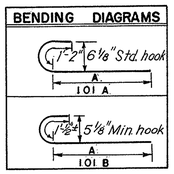


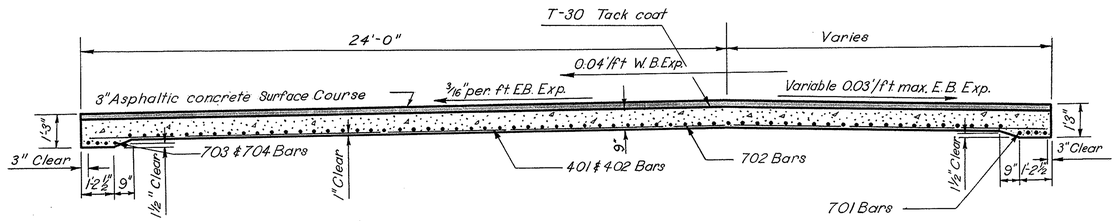
SECTION B-B
Scale: ⅜" = 1'-0"

STEEL LIST						
Mark	Size	No.	Length	Type	A	Weight
401	4	16	38'-6"	Str.		411
402	4	16	37'-0"	Str.		395
701	7	4 Series of 4	14'-9" to 15'-1"	101 A	13'-7" to 13'-11"	479
702	7	264	15'-4"	101 B	14'-4"	8 272
703	7	2-Series of 4	15'-10 to 16'-3"	101 A	14'-8" to 15'-1"	262
704	7	2-Series of 4	15'-8 to 15'-11"	101 A	14'-6" to 14'-9"	258
					Total	10,077 *

* Included in price bid per sq.yd. of item I-7

BENDING DIAGRAMS





SECTION A-A
Scale ⅜" = 1'-0"

Note:
The 3" Asphaltic Concrete Surface Course includes 1½" T-35 Asphaltic Concrete Surface Course Type "C" and 1½" B-35 Asphaltic Concrete Leveling Course.

SCALE As Shown
MADE HKM DATE 7-16-54
TRCD. P.A.W. DATE 8-7-54
CKD. C.R.E. DATE 8-9-54

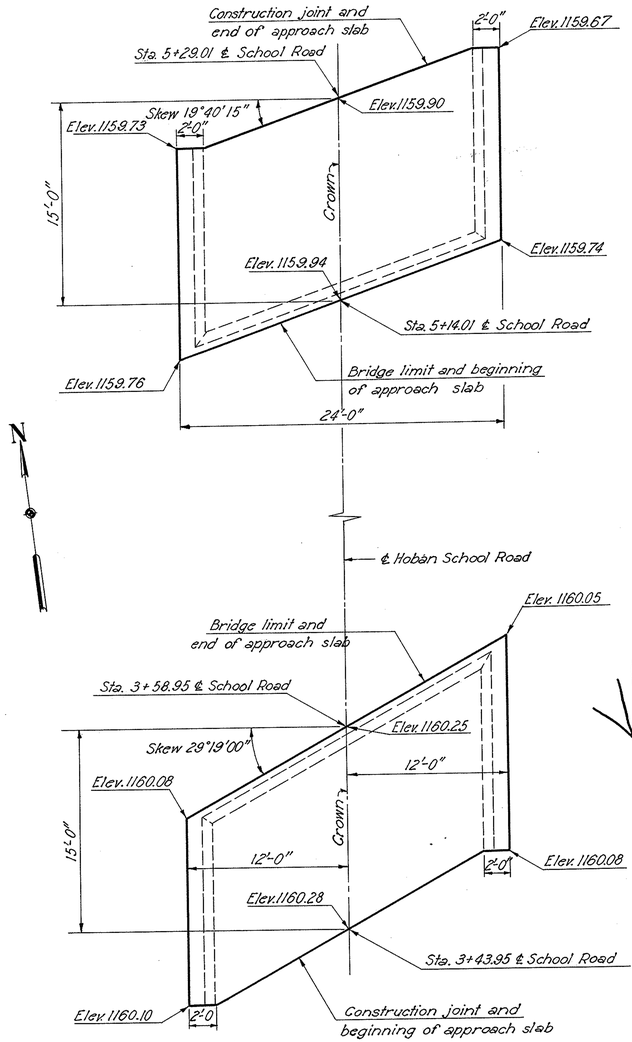
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 50

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

51
204

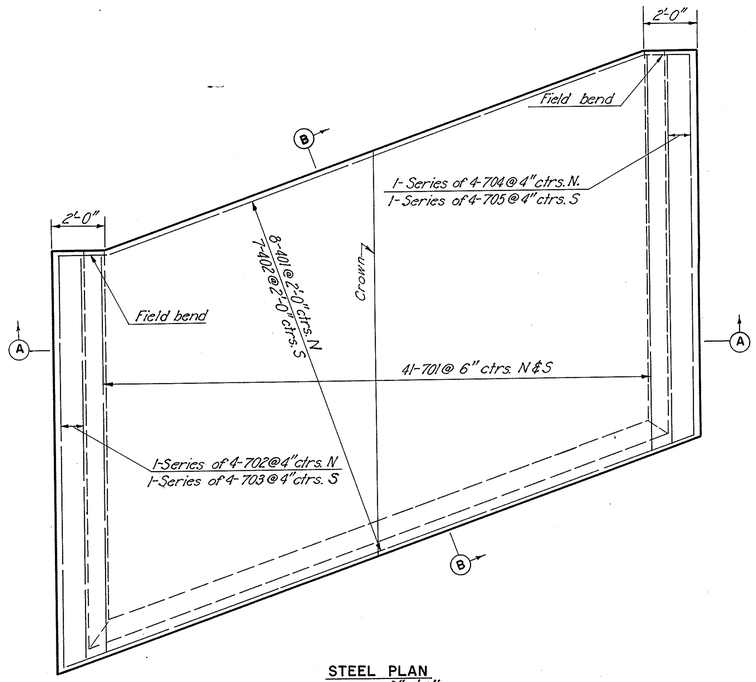
SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
APPROACH SLAB DETAILS
SCHOOL ROAD UNDERPASS

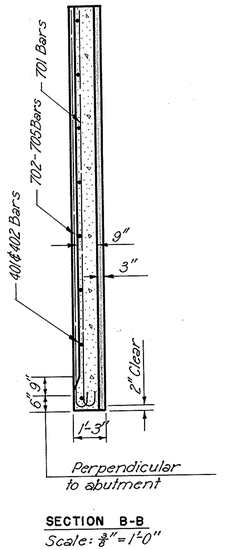


PLAN
Scale: 3/8"=1'-0"

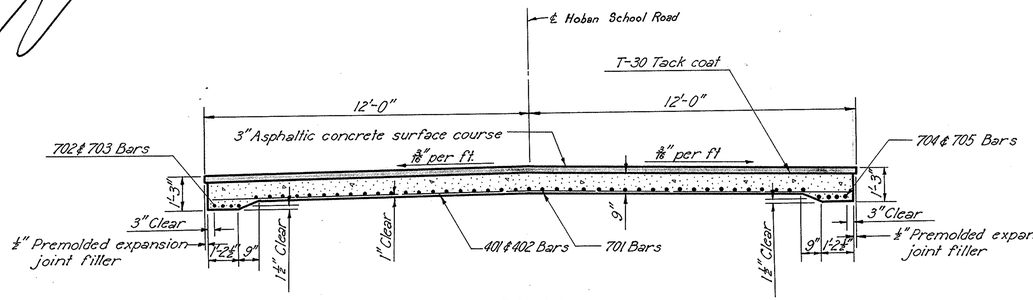
VOID



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



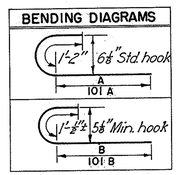
SECTION B-B
Scale: 3/8"=1'-0"



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

VOID

BENDING DIAGRAMS



Note:
The 3" Asphaltic Concrete Surface Course includes 1½" T-35 Asphaltic Concrete Surface Course Type "C" and 1½" B-35 Asphaltic Concrete Leveling Course.

STEEL LIST

Mark	Size	No.	Length	Type	A	Weight
401	4	8	25'-0"	Str.		134
402	4	7	27'-0"	Str.		126
701	7	82	15'-5"	101 B	14'-5"	2,585
702	7	1-Series of 4	15'-9" to 16'-1"	101 A	14'-7" to 14'-11"	130
703	7	1-Series of 4	15'-11" to 16'-5"	101 A	14'-9" to 15'-3"	132
704	7	1-Series of 4	14'-10" to 15'-2"	101 A	13'-8" to 14'-0"	122
705	7	1-Series of 4	14'-6" to 15'-1"	101 A	13'-4" to 13'-11"	121

Total 3,350 Lbs.*

ESTIMATED QUANTITIES

Item	Description	Quantity
B-35	1½" Asphaltic Concrete Leveling Course	3 Cu. Yds.
T-35	1½" Asphaltic Concrete Surface Course	3 Cu. Yds.
I-7	Reinforced Concrete Approach Slab	80 Sq. Yds.
*	Premolded Expansion Joint Filler Sec M 100	60 Lin. Ft.
T-30	Bituminous Tack Coat	8 Gals.
* Included in price bid per Sq. Yd. for Item I-7		

SCALE As shown
MADE H.K.M. DATE 7-28-54
TRCD. R.C.B. DATE 7-28-54
CKD. CRE DATE 8-10-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 51

Rev. 3-16-55

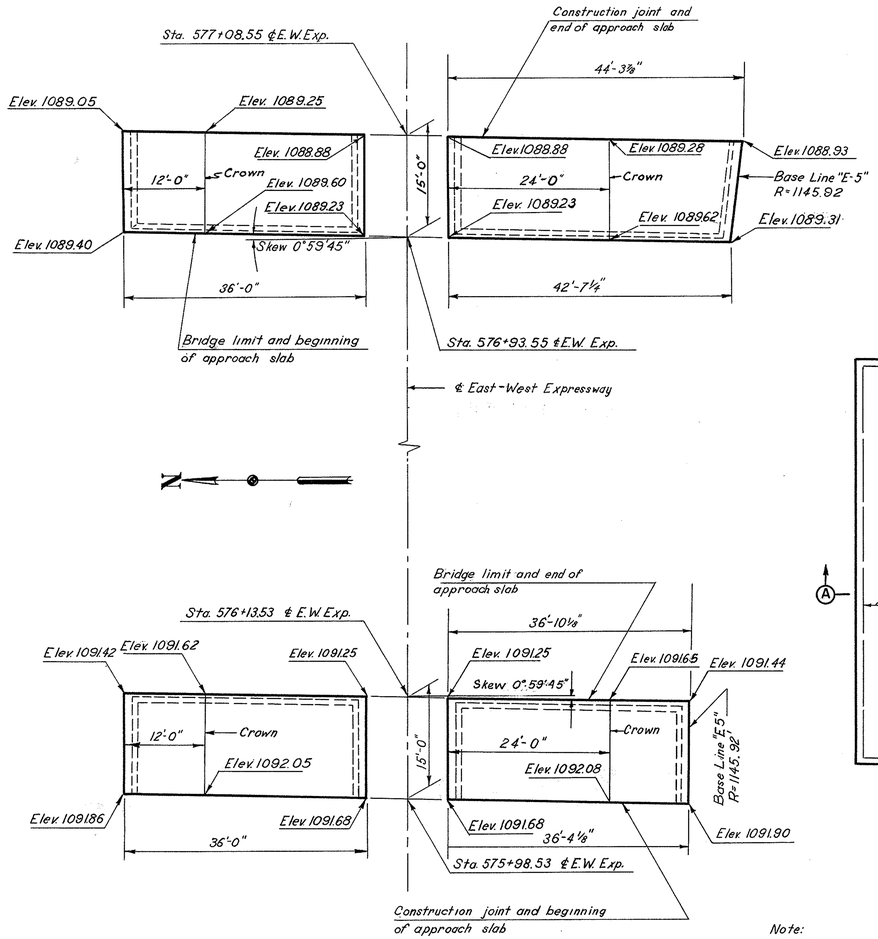
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

52
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10

APPROACH SLAB DETAILS
ARLINGTON STREET OVERPASS



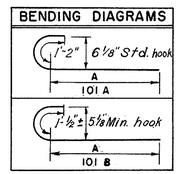
PLAN
Scale 3/32"=1'-0"

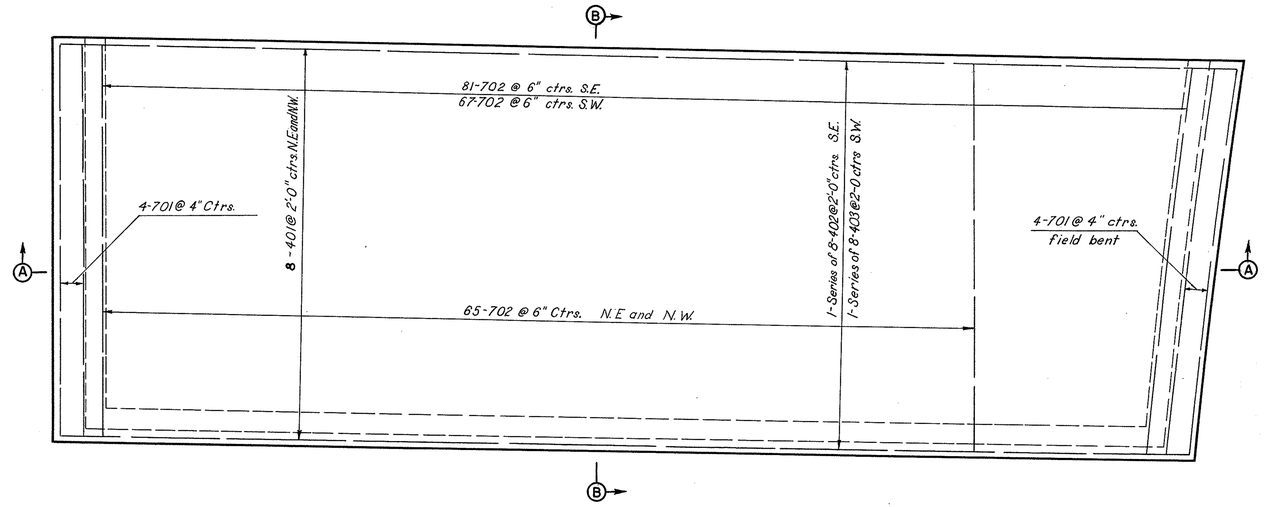
Note:
For Curve Data
Ramp "E-5" see sheet 35.

STEEL LIST						
Mark	Size	No.	Length	Type	A	Weight
401	4	16	35'6"	Str.		379
402	4	1-Series of 8	42'2" to 43'9"	Str.		229
403	4	1-Series of 8	35'8" to 36'3"	Str.		182
701	7	32	15'5"	101-A	14'-3"	1,008
702	7	278	15'3"	101 B	14'-3"	8667
					Total	10,475 *

* Quantity included in price bid Per Sq. Yd. of Item T-7

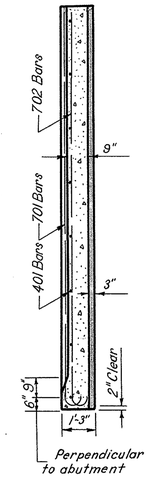
BENDING DIAGRAMS





PLAN
Scale: 3/16"1'0"

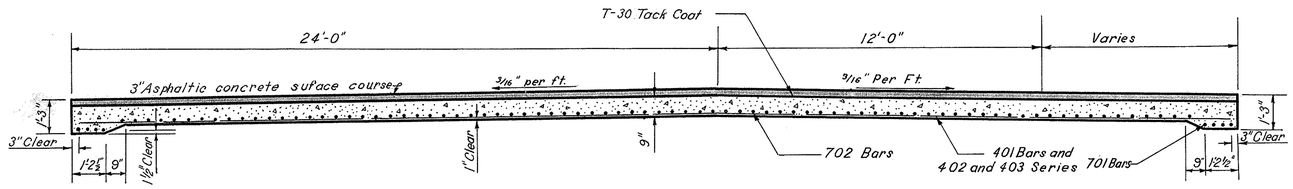
Note: Plan shows S.E. Slab, other slabs similiar



SECTION B-B
Scale 3/16"-1'0"

Note:
The 3" Asphaltic Concrete Surface Course Includes 1½"-F-35 Asphaltic Concrete Surface Course Type "C" and 1½" B-35 Asphaltic Concrete Leveling Course.

ESTIMATED QUANTITIES		
Item	Description	Quantity
B-35	1½" Asphaltic Concrete Leveling Course	11 Cu.yds.
T-35	1½ Asphaltic Concrete Surface Course	11 Cu.yds.
T-7	Reinforced Concrete Approach Slab	253 Sq.yds.
T-30	Bituminous Tack Coat	25 Gals.



SECTION A-A
Scale 3/8"=1'0"

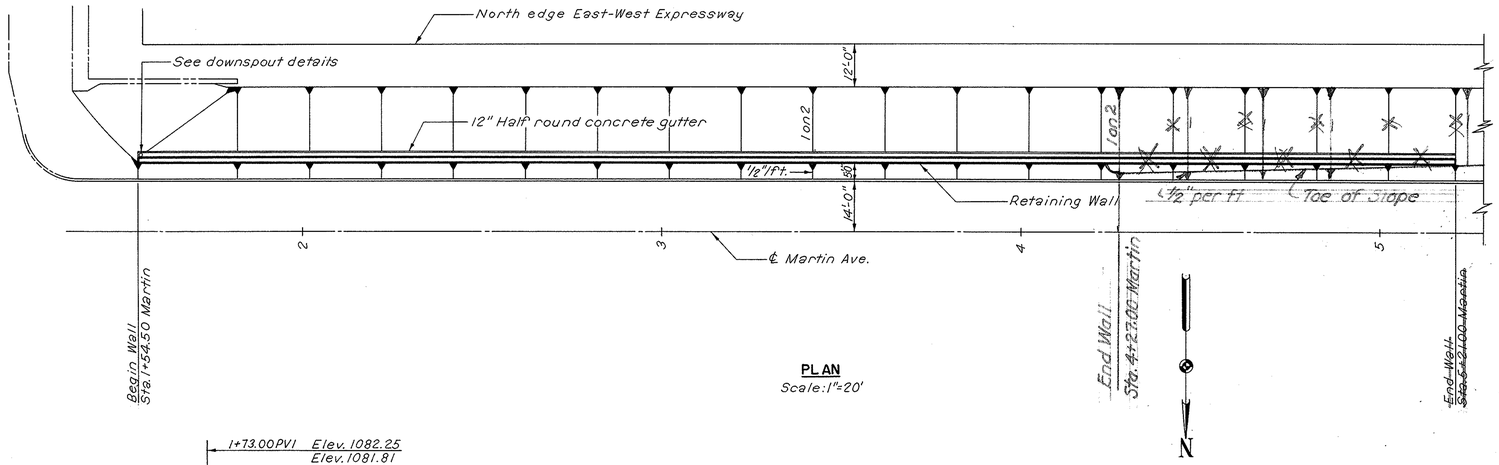
SCALE As Shown
MADE H.K.M. DATE 7-14-54
TRCD. RAW DATE 8-6-54
CKD C.R.E. DATE 8-10-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 52

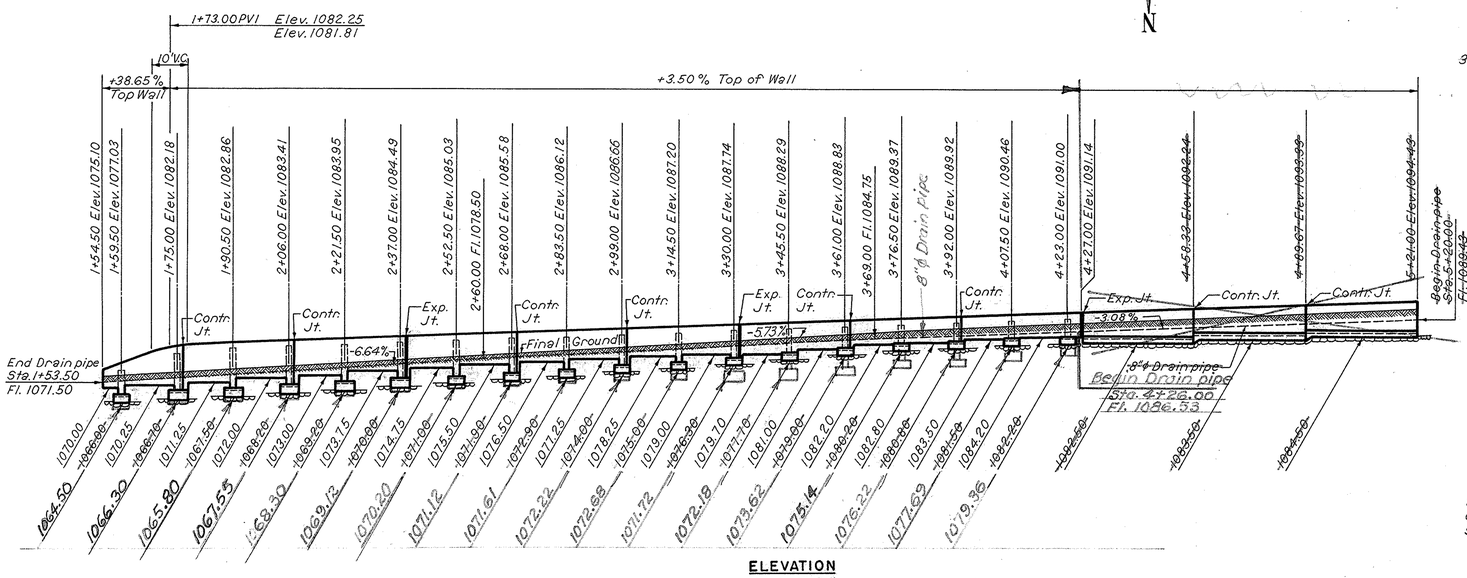
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

53
204

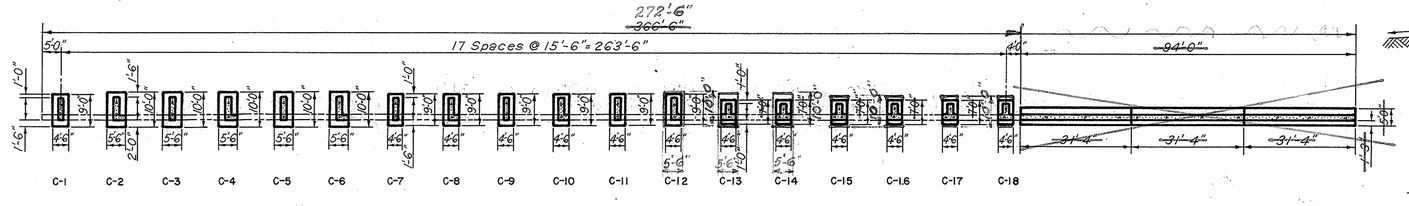
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
RETAINING WALL
MARTIN AVENUE



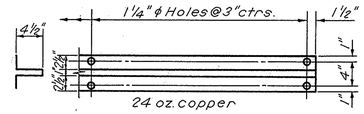
PLAN
Scale: 1"=20'



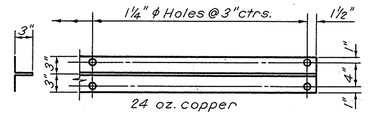
ELEVATION
Scale: 1"=20'



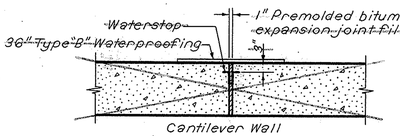
FOOTING PLAN
Scale: 1"=20'

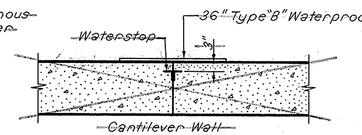


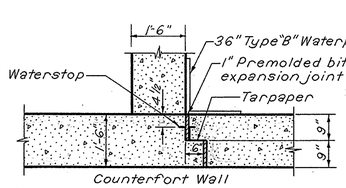
EXPANSION JOINT WATERSTOP
Scale: 1"=1'-0"

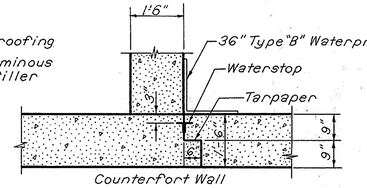


CONTRACTION JOINT WATERSTOP
Scale: 1"=1'-0"

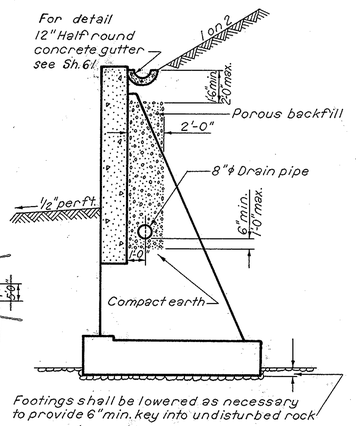






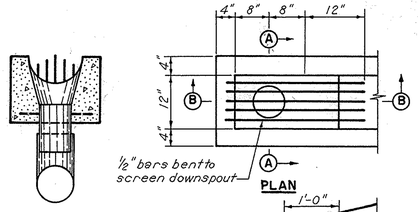


EXPANSION JOINTS
Scale: 1/2"=1'-0"



WALL SECTION
Not to scale

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



SECTION A-A

SECTION B-B

Note:
Porous backfill shall conform to Items S-2902 and S-2904.
Pipe shall be 8" bituminous coated perforated C.M.P. conforming to Sec. M-6.4(f) with necessary fittings.
Upper end of pipe shall be tightly closed with permanent header made of No. 16 gage sheet metal.
The unit price bid per each for Item S-29 Downspout, shall constitute full compensation for furnishing and fabricating the 7 1/2" ϕ galvanized pipe, the 8" ϕ galvanized pipe, the 1/2" ϕ bars used as a screen and pipe anchor, as detailed on the plans and for furnishing all labor, equipment, tools and incidentals necessary to complete this item in place, completed and accepted.

DOWNSPOUT DETAILS
Scale: 3/4"=1'-0"

SCALE As Shown
MADE HKM DATE 6-15-54
TRCD WWB DATE 7-20-54
CKD HKM DATE 7-29-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 53

REV. 6-17-55 PEP

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

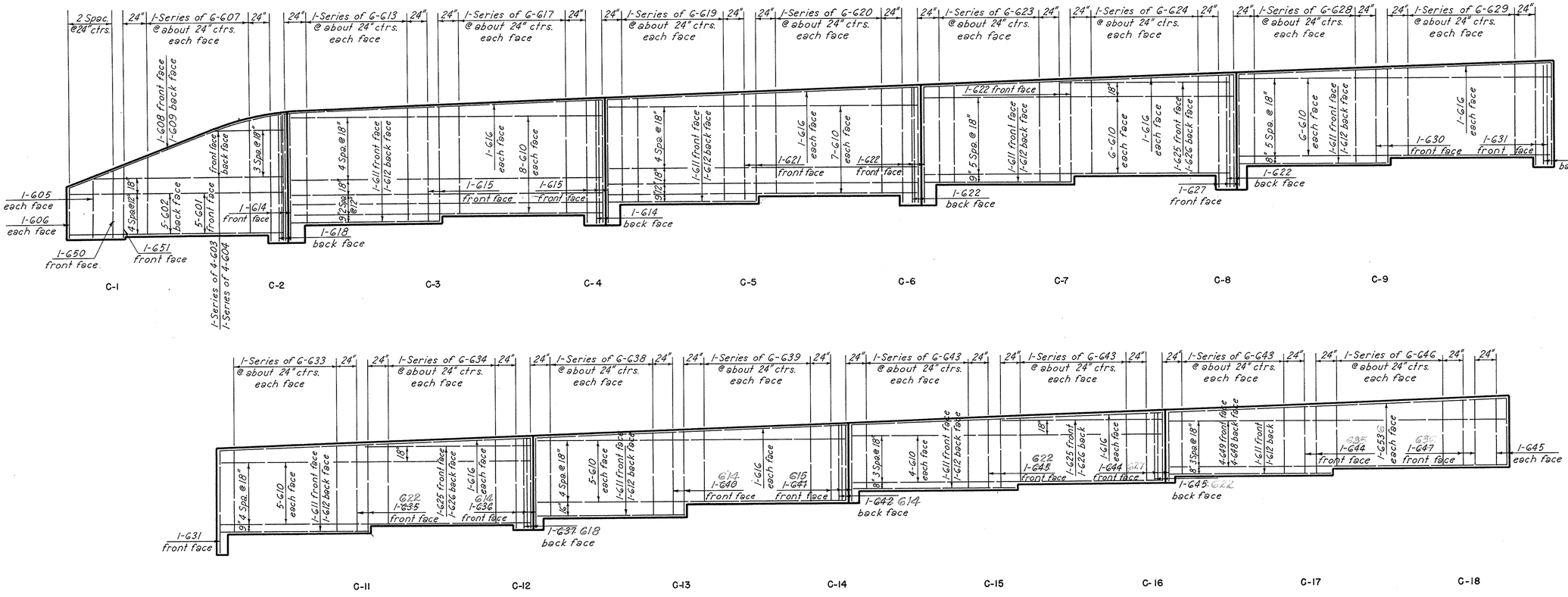
54
204

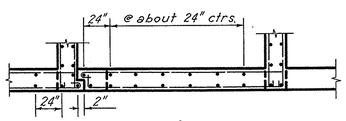
SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6

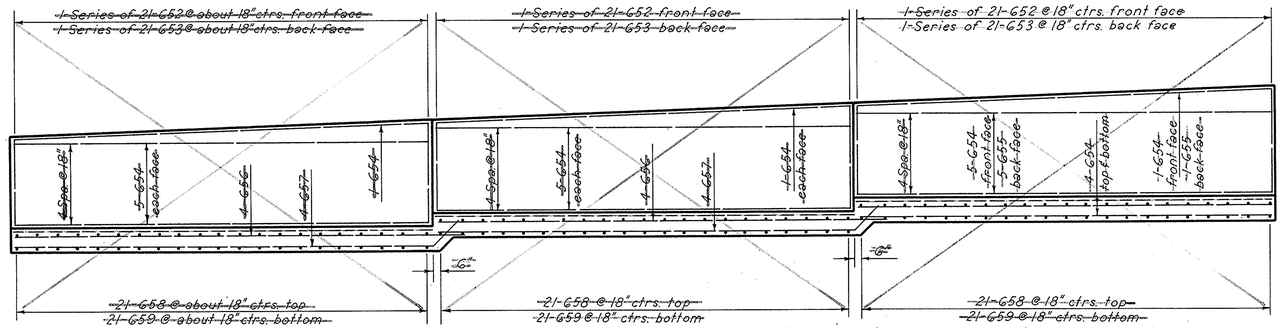
SUM-18R-12.10

MARTIN STREET WALL REINFORCEMENT LAYOUT





TYPICAL SECTION
COUNTERFORT AND WALL PANEL JOINT
Scale: 3/4"=1'-0"



ELEVATIONS
Scale: 3/4"=1'-0"

SCALE 3/4"=1'-0"
MADE H.K.M. DATE 6-26-54
TRCD. I.B.R. DATE 9-9-54
CKD. J.L.H. DATE 9-10-54

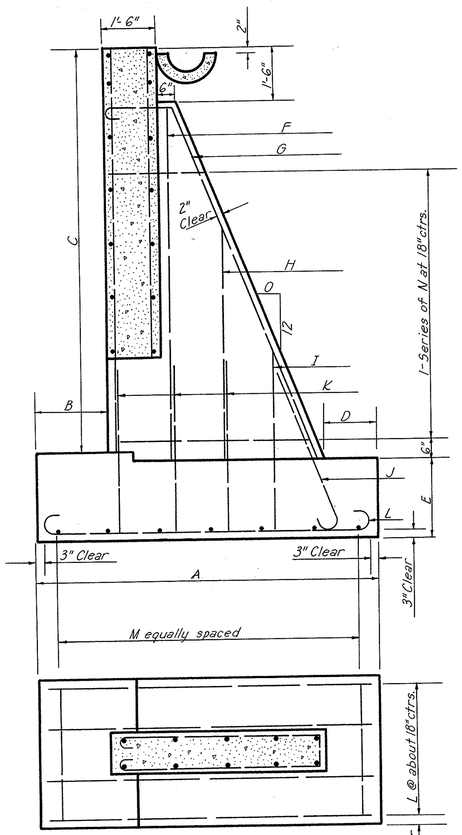
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 54

REV 6-17-55 R.E.P.

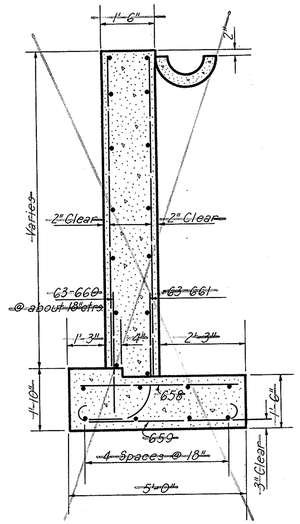
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

55
204

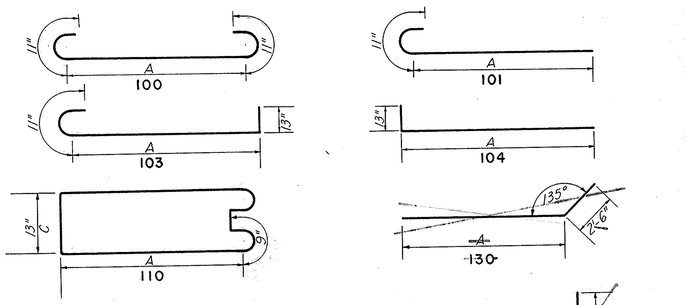
SUMMIT COUNTY
CITY OF AKRON
EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
MARTIN STREET WALL

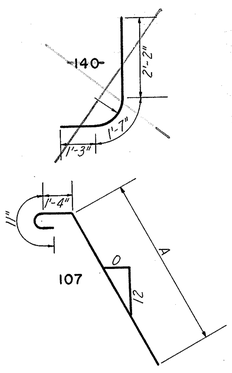


TYPICAL COUNTERFORT SECTION
Not to Scale



TYPICAL CANTILEVER SECTION
Not to Scale





REINFORCING SCHEDULE

MARK	NUMBER	LENGTH	TYPE	DIMENSIONS A	B	C	WEIGHT
501	1 Series of 5	6'-7" to 13'-9"	110	2'-0" to 5'-7"	9"	13"	53
502	1 Series of 7	6'-11" to 14'-1"	110	2'-2" to 5'-9"	9"	13"	960 230
503	1 Series of 7	6'-5" to 13'-11"	110	1'-11" to 5'-8"	9"	13"	372 223
504	1 Series of 6	7'-3" to 13'-11"	110	2'-4" to 5'-8"	9"	13"	183 66
505	1 Series of 6	7'-1" to 13'-11"	110	2'-3" to 5'-8"	9"	13"	66
506	1 Series of 6	6'-7" to 13'-11"	110	2'-0" to 5'-8"	9"	13"	64
507	1 Series of 6	6'-1" to 13'-11"	110	1'-9" to 5'-8"	9"	13"	63
508	1 Series of 5	7'-1" to 13'-11"	110	2'-3" to 5'-8"	9"	13"	55
509	1 Series of 5	5'-11" to 11'-1"	110	1'-8" to 4'-3"	9"	13"	44
510	1 Series of 4	6'-9" to 10'-11"	110	2'-1" to 4'-2"	9"	13"	35
511	2 Series of 3	7'-9" to 10'-11"	110	2'-7" to 4'-2"	9"	13"	58
512	1 Series of 3	7'-7" to 10'-1"	110	2'-6" to 4'-2"	9"	13"	29
513	1 Series of 3	7'-5" to 10'-1"	110	2'-5" to 4'-2"	9"	13"	29
601	5	23'-1"	103	21'-1"	11"	13"	173
602	5	21'-11"	104	20'-10"		13"	165
603	1 Series of 4	9'-2" to 21'-2"	103	7'-2" to 19'-2"	11"	13"	91
604	1 Series of 4	8'-0" to 19'-9"	104	6'-11" to 18'-8"		13"	83 109 88
605	10 12	5'-9"	STR.				71 57
606	8 10	4'-9"	STR.				169
607	2 Series of 6	7'-9" to 11'-0"	STR.				37
608	1	24'-4"	103	22'-4"	11"	13"	35
609	1	23'-2"	104	22'-1"		13"	3982
610	82	32'-4"	103	30'-4"	11"	13"	188
611	8	15'-8"	104	14'-7"		13"	202
612	8	16'-10"	103	14'-10"	11"	13"	198
613	2 Series of 6	10'-9" to 11'-3"	STR.				228 94
614	5 12	12'-6"	STR.				147 92
615	5 8	12'-3"	STR.				789
616	14	30'-9"	STR.				194
617	2 Series of 6	10'-6" to 11'-0"	STR.				76 36
618	2 4	12'-9"	STR.				189
619	2 Series of 6	10'-3" to 10'-9"	STR.				185
620	2 Series of 6	10'-0" to 10'-6"	STR.				35
621	2	11'-9"	STR.				259 455
622	9 15	11'-6"	STR.				176
623	2 Series of 6	9'-6" to 10'-0"	STR.				171
624	2 Series of 6	9'-3" to 9'-9"	STR.				74
625	3	16'-6"	101	15'-7"	11"		74
626	3	16'-4"	104	15'-3"		13"	236 118
627	7 14	11'-3"	STR.				162
628	2 Series of 6	8'-9" to 9'-3"	STR.				156
629	2 Series of 6	8'-6" to 9'-0"	STR.				32
630	2	10'-9"	STR.				105 75
631	5 7	10'-0"	STR.				153 102
632	6 10	10'-3"	STR.				153
633	2 Series of 6	8'-3" to 8'-9"	STR.				149
634	2 Series of 6	8'-0" to 8'-6"	STR.				29
635	2	9'-9"	STR.				54 68
636	5 4	9'-0"	STR.				28
637	2	9'-3"	STR.				144
638	2 Series of 6	7'-9" to 8'-3"	STR.				131
639	2 Series of 6	7'-0" to 7'-6"	STR.				

MARK	NUMBER	LENGTH	TYPE	DIMENSIONS A	B	C	WEIGHT
640	2	8'-0"	STR.				2d
641	9 8	7'-3"	STR.				87 38
642	4 6	7'-6"	STR.				61 45
643	6 Series of 6	6'-3" to 6'-9"	STR.				351
644	7 8	6'-6"	STR.				78 88
645	14 12	6'-9"	STR.				122 142
646	2 Series of 6	6'-0" to 6'-6"	STR.				113
647	4 2	6'-3"	STR.				19 38
648	4	34'-7"	101	33'-8"	11"		208
649	4	34'-7"	104	33'-6"		13"	208
650	3	8'-6"	STR.				38
651	1	8'-9"	STR.				13
652	3 Series of 21	6'-9" to 7'-9"	STR.				686
653	3 Series of 21	7'-0" to 8'-0"	STR.				710
654	38 12	31'-0" 5'-5"	STR.				98 1769
655	6	32'-1"	104	31'-0"		13"	289
656	8 2	33'-6"	STR.				101 403
657	8	34'-3"	130	31'-9"		2'-6"	412
658	99 50	4'-6"	STR.				938 669
659	63	5'-10"	100	4'-0"	1'-1"		552
660	63	3'-6"	STR.				331
661	63	5'-0"	140	4'-3"	1'-7"	2'-2"	473
662	39 56	6'-4"	100	4'-6"	11"		533 335
663	85 70	5'-4"	100	3'-6"	11"		560 680
664	20 32	10'-10"	100	9'-0"	11"		520 325
665	20 40	9'-10"	100	8'-0"	11"		520 413
666	24	7'-10"	100	6'-0"	1'-1"		264
667	36 24	4'-11"	101	4'-0"	11"		178 266
668	2	11'-0"	STR.				33
669	2	10'-6"	STR.				32
670	2	9'-6"	STR.				29
671	2	7'-9"	STR.				21
672	4 2	6'-0"	STR.				18 36
673	8 4	5'-6"	STR.				33 66
674	2 4	5'-3"	STR.				32 16
675	8 18	5'-0"	STR.				195 60
676	72 52	4'-0"	STR.				313 133
677	2	7'-0"	STR.				21
678	6	4'-3"	STR.				38
679	2	10'-9"	107	8'-6"	11"	1'-4"	33
680	4 8	14'-3"	107	12'-0"	11"	1'-4"	171 87
681	2 4	14'-0"	107	11'-9"	11"	1'-4"	84 43
682	2	13'-7"	107	11'-4"	11"	1'-4"	41
683	4 8	13'-5"	107	11'-2"	11"	1'-4"	161 81
684	2 4	13'-2"	107	10'-11"	11"	1'-4"	79 35
685	2	12'-9"	107	10'-6"	11"	1'-4"	24
686	2	12'-3"	107	10'-0"	11"	1'-4"	37
687	2	11'-10"	107	9'-7"	11"	1'-4"	35
688	2	11'-1"	107	8'-10"	11"	1'-4"	34
689	2	9'-9"	107	7'-6"	11"	1'-4"	30
690	2	9'-0"	107	6'-9"	11"	1'-4"	28
691	4	8'-5"	107	6'-2"	11"	1'-4"	50
692	2	8'-3"	107	6'-0"	11"	1'-4"	25
693	2	8'-1"	107	5'-10"	11"	1'-4"	25

DIMENSIONS AND REINFORCING LOCATIONS

COUNTERFORT NUMBER	A	B	C	D	E	F	G	H	I	J	K	L	M	N SERIES	O
1	9'-0"	1'-6"	8'-9 3/8"	1'-0"	2'-0"	2-641	2-679	2-606	2-676	2-667	6-676	4-665	7-663	501	7 3/8
2	10'-0"	2'-0"	12'-8 1/2"	1'-6"	2'-6"	2-627	2-680	2-642	2-672	2-667	6-658	4-664	7-662	502	4 3/4
3	10'-0"	2'-0"	12'-7 3/4"	1'-6"	2'-6"	2-627	2-680	2-641	2-605	2-667	6-658	4-664	7-662	502	4 3/4
4	10'-0"	2'-0"	12'-5 1/4"	1'-6"	2'-6"	2-668	2-681	2-641	2-605	2-667	6-658	4-664	7-662	502	4 3/8
5	10'-0"	2'-0"	12'-1-0"	1'-6"	2'-6"	2-669	2-682	2-677	2-605	2-667	6-658	4-664	7-662	503	5
6	10'-0"	2'-0"	11'-8 3/4"	1'-6"	2'-6"	2-632	2-683	2-645	2-673	2-667	6-658	4-664	7-662	503	5 1/4
7	9'-0"	1'-6"	11'-9 3/4"	1'-0"	2'-0"	2-632	2-683	2-645	2-675	2-667	6-676	4-665	7-663	503	5 1/4
8	9'-0"	1'-6"	11'-5 1/4"	1'-0"	2'-0"	2-631	2-684	2-644	2-606	2-667	6-676	4-665	7-663	504	5 3/8
9	9'-0"	1'-6"	10'-11 3/4"	1'-0"	2'-0"	2-670	2-685	2-647	2-606	2-667	6-676	4-665	7-663	505	5 1/2
10	9'-0"	1'-6"	10'-4 3/4"	1'-0"	2'-0"	2-636	2-686	2-605	2-658	2-667	6-676	4-665	7-663	506	5 5/8
11	9'-0"	1'-6"	11'-3 3/8"	1'-0"	2'-3"	2-632	2-683	2-645	2-674	2-667	6-658	4-665	7-663	502	5 1/4"
12	10'-0"	2'-0"	12'-8 3/8"	1'-0"	2'-3"	2-627	2-680	2-642	2-674	2-667	6-658	4-664	7-662	502	4 3/4
13	10'-0"	2'-0"	12'-8 3/8"	1'-3"	2'-3"	2-627	2-680	2-642	2-674	2-667	6-658	4-664	7-662	502	4 3/4
14	10'-0"	2'-0"	12'-5 3/4"	1'-3"	2'-3"	2-668	2-681	2-641	2-605	2-667	6-658	4-664	7-662	502	4 3/4
15	9'-0"	1'-6"	11'-8 3/8"	1'-0"	2'-3"	2-632	2-683	2-645	2-674	2-667	6-676	4-665	7-663	504	5 3/8
16	9'-0"	1'-6"	11'-3 3/4"	1'-0"	2'-3"	2-631	2-684	2-644	2-606	2-667	6-676	4-665	7-663	504	5 3/8
17	9'-0"	1'-6"	10'-11 3/4"	1'-0"	2'-3"	2-670	2-685	2-647	2-606	2-667	6-676	4-665	7-663	505	5 1/2
18	9'-0"	1'-6"	10'-4 3/4"	1'-0"	2'-3"	2-636	2-686	2-605	2-676	2-667	6-676	4-665	7-663	506	5 5/8

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
E-2	Excavation for structure (Unclassified)	Cu. Yd.	453
E-2	Excavation for Structure (Rock)	Cu. Yd.	37
S-1	Class "C" Concrete	Cu. Yd.	289.5 287
S-3	Type "B" Waterproofing	Sq. Yd.	36 32
S-4	Reinforcing Steel	Lbs.	21,576 15,645
S-9	1" Premolded Bituminous Expansion Joint Filler	Sq. Ft.	44 36
S-9	Copper Waterstop	Lin. Ft.	109 99
S-29	8" Perforated Bituminous Coated Corrugated Metal Pipe	Lin. Ft.	308 312
S-29	7 1/2" Galvanized Downspouts	Each	1
S-29	Porous Backfill	Cu. Yd.	133 107
I-14	12" Half Round Concrete Gutter	Lin. Ft.	308 275

Note: Excavation not revised.

Revised 4-25-55 HKM

SCALE As shown
MADE HKM DATE 6-23-54
TRCD JAV DATE 9-8-54
CKD KA DATE 8-31-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 55

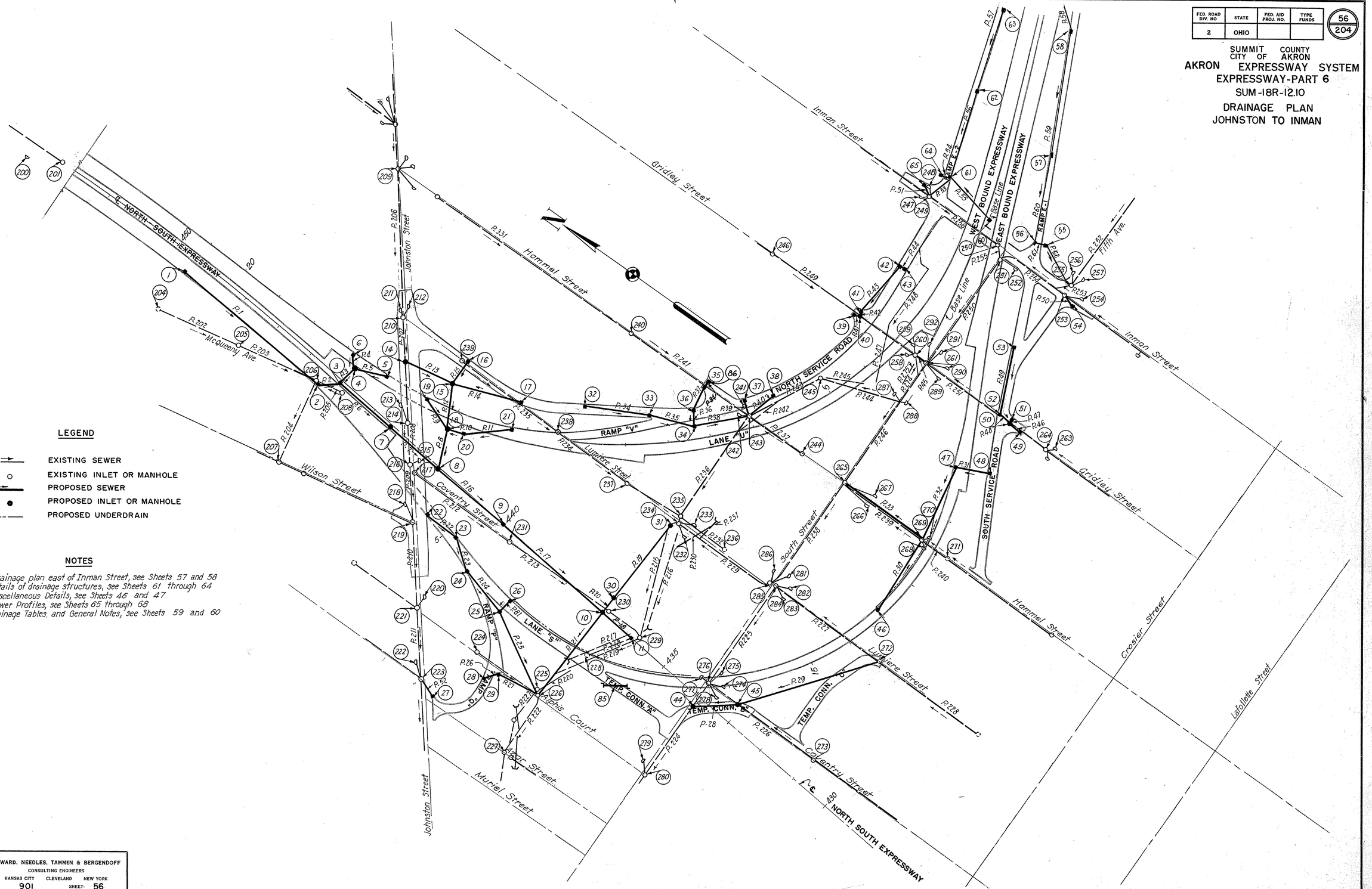
REV. 6-17-55 PEP

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

56
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
DRAINAGE PLAN
JOHNSTON TO INMAN



SCALE	1" = 100'
MADE	JVH, RES DATE 5-2-54
TRCD	RR, DE DATE 8-16-54
CKD	J. B. P. DATE 8-17-54

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

141

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

57
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
DRAINAGE PLAN AND PROFILES

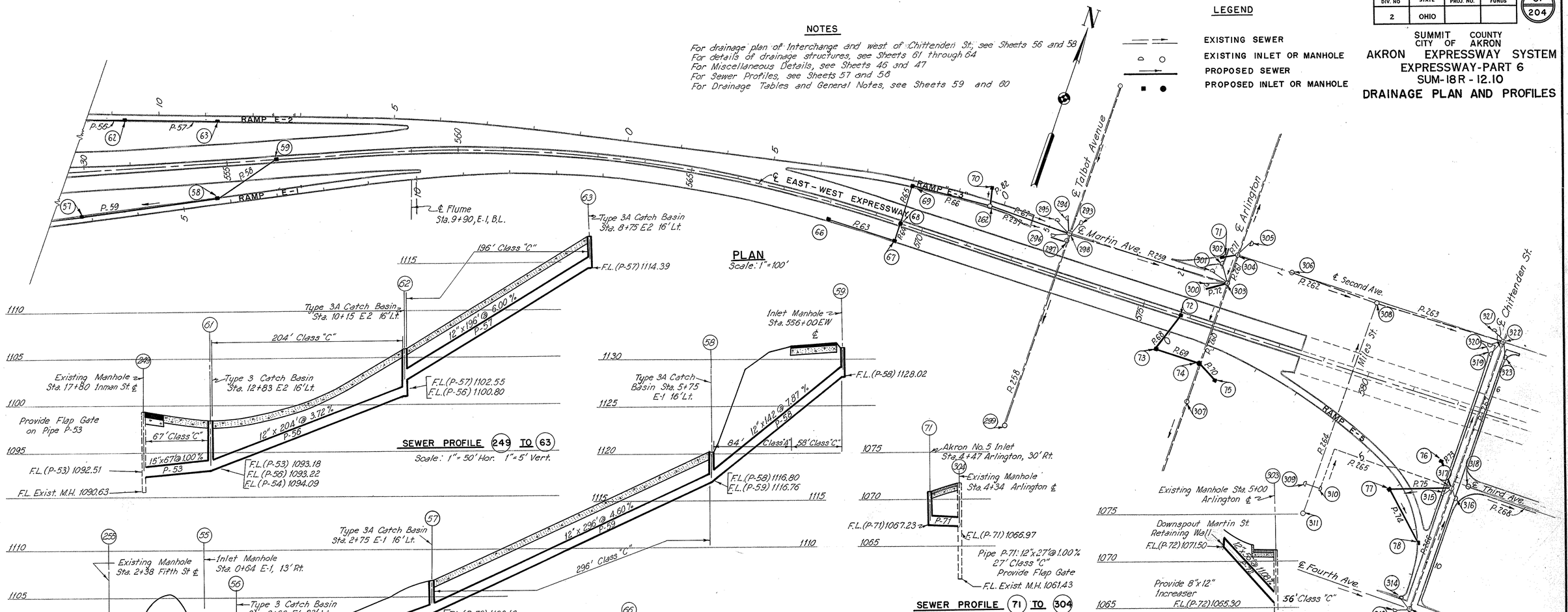
NOTES

For drainage plan of Interchange and west of Chittenden St., see Sheets 56 and 58
For details of drainage structures, see Sheets 61 through 64
For Miscellaneous Details, see Sheets 45 and 47
For Sewer Profiles, see Sheets 57 and 58
For Drainage Tables and General Notes, see Sheets 59 and 60

LEGEND

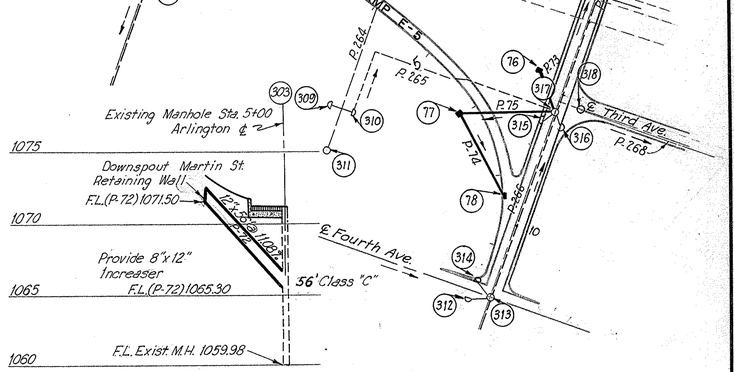
EXISTING SEWER
EXISTING INLET OR MANHOLE
PROPOSED SEWER
PROPOSED INLET OR MANHOLE

PLAN
Scale: 1"=100'

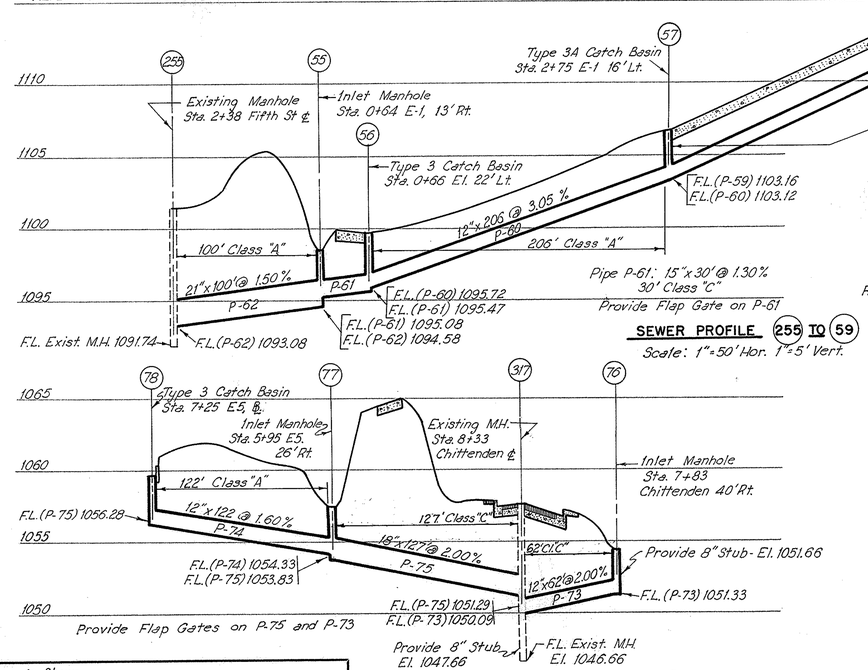


SEWER PROFILE 249 TO 63
Scale: 1"=50' Hor. 1"=5' Vert.

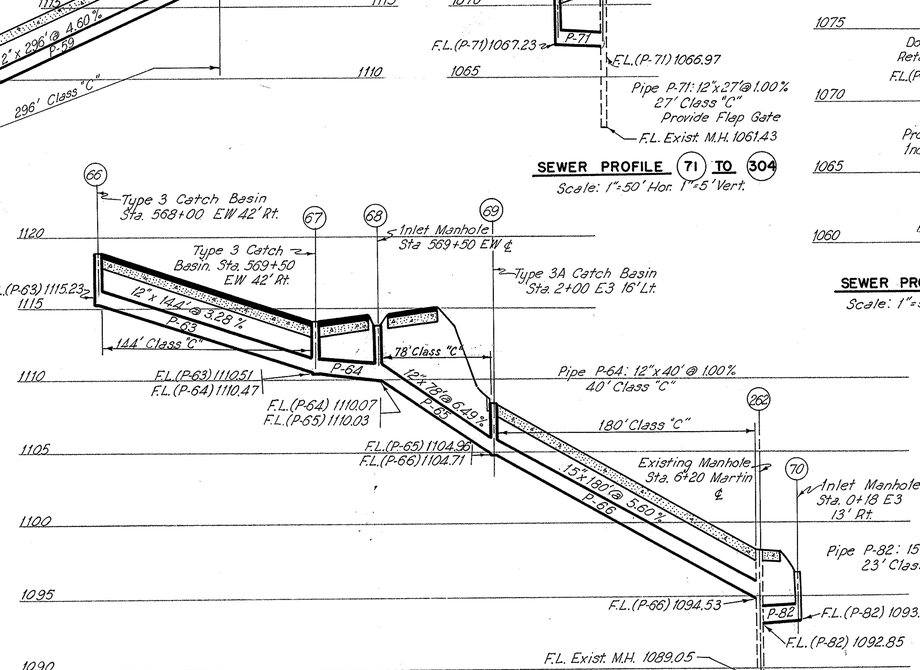
SEWER PROFILE 71 TO 304
Scale: 1"=50' Hor. 1"=5' Vert.



SEWER PROFILE P-72
Scale: 1"=50' Hor. 1"=5' Vert.

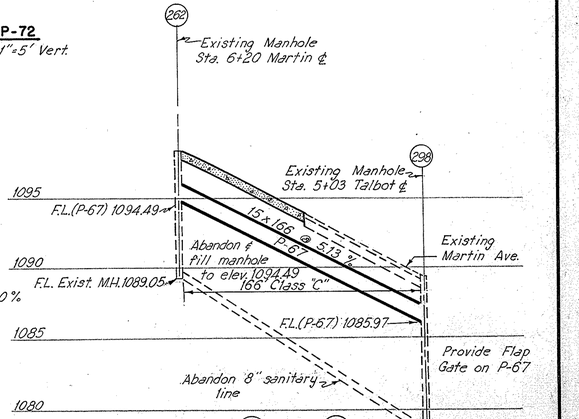


SEWER PROFILE 255 TO 59
Scale: 1"=50' Hor. 1"=5' Vert.



SEWER PROFILE 66 TO 70
Scale: 1"=50' Hor. 1"=5' Vert.

SEWER PROFILE 78 TO 76
Scale: 1"=50' Hor. 1"=5' Vert.



SEWER PROFILE 262 TO 298
Scale: 1"=50' Hor. 1"=5' Vert.

SCALE As Shown	HOWARD, NEEDLES, TAMMEN & BERGENDOFF		
MADE RFS DATE 6-19-54	CONSULTING ENGINEERS		
TRCD. RMQ DATE 9-9-54	KANSAS CITY	CLEVELAND	NEW YORK
CKD. JVH DATE 9-9-54	901	SHEET- 57	

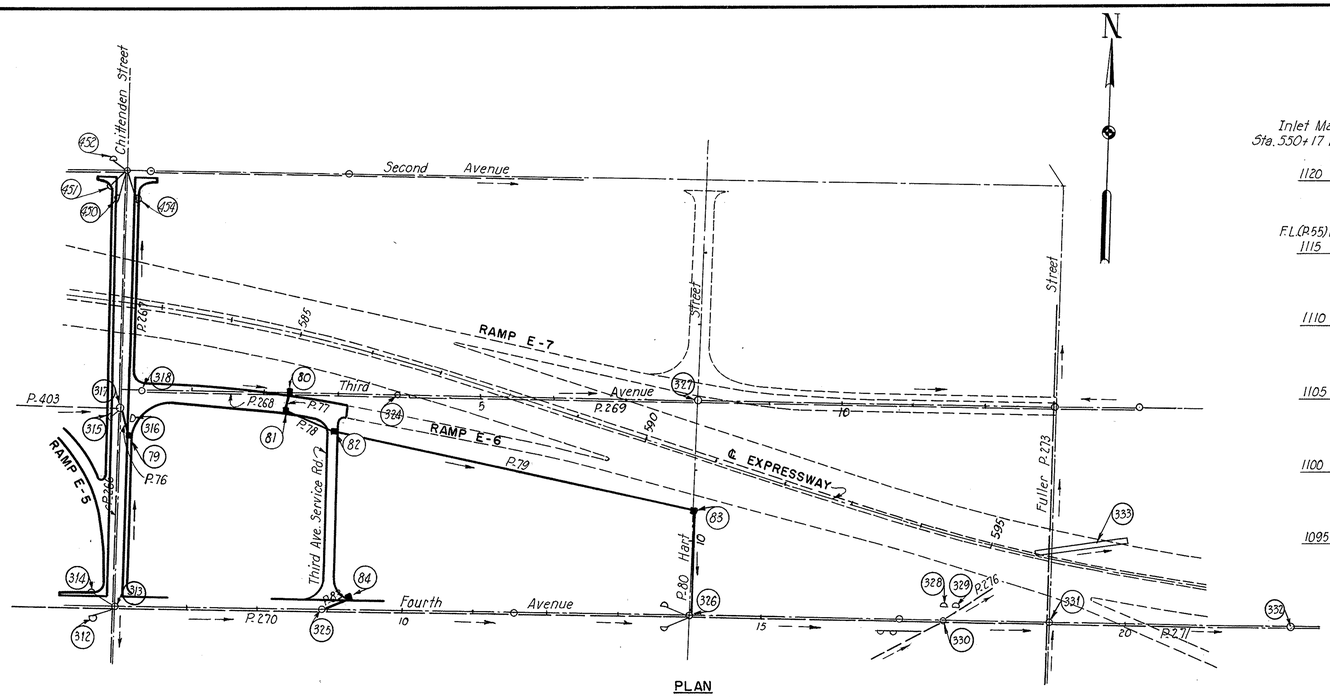
142

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

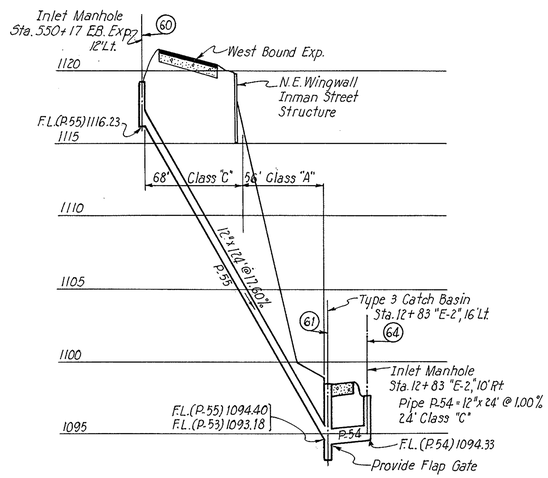
58
204

SUMMIT COUNTY
CITY OF AKRON

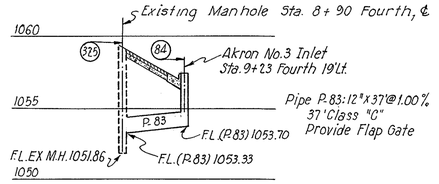
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
DRAINAGE PLAN AND PROFILE



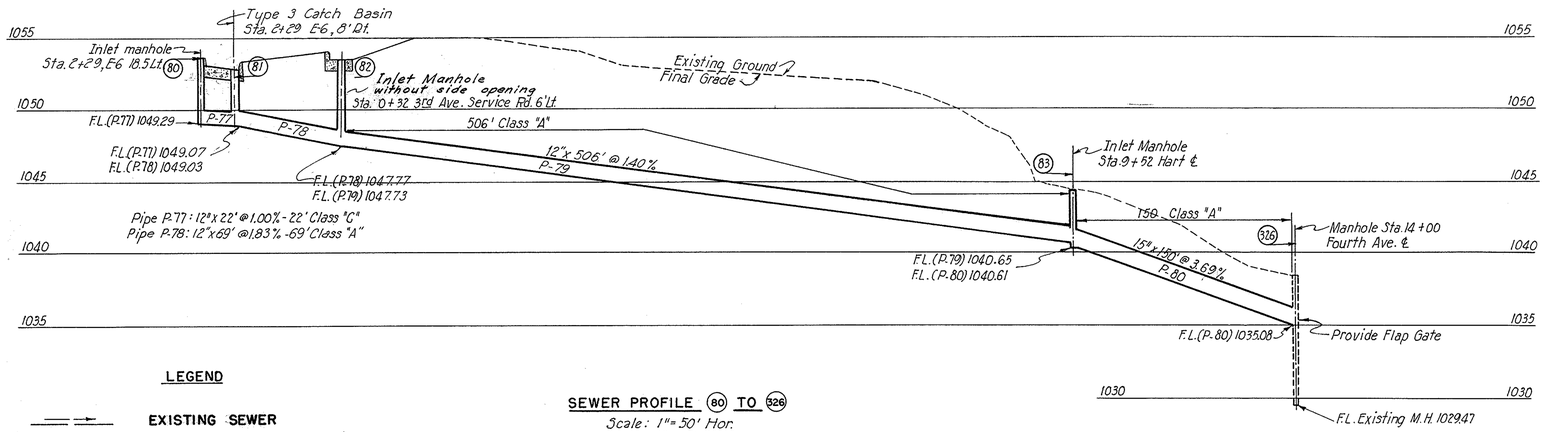
PLAN
Scale: 1"= 100'



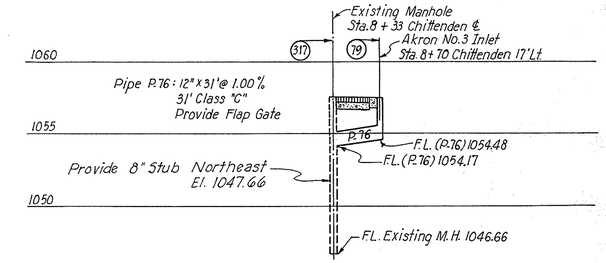
SEWER PROFILE 60 TO 64
Scale: 1"= 50' Hor.
1"= 5' Vert.



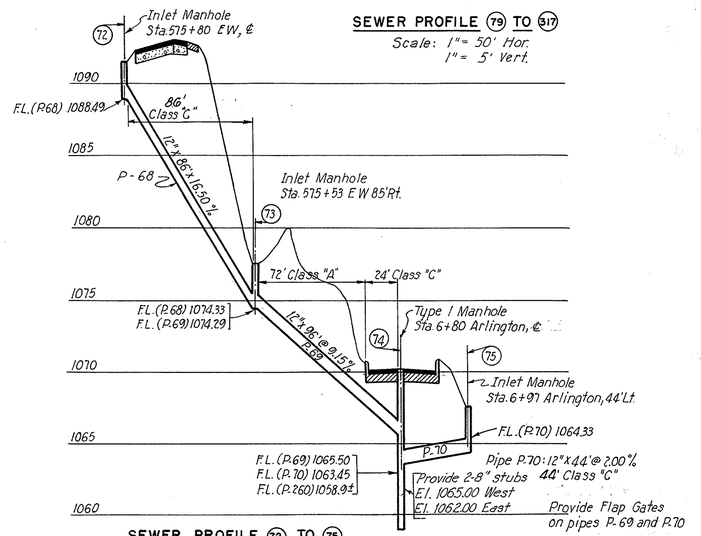
SEWER PROFILE 84 TO 325
Scale: 1"= 50' Hor.
1"= 5' Vert.



SEWER PROFILE 80 TO 326
Scale: 1"= 50' Hor.
1"= 5' Vert.



SEWER PROFILE 79 TO 317
Scale: 1"= 50' Hor.
1"= 5' Vert.



SEWER PROFILE 72 TO 75
Scale: 1"= 50' Hor. 1"= 5' Vert.

LEGEND

- EXISTING SEWER
- EXISTING INLET OR MANHOLE
- PROPOSED SEWER
- PROPOSED INLET OR MANHOLE

NOTES

For drainage plan west of Chittenden Street, see Sheets 56 and 57
For details of drainage structures, see Sheets 61 through 64
For Miscellaneous Details, see Sheets 46 and 47
For Drainage Tables and General Notes, see Sheets 59 and 60

SCALE	As Shown
MADE	RES/RGH/TC 7-20-54
TRCD	P.R. DATE 8-26-54
CKD	J.V.H DATE 8-26-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 58

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS	59 / 204
2	OHIO			

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
GENERAL NOTES
AND
DRAINAGE TABLE

GENERAL NOTES

Sewers are designed by the Rational Formula based on a 10 year storm frequency flowing full.

Minimum velocity of flow is 3.0 f.p.s. for main lines and 2.5 f.p.s. for laterals.

Inlet manholes are a modification of the standard 2-2-A Catch Basin. Details not shown are to be similar to those shown for the standard 2-2-A Catch Basin. See Standard Construction Drawing 1-8C.B. 2-2-A. For details of Inlet Manhole see sheet 61.

Type 3 and Type 3A Catch Basins are standard No. 3 and 3A Catch Basins, respectively. For details see Standard Construction Drawings 1-8 C.B. No. 3 and 1-8 C.B. No. 3A.

Akron No. 3 and Akron No. 5 Inlets are City of Akron Standard Inlets No. 3 and No. 5, respectively. For details see sheets 63 and 64.

Type 1 and Type 2 Manholes are Standard No. 1 and No. 2 Manholes, respectively. For details see Standard Construction Drawings 1-8 M.H. No. 1 and 1-8 M.H. No. 2.

A Median Apron is to be provided on Structure No. 3. Payment for Median Apron is to be made under Special Item, "Median Aprons., As per plan." For details of Median Aprons see sheet 61.

Payment for the concrete flumes shall be made at the unit price bid per each under the Special Item," Concrete Flume, As per plan." For details of concrete flumes, see sheet 61.

The construction of this improvement will require the removal and/or abandonment of many existing sewers. Where it is necessary or desirable that existing sewers be removed, within the construction limits, it is so indicated in the tabulation of "Existing Pipe Details." Payment for the removal of existing sewers shall be made at the unit price bid for Item E-12, "Pipe Removed"

Where an existing sewer is to be abandoned, the abandoned portions shall be plugged to the satisfaction of the Engineer at the limits of the new construction and at each intervening existing manhole or inlet. Payment for abandoning existing sewers shall be made at the lump sum bid for the Special Item "Abandoning Sewers," which payment shall constitute full compensation for all costs involved in furnishing tools, equipment, labor, and all other incidentals necessary to complete the work to the satisfaction of the Engineer.

Payment for the removal and/or abandoning of pipe outlets necessitated by the abandoning of existing inlets or manholes will be included in the price bid for Item I-16 "Manholes, Catch Basins, or Inlets Abandoned," unless payment is specifically called for under some other item in the plans.

Where it is necessary under "Item I-8, Manholes Adjusted to grade," to replace unsatisfactory manhole frame and cover castings with new castings, payment for the new castings shall be made at the contract unit price bid per each for Item I-8, "Manhole Frame and Cover (Light)," and Item I-8, "Manhole Frame and Cover (Heavy)," which payment shall constitute full compensation for furnishing, hauling and placing all castings and any incidentals necessary to complete the item to the satisfaction of the Engineer.

All stubs for structure drainage are to be 8" diameter Bituminous Coated Corrugated Metal Pipe conforming to Sec. M-6.4(c) of the Construction and Material Specifications. The stubs shall extend a minimum distance of 1'-0" outside the drainage structures. Connections to Structures are included in the structure plans and quantities.

All underdrain tile shall be 6" diameter Extra Quality Drain Tile conforming to Sec. M 6.7 (b) of underdrains, see sheets 48, 56 and 68.

Where Catch Basins, Inlet Manholes, or Manholes are built of concrete, the concrete shall be Class "C".

In rock areas it will be necessary to provide stone masonry slope facing at those locations where a sewer trench intercepts the normal rock cut slope. The rock facing shall be as detailed on sheet 47 of the plans. Payment for the rock facing shall be in accordance with Item S-20, Rubble Stone Masonry.

Payment for pipe connections to existing manholes is to be included in the unit price bid for Item I-2, "Storm Sewers."

Where a top of rock profile is indicated, it shall be considered approximate and the accuracy thereof is not guaranteed by the state.

The various classes of pipe referred to in the plans shall be defined as follows:
Class "A" - Pipe for Storm Sewers - Standard Strength Vitrified Sewer Pipe, Sec. M-6.8(a).

Class "B" - Extra Strength Vitrified Sewer Pipe, Sec. M-6.8(b), For Storm Sewers
Class "C" - Pipe for Storm Sewers under Pavement - Extra Strength Vitrified Sewer Pipe, Sec. M-6.8(b).

Class "D" - Pipe for Storm Sewers - Standard Strength Vitrified Sewer Pipe, Sec. M-6.8(a).
Class "E" - Heavy Reinforced Concrete Culvert Pipe for Storm Sewers.
All pipe shall conform to Sections of the Construction and Material Specifications as noted.

ITEM I-2 STORM SEWERS, METHOD OF LAYING & BEDDING

The method of laying and bedding of pipe sewers shall be in accordance with the requirements of Sec. S-27.03.

PIPE ENCASEMENT

Where called for on the plans, pipe shall be encased with Class "E" concrete a minimum of 5 inches. Cost of furnishing and placing of encasement shall be included in the unit price bid per lin. ft. of Item I-2, Storm Sewers, Encased.

DRAINAGE STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.*	REMARKS
1	449+50 "N-S", 46' Lt.	Type 3A Catch Basin	1076.59	
2	0+50 "S", BL.	Type 3A Catch Basin	1076.64	
3	445+00 "N-S", ℄	Inlet Manhole	1075.70	
4	445+00 "N-S", 38' Rt.	Type 1 Manhole	1076.71	
5	15+80 "U", B.L.	Type 3 Catch Basin	1075.11	
6	16+75 "U", B.L.	Type 3A Catch Basin	1075.89	
7	443+50 "N-S", 7' Lt.	Type 1 Manhole	1073.47	
• 8	442+00 "N-S", 7' Lt.	Type 1 Manhole	1070.20	
• 9	440+00 "N-S", ℄	Inlet Manhole	1065.13	Provide 12" Stubs E & W
• 10	436+90 "N-S", ℄	Type 1 Manhole	1058.61	
11	436+00 "N-S", ℄	Inlet Manhole	1057.19	Provide 12" Stubs E & W
• 14	5+85 Johnston, 8' Rt.	Type 1 Manhole	1101.0±	
• 15	11+25 Lumiere, 60' Lt.	Type 2 Manhole	1102.00	
16	11+15 Lumiere, 13' Lt.	Type 3A Catch Basin	1100.33	
17	12+00 "N5R," 12' Lt.	Type 3A Catch Basin	1097.17	
• 18	14+05 "U", 47' Lt.	Type 2 Manhole	1078.50	
19	14+75 "U", BL.	Type 3A Catch Basin	1076.08	
20	13+65 "U", 42' Lt.	Inlet Manhole	1078.50	
21	5+00 "V", B.L.	Type 3A Catch Basin	1082.60	
22	4+40 "S" B.L.	Type 3 Catch Basin	1070.05	
23	5+25.79 "S", 24' Lt.	Type 3 Catch Basin	1070.28	
24	1+00 "P" B.L.	Type 3A Catch Basin	1071.52	
25	7+25 "S", 17' Rt.	Inlet Manhole	1071.50	
26	7+25 "S", 24' Lt.	Type 3A Catch Basin	1072.14	
27	13+50 Johnston, 21' Lt.	Akron #3 Inlet	1077.35	
28	1+25 "Q" B.L.	Type 3 Catch Basin	1074.39	
29	3+52 "P," B.L.	Type 3A Catch Basin	1076.20	
• 30	436+90 "N-S", 39' Rt.	Type 1 Manhole	1059.50	
• 31	17+27 Lumiere, 22 Rt.	Type 2 Manhole	1082.0±	No Drop pipe required
32	10+50 "N5R", 12' Rt.	Type 3A Catch Basin	1094.39	
33	9+00 "N5R", 12' Lt.	Type 3A Catch Basin	1091.22	
34	0+75 "V", 13' Lt.	Inlet Manhole	1089.00	
35	16+10 Hammel, 13' Rt.	Akron #3 Inlet	1092.00	
36	8+00 "N5R", 12' Rt.	Type 3, Catch Basin	1090.29	
37	6+75 "N5R", 12' Rt.	Type 3A Catch Basin	1091.42	
38	6+00 "N5R", 12' Lt.	Type 3A Catch Basin	1092.86	
39	17+95 Gridley, 13' Rt.	Akron #3 Inlet	1098.20	
40	3+21 "N5R", 20' Rt.	Type 1 Manhole	1098.30	
41	18+10 Gridley, 16' Lt.	Akron #5 Inlet	1098.15	
42	1+75 "N5R", 12' Rt.	Type 3 Catch Basin	1098.43	
43	1+75 "N5R", 12' Lt.	Type 3 Catch Basin	1098.43	
□44	12+90 South, 10' Lt.	Type 1 Manhole	1084.80	
□45	20+90 Coventry, ℄	Type 1 Manhole	1085.35	
46	17+00 "S", 24' Lt.	Type 3A Catch Basin	1089.68	
47	21+00 "S", 24' Lt.	Type 3A Catch Basin	1104.52	
48	2+50 "S5R", 12' Lt.	Type 3A Catch Basin	1098.62	
49	22+70 Gridley, 14' Rt.	Akron #5 Inlet	1096.40	
50	22+40 Gridley, ℄	Type 1 Manhole	1096.84	
51	22+40 Gridley, 13' Lt.	Akron #5 Inlet	1096.75	
52	3+90 "S5R", 12' Lt.	Type 3 Catch Basin	1096.81	
53	5+50 "S5R", 12' Lt.	Type 3A Catch Basin	1099.10	
54	22+05 Inman, 19' Rt.	Type 3A Catch Basin	1100.80	
55	0+64 "E-1", 13' Rt.	Inlet Manhole	1098.50	
56	0+66 "E-1", 22' Lt.	Type 3 Catch Basin	1099.60	
57	2+75 "E-1", 16' Lt.	Type 3A Catch Basin	1006.69	
58	5+75 "E-1", 16' Lt.	Type 3A Catch Basin	1022.22	
59	556+00 E-W, ℄	Inlet Manhole	1131.19	
60	550+17 E B. 12' Lt.	Inlet Manhole	1119.50	
61	12+83 "E-2", 16' Lt.	Type 3 Catch Basin	1098.38	
62	10+75 "E-2", 16' Lt.	Type 3A Catch Basin	1105.97	
63	8+75 "E-2", 16' Lt.	Type 3A Catch Basin	1117.81	
64	12+83 "E-2", 10' Rt.	Inlet Manhole	1097.50	
65	17+58 Inman, 18' Lt.	Type 3A Catch Basin	1099.20	
66	568+00 "E-W", 42' Rt.	Type 3 Catch Basin	1118.90	
67	569+50 "E-W", 42' Rt.	Type 3 Catch Basin	1114.18	
68	569+50 "E-W," ℄	Inlet Manhole	1113.87	
69	2+00 E-3, 16' Lt.	Type 3A Catch Basin	1108.38	
70	0+18 E-3, 13' Rt.	Inlet Manhole	1096.50	
71	4+47 Arlington, 30' Rt.	Akron # 5 Inlet	1070.50	
72	575+80 E-W, ℄	Inlet Manhole	1091.41	
73	575+53 E-W, 85' Rt.	Inlet Manhole	1077.50	
74	6+80 Arlington, ℄	Type 1 Manhole	1070.35	
75	6+97 Arlington, 44' Lt.	Inlet Manhole	1067.50	
76	7+83 Chittenden, 40' Rt.	Inlet Manhole	1054.50	
77	5+95 E-5, 26' Rt.	Inlet Manhole	1057.50	
78	7+25 E-5, B.L.	Type 3 Catch Basin	1059.50	
79	8+70 Chittenden, 17' Lt.	Akron #3 Inlet	1057.50	
80	2+29 E-6, 185' Lt.	Inlet Manhole	1053.69	
81	2+29 E-6, 8' Rt.	Type 3 Catch Basin	1052.81	
82	0+32 · 3rd Ave SR, 6' Lt.	Inlet Manhole without Side Opening	1054.07	
83	9+52 Hart, ℄	Inlet Manhole	1044.1±	
84	9+23 Fourth, 19' Lt.	Akron #3 Inlet	1057.41	
85	Temp. Conn. "A"	Culvert & Headwalls		See Sheet 67
86	16+10 Hammel, 13' Lt.	Akron #3 Inlet	1091.85	

* Elevations are given at the following locations:
Type 3 and Type 3A Catch Basins and Akron No. 3 and No. 5 Inlets - Normal edge of roadway at the station of the catch basin or inlet.
Inlet Manholes and Type A Inlets - Top of grate.
Type 1 and Type 2 Manholes - Top of cover.

• Drainage structure is on combined sewer.
□ Structure is on a Sanitary Sewer.

SCALE None	HOWARD, NEEDLES, TAMMEN & BERGENDOFF
MADE J.V.H. DATE 7-19-54	CONSULTING ENGINEERS
TRCD REE-J.V.H. DATE 9-7-54	KANSAS CITY CLEVELAND NEW YORK
CKD J.V.H. DATE 9-8-54	901 SHEET- 59

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EXISTING PIPE DETAILS

CODE	LOCATION STREET	LOCATION FROM	LOCATION TO	SIZE (IN.)	LENGTH (FT.)	REMARKS
P-202	M°Queeny	205	204	8	205	Abandon
P-203	M°Queeny	206	205	8	197	Remove 127', Abandon 70'
P-204		207	206	8	205	Remove 50', Abandon 155'
P-205	M°Queeny	208	206	8	65	Remove
P-206	Johnston	209	210	20	347	Undisturbed
P-207	Johnston	214	210	24	247	Remove 50', Abandon 197'
P-208	Johnston	216	214	24	100	Remove
P-209	Johnston	216	219	24	135	Remove
P-210	Johnston	219	221	24	200	Undisturbed
P-211	Johnston	221	223	24	165	Undisturbed
P-212	Coventry	231	217	15	275	Remove
P-213	Coventry	230	231	15	282	Remove
P-214	Coventry	229	230	12	100	Remove
P-215		234	229	48	305	Remove 70', Abandon 235'
P-216		17+50 Lum.	18+15 Cov.		220	Abandon
P-217	Coventry	17+95 Cov.	17+10 Cov.	24	160	Remove
P-218	Coventry	18+00 Cov.	228	18	110	Remove
P-219		229	226	48	280	Remove 90', Abandon 190'
P-220	Alphis	3+35 Alphis	3+60 Alphis		60	Abandon
P-222		227	226	48	160	Undisturbed
P-223	Alphis	226	224	8	173	Abandon
P-224	South	280	276	18	260	Abandon 65', Undisturbed 195'
P-225	South	276	284	8	272	Remove 24', Abandon 148'
P-226	Coventry	276	273	8	300	Rem. 70', Aban. 20', Undis. 210
P-227	Lumiere	284	272	8	300	Abandon
P-228	Lumiere	272	25+98 Lum.	8	293	Undisturbed
P-229	Lumiere	234	285	48	260	Undisturbed
P-230	Lumiere	17+70 Lum.	18+05 Lum.	36	90	Abandon
P-231	Lumiere	18+00 Lum.	18+10 Lum.		55	Abandon
P-232	Lumiere	235	236	15	128	Abandon
P-233	Lumiere	237	235	8	147	Undisturbed
P-234	Lumiere	238	237	8	200	Undisturbed
P-235	Lumiere	239	238	8	280	Undisturbed
P-236		243	235	18	282	Undisturbed
P-237	Hammel	244	243	8	150	Abandon
P-238	South	285	265	48	300	Undisturbed
P-239	Hammel	269	265	15	230	Remove
P-240	Hammel	271	269		72	Undisturbed
P-241	Hammel	243	240	12	335	Undisturbed
P-242	Hammel	17+25 Ham.	17+55 Ham.	36	100	Abandon
P-243		245	243	18	195	Abandon
P-244		4+35 So.	245	18	180	Abandon
P-245		4+45 So.	4+78 So.	24	70	Abandon
P-246	South	265	261	48	342	Undisturbed
P-247	Gridley	5Ta.18+90		8	140	Abandon
P-248		18+35 In.	18+80 Grid.	20	300	Abandon
P-249	Gridley	260	246	20	408	Undisturbed
P-250	South	261	251	48	295	Undisturbed
P-251	Gridley	261	264	15	345	Undisturbed
P-252	Fifth	255		24		Undisturbed
P-253	Fifth	253	P-254		30	Undisturbed
P-254	Inman	251	253	39	185	Undisturbed
P-255	Inman	250	251	24	34	Undisturbed
P-256	Inman	250	249	24	195	Undisturbed
P-257	Martin	262	298	8	165	Undisturbed
P-258	Talbot	297	299	24	413	Undisturbed
P-259	Martin	298	300	8	355	Undisturbed
P-260	Arlington	307	303	20	265	Undisturbed
P-261	Arlington	303	304	12	65	Undisturbed
P-262	Second	306	308	8	190	Undisturbed
P-263	Second	308	322	8	284	Undisturbed
P-264	Miles	308	311	8	475	Undisturbed
P-265		310	317	15	355	Undisturbed
P-266	Chittenden	313	317	8	275	Undisturbed
P-267	Chittenden	322	317	18	333	Undisturbed
P-268	Third	318	324	8	358	Abandon
P-269	Third	324	327	8	415	Abandon
P-270	Fourth	313	325	8	290	Undisturbed
P-271	Fourth	331	332	8	335	Undisturbed
P-273	Fuller	331	& Third	15	300	Undisturbed
P-274	Gridley	260	P-246	20	42	Abandon
P-275	South	3+43 So.	3+87 So.	18	45	Abandon
P-276	Fourth	5Ta.17+50		30&36	200	Abandon

EXISTING DRAINAGE STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.*	REMARKS
200	454+00 N-S Exp., 46'Lt.	Inlet	1065.79	Adjust to grade
201	453+25 N-S Exp., ℄	Manhole		Undisturbed
204	6+45 M°Queeny, ℄	Manhole		Abandon
205	4+40 M°Queeny, ℄	Manhole		Abandon
206	2+43 M°Queeny, ℄	Manhole		Abandon
207	3+50 Wilson, ℄	Manhole		Undisturbed
208	1+73 M°Queeny, ℄	Manhole		Abandon
209	1+50 Johnston, ℄	Manhole		Undisturbed
210	5+00 Johnston, 5'Rt.	Manhole	1104.05	Adjust to grade
211	4+85 Johnston, 12'Rt.	Inlet		Abandon, See Note 4
212	4+95 Johnston, 20'Lt.	Inlet		Abandon, See Note 4
213	7+05 Johnston, 18'Rt.	Inlet		Abandon
214	7+42 Johnston, 8'Rt.	Manhole		Abandon
215	8+40 Johnston, 20'Lt.	Inlet		Abandon
216	8+48 Johnston, 5'Rt.	Manhole		Abandon
217	8+60 Johnston, 3'Rt.	Manhole		Abandon
218	9+30 Johnston, 18'Rt.	Inlet		Abandon
219	9+75 Johnston, 8'Rt.	Manhole	1089.48	Adjust to grade
220	11+45 Johnston, 15'Lt.	Inlet		Undisturbed
221	11+60 Johnston, 8'Rt.	Manhole		Undisturbed
222	12+83 Johnston, 18'Rt.	Inlet		Undisturbed
223	13+25 Johnston, 5'Rt.	Manhole		Undisturbed
224	1+58 Alphis, 5'Lt.	Manhole		Abandon
225	3+20 Alphis, 15'Lt.	Manhole		Abandon
226	3+30 Alphis, 10'Lt.	Manhole	1075.0±	See Note 1
227	2+22 Hazr, ℄	Manhole		Undisturbed
228	17+40 Coventry, 13'Rt.	Manhole		Abandon
229	18+16 Coventry, 8'Rt.	Manhole		Abandon
230	17+22 Coventry, ℄	Manhole		Abandon
231	14+48 Coventry, ℄	Manhole		Abandon
232	17+63 Lumiere, 13'Rt.	Inlet		Undisturbed
233	17+63 Lumiere, 13'Lt.	Inlet		Undisturbed
234	17+40 Lumiere, 2'Rt.	Manhole		Undisturbed
235	17+32 Lumiere, 10'Lt.	Manhole		Undisturbed
236	13+60 Lumiere, 8'Lt.	Manhole		Abandon
237	15+90 Lumiere, 2'Rt.	Manhole		Undisturbed
238	13+90 Lumiere, 2'Rt.	Manhole		See Note 2
239	11+13 Lumiere, 2'Rt.	Manhole	1100.05	Adjust to grade
240	14+00 Hammel, ℄	Manhole		Undisturbed
241	17+20 Hammel, 17'Lt.	Inlet		Abandon
242	17+20 Hammel, 12'Rt.	Inlet		Abandon
243	17+30 Hammel, ℄	Manhole	1091.0	See Note 1
244	18+80 Hammel, ℄	Manhole		Abandon
245	4+88 South, 178'Rt.	Manhole		Abandon
246	15+70 Gridley, ℄	Manhole		Undisturbed
247	17+70 Inman, 15'Rt.	Inlet		Undisturbed
248	17+70 Inman, 15'Lt.	Inlet		Abandon
249	17+80 Inman, ℄	Manhole	1099.26	Adjust to grade
250	19+80 Inman, ℄	Manhole	1100.09	Adjust to grade
251	0+23 South, ℄	Manhole	1120.49	Adjust to grade
252	20+45 Inman, 20'Rt.	Inlet		Abandon
253	21+70 Inman, ℄	Manhole		Undisturbed
254	22+05 Inman, 15'Lt.	Inlet		Undisturbed
255	2+38 Fifth, ℄	Manhole	1101.18	Adjust to grade
256	2+50 Fifth, 15'Lt.	Inlet		Abandon, See Note 4
257	2+50 Fifth, 15'Rt.	Inlet		Undisturbed
258	19+60 Gridley, 13'Rt.	Inlet		Abandon
259	19+60 Gridley, 13'Lt.	Inlet		Abandon
260	19+70 Gridley, ℄	Manhole		Abandon
261	3+18 South, ℄	Manhole		Undisturbed
262	6+20 Martin, ℄	Manhole	1098.20	Adjust to grade
263	23+60 Gridley, 16'Lt.	Inlet		Undisturbed
264	23+45 Gridley, ℄	Manhole		Undisturbed
265	6+60 South, ℄	Manhole		Undisturbed
266	20+70 Hammel, 16'Rt.	Inlet		Abandon
267	20+70 Hammel, 16'Lt.	Inlet		Abandon
268	22+53 Hammel, 14'Rt.	Inlet		Abandon
269	22+30 Hammel, ℄	Manhole	1100.5	See Note 1
270	22+48 Hammel, 16'Lt.	Inlet		Abandon
271	23+02 Hammel, ℄	Manhole		Undisturbed
272	23+05 Lumiere, ℄	Manhole		Undisturbed
273	23+16 Coventry, ℄	Manhole		Undisturbed
274	12+08 South, 40'Lt.	Inlet		Abandon
275	11+85 South, 18'Lt.	Inlet		Abandon
276	12+17 South, 4'Lt.	Manhole		Abandon
277	12+17 South, 16'Rt.	Inlet		Abandon
278	12+35 South, 40'Lt.	Inlet		Abandon
279	14+51 South, 13'Rt.	Inlet		Undisturbed
280	14+75 South, ℄ Lt.	Manhole		Undisturbed
281	9+05 South, 15'Lt.	Inlet		Abandon
282	20+40 Lumiere, 13'Lt.	Inlet		Abandon
283	20+40 Lumiere, 13'Rt.	Inlet		Abandon
284	9+38 South, 5'Lt.	Manhole		Undisturbed
285	9+40 South, 15'Rt.	Manhole		Undisturbed
286	9+13 South, 19'Rt.	Inlet		Abandon
287	4+25 South, 15'Rt.	Inlet		Undisturbed
288	4+25 South, 15'Lt.	Inlet		Undisturbed
289	20+45 Gridley, 15'Rt.	Inlet		Abandon
290	20+45 Gridley, 15'Lt.	Inlet		Abandon
291	21+80 South, 15'Lt.	Inlet		Abandon
292	21+80 South, 15'Rt.	Inlet		Abandon

EXISTING DRAINAGE STRUCTURES

CODE	LOCATION	DESCRIPTION	ELEV.*	REMARKS
293	4+73 Talbot, 15'Lt.	Inlet		Undisturbed
294	4+73 Talbot, 15'Rt.	Inlet		Undisturbed
295	4+80 Martin, 15'Rt.	Inlet		Undisturbed
296	4+80 Martin, 15'Lt.	Inlet		Abandon
297	5+20 Talbot, ℄	Manhole		See Note 3
298	5+03 Talbot, ℄	Manhole		Undisturbed
299	9+28 Talbot, ℄	Manhole		Undisturbed
300	1+40 Martin, 15'Rt.	Inlet		See Note 3
301	1+40 Martin, 15'Lt.	Inlet		Abandon
302	4+62 Arlington, 25'Rt.	Inlet		Abandon
303	5+00 Arlington, ℄	Manhole		Undisturbed
304	4+34 Arlington, ℄	Manhole		Undisturbed
305	4+02 Arlington, 20'Lt.	Inlet		Undisturbed
306	1+28 Second, ℄	Manhole		Undisturbed
307	7+73 Arlington, ℄	Manhole		Undisturbed
308	3+20 Second, 5'Rt.	Manhole		Undisturbed
309	9+28 Miles, 16'Lt.	Inlet		Undisturbed
310	9+28 Miles, 16'Rt.	Inlet		Undisturbed
311	9+92 Miles, ℄	Manhole		Undisturbed
312	5+70 Fourth, 15'Rt.	Inlet		Undisturbed
313	11+05 Chittenden, ℄	Manhole		Undisturbed
314	5+75 Fourth, 18'Lt.	Inlet		Abandon, See Note 4
315	8+42 Chittenden, 15'Rt.	Inlet		Abandon, See Note 4
316	8+42 Chittenden, 15'Lt.	Inlet		Abandon
317	8+33 Chittenden, ℄	Manhole		Undisturbed
318	0+30 Third, ℄	Manhole		Abandon
319	5+30 Chittenden, 20'Rt.	Inlet		Abandon
320	5+70 Second, 18'Rt.	Inlet		Abandon, See Note 6
321	5+70 Second, 18'Lt.	Inlet		Undisturbed
322	5+95 Second, ℄	Manhole		Undisturbed
323	5+30 Chittenden, 13'Lt.	Inlet		Abandon, See Note 4
324	3+85 Third, ℄	Manhole		Abandon
325	8+90 Fourth, ℄	Manhole		Undisturbed
326	14+00 Fourth, ℄	Manhole		Undisturbed
327	8+00 Third, ℄	Manhole		Undisturbed
328	17+50 Fourth, 15'Lt.	Inlet		Undisturbed
329	17+65 Fourth, 15'Lt.	Inlet		Undisturbed
330	17+52 Fourth, ℄	Manhole		Undisturbed
331	19+00 Fourth, ℄	Manhole		Undisturbed
332	22+28 Fourth, ℄	Manhole	1043.5±	Adjust to grade
333	10+00 Fuller.	Culvert		Abandon, See Note 5

* Top of cover elevation

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6

SUM-18 R-12.10
DRAINAGE TABLES

NOTES

1. Replace existing manhole with Type 2 Manhole. Payment for the removal of the existing manhole shall be included in the unit price bid per each for Item I-8, "Type 2 Manholes."

2. Manhole frame and cover shall be located within the shoulder area.

3. Inlet and manhole shall be removed as a part of the excavation for the Martin St. Retaining Wall and therefore no payment is to be made for abandoning the inlet or manhole

4. Replace existing inlet with Akron #3 Inlet at new curb line. Payment shall be made at the unit price bid for the following items:
   Item I-16, "Inlets Abandoned"
   Item I-8, "Akron No. 3 Inlet"
   Payment for pipe required to make connections to existing pipe outlets shall be included in the unit price bid for Item I-8, "Akron No. 3 Inlet".

5. Payment for abandoning the existing culvert at Sta. 10+00 Fuller shall be included in the lump sum bid for "Special Item, Abandoning Sewers."

6. Replace existing inlet with Akron #5 Inlet at new curb line. Payment for the items involved shall be made in a manner similar to that outlined in Note 4 above.

SCALE None
MADE JVH DATE 6-24-54
TRCD R.E.S. DATE 9-7-54
CKD R.E.S. DATE 9-8-54

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

901 SHEET- 60

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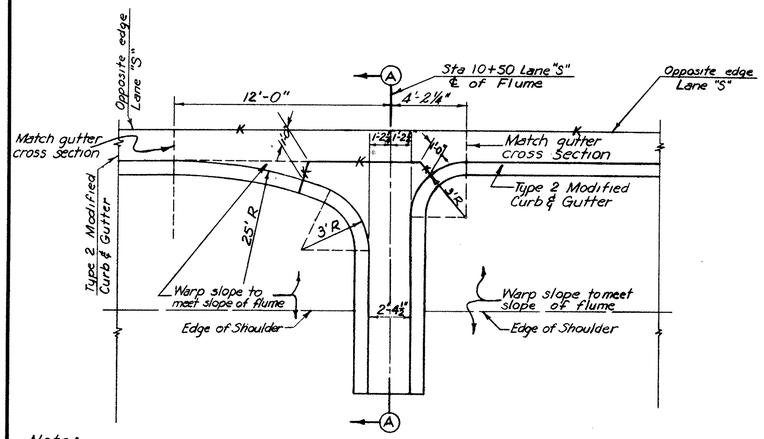
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

61
204

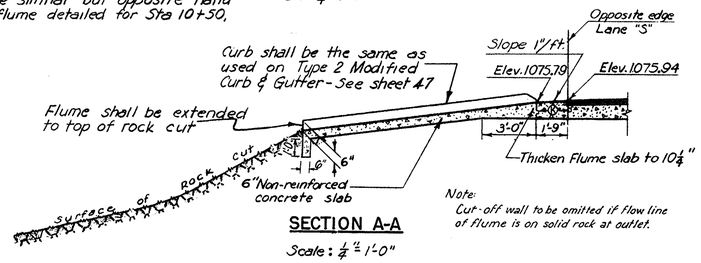
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6

SUM-18R-12.10
DRAINAGE DETAILS



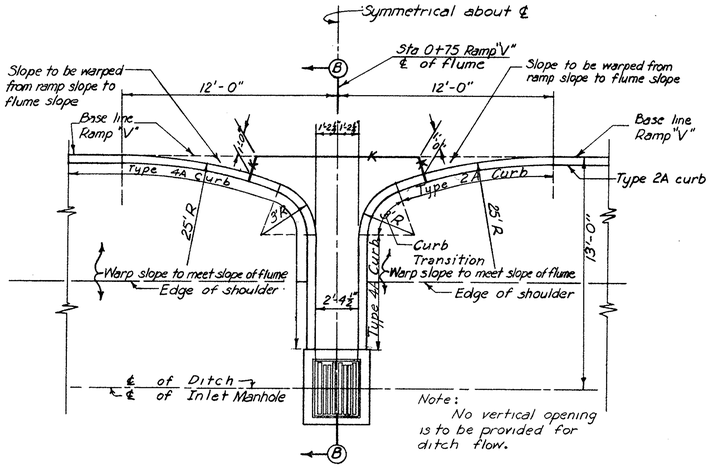
PLAN
Scale: ¼"=1'-0"

Note:
Flume at Sta 10+00, Ramp E-1 is to be similar but opposite hand to the flume detailed for Sta 10+50, Lane "S".



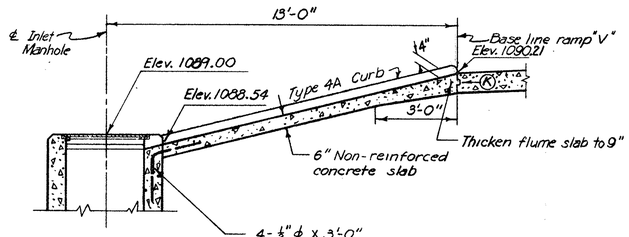
SECTION A-A
Scale: ¼"=1'-0"

Note:
Cut-off wall to be omitted if flow line of flume is on solid rock at outlet.

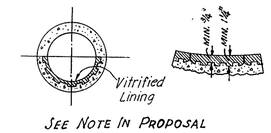


Note:
No vertical opening is to be provided for ditch flow.

PLAN
Scale: ¼"=1'-0"

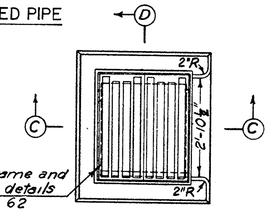


SECTION B-B
Scale: ⅜"=1'-0"

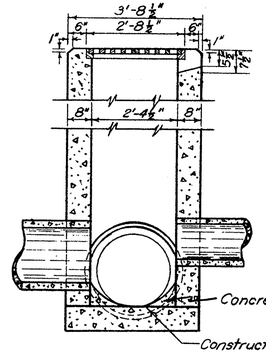


SEE NOTE IN PROPOSAL

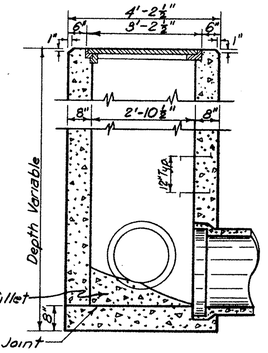
REINFORCED CONCRETE PIPE
HALF LINED WITH VITRIFIED PIPE
Not to Scale



Note:
The top of the inlet manhole 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 manhole.



SECTION C-C

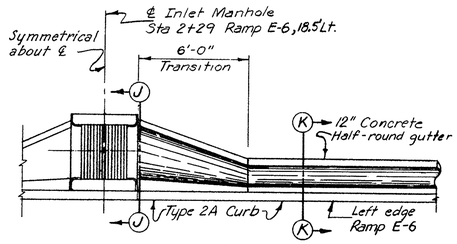


SECTION D-D

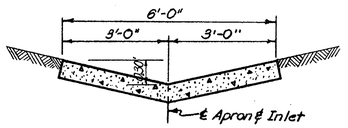
INLET MANHOLE
Scale: ½"=1'-0"

Flume Notes:
Payment for flumes shall be made at the unit price bid per each for "Special Item Flume, as per plan."
Payment for the flume at Sta. 0+75, Ramp "V" shall be based on the area bounded by the standard longitudinal key joint and the inlet, as shown on this sheet. Payment for flumes at Sta. 10+50, Lane "S" and Sta. 9+90, Ramp "E-1" shall be based on the area bounded by the standard longitudinal key joint and the end of the flumes, as shown on this sheet.
Payment for curb on flume shall be included in the unit price bid per each for "Special Item Flume, as per plan."
Class "C" concrete shall be used.

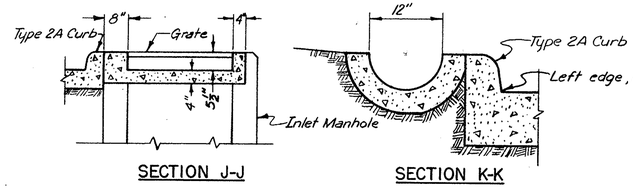
Gutter Notes:
Half-round gutter may be either cast in place or precast segments.
Shell thickness for cast in place gutter shall be 4". Concrete for cast in place gutter shall be Class "C".
Payment for transitions shall be made at the same unit price per linear foot as bid for I-14 "12" Half-Round Concrete Gutter - As per plan."



PLAN
Scale: ¼"=1'-0"

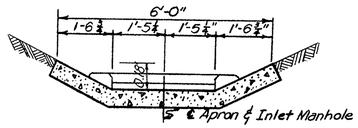


SECTION F-F
Scale: ½"=1'-0"

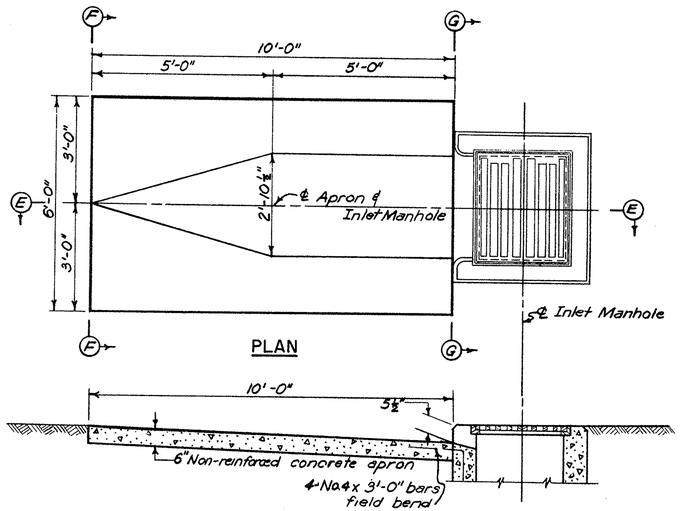


SECTION J-J
Scale: ½"=1'-0"

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



SECTION G-G
Scale: ½"=1'-0"



PLAN

SECTION E-E
MEDIAN APRON
Scale: ½"=1'-0"

Note:
Median apron and median inlet are separate pay items. See list of quantities.

JOINT LEGEND

K — Longitudinal key joint without tie bar

HALF-ROUND GUTTER
RAMP "E-6"

SCALE	As Shown
MADE	JVH DATE 6-14-54
TRCD	JVH DATE 8-17-54
CKD.	RES DATE 8-18-54

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KANSAS CITY NEW YORK
901 SHEET- 61

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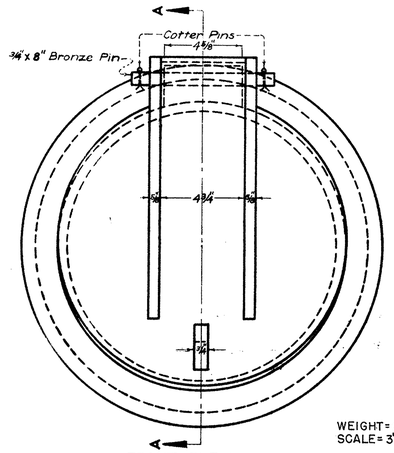
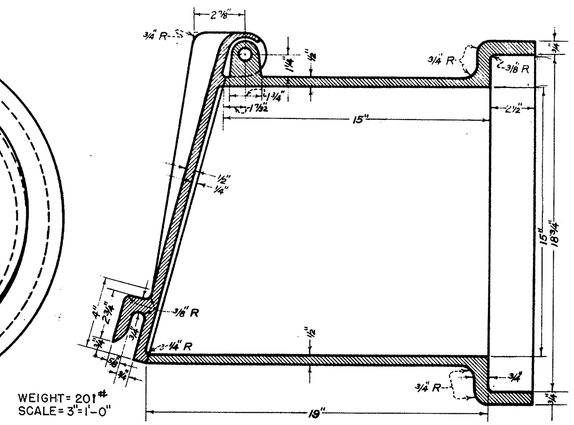
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

62
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
DRAINAGE DETAILS

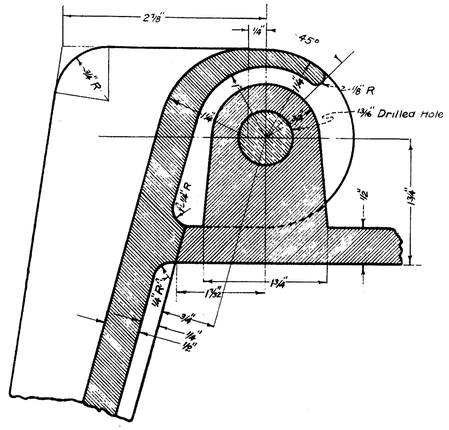


FRONT ELEVATION



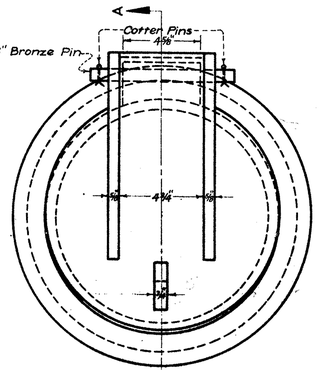
WEIGHT = 201#
SCALE = 3"=1'-0"

SECTION A - A

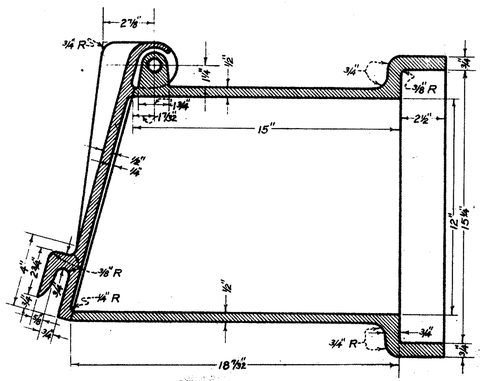


SECTION THRU HINGE 12" & 15"
TRUE SCALE

15" FLAP GATE



FRONT ELEVATION



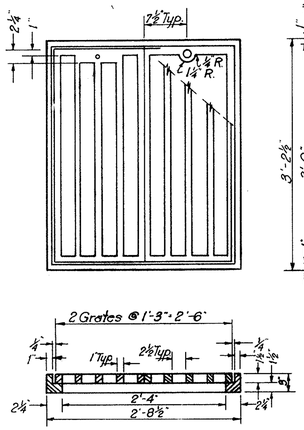
SECTION A - A

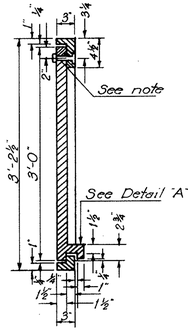
WEIGHT = 156#
SCALE 3" = 1'-0"

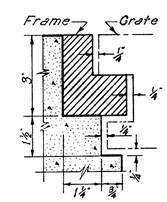
12" FLAP GATE

Note~
Bearing parts of flap gate and flap gate frame shall be machined to provide a firm and even seat.
Finished castings shall not vary more than 1/16" per foot in any dimension.
Material shall be cast iron 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.

NOTE~
Flap Gate for 18" Pipe shall be Neenah Foundry Catalog No R-5040-18 (Bell) or approved equal.



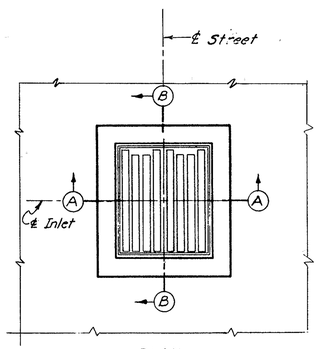




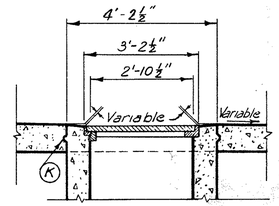
DETAIL "A"
Scale 3/8"=1"

Note: 3/4" x 3 1/4" Standard square head Bronze or Brass bolt with standard hex nut in 7/8"ϕ hole. Bolt head to be recessed flush with bottom of flange.
Grate and frame shall be cast iron.

FRAME AND GRATE DETAILS
Scale: 1'-0"

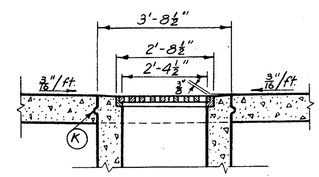


PLAN



SECTION "B-B"

Note: (K) = Longitudinal key joint without tie bar.



SECTION "A-A"

INLET MANHOLE
without side opening
Scale: 1/2"=1'-0"

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SCALE As Shown
MADE RES DATE 8-6-54
TRCD. B.M.O. DATE 8-16-54
CKD. J.W.H. DATE 8-16-54

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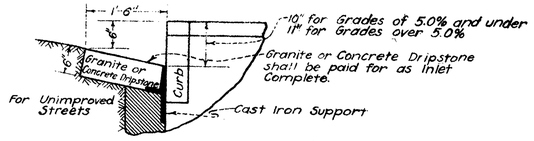
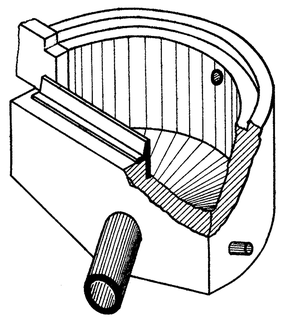
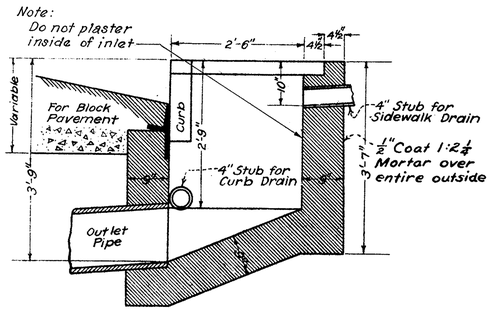
KANSAS CITY NEW YORK
901 SHEET- E2

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS	63
2	OHIO			204

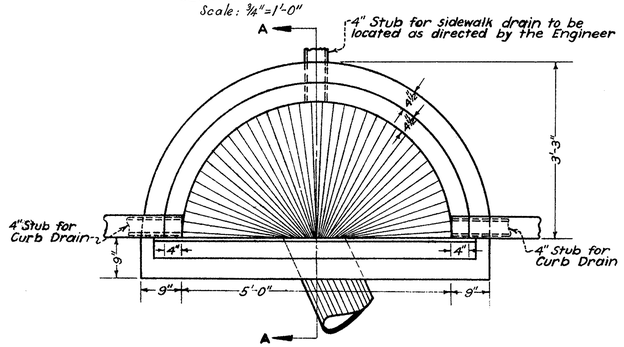
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY- PART 6
SUM -18R - 12.10
AKRON NO.3 INLET



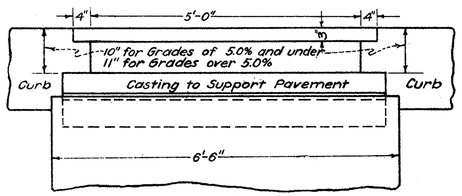




SECTION A - A
Scale: ¾"=1'-0"

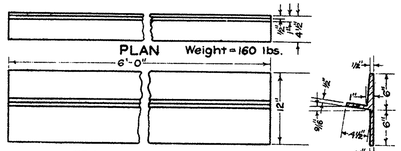


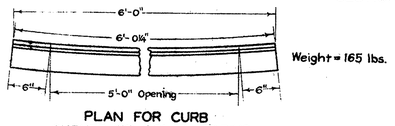
PLAN

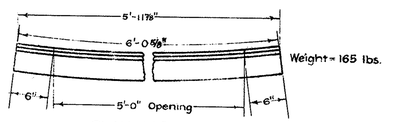


Scale- ¾"=1'-0"

Notes~
Inlet is to be built of Brick laid up in Portland Cement Mortar, corners bonded, and with every fifth course a stretcher course.
4" Tile stubs to be placed in inlets as indicated on the plan and sealed when directed by the Engineer. The stubs shall be included in price bid for each inlet.
On unpaved streets and wherever there is no existing curb, standard curbs of a minimum length of two (2) feet to be furnished on each side of inlet, notched as shown and where there is no bid price on curb, the curb shall be included in price bid for each inlet.
Where inlet is constructed in existing pavement all reshaping of pavement, within the limits shown on the plan, shall be included in price bid for each inlet.
Detail Plans of Inlet Castings shown on drawing Acc. No. 8824, File No. B-1811-b.
Space on top of inlet casting between webs shall be filled with one to two mortar, trowelled to a smooth finish.

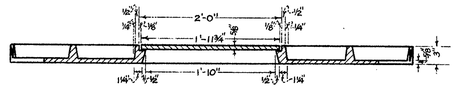


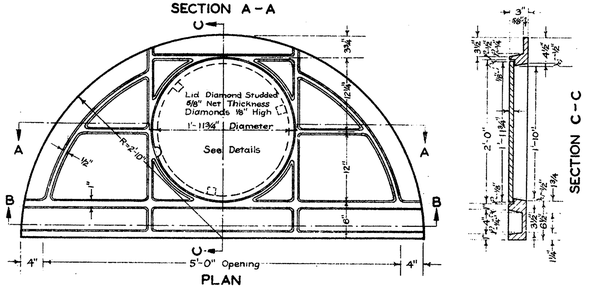


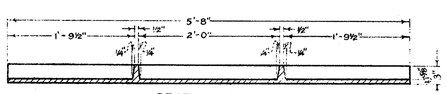


CASTING TO SUPPORT PAVEMENT AT OPENINGS

Scale: 1"=1'-0"



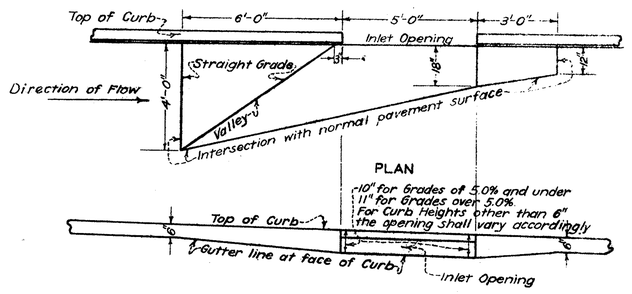




Approximate Wt.= 515 lbs.

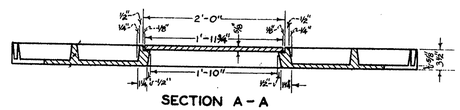
TOP CASTING FOR STRAIGHT CURB

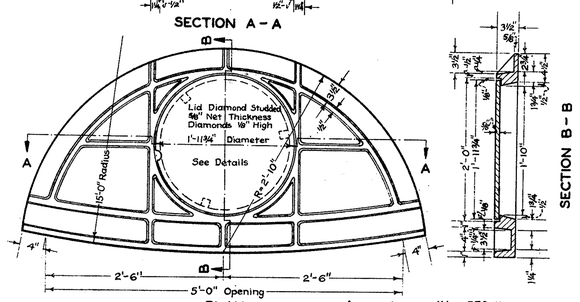
Scale: 1"= 1'-0"



ELEV. SHOWING GUTTER DEPRESSION IN PAVEMENT FOR INLET

Scale- ⅜"= 1'

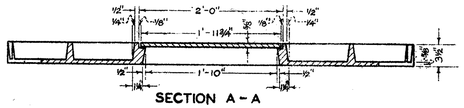


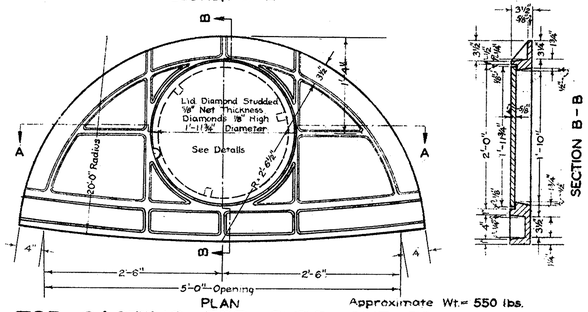


Approximate Wt.= 550 lbs.

TOP CASTING FOR CURB CURVED FOR 15'-0" RADIUS

Scale: 1"=1'-0"

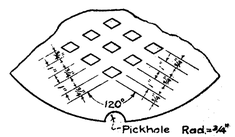




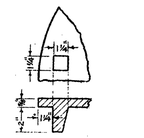
Approximate Wt.= 550 lbs.

TOP CASTING FOR CURB CURVED TO 20'-0" RADIUS

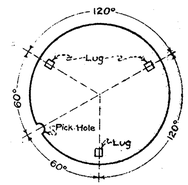
Scale: 1"=1'-0"



DETAIL OF LID



UNDERSIDE OF LID
Showing Lugs



UNDERSIDE OF LID
Showing Location of Lugs and Pickhole

Note~
Material shall be cast iron 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.

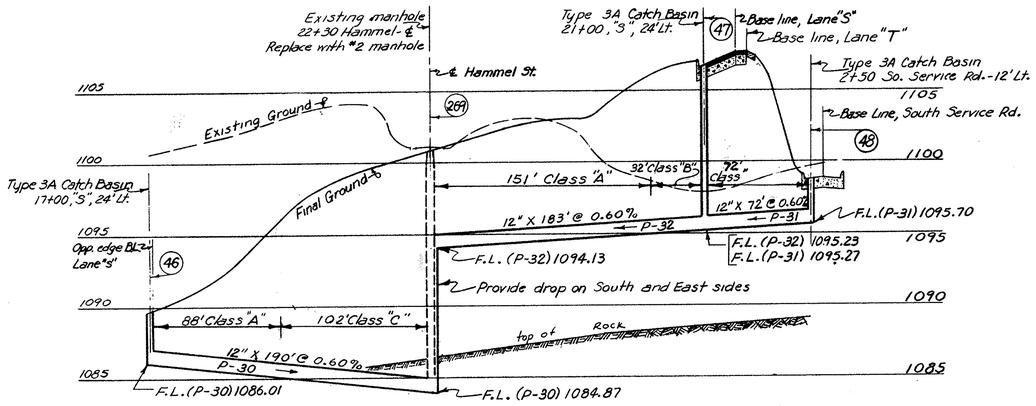
147

SCALE As shown
MADE R.E.S. DATE 8-1-54
TRCD. DATE
CKD J.V.K. DATE 8-10-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901 SHEET 63

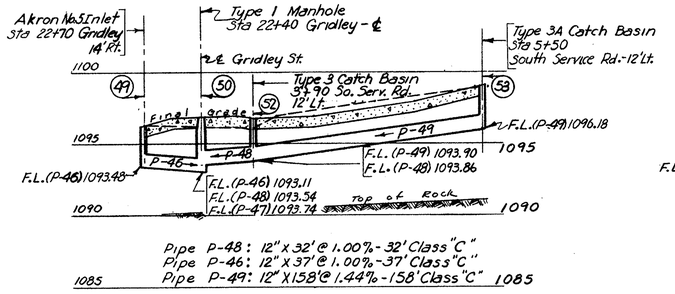
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS	65 / 204
2	OHIO			

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM - 18 R - 12.10
SEWER PROFILES



Note: Provide flap gate on pipe P-30

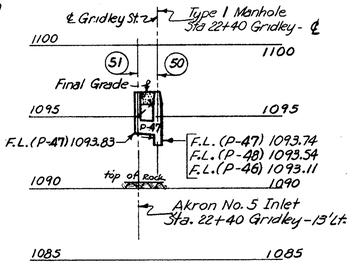
SEWER PROFILE (46) TO (48)



Pipe P-48: 12" x 32' @ 1.00% - 32' Class "C"
Pipe P-46: 12" x 37' @ 1.00% - 37' Class "C"
Pipe P-49: 12" X 158' @ 1.44% - 158' Class "C"

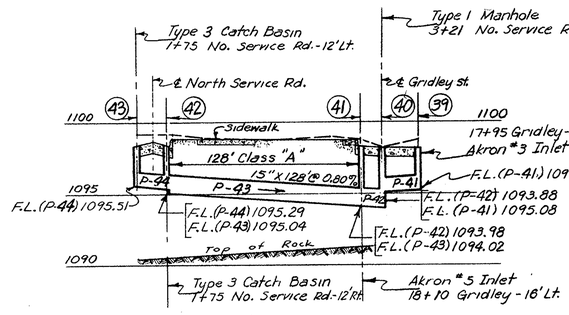
Note: Provide flap gates for pipes P-46 & P-48

SEWER PROFILE (49) TO (53)



Pipe P-47: 12" x 9' @ 1.00% - 9' Class "C"
Provide flap gate

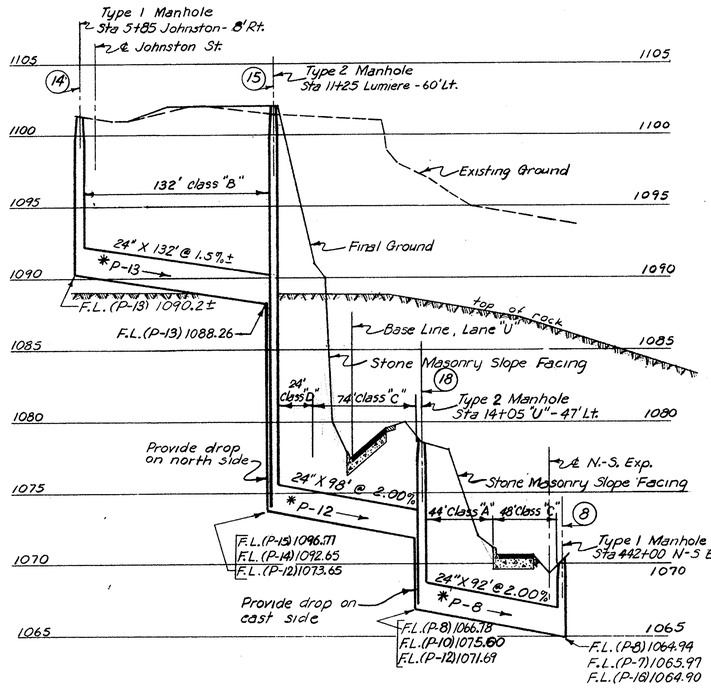
SEWER PROFILE (51) TO (50)



Pipes - P-44: 12" X 22' @ 1.00% - 22' Class "C"
P-42: 15" X 13' @ 0.80% - 13' Class "C"
P-41: 12" X 20' @ 1.00% - 20' Class "C"

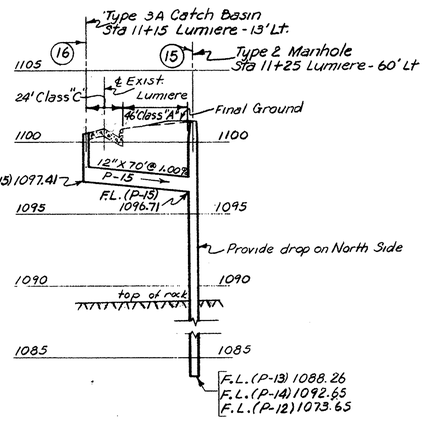
Note: Provide flap gates on pipes P-41 & P-42

SEWER PROFILE (43) TO (39)



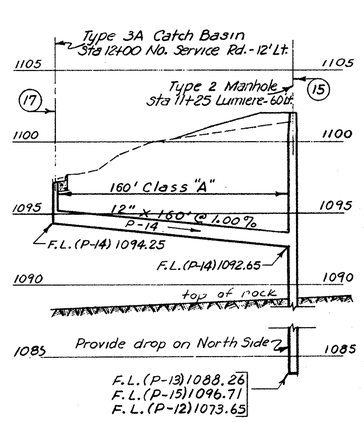
* Note: Combined Sewer

SEWER PROFILE (14) TO (8)



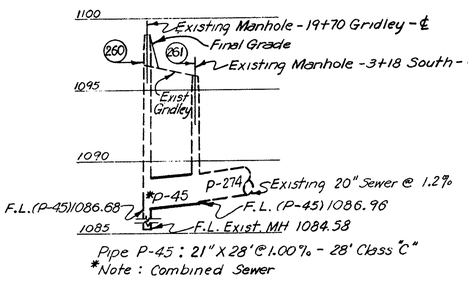
Note: Provide flap gate on pipe P-15

SEWER PROFILE (16) TO (15)



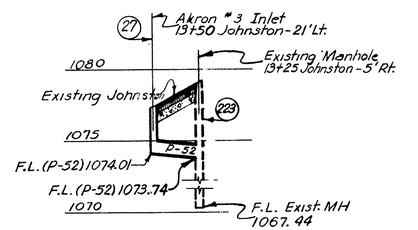
Note: Provide flap gate on pipe P-14

SEWER PROFILE (17) TO (15)



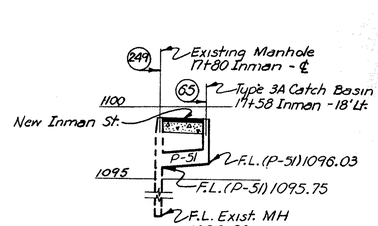
Pipe P-45: 21" X 28' @ 1.00% - 28' Class "C"
*Note: Combined Sewer

SEWER PROFILE (260) TO (261)



Pipe P-52: 12" X 27' @ 1.00% - 27 Class "C"
Provide flap gate

SEWER PROFILE (27) TO (223)



Pipe P-51: 12" X 28' @ 1.00% - 28' Class "C"
Provide flap gate

SEWER PROFILE (249) TO (65)

SCALE	1" = 50' Hor. 1" = 5' Vert.
MADE	JVH DATE 6-26-54
TRCD	JVH DATE 6-26-54
CKD	RES DATE 8-19-54

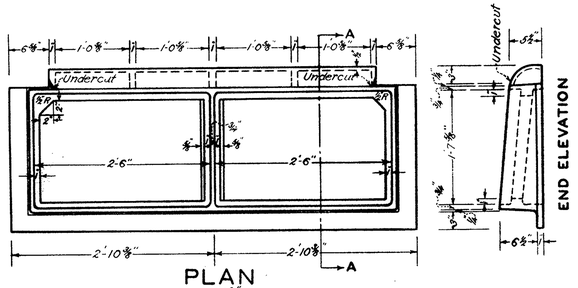
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
SHEET 65

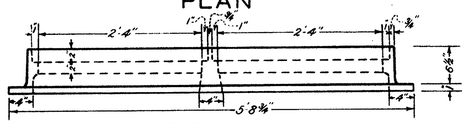
241

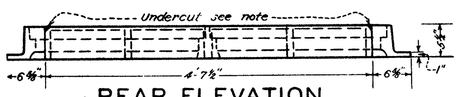
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

64
204

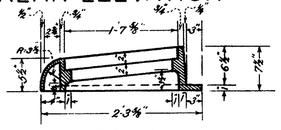
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY- PART 6
SUM-18R-12.10
AKRON NO. 5 INLET



PLAN

FRONT ELEVATION



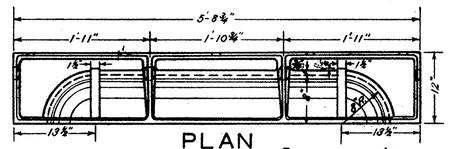
REAR ELEVATION



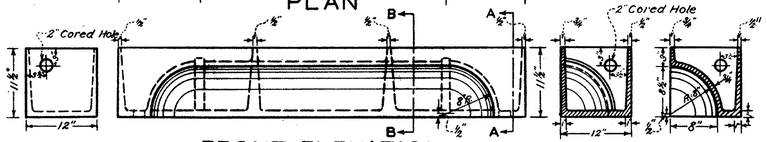
SECTION A-A

GUTTER GRATING FRAME

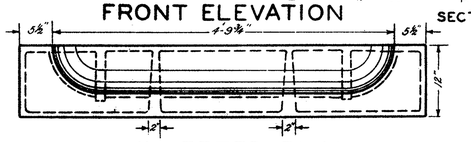
WEIGHT = 543#
Scale: 1"=1'-0"



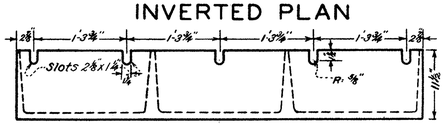
PLAN



FRONT ELEVATION SECTION A-A SECTION B-B



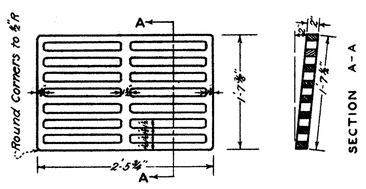
INVERTED PLAN



REAR ELEVATION

CURB CASTING

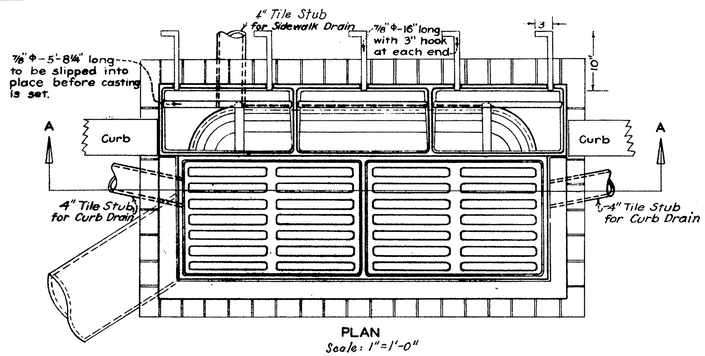
WEIGHT = 513#
Scale: 1"=1'-0"



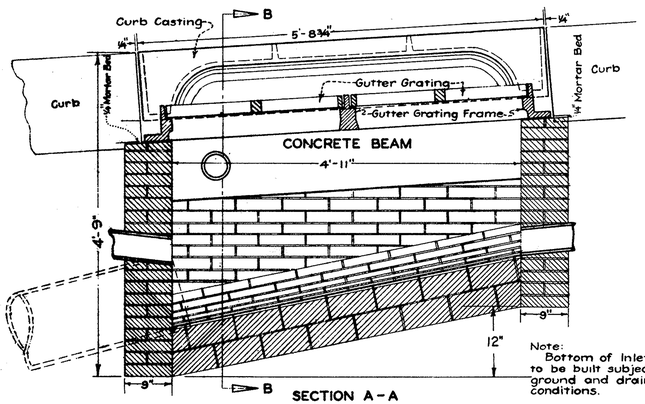
PLAN

GUTTER GRATING

WEIGHT = 158#
Scale: 1"=1'-0"

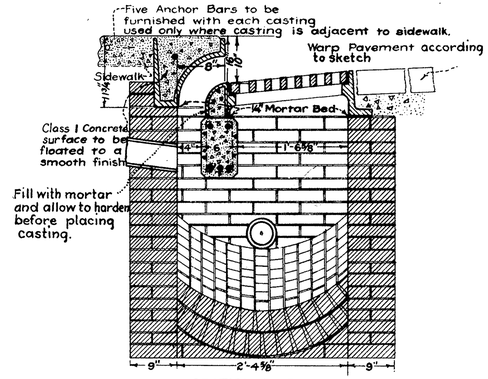


PLAN
Scale: 1"=1'-0"

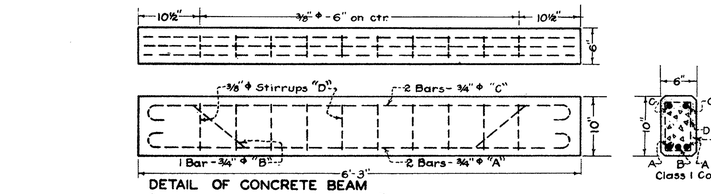


SECTION A-A
Scale: 1"=1'-0"

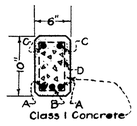
Note:
Bottom of inlet to be built subject to ground and drainage conditions.

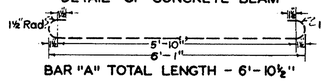


SECTION B-B
Scale: 1"=1'-0"

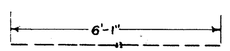


DETAIL OF CONCRETE BEAM

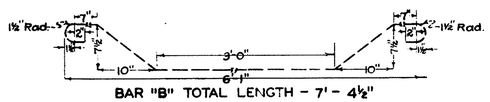




BAR "A" TOTAL LENGTH - 6'-10½"

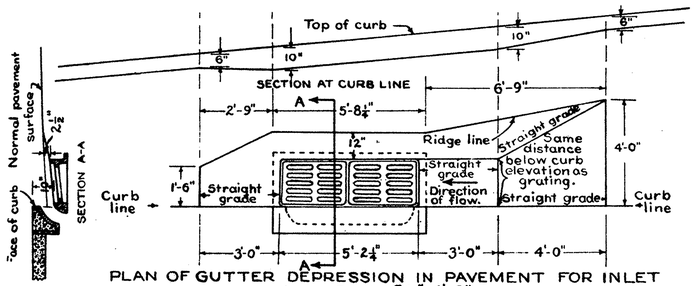


BAR "C" TOTAL LENGTH - 6'-1"



BAR "B" TOTAL LENGTH - 7'-4½"
Scale: 1"=1'-0"

STIRRUPS "D"
LENGTH - 2'-10"



PLAN OF GUTTER DEPRESSION IN PAVEMENT FOR INLET
Scale ⅜"=1'-0"

Inlet

Notes:

4" Tile stubs to be placed in inlets as indicated on the plan and sealed when directed by the Engineer. The stubs shall be included in price bid for each inlet.

On unpaved streets and wherever there is no existing curb, standard curbs of a minimum length of two (2) feet to be furnished on each side of the inlet and where there is no bid price on curb, the curb shall be included in price bid for each inlet.

Where inlet is constructed in existing pavement all reshaping of pavement, within the limits shown on the plan shall be included in price bid for each inlet.

Castings

Undercut Gutter Grating Frame where noted so as to permit a minimum opening of three (3) inches between Curb Casting and Gutter Grating Frame.

Bearing parts of Gutter Grating and Gutter Grating Frame shall be machined to provide a firm and even seat.

Finished Castings shall not vary more than one sixteenth (1/16) inch per foot in any dimension, or more than five per cent (5%) in weight from that called for on the drawing.

Material shall be cast iron 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.

SCALE	As shown
MADE	A.E.S. DATE 6-1-54
TRCD	DATE
CKD	J.V.H. DATE 6-10-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901 SHEET: 64

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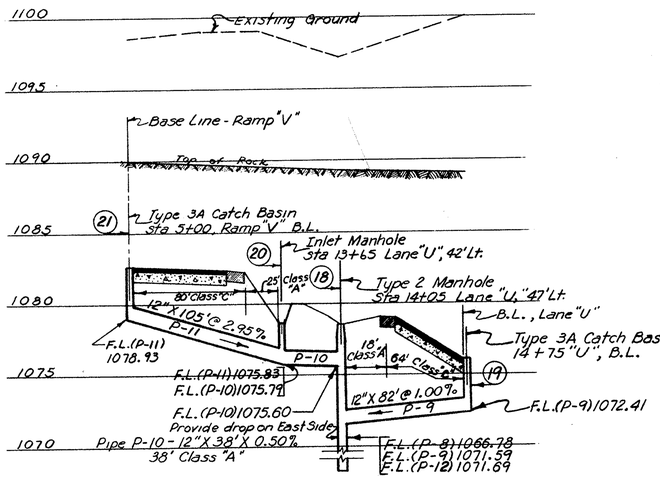
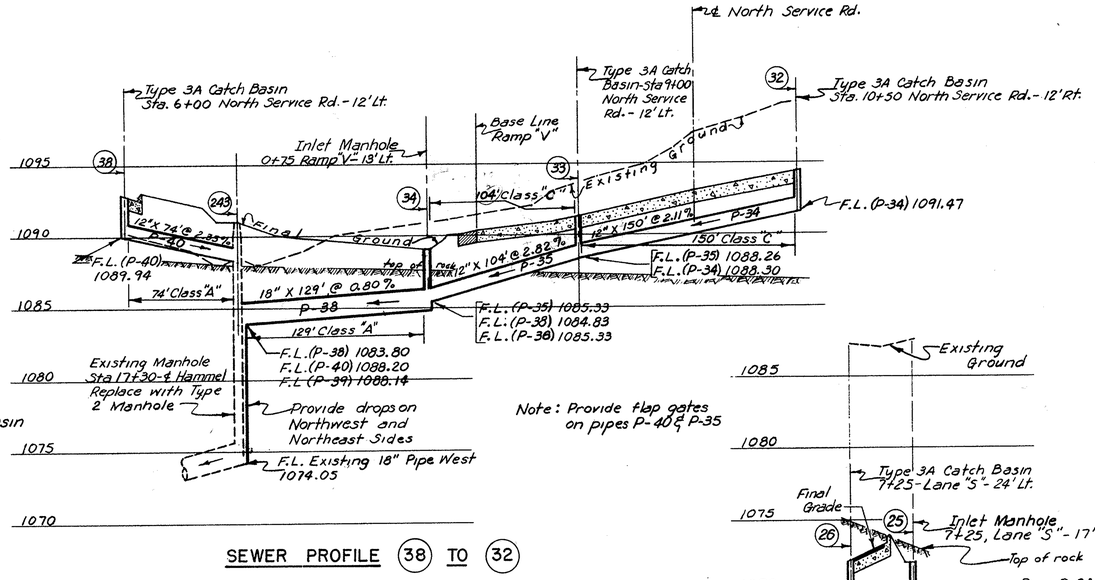
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

6.6
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM - 18R - 12.10
SEWER PROFILES

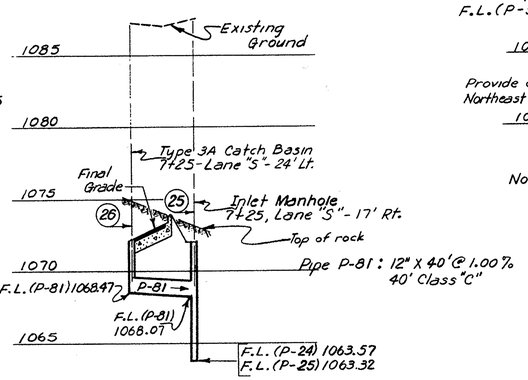


SEWER PROFILE (21) TO (19)

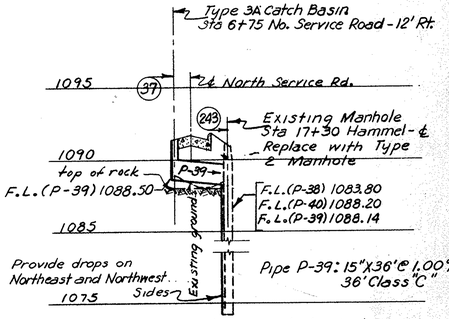


SEWER PROFILE (38) TO (32)

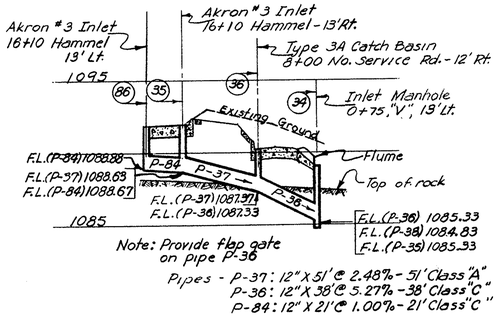
Note: Provide flap gates on pipes P-40 & P-35



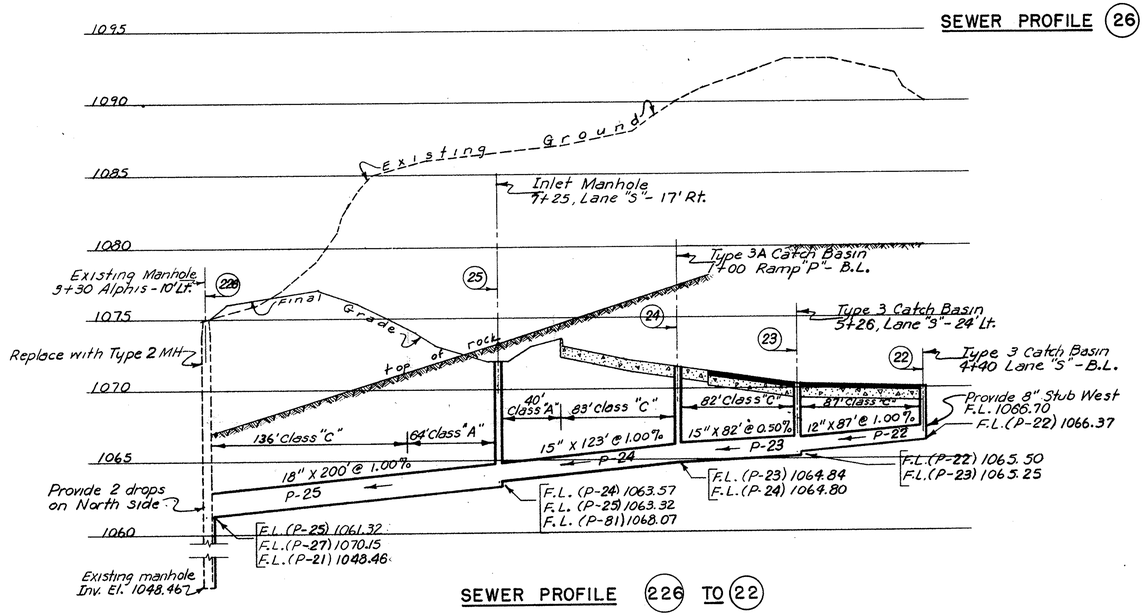
SEWER PROFILE (26) TO (25)



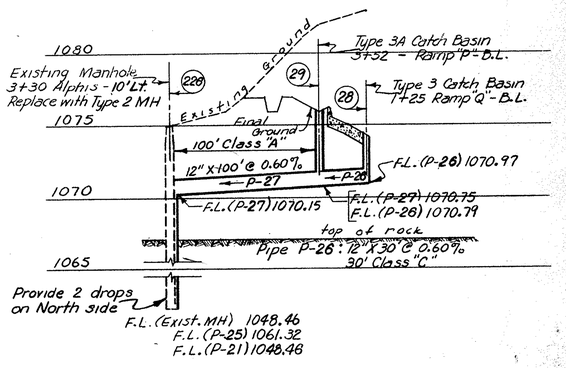
SEWER PROFILE (37) TO (243)



SEWER PROFILE (86) TO (34)



SEWER PROFILE (226) TO (22)



SEWER PROFILE (226) TO (28)

242

SCALE 1" = 50' Horz. 1" = 5' Vert.
MADE JVH DATE 6-29-54
TRCD JVH DATE 6-29-54
CKD RES DATE 8-20-54

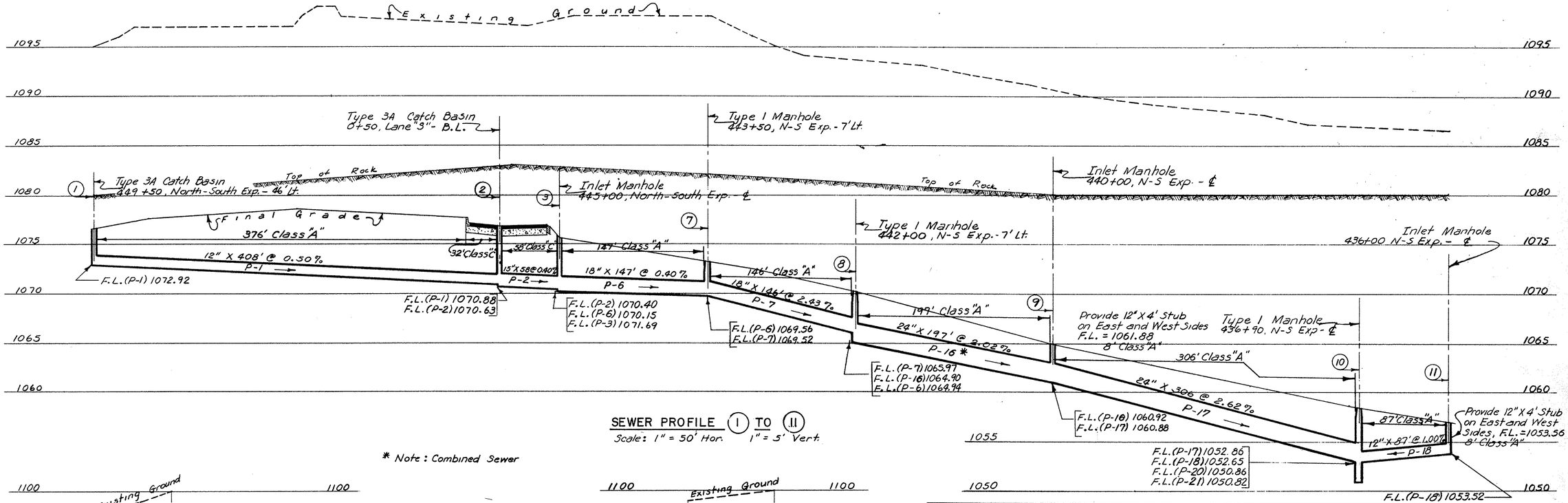
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY 901 NEW YORK.
SHEET 66

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

67
204

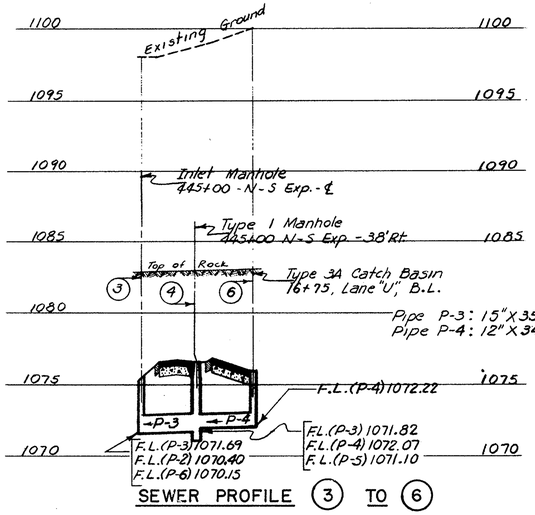
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6

SUM-18R-12.10
SEWER PROFILES

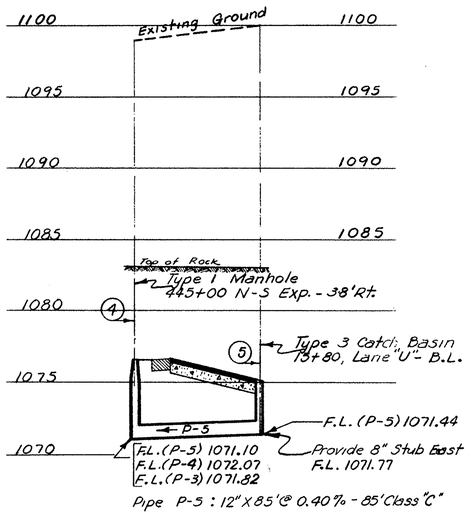


SEWER PROFILE (1) TO (11)
Scale: 1" = 50' Hor. 1" = 5' Vert.

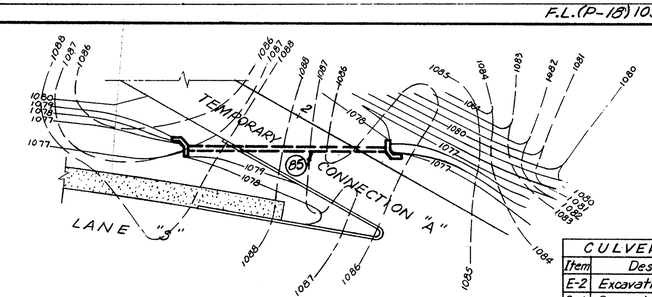
* Note : Combined Sewer



SEWER PROFILE (3) TO (6)
Scale: 1" = 50' Hor
1" = 5' Vert



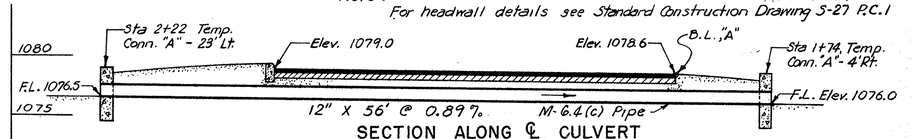
SEWER PROFILE (4) TO (5)
Scale : 1" = 50' Hor. 1" = 5' Vert.



PLAN
Scale : 1" = 20'

CULVERT QUANTITIES			
Item	Description	Unit	Quan.
E-2	Excavation for Structure	C.Y.	19
S-1	Concrete for Structure	C.Y.	22
S-4	Reinforcing Steel	LB.	60
S-27	12" Pipe for Rdwy. Culverts, Sec. M-6.4 (c)	Unit	56

Note :
For headwall details see Standard Construction Drawing S-27 P.C.1



SECTION ALONG ℄ CULVERT
Scale : 1" = 6'

CULVERT - TEMP. CONNECTION "A"

SCALE As Shown	HOWARD, NEEDLES, TAMMEN & BERGENDOFF
MADE JVH DATE 7-6-54	CONSULTING ENGINEERS
TRCD. JVH DATE 7-6-54	KANSAS CITY NEW YORK
CKD. RE-3 DATE 8-20-54	901 SHEET. 67

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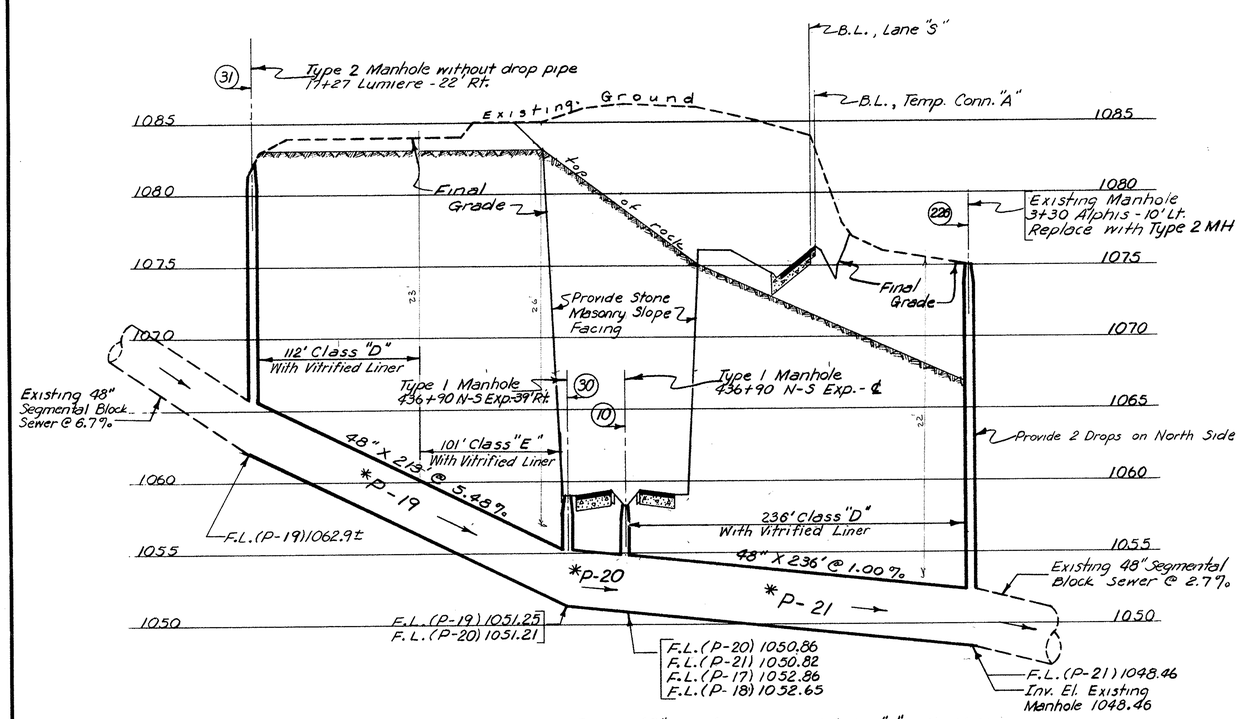
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

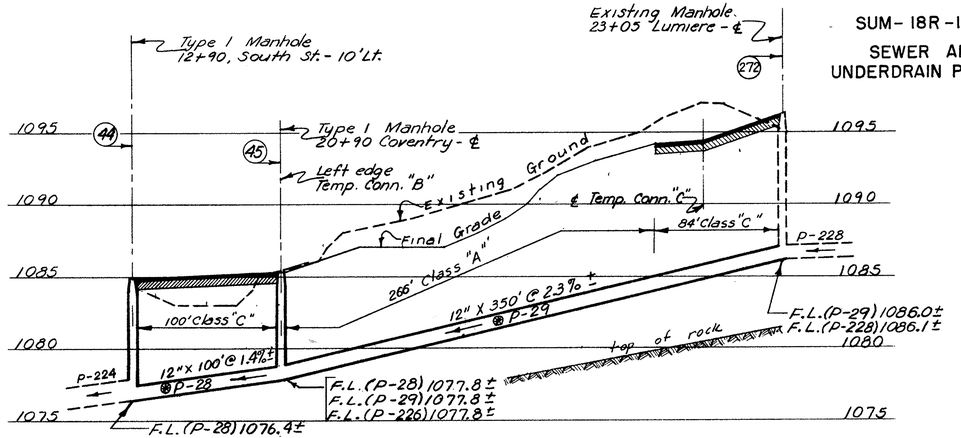
68
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
SEWER AND UNDERDRAIN PROFILES

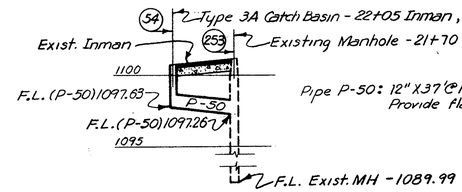


Pipe P-20: 48" X 35' @ 1.00% - 35' Class "D" with Vit. Liner

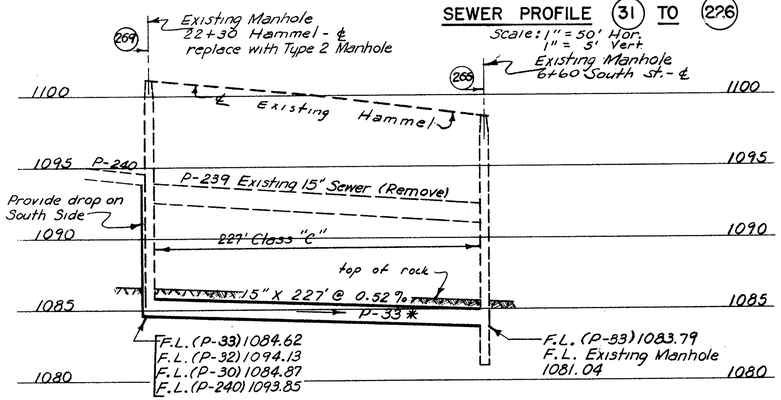
SEWER PROFILE (31) TO (272)
Scale: 1" = 50' Hor.
1" = 5' Vert.



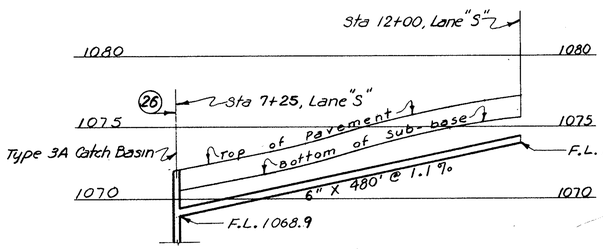
SEWER PROFILE (44) TO (272)
Scale: 1" = 50' Hor.
1" = 5' Vert.



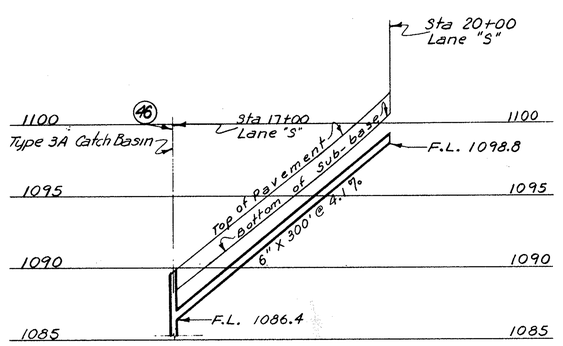
SEWER PROFILE (54) TO (253)
Scale: 1" = 50' Hor. and 1" = 5' Vert.



SEWER PROFILE (269) TO (265)
Scale: 1" = 50' Hor.
1" = 5' Vert.



*Note: Combined Sewers
⊗Note: Sanitary Sewers



UNDERDRAIN PROFILES - LANE "S"
Scale: 1" = 100' Hor.
1" = 5' Vert.

SCALE	As Shown
MADE	JVH DATE 7-9-54
TRCD.	JVH DATE 7-9-54
CKD.	RES DATE 8-19-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY 901 NEW YORK
SHEET 68

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FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

69
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10

GRADING PLAN
JOHNSTON STREET AREA

Note: For grading plan of adjacent area see grading plan "Miscellaneous Areas" Sheet number 71.

℄ WILSON STREET

℄ JOHNSTON STREET

Sta. 2+58.19 S" = Sta. 443+23.54 N.S. Exp."

RAMP "P"

Sta. 1+66.5 ± "P" = Sta. 6+72.5 ± "S"

LANE "S"

℄ NORTH-SOUTH EXPRESSWAY

LANE "U"

℄ NORTH SERVICE ROAD

LEGEND
Existing Contours
Finished Contours
Future Paving

SCALE	1" = 20'
MADE	H.H.B. DATE 7-16-54
TRCD	M.A.C. DATE 7-31-54
CKD.	C.R.E. DATE 8-10-54

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

901 SHEET- 69

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM 18R-12.10
GRADING PLAN
INMAN STREET AREA

℄ NORTH SERVICE ROAD ℄

Sta. 0+00 ℄ "N.S.R." =
Sta. 18+15.31 ℄ REL. INMAN ST.

Sta. 13+49.11 "E-2" =
Sta. 18+03.32 ℄ INMAN ST.

RAMP E-2

LANE "U"

Sta. 24+47.34 "U"
Sta. 25+26.62 W.B.E.

P.C.C. Sta. 0+00.00 "U"
= Sta. 27+65.00 W.B.E.

WESTBOUND EXPRESSWAY

EASTBOUND EXPRESSWAY

LANE "S"

Sta. 23+69.90 "S"
Sta. 24+08.51 E.B.E.

INMAN STREET

RAMP E-1

Sta. 7+33.01 "S.S.R." =
Sta. 20+80.00 ℄ INMAN ST.

Sta. 0+00.00 "E.1" =
Sta. 20+93.00 ℄ INMAN ST.

℄ SOUTH SERVICE ROAD ℄

P.I. Sta. 5+00.70 ℄ "S.S.R." =
Sta. 0+00.00 FIFTH AVENUE CONNECTION

℄ 5TH AVENUE CONNECTION ℄

Sta. 21+72.63 ℄ INMAN ST.
Sta. 2+11.62 ℄ 5TH AVE. CONN.

N

LEGEND

Existing Contours ——— ——— ———
Finished Contours ———

SCALE	1" = 20'
MADE	H.H.B. DATE 7-9-54
TRCD.	M.A.C. DATE 7-23-54
CKD.	C.R.E. DATE 8-10-54

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

901 SHEET 70

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10

GRADING PLAN
MISCELLANEOUS AREAS

RAMP "P"
RAMP "Q"
Sta. 1+12.07 "Q" = Sta. 3+49.41 "P"
Sta. 3+54.91 "P" End Pavement
For grading plan of adjacent area see grading plan "Johnston Street Area" sheet number 69.
Note: Slope steepened to 1 on 1½ because of right of way restriction.
Sta. 1+65.5 Temp. Conn. "A" = Sta. 10+07.5 "S"
LANE "S"
℄ FUTURE NORTH-SOUTH EXPRESSWAY
TEMPORARY CONNECTION "A"
℄ TEMPORARY CONNECTION "B"
℄ COVENTRY ST.
℄ SOUTH STREET
Sta. 3+65.82 Temp. Conn. "A" = Sta. 13+60.27 ℄ South St.
Sta. 13+85.27 South St.-End Temp. Pavement

LEGEND
Existing Contours
Finished Contours

RAMP "R"
Sta. 8+68.28 "R" = Sta. 9+63.45 "U" End of Pavement
LANE "U"
Sta. 3+63.0 "V" = Sta. 11+31.0 "U"
RAMP "V"
Sta. 8+85.5 "N.S.R." = Sta. 1+59.0 "V"
℄ NORTH SERVICE ROAD

RAMP "E-2"
Sta. 4+68.0 "E-2" = Sta. 558+90.0 "E.W. Exp."
WESTBOUND EXPRESSWAY
EASTBOUND EXPRESSWAY
RAMP "E-1"
Sta. 10+15.0 "E-1" = Sta. 559+15.5 "E.W. Exp."

SCALE: 1" = 20'
MADE H.H.B. DATE 7-19-54
TRCD M.A.C. DATE 8-5-54
CKD. C.R.E. DATE 8-10-54

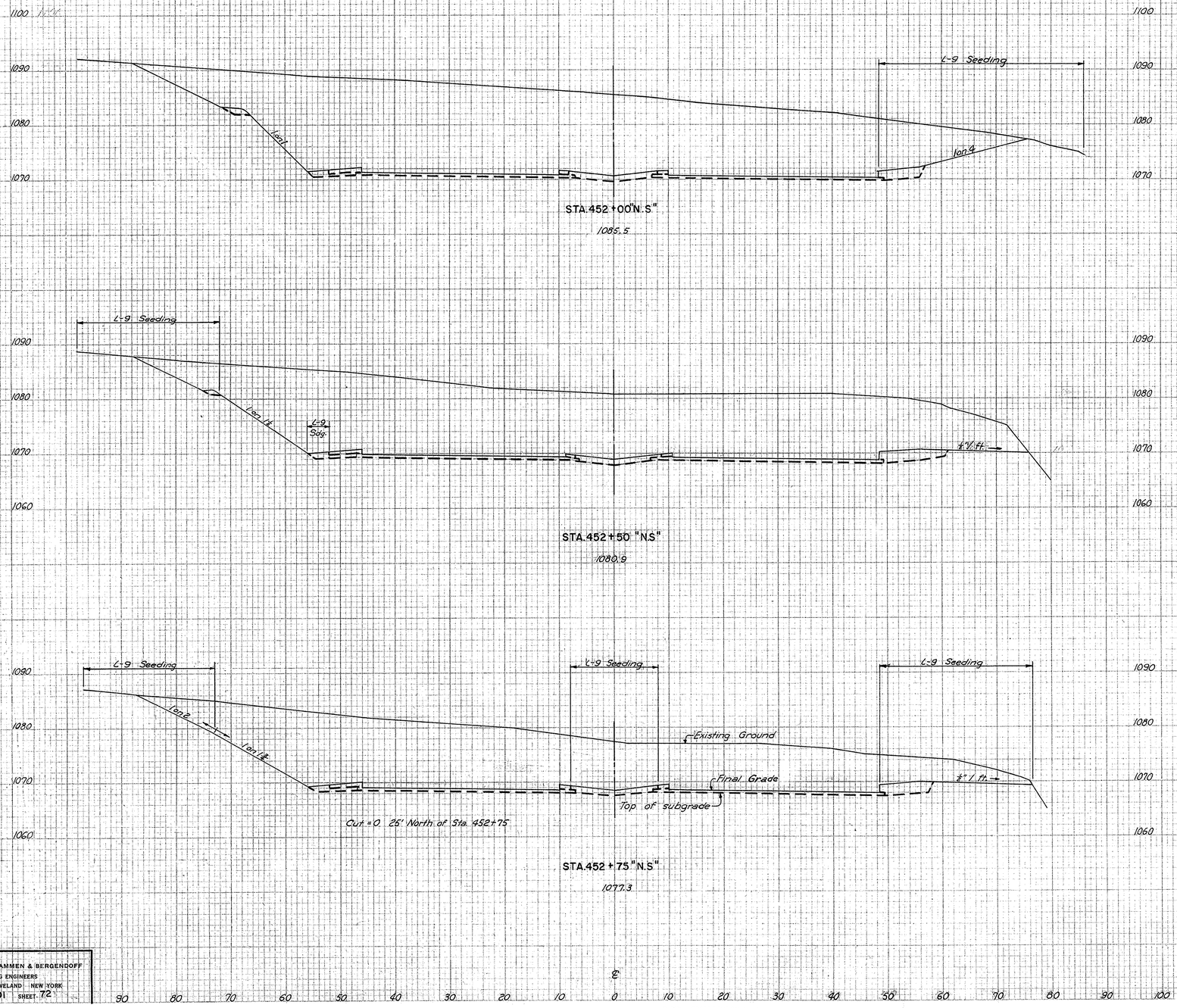
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET- 71

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

72
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6

SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L. F.	SQ.YD.	S. F.	C.Y.	EXC.	EMB.	EXC.	EMB.
91		42		2021	47		
	458		78			3580	97
74		42		1845	58		
	207		39			1535	55
75		42		1470	60		
	208		39			691	28

NOTE:
TO FACILITATE ORIENTATION CROSS SECTIONS BEGIN AT STA. 453+00, NORTH-SOUTH EXPRESSWAY, CARRY THROUGH THE INTERCHANGE AREA, THENCE CONTINUE EASTWARD TO THE END OF PRESENT CONSTRUCTION. OF NECESSITY, SOME SECTIONS AS SHOWN WILL NOT CONFORM TO NORMAL PROCEDURE AND WILL BE ADVERSE TO STATIONING, HOWEVER THE MAJORITY WILL HAVE PROGRESSIVE STATIONING.

STA. 452+75 N.S EXP. TO STA. 452+00 N-S EXP.

SCALE 1" = 10'
MADE J.B.P. DATE 6-2-54
TRCD B.J.C. DATE 6-13-54
CKD. M.E.G. DATE 6-3-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 72

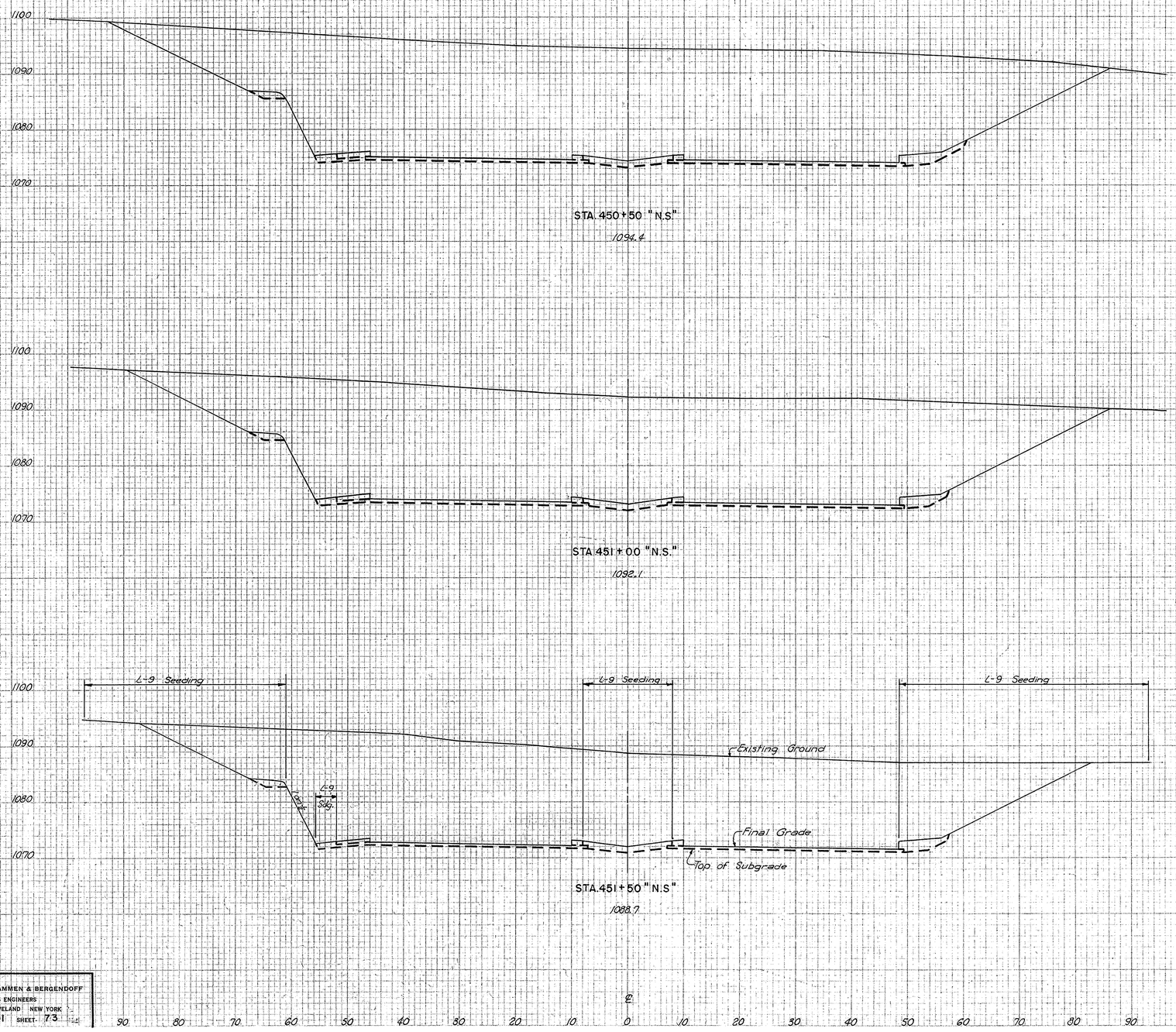
PLATE 8 CROSS SECTION A.P.A. & A.R.E. STANDARD
KENNELL & ELLERBE, NEW YORK

ORIGINAL SURVEY NOTE BOOK

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

73
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART
SUM-18 R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.Y.D.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
114		42		2960	47		
	625		78			5324	88
111		42		2790	48		
	605		78			4935	92
107		42		2432	51		
	550		78			4123	91

SCALE 1" = 10'
MADE J.B.P. DATE 6-2-54
TRCD B.J.C. DATE 6-13-54
CKD. T.G.H. DATE 6-3-54

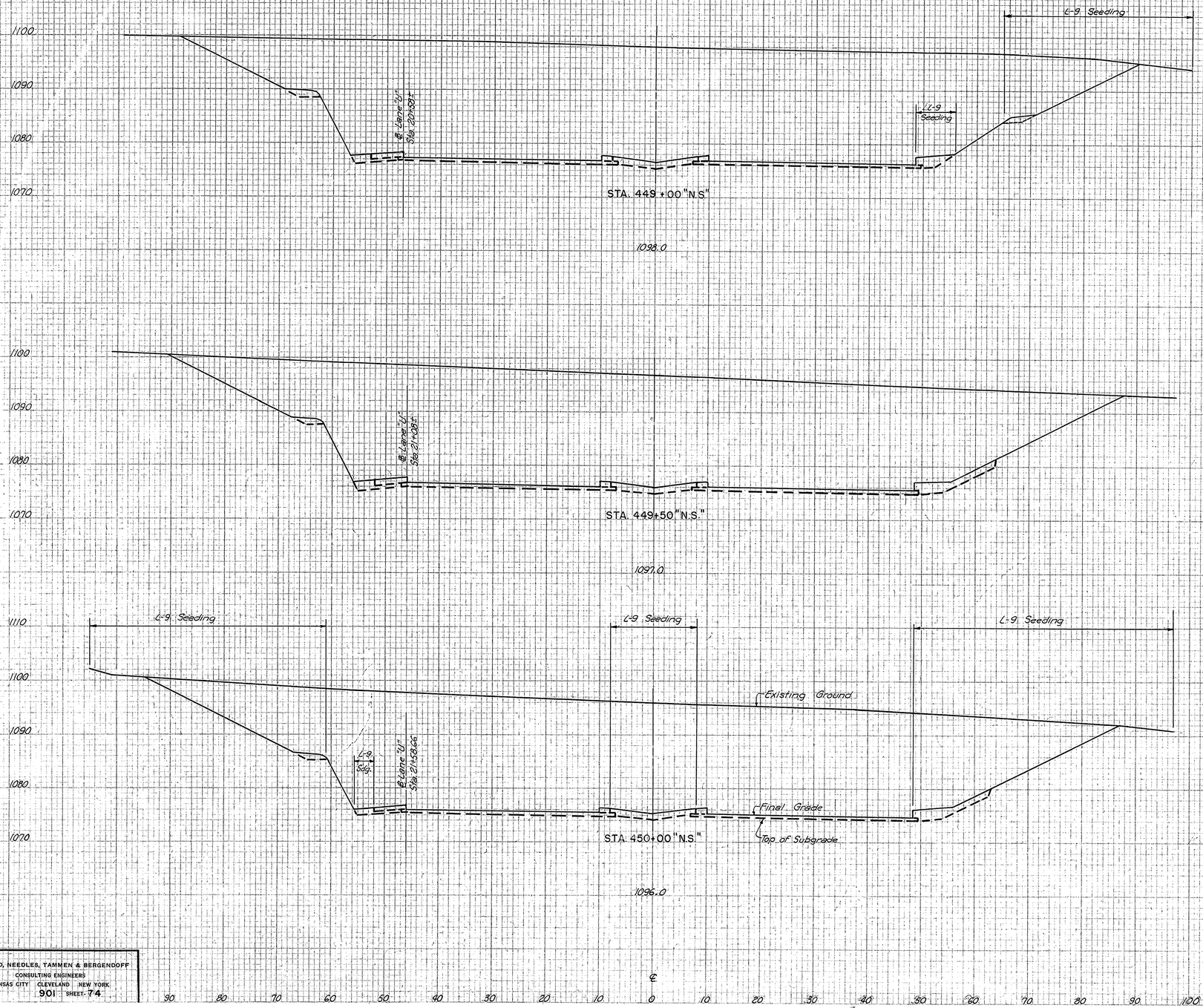
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 73

STA.451+50 "N.S" EXP. TO STA.450+50 N-S EXP.

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

74
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18 R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH AREA		AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
100		42		3100	46		
	600		78			5693	86
116		92		3048	49		
	650		78			5660	94
118		92		3065	53		
	644		78			5579	93

SCALE	1" = 10'	HOWARD, NEEDLES, TAMMEN & BERGENDOFF
MADE	J.B.P. DATE 6-2-54	CONSULTING ENGINEERS
TRCD.	D.L.F. DATE 6-12-54	KANSAS CITY CLEVELAND NEW YORK
CKD.	T.G.H. DATE 6-4-54	901 SHEET 74

STA. 450+00 N-S EXP. TO STA. 449+00 N-S EXP.

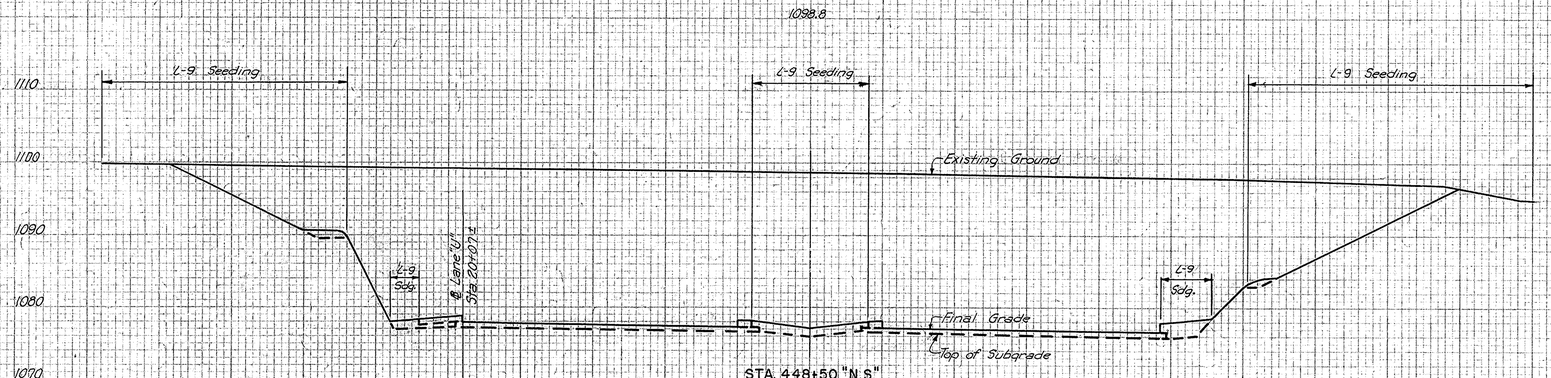
ORIGINAL SURVEY NOT RECORDED
FINAL SURVEY NOT RECORDED
PLATE 1 CROSS SECTION - U.S.B.R. STANDARD

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

75
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L. F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
96		45		3015	50		
	542		82			5649	93
99		44		3085	50		
	561		80			5725	93
103		42		3098	50		
	564		78			5739	89

SCALE 1" = 10'
MADE DD DATE 6-3-54
TRCD. O.L.K. DATE 6-12-54
CKD. MEG DATE 6-3-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 75

PLATE 3 CROSS SECTIONS O.P.W.A.R.E. STANDARD
CURVES & CROSS SLOPES

STA. 448 + 50 N-S EXP. TO STA. 447 + 50 N-S EXP.

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

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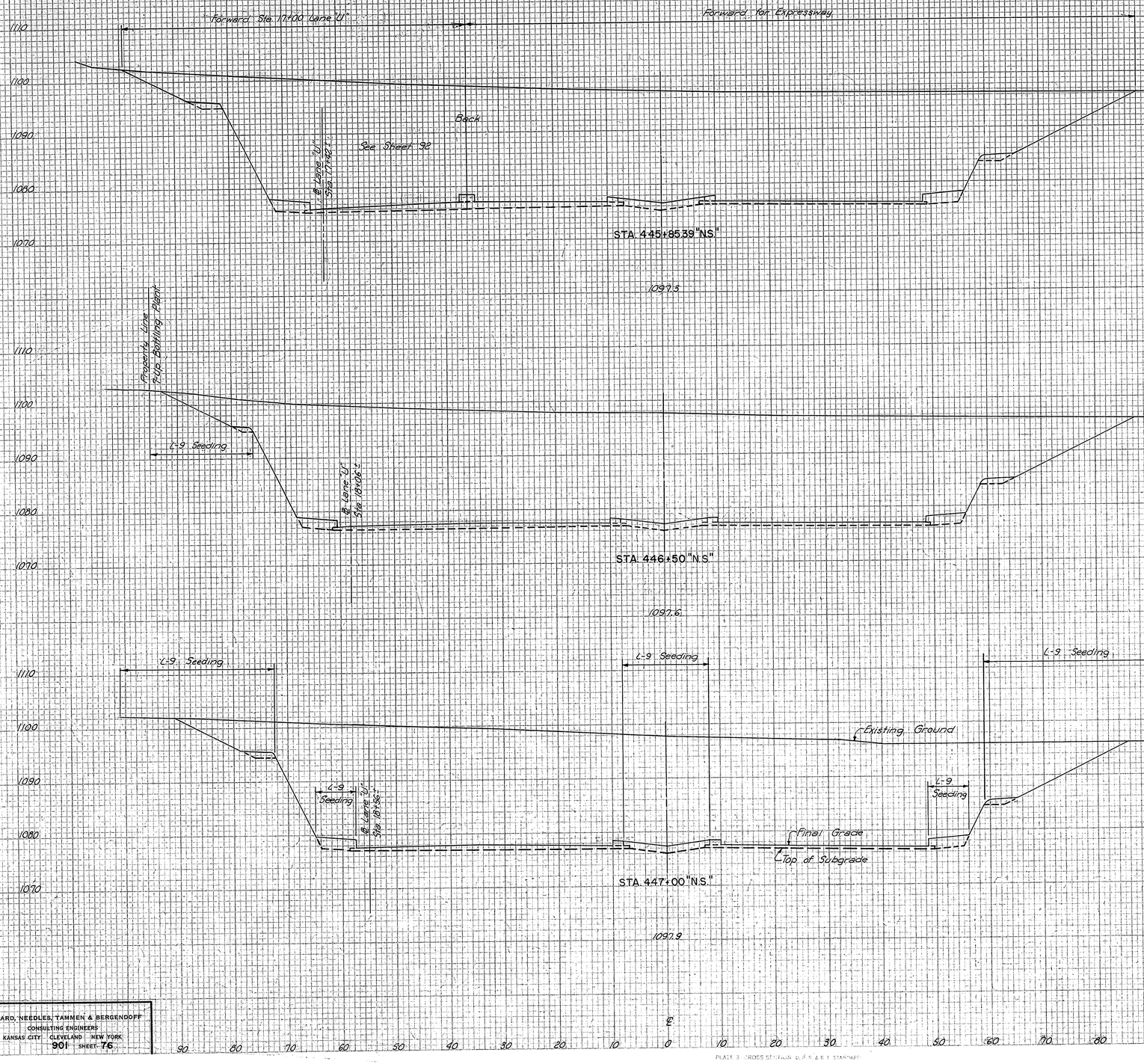
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
STA. 445+85.39"N.S."							
Forward	65		36	2297	40		
Back	104		52	3362	60		
	732		121			97111	139
	100		49	3083	56		
	547		89			5674	106
	97		47	3044	59		
	536		85			5610	101

STA. 447+00 N-S EXP. TO STA. 445+85.39 N-S EXP.

SCALE 1" = 10'
MADE J.B.P. DATE 6-3-54
TRCD J.H.B. DATE 6-13-54
CKD. T.G.H. DATE 6-4-54

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

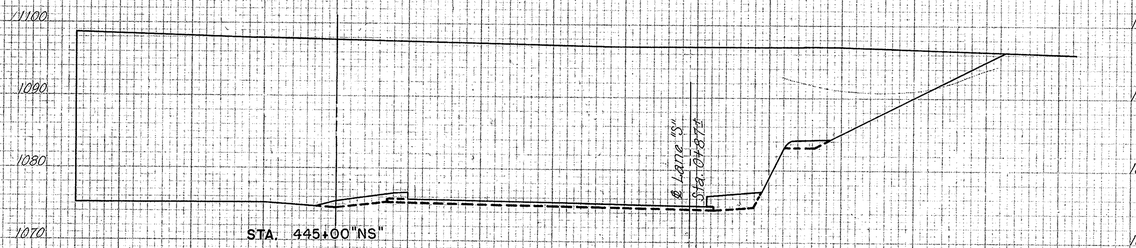
901 SHEET 76

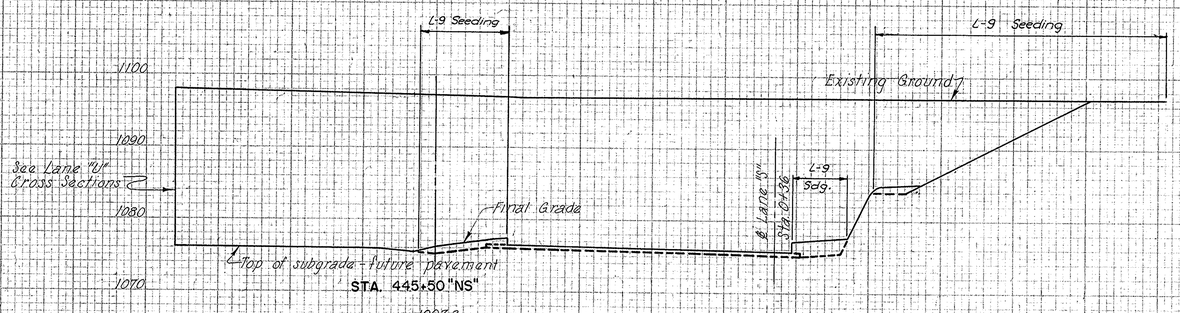
PLATE 3 CROSS SECTION U.S.B.P.R. STANDARD

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

77
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS





SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
62		25		2775	27		
	344		44			4861	52
62		23		2475	29		
	344		42			4432	56
62		22		2312	31		
	250		38			3021	47

SCALE 1"=10'
MADE VAP DATE 6-7-54
TRCD GUR DATE 8-3-54
CKD JPB DATE 8-2-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 77

STA. 445+50 N-S EXP. STA.444+50 N-S EXP.

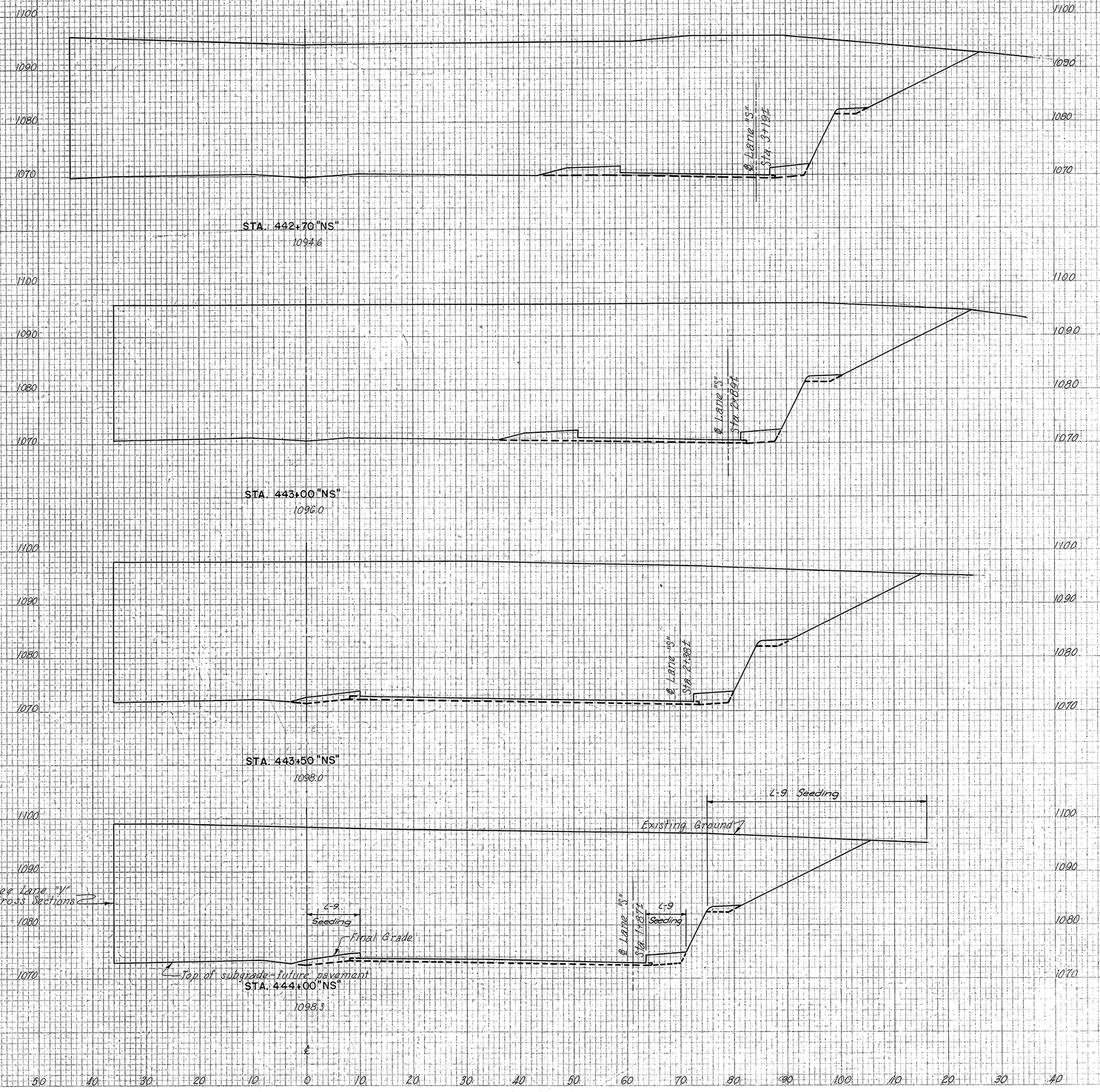
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

78
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART

SUM-18R-12.10
CROSS SECTIONS



	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L. F.	SQ.YD.	S. F.	C.Y.	EXC.	EMB.	EXC.	EMB.
STA.442+70"N-S"	62		16		3853	37		
		217		18			4126	41
	68		16		3573	37		
		366		45			6473	69
	64		33		3918	37		
		361		57			5968	64
	66		29		3027	32		
		356		50			5372	55

STA. 444+00 N-S EXP. TO STA. 442+70 N-S EXP.

SCALE 1"=10"
MADE JBP DATE 6-7-54
TRCD. BJR DATE 8-3-54
CKD. TBM DATE 7-28-54

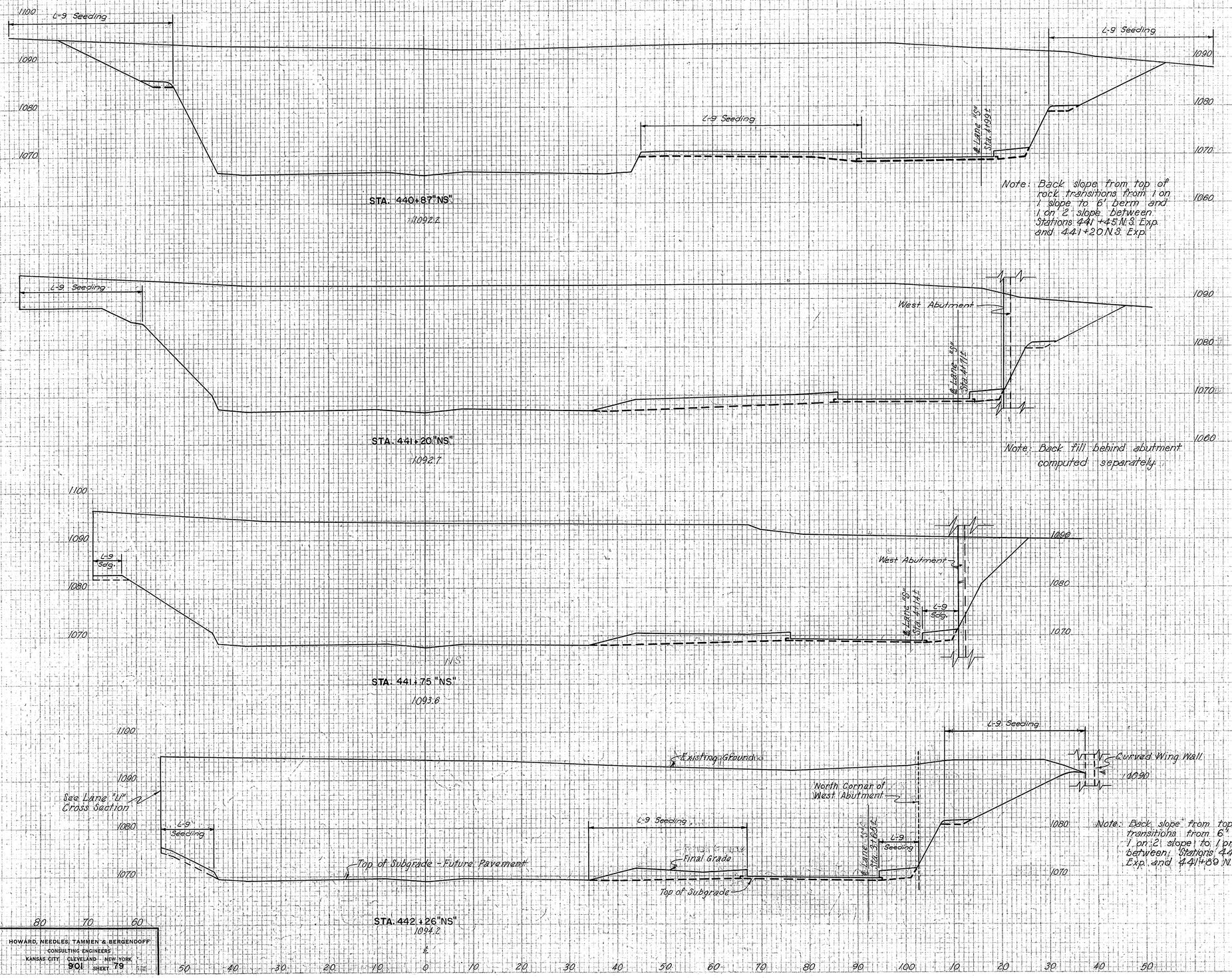
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 78

PLATE 9 CROSS SECTION O.P.R.&B.E. STANDARD
KEUFFEL & ESSER CO. NEW YORK

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

79
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS



	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END	AREA	VOLUME	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
STA. 440+87	125		15		4807	65		
		389		18			5898	107
STA. 441+20	87		15		4845	110		
		437		31			3406	188
							0	445
STA. 441+75	56		15		4390	75		
		389		28			8016	132
STA. 442+26	85		15		4098	65		
		399		25			6478	83

SCALE 1"=10'
MADE IBP DATE 6-11-54
TRCD BJR DATE 8-3-54
CKD TMB HHB DATE 7-28-54

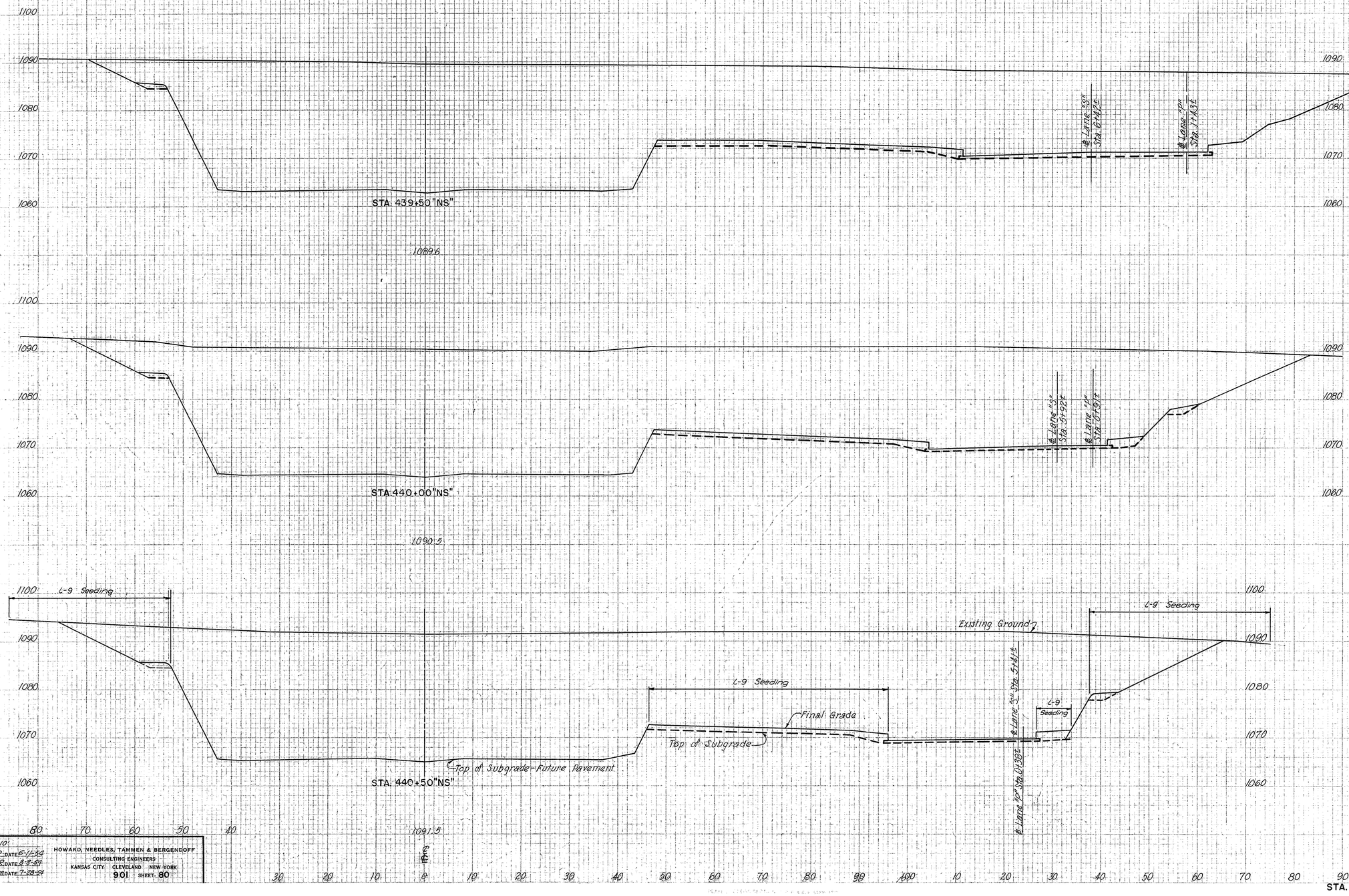
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 79

PLATE 3 CROSS SECTION SURFACE STANDARD

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

80
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18 R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
135		27		4954	70		
	758		43			9198	153
138		19		4980	95		
	753		32			9100	160
133		16		4848	78		
	530		21			6615	98

SCALE	1"=10'
MADE	J.B.P. DATE 6-1-54
TRCD.	S.J.R. DATE 6-3-54
CKD.	T.M.B. DATE 7-28-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 80

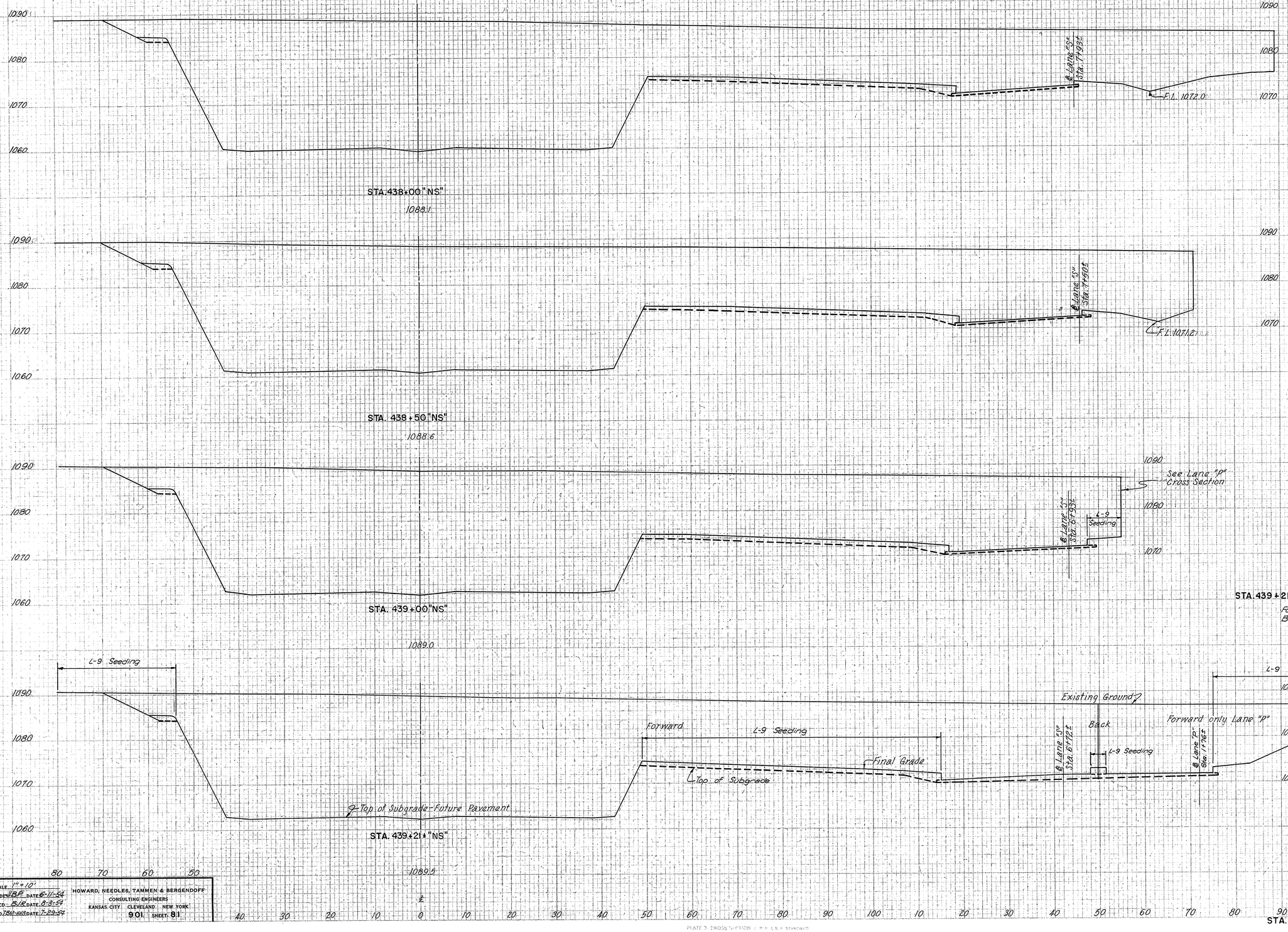
STA. 440+50 N-S EXP. TO STA. 439+50 N-S EXP.

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

81
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
138		14		4620	30		
	725		27			8555	160
123		15		4620	83		
	622		30			8298	152
101		17		4341	81		
	208		14			3394	59
STA. 439+21± "N-S"							
Forward	77		18		4383	70	
Back	127		31		5080	70	
	422		31			5388	75

STA. 439+21± N-S EXP. TO STA. 438+00 N-S EXP.

SCALE	1" = 10'		
MADE	JBP DATE 6-11-54	HOWARD, NEEDLES, TAMMEN & BERGENDOFF	
TRCD	BJE DATE 8-3-54	CONSULTING ENGINEERS	
CKD	TBH-WB DATE 7-29-54	KANSAS CITY CLEVELAND NEW YORK	
		9.01 SHEET 81	

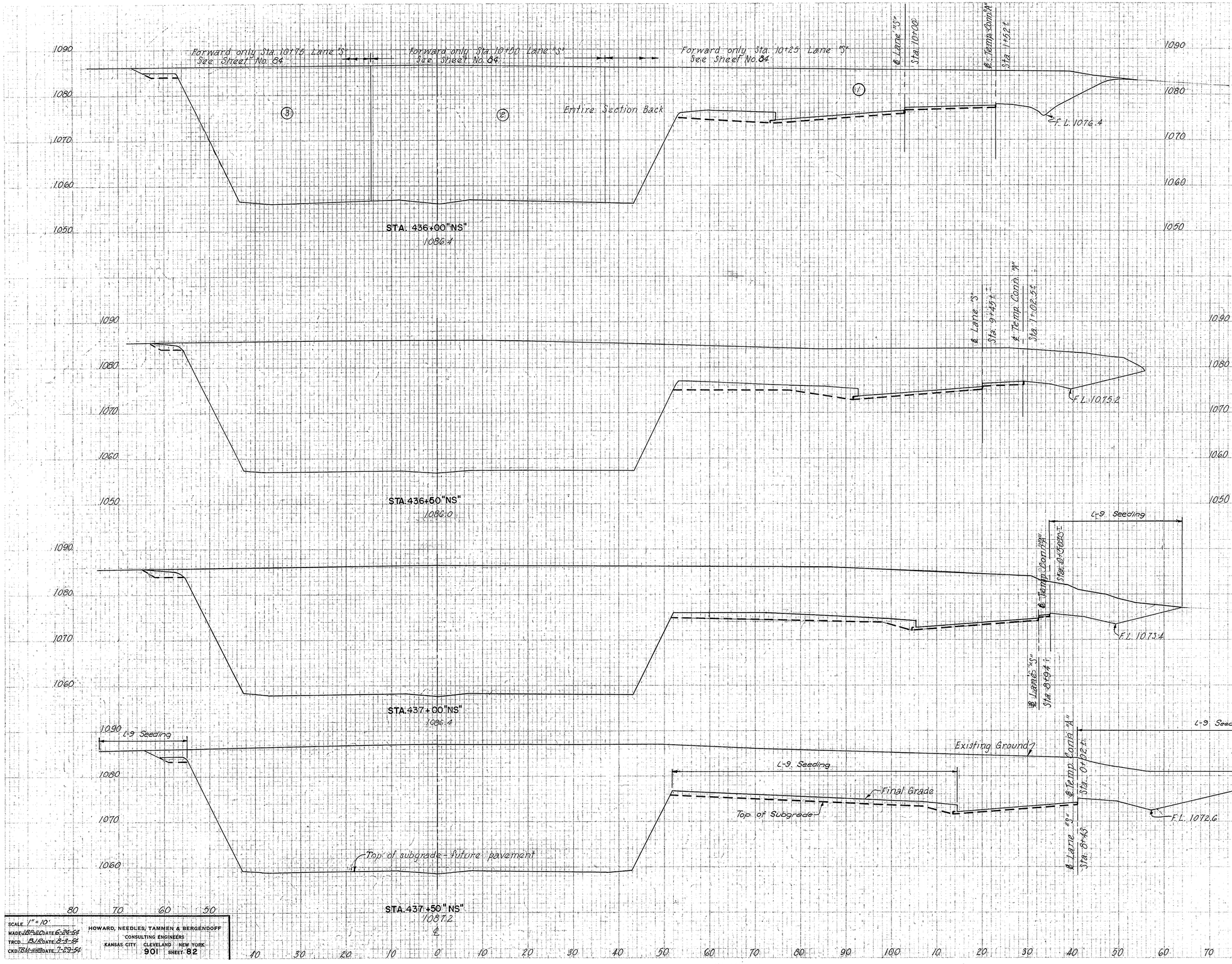
PLATE 3 CROSS SECTION U.P.P.A.R.E. STANDARD
SPLITTORF-CASTENSON, NEW YORK

ORIGINAL SURVEY NOTE IN MY

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

82
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS



	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
STA. 436+00 "N.S"								
Forward ③	19		0		1100	5		
Forward ②	0		0		1556	0		
Forward ①	63		25		1280	49		
Back	82		25		3936	54		
		489		41			7189	119
	94		19		3828	75		
		583		31			7193	153
	106		15		3940	90		
		739		27			7537	156
	150		14		4200	78		
		800		26			8167	156

SCALE 1" = 10'
MADE JAF/LC DATE 6-28-54
TRCD RJ/CO DATE 8-3-54
CKD TBH/HH DATE 7-29-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 82

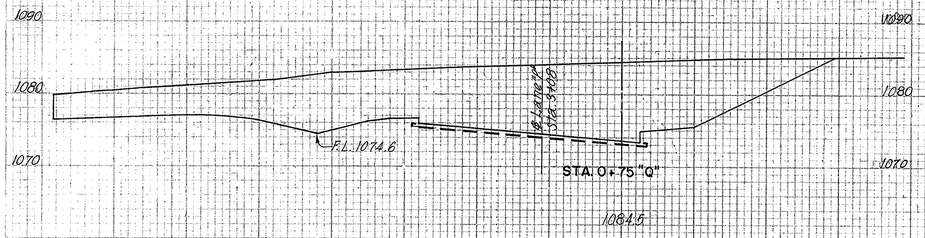
STA. 437+50 N-S EXP TO STA. 436+00 N-S EXP

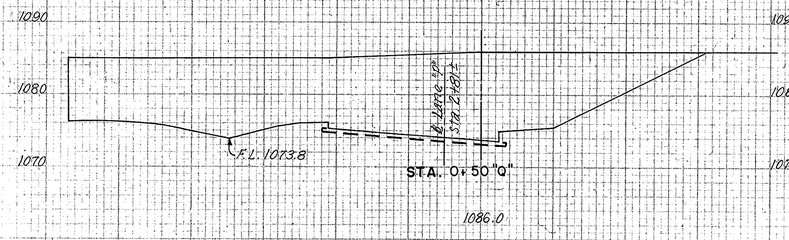
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

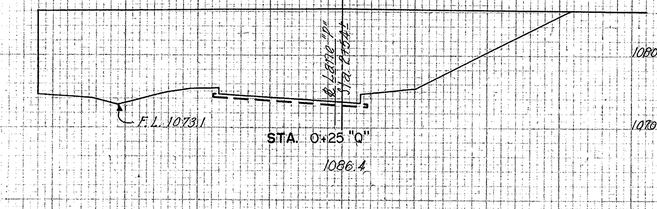
83
204

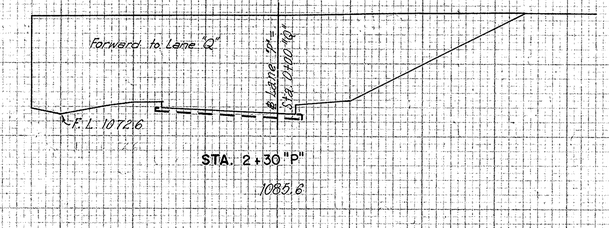
SUMMIT COUNTY
CITY OF AKRON

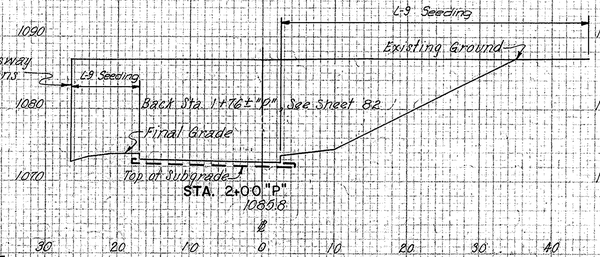
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18 R-12.10
CROSS SECTIONS

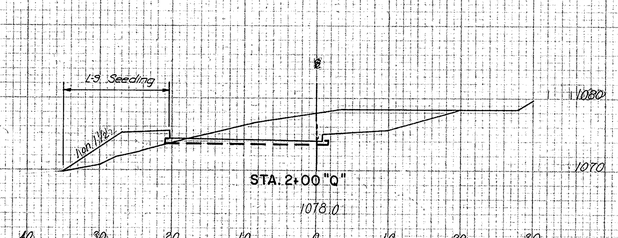


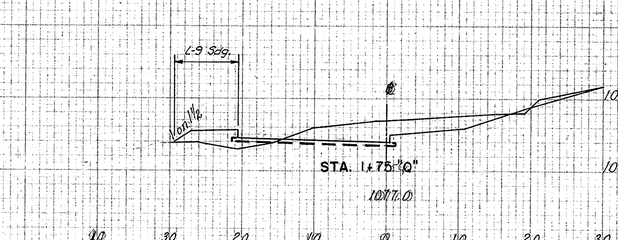


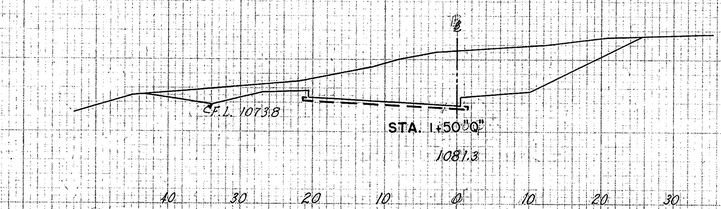


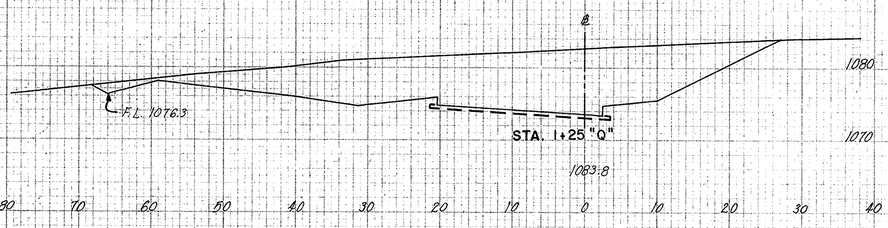


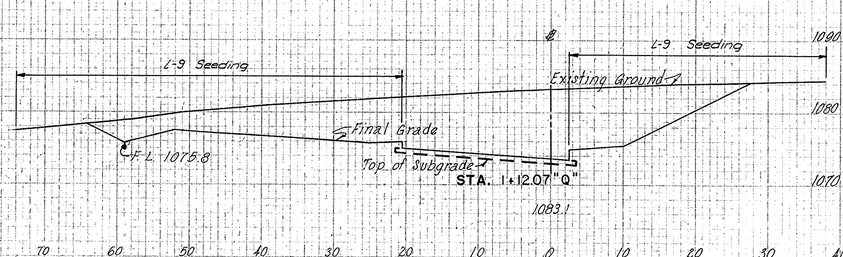


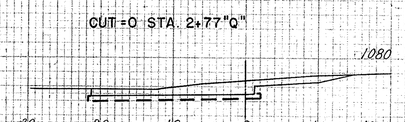


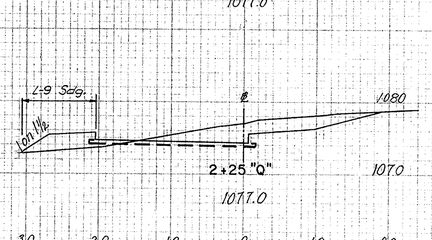












Note: Back Slope = 1 on 1½ for Sta. 1+75, Sta. 2+00 and Sta. 2+25 to miss property line of lot (6A), #271.

SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
	3		6			31	0
20		12		61	0		
	83		11			55	12
40		12		58	25		
	120		11			74	27
46		12		102	33		
	133		11			78	25
50		12		67	22		
	180		11			160	10
74		12		270	0		
	241		12			354	0
100		13		487	0		
	139		6			241	0
92		13		520	0		
	375		21			859	0
90		12		730	0		
	233		14			721	0
78		13		828	0		
	201		11			732	0
67		11		752	0		
	179		10			684	0
62		10		725	0		
	197		11			779	0
56		10		677	0		
	141		10			608	0

STA. 2+00 "P" TO STA. 2+30 "P" = 0+00 "Q" TO STA. 2+50 "Q"

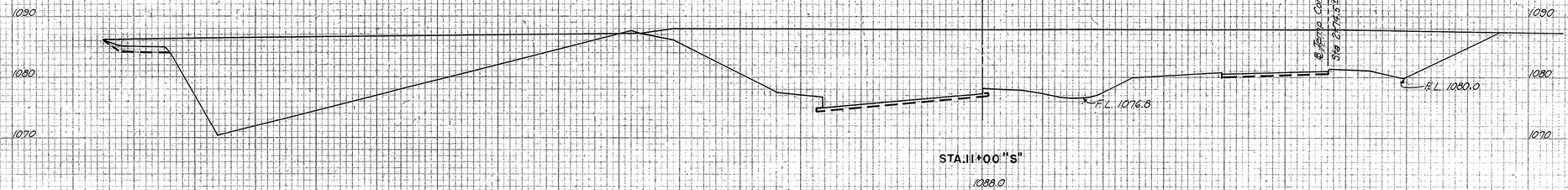
SCALE 1" = 10'
MADE VBP DATE 6-12-54
TRCD BJR DATE 8-3-54
CKD TEM-HHB DATE 7-29-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY | CLEVELAND | NEW YORK
901 SHEET 83

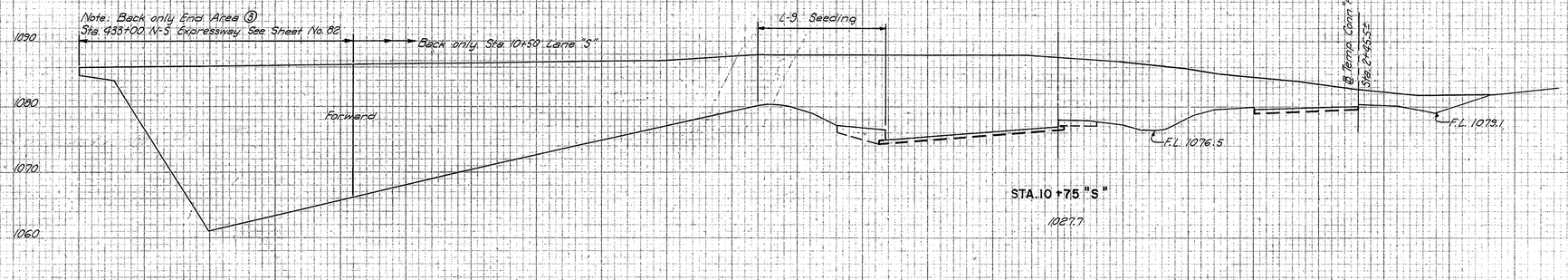
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

84
204

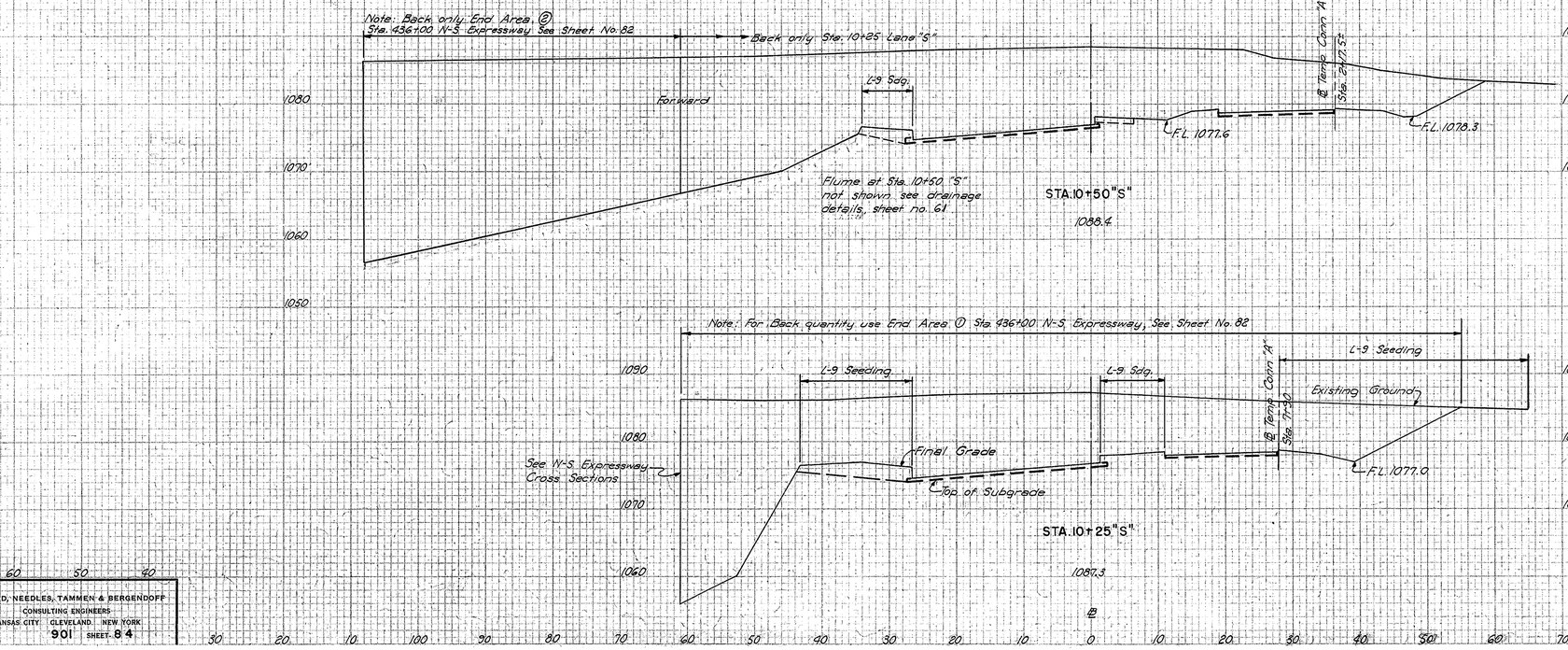
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART
SUM-18R-12.10
CROSS SECTIONS



STA. 11+00 "S"
1088.0



STA. 10+75 "S"
1087.7



STA. 10+50 "S"
1088.4

STA. 10+25 "S"
1087.3

	SEEDING		SUBBASE		EARTHWORK			
	WIDTH L.F.	AREA SQ.YD.	AREA S.F.	VOL. C.Y.	END AREA EXC.	END AREA EMB.	VOLUME EXC.	VOLUME EMB.
STA. 11+00 "S"								
Forward	126		23		1515	10		
		285		21			1390	2
STA. 10+75 "S"								
Forward	79		23		2483	10		
Back	73		23		1760	10		
Back ②	6		0		723	0		
		175		21			1999	9
		35		0			844	2
STA. 10+50 "S"								
Forward	53		23		2558	10		
From Sheet 82 - Forward ③	19		0		1100	5		
Back	53		23		1394	10		
Back ②	0		0		1164	0		
		165		22			1266	19
		0		0			1259	0
STA. 10+25 "S"								
Forward	66		24		1380	30		
From Sheet 82 - Forward ②	0		0		1556	0		
Back	66		24		1340	30		
		179		23			1213	37

SCALE 1" = 10'
MADE J.B.P. DATE 6-23-54
TRCD. B.J.C. DATE 8-13-54
CKD. J.L.C. DATE 8-5-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 84

STA. 10+25 "S" TO STA. 11+00 "S"

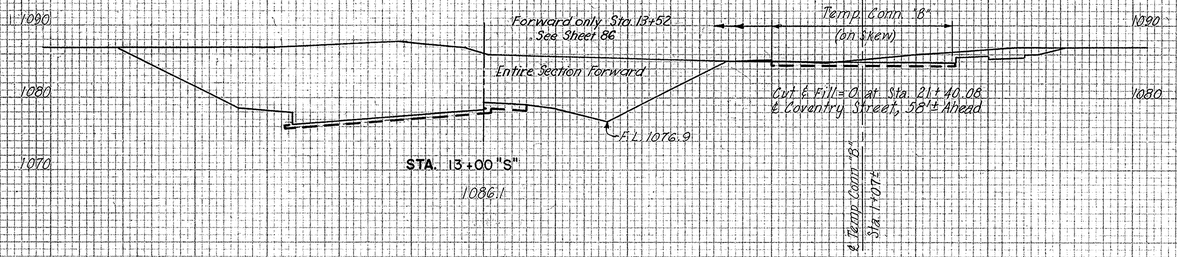
PLATE 3 - CROSS SECTION (4 P.V.R. & R.L.) STANDARD
KEUFFEL & ESSER CO. NEW YORK

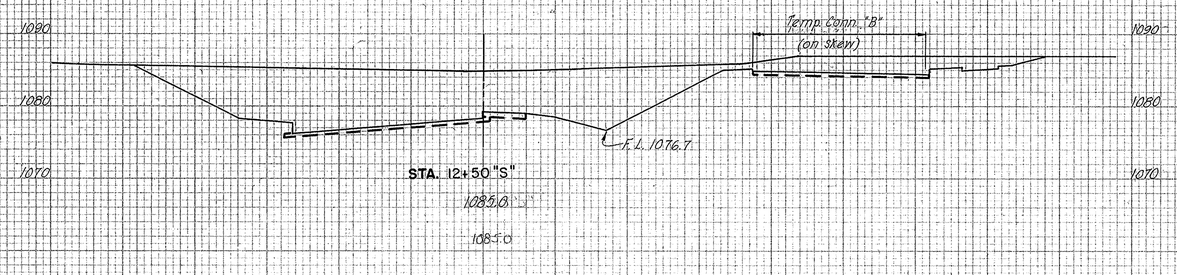
ORIGINAL SURVEY
NOTE WORK NO

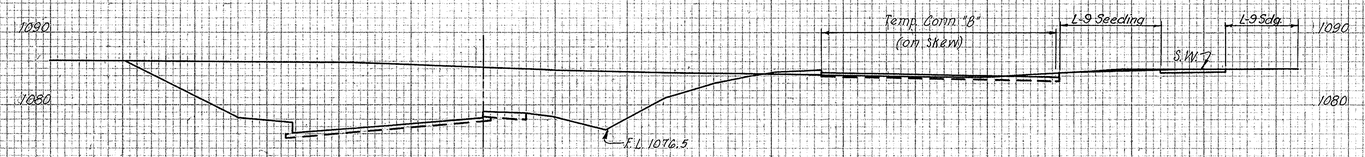
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

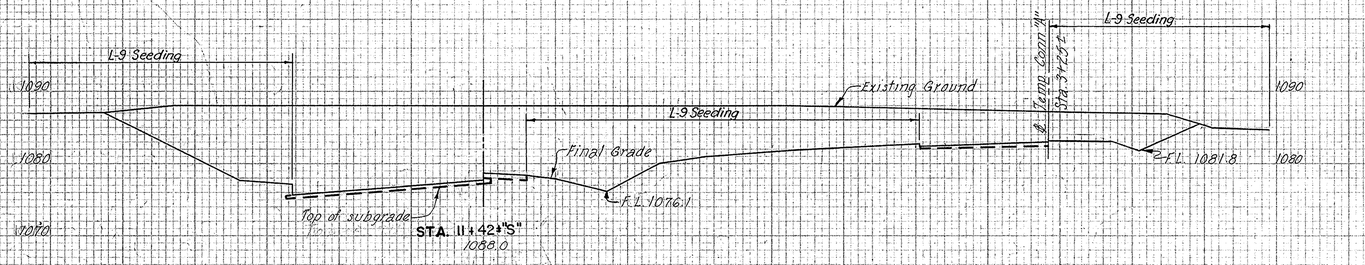
85
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS









	SEEDING		SUBBASE		EARTHWORK			
	WIDT	REA	AREA	VOL.	END	AREA	VOLUME	
	L.F.	SQ.YD	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
		129		28			40	0
	94		27		665	0		
		514		50			1189	0
	91		27		619	0		
		550		54			1101	6
	107		31		570	6		
		748		58			1847	6
STA. 11+42 "S"	125		23		1150	0		
		586		20			2306	8

SCALE 1"=10'-0"
MADE JBC/JLC DATE 6-24-54
TRCD DJR DATE 6-25-54
CKD HHB/TMH DATE 7-30-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 8.5

STA. 11+42±"S" TO STA. 13+00 "S"

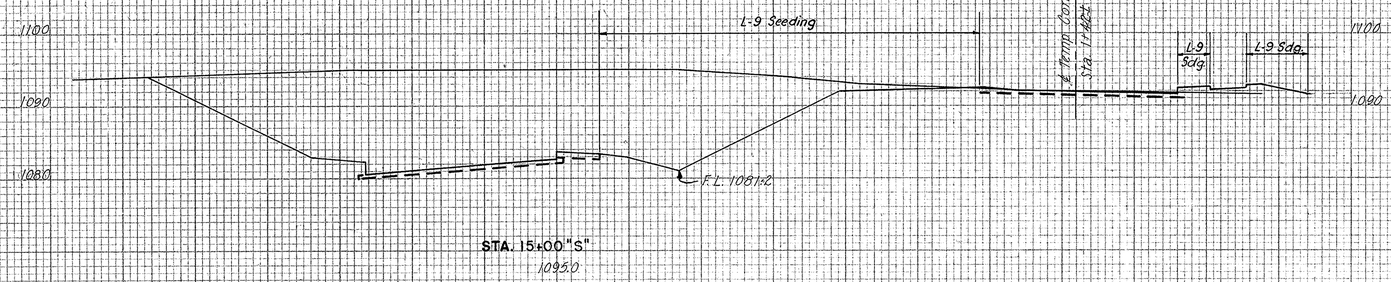
PLATE 3 CROSS SECTION O.P.R.&R.E. STANDARD
KEUFFEL & ESSER CO. NEW YORK

FINAL SURVEY
NOTE WHEN "AS BUILT" DATA IS AVAILABLE
ORIGINAL SURVEY
NOTE WHEN "AS BUILT" DATA IS AVAILABLE

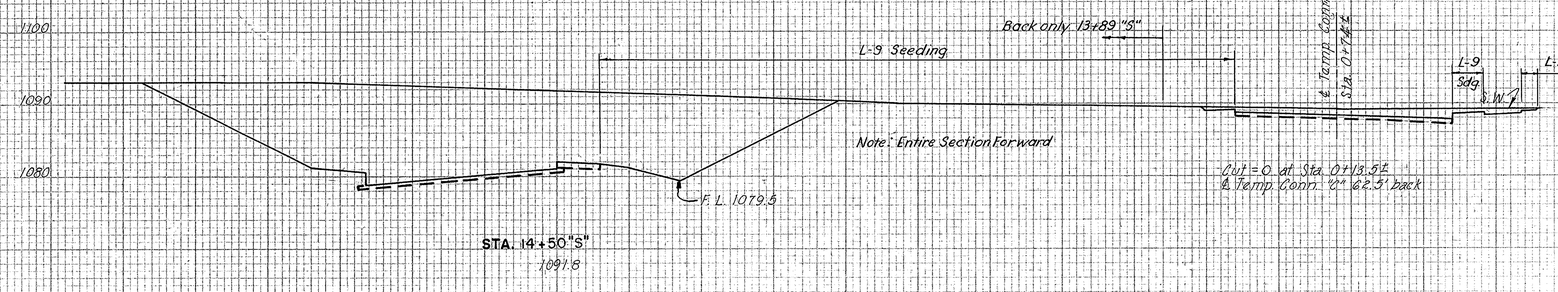
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

86
204

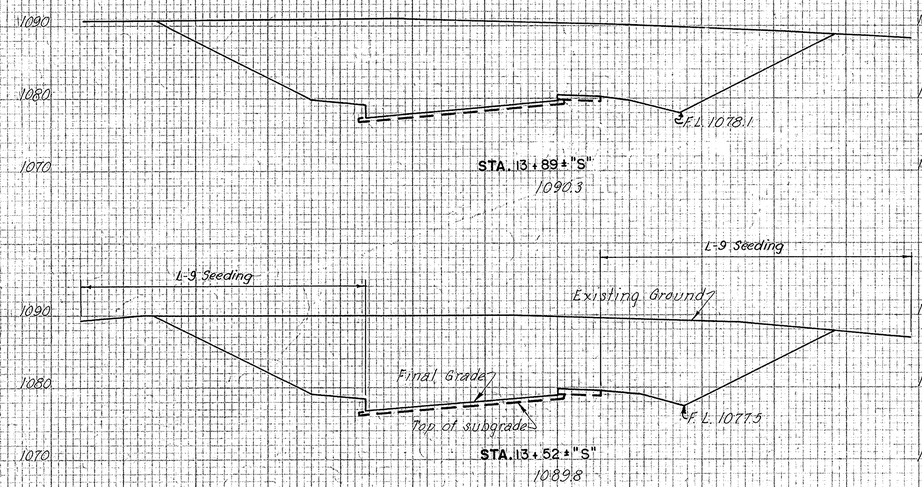
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18 R-12.10
CROSS SECTIONS



STA. 15+00 "S"
1095.0



STA. 14+50 "S"
1091.8



STA. 13+89 ± "S"
1090.3

STA. 13+52 ± "S"
1089.8

℄

	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
	117		28		1030	19		
		625		54			1824	18
1080 STA.14+50"S" Forward	108		30		940	0		
Back	91		15		900	0		
		607		33			1999	0
	118		35				46	0
STA.13+89"S"	88		14		870	0		
		362		19			1179	0
STA.13+52"S"	88		14		850	0		
		468		27			1423	0

STA. 13+52 ± "S" TO STA. 15+00 "S"

SCALE 1"=10'-0"
MADE JBP DATE 6-24-54
TRCD. DJR DATE 8-5-54
CKD. HHB/TRH DATE 7-30-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 86

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

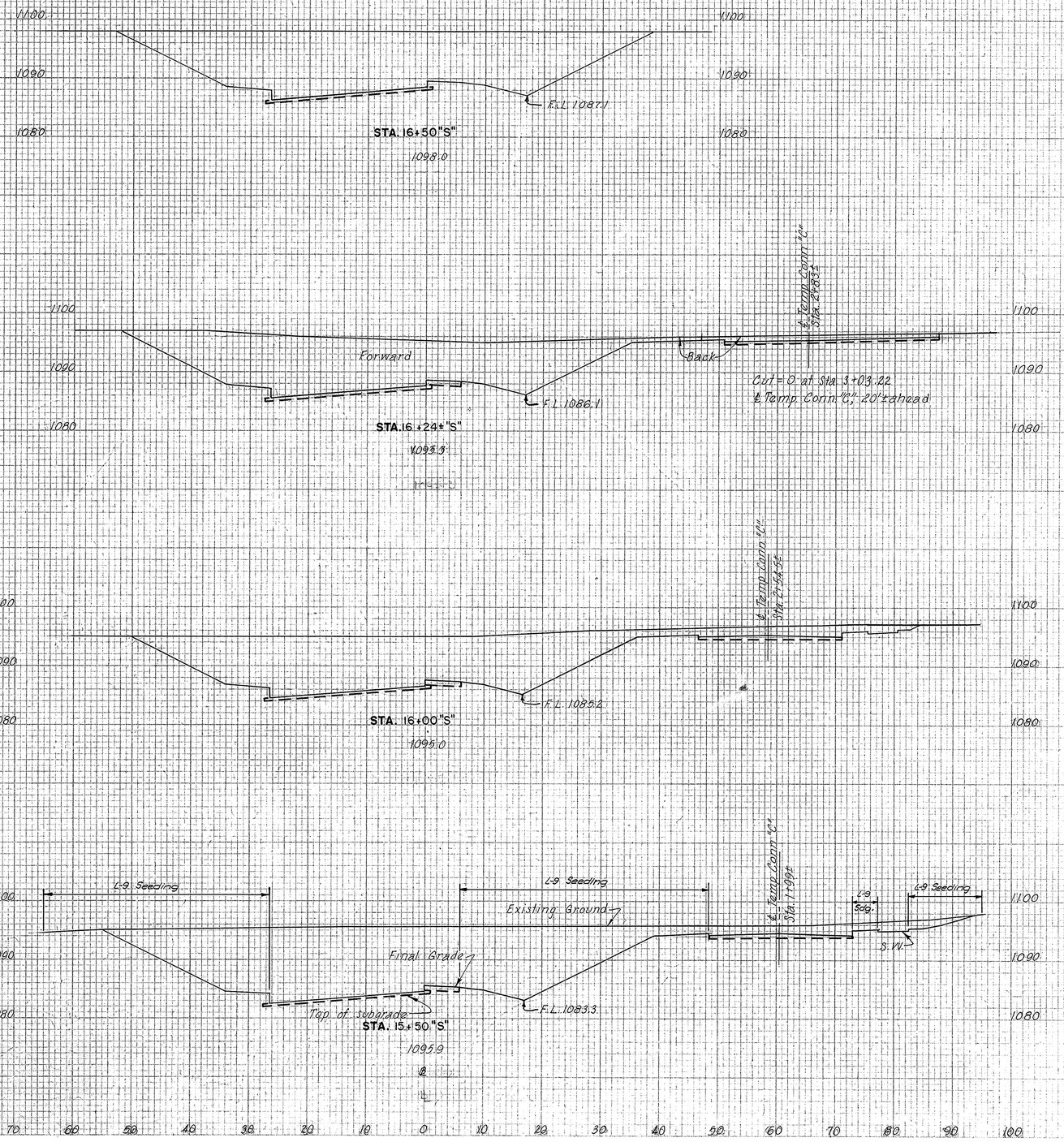
* ATE 7 CROSS SECTION O N R & R.E. STANDARD

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

87
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
92		14		754	0		
	253		13			676	0
	31		11			19	0
STA. 16+24"S"							
Forward	83		14		650	0	
Back	97		33		700	0	
	260		27			696	0
98		27		753	0		
	589		50			1600	0
114		27		975	0		
	692		51			1857	13

SCALE 1"=10'
MADE JBP/JC DATE 6-24-54
TRCD. B.J.R. DATE 6-25-54
CKD HH&TAM DATE 7-20-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 87

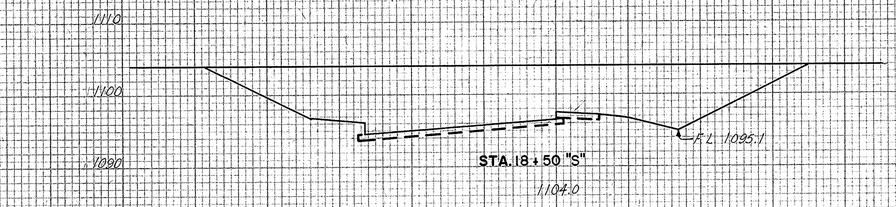
STA. 15+50"S" TO STA. 16+50"S"

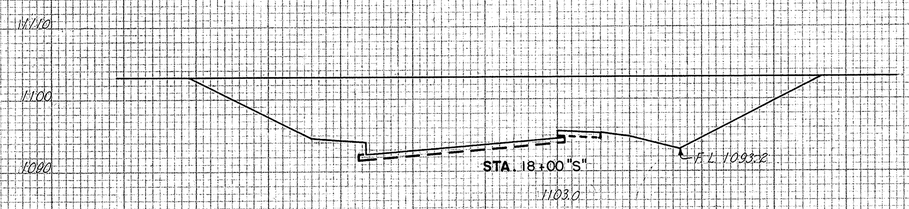
FINAL SURVEY NOTE BOOK NO.
ORIGINAL SURVEY NOTE BOOK NO.
PLATE 1 CROSS SECTION PAPER BY E. & F. B. KEUFFEL & ESSER CO. NEW YORK

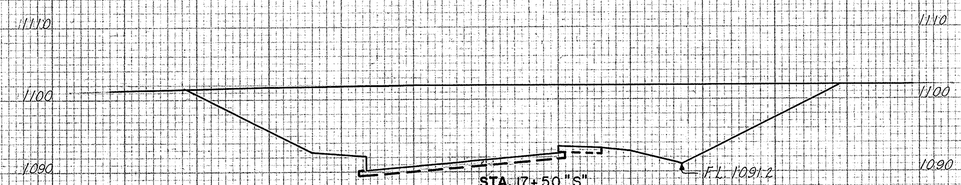
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

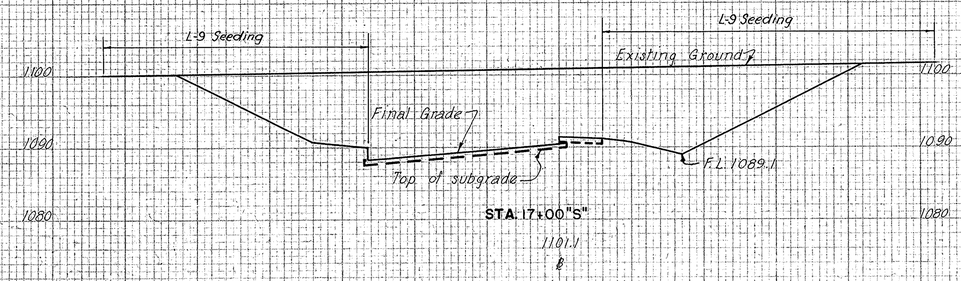
88
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS









SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
76		14		574	0		
	433		26			1144	0
80		14		661	0		
	450		26			1309	0
82		14		753	0		
	475		26			1464	0
89		14		828	0		
	503		26			1465	0

SCALE	1"=10'-0"
MADE	JBJ/C DATE 6-24-54
TRCD	BJR DATE 8-3-54
CKD	HHB/TBM DATE 7-31-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY | CLEVELAND | NEW YORK
901 SHEET 8.8

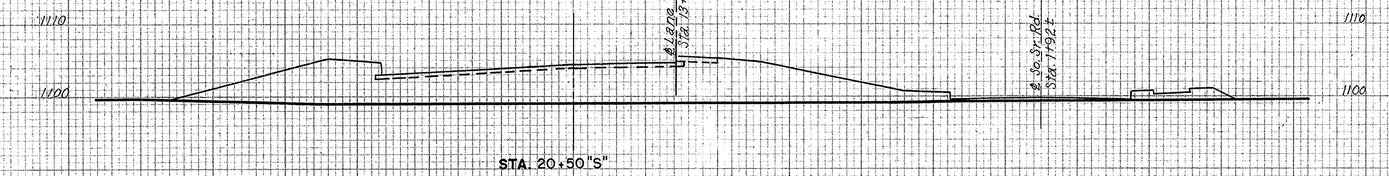
STA. 17+00 "S" TO STA. 18+50 "S"

PLATE - CROSS SECTIONS S.D.E.A.R.T. STANDARD

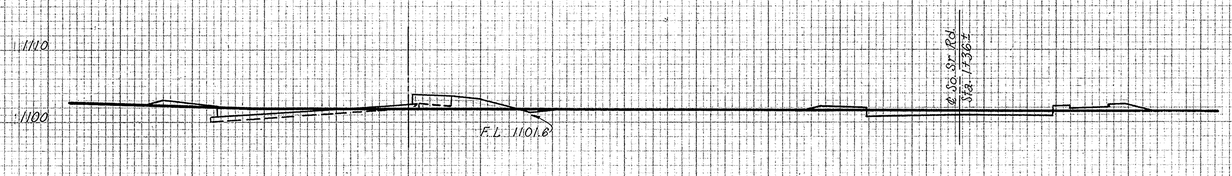
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

89
204

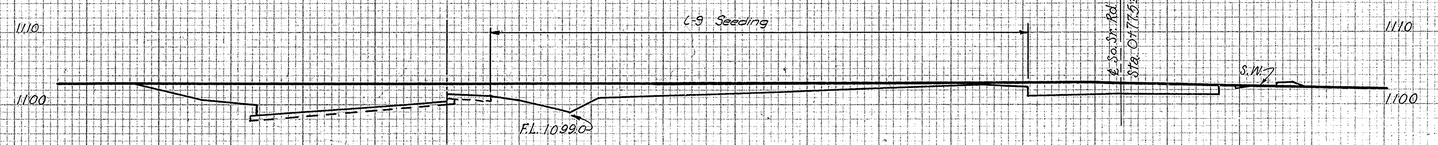
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS



STA. 20+50"S"

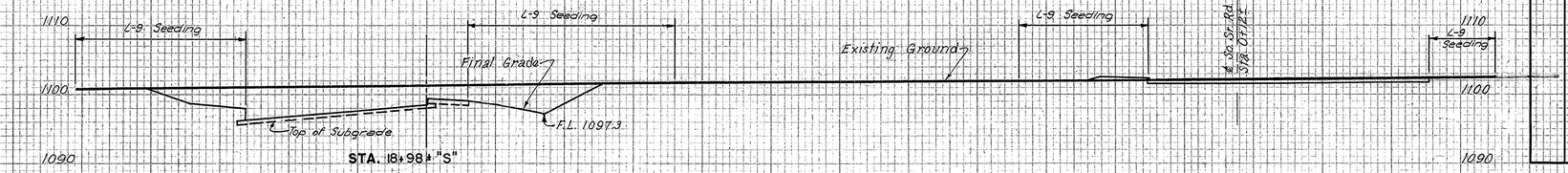


STA. 20+00"S"



STA. 19+50"S"

1103.0



STA. 18+98± "S"

1101.5

SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ. YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
91		22		0	492		
	522		33			37	471
97		14		40	17		
	608		26			306	19
122		14		291	4		
	598		27			497	10
STA. 18+98"S" 85		14		225	6		
	429		25			710	5

STA. 18+98 ± "S" TO STA. 20+50 "S"

SCALE 1"= 10'
MADE UBP DATE 6-24-54
TRCD. BJ DATE 8-3-54
CKD. RHT DATE 7-31-54

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

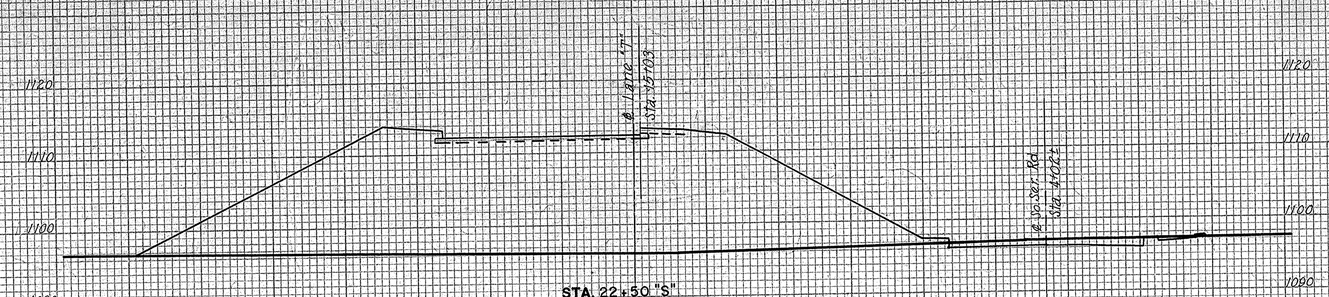
901 SHEET 89

PLATE 3 CROSS SECTION O.P.R.A.R.F. STANDARD

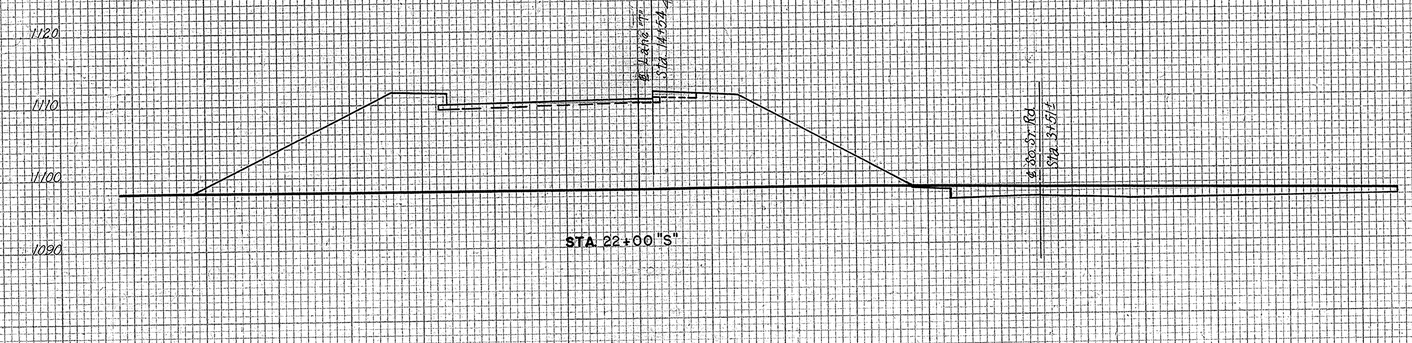
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		POST WAR

90
204

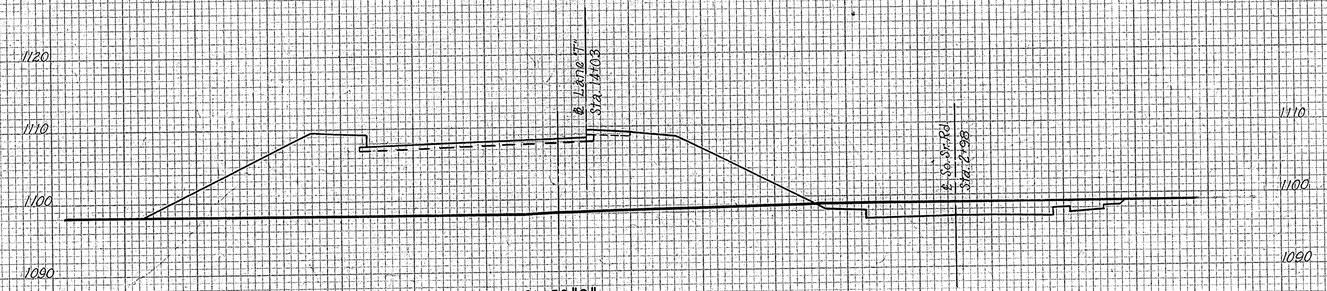
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS



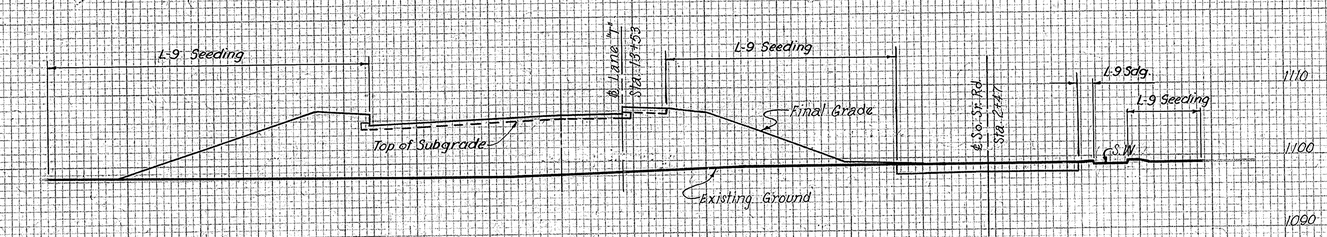
STA. 22+50 "S"



STA. 22+00 "S"



STA. 21+50 "S"



STA. 21+00 "S"

SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
112		15		27	1330		
	553		28			113	2097
87		15		95	935		
	497		29			153	1545
92		16		70	734		
	514		32			93	1268
93		19		30	635		
	511		38			28	1044

STA. 21+00 "S" TO STA. 22+50 "S"

FINAL SURVEY — NOTE BOOK — NO. — DATE — SURVEYED — PLOTTED — AREAS — AREAS CHECKED

ORIGINAL SURVEY — NOTE BOOK — NO. — DATE — PLOTTED — AREAS — AREAS CHECKED

SCALE 1"=10'-0" — MADE JAP AC — DATE 6-25-54 — TRCD. DJR — DATE 8-3-54 — CKD HHBTBM — DATE 7-31-54

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

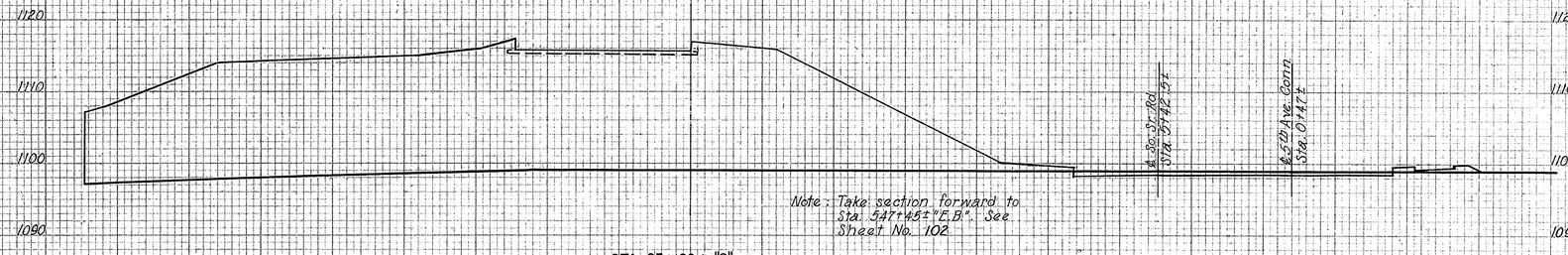
901 SHEET 90

PLATE 7 CROSS SECTION C.P.R.R. & R.V. STANDARD

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

91
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS

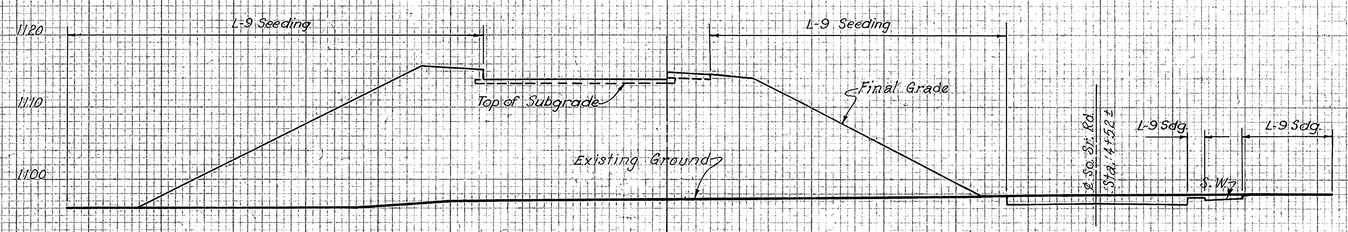


STA. 23 + 89 ± "S"

1099.0

STA. 23 + 50 "S"

1098.0



STA. 23 + 00 "S"

1097.3

	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L. F.	SQ.YD.	S. F.	C. Y.	EXC.	EMB.	EXC.	EMB.
STA 23+89 "S"	137		13		27	1871		
		591		20			30	2559
	136		14		15	1673		
		717		26			55	2898
	122		14		44	1457		
		650		27			66	2581

SCALE 1"=10'-0"
MADE JBP DATE 6-25-54
TRCD. BJR DATE 8-3-54
CKD. HHR/TBM DATE 7-31-54

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

901 SHEET 91

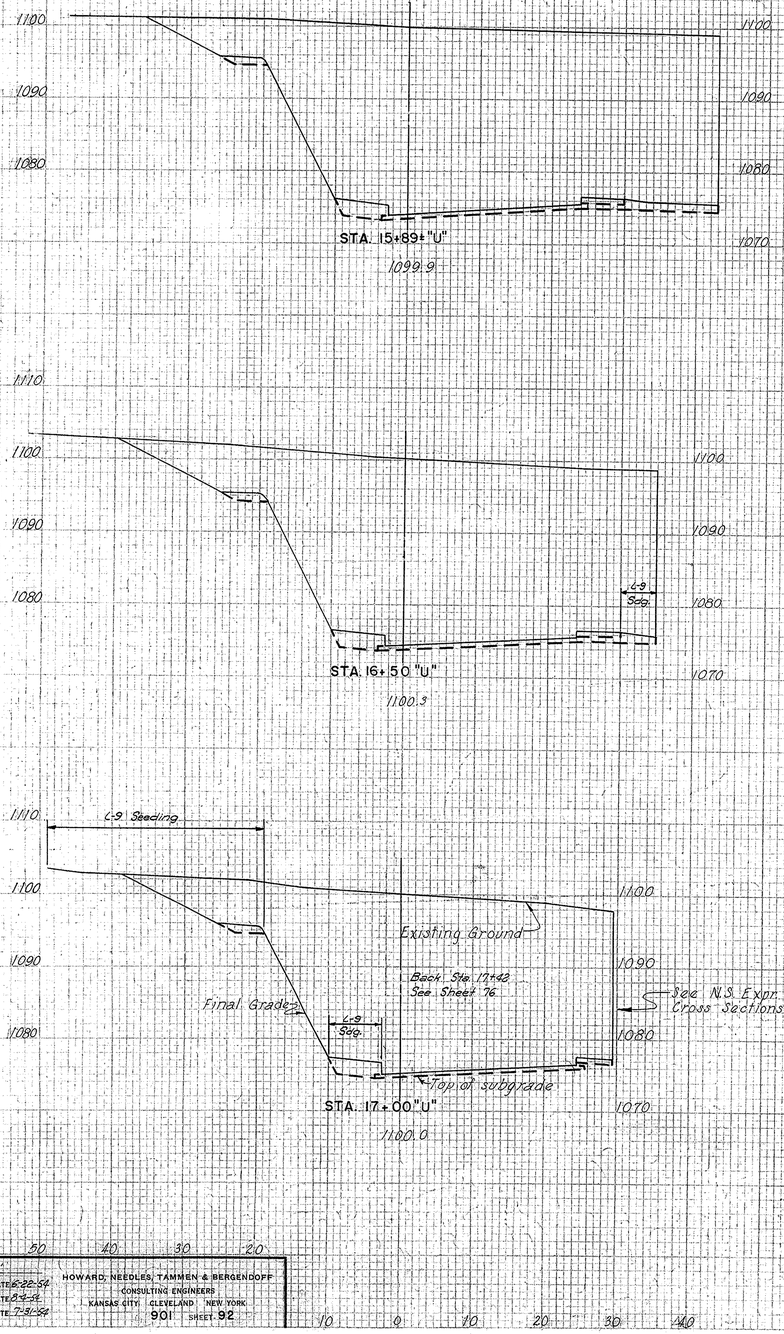
PLATE CROSS SECTION - A.R.E.A. STANDARD

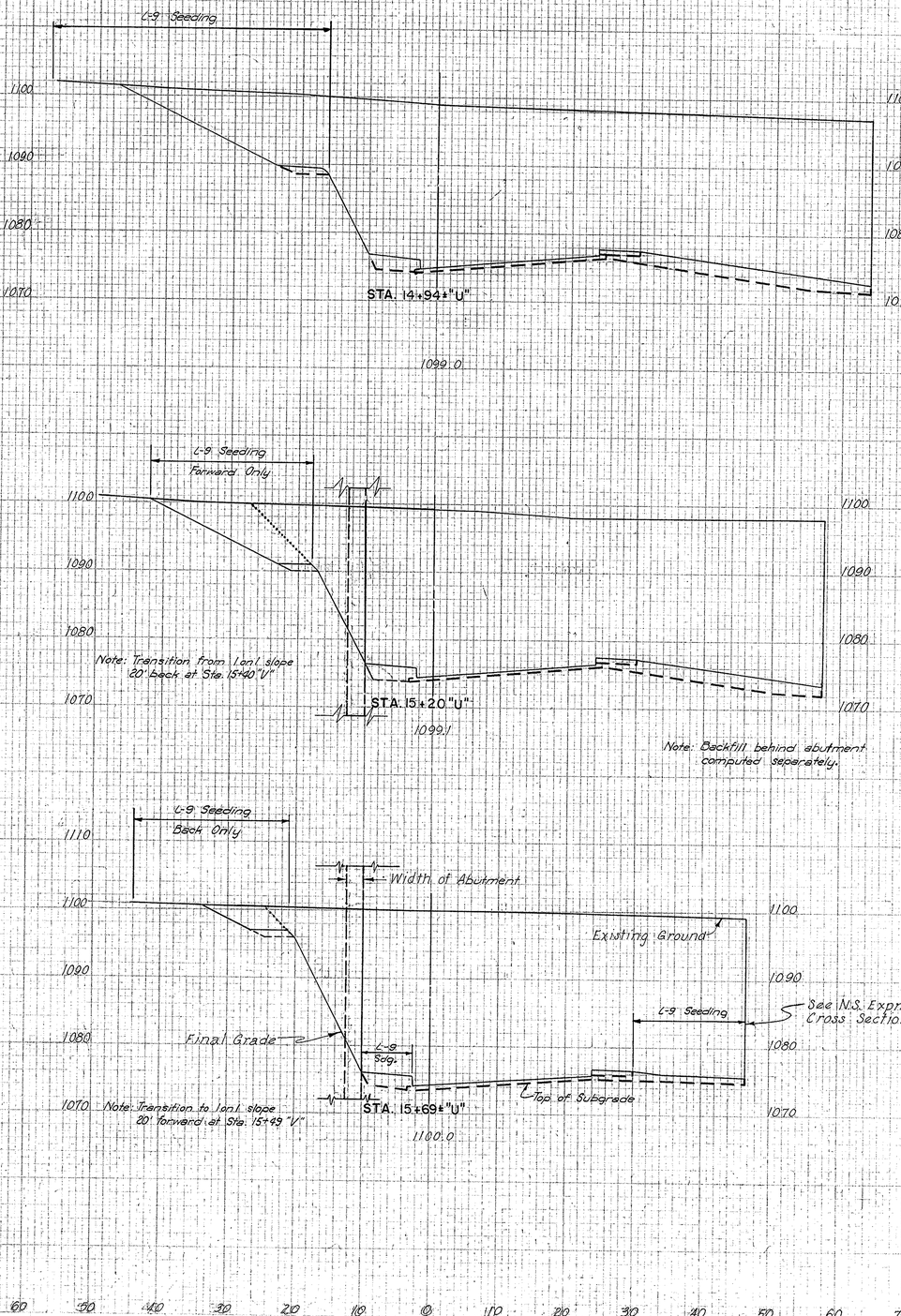
STA. 23 + 00 "S" TO STA. 23 + 89 ± "S"

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

92
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS





	SEEDING	SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ. YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
STA. 14+94	84		14		2100	80		
		211		13			1931	72
STA. 15+20	62		14		1910	70		
		109		10			1380	50
STA. 15+40	36		14		1815	65		
		30		5			571	15
STA. 15+49	23		14		1610	25		
		68		10			1199	20
STA. 15+69	38		14		1628	30		
		93		10			1783	24
STA. 15+89	46		14		1568	35		
		308		32			3336	73
	45		14		1387	30		
		233		27			2384	46
	39		15		1180	20		
		182		24			1752	31

STA. 17+00 "U" TO STA. 14+94± "U"

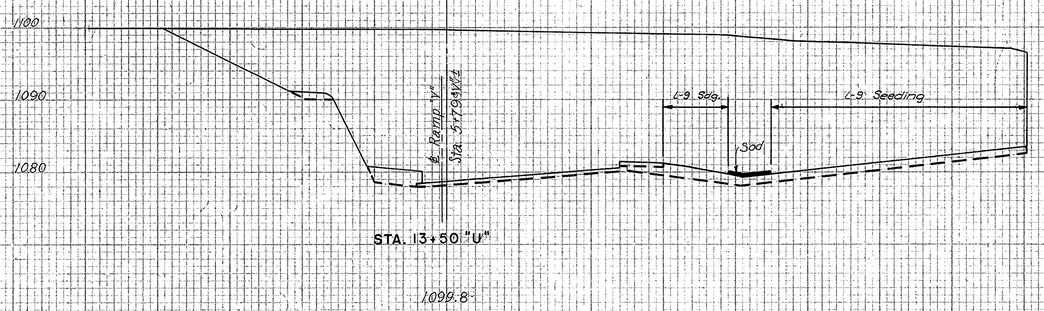
SCALE 1" = 10'
MADE MBPJC DATE 6-22-54
TRCD. EJR DATE 8-4-54
CKD. TSM DATE 7-21-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 92

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

93
204

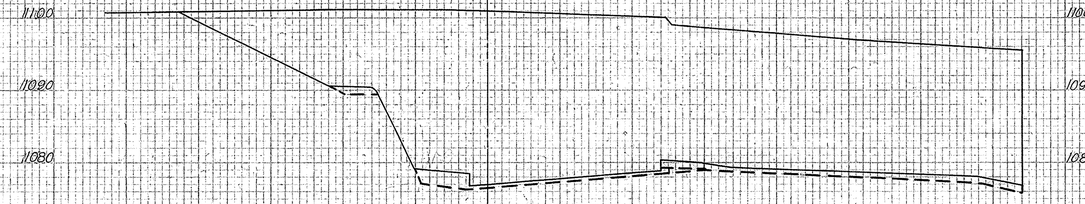
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



STA. 13+50 "U"

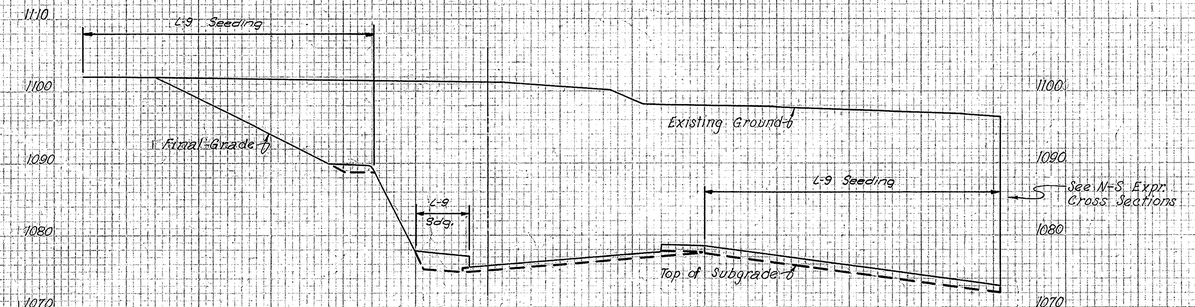
1099.8

Note: Sodding begins in Ditch Sta 13+60 "U"



STA. 14+00 "U"

1100.9



STA. 14+50 "U"

1101.2

SODDING		SEEDING		SUBBASE		EARTHWORK			
WIDTH L.F.	AREA SQ.YD.	WIDTH L.F.	AREA SQ. YD.	AREA S.F.	VOL. C.Y.	END AREA EXC.	END AREA EMB.	VOLUME EXC.	VOLUME EMB.
6		88		15		1980	80		
	7		509		27			3761	116
		91		14		2082	45		
			508		26			4014	88
		92		14		2253	50		
			430		23			3547	106

STA. 14+50 "U" TO STA. 13+50 "U"

SCALE 1" = 10'
MADE CRP/JLC DATE 6-22-54
TRCD. G.J.C. DATE 8-4-54
CKD. HLH/TM DATE 7-31-54

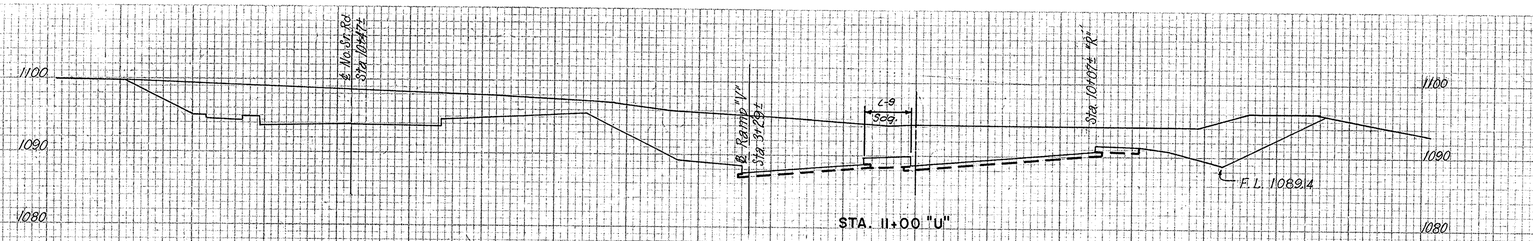
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 93

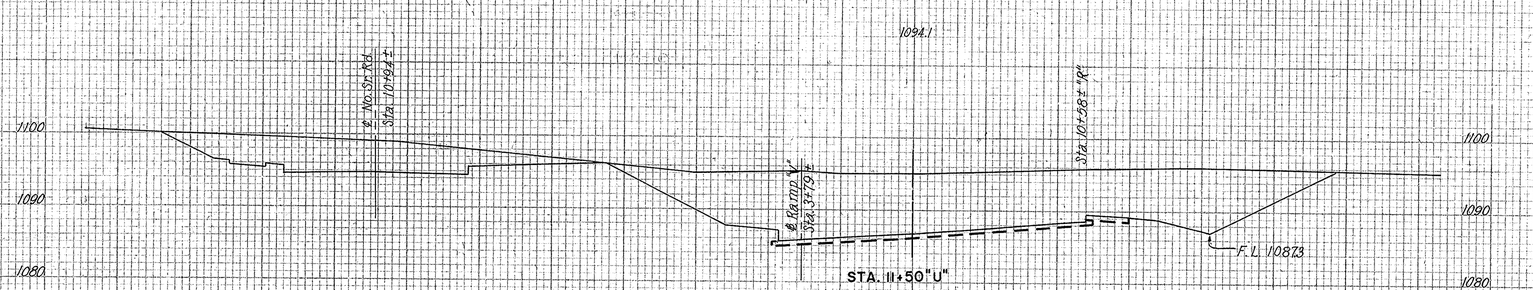
PLATE 3 CROSS SECTIONS U.S.B.P.R. & F.E. STANDARDS

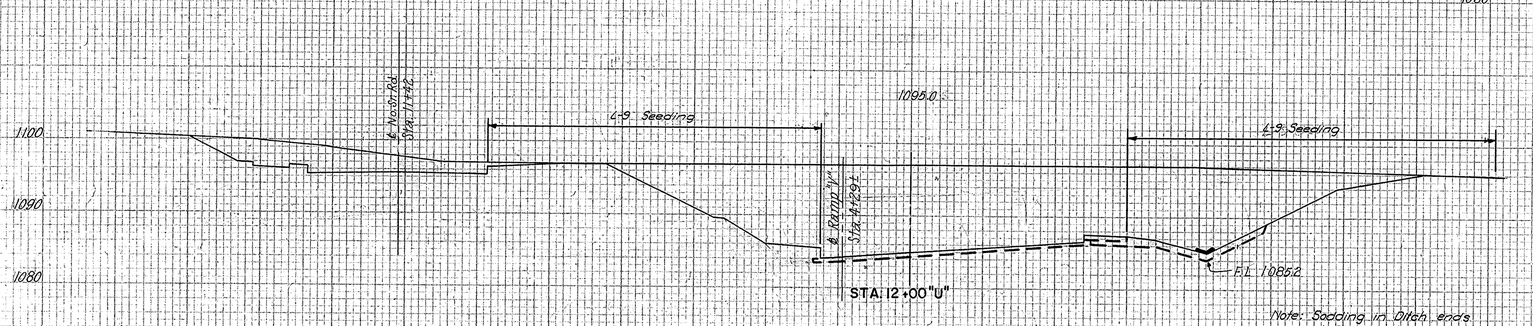
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

94
204

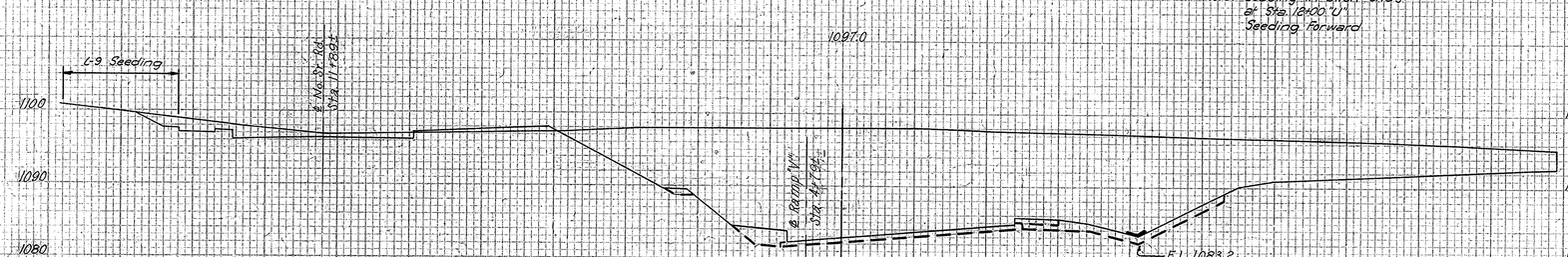
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS

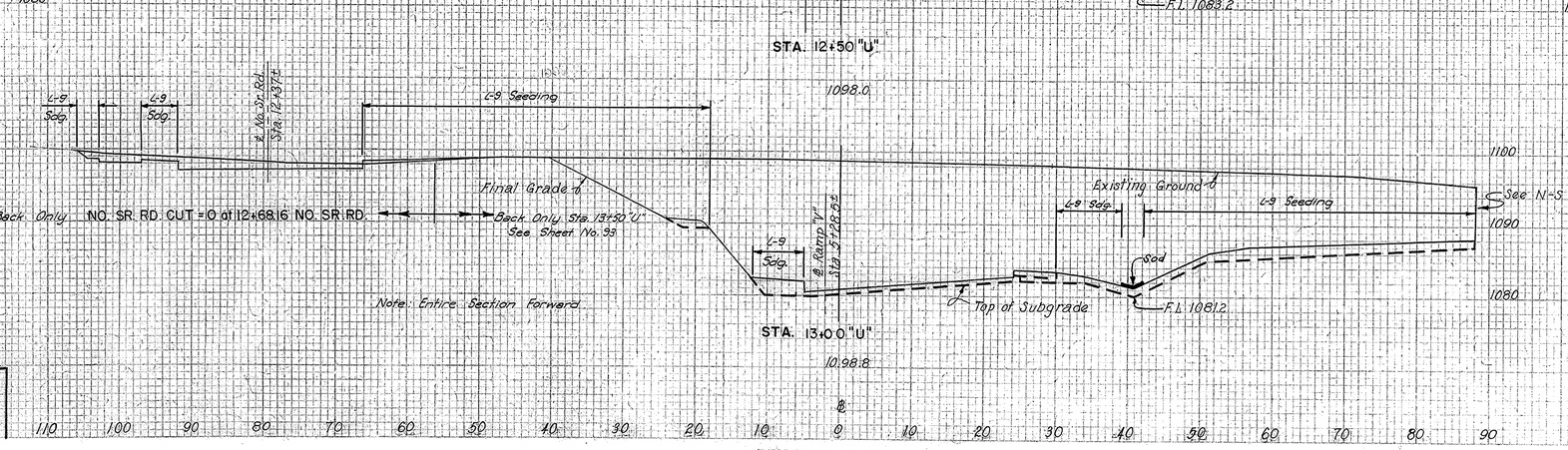






Note: Sodding in Ditch ends at Sta. 12+00 "U" Seeding Forward





	SODDING		SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD.	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
			109		24		792	0		
			613		43				1565	0
			112		22		838	0		
			631		39				1895	44
STA. 12+00 "U"										
Forward	0		115		20		1149	98		
Back	4		111		20		1149	98		
		22		675		34			2360	81
			132		17		1900	40		
		22		708		31			2910	106
STA. 13+00 "U"										
Forward	4		123		16		1743	75		
Back	4		105		16		1703	75		
		0		62		0			23	3
		28		536		29			3410	144

SCALE 1"=10
MADE JBP/JC DATE 4-22-54
TRCD BJR DATE 4-4-54
CKD WHS, TBM DATE 7-31-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 94

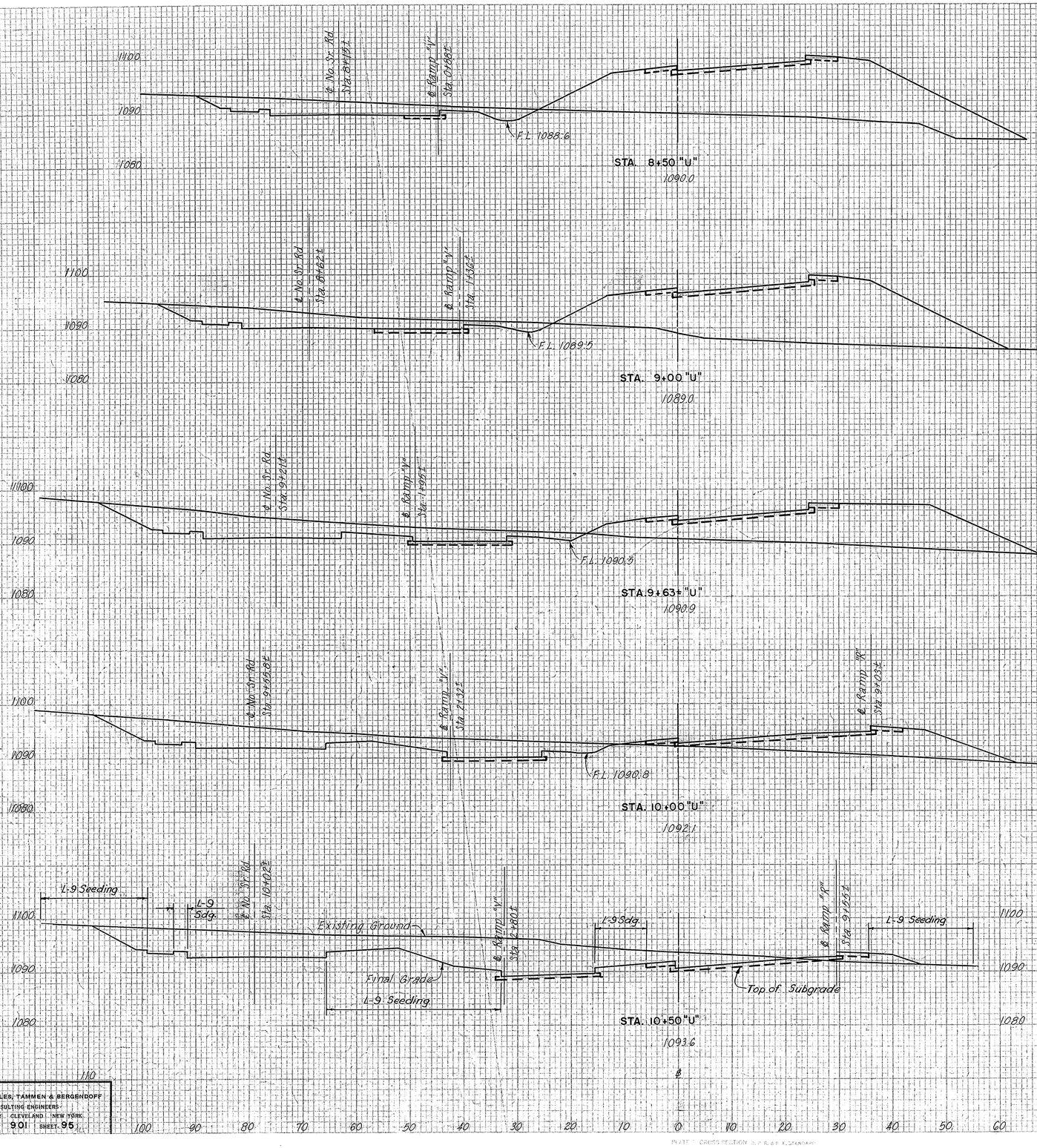
PLATE 3 CROSS SECTION, D.P.R. & B.T. STANDARD
KEUFFEL & ESSER CO., NEW YORK

STA. 13+00 "U" TO STA. 11+00 "U"

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

95
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS



	SEEDING	SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
	107		17		189	673		
		580		36			294	1205
	102		22		178	628		
		774		52			498	1197
STA. 9+63"U"	119		23		249	399		
		450		36			354	380
	100		29		267	156		
		547		51			732	164
	97		26		523	22		
		572		46			1218	20

STA. 10+50"U" TO STA. 8+50 "U"

SCALE 1"=10'-0"
MADE JBP/MC DATE 6-22-54
TRCD B.J.R. DATE 8-3-54
CKD MHB.T&M. DATE 8-2-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 95

PLATTE CROSS SECTION S.P.R.&B.E. STANDARD

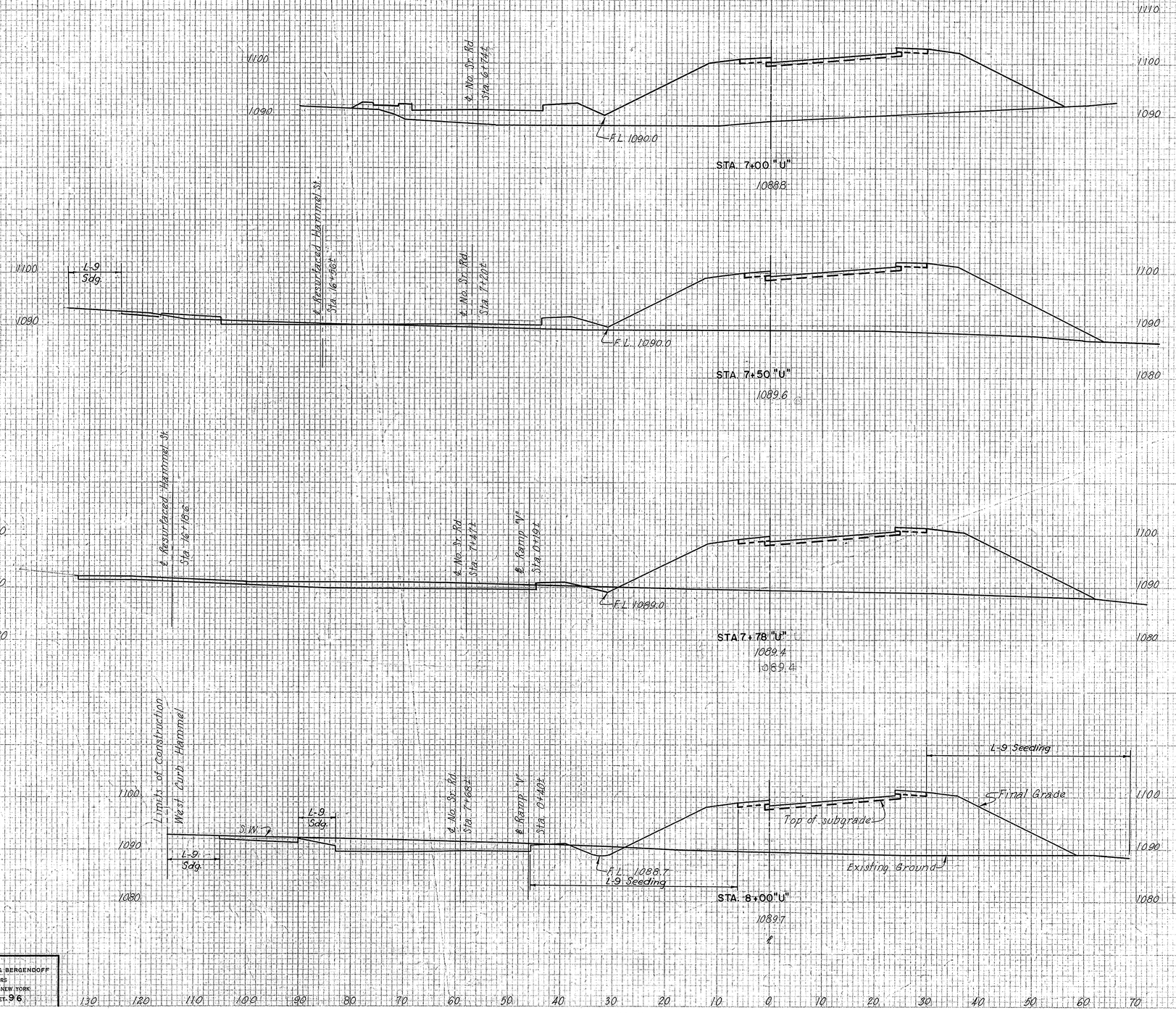
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

96
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6

SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
96		13		0	444		
	578		24			5	1222
112		13		5	876		
	308		13			35	848
86		13		63	760		
	222		11			67	578
101		13		102	660		
	580		28			223	1234

SCALE 1"=10'-0"
MADE JRP DATE 6-22-54
TRCD. BJR DATE 8-3-54
CKD. HHB/TRM DATE 8-2-54

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

SHEET 96

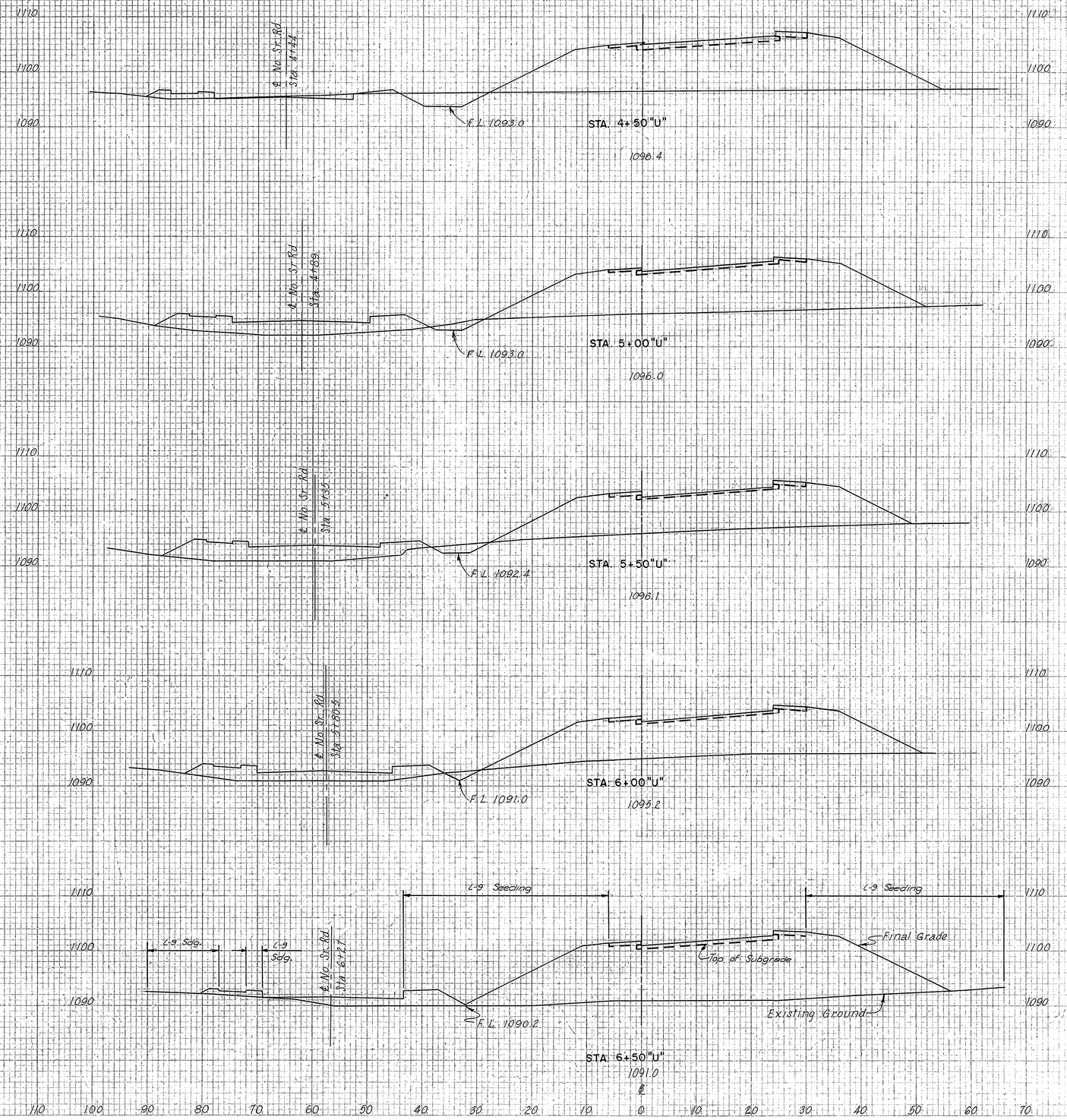
PLATE 3 CROSS SECTION O.P.R.C. STANDARD

STA. 8+00 "U" TO STA. 7+00 "U"

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

97
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
105		13		25	574		
	569		24			28	1107
100		13		5	621		
	547		24			14	1034
97		13		10	560		
	531		24			14	1040
94		13		5	563		
	531		24			7	1266
97		13		0	804		
	536		24			0	1619

SCALE	1"=10
MADE/RG/JC	DATE 6-23-54
TRCD/EM	DATE 6-6-54
CKD/EM/HHB	DATE 7-5-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 97

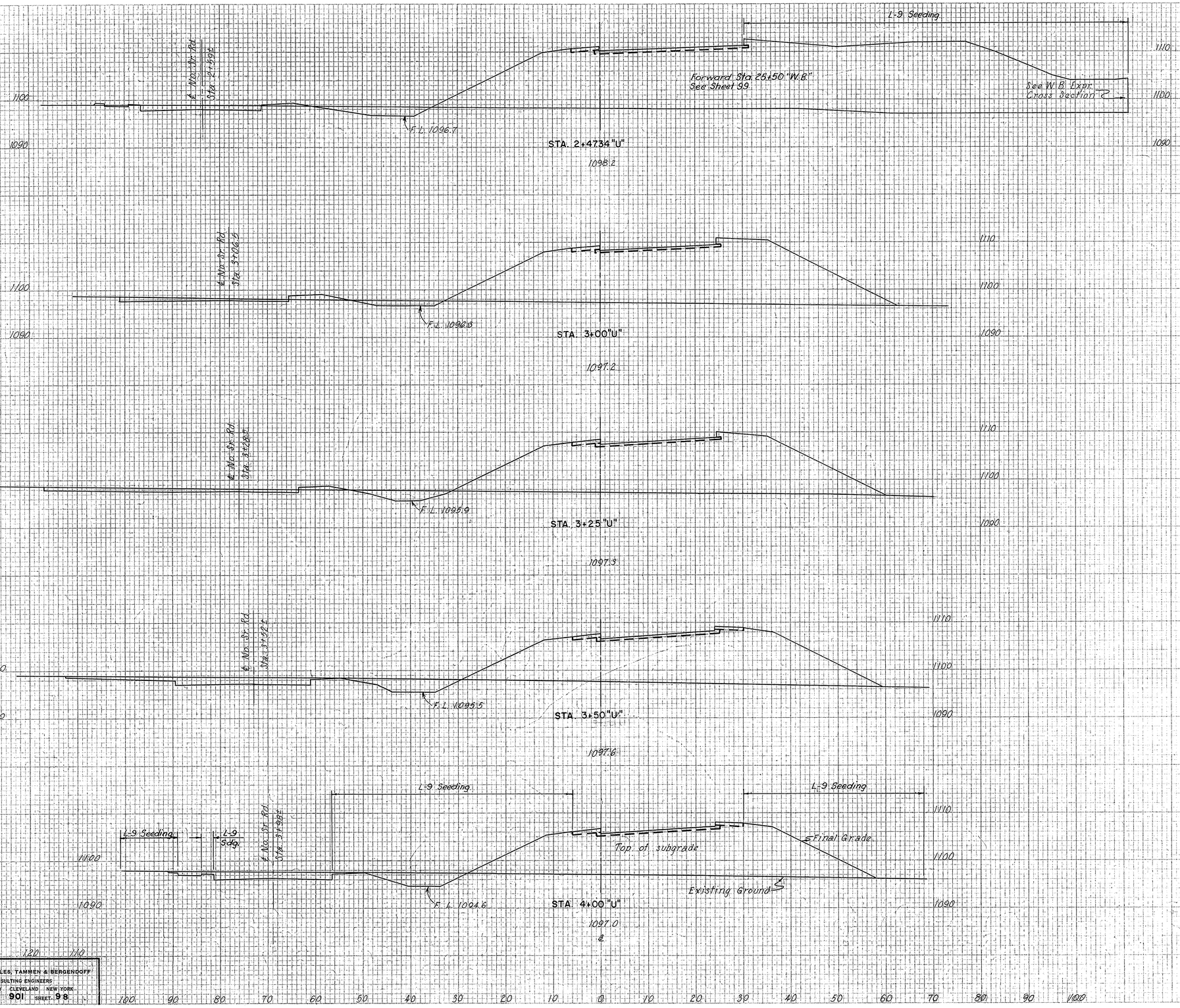
PLATE 3 CROSS SECTION O.P.R.R.R.I. STANDARD

STA. 6+50 "U" TO STA. 4+50 "U"

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

98
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
STA. 2+47.34	166		16		45	1666		
		851		28			91	5469
	125		13		48	866		
		339		12			55	760
STA. 3+25	119		13		71	776		
		318		12			86	673
	110		13		115	677		
		614		24			196	1217
	111		13		97	637		
		600		24			113	1121

SCALE	1"=10'-0"	
MADE	JBP	DATE 6-23-54
TRCD	BJR	DATE 8-3-54
CKD	HH&TBM	DATE 8-2-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 98

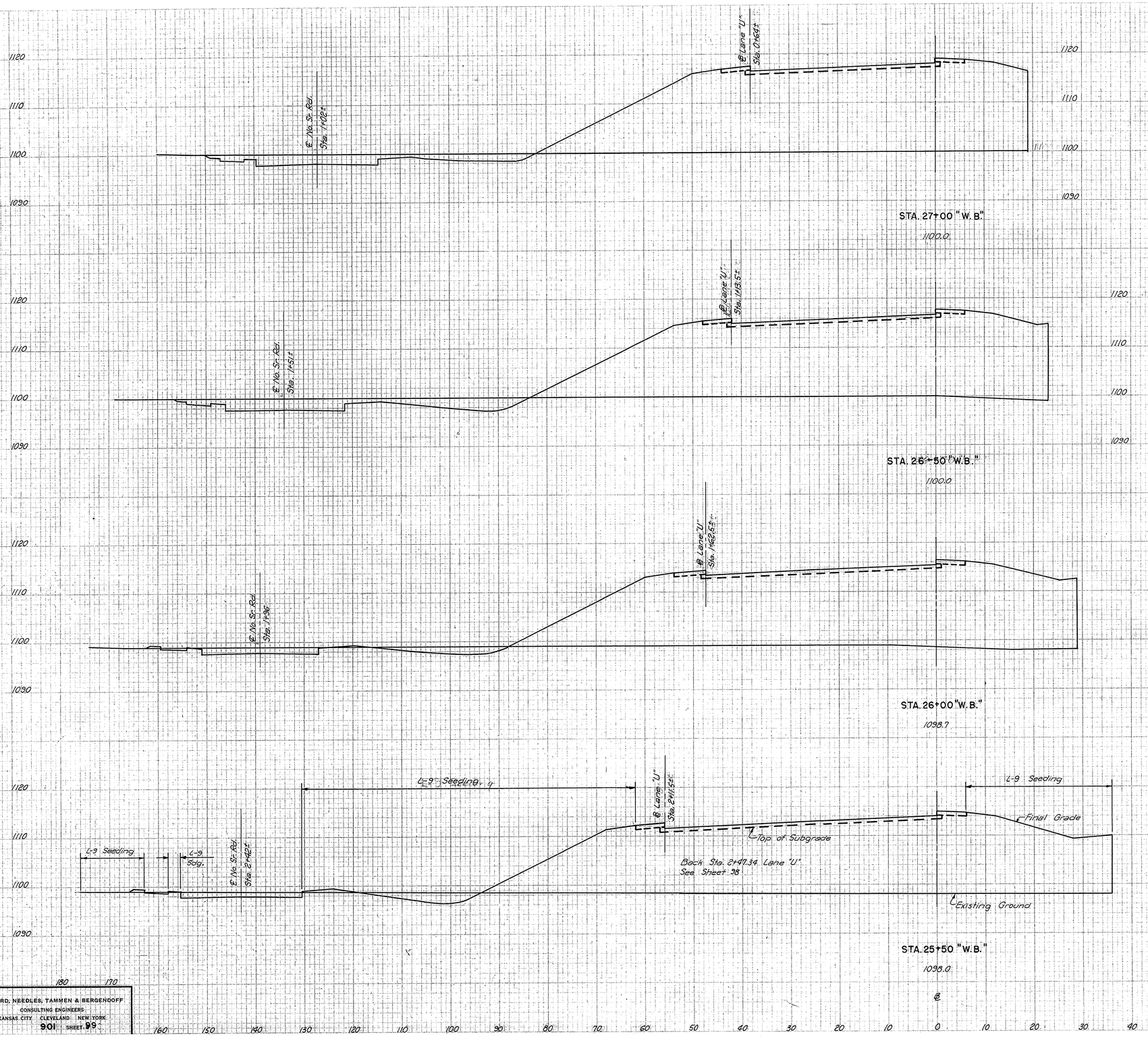
STA. 4+00 "U" TO STA. 2+47.34± "U"

PLATE 1 CROSS SECTION O.P.R.A. STANDARD
MOSELEY, HALLGARTEN, NEW YORK

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

99
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
105		20		109	1460		
	603		39			231	2675
112		22		140	1429		
	639		44			194	2769
118		25		70	1561		
	675		50			130	2966
125		29		70	1642		
	380		31			76	2196

STA. 25+50 "W.B." TO STA. 27+00 "W.B."

SCALE 1" = 10'
MADE TAB/JJC DATE 6-23-54
TRCD D.L.F. DATE 8-12-54
CKD AHB-TAB DATE 7-31-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 99

FINAL SURVEY
NOTE FROM SHEET NO. 1

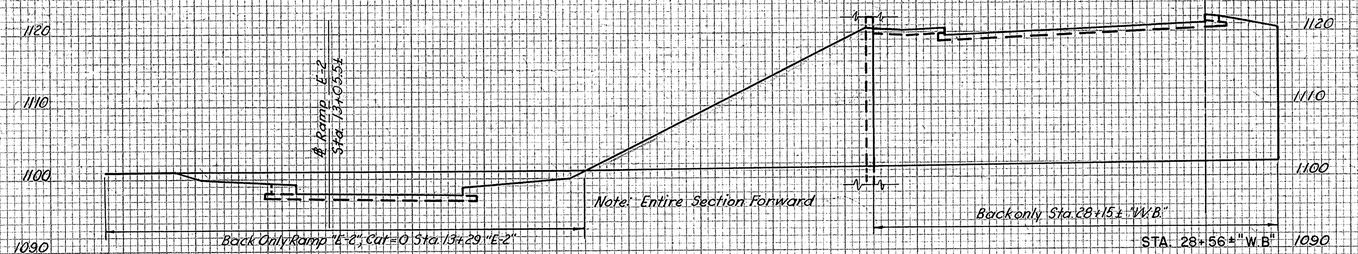
ORIGINAL SURVEY
NOTE FROM SHEET NO. 1

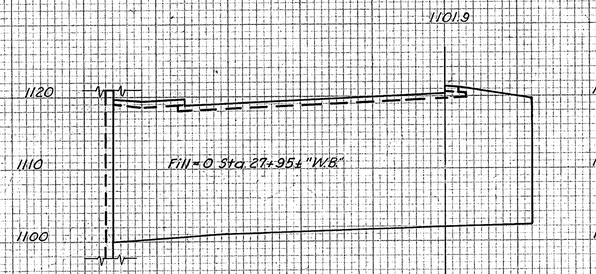
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

100
204

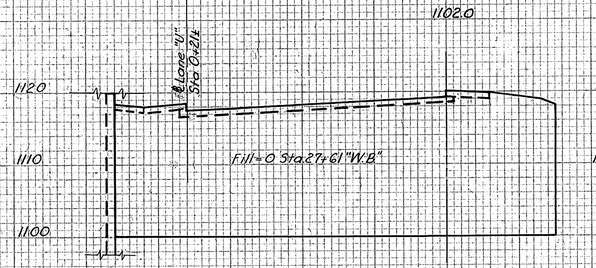
SUMMIT COUNTY
CITY OF AKRON

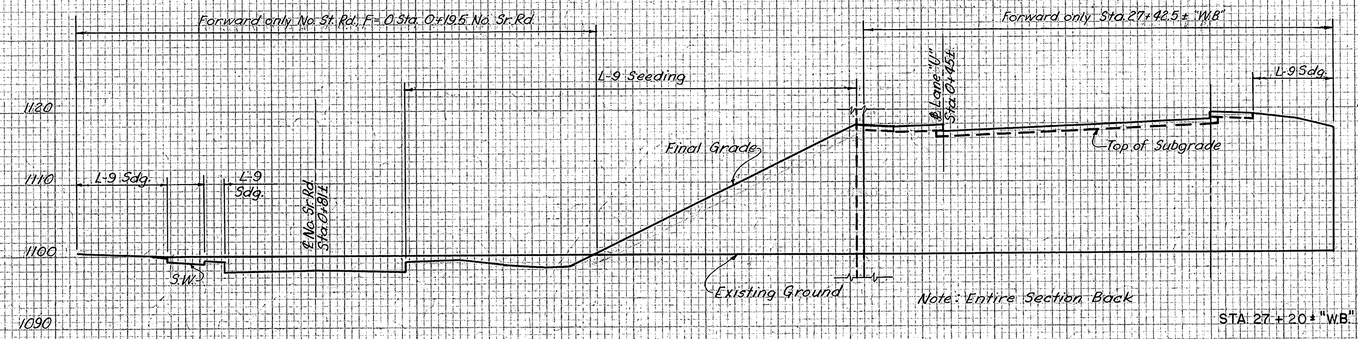
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS





Note: Conic sections of fill computed separately.





	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
Forward	92		35		140	1408		
Back	8		20		0	1021		
		41		30			0	1586
		52		13			61	0
		150					0	280
	10		20		0	1069		
		11		15			0	396
		10		14			0	379
	9		19		0	1107		
		25		16			0	338
		287		0			112	0
		126					0	232
Forward	11		20		0	1143		
Back	92		20		98	1451		
	219		15				77	1078

SCALE	1" = 10
MADE	TRD DATE 6-23-54
TRC'D	D.L.E. DATE 9-12-54
CKD	HH/BTBM DATE 8-3-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 100

STA. 27 + 20± W.B. EXP. TO STA. 28+56± "W.B." EXP.

PLATE 7 CROSS SECTION O.P.R.A.R.E. STANDARD

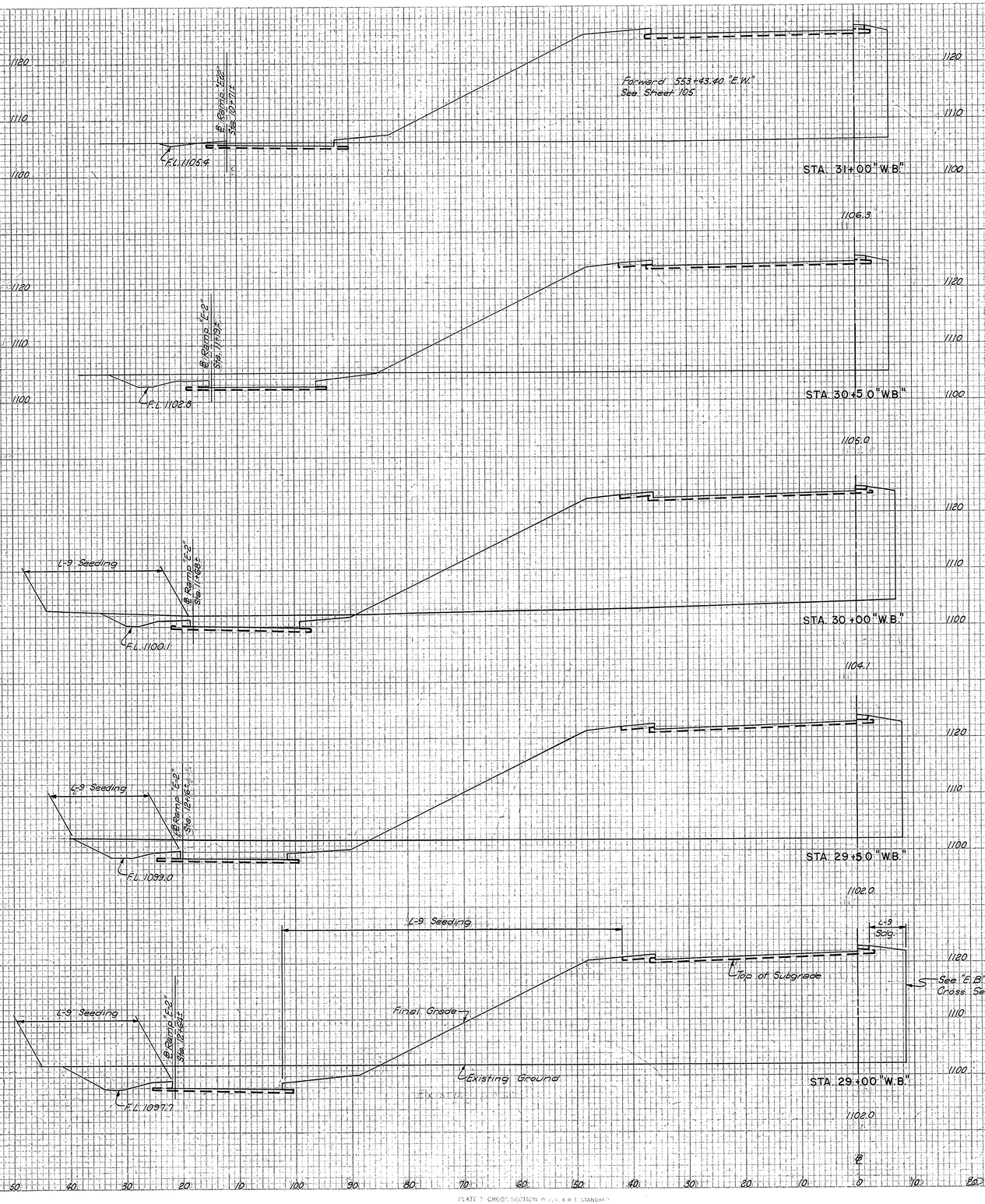
FINAL SURVEY NOTE BOOK

ORIGINAL SURVEY NOTE BOOK

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

101
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
86		33		38	1330		
	494		61			114	2546
92		33		85	1377		
	513		61			157	2647
93		33		85	1481		
	511		61			224	2760
91		33		157	1500		
	525		61			319	2694
98		33		187	1410		
	464		55			266	2336

SCALE: 1" = 10'
MADE: T.D.H. DATE: 6-23-54
TRCD: B.J.C. DATE: 8-11-54
CKD: W.T.B. DATE: 7-31-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 101

STA. 29+00 "W.B." EXP. TO STA. 31+00 "W.B." EXP

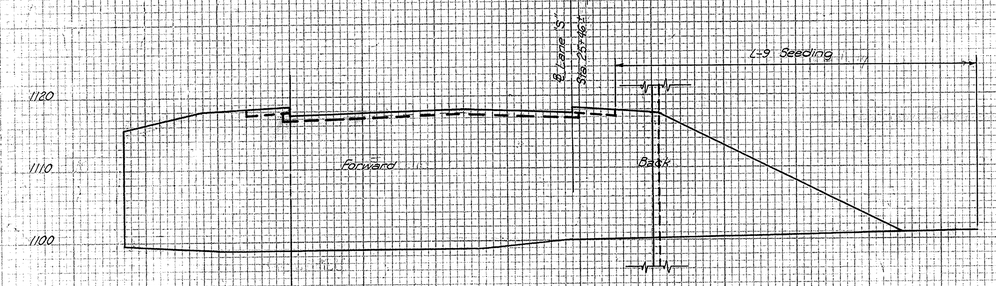
PLATE 7 CROSS SECTION O.P.W.A.R.E. STANDARD
PEDDLE & LESSER CO. NEW YORK

ORIGINAL SURVEY NOTE BOOK NO. 1 SURVEY OF VAN

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

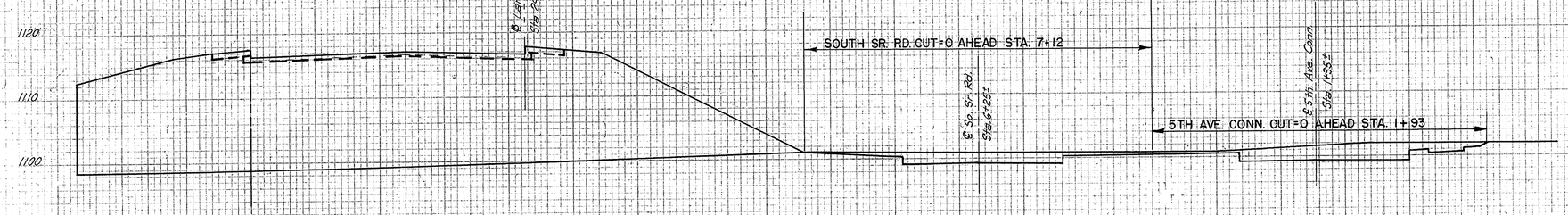
102
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS

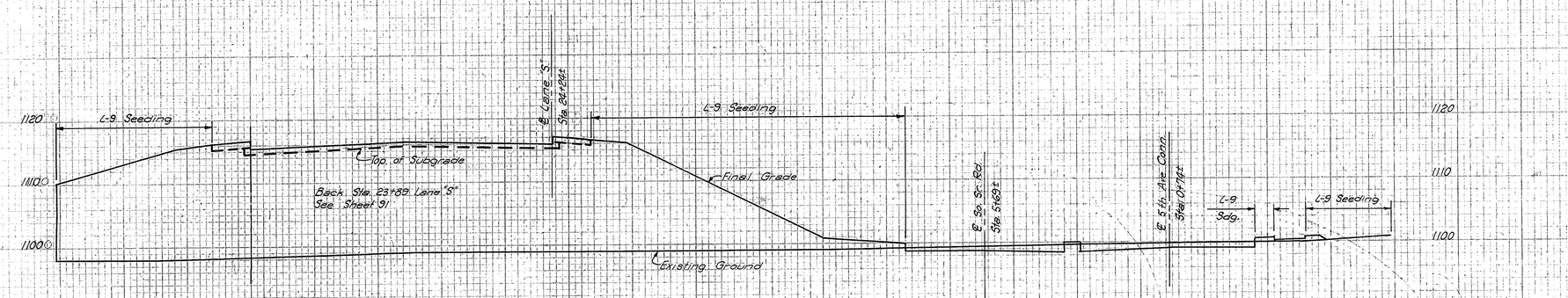


STA. 548+66 "E.B."
1098.8

Note: Conic Section to be computed seperately.



STA. 548+00 "E.B."
1098.9



STA. 547+45± "E.B."
1098.3

	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
Forward	33		20		0	1350		
Back	77		20		0	1650		
		513		53			0	4013
		280		0			209	0
		200		0			172	0
Forward	63		23		0	1633		
Forward	29		0		65	0		
Forward	31		0		80	0		
Back	123		23		145	1633		
		688		49			194	3518
	102		25		45	1815		
		270		25			47	2389

STA. 547+45± E.B. EXP. TO 548+66± E.B. EXP.

SCALE 1" = 10'
MADE JBP, III DATE 6-23-54
TRCD. D.L.F. DATE 6-12-54
CKD. JWB, TR DATE 7-7-54

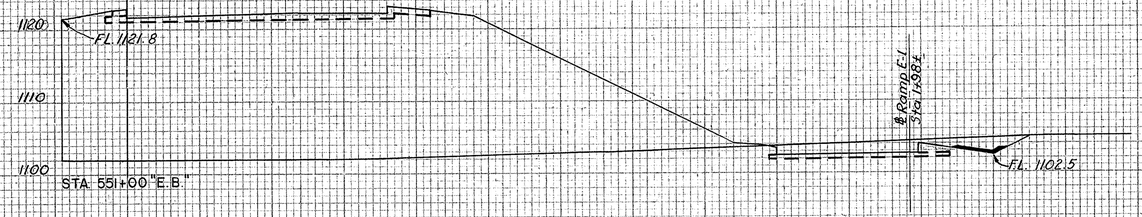
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 102

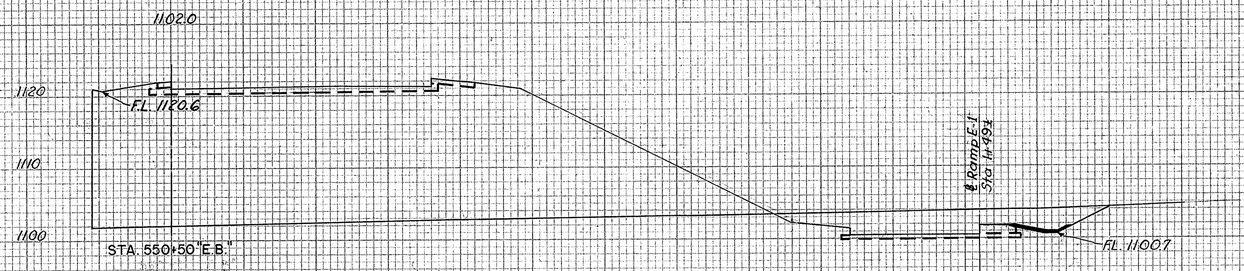
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

103
204

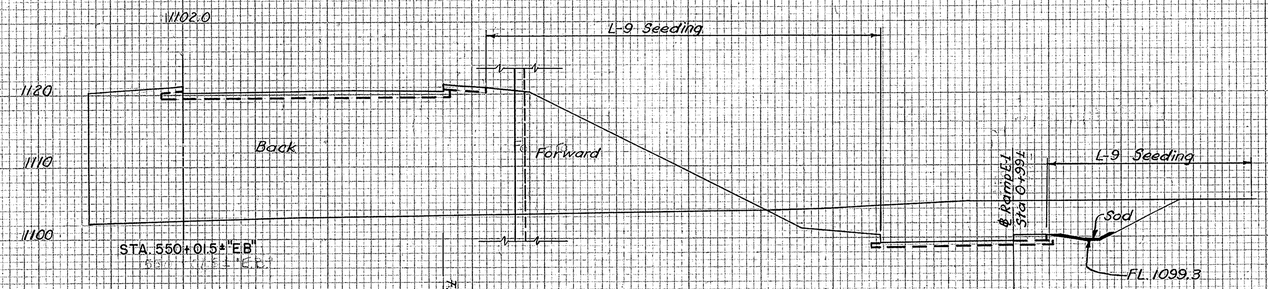
SUMMIT COUNTY
CITY OF AKRON

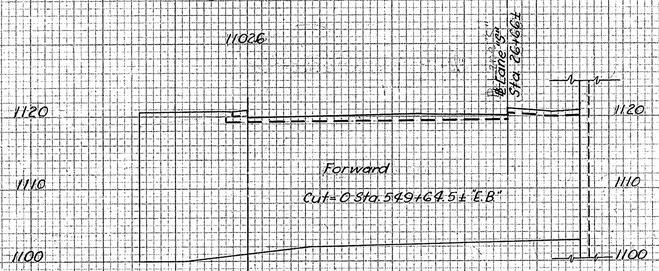
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



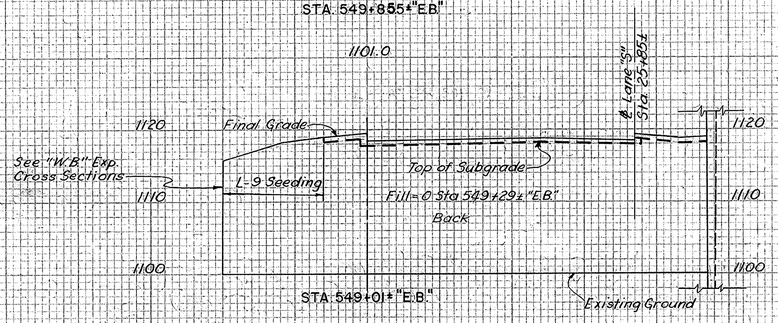


Note: Sodding begins in ditch at Sta. 0+60 Ramp "E-1"





Note: Conic section to be computed Separat



	SODDING		SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD.	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
	14		73		33		62	1491		
		77		417		61			186	2711
	14		77		33		139	1437		
		75		448		59			400	2484
Forward	13		90		33		246	1329		
Back Ramp "E-1"	13		32		13		246	0		
Back	0		15		20		0	1005		
			106		26		12		0	264
		56			344		38		0	629
									365	0
			13		20		0	1114		
					15		8		0	423
					22		10		0	628
			14		20		0	1212		
				91		26			0	1686
			111						0	196

STA. 549+01± "E.B." EXP TO STA. 551+00 "E.B." EXP

SCALE 1" = 10'
MADE DPW DATE 6-23-54
TRCD D.J.C. DATE 8-12-54
CKD HHB, TBM DATE 8-3-54

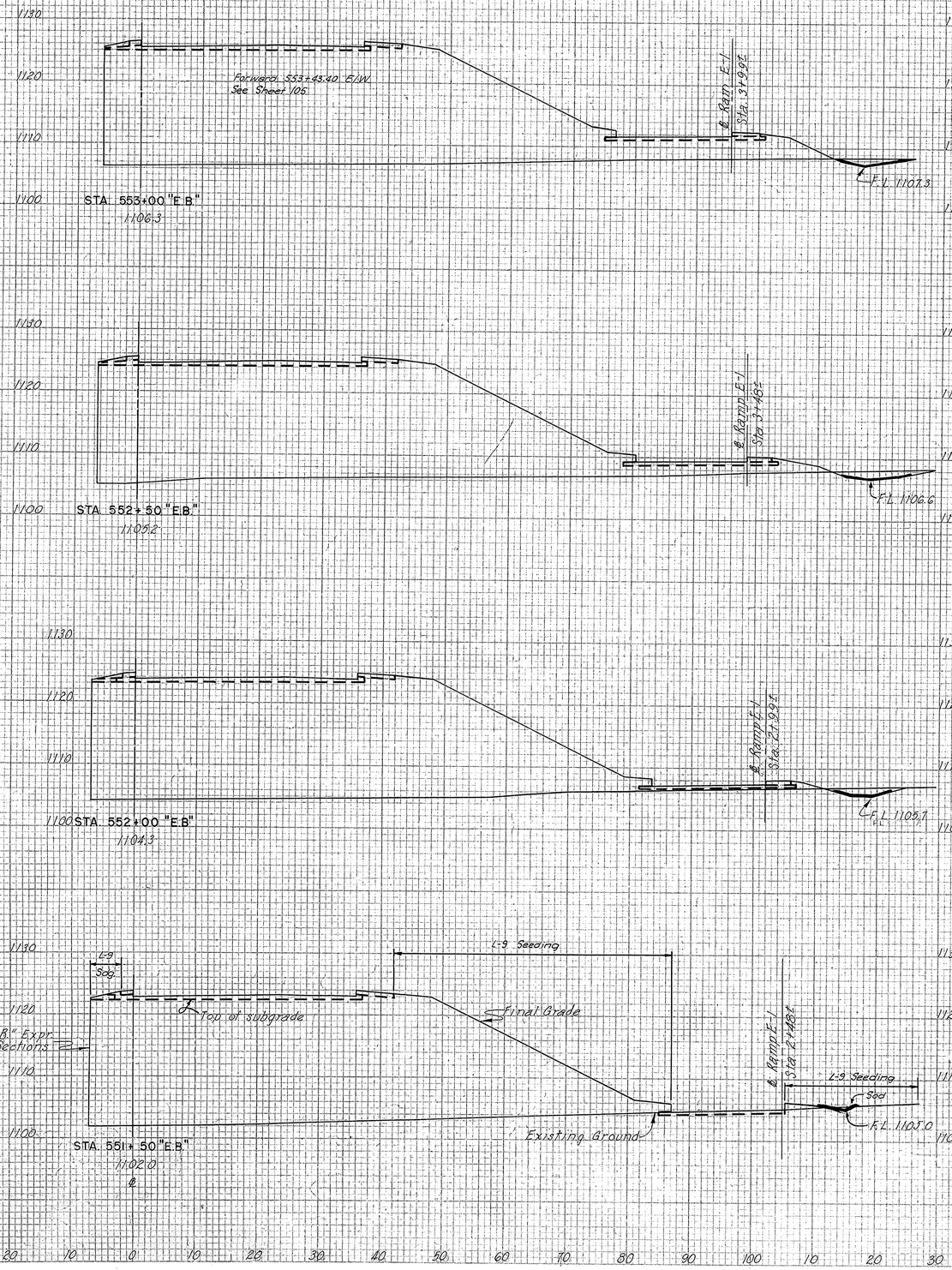
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 103

PLATE 3 CROSS SECTION O.P.R.R.R.T. STANDARD

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

104
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS



SODDING		SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQYD.	L.F.	SQYD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
13		61		33		13	1632		
	20		357		61			23	2609
12		68		33		12	1386		
	69		361		61			13	2597
13		62		33		9	1419		
	70		330		61			18	2708
15		57		33		10	1505		
	80		362		61			67	2774

SCALE 1" = 10'
MADE J.B.P. DATE 6-17-54
TRCD B.J.C. DATE 8-12-54
CKD WHC/TSM DATE 7-31-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 104

PLATE 2 CROSS SECTIONS O.E.P.B.P.R. STANDARD

STA. 551+50 "E.B." EXP. TO STA. 553+00 "E.B." EXP.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

105
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS

SODDING		SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
.8		147		62		7	3374		
	56		825		115			17	6268
12		150		62		11	3395		
	61		853		115			18	6148
10		157		62		8	3245		
	53		968		130			21	6532
7		151		62		12	2387		
0		79		31		0	1497		
7		72		31		12	1490		
48		465		60		38	2714		
		321		51		20	3348		

SCALE: 1" = 10'
W&BD: TBB/JC DATE: 6-25-54
TRCD: D.L.F. DATE: 8-13-54
CKD: H.H.&T.B.M. DATE: 8-14-54

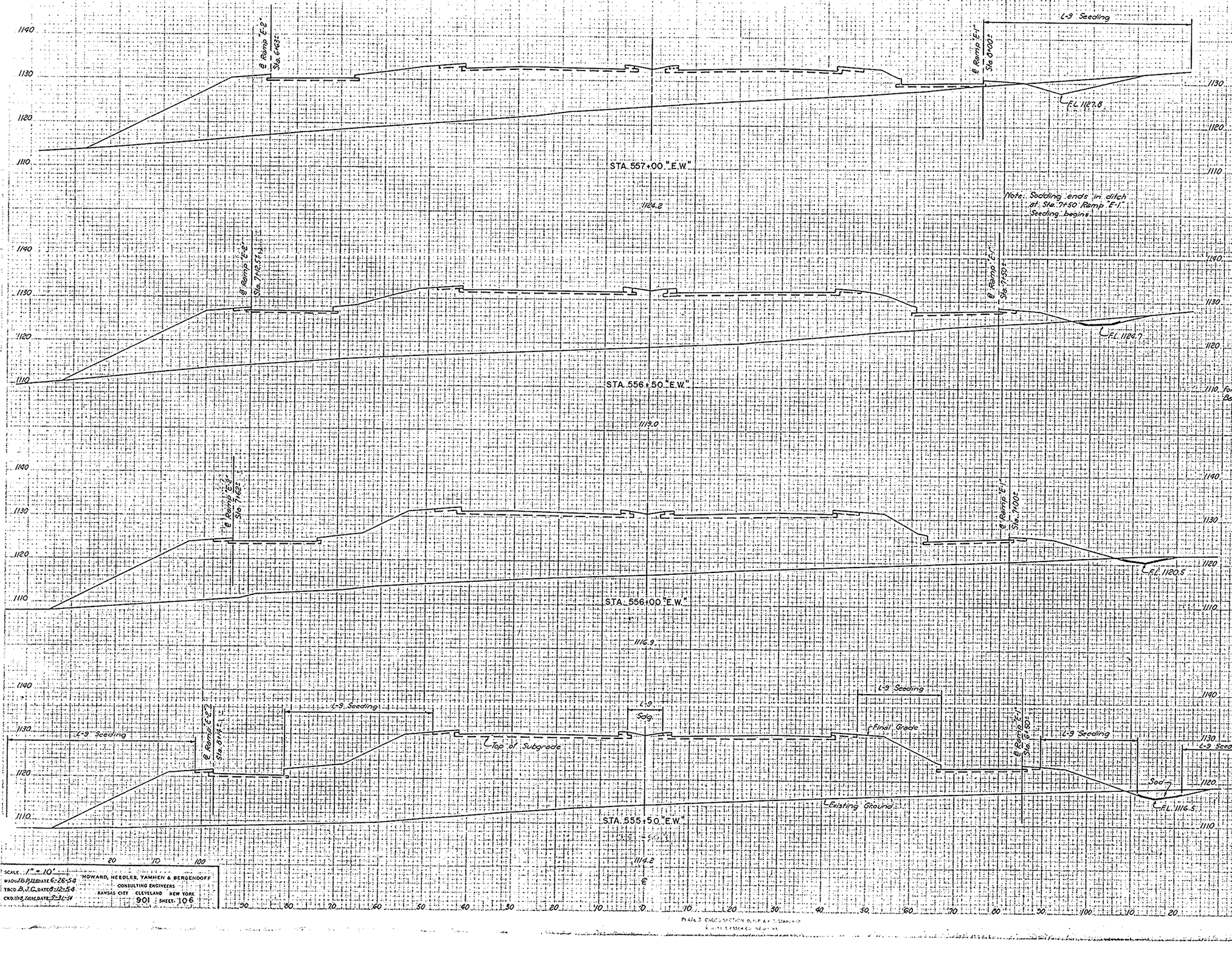
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND, NEW YORK
901 SHEET 105

STA. 553+43.40 "E/W" TO STA. 555+00 "E/W"

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

106
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS



SODDING		SEEDING		SUBBASE	EARTHWORK			
WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME
L. F.	SQ.YD.	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC. EMB.
		140	62		45	1713		
	0	778		115			52	3685
		140	62		10	2247		
	11	129	62		10	2267		
	58	775		115			18	4518
12		137	62		10	2612		
	61	796		114			23	5140
10		150	61		15	2939		
	50	825		114			20	5845

1140 / 1130 / 1120 / 1110

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

SCALE 1" = 10'
MADE J.B.P. DATE 6-26-54
TRCD B.J.C. DATE 6-12-54
CKD H.H. TAM. DATE 7-31-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 106

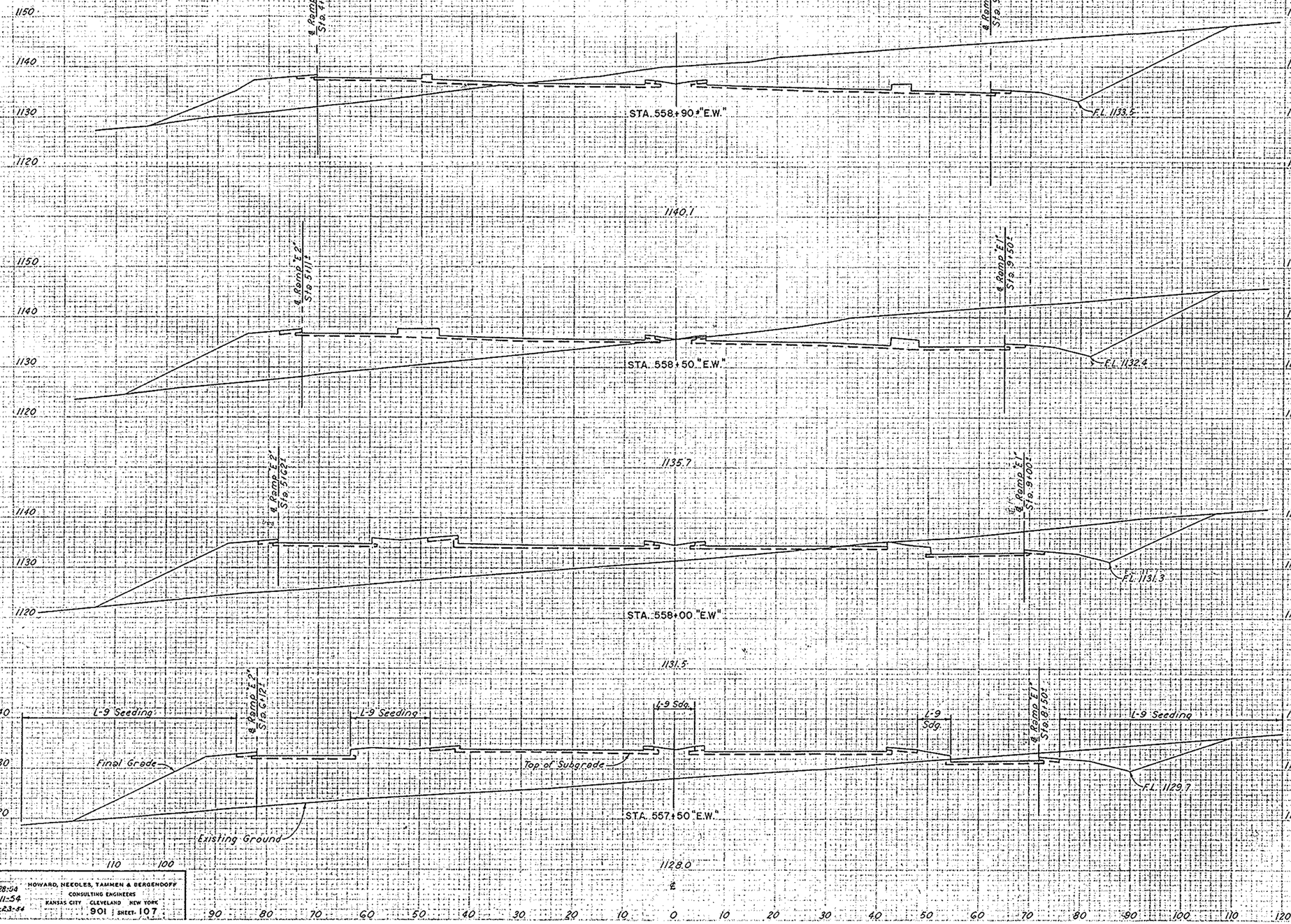
PLATE 3 CROSS SECTION SURFACE STANDARD

STA. 555+50 "E.W." EXP. TO STA. 557+00 "E.W." EXP.

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

107
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
112		65		887	245		
	511		99			1110	546
118		69		612	492		
	658		121			828	1141
119		62		282	743		
	672		115			379	1710
123		62		117	1103		
	730		115			150	2605

SCALE 1" = 10'
MADE J.B.P. III DATE 6-28-54
TRCD B.J.C. DATE 8-11-54
CKD H.H.E. DATE 8-23-54

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

901 | SHEET 107

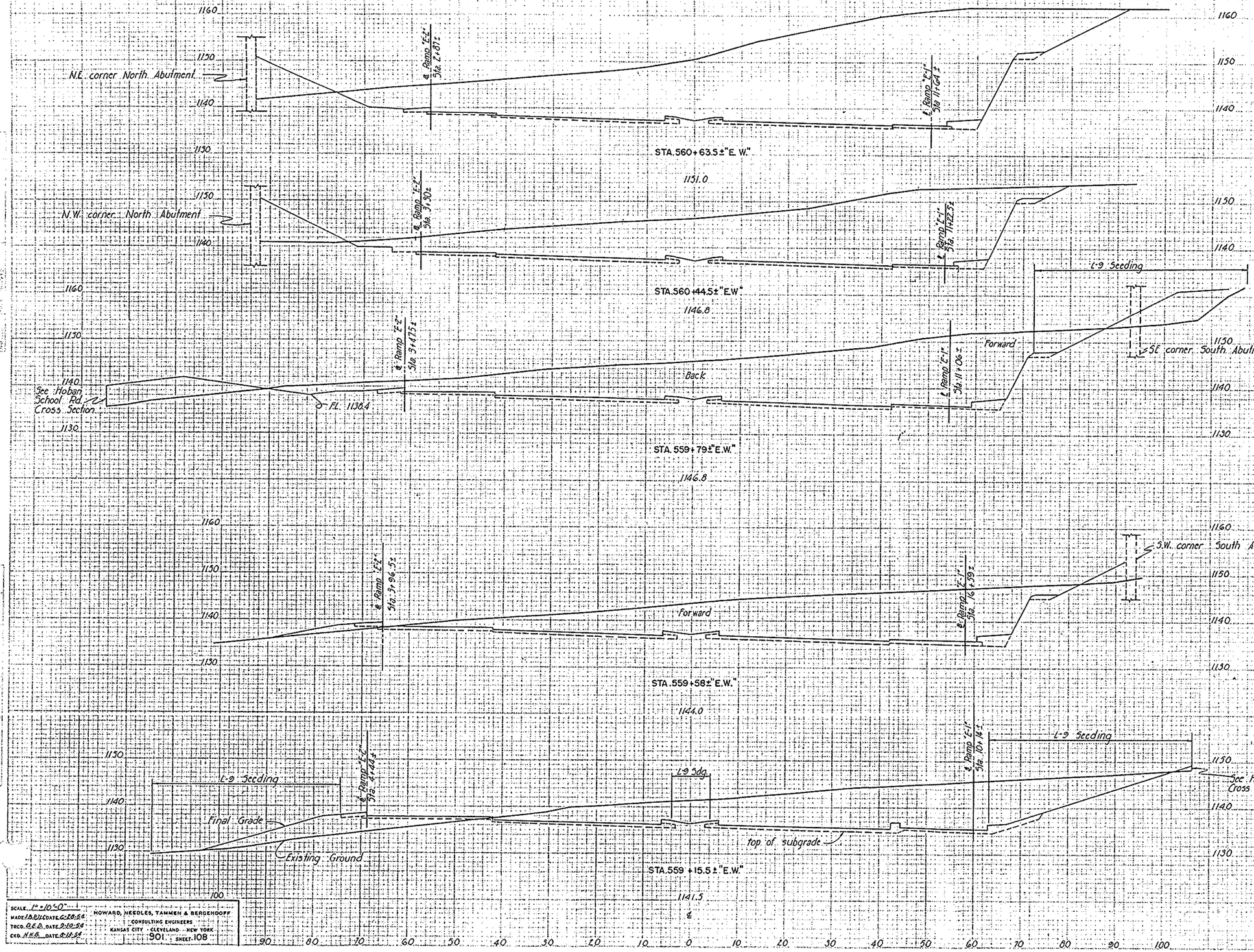
STA. 557+50 "E.W." EXP TO STA. 558+90 "E.W." EXP

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

108
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM 18 R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END WORK		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
57		53		2237	103		
	311		86			8906	92
73		55		1395	101		
	187		34			848	91
Forward 126		57		1300	244		
Back 74		57		1300	102		
	288		104			1951	129
						1821	134
Forward 55		62		1000	47		
Back 60		62		1000	270		
	390		109			1783	194
91		64		980	185		
	288		61			882	203

Superseded
3-16-55

Revised: 10/25/54
STA. 559+15.5± "E.W." EXP TO STA. 560+63.5± "E.W." EXP.

FINAL SURVEY

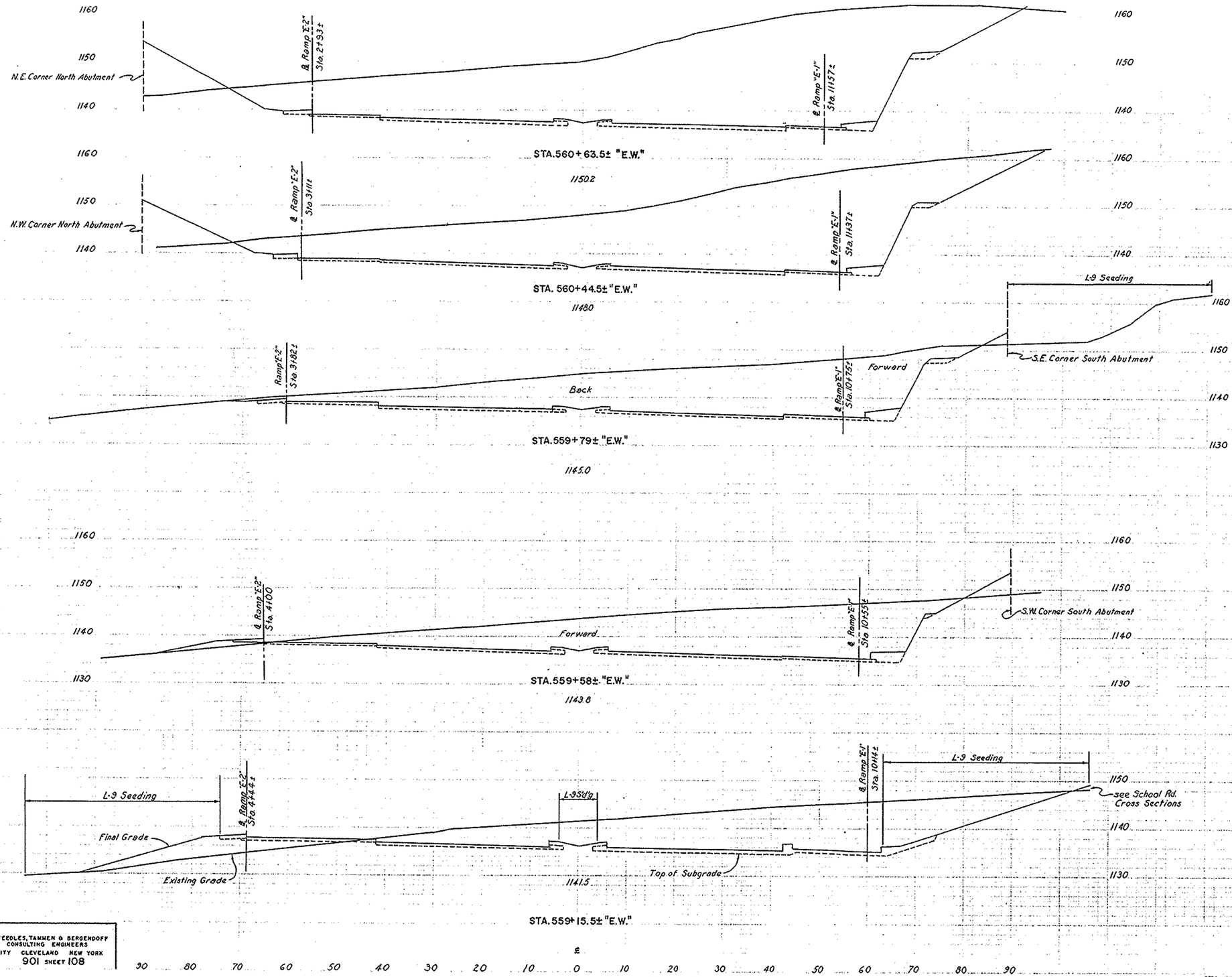
ORIGINAL SURVEY

NO.	DESCRIPTION	BY	APP'D	DATE

SCALE 1" = 10'-0"
MADE B.B.U. DATE 6-28-54
TRCD. B.E.D. DATE 7-19-54
CKD. H.H.B. DATE 8-11-54

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

301 SHEET 108



FED ROAD DIV NO	STATE	FED AID PROJ NO	TYPE FUNDS
2	OHIO		

108R
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM 18R-12.10
CROSS SECTIONS

	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL	END AREA		VOL.	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
	57		53		2237	103		
		311		86			8906	32
	73		55		1395	101		
		182		34			848	91
Forward	126		57		1300	244		
Back	74		57		1300	102		
		288		104			1951	129
							182	134
Forward	35		62		1000	47		
Back	60		62		1000	270		
		390		109			1783	134
	91		64		980	185		
		288		61			882	203

SCALE 1"=10'-0"
MADE JGE DATE 4-28-54
TRCD DCO DATE 5-10-54
CKD HHB DATE 5-13-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 108

Sheet 108R replaces
Sheet 108. 3-16-55

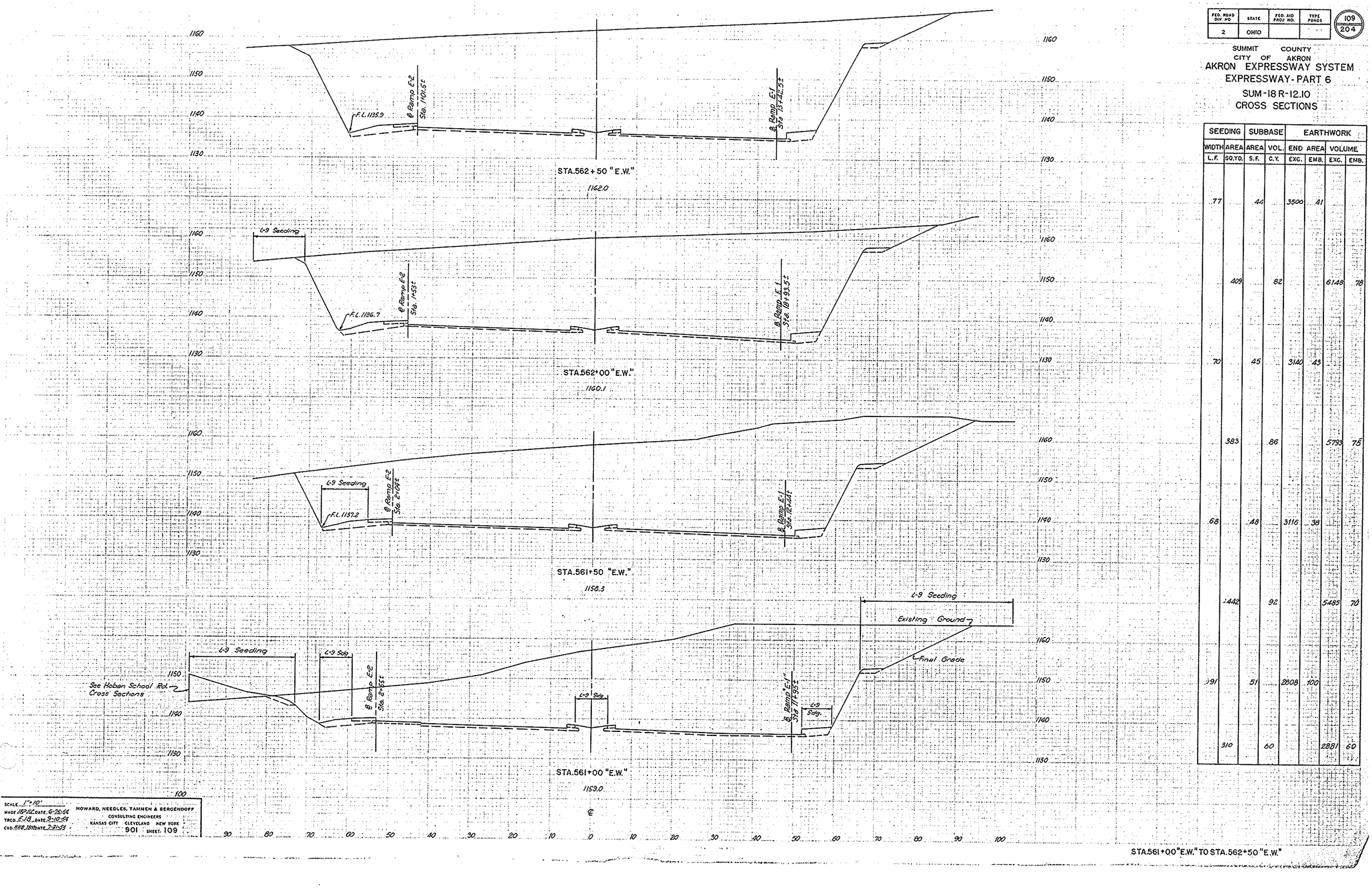
Revised 3-2-55
STA. 559+15.5± "E.W." EXP. TO STA. 560+63.5± "E.W." EXP.

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

109 / 204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18 R-12.10
CROSS SECTIONS

SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
77		44		3500	41		
	409		82			6148	78
70		45		3140	43		
	383		86			5793	75
68		48		3116	38		
	1442		92			5485	70
991		51		2808	100		
	310		60			2881	60



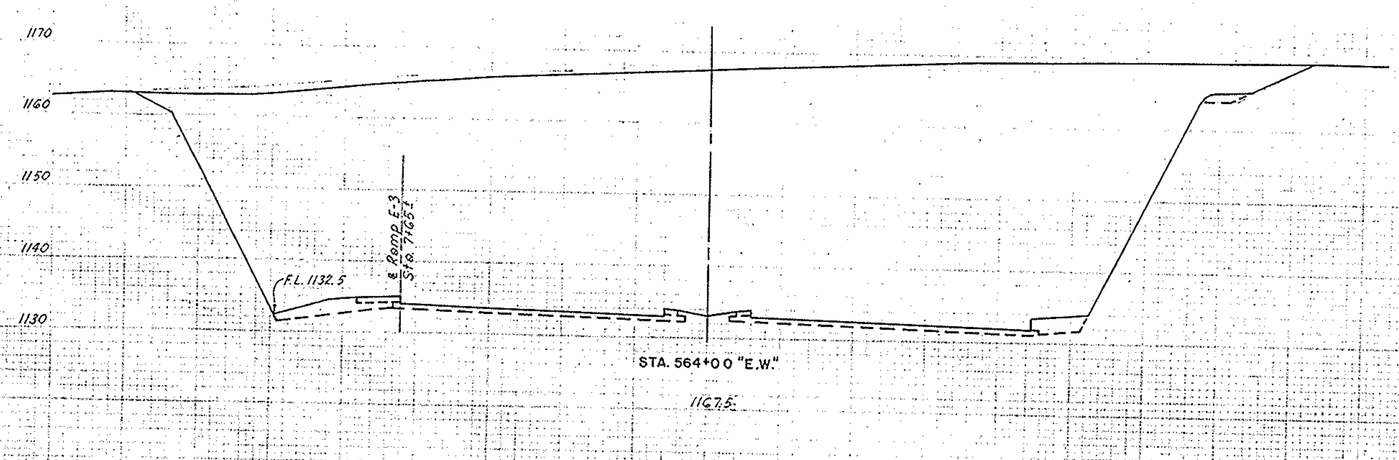
STA. 561+00 "E.W." TO STA. 562+50 "E.W."

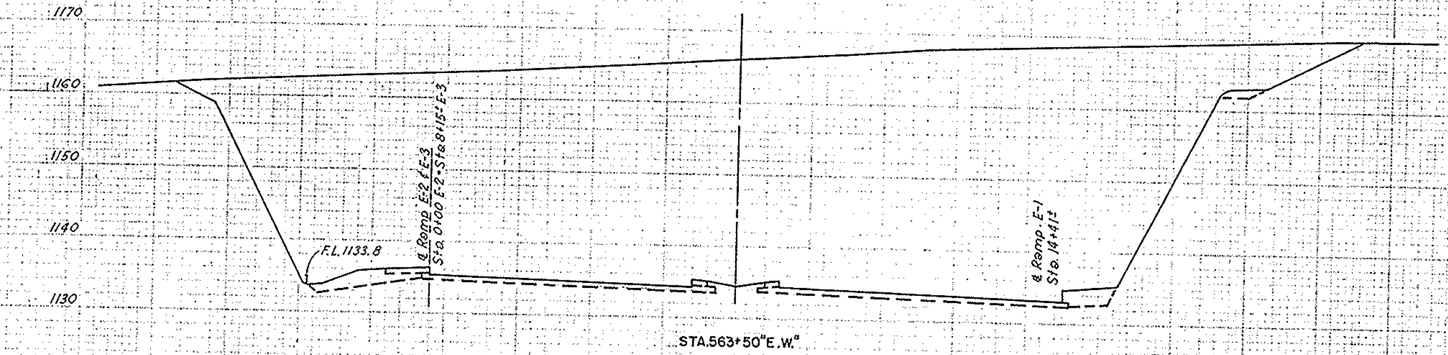
SCALE 1"=10'
MADE JRP/JC DATE 6-25-54
TRCD. E-JB DATE 9-10-54
CKD. RHB, JRP DATE 7-21-54

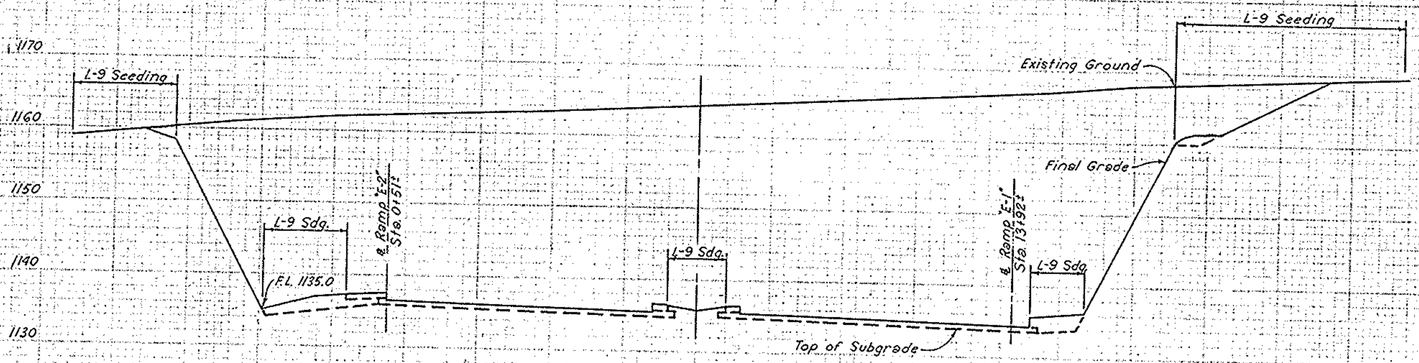
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 109

FED. ROAD DIV NO	STATE	FED. AID PROJ NO.	TYPE FUNDS	110 / 204
2	OHIO			

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS







SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L. F.	SQ. YD.	S. F.	C.Y.	EXC.	EMB.	EXC.	EMB.
69		41		4570	32		
	397		76			8179	61
74		41		4263	34		
	400		78			7578	73
70		43		3921	45		
	488		81			6871	80

SCALE	1" = 10"
MADE	J.B. DATE 6-26-54
TRCD	D.L.F. DATE 8-13-54
CKD.	H.H.B. DATE 8-17-54

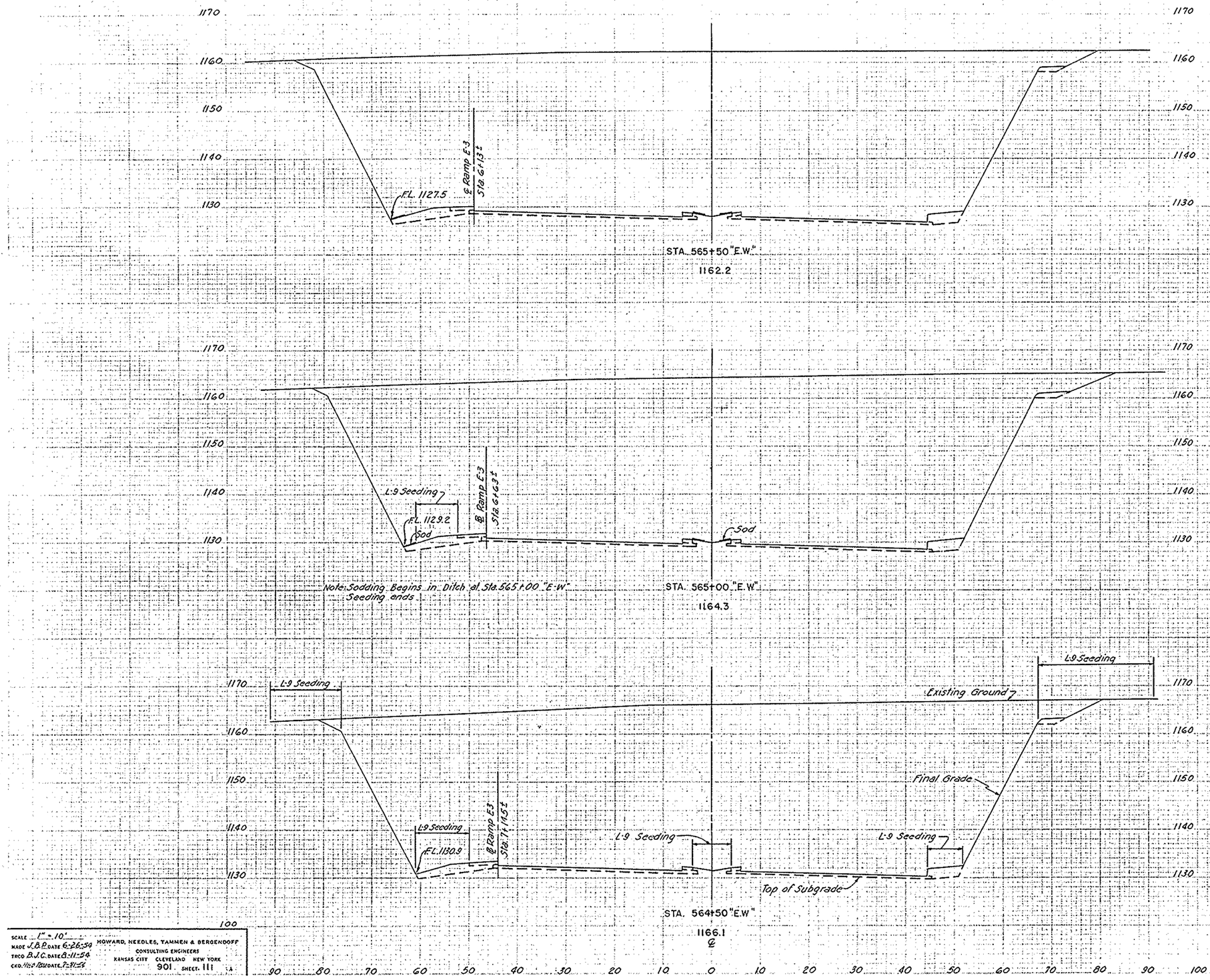
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 110

STA. 563+00 "E.W." TO STA. 564+00 "E.W."

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

111
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



SODDING		SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
10		54		45		4829	43		
	53		311		82			8950	78
Forward 9		58		44		4723	41		
Back 0		67		44		4723	41		
0		366		81				8640	83
0		65		43		4617	49		
0		372		78				8500	76

STA. 564+50 "E.W." EXP TO STA. 565+50 "E.W." EXP.

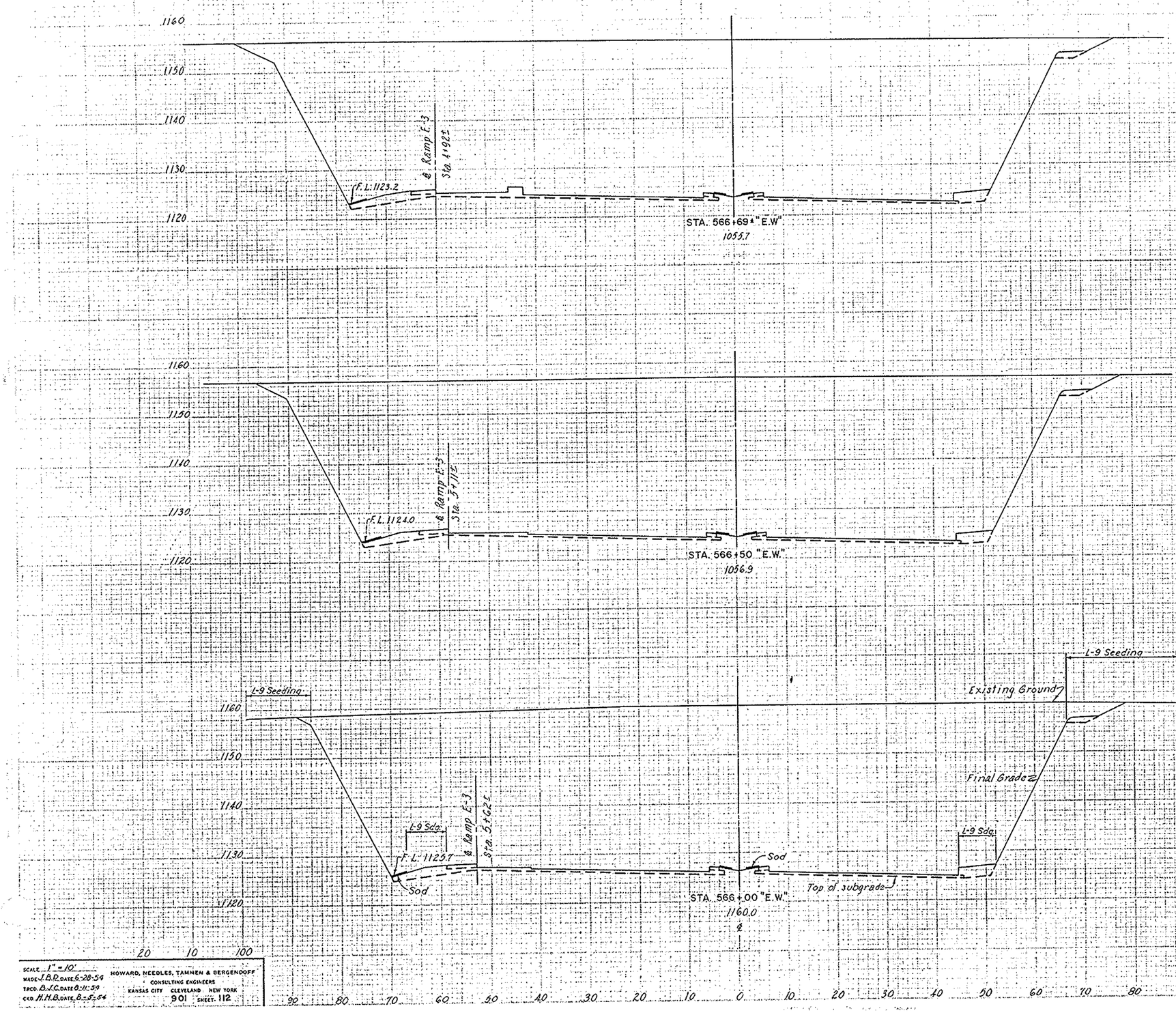
SCALE 1" = 10'
MADE J.B.B. DATE 6-26-54
TRCD B.J.C. DATE 8-11-54
CKD. W.S.T. DATE 7-21-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901. SHEET. 111

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

112
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



SODDING		SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
9		76		51		4825	40		
	20		145		36			3490	28
10		61		50		4813	40		
	53		328		91			8900	77
9		57		48		4805	43		
	53		308		86			8915	80

SCALE 1" = 10'
MADE J.B.P. DATE 6-28-54
TRCD. B.J.C. DATE 8-11-54
CKD. H.H.B. DATE 8-5-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 112

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

113
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS

SODDING		SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
9		71		52		4041	48		
	41		397		96			7895	89
8		72		52		4485	48		
	41		397		97			8450	87
9		71		53		4747	46		
	31		253		60			5495	49

STA. 567+00 E.W. EXP. TO STA. 568+00" E.W." EXP.

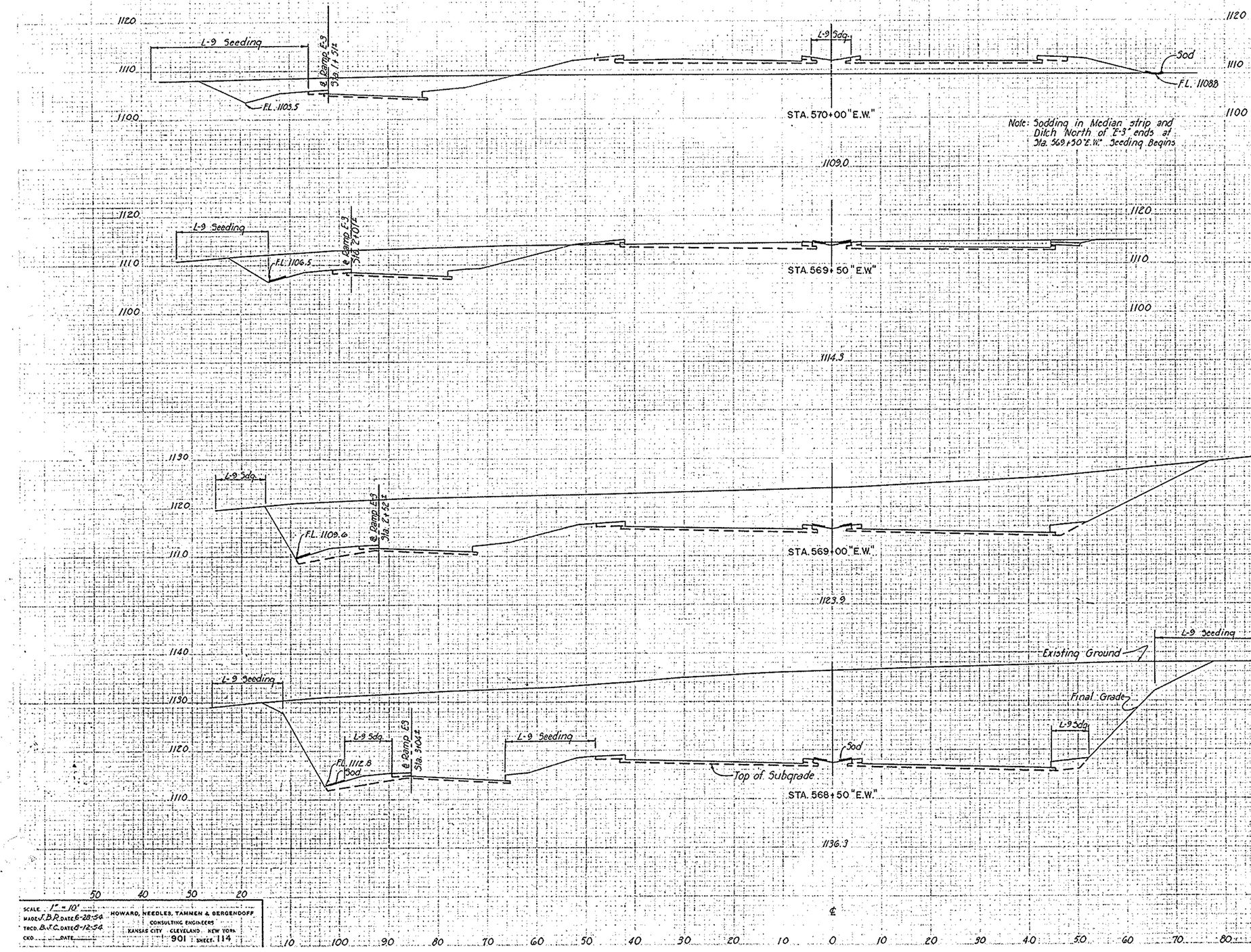
SCALE 1" = 10'
MADE J.B.P. DATE 6-28-54
TRCD. D.L.F. DATE 6-12-54
CKD. DATE

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY · CLEVELAND · NEW YORK
901 SHEET 113

FED. ROAD DIV NO	STATE	FED AID PROJ NO	TYPE FUNDS
2	OHIO		

114
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10
CROSS SECTIONS



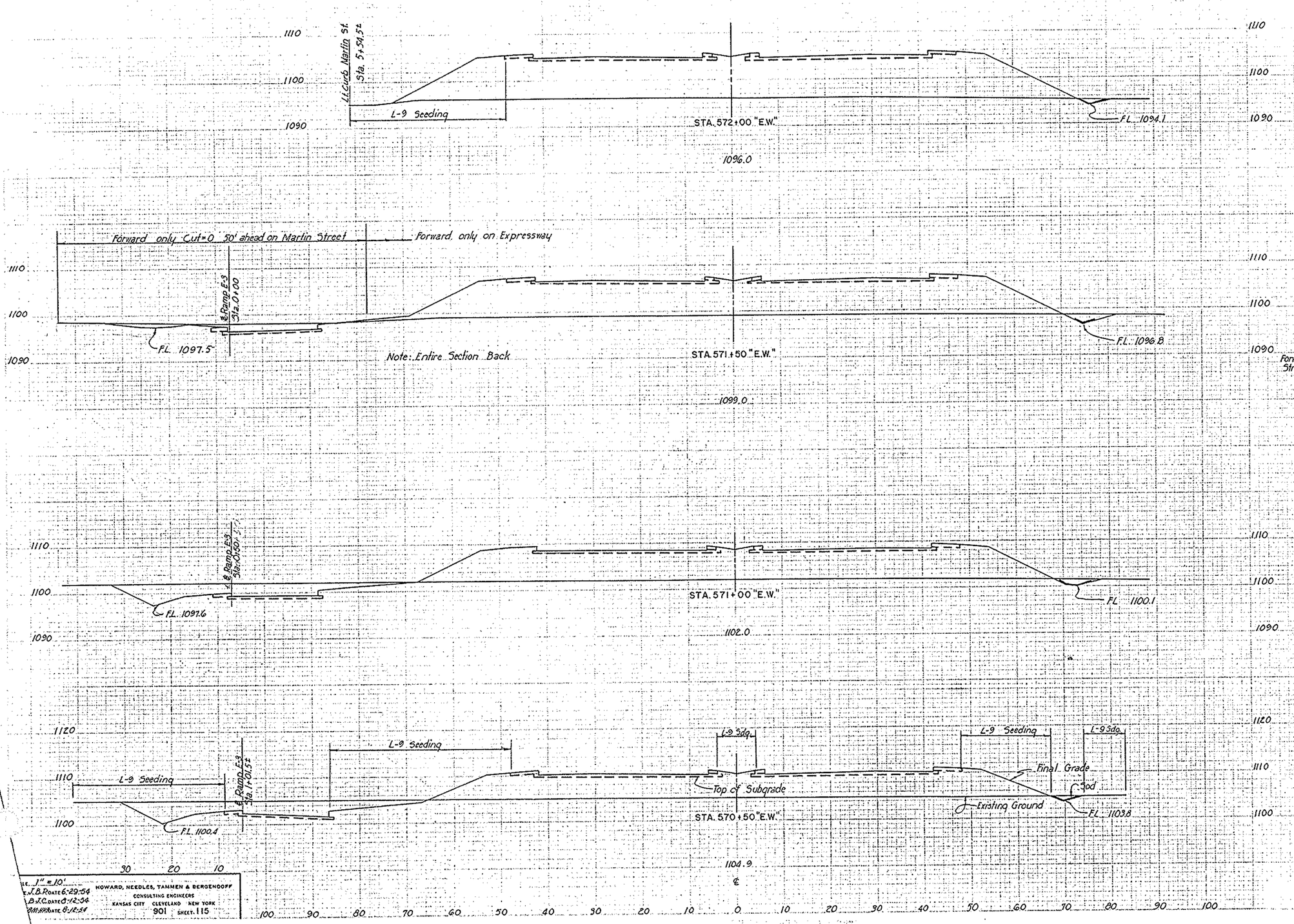
	SODDING		SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD.	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
570+00"E.W."										
Forward	4		107		51		213	308		
Back	0		111		51		213	308		
		0		539		95			557	292
569+50"E.W."										
Forward	0		83		52		388	7		
Back	9		74		52		388	7		
		50		500		96			1970	44
	9		106		52		1739	40		
		50		611		96			4631	72
	9		114		52		3263	38		
		50		514		96			6769	80

SCALE 1" = 10'
MADE J.B.P. DATE 6-28-54
TRCD. B.T.C. DATE 8-12-54
CKD. DATE
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 114

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

115
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



SODDING		SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F	SQYD.	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
1		88		40		5	1113		
	39		469		74			15	1890
	0		256		44			56	0
571+50 "E.W."									
Forward	7		81		40		11	928	
Forward Martin	0		46		11		61	0	
Street Back	7		127		51		72	928	
	42		694		94			219	1583
8		123		51		165	781		
	42		655		94			313	1295
7		113		51		172	617		
	31		611		94			357	857

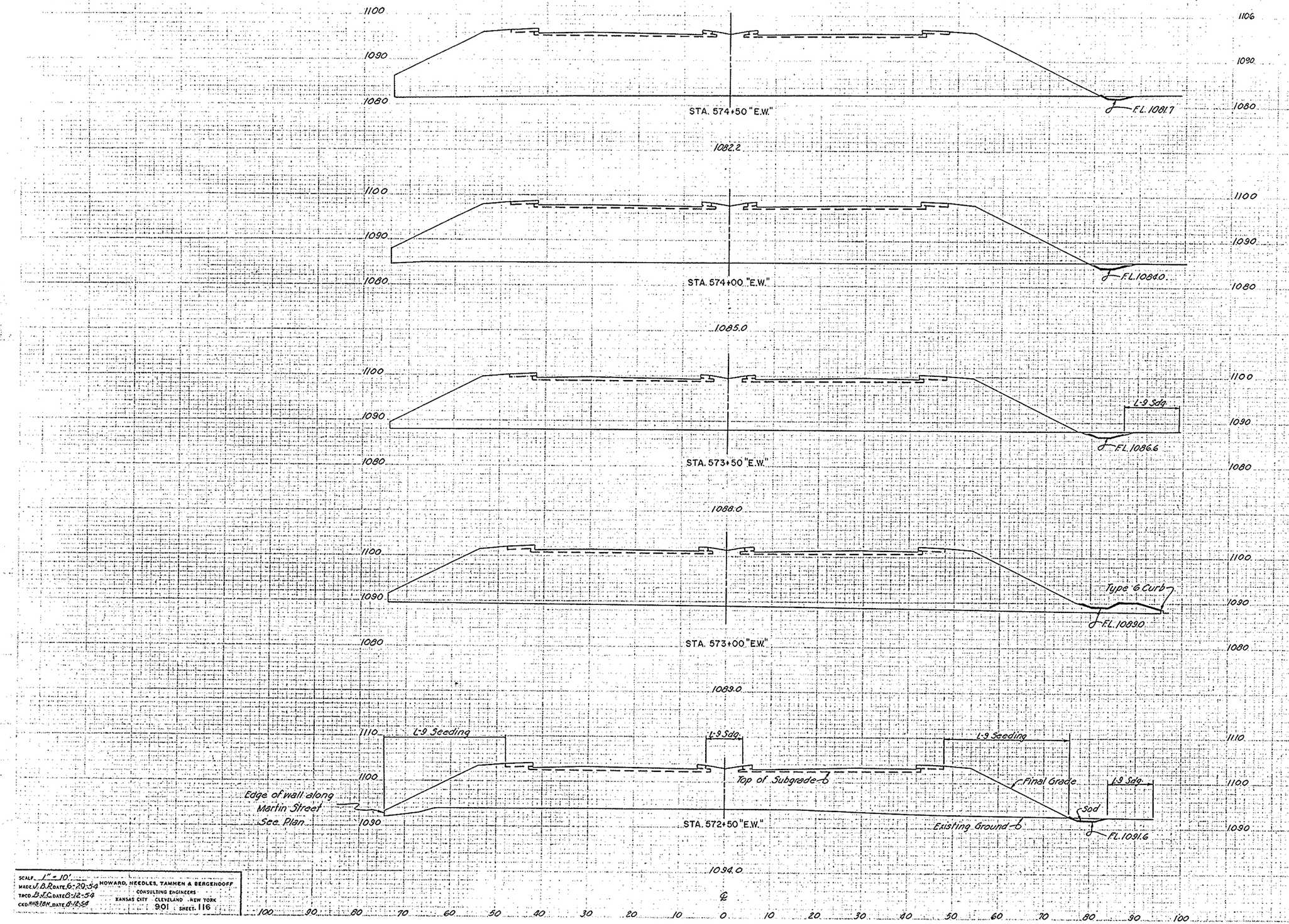
SCALE 1" = 10'
DRAWN J.B. DATE 6-29-54
TRACED D.J.C. DATE 8-12-54
CHECKED DATE 8-12-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 115

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

116
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



SODDING		SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
8		87		40		6	1846		
	47		436		74			13	3258
9		87		40		8	1672		
	50		483		74			16	2916
9		87		40		9	1477		
	108		386		74			8	2882
30		52		40		0	1635		
	106		371		74			5	2618
8		82		40		5	1180		
	42		471		74			9	2132

STA. 572+50 "E.W." EXP. TO STA. 574+50 "E.W." EXP.

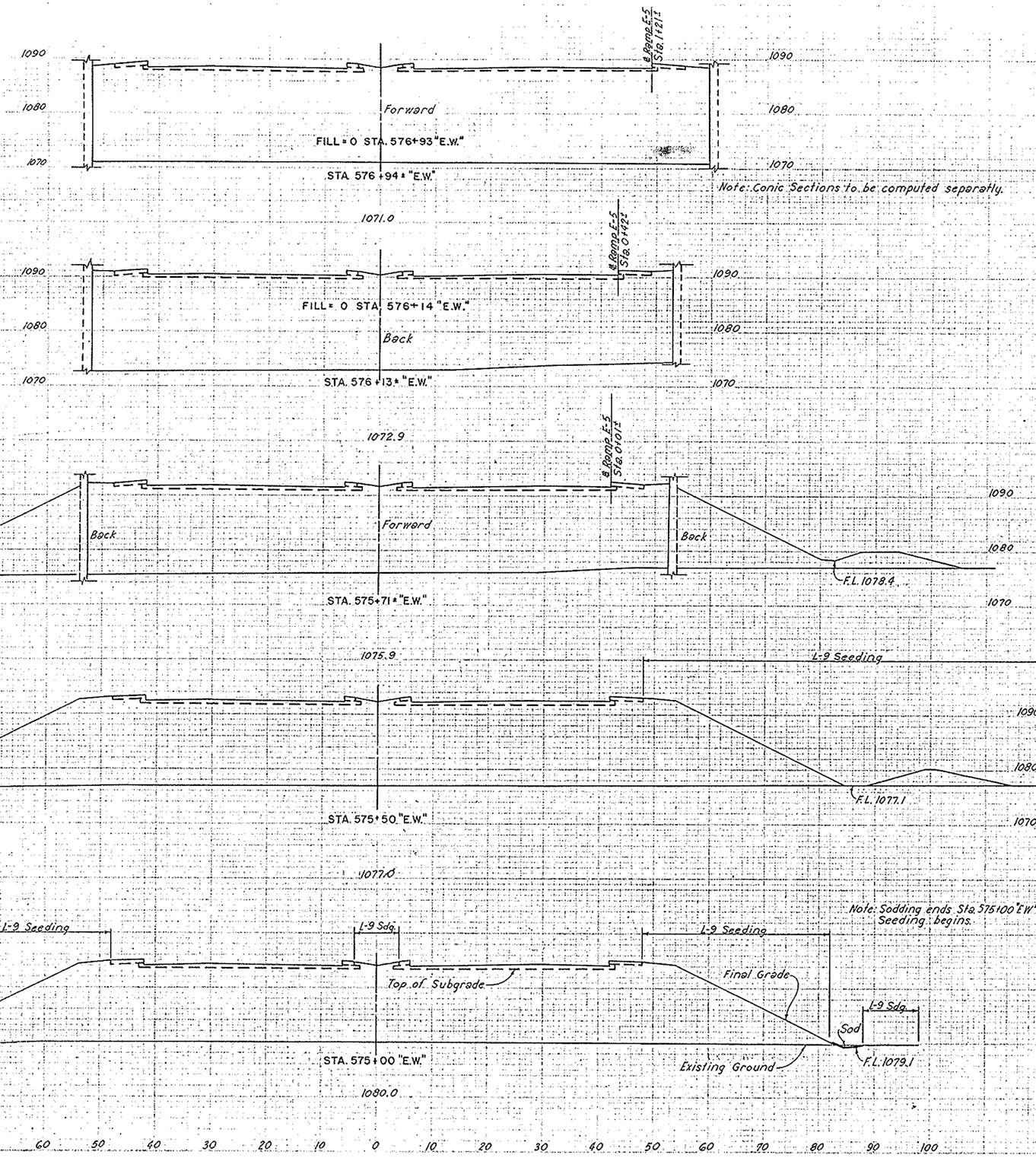
SCALE 1" = 10'
MADE J.B. ROATE 6-20-54
TRCD B.J.C. DATE 6-12-54
CKD MHB JBR DATE 6-12-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 116

FED ROAD DIV NO	STATE	FED AID PROJ NO	TYPE FUNDS
2	OHIO		

117
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



	SODDING		SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F	SQ.YD.	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
Forward	0		16		43		0	1935		
		0		1		1			0	36
		0		1		1			0	33
Back	0		16		41		0	1784		
		0		79		63			0	2635
		0		130		0			0	122
		0		53		0			0	176
Forward	0		18		40		0	1604		
Back	0		110		40		0	2153		
		0		279		31			0	1690
	0		129		40		0	2192		
									2	3789
Note: Sodding ends Sta. 575+00 "E.W." Forward	0		86		40		2	1900		
Seeding begins. Back	6		80		40		2	1900		
		39		467		74			7	3469

SCALE 1" = 10'
MADE J.B.P. DATE 6-29-54
TRCD B.J.C. DATE 8-12-54
CKD H.H.B. DATE 8-12-54

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

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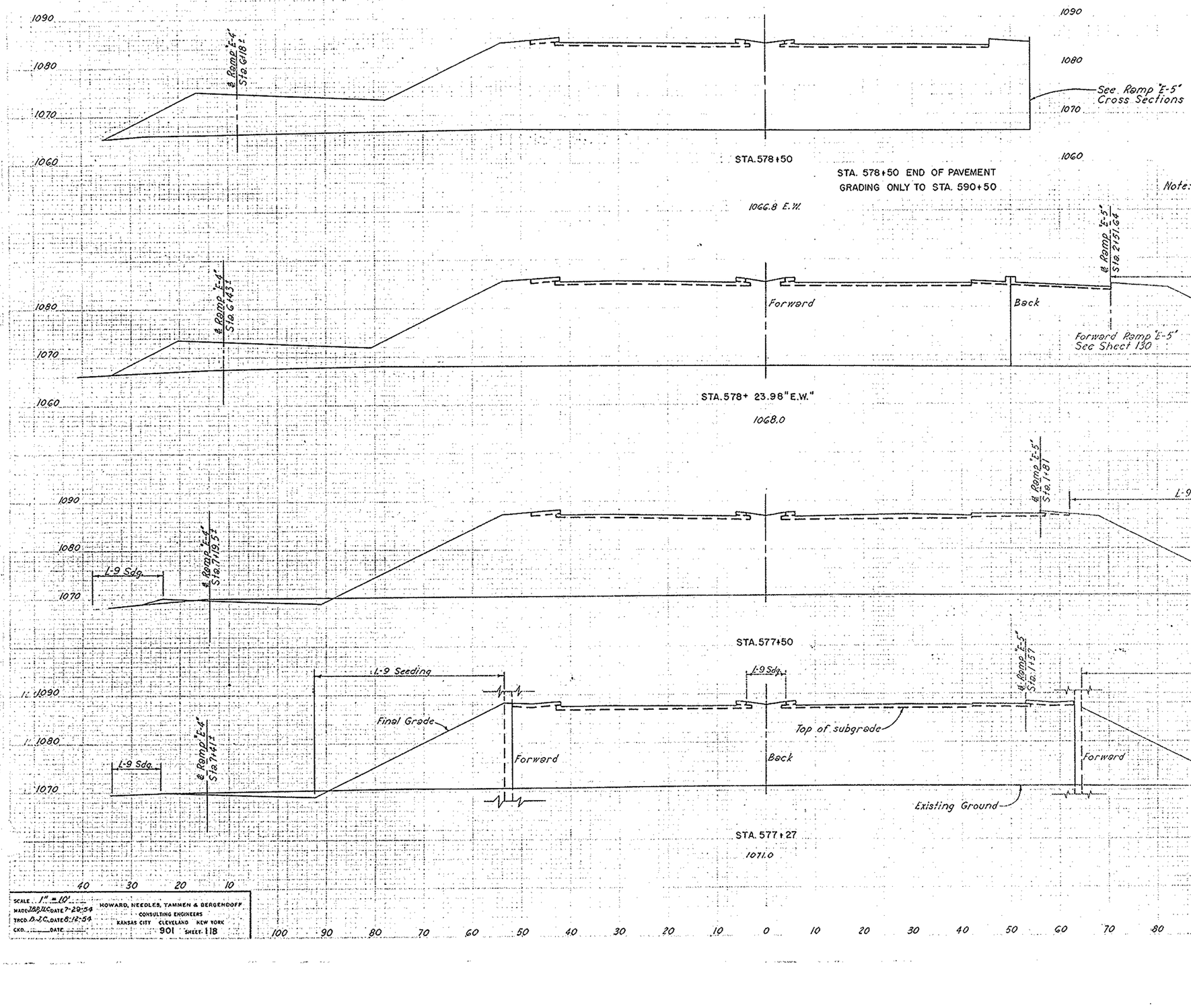
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

118
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS



SODDING		SEEDING		SUBBASE		EARTHWORK			
WIDTH L.F.	AREA SQ.YD.	WIDTH L.F.	AREA SQYD.	AREA S.F.	VOL. C.Y.	END AREA EXC.	END AREA EMB.	VOLUME EXC.	VOLUME EMB.
0		82		42		0	26.14		
	0		221		41			0	23.77
6		54		10		0	8.10		
0		71		44		0	23.20		
0		131		55		0	31.30		
	0		1106		140			21	77.86
0		138		47		15	25.53		
	0		339		40			32	21.61
0		127		46		60	25.20		
0		8		46		0	18.83		
	0		47		58			0	24.75
	0		162		0			0	1.69
	0		147		0			0	2.01

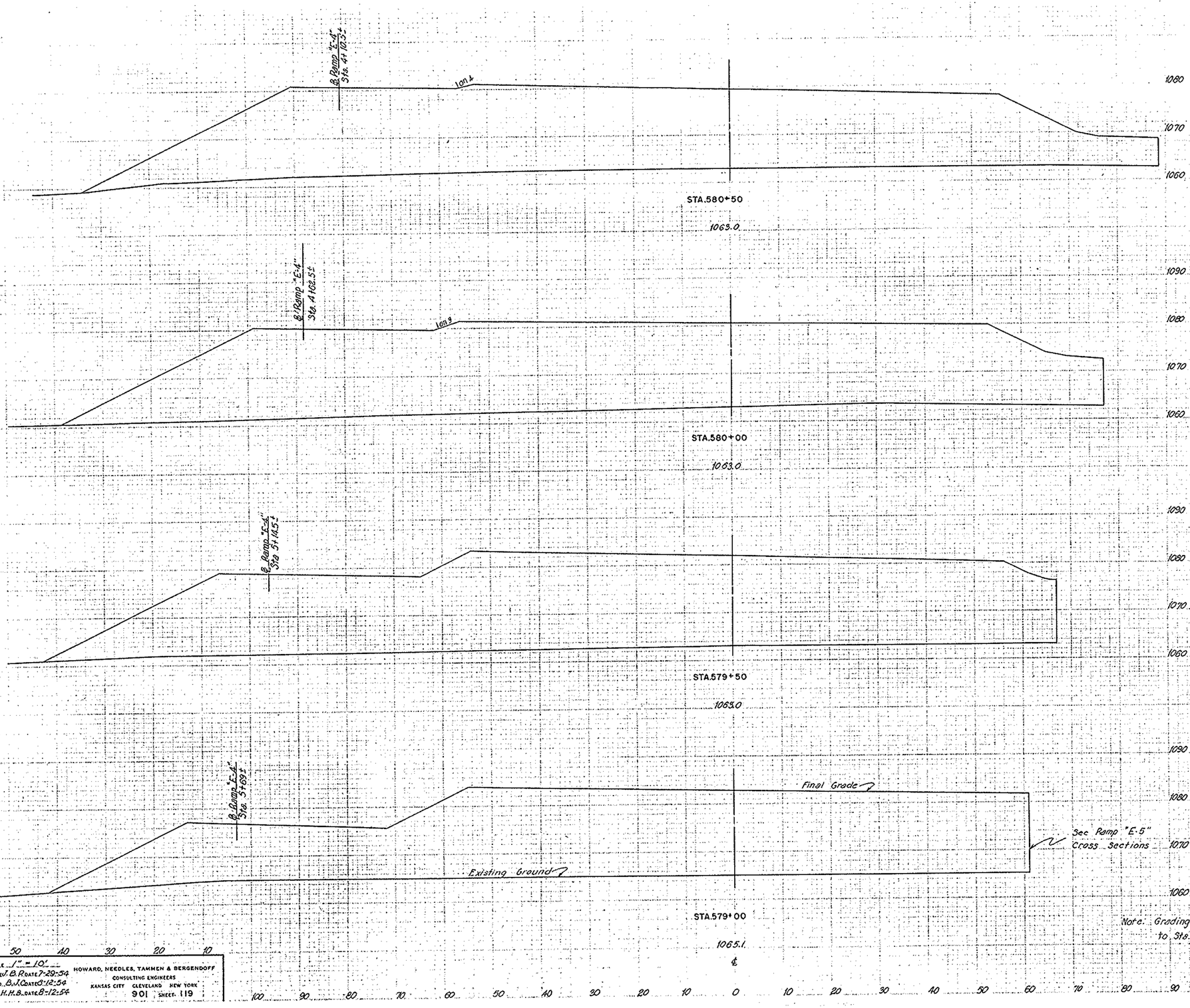
SCALE 1" = 10'
MADE JAP/JC DATE 7-29-54
TRCD. A.J.C. DATE 8-12-54
CKD. ____ DATE ____
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 118

FED. ROAD DIV NO	STATE	FED AID PROJ NO.	TYPE FUNDS
2	OHIO		

119
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6

SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
98		0		0	3246		
	511		0			0	6200
86		0		0	3450		
	147		0			0	6435
75		0		0	3500		
	380		0			0	6055
62		0		0	3039		
400		39					5234

Note: Grading only Sta 579+00 E.W. Exp. to Sta. 599+50 E.W. Exp.

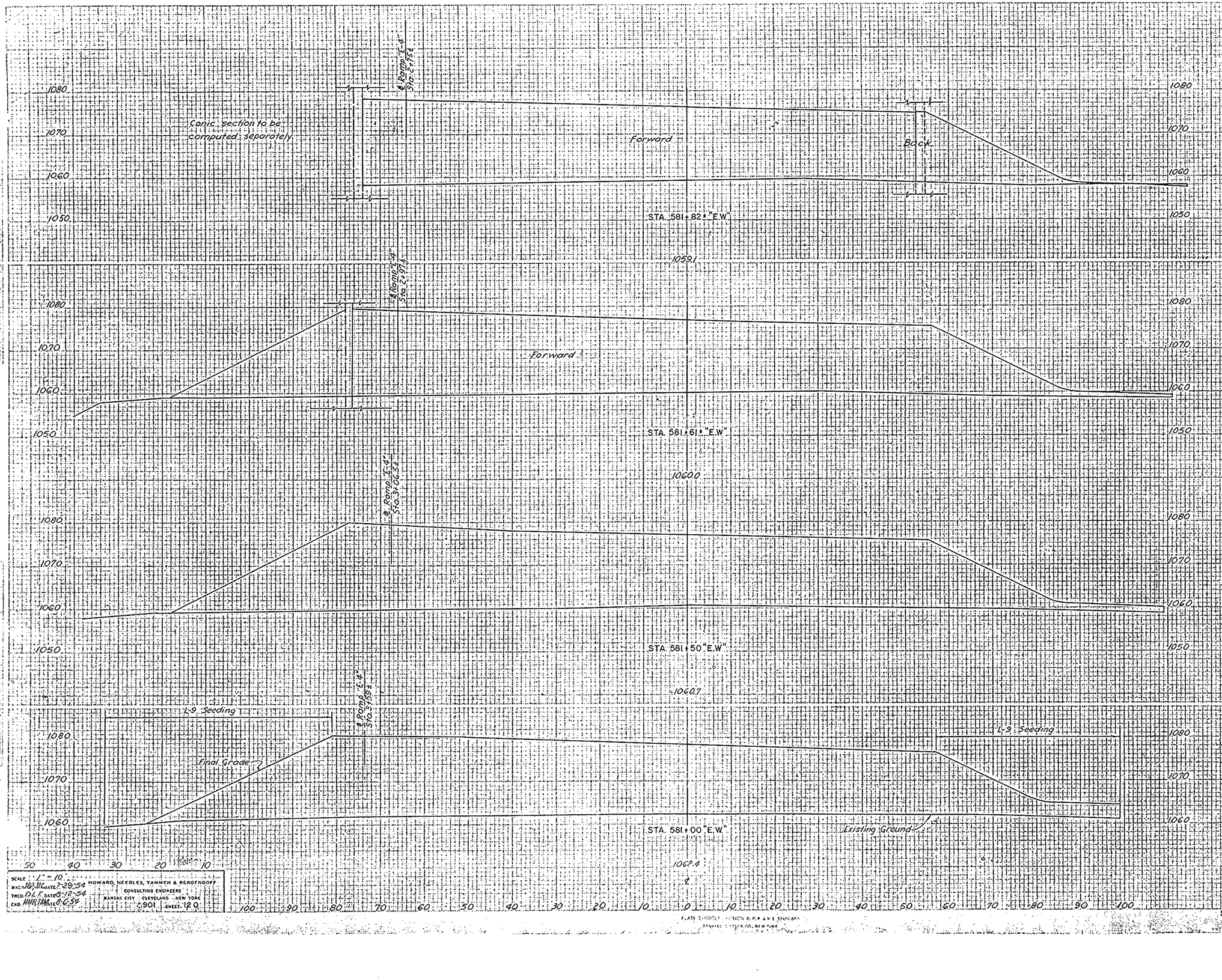
SCALE 1" = 10'
MADE/ B.P. DATE 7-29-54
TRCD. B.J. DATE 8-12-54
CKD H.H.B. DATE 8-12-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 119

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUKOS
2	OHIO		

120
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS



	SEEDING		SUBBASE		EARTHWORK			
	WIDTH L.F.	AREA SQ.YD.	AREA S.F.	VOL. C.Y.	END AREA EXC.	END AREA EMB.	VOLUME EXC.	VOLUME EMB.
Forward	0		0		0	2271		
Back	65		0		1	2624		
		144		0			1	2230
		47		0			0	326
Forward	58		0		0	2640		
Back	114		0		0	3120		
		139		0			0	1268
	114		0		0	3095		
		600		0			0	5600
	102		0		0	3023		
		556		0			0	5805

SCALE 1" = 10'
MAC JBJ JJL DATE 7-29-54
TRCD DLF DATE 8-12-54
CKD WHR/RM DATE 8-6-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
C901 SHEET 120

PLATE SHOWING CONDITION OF R.P.P. & W.S. STANDARD

STA. 581+00 E.W. EXP. TO STA. 581± E.W. EXP.

FINAL SURVEY

ORIGINAL SURVEY

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

121
204

SUMMIT COUNTY
CITY OF ARKON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS

SEEDING		SUBBASE		EARTHWORK			
WIDTH L.F.	AREA SQ.YD.	AREA S.Y.	VOL. C.Y.	END AREA EXC.	END AREA EMB.	VOLUME EXC.	VOLUME EMB.
120				32	3110		
60				0	2736		
30				32	32		
				0		0	624
182				0		0	221
65						85	9

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

122
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS

SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
116		14		0	3397		
	666		26			7	6391
114		26				23	6570
112		14		20	3590		
26						44	6200
14		30	3107				
107		15				53	3277

STA. 585+00 "E.W."
STA. 584+50 "E.W."
STA. 584+00 "E.W."
STA. 583+50 "E.W."

1046.7
1047.9
1049.2
1054.0

E Ramp E-6 Sta. 0+85
E Ramp E-6 Sta. 1+00
E Ramp E-6 Sta. 1+04.27
E Ramp E-6 Sta. 0+51.51
E Ramp E-6 Sta. 1+32.2
E Ramp E-6 Sta. 0+82.5
E Ramp E-6 Sta. 1+10.2

L-9 Seeding
Final Grade
Existing Ground
Top of Subgrade
℄

SCALE 1" = 10'
WADM JBP JJ DATE 8-2-54
TRCD D.L.F. DATE 8-12-54
CKD. RPH DATE 8-9-54
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 122

STATE STANDARD CROSS SECTION O.P.W. & M.E. STANDARD
KEUFFEL & ESSER CO. NEW YORK

STA. 583+50 E.W. EXP. TO STA. 585+00 E.W. EXP.

FINAL SURVEY
ORIGINAL SURVEY

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

123
204

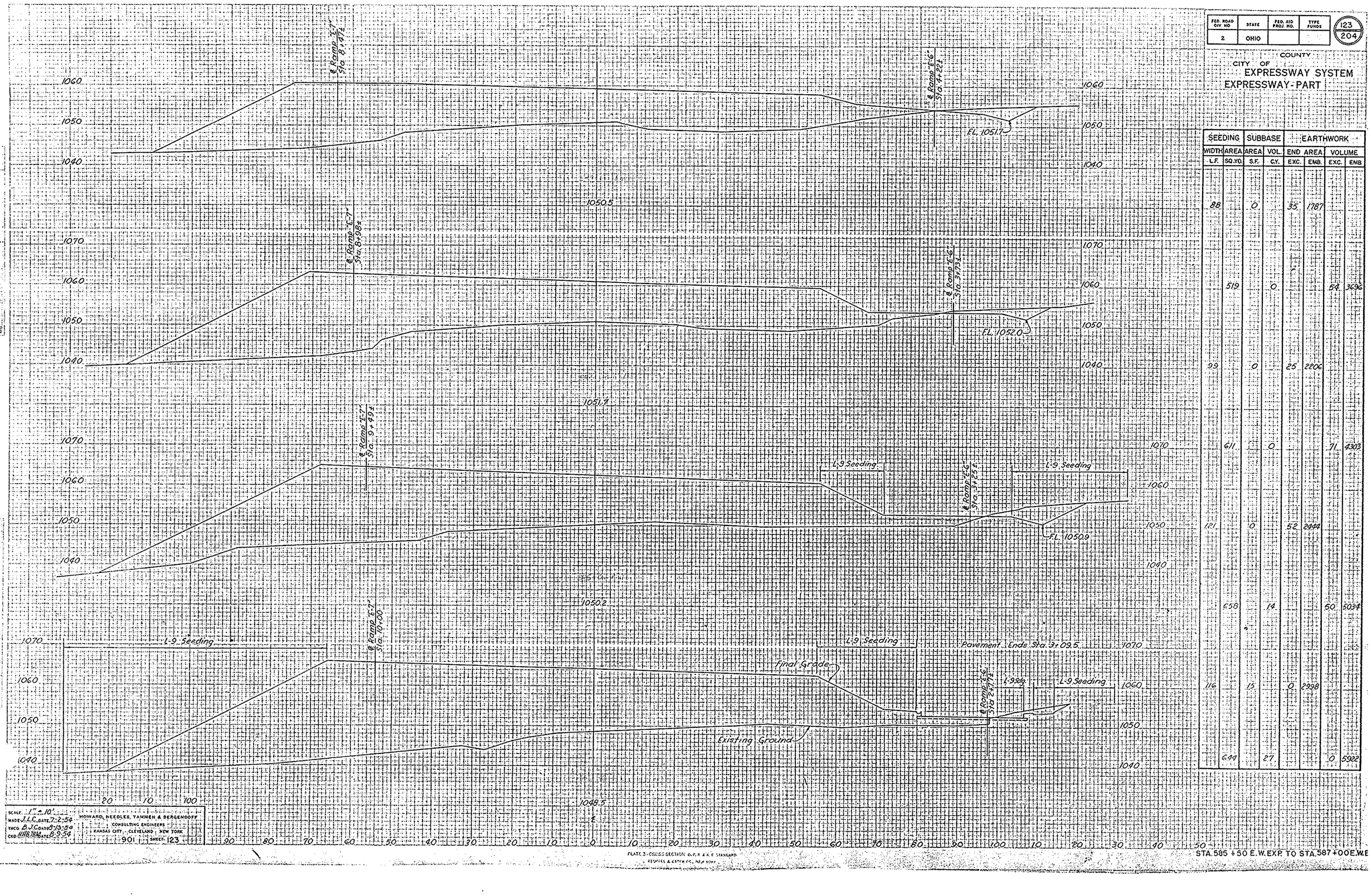
COUNTY

CITY OF

EXPRESSWAY SYSTEM

EXPRESSWAY - PART

SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
88		0		35	1787		
	519		0			54	3696
99		0		25	2806		
611		0		71	4303		
121		0		52	2444		
658		14		50	5034		
116		15		0	2998		
499		27		0	5922		



SCALE 1" = 10'
MADE J.J.C. DATE 7-2-54
TRCD B.J.C. DATE 8-13-54
CKD HHB/BM DATE 8-9-54

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

901 SHEET 123

PLATE 3 - CROSS SECTION O.P.R. & A.E. STANDARD
KEUFFEL & ESSER CO., NEW YORK

STA. 585 + 50 E.W. EXP. TO STA. 587 + 00 E.W.E

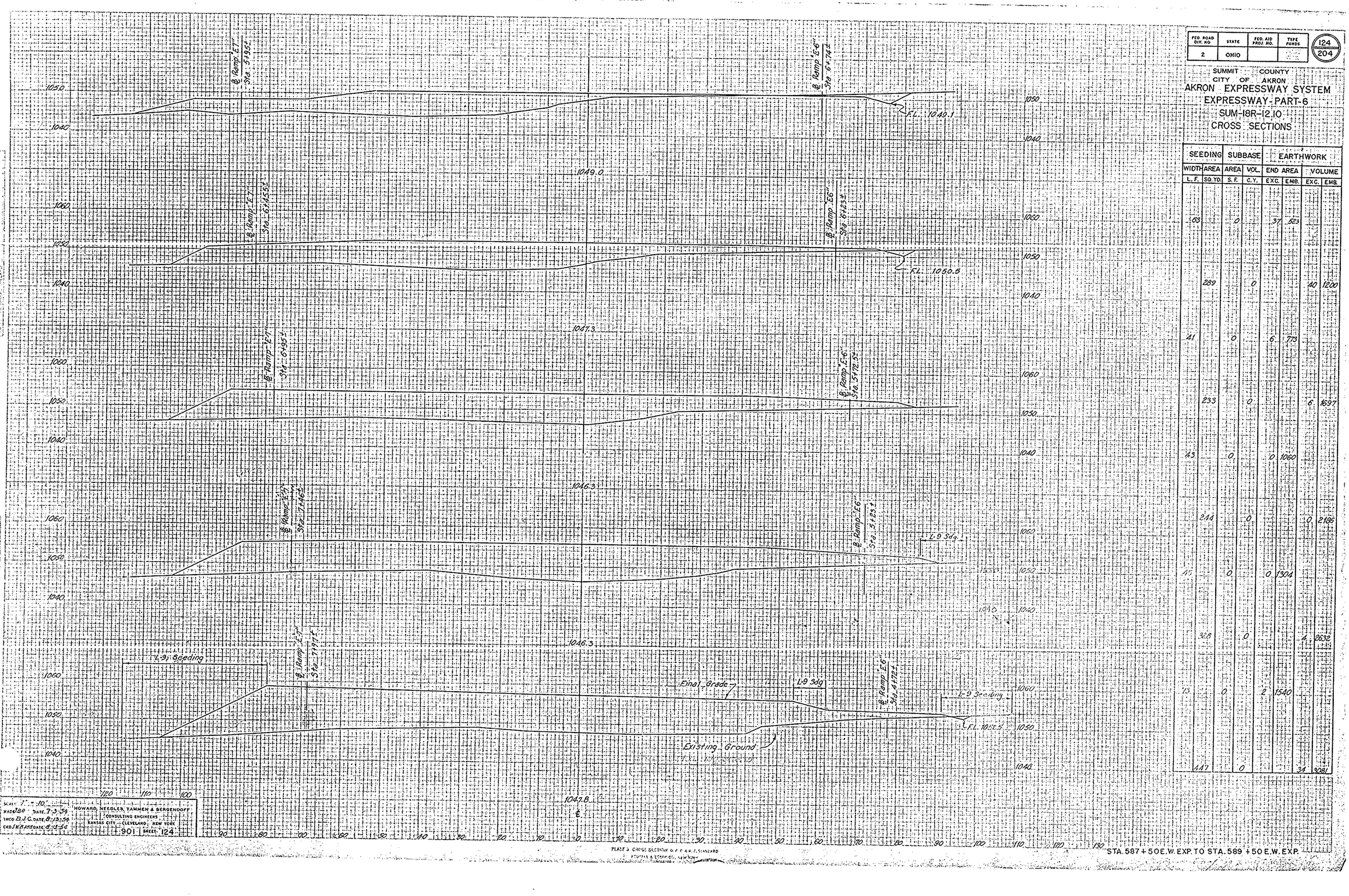
ORIGINAL SURVEY
FINAL SURVEY
NOTE NOS.
DATE

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

124/204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART-6
SUM-18R-12.10
CROSS SECTIONS

SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
63		0		37	523		
	289		0			40	1200
41		0		6	773		
	233		0			6	1697
43		0		0	1060		
	244		0			0	2186
15		0		0	1304		
	328		0			1	2632
13		0		2	1540		
	447	0				34	3081



SCALE 1" = 10'
MADE TBO DATE 7-3-56
TRCD B.J.C. DATE 8-13-56
CKD J.W.H. DATE 8-14-56

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

901 SHEET 124

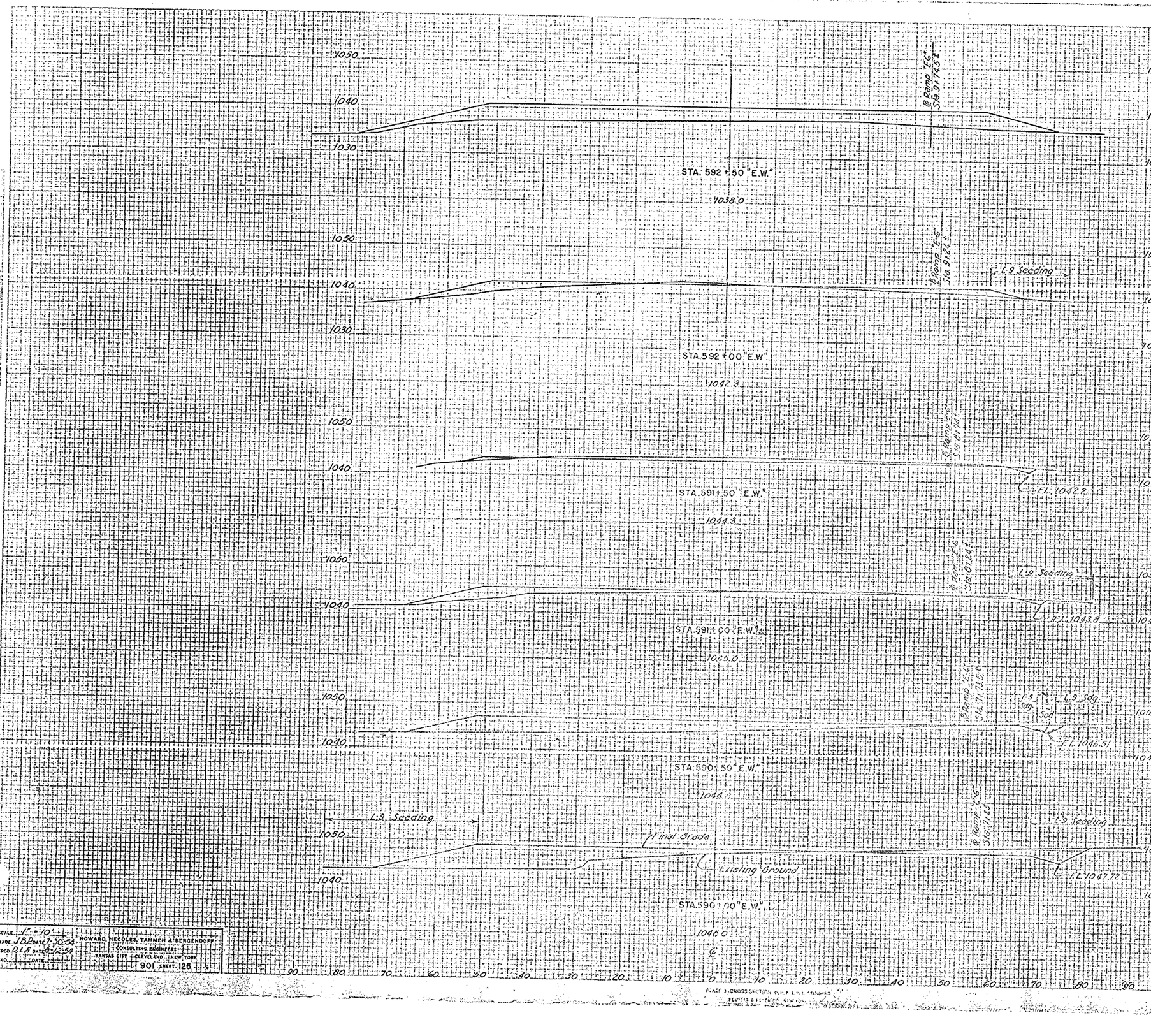
PLATE 5 CROSS SECTION O.P.R.R.C. STANDARD
STOTLER & CRAIG INC. NEW YORK

STA. 587+50 E.W. EXP. TO STA. 589+50 E.W. EXP.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

125
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART
SUM-18R-12.10
CROSS SECTION



Note: Sodding begins Sta 71+50 ℄ Ramp "E" and ends at Sta. 91+10 ℄ Ramp "E"

SODDING		SEEDING		SUBBASE		EARTHWORK			
WIDTH L.F.	AREA SQ.YD.	WIDTH L.F.	AREA SQ.YD.	AREA S.F.	VOL. C.Y.	END AREA EXC.	END AREA EMB.	VOLUME EXC.	VOLUME EMB.
0		66		0		0	410		
	0		314		0			4	963
0		47		0		4	90		
	0		225		0			49	86
0		34		0		60	3		
	0		225		0			53	77
0		47		0		4	60		
	0		291		0			15	296
	20								
15		42		0		8	240		
	13								
	0		270		0			44	443
0		55		0		60	238		
	0		328		0			90	705

FINAL SURVEY
ORIGINAL SURVEY
NOTE TOPO. INFORMATION
NO. DATE

SCALE 1" = 10'
MADE J.B.P. DATE 7-30-54
TRCD. D.L.F. DATE 8-12-54
CKD. ____ DATE ____
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY · CLEVELAND · NEW YORK
901 SHEET 125

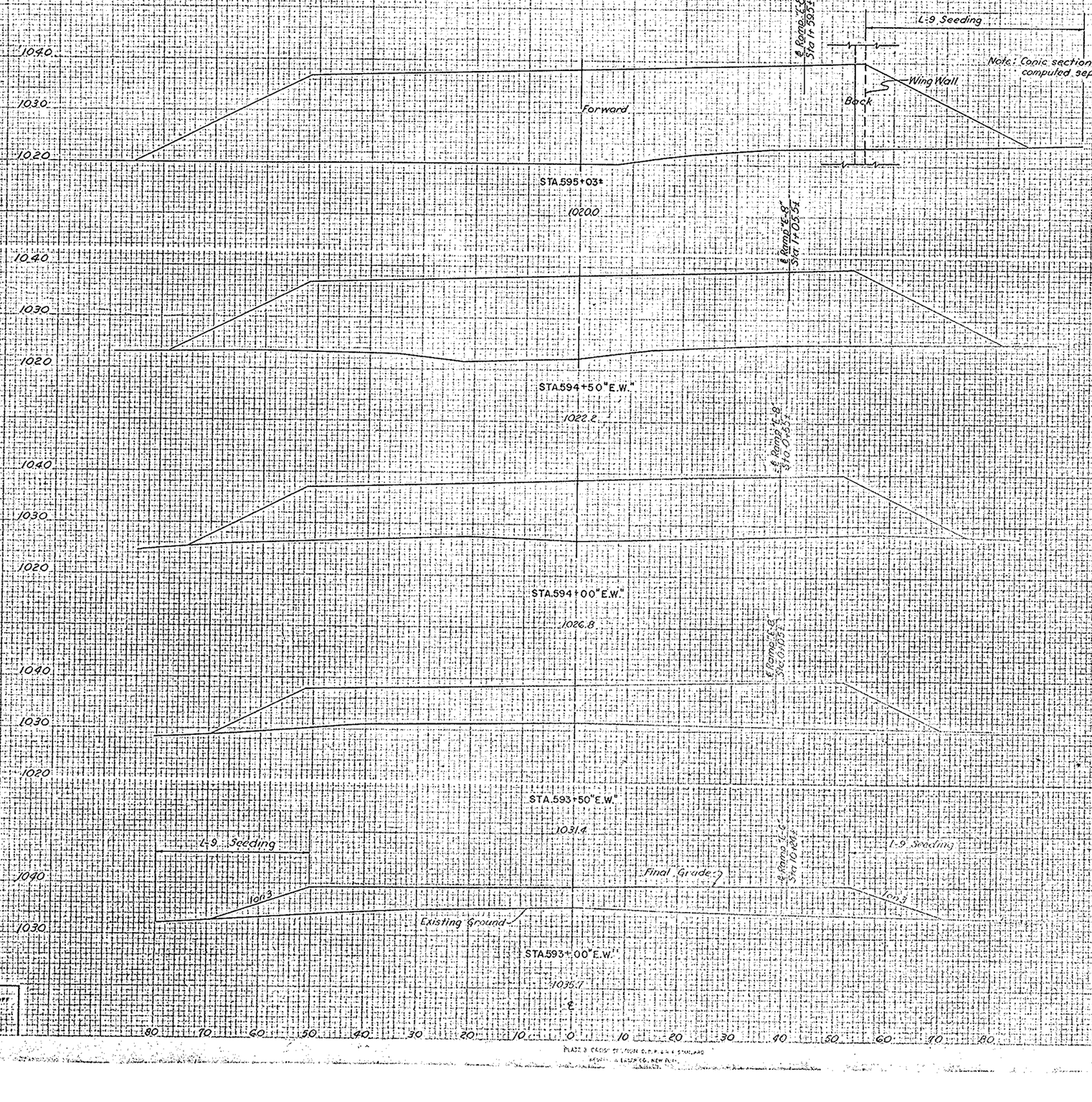
PLATE 3 - CROSS SECTION SUM-18R-12.10

STA. 590+00 "E.W." EXP. TO STA. 592+50 "E.W." EXP.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

126
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART-6
SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
		0		0	2135		
18		0		0	2435		
93							
	518		0			0	4340
83		0		0	1987		
	435		0			0	3157
72		0		0	1423		
	312		0			0	2202
62		0		0	955		
	210		0			0	1431
59		0		0	591		
	141		0			0	921

SCALE 1"=10'
MADE J.D.D. DATE 7-31-54
TRCD D.L.F. DATED 12-29-54
CKD WHB DATE 8-9-54
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 1126

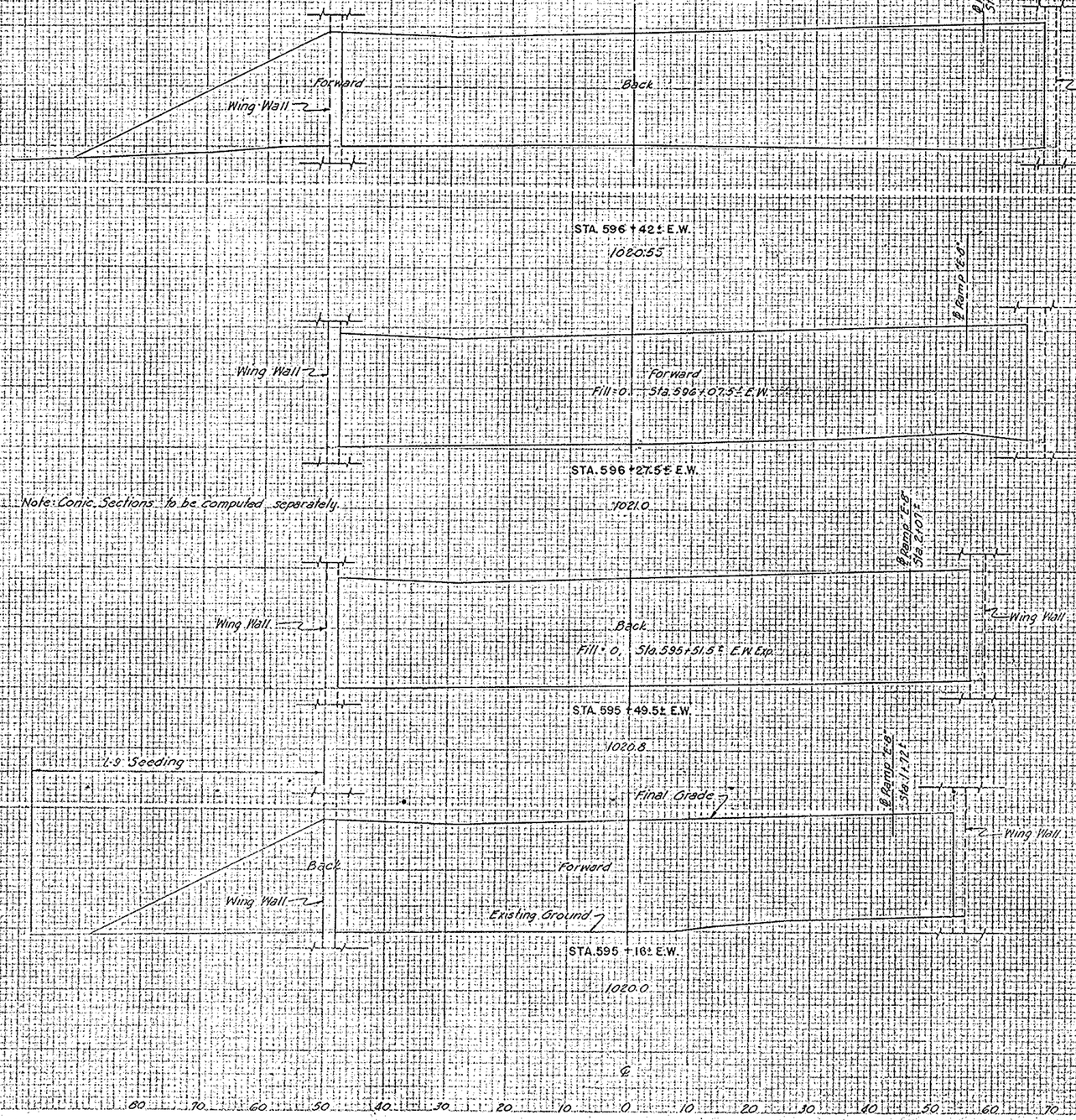
STA.593+00"E.W."EXP TO STA.595+03±"E.W."EXP

FINAL SURVEY NOTE BOOK No.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

127
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
				END AREA		VOLUME	
WIDTH L.F.	AREA SQ.YD.	AREA S.F.	VOL. C.Y.	EXC.	EMB.	EXC.	EMB.
71		0		0	2700		
0		0		0	2204		
0		0				0	1176
222		0				0	328
		0		0	2089		
0		0				0	775
0		0				0	70
0		0		0	1891		
0		0				0	2308
62		0				0	266
0		0		0	1830		
0		0		0	2260		
17		0				0	1058
162		0				0	159

SCALE 1" = 10'
MADE J.B. DATE 7-31-54
TRCD D.J.C. DATE 8-13-54
CK'D TM-HRS DATE 8-13-54
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 127

PLATE 3 - CROSS SECTION G.P.R.A.R.E. STANDARD
KEUFFEL & ESSER CO. NEW YORK

STA. 595+16± E.W. EXP. TO STA. 596+42± E.W. EXP.

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

128
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS

SEEDING		SUBBASE		EARTHWORK			
				END AREA		VOLUME	
WIDTH L.F.	AREA SQ.YD.	AREA S.F.	VOL. C.Y.	EXC.	EMB.	EXC.	EMB.
86		0		0	3265		
433		0				0	5801
70		0		0	3000		
455		0				0	6346
Forward 61		0		0	2483		
Back 117		0		0	3673		
366		0				0	3715
Forward 114		0		0	3365		
Back 57		0		0	2870		
100		0				0	1154
240		0				0	353

STA. 598+00 "E.W."
1016.7
STA. 597+50 "E.W."
1017.4
STA. 596+87.5 ± "E.W."
1019.2
STA. 596+59 ± "E.W."
1019.8
℄
1-9 Seeding
Final Grade
Existing Ground
Forward
Back
See Ramp "F.8" Cross Section
Forward To Get For End area and Volume See Sheet 132
Wing Wall
STA. 596+59± E.W. EXP. TO STA. 598+00 E.W. EXP.

FINAL SURVEY — DATE — NOTE BOOK — NO. — PAGE
ORIGINAL SURVEY — DATE — NOTE BOOK — NO. — PAGE

SCALE 1" = 10'
MADE V.B. POATE 7-31-54
TRCD. B.J.C. DATE 8-13-54
CKD. [illegible] DATE 8-13-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY · CLEVELAND · NEW YORK
901 SHEET 128

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

129
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS

SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
	148		0			0	1202
92		0	0	2239			
	278		0			0	2881
108		0	0	3983			
	561		0			0	7098
94		0	0	9683			
	511		0			0	6673
90		0	0	3629			
	489		0			0	6291

F=0, STA. 600+04 ± "E.W." EXP.

STA. 599+75 "E.W."

1014.4

STA. 599+50 "E.W."

1014.3

STA. 599+00 "E.W."

1014.0

STA. 598+50 "E.W."

1015.8

L.S Seeding

Final Grade

L.S Seeding

See Ramp 'F' 6 Cross Section

Existing Ground

STA. 598+50 E.W. EXP. TO STA. 599+75 E.W. EXP.

FINAL SURVEY NOTE BOOK NO.

ORIGINAL SURVEY NOTE BOOK NO.

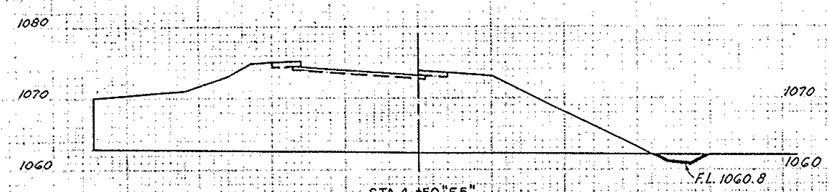
SCALE 1" = 10'
MADE J.B.P. DATE 8-1-54
TRCD A.L.F. DATE 8-12-54
CHKD M.H.B. DATE 8-12-54

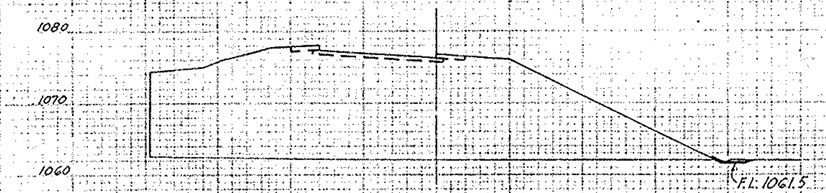
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 129

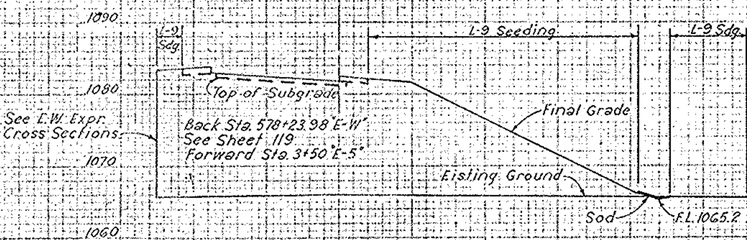
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

130
204

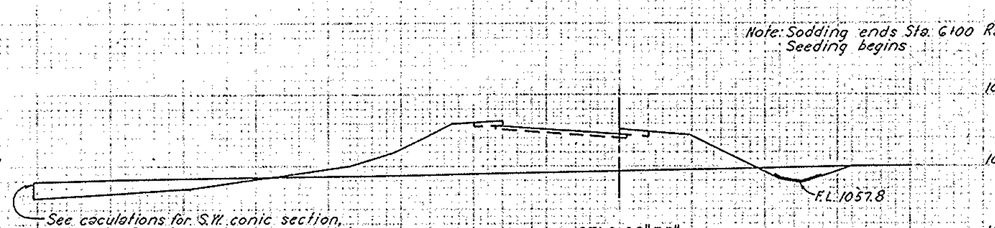
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS

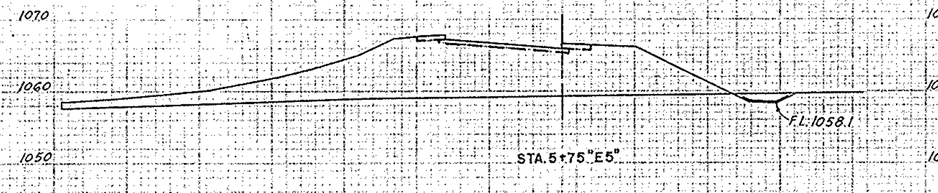


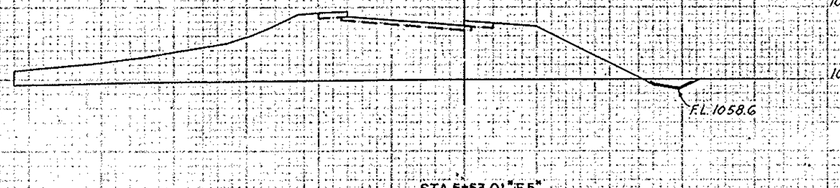


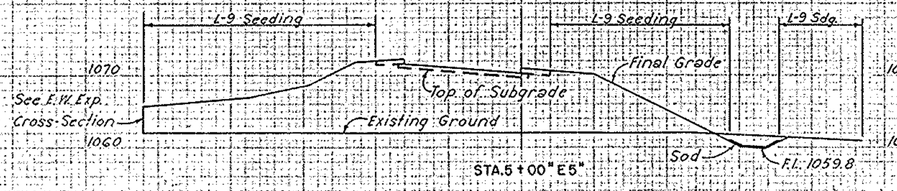


Note: Sodding ends Sta. 6+00 Ramp E-5
Seeding begins









	SODDING		SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L. F.	SQ. YD.	L. F.	SQ. YD.	S. F.	C. Y.	EXC.	EMB.	EXC.	EMB.
STA. 6+00 "E5" Forward	0		102		9		51	274		
Back	7		95		9		51	274		
		21		250		8			29	317
STA. 5+75 "E5"	8		85		9		11	410		
		18		198		7			10	353
STA. 5+53.01 "E5"	7		77		9		10	465		
		44		433		18			27	912
STA. 5+00 "E5"	8		70		9		18	520		
		44		381		17			22	1102
STA. 4+00 "E5"	8		67		9		6	675		
		42		372		17			9	1450
STA. 4+00 "E5"	7		67		9		4	891		
		39		350		18			7	1604
STA. 3+50 "E5"	7		59		10		4	841		
		36		311		19			5	1505
STA. 3+00 "E5"	6		53		10		1	830		
		32		288		19			1	1469

STA. 3+00 "E5" TO STA. 6+00 "E5"

SCALE 1" = 10'
MAP J.B.D. DATE 7-2-54
TRCD B.J.C. DATE 8-13-54
CKD T.B.F. DATE 8-13-54

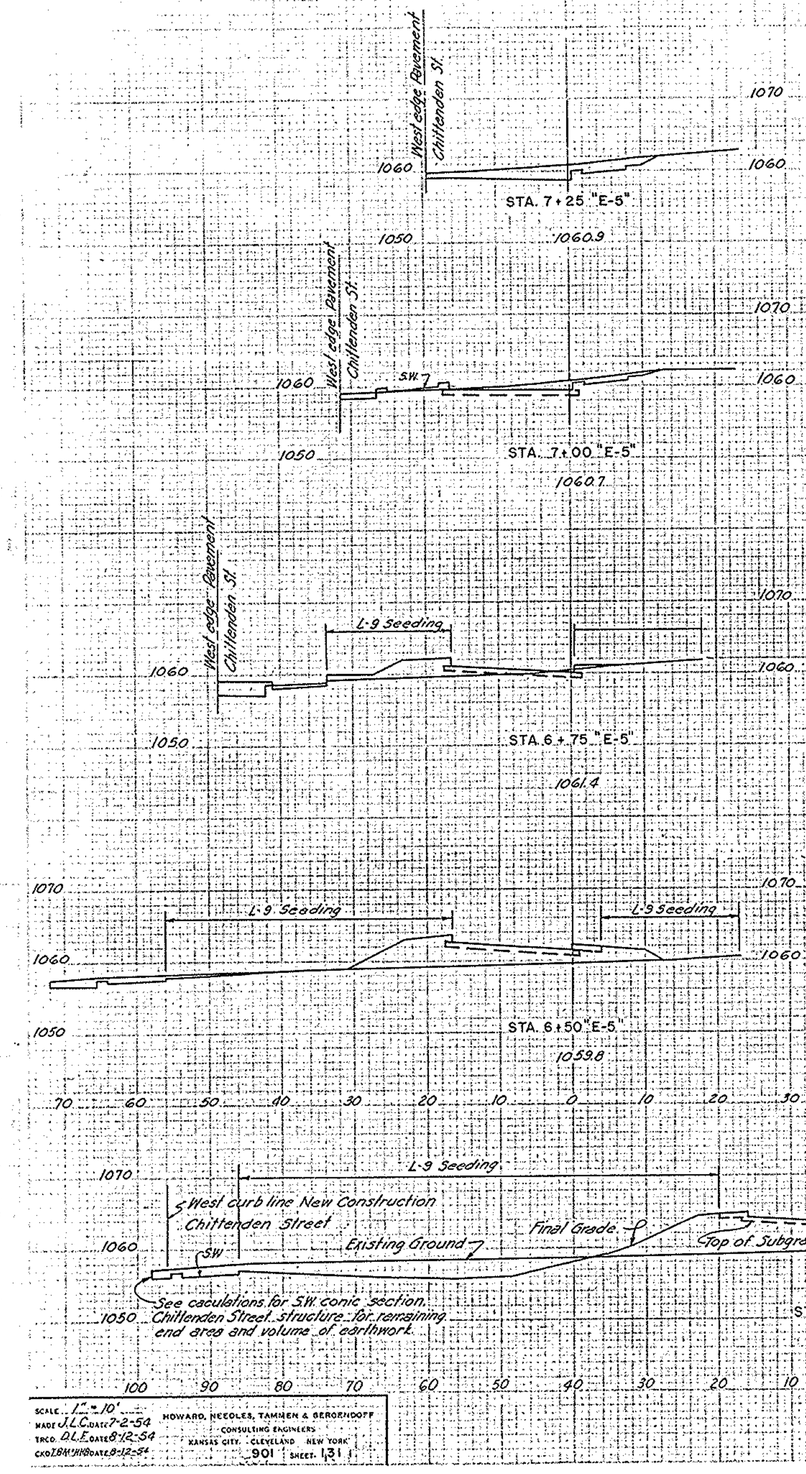
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

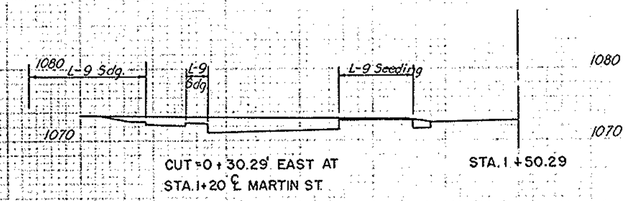
1,901 SHEET 130

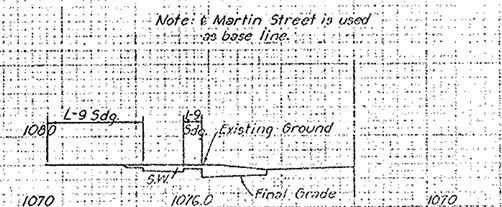
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

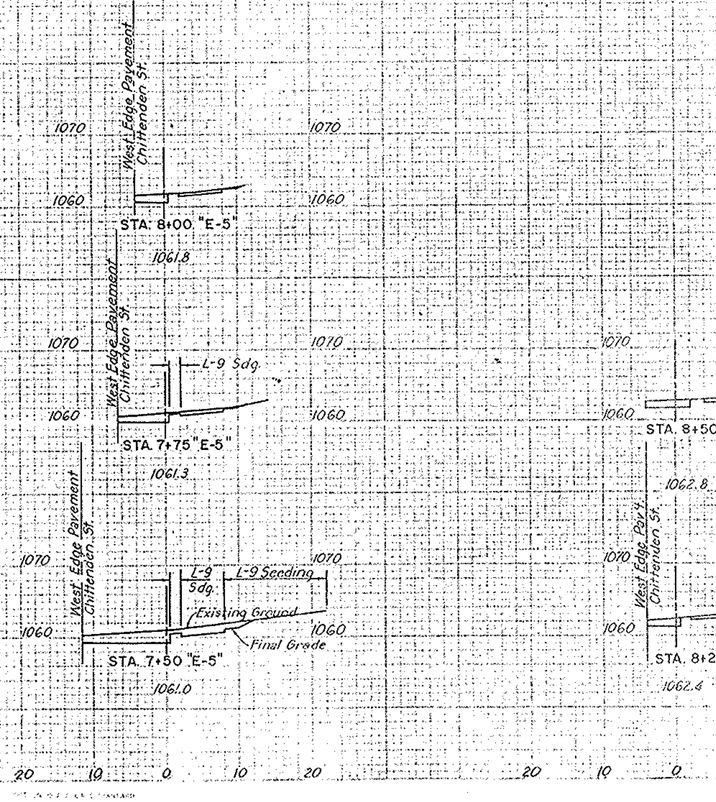
131
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS









	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
		98		0			27	0
1+50.29 MARTIN ST.	29		0		48	0		
		124		0			64	0
2+00 MARTIN ST.	16		0		22	0		
		52		0			12	0
		2		0			2	0
8+50 "E-5"	2		0		9	0		
		5		0			8	0
8+25 "E-5"	2		0		8	0		
		10		0			7	0
8+00 "E-5"	5		0		7	0		
		25		0			8	01
7+75 "E-5"	14		0		10	0		
		40		0			19	07
7+50 "E-5"	15		0		32	0		
		43		0			29	01
7+25 "E-5"	16		0		30	0		
		49		4			27	2
7+00 "E-5"	19		9		29	5		
		75		9			18	12
6+75 "E-5"	35		10		10	20		
		132		9			19	55
6+50 "E-5"	60		10		30	98		
		219		9			64	122
6+25 "E-5"	98		9		108	165		
		278		8			74	203

STA. 6+25 "E-5" TO STA. 8+50 "E-5"
STA. 2+00 ℄ MARTIN ST. TO STA. 1+50.29 ℄ MARTIN S

SCALE 1" = 10'
MADE J.L.C. DATE 7-2-54
TRCD. D.L.E. DATE 8-12-54
CKD. E.H.M. DATE 8-12-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 131

FINAL SURVEY
ORIGINAL SURVEY

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

132
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS

Cut = 0, Sta. 2+68 3rd Ave. Ser. Rd.
Match Existing Pavement

STA. 2+37.5
1063.0

STA. 2+00
1064.0

STA. 1+50
1062.0

STA. 1+00
1059.1

STA. 0+50
1056.8

3RD AVE. SR. RD.

STA. 5+50 "E-8"
1017.8

STA. 5+00 "E-8"
1017.3

STA. 4+50 "E-8"
1018.0

STA. 4+00 "E-8"
1017.5

STA. 3+75 "E-8"
1017.7

Fill = 0, Sta. 7+85± Ramp "E-8"

STA. 7+68.68 "E-8"
1019.0

STA. 7+50 "E-8"
1018.7

STA. 7+25 "E-8"
1018.7

STA. 7+00 "E-8"
1018.6

STA. 6+75 "E-8"
1018.3

STA. 6+50 "E-8"
1018.4

STA. 6+00 "E-8"
1018.6

Back Sta. 3+49.5 "E-8"
See Sheet 128
Forward Sta. 4+00 "E-8"

See E-W Exp. Cross Section

	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
		11		0			0	2
7+68.68"E-8"	27		0		0	29		
		116		0			0	105
7+50	41		0		0	155		
		117		0			0	174
7+25	43		0		0	220		
		126		0			0	247
7+00	48		0		0	314		
		144		0			0	339
6+75	56		0		0	418		
		160		0			0	470
6+50	65		0		0	597		
		356		0			0	1363
6+00	63		0		0	875		
		350		0			0	1883
5+50	63		0		0	1159		
		356		0			0	2337
5+00	65		0		0	1365		
		331		0			0	2560
4+50	54		0		0	1400		
		303		0			0	2552
4+00	55		0		0	1356		
		154		0			0	1218
3+75	56		0		0	1275		
		160		0			0	1160
3+49.5 "E-8"	57		0		0	1190		
		117		0			71	0
2+37.5 3RD AVE. S.R.	49		0		125	0		
		210		0			206	0
2+00	52		0		171	0		
		294		0			287	0
1+50	54		0		139	0		
		297		0			239	0
1+00	53		0		119	0		
		297		0			231	0
0+50 3RD AVE.	54		0		131	0		

L-9 Seeding
L-9 Sdg.
Existing Ground
S.W.
Final Grade
Ion 3
Ion 2
Ion 4
F.L. 1031.1
F.L. 1035.5
F.L. 1019.8
F.L. 1026.6
℄

SCALE 1" = 10'
MADE J.B.P. DATE 7-30-54
TRCD. B.N.C. DATE 8-13-54
CKD. N.H.B. DATE 8-19-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 132

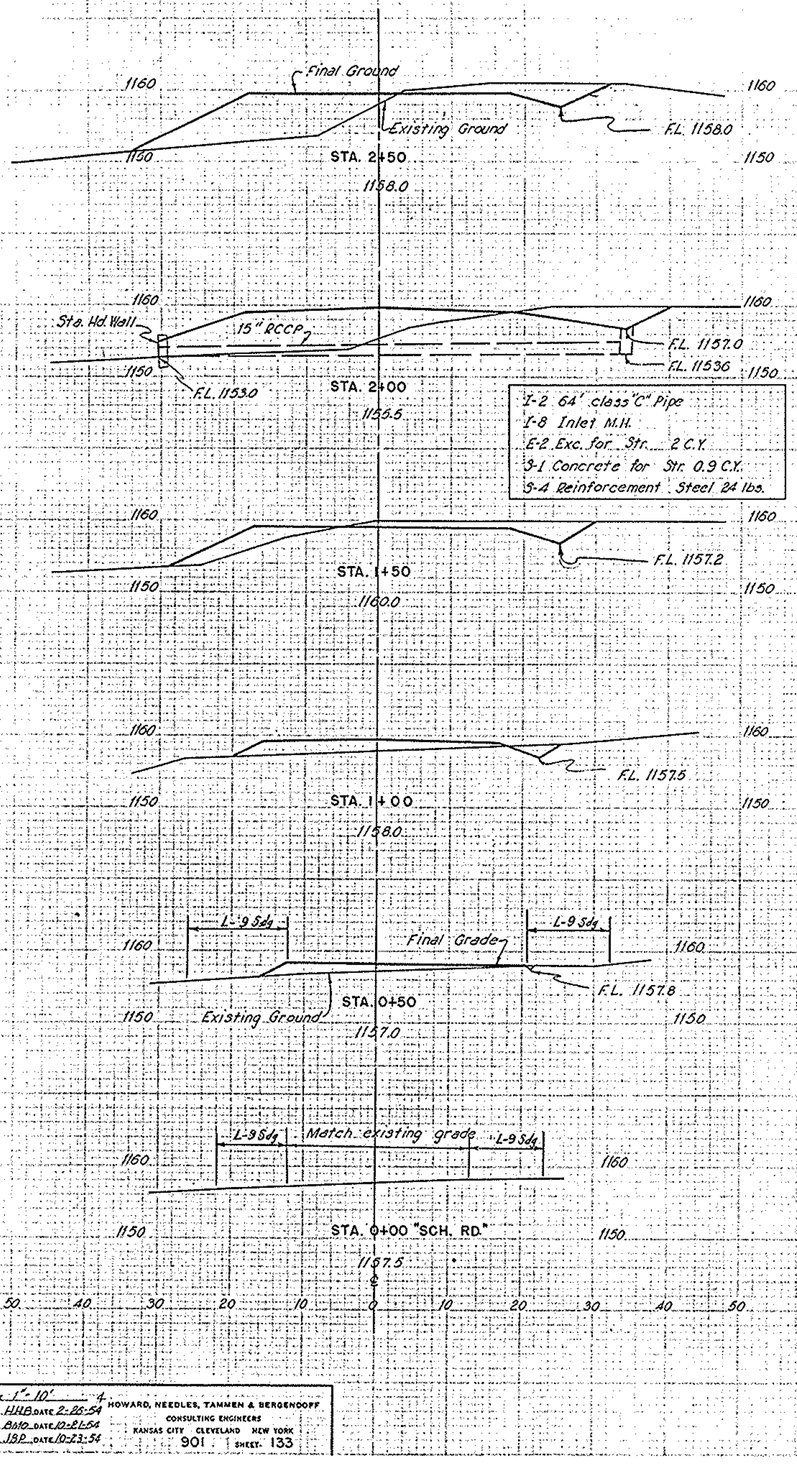
STA 0+50 3RD AVE. SR. RD TO STA. 2+68 X 3RD AVE. SR. RD.
STA 3+75 RAMP "E-8" TO STA. 7+80.67 RAMP "E-8"

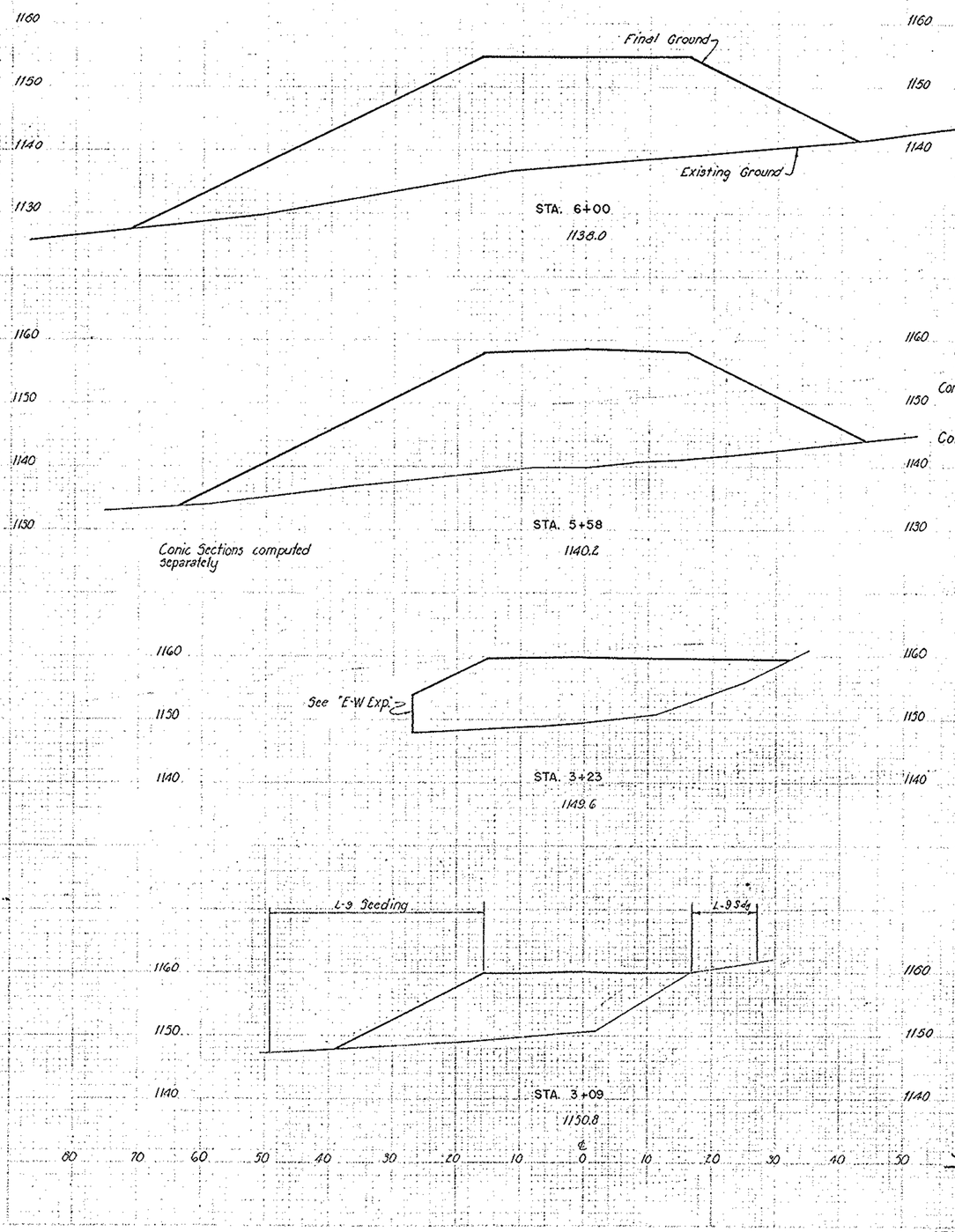
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

133
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM-18R-12.10
CROSS SECTIONS





	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END AREA		VOLUME	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
STA.6+00	111		0		0	1317		
		505		0			0	2012
1160 STA. 5+58 forward Only			0		0	1270		
Conic Section		155		0				200
Conic Section		20				460		
1140 STA. 3+23 Back Only	23							942
		47		0				215
STA. 3+09	37				0	370		
		220		0			39	707
STA. 2+50	30				36	277		
		158					64	409
STA. 2+00	27				33	165		
		136					68	189
STA. 1+50	22				40	39		
		117					45	69
STA. 1+00	20				9	36		
		122					9	59
STA.0+50	24				1	28		
		67					1	26
STA.0+00	0				0	0		

Superseded
3-16-55

Revised: 10/25/54
STA. 0+00 "SCH. RD." TO STA. 6+00 "SCH. RD."

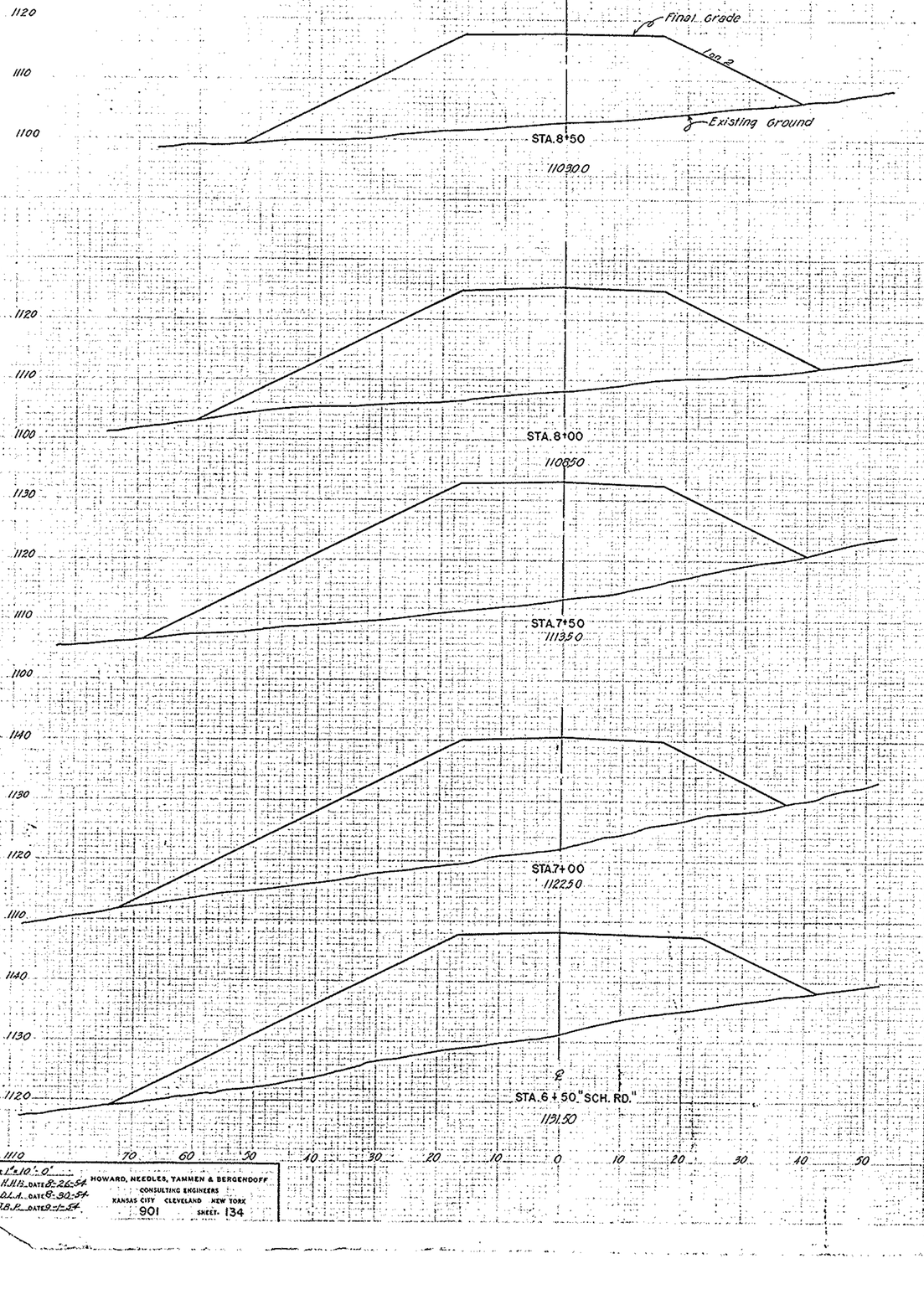
FINAL SURVEY

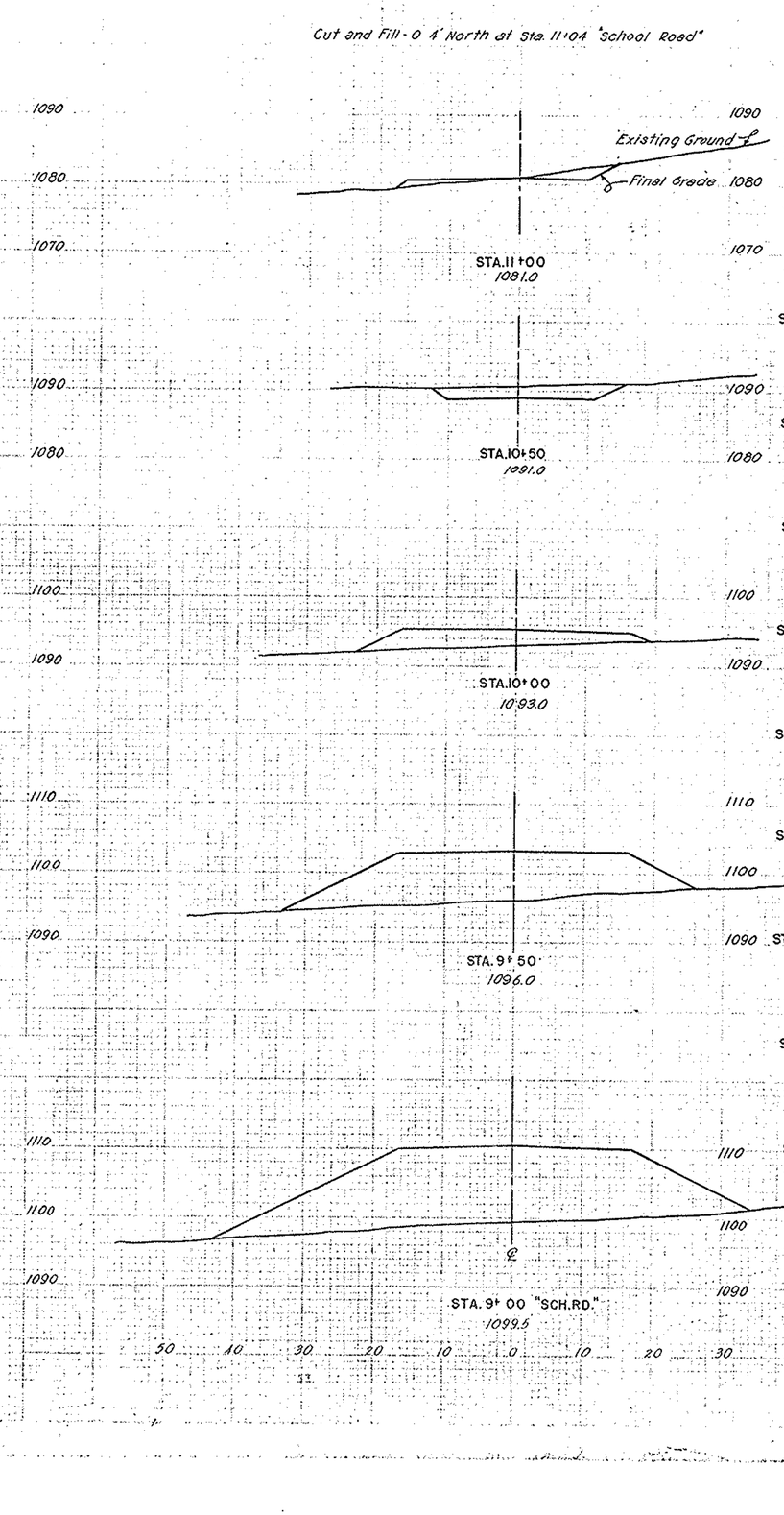
SCALE 1"-10' — 4
MADE HHB DATE 2-26-54
TRCD. BMD DATE 10-21-54
CKD. JSP DATE 10-23-54
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 133

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

133 A
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART
SUM-18R-12.10
CROSS SECTIONS





	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL.	END WORK		VOLUME	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
		10		0			2	1
STA. 11+00	25		0		10	12		
		139		0			60	11
STA. 10+50	25		0		45	0		
		153		0			42	93
STA. 10+00	30		0		0	100		
		222		0			0	558
STA. 9+50	50		0		0	330		
		333		0			0	85
STA. 9+00	70		0		0	590		
		430		0			0	1407
STA. 8+50	85		0		0	930		
		514		0			0	1917
STA. 8+00	100		0		0	1140		
		569		0			0	2389
STA. 7+50	105		0		0	1440		
		583		0			0	2572
STA. 7+00	105		0		0	1938		
		583		0			0	2419
STA. 6+50	105		0		0	1275		
		600	0	0			0	2400
						1317		

Superseded
3-16-55
Revised: 10/25/54

STA. 6+50 "SCH. RD" TO STA. 11+00 "SCH. RD."

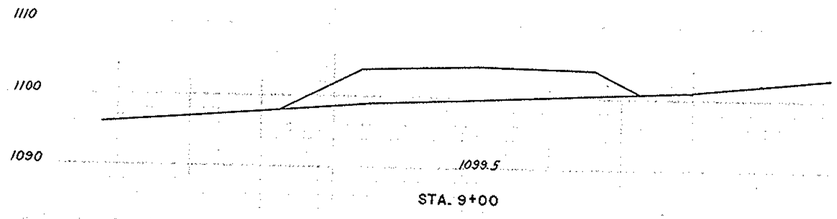
SCALE 1"=10'-0"
MADE H.H.S. DATE 8-26-54
TRCD O.L.A. DATE 8-30-54
CKD J.B.P. DATE 9-1-54

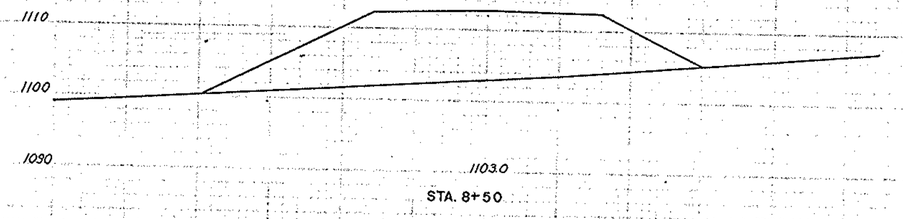
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 134

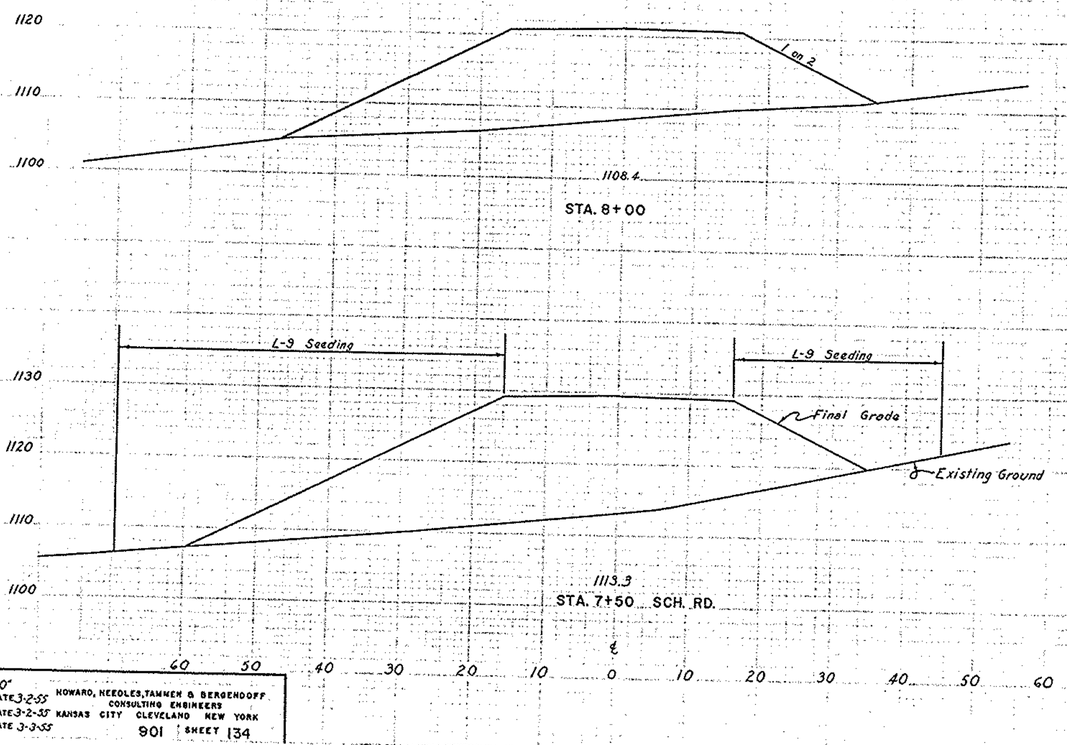
FED ROAD DIV NO	STATE	FED AID PROJ NO	TYPE FUNDS	133B / 204
2	OHIO			

SUMMIT COUNTY
CITY OF AKRON

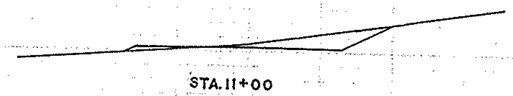
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM 18R-12.10
CROSS SECTIONS

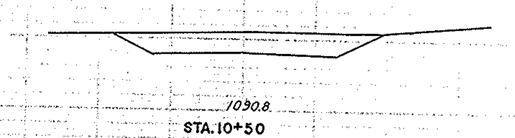


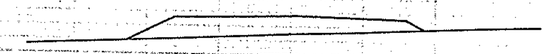


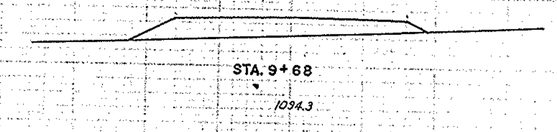


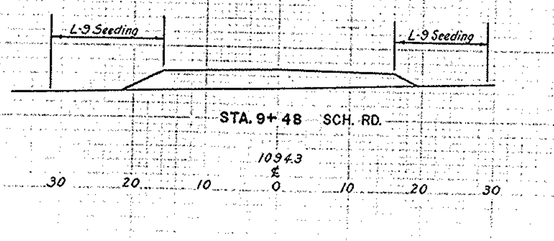
Cut and Fill 0, 4' North at Sta. 11+04 "School Road"











	SEEDING		SUBBASE		EARTHWORK			
	WIDTH	AREA	AREA	VOL	END AREA		VOL	
	L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
Sta. 11+04	20		0					
		12		0			2	1
Sta. 11+00	34		0		28	6		
		178		0			117	3
Sta. 10+50	30		0		98	0		
		167		0			45	40
Sta. 10+00	30		0		0	87		
		107		0			0	105
Sta. 9+68	30		0		0	90		
		67		0			0	64
Sta. 9+48	30		0		0	82		
		187		0			0	229
Sta. 9+00	40		0		0	176		
		284		0			0	605
Sta. 8+50	62		0		0	477		
		384		0			0	1120
Sta. 8+00	76		0		0	733		
		486		0			0	1631
Sta. 7+50	39		0		0	1029		
		532		0			0	1971

SCALE 1"=10'-0"
MADE SLC DATE 3-2-55
TRCD SLC DATE 3-2-55
CKD A.J.S. DATE 3-3-55
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 134

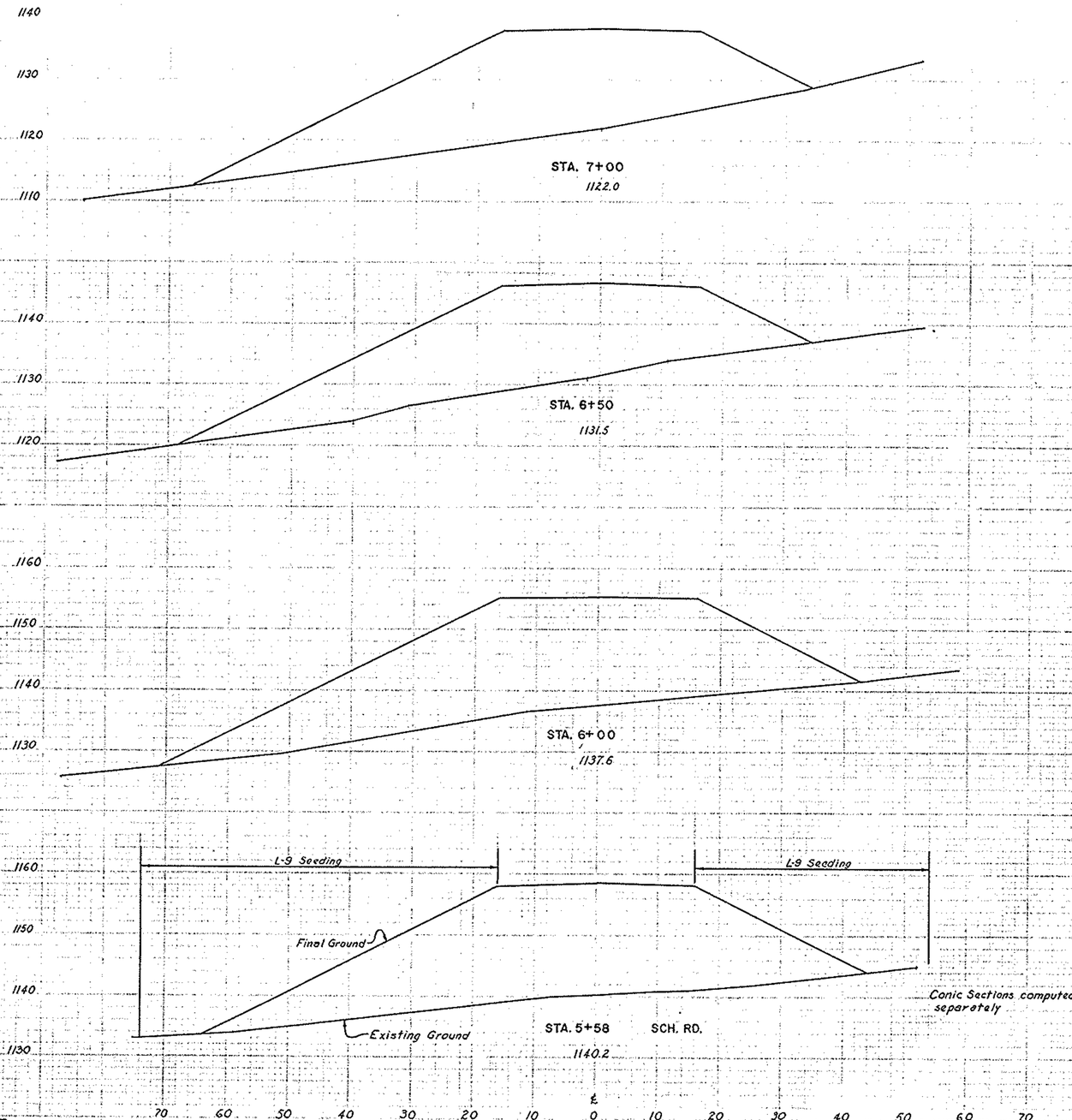
Sheet 133B replaces Sheet 133A. 3-16-55
Revised 3-2-55
STA. 7+50 "SCH. RD." TO STA. 11+00 "SCH. RD."

FED ROAD DIV NO	STATE	FED AID PROJ NO.	TYPE FUNDS
2	OHIO		

133R
204

SUMMIT COUNTY
CITY OF AKRON

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18R-12.10
CROSS SECTIONS



SEEDING		SUBBASE		EARTHWORK			
WIDTH	AREA	AREA	VOL	END AREA		VOL.	
L.F.	SQ.YD.	S.F.	C.Y.	EXC.	EMB.	EXC.	EMB.
96		0		0	1100		
	538		0			0	1986
98		0		0	1045		
	580		0			0	2190
111		0		0	1320		
	268		0			0	2014
104		0		0	1270		
	170		0				
North Conic Section	155		0			0	200

SCALE 1"=10'-0"
MADE SLC DATE 3-2-55
TRCD SLC DATE 3-2-55
CKD A.J.S. DATE 3-3-55

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 133

Sheet 133R replaces
Sheet 133. 3-16-55
Revised 3-2-55

STA. 5+58 "SCH. RD." TO STA. 7+00 "SCH. RD."

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

134
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

GENERAL NOTES FOR STRUCTURES

DESIGN SPECIFICATIONS

SPECIFICATIONS FOR DESIGN OF HIGHWAY STRUCTURES OF THE STATE OF OHIO DEPARTMENT OF HIGHWAYS, OCTOBER 1, 1951, REVISED JULY 15, 1952, AND APRIL 1, 1954.

BORINGS

BORING INFORMATION MAY BE EXAMINED IN THE DIVISION OFFICE, BUT THE STATE DOES NOT GUARANTEE THE ACCURACY THEREOF.

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

THE PILE DRIVING HAMMER USED FOR THE 12" STEEL PILES SHALL HAVE A CAPACITY OF AT LEAST 15,000 FT. LBS. PER BLOW, AND THAT USED FOR THE 8" PILES A CAPACITY OF 7,000 FT. LBS. PER BLOW. THE PILES SHALL BE DRIVEN TO FIRM CONTACT WITH ROCK OR SHALE. THIS CONTACT SHALL BE CONSIDERED AS ACCOMPLISHED IF THE CAPACITY ACCORDING TO THE FORMULA IN SEC. S-1805 IS 50 TONS OR MORE FOR THE 12" PILES AND 35 TONS OR MORE FOR THE 8" PILES, AND IF THE LENGTH OF PENETRATION IS COMPARABLE WITH THE DISTANCE INTO ROCK OR SHALE ACCORDING TO THE BRIDGE FOUNDATION INVESTIGATION REPORT.

WATERPROOFING

ALL CONSTRUCTION, EXPANSION AND CONTRACTION JOINTS IN BACK FACE OF SUBSTRUCTURE AGAINST WHICH EARTH IS TO BE PLACED, EXCEPT FOR JOINT AT THE TOP OF THE FOOTING, 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 HEREAFTER 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 UTILITIES.

JOHNSTON STREET UNDERPASS

THE EXISTING GAS MAINS WILL BE REMOVED AND RELOCATED BY THE GAS COMPANY. A 12" HIGH PRESSURE AND A 10" LOW PRESSURE GAS MAIN WILL BE CARRIED UNDER THE SOUTH SIDEWALK ON THE SUPERSTRUCTURE. THE PIPE AND PIPE HANGERS WILL BE FURNISHED AND INSTALLED BY THE EAST OHIO GAS COMPANY. THE GAS COMPANY SHALL FURNISH AND THE CONTRACTOR SHALL INSTALL PIPE SLEEVES THROUGH THE BACK WALLS OF BOTH ABUTMENTS TO ACCOMMODATE THESE PIPES. THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPORT CHANNELS AND CLIP ANGLES. THIS WORK TO BE PAID FOR UNDER ITEM S-7 STRUCTURAL STEEL.

CONCRETE FINISH

ALL EXPOSED SURFACES OF CONCRETE, EXCEPT THE UNDERNEATH SIDE OF SUPERSTRUCTURE SLAB, THE TOPS OF ABUTMENT BRIDGE SEATS AND THE FACES OF BACKWALLS, SHALL BE GIVEN A RUBBED SURFACE FINISH. SUCH SURFACES 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.

REINFORCING STEEL

REINFORCING STEEL SHALL CONFORM TO ITEM S-4 OF THE SPECIFICATIONS EXCEPT AS MODIFIED HEREIN. BARS SHALL HAVE DEFORMATIONS CONFORMING TO A.S.T.M. SPECIFICATION A305-50T. BARS SHALL, UNLESS OTHERWISE SHOWN, BE 3 INCHES CLEAR FROM THE FACE OF CONCRETE IN FOOTINGS AND 2 INCHES CLEAR ELSEWHERE EXCEPT IN SLABS WHERE BARS MAY BE 1 INCH CLEAR. IN FACES HAVING RUSTICATIONS THE CLEAR DISTANCE SHALL BE MEASURED FROM THE INNER FACE OF THE RUSTICATION.

DRAINAGE TUBES

DRAINAGE TUBES SHALL BE PLACED THROUGH THE SPAN SLABS ALONG THE CURBS AS DESCRIBED IN SEC. S-29.07 TO PROVIDE SUB-DRAINAGE FOR THE ASPHALTIC CONCRETE SURFACE COURSE. THERE SHALL BE A COPPER DRAIN TUBE WITHIN ONE FOOT OF END OF SLAB.

JOINT FILLER

THE MATERIAL FOR THE EXPANSION AND CONTRACTION JOINTS AS SHOWN ON THE PLANS SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

BITUMINOUS PREMOLDED EXPANSION JOINT FILLER
SEC. M-10.01 OF THE SPECIFICATION

PREFORMED GRAY RUBBER EXPANSION JOINT FILLER
SEC. M-10.02 OF THE SPECIFICATION

COPPER WATERSTOPS
SEC. M-7.13

TAR PAPER JOINT MATERIAL
SUITABLE COMMERCIAL GRADE — SHEET ASBESTOS PACKING SEC. M-10.12

THE JOINT FILLER AND TAR PAPER SHALL BE SECURELY FASTENED TO THE CONCRETE AND SHALL BE PROTECTED FROM DAMAGE DURING THE PLACING OF THE CONCRETE. PAYMENT FOR THE TAR PAPER AND SHEET ASBESTOS WILL BE CONSIDERED INCLUDED IN THE UNIT PRICE BID FOR CONCRETE.

PERFORATED CORRUGATED METAL PIPE

THE 6" PERFORATED BITUMINOUS COATED CORRUGATED METAL PIPE BEHIND THE ABUTMENTS AND WINGWALLS SHALL BE PLACED WITH THE PERFORATIONS ON TOP OF THE PIPE.

DIMENSIONS

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

WELDING

ALL WELDING SHALL BE CLASS "A".

RIVETS

UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL RIVETS ARE TO BE 7/8 IN. DIAMETER.

CAMBER

THE CONTINUOUS I-BEAM GIRDERS SHALL BE CAMBERED IF THE TOTAL CAMBER REQUIRED FOR DEFLECTION AND VERTICAL CURVATURE EXCEEDS 3/4 INCH. BEAMS HAVING A TOTAL REQUIRED CAMBER OF LESS THAN 3/4" NEED NOT BE CAMBERED, BUT SHALL BE FABRICATED SO THAT VARIATION IN ALIGNMENT DUE TO MILL TOLERANCES SHALL BE IN THE DEVIATION 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, MATCHMARKED AND ERECTED TO REQUIRED LINES AND GRADES.

HANDRAIL

HANDRAIL SHALL BE FABRICATED IN LENGTHS NOT LESS THAN THREE PANELS EACH AND FINISHED HANDRAIL SHALL BE FREE OF BURRS, SHARP CORNERS AND ROUGH SURFACES. THE HANDRAIL SHALL BE SET VERTICAL IN SUCH A MANNER THAT THE TOP RAIL SHALL PARALLEL BOTH LINE AND GRADE. SHIMS, IF REQUIRED FOR ADJUSTMENT OF LINE OR GRADE, SHALL BE OF LEAD AND SHALL BE THE FULL SIZE OF THE HANDRAIL BASE PLATE. THE FINAL ADJUSTMENT OF THE HANDRAIL SHALL BE SUCH THAT THE TOP RAIL 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), MEASURED BETWEEN ENDS OF THE STEEL RAILING, AND SHALL INCLUDE THE COST OF ALL ANCHOR BOLTS, NUTS, LEAD SHIMS, ETC. NECESSARY TO PROPERLY COMPLETE THE HANDRAIL INSTALLATION. CONCRETE PARAPETS AND END POSTS ARE INCLUDED WITH CONTIGUOUS CONCRETE FOR PAYMENT.

MILL TEST REPORTS

THE MILL TEST REPORTS SHALL INCLUDE TESTS OF DRILLINGS FROM METAL MORE THAN 1" THICK. FOR THESE TEST SPECIMENS THE CARBON AND MANGANESE CONTENT, AS WELL AS THE PHOSPHORUS AND SULPHUR CONTENT, SHALL BE REPORTED IN ORDER TO PERMIT DETERMINATION OF THE NEED FOR PREHEATING IN CONNECTION WITH WELDING AS PER ART. 105 (METHOD 2) AND ART. 604 (1) OF THE AMERICAN WELDING SOCIETY SPECIFICATION.

PAINTING

BOTH SHOP AND FIELD PAINTING SHALL BE ACCORDING TO ITEM S-8 EXCEPT THAT THE PAINT SHALL BE APPLIED BY BRUSHING. SPRAY APPLICATION WILL NOT BE PERMITTED.

RUSTICATIONS

RUSTICATIONS FOR ALL STRUCTURES SHALL CONFORM TO THE FOLLOWING:

1. RUSTICATIONS ON FRONT FACE OF BREASTWALL OF ABUTMENTS SHALL BE HORIZONTAL.
2. RUSTICATIONS ON BUTTRESSES AND WINGWALLS SHALL MEET THOSE ON THE FRONT FACE OF ABUTMENTS, BUT SHALL RUN PARALLEL TO THE TOP OF WINGWALLS.

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	JOHNSTON STREET UNDERPASS BR. NO. SU-5-108												INMAN STREET OVERPASS BR. NO. SU-18R-125								
			WEST BENT	CENTER BENT	EAST BENT	WEST ABUTMENT	EAST ABUTMENT	NORTHWEST WINGWALL	SOUTHWEST WINGWALL	NORTHEAST WINGWALL	SOUTHEAST WINGWALL	SUPER-STRUCTURE	APPROACH CURBS & SIDEWALKS	TOTAL	WEST ABUTMENT	EAST ABUTMENT	NORTHWEST WINGWALL	SOUTHWEST WINGWALL	NORTHEAST WINGWALL	SOUTHEAST WINGWALL	NORTH SUPER-STRUCTURE	SOUTH SUPER-STRUCTURE	TOTAL
E-2	COFFERDAMS, CRIBS AND SHEETING	LUMP SUM												LUMP SUM									LUMP SUM
E-2	EXCAVATION FOR STRUCTURES (UNCLASSIFIED)	CU. YD.		-		25	4	62	37	14	52			194	1,129	902	43	43	44	44			2,305
E-2	EXCAVATION FOR STRUCTURES (ROCK AND SHALE)	CU. YD.	68	66	124	384	450	2	2	5	2			1,103	21	18							39
S-1	CLASS "C" CONCRETE (ABUTMENTS, WALLS AND END POSTS)	CU. YD.				298	240	24	22	14	25			623	451	410	24	26	27	29			967
S-1	CLASS "C" CONCRETE (BENT CAPS AND COLUMNS)	CU. YD.	96	92	94									282									
S-1	CLASS "C" CONCRETE (FOOTINGS)	CU. YD.	78	53	53	90	87	5	5	3	5			339	126	110	10	10	10	10			276
S-1	CLASS "C" CONCRETE (SUPERSTRUCTURE)	CU. YD.										490		490							70	83	153
S-1	CLASS "C" CONCRETE (APPROACH CURBS AND SIDEWALKS)	CU. YD.											34	34									
S-3	TYPE "B" WATERPROOFING	SQ. YD.				57	42							99	79	77							156
S-2	TYPE "C" WATERPROOFING	SQ. YD.										1,465		1,465							326	342	668
S-4	REINFORCING STEEL	LBS.	19,548	24,858	25,176	26,457	23,701	3,387	2,895	1,667	3,037	137,304	6,260	274,370	57,233	52,250	2,922	3,022	3,232	3,231	26,969	28,402	178,386
S-7	STRUCTURAL STEEL	LBS.										657,130		657,130							127,868	132,921	260,789
S-8	FIELD PAINTING STRUCTURAL STEEL	LBS.										657,130		657,130							127,868	132,921	260,789
S-9	1" PREMOLDED BITUMINOUS EXPANSION JOINT FILLER	SQ. FT.	32			36	42					29		139	56	59							115
S-9	1" PREFORMED GRAY RUBBER EXPANSION JOINT FILLER	SQ. FT.				103	61							164	146	147							293
S-9	COPPER WATERSTOP 15 IN. WIDTH 24 OZ.	LIN. FT.				55	40							95	94	95							189
S-14	STEEL HANDRAIL, TYPE "A" (EXCLUSIVE OF CONCRETE END POSTS)	LIN. FT.						32	32	24	33	432		553									
S-14	STEEL HANDRAIL, TYPE "B" (exclusive of concrete parapets and end posts)	LIN. FT.													25	17	20	31	33	32	113	119	399
S-14	STEEL HANDRAIL, TYPE "C" (exclusive of concrete parapets and end posts)	LIN. FT.															130	128	134	134			526
S-10	STEEL BEARING PILES (12 BP 53)	LIN. FT.											149	149									
S-10	STEEL BEARING PILES (8 BP 36)	LIN. FT.				128	126	12	8	9	13			296	186	184	18	18	9	9			404
S-20	POROUS BACKFILL	CU. YD.				110	81							191	147	137							284
S-20	6" PERFORATED BITUMINOUS-COATED CORRUGATED METAL PIPE	LIN. FT.				13	22							35	18	32							40
S-20	8" BITUMINOUS-COATED CORRUGATED METAL PIPE	LIN. FT.										601		601							56	119	174
S-29	SUBDRAINAGE FOR WEARING SURFACE COURSE	LIN. FT.										219		219	75	77							152
S-29	4" WROUGHT IRON PIPE	LIN. FT.	51	43	47	36	42					1		LUMP SUM									LUMP SUM
S-25	ELECTRICAL EQUIPMENT *	LUMP SUM										693	138	831							154	226	380
S-25	2 IN. I.D. RIGID METAL CONDUIT	LIN. FT.																					
I-50	2-1/2 IN. HOT MIXED, HOT LAID ASPHALTIC CONCRETE SURFACE COURSE	SQ. YD.										1,465		1,465							326	342	668

* Electrical Equipment:

This item includes the following:

Johnston Street Structure

1. 4-lighting units 28'-5" pole with 10' bracket.
2. 4 Luminaires 10,000 Lumen I.E.S. Type III.
3. 200' of pole and bracket cable - 2 conductors.
4. Lighting cable No. 6.
5. Such junction boxes, outlets, anchor bolts and brackets as shown on plans.

All other Structures

1. Such junction boxes, outlets and anchor bolts as shown on plans.

Note:

See Roadway Plans for additional electrical equipment.

PART 6

AKRON EXPRESSWAY SYSTEM

BR. NO. SU-5-108 AND
BR. NO. SU-18R-125

GENERAL NOTES AND QUANTITIES

AKRON SUMMIT COUNTY, OHIO

SCALE None
MADE DES. DATE 10-12-54
TRACED DATE
CHECKED DATE

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS	135 / 204
2	OHIO			

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	SCHOOL ROAD UNDERPASS BR. NO. SU-18R-127										ARLINGTON STREET OVERPASS BR. NO. SU-18R-130							
			SOUTH CENTER BENT	CENTER SOUTH ABUTMENT BENT	NORTH ABUTMENT BENT	SOUTHWEST WINGWALL ABUT.	NORTH SOUTHEAST WINGWALL ABUT.	NORTHWEST WINGWALL	NORTHEAST WINGWALL	SUPER-STRUCTURE	APPROACH CURBS & SIDEWALKS	TOTAL	WEST ABUTMENT	EAST ABUTMENT	NORTHWEST WINGWALL	SOUTHWEST WINGWALL	NORTHEAST WINGWALL	SOUTHEAST WINGWALL	SUPER-STRUCTURE	TOTAL
E - 2	COFFERDAMS, CRIBS AND SHEETING	LUMP SUM										LUMP SUM								LUMP SUM
E - 2	EXCAVATION FOR STRUCTURES (UNCLASSIFIED)	CU. YD.				69	118 35				187	304 35	357	597	55	55	41	41		1,146
E - 2	EXCAVATION FOR STRUCTURES (ROCK AND SHALE)	CU. YD.	22	16	11	5	2				56	54 30	36	43						79
S - 1	CLASS "C" CONCRETE (ABUTMENTS, WALLS, AND END POSTS)	CU. YD.				41	52 32				93	73 32	289	341	29	29	23	23		734
S - 1	CLASS "C" CONCRETE (BENT CAPS AND COLUMNS)	CU. YD.	12	12	11							35 36								
S - 1	CLASS "C" CONCRETE (FOOTINGS)	CU. YD.	8	11	8	8	8 2				43	37 32	111	128	15	15	12	12		296
S - 1	CLASS "C" CONCRETE (SUPERSTRUCTURE)	CU. YD.								92		92 160							216	216
S - 1	CLASS "C" CONCRETE (APPROACH CURBS AND SIDEWALKS)	CU. YD.																		
S - 3	TYPE "B" WATERPROOFING	SQ. YD.				15	13					28 120	56	59						115
S - 3	TYPE "C" WATERPROOFING	SQ. YD.								304		304 270							873	873
S - 4	REINFORCING STEEL	LBS.	4,163	4,799	3,899	5,044	3,512			26,955	48,372	96,500	35,063	41,935	4,215	4,242	3,190	3,215	58,376	150,237
S - 7	STRUCTURAL STEEL	LBS.		1,257						123,271	124,528	120,300							438,115	438,115
S - 8	FIELD PAINTING STRUCTURAL STEEL	LBS.								123,271	123,271	120,500							438,115	438,115
S - 9	1" PREMOLDED BITUMINOUS EXPANSION JOINT FILLER	SQ. FT.											57	57						114
S - 9	1" PREFORMED GRAY RUBBER EXPANSION JOINT FILLER	SQ. FT.											51	53						104
S - 9	COPPER WATERSTOP 15 IN., WIDTH, 24 OZ.	LIN. FT.											60	61						121
S - 14	STEEL HANDRAIL, TYPE "A" (exclusive of concrete end posts)	LIN. FT.				20	20			407		447 445								
S - 14	STEEL HANDRAIL, TYPE "B" (exclusive of concrete parapets and end posts)	LIN. FT.													37	37	28	28	152	282
S - 14	STEEL HANDRAIL TYPE "C" (exclusive of concrete parapets and end posts)	LIN. FT.																		
S - 14	STANDARD DEEP BEAM GUARDRAIL COMPLETE	LIN. FT.																		
S - 18	STEEL BEARING PILES (12 B P 53)	LIN. FT.													123	161	126	131		541
S - 19	STEEL BEARING PILES ~~(12 B P 53)~~ 10 BP 42	LIN. FT.					150					150								
S - 29	POROUS BACKFILL	CU. YD.				21	19					40 [illegible]	174	203	15	15	12	12		431
S - 29	8" PERFORATED BITUMINOUS-COATED CORRUGATED METAL PIPE	LIN. FT.					19					19	120	130						250
S - 29	8" BITUMINOUS-COATED CORRUGATED METAL PIPE	LIN. FT.					30					30	57	54						111
S - 29	SUBDRAINAGE FOR BEARING SURFACE COURSE	LIN. FT.								400		400 412							309	309
S - 29	4" WROUGHT IRON PIPE	LIN. FT.	28	30	30	7						95 100	77	96						173
S - 25	ELECTRICAL EQUIPMENT *	LUMP SUM																		LUMP SUM
S - 25	2 IN. I. D. RIGID METAL CONDUIT	LIN. FT.													44	44	36	36	254	414
T - 50	2-1/2 IN. HOT MIXED, HOT LAID ASPHALTIC CONCRETE SURFACE COURSE TYPE B (60-70)	SQ. YD.								304		304 270							873	873
S-16	First test pile	Lump Sum																		Lump Sum

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNIT	CHITTENDEN STREET OVERPASS BR. NO. SU-18R-131								FULLER STREET OVERPASS BR. NO. SU-18R-133							
			WEST ABUTMENT	EAST ABUTMENT	NORTHWEST WINGWALL	SOUTHWEST WINGWALL	NORTHEAST WINGWALL	SOUTHEAST WINGWALL	SUPER-STRUCTURE	TOTAL	WEST ABUTMENT	EAST ABUTMENT	NORTHWEST WINGWALL	SOUTHWEST WINGWALL	NORTHEAST WINGWALL	SOUTHEAST WINGWALL	SUPER-STRUCTURE	TOTAL
E - 2	COFFERDAMS, CRIBS AND SHEETING	LUMP SUM								LUMP SUM								LUMP SUM
E - 2	EXCAVATION FOR STRUCTURES (UNCLASSIFIED)	CU. YD.	589	603	98	63	60	60		1,463	621	784	55	153	63	61		1,737
E - 2	EXCAVATION FOR STRUCTURES (ROCK AND SHALE)	CU. YD.									9	10		3				22
S - 1	CLASS "C" CONCRETE (ABUTMENTS, WALLS, AND END POSTS)	CU. YD.	357	309	51	30	37	23		807	207	357	26	60	28	28		705
S - 1	CLASS "C" CONCRETE (BENT CAPS AND COLUMNS)	CU. YD.																
S - 1	CLASS "C" CONCRETE (FOOTINGS)	CU. YD.	165	166	27	15	15	13		401	115	174	15	30	15	15		324
S - 1	CLASS "C" CONCRETE (SUPERSTRUCTURE)	CU. YD.							173	173							194	194
S - 3	TYPE "B" WATERPROOFING	SQ. YD.	67	62						129	39	50						89
S - 3	TYPE "C" WATERPROOFING	SQ. YD.							721	721							758	758
S - 4	REINFORCING STEEL	LBS.	43,378	40,425	6,449	3,774	4,806	3,175	60,093	162,091	36,124	26,401	3,807	8,555	4,158	4,098	63,046	157,089
S - 7	STRUCTURAL STEEL	LBS.							258,459	258,459							339,739	339,739
S - 8	FIELD PAINTING STRUCTURAL STEEL	LBS.							258,459	258,459							339,739	339,739
S - 9	1" PREMOLDED BITUMINOUS EXPANSION JOINT FILLER	SQ. FT.	59	61						120	76	58						134
S - 9	1" PREFORMED GRAY RUBBER EXPANSION JOINT FILLER	SQ. FT.	72	69						141	78	81						159
S - 9	COPPER WATERSTOP - 15 IN., WIDTH, 24 OZ.	LIN. FT.	71	65						136	72	61						133
S - 14	STEEL HANDRAIL TYPE "A" (exclusive of concrete end posts)	LIN. FT.																
S - 14	STEEL HANDRAIL TYPE "B" (exclusive of concrete parapets and end posts)	LIN. FT.			41	27	31	21	139	259			31	45	31	32	133	273
S - 14	STEEL HANDRAIL TYPE "C" (exclusive of concrete parapets and end posts)	LIN. FT.																
S - 18	STEEL BEARING PILES (12 B P 53)	LIN. FT.	1,220	1,577	370	193	208	214		3,782			140	184	160	155		639
S - 18	STEEL BEARING PILES (8 B P 36)	LIN. FT.																
S - 29	POROUS BACKFILL	CU. YD.	171	177	24	10	11	7		423	202	208	13	23	13	14		483
S - 29	8" PERFORATED BITUMINOUS-COATED CORRUGATED METAL PIPE	LIN. FT.	130	128						258	105	119						224
S - 29	8" BITUMINOUS-COATED CORRUGATED METAL PIPE	LIN. FT.	58	103						161	68	40						108
S - 29	SUBDRAINAGE FOR BEARING SURFACE COURSE	LIN. FT.							110	110							201	201
S - 29	4" WROUGHT IRON PIPE	LIN. FT.	45	44						89	67	56						123
S - 25	ELECTRICAL EQUIPMENT *	LUMP SUM								LUMP SUM								LUMP SUM
S - 25	2 IN. I. D. RIGID METAL CONDUIT	LIN. FT.	10	10	51	37	41	31	175	355			41	55	42	40	217	395
T - 50	2-1/2 IN. HOT MIXED HOT LAID ASPHALTIC CONCRETE SURFACE COURSE TYPE "B" (60-70)	SQ. YD.							721	721							758	758
S-16	First test pile	Lump Sum								Lump Sum								Lump Sum

* SEE ELECTRICAL EQUIPMENT NOTE ON SHEET 134.

REV. 3-16-55
REV. 4-30-55

PART 6

AKRON EXPRESSWAY SYSTEM

BR. NO. SU-18R-127, BR. NO. SU-18R-130
BR. NO. SU-18R-131 AND BR. NO. SU-18R-133
QUANTITIES

AKRON SUMMIT COUNTY, OHIO

SCALE None
MADE QDS DATE 10-11-54
TRC/LER: M DATE 10-12-54
CKD D.B.B. DATE 10-18-54

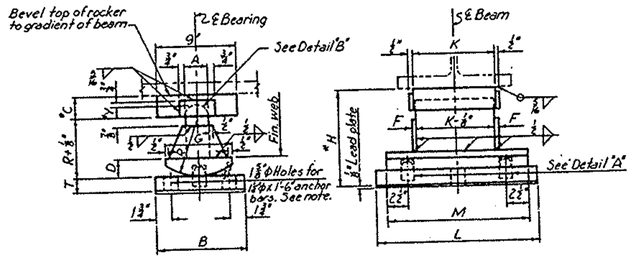
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901 SHEET 135

101

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

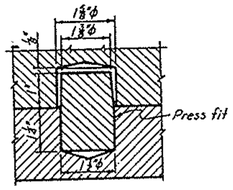
136
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

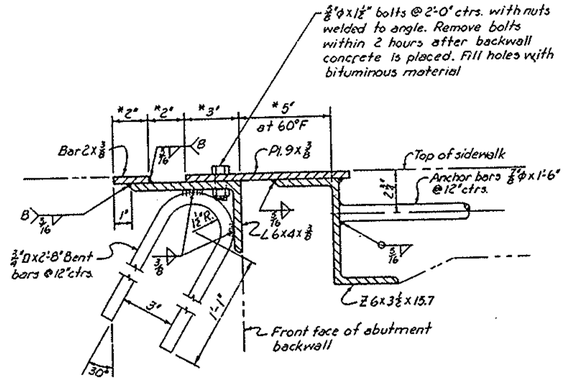


Note:
Anchor bars are to be set in concrete:
R-75 - 1'-4½" R-150 - 1'-3⅜"
R-100 - 1'-4½" R-175 - 1'-3½"
R-125 - 1'-4"

ROCKERS R-75, R-100, R-125, R-150 AND R-175
Scale: 1½"=1'-0"

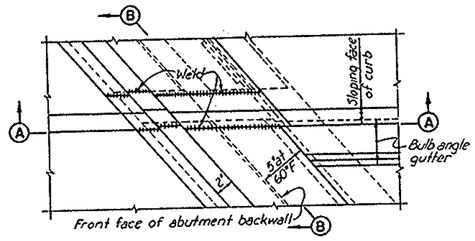


DETAIL "A"
Scale: ½"=1'

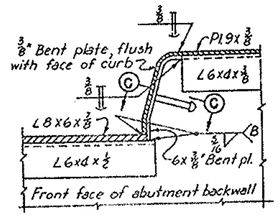


SIDEWALK

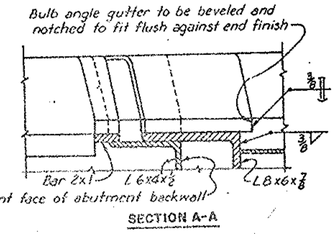
*Dimensions normal to ℄ bearing abutment



PART PLAN

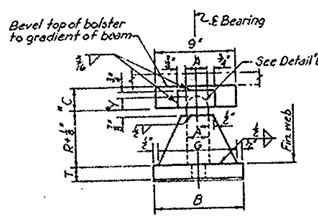


SECTION B-B



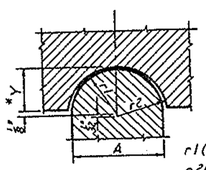
SECTION A-A

SECTION C-C

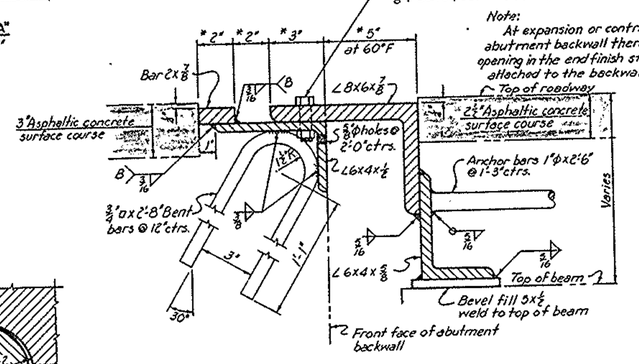


Note:
Anchor bars are to be set in concrete:
B-100 - 1'-4½"
B-150 - 1'-3⅜"

BOLSTERS B-100 AND B-150
Scale: 1½"=1'-0"

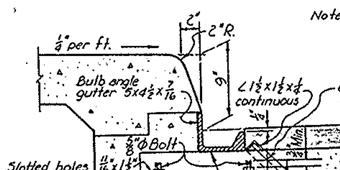


DETAIL "B"
Scale: ½"=1'



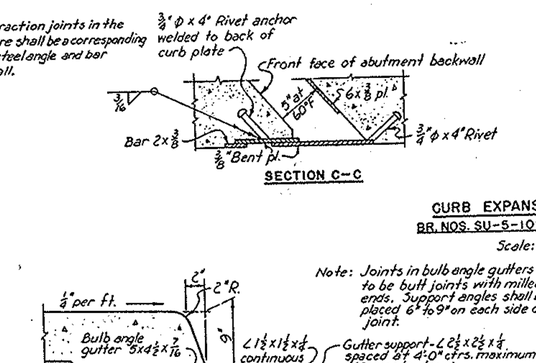
ROADWAY

EXPANSION JOINTS
BR. NOS. SU-5-108 AND SU-18R-127
Scale: 3"=1'-0"



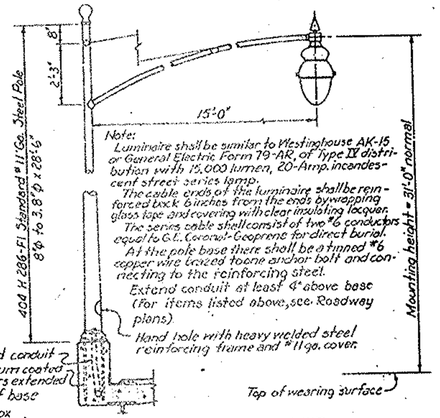
*Dimensions normal to ℄ bearing abutment

ROADWAY EXPANSION JOINT
BR. NOS. SU-18R-125, SU-18R-130, SU-18R-131 AND SU-18R-133
Scale: 3"=1'-0"

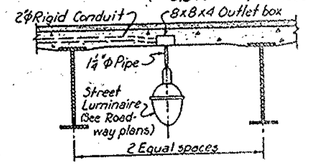


CURB AND GUTTER DETAILS
Scale: 1½"=1'-0"

Note: Joints in bulb angle gutters to be butt joints with milled ends. Support angles shall be placed 6" to 9" on each side of joint.

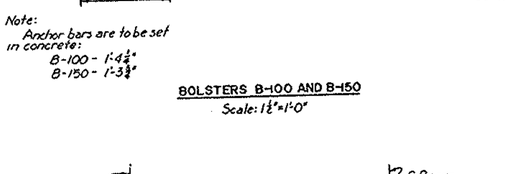


BRIDGE LIGHTING UNIT
(Typical for structures other than Johnston St.)
Scale ⅜"=1'-0"



UNDER STRUCTURE LUMINAIRE
Scale: ⅜"=1'-0"

Note: Expansion coupling for 2" ϕ rigid conduit shall be equal to O.Z. Type AX.



Note:
Anchor bars are to be set in concrete:
B-100A - 1'-4½"
B-200A - 1'-3½"

BOLSTERS B-100A AND B-200A
Scale: 1½"=1'-0"

SHOE	DIMENSIONS												
	A	B	*C	D	F	G	*H	K	L	M	R	T	*Y
R-75	2½"	8"	2½"	1⅜"	½"	7"	9⅝"	9"	17"	15"	5½"	1½"	1⅜"
R-100	2½"	10"	2½"	2"	½"	7⅝"	10⅜"	9"	18"	16"	6½"	1⅜"	1⅜"
R-125	3"	11"	3"	2"	½"	8"	12⅜"	10½"	20"	17½"	7½"	2"	1⅜"
R-150	3"	12"	3"	2⅜"	½"	8½"	13⅜"	11½"	21"	18"	8½"	2⅜"	1¼"
R-175	3"	14"	3⅜"	2½"	½"	9"	15⅜"	12"	22"	19"	9½"	2⅝"	1⅜"
B-100	2½"	10"	2½"	—	½"	7⅝"	10⅜"	9"	18"	—	6½"	1⅜"	1⅜"
B-150	3"	12"	3"	—	½"	11"	13⅜"	11½"	21"	—	8½"	2⅜"	1⅜"
B-100A	—	10"	—	1⅜"	—	6"	—	—	18"	11"	12"	1⅜"	—
B-200A	—	16"	—	2"	—	7⅛"	—	—	24"	18"	18"	2½"	—

* Dimensions at ℄ Bearing

SHOE DETAILS

Rev. 3-16-55 PART 6

AKRON EXPRESSWAY SYSTEM

COMMON DETAILS

AKRON SUMMIT COUNTY. OHIO

SCALE As shown
MADE GWP DATE 8-13-54
TRCD. DATE
CKD. D.D.E. DATE 10-18-54

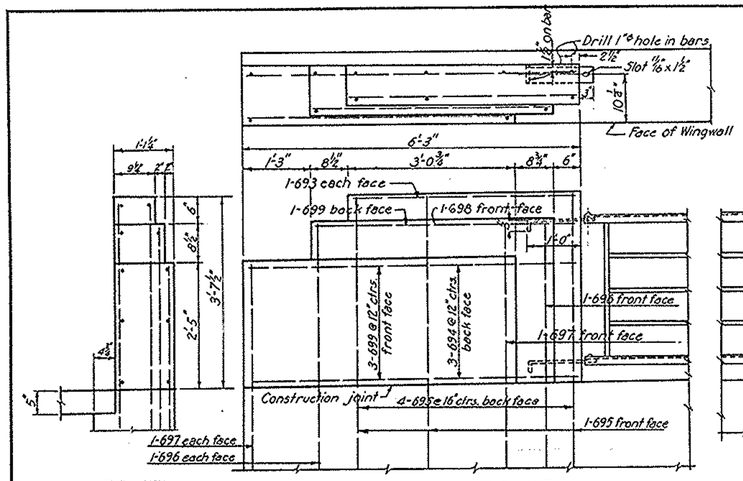
HOWARD, NEEDLES, TAMMEN & BERGENDOF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 901 136

103

FED. ROAD DIV NO	STATE	FED. AID PROJ NO.	TYPE FUNDS
2	OHIO		

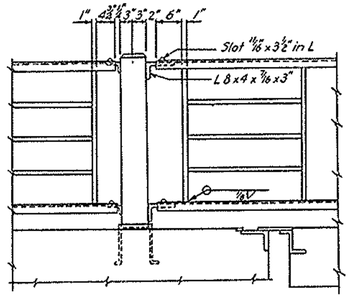
137
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

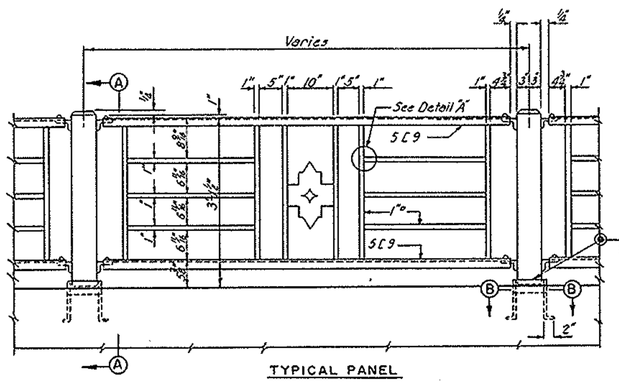


END VIEW

ENDPOST



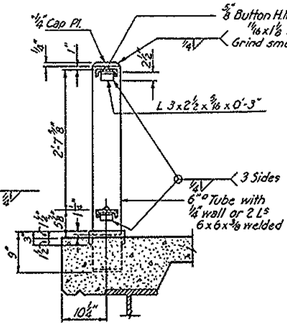
EXPANSION JOINT



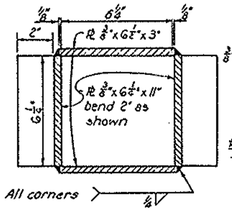
TYPICAL PANEL

TYPE "A" HANDRAIL DETAILS
Scale 3/4"=1'0"

Note:
Handrail posts, spindles, and faces of end posts shall be vertical and rails shall be parallel to grade.

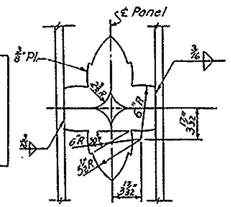


SECTION A-A
Scale 3/4"=1'0"



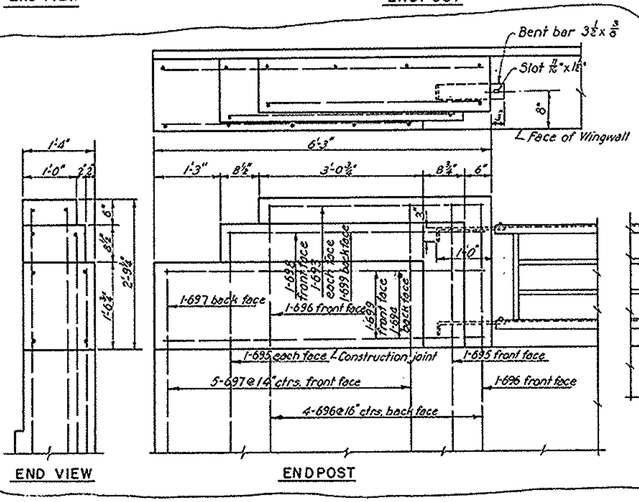
SECTION B-B
Scale 3"=1'0"

Dimensions may be varied to fit built up post.



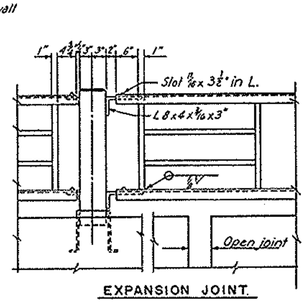
TYPE "A" HANDRAIL SHIELD DETAIL
Scale 1½"=1'0"

Void

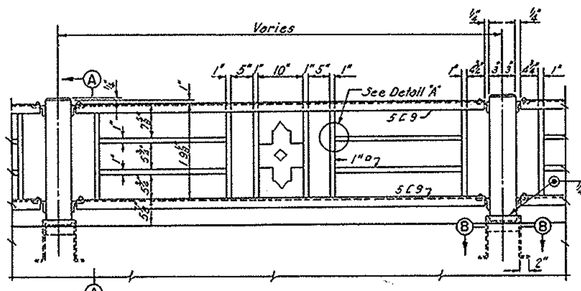


END VIEW

ENDPOST

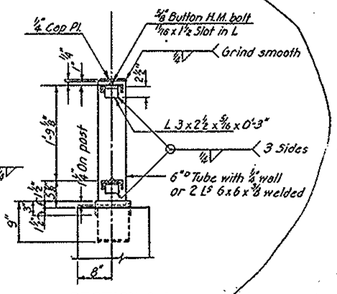


EXPANSION JOINT

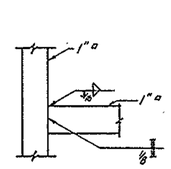


TYPE "C" HANDRAIL DETAILS
Scale 3/4"=1'0"

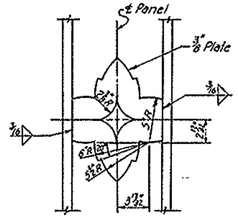
TYPICAL PANEL
Note: This handrail on West side of School Road only.



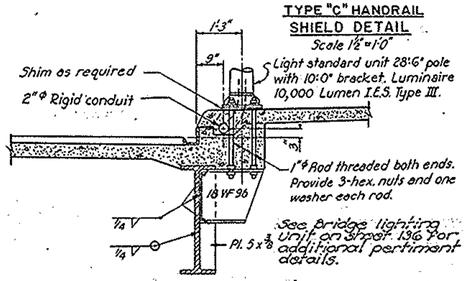
SECTION A-A
Scale 3/4"=1'0"



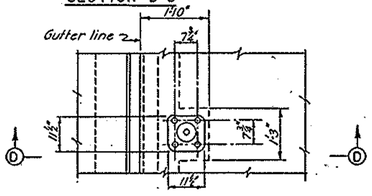
DETAIL "A"
Scale 3/8"=1'0"



TYPE "C" HANDRAIL SHIELD DETAIL
Scale 1½"=1'0"



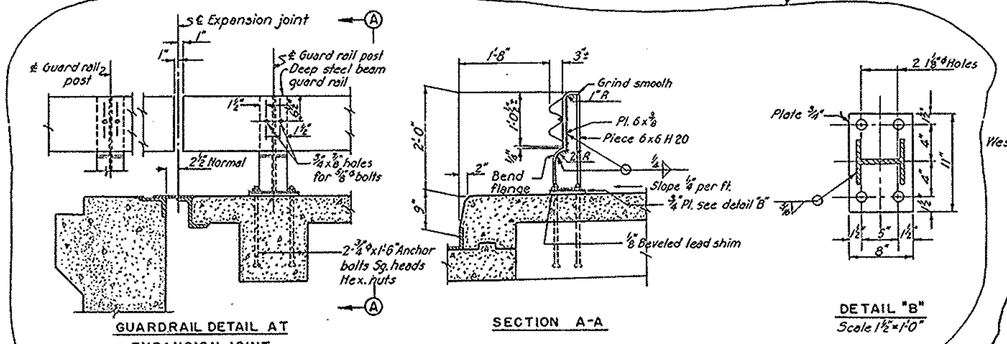
SECTION D-D



PLAN

LIGHT STANDARD BRACKET
JOHNSTON STREET

Void

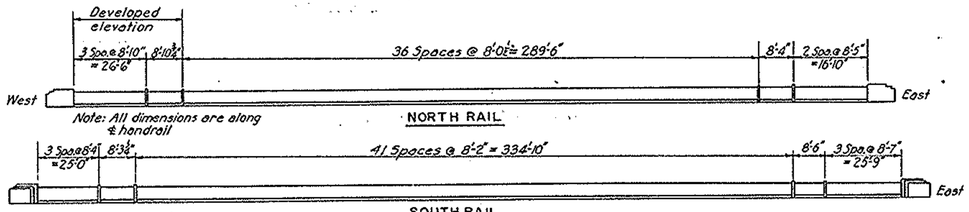


GUARDRAIL DETAIL AT EXPANSION JOINT

SECTION A-A

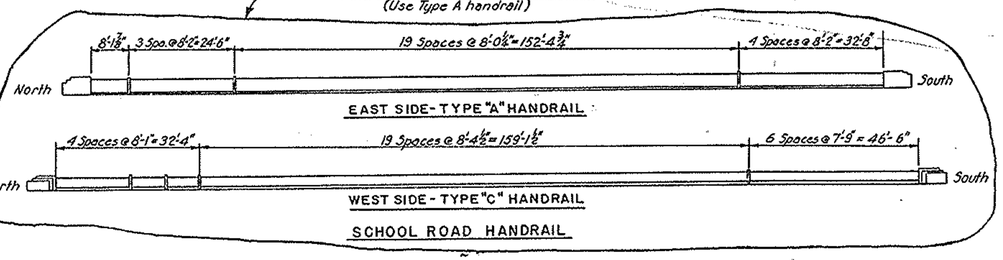
DETAIL "B"
Scale 1½"=1'0"

GUARDRAIL DETAILS
Scale 3/4"=1'0"



JOHNSTON STREET HANDRAIL
(Use Type A handrail)

Void



SCHOOL ROAD HANDRAIL

Rev. 3-16-55 PART 6

AKRON EXPRESSWAY SYSTEM

COMMON DETAILS

AKRON SUMMIT COUNTY, OHIO

SCALE As Shown
MADE Q.D.G. DATE 8-12-54
TRC DRC CH DATE 10-18-54
CKD C.H.T. DATE 10-18-54

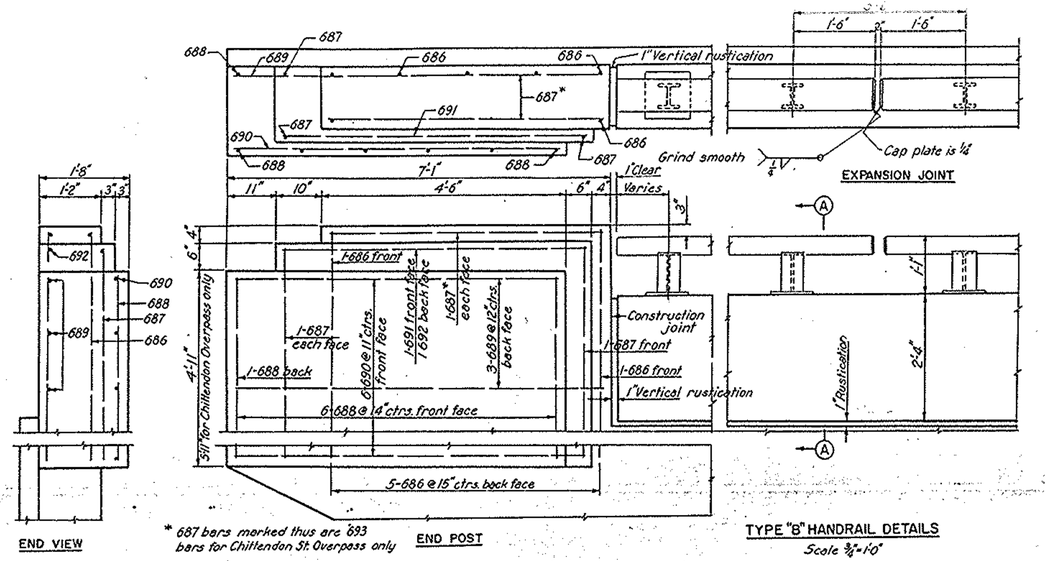
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

901 SHEET 137

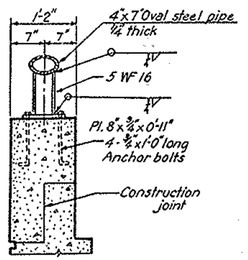
104

FED ROAD DIV NO	STATE	FED AID PROJ NO.	TYPE FUNDS	138 / 204
2	OHIO			

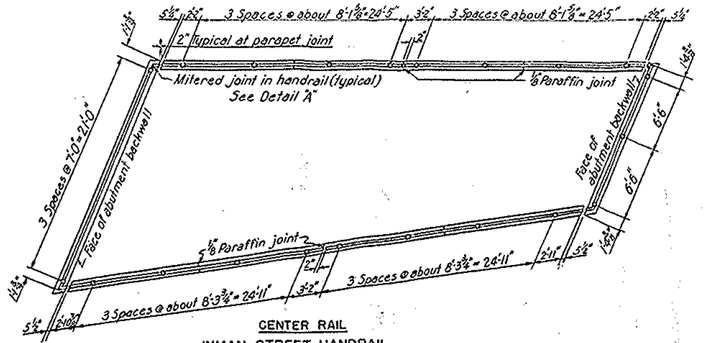
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

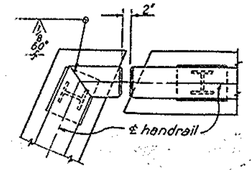


Note:
For detail of post base plate see Detail 'B' Sheet 137



SECTION A-A

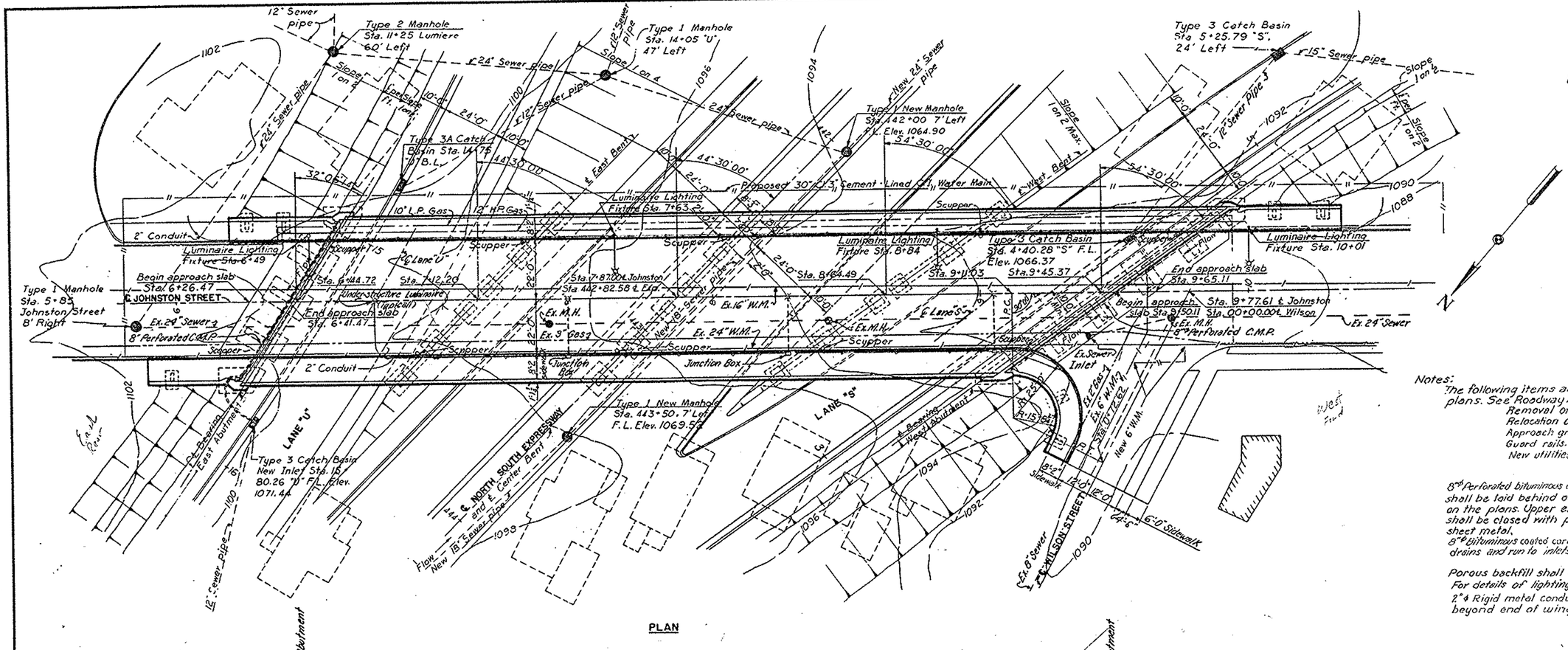



2"
1'-6"
3'-6"
1'-6"
3'-6"
3'-6"
1'-6"
1'-6"
3'-6"
1'-6"
1'-6"
3'-6"
1'-6"
1

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

139
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



PLAN

PROFILE

ELEVATION

Note: Clearances shown are at Beam "B" on south side of structure.

LEGEND

- Gas
- Existing Water Main
- New Water Main
- Sewer Manhole
- Sewer Inlet
- Electrical Conduit

Notes:
The following items are not included in the bridge plans. See Roadway Plans for details.
Removal of existing drives, pavements, etc.
Relocation or removal of existing utilities
Approach grading, pavement and slabs.
Guard rails.
New utilities.

8" Perforated bituminous coated corrugated metal pipe with fittings shall be laid behind abutments in porous backfill as shown on the plans. Upper ends of pipes located behind abutments shall be closed with perforated headers made of No. 16 gauge sheet metal.
8" Bituminous coated corrugated metal pipe shall connect to under-drains and run to inlets. Payment included in roadway quantities.

Porous backfill shall conform to Items S-29.02. and S-29.04.
For details of lighting see sheets 136 and 137.
2" ϕ Rigid metal conduit under south walk shall extend 25'± beyond end of wings as shown in plan.

PROPOSED STRUCTURE
Type: Four Span Continuous Steel Beam with reinforced concrete deck.
Spans: 1 @ *67'-5 3/4", 1 @ 74'-9 5/8", 1 @ *77'-5 3/8" and 1 @ 80'-10 5/8".
Roadway: 1 @ 44'-0".
Sidewalks: 2 @ 8'-0".
Skew: Varies.
Surface Course: 2 1/2" Asphaltic Concrete Surface Course.
Loading: CF-400

* Span measured along centerline Johnston Street.

BRIDGE ALIGNMENT

Bridge is to be built parallel to center line of Johnston Street except for curved portion at northwest corner. See details.

PART 6

AKRON EXPRESSWAY SYSTEM

JOHNSTON STREET UNDERPASS

BR. NO. SU.-5-108

SITE PLAN

AKRON SUMMIT COUNTY. OHIO

SCALE 1" = 20'
MADE L.W.L. DATE 8-12-54
TRCD. DATE
CKD. A.D.G. DATE 10-16-54

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

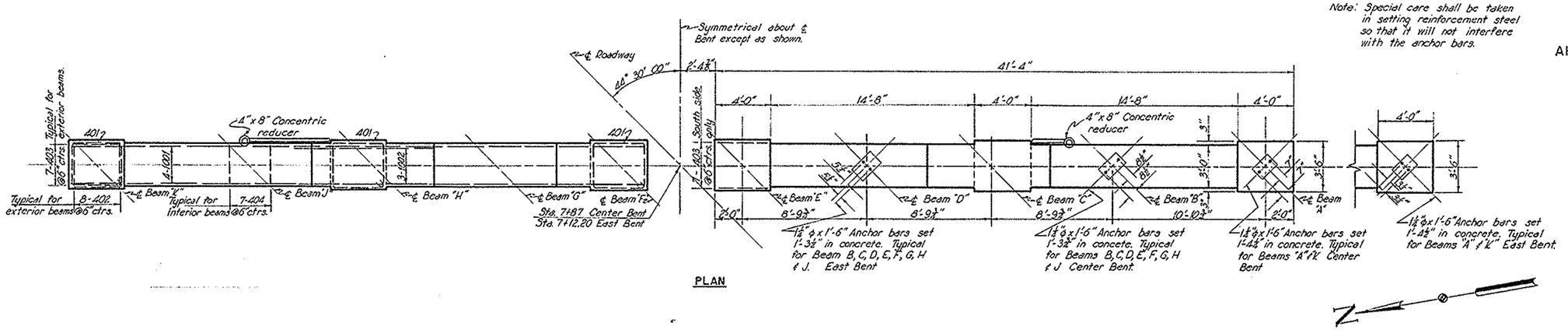
901 SHEET 139

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

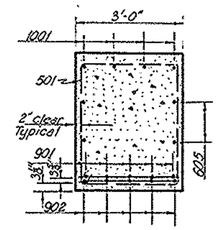
140
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

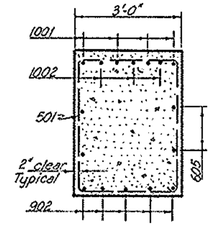
Note: Special care shall be taken in setting reinforcement steel so that it will not interfere with the anchor bars.



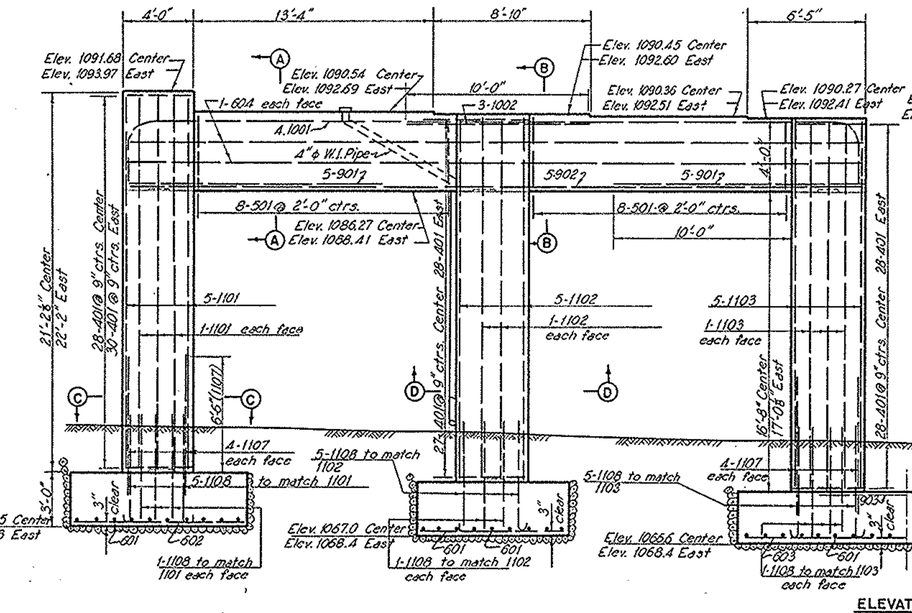
PLAN



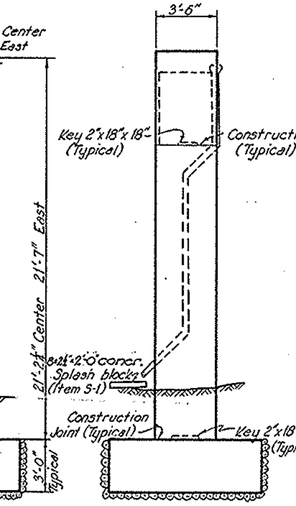
SECTION A-A
Scale ½" = 1'-0"



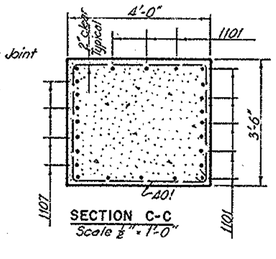
SECTION B-B
Scale ½" = 1'-0"



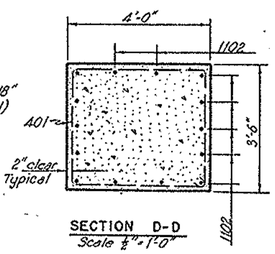
ELEVATION



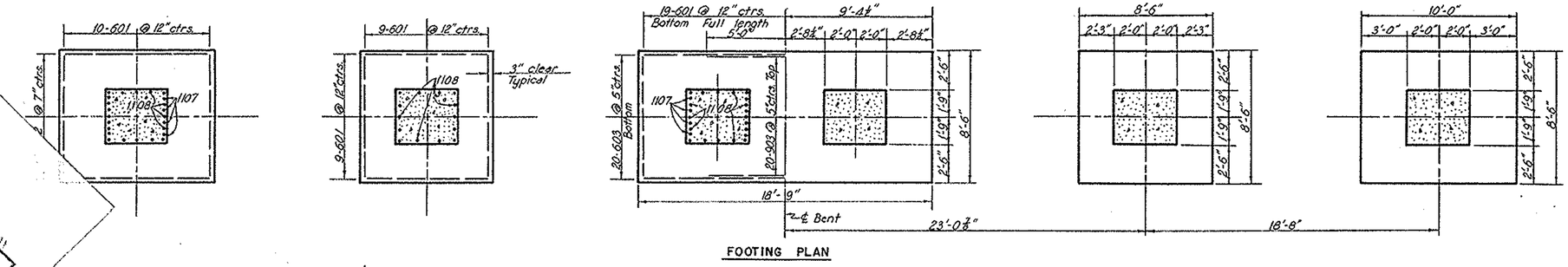
END ELEVATION



SECTION C-C
Scale ½" = 1'-0"



SECTION D-D
Scale ½" = 1'-0"



FOOTING PLAN

Note:
For details of shoes and anchor bars see Sheet 136.
For Reinforcement Schedule see Sheet 151.
For detail of Strap Pipe Hanger see Sheet 148.

PART 6

AKRON EXPRESSWAY SYSTEM

JOHNSTON STREET UNDERPASS

BR. NO. SU-5-108

CENTER AND EAST BENTS

AKRON SUMMIT COUNTY, OHIO

SCALE ½" = 1'-0"
MADE B.K. DATE 7-13-54
TRCD B.M.O. DATE 10-8-54
CKD. O.D.G. DATE 10-18-54

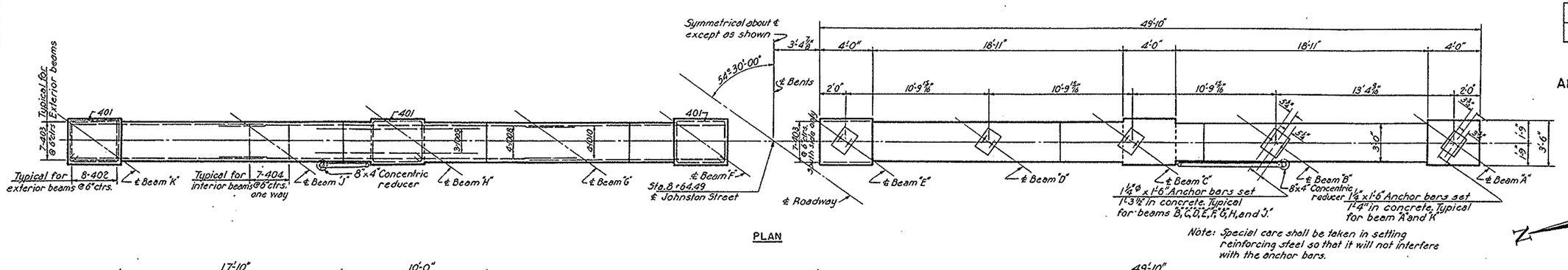
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

901 SHEET 140

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

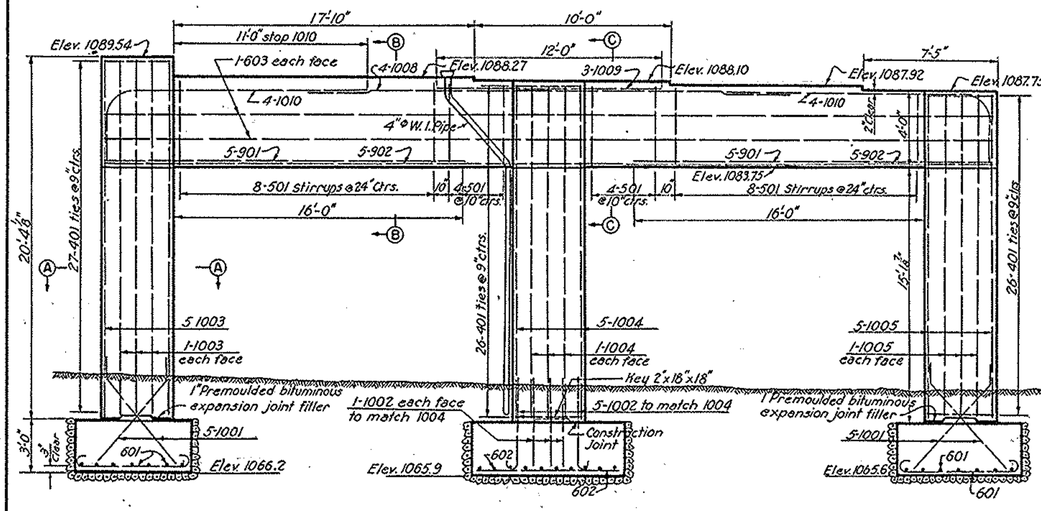
141
204

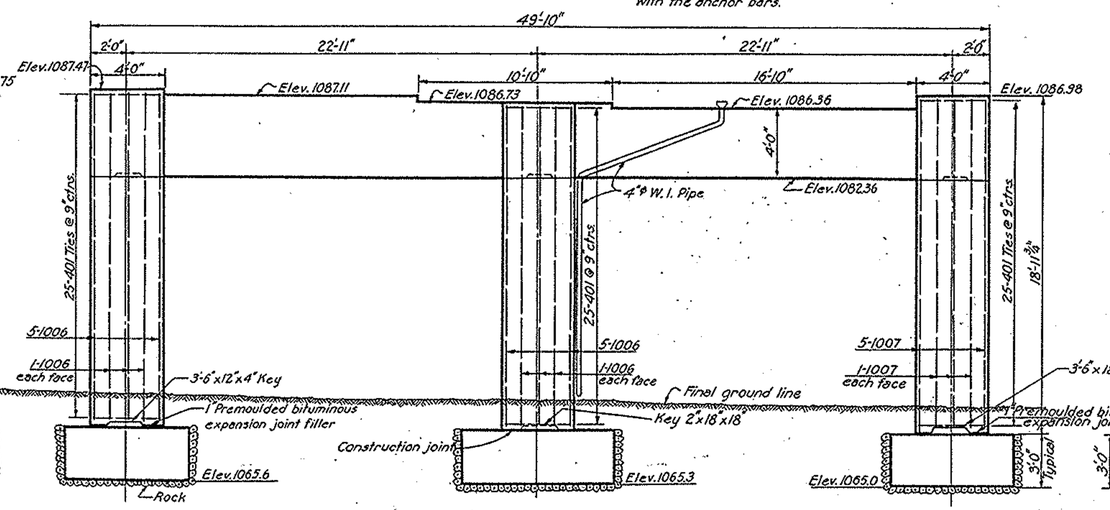
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



PLAN

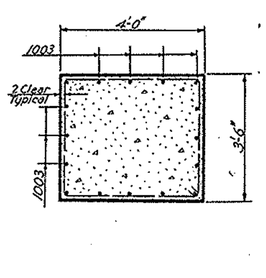
Note: Special care shall be taken in setting reinforcing steel so that it will not interfere with the anchor bars.



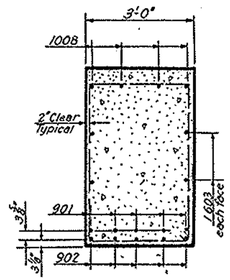


ELEVATION

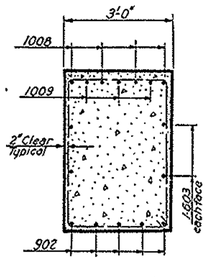
END ELEVATION



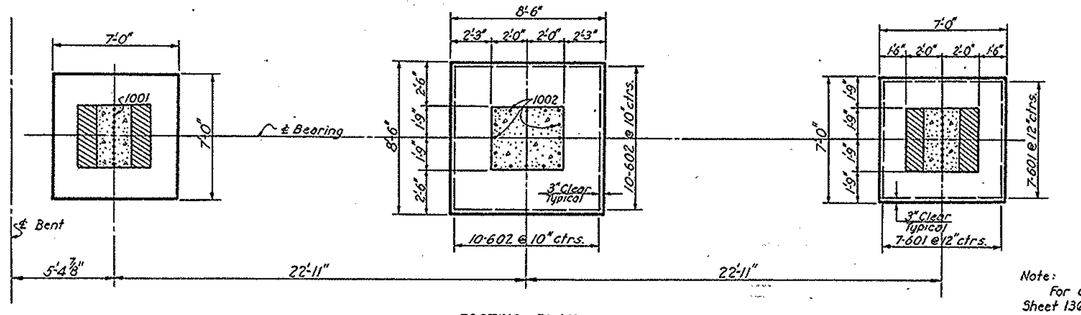
SECTION A-A
Scale ½" = 1'-0"



SECTION B-B
Scale ½" = 1'-0"



SECTION C-C
Scale ½" = 1'-0"



FOOTING PLAN

Note:
For details of shoes and anchor bars see Sheet 136.
For Reinforcement Schedule see Sheet 151.
For detail of Strap Pipe Hanger see Sheet 148.

PART 6

AKRON EXPRESSWAY SYSTEM
JOHNSTON STREET UNDERPASS
BR. NO. SU-5-108
WEST BENT
AKRON SUMMIT COUNTY, OHIO

SCALE 1/2" = 1'-0"
MADE B.R. DATE 7-6-54
TRCD. C.T.N. DATE 10-6-54
CKD. O.D.S. DATE 10-18-54

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

901 SHEET 141

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
.2	OHIO		

142
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

SECTION T-T
No Scale

SECTION P-P
Scale ¼"=1'-0"

PLAN

Note: For detail of handrail post see sheet 137. Elevations shown in plan are back of 6"x4½" angle. Dimensions shown for counterfort CF-6 are typical for all counterforts.

Note: Rustications to be horizontal on front face of abutment and parallel to grade on face of buttresses. For Rustication detail see Sheet 138.

ELEVATION

SECTION N-N
Typical for Counterforts CF-6 and CF-7.

Note: For dimensions not shown see Section L-L

SECTION L-L

VIEW O-O

SECTION Q-Q
Scale ¼"=1'-0"

SECTION U-U
Scale ½"=1'-0"

FOOTING PLAN

Note: For Sections and Views not shown see Sheet 143.
For details of shoes and anchor bars see Sheet 136.
For Reinforcement Schedules see Sheets 151 and 152.

PART 6

AKRON EXPRESSWAY SYSTEM

JOHNSTON STREET UNDERPASS

BR. NO. SU-5-108

EAST ABUTMENT

AKRON SUMMIT COUNTY, OHIO

SCALE 3/16"=1'-0" MADE HWB DATE 8-8-54
TRCD DATE
CKD D.L.L. DATE 10-18-54.

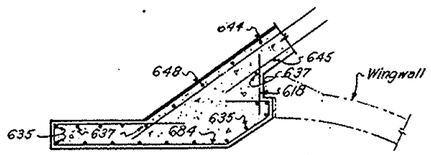
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

901 SHEET 142

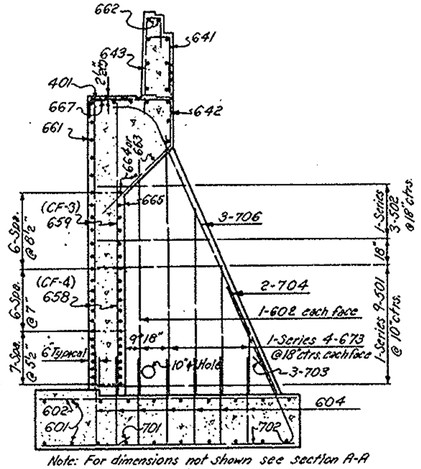
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

143
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

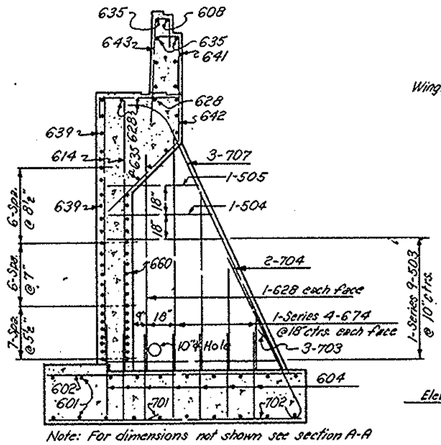


SECTION H-H



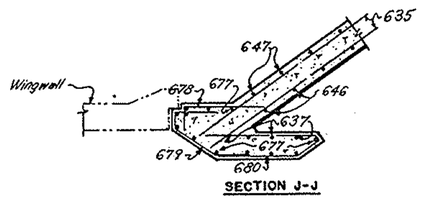
Note: For dimensions not shown see section A-A

SECTION C-C
Counterfort CF-4 shown.
Counterfort CF-3 similar
except as noted.



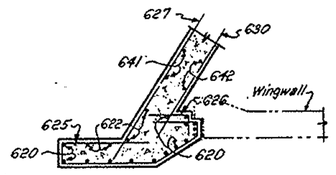
Note: For dimensions not shown see section A-A

SECTION D-D

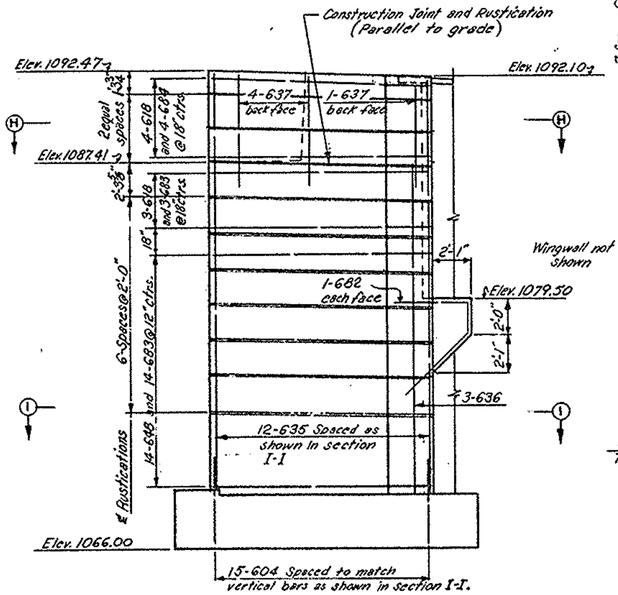


SECTION J-J

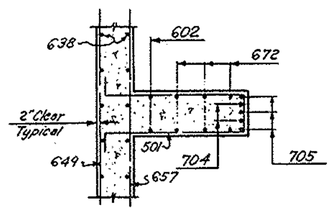
For Rustication detail
see Sheet 138.



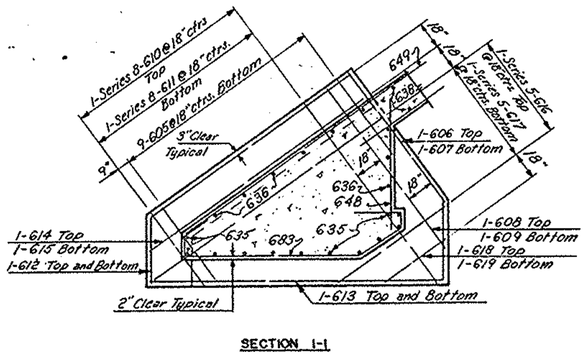
SECTION R-R



VIEW B-B

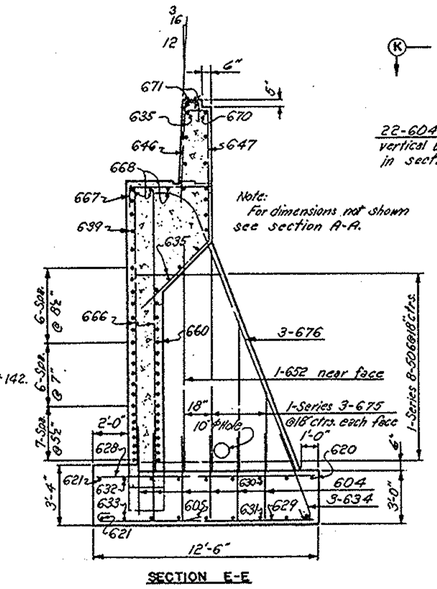


SECTION G-G

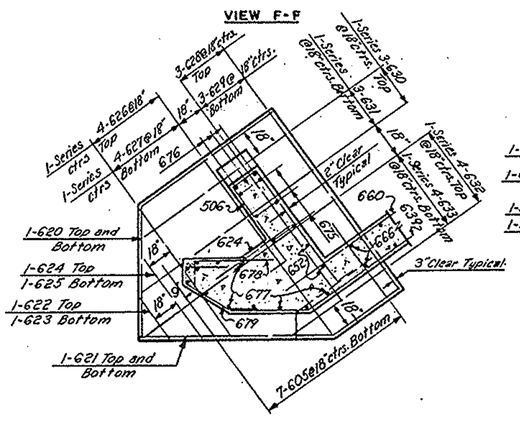


SECTION I-I

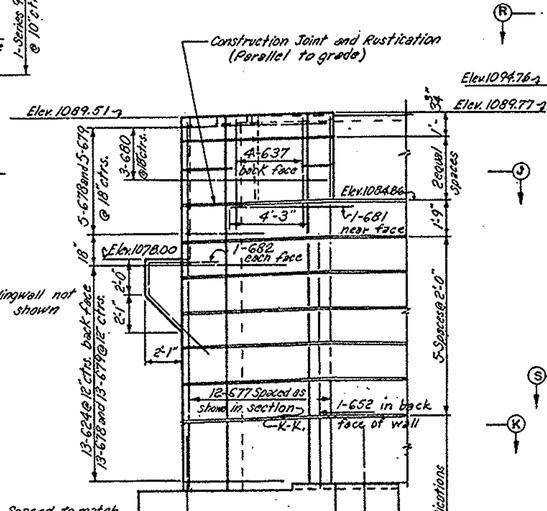
Note:
View M-M, Section R-R and
Section S-S apply to East Abutment - See Sheet 142.
All other details apply to
West Abutment, see Sheet 144.
For Reinforcement Schedules see Sheets 151 and 152.
For porous backfill details see Sheet 138.

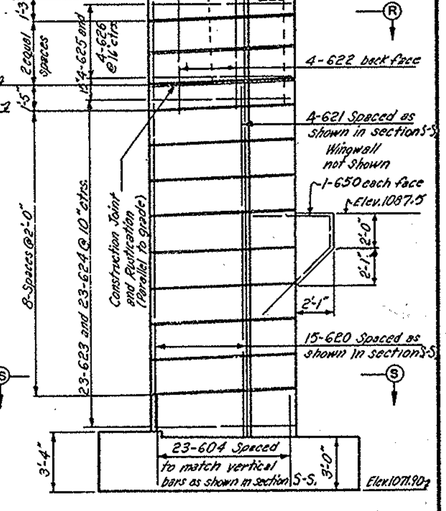


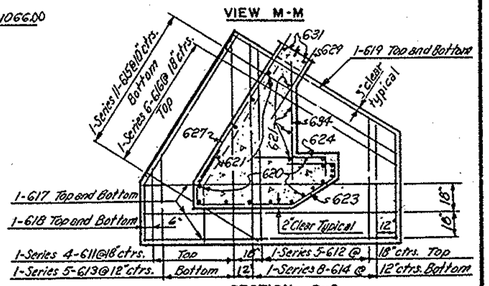
SECTION E-E



SECTION K-K







SECTION S-S

PART 6

AKRON EXPRESSWAY SYSTEM
JOHNSTON STREET UNDERPASS
BR. NO. SU-5-106
ABUTMENT DETAILS
AKRON SUMMIT COUNTY, OHIO

SCALE 1/4" = 1'-0"
MADE HWG DATE 7-16-54
TRCD. DATE
CKD. D.L.L. DATE 10-18-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901 SHEET 143

115

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

144
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

Notes:
Elevations shown in plan are back of 6"x4½" angle.
Dimensions shown for counterfort CF-2 are typical, excepting contraction joint, for counterforts CF-3, CF-4 and CF-5.

Note: For detail of handrail post see sheet 137.

PLAN

SECTION V-V
Scale ½"=1'-0"
Note: For Expansion Joint Detail see sheet 138.
The backwall is to be poured after expansion joint steel has been attached to superstructure.

ELEVATION

SECTION A-A

SECTION W-W
Scale ½"=1'-0"

FOOTING PLAN

Typical at counterforts CF-2, CF-3, CF-4 and CF-5.

Note:
For Sections and Views not shown on this sheet see sheet 143.
For details of shoes and anchor bars see Sheet 136.
For Reinforcement Schedules see Sheets 151 and 152.
For details of bridge seat drain see Sheet 138.

PART 6

AKRON EXPRESSWAY SYSTEM
JOHNSTON STREET UNDERPASS
BR. NO. SU-5-108
WEST ABUTMENT
AKRON SUMMIT COUNTY, OHIO

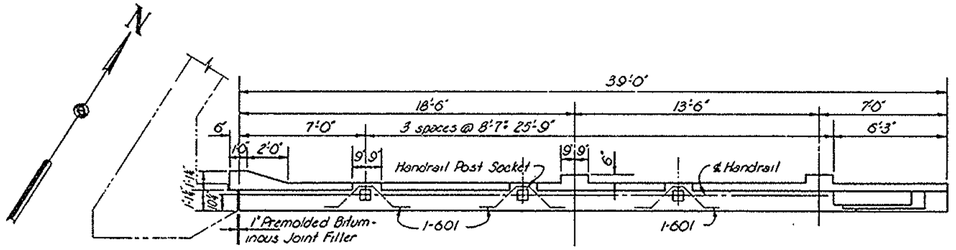
SCALE 3/16"=1'-0" MADE W.W.G. DATE 7-2-54
TRCD. DATE
CKD. D.L.L. DATE 10-18-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901
SHEET 144

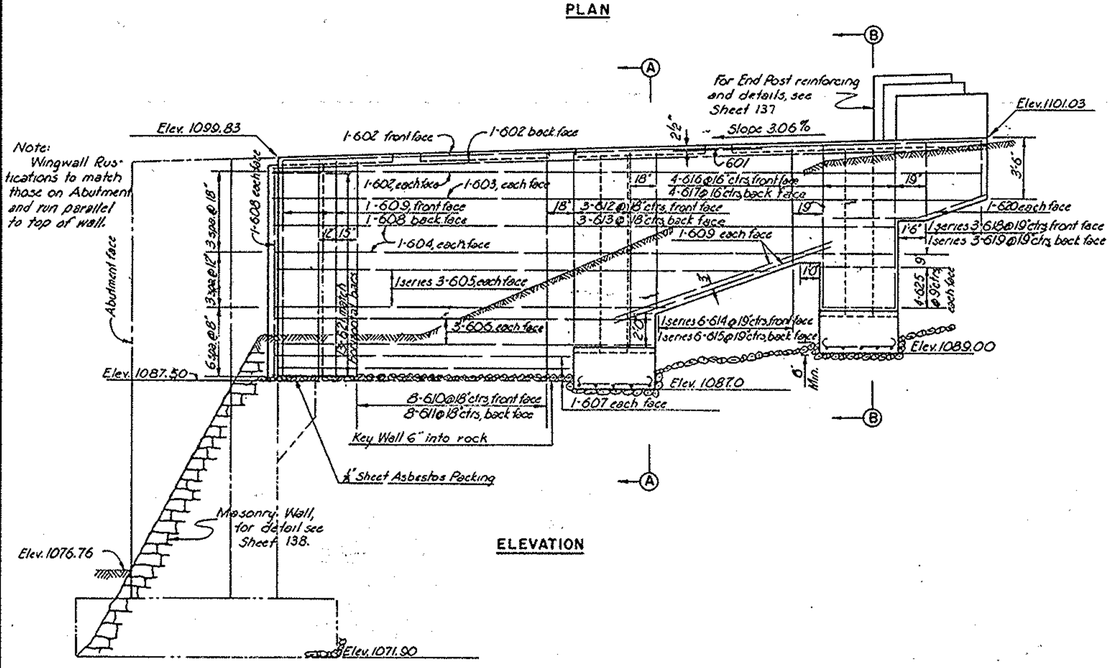
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

145
204

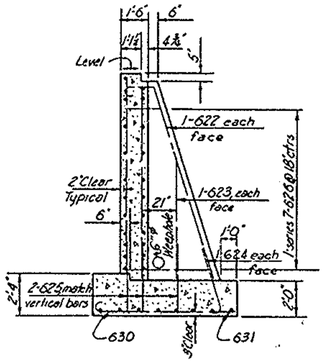
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



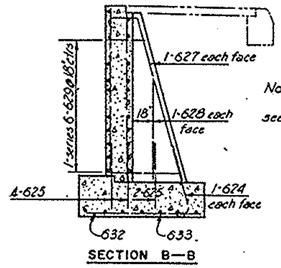
PLAN



ELEVATION

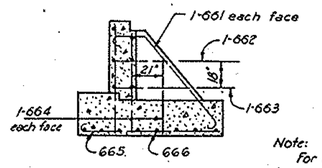


SECTION A-A



SECTION B—B

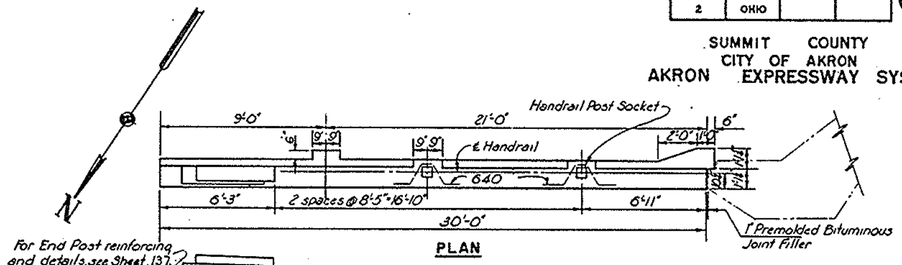
Note: For dimensions not shown, see Section A-A.



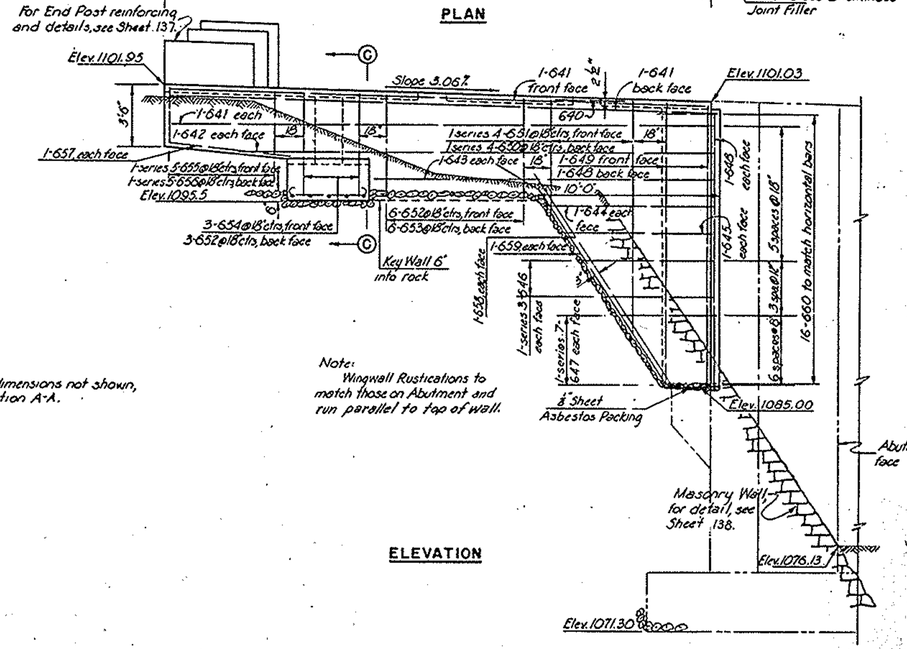
SECTION C-C

Note: For dimensions not shown, see Section A-A.

Note: For handrail detail see sheet 137.
For Reinforcement Schedule see Sheets 151 and 152.
For porous backfill details see sheet 138.

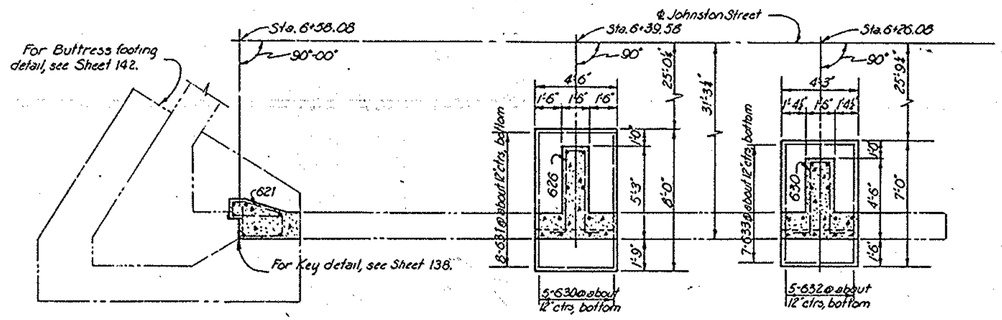


PLAN



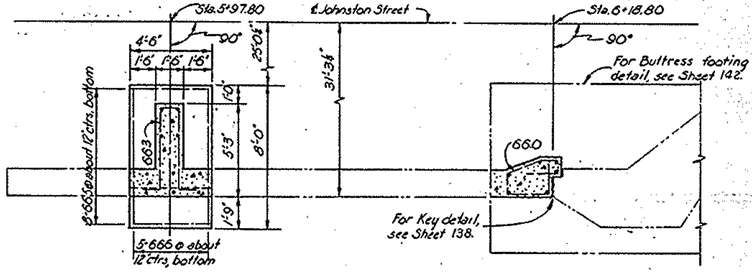
ELEVATION

Note: Wingwall Rustications to match those on Abutment and run parallel to top of wall.



FOOTING PLAN

SOUTHEAST WINGWALL



FOOTING PLAN

NORTHEAST WINGWALL

PART 6

AKRON EXPRESSWAY SYSTEM
JOHNSTON STREET UNDERPASS
BR. NO. SU-5-108

EAST WINGWALL

AKRON SUMMIT COUNTY, OHIO

SCALE 1/4"=1'-0"
MADE DLL DATE 9-1-54
TRCD. DATE
CKD. J.W.L. DATE 10-18-54

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

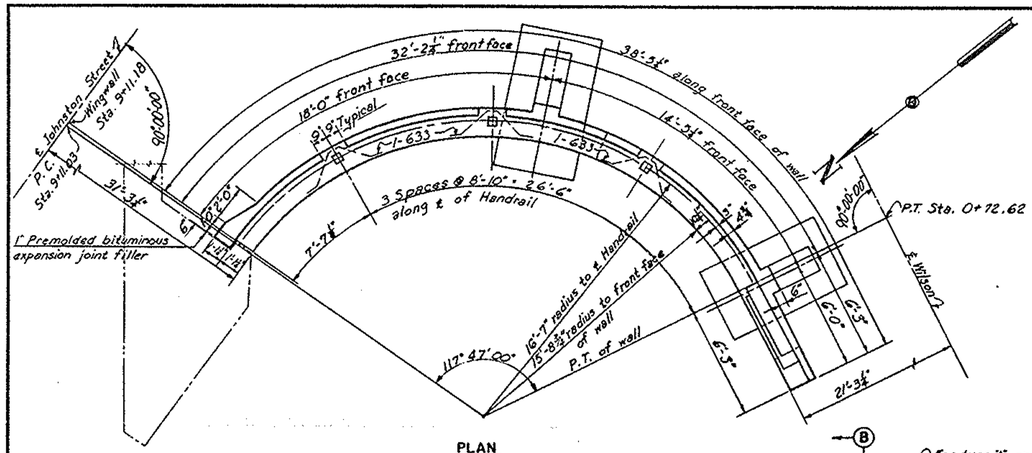
901 SHEET 145

120

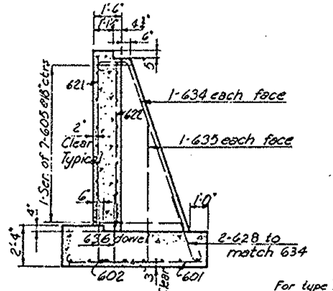
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE PUNCH
2	OHIO		

146
204

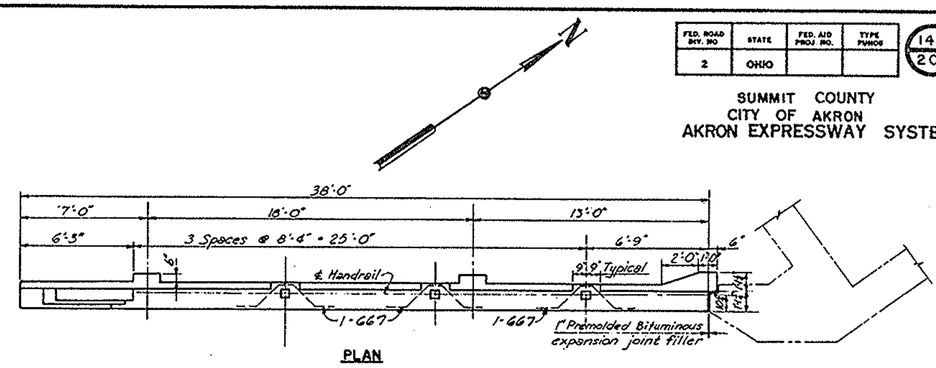
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



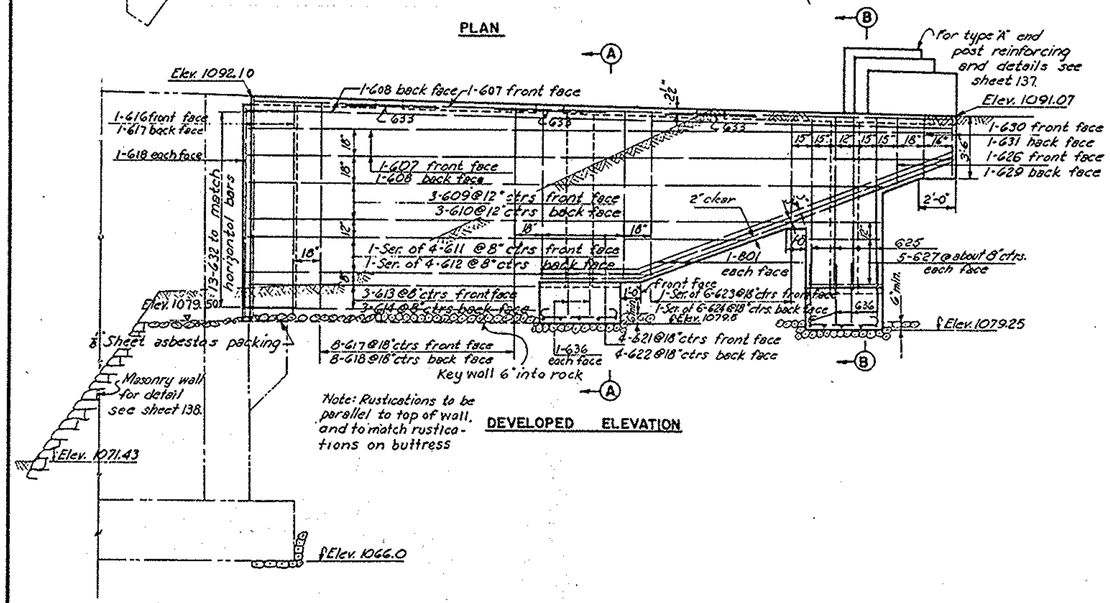
PLAN



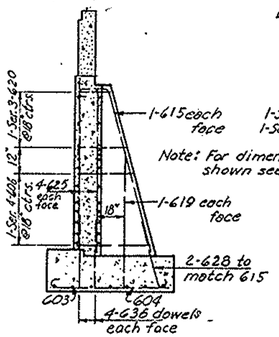
SECTION A-A



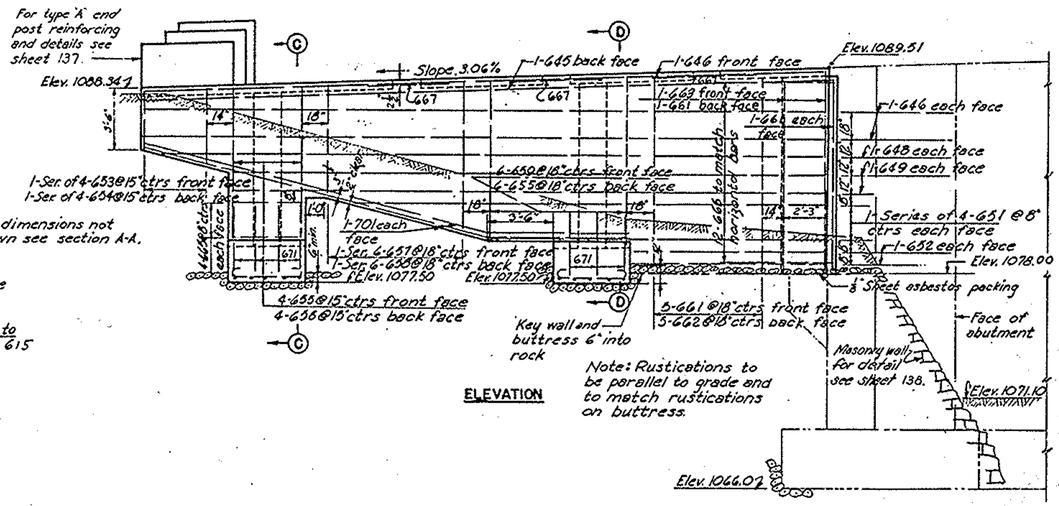
PLAN



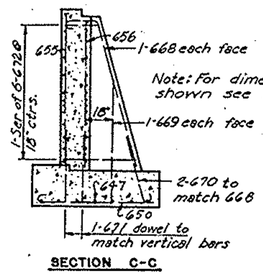
DEVELOPED ELEVATION



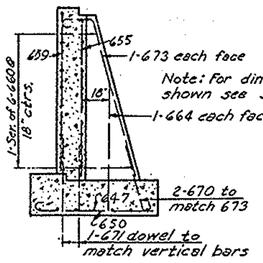
SECTION B-B



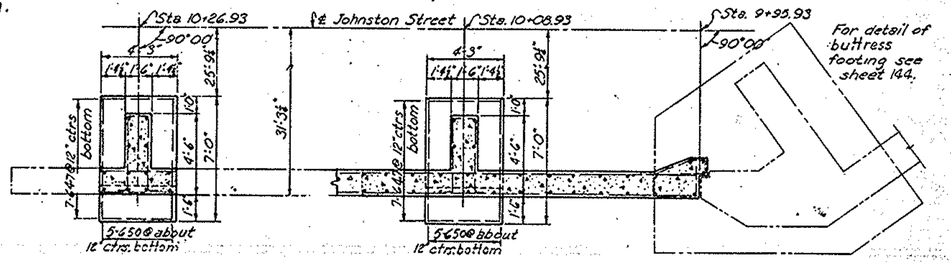
ELEVATION



SECTION C-C

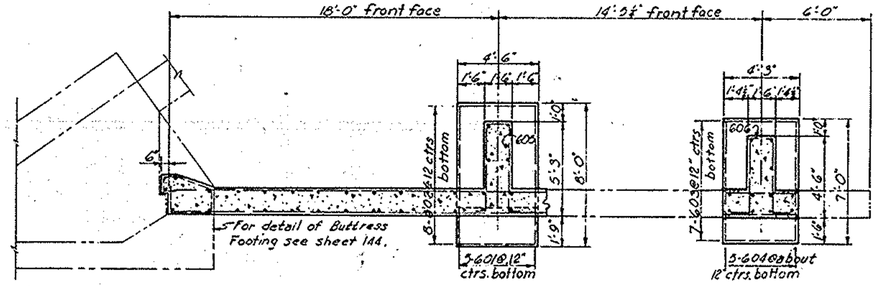


SECTION D-D



FOOTING PLAN

SOUTHWEST WINGWALL



DEVELOPED FOOTING PLAN

NORTHWEST WINGWALL

Note:
For details of handrail see Sheet 137.
For Reinforcement Schedules see Sheets 151 and 152.
For Porous backfill details see sheet 138.

PART 6

AKRON EXPRESSWAY SYSTEM

JOHNSTON STREET UNDERPASS
BR. NO. SU-5-108

WEST WINGWALLS

AKRON SUMMIT COUNTY, OHIO

SCALE 1/4"=1'-0" or As shown
MADE ODG DATE 9-8-54
TRCD. DATE
CKD. R.F.S. DATE 10-18-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 146

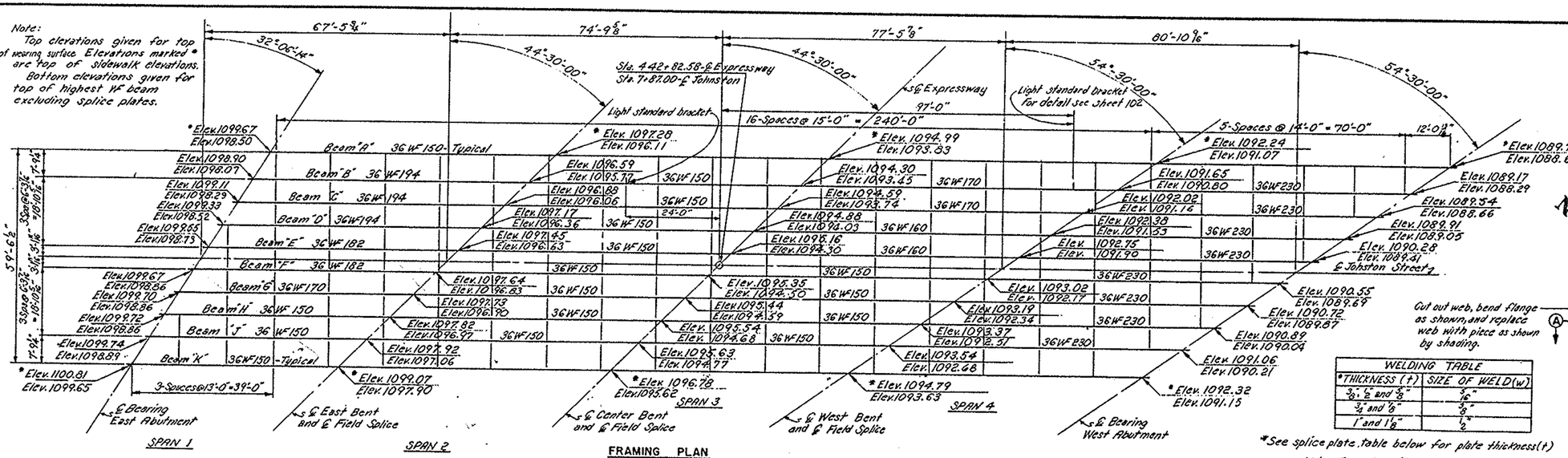
118

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

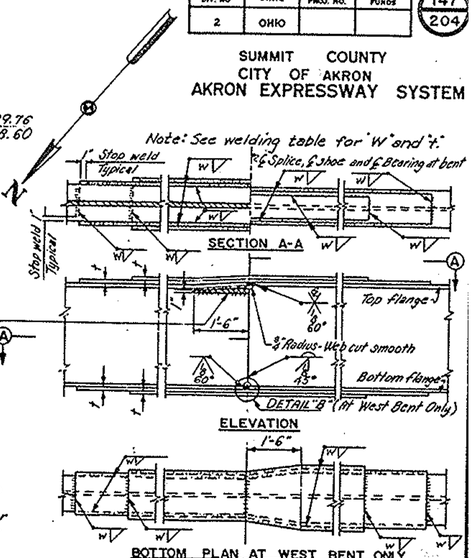
147
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

Note:
Top elevations given for top of wearing surface. Elevations marked * are top of sidewalk elevations.
Bottom elevations given for top of highest W beam excluding splice plates.



FRAMING PLAN
Scale 1/16"=1'-0"



Cut out web, bend flange as shown, and replace web with piece as shown by shading.

WELDING TABLE	
*THICKNESS (t)	SIZE OF WELD (w)
⅜" and ½"	5/16"
⅝" and ¾"	⅜"
1" and 1⅛"	½"

*See splice plate table below for plate thickness (t)

Note: Taper top flange at west bent similar to bottom flange and weld plates similar to plates at other bents.

BEAM DIMENSION TABLE			
BEAM	DIMENSIONS "M"	"N"	"Q"
"A"	78'-0 1/16"	89'-11⅞"	323'-8½"
"B"	75'-3 3/16"	86'-8 9/16"	317'-8 5/16"
"C"	73'-0 3/16"	84'-0 5/16"	312'-9 7/8"
"D"	70'-9 7/16"	81'-5 5/16"	307'-11 1/16"
"E"	68'-7⅛"	78'-9 1/16"	303'-1"
"F"	66'-4 3/16"	76'-2 1/16"	298'-2 3/8"
"G"	64'-1 9/16"	73'-6 7/16"	293'-4 1/16"
"H"	61'-10 3/4"	70'-10 1/16"	288'-5 3/4"
"J"	59'-7 1/16"	68'-3 3/16"	283'-7 7/16"
"K"	56'-10 1/16"	65'-0⅛"	277'-7⅛"

TABLE OF SPLICE PLATES

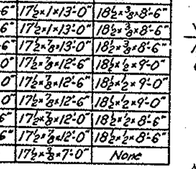
SPLICE AT EAST BENT	BEAM	PLATE "W"	PLATE "X"	PLATE "Y"	PLATE "Z"	DIMENSIONS "O"	"P"	"S"	"T"
	"A"	None	10"×⅜"×10'-0"	13"×⅜"×10'-0"	None	5'-0"	5'-0"	-	-
	"B"	10"×1 5/16"×15'-6"	11"×¾"×23'-0"	14"×⅞"×23'-0"	None	11'-0"	12'-0"	7'-6"	8'-0"
	"C"	10"×1 5/16"×15'-6"	11"×¾"×23'-0"	14"×⅞"×23'-0"	None	11'-0"	12'-0"	7'-6"	8'-0"
	"D"	10"×1 5/16"×15'-6"	11"×¾"×23'-0"	14"×⅞"×23'-0"	None	11'-0"	12'-0"	7'-6"	8'-0"
	"E"	10"×1 5/16"×15'-6"	11"×¾"×22'-6"	14"×⅞"×22'-6"	None	10'-6"	12'-0"	7'-6"	8'-0"
	"F"	10"×1 5/16"×15'-6"	11"×¾"×22'-6"	14"×⅞"×22'-6"	None	10'-6"	12'-0"	7'-6"	8'-0"
	"G"	10"×⅜"×15'-0"	11"×¾"×21'-6"	14"×⅞"×21'-6"	None	10'-0"	11'-6"	7'-0"	8'-0"
	"H"	10"×⅜"×15'-0"	11"×¾"×21'-0"	14"×⅞"×21'-0"	None	10'-0"	11'-0"	7'-0"	8'-0"
	"J"	10"×⅜"×15'-0"	11"×¾"×21'-0"	14"×⅞"×21'-0"	None	10'-0"	11'-0"	7'-0"	8'-0"
	"K"	None	10"×⅜"×10'-0"	13"×⅜"×10'-0"	None	5'-0"	5'-0"	-	-

SPLICE AT CENTER BENT	BEAM	PLATE "W"	PLATE "X"	PLATE "Y"	PLATE "Z"	DIMENSIONS "O"	"P"	"S"	"T"
	"A"	None	10"×⅜"×10'-0"	13"×⅜"×10'-0"	None	5'-0"	5'-0"	-	-
	"B"	10"×1"×16'-0"	11"×⅞"×24'-0"	13"×¾"×24'-0"	14"×⅜"×16'-0"	12'-0"	12'-0"	8'-0"	8'-0"
	"C"	10"×1"×16'-0"	11"×⅞"×24'-0"	13"×¾"×24'-0"	14"×⅜"×16'-0"	12'-0"	12'-0"	8'-0"	8'-0"
	"D"	10"×⅞"×16'-0"	11"×⅞"×23'-0"	13"×¾"×23'-0"	14"×⅜"×16'-0"	11'-6"	11'-6"	8'-0"	8'-0"
	"E"	10"×⅞"×16'-0"	11"×¾"×22'-6"	14"×⅞"×22'-6"	None	11'-6"	11'-0"	8'-0"	8'-0"
	"F"	10"×⅞"×14'-6"	11"×¾"×21'-6"	14"×⅞"×21'-6"	None	11'-6"	10'-0"	7'-6"	7'-0"
	"G"	10"×⅞"×13'-0"	11"×¾"×20'-0"	14"×⅞"×20'-0"	None	11'-0"	9'-0"	7'-0"	6'-0"
	"H"	None	11"×¾"×20'-0"	13"×¾"×20'-0"	None	11'-0"	9'-0"	-	-
	"J"	None	11"×¾"×20'-0"	13"×¾"×20'-0"	None	11'-0"	9'-0"	-	-
	"K"	None	10"×⅜"×10'-0"	13"×⅜"×10'-0"	None	5'-0"	5'-0"	-	-

SPLICE AT WEST BENT	BEAM	PLATE "W"	PLATE "X"	PLATE "Y"	PLATE "Z"	DIMENSIONS "O"	"P"	"S"	"T"	PLATE "YY"	PLATE "ZZ"
	"A"	None	11"×½"×18'-0"	13"×½"×10'-0"	None	10'-0"	8'-0"	-	-	17½"×½"×8'-0"	None
	"B"	10"×½"×19'-0"	11"×⅛"×29'-0"	13"×1"×16'-0"	14"×⅜"×10'-6"	16'-0"	13'-0"	10'-6"	8'-6"	17½"×1"×13'-0"	18"×⅜"×8'-6"
	"C"	10"×½"×19'-0"	11"×⅛"×29'-0"	13"×1"×16'-0"	14"×⅜"×10'-6"	16'-0"	13'-0"	10'-6"	8'-6"	17½"×1"×13'-0"	18"×⅜"×8'-6"
	"D"	10"×½"×19'-0"	11"×1"×28'-0"	13"×⅞"×15'-0"	14"×⅜"×10'-6"	15'-0"	13'-0"	10'-6"	8'-6"	17½"×⅞"×13'-0"	18"×⅜"×8'-6"
	"E"	10"×¾"×19'-6"	11"×⅞"×26'-6"	13"×⅞"×14'-0"	14"×½"×10'-6"	14'-0"	12'-6"	10'-6"	9'-0"	17½"×⅞"×12'-6"	18"×½"×9'-0"
	"F"	10"×¾"×18'-6"	11"×⅞"×25'-6"	13"×⅞"×13'-0"	14"×½"×9'-6"	13'-0"	12'-6"	9'-6"	9'-0"	17½"×⅞"×12'-6"	18"×½"×9'-0"
	"G"	10"×¾"×18'-6"	11"×⅞"×25'-6"	13"×⅞"×13'-0"	14"×½"×9'-6"	13'-0"	12'-6"	9'-6"	9'-0"	17½"×⅞"×12'-6"	18"×½"×9'-0"
	"H"	10"×¾"×17'-6"	11"×⅞"×24'-6"	13"×⅞"×12'-6"	14"×½"×9'-0"	12'-6"	12'-0"	9'-0"	8'-6"	17½"×⅞"×12'-0"	18"×½"×8'-6"
	"J"	10"×¾"×17'-6"	11"×¾"×24'-6"	13"×⅞"×12'-6"	14"×½"×9'-0"	12'-6"	12'-0"	9'-0"	8'-6"	17½"×⅞"×12'-0"	18"×½"×8'-6"
	"K"	None	11"×⅝"×15'-0"	13"×⅜"×8'-0"	None	8'-0"	7'-0"	-	-	17½"×⅜"×7'-0"	None

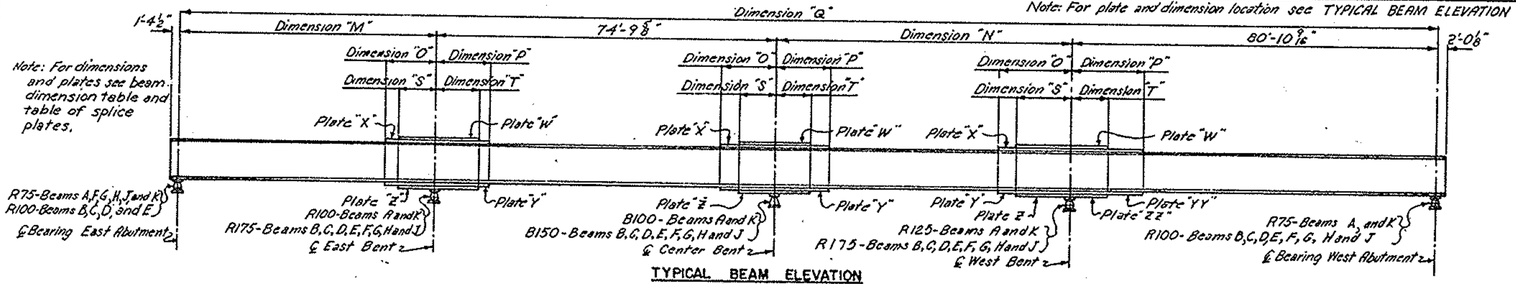
Note: For plate and dimension location see TYPICAL BEAM ELEVATION

BEAM SPLICE DETAILS
(Elevation typical except as noted)
(Section "A-A" typical at East and Center bents only.)



Note: G indicates a flush grind. Welds shall be ground in the direction of stress.

Notes:
All beams are parallel to grade.
See sheet 136 for shoe details.
See sheet 149 for cross frame details.



Note: For dimensions and plates see beam dimension table and table of splice plates.

TYPICAL BEAM ELEVATION
Not to scale

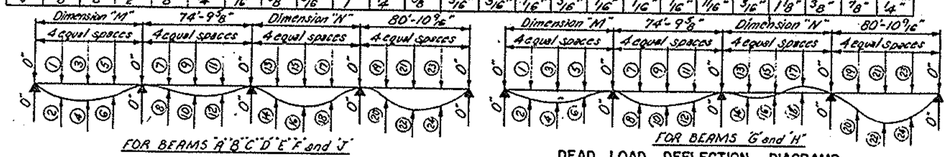
BEAM JACKING TABLE			
BEAM	AT EAST BENT	AT EAST ABUTMENT	AT WEST ABUTMENT
"A"	3 1/16"	2 3/16"	3 1/16"
"B"	3¼"	1⅛"	3"
"C"	3 1/16"	1 1/16"	2 7/8"
"D"	2 7/8"	1 7/8"	2 3/4"
"E"	2¾"	1 7/16"	2 9/16"
"F"	2 5/8"	1 5/16"	2 7/16"
"G"	2½"	1 3/16"	2 7/16"
"H"	2 3/8"	1 3/16"	2 7/16"
"J"	2 7/16"	1 3/16"	2 3/16"
"K"	2⅛"	1 1/16"	2 1/16"

BEAM SPLICE WELDING PROCEDURE

1. Weld bottom flange splice plates to beam on one side of joint only.
2. Raise end of beam in span 2 at east bent by amount shown in table.** Follow steps 3, 4, 5 and 6 at center bent.
3. Butt weld the beam flanges and web.
4. Weld the top splice plates on each side of joint.
5. Complete welding of bottom splice plates.
6. Lower the beam end to final position.
7. Raise end of beam in span 1 at east abutment by amount shown in table.** Follow steps 3, 4, 5 and 6 at east bent.
8. Raise end of beam in span 4 at west abutment by amount shown in table.** Follow steps 3, 4, 5 and 6 at west bent.

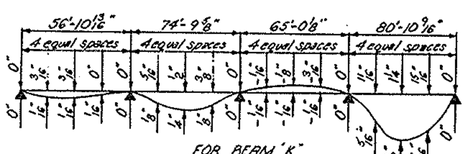
**See Beam Jacking Table.
Note: Contractor may submit alternate scheme for welding connecting lower splice plate and top element of shoes.

TABLE OF DEAD-LOAD DEFLECTIONS																								
Beam \ Point	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔
"A"	1/8	1/4	1 1/16	3/8	9/16	1/8	0"	0"	1/8	1/16	0"	1/16	1 1/16	3/16	15/16	5/16	7/8	3/16	1"	3/16	1"	3/8	7/8	1/4
"B"	3/4	3/16	1"	1/4	9/16	1/8	3/16	1/16	9/16	1/8	3/8	1/16	13/16	3/16	13/16	5/16	1/16	3/16	7/8	1/8	15/16	1/4	3/4	3/16
"C"	3/16	1/8	1 1/16	3/16	5/16	1/8	1/8	1/16	3/8	1/16	1/4	1/16	7/16	1/8	9/16	3/16	1/4	1/16	7/8	1/8	13/16	1/4	11/16	3/16
"D"	1/2	1/8	5/8	3/16	5/16	1/8	3/16	1/16	3/8	1/8	1/4	1/16	3/8	1/16	1/2	1/8	3/16	1/16	1/2	1/8	7/8	1/8	11/16	3/16
"E"	7/16	1/8	9/16	3/16	1/4	1/8	1/16	1/16	1/8	1/8	1/4	1/8	3/8	1/16	7/16	1/8	1/8	1/16	1/2	1/8	7/8	1/8	11/16	3/16
"F"	3/8	1/8	1/2	1/8	1/4	1/16	1/16	1/16	1/8	1/8	3/16	1/8	1/4	1/16	3/8	1/16	0	0	1/2	1/8	7/8	1/8	11/16	1/4
"G"	3/8	1/8	1/2	1/8	1/4	1/16	1/16	1/8	1/8	1/8	3/16	1/8	1/4	1/16	3/8	1/16	0	-1/16	1/2	1/8	7/8	1/8	11/16	1/4
"H"	3/8	1/16	1/2	1/8	3/16	1/16	1/16	1/8	1/8	1/8	3/16	1/8	1/4	1/16	3/8	1/16	0	-1/16	1/2	1/8	7/8	1/8	11/16	1/4
"J"	3/8	1/8	1/2	1/8	1/4	1/16	1/16	1/8	1/8	1/8	3/16	1/8	0	1/16	0	1/16	-1/16	-1/16	1/2	1/8	7/8	1/8	11/16	1/4
"K"	3/8	1/8	1/2	1/8	1/4	1/16	1/16	1/8	1/8	1/8	3/16	1/16	1/16	1/16	1/16	1/16	1/16	1/16	1/2	1/8	7/8	1/8	11/16	1/4



DEAD LOAD DEFLECTION DIAGRAMS
Not to scale

Notes:
Dimensions shown below base line are deflections to be expected in the beams when in place.
Dimensions shown above base line are additional deflections to be expected when concrete is in place.
Deflections are measured to the nearest 1/16". Values less than 1/16" are shown as 0".



PART 6

AKRON EXPRESSWAY SYSTEM
JOHNSTON STREET UNDERPASS
BR. NO. SU-5-108
FRAMING PLAN
AKRON SUMMIT COUNTY, OHIO

SCALE As shown
MADE HWE DATE 5-25-54
TRCD. DATE
CKD. D.L.L. DATE 10-18-54

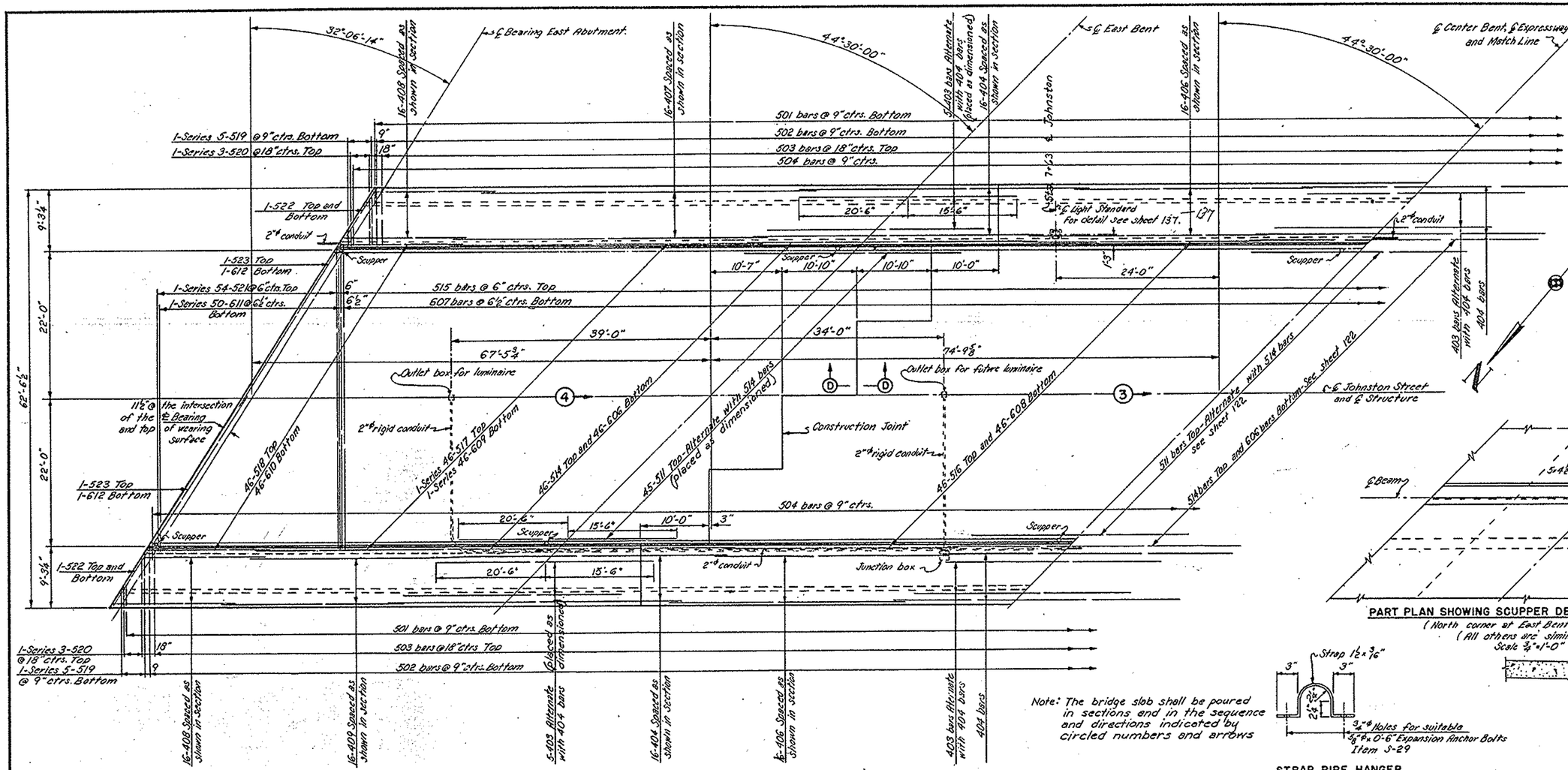
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901
SHEET 147

123

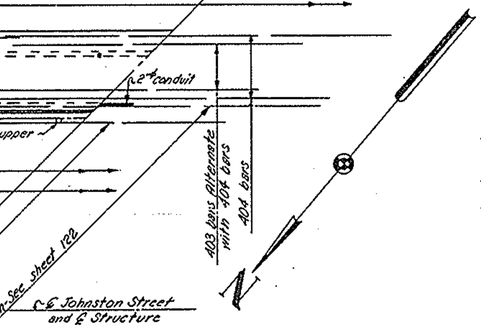
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

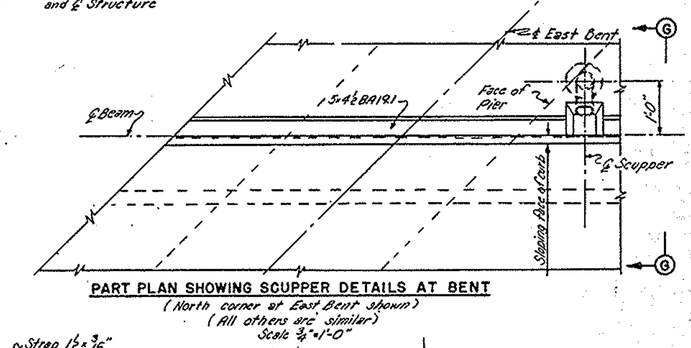
148
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



SLAB PLAN
Scale ⅛"=1'-0"

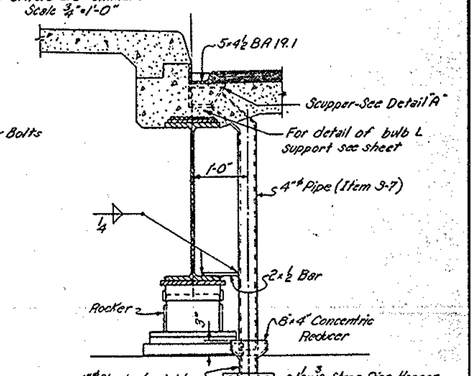




PART PLAN SHOWING SCUPPER DETAILS AT BENT
(North corner at East Bent shown)
(All others are similar)
Scale ¾"=1'-0"

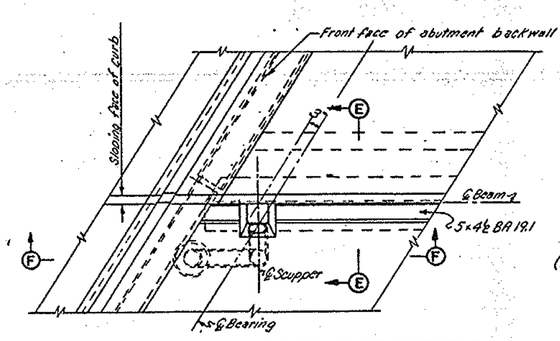
STRAP PIPE HANGER
Scale 1½"=1'-0"

Note: The bridge slab shall be poured in sections end in the sequence and directions indicated by circled numbers and arrows

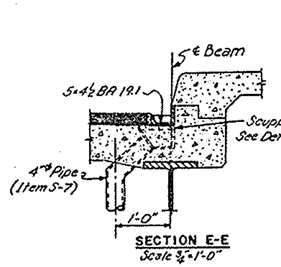


SECTION G-G
Scale ¾"=1'-0"

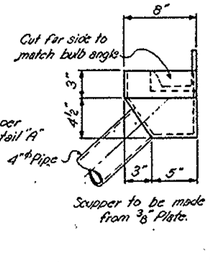
PART 6

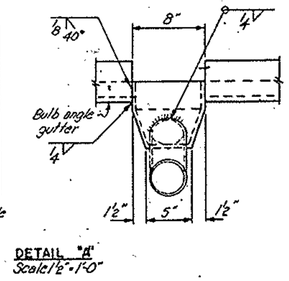


PART PLAN SHOWING SCUPPER DETAILS AT ABUTMENT
(Southeast corner shown. All others are similar.)
Scale ¾"=1'-0"

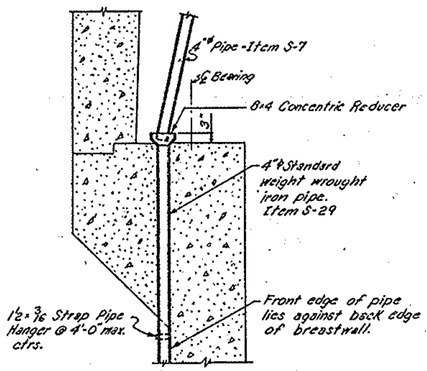


SECTION E-E
Scale ¾"=1'-0"





DETAIL "A"
Scale 1½"=1'-0"



SECTION F-F
Scale ½"=1'-0"

Note: This sheet and sheet 149 to be worked together. For Reinforcement schedule see sheet 152.

AKRON EXPRESSWAY SYSTEM
JOHNSTON STREET UNDERPASS
BR. NO. SU-5-108

SLAB PLAN AND DETAILS

AKRON SUMMIT COUNTY, OHIO

SCALE As Shown
MADE HWG DATE 6-15-54
TRCD. DATE
CKD. D.D.G. DATE 10-18-54

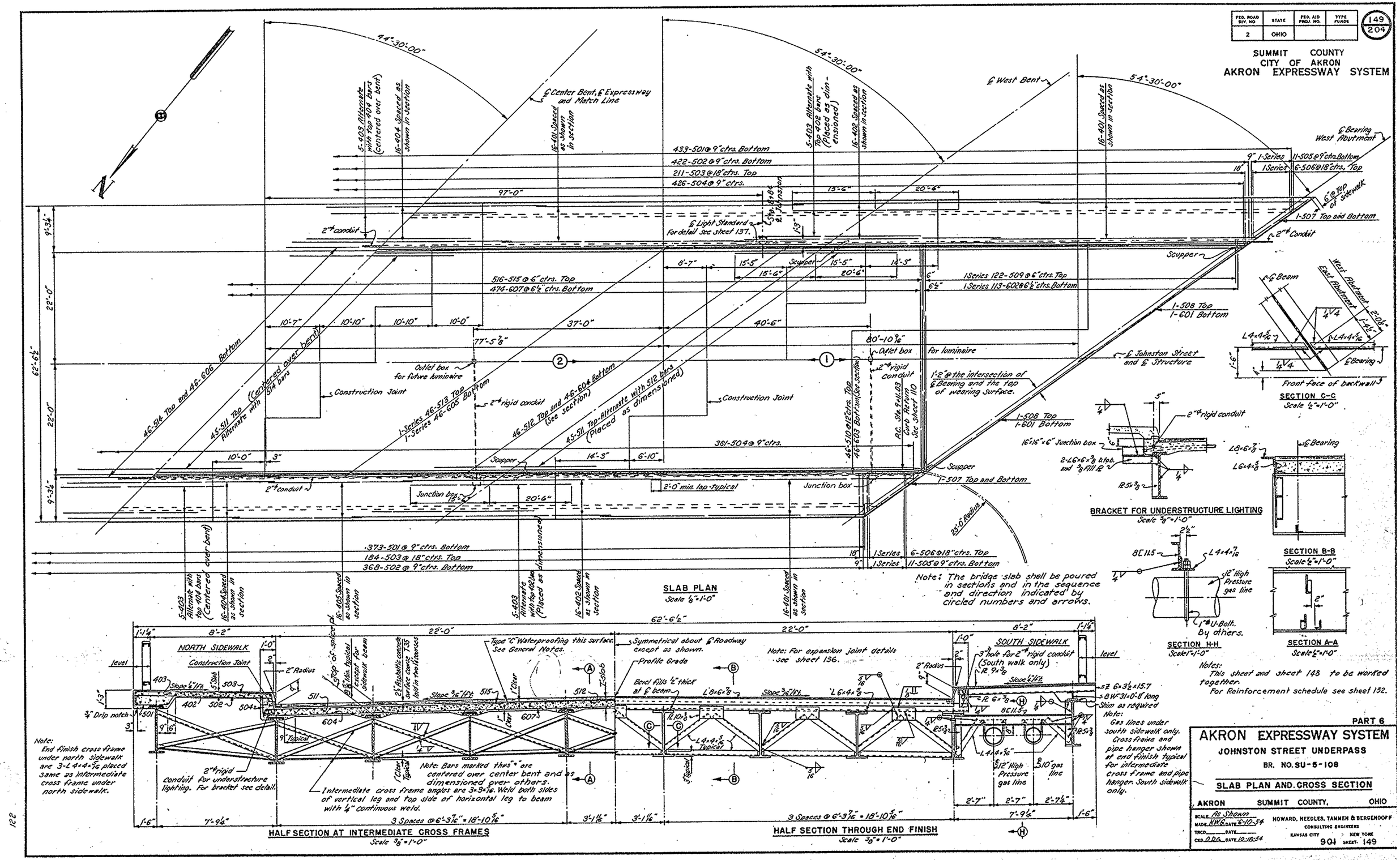
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901 SHEET 148

149

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

149
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



PART 6

AKRON EXPRESSWAY SYSTEM

JOHNSTON STREET UNDERPASS

BR. NO. SU-5-108

SLAB PLAN AND CROSS SECTION

AKRON SUMMIT COUNTY, OHIO

SCALE As Shown
MADE WWG DATE 6-10-54
TRCD. DATE
CKD. D.D.G. DATE 10-18-54

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

901 SHEET 149

122

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

150
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

PLAN

SECTION SHOWING LIGHT STANDARD
SOUTH APPROACH WALKS ONLY
Scale ¾"=1'-0"

TYPICAL SECTION
Scale ¾"=1'-0"

TYPICAL ELEVATION
Scale ⅜"=1'-0"

Note: All piles are 8 BP 36 driven to rock.

Use tar paper between sidewalk slab and supporting members.

PART 6

AKRON EXPRESSWAY SYSTEM

JOHNSTON STREET UNDERPASS
BR. NO. SU-5-108

APPROACH SIDEWALKS AND CURBS

AKRON SUMMIT COUNTY. OHIO

SCALE ½"=1'-0" MADE RWG DATE 8-10-54
TRCD. DATE
CKD. R.E.S. DATE 10-18-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 150

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
EAST BENT									
101	171	131'-5"	109	31'-5"	31'-0"				1,542
102	16	31'-0"	Str.						32
103	21	31'-5"	Str.						49
104	56	21'-5"	Str.						94
501	32	121'-5"	109	21'-5"	31'-5"				417
601	75	81'-0"	Str.						901
602	28	91'-5"	Str.						400
603	20	181'-3"	Str.						548
604	8	411'-0"	Str.						493
901	20	131'-0"	Str.						935
902	10	411'-0"	Str.						1,394
903	20	101'-0"	Str.						690
1001	8	651'-8"	120	351'-10"	11'-0"				1,605
1002	6	101'-0"	Str.						258
1101	16	211'-9"	Str.						1,850
1102	14	201'-9"	Str.						1,543
1103	16	201'-8"	Str.						1,743
1104	16	201'-3"	Str.						1,721
1105	14	201'-3"	Str.						1,507
1106	15	211'-3"	Str.						1,805
1107	32	101'-0"	101	81'-8"	21'-1"				1,828
1108	92	71'-10"	101	51'-0"	21'-1"				3,809
								Total	25,175
CENTER BENT									
101	165	131'-5"	109	31'-5"	31'-0"				1,488
102	16	31'-0"	Str.						32
103	21	31'-5"	Str.						49
104	56	21'-5"	Str.						94
501	32	121'-5"	109	21'-5"	31'-5"				417
601	75	81'-0"	Str.						901
602	28	91'-5"	Str.						400
603	20	181'-3"	Str.						548
604	8	411'-0"	Str.						493
901	20	131'-0"	Str.						935
902	10	411'-0"	Str.						1,394
903	20	101'-0"	Str.						690
1001	8	651'-8"	120	351'-10"	11'-0"				1,605
1002	6	101'-0"	Str.						258
1101	16	201'-0"	Str.						1,764
1102	14	201'-0"	Str.						1,488
1103	16	201'-3"	Str.						1,721
1104	16	201'-0"	Str.						1,700
1105	14	191'-9"	Str.						1,469
1106	16	201'-0"	Str.						1,764
1107	32	101'-0"	Str.	81'-8"	21'-1"				1,828
1108	92	71'-10"	101	51'-0"	21'-1"				3,809
								Total	24,859
WEST BENT									
101	154	131'-5"	109	31'-5"	31'-0"				1,389
102	16	31'-0"	Str.						32
103	21	31'-5"	Str.						49
104	56	21'-5"	Str.						94

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	48	121'-5"	109	21'-5"	31'-5"				426
601	56	81'-0"	109	61'-0"	11'-0"				673
602	40	81'-0"	Str.						490
603	8	491'-5"	Str.						595
901	20	191'-0"	Str.						1,343
902	10	491'-5"	Str.						1,695
1001	40	81'-3"	109	61'-0"	11'-6"	12	12		1,420
1009	32	71'-5"	101	51'-5"	11'-11"				1,021
1003	16	191'-0"	Str.						1,350
1004	16	181'-0"	Str.						1,291
1005	16	181'-3"	Str.						1,257
1006	32	181'-0"	Str.						2,479
1007	16	181'-5"	Str.						1,274
1009	8	261'-5"	Str.						912
1009	6	121'-0"	Str.						310
1010	16	181'-0"	130	121'-10"	21'-0"				1,257
								Total	19,548

EAST ABUTMENT

401	50	21'-5"	Str.								84
501	3 Series of 3	201'-2" to 261'-2"	120	61'-0" to 111'-0"	21'-2"	61'-0" to 111'-0"			01'-6-1/2"		652
502	1 Series of 3	171'-2" to 191'-2"	120	61'-5" to 91'-5"	21'-2"	61'-5" to 91'-5"			01'-6"		57
503	1 Series of 3	131'-2" to 151'-8"	120	41'-0" to 61'-0"	21'-2"	41'-0" to 61'-0"			01'-7-1/2"		45
504	2 Series of 3	171'-8" to 191'-2"	120	71'-0" to 91'-0"	21'-2"	71'-0" to 91'-0"			01'-6-1/2"		115
505	3 Series of 3	181'-2" to 151'-8"	120	51'-0" to 61'-0"	21'-2"	51'-0" to 61'-0"			01'-7-1/2"		97

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
601	65	91'-5"	Str.						940
602	21	151'-0"	Str.						505
603	10	131'-0"	Str.						195
604	113	51'-0"	Str.						846
605	9	91'-0"	Str.						122
606	9	91'-0"	101	81'-0"	11'-0"				131
607	7	51'-9"	101	41'-9"	11'-0"				61
608	14	41'-0"	Str.						100
609	2	171'-3"	109	151'-3"	21'-0"	12	7-1/2		52
610	2	211'-3"	108	121'-0"	91'-3"	7-1/2	12		64
611	1 Series of 4	31'-9" to 111'-0"	Str.					21'-5"	44
612	1 Series of 5	61'-9" to 101'-5"	Str.					11-1/4"	65
613	1 Series of 5	51'-3" to 111'-9"	101	41'-3" to 101'-9"	11'-0"			11'-7-1/2"	64
614	1 Series of 11	71'-3" to 111'-4"	101	61'-3" to 101'-9"	11'-0"			01'-7"	111
615	1 Series of 11	71'-0" to 111'-0"	Str.					01'-4-3/16"	149
616	1 Series of 11	71'-0" to 111'-3"	Str.					01'-10-1/4"	82
617	6	141'-0"	Str.						126
618	2	121'-9"	109	91'-9"	31'-0"	12	7-1/2		38
619	2	161'-0"	109	101'-3"	51'-9"	7-1/2	12		48
620	15	241'-0"	Str.						540
621	8	101'-3"	Str.						231
622	6	51'-6"	Str.						58
623	23	141'-4"	139	51'-3"	7-1/2	7-1/2	12		496
624	27	51'-3"	104	41'-0"	11'-3"				212
625	4	171'-4"	131	51'-3"	51'-0"	7-1/2			105
626	4	31'-0"	104	21'-6"	11'-3"				23
627	35	351'-9"	Str.						1,874
628	8	181'-0"	Str.						216
629	23	311'-0"	Str.						1,070
630	9	341'-0"	Str.						459
631	26	181'-9"	Str.						731
632	9	191'-9"	Str.						266
633	5	101'-3"	Str.						77
634	25	81'-0"	Str.						301
635	4	131'-0"	104	111'-0"	21'-0"				78
636	25	121'-7"	121	11'-2"	11'-8"	21'-0"	6		473
637	37	61'-3"	104	41'-3"	21'-0"				347
638	26	91'-3"	119	61'-3"	01'-9"	21'-3"			361
639	26	101'-6"	108	51'-0"	51'-6"	12	12		410
640	26	41'-3"	104	31'-0"	11'-0"				166
641	9	91'-3"	119	71'-0"	01'-9"	11'-6"			125
642	4	141'-3"	132	71'-6"	11'-3"	51'-6"	12		85
643	5	151'-3"	132	81'-6"	11'-3"	51'-6"	12		114

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
601	29	471'-6"	133	391'-7"	41'-3"	7-1/2	12		2,059
605	12	401'-6"	Str.						729
606	24	361'-0"	104	341'-6"	11'-6"				1,296
607	3	341'-0"	Str.						153
608	6	91'-0"	104	71'-0"	21'-0"				88
609	1	321'-0"	Str.						48
610	4	101'-6"	132	11'-8"	41'-0"	41'-10"	17		63
651	36	201'-3"	Str.						1,158
652	3	211'-0"	Str.						95
653	26	111'-6"	Str.						468
654	12	261'-0"	Str.						494
655	26	81'-3"	134	21'-6"	12	7-1/2			322
656	22	61'-9"	104	51'-6"	11'-3"				223
657	4	101'-0"	136	41'-0"	41'-9"	7-1/2			60
658	2 Series of 3	41'-3" to 141'-9"	Str.					31'-6"	114
659	4	171'-0"	Str.						102
660	4 Series of 4	41'-3" to 151'-6"	Str.					31'-9"	237

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
701	5	51'-0"	Str.						61
702	6	261'-9"	Str.						328
801	18	61'-9"	Str.						374
802	21	161'-0"	Str.						898
803	6	111'-7"	101	101'-3"	11'-4"				185
804	9	61'-10"	101	51'-5"	11'-4"				164
805	3	211'-9"	124	191'-0"	21'-3"	5			174
806	6	221'-9"	124	201'-0"	21'-3"	5			354
								Total	23,781

WEST ABUTMENT

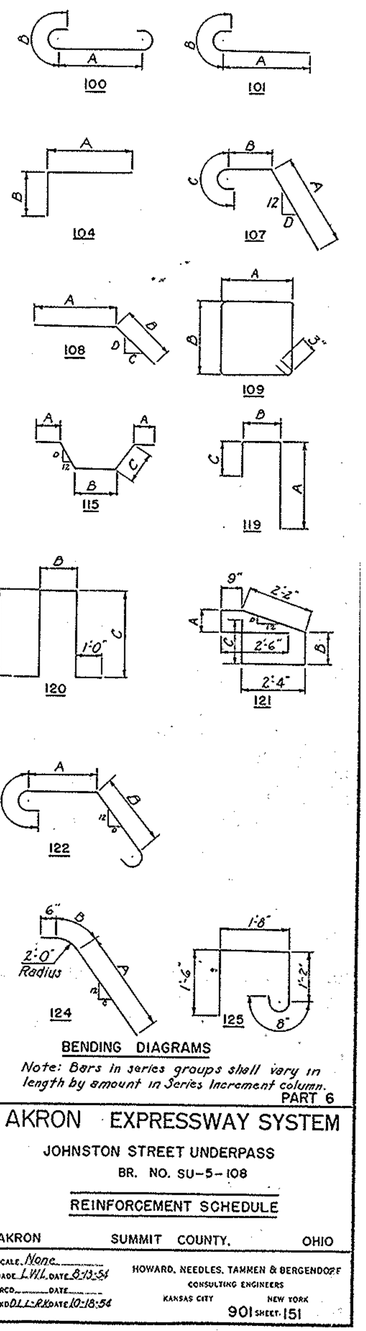
401	50	21'-5"	Str.								84
501	3 Series of 8	181'-2" to 231'-5"	120	71'-0" to 91'-0"	21'-2"	71'-0" to 91'-0"			01'-4"		587
502	3 Series of 3	141'-8" to 161'-8"	120	51'-3" to 61'-3"	21'-2"	51'-3" to 61'-3"			01'-7"		147
503	1 Series of 8	171'-2" to 231'-2"	120	61'-5" to 91'-5"	21'-2"	61'-5" to 91'-5"			01'-6-1/2"		189
504	1	151'-2"	120	61'-0"	21'-2"	61'-0"					17
505	1	141'-8"	120	51'-3"	21'-2"	51'-3"					15
506	1 Series of 8	101'-10" to 181'-4"	120	41'-0" to 81'-3"	11'-8"	21'-4" to 81'-1"			01'-5-1/2"		120

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
630	1 Series of 3	101'-0" to 121'-0"	Str.						40
631	1 Series of 3	111'-5" to 131'-5"	100	91'-5" to 111'-5"	11'-0"				56
632	1 Series of 3	61'-5" to 131'-0"	Str.						58
633	1 Series of 3	81'-0" to 141'-5"	100	61'-0" to 121'-5"	11'-0"				67
634	3	51'-9"	101	41'-9"	11'-0"				26
635	25	221'-9"	Str.						853
636	9	181'-0"	Str.						243
637	9	51'-5"	Str.						88
638	35	151'-5"	Str.						867
639	24	201'-2"	133	201'-3"	41'-3"	12	R-1/2		1,013
640	9	161'-3"	Str.						220
641	60	41'-3"	108	31'-0"	11'-3"				255
642	40	111'-6"	109	51'-0"	51'-6"	12	12		690
643	40	91'-3"	119	61'-3"	01'-0"	21'-3"			555
644	4	91'-6"	119	71'-3"	01'-0"	11'-6"			57
645	4	141'-0"	132	81'-0"	11'-3"	51'-6"	12		88
646	6	81'-3"	119	61'-0"	01'-0"	11'-6"			74
647	6	141'-0"	132	71'-3"	11'-3"	51'-6"	12		126
648	17	81'-0"	Str.						204
649	26	471'-3"	Str.						1,843
650	4	371'-6"	Str.						225
651	1 Series of 3	121'-0" to 151'-0"	104	91'-0" to 101'-0"	21'-6"			1'-6"	61
652	3	121'-0"	Str.						54
653	3	451'-0"	Str.						202
654	2	181'-0"	104	161'-0"	21'-0"				54
655	7	411'-3"	Str.						432
656	2	191'-3"	Str.						58
657	20	371'-0"	Str.						1,110
658	18	161'-0"	Str.						433
659	22	151'-0"	Str.						495
660	18	211'-0"	104	191'-6"	11'-6"				567
661	25	451'-3"	119	411'-7"	11'-2"	21'-6"			1,700
662	14	411'-6"	Str.						872
663	3	181'-5"	Str.						83
664	3	241'-9"	Str.						111
665	19	421'-4"	101	401'-10"	11'-6"				1,205
666	8	151'-3"	Str.						183
667	53	61'-3"	104	41'-3"	21'-0"				497
668	1 Series of 3	91'-9" to 121'-9"	104	21'-3" to 111'-3"	11'-6"			11'-6"	51
669	39	121'-7"	121	11'-2"	11'-8"	21'-0"	6		735
670	1	161'-5"	104	141'-0"	21'-5"				25
671	2	191'-0"	104	161'-6"	21'-6"				57
672	2 Series of 4	31'-9" to 141'-9"	Str.					31'-6"	111
673	2 Series of 4	31'-9" to 141'-3"	Str.					31'-6"	216
674	2 Series of 3	31'-3" to 131'-3"	Str.					31'-4"	99
675	2 Series of 3	41'-3" to 121'-3"	Str.					41'-0"	74
676	3	181'-0"	124	151'-6"	21'-0"	4-1/2			81
677	12	201'-0"	Str.						350
678	18	61'-0"	104	41'-6"	11'-6"				162
679	18	81'-3"	134	21'-4"	12	7-1/2			223
680	3	121'-1"	135	41'-4"	61'-0"	8-1/2			54
681	1	61'-3"	108	41'-3"	21'-0"	12	8-1/2		9
682	4	101'-6"	132	11'-8"	41'-0"	41'-10"	12		63
683	17	181'-9"	138	91'-8"	12	8-1/2	7-1/2		478
684	4	241'-3"	131	91'-8"	71'-6"	7-1/2			145
									13
									15
									33
									19
									99
									117
									51
701	32	51'-9"	Str.						376
702	35	141'-0"	Str.						1,029
703	12	61'-2"	101	51'-0"	11'-2"				152
704	8	101'-2"	101	91'-0"	11'-2"				165
705	3	191'-3"	124	161'-6"	21'-3"	4-3/4			118
706	6	181'-0"	124	161'-0"	21'-3"	5			230
707	3	181'-0"	124	151'-3"	21'-3"	5-1/2			111
								Total	26,457

FED. ROAD DIV NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

151
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



BENDING DIAGRAMS

Note: Bars in series groups shall vary in length by amount in Series Increment column.

PART 6

AKRON EXPRESSWAY SYSTEM

JOHNSTON STREET UNDERPASS
BR. NO. SU-5-108

REINFORCEMENT SCHEDULE

AKRON SUMMIT COUNTY, OHIO

SCALE None
MADE LWL DATE 8-13-54
TRCD. DATE
CHKD L.L.-R. DATE 10-18-54

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

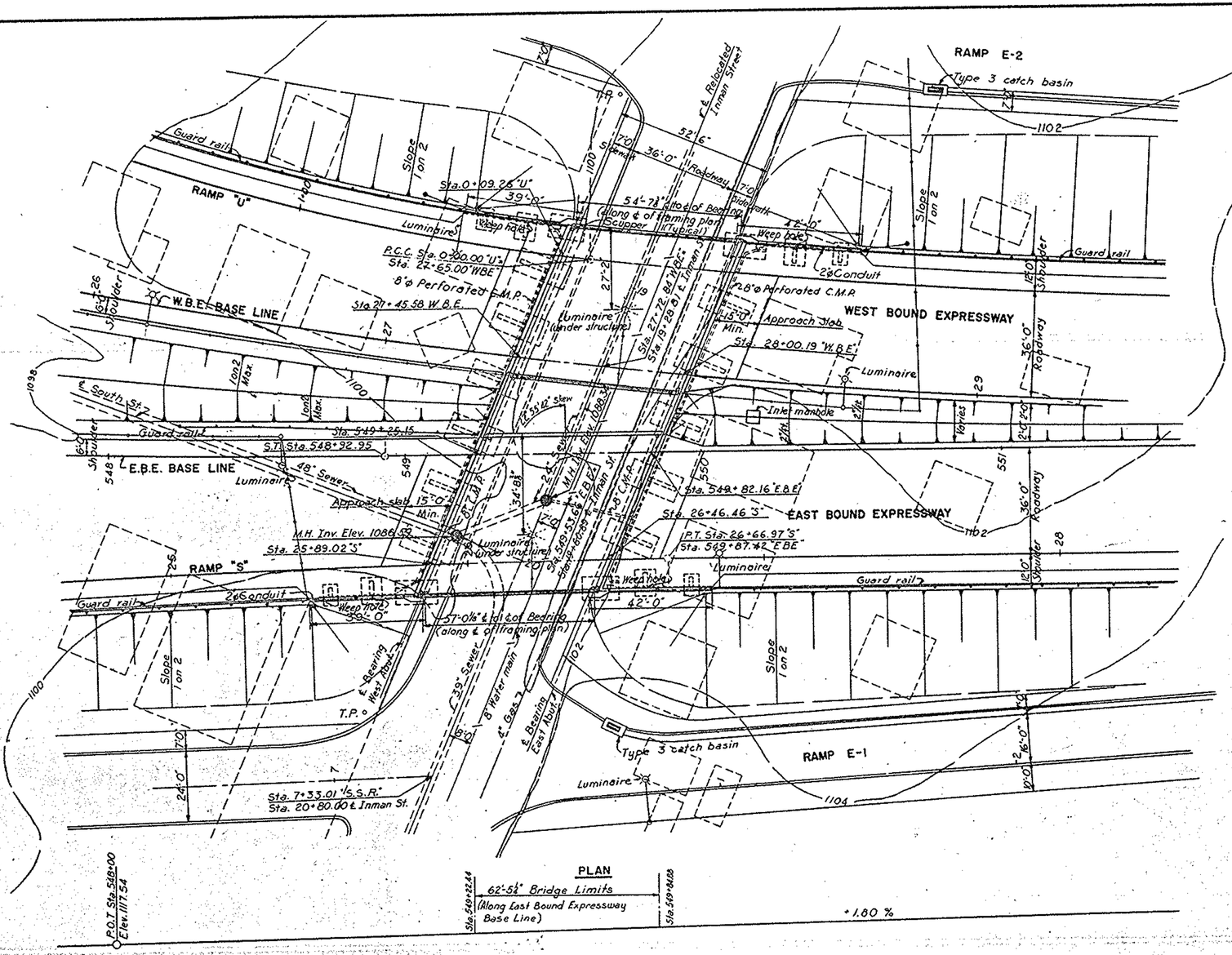
SHEET 151

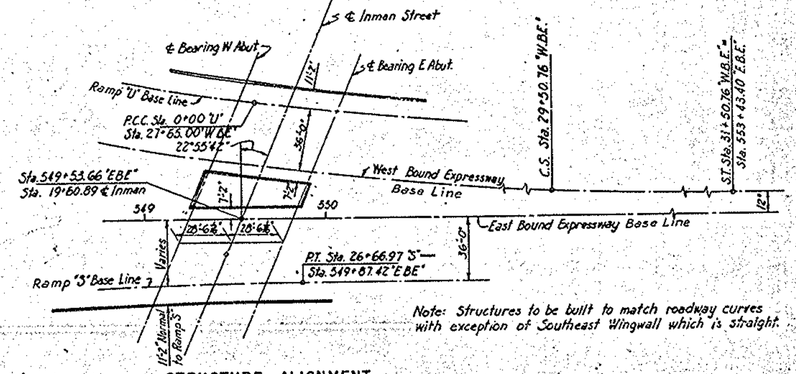
MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
NORTHWEST WINGWALL									
601	5	81'-4"	101	71'-4"	11'-0"				62
602	8	51'-6"	100	31'-6"	11'-0"				66
603	7	51'-3"	100	31'-3"	11'-0"				55
604	5	71'-4"	101	61'-4"	11'-0"				55
605	1 Series of 7	61'-5" to 121'-5"	120	11'-3" to 41'-3"	11'-1"	11'-8" to 41'-8"		01'-6"	99
606	1 Series of 4	81'-7" to 111'-1"	120	21'-9" to 51'-0"	11'-1"	21'-9" to 51'-0"		01'-5"	59
607	3	381'-3"	139	61'-0"	321'-3"	151'-11"			172
608	3	401'-6"	139	61'-0"	341'-6"	171'-0"			182
609	3	341'-3"	127	341'-3"	151'-11"				154
610	3	361'-3"	127	361'-3"	171'-0"				163
611	1 Series of 4	231'-5" to 271'-0"	127	231'-0" to 271'-0"	151'-11"			1'-2"	152
612	1 Series of 4	251'-0" to 281'-6"	127	251'-0" to 281'-6"	171'-0"			1'-2"	160
613	3	151'-6"	127	151'-6"	151'-11"				70
614	3	161'-6"	127	161'-6"	171'-0"				74
615	2	111'-10"	107	91'-6"	11'-4"	11'-0"			36
616	2	121'-0"	Str.						76
617	10	111'-9"	Str.						176
618	10	111'-3"	Str.						169
619	2	71'-6"	Str.						23
620	1 Series of 3	61'-5" to 81'-1"	120	11'-0" to 31'-0"	11'-1"	11'-0" to 31'-0"		01'-10"	33
621	4	91'-6"	Str.						57
622	4	91'-0"	Str.						54
623	1 Series of 6	61'-0" to 91'-0"	Str.					01'-7"	68
624	1 Series of 6	51'-6" to 81'-9"	Str.					01'-8"	63
625	8	91'-3"	Str.						111
626	1	31'-5"	Str.						5
627	10	31'-0"	Str.						56
628	4	41'-7"	101	31'-7"	11'-0"				27
629	1	31'-3"	Str.						5
630	2	31'-0"	Str.						9
631	2	21'-6"	Str.						8
632	13	111'-5"	121	9"	11'-2"	11'-9"	4-1/2		223
633	3	51'-8"	115	11'-0"	8"	11'-6"	12		26
634	2	121'-2"	107	91'-10"	11'-4"	11'-0"	4		37
635	2	71'-9"	Str.						23
636	12	41'-0"	Str.						72
801	6	231'-6"	108	51'-0"	181'-6"	12	5		376
END POST									
694	3	51'-9"	Str.						26
695	7	51'-6"	Str.						58
696	3	51'-0"	Str.						23
697	3	41'-3"	Str.						19
698	3	41'-0"	Str.						18
699	4	41'-6"	Str.						27
								Total	3,387
SOUTHWEST WINGWALL									
645	1	391'-0"	Str.						57
646	5	371'-6"	Str.						282
647	14	51'-3"	100	31'-3"	11'-0"				110
648	2	361'-6"	Str.						110
649	4	321'-9"	Str.						197
650	10	71'-6"	101	61'-6"	11'-0"				110
651	2 Series of 4	181'-6" to 261'-0"	Str.					21'-6"	267
652	4	101'-6"	Str.						63
653	1 Series of 4	31'-3" to 41'-3"	Str.					01'-4"	23
654	1 Series of 4	21'-9" to 31'-9"	Str.					01'-4"	20
655	10	81'-3"	Str.						126
656	4	81'-0"	Str.						48
657	1 Series of 6	61'-0" to 81'-3"	Str.					01'-5-1/2"	64
658	1 Series of 5	51'-6" to 71'-9"	Str.					01'-5-1/2"	60
659	6	81'-9"	Str.						79
660	1 Series of 6	71'-1" to 101'-11"	120	31'-0" to 31'-11"	1'-1"	31'-0" to 31'-11"		01'-4-1/2"	81
661	9	101'-9"	Str.						165
662	5	101'-3"	Str.						77
663	2	11'-0"	Str.						33
664	2	7'-3"	Str.						22
665	8	31'-9"	Str.						45
666	12	101'-3"	121	9"	11'-2"	11'-9"	4-1/2		184
667	3	51'-8"	115	11'-0"	8"	11'-6"	12		126
668	2	101'-10"	107	81'-6"	11'-4"	11'-0"	3-1/2		33
669	2	61'-5"	Str.						20
670	4	41'-7"	101	31'-7"	11'-0"				27
671	14	41'-0"	Str.						84
672	1 Series of 6	61'-9" to 101'-11"	120	11'-10" to 31'-11"	11'-1"	11'-10" to 31'-11"		01'-5"	80
673	2	111'-6"	107	91'-2"	11'-4"	11'-0"	3-1/2		35
701	4	261'-9"	108	71'-0"	191'-9"	12	3		21
END POST									
694	3	51'-9"	Str.						26
695	7	51'-6"	Str.						58
696	3	51'-0"	Str.						23
697	3	41'-3"	Str.						19
698	3	41'-0"	Str.						18
699	4	41'-6"	Str.						27
								Total	2,695
NORTHEAST WINGWALL									
640	2	51'-8"	115	11'-0"	8"	11'-6"	12		17
641	4	291'-6"	Str.						177
642	2	251'-6"	Str.						77
643	2	181'-3"	Str.						55
644	2	81'-9"	Str.						26
645	2	71'-9"	Str.						23
646	2 Series of 3	61'-9" to 51'-6"	Str.					01'-7-1/2"	54
647	2 Series of 3	41'-9" to 21'-6"	Str.					01'-6-3/4"	50
648	4	151'-0"	Str.						90
649	2	151'-6"	Str.						45
650	1 Series of 4	121'-6" to 51'-9"	Str.					21'-3"	55
651	1 Series of 4	131'-0" to 61'-3"	Str.					21'-3"	58
652	9	51'-3"	Str.						71
653	6	51'-0"	Str.						45
654	3	51'-9"	Str.						26
655	1 Series of 5	31'-6" to 31'-0"	Str.					01'-4-1/2"	24
656	1 Series of 5	31'-0" to 21'-6"	Str.					01'-4-1/2"	21
657	2	61'-6"	Str.						19
658	2	141'-0"	Str.						42
659	2	151'-9"	109	131'-0"	21'-9"	8	12		47
660	16	111'-5"	121	9"	11'-2"	11'-9"	4-1/2		276
661	2	91'-4"	122	11'-4"	61'-0"	11'-0"	12		28
662	1	81'-8"	120	21'-9"	11'-2"	11'-0"			13
663	1	111'-2"	120	41'-0"	11'-2"	11'-0"			17
664	2	41'-3"	Str.						13
665	8	51'-6"	100	31'-6"	11'-0"				66
666	5	81'-3"	101	71'-3"	11'-0"				62
END POST									
694	3	51'-9"	Str.						26
695	7	51'-6"	Str.						58
696	3	51'-0"	Str.						23
697	3	41'-3"	Str.						19
698	3	41'-0"	Str.						18
699	4	41'-6"	Str.						27
								Total	1,667
SOUTHEAST WINGWALL									
601	3	51'-8"	115	11'-0"	8"	11'-6"	12		26
602	4	381'-6"	Str.						231
603	2	381'-0"	Str.						114
604	4	331'-5"	Str.						202
605	2 Series of 3	261'-6" to 201'-9"	Str.					21'-10-1/2"	213
606	6	201'-3"	Str.						183
607	4	151'-9"	Str.						96
608	5	111'-6"	Str.						86
609	7	121'-0"	Str.						126
610	8	121'-3"	Str.						147
611	8	141'-9"	Str.						141
612	3	101'-5"	Str.						48
613	3	101'-6"	Str.						47
614A	1 Series of 6	81'-9" to 61'-3"	Str.					01'-6"	68
615	1 Series of 6	81'-3" to 51'-9"	Str.					01'-6"	63
616	4	91'-3"	Str.						55
617	4	91'-0"	Str.						54
618	1 Series of 3	41'-0" to 31'-0"	Str.					01'-6"	16
619	1 Series of 3	31'-6" to 21'-6"	Str.					01'-6"	14
620	2	81'-6"	108	51'-0"	31'-6"	12	4		25
621	12	111'-5"	121	9"	11'-2"	11'-9"	4-1/2		206
622	2	131'-7"	107	111'-3"	11'-4"	11'-0"	4		41
623	2	71'-3"	Str.						22
624	4	41'-6"	101	31'-6"	11'-0"				27
625	24	41'-0"	Str.						144
626	1 Series of 7	121'-2" to 71'-2"	120	41'-6" to 21'-0"	11'-2"	41'-6" to 21'-0"		01'-5"	103
627	2	111'-10"	107	91'-6"	11'-4"	11'-0"	3-1/2		35
628	2	61'-0"	Str.						18
629	1 Series of 6	101'-8" to 61'-8"	120	31'-0" to 11'-0"	11'-2"	31'-0" to 11'-0"			78
630	5	81'-3"	101	71'-3"	11'-0"				62
631	8	51'-6"	100	31'-6"	11'-0"				66
632	5	71'-3"	101	61'-3"	11'-0"				54
633	7	51'-3"	100	31'-3"	11'-0"				55
END POST									
694	3	51'-9"	Str.						26
695	7	51'-6"	Str.						58
696	3	51'-0"	Str.						23
697	3	41'-3"	Str.						19
698	3	41'-0"	Str.						18
699	4	41'-6"	Str.						27
								Total	1,667
SUPERSTRUCTURE SLAB									
401	48	52'-0"	Str.						1,167
402	32	50'-0"	Str.						1,069
403	30	32'-0"	Str.						721
404	64	43'-0"	Str.						1,838
405	16	29'-0"	Str.						310
406	32	35'-0"	Str.						748
407	16	69'-6"	Str.						529
408	32	18'-6"	Str.						395
409	16	30'-0"	Str.						321
501	806	3'-8"	132	2'-2"	0'-7"	0'-11"	8		3,083
502	790	81'-9"	Str.						7,210
503	395	9'-8"	104	81'-9"	0'-11"				3,993
504	807	5'-0"	128						4,200
505	2 Series of 11	31'-0" to 81'-0"	Str.					01'-6"	126
506	2 Series of 6	31'-0" to 81'-0"	Str.					1'-0"	69
507	4	151'-0"	Str.						63
508	2	401'-6"	Str.						85
509	1 Series of 122	31'-1" to 451'-11"	101	21'-3" to 61'-1"				01'-4-1/4"	3,118
510	46	521'-0"	Str.						2,495
511	135	361'-0"	Str.						5,069
512	46	501'-0"	Str.						2,400
513	2 Series of 46	301'-3" to 491'-0"	Str.					01'-5"	1,900
514	92	431'-0"	Str.						4,126
515	516	361'-10"	100	151'-2"	0'-10"				25,203
516	46	351'-0"	Str.						1,681
517	1 Series of 46	301'-0" to 461'-0"	Str.					01'-4-3/4"	1,842
518	46	181'-0"	Str.						865
519	2 Series of 3	31'-0" to 81'-0"	Str.					1'-3"	57
520	2 Series of 3	31'-0" to 81'-0"	Str.					21'-6"	35
521	1 Series of 54	31'-7" to 451'-10"	101	21'-6" to 61'-1"				01'-9-9/16"	1,392
522	4	101'-0"	Str.						42
523	2	381'-0"	Str.						59

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE, PURPOSE
2	OHIO		

153
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM





STRUCTURE ALIGNMENT
Scale: 1" = 40'-0"

Note: Structures to be built to match roadway curves with exception of Southeast Wingwall which is straight.

Curve Data W.B.E.
Δ = 23°10'46"
D = 2°30'00"
R = 2291.83'
T = 470.02'
L = 927.18'

Curve Data "U"
Δ = 53°20'24"
D = 7°39'21"
R = 748.39'
T = 375.91'
L = 696.72'

Curve Data "S"
Δ = 5°25'23"
D = 2°00'00"
R = 2864.79'
T = 135.68'
L = 271.15'

LEGEND
- Water Valve
- Existing Water Main
- Sewer Manhole
- 2"ø Conduit-Lighting
- Gas Line
- ○ T. P. Telephone Pole

Notes:
The following items are not included in the bridge plans. See Roadway Plans for details.
Removal of existing drives, pavements, etc.
Relocation or removal of existing utilities.
Approach grading, pavements and slabs.
Guard rails.
8"ø Perforated bituminous coated corrugated metal pipe shall be laid behind abutments in porous backfill as shown on the plans.
Upper ends of pipe located behind abutments shall be closed with perforated headers made of No. 16 gauge sheet metal.
8"ø Bituminous coated corrugated metal pipe shall be connected to underdrain and run to inlets.
For details of lighting under bridge see Common Details sheet.
Porous backfill shall conform to items S 29.02 and S 29.04.

PROPOSED STRUCTURE
Type: Twin simple span steel beam with reinforced concrete deck.
Span: Varies (See plan).
Roadway: 52'-0" Min. (Each Bridge)
Loading: CF 2000.
Skew: Varies.
Surface Course: 2½" Asphaltic concrete surface course.

PART 6

AKRON EXPRESSWAY SYSTEM
INMAN STREET OVERPASS
BR. NO. SU — 18R — 12.5
SITE PLAN

AKRON — SUMMIT COUNTY, — OHIO

SCALE 1"=20' MADE L.W.L. DATE 9-9-54
TRCD. DATE
CKD. G.D. DATE 10-18-54

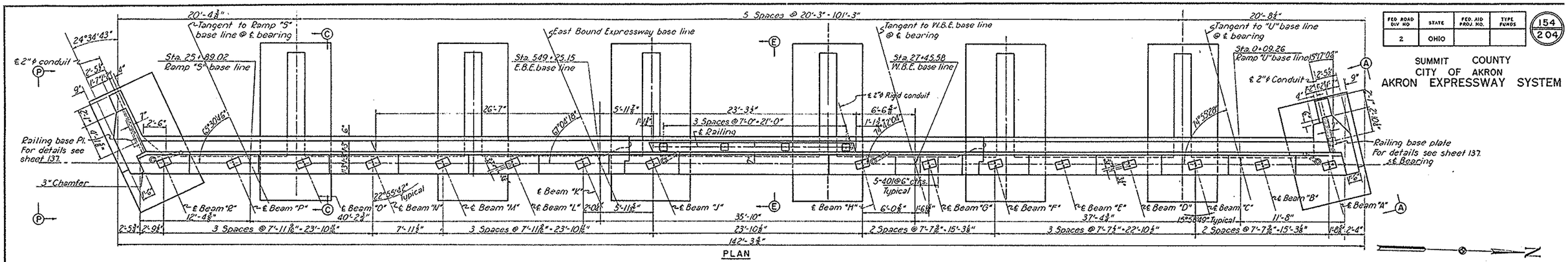
HOWARD, NEEDLES, TAMMEN & BERGENDOF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

901 SHEET 153

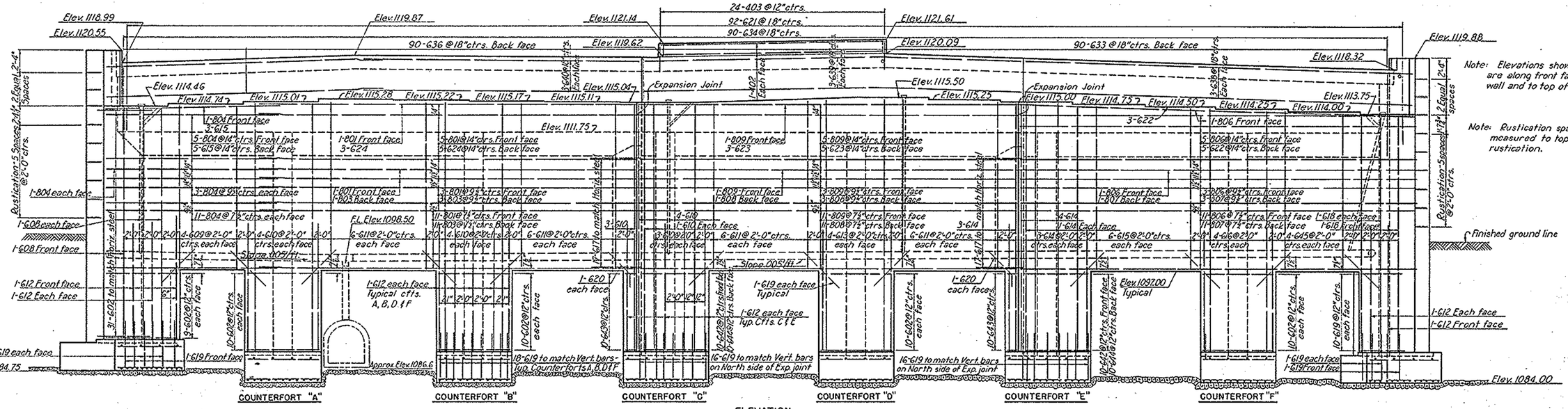
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

154
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



PLAN

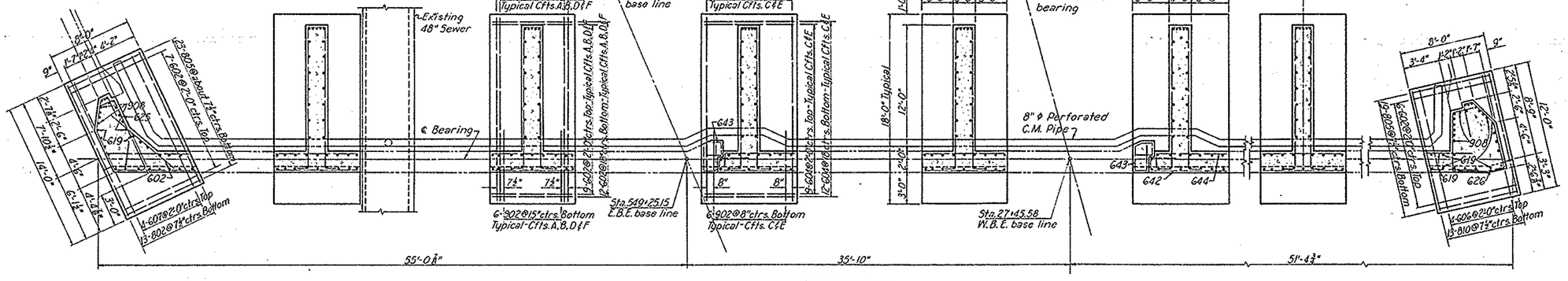


ELEVATION

Note: Elevations shown on backwall are along front face of backwall and to top of L 6 x 4 x ½.

Note: Rustication spacing is measured to top of rustication.

Note: Contractor shall take such steps as are necessary to insure continuous service of existing sewer both during and after construction.



FOOTING PLAN

Note: For Abutment Details and Sections see Sheet 155.
For Details of Shoes and anchor bars see Sheet 136.
For detail of bridge seat drain see Sheet 138.
For rustication detail see Sheet 136.
For detail of strap pipe hanger see Sheet 160.
For Reinforcement Schedules see Sheets 162 and 163.

PART 6

AKRON EXPRESSWAY SYSTEM

INMAN STREET OVERPASS
BR. NO. SU-18R-125

WEST ABUTMENT

AKRON SUMMIT COUNTY, OHIO

SCALE 1/8" = 1'-0"
MADE G.O. DATE 6-1-54
TRCD. JAV DATE 10-5-54
CKD. R.K. DATE 10-18-54

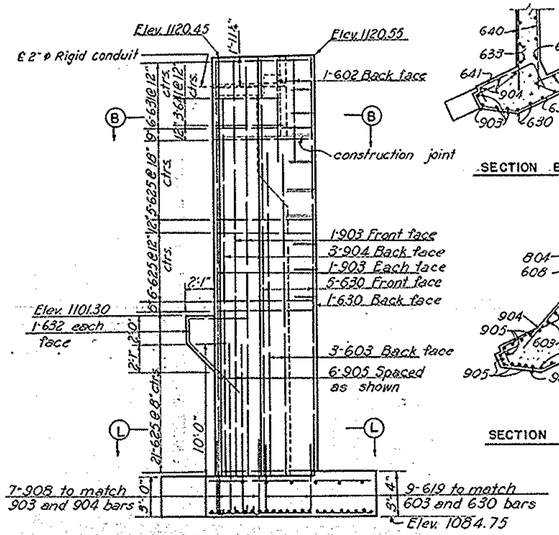
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY 901 NEW YORK
SHEET 154

131

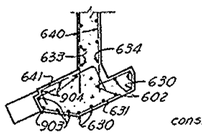
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

155
204

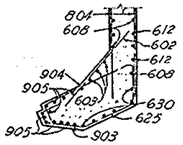
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



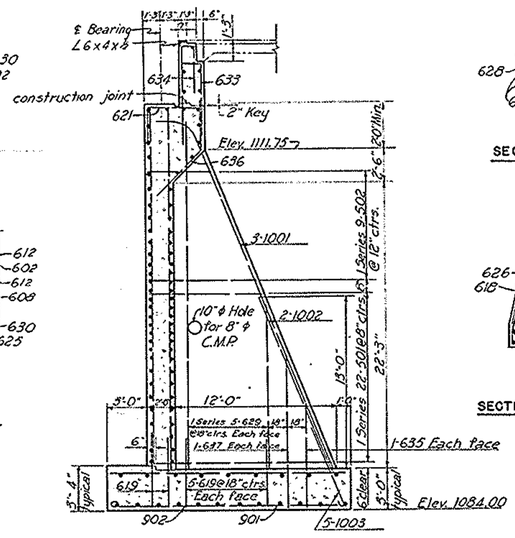
END VIEW P-P



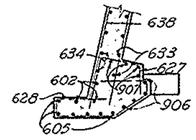
SECTION B-B



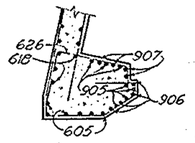
SECTION L-L



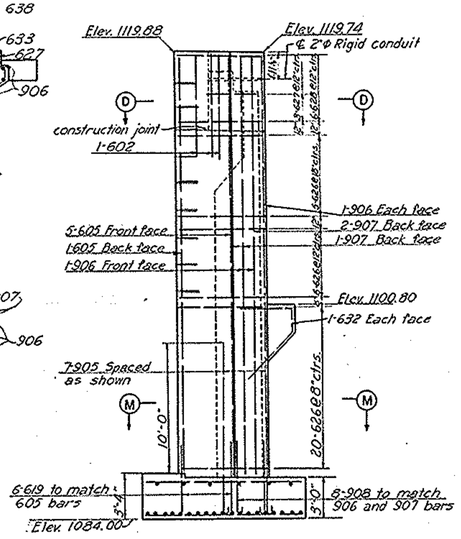
SECTION C-C



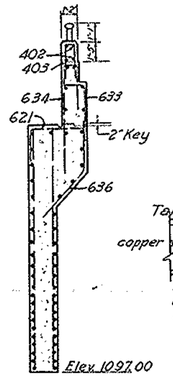
SECTION D-D



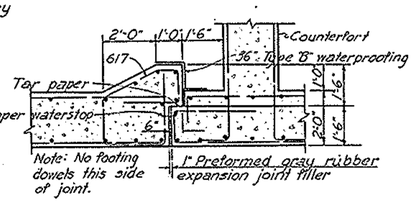
SECTION M-M



END ELEVATION A-A

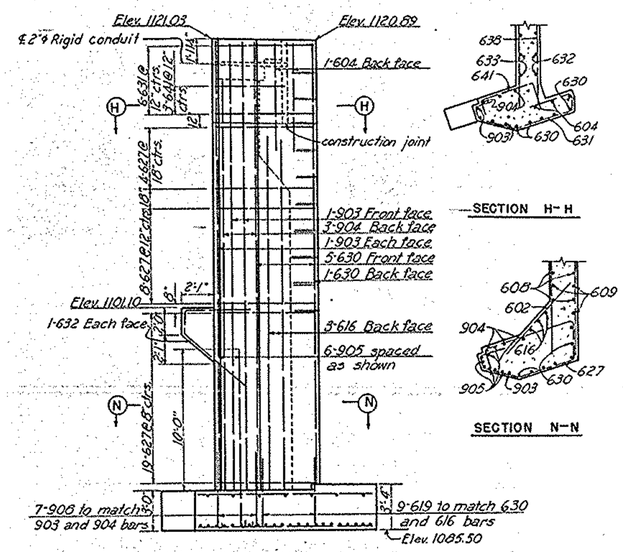


SECTION E-E

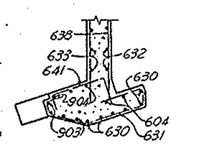


EXPANSION JOINT
Scale: ⅜"=1'-0"

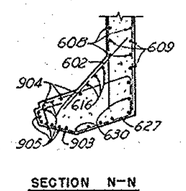
WEST ABUTMENT
Scale: ¼"=1'-0"



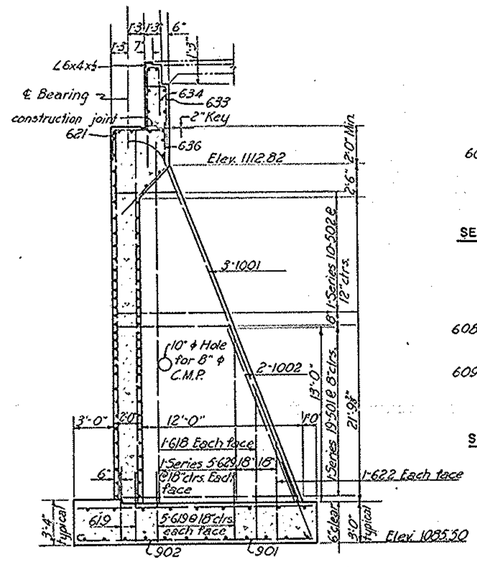
END VIEW R-R



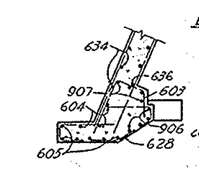
SECTION H-H



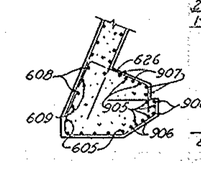
SECTION N-N



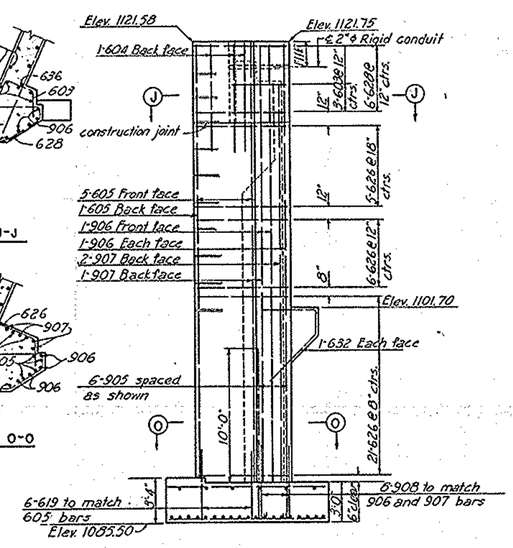
SECTION F-F



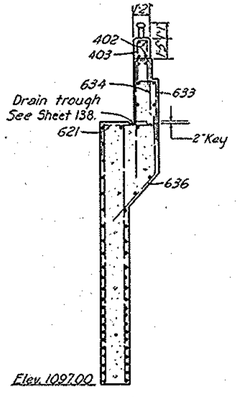
SECTION J-J



SECTION O-O



END ELEVATION G-G



SECTION K-K

EAST ABUTMENT
Scale: ⅜"=1'-0"

Note:
For plan and elevation of abutments see sheets 154 and 156.
For Reinforcement Schedule see Sheets 162 and 163.
For porous backfill details see Sheet [illegible]

PART 6

AKRON EXPRESSWAY SYSTEM

INMAN STREET OVERPASS

BR. NO. SU.-18R-125

ABUTMENT DETAILS

AKRON SUMMIT COUNTY. OHIO

SCALE As shown
MADE G.D. DATE 6-17-54
TRCD. C.B.E. DATE 10-01-54
CKD. R.K. DATE 10-18-54

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

901 SHEET 155

132

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

156
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

PLAN

ELEVATION

FOOTING PLAN

COUNTERFORT "A"

COUNTERFORT "B"

COUNTERFORT "C"

COUNTERFORT "D"

COUNTERFORT "E"

Note: Rustication spacing is measured to top of rustication

Note: Elevations shown on backwall are along front face of backwall and to top of L 6x4x⅜.

Note:
For Abutment Details and sections see sheet 155.
For additional notes, see sheet 154.

PART 6

AKRON EXPRESSWAY SYSTEM
INMAN STREET OVERPASS
BR. NO. SU-18R-125
EAST ABUTMENT
AKRON SUMMIT COUNTY, OHIO

SCALE 3/8"=1'-0"
MADE GO DATE 6-15-54
TRCD BHP DATE 10-1-54
CKD R.K. DATE 10-18-54

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

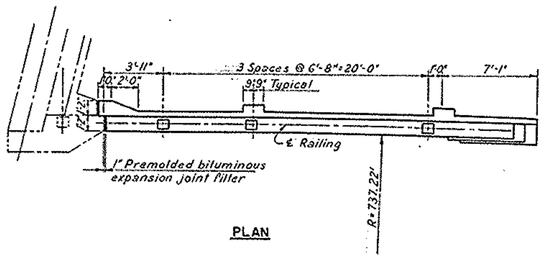
901 SHEET 156

133

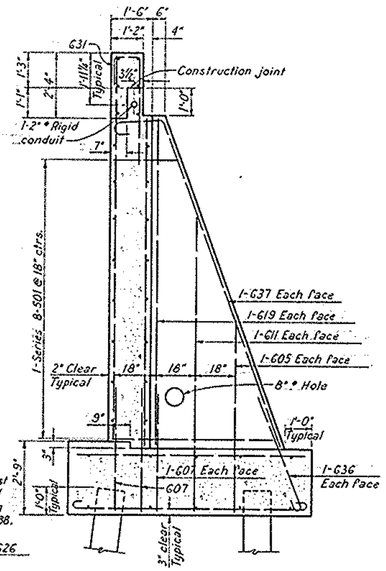
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

157
204

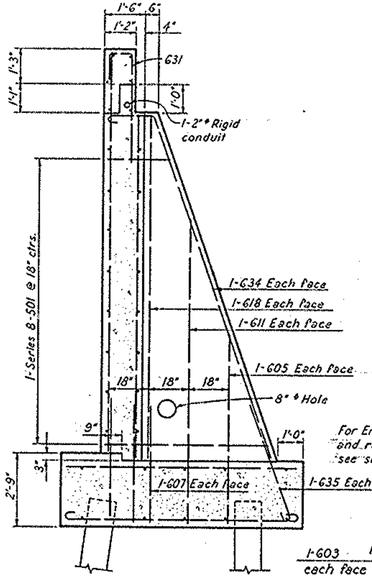
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



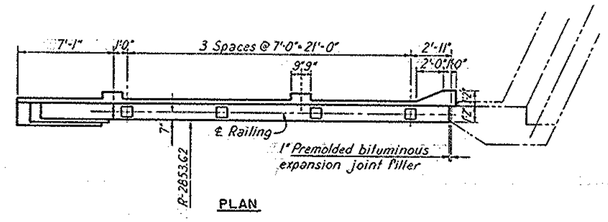
PLAN



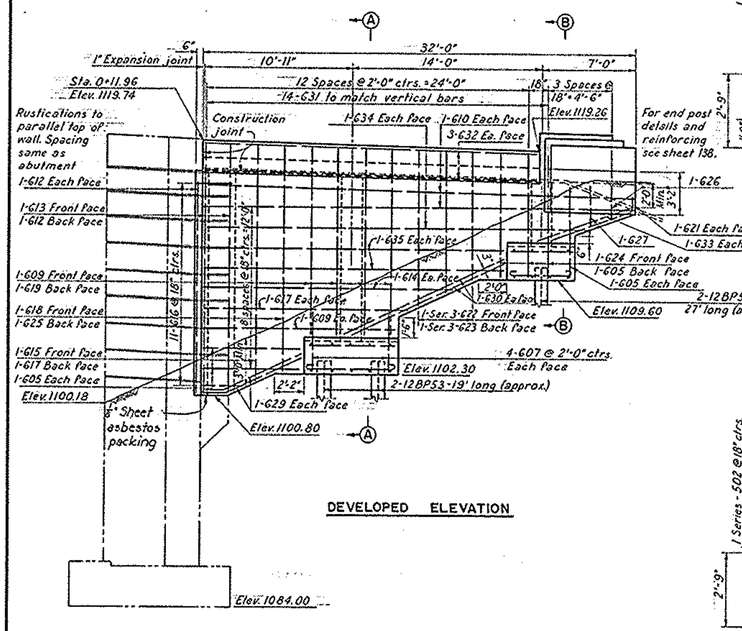
SECTION A-A



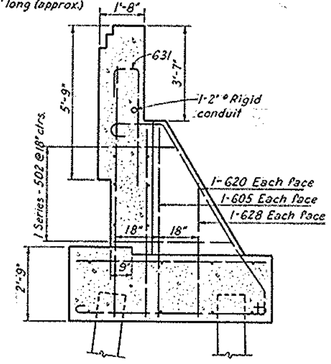
SECTION C-C



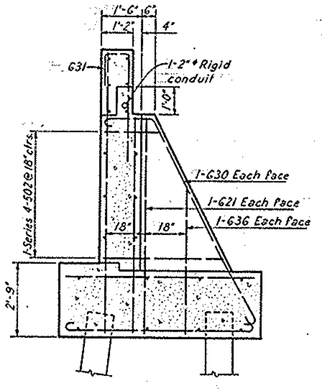
PLAN



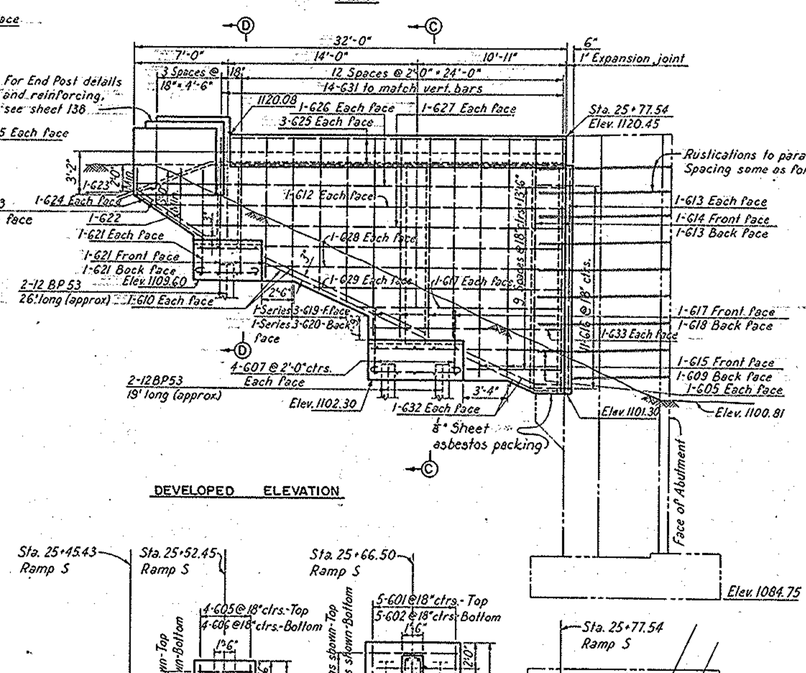
DEVELOPED ELEVATION



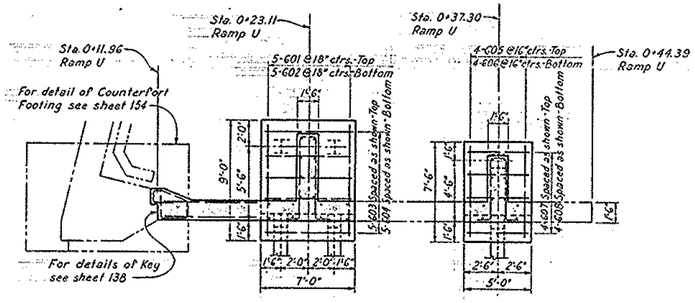
SECTION B-B



SECTION D-D

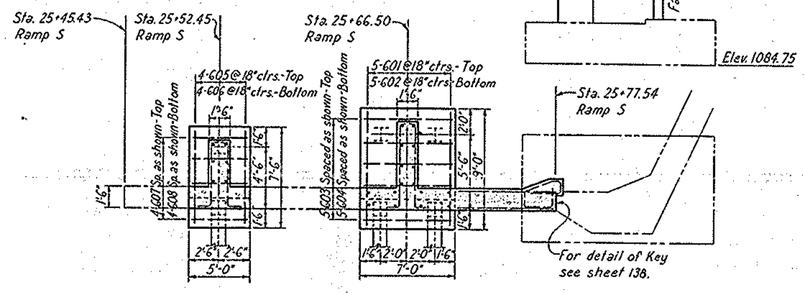


DEVELOPED ELEVATION



DEVELOPED FOOTING PLAN

NORTHWEST WINGWALL



DEVELOPED FOOTING PLAN

Left

SOUTHWEST WINGWALL

NOTES:
- All battered piles to be battered 3" per foot.
- For rustication details see sheet 138.
- For railing details see sheet 138.
- For section showing porous backfill details see sheet 138.

PART 6

AKRON EXPRESSWAY SYSTEM

INMAN STREET OVERPASS
BR. NO. SU-18R-125

WEST WINGWALLS

AKRON SUMMIT COUNTY, OHIO

SCALE 3/16"=1'-0"
MADE S.O. DATE 6-28-54
TRCD D.E.V. DATE 10-14-54
CKD L.W.L. DATE 10-18-54

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

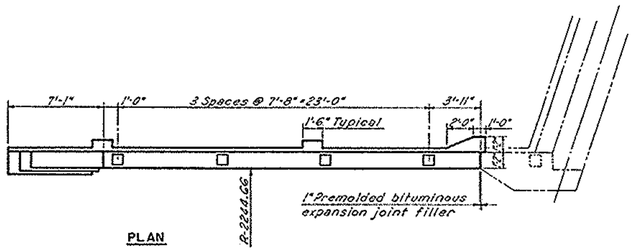
901 SHEET 157

135

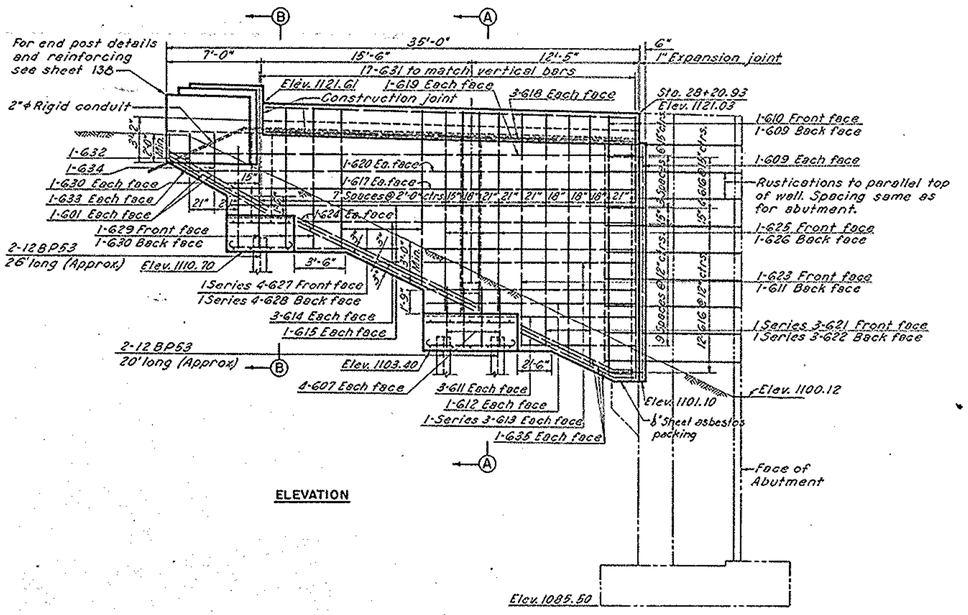
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

158
204

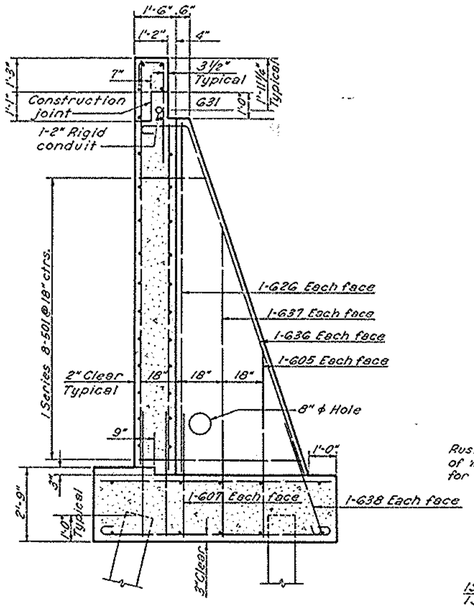
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



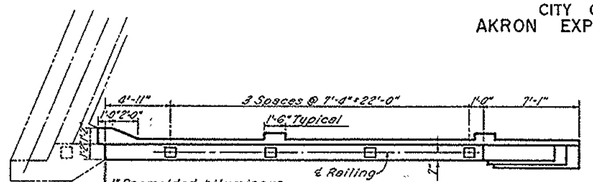
PLAN



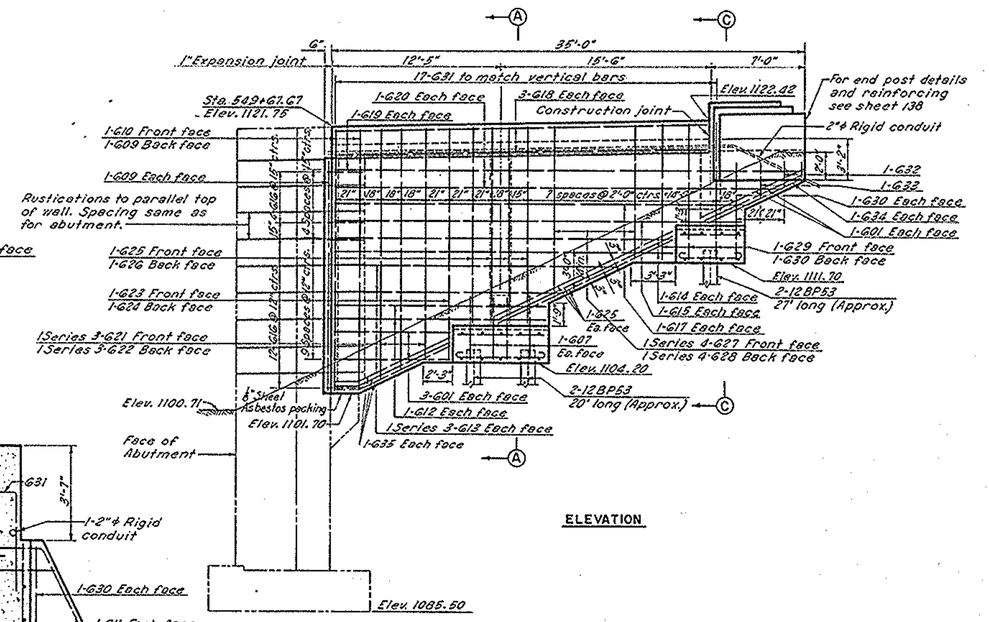
ELEVATION



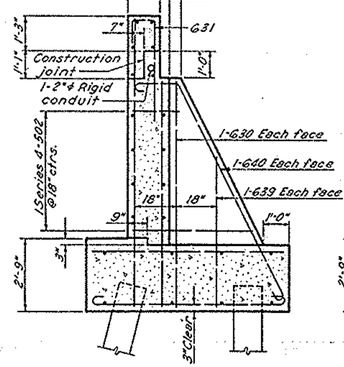
SECTION A-A



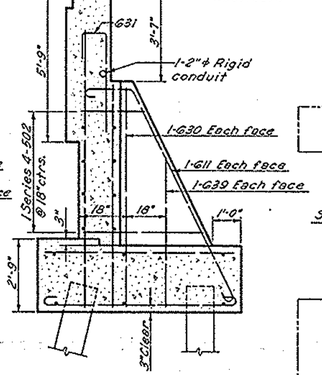
PLAN



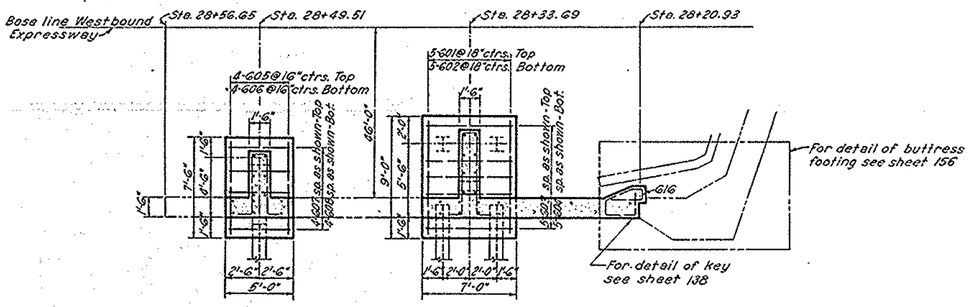
ELEVATION



SECTION B-B

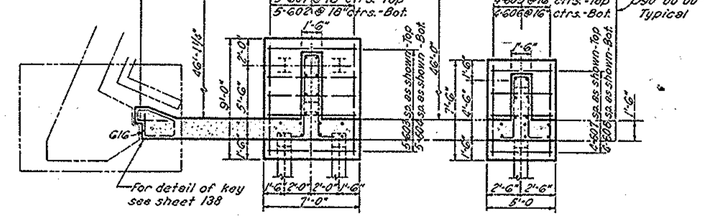


SECTION C-C



FOOTING PLAN

NORTHEAST WINGWALL



FOOTING PLAN

SOUTHEAST WINGWALL

Notes: All battered piles to be battered 3"/ft.
For rustication details see sheet 138
For railing details see sheet 138
For section showing porous backfill details see sheet 138

PART 6

AKRON EXPRESSWAY SYSTEM

INMAN STREET OVERPASS

BR. NO. SU-18R-125

EAST WINGWALLS

AKRON SUMMIT COUNTY, OHIO

SCALE 3/16" = 1'-0"
MADE G.D. DATE 7-6-54
TRCD. J.W.R. DATE 10-13-54
CKD. J.W.L. DATE 10-18-54

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

901 SHEET 158

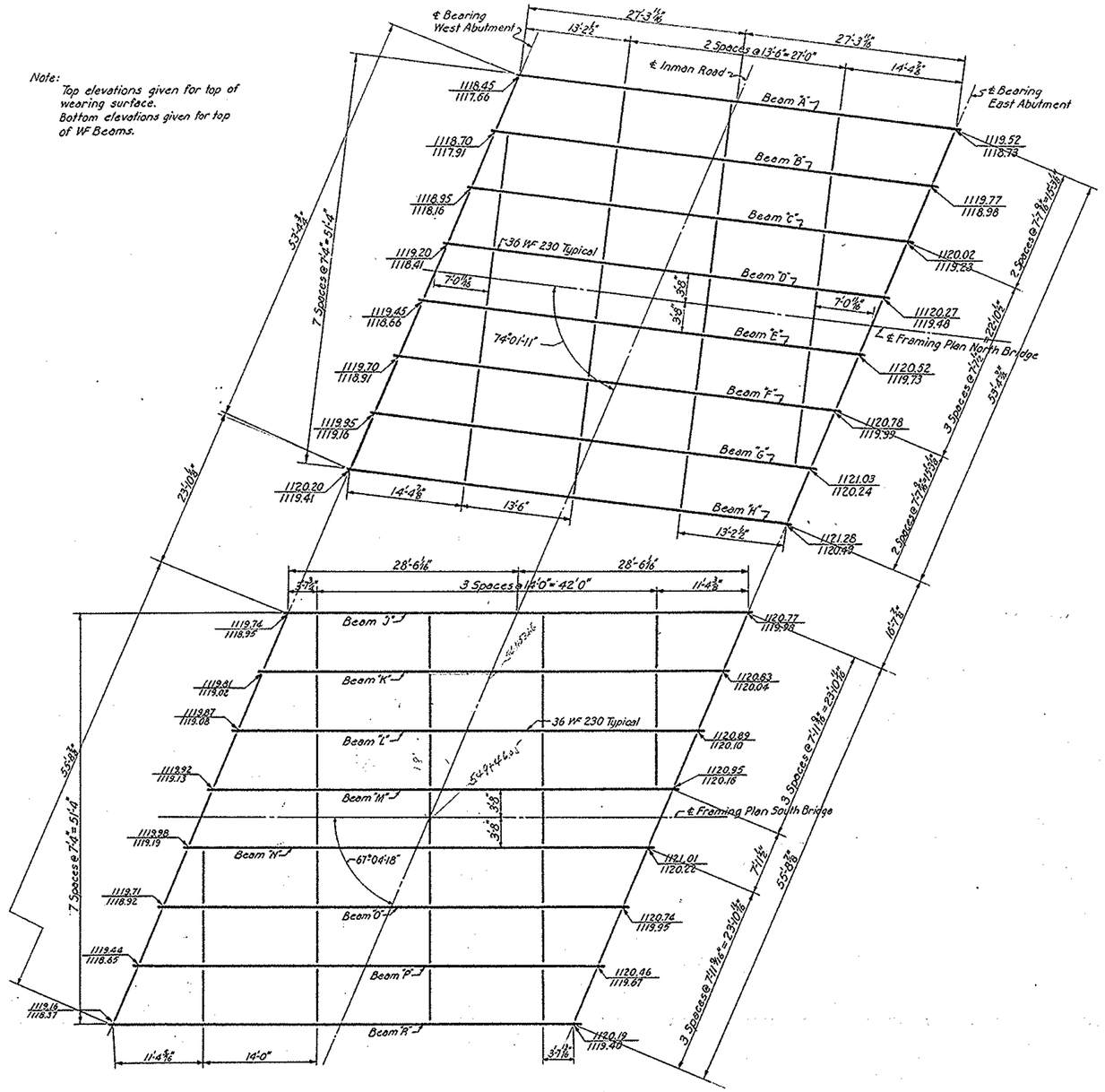
137

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

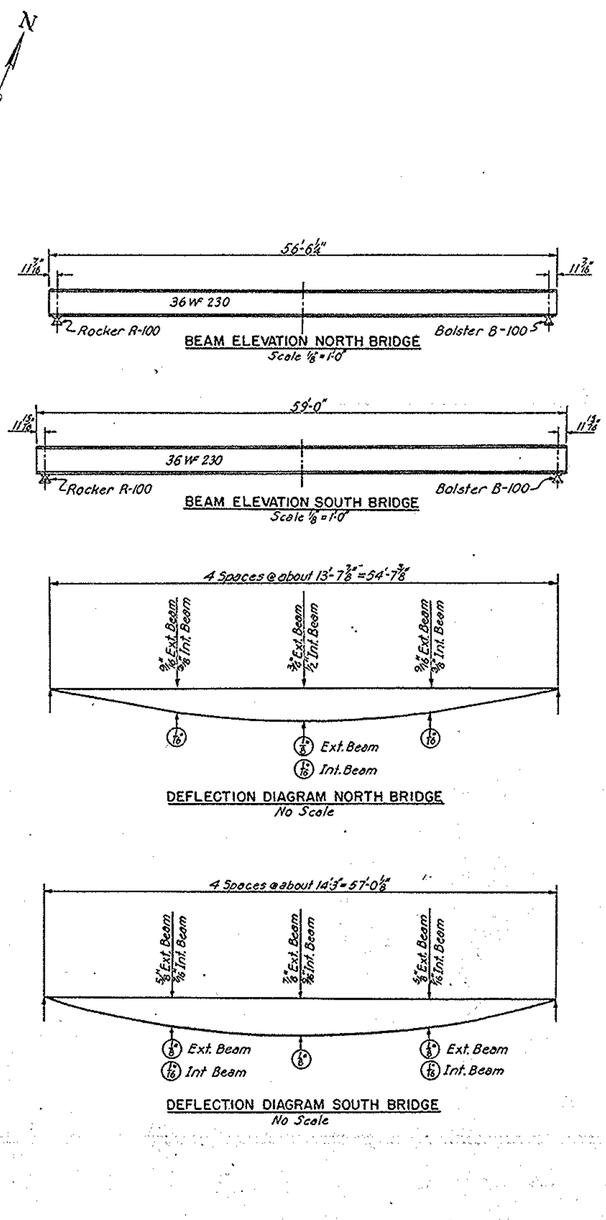
159
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

Note:
Top elevations given for top of wearing surface.
Bottom elevations given for top of WF Beams.



FRAMING PLAN
Scale 1/8"=1'-0"



BEAM ELEVATION NORTH BRIDGE
Scale 1/8"=1'-0"

BEAM ELEVATION SOUTH BRIDGE
Scale 1/8"=1'-0"

DEFLECTION DIAGRAM NORTH BRIDGE
No Scale

DEFLECTION DIAGRAM SOUTH BRIDGE
No Scale

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 the concrete is in place.
For details of shoes and expansion joints see Sheet 136.

PART 6

AKRON EXPRESSWAY SYSTEM

INMAN STREET OVERPASS
BR. NO. SU-18R-125

FRAMING PLAN

AKRON SUMMIT COUNTY, OHIO

SCALE As Shown
MADE G.O. DATE 8-30-54
TRCD G.T.K. DATE 9-30-54
CKD R.K. DATE 10-18-54

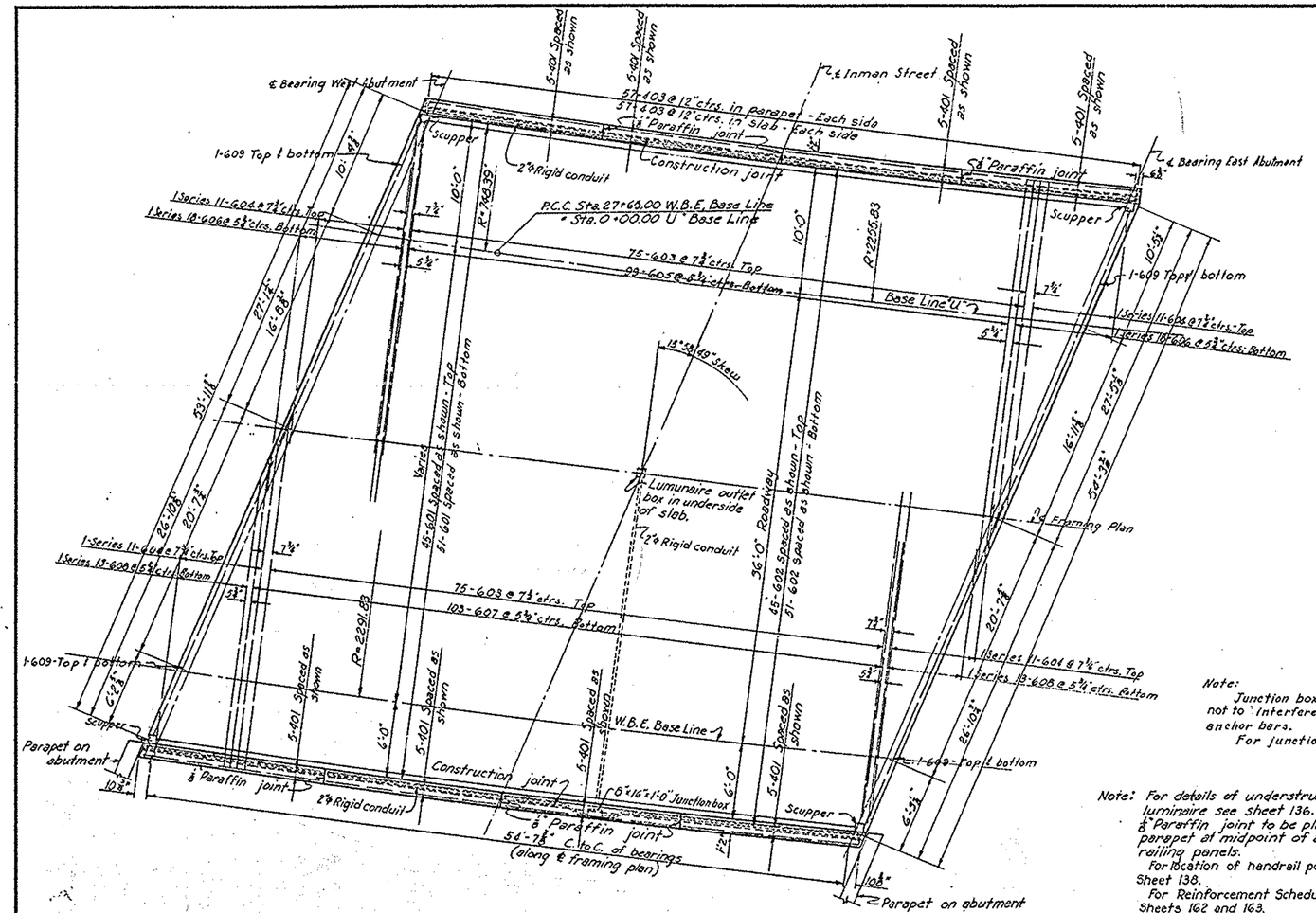
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901 SHEET 159

140

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

160
204

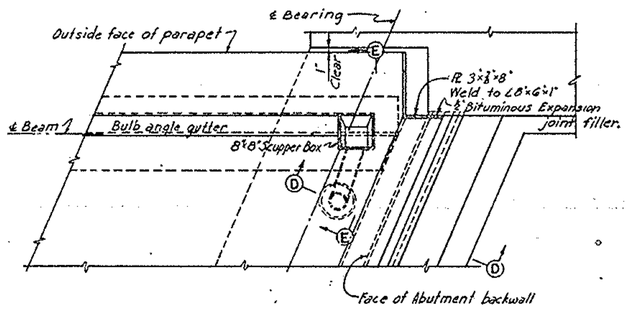
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



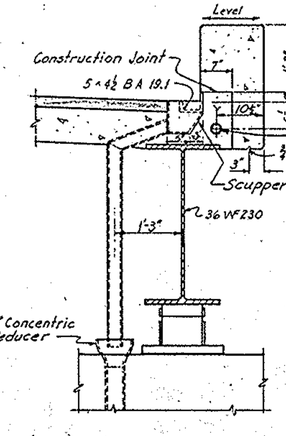
Note:
Junction box shall be placed so as not to interfere with handrail post anchor bars.
For junction box detail see Sheet 161.

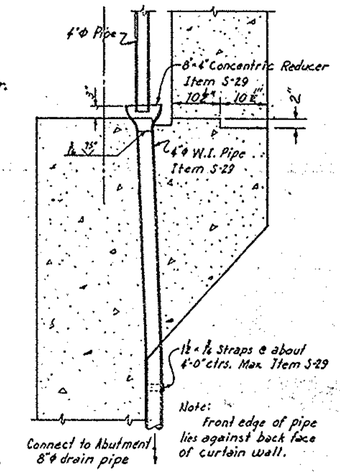
Note: For details of understructure luminaire see sheet 136.
⅝" Paraffin joint to be placed in parapet at midpoint of alternate railing panels.
For location of handrail posts see Sheet 138.
For Reinforcement Schedule see Sheets 162 and 163.

SLAB PLAN
Scale: 1/16" = 1'-0"

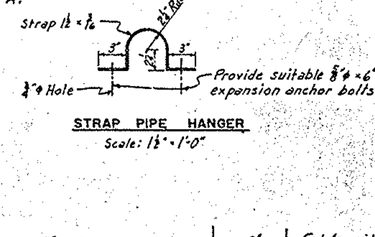


PLAN AT ABUTMENT SHOWING SCUPPER
Scale: ¾" = 1'-0"



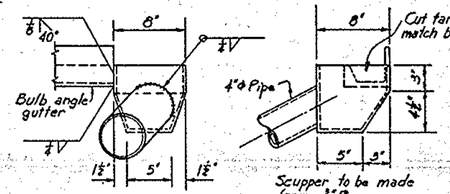


SECTION D-D
Scale: ¾" = 1'-0"

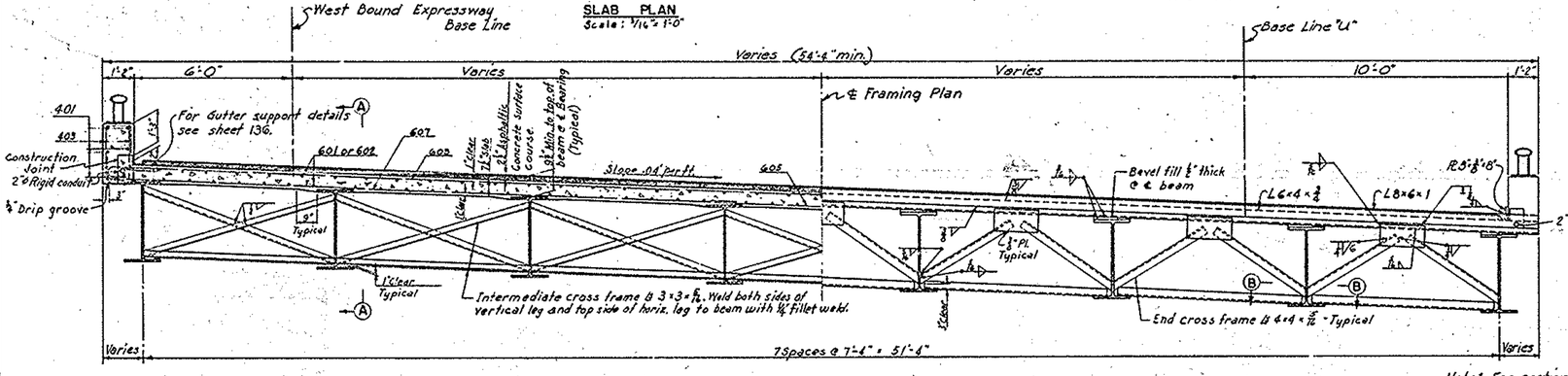


STRAP PIPE HANGER
Scale: 1½" = 1'-0"

SECTION E-E
Scale: ¾" = 1'-0"



DETAIL "A"
Scale: 1½" = 1'-0"



HALF SECTION AT INTERMEDIATE CROSS FRAME
Scale: ⅜" = 1'-0"

HALF SECTION THRU END FINISH
Scale: ⅜" = 1'-0"

Note: For sections A-A and B-B see sheet 161.

PART 6

AKRON EXPRESSWAY SYSTEM

INMAN STREET OVERPASS
BR. NO. SU-16R-125
NORTH BRIDGE
SLAB PLAN AND CROSS SECTION

AKRON SUMMIT COUNTY, OHIO

SCALE As Shown
MADE G.D. DATE 2-16-54
TRCD. DATE
CKD. R.K. DATE 10-18-54

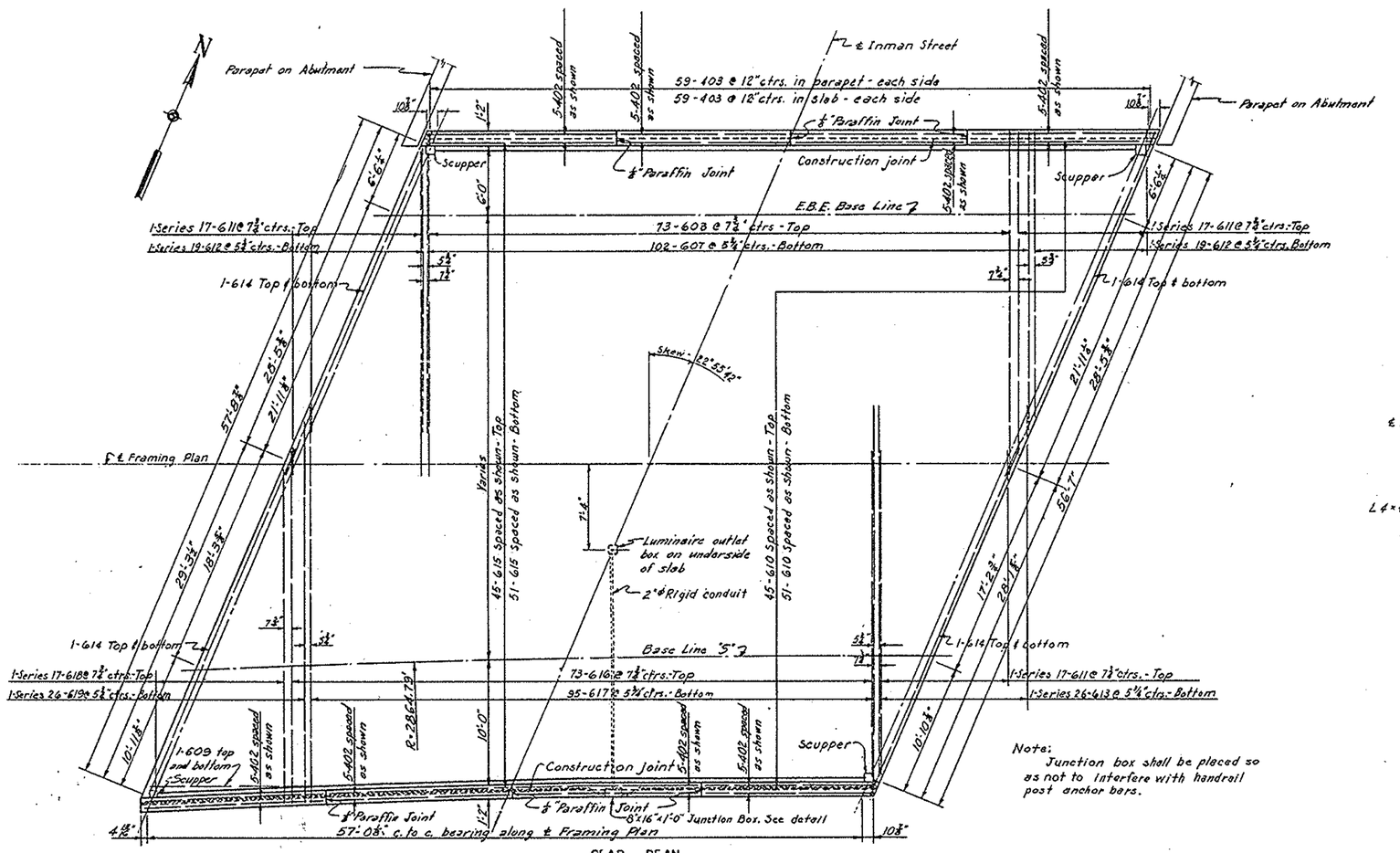
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901 SHEET 160

139

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

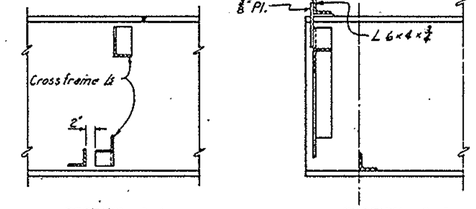
161
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



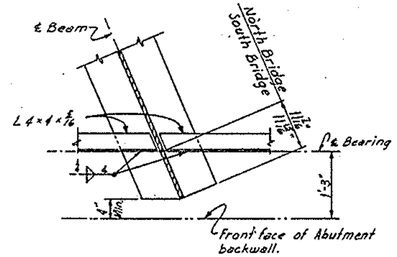
SLAB PLAN
Scale: 1/16" = 1'-0"

Note:
Junction box shall be placed so as not to interfere with handrail post anchor bars.

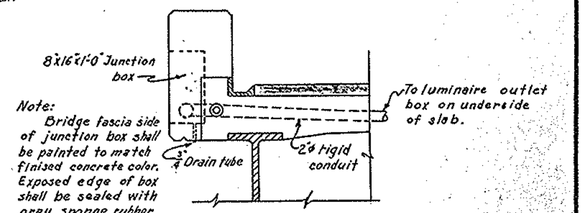


SECTION A-A
Scale: ½" = 1'-0"

SECTION C-C
Scale: ½" = 1'-0"

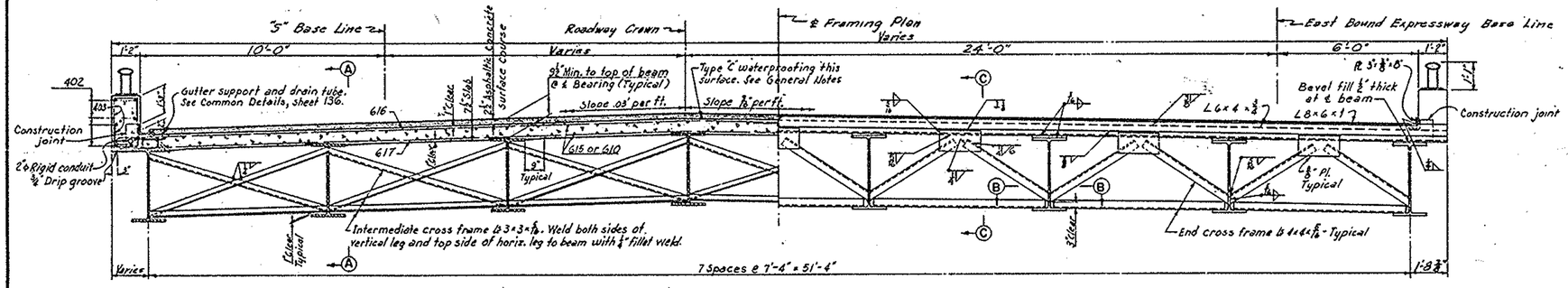


SECTION B-B



Note:
Bridge fascia side of junction box shall be painted to match finished concrete color. Exposed edge of box shall be sealed with gray sponge rubber.

PARAPET JUNCTION BOX DETAIL
Scale: ¾" = 1'-0"



HALF SECTION AT INTERMEDIATE CROSS FRAMES
Scale: ⅛" = 1'-0"

HALF SECTION THRU END FINISH
Scale: ⅛" = 1'-0"

Note: For details of understructure Luminaires see sheet 136.
For scupper details see sheet 160.
¾" Paraffin joint to be placed in parapet at mid-point of alternate railing panel.
For location of handrail posts see Sheet 138.
For Reinforcement Schedule see Sheets 162 and 163.

PART 6

AKRON EXPRESSWAY SYSTEM

INMAN STREET OVERPASS
BR. NO. SU-18R-125
SOUTH BRIDGE
SLAB PLAN AND CROSS SECTION
AKRON SUMMIT COUNTY, OHIO

SCALE As Shown
MADE G.D. DATE 5-12-54
TRCD. DATE
CKD. R.K. DATE 10-18-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901 SHEET 161

135

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

162
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

WEST ABUTMENT

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
401	80	2'-0"	Str.						107
402	4	22'-9"	Str.						61
403	24	51'-0"	105	10"	21'-7"				95
501	5 Series of 25	19'-8" to 30'-2"	110	81'-08" to 131'-3"	1'-8"			3"	3,430
502	5 Series of 9	12'-10" to 19'-2"	110	41'-7" to 71'-9"	1'-8"			4-3/4"	901
601	25	17'-5"	Str.						693
602	231	7'-5"	Str.						2,600
603	3	25'-5"	Str.						115
604	18	8'-5"	Str.						536
605	6	32'-3"	Str.						291
606	4	11'-5"	Str.						69
607	4	13'-5"	Str.						81
608	15	26'-0"	Str.						195
609	8	17'-3"	Str.						207
610	31	27'-5"	Str.						1,280
611	49	17'-9"	Str.						1,280
612	63	14'-9"	Str.						1,301
613	8	27'-9"	Str.						333
614	15	27'-3"	Str.						614
615	20	17'-0"	Str.						511
616	8	26'-0"	Str.						321
617	34	12'-2"	129						621
618	5	26'-3"	Str.						197
619	240	5'-0"	Str.						1,800
620	4	5'-0"	108	3'-5"	1'-6"	12			30
621	92	6'-0"	104	3'-9"	2'-3"				829
622	8	42'-3"	104	40'-0"	1'-6"				508
623	8	41'-6"	104	40'-0"	1'-6"				499
624	8	41'-0"	Str.						493
625	32	21'-5"	122	7'-4.3"	3'-0"	65°			1,041
626	31	22'-6"	123	5'-5"	3'-6"	165°	105°		1,055
627	3	8'-9"	128	4'-0"	2'-9"	21-0"	48		39
628	6	16'-4"	124						147
629	12 Series of 5	12'-5" to 26'-0"	Str.					2-1/2"	1,769
630	6	32'-3"	Str.						291
631	6	13'-10"	125	11.5°					125
632	4	10'-6"	128	4'-0"	1'-9"	4'-9"	12		63
633	80	5'-9"	101	1'-3"	4'-6"				777
634	80	11'-5"	127	1'-11"	3'-6"	7'-0"			1,544
635	12	8'-3"	Str.						149
636	90	9'-3"	108	4'-3"	5'-0"	13			1,250
637	12	11'-9"	Str.						212
638	6	41'-0"	Str.						369
639	6	40'-0"	Str.						360
640	12	29'-3"	Str.						527
641	3	8'-4"	127	4'-4"	2'-6"	11.6°			38
642	20	10'-10"	127	1'-2"	7'-2"	21.6°			325
643	20	10'-3"	131						308
644	20	8'-2"	104	6'-8"	1'-6"				245
645	8	16'-6"	Str.						198
801	22	107'-6"	Str.						2,379
802	13	13'-6"	Str.						469
803	16	41'-0"	Str.						1,752
804	38	17'-6"	Str.						1,776
805	42	7'-6"	Str.						841
806	22	45'-2"	127	1'-2"	41'-6"	31-6"			2,653
807	16	42'-6"	104	41'-0"	1'-6"				1,816
808	16	41'-6"	104	40'-0"	1'-6"				1,773
809	22	43'-8"	127	1'-2"	40'-0"	21-6"			2,565
810	13	11'-6"	Str.						399
901	42	17'-6"	Str.						2,499
902	36	7'-0"	Str.						857
903	4	32'-3"	Str.						439
904	13	29'-6"	Str.						301

WEST ABUTMENT

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
905	13	131'-11"	101	121'-6"	11'-7"				615
906	4	32'-3"	Str.						439
907	4	29'-6"	Str.						401
908	15	61'-9"	101	51'-2"	11'-7"				344
1001	18	31'-0"	130	25'-6"	4-3/4				2,401
1002	12	14'-0"	Str.						723
1003	30	7'-6"	101	5'-9"	11'-9"				968
				Total for West Abutment					57,233

EAST ABUTMENT

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
401	80	21'-0"	Str.						107
402	4	15'-3"	Str.						41
403	16	61'-0"	105	10"	21'-7"				64
501	5 Series of 10	20'-5" to 30'-4"	110	61'-6" to 131'-3"	1'-8"			3-1/4"	2,527
502	5 Series of 10	12'-8" to 20'-0"	110	41'-6" to 81'-7"	1'-8"			4-7/8"	852
601	32	17'-6"	Str.						841
602	154	7'-6"	Str.						1,735
603	3	8'-4"	128	4'-0"	2'-4"	21'-0"	26		38
604	47	8'-6"	Str.						600
605	6	32'-0"	Str.						288
606	4	11'-6"	Str.						69
607	4	13'-6"	Str.						81
608	15	25'-5"	Str.						193
609	54	14'-0"	Str.						1,136
610	8	26'-3"	Str.						315
611	14	18'-0"	Str.						379
612	65	27'-0"	Str.						1,865
613	28	18'-9"	Str.						789
614	14	18'-6"	Str.						389
615	14	18'-3"	Str.						384
616	3	25'-0"	Str.						113
617	36	12'-2"	129						659
618	10	10'-0"	Str.						150
619	189	5'-0"	Str.						1,419
620	4	5'-0"	108	3'-6"	1'-6"	12			30
621	86	6'-0"	104	3'-0"	2'-3"				775
622	10	6'-0"	Str.						90
623	9	65'-6"	104	47'-0"	1'-6"				656
624	9	36'-6"	Str.						493
625	8	46'-6"	104	45'-0"	1'-6"				559
626	32	22'-9"	123	4'-6"	4'-6"	157°	113°		1,093
627	31	21'-3"	122	7'-0"	2'-10"	73°			589
628	6	16'-6"	124						147
629	10 Series of 15	111'-0" to 251'-9"	Str.					8-1/4"	1,380
630	6	31'-0"	Str.						286
631	6	13'-10"	125	10.5°					125
632	4	10'-6"	128	4'-0"	1'-9"	4'-9"	12		63
633	85	5'-9"	101	1'-3"	4'-6"				734
634	85	11'-5"	127	1'-11"	3'-6"	7'-0"			1,658
635	16	6'-0"	Str.						96
636	85	9'-6"	103	4'-6"	5'-0"	13			1,213
637	15	10'-3"	131						246
638	6	64'-9"	Str.						403
639	6	37'-6"	Str.						338
640	6	6'-3"	Str.						417
641	3	8'-4"	127	4'-0"	2'-6"	11'-6"			38
642	1	32'-6"	106	31'-0"	1'-6"				49
643	16	10'-10"	127	1'-2"	7'-2"	21-6"			260
644	16	8'-2"	104	6'-8"	1'-6"				195
645	5	26'-6"	Str.						199
646	16	7'-0"	Str.						168
801	1	35'-2"	127	1'-2"	31'-6"	21'-6"			91
BARS IN END POST									
802	13	13'-6"	Str.						469
803	23	51'-2"	127	1'-2"	47'-6"	21'-6"			3,142
804	16	48'-6"	104	47'-0"	1'-6"				2,072

EAST ABUTMENT

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
805	42	7'-6"	Str.						841
806	39	36'-6"	Str.						3,801
807	13	11'-6"	Str.						329
808	22	40'-2"	127	1'-2"	45'-6"	21-6"			2,859
809	16	46'-6"	104	45'-0"	1'-6"				1,996
901	35	17'-5"	Str.						2,083
902	20	7'-0"	Str.						714
903	4	32'-0"	Str.						435
904	3	29'-3"	Str.						298
905	12	13'-11"	101	12'-6"	11'-7"				558
906	4	32'-9"	Str.						445
907	6	30'-0"	Str.						408
908	15	61'-9"	101	51'-2"	11'-7"				344
				Total for East Abutment					52,250

NORTHWEST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	1 Series of 8	7'-7" to 15'-1"	110	21-3" to 31-5"	1'-1"	1'-0"		6-3/8"	95
502	1 Series of 5	8'-7" to 11'-7"	110	31-5" to 41-5"	1'-1"	1'-0"		9"	32
601	5	8'-6"	Str.						64
602	5	9'-10"	100	8'-0"	1'-1"				74
603	7	6'-6"	Str.						49
604	5	7'-10"	100	6'-0"	1'-1"				59
605	10	7'-0"	Str.						105
606	4	8'-4"	100	6'-6"	1'-1"				50
607	14	4'-6"	Str.						95
608	4	5'-10"	100	4'-0"	1'-1"				35
609	2	15'-6"	Str.						47
610	4	13'-0"	Str.						78
611	2	11'-6"	Str.						35
612	2	30'-6"	Str.						92
613	4	16'-3"	Str.						98
614	2	18'-9"	Str.						56
615	2	17'-9"	Str.						53
616	11	11'-10"	133						196
617	6	14'-9"	Str.						133
618	6	12'-6"	Str.						113
619	1 Series of 3	10'-3" to 12'-0"	Str.					10-1/2"	50
620	1 Series of 3	8'-0" to 9'-0"	Str.					10-1/2"	40
621	10	10'-3"	Str.						154
622	1	9'-1"	105	1'-1"	4'-0"				14
623	1	6'-7"	105	1'-1"	2'-0"				10
624	2	7'-9"	108	1'-9"	6'-0"	7-1/2"			23
625	6	24'-6"	Str.						221
626	2	31'-6"	Str.						95
627	2	28'-3"	Str.						85
628	4	22'-0"	Str.						132
629	2	18'-6"	Str.						56
630	2	11'-7"	105	8'-3"	1'-6"	7-3/8	11"		35
631	14	6'-3"	127	10"	4'-3"	11'-2"			131
632	4	7'-9"	108	6'-0"	1'-9"	6.			47
633	2	14'-0"	Str.						42
634	2	15'-8".	107	13'-3".	1'-6"	4-1/4	11"		47
635	2	5'-2"	101	4'-3".	11".				16
636	2	5'-3"	Str.						16
637	2	8'-0"	108	6'-6"	1'-6"	6			24
638	2	9'-6" to 11'-6"	Str.					12"	47
639	3	7'-3" to 9'-6"	Str.					13-1/2"	38
640	3	9'-3"	Str.						42
641	1	14'-6"	Str.						22
BARS IN END POST									
642	1	5'-7"	105	1'-1"	2'-3"				8
643	1	7'-1"	105	1'-1"	3'-0"				11
644	2	5'-0"	Str.						15
645	4	7'-9"	108	6'-0"	1'-9"	6			47
646	4	13'-0"	Str.						78
647	14	6'-3"	127	10"	3'-3"	11'-2"			131
648	6	24'-6"	Str.						221
649	2	7'-6"	Str.						23
650	2	28'-0"	Str.						84
651	4	22'-3"	Str.						134
652	2	5'-2"	101	4'-3"	1'-1"				16
653	2	15'-2"	107	11'-5"	4-3/4	11"			46

NORTHWEST WINGWALL

BARSIN END POST

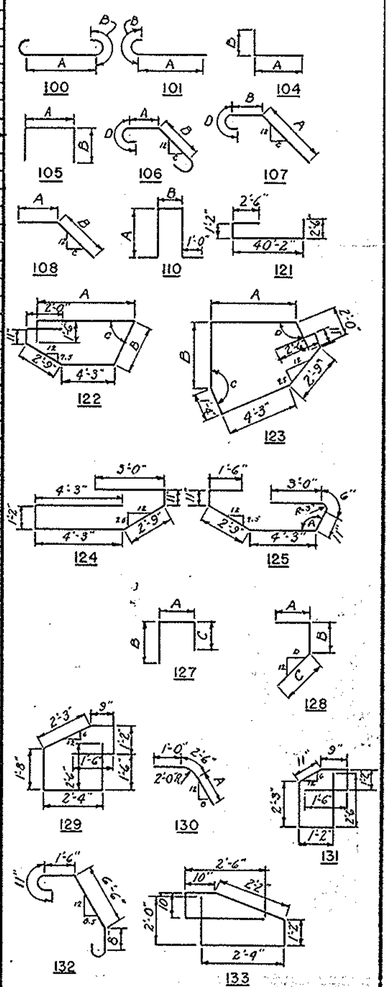
MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
689	7	4'-6"	Str.						47
689	3	6'-9"	Str.						30
690	6	5'-0"	Str.						54
691	1	5'-6"	Str.						8
692	1	5'-9"	Str.						9
		Total for Northwest Wingwall							2,972

SOUTHWEST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	1 Series of 8	7'-7" to 14'-11"	110	21-3" to 31-11"	1'-1"			6-1/4"	94
502	1 Series of 4	8'-3" to 11'-7"	110	21-2" to 41-3"	1'-1"			8-1/4	41
601	5	8'-6"	Str.						64
602	5	9'-10"	100	8'-0"	1'-1"				74
603	7	6'-6"	Str.						49
604	5	7'-10"	100	6'-0"	1'-1"				59
605	10	7'-0"	Str.						105
606	4	8'-4"	100	6'-6"	1'-1"				50
607	14	4'-6"	Str.						95
608	4	5'-10"	100	4'-0"	1'-1"				35
609	2	15'-6"	Str.						47
610	4	13'-0"	Str.						78
611	2	11'-6"	Str.						35
612	2	30'-6"	Str.						92
613	4	16'-3"	Str.						98
614	2	18'-9"	Str.						56
615	2	17'-9"	Str.						53
616	11	11'-10"	133						196
617	6	14'-9"	Str.						133
618	6	12'-6"	Str.						113
619	1 Series of 3	10'-3" to 12'-0"	Str.					10-1/2"	50
620	1 Series of 3	8'-0" to 9'-0"	Str.					10-1/2"	40
621	10	10'-3"	Str.						154
622	1	9'-1"	105	1'-1"	4'-0"				14
623	1	6'-7"	105	1'-1"	2'-0"				10
624	2	7'-9"	108	1'-9"	6'-0"	7-1/2"			23
625	6	24'-6"	Str.						221
626	2	31'-6"	Str.						95
627	2	28'-3"	Str.						85
628	4	22'-0"	Str.						132
629	2	18'-6"	Str.						56
630	2	11'-7"	105	8'-3"	1'-6"	7-3/8	11"		35
631	14	6'-3"	127	10"	4'-3"	11'-2"			131
632	4	7'-9"	108	6'-0"	1'-9"	6.			47
633	2	14'-0"	Str.						42
634	2	15'-8".	107	13'-3".	1'-6"	4-1/4	11"		47
635	2	5'-2"	101	4'-3".	11".				16
636	2	5'-3"	Str.						16

BARS IN END POST

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
686	7	5'-3"	Str.						55
687	5	5'-0"	Str.						38
688	7	4'-6"	Str.						47
689	3	6'-9"	Str.						30
690	6	6'-0"	Str.						54
691	1	5'-6"	Str.						8
692	1	5'-9"	Str.						9
		Total for Southwest Wingwall							3,022



BENDING DIAGRAMS

Note: Bars of a series shall vary in length by a constant increment.

PART 6

AKRON EXPRESSWAY SYSTEM

INMAN STREET OVERPASS
BR. NO. SU-18R-125

REINFORCEMENT SCHEDULE

AKRON SUMMIT COUNTY. OHIO

SCALE None
MADE G.D. DATE 8-11-54
TRCD. ... DATE ...
CKD RK-LWL DATE 10-18-54

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

901 SHEET 162

134

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

163
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

NORTHEAST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
601	1 Series of 8	7'-0" to 14'-7"	110	2'-4" to 5'-0"	1'-1"			5-7/8"	93
602	1 Series of 4	5'-11" to 11'-7"	110	1'-11" to 3'-3"	1'-1"			9-1/4"	39
101	15	81'-5"	Str.						192
102	5	91'-10"	100	81'-0"					74
103	5	6'-5"	Str.						49
104	5	71'-10"	100	61'-0"					59
105	6	7'-0"	Str.						63
106	4	81'-4"	100	61'-6"					50
107	14	41'-5"	Str.						95
108	4	51'-10"	100	41'-0"					35
109	4	151'-5"	Str.						99
610	2	101'-9"	Str.						59
611	1	151'-3"	Str.						23
612	2	151'-5"	Str.						47
613	2 Series of 3	151'-5" to 191'-5"	Str.					21'-0"	158
614	6	351'-0"	Str.						225
615	2	301'-0"	Str.						90
616	16	111'-10"	133						284
617	2	101'-9"	Str.						92
618	6	271'-5"	Str.						248
619	2	341'-5"	Str.						104
620	2	331'-0"	Str.						100
621	1 Series of 3	171'-3" to 181'-5"	Str.					7-1/2"	81
622	1 Series of 8	151'-0" to 161'-3"	Str.					7-1/2"	70
623	1	171'-6"	Str.						26
624	6	141'-6"	Str.						131
625	4	141'-9"	Str.						89
626	6	121'-6"	Str.						113
627	1 Series of 4	101'-5" to 131'-0"	Str.					10"	71
628	1 Series of 4	81'-3" to 101'-9"	Str.					10"	57
629	1	101'-5"	Str.						47
630	7	81'-3"	Str.						87
631	17	51'-3"	127	10"	41'-3"	1'-2"			160
632	1	61'-7"	105	1'-1"	21'-9"				10
633	2	91'-3"	108	81'-0"	1'-3"	6			28
634	1	81'-7"	105	1'-1"	31'-9"				13
635	6	91'-3"	108	71'-5"	1'-9"	6			83
636	2	151'-11"	107	131'-6"	1'-5"	4	11"		19
637	2	111'-6"	Str.						35
638	2	51'-3"	101	41'-3"					16
639	2	51'-3"	Str.						15
640	2	121'-1"	106	81'-9"	1'-5"	4-7/8	11"		37

END POST

685	7	51'-3"	Str.						55
687	5	51'-0"	Str.						38
688	7	41'-6"	Str.						47
689	3	61'-9"	Str.						30
690	6	61'-0"	Str.						54
691	1	51'-6"	Str.						8
692	1	51'-9"	Str.						9

Total for Northeast Wingwall 3,737

SOUTHEAST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
601	1 Series of 8	7'-0" to 14'-7"	110	2'-4" to 5'-0"	1'-1"			5-7/8"	93
602	1 Series of 4	7'-5" to 11'-7"	110	2'-2" to 3'-3"	1'-1"			8-1/4"	40
101	15	81'-5"	Str.						192
102	5	91'-10"	100	81'-0"					74
103	5	61'-5"	Str.						49
604	5	71'-10"	100	61'-0"					59
605	6	71'-0"	Str.						63
606	4	81'-4"	100	61'-6"					50
607	14	41'-5"	Str.						95
108	4	51'-10"	100	41'-0"					35
609	4	171'-0"	Str.						102
610	2	101'-5"	Str.						59
611	2	111'-7"	105	81'-3"	1'-5"	6	11"		35
612	4	151'-5"	Str.						94
613	2 Series of 3	171'-3" to 211'-3"	Str.					21'-0"	173
614	4	261'-0"	Str.						150
615	2	301'-0"	Str.						90
616	16	111'-10"	133						284
617	2	301'-5"	Str.						92
618	6	271'-5"	Str.						248
619	2	341'-5"	Str.						104
620	2	331'-0"	Str.						99
621	1 Series of 3	171'-3" to 181'-5"	Str.					9"	81
622	1 Series of 8	151'-0" to 161'-5"	Str.					9"	71
623	1	171'-3"	Str.						26
624	1	151'-0"	Str.						23
625	10	141'-9"	Str.						222
626	6	121'-6"	Str.						113
627	1 Series of 4	101'-0" to 121'-6"	Str.					10"	68
628	1 Series of 4	71'-9" to 101'-3"	Str.					10"	54
629	4	101'-0"	Str.						60
630	7	71'-9"	Str.						81
631	17	61'-3"	127	10"	41'-3"	1'-2"			160
632	1	61'-1"	105	1'-1"	21'-6"				9
633	1	81'-1"	105	1'-1"	31'-6"				12
634	2	91'-3"	108	81'-0"	1'-3"	6			28
635	6	91'-6"	108	71'-9"	1'-9"	6			86
636	2	151'-11"	107	131'-6"	1'-5"	4	11"		18
637	2	111'-6"	Str.						35
638	2	51'-3"	101	41'-3"					16
639	2	51'-6"	Str.						17

END POST

685	7	51'-3"	Str.						55
687	5	51'-0"	Str.						38
688	7	41'-6"	Str.						47
689	3	61'-9"	Str.						30
690	6	61'-0"	Str.						54
691	1	51'-6"	Str.						8
692	1	51'-9"	Str.						9

Total for Southeast Wingwall 3,731

SUPERSTRUCTURE SLAB

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
401	40	131'-5"	Str.						320
402	40	141'-3"	Str.						381
403	464	31'-10"	127	10"	11'-11"	11'-1"			1,188
101	96	43'-0"	Str.						6,200
102	96	151'-0"	Str.						2,163
103	223	281'-8"	101	271'-0"		11"			9,602
604	4 Series of 11	31'-11" to 261'-5"	101	2'-2" to 251'-5"		11"		21'-3"	1,602
605	99	311'-6"	Str.						4,684
606	2 Series of 19	21'-0" to 301'-4"	Str.					1'-8-1/8"	879
607	205	261'-3"	Str.						7,467
608	2 Series of 13	31'-3" to 231'-3"	Str.					1'-8"	517
609	10	201'-0"	Str.						436
610	96	151'-9"	Str.						2,271
611	3 Series of 17	31'-1" to 271'-5"	101	21'-2" to 261'-5"		11"		1'-6-1/4"	1,168
612	2 Series of 10	21'-9" to 231'-0"	Str.					1'-1-1/2"	735
613	1 Series of 24	21'-5" to 301'-9"	Str.					1'-1-9/16"	649
614	8	301'-9"	Str.						387
615	96	45'-0"	Str.						6,499
616	73	291'-2"	101	281'-3"		11"			3,198
617	96	321'-0"	Str.						6,566
618	1 Series of 19	41'-2" to 281'-8"	101	31'-3" to 271'-3"		11"		1'-6-3/8"	419
619	1 Series of 26	31'-9" to 321'-0"	Str.					1'-1-9/16"	699

Total for Superstructure Slab 55,441

Note:
Bars in a series shall vary in length by a constant increment.
For Bending Diagrams see Sheet ,

PART 6

AKRON EXPRESSWAY SYSTEM

INMAN STREET OVERPASS

BR. NO. SU-18R-125

REINFORCEMENT SCHEDULE

AKRON SUMMIT COUNTY, OHIO

SCALE None
MADE G.D. DATE 8-12-54
TRCD A.H.H. DATE 10-12-54
CKD R.K. DATE 10-18-54

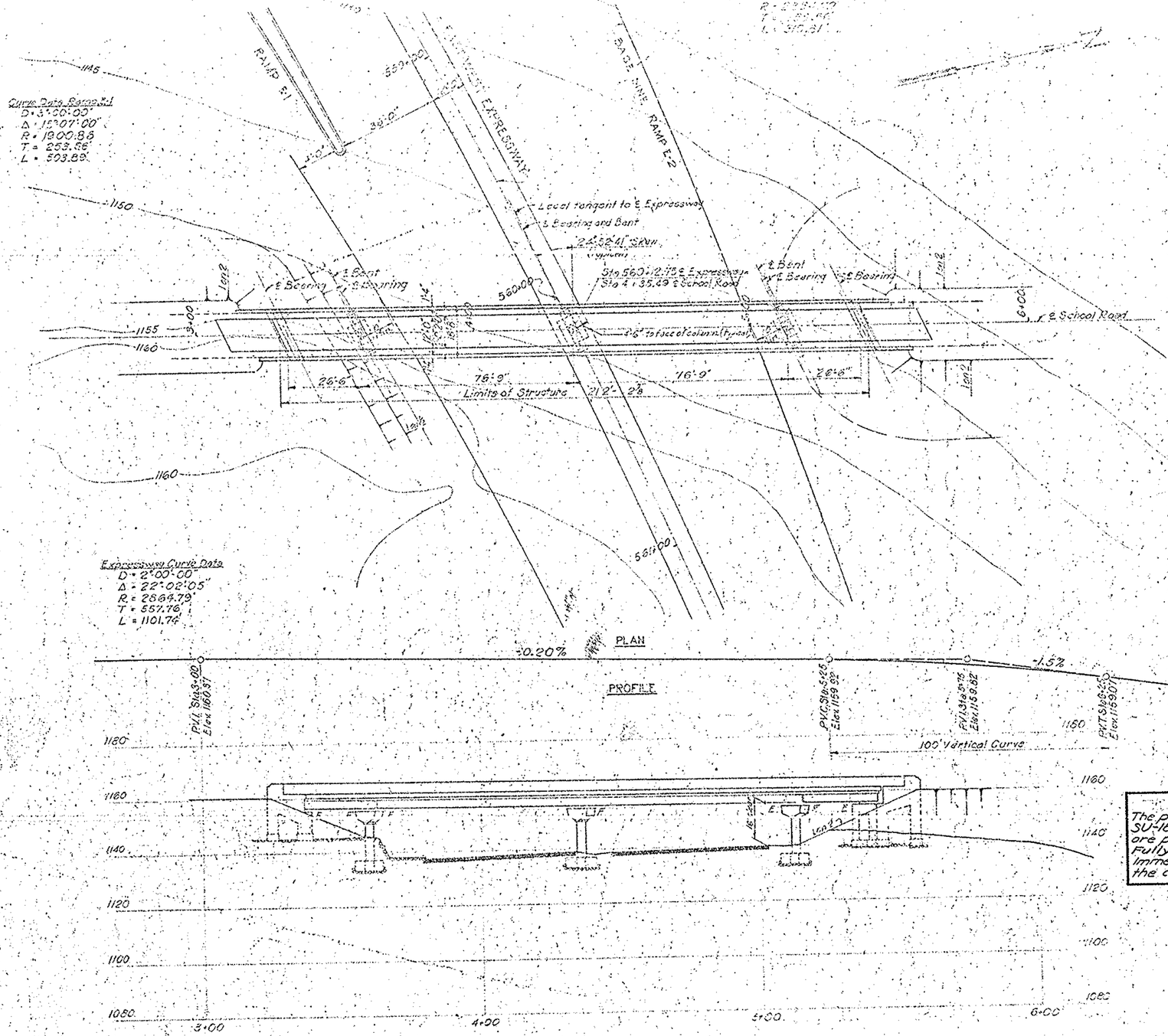
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

901 SHEET 163

136

STATE	SHEET NO.	TOTAL SHEETS
OHIO		

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



Notes:
The following items are not included in bridge plans;
see roadway plans for details.
Removal of existing drives, pavements, etc.
Relocation or removal of existing utilities.
Approach grading, pavements and slabs.
Guard rails on approaches.

PROPOSED STRUCTURE
Type: Steel Beam with concrete deck and superstructure.
Span: 2 continuous @ 72' simple @
Roadway: 18'-0" with 2- 2'-0" sidewalks
Loading: C.F. 130.
Skew: 24°52'41"
Surface Course: 2½" Asphaltic Concrete

Structure is on tangents and parallel to ℄ School Road

EXPLANATORY NOTE
The plans for this bridge, Bridge No. SU-18-127 (Sheets 164 through 168) are provided for bidding purposes. Fully detailed plans will be provided immediately after the award of the contract.

Sheets 164 to 168 superseded by sheets 164R to 172R

PART A

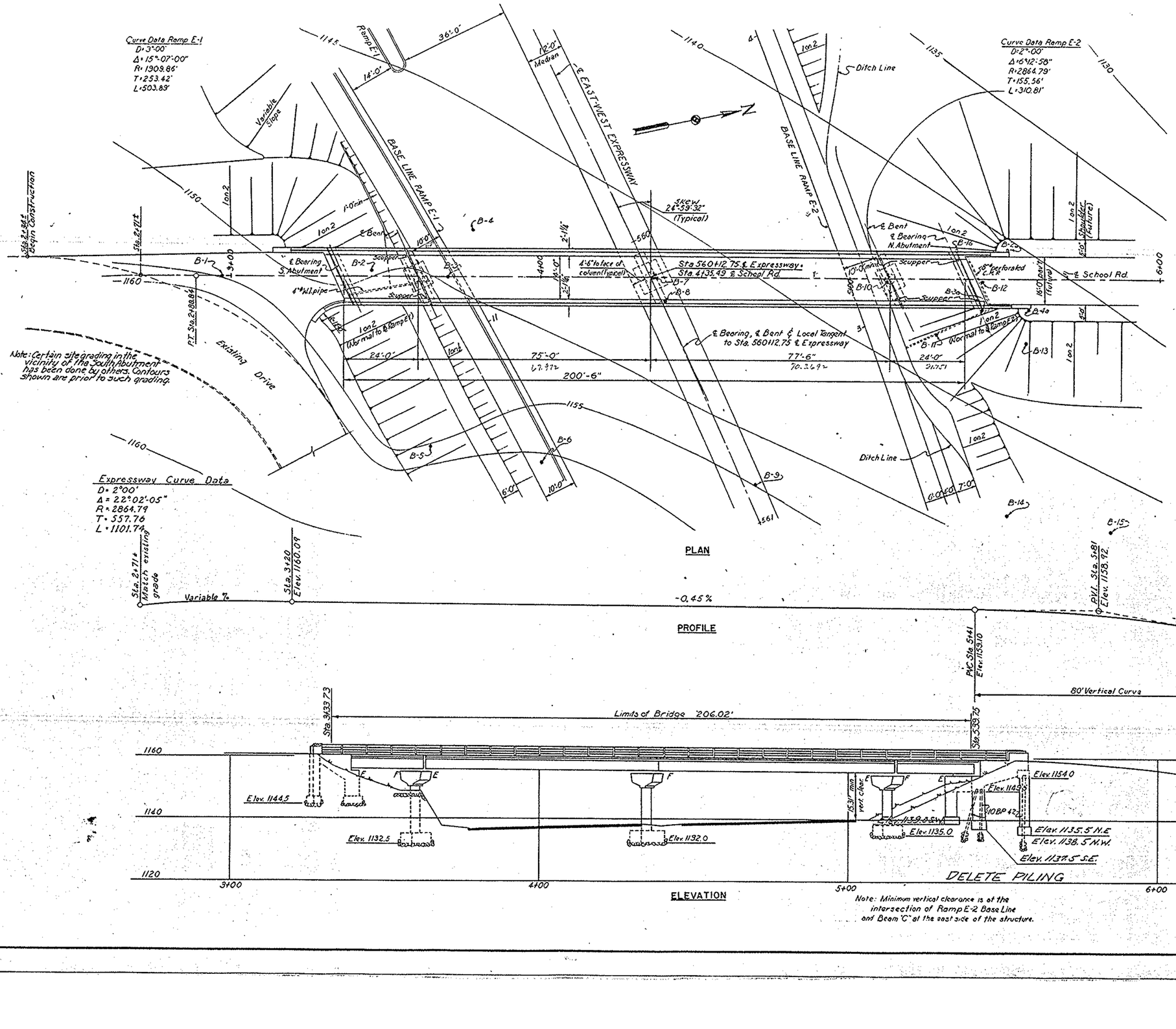
AKRON EXPRESSWAY SYSTEM
SCHOOL ROAD UNDERPASS
BR. NO. SU-18R-127
SITE PLAN
AKRON, SUMMIT COUNTY, OHIO

SCALE	1"=20'	HOWARD, NEEDLES, TAMMEN & BERGENDOFF
MADE	J.R.S. DATE	CONSULTING ENGINEERS
TRCD	DATE	KANSAS CITY CLEVELAND NEW YORK
CKD	DATE	901 SHEET 164

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO	—	

164R / 204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



BORINGS			
	Ground Elev	Rock Elev	Top of Firm Rock Elev
~~B-1a~~	~~1140.9~~	~~1137.8*~~	~~1131.5~~
~~B-2a~~	~~1140.2~~	~~1137.0*~~	~~1134.8~~
~~B-3a~~	~~1141.7~~	~~1139.2*~~	~~1138.5~~
~~B-4a~~	~~1140.9~~	~~1137.6*~~	~~1131.1~~
B-1	1148.0	1145.2	
B-2	1148.7	1145.7	
B-3	1151.1	1147.6	
B-4	1147.2	1144.5	
B-5	1155.9	1143.3	
B-6	1160.7	1150.7	
B-7	1146.3	1144.3	
B-8	1147.1	1145.1	
B-9	1156.8	1143.3	
B-10	1143.6	1140.6	
B-11	1143.9	1142.4	
B-12	1141.1	1131.2	
B-13	1142.4	1140.9	
B-14	1148.8	1146.8	
B-15	1147.0	1145.0	

~~* Soft rock overlying firm rock~~

PROPOSED STRUCTURE
Type: Simple end spans, continuous mid spans - steel beam with concrete deck and substructure.
Spans: 1 at 75'-0", 1 at 77'-6" and 2 at 24'-0"
Roadway: 14'-0" with 1'-0" Safety walks.
Loading: CF 130
Skew: 24°-59'-32" (Typical)
Surface Course: 2½ Asphaltic Concrete

REVISED BORINGS		
	Ground El.	Top of Firm Rock *
B-1a	1141.5	1139.5
B-2a	1141.0	1139.0
B-3a	1140.0	1138.0
B-4a	1138.9	1136.0

*About 1'-0" into sandstone.

Notes:
See Roadway Plans for approach grading details.
8"ø perforated bituminous coated corrugated metal pipe with fittings shall be laid behind the North Abutment as shown on the plans. Upper end of pipe shall be closed with perforated headet made of No. 16 gauge sheet metal.
Porous backfill shall conform to Items 3-29.02 and 3-29.04

Sheets 164R to 172R replace sheets 164 to 168.
3-16-55
Revised 4-30-55 PART 6

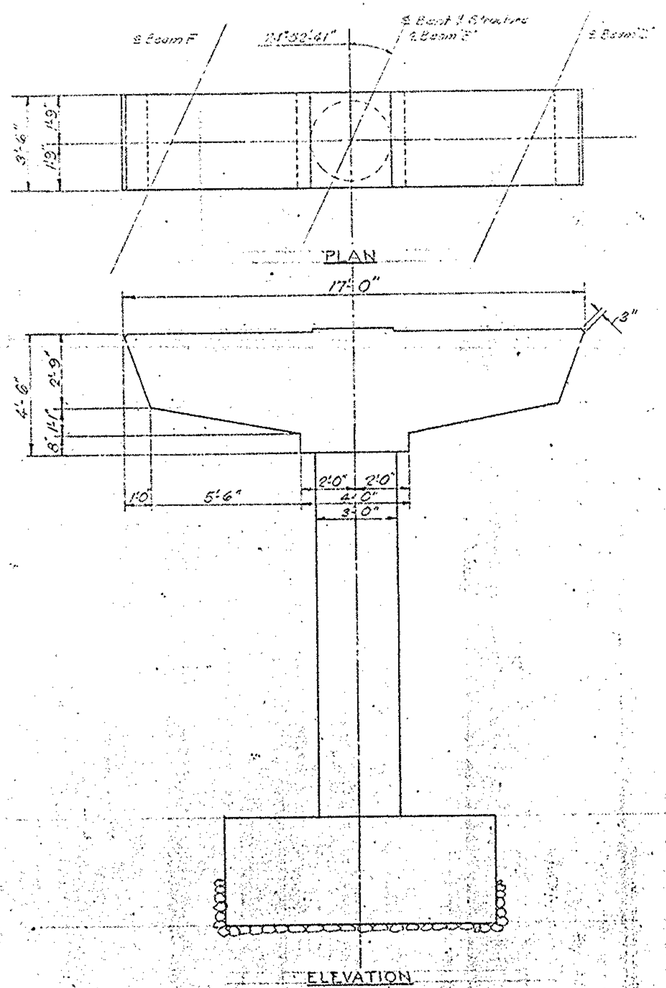
AKRON EXPRESSWAY SYSTEM
SCHOOL ROAD UNDERPASS
BR. NO. SU-18R-127
SITE PLAN
AKRON SUMMIT COUNTY, OHIO

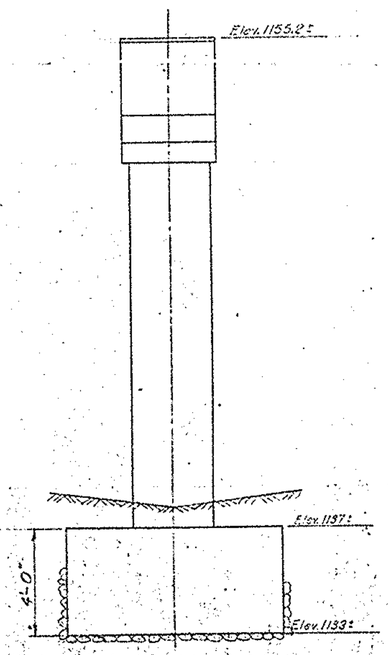
SCALE 1"=15'
MADE SLC DATE 12-17-54
TRCD. DATE
CKD. WF DATE 3-11-55

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 164R

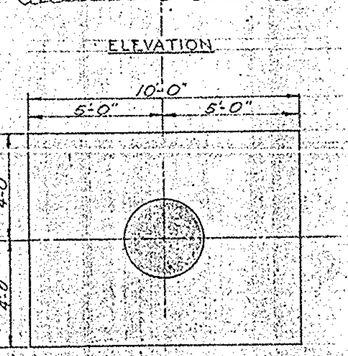
FED ROAD DIV NO	STATE	FED AID PROJ NO	TYPE FUNDS
2	OHIO		

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM





END ELEVATION



FOOTING PLAN

CENTER BENT

Sheets 164 to 168 superseded by sheets 164R to 172R.

Notes:
Reinforcing steel and additional details will be provided later.
The North and South Bents will be similar to bent shown except for footing dimensions which will be provided later.

PART 6

AKRON EXPRESSWAY SYSTEM
SCHOOL ROAD UNDERPASS
BR. NO. SU-18R-12.27

BENTS

AKRON SUMMIT COUNTY, OHIO

SCALE 3/8"=1'-0"
MADE CJ DATE
TRCD. DATE
CKD. DATE

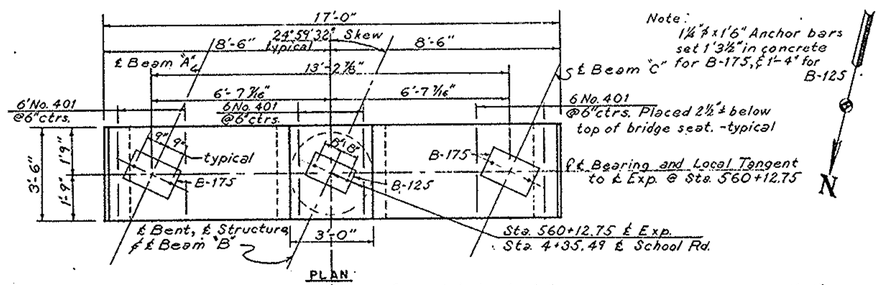
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 165

OCT 1963

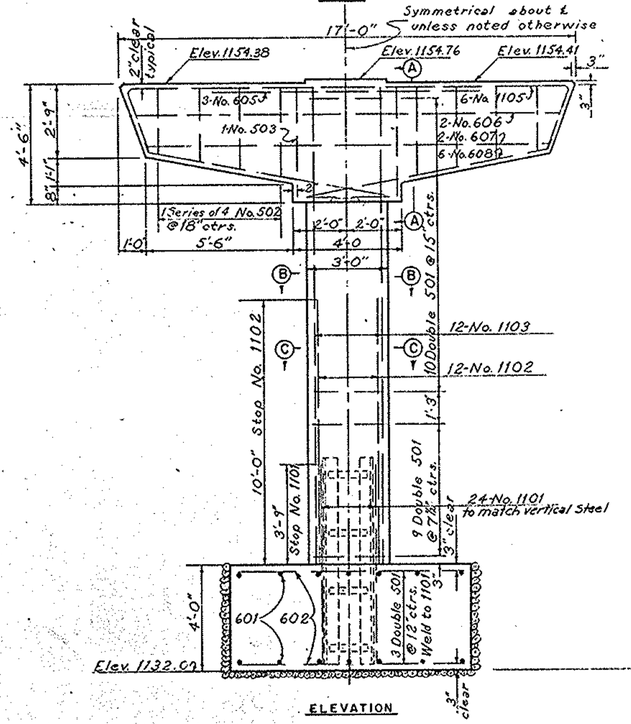
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE P.S.&D.
2	OHIO		

165R
204

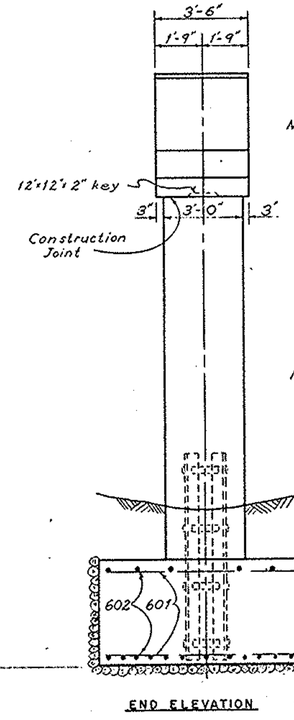
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



PLAN

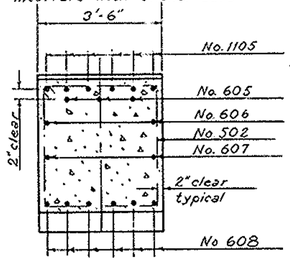


ELEVATION

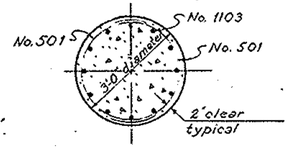


END ELEVATION

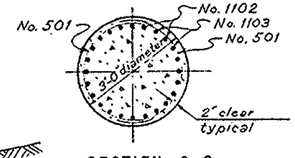
Note: Special care shall be taken in setting reinforcing steel so that it will not interfere with anchor bars



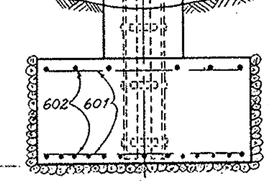
SECTION A-A
Scale: ½"=1'-0"



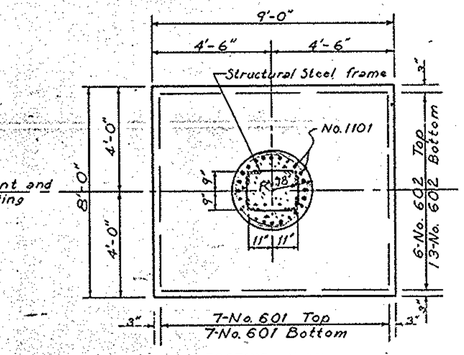
SECTION B-B
Scale: ½"=1'-0"



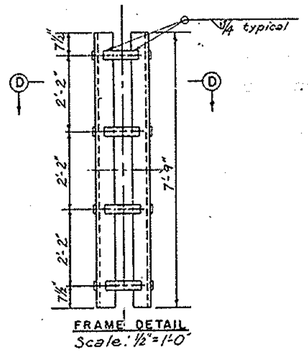
SECTION C-C
Scale: ½"=1'-0"



END ELEVATION

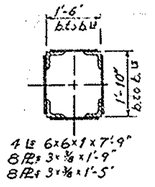


FOOTING PLAN

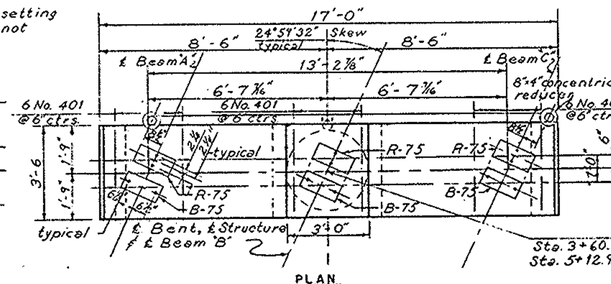


FRAME DETAIL
Scale: ½"=1'-0"

CENTER BENT



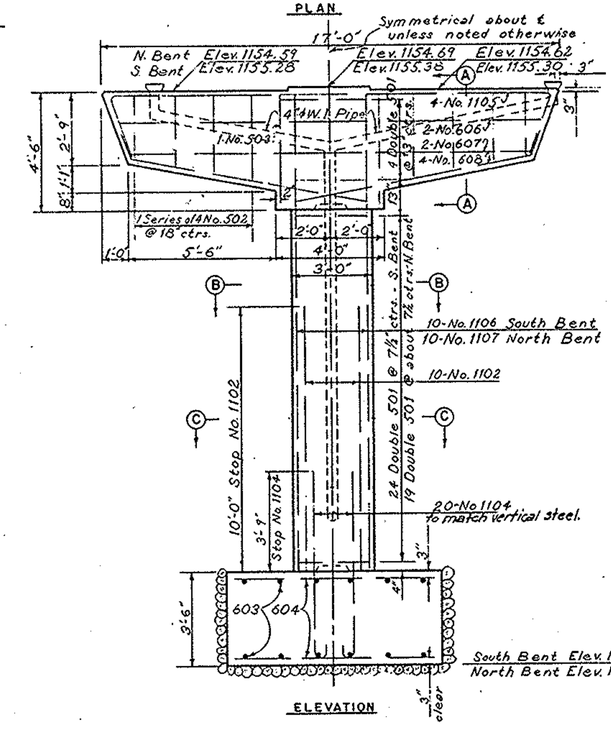
SECTION D-D
Scale: ½"=1'-0"



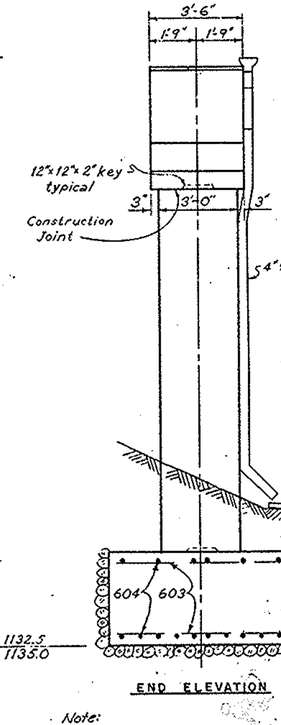
Note: 1¼"ø x 1'-6" Anchor bars set 1'-4½" in concrete for B-75 & R-75. Rocker and bolsters are reversed for south bent

N

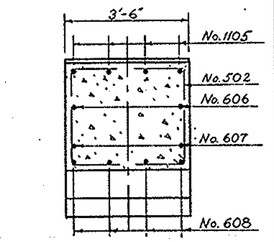
PLAN



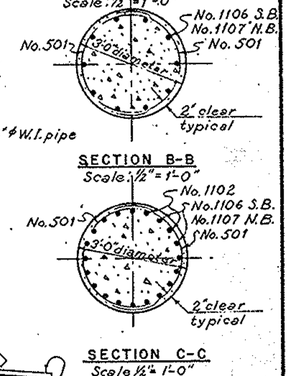
ELEVATION



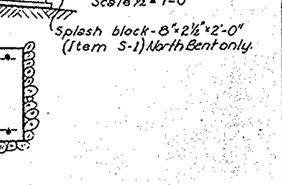
END ELEVATION



SECTION A-A
Scale: ½"=1'-0"



SECTION B-B
Scale: ½"=1'-0"

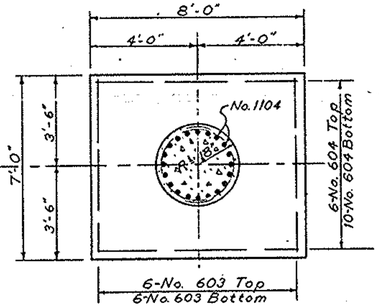


SECTION C-C
Scale ½"=1'-0"

Splash block-8"x2½"x2'-0" (Item S-1) North Bent only.

Note: Drainage details shown are for North Bent. Drainage details for South Bent to be similar except 4"ø W.I. downspout is to be connected to 4"ø W.I. pipe which runs from South Abutment to outside edge of Ramp E-1 Shoulder.

Note: For detail of strap pipe hanger see sheet 171. For shoe details see sheet 171. For reinforcement schedule see sheet 172.



FOOTING PLAN

NORTH AND SOUTH BENTS
North bent is shown, South Bent is similar except as noted

Sheets 164R to 172R replace sheets 164 to 168.
3-16-55

PART 6

AKRON EXPRESSWAY SYSTEM
SCHOOL ROAD UNDERPASS
BR. NO. SU-18R-127

BENTS

AKRON SUMMIT COUNTY. OHIO

SCALE ¾"=1'-0"
MADE WS DATE 11-22-54
TRCD. DATE
CKD JMS DATE 3-11-55

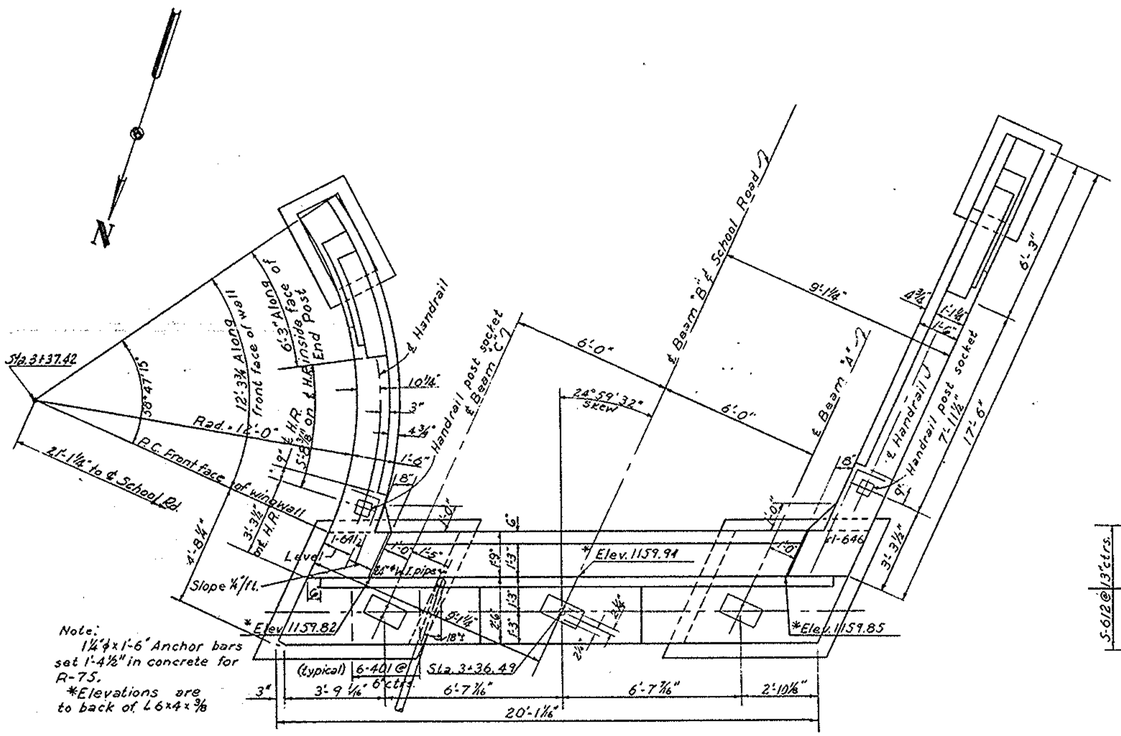
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

901 SHEET 165R

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

166R / 204

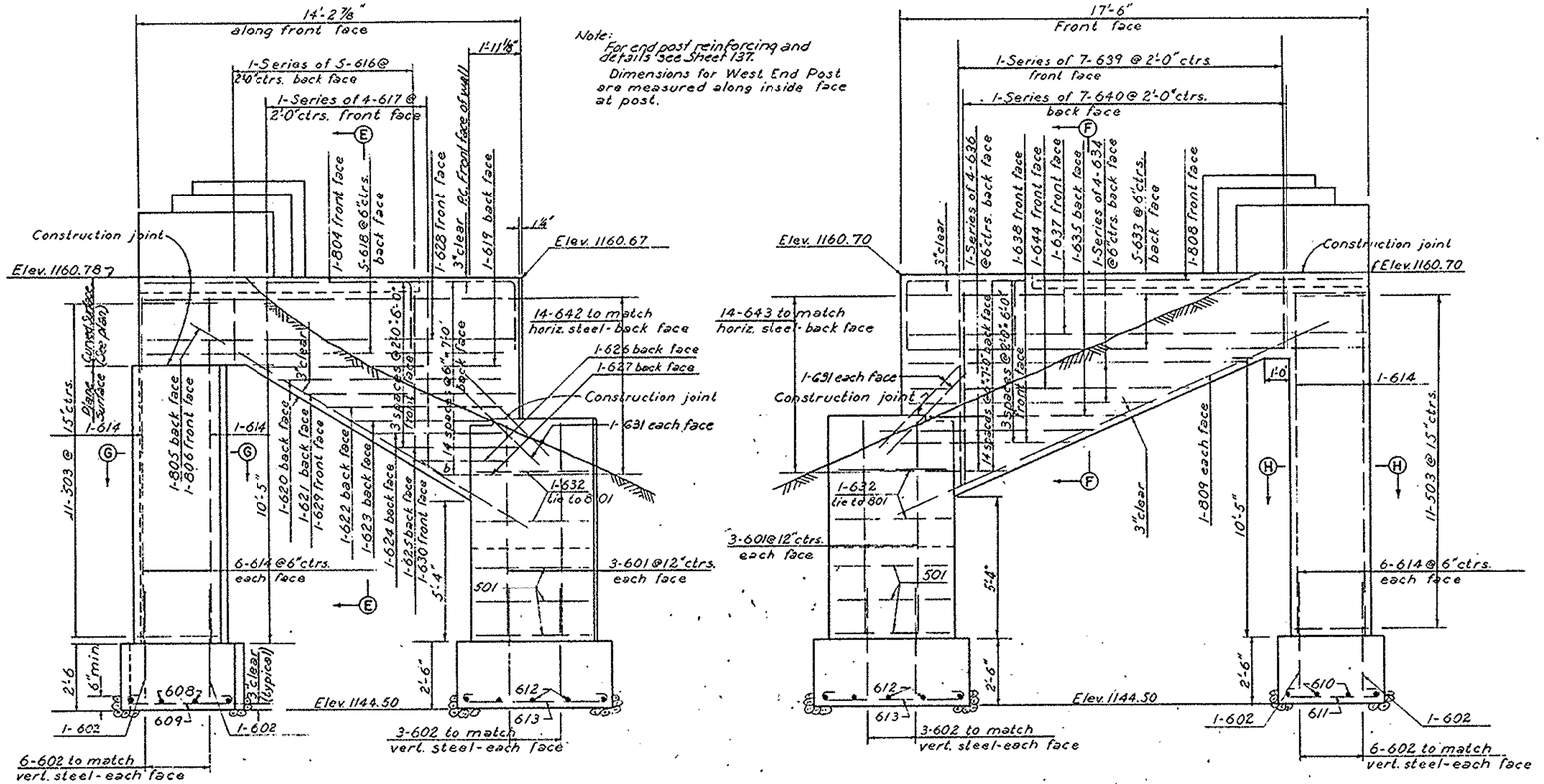
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM


N
Sta. 3+37.62
51°43'
Rad. 14'-0"
P.C. Front Face of wingwall
21'-1¼" to ℄ School Rd.
12'-3¾" Along front face of wall
6'-3" Along ℄ of side face & H.R. end post
3'-3¾" ext. H.R.
1'-6" Handrail post socket
℄ Handrail
10¼"
3"
4¾"
1'-6"
18"
1'-6"
1'-6"
1'-6

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

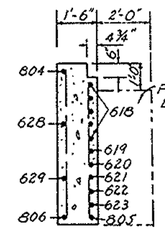
167R
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

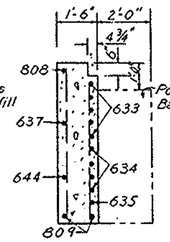


DEVELOPED ELEVATION
SOUTHEAST WINGWALL
Scale: 3/8" = 1'-0"

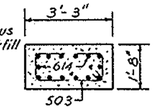
ELEVATION
SOUTHWEST WINGWALL
Scale: 3/8" = 1'-0"



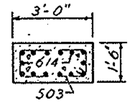
SECTION E-E
Scale: 3/8" = 1'-0"



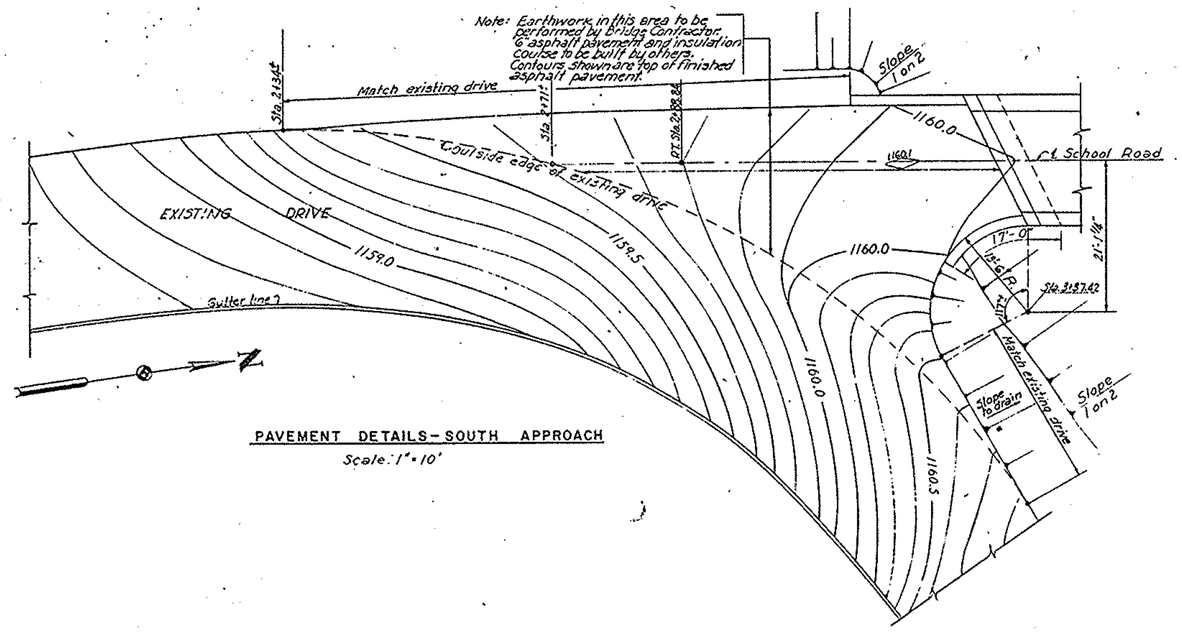
SECTION F-F
Scale: 3/8" = 1'-0"



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



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



PAVEMENT DETAILS - SOUTH APPROACH
Scale: 1" = 10'

Sheets 164R to 172R replace sheets 164 to 168.
3-16-55

PART 6

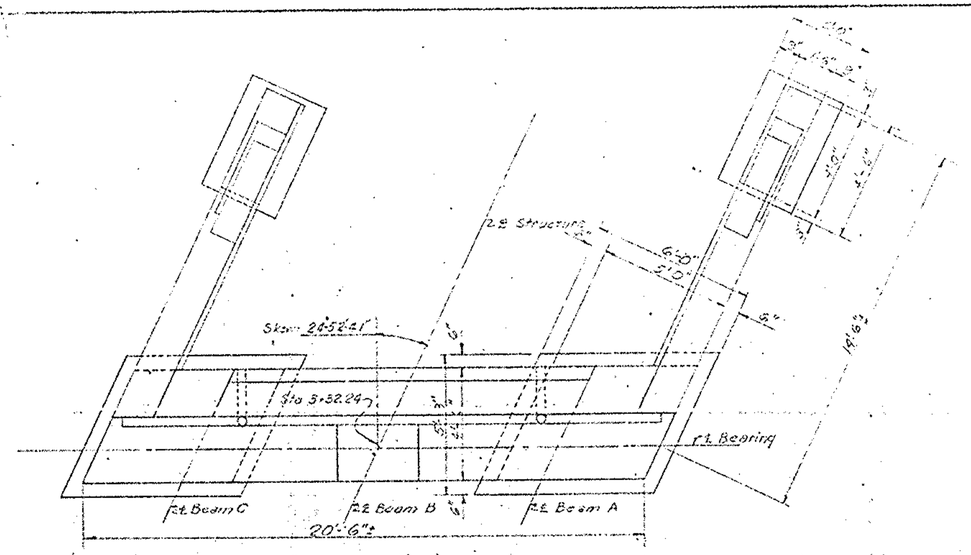
AKRON EXPRESSWAY SYSTEM
SCHOOL ROAD UNDERPASS
BR. NO. SU-18R-127
SOUTH ABUTMENT WINGWALLS AND SOUTH APPROACH PAVEMENT DETAILS
AKRON SUMMIT COUNTY. OHIO

SCALE As Noted
MADE WC DATE 2-28-55
TRCD. DATE
CKD. JMS DATE 3-11-55

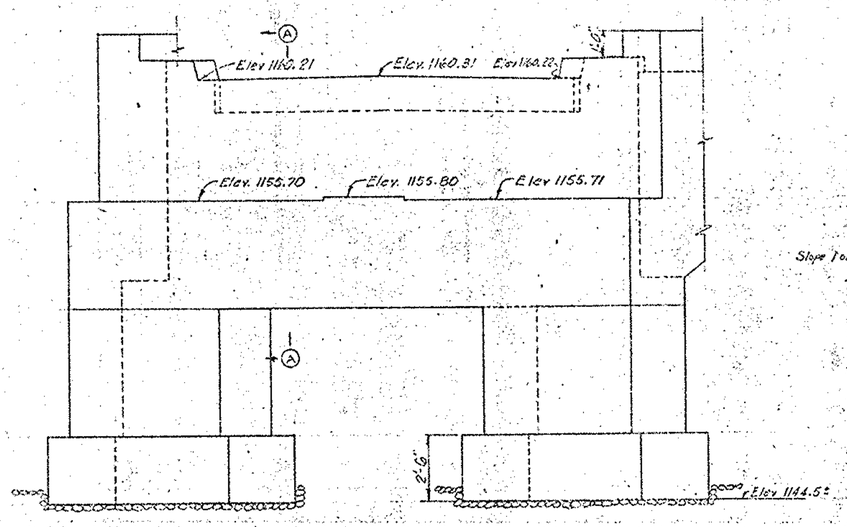
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 167R

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.
2	OHIO		

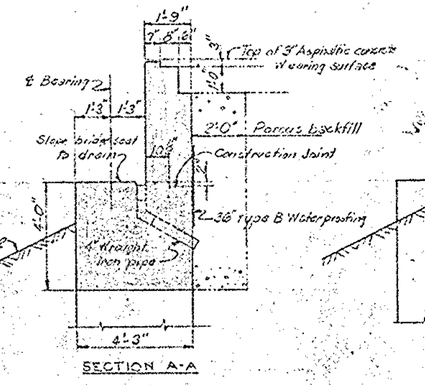
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



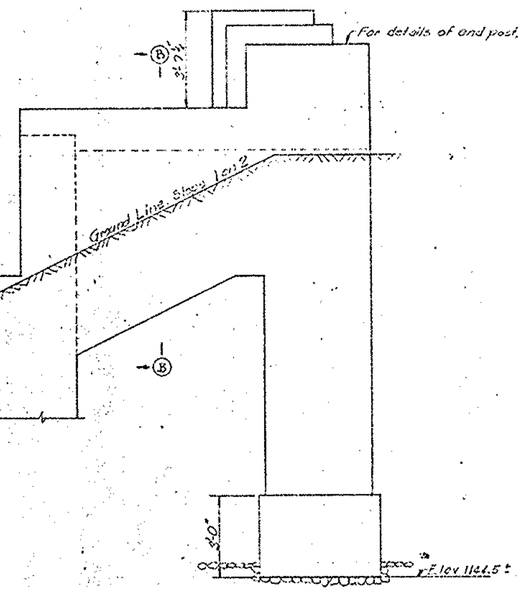
PLAN



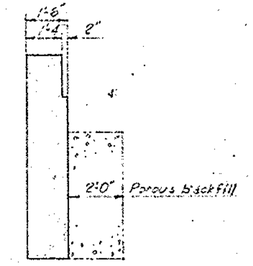
ELEVATION



SECTION A-A



ELEVATION OF WINGWALL



SECTION B-B

Note
Steel and additional details to be shown later.
North Abutment to be same as shown for south, except for Elevations.
Bottom of footing Elev will be about 1139±

Sheets 164 to 168 superseded by sheets 164R to 172R.

PART 6

AKRON EXPRESSWAY SYSTEM
SCHOOL ROAD UNDERPASS
BR. NO. SU-18R-127
SOUTH ABUTMENT
AKRON SUMMIT COUNTY, OHIO

SCALE 3/8" = 1'-0"
MADE WR DATE
TRCD. DATE
CKD. DATE

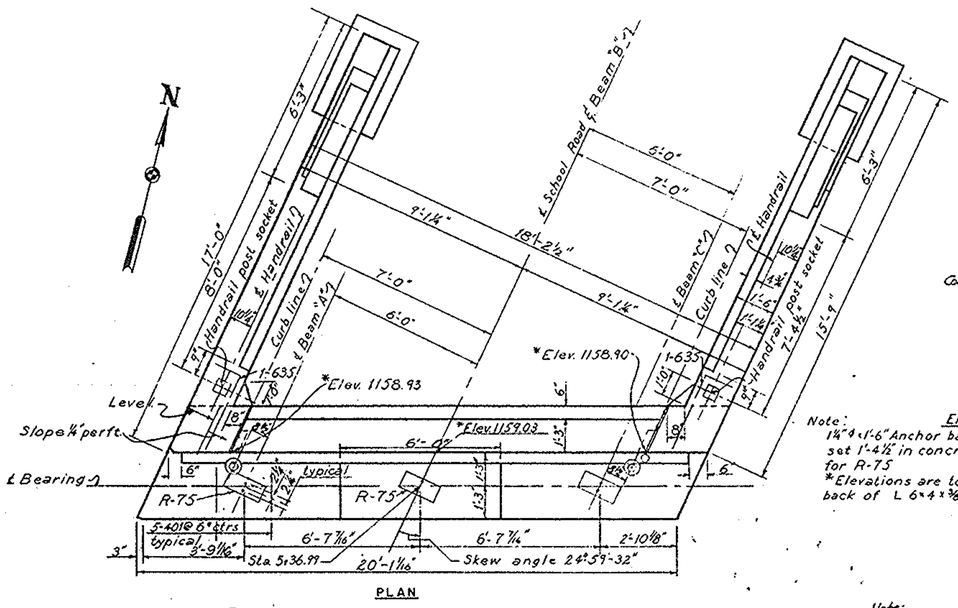
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 164

PRINTING COPY

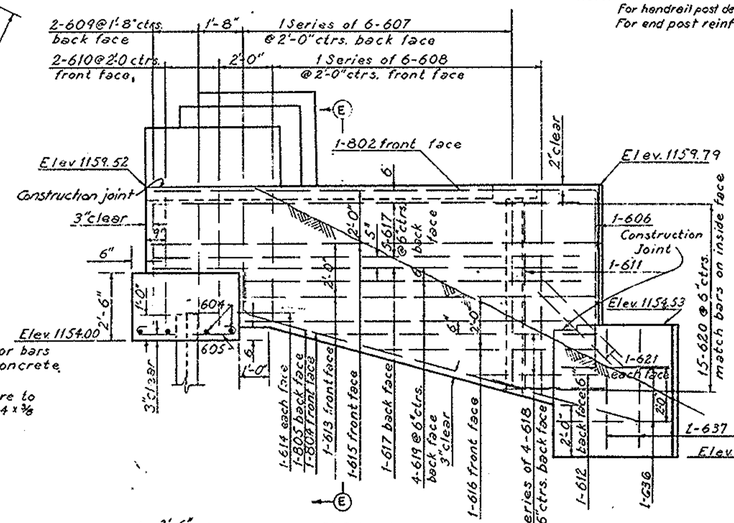
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

168R
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

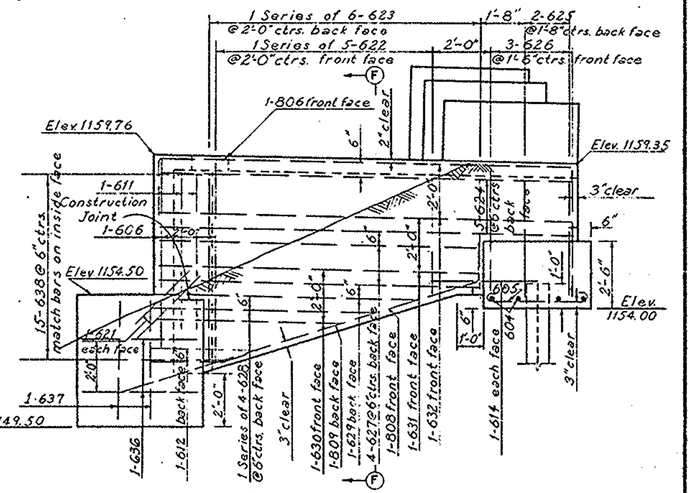


Note:
1¼"ϕ x 1'-6" Anchor bars set 1'-4½" in concrete for R-75
*Elevations are to back of L 6"x4"x⅜

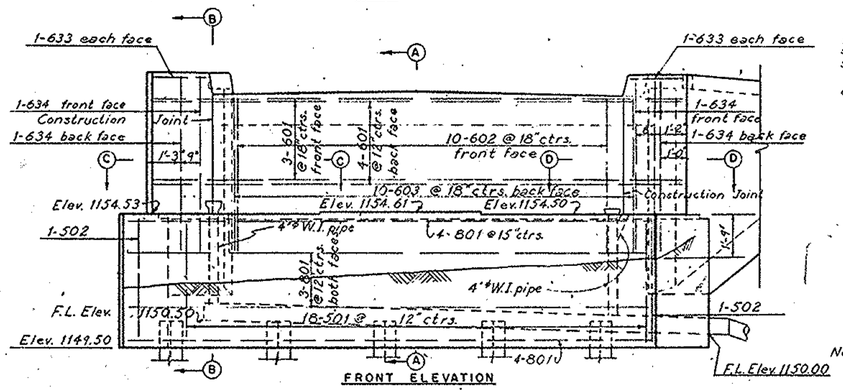


ELEVATION
NORTHWEST WINGWALL

Note:
For handrail post details see sheets 137 and 171
For end post reinforcing and details see sheet 137

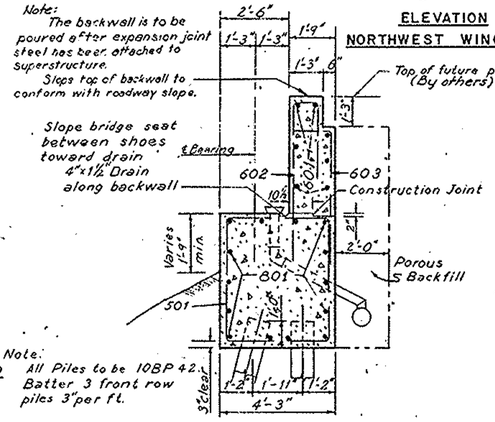


ELEVATION
NORTHEAST WINGWALL



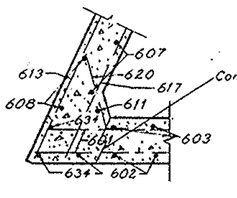
FRONT ELEVATION

Note:
The backwall is to be poured after expansion joint steel has been attached to superstructure.
Slope top of backwall to conform with roadway slope.
Slope bridge seat between shoes toward drain
4"x1½ Drain along backwall

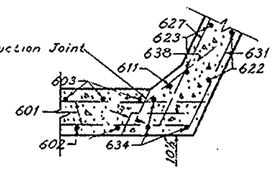


SECTION A-A

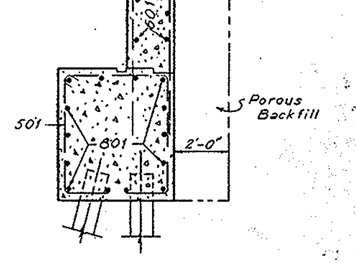
Note:
All Piles to be 10BP 42.
Batter 3 front row piles 3" per ft.



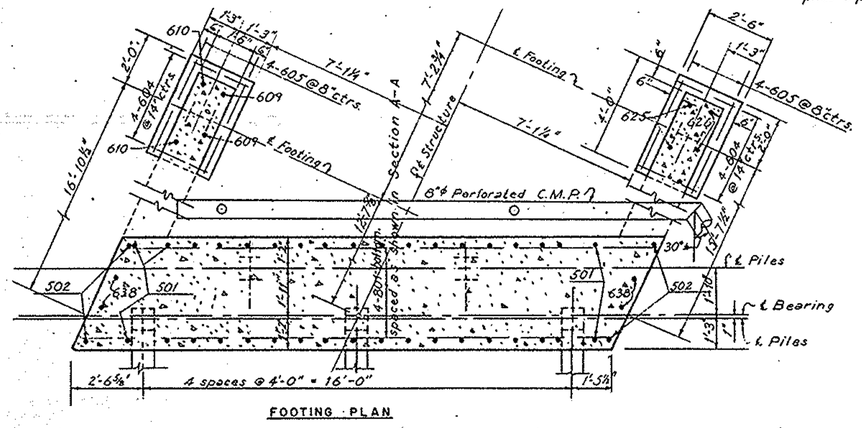
SECTION C-C



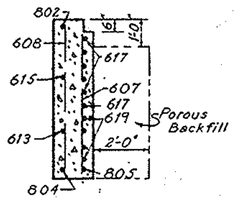
SECTION D-D



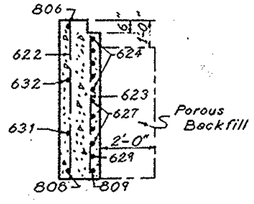
SECTION B-B



FOOTING PLAN



SECTION E-E



SECTION F-F

Note:
For shoe details and expansion joint details see Sheet 171.
For details of bridge seat drain see Sheet 172.
For Reinforcement Schedule see Sheet 172.

PART 6

AKRON EXPRESSWAY SYSTEM
SCHOOL ROAD UNDERPASS
BR. NO. SU-18R-127
NORTH ABUTMENT

AKRON SUMMIT COUNTY, OHIO

SCALE 3/16" = 1'-0"
MADE WF DATE 12-20-54
TRCD. ____ DATE ____
CKD. JMS. DATE 3-11-55

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

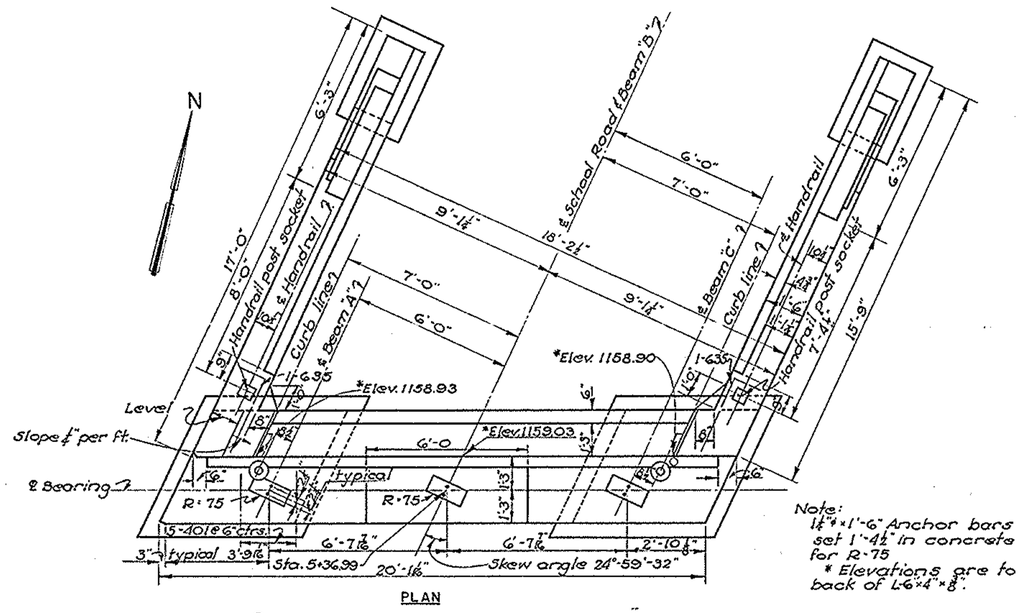
901 SHEET 168R

Sheets 164R to 172R replace sheets 164 to 168
3-16-55

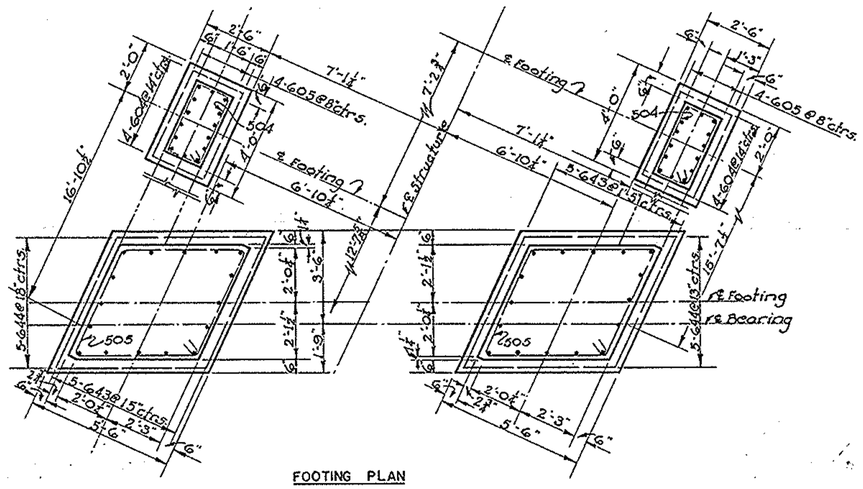
FED. ROAD DIV NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

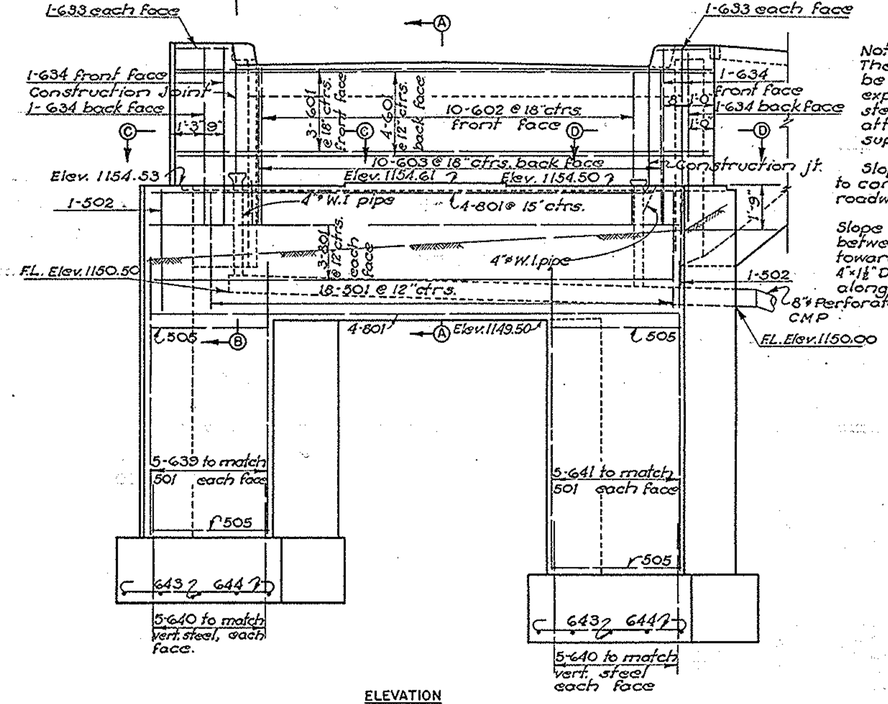
168 RA 204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



Note:
1¼"ø x 1'-6" Anchor bars set 1'-4½" in concrete for R-75
* Elevations are to back of L-6x4x8".

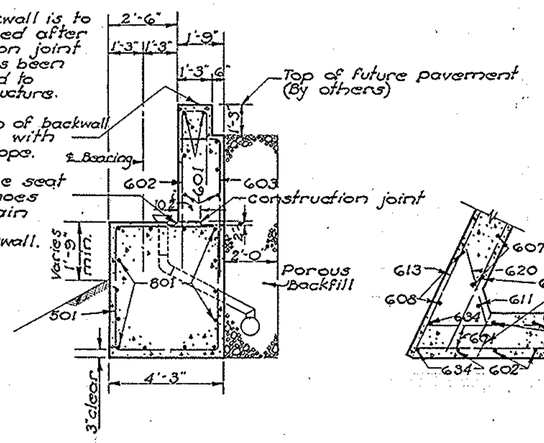


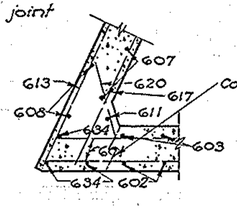


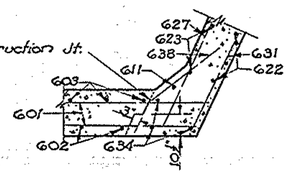
Note:
The backwall is to be poured after expansion joint steel has been attached to superstructure.

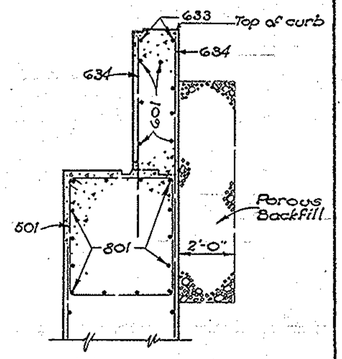
Slope top of backwall to conform with roadway slope.

Slope bridge seat between shoes toward drain 4"x1½" Drain along backwall.









Sheets 168 RA and 168 RB have been traced in the Bureau of Bridges from revisions made during construction.

Sheets 164 R to 172 R replace sheets 164 to 168.
3-16-55

Note:
For shoe details and expansion joint details see Sheet 171.
For details of bridge seat drain see Sheet 138.
For Reinforcement Schedule see Sheet 172.

Revised: 4/27/55 PART 6

AKRON EXPRESSWAY SYSTEM

SCHOOL ROAD UNDERPASS

BR. NO. SU-18R-127

NORTH ABUTMENT

AKRON SUMMIT COUNTY OHIO

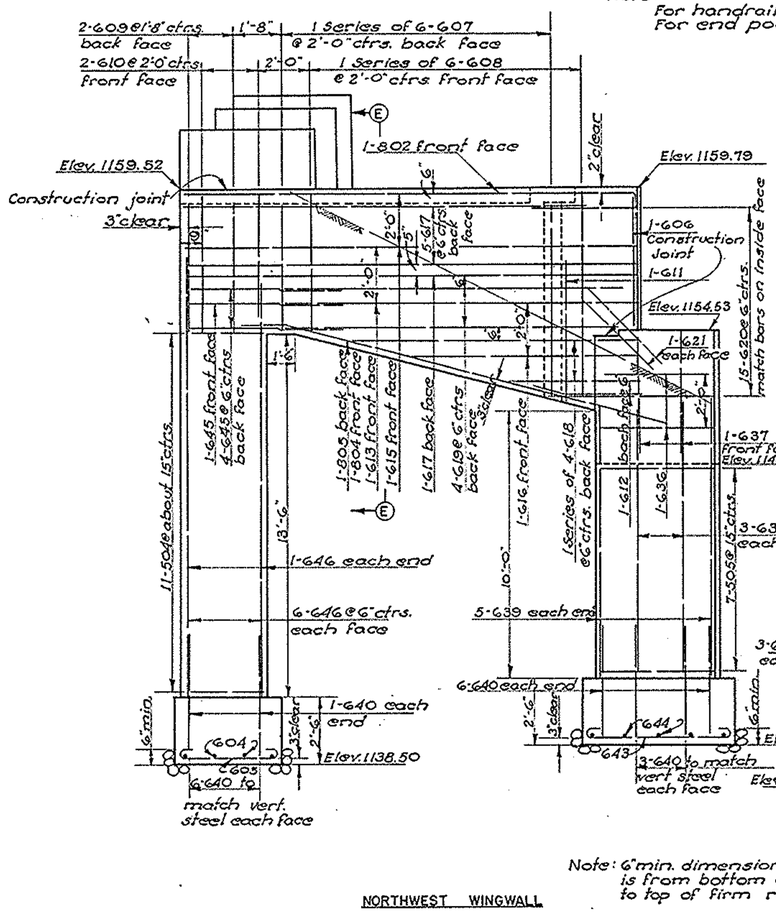
SCALE 3/4"=1'-0" HOWARD, NEEDLES, TAMMEN & BERGENDOFF
MADE WE DATE CONSULTING ENGINEERS
TRCD. DATE KANSAS CITY CLEVELAND NEW YORK
CKD. JMS DATE 3-11-55 901 SHEET 168RA

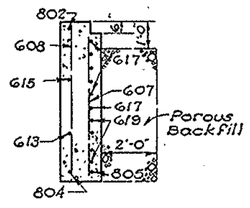
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

168RB
204

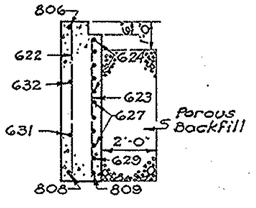
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

Note:
For handrail post details see sheets 137 and 171
For end post reinforcing and details see sheet 137.





SECTION E-E



SECTION F-F

Sheets 168RA and 168RB have been traced in the Bureau of Bridges from revisions made during construction.

Sheets 164R to 172R replace sheets 164 to 168.

3-16-55

Revised: 4/27/55 PART 6

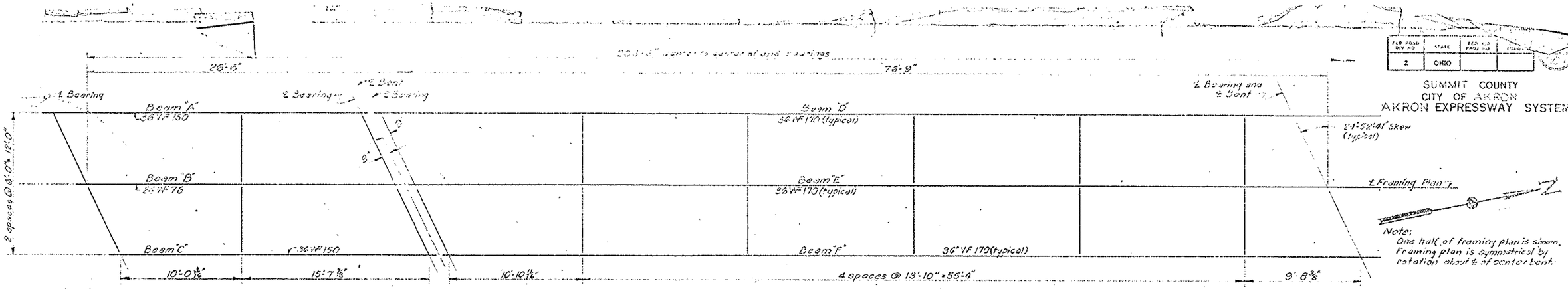
AKRON EXPRESSWAY SYSTEM
SCHOOL ROAD UNDERPASS
BR. NO. SU-18R-12.7
NORTH ABUTMENT WINGWALL
AKRON SUMMIT COUNTY OHIO

SCALE 1"=1'-0" DATE
MADE WF DATE
TRCD. DATE
CKD. JMS DATE 3-11-55

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 168RB

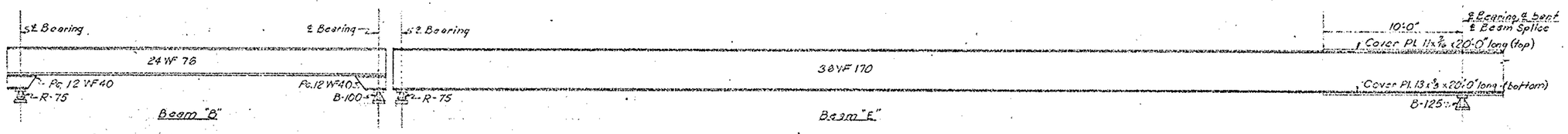
FED ROAD DIV NO	STATE	FED AID PROJ NO	SHEET NO
2	OHIO		

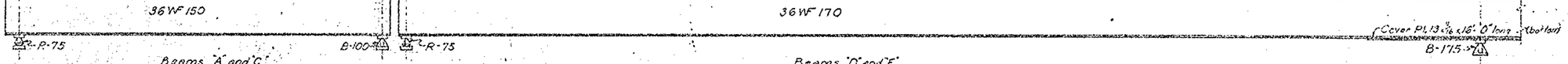
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



Note:
One half of framing plan is shown. Framing plan is symmetrical by rotation about ℄ of center bent.

FRAMING PLAN





BEAM ELEVATIONS

Notes
For details of shoes see sheet 136.
Expansion joints will be similar to those shown on sheet 136.
Beam splices, cover plate and cross frame connections will be welded, details will be furnished at a later date.

Sheets 164 to 168 superseded by sheets 164R to 172R.

PART 6

AKRON EXPRESSWAY SYSTEM
SCHOOL ROAD UNDERPASS
BR. NO. SU-12R-127

FRAMING PLAN AND BEAM ELEVATIONS

AKRON SUMMIT COUNTY, OHIO

SCALE 1/4" = 1'-0"
MADE/KB ..... DATE .....
TPCO ..... DATE .....
CKD ..... DATE .....

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

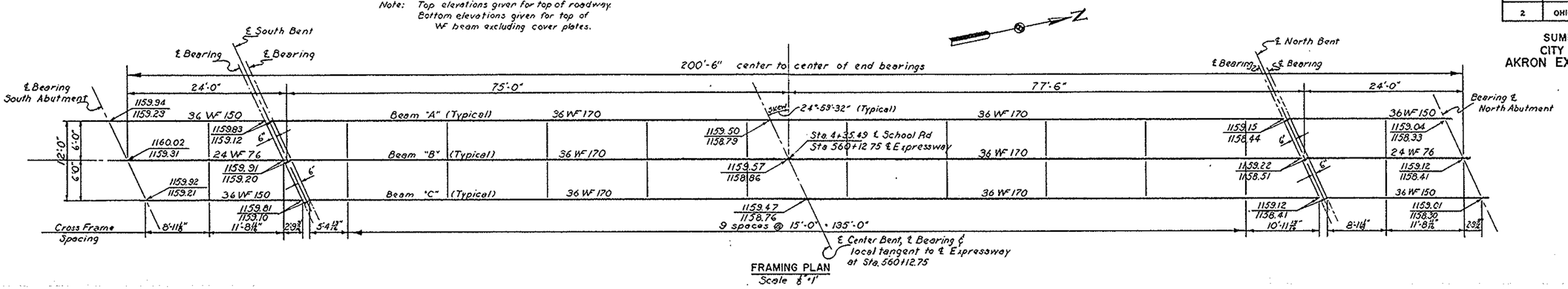
901 SHEET 167

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

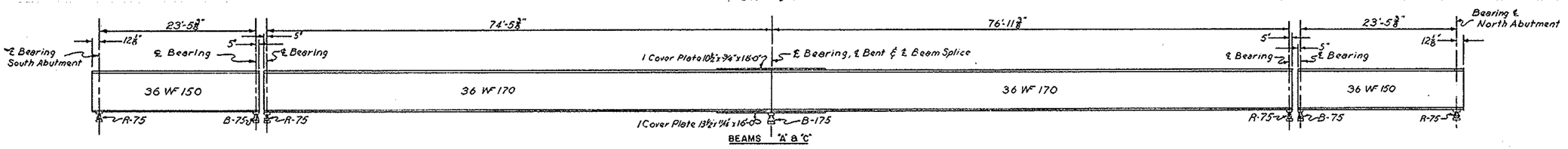
169R
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

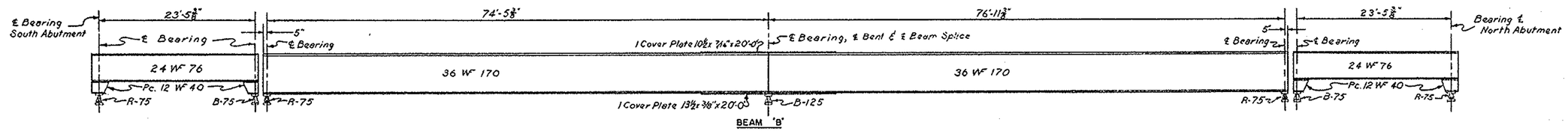
Note: Top elevations given for top of roadway. Bottom elevations given for top of WF beam excluding cover plates.



FRAMING PLAN
Scale 8"=1'

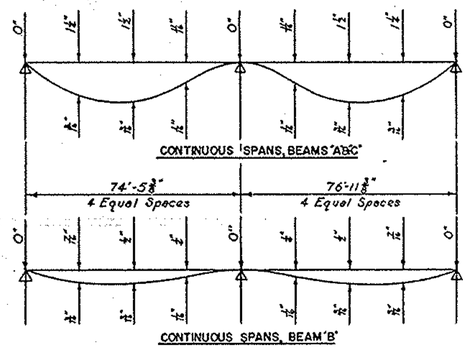


BEAMS 'A' & 'C'



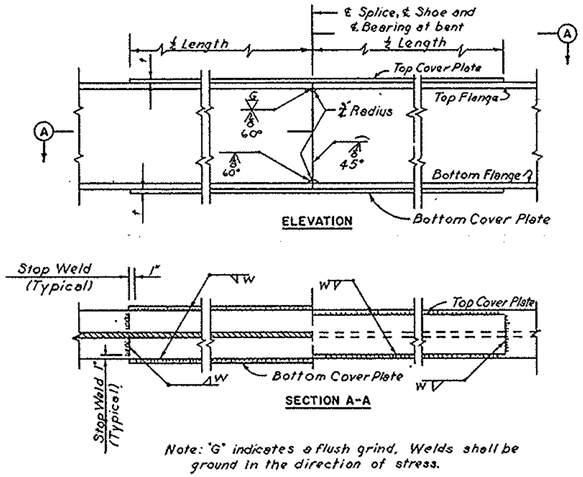
BEAM 'B'

BEAM ELEVATIONS
Scale ½"=1' Horiz., ⅛"=1' Vert.



DEAD LOAD DEFLECTION DIAGRAMS
No Scale

Notes:
Dimensions shown below base line are deflections to be expected when beams are in place.
Dimensions shown above base line are additional deflections to be expected when concrete is in place.
Deflections are measured to the nearest ½". Values less than ¼" are shown as "0".
Beams with deflections exceeding ¾" shall be cambered.
Dead load deflection for beams in simple end spans is negligible.

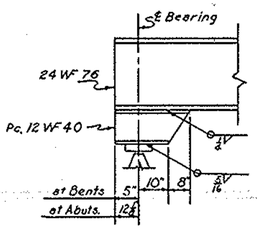


Note: 'G' indicates a flush grind. Welds shall be ground in the direction of stress.

BEAM SPLICE DETAILS
Not to scale

* WELDING TABLE	
Thickness (t)	Size of Weld (w)
⅜" and ½"	½"
⅝" and ¾"	⅝"

* See beam elevation for plate thickness (t).



HAUNCH DETAIL
No Scale

BEAM SPLICE WELDING PROCEDURE

1. Weld bottom flange cover plate to beam on north side of joint only.
2. Raise end of beams at South Bent the following amount: Beams A, B & C - 2¼".
3. Butt weld the beam flanges and web.
4. Weld the top cover plate on each side of joint.
5. Complete welding the bottom cover plate.
6. Lower the beam end to final position.

Note: For shoe details and expansion joint details see sheet 171.

Sheets 164R to 172R replace sheets 164 to 168.
3-16-55

PART 6

AKRON EXPRESSWAY SYSTEM
SCHOOL ROAD UNDERPASS
BR. NO. SU-18R-127

FRAMING PLAN

AKRON SUMMIT COUNTY OHIO

SCALE As Shown.
MADE SLC DATE 12-9-54
TRCD. DATE
CKD. WF DATE 3-11-55

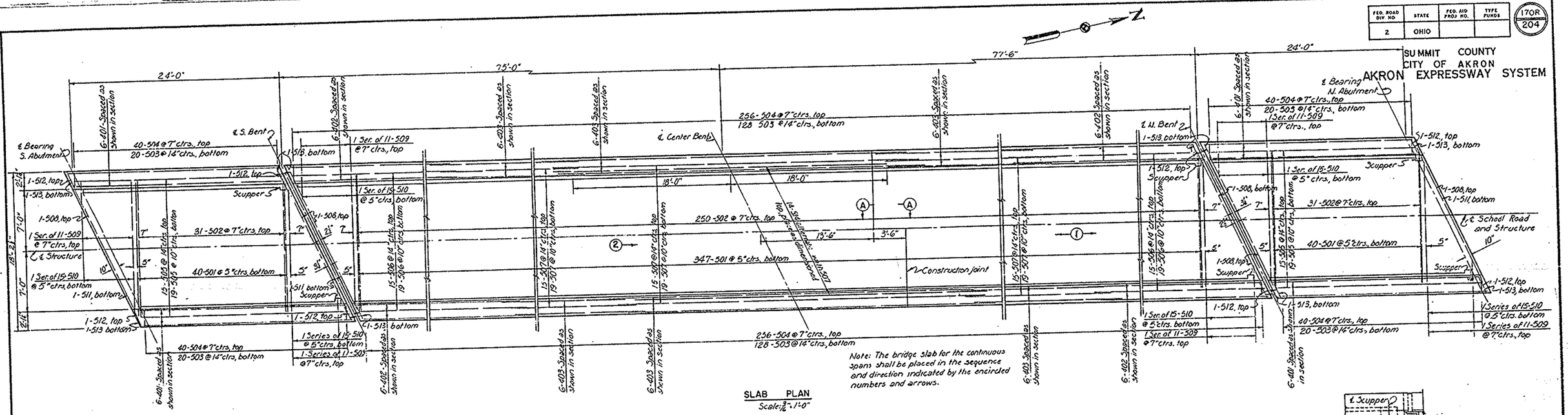
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

901 SHEET 169R

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

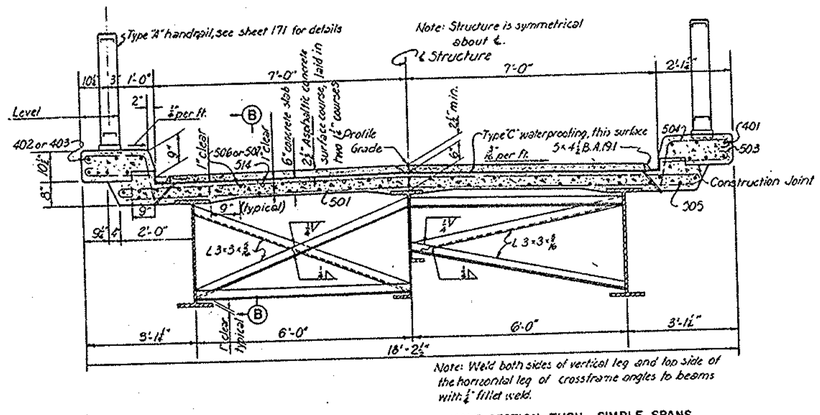
170R
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



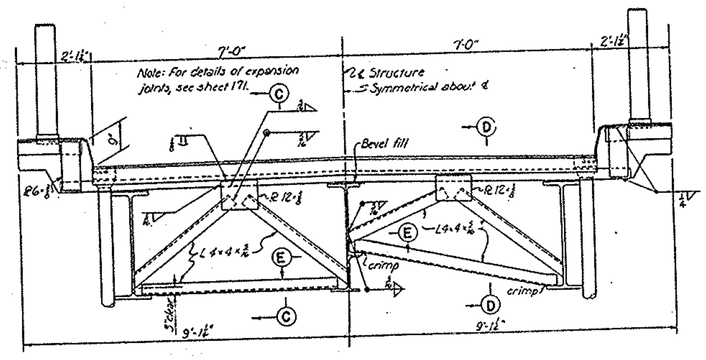
Note: The bridge slab for the continuous spans shall be placed in the sequence and direction indicated by the encircled numbers and arrows.

SLAB PLAN
Scale: 3/16" = 1'-0"

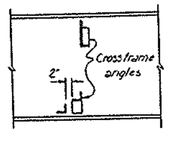


Note: Weld both sides of vertical leg and top side of the horizontal leg of crossframe angles to beams with ¼" fillet weld.

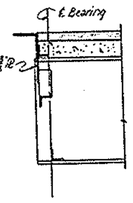
HALF SECTION THRU CONTINUOUS SPANS — HALF SECTION THRU SIMPLE SPANS
TYPICAL CROSS SECTION



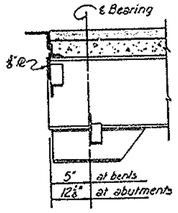
CONTINUOUS SPANS — SIMPLE SPANS
SECTION THRU END FINISH



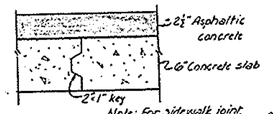
SECTION B-B



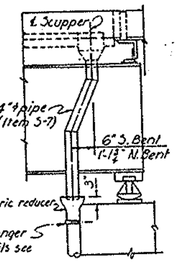
SECTION C-C



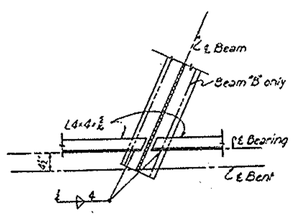
SECTION D-D



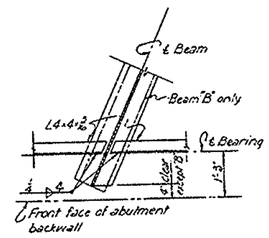
SECTION A-A



SECTION G-G

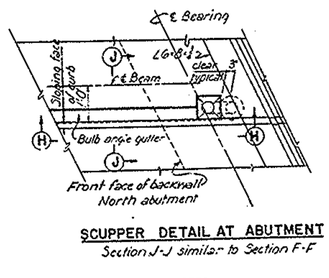


AT BENTS

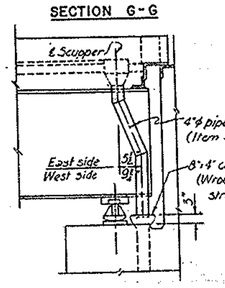


AT ABUTMENTS

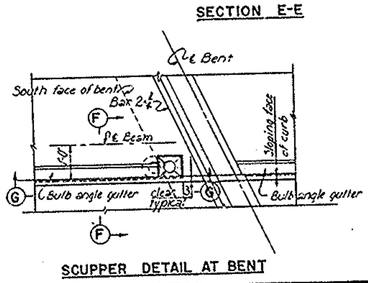
SECTION E-E



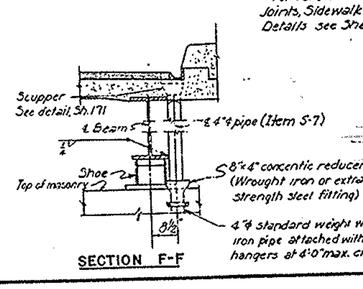
SCUPPER DETAIL AT ABUTMENT
Section J-J similar to Section F-F



SECTION H-H



SCUPPER DETAIL AT BENT



SECTION F-F

GENERAL NOTES
For Curb and Gutter Details, Roadway Expansion Joints, Sidewalk Expansion Joints, and Handrail Details see Sheet 171.

Sheets 164R to 172R replace sheets 164 to 168.
3-16-55

PART 6

AKRON EXPRESSWAY SYSTEM
SCHOOL ROAD UNDERPASS
BR. NO. SU-18R-127

SLAB PLAN AND CROSS SECTIONS

AKRON SUMMIT COUNTY. OHIO

SCALE 3/16"=1'-0" MADE JHS DATE 5-2-55
TRCD DATE
CKD WF DATE 5-11-55

HOWARD, NEEDLES, TAMMEN & BERGENDOF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

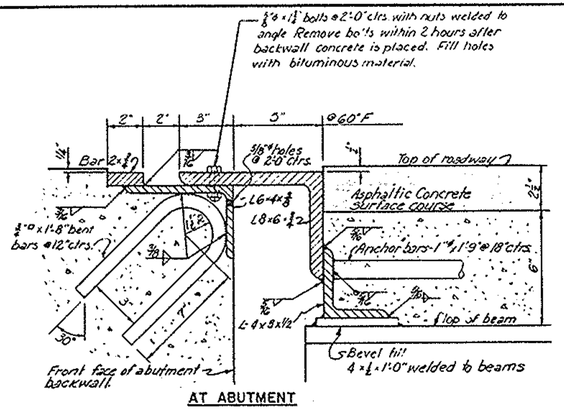
901 SHEET 170R

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

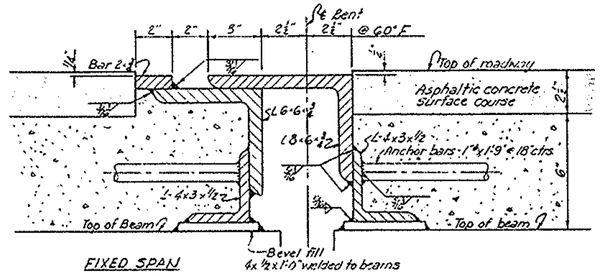
171R
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

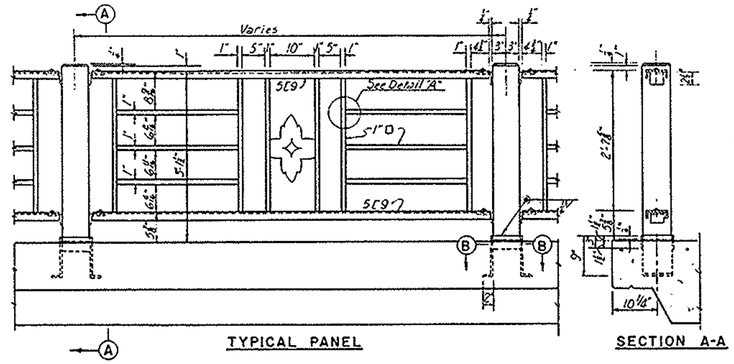
Note:
For Section B-B, Detail A, and Shield Detail, See Sheet 137.
Expansion Joint, End Posts and other details not shown are as shown on Sheet 137.



AT ABUTMENT



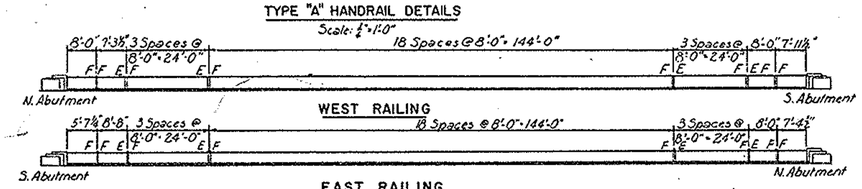
FIXED SPAN AT BENT



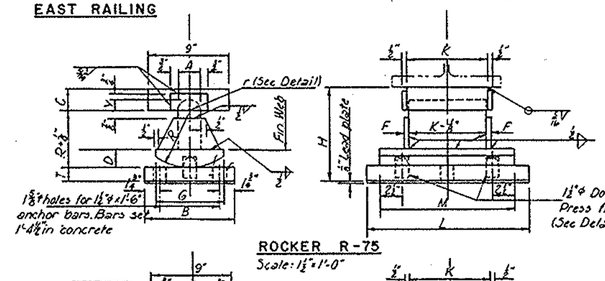
TYPICAL PANEL

TYPE "A" HANDRAIL DETAILS

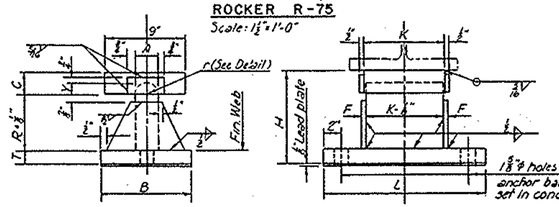
Scale: ½"=1'-0"



EAST RAILING



ROCKER R-75
Scale: 1½"=1'-0"

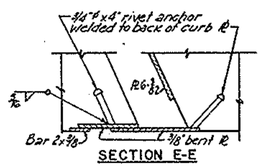


TYPICAL BOLSTER
Scale: 1½"=1'-0"

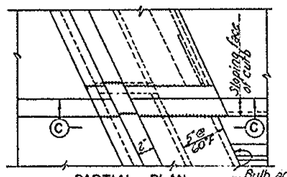
Note: For shoe details not shown see Sheet 136

ROADWAY EXPANSION JOINTS

Scale: 3"=1'-0"

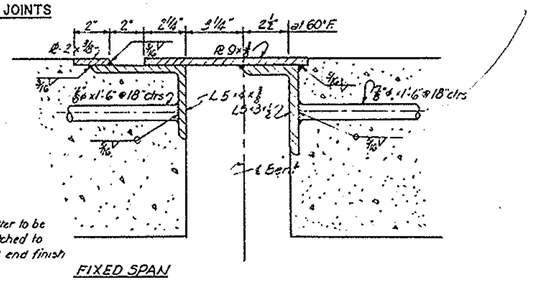


SECTION E-E

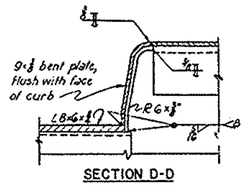


PARTIAL PLAN

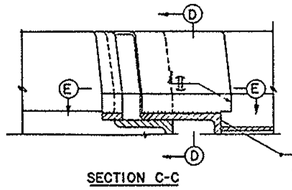
Bulb angle gutter to be beveled and notched to fit flush against end finish



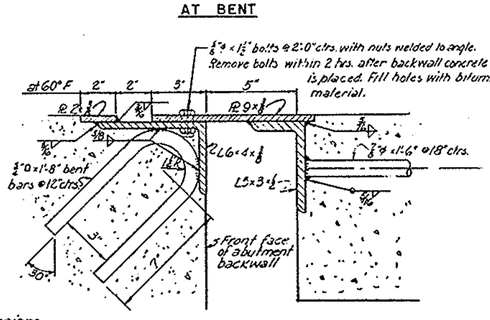
FIXED SPAN AT BENT



SECTION D-D



SECTION C-C



AT ABUTMENT

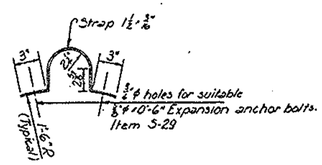
CURB EXPANSION DETAILS

Scale: 1½"=1'-0"
(Details at abutment shown. Details at bent similar)

Note: All horizontal dimensions shown for expansion details are normal to ℄ bearings.

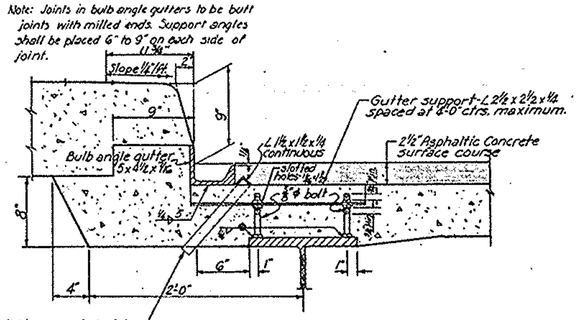
SIDEWALK EXPANSION JOINTS

Scale: 3"=1'-0"

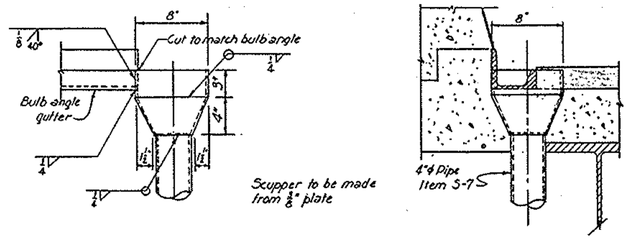


STRAP PIPE HANGER
Scale: 1½"=1'-0"

Note: Joints in bulb angle gutters to be butt joints with milled ends. Support angles shall be placed 6" to 9" on each side of joint.



CURB AND GUTTER DETAILS
Scale: 1½"=1'-0"



SCUPPER DETAILS
Scale: 1½"=1'-0"

SHOE	DIMENSIONS												
	A	B	*C	D	F	G	*H	K	L	M	R	T	*Y
R-75	2½"	8"	2½"	1½"	½"	7"	9½"	9"	17"	15"	5½"	1½"	1¾"
B-75	2½"	8"	2½"	–	½"	7"	9½"	9"	17"	–	5½"	1½"	1¾"
B-125	3"	11"	3"	–	½"	8"	12⅝"	10½"	20"	–	7½"	2"	1 25/32"
B-175	3"	14"	3½"	–	½"	9"	15⅞"	12"	22"	–	9½"	2½"	1¾"

* Dimensions at ℄ Bearing

SHOE DIMENSIONS

PART 6

AKRON EXPRESSWAY SYSTEM

SCHOOL ROAD UNDERPASS
BR. NO. SU.-18R-27

MISCELLANEOUS DETAILS

AKRON SUMMIT COUNTY, OHIO

SCALE AS NOTED
MADE JMJ DATE 11-30-54
TRCD ____ DATE ____
CKD JCT DATE 3-11-55

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

SHEET 171R
901

Sheets 164R to 172R replace sheets 164 to 168.
3-16-55

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
CENTER BENT									
501	44	10'-0"	150	10'-0"	1'-4"				459
502	3 Series of 4	11'-10" to 13'-6"	109	3'-2"	2'-6" to 3'-6"			6 1/16"	106
503	2	15'-2"	109	3'-2"	4'-2"				32
601	14	7'-6"	Str.						158
602	19	8'-6"	Str.						243
605	3	10'-0"	Str.						45
606	2	15'-6"	Str.						47
607	2	15'-0"	Str.						45
608	12	10'-8"	108	8'-10"	1'-10"	12	7 3/8		193
1101	24	7'-6"	Str.						956
1102	12	10'-0"	Str.						638
1103	12	18'-3"	Str.						1164
1105	6	21'-2"	152	16'-2"	2'-6"	4 3/8			675
401	18	3'-2"	Str.				Total		38 4,799
SOUTH BENT									
401	18	3'-2"	Str.						38
501	56	10'-0"	150	10'-0"	1'-4"				584
502	3 Series of 4	11'-10" to 13'-6"	109	3'-2"	2'-6" to 3'-6"			6 1/16	106
503	2	15'-2"	109	3'-2"	4'-2"				32
603	12	6'-6"	Str.						117
604	16	7'-6"	Str.						180
606	2	15'-6"	Str.						47
607	2	15'-0"	Str.						45
608	8	10'-8"	108	8'-10"	1'-10"	12	7 3/8		129
1102	10	10'-0"	Str.						531
1104	20	8'-5"	101	6'-7"	1'-10"				894
1105	4	21'-2"	152	16'-2"	2'-6"	4 3/8			450
1106	10	19'-0"	Str.						1010
							Total		4,163
NORTH BENT									
401	18	3'-2"	Str.						38
501	46	10'-0"	150						480
502	3 Series of 4	11'-10" to 13'-6"	109	3'-2"	2'-6" to 3'-6"			6 1/16	106
503	2	15'-2"	109	3'-2"	4'-2"				32
603	12	6'-6"	Str.						117
604	16	7'-6"	Str.						180
606	2	15'-6"	Str.						47
607	2	15'-0"	Str.						45
608	8	10'-8"	108	8'-10"	1'-10"	12	7 3/8		129
1102	10	10'-0"	Str.						531
1104	20	8'-5"	101	6'-7"	1'-10"				894
1105	4	21'-2"	152	16'-2"	2'-6"	4 3/8			450
1107	10	16'-0"	Str.						850
							Total		3,899

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
SOUTH ABUTMENT									
401	18	2'-0"	Str.						24
501	6	18'-0"	153	4'-6"	4'-3"	5 3/8			113
502	10	17'-0"	109	3'-9"	4'-6"				177
503	22	7'-6"	109	2'-6"	1'-0"				172
601	32	8'-3"	Str.						397
602	60	4'-0"	Str.						360
603	7	19'-6"	Str.						205
604	10	8'-7"	119	5'-11"	9"	1'-11"			129
605	11	6'-0"	104	4'-9"	1'-3"				99
606	7	7'-3"	Str.						76
607	4	2'-0"	Str.						12
608	4	3'-9"	100	1'-9"	1'-0"				23
609	4	5'-3"	100	3'-3"	1'-0"				32
610	4	3'-6"	100	1'-6"	1'-0"				21
611	4	5'-0"	100	3'-0"	1'-0"				30
612	10	7'-0"	100	5'-0"	1'-0"				105
613	10	6'-9"	100	4'-9"	1'-0"				101
614	28	13'-3"	Str.						557
615	10	8'-9"	105	2'-6"	3'-9"	2'-6"			131
616	7 Series of 8	2'-0" to 6'-0"	Str.					12"	30
617	7 Series of 8	3'-3" to 6'-9"	Str.					14"	30
618	5	14'-9"	125	1'-6"	13'-3"	13'-3"	0		111
619	1	10'-0"	125	1'-6"	8'-6"	13'-3"	0		15
620	1	9'-0"	125	1'-6"	7'-6"	13'-3"	0		14
621	1	8'-0"	125	1'-6"	6'-6"	13'-3"	0		12
622	1	7'-3"	125	1'-6"	5'-9"	13'-3"	0		11
623	1	5'-6"	125	9"	4'-9"	13'-3"	0		8
624	1	6'-0"	125	2'-0"	4'-0"	13'-3"	0		9
625	1	5'-0"	125	2'-0"	3'-0"	13'-3"	0		8
626	1	4'-3"	125	2'-0"	2'-3"	13'-3"	0		6
627	1	4'-0"	108	3'-0"	1'-0"	6	12	12"	6
628	1	13'-9"	125	1'-6"	12'-3"	12'-3"	0		21
629	1	7'-9"	125	1'-6"	6'-3"	12'-3"	0		12
630	1	4'-9"	125	2'-0"	2'-9"	12'-3"	0		7
631	8	4'-0"	Str.						48
632	4	4'-3"	Str.						26
633	5	17'-0"	Str.						128
634	7 Series of 8	10'-0" to 13'-6"	Str.					14"	71
635		7'-6"	Str.						11
636	7 Series of 8	5'-0" to 8'-0"	Str.					12"	39
637	1	17'-0"	Str.						26
638	1	6'-0"	Str.						9
639	7 Series of 8	2'-6" to 7'-9"	Str.					10½"	54
640	7 Series of 8	1'-9" to 7'-0"	Str.					10½"	46
641	1	4'-0"	104	3'-0"	1'-0"				6
642	14	3'-9"	108	2'-11"	1'-0"	12	3 3/8		79
643	14	3'-9"	108	3'-0"	9"	10	12		79
644	1	10'-0"	Str.						15
645	2	7'-6"	Str.						23
646	1	5'-3"	104	1'-3"	1'-0"				8
801	12	19'-6"	Str.						625
802	2	15'-0"	Str.						80
804	1	16'-3"	125	1'-6"	12'-3"	12'-3"	2'-6"		43
805	1	15'-0"	125	2'-0"	13'-0"	13'-6"	0		40
806	1	14'-0"	125	2'-0"	12'-0"	12'-6"	0		37
808	1	19'-6"	104	17'-0"	2'-6"				52
809	2	18'-0"	Str.						54
SOUTHEAST END POST									
394	3	5'-6"	150	5'-6"	12'-6"				25
695	7	5'-6"	Str.						58
696	3	5'-0"	Str.						23
697	3	4'-3"	Str.						19
698	3	3'-9"	150	3'-9"	12'-6"				17
699	4	4'-3"	150	4'-3"	12'-6"				26
SOUTHWEST END POST									
694	3	5'-9"	Str.						26
695	7	5'-6"	Str.						58
696	3	5'-0"	Str.						23
697	3	4'-3"	Str.						19
698	3	4'-0"	Str.						18
699	4	4'-6"	Str.						27
								Total	5,044

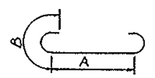
MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
NORTH ABUTMENT									
401	15	2'-0"	Str.						20
501	18	17'-0"	109	3'-9"	4'-6"				319
502	2	17'-10"	109	4'-2"	4'-6"				37
601	7	19'-6"	Str.						205
602	10	8'-7"	119	5'-11"	9"	1'-11"			129
603	10	6'-0"	104	4'-9"	1'-3"				90
604	8	3'-6"	100	1'-6"	1'-0"				42
605	8	5'-0"	100	3'-0"	1'-0"				60
607	7 Series of 8	4'-0" to 6'-9"	Str.					6½"	48
608	7 Series of 8	5'-0" to 7'-9"	Str.					6½"	57
609	2	4'-6"	Str.						14
610	2	5'-0"	Str.						15
611	2	6'-9"	Str.						20
612	2	3'-11"	108	2'-11"	1'-0"	3 3/8	12		12
613	1	13'-0"	Str.						20
614	4	3'-9"	Str.						23
615	1	16'-3"	Str.						24
616	1	8'-6"	Str.						13
617	6	15'-9"	Str.						142
618	7 Series of 8	5'-0" to 10'-6"	Str.					1'-10"	47
619	4	12'-9"	Str.						77
620	15	3'-9"	108	3'-0"	9"	12	3 3/4		84
621	8	3'-9"	Str.						45
622	7 Series of 8	4'-9" to 7'-6"	Str.					8 1/4"	40
623	7 Series of 8	4'-0" to 7'-0"	Str.					7"	50
624	5	15'-9"	Str.						118
625	2	4'-3"	Str.						13
626	3	4'-9"	Str.						21
627	4	11'-6"	Str.						69
628	7 Series of 8	4'-0" to 8'-3"	Str.					17"	37
629	1	11'-6"	Str.						17
630	1	7'-0"	Str.						11
631	1	11'-9"	Str.						18
632	1	15'-3"	Str.						23
633	4	2'-0"	Str.						12
634	6	6'-9"	Str.						61
635	2	4'-0"	104	1'-0"	3'-0"				12
636	4	6'-3"	Str.						26
637	4	4'-6"	Str.						27
638	15	3'-9"	108	3'-0"	9"	10	12		84
801	14	19'-6"	Str.						729
802	1	18'-6"	104	16'-6"	2'-0"				49
804	1	16'-0"	108	14'-0"	2'-0"	12	3 3/8		43
805	1	15'-6"	108	13'-6"	2'-0"	12	3 3/8		41
806	1	17'-3"	104	15'-3"	2'-0"				46
808	1	14'-9"	108	12'-9"	2'-0"	12	3 3/8		39
809	1	15'-3"	108	13'-3"	2'-0"	12	3 3/8		41
		Continued in next column							
END POSTS									
694	6	5'-9"	Str.						52
695	14	5'-6"	Str.						116
696	6	5'-0"	Str.						46
697	6	4'-3"	Str.						38
698	6	4'-0"	Str.						36
699	8	4'-6"	Str.						54
								Total	3,512

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
SUPERSTRUCTURE SLAB									
401	24	24'-0"	Str.						385
402	24	17'-0"	Str.						273
403	36	42'-0"	Str.						1010
501	427	15'-6"	Str.						6903
502	312	16'-10"	100	15'-2"	10"				5879
503	336	2'-2"	101	1'-4"	10"				759
504	672	3'-5"	107	1'-3"	1'-4"	2½"	12"		2412
505	68	24'-0"	Str.						1702
506	68	17'-0"	Str.						1206
507	102	42'-0"	Str.						4468
508	6	18'-8"	100	17'-0"	10"				117
509	6 Series of 15	3'-0" to 15'-10"	101	2'-6" to 15'-0"				1 6½"	714
510	6 Series of 15	2'-6" to 15'-0"	Str.	2'-6" to 15'-0"				10 1/16"	821
511	6	17'-0"	Str.						106
512	12	3'-7"	107	1'-5"	1'-4"	2½"	12"		45
513	12	2'-4"	101	1'-6"	10"				29
514	14	36'-0"	Str.						526
							Total	26	955
		REVISED NORTH ABUTMENT							
		Additional Reinforcement							
504	25	7'-6"	109	2'-6"	1'-0"				196
505	15	18'-0"	153	4'-6"	4'-3"	5 3/8			282
639	16	10'-0"	Str.						240
640	60	4'-0"	Str.						360
641	16	11'-6"	Str.						276
642	14	18'-6"	Str.						389
643	10	6'-9"	100	4'-9"	1'-0"				101
644	10	7'-0"	100	5'-0"	1'-0"				105
645	10	5'-6"	Str.						83
646	14	15'-6"	Str.						325
							Total	2	357
		Reinforcement to be Relocated							
804	1		108	14'-0"	2'-0"	3 3/8	12		
805	1		108	13'-6"	2'-0"	3 3/8	12		
808	1		108	12'-9"	2'-0"	3 3/8	12		
809	1		108	13'-3"	2'-0"	3 3/8	12		
		Reinforcement Deleted from Original Schedule.							Z3
614	4								

Note: Bars in series groups shall vary in length by amount in Series Increment Column.

BENDING DIAGRAMS

100



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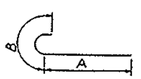

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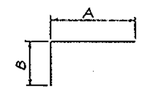

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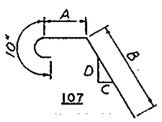

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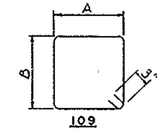

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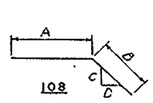

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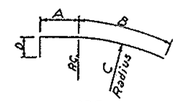

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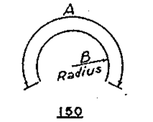

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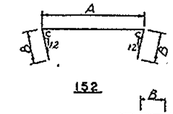

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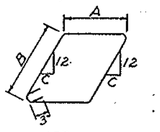

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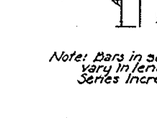


Sheets 164R to 172R replace sheets 164 to 168.
3-16-55

Rev. 4-30-55

PART 6

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

172R / 204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

AKRON EXPRESSWAY SYSTEM

SCHOOL ROAD UNDERPASS

BR. NO. SU-18R-127

REINFORCEMENT SCHEDULE

AKRON SUMMIT COUNTY, OHIO

SCALE None
MADE JCT DATE 3-8-55
TRCD. ____ DATE ____
CKD. SLC DATE 3-10-55

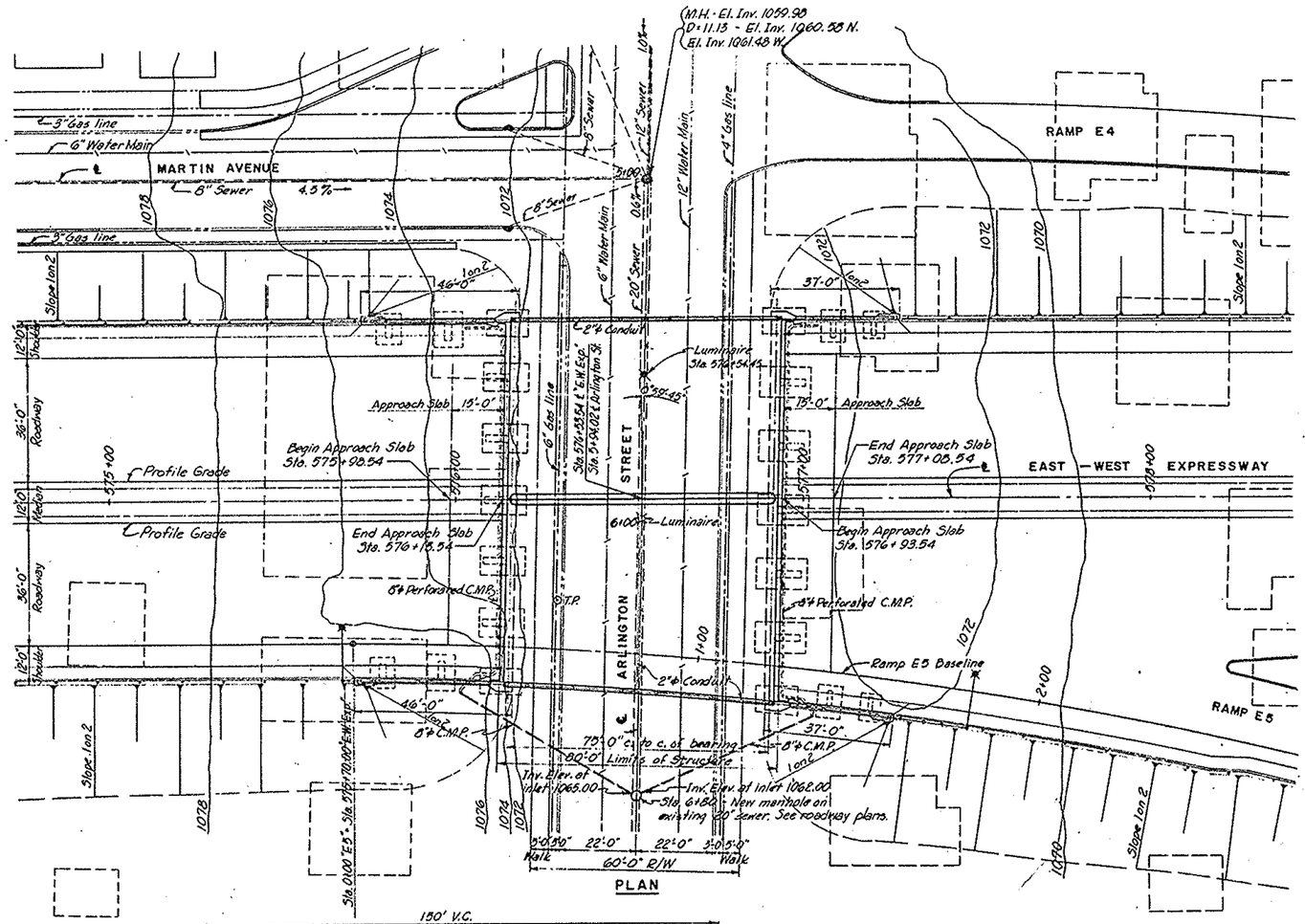
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

901 SHEET 172R

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

175
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



N

LEGEND

Sewer	———
Water Main	———
Gas Line	———
Conduit	———
Man Hole - Existing	● M.H.
Man Hole - Proposed	○ M.H.
Inlet	▲
Telephone Pole	○ T.P.

Notes:

The following items are not included in the bridge plans. See roadway plans for details.

Removal of existing drives, pavements, etc.
Relocation or removal of existing utilities.
Approach grading, pavements and slabs.
Guard rails.

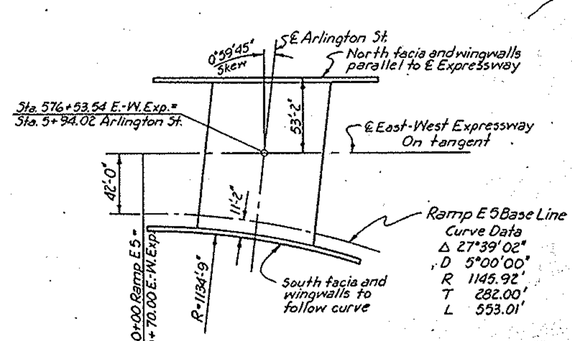
8"ϕ perforated bituminous coated corrugated metal pipe shall be laid behind abutments in porous backfill as shown on the plans.

The upper ends of pipes located behind abutments shall be closed with perforated headers made of No. 16 gauge sheet metal.

8"ϕ bituminous coated corrugated metal pipe shall be run as shown to connect with manhole at Sta. 6+80, ℄ Arlington Street.

Porous backfill shall conform to Items S 29.02 and S 29.04.

For Ramp E-5 details see Roadway Plans.



STRUCTURE ALIGNMENT
No scale

PROPOSED STRUCTURE

Type: Simple span steel beam with reinforced concrete deck.
Span: 75'-0"
Roadway: 1 @ 50'-5" and 1 Varies.
Loading: C.F. 2000
Skew: 0°59'45"
Surface Course: 2½" Aspholtic concrete surface course.

Note:
Clearance of 15'-3" is at ℄ Beam "A" and ℄ Arlington Street at Sta. 576+54.44 ℄ Expressway.

REVISED - 5/9/55

PART 6

AKRON EXPRESSWAY SYSTEM
ARLINGTON STREET OVERPASS
BR. NO. SU-18R-130
SITE PLAN

AKRON SUMMIT COUNTY. OHIO

SCALE 1" = 20'-0"
MADE DRM DATE 6-6-54
TRCD. DATE
CKD. G.D. DATE 10-18-54

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

901 SHEET 175

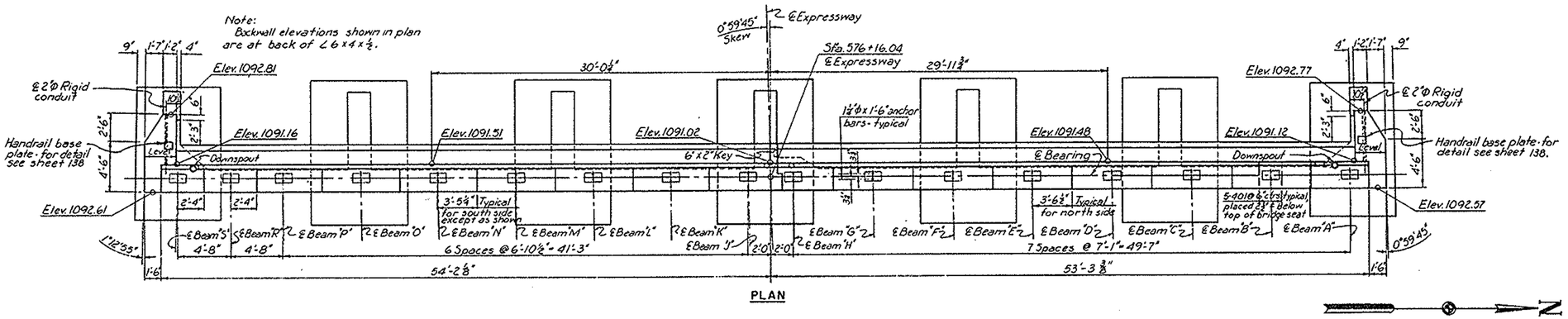
170

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

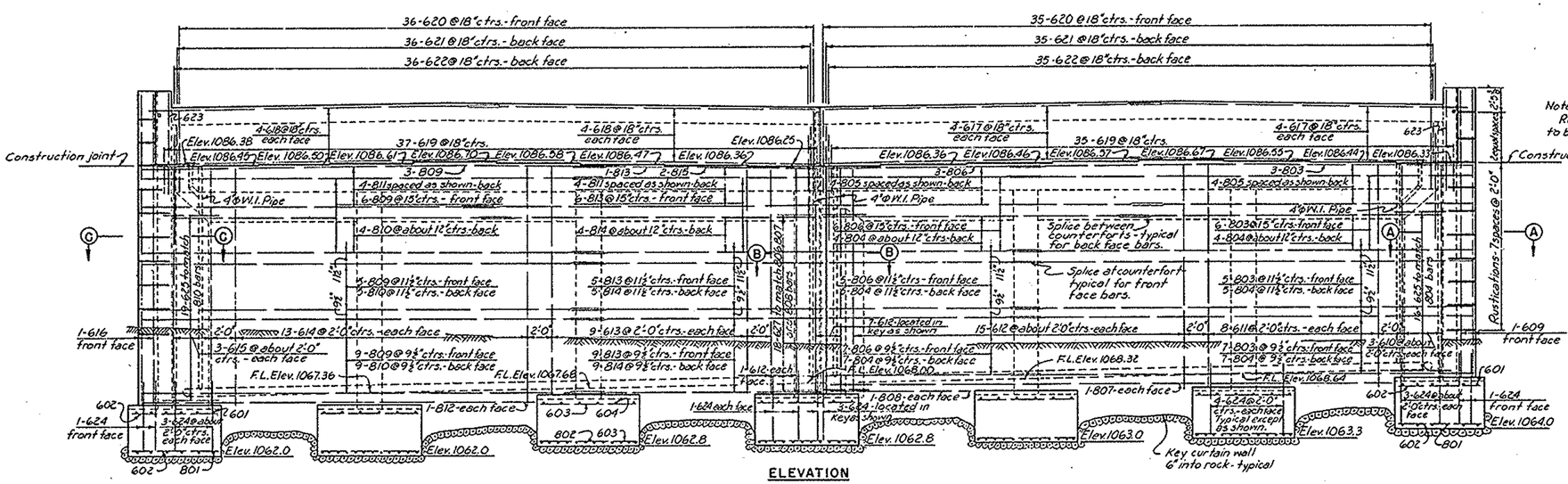
176 / 204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

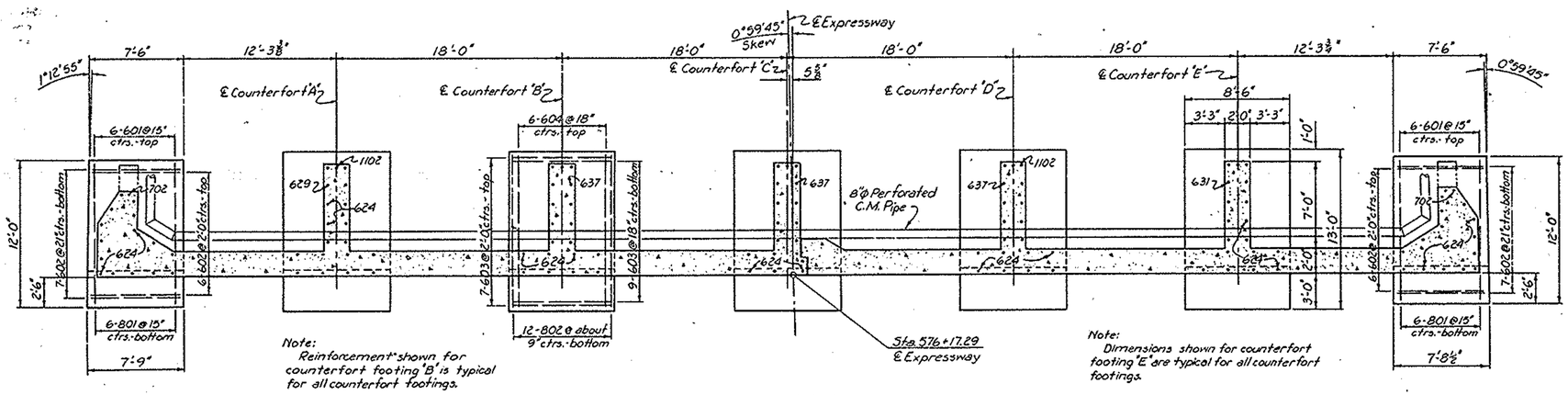
Note:
Backwall elevations shown in plan are at back of ∠6x4x½.



PLAN



ELEVATION

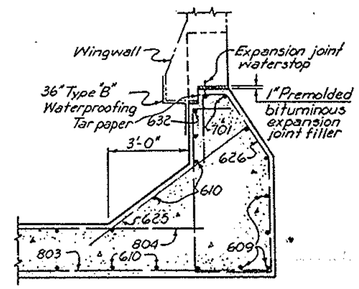


FOOTING PLAN

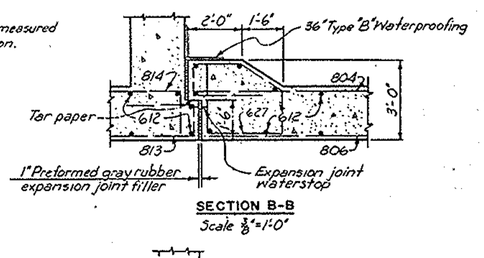
Note:
Reinforcement shown for counterfort footing 'B' is typical for all counterfort footings.

Note:
Dimensions shown for counterfort footing 'E' are typical for all counterfort footings.

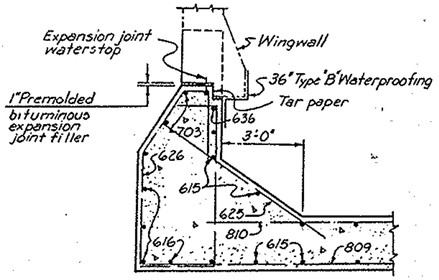
Note:
Rustication spacing is measured to bottom of rustication.



SECTION A-A
Scale: ⅜"=1'-0"



SECTION B-B
Scale ⅜"=1'-0"



SECTION C-C
Scale ⅜"=1'-0"

Notes:
For cross-sections showing backwall, counterfort, and buttress details see sheet 177.
For rustication detail see sheet 138.
For expansion joint waterstop detail see sheet 138.
For section showing porous backfill details see sheet 138.
For details of shoes and anchor bars see sheet 136.
For Reinforcement Schedule see sheets 183 and 184.

PART 6

AKRON EXPRESSWAY SYSTEM
ARLINGTON STREET OVERPASS
BR. NO. SU-18R-130
WEST ABUTMENT
AKRON SUMMIT COUNTY OHIO

SCALE 3/16" = 1'-0" | MADE GWR DATE 7-21-54 | TRCD DATE | CKD C.K.T. DATE 10-18-54

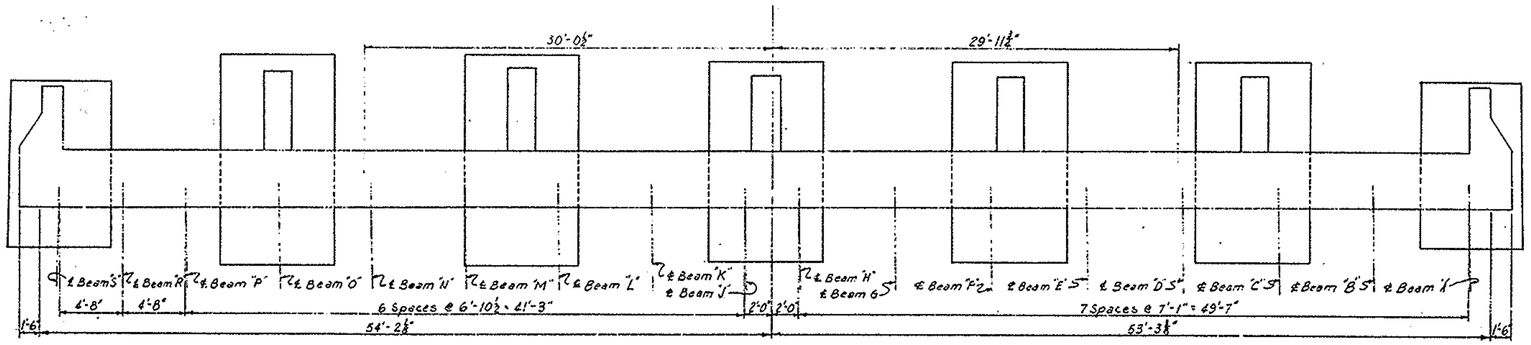
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 176

See SHEET 176 A for revisions.

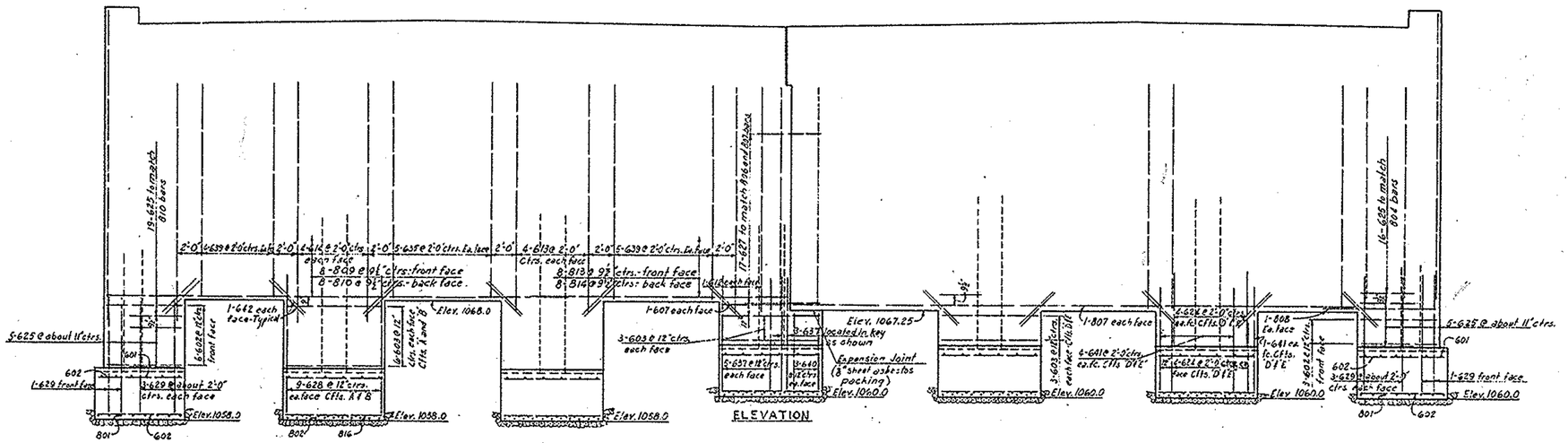
171

FED ROAD DIV NO.	STATE	FED AID PROJ. NO	TYPE FUNDS
2	OHIO		

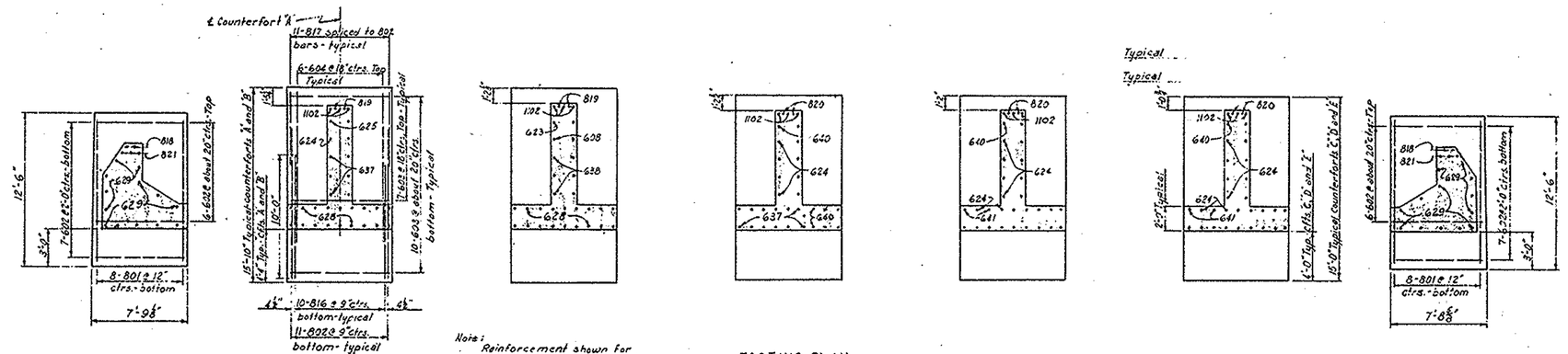
176A
204



PLAN



ELEVATION



Note: Reinforcement shown for counterfort footing 'A' is typical for all counterfort footings.

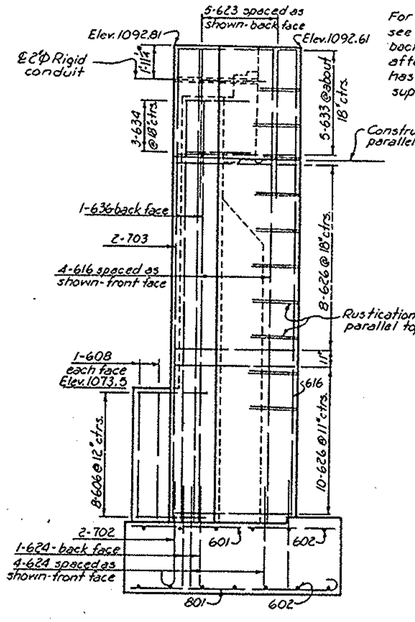
FOOTING PLAN

"This sheet supersedes portions of Sheet 176"

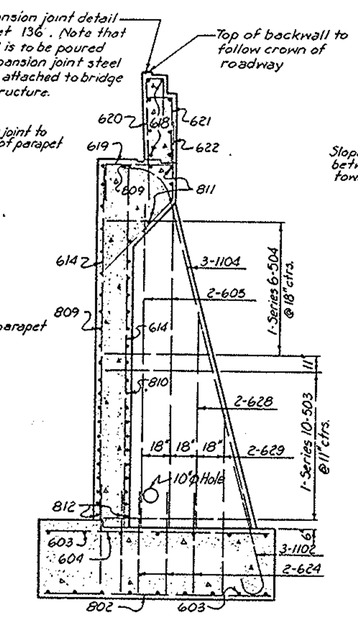
AKRON EXPRESSWAY SYSTEM
ARLINGTON STREET OVERPASS
BR. NO. SU.-18R-130
WEST ABUTMENT

SCALE ¾" = 1'-0"
MADE J.W.R.A. DATE 5-20-55
TRCD. DATE
CKD. J.F.G. DATE 5-5-55

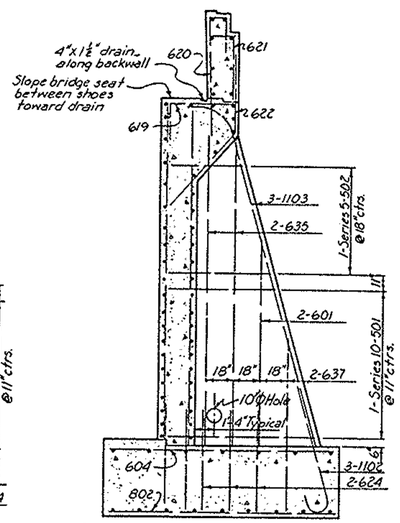
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 176 A



SOUTH BUTTRESS

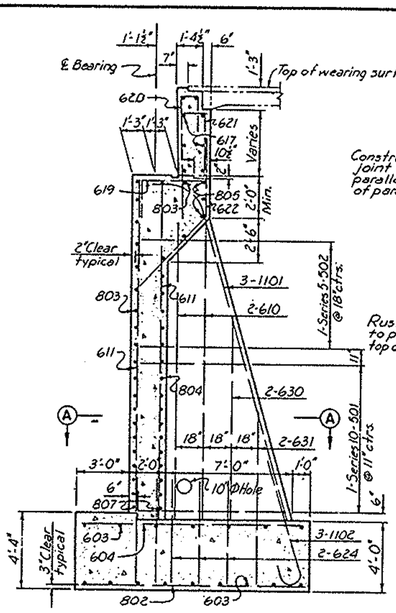


COUNTERFORT A

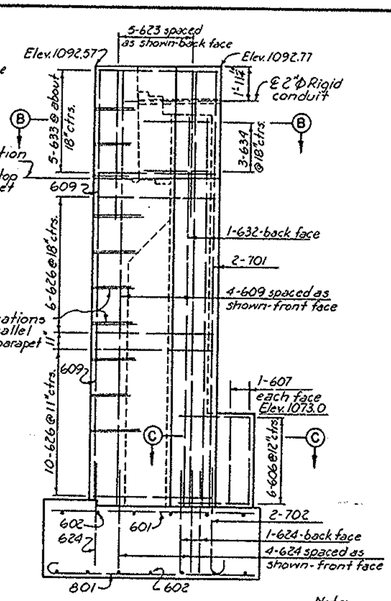


COUNTERFORTS B, C AND D

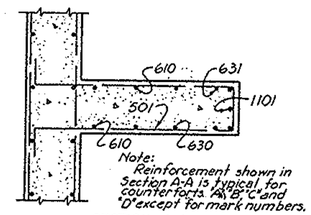
WEST ABUTMENT



COUNTERFORT E



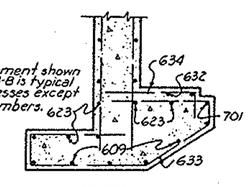
NORTH BUTTRESS



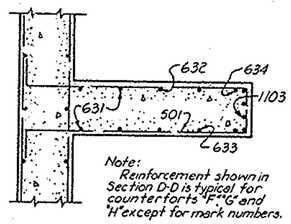
Note: Reinforcement shown in Section A-A is typical for counterforts "A" "B" "C" and "D" except for mark numbers.

SECTION A-A
Scale: ⅜"=1'-0"

Note: Reinforcement shown in Section B-B is typical for all buttresses except for mark numbers.

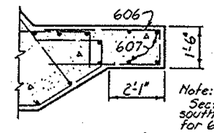


SECTION B-B
Scale: ⅜"=1'-0"



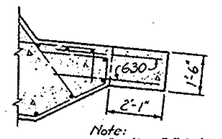
Note: Reinforcement shown in Section D-D is typical for counterforts "F" "G" and "H" except for mark numbers.

SECTION D-D
Scale: ⅜"=1'-0"



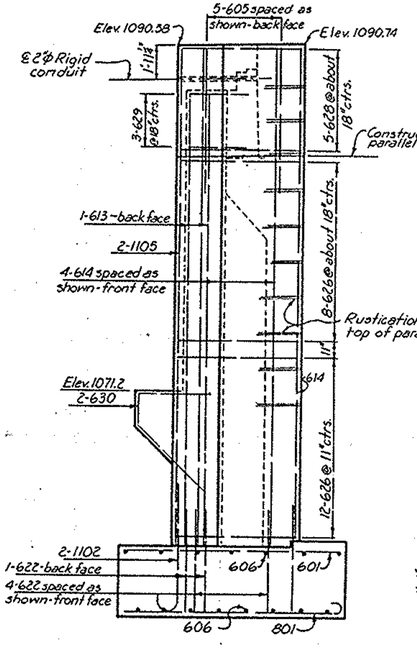
Note: Section C-C is typical for southwest buttress except for 607 bar.

SECTION C-C
Scale: ⅜"=1'-0"

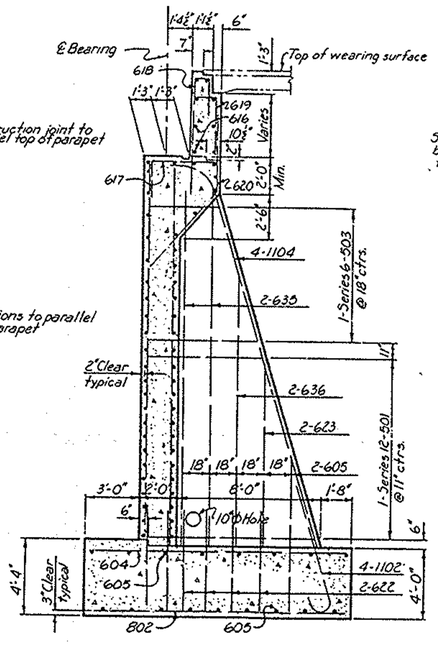


Note: Section E-E is typical for Northeast buttress.

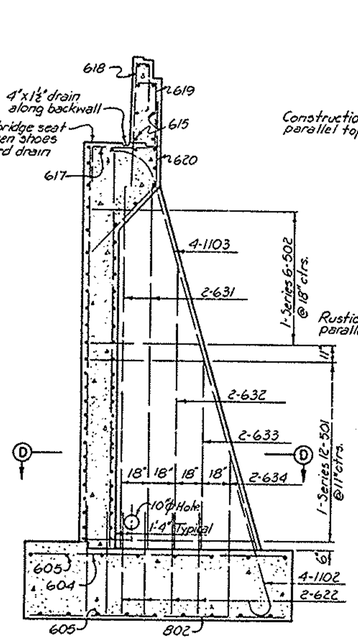
SECTION E-E
Scale: ⅜"=1'-0"



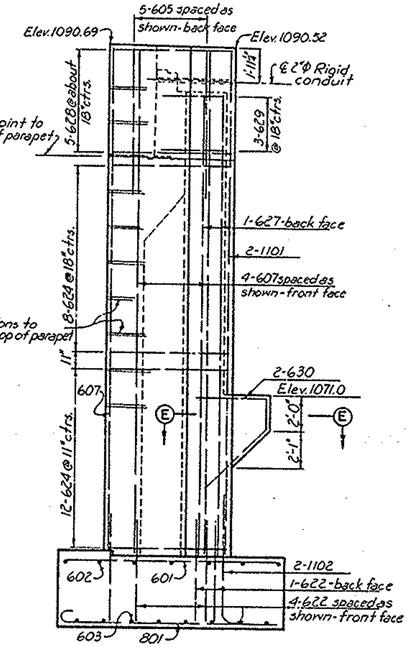
NORTH BUTTRESS



COUNTERFORT F, G AND H



COUNTERFORTS J AND K



SOUTH BUTTRESS

EAST ABUTMENT

Notes:
For west abutment plan and elevation see sheet 176.
For east abutment plan and elevation see sheet 178.

See SHEET 177A for revisions

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

177
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

PART 6

AKRON EXPRESSWAY SYSTEM
ARLINGTON STREET OVERPASS
BR. NO. SU-18R-130

ABUTMENT DETAILS

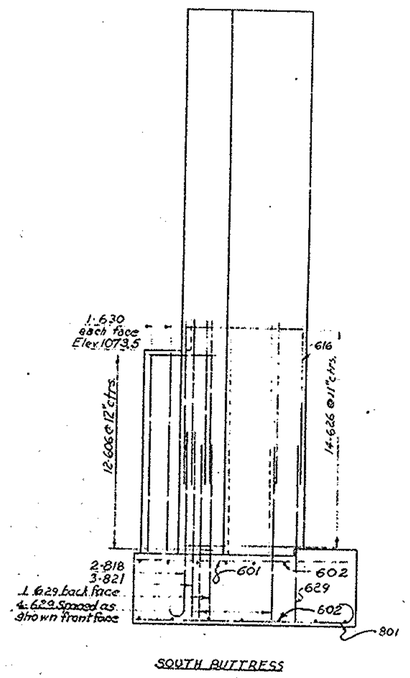
AKRON SUMMIT COUNTY. OHIO

SCALE ⅜"=1'-0"
MADE G.W.R. DATE 8-3-54
TRCD. DATE
CKD G.K.T-G.D. DATE 10-18-54

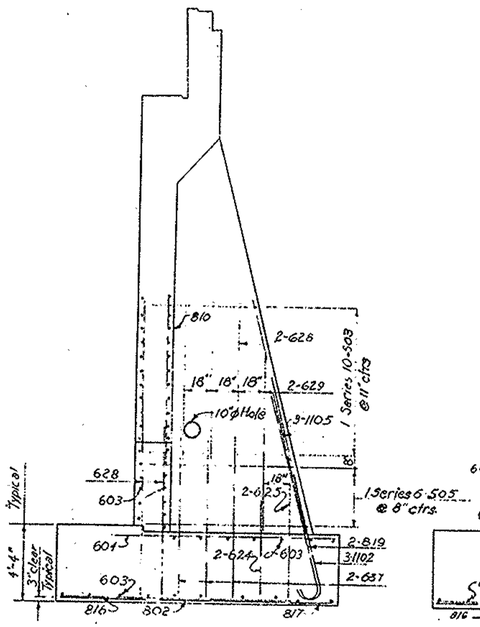
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 177

FED ROAD DIV NO	STATE	FED AID PROJ NO	TYPE FUNDS
2	OHIO		

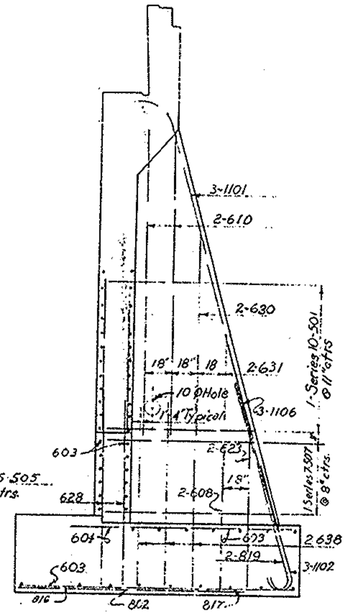
177A
204



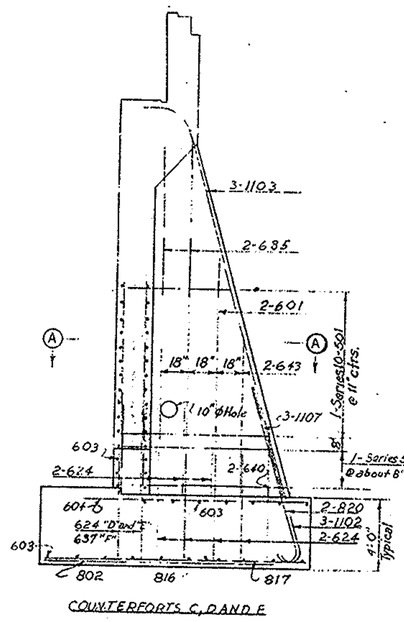
SOUTH BUTTRESS



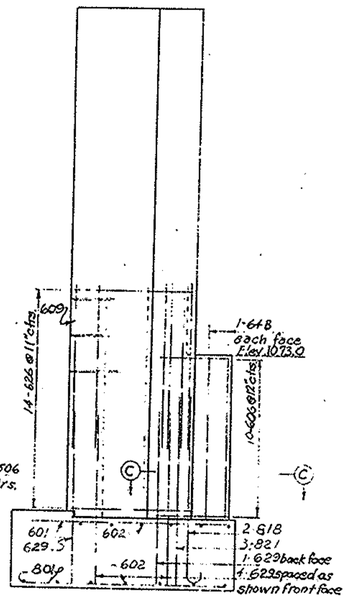
COUNTERFORT A



COUNTERFORT B

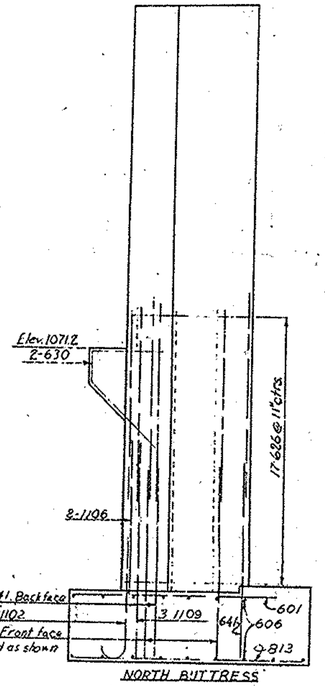


COUNTERFORTS C, D AND E

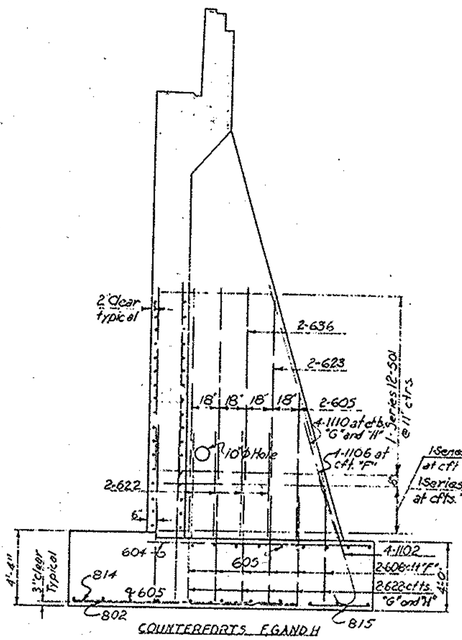


NORTH BUTTRESS

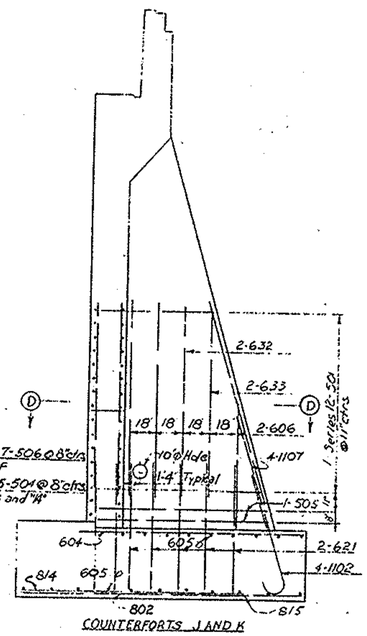
WEST ABUTMENT



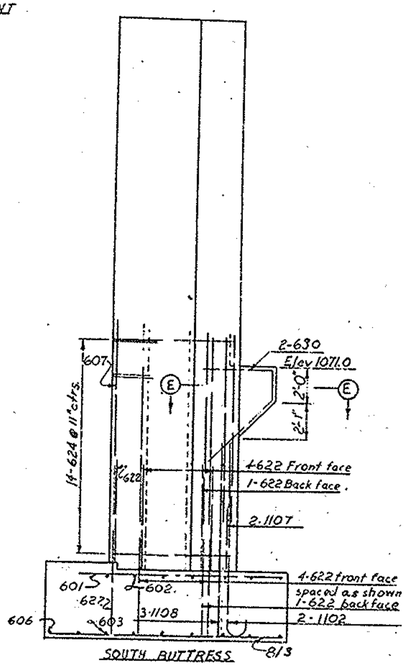
NORTH BUTTRESS



COUNTERFORTS F, G AND H



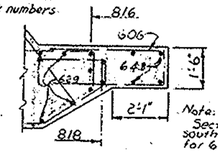
COUNTERFORTS J AND K



SOUTH BUTTRESS

EAST ABUTMENT

Note:
Reinforcement shown in Section B-B is typical for all buttresses except for mark numbers.



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

Note:
Section C-C is typical for southwest buttress except for 643 bars.

Minimum lap distance for No. 6 bars is 2'-0"; for No. 7 bars 2'-3"; For No. 8 bars 2'-6"; For No 11 bars 3'-6".

This sheet supersedes portions of Sheet 177

AKRON EXPRESSWAY SYSTEM
ARLINGTON STREET OVERPASS
BR. NO. SU-18R-130
ABUTMENT DETAILS

SCALE 1/4"=1'-0"
MADE GHC/EC DATE 4-29-65
TRCD. ____ DATE ____
CKD. HS-RD DATE 5-5-65

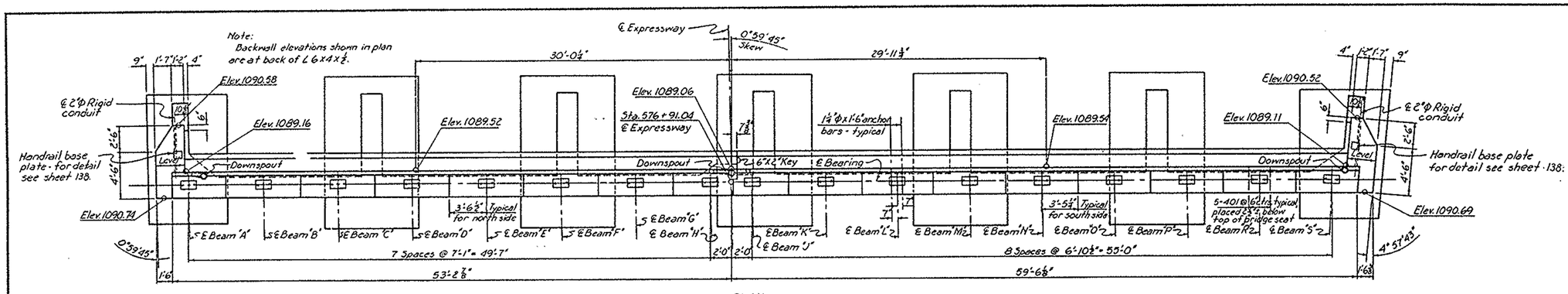
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

SHEET 177 A

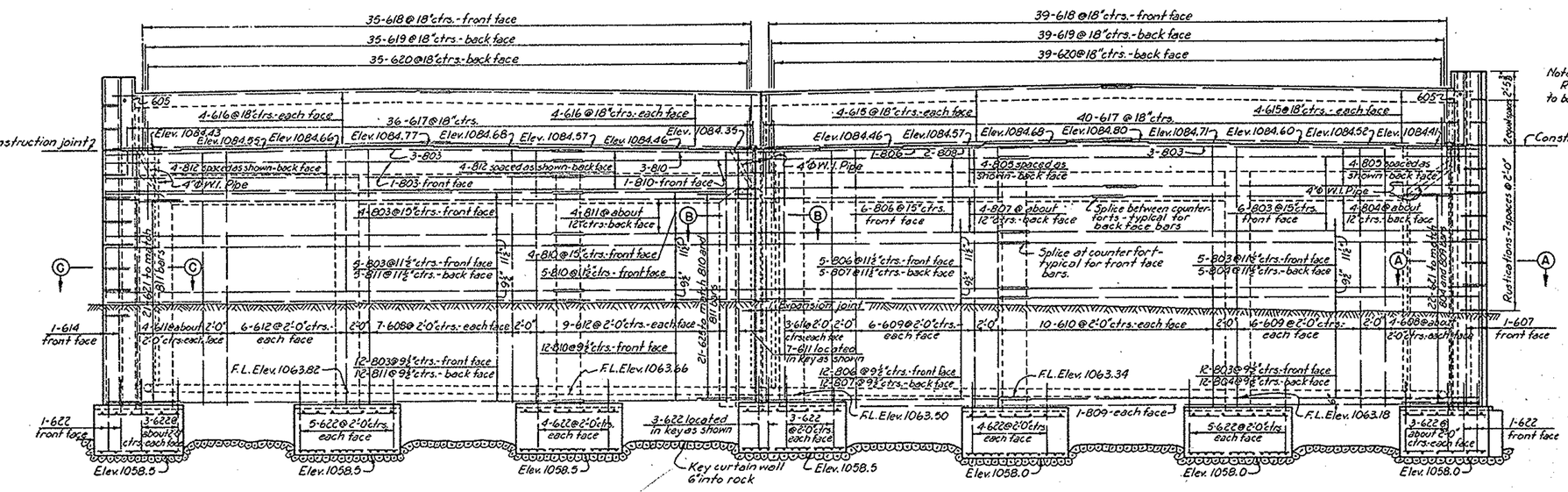
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

178
204

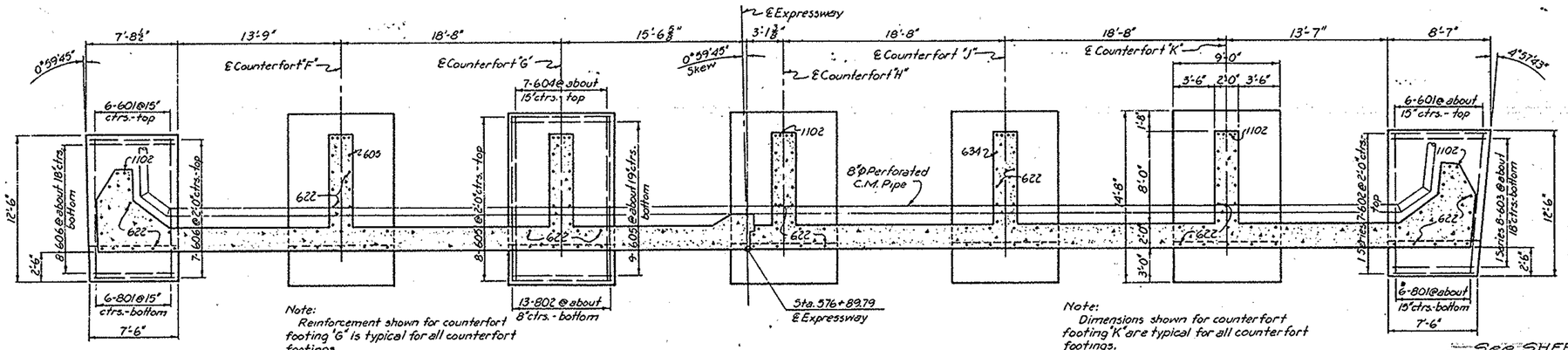
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



PLAN



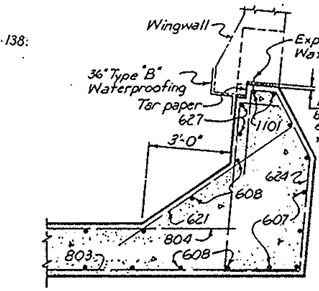
ELEVATION



Note:
Reinforcement shown for counterfort footing 'G' is typical for all counterfort footings.

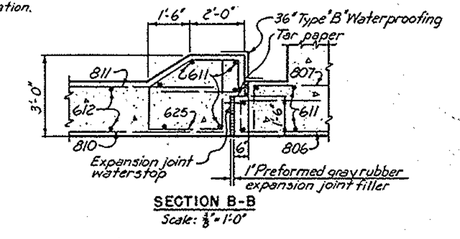
Note:
Dimensions shown for counterfort footing 'K' are typical for all counterfort footings.

FOOTING PLAN

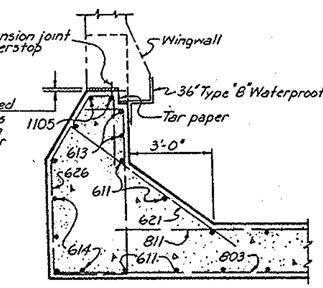


SECTION A-A
Scale: ¾"=1'-0"

Note:
Rustication spacing is measured to bottom of rustication.



SECTION B-B
Scale: ¾"=1'-0"



SECTION C-C
Scale: ¾"=1'-0"

Notes:
For cross-sections showing backwall, counterfort and buttress details see sheet 177.
For rustication detail see sheet 138.
For expansion joint waterstop detail see sheet 138.
For section showing porous backfill details see sheet 138.
For details of shoes and anchor bars see Sheet 136.
For Reinforcement Schedule see Sheets 183 and 184.

PART 6

AKRON EXPRESSWAY SYSTEM

ARLINGTON STREET OVERPASS

BR. NO. SU-18R-130

EAST ABUTMENT

AKRON SUMMIT COUNTY. OHIO

SCALE 3/16"-1'-0" MADE G.W.S. DATE 7-30-54
TRCD. DATE
CKD G.D. DATE 10-18-54

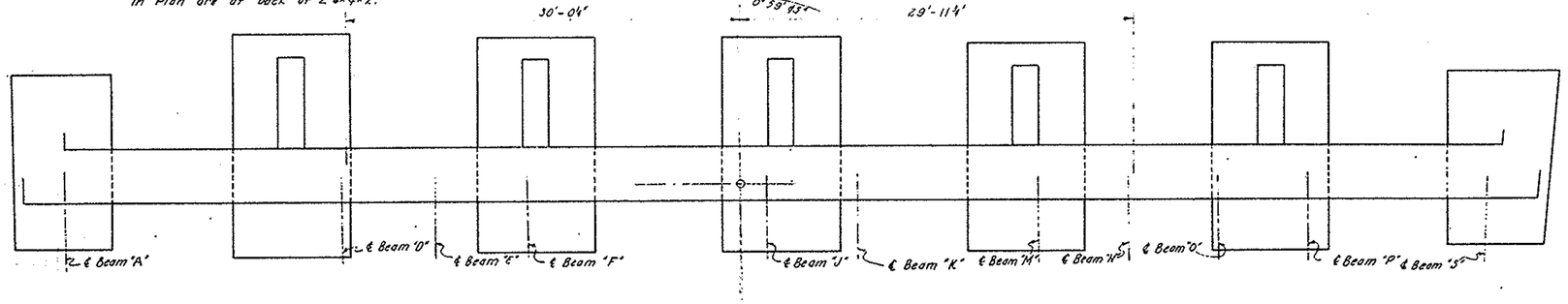
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 178

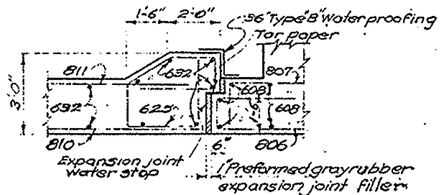
See SHEET 178A for revisions.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

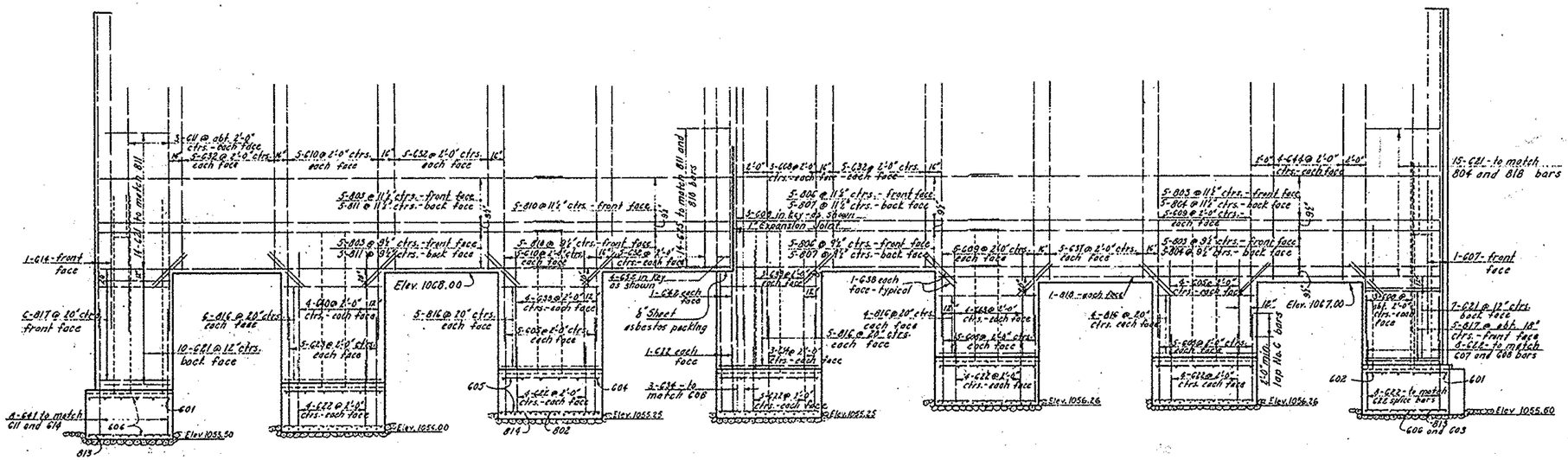
USA 20-4

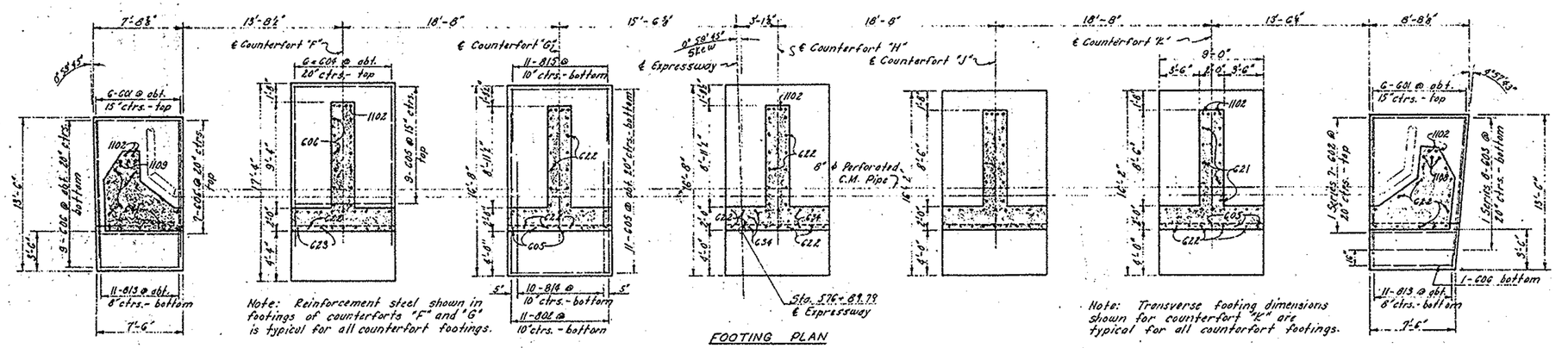
Note: Backwall elevations shown in Plan are at back of ∠ 6"x4½".





SECTION B-S
Scale ⅜" = 1'-0"





Note: Reinforcement steel shown in footings of counterforts "F" and "G" is typical for all counterfort footings.

FOOTING PLAN

Note: Transverse footing dimensions shown for counterfort "K" are typical for all counterfort footings.

"This sheet supersedes portions of Sheet 178"

AKRON EXPRESSWAY SYSTEM
ARLINGTON STREET OVERPASS
Br. No. SU-18R-130
EAST ABUTMENT

SCALE ¾" = 1'-0"
MADE JFG DATE 2-2-55
TRCD. DATE
CKD. GO DATE 2-5-55

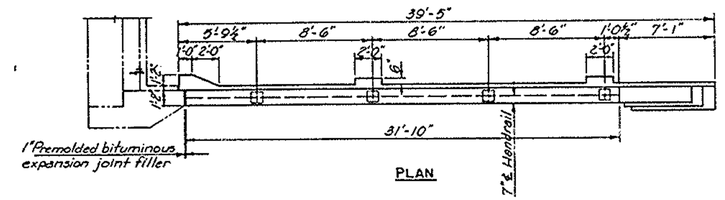
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

SHEET 178 A

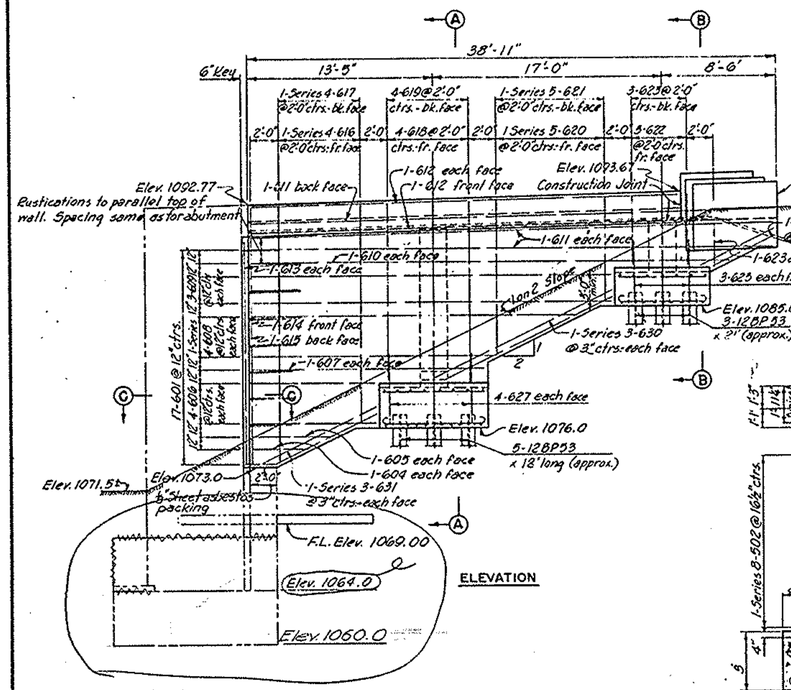
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

179
204

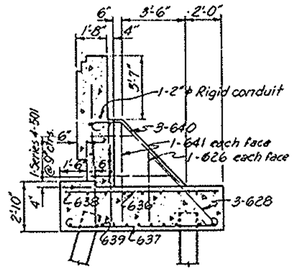
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



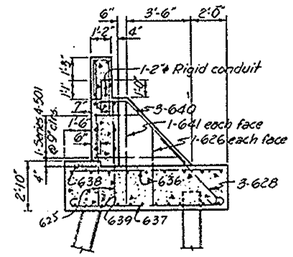
PLAN



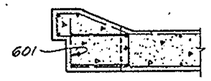
ELEVATION



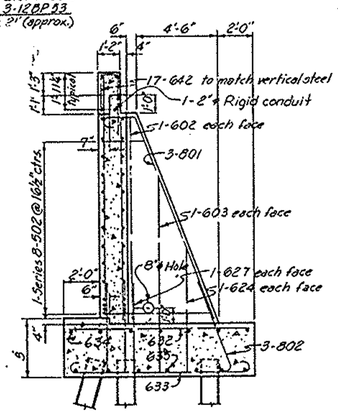
SECTION B-B
Scale ¼"=1'-0"



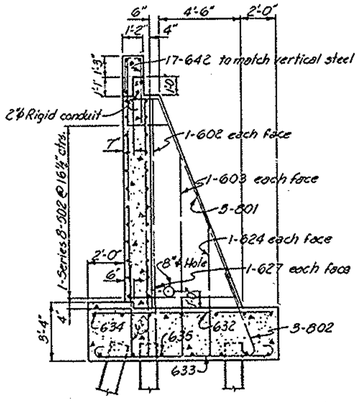
SECTION E-E
Scale ¼"=1'-0"



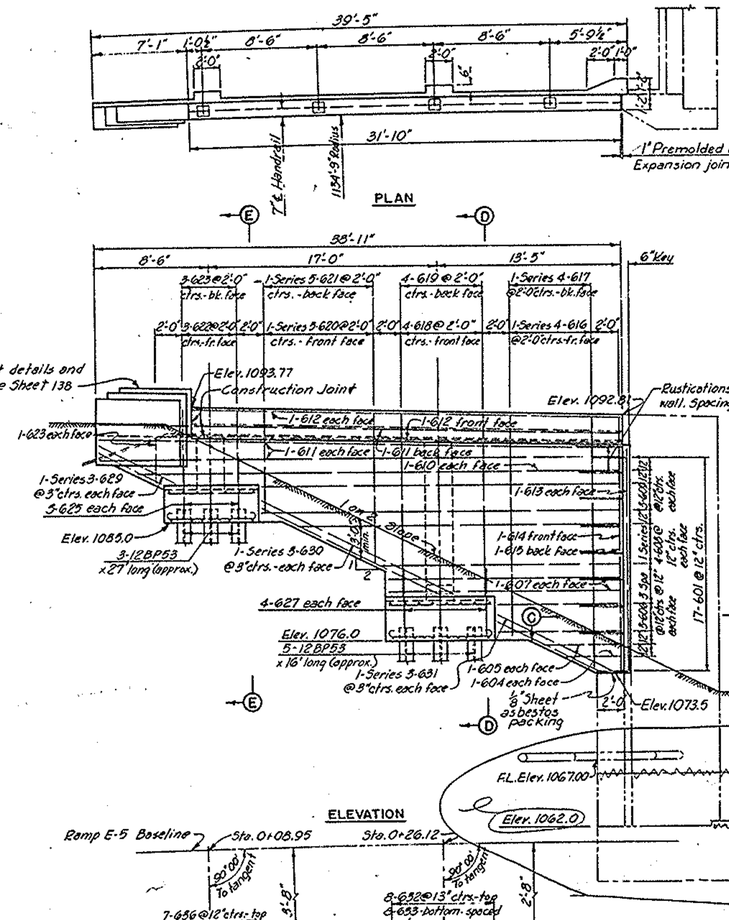
SECTION C-C
Scale 3/16"=1'-0"



SECTION A-A
Scale ¼"=1'-0"

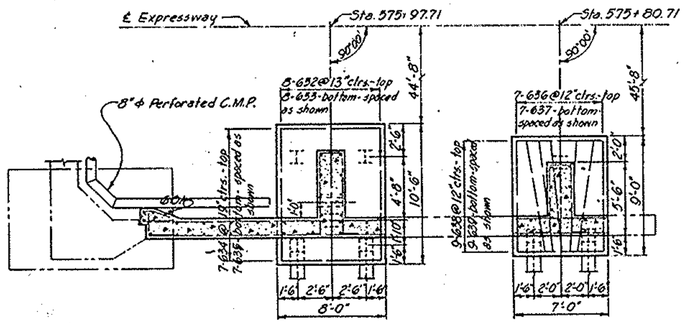


SECTION D-D
Scale ¾"=1'-0"



PLAN

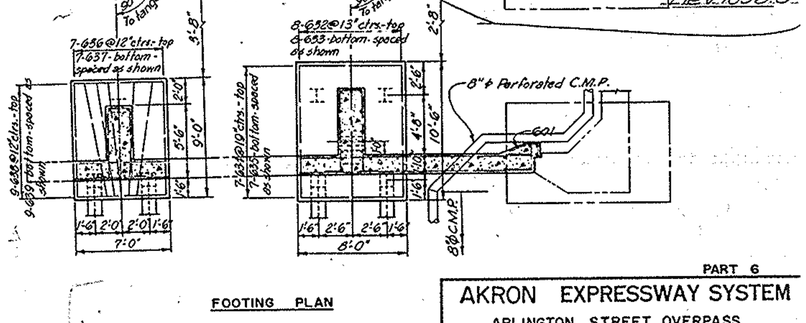
ELEVATION



FOOTING PLAN

NORTHWEST WINGWALL

Notes:
For rustication details see Sheet 138.
For expansion joint details see Sheet 178.
For handrail details see Sheet 138.
For section showing porous backfill details see Sheet 138.
All battered piles to be battered 3" per ft.
For Reinforcement Schedule see sheets 183 and 184.



FOOTING PLAN

SOUTHWEST WINGWALL

Revised 5-11-55

PART 6

AKRON EXPRESSWAY SYSTEM
ARLINGTON STREET OVERPASS
BR. NO. SU-18R-130

WEST WINGWALLS

AKRON SUMMIT COUNTY. OHIO

SCALE 3/10"=1'-0"
MADE D.R.V. DATE 7-30-54
TRCD. DATE
CKD. C.K.T. DATE 10-18-54

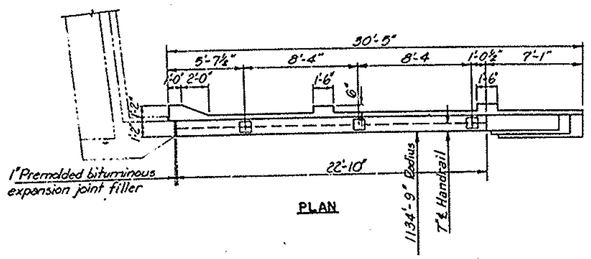
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 179

178

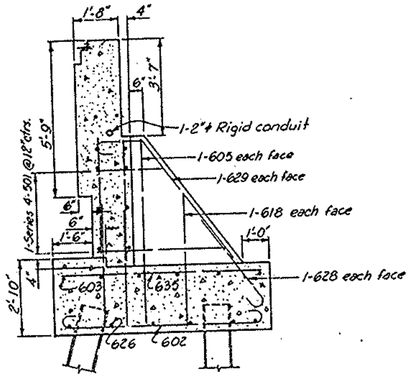
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

180
204

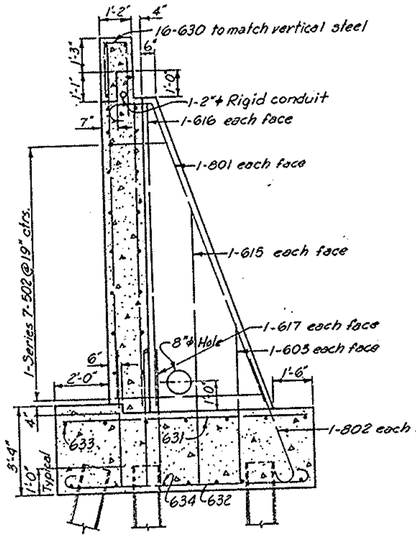
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



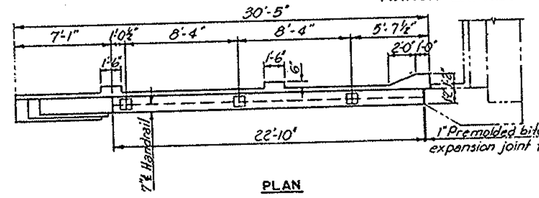
PLAN



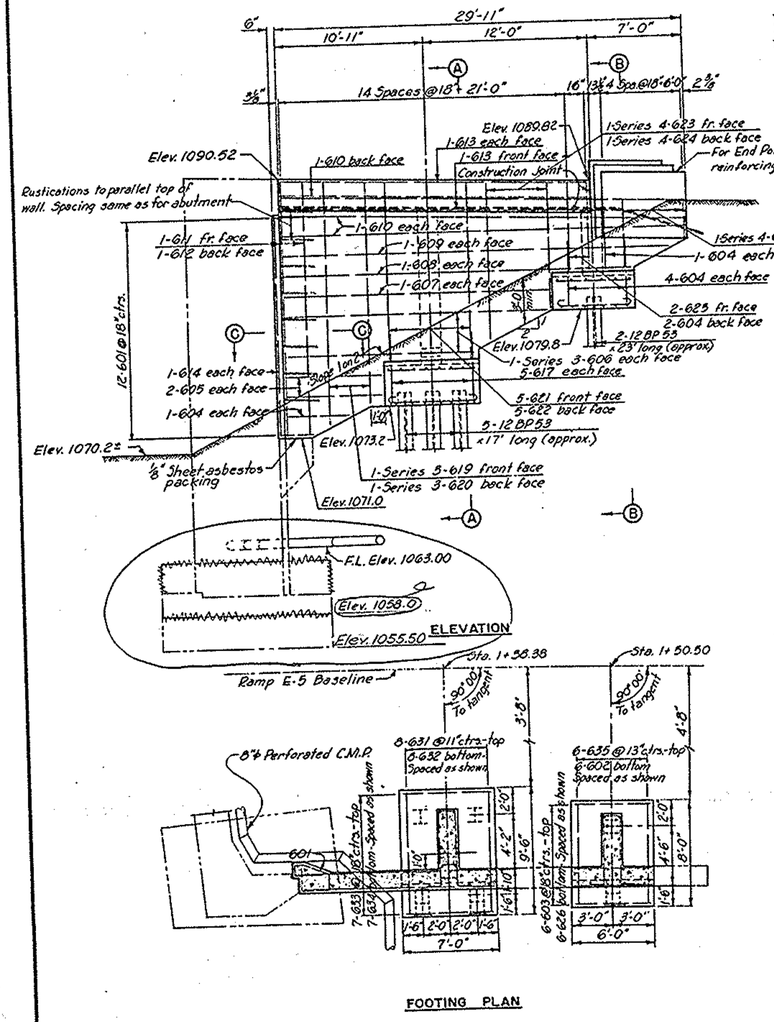
SECTION B-B
Scale ⅜" = 1'-0"



SECTION D-D
Scale ⅜" = 1'-0"

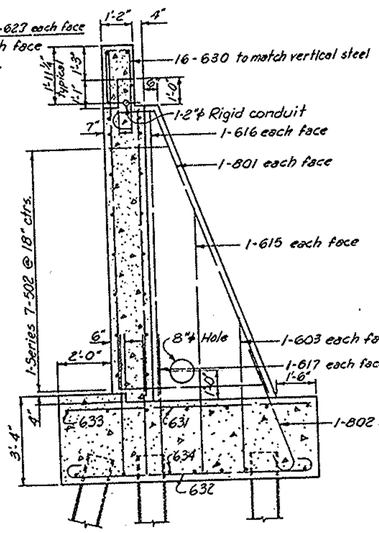


PLAN

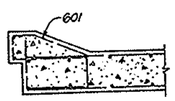


FOOTING PLAN

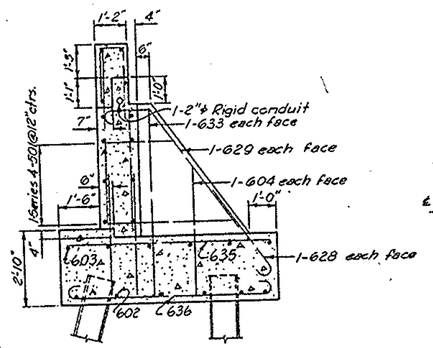
SOUTHEAST WINGWALL



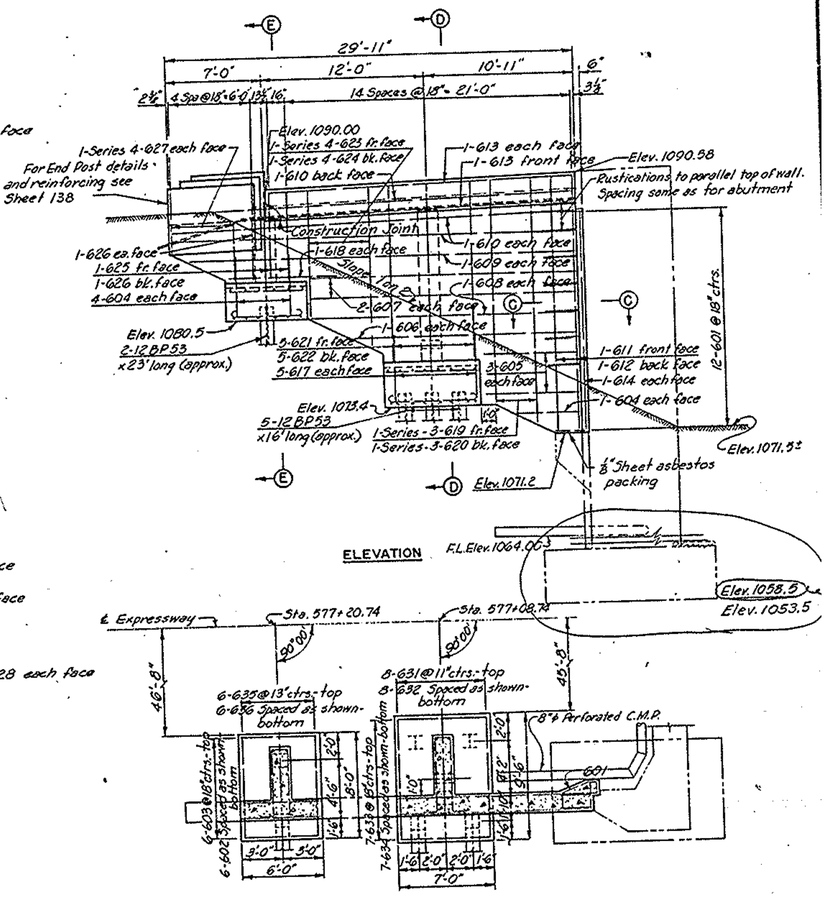
SECTION A-A
Scale ⅜" = 1'-0"



SECTION C-C
Scale ½" = 1'-0"



SECTION E-E
Scale ⅜" = 1'-0"



FOOTING PLAN

NORTHEAST WINGWALL

Notes:
For rustication details see Sheet 138.
For expansion joint details see Sheet 178.
For handrail details see Sheet 138.
For section showing porous backfill details see Sheet 138.
All battered piles to be battered 3" per ft.
For Reinforcement Schedule see sheets 183 and 184.

PART 6

AKRON EXPRESSWAY SYSTEM
ARLINGTON STREET OVERPASS
BR. NO. SU-18R-130
EAST WINGWALLS
AKRON SUMMIT COUNTY. OHIO

SCALE 3/8" = 1'-0"
MADE DRV DATE 7-27-54
TRCD DATE
CKD G.D. DATE 10-18-54

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

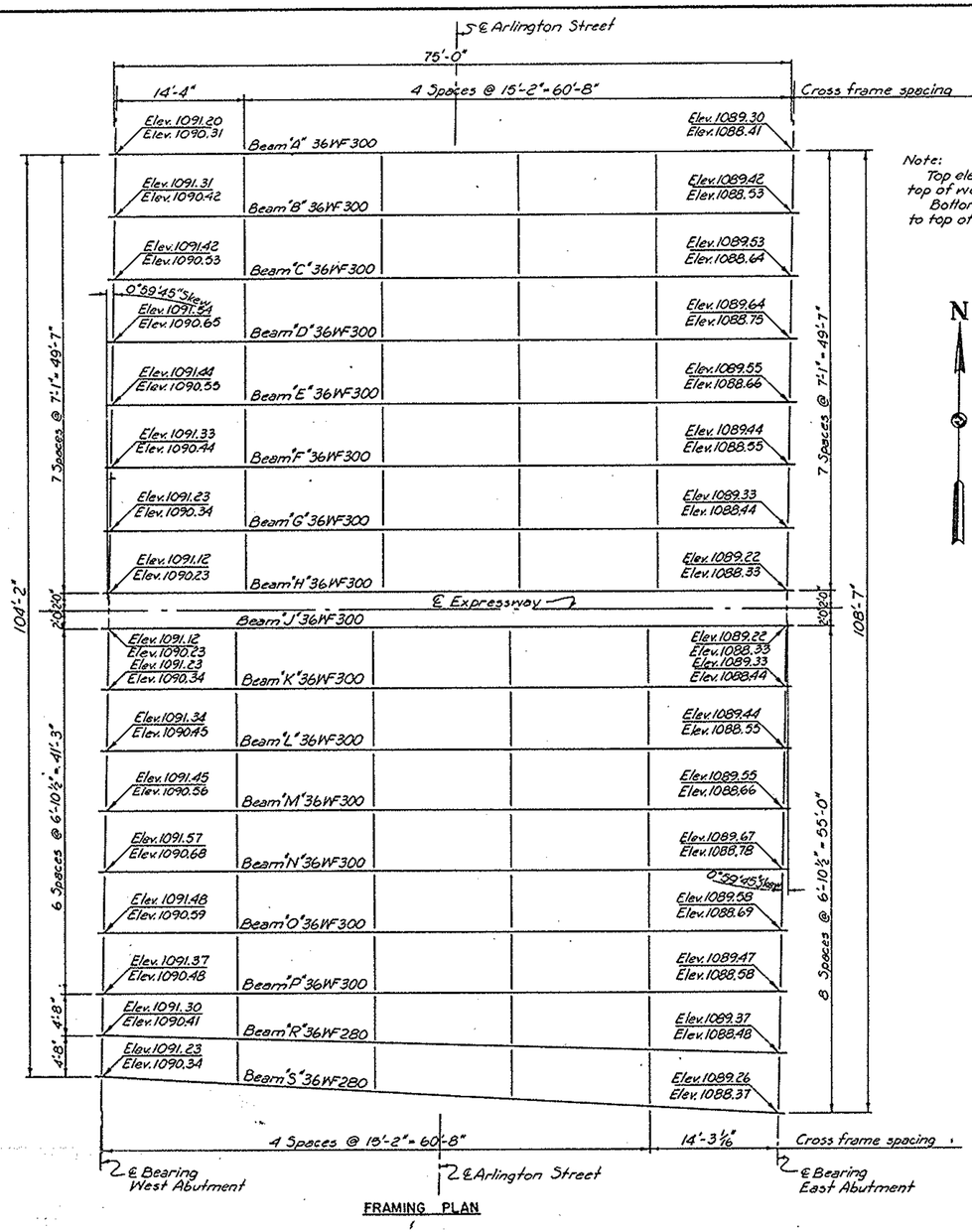
901 SHEET. 180

Revised 5/11/55

177

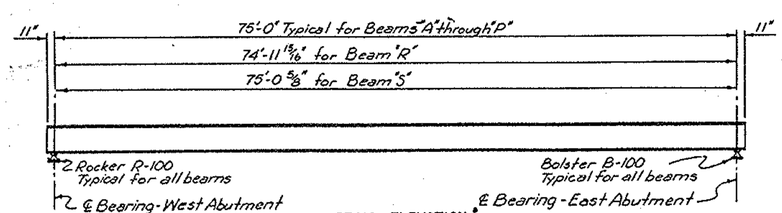
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS	181 / 204
2	OHIO			

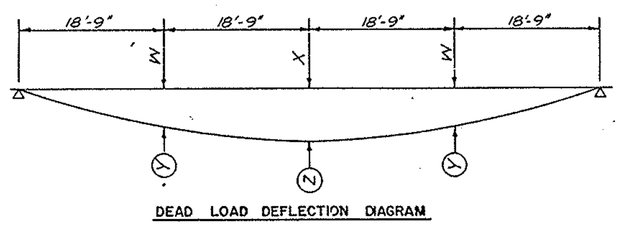
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



Note:
Top elevations are given to top of wearing surface.
Bottom elevations are given to top of WF Beams.

BEAM	DEFLECTIONS			
	W	X	Y	Z
'A'	7/8"	1 3/16"	1/4"	3/8"
"B","H"and'J"	13/16"	1 1/8"	1/4"	3/8"
"C","D","E","F"and'G'	13/16"	1 3/16"	5/16"	3/8"
'K','L','M','N','O'and'P'	3/4"	1 1/16"	1/4"	3/8"
'R'	5/8"	7/8"	1/4"	3/8"
'S'	1"	1 3/8"	1/4"	3/8"





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.

Note:
For shoe and expansion joint details see sheet 136.
For cross frame details see sheet 182.

PART 6

AKRON EXPRESSWAY SYSTEM

ARLINGTON STREET OVERPASS

BR. NO. SU-18R-130

FRAMING PLAN

AKRON SUMMIT COUNTY, OHIO

SCALE 1/8"=1'-0"
MADE G.W.R. DATE 6-4-54
TRCD. DATE
CKD. G.D. DATE 10-18-54

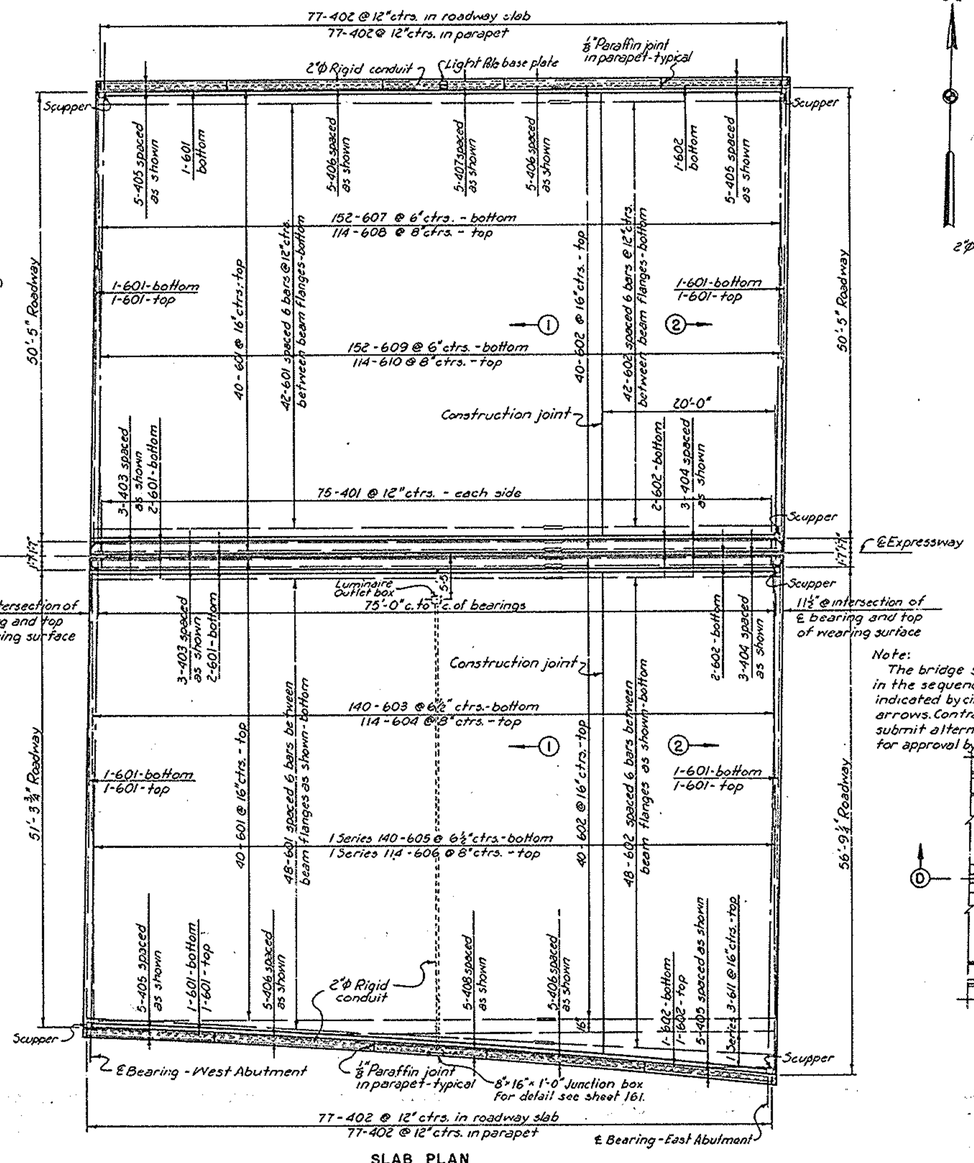
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 181

180

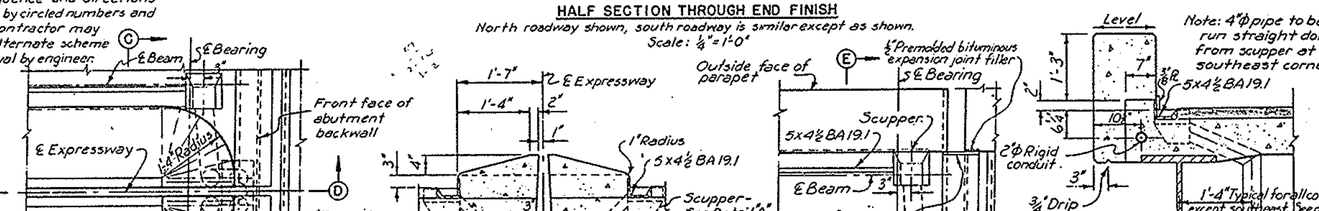
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

182
204

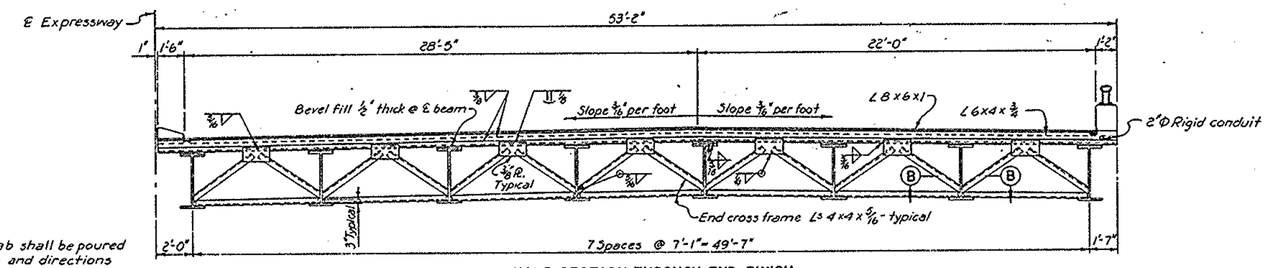
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



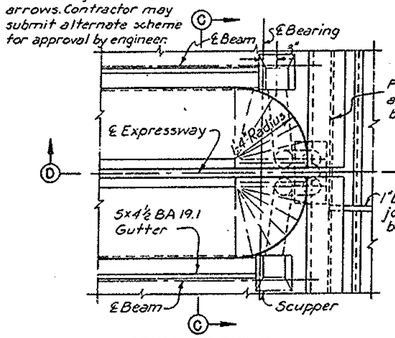
SLAB PLAN
Scale: ⅛" = 1'-0"



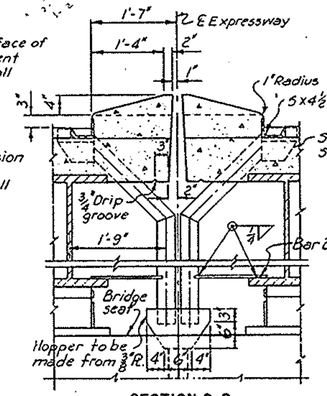
HALF SECTION AT INTERMEDIATE CROSS FRAMES
South roadway shown, north roadway is similar except as shown.
Scale: ¼" = 1'-0"



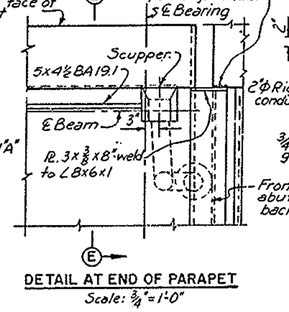
HALF SECTION THROUGH END FINISH
North roadway shown, south roadway is similar except as shown.
Scale: ¼" = 1'-0"



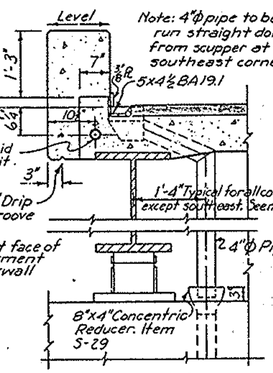
DETAIL AT END OF MEDIAN
Scale: ⅜" = 1'-0"



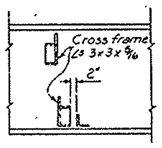
SECTION C-C
Scale ⅜" = 1'-0"



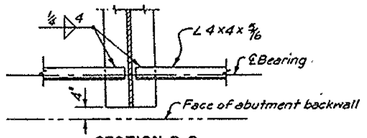
DETAIL AT END OF PARAPET
Scale: ⅜" = 1'-0"



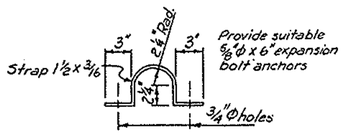
SECTION E-E
Scale: ⅜" = 1'-0"



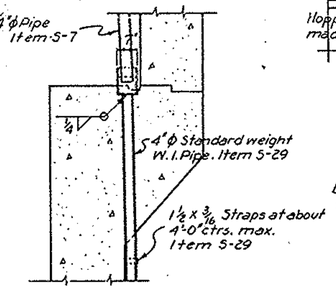
SECTION A-A
Scale: ½" = 1'-0"



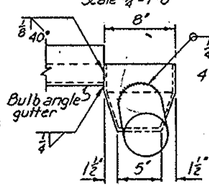
SECTION B-B
Scale: ½" = 1'-0"



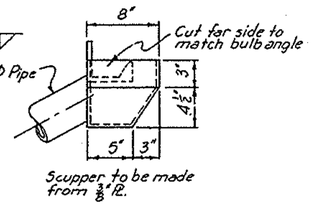
STRAP PIPE HANGER
Scale: 1½" = 1'-0"



SECTION D-D
Scale: ½" = 1'-0"



DETAIL "A"
Scale: 1½" = 1'-0"



Scupper to be made from ⅜" PL

Notes:
For expansion joint details see Sheet 136.
For handrail details see Sheet 138.
For roadway lighting details see Sheet 136.
For parapet joint detail see Sheet 138.
For Reinforcing Schedule see Sheets 183 and 184.

PART 6

AKRON EXPRESSWAY SYSTEM

ARLINGTON STREET OVERPASS
BR. NO. SU-18R-130

SLAB PLAN AND CROSS SECTION

AKRON SUMMIT COUNTY, OHIO

SCALE As shown
MADE G.W.R. DATE 6-14-54
TRCD. DATE
CKD C.K.T. DATE 10-18-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 182

179

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

183 / 204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

EAST ABUTMENT

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	85	11'-0"	Str.						99
506	1 Series of 7	25'-2" to 22'-8"	120	10'-3" to 9'-6"	1'-8"			0'-2½"	175
501	5 Series of 12	22'-2" to 16'-4"	120	21'-3" to 21'-0"	1'-8"			0'-3 3/16"	1,205
502	2 Series of 8	16'-0" to 11'-8"	120	21'-0" to 21'-0"	1'-8"			0'-4 5/16"	173
503	3 Series of 4	15'-8" to 11'-2"	120	21'-0" to 19'-8"	1'-8"			0'-5 3/8"	252
504	2 Series of 5	24'-2" to 22'-8"	120	9'-6" to 9'-8"	1'-8"			0'-6"	246
505	4	23'-0"	120	9'-8"	1'-8"				96
601	17	121'-0"	Str.						216
602	1 Series of 7	81'-0" to 71'-0"	Str.					0'-2"	70
603	1 Series of 8	81'-0" to 71'-0"	Str.					0'-4 3/16"	90
604	30 35	141'-0"	Str.						631 735
605	54 60	81'-6"	Str.						1766 2000
606	29 35	71'-0"	Str.						305 450
607	6	281'-0"	Str.						252
608	15 22	211'-0"	Str.						790 1110
609	20 24	221'-0"	Str.						661 803
610	20	221'-3"	Str.						618
611	16 24	211'-3"	Str.						192 270
612	10	211'-6"	Str.						2 (968
613	2	251'-3"	Str.						76
614	6	221'-0"	Str.						250
615	16	201'-0"	Str.						739
616	16	281'-3"	Str.						679
617	76	51'-0"	104	31'-0"	21'-0"				655
618	74	91'-6"	126	61'-0"	01'-0"	21'-0"	1/4		1,055
619	76	41'-7"	104	31'-3"	11'-3"				509
620	76	91'-10"	108	61'-4"	51'-6"	11			1,093
621	66 42	71'-6"	Str.						943 484
622	116 113	61'-0"	Str.						1417 1,048
623	16 16	101'-0"	Str.						240 240
624	22 20	211'-2"	122	61'-4"	1				699 636
625	14 21	131'-7"	121						285 429
626	25 24	211'-0"	122	61'-2"	0				189 231
627	2	251'-0"	Str.						77
628	10	161'-3"	123						244
629	6	61'-6"	104	31'-4"	1'-0"				39
630	4	101'-6"	126	61'-0"	1'-10"	3'-11"	12		63
631	8	201'-6"	Str.						246
632	48 46	151'-0"	Str.						1159 1113
633	4	101'-9"	Str.						65
634	9 10	91'-0"	Str.						122 134
635	12	201'-0"	Str.						360
636	6	151'-3"	Str.						137
637	10	171'-3"	Str.						259
638	44	4'-0"	Str.						264
639	14	10'-6"	Str.						221
640	8	11'-9"	Str.						141
641	13	11'-3"	Str.						220
642	4	8'-3"	Str.						50
643	8	9'-6"	Str.						114
644	8	17'-0"	Str.						204
645	11 12	13'-3" to 6'-5"	126	11'-7"	4'-6"				184 419
802	55 55	141'-0"	Str.						2053 2530
803	38 52	101'-3"	Str.						1101 1,599
804	14 24	301'-3"	Str.						1131 1,695
805	8	311'-3"	Str.						668
806	17 24	251'-11"	119	221'-9"	11'-2"	3'-0"			1225 1,826
807	19 24	321'-11"	104	31'-3"	11'-8"				1251 1,826
808	2	221'-0"	Str.						121
809	2	501'-0" 42-9	Str.						428 203
810	19 26	161'-0"	Str.						930 1,193
811	19 24	51'-6"	Str.						1423 1,958
812	8	281'-0"	Str.						614
813	22	13'-0"	Str.						768
814	50	10'-0"	Str.						1335
815	55	5'-6"	Str.						808
816	48	8'-6"	Str.						1,089
1108	3	9'-9"	Str.						155
1109	3	12'-3"	Str.						195
1110	8	7'-0"	Str.						298
1101	2	281'-3"	Str.						300
1102	24	81'-8"	101	61'-0"	11'-11"				1,105
1103	8	241'-9"	124	211'-3"					1,052
1104	12	241'-2"	124	201'-8"					1,541
1105	2	271'-0"	Str.						295
1106	6	8'-6"	Str.						271
1107	10	6'-0"	Str.					Total	318 412268
								Total	44,474

WEST ABUTMENT

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
401	85	11'-0"	Str.						99
507	1 Series of 7	23'-0" to 20'-8"	120	2'-6" to 2'-6"	1'-8"			0'-2½"	159
501	2 Series of 10	20'-0" to 15'-4"	120	21'-3" to 21'-0"	1'-8"			0'-3"	741
502	2 Series of 5	15'-0" to 11'-8"	120	21'-0" to 21'-0"	1'-8"			0'-4 5/16"	276
503	1 Series of 10	20'-0" to 15'-10"	120	21'-0" to 21'-0"	1'-8"			0'-5 3/16"	187
504	1 Series of 5	15'-4" to 11'-8"	120	21'-0" to 21'-0"	1'-8"			0'-6"	84
505	1 Series of 12	22'-6" to 20'-8"	120	9'-0" to 9'-6"	1'-8"			0'-2½"	135
506	2 Series of 8	22'-2" to 20'-8"	120	2'-3" to 2'-6"	1'-8"			0'-2⅝"	335
501	1 Series of 8	19'-0"	120	21'-0" to 21'-0"	11'-2"				311
502	1 Series of 7	7'-5" to 13'-10"	120	21'-0" to 21'-0"	11'-2"			0'-5 3/16"	78

SOUTHEAST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
1101	3	21'-5"	126	17'-11"					341
1102	15	11'-5"	101	01'-5"	11'-11"				671
1103	9	21'-11"	126	18'-5"					1,028
1104	3	22'-7"	124	10'-1"					360
1105	3	7'-9"	Str.						124
1106	3	9'-0	Str.						163
1107	9	6'-6"	Str.					Total	311 349
								Total	61,354

NORTHEAST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	1 Series of 7	7'-10" to 12'-2"	120	21'-3" to 21'-3"	11'-2"			0'-8 5/8"	42
502	1 Series of 8	7'-4" to 13'-10"	120	21'-3" to 21'-3"	11'-2"			0'-7 1/2"	77
601	12	11'-5"	128						206
602	6	81'-10"	100	51'-0"	01'-11"				61
603	8	51'-6"	Str.						65
604	12	81'-6"	Str.						81
605	6	71'-0"	Str.						63
606	2	161'-0"	Str.						48
607	4	191'-6"	Str.						117
608	2	191'-0"	Str.						57
609	2	281'-3"	Str.						85
610	5	201'-6"	Str.						222
611	2	191'-3"	Str.						58
612	2	171'-0"	Str.						51
613	3	221'-6"	Str.						101
614	2	151'-3"	Str.						49
615	3	101'-0"	Str.						30
616	2	111'-3"	Str.						34
617	12	51'-0"	Str.						90
618	2	81'-0"	Str.						24
619	2 Series of 3	181'-3" to 161'-0"	Str.					01'-0"	79
620	1 Series of 3	161'-0" to 141'-6"	Str.					01'-0"	69
621	5	131'-0"	Str.						98
622	5	111'-0"	Str.						83
623	1 Series of 6	111'-0" to 91'-3"	Str.					0'-10"	63
624	1 Series of 4	91'-6" to 71'-0"	Str.					0'-10"	50
625	2	51'-3"	Str.						19
626	4	41'-3"	Str.						26
627	2 Series of 9	41'-0" to 11'-0"	Str.					0'-9"	35
628	2	41'-0"	101	31'-0"	11'-0"				14
629	2	71'-9"	107	51'-6"	11'-3"	11'-0"	9		23
630	16	61'-11"	119	41'-1"	01'-10"	21'-0"			155
631	8	91'-0"	Str.						108
632	8	101'-6"	100	81'-6"	01'-11"				124
633	9	61'-6"	Str.						88
634	7	71'-10"	100	51'-0"	01'-11"				82
635	6	71'-6"	Str.						68
636	6	81'-10"	100	71'-0"	01'-11"				80
801	2	141'-8"	107	121'-0"	11'-2"	11'-6"	4		78
802	2	51'-4"	101	41'-10"	11'-6"				34

END POST

686	7	5'-3"	Str.			55
687	5	5'-0"	Str.			38
688	7	4'-6"	Str.			47
689	3	6'-9"	Str.			30
690	6	6'-0"	Str.			54
691	1	5'-6"	Str.			8
692	1	5'-9"	Str.			9

END POST

696	7	5'-3"	Str.			55
697	5	5'-0"	Str.			38
698	7	4'-6"	Str.			47
699	3	6'-9"	Str.			30
690	6	6'-0"	Str.			54
691	1	5'-6"	Str.			8
692	1	5'-9"	Str.			9

REVISED-5-11-55

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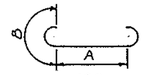

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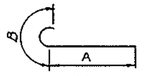

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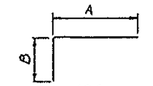

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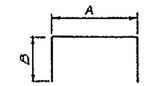

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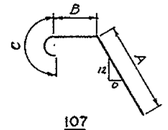

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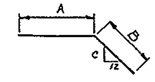

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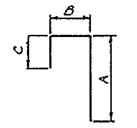

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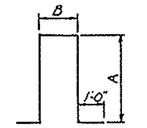

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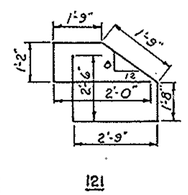

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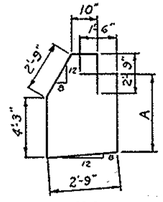

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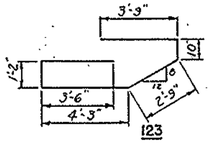


BENDING DIAGRAMS
Note: Bars in series groups shall vary by equal increments.

PART 6

AKRON EXPRESSWAY SYSTEM

ARLINGTON STREET OVERPASS
BR. NO. SU-18R-130

REINFORCEMENT SCHEDULE

AKRON SUMMIT COUNTY, OHIO

SCALE None
MADE DRV DATE 8-10-54
TRCD JRK/M DATE 10-13-54
CHD CKT/GD DATE 10-18-54

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

SHEET 183

175

FED ROAD DIV NO	STATE	FED AID PROJ NO	TYPE FUNDS
2	OHIO		

184
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

SOUTHWEST WINGWALL

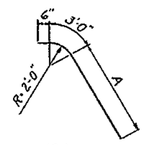
MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
601	1 Series of 4	121'-5" to 81'-5"	120	41'-5" to 21'-5"	1'-7"			01'-8"	44
602	1 Series of 11	151'-1" to 81'-1"	120	51'-3" to 31'-3"	1'-7"			01'-5"	97
601	17	111'-5"	129						292
602	2	111'-5"	Str.						35
603	2	111'-0"	Str.						33
604	2	41'-0"	Str.						12
605	2	61'-0"	Str.						18
606	6	91'-3"	Str.						83
607	6	171'-3"	Str.						101
608	2 Series of 4	241'-0" to 181'-0"	Str.					21'-0"	252
609	6	261'-6"	Str.						239
610	2	351'-5"	Str.						108
611	5	391'-5"	Str.						289
612	3	311'-6"	Str.						142
613	2	161'-3"	Str.						49
614	1	191'-0"	Str.						29
615	1	161'-7"	Str.						25
616	1 Series of 4	191'-0" to 161'-0"	Str.					1'-0"	105
617	1 Series of 4	161'-9" to 131'-5"	Str.					1'-0"	92
618	4	131'-3"	Str.						80
619	4	111'-3"	Str.						68
620	1 Series of 5	111'-3" to 71'-3"	Str.					1'-0"	71
621	1 Series of 3	91'-3" to 51'-3"	Str.					1'-0"	54
622	3	51'-3"	Str.						24
623	5	31'-3"	Str.						24
624	2	71'-0"	Str.						21
625	6	41'-6"	Str.						41
626	2	41'-3"	Str.						13
627	10	51'-0"	Str.						75
628	3	51'-0"	101	41'-0"	11'-0"				23
629	2 Series of 3	61'-0" to 41'-9"	Str.					0'-3 1/2"	48
630	2 Series of 3	151'-0" to 131'-9"	Str.					0'-3 1/2"	130
631	2 Series of 3	91'-6" to 81'-3"	Str.					0'-3 1/2"	80
632	8	101'-0"	Str.						120
633	8	111'-4"	100	91'-5"	01'-11"				136
634	7	71'-5"	Str.						79
635	7	81'-10"	100	71'-0"	01'-11"				93
636	7	81'-5"	Str.						89
637	7	91'-10"	100	81'-0"	01'-11"				103
638	9	61'-5"	Str.						88
639	9	71'-10"	100	51'-0"	01'-11"				105
640	3	51'-5"	107	41'-3"	11'-3"	11'-0"	12		29
641	2	51'-5"	Str.						17
642	17	51'-11"	119	41'-1"	01'-10"	21'-0"			177
801	3	141'-0"	107	121'-0"	11'-2"	11'-5"	4-1/2		117
802	3	51'-11"	101	41'-5"	11'-5"				47
		END POST							
686	7	51'-3"	Str.						55
687	5	51'-0"	Str.						38
688	7	41'-5"	Str.						47
689	3	61'-0"	Str.						30
690	6	51'-0"	Str.						54
691	1	51'-5"	Str.						8
692	1	51'-0"	Str.						9
							Total		4,242

NORTHWEST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	1 Series of 4	121'-5" to 81'-5"	120	41'-3" to 21'-3"	1'-7"			01'-8"	44
502	1 Series of 11	151'-1" to 81'-1"	120	51'-0" to 31'-3"	1'-7"			01'-5"	97
601	17	111'-5"	129						292
602	2	111'-5"	Str.						35
603	2	111'-0"	Str.						33
604	2	41'-0"	Str.						12
605	2	61'-0"	Str.						18
606	8	91'-3"	Str.						111
607	2	171'-3"	Str.						52
608	2 Series of 4	241'-0" to 181'-0"	Str.					21'-0"	252
609	6	261'-6"	Str.						239
610	2	351'-0"	Str.						105
611	5	381'-5"	Str.						289
612	3	311'-5"	Str.						142
613	2	151'-3"	Str.						49
614	1	191'-0"	Str.						29
615	1	151'-0"	Str.						25
616	1 Series of 4	191'-0" to 151'-0"	Str.					1'-0"	105
617	1 Series of 3	151'-0" to 131'-0"	Str.					1'-0"	92
618	4	131'-3"	Str.						80
619	4	111'-3"	Str.						68
620	1 Series of 5	111'-6" to 71'-6"	Str.					1'-0"	71
621	1 Series of 5	91'-3" to 51'-3"	Str.					1'-0"	54
622	3	51'-3"	Str.						24
623	5	31'-3"	Str.						24
624	2	71'-0"	Str.						21
625	6	41'-6"	Str.						41
626	2	41'-3"	Str.						13
627	10	51'-0"	Str.						75
628	3	51'-0"	101	41'-0"	11'-0"				23
629	2 Series of 3	61'-0" to 41'-9"	Str.					0'-3 1/2"	48
630	2 Series of 3	151'-0" to 131'-9"	Str.					0'-3 1/2"	130
631	2 Series of 3	91'-6" to 81'-3"	Str.					0'-3 1/2"	80
632	8	101'-0"	Str.						120
633	8	111'-4"	100	91'-5"	01'-11"				136
634	7	71'-5"	Str.						79
635	7	81'-10"	100	71'-0"	01'-11"				93
636	7	81'-5"	Str.						89
637	7	91'-10"	100	81'-0"	01'-11"				103
638	9	61'-5"	Str.						88
639	9	71'-10"	100	51'-0"	01'-11"				105
640	3	51'-5"	107	41'-3"	11'-3"	11'-0"	12		29
641	2	51'-5"	Str.						17
642	17	51'-11"	119	41'-1"	01'-10"	21'-0"			177
801	3	141'-6"	107	121'-0"	11'-2"	11'-5"	4-1/2		117
802	3	51'-11"	101	41'-5"	11'-5"				47
		END POST							
686	7	51'-3"	Str.						55
687	5	51'-0"	Str.						38
688	7	41'-5"	Str.						47
689	3	61'-0"	Str.						30
690	6	51'-0"	Str.						54
691	1	51'-5"	Str.						8
692	1	51'-9"	Str.						9
							Total		4,215

SUPERSTRUCTURE SLAB

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
401	150	41'-4"	127						434
402	308	31'-11"	119	21'-0"	01'-10"	11'-1"			806
403	6	521'-0"	Str.						209
404	6	241'-5"	Str.						98
405	20	141'-0"	Str.						187
406	20	171'-0"	Str.						227
407	5	131'-5"	Str.						41
408	5	111'-9"	Str.						39
601	185	521'-0"	Str.						14,649
602	177	361'-5"	Str.						7,045
603	140	301'-3"	Str.						6,361
604	114	341'-5"	101	331'-5"	11'-0"				5,907
605	1 Series of 127	101'-9" to 251'-3"	Str.					0'-0 1/2"	5,888
606	1 Series of 116	281'-3" to 221'-9"	101	271'-3" to 211'-5"	11'-0"			0'-0 3/8"	4,366
607	152	231'-5"	Str.						5,422
608	114	211'-0"	101	201'-0"	11'-0"				3,596
609	152	311'-0"	Str.						7,077
610	114	351'-5"	101	341'-5"	11'-0"				5,779
611	1 Series of 3	521'-0" to 121'-0"	Str.					20'-0"	144
							Total		68,376
				Total for Structure					150,237



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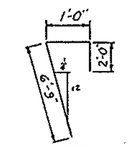

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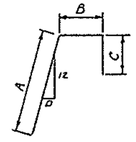

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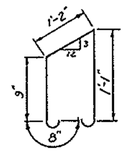

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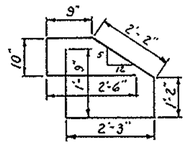

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BENDING DIAGRAMS

Note:
Bars in series groups shall vary in length by equal increments.

PART 6

AKRON EXPRESSWAY SYSTEM

ARLINGTON STREET OVERPASS

BR. NO. SU-18R-130

REINFORCEMENT SCHEDULE

AKRON SUMMIT COUNTY, OHIO

SCALE None
MADE DRV DATE 8-11-54
TRCD J.R.J. DATE 10-12-54
CKD C.K.T.-R.K. DATE 10-16-54

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

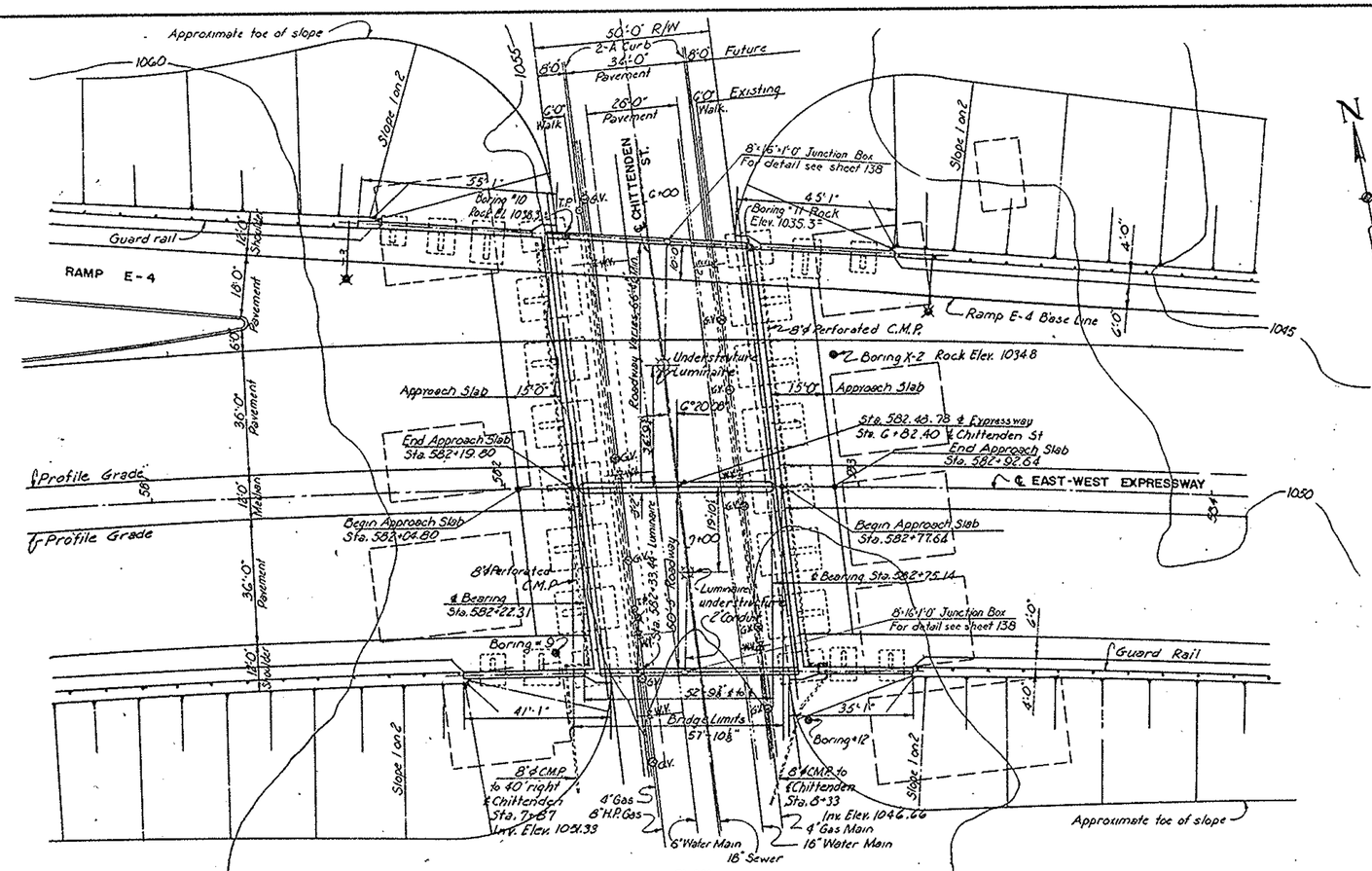
901 SHEET 184

176

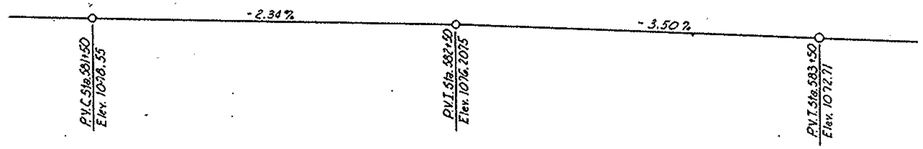
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

185 / 204

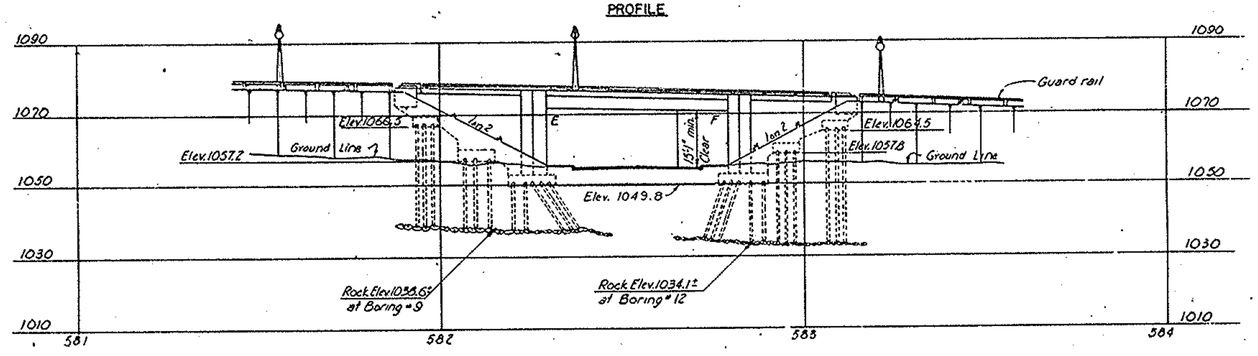
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



PLAN



PROFILE



ELEVATION

Note:
Ramp E-4 Base Line is tangent to Left Shoulder line of Expressway at Sta. 584+50.00

NOTES:

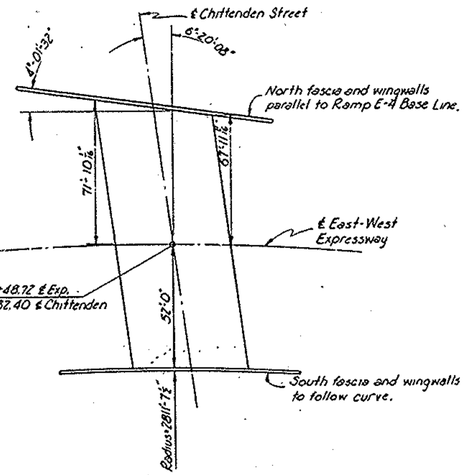
The following items are not included in the bridge plans. See roadway plans for details.
Removal of existing drives, pavements, etc.
Relocation or removal of existing utilities.
Approach grading, pavements and slabs.
Guard rails

8'-4" perforated bituminous coated corrugated metal pipe with fittings shall be laid behind abutment in porous backfill as shown on the plans.

The upper ends of pipes located behind abutments shall be closed with perforated headers made of No. 16 guage sheet metal.
8'-4" bituminous coated corrugated metal pipe shall be run as shown on the Site Plan to connect to the drainage structures on Chittenden St. at Sta. 7+87 and 8+33.

LEGEND

- Gas Valve
- Water Valve
- Water Main
- Gas Main
- Conduit Lighting
- Telephone Pole



STRUCTURE ALIGNMENT
No Scale

EXPRESSWAY CURVE DATA
Δ = 16°-52'-36"
D = 2°-00'-00"
R = 2864.79'
T = 425.00'
L = 843.83'
P.C. = 578+75.00

PROPOSED STRUCTURE
Type: Simple span steel beam with concrete deck and substructure.
Span: 53'-5" @ ℄ Expressway
Roadway: 1-50'-5" 1 series, 66'-4 11/16" Min.
Loading: CF-2000
Skew: 6°20'08"
Surface Course: 2½" Asphaltic concrete

PART 6

AKRON EXPRESSWAY SYSTEM
CHITTENDEN STREET OVERPASS
BR. NO. SU-18R-131
SITE PLAN

AKRON SUMMIT COUNTY, OHIO

SCALE 1"=20'
MADE DK DATE 8-3-54
TRCD. DATE
CKD. D.F.B. DATE 10-18-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 185

190

FED. ROAD CTV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

186
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

PLAN

ELEVATION

NORTH END ELEVATION

SECTION A-A

FOOTING PLAN

COUNTERFORT - A

COUNTERFORT - B

COUNTERFORT - C

COUNTERFORT - D

COUNTERFORT E

COUNTERFORT - F

NOTES:
Backwall elevations given to back of L6X4X½.
The backwall is to be poured after the Expansion Joint steel has been attached to the Bridge Superstructure. See Expansion Joint details, Sheet 136.
All piles to be 12BP53
For Reinforcement Schedule see Sheets 193 and 194.

PART 6

AKRON EXPRESSWAY SYSTEM
CHITTENDEN STREET OVERPASS
BR. NO. SU-18R-131
WEST ABUTMENT
AKRON SUMMIT COUNTY, OHIO

SCALE 3/16"-1'-0"
MADE MDS. DATE 8-10-54
TRCD. DATE
CKD. D.E.A. DATE 10-18-54

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

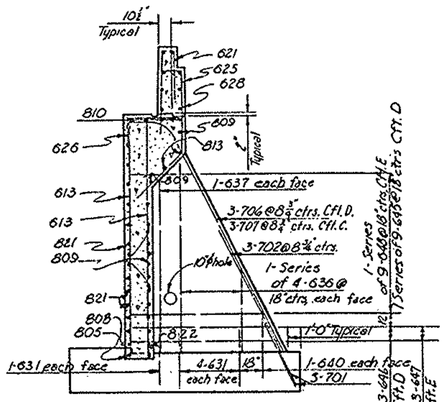
901 SHEET 186

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

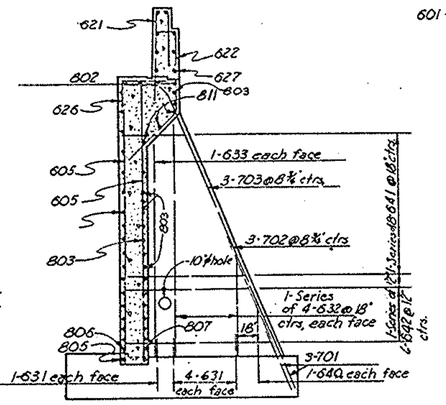
187 / 204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

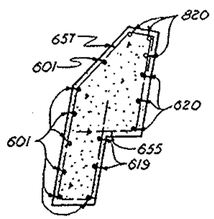
Note: Counterfort reinforcing shown in Section B-B is typical for counterforts D and E.



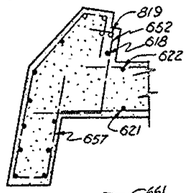
SECTION B-B
Scale: 3/16" = 1'-0"



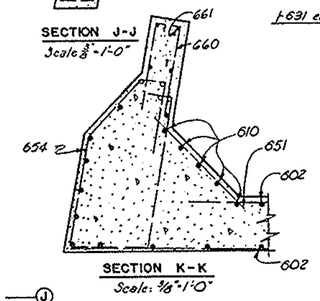
SECTION D-D
Scale: 3/16" = 1'-0"



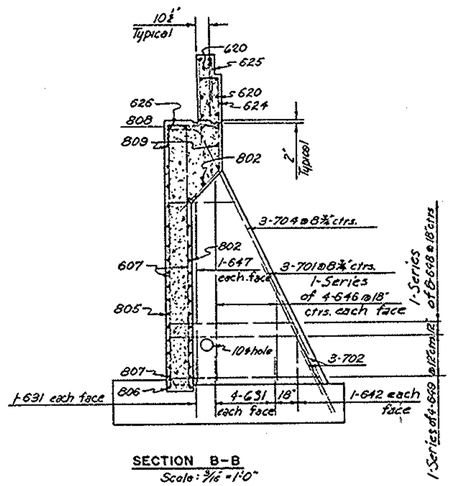
SECTION H-H
Scale: 3/8" = 1'-0"



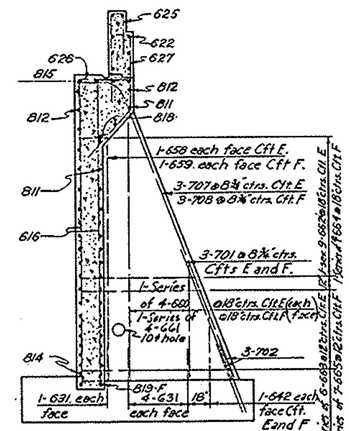
SECTION J-J
Scale 3/8" = 1'-0"



SECTION K-K
Scale: 3/16" = 1'-0"

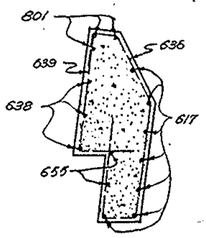


SECTION B-B
Scale: 3/16" = 1'-0"

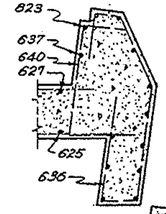


SECTION D-D
Scale: 3/16" = 1'-0"

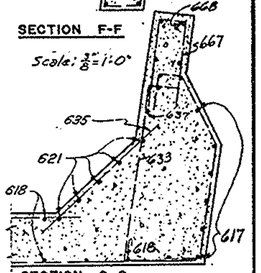
Note: Details and dimensions of counterforts are similar to those shown in sections A-A, Sheets 186 and 188 except as noted.



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

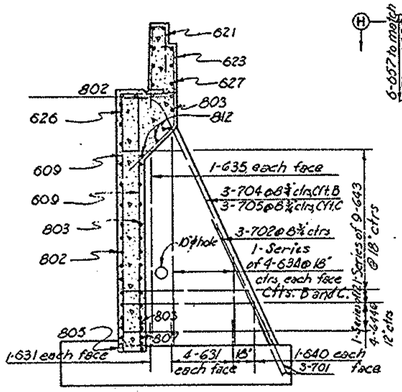


SECTION F-F
Scale: 3/8" = 1'-0"

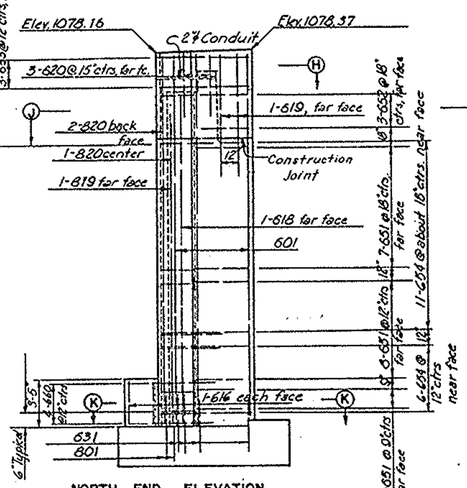


SECTION G-G
Scale: 3/8" = 1'-0"

Note: Counterfort reinforcing shown in section C-C is typical for counterforts B and C.

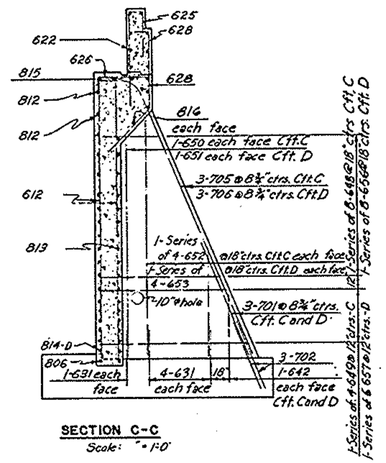


SECTION C-C
Scale: 3/16" = 1'-0"

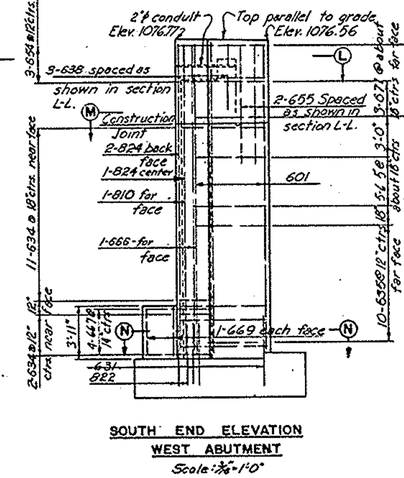


NORTH END ELEVATION
EAST ABUTMENT
Scale: 3/16" = 1'-0"

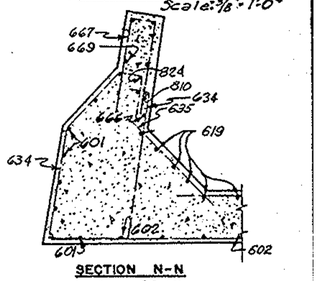
Note:
For plan and elevation of west abutment see Sheet 186.
For plan and elevation of east abutment see Sheet 188.
For Reinforcing Schedule see Sheets 193 and 194.
For porous backfill details see Sheet 193.



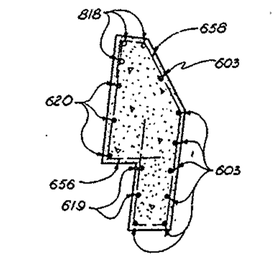
SECTION C-C
Scale: " = 1'-0"



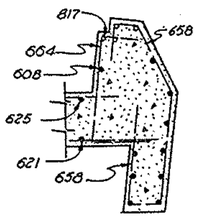
SOUTH END ELEVATION
WEST ABUTMENT
Scale: 3/16" = 1'-0"



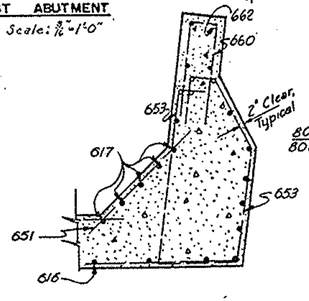
SECTION N-N
Scale: 3/8" = 1'-0"



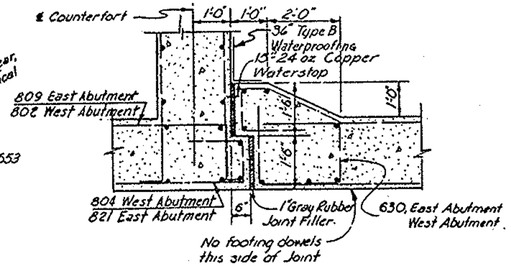
SECTION E-E
Scale: 3/8" = 1'-0"



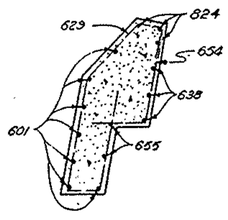
SECTION F-F
Scale: 3/8" = 1'-0"



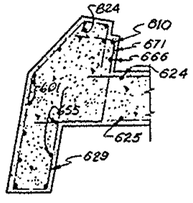
SECTION G-G
Scale: 3/8" = 1'-0"



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



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



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

PART 6

AKRON EXPRESSWAY SYSTEM

CHITTENDEN STREET OVERPASS
BR. NO. SU-18R-131

ABUTMENT DETAILS

AKRON SUMMIT COUNTY. OHIO

SCALE As shown
MADE DLL DATE 8-3-54
TRCD. DATE
CKD. D.F.B. DATE 10-18-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901

SHEET 187

192

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

188
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

PLAN

ELEVATION

SOUTH END ELEVATION

SECTION A-A

FOOTING PLAN

COUNTERFORT A

COUNTERFORT B

COUNTERFORT C

COUNTERFORT D

COUNTERFORT E

COUNTERFORT F

Note:
Rustication spacing shown is at the Northwest and Southwest corners of abutment. Rustications to be parallel to grade on end elevations and horizontal on Abutment face.

Note:
Dimensions shown are typical for all counterforts except as noted.

Note:
Slope Bridge seat between shoes to drain along backwall

Note:
See Sheet 187 for Sections B-B, C-C, D-D, E-E, F-F, and G-G.

Note:
For North end elevation see sheet 187

NOTES:
For sections and other details see Sheet 187.
Backwall elevations given to back of L 6"x4"x⅝".
The backwall is to be poured after the Expansion Joint steel has been attached to the Bridge Superstructure. See Expansion Joint details, Sheet 136.
All piles to be 12 BP 53
Pile spacing given at bottom of footing.
For porus backfill detail see sheet 138.
For Reinforcement Schedule see sheets 193 and 194.

PART 6

AKRON EXPRESSWAY SYSTEM
CHITTENDEN STREET OVERPASS
BR. NO. SU-18R-131
EAST ABUTMENT
AKRON SUMMIT COUNTY, OHIO

SCALE 3/16"-1'-0" MADE DLL DATE 8-2-54
TRCD. DATE
CKD. DER DATE 10-18-54

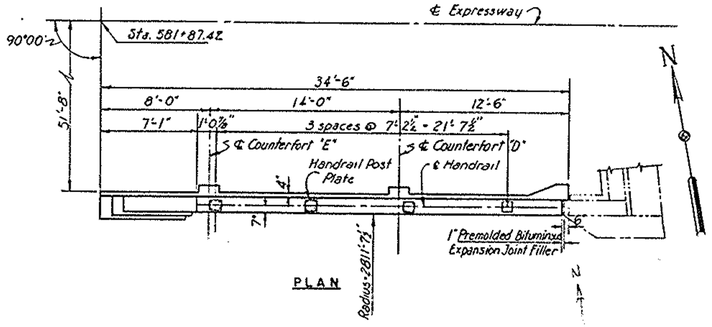
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 188

193

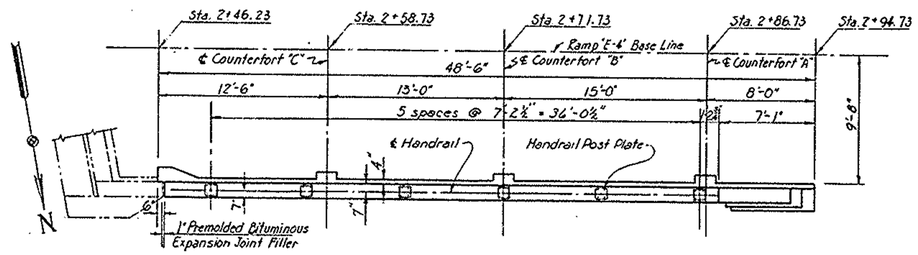
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

189
204

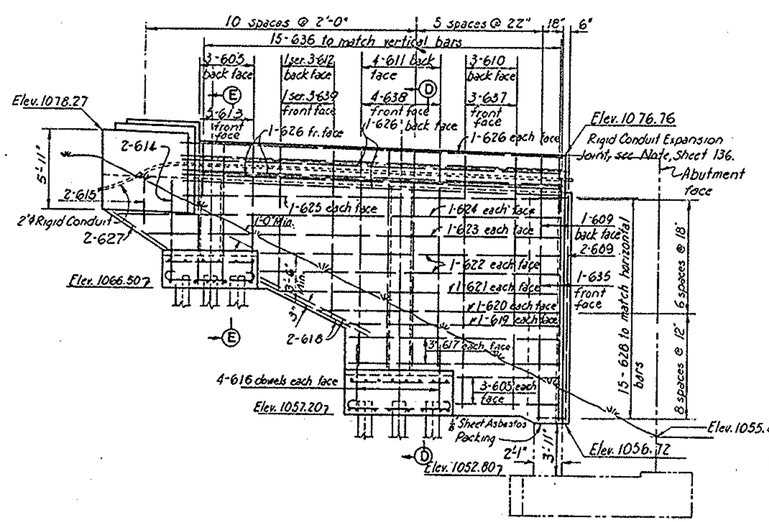
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



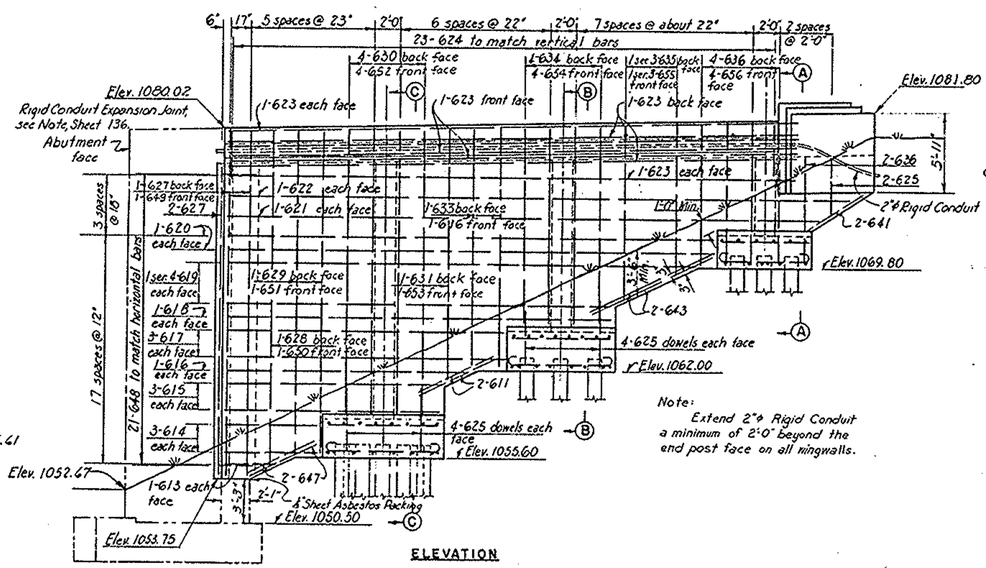
PLAN



PLAN

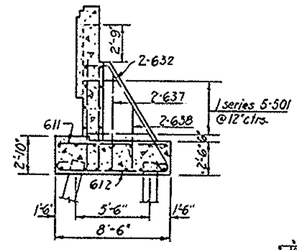


DEVELOPED ELEVATION

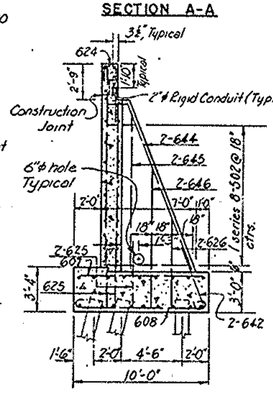


ELEVATION

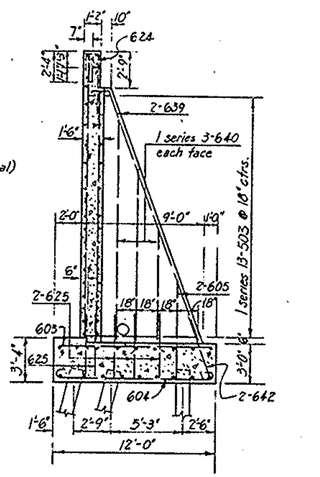
Note:
Extend 2"Ø Rigid Conduit a minimum of 2'-0" beyond the end post face on all wingwalls.



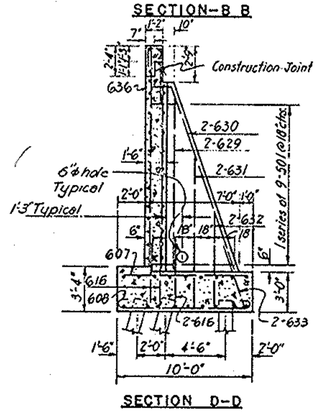
SECTION A-A



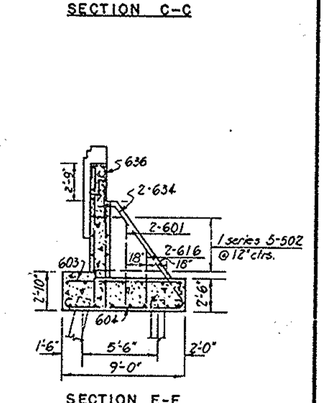
SECTION B-B



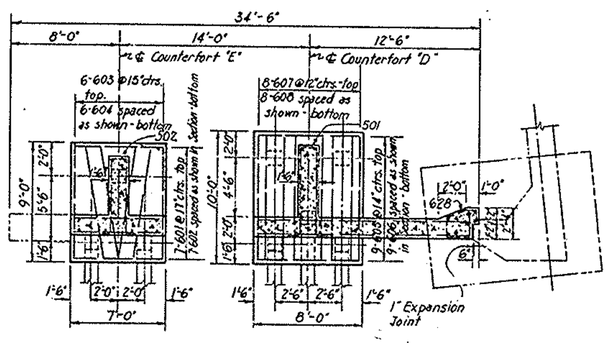
SECTION C-C



SECTION D-D

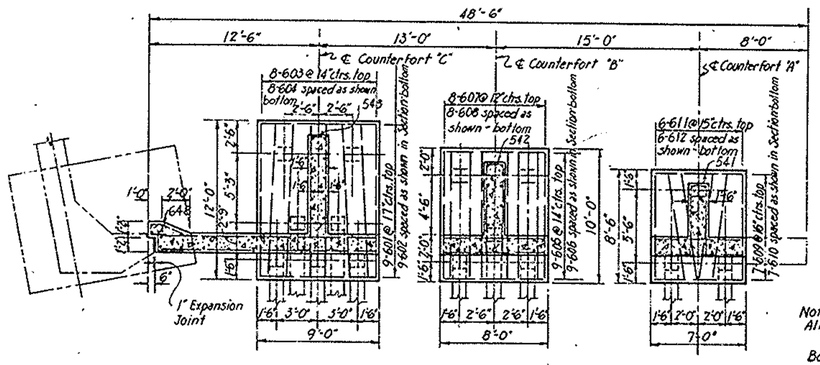


SECTION E-E



FOOTING PLAN

SOUTHWEST WINGWALL



FOOTING PLAN

NORTHWEST WINGWALL

Notes:
All piles to be 12 BP 53. Pile spacing is given at bottom of footing. All battered piles to be 3" in 12".
Bottom of pile elevation to be 1038.0 ±.
Wingwall rustications to match abutment rustications and are parallel to grade.
For details of key at abutment, see Sheet 138.
For Handrail and Handrail Post Details, see Sheet 138.
For Porous Backfill details, see Sheet 138.
End Post details and reinforcing are shown on Sheet 138.
For Reinforcement Schedule see sheets 193 and 194.

PART 6

AKRON EXPRESSWAY SYSTEM
CHITTENDEN STREET OVERPASS
BR. NO. SU-18R-131

SOUTHWEST AND NORTHWEST WINGWALLS

AKRON SUMMIT COUNTY, OHIO

SCALE 3/8" = 1'-0"
MADE P.K. DATE 8-12-54
TRCD. DATE
CKD. C.K.T. DATE 10-18-54

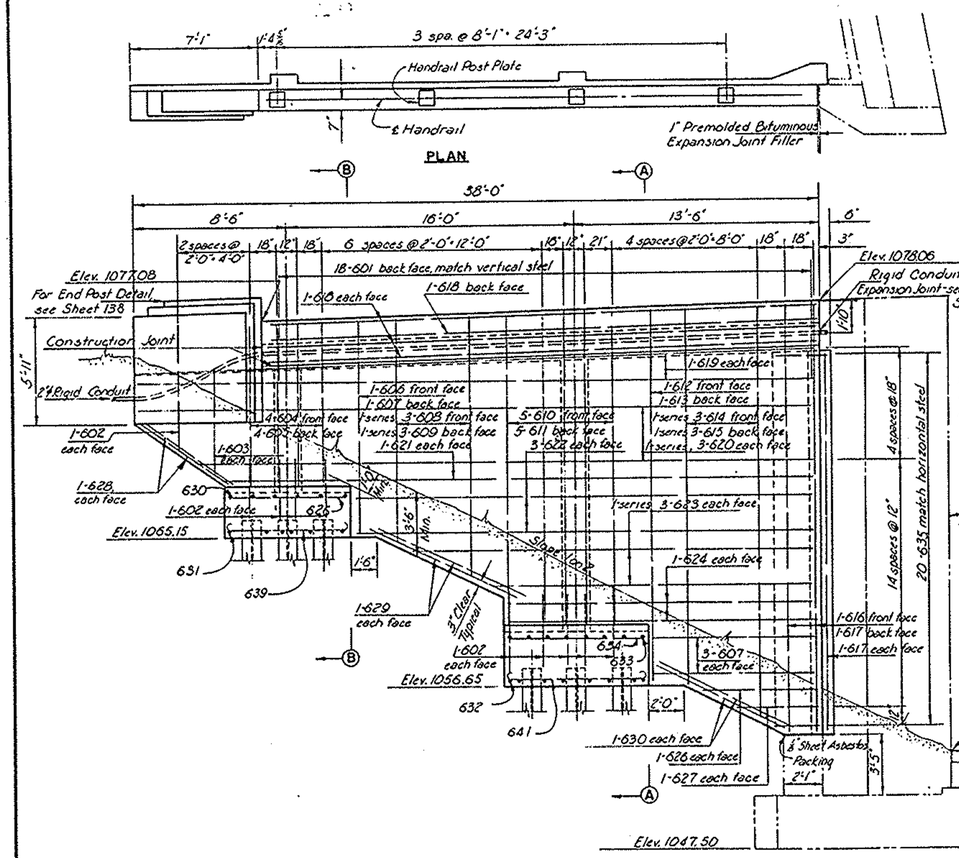
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 189

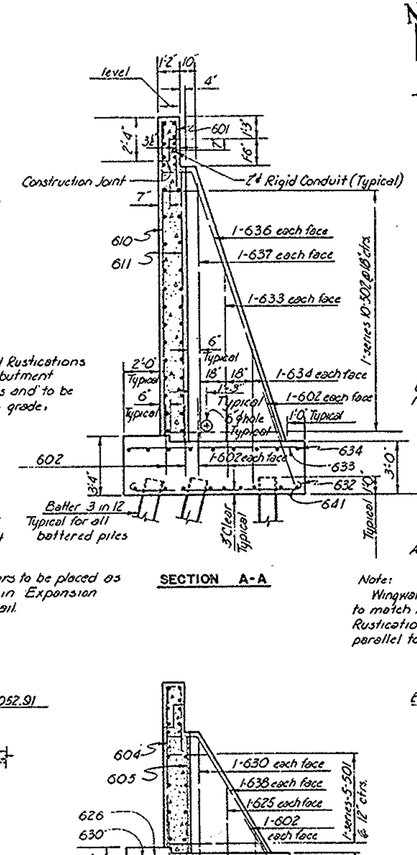
195

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

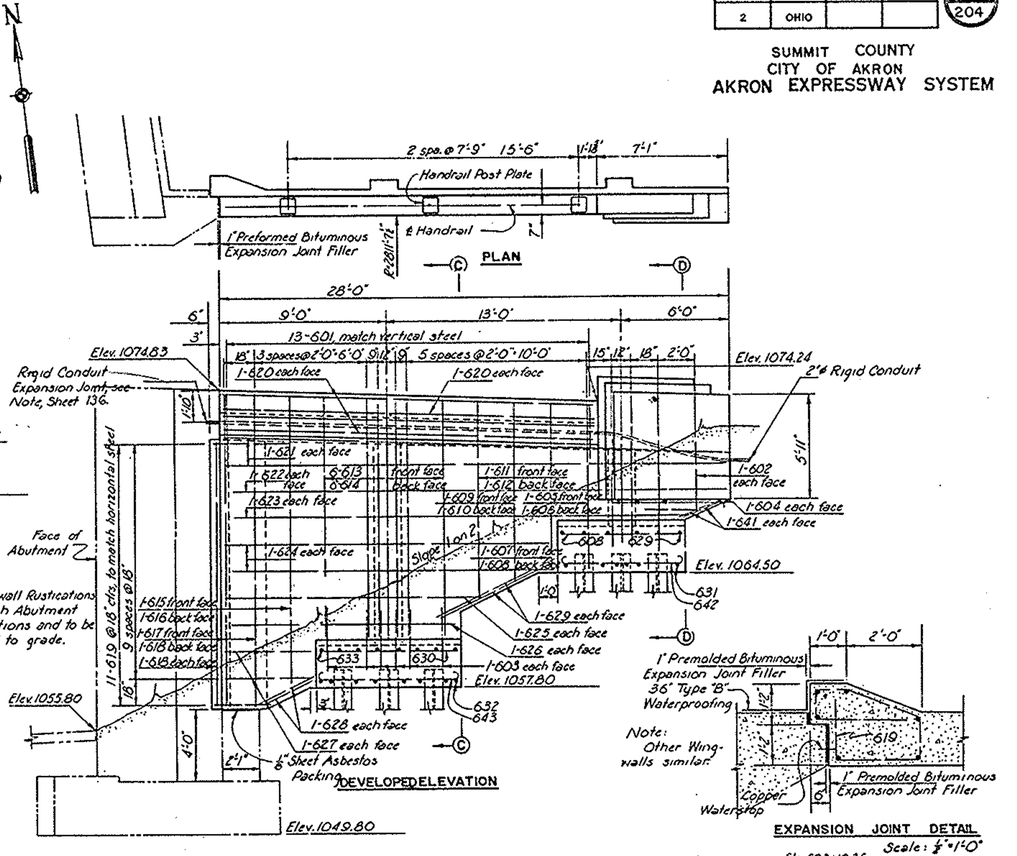
190
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

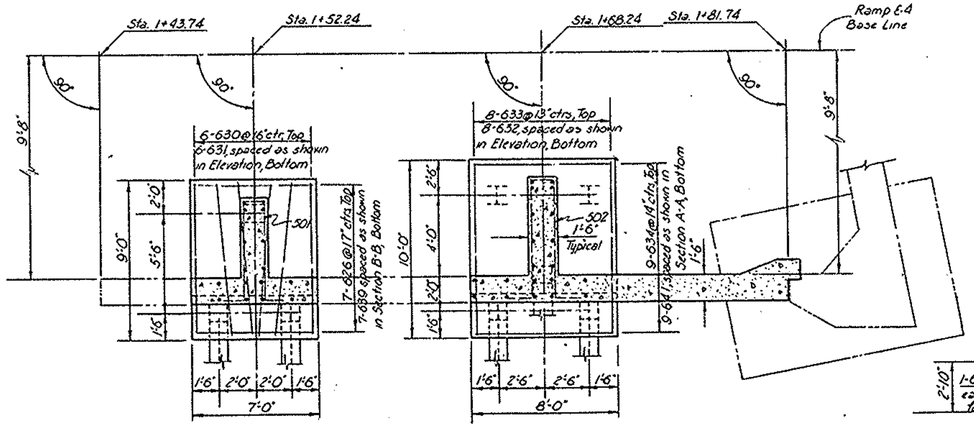


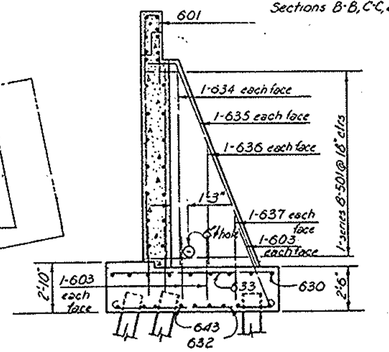


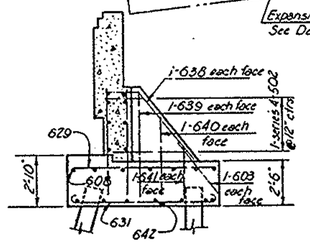
Note:
Wingwall Rustications to match Abutment Rustications and to be parallel to grade.

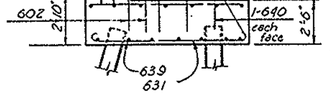


Note:
Wingwall Rustications to match Abutment Rustications and to be parallel to grade.

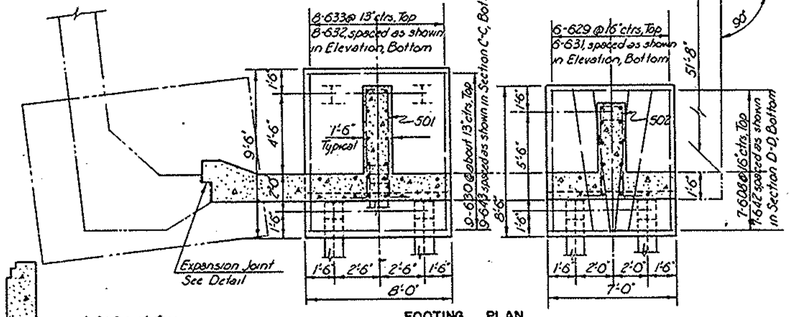








Note:
See Section A-A for details and dimensions not shown in Sections B-B, C-C, and D-D.



NOTES:
All piles to be 12 BP 53. Spacing is given at bottom of footing. All battered piles to be battered 3 in 12
For porus backfill details see sheet 138.
SOUTHEAST WINGWALL

PART 6

AKRON EXPRESSWAY SYSTEM
CHITTENDEN STREET OVERPASS
BR. NO. SU-18R-131
NORTHEAST AND SOUTHEAST WINGWALLS
AKRON SUMMIT COUNTY, OHIO

SCALE 1"=1'-0"
MADE DLL DATE 8-10-54
TRCD. DATE
CKD. C.K.T. DATE 10-18-54

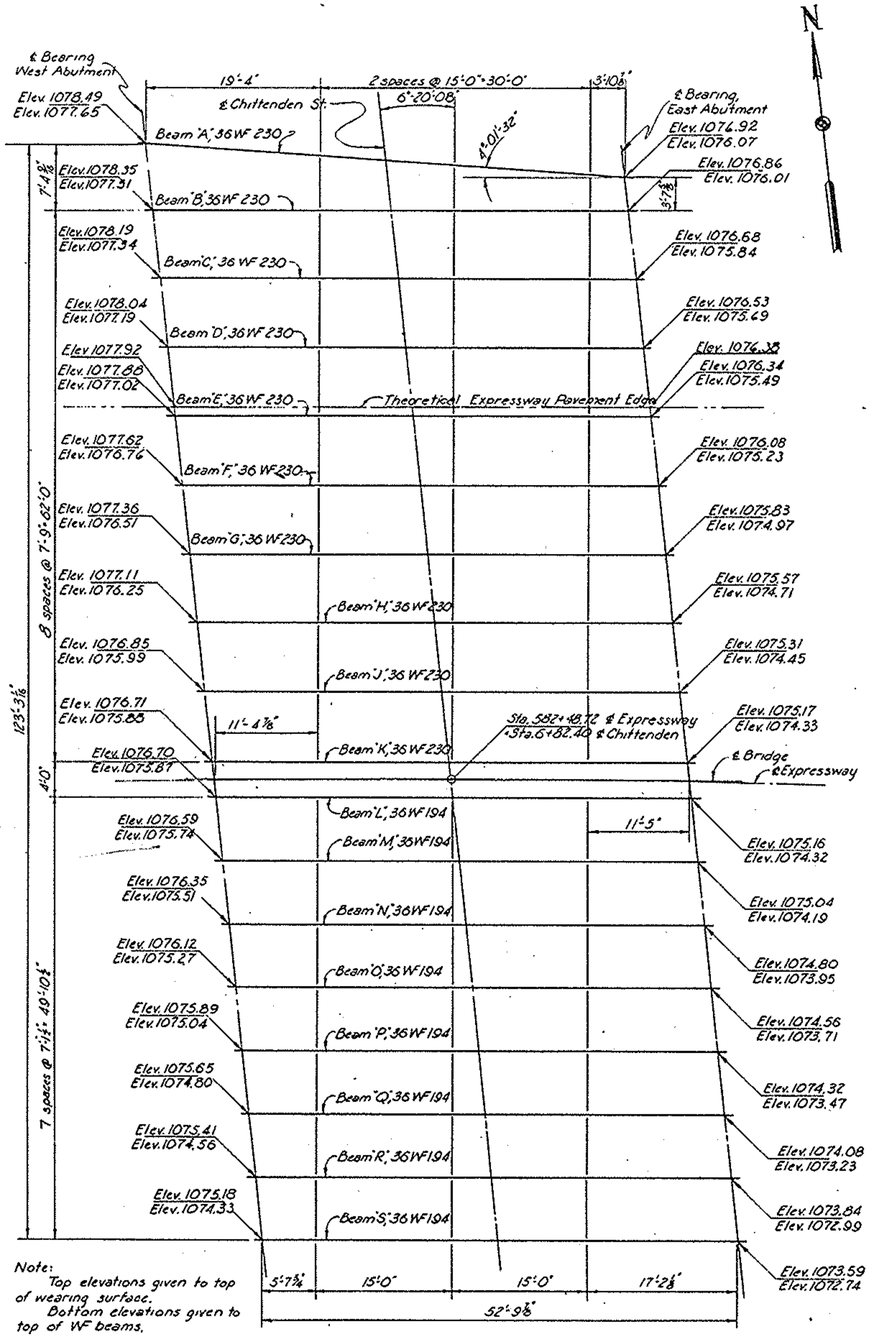
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

901 SHEET 190

196

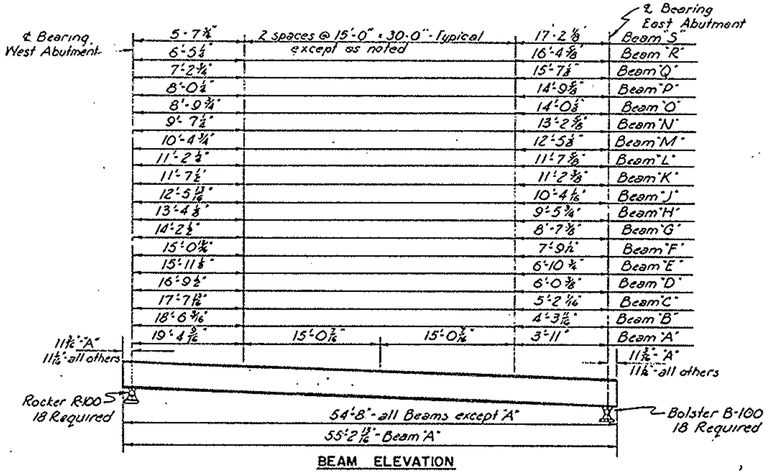
FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS	191 / 204
2	OHIO			

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

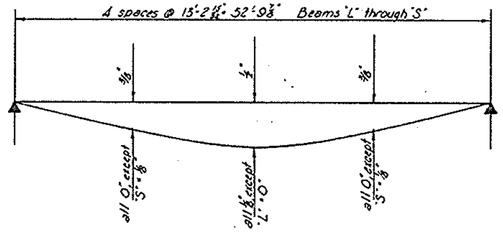


Note:
Top elevations given to top of wearing surface.
Bottom elevations given to top of WF beams.

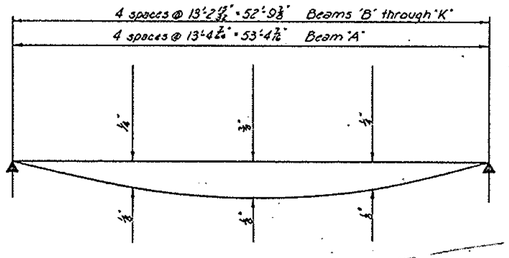
FRAMING PLAN



BEAM ELEVATION



SOUTH ROADWAY



NORTH ROADWAY

DEAD LOAD DEFLECTION DIAGRAMS

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

NOTES:
For Rocker and Bolster details, see Sheet 136.
For details of expansion joints see Sheet 136.

PART 6

AKRON EXPRESSWAY SYSTEM
CHITTENDEN STREET OVERPASS
BR. NO. SU-18R-131

FRAMING PLAN

AKRON SUMMIT COUNTY. OHIO

SCALE ⅛" = 1'-0"
MADE DLL DATE 7-15-54
TRCD. DATE
CKD. D.F.B. DATE 10-18-54

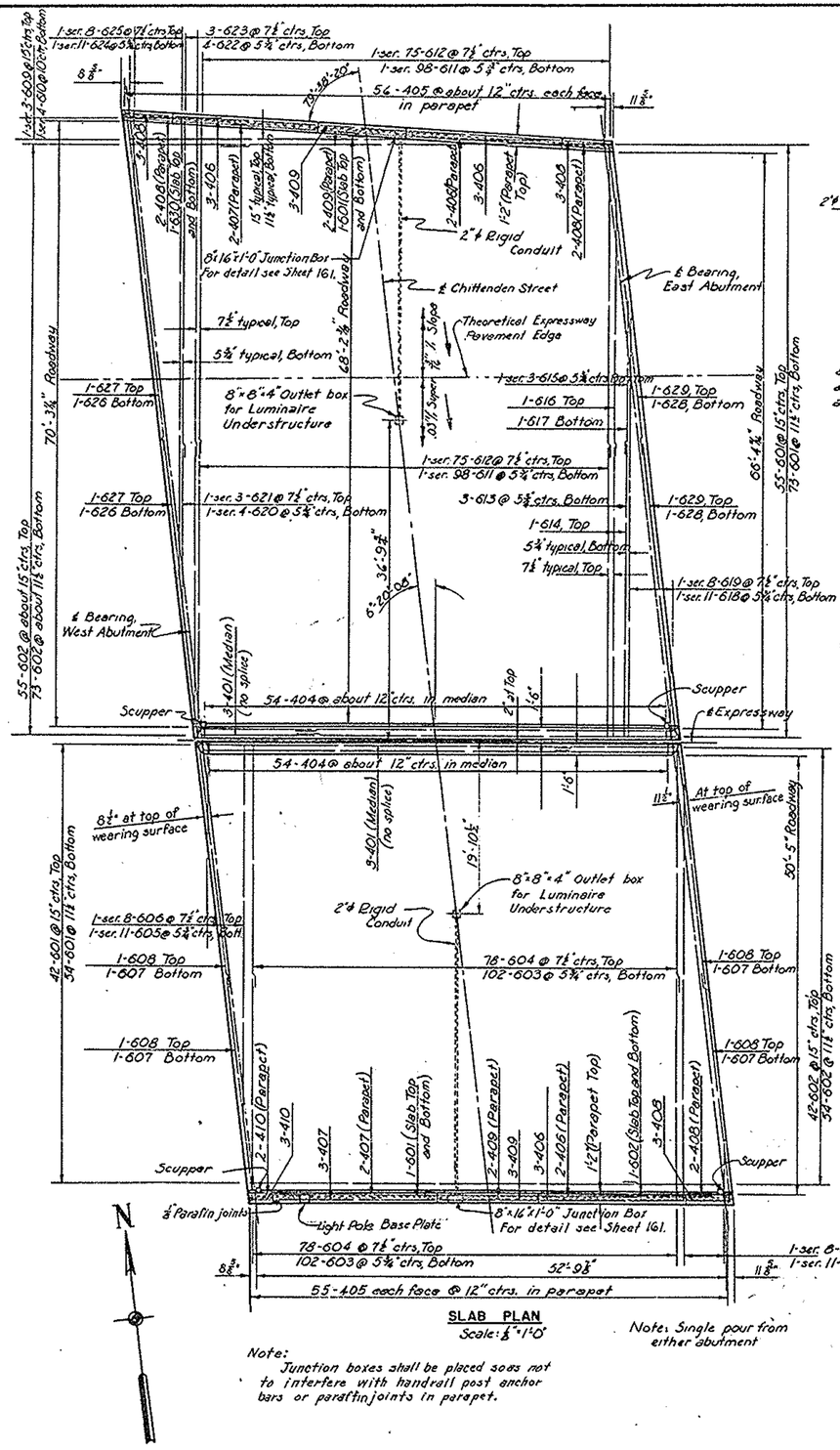
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 191

200

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

192
204

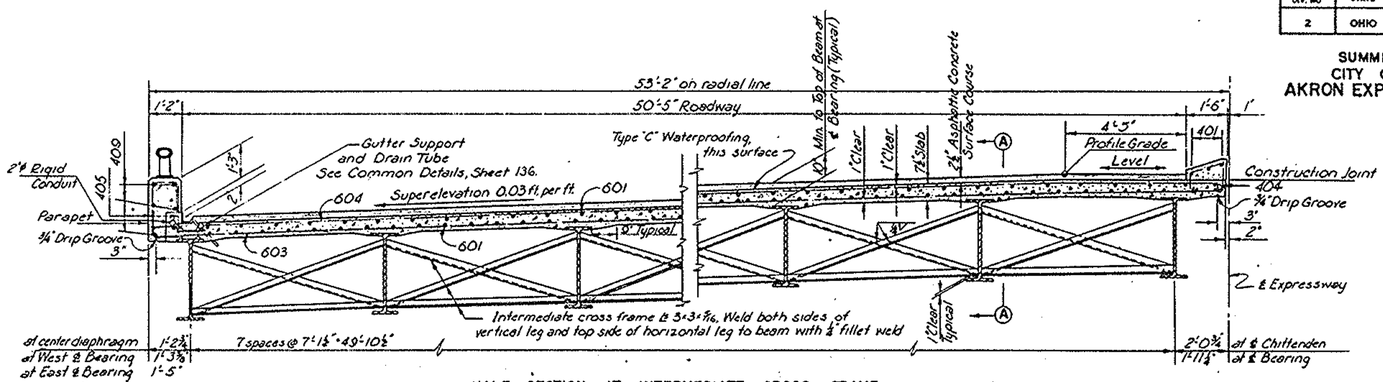
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



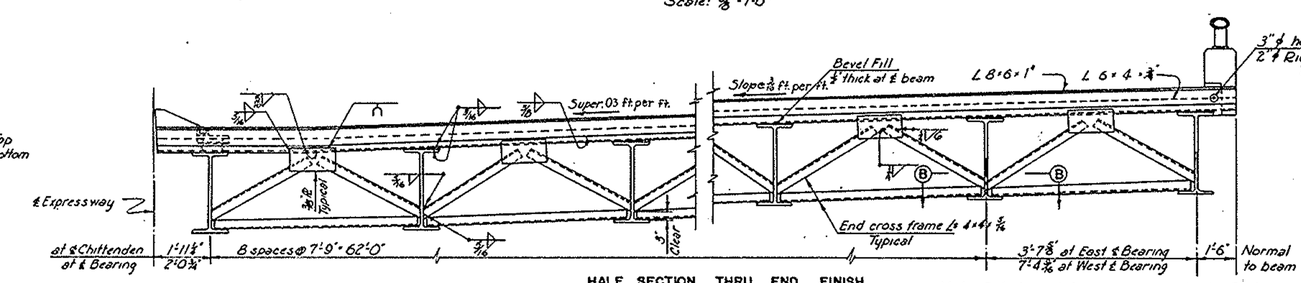
SLAB PLAN
Scale: ⅛" = 1'-0"

Note: Single pour from either abutment

Note:
Junction boxes shall be placed so as not to interfere with handrail post anchor bars or paraffin joints in parapet.

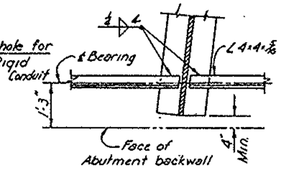


HALF SECTION AT INTERMEDIATE CROSS FRAME
(Showing South Roadway)
Scale: ⅜" = 1'-0"

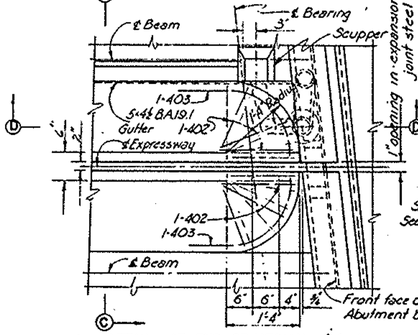


HALF SECTION THRU END FINISH
(Showing North Roadway)
Scale: ⅜" = 1'-0"

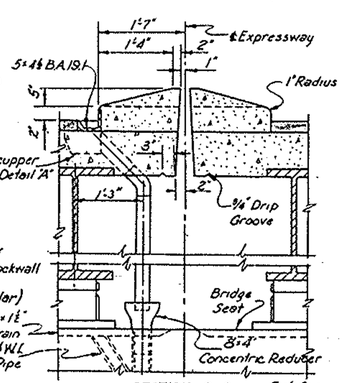
Note: Details and dimensions of North Roadway are similar to those of South Roadway, except as noted.



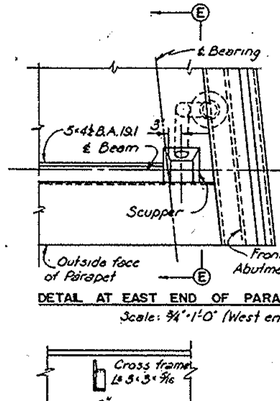
SECTION B-B
Scale: ½" = 1'-0"



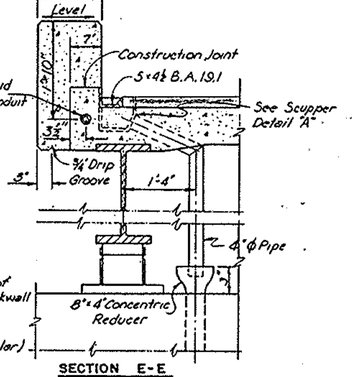
DETAIL AT END OF MEDIAN (West end similar)
Scale: ¾" = 1'-0"



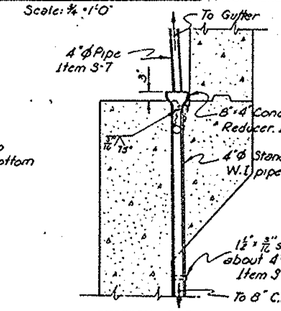
SECTION C-C
Scale: ¾" = 1'-0"



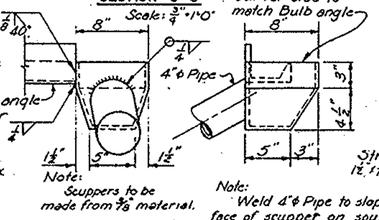
DETAIL AT EAST END OF PARAPET
Scale: ¾" = 1'-0" (West end similar)



SECTION E-E
Scale: ¾" = 1'-0"



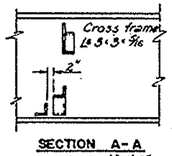
SECTION D-D
Scale: ½" = 1'-0"



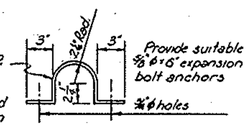
Note: Scuppers to be made from ⅜" material.

DETAIL A
Scale: 1½" = 1'-0"

Note: Weld 4" ϕ Pipe to sloped face of scupper on south roadway scuppers.



SECTION A-A
Scale: ½" = 1'-0"



STRAP PIPE HANGER
Scale: 1½" = 1'-0"

Notes:
For expansion joint details, see Sheet 136.
For handrail details, see Sheet 138.
For lighting details, see Sheet 136.
For detail of ⅛" paraffin joints in parapet see Sheet 138.

PART 6

AKRON EXPRESSWAY SYSTEM

CHITTENDEN STREET OVERPASS

BR. NO. :SU-18R-131

SLAB PLAN AND CROSS SECTION

AKRON SUMMIT COUNTY, OHIO

SCALE As shown
MADE DL DATE 7-22-54
TRCD. DATE
CKD. D.F.B. DATE 10-18-54

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

901 SHEET 192

199

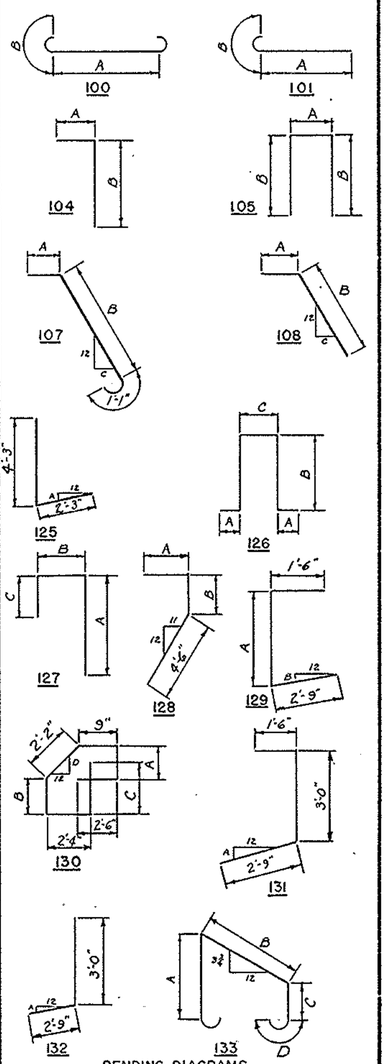
MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
SUPERSTRUCTURE SLAB									
401	6	511'-9"	Str.						207
402	12	21'-6"	130	11'-3"	7"	8"			20
403	4	41'-7"	138	11'-7"	15 3"	11'-5"	11'-0"		10
404	108	31'-5"	133	11'-0"	11'-3"	7"	8"		253
405	222	31'-10"	137	11'-11"	10"	11'-1"			568
406	15	161'-0"	Str.						160
407	5	181'-0"	Str.						60
408	15	51'-3"	Str.						53
409	10	111'-0"	Str.						73
410	6	21'-6"	Str.						8
601	228	601'-0"	Str.						13,698
602	226	151'-0"	Str.						5,431
603	204	271'-5"	Str.						8,426
604	156	201'-3"	101	271'-3"	11'-0"				6,610
605	2 Series of 11	71'-3" to 481'-5"	Str.					41-1/2"	921
606	2 Series of 8	81'-1" to 481'-1"	101	71'-1" to 471'-1"	11'-0"			5"-11/2"	675
607	4	271'-5"	Str.						167
608	4	201'-5"	101	271'-5"	11'-0"				171
609	1 Series of 5	111'-5" to 481'-5"	Str.					181'-6"	135
610	2 Series of 6	51'-5" to 401'-0"	Str.					111'-0"	139
611	2 Series of 93	351'-3" to 371'-3"	Str.					0-1/16"	10,672
612	2 Series of 75	701'-0" to 381'-0"	101	351'-0" to 371'-0"	11'-0"			0-5/16"	8,336
613	3	351'-0"	Str.						158
614	2	351'-0"	101	341'-0"	11'-0"				107
615	1 Series of 3	231'-0" to 311'-0"	Str.					11'-1-1/7"	123
616	1	271'-5"	Str.						45
617	1	101'-3"	Str.						29
618	1 Series of 11	81'-5" to 511'-0"	Str.					11'-3-7/8"	498
619	1 Series of 10	71'-8" to 471'-0"	101	61'-8" to 261'-0"				51'-1-1/2"	329
620	1 Series of 2	201'-5" to 331'-5"	Str.					41'-4"	162
621	1 Series of 3	211'-0" to 321'-3"	Str.					51'-7-1/2"	120
622	4	361'-0"	Str.						216
623	2	361'-0"	101	351'-0"	11'-0"				166
624	1 Series of 11	71'-0" to 501'-0"	Str.					11'-3-5/8"	471
625	1 Series of 8	101'-3" to 501'-0"	101	81'-3" to 481'-0"	11'-0"			51'-8"	362
626	2	371'-5"	Str.						113
627	2	381'-3"	101	371'-3"	11'-0"				115
628	2	351'-5"	Str.						107
629	2	361'-3"	101	351'-3"	11'-0"				109
630	2	161'-9"	Str.						50
								Total	60,093

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
EAST ABUTMENT									
601	102	11'-0"	Str.						126
601	7	271'-5"	Str.						289
602	14	211'-0"	Str.						126
603	111	211'-5"	Str.						355
604	12	201'-9"	Str.						374
605	6	211'-3"	Str.						192
606	12	191'-5"	Str.						351
607	6	191'-9"	Str.						178
608	13	181'-9"	Str.						366
609	6	101'-0"	Str.						171
610	22	171'-0"	Str.						587
611	6	181'-3"	Str.						164
612	12	171'-3"	Str.						311
613	6	171'-5"	Str.						158
614	2 Series of 8	151'-9" to 161'-3"	Str.					1-1/8"	288
615	4	161'-0"	Str.						96
616	4	153"3"	Str.						92
617	R1	131'-0"	Str.						1,101
618	1	241'-0"	Str.						37
619	4	91'-0"	Str.						54
620	6	41'-0"	Str.						43
621	R2	101'-7"	127	61'-9"	10"	31'-0"			1,303
622	1 Series of 32	111'-0" to 121'-5"	128	11'-5"	51'-0" to 61'-5"			0-1/2"	598
623	1 Series of 12	111'-5" to 121'-1"	128	11'-5"	51'-0" to 61'-5"			0-7/16"	214
624	1 Series of 19	111'-3" to 111'-8"	128	11'-5"	51'-0" to 61'-5"			0-7/16"	225
625	1 Series of 21	111'-0" to 121'-5"	128	11'-5"	51'-0" to 61'-5"			0-3/16"	370
626	R3	61'-0"	101	21'-2"	31'-10"				748
627	16	351'-9"	Str.						859
628	16	281'-3"	Str.						679
629	1	261'-3"	125	11'-0"	111'-4"	11'-7"			39
630	15	121'-3"	130	11'-3"	11'-8"	21'-0"	6		283

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
631	164	41'-0"	Str.						985
632	2 Series of 4	81'-0" to 181'-0"	Str.					3'-4"	156
633	3	181'-0"	Str.						54
634	4 Series of 4	71'-0" to 151'-0"	Str.					3'-0"	294
635	4	171'-0"	Str.						102
636	4 Series of 4	71'-0" to 151'-6"	Str.					2'-10"	270
637	4	161'-0"	Str.						96
638	2 Series of 4	61'-0" to 131'-6"	Str.					2'-6"	117
639	54	111'-6"	Str.						933
640	12	51'-0"	Str.						90
641	1 Series of R	121'-7" to 211'-3"	126	11'-0"	21'-5" to 81'-10"	11'-7"		7-1/2"	203
642	1 Series of 6	221'-1" to 261'-3"	126	11'-0"	101'-1" to 111'-4"	11'-7"		5"	218
643	2 Series of 9	121'-1" to 221'-5"	126	11'-0"	41'-10" to 91'-2"	11'-7"		8"	471
644	2 Series of A	231'-0" to 261'-3"	126	11'-0"	101'-1" to 111'-4"	11'-7"		5"	300
645	1 Series of 3	101'-0" to 221'-5"	126	6"	91'-10" to 111'-4"	11'-7"		8-3/4"	224
646	1 Series of 3	231'-3" to 251'-3"	126	6"	101'-4" to 111'-4"	11'-7"		6"	109
647	1 Series of 3	241'-3" to 261'-3"	126	11'-0"	101'-4" to 111'-4"	11'-7"		6"	114
648	1 Series of 9	111'-9" to 231'-5"	126	11'-0"	41'-1" to 91'-11"	11'-7"		8-3/4"	238
649	16	131'-4"	100	111'-6"	11"				320
650	1 Series of 2	111'-11"to 251'-3"	126	11'-0"	41'-10" to 101'-0"	11'-7"		10"	251
651	32	5'-6"	Str.						264
652	3	71'-3"	131	2-1/2					33
653	12	211'-1"	137	5'-6"	1-1/2				380
654	17	201'-3"	136	51'-6"	2-1/2				517
655	3	51'-0"	132	2-1/2					26
656	3	61'-6"	135	1-1/2					29
657	6	151'-0"	140	2-1/2					144
658	6	161'-0"	141	1-1/2					144
659	18	91'-10"	100	81'-0"	11"				266
660	8	91'-2"	105	11'-3"	41'-0"				110
661	4	31'-0"	Str.						18
662	4	31'-5"	Str.						21
663	R4	121'-10"	100	111'-0"	11"				1,619
664	3	181'-1"	129	31'-10"	1-1/2				36
665	1 Series of 2	111'-11"to 251'-3"	126	11'-0"	41'-10" to 101'-0"	11'-7"		10"	251
666	1	201'-5"	Str.						31
667	7	91'-2"	105	11'-2"	4'-0"				96
668	4	31'-0"	Str.						18
669	4	31'-5"	Str.						21
670	R4	121'-10"	100	111'-0"	11"				1,619
671	3	71'-3"	131	2					33

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
WEST ABUTMENT									
601	108	11'-0"	Str.						126
601	7	231'-3"	Str.						264
602	3	171'-0"	Str.						77
603	4	171'-0"	Str.						107
604	12	171'-3"	Str.						311
605	27	101'-3"	Str.						781
606	12	181'-3"	Str.						329
607	6	101'-0"	Str.						178
608	18	91'-10"	100	81'-0"	11"				266
609	16	131'-4"	100	11'-6"	11"				320
610	6	201'-9"	Str.						187
611	12	201'-3"	Str.						365
612	6	211'-3"	Str.						192
613	12	211'-0"	Str.						370
614	6	221'-5"	Str.						203
615	12	221'-0"	Str.						397
616	8	231'-0"	Str.						276
617	7	281'-0"	Str.						302
618	4	221'-3"	Str.						134
619	6	131'-9"	Str.						124
620	16	281'-3"	Str.						679
621	5	191'-0"	Str.						143
622	16	371'-0"	Str.						907
623	54	131'-0"	Str.						1,054
624	1 Series of 38	111'-1" to 121'-7"	128	11'-5"	51'-0" to 61'-5"			0-9/16"	622
625	83	101'-7"	127	61'-9"	10"	31'-0"			1,319
626	85	61'-0"	104	21'-2"	31'-10"				766
627	1 Series of 23	111'-3" to 121'-1"	128	11'-5"	51'-0" to 61'-5"			0-7/16"	438
628	1 Series of 23	111'-2" to 121'-2"	128	11'-5"	51'-0" to 61'-5"			0-9/16"	403
629	6	161'-0"	140	?					144
630	15	121'-7"	130	11'-2"	11'-8"	21'-0"	6		283
631	164	41'-0"	Str.						985
632	54	111'-5"	Str.						933
633	10	211'-2"	137	51'-7"	1-3/8				604
634	13	201'-1"	136	51'-6"	2				392
635	35	51'-6"	Str.						289
636	6	161'-0"	141	1-3/4					144
637	1	261'-0"	Str.						39
638	6	41'-3"	Str.						38
639	3	61'-6"	125	1-3/4					29
640	3	81'-5"	129	41'-3"	1-3/4				38
641	2 Series of 2	61'-3" to 151'-3"	Str.					3'-0"	129
642	12	51'-0"	Str.						90
643	2	161'-0"	Str.						68
644	1 Series of 8	131'-9" to 241'-3"	126	11'-0"	51'-10" to 101'-0"	11'-7"		9-1/8"	228
645	1 Series of 3	251'-3" to 261'-3"	126	11'-0"	101'-10" to 111'-4"	11'-7"		3	116
646	2 Series of A	61'-5" to 161'-0"	Str.					3'-2"	135
647	2	151'-0"	Str.						45
648	2 Series of A	131'-3" to 221'-5"	126	11'-0"	41'-10" to 91'-2"	11'-7"		7-7/8"	429
649	2 Series of A	231'-5" to 261'-3"	126	11'-0"	91'-11" to 111'-4"	11'-7"		5"	298
650	2	171'-0"	Str.						51
651	2	181'-6"	Str.						55
652	2 Series of A	71'-5" to 181'-0"	Str.					3'-3"	153
653	2 Series of A	71'-0" to 181'-5"	Str.					3'-7"	158
654	3	5'-9"	132	2					26
655	4		Str.						49
655	1 Series of R	121'-7" to 211'-3"	126	11'-0"	41'-0" to 81'-10"	11'-7"		7-7/16	203
657	1 Series of 6	221'-1" to 261'-3"	126	11'-0"	91'-11" to 111'-4"	11'-7"		5"	218
658	2	171'-5"	Str.						52
659	2	191'-0"	Str.						57
660	2 Series of A	71'-0" to 191'-0"	Str.					3'-9"	161
661	2 Series of 9	81'-5" to 201'-0"	Str.					3'-10"	171
662	1 Series of R	121'-1" to 211'-9"	126	11'-0"	21'-3" to 91'-3"	11'-7"		7-1/4"	229
663	1 Series of R	221'-7" to 261'-3"	126	11'-0"	91'-10" to 111'-4"	11'-7"		6-7/16"	220
664	1 Series of 9	121'-5" to 201'-11"	126	11'-0"	41'-10" to 91'-2"	11'-7"		6-3/8"	225
665	1 Series of 7	211'-7" to 261'-3"	126	11'-0"	91'-0" to 111'-4"	11'-7"		4-5/8"	251
666	1	201'-5"	Str.						31
667	7	91'-2"	105	11'-2"	4'-0"				96
668	4	31'-0"	Str.						18
669	4	31'-5"	Str.						21
670	R4	121'-10"	100	111'-0"	11"				1,619
671	3	71'-3"	131	2					33

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
701	18	101'-0"	Str.						368
702	96	41'-6"	Str.						331
703	3	211'-10"	135	21'-4"	21'-0"	171'-5"	5-3/4		134
704	3	231'-4"	135	21'-4"	21'-0"	191'-0"	5-1/2		143
705	3	241'-1"	135	21'-4"	21'-0"	191'-0"	5		168
706	3	241'-10"	135	21'-4"	21'-0"	201'-5"	5		152
707	3	251'-4"	135	21'-4"	21'-0"	211'-0"	4-3/4		155
708	3	251'-10"	135	21'-4"	21'-0"	211'-5"	4-1/2		158
801	3	201'-0"	Str.						232
802	14	521'-0"	104	501'-6"	11'-6"				1,944
803	2	41'-0"	Str.						21
804	14	331'-0"	Str.						1,262
805	14	261'-6"	127	231'-0"	11'-2"	11'-7"			991
806	10	51'-0"	Str.						154
807	2	301'-6"	Str.						163
808	8	281'-0"	Str.						614
809	2	451'-0"	Str.						240
810	1	201'-6"	Str.						55
811	17	341'-6"	Str.						1,566
812	38	381'-0"	Str.						3,855
813	16	381'-3"	Str.						1,634
814	4	351'-0"	Str.						384
815	8	381'-6"	Str.						822
816	3	351'-0"	Str.						280
817	4	321'-6"	Str.						347
818	2	351'-3"	Str.						194
819	2	71'-9"	Str.						41
820	22	81'-6"	Str.						499
821	24	101'-0"	Str.						641
822	8	51'-0"	Str.						107
823	1	261'-0"	Str.						69
824	3	231'-6"	Str.						188
901	30	121'-0"	101	10'-4"	1'-8"				1,224
902	48	191'-0"	100	15'-8"	1'-8"				3,101
								Total	43,378



BENDING DIAGRAMS

Note: Bars in series shall vary by equal increments.

PART 6

AKRON EXPRESSWAY SYSTEM

CHITTENDEN STREET OVERPASS

BR. NO. SU-18R-131

REINFORCEMENT SCHEDULE

AKRON SUMMIT COUNTY, OHIO

FED. ROAD DIV NO	STATE	FED. AID PROJ NO.	TYPE FUNDS
2	OHIO		

193
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

SCALE None
MADE DLL DATE 8-13-54
TRCD JRK DATE 10-12-54
CKD DFB-GWR DATE 10-18-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
901 SHEET 193

FED. ROAD DIV. NO.	STATE	FED. AID PROJ NO.	TYPE FUNDS
2	OHIO		

194
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

NORTHEAST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	1 Series of 5	131'-4" to 71'-8"	126	11'-0"	5'-11" to 2'-3"	11'-2"		8-1/2"	55
502	1 Series of 10	151'-8" to 71'-0"	126	11'-0"	6'-3" to 1'-11"	11'-2"		5-3/16"	118
601	18	61'-1"	127	41'-0"		10"	11'-3"		164
602	28	41'-0"	Str.						168
603	2	51'-5"	Str.						19
604	4	81'-9"	Str.						53
605	4	61'-3"	Str.						38
606	1	111'-9"	Str.						18
607	7	91'-0"	Str.						95
608	1 Series of 3	121'-5" to 141'-5"	Str.					11'-0"	61
609	1 Series of 3	111'-0" to 91'-9"	Str.					11'-0"	49
610	5	171'-3"	Str.						170
611	5	141'-5"	Str.						109
612	1	201'-9"	Str.						31
613	1	161'-0"	Str.						27
614	1 Series of 3	211'-0" to 231'-0"	Str.					11'-0"	99
615	1 Series of 3	181'-3" to 201'-3"	Str.					11'-0"	87
616	2	231'-9"	Str.						71
617	4	211'-0"	Str.						126
618	7	301'-3"	Str.						318
619	4	321'-3"	Str.						224
620	2 Series of 3	331'-6" to 351'-6"	Str.					11'-6"	317
621	2	321'-9"	Str.						98
622	6	251'-6"	Str.						230
623	2 Series of 3	181'-0" to 221'-0"	Str.					21'-0"	180
624	4	171'-0"	Str.						102
625	2	51'-9"	Str.						17
626	9	61'-6"	Str.						88
627	2	41'-6"	Str.						14
628	4	61'-3"	Str.						38
629	4	101'-0"	Str.						60
630	12	81'-6"	Str.						153
631	6	91'-10"	100	81'-0"	11"				89
632	8	101'-10"	100	91'-0"	11"				130
633	10	91'-6"	Str.						142
634	11	71'-6"	Str.						124
635	20	111'-9"	130	10"	11'-2"	21'-0"	5		353
636	2	171'-5"	108	11'-8"	151'-9"	3-1/4			52
637	2	141'-5"	Str.						41
638	2	91'-2"	108	11'-8"	71'-6"	7-1/8"			28
639	7	71'-10"	100	61'-0"	11"				82
640	2	31'-3"	Str.						10
641	9	81'-10"	100	71'-0"	11"				119

END POST

686	7	61'-3"	Str.						66
687	3	61'-0"	Str.						27
688	7	51'-5"	Str.						58
689	3	61'-9"	Str.						30
690	7	61'-0"	Str.						63
691	1	51'-5"	Str.						8
692	1	51'-9"	Str.						9
693	2	51'-0"	Str.						15
							Total		4,805

SOUTHEAST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	1 Series of 8	71'-0" to 151'-2"	126	11'-0"	11'-11" to 6'-0"	11'-2"		7"	93
502	1 Series of 4	71'-2" to 111'-8"	126	11'-0"	21'-2" to 41'-2"	11'-2"		9"	39
601	13	61'-1"	127	41'-0"	10"	11'-3"			119
602	2	41'-0"	104	21'-6"	11'-6"				12
603	20	41'-0"	Str.						120
604	6	61'-0"	Str.						54
605	1	81'-6"	Str.						13
606	1	51'-9"	Str.						9
607	1	91'-0"	Str.						14
608	8	61'-6"	Str.						78
609	1	101'-0"	Str.						15
610	1	71'-3"	Str.						11
611	1	111'-0"	Str.						17
612	1	81'-3"	Str.						12
613	6	131'-3"	Str.						119
614	6	101'-9"	Str.						97
615	1	151'-6"	Str.						25
616	1	131'-9"	Str.						21
617	2	171'-6"	Str.						53
618	4	141'-9"	Str.						89
619	11	111'-9"	130	10"	11'-2"	21'-0"	5		194
620	7	201'-3"	Str.						213
621	4	271'-6"	Str.						165
622	2	271'-0"	Str.						81
623	8	251'-3"	Str.						76
624	4	181'-0"	Str.						108
625	2	141'-0"	Str.						42
626	2	121'-9"	Str.						38
627	4	41'-9"	Str.						29
628	4	31'-3"	Str.						20
629	10	81'-0"	Str.						120
630	9	71'-6"	Str.						101
631	6	91'-4"	100	71'-8"	11"				84
632	8	101'-4"	100	81'-6"	11"				124
633	8	91'-0"	Str.						108
634	2	111'-3"	Str.						34
635	2	131'-0"	100	11'-8"	121'-1"	5			41
636	2	71'-0"	Str.						21
637	2	51'-0"	Str.						15
638	2	61'-5"	108	11'-8"	41'-9"	9			19
639	2	51'-9"	Str.						17
640	2	41'-5"	Str.						14
641	6	21'-9"	Str.						25
642	7	71'-10"	100	61'-0"	11"				82
643	9	81'-10"	100	71'-0"	11"				119

END POST

686	7	61'-3"	Str.						66
687	3	61'-0"	Str.						27
688	7	51'-6"	Str.						58
689	3	61'-9"	Str.						30
690	7	61'-0"	Str.						63
691	1	51'-6"	Str.						8
692	1	51'-9"	Str.						9
693	2	51'-0"	Str.						15
							Total		3,176

SOUTHWEST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	1 Series of 5	71'-8" to 141'-0"	126	11'-0"	21'-3" to 6'-3"	11'-2"		6-1/4"	110
502	1 Series of 5	81'-0" to 131'-6"	126	11'-0"	21'-5" to 5'-3"	11'-2"		8-1/4"	56
601	9	61'-6"	Str.						88
602	7	71'-10"	100	61'-0"	11"				82
603	6	81'-6"	Str.						77
604	6	91'-10"	100	81'-0"	11"				89
605	18	71'-6"	Str.						203
606	9	81'-10"	100	71'-0"	11"				119
607	8	91'-6"	Str.						114
608	8	101'-10"	100	91'-0"	11"				130
609	4	161'-9"	Str.						100
610	3	161'-6"	Str.						74
611	4	131'-9"	Str.						83
612	1 Series of 3	81'-0" to 91'-9"	Str.					10-1/2"	40
613	3	101'-3"	Str.						45
614	2	71'-9"	Str.						23
615	2	41'-0"	Str.						12
616	12	41'-6"	Str.						81
617	6	151'-5"	Str.						140
618	4	91'-3"	Str.						56
619	2	161'-0"	Str.						48
620	2	181'-0"	Str.						54
621	2	201'-6"	Str.						62
622	4	221'-0"	Str.						132
623	2	301'-6"	Str.						92
624	2	321'-9"	Str.						99
625	2	281'-0"	Str.						84
626	7	281'-3"	Str.						297
627	2	41'-9"	Str.						14
628	15	111'-9"	130	10"	11'-2"	21'-0"	5		265
629	2	131'-0"	Str.						39
630	2	161'-2"	108	11'-8"	141'-6"	4			49
631	2	111'-5"	Str.						35
632	2	71'-3"	Str.						22
633	2	51'-6"	101	41'-6"	11'-0"				17
634	2	111'-6"	107	11'-8"	81'-9"	9			34
635	2	191'-9"	Str.						59
636	15	61'-1"	127	41'-0"	10"	11'-3"			137
637	3	191'-3"	Str.						87
638	4	161'-3"	Str.						98
639	1 Series of 3	101'-9" to 121'-6"	Str.					10-1/2"	52

END POST

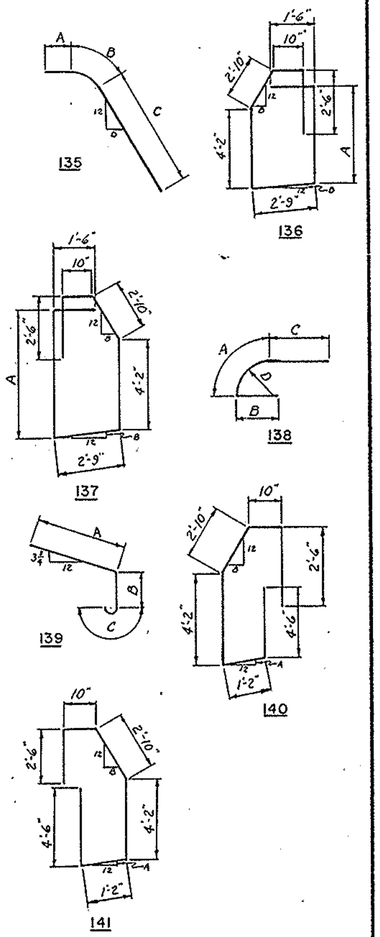
686	7	61'-3"	Str.						66
687	3	61'-0"	Str.						27
688	7	51'-6"	Str.						58
689	3	61'-9"	Str.						30
690	7	61'-0"	Str.						63
691	1	51'-6"	Str.						8
692	1	51'-9"	Str.						9
693	2	51'-0"	Str.						15
							Total		3,774

NORTHWEST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	1 Series of 5	71'-10" to 121'-10"	126	11'-0"	21'-6" to 6'-10"	11'-2"		7-1/2"	54
502	1 Series of 8	71'-10" to 161'-0"	126	11'-0"	21'-6" to 3'-5"	11'-2"		7"	99
503	1 Series of 13	51'-10" to 201'-0"	126	11'-0"	11'-10" to 81'-5"	11'-2"		6-5/16"	182
601	9	81'-6"	Str.						115
602	9	91'-10"	100	81'-0"	11"				133
603	8	111'-6"	Str.						139
604	8	121'-10"	100	111'-0"	11"				154
605	11	71'-6"	Str.						124
606	9	81'-10"	100	71'-0"	11"				120
607	8	91'-6"	Str.						114
608	8	101'-10"	100	91'-0"	11"				130
609	7	61'-6"	Str.						68
610	7	71'-10"	100	61'-0"	11"				82
611	10	81'-0"	Str.						120
612	6	91'-2"	100	71'-6"	11"				83
613	2	31'-9"	Str.						11
614	6	71'-0"	Str.						63
615	6	151'-0"	Str.						144
616	4	181'-0"	Str.						108
617	6	201'-6"	Str.						185
618	2	281'-6"	Str.						86
619	2 Series of 4	281'-6" to 341'-6"	Str.					2'-0"	379
620	4	361'-0"	Str.						216
621	2	441'-0"	Str.						132
622	2	461'-3"	Str.						139
623	9	421'-3"	Str.						571
624	23	61'-1"	127	41'-0"	10"	11'-3"			219
625	26	41'-6"	Str.						176
626	2	61'-9"	Str.						20
627	4	231'-0"	Str.						138
628	1	221'-6"	Str.						34
629	2	211'-9"	Str.						65
630	4	181'-6"	Str.						111
631	1	161'-3"	Str.						24
632	2	111'-2"	107	11'-8"	81'-5"	7-1/2			34
633	2	151'-3"	Str.						46
634	4	121'-2"	Str.						74
635	1 Series of 3	81'-6" to 101'-3"	Str.					10-1/2"	42
636	6	71'-9"	Str.						70
637	2	71'-3"	Str.						22
638	2	41'-9"	Str.						14
639	2	211'-5"	108	11'-8"	191'-9"	4-1/2			64
640	2 Series of 3	81'-3" to 161'-6"	Str.					4'-1 1/2"	111
641	2	51'-0"	Str.						15
642	4	51'-6"	101	41'-6"	11'-0"				33
643	4	101'-0"	Str.						60
644	2	141'-11"	108	11'-8"	131'-3"	3			45
645	2	111'-6"	Str.						35
646	2	101'-6"	Str.						32
647	4	51'-6"	Str.						30
648	21	111'-9"	130	10"	11'-2"	21'-0"			370
649	2	251'-9"	Str.						77
650	1	251'-3"	Str.						38
651	2	241'-3"	Str.						73
652	4	211'-3"	Str.						126
653	1	181'-9"	Str.						28
654	4	141'-9"	Str.						89
655	1 Series of 3	111'-3" to 131'-0"	Str.					10-1/2"	55
656	4	101'-3"	Str.						62

END POST

686	7	61'-3"	Str.						66
687	3	61'-0"	Str.						27
688	7	51'-6"	Str.						58
689	3	61'-9"	Str.						30
690	7	61'-0"	Str.						63
691	1	51'-6"	Str.						8
692	1	51'-9"	Str.						9
693	2	51'-0"	Str.						15
							Total		5,649



BENDING DIAGRAMS

Note:
Bars in series groups shall vary in length by equal increments

PART 6

AKRON EXPRESSWAY SYSTEM

CHITTENDEN STREET OVERPASS
BR. NO. SU-18R-13.1

REINFORCEMENT SCHEDULE

AKRON SUMMIT COUNTY, OHIO

SCALE: None
MADE: MDS DATE: 8-12-54
TRCD: J.R.K. DATE: 10-12-54
CKD: C.K.T.-R.K DATE: 10-18-54

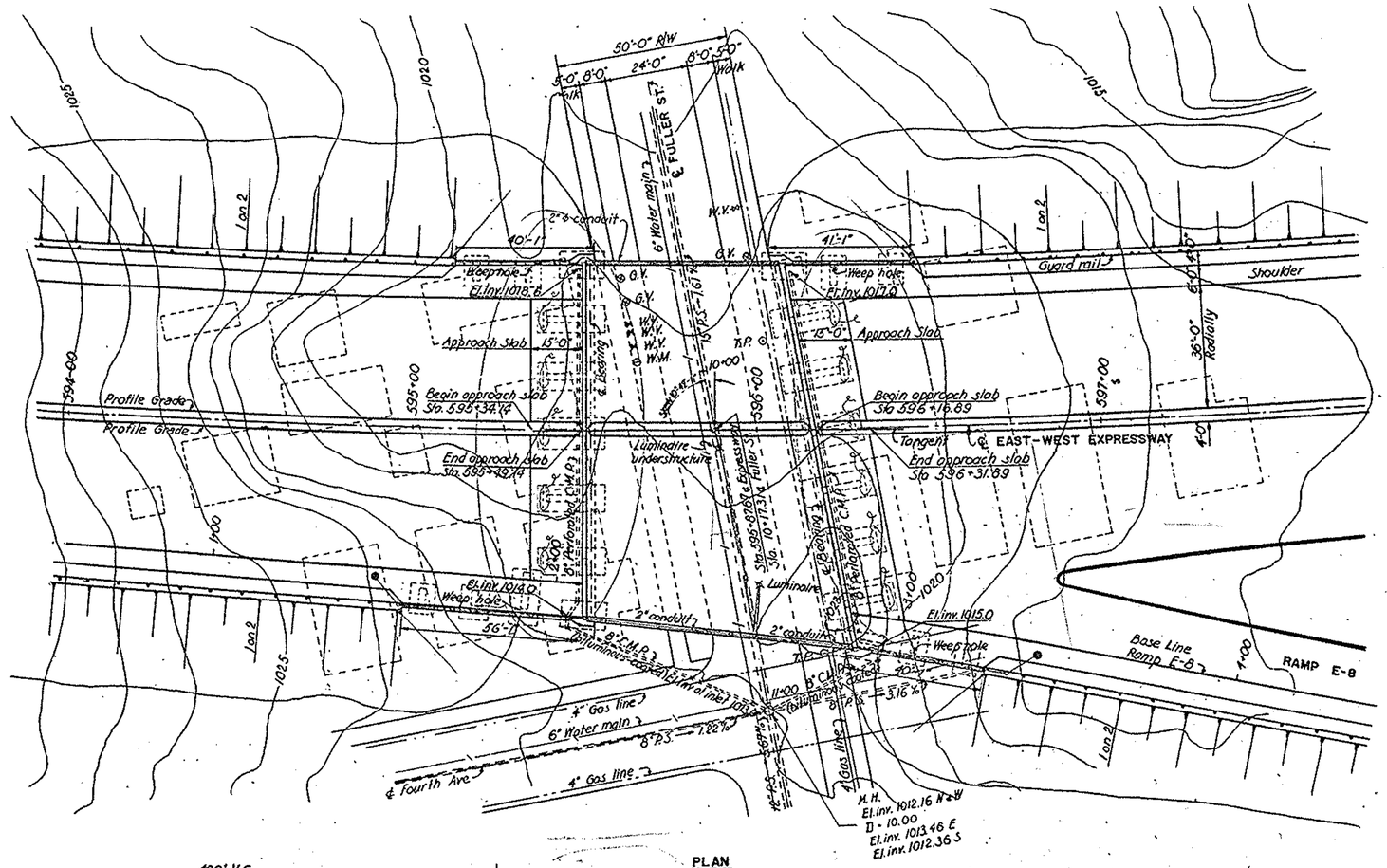
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

901 SHEET- 194

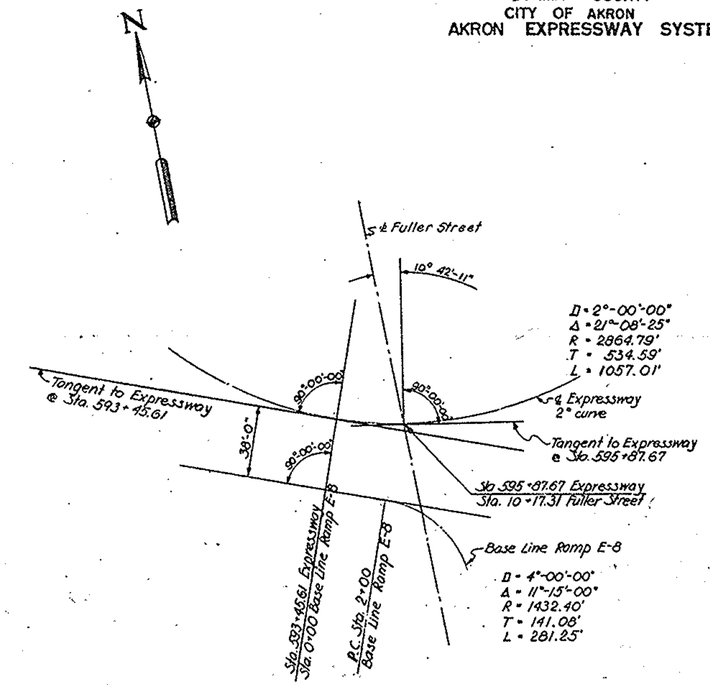
197

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS	195 / 204
2	OHIO			

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

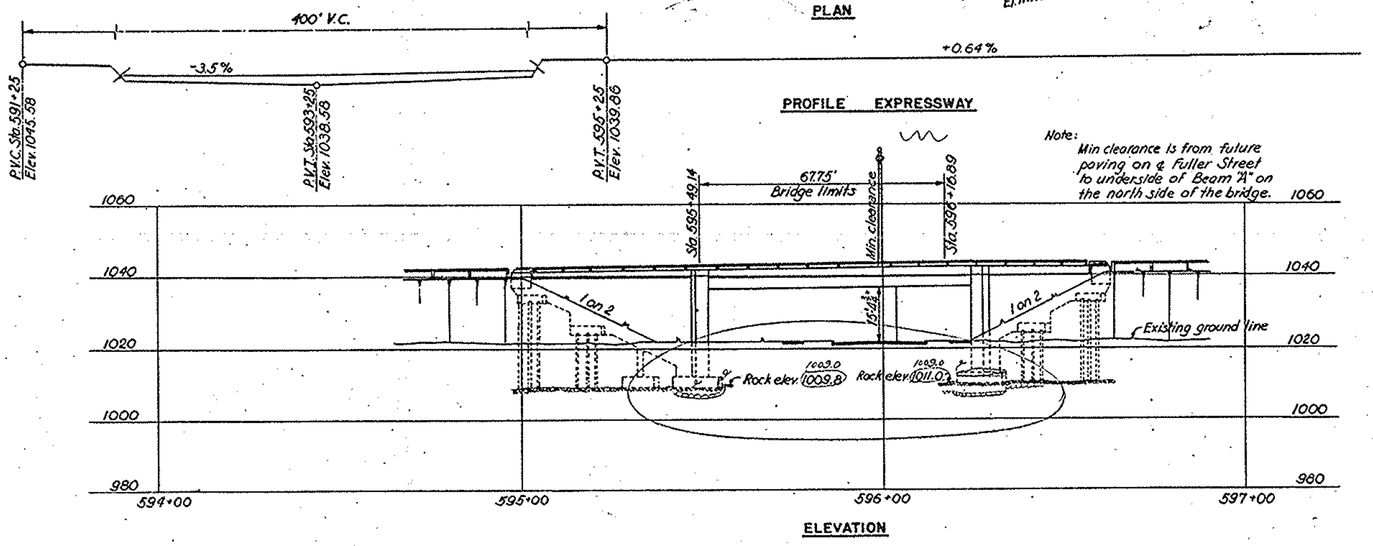


PLAN



CURVE DATA

Note:
The following items are not included in the bridge plans. See roadway plans for details.
Removal of existing drives, pavements etc.
Relocation or removal of existing utilities.
Approach grading, pavements and slabs.
Guard rails.
8"ϕ perforated bituminous coated corrugated metal pipe shall be laid behind abutments in porous backfill as shown on the plans
The upper ends of pipes located behind abutments shall be closed with perforated headers, made of No. 16 gauge steel metal.
8"ϕ Bituminous coated corrugated metal pipe shall be run as shown to connect with existing manhole in intersection Fuller-Fourth Street.
For Ramp E-8 see roadway plans.



PROFILE EXPRESSWAY

ELEVATION

LEGEND
- Conduit - Lighting
- Existing Watermain
- Gas Line
- Sewer Line
- Water Valve
- Gas Valve
- Telephone Pole
- Water Meter

PROPOSED STRUCTURE

Type: Simple Span Steel beam with Concrete Deck and Substructure.
Span: Varies.
Roadway: 1 @ 46'-0" 1 - Varies.
Loading: CF 2000
Skew: 10°-42'-11"
Surface Course: 2½" Asphaltic Concrete.

Revised 6-15-55

PART 6

AKRON EXPRESSWAY SYSTEM

FULLER STREET OVERPASS
BR. NO. SU-18R-133

SITE PLAN

AKRON SUMMIT COUNTY, OHIO

SCALE 1" = 20'
MADE BHD DATE 9-16-54
TRCD ____ DATE ____
CKD DRR-KW DATE 10-18-54

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

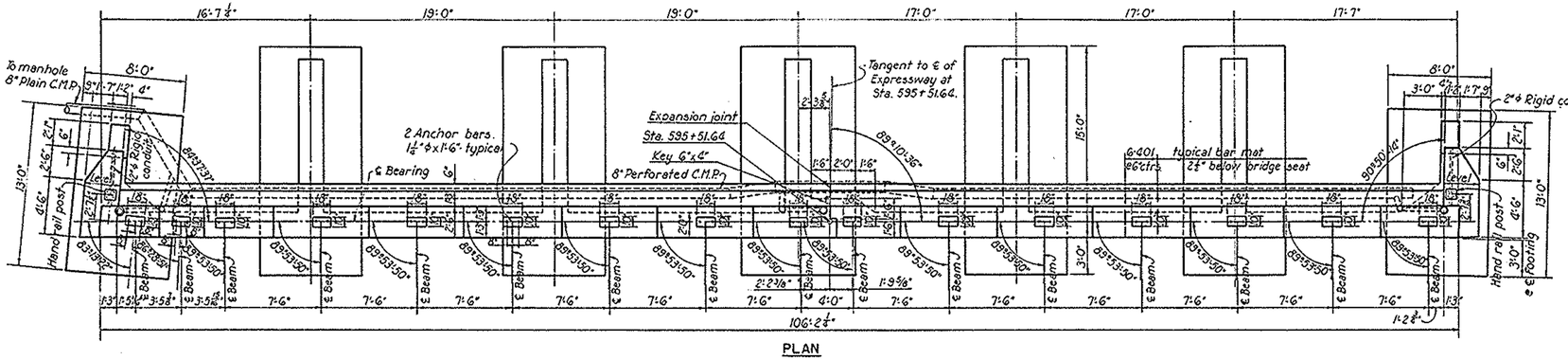
901 SHEET 195

210

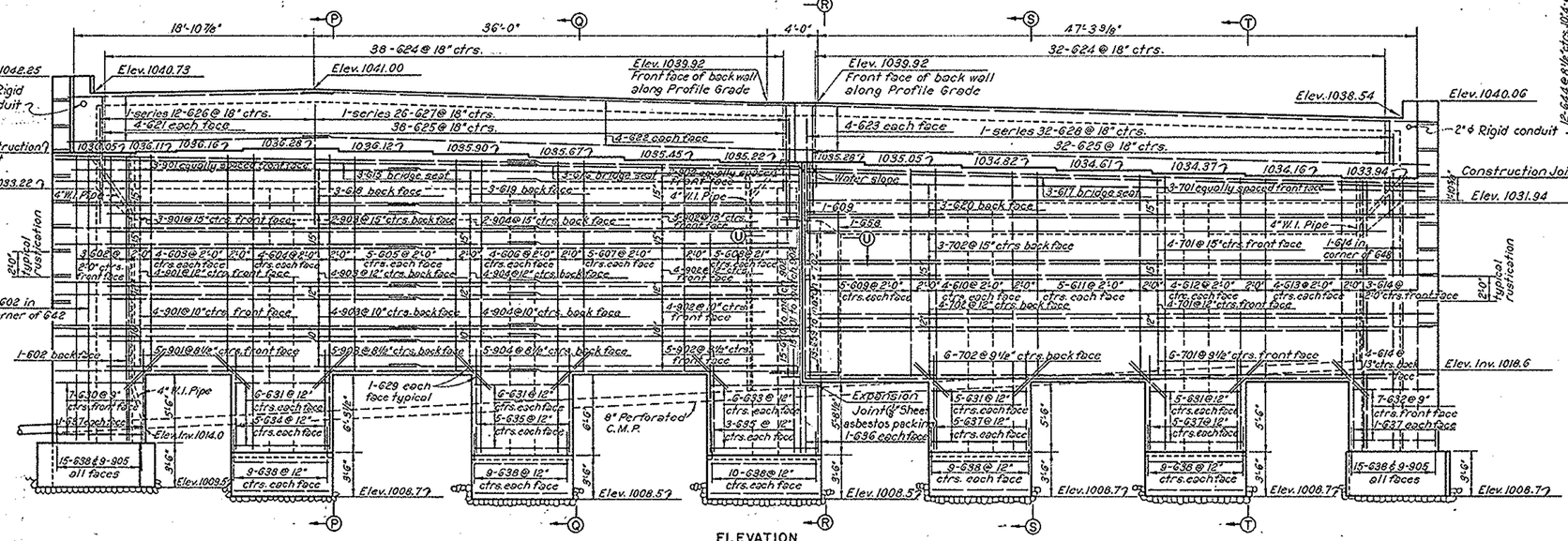
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

196
204

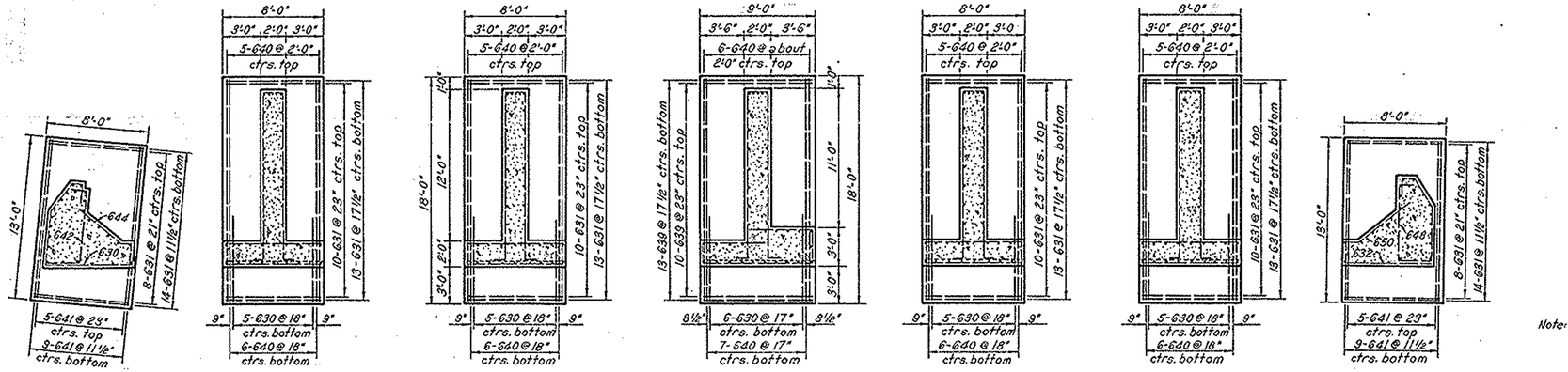
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



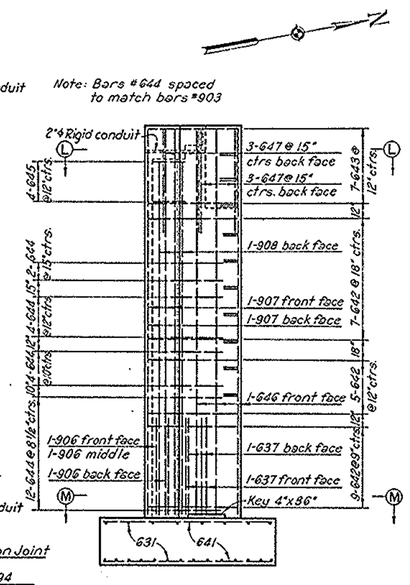
PLAN



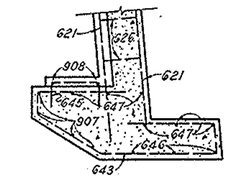
ELEVATION

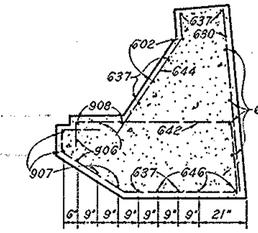


FOOTING PLAN

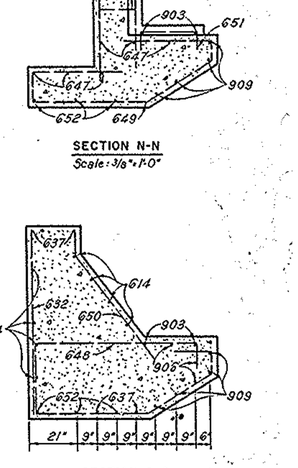


SOUTH END ELEVATION





NORTH END ELEVATION



PART 6

See Sheet 196A for revisions. 6/6/55

Note:
For sections P-P, Q-Q, R-R, S-S, T-T and U-U see sheet 197.
For bracket see Sheet 197.
For detail of shoes and anchor bars see Sheet 136.
For Reinforcement Schedule see Sheets 203 and 204.

AKRON EXPRESSWAY SYSTEM

FULLER STREET OVERPASS
BR. NO. SU-18 R-133

WEST ABUTMENT

AKRON SUMMIT COUNTY, OHIO

SCALE 3/16"=1'-0" except as shown
MADE BHD DATE 8-10-54
TRCD CAL-R.A.B DATE 10-13-54
CKD D.B.B. DATE 10-18-54

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK
SHEET 196
901

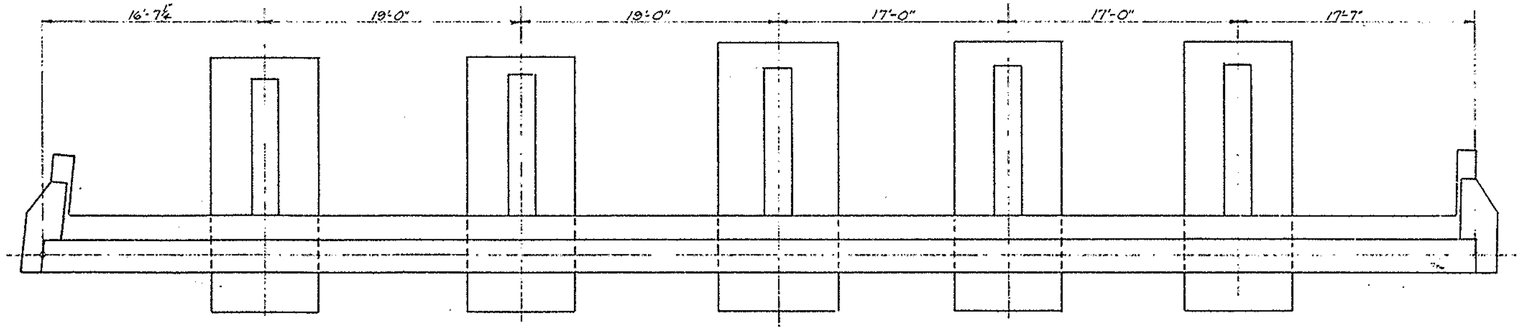
213

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

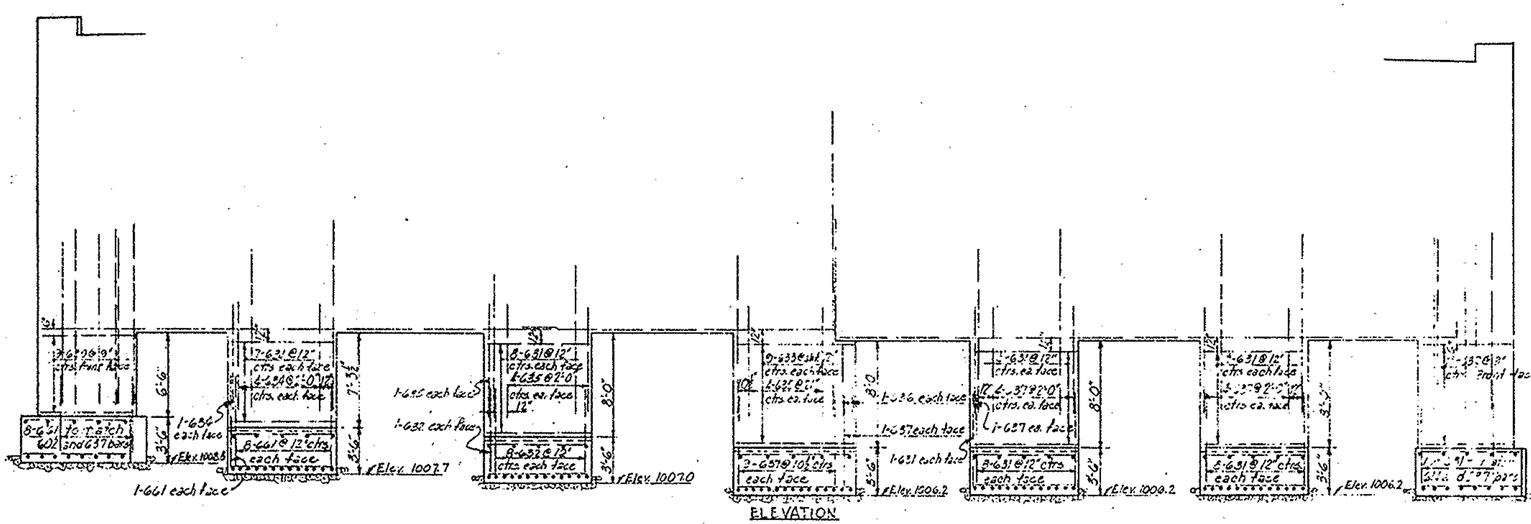
196A

COUNTY

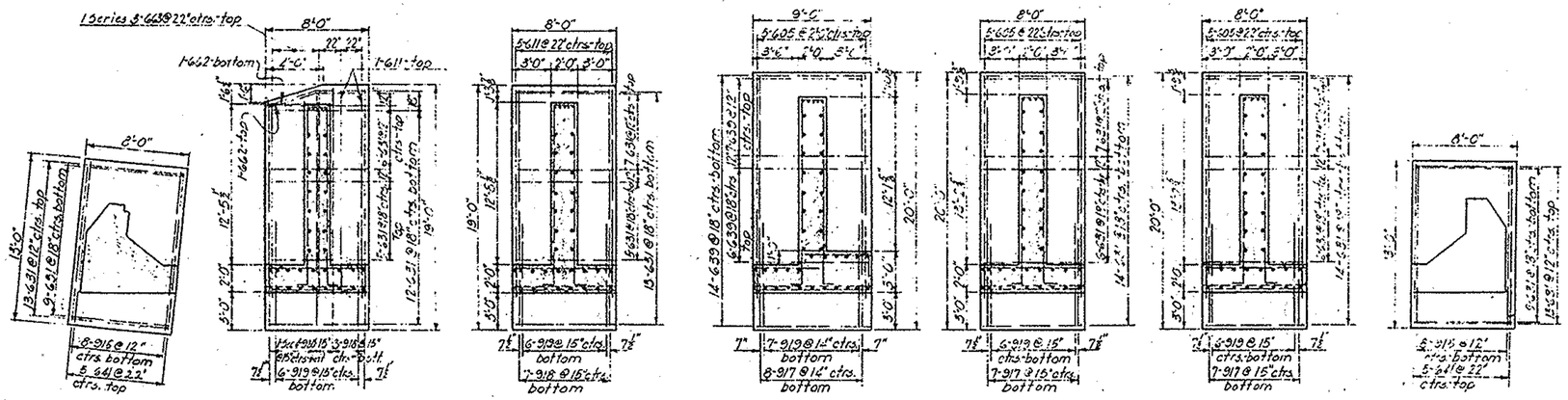
CITY OF EXPRESSWAY SYSTEM



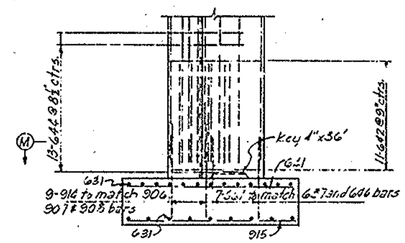
PLAN



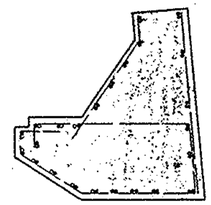
ELEVATION



FOOTING PLAN

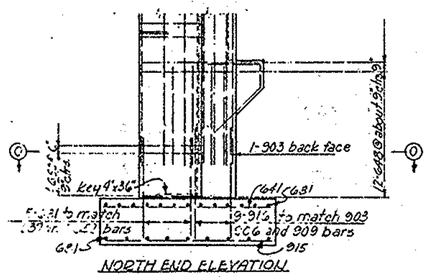


SOUTH END ELEVATION

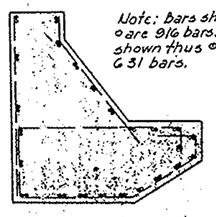


SECTION M-M
Scale 3/8"=1'0"

Note: Bars shown thus ° are 914 bars. Bars shown thus °° are 661 bars.



NORTH END ELEVATION



Note: Bars shown thus ° are 916 bars. Bars shown thus °° are 631 bars.

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

Notes:
Minimum lap for No. 6 and No. 9 dowel bars shall be 2'-0" for No. 6 bars and 3'-0" for No. 9 bars.

This sheet supersedes portions of Sheet 196 6/6/55

AKRON EXPRESSWAY SYSTEM

FULLER STREET OVERPASS

BR. NO. SU-182-1.53

WEST ABUTMENT

AKRON SUMMIT COUNTY, OHIO

SCALE 3/8"=1'-0" HOWARD, NEEDLES, TAMMEN & BERGENDOFF

MADE LL DATE 5-24-55 CONSULTING ENGINEERS

TRCD. DATE KANSAS CITY CLEVELAND NEW YORK

CKD. GO DATE 5-31-55 SHEET 196 A

901

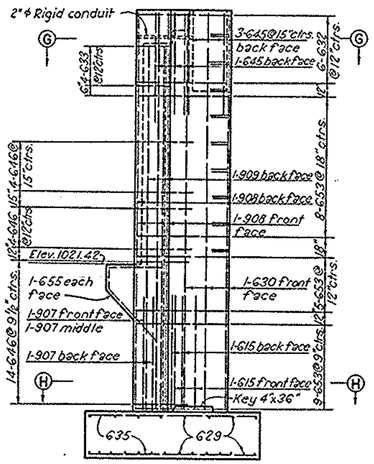
212

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

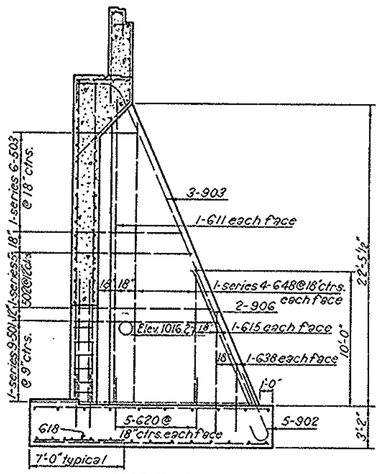
197
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

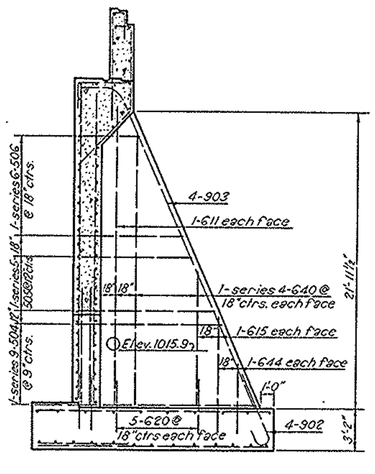
Note:
Bars #646 spaced to match bars #706.



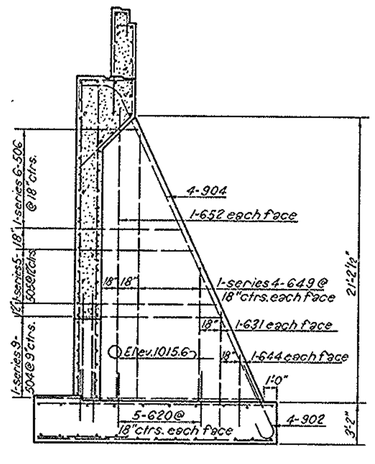
NORTH END ELEVATION
EAST ABUTMENT



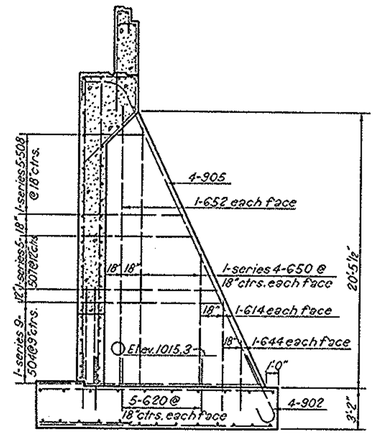
SECTION C-C



SECTION D-D

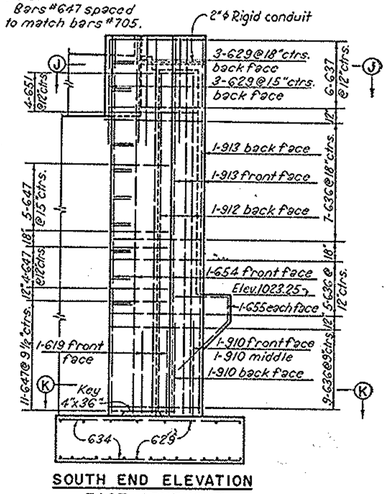


SECTION E-E

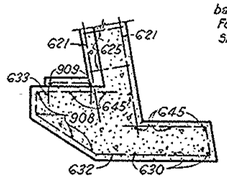


SECTION F-F

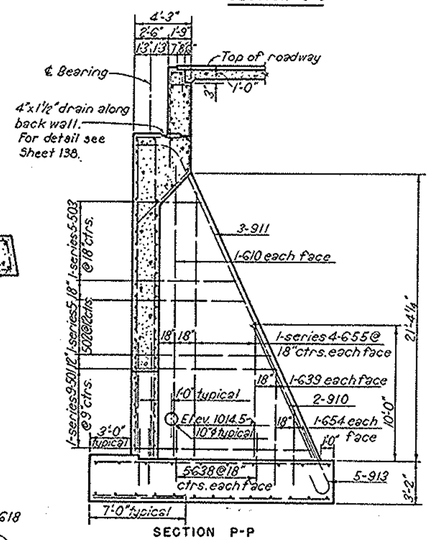
Note:
Bars #647 spaced to match bars #705.



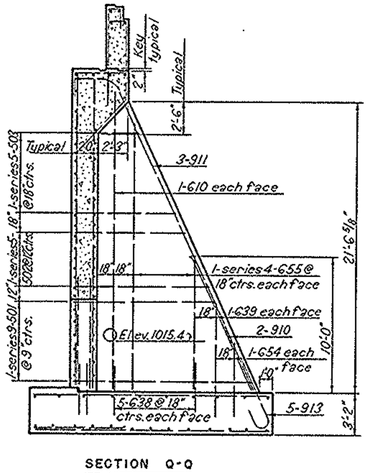
SOUTH END ELEVATION
EAST ABUTMENT



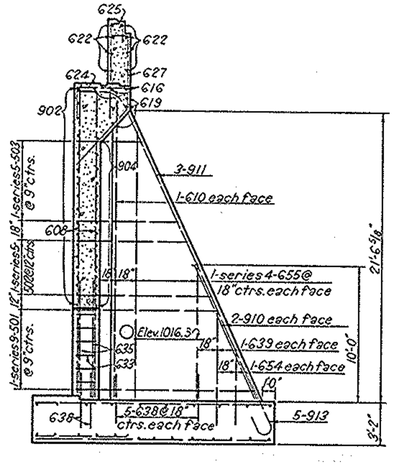
SECTION G-G
Scale: 3/8"=1'0"



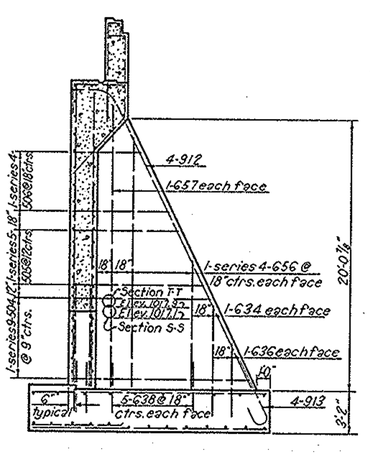
SECTION P-P



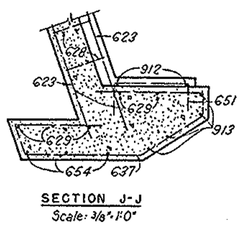
SECTION Q-Q



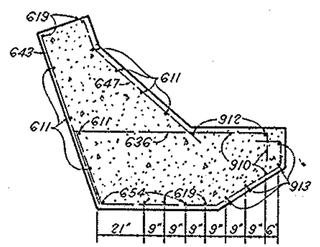
SECTION R-R



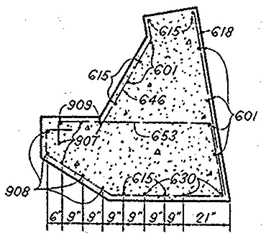
SECTIONS S-S AND T-T



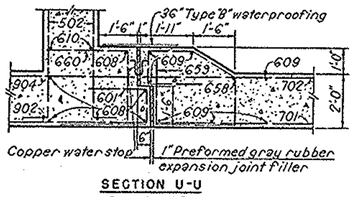
SECTION J-J
Scale: 3/8"=1'0"



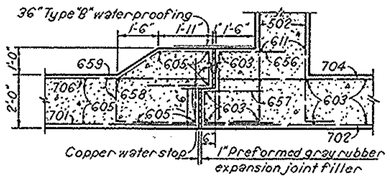
SECTION K-K
Scale: 3/8"=1'0"



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

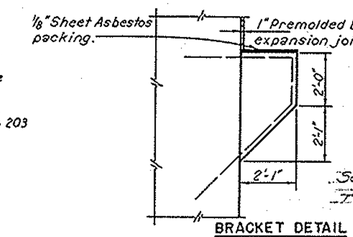


SECTION U-U
Scale: 3/8"=1'0"



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

Notes:
For Sections as taken see Sheets 196 and 198.
For rustication detail, Abutment bridge seat drain, porous backfill detail, and Expansion joint waterstop see Sheet 138.
For Reinforcement Schedule see Sheets 203 and 204.



BRACKET DETAIL
Scale: 3/8"=1'0"

See Sheet 197A for Revisions. 6/6/55

PART 6

AKRON EXPRESSWAY SYSTEM

FULLER STREET OVERPASS
BR. NO. SU-18R-133

ABUTMENT DETAILS

AKRON SUMMIT COUNTY, OHIO

SCALE 3/8"=1'0" except as shown
MADE B.N.D. DATE 8-12-54
TRCD. W.W.B. DATE 10-7-54
CKD. D.A.A. DATE 10-18-54

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

901 SHEET 197

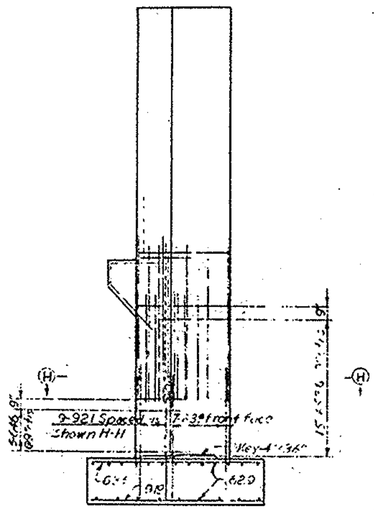
212

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

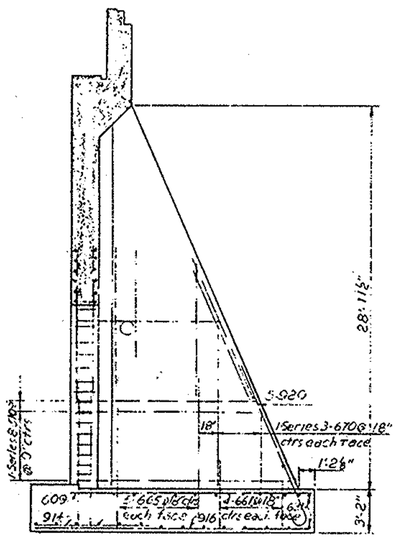
1974

COUNTY

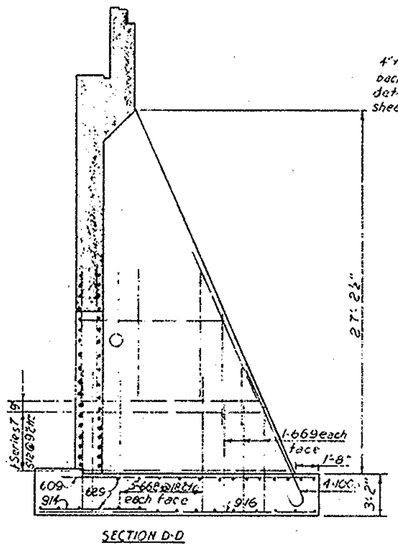
CITY OF
EXPRESSWAY SYSTEM



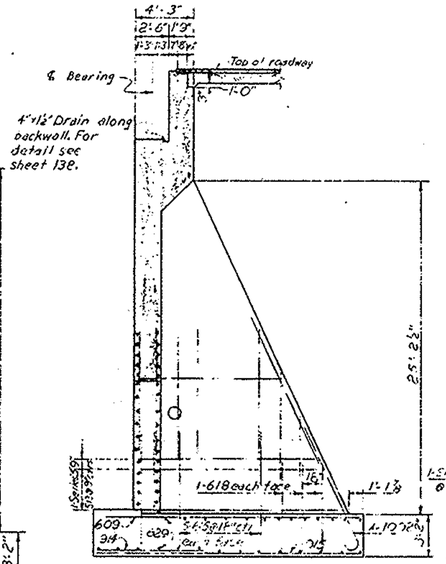
NORTH END ELEVATION
EAST ABUTMENT



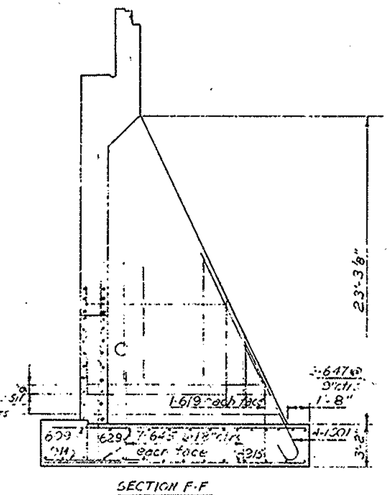
SECTION C-C



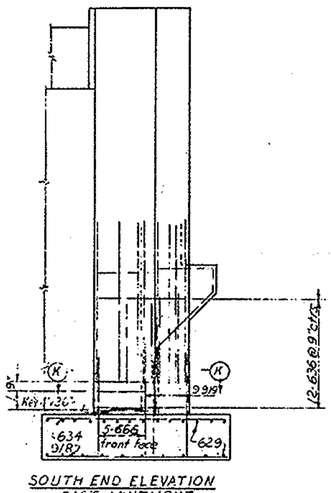
SECTION D-D



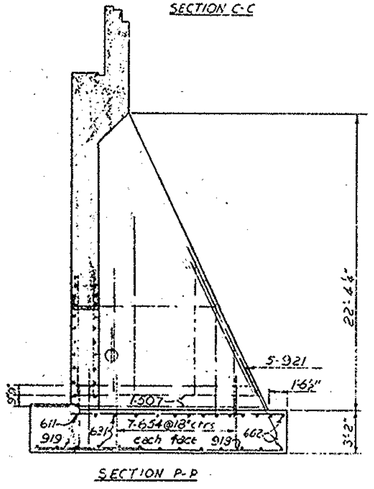
SECTION E-E



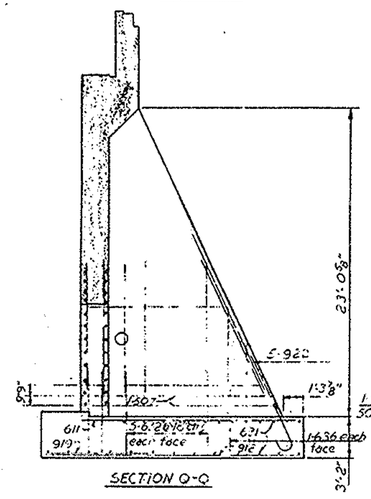
SECTION F-F



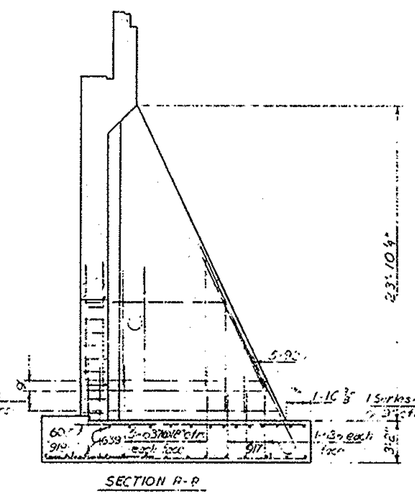
SOUTH END ELEVATION
EAST ABUTMENT



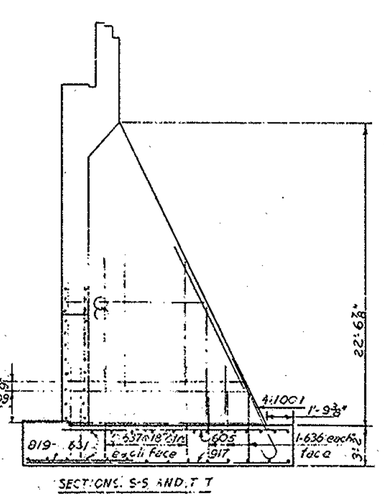
SECTION P-P



SECTION Q-Q

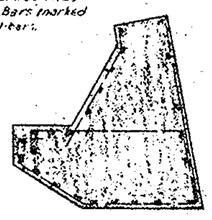


SECTION R-R

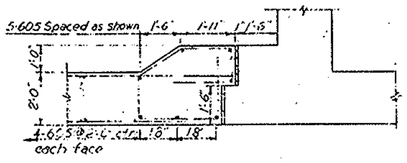


SECTIONS S-S AND T T

Note:
Bars marked thus • are 639 bars. Bars marked thus ⊕ are 921 bars.

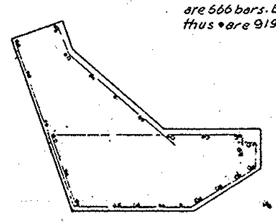


SECTION H-H
Scale: ⅜"=1'-0"



SECTION Y-Y
Scale ⅜"=1'-0"

Note:
Bars marked thus • are 666 bars. Bars marked thus ⊕ are 919 bars.



SECTION K-K

This sheet supersedes portions of Sheet 19F 6/6/55

PART 6

AKRON EXPRESSWAY SYSTEM

FULLER STREET OVERPASS

BR. NO. SU-18R-133

ABUTMENT DETAILS

AKRON SUMMIT COUNTY, OHIO

SCALE 1/4"=1'-0" except where shown
MADE R.S.S. DATE 5-12-55
TRCD ____ DATE ____
CKD G.D. DATE 5-17-55

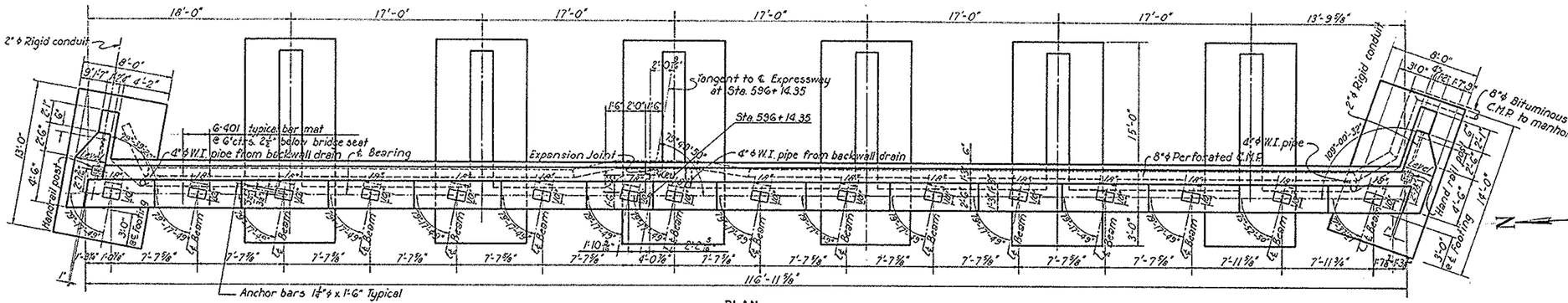
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

901 SHEET 19F A

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

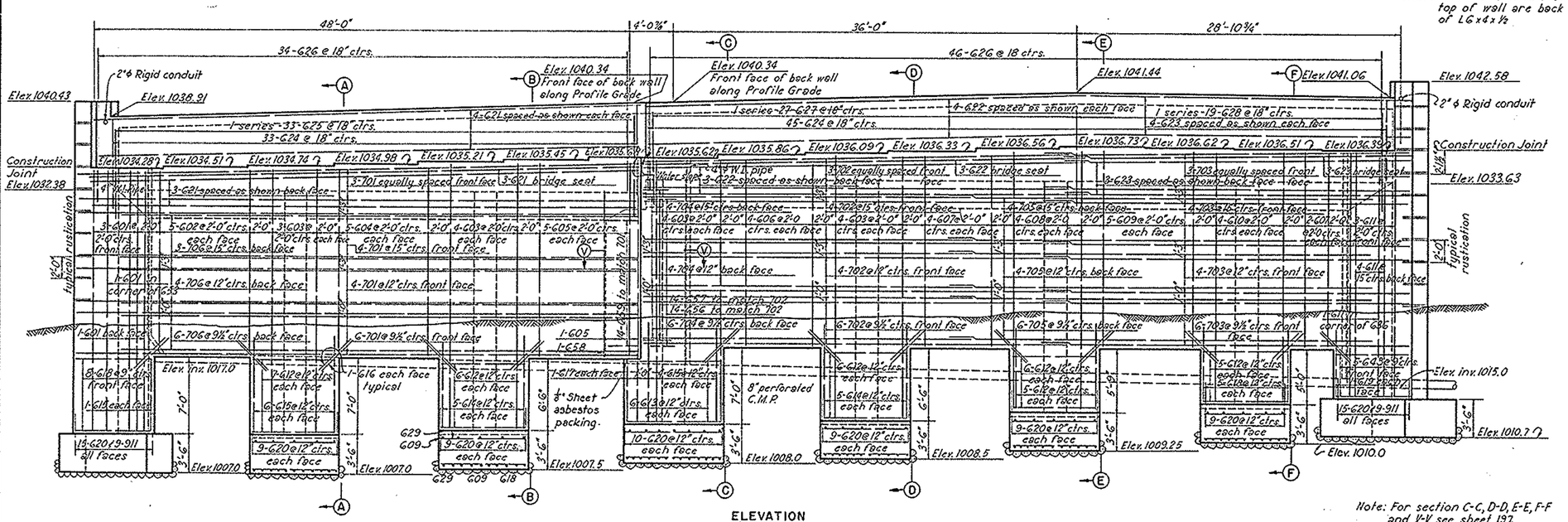
198
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



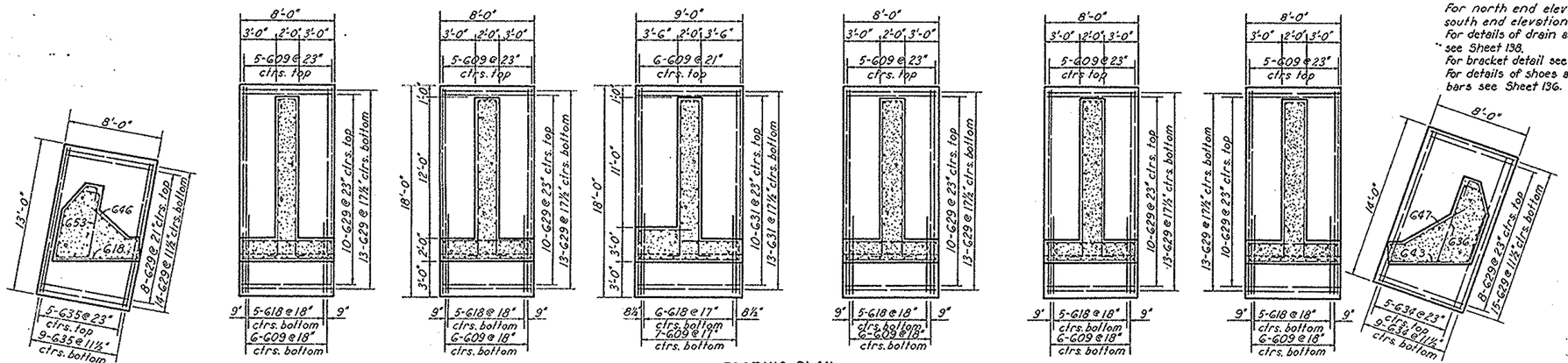
PLAN

Note: Elevations shown at top of wall are back of L6x4x½

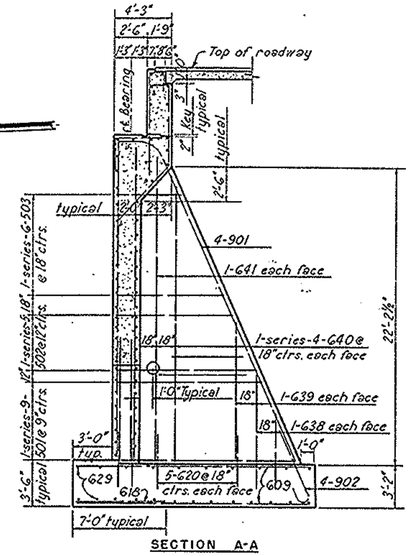


ELEVATION

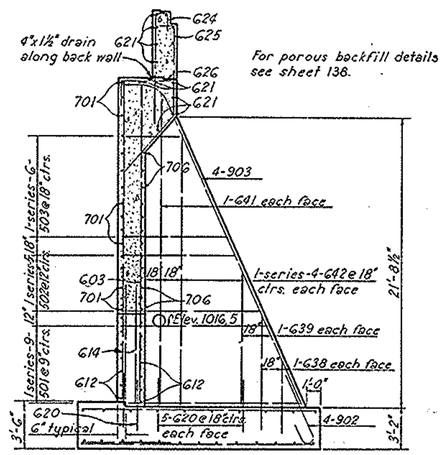
Note: For section C-C, D-D, E-E, F-F and V-V see sheet 197.
For rustication detail see sheet 138.
For north end elevation and south end elevation see sheet 197.
For details of drain along backwall see Sheet 138.
For bracket detail see Sheet 197.
For details of shoes and anchor bars see Sheet 136.



FOOTING PLAN



SECTION A-A



SECTION B-B

PART 6

AKRON EXPRESSWAY SYSTEM

FULLER STREET OVERPASS

BR. NO. SU-18R-133

EAST ABUTMENT

AKRON SUMMIT COUNTY, OHIO

SCALE 3/16" = 1'-0"
MADE B.H.D. DATE 7-27-54
TRCD. L.D.R. DATE 10-15-54
CKD. D.B.B. DATE 10-18-54

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

901 SHEET 198

See Sheet 198A for revisions. 6/6/55

211

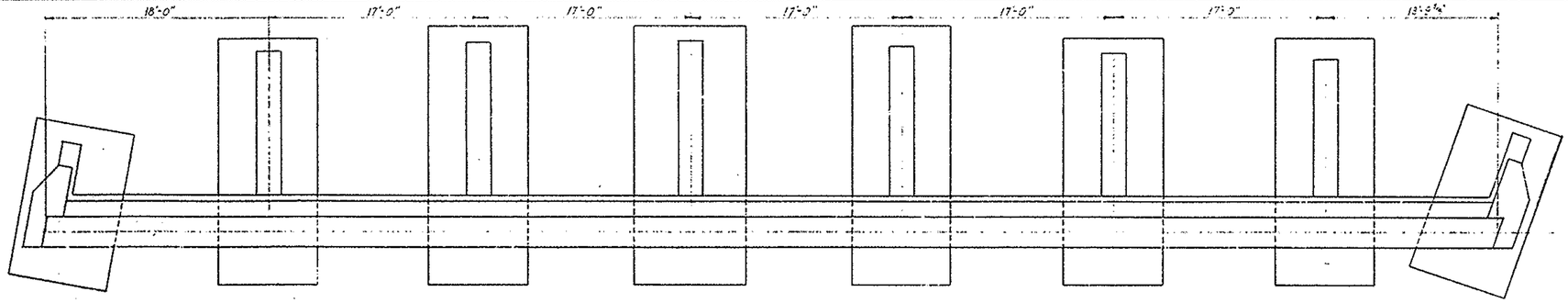
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

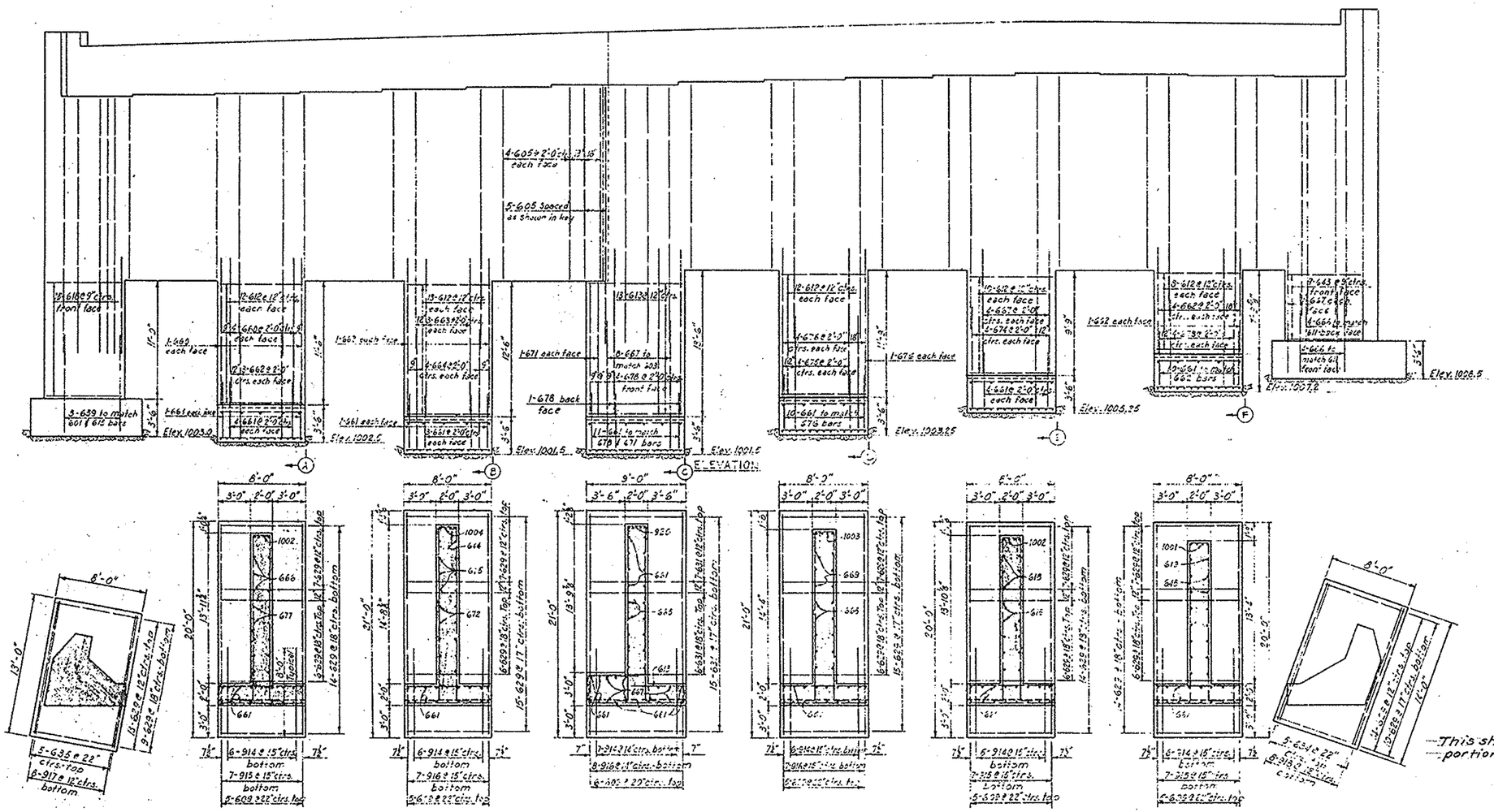
198A

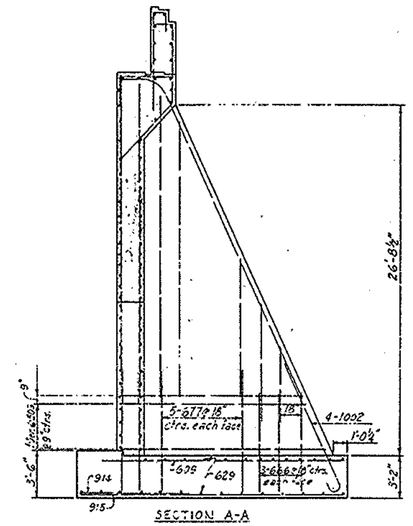
COUNTY

CITY OF

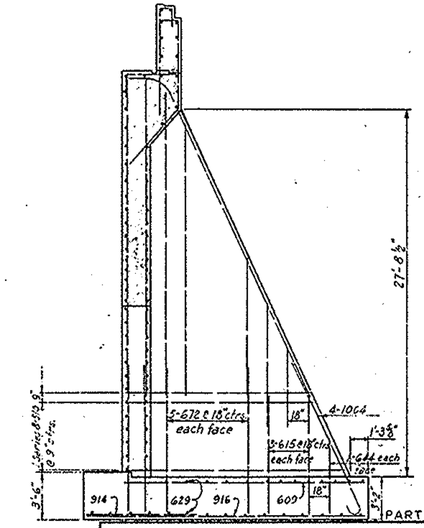
EXPRESSWAY SYSTEM







SECTION A-A



SECTION B-B

This sheet supersedes portions of Sheet 198, 6/6/55

PART 6

AKRON EXPRESSWAY SYSTEM

FULLER STREET OVERPASS

BR. NO. SU-18R-133

EAST ABUTMENT

AKRON SUMMIT COUNTY, OHIO

SCALE 3/16" = 1'-0"

MADE J.D. DATE 2-24-55

TRCD. DATE

CKD. R.J.C. DATE 2-27-55

HOWARD, NEEDLES, TAMMEN & BERGENDOFF

CONSULTING ENGINEERS

KANSAS CITY CLEVELAND NEW YORK

901 SHEET 198 A

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

199
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

PLAN
SOUTHWEST WINGWALL

PLAN
NORTHWEST WINGWALL

ELEVATION

SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

FOOTING PLAN

FOOTING PLAN

DEVELOPED ELEVATION

Notes: All piles are 12 BP53.
For porous backfill see sheet 138.
For Expansion Joint Detail see sheet 200.
For handrail details see sheet 138.
For Reinforcement Schedule see Sheets 203 and 204.

Revised 6-15-55 PART 6

AKRON EXPRESSWAY SYSTEM
FULLER STREET OVERPASS
BR. NO. SU-18R-133
NORTHWEST AND SOUTHWEST WINGWALLS
AKRON SUMMIT COUNTY. OHIO

SCALE 1/4" = 1'-0"
MADE DBB DATE 8-13-54
TRCD. DATE
CKD. H.W.G. DATE 10-18-54

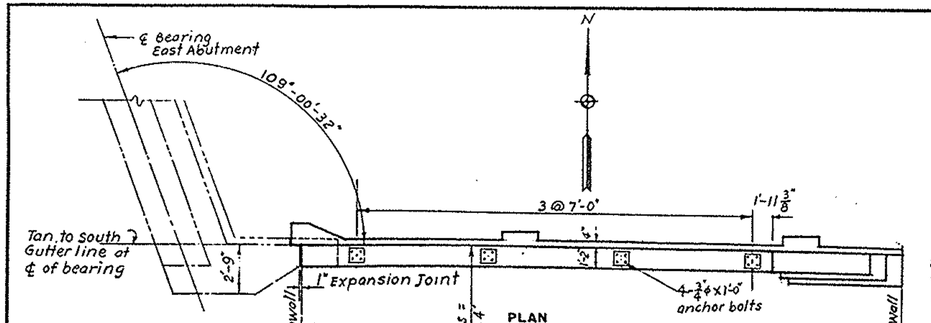
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
901 SHEET 199

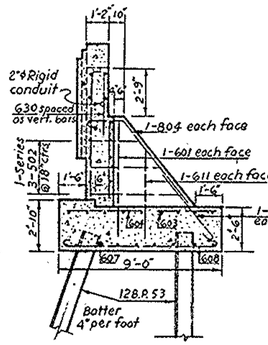
215

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE PURPOSE
2	OHIO		

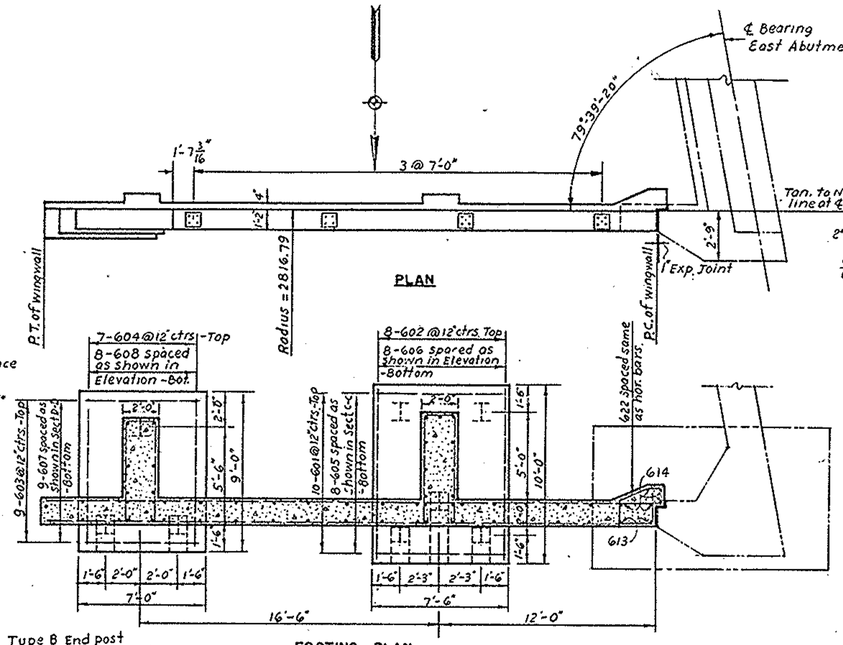
200
204

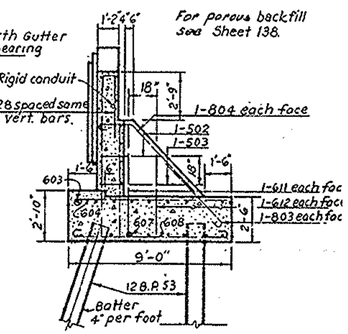
SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



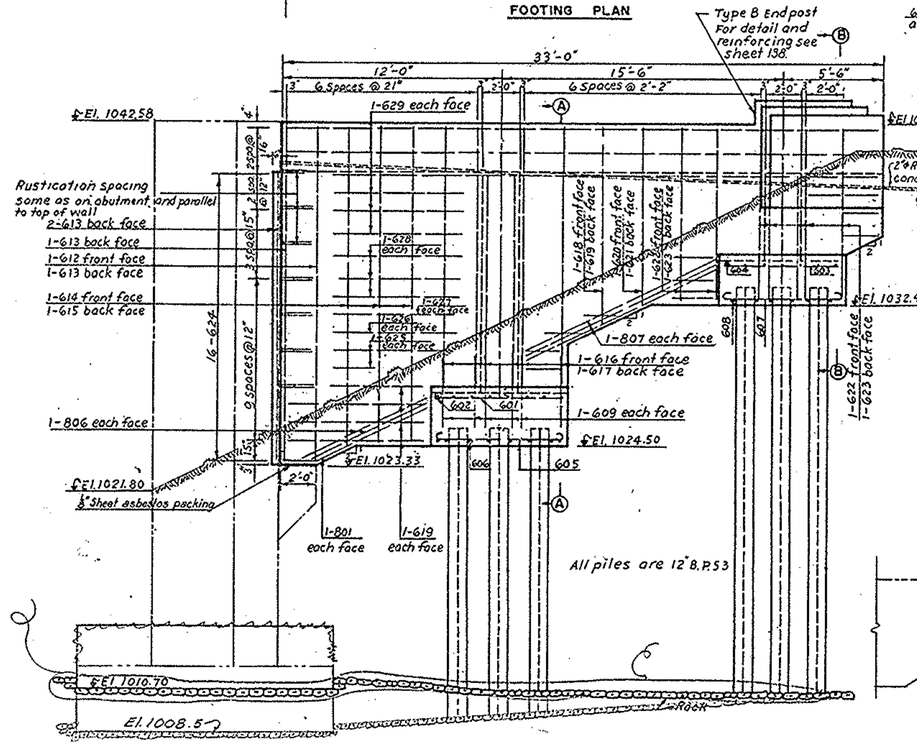


SECTION B-B

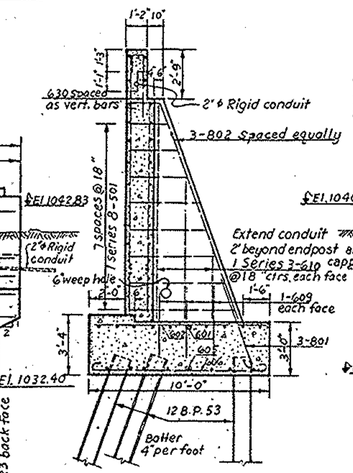




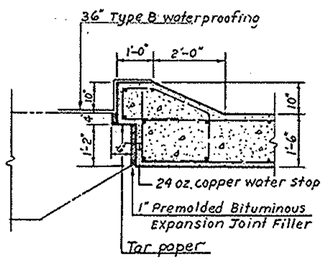
SECTION D-D



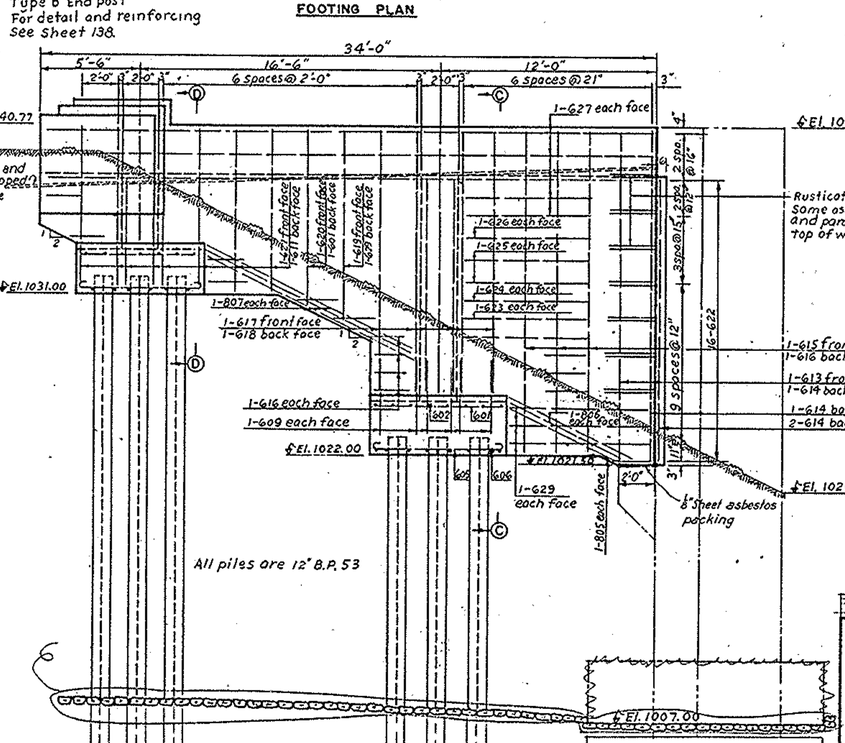
DEVELOPED ELEVATION
SOUTHEAST WINGWALL

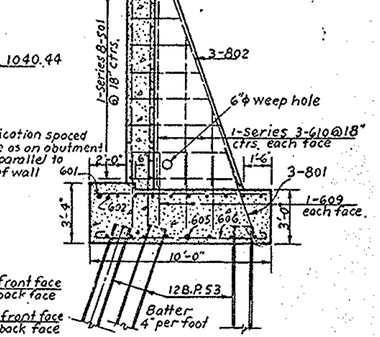


SECTION A-A



EXPANSION JOINT DETAIL
Scale: 1/2" = 1'-0"





SECTION C-C

For handrail detail see Sheet 138.
For Reinforcing Schedule see sheets 203 and 204.
For porous backfill details see Sheet 138.

Revised 6-15-55 — PART 6

AKRON EXPRESSWAY SYSTEM

FULLER STREET OVERPASS
BR. NO. SU-18R-133

NORTHEAST AND SOUTHEAST WINGWALLS

AKRON SUMMIT COUNTY, OHIO

SCALE 1" = 1'-0"
MADE LKT DATE 8-10-54
TRCD. DATE
CKD. HWG DATE 10-18-54

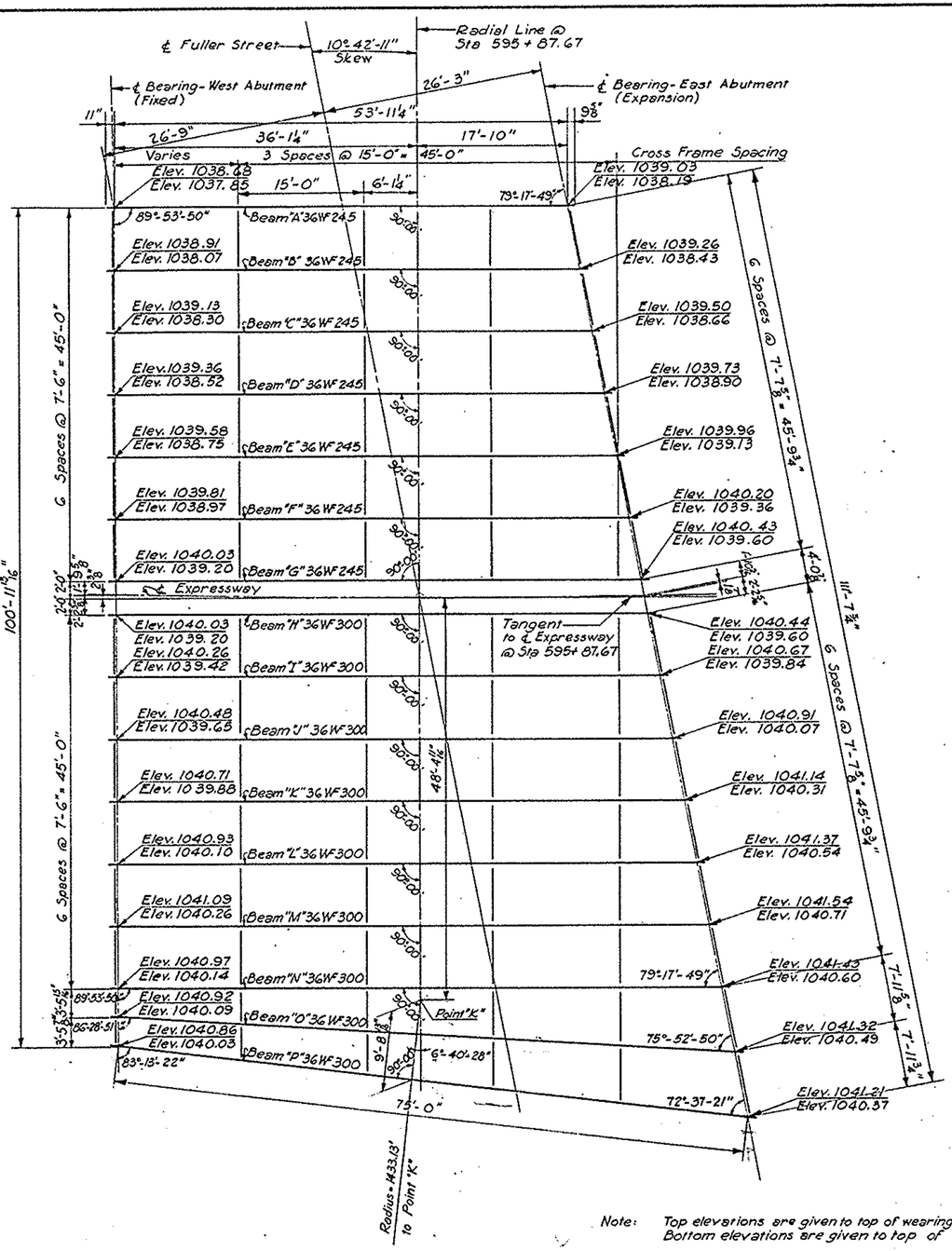
HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK
SHEET 200

216

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

201
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM



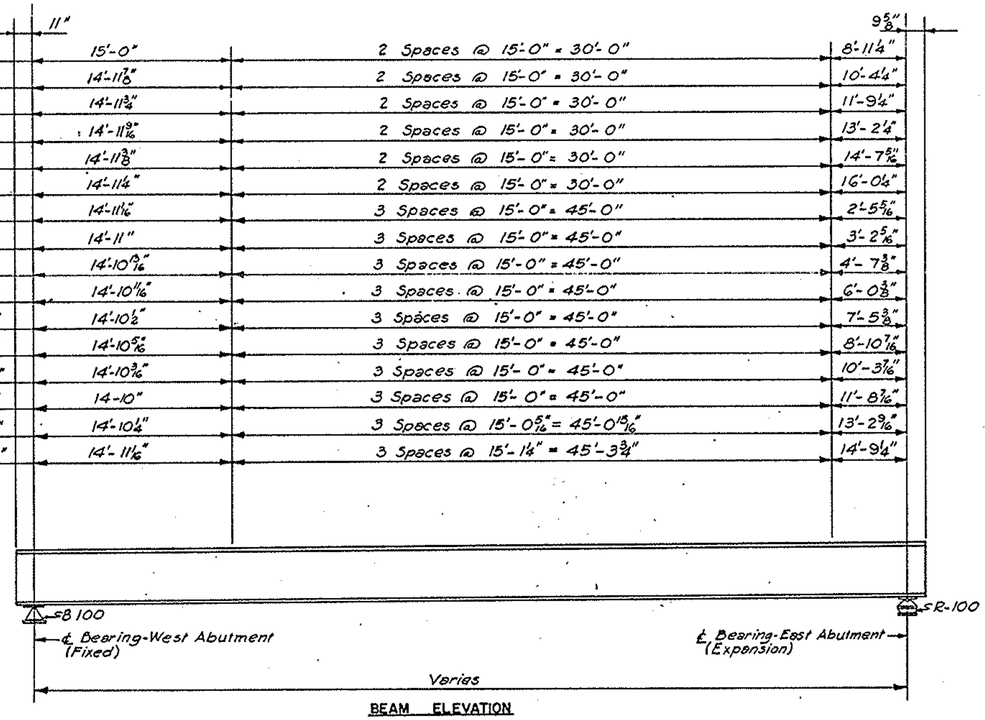
Note: Top elevations are given to top of wearing surface. Bottom elevations are given to top of WF beams.

FRAMING PLAN

Scale: ½" = 1'-0"

N

	11"		9⅝"
Beam "A"	15'-0"	2 Spaces @ 15'-0" = 30'-0"	8'-11¼"
Beam "B"	14'-11⅞"	2 Spaces @ 15'-0" = 30'-0"	10'-4⅛"
Beam "C"	14'-11¾"	2 Spaces @ 15'-0" = 30'-0"	11'-9¼"
Beam "D"	14'-11⅜"	2 Spaces @ 15'-0" = 30'-0"	13'-2⅛"
Beam "E"	14'-11⅜"	2 Spaces @ 15'-0" = 30'-0"	14'-7⅝"
Beam "F"	14'-11¼"	2 Spaces @ 15'-0" = 30'-0"	16'-0⅛"
Beam "G"	14'-11⅛"	3 Spaces @ 15'-0" = 45'-0"	2'-5⅝"
Beam "H"	14'-11"	3 Spaces @ 15'-0" = 45'-0"	3'-2⅝"
Beam "I"	14'-10 15/16"	3 Spaces @ 15'-0" = 45'-0"	4'-7⅜"
Beam "J"	14'-10 11/16"	3 Spaces @ 15'-0" = 45'-0"	6'-0⅜"
Beam "K"	14'-10½"	3 Spaces @ 15'-0" = 45'-0"	7'-5⅜"
Beam "L"	14'-10 5/16"	3 Spaces @ 15'-0" = 45'-0"	8'-10 7/16"
Beam "M"	14'-10⅛"	3 Spaces @ 15'-0" = 45'-0"	10'-3 7/16"
Beam "N"	14'-10"	3 Spaces @ 15'-0" = 45'-0"	11'-8⅞"
Beam "O"	14'-10¼"	3 Spaces @ 15'-0 5/16" = 45'-0 15/16"	13'-2⅜"
Beam "P"	14'-11⅛"	3 Spaces @ 15'-1¼" = 45'-3¾"	14'-9¼"



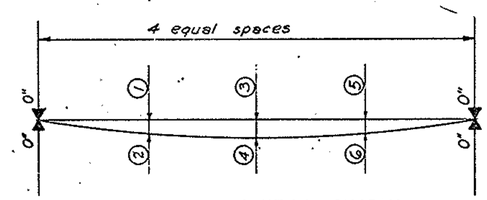
BEAM ELEVATION

Scale: Vertical-¼" = 1'-0"
Horizontal- No scale

TABLE OF DEAD LOAD DEFLECTIONS

BEAMS	①	②	③	④	⑤	⑥
North Bridge						
Curb Beam	3/8"	1/4"	1/2"	1/8"	3/8"	1/4"
Median Beam	9/16"	1/8"	3/4"	3/16"	9/16"	1/8"
* Interior Beams	3/8"	1/8"	5/8"	1/8"	3/8"	1/8"
South Bridge						
Curb Beam	1"	1/4"	1 3/8"	3/8"	1"	1/4"
Median Beam	3/8"	1/8"	9/16"	5/16"	3/8"	1/8"
* Interior Beams	3/4"	5/16"	3/4"	1/4"	9/16"	3/16"

* Values shown are the average deflections of all interior beams.



DEAD LOAD DEFLECTION DIAGRAM

No Scale

Notes: Dimensions shown below base line are deflections to be expected in the beams when in place.
Dimensions shown above baseline are additional deflections to be expected in the beams after concrete is in place.
Deflections are measured to the nearest 1/16. Values less than 1/16 are shown as 0".

For details of shoes and expansion joint see sheet 136.

PART 6

AKRON EXPRESSWAY SYSTEM
FULLER STREET OVERPASS
BR. NO. SU-18R-133

FRAMING PLAN

AKRON SUMMIT COUNTY, OHIO

SCALE As Shown
MADE DBB DATE 8-4-54
TRCD. DATE
CKD. A.H.D. DATE 10-18-54

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

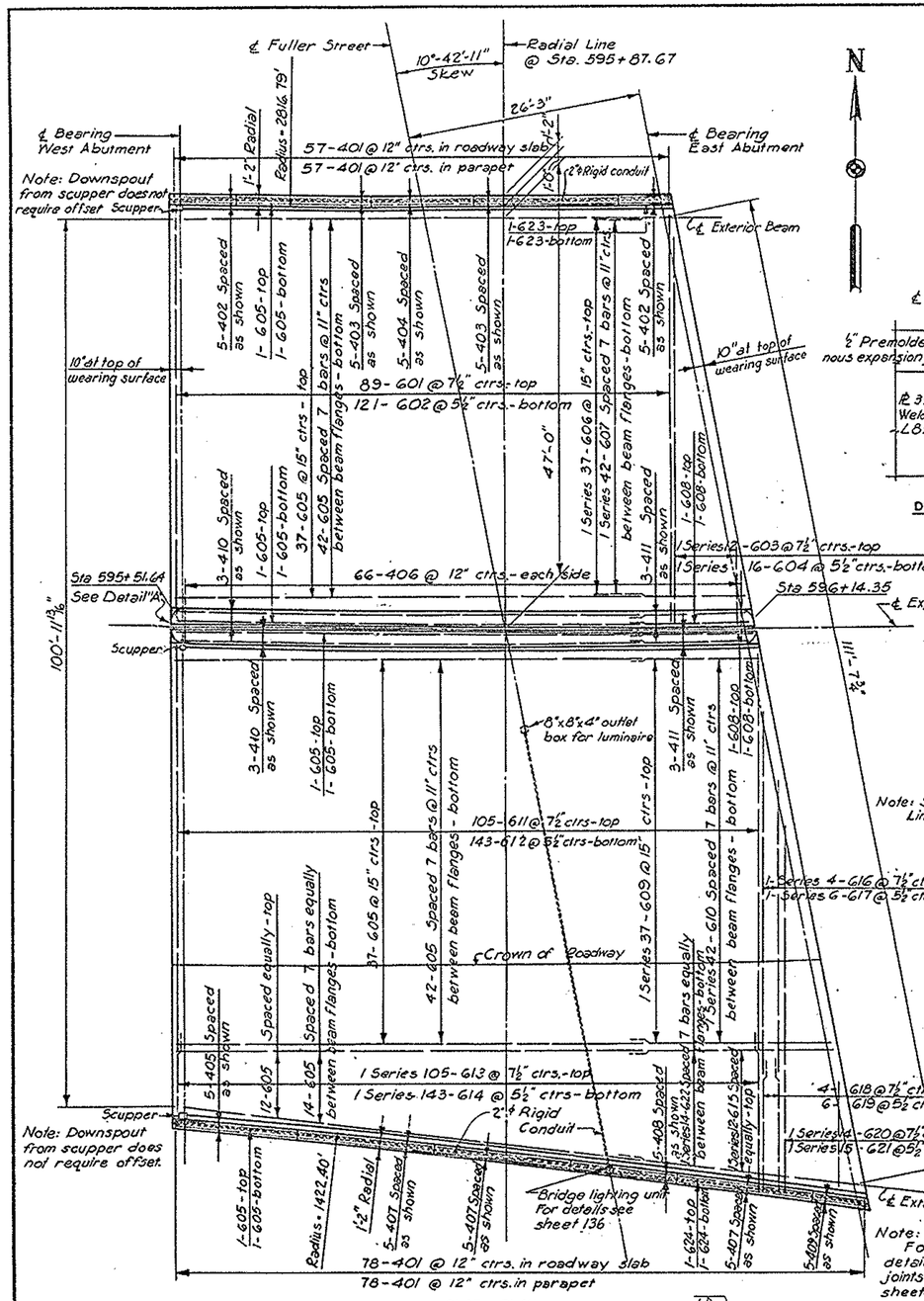
901 SHEET 201

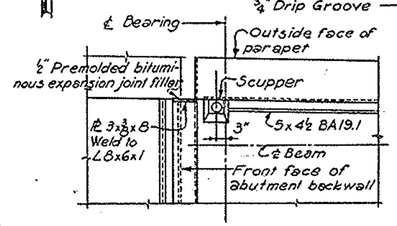
220

FED. ROAD DIV. NO	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

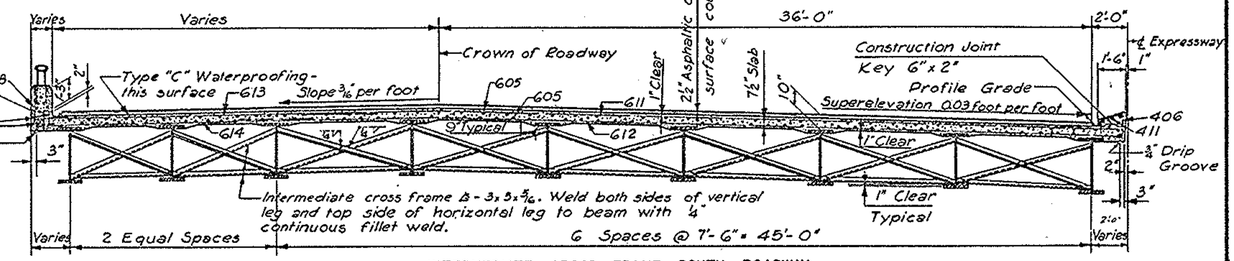
202
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

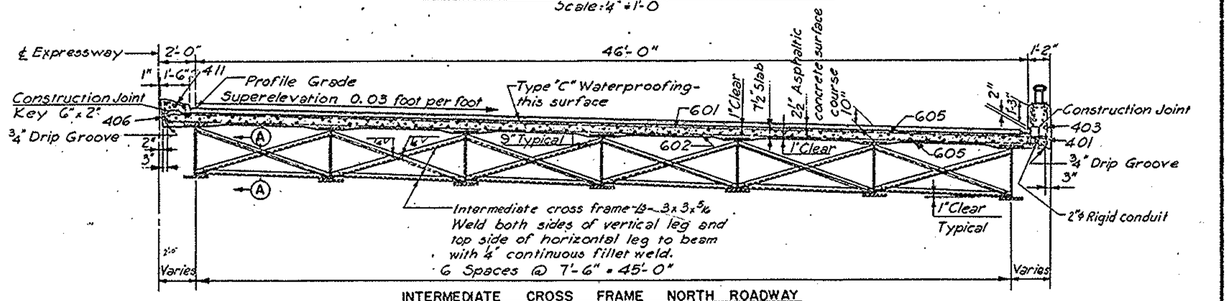




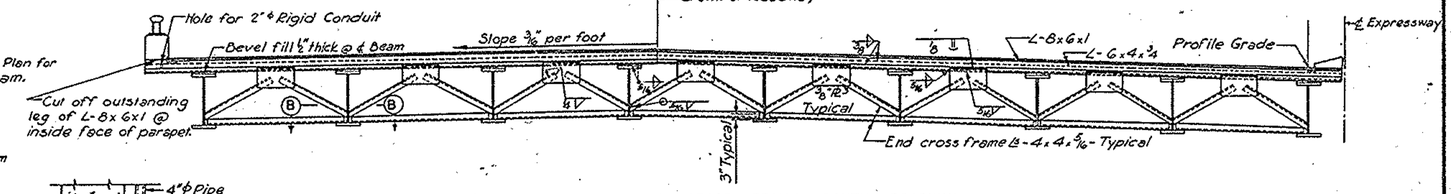
DETAIL AT END OF PARAPET
Scale: ½" = 1'-0"



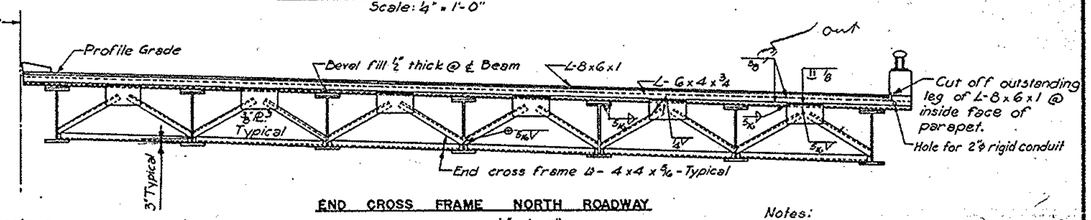
INTERMEDIATE CROSS FRAME SOUTH ROADWAY
Scale: ¼" = 1'-0"



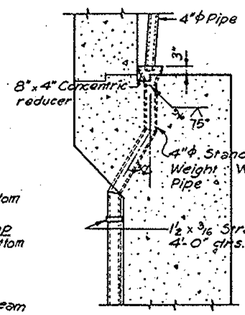
INTERMEDIATE CROSS FRAME NORTH ROADWAY
Scale: ¼" = 1'-0"



END CROSS FRAME SOUTH ROADWAY
Scale: ¼" = 1'-0"

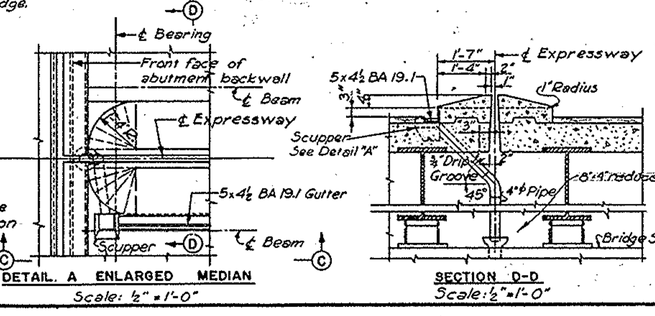


END CROSS FRAME NORTH ROADWAY
Scale: ¼" = 1'-0"



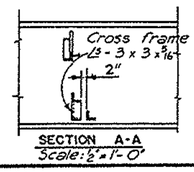
Note: Downspout only on west abutment of bridge.

SECTION C-C
Scale: ½" = 1'-0"

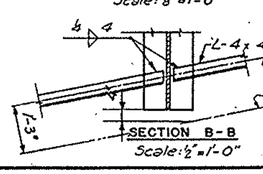


DETAIL A ENLARGED MEDIAN
Scale: ½" = 1'-0"

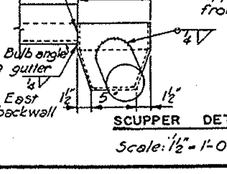
SECTION D-D
Scale: ½" = 1'-0"



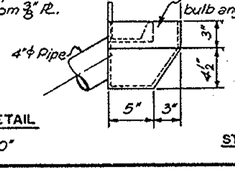
SECTION A-A
Scale: ½" = 1'-0"

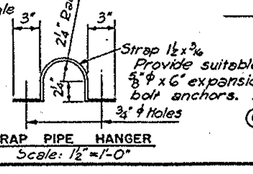


SECTION B-B
Scale: ½" = 1'-0"



SCUPPER DETAIL
Scale: 1½" = 1'-0"





STRAP PIPE HANGER
Scale: 1½" = 1'-0"

Notes:
For Reinforcing Schedule see sheets 203 and 204.
For expansion joint details see Sheet 136.
For handrail details see Sheet 138.
For roadway lighting details see Sheet 136.

PART 6

AKRON EXPRESSWAY SYSTEM
FULLER STREET OVERPASS
BR. NO. SU-18R-133
SLAB PLAN AND CROSS SECTION
AKRON SUMMIT COUNTY, OHIO

SCALE As Shown
MADE DBB DATE 1-30-54
TRCD. DATE
CKD. B.H.D. DATE 10-18-54

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

901 SHEET 202

2/9

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

203
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

WEST ABUTMENT

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	3 Series of 5	251'-2" to 291'-8"	126	11'-8"	101'-2" to 121'-2"			A=1/8"	758
502	3 Series of 5	201'-8" to 231'-8"	126	11'-8"	81'-0" to 101'-0"			B"	339
503	3 Series of 5	121'-0" to 181'-2"	126	11'-8"	41'-0" to 71'-2"			B=1/16"	241
504	3 Series of 5	231'-8" to 291'-8"	126	11'-8"	101'-2" to 121'-2"			A=1/2"	501
505	2 Series of 5	181'-8" to 221'-8"	126	11'-8"	71'-2" to 91'-2"			B"	316
506	2 Series of 5	121'-2" to 171'-2"	126	11'-8"	41'-0" to 91'-0"			B"	127
101	96	21'-6"	Str.						220
601	15	61'-0"	119	21'-3"	11'-3"	21'-6"			135
602	6	221'-0"	Str.						205
603	8	171'-3"	Str.						207
604	8	231'-0"	Str.						285
605	8 Str	171'-0"	Str.						6385 255
606	8	231'-6"	Str.						282
607	10	151'-6"	Str.						345
608	10	221'-0"	Str.						281
609	11	171'-0"	Str.						468
610	14	221'-3"	Str.						6 15 266
611	17 Str	161'-3"	Str.						261
612	8	211'-0"	Str.						192
613	8	161'-0"	Str.						258
614	8	211'-6"	Str.						171
615	3	301'-0"	Str.						105
616	3	231'-3"	Str.						224
617	3	301'-0"	Str.						123
618	3	271'-3"	Str.						105
619	3	321'-6"	Str.						222
620	3	291'-3"	Str.						243
621	8	201'-3"	Str.						475
622	8	301'-6"	Str.						601
623	8	501'-0"	Str.						578
624	70	51'-6"	104	31'-6"	21'-0"				605
625	70	91'-0"	119	71'-3"	11'-0"	11'-6"			1,025
626	1 Series of 15	231'-2" to 131'-6"	128	11'-6"	61'-0" to 21'-2"	51'-6"	10-3/4	1/4"	281
627	1 Series of 15	121'-6" to 131'-6"	128	11'-6"	51'-6" to 21'-2"	51'-6"	10-3/4	1/2"	509
628	1 Series of 15	121'-0" to 131'-6"	128	11'-6"	51'-0" to 21'-2"	51'-6"	10-3/4	1/2"	625
629	11	41'-0"	Str.						264
630	0 33	71'-0"	Str.						35 287
631	0 33 190	71'-0"	Str.						2,006 6,005
632	39 11	61'-0"	Str.						285 11
633	12 35	231'-0"	151						522,207
634	11 16	81'-3"	Str.						124 553
635	15 05	81'-6"	Str.						230 208
636	24 18	51'-6"	Str.						2 15 66
637	70 03	71'-6"	Str.						856 338
638	172	31'-0"	Str.						866
639	13 08	81'-0"	Str.						434 386
640	167	171'-0"	Str.						13 570
641	10 08	121'-0"	Str.						192 536
642	7 08	181'-6"	152	51'-10"	21'-0"	7-5/8	1-1/8		633 588
643	7	151'-6"	153	31'-3"	31'-2"	7-5/8	1-1/8		153
644	23 22	51'-3"	108	41'-0"	11"	10			181 123
645	4	31'-0"	105	11'-9"	11'-0"				23
646	3	201'-0"	Str.						131
647	12	81'-0"	Str.						144
648	24 28	191'-0"	152	61'-1"	21'-9"	7-5/8	0		685 588
649	6	151'-6"	153	31'-3"	31'-2"	7-5/8	0		140
650	20 20	51'-0"	108	41'-0"	11'-0"	8-1/2			207 378
651	4	41'-0"	105	21'-0"	11'-0"				24
652	3	271'-0"	Str.						125
653	2	101'-0"	128	41'-0"	11'-0"	51'-0"	12		32
654	25	61'-0"	Str.						180 128
655	6 Series of 4	101'-0" to 101'-0"	Str.					3'-3"	536
656	4 Series of 4	91'-6" to 181'-6"	Str.					3'-0"	335
657	4	211'-0"	Str.						126
658	1	141'-0"	Str.						21
659	13	131'-6"	155						264
660	15	51'-0"	104	21'-5"	21'-6"				113
701	17	201'-0"	Str.						1,729
702	13	161'-9"	Str.						1,242

EAST ABUTMENT

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
001	10	381'-6"	Str.						2,287
002	18	231'-6"	Str.						1,439
003	17	251'-0"	Str.						1,645
004	15	321'-6"	Str.						1,659
005	18	352	Str.						352
006	6	71'-6"	Str.						153
007	4	291'-0"	Str.						394
008	2	261'-6"	Str.						180
009	4	271'-0"	Str.						377
010	6	211'-0"	Str.						224
011	9	281'-0"	156	241'-3"					857
012	8	271'-0"	156	231'-3"					734
013	23	71'-0"	101	51'-3 1/2"	11'-8 1/2"				547
								Total West Abutment	35,125

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
401	96	21'-6"	Str.						240
501	3 Series of 5	251'-2" to 301'-2"	126	11'-8"	101'-6" to 121'-2"			3-3/4"	779
502	3 Series of 5	201'-8" to 241'-2"	126	11'-8"	81'-2" to 101'-2"			5-1/4"	851
503	3 Series of 5	121'-8" to 191'-2"	126	11'-8"	41'-2" to 71'-2"			7-3/4"	299
504	3 Series of 5	241'-8" to 301'-2"	126	11'-8"	101'-2" to 121'-2"			4-1/8"	772
505	2 Series of 5	201'-2" to 231'-8"	126	11'-8"	81'-2" to 101'-0"			5-1/4"	229
506	2 Series of 5	121'-2" to 181'-8"	126	11'-8"	41'-0" to 71'-2"			7-3/4"	193
507	1 Series of 5	191'-8" to 231'-0"	126	11'-8"	81'-0" to 101'-0"			5-1/4"	112
508	1 Series of 5	121'-8" to 181'-2"	126	11'-8"	41'-0" to 71'-2"			R-1/4"	80
601	6	231'-6"	Str.						212
602	10	161'-6"	Str.						268
603	30	241'-0"	Str.						109
604	10	171'-3"	Str.						259
605	19 88	181'-0"	Str.						351 288
606	8	171'-0"	Str.						201
607	12	171'-6"	Str.						315
608	8	231'-9"	Str.						285
609	78	171'-9"	Str.						2,080
610	8	221'-9"	Str.						273
611	12	221'-0"	Str.						397
612	128 90	71'-9"	Str.						1280 1315
613	13 55	231'-0"	Str.						449 207
614	2 28	81'-6"	Str.						26 281
615	2630	91'-0"	Str.						251 409
616	52	41'-0"	Str.						312
617	81	5550	Str.						35
618	2149	71'-0"	Str.						221 515
619	4	61'-3"	Str.						38
620	206	3550	Str.						1223
621	14	491'-0"	Str.						1,030
622	14	401'-0"	Str.						841
623	14	311'-0"	Str.						652
624	78	91'-6"	119	71'-0"	11'-0"	11'-6"			1,113
625	1 Series of 33	121'-3" to 131'-8"	128	11'-6"	51'-6" to 21'-2"	51'-6"	10-3/4	1/2"	642
626	80	51'-6"	104	31'-6"	21'-0"				661
627	1 Series of 33	121'-5" to 131'-5"	128	11'-6"	51'-6" to 21'-5"	51'-6"	10-3/4	1/2"	526
628	1 Series of 33	131'-1" to 131'-5"	128	11'-6"	51'-1" to 51'-5"	51'-6"	10-3/4	1/4"	379
629	168 124	71'-9"	Str.						2220 1052
630	3	291'-9"	Str.						134
631	3225	81'-9"	Str.						394 328
632	6	151'-0"	153	21'-11"	31'-0"	7-5/8	2-1/4		135
633	4	31'-6"	105	1'-8"	11"				21
634	5 58	131'-9"	Str.						103 339
635	5 56	121'-0"	Str.						96 268
636	2425	201'-3"	152	71'-2"	21'-11"	7-5/8	4-1/8		730 839
637	6	161'-6"	153	41'-1"	31'-4"	7-5/8	4-1/8		149
638	4 68	61'-0"	Str.						26 54
639	19 8	91'-3"	Str.						264 58
640	3 Series of 4	101'-6" to 201'-9"	Str.					3'-5"	376
641	4	231'-0"	Str.						138
642	2 Series of 4	101'-3" to 201'-6"	Str.					3'-5"	186
643	9 5	61'-6"	Str.						88 80
644	6 6	51'-6"	Str.						66 50
645	20 16	81'-0"	Str.						240 72
646	2722	41'-9"	108	41'-0"	9"	11			193 182
647	2220	61'-3"	108	51'-3"	11'-0"	7-1/4			216 188
648	2 Series of 4	101'-6" to 211'-0"	Str.					3'-5"	189
649	2 Series of 4	101'-0" to 191'-9"	Str.					3'-3"	179
650	2 Series of 4	101'-0" to 191'-3"	Str.					3'-1"	176

NORTHWEST WINGWALL

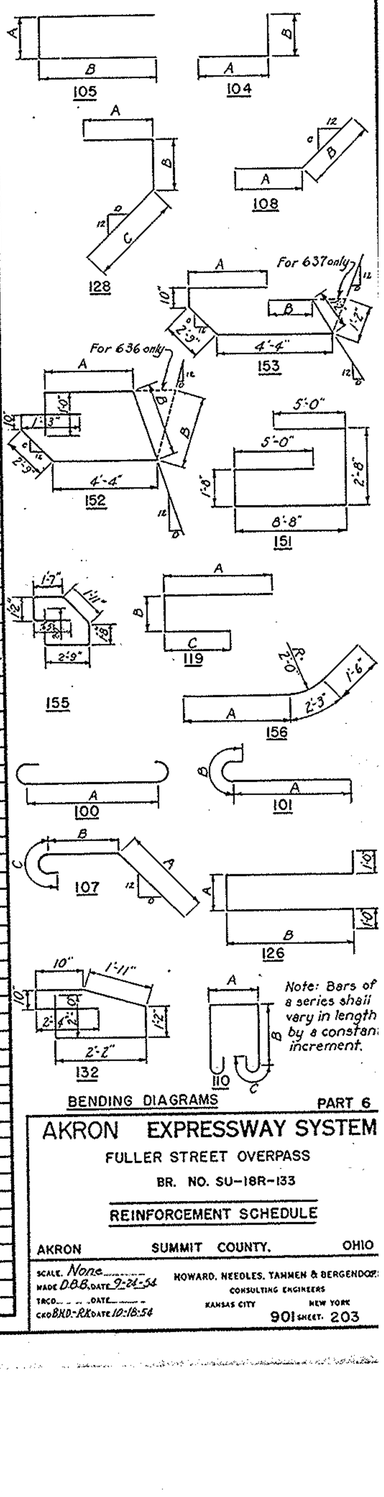
MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
651	4	41'-0"	105	21'-11"	11"				29
652	4	211'-0"	Str.						126
653	22	181'-6"	152	51'-6"	21'-11"	7-5/8	2-1/4		611
654	3	281'-3"	Str.						127
655	4	101'-0"	128	41'-0"	11'-6"	51'-0"	12		65
656	14	51'-0"	104	21'-6"	21'-6"				105
657	16	61'-0"	119	21'-3"	11'-3"	21'-6"			126
658	8	351	Str.						2
659	14	13 45	155						284
701	17	501'-0"	Str.						1,737
702	17	381'-0"	Str.						1,320
703	17	321'-6"	Str.						1,129
704	14	291'-0"	Str.						851
705	14	301'-0"	Str.						1,197
706	13	261'-6"	Str.						1,235
901	4	281'-0"	156	251'-0"					391
1005	25	3111	105	5				12"	5595
903	11	281'-6"	156	241'-0"					1,055
904	4	281'-0"	156	241'-3"					381
905	4	271'-3"	156	231'-6"					371
906	7	111'-0"	Str.						75
907	3	91'-0"	Str.						92
908	4	291'-0"	Str.						405
909	2	271'-3"	Str.						185
910	3	71'-0"	Str.						71
911	18	51'-6"	Str.						337
912	2	251'-6"	Str.						173
913	4	281'-3"	Str.						384
								Total East Abutment	36,125

SOUTHWEST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
801	2	81'-6"	107	51'-6"	11'-6"	11'-4"	12		45
802	2	61'-1"	101	41'-0"	11'-6"				32
803	3	151'-7"	107	131'-0"	11'-3"	11'-4"	5		125
804	3	51'-10"	101	41'-6"	11'-4"				47
805	4	91'-0"	Str.						96
806	4	141'-9"	Str.						158
				Total Northwest Wingwall					3,807

SOUTHWEST WINGWALL

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
501	1 Series of 3	71'-4" to 131'-4"	110	11'-8"	51'-0" to 51'-6"	10"		11'-6"	32
502	1 Series of 15	71'-0" to 141'-8"	110	11'-8"	51'-0" to 51'-6"	10"		6-1/2"	90
503	1 Series of 15	181'-0" to 281'-0"	110	11'-8"	121'-6" to 131'-6"	10"		5"	312
504	1 Series of 33	716" to 16 4-10"	110	11'-8"	51'-11" to 51'-0"	10"		7"	115
601	7	81'-6"	Str.						89
602	9	61'-6"	Str.						88
603	2	91'-0"	Str.						27
604	7	61'-3"	Str.						65
605	2	61'-0"	Str.						18
606	2	41'-9"	Str.						14
607	24	51'-8"	119	21'-0"	8"	41'-0"			240
608	8	91'-6"	Str.						114
609	34	71'-6"	Str.						383
610	34	51'-0"	Str.						255
611	6	141'-9"	Str.						133
612	6	121'-0"	Str.						108
613	2 Series of 3	41'-9" to 121'-3"	Str.					3'-9"	77
614	12	161'-0"	Str.						289
615	23	117'-3"	132						354
616	2	291'-6"	Str.						89
617	2	271'-0"	Str.						81
618	2 Series of 3	41'-6" to 261'-6"	Str.					3'-8"	326
619	4	261'-6"	Str.						159
620	2	291'-3"	Str.						88
621	1 Series of 4	231'-6" to 261'-0"	Str.					1'-1"	151
622	1 Series of 4	201'-9" to 241'-0"	Str.					1'-1"	134
623	1	231'-6"	Str.						35
624	1	201'-9"	Str.						31
625	1 Series of 3	181'-6" to 201'-6"	Str.					1'-0"	88
626	1 Series of 3	151'-9" to 171'-9"	Str.					1'-0"	75
627	1	171'-9"	Str.						27
628	1	151'-0"	Str.						23
629	1 Series of 3	91'-6" to 111'-6"	Str.					1'-0"	47
630	1 Series of 3	61'-9" to 81'-9"	Str.					1'-0"	35
631	4	81'-9"	Str.						53
632	4	61'-0"	Str.						36
633	8	101'-0"	100	8'-0"					120
634	9	81'-0"	100	6'-0"					108
635	10	111'-0"	100	9'-0"					165
636	11	91'-0"	100	7'-0"					149
									108
701	2 Series of 3	31'-6" to 91'-6"	Str.					3'-0"	80
702	4	141'-6"	Str.						119
703	2 Series of 3	161'-6" to 211'-0"	Str.					2'-3"	230
704	6	241'-0"	Str.						294
705	2	321'-0"	Str.						131
706	2	341'-0"	Str.						139
707	2	361'-9"	Str.						150
708	4	391'-9"	Str.						325
709	10	481'-9"	Str.						995
801	2	81'-1"	107	51'-3"	11'-6"	11'-4"	12		43
802	2	61'-1"	101	41'-9"	11'-4"				32
803	3	151'-7"	107	131'-0"	11'-3"	11'-4"	4		125
804	3	51'-10"	101	41'-6"	11'-4"				47
805	4	261'-0"	Str.						208
806	4	131'-0"	Str.						139
901	2	321'-2"	107	291'-3 1/2"	11'-3"	1'-8 1/2"	5		219
902	6	71'-2"	101	51'-3 1/2"	11'-8 1/2"				146
903	14	151'-0"	Str.						204
				Total Southwest Wingwall					8,555



BENDING DIAGRAMS PART 6

AKRON EXPRESSWAY SYSTEM

FULLER STREET OVERPASS

BR. NO. SU-18R-133

REINFORCEMENT SCHEDULE

AKRON SUMMIT COUNTY, OHIO

SCALE None
MADE D.B.B. DATE 9-24-54
TRC. DATE
CKD B.H.D.-R.L. DATE 10-18-54

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

SHEET 203

Revised 6-15-55

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

204
204

SUMMIT COUNTY
CITY OF AKRON
AKRON EXPRESSWAY SYSTEM

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
SOUTHEAST WINGWALL									
501	1 Series of 8	7'-4" to 14'-10"	110	1'-8"	21'-0" to 51'-9"	10"		6 1/2"	92
502	1 Series of 3	8'-4" to 13'-0"	110	1'-8"	21'-6" to 41'-10"	10"		1'-2"	33
601	12	7'-0"	Str.						126
602	8	9'-6"	Str.						114
603	9	6'-6"	Str.						88
604	7	8'-6"	Str.						89
605	8	8'-6"	100	6'-6"					102
606	8	11'-0"	100	9'-0"					132
607	9	8'-0"	100	6'-0"					108
608	8	10'-0"	100	8'-0"					120
609	18	5'-0"	Str.						135
610	2 Series of 3	4'-0" to 12'-0"	Str.					4'-0"	72
611	2	5'-6"	Str.						17
612	2	18'-9"	Str.						56
613	5	16'-0"	Str.						120
614	3	17'-6"	Str.						79
615	3	15'-0"	Str.						68
616	6	14'-3"	Str.						178
617	6	11'-9"	Str.						106
618	1	11'-0"	Str.						17
619	9	8'-0"	Str.						108
620	1	10'-0"	Str.						15
621	1	7'-3"	Str.						11
622	7	9'-6"	Str.						100
623	7	6'-9"	Str.						71
624	16	11'-3"	132						270
625	4	15'-6"	Str.						93
626	2	16'-6"	Str.						50
627	2	18'-6"	Str.						56
628	6	23'-9"	Str.						214
629	12	32'-6"	Str.						586
630	16	6'-10"	119	2'-0"		8"	4'-0"		164
801	3	6'-4"	101	5'-0"	1'-4"				51
802	3	15'-7"	107	13'-0"	1'-3"	1'-4"	4-1/4		125
803	2	5'-10"	101	4'-6"	1'-4"				31
804	2	8'-7"	101	6'-0"	1'-3"	1'-4"	9-1/2		46
805	2	8'-8"	108	1'-10"	6'-10"	6			46
806	4	7'-0"	Str.						75
807	6	11'-6"	Str.						104
					Total Southeast Wingwall				4,088
NORTHEAST WINGWALL									
501	11	7'-4" to 14'-10"	110	1'-8"	21'-0" to 51'-9"	10"		6-1/2"	92
502	1	9'-10"	110	1'-8"	3'-3"	10"			10
503	1	12'-8"	110	1'-8"	4'-8"	10"			13
601	11	7'-0"	Str.						116
602	8	9'-6"	Str.						114
603	9	6'-6"	Str.						88
604	7	8'-6"	Str.						89
605	8	8'-6"	100	6'-6"					107
606	8	11'-0"	100	9'-0"					132
607	9	8'-0"	100	6'-0"					108
608	8	10'-0"	100	8'-0"					120
609	18	5'-0"	Str.						135
610	2 Series of 3	4'-6" to 12'-6"	Str.					4'-0"	77
611	10	6'-3"	Str.						94
612	2	4'-9"	Str.						14
613	2	18'-6"	Str.						56
614	5	15'-9"	Str.						118
615	3	18'-0"	Str.						81
616	11	15'-3"	Str.						252
617	6	14'-0"	Str.						133

MARK	NO.	LENGTH	TYPE	DIMENSIONS A	B	C	D	SERIES INCREMENT	WEIGHT POUNDS
618	6	12'-0"	Str.						109
619	1	10'-0"	Str.						16
620	1	9'-0"	Str.						15
621	8	9'-0"	Str.						108
622	16	11'-3"	Str.						270
623	2	17'-6"	Str.						53
624	2	19'-6"	Str.						59
625	4	24'-6"	Str.						147
626	2	32'-0"	Str.						96
627	10	33'-6"	Str.						503
628	17	6'-10"	119	2'-0"	10"	4'-0"			174
629	7	8'-0"	Str.						84

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

FED. RD. DIV. NO.	STATE	PROJ. NO.	TYPE FUNDS
2	OHIO	STATE	

1/4

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
SUM.-5-10.95
SUM.-18R-12.10

554-F

AKRON EXPRESSWAY SYSTEM

SUM-5-10.95 & SUM-18R-12.10

SUMMIT COUNTY

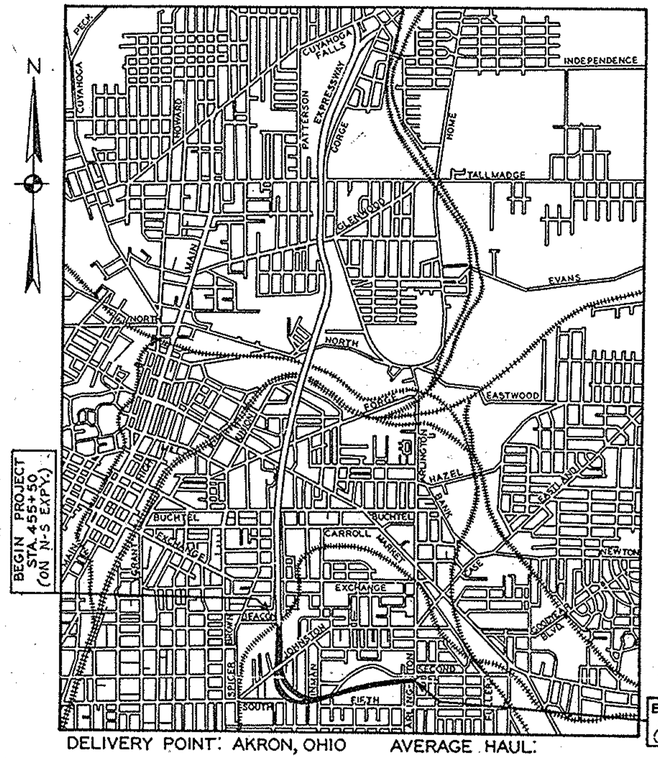
CITY OF AKRON

INDEX OF SHEETS

TITLE PAGE ——— 1
FENCE PLANS & GENERAL SUMMARY ——— 2
FENCE PLANS ——— 3-4

LINE DATA

BEGIN PROJECT ON N-S. EXPRESSWAY	=	455+50	
END N-S EXPRESSWAY (AT 0+00 ON LANE "S")	=	445+85.39	
NET LENGTH ON N-S EXPRESSWAY	=		964.61 L.F.
BEGIN LANE "S" (AT 445+85.39 N-S EXPRESSWAY)	=	0+00	
END LANE "S" (AT 547+08.6 E-W EXPRESSWAY)	=	23+88.99	
NET LENGTH ON LANE "S"	=		2388.99 L.F.
BEGIN E-W EXPRESSWAY (AT 23+88.89 ON LANE "S"	=	547+08.6	
END PROJECT ON E-W EXPRESSWAY	=	576+00	
NET LENGTH ON E-W EXPRESSWAY	=		2891.40 L.F.
TOTAL NET LENGTH OF PROJECT	=		6245.00 L.F. OR 1.182 Mi.



DELIVERY POINT: AKRON, OHIO AVERAGE HAUL:

LOCATION PLAN

0 2000
SCALE IN FEET

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

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

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

APPROVED	
DATE 7-1-57	DIRECTOR OF PUBLIC SERVICE, CITY OF AKRON
APPROVED	
DATE 7-2-57	DIVISION DEPUTY DIRECTOR
APPROVED	
DATE 7-30-57	DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING
APPROVED	
DATE	ENGINEER OF BRIDGES
APPROVED	
DATE 7-25-57	ENGINEER OF LOCATION AND DESIGN
APPROVED	
DATE 7-25-57	DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION
APPROVED	
DATE	FIRST ASSISTANT DIRECTOR
APPROVED	
DATE 7/30/57	ACTING DIRECTOR OF HIGHWAYS

V. A. R. A. #12 7-25-57

SEP 6 1961
GROUND PHOTOS

STANDARD DRAWINGS	
F-1	4-1-57

SCALE
PLAN 1" = 50'

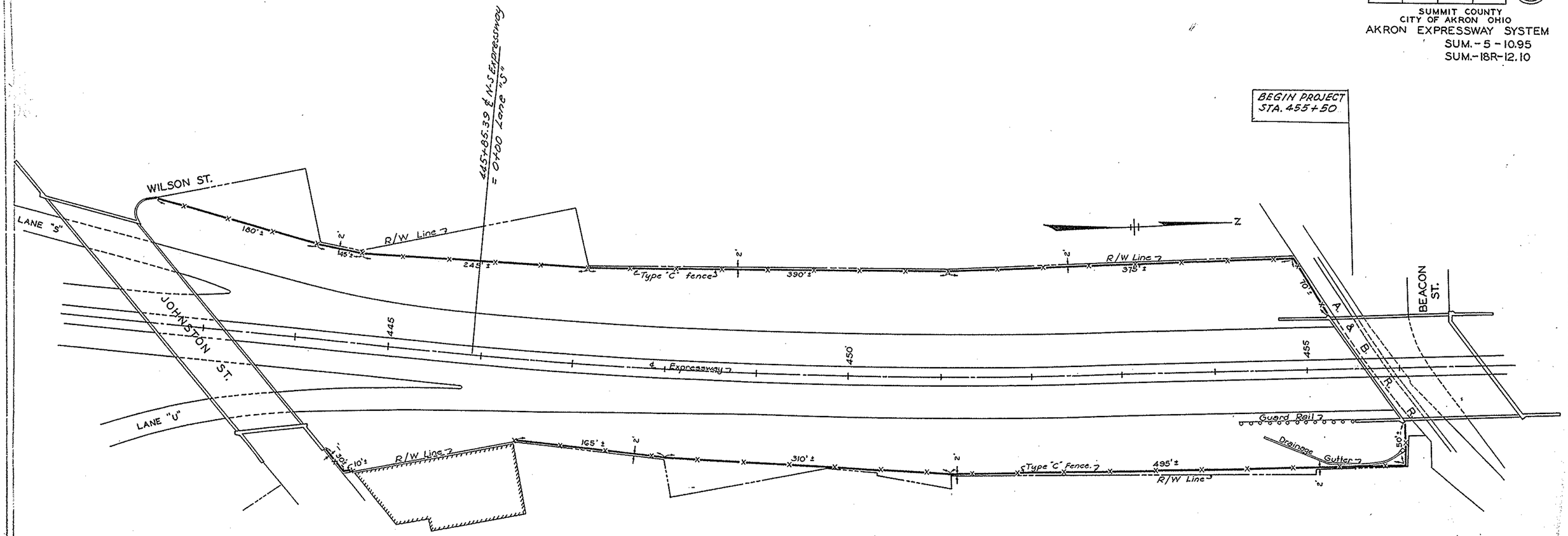
SUPPLEMENTAL SPECIFICATIONS		
18	REV.	2-6-57

SUMMIT COUNTY
SEC. SUM-5-10.95 & SUM-18R-12.10
DATE OF LETTING ———, 195—
CONTRACT NO.

FED. RD. DIV. NO.	STATE	PROJ. NO.	TYPE FUNDS
2	OHIO	STATE	

2/4

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
SUM.-5-10.95
SUM.-18R-12.10



TYPE R/W FENCE

GENERAL SUMMARY

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
SS-18	9,365	LIN. FT.	FENCE TYPE "C"
SS-18	2	EACH	FENCE GATES, TYPE "C" (DOUBLE GATE FOR 14'-0" OPENING)

FENCE GATES:- The number of gates appearing in the General Summary is an estimated quantity. The exact number of gates and their locations shall be decided by the Engineer at the time of erection.

FED. RD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO	STATE	

3/4

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
SUM.-5-10.95
SUM.-18R-12.10

N

JOHNSTON ST.

LUMIERE ST.

HAMMEL ST.

GRIDLEY AVE.

℄ Expressway

LANE U

RAMP V

NORTH SERVICE ROAD

℄ Guard Rail

℄ Type "C" Fence

R/W Line

50'

500'±

825'±

547+08.6 E-W EXP = 23+88.99 Lane "S"

℄ Match Line "J"

LANE S

RAMP P

RAMP Q

10

TEMPORARY CONNECTION 24'

15

TEMP. CONN. "C"

SOUTH SERVICE ROAD

315'±

20

CURB LINE "J"

WILSON ST.

FED. RD. DIV. NO.	STATE	PROJ. NO.	TYPE FUNDS
2	OHIO	STATE	

4/4

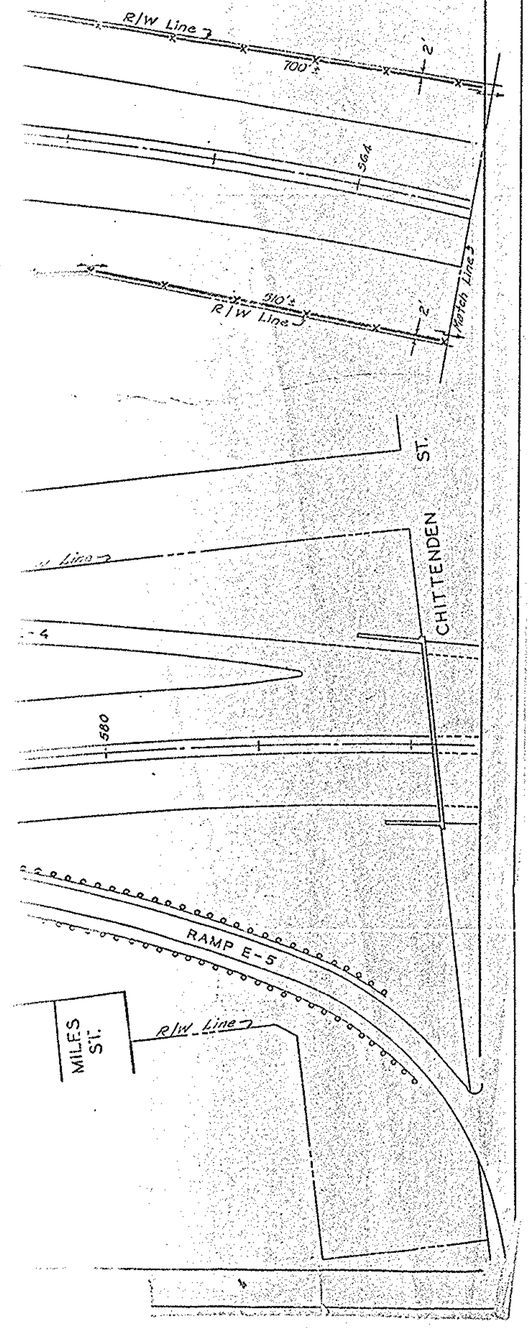
SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
SUM.-5-10.95
SUM.-18R-12.10

NORTH SERVICE ROAD
SOUTH SERVICE ROAD
INMAN STREET
FIFTH AVE.
MERTON AVE.
SCHOOL ROAD
SECOND AVE.
MARTIN AVE.
TALBOT AVE.
ARLINGTON ST.
CHIFFENDEN ST.
MILES ST.
RAMP E-1
RAMP E-2
RAMP E-3
RAMP E-4
RAMP E-5
2 Expressway
Type "C" Fence
Guard Rail
Retaining Wall
R/W Line
Match Line
END PROJECT STA. 576+00
N

FED. RD. DIV. NO.	STATE	PROJ. NO.	TYPE FUNDS
2	OHIO	STATE	

4a
4

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
SUM.-5-10.95
SUM.-18R-12.10



FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

6/204

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM - 18 R - 12.10

E 88,500 E 88,750 E 89,000 E 89,250 E 89,500 E 89,750 E 90,000

N 96,500 N 96,250 N 96,000 N 95,750

MATCH TO SHEET 8

PARCEL NO.	OWNER
~~1 LA~~	~~Cook, G.L. & C.E.~~
2 LA	Miller, C.A. — Part
3 LA	Salenday, S.A.
4 LA	Adrian, W.G. & S.L.
5 LA	Barthelemy, J.F.
6 LA	Barringer, W.L. & T.M.
7 LA	Schobert, E.C.
~~8 LA~~	~~Boettcher, L.~~
~~9 LA~~	~~Hildreth, B.F.~~
10 LA	Hill, M.M.
11 LA	Rounis, K. — Part
12 LA	Andrews, B.
13 LA	Kelly, E. & S.
14 LA	Lechot, W.B. & J.D.
15 LA	Mc Queeney, E.C.
16 LA	Mc Queeney, E.C.
17 LA	Capes, E.C.
18 LA	Homerich, E.
19 LA	Hardacre, W.S. & D.M.
20 LA	Eipper, A.C. & E.I.
21 LA	Briggs, R.W. & A.L.
22 LA	Shaw, R.F. & M.
23 LA	Scofield, E.
24 LA	French, R.E. & M.L.
25 LA	Snyder, H. & E.C.
26 LA	Young, J.E.
27 LA	Hutton, R.E. & O.M.
28 LA	Mc Intyre, E.
29 LA	Faulkner, D.W.
30 LA	Schultz, P.
31 LA	Lehner, O. & M.
32 LA	Martin, V.
33 LA	Fedor, K.
34 LA	Newton, C.R. & F.
35 LA	Newton, C.R. & F.E.
36 LA	Curry, E.V.
37 LA	Maistros, C.
38 LA	Masters, J.R.
39 LA	West, R.J.
40 LA	West, C.L.
16(A) LA	Smalukas, A. & E. — Part
16(B) LA	whalen, L. — Part
74 LA	MacDougal, H.M. & A.P. — Part
75(A)	Lucas, W.E. & M.H.

PARCEL NO.	OWNER
41 LA	Calabria, L.E. & L.M.
42 LA	Miller, J.E. & M.
43 LA	Baker, L.H.
44 LA	Cueni, R. & F.
45 LA	Schott, C. & L.
46 LA	Gabor, G.J. & D.L.
47 LA	Bulgrin, W.C. & G.M.
48 LA	Rankin, R.C. & L.L.
49 LA	Rankin, R.C. & L.L.
50 LA	Holley, W.J. & I.G.
51 LA	Martin, T.R. & M.J.
52 LA	Rimmer, J.C. & N.B.
53 LA	Bonebrake, S.F. & A.
54 LA	Henckel, W. & M.
55 LA	Myers, L.H. & N.E.
56 LA	Shults, B.
57 LA	Law, S.L.
58 LA	Karl, P.H. & V.
59 LA	Tenpenny
60 LA	Patton, H.C. & H.M.
61 LA	Mc Henry, R. & G.I.
62 LA	Billington, W.
63 LA	Ketterman, G. — Part
64 LA	Ellis, K.W. & E.A. — Part
65 LA	Markov, B. — Part
66 LA	Wells, W.L. & M.M. — Part
67 LA	Bernabei, J.J. & M.L.
68 LA	Moniodis, A.
69 LA	Pfaff, H. & E.
70 LA	Hall, D.M.
71 LA	Caipen, R.A. & G.
72 LA	Klett, H.F. & V.
73 LA	Manko, A. & M.
~~74 LA~~	~~Lucas, W.E. & M.H.~~
75 LA	Fischer, A.E. — Part
76 LA	Muffley, W. & J.
77 LA	Doyle, H.J. & H.T.
78 LA	Boston, R.
79 LA	Freeman, T.A.
80 LA	Freeman, T.A.

NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L.A. PARCEL SHOWN AS (4) IS ACTUALLY E4L.A.

Revised Parcels 3 & 4 2-21-58
Revised Parcels 5 & 63 2-21-58
Parcel 75-A on Hammel, added 10-3-56
Parcel 74 at cor. Hammel & Johnston added 7-26-55
Revised Parcel 16(A) 5-25-55

50 0 50 100 150 FT.

10-1-54

15115

A-5915

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FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

7

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM-18 R-12.10

E88,500 E88,750 E89,000 E89,250 E89,500 E89,750 E90,000

N95,500 N95,250 N95,000 N94,750

MATCH TO SHEET 6

MATCH TO SHEET 8

PARCEL NO.	OWNER
81 L.A.	Scott, C.R. & V.M.
82 L.A.	Abbott, O.
83 L.A.	Athey, C.H. & G.M.
84 L.A.	Hinkle, F.E. & L.P.
85 L.A.	Allshouse, G.G. & E.M.
86 L.A.	Hannig, D.M.
87 L.A.	Hannig, A.M.
88 L.A.	Latsch, L.M. & A.M.
89 L.A.	Latsch, L.M. & A.M.
90 L.A.	Bucher, G.K. & C.J.
91 L.A.	Carlson, C.R. & L.
92 L.A.	Holb, G. & P.
93 L.A.	Hileman, C.I. & E.B.
94 L.A.	Weber, R. & L.
95 L.A.	Slater, A.M.
96 L.A.	Puff, C.M.
97 L.A.	Allen, V.L.
98 L.A.	Heaton, M.E.
99 L.A.	Krahling, H.H. & K.R.
100 L.A.	Radcliff, L.M.
101 L.A.	Seiler, J.J.
102 L.A.	Yost, F.P.
103 L.A.	Mikiylov, L. Jr. & M.A.
104 L.A.	Flory, B.
105 L.A.	Flory, B.M.
106 L.A.	Beckwith, P. & H.E.
107 L.A.	Byrd, M.E. & M.
108 L.A.	Drurey, B.L.
109 L.A.	Full, F.
110 L.A.	Kozielski, C.S. & K.
111 L.A.	Cipcar, M.J. & A.
112 L.A.	Luxeder, A.J. & M.K.
113 L.A.	Stokich, D.E. & J.L.
114 L.A.	Stokich, D.E. & J.L.
115 L.A.	Hague, F.J. & B.M.
116 L.A.	Mc Garr, N.C. & M.
117 L.A.	Farley, C.M.
118 L.A.	Schott, V.V.
115(A) L.A.	Hague, F.J. & B.M.
~~115(B) L.A.~~	~~Hague, F.J. & E.A.~~
116(A) L.A.	Stout, J.G. & M.L. — Part
~~116(B) L.A.~~	~~Brown, M.S.~~
132(A) L.A.	~~Maas, L. & E.M.~~ Stroup, S.J. Part
~~132(B) L.A.~~	~~Wolcott, S.L. & L.J.~~
~~149(A) L.A.~~	~~Bracken, H.B. & W.B.~~
150(A) L.A.	Breckenrich, G.J.
156(A) L.A.	Schneider, E.F.
156(B) L.A.	State of Ohio

PARCEL NO.	OWNER
119 L.A.	Summerford, T.D. & J.E.
120 L.A.	Carroll, D.J. & L.E.
121 L.A.	King, P.J. & M.J.
122 L.A.	Isbell, B.
123 L.A.	De Frisco, E.
124 L.A.	Marshall, F.R. & O.
125 L.A.	Strawderman, T.M.
126 L.A.	Plavsich, Z.J. & J.J.
127 L.A.	Isner, J.W.
128 L.A.	Pinkos, J. & S.
129 L.A.	Hall, R.G. & C.E.
130 L.A.	Grinder, G.C.
131 L.A.	Veney, H.E. & M.
132 L.A.	Stroup, S.J. Part
~~133 L.A.~~	~~Livers, H.S. & H.E.~~
~~134 L.A.~~	~~Fosick, J.E. & J.E.~~
135 L.A.	Golya, J.L. & E.A.
136 L.A.	Schmitschulte, H.J., Mrs.
137 L.A.	Whalen, L.
138 L.A.	Kasarda, M. & M.
139 L.A.	Ries, F.H. & F.E.
140 L.A.	Ries, F. et al
141 L.A.	Lammlein, C.J. & F.M.
142 L.A.	Roberts, E.B.
143 L.A.	Disbennett, G.W. & M.E.
144 L.A.	Crosser, I.F.
145 L.A.	Roberts, E.B.
146 L.A.	Kinsey, C.E. & H.
147 L.A.	Davis, W.D. & M.V.
148 L.A.	Pelfrey, A.F.
149 L.A.	Mc Avoy, J. et al.
150 L.A.	Schneider, W.W.
151 L.A.	Walter, F.A.
152 L.A.	Zeigler, W.A. & M.L.
153 L.A.	Massarelli, F. & M.J.
154 L.A.	First Evang. Cong. Church
155 L.A.	First Evang. Cong. Church
156 L.A.	First Evang. Cong. Church
157 L.A.	Mc Cann, J.J. & G.

NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L.A.: PARCEL SHOWN AS (4) IS ACTUALLY E4LA.

50 0 50 100 150 FT.

Topography Compiled By Photogrammetric Methods - AERO SERVICE CORPORATION - PHILADELPHIA, PA.

10-1-54 15115 A-5916

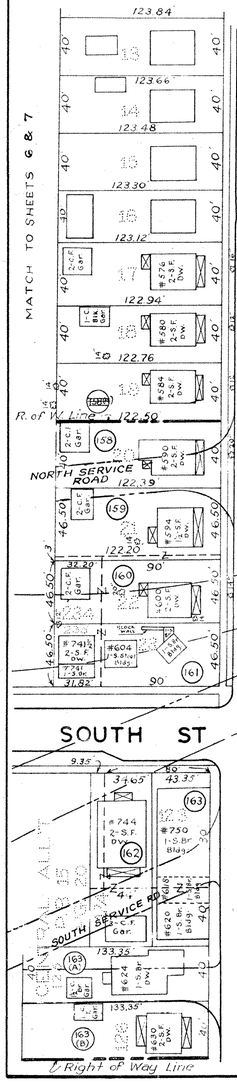
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

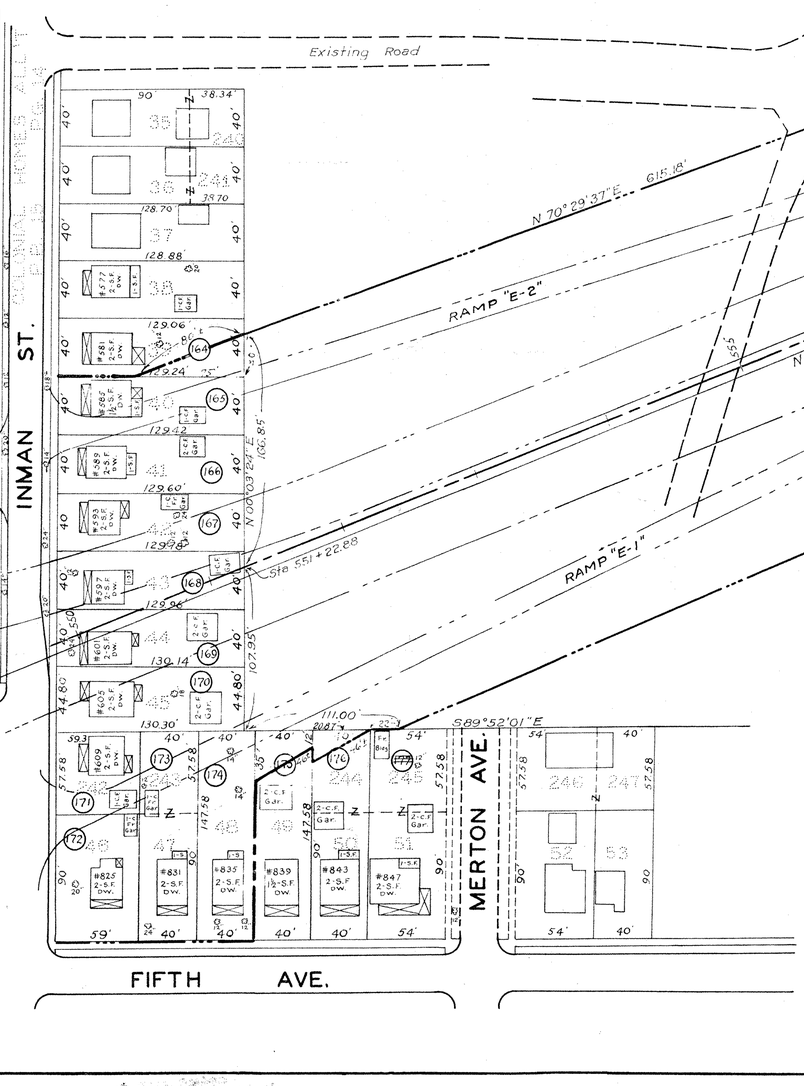
8
204

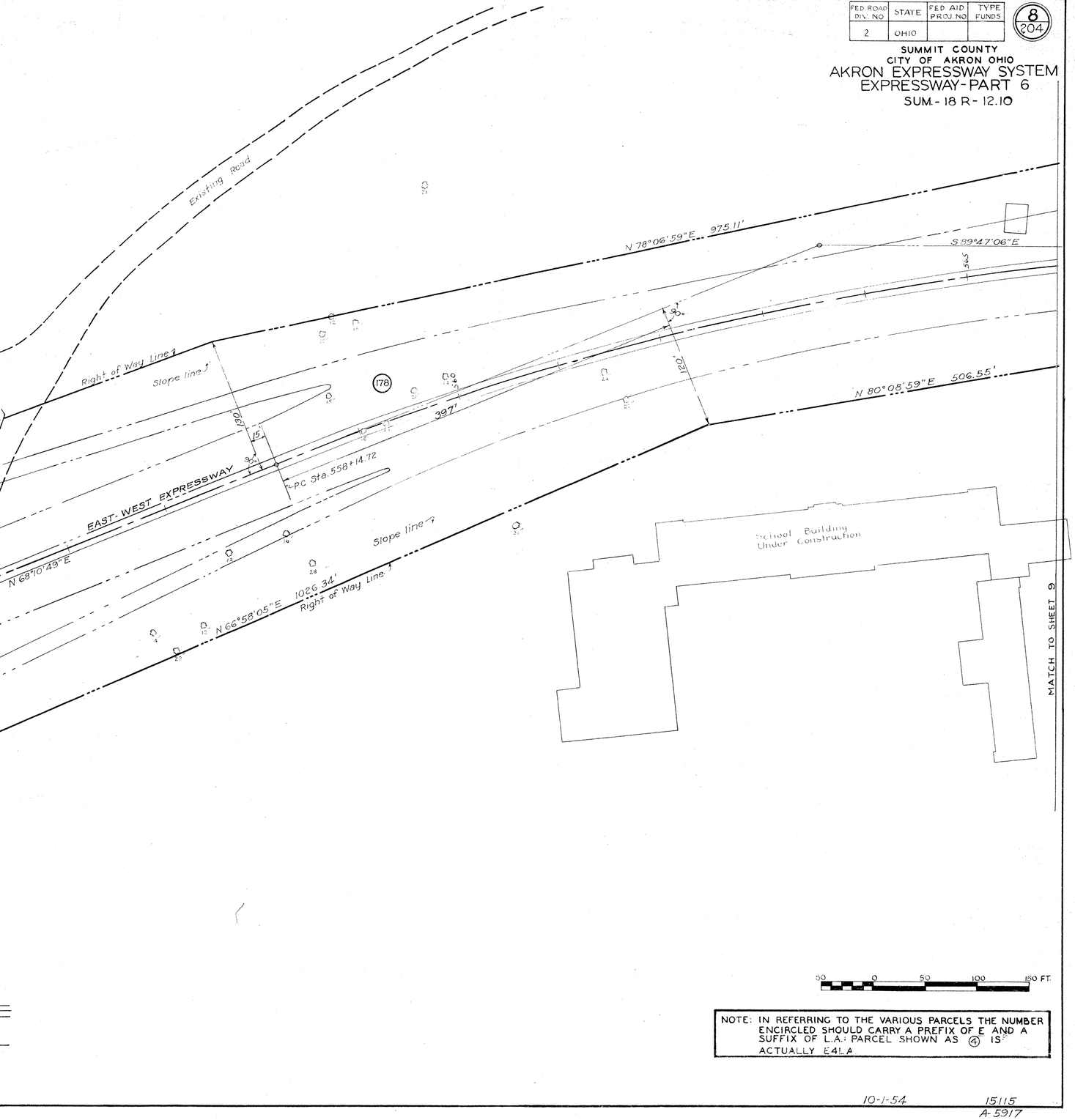
SUMMIT COUNTY
CITY OF AKRON OHIO

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY-PART 6
SUM.-18 R-12.10

PARCEL NO.	OWNER
158 L.A.	Fannin, C.M.
159 L.A.	Taylor, E.R. & M.M.
160 L.A.	Jacobs, S. & I.L.
161 L.A.	Alboreo, M.G.
162 L.A.	Tricaso, E. & B.
163 L.A.	Nimer, N.
164 L.A.	Wolfe, W.G. & L. Part
165 L.A.	Mc Millen, O.
166 L.A.	Lang, J.B. & E.L.
167 L.A.	Sloan, M.M.
168 L.A.	Donofrio, D.J. & H.
169 L.A.	Hout, G.
170 L.A.	Churchill, J. & M.S.
171 L.A.	Dankanich, C.D. & S.
172 L.A.	Jones, A.
173 L.A.	Douglas, J.R. & M.R.
174 L.A.	Crawford, L.H.
175 L.A.	Anderson, J.E. & H.E. Part
176 L.A.	Hobson, E.E. Bishop
176 L.A.	Corbett, E. Part
~~158(A) L.A.~~	~~Bryan, H.D. & P.~~
163(A) L.A.	Damjanovich, A. & L.
163(B) L.A.	Foti, C. & C.







NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L.A.: PARCEL SHOWN AS (4) IS ACTUALLY E4L.A

10-1-54

15115
A-5917

E91,750 E92,000 E 92,250 E 92,500 E 92,750 E 93,000 E 93,250

N96,500 N96,250 N96,000 N95,750

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

9 / 204

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM - 18 R - 12.10

I-80S

N 78°06'59" E 975.11'
N 85°55'50" E 409.6'
Slope line
Right of Way line
RAMP "E-3"
110'
184'
EAST-WEST EXPRESSWAY
S 89°47'06" E
546
570
Sta. 571 + 38.58
90°
183'
S.P.T. Sta. 569 + 16.46
83'
Slope Line
S 89°47'06" E 383.73
Right of Way Line
N 80°08'59" W 506.55'
MATCH TO SHEET B
E.O.G. Meter Bldg.
Voting Booth
Acquisition of driveway reservation

N 0°10'19" E
140.62'
21.5'
AVE.
MARTIN
STINE ALL'T
P.B. 7 PG. 70
WATT'S ALL'T
P.B. 5 PG. 70
Right of Way Line
135.25'
53.25'
AVE.
INGLESIDE ALL'T
P.B. 44 PG. 44
TALBOT
ARLINGTON
STREET
2 ND
AVE.
RAMP "E-4"
C.S. HART ALL'T
P.B. 6 PG. 2
P.C. Sta. 578+75
MILES STREET
CHITTENDEN STREET
MATCH TO SHEET 10
Right of Way Line

PARCEL NO.	OWNER
179 LA	German, B.L.
180 LA	Wolfe, J.S. + T.
181 LA	Fielding, J.E.
182 LA	Ulm, B.A. + M.C.
183 LA	Recicar, S. + H.
184 LA	Ulm, B.A. + M.C.
185 LA	Warner, M.P.
186 LA	Everhart, E. + E.E.
187 LA	Palmer, B.M.
188 LA	Reed, D.V. + C.M.
189 LA	Mack, B.
190 LA	Mastanievich, S. + Thomas, M.F.
191 LA	Timmons, E. + H.D.
192 LA	Trift, N.H. + J.M.
193 LA	Vaughan, M.C.
194 LA	Caetta, J.
195 LA	Tsiloff, L. + G.
196 LA	Ward, T.D. + M.J.
197 LA	Stiffler, T. + L.
198 LA	Mc Cutcheon, I
199 LA	Mayton, P. + T.
200 LA	Aukney, A.
201 LA	Siple, M.M.
202 LA	Allen, P.J. Sr. + J.
203 LA	Bryan, M.J. + A.C.
204 LA	Gilham, E.C. + I.M.
205 LA	Walder, A. + M.D.
206 LA	Smith, W.B. + M.E.
207 LA	Rodgers, M.M.
208 LA	Sheets, C.W. + M.R.

PARCEL NO.	OWNER
209 LA	Claflin, G. + G
210 LA	Stroupe, F.M. + D.E.
211 LA	Stuhldreher, U.
212 LA	Young, J.A.
213 LA	Beamer, J.G. + E.H.
214 LA	Lach, F.A. + F.E.
215 LA	~~Papp, J. + H.~~ Wisler, R. + C.
203 (A) LA	Dodson, E.G.
203 (B) LA	H.H. + F. Thompson Part
203 (C) LA	J.E. Mc Masters
203 (D) LA	Bates, R.L. & O.C.
216 LA	Butcher, W.E.
217 LA	D.A. + Q. Ross
218 LA	R.E. + L.E. Starcher
219 LA	W.C. + F.P. Rutan
220 LA	J.C. + V.A. Fisher
221 LA	V.R. Trachsel
183 (A)	Thornton, F.L. & G.
188 (A) LA	L.H. Brazelton

NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L.A.: PARCEL SHOWN AS (4) IS ACTUALLY E4 L.A.

50 0 100 150 200

Rev. 3-14-56 Added parcel 183-A. 10-1-54 15115

Topography Compiled By Photogrammetric Methods - AERO SERVICE CORPORATION - PHILADELPHIA, PA

E92,250 E92,500 E92,750 E93,000

A-5918

E-805

E93,000 E93,250 E93,500 E93,750 E94,000

SUMMIT COUNTY
CITY OF AKRON OHIO
AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM. - 18 R - 12.10

FED ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

10
204

SECOND AVE.

THIRD AVE.

EAST - WEST EXPRESSWAY

MATCH TO SHEET 9

MATCH TO SHEET 11

C.S. HART ALL'T P.B. 6 PG. 2

ARLINGTON ST.

MILES ST.

CHITTENDEN ST.

HART ST.

FOURTH AVE.

FIFTH AVE.

Easement for driveway

Easement for slope.

Slope Line

Right of Way Line

RAMP

N96,000 N95,750 N95,500 N95,250

PARCEL NO.	OWNER
222 L.A.	Burr, M.J.
223 L.A.	Johnson, E.E. & L.E.
224 L.A.	Simpson, T.W. & E.
225 L.A.	Lemasters, C.M. & L.
226 L.A.	Bauer, C. & C.
227 L.A.	Jones, W.
228 L.A.	Lammlein, E.K. & A.J.
229 L.A.	Messner, R.P. & C. & R.M.
230 L.A.	Valere, L.
231 L.A.	Mc Cullough, C.E.
232 L.A.	Seventh Day Adventist Church
233 L.A.	Consolidani, A. & A.
234 L.A.	Fricaso, S. & S.
235 L.A.	Fisher, J.G. & V.A.
236 L.A.	Arnold, J.R. & F.P.
237 L.A.	Price, M.E. etal.
238 L.A.	Nipper, G.H.
239 L.A.	Dranginis, J.H. & E.M.
240 L.A.	Pudeki, J. & E.
241 L.A.	Morris, J.E. & P.E.
242 L.A.	Arnold, W.R.
243 L.A.	Clawson, P.E. & E.E.
244 L.A.	Manos, A. & A.
245 L.A.	Snyder, E.P.
246 L.A.	Laughrey, E.L.
247 L.A.	Hughey, R.M.
248 L.A.	Sitko, T. & A.
249 L.A.	Kantorowski, B. & M.
250 L.A.	Kerns, J.W. & C.B.

PARCEL NO.	OWNER
251 L.A.	Giannini, F.
252 L.A.	Waistell, R. & E.
253 L.A.	Cowden, G.T. & P.
254 L.A.	Missnar, E.
255 L.A.	Zehnder, W.
256 ~~L.A.~~	Long, E.D. & M.A.
257 L.A.	~~Gurnig, P.~~
258 ~~L.A.~~	Olegar, J.
259 ~~L.A.~~	Prunner, B.
260 ~~L.A.~~	Brand, H.W. & A.R.
261 ~~L.A.~~	Huber, O.J. etal
262 L.A.	Gurnik, J.M.
263 L.A.	Mitschar, N.V.
264 L.A.	Newman, C.C. & B.B.
265 L.A.	Tapoyis, J. & C.
266 L.A.	Cottle, C.E. & J.
267 L.A.	Thompson, C.M.
268 L.A.	Dye, J.E. & B.
269 L.A.	Kelley, H.E.
270 L.A.	Aiken, L.E. & E.F.
271 L.A.	Sears, E.R. & L.B.
272 L.A.	Given, C.D. & H.
273 L.A.	Heatwole, M. & E.E.
274 L.A.	Schubert, S. & R.
275 L.A.	Silcox, R.T.
276 L.A.	Rinker, O.F.
277 L.A.	Hossman, A.N. & M.E.
278 L.A.	Fox, P. & S.
279 L.A.	Donston, S.L.

PARCEL NO.	OWNER
280 L.A.	Haidet, P.R. & E.F.
281 L.A.	Kreitzer, O. & B.
282 L.A.	Grigsby, E.E.
283 L.A.	Silcox, J.T. & M.
284 L.A.	Gursky, J. & A.
285 L.A.	Demyer, T.E. & A.J.
286 L.A.	Frazier, E.G. & E.A.

NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L. A.: PARCEL SHOWN AS ④ IS ACTUALLY E4 L. A.

50 0 50 100 150 FT.

Revision: Easement for slope at Parcel 254 9-2-55

Rev. 3-14-56
Rev. Parcel 254 - 6-16-55
Rev. Parcels 252 & 254 - 3-3-55

10-1-54

15115

A-5919

Compiled By Photogrammetric Methods - AERO SERVICE CORPORATION - PHILADELPHIA, PA.

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	TYPE FUNDS
2	OHIO		

11
204

SUMMIT COUNTY
CITY OF AKRON OHIO

AKRON EXPRESSWAY SYSTEM
EXPRESSWAY - PART 6
SUM. - 18 R-12.10

E 94,500 E 94,750 E 95,000 E 95,250 E 95,500 E 95,750

N 96,000 N 95,750 N 95,500 N 95,250

THIRD AVE. FOURTH AVE. FIFTH AVE.

ST. FULLER KELLY AVE.

C. S. HART ALL'T P.B. 6 PG. 2

Right of Way Line Slope Line

PC Sta. 593+27.25

RAMP "E-B"

EAST-WEST EXPRESSWAY

B. & O. R.R.

LITTLE CUYAHOGA RIVER

3 Story Brick. 2 Story Brick. 2 Story Brick. 2 Story Brick. *1329 Fr. Store

MATCH TO SHEET 10

Match to Sheet 12

PARCEL NO.	OWNER
287 L.A.	Sitko, T. + A.
288 L.A.	Stewart, V.C. + L.M.
289 L.A.	Haidet, C.A.
290 L.A.	Timbs, L.R. + L.D.
291 L.A.	Anderson, J.B.
292 L.A.	Kalafut, J.
293 L.A.	Worrel, S.J.
294 L.A.	Mohawk Rubber Co.
295 L.A.	Fagerlin, A.R. + K.N.
296 L.A.	Volk, A. + H.B.
297 L.A.	Cramer, G.J. + J.
298 L.A.	Conley, B.G.

PARCEL NO.	OWNER
299 L.A.	Johnson, W. + M.
300 L.A.	Hall, R.
301 L.A.	Crawford, R. + G.
302 L.A.	Grigsby, J.B. + N.
303 L.A.	Watson, H.H. + W.A.
304 L.A.	Priest, J.E. + E.M.
305 L.A.	Hale, C.E.
306 L.A.	Nase, J. + D.B.
307 L.A.	Thurmond, R.C. + M.
308 L.A.	Packo, M.
309 L.A.	Spence, R.C.
310 L.A.	Goodyear Tire + Rubber Co.

PARCEL NO.	OWNER
311 L.A.	Goodyear Tire + Rubber Co.
312 L.A.	Kibe, J.
313 L.A.	Hoye, H.V.
314 L.A.	Ginerek, M.J. + R.
315 L.A.	Senter, J.S. Sr. + A.M.
316 L.A.	Bruckert, J. + M.
317 L.A.	Lemke, E.A. etal.
318 L.A.	Nase, L.R. + R.E.
319 L.A.	Crozier, R.G. + G.
320 L.A.	Miller, A.L. + F.D.
321 L.A.	Niestoeckel, H.E. + F.A.
322 L.A.	Juszczak, F.T. + M.K.

PARCEL NO.	OWNER
323 L.A.	Juszczak, T.L. + P.H.
324 L.A.	Cirullo, G.P.
325 L.A.	Dosh, W.M. + F.I.
326 L.A.	Detroit Ave. No. 11115 Co.
327 L.A.	~~Milbry, A.C.~~

NOTE: IN REFERRING TO THE VARIOUS PARCELS THE NUMBER ENCIRCLED SHOULD CARRY A PREFIX OF E AND A SUFFIX OF L.A.: PARCEL SHOWN AS ④ IS ACTUALLY E 4 L.A.

50 0 50 100 150 FT.

Compiled By Photogrammetric Methods - AERO SERVICE CORPORATION - PHILADELPHIA, PA

10-1-54 15115 A-5920

SOIL PROFILE 1/3

SUMMIT COUNTY
SUM-5-AKRON EXPRESSWAY
MARKET ST. TO SOUTH ST.

STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

— NOTE —

GROUND LINE SHOWN ON THIS PROFILE WAS ESTABLISHED BY THE ACTUAL ℄ LINE ELEVATIONS FROM HOLES DRILLED AND FROM PLANS FURNISHED BY THE CITY ENGINEER OF AKRON. THE DATA FOR THE AFORE MENTIONED PLANS WERE TAKEN FROM TOPOGRAPHIC MAPS.

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 38 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	S.H.T.L CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
STONE FRAGMENTS, SAND & SOIL	A-2-4(0)	2	41	16	14	17	12	23	6	14	4
SAND	A-2-4(0)	4	21	43	23	6	7	21	1	9	3
BERM MATERIAL		7		CLASSIFIED BY VISUAL INSPECTION							
SILT	A-4(8)	8	2	6	8	57	27	27	7	18	7
SANDY SILT	A-4(6)	9	12	43	18	37	20	24	6	17	19
TOP SOIL		10		CLASSIFIED BY VISUAL INSPECTION							
SILT & CLAY	A-6(7)	11	8	11	12	43	26	33	16	22	4
CLAY	A-7-6(12)	16	6	5	7	34	48	44	19	20	1
SANDSTONE		23		CLASSIFIED BY VISUAL INSPECTION							
SHALE		24		CLASSIFIED BY VISUAL INSPECTION							

═══ EXISTING PAVEMENT

| AUGER BORINGS PLOTTED TO VERTICAL SCALE ONLY.

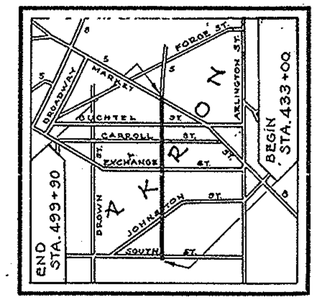
• MOISTURE CONTENT NEARLY EQUAL TO OR GREATER THAN THE LIQUID LIMIT.

— SAMPLES TESTED —
LAB. NOS. SO.-86169 – 86203 INCL.
86344 – 86346 INCL.

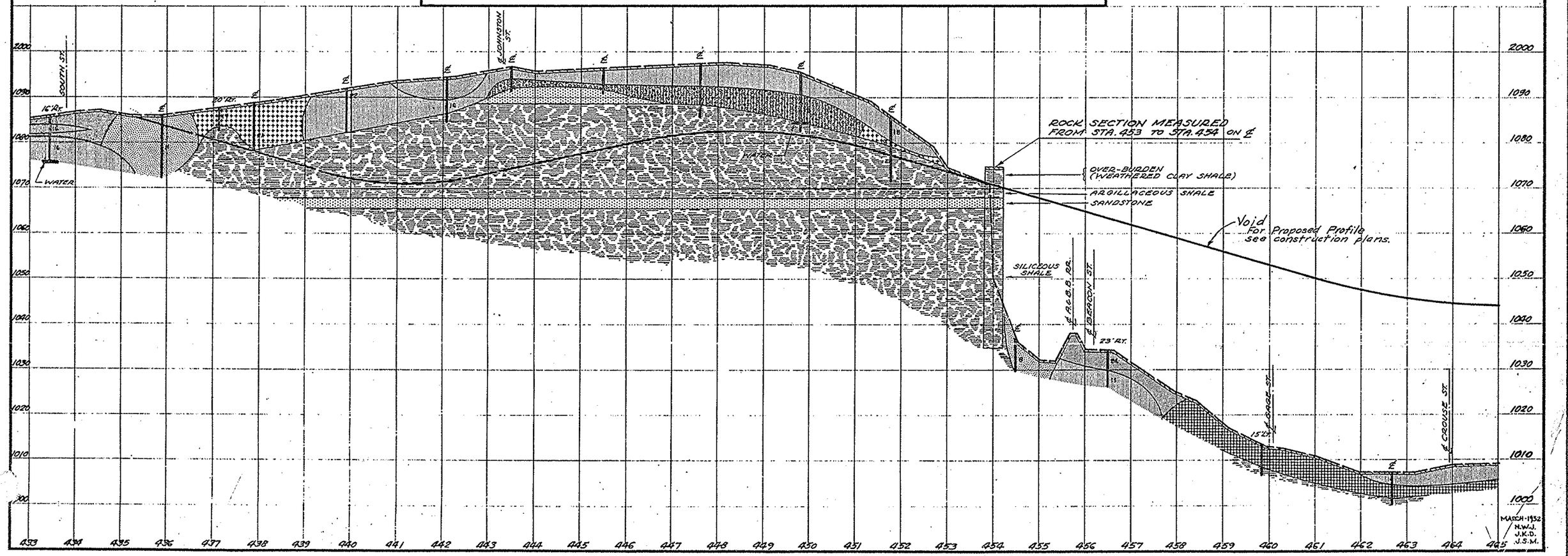
— MOISTURE DENSITY SAMPLES —
LAB. NOS. SO.-86202 & 86203

NOTE :- FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PER CENT

NOTE: THE INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS SECURED FOR THE INFORMATION OF THE STATE OF OHIO. THE STATE DOES NOT GUARANTEE THE CORRECTNESS THEREOF. ~~DOES NOT INDICATE AS A PART OF THE PLANS COVERING THIS CONSTRUCTION OF THE PROJECT.~~



LOCATION MAP

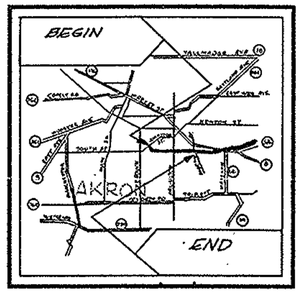


MARCH-1952
N.W.J.
J.K.D.
J.S.M.

SOIL PROFILE
SUMMIT · COUNTY
AKRON EXPRESSWAY 2/3
EASTERN EXTENSION
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

1 / 4

NOTE: THE INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS SECURED FOR THE USE OF THE STATE OF OHIO AND IS NOT TO BE CONSTRUED AS A PART OF THE PLANS GOVERNING THE CONSTRUCTION OF THE PROJECT.



LOCATION MAP

LEGEND FOR PROJECT-AVERAGE RESULTS OF TESTS- 31 SAMPLES TESTED

DESCRIPTION	H. R. B. CLASS	OHIO CLASS	% AGG.	% C. SAND	% F. SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
GRAVEL WITH SAND	A-1-b(0)	A-1-b	44	24	10	12	10	22	4	11	2
COARSE AND FINE SAND	-	A-3a	CLASSIFIED BY VISUAL INSPECTION								
GRAVEL WITH SAND & SILT	A-2-4(0)	A-2-4	32	22	14	21	11	22	5	9	1
GRAVEL WITH SAND, SILT & CLAY	A-2-6(-)	A-2-6	CLASSIFIED BY VISUAL INSPECTION								
SANDY SILT	A-4(1)	A-4a	12	15	16	33	24	24	6	14	20
SILT	A-4(8)	A-4b	2	5	7	63	23	25	5	23	4
SILT AND CLAY	A-6(6)	A-6a	18	14	12	35	21	32	14	18	2
CLAY	A-6(12)	A-6b	27	9	16	24	24	35	16	14	1
ELASTIC SILT	A-7-5(12)	A-7-5a	0	3	12	49	36	49	16	41	1
TOP SOIL	CLASSIFIED BY VISUAL INSPECTION										
BERM MATERIAL	CLASSIFIED BY VISUAL INSPECTION										
CINDERS	CLASSIFIED BY VISUAL INSPECTION										
SANDSTONE	CLASSIFIED BY VISUAL INSPECTION										
SHALE	CLASSIFIED BY VISUAL INSPECTION										

EXISTING PAVEMENT
AUGER BORING PLOTTED TO VERTICAL SCALE ONLY.
MOISTURE CONTENT NEARLY EQUAL TO OR GREATER THAN LIQUID LIMIT.
AUGER BORINGS - PLAN VIEW

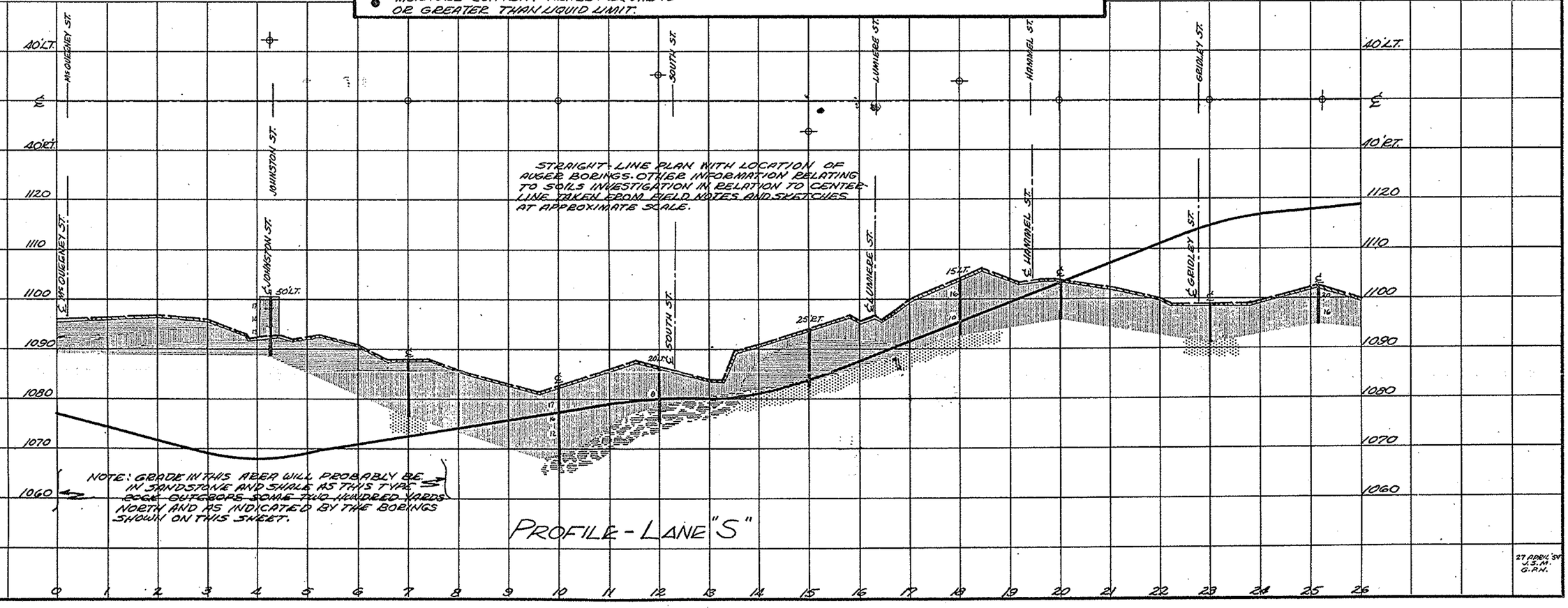
—SAMPLES TESTED—
LAB NO.'S SO. 98640 - 98662 INCL.
98686 - 98693 INCL.

MOISTURE DENSITY SAMPLES
LAB NO.'S SO. 98661 & 98662

NOTE: FIGURES BESIDE BORINGS INDICATE MOISTURE CONTENT IN PER CENT.

NOTE: BOTH LANE "S" AND LANE "U" ARE ENTIRELY IN RESIDENTIAL AREA. BORINGS WERE TAKEN IN DRIVEWAYS AND YARDS AS NEAR CENTERLINE AS BUILDINGS WOULD PERMIT.

STRAIGHT-LINE PLAN WITH LOCATION OF AUGER BORINGS. OTHER INFORMATION RELATING TO SOILS INVESTIGATION IN RELATION TO CENTER-LINE TAKEN FROM FIELD NOTES AND SKETCHES. AT APPROXIMATE SCALE.



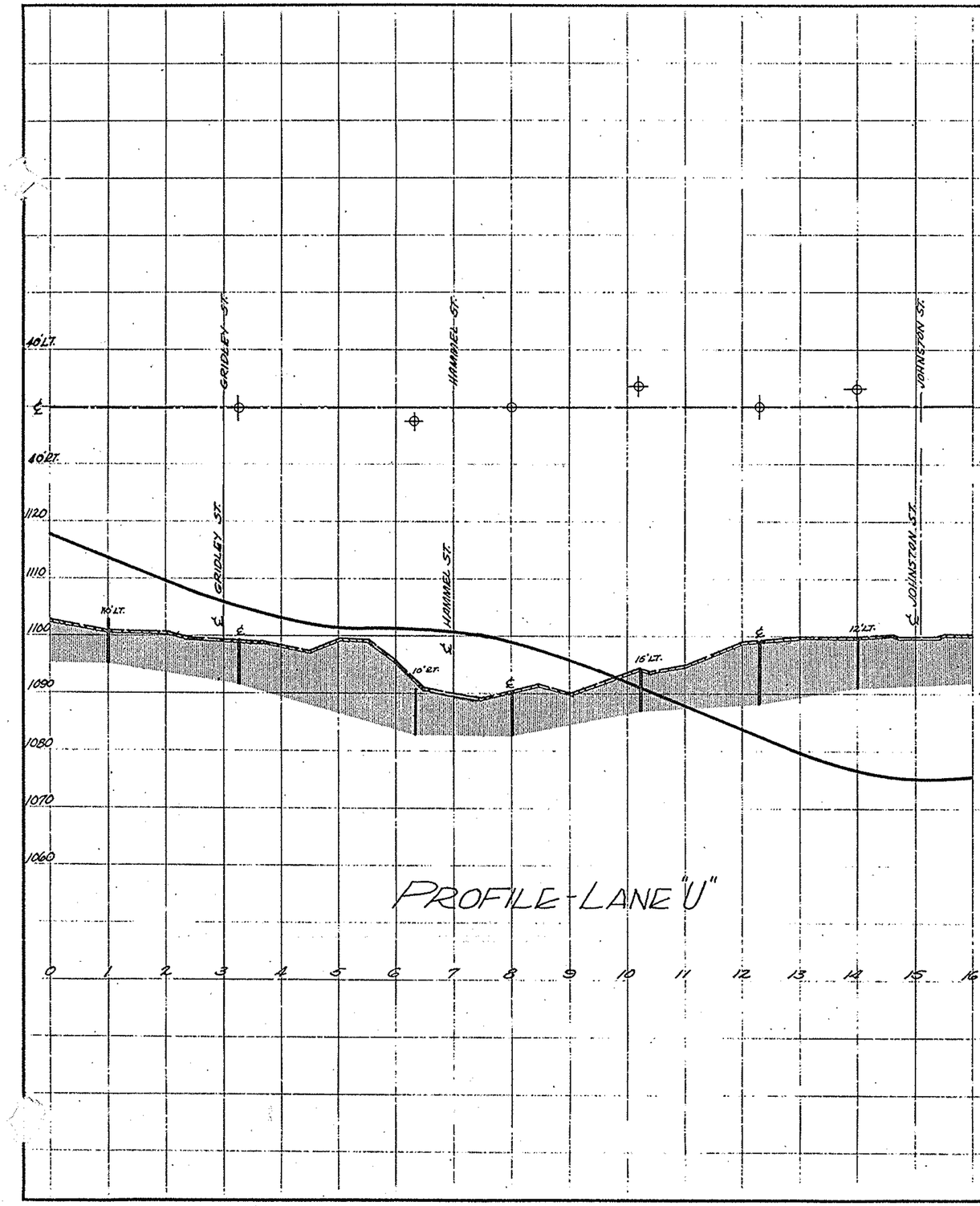
NOTE: GRADE IN THIS AREA WILL PROBABLY BE IN SANDSTONE AND SHALE AS THIS TYPE OF ROCK OUTCROPS SOME TWO HUNDRED YARDS NORTH AND AS INDICATED BY THE BORINGS SHOWN ON THIS SHEET.

PROFILE - LANE "S"

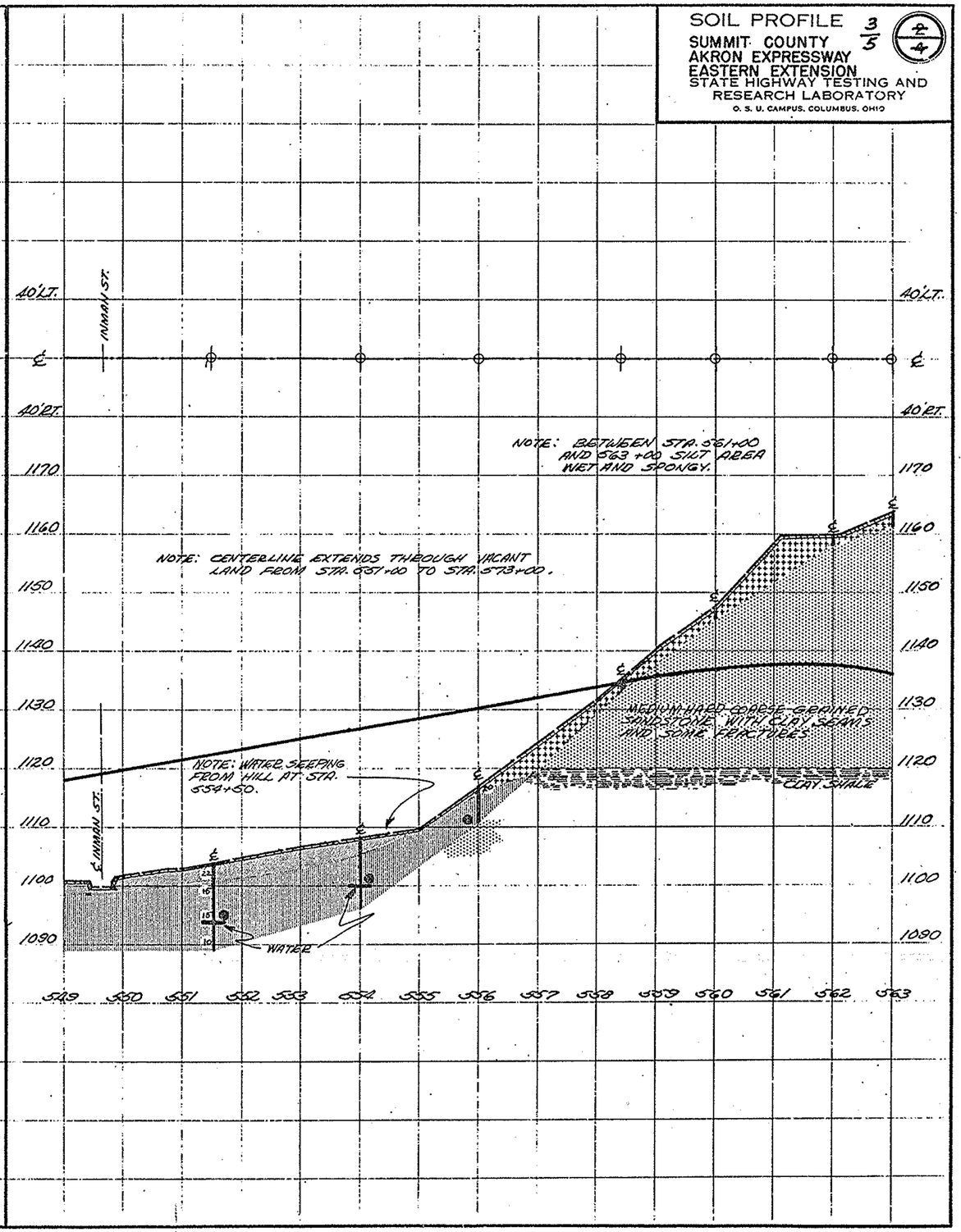
27 APRIL '50
J. S. M.
G. P. M.

SOIL PROFILE 3/5 (2/4)

SUMMIT COUNTY
AKRON EXPRESSWAY
EASTERN EXTENSION
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO



PROFILE - LANE "U"



SOIL PROFILE

SUMMIT COUNTY
AKRON EXPRESSWAY
EASTERN EXTENSION

STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

4/5

3/4

NOTE: FROM STA 573+00 TO STA 600+00 CENTERLINE EXTENDS THROUGH RESIDENTIAL AREA.

OLD CREEK BED AT STA. 584+00 UNDER SURFACE

LOG OF CORE BORING STA. 564+00 ℄

SANDSTONE OUTCROP

MEDIUM HARD COARSE GRAINED SANDSTONE WITH CLAY SEAMS AND SOME FRACTURES

ROCK OUTCROP STA. 569+00 - 100' RT.

SOFT COARSE GRAINED SANDSTONE

FLOWING SPRING AT BASE OF EXPOSURE.

CLAY SHALE.

EITHER SHALE OR SANDSTONE

℄ TALBOT AVE.

℄ ARLINGTON ST.

℄ MILES ST.

℄ CHITTENDEN

10'RT.

℄ THIRD AVE.

40'LT.

40'RT.

1170 1160 1150 1140 1130 1120 1110 1100 1090 1080 1070 1060 1050 1040 1030 1020 1010

563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595

SOIL PROFILE

SUMMIT COUNTY
AKRON EXPRESSWAY
EASTERN EXTENSION
STATE HIGHWAY TESTING AND RESEARCH LABORATORY
O. S. U. CAMPUS, COLUMBUS, OHIO

5 of 5 sheets

NOTE: FROM STA. 600+00 TO STA. 609+00, CENTERLINE EXTENDS THROUGH INDUSTRIAL AREA.

NOTE: FROM STA. 609+00 TO STA. 665+00, CENTERLINE EXTENDS THROUGH RESIDENTIAL AREA.

NOTE: GRANULAR MATERIAL TO THIS DEPTH. BOUNDARY BETWEEN CINDER FILL AND GRAVEL NOT CLEARLY DEFINABLE AS HOLE CAVED AND WASHED WHILE DRILLING.

NOTE: A HOLE DRILLED HERE BY THE CITY WITH A CHUCK DRILL ALSO STOPPED ON ROCK.

UNABLE TO PENETRATE PAVEMENT ON ℄.